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17 February 2026

Our ref: 754-MELEN225720.1-L04_Final

Macquarie Point Development Corporation
8A Evans Street
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Attention: Greg Cooper

Dear Greg,

Addendum to Contaminated Land Audit - Macquarie Point – Lot E and Underground Carpark (The Promenade and Underground Carpark)

1. PURPOSE OF THIS AUDIT REPORT ADDENDUM

This letter report represents an addendum to the following Contaminated Land Audit Report, which was completed for the Macquarie Point Development Corporation (MPDC):

- Contaminated Land Audit Report - Macquarie Point Development Project – Lot E and Underground Carpark, 23 July 2021

At the time of the Audit Report submission, the area was described as 'Lot E and Underground Carpark', but is now described as 'The Promenade and Underground Carpark'. The area included parts of what had previously been described as Audit Area 2 and Audit Area 5. This area makes up a portion of the broader MPDC precinct. The Promenade and Underground Carpark area is shown in the central-western part of the overall Macquarie Point precinct, refer to Figure 1 below[1].

The 2021 Audit Report included, as an appendix, a Site Suitability Statement, which was based on the proposed future development at the time the Audit Report was issued (July 2021). However, since Audit completion the proposed land uses have changed which has triggered the need for the site suitability to be reviewed and this Audit addendum.

This addendum sets out:

- The basis for the original Audit Report and Site Suitability Statement.
- The outcome of the original Audit Report.
- Rationale for reconsideration of Audit Report and Site Suitability Statement.
- Findings of the Auditor's Review.
- Whether there are material changes requiring reissue of the Site Suitability Statement, based on the review.

[1] Figure extracted from Figure F2 from Review of Site Suitability Statements 2025, AECOM, 1 February 2026.

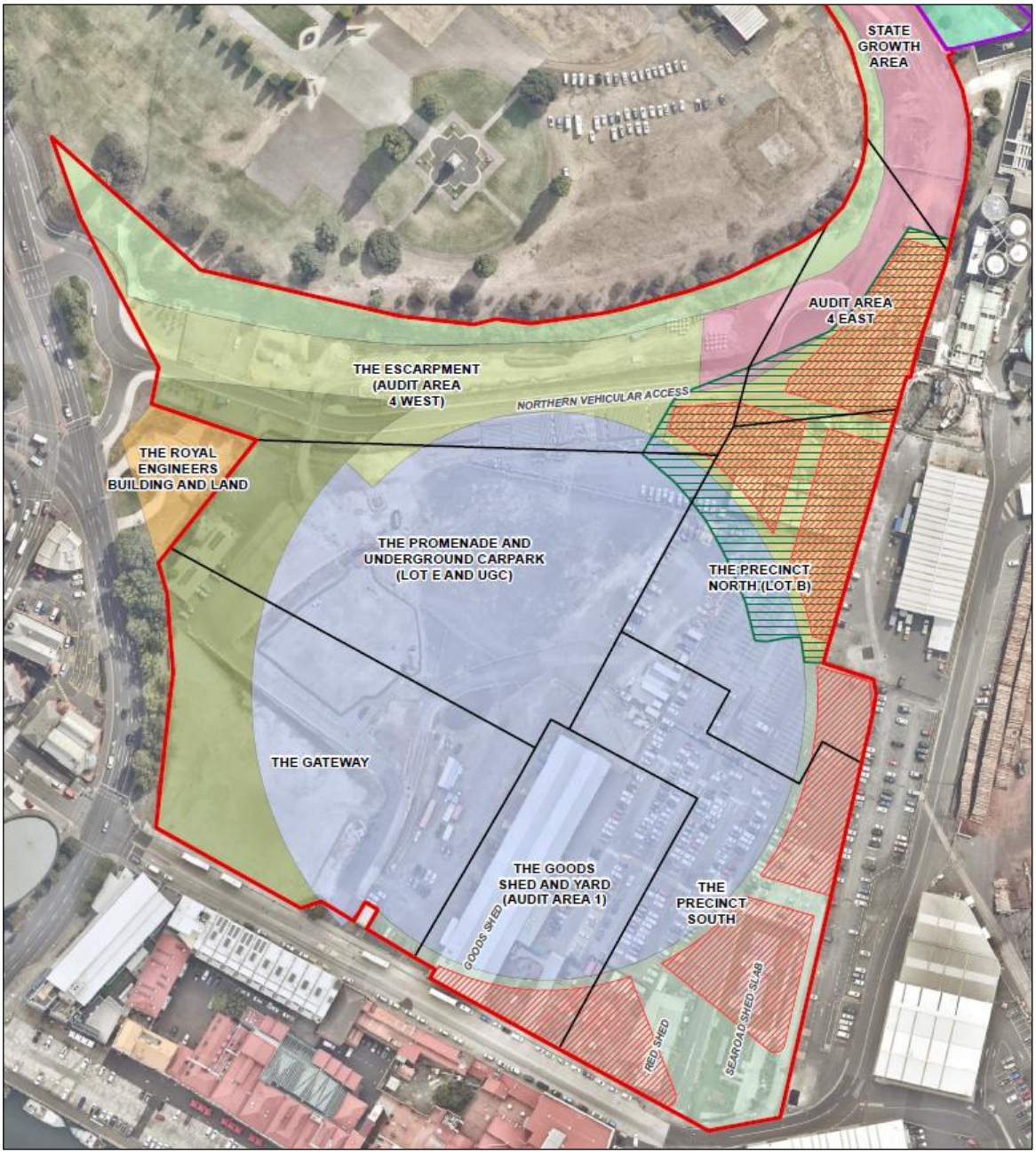

Figure 1, Macquarie Point Development Corporation Precinct, showing location of The Promenade and Underground Carpark

This addendum has considered, and should be read in conjunction with, the following documents:

- The original 2021 Audit Report described above.
- Review of Site Suitability Statements 2025, AECOM, 1 February, 2026 (‘the SSS Review report’).
- The Site Environment Management Plan, AECOM 16 February, 2026 (‘the SEMP’).

The review covers the findings of a range of other AECOM reports, of which, the following reports are of key importance:

- Soil, Groundwater and Soil Vapour Investigation 2025, Macquarie Point Development Project, 10 September 2025
- Acid Sulfate Soil Investigations, Macquarie Point Development Project, 4 December 2025
- Macquarie Point - Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging, 25 March 2025
- Macquarie Point - Review of Site Specific Remediation Criteria 2025 10 October 2025
- Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum 18 December 2025

The SSS Review report is included in Attachment A, which appends the key reports used in the SSS Review.

The SEMP is included in Attachment B.

2. BASIS FOR ORIGINAL AUDIT REPORT AND SITE SUITABILITY STATEMENT

As noted in the Audit Report, while the *Environmental Management and Pollution Control Act 1994 (EMPCA*) outlined a broad definition of a contaminated land audit, it did not include a formal system for contaminated land auditing. In 2015, the *Macquarie Point Development Corporation Act 2012* was amended to allow environmental auditing for the Macquarie Point site, under Tasmanian legislation. The amended Act enabled the Director of the Tasmanian Environment Protection Authority (EPA) to accredit an auditor. David Lam of Tetra Tech Coffey (then Coffey Environments) was appointed as the Environmental Auditor for the Site and has been accredited as an auditor recognised by the amended Act, by inclusion on Tasmania's Register of Interstate Contaminated Land Auditors.

At the time of the Audit Report, an EPA Tasmania Fact Sheet 'Register of Interstate Contaminated Land Auditors' outlined the requirements and approach for auditing, and effectively required the auditor to comply with obligations outlined in legislation, mandatory guidelines and Codes of Practice that apply in the home state/s of accreditation, and the NEPM 1999 (amended 2013). This has been superseded by web-based guidance [2].

Auditing was therefore conducted in accordance (so far as practicable) with Victorian guidelines that applied at the time of audit notification, under the (Victorian) Environment Protection Act 1970 ('Old Act'), and associated policies and guidelines. Although the legislation has been (generally) repealed and superseded by the Environment Protection Act 2017, for audits notified before the changeover date of the legislation (1 July 2021), the Old Act continues to exist, allowing auditing activities to continue to be conducted under the previous system.

The Audit Report was conducted under the Old Act, with some minor differences to suit the site requirements and EPA Tasmania Fact Sheet 'Register of Interstate Contaminated Land Auditors'.

[2] https://epa.tas.gov.au/environment/land/identification-and-assessment-of-contaminated-land/contaminated-land-and-the-planning-process/information-for-contaminated-land-auditors

3. OVERALL OUTCOME OF ORIGINAL AUDIT

The outcome of the July 2021 Audit Report is effectively captured in the Site Suitability Statement, which (broadly) found that the Site was suitable for the uses that were proposed at the time (residential, including medium to high density, retail, commercial, recreational/public open space use, transport (roads etc) and other less sensitive uses) subject to a range of conditions, summarised as follows:

1. Nature of the development:
    a) Developed areas to remain consistent with the areas indicated on the plan in the attached SEMP[3].
    b) Depth of the underground carpark not to intersect the watertable. Should the design or changed conditions indicate potential for ingress of groundwater to any part of the underground carpark (including sumps or lift overruns), the SEMP must be reviewed for adequacy and approved by an Environmental Auditor, including any additional mitigation measures which may be required.
    c) The Underground Carpark must include design, installation and maintenance of ventilation as per Building Code of Australia requirements for exhaust fumes, or other controls as specified in EPA NSW, 2020, to mitigate risks from potential methane infiltration.
    d) Deep services below 2 m depth from the current surface level must be installed in protective shrouds or in trenches/corridors of clean fill to minimise the risk of contact with residual contamination for maintenance workers.
2. SEMP Implementation:
    a) Maintenance of barrier layers (hardstand or earthen cap seal) or other engineered break layer to prevent access to soil (which contained some residual contamination).
    b) Garden plantings are to be in above ground planter boxes and not into the soil directly. Any proposal to plant into site soils must be confirmed as suitable by a Site Environmental Auditor.
    c) Specific requirements for managing excavated soil and imported Fill Material.
3. Substantive changes to the SEMP to be verified as acceptable to an Environmental Auditor.
4. Groundwater is polluted and not to be used for extractive uses other than monitoring or remediation.

Other related information reported in the Site Suitability Statement addressed a number of matters, including:

- Differences from the Victorian Statement format.
- Groundwater was considered to have been cleaned up to the extent practicable, although it was polluted and a number of extractive uses were precluded.
- Some industrial uses of groundwater may be possible subject to specific checks on suitability.
- Groundwater wells to be retained for monitoring where practicable and where monitoring ceases decommissioned in accordance with industry guidance.
- Possible presence of some asbestos cement fragments, which would not be considered to pose risks in the completed development, and the need to dispose these if found.

[3] References to 'the SEMP' in this sub-section are references to the document attached to the July 2021 Audit Report, not to the current version of the SEMP.

4. RATIONALE FOR RECONSIDERATION OF PREVIOUS CONTAMINATED LAND AUDIT AND SITE SUITABILITY STATEMENT

On behalf of the MPDC, AECOM has prepared the SSS Review report.

This SSS Review report sets out a review of the four previously issued Site Suitability Statements. Note that the terminology used references the 'Statements' but the Auditor notes that the Site Suitability Statement is in each instance issued as part of a 'Contaminated Land Audit Report' (Audit Report). It is important to note that each Site Suitability Statement should be read in conjunction with the relevant Audit Report.

The report notes changes that have occurred since the issue of the various Audit Reports (incorporating the Site Suitability Statements). In broad terms, the changes are as follows.

- Issue of the State Policies and Projects (Macquarie Point Precinct) Order 2025, which provides the approval conditions for development of the Site, noting that environmental requirements remain consistent with the *Macquarie Point Development Corporation Act 2012.*
- Changes in proposed future use. For The Promenade and Underground Carpark the site suitability statement considered development for a combination of medium to high density residential use and commercial use (mixed use), recreational/public open space and transport use. The proposed development now consists of a part of the Multipurpose Stadium and Associated Concourse. This includes the stadium structure/buildings occupying areas that were previously open space, changing the potential for vapour risks.
    - Parts of the area will be lowered by excavation to final surface elevations of between 1.8 to 4.8 metres Australian Height Datum (mAHD).
    - For construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
- A consolidated SEMP replaces the earlier, area-specific SEMPs.
- The building/structure footprints now proposed are extensive and will overlap areas of potential vapour risk.
- New designs exist for in-ground plants.
- Site Specific Remediation Criteria have been reviewed and updated.
- Additional site assessment data has been obtained across the site broadly, for
    - Acid sulfate soils.
    - Groundwater monitoring (2023, 2024 and 2025).
- Future off-site use patterns are now known which vary from previous knowledge:
    - The Macquarie Point Sewage Treatment Plant off-site to the northeast, will be replaced by a pumping station and emergency storage facility. The Hobart Main Sewer beneath the MPDC precinct will be removed, and replaced by an off-site sewer. Note that this is not considered to affect the characterisation or risk associated with the site or its management and is not considered further in this report.

Because of these changes, consideration of the need to update previously issued Site Suitability Statements (and potentially Audit Reports if warranted) is needed, based on the new information. These considerations are outlined in the following sections.

5. FINDINGS OF THE AUDITOR'S REVIEW

5.1 STATE POLICIES AND PROJECTS (MACQUARIE POINT PRECINCT) ORDER 2025

As noted by AECOM in the SSS Review report, the Order provides the approval conditions for development of the Site. Because the environmental requirements are consistent with those in the *Macquarie Point Development Corporation Act 2012*, which provided the legislative framework for previous Site Suitability Statements, no change to the process of Site Suitability is considered to arise from the Order.

The Auditor accepts this and considers that there is no requirement to change the existing Audit Report or associated Site Suitability Statement based on the Order.

5.2 REVIEW OF SITE SUITABILITY STATEMENTS 2025, AECOM

The SSS Review report notes the following changes in information and development planning that have the potential to affect the Site Suitability Statement.

- Changes in site development scenario, and
- a range of new or revised assessment reports have been produced (which the Auditor has reviewed).

The key considerations used to assess the need to amend the Site Suitability Statement are discussed in the following sections of this addendum letter report.

5.2.1 Review of Site Specific Remediation Criteria

Site Specific Remediation Criteria were developed to identify remediation requirements to remove or mitigate any unacceptable risks to current and future users of the Site, including as part of the previously issued Site Suitability Statements. It is noted that in some instances remediation works did not remove all contamination exceeding remediation criteria, where this was not practicable, and this was noted where it occurred.

AECOM reviewed the criteria in the report: Review of Site Specific Remediation Criteria 2025. Although some revisions of the criteria were made, there were no instances where the criteria were reduced (lowered), so that considerations made in previous Audit Reports and associated Site Suitability Statements would not be compromised.

This revision of Site Specific Remediation Criteria does not require amendment to the existing Audit Report or associated Site Suitability Statement.

5.2.2 Additional Soil Investigations

Soil investigations identified contamination generally consistent with the previous information and resulting audit. Tier 1 criteria were exceeded for a range of uses, as had previously been assessed, noting that this included consideration of non-proposed development scenarios, in accordance with Old Act auditing guidelines which required consideration of all possible uses, whether or not intended.

There were no exceedances detected of concentrations exceeding the remediation criteria in (or adjacent to) The Promenade and Underground Carpark.

The SEMP (now a consolidated SEMP for the overall precinct, rather than an area-specific SEMP) is considered to cater for residual contamination present in the audit area, with no change based on additional soil detections.

In summary, for soil conditions based on additional monitoring, the amended SEMP will manage any risks (including for localised high concentration lead that is planned to be removed as part of site development). If

the amended SEMP is implemented, the additional soil investigation results do not otherwise require amendment to the existing Audit Report or associated Site Suitability Statement.

5.2.3 Additional Groundwater Investigations

Additional groundwater sampling has been undertaken in 12 wells within the Promenade and Underground Carpark (variously in one or more of 2022, 2923 or 2025), and a further seven wells in nearby areas.

Sampling included wells proximal to the LNAPL plumes which had been subject to practicable limits of remediation, with residual contamination noted to remain in place (unable to be further removed by practicable remediation). Although the SSS Review report considers that measurable LNAPL was not recorded, and nor were concentrations indicating LNAPL, the Auditor notes that a sheen was identified on the water table, and that wells are not present across all parts of the plumes. Some residual LNAPL is virtually certain to remain in some plume areas (as was considered to be the case at the time of the 2021 Audit Report).

The further groundwater investigations identified Tier 1 criteria exceedances of drinking water, primary contact recreation, vapour intrusion (to structures) and ecosystem protection criteria (noting that the ecosystem protection criteria would not apply on-site, but rather at a point of discharge to a surface water). No exceedances of site-specific remediation criteria were detected since the previous Audit Report.

Overall, the results are consistent with groundwater conditions as assessed in 2021. In broad terms, extractive uses of groundwater are precluded at the site, and are considered able to be managed by non-use of groundwater (other than for monitoring or remediation).

Overall, groundwater risks are not considered to have changed materially, and can be managed by implementation of the revised SEMP.

5.2.4 Additional Soil Vapour Investigations

One round of soil vapour monitoring has been conducted across the precinct in June 2025, and included two locations (SV31 and SV32) within the Promenade and Underground Carpark area.

The AECOM SSS Review report notes that vapour concentrations in SV31 and SV32 posed potential vapour risks. Methane was detected at 3.7% and 10.4% v/v in SV31 and SV32 respectively. Although this exceeds the CRC CARE Action Level of 1.25%, negligible flow readings were obtained, indicating a high concentration but potentially limited risk from methane.

Based on the June 2025 vapour monitoring, AECOM evaluated a Modified Wilson and Card CS3 rating for methane for the site generally (excluding The Escarpment), per Table 7 of the Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases (EPA NSW, 2020) (‘the NSW guidelines’). This was evaluated on a conservative basis, and was based on the presence across a number of overall site areas displaying high groundwater methane concentrations and high methane vapour concentrations, and the potential for methane to migrate laterally under large structures (such as the Multipurpose Stadium). As well, AECOM noted that there was only a single round of flow monitoring to assess a flow-based Gas Screening Value per the NSW guidelines. The Auditor notes that the single round of flow monitoring was conducted without confirmation of prevailing atmospheric conditions, which can significantly affect flows, and so agrees with the conservative determination of CS value. AECOM notes that it may be possible for further sampling to justify a lower CS rating, should additional monitoring be conducted, although the Auditor considers a change to be unlikely given the widespread elevated soil gas and groundwater methane concentrations, and the difficulty in assessing for conditions reflecting final levels following excavation.

AECOM has considered the building type applicable to the Multipurpose Stadium to be a mixture of ‘standard commercial’ and ‘large commercial and industrial’ building, and conservatively adopted a ‘standard commercial’ category. This results in a gas protection guidance value of 2 (for CS3, which incidentally also applies for CS2), per Table 8 of the NSW guidelines.

AECOM also noted the potential for hydrocarbon vapours from other parts of the site to pose a vapour intrusion risk into any continuous structures under which there are any areas of high vapour concentration. The conservatism of this approach is considered appropriate, particularly because there are proposed to be large areas where the surface elevation will be lowered. Previously, AECOM assessed vapour risk across the site by first considering exceedances of Tier 1 criteria for sub-surface media, for a range of uses (including non-proposed uses). This evaluation was then superseded by consideration of data against site-specific remediation criteria developed for the site, and then by consideration of soil vapour readings as a more direct measure of risk. For broad areas of the site, including those under parts of the Multipurpose Stadium and concourse, which extends into part of the Goods Shed and Yard, exceedances of remediation criteria relevant to the now-proposed development have been reported variously for TRH and BTEXN in the Gateway, The Precinct South, The Precinct North and The Promenade and Underground Carpark. Because large parts of the site are to be lowered by excavations, the changed depth to residual contamination may affect the potential for vapour risks to be experienced, including where direct vapour readings not indicating a vapour intrusion risk have been obtained from the site at pre-excavation levels.

Based on the inferred vapour risks, the consolidated sitewide SEMP includes requirements for gas protection to be incorporated into structures which extend across areas where vapour risks exist, to cater for potential ingress of methane or hydrocarbons which are variously present across the Site, to a gas protection guidance value of 2 (for CS3 for a commercial building), and to consider suitability for other hydrocarbon species. Based on the potential for petroleum hydrocarbon and methane vapours across broad areas of the site (except for the Escarpment), this means that as assessed by AECOM (and agreed by the Auditor), vapour mitigation is needed beneath all structures across the Gateway, Promenade and Underground Carpark, The Precinct North and The Precinct South, and where continuous structures from those areas extend into The Escarpment. It is noted that vapour mitigation is not considered to be required for the Goods Shed when relocated to The Escarpment.

It is noted that a CS3 rating Provided the revised SEMP is implemented, the results of additional soil vapour investigations (and the potential for groundwater concentrations to cause vapours) do not otherwise require amendment to the existing Audit Report or associated Site Suitability Statement.

5.2.5 Change of Land Use

The SSS Review report notes the changes of proposed land use associated with the area. The original Audit Report and associated Site Suitability Statement allowed residential, including medium to high density, retail, commercial, recreational/public open space use, transport (roads etc) and other less sensitive uses, subject to defined conditions.

The Site Suitability Statement noted in Condition 1 of the 2021 Audit Report, stated a number of conditions related specifically to the nature of the development, including:

- Uses limited to specified areas as defined in a figure showing use layout in the (then) SEMP.
- Underground carpark not to intersect groundwater (unless the SEMP was revised accordingly and approved by an environmental auditor).
- Underground carpark to be subject to specific ventilation requirements to manage methane risks.
- Services below 2 m from the then surface to be installed in clean corridors or shrouds to minimise worker contact with residual contamination.

Importantly, the use pattern for which the site was considered suitable was defined by reference to the SEMP that was attached at the time. The revised SEMP redefines the use pattern of the Audit site, and substantive revision to the SEMP is allowed for in Condition 3 of the Site Suitability Statement. It is therefore considered that the updated (consolidated) SEMP deals with the changed of specified uses in accordance with the

existing Site Suitability Statement, where accepted by an environmental auditor (as is the purpose of this addendum report).

In terms of risk level (rather than specified use plan), the changed proposed land use includes a significant part of the Multipurpose Stadium and Associated Concourse, which are considered to represent commercial (or commercial/industrial) and open spaces uses in respect of contamination exposure. These uses are considered in terms of health and environmental risk to be covered by the existing Site Suitability Statement, notwithstanding noted changes to the (now consolidated) SEMP to ensure continued management of risks for the site, including allowing for risks associated with the different specific details of the development scenario now proposed.

Importantly, previously some areas were considered to be suitable for the then proposed open air transport corridor and open space use without vapour management, but would have required vapour management for a commercial building (as now proposed in the form of the Multiuse Stadium).

Based on this, although the range of uses noted in the Site Suitability Statement do not need to be updated, with the Multiuse Stadium considered to be commercial or commercial/industrial in respect of contamination exposure potential. However, management measures are required for building areas in parts that were previously open air at ground level. As long as the (revised, consolidated) SEMP is implemented, including vapour management measures for structures, the Statement of Suitability does not need to be amended.

5.2.6 Change of Elevation

The Site surface is to be changed to facilitate the proposed development. This will involve excavations in some parts of the overall Macquarie Point Precinct, which will lower the site surface and change potential exposure to contamination. In other areas, some filling will be undertaken. In terms of final constructed elevations, based on Figure F5 provided in the SSS Review report, the Promenade and Underground Carpark will be subject to reduction of level from typically 4.0 to more than 7.0 mAHD to 3 mAHD across most of the site (where the stadium will be). Final elevation will be 4.8 m in the practice wicket area in the northwest site corner, and 1.7 m in the car park area.

Based on the existing groundwater contours there is potential for groundwater containing contamination to be encountered by the excavations and the final built form including the basement car park.

A number of revisions are included in the SEMP for the broader site to address:

- Acceptable imported fill requirements.
- Subsurface utilities to be within clean soil corridors when otherwise within existing site soil.
- Vapour mitigation system requirement.
- Development to occur once other Audit Report (with associated Site Suitability Statements) are completed.
- Requirement for any subsurface drains constructed as part of site lowering (and to accommodate structures and associated vapour mitigation) to be considered potentially contaminated and subject to being removed by a licenced waste transporter or discharged under a trade waste agreement. This would prevent additional risk to off-site ecosystems. Potential for groundwater ingress to structures or where groundwater may be present at a depth close to the level of the structure may alternatively be dealt with by tanking. Given the potential for drains to collect some groundwater containing dissolved methane, the drainage system must also be designed to consider the potential for methane off-gas from drainage water to accumulate in drainage infrastructure.

In summary, some amendments to the SEMP, which are considered reasonable by the Auditor, are applicable to manage residual risks associated with the Site for the proposed use. Provided the revised SEMP is

implemented, the changes in elevation do not require amendment to the existing Audit Report or associated Site Suitability Statement.

5.2.7 Addendum to Off-Site Ecological Risk Assessment

An addendum report to the previous 'Assessment of Potential Off-Site Ecological Impacts' (AECOM, 2020) has been conducted as noted earlier in this letter.

This update was required, because the consideration by the Auditor that Clean Up To the Extent Practicable (CUTEP) had occurred was contingent on there being no unacceptable and unmanageable risks following the extent of clean up for groundwater contamination which had occurred. This included active remediation of LNAPL plumes within the Promenade and Underground Carpark area, with further remediation not considered practicable.

The addendum report concluded that unacceptable risk to off-site ecological receptors was not occurring. This included consideration of PFAS concentrations which were identified (notably at MW16 within the Precinct South).

The results of the 'Addendum to Off-Site Ecological Risk Assessment' do not trigger an amendment to the existing Audit Report or associated Site Suitability Statement.

5.2.8 Potential Acid Sulfate Soils

Potential acid sulfate soils were considered in the report: 'Acid Sulfate Soil Investigations' (AECOM, December 2025). This is primarily because of the potential for construction to disturb potential acid sulfate soils (PASS). Although PASS is not strictly contamination, the SEMP has been updated to include requirements for Acid Sulfate Soil Management Plans (ASSMP) and/or Dewatering Management Plans (DWMP) as required, and for building design and water management to consider potential acidity.

If the revised SEMP is implemented, including requirements for managing PASS, the results of the Acid Sulfate Soil Investigations do not require amendment to the existing Audit Report or associated Site Suitability Statement.

5.2.9 Updated Designs for Planting Deep Rooted Vegetation

The SSS Review report includes an updated specification for planting deep rooted vegetation.

The updated designs have been included in the SEMP. The Auditor has reviewed the designs and considers that they are protective of potential risks at the Site, not only in respect of the vegetation itself, but in terms of preventing risks though pathways between Site users and deeper residual contamination.

If the revised SEMP is implemented, including updated designs for planting deep-rooted vegetation, there is no requirement to amend the existing Audit Report or associated Site Suitability Statement.

6. CONCLUSION

The review of the Site Suitability Statement for The Promenade E and Underground Carpark (which was produced as part of, and to be read in conjunction with the overall Contaminated Land Audit Report for Audit Lot E and Underground Carpark) has identified a number of changes in future site use and available information. Overall, there are no material changes required to the Site Suitability Statement itself, because the list of uses included in the original Site Suitability Statement is considered to include the newly proposed uses in The Promenade and Underground Carpark, associated with the Multipurpose Stadium and Concourse. There are some changes to risks based on different uses (Stadium structure covering previously intended open space areas) and due to level changes in the proposed development, but these changes do

not affect the wording suitability subject to SEMP implementation as was included in the previous Site Suitability Statement.

The revised SEMP that is to be implemented across the entire precinct (a consolidated site 'SEMP', rather than one specific to each audit area) includes new content (compared to the SEMP referenced by the original Site Suitability Statement for Lot E and Underground Carpark). The changes account for new management requirements to control risks based on additional information, changes in site use and some design elements. The original Site Suitability Statement allowed for the SEMP to be amended under the following statement condition:

- Site Suitability Statement Condition 3:

  Any (substantive) changes to the Site Environmental Management Plan referred to in Conditions 1 and 2 must be prepared for the site by a suitably qualified professional and verified as acceptable by an Environmental Auditor.

Based on the above allowance, I (as the appointed Auditor for the Site) am using this addendum report to the provide verification of the acceptance of the revised (consolidated) SEMP, in respect of requirements associated with management of risks under the Site Suitability Statement issued as part of the Contaminated Land Audit Report for Lot E and Underground Carpark (now described as The Promenade and Underground Carpark). One aspect of this acceptance of the revised SEMP is that while the suggested management measures are considered to be protective of the residual risks posed by remaining contamination on the site, the measures are in some instances subject to detailed design of engineering solutions. The Auditor may evaluate whether proposed solutions will meet the intent of the SEMP in managing risks, but is not responsible for the design, or the buildability of design details which are specified at only a conceptual level by the SEMP.

This audit addendum report should be provided with, and read alongside the following Audit Report and associated Site Suitability Statement:

Contaminated Land Audit Report - Macquarie Point Development Project – Lot E and Underground Carpark, 23 July 2021

This addendum serves to record that the 2021 Audit Report and Site Suitability Statement remains suitable for what was described as Lot E and Underground Carpark, and is now described as The Promenade and Underground Carpark, subject to the implementation of the revised SEMP (AECOM 16 February 2026).

Regards



David Lam

Accredited environmental auditor for the purpose of Section 39(F) of the Macquarie Point Development Corporation Act 2012

Cc EPA Tasmania

Attachment A – Review of Site Suitability Statements (AECOM, 1 February 2026)

Attachment B - Site Environment Management Plan (AECOM, 16 February 2026)

ATTACHMENT A

REVIEW OF SITE SUITABILITY STATEMENTS

(AECOM, 1 FEBRUARY 2026)

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841



Review of Site Suitability Statements 2025

Macquarie Point

01-Feb-2026
Macquarie Point Development Project

Review of Site Suitability Statements 2025

Macquarie Point

Client: Macquarie Point Development Corporation

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Checker/s	Paul Carstairs
Verifier/s	Paul Carstairs

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			Name/Position	Signature
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0	16-Sep-2025	Final	Paul Carstairs Technical Director - Environment	
1	15-Dec-2025	Updated Final	Paul Carstairs Technical Director - Environment	
2	22-Dec-2025	Updated Final	Paul Carstairs Technical Director - Environment	
3	1-Feb-2026	Updated Final	Robert Crowe Associate Director - Environment	

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Table of Acronyms

AASS	Actual Acid Sulfate Soil
ACM	Asbestos Containing Material
ANC	Acid Neutralising Capacity
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
ASC NEPM	the National Environment Protection (Assessment of Site Contamination) Measure
ASS	Acid Sulfate Soil
BCA	Building Code of Australia
BGS	British Geological Survey
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene
CEC	Cation Exchange Capacity
CEMP	Construction Environmental Management Plan
CoPC	Chemicals of Potential Concern
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CRS	Chromium Reducible Sulfur
CUTEP	Clean Up to the Extent Practicable
DIV	Dutch Intervention Values
DNAPL	Dense Non-Aqueous Phase Liquid
DNRET	Department of Natural Resources and Environment Tasmania
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
ERS	Environment Reference Standard
ESL	Ecological Screening Level
ha	Hectare
HIL	Health Investigation Level
HSL	Health Screening Level
ISS	*In situ* solidification
LCC	Leachate Contaminant Concentration
LNAPL	Light Non-Aqueous Phase Liquid
mAHD	metres Australian Height Datum
m bgl	metres below ground level
MOS	Margin of Safety
MPDC	Macquarie Point Development Corporation

NAPL	Non-Aqueous Phase Liquid
NHMRC	National Health and Medical Research Council
NZMH	New Zealand Ministry of Health
OCP	Organochlorinated Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soil
PEV	Protected Environmental Value
PFAS	Per- and Poly-Fluoroalkyl Substances
PFAS NEMP	PFAS National Environmental Management Plan
PMCL SEPP	State Environment Protection Policy – Prevention and Management of Contamination of Land
PPE	Personal Protective Equipment
RC	Remediation Criteria
RIVM	Rijksinstituut voor Volksgezondheid en Milieu
RSL	Regional Screening Level
SEMP	Site Environment Management Plan
SPOCAS	Suspension Peroxide Oxidisable Combined Acidity and Sulfur
SPoWQM	State Policy on Water Quality Management (1997)
SPS	Sewage Pumping Station
SRS	Site Remediation Strategy
STP	Sewage Treatment Plant
STV	Short Term Trigger Value
SVOC	Semi-volatile Organic Compound
TBT	Tributyl Tin
TC	Tolerable Concentration (in air)
TCC	Total Contaminant Concentration
TEQ	Toxicity Equivalence Quotient
TFE	Total Fluids Extraction
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
TSP	Triple Super Phosphate
UGC	Underground Carpark
UKRI	United Kingdom Research and Innovation
US EPA	United States Environmental Protection Agency
VENM	Virgin Excavation Natural Material
VOC	Volatile Organic Compounds
WHO	World Health Organisation

Executive Summary

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of a remediation strategy for the Macquarie Point site (the Site) in Hobart, Tasmania.

Prior to the development of Macquarie Point, Division 2, Section 39F(1) of the *Macquarie Point Development Act 2012* (the Act) requires that an accredited site Auditor certifies that remediation of each part of the Site has occurred to a standard that is satisfactory for the purposes of the proposed redevelopment.

For the purposes of Auditor assessment of Site Suitability, the Site has been divided into separate assessment areas, for which Environmental Auditor certification has been sought as environmental investigations and remediation works have been completed.

To date, four Site Suitability Statements have been issued by the EPA-accredited Site Auditor, consisting of:

- The Goods Shed and Yard - *Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 1* (Coffey, 2019a)
- The Escarpment (Audit Area 4 West) - *Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 4 West* (Coffey, 2020)
- The Promenade and Underground Carpark (Lot E and UGC) - *Contaminated Land Audit Report – Macquarie Point Development Project – Lot E and Underground Carpark* (Coffey, 2021a)
- The Precinct North (Lot B) - *Contaminated Land Audit Report – Macquarie Point Development Project – Lot B* (Coffey, 2021b).

The Site Suitability Statements should be read in conjunction with the contaminated land audit reports, which form part of the assessment of and requirements for the Site's suitability for the proposed development.

The assessments of the remaining Site areas (consisting of the Precinct South, the Gateway, and Audit Area 4 East) and of Regatta Point, which is anticipated to be included in the Site in the future, are ongoing and separate Site Suitability Statements will be sought for these areas in the future.

However, in 2024, the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024), was released by the Corporation, which updated and modified the vision for development of the Site. As a result, the Site Suitability Statements issued prior to the Precinct Plan (listed above) are no longer accurate to the proposed future uses of the Site and require review and update for the changes in Site uses and proposed development.

E1 Changes Since Issue of the Site Suitability Statements

Review of the proposed changes in Site development, Site data for these assessment areas, both existing and any new data received since issue of the Site Suitability Statements, and of criteria and assessment methods, have been conducted in this report and has identified the items listed on **Table E1**, which are considered to have potential implications or effects on the environmental risk profile for the proposed future Site uses.

Table E1 New Information or Changes in Development Which Have Potential to Affect Suitability

New Information or Change	Description and Consequences
Issue of the *State Policies and Projects (Macquarie Point Precinct) Order 2025* (the Order)	The Order provides the approval conditions for development of the Site. However, the environmental requirements are consistent with those in the *Macquarie Point Development Corporation Act 2012*, which provided the legislative framework for previous Site Suitability Statements, and no change to the process of Site Suitability are considered to arise from this change.
Changes in proposed land use and development - The Goods Shed and Yard (Audit Area 1)	• The Goods Shed building will be removed from this area. • Proposed Open Space use to the west and north of the Goods Shed now forms park of the Multipurpose Stadium and Associated Concourse zone. • Sections of this area will be lowered to final surface elevations of between 2.9 to 3.0 metres Australian Height Datum (mAHD). • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
Changes in proposed land use and development - The Escarpment (Audit Area 4 West)	• Land use of parts of this area has changed to Open Space. It is noted that the Goods Shed building, located in the Goods Shed and Yard (Audit Area 1) is likely to be moved to this area, and assessment for commercial/industrial uses is still considered required. • The south-eastern corner is included in the proposed footprint of the underground carpark. • High density residential use is no longer planned in this area. • Sections of this area will be lower to final surface elevations of between 1.8 and 4.8 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
Changes in proposed land use and development -The Promenade and Underground Carpark (Lot E and UGC)	• Open Space land use in the southern portion of this area is now included in the Multipurpose Stadium and Associated Concourse zone. While the majority of this space was assessed for a proposed underground carpark, which was assessed for commercial/industrial use, portions of in the eastern and western areas of this assessment area were only considered for Open Space use. • Land proposed for an “Access Link”, or open transport corridor, in the eastern portion of this area was assessed for Open Space use, but is now considered for commercial/industrial use as part of the Multipurpose Stadium and Associated Concourse zone. • High density residential (above the first floor) is no longer planned in this area. • Sections of this area will be lower to final surface elevations of between 1.8 and 4.8 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
Changes in proposed land use and development -The Precinct North (Lot B)	• Land use is still considered to be commercial / light industrial. • A single storey underground carpark is proposed in the northern portion of this assessment area. • Sections of this area will be lower to final surface elevations of between 1.8 and 3 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.

New Information or Change	Description and Consequences
Updates and consolidation of the SEMPs referenced in Site Suitability Statements	The initial area-specific Site Environment Management Plans (SEMPs) issued for each area have been updated and consolidated into a single Site-wide SEMP. Each iteration of the SEMP has retained the conditions and information from previous versions.
Building and structure footprints overlapping areas of potential vapour intrusion	The current SEMP includes areas specific requirements relating to vapour mitigation in future buildings and structures, with identified soil vapours consisting of methane, total recoverable hydrocarbons (TRH) and benzene, toluene, ethylbenzene, xylenes, and naphthalene (BTEXN). The new planned development includes proposed structures with footprints which extend across areas of elevated potential vapour intrusion.
Designs for in-ground plants, including deep-rooted plants	Additional designs for in-ground plants have been proposed which required assessment for environmental risk and confirmation from the Environmental Auditor to meet the requirements of the SEMP.
Review of the Site-Specific RC	The Site-Specific Remediation Criteria (the RC), which have been used to assess and identify areas of soil and groundwater where remediation is considered required for future development, have been reviewed and updated.
Collection of new environmental data from soil, groundwater, and soil vapour	Additional monitoring and investigation events have been conducted since issue of the Site Suitability Statements and have been assessed for any information which could influence Site Suitability. The following assessments relevant to areas with issued Site Suitability Statements have been considered: • Investigations of Acid Sulfate Soil (ASS) • Groundwater Monitoring Events (GMEs) and groundwater gauging conducted in 2023, 2024 and 2025. • *In situ* characterisation soil sampling conducted for Stage 1 and Stage 2 of the proposed excavation of the Site. • Installation and sampling of new groundwater wells and soil vapour bores in June 2025.
Off-Site land use changes	The Macquarie Point Sewage Treatment Plant (STP), located off-Site to the northeast, is planned for closure and replacement with a new Sewage Pumping Station (SPS) and emergency storage facility. As part of these works, the Hobart Main Pipeline (sewer) beneath the Site will be decommissioned and removed, and a new sewer line installed off Site to the south under Evans Street, and east under TasPorts land.

E2 Outcomes of Review

Based on the review of proposed Site development changes to land use, and new environmental data, the following items require changes in management or mitigation approaches for the Site to be suitable for the intended future use:

- Development of structures across assessment area boundaries.

  The Precinct Plan includes the following proposed structures which extend across multiple assessment areas:

  - The Multipurpose Stadium and Associated Concourse – The Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, the Precinct North, the Precinct South, and the Gateway.
  - The underground carpark and building footprints within the Antarctic Facilities Zone – The Escarpment, the Promenade and Underground Carpark, the Precinct North, and Audit Area 4 East.
  - Building footprints within the Complementary Integrated Mixed Use Zone – The Precinct North and the Precinct South.

  Extension of structures across the assessment area boundaries introduces additional considerations for Site Suitability, and development of structures which extend beyond the boundaries of assessment areas should not be commenced until Site Suitability Statements have been issued for all areas within their footprints.

- Potential soil vapour intrusion into future structures from methane, TRH, and BTEXN.

  This risk has been identified due to:

  - Detections of methane, considered to arise from anaerobic degradation of either residual hydrocarbon contamination, or saturated soil from former river- and sea-bed buried by land degradation, both directly in soil vapour, and above the adopted criteria for vapour intrusion in groundwater, in multiple locations across the Site.
  - Exceedances of the Commercial/Industrial land use RC for TRH >C10-C16 and naphthalene, indicating potential vapour intrusion in soil or groundwater below or adjacent to proposed structures, in both new data collected since issue of the Site Suitability Statement, and in some areas (i.e., former Open Space and the Access Link (an open transport corridor) areas in the Promenade and Underground Carpark) which have been updated to a more sensitive use in the new proposed development.
  - Potential changes in risk profile from proposed excavation/changes in Site elevation, which decrease the distance between some impacts and may lead to increased concentrations in soil at the surface.

  Based on the current land uses and existing leases, and the widespread and likely discontinuous sources of methane in saturated buried soils, remediation of the source of these impacts is not considered practicable. Inclusion of a vapour protection system in future building design is considered required as part of Site Suitability for areas which include potential vapour intrusion risks, consisting of the following areas considered in this report:

  - The Goods Shed and Yard – the Multipurpose Stadium and Associated Concourse.
  - The Escarpment – the Multipurpose Stadium and Associated Concourse, and the underground carpark and building structures within the Antarctic Facilities Zone.

    (It is noted that vapour protection is not considered required for the proposed relocation of the Goods Shed to the northern portion of this area).
  - The Promenade and Underground Carpark – the Multipurpose Stadium and Associated Concourse, and the underground carpark and building structures withing the Antarctic Facilities Zone.

  - The Precinct North – the Multipurpose Stadium and Associated Concourse, the underground carpark and building structures withing the Antarctic Facilities Zone, and building structures within the Complementary Integrated Use Zone.

  Any vapour protection system must have independent review of design and verification following construction, and this requirement must be documented in the SEMP.

- Potential future contact between intrusive maintenance workers and areas of Site soil with lead concentrations exceeding the adopted RC for this land use:
  - The existing Site Suitability Statements included an assumption that only minor or incidental changes to the surface elevation would occur, and assessed potential risks to intrusive maintenance workers to a maximum depth of 2 m below the current surface elevation.
  - Concentrations of lead were reported in previous assessments in excess of the adopted RC for maintenance workers at depths below 2 m below current surface elevation, and additional soil concentrations in excess of the RC have been identified since issue of the Site Suitability Statements, noting that these exceedances have been detected in soil proposed for excavation.
  - To minimise potential contact between future intrusive maintenance workers and existing Site soil with exceedances of RC:
    - Known locations of exceedances will be documented in the SEMP(s) for management during construction or development activities.
    - Subsurface services will be required to be installed within clean fill/soil corridors, or within protective conduits.
    - Additional Personal Protective Equipment (PPE) requirements will be required during future intrusive maintenance works where contact with current Site soil may occur, to minimise potential ingestion/inhalation of existing Site soil.

  The proposed additional controls, and data regarding locations with concentrations of lead in excess of the RC, must be documented in the SEMP.

- Disturbance of Potential Acid Sulfate Soil (PASS):
  - Assessment of Site soils in 2024 and 2025 identified that, while no ASS is present on Site, PASS with the potential to acidify if disturbed/oxidised is present in saturated soils at the Site.
  - Future development activities on the Site must include management measures for PASS to prevent acidification and environmental impact on the Site, or at any receiving site if PASS is excavated and removed.

  The additional controls and data regarding controls to prevent acidification of PASS must be added to the SEMP.

- Potential groundwater present at the surface, or shallow groundwater where risks may not be quantified by the RC, at the following locations based on the final design elevations for the Site, has been identified at:
  - The north, west, and north-west areas of the Multipurpose Stadium.
  - The Practice Wickets in the north-west corner of the Site.
  - The underground carpark in the north-east corner of the Site.

  Potential shallow groundwater interactions are not considered to introduce unacceptable risks, or risks are considered to be suitably managed or mitigated by development designs, as:
  - In the 70% detailed design of the Multipurpose Stadium:
    - Any drained groundwater is captured and disposed of as potentially contaminated waste under a TWA or similar, and should not be discharged to sensitive receptors.
    - The drainage layer does not intersect and capture LNAPL plumes, which may render groundwater unable to be discharged under TWA.

  - A vapour mitigation layer is present above the drainage layer, and will act as mitigation against potential vapour intrusion risks from shallow groundwater.
  - Any potential soil which may be dewatered by the drainage layer is assessed and managed by a DWMP, as required by the acid sulfate soil investigation.

  Any changes to these features in future design requires review and reassessment of environmental risks.

- Potential shallow groundwater below the Practice Wickets is not considered to represent an unacceptable risk, as groundwater is not considered likely to infiltrate to the proposed surface elevation of 4.8 mAHD, and vapour intrusion from groundwater is not considered to represent a risk in consideration of the open space use of the area and the Site history and environmental data in this area.
- The design of the underground water carpark, including the final surface elevation within the carpark (i.e., the level of the lowest floor) is not yet finalised and risks and mitigations from shallow groundwater cannot be assessed. However, the SEMP contains requirements to assess vapour intrusion for structures within 1 m of groundwater, prohibits contact between Site users and groundwater.

  The SEMP should be updated to include the requirement that any future development of the Site which involved modification of the surface elevation must assess the proposed change against groundwater elevations. If groundwater will be or is likely to be ≤1 m below the final surface, the proposed development must include measures and/or mitigations to:

- Prevent groundwater from reaching the surface or structures, such as drainage or tanking. Any such measures:
  - Must capture any drained groundwater for assessment and disposal as potential contaminated waste.
  - Must not transport or potentially increase the migration of groundwater or other contaminants on groundwater (such as LNAPL or DNAPL) to sensitive receptors (such as stormwater or the River Derwent/Sullivans Cove).
- Include either:
  - Additional assessment of vapour risks from shallow groundwater which demonstrates that no unacceptable risks are present; or
  - A vapour protection system suitable for potential vapour risks from groundwater.
- Identify if PASS may be dewatered and, if so, include measures to neutralise potential oxidation and prevent acidification as required by the assessment of acid sulfate soil at the Site.

- Review of potential off-Site ecological impacts:
  - The *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h) identified that, based on a weight-of-evidence approach, groundwater discharging from the Site was unlikely to present a potential unacceptable risk to off-Site ecological receptors (if present).

    An addendum to this assessment was prepared in 2025 (AECOM, 2025i), and concluded that overall, based on the review of updated Site data and information, the outcomes of the AECOM (2020h) assessment remain valid and suitable for ongoing assessment of the Site. No material changes in the off-Site aquatic ecological risk profile have been identified, and ecological risk to receptors in the River Derwent and Sullivans Cove remains low.

    Ongoing groundwater monitoring was recommended and is included in the SEMP (AECOM, 2025h).

- The upcoming closure and removal of the Macquarie Point STP, and realignment of the Main Hobart Pipeline (Sewer):

- The replacement of the STP with a pumping station, and associated activities including realignment of the Main Hobart, are not considered to change the environment suitability of the Site for future development.

The following changes, or updated information, are not considered to affect the previously issued Site Suitability Statements:

- Approval of the *State Policies and Projects (Macquarie Point Precinct) Order 2025* (the Order)
  - The Order provides approved conditions for the development of the Site. However, the conditions and requirements relating to the Environmental Audit and Site Suitability Statements are consistent with, and reference, the *Macquarie Point Development Act 2012*, and approval of the Order does not affect the assessment or requirements of the suitability of the Site for future development.
- Updates or consolidation of SEMP(s):
  - While the existing Site Suitability Statements reference different SEMPs, issued at the time of the initial assessment of Site's environmental suitability for development, have been updated as new data has been received, each iteration of the SEMP has included the previous requirements from Site Suitability Statements and been reviewed and accepted by the Site Auditor.
  - It is noted that updates to the SEMP are required as part of the assessment of other changes.
- Review and update of Site Specific RC:
  - While modifications to the Site Specific RC were identified as part of review in the context of the Precinct Plan, in all cases the changes increased criteria values, and as a result the RC used at the time of issue of Site Suitability Statements are considered conservative and appropriate for detection of potential environmental risks. As such, re-review of the existing data sets with the updated RC is not considered required.
  - It is noted that some RC (i.e., vapour intrusion, intrusive maintenance worker RC) are depth dependent, and potential changes in risks from the proposed modifications to the Site surface elevation are discussed above.
- Precluded Protected Environmental Values (PEVs):
  - No changes in PEVs precluded since the Site Suitability Statements were initially issued have been identified in this review.
- Light Non-Aqueous Phase Liquid (LNAPL) Plumes:
  - Based on assessment of LNAPL Plumes in 2025, LNAPL was not present at measurable thicknesses in any groundwater wells in or hydraulically up-gradient of the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, or the Precinct North, although sheen was reported in MW185 (LNAPL Plume A2) and MW187 (former LNAPL Plume A3).
  - No groundwater concentrations indicative of free-phase LNAPL, or soil vapour concentrations indicating potentially hazardous vapour generation (other than methane) were detected at the LNAPL Plumes, and LNAPL migration is not considered likely to occur.
  - LNAPL is still considered stable, and further remediation is not considered practicable.

  On this basis, LNAPL Plumes are not considered to make the Site areas considered unsuitable for development, if the management measures within the SEMP are implemented.

Based on the review conducted, the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, and the Precinct North are considered suitable for the proposed updated development if the recommendations provided in **Section E3** below are implemented, and on the basis of ongoing implementation of the SEMP to manage residual environmental impacts at the Site.

Auditor review and verification of this assessment and the recommendations is required.

E3 Recommendations

The following additional controls and mitigations are required to be added to the SEMP in order to mitigate and manage any additional environmental risks identified in the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, and the Precinct North:

- Vapour mitigation is required as part of construction of the structures in the following areas:
  - The Goods Shed and Yard.
  - The Promenade and Underground Carpark.
  - The Precinct North
  - Any buildings which include these areas in their footprint, such as the portion of the Multipurpose Stadium and Associated Concourse in the Escarpment.

  Vapour mitigation must incorporate a minimum gas protection value of 2 (EPA NSW, 2020), and the selected method should be suitable for mitigation of methane, TRH and BTEXN vapours.

  Design and construction documentation must include a documented testing and verification method for vapour intrusion mitigation measures, with reference to Appendix 7 – Verification and construction quality assurance, of *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020). Any design and/or installation of ground gas protection measures will require independent oversight and sign-off by an Environmental Auditor, or other suitably qualified and independent verifier.
- Landscaped areas and gardens should be established in aboveground planter boxes on hardstand and not directly over exposed soil. In the event that gardens are proposed in-ground, the following barrier system shall be installed:
  - Layer 1: Orange mesh para-webbing (or similar) placed as an indicator barrier over exposed soils to alert Site users.
  - Layer 2: Earthen cover (minimum 0.5 m) certified as 'Fill Material' in accordance with IB105.
  - Layer 3: Surface coverage (comprising shallow rooted vegetation).

  Deeper-rooted vegetation may be established using the designs provide in **Appendix E**, with the following additional requirements:
  - Soil imported for in-ground planting must be Level 1 – Fill Material.
  - No plants intended for consumption are to be included in any in-ground planting on the Site.
  - The potential size of plant root structures should be considered when selecting species for cultivation on the Site. Planting structures should have sufficient volume for the plants to develop without requiring root structures to penetrate the earthen liners and extend beyond the clean-fill soil.
  - The earthen liner and barrier layers included in planting designs are to be installed above the Site water table.
  - In-ground planting is only to occur in open space use areas. No in-ground planting is to occur within Site buildings (i.e., within atriums, foyers, or arboretums).
  - Trees, or any other deep-rooted plants, which are cultivated on the Site should be excavated and removed as soon as possible if any of the following occurs:
    - Death or significant rot/reduction in size
    - Toppling/knocking over by wind or impact.
  - In the event that plant removal occurs:
    - Removal of all root structures must be included.
    - If root structures have extended and pierced the earthen liner and/or indicator barrier layer, these must be repaired and restored as part of removal of the plant(s).

- PASS within saturated soils, strongly correlating with estuarine sands, has been identified beneath the Site and should be considered during future works.

  Future activities at Macquarie Point should identify all activities which have the potential to disturb or expose (i.e., dewater) PASS at the Site, as identified in *Acid Sulfate Soil Investigations* (AECOM, 2025b), and:

  - The SEMP should be updated with a description and locations of identified PASS.
  - The SEMP should include overarching management obligations for disturbance of ASS and/or water table drawdown via dewatering, include a requirement for scope specific Acid Sulfate Soil Management Plans (ASSMP) and/or Dewatering Management Plans (DWMP) to be developed for each discrete works package involving civil and general earthworks activities, water table drawdown via dewatering, and any other significant soil disturbance activities or changes to natural groundwater and surface water systems.

    These documents should be prepared by those undertaking works which may disturb PASS, and must include:

    - Estimated volumes and action criteria for PASS which may be disturbed by the proposed works.
    - Procedures for the handling of disturbed PASS, including verification of neutralisation, groundwater generated by dewatering, and monitoring of Site environmental conditions in the vicinity of PASS disturbances.
    - Contingency measures which are specific, measurable, and attainable, and can be implemented in a timely manner in the event that action criteria or trigger values are exceeded.
  - Future structures and infrastructure at the Site should consider the potential effects of sulfides and possible acidification in design and selection of materials, and adopt appropriate mitigation measures to prevent degradation of materials overtime.
  - Any groundwater, or run-off which may have come into contact with PASS, should be considered as potentially contaminated. pH and the potential to acidify should be considered in assessment any such water prior to disposal
- Any engineered fill or other materials used to increase the surface level to 3 mAHD must either:
  - Be classified as Level 1 – Fill, in accordance with the guidelines provided by IB105; or
  - Be approved for use by an Environmental Auditor, who may identify other conditions or controls based on the nature of the material used. For example, crushed dolerite sourced from other areas of the Site may be suitable for this purpose, but will require assessment and Environmental Auditor approval, as well as any other required approvals from planning authorities or EPA, prior to any such use.
- The areas of soil listed below, where lead in soil has been identified as exceeding the intrusive maintenance worker RC:
  - Soil surrounding the Hobart Main Pipeline (sewer) (already noted in Section 3.2.3 of the SEMP.
  - Soil surrounding *in situ* sample points K14, K18, L13, M13, M14, K06, L08, M09, N10, F11, G11, G13, H10, H12, H13, I13, J06, J08, J10, J12

  These locations should be noted as a potential area of elevated contamination, and addition PPE/management requirements put in place for intrusive works in this area (as part of future CEMPs or ongoing maintenance) to minimise potential exposure to lead in soil.
- Any subsurface services or utilities should be preferably installed within the engineered layer of clean fill. If services must be installed in existing Site soil, they must be installed in either clean soil corridors, or protected conduits, to minimise any contact with existing Site soil by future maintenance workers.

- Any future development of the Site which involved modification of the surface elevation must assess the proposed change against groundwater elevations. If groundwater will be or is likely to be ≤1 m below the final surface, the proposed development must include measures and/or mitigations to:
  - Prevent groundwater from reaching the surface or structures, such as drainage or tanking. Any such measures:
    - Must capture any drained groundwater for assessment and disposal as potential contaminated waste.
    - Must not transport or potentially increase the migration of groundwater or other contaminants on groundwater (such as LNAPL or DNAPL) to sensitive receptors (such as stormwater or the River Derwent/Sullivans Cove).
  - Assess and prevent unacceptable risks from groundwater-derived vapour via either:
    - Additional assessment of vapour risks from shallow groundwater which demonstrates that no unacceptable risks are present; or
    - A vapour protection system suitable for potential vapour risks from groundwater.
  - Identify if PASS may be dewatered and, if so, include measures to neutralise potential oxidation and prevent acidification as required by the assessment of acid sulfate soil at the Site.

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point site on Evans Street, Hobart, Tasmania (the Site). The location of the Site is shown on **Figure F1**.

As part of preparation for development, the Site is undergoing an Environmental Audit as required by Division 2, Section 39F(1) of the *Macquarie Point Development Act 2012* (last amended 1 July 2023), which states:

Redevelopment of a part of the site may not occur until an accredited environmental auditor has certified that the remediation of the part of the site has occurred to a standard that is satisfactory for the purposes of the proposed redevelopment.

For the purposes of the Environmental Audit, the Site has been divided into separate assessment areas, for which Environmental Auditor certification has been sought as environmental investigations and remediation works have been completed. It is required at the completion of the Environmental Audit, Site Suitability Statements should be issued for the entire Site.

Four Site Suitability Statements have been issued to date for the following Site assessment areas (discussed further in **Section 4.0**):

- *Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 1* (Coffey, 2019a)
- The Escarpment (Audit Area 4 West) - *Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 4 West* (Coffey, 2020)
- The Promenade and Underground Carpark (Lot E and UGC) - *Contaminated Land Audit Report – Macquarie Point Development Project – Lot E and Underground Carpark* (Coffey, 2021a)
- The Precinct North (Lot B) - *Contaminated Land Audit Report – Macquarie Point Development Project – Lot B* (Coffey, 2021b).

In 2024, the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024) was released by the Corporation, which updated and modified the vision for development of the Site. As a result, the Site Suitability Statements issued prior to the Precinct Plan (listed above) require reconsideration for applicability to the new proposed future uses of the Site.

This report has been prepared to review and reassess the available environmental data (including any new data collected since issue) for areas with existing Site Suitability Statements and assess if any additional remediation or mitigation/management measures are required to enable the development proposed in the Precinct Plan without any unacceptable risk to human or ecological.

1.1 Objectives

The objectives of this report are to review the four existing Site Suitability Statements and:

- Assess existing Site data, including any new data received since issue of the Site Suitability Statements, against the updated development plan and any identified changes in the Site Specific Remediation Criteria (RC).
- Identify any changes in the risk profile or data gaps which may have arisen from the proposed changes.
- Recommend any additional management and mitigation measures, or additional works which are considered required to support the Environmental Auditor in their certification of Site Suitability for the updated development planned.

It is intended that this report be provided to the Environmental Auditor upon completion to support amendment of the existing Site Suitability Statements.

2.0 Background

2.1 Site Details

The Site details are provided on **Table 1** below.

Details for Regatta Point, which has not yet been transferred to the Site but is intended to be included within the overall Environmental Audit, are also provided.

Table 1 Overall Site Details

Item	Description
Macquarie Point Site	
Site Address	10 Evans Street, Hobart, Tasmania
Site Area	Approximately 9.3 hectares (ha)
Current Site Owners	State of Tasmania (Crown Land)
Title Details	Macquarie Point contains the following land title references: • The majority of Macquarie Point is within land title 113521/1 (formerly CT 114462/1) • A portion of the southwest area (within the Gateway area) is within land title 129483/1.
Current Zoning	In accordance with the Hobart City Council (HCC, 2023), the *Sullivans Cove Planning Scheme 1997* notes that the Macquarie Point site falls within the *Macquarie Point Mixed Use Zone* and is subject to the following use areas: • Commercial and Institutional • Mixed Use • Open Space.
Current Uses	• The majority of Macquarie Point is currently vacant. Portions of the north and west of Macquarie Point are currently in use for remediation activities, including stockpiling of excavated materials. • The Goods Shed, a historical warehouse structure now subject to intermittent use including public events, is located on the southern boundary of Macquarie Point. • An occupied office building (8A Evans Street) is located on the western boundary of Macquarie Point. • The “Red Shed”, located in the south eastern portion of Macquarie Point, is currently used by a microbrewer and includes a public bar. • A warehouse (the SeaRoad Shed) was located in the south-east corner of Macquarie Point but was demolished in 2023. A large slab (the SeaRoad Slab) remains in place and has been used for intermittent storage of construction equipment. • Small retail outlets are located in the area adjacent to the Red Shed (Red Square) which is also used regularly for markets, music and other outdoor events with food vans. • A public car park is present in the south eastern and eastern portion of Macquarie Point. • A roadway (the Northern Vehicular Access) is present on the northern portion of Macquarie Point.

Item	Description
	• Portions of the northern and north eastern areas of the Site are leased to the Tasmanian Water and Sewerage Corporation (TasWater) and used for equipment storage and soil stockpiling as part of construction of a Sewage Pumping Station (SPS) off Site to the east.
Closest Surface Water Body	• Sullivans Cove, approximately 150 m to the south. • River Derwent, approximately 280 m south-east (inferred direction of groundwater flow) and 25 m to the north-east.
Regatta Point	
Address	• Located adjacent to McVilly Drive, Queens Domain. A street address is not allocated for this area.
Area	• Approximately 0.7 ha
Current Land Owners	The land comprised within Regatta Point is under the authority of: • Department of Natural Resources and Environment Tasmania (DNRET) Property Services (Potential Property ID 2513934), under Crown lease. • Regatta Point is currently being transferred to the control of the Corporation.
Title Details	Title details are not available for the public reserve (Potential Property ID 2513934).
Current Zoning	In accordance with the Hobart City Council (HCC, 2023), the *Sullivans Cove Planning Scheme 1997* notes that the Regatta Point site falls within the *Macquarie Point Wharf & River Zone B* and is subject to the following use areas: • Commercial • Mixed Use • Open Space.
Current Uses	The following is noted with regard to current Regatta Point use and features: • A public reserve in the southern portion of Regatta point is used for public open space and recreation. Carparking and access to the River Derwent (via two marine jetties and two boat ramps) are present in this area, and accessible via McVilly Drive. • A pumphouse (under Crown Licence) is present in this area, and is suspected to be related to fuel and oil transfer pipelines which extended beneath Macquarie Point and have been removed in part by remediation between 2020 and 2023. It is not known if this pumphouse is operational, what use is authorised under its licence, or what historical uses it may have had. Investigation work in 2024 identified a previously unknown underground pipeline, believed to be a fuel transfer pipeline, attached to this structure. • A small two-storey building of unknown use is in this area. • A disused rail line and corridor passes to the west of Regatta Point.
Closest Surface Water Bodies	• The River Derwent is located to the east, immediately adjacent to Regatta Point. • Sullivans Cove is located approximately 560 m to the south at the closest point. • Recreational fishing restrictions apply in the waters adjacent to Regatta Point.

2.2 Assessment Areas

The Site has been delineated into eight sub-areas (including Regatta Point added in 2023) for environmental investigation, assessment and remediation. **Figure 1** below shows the location of each assessment area in context of the Site, and each area is shown in context of the proposed future development under the Precinct Plan (discussed in **Section 2.3**) on **Figure F2**.

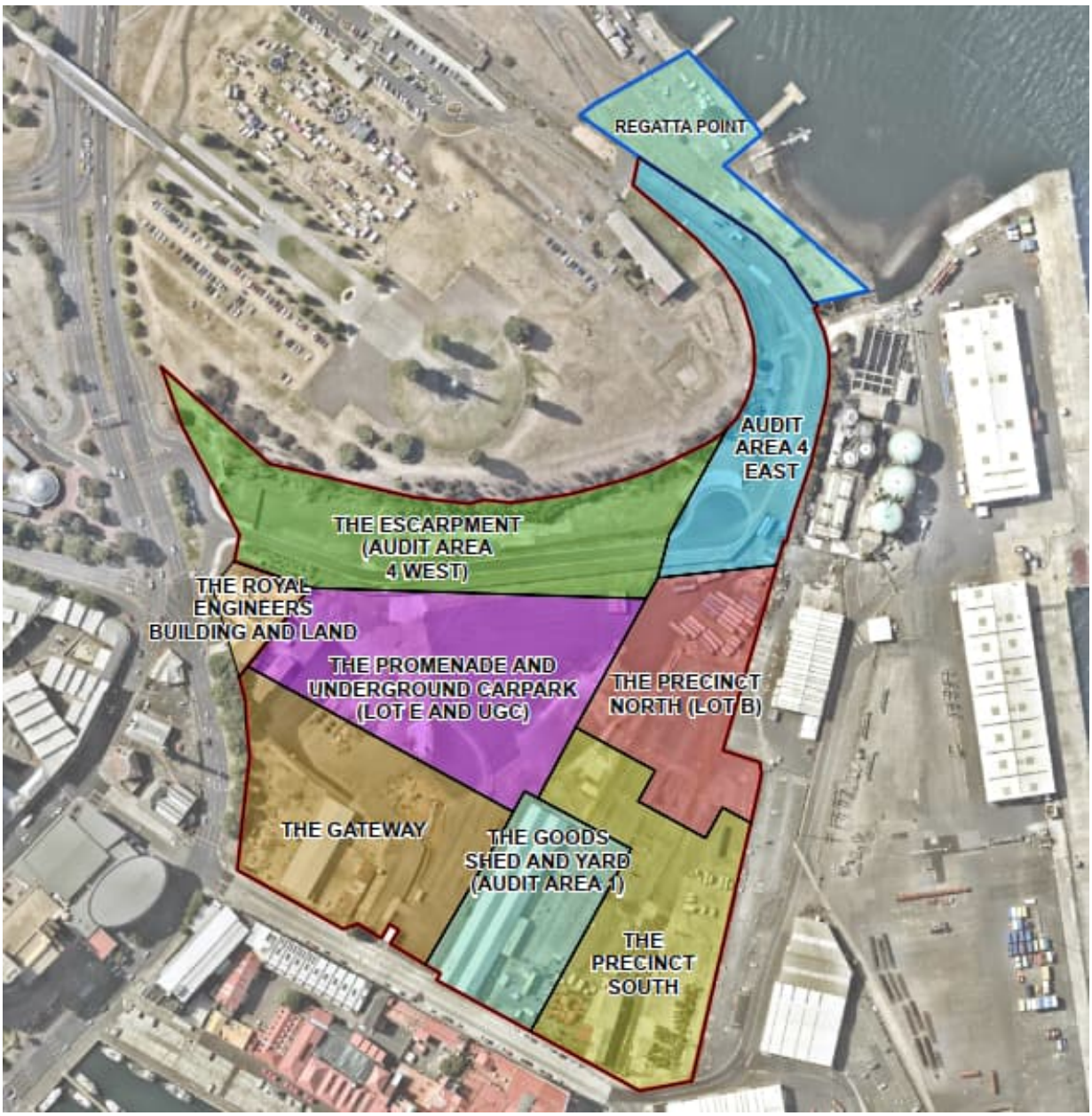

Figure 1 Site Assessment Areas

The Royal Engineers Building and Land, to the west of Macquarie Point, is included in the Precinct Plan for overall planned development of the area, however no changes in use are planned and it is not intended to include this area in the Environmental Audit at this time.

It is also noted that land in the northern portion of Audit Area 4 East is proposed to be transferred to the control of the Tasmanian Department of State Growth for construction of an access road. However, this title subdivision and transfer have not yet occurred.

2.2.1 Status of Site Suitability Statements

At present, no Site Suitability Statements have been issued for the development of the Site as proposed in the Precinct Plan.

Table 2 below summarises the current status of each Site area, and the actions planned or considered likely to be required to complete the Environmental Audit and allow issue of a Site Suitability Statement.

Table 2 Status of Site Suitability Statements

Site Area	Approx. Area (ha)	Site Suitability Statement and/or Remaining Actions and Activities
Site Suitability Statements Issued		
The Goods Shed and Yard (Audit Area 1)	0.86	*Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 1*, issued by Tetra Tech Coffey Pty Ltd on 5 June 2019
The Escarpment (Audit Area 4 West)	1.68	*Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 4 West*, issued by Tetra Tech Coffey Pty Ltd on 24 September 2020
The Promenade and Underground Carpark (Lot E and UGC)	1.73	*Contaminated Land Audit Report – Macquarie Point Development Project – Lot E and Underground Carpark*, issued by Tetra Tech Coffey Pty Ltd on 23 July 2021
The Precinct North (Lot B)	1.04	*Contaminated Land Audit Report – Macquarie Point Development Project – Lot B*, issued by Tetra Tech Coffey Pty Ltd on 22 November 2021
The four Site Suitability Statements issued to date form part of and were included as appendices to contaminated land audit reports referenced above, and must be read in conjunction with those reports. This report contains this review and assessment of the requirements for Site Suitability, based on changes in proposed development of the Site since issue.		
Site Suitability Statement Not Issued		
The Precinct South	1.40	No remaining remediation actions identified in this area. An initial CUTEP report for this area was prepared and submitted to the Auditor for review in December 2024 (AECOM, 2024e). An updated CUTEP report (AECOM, 2025g), incorporating additional data collected during 2025, was issued in November 2025 and is awaiting Auditor review and comment.
The Gateway	1.46	Remediation (removal of remnant infrastructure and treatment of gasworks contamination) was completed in 2024 and a Remediation Validation Report has been issued to the Auditor for comment. An additional soil vapour and groundwater investigation was conducted post-remediation in June 2025. A CUTEP report for the Gateway area is currently being prepared and will be issued to the Auditor for review when complete.

Site Area	Approx. Area (ha)	Site Suitability Statement and/or Remaining Actions and Activities
Audit Area 4 East	1.09	Remaining environmental impacts or potential impacts known to be present in Audit Area 4 East are: • A remnant fuel pipeline passes through the central portion of Audit Area 4 East. The southern sections of this pipeline were removed as part of remediation of the Precinct North and the Escarpment, however, the remaining pipelines should be removed and capped at the Site boundary. It is also noted that Buried Asbestos Containing Material (ACM) was uncovered in a hillside in the western portion of the area. The ACM is currently capped and is considered suitable to manage in place. It is currently proposed that the land in the northern section of Audit Area 4 East, including the area of the remnant fuel pipeline, be transferred from the control of the Corporation and to the Tasmanian Department of State Growth, although this title sub-division and transfer has not yet occurred. If this land transfer occurs, Audit Area 4 East will be reduced to approximately 0.47 ha in area. An updated assessment of the area proposed to remain as part of Macquarie Point is currently being prepared and will be issued to the Auditor when complete.
Regatta Point	0.7	This area is not yet included in the Macquarie Point Environmental Audit but is considered likely to be included in the future. Intrusive investigations of Regatta Point were completed in late 2024, and a DSI has been issued to the Auditor for comment. Identified remediation remaining in this area consists of removal of a previously unknown pipeline, considered likely to be an abandoned fuel/oil transfer line, through the centre of the area. A timeline for remediation has not yet been established.
Royal Engineers Building	0.19	This area is not currently included in the Macquarie Point Environmental Audit, and is not currently proposed to be included. The future use of this area is included the Precinct Plan (MPDC, 2024), which details the proposed development of the Site. To date, no potentially contaminating land uses have been identified, or intrusive investigation undertaken, at the Royal Engineers Building.

In addition, update to the Site Environmental Management Plan (the SEMP) (AECOM, 2024b) will be required to capture changes in the proposed future development, Site condition, environmental data, and required mitigations and management procedures for future development and use. Update of the SEMP for all assessment areas excluding Audit Area 4 East and Regatta Point is expected in late 2025.

It is noted that the final assessment and decision on whether each area is suitable for the intended development, and what controls, mitigations, or other measures are required, will be made by the Site Environmental Auditor and may differ from the summary on the table below.

2.2.2 Historical Audit Areas

Prior to 2019, the Site was divided into seven Audit Areas (numbered 1 to 7) for assessment, based on earlier development plans. These Audit Areas and the previous development proposed, which are

referenced in some historic reports and documentation, are presented in context of the current assessment areas on **Figure F3**, and summarised in **Table 3** below.

Table 3 Relationship between Current Assessment Areas and Former Audit Areas

Current Assessment Areas	Former Audit Areas
The Goods Shed and Yard (Audit Area 1)	Audit Area 1
The Escarpment (Audit Area 4 West)	The western portion of Audit Area 4 and the northern portion of Audit Area 2
The Promenade and Underground Carpark (Lot E and UGC)	The southern portion Audit Area 2, and the northeastern portion of Audit Area 5
The Precinct North (Lot B)	Audit Area 7, the eastern portion of Audit Area 2, and the northeastern portion of Audit Area 5
The Precinct South	Audit Area 3 and the southeastern portion of Audit Area 5
The Gateway	Audit Area 6 and the southwestern portion of Audit Area 5
Audit Area 4 East	The eastern portion of Audit Area 4
Regatta Point	Not previously included in Audit Areas.

2.3 Proposed Future Development

The Precinct Plan presents a vision for redevelopment of the Site (and surrounding areas) as a mixed-use precinct comprised of interconnected discrete zones, summarised on **Table 4** and presented on **Plate 1**.

Table 4 Precinct Plan - Proposed Development Precincts

Precinct	Likely Land Use
Aboriginal culturally informed zone	Open space and commercial
Multipurpose stadium and associated concourse zone	Open space and commercial
Royal Engineers building and land	Open space and commercial
Complementary integrated mixed use zone, including restaurants, cafes, hotels, medical facilities and commercial office space	Open space and commercial
Antarctic facilities zone including commercial spaces and connections with the complementary integrated mixed use zone	Commercial and underground car parking
Residential development and public foreshore zone accommodating a variety of tenures and housing opportunities, along with a new public promenade and food and beverage offerings	Medium to high density residential, commercial and open space
A transport corridor and roadway linking Regatta Point to the main areas of the Site	Open space / vehicle traffic / foot traffic
A vegetated area along the northern boundary of the Site, where the escarpment below the Hobart Cenotaph would prevent development or construction	Open space

In addition:

- Subsurface utilities and maintenance activities are anticipated to occur in all Site areas.
- Excavation and modification of the final surface level across the Site is expected to occur as discussed in **Section 5.3**.

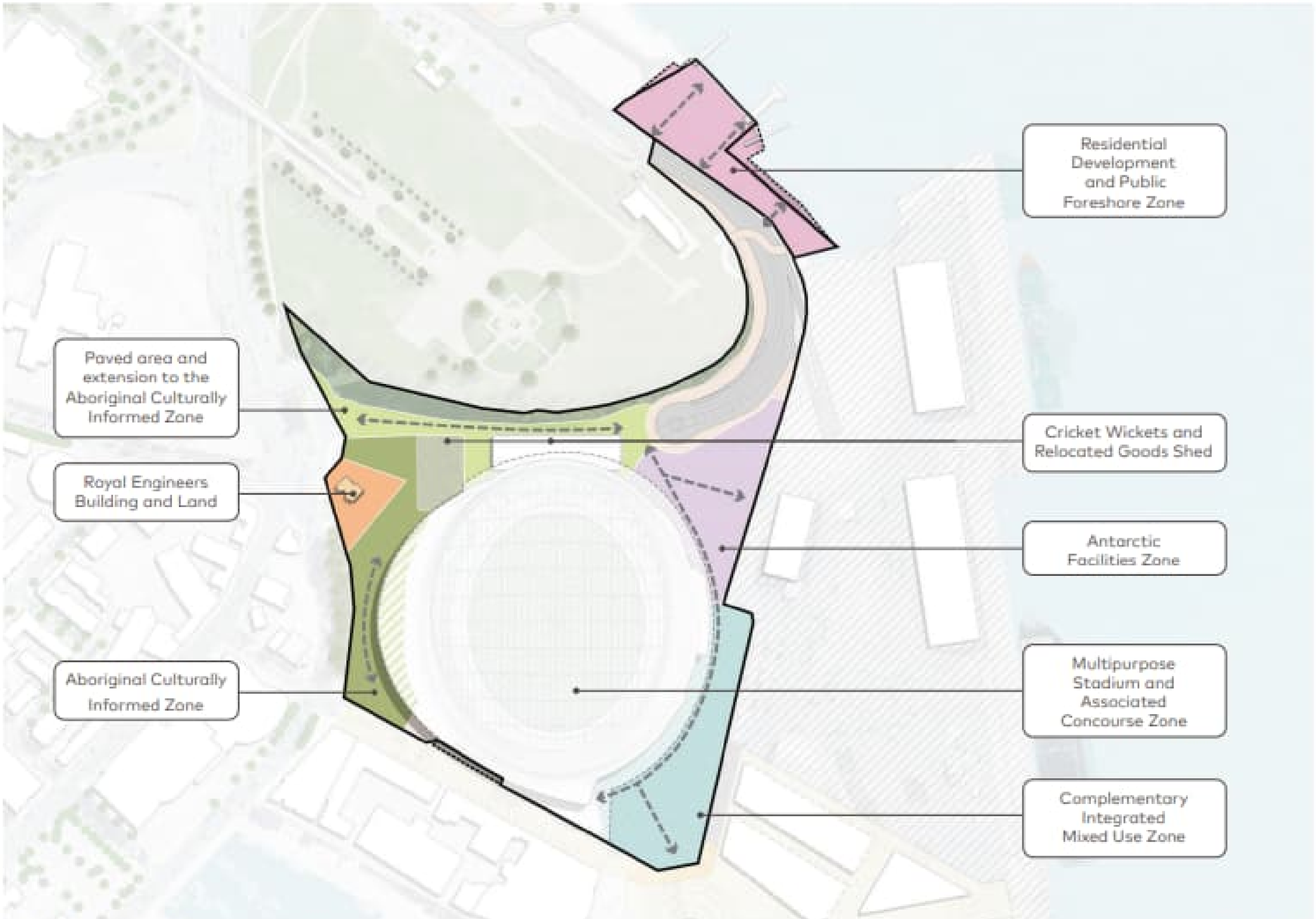

Plate 1 Proposed Future Land Uses (MPDC, 2024)

2.4 Regulatory Framework

2.4.1 Site Environmental Audit

In 2015, the *Macquarie Point Development Corporation Act 2012* was amended to enable the accreditation of an environmental auditor under Tasmanian legislation. The amended Act enables the Director of the Tasmanian Environment Protection Authority (EPA) to accredit an auditor. Mr David Lam of Tetra Tech Coffey has been appointed as the Environmental Auditor for the Site and has been accredited as an auditor recognised by the amended Act.

Where there is limited, or a lack of, suitable guidance in Tasmania for the audit, the amended legislation allows for the auditor to defer to other suitable interstate guidance. In this instance, the guidelines supporting the Victorian EPA Environmental Audit Framework have been adopted, as it is the home state of the appointed Auditor.

It is noted that Victoria legislation which defines the Audit process was updated and superseded by the *Environment Protection Act 2017* (the EP Act), which came into effect on 1 July 2021, and contains significant changes to Audit methodology and terminology under the Victorian framework. Under Section 478 of the EP Act, existing Audits where an Auditor has been engaged prior to 1 July 2021, and the Audit has not been completed by 1 July 2021, can be conducted under either the EP Act or the previous framework defined in the *Environment Protection Act 1970*. To maintain continuity with the portions of the Audit already completed, the Site Audit is currently continuing under the previous framework and terminology,

The role of the Auditor is to review the progression of investigation, and remedial planning and execution works at the Site. It is understood that the Auditor shall ensure that the works are carried out in compliance with local Tasmanian legislation and guidelines with consideration given to the requirements of the Victorian EPA Environmental Audit Framework.

The ultimate outcome of the Environmental Audit is to obtain a Site Suitability Statement, such as the ones already issued and review in this report, confirming the Site's suitability for intended future uses.

2.4.2 Clean Up to the Extent Practicable

The Audit will include consideration of Clean Up to the Extent Practicable (CUTEP), similar to that adopted by the Victorian audit scheme. Section 1.0 of Victorian EPA Publication 840.2 (2016) *The cleanup and management of polluted groundwater* (EPA Publication 840.2) notes that:

> '*Where polluted groundwater has been identified, EPA Victoria's role is to require clean up. If it is impracticable to clean up groundwater to the level needed to restore beneficial uses, EPA may accept that cleanup to the extent practicable has occurred and that, subject to appropriate ongoing management, further cleanup is not required*'.

Although remediation and assessment of the Site is being conducted under the previous Victoria Environmental Audit Framework (as discussed in **Section 2.4.1**), this approach is also reflected in Part 2.2 - Non-aqueous phase liquids, Regulation 15 – Clean-up of non-aqueous phase liquids in the Victorian *Environment Protection Regulations 2021*, which states:

> '*A person in management or control of land where a non-aqueous phase liquid is present in soil or groundwater must, so far as reasonably practicable-*
>
> *a. Clean up the non-aqueous phase liquid; and*
>
> *b. If the source of the non-aqueous phase liquid is located on the land, remove or control the source of the liquid.*

The CUTEP process recognises that polluted groundwater should be cleaned up such that the protection of beneficial uses is restored, and where considered acceptable (by the authority, in this case the independent Site Environmental Auditor in conjunction with the Tasmanian EPA), groundwater may be cleaned up to the extent practicable.

It is noted that a CUTEP determination needs to be made for the whole Site, not just individual remediation areas. However, interim agreement has been historically sought from the Site

Environmental Auditor that individual areas have reached remediation end-points, so that active remediation works can cease.

2.4.3 Legislative Changes

Legislative changes since issue of the existing Site Suitability Statements are described in **Section 5.1**.

2.5 Assessment and Remediation Approach

The Corporation has adopted a series of overarching and interrelated remediation objectives in relation to the Site. These include:

- Ensuring that there are no unacceptable risks to human health associated with the Site, both to on-Site and off-Site receptors.
- Ensuring there are no unacceptable risks to the off-Site environment / ecology from the Site.
- Remediating the Site to a suitable standard to allow for redevelopment for the intended future land uses.
- Remediating primary sources of contamination as these represent an ongoing source of pollution to groundwater.

These objectives are generally consistent with those adopted by regulatory authorities around Australia.

2.6 Chemicals of Potential Concern

Prior to European settlement, Hobart and the surrounding areas, including the Site, were occupied and inhabited by the Muwinina people.

Since first European settlement circa 1804, the Site has been subject to land reclamation events, farming, quarrying and various construction and industrial activities, including but not limited to progressive land reclamation events, rail and freight operations, gasworks, and bulk fuel storage.

Based on the known Site history, **Table 5** below presents a summary of the Chemicals of Potential Concern (CoPC) that may be present based on known historical activities or uncovered during investigation of the Site.

Table 5 Chemicals of Potential Concern Summary

Area	Historical Land Uses	Chemicals of Potential Concern
Areas with Site Suitability Statements Issued		
Goods Shed and Yard	• Freight storage and handling • Vehicle Maintenance. • Fuel Storage and Handling • Land Reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Chlorinated solvents associated with vehicle maintenance activities. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
The Escarpment	• Locomotive refuelling comprising fuel storage and transfer facilities • Railway maintenance workshop • Rail corridor and fuel transfer infrastructure historically located within the area • Concrete batching plant • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Chlorinated solvents associated with locomotive maintenance activities and the storage of hazardous materials. • Heavy metals, chlorinated solvents and hydrocarbons associated with workshop and maintenance areas. • Phosphorus and sulphur associated with locomotive washing. • ACM sourced from historical structures (i.e. cladding). • Hydrocarbons associated with the truck wash. • Heavy metals, chlorinated solvents and hydrocarbons sourced from the historical incineration of paint/ solvents. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
The Promenade and Underground Carpark	• Locomotive refuelling comprising fuel storage and transfer facilities. • Locomotive maintenance. • Freight storage and handling. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel (diesel) storage and transfer activities. • LNAPL has been detected on groundwater. • Chlorinated solvents associated with locomotive maintenance activities. • Heavy metals, asbestos and PAHs sourced from materials used to backfill Roundhouse structures. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.

Area	Historical Land Uses	Chemicals of Potential Concern
The Precinct North	• Freight storage and handling. • Fuel storage and handing • Land reclamation	• TPHs, BTEXN, PAHs, and phenolic compounds associated with historical fuel (diesel) storage and transfer activities. • Chlorinated solvents associated with locomotive maintenance activities. • LNAPL has been detected on groundwater. • Metals[1] inferred to be due to historic land reclamation have been detected in fill. • PFAS associated with bulk off-Site fuel handing. While review of historical information has not identified the use of products containing PFAS, there is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations or for training purposes during bulk fuel storage in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in the 1970s.
Areas without Site Suitability Statements Issued		
The Precinct South	• Freight storage and handling. • Fuel storage and handling • Land reclamation	• TPHs, BTEXN, PAHs, phenolic compounds, and lead associated with historical fuel storage and transfer activities undertaken adjacent to the Site's eastern boundary. • LNAPL has been detected on groundwater. • Metals[1] inferred to be due to historic land reclamation have been detected in fill. • PFAS associated with bulk off-Site fuel handing. While review of historical information has not identified the use of products containing PFAS, there is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations or for training purposes during bulk fuel storage in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in the 1970s.

Area	Historical Land Uses	Chemicals of Potential Concern
The Gateway	• Former Hobart Gasworks. • Locomotive refuelling comprising fuel storage and transfer facilities. • Railway maintenance workshop. • Land reclamation	• TPHs, PAHs, BTEXN and phenols sourced from coal tar and tar oils, or from historical fuel storage and transfer activities. • Heavy metals, chlorinated solvents and hydrocarbons associated with workshop and maintenance areas. • Phosphorus and sulphur associated with locomotive washing. • ACM sourced from historical structures (i.e. cladding). • Chlorinated solvents associated with locomotive maintenance activities and the storage of hazardous materials. • Complex cyanides, free cyanides and metals sourced from spent oxides. • TPHs, PAHs and metals sourced from coke, coke breeze, ash and clinker residues. • TPHs and BTEX associated with light and drip oils. • DNAPL has been detected in soil. • Phenols, nitrates, sulphates, sulphides, ammonia and PAHs sourced from ammoniacal recovery wastes. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
Audit Area 4 East	• Rail corridor and fuel transfer infrastructure historically located within the area. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Buried ACM has been identified in a section of Audit Area 4 East and is currently temporally capped with a concrete layer. • Metals[1] inferred to be due to historic land reclamation have been detected in fill
Regatta Point	• Public boating, yachting, and port activities. • Rail corridor • Fuel pipeline • Land reclamation • Metals	• Heavy metals, TPH/TRH, PAH, BTEXN, phenolic compounds, SVOC, VOCs, TBT, OCPs, cyanide, ammonia and ACM have all been identified as potential CoPC in Regatta Point based on current and historical uses. No field assessment has been conducted to date. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.

Notes: TPHs – total petroleum hydrocarbons; TRH – total recoverable hydrocarbons; PAHs – polycyclic aromatic hydrocarbons; BTEXN – benzene, toluene, ethylbenzene, xylene, naphthalene; ACM – asbestos containing material; VOC – volatile organic compounds; SVOC – semi VOC; TBT – tributyl tin; OCP – organochlorinated pesticides; PFAS – Per- and Poly-Fluoroalkyl Substances; LNAPL – Light Non-Aqueous Phase Hydrocarbons; DNAPL – Dense Non-Aqueous Phase Hydrocarbons; 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel and zinc

In additional, Potential Acid Sulfate Soil (PASS) has been identified in saturated estuarine materials below all areas except Regatta Point. The PASS is inferred to be former river/sea bed buried by land reclamation, and may be present in unsaturated fill used in land reclamation in some areas. Soil methane has also been detected at potentially hazardous levels, and may be due to degradation of hydrocarbon impacts from fuel handling and storage and/or organic material in natural materials buried during land reclamation.

2.6.1 Identified NAPL or Former NAPL Areas

Previous investigations at the Site have identified non-aqueous phase liquids (NAPL), consisting of LNAPL and DNAPL, which are summarised in **Table 6** below.

Table 6 Known Existing or Former NAPL Areas

Plume ID	Location	Inferred Contamination Source
Within Areas with Site Suitability Statements		
LNAPL Plume A1	Roundhouse Refuelling Area in the Promenade and Underground Carpark, central portion of the Site	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities associated with spills during refuelling activities and potentially leaks from a historical Aboveground Storage Tank (AST) which is known to have been previously present at this location.
LNAPL Plume A2	Roundhouse Refuelling Area in the Promenade and Underground Carpark, central portion of the Site	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities associated with spills during refuelling activities and potentially leaks from ASTs.
Former LNAPL Plume A3	Roundhouse Refuelling Area in the Promenade and Underground Carpark on the boundary with the Precinct North, central portion of the Site	Historical documents reference localised LNAPL at this location. Similar to Plume A1, LNAPL is likely associated with locomotive refuelling activities in the Roundhouse Refuelling Area. The LNAPL is understood to have comprised of predominantly diesel fuel, as well as fuel oils associated with diesel engine operation (e.g. lubricants, engine oils etc.) and is likely to be associated with isolated spills. No LNAPL has been detected in wells in this area since 2017.
Within Areas without Site Suitability Statements		
LNAPL Plume B	SeaRoad Shed Slab in the Precinct South, south-east portion of the Site	LNAPL (comprising predominantly diesel with lube oil) has been identified at the water table and is understood to be associated with historical fuel handling and storage activities, in proximity to the SeaRoad Shed.
Former Tar Plume A	Former gasworks area in the Gateway, south-west corner of the Site	Coal tar DNAPL, likely derived from a horizontal retort/oil reformer which was present in this location during gasworks operation, was observed primarily from 4 m bgl extending to underlaying dolerite bedrock, and may extend off-Site to the south and west. DNAPL within the Site boundaries, excluding areas in the exclusion zone surrounding a high voltage power cable, were solidified in 2024 and is no longer considered mobile.

Plume ID	Location	Inferred Contamination Source
Former Tar Plume B	Former gasworks area in the Gateway, south-west corner of the Site	Coal tar DNAPL was observed within a buried vertical tank base. The walls of this tank remained in place and contained DNAPL, which was solidified in 2024 and is no longer considered mobile.
Tar Plume C	Former gasworks area in the Gateway, west boundary of the Site	Coal tar DNAPL was observed below a buried concrete slab and above shallow dolerite, and is considered likely derived from a vertical retort which was present in this location during gasworks operation. DNAPL has been observed between 1.4 and 1.6 m bgl, and is not considered to be in contact with groundwater. The exclusion zone associated with a high voltage power cable prohibits activities which could disturb DNAPL in this area.
Tar Plume D	Former gasworks area in the Gateway, west boundary of the Site	Tar staining, odours and relatively high PID readings (598 ppm) were reported between 3.5 and 4.7 m bgl in this area, and DNAPL present may be resting on the buried base of a former gasholder which appears to be present at 4.7 m bgl. DNAPL is not considered to be in contact with groundwater in this area, and the exclusion zone associated with a high voltage power cable prohibits activities which could disturb DNAPL in this area.

Notes: Chemicals of Potential Concern (CoPC) associated with each of the LNAPL plumes include TPH, PAHs and metals including lead. bgl – below ground level; PID – photoionisation detector.

LNAPL Plumes A1 and A2, and former LNAPL Plume A3, are within the areas with existing Site Suitability Statements considered in this report.

LNAPL Plume B, Former Tar Plumes A and B, and Tar Plumes C and D, are in areas without Site Suitability Statements. The status of these NAPL impacts is not further considered in this assessment, as these locations are outside of the assessed areas, and are not considered to have any potential to migrate into them, as:

- Each plume is hydraulically down gradient, and not considered likely to migrate on groundwater.
- Fluctuations in LNAPL Plume B were detected in 2024. Additional assessment of this plume conducted in 2024 and 2025 (AECOM, 2024d and 2025d), and concluded that the plume was not mobile, and that fluctuations in LNAPL thickness may have been due to temporary disturbance associated with remediation work within the Precinct South to the west, or preparatory works for realignment of the Hobart Main Pipeline (Sewer) off-Site to the east.
- Former Tar Plumes A and B were treated via *in situ* solidification (ISS) in 2024, and are no longer considered liquid or potentially mobile (AECOM, 2025c).
- Tar Plumes C and D are not considered to be currently in contact with groundwater, and activities which could potentially disturb and mobilise them are restricted by an exclusion zone established to protect a buried high voltage power cable which passes through the area they are located. This power cable was installed in late 2023, and no activities to remove or disturb soil around it are known to be planned.

  AECOM (2025c) includes recommendations for controls around future works around Tar Plumes C and D, in the event that the high voltage cable is removed, which have also been documented in the SEMP (AECOM, 2025h).

3.0 Assessment Criteria

3.1 Protected Environmental Values and Tier 1 Criteria

3.1.1 Soil

In the absence of specific Tasmanian guidance regarding the Protected Environmental Values (PEVs) of land, the Victorian Environment Reference Standard (the ERS), (Victorian Government, 2021) has been referenced to identify potential PEVs at the Site relating to land. The ERS replaces and supersedes Victorian *State Environment Protection Policy - Prevention and Management of Contamination of Land* (PMCL SEPP, 2002), which has been previously used in assessment of the Site.

The proposed development of the Site includes retail, commercial, and open space uses. No natural ecosystems are present on the Site, and based on the urban setting and the current and proposed future uses of the land, production of food, flora, and fibre are not considered likely to occur and are not considered as PEVs under the Victorian framework adopted.

As such, the following PEVs are considered relevant for the Site:

- Land dependant ecosystems and species - Modified and Highly Modified Ecosystems
- Human Health
- Buildings and Structures
- Aesthetics.

A summary of the adopted assessment criteria for each land PEV is provided in **Table 7**.

Table 7 Adopted Tier 1 Screening Criteria - Soil

Protected Environmental Value		Adopted Assessment Criteria	Rationale
Land Dependant Ecosystems and Species	Modified Ecosystems	• ASC NEPM (2013) EIL, Urban residential and public open space (assumes most conservative value based on clay content, pH, CEC) • ASC NEPM (2013) ESL, Urban residential and public open space (coarse soil type) • PFAS NEMP (HEPA, 2025) – Ecological Indirect Exposure, intensely developed sites	• No terrestrial ecological receptors are currently present at the Site and it is unlikely that they will be present following development as the Site will be finished with hardstand. • For the purpose of assessing all PEVs, ecological screening criteria have been adopted. It is noted that EILs and ESLs apply to the top 2 m of soil. • As no existing ecologies exist on the Site, and maintenance of a surface layer (covering >75% of the Site surface) is included as a requirement of the SEMP, PFAS soil criteria for ecosystem protection have been adopted for indirect contact, and modified to 0.14 mg/kg.
	Highly Modified Ecosystems	• ASC NEPM (2013) EIL, Commercial and Industrial (assumes most conservative value based on clay content, pH, CEC) • ASC NEPM (2013) ESL, Commercial and Industrial (coarse soil type) • PFAS NEMP (HEPA, 2025) – Ecological Indirect Exposure, intensely developed sites	
Human Health		**Low Density Residential** • ASC NEPM (2013) HIL A • CRC CARE (2011) Vapour Intrusion HSL A (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL A (for soil <1.0 m bgl) • PFAS NEMP (HEPA, 2025) HIL A **Medium/High Density Residential** • ASC NEPM (2013) HIL B • CRC CARE (2011) Vapour Intrusion HSL B (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL B (for soil <1.0 m bgl) • PFAS NEMP (HEPA, 2025) HIL B **Recreation/Open Space** • ASC NEPM (2013) HIL C • CRC CARE (2011) Vapour Intrusion HSL C (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL C (for soil <1.0 m bgl) • PFAS NEMP (HEPA, 2025) HIL C	• Soil HSLs for vapour intrusion and direct contact for TRH fractions have been developed based on typical petroleum mixtures and consider the solubility limits of petroleum mixtures. HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, where solubility limits are much higher. The HSL (infinite) values presented in Appendix F of CRC CARE, 2011 have been adopted in accordance with CRC CARE guidance. The theoretical solubility of the pure compound in water was used instead to identify vapour limiting HSLs (i.e. chemicals where a vapour inhalation risk was calculated to be only present at concentrations exceeding the theoretical solubility). • While it is noted that petroleum products do exist at the Site, given the varying types of hydrocarbon impact (i.e. gasworks, diesel, and petrol) the HSL infinite values have been adopted as a conservative approach. • Fill material consists of sand, clays, gravels and cobbles. For the purpose of CRC CARE vapour intrusion, as a conservative approach, sand has been selected as the predominant material type.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
	Commercial/Industrial • ASC NEPM (2013) HIL D • CRC CARE Vapour Intrusion HSL D (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL D (for soil <1.0 m bgl) • PFAS NEMP (HEPA, 2025) HIL D **Shallow Trench Worker** • CRC CARE (2011) Vapour Intrusion Shallow Trench Worker (Sand: 0-<2m) • CRC CARE (2011) Direct Contact Shallow Trench Worker (for soil < 1.0 m bgl)	• All soil samples have been screened against CRC CARE Vapour Intrusion criteria for the relevant depths the samples were collected from. • It is noted, in accordance with ASC NEPM (2013), direct contact criteria have been applied to the top 3 m of soil. If deeper soils are disturbed during civil works the material will need to be placed back at the depth that it was excavated or classified for reuse.
Buildings and Structures	• Australian Standard; Pilling – Design and Installation (AS 2159-2009)	• Contamination must not cause the land to adversely affect the integrity of structures and building materials.
Aesthetics	• ERS • PFAS NEMP (HEPA, 2025) Management Limits	• Aesthetic issues, including the quantity, type and distribution of foreign materials or odours, must not adversely affect the use of the land.

***Notes**: HSL – Health Screening Level; HIL – Health Investigation Level; ESL – Ecological Screening Level; EIL – Ecological Investigation Level; CEC - Cation Exchange Capacity; AS 2159-2009 – Australian Standard, Piling – Design and installation; CRC CARE – Corporative Research Council for Contamination Assessments and Remediation of the Environment; US EPA RSLs – United States Environmental Protection Agency Regional Screening Levels, November 2020; PFAS NEMP - PFAS National Environmental Management Plan.*

3.1.2 Groundwater

The PEVs of groundwater under the Tasmanian Government *State Policy on Water Quality Management* (1997) [SPoWQM] which will be considered include:

- Drinking Water
- Irrigation
- Industry
- Stock
- Ecosystem Protection

In addition to the abovementioned groundwater PEVs, recreation (primary and secondary contact), aesthetics, buildings and structures, and human health (via the vapour intrusion pathway) will also be considered as PEVs.

The assessment criteria adopted as Tier 1 screening criteria for groundwater PEVs are provided on **Table 8** below.

Table 8 Adopted Tier 1 Screening Criteria - Groundwater

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Drinking Water	• NHMRC Australian Drinking Water Guidelines (amended 2018) Aesthetic • NHMRC Australian Drinking Water Guidelines (amended 2018) Human Health • PFAS NEMP (2025) Where no high NHMRC guideline values are available, screening values have been adopted from the following sources: • WHO (2017) Guidelines for Drinking-Water Quality: Fourth Edition Incorporating the First Addendum • US EPA RSLs (2020) Tap Water Quality • Health Canada (2020) • NZMH (2018) Drinking Water Standards	• Whilst it is noted that groundwater at or adjacent to the Site is unlikely to be extracted for drinking water purposes, based on the urban setting and reticulated water supply at the Site, this PEV has been conservatively considered.
Irrigation	• ANZECC (2000) Short Term Trigger Values (STVs) for Irrigation Water	• STVs have been adopted on the basis of the surrounding land use, where ongoing irrigation of plants and garden beds is unlikely to occur due to the urban setting and reticulated water supply. STVs can be tolerated for up to 20 years of irrigation.
Industry	• Due to the wide and varied potential industrial uses of groundwater, water quality requirements for use in industrial processes are assessed on an industry-specific basis	• Groundwater at or adjacent to the Site is unlikely to be used for industrial purposes, based on the urban setting and available reticulated water supply. In the absence of any standard or reliable criteria to apply for this PEV without a specific planned industrial use, this PEV has not been considered.
Stock	• ANZECC (2000) Livestock Drinking Water Quality	• Based on the Site setting, it is unlikely that groundwater would be used for stock watering purposes. However, for the purpose of assessing this PEV, the ANZECC (2000) guidance has been adopted.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Ecosystem Protection	• ANZG (2018) 90% level of ecosystem protection (marine water) • The PFAS NEMP (2025) Interim Marine 95% (slightly to moderately disturbed) level of ecosystem protection (interim marine) Where no high reliability guideline values are available in ANZG (2018), screening values have been adopted from the following sources: • ANZG (2018) low to moderate reliability trigger values (marine) • ANZG (2018) 90% level of ecosystem protection (marine water) draft guidelines released for public comment on 29 June 2020 • US EPA (2013) Ambient Water Quality Criteria (chronic – Marine) • US EPA (2006) Region 3 Mid-Atlantic Biological Technical Assistance Group (BTAG) Screening Benchmarks (marine) • RIVM (2001) Dutch Intervention Values (DIV) for TPH • There are currently no relevant Australian guidelines for TRH in groundwater. Therefore, for the purpose of this assessment, the Netherlands Ministry of Housing - DIV (2000) for Mineral Oil has been adopted	• The nearest surface water ecosystems that may receive groundwater discharge, i.e. River Derwent and Sullivans Cove, would be characterised as a moderately to highly disturbed (i.e. active port area) marine environment according to the ANZECC (2000) definitions. As such, the assessment criteria based on 90% level of ecosystem protection (marine) have been adopted, with the exception of bioaccumulative species (PFAS, anthracene, benzo(a)pyrene, fluoranthene and phenanthrene) where the 95% level of ecosystem protection (interim marine) has been conservatively adopted.
Recreation (Primary Contact)	• NHMRC (2008) Guidelines for Managing Risk in Recreational Water • PFAS NEMP (2025)	• NHMRC (2008) recommends applying Australian Drinking Water Guidelines - *Health* (NHMRC, 2018), adjusted for a 10 fold decrease in ingestion of water.
Recreation (Secondary contact)		• Primary Contact Recreation criteria have been conservatively adopted to assess secondary contact.
Aesthetics	• NHMRC Australian Drinking Water Guidelines (amended 2018) Aesthetic	• This may relate to aesthetic issues associated with the presence of objectionable odours, colours, taints, visible floating material, foam, oil or grease or ‘dirty’ water.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Buildings and Structures	• Australian Standard (AS) 2159 – 2009	• Building and structures assessment is on the basis of concrete piles in a mild exposure classification scenario in high permeability soils. • In addition to a pH of 5.5, sulphate and chloride concentrations of 1,000 mg/L and 6,000 mg/L respectively has been adopted to assess potential impacts to concrete piles.
Human Health - Vapour Intrusion	CRC CARE (2011) Groundwater Health Screening Levels (HSLs) for vapour intrusion including: • Residential - HSL A/B (sand, depth to groundwater 2.0 – <4.0 m bgl) • Recreation/ Open Space - HSL C (sand, depth to groundwater 2.0 – <4.0 m bgl) • Commercial/ Industrial - HSL D (sand, depth to groundwater 2.0 – <4.0 m bgl) • Intrusive Maintenance Worker- HSL: (sand, depth to groundwater 2.0 – <4.0 m bgl) The British Geological Survey (BGS) (UKRI, 2024) value for assessing risk of methane intrusion from groundwater has been adopted as a screening value.	• Groundwater HSLs for vapour intrusion for TRH fractions have been developed based on typical petroleum mixtures and consider the solubility limits of petroleum mixtures. HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, where solubility limits are much higher. The HSL (infinite) values presented in Appendix F of CRC CARE, 2011 have been adopted in accordance with CRC CARE guidance. The theoretical solubility of the pure compound in water has been instead to identify vapour limiting HSLs (i.e. chemicals where a vapour inhalation risk was calculated to be only present at concentrations exceeding the theoretical solubility). Whilst it is noted that petroleum products do exist at the Site, given the varying types of hydrocarbon impact (i.e. gasworks, diesel, and petrol) the HSL infinite values have been adopted as a conservative approach. • HSLs associated with depths to groundwater of between 2.0 and <4.0 m bgl in sand lithology were selected to assess groundwater analytical results on the basis of the depth to water of approximately 2 m bgl across the Site. • The BGS methane criteria assumes all methane in water will outgas to form an explosive atmosphere.

Notes: *NHMRC – National Health and Medical Research Council; WHO – World Health Organisation; NZMH – New Zealand Ministry of Health; ANZECC – Australian and New Zealand Environment and Conservation Council; STV – Short Term Trigger Value; ANZG – Australian and New Zealand Guidelines for Fresh and Marine Water Quality; RIVM – Rijksinstituut voor Volksgezondheid en Milieu; DIV – Dutch Intervention Values; BGS – British Geological Society; UKRI - United Kingdom Research and Innovation*

3.1.3 Soil Vapour

For the purpose of assessing the risks posed to current and future human-health based on the proposed future land uses by Potential Vapour Intrusion (PVI), analytical results will be compared against the residential, recreation/open space and commercial screening criteria provided on **Table 9** below.

Table 9 Adopted Tier 1 Screening Criteria – Soil Vapour

Adopted Assessment Criteria	Rationale
CRC CARE HSLs, 2011 (Appendix F)	• Vapour concentrations will be assessed against residential (HSL A/B), recreation/ open space (HSL C) and commercial (HSL D) criteria. • Fill material at the Site consists of a mixture of sand, clay, with some gravels and cobbles present in limited quantities, and as such, sand has been conservatively selected as the predominant material type. • HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, where solubility limits are much higher. While LNAPL Plume B is sourced from a petroleum source, given the potential for gasworks wastes to be present on the Site as a result of land reclamation and historic gasworks, the HSL (infinite) values presented in Appendix F of CRC CARE (2011) will be adopted in accordance with CRC CARE guidance as a conservative approach. • It is noted in Section 9 of CRC CARE (2011) that vapour intrusion in high-density residential buildings is based on occupation of the ground floor, and HSL-B should be applied only if residents occupy ground floor apartments. If the ground floor consists of commercial properties or the building contains a communal basement carpark, HSL-D will be used.
CRC CARE (2013) Action Levels for Subsurface Methane near foundations	Methane detections in soil bores and sub-slab vapour wells will be compared against the action levels for subsurface methane near foundations provided in CRC CARE (2013).

Results of air samples have also been assessed for Margin of Safety (MOS), as discussed in *Technical Report 23 - Petroleum hydrocarbon vapour intrusion assessment: Australian Guidance* (CRC CARE, 2013) to determine if a suitable number of monitoring rounds has been undertaken based on concentrations versus adopted criteria. Assessment of MOS has been conducted as part of the report in which results were included (AECOM, 2025d).

3.2 Site Specific Remediation Criteria

Site Specific Remediation Criteria (RC), to inform remediation and management works required at the Site, for the protection of human health were initially derived in 2016 (AECOM, 2016), and have been reviewed and updated for the changes in the development of the Site (AECOM, 2025a) as discussed in **Section 5.4**. The updated 2025 RC have been used for assessment of Site data in this report.

Potential risks to ecological receptors were not considered in the RC and were separately assessed (AECOM, 2020h), noting that the only potential ecological receptors identified for the Site are off-Site aquatic receptors via groundwater migrations. Further discussion on risks to ecological receptors, based on additional data collected since issue of the Site Suitability Statements, is provided in **Section 5.5.5**.

The RC consider the following scenarios and land uses based on the initially proposed development of Macquarie Point (MPDC, 2015), which are considered applicable to the currently proposed future development based on the review of RC (AECOM, 2025d)*:*

- High density residential development (slab-on-grade buildings and buildings with a communal basement car park).
- Recreation / open space

- Multi-storey car park
- Commercial/light industrial (slab-on-grade buildings and working within a basement car park).

It is noted that residential development is now only proposed in Regatta Point, which is not one of the assessment areas with existing Site Suitability Statements considered in this report. However, high density residential land use is known to occur off-Site and hydraulically down-gradient along Evans Street to the south of the Site, and the potential exists for groundwater migration from the Site to reach this area. As such, the RC protective of residential use have been applied to groundwater data from the Site.

The risk-based Site RC are derived based on generic, conservative exposure assumptions protective of on-Site and off-Site human health under the above-mentioned potential future land use conditions at the Site, and incorporated the following key assumptions:

- NAPL impacts at the Site will be remediated to the extent practicable and therefore risks associated with exposure to NAPL, and volatile contaminants derived from NAPL were not considered in the derivation of the RC.
- Intrusive maintenance work at up to 1 m bgl may be undertaken in all land uses.
- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of maintenance workers) to have direct contact with soils.
- A reticulated water supply will be available, based on the urban setting of the Site, and abstraction of groundwater for any purposes other than remediation or monitoring, or temporary extraction during construction, will not be required. Potential exposure to contaminants in groundwater during any construction, remediation, or monitoring will be managed by task specific safety documentation informed by the SEMP.
- Groundwater will be 1 m or more below the final surface of the Site.
- A SEMP will be prepared and put in place to maintain/manage surface cover.
- With regard to basements:
    - Use of any future basements is assumed to be limited to car parking. If basements are constructed for other purposes, a risk assessment specific to the intended use should be conducted.
    - Where basements are associated with future residential or commercial buildings, it is assumed that these will be communal areas for multiple properties, for example, as part of a strata scheme that is managed by a body corporate. Private basements will therefore not be associated with individual residences.
    - Where there is access to a basement car park, it is assumed that any groundwater seepage collects in floor drains and a physical barrier is present, and therefore, groundwater will not be directly contacted by basement users, with the exception of maintenance workers. It is assumed that individual tenants will not be involved in the maintenance of any associated services, including drainage pumps or sumps.
    - A basement ventilation rate of 2 air exchange cycles per hour has been assumed for basements when assessing risks and deriving criteria for water seepage into basement carparks. Any future basement carparks must be ventilated at a rate of ≥2 air exchange cycles per hour, unless other measures which eliminate potential groundwater seepage are included and verified by a suitability qualified and experienced professional during basement design and construction.
- For potential future multi-storey car park users, the most sensitive receptor in this scenario would be considered to be a parking attendant present at the Site for a typical eight hour working day. It is considered that RC derived for potential future commercial/light industrial workers (working within a basement) would be protective of all other basement users. This includes multi-storey car park users and residential tenants who access basement car parks and are likely to have lower frequency and duration of exposure, therefore the multi-storey car park users scenario is not evaluated separately in this assessment.

- Adjacent off-Site land uses include open space, commercial/industrial, and residential areas. As these potential land uses have been considered on-Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary), as:
  - Extractive groundwater use is not known to occur within 2 km of the Site, based on review of registered groundwater bores undertaken in 2024 (AECOM, 2024c), and the urban setting and reticulated water supply indicate that groundwater extraction and use is unlikely to occur
  - No basements are known to be present in the surrounding buildings, and are considered unlikely due to the additional costs which would be required for basement construction, based on shallow groundwater elevation, hydraulically downgradient of the Site.
- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan (CEMP). The CEMP should be prepared during the planning stage for any future remediation and/or development activities.
- A separate assessment of the potential risks to on-Site visitors was not undertaken as it was considered that the chronic exposure duration assessment of commercial/light industrial workers or residents is sufficiently protective of the shorter exposure duration visitor scenario.

These assumptions, including controls and requirements for future development, are currently documented as requirements of the SEMP (AECOM, 2024a), and should be maintained in future SEMPs. Additional assessment of risks to users, and potentially further remediation, would be required in the event of any proposed development or Site use which does not conform to these assumptions.

3.3 Data Quality

The quality and reliability of data presented in the initial Site Suitability Statements was reviewed and considered acceptable for interpretation at the time of issue, and a re-review of data quality has not been conducted.

For new environmental data considered in this report, data quality review has been conducted, and concluded that the data was fit for interpretation, in the reports listed on **Table 10** below.

Table 10 Data Quality Reviews

Report	Data Quality Review Section(s)
The Gateway – Data Gap Assessment (AECOM, 2023a)	• Section 3.0 – Data Quality Objectives • Section 7.0 – Assessment of Data Quality • Appendix G – Data Validation Report
The Precinct South – Well Maintenance and Targeted Groundwater Monitoring Event (AECOM, 2024c)	• Section 3.0 – Data Quality • Appendix A – Data Quality Objectives and Data Validation
In Situ Soil Characterisation and Waste Management Plan – Stage 1 and Stage 2 Bulk Excavation, Macquarie Point Development Project (AEOCM, 2025b)	• Section 4.0 – Data Quality Objectives • Section 7.4 – Assessment of Results – Quality Assurance / Quality Control • Appendix C – Data Validation Report
Soil, Groundwater and Soil Vapour Investigation 2025 (AECOM, 2025d)	• Section 4.0 – Data Quality Objectives • Appendix F – Data Validation
Acid Sulfate Soil Investigations (AECOM, 2025e)	• Section 3.0 – Field Methodology – Assessment of Data Quality • Section 4.0 – Data Validation • Appendix E – Data Validation Report

4.0 Summary of Site Suitability Statements

Sections 4.1 to **4.4** below, provide brief descriptions of each assessment area and the key environmental controls contained within the Site Suitability Statements issued to date for each area.

It is noted that different SEMPs were issued or are in effect for each Site Suitability Statement. Changes and updates to the SEMPs are discussed in **Section 5.2**.

The proposed development layout of each area, at the times which Site Suitability Statements were issued, is shown on **Figure F3**.

4.1 The Goods Shed and Yard (Audit Area 1)

The Goods Shed and Yard (Audit Area 1) is located in the south-western portion of the Site. The site has been subject to a Contaminated Land Audit following progressive site environmental investigations. Full details of identification and assessment of contamination within the Goods Shed and Yard at the time the Site Suitability Statement for this area was issued can be found in:

- *Audit Area 1 – Detailed Site Investigation* (AECOM, 2019a)
- *Audit Area 1, Clean Up to the Extent Practicable Report* (AECOM, 2019b).

No soil or groundwater remediation has been undertaken, and the Contaminated Land Audit Report (Coffey, 2019a) has been issued for the site which states *the site is suitable for the site uses as follows: retail / commercial / recreational / public open space use and other less sensitive uses* subject to specific conditions, which are detailed in Site Suitability Statement.

The proposed development layout of the Goods Shed and Yard at the time of issue of the Site Suitability Statement is shown on **Figure F3**.

Of specific note, that Site Suitability Statement requires:

- The SEMP is implemented along with:
    - Maintenance of flooring and other hard surfaces both in the Goods Shed and in outside areas of Audit Area 1, to prevent human access to soil, or replacement by barrier layers agreed by and Environmental Auditor.
    - Any change of land use in areas external to the Goods Shed that incorporates enclosed buildings must only be undertaken following consideration of the need for remediation of contaminated soil exceeding specified Remediation Criteria.
    - Landscaping and gardening must be above the existing surface, or where in-ground, must incorporate barrier layers specified in the SEMP.
    - Specific requirements must be followed for managing excavated soil and for importation of Fill Material.
- Groundwater at the site is polluted with respect to use for Drinking Water, Irrigation, Stock Watering, and Primary Contact Recreation. Groundwater is not considered to preclude Ecosystem Protection or Buildings and Structures in Audit Area 1. Sulfate and chloride concentrations were elevated just outside the Audit Area 1 boundary. While these concentrations were not within the Audit Area 1 boundary, this indicates a possibility of seawater ingress in localised areas, and so design of construction materials should consider the need to account for possible saline intrusion for all buildings.
- As is the case with any site on which fill soils exist, small quantities of bonded asbestos cement fragments may remain within the soil and be uncovered during excavation works, despite not being identified within AA1 during site investigations. Such fragments are not anticipated to represent a health risk to occupiers of the completed development. If encountered during future development or use of the site, any fragments should be handled and disposed in accordance with the relevant regulations.

- There are suspected asbestos materials in site buildings, which should be managed in accordance with the relevant regulations. This environmental audit report addresses soil and groundwater (and associated) contamination and does not address built structures directly.

4.2 The Escarpment (Audit Area 4 West)

The Escarpment (Audit Area 4 West) is located in the north-western portion of the Site. The Escarpment area has been subject to a Contaminated Land Audit following progressive site environmental investigations and remediation activities.

The Escarpment forms the western portion of the former Audit Area 4 West, and full details of identification, assessment and remediation of contamination within this area can be found in:

- *Audit Area 4 – Detailed Site Investigation* (AECOM, 2020a)
- *Audit Area 4 West – Clean Up to the Extent Practicable Report* (AECOM, 2020b).

Remediation actives undertaken in the Escarpment area (AECOM, 2020c) included the excavation and off-Site disposal of approximately 5,200 m^3 of soil from identified areas of impact for TRH and naphthalene above the RC applied at the time (AECOM, 2016), primarily focusing on the former Concrete Batching Plant area and the Northern Refuelling Area. Excavation was generally down to dolerite rock, and excavations were backfilled with Auditor-approved virgin excavated natural material (VENM).

The Site Suitability Statement (Coffey, 2020) issued for the Escarpment states that *the site is suitable for the site uses as follows: residential, including medium to high density, retail, commercial, recreational/public open space use, transport (roads etc) and other less sensitive uses,* subject to specific conditions which are detailed in Site Suitability Statement.

The proposed development layout of the Escarpment at the time of issue of the Site Suitability Statement is shown on **Figure F3**.

Of specific note, that Site Suitability Statement requires:

- The SEMP (AECOM, 2020g) is implemented along with:
    - The site area must be maintained with a hardstand or earthen cap seal to prevent direct human access to soil. Where the hardstand or earthen cap is breached, such as for construction or maintenance works, it must be reinstated to achieve the same prevention of access to soil.
    - Garden plantings are to be in above ground planter boxes and not into the soil directly. Any proposal to plant into site soils must be confirmed as suitable by a Site Environmental Auditor.
    - Specified requirements must be followed for managing excavated soil and for importation of Fill Material.
- Groundwater at the site is polluted with respect to use for Drinking Water and Primary Contact Recreation. Groundwater is not considered to preclude Ecosystem Protection or Buildings and Structures in Audit Area 4 West.
- Although asbestos was not identified on the Escarpment, asbestos was identified in Audit Area 4 East, and as is the case with any site on which fill soils exist, small quantities of bonded ACM fragments may remain within the soil and be uncovered during excavation works. Such ACM fragments are not anticipated to represent a health risk to occupiers of the completed development. If encountered during future development or use of the site, any fragments should be handled and disposed in accordance with the relevant regulations.

4.3 The Promenade and Underground Carpark (Lot E and UGC)

The Promenade and Underground Carpark area (Lot E and UGC) is located in the central western portion of the Site. The Promenade and Underground Carpark area has been subject to a Contaminated Land Audit following progressive site environmental investigations and remediation activities.

The Promenade and Underground Carpark consists of part or all of former Audit Areas 2 and 5, and full details of identification, assessment and remediation of contamination within this area can be found in:

- *Audit Area 2 – Detailed Site Investigation* (AECOM, 2020d)
- *Audit Area 5 – Detailed Site Investigation* (AECOM, 2021b)
- *Lot E and Underground Carpark – Clean Up to the Extent Practicable Report* (AECOM, 2021c).

Remediation actives were undertaken in the Promenade and Underground Carpark to date and include:

- LNAPL and groundwater extraction and removal via a combination of skimming and Total Fluids Extraction (TFE) (AECOM, 2021i).

  LNAPL extraction was considered to have reached CUTEP and no further remediation was considered required at the time of the issue of the Site Suitability Statement. Additional data on LNAPL collected since this time is discussed in **Section 5.5.4.1**.
- Excavation and removal of pipelines and soil from a former workshop on the northern end of the Goods Shed in 2020 (AECOM, 2021d).
- Excavation and removal of remnant pipeline and impacted soil (AECOM, 2021e) in 2020, in conjunction with remediation of the Precinct North.

Soil remediation conducted in 2020 included excavation and removal of approximately 210 m^3 of remnant infrastructure and soil from a former workshop referred to as the Goods Shed Annexe, and removal of 50 m of fuel line in the Promenade and Underground Carpark and immediate buffer area (i.e. 20 m from the boundary), with soil remediation excavations extending some 2,000 m^2 in the Promenade and Underground Carpark area (Coffey, 2021a). Coffey (2021a) noted that:

- The remediation works removed a range of former underground fuel lines and left them sealed off at the points where pipelines extending beyond the excavation areas were cut.
- A significant quantity of contaminated soil (total of approximately 8,500 m^3) was removed, disposed in accordance with Tasmanian requirements, and the excavations partially backfilled with approved soil.
- A number of exceedances of Tier 1 Criteria remain in situ, with a smaller number of exceedances for site-derived Remediation Criteria.

The Site Suitability Statement (Coffey, 2021a) issued for Lot E and Underground Carpark states that *the site is suitable for the site uses as follows: residential (including medium to high density), commercial/industrial, recreational/public open space use, access way and transport (roads etc) and other less sensitive uses* subject to specific conditions which are detailed in Site Suitability Statement.

The proposed development layout of the Promenade and Underground Carpark at the time of issue of the Site Suitability Statement is shown on **Figure F3**.

Of specific note, that Site Suitability Statement requires:

- The site shall be developed in accordance with the layout (see **Figure F3**) provided in Figure F3 of the SEMP prepared for Promenade and Underground Carpark (AECOM, 2021c), with reference to the following details.
  - Nominated uses are to be limited to the areas indicated, and the Underground Carpark shall be built within the area nominated, such that assumptions regarding vapour risk remain valid.
  - Depth of the Underground Carpark is to be such that it does not intersect the water table. Should the design or changed conditions indicate potential for ingress of groundwater to any part of the underground carpark (including sumps or lift overruns), the SEMP must be reviewed for adequacy and approved by an Environmental Auditor, including any additional mitigation measures which may be required.
  - The Underground Carpark must include design, installation and maintenance of ventilation as per Building Code of Australia requirements for exhaust fumes, or other controls as specified in EPA NSW, 2020, to mitigate risks from potential methane infiltration.

  - Deep services below 2 m depth from the current surface level must be installed in protective shrouds or in trenches/corridors of clean fill to minimise the risk of contact with residual contamination for maintenance workers.

- The SEMP (AECOM, 2021c) is implemented along with:
  - The Site area must be maintained with a hardstand or earthen cap seal or other engineered break layer to prevent direct human access to soil. Where the hardstand or earthen cap or other break layer is breached, such as for construction or maintenance works, it must be reinstated to achieve the same or better prevention of access to soil. Further details of layers or physical barriers must be adopted per Section 4 of the SEMP.
  - Garden plantings are to be in above ground planter boxes and not into the soil directly. Any proposal to plant into site soils must be confirmed as suitable by a Site Environmental Auditor.
  - Specified requirements must be followed for managing excavated soil and for importation of Fill Material.
  - Any subsurface works including for construction of the development or later maintenance must include a site specific workplace health and safety plan as detailed in Section 4 of the SEMP and allow for potential contaminant exposures.
- Groundwater at the site is polluted with respect to use for Drinking Water, Irrigation, Stock Watering, Industrial use, and Primary Contact Recreation. Groundwater is not considered to preclude Ecosystem Protection at a point of discharge to a surface water, or Buildings and Structures.
- Some fragments of asbestos containing materials have been identified during investigations on the site (with fibre bundles associated with a fragment at one location), and bonded ACM fragments may remain within the soil and be uncovered during excavation works, with potential for associated fines/fibres. Such ACM fragments are not anticipated to represent a health risk to occupiers of the completed development. It is noted that the SEMP attached to this Site Suitability Statement lists asbestos as a contaminant requiring management for any subsurface works. If encountered during future development or use of the site, any fragments should be handled and disposed in accordance with the relevant regulations.

4.4 The Precinct North (Lot B)

The Precinct North (Lot B) is located in the central eastern portion of the Site. The Precinct North area has been subject to a Contaminated Land Audit following progressive site environmental investigations and remediation activities.

The Precinct North consists of part or all of former Audit Areas 5 and 7, and full details of identification, assessment, and remediation of contamination within this area can be found in:

- *Audit Area 5 – Detailed Site Investigation* (AECOM, 2021b)
- *Audit Area 7 – Detailed Site Investigation* (AECOM, 2020f)
- *Lot B – Clean Up to the Extent Practicable Report* (AECOM, 2021f).

Remediation actives were undertaken in the Precinct North to date include:

- LNAPL and groundwater extraction and removal via a combination of skimming and TFE (AECOM, 2021i).

  LNAPL extraction was considered to have reached CUTEP and no further remediation was considered required at the time of the issue of the Site Suitability Statement. Additional data on LNAPL collected since this time is discussed in **Section 5.5.4.1**.
- Excavation and removal of remnant pipeline and impacted soil (AECOM, 2021e) in 2020, in conjunction with remediation of the Promenade and Underground Carpark.

Soil remediation actives undertaken in the Precinct North in 2020 include the removal of pipelines and associated impacted soil. The pipelines removed include a disused diesel pipe and a disused oil pipe,

with a total of 50 m of pipe removed from the Precinct North and the immediate 20 m buffer area with soil remediation excavation extending some 2,800 m^2 in the Precinct North.

The Site Suitability Statement (Coffey, 2021b) issued for the Precinct North states that *site is suitable for the proposed site use of 'Arts and Institutional Area', which is considered to be a 'Commercial' use setting, involving commercial and cultural uses, including retail, (the site would also be suitable for high density residential uses above – but not on - the ground floor, and other less sensitive uses such as industrial use),* subject to specific conditions which are detailed in Site Suitability Statement.

The proposed development layout of the Precinct North at the time of issue of the Site Suitability Statement is shown on **Figure F3**.

Of specific note, that Site Suitability Statement requires:

- The site shall be developed in accordance with the layout provided in Figure F2 of the SEMP (AECOM, 2021h) with reference to the following details.
    - Methane is present at significant concentrations across Lot B and must be designed to account for CS3 – Moderate Risk, as defined by Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases (EPA NSW, 2020).
    - The entire site is to be covered by building footprint/hardstand in its final developed state.
- The SEMP (AECOM, 2021h) is implemented along with:
    - The Site area must be maintained with a hardstand or earthen cap seal or other engineered break layer to prevent direct human access to soil. Where the hardstand or earthen cap or other break layer is breached, such as for construction or maintenance works, it must be reinstated to achieve the same or better prevention of access to soil. Further details of layers or physical barriers must be adopted per Section 4 of the SEMP.
    - Garden plantings are to be in above ground planter boxes and not into the soil directly, noting that this is a general requirement, and that the coverage of the Lot B area by building footprint means that this requirement is likely redundant. Any proposal to plant into site soils must be confirmed as suitable by a Site Environmental Auditor.
    - Specified requirements must be followed for managing excavated soil and for importation of Fill Material.
    - Any subsurface works including for construction of the development or later maintenance must include a site specific work health and safety plan as detailed in Section 4 of the SEMP and allow for potential contaminant exposures.
- Groundwater at the site is polluted with respect to use for Drinking Water, Irrigation, Stock Watering , Industrial use, and Primary Contact Recreation. Groundwater is not considered to preclude Ecosystem Protection at a point of discharge to a surface water, nor Buildings and Structures.
- While no fragments of asbestos have been noted on the Lot B area (nor has any asbestos been identified in analysis of soil samples), asbestos may be encountered wherever fill soils are present. The SEMP (AECOM, 2021h) outlines requirements in the event that potential ACM is encountered in soil during subsurface works.
- Soil impacts are present in excess of the Future Maintenance Worker remediation criteria in the locations listed below, which will be managed by adherence to the SEMP for any future construction or maintenance works.
    - An exclusion zone surrounding the original Main Hobart Pipeline (Sewer).
    - Areas on the site boundary where further soil excavation could not be conducted.

5.0 Changes Since Issue of Site Suitability Statements

Changes in the proposed future Site development, new or updated environmental data, and other factors have occurred since initial issue of the Site Suitability Statements, and are not currently included in the assessment or consideration of the acceptable uses proposed for the Site.

Review of the following changes, which are considered to potentially affect the suitability for development of the Goods Shed and Yard (Audit Area 1), the Promenade and Underground Carpark (Lot B and the UGC), the Escarpment (Audit Area 4 West), and the Precinct North (Lot B) have been identified and considered in this assessment:

- Updates in legislation relating to the development of the Site.
- Updates to the SEMP(s), consisting of:
  - Update or consolidation of SEMPs issued with Site Suitability Statements.
  - Updated consideration of potential vapour intrusion
  - Updated designs for in-ground planting
- Proposed land uses and final surface elevations
- Review of the Site-Specific Remediation Criteria (the RC)
- Collection of additional environmental data regarding:
  - Acid sulfate soil
  - Groundwater Monitoring Events (GMEs)
  - *In situ* characterisation of soil to be excavated in Stage 1 and Stage 2 of Multipurpose Stadium preparatory works.
  - Additional soil, groundwater and soil vapour data collected between 2022 and 2025
- The upcoming closure of the Macquarie Point Sewage Treatment Plant (STP) and realignment of the Main Hobart Pipeline.

The following Site investigations or assessment reports are attached in **Appendix G**, and have identified as containing new data, or interpretation of existing data, relating to the areas assessed.

- *The Precinct South – Well Maintenance and Targeted Groundwater Monitoring Event* (AECOM, 2024c)
- *The Precinct South – LNAPL Gauging and Transmissivity Testing, March 2024* (AECOM, 2024d)
- *The Precinct South – Remediation Validation Report*, Macquarie Point Development Project (AECOM, 2024f)
- *Review of Site Specific Remediation Criteria 2025* (AECOM, 2025a)
- *In Situ Soil Characterisation and Waste Management Plan – Stage 1 and Stage 2 Bulk Excavation* (AECOM, 2025b)
- *Soil, Groundwater and Soil Vapour Investigation 2025* (AECOM, 2025d)
- *Acid Sulfate Soil Investigations* (AECOM, 2025e)
- *Macquarie Point - Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event* (AECOM, 2025f)
- *Assessment of Potential Off-Site Ecological Impacts – 2025 Addendum* (AECOM, 2025i)

Some of these changes (updates to the SEMPs, review of the RC, additional environmental data regarding potential methane intrusion and acid sulfate soil, realignment of the Main Hobart Pipeline, and updated deep rooted planting designs) are considered to affect the Site and each assessment area uniformly, and the implications and mitigations/actions recommended to address them, are discussed in the relevant sections below.

Other changes, namely changes in proposed land use and final surface elevation, and new data collected as part of *in situ* characterisation or field investigations in 2025, are assessed and discussed by assessment area in **Section 6.0**.

5.1 Legislative Changes

The Tasmanian Government Department of State Growth announced in September 2022 that the Site is the preferred location for a mixed-use precinct, including a multipurpose stadium. Details of the proposed development of the Site were released in the Precinct Plan (MPDC, 2024).

The proposed development of a multipurpose stadium at the Site was classified as a Project of State Significance (PoSS) by the Governor of Tasmania on 16 October 2024, and was subject to an integrated assessment process by the Tasmanian Planning Commission (TPC) under the *State Policies and Projects Act 1993*.

TPC issued the *Integrated Assessment Report – Macquarie Point Multipurpose Stadium Project of State Significance* (TPC, 2025) in September 2025. With consideration of the TPC report, *State Policies and Projects (Macquarie Point Precinct) Order 2025*, (the Order) was introduced to Tasmanian State Parliament in October 2025. The Order was approved by the Tasmanian House of Assembly on 13 November 2025 and by the Tasmanian Legislative Council on 4 December 2025 and provides conditions and approval for development of the Multipurpose Stadium at the Site.

Schedule 5 of the Order provides general environmental conditions for development of the Site. The conditions in the schedule, and in the Order in general, are consistent with the *Macquarie Point Development Corporation Act 2012*, and in general require completion of a Site Suitability Statement for each area of the Site prior to development of that specific area.

No changes to the Environmental Audit of the Site, or the overall process and requirements for issue of Site Suitability Statements, arise from the Order.

It is noted that the Order does not replace or supersede the *Macquarie Point Development Corporation Act 2012.* The conditions of both pieces of legislation must be met with regards to environmental development of the Site.

5.2 Updates to the Site Environment Management Plan(s)

5.2.1 Update or Consolidation of Existing SEMPs

A requirement of each Site Suitability Statement issued to date has been the preparation and implementation of a SEMP, which provides details on the environmental status of the area considered and any controls, restrictions or requirements for future maintenance, development and operation of the area. **Table 11** below lists the SEMPs referenced in each Site Suitability Statement.

Table 11 Site Environment Management Plans Referenced in Site Suitability Statements

Site Suitability Statement	Referenced SEMP
Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 1 (Coffey, 2019a)	*Site Environment Management Plan, Macquarie Point – Audit Area 1* (AECOM, 2019c)
Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 4 West (Coffey, 2020)	*Audit Area 4 – Site Environment Management Plan* (AECOM, 2020g)
Contaminated Land Audit Report – Macquarie Point Development Project – Lot E and Underground Carpark (Coffey, 2021a)	*Lot E and Underground Carpark – Site Environment Management Plan* (AECOM, 2021g)
Contaminated Land Audit Report – Macquarie Point Development Project – Lot B (Coffey, 2021b)	*Site Environment Management Plan* (AECOM, 2021h)

Initially, Site Suitability Statements referenced individual SEMPs for each area. However, as Site investigation, assessment and remediation has progressed, individual SEMPs were consolidated into a

single Site-wide SEMP (AECOM, 2021h) for the Site Suitability Statement for the Precinct North (Lot B) in 2021.

The Site-wide SEMP, which was reviewed and accepted by the Environmental Auditor, incorporated the requirements of each previous SEMP listed on **Table 11**, and is considered to supersede and replace them.

The SEMP includes a requirement for regular review and update, with the most recent version issued in December 2025 (AECOM, 2025h).

It is considered that further updates to the SEMP will be required as part of update of the Site Suitability Statements for each area. Any such updated identified in this review are included in the recommendations at the end of this document (**Section 7.2**).

5.2.2 Vapour Intrusion Mitigation

During soil vapour investigations in 2019, the possibility of potentially hazardous methane migration into buildings or structures in the Promenade and Underground Carpark, the Precinct North and the Precinct South areas during development was identified (AECOM, 2021a). Previous investigations have also identified the potential for hydrocarbon vapours to infiltrate basement structures in the Precinct South and the Promenade and Underground Carpark areas.

Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases (EPA NSW, 2020), provides guidance values for gas protection required for buildings based on:

- The ground gas regime at the Site (referred to as the Characteristic Situation (CS)).
- The proposed use of the building and its design, with five categories of building type listed.

5.2.2.1 Characteristic Situation

EPA NSW (2020) uses the Gas Screening Value (GSV), calculated from the gas concentration ($\%^{v}/_{v}$) multiplied by the measured bore flow rate, to determine the CS as per **Plate 2** below.

	GSV threshold (L/hr)	CS	Risk classification	Additional factors	Typical sources
	<0.07	1	Very low risk	Typically, methane <1% v/v and/or carbon dioxide <5% v/v; otherwise consider increase to CS 2	Natural soils with low organic content Typical fill
	<0.7	2	Low risk	Borehole flow rate not to exceed 70 L/hr; otherwise consider increase to CS 3	Natural soils with high organic content Recent deep fill
	<3.5	3	Moderate risk		Old inert waste landfill Flooded mine workings
	<15	4	Moderate to high risk	Consider need for Level 3 risk assessment	Mine workings susceptible to flooding Closed putrescible waste landfill
	<70	5	High risk	Level 3 risk assessment required	Shallow, unflooded abandoned mine workings
	>70	6	Very high risk		Recently used putrescible waste landfill

1. Site characterisation should be based on monitoring of gas concentrations and borehole flow rates for the minimum periods defined in Section 3.4.
2. The CSM must identify the source of gas and its generation potential.
3. Soil gas investigations should be conducted in accordance with the guidance provided in Section 3.4.
4. Where there is no detectable flow, the lower measurement limit of the instrument should be used.
5. To determine a GSV of <0.07, instruments capable of accurately measuring concentration to 0.5% v/v and flow to 0.1 L/hr are recommended.

Plate 2 Classification of Characteristic Situation (Gas) (EPA NSW, 2020)

Field and laboratory readings for pressure, flowrate, and methane collected during June 2025 (AECO, 2025d) have been presented and GSV calculated on **Table T11**.

The following has been considered in assessing the CS at the Site:

- Methane concentrations between <0.01 %$^{v}/_{v}$ and 77.9%$^{v}/_{v}$ (SV34) were recorded in soil vapour in the most recent sampling event (AECOM, 2025d). Historic soil vapour sampling events have reported soil methane concentrations of up to 59%$^{v}/_{v}$ (AECOM, 2021a).
- 17 of the 18 calculated GSVs were <0.07 L/hr, with a maximum GSV of 0.3 L/hr calculated for SV34 on 24 June 2025.
- Groundwater concentrations of methane have been recorded at greater than an order of magnitude above the adopted criteria (see **Table T8** and **Figure F13c**) in multiple locations across the Site, including locations where soil methane and gas flow rates have not been directly measured or recorded.
- The highest calculated GSV (0.3 in SV34) is approximately 50% of the threshold value. As it is based on one monitoring round only, it may not reflect potential season variations in GSV and soil gas flow.
- Negative differential pressures between -0.02 and -0.09 milliBar were recorded during the sampling events of SV07, SV35, SV37, and SV45, which indicate that barometric pumping of atmospheric air into soil may have been occurring and recorded soil vapour concentrations may be diluted and may not reflect ground conditions.

  While the differential pressures are low and not expected to have driven large-scale displacement, GSVs calculated for these locations may not be reliable for assessment of CS.

While recorded GSV and methane concentrations would generally indicate that the Site is classified CG2, based on the above considerations, it has been conservatively considered to be CS3 – Moderate Risk, with relation to methane in soil vapour.

5.2.2.2 Future Building Category

The building categories are based on a combination of the HILs from Appendix B7 of the ASC NEPM and four building types form British Standard 8485 (BS8485). **Table 12** below provides the description of each building category, and

Table 13 summarises the reference inputs used by EPA NSW (2020).

Table 12 Building Categories (EPA NSW, 2020)

Type	Description
Low-density residential	Usually but not exclusively single-storey dwellings on a separate land title (commonly Torrens title) with single occupancy; no building management and no post-occupancy controls on room use, ventilation or alterations to the internal structure; limited controls on building design and construction due to exempt and complying development provisions in NSW; construction for new buildings is predominantly slab-on-ground, but also suspended floors with crawl space and partial or full basements, particularly on sloping sites; correlates closely with residential component of HIL A and with BS 8485:2015+A1:2019 Type A but the median size (footprint area) of new houses in Australia is significantly larger than in the UK
Medium- and high-density residential	Multiple-occupancy low-, medium- or high-rise townhouses and apartments; usually on a strata title and subject to by-laws, with maintenance of the external structure of the building and common areas managed and controlled by an owner's corporation; includes some public housing and some mixed-occupancy developments, and developments with commercial occupancy of the ground floor; frequently includes basement or undercroft car parking; may involve ground-bearing or piled foundations; usually air-conditioned, with active ventilation of basement car parking; correlates reasonably well with HIL B and partially with BS 8485:2015+A1:2019 Type B
Public buildings, schools, hospitals and shopping centres	Similar in many respects to standard commercial buildings; generally low- to medium-rise rather than high-rise; particular constraints regarding building evacuation in an emergency; frequently includes basement or undercroft car parking; may involve ground-bearing or piled foundations; almost always air-conditioned, with active ventilation throughout (does not apply to many existing schools); correlates generally with HIL D but includes primary schools and childcare centres, which are HIL A; correlates partially with BS 8485:2015+A1:2019 Type C
Standard commercial buildings	Includes offices and some shops, industrial subdivisions and smaller showrooms; building management control of any alterations to the building or its uses and central building management control of building maintenance, including gas protection measures; single or multiple occupancy of ground floor and basement areas; frequently includes basement or undercroft car parking; may involve ground-bearing or piled foundations; small-to large-sized rooms with active ventilation or air-conditioning in all buildings, except those on industrial subdivisions, which will have good passive ventilation; correlates generally with HIL D and BS 8485:2015+A1:2019 Type C
Large commercial and industrial buildings	Includes warehouses, most factories, big-box retail stores, large showrooms, and hardware or garden centres; characterised by large, open, high-volume buildings; often single-storey; may have basement, roof or exterior parking; corporate ownership, owner-occupied or leased; generally easy evacuation; may involve ground-bearing or piled foundations; correlates well with HIL D and BS 8485:2015+A1:2019 Type D

Table 13 Building Categories Reference Standards

Category	Description
ASC NEPM Land Use Scenarios	
HIL A	Residential with a garden or accessible soil; childcare centres and primary schools
HIL B	Residential with minimal opportunities for soil access; secondary schools
HIL C	Public open spaces and recreation areas
HIL D	Commercial and industrial premises.
BS8485 Building Types	
Type A	Private ownership with no building management controls on alterations to the internal structure, the use of rooms, the ventilation of rooms or the structural fabric of the building; some small rooms present.
Type B	Private or commercial properties with central building management control of any alterations to the building or its uses but limited or no central building management control of building maintenance, including the gas protection measures; multiple occupancy; small- to medium-sized rooms with passive ventilation of rooms and other internal spaces throughout ground floor and basement areas.
Type C	Commercial buildings with central building management control of any alterations to the building or its uses and central building management control of building maintenance, including the gas protection measures; single occupancy of ground floor and basement areas; small- to large-sized rooms with active ventilation or good passive ventilation of all rooms and other internal spaces throughout ground floor and basement areas.
Type D	Industrial-style buildings having large volume internal space(s) that are well ventilated; corporate ownership with building management controls on alterations to the ground floor and basement areas of the building and on maintenance of ground gas protective measures.

Future buildings in the Complementary Integrated Mixed Use Zone and the Antarctic Facilities Zone, including the proposed underground carpark, are considered suitable to consider as standard commercial buildings, based on the proposed uses and development.

The following has been considered for the proposed Multipurpose Stadium:

- The Multipurpose Stadium will be a commercial space without residential use or long term occupancy by sensitive receptors (i.e., children), and is considered to correlate with ASC NEPM HIL D.
- The central covered playing area, a key part of the Multipurpose Stadium, will form a large well-ventilated internal volume, with central building control on alterations to the ground floor and maintenance of ground gas protective measures, and considered to correspond most closely with BS8485 Building Type D.
- Smaller rooms such as shops, offices, changing rooms or viewing boxes etc which may be present in the Multipurpose Stadium are considered commercial spaces and will have central building control on alterations to the ground floor and maintenance of ground gas protective measures, and are considered to correspond with BS8485 Building Type C.

While public buildings, schools, hospitals, and shopping centres was considered for the Multipurpose Stadium, this was considered overly conservative. The higher protection level required for this type of structure is driven by additional risks associated with:

- Continuous or longer term occupancy of more sensitive receptors (children) associated with schools and other public buildings (i.e. HIL A). Daily or continuous occupation of the Multipurpose Stadium by children is not expected, with attendance only during events such as sporting events or concerts, rather than the longer and more frequent occupancy which would be expected for schools or hospitals.

- Particular constraints regarding building evacuation during emergency. The Multipurpose Stadium is not anticipated to have particular constraints as stadium design should anticipate large numbers of people entering and exiting simultaneously as part of standard operation (i.e., the start and end of events) and will have dedicated crowd control staff during events, and the central building management would be expected to have a prepared and practised evacuation plan for events and for non-event periods where there would typically be low numbers of people within the building.
- The playing field and stands of the Multipurpose Stadium will not be a fully enclosed structure, unlike the example buildings (hospitals, schools, shopping centres. The 70% design includes open spaces on each side of the structure to allow natural ventilation and airflow, as part of the temperature control within the stadium to prevent overheating/greenhouse effects during use.

On the basis of this assessment, the Multipurpose Stadium is considered a mixture of the standard commercial building and large commercial and industrial building categories. The standard commercial building category has been conservatively adopted as under some Characteristic Situations, a higher level of protection is required (refer to **Plate 3**).

5.2.2.3 Required Protection Level

Plate 3 below provides a matrix (EPA NSW, 2020) used to assess the level of gas protection required, based on these factors.

CS	Required gas protection guidance value				
	Low-density residential	Medium-to high-density residential (strata title)	Public buildings, schools, hospitals and shopping centres	Standard commercial buildings (offices, etc.)	Large commercial (warehousing) and industrial buildings
1	0	0	0	0	0
2	3	3	3	2	1[a]
3	4	3	3	2	2
4	6[b]	5[b]	5	4	3
5	-[b]	6[b]	6[c]	5	4
6	-[d]	-[d]	6[c]	6	6

(a) If maximum measured methane concentration exceeds 20% v/v, increase to CS 3.
(b) Residential development is not recommended at CS 4 and above without pathway intervention (for example, source depressurisation or control of lateral migration) external to the buildings and a high level of management. These requirements necessarily preclude low-density residential (NEPM HIL A residential) development.
(c) Evacuation issues and social risks must be considered.
(d) Level 3 risk assessment is required.

Plate 3 Guidance Values for Gas Protection (EPA NSW, 2020)

Based on an assessed rating of CS3, and proposed buildings in the assessment areas considered to correspond to standard commercial buildings, a gas protection guidance value of 2 is considered required for future buildings and structures for the Site based on the matrix provided on **Plate 3**. It is noted that the required gas protection guidance values for CS2 and CS3 are the same for the proposed Site land use, and further soil vapour assessment is not considered required to refine assessment of risks or identification of mitigation/management controls.

The change in land use and proposed development includes large continuous structures, such as the Multipurpose Stadium, which cover and extend from areas where methane or other potentially hazardous vapours have been detected. The potential exists for vapour to migrate along the base of any such large structures, and as such any requirement for vapour protection must extend to the entirety of any structure which covers areas of potential intrusion.

In addition, due to the potential risks, and high level of cost likely required to rectify any fault in vapour intrusion measures, independent verification of design and installation of vapour intrusion prevention

measures should be undertaken for the current proposed, and any future proposed, structures at the Site.

On this basis, the following information and management measures are required and should be included in the SEMP:

- The existing requirements for gas protection are to be incorporated into any structures (such as buildings or service pits) which cover areas where methane or other potential hazardous vapours (TRH and BTEXN[1]) may migrate into structures.
- Conduits or services which pass through soil between or outside of structures and have air-space which vapour could potentially intrude into (for example, air space in protective conduits around buried cables) must be sealed and gas-impermeable, or have duct sealing at any points where air/vapour within the conduits could potentially vent into an enclosed space.
- Design and construction documentation must include a documented testing and verification method for vapour intrusion mitigation measures, with reference to Appendix 7 – Verification and construction quality assurance, of *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020). Any design and/or installation of ground gas protection measures will require independent oversight and sign-off by an Environmental Auditor, or other suitably qualified and independent verifier.

It is noted that, if the selected vapour protection system prevents potential groundwater seepage into any basement structures, the ventilation rate of ≥2 air exchange cycles per hour assumed in the RC (see **Section 3.2**) will not be required.

5.2.3 Updated Designs for Planting Deep Rooted Vegetation

The SEMP includes the following requirements for establishment of landscaped areas and gardens:

Landscaped areas and gardens should be established in above ground planter boxes on hardstand and not directly over exposed soil. In the event that gardens are proposed in-ground, the following barrier system shall be installed:

- *Layer 1: Orange mesh para-webbing (or similar) placed as an indicator barrier over exposed soils to alert Site users.*
- *Layer 2: Earthen cover (minimum 0.5 m) certified as 'Fill Material' in accordance with Tasmanian EPA Bulletin 105 (IB105).*
- *Layer 3: Surface coverage (comprising shallow rooted vegetation).*

Allowance may be made for the establishment of deep rooted vegetation; however, the barrier thickness may need to be increased, or the design modified. In-ground garden designs should be confirmed with a Contaminated Land Auditor.

These requirements have been included to minimise the potential for contact between potentially contaminated soil and future Site users, such as workers maintaining plant life or workers/visitors who may come into contact with garden spaces.

As part of development of the Site, updated designs for planting of trees and inground plants, including potentially deeper rooted plants, have been developed and are attached in **Appendix D**. These designs have been included in the SEMP (AECOM, 2025h), with the following additional controls:

- Soil imported for in-ground planting must be Level 1 – Fill Material, as defined in *Information Bulletin No 105 – Classification and Management of Contaminated Soil for Disposal* (IB105) (EPA, 2018).
- No plants intended for consumption are to be included in any in-ground planting on the Site.
- The potential size of plant root structures should be considered when selecting species for cultivation on the Site. Planting structures should have sufficient volume for the plants to develop

[1] Identification of other potentially hazardous soil vapours is discussed by assessment area in **Section 6.0**. The identified CoPC are included here to minimise the potential for error during future implementation of requirements.

without requiring root structures to penetrate the earthen liners and extend beyond the clean-fill soil.

- The earthen liner and barrier layers included in planting designs are to be installed above the Site water table.
- In-ground planting is only to occur in open space use areas. No in-ground planting is to occur within Site buildings (i.e., within atriums, foyers, or arboretums).
- Trees, or any other deep-rooted plants, which are cultivated on the Site should be excavated and removed as soon as possible if any of the following occurs:
  - Death or significant rot/reduction in size;
  - Toppling/knocking over by wind or impact.
- In the event that plant removal occurs:
  - Removal of all root structures must be included.
  - If root structures have extended and pierced the earthen liner and/or indicator barrier layer, these must be repaired and restored as part of removal of the plant(s).

The proposed designs are not considered to introduce any additional risk of environmental harm, with the additional controls described above, as:

- All designs maintain a barrier layer equal to or greater in thickness than requirements (0.5 m) in the previous Site Suitability Statements, and include the marker layer indicating where current, potentially contaminated Site soil begins.
- The proposed earthen liner will limit the potential for plant roots to come into contact with Site soil or groundwater. In the event that root structures do penetrate these barriers, it is not considered to create unacceptable risks to Site users or environment as:
  - Planting will only occur in open space use areas and will not be conducted above vapour protection systems.
  - No plants intended for consumption are to be planted on the Site, and any contamination which plants may accumulate if roots penetrate liners will not be consumed by humans. In addition, the primary CoPC in Site soil and groundwater are lead, PAHs, and TPHs.
    - Lead and PAHs both have relatively low bioavailablity in soil, and limited ability to translocate from root structures to above-ground biomass (Appendix B7 of the ASC NEPM). If plants were to penetrate the earthen liner and marker layer, any soil contamination taken up by the plant would predominantly be present in the skin or outer layers of root material, and would not be transported to the surface or come into contact with human receptors.
    - The majority of chemicals found in petroleum hydrocarbons are generally not taken up or absorbed by plants, and plant uptake and consumption is not included as a significant exposure pathway in the HSLs provided by CRC CARE, 2011.

    Other CoPC detected above the Tier 1 criteria adopted for human health (benzene, metals (arsenic, cadmium, copper, manganese, nickel, copper, vanadium and zinc), and cyanide) are not considered to have an additional risk pathway or to represent any new or increased risk to future Site users based on the planting designs attached, as these CoPC:
    - Are limited in extent and area in Site soil and groundwater.
    - Are noted in most cases in Appendix B7 of the ASC NEPM to have either limited update in plants, or be likely to adversely affect plant growth before reaching a level where human harm would occur.
    - Will have limited intake by humans via plant species, based on the proposed limitation on edible plants to be included in the SEMP.

5.3 Changes in Proposed Land Use and Final Surface Elevations

5.3.1 Land Use

The original development of the Site, provided in *Strategic Framework and Masterplan 2015 – 2030* (the former Masterplan) (MPDC, 2015) and presented on **Figure F3**, proposes the Site be developed for a mix of uses comprising:

- Residential, including medium to high density
- Commercial, including visitor accommodation, retail, arts and institutional
- Open space, including parks and recreations areas
- Transport, including roads, light rail, cycleway, and pedestrian access
- A single storey underground carpark proposed to be constructed in the Promenade and Underground Carpark Area.

Subsurface utilities and maintenance activities were also anticipated to occur in all Site areas.

Table 14 below summarises the changes for each area to be assessed when compared to the updated planned development of the Site, discussed in **Section 2.3** and presented on **Figure F2**.

Table 14 Changes in Land Use by Area

Assessment Area	Changes in Land Use
The Goods Shed and Yard (Audit Area 1)	• The Goods Shed will be removed from this area. • Proposed Open Space use to the west and north of the Goods Shed now forms park of the Multipurpose Stadium and Associated Concourse zone. • Sections of this area will be lowered to final surface elevations of between 2.9 to 3 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
The Escarpment (Audit Area 4 West)	• Land use of parts of this area has changed to Open Space. It is noted that the Goods Shed is likely to be moved to this area, and assessment for commercial/industrial uses is still considered required. • The south-eastern corner is included in the proposed footprint of the underground carpark. • High density residential use is no longer planned in this area. • Sections of this area will be lowered to final surface elevations of between 1.8 and 4.8 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.

Assessment Area	Changes in Land Use
The Promenade and Underground Carpark (Lot E and UGC)	• Open Space land use in the southern portion of this area is now included in the Multipurpose Stadium and Associated Concourse zone. While, the majority of this space was assessed for a proposed underground carpark, which was assessed for commercial/industrial use, portions of in the eastern and western areas of this assessment area were only considered for Open Space use. • Land proposed for an "Access Link", or open transport corridor, in the eastern portion of this area was assessed for Open Space use, but is now considered for commercial/industrial use as part of the Multipurpose Stadium and Associated Concourse zone. • The north-eastern corner is included in the proposed footprint of the underground carpark. • High density residential (above the first floor) is no longer planned in this area. • Sections of this area will be lowered to final surface elevations of between 1.8 and 4.8 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
The Precinct North (Lot B)	• Land use is still considered to be commercial / light industrial. • A single storey underground carpark is proposed in the northern portion of this assessment area. • Sections of this area will be lowered to final surface elevations of between 1.8 and 3 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.

The Precinct Plan proposes a mixture of Commercial/Industrial and Open Space uses across all four areas considered in this assessment, with Intrusive Maintenance Worker uses also likely to occur. An underground carpark is now proposed in the north-east portion of the Site within the Escarpment, Promenade and Underground Carpark, and Precinct North, as well as within Audit Area 4 East which has not had a Site Suitability Statement issued to date.

Residential use is no longer planned in any of the four areas with previously issued Site Suitability Statements, however this use has been assessed for consideration of potential risks to off-Site residential receptors (discussed in **Section 3.0**).

It is noted that as part of the updated development plans, buildings and structures which extend over the boundaries of previously established assessment areas are proposed. Assessment of environmental risks associated with buildings which cover multiple assessment areas is included in **Section 6.5.**

5.3.2 Surface Elevation

As part of the development of the Site and preparation of preliminary designs for the Multipurpose Stadium, modification of the final Site surface level is proposed, consisting of excavation and backfilling with engineered materials in some area of the Site, or installation of surface layers in others.

Increase in final surface elevation (i.e., building up areas) is not considered to increase environmental risks as:

- Vapour intrusion risks will be reduced by the additional pore space and travel time to the surface, allowing additional degradation or dilution of potentially hazardous vapours.
- Increase in surface elevation reduces potential contact with groundwater due to increased distance between the surface and the water table.
- A barrier layer between the surface and existing Site soil is required as part of the conditions which inform the Site Specific Remediation Criteria (discussed in **Sections 5.4** and **3.2**).

However, decreases in surface elevation may affect the environmental risks associated with Site contamination associated with soil vapour (generated from soil and groundwater) and with potential contact by intrusive maintenance workers with deeper soils previously not considered likely to be disturbed following development.

The extents of excavation and backfill proposed at the 50% detailed design of the Multipurpose Stadium are attached as **Appendix C**, and displayed in context of the current surface elevation of the Site (shown on based on surface surveys completed in 2024) on **Figure F5** and **Figure F6**. The proposed surface elevations have not changed in the 70% detailed design (recently completed).

Decreases in final surface elevation are proposed in the following locations:

- The playing surface of the Multipurpose Stadium, and the ground floor level of the surrounding stands, is proposed at 3.0 mAHD.
- The area to the south and east (the Complementary Integrated Mixed Use Zone) has a proposed final surface level of 2.9 mAHD.
- The surface of the practice wickets area north-west of the stadium is proposed at 4.8 mAHD.
- A single storey underground carpark to the north-east of the stadium (within the Antarctic Facilities Zone) is proposed to 1.8 mAHD.

In addition, there is an area to the south-west of the stadium with a proposed final surface elevation of 3.3 mAHD (reduction in elevation of approximately 0.7 m). This area is within the Gateway assessment area, and will be considered separately as part of the environmental audit of this area.

Areas where a decrease in surface elevation is proposed, and the elevation used for assessment of environmental risks, are summarised on **Table 15** below.

Table 15 Proposed Decreases in Surface Elevations

Proposed Decreased Surface Elevation Area	Final Proposed Elevation (mAHD)		Affected Assessment Area			
	Design	Assessment[1]	The Goods Shed and Yard	The Escarpment	The Promenade and Underground Carpark	The Precinct North
Multipurpose Stadium	3	2.5	✓	✓	✓	✓
Complementary Integrated Mixed Use Zone	2.9		✓	×	×	✓
Practise Wickets	4.8	4.3	×	✓	×	×
Underground Carpark (Antarctic Facilities Zone)	1.8	1.3	×	×	×	✓

Notes: ✓ - Change in elevation is within the boundaries of this assessment area; × - Change in elevation is not within the boundaries of this assessment area; 1. The Assessment Final Proposed Elevation, which incorporates a margin of safety of 0.4-0.5 m to allow for minor changes which may arise, has been used when considering changes in environmental risks.

For the purposes of assessing environmental risks associated with the change in design elevation:

- A safety margin of 0.4-0.5 m below the proposed final surface elevations has been included in assessment of Site data in **Section 6.0** to allow for any potential minor variations or changes which may occur as development design is finalised, or during construction.
- If final surface elevation in any area is less than the assessment elevation for that area listed on **Table 15**,

- No review of changes in precluded PEVs has been conducted as part of the assessment, and it has been assumed that any PEVs identified as precluded in existing Site Suitability Statements remain precluded.

  While the proposed excavation may remove some soil impacts which preclude PEVs, Site Suitability Statements must consider the conditions which exist at the time of assessment and cannot be predicated on the future planned actions (i.e., excavation of soil) being completed at the Site.

It is noted that the inferred elevation of groundwater is equal to or greater than the proposed final design level in some areas (see **Figure F15**). Assessment and management measures for groundwater in these areas are discussed in **Section 6.5.2**.

5.4 Review of Site Specific Remediation Criteria

As part of previous assessment of the Site, Site Specific Remediation Criteria (RC) were initially developed in 2016 (AECOM, 2016) and have been used as part of environmental investigations to identify remediation requirements to remove or mitigate any unacceptable risks to current and future users of the Site, including as part of the previously issued Site Suitability Statements.

The RC were reviewed in *Review of Site Specific Remediation Criteria 2025* (AECOM, 2025a) and have been updated to consider changes since the RC were initially derived, including changes in:

- Proposed Site development.
- Relevant Australian or international guidance used to assess potential risks and derive RC.

The review of RC concluded that the AECOM (2016) RC are overall appropriate for ongoing assessment of potential human health risks which may arise from the land uses proposed in the Precinct Plan, including stadium construction, in areas where groundwater will be 1 m below the final surface or deeper.

Minor updates to the RC were recommended, to align with the updated tolerable concentration in air (TC) adopted for ethylbenzene in the HSLs from the ASC NEPM and to clarify where RC based on the vapour inhalation pathway exceed theoretical soil saturation limits or water solubility limits and therefore this pathway is not limiting.

As all recommended changes increase adopted RC values, the results of previous assessments using the AECOM (2016) RC are considered conservative and applicable for assessment of potential risks for development under the Precinct Plan (MPDC, 2024). As such, re-review of existing assessments for updated criteria is not considered required.

However, the updated RC derived in AEOCM (2025b), described in **Section 3.2**, have been used to assess if any additional remediation or management measures are required for the proposed future development of the Site.

5.5 Collection of Additional Environmental Data

Since issue of the Site Suitability Statements between 2019 and 2021, the following investigations or assessments have been conducted which have collected additional data from soil, groundwater or soil vapour relevant to the areas considered in this review:

- Acid Sulfate Soil (ASS) investigations conducted between 2024 and 2025
- Groundwater Monitoring Events (GMEs) conducted involving wells in or adjacent to the areas of Site Suitability Statements between 2022 and 2025.
- *In Situ* Soil Characterisation Sampling - Stadium Footprint Stage 1 and Stage 2 Bulk Excavation conducted in 2024
- Soil, groundwater and soil vapour investigations.

Each investigation is summarised below. Data from these investigations has been included in the data assessed in **Section 6.0**.

5.5.1 Acid Sulfate Soil Investigations

Acid Sulfate Soils (ASS) are soils containing sulfides, most commonly iron sulfides, which have been generated by natural bacterial activity in anerobic, sulfate rich water (e.g. coastal swamps or wetlands) and remain buried generally beneath the water table. If ASS is oxidised, sulfuric acid may be produced, in potentially high quantities which may represent a risk to surrounding land and aquatic organism and ecosystems. Unoxidised ASS, for example ASS below the water table, is referred to as Potential Acid Sulfate Soil (PASS), while ASS which has oxidised is referred to as Actual Acid Sulfate Soil (AASS).

Prior to issue of the Precinct Plan, development below the Site surface where ASS (as either AASS or PASS) was not proposed. However, the updated development includes excavation of soil, and advancement of footings to dolerite below the water table. These activities were identified as potentially contacting and disturbing ASS, if present, as the Site:

- Is located at less than 20 mAHD in close proximity to surface water bodies.
- Has been subject to historic land reclamation, where river and sea beds have been covered in fill material, as demonstrated by estuarine sands identified in soil bores.
- Is mapped as a Low (6-70%) probability of PASS on the LISTMap Coastal Acid Sulfate Soils (0-20 mAHD) layer.

In order to identify if ASS (as either AASS or PASS) is present on the Site, and to quantify what management requirements may be needed for any future development activities which may disturb it, an assessment methodology and framework, derived from the *Tasmanian Acid Sulfate Management Guidelines* (TASSMG) (DPIPWE, 2009), was prepared and implemented on-Site between April 2024 and July 2025, and is described in *Acid Sulfate Soil Investigation* (AECOM, 2025e). The locations of ASS sample bores are shown on **Figure F7**.

Overall, assessment of ASS at the Site has concluded:

- No AASS has been detected at Macquarie Point, and no ASS (either AASS or PASS) has been detected at Regatta Point.
- Oxidisable sulfides have been detected at Macquarie Point, consisting generally of sands and clays consistent with estuarine materials, and it is considered likely that river- and lake-bed materials (either originally present on Site, or used as part of historic land reclamation) is the ultimate source of this material.

  Soil with a high potential to acidify due to the presence of reduced inorganic sulphur, which is considered PASS, has been identified in:

  - Saturated soil, and soil which may have been intermittently wet at the water table.
  - Pockets of unoxidised estuarine sands in fill, characterised as black sand and gravel, which has not oxidised prior or during land reclamation, or while *in situ* on the Site.

  Management will be required for any work which may disturb or dewater PASS.
- Review of historic data identified indicators that Site groundwater may have been affected by the oxidation of sulfides, but that acidification has not occurred. Site groundwater is assessed as reasonably adequate to maintain a neutral pH in future, noting that this does not constitute protection against environmental impact if widespread or uncontrolled acidification occurs due to Site activities.
- PASS management is not considered required for the remaining unsaturated soil at the Site based on the existing Acid Neutralising Capacity (ANC) of soil, which is an order of magnitude or greater than the potential acidity. While the reported ANC may be inflated by sample preparation, it is considered suitable for use in interpretation with the safety margin of 10x, following corroboration by chip tray analysis.
- Indicative dosage rates of to treat and neutralise PASS of between 28 and 73 kg/tonne with a generic agricultural lime (aglime) if disturbed have been calculated, based on the location and treatment scenario (*in situ* vs stockpiled PASS).

The estimated rates are based on a generic assumed aglime with an Stated Neutralisation Value (SNV) ≥ 85% calcium carbonate ($CaCO_3$), and in which ≥80% of aglime particles are < 0.3mm. These parameters have been assumed based on typical aglime available in eastern Australia.

Any neutralisation agent proposed for use on the Site should be compared to these properties. While alternatives may be suitable for PASS treatment, the suitability and dosage rate of any alternative should be reviewed and verified by a suitability qualified and experienced environmental practitioner with consideration of:

- SNV and particle size distribution
- Solubility and longevity
- Potential for other environmental effects.

Any neutralisation of PASS must be verified by post-treatment laboratory analytical results.

Based on the outcomes of this assessment, it is recommended that:

- Future activities at Macquarie Point should identify all activities which have the potential to disturb or expose (i.e., dewater) PASS at the Site, and:
  - The Site Environment Management Plan (SEMP) and Construction Environment Management Plans (CEMPs) should include overarching management obligations for disturbance of ASS and/or water table drawdown via dewatering.
  - A scope specific Acid Sulfate Soil Management Plan (ASSMP) and Dewatering Management Plan (DWMP) should be developed for each discrete works package involving civil and general earthworks activities, water table drawdown via dewatering, and any other significant soil disturbance activities or changes to natural groundwater and surface water systems.

    These documents should be prepared by those undertaking works which may disturb PASS, and must include:

    - Estimated volumes and action criteria for PASS which may be disturbed by the proposed works.
    - Procedures for the handling of disturbed PASS, including verification of neutralisation, groundwater generated by dewatering, and monitoring of Site environmental conditions in the vicinity of PASS disturbances.
    - Contingency measures which are specific, measurable, and attainable, and can be implemented in a timely manner in the event that action criteria or trigger values are exceeded.
- Future structures and infrastructure at the Site should consider the potential effects of sulfides and possible acidification in design and selection of materials, and adopt appropriate mitigation measures to prevent degradation of materials overtime.
- Any groundwater, or run-off which may have come into contact with PASS, should be considered as potentially contaminated. pH and the potential to acidify should be considered in assessment any such water prior to disposal

The above recommendations should be documented in the Site Environment Management Plan (SEMP; AECOM, 2025a).

5.5.2 Groundwater Monitoring Events (GMEs) and Gauging

Since 2021, when the most recent Site Suitability Statement (Coffey, 2021b) was issued, three Groundwater Monitoring Events (GMEs) have been conducted at the Site where wells within the areas with existing Site Suitability Statements have been sampled, as listed on **Table 16** below. An additional GME was conducted at Regatta Point in 2024, but did not include any groundwater wells in the vicinity of the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, or the Precinct North, and data from this GME have not been included in this assessment.

Groundwater well locations are shown on **Figure F10** and gauging and analytical data collected from these programs are attached on **Table T5** to **Table T9**, with exceedances of adopted criteria are shown

on **Figure F13a-c**,. Results of samples with reference to Site suitability are discussed by area in **Sections 6.0** to **6.4**.

Table 16 Groundwater Monitoring and Gauging Events Completed Since 2021

Description	Dates	Wells Gauged/Sampled	Report
Targeted GME – The Gateway	30 November to 2 December 2022	<u>The Goods Shed and Yard</u> • MW127A, MW127B <u>The Promenade and Underground Carpark</u> • MW36, MW174 <u>The Gateway</u> • MW100, MW102, MW122, MW173, RS6 <u>Off-Site</u> • MW123A, MW123B, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW150	*The Gateway – Data Gap Assessment* (AECOM, 2023a)
Targeted GME – The Precinct South	29 November to 6 December 2023	<u>The Goods Shed and Yard</u> • MW55, MW124A, MW124B, MW127A, MW127B <u>The Promenade and Underground Carpark</u> • MW146, MW175, MW176 <u>The Precinct North</u> • MW155 <u>The Precinct South</u> • MW03*; MW05*; MW6, MW16, MW60, MW125A, MW125B, MW126A, MW126B, MW154, MW162, MW163, MW164, PW02*; RN4, S4, S6, S8* <u>Off-Site</u> • MW150, MW151, MW152, MW153	*The Precinct South – Well Maintenance and Targeted Groundwater Monitoring Event* (AECOM, 2024c)

Description	Dates	Wells Gauged/Sampled	Report
Site-Wide Gauging and Well Inspection	26 to 28 February 2025	<u>The Goods Shed and Yard</u> • MW127A*, MW127B*, MW55* <u>The Escarpment</u> • NR3* <u>The Promenade and Underground Carpark</u> • M121*, MW146*, MW175*, MW176*, MW36* <u>The Precinct North</u> • MW155*, MW167*, RN4* <u>The Precinct South</u> • MW03*, MW05&, MW125A*, MW125B*, MW126A*, MW126B*, MW154*, MW16*, MW163*, MW164*, MW6*, MW60*, PW02*, S8* <u>The Gateway</u> • MW100*, MW101*, MW102*, MW122*, MW128A*, MW128B*, RS6* <u>Audit Area 4 East</u> • MW159*, MW160*, MW161*, MW177A*, NR1* <u>Regatta Point</u> • MW178*, MW179*, MW180*, MW181* <u>Off-Site</u> • C1*, MW123A*, MW123B*, MW134_GHD*, MW135_GHD*, MW136_GHD*, MW151*, MW152*, MNW153*, PC05*, PC12*, PC13*	*Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event* (AECOM, 2025f)

Description	Dates	Wells Gauged/Sampled	Report
2025 Site-wide GME	12 to 25 June, 2025	<u>The Goods Shed and Yard</u> • MW55, MW127A, MW124A*, MW124B*, MW127B*, MW149* <u>The Escarpment</u> • BG1, MW120A, MW194, MW103A*, <u>The Promenade and Underground Carpark</u> • MW36, MW121, MW183, MW184, MW186, MW191, MW146*, MW175*, MW176*, MW177*, MW182* <u>The Precinct North</u> • MW155, MW167, MW190, MW192, RN2, TW02, MW125A*, MW125B*, MW187*, <u>The Precinct South</u> • MW6, MW16, MW60, MW125A, MW126A, MW164, MW188, MW193, RN4, MW05*, MW126A*, MW126B*, MW154*, MW162*, MW163*, MW3*, PW02*, S8* <u>The Gateway</u> • BH2_PS, MW101, MW102, MW122, MW128A, MW148, MW173, MW196, MW197, MW198, RS6, MW100*, MQ128B*, MW129* <u>Audit Area 4 East</u> • MW159, MW160, MW161, MW177A, MW189, NR1, NR2A, MW145* <u>Regatta Point</u> • MW178, MW179, MW180, MW182 <u>Off-Site</u> • MW123A, MW130_GHD, MW131_GHD, MW132_GHD, MW150, MW151, MW152, MW153, MW123B*, MW133_GHD*, MW124_GHD*	*Soil, Groundwater and Soil Vapour Investigations 2025* (AECOM, 2025d)

Notes: * Gauged only

5.5.2.1 Groundwater Hydraulic Contours and Flow Direction

At the time of issue of the Site Suitability Statements, the most recent Site-wide groundwater contours used to infer groundwater flow direction were collected in November 2019 (**Figure F12a**) (AECOM, 2020i).

At that time, it was assessed that:

- The Site is underlain by a single aquifer unit (within multiple lithological units) extending to depths greater than 25.0 m bgl (the maximum depth assessed).
- Groundwater has generally been encountered in dolerite in the northern portion of the Site, and in fill material in the central, southern and eastern portions, extending into the underlying natural material including estuarine/ marine deposits, weathered Dolerite and fractured Dolerite.

- The inferred groundwater flow direction in the central and eastern areas of the Site is in a generally south to southeast direction, with steeper gradients in the north and western portion of the Site likely influenced by shallow dolerite bedrock.

  The relatively flat hydraulic gradient in the central and eastern areas of the Site is likely due to the increased depth of low permeability bedrock, and greater cross-sectional area of relatively high permeability fill and estuarine sands, increasing the potential saturated thickness of soil profile.

- Buried seawalls are noted to be below the Site and likely to have localised influence on groundwater flow direction

- The majority of Site groundwater is inferred to discharge to Sullivans Cove to the south and east of the Site. Some groundwater in the north-east may discharge to River Derwent, potentially via discharge to the Hobart Rivulet which passes under the Cenotaph grounds to the north of the Site and is understood to be in contact with groundwater.

Inferred groundwater contours at the Site developed as part of GMEs or other monitoring events conducted between 2022 and 2025, are attached as **Figure F12b-d**. A review of these contours, in particular the most recent Site-wide gauging events in February and June 2025, notes that:

- The overall flow direction (south to southeast) is generally consistent with the 2019 contours. Westerly groundwater flow into the Site from TasPorts/TasWater land on the eastern boundary is not detected in the June 2025 contours, potentially as no access to off-Site wells to the east was granted by TasPorts for this monitoring event. Some inflow from TasWater land was detected at MW159 in February 20205, and at MW167 in June 2025.

  However, this inflow, which may be related to a buried seawall from historic land reclamation (shown on **Figure F12a**) was apparent in December 2023 and February 2025, and is considered likely to be present.

- The February 2025 contours display a potential northerly flow in the Escarpment area. This was attributed at the time to lack of access to wells in this area, and the contours in June 2025 do not display any flow from the northern boundary of the Site (other than in Regatta Point), and it is not considered that groundwater from the Escarpment is likely to discharge on the northern boundary.

- The depth to groundwater in dolerite in the Escarpment and other northern areas of the Site was >3.5 mAHD in June 2025, shallower than November 2019. Historic gauging (AECOM, 2022a) had recorded groundwater elevations in this area as high as 4 to 4.5 mAHD in June 2025, and it is considered that there may be seasonal fluctuations, with increased groundwater in the north of the Site during wetter winter months.

  The detected depth of groundwater in the central and eastern areas of the Site (approximately 0.5 to 1.5 mAHD) is consistent across GMEs.

- Following installation of five groundwater wells in or near Regatta Point in 2024 (MW177A, MW178, MW179, MW180 and MW181), groundwater in the north-east portion of the Site is inferred to discharge to the River Derwent.

Overall groundwater depths, and inferred contours and flow directions, are consistent with those considered in the Site Suitability Statements and the overall discharge points of groundwater are considered the same (i.e., to Sullivans Cove and the River Derwent).

It is noted that proposed construction may come into contact with groundwater, in particular in the northern portion of the Site by the Multipurpose Stadium and Associated Concourse, and in the northeast in the proposed underground carpark, and is discussed by area in **Section 6.0**.

5.5.3 *In Situ* Soil Characterisation Sampling - Stadium Footprint Stage 1 and Stage 2 Bulk Excavation

As part of the proposed development of the Site, bulk excavation of soil is proposed to lower the surface elevation in some areas of the Site, and improve the geotechnical properties of soil beneath structures, as discussed in **Section 5.3.**

In order to facilitate off-Site disposal of soil to be excavated, additional sampling was conducted between 25 November and 11 December 2024 across the stadium footprint to a depth of approximately

2.4 mAHD to collect data for *in situ* waste categorisation of approximately 104,000 m^3 *in situ* (138,000 m^3 *ex situ* with a bulking factor of 1.33 applied) of soil.

The waste characterisation process was conducted with reference to:

- Tasmanian waste categories provided in *Information Bulletin No. 105: Classification and Management of Contaminated Soil for Disposal, Revision* (IB105) (EPA, 2018), with additional classification categories for Level 1 – Fill material introduced by amendment of the *Environmental Management and Pollution Control Act 1994* (the EMPCA) and the *Environmental Management and Pollution Control (Waste Management) Regulations 2020* in 2021.
- Sample density and statistical assessment of waste categories provided in *Publication IWRG702 - Industrial Waste Resource Guidelines: Soil Sampling for Waste Soils* (IWRG702) (EPA Victoria, 2024).

The assessment of soil was reported in *In Situ Soil Characterisation and Waste Management Plan – Stage 1 and Stage 2 Bulk Excavation, Macquarie Point Development Project* (AECOM, 2025b), and consisted of:

- Advancement of 125 boreholes on an approximate 20 x 20 grid across the proposed Stage 1 and Stage 2 excavation areas, as shown on **Figure F8**. It is noted that some deviations from the grid occurred due to the existence of existing structures (the Goods Shed).

  IB105 notes that, in the event *in situ* classification of soil is conducted, *Australian Standard 4482.1 - Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds* (AS4482.1) should be consulted to obtain a representative number of samples. Table E1 in Appendix E of AS4482.1 suggests that the minimum of 55 sample points using a square grid are required to characterise an area of 5.0 ha, and that sites greater than this area should be subdivided into smaller areas. The proposed excavation extent is approximately 5.8 ha, and a greater number of sample points was required. The 125 boreholes advanced were considered sufficient to collect representative samples of the Site.
- Collection 518 primary soil samples. Samples were collected at 0.5 m bgl and every 0.5 m following until the target depth of the borehole (~2.4 mAHD) was reached. Additional samples were collected if a change in lithology was observed by field staff.

  Key field observations during advancement of boreholes were:

  - Anthropogenic material (such as fragments of brick, metal, plastic, glass, wood, bitumen, ceramics, concrete and coal noted in various locations) were noted in anthropogenic fill at the surface to between 1 and >3.5 m bgl, and is considered likely to be the material introduced to the Site during progressive historical land reclamation events.
  - Odours and elevated vapour levels (recorded by photo-ionisation detector [PID]) were detected in locations:
    - In the former gasworks area, and are attributed to gasworks operations. This area is outside the areas assessed in the report and will be considered as part of the Gateway assessment area for the purposes of the Environmental Audit.
    - At 3 m bgl in bore H10, located in the Promenade and Underground Carpark area. This reading was close the water table and in the vicinity of historic Light Non-Aqueous Phase Liquid (LNAPL) Plume A2, and is attributed to groundwater fluctuation.
  - One fragment of ACM was observed at 0.5 m bgl in borehole E13, located in the Gateway area, which is not considered in this report. However, the ACM was non-friable and no asbestos fibres were observed at the Limit of Reporting (LOR) of 0.01%$^{w}/_{w}$ in the soil surrounding the fragment, and this fragment is not considered to constitute a potential hazard to future development.
- Samples were analysed for the following suites:
  - 168 samples (33%) were analysed for Total Contaminant Concentrations (TCC) of the CoPC listed on Table 2 of IB105, excluding tributyltin (TBT) which has not been detected on Site or identified as a CoPC based on historic uses.

- 350 samples (67%) were analysed for TCC of a targeted CoPC suite, based on previous investigations of the Site, consisting of BTEXN, TPH/TRH, lead, arsenic, and PAHs
- 179 samples were further analysed for Leachate Contaminant Concentration (LCC) for waste classification purposes, consisting of:
  - 75 samples analysed for metals, primarily lead, but also including mercury, arsenic, cadmium, chromium and zinc in targeted locations.
  - 139 samples were analysed for PAH LCC.

- Analytical results were screened against the waste categorisation criteria provided in IB105, and against the HIL D – Commercial/Industrial Land Use provided in the ASC NEPM to assess for potential land fill disposal.

  The screening of results concluded that the soil to be excavated in the Stage 1 and Stage 2 areas was primarily suitable to classify as Level 2 – Low Level Contaminated Soil, with the exception of three areas of potential Level 3 – Contaminated Soil or Level 4 – Contaminated Soil Requiring Remediation soil, consisting of:

  - Potential hotspots of approximately 18 m radius centred on:
    - J06, located on the boundary of the Escarpment and the Promenade and Underground Carpark, where lead and benzo(a)pyrene toxicity equivalency quotient (TEQ) LCC exceeded the Level 2 criteria in IB105
    - M13, located in the Goods Shed and Yard, where lead LCC exceeded the Level 2 criteria in IB105
  - Soil to be excavated in the former gasworks area (the Gateway), surrounding soil bores E15-E16, F15-16, G15-G18 and H15-H18, which had elevated concentrations of naphthalene. The Gateway is outside the areas considered in this report and will be considered separately.

Section 6.0 presents the soil data collected by this program for each assessment area, considered against Site criteria in **Section 3.0**.

5.5.4 Soil, Groundwater and Soil Vapour Investigation 2025

In early 2025, an inspection at the Site (AECOM, 2025f) identified a number of the groundwater wells and soil vapour bores which informed the previous Site Suitability Statements were lost, destroyed, or otherwise unsuitable for monitoring to review and assess if any changes in the Site condition had occurred. In order to restore the monitoring network, and collect updated data on the Site condition, in June 2025, the following activities were conducted at the Site:

- Advancement of 45 locations via sonic core drill rig and hand augering, consisting of :
  - 19 new groundwater wells
  - 16 new soil vapour bores
  - 10 new soil bores for assessment of ASS
- Repair of 25 damaged groundwater wells.
- Development of 20 groundwater wells (19 new wells, and one well [MW128B], which had an obstruction removed)
- Completion of a Site-wide GME and soil vapour monitoring event, including LNAPL transmissivity testing at three locations.

The completed works and outcomes are discussed in *Soil, Groundwater and Soil Vapour Investigation 2025* (AECOM, 2025d). Data collected with regards to soil, groundwater and soil vapour contamination relevant to this report are discussed by assessment area in **Section 6.0**, with specific assessment of LNAPL Plumes, and risks of off-Site ecological receptors, are provided in **Section 5.5.4.1** and **Section 5.5.5** below respectively.

5.5.4.1 LNAPL Plume Assessment

As part of the 2025 assessment (AECOM, 2025d), specific activities undertaken to investigate/assess LNAPL Plumes A1 and A2, and former LNAPL Plume A3, were:

- Installation of replacement wells to assess and delineate the LNAPL Plumes.
- Where LNAPL was present, completion of LNAPL transmissivity testing or, if sufficient LNAPL for this test was not present, qualitative assessment of LNAPL recharge.
- Sampling of groundwater was conducted for CoPC associated with the LNAPL previously identified in this plumes (degraded diesel), consisting of TRH, BTEXN, and metals.
- Soil vapour bores were installed at each LNAPL plume to assess potential vapour concentrations.

Groundwater wells and soil vapour bores delineating and/or assessing LNAPL and former LNAPL plumes are listed on **Table 17** and **Table 18** below.

Table 17 LNAPL Plume A1 and A2, and Former LNAPL Plume A3, Groundwater Assessment Wells

Well ID	Purpose	Groundwater Sampled?
MW36	Delineate LNAPL Plume A2 to the west	Yes
MW146	Delineate LNAPL Plume A2 to the east	No
MW155	Delineate Former LNAPL Plume A3 to the east	Yes
MW176	Delineate LNAPL Plume A2 to the south-east	No
MW177	Delineate LNAPL Plume A1 to the east / Former LNAPL Plume A3 to the north-east	No
MW182	Delineate LNAPL Plume A1 to the north-east	Yes
MW183	Target LNAPL Plume A1 location	Yes
MW184	Delineate LNAPL Plume A1 to the south / LNAPL Plume A2 to the north	Yes
MW185	Target LNAPL Plume A2 location	No
MW186	Delineate LNAPL Plume A2 to the south	Yes
MW187	Target Former LNAPL Plume A3 location	No
MW190	Delineate LNAPL Plume A1 to the north-east	Yes
MW191	Delineate LNAPL Plume A1 to the west / LNAPL Plume A2 to the north-west	Yes

Table 18 LNAPL Plumes A1 and A2, and Former LNAPL Plume A3, Soil Vapour Assessment Bores

Soil Vapour Bore ID	LNAPL Plume
SV31	LNAPL Plume A1
SV32	LNAPL Plume A2
SV33	Former LNAPL Plume A3

The following was observed during investigation in 2025:

- LNAPL sheen and a hydrocarbon odour were noted on soil during installation of MW186, and hydrocarbon odours and/or staining were noted during installation of MW183, MW185, MW190, and SV31.
- LNAPL sheen was observed in MW185 (targeting LNAPL Plume A2) and MW187 (targeting Former LNAPL Plume A3), and LNAPL (5mm) was noted in groundwater removed from MW185 during development on 13 June 2025. However, no measurable LNAPL was present in these wells up to three weeks following installation.
- No LNAPL was observed in well MW183, which was targeting the historic location of LNAPL Plume A1, or in surrounding wells.

- No groundwater concentrations indicative of LNAPL (i.e., exceeding the ASC NEPM solubility limits) were detected in any sampled well in 2025 in the vicinity of LNAPL Plumes A1, A2 or Former LNAPL Plume A3.
- Methane in excess of the adopted criteria for soil vapour was detected in all three soil vapour bores. However, no hydrocarbons vapours indicative of potential risks to future Site uses were detected.

Remediation of LNAPL using a fixed TFE system was last conducted between 2015 and 2017, and further direct remediation was assessed as no longer practicable (AECOM, 2021i) as:

- LNAPL recovery by the TFE system was asymptotic and demonstrated marginal recovery rates.
- The residual LNAPL in plumes was stable or decreasing.
- No unacceptable risks to future human health or ecological receptors associated with the LNAPL plumes was identified if the procedures within the SEMP were adopted for current and future Site uses.

These end-points were assessed in June 2025 (AECOM, 2025d), and, based on field observations and soil vapour and groundwater data collected from replacement wells, were considered to be still valid. The historic LNAPL plumes are not considered represent a risk to future Site users, if the Site is managed as described in the SEMP, and further active remediation or clean-up is not likely be practicable or remove quantities of LNAPL for the Site which will meaningfully affect the environmental condition or risks to future users of the Site or surrounding areas.

While the replacement well and soil vapour bore network is not as extensive as previously present, and some residual LNAPL may be present between current bore locations, it is not considered that this would represent a risk to future development or Site use.

It is also noted that LNAPL Plume B, located in the Precinct South, was also assessed as part of the 2025 GME, and is not considered likely to be mobile. LNAPL Plume B is hydraulically down-gradient of the areas which have had issued Site Suitability Statements and is not considered to have potential to affect the environmental status of these areas. Assessment and management of environmental risks associated with LNAPL Plume B is included in the Precinct South CUTEP report (AECOM, 2025g).

5.5.5 Risks to Off-Site Ecological Receptors

While soil at the Site has reported CoPC concentrations which could present risk to ecological receptors, no ecological receptors are currently present on the Site, or are proposed to be present following development. Risks from soil to ecological receptors are managed by the SEMP, which removes pathways between soil and receptors by:

- Barrier layers (either at the surface, or as part of planting design for in-ground plants as discussed in **Section 5.2.3**) are required in the SEMP and will prevent contact with Site soil.
- No extractive use of groundwater will be permitted.

Contamination present in groundwater may impact off-Site ecological receptors at the point of discharge, which have been inferred (based on groundwater flow direction) as:

- Sullivan's Cove to the south and east of the Site
- The River Derwent to the north (potentially via the Hobart Rivulet, which is understood to be in contact with groundwater to the north-east of the Site)

The *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h), conducted based on groundwater data available to 2019, concluded based on a weight of evidence approach that groundwater emanating from the Site was unlikely to represent an unacceptable risk to off-Site ecological receptors in either of these aquatic systems.

An addendum to this assessment was prepared in 2025 (AECOM, 2025i), and concluded that overall, based on the review of updated Site data and information, the outcomes of the AECOM (2020h) assessment remain valid and suitable for ongoing assessment of the Site. No material changes in the off-Site aquatic ecological risk profile have been identified, and ecological risk to receptors in the River Derwent and Sullivans Cove remains low.

5.6 Closure of the Macquarie Point Sewage Treatment Plant (STP) and Realignment of the Main Hobart Pipeline

At present, the Main Hobart Pipeline, a sewer line connected from metropolitan Hobart to the Macquarie Point Sewage Treatment Plan (the STP) to the east of the Site, enters the Site from Evans Street on the south boundary of the Site and passes north though the Goods Shed and Yard, the Promenade and Underground Carpark, and the Precinct North.

TasWater, who own and operate the Main Hobart Pipeline and the STP, are currently constructing a Sewage Pumping Station (SPS) and emergency storage basin to the east of Macquarie Point and south of the STP, and plan to shut down and decommission the STP once completed, with details of the proposed land use available in the Environmental Impact Statement (EIS) for the new pumping station (TasWater, 2023).

In addition, the Main Hobart Pipeline will also be shut down and either removed or filled with grout, with removal as the preferred option, and replaced by a new off-Site sewer line to the south and east of the Site.

Installation of the new sewer line will be undertaken by the Corporation, who currently plan to undertake installation using horizontal micro-tunnelling, a trenchless horizontal drilling process where a surface controlled boring machine advances the excavation and installs pipeline sections behind it as it goes. Groundwater and soil is removed behind the boring machine as a slurry, with bentonite introduced to provide support around the pipeline. The Corporation has undertaken an initial costing assessment and will engage a contractor to undertake sewer installation once approval for the work is received from the Tasmanian Government.

The Corporation's planned route for the new line is attached as **Appendix E**. While not currently contemplated, if the route was modified such that the pipeline was installed within the Site, additional assessment of Site Suitability would be required.

These changes are not anticipated to increase the overall environmental risk profile of the Site as:

- The existing Main Hobart Pipeline is likely to be removed as part of future construction work, although an option to seal and fill it with grout may be considered. No environmental risks associated with this pipeline have been previously identified while in operation, and it is not considered that either removal or decommissioning via grouting would introduce any additional risks to future Site users, and that risks associated with either option could be managed by a CEMP informed by the SEMP.

  Elevated lead concentrations, in excess of the RC protective of future Intrusive Maintenance Workers, were identified in soil in an exclusion zone around the pipeline during remediation work in 2020 (AECOM, 2021e). Excavation and validation of removal of these impacts is not considered to be required as:

  - The affected area will be below the future Multipurpose Stadium, and specifically below the playing surface and will not be frequently accessed by intrusive maintenance workers.
  - The typical minimal level of Personal Protective Equipment (PPE) within the SEMP includes measures to minimise potential ingestion or inhalation of soil, including neck to toe clothing, impervious gloves for contact with soil, and potential disposal coveralls/dust masks.
  - Potential risks associated with this soil are included in the SEMP, and are required to be managed during removal by a CEMP, or during Site maintenance activities.

  As an additional measure, the SEMP will be updated with:

  - A requirement that any subsurface lines or services beneath proposed buildings or structures be installed in conduits or clean soil corridors (as previously required for services in the Promenade and Underground Carpark [Coffey, 2021a]).
  - Explicit mention of inhalation/ingestion risks for existing Site soils in the section discussing PPE.

- The new sewer line will be located off Site and hydraulically down-gradient. While the new sewer line will be in contact with groundwater, the micro-tunnelling process does not require excavation of

a trench or introduction of potentially higher permeability materials around the pipeline (i.e., bedding sands) which could produce a preferential pathway for potentially contaminated groundwater transport.

The Environmental Impact Statement (EIS) for the new pumping station (TasWater, 2023) did not identify any new impacts or environmental risks arising from the pumping station. This EIS has been submitted to and accepted by EPA Tasmania.

It is noted that AECOM provided input into the EIS for TasWater, separate to our ongoing consulting role for the Corporation as part of the development of the Site.

In addition, soil excavated as part of the construction of the pumping station was temporarily stockpiled and treated on the Site in 2025, and consisted of:

- Mixing Area 1 - Saturated fill and estuarine sands, considered potential PASS, was stockpiled in the Escarpment and treated with:
  - Agricultural lime (aglime) to neutralise possible acidification of PASS
  - Triple Super Phosphate (TSP) and moisture to reduce potential lead and copper leachability.
- Mixing Area 2 - Unsaturated fill was stockpiled in the Promenade and Underground Carpark, and the Gateway, and treated with TSP to reduce potential lead and copper leachability.

Mixing Area 1 and 2 are shown on **Figure 2** below.



Figure 2 TasWater Stockpiling and Soil Treatment Areas, 2025 (TasWater, 2025)

TasWater's proposed soil handling and stockpile management methodologies were developed to prevent any contact between Site soil and the soil excavated off-Site. The treatment and disposal of up to 17,500 m^3 of soil was undertaken under Environmental Approval No. 11933_2 and waste disposal letters D234398 and D24-212896, issued by EPA Tasmania, and the proposed interim use, including TasWater soil handling and stockpile management methodologies, was reviewed and approved by the Environmental Auditor prior to commencing with key controls against contamination of the Site including:

- Stockpiling of materials on hardstand
- Bunding and run-off capture.

All TasWater stockpiles of soil generated by the excavation of the pumping station were removed from the Site as of October 2025. Two small stockpiles of fine crushed rock (road base) which were imported to the Site for stockpile manager remain in Mixing Area 1, but have not come into contact with excavated soil and are not considered a potential source of contamination.

No spills or releases of soil or treatment reagents were recorded by TasWater during the treatment process. No residual soil, or damage to the underlaying hardstand in the stockpiling areas which could indicate large scale release or impact to the Site, were present in the final condition report photographs provided by TasWater. All stockpiles temporarily stored on the Site were categorised and disposed of as either Level 1 – Fill Material, or Level 2 – Low Level Contaminated Soil (IB105).

6.0 Area Specific Data Assessment

Summaries of the currently existing Site Suitability Statements are provided in **Section 4.0**. In addition, general changes, applicable to all areas, have been identified and are discussed in **Section 5.0** regarding:

- Changes to SEMP(s) issued at the time of Site Suitability Statements, including:
  - Issue of a Site-wide SEMP, superseding the initial area-specific SEMPs previously issued.
  - Extension of vapour intrusion mitigation requirements
  - Updated designs for in-ground planting
- Review and update of the Site Specific RC
- Collection of additional environmental data relating to ASS,, and other soil, groundwater and soil vapour
- Closure of the Macquarie Point Sewerage Treatment Plan and removal of the Main Hobart Pipeline sewer line.

Specific additional environmental data, and the area specific implications of the updated land uses and surface elevations proposed, are discussed by assessment area in **Sections 6.1** to **6.4** below.

6.1 The Goods Shed and Yard

6.1.1 Additional Environmental Data

6.1.1.1 Soil

Additional soil data for the Goods Shed and Yard collected since issue of the Site Suitability Statement consists of:

- 54 samples collected during *in situ* sampling to categorise soil to be excavated from this area (AECOM, 2025b), from 18 locations at *in situ* categorisation grid based sample bores K13 to K18, L13 to L18, and M13 to M18.
- One sample collected during installation of soil vapour bore SV36 in 2025 (AECOM, 2025d).

Locations of soil samples which have provided new data are shown on **Figure F8** and **Figure F10**. Results of soil sampling are screened against the Tier 1 criteria in **Table T1** to **Table T3**, and against the RC in **Table T4**.

Soil locations with exceedances of adopted criteria collected since issue of the Site Suitability Statements are shown screened against criteria in **Figure F11a-e**.

Due to the number and density of sample locations, visual display of exceedances of Tier 1criteria for the *in situ* characterisation samples (AECOM, 2025b) on a figure is not practicable, and review of these samples against Tier 1 criteria are discussed below. Exceedances of the RC in the *in situ* characterisation samples is shown on **Figure F11e**.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in soil samples collected after issue of the Site Suitability Statement:

- Low / Medium to High Density Residential – TRH >C16-C34; metals (lead); PAHs (benzo(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3)pyrene)
- Commercial/Industrial – lead, PAHs (benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3)pyrene)
- Recreation / Open Space - TRH >C16-C34; lead; PAHs (benzo(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3)pyrene)

- Modified / Highly Modified Ecosystems – TRH >C16-C34, metals (copper, lead[2], nickel, zinc), PAHs (benzo(a)pyrene)
- Vapour Intrusion (Residential) – TRH >C10-C16 (excluding naphthalene).

Residential use is not proposed in this area, or in any structures which have footprints which included this area, and thus the detected exceedance of the vapour intrusion criteria for residential use is not considered to represent an unacceptable risk to human health for the proposed development. The required vapour mitigation measures provided in the SEMP and discussed in **Section 5.2.2** provide additional mitigation against vapour intrusion.

The other PEVs which are precluded, based on exceedances of criteria detected in soil in the new data considered in this assessment, are consistent with the level of residual contamination described in the existing Site Suitability Statement. The Site is considered suitable for the new development if the mitigation and management measures detailed in the SEMP are implemented to prevent a complete exposure pathway from being established between future Site users and residual soil contamination.

Exceedances of the RC were detected for Intrusive Maintenance Workers for lead in *in situ* categorisation grids K14, K18, L13, M13 and M14, shown on **Figure F11e**.

Appendix B7 of the ASC NEPM notes that, in a situation where contamination concentrations in some samples exceed the nominated criteria, a statistical appraisal may be undertaken to assess the significance of the exceedance(s).

The Site may be considered suitable for the intended use if:

- The 95% upper confidence limit (UCL) of the arithmetic mean concentration of the contaminant is less than the criteria.
- No individual sample concentration exceeds 250% of the criteria value.
- The standard deviation of the sample concentrations does not exceed 50% of the criteria value.
- A sufficient number of samples has been collected using a spatially representative sample design.

While Appendix B7 of the ASC NEPM specifically references HILs, this statistical approach is considered suitable for application to other adopted criteria, as it assessed the likely overall exposure to contaminants a Site user may experience.

Statistical characteristics of lead concentrations from new samples in the Goods Shed and Yard, including 95%UCL and standard deviation, has been calculated using *ProUCL 5.1.001 – Statistical Software for Environmental Data Sets with and without Nondetect Observations* (ProUCL) (US EPA, 2016). Inputs and outputs generated and used in ProUCL are attached in **Appendix F**, and are assessed in **Table 19** below

It is noted that:

- For sample points where multiple samples were collected and submitted for analysis (i.e., laboratory duplicate samples), the higher reported CoPC concentration was used when calculating statistical values.
- Statistical assessment of lead in soil was conducted for both all new samples collected, and for all new samples excluding one sample, M13_1.0. The rational for exclusion of this sample is discussed below **Table 19**.

[2] It is noted the only lead exceedance of Tier 1 criteria for ecosystems occurred in sample M13_1.0, which is considered an outlier as discussed below **Table 19.**

Table 19 Statistical Appraisal of New Soil Data (Lead) - The Goods Shed and Yard

Requirement	Criteria (Lead)	Assessed Data Points	
		All Data Points	M13_1.0 Excluded
The 95% UCL of the arithmetic mean concentration is less than the criteria	95%UCL < 620 mg/kg	537.7 mg/kg - PASS	251.4 mg/kg – PASS
No individual sample concentration exceeds 250% of the criteria value	Maximum concentration < 1,550 mg/kg	9,220 mg/kg - FAIL	1,100 mg/kg – PASS
The standard deviation of the sample concentrations does not exceed 50% of the criteria value	Standard Deviation < 310 mg/kg	1,195 mg/kg - FAIL	229.8 mg/kg - PASS
A sufficient number of samples has been collected using a spatially representative design	As discussed in **Section 5.5.3**, the number of boreholes advanced in a grid pattern (within the practicable limitations of existing Site structures) for this assessment exceeded the density recommended by AS4482.1, and soil samples were collected every 0.5 m of depth. This sampling density and volume are considered to be sufficient and spatially representative of the volume of soil considered.		

From this assessment, the lead concentration in soil in one sample, collected at 1 m bgl in bore M13, was significantly elevated. If data from this sample is excluded in statistical assessment, the standard deviation and individual maximum concentration criteria from the ASC NEPM are passed.

However, it is considered that this detection represents an outlier and is not characteristic of the bulk soil in the area, as the detected concentration (9,220 mg/kg), is approximately 838% of the next highest detected lead in soil concentration in this data set (1,100 mg/kg at 1.5 m bgl in bore K14), and 560% of the highest lead concentration detected in soil (1,640 mg/kg at 1.9 m bgl in bore BH39) in the data which informed the Site Suitability Statement for this area (Coffey, 2019).

If excluded from the statistical assessment, the remaining lead detections in soil in this area pass the statistical appraisal requirements of the ASC NEPM and are not considered to represent a risk to future intrusive maintenance.

Remediation via excavation of this area is not currently practicable due to the active Site use as a carpark and transport corridor for Site tenants. It is noted that the soil at M13, and all the locations where additional new soil data considered in assessment of this area was collected, is planned for excavation and removal as part of the proposed Site development. The detection at M13_1.0 is delineated vertically (by M13_1.5) and laterally (by M11, M12, L13, and N13) and is not considered likely to indicate an extensive area of impact.

In order to prevent unacceptable risk during removal, or in the event that excavation does not occur, the SEMP should be updated with the following information and requirements:

- The elevated lead detection at M13 should be noted as a potential area of elevated contamination, and addition PPE/management requirements put in place for intrusive works in this area (as part of future CEMPs or ongoing maintenance) to minimise potential exposure to lead in soil.
- Any subsurface services in this area should be installed in sealed conduits or clean soil corridors to minimise any ongoing contact with existing Site soil by future maintenance workers.

Based on the soil data collected since the Site Suitability Statement, no new unacceptable risks to future Site users are considered to be present if these mitigations are incorporated into the SEMP.

6.1.1.2 Groundwater

The groundwater wells, in or adjacent to the Goods Shed and Yard, which have had groundwater samples collected and analysed since the Site Suitability Statement for this area was issued are listed on **Table 20** below.

Table 20 Groundwater Wells in and adjacent to the Goods Shed and Yard

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
Within the Goods Shed and Yard					
MW124A	Shallow (<10 m bgl) aquifer well, south central area	✓	×	✓	×
MW124B	Deep (>10 m bgl) aquifer well, south central area	✓	×	✓	×
MW127A	Shallow (<10 m bgl) aquifer well, central area	✓	✓	✓	✓
MW127B	Deep (<10 m bgl) aquifer well, central area	✓	✓	✓	×
MW55	Shallow (<10 m bgl) aquifer well, northern area	✓	×	✓	✓
MW149	Shallow (<10 m bgl) aquifer well, southern area	✓	×	×	×
Adjacent Areas					
MW146	Shallow (<10 m bgl) aquifer well, north and upgradient in the Promenade and Underground Carpark	×	×	✓	×
MW175	Shallow (<10 m bgl) aquifer well, north-west and upgradient in the Promenade and Underground Carpark	×	×	✓	×
MW176	Shallow (<10 m bgl) aquifer well, north-west and upgradient in the Promenade and Underground Carpark	×	×	✓	×
MW186	Shallow (<10 m bgl) aquifer well, north-west and upgradient in the Promenade and Underground Carpark. Southern delineation of LNAPL Plume A2	×	×	×	✓
MW125A	Shallow (<10 m bgl) aquifer well, east and cross/upgradient in the Precinct South	×	×	✓	✓
MW125B	Deep (>10 m bgl) aquifer well, east and cross/upgradient in the Precinct South	×	×	✓	×
MW162	Shallow (<10 m bgl) aquifer well, north and upgradient in the Precinct South	×	×	✓	×
RN4	Shallow (<10 m bgl) aquifer well, north and upgradient in the Precinct South	×	×	✓	✓
MW122	Shallow (<10 m bgl) aquifer well, west and cross-gradient in the Gateway	✓	✓	×	✓
MW148	Shallow (<10 m bgl) aquifer well, west and cross-gradient in the Gateway	✓	×	×	✓
MW133_GHD	Shallow (<10 m bgl) aquifer well, south-west and down-gradient off-Site	✓	✓	×	✓
MW150	Shallow (<10 m bgl) aquifer well, south-east and down-gradient off-Site	×	✓	✓	✓
MW129	Deep (<10 m bgl) aquifer well, south-west and cross-gradient in the Gateway	✓	×	×	×
RS6	Shallow (<10 m bgl) aquifer well, south-west and cross-gradient in the Gateway	✓	✓	×	✓

Notes: ✓: Analytical data available; ×: Analytical data not available

Sampling has been undertaken with good spatial and temporal distribution around the Goods Shed and Yard since issue of the existing Site Suitability Statement, and is considered sufficient to identify if any changes in groundwater contamination which could affect risk status have occurred.

Groundwater well locations are shown on **Figure F10**. Results of groundwater sampling are screened against the Tier 1 criteria in **Table T6** to **Table T8**, and against the RC on **Table T9**, with exceedances of adopted criteria are shown on **Figure F13a-c**. Groundwater samples have typically been assessed for key CoPC with exceedances detected in previous GMEs, including TRH/TPH, PAHs, and metals.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in groundwater samples collected after issue of the Site Suitability Statement:

- Drinking Water (Human Health) – Metals (arsenic, manganese); PAHs (naphthalene, benz(a)anthracene, benzo(a)pyrene); Cyanide (total)
- Drinking Water (Aesthetics) – Major Ions (chloride, sodium); Total Dissolved Solids (TDS)
- Recreation (Primary/Secondary Contact) – Metals (manganese); PAHs (naphthalene, benz(a)anthracene, benzo(a)pyrene)
- Eco-system protection – TRH (>C10-C40 (sum)); metals (aluminium, copper, manganese); PAHs (anthracene, phenanthrene, fluoranthene, benzo(a)pyrene); Nutrients (ammonia (as N))
- Vapour Intrusion (Structures) – Methane.

These CoPC and concentrations are consistent with the data considered in the existing Site Suitability Statement, with the exception of the methane in groundwater, It is noted that:

- Groundwater is not considered likely to be extracted for drinking purposes, based on the available urban reticulated water supply at the Site and surrounding areas and the high TDS concentrations, and extraction of groundwater for drinking purposes is restricted by the SEMP.
- Exceedances of recreation criteria are delineated and below criteria in MW153, located down-gradient of the Site prior to the inferred point of discharge (Sullivan's Cove to the south), and are not considered likely to be above criteria at the point of discharge or where contact with receptors may potentially occur.
- Assessment of vapour intrusion based on methane concentrations in groundwater was not assessed in the existing Site Suitability Statement, where vapour intrusion risks in existing structures were assessed via soil vapour and indoor air sampling. Methane intrusion was not considered to represent an unacceptable risk to users of the existing structure in area (the Goods Shed), based on the previous sampling.

  However, the concentrations of methane detected in new groundwater data represent a potential risk of methane infiltration for future development which will require mitigation as described in **Section 5.2.2** and documented in the SEMP.
- As discussed in **Section 5.5.5,** the *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h), including the 2025 addendum (AECOM, 2025i) identified that, based on a weight-of-evidence approach, groundwater discharging from the Site was unlikely to present a potential unacceptable risk to off-Site ecological receptors (if present).

LNAPL Plumes A1 and A2 are inferred upgradient of the Goods Shed and Yard. However, LNAPL was not detected in intervening wells MW175, MW176, or MW146 in the 2025 GME (AECOM, 2025d).

Based on assessment of LNAPL Plumes in 2025 (refer to **Section 5.5.4.1**), detectable LNAPL was not present in or adjacent to this assessment area, although sheen was reported in well MW185 (LNAPL Plume A2) and MW187 (former LNAPL Plume A3). No groundwater concentrations indicative of free-phase LNAPL were detected, and LNAPL migration or impact in this assessment area is not considered likely to occur, and the presence of LNAPL is not considered to affect the suitability of this area for the proposed development, provided the controls in the SEMP (AECOM, 2025h) are implemented.

LNAPL migration or impact in this assessment area is not considered likely to occur, and the presence of LNAPL is not considered to affect the suitability of this area for the proposed development.

No exceedances of groundwater RC have been detected in or adjacent to the Goods Shed and Yard in sampling events since issue of the Site Suitability Statement, which is consistent with the data considered in the Site Suitability Statement for this area, and no requirement for groundwater remediation is considered to be present.

Additional management of risks of potential future methane infiltration are considered to be required for the Goods Shed and Yard to be suitable for future development, with management measures documented in the SEMP and described in **Section 5.2.2**.

Based on the distribution (temporal and spatial) of groundwater sampling, the consistency of results with previous monitoring, and no exceedances of RC detected, there have been no other changes in groundwater conditions which would indicate an unacceptable risk to future Site users since issue of the Site Suitability Statement for this area, if the management controls within the SEMP are implemented.

6.1.1.3 Soil Vapour

One soil vapour sampling event, conducted in 2025 (AECOM, 2025d), has occurred involving locations in the Promenade and Underground Carpark since the issue of the Site Suitability Statement. Soil vapour sampling locations and results are shown on **Figure F14**, and results of sampling are presented in **Table T10**.

No exceedances of the adopted soil vapour criteria have been detected in the one soil vapour bore within the Goods Shed and Yard (SV36) which has been sampled after the Site Suitability Statement was issued.

However, it is considered that there are potential risks of soil vapour intrusion under the proposed development of the Site as:

- Methane concentrations in groundwater, which exceed the adopted criteria for potential risk near foundations (**Section 6.1.1.2**).

  Methane in groundwater was not considered in the existing Site Suitability Statement, as potential risks of methane (and other vapour) intrusion into existing buildings was assessed on the basis of direct sampling of sub-slab vapour and indoor air and did not identify any risks. However, new buildings and structures will have different interaction with soil vapour and may have different migration pathways and potential concentrations.

- Soil vapour from other parts of the Site has the potential to laterally migrate along the base of proposed structures (i.e., the Multipurpose Stadium) which extend beyond the boundaries of this area, and may have a risk of infiltration in this area (**Section 6.5**). Concentrations of methane, BTEXN, and TPH/TRH have been detected in soil vapour in areas of the Site which share a building footprint with this area.

On this basis, it is considered that there are potential risks of vapour intrusion into new structures in this area by methane, and by BTEXN and TPH/TRH vapours if development continues as proposed.

Mitigation and management measures, as discussed in **Section 5.2.2**, will be required for future development.

6.1.2 Change in Land Use and Elevation

The current Site Suitability Statement for the Goods Shed and Yard allows for *retail / commercial / recreational / public open space use and other less sensitive uses*, subject to specific conditions which are detailed in Site Suitability Statement. The updated uses of this assessment area, consisting of the Multipurpose Stadium and Associated Concourse, are considered commercial/industrial uses, and the existing Site Suitability Statement is considered applicable for the current surface elevation.

The proposed final surface elevation of the majority of the area is between 2.9 to 3.0 mAHD, which would require a reduction of 0.5 to 1.5 m below the current grade, as shown on **Figure F5**. Deeper excavations may be required for installation of:

- Footings or foundations, which are likely to extent to bedrock.
- A layer of imported engineered fill and concrete slab, at least 1 m thick (**Figure F6** and **Appendix C**), noting that this additional excavation and rebuild of surface level is not yet confirmed as part of Multipurpose Stadium design.

The existing Site Suitability Statement and supporting assessments did not allow for any change in the existing surface elevation, and further included an assumption that intrusive maintenance works would be unlikely to take place at more than 2 m below current surface level. Additional risks may exist during construction or ongoing Site use from contact with deeper soil, or from increased risks of vapour intrusion as less vertical distance between potential vapour sources is present.

In addition, a proposed structure (the multipurpose stadium) extends beyond the assessment area boundaries, and must be considered in assessment of the suitability of development.

It is noted that groundwater beneath the Goods Shed and Yard has been historically detected at between 0 and 1 mAHD (see **Figure F12a-d**), and no contact with groundwater is expected or should occur during long term Site use. Any potential contact with groundwater should be managed in accordance with the SEMP, and by a CEMP during construction.

In order to manage and mitigate risks to future Site users from changes to elevation, the next update to the SEMP will include the following requirements:

- Any engineered fill or other materials used to increase the surface level to 3 mAHD must either:
  - Be classified as Level 1 – Fill, in accordance with the guidelines provided by IB105; or
  - Be approved for use by an Environmental Auditor, who may identify other conditions or controls based on the nature of the material used. For example, crushed dolerite sourced from other areas of the Site may be suitable for this purpose, but will require assessment and Environmental Auditor approval, as well as any other required approvals from planning authorities or EPA, prior to any such use.
- Any subsurface services or utilities should be preferably installed within the engineered layer of clean fill. If services must be installed in existing Site soil, they must be installed in either clean soil corridors, or protected conduits, to minimise any contact with existing Site soil by future maintenance workers.
- Vapour protection for CS3, as discussed in **Section 5.2.2**, with independently verified design and installation is to be included in any structures to be established in this area. Any selected protection measure must be suitable to prevent vapour intrusion from TPH, BTEXN, and methane.
- While not currently proposed as part of the development of this area, the SEMP should be updated to include the following planning control for any future structures where groundwater may be at or within 1 m of the surface:
  - Where future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, design and construction must include measures to prevent:
    - Potential vapour intrusion into buildings and structures as discussed in **Section 5.2.2**.
    - Groundwater intrusion into buildings and structures such as drainage or tanking. Any drained groundwater must be considered potentially contaminated waste and be removed by a licenced waste transporter or discharged under a trade waste agreement.
    - Any dewatering must also consider and include measures to prevent potential exposure and oxidation of PASS in any previously saturated soil which is drained.
- Prior to development of this area, Site Suitability Statements must be issued for portions of the land beyond the assessment area boundaries which proposed building structures extend to. The structures which are currently proposed across multiple assessment areas are listed in **Table 27** in **Section 5.3**. The updates and management measures relating to ASS described in **Section 5.5.1** must also be implemented.

If the above mitigations and management measures are implemented, no unacceptable risks to future users are considered to be introduced by the proposed change in land use and elevation.

6.2 The Escarpment (Audit Area 4 West)

6.2.1 Additional Environmental Data

6.2.1.1 Soil

Additional soil data for the Escarpment collected since issue of the Site Suitability Statement for this area consists of:

- 25 primary samples collected during *in situ* sampling to categorise soil to be excavated from this area (AECOM, 2025b), from 9 locations at *in situ* categorisation grid based sample bores E7, E8, F7, F8, G6, G7, H6, H7, and I6.
- Four primary samples collected during installation of groundwater wells MW120A and MW194 in 2025 (AECOM, 2025d).

Locations of soil samples which have provided new data are shown on **Figure F8** and **Figure F10**. Results of soil sampling are screened against the Tier 1 criteria in **Table T1** to **Table T3**, and against the RC on **Table T4**.

Soil locations with exceedances of adopted criteria collected since issue of the Site Suitability Statements are shown screened against criteria in **Figure F11a-e**.

Due to the number and density of sample locations, visual display of exceedances of Tier 1criteria for the *in situ* characterisation samples (AECOM, 2025b) on a figure is not practicable, and review of these samples against Tier 1 criteria are discussed below. Exceedances of the RC in the *in situ* characterisation samples is shown on **Figure F11e**.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in soil samples collected after issue of the Site Suitability Statement:

- Low / Medium to High Density Residential – metals (lead); PAHs (benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene)
- Commercial/Industrial – PAHs (benzo(a)pyrene)
- Recreation / Open Space - PAHs (benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene)
- Modified / Highly Modified Ecosystems – TRH >C16-C34, metals (copper, lead, nickel, zinc), PAHs (benzo(a)pyrene).

The other PEVs which are precluded, based on exceedances of criteria detected in soil in the new data considered in this assessment, are consistent with the level of residual contamination described in the existing Site Suitability Statement. The Site is considered suitable for the new development if the mitigation and management measures detailed in the SEMP are implemented to prevent a complete exposure pathway from being established between future Site users and residual soil contamination.

No exceedances of soil RC have been detected in or adjacent to the Escarpment in sampling events since issue of the Site Suitability Statement, which is consistent with the data considered in that assessment. In addition, exceedance of the RC in soil to the south of the Precinct North (in the Precinct South) were excavated and removed in 2023 (AECOM, 2024f), noting that while the report on this remediation has not yet been finalised, all impacted soil within the Precinct North was considered removed in the Site Suitability Statement.

No change in precluded PEVs, and no requirement for further soil remediation, is considered to be identified based on the additional data collected in the Escarpment since issue of the Site Suitability Statement.

6.2.1.2 Groundwater

The groundwater wells, in or adjacent to the Escarpment, which have had groundwater samples collected and analysed since the Site Suitability Statement for this area was issued are listed in **Table 21** below.

Table 21 Groundwater Wells in and adjacent to the Escarpment

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
Within the Escarpment					
BG1	Shallow (<10 m bgl) aquifer well, central area. Previously treated as background well – potentially screened across fill and dolerite. MW194 installed adjacent screened in dolerite	✓	×	×	✓
M3	Shallow (<10 m bgl) aquifer well, central area. Considered lost/destroyed under new roadway	✓	×	×	×
MW103	Shallow (<10 m bgl) aquifer well, south central area. Lost/destroyed.	✓	×	×	×
MW120	Shallow (<10 m bgl) aquifer well, north-west corner. Previously treated as background well – considered lost/destroyed by installation of an access stairway (the StairLink) in the area	✓	×	×	×
MW120A	Shallow (<10 m bgl) aquifer well, north-west corner. Replacement for MW120	×	×	×	✓
NR3	Shallow (<10 m bgl) aquifer well, eastern boundary. Appears to be filled with gravel / not considered suitable for sampling.	✓	×	×	×
MW194	Shallow (<10 m bgl) aquifer well, central area. Adjacent to BG1 and screened in dolerite aquifer only.	×	×	×	✓
Adjacent Areas					
MW145	Shallow (<10 m bgl) aquifer well, cross-gradient over eastern boundary in Audit Area 4 East. Casing filled with concrete – considered destroyed	✓	×	×	×
NR1	Shallow (<10 m bgl) aquifer well, cross-gradient over eastern boundary in Audit Area 4 East.	✓	×	×	×
MW121	Shallow (<10 m bgl) aquifer well, cross gradient and south-west in the Promenade and Underground Carpark.	×	×	×	✓
MW131	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Lost/destroyed	✓	×	×	×
MW132	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Lost/destroyed	✓	×	×	×
MW133	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Lost/destroyed	✓	×	×	×
MW134	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Lost/destroyed	✓	×	×	×
R1	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Lost/destroyed	✓	×	×	×

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
BH1_PS	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Lost/destroyed	✓	×	×	×
MW177	Shallow (<10 m bgl) aquifer well, south-east and down-gradient in the Promenade and Underground Carpark.	×	×	×	✓
MW182	Shallow (<10 m bgl) aquifer well, south-east and down-gradient in the Promenade and Underground Carpark. Delineates LNAPL Plume A1	×	×	×	✓
MW183	Shallow (<10 m bgl) aquifer well, south-east and down-gradient in the Promenade and Underground Carpark. Installed in LNAPL Plume A1	×	×	×	✓
MW184	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Installed between LNAPL Plumes A1 and A2.	×	×	×	✓
MW190	Shallow (<10 m bgl) aquifer well, south-west and down-gradient in the Precinct North.	×	×	×	✓
MW191	Shallow (<10 m bgl) aquifer well, south and down-gradient in the Promenade and Underground Carpark. Delineates LNAPL Plume A2	×	×	×	✓

Notes: ✓: Analytical data available; ×: Analytical data not available

The following is noted on the spatial and temporal distribution of monitoring of groundwater at and around the Escarpment since the Site Suitability Statement was issued:

- No off-Site background wells are present. However, BG1, MW120A, and MW194 are upgradient of historic land contaminating activities and are considered to represent background conditions.
- A number of wells downgradient have been lost/destroyed by Site activities undertaken since issue of the Site Suitability Statement. However, replacement wells (as discussed in AECOM, 2024d) have been installed and sampled to fulfil the purposes of these wells.
- Only one GME, which included sampling of groundwater in or adjacent to the Escarpment, has been conducted since issue of the Site Suitability Statement. However, no potentially contaminating activities are considered to have occurred in this area, and no requirement for future or ongoing monitoring was identified as part of the Site Suitability Statement. The GME conducted in 2025 was undertaken to confirm past results.

Groundwater well locations are shown on **Figure F10**. Results of groundwater sampling are screened against the Tier 1 criteria in **Table T6** to **Table T8**, and against the RC in **Table T9**, with exceedances of adopted criteria are shown on **Figure F13a-c**. Groundwater samples have typically been assessed for key CoPC with exceedances detected in previous GMEs, including TRH/TPH, PAHs, and metals.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in groundwater samples collected after issue of the Site Suitability Statement:

- Drinking Water (Human Health) – benzene, toluene, naphthalene, metals (manganese); cyanide (total)
- Drinking Water (Aesthetics) – metals (manganese); Major Ions (chloride, sodium, sulfate (as SO_4)); TDS

- Recreation (Primary/Secondary Contact) – benzene, naphthalene
- Eco-system protection – TRH (>C10-C40 (sum)); TPH (C10-C36 (sum)); metals (copper, manganese, zinc); Phenolic compounds (2,4-dimethylphenol)
- Vapour Intrusion (Residential) – TRH (>C10-C16).

These CoPC and concentrations are consistent with the data considered in the existing Site Suitability Statement. It is noted that:

- Groundwater is not considered likely to be extracted for drinking purposes, based on the available urban reticulated water supply at the Site and surrounding areas, and the high TDS concentrations. Extraction of groundwater for drinking purposes is restricted by the SEMP.
- Exceedances of recreation criteria are delineated and below criteria in MW153, located down-gradient of the Site prior to the inferred point of discharge (Sullivan's Cove to the south), and are not considered likely to be above criteria at the point of discharge or where contact with receptors may potentially occur.
- As discussed in **Section 5.5.5,** the *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h), including the 2025 addendum (AECOM, 2025i) identified that, based on a weight-of-evidence approach, groundwater discharging from the Site was unlikely to present a potential unacceptable risk to off-Site ecological receptors (if present).
- Residential use is not proposed for this area and the exceedances of vapour intrusion criteria is not considered to represent an unacceptable risk to the proposed development.

LNAPL Plumes A1 and A2 are inferred down-gradient of the Escarpment, and while groundwater contours from February 2025 (**Figure F12c**) indicate there is potential for northerly flow from LNAPL plumes areas, it was noted at the time these contours were derived that this was likely to be an artifact as no wells along the northern boundary of the Site were accessible for gauging at that time (AECOM, 2025f). The updated contours from gauging in June 2025 (**Figure F12d**, AECOM, 2025d) do not show a northerly component of groundwater flow.

Based on assessment of LNAPL Plumes in 2025 (see **Section 5.5.4.1**), detectable LNAPL was not present in or adjacent to this assessment area, although sheen was reported in MW185 (LNAPL Plume A2) and MW187 (Former LNAPL Plume A3). No groundwater concentrations indicative of free-phase LNAPL was detected, and LNAPL migration or impact in this assessment area is not considered likely to occur, and the presence of LNAPL is not considered to affect the suitability of this area for the proposed development, provided the controls in the SEMP (AECOM, 2025h) are implemented.

No exceedances of groundwater RC have been detected in or adjacent to the Escarpment in sampling events since issue of the Site Suitability Statement, which is consistent with the data considered in that assessment, and no requirement for groundwater remediation is considered to be present.

Based on the distribution (temporal and spatial) of groundwater sampling, the consistency of results with previous monitoring, and no exceedances of RC detected, there have been no changes in groundwater conditions which would indicate an unacceptable risk to future Site users since issue of the Site Suitability Statement for this area, if the management controls within the SEMP are implemented.

6.2.1.3 Soil Vapour

No soil vapour sampling events has occurred involving locations in the Escarpment since the issue of the Site Suitability Statement. Soil vapour intrusion has not been identified as a risk within this area based on soil or groundwater samples collected and analysed and the proposed future uses of the area, and no vapour protection system is considered required for any structures contained entirely within this assessment area, such as if the existing Goods Shed is moved to the Escarpment, as proposed.

However, it is considered that there are potential risks of soil vapour intrusion under the proposed development of the Site as:

- Soil vapour from other parts of the Site has the potential to laterally migrate along the base of proposed structures (i.e., the Multipurpose Stadium) which extend beyond the boundaries of this area, and may have a risk of infiltration in this area (**Section 6.5**). Concentrations of methane,

BTEXN, and TPH/TRH have been detected in soil vapour in areas of the Site which share a building footprint with this area.

On this basis, it is considered that there are potential risks of vapour intrusion into new structures in this area by methane, BTEXN and TPH/TRH vapours if development continues as proposed.

Mitigation and management measures, as discussed in **Section 5.2.2**, will be required for future development.

6.2.2 Change in Land Use and Elevation

The current Site Suitability Statement for the Escarpment states that *the site is suitable for the site uses as follows: residential, including medium to high density, retail, commercial, recreational/public open space use, transport (roads etc) and other less sensitive uses,* subject to specific conditions which are detailed in Site Suitability Statement.

The updated uses of this assessment area, consisting of the Multipurpose Stadium and Associated Concourse and relocation of the Goods Shed, which are considered commercial uses, and open spaces are included in the existing Site Suitability Statement, which is considered applicable for the current surface elevation.

In addition, proposed structures (the Multipurpose Stadium and underground carpark) extend beyond the assessment area boundaries, and must be considered in assessment of the suitability of development.

As part of development, it is proposed that the surface of this area be reduced as follows (see **Section 5.3.2** and **Figure F5**):

- 3 mAHD within the footprint of the Multipurpose Stadium, which would require reduction of the current Site surface elevation by between approximately 2 to 3.5 m.
- 4.8 mAHD in the practice wickets area, which would require reduction of the current Site surface elevation by between approximately 2.5 to 3 m.
- 1.7 mAHD in a proposed basement carpark area, which would require reduction of the current Site surface elevation by between approximately 3 to 4 m.

The proposed final surface elevation is shown on **Figure F5**. Deeper excavations may be required for installation of:

- Footings or foundations, which are likely to extend to bedrock. While dolerite is relatively shallow (<2 m bgl) in the northern portion of the Escarpment, deeper areas exist to in the southern and eastern portions of the area.
- A layer of imported engineered fill and concrete slab, at least 1 m thick (**Figure F6** and **Appendix C**), noting that this additional excavation and rebuild of surface level is not yet confirmed as part of Multipurpose Stadium design.

The existing Site Suitability Statement and supporting assessments did not allow for any change in the existing surface elevation, and further included an assumption that intrusive maintenance works would be unlikely to take place at more than 2 m below current surface level. Additional risks may exist during construction or ongoing Site use from contact with deeper soil, or from increased risks of vapour intrusion as less vertical distance between potential vapour sources is present.

It is also noted that groundwater beneath the Escarpment has been historically detected at between 2 and 5 mAHD. The potential exists for groundwater to come into contact with deeper excavations and potentially the surface elevation based on the current development, and to infiltrate the proposed underground carpark. Assessment of risks and mitigations associated with the intersection of groundwater and proposed final surface elevations is provided in **Section 6.5.2**. However, based on this assessment, no unacceptable risks to future users have been identified based on the 70% complete stadium design.

In order to manage and mitigate risks to future Site users from changes to elevation, the next update to the SEMP will include the following requirements:

- Any engineered fill or other materials used to increase the surface level must either:

  - Be classified as Level 1 – Fill, in accordance with the guidelines provided by IB105; or
  - Be approved for use by an Environmental Auditor, who may identify other conditions or controls based on the nature of the material used. For example, crushed dolerite sourced from other areas of the Site may be suitable for this purpose, but will require assessment and Environmental Auditor approval, as well as any other required approvals from planning authorities or EPA, prior to any such use.
- Any subsurface services or utilities should be preferably installed within the engineered layer of clean fill. If services must be installed in existing Site soil, they must be installed in either clean soil corridors, or protected conduits, to minimise any contact with existing Site soil by future maintenance workers.
- Vapour protection for CS3, as discussed in **Section 5.2.2**, with independently verified design and installation is to be included in any structures to be established in this area. Any selected protection measure must be suitable to prevent vapour intrusion from TPH, BTEXN, and methane.
- Groundwater drainage in the north, west and north-west of the stadium must include:
  - Capture and disposal as potentially contaminated waste of any drained groundwater.
  - No intersection between drainage layers and the locations of LNAPL plumes.
  - A vapour mitigation layer is present above the drainage layer, which the same performance requirements as described in **Section 5.2.2**
  - Assessment of any soil to be dewatered and management of potential PASS as described in **Section 5.5.1**.
- The SEMP should be updated to include the following planning control for any future structures where groundwater may be at or within 1 m of the surface:
  - Where future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, design and construction must include measures to prevent:
    - Potential vapour intrusion into buildings and structures as discussed in **Section 5.2.2**.
    - Groundwater intrusion into buildings and structures such as drainage or tanking. Any drained groundwater must be considered potentially contaminated waste and be removed by a licenced waste transporter or discharged under a trade waste agreement.
    - Any dewatering must also consider and include measures to prevent potential exposure and oxidation of PASS in any previously saturated soil which is drained.
- Prior to development of this area, Site Suitability Statements must be issued for portions of the land beyond the assessment area boundaries which proposed building structures extent to. The structures which are currently proposed across multiple assessment areas are listed in **Table 27** in **Section 5.3**.
- The updates and management measures relating to ASS described in **Section 5.5.1** must also be implemented.

If the above mitigations and management measures are implemented and documented in the SEMP, no unacceptable risks to future users are considered to be introduced by the proposed change in land use and elevation.

6.3 The Promenade and Underground Carpark (Lot E and UGC)

6.3.1 Additional Environmental Data

6.3.1.1 Soil

Additional soil data for the Escarpment collected since issue of the Site Suitability Statement for this area consists of:

- 247 primary samples collected during *in situ* sampling to categorise soil to be excavated from this area (AECOM, 2025b), from 41 locations at *in situ* categorisation grid based sample bores C12, D11 to D13, E9 to E13, F8 to F13, G8 to G13, I7 to I13, and J6 to J13.
- 14 primary samples collected during installation of groundwater wells MW182 to MW186, and MW191, and soil vapour bores SV31 and SV32 in 2025 (AECOM, 2025d).

Locations of soil samples which have provided new data are shown on **Figure F8** and **Figure F10**. Results of soil sampling are screened against the Tier 1 criteria on **Table T1** to **Table T3**, and against the RC on **Table T4**.

Soil locations with exceedances of adopted criteria collected since issue of the Site Suitability Statements are shown screened against criteria in **Figure F11a-e**.

Due to the number and density of sample locations, visual display of exceedances of Tier 1 criteria for the *in situ* characterisation samples (AECOM, 2025b) on a figure is not practicable, and review of these samples against Tier 1 criteria are discussed below. Exceedances of the RC in the *in situ* characterisation samples are shown on **Figure F11e**.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in soil samples collected after issue of the Site Suitability Statement:

- Low / Medium to High Density Residential – TRH (>C10-C16(minus naphthalene), >C16-C34, >C34-C40), metals (arsenic, cadmium, lead, zinc); PAHs (benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, Sum of PAHs)
- Commercial/Industrial – metals (lead); PAHs (benz(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene)
- Recreation / Open Space - TRH ((>C10-C16(minus naphthalene, >C16-C34, >C34-C40), metals (lead), PAHs (benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, Sum of PAHs)
- Modified / Highly Modified Ecosystems – TRH (>C16-C34), metals (copper, lead, nickel, zinc), PAHs (benzo(a)pyrene)
- Vapour Intrusion (Residential) – TRH (>C10-C16 (excluding naphthalene)); PAHs (naphthalene)
- Vapour Intrusion (Commercial/Industrial) – TRH (>C10-C16 (excluding naphthalene)); PAHs (Naphthalene).

Residential use is not proposed in this area, or in any structures which have footprints which included this area, and thus the detected exceedance of the vapour intrusion criteria for residential use is not considered to represent an unacceptable risk to human health for the proposed development. The required vapour mitigation measures provided in the SEMP and discussed in **Section 5.2.2** provide additional mitigation against vapour intrusion.

The other PEVs which are precluded, based on exceedances of criteria detected in soil in the new data considered in this assessment, are consistent with the level of residual contamination described in the existing Site Suitability Statement. The Site is considered suitable for the new development if the mitigation and management measures detailed in the SEMP are implemented to prevent a complete exposure pathway from being established between future Site users and residual soil contamination.

Exceedances of the RC in this area are presented in **Table 22** below.

Table 22 Soil RC Exceedances - The Promenade and Underground Carpark

Land Use	CoPC	RC	Exceedance Locations
Potential Future Commercial (unknown construction or multi-storey building)	TRH >C10-C16 (minus naphthalene)	140 mg/kg	• E10, F10, G10, G11, H09, H10, H11, I10, I11, J10 • MW183, MW184, MW185, MW186, SV32
	Naphthalene	12 mg/kg	• G10
Potential Future Commercial/Light Industrial Workers (working within a basement)	TRH >C10-C16 (minus naphthalene)	770 mg/kg	• E10, F10, G10, G11, H09, H10, H11, I11 • MW183, MW184, MW185
	Naphthalene	97 mg/kg	• G10
Potential Future Maintenance Worker	Lead	620 mg/kg	• F11, G11, G13, H10, H12, H13, I13, J06, J08, J10, J12

These exceedances of the RC are not considered to represent unacceptable risks to the future development of the Site or a requirement for future remediation as:

- Exceedances of RC for TRH >C10-C16 and naphthalene in soil may represent a risk of potential vapour intrusion into future structures. However, soil and groundwater concentrations are indirect measures and, where available, actual soil vapour or air samples should be considered to determine the level of risk from soil vapour.

  On this basis, the following has been considered for assessment of risks of vapour intrusion from soil to future commercial/light industrial workers:

  - The samples with exceedances of the commercial/light industrial worker RC collected from groundwater monitoring wells are all from locations in the vicinity of soil vapour bores tested as part of the same event (2025d), as listed below in **Table 23**.

Table 23 The Promenade and Underground Carpark - Distance between Groundwater Wells and Soil Vapour Bores

Groundwater Well	Nearby Soil Vapour Bore(s)	Approximate Distance (m)
MW183	SV31	4.2
MW184	SV31	24
	SV32	30
MW185	SV32	2.5
MW186	SV32	30

  No soil vapour concentrations in either soil vapour bore in the proximity to these locations, or any other soil vapour bores installed currently (see **Section 6.3.1.3**) or historically (Coffey, 2021a), have reported soil vapour concentrations of TRH or naphthalene which would indicate a potential risk to future Commercial/Industrial use. The sources of hydrocarbons in soil in this location are LNAPL Plumes A1 and A2, which have been identified as diesel ultimately sourced from historic fuel storage for rail refuelling in this area, and while there is some distance between the exceedances in MW184 and MW186 and the soil vapour bores, it is considered probable that the fuel impacts in these locations would have similar properties and concentrations of vapour generation.

  - Soil vapour sampling was conducted in SV32, where an exceedance in soil was detected, and did not report potentially hazardous levels of soil vapour (see **Section 6.3.1.3**).
  - The samples with exceedances collected from *in situ* characterisation bores (E10, F10, G10, G11, H09, H10, H11, I10, I11, J10) are located in the same areas of historic railyard activities

(see **Figure F4**) and typically downgradient of the LNAPL plumes and historic refuelling activities, or of the former Roundhouse where maintenance and refuelling of rail engines was conducted in this area and ended in the 1980s, and the source of hydrocarbons is inferred to be primarily diesel fuel used for rail work. It is noted that:

- All soil with identified hydrocarbon exceedances from these bores is intended for excavation as part of development and will not remain on-Site.
- It is considered likely that, based on the source and age of impacts, the hydrocarbons present in soil are likely to be of low volatility and have had long periods to generate and release more hazardous volatile constituents. Similar to the samples from groundwater wells and soil vapour bores in this area discussed above, it is not considered likely that hazardous vapour concentrations will be generated by these impacts.

Based on the above, it is considered that, based on CoPC concentrations in soil vapour, that there is a low risk of vapour intrusion from soil impacts, although it cannot be completely discounted as some locations with soil concentrations indicative of vapour risk are not in the vicinity of soil vapour bores. To mitigate and manage potential risks, future structures in this area are considered to require a vapour protection system with an independently verified design and installation, as described in **Section 5.2.2**.

- All exceedances of the future maintenance worker RC for lead are within the volume of soil proposed for excavation as part of development (AECOM, 2025b), with locations shown on **Figure F11e**. The exceedances detected in samples F11_2.5, G11_1.5, H10_2.5, H12_2.5, H13_1.5, H13_2.0, J06_2.0, J06_2.5, J08_1.5, J10_1.0, J12_1.0 are delineated vertically by shallower and deeper samples (**Table T4**), and will be removed by excavation as part of development. However, the remaining samples (G13_2.5, G13_3.0, and I13_1.5), were collected from the bottom of boreholes, and may remain on Site following development.

  Direct remediation of the detected impacts is not practicable at this time due to tenant leases in the areas of detected impact.

  For development of the Site, the following should be undertaken to mitigate risks of potential exposure to lead in soil by future intrusive maintenance workers:

  - The elevated lead detections listed above must be noted in the SEMP as potential area(s) of elevated contamination, and addition PPE/management requirements put in place for intrusive works in this area (as part of future CEMPs or ongoing maintenance) to minimise potential exposure to lead in soil.
  - The soil with elevated lead concentrations should be remediated if accessible, and if bulk excavation for development does not occur.
  - Any subsurface services in this area should be installed in sealed conduits or clean soil corridors to minimise any ongoing contact with existing Site soil, including any lead-impacted soil which is not removed as part of Site development, by future maintenance workers.

No change in precluded PEVs, and no requirement for further soil remediation, is considered to be identified based on the additional soil data collected in the Promenade and Underground Carpark since issue of the Site Suitability Statement.

6.3.1.2 Groundwater

The groundwater wells, in or adjacent to the Promenade and Underground Carpark, which have had groundwater samples collected and analysed since the Site Suitability Statement for this area was issued are listed in **Table 24** below.

Table 24 Groundwater Wells in and adjacent to the Promenade and Underground Carpark

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
Within the Promenade and Underground Carpark					
BH1_PS	Unknown screen interval, northern area. Lost/destroyed	✓	×	×	×
MW10	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW121	Shallow (<10 m) aquifer well, western boundary, up-gradient / groundwater entering Site.	✓	×	×	✓
MW130	Shallow (<10 m) aquifer well, LNAPL Plume A1/A2. Lost/destroyed	✓	×	×	×
MW131	Shallow (<10 m) aquifer well, LNAPL Plume A1. Lost/destroyed	✓	×	×	×
MW132	Shallow (<10 m) aquifer well, LNAPL Plume A1. Lost/destroyed	✓	×	×	×
MW133	Shallow (<10 m) aquifer well, LNAPL Plume A1. Lost/destroyed	✓	×	×	×
MW134	Shallow (<10 m) aquifer well, LNAPL Plume A1. Lost/destroyed	✓	×	×	×
MW135	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW136	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW137	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW138	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW139	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW140	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW141	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW144	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW146	Shallow (<10 m) aquifer well, eastern area.	✓	×	✓	×
MW147	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW157	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW19	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW21	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW22	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
MW23	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW36	Shallow (<10 m) aquifer well, west/central area	✓	✓	×	✓
PW03	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
R1	Shallow (<10 m) aquifer well, LNAPL Plume A1. Lost/destroyed	✓	×	×	×
R2	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
R3	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
R4	Shallow (<10 m) aquifer well, LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW174	Shallow (<10 m) aquifer well, southern area Lost/destroyed	×	✓	×	×
MW175	Shallow (<10 m) aquifer well, south-east corner	×	×	✓	×
MW176	Shallow (<10 m) aquifer well, south-east corner	×	×	✓	×
MW182	Shallow (<10 m) aquifer well, north-east corner. Delineation of LNAPL Plume A1	×	×	×	✓
MW183	Shallow (<10 m) aquifer well, LNAPL Plume A1	×	×	×	✓
MW184	Shallow (<10 m) aquifer well, central area between LNAPL Plumes A1 and A2	×	×	×	✓
MW185	Shallow (<10 m) aquifer well, LNAPL Plume A2	×	×	×	✓
MW186	Shallow (<10 m) aquifer well, central area, delineates LNAPL Plume A2	×	×	×	✓
MW191	Shallow (<10 m) aquifer well, central area, delineates LNAPL Plumes A1 and A2	×	×	×	✓
Adjacent Areas					
M3	Shallow (<10 m bgl) aquifer well, up-gradient in the Escarpment. Considered lost/destroyed under new roadway	✓	×	×	×
MW103	Shallow (<10 m bgl) aquifer well, up-gradient in the Escarpment. Lost/destroyed.	✓	×	×	×
MW142	Shallow (<10 m) aquifer well, down-gradient in the Precinct North near Former LNAPL Plume A3. Lost/destroyed	✓	×	×	×
MW143	Shallow (<10 m) aquifer well, down-gradient in the Precinct North near Former LNAPL Plume A3. Lost/destroyed	✓	×	×	×
MW158	Shallow (<10 m) aquifer well, cross-gradient in the Precinct North. Lost/destroyed	✓	×	×	×
MW171	Shallow (<10 m) aquifer well, cross-gradient in the Precinct North. Lost/destroyed	✓	×	×	×

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
RN4	Shallow (<10 m bgl) aquifer well, east and down-gradient in the Precinct South	✓	×	✓	✓
MW102	Shallow (<10 m bgl) aquifer well, west and cross-gradient in the Gateway	×	✓	×	✓
MW173	Shallow (<10 m bgl) aquifer well, west and cross-gradient in the Gateway	×	✓	×	✓
MW55	Shallow (<10 m bgl) aquifer well, south-east and down-gradient in the Goods Shed and Yard	×	×	✓	✓
MW190	Shallow (<10 m bgl) aquifer well, north-east and cross-gradient in the Precinct North	×	×	×	✓
MW194	Shallow (<10 m bgl) aquifer well, north and up-gradient in the Escarpment	×	×	×	✓
BG1	Shallow (<10 m bgl) aquifer well, north and up-gradient in the Escarpment	×	×	×	✓

Notes: ✓: Analytical data available; ×: Analytical data not available

The following is noted on the spatial and temporal distribution of monitoring of groundwater at and around the Promenade and Underground Carpark since the Site Suitability Statement was issued:

- No off-Site background wells are present. However, BG1, MW121, and MW194 are upgradient of historic land contaminating activities and are considered to represent background conditions.
- A number of wells downgradient have been lost/destroyed by Site activities undertaken since issue of the Site Suitability Statement. However, replacement wells (as discussed in AECOM, 2024d) have been installed and sampled to fulfil the purposes of these wells.
- Sampling has been undertaken in former areas of potential concern within this area near LNAPL plumes, and up-, cross- and down-gradient, since issue of the Site Suitability Statement, and is considered suitable for detection of any changes in the risk profile or groundwater conditions.

Groundwater well locations are shown on **Figure F10**. Results of groundwater sampling are screened against the Tier 1 criteria in **Table T6** to **Table T8**, and against the RC in **Table T9**, with exceedances of adopted criteria are shown on **Figure F13a-c**. Groundwater samples have typically been assessed for key CoPC with exceedances detected in previous GMEs, including TRH/TPH, PAHs, and metals.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in groundwater samples collected after issue of the Site Suitability Statement:

- Drinking Water (Human Health) – metals (manganese), cyanide (total)
- Drinking Water (Aesthetics) – metals (manganese); Major Ions (chloride, sodium, sulfate (as SO_4)); TDS
- Ecosystem protection – TRH (>C10-C40 (sum)); TPH (C10-C36 (sum)), metals (aluminium, copper, manganese, zinc); PAHs (phenanthrene, fluoranthene); Nutrients (ammonia (as N))
- Vapour Intrusion (Structures) – methane.

These CoPC and concentrations are consistent with the data considered in the existing Site Suitability Statement, noting that methane in groundwater was not considered in that assessment. It is noted that:

- Groundwater is not considered likely to be extracted for drinking purposes, based on the available urban reticulated water supply at the Site and surrounding areas, and the high TDS concentrations. Extraction of groundwater for drinking is restricted by the SEMP.
- As discussed in **Section 5.5.5,** the *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h), including the 2025 addendum (AECOM, 2025i) identified that, based on a weight-of-evidence approach, groundwater discharging from the Site was unlikely to present a potential unacceptable risk to off-Site ecological receptors (if present).
- Residential use is not proposed for this area and the exceedances of vapour intrusion criteria is not considered to represent an unacceptable risk to the proposed development.
- Protection against methane intrusion was considered in the Site Suitability Statement for this area, and the requirements within **Section 5.2.2** are consistent with the controls adopted as part of the previous assessment of Site Suitability.

LNAPL Plumes A1 and A2 are within the Promenade and Underground Carpark, and former LNAPL Plume A3 is inferred down-gradient. Based on assessment of LNAPL Plumes in 2025 (refer to **Section 5.5.4.1**), measurable LNAPL was not present in or adjacent to this assessment area, although sheen was reported in MW185 (LNAPL Plume A2) and MW187 (former LNAPL Plume A3). No groundwater concentrations indicative of free-phase LNAPL were detected, and LNAPL migration or impact in this assessment area is not considered likely to occur, and the presence of LNAPL is not considered to affect the suitability of this area for the proposed development, provided the controls in the SEMP (AECOM, 2025h) are implemented.

No exceedances of groundwater RC have been detected in or adjacent to the Promenade and Underground Carpark in sampling events since issue of the Site Suitability Statement, which is consistent with the data considered in that assessment, and no requirement for groundwater remediation is considered to be present.

Based on the distribution (temporal and spatial) of groundwater sampling, the consistency of results with previous monitoring, and no exceedances of RC detected, there have been no changes in groundwater conditions which would indicate an unacceptable risk to future Site users since issue of the Site Suitability Statement for this area, if the management controls in the SEMP are implemented.

6.3.1.3 Soil Vapour

One soil vapour sampling event, conducted in 2025 (AECOM, 2025d), has occurred, involving two locations (SV31 and SV32) in the Promenade and Underground Carpark since the issue of the Site Suitability Statement.

New soil vapour date from both bores reported concentrations of methane which indicate a potential risk of vapour intrusion. In addition:

- Vapour management and mitigation for potential methane and TRH/TPH vapour intrusion was required for this area under the existing Site Suitability Statement, and none of the new data received or in the changes in proposed development is considered to change these requirements.
- Soil vapour from other parts of the Site has the potential to laterally migrate along the base of proposed structures (i.e., the Multipurpose Stadium) which extend beyond the boundaries of this area, and may have a risk of infiltration in this area (**Section 6.5**). Concentrations of methane, BTEXN, and TPH/TRH have been detected in soil vapour in areas of the Site which share a building footprint with this area.

On this basis, it is considered that there are potential risks of vapour intrusion into new structures in this area by methane, BTEXN and TPH/TRH vapours if development continues as proposed.

Mitigation and management measures, as discussed in **Section 5.2.2**, will be required for future development.

6.3.2 Change in Land Use and Elevation

The current Site Suitability Statement for the Promenade and Underground Carpark states that *the site is suitable for the site uses as follows: residential (including medium to high density), commercial/*

industrial, recreational/public open space use, access way and transport (roads etc) and other less sensitive uses, subject to specific conditions which are detailed in Site Suitability Statement.

The updated use of this assessment area, consisting of the Multipurpose Stadium and Associated Concourse, is considered a commercial/industrial land use. The following areas of the Promenade and Underground Carpark area were not assessed as suitable for commercial/industrial land use in the existing Site Suitability Statement:

- The Access Link area, a proposed open air transport corridor, and a section of the Open Space area, along the eastern boundary of the assessment area, which were assessed and considered suitable for Open Space use in the Site Suitability Statement (see **Figure F3**), are now proposed as part of the Multipurpose Stadium. The north-east corner of the Access Link is also now proposed to form part of the new underground carpark in the north-east of the Site.

  Potential vapour intrusion risks for commercial use (the new proposed land use) from hydrocarbons in soil were identified in this area in the Site Suitability Statement.

In addition, proposed structures (the Multipurpose Stadium and underground carpark) extend beyond the assessment area boundaries, and must be considered in assessment of the suitability of development.

As part of development, it is proposed that the surface of this area be reduced as follows (see **Section 5.3.2** and **Figure F5**):

- 3 mAHD within the footprint of the Multipurpose Stadium, which would require reduction of the current Site surface elevation by between approximately 2 to 3.5 m.
- 4.8 mAHD in the practice wickets area, which would require reduction of the current Site surface elevation by between approximately 1.5 to 2.5 m.
- 1.7 mAHD in a proposed basement carpark area, which would require reduction of the current Site surface elevation by between approximately 3 m (noting that only a relatively minor portion of the Promenade and Underground Carpark is proposed for the basement carpark).

The proposed final surface elevation is shown on. Deeper excavations may be required for installation of:

- Footings or foundations, which are likely to extent to bedrock. While dolerite is relatively shallow (<2 m bgl) in the north-west portion of the Promenade and Underground Carpark, deeper areas exist to in the southern and eastern portions of the area.
- A layer of imported engineered fill and concrete slab, at least 1 m thick (**Figure F6** and **Appendix C**), noting that this additional excavation and rebuild of surface level is not yet confirmed as part of Multipurpose Stadium design.

It is also noted that groundwater beneath the Promenade and Underground Carpark has been historically detected at between ~1 and 4 mAHD. The potential exists for groundwater to come into contact with deeper excavations and potentially the surface elevation based on the current development, and to infiltrate the proposed underground carpark. Assessment of risks and mitigations associated with the intersection of groundwater and proposed final surface elevations is provided in **Section 6.5.2**. However, based on this assessment, no unacceptable risks to future users have been identified based on the 70% complete stadium design.

In order to manage and mitigate risks to future Site users from changes to elevation, the next update to the SEMP will include the following requirements:

- Any engineered fill or other materials used to increase the surface level must either:
  - Be classified as Level 1 – Fill, in accordance with the guidelines provided by IB105; or
  - Be approved for use by an Environmental Auditor, who may identify other conditions or controls based on the nature of the material used. For example, crushed dolerite sourced from other areas of the Site may be suitable for this purpose, but will require assessment and Environmental Auditor approval, as well as any other required approvals from planning authorities or EPA, prior to any such use.

- Any subsurface services or utilities should be preferably installed within the engineered layer of clean fill. If services must be installed in existing Site soil, they must be installed in either clean soil corridors, or protected conduits, to minimise any contact with existing Site soil by future maintenance workers.
- Vapour protection for CS3, as discussed in **Section 5.2.2**, with independently verified design and installation is to be included in any structures to be established in this area. Any selected protection measure must be suitable to prevent vapour intrusion from TPH, BTEXN, and methane.
- Groundwater drainage in the north, west and north-west of the stadium must include:
  - Capture and disposal as potentially contaminated waste of any drained groundwater.
  - No intersection between drainage layers and the locations of LNAPL plumes.
  - A vapour mitigation layer is present above the drainage layer, which the same performance requirements as described in **Section 5.2.2**
  - Assessment of any soil to be dewatered and management of potential PASS as described in **Section 5.5.1**.
- The SEMP should be updated to include the following planning control for any future structures where groundwater may be at or within 1 m of the surface:
  - Where future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, design and construction must include measures to prevent:
    - Potential vapour intrusion into buildings and structures as discussed in **Section 5.2.2**.
    - Groundwater intrusion into buildings and structures such as drainage or tanking. Any drained groundwater must be considered potentially contaminated waste and be removed by a licenced waste transporter or discharged under a trade waste agreement.
    - Any dewatering must also consider and include measures to prevent potential exposure and oxidation of PASS in any previously saturated soil which is drained.
- Prior to development of this area, Site Suitability Statements must be issued for portions of the land beyond the assessment area boundaries which proposed building structures extend to. The structures which are currently proposed across multiple assessment areas are listed on **Table 27** in **Section 5.3**.
- The updates and management measures relating to ASS described in **Section 5.5.1** must also be implemented.

If the above mitigations and management measures are implemented and documented in the SEMP, no unacceptable risks to future users are considered to be introduced by the proposed change in land use and elevation.

6.4 The Precinct North (Lot B)

6.4.1 Additional Environmental Data

6.4.1.1 Soil

Additional soil data for the Precinct North collected since issue of the Site Suitability Statement for this area consists of:

- 51 primary samples collected during *in situ* sampling to categorise soil to be excavated from this area (AECOM, 2025b), from 11 locations at *in situ* categorisation grid based sample bores K06 to K10, L08 to L10, M09 to M11, and N09 to N11.
- 8 primary samples collected during installation of groundwater wells MW187, MW190 and MW192, and soil vapour bores SV33, SV34 and SV35 in 2025 (AECOM, 2025d).

Locations of soil samples which have provided new data are shown on **Figure F8** and **Figure F10**. Results of soil sampling are screened against the Tier 1 criteria in **Table T1** to **Table T3**, and against the RC in **Table T4**.

Soil locations with exceedances of adopted criteria collected since issue of the Site Suitability Statements are shown screened against criteria in **Figure F11a-e**.

Due to the number and density of sample locations, visual display of exceedances of Tier 1 criteria for the *in situ* characterisation samples (AECOM, 2025b) on a figure is not practicable, and review of these samples against Tier 1 criteria are discussed below. Exceedances of the RC in the *in situ* characterisation samples is shown on **Figure F11e**.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in soil samples collected after issue of the Site Suitability Statement:

- Low / Medium to High Density Residential – TRH (>C16-C34), metals (arsenic, chromium, lead); PAHs (benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, Sum of PAHs)
- Commercial/Industrial – metals (lead), PAHs (benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene)
- Recreation / Open Space - TRH (>C10-C16, >C16-C34), metals (arsenic, chromium, lead), PAHs (benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, Sum of PAHs)
- Modified / Highly Modified Ecosystems – TRH (>C16-C34), metals (arsenic, copper, lead, nickel, zinc), PAHs (benzo(a)pyrene)
- Vapour Intrusion (Residential) – TRH (C6-C10 (excluding BTEX), >C10-C16(excluding naphthalene), PAHs (naphthalene)
- Vapour Intrusion (Commercial/Industrial) – TRH (>C10-C16 (excluding naphthalene)).

Residential use is not proposed in this area, or in any structures which have footprints which included this area, and thus the detected exceedance of the vapour intrusion criteria for residential use is not considered to represent an unacceptable risk to human health for the proposed development. The required vapour mitigation measures provided in the SEMP, and discussed in **Section 5.2.2**, provide additional mitigation against vapour intrusion.

The other PEVs which are precluded, based on exceedances of criteria detected in soil in the new data considered in this assessment, are consistent with the level of residual contamination described in the existing Site Suitability Statement. The Site is considered suitable for the new development if the mitigation and management measures detailed in the SEMP are implemented to prevent a complete exposure pathway from being established between future Site users and residual soil contamination.

Exceedances of the RC in this area are presented in **Table 25** below.

Table 25 Soil RC Exceedances - The Promenade and Underground Carpark

Land Use	CoPC	RC	Exceedance Locations
Potential Future Commercial (unknown construction or multi-storey building)	TRH >C10-C16 (minus naphthalene)	140 mg/kg	• L08, M09, M10, M11, N11 • MW190
	Naphthalene	12 mg/kg	• M10
Potential Future Maintenance Worker	Lead	620 mg/kg	• K06, L08, M09, N10

These exceedances of the RC are not considered to represent unacceptable risks to the future development of the Site or a requirement for future remediation as:

- As noted in **Section 5.2.2**, future structures in this area will require a vapour protection system with an independently verified design and installation, which includes TRH and naphthalene in the CoPC which will be mitigated by it. Any residual vapour generation will be protected against by this barrier.
- All exceedances of the future maintenance worker RC for lead are within the volume of soil proposed for excavation as part of development. The exceedances detected in samples K06_1.0, L08_1.5, and M09_1.0 are delineated vertically by shallower and deeper samples, and will be removed entirely by excavation. However, the remaining detected, exceedance, N10_1.5, was collected at the base of a bore and lead impacted soil may remain following excavation.

  Direct remediation of the detected impacts is not practicable at this time due to tenant leases in the areas of detected impact.

  For development of the Site, the following should be undertaken to mitigate risks of potential exposure to lead in soil by future intrusive maintenance workers:

  - The elevated lead detections should be noted in the SEMP as potential area(s) of elevated contamination, and addition PPE/management requirements put in place for intrusive works in this area (as part of future CEMPs or ongoing maintenance) to minimise potential exposure to lead in soil.
  - Any subsurface services in this area should be installed in sealed conduits or clean soil corridors to minimise any ongoing contact with existing Site soil by future maintenance workers.

No change in precluded PEVs, and no requirement for further soil remediation, is considered to be identified based on the additional soil data collected in the Promenade and Underground Carpark since issue of the Site Suitability Statement.

6.4.1.2 Groundwater

The groundwater wells, in or adjacent to the Precinct North, which have had groundwater samples collected and analysed since the Site Suitability Statement for this area was issued are listed in **Table 26** below.

Table 26 Groundwater Wells in and adjacent to the Precinct North

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
Within the Precinct North					
MW142	Shallow (<10 m) aquifer well, former LNAPL Plume A3 Lost/destroyed	✓	×	×	×
MW143	Shallow (<10 m) aquifer well, former LNAPL Plume A3 Lost/destroyed	✓	×	×	×
MW155	Shallow (<10 m) aquifer well, central area	✓	×	×	×
MW156	Shallow (<10 m) aquifer well, northern area. Lost/destroyed	✓	×	×	×
MW158	Shallow (<10 m) aquifer well, north-west area. Lost/destroyed	✓	×	×	×

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
MW165	Shallow (<10 m) aquifer well, north-east area. Lost/destroyed	✓	×	×	×
MW166	Shallow (<10 m) aquifer well, north-east area. Lost/destroyed	✓	×	×	×
MW167	Shallow (<10 m) aquifer well, north-east area	✓	×	×	×
MW168	Shallow (<10 m) aquifer well, north-east area. Lost/destroyed	✓	×	×	×
MW171	Shallow (<10 m) aquifer well, north-west area Lost/destroyed	✓	×	×	×
RN2	Shallow (<10 m) aquifer well, eastern boundary	✓	×	×	×
TW01	Shallow (<10 m) aquifer well, north-east area. Lost/destroyed	✓	×	×	×
TW02	Shallow (<10 m) aquifer well, east area	✓	×	×	×
TW03	Shallow (<10 m) aquifer well, south-east area. Lost/destroyed	✓	×	×	×
MW187	Shallow (<10 m) aquifer well, Former LNAPL Plume A3	×	×	×	×
MW190	Shallow (<10 m) aquifer well, northern boundary	×	×	×	×
MW192	Shallow (<10 m) aquifer well, south-east boundary	×	×	×	×
Adjacent Areas					
MW137	Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near LNAPL Plume A2. Lost/destroyed	✓	×	×	×
MW147	Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near LNAPL Plume A1. Lost/destroyed	✓	×	×	×
MW163	Shallow (<10 m) aquifer well, down-gradient in the Precinct South	✓	×	×	×
PC15	Shallow (<10 m) aquifer well, Off-Site on TasPorts land, no access granted for sampling	✓	×	×	×
R4	Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near LNAPL Plume A2. Lost/destroyed	✓	×	×	×
RN4	Shallow (<10 m) aquifer well, up-gradient in Audit Area 4 East	✓	×	×	×
MW145	Shallow (<10 m) aquifer well, up-gradient in Audit Area 4 East.	×	×	×	×
MW162	Shallow (<10 m) aquifer well, down-gradient in the Precinct South	×	×	×	×
MW176	Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near Former LNAPL Plume A2	×	×	×	×
MW177	Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near LNAPL Plume A1	×	×	×	×

Well ID	Description	Included in Existing Site Suitability Statement?	Recent GME Data		
			Targeted GME – The Gateway (2022)	Targeted GME – The Precinct South (2023)	Site-Wide GME (2025
MW182	Shallow (<10 m) aquifer well, Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near LNAPL Plume A1	×	×	×	×
MW183	Shallow (<10 m) aquifer well, Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark in LNAPL Plume A1	×	×	×	×
MW184	Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark between LNAPL Plumes A1 and A2	×	×	×	×
MW185	Shallow (<10 m) aquifer well, Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark in LNAPL Plume A2	×	×	×	×
MW186	Shallow (<10 m) aquifer well, Shallow (<10 m) aquifer well, up-/cross-gradient in the Promenade and Underground Carpark near LNAPL Plume A2	×	×	×	×
MW189	Shallow (<10 m) aquifer well, up-gradient in Audit Area 4 East	×	×	×	×
NR2A	Shallow (<10 m) aquifer well, up-gradient in Audit Area 4 East	×	×	×	×

Notes: ✓: Analytical data available; ×: Analytical data not available

The following is noted on the spatial and temporal distribution of monitoring of groundwater at and around the Precinct North since the Site Suitability Statement of was issued:

- A number of wells downgradient have been lost/destroyed by Site activities undertaken since issue of the Site Suitability Statement. However, replacement wells (as discussed in AECOM, 2024d) have been installed and sampled to fulfil the purposes of these wells.
- Sampling has been undertaken in former areas of potential concern within this area near LNAPL plumes, and up-, cross- and down-gradient, since issue of the Site Suitability Statement, and is considered suitable for detection of any changes in the risk profile or groundwater conditions.

Groundwater well locations are shown on **Figure F10**. Results of groundwater sampling are screened against the Tier 1 criteria in **Table T6** to **Table T8**, and against the RC in **Table T9**, with exceedances of adopted criteria are shown on **Figure F13a-c**. Groundwater samples have typically been assessed for key CoPC with exceedances detected in previous GMEs, including TRH/TPH, PAHs, and metals.

Based on the review of the sample data, the following exceedances of Tier 1 criteria were detected in groundwater samples collected after issue of the Site Suitability Statement:

- Drinking Water (Human Health) – metals (manganese), PAHs (naphthalene), cyanide (cyanide total)
- Drinking Water (Aesthetics) – metals (manganese), Major Ions (chloride, sodium); TDS
- Recreation (Primary/Secondary Contact) - PAHs (naphthalene)
- Eco-system protection – TRH (>C10-C40 (sum)); TPH (C10-C36 (sum)), metals (aluminium, copper, manganese, zinc); PAHs (anthracene, phenanthrene, fluoranthene), Nutrients (ammonia (as N))

- Vapour Intrusion (Residential) – TRH (>C10-C16 (minus naphthalene))
- Vapour Intrusion (Structures) – methane.

These CoPC and concentrations are consistent with the data considered in the existing Site Suitability Statement, noting that methane in groundwater was not considered in that assessment. It is noted that:

- Groundwater is not considered likely to be extracted for drinking purposes, based on the available urban reticulated water supply at the Site and surrounding areas, and the high TDS concentrations. Extraction of groundwater for drinking purposes is restricted by the SEMP.
- As discussed in **Section 5.5.5,** the *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h), including the 2025 addendum (AECOM, 2025i) identified that, based on a weight-of-evidence approach, groundwater discharging from the Site was unlikely to present a potential unacceptable risk to off-Site ecological receptors (if present).
- Residential use is not proposed for this area and the exceedances of vapour intrusion criteria is not considered to represent an unacceptable risk to the proposed development.
- Protection against methane intrusion was considered in the Site Suitability Statement for this area, and the requirements within **Section 5.2.2** are consistent with the controls adopted as part of the previous assessment of Site Suitability.

LNAPL Plumes A1 and A2 are inferred up-gradient within the Promenade and Underground Carpark, and former LNAPL Plume A3 was within the Precinct North.

Based on assessment of LNAPL Plumes in 2025 (see **Section 5.5.4.1**), measurable LNAPL was not present in or adjacent to this assessment area, although sheen was reported in MW185 (LNAPL Plume A2) and MW187 (former LNAPL Plume A3). No groundwater concentrations indicative of free-phase LNAPL were detected, and LNAPL migration or impact in this assessment area is not considered likely to occur, and the presence of LNAPL is not considered to affect the suitability of this area for the proposed development, provided the controls in the SEMP (AECOM, 2025h) are implemented.

No exceedances of groundwater RC have been detected in or adjacent to the Precinct North in sampling events since issue of the Site Suitability Statement, which is consistent with the data considered in that assessment, and no requirement for groundwater remediation is considered to be present.

Based on the distribution (temporal and spatial) of groundwater sampling, the consistency of results with previous monitoring, and no exceedances of RC detected, there have been no changes in groundwater conditions which would indicate an unacceptable risk to future Site users since issue of the Site Suitability Statement for this area. Update to the assessment of risks to off-Site ecological receptors is underway and will be required prior to any change to the Site Suitability Statement.

6.4.1.3 Soil Vapour

One soil vapour sampling event, conducted in 2025 (AECOM, 2025d), has occurred involving four locations in the Precinct North (SV18, SV33, SV34 and SV35) since the issue of the Site Suitability Statement.

New soil vapour date from all bores reported concentrations of methane which indicate a potential risk of vapour intrusion. Soil vapour collected from bore SV18 also reported concentrations of naphthalene above the adopted criteria for residential land use.

In addition:

- Vapour management and mitigation for potential methane and TRH/TPH vapour intrusion was required for this area under the existing Site Suitability Statement, and none of the new data received or in the changes in proposed development is considered to change these requirements.
- Residential land use is not proposed for this area, and the detected naphthalene is not considered to indicate a potential risk to future users under the current development plan. However, it is noted that a risk naphthalene intrusion may be introduced by the proposed development as discussed in the next bullet point below.

- Soil vapour from other parts of the Site has the potential to laterally migrate along the base of proposed structures (i.e., the Multipurpose Stadium) which extend beyond the boundaries of this area, and may have a risk of infiltration in this area (**Section 6.5**). Concentrations of methane, BTEXN, and TPH/TRH have been detected in soil vapour in areas of the Site which share a building footprint with this area.

On this basis, it is considered that there are potential risks of vapour intrusion into new structures in this area by methane, BTEXN and TPH/TRH vapours if development continues as proposed.

Mitigation and management measures, as discussed in **Section 5.2.2**, will be required for future development.

6.4.2 Change in Land Use and Elevation

The current Site Suitability Statement for the Precinct North states that *site is suitable for the proposed site use of 'Arts and Institutional Area', which is considered to be a 'Commercial' use setting, involving commercial and cultural uses, including retail, (the site would also be suitable for high density residential uses above – but not on - the ground floor, and other less sensitive uses such as industrial use),* subject to specific conditions which are detailed in Site Suitability Statement.

The updated uses of this assessment area, consisting of the Multipurpose Stadium and Associated Concourse, the underground carpark, and buildings associated with the Antarctic Facilities Precinct and the Complementary Integrated Mixed Use Zone, which are considered commercial uses, and open spaces are included in the existing Site Suitability Statement, which is considered applicable for the current surface elevation, with the exception of underground carparking which was not considered for this assessment area in the Site Suitability Statement.

In addition, proposed structures (the Multipurpose Stadium and underground carpark) extend beyond the assessment area boundaries, and must be considered in assessment of the suitability of development.

As part of development, it is proposed that the surface of this area be reduced to:

- 3 mAHD within the footprint of the Multipurpose Stadium and concourse, or reduction of the Site surface elevation by between approximately 2.5 to 3.5 m.
- 2.9 mAHD in the Complementary Integrated Mixed Use Zone, or reduction of the Site surface elevation by between approximately 0.3 to 1 m.
- 1.7 mAHD in a proposed basement carpark area, or reduction of the Site surface elevation by between approximately 3 to 4 m.

The proposed final surface elevation is shown on **Figure F5**. Deeper excavations may be required for installation of:

- Footings or foundations, which are likely to extend to bedrock. While dolerite is relatively shallow (<2 m bgl) in the northern portion of the Precinct North, deeper areas exist to in the southern and eastern portions of the area.
- A layer of imported engineered fill and concrete slab, at least 1 m thick (**Figure F6** and **Appendix C**), noting that this additional excavation and rebuild of surface level is not yet confirmed as part of Multipurpose Stadium design.

The existing Site Suitability Statement and supporting assessments did not allow for any change in the existing surface elevation, or installation of basement structures, and further included an assumption that intrusive maintenance works would be unlikely to take place at more than 2 m below current surface level. Additional risks may exist during construction or ongoing Site use from contact with deeper soil, or from increased risks of vapour intrusion as less vertical distance between potential vapour sources is present.

It is also noted that groundwater beneath the Precinct North has been historically detected at between 0.5 and 1.5 mAHD. The potential exists for groundwater to come into contact with deeper excavations and potentially the surface elevation based on the current development, and to infiltrate the proposed underground carpark. Assessment of risks and mitigations associated with the intersection of groundwater and proposed final surface elevations is provided in **Section 6.5.2**. However, based on

this assessment, no unacceptable risks to future users have been identified based on the 70% complete stadium design.

In order to manage and mitigate risks to future Site users from changes to elevation, the next update to the SEMP will include the following requirements:

- Any engineered fill or other materials used to increase the surface level must either:
  - Be classified as Level 1 – Fill, in accordance with the guidelines provided by IB105; or
  - Be approved for use by an Environmental Auditor, who may identify other conditions or controls based on the nature of the material used. For example, crushed dolerite sourced from other areas of the Site may be suitable for this purpose, but will require assessment and Environmental Auditor approval, as well as any other required approvals from planning authorities or EPA, prior to any such use.
- Any subsurface services or utilities should be preferably installed within the engineered layer of clean fill. If services must be installed in existing Site soil, they must be installed in either clean soil corridors, or protected conduits, to minimise any contact with existing Site soil by future maintenance workers.
- Vapour protection for CS3, as discussed in **Section 5.2.2**, with independently verified design and installation is to be included in any structures to be established in this area. Any selected protection measure must be suitable to prevent vapour intrusion from TPH, BTEXN, and methane.
- Groundwater drainage in the north, west and north-west of the stadium must include:
  - Capture and disposal as potentially contaminated waste of any drained groundwater.
  - No intersection between drainage layers and the locations of LNAPL plumes.
  - A vapour mitigation layer is present above the drainage layer, which the same performance requirements as described in **Section 5.2.2**
  - Assessment of any soil to be dewatered and management of potential PASS as described in **Section 5.5.1**.
- The SEMP should be updated to include the following planning control for any future structures where groundwater may be at or within 1 m of the surface:
  - Where future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, design and construction must include measures to prevent:
    - Potential vapour intrusion into buildings and structures as discussed in **Section 5.2.2**.
    - Groundwater intrusion into buildings and structures such as drainage or tanking. Any drained groundwater must be considered potentially contaminated waste and be removed by a licenced waste transporter or discharged under a trade waste agreement.
    - Any dewatering must also consider and include measures to prevent potential exposure and oxidation of PASS in any previously saturated soil which is drained.
- Prior to development of this area, Site Suitability Statements must be issued for portions of the land beyond the assessment area boundaries which proposed building structures extent to. The structures which are currently proposed across multiple assessment areas are listed on **Table 27** in **Section 5.3**.
- The updates and management measures relating to ASS described in **Section 5.5.1** must also be implemented.

If the above mitigations and management measures are implemented and documented in the SEMP, no unacceptable risks to future users are considered to be introduced by the proposed change in land use and elevation.

6.5 Changes Affecting Multiple Assessment Areas

6.5.1 Building Footprints and Structures Which Extent Across Multiple Areas

As noted in **Section 5.3.1**, the updated development plan of the Site includes proposed structures which extent across two or more of the assessment areas used in the Environmental Audit. As such, no construction of any structure should be commenced unless all areas within the proposed footprint have had Site Suitability Statements for the proposed use issued. **Table 27** below lists proposed structures which cover multiple assessment areas (see **Figure F2**).

Table 27 Proposed Structures which extend beyond assessment area boundaries

Structure	Assessment Areas
Multipurpose Stadium and Associated Concourse	• The Goods Shed and Yard • The Escarpment • The Promenade and Underground Carpark • The Precinct North • The Precinct South • The Gateway
The Antarctic Facilities Zone (buildings and underground carpark)	• The Escarpment • The Promenade and Underground Carpark • The Precinct North • Audit Area 4 East
Complementary Integrated Mixed Use Zone (building footprints)	• The Goods Shed and Yard • The Precinct North • The Precinct South

The potential for soil vapour intrusion has been identified at the Site (**Section 5.2.2**, and the sub-sections discussion soil vapour in **Sections 6.1** to **6.4**). Soil vapour can migrate laterally along the base of structures and infiltrate into other areas of the Site.

The proposed areas for the Multipurpose Stadium and underground carpark are adjacent to each other, and the underground carpark underlays the Antarctic Facilities Zone buildings. While the design has not been finalised, the features overlap each other and form a continuous structure.

As such, the following soil vapour locations, which are located beneath the future stadium or underground carpark, have been considered when assessing soil vapour risks for the proposed development:

- The Goods Shed and Yard: SV36
- The Promenade and Underground Carpark: SV33, SV32
- The Precinct North: SV18, SB33, SV34
- The Precinct South: SV46
- The Gateway: SV45.

Soil vapour data from bores SV41 and SV43, outside the proposed stadium footprint, have also been considered.

Exceedances of adopted soil vapour concentration (**Section 3.1.3**) have been detected in these bores for:

- All structures - Methane
- Residential – Benzene, Naphthalene, TPH (aliphatic >C8-C10, aromatic >C8-C10)
- Commercial / Industrial – Benzene, Naphthalene, TPH (aromatic >C8-C10) (within the Gateway only)

Soil vapour sampling locations are shown on **Figure F10**, and results of sampling are presented in **Table T10**.

While residential use is not proposed for any area considered in this report and detected exceedances of criteria are not considered to represent a risk to future Site use, methane concentrations represent a potential vapour intrusion risk. Methane is considered likely to be sourced from the anerobic digestion of either residual fuel impacts from Site use, or organic material in former river- or sea-bed buried during land reclamation. Methane in groundwater above the adopted criteria is widespread on the Site, and if sourced from buried materials under reclaimed land, there are likely to be multiple discontinuous areas where potentially hazardous concentrations are generated.

In addition, exceedances of Commercial / Industrial criteria adopted for benzene, naphthalene, and/or TRH (aliphatic >C8-C10) were also identified in the soil bores SV41 and SV43, located in the Gateway area to the south-west of the proposed stadium footprint, and are considered likely to be due to contamination from former gasworks operations in this area. While exceedances of criteria for this land use have not been identified in samples collected from soil vapour within the stadium footprint, previous investigations of the Gateway area have identified that the fill is highly heterogenous and that minor pockets of gasworks contamination which have not been detected during previous investigations may be present.

As discussed in **Section 5.2.2**, the existing Site Suitability Statement for the Promenade and Underground Carpark included a requirement for vapour mitigations against TPH and methane to be included in future structures. Based on the additional data collected since issue of the Site Suitability Statement, and with consideration of the detected soil vapour concentrations in soil vapour in and adjacent to the proposed building structure for this area, for Site Suitability, the vapour protection system should be designed and verified as preventing vapour intrusion from benzene, naphthalene, TPH, and methane.

6.5.2 Groundwater and Surface Elevation

As part of development of the Site, lowering of surface is proposed, and may introduce potential environmental risks if:

- The final design surface is lowered below the surface of groundwater. If this occurs, groundwater may potentially reach the surface and either:
  - Come into contact with Site users; or
  - Migrate along the surface and potentially impact stormwater, other portions of the Site, or off-Site locations.
- Groundwater is less than 1 m below the surface. The Site Specific RC (**Section 3.2**) included an assumption that groundwater will be ≥1 m below the surface when deriving criteria values for potential vapour intrusion from groundwater. If groundwater is shallower than this, the RC are not applicable and unquantified risks of vapour intrusion may be present.
- PASS is dewatered and may potential oxidise and acidify.

As such, any future development of the Site which involved modification of the surface elevation must assess the proposed change against groundwater elevations. If groundwater will be or is likely to be ≤1 m below the final surface, the proposed development must include measures and/or mitigations to:

- Prevent groundwater from reaching the surface or structures, such as drainage or tanking. Any such measures:
  - Must capture any drained groundwater for assessment and disposal as potential contaminated waste.
  - Must not transport or potentially increase the migration of groundwater or other contaminants on groundwater (such as LNAPL or DNAPL) to sensitive receptors (such as stormwater or the River Derwent/Sullivans Cove).
- Assess and prevent unacceptable risks from groundwater-derived vapour via either:
  - Additional assessment of vapour risks from shallow groundwater which demonstrates that no unacceptable risks are present; or
  - A vapour protection system suitable for potential vapour risks from groundwater.

- Identify if PASS may be dewatered and, if so, include measures to neutralise potential oxidation and prevent acidification as required by the assessment of acid sulfate soil at the Site (see **Section 5.5.1**).

These requirements must be documented in the SEMP.

Based on the proposed final surface elevations of the Site (**Section 5.3.2**), and the most recent inferred groundwater contours from July 2025 (**Figure F12d**), an area of the Site with three proposed future uses has identified under the proposed future development where potential interactions with groundwater may introduce risks to future Site users. The area is shown on **Figure F15**, and the three land uses, with proposed final surface elevations and inferred groundwater depths, are listed on **Table 28** below.

Table 28 Areas of Potential Shallow Groundwater

Area	Location	Elevation (mAHD)	
		Final Surface	Groundwater
Multipurpose Stadium	North, west and north-west of stadium footprint	3	2 to 3.7
Practice Wickets	North-west corner of Site	4.8	3.4 to 4+
Underground Carpark	North-east corner of Site	1.7	0.6 to 1.7

The Multipurpose Stadium 70% design includes installation of a drainage layer and capture of groundwater as shown on **Plate 4** below. Captured groundwater from the drainage layer will be diverted to sumps for further disposal.

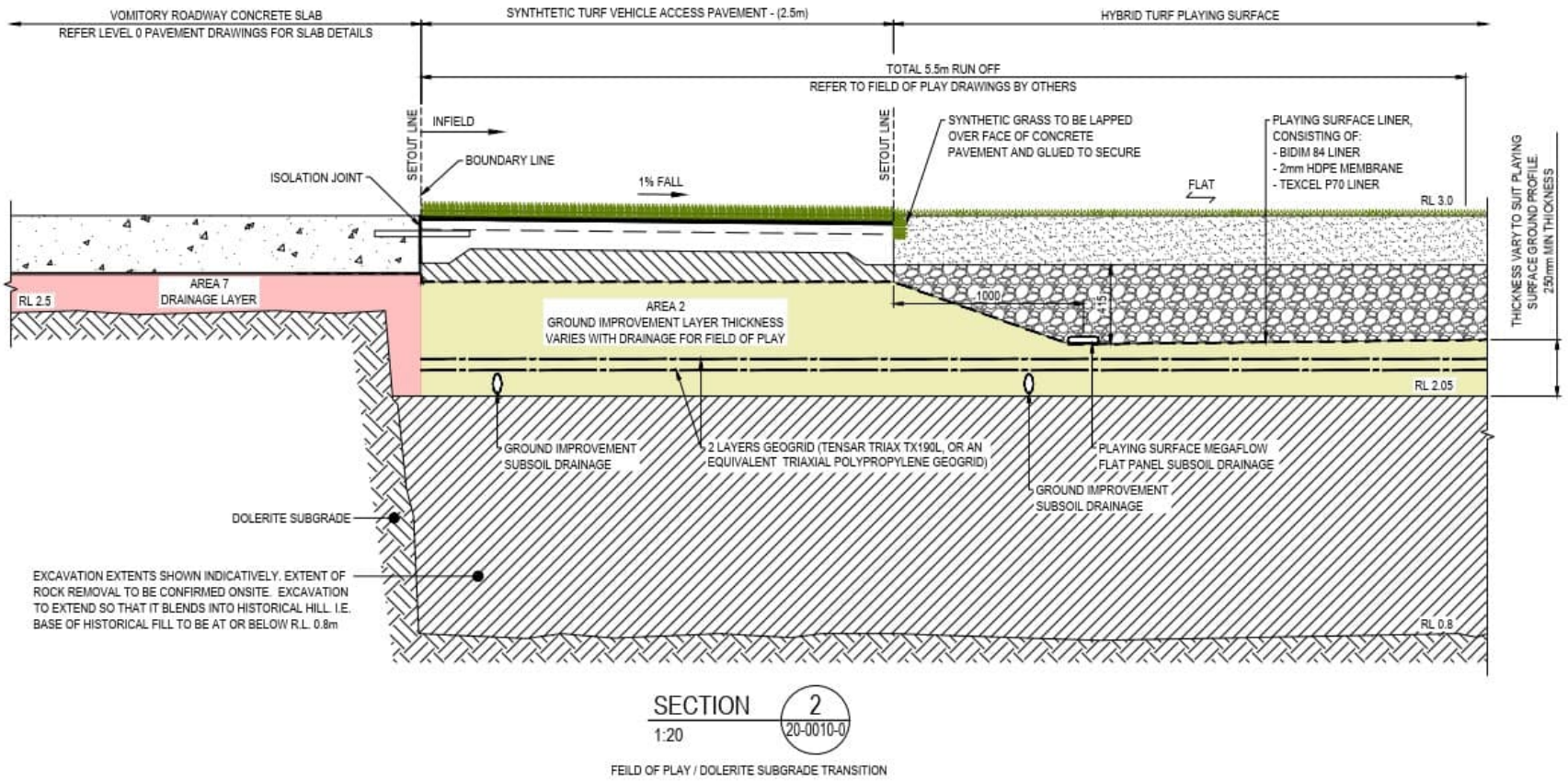

Plate 4 Multipurpose Stadium - Groundwater Drainage Layer Design

The proposed design is considered to appropriately mitigate potential environmental risks from shallow or surface groundwater as:

- The drainage design includes a HDPE liner which will prevent physical migration of groundwater to the surface, and potential contact with Site users or migration along the surface to other areas or stormwater.
- Groundwater in the drainage layer will be captured and is currently proposed for disposal under a Trade Waste Agreement (TWA). Discharge of the captured groundwater under a TWA is an appropriate disposal method to prevent groundwater from discharging to
- The drainage layer is upgradient and above the elevation of known LNAPL and DNAPL, and does not include active pumping/extraction which could encourage migration from these areas into the drainage layer. As such, groundwater with impacts relating to LNAPL or DNAPL are unlikely to be captured, and would be disposed of as potentially contaminated waste, and would not have the potential to discharge to stormwater or sensitive receptors near the Site (i.e., River Derwent or Sullivans Cove).
- While groundwater may be present at less than 1 m below the surface in the drainage layer, and represents a potential vapour intrusion risk. Mitigation and management is required and included in the design, consisting of the vapour intrusion mitigation barrier (**Section 5.2.2**) required for the stadium, which is present above the drainage layer.

  This barrier will mitigate potential vapour intrusion into the Multipurpose Stadium and playing field.
- A dewatering management plan (DWMP) is required for works which may drain saturated soils (**Section 5.5.1**). Under this document, procedures for the management and neutralisation of any dewatered PASS will be documented and implemented.

For the other two areas with potential risks from shallow groundwater:

- In the Practice Wickets area, groundwater is inferred to still be approximately 0.8 m below the design surface, based on surrounding wells, and is not considered at risk of surface infiltration by physical groundwater. Based on the open space/recreational use of this area, vapour intrusion and accumulation is not considered to represent an unacceptable risk as the Practice Wickets area is:
  - Not in an area of high risk from volatile impacts, based on historic uses, and is hydraulically up-gradient of areas which may have volatile impacts (i.e., LNAPL Plume A2 is ~75m south-east of this area, and the former gasworks area is ~85 m south), and historic soil and groundwater sampling in this area of the Site has typically reported potential volatiles, such as TRH/TPH, as low or below LOR in groundwater.
  - Proposed for open space / recreation use, and will have limited to no capacity for capture and accumulation of vapours which may represent hazardous levels (noting that such vapours are considered unlikely based on the history and available environmental data for this area). Vapours which migrate from groundwater to open air typically attenuates and dissipates swiftly due to atmospheric wind and pressure changes.
- The underground carpark design and final elevations are not yet finalised. However, Section 4.4 – Planning Controls of the SEMP (AECOM, 2025h) states that:
  - *Where future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, additional assessment of the potential vapour intrusion risk to building users, based on data representative of that part of the Site, will be required.*

  Such assessment by a suitably qualified and experienced environmental professional will be required as part of design and construction of the underground carpark and should be a condition of suitability.

  It is recommended that the requirement in the SEMP be updated to include consideration and mitigation of potential groundwater infiltration in structures, such as the proposed underground carpark.

Based on the above, potential shallow groundwater interactions are not considered to introduce unacceptable risks or make the Site unsuitable for the proposed development as:

- In the 70% detailed design of the Multipurpose Stadium:
  - Any drained groundwater is captured and disposed of as potentially contaminated waste under a TWA or similar, and should not be discharged to sensitive receptors.
  - The drainage layer does not intersect and capture LNAPL , which may render groundwater unable to be discharged under TWA.
  - A vapour mitigation layer is present above the drainage layer, as required in **Section 5.2.2**, and will act as mitigation against potential vapour intrusion risks from shallow groundwater.
  - Any potential soil which may be dewatered by the drainage layer is assessed and managed by a DWMP, as required by the acid sulfate soil investigation (**Section 5.5.1**).

  Any changes to these features in future design requires review and reassessment of environmental risks.
- Potential shallow groundwater below the Practice Wickets is not considered to represent an unacceptable risk, as groundwater is not considered likely to infiltrate to the proposed surface elevation of 4.8 mAHD, and vapour intrusion from groundwater is not considered to represent a risk in consideration of the open space use of the area and the Site history and environmental data in this area.
- The design of the underground water carpark, including the final surface elevation within the carpark (i.e., the level of the lowest floor) is not yet finalised and risks and mitigations from shallow groundwater cannot be assessed. However, the SEMP contains requirements to assess vapour intrusion for structures within 1 m of groundwater, prohibits contact between Site users and groundwater.

  The SEMP will need to be referenced and complied with during the design of the underground carpark in the future.

7.0 Conclusions and Recommendations

7.1 Conclusions

Prior to the development of Macquarie Point, Division 2, Section 39F(1) of the *Macquarie Point Development Act 2012* (the Act) requires that an accredited site auditor certifies that remediation of each part of the Site has occurred to a standard that is satisfactory for the purposes of the proposed redevelopment.

Auditor certification has been recorded in Site Suitability Statements, with the overall aim of the Site's Environmental Audit being issue of Site Suitability Statements for all areas.

To date, four Site Suitability Statements have been issued by the EPA-accredited Site Auditor, as part of contaminated land audit reports, consisting of:

- The Goods Shed and Yard - *Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 1* (Coffey, 2019a)
- The Escarpment (Audit Area 4 West) - *Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 4 West* (Coffey, 2020)
- The Promenade and Underground Carpark (Lot E and UGC) - *Contaminated Land Audit Report – Macquarie Point Development Project – Lot E and Underground Carpark* (Coffey, 2021a)
- The Precinct North (Lot B) - *Contaminated Land Audit Report – Macquarie Point Development Project – Lot B* (Coffey, 2021b).

The Site Suitability Statements should be read in conjunction with the contaminated land audit reports, which form part of the assessment of and requirements for the Site's suitability for the proposed development.

However, in 2024, the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024), was released by the Corporation, which updated and modified the vision for development of the Site. As a result, the Site Suitability Statements issued prior to the Precinct Plan (listed above) are no longer accurate to the proposed future uses of the Site and require review and update for the changes in Site uses and proposed development.

This report has been prepared to describe the changes in proposed land use and to assess if any changes in mitigation or management measures are required to prevent any unacceptable risk to future users or ecological receptors on the Site or adjacent properties.

7.1.1 Changes in Land Use

Table 29 below summarises the changes in Site use proposed for each of the four assessment areas considered in this report

Table 29 Changes in Land Use by Area

Assessment Area	Changes in Land Use
The Goods Shed and Yard (Audit Area 1)	• The Goods Shed will be removed from this area. • Proposed Open Space use to the west and north of the Goods Shed now forms park of the Multipurpose Stadium and Associated Concourse zone. • Sections of this area will be lowered to final surface elevations of between 2.9 to 3 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
The Escarpment (Audit Area 4 West)	• Land use of parts of this area has changed to Open Space. It is noted that the Goods Shed, located in the Goods Shed and Yard (Audit Area 1) is likely to be moved to this area, and assessment for commercial/industrial uses is still considered required. • The south-eastern corner is included in the proposed footprint of the underground carpark. • High density residential use is no longer planned in this area. • Sections of this area will be lower to final surface elevations of between 1.8 and 4.8 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
The Promenade and Underground Carpark (Lot E and UGC)	• Open Space land use in the southern portion of this area is now included in the Multipurpose Stadium and Associated Concourse zone. While, the majority of this space was assessed for a proposed underground carpark, which was assessed for commercial/industrial use, portions of in the eastern and western areas of this assessment area were only considered for Open Space use. • Land proposed for an “Access Link”, or open transport corridor, in the eastern portion of this area was assessed for Open Space use, but is now considered for commercial/industrial use as part of the Multipurpose Stadium and Associated Concourse zone. • High density residential (above the first floor) is no longer planned in this area. • Sections of this area will be lower to final surface elevations of between 1.8 and 4.8 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.
The Precinct North (Lot B)	• Land use is still considered to be commercial / light industrial. • A single storey underground carpark is proposed in the northern portion of this assessment area. • Sections of this area will be lower to final surface elevations of between 1.8 and 3 mAHD. • As part of construction of the Multipurpose Stadium, footings will be advanced to dolerite bedrock.

7.1.2 Additional Environmental Data or Changes in Adjacent Property Uses

In addition to the changes in land use and surface elevation arising from the new proposed development of the Site, new environmental data, and proposed changes to surrounding land uses, have been identified in the period since issue of the Site Suitability Statements.

New information available since the previous Site Suitability Statements were issued, that potentially affects the validity of those statements, is summarised on **Table 30** below.

Table 30 Additional Assessments or Foreseen Changes in Site Condition Considered

New Information or Change	Description and Consequences
Issue of the *State Policies and Projects (Macquarie Point Precinct) Order 2025* (the Order)	The Order provides the approval conditions for development of the Multipurpose Stadium. However, the environmental requirements are consistent with those in the *Macquarie Point Development Corporation Act 2012*, which provided the legislative framework for previous Site Suitability Statements, and no change to the process of Site Suitability are considered to arise from this change.
Updates and consolidation of the SEMPs referenced in Site Suitability Statements	The initial area-specific SEMPs issued for each area have been updated and consolidated into a single Site-wide SEMP. Each iteration of the SEMP has retained the conditions and information from previous versions.
Building and structure footprints overlapping areas of potential vapour intrusion	The current SEMP includes areas specific requirements relating to vapour mitigation in future buildings and structures, with identified soil vapours consisting of methane, TRH and BTEXN. The new planned development includes proposed structures with footprints which extend across areas of elevated potential vapour intrusion.
Designs for in-ground plants, including deep-rooted plants	Additional designs for in-ground plants have been proposed, which required assessment for environmental risk and confirmation from the Environmental Auditor to meet the requirements of the SEMP.
Review of the Site-Specific RC	The RC, which have been used to assess and identify areas of soil and groundwater where remediation is considered required for future development, have been reviewed and updated.
Collection of new environmental data from soil, groundwater, and soil vapour	Additional monitoring and investigation events have been conducted since issue of the Site Suitability Statements and have been assessed for any information which could influence Site Suitability. The following assessments relevant to areas with issued Site Suitability Statements have been considered: • Investigations of ASS • GMEs and groundwater gauging conducted in 2023, 2024 and 2025. • *In situ* characterisation soil sampling conducted for Stage 1 and Stage 2 of the proposed excavation of the Site. • Installation and sampling of new groundwater wells and soil vapour bores in June 2025.
Off-Site land use changes	The Macquarie Point STP is planned for closure and replacement with an SPS and emergency storage facility. As part of these works, the Hobart Main Pipeline (sewer) beneath the Site will be decommissioned and removed, and a new sewer line installed off-Site to the south under Evans Street, and east under TasPorts land.

7.1.3 Outcomes of Review

Based on the review of proposed development changes to land use, and new environmental data, the following items require changes in management or mitigation approaches for the Site to be suitable for the intended future use:

- Development of structures across assessment area boundaries.

  The Precinct Plan includes the following proposed structures which extend across multiple assessment areas:

- The Multipurpose Stadium and Associated Concourse – The Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, the Precinct North, the Precinct South, and the Gateway.
- The underground carpark and building footprints within the Antarctic Facilities Zone – The Escarpment, the Promenade and Underground Carpark, the Precinct North, and Audit Area 4 East.
- Building footprints within the Complementary Integrated Mixed Use Zone – The Precinct North and the Precinct South.

Extension of structures across the assessment area boundaries introduces additional considerations for Site Suitability, and development of structures which extend beyond the boundaries of assessment areas should not be commenced until Site Suitability Statements have been issued for all areas within their footprints.

- Potential soil vapour intrusion into future structures from methane, TRH, and BTEXN.

  This risk has been identified due to:

  - Detections of methane, considered to arise from anaerobic degradation of either residual hydrocarbon contamination, or saturated soil from former river- and sea-bed buried by land degradation, both directly in soil vapour, and above the adopted criteria for vapour intrusion in groundwater, in multiple locations across the Site.
  - Exceedances of the Commercial/Industrial land use RC for TRH >C10-C16 and naphthalene, indicating potential vapour intrusion in soil or groundwater below or adjacent to proposed structures, in both new data collected since issue of the Site Suitability Statement, and in some areas (i.e., former Open Space and Access Link areas in the Promenade and Underground Carpark) which have been updated to a more sensitive use in the new proposed development.
  - Potential changes in risk profile from proposed excavation/changes in Site elevation, which decrease the distance between some impacts and may lead to increased concentrations in soil at the surface.

  Based on the current land uses and existing leases, and the widespread and likely discontinuous sources of methane in saturated buried soils, remediation of the source of these impacts is not considered practicable. Inclusion of a vapour protection system in future building design is considered required as part of Site Suitability for areas which include potential vapour intrusion risks, consisting of the following areas considered in this report:

  - The Goods Shed and Yard – the Multipurpose Stadium and Associated Concourse.
  - The Escarpment – the Multipurpose Stadium and Associated Concourse, and the underground carpark and building structures within the Antarctic Facilities Zone.

    (It is noted that vapour protection is not considered required for the proposed relocation of the Goods Shed to the northern portion of this area).
  - The Promenade and Underground Carpark – the Multipurpose Stadium and Associated Concourse, and the underground carpark and building structures withing the Antarctic Facilities Zone.
  - The Precinct North – the Multipurpose Stadium and Associated Concourse, the underground carpark and building structures withing the Antarctic Facilities Zone, and building structures within the Complementary Integrated Use Zone.

    The performance requirements for any vapour protection system, including recommendations for independent review of the design and construction, are provided in **Section 7.2**.

- Potential future contact between intrusive maintenance workers and areas of Site soil with lead concentrations exceeding the adopted RC for this land use:

- The existing Site Suitability Statements included an assumption that only minor or incidental changes to the surface elevation would occur, and assessed potential risks to intrusive maintenance workers to a maximum depth of 2 m below the current surface elevation.
- Concentrations of lead were reported in previous assessments in excess of the adopted RC for maintenance workers at depths below 2 m below current surface elevation, and additional soil concentrations in excess of the RC have been identified since issue of the Site Suitability Statements, noting that these exceedances have been detected in soil proposed for excavation.
- To minimise potential contact between future intrusive maintenance workers and existing Site soil with exceedances of RC:
  - Known locations of exceedances will be documented in the SEMP(s) for management during construction or development activities.
  - Subsurface services will be required to be installed within clean fill/soil corridors, or within protective conduits.
  - Additional PPE requirements will be required during future intrusive maintenance works where contact with current Site soil may occur, to minimise potential ingestion/inhalation of existing Site soil.

  The proposed additional controls and data to be added to the SEMP regarding lead impacts to soil are provided in **Section 7.2**.

- Disturbance of PASS:
  - Assessment of Site soils in 2024 and 2025 identified that, while no ASS is present on Site, PASS with the potential to acidify if disturbed/oxidised is present in saturated soils at the Site.
  - Future development activities on the Site must include management measures for PASS to prevent acidification and environmental impact on the Site, or at any receiving site if PASS is excavated and removed, as documented in *Acid Sulfate Soil Investigations* (AECOM, 2025e).
- Potential groundwater present at the surface, or shallow groundwater where risks may not be quantified by the RC, at the following locations based on the final design elevations for the Site, has been identified at:
  - The north, west, and north-west areas of the Multipurpose Stadium.
  - The Practice Wickets in the north-west corner of the Site.
  - The underground carpark in the north-east corner of the Site.

  Potential shallow groundwater interactions are not considered to introduce unacceptable risks, or risks are considered to be suitably managed or mitigated by development designs, as:
  - In the 70% detailed design of the Multipurpose Stadium:
    - Any drained groundwater is captured and disposed of as potentially contaminated waste under a TWA or similar, and should not be discharged to sensitive receptors.
    - The drainage layer does not intersect and capture LNAPL plumes, which may render groundwater unable to be discharged under TWA.
    - A vapour mitigation layer is present above the drainage layer, and will act as mitigation against potential vapour intrusion risks from shallow groundwater.
    - Any potential soil which may be dewatered by the drainage layer is assessed and managed by a DWMP, as required by the acid sulfate soil investigation.

    Any changes to these features in future design requires review and reassessment of environmental risks.
  - Potential shallow groundwater below the Practice Wickets is not considered to represent an unacceptable risk, as groundwater is not considered likely to infiltrate to the proposed surface elevation of 4.8 mAHD, and vapour intrusion from groundwater is not considered to represent

a risk in consideration of the open space use of the area and the Site history and environmental data in this area.

- The design of the underground water carpark, including the final surface elevation within the carpark (i.e., the level of the lowest floor) is not yet finalised and risks and mitigations from shallow groundwater cannot be assessed. However, the SEMP contains requirements to assess vapour intrusion for structures within 1 m of groundwater, prohibits contact between Site users and groundwater.

The SEMP should be updated to include the requirements relating to potential surface or shallow groundwater, as noted in **Section 7.2**.

- Review of potential off-Site ecological impacts:
  - The *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020h) identified that, based on a weight-of-evidence approach, groundwater discharging from the Site was unlikely to present a potential unacceptable risk to off-Site ecological receptors (if present).

    An addendum to this assessment was prepared in 2025 (AECOM, 2025i), and concluded that overall, based on the review of updated Site data and information, the outcomes of the AECOM (2020h) assessment remain valid and suitable for ongoing assessment of the Site. No material changes in the off-Site aquatic ecological risk profile have been identified, and ecological risk to receptors in the River Derwent and Sullivans Cove remains low.

    Ongoing groundwater monitoring was recommended and is included in the SEMP (AECOM, 2025h).
- The upcoming closure and removal of the Macquarie Point STP, and realignment of the Main Hobart Pipeline (Sewer):
  - The replacement of the STP with a pumping station, and associated activities including realignment of the Main Hobart, are not considered to change the environment suitability of the Site for future development.

The following changes, or updated information, are not considered to affect the previously issued Site Suitability Statements:

- Approval of the *State Policies and Projects (Macquarie Point Precinct) Order 2025* (the Order)
  - The Order provides approved conditions for the development of the Site. However, the conditions and requirements relating to the Environmental Audit and Site Suitability Statements are consistent with, and reference, the *Macquarie Point Development Act 2012*, and approval of the Order does not affect the assessment or requirements of the suitability of the Site for future development.
- Updates or consolidation of SEMP(s):
  - While the existing Site Suitability Statements reference different SEMPs, issued at the time of the initial assessment of Site's environmental suitability for development, have been updated as new data has been received, each iteration of the SEMP has included the previous requirements from Site Suitability Statements and been reviewed and accepted by the Site Auditor.
  - Updates to the SEMP, recommended in **Section 7.2**, must also be submitted to and accepted by the Auditor.
- Review and update of Site Specific RC:
  - While modifications to the Site Specific RC were identified as part of review in the context of the Precinct Plan, in all cases the changes increased criteria values, and as a result the RC used at the time of issue of Site Suitability Statements are considered conservative and appropriate for detection of potential environmental risks. As such, re-review of the existing data sets with the updated RC is not considered required.

  - It is noted that some RC (i.e., vapour intrusion, intrusive maintenance worker RC) are depth dependent, and potential changes in risks from the proposed modifications to the Site surface elevation are discussed above.

- Precluded PEVs:
  - No changes in PEVs precluded since the Site Suitability Statements were initially issued have been identified in this review.
- LNAPL Plumes
  - Based on assessment of LNAPL Plumes in 2025 (refer to **Section 5.5.4.1**), LNAPL was not present at measurable thicknesses in any groundwater wells in or hydraulically up-gradient of the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, or the Precinct North, although sheen was reported in MW185 (LNAPL Plume A2) and MW187 (former LNAPL Plume A3).
  - No groundwater concentrations indicative of free-phase LNAPL, or soil vapour concentrations indicating potentially hazardous vapour generation (other than methane) were detected at the LNAPL Plumes, and LNAPL migration is not considered likely to occur.
  - LNAPL is still considered stable, and further remediation is not considered practicable.

  On this basis, LNAPL Plumes are not considered to make the Site areas considered unsuitable for development, if the management measures within the SEMP are implemented.

Based on the review conducted, if the recommendations provided in **Section 7.2** are implemented, and on the basis of ongoing implementation of the SEMP to manage residual environmental impacts at the Site, the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, and the Precinct North are considered suitable for the proposed development.

7.2 Recommendations

The following additional controls and mitigations are required to be added to the SEMP in order to mitigate and manage any additional environmental risks identified in the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, and the Precinct North:

- Vapour mitigation is required as part of construction of the structures in the following areas:
  - The Goods Shed and Yard.
  - The Promenade and Underground Carpark.
  - The Precinct North
  - Any buildings which include these areas in their footprint, such as the portion of the Multipurpose Stadium and Associated Concourse in the Escarpment.

  Vapour mitigation must incorporate a minimum gas protection value of 2 (EPA NSW, 2020), and the selected method should be suitable for mitigation of methane, TRH and BTEXN vapours.

  Design and construction documentation must include a documented testing and verification method for vapour intrusion mitigation measures, with reference to Appendix 7 – Verification and construction quality assurance, of *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020). Any design and/or installation of ground gas protection measures will require independent oversight and sign-off by an Environmental Auditor, or other suitably qualified and independent verifier.
- Landscaped areas and gardens should be established in aboveground planter boxes on hardstand and not directly over exposed soil. In the event that gardens are proposed in-ground, the following barrier system shall be installed:
  - Layer 1: Orange mesh para-webbing (or similar) placed as an indicator barrier over exposed soils to alert Site users.
  - Layer 2: Earthen cover (minimum 0.5 m) certified as ‘Fill Material’ in accordance with IB105.

- Layer 3: Surface coverage (comprising shallow rooted vegetation).

Deeper-rooted vegetation may be established using the designs provide in **Appendix E**, with the following additional requirements:

- Soil imported for in-ground planting must be Level 1 – Fill Material.
- No plants intended for consumption are to be included in any in-ground planting on the Site.
- The potential size of plant root structures should be considered when selecting species for cultivation on the Site. Planting structures should have sufficient volume for the plants to develop without requiring root structures to penetrate the earthen liners and extend beyond the clean-fill soil.
- The earthen liner and barrier layers included in planting designs are to be installed above the Site water table.
- In-ground planting is only to occur in open space use areas. No in-ground planting is to occur within Site buildings (i.e., within atriums, foyers, or arboretums).
- Trees, or any other deep-rooted plants, which are cultivated on the Site should be excavated and removed as soon as possible if any of the following occurs:
  - Death or significant rot/reduction in size
  - Toppling/knocking over by wind or impact.
- In the event that plant removal occurs:
  - Removal of all root structures must be included.
  - If root structures have extended and pierced the earthen liner and/or indicator barrier layer, these must be repaired and restored as part of removal of the plant(s).

- PASS within saturated soils, strongly correlating with estuarine sands, has been identified beneath the Site and should be considered during future works.

  Future activities at Macquarie Point should identify all activities which have the potential to disturb or expose (i.e., dewater) PASS at the Site, as identified in *Acid Sulfate Soil Investigations* (AECOM, 2025b), and:

  - The SEMP should be updated with a description and locations of identified PASS.
  - The SEMP should include overarching management obligations for disturbance of ASS and/or water table drawdown via dewatering, include a requirement for scope specific Acid Sulfate Soil Management Plans (ASSMP) and/or Dewatering Management Plans (DWMP) to be developed for each discrete works package involving civil and general earthworks activities, water table drawdown via dewatering, and any other significant soil disturbance activities or changes to natural groundwater and surface water systems.

    These documents should be prepared by those undertaking works which may disturb PASS, and must include:

    - Estimated volumes and action criteria for PASS which may be disturbed by the proposed works.
    - Procedures for the handling of disturbed PASS, including verification of neutralisation, groundwater generated by dewatering, and monitoring of Site environmental conditions in the vicinity of PASS disturbances.
    - Contingency measures which are specific, measurable, and attainable, and can be implemented in a timely manner in the event that action criteria or trigger values are exceeded.
  - Future structures and infrastructure at the Site should consider the potential effects of sulfides and possible acidification in design and selection of materials, and adopt appropriate mitigation measures to prevent degradation of materials overtime.

  - Any groundwater, or run-off which may have come into contact with PASS, should be considered as potentially contaminated. pH and the potential to acidify should be considered in assessment any such water prior to disposal

- Any engineered fill or other materials used to increase the surface level to 3 mAHD must either:
  - Be classified as Level 1 – Fill, in accordance with the guidelines provided by IB105; or
  - Be approved for use by an Environmental Auditor, who may identify other conditions or controls based on the nature of the material used. For example, crushed dolerite sourced from other areas of the Site may be suitable for this purpose, but will require assessment and Environmental Auditor approval, as well as any other required approvals from planning authorities or EPA, prior to any such use.
- The areas of soil listed below, where lead in soil has been identified as exceeding the intrusive maintenance worker RC:
  - Soil surrounding the Hobart Main Pipeline (sewer) (already noted in Section 3.2.3 of the SEMP.
  - Soil surrounding *in situ* sample points K14, K18, L13, M13, M14, K06, L08, M09, N10, F11, G11, G13, H10, H12, H13, I13, J06, J08, J10, J12

  These locations should be noted as a potential area of elevated contamination, and addition PPE/management requirements put in place for intrusive works in this area (as part of future CEMPs or ongoing maintenance) to minimise potential exposure to lead in soil.
- Any subsurface services or utilities should be preferably installed within the engineered layer of clean fill. If services must be installed in existing Site soil, they must be installed in either clean soil corridors, or protected conduits, to minimise any contact with existing Site soil by future maintenance workers.
- Any future development of the Site which involved modification of the surface elevation must assess the proposed change against groundwater elevations. If groundwater will be or is likely to be ≤1 m below the final surface, the proposed development must include measures and/or mitigations to:
  - Prevent groundwater from reaching the surface or structures, such as drainage or tanking. Any such measures:
    - Must capture any drained groundwater for assessment and disposal as potential contaminated waste.
    - Must not transport or potentially increase the migration of groundwater or other contaminants on groundwater (such as LNAPL or DNAPL) to sensitive receptors (such as stormwater or the River Derwent/Sullivans Cove).
  - Assess and prevent unacceptable risks from groundwater-derived vapour via either:
    - Additional assessment of vapour risks from shallow groundwater which demonstrates that no unacceptable risks are present; or
    - A vapour protection system suitable for potential vapour risks from groundwater.
  - Identify if PASS may be dewatered and, if so, include measures to neutralise potential oxidation and prevent acidification as required by the assessment of acid sulfate soil at the Site.

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DOMAIN HWY
TASMAN HWY ON RAMP
TASMAN HWY BDGE
QUEENS DOMAIN
TASMAN HWY
RIVER DERWENT
BURNETT ST
BROOKER AV
GLEBE
ARGYLE ST
LIVERPOOL ST
HOBART
HARRINGTON ST
GOULBURN ST
MACQUARIE ST
DAVEY ST
SULLIVAN'S COVE
MOLLE ST
SANDY BAY RD
BATTERY POINT
ANTILL ST
BYRON ST
BYRONS T EXT
DIGNEY ST
REGENT ST
TASMANIA
SITE

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metres
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LEGEND
- Regatta Grounds Boundary
- Macquarie Point Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure
F1

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REGATTA POINT

STATE GROWTH AREA

AUDIT AREA 4 EAST

THE ESCARPMENT (AUDIT AREA 4 WEST)

NORTHERN VEHICULAR ACCESS

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

THE PRECINCT NORTH (LOT B)

THE GATEWAY

THE GOODS SHED AND YARD (AUDIT AREA 1)

GOODS SHED

THE PRECINCT SOUTH

RED SHED

SEAROAD SHED SLAB

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Legend

- Regatta Point Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE LAYOUT AND PROPOSED DEVELOPMENT PLAN

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure F2

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Legend

- Regatta Point Site Boundary
- Assessment Area
- Former Audit Areas
- Site Boundary

Proposed Land Use (Former Masterplan)

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas
- Residential Area

CURRENT AND HISTORIC ASSESSMENT AREAS

Macquarie Point Development Corporation

Site Suitability Statement Review 2025

Macquarie Point, Hobart, TAS

Figure

F3

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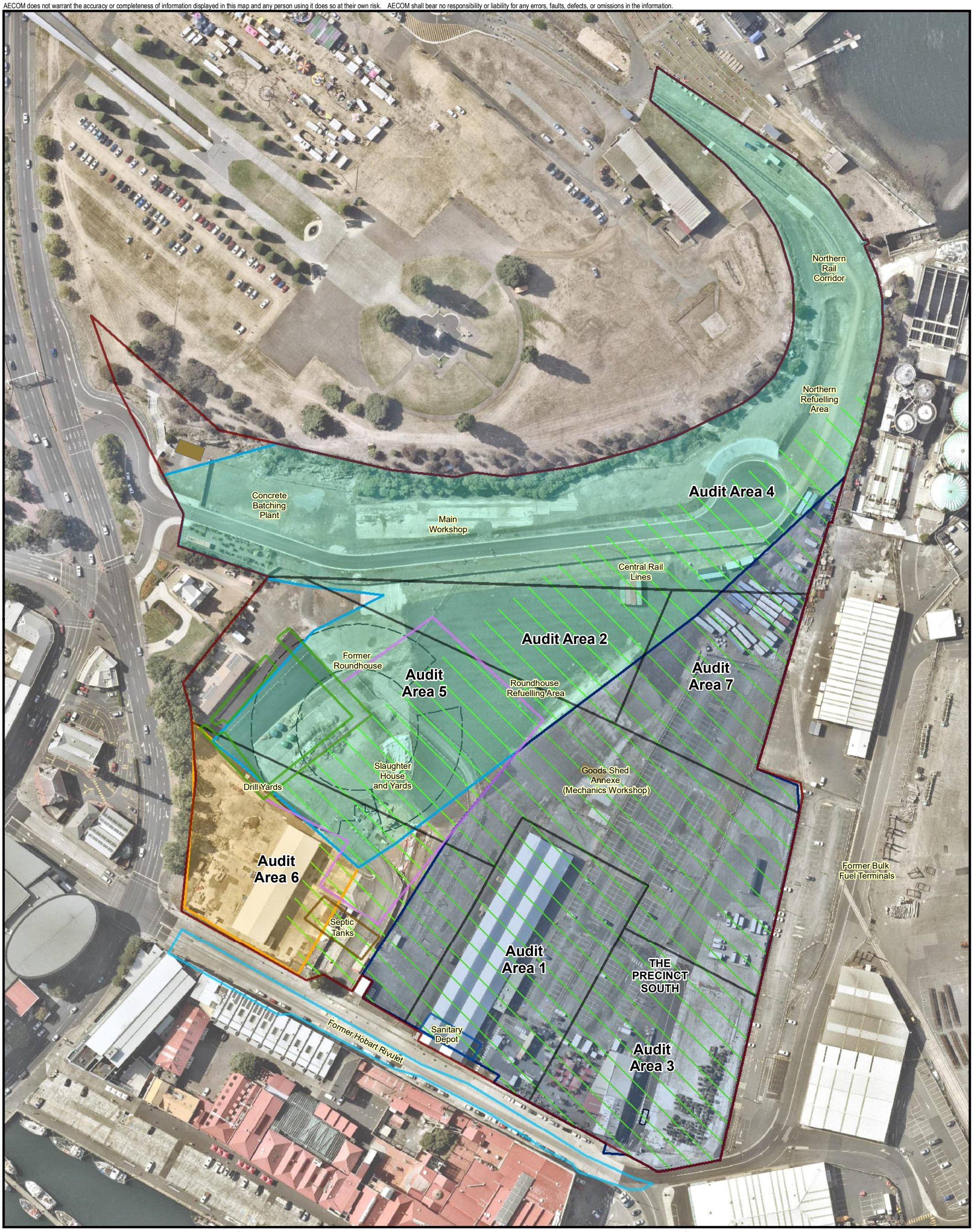

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Legend

- Site Boundary
- Proposed Audit
- Reclaimed Land
- Freight Handling
- Rail Yards
- Gas Works
- Drill Yards
- Former Hobart Rivulet
- Sanitary Depot
- Septic Tanks
- Slaughter House and Yards
- Historic Infrastructure
- Truck Wash/ Settling Pits
- Former UST (approximate location)

PREVIOUS LAND USES

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure F4

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REGATTA POINT

THE ESCARPMENT (AUDIT AREA 4 WEST)

(AUDIT AREA 4 EAST)

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC) (PART AUDIT AREAS 2 AND 5)

THE PRECINCT NORTH (LOT B) (AUDIT AREA 7 AND PART AUDIT AREAS 2,4 AND 5)

THE GATEWAY (AUDIT AREA 6 AND PART AUDIT AREA 5)

THE GOODS SHED AND YARD (AUDIT AREA 1)

THE PRECINCT SOUTH (AUDIT AREA 3 AND PART AUDIT AREA 5)

Final level - 4.8 mAHD

Final level - 1.7 mAHD

Final level - 3.0 mAHD

Final level - 3.3 mAHD

Final level - 2.9 mAHD

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Legend

- Regatta Point Boundary
- Current Assessment Area Boundary
- Site Boundary

Final Surface Level

- Final level - 1.7 mAHD
- Final level - 2.9 mAHD
- Final level - 3.0 mAHD
- Final level - 3.3 mAHD
- Final level - 4.8 mAHD

CURRENT AND PROPOSED FINAL SURFACE ELEVATIONS

Macquarie Point Development Corporation

Site Suitability Statement Review 2025

Macquarie Point, Hobart, TAS

Figure F5

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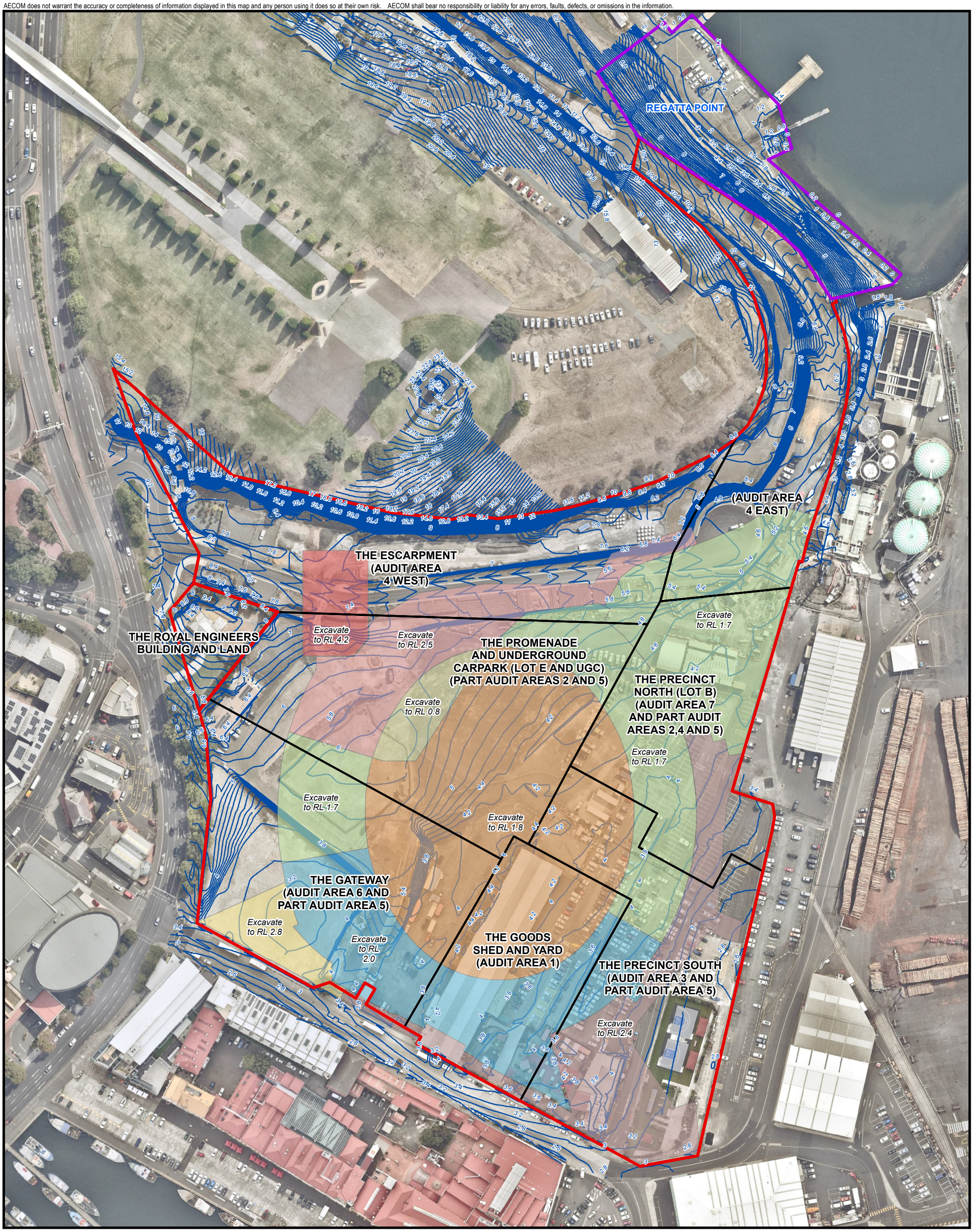

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Legend

- Regatta Point Boundary
- Current Assessment Area Boundary
- Site Boundary

Excavate to RL

- Excavate to RL 0.8
- Excavate to RL 1.7
- Excavate to RL 1.8
- Excavate to RL 2.0
- Excavate to RL 2.4
- Excavate to RL 2.5
- Excavate to RL 2.8
- Excavate to RL 4.2

POTENTIAL ADDITIONAL EXCAVATION FOR DEVELOPMENT

Macquarie Point Development Corporation

Site Suitability Statement Review 2025

Macquarie Point, Hobart, TAS

Figure F6

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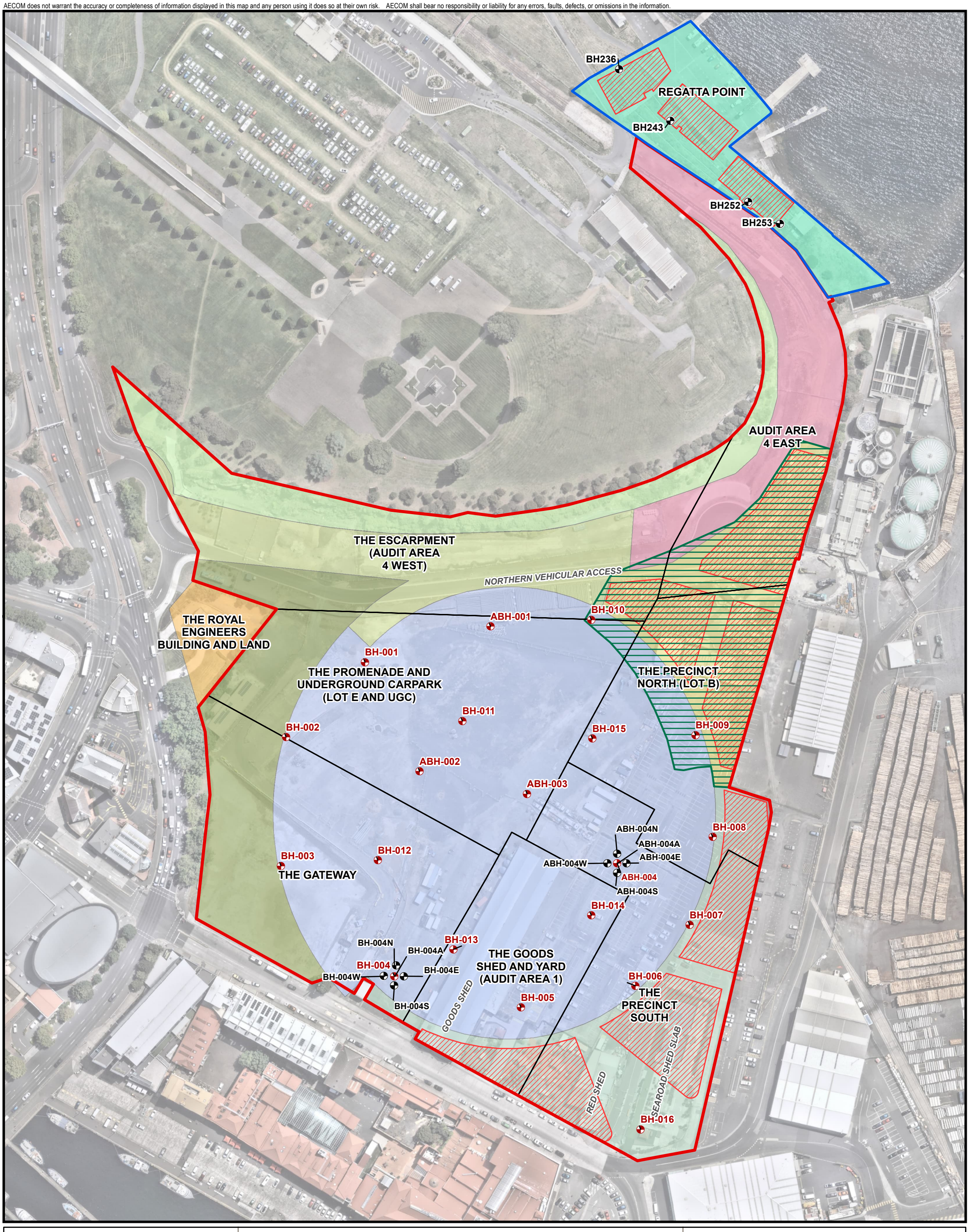

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Legend

- Geotechnical Bore
- Soil Bores
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

ACID SULFATE SOIL ASSESSMENT LOCATIONS

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure
F7

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HOBART RIVULET

THE ESCARPMENT (AUDIT AREA 4 WEST)

AUDIT AREA 4 EAST

A B C D E F G H I J K L M

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Practice Wicket Area

Basement Car Park Area

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

Stage 1 Bulk Remediation Area

THE PRECINCT NORTH (LOT B)

THE GATEWAY

THE GOODS SHED AND YARD (AUDIT AREA 1)

Stage 2 Bulk Remediation Area

THE PRECINCT SOUTH

UNIVERSITY OF TASMANIA

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Legend

- Soil Bore Location
- Proposed Excavation Phase
- Site Boundary
- Assessment Area Boundary

BULK EXCAVATION - STAGE 1 AND 2 *IN SITU* ASSESSMENT LOCATIONS

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure

F8

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Audit Area 2
A2
Audit Area 7
Audit Area 5
Audit Area 6
Audit Area 1
Audit Area 3
GOODS SHED
Cold Store
BH47
RN10
BH34
BH56
DP02
BH35
SV01
BH48
BH59
BH36
BH79
BH94
BH95
MW122
BH93
BH92 /MW148
BH96
MW55
SV02
BH38
BH90
BH88
BH49
BH37
BH91
BH85
BH89
BH86
BH83
BH87
BH39
BH63
BH84
BH40
MW127A/MW127B
SV03
BH50
BH64
MW129
BH51
BH43
BH42
RS6
MW149
BH81
BH65
BH44
MW133_GHD
MW124A/MW124B
BH45
RS10

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Legend

- Site Boundary
- Audit Area 1
- Groundwater Well
- 20m External Audit Area Boundary
- Soil Borehole
- Inferred Extent of LNAPL Plume
- Vapour Probe
- Inferred Extent of Tar and Gross Tar Impact
- Geotechnical Borehole Location
- Current/Former Underground Storage Tank

SITE SUITABILITY STATEMENT ASSESSMENT LOCATIONS - THE GOODS SHED AND YARD

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure

F9a

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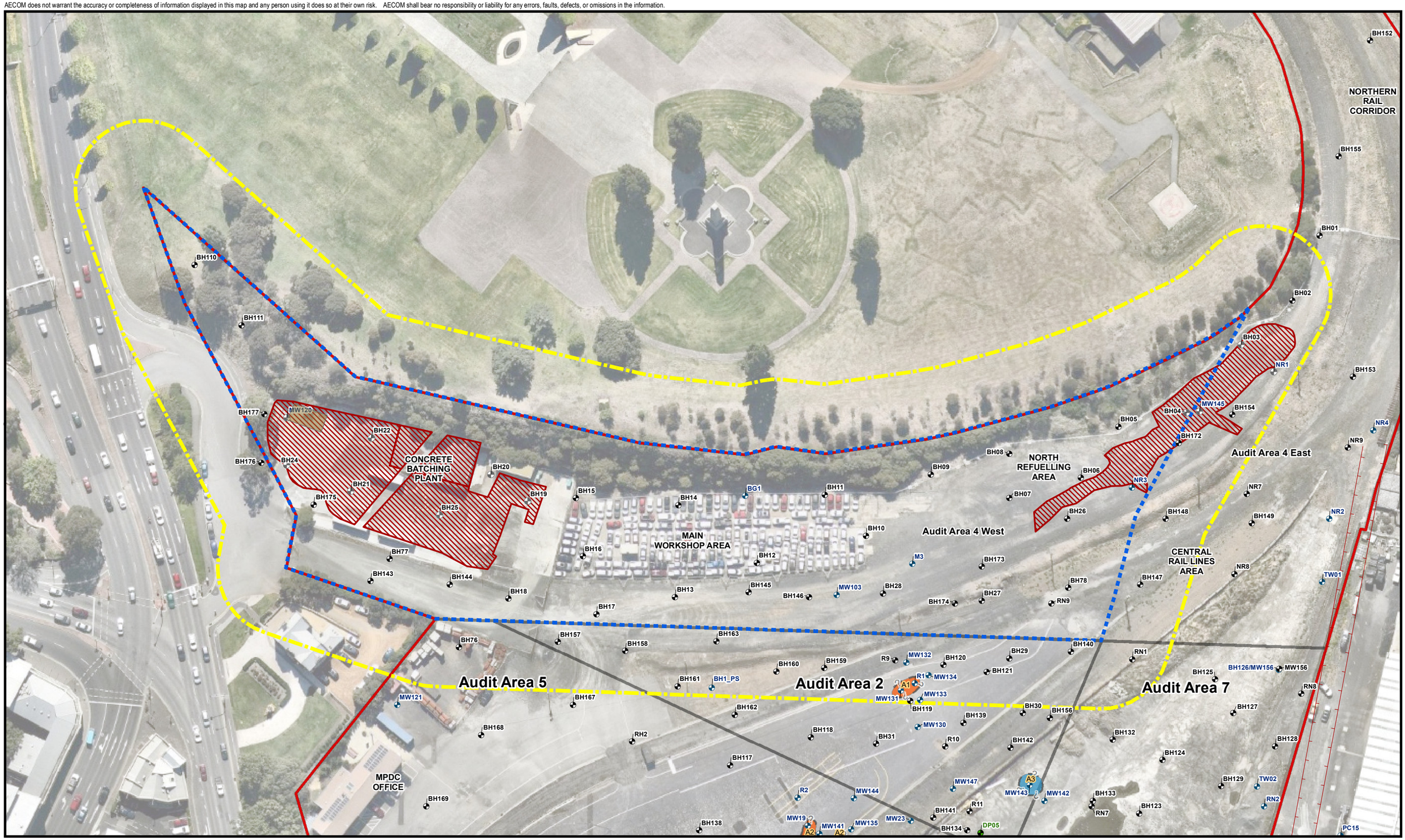

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

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Legend

- Site Boundary
- Groundwater Well
- Geotechnical Borehole
- Soil Bores/Test Pits
- Soil location excavated during remediation in 2019/2020
- Sea Wall
- The Escarpment Boundary
- 20m External Audit Area Boundary
- Extent of Excavation
- Audit Areas
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

SITE SUITABILITY STATEMENT ASSESSMENT LOCATIONS - THE ESCARPMENT

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure

F9b

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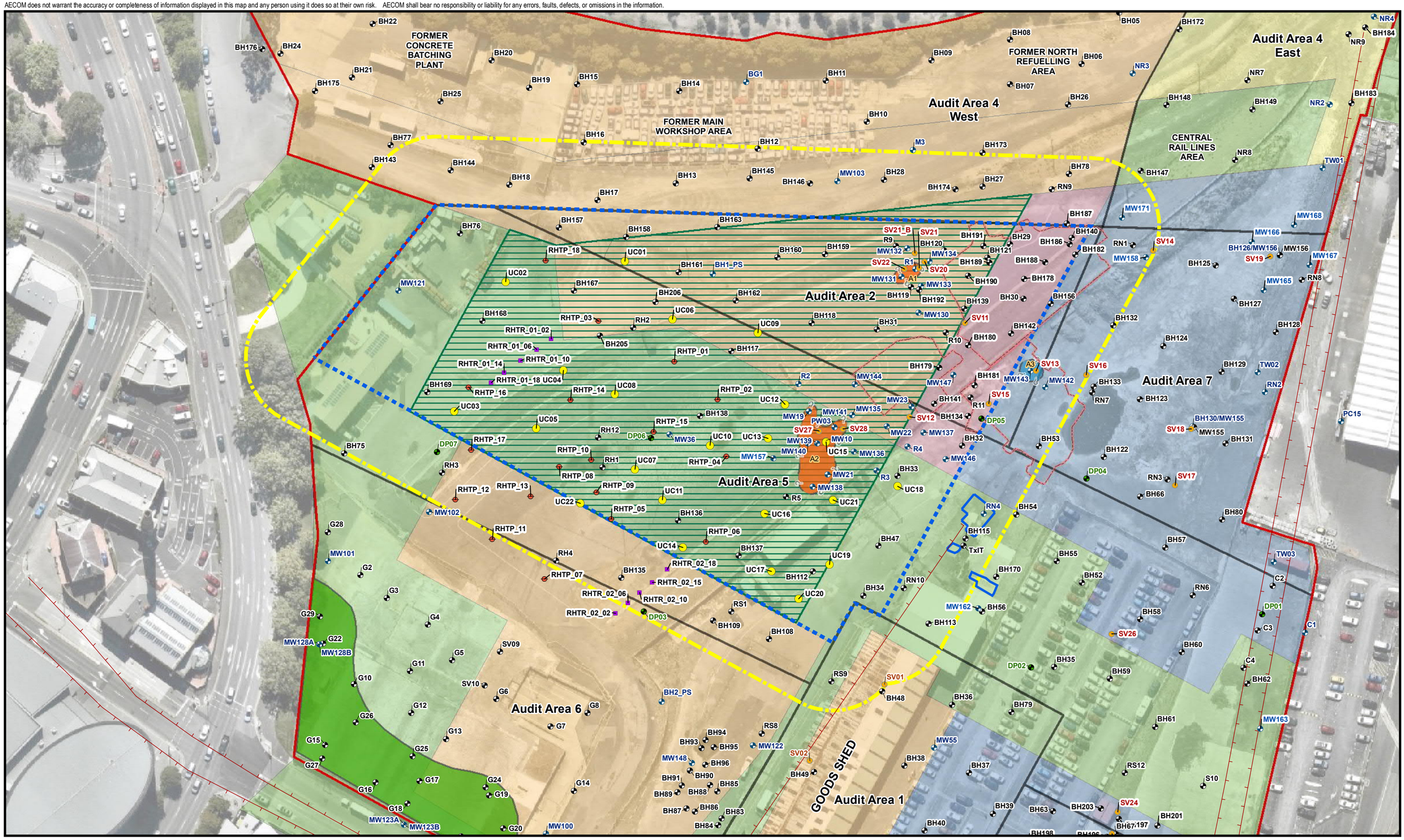

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LAST MODIFIED PK 23 Apr 2021

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 10 20 40
metres
1:1,000 (when printed at A3)

Legend

- Groundwater Well
- Vapour Probes
- Geotechnical Borehole
- Soil Bores/Test Pits
- Test Pit (Underground Carpark)
- Test Pit (Roundhouse Investigation)
- Trench (Roundhouse Investigation)
- Sea Wall
- Excavation Walls
- Excavation Extent
- Site Boundary
- Lot E and Underground Carpark CUTEP Boundary
- 20 m Buffer Zone
- Audit Areas
- Inferred Extent of LNAPL Plume
- Inferred Extent of Tar and Gross Tar Impact
- Historical Inferred Extent of LNAPL Plume

Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

SITE SUITABILITY STATEMENT ASSESSMENT LOCATIONS - THE PROMENADE AND UNDERGROUND CARPARK

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure F9c

Map Document: (\\aumel1fp001.au.aecomnet.com\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2021\04\LotE_and_Underground_Carpark–CleanUp_Practicable_Report\F10_DSI_Assessment_Locations.mxd)

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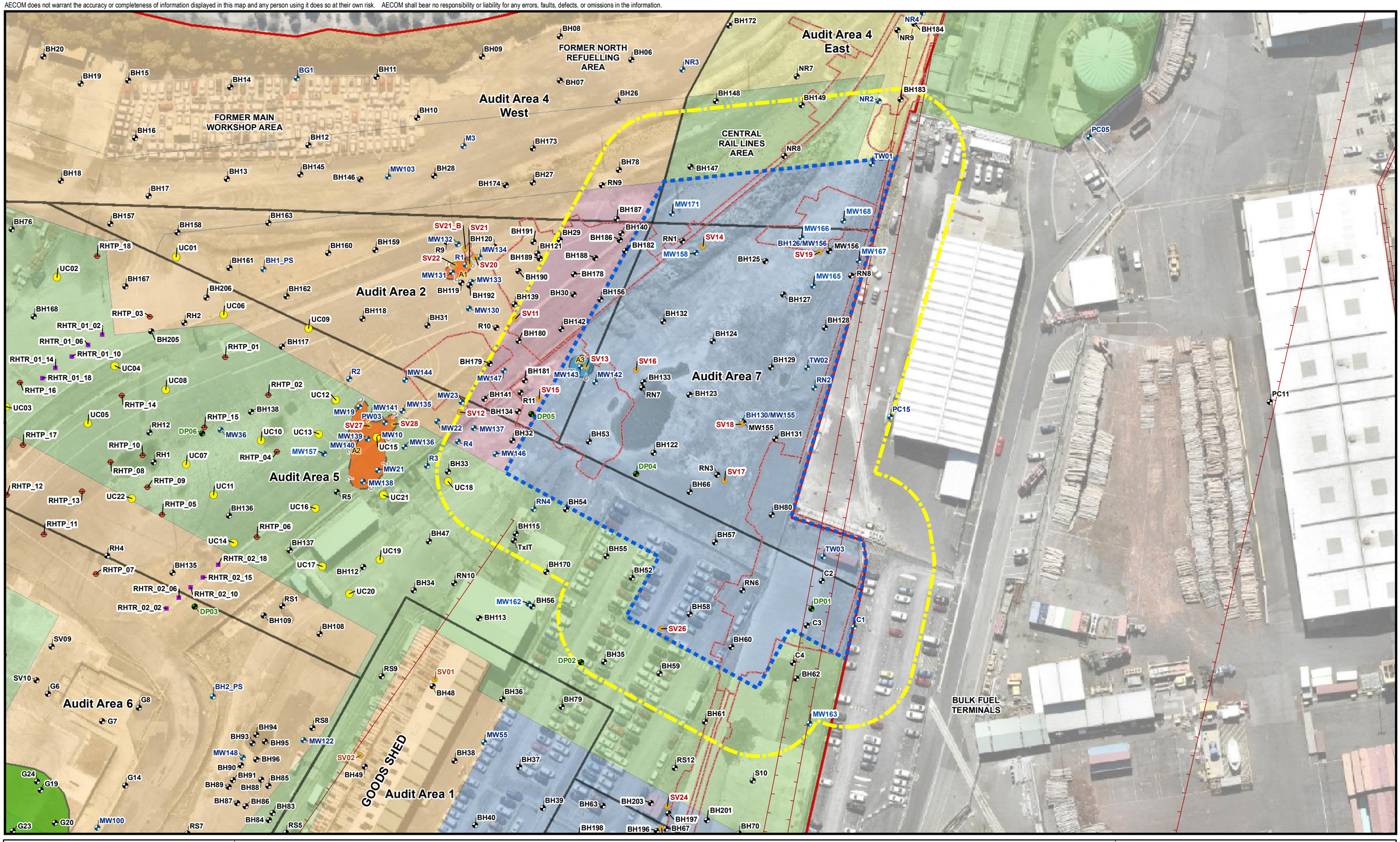

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LAST MODIFIED PK 03 Jun 2021

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 10 20 40
metres
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Legend

- Groundwater Well
- Vapour Probes
- Geotechnical Borehole
- Soil Bores/Test Pits
- Test Pit (Underground Carpark)
- Test Pit (Roundhouse Investigation)
- Trench (Roundhouse Investigation)
- Sea Wall
- Precinct North Boundary
- 20 m Buffer Zone
- Site Boundary
- Audit Areas
- Excavation Extent
- Inferred Extent of LNAPL Plume
- Inferred Extent of Tar and Gross Tar Impact
- Historical Inferred Extent of LNAPL Plume

Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

SITE SUITABILITY STATEMENT ASSESSMENT LOCATIONS - THE PRECINCT NORTH

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure **F9d**

Map Document: (\\aumel1fp001.au.aecomnet.com\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2021\05\LotB–CleanUp_to_the_Extent_Practicable_Report\F9_DSI_Assessment_Locations.mxd)

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

1:2,000 (when printed at A3)

Legend

- 2025 Groundwater Well
- Existing Groundwater Well
- 2025 Soil Vapour Bore
- Existing Soil Vapour Bore
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- Assessment Area Boundary
- Site Boundary

CURRENT GROUNDWATER WELLS AND SOIL VAPOUR BORE LOCATIONS

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure F10

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

A3 size

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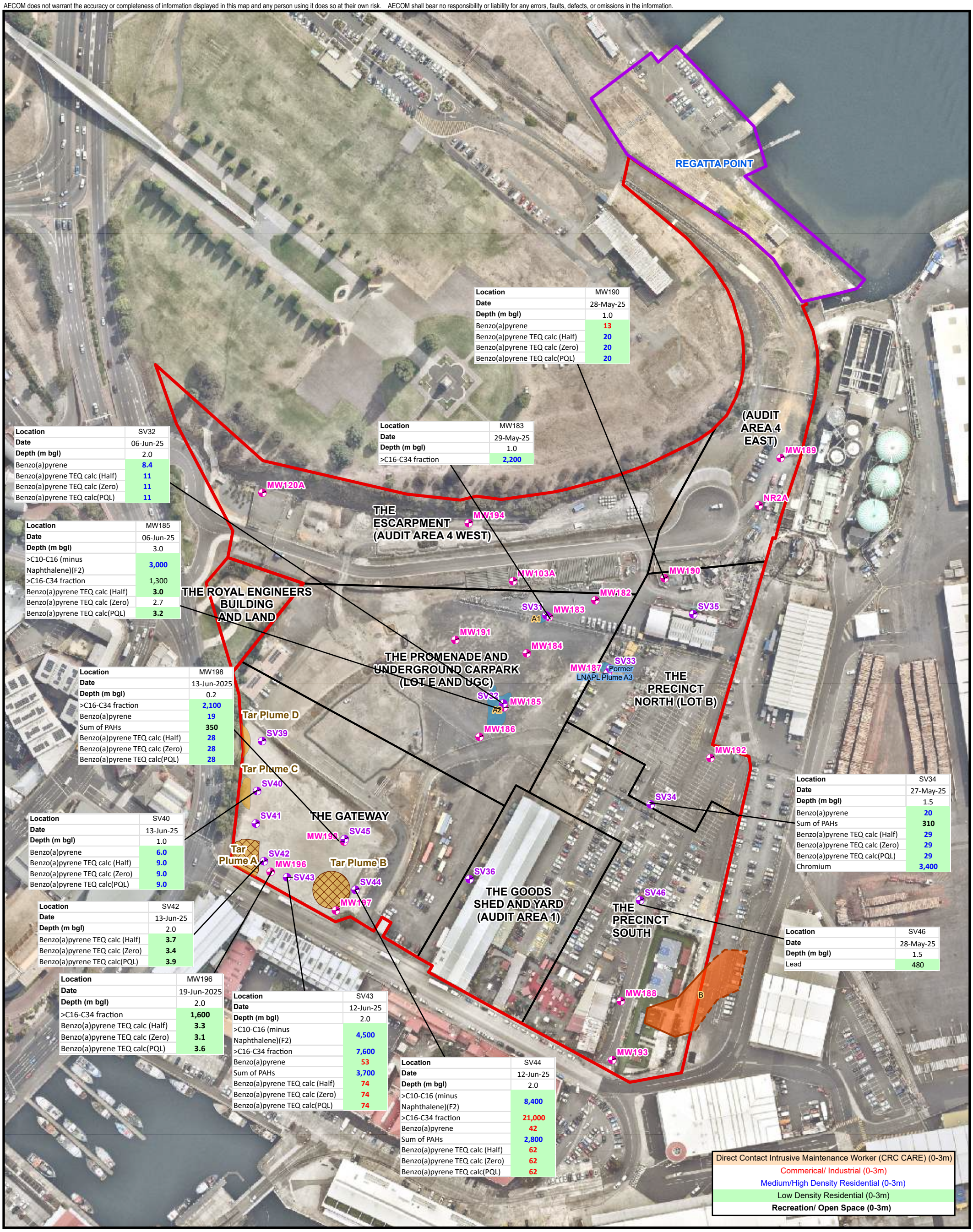

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LAST MODIFIED PK 09 Sep 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

ADDITIONAL SOIL RESULTS – TIER 1 ASSESSMENT - DIRECT CONTACT

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure
F11a

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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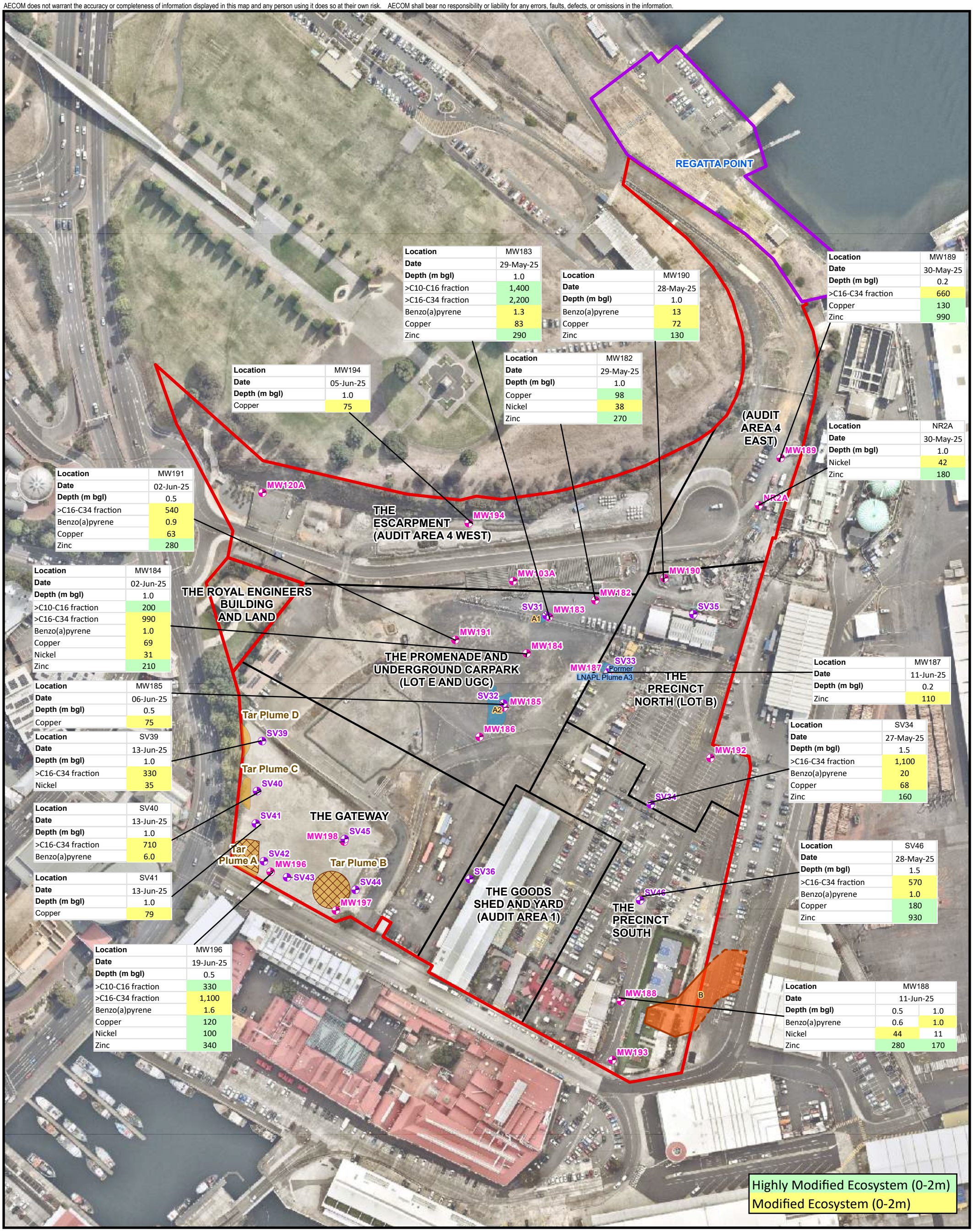

Location	MW183
Date	29-May-25
Depth (m bgl)	1.0
>C10-C16 fraction	1,400
>C16-C34 fraction	2,200
Benzo(a)pyrene	1.3
Copper	83
Zinc	290

Location	MW190
Date	28-May-25
Depth (m bgl)	1.0
Benzo(a)pyrene	13
Copper	72
Zinc	130

Location	MW189
Date	30-May-25
Depth (m bgl)	0.2
>C16-C34 fraction	660
Copper	130
Zinc	990

Location	MW194
Date	05-Jun-25
Depth (m bgl)	1.0
Copper	75

Location	MW182
Date	29-May-25
Depth (m bgl)	1.0
Copper	98
Nickel	38
Zinc	270

Location	NR2A
Date	30-May-25
Depth (m bgl)	1.0
Nickel	42
Zinc	180

Location	MW191
Date	02-Jun-25
Depth (m bgl)	0.5
>C16-C34 fraction	540
Benzo(a)pyrene	0.9
Copper	63
Zinc	280

Location	MW184
Date	02-Jun-25
Depth (m bgl)	1.0
>C10-C16 fraction	200
>C16-C34 fraction	990
Benzo(a)pyrene	1.0
Copper	69
Nickel	31
Zinc	210

Location	MW185
Date	06-Jun-25
Depth (m bgl)	0.5
Copper	75

Location	MW187
Date	11-Jun-25
Depth (m bgl)	0.2
Zinc	110

Location	SV39
Date	13-Jun-25
Depth (m bgl)	1.0
>C16-C34 fraction	330
Nickel	35

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
>C16-C34 fraction	1,100
Benzo(a)pyrene	20
Copper	68
Zinc	160

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
>C16-C34 fraction	710
Benzo(a)pyrene	6.0

Location	SV46
Date	28-May-25
Depth (m bgl)	1.5
>C16-C34 fraction	570
Benzo(a)pyrene	1.0
Copper	180
Zinc	930

Location	SV41
Date	13-Jun-25
Depth (m bgl)	1.0
Copper	79

Location	MW196
Date	19-Jun-25
Depth (m bgl)	0.5
>C10-C16 fraction	330
>C16-C34 fraction	1,100
Benzo(a)pyrene	1.6
Copper	120
Nickel	100
Zinc	340

Location	MW188	
Date	11-Jun-25	
Depth (m bgl)	0.5	1.0
Benzo(a)pyrene	0.6	1.0
Nickel	44	11
Zinc	280	170

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

ADDITIONAL SOIL RESULTS – TIER 1 ASSESSMENT - ECOSYSTEM

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure

F11b

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REGATTA POINT

Location	MW190
Date	28-May-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	150

Location	MW183	
Date	29-May-25	
Depth (m bgl)	1.0	3.0
>C10-C16 (minus Naphthalene)(F2)	1,400	640

Location	MW184
Date	02-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	200

Location	MW185
Date	06-Jun-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	1,700

Location	MW186
Date	10-Jun-25
Depth (m bgl)	3.5
>C10-C16 (minus Naphthalene)(F2)	410

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	65.3

Location	SV42
Date	13-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	315.3

Location	MW196	
Date	19-Jun-25	
Depth (m bgl)	0.5	2.0
>C10-C16 (minus Naphthalene)(F2)	330	488

Location	SV43
Date	12-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	4,500
Total Xylenes	210
Naphthalene	1,900

Location	MW198
Date	13-Jun-25
Depth (m bgl)	0.2
>C10-C16 (minus Naphthalene)(F2)	284
Benzene	0.9
Naphthalene	32

Location	SV44
Date	12-Jun-25
Depth (m bgl)	2.0
C6-C10 fraction (minus BTEX)(F1)	330
>C10-C16 (minus Naphthalene)(F2)	8,400
Benzene	38
Naphthalene	1,100

Location	SV32
Date	06-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	600

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
>C10-C16 (minus Naphthalene)(F2)	96.9

THE ESCARPMENT (AUDIT AREA 4 WEST)

(AUDIT AREA 4 EAST)

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

THE PRECINCT NORTH (LOT B)

THE GATEWAY

THE GOODS SHED AND YARD (AUDIT AREA 1)

THE PRECINCT SOUTH

Tar Plume A

Tar Plume B

Tar Plume C

Tar Plume D

Former LNAPL Plume A3

MW120A MW189 NR2A MW194 MW103A MW190 MW182 SV31 A1 MW183 SV35 MW191 MW184 MW187 SV33 SV32 A2 MW185 MW186 SV39 MW192 SV40 SV34 SV41 MW198 SV45 SV42 MW196 SV43 SV36 SV44 MW197 SV46 MW188 B MW193

CRC CARE 2011 HSL A&B (SAND)

CRC CARE 2011 HSL D (SAND)

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

ADDITIONAL SOIL RESULTS – TIER 1 ASSESSMENT - VAPOUR INTRUSION

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure

F11c

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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REGATTA POINT

THE ESCARPMENT (AUDIT AREA 4 WEST)

(AUDIT AREA 4 EAST)

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

THE PRECINCT NORTH (LOT B)

THE GATEWAY

THE GOODS SHED AND YARD (AUDIT AREA 1)

THE PRECINCT SOUTH

Tar Plume D

Tar Plume C

Tar Plume A

Tar Plume B

MW120A MW194 MW103A MW182 MW190 MW189 NR2A MW191 MW184 MW183 SV31 A1 SV35 SV33 MW187 Former LNAPL Plume A3 SV32 A2 MW185 MW186 SV39 SV40 SV41 MW198 SV45 SV42 MW196 SV43 SV44 MW197 SV36 SV34 MW192 SV46 MW188 B MW193

Location	SV32
Date	6-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	600

Location	MW183	
Date	29-May-25	
Depth (m bgl)	1.0	3.0
>C10-C16 (minus Naphthalene)(F2)	1,400	640

Location	MW184
Date	02-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	200

Location	MW185
Date	06-Jun-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	1,700

Location	MW186
Date	10-Jun-25
Depth (m bgl)	3.5
>C10-C16 (minus Naphthalene)(F2)	410

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	65.3

Location	SV41
Date	13-Jun-25
Depth (m bgl)	1.0
Naphthalene	3.0

Location	SV42
Date	13-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	315.3

Location	MW196	
Date	29-May-25	
Depth (m bgl)	0.5	2.0
>C10-C16 (minus Naphthalene)(F2)	330	488

Location	SV43
Date	12-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	4,500
Total Xylenes	210
Naphthalene	1,900

Location	MW198
Date	13-Jun-25
Depth (m bgl)	0.2
>C10-C16 (minus Naphthalene)(F2)	284
Benzene	0.9
Naphthalene	32

Location	SV44
Date	12-Jun-25
Depth (m bgl)	2.0
C6-C10 fraction (minus BTEX)(F1)	330
>C10-C16 (minus Naphthalene)(F2)	8,400
Benzene	38
Naphthalene	1,100

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
>C10-C16 (minus Naphthalene)(F2)	96.9

Potential Future Commercial Light Industrial Workers (low-rise slab-on-grade)
Potential Future Comm/Light Ind Workers (working within a basement)
Potential Future Residents (building with a basement car park)
Potential Future Residents (low rise slab-on-grade)
Potential Future Residents (unknown construction, or multi-storey building)
Potential Future Comm (unknown construction or multi-storey building)

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

ADDITIONAL SOIL RESULTS – REMEDIATION CRITERIA

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure
F11d

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,297 (when printed at A3)

Legend

- Soil Bore Location Within Considered Assessment Areas
- Soil Bore Location Outside Considered Assessment Areas
- RC Exceedance (Commercial / Light Industrial Workers)
- RC Exceedance (Intrusive Maintenance Workers)
- Proposed Excavation Phase
- Site Boundary
- Assessment Area Boundary

Note: Refer to Table T4 for the depths at which concentrations in excess of the RC have been detected

ADDITIONAL SOIL RESULTS - S1 AND S2 *IN SITU* ASSESSMENT - REMEDIATION CRITERIA

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure

F11e

Map Document: (C:\Users\FengerS\OneDrive - AECOM\Documents\Mac Point\GIS\Figures For Report\F3a PAH Total Conentrations.mxd)

A3 size

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100
metres

1:2,150 (when printed at A3)

Legend

- Lot B CUTEP Boundary
- 20 m Buffer Zone
- Site Boundary
- Groundwater Monitoring Well Locations
- 0.20m Contours (mAHD)
- Sea Wall
- Hunter Island
- Inferred Direction of Groundwater Flow
- Stormwater Infrastructure
- Sewer pipeline - Historic
- Sewer Pipeline - Existing
- Audit Areas
- Inferred Extent of LNAPL Plume
- Inferred Extent of Tar and Gross Tar Impact
- 0.614 Groundwater Elevation (mAHD)

INFERRED SHALLOW GROUNDWATER LEVEL CONTOURS – SITE-WIDE – NOVEMBER 2019

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure F12a

Map Document: (\\aumel1fp001.au.aecomnet.com\projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2021\05\LotB–CleanUp_to_the_Extent_Practicable_Report\F8_Inferred_Shallow_GWlevel_Contours_Nov19.mxd)

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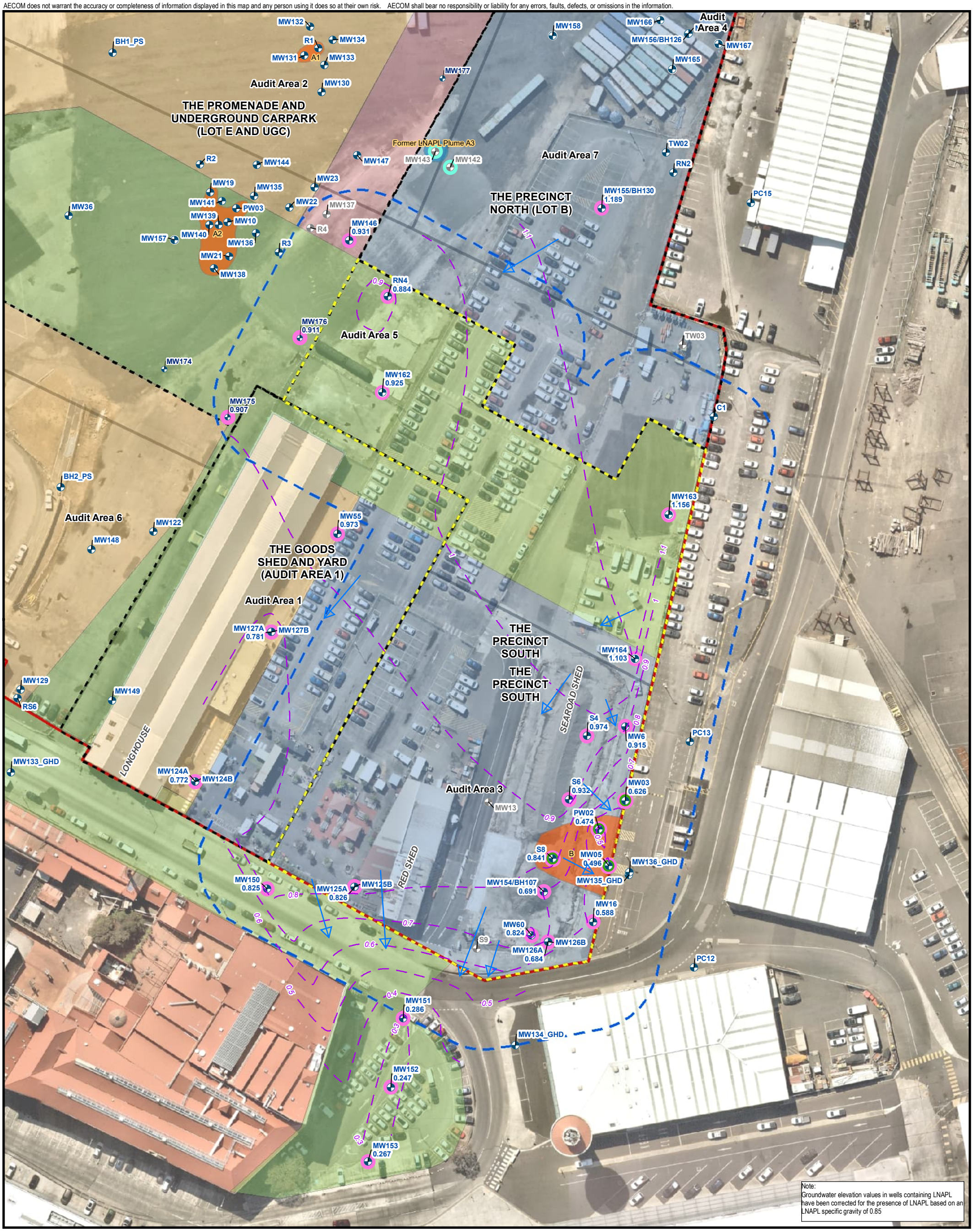

Note:
Groundwater elevation values in wells containing LNAPL have been corrected for the presence of LNAPL based on an LNAPL specific gravity of 0.85

PROJECT ID 60321835
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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,000 (when printed at A3)

Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored during the Targeted Precinct South GME
- Wells with measurable LNAPL recorded during the Targeted GME
- Potentially Buried Wells
- Inferred Groundwater Contours
- The Precinct South
- Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

INFERRED SHALLOW GROUNDWATER LEVEL CONTOURS – THE PRECINCT SOUTH – DECEMBER 2023

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure
F12b

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\PrecinctSouth_GME_RevB\F5_A3P_ThePrecinctSouth_IGW_Dec23.mxd)

A3 size

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REGATTA POINT
MW180 0.095
MW178 0.255
MW179 0.267
MW181
MW161
MW160 0.795
AUDIT AREA 4 EAST
MW159 3.149
PC10
NR1 2.404
MW145
NR4
NR3
NR2
PC05
TW01
MW120
BG1
NORTHERN VEHICULAR ACCESS
THE ESCARPMENT (AUDIT AREA 4 WEST)
M3
MW103
THE ROYAL ENGINEERS BUILDING AND LAND
MW121 3.198
BH1_PS
MW132
R1
MW134
MW131
MW133
MW130
MW177
MW171
MW166
MW168
MW158
MW156
MW156
MW167 1.145
MW165
THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)
MW141
PW03
MW147
R2
MW144
MW143
MW142
TW02
RN2
PC11
PC15
MW19
MW135
MW23
MW36 2.126
MW10
MW137
MW140
R4
MW146 0.811
MW155 0.984
MW157
MW139
R3
MW22
MW136
MW102 2.941
MW173
MW138
MW21
THE PRECINCT NORTH (LOT B)
RN4 0.809
MW101 3.007
MW176 0.847
TW03
MW174
C1 0.861
MW128A 3.041
MW175 0.848
MW162
MW128B 3.018
THE GATEWAY
BH2_PS
MW122 0.765
MW55 0.758
MW163 0.871
MW148
MW123B 0.329
MW123A 0.674
MW100 0.632
MW127B 0.617
MW127A 0.706
MW164 0.849
THE PRECINCT SOUTH
MW130_GHD
MW132_GHD
MW131_GHD
MW129
MW1
THE GOODS SHED AND YARD (AUDIT AREA 1)
GOODS SHED
RS6 0.627
MW6 0.745
PC13 1.334
S4
S8 0.750
S6
SEAROAD SHED SLAB
MW03 0.614
PW02 0.512
MW133_GHD
MW124B
MW124A
MW13
RED SHED
MW05 0.925
MW125A 0.825
MW154 0.769
MW136_GHD 0.611
MW150
MW60 0.686
MW135_GHD 0.658
MW125B 0.620
S9
MW16 0.635
PC12
MW151 0.371
MW126B 0.374
MW126A 0.688
MW134_GHD 0.281
MW152 0.318
MW153 0.302
PC14
PC08

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 24 Mar 2025

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 30 60 120
metres
1:2,000 (when printed at A3)

Legend
- Groundwater Well
- LNAPL
- Inferred Groundwater Contours
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary
- Inferred Direction of Groundwater Flow

Proposed Landuse
- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

INFERRED SHALLOW GROUNDWATER LEVEL CONTOURS – SITE-WIDE – FEBRUARY 2025

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure F12c

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\03\SVB_GWI_Feb2025\F5_GW_Contour.mxd)

A3 size

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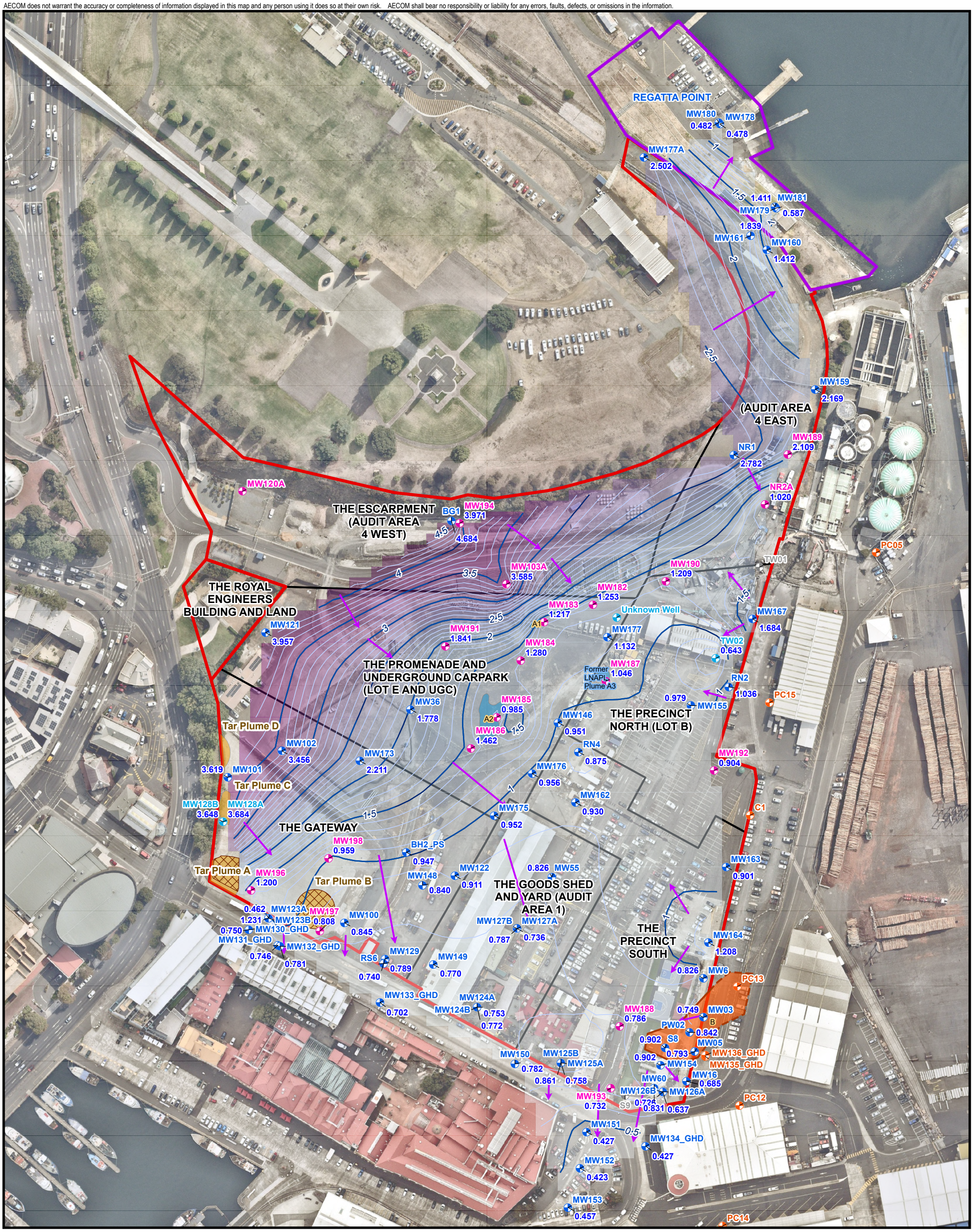

PROJECT ID 60321835 CREATED BY PK LAST MODIFIED PK 20 Jan 2026 AECOM www.aecom.com	Legend New Groundwater Well Existing Groundwater Well Lost/Destroyed Well Reinstated and Resurveyed Existing Well TasPorts Well ISS Treated Material Inferred Tar Extent Inferred Groundwater Contour (Major) Inferred Groundwater Contour (Minor) Inferred Extent of LNAPL Plume Historical Inferred Extent of LNAPL Plume Assessment Area Boundary Regatta Point Boundary Site Boundary Groundwater Contour Elevation (mAHD) 4.59782 0.423804	**INFERRED SHALLOW GROUNDWATER CONTOURS - SITE-WIDE - JUNE 2025**
N DATUM GDA 1994, PROJECTION MGA ZONE 55 0 25 50 100 metres 1:1,900 (when printed at A3)		**Macquarie Point Development Corporation** *Review of Site Suitability Statements 2025* Macquarie Point, Hobart, TAS **Figure** **F12d**

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

A3 size

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PFAS NEMP 2025 Drinking water quality guideline
PFAS NEMP 2025 Recreational water quality guideline
Drinking Water (Aesthetics)
Drinking Water (Health)
Recreation (Primary / Secondary Contact)

Location		MW121
Date		18 Jun 2025
Total Dissolved Solids	mg/L	830

Location		MW120A
Date		25 Jun 2025
Benzene	µg/L	170
Toluene	µg/L	59
Naphthalene	µg/L	2
Chloride	mg/L	760
Sodium	mg/L	590
Sulfate as SO4	mg/L	350
Total Dissolved Solids	mg/L	2,000

Location		MW180	
Date		25 Sep 2024	18 Jun 2025
Cadmium (filtered)	mg/L	0.014	0.012
Lead (filtered)	mg/L	0.44	<0.001
Chloride	mg/L	9,300	14,000
Sodium	mg/L	5,200	7,400
Sulfate as SO4	mg/L	1,200	2,100
Total Dissolved Solids	mg/L	17,000	28,000

Location		MW178	
Date		26 Sep 2024	17 Jun 2025
Chloride	mg/L	458	140
Sodium	mg/L	330	200
Total Dissolved Solids	mg/L	1,000	660

Location		MW179	
Date		26 Sep 2024	17 Jun 2025
Manganese (filtered)	mg/L	-	0.59
Sodium	mg/L	98	190

Location		NR1
Date		17 Jun 2025
Manganese (filtered)	mg/L	2.3
Sodium	mg/L	280
Total Dissolved Solids	mg/L	720

Location		MW173	
Date		01 Dec 2022	18 Jun 2025
Manganese (filtered)	mg/L	0.474	0.29
Cyanide Total	µg/L	34	190
Total Dissolved Solids	mg/L	607	950

Location		BG1
Date		17 Jun 2025
Sodium	mg/L	200
Sulfate as SO4	mg/L	320
Total Dissolved Solids	mg/L	1,300

Location		MW161	
Date		25 Sep 2024	19 Jun 2025
Total Dissolved Solids	mg/L	620	560

Location		MW159	
Date		25 Sep 2024	20 Jun 2025
Manganese (filtered)	mg/L	-	0.94
Total Dissolved Solids	mg/L	690	780

Location		MW175
Date		30 Nov 2023
Manganese (filtered)	mg/L	1.54
Total Dissolved Solids	mg/L	714

Location		MW191
Date		18 Jun 2025
Manganese (filtered)	mg/L	0.49
Total Dissolved Solids	mg/L	1,100

Location		MW194
Date		17 Jun 2025
Chloride	mg/L	270
Sulfate as SO4	mg/L	460
Total Dissolved Solids	mg/L	1,500

Location		TW02
Date		17 Jun 2025
Manganese (filtered)	mg/L	0.97
Naphthalene	µg/L	48
Chloride	mg/L	13,000
Sodium	mg/L	6,900
Cyanide Total	µg/L	100
Total Dissolved Solids	mg/L	12,000

Location		MW189
Date		18 Jun 2025
Manganese (filtered)	mg/L	1.4
Total Dissolved Solids	mg/L	610

Location		MW102	
Date		01 Dec 2022	18 Jun 2025
Manganese (filtered)	mg/L	0.238	0.63
Cyanide Total	µg/L	215	520
Total Dissolved Solids	mg/L	998	1,300

Location		MW186
Date		25 Jun 2025
Manganese (filtered)	mg/L	1.6
Cyanide Total	µg/L	96
Total Dissolved Solids	mg/L	819

Location		MW184
Date		18 Jun 2025
Manganese (filtered)	mg/L	0.25
Sodium	mg/L	290
Cyanide Total	µg/L	170
Total Dissolved Solids	mg/L	1,100

Location		MW190
Date		17 Jun 2025
Manganese (filtered)	mg/L	0.13
Total Dissolved Solids	mg/L	720

Location		MW183
Date		17 Jun 2025
Manganese (filtered)	mg/L	0.58
Sodium	mg/L	190
Total Dissolved Solids	mg/L	680

Location		MW182
Date		17 Jun 2025
Manganese (filtered)	mg/L	1.1
Total Dissolved Solids	mg/L	1,000

Location		BH2_PS
Date		19 Jun 2025
Manganese (filtered)	mg/L	0.68
Sodium	mg/L	200
Total Dissolved Solids	mg/L	1,400

Location		MW101
Date		24 Jun 2025
Manganese (filtered)	mg/L	0.95
Benzene	µg/L	2
Cyanide Total	µg/L	230

Location		MW128A
Date		25 Jun 2025
Manganese (filtered)	mg/L	0.083
Benzene	µg/L	4
Total Xylenes	µg/L	24
Sulfate as SO4	mg/L	780
Cyanide Total	µg/L	1,500
Nitrate (as N)	mg/L	70
Total Dissolved Solids	mg/L	2,300

Location		MW36
Date		02 Dec 2022
Manganese (filtered)	mg/L	0.372
Total Dissolved Solids	mg/L	790

Location		MW198
Date		25 Jun 2025
Manganese (filtered)	mg/L	4.0
Naphthalene	µg/L	3
Sulfate as SO4	mg/L	480
Cyanide Total	µg/L	650
Nitrate (as N)	mg/L	17
Total Dissolved Solids	mg/L	1,300

Location		MW146
Date		29 Nov 2023
Manganese (filtered)	mg/L	0.63
Total Dissolved Solids	mg/L	830

Location		RN4	
Date		29 Nov 2023	18 Jun 2025
Manganese (filtered)	mg/L	1.76	1.4
Chloride	mg/L	536	280
Sodium	mg/L	257	240
Total Dissolved Solids	mg/L	1,440	1,100

Location		MW176
Date		30 Nov 2023
Manganese (filtered)	mg/L	1.64
Total Dissolved Solids	mg/L	794

Location		MW197
Date		25 Jun 2025
Manganese (filtered)	mg/L	0.11
Benzene	µg/L	120
Toluene	µg/L	52
Total Xylenes	µg/L	43
Naphthalene	µg/L	490
Cyanide Total	µg/L	230
2-Methylphenol (o-Cresol)	µg/L	1,700
Total Cresols	µg/L	2,200
2,4-Dimethylphenol	µg/L	1,100

Location		MW196
Date		25 Jun 2025
Manganese (filtered)	mg/L	0.37
Sulfate as SO4	mg/L	260
Cyanide Total	µg/L	160
Total Dissolved Solids	mg/L	780

Location		MW162
Date		30 Nov 2023
Manganese (filtered)	mg/L	0.767
Chloride	mg/L	713
Sodium	mg/L	400
Total Dissolved Solids	mg/L	1,810

Location		MW192
Date		18 Jun 2025
Manganese (filtered)	mg/L	0.60
Total Dissolved Solids	mg/L	840

Location		MW163
Date		05 Dec 2023
Manganese (filtered)	mg/L	0.198

Location		MW55	
Date		30 Nov 2023	19 Jun 2025
Manganese (filtered)	mg/L	1.40	1.1
Chloride	mg/L	554	450
Sodium	mg/L	329	460
Total Dissolved Solids	mg/L	1,600	2,500

Location		MW123B
Date		02 Dec 2022
Manganese (filtered)	mg/L	2.52
Chloride	mg/L	14,800
Sodium	mg/L	6,210
Total Dissolved Solids	mg/L	26,600

Location		MW131_GHD
Date		01 Dec 2022
Manganese (filtered)	mg/L	0.381
Cyanide Total	µg/L	188
Total Dissolved Solids	mg/L	873

Location		MW164	
Date		04 Dec 2023	23 Jun 2025
Manganese (filtered)	mg/L	0.912	1.3

Location		MW6	
Date		06 Dec 2023	23 Jun 2025
Manganese (filtered)	mg/L	0.443	0.52

Location		MW130_GHD	
Date		01 Dec 2022	12 Jun 2025
Manganese (filtered)	mg/L	1.39	1.5
Benzene	µg/L	680	650
Toluene	µg/L	61	52
Ethylbenzene	µg/L	414	390
o-Xylene	µg/L	345	280
Total Xylenes	µg/L	455	390
Naphthalene	µg/L	492	260
Cyanide Total	µg/L	237	14
Total Dissolved Solids	mg/L	835	990

Location		MW100
Date		01 Dec 2022
Manganese (filtered)	mg/L	8.49
Cyanide Total	µg/L	220
Total Dissolved Solids	mg/L	1,600

Location		MW148
Date		19 Jun 2025
Manganese (filtered)	mg/L	1.7
Total Dissolved Solids	mg/L	1,200

Location		MW155	
Date		06 Dec 2023	19 Jun 2025
Manganese (filtered)	mg/L	0.247	1.7
Naphthalene	µg/L	<1.0	4
Chloride	mg/L	21	3,000
Sodium	mg/L	76	1,300
Total Dissolved Solids	mg/L	392	5,700

Location		MW154
Date		06 Dec 2023
Manganese (filtered)	mg/L	1.07
Total Dissolved Solids	mg/L	1,020

Location		MW16	
Date		06 Dec 2023	23 Jun 2025
Manganese (filtered)	mg/L	0.354	0.410
Perfluorooctane sulfonic acid (PFOS)	µg/L	-	0.30
Sum (PFHxS + PFOS)	µg/L	-	0.31

Location		MW60	
Date		05 Dec 2023	24 Jun 2025
Manganese (filtered)	mg/L	0.670	0.67
Total Dissolved Solids	mg/L	953	960

Location		MW133_GHD	
Date		01 Dec 2022	12 Jun 2025
Manganese (filtered)	mg/L	1.13	1.2
Naphthalene	µg/L	5.3	4
Benz(a)anthracene	µg/L	1.3	<1
Benzo(a)pyrene	µg/L	0.6	<1
Total Dissolved Solids	mg/L	664	750

Location		RS6	
Date		30 Nov 2022	19 Jun 2025
Manganese (filtered)	mg/L	0.405	0.45
Total Dissolved Solids	mg/L	721	750

Location		MW124A
Date		05 Dec 2023
Arsenic (filtered)	mg/L	0.011
Manganese (filtered)	mg/L	0.222

Location		MW193
Date		24 Jun 2025
Manganese (filtered)	mg/L	1.1
Total Dissolved Solids	mg/L	798

Location		MW126A	
Date		05 Dec 2023	24 Jun 2025
Manganese (filtered)	mg/L	0.626	0.61
Cyanide Total	µg/L	186	160
Total Dissolved Solids	mg/L	994	1,110

Location		MW126B
Date		05 Dec 2023
Manganese (filtered)	mg/L	0.573
Naphthalene	µg/L	2.6
Cyanide Total	µg/L	113
Total Dissolved Solids	mg/L	1,180

Location		MW124B
Date		05 Dec 2023
Manganese (filtered)	mg/L	0.107
Total Dissolved Solids	mg/L	962

Location		MW153	
Date		01 Dec 2023	12 Jun 2025
Aluminium (filtered)	mg/L	0.29	-
Lead (filtered)	mg/L	0.015	<0.001
Manganese (filtered)	mg/L	0.287	0.25
Chloride	mg/L	11,600	12,000
Sodium	mg/L	5,990	5,600
Total Dissolved Solids	mg/L	22,000	20,000

Location		MW152	
Date		01 Dec 2023	19 Jun 2025
Manganese (filtered)	mg/L	0.394	0.40
Benzene	µg/L	2	<1
Naphthalene	µg/L	1.5	2
Chloride	mg/L	661	1,400
Sodium	mg/L	747	1,200
Total Dissolved Solids	mg/L	2,170	4,800

Location		MW151	
Date		01 Dec 2023	19 Jun 2025
Manganese (filtered)	mg/L	0.564	1.5
Chloride	mg/L	498	2,000
Sodium	mg/L	340	1,000
Total Dissolved Solids	mg/L	1,700	4,200

Location		MW188
Date		24 Jun 2025
Manganese (filtered)	mg/L	0.91
Total Dissolved Solids	mg/L	1,000

Location		MW122	
Date		30 Nov 2022	19 Jun 2025
Manganese (filtered)	mg/L	2.17	2.9
Total Dissolved Solids	mg/L	765	1,400

Location		MW127B	
Date		02 Dec 2022	30 Nov 2023
Manganese (filtered)	mg/L	0.145	0.079

Location		MW127A		
Date		02 Dec 2022	30 Nov 2023	19 Jun 2025
Manganese (filtered)	mg/L	3.05	3.47	2.7
Chloride	mg/L	914	819	660
Sodium	mg/L	438	480	410
Total Dissolved Solids	mg/L	2,140	2,200	2,400

Location		MW125A	
Date		04 Dec 2023	24 Jun 2025
Manganese (filtered)	mg/L	0.533	0.67

Location		MW150	
Date		01 Dec 2022	12 Jun 2025
Manganese (filtered)	mg/L	0.396	0.26
Total Dissolved Solids	mg/L	643	720

Location		MW125B
Date		04 Dec 2023
Manganese (filtered)	mg/L	0.531

Location		MW167
Date		06 Dec 2023
Manganese (filtered)	mg/L	0.60
Total Dissolved Solids	mg/L	1,000

Location		MW122	
Date		30 Nov 2022	19 Jun 2025
Manganese (filtered)	mg/L	2.17	2.9
Total Dissolved Solids	mg/L	765	1,400

Location		MW124B
Date		05 Dec 2023
Manganese (filtered)	mg/L	0.107
Total Dissolved Solids	mg/L	962

Location		MW153	
Date		01 Dec 2023	12 Jun 2025
Aluminium (filtered)	mg/L	0.29	-
Lead (filtered)	mg/L	0.015	<0.001
Manganese (filtered)	mg/L	0.287	0.25
Chloride	mg/L	11,600	12,000
Sodium	mg/L	5,990	5,600
Total Dissolved Solids	mg/L	22,000	20,000

Location		MW152	
Date		01 Dec 2023	19 Jun 2025
Manganese (filtered)	mg/L	0.394	0.40
Benzene	µg/L	2	<1
Naphthalene	µg/L	1.5	2
Chloride	mg/L	661	1,400
Sodium	mg/L	747	1,200
Total Dissolved Solids	mg/L	2,170	4,800

Location		MW151	
Date		01 Dec 2023	19 Jun 2025
Manganese (filtered)	mg/L	0.564	1.5
Chloride	mg/L	498	2,000
Sodium	mg/L	340	1,000
Total Dissolved Solids	mg/L	1,700	4,200

Location		MW188
Date		24 Jun 2025
Manganese (filtered)	mg/L	0.91
Total Dissolved Solids	mg/L	1,000

MW180 MW178 MW177A MW181 MW179 MW161 MW160 MW159 MW189 NR1 NR2A MW120A BG1 MW194 MW103A MW182 MW183 MW177 MW190 TW01 MW167 TW02 RN2 MW155 PC15 MW191 MW184 MW187 MW185 MW146 MW36 MW186 RN4 MW173 MW102 MW101 MW176 MW192 MW162 MW175 MW128A MW128B MW198 BH2_PS MW196 MW148 MW122 MW55 MW163 MW123A MW123B MW130_GHD MW131_GHD MW132_GHD MW197 MW100 MW129 MW149 RS6 MW127A MW127B MW164 MW6 PC13 MW188 PW02 S8 MW05 MW154 MW136_GHD MW135_GHD MW150 MW125A MW125B MW193 MW16 MW126A S9 MW60 MW126B PC12 MW151 MW134_GH MW152 MW153 MW124A MW124B MW133_GHD PC08

THE ESCARPMENT (AUDIT AREA 4 WEST)
THE ROYAL ENGINEERS BUILDING AND LAND
ENADE AND ND CARPARK ND UGC)
Former LNAPL Plume A3
THE PRECINCT NORTH (LOT B)
(AUDIT AREA 4 EAST)
Unknown Well
Tar Plume D
Tar Plume C
Tar Plume B
THE GATEWAY
THE GOODS SHED AND YARD (AUDIT AREA 1)
THE PRECINCT SOUTH

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 16 Sep 2025

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 30 60 120
metres
1:2,000 (when printed at A3)

Legend
- Existing Groundwater Well
- Lost/Destroyed Well
- Tass Ports Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Site Boundary

ADDITIONAL GROUNDWATER RESULTS - TIER 1 - DIRECT CONTACT

Macquarie Point Development Corporation

Macquarie Point, Hobart, TAS

Figure
F13a

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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PFAS NEMP 2025 Interim marine 95%

Standards Australia - AS2159-2009 Buildings and Structures

Ecosystem Protection (90%)

Irrigation

Stock Watering

Location	MW121
Date	18 Jun 2025
Copper (filtered) mg/L	0.020

Location	MW120A
Date	25 Jun 2025
2,4-Dimethylphenol µg/L	26

Location	BG1
Date	17 Jun 2025
Copper (filtered) mg/L	0.009

Location	MW173	
Date	01 Dec 2022	18 Jun 2025
Manganese (filtered) mg/L	0.474	0.29

Location	MW191
Date	18 Jun 2025
Copper (filtered) mg/L	0.010
Manganese (filtered) mg/L	0.49

Location	MW194
Date	17 Jun 2025
Copper (filtered) mg/L	0.019

Location	MW175
Date	30 Nov 2023
Aluminium (filtered) mg/L	0.01
Manganese (filtered) mg/L	1.54

Location	MW184
Date	18 Jun 2025
Manganese (filtered) mg/L	0.25

Location	MW102	
Date	01 Dec 2022	18 Jun 2025
Copper (filtered) mg/L	0.003	0.009
Manganese (filtered) mg/L	0.238	0.63
Ammonia (as N) mg/L	7.98	9.9

Location	MW186
Date	25 Jun 2025
>C10-C40 fraction (sum) µg/L	810
Manganese (filtered) mg/L	1.6

Location	MW190
Date	17 Jun 2025
Manganese (filtered) mg/L	0.13

Location	MW182
Date	17 Jun 2025
Manganese (filtered) mg/L	1.1
Zinc (filtered) mg/L	0.031

Location	BH2_PS
Date	19 Jun 2025
Manganese (filtered) mg/L	0.68

Location	MW101
Date	24 Jun 2025
Manganese (filtered) mg/L	0.95
Cyanide (Free) mg/L	0.014

Location	MW128A
Date	25 Jun 2025
Copper (filtered) mg/L	0.036
Manganese (filtered) mg/L	0.083
Total Xylenes µg/L	24
Cyanide (Free) mg/L	0.031
Ammonia (as N) mg/L	8.4

Location	MW198
Date	25 Jun 2025
Manganese (filtered) mg/L	4.0
Cyanide (Free) mg/L	0.020
Ammonia (as N) mg/L	18

Location	MW197
Date	25 Jun 2025
>C10-C40 fraction (sum) µg/L	9,500
C10-C36 fraction (sum) µg/L	11,400
Manganese (filtered) mg/L	0.11
Total Xylenes µg/L	43
Naphthalene µg/L	490
Anthracene µg/L	3
Phenanthrene µg/L	10
Fluoranthene µg/L	2
Phenol µg/L	600
2-Methylphenol (o-Cresol) µg/L	1,700
2,4-Dimethylphenol µg/L	1,100
Ammonia (as N) mg/L	3.3

Location	MW196
Date	25 Jun 2025
Copper (filtered) mg/L	0.004
Manganese (filtered) mg/L	0.37
Zinc (filtered) mg/L	0.040
Ammonia (as N) mg/L	3.4

Location	MW36	
Date	02 Dec 2022	18 Jun 2025
Copper (filtered) mg/L	0.004	0.011
Manganese (filtered) mg/L	0.372	2.1

Location	MW123B
Date	02 Dec 2022
Manganese (filtered) mg/L	2.52
Zinc (filtered) mg/L	0.026
Chloride mg/L	14,800
Calcium mg/L	1,240
Sulfate as SO4 (Turbidimetric) mg/L	1,760

Location	MW130_GHD	
Date	01 Dec 2022	12 Jun 2025
>C10-C40 fraction (sum) µg/L	4,740	1,700
C10-C36 fraction (sum) µg/L	4,960	1,900
Manganese (filtered) mg/L	1.39	1.5
Ethylbenzene µg/L	414	390
Total Xylenes µg/L	455	<3
Naphthalene µg/L	492	260
Anthracene µg/L	4.7	3
Phenanthrene µg/L	17.7	14
Fluoranthene µg/L	4.6	2
Ammonia (as N) mg/L	13.3	17

Location	MW123A	
Date	02 Dec 2022	12 Jun 2025
Copper (filtered) mg/L	0.005	0.018

Location	MW100
Date	01 Dec 2022
Manganese (filtered) mg/L	8.49
Ammonia (as N) mg/L	64.1

Location	MW131_GHD
Date	01 Dec 2022
Manganese (filtered) mg/L	0.381
Ammonia (as N) mg/L	15.2

Location	MW148
Date	19 Jun 2025
Manganese (filtered) mg/L	1.7
Ammonia (as N) mg/L	3.8

Location	MW122	
Date	30 Nov 2022	19 Jun 2025
Copper (filtered) mg/L	<0.001	0.006
Manganese (filtered) mg/L	2.17	2.9

Location	MW132_GHD	
Date	01 Dec 2022	12 Jun 2025
>C10-C40 fraction (sum) µg/L	2,230	860
C10-C36 fraction (sum) µg/L	2,250	920
Manganese (filtered) mg/L	2.36	2.2
Ethylbenzene µg/L	12	9
Total Xylenes µg/L	21	15
Naphthalene µg/L	17.1	11
Anthracene µg/L	6.4	6
Phenanthrene µg/L	2.2	<1
Fluoranthene µg/L	3.8	2
2,4-Dimethylphenol µg/L	19.2	<3
Ammonia (as N) mg/L	27.8	22

Location	RS6	
Date	30 Nov 2022	19 Jun 2025
Manganese (filtered) mg/L	0.405	0.45
Ammonia (as N) mg/L	3.84	4.2

Location	MW124A	
Date	05 Dec 2023	
Aluminium (filtered) mg/L	<0.01	
Copper (filtered) mg/L	<0.001	
Manganese (filtered) mg/L	0.222	
Ammonia (as N) mg/L	15.1	

Location	MW124B
Date	05 Dec 2023
Aluminium (filtered) mg/L	0.01
Manganese (filtered) mg/L	0.107
Ammonia (as N) mg/L	10.4

Location	MW133_GHD	
Date	01 Dec 2022	12 Jun 2025
>C10-C40 fraction (sum) µg/L	830	<100
C10-C36 fraction (sum) µg/L	880	<100
Manganese (filtered) mg/L	1.13	1.2
Anthracene µg/L	5.8	7
Phenanthrene µg/L	15.2	18
Fluoranthene µg/L	9.0	3
Benzo(a)pyrene µg/L	0.6	<1
Ammonia (as N) mg/L	7.88	7.0

Location	MW150	
Date	01 Dec 2022	12 Jun 2025
Aluminium (filtered) mg/L	0.01	-
Manganese (filtered) mg/L	0.396	0.26
Phenanthrene µg/L	1.9	<1
Ammonia (as N) mg/L	28.1	28

Location	MW152	
Date	01 Dec 2023	19 Jun 2025
Aluminium (filtered) mg/L	0.02	-
Manganese (filtered) mg/L	0.394	0.40
Phenanthrene µg/L	2.0	2
Ammonia (as N) mg/L	34.6	43

Location	MW151	
Date	01 Dec 2023	19 Jun 2025
Aluminium mg/L	0.08	-
Aluminium (filtered) mg/L	0.03	-
Manganese (filtered) mg/L	0.564	1.5
Phenanthrene µg/L	2.0	<1
Fluoranthene µg/L	2	<1
Ammonia (as N) mg/L	18	21

Location	MW153	
Date	01 Dec 2023	12 Jun 2025
Aluminium (filtered) mg/L	0.29	-
Copper (filtered) mg/L	0.004	<0.001
Lead (filtered) mg/L	0.015	<0.001
Manganese (filtered) mg/L	0.287	0.25
Zinc (filtered) mg/L	0.035	<0.005
Chloride mg/L	11,600	12,000
Sulfate as SO4 (Turbidimetric) mg/L	1,120	-
Ammonia (as N) mg/L	6.04	5.2

Location	MW154
Date	06 Dec 2023
>C10-C40 fraction (sum) µg/L	1,190
C10-C36 fraction (sum) µg/L	1,230
Aluminium (filtered) mg/L	0.05
Manganese (filtered) mg/L	1.07
Phenanthrene µg/L	3.1
Ammonia (as N) mg/L	15.9

Location	MW125B
Date	04 Dec 2023
Manganese (filtered) mg/L	0.531
Ammonia (as N) mg/L	5.05

Location	MW125A	
Date	04 Dec 2023	24 Jun 2025
Aluminium (filtered) mg/L	0.01	-
Manganese (filtered) mg/L	0.533	0.67
Anthracene µg/L	<1.0	2
Phenanthrene µg/L	<1.0	2
Fluoranthene µg/L	1.2	2
Ammonia (as N) mg/L	4.98	6.4

Location	MW193
Date	24 Jun 2025
Manganese (filtered) mg/L	1.1
Ammonia (as N) mg/L	29

Location	MW127A		
Date	02 Dec 2022	30 Nov 2023	19 Jun 2025
Aluminium (filtered) mg/L	-	0.14	-
Manganese (filtered) mg/L	3.05	3.47	2.7
Ammonia (as N) mg/L	22.9	18	29

Location	MW127B	
Date	02 Dec 2022	30 Nov 2023
Aluminium (filtered) mg/L	-	0.04
Copper (filtered) mg/L	<0.001	0.004
Manganese (filtered) mg/L	0.145	0.079
Ammonia (as N) mg/L	2.58	<0.01

Location	MW192
Date	18 Jun 2025
Manganese (filtered) mg/L	0.60
Ammonia (as N) mg/L	41

Location	TW02
Date	17 Jun 2025
Manganese (filtered) mg/L	0.97
Phenanthrene µg/L	7
Chloride mg/L	13,000

Location	MW180	
Date	25 Sep 2024	18 Jun 2025
Boron (filtered) mg/L	1.8	-
Cadmium (filtered) mg/L	0.014	0.012
Copper (filtered) mg/L	0.076	0.002
Lead (filtered) mg/L	0.44	<0.001
Zinc (filtered) mg/L	1.2	0.38
Fluoranthene µg/L	2	<1
Chloride mg/L	9,300	14,000
Sulfate as SO4 mg/L	1,200	2,100

Location	MW178	
Date	26 Sep 2024	17 Jun 2025
Aluminium (filtered) mg/L	0.02	-
Copper (filtered) mg/L	0.001	0.006
Zinc (filtered) mg/L	<0.005	0.031

Location	MW179	
Date	26 Sep 2024	17 Jun 2025
>C10-C40 fraction (sum) µg/L	<100	630
C10-C36 fraction (sum) µg/L	<100	650
Manganese (filtered) mg/L	-	0.59

Location	NR1
Date	17 Jun 2025
>C10-C40 fraction (sum) µg/L	2,190
C10-C36 fraction (sum) µg/L	2,110
Manganese (filtered) mg/L	2.3

Location	MW159	
Date	25 Sep 2024	20 Jun 2025
Manganese (filtered) mg/L	-	0.94

Location	MW189
Date	18 Jun 2025
Manganese (filtered) mg/L	1.4

Location	NR2A	
Date	20 Jun 2025	
Manganese (filtered) mg/L	0.59	
Fluoranthene µg/L	2	

Location	MW167
Date	20 Jun 2025
Copper (filtered) mg/L	0.012
Manganese (filtered) mg/L	0.084
Zinc (filtered) mg/L	0.24

Location	RN2
Date	18 Jun 2025
Manganese (filtered) mg/L	0.63
Anthracene µg/L	4
Phenanthrene µg/L	19
Fluoranthene µg/L	3
Ammonia (as N) mg/L	12

Location	MW155	
Date	06 Dec 2023	19 Jun 2025
Aluminium (filtered) mg/L	0.02	-
Manganese (filtered) mg/L	0.247	1.7
Zinc (filtered) mg/L	0.077	<0.005
Ammonia (as N) mg/L	4.86	0.13

Location	MW146
Date	29 Nov 2023
>C10-C40 fraction (sum) µg/L	730
C10-C36 fraction (sum) µg/L	670
Aluminium (filtered) mg/L	0.05
Manganese (filtered) mg/L	0.590
Ammonia (as N) mg/L	3.85

Location	RN4
Date	29 Nov 2023
Manganese (filtered) mg/L	1.76
Anthracene µg/L	1.4
Phenanthrene µg/L	3.1
Fluoranthene µg/L	1.6
Ammonia (as N) mg/L	9.2

Location	MW176
Date	30 Nov 2023
Manganese (filtered) mg/L	1.64

Location	MW162
Date	30 Nov 2023
Aluminium (filtered) mg/L	0.02
Manganese (filtered) mg/L	0.767
Ammonia (as N) mg/L	47.5

Location	MW163
Date	05 Dec 2023
Aluminium (filtered) mg/L	0.01
Manganese (filtered) mg/L	0.198
Ammonia (as N) mg/L	1.51

Location	MW55	
Date	30 Nov 2023	19 Jun 2025
Aluminium (filtered) mg/L	0.04	-
Manganese (filtered) mg/L	1.40	1.1
Ammonia (as N) mg/L	37.0	39

Location	MW164
Date	04 Dec 2023
Aluminium (filtered) mg/L	0.07
Lead (filtered) mg/L	0.009
Manganese (filtered) mg/L	0.912
Zinc (filtered) mg/L	0.063
Ammonia (as N) mg/L	1.73

Location	MW6	
Date	06 Dec 2023	23 Jun 2025
Aluminium (filtered) mg/L	0.01	-
Manganese (filtered) mg/L	0.443	0.52
Phenanthrene µg/L	1.5	2
Ammonia (as N) mg/L	10.6	14

Location	MW60	
Date	05 Dec 2023	24 Jun 2025
Aluminium (filtered) mg/L	0.02	-
Copper (filtered) mg/L	0.006	<0.001
Manganese (filtered) mg/L	0.670	0.67
Ammonia (as N) mg/L	27.5	32

Location	MW16	
Date	06 Dec 2023	23 Jun 2025
>C10-C40 fraction (sum) µg/L	1,010	<100
C10-C36 fraction (sum) µg/L	1,060	<100
Aluminium (filtered) mg/L	0.01	-
Manganese (filtered) mg/L	0.354	0.41
Phenanthrene µg/L	1.3	2
Perfluorooctane sulfonic acid (PFOS) µg/L	-	0.30
Ammonia (as N) mg/L	-	2.8

Location	MW126B
Date	05 Dec 2023
>C10-C40 fraction (sum) µg/L	650
C10-C36 fraction (sum) µg/L	650
Aluminium (filtered) mg/L	0.01
Manganese (filtered) mg/L	0.573
Anthracene µg/L	2.9
Phenanthrene µg/L	17.7
Fluoranthene µg/L	2.0
Ammonia (as N) mg/L	47.0

Location	MW126A	
Date	05 Dec 2023	24 Jun 2025
Aluminium (filtered) mg/L	0.01	-
Manganese (filtered) mg/L	0.626	0.61
Anthracene µg/L	3.7	15
Phenanthrene µg/L	26.6	21
Fluoranthene µg/L	5.4	5
Ammonia (as N) mg/L	43.0	46

Location	MW188
Date	24 Jun 2025
Manganese (filtered) mg/L	0.91
Anthracene µg/L	2
Phenanthrene µg/L	2
Ammonia (as N) mg/L	33

Tar Plume A

Tar Plume B

Tar Plume C

Tar Plume D

Former LNAPL Plume A3

THE ESCARPMENT (AUDIT AREA 4 WEST)

THE ROYAL ENGINEERS BUILDING AND LAND

MENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

THE GATEWAY

THE PRECINCT NORTH (LOT B)

(AUDIT AREA 4 EAST)

THE GOODS SHED AND YARD (AUDIT AREA

MW180 MW178 MW177A MW181 MW179 MW161 MW160 MW159 NR1 MW189 NR2A TW01 MW190 MW182 MW183 MW103A Unknown Well MW177 MW167 TW02 MW187 RN2 PC11 PC1 MW155 MW146 MW191 MW184 MW36 MW185 MW186 MW102 MW173 MW101 MW128A MW128B MW198 BH2_PS MW148 MW122 MW196 MW123A MW123B MW130_GHD MW131_GHD MW132_GHD MW197 MW100 MW129 RS6 MW133_GHD MW124B MW125A MW125B MW127A MW127B MW154 MW164 MW6 PC13 MW03 MW188 PW02 S8 MW0 MW136_GHD MW193 S9 MW126A MW16 MW60 MW126B PC12 MW151 MW134_GHD MW152 MW153 MW14 MW163 MW175 MW176 MW192 MW162 RN4 MW194 BG1 MW120A MW121

PROJECT ID	60321835
CREATED BY	PK
LAST MODIFIED	PK 16 Sep 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

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Legend

- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- Tass Ports Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Site Boundary

ADDITIONAL GROUNDWATER RESULTS - TIER 1 - ECOLOGICAL, BUILDINGS, IRRIGATION AND STOCKWATER

Macquarie Point Development Corporation

Macquarie Point, Hobart, TAS

Figure

F13b

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A3 size

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- Vapour Intrusion - Commercial/Industrial (CRC CARE)
- Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)
- Vapour Intrusion - Recreation (CRC CARE)
- Vapour Intrusion - Residential (CRC CARE)
- British Geological Survey - Methane Intrusion from Groundwater

Location		MW146
Date		29 Nov 2023
Methane	µg/L	15,000

Location		NR1
Date		17 Jun 2025
>C10-C16 (minus Naphthalene)(F2)	µg/L	790

Location		TW02
Date		17 Jun 2025
Methane	µg/L	5,400

Location		RN2
Date		18 Jun 2025
Methane	µg/L	14,000

Location		MW155	
Date		06 Dec 2023	19 Jun 2025
Methane	µg/L	8,260	18,000

Location		RN4	
Date		29 Nov 2023	18 Jun 2025
Methane	µg/L	5,120	9,500

Location		MW192
Date		18 Jun 2025
Methane	µg/L	18,000

Location		MW55
Date		30 Nov 2023	19 Jun 2025
Methane	µg/L	-	16,000

Location		MW127A		
Date		02 Dec 2022	30 Nov 2023	19 Jun 2025
Methane	µg/L	14,200	17,100	24,000

Location		MW127B	
Date		02 Dec 2022	30 Nov 2023
Methane	µg/L	4,870	-

Location		MW164	
Date		04 Dec 2023	23 Jun 2025
Methane	µg/L	-	3,600

Location		MW130_GHD	
Date		01 Dec 2022	12 Jun 2025
>C10-C16 (minus Naphthalene)(F2)	µg/L	2,790	1,170

Location		MW6	
Date		06 Dec 2023	23 Jun 2025
Methane	µg/L	13,200	17,000

Location		MW197
Date		25 Jun 2025
>C10-C16 (minus Naphthalene)(F2)	µg/L	7,250

Location		MW188
Date		24 Jun 2025
Methane	µg/L	20,000

Location		MW132_GHD	
Date		01 Dec 2022	12 Jun 2025
>C10-C16 (minus Naphthalene)(F2)	µg/L	1,450	640

Location		MW16	
Date		06 Dec 2023	23 Jun 2025
C6-C10 fraction (minus BTEX)(F1)	µg/L	600	750
Methane	µg/L	12,200	13,000

Location		MW125A	
Date		04 Dec 2023	24 Jun 2025
Methane	µg/L	-	10,000

Location		RS6	
Date		30 Nov 2022	19 Jun 2025
Methane	µg/L	-	3,900

Location		MW193
Date		24 Jun 2025
Methane	µg/L	17,000

Location		MW154
Date		06 Dec 2023
C6-C10 fraction (minus BTEX)(F1)	µg/L	130
>C10-C16 (minus Naphthalene)(F2)	µg/L	780
Methane	µg/L	12,900

Location		MW150	
Date		01 Dec 2022	12 Jun 2025
Methane	µg/L	13,100	19,000

Location		MW151	
Date		01 Dec 2023	19 Jun 2025
Methane	µg/L	13,500	9,200

Location		MW126A	
Date		05 Dec 2023	24 Jun 2025
Methane	µg/L	-	20,000

Location		MW152	
Date		01 Dec 2023	19 Jun 2025
Methane	µg/L	-	14,000

Location		MW60	
Date		05 Dec 2023	24 Jun 2025
Methane	µg/L	-	24,000

PROJECT ID 60321835
CREATED BY PK
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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

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Legend

- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- Tass Ports Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Site Boundary

ADDITIONAL GROUNDWATER RESULTS - TIER 1 - VAPOUR INTRUSION

Macquarie Point Development Corporation

Macquarie Point, Hobart, TAS

Figure
F13c

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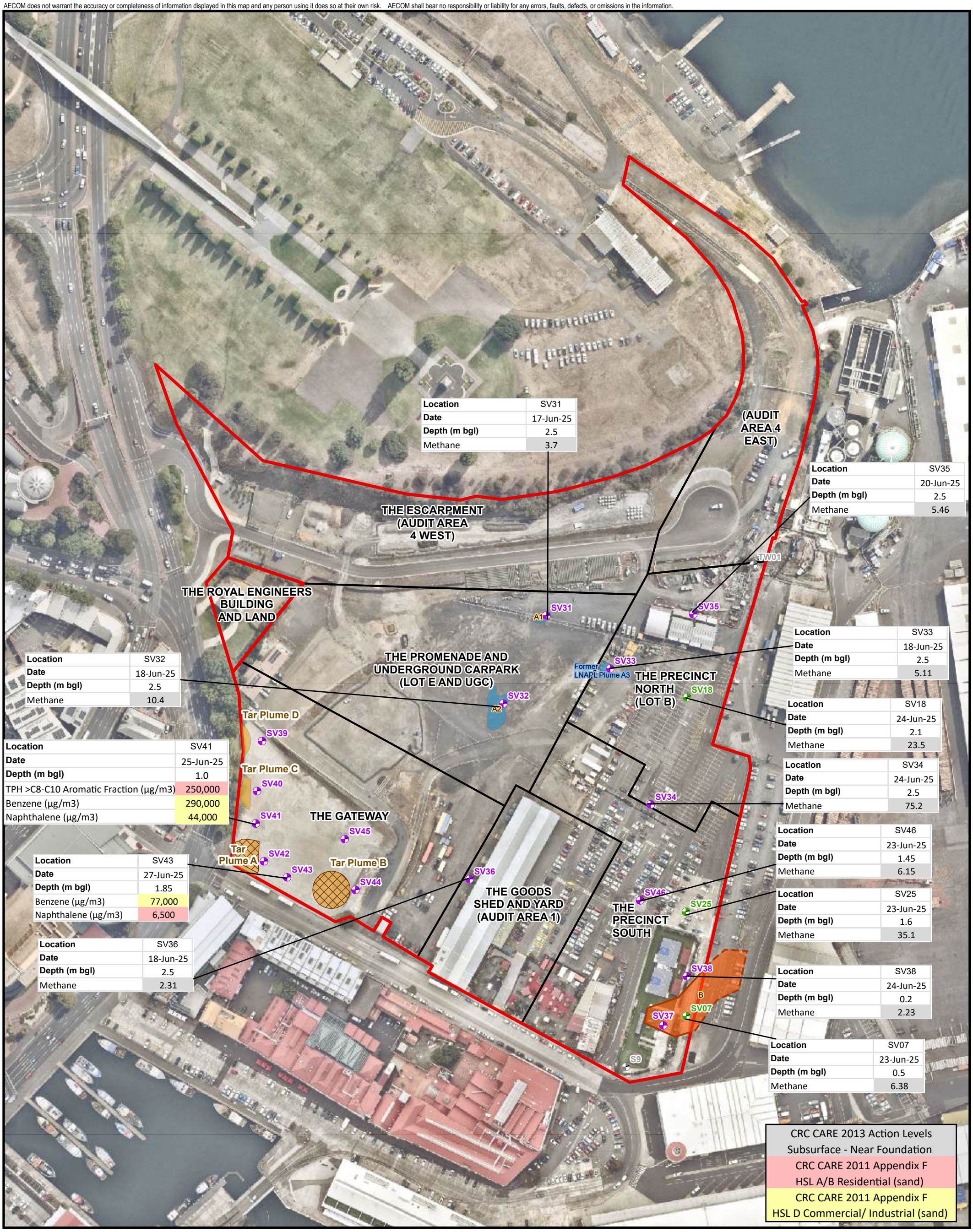

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

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Legend

- New Soil Vapour Well
- Existing Soil Vapour Well
- Lost/Destroyed Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Site Boundary

Note - All concentrations in %v/v unless otherwise noted.

ADDITIONAL SOIL VAPOUR RESULTS - TIER 1

Macquarie Point Development Corporation

Review of Site Suitability Statements 2025

Macquarie Point, Hobart, TAS

Figure
F14

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PROJECT ID	60321835	AECOM	
CREATED BY	PK		
LAST MODIFIED	PK 11 Dec 2025	www.aecom.com	

N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100

metres

1:1,900 (when printed at A3)

Legend

- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Mac Point Contours - no depth numbers
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Groundwater inferred to be ≤ 1 m bgl at surface elevation following development
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Final Surface Level

- Final level - 1.7 mAHD
- Final level - 2.9 mAHD
- Final level - 3.0 mAHD
- Final level - 3.3 mAHD
- Final level - 4.8 mAHD

POTENTIAL SHALLOW GROUNDWATER INTERACTION AREAS

Macquarie Point Development Corporation

Review of Site Suitability Statement 2025

Macquarie Point, Hobart, TAS

Figure **F15**

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A3 size

Appendix B

Tables

Appendix B Tables

Table T1 Additional Soil Data – Human Health – Direct Contact

Table T2 Additional Soil Data – Ecosystems

Table T3 Additional Soil Data – Human Health – Vapour Intrusion

Table T4 Additional Soil Data – Remediation Criteria

Table T5 Additional Groundwater Data – Gauging

Table T6 Additional Groundwater Data – Human Health and Recreation

Table T7 Additional Groundwater Data – Ecosystems, Irrigation, Buildings and Stock Watering

Table T8 Additional Groundwater Data – Human Health – Vapour Intrusion

Table T9 Additional Groundwater Data – Remediation Criteria

Table T10 Additional Soil Vapour Data

Table T11 Calculated Gas Screening Values (Methane)

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

				Total Recoverable Hydrocarbons						Total Petroleum Hydrocarbons						Metals																		Monocyclic Aromatic Hydrocarbons													
				C6-C10 fraction	C6-C10 fraction (minus BTEX(F1))	>C10-C16 fraction (minus Naphthalene)(F2)	>C16-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)		C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)		Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Chromium (trivalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Vanadium	Zinc		Benzene	Toluene	Ethylbenzene	meta- + para-Xylene	ortho-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				10	10	50	50	100	100	50		10	20	50	50	50		2	10	1	50	0.4	2	0.5	2	5	5	0.1	2	2	2	5	5	5		0.1	0.1	0.1	0.2	0.1	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2
Commerical/ Industrial					10,000[A]	10,000[A]		7,600[A]	7,600[A]									3,000[A]	220,000[A]	500[A]	300,000[A]	900[A]	3,600[A]	3,600[A]	4,000[A]	240,000[A]	1,500[A]	60,000[A]	730[A]	5,800[A]	6,000[A]	10,000[A]	5,800[A]	700,000[A]	5,800[A]	400,000[A]		430[A]	99,000[A]	27,000[A]		2,800[A]	81,000[A]	35,000[A]	9,900[A]	58,000[A]	24,000[A]		120,000[A]	120,000[A]	1,800[A]	1,500[A]	
Direct Contact Intrusive Maintenance Worker					32,000[C]	32,000[C]		24,000[C]	24,000[C]																											1,100[C]	283,000[C]	85,000[C]			230,000[C]										
Low Density Residential					1,700[B]	1,700[B]		1,300[B]	1,300[B]									100[B]	15,000[D][G]	60[B]	4,500[D]	20[B]	100[D]	100[D]	100[B]	6,000[B]	300[B]	3,800[B]	40[B]	390[D]	400[B]	200[B]	390[D]	47,000[B]	390[D]	7,400[B]		140[B]	21,000[B]	5,900[B]		650[B]	17,000[B]	6,000[D]	1,900[B]	3,900[D]	3,800[D]		7,800[D]	7,800[D]	300[B]	270[B]	
Medium/High Density Residential					2,200[B]	2,200[B]		1,600[B]	1,600[B]									500[B]	15,000[D][G]	90[B]	40,000[D][G]	150[B]	500[B]	500[B]	600[B]	30,000[B]	1,000[B]	14,000[B]	120[B]	390[D]	1,200[B]	1,400[B]	780[D]	47,000[B]	390[D]	60,000[B]		140[B]	21,000[B]	5,900[B]		650[B]	17,000[B]	6,000[D]	1,900[B]	3,900[D]	3,800[D]		7,800[D]	7,800[D]	300[B]	270[B]	
Recreation/ Open Space					2,000[C]	2,000[C]		1,500[C]	1,500[C]									300[C]	15,000[C]	90[C]	20,000[C]	90[C]	300[C]	300[C]	300[C]	17,000[C]	600[C]	3,400[C]	80[C]	390[C]	1,200[C]	700[C]	390[C]	47,000[C]	390[C]	30,000[C]		120[C]	18,000[C]	5,300[C]		650[C]	15,000[C]	6,000[C]	1,900[C]	3,900[C]	3,800[C]		7,800[C]	7,800[C]	300[C]	270[C]	

| Location Code | Assessment Area | Depth | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

	Total Recoverable Hydrocarbons						Total Petroleum Hydrocarbons					Metals																				Monocyclic Aromatic Hydrocarbons															
	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 fraction (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C10-C14 fraction	>C15-C28 fraction	>C29-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Chromium (trivalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Vanadium	Zinc	Benzene	Toluene	Ethylbenzene	meta- + para-Xylene	ortho-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	50	0.4	2	0.5	2	5	5	6	0.1	2	2	2	2	5	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2
Commercial/ Industrial		10,000[B]	10,000[B]		7,600[B]	7,600[B]							3,000[B]	220,000[B]	500[B]	300,000[B]	900[B]	3,600[B]	3,600[B]	4,000[B]	240,000[B]	1,500[B]	60,000[B]	730[B]	5,800[B]	6,000[B]	10,000[B]	5,800[B]	700,000[B]	5,800[B]	400,000[B]	430[B]	99,000[B]	27,000[B]		2,800[B]	81,000[B]	35,000[B]	9,900[B]	58,000[B]	24,000[B]		120,000[B]	120,000[B]	1,800[B]	1,500[B]	
Direct Contact Intrusive Maintenance Worker		32,000[C]	32,000[C]		24,000[C]	24,000[C]																										1,100[C]	283,000[C]	85,000[C]			230,000[C]											
Low Density Residential		1,700[B]	1,700[B]		1,300[B]	1,300[B]							100[B]	15,000[D5]	60[B]	4,500[B]	20[B]	100[D5]	100[B]	100[B]	6,000[B]	300[B]	3,800[B]	40[B]	390[D5]	400[B]	200[B]	390[D5]	47,000[B]	390[D5]	7,400[B]	140[B]	21,000[B]	5,900[B]		650[B]	17,000[B]	6,000[D5]	1,900[B]	3,900[D5]	3,800[D5]		7,800[D5]	7,800[D5]	300[D5]	270[D5]	
Medium/High Density Residential		2,200[B]	2,200[B]		1,600[B]	1,600[B]							500[B]	15,000[D5]	90[B]	40,000[B]	150[B]	500[D5]	500[B]	600[B]	30,000[B]	1,200[B]	14,000[B]	120[B]	390[D5]	1,200[B]	1,400[B]	390[D5]	47,000[B]	390[D5]	60,000[B]	140[B]	21,000[B]	5,900[B]		650[B]	17,000[B]	6,000[D5]	1,900[B]	3,900[D5]	3,800[D5]		7,800[D5]	7,800[D5]	300[D5]	270[D5]	
Recreation/ Open Space		2,000[C]	2,000[C]		1,500[C]	1,500[C]							300[C]	15,000[C]	80[C]	20,000[C]	90[C]	300[C]	300[C]	300[C]	17,000[C]	600[C]	19,000[C]	80[C]	390[C]	1,200[C]	700[C]	390[C]	47,000[C]	390[C]	30,000[C]	120[C]	18,000[C]	5,300[C]		650[C]	15,000[C]	6,000[C]	1,900[C]	3,900[C]	3,800[C]		7,800[C]	7,800[C]	300[C]	270[C]	

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number																																												
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_1,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	2.3	-	-	-	-	-	-	120	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0,5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<2	30	<2	-	0.4	29	<1	13	51	22	260	<0.1	<5	34	<2	<2	<10	-	140	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1,0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	19	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0,5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	2.1	76	<2	-	<0.4	27	<1	26	72	81	350	0.1	<5	46	<2	<2	12	-	140	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1,0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	4.9	-	-	-	-	-	-	-	-	250	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	0.3	05 Dec 2024	E10_0,3	Normal	1169377	<20	<20	880	880	960	<100	1,840	<20	360	1,500	<50	1,860	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	E10_0,5	Normal	1169377	<20	<20	140	140	160	<100	300	<20	54	230	<50	284	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	E10_1,5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	27	<2	-	<0.4	34	<1	20	82	<5	540	<0.1	<5	28	<2	<2	<10	-	38	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	E10_2,5	Normal	1169377	<20	<20	540	540	650	<100	1,190	<20	230	920	<50	1,150	<2	23	<2	-	<0.4	17	<1	20	68	<5	780	<0.1	<5	25	<2	<2	<10	-	37	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E11_0,5	Normal	1171413	<20	<20	<50	<50	300	180	480	<20	<20	170	180	350	4.0	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E11_1,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	2	09 Dec 2024	E11_2,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E11_2,5	Normal	1171413	<20	<20	130	130	110	<100	240	<20	38	210	<50	248	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E11_3,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	1	09 Dec 2024	E11_1,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	43	<2	-	<0.4	31	<1	19	110	<5	510	<0.1	<5	32	<2	<2	<10	-	33	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	3	09 Dec 2024	E11_3,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	70	<50	70	<2	30	<2	-	<0.4	8.3	<1	17	91	<5	490	<0.1	<5	20	<2	<2	<10	-	39	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC156	Interlab_D	EM2422260	<10	<10	<50	<50	370	110	480	<10	<10	210	210	420	<5	-	-	-	-	-	-	-	-	68	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2
E12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E12_1,5	Normal	1171413	<20	<20	<50	<50	110	<100	110	<20	<20	71	59	130	<2	-	-	-	-	-	-	-	-	9.0	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	E12_1,0	Normal	1171413	<20	<20	<50	<50	240	<100	240	<20	<20	130	150	280	8.3	-	-	-	-	-	-	-	-	74	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC155	Field_D	1171413	<20	<20	<50	<50	230	<100	230	<20	<20	120	140	260	11	-	-	-	-	-	-	-	-	81	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E12_2,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	3	09 Dec 2024	E12_3,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E12_3,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E12_0,5	Normal	1171413	<20	<20	<50	<50	410	940	1,350	<20	<20	79	530	609	2.7	23	<2	-	<0.4	12	<1	13	54	12	330	<0.1	<5	32	<2	<2	<10	-	64	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	2	09 Dec 2024	E12_2,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	150	<2	-	<0.4	10.0	<1	14	42	<5	110	<0.1	<5	15	<2	<2	<10	-	11	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	2	10 Dec 2024	E13_2,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	E13_0,5	Normal	1171413	<20	<20	<50	<50	850	670	1,520	<20	<20	370	690	1,060	3.1	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1	10 Dec 2024	E13_1,0	Normal	1171413	<20	<20	<50	<50	100	<100	100	<20	<20	57	<50	57	<2	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC172	Interlab_D	EM2422260	<10	<10	<50	<50	200	<100	200	<10	<10	150	<50	150	<5	-	-	-	-	-	-	-	-	61	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC171	Field_D	1171413	<20	<20	<50	<50	750	270	1,020	<20	<20	550	300	850	<2	-	-	-	-	-	-	-	-	68	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	E13_1,5	Normal	1171413	<20	<20	<50	<50	100	<100	100	<20	<20	62	60	122	2.3	-	-	-	-	-	-	-	-	67	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	3	10 Dec 2024	E13_3,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	E13_2,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	110	<2	-	<0.4	50	<1	51	59	5.7	630	<0.1	<5	61	<2	<2	<10	-	21	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	E13_3,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	370	<2	-	<0.4	25	<1	14	40	<5	670	<0.1	<5	24	<2	<2	<10	-	12	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	1	04 Dec 2024	F09_1,0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	5.8	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	F09_1,5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	2	04 Dec 2024	F09_2,0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	F09_2,5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	F09_3,5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	4	04 Dec 2024	F09_4,0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	F09_0,5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	88	<2	-	<0.4	21	<1	23	76	8.6	300	<0.1	<5	34	<2	<2	<10	-	38	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	F09_1,5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	120	<2	-	<0.4	12	<1	38	120	<5	1,000	<0.1	<5	36	<2	<2	<10	-	68	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	3	04 Dec 2024	F09_3,0	Normal	1168041	<20	<20	<50	<50	110	160	270	<20	<20	<50	100	100	<2	40	<2	-	<0.4	22	<1	18	73	<5	390	<0.1	<5	28	<2	<2	<10	-	33	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	F10_2,5	Normal	1169377	<20	<20	190	190	160	<100	350	<20	75	250	<50	325	<2	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	F10_1,5	Normal	1169377	<20	<20	1,700	1,700	2,200	280	4,180	<20	520	2,100	450	3,070	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	1	05 Dec 2024	F10_1,0	Normal	1169377	<20	<20	1,100	1,100	5,100	640	6,840	<20	180	4,800	1,500	6,480	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	2	05 Dec 2024	F10_2,0	Normal	1169377	<20	<20	1,000	1,000	2,100	220	3,320	<20	410	2,200	530	3,140	<2	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	F10_3,5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	F10_0,5	Normal	1169377	<20	<20	<50	<50	470	340	810	<20	<20	<50	<50	<50	2.7	39	<2	-	0.7	13	<1	17	74	16	490	<0.1	<5	40	<2	<2	<10	-	100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	3	05 Dec 2024	F10_3,0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	63	<50	63	<2	38	<2	-	<0.4	9.3	<1	19	93	<5	310	<0.1	<5	22	<2	<2	<10	-	43	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F11_2,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	2.3	-	-	-	-	-	-	-	-	930	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F11_0,5	Normal	1171413	<20	<20	<50	<50	<100	140	140	<20	<20	51	73	124	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F11_3,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	6.0	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	1	09 Dec 2024	F11_1,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	51	<50	51	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	2	09 Dec 2024	F11_2,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F11_1,5	Normal	1171413	<20	<20	<50	<50	270	<100	270	<20	<20	160	140	300	2.3	78	<2	-	0.5	34	<1	13	54	12	330	<0.1	<5	130	<2	<2	<10	-	170	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	3	09 Dec 2024	F11_3,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	110	<2	-	<0.4	23	<1	22	51	30	190	<0.1	<5	23	<2	<2	<10	-	20	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	2	09 Dec 2024	F12_2,0	Normal	1171413	<20	<20	<50	<50	160	<100	160	<20	<20	100	<50	100	2.4	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F12_1,5	Normal	1171413	<20	<20	<50	<50	130	<100	130	<20	<20	73	81	154	10	81	<2	-	0.6	19	<1	16	77	100	350	0.3	<5	24	<2	<2	19	-	200	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F12_0,5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	5.4	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	1	09 Dec 2024	F12_1,0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	-	9.9	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	3	09 Dec 2024	F12_3,0	Normal	1171413	<20	<20	<50	<50	180	<100	180	<20	<20	130	62	192	<2	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-

Table T1 - Additional Soil Data - Human Health - Direct Contact
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	Total Recoverable Hydrocarbons						Total Petroleum Hydrocarbons					Metals																				Monocyclic Aromatic Hydrocarbons													
	C6-C10 fraction	C6-C10 fraction (minus BTEX(F1))	>C10-C16 fraction (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C10-C14 fraction	>C15-C28 fraction	>C29-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Chromium (trivalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Vanadium	Zinc	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-propylbenzene	n-butylbenzene	1-methyl-3-propylbenzene	1-methyl-4-propylbenzene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	50	0.4	2	0.5	2	5	5	6	0.1	2	2	2	2	5	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2
Commerical/ Industrial		10,000[#7]	10,000[#8]		7,600[#3]	7,600[#3]							3,000[#3]	220,000[#3]	500[#3]	300,000[#3]	900[#3]	3,600[#3]	3,600[#3]	4,000[#3]	240,000[#3]	1,500[#3]	60,000[#3]	730[#3]	5,800[#3]	6,000[#3]	10,000[#3]	5,800[#3]	700,000[#3]	5,800[#3]	400,000[#3]	430[#3]	99,000[#3]	27,000[#3]		2,800[#3]	81,000[#3]	35,000[#3]	9,900[#3]	58,000[#3]	24,000[#3]		120,000[#3]	120,000[#3]	1,800[#3]	1,500[#3]	
Direct Contact Intrusive Maintenance Worker		32,000[#7]	32,000[#7]		24,000[#7]	24,000[#8]																										1,100[#7]	283,000[#7]	85,000[#7]			230,000[#7]											
Low Density Residential		1,700[#6]	1,700[#6]		1,300[#6]	1,300[#6]							100[#5]	15,000[#10]	60[#5]	4,500[#5]	20[#5]	100[#10]	100[#5]	100[#5]	6,000[#6]	300[#5]	3,800[#5]	40[#5]	390[#10]	400[#5]	200[#5]	390[#10]	47,000[#10]	390[#10]	7,400[#5]	140[#5]	21,000[#6]	5,900[#6]		650[#10]	17,000[#6]	6,000[#10]	1,900[#10]	3,900[#10]	3,800[#10]		7,800[#10]	7,800[#10]	300[#10]	270[#10]	
Medium/High Density Residential		2,300[#6]	2,200[#6]		1,600[#6]	1,600[#6]							500[#10]	15,000[#10]	90[#5]	40,000[#10]	150[#10]	500[#10]	500[#10]	600[#10]	30,000[#10]	1,200[#10]	14,000[#10]	120[#10]	390[#10]	1,200[#10]	1,400[#10]	240[#10]	47,000[#10]	390[#10]	60,000[#10]	140[#10]	21,000[#10]	5,900[#10]		650[#10]	17,000[#10]	6,000[#10]	1,900[#10]	3,900[#10]	3,800[#10]		7,800[#10]	7,800[#10]	300[#10]	270[#10]	
Recreation/ Open Space		2,000[#17]	2,000[#17]		1,500[#17]	1,500[#17]							300[#17]	15,000[#17]	90[#17]	20,000[#17]	90[#17]	300[#17]	300[#18]	300[#17]	17,000[#17]	600[#17]	19,000[#17]	80[#17]	390[#17]	1,200[#18]	700[#17]	390[#17]	47,000[#17]	390[#17]	30,000[#18]	120[#17]	18,000[#17]	5,300[#17]		650[#17]	15,000[#17]	6,000[#17]	1,900[#17]	3,900[#17]	3,800[#17]		7,800[#17]	7,800[#17]	300[#17]	270[#17]	

| Location Code | Assessment Area | Depth | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

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| | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | | Major Ions | Cyanides | | | Phenolic Compounds | | | | | | | | | | | | | | | | | | |

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	Per- and Poly-fluoroalkyl Substances																								Major Ions	Cyanides			Phenolic Compounds																													
	Perfluorobutanoic acid (PFBA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorobutanesulfonic acid (PFBS)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane Sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorooctane Sulfonamide (FOSA)	Perfluorooctane Sulfonamide (NEtFOSA)	Perfluorooctane sulfonamide acetic acid (FOSAA)	Perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum (PFHxS + PFOS)	Sum of PFAS	Sum of WA DWER PFAS (n=10)*	Sum of n=eleven PFAS (PFHxS+ PFOS + PFOSA)	Sum of US EPA PFAS (PFOS + PFOA)	Fluoride	Cyanide (Free)	Cyanide Total	Weak Acid Dissociable Cyanide	3	4 Methylphenol (mp-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3	4 Methylphenol (m	p-Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	2,6-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non halogenated)
	mg/kg	mg/kg	mg/kg

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | | | | | | | Major Ions | Cyanides | | | Phenolic Compounds | | | | | | | | | | | | | | | | | | |

Table T1 - Additional Soil Data - Human Health - Direct Contact
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| | | Polychlorinated Biphenyls | | | | | | | | Chlorinated Hydrocarbons | | | | Sulfonated Compounds | Organophosphorus Pesticides (OP) | | | | | | | |

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| | Organochlorine Pesticides (OC) | | | | | | | | | | | | | | | | | Halogenated Aromatic Compounds | | | | | | | | | Halogenated Aliphatic Compounds | | | | | | | | | | | | | | | | |

Table T1 - Additional Soil Data - Human Health - Direct Contact
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Table T1 - Additional Soil Data - Human Health - Direct Contact
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		Oxygenated Compounds				Physio-Chemical Parameters		Phenoxyacetic Acid Herbicides								Benzidine	Asbestos																					Herbicides						Anilines					
		Pronamide	Vinyl Acetate	2-Butanone (MEK)	2-Hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	% Moisture Content	Moisture Content (dried @ 103°C)	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	Asbestos fibres	Organic Fibres - Comment	Approximate Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Reported As per Report	Asbestos Sample Dimensions	ACM - Comment	FA - Comment	AF - Comment	Respirable Fibres - Comment	weight of sample	Synthetic Fibres - Comment	Mass ACM	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF	Mass Asbestos in ACM	Mass Asbestos in FA	Mass FA	2,4,5-Trichlorophenoxy acetic Acid	2,4-Dichlorophenoxy acetic Acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	Comment	g	%w/w	%w/w	Comment	Comment	Comment	Comment	Comment	Comment	g	Comment	g	g	g	g	g	g	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	5	5	6	5	0.1	1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5	0.1											0.01								0.02	0.02	0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5
Commercial/ Industrial		62,000[85]	3,800[85]	190,000[85]	1,300[85]	140,000[85]			6,600[86]			25,000[86]		5,000[85]	35,000[85]		5.1[87]																				5,000[85]			9,000[85]	5,000[85]	5,000[85]	8,000[85]		11[85]	110[85]	400[85]
Direct Contact Intrusive Maintenance Worker																																															
Low Density Residential		4,700[85]	910[85]	27,000[85]	200[85]	33,000[85]			510[85]			1,900[85]		600[85]	4,500[85]		1.2[85]																					600[85]			900[85]	600[85]	600[85]	630[85]		2.7[85]	27[85]	95[85]
Medium/High Density Residential		4,700[85]	910[85]	27,000[85]	200[85]	33,000[85]			510[85]			1,900[85]		900[85]	6,600[85]		1.2[85]																					900[85]			1,600[85]	900[85]	900[85]	630[85]		2.7[85]	27[85]	95[85]
Recreation/ Open Space		4,700[85]	910[85]	27,000[85]	200[85]	33,000[85]			510[85]			1,900[85]		800[85]	5,700[85]		1.2[85]																					800[85]			1,300[85]	800[85]	800[85]	630[85]		2.7[85]	27[85]	95[85]
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																																									
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	-	-	-	-	-	-	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	-	-	-	-	-	-	9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	1.5	26 Nov 2024	K17_1.5	Normal	1165428	-	-	-	-	-	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	-	-	-	-	-	10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	1	26 Nov 2024	QC107	Field_D	1165428	-	-	-	-	-	-	8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K18	1. The Goods Shed and Yard	0.5	26 Nov 2024	K18_0.5	Normal	1165428	-	-	-	-	-	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K18	1. The Goods Shed and Yard	1.5	26 Nov 2024	K18_1.5	Normal	1165428	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K18	1. The Goods Shed and Yard	1	26 Nov 2024	K18_1.0	Normal	1165428	-	-	-	-	-	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L13	1. The Goods Shed and Yard	0.5	05 Dec 2024	L13_0.5	Normal	1169377	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L13	1. The Goods Shed and Yard	1.5	05 Dec 2024	L13_1.5	Normal	1169377	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L13	1. The Goods Shed and Yard	1	05 Dec 2024	L13_1.0	Normal	1169377	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L14	1. The Goods Shed and Yard	0.5	05 Dec 2024	L14_0.5	Normal	1169377	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L14	1. The Goods Shed and Yard	1	05 Dec 2024	L14_1.0	Normal	1169377	-	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L14	1. The Goods Shed and Yard	1.5	05 Dec 2024	L14_1.5	Normal	1169377	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L15	1. The Goods Shed and Yard	1	05 Dec 2024	L15_1.0	Normal	1169377	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L15	1. The Goods Shed and Yard	1.5	05 Dec 2024	L15_1.5	Normal	1169377	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L15	1. The Goods Shed and Yard	0.5	05 Dec 2024	L15_0.5	Normal	1169377	-	-	-	-	-	-	9.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	L16_0.5	Normal	1166213	-	-	-	-	-	-	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	1.5	27 Nov 2024	L16_1.5	Normal	1166213	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC116	Interlab_D	EM2421150	-	-	-	-	-	10.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	1	27 Nov 2024	L16_1.0	Normal	1166213	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC115	Field_D	1166213	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L17	1. The Goods Shed and Yard	0.5	27 Nov 2024	L17_0.5	Normal	1166213	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L17	1. The Goods Shed and Yard	1	27 Nov 2024	L17_1.0	Normal	1166213	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L17	1. The Goods Shed and Yard	1.5	27 Nov 2024	L17_1.5	Normal	1166213	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L18	1. The Goods Shed and Yard	1.5	27 Nov 2024	L18_1.5	Normal	1166213	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L18	1. The Goods Shed and Yard	1	27 Nov 2024	L18_1.0	Normal	1166213	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L18	1. The Goods Shed and Yard	0.5	27 Nov 2024	L18_0.5	Normal	1166213	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M13	1. The Goods Shed and Yard	0.5	05 Dec 2024	M13_0.5	Normal	1169377	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M13	1. The Goods Shed and Yard	1.5	05 Dec 2024	M13_1.5	Normal	1169377	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M13	1. The Goods Shed and Yard	1	05 Dec 2024	M13_1.0	Normal	1169377	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	1. The Goods Shed and Yard	0.5	28 Nov 2024	M14_0.5	Normal	1166213	-	-	-	-	-	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	1. The Goods Shed and Yard	1.5	28 Nov 2024	M14_1.5	Normal	1166213	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	1. The Goods Shed and Yard	1	28 Nov 2024	M14_1.0	Normal	1166213	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M15	1. The Goods Shed and Yard	1	28 Nov 2024	M15_1.0	Normal	1166213	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M15	1. The Goods Shed and Yard	0.5	28 Nov 2024	M15_0.5	Normal	1166213	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M15	1. The Goods Shed and Yard	1.5	28 Nov 2024	M15_1.5	Normal	1166213	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16	1. The Goods Shed and Yard	0.5	28 Nov 2024	M16_0.5	Normal	1166213	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16	1. The Goods Shed and Yard	1.5	28 Nov 2024	M16_1.5	Normal	1166213	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16	1. The Goods Shed and Yard	1	28 Nov 2024	M16_1.0	Normal	1166213	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M17	1. The Goods Shed and Yard	0.5	27 Nov 2024	M17_0.5	Normal	1166213	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M17	1. The Goods Shed and Yard	1	27 Nov 2024	M17_1.0	Normal	1166213	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M17	1. The Goods Shed and Yard	1.5	27 Nov 2024	M17_1.5	Normal	1166213	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M18	1. The Goods Shed and Yard	0.5	27 Nov 2024	M18_0.5	Normal	1165428	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M18	1. The Goods Shed and Yard	1	27 Nov 2024	M18_1.0	Normal	1165428	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M18	1. The Goods Shed and Yard	1.5	27 Nov 2024	M18_1.5	Normal	1165428	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV36	1. The Goods Shed and Yard	2	10 Jun 2025	SV36_2.0	Normal	1231626	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	QC132	Interlab_D	EM2421657	-	-	-	-	-	10.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	QC131	Field_D	1168041	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	E07_0.5	Normal	1168041	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.9	04 Dec 2024	E07_0.9	Normal	1168041	-	-	-	-	-	-	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	1	04 Dec 2024	E07_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E08	2. The Escarpment	0.5	04 Dec 2024	E08_0.5	Normal	1168041	-	-	-	-	-	-	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F07	2. The Escarpment	0.6	04 Dec 2024	F07_0.6	Normal	1168041	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F07	2. The Escarpment	1	04 Dec 2024	F07_1.0	Normal	1168041	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F07	2. The Escarpment	0.5	04 Dec 2024	F07_0.5	Normal	1168041	-	-	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F08	2. The Escarpment	0.5	04 Dec 2024	F08_0.5	Normal	1168041	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F08	2. The Escarpment	1	04 Dec 2024	F08_1.0	Normal	1168041	-	-	-	-	-	-	4.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	0.5	04 Dec 2024	G06_0.5	Normal	1168041	-	-	-	-	-	-	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	1	04 Dec 2024	G06_1.0	Normal	1168041	-	-	-	-	-	-	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	2	04 Dec 2024	G06_2.0	Normal	1168041	-	-	-	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	1.3	04 Dec 2024	G06_1.3	Normal	1168041	-	-	-	-	-	-	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G07	2. The Escarpment	0.6	04 Dec 2024	G07_0.6	Normal	1168041	-	-	-	-	-	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G07	2. The Escarpment	0.7	04 Dec 2024	G07_0.7	Normal	1168041	-	-	-	-	-	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	0.5	04 Dec 2024	H06_0.5	Normal	1168041	-	-	-	-	-	-	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	0.8	04 Dec 2024	H06_0.8	Normal	1168041	-	-	-	-	-	-	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	1.5	04 Dec 2024	H06_1.5	Normal	1168041	-	-	-	-	-	-	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	0.7	04 Dec 2024	H06_0.7	Normal	1168041	-	-	-	-	-	-	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	0.5	11 Dec 2024	H07_0.5	Normal	1171417	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	2	11 Dec 2024	H07_2.0	Normal	1177159	-	-	-	-	-	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	1	11 Dec 2024	H07_1.0	Normal	1171417	-	-	-	-	-	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	3	11 Dec 2024	H07_3.0	Normal	1177159	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	QC191	Interlab_D	EM2422322	-	-	-	-	-	21.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	QC190	Field_D	1171417	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	I06_0.5	Normal	1171417	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	1	11 Dec 2024	I06_1.0	Normal	1171417	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	-	-	-	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	2	05 Jun 2025	MW120A_2.0	Normal	1229786	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	1	05 Jun 2025	MW194_1.0	Normal	1229786	-	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	3	05 Jun 2025	QC203	Interlab_D	EM2510162	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	3	05 Jun 2025	MW194_3.0	Normal	1229786	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	3	05 Jun 2025	QC103	Field_D	1229786	-	-	-	-	-	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	C12_2.5	Normal	1171413	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	1	09 Dec 2024	C12_1.0	Normal	1171413	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	C12_0.5	Normal	1171413	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	C12_1.5	Normal	1171413	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	2	09 Dec 2024	C12_2.0	Normal

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

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Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

			Oxygenated Compounds				Physio-Chemical Parameters		Phenoxyacetic Acid Herbicides								Benzidine	Asbestos																				Herbicides						Anilines					
			Pronamide	Vinyl Acetate	2-Butanone (MEK)	2-Hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	% Moisture Content	Moisture Content (dried @ 103°C)	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	Asbestos fibres	Organic Fibres - Comment	Approximate Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Reported As per Report	Asbestos Sample Dimensions	ACM - Comment	FA - Comment	AF - Comment	Respirable Fibres - Comment	weight of sample	Synthetic Fibres - Comment	Mass ACM	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF	Mass Asbestos in ACM	Mass Asbestos in FA	Mass FA	2,4,5-Trichlorophenoxy acetic Acid	2,4-Dichlorophenoxy Butanoic Acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	Comment	g	%w/w	%w/w	Comment	Comment	Comment	Comment	Comment	Comment	g	Comment	g	g	g	g	g	g	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	5	5	5	5	0.1	1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5	0.1											0.01								0.02	0.02	0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5
Commercial/ Industrial			62,000[85]	3,800[85]	190,000[85]	1,300[85]	140,000[85]			6,600[85]			25,000[85]		5,000[85]	35,000[85]		5.1[85]																				5,000[85]			9,000[85]	5,000[85]	5,000[85]	8,000[85]		11[85]	110[85]	400[85]
Direct Contact Intrusive Maintenance Worker																																															
Low Density Residential			4,700[85]	910[85]	27,000[85]	200[85]	33,000[85]			510[85]			1,900[85]		600[85]	4,500[85]		1.2[85]																				600[85]			900[85]	600[85]	600[85]	630[85]		2.7[85]	27[85]	95[85]
Medium/High Density Residential			4,700[85]	910[85]	27,000[85]	200[85]	33,000[85]			510[85]			1,900[85]		900[85]	6,600[85]		1.2[85]																				900[85]			1,600[85]	900[85]	900[85]	630[85]		2.7[85]	27[85]	95[85]
Recreation/ Open Space			4,700[85]	910[85]	27,000[85]	200[85]	33,000[85]			510[85]			1,900[85]		800[85]	5,700[85]		1.2[85]																				800[85]			1,300[85]	800[85]	800[85]	630[85]		2.7[85]	27[85]	95[85]
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																																									
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	-	-	-	-	-	-	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	3	06 Dec 2024	H10_3.0	Normal	1169377	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	H10_1.5	Normal	1169377	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	H10_0.5	Normal	1169377	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	1	06 Dec 2024	H10_1.0	Normal	1169377	-	-	-	-	-	-	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	2	06 Dec 2024	H10_2.0	Normal	1169377	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H10_2.5	Normal	1169377	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	H11_1.5	Normal	1169377	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	1	06 Dec 2024	H11_1.0	Normal	1169377	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H11_2.5	Normal	1169377	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	H11_0.5	Normal	1169377	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	3	06 Dec 2024	H11_3.0	Normal	1169377	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	2	06 Dec 2024	H11_2.0	Normal	1169377	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H12_1.5	Normal	1171417	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H12_2.5	Normal	1171417	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H12_0.5	Normal	1171413	-	-	-	-	-	-	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	1	11 Dec 2024	H12_1.0	Normal	1171417	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	3	11 Dec 2024	H12_3.0	Normal	1171417	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	2	11 Dec 2024	H12_2.0	Normal	1171417	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	1	11 Dec 2024	H13_1.0	Normal	1171417	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H13_0.5	Normal	1171413	-	-	-	-	-	-	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H13_2.5	Normal	1171417	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	2	11 Dec 2024	H13_2.0	Normal	1171417	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H13_1.5	Normal	1171417	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	2	11 Dec 2024	I07_2.0	Normal	1171417	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	I07_1.5	Normal	1171417	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	3	11 Dec 2024	I07_3.0	Normal	1171417	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	I07_0.5	Normal	1171417	-	-	-	-	-	-	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	1	11 Dec 2024	I07_1.0	Normal	1171417	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	I07_2.5	Normal	1171417	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	I08_0.5	Normal	1169377	-	-	-	-	-	-	8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	I08_2.5	Normal	1169377	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	I08_1.5	Normal	1169377	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	2	04 Dec 2024	I08_2.0	Normal	1169377	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	1	04 Dec 2024	I08_1.0	Normal	1169377	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	I09_0.5	Normal	1169377	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	I09_2.5	Normal	1169377	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	1	05 Dec 2024	I09_1.0	Normal	1169377	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	I09_1.5	Normal	1169377	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	2	05 Dec 2024	I09_2.0	Normal	1169377	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	2	03 Dec 2024	I10_2.0	Normal	1168041	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	1	03 Dec 2024	I10_1.0	Normal	1168041	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	0.5	03 Dec 2024	I10_0.5	Normal	1168041	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	1	05 Dec 2024	J11_1.0	Normal	1169377	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	2	05 Dec 2024	J11_2.0	Normal	1169377	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	J11_0.5	Normal	1169377	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	J11_1.5	Normal	1169377	-	-	-	-	-	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J12	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J12_0.5	Normal	1165428	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J12	3. The Promenade and Underground Carpark	1	25 Nov 2024	J12_1.0	Normal	1165428	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J12	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J12_1.5	Normal	1165428	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J13_1.5	Normal	1165428	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J13_0.5	Normal	1165428	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	3. The Promenade and Underground Carpark	1	25 Nov 2024	J13_1.0	Normal	1165428	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	3	29 May 2025	MW182_3.0	Normal	1227083	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	1	29 May 2025	MW182_1.0	Normal	1227083	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	3	29 May 2025	MW183_3.0	Normal	1227083	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	1	29 May 2025	MW183_1.0	Normal	1227083	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC101	Field_D	1227989	-	-	-	-	-	-	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW184_3.0	Normal	1227989	-	-	-	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	MW184_1.0	Normal	1227989	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC201	Interlab_D	EM2509944	-	-	-	-	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	QC104	Field_D	1229786	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	MW185_3.0	Normal	1229786	-	-	-	-	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW185	3. The Promenade and Underground Carpark	0.5	06 Jun 2025	MW185_0.5	Normal	1229786	-	-	-	-	-	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	3	10 Jun 2025	MW186_3.0	Normal	1231626	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	3.5	10 Jun 2025	MW186_3.5	Normal	1231626	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	0.5	02 Jun 2025	MW191_0.5	Normal	1227989	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW191_3.0	Normal	1227989	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV31	3. The Promenade and Underground Carpark	2.5	29 May 2025	SV31_2.5	Normal	1227083	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV32	3. The Promenade and Underground Carpark	2	06 Jun 2025	SV32_2.0	Normal	1229786	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	2.5	11 Dec 2024	K06_2.5	Normal	1171417	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	2	11 Dec 2024	K06_2.0	Normal	1171417	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	0.5	11 Dec 2024	K06_0.5	Normal	1171417	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	0.5	11 Dec 2024	QC188	Field_D	1171417	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
k06	4. The Precinct North	0.5	11 Dec 2024	QC189	Interlab_D	EM2422322	-	-	-	-	-	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	1.5	11 Dec 2024	K06_1.5	Normal	1171417	-	-	-	-	-	-	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	1	11 Dec 2024	K06_1.0	Normal	1171417	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	2	06 Dec 2024	K07_2.0	Normal	1169377	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	0.5	06 Dec 2024	K07_0.5	Normal	1169377	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	1.5	06 Dec 2024	K07_1.5	Normal	1169377	-	-	-	-	-	-	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	1	06 Dec 2024	K07_1.0	Normal	1169377	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	1	06 Dec 2024	K08_1.0	Normal	1169377	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	1.5	06 Dec 2024	K08_1.5	Normal	1169377	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	0.5	06 Dec 2024	K08_0.5	Normal	1169377	-	-	-	-	-	-	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	2	06 Dec 2024	K08_2.0	Normal	1169377	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	0.5	06 Dec 2024	K09_0.5	Normal	1169377	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	1	06 Dec 2024	K09_1.0	Normal	1169377	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	1.5	06 Dec 2024	K09_1.5	Normal	1169377	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	2	06 Dec 2024	K09_2.0	Normal	1169377	-	-	-	-	-	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

		Oxygenated Compounds				Physio-Chemical Parameters		Phenoxyacetic Acid Herbicides								Benzidine	Asbestos																				Herbicides						Anilines					
	Pyronamide	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (4MBK)	% Moisture Content	Moisture Content (dried @ 103°C)	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	Asbestos fibres	Organic Fibres - Comment	Approximate Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Reported As per Report	Asbestos Sample Dimensions	ACM - Comment	FA - Comment	AF - Comment	Respirable Fibres - Comment	weight of sample	Synthetic Fibres - Comment	Mass ACM	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF	Mass Asbestos in ACM	Mass Asbestos in FA	Mass FA	2,4,5-Trichlorophenoxy propionic Acid	2,4-Dichlorophenoxy acetic Acid	2,4-Dichlorophenoxy butanoic Acid	2,4-Dichlorprop	2,4-Dichlorophenoxy propionic acid	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	Comment	g	%w/w	%w/w	Comment	Comment	Comment	Comment	Comment	Comment	g	Comment	g	g	g	g	g	g	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	5	5	6	5	0.1	1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5	0.1											0.01								0.02	0.02	0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5
Commercial/ Industrial	62,000[#5]	3,800[#3]	190,000[#3]	1,300[#3]	140,000[#3]			6,600[#3]			25,000[#3]		5,000[#3]	35,000[#3]			5.1[#3]																				5,000[#3]						8,000[#3]		110[#3]	110[#3]	400[#3]
Direct Contact Intrusive Maintenance Worker																																														
Low Density Residential	4,700[#1]	910[#1]	27,000[#1]	200[#1]	33,000[#1]			510[#1]			1,900[#1]		600[#1]	4,500[#1]			1.2[#1]																				600[#1]			900[#1]	600[#1]	600[#1]	630[#1]		2.7[#1]	27[#1]	95[#1]
Medium/High Density Residential	4,700[#1]	910[#1]	27,000[#1]	200[#1]	33,000[#1]			510[#1]			1,900[#1]		900[#1]	6,800[#1]			1.2[#1]																				900[#1]			1,600[#1]	900[#1]	900[#1]	630[#1]		2.7[#1]	27[#1]	95[#1]
Recreation/ Open Space	4,700[#1]	910[#1]	27,000[#1]	200[#1]	33,000[#1]			510[#1]			1,900[#1]		800[#1]	5,700[#1]			1.2[#1]																				800[#1]			1,300[#1]	800[#1]	800[#1]	630[#1]		2.7[#1]	27[#1]	95[#1]

| Location Code | Assessment Area | Depth | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

			Inorganics			Haloethers				Un-assigned
	Carbazole	Dibenzofuran	pH (Final)	pH (Initial)	pH (after HCl)	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	TCLP Fluid
	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.5	0.5	0.1	0.1	0.1	0.5	0.5	0.5	0.5	1
Commerical/ Industrial		1,000[1]					1[3]	2,500[3]		
Direct Contact Intrusive Maintenance Worker										
Low Density Residential		73[2]					0.23[2]	190[2]		
Medium/High Density Residential		73[2]					0.23[2]	190[2]		
Recreation/ Open Space		73[2]					0.23[2]	190[2]		

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number										
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	1.5	26 Nov 2024	K17_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	1	26 Nov 2024	QC107	Field_D	1165428	-	-	-	-	-	-	-	-	-	-
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K18	1. The Goods Shed and Yard	0.5	26 Nov 2024	K18_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K18	1. The Goods Shed and Yard	1.5	26 Nov 2024	K18_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K18	1. The Goods Shed and Yard	1	26 Nov 2024	K18_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
L13	1. The Goods Shed and Yard	0.5	05 Dec 2024	L13_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L13	1. The Goods Shed and Yard	1.5	05 Dec 2024	L13_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L13	1. The Goods Shed and Yard	1	05 Dec 2024	L13_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L14	1. The Goods Shed and Yard	0.5	05 Dec 2024	L14_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L14	1. The Goods Shed and Yard	1	05 Dec 2024	L14_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L14	1. The Goods Shed and Yard	1.5	05 Dec 2024	L14_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L15	1. The Goods Shed and Yard	1	05 Dec 2024	L15_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L15	1. The Goods Shed and Yard	1.5	05 Dec 2024	L15_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L15	1. The Goods Shed and Yard	0.5	05 Dec 2024	L15_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	L16_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	1.5	27 Nov 2024	L16_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC116	Interlab_D	EM2421150	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	1	27 Nov 2024	L16_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC115	Field_D	1166213	-	-	-	-	-	-	-	-	-	-
L17	1. The Goods Shed and Yard	0.5	27 Nov 2024	L17_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L17	1. The Goods Shed and Yard	1	27 Nov 2024	L17_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L17	1. The Goods Shed and Yard	1.5	27 Nov 2024	L17_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L18	1. The Goods Shed and Yard	1.5	27 Nov 2024	L18_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L18	1. The Goods Shed and Yard	1	27 Nov 2024	L18_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
L18	1. The Goods Shed and Yard	0.5	27 Nov 2024	L18_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M13	1. The Goods Shed and Yard	0.5	05 Dec 2024	M13_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
M13	1. The Goods Shed and Yard	1.5	05 Dec 2024	M13_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
M13	1. The Goods Shed and Yard	1	05 Dec 2024	M13_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
M14	1. The Goods Shed and Yard	0.5	28 Nov 2024	M14_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M14	1. The Goods Shed and Yard	1.5	28 Nov 2024	M14_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M14	1. The Goods Shed and Yard	1	28 Nov 2024	M14_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M15	1. The Goods Shed and Yard	1	28 Nov 2024	M15_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M15	1. The Goods Shed and Yard	0.5	28 Nov 2024	M15_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M15	1. The Goods Shed and Yard	1.5	28 Nov 2024	M15_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M16	1. The Goods Shed and Yard	0.5	28 Nov 2024	M16_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M16	1. The Goods Shed and Yard	1.5	28 Nov 2024	M16_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M16	1. The Goods Shed and Yard	1	28 Nov 2024	M16_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M17	1. The Goods Shed and Yard	0.5	27 Nov 2024	M17_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M17	1. The Goods Shed and Yard	1	27 Nov 2024	M17_1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M17	1. The Goods Shed and Yard	1.5	27 Nov 2024	M17_1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-
M18	1. The Goods Shed and Yard	0.5	27 Nov 2024	M18_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
M18	1. The Goods Shed and Yard	1	27 Nov 2024	M18_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
M18	1. The Goods Shed and Yard	1.5	27 Nov 2024	M18_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
SV36	1. The Goods Shed and Yard	2	10 Jun 2025	SV36_2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	QC132	Interlab_D	EM2421657	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	QC131	Field_D	1168041	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	E07_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	0.9	04 Dec 2024	E07_0.9	Normal	1168041	-	-	-	-	-	-	-	-	-	-
E07	2. The Escarpment	1	04 Dec 2024	E07_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
E08	2. The Escarpment	0.5	04 Dec 2024	E08_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F07	2. The Escarpment	0.6	04 Dec 2024	F07_0.6	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F07	2. The Escarpment	1	04 Dec 2024	F07_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F07	2. The Escarpment	0.5	04 Dec 2024	F07_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F08	2. The Escarpment	0.5	04 Dec 2024	F08_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F08	2. The Escarpment	1	04 Dec 2024	F08_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	0.5	04 Dec 2024	G06_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	1	04 Dec 2024	G06_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	2	04 Dec 2024	G06_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G06	2. The Escarpment	1.3	04 Dec 2024	G06_1.3	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G07	2. The Escarpment	0.6	04 Dec 2024	G07_0.6	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G07	2. The Escarpment	0.7	04 Dec 2024	G07_0.7	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	0.5	04 Dec 2024	H06_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	0.8	04 Dec 2024	H06_0.8	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	1.5	04 Dec 2024	H06_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H06	2. The Escarpment	0.7	04 Dec 2024	H06_0.7	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	0.5	11 Dec 2024	H07_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	2	11 Dec 2024	H07_2.0	Normal	1177159	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	1	11 Dec 2024	H07_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H07	2. The Escarpment	3	11 Dec 2024	H07_3.0	Normal	1177159	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	QC191	Interlab_D	EM2422322	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	QC190	Field_D	1171417	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	I06_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I06	2. The Escarpment	1	11 Dec 2024	I06_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	2	05 Jun 2025	MW120A_2.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	1	05 Jun 2025	MW194_1.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	3	05 Jun 2025	QC203	Interlab_D	EM2510162	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	3	05 Jun 2025	MW194_3.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	3	05 Jun 2025	QC103	Field_D	1229786	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	C12_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	1	09 Dec 2024	C12_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	C12_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	C12_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
C12	3. The Promenade and Underground Carpark	2	09 Dec 2024	C12_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	3	09 Dec 2024	D11_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D11_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D11_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	1	09 Dec 2024	D11_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	2	09 Dec 2024	D11_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D11_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D11_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D12_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	1	09 Dec 2024	D12_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D12_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	2	09 Dec 2024	D12_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	3	09 Dec 2024	D12_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D12_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D12_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	2	09 Dec 2024	D13_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	3	09 Dec 2024	D13_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D13_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	1	09 Dec 2024	D13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
D13	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D13_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	E09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	2	05 Dec 2024	E09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	E09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	1	05 Dec 2024	E09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	3	05 Dec 2024	E09_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	E09_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	4	05 Dec 2024	E09_4.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	E09_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E09	3. The Promenade and Underground Carpark	4.5	05 Dec 2024	E09_4.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	E10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	1	05 Dec 2024	E10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	2	05 Dec 2024	E10_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

			Inorganics			Haloethers				Un-assigned
	Carbazole	Dibenzofuran	pH (Final)	pH (Initial)	pH (after HCl)	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	TCLP Fluid
	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.5	0.5	0.1	0.1	0.1	0.5	0.5	0.5	0.5	1
Commerical/ Industrial		1,000[#3]					1[#3]	2,500[#3]		
Direct Contact Intrusive Maintenance Worker										
Low Density Residential		73[#3]					0.23[#3]	190[#3]		
Medium/High Density Residential		73[#3]					0.23[#3]	190[#3]		
Recreation/ Open Space		73[#3]					0.23[#3]	190[#3]		

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number										
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	3	05 Dec 2024	E10_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	E10_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	E10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	E10_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E11_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E11_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	2	09 Dec 2024	E11_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E11_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E11_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	1	09 Dec 2024	E11_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E11	3. The Promenade and Underground Carpark	3	09 Dec 2024	E11_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC156	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E12_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	E12_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC155	Field_D	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E12_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	3	09 Dec 2024	E12_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E12_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E12_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E12	3. The Promenade and Underground Carpark	2	09 Dec 2024	E12_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	2	10 Dec 2024	E13_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	E13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1	10 Dec 2024	E13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC172	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC171	Field_D	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	E13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	3	10 Dec 2024	E13_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	E13_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
E13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	E13_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	1	04 Dec 2024	F09_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	F09_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	2	04 Dec 2024	F09_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	F09_2.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	F09_3.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	4	04 Dec 2024	F09_4.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	F09_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	1.6	04 Dec 2024	F09_1.6	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F09	3. The Promenade and Underground Carpark	3	04 Dec 2024	F09_3.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	F10_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	F10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	1	05 Dec 2024	F10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	2	05 Dec 2024	F10_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	F10_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	F10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F10	3. The Promenade and Underground Carpark	3	05 Dec 2024	F10_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F11_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F11_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F11_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	1	09 Dec 2024	F11_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	2	09 Dec 2024	F11_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F11_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F11	3. The Promenade and Underground Carpark	3	09 Dec 2024	F11_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	2	09 Dec 2024	F12_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F12_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F12_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	1	09 Dec 2024	F12_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	3	09 Dec 2024	F12_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F12_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F12_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	2	10 Dec 2024	F13_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	F13_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	F13_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	3	10 Dec 2024	F13_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	1	10 Dec 2024	F13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	F13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	F13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC169	Field_D	1171413	-	-	-	-	-	-	-	-	-	-
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC170	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	G08_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	G08_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	2	04 Dec 2024	G08_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	3	04 Dec 2024	G08_3.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	G08_3.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	1	04 Dec 2024	G08_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	G08_2.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	2	05 Dec 2024	G09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	G09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	G09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	1	05 Dec 2024	G09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	G09_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	3	05 Dec 2024	G09_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G09	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	G09_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	G10_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	G10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	1	05 Dec 2024	G10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	G10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	2	05 Dec 2024	G10_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	3	05 Dec 2024	G10_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	G10_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	3.5	06 Dec 2024	G11_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	2	06 Dec 2024	G11_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	G11_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	G11_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	G11_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	3	06 Dec 2024	G11_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G11	3. The Promenade and Underground Carpark	1	06 Dec 2024	G11_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	2	10 Dec 2024	G12_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	G12_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	G12_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	G12_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC163	Field_D	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC164	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	G12_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	3	10 Dec 2024	G12_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	G12_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC167	Field_D	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	3	10 Dec 2024	G13_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	G13_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC168	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	G13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	2	10 Dec 2024	G13_2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	G13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
G13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	G13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
H08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	H08_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	H08_2.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H08	3. The Promenade and Underground Carpark	1	04 Dec 2024	H08_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	H08_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H08	3. The Promenade and Underground Carpark	3	04 Dec 2024	H08_3.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H08	3. The Promenade and Underground Carpark	2	04 Dec 2024	H08_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	H09_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	H09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	2	05 Dec 2024	H09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	1	05 Dec 2024	H09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	1	05 Dec 2024	QC141	Field_D	1169377	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	1	05 Dec 2024	QC142	Interlab_D	EM2421846	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	3	05 Dec 2024	H09_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	H09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

			Inorganics			Haloethers				Un-assigned
	Carbazole	Dibenzofuran	pH (Final)	pH (Initial)	pH (after HCL)	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	TCLP Fluid
	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.5	0.5	0.1	0.1	0.1	0.5	0.5	0.5	0.5	1
Commerical/ Industrial		1,000[#3]					1[#3]	2,500[#3]		
Direct Contact Intrusive Maintenance Worker										
Low Density Residential		73[#3]					0.23[#3]	190[#3]		
Medium/High Density Residential		73[#3]					0.23[#3]	190[#3]		
Recreation/ Open Space		73[#3]					0.23[#3]	190[#3]		

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number										
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	3	06 Dec 2024	H10_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	H10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	H10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	1	06 Dec 2024	H10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	2	06 Dec 2024	H10_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H10	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H10_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	H11_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	1	06 Dec 2024	H11_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H11_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	H11_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	3	06 Dec 2024	H11_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H11	3. The Promenade and Underground Carpark	2	06 Dec 2024	H11_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H12_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H12_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H12_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	1	11 Dec 2024	H12_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	3	11 Dec 2024	H12_3.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H12	3. The Promenade and Underground Carpark	2	11 Dec 2024	H12_2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	1	11 Dec 2024	H13_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H13_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	2	11 Dec 2024	H13_2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
H13	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H13_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	2	11 Dec 2024	I07_2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	I07_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	3	11 Dec 2024	I07_3.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	I07_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	1	11 Dec 2024	I07_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I07	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	I07_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	I08_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	I08_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	I08_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	2	04 Dec 2024	I08_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I08	3. The Promenade and Underground Carpark	1	04 Dec 2024	I08_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	I09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	I09_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	1	05 Dec 2024	I09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	I09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I09	3. The Promenade and Underground Carpark	2	05 Dec 2024	I09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	1.5	03 Dec 2024	I10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	2	03 Dec 2024	I10_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	1	03 Dec 2024	I10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
I10	3. The Promenade and Underground Carpark	0.5	03 Dec 2024	I10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	1	05 Dec 2024	J11_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	2	05 Dec 2024	J11_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	J11_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
J11	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	J11_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
J12	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J12_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
J12	3. The Promenade and Underground Carpark	1	25 Nov 2024	J12_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
J12	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J12_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
J13	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J13_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
J13	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J13_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
J13	3. The Promenade and Underground Carpark	1	25 Nov 2024	J13_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	3	29 May 2025	MW182_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	1	29 May 2025	MW182_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	3	29 May 2025	MW183_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	1	29 May 2025	MW183_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC101	Field_D	1227989	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW184_3.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	MW184_1.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC201	Interlab_D	EM2503944	-	-	-	-	-	-	-	-	-	-
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	QC104	Field_D	1229786	-	-	-	-	-	-	-	-	-	-
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	MW185_3.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-
MW185	3. The Promenade and Underground Carpark	0.5	06 Jun 2025	MW185_0.5	Normal	1229786	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	3	10 Jun 2025	MW186_3.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	3.5	10 Jun 2025	MW186_3.5	Normal	1231626	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	0.5	02 Jun 2025	MW191_0.5	Normal	1227989	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW191_3.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-
SV31	3. The Promenade and Underground Carpark	2.5	29 May 2025	SV31_2.5	Normal	1227083	-	-	-	-	-	-	-	-	-	-
SV32	3. The Promenade and Underground Carpark	2	06 Jun 2025	SV32_2.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	2.5	11 Dec 2024	K06_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	2	11 Dec 2024	K06_2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	0.5	11 Dec 2024	K06_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	0.5	11 Dec 2024	QC188	Field_D	1171417	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	0.5	11 Dec 2024	QC189	Interlab_D	EM2422322	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	1.5	11 Dec 2024	K06_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-
K06	4. The Precinct North	1	11 Dec 2024	K06_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	2	06 Dec 2024	K07_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	0.5	06 Dec 2024	K07_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	1.5	06 Dec 2024	K07_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K07	4. The Precinct North	1	06 Dec 2024	K07_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	1	06 Dec 2024	K08_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	1.5	06 Dec 2024	K08_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	0.5	06 Dec 2024	K08_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K08	4. The Precinct North	2	06 Dec 2024	K08_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	0.5	06 Dec 2024	K09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	1	06 Dec 2024	K09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	1.5	06 Dec 2024	K09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K09	4. The Precinct North	2	06 Dec 2024	K09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-

Table T1 - Additional Soil Data - Human Health - Direct Contact
Review of Site Suitability Statements 2025
Macquarie Point Development Project

			Inorganics			Haloethers				Un-assigned
	Carbazole	Dibenzofuran	pH (Final)	pH (Initial)	pH (after HCL)	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	TCLP Fluid
	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	-
EQL	0.5	0.5	0.1	0.1	0.1	0.5	0.5	0.5	0.5	1
Commerical/ Industrial		1,000[#3]					1[#3]	2,500[#3]		
Direct Contact Intrusive Maintenance Worker										
Low Density Residential		73[#10]					0.23[#10]	190[#10]		
Medium/High Density Residential		73[#8]					0.23[#8]	190[#8]		
Recreation/ Open Space		73[#8]					0.23[#8]	190[#8]		

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number										
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-
K10	4. The Precinct North	0.5	06 Dec 2024	K10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K10	4. The Precinct North	1.5	06 Dec 2024	K10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K10	4. The Precinct North	2	06 Dec 2024	K10_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
K10	4. The Precinct North	1	06 Dec 2024	K10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L08	4. The Precinct North	0.5	06 Dec 2024	L08_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L08	4. The Precinct North	2	06 Dec 2024	L08_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L08	4. The Precinct North	1	06 Dec 2024	QC150	Field_D	1169377	-	-	-	-	-	-	-	-	-	-
L08	4. The Precinct North	1	06 Dec 2024	L08_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L08	4. The Precinct North	1	06 Dec 2024	QC151	Interlab_D	EM2421846	-	-	-	-	-	-	-	-	-	-
L08	4. The Precinct North	1.5	06 Dec 2024	L08_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L09	4. The Precinct North	1	06 Dec 2024	L09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L09	4. The Precinct North	2	06 Dec 2024	L09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L09	4. The Precinct North	0.5	06 Dec 2024	L09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L09	4. The Precinct North	1.5	06 Dec 2024	L09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-
L10	4. The Precinct North	0.5	03 Dec 2024	L10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
L10	4. The Precinct North	1.5	03 Dec 2024	L10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
L10	4. The Precinct North	1	03 Dec 2024	L10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
L10	4. The Precinct North	2	03 Dec 2024	L10_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M09	4. The Precinct North	1.5	03 Dec 2024	M09_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M09	4. The Precinct North	1	03 Dec 2024	M09_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M09	4. The Precinct North	0.5	03 Dec 2024	M09_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M10	4. The Precinct North	0.5	03 Dec 2024	M10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M10	4. The Precinct North	1	03 Dec 2024	M10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M10	4. The Precinct North	1.5	03 Dec 2024	M10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M11	4. The Precinct North	0.5	03 Dec 2024	QC123	Field_D	1168041	-	-	-	-	-	-	-	-	-	-
M11	4. The Precinct North	0.5	03 Dec 2024	M11_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M11	4. The Precinct North	0.5	03 Dec 2024	QC124	Interlab_D	EM2421657	-	-	-	-	-	-	-	-	-	-
M11	4. The Precinct North	1.5	03 Dec 2024	M11_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
M11	4. The Precinct North	1	03 Dec 2024	M11_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
MW187	4. The Precinct North	2	11 Jun 2025	MW187_2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-
MW187	4. The Precinct North	0.2	11 Jun 2025	MW187_0.2	Normal	1231626	-	-	-	-	-	-	-	-	-	-
MW190	4. The Precinct North	1	28 May 2025	MW190_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
MW190	4. The Precinct North	3	28 May 2025	MW190_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
MW192	4. The Precinct North	2	28 May 2025	MW192_2.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-
N09	4. The Precinct North	1	03 Dec 2024	N09_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N09	4. The Precinct North	1.5	03 Dec 2024	N09_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N09	4. The Precinct North	0.5	03 Dec 2024	N09_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N10	4. The Precinct North	1	03 Dec 2024	N10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N10	4. The Precinct North	1.5	03 Dec 2024	N10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N10	4. The Precinct North	0.5	03 Dec 2024	N10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N11	4. The Precinct North	0.5	03 Dec 2024	N11_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N11	4. The Precinct North	1.5	03 Dec 2024	N11_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-
N11	4. The Precinct North	1	03 Dec 2024	N11_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-
SV33	4. The Precinct North	2	11 Jun 2025	SV33_2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-
SV34	4. The Precinct North	1.5	27 May 2025	SV34_1.5	Normal	1225146	-	-	-	-	-	-	-	-	-	-
SV35	4. The Precinct North	2.5	28 May 2025	SV35_2.5	Normal	1227083	-	-	-	-	-	-	-	-	-	-

Comments
#1 CRC CARE 2011 HSL D Direct Contact (Appendix F)
#2 NEPM 2013 HIL D - Commercial/Industrial
#3 US EPA RSL NOV 2018 - Commercial Industrial Soil
#4 NEPC 2013 HIL D - Commercial/Industrial. In the absence of guideline value for total chromium, and as a conservative approach, the guideline value for chromium VI has been adopted.
#5 PFAS National Environmental Management Plan
#6 NEPM 2013 HIL D - Low Density Residential (in the absence of a guideline value the guideline value for free cyanide has been adopted)
#7 CRC CARE 2011 Shallow Trench Worker Direct Contact (Appendix F)
#8 CRC CARE 2011 HSL B Direct Contact (Appendix F)
#9 NEPM 2013 HIL A - Low Density Residential
#10 US EPA RSL NOV 2018 - Residential Soil
#11 NEPM 2013 HIL A - Low Density Residential. In the absence of guideline value for total chromium, and as a conservative approach, the guideline value for chromium VI has been adopted.
#12 PFAS National Environmental Management Plan
#13 NEPM 2013 HIL A - Low Density Residential (in the absence of a guideline value the guideline value for free cyanide has been adopted)
#14 NEPM 2013 HIL B - Med-High Density Residential
#15 NEPM 2013 HIL B - Med-High Density Residential. In the absence of guideline value for total chromium, and as a conservative approach, the guideline value for chromium VI has been adopted.
#16 NEPM 2013 HIL B - Low Density Residential (in the absence of a guideline value the guideline value for free cyanide has been adopted)
#17 CRC CARE 2011 HSL C Direct Contact (Appendix F)
#18 NEPM 2013 HIL C - Recreation/ Open Space
#19 NEPM 2013 HIL C - Recreation/ Open Space. In the absence of guideline value for total chromium, and as a conservative approach, the guideline value for chromium VI has been adopted.
#20 NEPM 2013 HIL C - Low Density Residential (in the absence of a guideline value the guideline value for free cyanide has been adopted)

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | Total Recoverable Hydrocarbons | | | | | | | Total Petroleum Hydrocarbons | | | | | Metals | | | | | | | | | | | | | | | | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | Total Recoverable Hydrocarbons | | | | | | | Total Petroleum Hydrocarbons | | | | | Metals | | | | | | | | | | | | | | | | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | Total Recoverable Hydrocarbons | | | | | | | Total Petroleum Hydrocarbons | | | | | Metals | | | | | | | | | | | | | | | | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

	Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Metals																Monocyclic Aromatic Hydrocarbons							Polycyclic Aromatic Hydrocarbons						
	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 fraction (minus Naphthalene)(F2)	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C10-C14 fraction	>C15-C28 fraction	>C29-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (hexavalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEX)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (PCL)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	0.4	2	0.5	2	5	5	5	0.1	2	2	2	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.001	0.01	0.01	0.005	0.01	0.005	0.005	0.005	0.005	0.5
Highly Modified Ecosystem	215[#1]			170[#1]	1,700[#1]	3,300[#1]						170[#2]								85[#2]	1,800[#2]				55[#2]				110[#2]	75[#1]	135[#1]	165[#1]									370[#2]					
Modified Ecosystem	180[#1]			120[#1]	300[#1]	2,800[#1]						100[#2]								60[#2]	1,100[#2]				30[#2]				70[#1]	50[#1]	85[#1]	70[#1]									170[#2]					

| Location Code | Assessment Area | Depth | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | |

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
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Table T2 - Additional Soil Data - Ecosystems
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Table T2 - Additional Soil Data - Ecosystems
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Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

														Major Ions	Cyanides		Phenolic Compounds																					Polychlorinated Biphenyls										

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

												Organochlorine Pesticides (OC)																		Physio-Chemical Parameters	
												a-BHC	b-BHC	g-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (dried @ 103°C)
												mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL												0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Highly Modified Ecosystem																					640[#]															
Modified Ecosystem																					180[#]															
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																														
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	9.3
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14 0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	12
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14 1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14 1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.7
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15 0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15 1.0	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	16
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15 1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16 0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	9.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	11
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.6	-	-
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17 0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	12
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17 1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
K17	1. The Goods Shed and Yard	1	26 Nov 2024	QC107	Field_D	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8
K17	1. The Goods Shed and Yard	1.5	26 Nov 2024	K17_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1
K18	1. The Goods Shed and Yard	0.5	26 Nov 2024	K18_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2
K18	1. The Goods Shed and Yard	1	26 Nov 2024	K18_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9
K18	1. The Goods Shed and Yard	1.5	26 Nov 2024	K18 1.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	13
L13	1. The Goods Shed and Yard	0.5	05 Dec 2024	L13 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
L13	1. The Goods Shed and Yard	1	05 Dec 2024	L13 1.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	16
L13	1. The Goods Shed and Yard	1.5	05 Dec 2024	L13 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
L14	1. The Goods Shed and Yard	0.5	05 Dec 2024	L14 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
L14	1. The Goods Shed and Yard	1	05 Dec 2024	L14 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34
L14	1. The Goods Shed and Yard	1.5	05 Dec 2024	L14 1.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	24
L15	1. The Goods Shed and Yard	0.5	05 Dec 2024	L15 0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	9.9
L15	1. The Goods Shed and Yard	1	05 Dec 2024	L15 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
L15	1. The Goods Shed and Yard	1.5	05 Dec 2024	L15 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC116	Interlab_D	EM2421150	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	10.9	-	-
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	L16 0.5	Normal	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	8.3
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC115	Field_D	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	24
L16	1. The Goods Shed and Yard	1	27 Nov 2024	L16 1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
L16	1. The Goods Shed and Yard	1.5	27 Nov 2024	L16 1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
L17	1. The Goods Shed and Yard	0.5	27 Nov 2024	L17 0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
L17	1. The Goods Shed and Yard	1	27 Nov 2024	L17 1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
L17	1. The Goods Shed and Yard	1.5	27 Nov 2024	L17 1.5	Normal	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	20
L18	1. The Goods Shed and Yard	0.5	27 Nov 2024	L18 0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
L18	1. The Goods Shed and Yard	1	27 Nov 2024	L18 1.0	Normal	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	16
L18	1. The Goods Shed and Yard	1.5	27 Nov 2024	L18 1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
M13	1. The Goods Shed and Yard	0.5	05 Dec 2024	M13 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
M13	1. The Goods Shed and Yard	1	05 Dec 2024	M13 1.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	20
M13	1. The Goods Shed and Yard	1.5	05 Dec 2024	M13 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
M14	1. The Goods Shed and Yard	0.5	28 Nov 2024	M14 0.5	Normal	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	8.2
M14	1. The Goods Shed and Yard	1	28 Nov 2024	M14 1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
M14	1. The Goods Shed and Yard	1.5	28 Nov 2024	M14 1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
M15	1. The Goods Shed and Yard	0.5	28 Nov 2024	M15 0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
M15	1. The Goods Shed and Yard	1	28 Nov 2024	M15 1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
M15	1. The Goods Shed and Yard	1.5	28 Nov 2024	M15 1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
M16	1. The Goods Shed and Yard	0.5	28 Nov 2024	M16_0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
M16	1. The Goods Shed and Yard	1	28 Nov 2024	M16 1.0	Normal	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	16
M16	1. The Goods Shed and Yard	1.5	28 Nov 2024	M16 1.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
M17	1. The Goods Shed and Yard	0.5	27 Nov 2024	M17 0.5	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
M17	1. The Goods Shed and Yard	1	27 Nov 2024	M17 1.0	Normal	1166213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
M17	1. The Goods Shed and Yard	1.5	27 Nov 2024	M17 1.5	Normal	1166213	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	15
M18	1. The Goods Shed and Yard	0.5	27 Nov 2024	M18_0.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
M18	1. The Goods Shed and Yard	1	27 Nov 2024	M18 1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
M18	1. The Goods Shed and Yard	1.5	27 Nov 2024	M18 1.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	9.8
SV36	1. The Goods Shed and Yard	2	10 Jun 2025	SV36 2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.8
E07	2. The Escarpment	0.5	04 Dec 2024	QC132	Interlab_D	EM2421657	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	-	-
E07	2. The Escarpment	0.5	04 Dec 2024	E07_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
E07	2. The Escarpment	0.5	04 Dec 2024	QC131	Field_D	1168041	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
E07	2. The Escarpment	0.9	04 Dec 2024	E07_0.9	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8
E07	2. The Escarpment	1	04 Dec 2024	E07_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E08	2. The Escarpment	0.5	04 Dec 2024	E08 0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	5.3
F07	2. The Escarpment	0.5	04 Dec 2024	F07 0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	4.5
F07	2. The Escarpment	0.6	04 Dec 2024	F07 0.6	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5
F07	2. The Escarpment	1	04 Dec 2024	F07 1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
F08	2. The Escarpment	0.5	04 Dec 2024	F08 0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
F08	2. The Escarpment	1	04 Dec 2024	F08_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	4.9
G06	2. The Escarpment	0.5	04 Dec 2024	G06 0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1
G06	2. The Escarpment	1	04 Dec 2024	G06 1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4
G06	2. The Escarpment	1.3	04 Dec 2024	G06 1.3	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	5.4
G06	2. The Escarpment	2	04 Dec 2024	G06 2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G07	2. The Escarpment	0.6	04 Dec 2024	G07_0.6	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8
G07	2. The Escarpment	0.7	04 Dec 2024	G07_0.7	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1
H06	2. The Escarpment	0.5	04 Dec 2024	H06_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
H06	2. The Escarpment	0.7	04 Dec 2024	H06 0.7	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	3.9
H06	2. The Escarpment	0.8	04 Dec 2024	H06 0.8	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7
H06	2. The Escarpment	1.5	04 Dec 2024	H06 1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4
H07	2. The Escarpment	0.5	11 Dec 2024	H07 0.5	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	15
H07	2. The Escarpment	1	11 Dec 2024	H07 1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	2.1
H07	2. The Escarpment	2	11 Dec 2024	H07 2.0	Normal	1177159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
H07	2. The Escarpment	3	11 Dec 2024	H07 3.0	Normal	1177159	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	<1
I06	2. The Escarpment	0.5	11 Dec 2024	QC191	Interlab_D	EM2422322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.9	-	-
I06	2. The Escarpment	0.5	11 Dec 2024	I06_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
I06	2. The Escarpment	0.5	11 Dec 2024	QC190	Field_D	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I06	2. The Escarpment	1	11 Dec 2024	I06_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
MW120A	2. The Escarpment	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
MW120A	2. The Escarpment	2	05 Jun 2025	MW120A_2.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5
MW194	2. The Escarpment	1	05 Jun 2025	MW194_1.0	Normal	1229786	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4
MW194	2. The Escarpment	3	05 Jun 2025	QC203	Interlab_D	EM2510162	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-
MW194	2. The Escarpment	3	05 Jun 2025	MW194_3.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
MW194	2. The Escarpment	3	05 Jun 2025	QC103	Field_D	1229786	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1
C12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	C12_0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	12
C12	3. The Promenade and Underground Carpark	1	09 Dec 2024	C12_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
C12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	C12 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
C12	3. The Promenade and Underground Carpark	2	09 Dec 2024	C12 2.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	3.9
C12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	C12 2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
D11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D11 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4
D11	3. The Promenade and Underground Carpark	1	09 Dec 2024	D11_1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8
D11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D11 1.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	11
D11	3. The Promenade and Underground Carpark	2	09 Dec 2024	D11 2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
D11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D11 2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1
D11	3. The Promenade and Underground Carpark	3	09 Dec 2024	D11 3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
D11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D11 3.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	-	6.6
D12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D12 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

												Organochlorine Pesticides (OC)																		Physio-Chemical Parameters	
												a-BHC	b-BHC	g-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (dried @ 103°C)
												mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL												0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Highly Modified Ecosystem																					640[#]																
Modified Ecosystem																					180[#]																
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																															
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.3
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
E10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	E10 3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6
E11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E11 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
E11	3. The Promenade and Underground Carpark	1	09 Dec 2024	E11 1.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
E11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E11 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
E11	3. The Promenade and Underground Carpark	2	09 Dec 2024	E11 2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
E11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E11 2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E11	3. The Promenade and Underground Carpark	3	09 Dec 2024	E11 3.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.7
E11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E11 3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E12_0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.8
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC156	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	-
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	E12 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC155	Field_D	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.0
E12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E12 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E12	3. The Promenade and Underground Carpark	2	09 Dec 2024	E12 2.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.7
E12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E12 2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
E12	3. The Promenade and Underground Carpark	3	09 Dec 2024	E12 3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E12_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
E13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	E13 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
E13	3. The Promenade and Underground Carpark	1	10 Dec 2024	E13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC172	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	-
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	E13 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC171	Field_D	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
E13	3. The Promenade and Underground Carpark	2	10 Dec 2024	E13 2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
E13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	E13 2.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	29
E13	3. The Promenade and Underground Carpark	3	10 Dec 2024	E13 3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
E13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	E13 3.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	25
F09	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	F09 0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
F09	3. The Promenade and Underground Carpark	1	04 Dec 2024	F09 1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6
F09	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	F09 1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F09	3. The Promenade and Underground Carpark	1.6	04 Dec 2024	F09 1.6	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
F09	3. The Promenade and Underground Carpark	2	04 Dec 2024	F09 2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4
F09	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	F09 2.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9
F09	3. The Promenade and Underground Carpark	3	04 Dec 2024	F09 3.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	13
F09	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	F09 3.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
F09	3. The Promenade and Underground Carpark	4	04 Dec 2024	F09_4.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
F10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	F10 0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.5
F10	3. The Promenade and Underground Carpark	1	05 Dec 2024	F10 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9
F10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	F10 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4
F10	3. The Promenade and Underground Carpark	2	05 Dec 2024	F10 2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9
F10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	F10 2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8
F10	3. The Promenade and Underground Carpark	3	05 Dec 2024	F10 3.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	6.8
F10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	F10 3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F11 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9
F11	3. The Promenade and Underground Carpark	1	09 Dec 2024	F11 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
F11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F11 1.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	13
F11	3. The Promenade and Underground Carpark	2	09 Dec 2024	F11 2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F11_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
F11	3. The Promenade and Underground Carpark	3	09 Dec 2024	F11_3.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	29
F11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F11_3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
F12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F12 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F12	3. The Promenade and Underground Carpark	1	09 Dec 2024	F12 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
F12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F12 1.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
F12	3. The Promenade and Underground Carpark	2	09 Dec 2024	F12 2.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
F12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F12 2.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	22
F12	3. The Promenade and Underground Carpark	3	09 Dec 2024	F12 3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
F12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F12 3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
F13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	F13 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	3.4
F13	3. The Promenade and Underground Carpark	1	10 Dec 2024	F13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC170	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	-
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	F13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC169	Field_D	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5
F13	3. The Promenade and Underground Carpark	2	10 Dec 2024	F13 2.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.9
F13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	F13 2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7
F13	3. The Promenade and Underground Carpark	3	10 Dec 2024	F13 3.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
F13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	F13 3.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	G08 0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
G08	3. The Promenade and Underground Carpark	1	04 Dec 2024	G08 1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.3
G08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	G08_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
G08	3. The Promenade and Underground Carpark	2	04 Dec 2024	G08 2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8
G08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	G08 2.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.1
G08	3. The Promenade and Underground Carpark	3	04 Dec 2024	G08_3.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
G08	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	G08_3.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
G09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	G09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
G09	3. The Promenade and Underground Carpark	1	05 Dec 2024	G09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	G09_1.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
G09	3. The Promenade and Underground Carpark	2	05 Dec 2024	G09 2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
G09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	G09 2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G09	3. The Promenade and Underground Carpark	3	05 Dec 2024	G09_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
G09	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	G09_3.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	26
G10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	G10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G10	3. The Promenade and Underground Carpark	1	05 Dec 2024	G10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2
G10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	G10 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G10	3. The Promenade and Underground Carpark	2	05 Dec 2024	G10 2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	25
G10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	G10_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
G10	3. The Promenade and Underground Carpark	3	05 Dec 2024	G10_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
G10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	G10_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
G11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	G11 0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
G11	3. The Promenade and Underground Carpark	1	06 Dec 2024	G11 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
G11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	G11 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G11	3. The Promenade and Underground Carpark	2	06 Dec 2024	G11 2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	G11_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G11	3. The Promenade and Underground Carpark	3	06 Dec 2024	G11 3.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
G11	3. The Promenade and Underground Carpark	3.5	06 Dec 2024	G11_3.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
G12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	G12_0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.7
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC164	Interlab_D	EM2422260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.3	-
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	G12 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC163	Field_D	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G12	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	G12 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4
G12	3. The Promenade and Underground Carpark	2	10 Dec 2024	G12 2.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.2
G12	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	G12_2.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G12	3. The Promenade and Underground Carpark	3	10 Dec 2024	G12_3.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
G12	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	G12 3.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	3.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
G13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	G13 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC168	Interlab_D	EM2422260	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	12.7	-
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	G13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC167	Field_D	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.6
G13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	G13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
G13	3. The Promenade and Underground Carpark	2	10 Dec 2024	G13 2.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

											Organochlorine Pesticides (OC)																	Physio-Chemical Parameters	
					α-BHC	β-BHC	γ-BHC	δ-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (dried @ 103°C)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Highly Modified Ecosystem														640[#]																
Modified Ecosystem														180[#]																
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																									
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.3
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
H11	3. The Promenade and Underground Carpark	2	06 Dec 2024	H11 2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	24
H11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H11 2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
H11	3. The Promenade and Underground Carpark	3	06 Dec 2024	H11 3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
H12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H12 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.1
H12	3. The Promenade and Underground Carpark	1	11 Dec 2024	H12 1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
H12	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H12 1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
H12	3. The Promenade and Underground Carpark	2	11 Dec 2024	H12 2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
H12	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H12 2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
H12	3. The Promenade and Underground Carpark	3	11 Dec 2024	H12_3.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
H13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.1
H13	3. The Promenade and Underground Carpark	1	11 Dec 2024	H13 1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
H13	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H13 1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
H13	3. The Promenade and Underground Carpark	2	11 Dec 2024	H13 2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
H13	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H13 2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
I07	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	I07 0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4
I07	3. The Promenade and Underground Carpark	1	11 Dec 2024	I07 1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
I07	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	I07_1.5	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
I07	3. The Promenade and Underground Carpark	2	11 Dec 2024	I07 2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
I07	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	I07 2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
I07	3. The Promenade and Underground Carpark	3	11 Dec 2024	I07_3.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
I08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	I08 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9
I08	3. The Promenade and Underground Carpark	1	04 Dec 2024	I08_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
I08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	I08_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I08	3. The Promenade and Underground Carpark	2	04 Dec 2024	I08_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
I08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	I08 2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
I09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	I09 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
I09	3. The Promenade and Underground Carpark	1	05 Dec 2024	I09 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
I09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	I09 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
I09	3. The Promenade and Underground Carpark	2	05 Dec 2024	I09_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
I09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	I09_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
I10	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	I10 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9
I10	3. The Promenade and Underground Carpark	1	06 Dec 2024	QC152	Interlab_D	EM2421846	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.2	-
I10	3. The Promenade and Underground Carpark	1	06 Dec 2024	I10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
I10	3. The Promenade and Underground Carpark	1	06 Dec 2024	QC149	Field_D	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
I10	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	I10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
I10	3. The Promenade and Underground Carpark	2	06 Dec 2024	I10 2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
I10	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	I10 2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
I11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	I11 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I11	3. The Promenade and Underground Carpark	1	06 Dec 2024	I11 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
I11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	I11 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
I11	3. The Promenade and Underground Carpark	2	06 Dec 2024	I11 2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
I11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	I11_2.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
I12	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	I12 0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
I12	3. The Promenade and Underground Carpark	1	06 Dec 2024	I12 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I12	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	I12 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
I12	3. The Promenade and Underground Carpark	2	06 Dec 2024	I12 2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
I13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	I13 0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
I13	3. The Promenade and Underground Carpark	1	10 Dec 2024	I13 1.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
I13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	I13 1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J06	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	J06 0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
J06	3. The Promenade and Underground Carpark	1	11 Dec 2024	J06 1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
J06	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	J06 1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
J06	3. The Promenade and Underground Carpark	2	11 Dec 2024	J06 2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
J06	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	J06 2.5	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	27
J07	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	J07 0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3
J07	3. The Promenade and Underground Carpark	1	11 Dec 2024	J07 1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0
J07	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	J07 1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.3
J07	3. The Promenade and Underground Carpark	2	11 Dec 2024	J07 2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
J07	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	J07 2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
J08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	J08 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
J08	3. The Promenade and Underground Carpark	1	04 Dec 2024	J08 1.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	8.3
J08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	J08 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J08	3. The Promenade and Underground Carpark	2	04 Dec 2024	J08 2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	J08 2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
J09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	J09 0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
J09	3. The Promenade and Underground Carpark	1	05 Dec 2024	J09 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
J09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	J09 1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
J09	3. The Promenade and Underground Carpark	2	05 Dec 2024	J09 2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
J10	3. The Promenade and Underground Carpark	0.5	03 Dec 2024	J10 0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J10	3. The Promenade and Underground Carpark	1	03 Dec 2024	J10 1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
J10	3. The Promenade and Underground Carpark	1.5	03 Dec 2024	J10 1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
J10	3. The Promenade and Underground Carpark	2	03 Dec 2024	J10 2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
J11	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	J11_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
J11	3. The Promenade and Underground Carpark	1	05 Dec 2024	J11 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
J11	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	J11 1.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.6
J11	3. The Promenade and Underground Carpark	2	05 Dec 2024	J11 2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J12	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J12 0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
J12	3. The Promenade and Underground Carpark	1	25 Nov 2024	J12 1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
J12	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J12 1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
J13	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J13 0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
J13	3. The Promenade and Underground Carpark	1	25 Nov 2024	J13 1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J13	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J13 1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
MW182	3. The Promenade and Underground Carpark	1	29 May 2025	MW182 1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33
MW182	3. The Promenade and Underground Carpark	3	29 May 2025	MW182 3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
MW183	3. The Promenade and Underground Carpark	1	29 May 2025	MW183 1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
MW183	3. The Promenade and Underground Carpark	3	29 May 2025	MW183 3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC201	Interlab_D	EM2509944	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0	-
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	MW184 1.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC101	Field_D	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3
MW184	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW184 3.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
MW185	3. The Promenade and Underground Carpark	0.5	06 Jun 2025	MW185 0.5	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	MW185 3.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	QC104	Field_D	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
MW186	3. The Promenade and Underground Carpark	3	10 Jun 2025	MW186_3.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW186	3. The Promenade and Underground Carpark	3.5	10 Jun 2025	MW186 3.5	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW191	3. The Promenade and Underground Carpark	0.5	02 Jun 2025	MW191 0.5	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW191	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW191 3.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
SV31	3. The Promenade and Underground Carpark	2.5	29 May 2025	SV31 2.5	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
SV32	3. The Promenade and Underground Carpark	2	06 Jun 2025	SV32_2.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
K06	4. The Precinct North	0.5	11 Dec 2024	QC189	Interlab_D	EM2422322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.7	-
K06	4. The Precinct North	0.5	11 Dec 2024	K06 0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
K06	4. The Precinct North	0.5	11 Dec 2024	QC188	Field_D	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
K06	4. The Precinct North	1	11 Dec 2024	K06 1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
K06	4. The Precinct North	1.5	11 Dec 2024	K06 1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0
K06	4. The Precinct North	2	11 Dec 2024	K06 2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
K06	4. The Precinct North	2.5	11 Dec 2024	K06 2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
K07	4. The Precinct North	0.5	06 Dec 2024	K07 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
K07	4. The Precinct North	1	06 Dec 2024	K07 1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
K07	4. The Precinct North	1.5	06 Dec 2024	K07 1.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	37
K07	4. The Precinct North	2	06 Dec 2024	K07 2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
K08	4. The Precinct North	0.5	06 Dec 2024	K08 0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-

Table T2 - Additional Soil Data - Ecosystems
Review of Site Suitability Statements 2025
Macquarie Point Development Project

												Organochlorine Pesticides (OC)																	Physio-Chemical Parameters	
												a-BHC	b-BHC	g-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (dried @ 103°C)
												mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL												0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Highly Modified Ecosystem																					640[#1]																
Modified Ecosystem																					180[#1]																
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																															
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13 0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.3
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13 1.0	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
L10	4. The Precinct North	1.5	03 Dec 2024	L10 1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
L10	4. The Precinct North	2	03 Dec 2024	L10 2.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
M09	4. The Precinct North	0.5	03 Dec 2024	M09_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
M09	4. The Precinct North	1	03 Dec 2024	M09_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
M09	4. The Precinct North	1.5	03 Dec 2024	M09 1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
M10	4. The Precinct North	0.5	03 Dec 2024	M10 0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
M10	4. The Precinct North	1	03 Dec 2024	M10_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	21
M10	4. The Precinct North	1.5	03 Dec 2024	M10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
M11	4. The Precinct North	0.5	03 Dec 2024	QC124	Interlab_D	EM2421657	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8	-
M11	4. The Precinct North	0.5	03 Dec 2024	M11_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
M11	4. The Precinct North	0.5	03 Dec 2024	QC123	Field_D	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
M11	4. The Precinct North	1	03 Dec 2024	M11_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
M11	4. The Precinct North	1.5	03 Dec 2024	M11_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
MW187	4. The Precinct North	0.2	11 Jun 2025	MW187_0.2	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4
MW187	4. The Precinct North	2	11 Jun 2025	MW187_2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
MW190	4. The Precinct North	1	28 May 2025	MW190_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW190	4. The Precinct North	3	28 May 2025	MW190_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
MW192	4. The Precinct North	2	28 May 2025	MW192_2.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
N09	4. The Precinct North	0.5	03 Dec 2024	N09_0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.1
N09	4. The Precinct North	1	03 Dec 2024	N09_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
N09	4. The Precinct North	1.5	03 Dec 2024	N09_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
N10	4. The Precinct North	0.5	03 Dec 2024	N10_0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.3
N10	4. The Precinct North	1	03 Dec 2024	N10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
N10	4. The Precinct North	1.5	03 Dec 2024	N10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33
N11	4. The Precinct North	0.5	03 Dec 2024	N11_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
N11	4. The Precinct North	1	03 Dec 2024	N11_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
N11	4. The Precinct North	1.5	03 Dec 2024	N11_1.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	28
SV33	4. The Precinct North	2	11 Jun 2025	SV33_2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
SV34	4. The Precinct North	1.5	27 May 2025	SV34_1.5	Normal	1225146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
SV35	4. The Precinct North	2.5	28 May 2025	SV35_2.5	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17

Comments
#1 NEPC (2013) ESL - Commercial and Industrial (coarse grained soil)
#2 NEPC (2013) EIL - Commercial and Industrial
#3 NEPC (2013) ESL - Commercial and Industrial (fine grained soil)
#4 PFAS National Environmental Management Plan - Ecological Exposure - Direct
#5 NEPC (2013) ESL - Urban Residential and Public Open Space
#6 NEPC (2013) EIL - Urban Residential and Public Open Space
#7 PFAS National Environmental Management Plan - Interim Ecological Exposure - Indirect

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
							C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C28-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)								11.5 | 19.1 | 32.4 | 61.2[HSLA&B]	25 | 55.3 | 106 | 211[NSWEPM]									0.1 | 0.5 | 0.5 | 3 | 3[HSLA&B]	365 | 331 | 391 | 3[HSLA&B]	21 | 61 | 81 | 230[HSLA&B]			40 | 60 | 80 | 110[HSLA&B]			3 | 9 | 20 | 40[HSLA&B]
CRC CARE 2011 HSL C (SAND)								9,960 | 12,000 | 16,000 | 26,000[HSLC]	36,000 | 45,000 | 63,000 | 104,000[HSLC]									480 | 680 | 960 | 1,600[HSLC]	110,000 | 155,000 | 215,000 | 360,000[HSLC]	5,700 | 8,100 | 11,000 | 19,000[HSLC]			11,000 | 15,000 | 21,000 | 36,000[HSLC]			1,500 | 2,500 | 3,700 | 6,300[HSLC]
CRC CARE 2011 HSL D (SAND)								66.6 | 97.5 | 177 | 359[HSLD]	137 | 251 | 573 | 1,240[HSLD]									3 | 3 | 3 | 3[HSLD]	480 | 530 | 640 | 3,000[HSLD]	180 | 270 | 370 | 1,100[HSLD]			200 | 280 | 350 | 1,500[HSLD]			10 | 40 | 100 | 230[HSLD]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker								8,800 | 16,000 | 41,000[HSLVIIMW]	31,000 | 103,000 | 266,000[HSLVIIMW]									75 | 180 | 410[HSLVIIMW]	514,000 | 679 | 1,500[HSLVIIMW]	3,000 | 34,000 | 79,000[HSLVIIMW]			69,000 | 83,000 | 200,000[HSLVIIMW]			2,300 | 18,000 | 54,000[HSLVIIMW]
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																					
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
K17	1. The Goods Shed and Yard	1	26 Nov 2024	QC107	Field_D	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K17	1. The Goods Shed and Yard	1.5	26 Nov 2024	K17_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.005
K18	1. The Goods Shed and Yard	0.5	26 Nov 2024	K18_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.015
K18	1. The Goods Shed and Yard	1	26 Nov 2024	K18_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	58	<50	58	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.066
K18	1. The Goods Shed and Yard	1.5	26 Nov 2024	K18_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L13	1. The Goods Shed and Yard	0.5	05 Dec 2024	L13_0.5	Normal	1169377	<20	<20	<50	<50	170	<100	170	<20	<20	110	80	190	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
L13	1. The Goods Shed and Yard	1	05 Dec 2024	L13_1.0	Normal	1169377	<20	<20	<50	<50	640	170	810	<20	<20	430	280	710	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.1
L13	1. The Goods Shed and Yard	1.5	05 Dec 2024	L13_1.5	Normal	1169377	<20	<20	<50	<50	170	<100	170	<20	<20	100	76	176	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
L14	1. The Goods Shed and Yard	0.5	05 Dec 2024	L14_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
L14	1. The Goods Shed and Yard	1	05 Dec 2024	L14_1.0	Normal	1169377	<20	<20	<50	<50	440	<100	440	<20	<20	280	190	470	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.32
L14	1. The Goods Shed and Yard	1.5	05 Dec 2024	L14_1.5	Normal	1169377	<20	<20	<50	<50	510	<100	510	<20	<20	290	260	550	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.6
L15	1. The Goods Shed and Yard	0.5	05 Dec 2024	L15_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L15	1. The Goods Shed and Yard	1	05 Dec 2024	L15_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	22	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
L15	1. The Goods Shed and Yard	1.5	05 Dec 2024	L15_1.5	Normal	1169377	<20	<20	<50	<50	1,600	260	1,860	<20	<20	1,100	630	1,730	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC116	Interlab_D	EM2421150	<10	<10	<50	<50	260	<100	260	<10	<50	160	140	300	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	L16_0.5	Normal	1166213	<20	<20	<50	<50	290	<100	290	<20	<20	180	150	330	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L16	1. The Goods Shed and Yard	0.5	27 Nov 2024	QC115	Field_D	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L16	1. The Goods Shed and Yard	1	27 Nov 2024	L16_1.0	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.29
L16	1. The Goods Shed and Yard	1.5	27 Nov 2024	L16_1.5	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.26
L17	1. The Goods Shed and Yard	0.5	27 Nov 2024	L17_0.5	Normal	1166213	<20	<20	<50	<50	260	140	400	<20	<20	170	140	310	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.11
L17	1. The Goods Shed and Yard	1	27 Nov 2024	L17_1.0	Normal	1166213	<20	<20	<50	<50	140	<100	140	<20	<20	90	70	160	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.1
L17	1. The Goods Shed and Yard	1.5	27 Nov 2024	L17_1.5	Normal	1166213	<20	<20	<50	<50	290	110	400	<20	<20	210	130	340	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.7
L18	1. The Goods Shed and Yard	0.5	27 Nov 2024	L18_0.5	Normal	1166213	<20	<20	<50	<50	230	<100	230	<20	<20	160	100	260	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.33
L18	1. The Goods Shed and Yard	1	27 Nov 2024	L18_1.0	Normal	1166213	<20	<20	<50	<50	160	140	300	<20	<20	73	130	203	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L18	1. The Goods Shed and Yard	1.5	27 Nov 2024	L18_1.5	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	60	53	113	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.12
M13	1. The Goods Shed and Yard	0.5	05 Dec 2024	M13_0.5	Normal	1169377	<20	<20	<50	<50	2,700	830	3,530	<20	<20	1,400	1,500	2,900	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
M13	1. The Goods Shed and Yard	1	05 Dec 2024	M13_1.0	Normal	1169377	<20	<20	<50	<50	460	<100	460	<20	<20	320	170	490	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.1
M13	1. The Goods Shed and Yard	1.5	05 Dec 2024	M13_1.5	Normal	1169377	<20	<20	<50	<50	220	<100	220	<20	<20	140	96	236	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
M14	1. The Goods Shed and Yard	0.5	28 Nov 2024	M14_0.5	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
M14	1. The Goods Shed and Yard	1	28 Nov 2024	M14_1.0	Normal	1166213	<20	<20	<50	<50	360	260	620	<20	<20	200	230	430	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.20
M14	1. The Goods Shed and Yard	1.5	28 Nov 2024	M14_1.5	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.16
M15	1. The Goods Shed and Yard	0.5	28 Nov 2024	M15_0.5	Normal	1166213	<20	<20	<50	<50	<100	160	160	<20	<20	<50	82	82	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
M15	1. The Goods Shed and Yard	1	28 Nov 2024	M15_1.0	Normal	1166213	<20	<20	<50	<50	140	330	470	<20	<20	<50	210	210	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
M15	1. The Goods Shed and Yard	1.5	28 Nov 2024	M15_1.5	Normal	1166213	<20	<20	<50	<50	1,100	1,200	2,300	<20	<20	450	1,000	1,450	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
M16	1. The Goods Shed and Yard	0.5	28 Nov 2024	M16_0.5	Normal	1166213	<20	<20	<50	<50	200	260	460	<20	<20	99	160	259	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.095
M16	1. The Goods Shed and Yard	1	28 Nov 2024	M16_1.0	Normal	1166213	<20	<20	<50	<50	740	220	960	<20	<20	500	320	820	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.1
M16	1. The Goods Shed and Yard	1.5	28 Nov 2024	M16_1.5	Normal	1166213	<20	<20	<50	<50	350	150	500	<20	<20	240	160	400	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.2
M17	1. The Goods Shed and Yard	0.5	27 Nov 2024	M17_0.5	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.083
M17	1. The Goods Shed and Yard	1	27 Nov 2024	M17_1.0	Normal	1166213	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	58	58	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.066
M17	1. The Goods Shed and Yard	1.5	27 Nov 2024	M17_1.5	Normal	1166213	<20	<20	<50	<50	150	<100	150	<20	<20	98	68	166	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
M18	1. The Goods Shed and Yard	0.5	27 Nov 2024	M18_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.097
M18	1. The Goods Shed and Yard	1	27 Nov 2024	M18_1.0	Normal	1165428	<20	<20	<50	<50	200	100	300	<20	<20	120	120	240	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.13
M18	1. The Goods Shed and Yard	1.5	27 Nov 2024	M18_1.5	Normal	1165428	<20	<20	<50	<50	380	110	490	<20	42	260	170	472	<0.1	<0.1	0.4	1.2	0.6	1.8	-	-	6.0
SV36	1. The Goods Shed and Yard	2	10 Jun 2025	SV36_2.0	Normal	1231626	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
E07	2. The Escarpment	0.5	04 Dec 2024	QC132	Interlab_D	EM2421657	<10	<10	<50	<50	160	<100	160	<10	<50	110	<100	110	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
E07	2. The Escarpment	0.5	04 Dec 2024	E07_0.5	Normal	1168041	<20	<20	<50	<50	320	<100	320	<20	<20	200	140	340	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.069
E07	2. The Escarpment	0.5	04 Dec 2024	QC131	Field_D	1168041	<20	<20	<50	<50	180	<100	180	<20	<20	120	71	191	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.053
E07	2. The Escarpment	0.9	04 Dec 2024	E07_0.9	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E07	2. The Escarpment	1	04 Dec 2024	E07_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E08	2. The Escarpment	0.5	04 Dec 2024	E08_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F07	2. The Escarpment	0.5	04 Dec 2024	F07_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F07	2. The Escarpment	0.6	04 Dec 2024	F07_0.6	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F07	2. The Escarpment	1	04 Dec 2024	F07_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F08	2. The Escarpment	0.5	04 Dec 2024	F08_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F08	2. The Escarpment	1	04 Dec 2024	F08_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G06	2. The Escarpment	0.5	04 Dec 2024	G06_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G06	2. The Escarpment	1	04 Dec 2024	G06_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G06	2. The Escarpment	1.3	04 Dec 2024	G06_1.3	Normal	1168041	<20	<20	63	63	<100	<100	<100	<20	22	90	<50	112	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G06	2. The Escarpment	2	04 Dec 2024	G06_2.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G07	2. The Escarpment	0.6	04 Dec 2024	G07_0.6	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G07	2. The Escarpment	0.7	04 Dec 2024	G07_0.7	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H06	2. The Escarpment	0.5	04 Dec 2024	H06_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H06	2. The Escarpment	0.7	04 Dec 2024	H06_0.7	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H06	2. The Escarpment	0.8	04 Dec 2024	H06_0.8	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H06	2. The Escarpment	1.5	04 Dec 2024	H06_1.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H07	2. The Escarpment	0.5	11 Dec 2024	H07_0.5	Normal	1171417	<20	<20	<50	<50	190	<100	190	<20	<20	150	72	222	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H07	2. The Escarpment	1	11 Dec 2024	H07_1.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H07	2. The Escarpment	2	11 Dec 2024	H07_2.0	Normal	1177159	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H07	2. The Escarpment	3	11 Dec 2024	H07_3.0	Normal	1177159	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I06	2. The Escarpment	0.5	11 Dec 2024	QC191	Interlab_D	EM2422322	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
							C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)								11.5 | 19.1 | 32.4 | 61.2[HSLA&B/SAND]	25 | 55.3 | 106 | 211[HSLA&B/SAND]									0.1 | 0.1 | 0.1 | 0.1[HSLA&B/SAND]	365 | 181 | 391 | 744[HSLA&B/SAND]	251 | 85 | 130 | 245[HSLA&B/SAND]			401 | 82 | 85 | 173[HSLA&B/SAND]			3 | 9 | 20 | 40[HSLA&B/SAND]
CRC CARE 2011 HSL C (SAND)								9,960 | 12,000 | 16,000 | 26,000[HSLC/SAND]	36,000 | 50,000 | 63,000 | 104,000[HSLC/SAND]									480 | 480 | 480 | 840[HSLC/SAND]	110,000 | 110,000 | 110,000 | 110,000[HSLC/SAND]	110,000 | 110,000 | 110,000 | 110,000[HSLC/SAND]			110,000 | 110,000 | 110,000 | 110,000[HSLC/SAND]			1,500 | 9,500 | 16,000 | 33,700[HSLC/SAND]
CRC CARE 2011 HSL D (SAND)								66.6 | 97.5 | 177 | 359[HSLD/SAND]	137 | 251 | 573 | 1,240[HSLD/SAND]									3 | 3 | 3 | 3[HSLD/SAND]	480 | 480 | 480 | 840[HSLD/SAND]	360 | 480 | 740 | 1,400[HSLD/SAND]			360 | 480 | 740 | 1,400[HSLD/SAND]			10 | 40 | 100 | 230[HSLD/SAND]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker								8,000 | 16,000 | 41,000[VIMSHSL]	31,000 | 103,000 | 266,000[VIMSHSL]									75 | 180 | 410[VIMSHSL]	514,000 | 679 | 1,680[VIMSHSL]	3,000 | 84,000 | 79,000[VIMSHSL]			35,000 | 83,000 | 200,000[VIMSHSL]			2,900 | 18,000 | 54,000[VIMSHSL]

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number																				
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
I06	2. The Escarpment	0.5	11 Dec 2024	I06_0.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.097
I06	2. The Escarpment	0.5	11 Dec 2024	QC190	Field_D	1171417	<20	<20	<50	<50	390	110	500	<20	<20	170	270	440	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.64
I06	2. The Escarpment	1	11 Dec 2024	I06_1.0	Normal	1171417	<20	<20	<50	<50	410	180	590	<20	<20	250	230	480	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
MW120A	2. The Escarpment	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW120A	2. The Escarpment	2	05 Jun 2025	MW120A_2.0	Normal	1229786	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW194	2. The Escarpment	1	05 Jun 2025	MW194_1.0	Normal	1229786	<20	<20	<50	<50	120	<100	120	<20	<20	100	<50	100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW194	2. The Escarpment	3	05 Jun 2025	QC203	Interlab_D	EM2510162	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5
MW194	2. The Escarpment	3	05 Jun 2025	MW194_3.0	Normal	1229786	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW194	2. The Escarpment	3	05 Jun 2025	QC103	Field_D	1229786	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
C12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	C12_0.5	Normal	1171413	<20	<20	<50	<50	310	150	460	<20	<20	160	210	370	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
C12	3. The Promenade and Underground Carpark	1	09 Dec 2024	C12_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
C12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	C12_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
C12	3. The Promenade and Underground Carpark	2	09 Dec 2024	C12_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
C12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	C12_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D11_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.005
D11	3. The Promenade and Underground Carpark	1	09 Dec 2024	D11_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D11_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
D11	3. The Promenade and Underground Carpark	2	09 Dec 2024	D11_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D11_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D11	3. The Promenade and Underground Carpark	3	09 Dec 2024	D11_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D11_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
D12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D12_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
D12	3. The Promenade and Underground Carpark	1	09 Dec 2024	D12_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D12_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D12	3. The Promenade and Underground Carpark	2	09 Dec 2024	D12_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D12_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
D12	3. The Promenade and Underground Carpark	3	09 Dec 2024	D12_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D12_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D13	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	D13_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.012
D13	3. The Promenade and Underground Carpark	1	09 Dec 2024	D13_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
D13	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	D13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D13	3. The Promenade and Underground Carpark	2	09 Dec 2024	D13_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D13	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	D13_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
D13	3. The Promenade and Underground Carpark	3	09 Dec 2024	D13_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
D13	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	D13_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	E09_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.018
E09	3. The Promenade and Underground Carpark	1	05 Dec 2024	E09_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	E09_1.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.17
E09	3. The Promenade and Underground Carpark	2	05 Dec 2024	E09_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.018
E09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	E09_2.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E09	3. The Promenade and Underground Carpark	3	05 Dec 2024	E09_3.0	Normal	1169377	<20	<20	<50	<50	130	<100	130	<20	<20	120	<50	120	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E09	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	E09_3.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E09	3. The Promenade and Underground Carpark	4	05 Dec 2024	E09_4.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E09	3. The Promenade and Underground Carpark	4.5	05 Dec 2024	E09_4.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	E10_0.5	Normal	1169377	<20	<20	53	53	320	<100	373	<20	<20	250	<50	250	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.16
E10	3. The Promenade and Underground Carpark	1	05 Dec 2024	E10_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	E10_1.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E10	3. The Promenade and Underground Carpark	2	05 Dec 2024	E10_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	E10_2.5	Normal	1169377	<20	<20	540	540	650	<100	1,190	<20	230	920	<50	1,150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E10	3. The Promenade and Underground Carpark	3	05 Dec 2024	E10_3.0	Normal	1169377	<20	<20	880	880	960	<100	1,840	<20	360	1,500	<50	1,860	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	E10_3.5	Normal	1169377	<20	<20	140	140	160	<100	300	<20	54	230	<50	284	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E11_0.5	Normal	1171413	<20	<20	<50	<50	300	180	480	<20	<20	170	180	350	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E11	3. The Promenade and Underground Carpark	1	09 Dec 2024	E11_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E11_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E11	3. The Promenade and Underground Carpark	2	09 Dec 2024	E11_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E11_2.5	Normal	1171413	<20	<20	130	130	110	<100	240	<20	38	210	<50	248	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E11	3. The Promenade and Underground Carpark	3	09 Dec 2024	E11_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	70	<50	70	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E11_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	E12_0.5	Normal	1171413	<20	<20	<50	<50	410	940	1,350	<20	<20	79	530	609	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC156	Interlab_D	EM2422260	<10	<10	<50	<50	370	110	480	<10	<50	210	210	420	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	E12_1.0	Normal	1171413	<20	<20	<50	<50	240	<100	240	<20	<20	130	150	280	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E12	3. The Promenade and Underground Carpark	1	09 Dec 2024	QC155	Field_D	1171413	<20	<20	<50	<50	230	<100	230	<20	<20	120	140	260	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	E12_1.5	Normal	1171413	<20	<20	<50	<50	110	<100	110	<20	<20	71	59	130	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E12	3. The Promenade and Underground Carpark	2	09 Dec 2024	E12_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	E12_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E12	3. The Promenade and Underground Carpark	3	09 Dec 2024	E12_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	E12_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	E13_0.5	Normal	1171413	<20	<20	<50	<50	850	670	1,520	<20	<20	370	690	1,060	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.75
E13	3. The Promenade and Underground Carpark	1	10 Dec 2024	E13_1.0	Normal	1171413	<20	<20	<50	<50	100	<100	100	<20	<20	57	<50	57	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.083
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC172	Interlab_D	EM2422260	<10	<10	<50	<50	200	<100	200	<10	<50	150	<100	150	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
							C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 fraction (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)								11.5 | 19.1 | 32.4 | 61.2[HSLA&B]	25 | 55.3 | 106 | 211[NEPM2013]									0.1 | 0.1 | 0.1 | 3.0[HSLA&B]	365 | 181 | 391 | 744[HSLA&B]	35 | 85 | 230 | 1,100[HSLA&B]			40 | 60 | 95 | 1,700[HSLA&B]			3 | 9 | 20 | 40[HSLA&B];[NEPM2013]
CRC CARE 2011 HSL C (SAND)								9,960 | 12,000 | 16,000 | 26,000[HSLC]	36,000 | 90,000 | 140,000 | 190,000[NEPM2013]									660 | 680 | 682 | 684[HSLC]	173,000 | 174,000 | 174,000 | 174,000[HSLC]	3,700 | 3,800 | 3,900 | 4,000[HSLC]			10,000 | 10,000 | 10,000 | 10,000[HSLC]			1,500 | 8,500 | 16,000 | 33,700[HSLC]
CRC CARE 2011 HSL D (SAND)								66.6 | 97.5 | 177 | 359[HSLD]	137 | 251 | 573 | 1,240[NEPM2013]									3 | 3 | 3 | 3[HSLD]	480 | 480 | 480 | 480[HSLD]	110 | 140 | 180 | 230[HSLD]			290 | 290 | 290 | 290[HSLD]			10 | 40 | 100 | 230[NEPM2013];[HSLD]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker								8,900 | 16,000 | 41,000[HSLIntrusive]	31,000 | 103,000 | 266,000[NEPM2013]									75 | 180 | 410[HSLIntrusive]	314,000 | 479 | 1,099[HSLIntrusive]	3,700 | 84,000 | 193,000[HSLIntrusive]			59,000 | 63,000 | 163,000[HSLIntrusive]			2,300 | 18,000 | 54,000[HSLIntrusive]
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																					
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	E13_1.5	Normal	1171413	<20	<20	<50	<50	100	<100	100	<20	<20	62	60	122	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	3.0
E13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC171	Field_D	1171413	<20	<20	<50	<50	750	270	1,020	<20	<20	550	300	850	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.33
E13	3. The Promenade and Underground Carpark	2	10 Dec 2024	E13_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.012
E13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	E13_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
E13	3. The Promenade and Underground Carpark	3	10 Dec 2024	E13_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
E13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	E13_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F09	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	F09_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F09	3. The Promenade and Underground Carpark	1	04 Dec 2024	F09_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F09	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	F09_1.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F09	3. The Promenade and Underground Carpark	1.6	04 Dec 2024	F09_1.6	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F09	3. The Promenade and Underground Carpark	2	04 Dec 2024	F09_2.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F09	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	F09_2.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F09	3. The Promenade and Underground Carpark	3	04 Dec 2024	F09_3.0	Normal	1168041	<20	<20	<50	<50	110	160	270	<20	<20	<50	100	100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F09	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	F09_3.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F09	3. The Promenade and Underground Carpark	4	04 Dec 2024	F09_4.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	F10_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F10	3. The Promenade and Underground Carpark	1	05 Dec 2024	F10_1.0	Normal	1169377	<20	<20	1,100	1,100	5,100	640	6,840	<20	180	4,800	1,500	6,480	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.014
F10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	F10_1.5	Normal	1169377	<20	<20	1,700	1,700	2,200	280	4,180	<20	520	2,100	450	3,070	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.017
F10	3. The Promenade and Underground Carpark	2	05 Dec 2024	F10_2.0	Normal	1169377	<20	<20	1,000	1,000	2,100	220	3,320	<20	410	2,200	530	3,140	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.40
F10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	F10_2.5	Normal	1169377	<20	<20	190	190	160	<100	350	<20	75	250	<50	325	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.013
F10	3. The Promenade and Underground Carpark	3	05 Dec 2024	F10_3.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	F10_3.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F11	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F11_0.5	Normal	1171413	<20	<20	<50	<50	<100	140	140	<20	<20	51	73	124	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F11	3. The Promenade and Underground Carpark	1	09 Dec 2024	F11_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	51	<50	51	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F11	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F11_1.5	Normal	1171413	<20	<20	<50	<50	270	<100	270	<20	<20	160	140	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F11	3. The Promenade and Underground Carpark	2	09 Dec 2024	F11_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F11	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F11_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.37
F11	3. The Promenade and Underground Carpark	3	09 Dec 2024	F11_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F11	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F11_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F12	3. The Promenade and Underground Carpark	0.5	09 Dec 2024	F12_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F12	3. The Promenade and Underground Carpark	1	09 Dec 2024	F12_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F12	3. The Promenade and Underground Carpark	1.5	09 Dec 2024	F12_1.5	Normal	1171413	<20	<20	<50	<50	130	<100	130	<20	<20	73	81	154	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F12	3. The Promenade and Underground Carpark	2	09 Dec 2024	F12_2.0	Normal	1171413	<20	<20	<50	<50	160	<100	160	<20	<20	100	<50	100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.020
F12	3. The Promenade and Underground Carpark	2.5	09 Dec 2024	F12_2.5	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	96	<50	96	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F12	3. The Promenade and Underground Carpark	3	09 Dec 2024	F12_3.0	Normal	1171413	<20	<20	<50	<50	180	<100	180	<20	<20	130	62	192	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F12	3. The Promenade and Underground Carpark	3.5	09 Dec 2024	F12_3.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	F13_0.5	Normal	1171413	<20	<20	<50	<50	2,300	2,400	4,700	<20	<20	820	2,200	3,020	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F13	3. The Promenade and Underground Carpark	1	10 Dec 2024	F13_1.0	Normal	1171413	<20	<20	120	120	2,000	2,000	4,120	<20	45	740	1,800	2,585	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.009
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC170	Interlab_D	EM2422260	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	F13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	QC169	Field_D	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F13	3. The Promenade and Underground Carpark	2	10 Dec 2024	F13_2.0	Normal	1171413	<20	<20	<50	<50	520	480	1,000	<20	<20	180	480	660	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	F13_2.5	Normal	1171413	<20	<20	<50	<50	170	<100	170	<20	<20	76	71	147	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
F13	3. The Promenade and Underground Carpark	3	10 Dec 2024	F13_3.0	Normal	1171413	<20	<20	<50	<50	110	<100	110	<20	<20	62	<50	62	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
F13	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	F13_3.5	Normal	1171413	<20	<20	<50	<50	<100	140	140	<20	<20	<50	89	89	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.72
G08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	G08_0.5	Normal	1168041	<20	<20	<50	<50	190	<100	190	<20	<20	77	130	207	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G08	3. The Promenade and Underground Carpark	1	04 Dec 2024	G08_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	53	53	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	G08_1.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
G08	3. The Promenade and Underground Carpark	2	04 Dec 2024	G08_2.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	G08_2.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G08	3. The Promenade and Underground Carpark	3	04 Dec 2024	G08_3.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G08	3. The Promenade and Underground Carpark	3.5	04 Dec 2024	G08_3.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	G09_0.5	Normal	1169377	<20	<20	<50	<50	710	260	970	<20	<20	410	410	820	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G09	3. The Promenade and Underground Carpark	1	05 Dec 2024	G09_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	G09_1.5	Normal	1169377	<20	<20	<50	<50	180	<100	180	<20	<20	100	80	180	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G09	3. The Promenade and Underground Carpark	2	05 Dec 2024	G09_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.021
G09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	G09_2.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G09	3. The Promenade and Underground Carpark	3	05 Dec 2024	G09_3.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	28	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G09	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	G09_3.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G10	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	G10_0.5	Normal	1169377	<20	<20	<50	<50	170	260	430	<20	<20	63	170	233	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.039
G10	3. The Promenade and Underground Carpark	1	05 Dec 2024	G10_1.0	Normal	1169377	<20	<20	<50	<50	130	<100	130	<20	<20	150	<50	150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.075
G10	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	G10_1.5	Normal	1169377	<20	<20	210	210	360	<100	570	<20	73	440	53	566	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
G10	3. The Promenade and Underground Carpark	2	05 Dec 2024	G10_2.0	Normal	1169377	<20	<20	2,000	2,000	3,900	680	6,580	<20	990	3,800	1,200	5,990	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	2.3
G10	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	G10_2.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.039
G10	3. The Promenade and Underground Carpark	3	05 Dec 2024	G10_3.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G10	3. The Promenade and Underground Carpark	3.5	05 Dec 2024	G10_3.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	G11_0.5	Normal	1169377	<20	<20	<50	<50	500	130	630	<20	<20	260	290	550	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G11	3. The Promenade and Underground Carpark	1	06 Dec 2024	G11_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	G11_1.5	Normal	1169377	<20	<20	<50	<50	260	<100	260	<20	<20	170	100	270	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.17
G11	3. The Promenade and Underground Carpark	2	06 Dec 2024	G11_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	22	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.041

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
							C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 fraction (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)								11.5 | 19.1 | 32.4 | 61.2[HSLA&B]	25 | 55.3 | 106 | 211[HSLA&B]									0.1 | 0.1 | 0.1 | 0.1[HSLA&B]	85[1,100 | 1,900 | 3,800 | 6,000]	85 | 180 | 370 | 480[HSLA&B]			40 | 80 | 95 | 110[HSLA&B]			3 | 9 | 20 | 40[HSLA&B]
CRC CARE 2011 HSL C (SAND)								9,960 | 12,000 | 16,000 | 26,000[HSLC]	36,000 | 45,000 | 63,000 | 104,000[HSLC]									480[640 | 640 | 640][HSLC]	17,000[19,000 | 19,000 | 19,000][HSLC]	3,700[4,300 | 4,300 | 4,300][HSLC]			10,000[10,000 | 10,000 | 10,000][HSLC]			1,500 | 9,500 | 16,000 | 33,700[HSLC]
CRC CARE 2011 HSL D (SAND)								66.6 | 97.5 | 177 | 359[HSLD]	137 | 251 | 573 | 1,240[HSLD]									3 | 3 | 3 | 3[HSLD]	155[165 | 165 | 165][HSLD]	60[60 | 60 | 60][HSLD]			230[230 | 230 | 230][HSLD]			10 | 40 | 100 | 250[HSLD]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker								8,000 | 16,000 | 41,000[HSLVIIM]	31,000 | 103,000 | 266,000[HSLVIIM]									75 | 180 | 410[HSLVIIM]	514,000 | 679 | 1,538[HSLVIIM]	3,000 | 34,000 | 79,000[HSLVIIM]			69,000 [83,000 | 200,000][HSLVIIM]			2,300 | 18,000 | 54,000[HSLVIIM]
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																					
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
G11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	G11_2.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.048
G11	3. The Promenade and Underground Carpark	3	06 Dec 2024	G11_3.0	Normal	1169377	<20	<20	<50	<50	390	<100	390	<20	<20	280	55	335	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G11	3. The Promenade and Underground Carpark	3.5	06 Dec 2024	G11_3.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	50	<50	50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.045
G12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	G12_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC164	Interlab_D	EM2422260	<10	<10	<50	<50	780	170	950	<10	<50	480	390	870	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.5
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	G12_1.0	Normal	1171413	<20	<20	<50	<50	860	270	1,130	<20	<20	560	400	960	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.32
G12	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC163	Field_D	1171413	<20	<20	<50	<50	860	320	1,180	<20	<20	540	420	960	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G12	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	G12_1.5	Normal	1171413	<20	<20	<50	<50	390	240	630	<20	<20	230	240	470	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G12	3. The Promenade and Underground Carpark	2	10 Dec 2024	G12_2.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G12	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	G12_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G12	3. The Promenade and Underground Carpark	3	10 Dec 2024	G12_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G12	3. The Promenade and Underground Carpark	3.5	10 Dec 2024	G12_3.5	Normal	1171413	<20	<20	<50	<50	240	240	480	<20	<20	120	180	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	G13_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC168	Interlab_D	EM2422260	<10	<10	<50	<50	190	<100	190	<10	<50	130	<100	130	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	G13_1.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.038
G13	3. The Promenade and Underground Carpark	1	10 Dec 2024	QC167	Field_D	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	G13_1.5	Normal	1171413	<20	<20	<50	<50	470	340	810	<20	<20	260	310	570	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G13	3. The Promenade and Underground Carpark	2	10 Dec 2024	G13_2.0	Normal	1171413	<20	<20	<50	<50	440	250	690	<20	<20	260	260	520	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
G13	3. The Promenade and Underground Carpark	2.5	10 Dec 2024	G13_2.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
G13	3. The Promenade and Underground Carpark	3	10 Dec 2024	G13_3.0	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.039
H08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	H08_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.020
H08	3. The Promenade and Underground Carpark	1	04 Dec 2024	H08_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	71	<50	71	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.097
H08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	H08_1.5	Normal	1168041	<20	<20	<50	<50	240	<100	240	<20	<20	140	120	260	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H08	3. The Promenade and Underground Carpark	2	04 Dec 2024	H08_2.0	Normal	1168041	<20	<20	<50	<50	510	<100	510	<20	<20	350	210	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.26
H08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	H08_2.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.035
H08	3. The Promenade and Underground Carpark	3	04 Dec 2024	H08_3.0	Normal	1168041	<20	<20	<50	<50	560	<100	560	<20	<20	440	160	600	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.12
H09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	H09_0.5	Normal	1169377	<20	<20	<50	<50	410	860	1,270	<20	<20	150	460	610	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H09	3. The Promenade and Underground Carpark	1	05 Dec 2024	QC142	Interlab_D	EM2421846	<10	<10	300	300	1,500	560	2,360	<10	100	1,100	770	1,970	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.5
H09	3. The Promenade and Underground Carpark	1	05 Dec 2024	H09_1.0	Normal	1169377	<20	<20	110	110	1,100	250	1,460	<20	29	710	530	1,269	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.17
H09	3. The Promenade and Underground Carpark	1	05 Dec 2024	QC141	Field_D	1169377	<20	<20	220	220	810	400	1,430	<20	72	620	430	1,122	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.26
H09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	H09_1.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H09	3. The Promenade and Underground Carpark	2	05 Dec 2024	H09_2.0	Normal	1169377	<20	<20	<50	<50	320	310	630	<20	<20	150	260	410	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.034
H09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	H09_2.5	Normal	1169377	<20	<20	170	170	140	<100	310	<20	55	270	<50	325	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.12
H09	3. The Promenade and Underground Carpark	3	05 Dec 2024	H09_3.0	Normal	1169377	<20	<20	1,294.4	1,300	2,900	790	4,990	<20	780	2,700	930	4,410	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	9.5
H10	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	H10_0.5	Normal	1169377	<20	<20	<50	<50	260	270	530	<20	<20	110	230	340	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.039
H10	3. The Promenade and Underground Carpark	1	06 Dec 2024	H10_1.0	Normal	1169377	<20	<20	<50	<50	160	<100	160	<20	<20	74	110	184	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.094
H10	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	H10_1.5	Normal	1169377	<20	<20	<50	<50	860	210	1,070	<20	<20	510	460	970	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H10	3. The Promenade and Underground Carpark	2	06 Dec 2024	H10_2.0	Normal	1169377	<20	<20	360	360	700	690	1,750	<20	170	590	450	1,210	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.52
H10	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H10_2.5	Normal	1169377	<20	<20	770	770	1,600	320	2,690	<20	300	1,600	590	2,490	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.1
H10	3. The Promenade and Underground Carpark	3	06 Dec 2024	H10_3.0	Normal	1169377	<20	<20	1,100	1,100	830	<100	1,930	<20	550	1,300	80	1,930	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	H11_0.5	Normal	1169377	<20	<20	<50	<50	170	260	430	<20	<20	67	160	227	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H11	3. The Promenade and Underground Carpark	1	06 Dec 2024	H11_1.0	Normal	1169377	<20	<20	890	890	770	<100	1,660	<20	430	1,200	64	1,694	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.36
H11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	H11_1.5	Normal	1169377	<20	<20	1,100	1,100	830	<100	1,930	<20	480	1,300	73	1,853	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.094
H11	3. The Promenade and Underground Carpark	2	06 Dec 2024	H11_2.0	Normal	1169377	<20	<20	150	150	150	<100	300	<20	57	200	58	315	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	H11_2.5	Normal	1169377	<20	<20	118.8	120	840	250	1,210	<20	50	670	310	1,030	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.81
H11	3. The Promenade and Underground Carpark	3	06 Dec 2024	H11_3.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H12	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H12_0.5	Normal	1171413	<20	<20	<50	<50	380	790	1,170	<20	<20	150	430	580	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H12	3. The Promenade and Underground Carpark	1	11 Dec 2024	H12_1.0	Normal	1171417	<20	<20	<50	<50	220	<100	220	<20	<20	150	94	244	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H12	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H12_1.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.008
H12	3. The Promenade and Underground Carpark	2	11 Dec 2024	H12_2.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H12	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H12_2.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.047
H12	3. The Promenade and Underground Carpark	3	11 Dec 2024	H12_3.0	Normal	1171417	<20	<20	<50	<50	290	170	460	<20	<20	170	180	350	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.0
H13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	H13_0.5	Normal	1171413	<20	<20	<50	<50	290	740	1,030	<20	<20	100	360	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.018
H13	3. The Promenade and Underground Carpark	1	11 Dec 2024	H13_1.0	Normal	1171417	<20	<20	<50	<50	140	<100	140	<20	<20	67	110	177	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
H13	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	H13_1.5	Normal	1171417	<20	<20	<50	<50	380	<100	380	<20	<20	260	180	440	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
H13	3. The Promenade and Underground Carpark	2	11 Dec 2024	H13_2.0	Normal	1171417	<20	<20	<50	<50	320	<100	320	<20	<20	200	160	360	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
H13	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	H13_2.5	Normal	1171417	<20	<20	<50	<50	160	<100	160	<20	<20	110	70	180	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.22
I07	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	I07_0.5	Normal	1171417	<20	<20	<50	<50	380	170	550	<20	<20	240	200	440	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.79
I07	3. The Promenade and Underground Carpark	1	11 Dec 2024	I07_1.0	Normal	1171417	<20	<20	<50	<50	910	230	1,140	<20	<20	560	460	1,020	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.53
I07	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	I07_1.5	Normal	1171417	<20	<20	110	110	300	<100	410	<20	35	310	71	416	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I07	3. The Promenade and Underground Carpark	2	11 Dec 2024	I07_2.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.027
I07	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	I07_2.5	Normal	1171417	<20	<20	83	83	1,700	440	2,223	<20	29	1,300	630	1,959	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.5
I07	3. The Promenade and Underground Carpark	3	11 Dec 2024	I07_3.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	58	<50	58	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	I08_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
I08	3. The Promenade and Underground Carpark	1	04 Dec 2024	I08_1.0	Normal	1169377	<20	<20	<50	<50	1,100	240	1,340	<20	<20	710	490	1,200	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.74
I08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	I08_1.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.059
I08	3. The Promenade and Underground Carpark	2	04 Dec 2024	I08_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	I08_2.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.023
I09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	I09_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
I09	3. The Promenade and Underground Carpark	1	05 Dec 2024	I09_1.0	Normal	1169377	<20	<20	<50	<50	180	220	400	<20	<20	69	170	239	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.028

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
							C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)								11.5 | 19.1 | 32.4 | 61.2[HSLA&B]	25 | 55.3 | 106 | 211[HSLA&B]									0.1 | 0.1 | 0.1 | 0.1[HSLA&B]	85[1 d(C)] | 201[2 d(C)] | 432[4 d(C)]	81 | 90 | 130 | 245[HSLA&B]			40 | 60 | 86 | 172[HSLA&B]			3 | 9 | 20 | 40[HSLA&B]
CRC CARE 2011 HSL C (SAND)								9,960 | 12,000 | 16,000 | 26,000[HSLC]	38,000 | 50,000 | 63,000 | 94,000[HSLC]									480[1 d(C)] | 490[2 d(C)] | 500[4 d(C)] | 510[8 d(C)]	110[1 d(C)] | 120[2 d(C)] | 130[4 d(C)] | 140[8 d(C)]	270[1 d(C)] | 290[2 d(C)] | 310[4 d(C)] | 330[8 d(C)]			1,400[1 d(C)] | 1,500[2 d(C)] | 1,600[4 d(C)] | 1,700[8 d(C)]			1,500 | 9,500 | 16,000 | 33,700[HSLC]
CRC CARE 2011 HSL D (SAND)								66.6 | 97.5 | 177 | 359[HSLD]	137 | 251 | 573 | 1,240[HSLD]									3 | 3 | 3 | 3[HSLD]	85[1 d(C)] | 201[2 d(C)] | 432[4 d(C)]	81 | 90 | 130 | 245[HSLD]			40 | 60 | 86 | 172[HSLD]			10 | 40 | 100 | 230[HSLD]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker								8,900 | 16,000 | 41,000[HSLVI]	31,000 | 100,000 | 260,000[HSLVI]									75 | 180 | 410[HSLVI]	414,000 | 479 | 1,000[HSLVI]	3,000 | 99,000 | 770,000[HSLVI]			19,000 | 20,000 | 200,000[HSLVI]			2,300 | 18,000 | 54,000[HSLVI]

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number																				
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
I09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	I09_1.5	Normal	1169377	<20	<20	<50	<50	250	180	430	<20	<20	120	180	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.097
I09	3. The Promenade and Underground Carpark	2	05 Dec 2024	I09_2.0	Normal	1169377	<20	<20	<50	<50	360	300	660	<20	<20	170	280	450	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I09	3. The Promenade and Underground Carpark	2.5	05 Dec 2024	I09_2.5	Normal	1169377	<20	<20	<50	<50	230	<100	230	<20	<20	180	<50	180	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.024
I10	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	I10_0.5	Normal	1169377	<20	<20	<50	<50	650	1,100	1,750	<20	<20	230	700	930	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
I10	3. The Promenade and Underground Carpark	1	06 Dec 2024	QC152	Interlab_D	EM2421846	<10	<10	290	290	580	270	1,140	<10	100	540	290	930	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
I10	3. The Promenade and Underground Carpark	1	06 Dec 2024	I10_1.0	Normal	1169377	<20	<20	350	350	1,200	780	2,330	<20	120	890	760	1,770	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.17
I10	3. The Promenade and Underground Carpark	1	06 Dec 2024	QC149	Field_D	1169377	<20	<20	170	170	320	<100	490	<20	70	250	64	384	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
I10	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	I10_1.5	Normal	1169377	<20	<20	370	370	1,300	680	2,350	<20	140	960	730	1,830	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.23
I10	3. The Promenade and Underground Carpark	2	06 Dec 2024	I10_2.0	Normal	1169377	<20	<20	600	600	920	<100	1,520	<20	270	1,100	210	1,580	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.7
I10	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	I10_2.5	Normal	1169377	<20	<20	390	390	460	<100	850	<20	180	560	120	860	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.51
I11	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	I11_0.5	Normal	1169377	<20	<20	<50	<50	210	240	450	<20	<20	71	210	281	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.009
I11	3. The Promenade and Underground Carpark	1	06 Dec 2024	I11_1.0	Normal	1169377	<20	<20	<50	<50	160	<100	160	<20	<20	93	85	178	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.044
I11	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	I11_1.5	Normal	1169377	<20	<20	62	62	200	<100	262	<20	30	190	63	283	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
I11	3. The Promenade and Underground Carpark	2	06 Dec 2024	I11_2.0	Normal	1169377	<20	<20	1,799.2	1,800	1,400	<100	3,200	<20	930	2,100	150	3,180	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I11	3. The Promenade and Underground Carpark	2.5	06 Dec 2024	I11_2.5	Normal	1169377	<20	<20	200	200	1,000	260	1,460	<20	100	830	380	1,310	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I12	3. The Promenade and Underground Carpark	0.5	06 Dec 2024	I12_0.5	Normal	1169377	<20	<20	<50	<50	740	550	1,290	<20	<20	450	470	920	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.6
I12	3. The Promenade and Underground Carpark	1	06 Dec 2024	I12_1.0	Normal	1169377	<20	<20	<50	<50	250	160	410	<20	<20	140	160	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.081
I12	3. The Promenade and Underground Carpark	1.5	06 Dec 2024	I12_1.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.058
I12	3. The Promenade and Underground Carpark	2	06 Dec 2024	I12_2.0	Normal	1169377	<20	<20	<50	<50	270	<100	270	<20	<20	150	160	310	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I13	3. The Promenade and Underground Carpark	0.5	10 Dec 2024	I13_0.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	56	<50	56	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
I13	3. The Promenade and Underground Carpark	1	10 Dec 2024	I13_1.0	Normal	1171413	<20	<20	<50	<50	180	<100	180	<20	<20	78	<50	78	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
I13	3. The Promenade and Underground Carpark	1.5	10 Dec 2024	I13_1.5	Normal	1171413	<20	<20	<50	<50	1,200	<100	1,200	<20	<20	940	240	1,180	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	2.0
J06	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	J06_0.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.64
J06	3. The Promenade and Underground Carpark	1	11 Dec 2024	J06_1.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	56	<50	56	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J06	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	J06_1.5	Normal	1171417	<20	<20	<50	<50	1,200	590	1,790	<20	<20	730	630	1,360	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.71
J06	3. The Promenade and Underground Carpark	2	11 Dec 2024	J06_2.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	95	<50	95	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.024
J06	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	J06_2.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	55	<50	55	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J07	3. The Promenade and Underground Carpark	0.5	11 Dec 2024	J07_0.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.023
J07	3. The Promenade and Underground Carpark	1	11 Dec 2024	J07_1.0	Normal	1171417	<20	<20	<50	<50	330	<100	330	<20	<20	220	130	350	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.012
J07	3. The Promenade and Underground Carpark	1.5	11 Dec 2024	J07_1.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
J07	3. The Promenade and Underground Carpark	2	11 Dec 2024	J07_2.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J07	3. The Promenade and Underground Carpark	2.5	11 Dec 2024	J07_2.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.005
J08	3. The Promenade and Underground Carpark	0.5	04 Dec 2024	J08_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
J08	3. The Promenade and Underground Carpark	1	04 Dec 2024	J08_1.0	Normal	1169377	<20	<20	<50	<50	110	<100	110	<20	<20	75	<50	75	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J08	3. The Promenade and Underground Carpark	1.5	04 Dec 2024	J08_1.5	Normal	1169377	<20	<20	<50	<50	810	360	1,170	<20	<20	470	480	950	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.016
J08	3. The Promenade and Underground Carpark	2	04 Dec 2024	J08_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.016
J08	3. The Promenade and Underground Carpark	2.5	04 Dec 2024	J08_2.5	Normal	1169377	<20	<20	89	89	<100	<100	<100	<20	20	120	<50	140	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
J09	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	J09_0.5	Normal	1169377	<20	<20	<50	<50	680	320	1,000	<20	<20	440	350	790	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J09	3. The Promenade and Underground Carpark	1	05 Dec 2024	J09_1.0	Normal	1169377	<20	<20	<50	<50	410	220	630	<20	<20	270	210	480	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.70
J09	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	J09_1.5	Normal	1169377	<20	<20	<50	<50	120	<100	120	<20	<20	70	58	128	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.10
J09	3. The Promenade and Underground Carpark	2	05 Dec 2024	J09_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J10	3. The Promenade and Underground Carpark	0.5	03 Dec 2024	J10_0.5	Normal	1168041	<20	<20	<50	<50	400	<100	400	<20	<20	250	180	430	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.16
J10	3. The Promenade and Underground Carpark	1	03 Dec 2024	J10_1.0	Normal	1168041	<20	<20	320	320	57,000	6,500	63,820	<20	92	34,000	25,000	59,092	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J10	3. The Promenade and Underground Carpark	1.5	03 Dec 2024	J10_1.5	Normal	1168041	<20	<20	<50	<50	120	<100	120	<20	<20	76	<50	76	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.010
J10	3. The Promenade and Underground Carpark	2	03 Dec 2024	J10_2.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.047
J11	3. The Promenade and Underground Carpark	0.5	05 Dec 2024	J11_0.5	Normal	1169377	<20	<20	<50	<50	320	190	510	<20	<20	170	220	390	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
J11	3. The Promenade and Underground Carpark	1	05 Dec 2024	J11_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
J11	3. The Promenade and Underground Carpark	1.5	05 Dec 2024	J11_1.5	Normal	1169377	<20	<20	<50	<50	290	110	400	<20	<20	170	160	330	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J11	3. The Promenade and Underground Carpark	2	05 Dec 2024	J11_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.011
J12	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J12_0.5	Normal	1165428	<20	<20	<50	<50	660	180	840	<20	<20	420	310	730	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J12	3. The Promenade and Underground Carpark	1	25 Nov 2024	J12_1.0	Normal	1165428	<20	<20	<50	<50	360	<100	360	<20	<20	290	<50	290	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.53
J12	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J12_1.5	Normal	1165428	<20	<20	<50	<50	410	130	540	<20	<20	250	210	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.52
J13	3. The Promenade and Underground Carpark	0.5	25 Nov 2024	J13_0.5	Normal	1165428	<20	<20	<50	<50	370	100	470	<20	<20	250	160	410	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
J13	3. The Promenade and Underground Carpark	1	25 Nov 2024	J13_1.0	Normal	1165428	<20	<20	<50	<50	610	170	780	<20	<20	410	270	680	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.37
J13	3. The Promenade and Underground Carpark	1.5	25 Nov 2024	J13_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.012
MW182	3. The Promenade and Underground Carpark	1	29 May 2025	MW182_1.0	Normal	1227083	<20	<20	<50	<50	110	<100	110	<20	<20	<50	81	81	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW182	3. The Promenade and Underground Carpark	3	29 May 2025	MW182_3.0	Normal	1227083	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW183	3. The Promenade and Underground Carpark	1	29 May 2025	MW183_1.0	Normal	1227083	<20	<20	1,400	1,400	2,200	240	3,840	<20	640	2,500	530	3,670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	0.7
MW183	3. The Promenade and Underground Carpark	3	29 May 2025	MW183_3.0	Normal	1227083	<20	<20	640	640	1,600	170	2,410	<20	310	1,600	430	2,340	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC201	Interlab_D	EM2509944	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<0.5
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	MW184_1.0	Normal	1227989	<20	<20	200	200	990	360	1,550	<20	92	750	530	1,372	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW184	3. The Promenade and Underground Carpark	1	02 Jun 2025	QC101	Field_D	1227989	<20	<20	110	110	560	200	870	<20	52	380	340	772	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW184	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW184_3.0	Normal	1227989	<20	<20	59	59	270	110	439	<20	<20	210	140	350	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW185	3. The Promenade and Underground Carpark	0.5	06 Jun 2025	MW185_0.5	Normal	1229786	<20	<20	<50	<50	230	500	730	<20	<20	94	310	404	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	MW185_3.0	Normal	1229786	<20	<20	1,700	1,700	630	<100	2,330	<20	1,000	1,300	130	2,430	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW185	3. The Promenade and Underground Carpark	3	06 Jun 2025	QC104	Field_D	1229786	<20	<20	3,000	3,000	1,300	<100	4,300	<20	1,800	2,400	130	4,330	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	0.6
MW186	3. The Promenade and Underground Carpark	3	10 Jun 2025	MW186_3.0	Normal	1231626	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW186	3. The Promenade and Underground Carpark	3.5	10 Jun 2025	MW186_3.5	Normal	1231626	<20	<20	410	410	250	<100	660	<20	160	480	<50	640	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW191	3. The Promenade and Underground Carpark	0.5	02 Jun 2025	MW191_0.5	Normal	1227989	<20	<20	<50	<50	540	150	690	<20	<20	340	330	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW191	3. The Promenade and Underground Carpark	3	02 Jun 2025	MW191_3.0	Normal	1227989	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
							C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)								11.5 | 19.1 | 32.4 | 61.2[HSLA&B]	25 | 55.3 | 106 | 211[NSWEPM]									0.1 | 0.1 | 0.1 | 1.2[HSLA&B]	365 | 201 | 391 | 740[HSLA&B]	21 | 45 | 130 | 245[HSLA&B]			40 | 80 | 95 | 170[HSLA&B]			3 | 9 | 20 | 40[ASRSH4]
CRC CARE 2011 HSL C (SAND)								9,960 | 12,000 | 16,000 | 26,000[HSLC]	36,000 | 45,000 | 63,000 | 94,000[HSLC]									480 | 480 | 480 | 480[HSLC]	110,000 | 110,000 | 110,000 | 110,000[HSLC]	1,100 | 1,100 | 1,100 | 1,100[HSLC]			1,100 | 1,100 | 1,100 | 1,100[HSLC]			1,500 | 3,500 | 10,000 | 33,700[HSLC]
CRC CARE 2011 HSL D (SAND)								66.6 | 97.5 | 177 | 359[HSLD]	137 | 251 | 573 | 1,240[HSLD]									3 | 3 | 3 | 3[HSLD]	480 | 480 | 480 | 480[HSLD]	550 | 740 | 1,300 | 2,600[HSLD]			550 | 740 | 1,300 | 2,600[HSLD]			10 | 40 | 100 | 230[HSLD]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker								8,900 | 16,000 | 41,000[HSLVI]	31,000 | 103,000 | 266,000[HSLVI]									75 | 180 | 410[HSLVI]	514,000 | 670 | 1,500[HSLVI]	3,000 | 190,000 | 750,000[HSLVI]			19,000 | 20,000 | 200,000[HSLVI]			2,300 | 18,000 | 54,000[HSLVI]

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number																					
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006
SV31	3. The Promenade and Underground Carpark	2.5	29 May 2025	SV31_2.5	Normal	1227083	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	81	81	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
SV32	3. The Promenade and Underground Carpark	2	06 Jun 2025	SV32_2.0	Normal	1229786	<20	<20	600	600	550	380	1,530	<20	240	680	460	1,380	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
K06	4. The Precinct North	0.5	11 Dec 2024	QC189	Interlab_D	EM2422322	<10	<10	<50	<50	200	<100	200	<10	<50	130	110	240	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
K06	4. The Precinct North	0.5	11 Dec 2024	K06_0.5	Normal	1171417	<20	<20	<50	<50	100	<100	100	<20	<20	63	53	116	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.025
K06	4. The Precinct North	0.5	11 Dec 2024	QC188	Field_D	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.035
K06	4. The Precinct North	1	11 Dec 2024	K06_1.0	Normal	1171417	<20	<20	56.3	57	1,000	180	1,237	<20	20	830	340	1,190	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.3
K06	4. The Precinct North	1.5	11 Dec 2024	K06_1.5	Normal	1171417	<20	<20	<50	<50	790	140	930	<20	<20	600	280	880	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.22
K06	4. The Precinct North	2	11 Dec 2024	K06_2.0	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K06	4. The Precinct North	2.5	11 Dec 2024	K06_2.5	Normal	1171417	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K07	4. The Precinct North	0.5	06 Dec 2024	K07_0.5	Normal	1169377	<20	<20	<50	<50	350	<100	350	<20	<20	200	190	390	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.27
K07	4. The Precinct North	1	06 Dec 2024	K07_1.0	Normal	1169377	<20	<20	<50	<50	680	250	930	<20	<20	350	410	760	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.44
K07	4. The Precinct North	1.5	06 Dec 2024	K07_1.5	Normal	1169377	<20	<20	<50	<50	980	<100	980	<20	<20	630	390	1,020	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K07	4. The Precinct North	2	06 Dec 2024	K07_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K08	4. The Precinct North	0.5	06 Dec 2024	K08_0.5	Normal	1169377	<20	<20	<50	<50	360	<100	360	<20	<20	230	180	410	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K08	4. The Precinct North	1	06 Dec 2024	K08_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.024
K08	4. The Precinct North	1.5	06 Dec 2024	K08_1.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.028
K08	4. The Precinct North	2	06 Dec 2024	K08_2.0	Normal	1169377	<20	<20	<50	<50	190	<100	190	<20	<20	120	83	203	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K09	4. The Precinct North	0.5	06 Dec 2024	K09_0.5	Normal	1169377	<20	<20	<50	<50	580	970	1,550	<20	<20	190	630	820	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K09	4. The Precinct North	1	06 Dec 2024	K09_1.0	Normal	1169377	<20	<20	<50	<50	110	<100	110	<20	<20	64	53	117	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.052
K09	4. The Precinct North	1.5	06 Dec 2024	K09_1.5	Normal	1169377	<20	<20	<50	<50	1,000	220	1,220	<20	<20	670	470	1,140	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.5
K09	4. The Precinct North	2	06 Dec 2024	K09_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K10	4. The Precinct North	0.5	06 Dec 2024	K10_0.5	Normal	1169377	<20	<20	110	110	410	140	660	<20	39	390	130	559	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K10	4. The Precinct North	1	06 Dec 2024	K10_1.0	Normal	1169377	<20	<20	<50	<50	110	190	300	<20	<20	53	110	163	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K10	4. The Precinct North	1.5	06 Dec 2024	K10_1.5	Normal	1169377	<20	<20	<50	<50	230	<100	230	<20	<20	140	130	270	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.12
K10	4. The Precinct North	2	06 Dec 2024	K10_2.0	Normal	1169377	<20	<20	<50	<50	310	<100	310	<20	<20	190	150	340	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L08	4. The Precinct North	0.5	06 Dec 2024	L08_0.5	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.008
L08	4. The Precinct North	1	06 Dec 2024	L08_1.0	Normal	1169377	29	29	300	300	1,200	110	1,610	<20	160	910	240	1,310	0.4	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L08	4. The Precinct North	1	06 Dec 2024	QC150	Field_D	1169377	30	30	320	320	1,600	120	2,040	<20	150	1,400	380	1,930	0.3	0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.28
L08	4. The Precinct North	1	06 Dec 2024	QC151	Interlab_D	EM2421846	34	34	590	590	1,910	170	2,670	27	310	1,850	460	2,620	0.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.3	-	<0.5
L08	4. The Precinct North	1.5	06 Dec 2024	L08_1.5	Normal	1169377	<20	<20	<50	<50	320	<100	320	<20	23	190	83	296	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	8.0
L08	4. The Precinct North	2	06 Dec 2024	L08_2.0	Normal	1169377	<20	<20	120	120	<100	<100	120	<20	110	85	<50	195	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.38
L09	4. The Precinct North	0.5	06 Dec 2024	L09_0.5	Normal	1169377	<20	<20	<50	<50	320	490	810	<20	<20	94	340	434	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
L09	4. The Precinct North	1	06 Dec 2024	L09_1.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	58	58	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.047
L09	4. The Precinct North	1.5	06 Dec 2024	L09_1.5	Normal	1169377	<20	<20	<50	<50	490	380	870	<20	<20	270	320	590	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.028
L09	4. The Precinct North	2	06 Dec 2024	L09_2.0	Normal	1169377	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.008
L10	4. The Precinct North	0.5	03 Dec 2024	L10_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.005
L10	4. The Precinct North	1	03 Dec 2024	L10_1.0	Normal	1168041	<20	<20	<50	<50	170	<100	170	<20	<20	160	<50	160	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.049
L10	4. The Precinct North	1.5	03 Dec 2024	L10_1.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.029
L10	4. The Precinct North	2	03 Dec 2024	L10_2.0	Normal	1168041	<20	<20	<50	<50	400	<100	400	<20	<20	290	140	430	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.5
M09	4. The Precinct North	0.5	03 Dec 2024	M09_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
M09	4. The Precinct North	1	03 Dec 2024	M09_1.0	Normal	1168041	<20	<20	400	400	4,000	710	5,110	<20	140	3,300	1,200	4,640	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.6
M09	4. The Precinct North	1.5	03 Dec 2024	M09_1.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.44
M10	4. The Precinct North	0.5	03 Dec 2024	M10_0.5	Normal	1168041	<20	<20	<50	<50	2,500	290	2,790	<20	<20	1,400	1,200	2,600	<0.1	<0.1	0.1	0.6	0.2	0.7	-	-	0.16
M10	4. The Precinct North	1	03 Dec 2024	M10_1.0	Normal	1168041	<20	<20	<50	<50	630	<100	630	<20	<20	470	230	700	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.0
M10	4. The Precinct North	1.5	03 Dec 2024	M10_1.5	Normal	1168041	<20	<20	214	250	1,100	<100	1,350	<20	180	860	340	1,380	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	35
M11	4. The Precinct North	0.5	03 Dec 2024	QC124	Interlab_D	EM2421657	<10	<10	70	70	3,740	1,260	5,070	<10	<50	2,240	2,000	4,240	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5
M11	4. The Precinct North	0.5	03 Dec 2024	M11_0.5	Normal	1168041	<20	<20	100	100	6,100	1,000	7,200	<20	33	4,400	2,200	6,633	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.33
M11	4. The Precinct North	0.5	03 Dec 2024	QC123	Field_D	1168041	<20	<20	<50	<50	1,600	560	2,160	<20	<20	980	830	1,810	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.14
M11	4. The Precinct North	1	03 Dec 2024	M11_1.0	Normal	1168041	<20	<20	54	54	1,400	200	1,654	<20	<20	1,100	450	1,550	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	1.0
M11	4. The Precinct North	1.5	03 Dec 2024	M11_1.5	Normal	1168041	<20	<20	468.1	470	2,900	<100	3,370	<20	350	3,100	380	3,830	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	3.4
MW187	4. The Precinct North	0.2	11 Jun 2025	MW187_0.2	Normal	1231626	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW187	4. The Precinct North	2	11 Jun 2025	MW187_2.0	Normal	1231626	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW190	4. The Precinct North	1	28 May 2025	MW190_1.0	Normal	1227083	<20	<20	<50	<50	260	<100	260	<20	<20	190	110	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	0.6
MW190	4. The Precinct North	3	28 May 2025	MW190_3.0	Normal	1227083	<20	<20	150	150	110	<100	260	<20	84	150	<50	234	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
MW192	4. The Precinct North	2	28 May 2025	MW192_2.0	Normal	1227083	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
N09	4. The Precinct North	0.5	03 Dec 2024	N09_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
N09	4. The Precinct North	1	03 Dec 2024	N09_1.0	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	57	57	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
N09	4. The Precinct North	1.5	03 Dec 2024	N09_1.5	Normal	1168041	<20	<20	<50	<50	2,600	<100	2,600	<20	<20	1,700	1,000	2,700	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.10
N10	4. The Precinct North	0.5	03 Dec 2024	N10_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
N10	4. The Precinct North	1	03 Dec 2024	N10_1.0	Normal	1168041	<20	<20	<50	<50	450	<100	450	<20	<20	430	110	540	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.43
N10	4. The Precinct North	1.5	03 Dec 2024	N10_1.5	Normal	1168041	<20	<20	<500	<500	<1,000	<1,000	<1,000	<20	<200	<500	<500	<500	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.63
N11	4. The Precinct North	0.5	03 Dec 2024	N11_0.5	Normal	1168041	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
N11	4. The Precinct North	1	03 Dec 2024	N11_1.0	Normal	1168041	<20	<20	245.9	250	3,300	340	3,890	<20	100	3,200	760	4,060	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	6.0
N11	4. The Precinct North	1.5	03 Dec 2024	N11_1.5	Normal	1168041	<20	<20	<50	<50	630	<100	630	<20	<20	300	340	640	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
SV33	4. The Precinct North	2	11 Jun 2025	SV33_2.0	Normal	1231626	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5
SV34	4. The Precinct North	1.5	27 May 2025	SV34_1.5	Normal	1225146	<20	<20	96.9	99	1,100	160	1,359	<20	53	900	340	1,293	<0.1	<0.1	0.1	<0.2	<0.1	<0.3	-	2.1	4.9
SV35	4. The Precinct North	2.5	28 May 2025	SV35_2.5	Normal	1227083	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5

Comments
#1 CRC CARE 2011 HSL A&B (SAND, 0-<1m) - Appendix F

Table T3 - Additional Soil Data - Human Health - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

	Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons					Monocyclic Aromatic Hydrocarbons								Polynuclear Aromatic Hydrocarbons
	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Naphthalene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	10	50	50	100	100	50	10	20	50	50	50	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.005
CRC CARE 2011 HSL A&B (SAND)		11.5 | 19.1 | 32.4 | 61.2[#2/#3/#4]	25 | 55.3 | 106 | 211[#2/#3/#4]										0.5 | 0.5 | 0.5 | 0.5[#2/#3/#4]	660 | 331 | 561 | 947[#2/#3/#4]	551 | 461 | 561 | 647[#2/#3/#4]				40 | 60 | 95 | 170[#2/#3/#4]			3 | 9 | 20 | 40[#2/#3/#4]
CRC CARE 2011 HSL C (SAND)		9,960 | 12,000 | 16,000 | 26,000[#5/#6/#7/#8]	38,000 | 40,000 | 43,000 | 64,000[#5/#6/#7/#8]										660 | 660 | 660 | 660[#5/#6/#7/#8]	170,000 | 170,000 | 170,000 | 170,000[#5/#6/#7/#8]	170,000 | 170,000 | 170,000 | 170,000[#5/#6/#7/#8]				170,000 | 170,000 | 170,000 | 170,000[#5/#6/#7/#8]			1,500 | 3,500 | 16,000 | 33,700[#5/#6/#7/#8]
CRC CARE 2011 HSL D (SAND)		66.6 | 97.5 | 177 | 359[#9/#10/#11/#12]	137 | 251 | 573 | 1,240[#9/#10/#11/#12]										3 | 3 | 3 | 3[#9/#10/#11/#12]	660 | 660 | 660 | 660[#9/#10/#11/#12]	550 | 460 | 740 | 1,060[#9/#10/#11/#12]				550 | 560 | 550 | 1,060[#9/#10/#11/#12]			10 | 40 | 100 | 230[#9/#10/#11/#12]
CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker		8,900 | 16,000 | 41,000[#13/#14/#15]	31,000 | 103,000 | 266,000[#13/#14/#15]										75 | 180 | 410[#13/#14/#15]	514,000 | 479 | 1,000[#13/#14/#15]	4,000 | 99,000 | 750,000[#13/#14/#15]				59,000 | 83,000 | 260,000[#13/#14/#15]			2,300 | 18,000 | 54,000[#13/#14/#15]

Location Code	Assessment Area	Depth	Date	Field ID	Sample Type	Lab Report Number																		
K13	1. The Goods Shed and Yard	0.5	10 Dec 2024	K13_0.5	Normal	1171413	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K13	1. The Goods Shed and Yard	1	10 Dec 2024	K13_1.0	Normal	1171413	<20	<20	<50	<50	120	<100	120	<20	<20	63	<50	63	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K13	1. The Goods Shed and Yard	1.5	10 Dec 2024	K13_1.5	Normal	1171413	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.005
K14	1. The Goods Shed and Yard	0.5	26 Nov 2024	K14_0.5	Normal	1165428	<20	<20	<50	<50	130	<100	130	<20	<20	84	67	151	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K14	1. The Goods Shed and Yard	1	26 Nov 2024	K14_1.0	Normal	1165428	<20	<20	<50	<50	410	120	530	<20	<20	260	200	460	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.21
K14	1. The Goods Shed and Yard	1.5	26 Nov 2024	K14_1.5	Normal	1165428	<20	<20	<50	<50	520	120	640	<20	<20	330	230	560	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.54
K15	1. The Goods Shed and Yard	0.5	26 Nov 2024	K15_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.007
K15	1. The Goods Shed and Yard	1	26 Nov 2024	K15_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K15	1. The Goods Shed and Yard	1.5	26 Nov 2024	K15_1.5	Normal	1165428	<20	<20	<50	<50	120	<100	120	<20	<20	92	<50	92	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.15
K16	1. The Goods Shed and Yard	0.5	26 Nov 2024	K16_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K16	1. The Goods Shed and Yard	1	26 Nov 2024	K16_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	59	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.030
K16	1. The Goods Shed and Yard	1.5	26 Nov 2024	K16_1.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	65	65	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	0.5	25 Nov 2024	QC108	Interlab_D	EM2421016	<10	<10	<50	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	0.02
K17	1. The Goods Shed and Yard	0.5	26 Nov 2024	K17_0.5	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	<0.5
K17	1. The Goods Shed and Yard	1	26 Nov 2024	K17_1.0	Normal	1165428	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	0.006

#2 CRC CARE 2011 HSL A&B (SAND, 1-<2m) - Appendix F
#3 CRC CARE 2011 HSL A&B (SAND, 2-<4m) - Appendix F
#4 CRC CARE 2011 HSL A&B (SAND, 4m+) - Appendix F
#5 CRC CARE 2011 HSL C (SAND, 0-<1m) - Appendix F
#6 CRC CARE 2011 HSL C (SAND, 1-<2m) - Appendix F
#7 CRC CARE 2011 HSL C (SAND, 2-<4m) - Appendix F
#8 CRC CARE 2011 HSL C (SAND, 4m+) - Appendix F
#9 CRC CARE 2011 HSL D (SAND, 0-<1m) - Appendix F
#10 CRC CARE 2011 HSL D (SAND, 1-<2m) - Appendix F
#11 CRC CARE 2011 HSL D (SAND, 2-<4m) - Appendix F
#12 CRC CARE 2011 HSL D (SAND, 4m+) - Appendix F
#13 CRC CARE 2011 IMW (SAND, 1-<2 m) - Appendix F
#14 CRC CARE 2011 IMW (SAND, 2-<4m) - Appendix F
#15 CRC CARE 2011 IMW (SAND, >4 m) - Appendix F

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
Review of Site Suitability Statements 2025
Macquarie Point Development Project

| | Total Recoverable Hydrocarbons | | | | | | Total Petroleum Hydrocarbons | | | | | Metals | | | | | | | | | | | | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
Review of Site Suitability Statements 2025
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| | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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| | | | | | Total Recoverable Hydrocarbons | | | | | | Total Petroleum Hydrocarbons | | | | Metals | | | | | | | | | | | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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Macquarie Point Development Project

	Total Recoverable Hydrocarbons						Total Petroleum Hydrocarbons					Metals															Monocyclic Aromatic Hydrocarbons															
	C6-C10 fraction	C6-C10 fraction minus BTEX (F1)	>C10-C16 fraction (minus Naphthalene) (F2)	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C9-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (hexavalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Naphthalene (VOC)	Pyrene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	0.4	2	0.5	2	5	5	5	0.1	2	2	2	2	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.001	0.01	0.01	0.005	0.01	0.005	0.005	0.005	0.005	0.005	0.5	0.005
Potential Future Comm (uknown constr or multi-storey bldg)		67[#1]	140[#1]																									3[#1]	950[#1]	340[#1]			240[#1]								12[#1]						
Potential Future Comm_Light ind Workers (low-rise slab-on-grade)		340[#1]	NL [#1]																									3[#1]	2,500[#1]	990[#1]			830[#1]								160[#1]						
Potential Future Comm_Light ind Workers (working within a basement)		170[#1]	700[#1]																									3[#1]	1,400[#1]	570[#1]			830[#1]								97[#1]						
Potential Future Maintenance Workers		110,000[#1]	110,000[#1]																		620[#1]							170[#1]	660,000[#1]	290,000[#1]			530,000[#1]								38,000[#1]						
Potential Future Recreational Open Space Users		NL [#1]	NL [#1]																									360[#1]	NL [#1]	NL [#1]			NL [#1]								NL [#1]						

| Location Code | Assessment Area | Depth | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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Macquarie Point Development Project

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Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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| | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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Macquarie Point Development Project

| | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
Review of Site Suitability Statements 2025
Macquarie Point Development Project

											Major Ions	Cyanides		Phenolic Compounds																		Leaching Preparation			Polychlorinated Biphenyls											

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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											Major Ions	Cyanides		Phenolic Compounds																				Leaching Preparation			Polychlorinated Biphenyls											
					6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum (PFHxS + PFOS)	Sum of PFAS	Sum of WA DWER PFAS (0=10)*	Sum of perfluoroalkyl PFAS (PFHxS + PFOS + PFOA)	Sum of US EPA PFAS (PFOS + PFOA)	Bromide	Cyanide (Free)	Cyanide Total	3&4-Methylphenol (Para+cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (Meta+Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-Dinitrophenol	4-Nitrophenol	Phenols	Tetrachlorophenols	Sum of Phenols (Halogenated)	Sum of Phenols (Non-Halogenated)	Sum of Phenols	pH (Field)	pH (Initial)	TCLP Fluid	Polychlorinated Biphenyls	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aldrin	Dieldrin	Aldrin + Dieldrin
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.0005	0.0001	0.0001	0.0001	0.0005	0.0005	0.0001	0.0001	40	1	1	1	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	5	1	5	20	5	20	10	1	20	0.5	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.05
Potential Future Comm (uknown constr or multi-storey bldg)																																																			
Potential Future Comm_Light ind Workers (low-rise slab-on-grade)																																																		
Potential Future Comm_Light ind Workers (working within a basement)																																																		
Potential Future Maintenance Workers																																																		
Potential Future Recreational Open Space Users																																																		

| Location Code | Assessment Area | Depth | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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										Major Ions	Cyanides		Phenolic Compounds																						Leaching Preparation			Polychlorinated Biphenyls											

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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																													Organochlorine Pesticides (OC)										Physio-Chemical	

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
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								Organochlorine Pesticides (OC)																				Physio-Chemical	
								a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Cis-Chlordane	Trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	% Moisture Content	Moisture Content (dried @ 103°C)
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL								0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Potential Future Comm (uknown constr or multi-storey bldg)																																	
Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)																																	
Potential Future Comm_Light Ind Workers (working within a basement)																																	
Potential Future Maintenance Workers																																	
Potential Future Recreational Open Space Users																																	
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																											
E10	3. The Promenade and Underground Car	2.5	05 Dec 2024	E10_2.5	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
E10	3. The Promenade and Underground Car	3	05 Dec 2024	E10_3.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E10	3. The Promenade and Underground Car	3.5	05 Dec 2024	E10_3.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6
E11	3. The Promenade and Underground Car	0.5	09 Dec 2024	E11_0.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
E11	3. The Promenade and Underground Car	1	09 Dec 2024	E11_1.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
E11	3. The Promenade and Underground Car	1.5	09 Dec 2024	E11_1.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
E11	3. The Promenade and Underground Car	2	09 Dec 2024	E11_2.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
E11	3. The Promenade and Underground Car	2.5	09 Dec 2024	E11_2.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E11	3. The Promenade and Underground Car	3	09 Dec 2024	E11_3.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.7
E11	3. The Promenade and Underground Car	3.5	09 Dec 2024	E11_3.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E12	3. The Promenade and Underground Car	0.5	09 Dec 2024	E12_0.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.8
E12	3. The Promenade and Underground Car	1	09 Dec 2024	QC156	Interlab_D	EM2422260		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	-	
E12	3. The Promenade and Underground Car	1	09 Dec 2024	E12_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
E12	3. The Promenade and Underground Car	1	09 Dec 2024	QC155	Field_D	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.0
E12	3. The Promenade and Underground Car	1.5	09 Dec 2024	E12_1.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E12	3. The Promenade and Underground Car	2	09 Dec 2024	E12_2.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.7
E12	3. The Promenade and Underground Car	2.5	09 Dec 2024	E12_2.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
E12	3. The Promenade and Underground Car	3	09 Dec 2024	E12_3.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E12	3. The Promenade and Underground Car	3.5	09 Dec 2024	E12_3.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
E13	3. The Promenade and Underground Car	0.5	10 Dec 2024	E13_0.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
E13	3. The Promenade and Underground Car	1	10 Dec 2024	E13_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
E13	3. The Promenade and Underground Car	1.5	10 Dec 2024	QC172	Interlab_D	EM2422260		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	-	
E13	3. The Promenade and Underground Car	1.5	10 Dec 2024	E13_1.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
E13	3. The Promenade and Underground Car	1.5	10 Dec 2024	QC171	Field_D	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
E13	3. The Promenade and Underground Car	2	10 Dec 2024	E13_2.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
E13	3. The Promenade and Underground Car	2.5	10 Dec 2024	E13_2.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	29
E13	3. The Promenade and Underground Car	3	10 Dec 2024	E13_3.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
E13	3. The Promenade and Underground Car	3.5	10 Dec 2024	E13_3.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	25
F09	3. The Promenade and Underground Car	0.5	04 Dec 2024	F09_0.5	Normal	1168041		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
F09	3. The Promenade and Underground Car	1	04 Dec 2024	F09_1.0	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6
F09	3. The Promenade and Underground Car	1.5	04 Dec 2024	F09_1.5	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F09	3. The Promenade and Underground Car	1.6	04 Dec 2024	F09_1.6	Normal	1168041		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
F09	3. The Promenade and Underground Car	2	04 Dec 2024	F09_2.0	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4
F09	3. The Promenade and Underground Car	2.5	04 Dec 2024	F09_2.5	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9
F09	3. The Promenade and Underground Car	3	04 Dec 2024	F09_3.0	Normal	1168041		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	13
F09	3. The Promenade and Underground Car	3.5	04 Dec 2024	F09_3.5	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
F09	3. The Promenade and Underground Car	4	04 Dec 2024	F09_4.0	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
F10	3. The Promenade and Underground Car	0.5	05 Dec 2024	F10_0.5	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.5
F10	3. The Promenade and Underground Car	1	05 Dec 2024	F10_1.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9
F10	3. The Promenade and Underground Car	1.5	05 Dec 2024	F10_1.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4
F10	3. The Promenade and Underground Car	2	05 Dec 2024	F10_2.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9
F10	3. The Promenade and Underground Car	2.5	05 Dec 2024	F10_2.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8
F10	3. The Promenade and Underground Car	3	05 Dec 2024	F10_3.0	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	6.8
F10	3. The Promenade and Underground Car	3.5	05 Dec 2024	F10_3.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F11	3. The Promenade and Underground Car	0.5	09 Dec 2024	F11_0.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9
F11	3. The Promenade and Underground Car	1	09 Dec 2024	F11_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
F11	3. The Promenade and Underground Car	1.5	09 Dec 2024	F11_1.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	13
F11	3. The Promenade and Underground Car	2	09 Dec 2024	F11_2.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F11	3. The Promenade and Underground Car	2.5	09 Dec 2024	F11_2.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
F11	3. The Promenade and Underground Car	3	09 Dec 2024	F11_3.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	29
F11	3. The Promenade and Underground Car	3.5	09 Dec 2024	F11_3.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
F12	3. The Promenade and Underground Car	0.5	09 Dec 2024	F12_0.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
F12	3. The Promenade and Underground Car	1	09 Dec 2024	F12_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
F12	3. The Promenade and Underground Car	1.5	09 Dec 2024	F12_1.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
F12	3. The Promenade and Underground Car	2	09 Dec 2024	F12_2.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
F12	3. The Promenade and Underground Car	2.5	09 Dec 2024	F12_2.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	22
F12	3. The Promenade and Underground Car	3	09 Dec 2024	F12_3.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
F12	3. The Promenade and Underground Car	3.5	09 Dec 2024	F12_3.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
F13	3. The Promenade and Underground Car	0.5	10 Dec 2024	F13_0.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	3.4
F13	3. The Promenade and Underground Car	1	10 Dec 2024	F13_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6
F13	3. The Promenade and Underground Car	1.5	10 Dec 2024	QC170	Interlab_D	EM2422260		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
F13	3. The Promenade and Underground Car	1.5	10 Dec 2024	F13_1.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7
F13	3. The Promenade and Underground Car	1.5	10 Dec 2024	QC169	Field_D	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5
F13	3. The Promenade and Underground Car	2	10 Dec 2024	F13_2.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.9
F13	3. The Promenade and Underground Car	2.5	10 Dec 2024	F13_2.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7
F13	3. The Promenade and Underground Car	3	10 Dec 2024	F13_3.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
F13	3. The Promenade and Underground Car	3.5	10 Dec 2024	F13_3.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G08	3. The Promenade and Underground Car	0.5	04 Dec 2024	G08_0.5	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
G08	3. The Promenade and Underground Car	1	04 Dec 2024	G08_1.0	Normal	1168041		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.3
G08	3. The Promenade and Underground Car	1.5	04 Dec 2024	G08_1.5	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
G08	3. The Promenade and Underground Car	2	04 Dec 2024	G08_2.0	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8
G08	3. The Promenade and Underground Car	2.5	04 Dec 2024	G08_2.5	Normal	1168041		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.1
G08	3. The Promenade and Underground Car	3	04 Dec 2024	G08_3.0	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
G08	3. The Promenade and Underground Car	3.5	04 Dec 2024	G08_3.5	Normal	1168041		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
G09	3. The Promenade and Underground Car	0.5	05 Dec 2024	G09_0.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
G09	3. The Promenade and Underground Car	1	05 Dec 2024	G09_1.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G09	3. The Promenade and Underground Car	1.5	05 Dec 2024	G09_1.5	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
G09	3. The Promenade and Underground Car	2	05 Dec 2024	G09_2.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
G09	3. The Promenade and Underground Car	2.5	05 Dec 2024	G09_2.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G09	3. The Promenade and Underground Car	3	05 Dec 2024	G09_3.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
G09	3. The Promenade and Underground Car	3.5	05 Dec 2024	G09_3.5	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	26
G10	3. The Promenade and Underground Car	0.5	05 Dec 2024	G10_0.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G10	3. The Promenade and Underground Car	1	05 Dec 2024	G10_1.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2
G10	3. The Promenade and Underground Car	1.5	05 Dec 2024	G10_1.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G10	3. The Promenade and Underground Car	2	05 Dec 2024	G10_2.0	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	25
G10	3. The Promenade and Underground Car	2.5	05 Dec 2024	G10_2.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
G10	3. The Promenade and Underground Car	3	05 Dec 2024	G10_3.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
G10	3. The Promenade and Underground Car	3.5	05 Dec 2024	G10_3.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
G11	3. The Promenade and Underground Car	0.5	06 Dec 2024	G11_0.5	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
G11	3. The Promenade and Underground Car	1	06 Dec 2024	G11_1.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
G11	3. The Promenade and Underground Car	1.5	06 Dec 2024	G11_1.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G11	3. The Promenade and Underground Car	2	06 Dec 2024	G11_2.0	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G11	3. The Promenade and Underground Car	2.5	06 Dec 2024	G11_2.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G11	3. The Promenade and Underground Car	3	06 Dec 2024	G11_3.0	Normal	1169377		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
G11	3. The Promenade and Underground Car	3.5	06 Dec 2024	G11_3.5	Normal	1169377		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
G12	3. The Promenade and Underground Car	0.5	10 Dec 2024	G12_0.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.7
G12	3. The Promenade and Underground Car	1	10 Dec 2024	QC164	Interlab_D	EM2422260		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.3	-	
G12	3. The Promenade and Underground Car	1	10 Dec 2024	G12_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
G12	3. The Promenade and Underground Car	1	10 Dec 2024	QC163	Field_D	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G12	3. The Promenade and Underground Car	1.5	10 Dec 2024	G12_1.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4
G12	3. The Promenade and Underground Car	2	10 Dec 2024	G12_2.0	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.2
G12	3. The Promenade and Underground Car	2.5	10 Dec 2024	G12_2.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G12	3. The Promenade and Underground Car	3	10 Dec 2024	G12_3.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
G12	3. The Promenade and Underground Car	3.5	10 Dec 2024	G12_3.5	Normal	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
G13	3. The Promenade and Underground Car	0.5	10 Dec 2024	G13_0.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
G13	3. The Promenade and Underground Car	1	10 Dec 2024	QC168	Interlab_D	EM2422260		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	12.7	-	
G13	3. The Promenade and Underground Car	1	10 Dec 2024	G13_1.0	Normal	1171413		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
G13	3. The Promenade and Underground Car	1	10 Dec 2024	QC167	Field_D	1171413		<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.6
G13	3. The Promenade and Underground Car	1.5	10 Dec 2024	G13_1.5	Normal	1171413		-	-	-	-	-	-	-	-	-	-

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
Review of Site Suitability Statements 2025
Macquarie Point Development Project

								Organochlorine Pesticides (OC)																				Physio-Chemical	
								a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Cis-Chlordane	Trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	% Moisture Content	Moisture Content (dried @ 103°C)
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL								0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Potential Future Comm (uknown constr or multi-storey bldg)																																	
Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)																																	
Potential Future Comm_Light Ind Workers (working within a basement)																																	
Potential Future Maintenance Workers																																	
Potential Future Recreational Open Space Users																																	
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																											
H11	3. The Promenade and Underground Car	1	06 Dec 2024	H11_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
H11	3. The Promenade and Underground Car	1.5	06 Dec 2024	H11_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
H11	3. The Promenade and Underground Car	2	06 Dec 2024	H11_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	24
H11	3. The Promenade and Underground Car	2.5	06 Dec 2024	H11_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
H11	3. The Promenade and Underground Car	3	06 Dec 2024	H11_3.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
H12	3. The Promenade and Underground Car	0.5	10 Dec 2024	H12_0.5	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.1
H12	3. The Promenade and Underground Car	1	11 Dec 2024	H12_1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
H12	3. The Promenade and Underground Car	1.5	11 Dec 2024	H12_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
H12	3. The Promenade and Underground Car	2	11 Dec 2024	H12_2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
H12	3. The Promenade and Underground Car	2.5	11 Dec 2024	H12_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
H12	3. The Promenade and Underground Car	3	11 Dec 2024	H12_3.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
H13	3. The Promenade and Underground Car	0.5	10 Dec 2024	H13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.1
H13	3. The Promenade and Underground Car	1	11 Dec 2024	H13_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
H13	3. The Promenade and Underground Car	1.5	11 Dec 2024	H13_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
H13	3. The Promenade and Underground Car	2	11 Dec 2024	H13_2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
H13	3. The Promenade and Underground Car	2.5	11 Dec 2024	H13_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
I07	3. The Promenade and Underground Car	0.5	11 Dec 2024	I07_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.4
I07	3. The Promenade and Underground Car	1	11 Dec 2024	I07_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
I07	3. The Promenade and Underground Car	1.5	11 Dec 2024	I07_1.5	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
I07	3. The Promenade and Underground Car	2	11 Dec 2024	I07_2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
I07	3. The Promenade and Underground Car	2.5	11 Dec 2024	I07_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
I07	3. The Promenade and Underground Car	3	11 Dec 2024	I07_3.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
I08	3. The Promenade and Underground Car	0.5	04 Dec 2024	I08_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9
I08	3. The Promenade and Underground Car	1	04 Dec 2024	I08_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
I08	3. The Promenade and Underground Car	1.5	04 Dec 2024	I08_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I08	3. The Promenade and Underground Car	2	04 Dec 2024	I08_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
I08	3. The Promenade and Underground Car	2.5	04 Dec 2024	I08_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
I09	3. The Promenade and Underground Car	0.5	05 Dec 2024	I09_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
I09	3. The Promenade and Underground Car	1	05 Dec 2024	I09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
I09	3. The Promenade and Underground Car	1.5	05 Dec 2024	I09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
I09	3. The Promenade and Underground Car	2	05 Dec 2024	I09_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
I09	3. The Promenade and Underground Car	2.5	05 Dec 2024	I09_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
I10	3. The Promenade and Underground Car	0.5	06 Dec 2024	I10_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9
I10	3. The Promenade and Underground Car	1	06 Dec 2024	QC152	Interlab_D	EM2421846	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.2	-	
I10	3. The Promenade and Underground Car	1	06 Dec 2024	I10_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
I10	3. The Promenade and Underground Car	1	06 Dec 2024	QC149	Field_D	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
I10	3. The Promenade and Underground Car	1.5	06 Dec 2024	I10_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
I10	3. The Promenade and Underground Car	2	06 Dec 2024	I10_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
I10	3. The Promenade and Underground Car	2.5	06 Dec 2024	I10_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
I11	3. The Promenade and Underground Car	0.5	06 Dec 2024	I11_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I11	3. The Promenade and Underground Car	1	06 Dec 2024	I11_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
I11	3. The Promenade and Underground Car	1.5	06 Dec 2024	I11_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
I11	3. The Promenade and Underground Car	2	06 Dec 2024	I11_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
I11	3. The Promenade and Underground Car	2.5	06 Dec 2024	I11_2.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
I12	3. The Promenade and Underground Car	0.5	06 Dec 2024	I12_0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
I12	3. The Promenade and Underground Car	1	06 Dec 2024	I12_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
I12	3. The Promenade and Underground Car	1.5	06 Dec 2024	I12_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
I12	3. The Promenade and Underground Car	2	06 Dec 2024	I12_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
I13	3. The Promenade and Underground Car	0.5	10 Dec 2024	I13_0.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
I13	3. The Promenade and Underground Car	1	10 Dec 2024	I13_1.0	Normal	1171413	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
I13	3. The Promenade and Underground Car	1.5	10 Dec 2024	I13_1.5	Normal	1171413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J06	3. The Promenade and Underground Car	0.5	11 Dec 2024	J06_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
J06	3. The Promenade and Underground Car	1	11 Dec 2024	J06_1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
J06	3. The Promenade and Underground Car	1.5	11 Dec 2024	J06_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
J06	3. The Promenade and Underground Car	2	11 Dec 2024	J06_2.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
J06	3. The Promenade and Underground Car	2.5	11 Dec 2024	J06_2.5	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	27
J07	3. The Promenade and Underground Car	0.5	11 Dec 2024	J07_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3
J07	3. The Promenade and Underground Car	1	11 Dec 2024	J07_1.0	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0
J07	3. The Promenade and Underground Car	1.5	11 Dec 2024	J07_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.3
J07	3. The Promenade and Underground Car	2	11 Dec 2024	J07_2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
J07	3. The Promenade and Underground Car	2.5	11 Dec 2024	J07_2.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
J08	3. The Promenade and Underground Car	0.5	04 Dec 2024	J08_0.5	Normal	1169041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
J08	3. The Promenade and Underground Car	1	04 Dec 2024	J08_1.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	8.3
J08	3. The Promenade and Underground Car	1.5	04 Dec 2024	J08_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J08	3. The Promenade and Underground Car	2	04 Dec 2024	J08_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J08	3. The Promenade and Underground Car	2.5	04 Dec 2024	J08_2.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
J09	3. The Promenade and Underground Car	0.5	05 Dec 2024	J09_0.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
J09	3. The Promenade and Underground Car	1	05 Dec 2024	J09_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
J09	3. The Promenade and Underground Car	1.5	05 Dec 2024	J09_1.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
J09	3. The Promenade and Underground Car	2	05 Dec 2024	J09_2.0	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
J10	3. The Promenade and Underground Car	0.5	03 Dec 2024	J10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J10	3. The Promenade and Underground Car	1	03 Dec 2024	J10_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
J10	3. The Promenade and Underground Car	1.5	03 Dec 2024	J10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
J10	3. The Promenade and Underground Car	2	03 Dec 2024	J10_2.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
J11	3. The Promenade and Underground Car	0.5	05 Dec 2024	J11_0.5	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
J11	3. The Promenade and Underground Car	1	05 Dec 2024	J11_1.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
J11	3. The Promenade and Underground Car	1.5	05 Dec 2024	J11_1.5	Normal	1169377	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.6
J11	3. The Promenade and Underground Car	2	05 Dec 2024	J11_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J12	3. The Promenade and Underground Car	0.5	25 Nov 2024	J12_0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
J12	3. The Promenade and Underground Car	1	25 Nov 2024	J12_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
J12	3. The Promenade and Underground Car	1.5	25 Nov 2024	J12_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
J13	3. The Promenade and Underground Car	0.5	25 Nov 2024	J13_0.5	Normal	1165428	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
J13	3. The Promenade and Underground Car	1	25 Nov 2024	J13_1.0	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J13	3. The Promenade and Underground Car	1.5	25 Nov 2024	J13_1.5	Normal	1165428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
MW182	3. The Promenade and Underground Car	1	29 May 2025	MW182_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33
MW182	3. The Promenade and Underground Car	3	29 May 2025	MW182_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
MW183	3. The Promenade and Underground Car	1	29 May 2025	MW183_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
MW183	3. The Promenade and Underground Car	3	29 May 2025	MW183_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
MW184	3. The Promenade and Underground Car	1	02 Jun 2025	QC201	Interlab_D	EM2509944	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0	-	
MW184	3. The Promenade and Underground Car	1	02 Jun 2025	MW184_1.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
MW184	3. The Promenade and Underground Car	1	02 Jun 2025	QC101	Field_D	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3
MW184	3. The Promenade and Underground Car	3	02 Jun 2025	MW184_3.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
MW185	3. The Promenade and Underground Car	0.5	06 Jun 2025	MW185_0.5	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0
MW185	3. The Promenade and Underground Car	3	06 Jun 2025	MW185_3.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
MW185	3. The Promenade and Underground Car	3	06 Jun 2025	QC104	Field_D	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
MW186	3. The Promenade and Underground Car	3	10 Jun 2025	MW186_3.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW186	3. The Promenade and Underground Car	3.5	10 Jun 2025	MW186_3.5	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW191	3. The Promenade and Underground Car	0.5	02 Jun 2025	MW191_0.5	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW191	3. The Promenade and Underground Car	3	02 Jun 2025	MW191_3.0	Normal	1227989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
SV31	3. The Promenade and Underground Car	2.5	29 May 2025	SV31_2.5	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
SV32	3. The Promenade and Underground Car	2	06 Jun 2025	SV32 2.0	Normal	1229786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
K06	4. The Precinct North	0.5	11 Dec 2024	QC189	Interlab_D	EM2422322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.7	-	
K06	4. The Precinct North	0.5	11 Dec 2024	K06_0.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
K06	4. The Precinct North	0.5	11 Dec 2024	QC188	Field_D	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
K06	4. The Precinct North	1	11 Dec 2024	K06_1.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
K06	4. The Precinct North	1.5	11 Dec 2024	K06_1.5	Normal	1171417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0
K06	4. The Precinct North	2	11 Dec 2024	K06_2.0	Normal	1171417	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.1	<0.05	<0.05	<0.05

Table T4 - Additional Soil Data - Site Derived Remediation Criteria
Review of Site Suitability Statements 2025
Macquarie Point Development Project

															Organochlorine Pesticides (OC)																					Physio-Chemical	
															a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine Pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (dried @ 103°C)
															mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL															0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
Potential Future Comm (uknown constr or multi-storey bldg)																																					
Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)																																					
Potential Future Comm_Light Ind Workers (working within a basement)																																					
Potential Future Maintenance Workers																																					
Potential Future Recreational Open Space Users																																					
Location Code	**Assessment Area**	**Depth**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																															
L09	4. The Precinct North	2	06 Dec 2024	L09_2.0	Normal	1169377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1
L10	4. The Precinct North	0.5	03 Dec 2024	L10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
L10	4. The Precinct North	1	03 Dec 2024	L10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
L10	4. The Precinct North	1.5	03 Dec 2024	L10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
L10	4. The Precinct North	2	03 Dec 2024	L10_2.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
M09	4. The Precinct North	0.5	03 Dec 2024	M09_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
M09	4. The Precinct North	1	03 Dec 2024	M09_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
M09	4. The Precinct North	1.5	03 Dec 2024	M09_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
M10	4. The Precinct North	0.5	03 Dec 2024	M10_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
M10	4. The Precinct North	1	03 Dec 2024	M10_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	21
M10	4. The Precinct North	1.5	03 Dec 2024	M10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
M11	4. The Precinct North	0.5	03 Dec 2024	QC124	Interlab_D	EM2421657	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.8	-
M11	4. The Precinct North	0.5	03 Dec 2024	M11_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
M11	4. The Precinct North	0.5	03 Dec 2024	QC123	Field_D	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
M11	4. The Precinct North	1	03 Dec 2024	M11_1.0	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	18
M11	4. The Precinct North	1.5	03 Dec 2024	M11_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
MW187	4. The Precinct North	0.2	11 Jun 2025	MW187 0.2	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4
MW187	4. The Precinct North	2	11 Jun 2025	MW187 2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
MW190	4. The Precinct North	1	28 May 2025	MW190_1.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
MW190	4. The Precinct North	3	28 May 2025	MW190_3.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
MW192	4. The Precinct North	2	28 May 2025	MW192_2.0	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
N09	4. The Precinct North	0.5	03 Dec 2024	N09_0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.1
N09	4. The Precinct North	1	03 Dec 2024	N09_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
N09	4. The Precinct North	1.5	03 Dec 2024	N09_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24
N10	4. The Precinct North	0.5	03 Dec 2024	N10_0.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.3
N10	4. The Precinct North	1	03 Dec 2024	N10_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
N10	4. The Precinct North	1.5	03 Dec 2024	N10_1.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33
N11	4. The Precinct North	0.5	03 Dec 2024	N11_0.5	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
N11	4. The Precinct North	1	03 Dec 2024	N11_1.0	Normal	1168041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
N11	4. The Precinct North	1.5	03 Dec 2024	N11_1.5	Normal	1168041	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	28
SV33	4. The Precinct North	2	11 Jun 2025	SV33 2.0	Normal	1231626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
SV34	4. The Precinct North	1.5	27 May 2025	SV34 1.5	Normal	1225146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
SV35	4. The Precinct North	2.5	28 May 2025	SV35 2.5	Normal	1227083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17

Comments
#1 Review of Site Specific Remediation Criteria (AECOM, 2025)

Table T5 - Additional Groundwater Data - Gauging
Review of Site Suitability Statements 2025
Macquarie Point Development Project

Site Area	Well ID	Date Gauged	Depth to Groundwater (m BTOC)	Depth to NAPL (mBTOC)	Depth of Well (mBTOC)	Screened Interval (m)	Screened Lithology	Easting	Northing	Top of Casing (m AHD)	SWL (m AHD)	Comment(s)
1. The Goods Shed & Yard	MW124A	5-Dec-23	3.043	ND	NR	2.0-5.0	Fill	527507.73	5252350.79	3.767	0.724	
1. The Goods Shed & Yard	MW124A	27-Feb-25	NM	NM	NM	2.0-5.0	Fill	527507.73	5252350.79	3.767	-	Plant box on top, well visible. Well noted in good condition December 2023
1. The Goods Shed & Yard	MW124A	13-Jun-25	2.995	ND	5.00	2.0-5.0	Fill	527507.73	5252350.79	3.767	0.772	GC, NO, Over LEL
1. The Goods Shed & Yard	MW124B	5-Dec-23	3.056	ND	NR	9.4-11.4	Marine Deposits	527507.67	5252350.79	3.738	0.682	
1. The Goods Shed & Yard	MW124B	27-Feb-25	NM	NM	NM	9.4-11.4	Marine Deposits	527507.67	5252350.79	3.738	-	Plant box on top, well visible. Well noted in good condition December 2023
1. The Goods Shed & Yard	MW124B	13-Jun-25	2.985	ND	11.30	9.4-11.4	Marine Deposits	527507.67	5252350.79	3.738	0.753	GC, NO
1. The Goods Shed & Yard	MW127A	2-Dec-22	2.839	ND	17.70	1.8-4.8	Fill	527393.23	5252399.73	3.278	0.439	
1. The Goods Shed & Yard	MW127A	30-Nov-23	3.105	ND	NR	1.8-4.8	Fill	527529.64	5252393.95	3.896	0.791	
1. The Goods Shed & Yard	MW127A	27-Feb-25	3.190	ND	4.800	1.8-4.8	Fill	527529.64	5252393.95	3.896	0.706	LEL tubing in well
1. The Goods Shed & Yard	MW127A	13-Jun-25	3.109	ND	4.70	1.8-4.8	Fill	527529.64	5252393.95	3.896	0.787	GC, NO, Over LEL
1. The Goods Shed & Yard	MW127B	2-Dec-22	3.054	ND	4.80	15.6-16.6	Slope Deposits	527529.64	5252393.95	3.896	0.842	
1. The Goods Shed & Yard	MW127B	30-Nov-23	3.202	ND	NR	15.6-16.6	Slope Deposits	527529.68	5252393.99	3.866	0.664	
1. The Goods Shed & Yard	MW127B	27-Feb-25	3.249	ND	16.770	15.6-16.6	Slope Deposits	527529.68	5252393.99	3.866	0.617	
1. The Goods Shed & Yard	MW127B	13-Jun-25	NM	NM	16.80	15.6-16.6	Slope Deposits	527529.68	5252393.99	3.866	-	GC, Organic odour, 77% LEL
1. The Goods Shed & Yard	MW149	30-Nov-22	NM	NM	NM	2.0-5.0	Fill	527483.68	5252374.243	4.024	-	Could not be located. Potentially under asphalt or scaffold footing in area
1. The Goods Shed & Yard	MW149	26-Feb-25	NM	NM	NM	2.0-5.0	Fill	527483.676	5252374.243	4.024	-	Unable to locate under container
1. The Goods Shed & Yard	MW149	13-Jun-25	3.254	-	4.70	2.0-5.0	Fill	527483.676	5252374.243	4.024	0.77	GC, NO
1. The Goods Shed & Yard	MW55	30-Nov-23	2.956	ND	NR	3.0-6.0	Fill	527548.733	5252422.331	3.929	0.973	
1. The Goods Shed & Yard	MW55	27-Feb-25	3.031	ND	5.650	3.0-6.0	Fill	527548.733	5252422.331	3.789	0.758	Good condition, hydrocarbon odour
1. The Goods Shed & Yard	MW55	13-Jun-25	2.963	-	5.00	3.0-6.0	Fill	527548.733	5252422.331	3.789	0.826	GC, NO, Over LEL
2. The Escarpment	BG1	26-Feb-25	NM	NM	NM	0.5-3.5	Bedrock/Fill	527493.62	5252617.71	7.492	-	Bolts sheared unable to open with hand tools
2. The Escarpment	BG1	16-Jun-25	2.808	ND	3.44	0.5-3.5	Bedrock/Fill	527493.62	5252617.71	7.492	4.684	Data Logger
2. The Escarpment	M3	26-Feb-25	NM	NM	NM	1.5-6.0	Bedrock	527542.60	5252597.73	7.432	-	Not found under new asphalt road
2. The Escarpment	MW103	26-Feb-25	NM	NM	NM	1.9-4.9	Fill / Slope Deposits	527520.43	5252588.67	7.412	-	Well under large pipes, need notice to lift
2. The Escarpment	MW103A	16-Jun-25	2.714	-	5.00	2.0-5.0	Fill	527523.8	5252582.9	6.299	3.585	GC, NO. Replacement well to MW103
2. The Escarpment	MW120	26-Feb-25	NM	NM	NM	0.8-2.3	Fill	527359.28	5252640.61	7.995	-	Redeveloped (Pedestrian stairs), likely lost
2. The Escarpment	MW120A	25-Jun-25	7.988	-	8.51	2.0-9.0	Dolerite	527379.0	5252634.0	7.942	-0.046	GC, NO, well dry for two weeks following installation (5 June), very slowly recharging
2. The Escarpment	MW194	16-Jun-25	3.494	-	5.96	1.5-6.0	Dolerite	527498.2	5252616.5	7.465	3.971	GC, NO
2. The Escarpment	NR3	26-Feb-25	ND	ND	0.100	3.5-8.0	Slope Deposits / Bedrock	527607.00	5252620.12	7.807	-	Well blocked @0.1 m, no gatic, PVC exposed, stick up, well filled in with rocks, might need to cut
3. The Promenade & Underground Carpark	BH1_PS	28-Feb-25	NM	NM	NM	UNKNOWN	Slope Deposits/ Bedrock	527483.79	5252561.39	6.038	-	Lost, used Metal Detector + GPS + shovel
3. The Promenade & Underground Carpark	MW10	28-Feb-25	NM	NM	NM	3.1-6.1	Fill/ Bedrock	527517.01	5252512.40	5.589	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW121	30-Nov-22	NM	NM	NM	2.0-5.0	Bedrock	527391.61	5252556.42	6.957	-	Could not be located. Potentially under asphalt or shipping containers in area. Shipping containers moved by BlackCap to attempt to locate.
3. The Promenade & Underground Carpark	MW121	27-Feb-25	3.759	ND	5.060	2.0-5.0	Weathered Dolerite	527391.61	5252556.42	6.957	3.198	Buried under 10cm of gravel/soil
3. The Promenade & Underground Carpark	MW121	13-Jun-25	3.000	ND	5.00	2.0-5.0	Weathered Dolerite	527391.61	5252556.42	6.957	3.957	No gatic lid, dirt in gatic, NO
3. The Promenade & Underground Carpark	MW130	28-Feb-25	NM	NM	NM	3.4-6.4	Fill	527544.20	5252550.00	5.795	-	Lost, used Metal Detector + GPS + shovel
3. The Promenade & Underground Carpark	MW131	28-Feb-25	NM	NM	NM	4.0-7.0	Fill/ Marine Deposits	527539.23	5252560.53	5.990	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW132	28-Feb-25	NM	NM	NM	3.8-6.8	Fill	527540.90	5252569.00	5.940	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW133	28-Feb-25	NM	NM	NM	3.5-6.5	Fill	527544.90	5252558.00	5.874	-	Lost, used Metal Detector + GPS + shovel
3. The Promenade & Underground Carpark	MW134	28-Feb-25	NM	NM	NM	4.0-7.0	Fill/ Slope Deposits	527547.39	5252565.03	5.954	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW135	28-Feb-25	NM	NM	NM	4.2-7.2	Fill	527524.70	5252520.00	5.583	-	Not recorded in field notes. Considered likely to be destroyed based
3. The Promenade & Underground Carpark	MW136	28-Feb-25	NM	NM	NM	3.5-7.0	Fill	527525.30	5252509.00	5.647	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW137	28-Feb-25	NM	NM	NM	2.0-5.6	Fill	527545.70	5252515.00	4.295	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW138	30-Nov-22	NM	NM	NM	3.9-6.9	Fill	527513.10	5252499	5.597	-	Could not be located and potentially destroyed
3. The Promenade & Underground Carpark	MW138	28-Feb-25	NM	NM	NM	3.9-6.9	Fill	527513.10	5252499.00	5.597	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW139	28-Feb-25	NM	NM	NM	3.6-6.6	Fill	527514.50	5252512.00	5.590	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW140	28-Feb-25	NM	NM	NM	3.7-6.7	Fill	527511.80	5252512.00	5.669	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW141	28-Feb-25	NM	NM	NM	4.0-7.0	Fill	527515.40	5252519.00	5.688	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW144	28-Feb-25	NM	NM	NM	4.2-7.2	Fill/ Bedrock	527525.48	5252528.97	5.796	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW146	29-Nov-23	3.23	ND	NR	2.5-5.5	Fill	527552.111	5252507.052	4.186	0.956	
3. The Promenade & Underground Carpark	MW146	28-Feb-25	3.375	ND	5.510	2.5-5.5	Fill	527552.111	5252507.052	4.186	0.811	Good condition, no odour, tubing in well
3. The Promenade & Underground Carpark	MW146	16-Jun-25	3.235	ND	5.49	2.5-5.5	Fill	527552.111	5252507.052	4.186	0.951	GC, 24% LEL
3. The Promenade & Underground Carpark	MW147	28-Feb-25	NM	NM	NM	3.8-6.8	Fill	527554.46	5252531.72	5.394	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW157	28-Feb-25	NM	NM	NM	3.4-6.4	Fill	527501.635	5252507.233	5.760	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW174	30-Nov-22	2.954	ND	5.80	2.0-5.0	Fill/Marine Deposits	527498.82	5252469.569	3.987	1.033	
3. The Promenade & Underground Carpark	MW174	28-Feb-25	NM	NM	NM	2.0-5.0	Fill/Marine Deposits	527498.82	5252469.569	3.987	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW175	30-Nov-23	3.003	ND	NR	1.5-4.5	Fill	527517.102	5252456.438	3.904	0.901	
3. The Promenade & Underground Carpark	MW175	28-Feb-25	3.056	ND	4.320	1.5-4.5	Fill	527517.102	5252456.438	3.904	0.848	Good condition, tubing in well
3. The Promenade & Underground Carpark	MW175	13-Jun-25	2.952	ND	4.00	1.5-4.5	Fill	527517.102	5252456.438	3.904	0.952	GC, NO, 100mm PVC
3. The Promenade & Underground Carpark	MW176	30-Nov-23	3.25	ND	NR	1.5-4.5	Fill	527537.901	5252479.305	4.036	0.786	
3. The Promenade & Underground Carpark	MW176	28-Feb-25	3.189	ND	4.620	1.5-4.5	Fill	527537.901	5252479.305	4.036	0.847	Good condition, no odour, tubing in well
3. The Promenade & Underground Carpark	MW176	16-Jun-25	3.080	ND	4.58	1.5-4.5	Fill	527537.901	5252479.305	4.036	0.956	GC, NO, NS
3. The Promenade & Underground Carpark	MW177	16-Jun-25	3.397	ND	3.77			527579.2	5252554.5	4.529	1.132	100mm well casing
3. The Promenade & Underground Carpark	MW182	16-Jun-25	3.605	ND	5.62	2.0-6.0	Fill / Slope Deposits	527571.3	5252571.9	4.858	1.253	GC, NO
3. The Promenade & Underground Carpark	MW183	16-Jun-25	3.835	ND	5.82	1.5-6.0	Fill / Slope Deposits	527544.5	5252562.2	5.052	1.217	GC, 53% LEL
3. The Promenade & Underground Carpark	MW184	16-Jun-25	3.584	ND	5.85	1.5-6.0	Fill / Slope Deposits	527531.7	5252541.2	4.864	1.28	GC, NO, NS
3. The Promenade & Underground Carpark	MW185	16-Jun-25	3.653	ND	5.80	2.0-6.0	Fill / Slope Deposits	527518.6	5252510.0	4.638	0.985	GC, HC sheen, Over LEL
3. The Promenade & Underground Carpark	MW186	16-Jun-25	3.370	ND	5.91	2.0-6.0	Fill / Slope Deposits	527504.4	5252492.9	4.832	1.462	GC, HC odour, NS, 18% LEL
3. The Promenade & Underground Carpark	MW19	28-Feb-25	NM	NM	NM	3.1-6.1	Fill	527511.99	5252520.98	5.806	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW191	13-Jun-25	3.818	ND	4.58	1.5-6.0	Dolerite	527490.4	5252549.0	5.659	1.841	GC, NO, 8% LEL
3. The Promenade & Underground Carpark	MW21	28-Feb-25	NM	NM	NM	2.3-5.3	Fill	527517.48	5252502.43	5.584	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	MW22	28-Feb-25	NM	NM	NM	2.8 - 5.9	Fill	527534.87	5252516.69	5.514	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW23	28-Feb-25	NM	NM	NM	3.0-6.0	Fill	527542.12	5252522.48	5.571	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	MW36	1-Dec-22	3.851	ND	6.60	4.0-7.0	Fill/Bedrock	527471.13	5252514.268	6.109	2.258	
3. The Promenade & Underground Carpark	MW36	27-Feb-25	3.983	ND	6.440	4.0-7.0	Fill/ Bedrock	527471.13	5252514.27	6.109	2.126	Gatic lost
3. The Promenade & Underground Carpark	MW36	16-Jun-25	3.869	ND	6.57	4.0-7.0	Fill/ Bedrock	527471.13	5252514.27	5.647	1.778	Gatic Missing
3. The Promenade & Underground Carpark	PW03	28-Feb-25	NM	NM	NM	3.0-8.5	Fill/ Bedrock	527519.54	5252516.32	5.617	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	R1	28-Feb-25	NM	NM	NM	1.3-6.3	Fill	527543.29	5252562.73	5.930	-	Lost, Hard pack gravel
3. The Promenade & Underground Carpark	R2	28-Feb-25	NM	NM	NM	1.3-6.8	Fill	527509.01	5252529.15	6.025	-	Lost, Hard pack Gravel
3. The Promenade & Underground Carpark	R3	28-Feb-25	NM	NM	NM	1.0-6.0	Fill	527531.85	5252503.63	4.129	-	Lost, hard pack gravel
3. The Promenade & Underground Carpark	R4	28-Feb-25	NM	NM	NM	?-6.0	Fill	527540.97	5252510.75	4.236	-	Lost, hard pack gravel
4. The Precinct North	MW125A	16-Jun-25	2.445	ND	5.99	2.0-5.0	Fill	527553.73	5252320.26	3.306	0.861	GC, NO
4. The Precinct North	MW125B	16-Jun-25	2.551	ND	15.28	13.8-15.3	Marine Deposits	527553.71	5252320.34	3.309	0.758	GC, NO
4. The Precinct North	MW142	29-Nov-23	NM	NM	NM	2.5-5.5	Fill	527581.4	5252528	4.165	-	Well not found - buried
4. The Precinct North	MW142	28-Feb-25	NM	NM	NM	2.5-5.5	Fill	527581.4	5252528	4.165	-	Lost, Hard pack Gravel
4. The Precinct North	MW143	29-Nov-23	NM	NM	NM	2.5-5.5	Fill	527577.1	5252533	4.222	-	Well not found - buried
4. The Precinct North	MW143	28-Feb-25	NM	NM	NM	2.5-5.5	Fill	527577.1	5252533	4.222	-	Lost, Hard pack Gravel
4. The Precinct North	MW155	6-Dec-23	2.74	ND	NR	1.5-4.5	Fill	527625.037	5252516.399	3.929	1.189	
4. The Precinct North	MW155	27-Feb-25	2.945	ND	4.515	1.5-4.5	Fill	527625.037	5252516.399	3.929	0.984	One bolt missing, hydrocarbon odour
4. The Precinct North	MW155	16-Jun-25	2.950	ND	4.51	1.5-4.5	Fill	527625.037	5252516.399	3.929	0.979	GC, NO, NS, 44% LEL
4. The Precinct North	MW156	28-Feb-25	NM	NM	NM	1.0-4.0	Fill	527650.188	5252566.912	4.301	-	Lost, used Metal Detector + GPS + shovel
4. The Precinct North	MW165	28-Feb-25	NM	NM	NM	2.5-5.5	Fill	527645.479	5252556.553	4.318	-	Lost, hard pack gravel
4. The Precinct North	MW166	28-Feb-25	NM	NM	NM	2.5-5.5	Fill	527641.992	5252570.733	4.339	-	Lost, used Metal Detector + GPS + shovel
4. The Precinct North	MW167	28-Feb-25	3.019	ND	4.920	2.0-5.0	Fill	527658.9	5252563.9	4.164	1.145	Good condition
4. The Precinct North	MW167	16-Jun-25	2.480	ND	4.83	2.0-5.0	Fill	527658.9	5252563.9	4.164	1.684	GC, NO
4. The Precinct North	MW168	28-Feb-25	NM	NM	NM	2.0-5.0	Fill	527654.340	5252575.677	4.338	-	Inaccessible 26/08 due to TasWater works. Could not be located on 28/06/2025 - lost, used Metal Detector + GPS + shovel
4. The Precinct North	MW171	28-Feb-25	NM	NM	NM	3.5-6.5	Fill	527603.90	5252577.79	5.353	-	Lost, used Metal Detector + GPS + shovel
4. The Precinct North	MW187	16-Jun-25	3.212	ND	9.35	2.0-7.0	Fill / Slope Deposits	527578.4	5252529.9	4.258	1.046	GC, NO, HC Sheen
4. The Precinct North	MW190	16-Jun-25	3.494	ND	4.93	1.5-5.0	Fill	527611.3	5252584.7	4.703	1.209	GC, NO
4. The Precinct North	MW192	16-Jun-25	2.697	ND	5.89	1.5-6.0	Fill	527637.7	5252480.8	3.601	0.904	GC, NO, NS
4. The Precinct North	RN2	27-Feb-25	NM	NM	NM	1.0-5.0	Fill	527645.79	5252526.64	4.182	-	Partial asphalted over, bolts sheared unable to open with hand tools
4. The Precinct North	RN2	16-Jun-25	3.146	ND	5.36	1.0-5.0	Fill	527645.79	5252526.64	4.182	1.036	GC, NO, NS, Over LEL
4. The Precinct North	RN4	28-Feb-25	3.236	ND	5.180	1.5-6.0	Fill/Marine Deposits	527563.31	5252490.93	4.045	0.809	Good condition, tubing in well
4. The Precinct North	S9	16-Jun-25	NM	NM	NM	1.0-4.0	Fill	527588.94	5252302.38		-	Lost under garden bed
4. The Precinct North	TW01	26-Feb-25	NM	NM	NM	2.6-5.6	Fill	527660.136	5252595.212	4.497	-	No Go, piling works
4. The Precinct North	TW02	27-Feb-25	NM	NM	NM	2.4-5.5	Fill	527645.779	5252526.645	4.182	-	Fresh asphalt/ spray asphalt, lost
4. The Precinct North	TW02	16-Jun-25	3.443	ND	5.76	2.4-5.5	Fill	527645.779	5252526.645	4.086	0.643	NO, New TOC, screen measures at 2.88 to 5.76 mBTOC
4. The Precinct North	TW03	27-Feb-25	NM	NM	NM	1.0-4.0	Fill	527645.667	5252477.872	3.357	-	Fresh asphalt/ spray asphalt, well located in excavation area for remediation conducted in 2023.
5. The Precinct South	MW03	29-Nov-23	1.970	1.920	NR	?-8.7	Fill	527629.967	5252344.531	2.596	0.626	Not sampled as measurable LNAPL present
5. The Precinct South	MW03	27-Feb-25	1.990	1.980	NR	?-8.7	Fill	527629.967	5252344.531	2.596	0.606	Hydrocarbon odour, sticky, LNAPL
5. The Precinct South	MW05	29-Nov-23	2.170	2.100	NR	1.4-4.4	Fill	527625.558	5252326.18	2.663	0.493	Not sampled as measurable LNAPL present
5. The Precinct South	MW05	27-Feb-25	1.740	1.732	NR	1.4-4.4	Fill	527625.558	5252326.18	2.663	0.923	Hydrocarbon odour, sticky, LNAPL, organic matter, hard to get depth
5. The Precinct South	MW05	16-Jun-25	1.870	ND	4.33	?-8.7	Fill	527629.97	5252344.53	2.663	0.793	HC odour, GC
5. The Precinct South	MW05	26-Jun-25	1.955	ND	4.33	?-8.7	Fill	527629.97	5252344.53	2.663	0.708	HC odour, Slime on probe
5. The Precinct South	MW125A	4-Dec-23	2.487	ND	NR	2.0-5.0	Fill	527553.73	5252320.26	3.306	0.819	
5. The Precinct South	MW125A	27-Feb-25	2.481	ND	NR	2.0-5.0	Fill	527553.73	5252320.26	3.306	0.825	
5. The Precinct South	MW125B	4-Dec-23	2.702	ND	NR	13.8-15.3	Marine Deposits	527553.71	5252320.34	3.309	0.607	
5. The Precinct South	MW125B	27-Feb-25	2.689	ND	NR	13.8-15.3	Marine Deposits	527553.71	5252320.34	3.309	0.62	
5. The Precinct South	MW126A	5-Dec-23	2.173	ND	NR	2.1-5.1	Fill	527609.6	5252304.45	2.857	0.684	
5. The Precinct South	MW126A	27-Feb-25	2.169	ND	NR	2.1-5.1	Fill	527609.6	5252304.45	2.857	0.688	Bio matter on probe
5. The Precinct South	MW126A	16-Jun-25	2.131	ND	5.13	2.1-5.1	Fill	527609.60	5252304.45	2.857	0.726	GC, NO
5. The Precinct South	MW126B	5-Dec-23	2.281	ND	NR	15.9.0-18.9	Slope Deposits	527609.66	5252304.43	2.831	0.55	
5. The Precinct South	MW126B	27-Feb-25	2.457	ND	NR	15.9.0-18.9	Slope Deposits	527609.66	5252304.43	2.831	0.374	Bio matter on probe
5. The Precinct South	MW126B	16-Jun-25	2.194	ND	18.88	15.9.0-18.9	Slope Deposits	527609.66	5252304.43	2.831	0.637	GC, NO
5. The Precinct South	MW13	27-Feb-25	NM	NM	NM	3.0-6.0	Fill	527592.41	5252344.89	3.159	-	Newly asphalted Road, area excavated as part of remediation in 2024.
5. The Precinct South	MW154	6-Dec-23	2.136	ND	NR	1.0-4.0	Fill	527608.419	5252318.975	2.827	0.691	
5. The Precinct South	MW154	27-Feb-25	2.125	2.094	NR	1.0-4.0	Fill	527608.419	5252318.975	2.827	0.702	Hydrocarbon odour, LEL, brown LNAPL
5. The Precinct South	MW154	16-Jun-25	1.925	ND	3.80	1.0-4.0	Fill	527608.42	5252318.98	2.827	0.902	H2O above TOC, 45% LEL
5. The Precinct South	MW154	26-Jun-25	2.087	ND	3.82	1.0-4.0	Fill	527608.42	5252318.98	2.827	0.74	Over LEL, Globules in bailer
5. The Precinct South	MW16	6-Dec-23	2.042	ND	NR	3.0-6.0	Fill	527622.576	5252310.246	2.63	0.588	
5. The Precinct South	MW16	27-Feb-25	1.970	ND	NR	1.0-4.0	Fill	527608.419	5252318.975	2.630	0.66	Hydrocarbon, odour, bio matter on probe, hard to take reading. Accessed a second time during walkover with BlackCap
5. The Precinct South	MW16	27-Feb-25	1.995	ND	NR	1.0-4.0	Fill	527608.419	5252318.975	2.630	0.635	Good condition, no sheen, hydrocarbon odour
5. The Precinct South	MW16	16-Jun-25	1.945	ND	4.91	3.0-6.0	Fill	527622.58	5252310.25	2.630	0.685	85% LEL
5. The Precinct South	MW162	30-Nov-23	3.162	ND	NR	2.0-5.0	Fill	527561.725	5252463.136	4.079	0.917	
5. The Precinct South	MW162	28-Feb-25	NM	NM	NM	2.0-5.0	Fill	527561.725	5252463.136	4.079	-	Found under drilling equipment
5. The Precinct South	MW162	16-Jun-25	3.149	ND	4.73	2.0-5.0	Fill	527561.725	5252463.136	4.079	0.93	GC, 6% LEL
5. The Precinct South	MW163	5-Dec-23	1.681	ND	NR	0.95-3.95	Fill	527644.415	5252427.853	2.837	1.156	
5. The Precinct South	MW163	27-Feb-25	1.966	ND	3.820	0.95-3.95	Fill	527644.415	5252427.853	2.837	0.871	LEL 100, lugs threaded
5. The Precinct South	MW163	16-Jun-25	1.936	ND	3.82	0.95-3.95	Fill	527644.415	5252427.853	2.837	0.901	H2O above TOC, Over LEL
5. The Precinct South	MW164	4-Dec-23	1.582	ND	NR	0.5-4.0	Fill	527634.673	5252386.218	2.685	1.103	
5. The Precinct South	MW164	27-Feb-25	1.836	ND	3.860	0.5-4.0	Fill	527634.673	5252386.218	2.685	0.849	Slight hydrocarbon odour
5. The Precinct South	MW164	16-Jun-25	1.477	ND	3.86	0.5-4.0	Fill	527634.673	5252386.218	2.685	1.208	GC, NO, NS, 28% LEL
5. The Precinct South	MW188	16-Jun-25	2.294	ND	4.95	1.0-5.0	Fill / Slope Deposits	527586.0	5252340.3	3.080	0.786	GC, NO, Over LEL

Table T5 - Additional Groundwater Data - Gauging
Review of Site Suitability Statements 2025
Macquarie Point Development Project

Site Area	Well ID	Date Gauged	Depth to Groundwater (m BTOC)	Depth to NAPL (mBTOC)	Depth of Well (mBTOC)	Screened Interval (m)	Screened Lithology	Easting	Northing	Top of Casing (m AHD)	SWL (m AHD)	Comment(s)
5. The Precinct South	MW193	16-Jun-25	2.192	ND	5.48	1.0-5.0	Fill	527581.1	5252306.3	2.924	0.732	GC, NO, Over LEL
5. The Precinct South	MW3	16-Jun-25	1.900	1.830	NR	?-8.7	Fill	527629.97	5252344.53	2.596	0.696	Over LEL, Brown NAPL
5. The Precinct South	MW6	6-Dec-23	1.981	ND	NR	2.0-5.0	Fill	527631.882	5252366.709	2.896	0.915	
5. The Precinct South	MW6	27-Feb-25	2.151	ND	4.904	2.0-5.0	Fill	527631.882	5252366.709	2.896	0.745	Data logger in well, good condition
5. The Precinct South	MW6	16-Jun-25	2.070	ND	4.89	2.0-5.0	Fill	527631.882	5252366.709	2.896	0.826	Over LEL, Level logger
5. The Precinct South	MW60	5-Dec-23	2.04	ND	NR	3.0-6.0	Fill	527604.842	5252306.32	2.864	0.824	
5. The Precinct South	MW60	27-Feb-25	2.178	ND (see comments)	NR	3.0-6.0	Fill	527604.842	5252306.32	2.864	0.686	Bio matter blocking probe, hard to gauge. May be false detect for LNAPL. LNAPL recorded at 2.178, but assessed as false positive based on reinspection on 24 March 2025. The recorded depth to LNAPL has been taken as the depth of groundwater based on this result.
5. The Precinct South	MW60	24-Mar-25	2.216	ND (see comments)	2.880	3.0-6.0	Fill	527604.842	5252306.32	2.864	0.648	Well revisted to assess if LNAPL present. Detected on probe, however visual inspection following bailing of well identified apparent biofilm giving false positive. The recorded depth to LNAPL has been taken as the depth to water based on this result. Well apparently blocked - hollow noise at surface
5. The Precinct South	MW60	16-Jun-25	2.033	ND	2.95	3.0-6.0	Fill	527604.842	5252306.32	2.864	0.831	GC, NO
5. The Precinct South	PW02	29-Nov-23	2.250	2.090	NR	1.5-6.0	Fill	527624.264	5252337.008	2.723	0.473	Not sampled as measurable LNAPL present
5. The Precinct South	PW02	27-Feb-25	2.250	2.200	NR	1.5-6.0	Fill	527624.264	5252337.008	2.723	0.473	Brown LNAPL, hydrocarbon, odour, LEL 25%, lugs threaded
5. The Precinct South	PW02	16-Jun-25	1.913	1.871	NR	1.5-6.0	Fill	527624.264	5252337.008	2.723	0.81	15% LEL, Brown NAPL on probe, HC odour
5. The Precinct South	RN4	29-Nov-23	3.176	ND	NR	1.5-6.0	Fill/Marine Deposits	527563.308	5252490.93	4.045	0.869	
5. The Precinct South	RN4	16-Jun-25	3.170	ND	5.17	1.5-6.0	Fill/Marine Deposits	527563.31	5252490.93	4.045	0.875	GC, NO, NS, 32% LEL
5. The Precinct South	S4	5-Dec-23	1.868	ND	NR	1.0-4.0	Fill	527620.807	5252363.953	2.842	0.974	
5. The Precinct South	S4	27-Feb-25	NM	NM	NM	1.0-4.0	Fill	527620.807	5252363.953	2.842	-	Lost under Basketball court/ astro turf
5. The Precinct South	S6	6-Dec-23	1.963	ND	NR	1.0-4.8	Fill	527615.679	5252345.586	2.895	0.932	
5. The Precinct South	S6	27-Feb-25	NM	NM	NM	1.0-4.8	Fill	527615.679	5252345.586	2.895	-	Lost under Basketball court/ astro turf
5. The Precinct South	S8	29-Nov-23	1.990	1.870	NR	1.2-5.2	Fill	527610.904	5252328.497	2.83	0.84	Not sampled as measurable LNAPL present
5. The Precinct South	S8	27-Feb-25	2.155	2.060	NR	1.2-5.2	Fill	527610.904	5252328.497	2.830	0.675	Water above TOC, hydrocarbon, odour, 25% LEL, brown LNAPL, on probe, one lug broken
5. The Precinct South	S8	16-Jun-25	1.990	1.909	NR	1.2-5.2	Fill	527610.904	5252328.497	2.830	0.84	Over LEL
5. The Precinct South	S9	27-Feb-25	NM	NM	NM	1.0-4.0	Fill	527588.94	5252302.38	2.910	-	Lost under garden bed
6. The Gateway	BH2_PS	2-Dec-22	NM	NM	7.05	Unknown	Fill/Marine Deposits	527468.86	5252435.884	5.288	-	Bolts sheared and well could not be accessed
6. The Gateway	BH2_PS	26-Feb-25	NM	NM	NM	Unknown	Fill/Marine Deposits	527468.86	5252435.884	5.286	-	Unable to open, gatic drilled shut screws threaded
6. The Gateway	BH2_PS	16-Jun-25	4.339	ND	7.03	Unknown	Fill/Marine Deposits	527468.86	5252435.884	5.286	0.947	GC, NO
6. The Gateway	MW100	1-Dec-22	3.213	ND	11.60	3.0-9.0	Fill	527434.93	5252397.121	4.006	0.793	
6. The Gateway	MW100	26-Feb-25	3.374	ND	11.533	3.0-9.0	Fill	527434.93	5252397.121	4.006	0.632	bolts missing, no sheen, no odour
6. The Gateway	MW100	13-Jun-25	3.161	ND	11.50	3.0-9.0	Fill	527434.93	5252397.121	4.006	0.845	GC, NO
6. The Gateway	MW101	1-Dec-22	NM	NM	NM	1.6-4.6	Fill	527370.93	5252477.012	5.317	-	Well could not be located - appears buried in mulch/garden bed
6. The Gateway	MW101	26-Feb-25	2.310	ND	3.640	1.6-4.6	Fill	527370.93	5252477.012	5.317	3.007	Water below TOC, CC
6. The Gateway	MW101	13-Jun-25	1.698	ND	3.60	1.6-4.6	Fill	527370.93	5252477.012	5.317	3.619	GC, NO
6. The Gateway	MW102	1-Dec-22	2.595	ND	4.51	1.6-4.6	Fill/Weathered Dolerite/ Slope Deposits	527400.58	5252491.493	5.778	3.183	
6. The Gateway	MW102	26-Feb-25	2.837	ND	4.460	1.6-4.6	Fill/Weathered Dolerite/ Slope Deposits	527400.58	5252491.493	5.778	2.941	Gatic missing, no sheen, no odour
6. The Gateway	MW102	13-Jun-25	2.322	ND	4.49	1.6-4.6	Fill/Weathered Dolerite/ Slope Deposits	527400.58	5252491.493	5.778	3.456	No gatic lid, dirt in gatic, NO
6. The Gateway	MW122	30-Nov-22	3.030	ND	4.02	2.0-4.0	Fill	527495.56	5252422.98	3.933	0.903	
6. The Gateway	MW122	26-Feb-25	3.168	ND	6.030	2.0-4.0	Fill	527495.56	5252422.98	3.933	0.765	Good condition, 1 bolt threaded
6. The Gateway	MW122	13-Jun-25	3.022	ND	4.00	2.0-4.0	Fill	527495.56	5252422.98	3.933	0.911	GC, NO
6. The Gateway	MW128A	30-Nov-22	NM	NM	NM	1.8-4.8	Slope Deposits/Bedrock	527368.37	5252452.59	5.232	-	Well could not be located - appears buried in mulch/garden bed
6. The Gateway	MW128A	26-Feb-25	2.191	ND	3.501	1.8-4.8	Slope Deposits/Bedrock	527368.37	5252452.59	5.232	3.041	Good condition, no sheen, no odour. Likely blockage in well or damage to casing based on DTB
6. The Gateway	MW128A	13-Jun-25	1.523	ND	2.98	1.8-4.8	Slope Deposits/Bedrock	527368.37	5252452.59	5.207	3.684	GC, NO. Blockage cleared and redeveloped
6. The Gateway	MW128B	1-Dec-22	NM	NM	NM	10.0-13.0	Bedrock	527368.39	5252452.59	5.209	-	Well could not be located - appears buried in mulch/garden bed
6. The Gateway	MW128B	26-Feb-25	2.191	ND	3.988	10.0-13.0	Bedrock	527368.39	5252452.59	5.209	3.018	Good condition, no sheen, no odour, well likely blocked based on historic depth
6. The Gateway	MW128B	13-Jun-25	1.581	ND	3.50	10.0-13.0	Bedrock	527368.39	5252452.59	5.229	3.648	GC, NO
6. The Gateway	MW129	1-Dec-22	NM	NM	NM	14.0-16.0	Slope Deposits	527457.19	5252377.34	3.800	-	Bolts sheared and well partially covered by asphalt. Could not be accessed
6. The Gateway	MW129	26-Feb-25	NM	NM	NM	14.0-16.0	Slope Deposits	527457.19	5252377.34	3.800	-	Bolts sheared unable to open with handtools
6. The Gateway	MW129	13-Jun-25	3.060	ND	16.00	14.0-16.0	Slope Deposits	527457.19	5252377.34	3.800	0.74	GC, NO
6. The Gateway	MW148	31-Dec-22	NM	NM	NM	2.0-5.0	Fill	527477.71	5252417.844	3.786	-	Could not be located. Potentially under shipping containers, IBCs or pallets in area, or under asphalt
6. The Gateway	MW148	26-Feb-25	NM	NM	NM	2.0-5.0	Fill	527477.71	5252417.844	3.786	-	1 bolt threaded, unable to open with handtools
6. The Gateway	MW148	13-Jun-25	2.946	ND	4.90	2.0-5.0	Fill	527477.71	5252417.844	3.786	0.84	GC, NO
6. The Gateway	MW173	1-Dec-22	3.754	ND	5.70	2.0-5.0	Fill/Marine Deposits	527443.43	5252486.041	5.928	2.174	
6. The Gateway	MW173	26-Feb-25	NM	NM	NM	2.0-5.0	Fill/Marine Deposits	527443.43	5252486.041	5.928	-	Access not recorded by field staff. Considered likely to be intact - recently installed without any works in area
6. The Gateway	MW173	16-Jun-25	3.717	ND	4.92	2.0-5.0	Fill/Marine Deposits	527443.43	5252486.041	5.928	2.211	GC
6. The Gateway	MW196	25-Jun-25	2.099	ND	6.03	1.5-6.0	Fill / Slope Deposits	527383.7	5252415.0	3.299	1.2	
6. The Gateway	MW197	25-Jun-25	2.482	ND	5.90	3.5-6.0	Sand	527421.4	5252392.7	3.290	0.808	
6. The Gateway	MW198	16-Jun-25	2.242	ND	5.21	2.0-6.0	Fill/Sand	527426.2	5252432.5	3.201	0.959	GC, NO
6. The Gateway	RS6	30-Nov-22	2.995	ND	5.49	1.5-6.0	Fill	527456.34	5252374.791	3.792	0.797	
6. The Gateway	RS6	26-Feb-25	3.165	ND	5.500	1.5-6.0	Fill	527456.34	5252374.791	3.792	0.627	Good condition, no sheen, no odour
6. The Gateway	RS6	13-Jun-25	3.003	ND	5.50	1.5-6.0	Fill	527456.34	5252374.791	3.792	0.789	GC, NO
7. Audit Area 4 East	MW145	26-Feb-25	NM	NM	NM	5.5-8.8	Bedrock	527626.85	5252642.48	7.969	-	Well on side of road, unable to access
7. Audit Area 4 East	MW145	16-Jun-25	NM	NM	NM	5.5-8.8	Bedrock	527626.85	5252642.48	7.907	-	PVC stickup on concrete embankment slope. Casing filled with concrete up to 10 cm bTOC
7. Audit Area 4 East	MW159	26-Feb-25	2.608	ND	7.640	3.5-8.0	Bedrock	527693.24	5252689.96	5.757	3.149	Good condition, no sheen, no odour
7. Audit Area 4 East	MW159	16-Jun-25	3.588	ND	7.58	3.5-8.0	Bedrock	527693.24	5252689.96	5.757	2.169	GC, NO
7. Audit Area 4 East	MW160	27-Feb-25	6.511	ND	9.510	6.5-9.5	Bedrock	527666.70	5252766.39	7.306	0.795	Good condition, no odour, no sheen
7. Audit Area 4 East	MW160	16-Jun-25	5.894	ND	9.48	6.5-9.5	Bedrock	527666.70	5252766.39	7.306	1.412	GC, NO
7. Audit Area 4 East	MW161	27-Feb-25	ND	ND	6.460	3.5-6.5	Bedrock	527657.80	5252774.32	7.634	-	Good condition, no odour, no sheen, well dry
7. Audit Area 4 East	MW161	16-Jun-25	5.795	ND	6.45	3.5-6.5	Bedrock	527657.80	5252774.32	7.634	1.839	GC, NO
7. Audit Area 4 East	MW177A	27-Feb-25	ND	ND	7.170	4.3-7.3	Bedrock	527598.808	5252815.946	9.500	-	Water below TOC, good condition, no odour, no sheen, dry, mud on probe
7. Audit Area 4 East	MW177A	16-Jun-25	6.995	ND	7.15	4.3-7.3	Bedrock	527598.808	5252815.946	9.497	2.502	GC, NO
7. Audit Area 4 East	MW189	16-Jun-25	3.124	ND	6.55	2.5-7.0	Dolerite	527678.3	5252654.1	5.233	2.109	GC, NO
7. Audit Area 4 East	NR1	26-Feb-25	5.891	ND	8.050	3.5-8.0	Bedorock	527648.56	5252654.05	8.295	2.404	Good condition, no sheen, no odour
7. Audit Area 4 East	NR1	16-Jun-25	5.513	ND	8.00	3.5-8.0	Bedorock	527648.56	5252654.05	8.295	2.782	GC, NO, 6% LEL
7. Audit Area 4 East	NR2	26-Feb-25	NM	NM	NM	1.5-6.0	Marine Deposits	527664.81	5252610.95	4.559	-	No Go, piling works
7. Audit Area 4 East	NR2A	16-Jun-25	4.053	ND	5.92	1.5-6.0	Marine Deposits	527664.81	5252610.95	5.073	1.02	GC, NO
7. Audit Area 4 East	NR4	26-Feb-25	NM	NM	NM	Unknown	Unknown	527677.760	5252636.900	Unknown	-	Unable to locate with metal detector
8. Regatta Point	MW178	16-Jun-25	0.804	ND	4.85	2.7-5.0	Bedrock	527640.962	5252835.628	1.282	0.478	GC, NO
8. Regatta Point	MW178	27-Feb-25	1.025	ND	4.860	2.7-5.0	Bedrock	527640.962	5252835.628	1.280	0.255	Good condition, no odour, no sheen
8. Regatta Point	MW179	27-Feb-25	2.003	ND	5.390	1.5-5.5	Bedrock	527671.789	5252789.467	2.273	0.27	Water below TOC, Good condition, no odour, no sheen, sediment on probe
8. Regatta Point	MW179	16-Jun-25	1.686	ND	5.39	1.5-5.5	Bedrock	527671.789	5252789.467	2.273	0.587	GC, NO
8. Regatta Point	MW180	27-Feb-25	1.145	ND	1.890	0.7-2.2	Fill	527640.331	5252836.358	1.240	0.095	Water below TOC, Good condition, no odour, no sheen
8. Regatta Point	MW180	16-Jun-25	0.761	ND	1.89	0.7-2.2	Fill	527640.331	5252836.358	1.243	0.482	GC, NO
8. Regatta Point	MW181	27-Feb-25	ND	ND	0.855	0.4-0.95	Fill	527671.149	5252790.232	2.260	-	Good condition, no odour, no sheen, well dry
8. Regatta Point	MW181	16-Jun-25	ND	ND	0.85	0.4-0.95	Fill	527671.149	5252790.232	2.261	-	GC, NO, dry
9. Off-Site	C1	27-Feb-25	2.281	ND	4.060	1.0-4.5	Fill	527657.50	5252456.17	3.142	0.861	Water above TOC, LEL 68%, left to vent
9. Off-Site	MW123A	2-Dec-22	2.105	ND	3.71	1.8-3.8	Fill	527393.27	5252399.74	3.223	1.118	
9. Off-Site	MW123A	26-Feb-25	2.549	ND	3.730	1.8-3.8	Fill	527393.27	5252399.74	3.223	0.674	
9. Off-Site	MW123A	13-Jun-25	1.992	ND	3.65	1.8-3.8	Fill	527393.27	5252399.74	3.223	1.231	GC, NO, 2 x bolts missing
9. Off-Site	MW123B	2-Dec-22	2.839	ND	17.71	14.6-17.6	Slope Deposits/Bedrock	527393.23	5252399.73	3.278	0.439	
9. Off-Site	MW123B	26-Feb-25	2.949	ND	17.680	14.6-17.6	Slope Deposits/Bedrock	527393.23	5252399.73	3.278	0.329	Bolts missing, no sheen, no odour
9. Off-Site	MW123B	13-Jun-25	2.816	ND	17.45	14.6-17.6	Slope Deposits/Bedrock	527393.23	5252399.73	3.278	0.462	GC, NO, 2 x bolts missing
9. Off-Site	MW130_GHD	1-Dec-22	2.008	ND	4.75	2.0-5.0	Marine Deposits	527382.45	5252393.37	2.728	0.72	
9. Off-Site	MW130_GHD	26-Feb-25	NM	NM	NM	2.0-5.0	Marine Deposits	527382.45	5252393.37	2.728	-	Well seen from footpath, gatic missing
9. Off-Site	MW130_GHD	12-Jun-25	1.978	ND	4.71	2.0-5.0	Marine Deposits	527382.45	5252393.37	2.728	0.75	Grass in gatic, new gatic lid installed
9. Off-Site	MW131_GHD	1-Dec-22	1.990	ND	9.70	6.7-9.7	Marine Deposits	527398.42	5252384.86	2.611	0.621	
9. Off-Site	MW131_GHD	26-Feb-25	NM	NM	NM	6.7-9.7	Marine Deposits	527398.42	5252384.86	2.611	-	Well seen from footpath
9. Off-Site	MW131_GHD	12-Jun-25	1.865	ND	9.66	6.7-9.7	Marine Deposits	527398.42	5252384.86	2.611	0.746	GC, NO, Datalogger
9. Off-Site	MW131_GHD	13-Jun-25	1.973	ND	9.66	6.7-9.7	Marine Deposits	527398.42	5252384.86	2.611	0.638	GC, NO
9. Off-Site	MW132_GHD	1-Dec-22	1.885	ND	4.10	2.5-4.5	Fill/Marine Deposits	527399.60	5252384.26	2.631	0.746	
9. Off-Site	MW132_GHD	26-Feb-25	NM	NM	NM	2.5-4.5	Fill/Marine Deposits	527399.60	5252384.26	2.631	-	Well seen from footpath
9. Off-Site	MW132_GHD	12-Jun-25	1.850	ND	3.89	2.5-4.5	Fill/Marine Deposits	527399.60	5252384.26	2.631	0.781	GC, NO, 2 x bolts missing
9. Off-Site	MW133_GHD	1-Dec-22	2.414	ND	4.60	2.0-3.0	Fill	527454.40	5252353.36	3.127	0.713	
9. Off-Site	MW133_GHD	26-Feb-25	NM	NM	NM	2.0-3.0	Fill	527454.40	5252353.36	3.127	-	Well seen from footpath
9. Off-Site	MW133_GHD	12-Jun-25	2.425	ND	4.45	2.0-3.0	Fill	527454.40	5252353.36	3.127	0.702	GC, NO, Datalogger
9. Off-Site	MW134_GHD	27-Feb-25	2.776	ND	6.030	4.0-7.0	Fill	527600.19	5252274.58	3.057	0.281	48% LEL, good condition, under square lid, organic odour
9. Off-Site	MW134_GHD	16-Jun-25	2.630	ND	5.99	4.0-7.0	Fill	527600.19	5252274.58	3.057	0.427	LEL Over
9. Off-Site	MW135_GHD	27-Feb-25	1.939	ND	NR	2.0-5.0	Fill	527632.94	5252353.79	2.597	0.658	One bolt missing
9. Off-Site	MW136_GHD	27-Feb-25	1.938	ND	NR	10.2-13.50	Fill	527633.06	5252324.50	2.549	0.611	Good condition, no odour, no sheen
9. Off-Site	MW150	1-Dec-22	2.435	ND	4.70	1.0-5.0	Fill/Marine Deposits	527528.45	5252319.791	3.265	0.83	
9. Off-Site	MW150	1-Dec-23	2.44	ND	NR	1.0-5.0	Fill/Marine Deposits	527528.454	5252319.791	3.265	0.825	
9. Off-Site	MW150	27-Feb-25	NM	NM	NM	1.0-5.0	Fill/Marine Deposits	527528.454	5252319.791	3.265	-	Observed in Road, good condition
9. Off-Site	MW150	13-Jun-25	2.483	ND	4.39	1.0-5.0	Fill/Marine Deposits	527528.454	5252319.791	3.265	0.782	GC, NO, H2O in gatic above TOC, 2 x bolts missing
9. Off-Site	MW151	1-Dec-23	2.25	ND	NR	1.0-5.5	Fill/Marine Deposits	527567.708	5252282.43	2.553	0.303	
9. Off-Site	MW151	27-Feb-25	2.182	ND	4.880	1.0-5.5	Fill/Marine Deposits	527567.708	5252282.43	2.553	0.371	Good condition, no sheen, no odour
9. Off-Site	MW151	12-Jun-25	2.126	ND	4.87	1.0-5.5	Fill/Marine Deposits	527567.708	5252282.43	2.553	0.427	GC, NO
9. Off-Site	MW152	1-Dec-23	2.305	ND	NR	1.0-5.5	Fill/Marine Deposits	527564.181	5252262.443	2.563	0.258	
9. Off-Site	MW152	27-Feb-25	2.245	ND	4.990	1.0-5.5	Fill/Marine Deposits	527564.181	5252262.443	2.563	0.318	Good condition, no sheen, no odour
9. Off-Site	MW152	12-Jun-25	2.140	ND	4.98	1.0-5.5	Fill/Marine Deposits	527564.181	5252262.443	2.563	0.423	GC, NO, 1% LEL
9. Off-Site	MW153	1-Dec-23	2.142	ND	NR	1.0-4.6	Fill/Marine Deposits	527557.54	5252240.934	2.449	0.307	
9. Off-Site	MW153	27-Feb-25	2.147	ND	4.450	1.0-4.6	Fill/Marine Deposits	527557.54	5252240.934	2.449	0.302	Water above TOC,good condition, no odour, no sheen, dirt on probe
9. Off-Site	MW153	12-Jun-25	1.992	ND	4.42	1.0-4.6	Fill/Marine Deposits	527557.54	5252240.934	2.449	0.457	GC, NO
9. Off-Site	PC05	27-Feb-25	2.313	ND	3.290	Unknown	Unknown	527726.727	5252600.326	Unknown	-	Good condition, no sheen, no odour, orange organic material on probe
9. Off-Site	PC08	27-Feb-25	NM	NM	NM	Unknown	Unknown	527779.795	5252522.473	Unknown	-	No access attempted by field staff.
9. Off-Site	PC10	27-Feb-25	NM	NM	NM	Unknown	Unknown	527651.691	5252296.989	Unknown	-	Bolts sheared unable to open - need driller
9. Off-Site	PC11	27-Feb-25	NM	NM	NM	Unknown	Unknown	527650.528	5252362.247	Unknown	-	Bolts sheared unable to open - need driller
9. Off-Site	PC12	27-Feb-25	2.525	ND	NR	Unknown	Unknown	527668.146	5252518.054	Unknown	-	LEL 17, organic material on probe, good condition
9. Off-Site	PC13	27-Feb-25	1.310	1.300	NR	Unknown	Unknown	527746.787	5252222.601	2.636	1.326	Good condition, 1 cm of LNAPL
9. Off-Site	PC14	27-Feb-25	NM	NM	NM	Unknown	Unknown	527642.432	5252230.789	Unknown	-	No access attempted by field staff. A mark which may be this well is visible on aerial photographs.
9. Off-Site	PC15	27-Feb-25	NM	NM	NM	Unknown	Unknown	527642.432	5252230.789	3.489	-	Under large shipping container unable to locate

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| | | | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | | | | | | | | | | |

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	Major Ions																				Alkalinity					Cyanides		Phenolic Compounds																								Nutrients		
	2,6-DCI-Nadron	2,4-DP (2,4-dichlorophenoxypropionic acid)	2,4-D (2,4-dichlorophenoxyacetic acid) (2,4-D TS)	2,4,5-T (2,4,5-trichlorophenoxyacetic acid) (2,4,5-T TS)	2-(2,4,5-trichlorophenoxy) propionic acid (2,4,5-TP TS)	2-(2,4-dichlorophenoxy) propionic acid (2,4-DP TS)	2-(2,4-dichlorophenoxy) butanoic acid (2,4-DB TS)	Sum of PFHxS + PFOS	Sum of PFAS	Sum of WA DWER PFAS (n=16)[4]	Sum of enhanced WA DWER PFAS + PFOS + PFOA	Sum of US EPA PFAS (PFOS + PFOA)	PFHxDA	Chloride	Calcium	Calcium (filtered)	Magnesium	Magnesium (filtered)	Potassium	Potassium (filtered)	Sodium	Sodium (filtered)	Sulfate as SO4	Sulfate as SO4 (Turbidimetric) (filtered)	Total Anions	Total Cations	Ionic Balance	Hydroxide Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Cyanide (Free)	Cyanide (Total)	Weak Acid Dissociable Cyanide	3&4-Methylphenol (m&p-cresol)	2-Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	3,4-Dichloro-2-methylphenol	Pentachlorophenol	2,3,4,5-Tetrachlorophenol	2,3,4,6-Tetrachlorophenol	2-Cyclohexyl-4,6-dinitrophenol	2-Nitrophenol	2,4-Dimethylphenol	2,4-Dichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	3,4,5-Trichlorophenol	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Total Kjeldahl Nitrogen	Ammonia (as N)	Nitrate (as N)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ng/L	µg/L	ng/L	ng/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L
EQL	20	0.002	0.001	0.005	0.001	0.001	0.001	0.003	0.002	0.001	0.001	0.005	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	1	0.01	0.01	0.01	1	1	1	1	0.004	4	0.004	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.01	0.01	0.2
PFAS NEMP 2025 Drinking water quality guideline								0.07																																														
PFAS NEMP 2025 Recreational water quality guideline								2																																												
Drinking Water (Aesthetics)													250[6]							180[6]	180[6]	250[2]																																
Drinking Water (Health)																						500[11]																																
Recreation (Primary / Secondary Contact)																						5,000[6]																																

| Location Code | Assessment Area | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

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| | | | Hydrocarbon Gases | TRH | | | | | | UNKNOWN | Ferrous/Ferric Iron | Total Recoverable Hydrocarbons - Silica Gel | | | | | Total Petroleum Hydrocarbons - Silica Gel | | | | | Total Petroleum Hydrocarbons (CWG - | | | Chlorinated Hydrocarbons | | | | | | | | | | | | Sulfonated Compounds | Organophosphorus Pesticides (OP) | | | | | | | | | | | | | | | | Organochlorine Pesticides (OC) | | | | | | | | | | | | | | | |

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| | | | | | | | | | | | | | | Halogenated Aromatic Compounds | | | | | | | | | | | | | | | | | | | | Halogenated Aliphatic Compounds | | | | | | | | | | | | | | | | | | |

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	ethanes			Fumigants					Phthalate Esters						Nitrosamines							Nitroaromatics and Ketones														Oxygenated Compounds				Physico-Chemical Parameters		Benzidine	Organotins	TPH								
	1,2-Dichloroethane (EDC)	Trichloromethane (Fluoroform)	Tetrachloromethane (Chloroform)	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	1,2-Dichloropropene	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Butyl benzyl phthalate	Di(n)-Phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	N-Nitrosodiethylamine	N-Nitrosodibutylamine	N-Nitrosodi(ethyl) & Di(propyl)amine	N-Nitrosodi(phenyl)amine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Naphthylamine	2-Picoline	3,4-Annodophenyl	3-Methylcholanthrene	4-Amino-3-fluoro-phenol	4-Nitrobiphenyl	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Phorate	1-Propanone (Acetone)	Ethyl Acetate	Methanone (MEK)	2-Hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Total Dissolved Solids	Electrical conductivity @ 25oC	1,1,3-Trichlorobenzidine	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	Aromatic >C16-C21	Aromatic >C21-C27
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µS/cm	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	1	5	1	1	5	1	1	2	2	2	2	2	5	1	2	2	2	4	2	2	2	4	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	50	5	50	5	10	10	2	0.000002	20	20	20	50	5	50	1	1
PFAS NEMP 2025 Drinking water quality guideline																																																									
PFAS NEMP 2025 Recreational water quality guideline																																																									
Drinking Water (Aesthetics)																																																600[#7]													
Drinking Water (Health)		100[#8]	300[#7]	1[#5]	0.85[#5]				16[#5]	900[#5]	15,000[#5]		200[#5]	10[#3]	1,300[#5]		0.0027[#5]	0.0001[#5]		0.011[#5]	0.00071[#5]	0.012[#5]	0.0082[#5]	0.037[#5]	590[#5]		0.24[#5]	0.049[#5]	0.039[#5]		0.003[#5]		8.2[#5]	1,900[#5]	0.12[#5]	0.31[#5]	0.005[#5]	78[#5]	0.14[#5]	30[#7]	34[#5]	70[#7]	14,000[#5]	410[#5]		38[#5]	6,300[#5]		0.13[#5]											
Recreation (Primary / Secondary Contact)		1,000[#8]	3,000[#8]	10[#7]	8.5[#5]				160[#5]	9,000[#5]	150,000[#5]		2,000[#5]	100[#7]	13,000[#5]		0.027[#5]	0.0017[#5]		0.11[#5]	0.0071[#5]	0.12[#5]	0.082[#5]	0.37[#5]	5,900[#5]		2.4[#5]	0.49[#5]	0.39[#5]		0.03[#5]		82[#5]	19,000[#5]	1.2[#5]	3.1[#5]	0.05[#5]	780[#5]	1.4[#5]	300[#7]	340[#5]	700[#7]	140,000[#5]	4,100[#5]		380[#5]	63,000[#5]		1.3[#5]											

| Location Code | Assessment Area | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

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		Anilines								Halomthers				
	Di-C10 fraction	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Nitrobenzin	4-Bromophenyl phenyl ether	bis(2-Chloroisopropyl)ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	4	4	2	2	2	2	2	5	2	5	2	2	2
PFAS NEMP 2025 Drinking water quality guideline														
PFAS NEMP 2025 Recreational water quality guideline														
Drinking Water (Aesthetics)														
Drinking Water (Health)		190[#3]		0.37[#3]	3.8[#3]	13[#3]		7.9[#3]	90[#3]		710[#3]	0.014[#3]	59[#3]	
Recreation (Primary / Secondary Contact)		1,900[#3]		3.7[#3]	38[#3]	130[#3]		79[#3]	900[#3]		7,100[#3]	0.14[#3]	590[#3]	

Location Code	Assessment Area	Date	Field ID	Sample Type	Lab Report Number													
MW124A	1. The Goods Shed and Yard	05 Dec 2023	MW124A	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW124B	1. The Goods Shed and Yard	05 Dec 2023	MW124B	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	02 Dec 2022	MW127A	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	30 Nov 2023	MW127A	Normal	EM2321582	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2
MW127A	1. The Goods Shed and Yard	30 Nov 2023	QA102	Field D	EM2321582	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2
MW127A	1. The Goods Shed and Yard	30 Nov 2023	QA202	Interlab D	1049962	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	19 Jun 2025	MW127A	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW127B	1. The Goods Shed and Yard	02 Dec 2022	MW127B	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW127B	1. The Goods Shed and Yard	30 Nov 2023	MW127B	Normal	EM2321582	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW55	1. The Goods Shed and Yard	30 Nov 2023	MW55	Normal	EM2321582	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW55	1. The Goods Shed and Yard	19 Jun 2025	MW55	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-
BG1	2. The Escarpment	17 Jun 2025	BG1	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	25 Jun 2025	MW120A	Normal	1240646	280	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	17 Jun 2025	MW194	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW121	3. The Promenade and Underground Carpark	18 Jun 2025	MW121	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	MW146	Normal	EM2321407	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	QA101	Field D	EM2321407	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	QA201	Interlab D	1049877	<20	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW174	3. The Promenade and Underground Carpark	30 Nov 2022	MW174	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW175	3. The Promenade and Underground Carpark	30 Nov 2023	MW175	Normal	EM2321407	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW176	3. The Promenade and Underground Carpark	30 Nov 2023	MW176	Normal	EM2321407	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	17 Jun 2025	MW182	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	17 Jun 2025	MW183	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	18 Jun 2025	MW184	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	MW186	Normal	1240646	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW188	3. The Promenade and Underground Carpark	25 Jun 2025	QC110	Field D	1240646	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	QC210	Interlab D	EM2512123	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	18 Jun 2025	MW191	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	3. The Promenade and Underground Carpark	02 Dec 2022	MW36	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	3. The Promenade and Underground Carpark	18 Jun 2025	MW36	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	06 Dec 2023	MW155	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	19 Jun 2025	MW155	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	19 Jun 2025	MW155 FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	4. The Precinct North	20 Jun 2025	MW167	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	4. The Precinct North	20 Jun 2025	MW167 FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW190	4. The Precinct North	17 Jun 2025	MW190	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW192	4. The Precinct North	18 Jun 2025	MW192	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	4. The Precinct North	18 Jun 2025	RN2	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
TW02	4. The Precinct North	17 Jun 2025	TW02	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	5. The Precinct South	04 Dec 2023	MW125A	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	5. The Precinct South	24 Jun 2025	MW125A	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125B	5. The Precinct South	04 Dec 2023	MW125B	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	05 Dec 2023	MW126A	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	MW126A	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	QC108	Field D	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	QC208	Interlab D	EM2511596	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126B	5. The Precinct South	05 Dec 2023	MW126B	Normal	EM2321824	20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	5. The Precinct South	06 Dec 2023	MW154	Normal	EM2321824	130	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	06 Dec 2023	MW16	Normal	EM2321824	600	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC207 FILTERED	Interlab D	EM2512174	400	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC107	Field D	1241421	460	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC207	Interlab D	EM2512174	490	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	MW16	Normal	1236601	670	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	MW16 FILTERED	Normal	1236601	750	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC107 FILTERED	Field D	1241421	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	5. The Precinct South	30 Nov 2023	MW162	Normal	EM2321407	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW163	5. The Precinct South	05 Dec 2023	MW163	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	04 Dec 2023	MW164	Normal	EM2321824	40	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	23 Jun 2025	MW164	Normal	1236601	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	23 Jun 2025	MW164 FILTERED	Normal	1236601	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW188	5. The Precinct South	24 Jun 2025	MW188	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	MW193	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	QC109	Field D	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	QC209	Interlab D	EM2511596	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	5. The Precinct South	06 Dec 2023	MW6	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	5. The Precinct South	23 Jun 2025	MW6	Normal	1236601	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	05 Dec 2023	MW60	Normal	EM2321824	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	24 Jun 2025	MW60	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	24 Jun 2025	MW60 FILTERED	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	5. The Precinct South	29 Nov 2023	RN4	Normal	EM2321407	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	5. The Precinct South	18 Jun 2025	RN4	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	5. The Precinct South	05 Dec 2023	S4	Normal	EM2321824	120	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	5. The Precinct South	06 Dec 2023	S6	Normal	EM2321824	30	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2 PS	6. The Gateway	19 Jun 2025	BH2 PS	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW100	6. The Gateway	01 Dec 2022	MW100	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW101	6. The Gateway	24 Jun 2025	MW101	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW102	6. The Gateway	01 Dec 2022	MW102	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW102	6. The Gateway	18 Jun 2025	MW102	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	6. The Gateway	30 Nov 2022	MW122	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	6. The Gateway	19 Jun 2025	MW122	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW128A	6. The Gateway	25 Jun 2025	MW128A	Normal	1240646	50	-	-	-	-	-	-	-	-	-	-	-	-	-
MW148	6. The Gateway	19 Jun 2025	MW148	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	6. The Gateway	01 Dec 2022	MW173	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	6. The Gateway	18 Jun 2025	MW173	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW196	6. The Gateway	25 Jun 2025	MW196	Normal	1240646	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW197	6. The Gateway	25 Jun 2025	MW197	Normal	1240646	260	-	-	-	-	-	-	-	-	-	-	-	-	-
MW198	6. The Gateway	25 Jun 2025	MW198	Normal	1240646	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
RI56	6. The Gateway	30 Nov 2022	RI56	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
RI56	6. The Gateway	19 Jun 2025	RI56	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	25 Sep 2024	MW159 240925	Normal	1143224	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	20 Jun 2025	MW159	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	20 Jun 2025	MW159 FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	7. Audit Area 4 East	25 Sep 2024	MW160 240925	Normal	1143224	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	7. Audit Area 4 East	17 Jun 2025	MW160	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	7. Audit Area 4 East	25 Sep 2024	MW161 240925	Normal	1143224	<20	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW161	7. Audit Area 4 East	19 Jun 2025	MW161	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	7. Audit Area 4 East	19 Jun 2025	MW161 FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW189	7. Audit Area 4 East	18 Jun 2025	MW189	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	7. Audit Area 4 East	17 Jun 2025	NR1	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	7. Audit Area 4 East	20 Jun 2025	NR2A	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	7. Audit Area 4 East	20 Jun 2025	NR2A FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177A	8. Regatta Point	25 Sep 2024	MW177 240925	Normal	1143224	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW178	8. Regatta Point	26 Sep 2024	MW178 240926	Normal	1143888	<20	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW178	8. Regatta Point	26 Sep 2024	QC105 240926	Field D	1143888	<20	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW178	8. Regatta Point	26 Sep 2024	QC106 240926	Interlab D	EM2416713	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2
MW178	8. Regatta Point	17 Jun 2025	MW178	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	8. Regatta Point	26 Sep 2024	MW179 240926	Normal	1143888	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	8. Regatta Point	17 Jun 2025	MW179	Normal	1234320	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	8. Regatta Point	25 Sep 2024	MW180 240925	Normal	1143224	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	8. Regatta Point	18 Jun 2025	MW180	Normal	1234988	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	9. Off-Site	02 Dec 2022	MW123A	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	9. Off-Site	12 Jun 2025	MW123A	Normal	1232587	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123B	9. Off-Site	02 Dec 2022	MW123B	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	9. Off-Site	01 Dec 2022	MW130_GHD	Normal	EM2224108	2,640	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	9. Off-Site	12 Jun 2025	MW130_GHD	Normal	1232587	2,100	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	9. Off-Site	01 Dec 2022	MW131_GHD	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	9. Off-Site	01 Dec 2022	MW132_GHD	Normal	EM2224108	350	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	9. Off-Site	12 Jun 2025	MW132_GHD	Normal	1232587	560	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	9. Off-Site	01 Dec 2022	MW133_GHD	Normal	EM2224108	30	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	9. Off-Site	12 Jun 2025	MW133_GHD	Normal	1232587	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2022	MW150	Normal	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2022	QC101	Field D	EM2224108	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2022	QC102	Interlab D	947585	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2023	MW150	Normal	EM2321582	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	12 Jun 2025	MW150	Normal	1232587	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	9. Off-Site	01 Dec 2023	MW151	Normal	EM2321582	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW151	9. Off-Site	01 Dec 2023	QA103	Field D	EM2321582	<20	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW151	9. Off-Site	01 Dec 2023	QA203	Interlab D	1049962	<20	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW151	9. Off-Site	19 Jun 2025	MW151	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	9. Off-Site	19 Jun 2025	MW151 FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	9. Off-Site	01 Dec 2023	MW152	Normal	EM2321582	40	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	9. Off-Site	19 Jun 2025	MW152	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	9. Off-Site	01 Dec 2023	MW153	Normal	EM2321582	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	9. Off-Site	12 Jun 2025	MW153	Normal	1232587	<20	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
#1 Individual compounds have been assessed through the sum of PFOS+PFHxS
#2 NHMRC ADWG (amended 2013) Aesthetic
#3 NHMRC ADWG (amended 2013) Human Health
#4 WHO (2011) Drinking Water Guidelines
#5 US EPA RSL 2025 - Tap Water Quality
#6 NZ Drinking Water 2008
#7 NHMRC ADWG (amended 2013) Human Health (AF x 10)
#8 WHO (2011) Drinking Water Guidelines (AF x 10)
#9 US EPA RSL 2025 - Tap Water Quality (AF x 10)
#10 NZ Drinking Water 2008 (AF x 10)

Table T7 - Additional Groundwater Data - Ecosystems, Irrigation, Buildings and Stock Watering
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| | Aliphatic Hydrocarbons | | | | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Per- and Poly-fluoroalkyl Subs | | | | | | | | | | | | | | | | | | |

Table T7 - Additional Groundwater Data - Ecosystems, Irrigation, Buildings and Stock Watering
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	Perfluorooctane Sulfonamide (FOSA)	N-Methyl Perfluorooctane Sulfonamidoethanol (NMeFOSE)	N-Ethyl Perfluorooctane Sulfonamidoethanol (NEtFOSE)	Perfluorooctane Sulfonamide	Perfluorooctane Sulfonic Acid (PFOS)	Perfluorooctane Sulfonamidoacetic Acid (FOSAA)	N-Methyl Perfluorooctane Sulfonamidoacetic Acid (NMeFOSAA)	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (NEtFOSAA)	Perfluorohexane Sulfonic acid (PFHxS)	Perfluorobutane Sulfonic acid (PFBS)	6:2 Fluorotelomer Sulfonic acid (6:2 FTS)	8:2 Fluorotelomer Sulfonic acid (8:2 FTS)	10:2 Fluorotelomer Sulfonic acid (10:2 FTS)	Sum PFHxS + PFOS	Sum of PFAS	Sum of WA DWER PFAS (17)	Sum of eleven PFAS (PFHxS + PFOS + PFOA)	Sum of US EPA PFAS (PFOS + PFOA)	PFHxA	Chloride	Calcium	Calcium (filtered)	Magnesium	Magnesium (filtered)	Potassium	Potassium (filtered)	Sodium	Sodium (filtered)	Sulfate as SO4	Sulfate as SO4 (Turbidimetric) (filtered)	Total Anions	Total Cations	Ionic Balance	Hydroxide Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Cyanide (free)	Cyanide Total	Weak Acid Dissociable Cyanide	3/4 Methylphenol (Meta-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3/4 Methylphenol (Meta-Cresol)	Total Cresols	2-Methylphenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,5-Dichlorophenol	3-Chloro-4-Methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	3-Chloro-5-Methylphenol	Pentachlorophenol	2,3,4,6-Tetrachlorophenol	2,4-Dinitrophenol
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	0.002	0.005	0.005	0.005	0.005	0.002	0.002	0.001	0.005	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.005	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	1	0.01	0.01	0.01	1	1	1	1	0.004	4	0.004	2	1	1	1	6	10	1	1	1	1	1	1	1	1	1	30	2	10	30
PFAS NEMP 2025 Interim marine 95%																																																													
Standards Australia - AS2159-2009 Buildings and Structures																			6,000									1,000	1,000																																
Ecosystem Protection (90%)																																						0.007[4]									2[2]	120[2]	2[2]	34[2]		3[2]	4[2]		33[4]	10[2]	45[4]
Irrigation																																																											
Stock Watering																												1,000[3]	1,000[3]									2,000[3]																												

| Location Code | Assessment Area | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

Table T7 - Additional Groundwater Data - Ecosystems, Irrigation, Buildings and Stock Watering
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	Nutrients				Hydrocarbon Gases	TRH						UNKNOWN	Ferrous/Ferric Iron	Total Recoverable Hydrocarbons - Silica Gel					Total Petroleum Hydrocarbons - Silica Gel				Total Petroleum Hydrocarbons (CWG-1)		Chlorinated Hydrocarbons												Sulfonated Compounds	Organophosphorus Pesticides (OP)															
	2,6-Di-t-butyl-4-methylphenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (high-level)	Sum of Phenols (non-halogenated)	Ammonia (as N)	Nitrate (as N)	Total Kjeldahl Nitrogen	Phosphorus total (as P)	Methane	Aliphatic >C08-C21	Aliphatic >C21-C36	Aromatic >C14-C21	Aromatic >C21-C35	Aliphatic >C12-C16	Aromatic >C12-C16	Tri-n-butyltin	Ferrous Ion	>C10-C16 fraction (Silica Gel)	>C16-C34 (Heavy Hydrocarbons)(F2) (Silica Gel)	>C16-C34 fraction (Silica Gel)	>C34-C40 fraction (Silica Gel)	>C10-C40 fraction (sum) (Silica Gel)	>C10-C14 fraction (Silica Gel)	>C15-C28 fraction (Silica Gel)	>C29-C36 fraction (Silica Gel)	>C10-C36 fraction (sum) (Silica Gel)	Aliphatic >C8-C10	Aliphatic >C21-C36	Benzal Chloride	Benzotrichloride	Hexachlorocyclohexane, gamma-	Hexachloroethane	Hexachlorobenzene	Pentachlorobenzene	Chlorinated Hydrocarbons (sum)	Other chlorinated pesticides (sum)	Carbon disulfide	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenithion	Malathion	Pirimiphos-ethyl	Prothiofos	Aldrin	Dieldrin	Endrin + Dieldrin	a-BHC
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	100	30	100	30	10	100	0.01	0.01	0.2	0.01	10	100	100	50	50	50	50	12.5	0.05	50	100	100	100	100	50	100	50	50	50	50	0.1	0.1	5	2	2	2	5	5	1	2	2	2	2	2	2	2	2	2	2	0.2	0.2	0.2	0.2
PFAS NEMP 2025 interim marine 95%																																																							
Standards Australia - AS2159-2009 Buildings and Structures																																																					
Ecosystem Protection (90%)			58[#8]					1.2[#5]											0.006[#3]																				20[#3]			0.04[#5]		0.01[#3]			0.15[#3]			0.05[#3]			0.003[#3]	0.01[#3]		25[#5]
Irrigation																																																					
Stock Watering																																																					

| Location Code | Assessment Area | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

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Macquarie Point Development Project

	Oxygenated Compounds							Physico-Chemical Parameters		Benzidine	Organotins	TPH								Anilines								Haloethers				
	C6-C10 fraction	Tetrahydrofuran	2- Propanone (Acetone)	Vinyl acetate	2-Butanone (MEK)	2- Hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Total Dissolved Solids	Electrical Conductivity (lab)	3,3-Dichlorobenzidine	Tri-n-butyltin ion TBT	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C6-C10	Aromatic >C10-C12	Aromatic >C7-C8	Aromatic >C6-C7	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Tributyltin	4-Bromophenyl phenyl ether	Bis(2-Chloroisopropyl)ether	Bis(2-Chloroethoxy) methane	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	2	5	50	5	50	5	10	10	2	0.0000022	20	20	20	50	5	50	1	1	4	4	2	2	2	2	2	5	2	5	2	2	2
PFAS NEMP 2025 Interim marine 95%																																
Standards Australia - AS2159-2009 Buildings and Structures																																
Ecosystem Protection (90%)							123,000[#3]			0.5[#1]	0.000008[#2]													[#8]			2.6[#9]					
Irrigation																																
Stock Watering																																

Location Code	Assessment Area	Date	Field ID	Sample Type	Lab Report Number																													
MW124A	1. The Goods Shed and Yard	05 Dec 2023	MW124A	Normal	EM2321824	<20	-	-	-	-	-	-	381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW124B	1. The Goods Shed and Yard	05 Dec 2023	MW124B	Normal	EM2321824	<20	-	-	-	-	-	-	952	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	02 Dec 2022	MW127A	Normal	EM2224108	<20	-	-	-	-	-	-	2,140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	30 Nov 2023	MW127A	Normal	EM2321582	<20	<2	-	<50	<50	<50	<50	2,080	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW127A	1. The Goods Shed and Yard	30 Nov 2023	QA102	Field D	EM2321582	<20	<2	-	<50	<50	<50	<50	2,020	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW127A	1. The Goods Shed and Yard	30 Nov 2023	QA202	Interlab_D	1049962	<20	-	-	-	-	-	-	2,200	-	-	-	<20	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	19 Jun 2025	MW127A	Normal	1235243	<20	-	-	-	-	-	-	2,400	3,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127B	1. The Goods Shed and Yard	02 Dec 2022	MW127B	Normal	EM2224108	<20	-	-	-	-	-	-	307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127B	1. The Goods Shed and Yard	30 Nov 2023	MW127B	Normal	EM2321582	<20	-	-	-	-	-	-	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW55	1. The Goods Shed and Yard	30 Nov 2023	MW55	Normal	EM2321582	<20	-	-	-	-	-	-	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW55	1. The Goods Shed and Yard	19 Jun 2025	MW55	Normal	1235243	<20	-	-	-	-	-	-	2,500	3,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG1	2. The Escarpment	17 Jun 2025	BG1	Normal	1234320	<20	-	-	-	-	-	-	1,300	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	25 Jun 2025	MW120A	Normal	1240646	280	-	-	-	-	-	-	2,000	3,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	17 Jun 2025	MW194	Normal	1234320	<20	-	-	-	-	-	-	1,500	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW121	3. The Promenade and Underground Carpark	18 Jun 2025	MW121	Normal	1234988	<20	-	-	-	-	-	-	830	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	MW146	Normal	EM2321407	<20	<2	-	<50	<50	<50	<50	735	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	QA101	Field_D	EM2321407	<20	<2	-	<50	<50	<50	<50	583	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	QA201	Interlab_D	1049877	<20	<5	-	<5	-	<5	<5	830	-	<5	-	<20	<20	<20	<50	<10	<50	<1	<1	<5	-	-	-	<5	-	<5	-	<5	<5	<5	<5
MW174	3. The Promenade and Underground Carpark	30 Nov 2022	MW174	Normal	EM2224108	<20	-	-	-	-	-	-	634	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW175	3. The Promenade and Underground Carpark	30 Nov 2023	MW175	Normal	EM2321407	<20	-	-	-	-	-	-	714	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW176	3. The Promenade and Underground Carpark	30 Nov 2023	MW176	Normal	EM2321407	<20	-	-	-	-	-	-	794	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177A	3. The Promenade and Underground Carpark	25 Sep 2024	MW177_240925	Normal	1143224	<20	-	-	-	-	-	-	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	17 Jun 2025	MW182	Normal	1234320	<20	-	-	-	-	-	-	1,000	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	17 Jun 2025	MW183	Normal	1234320	<20	-	-	-	-	-	-	680	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	18 Jun 2025	MW184	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	MW186	Normal	1240646	<20	-	-	-	-	-	-	710	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	QC110	Field_D	1240646	<20	-	-	-	-	-	-	610	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	QC210	Interlab_D	EM2512123	<20	-	-	-	-	-	-	819	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	18 Jun 2025	MW191	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	3. The Promenade and Underground Carpark	02 Dec 2022	MW36	Normal	EM2224108	<20	-	-	-	-	-	-	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	3. The Promenade and Underground Carpark	18 Jun 2025	MW36	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	06 Dec 2023	MW155	Normal	EM2321824	<20	-	-	-	-	-	-	992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	19 Jun 2025	MW155	Normal	1235243	<20	-	-	-	-	-	-	5,700	9,200	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	19 Jun 2025	MW155_FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	4. The Precinct North	20 Jun 2025	MW167	Normal	1235189	<20	-	-	-	-	-	-	1,500	2,300	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
MW167	4. The Precinct North	20 Jun 2025	MW167_FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW190	4. The Precinct North	17 Jun 2025	MW190	Normal	1234320	<20	-	-	-	-	-	-	720	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW192	4. The Precinct North	18 Jun 2025	MW192	Normal	1234988	<20	-	-	-	-	-	-	840	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rh2	4. The Precinct North	18 Jun 2025	Rh2	Normal	1234988	<20	-	-	-	-	-	-	2,800	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW02	4. The Precinct North	17 Jun 2025	TW02	Normal	1234320	<20	-	-	-	-	-	-	12,000	29,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	5. The Precinct South	04 Dec 2023	MW125A	Normal	EM2321824	<20	-	-	-	-	-	-	314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	5. The Precinct South	24 Jun 2025	MW125A	Normal	1237216	<20	-	-	-	-	-	-	530	780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125B	5. The Precinct South	04 Dec 2023	MW125B	Normal	EM2321824	<20	-	-	-	-	-	-	361	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	05 Dec 2023	MW126A	Normal	EM2321824	<20	-	-	-	-	-	-	994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	MW126A	Normal	1237216	<20	-	-	-	-	-	-	1,000	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	QC108	Field_D	1237216	<20	-	-	-	-	-	-	1,000	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	QC208	Interlab_D	EM2511596	<20	-	-	-	-	-	-	1,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126B	5. The Precinct South	05 Dec 2023	MW126B	Normal	EM2321824	20	-	-	-	-	-	-	1,180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	5. The Precinct South	06 Dec 2023	MW154	Normal	EM2321824	130	-	-	-	-	-	-	1,020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	06 Dec 2023	MW16	Normal	EM2321824	600	-	-	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	MW16	Normal	1236601	670	-	-	-	-	-	-	170	350	-	-	-	440	170	<50	50	<50	1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	MW16_FILTERED	Normal	1236601	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC107	Field_D	1241421	450	-	-	-	-	-	-	180	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC107_FILTERED	Field_D	1241421	<20	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC207	Interlab_D	EM2512174	490	-	-	-	-	-	-	217	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC207_FILTERED	Interlab_D	EM2512174	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	5. The Precinct South	30 Nov 2023	MW162	Normal	EM2321407	<20	-	-	-	-	-	-	1,810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW163	5. The Precinct South	05 Dec 2023	MW163	Normal	EM2321824	<20	-	-	-	-	-	-	196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	04 Dec 2023	MW164	Normal	EM2321824	40	-	-	-	-	-	-	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	23 Jun 2025	MW164	Normal	1236601	<20	-	-	-	-	-	-	300	630	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	23 Jun 2025	MW164_FILTERED	Normal	1236601	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW188	5. The Precinct South	24 Jun 2025	MW188	Normal	1237216	<20	-	-	-	-	-	-	1,000	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	MW193	Normal	1237216	<20	-	-	-	-	-	-	750	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	QC109	Field_D	1237216	<20	-	-	-	-	-	-	780	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	QC209	Interlab_D	EM2511596	<20	-	-	-	-	-	-	798	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	5. The Precinct South	06 Dec 2023	MW6	Normal	EM2321824	<20	-	-	-	-	-	-	466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	5. The Precinct South	23 Jun 2025	MW6	Normal	1236601	<20	-	-	-	-	-	-	480	960	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	05 Dec 2023	MW60	Normal	EM2321824	<20	-	-	-	-	-	-	953	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	24 Jun 2025	MW60	Normal	1237216	<20	-	-	-	-	-	-	960	1,600	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	24 Jun 2025	MW60_FILTERED	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	5. The Precinct South	29 Nov 2023	RN4	Normal	EM2321407	<20	-	-	-	-	-	-	1,440	-	-	-	<20	<20	<20	<50	<5	<50	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	5. The Precinct South	18 Jun 2025	RN4	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	5. The Precinct South	05 Dec 2023	S4	Normal	EM2321824	120	-	-	-	-	-	-	813	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	5. The Precinct South	06 Dec 2023	S6	Normal	EM2321824	30	-	-	-	-	-	-	1,320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2_PS	6. The Gateway	19 Jun 2025	BH2_PS	Normal	1235243	<20	-	-	-	-	-	-	1,400	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW100	6. The Gateway	01 Dec 2022	MW100	Normal	EM2224108	<20	-	-	-	-	-	-	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW101	6. The Gateway	24 Jun 2025	MW101	Normal	1237216	<20	-	-	-	-	-	-	580	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW102	6. The Gateway	01 Dec 2022	MW102	Normal	EM2224108	<20	-	-	-	-	-	-	998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW102	6. The Gateway	18 Jun 2025	MW102	Normal	1234988	<20	-	-	-	-	-	-	1,300	2,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	6. The Gateway	30 Nov 2022	MW122	Normal	EM2224108	<20	-	-	-	-	-	-	765	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	6. The Gateway	19 Jun 2025	MW122	Normal	1235243	<20	-	-	-	-	-	-	1,400	2,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW128A	6. The Gateway	25 Jun 2025	MW128A	Normal	1240646	50	-	-	-	-	-	-	2,300	2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW148	6. The Gateway	19 Jun 2025	MW148	Normal	1235243	<20	-	-	-	-	-	-	1,200	1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	6. The Gateway	01 Dec 2022	MW173	Normal	EM2224108	<20	-	-	-	-	-	-	607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	6. The Gateway	18 Jun 2025	MW173	Normal	1234988	<20	-	-	-	-	-	-	950	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW196	6. The Gateway	25 Jun 2025	MW196	Normal	1240646	<20	-	-	-	-	-	-	780	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW197	6. The Gateway	25 Jun 2025	MW197	Normal	1240646	260	-	-	-	-	-	-	480	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW198	6. The Gateway	25 Jun 2025	MW198	Normal	1240646	<20	-	-	-	-	-	-	1,300	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	6. The Gateway	30 Nov 2022	RS6	Normal	EM2224108	<20	-	-	-	-	-	-	721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	6. The Gateway	19 Jun 2025	RS6	Normal	1235243	<20	-	-	-	-	-	-	750	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	25 Sep 2024	MW159_240925	Normal	1143224	<20	-	-	-	-	-	-	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	20 Jun 2025	MW159	Normal	1235189	<20	-	-	-	-	-	-	780	1,300	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	20 Jun 2025	MW159_FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	7. Audit Area 4 East	25 Sep 2024	MW160_240925	Normal	1143224	<20	-	-	-	-	-	-	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	7. Audit Area 4 East	17 Jun 2025	MW160	Normal	1234320	<20	-	-	-	-	-	-	530	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	7. Audit Area 4 East	25 Sep 2024	MW161_240925	Normal	1143224	<20	<5	<5	-	<5	-	<5	620	-	<5	-	<20	<20	<50	<10	<50	<1	<1	<5	-	-	-	<5	-	<5	<5	<5	<5	<5	<5	<5	<5
MW161	7. Audit Area 4 East	19 Jun 2025	MW161	Normal	1235243	<20	-	-	-	-	-	-	560	810	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	7. Audit Area 4 East	19 Jun 2025	MW161_FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW189	7. Audit Area 4 East	18 Jun 2025	MW189	Normal	1234988	<20	-	-	-	-	-	-	610	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	7. Audit Area 4 East	17 Jun 2025	NR1	Normal	1234320	<20	-	-	-	-	-	-	720	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	7. Audit Area 4 East	20 Jun 2025	NR2A	Normal	1235189	<20	-	-	-	-	-	-	800	1,400	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	7. Audit Area 4 East	20 Jun 2025	NR2A_FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW178	8. Regatta Point	26 Sep 2024	MW178_240926	Normal	1143888	<20	<5	<5	-	<5	-	<5	1,000	-	<5	<0.005	-	<20	<20	<50	<10	<50	<1	<1	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW178	8. Regatta Point	26 Sep 2024	QC05_240926	Field_D	1143888	<20	<5	<5	-	<5	-	<5	1,100	-	<5	<0.005	-	-	-	-	-	-	-	-	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW178	8. Regatta Point	26 Sep 2024	QC06_240926	Interlab_D	EM2416713	<20	<2	-	<50	<50	<50	<50	1,050	-	<2	<0.000001	-	-	-	-	-	-	-	-	<4	<4	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2
MW178	8. Regatta Point	17 Jun 2025	MW178	Normal	1234320	<20	-	-	-	-	-	-	660	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	8. Regatta Point	26 Sep 2024	MW179_240926	Normal	1143888	<20	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	8. Regatta Point	17 Jun 2025	MW179	Normal	1234320	<20	-	-	-	-	-	-	500	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	8. Regatta Point	25 Sep 2024	MW180_240925	Normal	1143224	<20	-	-	-	-	-	-	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	8. Regatta Point	18 Jun 2025	MW180	Normal	1234988	<20	-	-	-	-	-	-	28,000	41,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	9. Off-Site	02 Dec 2022	MW123A	Normal	EM2224108	<20	-	-	-	-	-	-	405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	9. Off-Site	12 Jun 2025	MW123A	Normal	1232587	<20	-	-	-	-	-	-	420	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123B	9. Off-Site	02 Dec 2022	MW123B	Normal	EM2224108	<20	-	-	-	-	-	-	26,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	9. Off-Site	01 Dec 2022	MW130_GHD	Normal	EM2224108	2,040	-	-	-	-	-	-	835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	9. Off-Site	12 Jun 2025	MW130_GHD	Normal	1232587	2,100	-	-	-	-	-	-	990	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	9. Off-Site	01 Dec 2022	MW131_GHD	Normal	EM2224108	<20	-	-	-	-	-	-	873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	9. Off-Site	01 Dec 2022	MW132_GHD	Normal	EM2224108	350	-	-	-	-	-	-	756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	9. Off-Site	12 Jun 2025	MW132_GHD	Normal	1232587	560	-	-	-	-	-	-	860	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	9. Off-Site	01 Dec 2022	MW133_GHD	Normal	EM2224108	30	-	-	-	-	-	-	664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	9. Off-Site	12 Jun 2025	MW133_GHD	Normal	1232587	<20	-	-	-	-	-	-	750	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2022	MW150	Normal	EM2224108	<20	-	-	-	-	-	-	598	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2022	QC101	Field_D	EM2224108	<20	-	-	-	-	-	-	643	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec

Table T8 - Additional Groundwater Data - Vapour Intrusion
Review of Site Suitability Statements 2025
Macquarie Point Development Project

	Total Recoverable Hydrocarbons						Monocyclic Aromatic Hydrocarbons																Polynuclear Aromatic Hydrocarbons																				Hydrocarbon Gases	TRH					
	C6-C10 fraction	>C10-C16 fraction (minus naphthalene) (F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p- Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total MAH	Total BTEX	Naphthalene (BTEX)	Benzo(a)pyrene TEQ[#] calc (Zero)	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Naphthalene (VOC)	Phenanthrene	Anthracene	Fluoranthene	Benzo(a)anthracene	Benzo(b)&(j)fluoranthene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenz(a,h)anthracene	Sum of PAHs	Methane	Naphtha! - >C10-C21	Naphtha! - >C21-C36	Naphtha! - >C10-C21	Kerosab - >C21-C36	Naphtha! - >C10-C16	Kerosab - >C13-C16
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	20	20	50	50	100	100	1	1	1	2	1	1	1	1	5	5	5	5	5	1	1	3	1	5	0.5	1	1	1	1	1	1	1	5	1	1	1	1	1	1	1	1	5	0.5	10	100	100	50	50	50	50
Vapour Intrusion - Commercial/Industrial (CRC CARE)		4,100[#5]	4,900[#5]				NL [#1]	NL [#1]				NL [#1]													NL [#5]																						6,000[#4]	452,000[#3]
Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)		NL [#2]	NL [#2]				NL [#2]	NL [#2]	NL [#2]			NL [#2]													NL [#5]																						1,740,000[#4]	129,000,000[#3]
Vapour Intrusion - Recreation (CRC CARE)		NL [#3]					NL [#3]	NL [#3]	NL [#3]			NL [#3]													NL [#5]																						820,000[#4]	61,900,000[#3]
Vapour Intrusion - Residential (CRC CARE)		640[#3]	760[#3]				800[#3]	NL [#4]	NL [#4]			NL [#4]													NL [#5]																						953[#4]	71,900[#3]
British Geological Survey - Methane Intrusion from Groundwater																																											1600						

| Location Code | Assessment Area | Date | Field ID | Sample Type | Lab Report Number | | | | | | | | | | | | | | | | | | |

Table T9 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

| | Total Recoverable Hydrocarbons | | | | | | | | Total Petroleum Hydrocarbons | | | | | Metals | | | | | | | |

Table T9 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

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Table T9 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

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Table T9 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

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Table T9 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

| | Organochlorine Pesticides (OC) | | | | | | | | | | | | | | | | | | | | | Halogenated Aromatic Compounds | | | | | | | | | | | | | | | | | | Halogenated Aliphatic Compounds | | | | | | | | | | | | | | | | | | |

Table T9 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

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Table T3 - Additional Groundwater Data - Site Specific Remediation Criteria
Review of Site Suitability Statements 2026
Macquarie Point Development Project

	Oxygenated Compounds							Physico-Chemical Parameters		Benzidine	Organotins	TPH							Anilines								Haloethers				
	C6-C10 fraction	Benzene#1a	2-Propanone (Acetone)	Vinyl acetate	2-Butanone (MEK)	2-Hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Total Dissolved Solids	Electrical conductivity (lab)	3,3-Dichlorobenzidine	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	Aromatic >C7-C8	Aromatic >C5-C7	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Trifluralin	4-Bromophenyl phenyl ether	Bis(2-Chloroisopropyl)ether	Bis(2-Chloroethoxy) Methane	Bis(2-chloroethoxy) Pentane	4-Chlorophenyl phenyl ether
EQL	20	2	5	50	5	50	5	10	10	2	0.000002	20	20	20	50	5	50	1	1	4	4	2	2	2	2	2	5	2	5	2	2	2
Potential Future Comm (unknown constr or multi-storey bldg)													NL [#1]	NL [#1]	NL [#1]	NL [#1]	NL [#1]															
Potential Future Comm: Light Ind Workers (low-rise slab-on-grade)													NL [#1]	NL [#1]	NL [#1]	NL [#1]	NL [#1]															
Potential Future Comm: Light Ind Workers (working within a basement)													16,000,000 [#2]	79,000 [#2]	40,000 [#2]	360,000 [#2]	190,000 [#2]								890,000 [#2]		8,000 [#2]					
Potential Future Maintenance Workers													NL [#1]	NL [#1]	NL [#1]	NL [#1]	NL [#1]															
Potential Future Recreational Open Space Users													NL [#1]	NL [#1]	NL [#1]	NL [#1]	NL [#1]															
Potential Future Residents (bldg with a basement car park)													NL [#1]	NL [#1]	NL [#1]	NL [#1]	NL [#1]															
Potential Future Residents (low rise slab-on-grade)													NL [#1]	NL [#1]	NL [#1]	30,000 [#2]	NL [#1]															
Potential Future Residents (unknown constr or multi-storey bldg)													NL [#1]	NL [#1]	800 [#2]	30,000 [#2]	30,000 [#2]															

Location Code	Assessment Area	Date	Field ID	Sample Type	Lab Report Number																														
MW124A	1. The Goods Shed and Yard	05 Dec 2023	MW124A	Normal	EM2321824	<20	-	-	-	-	-	-	381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW124B	1. The Goods Shed and Yard	05 Dec 2023	MW124B	Normal	EM2321824	<20	-	-	-	-	-	-	962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	02 Dec 2022	MW127A	Normal	EM2224108	<20	-	-	-	-	-	-	2,140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	30 Nov 2023	MW127A	Normal	EM2321582	<20	<2	-	<50	<50	<50	<50	2,080	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<1	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW127A	1. The Goods Shed and Yard	30 Nov 2023	QA102	Field_D	EM2321582	<20	<2	-	<50	<50	<50	<50	2,020	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<1	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW127A	1. The Goods Shed and Yard	30 Nov 2023	QA202	Interlab_D	1049962	<20	-	-	-	-	-	-	2,200	-	-	-	<20	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
MW127A	1. The Goods Shed and Yard	19 Jun 2025	MW127A	Normal	1235243	<20	-	-	-	-	-	-	2,400	3,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127B	1. The Goods Shed and Yard	02 Dec 2022	MW127B	Normal	EM2224108	<20	-	-	-	-	-	-	307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127B	1. The Goods Shed and Yard	30 Nov 2023	MW127B	Normal	EM2321582	<20	-	-	-	-	-	-	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW55	1. The Goods Shed and Yard	30 Nov 2023	MW55	Normal	EM2321582	<20	-	-	-	-	-	-	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW55	1. The Goods Shed and Yard	19 Jun 2025	MW55	Normal	1235243	<20	-	-	-	-	-	-	2,500	3,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG1	2. The Escarpment	17 Jun 2025	BG1	Normal	1234320	<20	-	-	-	-	-	-	1,300	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	2. The Escarpment	25 Jun 2025	MW120A	Normal	1240646	280	-	-	-	-	-	-	2,000	3,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW194	2. The Escarpment	17 Jun 2025	MW194	Normal	1234320	<20	-	-	-	-	-	-	1,500	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW121	3. The Promenade and Underground Carpark	18 Jun 2025	MW121	Normal	1234988	<20	-	-	-	-	-	-	830	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	MW146	Normal	EM2321407	<20	<2	-	<50	<50	<50	<50	735	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<1	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	QA101	Field_D	EM2321407	<20	<2	-	<50	<50	<50	<50	583	-	<2	-	<20	<20	<20	<50	<5	<50	<5	<5	<1	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW146	3. The Promenade and Underground Carpark	29 Nov 2023	QA201	Interlab_D	1049877	<20	<5	-	<5	<5	<5	<5	830	-	<5	-	<20	<20	<20	<50	<10	<50	<1	<1	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW174	3. The Promenade and Underground Carpark	30 Nov 2022	MW174	Normal	EM2224108	<20	-	-	-	-	-	-	634	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW175	3. The Promenade and Underground Carpark	30 Nov 2023	MW175	Normal	EM2321407	<20	-	-	-	-	-	-	714	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW176	3. The Promenade and Underground Carpark	30 Nov 2023	MW176	Normal	EM2321407	<20	-	-	-	-	-	-	784	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177A	3. The Promenade and Underground Carpark	25 Sep 2024	MW177_240925	Normal	1143224	<20	-	-	-	-	-	-	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW182	3. The Promenade and Underground Carpark	17 Jun 2025	MW182	Normal	1234320	<20	-	-	-	-	-	-	1,000	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW183	3. The Promenade and Underground Carpark	17 Jun 2025	MW183	Normal	1234320	<20	-	-	-	-	-	-	680	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW184	3. The Promenade and Underground Carpark	18 Jun 2025	MW184	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	MW186	Normal	1240646	<20	-	-	-	-	-	-	710	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	QC110	Field_D	1240646	<20	-	-	-	-	-	-	610	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW186	3. The Promenade and Underground Carpark	25 Jun 2025	QC210	Interlab_D	EM2512123	<20	-	-	-	-	-	-	819	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW191	3. The Promenade and Underground Carpark	18 Jun 2025	MW191	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	3. The Promenade and Underground Carpark	02 Dec 2022	MW36	Normal	EM2224108	<20	-	-	-	-	-	-	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	3. The Promenade and Underground Carpark	18 Jun 2025	MW36	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	06 Dec 2023	MW155	Normal	EM2321824	<20	-	-	-	-	-	-	392	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	19 Jun 2025	MW155	Normal	1235243	<20	-	-	-	-	-	-	5,700	9,200	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
MW155	4. The Precinct North	19 Jun 2025	MW155_FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	4. The Precinct North	20 Jun 2025	MW167	Normal	1235189	<20	-	-	-	-	-	-	1,500	2,300	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
MW167	4. The Precinct North	20 Jun 2025	MW167_FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW190	4. The Precinct North	17 Jun 2025	MW190	Normal	1234320	<20	-	-	-	-	-	-	720	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW192	4. The Precinct North	18 Jun 2025	MW192	Normal	1234988	<20	-	-	-	-	-	-	840	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	4. The Precinct North	18 Jun 2025	RN2	Normal	1234988	<20	-	-	-	-	-	-	2,800	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW02	4. The Precinct North	17 Jun 2025	TW02	Normal	1234320	<20	-	-	-	-	-	-	12,000	29,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	5. The Precinct South	04 Dec 2023	MW125A	Normal	EM2321824	<20	-	-	-	-	-	-	314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	5. The Precinct South	24 Jun 2025	MW125A	Normal	1237216	<20	-	-	-	-	-	-	530	780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125B	5. The Precinct South	04 Dec 2023	MW125B	Normal	EM2321824	<20	-	-	-	-	-	-	361	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	05 Dec 2023	MW126A	Normal	EM2321824	<20	-	-	-	-	-	-	994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	MW126A	Normal	1237216	<20	-	-	-	-	-	-	1,000	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	QC108	Field_D	1237216	<20	-	-	-	-	-	-	1,000	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	5. The Precinct South	24 Jun 2025	QC208	Interlab_D	EM2511596	<20	-	-	-	-	-	-	1,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126B	5. The Precinct South	05 Dec 2023	MW126B	Normal	EM2321824	20	-	-	-	-	-	-	1,180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	5. The Precinct South	06 Dec 2023	MW154	Normal	EM2321824	130	-	-	-	-	-	-	1,020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	06 Dec 2023	MW16	Normal	EM2321824	600	-	-	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC107	Field_D	1241421	450	-	-	-	-	-	-	180	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC107_FILTERED	Field_D	1241421	<20	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC207	Interlab_D	EM2512174	490	-	-	-	-	-	-	217	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	QC207_FILTERED	Interlab_D	EM2512174	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	MW16	Normal	1236601	670	-	-	-	-	-	-	170	350	-	-	-	440	170	<50	50	<50	1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	5. The Precinct South	23 Jun 2025	MW16_FILTERED	Normal	1236601	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	5. The Precinct South	30 Nov 2023	MW162	Normal	EM2321407	<20	-	-	-	-	-	-	1,810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW163	5. The Precinct South	05 Dec 2023	MW163	Normal	EM2321824	<20	-	-	-	-	-	-	196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	04 Dec 2023	MW164	Normal	EM2321824	40	-	-	-	-	-	-	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	23 Jun 2025	MW164	Normal	1236601	<20	-	-	-	-	-	-	300	630	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	5. The Precinct South	23 Jun 2025	MW164_FILTERED	Normal	1236601	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW188	5. The Precinct South	24 Jun 2025	MW188	Normal	1237216	<20	-	-	-	-	-	-	1,000	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	QC109	Field_D	1237216	<20	-	-	-	-	-	-	780	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	QC209	Interlab_D	EM2511596	<20	-	-	-	-	-	-	798	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW193	5. The Precinct South	24 Jun 2025	MW193	Normal	1237216	<20	-	-	-	-	-	-	750	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	5. The Precinct South	06 Dec 2023	MW6	Normal	EM2321824	<20	-	-	-	-	-	-	466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	5. The Precinct South	23 Jun 2025	MW6	Normal	1236601	<20	-	-	-	-	-	-	480	960	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	05 Dec 2023	MW60	Normal	EM2321824	<20	-	-	-	-	-	-	953	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	24 Jun 2025	MW60	Normal	1237216	<20	-	-	-	-	-	-	960	1,600	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW60	5. The Precinct South	24 Jun 2025	MW60_FILTERED	Normal	1237216	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	5. The Precinct South	29 Nov 2023	RN4	Normal	EM2321407	<20	-	-	-	-	-	-	1,440	-	-	-	-	<20	<20	<50	<5	<50	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	5. The Precinct South	18 Jun 2025	RN4	Normal	1234988	<20	-	-	-	-	-	-	1,100	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	5. The Precinct South	05 Dec 2023	S4	Normal	EM2321824	120	-	-	-	-	-	-	813	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	5. The Precinct South	06 Dec 2023	S6	Normal	EM2321824	30	-	-	-	-	-	-	1,320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2_PS	6. The Gateway	19 Jun 2025	BH2_PS	Normal	1235243	<20	-	-	-	-	-	-	1,400	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW100	6. The Gateway	01 Dec 2022	MW100	Normal	EM2224108	<20	-	-	-	-	-	-	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW101	6. The Gateway	24 Jun 2025	MW101	Normal	1237216	<20	-	-	-	-	-	-	580	780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW102	6. The Gateway	01 Dec 2022	MW102	Normal	EM2224108	<20	-	-	-	-	-	-	998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW102	6. The Gateway	18 Jun 2025	MW102	Normal	1234988	<20	-	-	-	-	-	-	1,300	2,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	6. The Gateway	30 Nov 2022	MW122	Normal	EM2224108	<20	-	-	-	-	-	-	765	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	6. The Gateway	19 Jun 2025	MW122	Normal	1235243	<20	-	-	-	-	-	-	1,400	2,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW128A	6. The Gateway	25 Jun 2025	MW128A	Normal	1240646	50	-	-	-	-	-	-	2,300	2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW148	6. The Gateway	19 Jun 2025	MW148	Normal	1235243	<20	-	-	-	-	-	-	1,200	1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	6. The Gateway	01 Dec 2022	MW173	Normal	EM2224108	<20	-	-	-	-	-	-	607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW173	6. The Gateway	18 Jun 2025	MW173	Normal	1234988	<20	-	-	-	-	-	-	950	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW196	6. The Gateway	25 Jun 2025	MW196	Normal	1240646	<20	-	-	-	-	-	-	780	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW197	6. The Gateway	25 Jun 2025	MW197	Normal	1240646	260	-	-	-	-	-	-	480	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW198	6. The Gateway	25 Jun 2025	MW198	Normal	1240646	<20	-	-	-	-	-	-	1,300	1,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	6. The Gateway	30 Nov 2022	RS6	Normal	EM2224108	<20	-	-	-	-	-	-	721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	6. The Gateway	19 Jun 2025	RS6	Normal	1235243	<20	-	-	-	-	-	-	750	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	25 Sep 2024	MW159_240925	Normal	1143224	<20	-	-	-	-	-	-	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	20 Jun 2025	MW159	Normal	1235189	<20	-	-	-	-	-	-	780	1,300	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	7. Audit Area 4 East	20 Jun 2025	MW159_FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	7. Audit Area 4 East	25 Sep 2024	MW160_240925	Normal	1143224	<20	-	-	-	-	-	-	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	7. Audit Area 4 East	17 Jun 2025	MW160	Normal	1234320	<20	-	-	-	-	-	-	530	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	7. Audit Area 4 East	25 Sep 2024	MW161_240925	Normal	1143224	<20	<5	<5	-	<5	-	<5	620	-	<5	-	<20	<20	<50	<10	<50	<1	<1	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW161	7. Audit Area 4 East	19 Jun 2025	MW161	Normal	1235243	<20	-	-	-	-	-	-	560	810	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	7. Audit Area 4 East	19 Jun 2025	MW161_FILTERED	Normal	1235243	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW189	7. Audit Area 4 East	18 Jun 2025	MW189	Normal	1234988	<20	-	-	-	-	-	-	610	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	7. Audit Area 4 East	17 Jun 2025	NR1	Normal	1234320	<20	-	-	-	-	-	-	720	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	7. Audit Area 4 East	20 Jun 2025	NR2A	Normal	1235189	<20	-	-	-	-	-	-	800	1,400	-	-	-	<20	<20	<50	<10	<50	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	7. Audit Area 4 East	20 Jun 2025	NR2A_FILTERED	Normal	1235189	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW178	8. Regatta Point	26 Sep 2024	MW178 240926	Normal	1143888	<20	<5	<5	-	<5	-	<5	1,000	-	<5	<0.005	-	<20	<20	<50	<10	<50	<1	<1	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW178	8. Regatta Point	26 Sep 2024	QC08_240926	Field_D	1143888	<20	<5	<5	-	<5	-	<5	1,100	-	<5	<0.005	-	-	-	-	-	-	-	-	<5	-	-	-	<5	-	<5	<5	<5	<5	-	<5	<5
MW178	8. Regatta Point	26 Sep 2024	QC06_240926	Interlab_D	EM2416713	<20	<2	-	<50	<50	<50	<50	1,050	-	<2	<0.000002	-	-	-	-	-	-	-	-	<4	<4	<2	<2	<2	<2	<2	<2	-	<2	<2	<2
MW178	8. Regatta Point	17 Jun 2025	MW178	Normal	1234320	<20	-	-	-	-	-	-	660	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	8. Regatta Point	26 Sep 2024	MW179_240926	Normal	1143888	<20	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW179	8. Regatta Point	17 Jun 2025	MW179	Normal	1234320	<20	-	-	-	-	-	-	500	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	8. Regatta Point	25 Sep 2024	MW180_240925	Normal	1143224	<20	-	-	-	-	-	-	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW180	8. Regatta Point	18 Jun 2025	MW180	Normal	1234988	<20	-	-	-	-	-	-	28,000	41,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	9. Off-Site	02 Dec 2022	MW123A	Normal	EM2224108	<20	-	-	-	-	-	-	405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	9. Off-Site	12 Jun 2025	MW123A	Normal	1232587	<20	-	-	-	-	-	-	420	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123B	9. Off-Site	02 Dec 2022	MW123B	Normal	EM2224108	<20	-	-	-	-	-	-	26,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	9. Off-Site	01 Dec 2022	MW130_GHD	Normal	EM2224108	2,040	-	-	-	-	-	-	835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	9. Off-Site	12 Jun 2025	MW130_GHD	Normal	1232587	2,100	-	-	-	-	-	-	990	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	9. Off-Site	01 Dec 2022	MW131_GHD	Normal	EM2224108	<20	-	-	-	-	-	-	873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	9. Off-Site	01 Dec 2022	MW132_GHD	Normal	EM2224108	350	-	-	-	-	-	-	756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	9. Off-Site	12 Jun 2025	MW132_GHD	Normal	1232587	560	-	-	-	-	-	-	860	1,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	9. Off-Site	01 Dec 2022	MW133_GHD	Normal	EM2224108	30	-	-	-	-	-	-	664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	9. Off-Site	12 Jun 2025	MW133_GHD	Normal	1232587	<20	-	-	-	-	-	-	750	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	9. Off-Site	01 Dec 2022	QC101

Analytical Results

Monitoring Zone								1. The Goods Shed & Yard	3. The Promenade & Underground Carpark	3. The Promenade & Underground Carpark	4. The Precinct North	4. The Precinct North	4. The Precinct North	4. The Precinct North	5. The Precinct South	5. The Precinct South
Within Stadium Footprint?								Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Location Code								SV36	SV31	SV32	SV18	SV33	SV34	SV35	SV07	SV25
Implant Depth (current)								2.5	2.5	2.5	2.2	2.5	2.5	2.5	1	1.7
Implant Depth (estimated following excavation)^								1	0	0	1.2	0.5	1	2.5	1	1.7
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630
Field ID								SV36 SC1061	SV31 SC1051	SV32 SC3704	SV18 SC1027	SV33 SC1102	SV34 SC18238	SV35 SC3700	SV07 SC13596	SV25 SC18432
Date								18 Jun 2025	17 Jun 2025	18 Jun 2025	24 Jun 2025	18 Jun 2025	24 Jun 2025	20 Jun 2025	23 Jun 2025	23 Jun 2025
CoPC	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation	CRC CARE 2011 Appendix F HSL A/B Residential (sand) >=0m, <0.99m	CRC CARE 2011 Appendix F HSL A/B Residential (sand) >=1m, <1.99m	CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand) >=0m, <0.99m	CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand) >=1m, <1.99m	CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand) >=0m, <0.99m	CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand) >=1m, <1.99m	CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand) >=1.15m, <1.99m	CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand) >=1.99m, <3.99m							
Total Recoverable Hydrocarbons																
C6-C10 fraction	µg/m3	0									280	44,000	170,000	66,000	480	6,500	260,000	850	71,000
C6-C10 fraction (minus BTEX)(F1)	µg/m3	0									260	44,000	170,000	66,000	480	6,200	260,000	840	71,000
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0									1,300	57,000	97,000	120,000	1,500	1,700	170,000	660	39,000
Monocyclic Aromatic Hydrocarbons																
Benzene	µg/m3	0		995	2,900	356,000	2,370,000	3,720	12,300	762,000	762,000	<2.4	3.4	<6.3	52	<2.3	83	20	<2.5	10
Toluene	µg/m3	0		1,280,000	3,760,000	463,000,000	3,090,000,000	4,790,000	16,000,000	991,000,000	991,000,000	6.4	4.5	<7.6	20	<2.8	57	17	6.7	<3.4
Ethylbenzene	µg/m3	0		334,000	1,080,000	140,000,000	931,000,000	1,250,000	4,620,000	299,000,000	299,000,000	<2.8	6.2	<7.6	18	<2.8	120	9.9	<3	3.8
m&p-Xylene	µg/m3	0										6.5	17	22	38	<6.1	55	28	<6.4	17
o-Xylene	µg/m3	0										<2.8	6.8	<7.6	35	<2.8	33	7.0	<3	4.8
Polynuclear Aromatic Hydrocarbons																
Naphthalene	µg/m3	0		778	2,970	409,000	2,730,000	2,940	12,800	876,000	876,000	<9.9	54	<27	3,200	<9.9	310	<24	<10	19
TO-17.TPHCWG.01 Aliphatic Frac																
Aliphatic EC>8-10	mg/m³	0		233	880	121,000	805,000	881	3,790	259,000	259,000	<0.094	40	140	61	0.25	1.8	240	0.15	51
Other																
Oxygen	%v/v	0.5										14	1.1	8.4	<0.5	7.5	<0.5	2.1	6.9	<0.5
Hydrocarbon Gases																
Methane	%v/v	0.01	1.25									2.31	3.70	10.4	23.5	5.11	75.2	5.46	6.38	35.1
NA																
>C10-C12 Aliphatic_	mg/m³	0										1.2	59	100	120	0.81	1.4	180	0.45	39
>C6-C8 Aliphatic_	mg/m³	0										0.12	1.6	30	4.8	<0.094	2.6	32	0.43	17
>C7-C8 Aromatic	mg/m³	0										0.0064	0.0045	<0.0076	0.020	<0.0028	0.057	0.017	0.0067	<0.0034
Pressure																
Pressure - As received_	No unit	0										12.7	12.0	11.9	12.1	13.0	11.4	13.1	12.1	10.7
TO15 in Canisters + ug/m3 calc																
Vacuum before Analysis	No unit	0										3.88	5.30	5.51	5.10	3.26	6.53	3.06	5.10	7.96
Alcohols																
2-Propanol	µg/m3	0										4,000	970	150	230	<47	210	<110	430	810
TPH																
C10-C12 Fraction	µg/m3	0										1,300	57,000	97,000	120,000	1,500	2,000	170,000	670	39,000
Inorganics																
Carbon Dioxide	%v/v	0.01										4.6	17	7.0	11	7.0	19	3.5	8.3	5.9
Volatile Petroleum Hydrocarbons																
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	µg/m3	0										1,500	640	2,400	1,200	<94	2,200	5,200	330	4,600
>C8 - C10 Aromatic	µg/m3	0		46,400	157,000	20,700,000	138,000,000	174,000	674,000	44,300,000	44,300,000	<94	940	1,200	1,500	<94	2,100	2,000	<99	940
>C10 - C12 Aromatic	µg/m3	0		46,600	176,000	24,200,000	161,000,000	176,000	759,000	51,700,000	51,700,000	160	6,700	6,200	10,000	440	560	16,000	<99	9,300
TPH C5 - C7 Aromatic	µg/m3	0										<2.4	3.4	<6.3	52	<2.3	83	20	<2.5	10

Notes
* A Non Detect Multiplier of 0.5 has been applied.
^ AECOM, 2025d

Analytical Results

Monitoring Zone										5. The Precinct South	5. The Precinct South	5. The Precinct South	6. The Gateway	6. The Gateway	6. The Gateway	6. The Gateway	6. The Gateway	6. The Gateway
Within Stadium Footprint?										No	No	Yes	No	No	No	No	No	Yes
Location Code										SV37	SV38	SV46	SV39	SV40	SV41	SV42	SV43	SV45
Implant Depth (current)										0.15	0.15	1.5	1	1	1	2	2	2
Implant Depth (estimated following excavation)^										0.15	0.15	0	1	1	1	2	2	1
Sample Type										Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number										ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630
Field ID										SV37 SC13631	SV38 SC14157	SV46 SC3610	SV39 SC18442	SV40 SC18433	SV41 SC13616	SV42 SC14108	SV43 SC13597	SV45 SC18439
Date										24 Jun 2025	24 Jun 2025	23 Jun 2025	24 Jun 2025	24 Jun 2025	25 Jun 2025	25 Jun 2025	27 Jun 2025	25 Jun 2025
CoPC	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation	CRC CARE 2011 Appendix F HSL A/B Residential (sand)		CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand)		CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand)		CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand)								
				>=0m, <0.99m	>=1m, <1.99m	>=0m, <0.99m	>=1m, <1.99m	>=0m, <0.99m	>=1m, <1.99m	>=1.15m, <1.99m	>=1.99m, <3.99m							
Total Recoverable Hydrocarbons																		
C6-C10 fraction	µg/m3	0										1,600	22,000	1,400	<140	190	3,100,000	440	200,000	5,200
C6-C10 fraction (minus BTEX)(F1)	µg/m3	0										1,600	22,000	1,400	<140	170	2,600,000	390	94,000	4,800
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0										300	570	680	520	230	80,000	230	10,000	1,300
Monocyclic Aromatic Hydrocarbons																		
Benzene	µg/m3	0		995	2,900	356,000	2,370,000	3,720	12,300	762,000	762,000	<2.5	<2.6	11	<3.6	4.9	290,000	18	77,000	230
Toluene	µg/m3	0		1,280,000	3,760,000	463,000,000	3,090,000,000	4,790,000	16,000,000	991,000,000	991,000,000	6.6	12	4.1	<4.3	5.3	34,000	8.4	2,800	110
Ethylbenzene	µg/m3	0		334,000	1,080,000	140,000,000	931,000,000	1,250,000	4,620,000	299,000,000	299,000,000	<3	<3.1	<3.2	<4.3	<3.1	53,000	4.2	1,200	36
m&p-Xylene	µg/m3	0										<6.4	13	<6.9	<9.4	<6.6	120,000	12	22,000	77
o-Xylene	µg/m3	0										<3	3.8	<3.2	<4.3	<3.1	41,000	4.2	8,000	28
Polynuclear Aromatic Hydrocarbons																		
Naphthalene	µg/m3	0		778	2,970	409,000	2,730,000	2,940	12,800	876,000	876,000	<10	<11	11	<15	<11	44,000	99	6,500	22
TO-17.TPHCWG.01 Aliphatic Frac																		
Aliphatic EC>8-10	mg/m³	0		233	880	121,000	805,000	881	3,790	259,000	259,000	0.84	7.9	0.52	<0.14	<0.1	180	0.16	18	1.3
Other																		
Oxygen	%v/v	0.5										13	2.6	0.9	8.2	17	17	12	<0.5	6.4
Hydrocarbon Gases																		
Methane	%v/v	0.01	1.25									<0.01	2.23	6.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NA																		
>C10-C12 Aliphatic_	mg/m³	0										0.29	0.41	0.77	0.41	0.19	86	<0.11	13	0.82
>C6-C8 Aliphatic_	mg/m³	0										0.53	13	0.55	<0.14	<0.1	2,100	0.13	51	2.6
>C7-C8 Aromatic	mg/m³	0										0.0066	0.012	0.0041	<0.0043	0.0053	34	0.0084	2.8	0.11
Pressure																		
Pressure - As received_	No unit	0										12.1	11.6	11.4	12.0	11.8	11.9	11.3	11.8	12.5
TO15 in Canisters + ug/m3 calc																		
Vacuum before Analysis	No unit	0										5.10	6.12	6.53	5.30	5.71	5.51	6.73	5.71	4.28
Alcohols																		
2-Propanol	µg/m3	0										1,900	1,400	19,000	<72	110	<20,000	<53	<5,100	770
TPH																		
C10-C12 Fraction	µg/m3	0										310	570	690	530	230	120,000	330	17,000	1,300
Inorganics																		
Carbon Dioxide	%v/v	0.01										1.7	9.2	10	11	2.0	0.17	1.8	0.46	0.10
Volatile Petroleum Hydrocarbons																		
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	µg/m3	0										840	2,900	6,900	190	200	590,000	110	<10,000	6,000
>C8 - C10 Aromatic	µg/m3	0		46,400	157,000	20,700,000	138,000,000	174,000	674,000	44,300,000	44,300,000	110	170	<110	<140	<100	250,000	<110	33,000	310
>C10 - C12 Aromatic	µg/m3	0		46,600	176,000	24,200,000	161,000,000	176,000	759,000	51,700,000	51,700,000	<99	<100	<110	<140	<100	<41,000	250	<10,000	450
TPH C5 - C7 Aromatic	µg/m3	0										<2.5	<2.6	11	<3.6	4.9	290,000	18	77,000	230

Notes
* A Non Detect Multiplier of 0.5 has been applied.
^ AECOM, 2025d

Table T11 - Calculated Gas Screening Values (Methane)

Bore	Date	Recorded Pressure (mBar)			Methane Concentration (%v/v)		Total Flow Rate (L/Hr)[2]		Gas Screening Value (L/Hr)[3,4]		Comments
		Atmospheric	Differential (in bore)	Flow direction[6]	Field[1,2]	Laboratory	Maximum	2 min average[5]	Field	Laboratory	
SV07	23-Jun-25	1001	-0.07	Negative	0.1	6.38	<0.1	-	0.0001	0.006	Field recorded concentrations may be diluted by atmosphere, based on differential pressure
SV18	24-Jun-25	989	0.07	Positive	17.7	23.5	0.1	-	0.02	0.02	
SV25	23-Jun-25	1004	0.05	Positive	62.4	35.1	<0.1	-	0.06	0.04	
SV31	17-Jun-25	1005	0.14	Positive	2.8	3.7	<0.1	-	0.003	0.004	
SV32	18-Jun-25	1018	0.00	Static	15.7	10.4	<0.1	-	0.02	0.01	
SV33	18-Jun-25	1014	0.02	Positive	6.3	5.11	<0.1	-	0.006	0.005	
SV34	24-Jun-25	986	0.03	Positive	77.9	75.2	0.4	<0.1	0.3	0.3	
SV35	20-Jun-25	1021	-0.09	Negative	3.4	5.46	<0.1	-	0.003	0.005	Field recorded concentrations may be diluted by atmosphere, based on differential pressure
SV36	18-Jun-25	1017	0.00	Static	0.1	2.31	<0.1	-	0.0001	0.002	
SV37	24-Jun-25	989	-0.02	Negative	0.1	<0.01	<0.1	-	0.0001	0.00001	Field recorded concentrations may be diluted by atmosphere, based on differential pressure
SV38	24-Jun-25	989	0.08	Positive	1.9	2.23	<0.1	-	0.002	0.002	
SV39	24-Jun-25	983	0.12	Positive	<0.1	<0.01	0.4	<0.1	0.0004	0.00004	
SV40	24-Jun-25	984	0.02	Positive	<0.1	<0.01	0.2	0.1	0.0002	0.00002	
SV41	25-Jun-25	993	0.02	Positive	2.4	<0.01	0.2	0.1	0.005	0.00002	
SV42	25-Jun-25	995	0.07	Positive	<0.1	<0.01	0.2	0.2	0.0002	0.00002	
SV43	27-Jun-25	1029	0.00	Static	<0.1	<0.01	0.1	-	0.0001	0.00001	
SV44	-	-	-	-	-	-	-	-	-	-	Water in tubing - not sampled
SV45	26-Jun-25	997	-0.02	Negative	<0.1	6.15	<0.1	-	0.0001	0.006	Field recorded concentrations may be diluted by atmosphere, based on differential pressure
SV46	23-Jun-25	1004	0.02	Positive	6.4	<0.01	<0.1	-	0.006	0.00001	
								Maximum	0.3	0.3	
								Minimum	0.0001	0.00001	

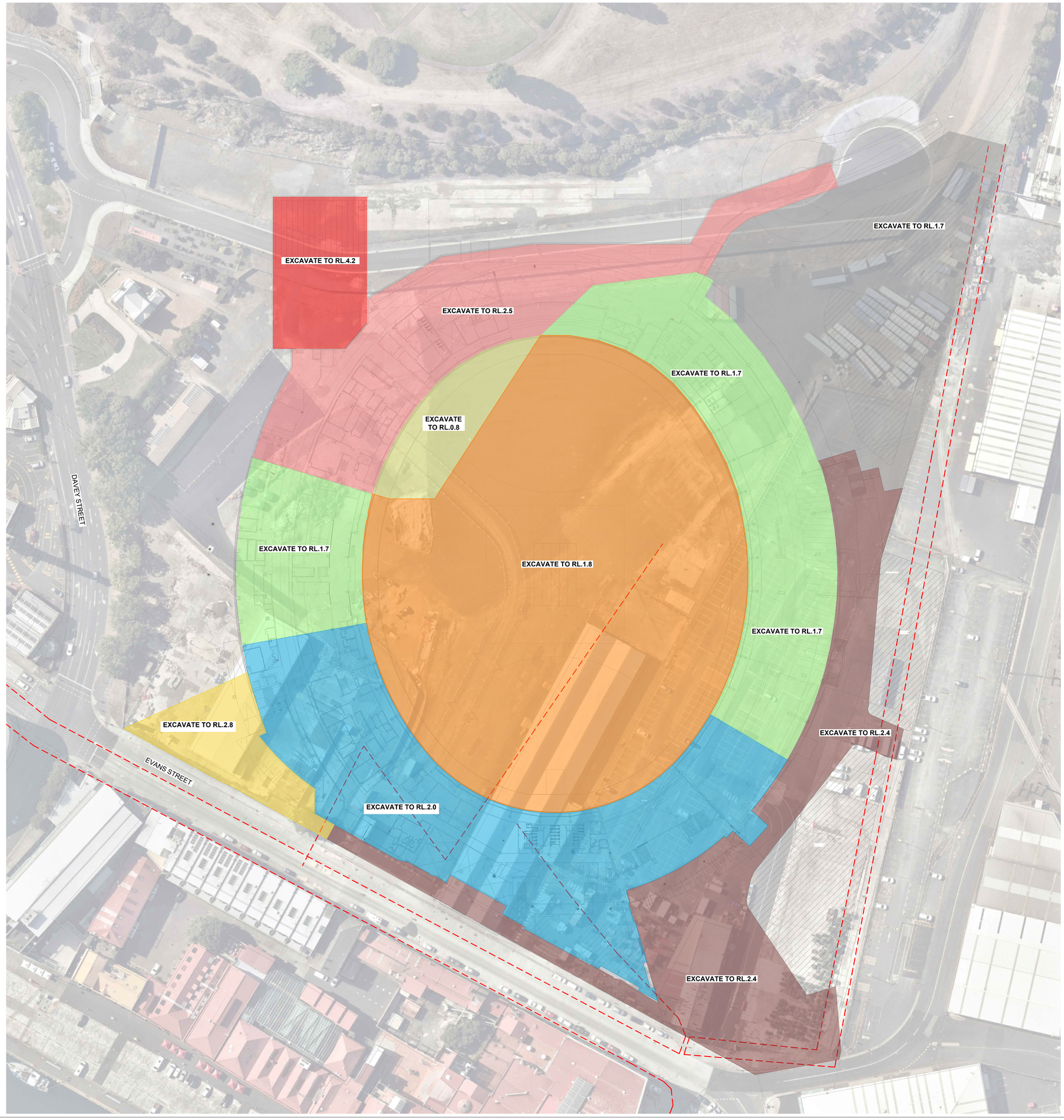
Notes:

1. Field methane readings were recorded prior to and following sampling. The higher value is presented on this table.
2. Flow rate and field methane concentrations were measured using GA5000 landfill gas meter with a limit of resolution (LOR) of 0.1 %v/v and 0.1 L/hr.
3. Where methane concentration or flow rate has been recorded as below LOR, the LOR has been used for the calculation of GSV
4. GSV has been calculated using the maximum recorded flow rate.
5. 2 minute average flow rates were not recorded for all soil vapour bores.
6. Positive - Air flow from subsurface to surface; Static - no differential pressure difference recorded between bore and surface, limited soil vapour flow anticipated; Negative - Air flow from surface to subsurface, potential barometric pumping.

Appendix C

Excavation and Final Surface Elevations

NORTH



LEGEND

POSSIBLE OLD BURIED SEAWALL

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Rev	Description	By	Date

Macquarie Point Development Corporation
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aecom.com

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Schwabstrasse 43
70197 Sutgart
Germany

T + 49 711 648 71-0
www.sbp.de/en/

Scale

COLOUR PRINTING REQUIRED

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SCALE IN METRES - 1:500

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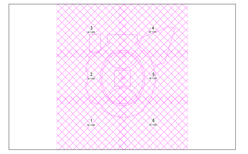


Client
MACUARIE POINT DEVELOPMENT CORPORATION

Project No.
P.24.0237

Project
MACQUARIE POINT MULTIPURPOSE STADIUM
41 EVANS ST HOBART TAS 7000

Acknowledgement
The Stadium Team acknowledge the traditional owners of this land, the Muwinina people, and pay respect to those that have passed before us. We acknowledge today's Tasmanian Aboriginal people, the Palawa, their Elders, and their enduring custodianship of Lutruwita/Tasmania.

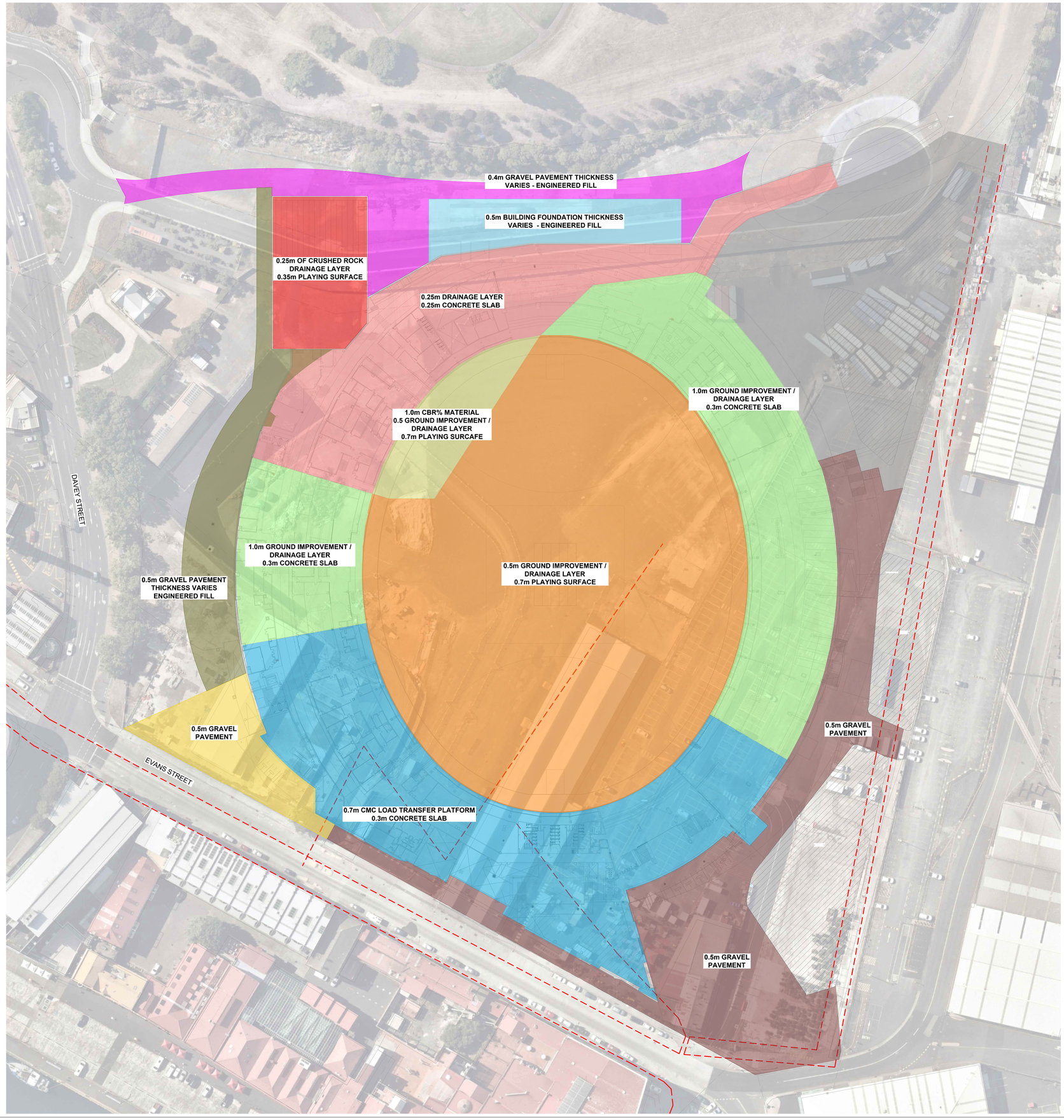
Drawing Title:
EXCAVATION LEVELS

Document Control Status:

Co-ordinated: HW	**Drawn:** S.P
Project Designer: SM	**Scale:** 1:500 (m)
Project Director: DH	**Revision Date:** 23/05/2025
Drawing Number: S.P.24.0237-00-CIV-SKT-021	**Revision:**

PLOT STAMP DATE: 23-May-25 3:49 PM

NORTH



LEGEND

POSSIBLE OLD BURIED SEAWALL

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Germany
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Scale

COLOUR PRINTING REQUIRED

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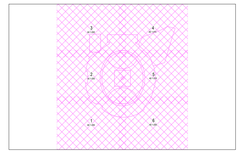
SCALE IN METRES - 1:500

Zone



Client
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Project No.
P.24.0237

Project
MACQUARIE POINT MULTIPURPOSE STADIUM
41 EVANS ST HOBART TAS 7000

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Drawing Title:
ENGINEERED FIL AND PAVEMENT MATERIALS

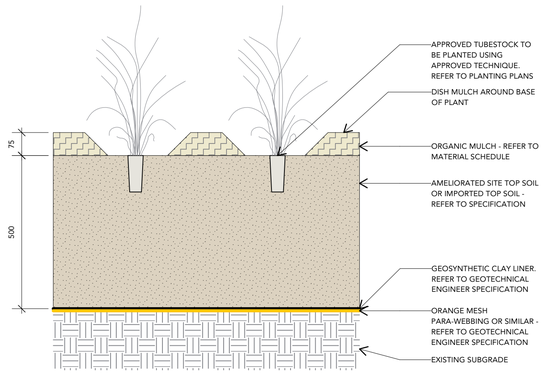
Document Control Status:

Co-ordinated: HW	Drawn: S.P
Project Designer: SM	Scale: 1:500 (m)
Project Director: DH	Revision Date: 23/05/2025
Drawing Number: S.P.24.0237-00-CIV-SKT-022	Revision:

PLOT STAMP DATE: 23-May-25, 5:44 PM

Appendix D

Updated Planting Designs



1 SOIL PROFILE TYPE 01 - GARDEN BED
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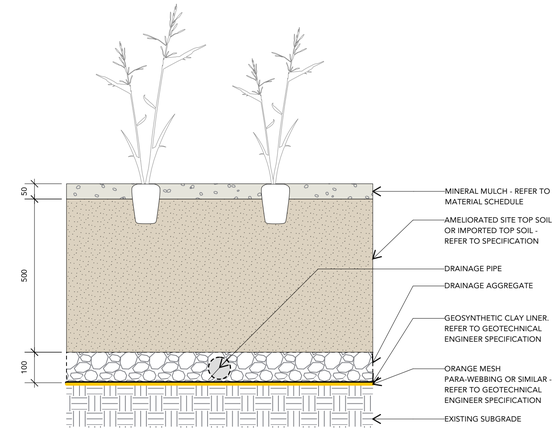
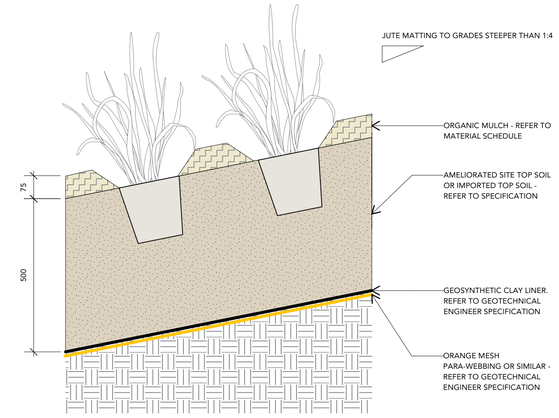


2 SOIL PROFILE TYPE 02 - SOAK GARDEN
Scale: 1:10



3 SOIL PROFILE TYPE 03 - EMBANKMENT PLANTING
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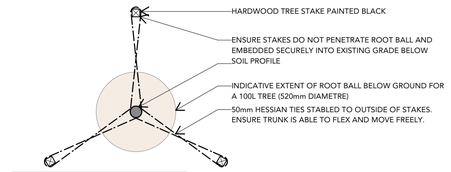
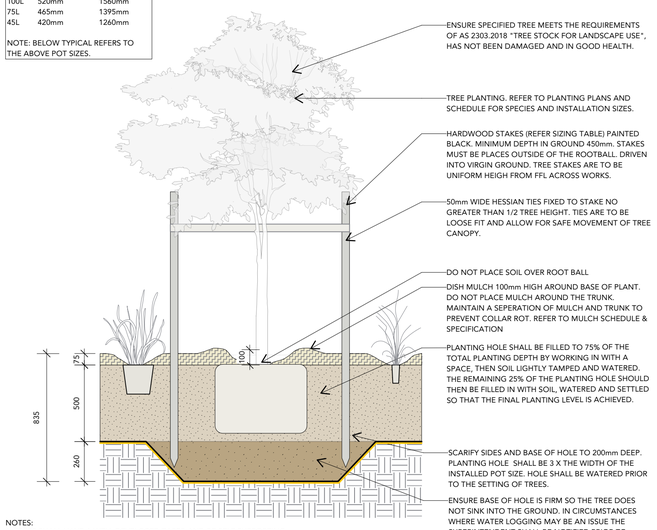


TREE STAKES TABLE TREE SIZE	NO. STAKES	STAKE SIZE (MIN)
100L-200L	3	50 X 50 X 1800MM
45L	1	35 X 35 X 1500MM

4 TREE PLANTING TYPICAL ON EXISTING GRADE
Scale: 1:20

PLANTING HOLE SIZE:		
POT SIZE	ROOT BALL SIZE (DIA)	PLANTING HOLE (MIN)
400L	980mm	2940mm
200L	700mm	2100mm
100L	520mm	1560mm
75L	465mm	1395mm
45L	420mm	1260mm

NOTE: BELOW TYPICAL REFERS TO THE ABOVE POT SIZES.

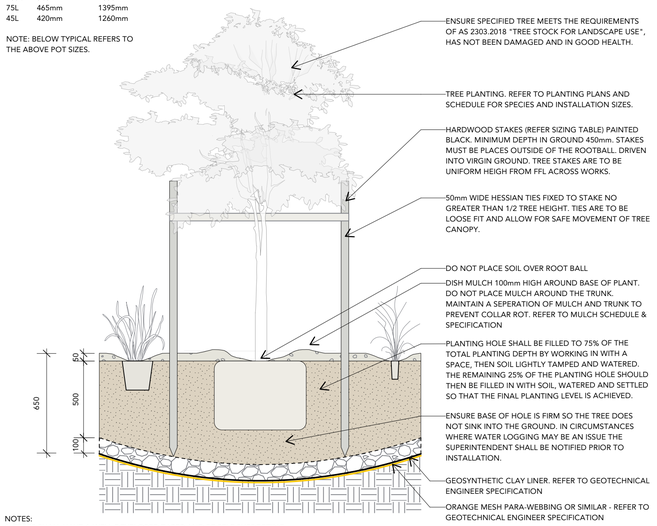


NOTES:
1. TREES SHALL HAVE A WELL DEVELOPED TAPER AND BE SELF SUPPORTING.
2. SPECIFIED TREE TO MEET THE REQUIREMENTS OF AS 2303.2018 "TREE STOCK FOR LANDSCAPE USE"
3. ENSURE ALL LABELS, WIRES, TWINE AND OTHER BINDING MATERIALS ARE REMOVED FROM PLANTING MATERIAL, INCLUDING ROOTBALLS PRIOR TO BACKFILLING.
4. TO PROMOTE LATERAL ROOT GROWTH THE PLANTING HOLE SHALL BE NO LESS THAT THREE (3) TIMES THE DIAMETER OF THE ROOT BALL. IF SPACE RESTRICTIONS EXIST STAKE SPACING SHALL BE REDUDED TO NO LESS THAN TWO (2) TIMES TH DIAMETER OF THE ROOT BALL. SLOPE ALL SIDES AT 45 DEGREES.
5. WATER IMMEDIATELY FOLLOWING PLANTING, SAUCER TO BE FILLED TWICE
6. SITE TO BE LEFT CLEAN AND TIDY ON COMPLETION OF PLANTING, REMOVE WEEDS AND BUILDING SPOIL FROM TREE PLANTING ZONE.
7. REFER SPECIFICATION FOR ALL TREE PLANTING.

5 TREE PLANTING - GARDEN BED
Scale: 1:20

PLANTING HOLE SIZE:		
POT SIZE	ROOT BALL SIZE (DIA)	PLANTING HOLE (MIN)
400L	980mm	2940mm
200L	700mm	2100mm
100L	520mm	1560mm
75L	465mm	1395mm
45L	420mm	1260mm

NOTE: BELOW TYPICAL REFERS TO THE ABOVE POT SIZES.

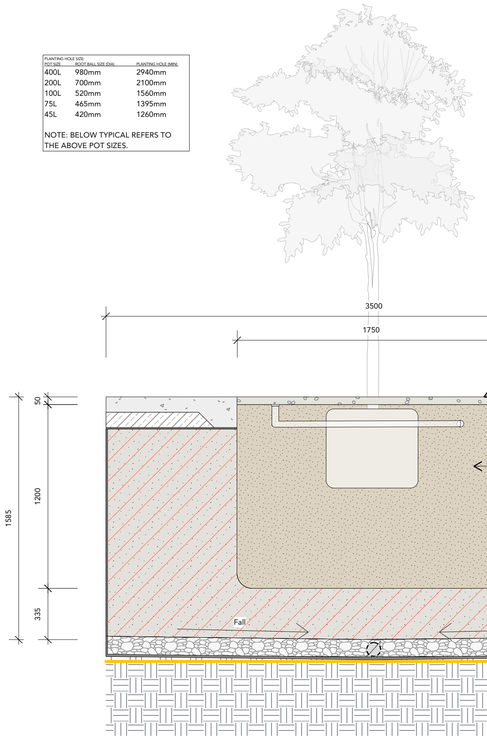


NOTES:
1. TREES SHALL HAVE A WELL DEVELOPED TAPER AND BE SELF SUPPORTING.
2. SPECIFIED TREE TO MEET THE REQUIREMENTS OF AS 2303.2018 "TREE STOCK FOR LANDSCAPE USE"
3. ENSURE ALL LABELS, WIRES, TWINE AND OTHER BINDING MATERIALS ARE REMOVED FROM PLANTING MATERIAL, INCLUDING ROOTBALLS PRIOR TO BACKFILLING.
4. TO PROMOTE LATERAL ROOT GROWTH THE PLANTING HOLE SHALL BE NO LESS THAT THREE (3) TIMES THE DIAMETER OF THE ROOT BALL. IF SPACE RESTRICTIONS EXIST STAKE SPACING SHALL BE REDUDED TO NO LESS THAN TWO (2) TIMES TH DIAMETER OF THE ROOT BALL. SLOPE ALL SIDES AT 45 DEGREES.
5. WATER IMMEDIATELY FOLLOWING PLANTING, SAUCER TO BE FILLED TWICE
6. SITE TO BE LEFT CLEAN AND TIDY ON COMPLETION OF PLANTING, REMOVE WEEDS AND BUILDING SPOIL FROM TREE PLANTING ZONE.
7. REFER SPECIFICATION FOR ALL TREE PLANTING.

6 TREE PLANTING - SOAK GARDEN
Scale: 1:20

PLANTING HOLE SIZE:		
POT SIZE	ROOT BALL SIZE (DIA)	PLANTING HOLE (MIN)
400L	980mm	2940mm
200L	700mm	2100mm
100L	520mm	1560mm
75L	465mm	1395mm
45L	420mm	1260mm

NOTE: BELOW TYPICAL REFERS TO THE ABOVE POT SIZES.



7 TREE PLANTING - CUT OUT IN PAVING
Scale: 1:20

OCULUS
REALM studios

0 1 2 3 4 5
1:100 @ A1
1:200 @ A3

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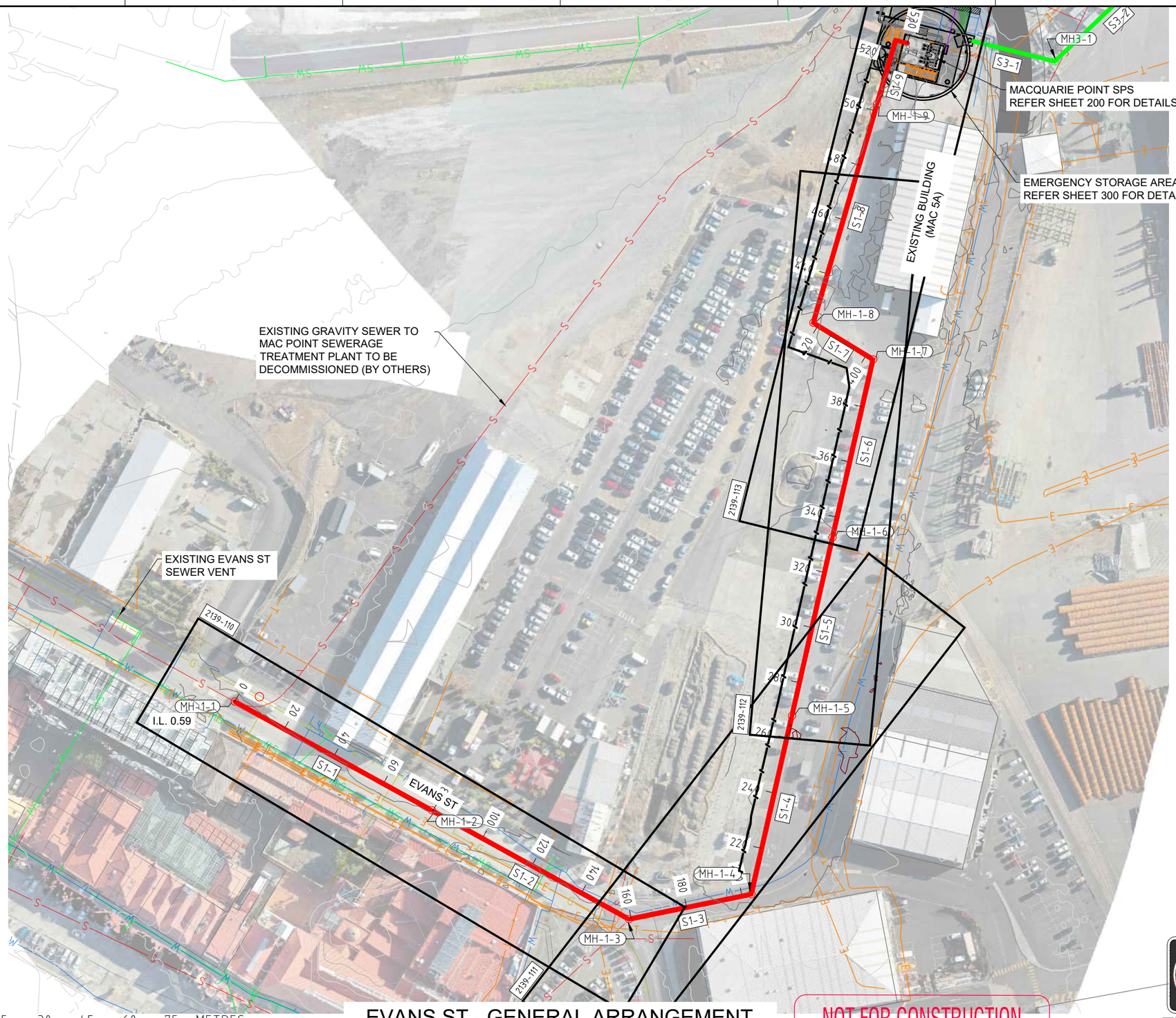
DRAWING
SOFT AND HARD LANDSCAPE DETAILS

PROJECT
MACQUARIE POINT STADIUM

DRAWING NO. SHEET 11
SCALE @ A1 1:250

Appendix E

Main Hobart Pipeline Realignment



WARNING
BEWARE OF UNDERGROUND SERVICES
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0 15 30 45 60 75 METRES
SCALE 1:1,500

EVANS ST - GENERAL ARRANGEMENT

SCALE 1:1500

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Rev.No.	Amendment	Date	Authorised
B	50% DESIGN SUBMISSION	06.07.23	CJ
A	30% DESIGN SUBMISSION	18.05.23	CJ

EXREV

TasWater
CAPITAL DELIVERY OFFICE

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD
ABN: 47 162 220 653 © 2020

Scale	N.T.S
Datum	AHD (TAS.)
Sheet Size	A3
References	

DESIGN			DATE	REVIEW			DATE
Drawn	CJ	IPD	08.02.23	Checked	MW	IPD	08.02.23
Designed	SF	IPD	08.02.23	Approved	MW	IPD	08.02.23

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Drawing Issue

FOR REVIEW

SELSP16- MACQUARIE POINT
SEWAGE PUMPING STATION
MACQUARIE POINT STP RELOCATION
EVANS STREET - GENERAL ARRANGEMENT

Drawing Number	Sheet Number	Revision
0089-DWG-SELSP16-CI-9100	1 of 1	B

GENERAL NOTES:

A. SIDES OF EXCAVATION TO BE KEPT VERTICAL TO AT LEAST 150 ABOVE THE PIPE.
B. ALL ROCK INTRUSIONS OUT OF TRENCH WALL MUST BE REMOVED PRIOR TO ANY PIPE LAYING OPERATIONS.
C. ANY FOREIGN MATTER SUCH AS VEGETATION OR LITTER SHALL BE REMOVED FROM THE TRENCH PRIOR TO PIPE LAYING AND BACKFILL.
D. MARKER TAPE IS REQUIRED WHERE THE SEWER IS NOT THE DEEPEST SERVICE.
E. PLACE MARKER TAPE AT 1.5M DEEP OR ON FIRST BACKFILL LAYER, WHICHEVER IS SHALLOWER.

TABLE 201-D: TRENCH DIMENSIONS

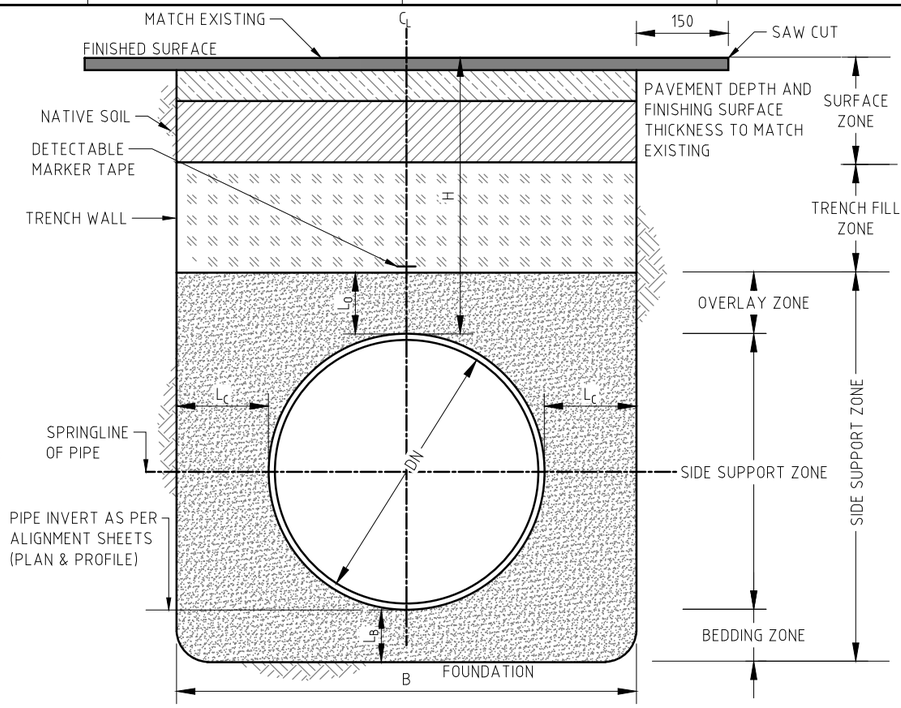
SEWER SIZE (DN)	L b :BEDDING DEPTH		L c :OVERLAY	L c :SIDE SUPPORT	
	MINIMUM	MAXIMUM	(MINIMUM)	MINIMUM	MAXIMUM
> 900	150	250	200²/ 300³	300	550

TRENCH DIMENSION NOTES:

1. IF MAXIMUM BEDDING DEPTH IS EXCEEDED, FILL OVER EXCAVATION WITH SPECIAL EMBEDMENT AS PER MRWA-S-202
2. THE FIRST MINIMUM OVERLAY FIGURE IS THE MINIMUM OVERLAY REQUIRED WHEN WALK BEHIND TRENCH BACKFILL COMPACTION EQUIPMENT IS TO USED.
3. THE SECOND MINIMUM OVERLAY FIGURE IS THE MINIMUM REQUIRED WHEN:
   a. RIDE ON TRENCH BACKFILL EQUIPMENT IS USED; OR
   b. THE SEWERAGE PIPE IS IN A ROAD CARRIAGEWAY. THIS ASSUMES THAT THE FIRST BACKFILL LAYER WILL BE AT LEAST 200 THICK (WHEN COMPACTED) SO THAT THERE IS A TOTAL COVER >500 DURING MECHANICAL COMPACTION.

TABLE 201-C: MINIMUM COVER (H)

LOCATION	MINIMUM COVER
MAJOR & ARTERIAL TYPE R TRAFFICABLE ROADS	1200
ALL OTHER SEWERS	900



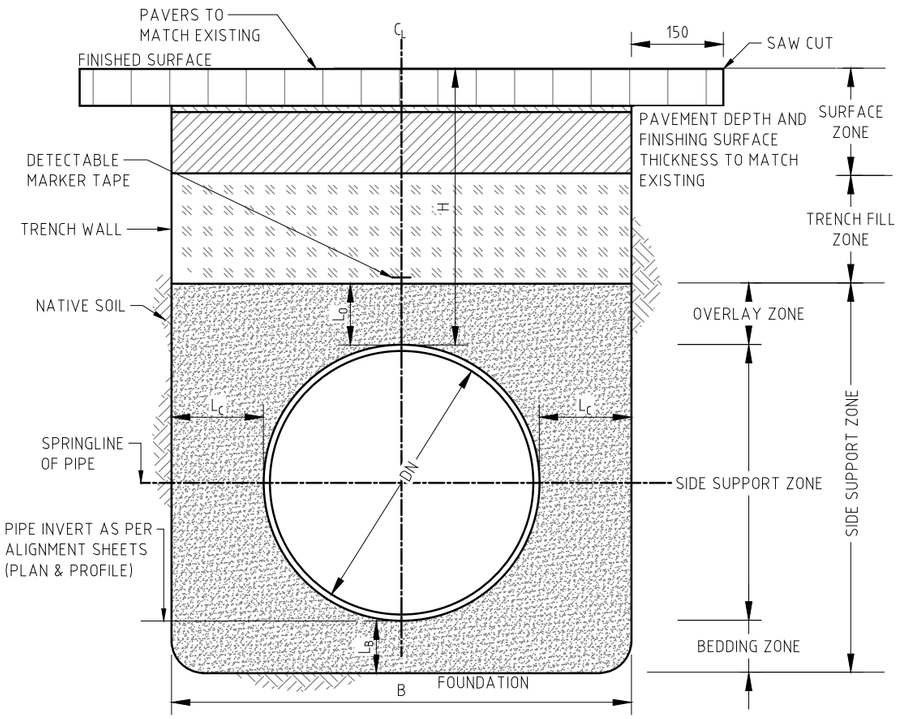


TABLE 201-A: TRAFFICABLE AREAS (TYPE R1)

TRENCH ZONE		PREFERRED MATERIALS	PRODUCT SPEC No.	METHOD OF PLACEMENT	MIN. COMPACTION REQUIREMENT
SURFACE ZONE	DSG	REPLACE WITH NEW PAVEMENT TO MATCH EXISTING PAVEMENT DETAIL, TO BE DETERMINED ON-SITE (ASSUME AC14 40MM MIN SURFACE). MINIMUM 450MM DEPTH OF PAVEMENT. CONSTRUCTION AS PER DSG SPECIFICATION 304.			95% R D
	HCC	REPLACE WITH NEW PAVEMENT TO MATCH EXISTING PAVEMENT DETAIL, TO BE DETERMINED ON-SITE (ASSUME AC10 35MM MIN. SURFACE). MINIMUM 300MM DEPTH OF PAVEMENT. CONSTRUCTION AS PER LGAT TSD-R06.			95% R D
TRENCH FILL ZONE		REFER TO ROAD OWNERS SPECIFICATION, IF NOT AVAILABLE: COMPLY WITH MRWA BACKFILL SPEC - MRWA SPEC 04.03, SUMMARISED AS FOLLOWS: A. FOR TRENCHES <1.5 M DEEP IN TYPE R SITUATION, THE BACKFILL SHALL BE 20MM CLASS 3 PLANT WET MIXED CRUSHED ROCK OR CRUSHED CONCRETE FOR THE FULL DEPTH. B. FOR TRENCHES > 1.5 M IN TYPE R SITUATION: - 20MM CLASS 3 PLANT WET MIXED CRUSHED ROCK OR CRUSHED CONCRETE ABOVE THE SUB-BASE LEVEL (NOMINALLY TO 600MM DEPTH BELOW THE FINISHED SURFACE LEVEL). - 20MM CLASS 4 (OR BETTER) CRUSHED ROCK OR CRUSHED CONCRETE FOR THE REMAINDER. C. IN TYPE F SITUATIONS: - THE BACKFILL SHALL BE 20MM CLASS 4 (OR BETTER) CRUSHED ROCK OR CRUSHED CONCRETE.	VICROADS SPEC 812 FOR CLASS 3 & 4 FCR. 818 FOR CLASS 4 CRUSHED SCORIA. RC500.22 FOR CLASS 4 CRUSHED CONCRETE.	BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN LAYERS AND MOISTURE CONDITIONED AS REQUIRED TO ACHIEVE THE REQUIRED DENSITY. WHERE HAND HELD OR WALK BEHIND COMPACTION EQUIPMENT IS USED ON THE BACKFILL ZONE, AVOID COMPACTION WITHIN 300MM OF TOP OF PIPE. WHERE HEAVIER COMPACTION IS USED IN THE BACKFILL ZONE, AVOID COMPACTION WITHIN 500MM OF TOP OF PIPE.	95% R D
EMBEDMENT ZONE		- ALL NOMINATED EMBEDMENT IS SATISFACTORY IN TYPE R SITUATIONS, HOWEVER, IT IS CRITICAL THAT EMBEDMENT HAVE THE CORRECT MOISTURE CONTENT AND BE PROPERLY PLACED TO ACHIEVE ADEQUATE COMPACTION. - SELECTED MATERIALS SHALL BE WORKED AROUND THE PIPE TO ENSURE ALL VOIDS AT HAUNCHES ARE FILLED AND THE PIPE IS PROVIDED WITH GOOD SUPPORT ALONG ITS ENTIRE LENGTH. - EMBEDMENT TO BE PLACED UNDER THE HAUNCHES BY SHOVEL AND COMPACTED USING HAND TAMPERS OR VIBRATING PROBES OR PLATES. - RISK OF PIPELINE DEFLECTION MAY BE FURTHER REDUCED BY: - INCREASING THE DEPTH OF THE OVERLAY (TO UP TO 1M), OR - CEMENT STABILISING THE TOP SURFACE OF THE EMBEDMENT (HAND DISTRIBUTED CEMENT AT 2 KG PER SQUARE METRE, WORKED INTO THE TOP SURFACE BY SHOVEL).			70% i D

TABLE 201-A: TRAFFICABLE AREAS (TYPE R2)

TRENCH ZONE		PREFERRED MATERIALS	METHOD OF PLACEMENT	MIN. COMPACTION REQUIREMENT
SURFACE ZONE	HCC	REPLACE EXISTING PAVERS WITH 'LIKE FOR LIKE' IN ACCORDANCE WITH HCC AGREEMENT. ASSUME PREPARATION OF PAVERS, 30MM BEDDING SAND AND 450MM BASE PAVEMENT AS PER DSG SPECIFICATION 304		95% R D
TRENCH FILL ZONE		REFER TO BACKFILL SPECIFICATION - MRWA SPECIFICATION 04.03. - FOR BACKFILL < 1.5M DEEP, SELECTED OR ORDINARY FILL. A. SELECTED FILL. MATERIAL THAT IS FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL, OBTAINED FROM EXCAVATION OR IMPORTED, WITH A PARTICLE SIZE OF ROCK NOT GREATER THAN 20MM, OR FOR OTHER THAN ROCK NOT GREATER THAN 75MM (REFER AS2566.2-2002). B. ORDINARY FILL. MATERIAL OBTAINED FROM EXCAVATION OR IMPORTED THAT CONTAINS NOT MORE THAN 20% BY MASS OF ROCK FRAGMENTS WITH SIZE BETWEEN 75MM AND 150MM, WITH NO ROCK OR CLAY FRAGMENTS GREATER THAN 150MM (REFER AS2566.2-2002). - FOR BACKFILL > 1.5M DEEP, AS PER PROJECT SPECIFIC BACKFILL SPECIFICATION.	REFER TO BACKFILL SPECIFICATION - MRWA SPECIFICATION 04.03. - FOR BACKFILL < 1.5M DEEP, SELECTED OR ORDINARY FILL PLACED AS REQUIRED TO MEET THE NOMINATED COMPACTION DENSITY. - FOR BACKFILL > 1.5M DEEP, PLACE AS SPECIFIED IN THE PROJECT SPECIFIC BACKFILL SPECIFICATION. PLACE AND COMPACT IN LAYERS AND MOISTURE CONDITION AS REQUIRED. WHERE HAND HELD OR WALK BEHIND COMPACTION EQUIPMENT IS USED IN THE BACKFILL ZONE, AVOID COMPACTION WITHIN 300MM OF TOP OF PIPE. WHERE HEAVIER COMPACTION IS USED IN THE BACKFILL ZONE, AVOID COMPACTION WITHIN 500MM FROM THE TOP OF PIPE.	95% R D TOP 600 mm 90% R D
EMBEDMENT ZONE		- THE EMBEDMENT PROPOSED IS SATISFACTORY IN NON TRAFFICABLE SITUATIONS, HOWEVER, IT IS CRITICAL THE EMBEDMENT HAVE THE CORRECT MOISTURE CONTENT AND BE PROPERLY PLACED TO ACHIEVE MAXIMUM COMPACTION. - SELECTED MATERIALS SHALL BE WORKED AROUND THE PIPE TO ENSURE ALL VOIDS AT HAUNCHES ARE FILLED AND THE PIPE IS PROVIDED WITH GOOD SUPPORT ALONG ITS ENTIRE LENGTH. - EMBEDMENT TO BE PLACED UNDER THE HAUNCHES BY SHOVEL OR FORK AND COMPACTED TO THE REQUIRED DENSITY.		60% i D

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Rev.No.	Amendment	Date	Authorised
B	50% DESIGN SUBMISSION	06.07.23	CJ
A	30% DESIGN SUBMISSION	18.05.23	CJ

EXREV

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ABN: 47 162 220 653 © 2020

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Datum	AHD (TAS.)
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References	

DESIGN			DATE	REVIEW			DATE
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Designed	SF	IPD	08.02.23	Approved	MW	IPD	08.02.23

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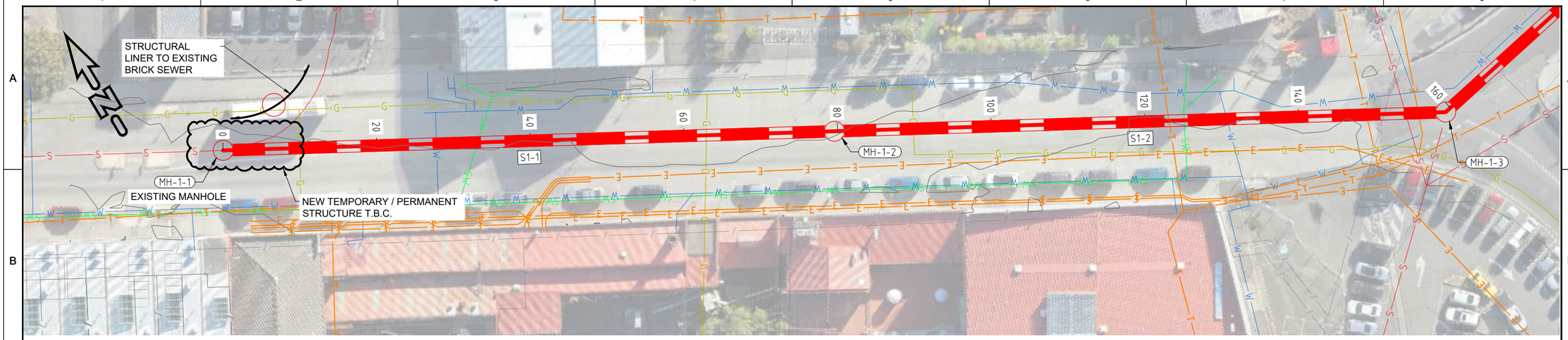
Drawing Issue

FOR REVIEW

SELSP16- MACQUARIE POINT
SEWAGE PUMPING STATION
MACQUARIE POINT STP RELOCATION
EVANS STREET - TRENCH DETAILS & NOTES SHEET 1

Drawing Number	Sheet Number	Revision
0089-DWG-SELSP16-CI-9101	1 of 2	B



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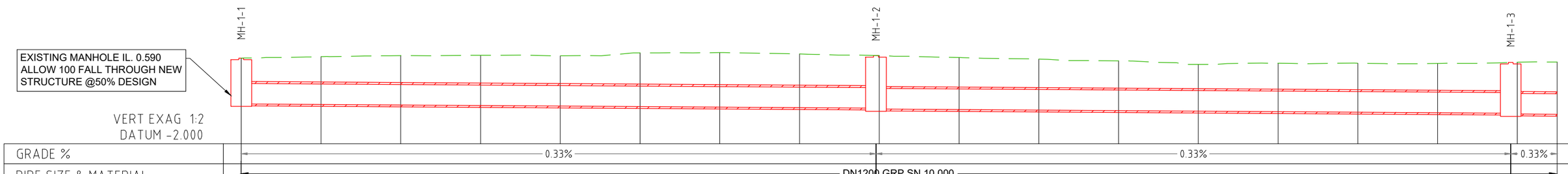

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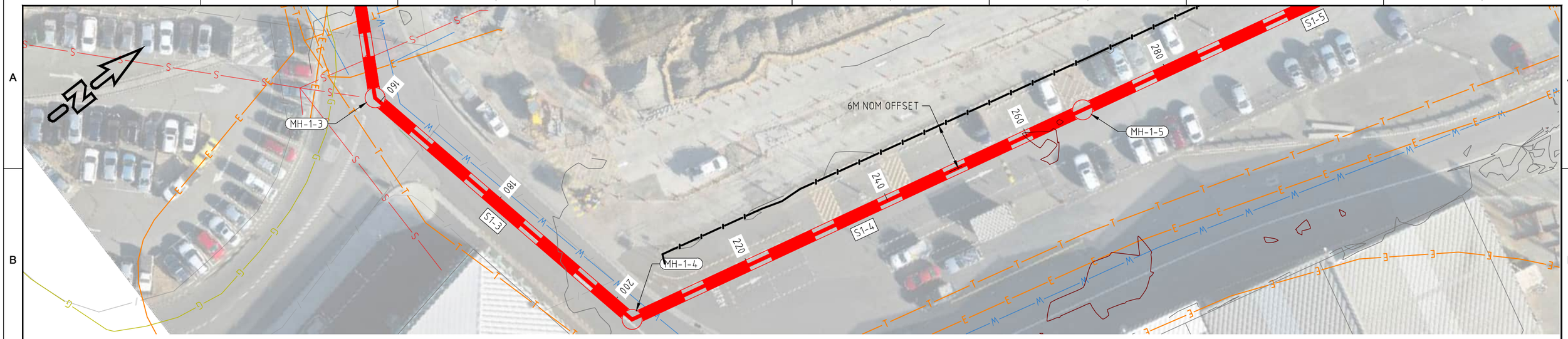

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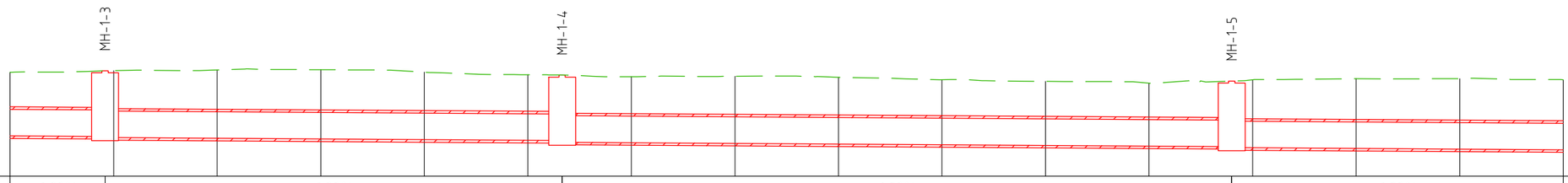

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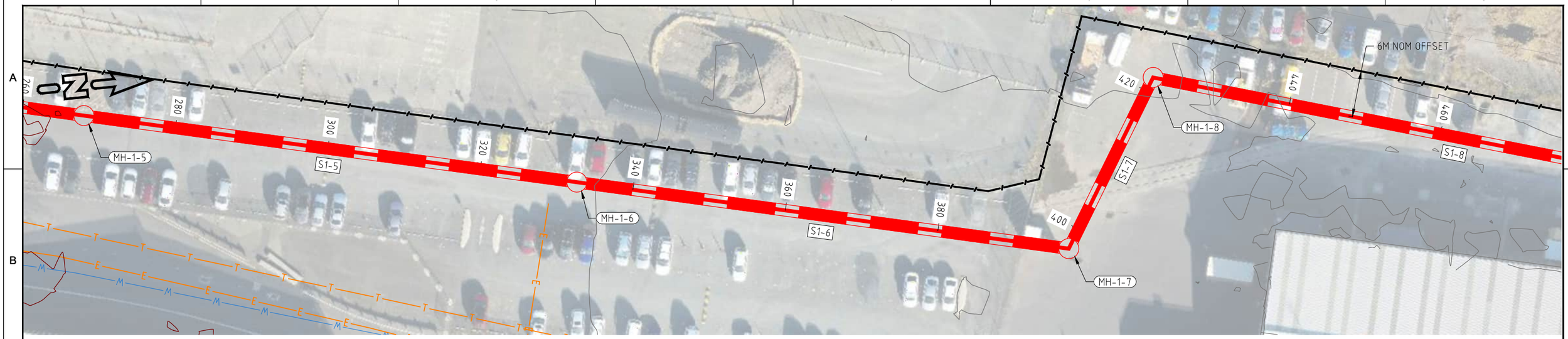

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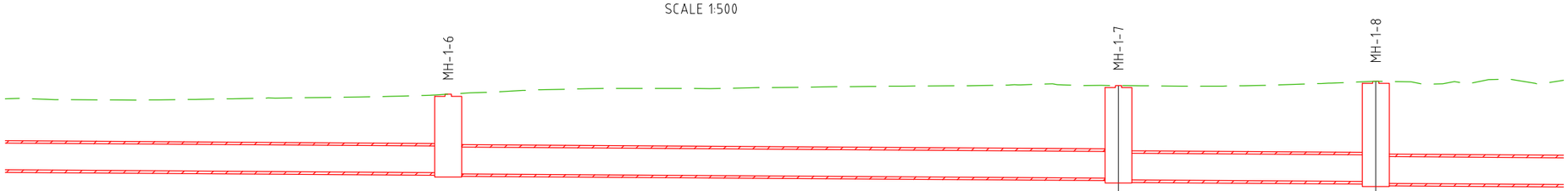

VERT EXAG 1:2
DATUM -3.000

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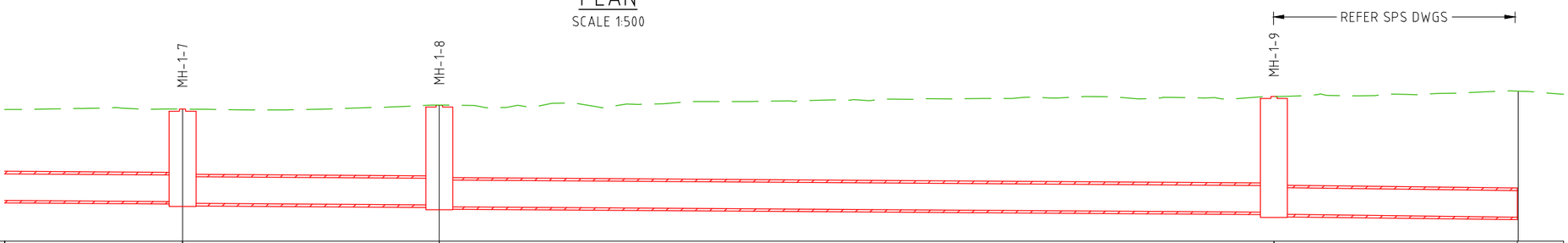


VERT EXAG 1:2
DATUM -3.000

| | | |

Appendix F

ProUCL Statistical Outputs

ProUCL Inputs

Input Name	Soil - Lead - The Goods Shed and Yard (mg/kg)			Soil - Lead - The Goods Shed and Yard - excl M13_1.0 (mg/kg)		
Description	New lead soil data from the Goods Shed and Yard			New lead soil data from the Goods Shed and Yard, excluding the sample at M13_1.0		
	Field ID	**Data Point**	**Detect / Nondetect[1]**	**Field ID**	**Data Point**	**Detect / Nondetect[1]**
	K13_0.5	22	1	K13_0.5	22	1
	K13_1.0	210	1	K13_1.0	210	1
	K13_1.5	120	1	K13_1.5	120	1
	K14_0.5	81	1	K14_0.5	81	1
	K14_1.0	250	1	K14_1.0	250	1
	K14_1.5	1,100	1	K14_1.5	1,100	1
	K15_0.5	80	1	K15_0.5	80	1
	K15_1.0	8.3	1	K15_1.0	8.3	1
	K15_1.5	82	1	K15_1.5	82	1
	K16_0.5	15	1	K16_0.5	15	1
	K16_1.0	41	1	K16_1.0	41	1
	K16_1.5	67	1	K16_1.5	67	1
	QC108	20	1	QC108	20	1
	K17_0.5	33	1	K17_0.5	33	1
	K17_1.0	28	1	K17_1.0	28	1
	QC107	42	1	QC107	42	1
	K17_1.5	21	1	K17_1.5	21	1
	K18_0.5	320	1	K18_0.5	320	1
	K18_1.0	740	1	K18_1.0	740	1
	K18_1.5	420	1	K18_1.5	420	1
	L13_0.5	180	1	L13_0.5	180	1
	L13_1.0	790	1	L13_1.0	790	1
	L13_1.5	20	1	L13_1.5	20	1
	L14_0.5	9.7	1	L14_0.5	9.7	1
	L14_1.0	340	1	L14_1.0	340	1
	L14_1.5	250	1	L14_1.5	250	1
	L15_0.5	19	1	L15_0.5	19	1
	L15_1.0	12	1	L15_1.0	12	1
	L15_1.5	96	1	L15_1.5	96	1
	QC116	370	1	QC116	370	1
	L16_0.5	360	1	L16_0.5	360	1
	QC115	400	1	QC115	400	1
	L16_1.0	260	1	L16_1.0	260	1
	L16_1.5	340	1	L16_1.5	340	1
	L17_0.5	120	1	L17_0.5	120	1
	L17_1.0	89	1	L17_1.0	89	1
	L17_1.5	180	1	L17_1.5	180	1
	L18_0.5	110	1	L18_0.5	110	1
	L18_1.0	200	1	L18_1.0	200	1
	L18_1.5	180	1	L18_1.5	180	1
	M13_0.5	320	1	M13_0.5	320	1
	M13_1.0	9,200	1	M13_1.5	740	1
	M13_1.5	740	1	M14_0.5	44	1
	M14_0.5	44	1	M14_1.0	700	1
	M14_1.0	700	1	M14_1.5	180	1
	M14_1.5	180	1	M15_0.5	11	1
	M15_0.5	11	1	M15_1.0	14	1
	M15_1.0	14	1	M15_1.5	9.2	1
	M15_1.5	9.2	1	M16_0.5	39	1
	M16_0.5	39	1	M16_1.0	35	1
	M16_1.0	35	1	M16_1.5	65	1
	M16_1.5	65	1	M17_0.5	49	1
	M17_0.5	49	1	M17_1.0	160	1
	M17_1.0	160	1	M17_1.5	240	1
	M17_1.5	240	1	M18_0.5	87	1
	M18_0.5	87	1	M18_1.0	180	1
	M18_1.0	180	1	M18_1.5	280	1
	M18_1.5	280	1	SV36_2.0	5.6	1
	SV36_2.0	5.6	1			

Notes: 1 - 1 = Detect, 0 = Nondetect

1	**UCL Statistics for Data Sets with Non-Detects**											
2												
3			User Selected Options									
4			Date/Time of Computation	ProUCL 5.111/08/2025 3:09:44 PM								
5			From File	WorkSheet.xls								
6			Full Precision	OFF								
7			Confidence Coefficient	95%								
8			Number of Bootstrap Operations	2000								
9												
10												
11	**Soil - Lead - The Goods Shed and Yard (mg/kg)**											
12												
13						**General Statistics**							
14					Total Number of Observations	59			Number of Distinct Observations	49		
15									Number of Missing Observations	0		
16					Minimum	5.6			Mean	345.5		
17					Maximum	9200			Median	110		
18					SD	1195			Std. Error of Mean	155.5		
19					Coefficient of Variation	3.457			Skewness	7.265		
20												
21						**Normal GOF Test**						
22					Shapiro Wilk Test Statistic	0.255			**Shapiro Wilk GOF Test**			
23					5% Shapiro Wilk P Value	0			Data Not Normal at 5% Significance Level			
24					Lilliefors Test Statistic	0.388			**Lilliefors GOF Test**			
25					5% Lilliefors Critical Value	0.115			Data Not Normal at 5% Significance Level			
26						**Data Not Normal at 5% Significance Level**						
27												
28						**Assuming Normal Distribution**						
29						**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**		
30					95% Student's-t UCL	605.5			95% Adjusted-CLT UCL (Chen-1995)	758.5		
31									95% Modified-t UCL (Johnson-1978)	630		
32												
33						**Gamma GOF Test**						
34					A-D Test Statistic	2.593			**Anderson-Darling Gamma GOF Test**			
35					5% A-D Critical Value	0.815			Data Not Gamma Distributed at 5% Significance Level			
36					K-S Test Statistic	0.169			**Kolmogorov-Smirnov Gamma GOF Test**			
37					5% K-S Critical Value	0.122			Data Not Gamma Distributed at 5% Significance Level			
38						**Data Not Gamma Distributed at 5% Significance Level**						
39												
40						**Gamma Statistics**						
41					k hat (MLE)	0.507			k star (bias corrected MLE)	0.493		
42					Theta hat (MLE)	681			Theta star (bias corrected MLE)	701		
43					nu hat (MLE)	59.87			nu star (bias corrected)	58.16		
44					MLE Mean (bias corrected)	345.5			MLE Sd (bias corrected)	492.1		
45									Approximate Chi Square Value (0.05)	41.63		
46					Adjusted Level of Significance	0.0459			Adjusted Chi Square Value	41.28		
47												
48						**Assuming Gamma Distribution**						
49					95% Approximate Gamma UCL (use when n>=50))	482.7			95% Adjusted Gamma UCL (use when n<50)	486.8		
50												
51						**Lognormal GOF Test**						
52					Shapiro Wilk Test Statistic	0.972			**Shapiro Wilk Lognormal GOF Test**			

53				5% Shapiro Wilk P Value		0.374		Data appear Lognormal at 5% Significance Level				
54				Lilliefors Test Statistic		0.098		**Lilliefors Lognormal GOF Test**				
55				5% Lilliefors Critical Value		0.115		Data appear Lognormal at 5% Significance Level				
56	**Data appear Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59				Minimum of Logged Data		1.723				Mean of logged Data		4.596
60				Maximum of Logged Data		9.127				SD of logged Data		1.474
61												
62	**Assuming Lognormal Distribution**											
63				95% H-UCL		537.7				90% Chebyshev (MVUE) UCL		500.6
64				95% Chebyshev (MVUE) UCL		599.2				97.5% Chebyshev (MVUE) UCL		736
65				99% Chebyshev (MVUE) UCL		1005						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71				95% CLT UCL		601.3				95% Jackknife UCL		605.5
72				95% Standard Bootstrap UCL		603.5				95% Bootstrap-t UCL		1535
73				95% Hall's Bootstrap UCL		1532				95% Percentile Bootstrap UCL		638.7
74				95% BCA Bootstrap UCL		856.6						
75				90% Chebyshev(Mean, Sd) UCL		812.1				95% Chebyshev(Mean, Sd) UCL		1023
76				97.5% Chebyshev(Mean, Sd) UCL		1317				99% Chebyshev(Mean, Sd) UCL		1893
77												
78	**Suggested UCL to Use**											
79				95% H-UCL		537.7						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**											
87	**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**											
88	**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**											
89	**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**											
90												
91												
92	**Soil - Lead - The Goods Shed and Yard - excl M13_1.0 (mg/kg)**											
93												
94	**General Statistics**											
95				Total Number of Observations		58				Number of Distinct Observations		48
96										Number of Missing Observations		0
97				Minimum		5.6				Mean		192.8
98				Maximum		1100				Median		103
99				SD		229.8				Std. Error of Mean		30.18
100				Coefficient of Variation		1.192				Skewness		2.011
101												
102	**Normal GOF Test**											
103				Shapiro Wilk Test Statistic		0.76		**Shapiro Wilk GOF Test**				
104				5% Shapiro Wilk P Value		2.981E-12		Data Not Normal at 5% Significance Level				

105					Lilliefors Test Statistic	0.208	**Lilliefors GOF Test**					
106					5% Lilliefors Critical Value	0.116	Data Not Normal at 5% Significance Level					
107	**Data Not Normal at 5% Significance Level**											
108												
109	**Assuming Normal Distribution**											
110	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
111					95% Student's-t UCL	243.3	95% Adjusted-CLT UCL (Chen-1995)					251
112							95% Modified-t UCL (Johnson-1978)					244.6
113												
114	**Gamma GOF Test**											
115					A-D Test Statistic	0.574	**Anderson-Darling Gamma GOF Test**					
116					5% A-D Critical Value	0.79	Detected data appear Gamma Distributed at 5% Significance Level					
117					K-S Test Statistic	0.0899	**Kolmogorov-Smirnov Gamma GOF Test**					
118					5% K-S Critical Value	0.121	Detected data appear Gamma Distributed at 5% Significance Level					
119	**Detected data appear Gamma Distributed at 5% Significance Level**											
120												
121	**Gamma Statistics**											
122					k hat (MLE)	0.798	k star (bias corrected MLE)					0.768
123					Theta hat (MLE)	241.7	Theta star (bias corrected MLE)					251.1
124					nu hat (MLE)	92.56	nu star (bias corrected)					89.1
125					MLE Mean (bias corrected)	192.8	MLE Sd (bias corrected)					220
126							Approximate Chi Square Value (0.05)					68.34
127					Adjusted Level of Significance	0.0459	Adjusted Chi Square Value					67.88
128												
129	**Assuming Gamma Distribution**											
130			95% Approximate Gamma UCL (use when n>=50)			251.4	95% Adjusted Gamma UCL (use when n<50)					253.1
131												
132	**Lognormal GOF Test**											
133					Shapiro Wilk Test Statistic	0.954	**Shapiro Wilk Lognormal GOF Test**					
134					5% Shapiro Wilk P Value	0.0594	Data appear Lognormal at 5% Significance Level					
135					Lilliefors Test Statistic	0.122	**Lilliefors Lognormal GOF Test**					
136					5% Lilliefors Critical Value	0.116	Data Not Lognormal at 5% Significance Level					
137	**Data appear Approximate Lognormal at 5% Significance Level**											
138												
139	**Lognormal Statistics**											
140					Minimum of Logged Data	1.723	Mean of logged Data					4.518
141					Maximum of Logged Data	7.003	SD of logged Data					1.358
142												
143	**Assuming Lognormal Distribution**											
144					95% H-UCL	391.7	90% Chebyshev (MVUE) UCL					379
145					95% Chebyshev (MVUE) UCL	449.3	97.5% Chebyshev (MVUE) UCL					546.8
146					99% Chebyshev (MVUE) UCL	738.5						
147												
148	**Nonparametric Distribution Free UCL Statistics**											
149	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
150												
151	**Nonparametric Distribution Free UCLs**											
152					95% CLT UCL	242.5	95% Jackknife UCL					243.3
153					95% Standard Bootstrap UCL	242.4	95% Bootstrap-t UCL					252.5
154					95% Hall's Bootstrap UCL	257.6	95% Percentile Bootstrap UCL					245.4
155					95% BCA Bootstrap UCL	256.1						
156					90% Chebyshev(Mean, Sd) UCL	283.4	95% Chebyshev(Mean, Sd) UCL					324.4

	A	B	C	D	E	F	G	H	I	J	K	L
157				97.5% Chebyshev(Mean, Sd) UCL		381.3				99% Chebyshev(Mean, Sd) UCL		493.1
158												
159						**Suggested UCL to Use**						
160				95% Approximate Gamma UCL		251.4						
161												
162	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
163	Recommendations are based upon data size, data distribution, and skewness.											
164	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
165	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
166												

Appendix G

Investigation and Assessment Reports

Appendix G-1: The Precinct South – Well Maintenance and Targeted Groundwater Monitoring Event

Revision 3 – 01-Feb-2026
Prepared for – Macquarie Point Development Corporation – ABN: 92 657 409 841

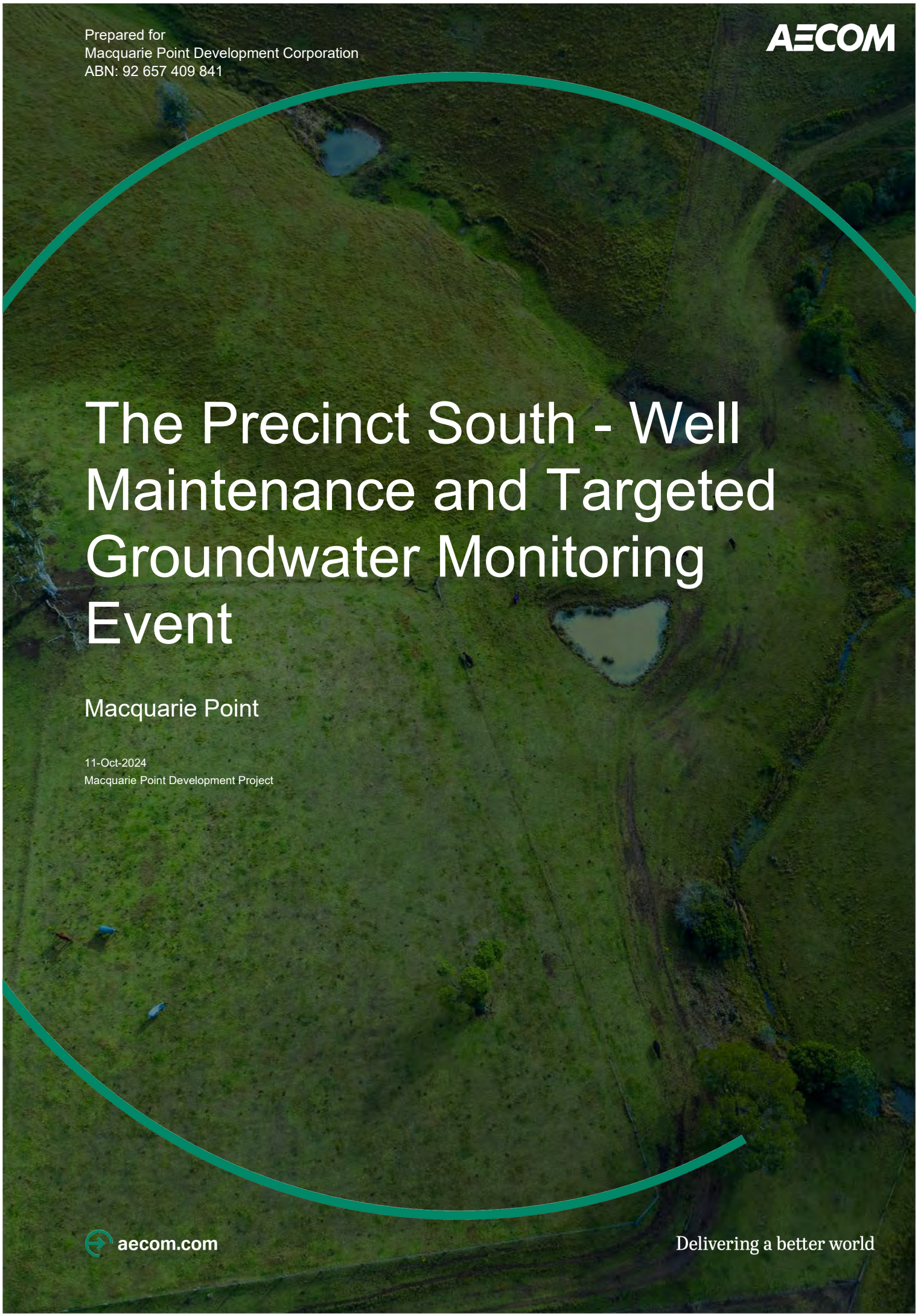
Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

AECOM

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point

11-Oct-2024
Macquarie Point Development Project



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Delivering a better world

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point

Client: Macquarie Point Development Corporation

ABN: 92 657 409 841

Prepared by

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Checker/s	Robert Crowe

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			Name/Position	Signature
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List of Acronyms

ACM	Asbestos Containing Material
AECOM	AECOM Australia Pty Ltd
AFL	Australian Football League
AHD	Australian Height Datum
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999, amended 2013
bgl	below ground level
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
BTOC	below top of casing
CoC	Chain of Custody
CoPC	Chemicals of Potential Concern
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Electrical Conductivity
GHD	GHD Group Pty Ltd
GME	Groundwater Monitoring Event
GPS	Global Positioning System
ha	hectare
HCC	Hobart City Council
LNAPL	Light Non-Aqueous Phase Liquid
LOR	Limit of Reporting
MPDC	Macquarie Point Development Corporation
NATA	National Association of Testing Authorities
OCP	Organochlorine Pesticides
ORP	Oxygen Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons
PEV	Protected Environmental Value
PFAS	Per and Poly-fluoroalkyl Substances
PVC	Polyvinyl chloride
QA	Quality Assurance
QC	Quality Control
RC	Remediation Criteria
RPD	Relative Percent Difference

SAQP	Sampling and Analysis Quality Plan
SPoWQM	State Policy on Water Quality Management 1997
SRN	Sample Receipt Notification
SVOC	Semi-Volatile Organic Compound
SWL	Standing Water Level
TRH	Total Recoverable Hydrocarbons
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WWTP	Waste Water Treatment Plant

Executive Summary

The Macquarie Point Development Corporation (MPDC) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point site in Hobart, Tasmania (the Site).

This report provides a factual overview of the outcomes of the Well Maintenance Program undertaken at the Site between 14 September – 6 December 2023, and the Targeted Groundwater Monitoring Event (GME) undertaken at and surrounding the area referred to as the Precinct South, in the south-eastern corner of the Site, between 29 November – 6 December 2023.

The outcomes of the Well Maintenance Program and Targeted GME are summarised below:

- A Well Maintenance Program consisting of inspection of the condition of 38 groundwater wells at and surrounding Precinct South identified a number of wells requiring location or repair. To ensure serviceability of the wells prior to undertaking the GME:
  - A licenced surveyor was engaged to locate buried or 'missing' groundwater wells (for which well gatics were not visible at the surface) using metal detection and Global Positioning System (GPS) survey based on previously reported coordinates were used.
  - A licenced driller was engaged to undertake maintenance and repair work on select wells (as required), including cutting of bitumen and clearing of fill to expose gatics (where well gatics were buried under the surface), replacement of gatic bolts (where bolts were damaged, sheared or missing), replacement of gatic covers (where gatic covers were damaged), extension of the polyvinyl chloride (PVC) well casing to surface where gatics were buried under fill in re-graded areas of the Site.

  Based on the Well Maintenance Program, seven wells, namely MW13, MW137, MW142, MW143, R4, S9, and TW03, are considered to be destroyed/lost. The loss of these groundwater wells is not considered to prevent fulfilment of the objectives of the GME based on available historic data and lack of changes in use or monitoring data from nearby groundwater wells.
- A total of 31 groundwater wells at and surrounding the Precinct South were selected for gauging and sampling via low flow techniques for the Targeted GME. The outcomes of the Targeted GME are summarised below:
  - Recorded depth to groundwater ranged from 1.582 metres below ground level (m bgl) (MW164) to 3.250 m bgl (MW176) in wells screened in the shallow aquifer, and from 2.281 m bgl (MW126B) to 3.056 m bgl (MW124B) for wells screened in the deeper aquifer (top of screened interval >9 m bgl). Shallow groundwater contours indicated a generally south-westerly groundwater flow direction, with some southerly components in the southern portion of Precinct South, and possible easterly flow components at the eastern boundary, although this may be an artefact of lack of gauging data in the TasPorts area.
  - Hydrocarbon odours were noted at monitoring wells MW03, MW05, PW02 and S8.
  - Measurable Light Non-Aqueous Phase Liquid (LNAPL) was observed at four groundwater monitoring wells (MW03, MW05, PW02 and S8) in the south-eastern corner of the Precinct South, with thickness ranging from 0.050 to 0.160 m. Recorded LNAPL thickness was within historic recorded ranges in MW03 and MW05, while above historical recorded thicknesses in PW02 and S8. While LNAPL Plume B is still considered delineated on Site and unlikely to be migrating further onto the Site, additional monitoring to confirm LNAPL thicknesses and assess mobility via LNAPL baildown testing is recommended.

    No LNAPL was encountered in wells where it had not previously been reported, and no groundwater samples were collected from wells with LNAPL present.

    LNAPL is not delineated at the eastern border of the Precinct South and is considered likely to extend to TasPorts land to the east.
  - Dense Non-Aqueous Phase Liquid (DNAPL) was not encountered at any of the groundwater wells monitored.

- Concentrations of the following Chemicals of Potential Concern (CoPC) were reported above the adopted assessment criteria for Protected Environmental Values (PEVs) in at least one sample, noting exceedances were reported for Tier 1 Screening criteria including Drinking Water (Health and Aesthetics), Recreation (Primary / Secondary Contact), Vapour Intrusion (Residential), Ecosystem Protection (90%), and Buildings and Structures):
  - Benzene
  - Total recoverable hydrocarbon (TRH) fractions including TRH >C10-C40 (sum), TRH C6-C10 [minus benzene, toluene, ethylbenzene and xylenes (BTEX)](F1), TRH >C10-C16 (minus Naphthalene)(F2)
  - Metals (aluminium, arsenic, copper, lead, manganese, zinc)
  - PAHs (naphthalene, anthracene, phenanthrene, fluoranthene, benz[a]anthracene, benzo[a]pyrene)
  - Inorganics (chloride, sodium, total cyanide, ammonia)

  It is noted that the presence of LNAPL also precludes all PEVs, and that concentrations of some CoPC listed above (PAHs [naphthalene, anthracene, phenanthrene, benzo(a)pyrene and benz(a)anthracene] and aluminium) were reported with Limit of Report (LOR) above adopted criteria. Future assessment should consider if lower LORs should be requested for these CoPC if practical.
- Concentrations of the following CoPC were reported in excess of the Site-Derived Remediation Criteria (RC) for Potential Future Residents for slab-on-grade buildings with unknown construction or multi-storey building:
  - TRH (C6-C10) (minus BTEX)

  Residential use of the Precinct South is not planned for future development and is not considered likely to occur due to currently planning limitations on residential occupancy near an active port (i.e., TasPorts land to the east of the Precinct South).

Further assessment of groundwater PEVs and nature and extent of impacts will be undertaken separately, however, precluded PEVs are consistent with previous investigations of this area reported in existing Detailed Site Investigation (DSI) reports relevant to the Precinct South, i.e. *Audit Area 5 – Detailed Site Investigation* (AECOM, 2021a), and *Audit Area 3 – Detailed Site Investigation* (AECOM, 2022). The data collected as part of this investigation is considered to be adequate to inform future assessments of the Precinct South.

1.0 Introduction

The Macquarie Point Development Corporation (MPDC) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of a remediation strategy for the Macquarie Point site in Hobart, Tasmania (the Site). The Site location is presented on **Figure F1** in the **Figures** section.

This report has been prepared to provide a factual overview of the outcomes of the Well Maintenance Program undertaken at the Site between 14 September – 6 December 2023, and the Targeted Groundwater Monitoring Event (GME) undertaken at, and surrounding, the area referred to as the Precinct South area between 29 November – 6 December 2023.

The Site layout is presented on **Figure F2** in the **Figures** section. The Precinct South layout is presented on **Figure F3** in the **Figures** section.

1.1 Background

Historical activities undertaken at and in proximity to the Site have resulted in soil and groundwater impacts. The Site has been divided into seven sub-areas, as shown on **Plate 1**, for the purpose of assessment, remediation and completion of an Environmental Audit. Portions of the Site which have not yet received issue of a Site Suitability Statement (i.e., Auditor sign-off) include the Gateway, Precinct South, and Audit Area 4 East. Remediation work at the Precinct South was conducted in 2023, and remediation work at the Gateway has been conducted in 2024, although has not yet had results reported.



Plate 1 Site Sub-Areas

The Site was previously divided into Audit Areas (named Audit Area 1 to Audit Area 7) for environmental assessment purposes based on previous development plans. The Precinct South, the area considered in this report, covers previous Audit Area 3 and the south-east portion of previous Audit Area 5. Previous investigations undertaken in the Precinct South are summarised in existing Detailed Site Investigation (DSI) reports relevant to these areas, i.e. *Audit Area 5 – Detailed Site Investigation* (AECOM, 2021a), and *Audit Area 3 – Detailed Site Investigation* (AECOM, 2022).

As part of environmental assessments, AECOM has conducted a series of GMEs at the Site since 2015. The most recent Site-wide GMEs were conducted in August 2019 and November 2019, the outcomes of which were reported and summarised in the AECOM report titled *Groundwater Well Installation and Monitoring 2019* (AECOM, 2020a). Since then, a targeted GME has also been undertaken at the Gateway area in December 2022, the outcomes of which were reported in the AECOM report titled *The Gateway – Data Gap Assessment* (AECOM, 2023a).

A Well Maintenance Program was undertaken between 14 September – 6 December 2023, during which a number of wells, which were either damaged or buried by Site activities (such as excavation, spray sealing of surfaces, or vehicle movements on Site), were located and repaired.

Following the Well Maintenance Program, a Targeted GME was undertaken between 29 November – 6 December 2023 at and surrounding the Precinct South area to collect updated groundwater data to record current groundwater quality and conditions in this area. These data will inform detailed assessment of the condition at Precinct South, which will be undertaken as a separate phase of work.

This factual report consolidates and summarises the results of the Well Maintenance Program and the Targeted GME.

1.2 Objectives

The objectives of the Well Maintenance Program and Targeted GME were to:

- Assess the condition of groundwater wells in and surrounding the Precinct South (including wells off-Site to the south), and, where wells were not considered suitable to sample:
  - Locate any buried or ‘missing’ groundwater wells
  - Undertake well maintenance and repair activities (if possible) of damaged wells.

  It is noted that groundwater wells in other portions of the Site that were noted to be either lost or damaged during the December 2022 Targeted Gateway GME, were also included in this program.
- Collect updated groundwater data at and surrounding the Precinct South to record current groundwater quality and conditions. Detailed assessment of the groundwater data will be undertaken separately.

The objective of this report is to provide a clear and concise summary of the results to the Well Maintenance Program and the Targeted GME undertaken at and surrounding the Precinct South area.

Detailed assessment of protected environmental values (PEV), nature and extent of impacts, historical data and trends at the Precinct South is not presented in this factual report and will be undertaken separately.

1.3 Scope of Work

The scope of work undertaken at and surrounding the Precinct South are summarised in **Table 1**.

Table 1 Scope of Work

Task	Description	Details
1	Well Maintenance Program (14 September – 6 December 2023)	• *Walkover and well inspection* (14 September 2023): A walkover and targeted well inspection was undertaken to assess the accessibility and condition of groundwater wells at and surrounding the Precinct South, to identify wells that may require to be located (due to well gatics not being visible at the surface), as well as those that may require maintenance (due to being damaged) to ensure serviceability of the wells prior to undertaking a GME. • *Well surveying and metal detection* (1 November 2023): A licenced surveyor was engaged to locate up to 25 potentially buried or 'missing' groundwater wells (for which well gatics were not visible at the surface during the inspection undertaken on 14 September 2023). A combination of methods including metal detection and Global Positioning System (GPS) survey based on previously reported coordinates were used. Of the 25 wells, 18 were relevant to the Targeted Precinct South GME scope, and seven wells were from other portions of the Site which were not locatable during the Targeted Gateway GME (AECOM, 2023a). • *Well maintenance and repair* (13 November 2023): Maintenance and repair work was undertaken on select wells (as required), including cutting of bitumen and clearing of fill to expose gatics (where well gatics were buried under the surface), replacement of gatic bolts (where bolts were damaged, sheared or missing), replacement of gatic covers (where gatic covers were damaged), extension of the polyvinyl chloride (PVC) well casing to surface where gatics were buried under fill in re-graded areas of the Site. • *Re-survey of wells* (6 December 2023): A licenced surveyor was engaged to survey the updated heights [metres Australian Height Datum (m AHD)] of the top of the PVC casing for two groundwater wells (MW146 and RN4), which were uncovered from approximately 0.5 m bgl and extended to current ground surface level during the 13 November 2023 well maintenance and repair work. Further GPS survey and metal detection was undertaken to locate three additional wells (MW142, MW143 and MW155).
2	Targeted GME (29 November – 6 December 2023)	• *Gauging event* (4 December 2023): Gauging of the groundwater Standing Water Level (SWL) and Light Non-Aqueous Phase Liquid (LNAPL) thickness, where present, was conducted at a total of 31 groundwater wells located at and surrounding the Precinct South. • *Sampling event* (29 November – 6 December 2023): Collection of 27 primary groundwater samples over a six-day sampling period, from abovementioned groundwater wells, noting no samples were collected at four wells where measurable LNAPL was observed. Quality Assurance/Quality Control (QA/QC) samples were also collected. • Laboratory analysis of collected groundwater samples and QA/QC samples by National Association of Testing Authorities (NATA) accredited laboratories.
3	Reporting	• Preparation of this report summarising the results of the activities undertaken.

Further details regarding the field methodology adopted are provided in **Section 3.0** and **Section 4.0**.

2.0 Precinct South Details

The overall Macquarie Point Site, located at 10 Evans Street, Hobart, Tasmania, is approximately 9.3 hectares (ha) and is currently zoned as '*Macquarie Point Mixed Use Zone (Activity Area 3.0)*' for mixed use under the *Sullivans Cove Planning Scheme 1997* [(Hobart City Council (HCC, 2021)].

The Precinct South is a sub-area located in the south-eastern portion of the broader Site (refer **Plate 1** and **Figure F2** in the **Figures** section). For the purpose of reference to earlier reports, the Precinct South is comprised of the historic Audit Area 3 in its entirety, and a portion of historic Audit Area 5.

Site investigations have identified impacts at the Precinct South area, located in the south-eastern portion of the Site, which are associated with a history of industrial activities including rail/locomotive operations, freight handling and distribution, fuel and oil transfer, and bulk fuel storage.

2.1 Description

The Precinct South area is described below in **Table 2**.

Table 2 The Precinct South Details

Item	Details
Identification	The Precinct South, Macquarie Point
Address	10 Evans Street, Hobart, Tasmania, 7001 (see **Figure F1** in the **Figures** section)
Precinct South Area	Approximately 1.4 ha
Title Details	The Precinct comprises a portion of land title 113521/1 (formerly CT 114462/1) which make the overall Site area.
Current Owner	State of Tasmania (Crown Land)
Local Government Authority	Hobart City Council
Current Zoning	'*Macquarie Point Mixed Use Zone (Activity Area 3.0)*' (HCC, 2021)
Layout	The Precinct South is relatively flat, with a slight rise to the northern edge. The surface is sealed with bitumen, concrete, and gravel. One building currently occupies the central southern portion of the Precinct South area: • The Red Shed, currently occupied by a microbrewery (Hobart Brewing Company). A slab is present to the east of the Red Shed which was formerly occupied by the SeaRoads Shed, which was demolished in late 2022. Red Square, to the west of the Red Shed, is currently used as an intermittent public events space, and is used as a market place for small mobile vendors (e.g. coffee and food vendors, and hairdressers). The northern and central portion of the Precinct South is currently used as public carparking. The layout of the Precinct South is shown on **Figure F3** in the **Figures** section.
Surrounding Land Uses	• North – Unoccupied area of the Site (referred to as the Precinct North), temporarily being used for carparking and storage of shipping containers. A Waste Water Treatment Plant (WWTP) is located to the north and east beyond the Site boundary.

Item	Details
	• East –TasPorts owned land including carparking and port facilities. • South – Evans Street, with commercial properties (including TasPorts and University of Tasmania) and residential properties (apartments) beyond, which extend towards Hunter Street and Sullivans Cove. • West – The Goods Shed and Yard portion of the Site, which is used as office space and for temporary events, with commercial and residential properties beyond.
Geology	The Precinct South has been subject to significant filling since the early 1800s and is located on reclaimed land. Fill material across the Precinct South, and the greater Macquarie Point site, consists of clays, sands, gravels, cobbles and bricks. Deeper fill material consists of silty sands, similar to the underlaying natural material, and may be associated with reworked natural material or dredged material. Natural soils encountered below the Precinct South consists of estuarine/marine deposits (silty sands) and weathered dolerite including clays, gravels, cobbles. Dolerite bedrock is present below the Precinct South and is noted to generally decrease in depth to the south and east. The known lithology is summarised below: • Fill material: 0 to 12 m below ground level (bgl) • Estuarine/marine deposits: 3.7 to 15 m bgl • Weathered dolerite: 11.2 to 19 m bgl • Dolerite bedrock: 5 to 25+ m bgl
Hydrogeology	Regional groundwater flow is inferred to be in a general easterly direction toward the River Derwent. The Site is underlain by a single aquifer unit (within multiple lithological units). Groundwater modelling completed by GHD Group Pty Ltd (GHD, 2014) indicates groundwater flow to the south of the Site is in an easterly direction between the southern boundary of the Site and the location of Hunter Island. The easterly groundwater flow direction is considered to be influenced by Hunter Island, which is likely to be relatively low permeability when compared to the surrounding sediment, and the higher permeability sediment located in the former Hobart Rivulet (i.e. beneath Evans Street). The former Hobart Rivulet is considered to be a likely preferential pathway for groundwater flow. There are a number of former sea walls located beneath and surrounding the Site. The sea walls were used in the progressive stages of land reclamation and are likely to influence localised groundwater flow direction. Evidence of tidal influence on groundwater levels has been previously identified to the south of the Site within the inferred groundwater flow path at MW151, where tidal variation of approximately 0.1 m has been noted. Tidal influence [i.e. increasing SWL variations] has been noted to increase toward Sullivans Cove. The inferred potentiometric contours for shallow groundwater (refer **Figure F5**the **Figures** section) based on the SWL data collected during the gauging event undertaken on 4 December 2023, at and surrounding the Precinct South, indicate that groundwater beneath the Precinct South is in a generally south-westerly direction, with some southerly components in the southern portion of Precinct South. Some possible easterly flow components are noted at the eastern boundary, although this may be an artefact of lack of gauging data in the TasPorts area. Groundwater below the Precinct South is generally encountered between 1.9 to 4 m bgl.

2.1.1 Proposed Future Land Use

Based on the *New Territory from Old Ground – Macquarie Point Strategic Framework and Masterplan 2015-2030* (the Masterplan) (MPDC, 2015), the Precinct South was intended for development for a mixture of future uses, as shown on **Figure F2** in the **Figures** section, comprising:

- Commercial (including visitor accommodation, retail, arts and institutional); and
- Public open space.

In September 2022, it was announced by the Tasmanian Government Department of State Growth that the Macquarie Point site is the preferred location for a future sports stadium and multipurpose area. In October 2023, the *Mac Point Draft Precinct Plan* (the Precinct Plan) (MPDC, 2023) was released for the redevelopment of the Site, which sets out a mixed-use precinct comprised of interconnected discrete Zones. The Precinct Plan is presented in **Plate 2**, as well as in context with the boundaries of the Precinct South on **Figure F4** in the **Figures** section.

Based on the Precinct Plan (MPDC, 2023), the Precinct South area is proposed to comprise a combination of Commercial and Open Space use areas, specifically:

- The Complementary Integrated Mixed Use Zone; and
- The ‘Multipurpose Stadium and Associated Concourse Zone’.

Basement carparking is not currently planned for this area and is considered unlikely to occur based on the shallow depth to groundwater, and potential management issues associated with residual LNAPL present in the south-eastern portion of the Site. Additional remediation and/or mitigation controls will be required if basement parking is considered in future.

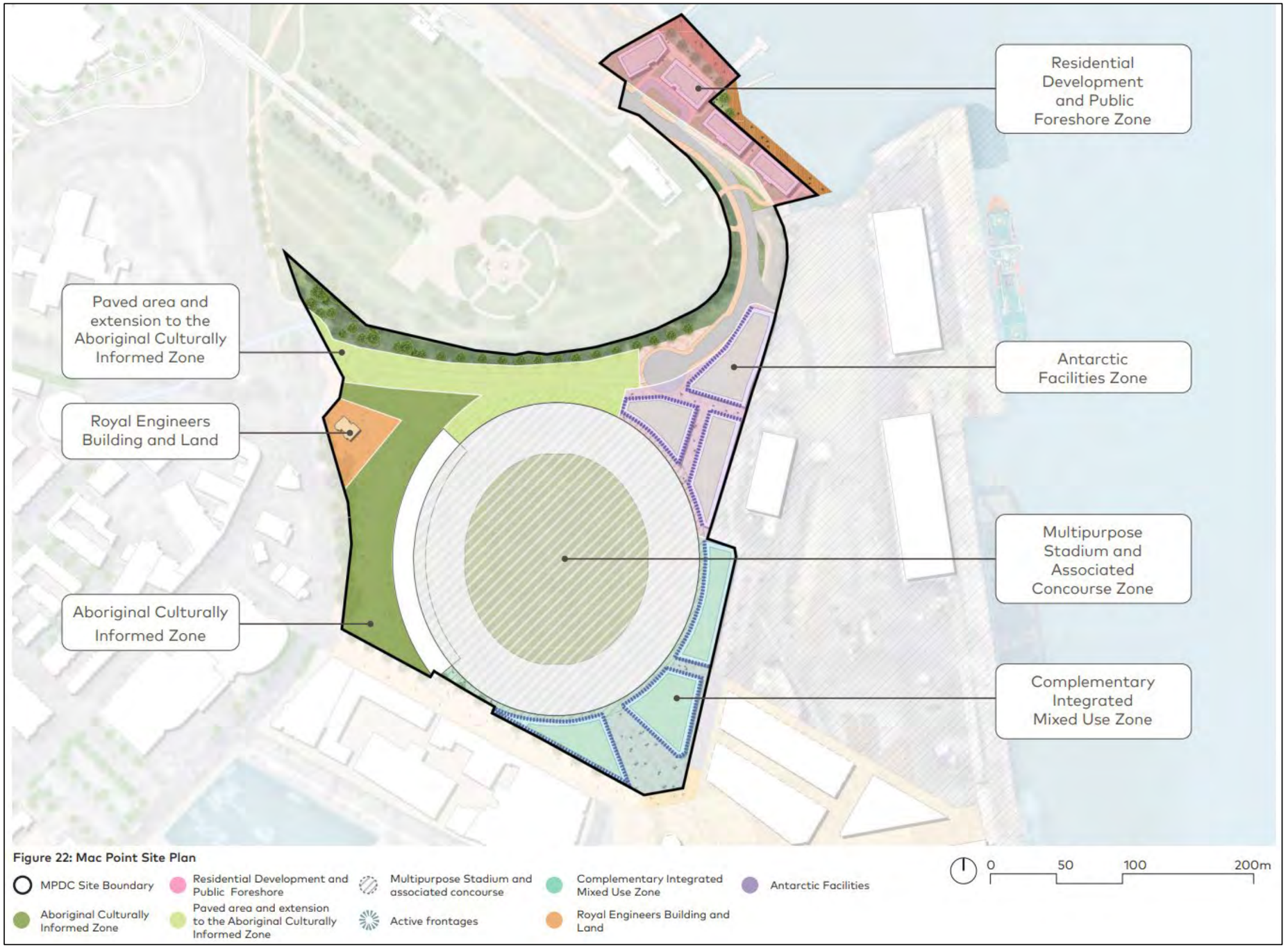

Plate 2 Precinct Plan and Future Land Uses (MPDC, 2023)

2.2 Chemicals of Potential Concern

On the basis of the historical land uses of the Precinct South and surrounding areas, and previous environmental investigations that have been undertaken at and surrounding Precinct South, the following chemicals of potential concern (CoPC), summarised in **Table 3** below, may be present in the Precinct South.

Table 3 Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Chemicals of Potential Concern	Potential Impacted Media
The Precinct South		
Land Reclamation	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs	• Soil • Groundwater • Soil Vapour
Freight Handling	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, pH	
Fuel Storage	Lead, TRH, PAH, BTEX, ACM	
Mechanics Workshop	Heavy metals[2], TRH, PAH, BTEX, phenolic compounds	
Adjacent Areas		
Land Reclamation	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs	• Soil • Groundwater • Soil Vapour
Roundhouse (Locomotive maintenance and refuelling)	TRH, BTEX, PAH, phenolic compounds, chlorinated hydrocarbons, SVOC, VOC	
Railyards (including fuel storage) and Freight Handling	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC	
Gasworks	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, cyanide, ammonia, ACM	
Fuel Storage and Bulk Fuel Terminals	Lead, TRH, PAH, BTEX, PFAS[3], ACM	
Port Operations	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC	
Former Hobart Rivulet	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, cyanide, ammonia, SVOC, VOC, OCPs	

Notes: TRH – Total Recoverable Hydrocarbons; PAH – Polycyclic Aromatic Hydrocarbons; BTEX – Benzene, Toluene, Ethylbenzene and Xylenes; SVOC: Semi-Volatile Organic Compounds; VOC: Volatile Organic Compounds; OCP: Organochlorine Pesticides; PFAS – Per and Poly-fluoroalkyl Substances; ACM – Asbestos Containing Material; 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel and zinc; 2 – lead and arsenic; 3. A review of historical information has not identified the use of products containing PFAS, however there is potential for firefighting foams containing PFAS to have been used historically as part of emergency response operations at the former Bulk Fuel Terminals.

3.0 Data Quality

3.1 Data Quality Objectives

The *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013*, (ASC NEPM, 2013) *Schedule B2: Guideline on Site Characterisation* specifies that the nature and quality of the data produced in an investigation are determined by the Data Quality Objectives (DQOs). As referenced by the ASC NEPM (2013), the DQO process is detailed in the United States Environmental Protection Agency (US EPA) *Guidance on Systematic Planning Using the Data Quality Objectives Process* (2006), EPA QA/G-4 (EPA/240/B-06/001).

The process of establishing appropriate DQOs is defined by a seven-step planning approach as presented by ASC NEPM (2013) and US EPA (2006). The DQOs for the Targeted Precinct South GME project were established during the development of the field program and presented in the Sampling, Analysis and Quality Plan (SAQP) [AECOM, 2023b] previously prepared for the work. For reference, the DQOs are presented in **Appendix A**.

3.2 Data Quality Indicators

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data include:

- Assessment of the reproducibility of the data by calculation of the Relative Percent Difference (RPD) for laboratory and field duplicate samples. This provides an indication of the precision of the data. The RPD is calculated from the absolute difference between results of the duplicate pair divided by the mean value of the duplicate pair as presented below:

  RPD (%) = 100 x (D1-D2) / ((D1+D2) / 2)

  Where: D1 = primary sample analysis; D2 = duplicate sample analysis
- Assessment of the analytical results for laboratory QC samples. This provides an indication of the accuracy of the data.
- Collection of rinsate blanks (at a rate of one per day of sampling) to provide an indication of accuracy related to potential for cross contamination of samples during sampling.
- Collection of field blanks (at a rate of one per day of sampling) to assess ambient conditions during sampling.
- Analysis of trip blanks (at a rate of one per esky) to provide an indication of accuracy related to potential for cross contamination of samples during transport.

Assessment criteria for DQI for the sampling work undertaken are listed below in **Table 4**.

Table 4 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate blanks	Less than the laboratory limit of reporting (LOR)
Intra and inter laboratory field duplicates (1)	RPDs less than: • 30% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR) • 200% for low level laboratory duplicates (i.e. 1 to 10 x LOR)
Trip blanks	Less than the laboratory LOR
Field blanks	Less than the laboratory LOR

Data Quality Indicator	Acceptance Criteria
Laboratory duplicates (2)	RPDs Less than: • 20% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR)
Matrix spikes (3, 4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (4)	Recoveries between 70-130%.
Surrogate spikes	See Note 5

Notes:

1. *This RPD range is based on typical RPDs recommended in AS 4482.1-2005 (Standards Australia, 2005). Higher variations can be expected for organic analyses compared to inorganics, and for samples with low analyte concentrations or non-homogeneous samples (ASC NEPM, 2013). It is noted that AS4482.1-2005 was recently withdrawn by Standards Australia in 2022, although, it is still considered acceptable for this withdrawn standard to be used, considering the absence of replacement technical documents, and on the basis that soil sampling guidelines from other states including from EPA Victoria (2009) and Queensland Government (2018) adopt typical RPD acceptance criteria recommended in AS4482.1-2005.*
2. *If the concentrations are close to the LOR, then higher RPDs may be accepted. Variation can be expected to be higher for organic analysis than for inorganics (AS 4482.1-2005).*
3. *Assumes that samples are homogeneous and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on US EPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in US EPA Method SW846.*

3.3 Assessment of Data Quality

A detailed assessment of data quality is provided in **Appendix A** which encompasses appraisal of field and laboratory QA/QC for groundwater data collected across the Precinct South and surrounding areas between 29 November – 6 December 2023.

Based on the outcomes of the DQO process, the quality of the data collected was assessed on a range of factors including:

- Documentation and data completeness; and
- Data quality, comparability, representativeness, and precision and accuracy for sampling and analysis.

The relevant evaluation criteria for each of these issues are presented in below in **Table 5** below.

Table 5 DQO Evaluation and Criteria

DQO	Evaluation Criteria	Comments
Documentation Completeness	Site properly described	**Section 1.1** and **Figure F2**
	Investigation area properly described	**Section 2.0** and **Figure F3**
	Understanding of Site history and chemicals of interest presented	DSI reports (AECOM, 2021a and 2022) and **Section 2.2**
	Sampling locations properly and accurately located	SAQP (AECOM, 2023b), **Figure F3** and **Table T2**.

DQO	Evaluation Criteria	Comments
Data Completeness	Completion of calibration records, field records, chain of custody (CoC) forms, laboratory sample receipt and test certificates from NATA accredited laboratories	**Appendix B**, **Appendix C**, **Appendix D** and **Appendix E**
	Samples tested for appropriate chemicals of interest	SAQP (AECOM, 2023b), **Section 2.2**, **Table T3** to **Table T6**, **Appendix A**, **Appendix D** and **Appendix E**
	Consideration of key receptors of interest	DSI reports (AECOM, 2021a and 2022), **Section 2.1** and **Appendix F**
	Appropriate sampling techniques, sample storage and transportation of samples	SAQP (AECOM, 2023b), **Section 4.0**, **Appendix A** and **Appendix D**
Data Comparability	Selection of NATA certified laboratory using NEPM testing procedures	SAQP (AECOM, 2023b), **Appendix A** and **Appendix E**
	Intra-laboratory and inter-laboratory duplicate samples	SAQP (AECOM, 2023b), **Appendix A**, and **Appendix C**
Data Representativeness	Collection and analysis of adequate number of representative samples from each location	SAQP (AECOM, 2023b), **Appendix A** and **Figure F3**
	Use of properly trained and qualified field personnel	SAQP (AECOM, 2023b), **Appendix A** and **Section 4.0**
Precision and Accuracy	Assessment of RPD for laboratory and field duplicate samples	**Section 3.2** and **Appendix A**
	Assessment of suitability of LORs	**Appendix A** and **Table T3** to **Table T6**
	Assessment of the analytical results for laboratory QC samples	**Section 3.2** and **Appendix A**
	Collection and assessment of rinsate and blank samples	**Section 3.2** and **Appendix A**

The Targeted Precinct South GME was undertaken in accordance with the SAQP (AECOM, 2023b). The SAQP provided detail on sampling methodologies, the rationale for sample location selection, analytical schedule and DQOs.

Detailed assessment of field and laboratory QA/QC for the groundwater data collected has been undertaken in **Appendix A**. The data validation procedure employed indicate that the following should be considered when assessing the data provided in the report:

- During the six-day groundwater sampling period, no rinsate blank sample was collected on the first day of sampling (29 November 2023), hence assessment of potential cross-contamination during sampling undertaken on this day is limited. Wells sampled on this day (RN4 and MW146) did not report any exceedances of adopted criteria which affect the overall conclusions and outcomes of assessment, and no detections which are considered likely to indicate cross-contamination were reported in the five rinsate samples collected on each other day of sampling, thus it is considered unlikely that cross-contamination may have occurred to an extent which affects assessment of groundwater condition in the Precinct South.

- LORs for select PAHs, including naphthalene, anthracene, phenanthrene, benzo(a)pyrene and benz(a)anthracene, were reported above the adopted Ecosystem Protection (90%), Drinking Water (Health), and/or Recreation (Primary / Secondary Contact) criteria. Exceedances of the adopted criteria for either these CoPC, and other CoPC, have been detected in groundwater during this sampling event and previous investigations, and these uses are considered precluded for groundwater within the Precinct South.

  As a results, the LORs of these CoPC which exceed adopted criteria are not considered significant or to affect the overall assessment of precluded uses of groundwater in the Precinct South. However, future sampling events should consider if lower LORs for this CoPC should be requested if practical.

- The LOR for aluminium was reported above the adopted Ecosystem Protection (90%) screening value. However, concentrations in excess of this criteria were reported in approximately 85% of the samples analysed, and this LOR discrepancy is not considered to affect the overall assessment of groundwater condition or precluded groundwater uses in the Precinct South, as detected concentrations of aluminium above LOR already preclude this use . However, future sampling events should consider if lower LORs for this CoPC should be requested if practical.

- Recovery of the surrogate 2-Bromonaphthalene (for TPH – semi-volatile speciation) was marginally greater than the upper DQO limits, which may indicate potential for minor over-estimation of reported concentrations of semi-volatile speciated TPH fractions in MW146. This may result a minor level of conservatism in the interpretive use of the data but does not impact the reliability of the data.

- The rate of laboratory QC testing of laboratory duplicates and matrix spikes were below the expected frequency for some analytes due to insufficient sample volume, however this is not considered to impact the reliability of the data as:

  - Results are consistent with historic assessments.
  - No new sources of impact are known to have been introduced since previous investigations have been conducted.

Where there have been non-compliance from data quality indicators identified, the following conservative measures have been adopted:

- Adopted criteria lower than reported LORs have been conservatively considered precluded.
- Results have been compared to data from this event and historic assessments, and existing Site knowledge, to assess if discrepancies are consisted likely to represent meaningful gaps or effects on interpretation.

On the basis of the known contamination status of the Site, the analytical data validation procedure employed, and the field procedures adopted during the field investigations, the overall quality of the analytical data is considered to be of an acceptable standard for interpretative use.

4.0 Field Methodology

4.1 Well Maintenance Program

As described in **Table 1**, the Well Maintenance Program included the following activities:

- Walkover and well inspection (14 September 2023)
- Well surveying and metal detection (1 November 2023)
- Well maintenance and repair (13 November 2023)
- Re-survey of wells (6 December 2023)

The walkover and well inspection were undertaken by properly trained and qualified AECOM field personnel. A licenced surveyor was engaged for GPS survey work and a licenced driller was engaged for well repair work, which consisted of cutting asphalt where wells were suspected covered, hydro-excavation where wells were suspected to be buried, minor repairs with hand tools to replace bolts or gatics, and/or extension of stand-pipes and installation of new gatics if required.

The work was undertaken in accordance with a Safety Health and Environment Management Plan (SHEMP) for the project, including task-specific safe work method statements (SWMS).

4.2 Targeted GME – Gauging and Sampling

Groundwater gauging and sampling for the Targeted GME were undertaken properly trained and qualified AECOM field personnel, in accordance with the SAQP for the work, as well as guidance provided in the following documents:

- ASC NEPM (2013), *Schedule B2: Guideline on Site Characterisation*.
- Documents in the absence of relevant Tasmanian guidelines, including:
  - EPA Victoria Publication IWRG701, *Sampling and Analysis of Waters, Wastewaters, Soils and Wastes*, June 2009.
  - EPA Victoria Publication 669.1, *Groundwater Sampling Guidelines*, February 2022.
  - EPA Victoria Publication 668.1 *Hydrogeological Assessment (Groundwater Quality) Guidelines*, October 2022.

Specific details regarding the field methodology are summarised in **Table 6** below.

Table 6 Methods

Activity	Methodology
Groundwater Monitoring Well Gauging	• Monitoring wells were gauged using an Interface Meter and SWLs and total well depths were measured as m below top of casing (BTOC). • Where LNAPL was present, the bottom depth of the well was not gauged.
Groundwater Monitoring Well Sampling	• Groundwater samples were collected via low flow sampling techniques. • Water quality parameters (including pH, electrical conductivity [EC], dissolved oxygen [DO], oxidation reduction potential [ORP] and temperature) were measured during purging using a calibrated water quality meter. Sampling was undertaken following the stabilisation of the water quality parameters (i.e. DO ±10%; EC ±3%; pH ±0.05; ORP ±10mV; temperature ±0.2°C) and water level (<0.1 m). • Samples were field-filtered (using 45µm in-line filters) for analysis of dissolved metals and ferrous iron.

Activity	Methodology
Groundwater QC Sampling	• Intra-laboratory and inter-laboratory duplicate groundwater samples, rinsate blanks, trip blanks and field blanks were collected as described in **Section 3.2**.
Sample Nomenclature	All samples were clearly labelled with unique sample identification numbers consisting of the date, sample location and sampler's initials. In the case of intra and inter-duplicate samples, sample containers were labelled so as to not reveal their purpose or sample location to the laboratory.
Sample Preservation	• Samples were stored on ice, in a darkened esky whilst at the Site, and in transit to the laboratory. • As required, groundwater samples were placed in appropriately preserved laboratory-supplied containers for the analyses performed by NATA-accredited laboratories.
Equipment Decontaminatio n	• Reusable groundwater sampling equipment was decontaminated between each sample location using a Decon 90 solution and subsequently rinsed in potable water. • Clean, disposable nitrile gloves were worn during gauging and sample collection. Gloves were changed between each gauging and sampling location.
Management of Purged Groundwater	• Purged groundwater from sampling activities was placed into labelled drums and stored on-Site for future disposal by a licenced waste contractor.

Equipment calibration certificates are attached in **Appendix B**.

Field records are attached in **Appendix C**.

The CoC forms and Sample Receipt Notification (SRN) documentation are attached in **Appendix D**, and laboratory certificates are attached in **Appendix E**.

5.0 Field Observations

5.1 Well Maintenance Program

As described in **Section 1.3** and **Section 4.1**, in preparation for the Targeted GME, a Well Maintenance Program was undertaken between 14 September – 6 December 2023, which included an inspection to assess the accessibility and condition of groundwater wells at and surrounding the Precinct South, followed by survey-location and repair of a number of wells which were either damaged or buried as a result of Site activities (such as excavation, spray sealing of surfaces, or vehicle movements on Site).

The outcomes of the work were presented in the SAQP (AECOM, 2023b) and are summarised in **Table T1** in the **Tables** section.

It is noted that:

- Two wells, namely MW146 and RN4 were buried 0.5 – 0.6 m deep under fill placed in the area for regrading of the surface for the Dark MOFO event in June 2023. Hydro-excavation (non-destructive digging) was used to expose the gatics for these wells buried under fill, following which the well casings were extended and gatics raised to the surface level. The top of casing of these wells were resurveyed on 6 December 2023 to record the changed elevation resulting from the repair work.
- Seven wells, namely MW13, MW137, MW142, MW143, R4, S9, and TW03, are destroyed/lost. The loss of these groundwater wells is not considered to prevent fulfilment of the objectives of the GME as:
    - MW137 and R4 have not been previously sampled, and they have been monitored as part of delineation of LNAPL in the Promenade and Underground Carpark area (referred to in reports as LNAPL Plume A2). Nearby wells MW146 (located between the historic location of LNAPL Plume A2 and Precinct South) and RN4 (located in the north-western portion of Precinct South) are down-hydraulic gradient of the inferred LNAPL Plume A2 and are suitable for assessment of potential migration of LNAPL or dissolved hydrocarbons to the Precinct South.
    - At S9, historical groundwater data are available from 2015, 2016, 2017, 2018 and 2019, with no exceedances of Site-Derived RC reported. Updated groundwater data has been collected from monitoring wells up- and down- inferred hydraulic gradient which enables assessment of groundwater quality in this area.
    - At MW13:
        - Historical groundwater data are available from 2015 and 2019. No exceedances of Site-Derived RC have been reported.
        - MW13 is inferred to have been located up- or cross-hydraulic gradient of historical fuel-related sources of contamination identified within this portion of the Site. Based on aerial images, the area surrounding and up-gradient of MW13 has predominantly been used for freight storage & as open-space since the mid 1970s until 2014, and for carparking & open space since 2016, without any new sources of potential impact to groundwater known to be introduced since the previous monitoring event.
        - Updated groundwater data has been collected from up-hydraulic gradient (MW127A/B and MW55) as well as down-hydraulic gradient (several wells).
        - MW13 previously delineated LNAPL to the west of Plume B. Excavation to the water table was conducted 9.5 m to the west of MW13 in 2023 and no LNAPL or sheen was apparent on the groundwater, as show on **Plate 3** in **Section 5.2**, and is considered suitable to delineate LNAPL in this direction.

      As MW13 does not have historical impact to groundwater reported, has not had contaminant sources of impact between the previous monitoring events introduced, and the Targeted GME included assessment of groundwater up, down, and cross-gradient, replacement of this well is not proposed.

- At TW03:
  - Historical groundwater data are available from 2016, 2017, 2018 and 2019. No exceedances of Site-Derived RC have been reported.
  - No new contaminant sources have been identified in this area since the previous monitoring. Potential sources of contamination (oil and diesel pipelines and lead impacted soil) in this area have been removed (AECOM, 2021b).
  - Previous groundwater gauging has reported potential off-Site mounding and localised westerly groundwater flow from TasPorts land to the east. The off-Site area potentially hydraulically upgradient currently consists of a sealed bitumen surface and apparent warehouse space, and review of aerial photographs on NearMap[1] between at least 6 March 2011 (the point at which NearMap images are available) and when the Targeted GME was undertaken does not indicate any change in use. As noted above, multiple GMEs conducted in this period have not reported any contamination in groundwater in TW03 which may indicate an off-Site source.

    While the presence/absence of groundwater mounding and potential off-Site impacts entering Site groundwater could not be assessed as part of this GME with the loss of TW03, it is considered unlikely that groundwater conditions have altered in a manner which may introduce new contamination based on no apparent changes in off-Ste use, and removal of on-Site sources of potential impact.

  As TW03 does not have historical impact to groundwater reported, and is not considered likely to have had any new source of potential impact between the previous monitoring events introduced, replacement of this well is not proposed.
- MW142 and MW143 are buried under fill placed in the area for regrading of the surface for the Dark MOFO event and were unable to be accessed. These wells, located within and immediately down-gradient of the extent of the historic LNAPL Plume A3, were last monitored as part of the November 2019 GME (AECOM, (2020a).

  The exclusion of these groundwater wells is not considered to prevent fulfilment of the objectives of the GME as:
  - LNAPL has not been measured at MW142 during any GMEs or during monitoring as part of LNAPL remediation (AECOM, 2021c) undertaken between 2016 – 2019 since installation of the well in October 2015, although LNAPL droplets were noted on the interface probe during gauging in October 2016.
  - LNAPL remediation, including at MW143, was undertaken between 2015 and 2017, and LNAPL was not detected in the well between July 2017 and November 2019. LNAPL is not considered to remain in this well (AECOM, 2021c).
  - The Targeted GME included gauging and assessment of groundwater from nearby wells, including MW146 (down-hydraulic gradient and between these wells and the border of the Precinct South) and RN4 (down-hydraulic gradient and located at the border of the Precinct South closest to these wells) and MW155 (which is cross-hydraulic gradient of MW142 and MW143). No LNAPL or hydrocarbon concentrations indicative of LNAPL were detected in these wells, and it is considered unlikely that LNAPL is migrating into the Precinct South.

Following completion of the Well Maintenance Program, a total of 31 groundwater wells at and surrounding the Precinct South were selected for the Targeted GME.

5.2 Groundwater and LNAPL Gauging

A groundwater gauging event was undertaken on 4 December 2023 to measure groundwater SWLs and LNAPL thickness (where present) at a total of 31 groundwater wells located at and surrounding the Precinct South.

[1] Nearmap.com, accessed 30 January 2024

Based on the SWL data collected during the gauging event, the inferred potentiometric contours for shallow groundwater are presented in **Figure F5** the **Figures** section, noting that:

- SWLs from deep groundwater monitoring wells, i.e. wells installed to depth of >10 m bgl, namely, MW124B, MW125B, MW126B and MW127B, are not considered in the potentiometric contours.
- Two wells, MW150 and MW155, were unable to be gauged as part of the gauging event on 4 December 2023. MW150, which is located in the middle of Evans Street, was unable to be safely accessed due to traffic, and MW155, which was initially buried under fill, was uncovered and accessed on 6 December 2023. Thus, SWL records collected at the time of sampling of these wells, from 1 December 2023 for MW150 (i.e. three days before the gauging event), from and 6 December 2023 for MW155 (i.e. two days after the gauging event) were used for the preparation of potentiometric contours. There is potential for some minor localised effects on the potentiometric contours based on this time gap, however, overall contours are consistent with previous gauging and inclusion of these SWL data are not expected to significantly impact interpretation of the contours.

The following are noted:

- Recorded depth to groundwater ranged from:
  - 1.582 m bgl (MW164) to 3.250 m bgl (MW176) in wells screened in the shallow aquifer
  - 2.281 m bgl (MW126B) to 3.056 m bgl (MW124B) for wells screened in the deeper aquifer (top of screened interval >9 m bgl).
- The inferred potentiometric contours for shallow groundwater indicate that groundwater at and surrounding the Precinct South has a generally south-westerly flow direction, with some southerly components in the southern portion of Precinct South, and possible easterly flow components at the eastern boundary, although this may be an artefact of lack of gauging data in the TasPorts area.
- Hydrocarbon odours were noted at monitoring wells MW03, MW05 and PW02. Although hydrocarbon odour at well S8 was not noted in the field records, the field staff has verified that LNAPL was confirmed at S8 (using an interface meter as well as a bailer) and that hydrocarbon odour was present at S8.
- Dense Non-Aqueous Phase Liquid (DNAPL) was not encountered at any of the groundwater wells monitored.
- Measurable LNAPL was observed at four groundwater monitoring well locations (MW03, MW05, PW02 and S8) as summarised in **Table 7**, with thickness ranging from 0.050 to 0.160 m. The historical reported range of LNAPL thickness from previous GMEs and monitoring at these wells (AECOM, 2021c) has also been included.

Table 7 LNAPL Measured in Groundwater Wells during Gauging Event (4 December 2023)

Well ID	Depth to Groundwater (m bgl)	Depth to LNAPL (m bgl)	LNAPL Thickness (m)	Historical Maximum LNAPL Thickness (m)	Thickness Within Historical Range?
MW03	1.97	1.92	0.050	0.091	Yes
MW05	2.17	2.1	0.070	0.096	Yes
PW02	2.25	2.09	0.160	0.080	No
S8	1.99	1.87	0.120	0.014	No

With regards to delineation of LNAPL, it is noted that:

- As well MW13 was destroyed (refer **Table T1**) during pipeline removal works in this area, there is a potential gap in LNAPL delineation to the west of groundwater well S8. However, excavation to groundwater was undertaken approximately 9.5 m west of groundwater well MW13 as part of soil remediation in the Precinct South in 2023, and no LNAPL or sheen was apparent on the surface of the groundwater exposed. A photograph of the groundwater encountered in this excavation is presented in **Plate 3**.
- Consistent with historic assessment, LNAPL is not delineated off-Site in TasPorts land to the east, however, repeated requests for access to gauge or monitor groundwater condition in this direction have not been granted by TasPorts. The LNAPL plume has been previously assessed as likely to be present on TasPorts land, and originate from historic activities (bulk fuels storage and handling) on both the Site and TasPorts land.



Plate 3 Groundwater in excavation approximately 9.5 m west of groundwater well S8 undertaken as part of soil remediation work in the Precinct South in 2023

The recorded LNAPL thickness in PW02 (0.160 m) and S8 (0.120 m) exceeded the historical maximum LNAPL thicknesses recorded for these wells and for Plume B as a whole (0.096 m, previously detected in MW05 in 2018) (AECOM, 2022). The cause of increase is not known, but as the inferred source of Plume B (historic fuel storage tanks in the area and on the TasPorts land to the east) have been removed, and no new sources, such as a fuel spill or installation of new storage tanks or lines, are known to have occurred in the area, it is considered likely that the recorded LNAPL thicknesses are localised changes to the existing plume and do not represent a change in plume mobility. Recent works, such as the removal of the SeaRoads Shed in late 2022, or remediation excavation conducted to the west in 2023, may have introduced vibrations in the ground or, in the case of the remediation excavation, created a temporary void, which has affected the LNAPL area.

Remediation attempts at Plume B, conducted between 2000-2001 and 2015-2019, generally reported low recoverability and general impracticability of LNAPL remediation via extraction (AECOM, 2021c). In

order to assess if the recorded LNAPL thickness in this GME represents a change in plume conditions which may indicate further remediation could be considered, an additional LNAPL gauging and transmissivity testing event was conducted between 20-21 March 2024 (AECOM, 2024a) and reported that:

- Detected LNAPL thicknesses in wells in March 2024 were consistent with, or less than, the reported LNAPL thicknesses in December 2023. LNAPL was only detectable in three wells (MW05, PW02, and S8) and was no longer detectable in MW03.
- LNAPL transmissivity in PW02 and S8 was calculated following baildown testing and was at or below the range at which further LNAPL recovery was considered efficient. Insufficient LNAPL recovery occurred in MW05 to assess LNAPL transmissivity, and is considered indicative of overall low LNAPL transmissivity.

Based on these results, and on the lack of any identified source of ongoing LNAPL release which could be increasing the volume of LNAPL in Plume B, it is considered that LNAPL Plume B remains stable and is unlikely to have mobilised. Further remediation of LNAPL Plume B was considered unlikely to have a material impact on reducing the residual LNAPL volume.

During the Targeted GME, samples were collected from 27 groundwater wells, noting no samples were collected at four wells where measurable LNAPL was observed.

Table 8 below summarises the stabilised groundwater quality parameters measured during the Targeted GME, at the time of groundwater sampling via low-flow sampling method. The table summarises data from wells at and surrounding the Precinct South, including off-Site wells.

Table 8 Summary - Field Water Quality Parameters

Wells	Values	pH	EC (mS/cm)	ORP (mV) [1]	DO (mg/L)
Shallow Wells (i.e. wells installed to depths of ≤10 m bgl)	Minimum	6.58 (MW126A)	305 (MW163)	-1231.0 (RN4)	0.00 (MW60)
	Maximum	7.35 (MW163)	33,578 (MW153)	-20.4 (MW175)	0.16 (MW146)
	Average	NA	3125	-141.9	0.07
Deep Wells (i.e. wells installed to depth of >10 m bgl)	Minimum	6.38 (MW127B)	241 (MW127B)	-125.9 (MW124B)	0.02 (MW124B)
	Maximum	7.76 (MW124B)	1994 (MW126B)	-32.1 (MW127B)	0.10 (MW126B)
	Average	NA	1171	-78.4	0.06

Notes: mS/cm – millisiemens per centimetre; mv – millivolts; 1 –Field-collected ORP data has been presented herein, i.e. ORP data has not been corrected with reference to the electrode used in the field; NA – calculation of average is not applicable to pH values.

6.0 Analytical Results

Groundwater analytical data obtained from the laboratories were reviewed and screened against assessment criteria for comparison purposes only. The selected assessment criteria are detailed in **Appendix F**, including adopted Tier 1 Screening Criteria, and Site-Derived Remediation Criteria (RC) for groundwater (AECOM, 2016). These were also presented in the SAQP (AECOM, 2023b) previously prepared for the work.

Groundwater analytical data compared with adopted Tier 1 Screening Criteria are presented in **Table T3** to **Table T5**. Groundwater analytical data compared with Site-Derived RC are presented in **Table T6**. **Figure F6** - **Figure F9** in the **Figures** section shows locations with CoPC above the adopted assessment criteria in groundwater samples.

A summary of the exceedances of the adopted assessment criteria are presented on **Table 9** below.

Table 9 Summary of Exceedances of Assessment Criteria

PEV	CoPC	Criteria Exceeded [1]	Range of Reported Concentrations [1]	Number of Exceedances
Tier 1 Screening Criteria				
Drinking Water (Health)	Benzene	1	<1 - 2	1 of 27 primary results
	Arsenic	0.01	<0.001 - 0.011	1 of 27 primary results
	Lead	0.01	<0.001 - 0.025	2 of 27 primary results
	Manganese	0.5	0.079 - 3.47	17 of 27 primary results
	Naphthalene	0.17	<1 - 2.6	2 of 26 primary results
	Benz(a)anthracene	0.03	<1 - 1.2	1 of 26 primary results
	Benzo(a)pyrene	0.01	<0.5 - 1.3	1 of 26 primary results
	Cyanide Total	80	<4 - 186	2 of 26 primary results
Drinking Water (Aesthetics)	Aluminium	0.2	<0.01 - 0.32	2 of 27 primary results
	Manganese	0.1	0.079 - 3.47	26 of 27 primary results
	Total Dissolved Solids	600	189 - 22000	18 of 27 primary results
	Chloride	250	10 - 11600	7 of 27 primary results
	Sodium	180	7 - 5990	9 of 27 primary results
Recreation (Primary / Secondary Contact)	Naphthalene	1.7	<1 - 2.6	1 of 26 primary results
	Benz(a)anthracene	0.3	<1 - 1.2	1 of 26 primary results
	Benzo(a)pyrene	0.1	<0.5 - 1.3	1 of 26 primary results
Vapour Intrusion – Residential Health Screening Levels (HSLs)	>C10-C16 (minus Naphthalene)(F2)	760	<100 - 1140	2 of 26 primary results

PEV	CoPC	Criteria Exceeded [1]	Range of Reported Concentrations [1]	Number of Exceedances
Ecosystem Protection (90%)	Aluminium	0.0005	<0.01 - 0.32	23 of 27 primary samples
	Copper	0.003	<0.001 - 0.006	4 of 27 primary samples
	Lead	0.0066	<0.001 - 0.025	3 of 27 primary samples
	Manganese	0.08	0.079 - 3.47	26 of 27 primary samples
	Zinc	0.023	<0.005 - 0.077	4 of 27 primary samples
	Ammonia (as N)	1.2	<0.01 - 52	24 of 26 primary samples
	Anthracene	0.01	<1 - 3.7	4 of 26 primary samples
	Phenanthrene	0.6	<1 - 26.6	11 of 26 primary samples
	Fluoranthene	1	<1 - 5.4	7 of 26 primary samples
	Benzo(a)pyrene	0.1	<0.5 - 1.3	1 of 26 primary samples
	C10-C36 fraction (sum)	600	<50 - 1730	6 of 26 primary samples
	>C10-C40 fraction (sum)	600	<100 - 1710	6 of 26 primary samples
Buildings and Structures	Chloride	6000	10 - 11600	1 of 27 primary results
Aesthetics [2]	Hydrocarbon odours and measurable LNAPL were noted at monitoring wells MW03, MW05, PW02 and S8.			
Site-Derived Remediation Criteria				
Potential Future Residents (slab-on-grade buildings with unknown construction or multi-storey building)	TRH C6-C10 fraction (minus BTEX)(F1)	600	<20 - 600	1 of 27 primary results
	TRH >C10-C16 (minus Naphthalene)(F2)	800	<100 - 1140	1 of 26 primary results

Notes: *[1] Values are expressed as µg/L for organic CoPC and total cyanide, mg/L for other inorganic CoPC; [2] Aesthetic issues based on field observations.*

Concentrations of the following CoPC were reported above the adopted assessment criteria in at least one sample:

- Benzene
- TRH >C_{10}-C_{40} (sum), TRH C_6-C_{10} (minus BTEX)(F1), TRH >C_{10}-C_{16} (minus Naphthalene)(F2),
- Select metals (aluminium, arsenic, copper, lead, manganese, zinc)
- Select PAHs (naphthalene, anthracene, phenanthrene, fluoranthene, benz[a]anthracene, benzo[a]pyrene)
- Inorganics (chloride, sodium, total cyanide, ammonia)

Exceedances were reported for the following criteria:

- Tier 1 Screening Criteria:
  - Drinking Water (Health)
  - Drinking Water (Aesthetics)
  - Recreation (Primary / Secondary Contact)
  - Vapour Intrusion – Residential HSLs
  - Ecosystem Protection (90%)
  - Buildings and Structures
- Site-Derived RC:
  - Potential Future Residents (slab-on-grade buildings with unknown construction or multi-storey building)

No PEVs considered available in previous assessment (AECOM, 2021a and AECOM, 2022f) were reported precluded during the GME. No future residential use of the Precinct South is planned or considered likely, and no remediation of groundwater is considered required based on reported exceedances of RC.

As discussed in **Section 1.2**, further assessment of groundwater PEVs and nature and extent of impacts is not presented in this factual report and will be undertaken separately.

7.0 Conclusions

Based on the recent activities undertaken at and surrounding the Precinct South area, including the Well Maintenance Program and the Targeted GME, the following is noted:

- A Well Maintenance Program consisting of inspection of the condition of 38 groundwater wells at and surrounding Precinct South identified a number of wells requiring location or repair. To ensure serviceability of the wells prior to undertaking the GME:
  - A licenced surveyor was engaged to locate buried or 'missing' groundwater wells (for which well gatics were not visible at the surface) using metal detection and GPS survey based on previously reported coordinates were used.
  - A licenced driller was engaged to undertake maintenance and repair work on select wells (as required), including cutting of bitumen and clearing of fill to expose gatics (where well gatics were buried under the surface), replacement of gatic bolts (where bolts were damaged, sheared or missing), replacement of gatic covers (where gatic covers were damaged), extension of the polyvinyl chloride (PVC) well casing to surface where gatics were buried under fill in re-graded areas of the Site.
- Based on the Well Maintenance Program, seven wells, namely MW13, MW137, MW142, MW143, R4, S9, and TW03, are considered to be destroyed/lost. The loss of these groundwater wells is not considered to prevent fulfilment of the objectives of the GME based on available historic data and lack of changes in use, or monitoring data from nearby groundwater wells.
- A total of 31 groundwater wells at and surrounding the Precinct South were selected for gauging and sampling via low flow techniques for the Targeted GME. The outcomes of the Targeted GME are summarised below:
  - Recorded depth to groundwater ranged from 1.582 m bgl (MW164) to 3.250 m bgl (MW176) in wells screened in the shallow aquifer, and from 2.281 m bgl (MW126B) to 3.056 m bgl (MW124B) for wells screened in the deeper aquifer (top of screened interval >9 m bgl). Shallow groundwater contours indicated a generally south-westerly groundwater flow direction, with some southerly components in the southern portion of Precinct South, and possible easterly flow components at the eastern boundary, although this may be an artefact of lack of gauging data in the TasPorts area.
  - Hydrocarbon odours were noted at monitoring wells MW03, MW05, PW02 and S8.
  - Measurable LNAPL was observed at four groundwater monitoring wells (MW03, MW05, PW02 and S8) in the south-eastern corner of the Precinct South, with thickness ranging from 0.050 to 0.160 m. Recorded LNAPL thickness was within historic recorded ranges in MW03 and MW05, while above historical recorded thicknesses in PW02 and S8. While LNAPL Plume B is still considered delineated on Site and unlikely to be migrating further onto the Site, additional monitoring to confirm LNAPL thicknesses and assess mobility via LNAPL baildown testing is recommended.

    No LNAPL was encountered in wells where it had not previously reported, and no groundwater samples were collected from wells with LNAPL present.

    LNAPL is not delineated at the eastern border of the Precinct South and is considered likely to extend to TasPorts land to the east.
  - DNAPL was not encountered at any of the groundwater wells monitored.
  - Concentrations of the following CoPC were reported above the adopted assessment criteria for PEVs in at least one sample, noting exceedances were reported for Tier 1 Screening criteria including Drinking Water (Health and Aesthetics), Recreation (Primary / Secondary Contact), Vapour Intrusion (Residential), Ecosystem Protection (90%), and Buildings and Structures),
    - Benzene
    - TRH fractions including TRH >C10-C40 (sum), TRH C6-C10 [minus benzene, toluene, ethylbenzene and xylenes (BTEX)](F1), TRH >C10-C16 (minus Naphthalene)(F2)

- Metals (aluminium, arsenic, copper, lead, manganese, zinc)
- PAHs (naphthalene, anthracene, phenanthrene, fluoranthene, benz[a]anthracene, benzo[a]pyrene)
- Inorganics (chloride, sodium, total cyanide, ammonia)

It is noted that the presence of LNAPL also precludes all PEVs, and that concentrations of some CoPC listed above (PAHs [naphthalene, anthracene, phenanthrene, benzo(a)pyrene and benz(a)anthracene] and aluminium) were reported with an LOR above adopted criteria. Future assessments should consider if lower LORs for assessment should be requested for these CoPC if practical.

- Concentrations of the following CoPC were reported in excess of the Site-Derived RC for Potential Future Residents for slab-on-grade buildings with unknown construction or multi-storey building:
  - TRH (C6-C10) (minus BTEX)

  Residential use of the Precinct South is not planned for future development and is not considered likely to occur due to currently planning limitations on residential occupancy near an active port (i.e., TasPorts land to the east of the Precinct South).

Further assessment of groundwater PEVs and nature and extent of impacts will be undertaken separately, however, precluded PEVs are consistent with previous investigations of this area reported in existing DSI reports (AECOM, 2021a and AECOM, 2022) relevant to the Precinct South. The data collected as part of this investigation is considered to be adequate to inform future assessments of the Precinct South.

8.0 References

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9.0 Limitations

AECOM Australia Pty Limited (AECOM) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of the Macquarie Point Development Corporation and only those third parties who have been authorised in writing by AECOM to rely on this Report.

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Figures

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PROJECT ID 60321835
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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 100 200 400

metres

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LEGEND

Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F1

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\01\Well_Maintenance_Targetted_GME\F1_A3P_Site_Location.mxd)

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100
metres

1:1,675 (when printed at A3)

Legend

- Assessment Area
- Site Boundary

Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

SITE LAYOUT

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F2

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\PrecinctSouth_GME_RevB\F2_A3P_Site_Layout.mxd)

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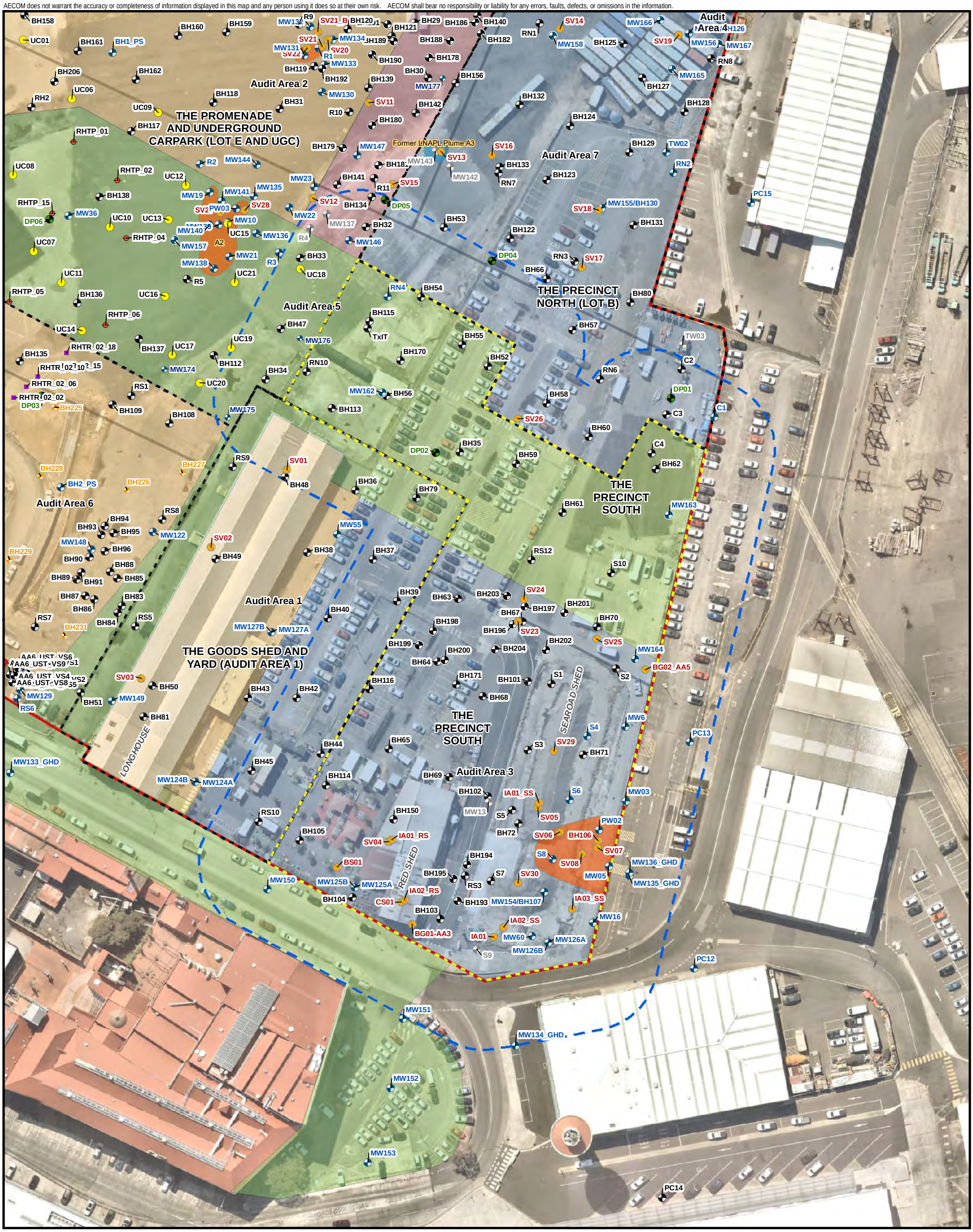

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

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Legend

- Groundwater Well
- Groundwater Well - Lost / Destroyed
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Test Pit (Underground Carpark)
- Test Pit (Roundhouse Investigation)
- Trench (Roundhouse Investigation)
- Broader Gateway Soil Bore
- Coal Tar Delineation Soil Bore 2021
- Coal Tar Delineation Soil Bore 2022
- The Precinct South
- Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

THE PRECINCT SOUTH - LAYOUT

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F3

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\PrecinctSouth_GME_RevB\F3_A3P_ThePrecinctSouth_Layout.mxd)

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100

metres

1:1,800 (when printed at A3)

Legend

- Site Boundary
- Regatta Point Boundary
- Proposed Future Building Footprint
- Assessment Area

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

PRECINCT PLAN DEVELOPMENT LAYOUT

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F4

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\PrecinctSouth_GME_RevB\F4_Precinct_Plan_Development_Layout.mxd)

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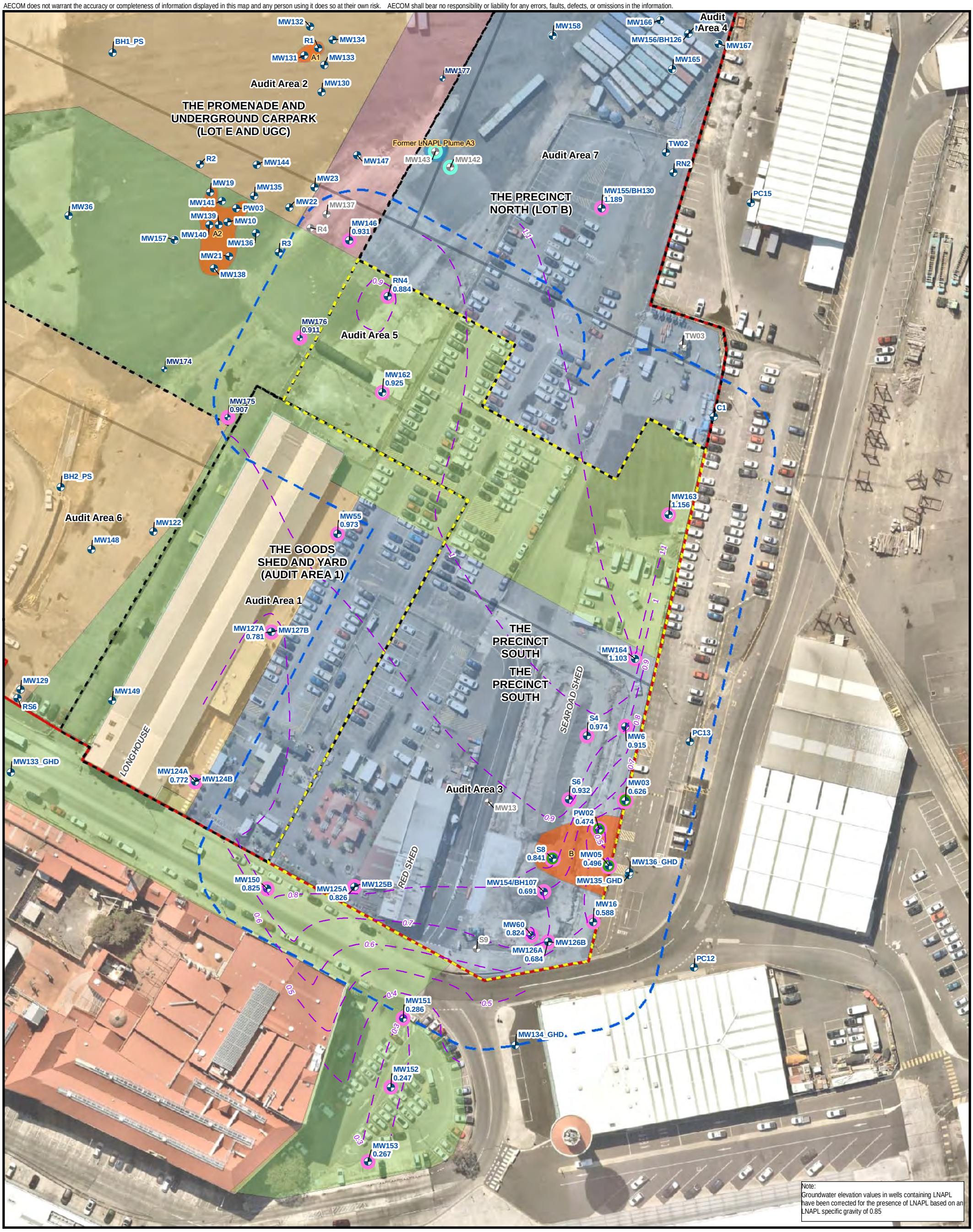

Note:
Groundwater elevation values in wells containing LNAPL have been corrected for the presence of LNAPL based on an LNAPL specific gravity of 0.85

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

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Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored during the Targeted Precinct South GME
- Wells with measurable LNAPL recorded during the Targeted GME
- Potentially Buried Wells
- Inferred Groundwater Contours
- The Precinct South
- Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

INFERRED SHALLOW GROUNDWATER LEVEL CONTOURS – DECEMBER 2023

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure
F5

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\PrecinctSouth_GME_RevB\F5_A3P_ThePrecinctSouth_IGW_Dec23.mxd)

A3 size

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Location	RN4
Date	29/11/2023
Manganese	1.76
TDS	1440
Chloride	536
Sodium	257

Location	MW155
Date	6/12/2023
Manganese	0.247

Location	MW146
Date	29/11/2023
Manganese	0.59
TDS	735

Location	MW176
Date	30/11/2023
Manganese	1.64
TDS	794

Location	MW162
Date	30/11/2023
Manganese	0.767
TDS	1810
Chloride	713
Sodium	400

Location	MW175
Date	30/11/2023
Manganese	1.54
TDS	714

Location	MW55
Date	30/11/2023
Manganese	1.4
TDS	1600
Chloride	554
Sodium	329

Location	MW127A
Date	30/11/2023
Manganese	3.47
TDS	2080
Chloride	800
Sodium	404

Location	MW124A
Date	5/12/2023
Arsenic	0.011
Manganese	0.222

Location	MW124B
Date	5/12/2023
Manganese	0.107
TDS	962
Sodium	180

Location	MW150
Date	1/12/2023
Manganese	0.35
TDS	641

Location	MW125B
Date	4/12/2023
Manganese	0.531

Location	MW125A
Date	4/12/2023
Manganese	0.533

Location	MW151
Date	1/12/2023
Manganese	0.537
TDS	1610
Chloride	495
Sodium	304

Location	MW152
Date	1/12/2023
Benzene	2
Manganese	0.394
Naphthalene	1.5
TDS	2170
Chloride	661
Sodium	747

Location	MW153
Date	1/12/2023
Aluminium	0.29
Lead	0.015
Manganese	0.287
TDS	22,000
Chloride	11,600
Sodium	5990

Location	MW60
Date	5/12/2023
Manganese	0.67
TDS	953

Location	MW126B
Date	5/12/2023
Manganese	0.573
Naphthalene	2.6
TDS	1180
Cyanide Total	113

Location	MW126A
Date	5/12/2023
Manganese	0.626
TDS	994
Cyanide Total	186

Location	MW154
Date	6/12/2023
Manganese	1.07
TDS	1020

Location	MW16
Date	6/12/2023
Manganese	0.354

Location	MW163
Date	5/12/2023
Manganese	0.198

Location	MW164
Date	4/12/2023
Manganese	0.912

Location	MW6
Date	6/12/2023
Manganese	0.443

Location	S4
Date	5/12/2023
Manganese	1.09
TDS	813

Location	S6
Date	6/12/2023
Aluminium	0.32
Lead	0.025
Manganese	1.23
Benz(a)anthracene	1.2
Benzo(a)pyrene	1.3
TDS	1320
Sodium	188

Exceeds Drinking Water (Aesthetics) criteria

Exceeds Drinking Water (Health) criteria

Exceeds Recreation (Primary / Secondary Contact) criteria

Note:
Values are expressed µg/L for organic CoPC and total cyanide and mg/L for other inorganic CoPC
TDS - Total Dissolved Solids

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 20 Sep 2024

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 15 30 60
metres
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Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored during the Targeted Precinct South GME
- Wells with measurable LNAPL recorded during the Targeted GME
- Potentially Buried Wells
- The Precinct South
- Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

GROUNDWATER RESULTS - TIER 1 ASSESSMENT - DRINKING WATER AND RECREATION

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F6

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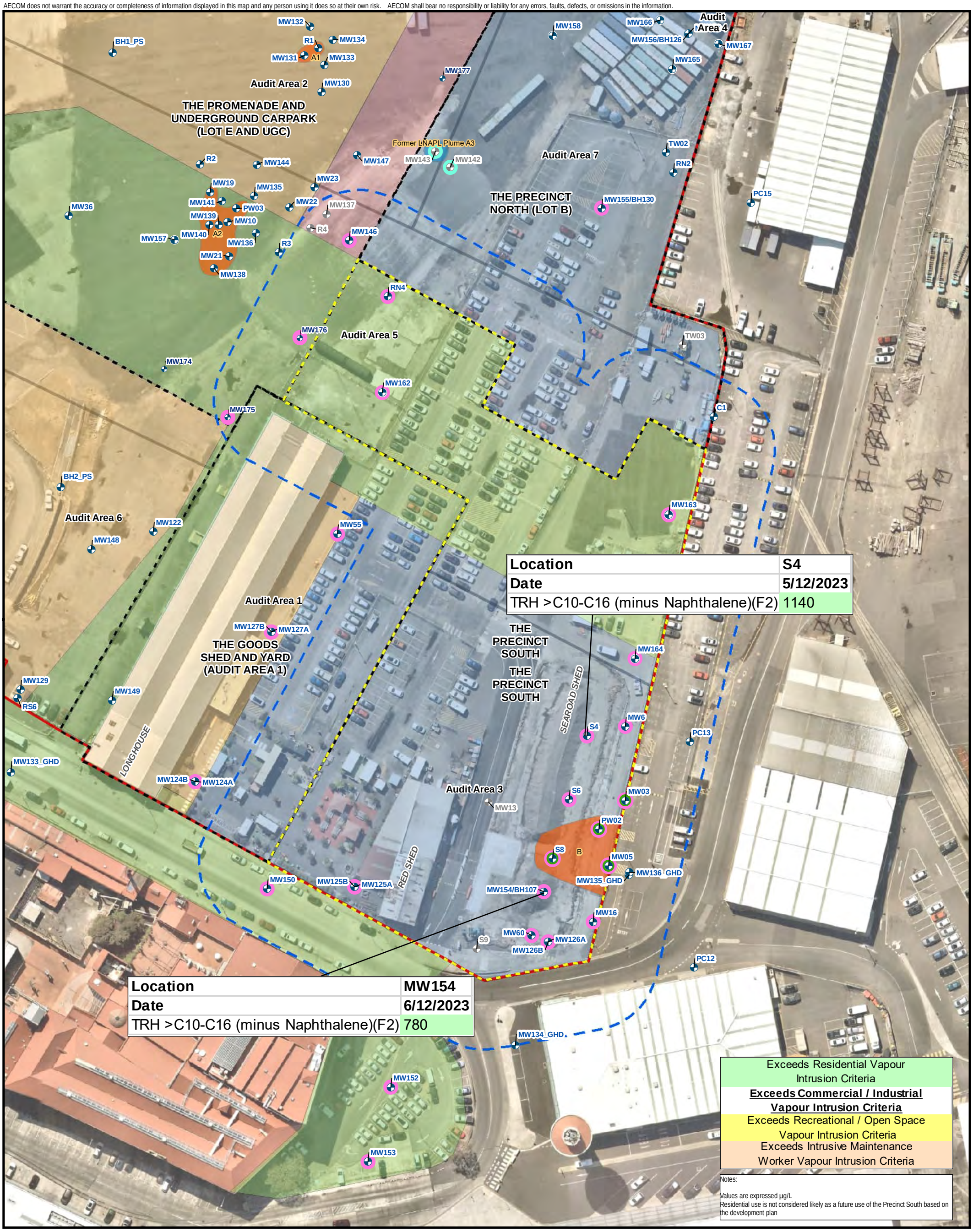

Location	S4
Date	5/12/2023
TRH >C10-C16 (minus Naphthalene)(F2)	1140

Location	MW154
Date	6/12/2023
TRH >C10-C16 (minus Naphthalene)(F2)	780

Exceeds Residential Vapour Intrusion Criteria

Exceeds Commercial / Industrial Vapour Intrusion Criteria

Exceeds Recreational / Open Space Vapour Intrusion Criteria

Exceeds Intrusive Maintenance Worker Vapour Intrusion Criteria

Notes:

Values are expressed µg/L

Residential use is not considered likely as a future use of the Precinct South based on the development plan

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 12 Aug 2024

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60

metres

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Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored during the Targeted Precinct South GME
- Wells with measurable LNAPL recorded during the Targeted GME
- Potentially Buried Wells
- The Precinct South Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

GROUNDWATER RESULTS - TIER 1 ASSESSMENT - VAPOUR INTRUSION

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F7

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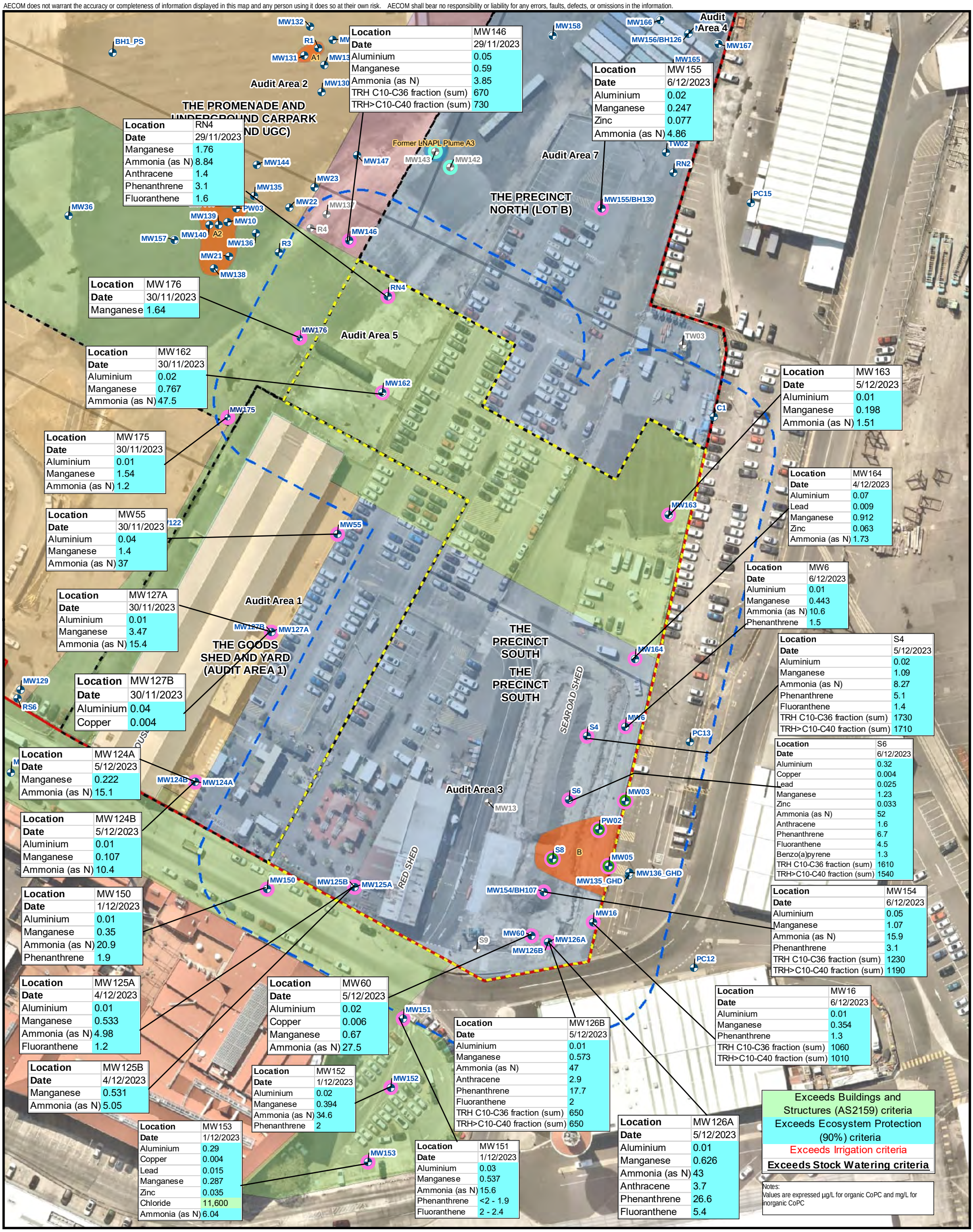

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 15 30 60
metres
1:1,000 (when printed at A3)

Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored during the Targeted Precinct South GME
- Wells with measurable LNAPL recorded during the Targeted GME
- Potentially Buried Wells
- The Precinct South Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

GROUNDWATER RESULTS - TIER 1 ASSESSMENT - BUILDINGS, ECOSYSTEMS, IRRIGATION, STOCK WATERING

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure F8

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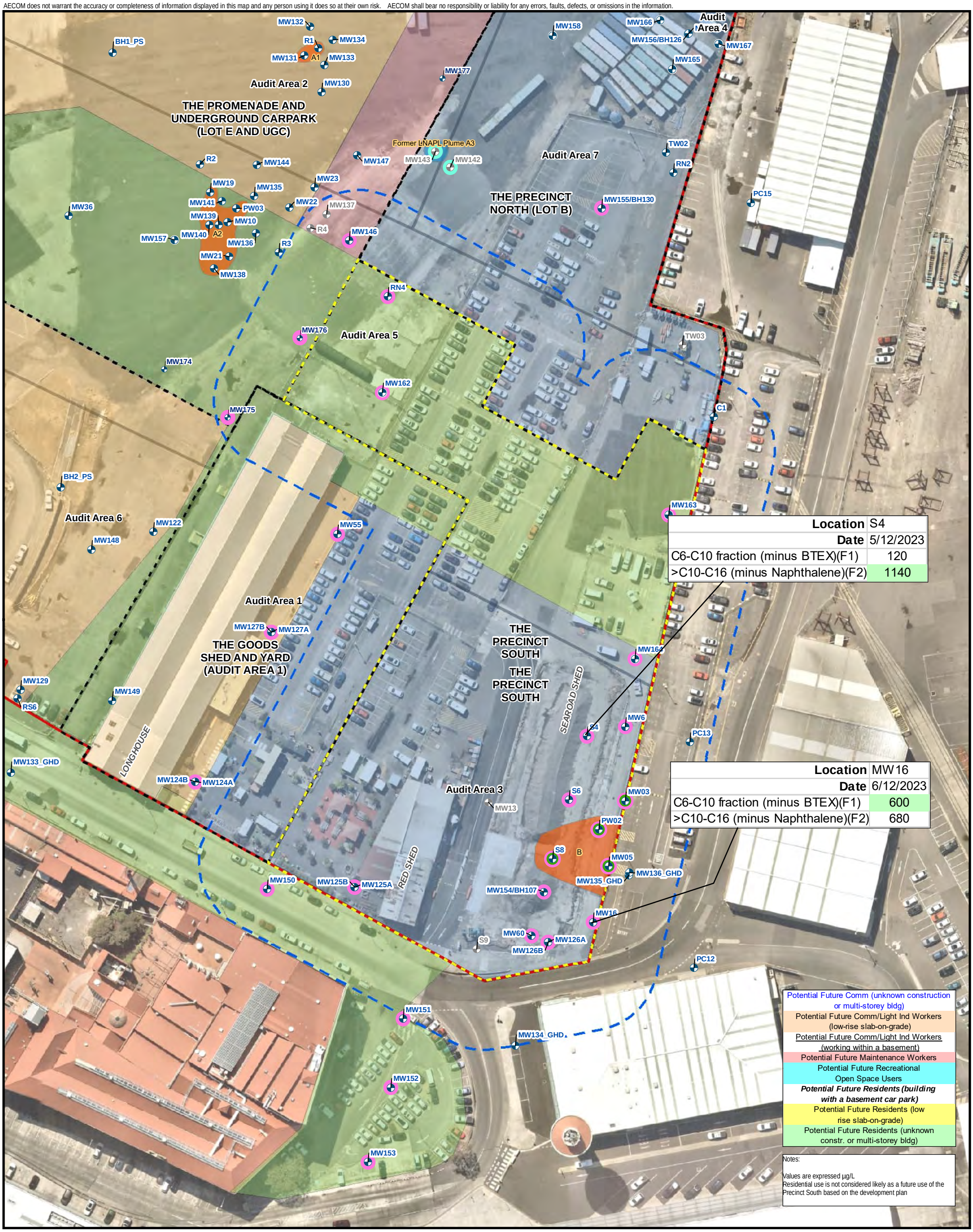

Location	S4
Date	5/12/2023
C6-C10 fraction (minus BTEX)(F1)	120
>C10-C16 (minus Naphthalene)(F2)	1140

Location	MW16
Date	6/12/2023
C6-C10 fraction (minus BTEX)(F1)	600
>C10-C16 (minus Naphthalene)(F2)	680

Potential Future Comm (unknown construction or multi-storey bldg)
Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)
Potential Future Comm/Light Ind Workers (working within a basement)
Potential Future Maintenance Workers
Potential Future Recreational Open Space Users
Potential Future Residents (building with a basement car park)
Potential Future Residents (low rise slab-on-grade)
Potential Future Residents (unknown constr. or multi-storey bldg)

Notes:

Values are expressed µg/L
Residential use is not considered likely as a future use of the Precinct South based on the development plan

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CREATED BY PK
LAST MODIFIED PK 12 Aug 2024

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

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Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored during the Targeted Precinct South GME
- Wells with measurable LNAPL recorded during the Targeted GME
- Potentially Buried Wells
- The Precinct South
- Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

GROUNDWATER RESULTS - REMEDIATION CRITERIA

Macquarie Point Development Corporation

The Precinct South - Well Maintenance and Targeted Groundwater Monitoring Event

Macquarie Point, Hobart, TAS

Figure

F9

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A3 size

Tables

Table T1 - Well Maintenance and Repair Activities – Summary

Area	Well ID	Inspected (Yes / No)	Well located? (Yes / No)	Maintenance / Repairs performed? (Yes / No)	Comments	Well Serviceable for monitoring? (Yes / No)
Precinct South	RN4	Yes	Yes	Yes	Gatic exposed 0.5 - 0.6 m under fill. Casing extended and gatic raised to surface level. Resurvey needed	Yes
	PW02	Yes	Yes	Yes	Bolts replaced. Well cap (100mm) missing. New well cap needed.	Yes
	MW03	Yes	Yes	No	Built-up sediment under gatic cover to be hand-cleared.	Yes
	MW05	Yes	Yes	No	Built-up sediment under gatic cover to be hand-cleared.	Yes
	MW6	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW13	Yes	No	-NA-	Destroyed during pipeline removal works	No - Lost/Destroyed
	MW16	Yes	Yes	No	Built-up sediment under gatic cover to be hand-cleared.	Yes
	MW60	Yes	Yes	Yes	New 180 mm gatic installed to replace missing lid and old 120 mm diameter base	Yes
	MW125A	Yes	Yes	Yes	Bolts replaced	Yes
	MW125B	Yes	Yes	Yes	Bolts replaced	Yes
	MW126A	Yes	Yes	Yes	Bolts replaced	Yes
	MW126B	Yes	Yes	Yes	Bolts replaced	Yes
	MW154	Yes	Yes	Yes	Bolts replaced	Yes
	MW162	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW163	Yes	Yes	No	Bolts need replacement	Yes - Bolts replacement pending
	MW164	Yes	Yes	No	No repair necessary, good condition	Yes
	S4	Yes	Yes	Yes	New 180 mm gatic installed to replace missing lid and damaged base	Yes
	S6	Yes	Yes	Yes	New 180 mm gatic installed to replace missing lid and damaged base	Yes
	S8	Yes	Yes	Yes	Bolts replaced	Yes
	MW137	Yes	No	-NA-	Hydro-excavation undertaken to 0.5 - 0.6 m bgl. Not found. Considered lost/destroyed	No - Lost/Destroyed
	MW142	Yes	-NA-	-NA-	GPS survey-location was undertaken on 6 December 2023. Well is likely buried under fill and was unable to be accessed.	No - Likely buried
	MW143	Yes	-NA-	-NA-	GPS survey-location was undertaken on 6 December 2023. Well is likely buried under fill and was unable to be accessed.	No - Likely buried
	MW146	Yes	Yes	Yes	Gatic exposed 0.5 - 0.6 m under fill. Casing extended and gatic raised to surface level. Resurvey needed	Yes
	MW150	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW175	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW176	Yes	Yes	Yes	Found under fill. Battered shallow surrounding fill. Bolts OK.	Yes
20 m Buffer Zone	R4	Yes	Yes	Yes	Casing found 0.5 - 0.6 m bgl beneath fill. Damaged casing, no gatic. Casing completely filled with fine-crushed-rock gravel. Not recoverable. Destroyed.	No - Lost/Destroyed
	S9	Yes	No	-NA-	Dug to 0.4 m bgl. Not found. Considered lost/destroyed	No - Lost/Destroyed
	TW03	Yes	No	-NA-	Hydro-excavation undertaken to 0.5 - 0.6 m bgl. Not found. Considered lost/destroyed	No - Lost/Destroyed
	MW155	Yes	Yes	No	GPS survey-location was undertaken on 6 December 2023. Well was located and serviceable.	Yes
	MW151	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW152	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW153	Yes	Yes	No	No repair ncessary, good condition	Yes
Further surrounding areas beyond the 20 m Buffer Zone	MW55	Yes	Yes	Yes	Bitumen cut to expose gatic. Bolts OK.	Yes
	MW127A	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW127B	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW124A	Yes	Yes	No	No repair ncessary, good condition	Yes
	MW124B	Yes	Yes	No	No repair ncessary, good condition	Yes

Table T2 - Summary of Groundwater Monitoring Well Locations

Area	Well ID	Approximate Well Depth (m bgl)	Shallow / Deep Wells	Screened Interval (m bTOC)	Screen Lithology	Easting	Northing	Top of Casing (m AHD)	Date Sampled	Depth to Groundwater prior to purging (m bTOC)	LNAPL Observed ? (Yes / No)	Depth to LNAPL (m bTOC)	LNAPL Thickness (m)	DNAPL Observed ? (Yes / No)	SWL (m AHD) [2]	Stabilised Water Quality Parameters						Comments (Odour, Colour, Turbidity)	Rationale for inclusion in Targeted Precinct South GME
																Dissolved Oxygen (mg/L)	EC (mS/cm)	pH	Field ORP (mV) [3]	Corrected ORP (mV) [4]	Temperature (ºC)		
Precinct South	RN4	6	Shallow	1.5-6.0	Fill/Marine Deposits	527563.308	5252490.93	4.045	29-Nov-23	3.176	No	-	-	No	0.869	0.08	2.543	6.78	-1231	-1032	16	No odor, no sheen, moderate turbidity, clear	Assess groundwater within the Precinct South area
	PW02^	5.6	Shallow	1.5-6.0	Fill	527624.264	5252337.008	2.723	-	2.250	Yes	2.090	0.160	No	0.474	-	-	-	-	-	-	Not sampled as measurable LNAPL present	
	MW03^	8.6	Shallow	?-8.7	Fill	527629.967	5252344.531	2.596	-	1.970	Yes	1.920	0.050	No	0.626	-	-	-	-	-	-	Not sampled as measurable LNAPL present	
	MW05^	4.4	Shallow	1.4-4.4	Fill	527625.558	5252326.18	2.663	-	2.170	Yes	2.100	0.070	No	0.494	-	-	-	-	-	-	Not sampled as measurable LNAPL present	
	MW6	5	Shallow	2.0-5.0	Fill	527631.882	5252366.709	2.896	6-Dec-23	1.981	No	-	-	No	0.915	0.02	0.821	6.89	-62.4	136.6	17.9	No odor, clear, low turbidity, no sheen	
	MW16	5	Shallow	3.0-6.0	Fill	527622.576	5252310.246	2.63	6-Dec-23	2.042	No	-	-	No	0.588	0.04	0.351	6.69	-45.7	153.3	17.7	No odor, clear, low turbidity, no sheen	
	MW60	5.2	Shallow	3.0-6.0	Fill	527604.842	5252306.32	2.864	5-Dec-23	2.04	No	-	-	No	0.824	0.00	1.658	6.65	-95.4	103.6	17	No odor, clear, low turbidity, no sheen	
	MW125A	4.99	Shallow	2.0-5.0	Fill	527553.73	5252320.26	3.306	4-Dec-23	2.487	No	-	-	No	0.819	0.15	0.714	6.70	-86.2	112.8	16.8	No odor, clear, low turbidity, no sheen	
	MW125B	15.29	Deep	13.8-15.3	Marine Deposits	527553.71	5252320.34	3.309	4-Dec-23	2.702	No	-	-	No	0.607	0.06	0.73	6.73	-97.9	101.1	20.1	No odor, clear, low turbidity, no sheen	
	MW126A	5.1	Shallow	2.1-5.1	Fill	527609.6	5252304.45	2.857	5-Dec-23	2.173	No	-	-	No	0.684	0.04	1.866	6.58	-88.5	110.5	16.2	No odor, clear, low turbidity, no sheen	
	MW126B	18.9	Deep	15.9.0-18.9	Slope Deposits	527609.66	5252304.43	2.831	5-Dec-23	2.281	No	-	-	No	0.550	0.10	1.994	6.65	-57.7	141.3	16.3	Sudden spike in EC after 10 Liters of purging	
	MW154	4	Shallow	1.0-4.0	Fill	527608.419	5252318.975	2.827	6-Dec-23	2.136	No	-	-	No	0.691	0.03	1.682	6.61	-78.3	120.7	17.4	No odor, no sheen, low turbidity, clear	
	MW162	5	Shallow	2.0-5.0	Fill	527561.725	5252463.136	4.079	30-Nov-23	3.162	No	-	-	No	0.917	0.07	3.514	6.77	-109.4	89.6	16.1	No odor, no sheen, low turbidity, clear	
	MW163	3.9	Shallow	0.95-3.95	Fill	527644.415	5252427.853	2.837	5-Dec-23	1.681	No	-	-	No	1.156	0.05	0.3054	7.35	-97.7	101.3	17.1	No odor, no sheen, low turbidity, clear	
	MW164	3.9	Shallow	0.5-4.0	Fill	527634.673	5252386.218	2.685	4-Dec-23	1.582	No	-	-	No	1.103	0.07	0.504	6.65	-89.6	109.4	18.4	No odor, no sheen, low turbidity, clear	
	S4	4	Shallow	1.0-4.0	Fill	527620.807	5252363.953	2.842	5-Dec-23	1.868	No	-	-	No	0.974	0.03	1.34	6.64	-81.8	117.2	18.3	No odor, no sheen, low turbidity, clear	
	S6	4.8	Shallow	1.0-4.8	Fill	527615.679	5252345.586	2.895	6-Dec-23	1.963	No	-	-	No	0.932	0.05	2.636	6.65	-85	114	17.8	No odor, no sheen, low turbidity, clear	
	S8^	5	Shallow	1.2-5.2	Fill	527610.904	5252328.497	2.83	-	1.990	Yes	1.870	0.120	No	0.841	-	-	-	-	-	-	Not sampled as measurable LNAPL present	
20 m Buffer Zone	MW146	5.4	Shallow	2.5-5.5	Fill	527552.111	5252507.052	4.186	29-Nov-23	3.23	No	-	-	No	0.956	0.16	1.246	6.87	-104.1	94.9	16	No odor, clear, low turbidity, no sheen	Assess groundwater within an approximate distance of 20 m (buffer zone) from the Precinct South area.
	MW150	4.7	Shallow	1.0-5.0	Fill/Marine Deposits	527528.454	5252319.791	3.265	1-Dec-23	2.44	No	-	-	No	0.825	0.06	1.134	6.89	-120.6	78.4	16.5	No odor, clear, low turbidity, no sheen	
	MW175	4.5	Shallow	1.5-4.5	Fill	527517.102	5252456.438	3.904	30-Nov-23	3.003	No	-	-	No	0.901	0.08	1.152	6.79	-20.4	178.6	17.2	No odor, light brown, no sheen, low turbidity	
	MW176	4.5	Shallow	1.5-4.5	Fill	527537.901	5252479.305	4.036	30-Nov-23	3.25	No	-	-	No	0.786	0.13	1.192	6.85	-22.5	176.5	16.3	No odor, clear, low turbidity, no sheen	
Further surrounding areas beyond the 20 m Buffer Zone	MW55	6	Shallow	3.0-6.0	Fill	527548.733	5252422.331	3.929	30-Nov-23	2.956	No	-	-	No	0.973	0.10	3.247	6.80	-115.1	83.9	15.8	No odor, clear, low turbidity, no sheen	Assess groundwater in up-and cross-hydraulic gradient area to the west of the southern portion of Precinct South, as no wells are located within the 20 m buffer zone in this area.
	MW127A	4.8	Shallow	1.8-4.8	Fill	527529.64	5252393.95	3.896	30-Nov-23	3.105	No	-	-	No	0.791	0.05	3.76	6.80	-102.7	96.3	16.2	No odor, clear, low turbidity, no sheen	
	MW127B	16.8	Deep	15.6-16.6	Slope Deposits	527529.68	5252393.99	3.866	30-Nov-23	3.202	No	-	-	No	0.664	0.05	0.2413	6.38	-32.1	166.9	16.3	Low turbidity, light brown, slight urine odor	
	MW124A	5	Shallow	2.0-5.0	Fill	527507.73	5252350.79	3.767	5-Dec-23	3.043	No	-	-	No	0.724	0.05	0.713	7.05	-130.6	68.4	17.3	Low turbidity, brown, mud blocking pump inlet	
	MW124B	11.35	Deep	9.4-11.4	Marine Deposits	527507.67	5252350.79	3.738	5-Dec-23	3.056	No	-	-	No	0.682	0.02	1.721	7.76	-125.9	73.1	17.1	No odor, clear, low turbidity, no sheen	
	MW142*	4.5	Shallow	2.5-5.5	Fill	527581.4	5252528	4.165	-	-	-	-	-	-	-	-	-	-	-	-	-	Well not found - buried	Assess groundwater in up-and cross-hydraulic gradient area to the north of Precinct South, as no wells are located within the 20 m buffer zone in this
	MW143*	5.5	Shallow	2.5-5.5	Fill	527577.1	5252533	4.222	-	-	-	-	-	-	-	-	-	-	-	-	-	Well not found - buried	
	MW155	4.5	Shallow	1.5-4.5	Fill	527625.037	5252516.399	3.929	6-Dec-23	2.74	No	-	-	No	1.189	0.04	0.687	7.06	-97.1	101.9	16.3	-	
	MW151	5	Shallow	1.0-5.5	Fill/Marine Deposits	527567.708	5252282.43	2.553	1-Dec-23	2.25	No	-	-	No	0.303	0.13	2.634	6.65	-80.2	118.8	16.4	No odor, no sheen, clear, low turbidity	Assess groundwater further down-hydraulic gradient from the Precinct South, in the direction of groundwater flow towards Sullivans Cove.
	MW152	5	Shallow	1.0-5.5	Fill/Marine Deposits	527564.181	5252262.443	2.563	1-Dec-23	2.305	No	-	-	No	0.258	0.09	4.612	6.84	-131.6	67.4	16.4	No odor, no sheen, clear, low turbidity	
	MW153	4.5	Shallow	1.0-4.6	Fill/Marine Deposits	527557.54	5252240.934	2.449	1-Dec-23	2.142	No	-	-	No	0.307	0.06	33.578	7.15	-187.3	11.7	16.2	No odor, no sheen, high turbidity, black	

Notes:

m bgl - metres below ground level
TOC - top of casing
AHD - Australian Height Datum
SWL - Standing Water Level
EC - Electrical Conductivity (milliSiemens per centimetre)
ORP - Oxidation Reduction Potenial (milliVolts)

[1] *Wells installed to depths of >10 m bgl are considered herein as deep monitoring wells, and those installed to depths of <10 m bgl are considered as shallow monitoring wells*
[2] *SWL values in wells containing LNAPL have been corrected for the depression of the LNAPL/water interface in the well by multiplying the apparent LNAPL thickness in the well an LNAPL specific gravity of 0.85*
[3] *ORP as measured in the field*
[4] *Corrected ORP compared to the standard hydrogen electrode (calculated by adding 199 mV to the field-measured ORP value)*
^ Monitoring wells S8, MW03, MW05 and PW02 contained measurable LNAPL, thus sampling was not undertaken in these wells.
** Monitoring wells MW142 and MW143 are buried and inaccessible (as of 6 Dec 2023)*

Table T3 - Groundwater Analytical Results – Tier 1 Screening – Drinking Water and Recreation

AECOM

						Location Code	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
						Sampled Date	5/12/2023	5/12/2023	4/12/2023	4/12/2023	5/12/2023	5/12/2023	30/11/2023	30/11/2023	29/11/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	6/12/2023	6/12/2023	6/12/2023	30/11/2023	5/12/2023	4/12/2023	30/11/2023	30/11/2023	30/11/2023	6/12/2023	5/12/2023	29/11/2023	5/12/2023	6/12/2023
						Field ID	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321582	EM2321582	EM2321407	EM2321582	EM2321582	EM2321582	EM2321582	EM2321824	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824	EM2321407	EM2321407	EM2321582	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824
				Drinking Water (Aesthetics)	Drinking Water (Health)	Recreation (Primary / Secondary Contact)																													
Chemical Group	**Chemical Name**	**Unit**	**LOR**																														
	> C16-C21 Aromatic	mg/L	0.05				-	-	-	-	-	-	<0.05	-	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-
	> C21-C35 Aromatic	mg/L	0.05				-	-	-	-	-	-	<0.05	-	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	20	<20	<20	<20	<20	<20	40	<20	130	<20	600	<20	<20	40	<20	<20	<20	<20	<20	<20	120	30
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	130	<20	600	<20	<20	40	<20	<20	<20	<20	<20	<20	120	30
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100				<100	<100	<100	<100	<100	370	<100	<100	340	<100	<100	220	<100	780	<100	680	<100	<100	-	<100	<100	<100	210	<100	<100	1140	740
	>C10-C16 fraction	µg/L	100				<100	<100	<100	<100	<100	370	<100	<100	340	<100	<100	220	<100	780	<100	680	<100	<100	-	<100	<100	<100	210	<100	<100	1140	740
	>C16-C34 fraction	µg/L	100				<100	<100	<100	<100	130	280	<100	160	390	<100	<100	130	<100	410	<100	330	<100	<100	-	170	120	<100	220	<100	170	570	800
	>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100
	>C10-C40 fraction (sum)	µg/L	100				<100	<100	<100	<100	130	650	<100	160	730	<100	<100	350	<100	1190	<100	1010	<100	<100	-	170	120	<100	430	<100	170	1710	1540
Volatile Petroleum Hydrocarbons	C5-C6 Aliphatic Hydrocarbons	µg/L	20				-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	>C8 - C10 Aromatic	µg/L	5				-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
	>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	TPH >C7 - C8 Aromatic Toluene	µg/L	5				-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
	TPH C5 - C7 Aromatic	µg/L	5				-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzene	µg/L	1		1[#1]	10[#2]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	25[#3]	800[#1]	8000[#2]	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	3[#3]	300[#1]	3000[#2]	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	m&p-Xylene	µg/L	2				<2	<2	<2	<2	<2	6	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	µg/L	2		190[#4]	1900[#5]	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total Xylenes	µg/L	2	20[#3]	600[#1]	6000[#2]	<2	<2	<2	<2	<2	6	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Styrene	µg/L	5	4[#3]	30[#1]	300[#2]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	µg/L	5		450[#4]	4500[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	µg/L	5		1000[#4]	10000[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-propylbenzene	µg/L	5		660[#4]	6600[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	µg/L	5				-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	sec-butylbenzene	µg/L	5		2000[#4]	20000[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	tert-butylbenzene	µg/L	5		690[#4]	6900[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	µg/L	5		56[#4]	560[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	µg/L	5		60[#4]	600[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total BTEX	µg/L	1				<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals	Aluminium (Filtered)	mg/L	0.01	0.2[#3]			<0.01	0.01	0.01	<0.01	0.01	0.01	0.01	0.04	0.05	0.01	0.03	0.02	0.29	0.05	0.02	0.01	0.02	0.01	0.07	0.01	<0.01	0.04	0.01	0.02	<0.01	0.02	0.32
	Arsenic (Filtered)	mg/L	0.001		0.01[#1]	0.1[#2]	0.011	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.003	<0.001	<0.001	<0.002	0.003	<0.001	0.002	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.008	0.005
	Cadmium (Filtered)	mg/L	0.0001		0.002[#1]	0.02[#2]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium (Filtered)	mg/L	0.001		0.05[#6]	0.5[#7]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Copper (Filtered)	mg/L	0.001	1[#3]	2[#1]	20[#2]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	0.004	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	0.004
	Lead (Filtered)	mg/L	0.001		0.01[#1]	0.1[#2]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001	0.015	0.006	0.001	<0.001	0.001	<0.001	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.025
	Manganese (Filtered)	mg/L	0.001	0.1[#3]	0.5[#1]	5[#2]	0.222	0.107	0.533	0.531	0.626	0.573	3.47	0.079	0.59	0.35	0.537	0.394	0.287	1.07	0.247	0.354	0.767	0.198	0.912	1.54	1.64	1.4	0.443	0.67	1.76	1.09	1.23
	Mercury (Filtered)	mg/L	0.0001		0.001[#1]	0.01[#2]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Nickel (Filtered)	mg/L	0.001		0.39[#4]	3.9[#5]	<0.001	<0.001	0.002	0.002	0.004	0.003	<0.001	0.004	<0.001	<0.001	0.001	<0.001	<0.002	0.006	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	<0.001	0.005	0.003
	Zinc (Filtered)	mg/L	0.005	3[#3]			<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	0.017	<0.005	<0.005	<0.005	<0.005	0.035	0.012	0.077	<0.005	0.007	<0.005	0.063	<0.005	0.006	<0.005	0.006	0.02	<0.005	<0.005	0.033
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6
	Naphthalene	µg/L	1		0.17[#4]	1.7[#5]	<1	<1	<1	<1	<1	2.6	<1	<1	<2	<1	<1	1.5	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Methylnaphthalene	µg/L	2		36[#4]	360[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Chloronaphthalene	µg/L	2		750[#4]	7500[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthene	µg/L	1		530[#4]	5300[#5]	<1	<1	1.2	<1	13.2	46	<1	<1	3	3.2	3	9.3	<1	3.4	<1	1.5	<1	<1	-	<1	<1	<1	1.1	<1	2.8	2.6	2.9
	Anthracene	µg/L	1		1800[#4]	18000[#5]	<1	<1	<1	<1	3.7	2.9	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.4	<1	1.6
	Fluorene	µg/L	1		290[#4]	2900[#5]	<1	<1	1.1	<1	9.7	22.2	<1	<1	3	1.8	<1	2.8	<1	3.2	<1	1.4	<1	<1	-	<1	<1	<1	<1	<1	2.6	3.4	2.4
	Phenanthrene	µg/L	1				<1	<1	<1	<1	26.6	17.7	<1	<1	<2	1.9	<2 - 1.9	2	<1	3.1	<1	1.3	<1	<1	-	<1	<1	<1	1.5	<1	3.1	5.1	6.7
	Fluoranthene	µg/L	1		800[#4]	8000[#5]	<1	<1	1.2	<1	5.4	2	<1	<1	<2	<1	2 - 2.4	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.6	1.4	4.5
	Benz(a)anthracene	µg/L	1		0.03[#4]	0.3[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.2
	Benzo(k)fluoranthene	µg/L	1		2.5[#4]	25[#5]	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.2
	Benzo(b+j) & Benzo(k)fluoranthene	µg/L	4				-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-2-Fluorenyl Acetamide	µg/L	2		0.016[#4]	0.16[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7,12-Dimethylbenz(a)anthracene	µg/L	2		0.0001[#4]	0.001[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(a)pyrene	µg/L	0.5		0.01[#1]	0.1[#2]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3
	Chrysene	µg/L	1		25[#4]	250[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.1
	Pyrene	µg/L	1		120[#4]	1200[#5]	<1	<1	<1	<1	3.8	1.4	<1	<1	<2	<1	2 - 2.2	<1	<1	1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.2	1.3	4.3
	3-Methylcholanthrene	µg/L	2		0.0011[#4]	0.011[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1		0.025[#4]	0.25[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-cd)pyrene	µg/L	1		0.25[#4]	2.5[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Sum of PAHs	µg/L	0.5				<0.5	<0.5	3.5	<0.5	62.4	94.8	<0.5	<0.5	6	6.9	7 - 9.5	15.6	<0.5	10.7	<0.5	4.2	<0.5	<0.5	-	<0.5	<0.5	<0.5	2.6	<0.5	12.7	13.8	27.2
Ferrous/Ferric Iron	Ferrous Iron	mg/L	0.05				-	-	-	-	-	-	37.2	-	17.2	-	6.82	-	-	40.2	8.82	10.6	-	-	-	-	-	-	8.57	-	35.6	-	39.4
Hydrocarbon Gases	Methane	µg/L	10				-	-	-	-	-	-	16,700	-	6420	-	13,500	-	-	12,900	8260	12,200	-	-	-	-	-	-	13,200	-	5120	-	12,100
NA	>C12 - C16 Aliphatic	µg/L	50				-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	>C12 - C16 Aromatic	µg/L	50				-	-	-	-	-	-	<50	-	140	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
Physio-Chemical Parameters	Total Dissolved Solids	mg/L	10	600[#3]			381	962	314	361	994	1180	2080	189	735	641	1610	2170	22,000	1020	392	190	1810	196	306	714	794	1600	466	953	1440	813	1320
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	110	<20	550	<20	<20	20	<20	<20	<20	<20	<20	<20	80	20
	C10-C14 fraction	µg/L	50				<50	<50	<50	<50	<50	230	<50	<50	140	<50	<50	170	<50	550	<50	580	<50	<50	-	<50	<50	<50	170	<50	<50	870	440
	C15-C28 fraction	µg/L	100				<100	<100	<100	<100	160	420	<100	140	530	<100	<100	160	<100	630	<100	480	<100	<100	-	200	120	<100	250	<100	190	860	1060
	C29-C36 fraction	µg/L	50				<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	110
	C10-C36 fraction (sum)	µg/L	50				<50	<50	<50	<50	160	650	<50	140	670	<50	<50	330	<50	1230	<50	1060	<50	<50	-	200	120	<50	420	<50	190	1730	1610
Total Petroleum Hydrocarbons (CWG-	Aliphatic >C16-C21	µg/L	50				-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	Aliphatic >C21-C35	µg/L	50				-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
Major Ions	Chloride	mg/L	1	250[#3]			18	139	16	17	32	110	800	15	38	50	495	661	11,600	30	21	10	713	16	18	27	28	554	35	24	536	32	180
	Calcium	mg/L	1				63	41	82	82	189	153	179	32	87	94	92	56	270	207	64	48	142	34	43	99	112	145	77	188	154	168	209
	Magnesium	mg/L	1				21	107	17	17	86	88	64	5	46	33	61	116	784	71	12	7	61	5	13	37	38	57	22	72	48	41	125
	Potassium	mg/L	1				22	63	12	12	48	58	36	3	18	28	34	106	284	42	18	6	47	6	12	14	20	42	20	41	27	32	87
	Sodium	mg/L	1	180[#3]			33	180	47	44	76	161	404	7	77	43	304	747	5990	94	76	12	400	23	33	96	99	329	68	67	257	69	188
	Total Anions	meq/L	0.01				7.32	20.1	7.38	7.43	22.1	25.5	39.4	2.33	13.3	11.6	27.7	52	362	20.6	7.46	3.54	37.8	3.11	4.7	12.8	14	34.6	8.82	19.4	26.4	14.8	32.4
	Total Cations	meq/L	0.01				6.87	20.3	7.84	7.71	21	23.4	32.7	2.39	11.9	9.99	23.7	47.5	346	21.3	7.95	3.65	34.1	3.26	4.96	12.5	13.5	30	9.12	19.3	23.5	15.6	31.1
	Sulfate (as SO4-) (Filtered)	mg/L	1				<1	4	<1	<1	<1	21	<1	6	40	2	21	<2	1120	<5	<1	2	15	15	20	<1	<1	4	7	<5	<5	<5	<5
	Ionic Balance	%	0.01				3.18	0.51	3.01	1.84	2.41	4.33	9.26	-	5.38	7.45	7.79	4.49	2.27	1.79	3.13	1.5	5.14	2.38	2.71	1.04	1.67	7.29	1.69	0.29	5.9	2.46	2.09
Nutrients	Ammonia (as N)	mg/L	0.01				15.1	10.4	4.98	5.05	43	47	15.4	<0.01	3.85	20.9	15.6	34.6	6.04	15.9	4.86	-	47.5	1.51	1.73	1.2	1.05	37	10.6	27.5	8.84	8.27	52
	Nitrate (as N)	mg/L	0.01	10[#3]	11.2[#1]	112[#2]	-	-	-	-	-	-	<0.01	-	0.01	-	<0.01	-	-	<0.05	<0.01	-	-	-	-	-	-	-	<0.01	-	<0.01	-	<0.05
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2
	Phenol	µg/L	1		5800[#4]	58000[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Chlorophenol	µg/L	1	0.1[#3]	300[#1]	3000[#2]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Methylphenol (o-Cresol)	µg/L	1		930[#4]	9300[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Nitrophenol	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4-Dichlorophenol	µg/L	1	0.3[#3]	200[#1]	2000[#2]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4-Dimethylphenol	µg/L	1		360[#4]	3600[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,6-Dichlorophenol	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	4-Chloro-3-methylphenol	µg/L	1		1400[#4]	14000[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4,6-Trichlorophenol	µg/L	1	2[#3]	20[#1]	200[#2]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4,5-Trichlorophenol	µg/L	1		1200[#4]	12000[#5]	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Pentachlorophenol	µg/L	2		10[#1]	100[#2]	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2
Fumigants	1,2-Dibromoethane (EDB)	µg/L	5		1[#1]	10[#2]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-Dichloropropane	µg/L	5		0.85[#4]	8.5[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,2-Dichloropropane	µg/L	5				-	-	-	-	-	-

Table T3 - Groundwater Analytical Results – Tier 1 Screening – Drinking Water and Recreation

AECOM

							Location Code	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
							Sampled Date	5/12/2023	5/12/2023	4/12/2023	4/12/2023	5/12/2023	5/12/2023	30/11/2023	30/11/2023	29/11/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	6/12/2023	6/12/2023	6/12/2023	30/11/2023	5/12/2023	4/12/2023	30/11/2023	30/11/2023	30/11/2023	6/12/2023	5/12/2023	29/11/2023	5/12/2023	6/12/2023
							Field ID	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
							Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
							Lab Report	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321582	EM2321582	EM2321407	EM2321582	EM2321582	EM2321582	EM2321582	EM2321824	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824	EM2321407	EM2321407	EM2321582	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824
				Drinking Water (Aesthetics)	Drinking Water (Health)	Recreation (Primary / Secondary Contact)																															
Chemical Group	**Chemical Name**	**Unit**	**LOR**																																
	4-Chlorotoluene	µg/L	5		250[#4]	2500[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-Dichlorobenzene	µg/L	2	1[#3]	1500[#1]	15000[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dichlorobenzene	µg/L	2	20[#3]			-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,4-Dichlorobenzene	µg/L	2	0.3[#3]	40[#1]	400[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-Trichlorobenzene	µg/L	5		7[#4]	70[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-Trichlorobenzene	µg/L	2		1.2[#4]	12[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Aliphatic Compounds	Dichlorodifluoromethane (Freon 12)	µg/L	50		200[#4]	2000[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloromethane	µg/L	50		190[#4]	1900[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Vinyl chloride	µg/L	50		0.3[#1]	2[#2]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromomethane	µg/L	50		1[#1]	10[#2]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroethane	µg/L	50		21000[#4]	210000[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trichlorofluoromethane (Freon 11)	µg/L	50		5200[#4]	52000[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-Dichloroethene	µg/L	5		30[#1]	300[#2]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Iodomethane	µg/L	5				-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-Dichloroethane	µg/L	5		2.8[#4]	28[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,2-Dichloroethene	µg/L	5		36[#4]	360[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,2-Dichloroethene	µg/L	5		360[#4]	3600[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1-Trichloroethane	µg/L	5		8000[#4]	80000[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1-Dichloropropene	µg/L	5				-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbon Tetrachloride	µg/L	5		3[#1]	30[#2]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-Dichloroethane	µg/L	5		3[#1]	30[#2]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trichloroethene	µg/L	5		20[#6]	200[#7]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibromomethane	µg/L	5		8.3[#4]	83[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2-Trichloroethane	µg/L	5		0.28[#4]	2.8[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3-Dichloropropane	µg/L	5		370[#4]	3700[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachloroethene	µg/L	5		50[#1]	500[#2]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,1,2-Tetrachloroethane	µg/L	5		0.67[#4]	5.7[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-1,4-Dichloro-2-butene	µg/L	5		0.0013[#4]	0.013[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-1,4-Dichloro-2-butene	µg/L	5		0.0013[#4]	0.013[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,1,2,2-Tetrachloroethane	µg/L	5		0.076[#4]	0.76[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,3-Trichloropropane	µg/L	5		0.00075[#4]	0.0075[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachloroethane	µg/L	5		0.65[#4]	6.5[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2-Dibromo-3-chloropropane	µg/L	5		0.00033[#4]	0.0033[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobutadiene	µg/L	2		0.7[#1]	7[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trihalomethanes	Bromodichloromethane	µg/L	5		60[#6]	600[#7]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromoform	µg/L	5		100[#6]	1000[#7]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chloroform	µg/L	5		300[#6]	3000[#7]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibromochloromethane	µg/L	5		100[#6]	1000[#7]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity	Bicarbonate Alkalinity as CaCO3	mg/L	1				341	758	347	348	1060	1120	841	89	570	508	666	1670	567	988	344	163	884	131	194	586	640	952	392	932	560	697	1370
	Hydroxide Alkalinity as CaCO3	mg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total Alkalinity as CaCO3	mg/L	1				341	805	347	348	1060	1120	841	89	570	508	666	1670	567	988	344	163	884	131	194	586	640	952	392	932	560	697	1370
Oxygenated Compounds	Vinyl acetate	µg/L	50		410[#4]	4100[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Butanone (MEK)	µg/L	50				-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-hexanone (MBK)	µg/L	50		38[#4]	380[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Methyl-2-pentanone (MIBK)	µg/L	50		630[#4]	6300[#5]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfonated Compounds	Carbon disulfide	µg/L	5		810[#4]	8100[#5]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phthalate Esters	Butyl benzyl phthalate	µg/L	2		16[#4]	160[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Diethyl phthalate	µg/L	2		15000[#4]	150000[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dimethyl phthalate	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Di-n-butyl phthalate	µg/L	2		900[#4]	9000[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Di-n-octyl phthalate	µg/L	2		200[#4]	2000[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-ethylhexyl)phthalate	µg/L	10		10[#1]	100[#2]	-	-	-	-	-	-	<10	-	<10	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrosamines	Methapyrilene	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosodibutylamine	µg/L	2		0.0027[#4]	0.027[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosodiethylamine	µg/L	2		0.00017[#4]	0.0017[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosodiphenyl & Diphenylamine	µg/L	4				-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosodipropylamine	µg/L	2		0.011[#4]	0.11[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosomethylethylamine	µg/L	2		0.00071[#4]	0.0071[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosomorpholine	µg/L	2		0.012[#4]	0.12[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosopiperidine	µg/L	2		0.0082[#4]	0.082[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-Nitrosopyrrolidine	µg/L	4		0.037[#4]	0.37[#5]	-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	µg/L	2		590[#4]	5900[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1-Naphthylamine	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,4-Dinitrotoluene	µg/L	4		0.24[#4]	2.4[#5]	-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2,6-Dinitrotoluene	µg/L	4		0.049[#4]	0.49[#5]	-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Picoline	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Aminobiphenyl	µg/L	2		0.003[#4]	0.03[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Nitroquinoline-N-oxide	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5-Nitro-o-toluidine	µg/L	2		8.2[#4]	82[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acetophenone	µg/L	2		1900[#4]	19000[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Azobenzene	µg/L	2		0.12[#4]	1.2[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorobenzilate	µg/L	2		0.31[#4]	3.1[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dimethylaminoazobenzene	µg/L	2		0.005[#4]	0.05[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isophorone	µg/L	2		78[#4]	780[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrobenzene	µg/L	2		0.14[#4]	1.4[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachloronitrobenzene	µg/L	2		30[#1]	300[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phenacetin	µg/L	2		34[#4]	340[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pronamide	µg/L	2		70[#1]	700[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Haloethers	4-Bromophenyl phenyl ether	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroethyl) ether	µg/L	2		0.014[#4]	0.14[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bis(2-chloroethoxy) methane	µg/L	2		59[#4]	590[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Chlorophenyl phenyl ether	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	µg/L	10		0.41[#4]	4.1[#5]	-	-	-	-	-	-	<10	-	<10	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachloroethane	µg/L	2		0.33[#4]	3.3[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachloropropene	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pentachlorobenzene	µg/L	2		3.2[#4]	32[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organophosphorus Pesticides (OP)	Chlorfenvinphos	µg/L	2		11[#4]	110[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorpyrifos	µg/L	2		10[#1]	100[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlorpyrifos-methyl	µg/L	2		120[#4]	1200[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Diazinon	µg/L	2		4[#1]	40[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dichlorvos	µg/L	2		5[#1]	50[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dimethoate	µg/L	2		7[#1]	70[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ethion	µg/L	2		4[#1]	40[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fenthion	µg/L	2		7[#1]	70[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Malathion	µg/L	2		70[#1]	700[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pirimphos-ethyl	µg/L	2		0.5[#1]	5[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Prothiofos	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides (OC)	Aldrin	µg/L	0.5		0.00092[#4]	0.0092[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	µg/L	0.5		0.0018[#4]	0.018[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	µg/L	0.5		0.3[#1]	3[#2]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	µg/L	0.5		0.0072[#4]	0.072[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	µg/L	0.5		0.025[#4]	0.25[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	µg/L	0.5		10[#1]	100[#2]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-Chlordane	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlordane	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	µg/L	0.5		0.032[#4]	0.32[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDE	µg/L	0.5		0.046[#4]	0.46[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	µg/L	2		9[#1]	90[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	µg/L	0.5		1[#8]	10[#9]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T3 - Groundwater Analytical Results – Tier 1 Screening – Drinking Water and Recreation

AECOM

							Location Code	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
							Sampled Date	5/12/2023	5/12/2023	4/12/2023	4/12/2023	5/12/2023	5/12/2023	30/11/2023	30/11/2023	29/11/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	6/12/2023	6/12/2023	6/12/2023	30/11/2023	5/12/2023	4/12/2023	30/11/2023	30/11/2023	30/11/2023	6/12/2023	5/12/2023	29/11/2023	5/12/2023	6/12/2023
							Field ID	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
							Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
							Lab Report	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321582	EM2321582	EM2321407	EM2321582	EM2321582	EM2321582	EM2321582	EM2321824	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824	EM2321824	EM2321407	EM2321407	EM2321582	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824
				Drinking Water (Aesthetics)	Drinking Water (Health)	Recreation (Primary / Secondary Contact)																													
Chemical Group	**Chemical Name**	**Unit**	**LOR**																														
	Endosulfan 1	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan 2	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulfate	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	µg/L	0.5		0.6[#6]	6[#7]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	µg/L	0.5				-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	µg/L	0.5		0.3[#1]	3[#2]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	µg/L	0.5		0.0014[#4]	0.014[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene (HCB)	µg/L	0.5		0.0098[#4]	0.098[#5]	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	µg/L	2		300[#1]	3000[#2]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzidine	3,3-Dichlorobenzidine	µg/L	2		0.13[#4]	1.3[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides	Cyanide Total	µg/L	4		80[#1]	800[#2]	16	19	10	9	186	113	45	<4	10	18	8	-	23	16	<4	17	72	52	36	9	8	71	20	28	22	28	28
	Cyanide (Free)	mg/L	0.004				<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
	Weak Acid Dissociable Cyanide	mg/L	0.004				<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Inorganics	Carbonate Alkalinity (as CaCO3)	mg/L	1				<1	48	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anilines	2-Nitroaniline	µg/L	4		190[#4]	1900[#5]	-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-Nitroaniline	µg/L	4				-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Chloroaniline	µg/L	2		0.37[#4]	3.7[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Nitroaniline	µg/L	2		3.8[#4]	38[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	µg/L	2		13[#4]	130[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbazole	µg/L	2				-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibenzofuran	µg/L	2		7.9[#4]	79[#5]	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Env Stds Comments
#1:NHMRC ADWG (amended 2013) Human Health
#2:NHMRC ADWG (amended 2013) Human Health (AF x 10)
#3:NHMRC ADWG (amended 2013) Aesthetic
#4:US EPA RSL NOV 2018 - Tap Water Quality
#5:US EPA RSL NOV 2018 - Tap Water Quality (AF x 10)
#6:WHO (2011) Drinking Water Guidelines
#7:WHO (2011) Drinking Water Guidelines (AF x 10)
#8:NZ Drinking Water 2008
#9:NZ Drinking Water 2008 (AF x 10)

Macquarie Point Development Project
60693007
The Precinct South - Well Maintenance and Targeted GME

Table T4 - Groundwater Analytical Results – Tier 1 Screening – Vapour Intrusion

AECOM

							Location Code	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
							Sampled Date	5/12/2023	5/12/2023	4/12/2023	4/12/2023	5/12/2023	5/12/2023	30/11/2023	30/11/2023	29/11/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	6/12/2023	6/12/2023	6/12/2023	30/11/2023	5/12/2023	4/12/2023	30/11/2023	30/11/2023	30/11/2023	6/12/2023	5/12/2023	29/11/2023	5/12/2023	6/12/2023
							Field ID	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
							Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
							Lab Report	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321582	EM2321582	EM2321407	EM2321582	EM2321582	EM2321582	EM2321582	EM2321824	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824	EM2321407	EM2321407	EM2321582	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824
				Vapour Intrusion - Commercial/Industrial	Vapour Intrusion - Intrusive Maintenance Worker	Vapour Intrusion - Recreation	Vapour Intrusion - Residential																													
Chemical Group	**Chemical Name**	**Unit**	**LOR**																																	
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20					<20	<20	<20	<20	<20	20	<20	<20	<20	<20	<20	40	<20	130	<20	600	<20	<20	40	<20	<20	<20	<20	<20	<20	120	30
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	4100[#1]	>S[#2]	>S[#3]	640[#4]	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	130	<20	600	<20	<20	40	<20	<20	<20	<20	<20	<20	120	30
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100	4800[#1]	>S[#2]	>S[#3]	760[#4]	<100	<100	<100	<100	<100	370	<100	<100	340	<100	<100	220	<100	780	<100	680	<100	<100	-	<100	<100	<100	210	<100	<100	1140	740
	>C10-C16 fraction	µg/L	100					<100	<100	<100	<100	<100	370	<100	<100	340	<100	<100	220	<100	780	<100	680	<100	<100	-	<100	<100	<100	210	<100	<100	1140	740
	>C16-C34 fraction	µg/L	100					<100	<100	<100	<100	130	280	<100	160	390	<100	<100	130	<100	410	<100	330	<100	<100	-	170	120	<100	220	<100	170	570	800
	>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100
	>C10-C40 fraction (sum)	µg/L	100					<100	<100	<100	<100	130	650	<100	160	730	<100	<100	350	<100	1190	<100	1010	<100	<100	-	170	120	<100	430	<100	170	1710	1540
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	110	<20	550	<20	<20	20	<20	<20	<20	<20	<20	<20	80	20
	C10-C14 fraction	µg/L	50					<50	<50	<50	<50	<50	230	<50	<50	140	<50	<50	170	<50	550	<50	580	<50	<50	-	<50	<50	<50	170	<50	<50	870	440
	C15-C28 fraction	µg/L	100					<100	<100	<100	<100	160	420	<100	140	530	<100	<100	160	<100	630	<100	480	<100	<100	-	200	120	<100	250	<100	190	860	1060
	C29-C36 fraction	µg/L	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	110
	C10-C36 fraction (sum)	µg/L	50					<50	<50	<50	<50	160	650	<50	140	670	<50	<50	330	<50	1230	<50	1060	<50	<50	-	200	120	<50	420	<50	190	1730	1610
Volatile Petroleum Hydrocarbons	C5-C6 Aliphatic Hydrocarbons	µg/L	20					-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C6 - C8 Aliphatic	µg/L	20	132000[#1]	3790000[#2]	1790000[#3]	20800[#4]	-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C8 - C10 Aliphatic	µg/L	20	4020[#1]	1160000[#2]	547000[#3]	636[#4]	-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C10 - C12 Aliphatic	µg/L	50	4830[#1]	1390000[#2]	656000[#3]	763[#4]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	>C8 - C10 Aromatic	µg/L	5	189000[#1]	5430000[#2]	2570000[#3]	29900[#4]	-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
	>C10 - C12 Aromatic	µg/L	50	242000[#1]	6960000[#2]	3300000[#3]	38400[#4]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	TPH >C7 - C8 Aromatic Toluene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
	TPH C5 - C7 Aromatic	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
Total Petroleum Hydrocarbons (CWG-Speciation)	>C12 - C16 Aliphatic	µg/L	50	6030[#1]	1740000[#2]	820000[#3]	953[#4]	-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	>C12 - C16 Aromatic	µg/L	50	452000[#1]	129000000[#2]	61900000[#3]	71900[#4]	-	-	-	-	-	-	<50	-	140	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	Aliphatic >C16-C21	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	Aliphatic >C21-C35	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	> C16-C21 Aromatic	mg/L	0.05					-	-	-	-	-	-	<0.05	-	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-
	> C21-C35 Aromatic	mg/L	0.05					-	-	-	-	-	-	<0.05	-	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzene	µg/L	1	4900[#1]	>S[#2]	>S[#3]	800[#4]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	>S[#1]	>S[#2]	>S[#3]	>S[#4]	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	>S[#1]	>S[#2]	>S[#3]	>S[#4]	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	m&p-Xylene	µg/L	2					<2	<2	<2	<2	<2	6	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	µg/L	2					<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total Xylenes	µg/L	2	>S[#1]	>S[#2]	>S[#3]	>S[#4]	<2	<2	<2	<2	<2	6	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Styrene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-propylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	sec-butylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	tert-butylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total BTEX	µg/L	1					<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6
	Naphthalene	µg/L	1	>S[#1]	>S[#2]	>S[#3]	>S[#4]	<1	<1	<1	<1	<1	2.6	<1	<1	<2	<1	<1	1.5	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Methylnaphthalene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Chloronaphthalene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthene	µg/L	1					<1	<1	1.2	<1	13.2	46	<1	<1	3	3.2	3	9.3	<1	3.4	<1	1.5	<1	<1	-	<1	<1	<1	1.1	<1	2.8	2.6	2.9
	Anthracene	µg/L	1					<1	<1	<1	<1	3.7	2.9	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.4	<1	1.6
	Fluorene	µg/L	1					<1	<1	1.1	<1	9.7	22.2	<1	<1	3	1.8	<1	2.8	<1	3.2	<1	1.4	<1	<1	-	<1	<1	<1	<1	<1	2.6	3.4	2.4
	Phenanthrene	µg/L	1					<1	<1	<1	<1	26.6	17.7	<1	<1	<2	1.9	<2 - 1.9	2	<1	3.1	<1	1.3	<1	<1	-	<1	<1	<1	1.5	<1	3.1	5.1	6.7
	Fluoranthene	µg/L	1					<1	<1	1.2	<1	5.4	2	<1	<1	<2	<1	2 - 2.4	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.6	1.4	4.5
	Benz(a)anthracene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.2
	Benzo(k)fluoranthene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(b&j)fluoranthene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.2
	Benzo(b+j) & Benzo(k)fluoranthene	µg/L	4	-	-	-	-	-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-2-Fluorenyl Acetamide	µg/L	2	-	-	-	-	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7,12-Dimethylbenz(a)anthracene	µg/L	2	-	-	-	-	-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(a)pyrene	µg/L	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3
	Chrysene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.1
	Pyrene	µg/L	1					<1	<1	<1	<1	3.8	1.4	<1	<1	<2	<1	2 - 2.2	<1	<1	1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.2	1.3	4.3
	3-Methylcholanthrene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(g,h,i)perylene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-cd)pyrene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Sum of PAHs	µg/L	0.5					<0.5	<0.5	3.5	<0.5	62.4	94.8	<0.5	<0.5	6	6.9	7 - 9.5	15.6	<0.5	10.7	<0.5	4.2	<0.5	<0.5	-	<0.5	<0.5	<0.5	2.6	<0.5	12.7	13.8	27.2
Hydrocarbon Gases	Methane	µg/L	10					-	-	-	-	-	-	16,700	-	6420	-	13.500	-	-	12.900	8260	12,200	-	-	-	-	-	-	13.200	-	5120	-	12,100

Env Stds Comments
#1:CRC CARE 2011 HSL D - Sand 2 to <4m
#2:CRC CARE 2011 IMW - Sand - 2-<4m
#3:CRC CARE 2011 HSL C - Sand 2 to <4m
#4:CRC CARE 2011 HSL A&B - Sand 2 to <4m
>S - Greater than solubility limit

Macquarie Point Development Project
60693007
The Precinct South - Well Maintenance and Targeted GME

Table T5 - Groundwater Results – Tier 1 Screening – Buildings, Ecosystems, Irrigation, Stock Watering

AECOM

				Buildings and Structures (AS2159)	Ecosystem Protection (90%)	Irrigation	Stock Watering																										
Location Code								MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
Sampled Date								5/12/2023	5/12/2023	4/12/2023	4/12/2023	5/12/2023	5/12/2023	30/11/2023	30/11/2023	29/11/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	6/12/2023	6/12/2023	6/12/2023	30/11/2023	5/12/2023	4/12/2023	30/11/2023	30/11/2023	30/11/2023	6/12/2023	5/12/2023	29/11/2023	5/12/2023	6/12/2023
Field ID								MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report								EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321582	EM2321582	EM2321407	EM2321582	EM2321582	EM2321582	EM2321582	EM2321824	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824	EM2321407	EM2321407	EM2321582	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824
Chemical Group	**Chemical Name**	**Unit**	**LOR**																														
	> C16-C21 Aromatic	mg/L	0.05					-	-	-	-	-	-	<0.05	-	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-
	> C21-C35 Aromatic	mg/L	0.05					-	-	-	-	-	-	<0.05	-	<0.05	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20					<20	<20	<20	<20	<20	20	<20	<20	<20	<20	<20	40	<20	130	<20	600	<20	<20	40	<20	<20	<20	<20	<20	<20	120	30
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	130	<20	600	<20	<20	40	<20	<20	<20	<20	<20	<20	120	30
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100					<100	<100	<100	<100	<100	370	<100	<100	340	<100	<100	220	<100	780	<100	680	<100	<100	-	<100	<100	<100	210	<100	<100	1140	740
	>C10-C16 fraction	µg/L	100					<100	<100	<100	<100	<100	370	<100	<100	340	<100	<100	220	<100	780	<100	680	<100	<100	-	<100	<100	<100	210	<100	<100	1140	740
	>C16-C34 fraction	µg/L	100					<100	<100	<100	<100	130	280	<100	160	390	<100	<100	130	<100	410	<100	330	<100	<100	-	170	120	<100	220	<100	170	570	800
	>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100
	>C10-C40 fraction (sum)	µg/L	100		600[#1]			<100	<100	<100	<100	130	650	<100	160	730	<100	<100	350	<100	1190	<100	1010	<100	<100	-	170	120	<100	430	<100	170	1710	1540
Volatile Petroleum Hydrocarbons	C5-C6 Aliphatic Hydrocarbons	µg/L	20					-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C6 - C8 Aliphatic	µg/L	20					-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C8 - C10 Aliphatic	µg/L	20					-	-	-	-	-	-	<20	-	<20	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-
	>C10 - C12 Aliphatic	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	>C8 - C10 Aromatic	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
	>C10 - C12 Aromatic	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	TPH >C7 - C8 Aromatic Toluene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
	TPH C5 - C7 Aromatic	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzene	µg/L	1		900[#2]			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2		180[#3]			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2		5[#3]			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	m&p-Xylene	µg/L	2					<2	<2	<2	<2	<2	<2	6	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	µg/L	2		350[#3]			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total Xylenes	µg/L	2		19[#4]			<2	<2	<2	<2	<2	<2	6	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Styrene	µg/L	5		910[#4]			-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Isopropylbenzene	µg/L	5		30[#3]			-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-butylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	n-propylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	p-isopropyltoluene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	sec-butylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	tert-butylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,2,4-trimethylbenzene	µg/L	5		19[#4]			-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1,3,5-trimethylbenzene	µg/L	5					-	-	-	-	-	-	<5	-	<5	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total BTEX	µg/L	1					<1	<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals	Aluminium (Filtered)	mg/L	0.01		0.0005[#3]	20[#5]	**5[#6]**	<0.01	0.01	0.01	<0.01	0.01	0.01	0.01	0.04	0.05	0.01	0.03	0.02	0.29	0.05	0.02	0.01	0.02	0.01	0.07	0.01	<0.01	0.04	0.01	0.02	<0.01	0.02	0.32
	Arsenic (Filtered)	mg/L	0.001		0.036[#7]	2[#5]	**0.5[#6]**	0.011	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.003	<0.001	<0.001	<0.001	0.003	<0.001	0.002	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.008	0.005
	Cadmium (Filtered)	mg/L	0.0001		0.014[#2]	0.05[#5]	**0.01[#6]**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Chromium (Filtered)	mg/L	0.001		0.02[#2]	1[#5]	**1[#6]**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Copper (Filtered)	mg/L	0.001		0.003[#2]	5[#5]	**0.4[#6]**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	0.004	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	0.004
	Lead (Filtered)	mg/L	0.001		0.0066[#2]	5[#5]	**0.1[#6]**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001	0.015	0.006	0.001	<0.001	0.001	<0.001	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.025
	Manganese (Filtered)	mg/L	0.001		0.08[#3]	10[#5]		0.222	0.107	0.533	0.531	0.626	0.573	3.47	0.079	0.59	0.35	0.537	0.394	0.287	1.07	0.247	0.354	0.767	0.198	0.912	1.54	1.64	1.4	0.443	0.67	1.76	1.09	1.23
	Mercury (Filtered)	mg/L	0.0001		0.0007[#2]	0.002[#5]	**0.002[#6]**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Nickel (Filtered)	mg/L	0.001		0.2[#2]	2[#5]	**1[#6]**	<0.001	<0.001	0.002	0.002	0.004	0.003	<0.001	0.004	<0.001	<0.001	0.001	<0.001	<0.002	0.006	<0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.002	0.004	<0.001	0.005	0.003
	Zinc (Filtered)	mg/L	0.005		0.023[#2]	5[#5]	**20[#6]**	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	0.017	<0.005	<0.005	<0.005	<0.005	0.035	0.012	0.077	<0.005	0.007	<0.005	0.063	<0.005	0.006	<0.005	0.006	0.02	<0.005	<0.005	0.033
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6
	Naphthalene	µg/L	1		90[#2]			<1	<1	<1	<1	<1	2.6	<1	<1	<2	<1	<1	1.5	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Methylnaphthalene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2-Chloronaphthalene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Acenaphthylene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthene	µg/L	1					<1	<1	1.2	<1	13.2	46	<1	<1	3	3.2	3	9.3	<1	3.4	<1	1.5	<1	<1	-	<1	<1	<1	1.1	<1	2.8	2.6	2.9
	Anthracene	µg/L	1		0.01[#3]			<1	<1	<1	<1	3.7	2.9	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.4	<1	1.6
	Fluorene	µg/L	1					<1	<1	1.1	<1	9.7	22.2	<1	<1	3	1.8	<1	2.8	<1	3.2	<1	1.4	<1	<1	-	<1	<1	<1	<1	<1	2.6	3.4	2.4
	Phenanthrene	µg/L	1		0.6[#3]			<1	<1	<1	<1	26.6	17.7	<1	<1	<2	1.9	<2 - 1.9	2	<1	3.1	<1	1.3	<1	<1	-	<1	<1	<1	1.5	<1	3.1	5.1	6.7
	Fluoranthene	µg/L	1		1[#3]			<1	<1	1.2	<1	5.4	2	<1	<1	<2	<1	2 - 2.4	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.6	1.4	4.5
	Benz(a)anthracene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.2
	Benzo(k)fluoranthene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(b&j)fluoranthene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.2
	Benzo(b+j) & Benzo(k)fluoranthene	µg/L	4					-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	N-2-Fluorenyl Acetamide	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7,12-Dimethylbenz(a)anthracene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(a)pyrene	µg/L	0.5		0.1[#3]			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3
	Chrysene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	1.1
	Pyrene	µg/L	1					<1	<1	<1	<1	3.8	1.4	<1	<1	<2	<1	2 - 2.2	<1	<1	1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	1.2	1.3	4.3
	3-Methylcholanthrene	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Benzo(g,h,i)perylene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-cd)pyrene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	Sum of PAHs	µg/L	0.5					<0.5	<0.5	3.5	<0.5	62.4	94.8	<0.5	<0.5	6	6.9	7 - 9.5	15.6	<0.5	10.7	<0.5	4.2	<0.5	<0.5	-	<0.5	<0.5	<0.5	2.6	<0.5	12.7	13.8	27.2
Ferrous/Ferric Iron	Ferrous Iron	mg/L	0.05					-	-	-	-	-	-	37.2	-	17.2	-	6.82	-	-	40.2	8.82	10.6	-	-	-	-	-	-	8.57	-	35.6	-	39.4
Hydrocarbon Gases	Methane	µg/L	10					-	-	-	-	-	-	16,700	-	6420	-	13,500	-	-	12,900	8260	12,200	-	-	-	-	-	-	13,200	-	5120	-	12,100
NA	>C12 - C16 Aliphatic	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	>C12 - C16 Aromatic	µg/L	50					-	-	-	-	-	-	<50	-	140	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
Physio-Chemical Parameters	Total Dissolved Solids	mg/L	10					381	962	314	361	994	1180	2080	189	735	641	1610	2170	22,000	1020	392	190	1810	196	306	714	794	1600	466	953	1440	813	1320
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	110	<20	550	<20	<20	20	<20	<20	<20	<20	<20	<20	80	20
	C10-C14 fraction	µg/L	50					<50	<50	<50	<50	<50	230	<50	<50	140	<50	<50	170	<50	550	<50	580	<50	<50	-	<50	<50	<50	170	<50	<50	870	440
	C15-C28 fraction	µg/L	100					<100	<100	<100	<100	160	420	<100	140	530	<100	<100	160	<100	630	<100	480	<100	<100	-	200	120	<100	250	<100	190	860	1060
	C29-C36 fraction	µg/L	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	110
	C10-C36 fraction (sum)	µg/L	50		600[#1]			<50	<50	<50	<50	160	650	<50	140	670	<50	<50	330	<50	1230	<50	1060	<50	<50	-	200	120	<50	420	<50	190	1730	1610
Total Petroleum Hydrocarbons (CWG-Speciation)	Aliphatic >C16-C21	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
	Aliphatic >C21-C35	µg/L	50					-	-	-	-	-	-	<50	-	<50	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-
Major Ions	Chloride	mg/L	1	6000				18	139	16	17	32	110	800	15	38	50	495	661	11,600	30	21	10	713	16	18	27	28	554	35	24	536	32	180
	Calcium	mg/L	1				**1000[#8]**	63	41	82	82	189	153	179	32	87	94	92	56	270	207	64	48	142	34	43	99	112	145	77	188	154	168	209
	Magnesium	mg/L	1					21	107	17	17	86	88	64	5	46	33	61	116	784	71	12	7	61	5	13	37	38	57	22	72	48	41	125
	Potassium	mg/L	1					22	63	12	12	48	58	36	3	18	28	34	106	284	42	18	6	47	6	12	14	20	42	20	41	27	32	87
	Sodium	mg/L	1					33	180	47	44	76	161	404	7	77	43	304	747	5990	94	76	12	400	23	33	96	99	329	68	67	257	69	188
	Total Anions	meq/L	0.01					7.32	20.1	7.38	7.43	22.1	25.5	39.4	2.33	13.3	11.6	27.7	52	362	20.6	7.46	3.54	37.8	3.11	4.7	12.8	14	34.6	8.82	19.4	26.4	14.8	32.4
	Total Cations	meq/L	0.01					6.87	20.3	7.84	7.71	21	23.4	32.7	2.39	11.9	9.99	23.7	47.5	346	21.3	7.95	3.65	34.1	3.26	4.96	12.5	13.5	30	9.12	19.3	23.5	15.6	31.1
	Sulfate (as SO4-) (Filtered)	mg/L	1					<1	4	<1	<1	<1	<1	<1	6	40	2	21	<2	1120	<5	<1	<1	<1	2	15	15	20	<1	<1	4	7	<5	<5
	Ionic Balance	%	0.01					3.18	0.51	3.01	1.84	2.41	4.33	9.26	-	5.38	7.45	7.79	4.49	2.27	1.79	3.13	1.5	5.14	2.38	2.71	1.04	1.67	7.29	1.69	0.29	5.9	2.46	2.09
Nutrients	Ammonia (as N)	mg/L	0.01		1.2[#2]			15.1	10.4	4.98	5.05	43	47	15.4	<0.01	3.85	20.9	15.6	34.6	6.04	15.9	4.86	-	47.5	1.51	1.73	1.2	1.05	37	10.6	27.5	8.84	8.27	52
	Nitrate (as N)	mg/L	0.01					-	-	-	-	-	-	<0.01	-	0.01	-	<0.01	-	-	<0.05	<0.01	-	-	-	-	-	-	-	<0.01	-	<0.01	-	<0.05
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	2					<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2
	Phenol	µg/L	1		520[#2]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Chlorophenol	µg/L	1		340[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Methylphenol (o-Cresol)	µg/L	1		1020[#4]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2-Nitrophenol	µg/L	1		2[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4-Dichlorophenol	µg/L	1		120[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4-Dimethylphenol	µg/L	1		2[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,6-Dichlorophenol	µg/L	1		34[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	4-Chloro-3-methylphenol	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4,6-Trichlorophenol	µg/L	1		3[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1
	2,4,5-Trichlorophenol	µg/L	1		4[#3]			<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1

Table T5 - Groundwater Results – Tier 1 Screening – Buildings, Ecosystems, Irrigation, Stock Watering

AECOM

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Table T5 - Groundwater Results – Tier 1 Screening – Buildings, Ecosystems, Irrigation, Stock Watering

AECOM

								Location Code	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
								Sampled Date	5/12/2023	5/12/2023	4/12/2023	4/12/2023	5/12/2023	5/12/2023	30/11/2023	30/11/2023	29/11/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	1/12/2023	6/12/2023	6/12/2023	6/12/2023	30/11/2023	5/12/2023	4/12/2023	30/11/2023	30/11/2023	30/11/2023	6/12/2023	5/12/2023	29/11/2023	5/12/2023	6/12/2023
								Field ID	MW124A	MW124B	MW125A	MW125B	MW126A	MW126B	MW127A	MW127B	MW146	MW150	MW151	MW152	MW153	MW154	MW155	MW16	MW162	MW163	MW164	MW175	MW176	MW55	MW6	MW60	RN4	S4	S6
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321824	EM2321582	EM2321582	EM2321407	EM2321582	EM2321582	EM2321582	EM2321582	EM2321824	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824	EM2321824	EM2321407	EM2321407	EM2321582	EM2321824	EM2321824	EM2321407	EM2321824	EM2321824
				Buildings and Structures (AS2159)	Ecosystem Protection (90%)	Irrigation	Stock Watering																													
Chemical Group	**Chemical Name**	**Unit**	**LOR**																															
	Fenthion	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Malathion	µg/L	2		0.05[#3]			-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pirimphos-ethyl	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Prothiofos	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides (OC)	Aldrin	µg/L	0.5		0.003[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dieldrin	µg/L	0.5		0.01[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldrin + Dieldrin	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a-BHC	µg/L	0.5		25[#4]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b-BHC	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d-BHC	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	g-BHC (Lindane)	µg/L	0.5		0.007[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	cis-Chlordane	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	trans-Chlordane	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chlordane	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDD	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDE	µg/L	0.5		0.0005[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT	µg/L	2		0.0004[#3]			-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DDT+DDE+DDD	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan 1	µg/L	0.5		0.0002[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan 2	µg/L	0.5		0.007[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endosulfan sulfate	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin	µg/L	0.5		0.01[#2]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin aldehyde	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Endrin ketone	µg/L	0.5					-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor	µg/L	0.5		0.0004[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor epoxide	µg/L	0.5		0.0036[#7]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Hexachlorobenzene (HCB)	µg/L	0.5		0.05[#3]			-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Methoxychlor	µg/L	2		0.004[#3]			-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzidine	3,3-Dichlorobenzidine	µg/L	2		0.5[#3]			-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides	Cyanide Total	µg/L	4					16	19	10	9	186	113	45	<4	10	18	8	-	23	16	<4	17	72	52	36	9	8	71	20	28	22	28	28
	Cyanide (Free)	mg/L	0.004		0.007[#2]			<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
	Weak Acid Dissociable Cyanide	mg/L	0.004					<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Inorganics	Carbonate Alkalinity (as CaCO3)	mg/L	1					<1	48	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anilines	2-Nitroaniline	µg/L	4					-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-Nitroaniline	µg/L	4					-	-	-	-	-	-	<4	-	<4	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Chloroaniline	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4-Nitroaniline	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aniline	µg/L	2		8[#3]			-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Carbazole	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dibenzofuran	µg/L	2					-	-	-	-	-	-	<2	-	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Env Stds Comments
#1:RIVM (2001) Dutch Intervention Value
#2:ANZECC (2000) Ecosystems Marine Water (90%)
#3:ANZECC (2000) Ecosystems Marine Water Med-Low Reliability
#4:R3 BTAG Marine Benchmarks
#5:ANZECC (2000) Agriculture, Parks & Gardens - STV
#6:ANZECC (2000) Stock Watering
#7:USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)

Table T6 - Groundwater Analytical Results – Remediation Criteria

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Table T6 - Groundwater Analytical Results – Remediation Criteria

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Appendix A

Data Quality Objectives and Data Validation

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Data Quality Objectives and Data Validation

1.0 Data Quality Objectives

The Data Quality Objectives (DQOs) for the Targeted Precinct South groundwater monitoring event (GME) project were established during the development of the field program and presented in the Sampling, Analysis and Quality Plan (SAQP) [AECOM, 2023b] previously prepared for the works. The DQOs are presented herein.

Guidance regarding the development of DQOs has been referenced from the following primary documents:

- *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013*, (ASC NEPM, 2013) *Schedule B2: Guideline on Site Characterisation*
- US EPA, 2006 *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4).

The process of establishing appropriate DQOs is defined by the seven-step planning approach presented in the ASC NEPM and summarised in **Table 1** below.

Table 1 Data Quality Objectives

Step	Data Quality Objective Step Summary
1	***State the Problem*** – Summarise the problem that will require new environmental data and identify the resources available to resolve the problem based on a preliminary Conceptual Site Model (CSM) using available information prior to the commencement of the site investigation.
2	**Identify the Decision/Goal of the Study** – Identify the decisions that need to be made about the problem and the new environmental data required to make the decisions. Develop a decision statement linking the principal project objective(s) to the possible actions that will address the problem.
3	**Identify Information Inputs** – Identify the information needed to support any decision and whether new environmental data will be needed.
4	***Define the Boundaries of the Study*** – Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision(s).
5	***Develop the Analytical Approach (or Decision Rule)*** – Define the parameter of interest, specify the action level, and integrate information from Steps 1–4 into a single statement that gives a logical basis for choosing between alternative actions.
6	***Specify Performance or Acceptance Criteria*** – Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.
7	***Develop the Plan for Obtaining Data*** – Identify the most resource-effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

The approach adopted relative to the seven steps presented above in **Table 1** is discussed in the sections below.

1.1 Step 1 – State the Problem

The primary problem addressed as part of the works is the uncertainty regarding the current groundwater conditions at and surrounding the Precinct South, associated with the following:

- The current condition of groundwater, including the nature and extent of impacts, noting no groundwater assessments had been undertaken at the Precinct South since the Site-wide 2019 GMEs undertaken in August 2019 and November 2019.
- Temporal variations associated with groundwater quality.

Data collected as part of these investigations will inform future assessments, including the update of existing Detailed Site Investigation (DSI) reports and preparation of a Clean Up to the Extent Practicable (CUTEP) submission for Auditor assessment of the Precinct South.

1.2 Step 2 – Identify the Decision / Goal of the Study

As noted in **Section 1.1**, the investigation works were intended to collect data to enable assessment of current groundwater conditions associated with the Precinct South. The decision identification component of the DQO process represents the key issues that need to be reviewed and considered to resolve the problem identified in Step 1. These issues include:

- Obtaining representative physical and chemical groundwater data at and surrounding the Precinct South to address the objectives of the investigations (refer to **Section 1.2** of the main report text) and to further inform the Conceptual Site Model and future assessments.
- Comparing detected chemicals of potential concern (CoPC) concentrations against relevant screening criteria (refer to **Appendix F**) and historical data to assess the nature and extent of groundwater impacts, temporal trends, and potential risk posed to human and ecological receptors relevant to the proposed future uses and environmental values associated with Precinct South.

If the investigation results suggest potential risk, or if there remains insufficient information, recommendations shall be made on further assessment, management, or remediation measures.

1.3 Step 3 - Identify Information Inputs

To allow assessment of the data against the issues and decisions listed in **Section 1.2**, various information inputs are to be considered as follows:

- Field observations of aesthetic groundwater impacts (e.g. odours, sheen etc.) during gauging, purging and sampling of groundwater.
- Identification of the CoPC for each assessment location based on the Site-specific history, existing contamination issues, previously obtained groundwater quality data and associated objectives.
- Newly-collected groundwater data and concentrations of contaminants relative to relevant screening criteria and guidelines.
- Historical investigation data (where available) and information documented in previous Site reports including previous GMEs.

1.4 Step 4 – Define the Boundaries of the Study

The spatial boundaries (geographical limits) applied for data collection and decision making for the investigations are defined as follows:

- Evans Street and the University of Tasmania carpark to the south.
- The off-Site extent footprint of TasPorts area to the east
- The on-Site extent of the footprint of the Precinct North area to the north, the Promenade and Underground Carpark area to the northwest, and the Goods Shed and Yard area to the west.

- The area of works is vertically limited by the depths of the groundwater monitoring wells located within the investigation area, which range between approximately 4 m below ground level (bgl) and 18.9 bgl in this area.

The groundwater assessment locations are shown on **Figure F4** in the **Figures** section.

1.5 Step 5 – Develop the Analytical Approach (or Decision Rule)

Groundwater data collected as part of the investigations must be of sufficient representativeness address the primary problem (refer to **Section 1.1**) and decisions (refer to **Section 1.2**) identified as part of the DQO process.

Primary and secondary laboratories selected for the analysis of collected groundwater samples were accredited by National Association of Testing Authorities (NATA) for the requested analyses and were consistent with the following methodologies summarised in **Table 2** below.

Table 2 Laboratory Analytical Methods

Matrix	Sample Type	Analyte	Method Reference
Groundwater / Water	• Primary • QA/QC – Inter- and Intra-Laboratory Duplicate • QA/QC – Field Blank • QA/QC – Rinsate	Metals*	ICP/MS, CV/FIMS
		TRH and BTEXN	GC/FID, P&T/HS-GCMS
		PAH and phenols	GC/MS - SIM
		Free, WAD, and total cyanide	APHA 4500 CN-O, ASTM D7237
		Ammonia	APHA 4500 NH_3 - G
		Major cations (calcium, magnesium, sodium, potassium)	APHA 3120B or 3125B
		Major anions (chloride, sulfate, alkalinity)	APHA 2320B, APHA 4500-Cl - G, APHA 4500 SO_4-E
		Total Dissolved Solids (TDS)	APHA 2540C
	• Select Primary Samples ^	TRH speciation (aliphatic/aromatic)	CWG 1998
		Monitored Natural Attenuation (Nitrate, Ferrous Iron, Methane, Sulphate	APHA VCl3 reduction 4500 NO_3- + NO_2-B, APHA3500 Fe-B, HS/GC/FID, APHA 4500 SO4-E
		OCPs	USEPA SW 846-8270D
		VOC / SVOC	P&T/HS-GC/MS, GC/MS
		Chlorinated hydrocarbons	USEPA SW 846 - 8260B
	• QA/QC – Trip Blank	TRH (C_6-C_{10}) and BTEXN	USEPA SW 846-8260B

Notes: QA/QC – quality assurance/ quality control; Metals – 10 metals including aluminium, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel and zinc; TRH – Total Recoverable Hydrocarbons; PAH – Polycyclic Aromatic Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene; WAD – Weak Acid Dissociable; OCP: Organochlorine Pesticides; VOC: Volatile Organic Compounds; SVOC: Semi-Volatile Organic Compounds; ^ Approximately 25% of the samples were selected for analysis of TRH speciation and Monitored Natural Attenuation parameters, and approximately 10% of the samples were selected for analysis of OCPs, VOC/SVOC and chlorinated hydrocarbons.*

The decision for the investigation works is to obtain representative groundwater data and compare data against relevant screening or acceptance criteria. The decision rules are as follows:

- If comparison of groundwater chemical data to the relevant screening criteria (outlined in **Appendix F**) identifies exceedances, the exceedances will be subject to further investigation, assessment, remediation, or management; otherwise, groundwater will be deemed suitable for the proposed future uses and environmental values associated with the Precinct South area.
- If the investigation results suggest potential risk, or if there remains insufficient information, recommendations shall be made on further assessment, management, or remediation measures.
- If the QA/QC data meets the Data Quality Indicators (DQIs) adopted (outlined in **Section 3.2** of the main report text) to assess the precision and accuracy of the data, the data will be considered to be suitable for interpretive use. Data that fail to meet the DQIs will be managed using corrective actions (where possible) such as re-analysis of suspect samples, re-analysis of data and/or procedures, acceptance of data with acknowledged limitations/bias, or the data may be discarded.

1.6 Step 6 – Specify Performance or Acceptance Criteria

A decision error in the context of the decision rules presented in Step 5 would lead to either underestimation or overestimation of the risk level associated with particular investigations/ samples/data. Decision errors may include:

- Limitations in the available Site history information.
- Limitations based on inaccurate/inadequate data from previous investigations.
- Errors or limitations in this SAQP or proposed scope of works.
- Data not being adequately representative of Site conditions.
- Errors in the laboratory analytical reporting or procedures.
- Unnecessary implementation of remedial or management measures and controls.

Obtained field and laboratory data will be reviewed and screened against relevant assessment criteria (outlined in **Appendix F**) to make decisions regarding further assessment or management measures as part of as part of future assessments, including the update of existing DSI reports and preparation of a CUTEP submission for Auditor assessment of Precinct South.

A QA/QC and data validation program was developed as part of the SAQP (AECOM, 2023b) to ensure that data collected are sufficiently accurate and reliable for the purpose of this investigation. Data validation and assessment of QA/QC has been undertaken in **Section 2.0**.

1.7 Step 7 – Develop the Plan for Obtaining Data

The methodology presented in the SAQP (AECOM, 2023b) provided a sampling plan which was designed to meet the objectives for the investigation (refer to **Section 1.2** of the main report text), and also to achieve the nominated DQOs outlined in Steps 1 - 6. Optimisation of the data collection process has been achieved by targeting sampling based on historical information and previous assessment works undertaken at, and in the vicinity of, the Precinct South area.

The investigation was carried out to a level of accuracy and confidence required in accordance with the ASC NEPM (2013). The SAQP was reviewed by the Corporation and the Site Environmental Auditor.

2.0 Data Validation

Groundwater and QA/QC samples were collected by experienced AECOM field personnel in accordance with the SAQP (AECOM, 2023b) and with reference to the field methodology described in **Section 4.0** of the main report text. Samples were collected over a six-day field program (undertaken between 29 November 2023 – 6 December 2023) in laboratory supplied sample containers and placed in chilled eskies prior to transportation to the laboratories for analysis.

ALS Laboratories (ALS) was selected as the primary laboratory and Eurofins was selected as the secondary laboratory. Both laboratories are accredited by the National Association of Testing Authorities (NATA) for the analysis selected. All groundwater samples were analysed for metals, TRH, BTEX, PAHs, phenolic compounds, cyanide, ammonia, major ions and TDS.

Limited samples were also analysed for aliphatic/aromatic TRH speciation, Monitored Natural Attenuation (MNA) parameters (nitrate, ferrous iron, methane, sulphate), OCPs, VOC / SVOC and chlorinated hydrocarbons.

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix D** and **Appendix E**.

The assessment and validation of field and laboratory data quality are summarised in **Section 2.1** and **Section 2.2**, respectively.

2.1 Field Data Quality

2.1.1 Rinsate Blanks

Rinsate blanks were prepared by pouring laboratory-supplied rinsate water over non-dedicated sampling equipment to assess the potential for cross-contamination. Rinsate blank samples were analysed for a combination of analytes, including TPH/TRH, BTEXN, PAH, phenols, metals, ammonia, cyanide, ferrous iron, major ions, alkalinity and TDS. Rinsate blank results are provided in **Table A1** of this Appendix.

A total of five rinsate blank samples were collected as part of the six-day sampling program carried out at and surrounding the Precinct South. One rinsate blank sample was collected on each day of sampling, with the exception of the first day of groundwater sampling (i.e. 29 November 2023) during which no rinsate blank sample was collected due to field error. Hence, assessment of potential cross-contamination during sampling undertaken on this day is limited. Wells sampled on this day (RN4 and MW146) did not report any exceedances of Tier 1 criteria or Site-Derived RC which affect the overall outcomes of the GME. While the efficiency of equipment decontamination on 29 November 2023 cannot be assessed, based on the outcomes of rinsate assessment on the remaining five days of the GME (discussed below) and analytical results for samples from RN4 and MW146, it is considered unlikely that cross-contamination of samples occurred, or occurred at a level which affects overall results of assessment.

All samples had concentrations of target compounds reported below the laboratory LOR, with the exception of three rinsate samples, where concentrations of select analytes (i.e. total anions and alkalinity) were reported above the laboratory LOR, as outlined in **Table 3** below. Concentrations reported were either equal to the LOR, or in the same order of magnitude as the LOR.

Table 3 Rinsate Results

Work Order	Sample ID	Sample Date	Analyte	Conc. Reported in Rinsate Samples	LOR	Wells Sampled on these Dates	Conc. Reported in Groundwater Samples Collected on these Dates
EM2321824	QA303 and QA305	4/12/2023 and 6/12/2023	Total Anions	0.04 meq/L	0.01 meq/L	S6 MW6 MW16 MW125A MW125B MW154 MW155 MW164	Total Anions: 3.11 - 32.4 meq/L Bicarbonate Alkalinity: 131 - 1370 mg/L
			Bicarbonate Alkalinity as $CaCO_3$	2 mg/L	1 mg/L		
			Total Alkalinity as $CaCO_3$	2 mg/L	1 mg/L		

Work Order	Sample ID	Sample Date	Analyte	Conc. Reported in Rinsate Samples	LOR	Wells Sampled on these Dates	Conc. Reported in Groundwater Samples Collected on these Dates
	QA304	5/12/2023	Total Anions	0.02 meq/L	0.01 meq/L	S4 MW60 MW124A MW124B MW126A MW126B MW163	Total Alkalinity: 131 - 1370 mg/L
			Bicarbonate Alkalinity as $CaCO_3$	1 mg/L	1 m g/L		
			Total Alkalinity as $CaCO_3$	1 mg/L	1 mg/L		

Notes: 'Conc.' Refers to 'Concentrations'

Based on information provided by the laboratory, the laboratory-supplied inorganic rinsate water is monitored for metals and PFAS only, and not for alkalinity and other ions. It is understood that it is not uncommon to get detections of alkalinity close of LOR levels in laboratory-supplied water, depending on the caron dioxide levels in the air. Given concentrations of chloride, sulfate and free cyanide were reported below the laboratory LOR, it is unclear which anions may be present that may have resulted in detectable concentrations total anions; nonetheless, the concentrations reported are considered to be low.

The detections in these rinsate sample may be associated with potential cross-contamination during sampling or inadequate decontamination procedures. A total of 15 groundwater wells were sampled on these dates (4 – 6 December 2023). Concentrations of total anions and alkalinity reported in these samples were two to three orders of magnitude greater than those reported in the rinsate samples. On this basis, and because total anions and alkalinity are not considered to be the key risk-driving CoPC at the Site, the detections in the rinsate samples are not considered to impact the reliability of the data for interpretive use.

2.1.2 Field Blanks

Field blanks were collected at the rate of one per day of sampling, however, these sample were kept on hold and were not selected for analysis as the rinsate results did not report detections of key CoPC above the laboratory LOR (refer discussion in **Section 2.1.1** above).

2.1.3 Trip Blanks

One trip blank was submitted for each cooler box transported to the laboratory. A total of six trip blank samples were analysed as part of the field program. Trip blank results are provided in **Table A1** of this Appendix.

Trip blanks were analysed for select volatile compounds, including TPH C6-C9, TRH C6-C10, and BTEXN. All trip blank samples had concentrations of these target compounds reported below the LOR, indicating that cross contamination of samples occurring in transit is unlikely to have occurred.

2.1.4 Intra- and Inter-Laboratory Field Duplicate Samples

A total of three intra-laboratory duplicates and three inter-laboratory duplicate samples were collected (at groundwater wells MW146, MW127A and MW151) during the Targeted Precinct South GME program, compared to a total of 27 primary samples collected at and surrounding the Precinct South. The intra-laboratory and inter-laboratory duplicates were collected at a rate of one in nine primary samples analysed, which is greater than the DQO (one in 20 primary samples).

Groundwater RPD values reported outside the acceptable RPD limits are highlighted in **Table A2** of this Appendix.

A total of 1,369 RPD results were calculated for the field duplicate sample pairs. The RPDs between the primary and duplicate samples were within the acceptable ranges for the majority of the data, with the exception of 12 out of 1369 RPD results (i.e. approximately 0.88%). These are associated with a

combination of analytes including chloride, sulfate, ionic balance, total cyanide, ferrous iron, methane and TPH C10-C36 fraction (sum). Since >99% of the RPD results were reported within acceptable RPD limits, the groundwater dataset is considered suitable for interpretive use.

2.2 Laboratory Data Quality

Copies of the laboratory documentation including CoC, SRN reports, QC reports, and certificates of analysis are attached in **Appendix D** and **Appendix E**. ALS work orders include EM2321407, EM2321582 and EM2321824, and Eurofins work orders include 1049877and 1049962.

2.2.1 Sample Receipt Temperature

Groundwater samples were kept chilled during storage and transportation with ice in portable coolers (eskys) until received by the laboratory for analysis. The primary laboratory (ALS) reported that all sample batches were received within the recommended temperature range of 0 - 6°C, with ice present. The secondary laboratory (Eurofins) reported evidence to chill was noted for all samples batches received. Thus sample transport temperatures are considered appropriate and unacceptable sample degradation in transit is considered unlikely to have occurred.

Sample receipt temperatures can be found in the sample receipt notification reports in **Appendix D**.

2.2.2 Sample Holding Times

All samples were reported to be received by laboratories within the recommended holding times for the requested analyses, thus the results are considered suitable for interpretive use.

Proactive holding time assessments completed by the analytical laboratories are provided in **Appendix D**.

2.2.3 Limits of Reporting

The laboratory LOR and screening criteria values are detailed in **Tables T3 – T6** in the **Tables** section of the report.

All LOR values were either lower than or equal to the screening criteria applied to the samples analysed, to enable adequate assessment, with the exception of the following shown in **Table 4** below.

Table 4 Analytes with LORs greater than the adopted Screening Criteria

Screening Criteria	Analyte	LOR Value (µg/L) [a]	Screening Value (µg/L) [a]	Comment
Ecosystem Protection (90%)	Aluminium	0.01 mg/L	0.0005 mg/L	Detectable concentrations were reported. Refer further discussion below.
	Anthracene	1	0.01	
	Phenanthrene	1	0.6	
	Benzo(a)pyrene	0.5	0.1	
	1,2,3-Trichlorobenzene, Hexachlorobutadiene, Bis(2-ethylhexyl)phthalate, 2,6-Dinitrotoluene, Hexachlorocyclopentadiene, Pentachlorobenzene, Chlorpyrifos, Diazinon, Dimethoate, Malathion, Aldrin, Dieldrin, g-BHC (Lindane), DDE, DDT, Endosulfan 1, Endosulfan 2, Endrin, Heptachlor, Heptachlor epoxide, Hexachlorobenzene (HCB), Methoxychlor, 3,3-Dichlorobenzidine	Various	Various	Concentrations of these 23 analytes were reported below the LOR (i.e. not detectable) in all samples. Refer further discussion below.

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Screening Criteria	Analyte	LOR Value (µg/L) [a]	Screening Value (µg/L) [a]	Comment
Drinking Water (Aesthetics)	Styrene, 2-Chlorophenol, 2,4-Dichlorophenol, 1,2-Dichlorobenzene, 1,4-Dichlorobenzene	Various	Various	Concentrations of these 5 analytes were reported below the LOR (i.e. not detectable) in all samples. Refer further discussion below.
Drinking Water (Health)	Naphthalene	1	0.17	Detectable concentrations were reported. Refer further discussion below.
	Benz(a)anthracene	1	0.03	
	Benzo(a)pyrene	0.5	0.01	
	N-2-Fluorenyl Acetamide, 7,12-Dimethylbenz(a)anthracene, 3-Methylcholanthrene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, 1,2-Dibromoethane (EDB), 1,2-Dichloropropane, 1,2,4-Trichlorobenzene, Vinyl chloride, Bromomethane, 1,1-Dichloroethane, Carbon Tetrachloride, 1,2-Dichloroethane, 1,1,2-Trichloroethane, 1,1,1,2-Tetrachloroethane, trans-1,4-Dichloro-2-butene, cis-1,4-Dichloro-2-butene, 1,1,2,2-Tetrachloroethane, 1,2,3-Trichloropropane, Pentachloroethane, 1,2-Dibromo-3-chloropropane, Hexachlorobutadiene, 2-hexanone (MBK), N-Nitrosodibutylamine, N-Nitrosodiethylamine, N-Nitrosodipropylamine, N-Nitrosomethylethylamine, N-Nitrosomorpholine, N-Nitrosopiperidine, N-Nitrosopyrrolidine, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4-Aminobiphenyl, Azobenzene, Chlorobenzilate, Dimethylaminoazobenzene, Nitrobenzene, Bis(2-chloroethyl) ether, Hexachlorocyclopentadiene, Hexachloroethane, Pirimphos-ethyl, Aldrin, Dieldrin, Aldrin + Dieldrin, a-BHC, b-BHC, DDD, DDE, Heptachlor, Heptachlor epoxide, Hexachlorobenzene (HCB), 3,3-Dichlorobenzidine, 4-Chloroaniline	Various	Various	Concentrations of these 53 analytes were reported below the LOR (i.e. not detectable) in all samples. Refer further discussion below.

Screening Criteria	Analyte	LOR Value (µg/L) [a]	Screening Value (µg/L) [a]	Comment
Recreation (Primary / Secondary Contact)	Benz(a)anthracene	1	0.3	Detectable concentrations were reported. Refer further discussion below.
	Benzo(a)pyrene	0.5	0.1	
	N-2-Fluorenyl Acetamide, 7,12-Dimethylbenz(a)anthracene, 3-Methylcholanthrene, Dibenz(a,h)anthracene, Vinyl chloride, Bromomethane, 1,1,2-Trichloroethane, trans-1,4-Dichloro-2-butene, cis-1,4-Dichloro-2-butene, 1,1,2,2-Tetrachloroethane, 1,2,3-Trichloropropane, 1,2-Dibromo-3-chloropropane, 2-hexanone (MBK), N-Nitrosodibutylamine, N-Nitrosodiethylamine, N-Nitrosodipropylamine, N-Nitrosomethylethylamine, N-Nitrosomorpholine, N-Nitrosopiperidine, N-Nitrosopyrrolidine, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4-Aminobiphenyl, Azobenzene, Dimethylaminoazobenzene, Nitrobenzene, Bis(2-chloroethyl) ether, Hexachlorocyclopentadiene, Aldrin, Dieldrin, a-BHC, b-BHC, DDD, DDE, Heptachlor epoxide, Hexachlorobenzene (HCB), 3,3-Dichlorobenzidine	Various	Various	Concentrations of these 37 analytes were reported below the LOR (i.e. not detectable) in all samples. Refer further discussion below.

*Notes: a – Units of LOR and screening values presented are µg/L unless specified otherwise, with the values presented in **Tables T3 – T6** in the **Tables** section of the report.*

Analytes for which LOR values which were reported above adopted screening criteria are discussed below:

- LORs for up to 63 analytes, classified as a combination of fumigants, halogenated aromatic/aliphatic compounds, phthalate esters, nitrosamines, nitroaromatics, benzidine, anilines, haloethers, chlorinated hydrocarbons, organophosphorus and organochlorine pesticides, were reported above the adopted Ecosystem Protection (90%), Drinking Water (Aesthetics), Drinking Water (Health) and Recreation (Primary / Secondary Contact) criteria. These analytes have not typically been detected in soil and groundwater at the Site and are not considered key risk-driving CoPC for the Site. Thus, these are not considered to adversely impact the ability to adequately assess site data.
- LORs for select PAHs, including naphthalene, anthracene, phenanthrene, benzo(a)pyrene and benz(a)anthracene, were reported above the adopted Ecosystem Protection (90%), Drinking Water (Health), and/or Recreation (Primary / Secondary Contact) criteria. Exceedances of the adopted criteria for either these CoPC or others have been detected in groundwater during this sampling event and previous investigations, and these uses are considered precluded for groundwater within the Precinct South.

  The LORs selected are not considered to affect the overall assessment of precluded uses of groundwater in the Precinct South. However, it is recommended that future sampling events consider the LORs adopted for these CoPC.

- The LOR for aluminium was reported above the adopted Ecosystem Protection (90%) screening value. However, concentrations in excess of this criteria were reported in the approximately 85% of the samples analysed, and this LOR discrepancy is not considered to affect the overall assessment of groundwater condition or precluded groundwater uses in the Precinct South. However, it is recommended that future sampling events consider the LORs adopted for this CoPC.

2.2.4 Laboratory Duplicates RPDs

The laboratory duplicate results are presented in the analytical laboratory QC reports provided in **Appendix E**.

The RPD between analytical results for field samples and their corresponding laboratory duplicates were all reported within acceptable limits, noting acceptable limits are dependent on the magnitude of results in comparison to the level of reporting, i.e. no limits where the result is less than 10 times the LOR; 0% - 50% where the result is between 10 and 20 times the LOR; and 0% - 20% where the result is greater than > 20 times the LOR.

2.2.5 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix E**.

Matrix spike recoveries were noted to be within the DQO range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 5** below.

Table 5 Matrix Spike Outlier

Work Order	Sample ID	Analyte	Matrix Spike	Limits
Groundwater				
EM2321582	Anonymous	Sulfate as SO_4	ND	ND[1]
	Anonymous	Chloride	ND	ND[1]
	QA102	Methane	ND	ND[1]
	Anonymous	Manganese	ND	ND[1]
EM2321824	MW125B	Ammonia as N	ND	ND[1]

Notes: ND – Matrix spike recovery not determined; 1 – Background levels greater than or equal to 4 times the spike level.

Three of the five results above are from ‘Anonymous’ external samples, which are not specifically part of this project but formed part of the laboratory QC process and bact.

Matrix spike recoveries were only reported where background levels of CoPC were greater than or equal to 4x the spike level. Matrix spike recoveries were not determined for the above-mentioned outliers and are not considered to impact data quality.

2.2.6 Laboratory Method Blanks

All groundwater laboratory method blanks were reported within the acceptable range, i.e. below the laboratory LORs.

2.2.7 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory QC reports provided in **Appendix E**. All surrogate spike recoveries were within the surrogate control limits adopted, with the exception of the outlier noted in **Table 6** below.

Table 6 Matrix Spike Outliers

Work Order	Sample ID	Analyte	Matrix Spike	Limits
EM2321407	MW146	2-Bromonaphthalene	121%	71 – 117%

Recovery of the surrogate 2-Bromonaphthalene (for TPH - semivolatile speciation) was marginally greater than the upper DQO limits, which may indicate potential for minor over-estimation of reported concentrations of semi-volatile speciated TPH fractions in MW146. This may result a minor level of conservatism in the interpretive use of the data but does not impact the reliability of the data.

2.2.8 Laboratory Control Spikes

Laboratory control spike (LCS) recoveries, presented in **Appendix E**, were within the laboratory-derived control limits for the methods used, with the exception of the outliers reported in **Table 7** below.

Table 7 Laboratory Control Spike Recovery Outliers

Work Order	Analyte	Recovery	Limits
Matrix – Water			
EM2321407	Vinyl chloride	138%	58.1-135%
EM2321582		140%	

Recovery of the LCS for vinyl chloride was marginally greater than the DQO limits, indicating minor over-estimation of concentrations of this analyte. Vinyl chloride has not typically been detected in soil and groundwater at the Site and is not considered key risk-driving CoPC for the Site. It was analysed in three primary groundwater samples and concentrations were reported below the laboratory LOR in all three samples, hence the LCS recovery is not considered to impact the reliability of the data.

2.2.9 Frequency of Quality Control Spike

Frequency of QC spikes, presented in **Appendix E**, were at the rate expected by applicable QC specifications, with the exceptions of the outliers listed in **Table 8** below.

Table 8 Frequency of Quality Control Samples

Work Order	Type	Analyte	Rate (%)		Quality Control Specification
			Actual	Expected	
EM2321407	Laboratory Duplicates	• Pesticides • SVOC • TPH Speciation • TRH – Semivolatile fractions	0	10	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes		0	5	
EM2321582	Laboratory Duplicates	• PAH/Phenols • Pesticides • SVOC • TPH Speciation • TRH – Semivolatile fractions	0	10	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes		0	5	
EM2321824	Laboratory Duplicates	• PAH/Phenols • TRH – Semivolatile fractions	0	10	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes		0	5	

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The actual rate of laboratory QC samples analysed for the above-mentioned analytes were below the expected frequency as there was insufficient sample volume to complete these analyses. These outliers are not considered to impact the reliability of the data.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- During the six-day groundwater sampling program, no rinsate blank sample was collected on the first day of sampling (29 November 2023), hence assessment of potential cross-contamination during sampling undertaken on this day is limited. Wells sampled on this day (RN4 and MW146) did not report any exceedances of adopted criteria which affect the overall outcomes of the GME, and no detections which are considered likely to indicate cross-contamination were reported in the five rinsate samples collected on each other day of sampling, thus it is considered unlikely that cross-contamination may have occurred to an extent which affects assessment of groundwater condition in the Precinct South.
- LORs for select PAHs, including naphthalene, anthracene, phenanthrene, benzo(a)pyrene and benz(a)anthracene, were reported above the adopted Ecosystem Protection (90%), Drinking Water (Health), and Recreation (Primary / Secondary Contact) criteria. These analytes have previously been identified as Site-related CoPC and will be considered as a CoPC for the purpose of informing the CSM for the Precinct South as part of the update of existing DSI reports.
- The LOR for aluminium was reported above the adopted Ecosystem Protection (90%) screening value, with concentrations in approximately 15% of the primary samples reported to be below the LOR. Concentrations reported in the remaining 85% of the samples exceeded screening value. As exceedances of adopted criteria are present in Site groundwater, the elevated LOR is not considered to affect conclusions regarding the nature and extent of dissolved aluminium.
- Recovery of the surrogate 2-Bromonaphthalene (for TPH - semivolatile speciation) was marginally greater than the upper DQO limits, which may indicate potential for minor over-estimation of reported concentrations of semi-volatile speciated TPH fractions in MW146. This may result a minor level of conservatism in the interpretive use of the data but does not impact the reliability of the data.
- The rate of laboratory QC testing of laboratory duplicates and matrix spikes were below the expected frequency for some analytes due to insufficient sample volume, however this is not considered to impact the reliability of the data as:
    - Results are consistent with historic assessments.
    - No new sources of impact are known to have been introduced since previous investigations have been conducted.

These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of the Precinct South and surrounding areas.

Macquarie Point Development Project
60693007
The Precinct South - Well Maintenance and Targeted GME

Table A1 - QA/QC Results - Rinsate and Trip Blank Samples

AECOM

Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B
Sampled Date	30/11/2023	1/12/2023	4/12/2023	5/12/2023	6/12/2023	29/11/2023	30/11/2023	1/12/2023	1/12/2023	5/12/2023	6/12/2023
Field ID	QA301	QA302	QA303	QA304	QA305	TB (TRIP BLANK)	QA501	QA503	QA502	QA504	QA505
Lab Name	ALSE-Melbourne	ALSE-Melbourne	ALSE-Melbourne	ALSE-Melbourne	ALSE-Melbourne	MGT	ALSE-Melbourne	MGT	ALSE-Melbourne	ALSE-Melbourne	ALSE-Melbourne
Lab Report Number	EM2321407	EM2321582	EM2321824	EM2321824	EM2321824	1049877	EM2321407	1049962	EM2321582	EM2321824	EM2321824

Chemical Group	Chemical Name	Unit	LOR										
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100	<100	<100	<100	<100	<100	-	-	-	-	-
	>C10-C16 fraction	µg/L	100	<100	<100	<100	<100	<100	-	-	-	-	-
	>C16-C34 fraction	µg/L	100	<100	<100	<100	<100	<100	-	-	-	-	-
	>C34-C40 fraction	µg/L	100	<100	<100	<100	<100	<100	-	-	-	-	-
	>C10-C40 fraction (sum)	µg/L	100	<100	<100	<100	<100	<100	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5	<5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5
	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	1	<2	<2	<2	<2	<2	<1	<2	<1	<2	<2	<2
	Ethylbenzene	µg/L	1	<2	<2	<2	<2	<2	<1	<2	<1	<2	<2	<2
	m&p-Xylene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	µg/L	1	<2	<2	<2	<2	<2	<1	<2	<1	<2	<2	<2
	Total Xylenes	µg/L	2	<2	<2	<2	<2	<2	<3	<2	<3	<2	<2	<2
	Total BTEX	µg/L	1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
Metals	Aluminium (Filtered)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-
	Arsenic (Filtered)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-
	Cadmium (Filtered)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-
	Chromium (Filtered)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-
	Copper (Filtered)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-
	Lead (Filtered)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-
	Manganese (Filtered)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-
	Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-
	Nickel (Filtered)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-
	Zinc (Filtered)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	Naphthalene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Acenaphthylene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Acenaphthene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Anthracene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Fluorene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Phenanthrene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Fluoranthene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Benz(a)anthracene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Benzo(k)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Benzo(b&j)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	Chrysene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Pyrene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Indeno(1,2,3-cd)pyrene	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
Ferrous/Ferric Iron	Ferrous Iron	mg/L	0.05	-	-	-	-	<0.05	-	-	-	-	-	-
Physio-Chemical Parameters	Total Dissolved Solids	mg/L	10	-	-	<10	<10	<10	-	-	-	-	-	-
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10-C14 fraction	µg/L	50	<50	<50	<50	<50	<50	-	-	-	-	-	-
	C15-C28 fraction	µg/L	100	<100	<100	<100	<100	<100	-	-	-	-	-	-
	C29-C36 fraction	µg/L	50	<50	<50	<50	<50	<50	-	-	-	-	-	-
	C10-C36 fraction (sum)	µg/L	50	<50	<50	<50	<50	<50	-	-	-	-	-	-
Major Ions	Chloride	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
	Calcium	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
	Magnesium	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
	Potassium	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
	Sodium	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
	Total Anions	meq/L	0.01	-	-	0.04	0.02	0.04	-	-	-	-	-	-
	Total Cations	meq/L	0.01	-	-	<0.01	<0.01	<0.01	-	-	-	-	-	-
	Sulfate (as SO4-) (Filtered)	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
Nutrients	Ammonia (as N)	mg/L	0.01	-	-	<0.01	-	-	-	-	-	-	-	-
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	2	<2	<2	<2	<2	<2	-	-	-	-	-	-
	Phenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2-Chlorophenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2-Methylphenol (o-Cresol)	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2-Nitrophenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2,4-Dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2,4-Dimethylphenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2,6-Dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	4-Chloro-3-methylphenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2,4,6-Trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	2,4,5-Trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	-	-	-	-	-	-
	Pentachlorophenol	µg/L	2	<2	<2	<2	<2	<2	-	-	-	-	-	-
Alkalinity	Bicarbonate Alkalinity as CaCO3	mg/L	1	-	-	2	1	2	-	-	-	-	-	-
	Hydroxide Alkalinity as CaCO3	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-
	Total Alkalinity as CaCO3	mg/L	1	-	-	2	1	2	-	-	-	-	-	-
Cyanides	Cyanide Total	µg/L	4	-	-	<4	<4	<4	-	-	-	-	-	-
	Cyanide (Free)	mg/L	0.004	-	-	<0.004	<0.004	<0.004	-	-	-	-	-	-
	Weak Acid Dissociable Cyanide	mg/L	0.004	-	-	<0.004	<0.004	<0.004	-	-	-	-	-	-
Inorganics	Carbonate Alkalinity (as CaCO3)	mg/L	1	-	-	<1	<1	<1	-	-	-	-	-	-

Table A2 - QA/QC Results - Field Duplicate RPDs

AECOM

	Lab Report Number	EM2321407	EM2321407		EM2321582	EM2321582		EM2321582	EM2321582		EM2321407	1049877		EM2321582	1049962		EM2321582	1049962	
	Field ID	MW146	QA101	RPD	MW127A	QA102	RPD	MW151	QA103	RPD	MW146	QA201	RPD	MW127A	QA202	RPD	MW151	QA203	RPD
	Sampled Date/Time	29/11/2023 15:00	29/11/2023 15:00		30/11/2023 15:00	30/11/2023 15:00		1/12/2023 15:00	1/12/2023 15:00		29/11/2023 15:00	29/11/2023 15:00		30/11/2023 15:00	30/11/2023 15:00		1/12/2023 15:00	1/12/2023 15:00	
Chemical Group	**Chemical Name**	**Units**	**LOR**																
Metals	Aluminium (Filtered)	mg/L	0.01 : 0.05 (Interlab)	0.05	0.03	50	0.01	0.01	0	0.03	0.03	0	0.05	<0.05	0	0.01			0.03		
	Arsenic (Filtered)	mg/L	0.001	0.003	0.003	0	<0.001	<0.001	0	<0.001	<0.001	0	0.003	<0.001	100	<0.001			<0.001		
	Cadmium (Filtered)	mg/L	0.0001 : 0.0002 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0002	0	<0.0001			<0.0001		
	Chromium (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001			<0.001		
	Copper (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001			<0.001		
	Lead (Filtered)	mg/L	0.001	0.002	0.001	67	<0.001	<0.001	0	<0.001	<0.001	0	0.002	<0.001	67	<0.001			<0.001		
	Manganese (Filtered)	mg/L	0.001 : 0.005 (Interlab)	0.59	0.499	17	3.47	3.41	2	0.537	0.564	5	0.59	0.63	7	3.47			0.537		
	Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001			<0.0001		
	Nickel (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	0.001	0.001	0	<0.001	<0.001	0	<0.001			0.001		
	Zinc (Filtered)	mg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005			<0.005		
Major Ions	Chloride	mg/L	1	**38**	**25**	**41**	800	819	2	495	498	1	38	37	3	800	800	0	495	460	7
	Calcium	mg/L	1 : 0.5 (Interlab)	87	90	3	179	195	9	92	95	3	87	88	1	179	200	11	92	88	4
	Magnesium	mg/L	1 : 0.5 (Interlab)	46	49	6	64	69	8	61	63	3	46	47	2	64	67	5	61	57	7
	Potassium	mg/L	1 : 0.5 (Interlab)	18	18	0	36	39	8	34	35	3	18	16	12	36	35	3	34	30	13
	Sodium	mg/L	1 : 0.5 (Interlab)	77	85	10	404	429	6	304	314	3	77	96	22	404	480	17	304	340	11
	Total Anions	meq/L	0.01	13.3	11.7	13	39.4	39.8	1	27.7	27.9	1	13.3			39.4			27.7		
	Total Cations	meq/L	0.01	11.9	12.7	7	32.7	35.1	7	23.7	24.5	3	11.9			32.7			23.7		
	Sulfate (as SO4-) (Filtered)	mg/L	1	**40**	**15**	**91**	<1	<1	0	21	21	0	40			<1			21		
	Ionic Balance	%	0.01	5.38	4.08	27	**9.26**	**6.35**	**37**	7.79	6.48	18	**5.38**	**0.7**	**154**	**9.26**	**2.9**	**105**	**7.79**	**4.7**	**49**
Physio-Chemical Parameters	Total Dissolved Solids	mg/L	10	735	583	23	2080	2020	3	1610	1500	7	735	830	12	2080	2200	6	1610	1700	5
Alkalinity	Carbonate Alkalinity (as CaCO3)	mg/L	1 : 10 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<10	0	<1	<10	0	<1	<10	0
	Bicarbonate Alkalinity as CaCO3	mg/L	1 : 20 (Interlab)	570	534	7	841	837	0	666	670	1	570	590	3	841	920	9	666	760	13
	Hydroxide Alkalinity as CaCO3	mg/L	1 : 20 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<20	0	<1	<20	0	<1	<20	0
	Total Alkalinity as CaCO3	mg/L	1 : 20 (Interlab)	570	534	7	841	837	0	666	670	1	570	590	3	841	920	9	666	760	13
Nutrients	Ammonia (as N)	mg/L	0.01	3.85	3.85	0	15.4	15.5	1	15.6	15.7	1	3.85	3.6	7	15.4	18	16	15.6	18	14
	Nitrate (as N)	mg/L	0.01 : 0.02 (Interlab)	0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	0.01	0.18	179	<0.01	0.03	100	<0.01	<0.02	0
Cyanides	Cyanide (Free)	mg/L	0.004 : 0.005 (Interlab)	<0.004	<0.004	0	<0.004	<0.004	0	<0.004	<0.004	0	<0.004	<0.005	0	<0.004	<0.005	0	<0.004	<0.005	0
	Cyanide Total	µg/L	4 : 5 (Interlab)	10	6	50	45	43	5	8	7	13	10	<5	67	**45**	**8**	**140**	8	10	22
	Weak Acid Dissociable Cyanide	mg/L	0.004	<0.004	<0.004	0	<0.004	<0.004	0	<0.004	<0.004	0	<0.004			<0.004			<0.004		
Ferrous/Ferric Iron	Ferrous Iron	mg/L	0.05	17.2	16	7	37.2	36.9	1	6.82	7.06	3	17.2	18	5	37.2	41	10	**6.82**	**0.25**	**186**
Hydrocarbon Gases	Methane	µg/L	10 : 50 (Interlab)	6420	6040	6	16700	17100	2	13500	12700	6	**6420**	**15000**	**80**	16700	16000	4	**13500**	<50	**199**
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	C10-C14 fraction	µg/L	50	140	100	33	<50	<50	0	<50	<50	0	140	90	43	<50	<50	0	<50	<50	0
	C15-C28 fraction	µg/L	100	530	410	26	<100	<100	0	<100	<100	0	530	200	90	<100	<100	0	<100	<100	0
	C29-C36 fraction	µg/L	50 : 100 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<100	0	<50	<100	0	<50	<100	0
	C10-C36 fraction (sum)	µg/L	50 : 100 (Interlab)	670	510	27	<50	<50	0	<50	<50	0	**670**	**290**	**79**	<50	<100	0	<50	<100	0
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100 : 50 (Interlab)	340	260	27	<100	<100	0	<100	<100	0	340	160	72	<100	<50	0	<100	<50	0
	>C10-C16 fraction	µg/L	100 : 50 (Interlab)	340	260	27	<100	<100	0	<100	<100	0	340	160	72	<100	<50	0	<100	<50	0
	>C16-C34 fraction	µg/L	100	390	290	29	<100	<100	0	<100	<100	0	390	<100	118	<100	<100	0	<100	<100	0
	>C34-C40 fraction	µg/L	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
	>C10-C40 fraction (sum)	µg/L	100	730	550	28	<100	<100	0	<100	<100	0	730	160	128	<100	<100	0	<100	<100	0
Volatile Petroleum Hydrocarbons (Speciation)	C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	µg/L	20	<20	<20	0	<20	<20	0	<20	<20	0	<20			<20			<20		
	>C6 - C8 Aliphatic	µg/L	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	>C8 - C10 Aliphatic	µg/L	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	>C10 - C12 Aliphatic	µg/L	50	<50	<50	0	<50	<50	0	<50	<60	0	<50	<50	0	<50	<50	0	<50	<50	0
	>C8 - C10 Aromatic	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<10	0	<5	<10	0	<5	<10	0
	>C10 - C12 Aromatic	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<10	0	<5	<10	0	<5	<10	0
	TPH >C7 - C8 Aromatic Toluene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5	<1	0	<5	<1	0
	TPH C5 - C7 Aromatic	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5	<1	0	<5	<1	0
Total Petroleum Hydrocarbons (CWG-Speciation)	>C12 - C16 Aliphatic	µg/L	50 : 100 (Interlab)	<50	<50	0	<50	<50	0	<50	<60	0	<50	<100	0	<50	<100	0	<50	<100	0
	>C16-C21 Aliphatic	µg/L	50 : 100 (Interlab)	<50	<50	0	<50	<50	0	<50	<60	0	<50	<100	0	<50	<100	0	<50	<100	0
	>C21-C35 Aliphatic	µg/L	50 : 100 (Interlab)	<50	<50	0	<50	<50	0	<50	<60	0	<50	<100	0	<50	<100	0	<50	<100	0
	>C12 - C16 Aromatic	µg/L	50 : 100 (Interlab)	140	90	43	<50	<50	0	<50	<60	0	140	<100	33	<50	<100	0	<50	<100	0
	> C16-C21 Aromatic	mg/L	0.05 : 0.1 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.06	0	<0.05	<0.1	0	<0.05	<0.1	0	<0.05	<0.1	0
	> C21-C35 Aromatic	mg/L	0.05 : 0.1 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.06	0	<0.05	<0.1	0	<0.05	<0.1	0	<0.05	<0.1	0
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5 : 10 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<10	0	<5	<10	0	<5	<10	0
	Benzene	µg/L	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
	Toluene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Ethylbenzene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	m&p-Xylene	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0
	o-Xylene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Total Xylenes	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	Styrene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Isopropylbenzene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	n-butylbenzene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	n-propylbenzene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	p-isopropyltoluene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	sec-butylbenzene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	tert-butylbenzene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	1,2,4-trimethylbenzene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	2	0	<5			<5	<1	0
	1,3,5-trimethylbenzene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Total BTEX	µg/L	1	<1	<1	0	<1	<1	0	<1	<1	0	<1			<1			<1		
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				<0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5		
	Naphthalene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Naphthalene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	2-Methylnaphthalene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	2-Chloronaphthalene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Acenaphthylene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Acenaphthylene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Acenaphthene	µg/L	2 : 1 (Interlab)	3	3	0	<2	<2	0	3	3	0	3	2	40	<2	<1	0	3	<1	100
	Acenaphthene	µg/L	1				<1	<1	0	3	3.3	10				<1	<1	0	3	<1	100
	Anthracene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Anthracene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Fluorene	µg/L	2 : 1 (Interlab)	3	3	0	<2	<2	0	<2	<2	0	3	1	100	<2	<1	0	<2	<1	0
	Fluorene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Phenanthrene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Phenanthrene	µg/L	1				<1	<1	0	1.9	2	5				<1	<1	0	1.9	<1	62
	Fluoranthene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	2	2	0	<2	<1	0	<2	<1	0	2	<1	67
	Fluoranthene	µg/L	1				<1	<1	0	2.4	2.3	4				<1	<1	0	2.4	<1	82
	Benz(a)anthracene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Benz(a)anthracene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Benzo(k)fluoranthene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Benzo(b&j)fluoranthene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Benzo(b+j) & Benzo(k)fluoranthene	µg/L	4	<4	<4	0	<4	<4	0	<4	<4	0	<4			<4			<4		
	N-2-Fluorenyl Acetamide	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	7,12-Dimethylbenz(a)anthracene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Benzo(a)pyrene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0

Table A2 - QA/QC Results - Field Duplicate RPDs

AECOM

				Lab Report Number	EM2321407	EM2321407		EM2321582	EM2321582		EM2321582	EM2321582			1049877		EM2321582	1049962		EM2321582	1049962	
				Field ID	MW146	QA101	RPD	MW127A	QA102	RPD	MW151	QA103	RPD	MW146	QA201	RPD	MW127A	QA202	RPD	MW151	QA203	RPD
				Sampled Date/Time	29/11/2023 15:00	29/11/2023 15:00		30/11/2023 15:00	30/11/2023 15:00		1/12/2023 15:00	1/12/2023 15:00		29/11/2023 15:00	29/11/2023 15:00		30/11/2023 15:00	30/11/2023 15:00		1/12/2023 15:00	1/12/2023 15:00	
	Benzo(a)pyrene	µg/L	0.5 : 1 (Interlab)				<0.5	<0.5	0	<0.5	<0.5	0				<0.5	<1	0	<0.5	<1	0
	Chrysene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Chrysene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Pyrene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	2	2	0	<2	<1	0	<2	<1	0	2	<1	67
	Pyrene	µg/L	1				<1	<1	0	2.2	2.2	0				<1	<1	0	2.2	<1	75
	3-Methylcholanthrene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Benzo(g,h,i)perylene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Benzo(g,h,i)perylene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Dibenz(a,h)anthracene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Dibenz(a,h)anthracene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Indeno(1,2,3-cd)pyrene	µg/L	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Indeno(1,2,3-cd)pyrene	µg/L	1				<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0
	Sum of PAHs	µg/L	2 : 1 (Interlab)	6	6	0	<2	<2	0	7	7	0	6	3	67	<2	<1	0	7	<1	150
	Sum of PAHs	µg/L	0.5 : 1 (Interlab)				<0.5	<0.5	0	9.5	9.8	3				<0.5	<1	0	**9.5**	**<1**	**162**
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	4	<4	<4	0	<4	<4	0	<4	<4	0	<4			<4			<4		
	3/4-Methylphenol (m/p-cresol)	µg/L	2				<2	<2	0	<2	<2	0				<2			<2		
	Phenol	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	Phenol	µg/L	1 : 3 (Interlab)				<1	<1	0	<1	<1	0				<1	<3	0	<1	<3	0
	2-Chlorophenol	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	2-Chlorophenol	µg/L	1 : 3 (Interlab)				<1	<1	0	<1	<1	0				<1	<3	0	<1	<3	0
	2-Methylphenol (o-Cresol)	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	2-Methylphenol (o-Cresol)	µg/L	1 : 3 (Interlab)				<1	<1	0	<1	<1	0				<1	<3	0	<1	<3	0
	2-Nitrophenol	µg/L	2 : 10 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<10	0	<2	<10	0	<2	<10	0
	2-Nitrophenol	µg/L	1 : 10 (Interlab)				<1	<1	0	<1	<1	0				<1	<10	0	<1	<10	0
	2,4-Dichlorophenol	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	2,4-Dichlorophenol	µg/L	1 : 3 (Interlab)				<1	<1	0	<1	<1	0				<1	<3	0	<1	<3	0
	2,4-Dimethylphenol	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	2,4-Dimethylphenol	µg/L	1 : 3 (Interlab)				<1	<1	0	<1	<1	0				<1	<3	0	<1	<3	0
	2,6-Dichlorophenol	µg/L	2 : 3 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<3	0	<2	<3	0	<2	<3	0
	2,6-Dichlorophenol	µg/L	1 : 3 (Interlab)				<1	<1	0	<1	<1	0				<1	<3	0	<1	<3	0
	4-Chloro-3-methylphenol	µg/L	2 : 10 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<10	0	<2	<10	0	<2	<10	0
	4-Chloro-3-methylphenol	µg/L	1 : 10 (Interlab)				<1	<1	0	<1	<1	0				<1	<10	0	<1	<10	0
	2,4,6-Trichlorophenol	µg/L	2 : 10 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<10	0	<2	<10	0	<2	<10	0
	2,4,6-Trichlorophenol	µg/L	1 : 10 (Interlab)				<1	<1	0	<1	<1	0				<1	<10	0	<1	<10	0
	2,4,5-Trichlorophenol	µg/L	2 : 10 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<10	0	<2	<10	0	<2	<10	0
	2,4,5-Trichlorophenol	µg/L	1 : 10 (Interlab)				<1	<1	0	<1	<1	0				<1	<10	0	<1	<10	0
	Pentachlorophenol	µg/L	4 : 10 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<10	0	<4	<10	0	<4	<10	0
	Pentachlorophenol	µg/L	2 : 10 (Interlab)				<2	<2	0	<2	<2	0				<2	<10	0	<2	<10	0
Fumigants	1,2-Dibromoethane (EDB)	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,2-Dichloropropane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	2,2-Dichloropropane	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	cis-1,3-Dichloropropene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	trans-1,3-Dichloropropene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
Halogenated Aromatic Compounds	Bromobenzene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Chlorobenzene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	2-Chlorotoluene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	4-Chlorotoluene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,2-Dichlorobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2			<2	<1	0
	1,3-Dichlorobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2			<2	<1	0
	1,4-Dichlorobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2			<2	<1	0
	1,2,3-Trichlorobenzene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5	<5	0
	1,2,4-Trichlorobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
Halogenated Aliphatic Compounds	Dichlorodifluoromethane (Freon 12)	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	Chloromethane	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	Vinyl chloride	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	Bromomethane	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	Chloroethane	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	Trichlorofluoromethane (Freon 11)	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	1,1-Dichloroethene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Iodomethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,1-Dichloroethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	cis-1,2-Dichloroethene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	trans-1,2-Dichloroethene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,1,1-Trichloroethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,1-Dichloropropene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	Carbon Tetrachloride	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,2-Dichloroethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Trichloroethene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Dibromomethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,1,2-Trichloroethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,3-Dichloropropane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Tetrachloroethene	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,1,1,2-Tetrachloroethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	trans-1,4-Dichloro-2-butene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	cis-1,4-Dichloro-2-butene	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	1,1,2,2-Tetrachloroethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	1,2,3-Trichloropropane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Pentachloroethane	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	1,2-Dibromo-3-chloropropane	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5			<5		
	Hexachlorobutadiene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
Trihalomethanes	Bromodichloromethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Bromoform	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
	Chloroform	µg/L	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5			<5	<5	0
	Dibromochloromethane	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
Oxygenated Compounds	Vinyl acetate	µg/L	50	<50	<50	0	<50	<50	0	<50	<50	0	<50			<50			<50		
	2-Butanone (MEK)	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
	2-hexanone (MBK)	µg/L	50	<50	<50	0	<50	<50	0	<50	<50	0	<50			<50			<50		
	4-Methyl-2-pentanone (MIBK)	µg/L	50 : 5 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<5	0	<50			<50	<5	0
Sulfonated Compounds	Carbon disulfide	µg/L	5 : 1 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<1	0	<5			<5	<1	0
Phthalate Esters	Butyl benzyl phthalate	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Diethyl phthalate	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Dimethyl phthalate	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Di-n-butyl phthalate	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Di-n-octyl phthalate	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Bis(2-ethylhexyl)phthalate	µg/L	10 : 5 (Interlab)	<10	<10	0	<10	<10	0	<10	<10	0	<10	<5	0	<10			<10	<5	0
Nitrosamines	Methapyrilene	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	N-Nitrosodibutylamine	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	N-Nitrosodiethylamine	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	N-Nitrosodiphenyl & Diphenylamine	µg/L	4	<4	<4	0	<4	<4	0	<4	<4	0	<4			<4			<4		
	N-Nitrosodipropylamine	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	N-Nitrosomethylethylamine	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	N-Nitrosomorpholine	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	N-Nitrosopiperidine	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0

Table A2 - QA/QC Results - Field Duplicate RPDs

AECOM

			Lab Report Number	EM2321407	EM2321407		EM2321582	EM2321582		EM2321582	EM2321582		EM2321407	1049877		EM2321582	1049962		EM2321582	1049962	
			Field ID	MW146	QA101	RPD	MW127A	QA102	RPD	MW151	QA103	RPD	MW146	QA201	RPD	MW127A	QA202	RPD	MW151	QA203	RPD
			Sampled Date/Time	29/11/2023 15:00	29/11/2023 15:00		30/11/2023 15:00	30/11/2023 15:00		1/12/2023 15:00	1/12/2023 15:00		29/11/2023 15:00	29/11/2023 15:00		30/11/2023 15:00	30/11/2023 15:00		1/12/2023 15:00	1/12/2023 15:00	
	N-Nitrosopyrrolidine	µg/L	4	<4	<4	0	<4	<4	0	<4	<4	0	<4			<4			<4		
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	1-Naphthylamine	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	2,4-Dinitrotoluene	µg/L	4 : 5 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<5	0	<4			<4	<5	0
	2,6-Dinitrotoluene	µg/L	4 : 5 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<5	0	<4			<4	<5	0
	2-Picoline	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	4-Aminobiphenyl	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	4-Nitroquinoline-N-oxide	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	5-Nitro-o-toluidine	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Acetophenone	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Azobenzene	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Chlorobenzilate	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Dimethylaminoazobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Isophorone	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Nitrobenzene	µg/L	2 : 50 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<50	0	<2			<2	<50	0
	Pentachloronitrobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Phenacetin	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Pronamide	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
Haloethers	4-Bromophenyl phenyl ether	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Bis(2-chloroethyl) ether	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Bis(2-chloroethoxy) methane	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	4-Chlorophenyl phenyl ether	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	µg/L	10 : 5 (Interlab)	<10	<10	0	<10	<10	0	<10	<10	0	<10	<5	0	<10			<10	<5	0
	Hexachloroethane	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Hexachloropropene	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Pentachlorobenzene	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
Organophosphorus Pesticides (OP)	Chlorfenvinphos	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Chlorpyrifos	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Chlorpyrifos-methyl	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Diazinon	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Dichlorvos	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Dimethoate	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Ethion	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Fenthion	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Malathion	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Pirimphos-ethyl	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Prothiofos	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
Organochlorine Pesticides (OC)	Aldrin	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Aldrin	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Dieldrin	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Dieldrin	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Aldrin + Dieldrin	µg/L	4 : 0.2 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<0.2	0	<4			<4	<0.2	0
	Aldrin + Dieldrin	µg/L	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	a-BHC	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	a-BHC	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	b-BHC	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	b-BHC	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	d-BHC	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	d-BHC	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	g-BHC (Lindane)	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	g-BHC (Lindane)	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	cis-Chlordane	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5			<0.5		
	trans-Chlordane	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5			<0.5		
	Chlordane	µg/L	0.5 : 2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<2	0	<0.5			<0.5	<2	0
	DDD	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	DDD	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	DDE	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	DDE	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	DDT	µg/L	4 : 5 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<0.2	0	<4			<4	<0.2	0
	DDT	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	DDT+DDE+DDD	µg/L	4 : 0.2 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<0.2	0	<4			<4	<0.2	0
	DDT+DDE+DDD	µg/L	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Endosulfan 1	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Endosulfan 1	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Endosulfan 2	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Endosulfan 2	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Endosulfan sulfate	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Endosulfan sulfate	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Endrin	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Endrin	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Endrin aldehyde	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Endrin ketone	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Heptachlor	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Heptachlor	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Heptachlor epoxide	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
	Heptachlor epoxide	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Hexachlorobenzene (HCB)	µg/L	4 : 5 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<0.2	0	<4			<4	<0.2	0
	Hexachlorobenzene (HCB)	µg/L	0.5 : 5 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0
	Methoxychlor	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2			<2	<0.2	0
Benzidine	3,3-Dichlorobenzidine	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
Anilines	2-Nitroaniline	µg/L	4 : 5 (Interlab)	<4	<4	0	<4	<4	0	<4	<4	0	<4	<5	0	<4			<4	<5	0
	3-Nitroaniline	µg/L	4	<4	<4	0	<4	<4	0	<4	<4	0	<4			<4			<4		
	4-Chloroaniline	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	4-Nitroaniline	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Aniline	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0
	Carbazole	µg/L	2	<2	<2	0	<2	<2	0	<2	<2	0	<2			<2			<2		
	Dibenzofuran	µg/L	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2			<2	<5	0

Notes:

**RPDs have only been considered where a concentration is greater than 1 times the EQL.*

***High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))*

****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory*

LOR: Limit of Reporting

Grey coloured text indicates concentration values were reported below the laboratory limits of reporting

Appendix B

Calibration Certificates

Instrument Quality Report
Interface Meter

Enqip #: 21088

Company: AECOM Australia Pty Ltd

Consultant: Supriya Lath

PO #: 60693007/3

Certificate #: 31029

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter

Model Number: 122

Serial Number: 312216

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: Engel Kamara

Test Date: 24/11/2023

Equipment Calibration Form

RKI GX-6000

Result

Enqip #: 21088

Company: AECOM Australia Pty Ltd

Consultant: Supriya Lath

PO #: 60693007/3

Certificate #: 31028

INSTRUMENT IDENTIFICATION

Model Number: GX-6000

Serial Number: 5210163801-6RN

INSPECTION RECORD

Flow Rate:	PASS
Buzzer:	PASS
Date & Time:	PASS

CALIBRATION DETAILS

Sensor	Span Gas	Value	Reading	
O_2	Air	20.9 %	20.9	%
	O_2	18.0 %	18.0	%
H_2S	Hydrogen Sulphide	25ppm	N/A	ppm
LEL	Methane 2.5%	50%	50	%
CO	Carbon Monoxide	100ppm	N/A	ppm
CO2	Carbon Dioxide	5000ppm	N/A	ppm
VOC	Isobutylene	100ppm	100	ppm

Correction Factor: 1

Calibration Successful: YES

Calibrated By: Matt Sorati **Test Date:** 24/11/2023

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | **W** www.enqip.com.au

Equipment Calibration Form

YSI ProPlus

Enqip #: 21088

Company: AECOM Australia Pty Ltd

Consultant: Supriya Lath

PO #: 60693007/3

Certificate #: 31027

INSTRUMENT IDENTIFICATION

Model Number: 6050000

Serial Number: 19J104694

Instrument Type: YSI ProPlus

INSPECTION RECORD

Batteries Checked:	PASS	**Date & Time:**	PASS
Electrodes Cleaned/Checked:	PASS	**Temperature:**	PASS

CALIBRATION DETAILS

Sensor	Cal Solution	Value	Reading
pH	Buffer 4.00	4.00 pH	4.00 pH
	Buffer 7.00	7.00 pH	7.00 pH
Redox	Standard ORP	234.5 mV @ 20.0 °C	234.5 mV
O_2	Zero Dissolved Oxygen	0.0 %	0.0 %
	Air	100.0 %	100.0 %
Conductivity	Standard Conductivity	2.76 mS/cm	2.76 mS/cm

Calibration Successful: YES

Calibrated By: Matt Sorati **Test Date:** 24/11/2023

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | **W** www.enqip.com.au

Appendix C

Field Records

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

MW146 Q4AN(EV)-405-FM1

Project Name:	Mac Point	Project Number:	60693007	PM Name:	S. Lath	Bore ID:	MW146
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	CT / TS	Sample Date:	24/11/23

Well Development or (Well Sampling Event) (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 24/11	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.730	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.49	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L): 1.30	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate L/min	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
				Water Quality Parameters					
1353	0.2	3.730	0.16	0.77	1571	6.82	-96.7	16.4	
1358	1.0	3.539	0.16	0.68	1531	6.83	-94.6	16.1	
1403	1.8	3.623	0.16	0.39	1508	6.83	-94	16.1	
1408	2.6	3.751	0.16	0.28	1453	6.83	-94.5	15.9	
1413	3.2	3.845	0.16	0.19	1388	6.84	-98.5	16.1	
1418	4	3.917	0.16	0.18	1326	6.86	-101.4	15.9	
1423	4.8	3.953	0.16	0.18	1296	6.86	-102.2	15.9	NO, Clr, nt, ns
1428	5.6	4.01	0.16	0.16	1246	6.87	-104.1	16	Sample
Acceptable Parameter Range:			± 10%		± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:								Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals, Ferrous	All others		x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QA 101	Standard + MNA
		☑	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	QA ~~100~~ 201	Dup + Trip for all
						1	Cyanide		
						1	Nutrient		

Approval and Distribution

Fieldwork Staff Signature — Date: 29/11 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

MW162

Q4AN(EV)-405-FM1

Project Name:	Mac Point 2023GME	Project Number:	60693007	PM Name:	Sverdrya
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	CT

Bore ID:	MW162
Sample Date:	30/11/23
Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 30/11	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.162	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.80	Casing Radius (mm):	Corrected Redox: Y N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0855 ~~0830~~ ~~1353~~	~~0.20~~	3.162	–	2.76	3143	6.76	-79.7	16.2	
0905	2	3.171	~~m~~0.2	2.79	3438	6.77	-98.4	16.1	
0910	3	3.171	0.2	0.14	3878	6.75	-101.9	16.1	
0915	4	3.171	0.2	0.1	3995	6.78	-106.3	16.1	
0920	5	3.171	0.2	0.08	3550	6.77	-107.2	16.1	
0925	6	3.171	0.2	0.06	3379	6.77	-108.3	16.1	
0930	7	3.171	0.2	0.07	3514	6.77	-109.4	16.1	NO, NS, LT, Clear, sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
metals	All others	2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	cyanide	1	NH_3		

Approval and Distribution

Fieldwork Staff Signature	Date 30/11	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW176

Project Name:	Mac Point GME	Project Number:	60693007	PM Name:	
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	

Bore ID: MW176
Sample Date: 30/11/23
Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.750	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 4.71	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1010	0	3.75	—	2.23	1268	6.89	56.7	16.1	
1015	0.5	3.793	—	0.49	1268	6.91	54.7	16.1	
1023	1.5	3.793	—	0.23	1253	6.90	44.7	16.0	
1030	2.5	3.312	—	0.16	1248	6.90	35.6	16.1	
1035	3.0	3.313	—	0.14	1227	6.88	13.6	16.1	
1040	3.5	3.322	—	0.12	1214	6.87	3.2	16.1	
1045	4.4	3.323	—	0.13	1204	6.86	-4.1	16.1	
1050	4.5	3.362	—	0.12	1199	6.86	-12.9	16.2	
1055	5	3.371	—	0.14	1194	6.85	-19.4	16.2	
1100	5.5	3.383	—	0.13	1192	6.85	-22.5	16.3	Sample / NO, NS, LT, clear
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Co						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
						1	cyanide		
						1	Nitrogen		

Approval and Distribution

Fieldwork Staff Signature — 30/11 Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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FQM - Groundwater Sampling and Purging Record

MW175

Q4AN(EV)-405-FM1

Project Name:	Mac Point GME	Project Number:	6069307	PM Name:	S. Lath	Bore ID:	MW175
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	CT	Sample Date:	30/11/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.003	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.40	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☑ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1135	0	3.003	—	0.40	1157	6.78	57.4	16.9	
1140	1	3.032	0.2	0.12	1151	6.77	26.4	16.8	
1145	2	3.035	0.2	0.13	1150	6.79	12.0	16.7	
1150	3	3.042	0.2	0.07	1149	6.79	-2.1	16.8	
1155	4	3.056	0.2	0.09	1152	6.80	-11.2	17.2	
1200	5	3.063	0.2	0.09	1152	6.81	-14.8	17.3	
1205	6	3.072	0.2	0.08	1152	6.79	-20.4	17.2	NO, NS, L-br, LT, Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
Metals	All others	2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
						1	CN^-
						1	NH_3

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature	Date: 30/11	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW55

Project Name:	Mac Point GME	Project Number:	60693007	PM Name:	S. Lafi	Bore ID:	MW55
Client:	MPGL	Project Location:	Mac Point	Fieldwork Staff:	C. Telfer	Sample Date:	30/11/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve	
Date of GW Level: 30/11	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.956	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.10	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1405	0	2.956	–	1.11	3111	6.77	21.9	16	
1410	1	2.973	0.2	0.12	3241	6.80	-87.3	15.8	
1415	2	3.016	0.2	0.08	3232	6.80	-94.1	15.8	
1420	3	3.024	0.2	0.36	3241	6.80	-104.1	15.7	
1425	4	3.037	0.2	0.13	3244	6.80	-106.2	15.8	
1430	5	3.043	0.2	0.10	3245	6.80	-109.2	15.8	
1435	6	3.057	0.2	0.10	3259	6.80	-112.9	15.8	
1440	7	3.062	0.2	0.10	3247	6.80	-115.1	15.8	
Acceptable Parameter Range:			± 10%		± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	NH_3	1	CN–		

Approval and Distribution

Fieldwork Staff Signature	Date: 30/11	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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FQM - Groundwater Sampling and Purging Record

MW127A Q4AN(EV)-405-FM1

Project Name:		Project Number:	60693007	PM Name:	S. Lathy	Bore ID:	MW127A
Client:		Project Location:		Fieldwork Staff:	C. Teller	Sample Date:	30/11
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 30/11	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.105	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.86	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L): | Includes/ excludes bore annulus (circle) | # purge volumes removed: | Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1535	0	3.105	0.2	0.21	3748	6.79	9.2	16.4	
1540	1	3.105	0.2	0.10	3764	6.80	-72.8	16.3	
1545	2	3.135	0.2	0.04	3762	6.80	-92.6	16.2	
1550	3	3.145	0.2	0.05	3765	6.80	-95.5	16.2	
1555	4	3.165	0.2	0.05	3760	6.80	-102.7	16.2	
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QA102	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
metals Ferrous		4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	QA202	MNA + Dup + Trip
				1	CN⁻	1	NO_3 + NH_3		0 PID

Approval and Distribution

Fieldwork Staff Signature	Date: 30/11	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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Q4AN(EV)-405-FM1

MW127B

ANZ

FQM - Groundwater Sampling and Purging Record

Project Name:	Mac Point GMP	Project Number:	60693007	PM Name:	S. Latty
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	C. Feller

Bore ID: MW127B

Sample Date: 30/11/23

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.202	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 16.488	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole ☐ Retrieved		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):					
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1630	0	3.212	0.2	0.08	620	6.55	-77.9	16.3	LT, light brown, slight urine odour
1635	1	3.263	0.2	0.10	345.2	6.45	-61.1	16.4	
1640	2	3.279	0.2	0.06	244.2	6.41	-45.8	16.4	
1645	3	3.279	0.2	0.05	240	6.4	-40.0	16.4	
1650	4	3.282	0.2	0.05	241.1	6.38	-34.0	16.3	
1655	5	3.296	0.2	0.05	241.3	6.38	-32.1	16.3	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected				QA/QC Information	Field Comments
Field Filtered:	Unfiltered:						Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals		x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)			0 PID
		4 x 40 mL Vial (H_2SO_4)	1 x 100 mL Amber	x 250 mL Plastic			
				1	CN⁻		
				1	NH_3		

Approval and Distribution

Fieldwork Staff Signature — Date: 30/11

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

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FQM - Groundwater Sampling and Purging Record

MW150

Q4AN(EV)-405-FM1

Project Name:	Mac Point 2015	Project Number:	60693007	PM Name:	S. Lamb	Bore ID:	MW150
Client:	MPDL	Project Location:	Mac Point	Fieldwork Staff:	C. Fehr	Sample Date:	1/12/15

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info:	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.44	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.80	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0830	0	2.440	0.2	1.55	1411	6.98	-118.0	16.3	
0835	1	2.457	0.2	0.26	1378	6.94	-98.1	16.3	
0840	2	2.456	0.2	0.13	1329	6.92	-104.7	16.3	
0845	3	2.463	0.2	0.09	1287	6.91	-110.2	16.4	
0850	4	2.483	0.2	0.07	1178	6.92	-116.2	16.5	
0855	5	2.549	0.2	0.05	1142	6.91	-119.5	16.5	
0900	6	2.51	0.2	0.05	1140	6.90	-119.8	16.5	
0905	7	2.53	0.2	0.06	1134	6.89	-120.6	16.5	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	CN^-	1	NH_3		

Approval and Distribution

Fieldwork Staff Signature	1/12/15 Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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FQM - Groundwater Sampling and Purging Record

MW153 Q4AN(EV)-405-FM1

Project Name:	Mat Point 2015	Project Number:	60693004	PM Name:	S. Lay	Bore ID:	MW153
Client:	MPDL	Project Location:	Mat Point	Fieldwork Staff:	C. Tell	Sample Date:	1/12
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info:	Decontamination	Sampling Method	Hydrasleeve	
Date of GW Level: 1/12	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.142	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.40	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0950	0	2.142	0.2	2.78	5865	6.69	77.4	16.2	
0955	1	2.153	0.2	0.14	4671	6.76	58.7	16.5	
1000	2	2.164	0.2	0.11	8488	6.55	43.2	16.5	
1005	3	2.173	0.2	0.13	16,100	6.63	1.4	16.4	
1010	4	2.184	0.2	0.08	20704	6.72	-27.1	16.3	
1015	5	2.193	0.2	0.05	26,430	6.90	-84	16.1	
1020	6	2.198	0.2	0.05	28928	6.99	-123.4	16.1	
1025	7	2.202	0.2	0.06	30,472	7.05	-147.3	16.1	
1030	8	2.213	0.2	0.8	31,221	7.08	-158.8	16.1	
1035	9	2.227	0.2	0.06	32,000	7.10	-170.5	16.1	
1040	10	2.236	0.2	0.06	32832	7.13	-181.4	16.2	
1045	11	2.240	0.2	0.06	33,516	7.15	-183.2	16.2	
1050	12	2.263	0.2	0.06	33,578	7.15	-187.3	16.2	NO, NS, HT, Black, ~~Clear~~, Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% Turbidity (if using a turbidity meter)

Bottles QC

Field Filtered:	Unfiltered:						
Metals		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
					1	Cl^-	
					1	NH_3	

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature	1/12	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW152

Project Name:	Mac Point GM	Project Number:	60693057	PM Name:	
Client:	MPDF	Project Location:	Mac Point	Fieldwork Staff:	

Bore ID: MW152
Sample Date: 1/12
Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info	Decontamination	Sampling Method	Hydrasleeve Info	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.305	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 5.04	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1115	0	2.305	0.2	0.69	6522	6.96	~~-72.7~~ -167.2	17.0	
1120	1	2.313	0.2	0.13	4738	6.87	-114.2	16.7	
1125	2	2.320	0.2	0.11	4692	6.87	-118.5	16.7	
1130	3	2.326	0.2	0.10	4658	6.85	-124.5	16.5	
1135	4	2.329	0.2	0.08	4641	6.85	-127.4	16.6	
1140	5	2.334	0.2	0.09	4614	6.85	-129.8	16.6	
1145	6	2.349	0.2	0.09	4611	6.84	-131.2	16.4	
1150	7	2.353	0.2	0.09	4612	6.84	-131.6	16.4	NO, NS, Clr, LT Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Sample for:	Bottles Used				QA/QC Information
Field Filtered:	x 40 mL Vial (HCl)		x 60 mL Ferrous	1 x 60 mL metals (HNO_3)	
Unfiltered:	2 x 40 mL Vial (H_2SO_4)		x 100 mL Amber	1 x 250 mL Plastic	
Melab		1	CN	1 NH_3	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature — Date: 1/12 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW151

Project Name:	Mac Point 2023	Project Number:	60693007	PM Name:	
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	

Bore ID: MW151
Sample Date: 1/12/23
Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.250	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.93	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L): Includes/ excludes bore annulus (circle) # purge volumes removed: Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1205	0	2.250	0.2	0.63	1551	6.61	-10.4	16.8	
1210	1	2.250	0.2	0.25	1610	6.60	-37.7	16.7	
1215	2	2.250	0.2	0.16	2055	6.60	-56.5	16.5	
1220	3	2.250	0.2	0.13	2395	6.61	-62.3	16.5	
1225	4	2.250	0.2	0.13	2625	6.63	-72.0	16.4	
1230	5	2.250	0.2	0.14	2653	6.64	-76.6	16.4	
1235	6	2.250	0.2	0.13	2634	6.65	-80.2	16.4	NO, NS, LT, Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QA103	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals / Ferrous		4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	QA203	MNA + Specialty etc
				1	Cl⁻	1	Nitrogen		

Approval and Distribution

Fieldwork Staff Signature — Date: 1/12 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

MW125A Q4AN(EV)-405-FM1

Project Name:	Mac Point 2025	Project Number:	60693007	PM Name:	S. Lady	Bore ID:	~~MW124A~~
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	C. Teller	Sample Date:	4/12
						Well Development or Well Sampling Event? (circle)	

Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 2.487	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 0	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.04	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or uS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1310	0	2.487	0.3	0.48	670	6.63	-23.2	16.3	
1315	1.5	2.492	0.3	0.37	683	6.72	-60.6	17.3	
1320	3	2.51	0.3	0.28	687	6.72	-72.3	16.9	
1325	4.5	2.523	0.3	0.19	693	6.70	-78.0	16.8	
1330	6	2.546	0.3	0.15	701	6.70	-83.3	16.6	
1335	7.5	2.560	0.3	0.15	705	6.69	-83.6	16.6	
1340	9	2.581	0.3	0.15	714	6.70	-86.2	16.8	Sampled
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected				QA/QC Information	Field Commets
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	QA104 + 204	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals	TRH NH3 BTEX TDAS, CN-	2	x 40 mL Vial (H_2SO_4)	1 x 100 mL Amber	1 x 250 mL Plastic		
					1 CN		
					1 NH3		

Approval and Distribution

Fieldwork Staff Signature	Date 4/12	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

MW125B (MW24B) Q4AN(EV)-405-FM1

Project Name:	Wheatstone	Project Number:	60493087	PM Name:	S. Lamb	Bore ID:	MW24B (MW125B)
Client:	APPEA	Project Location:	Onslow	Fieldwork Staff:	S. Lamb	Sample Date:	6/12/23

Well Development or Well Sampling Event? (circle)

Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.702	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1400	0	2.702	0.3	0.57	771	6.73	4.4	18.5	
1405	1.5	2.711	0.2	0.34	768	6.71	-18.4	18.8	
1410	2.5	2.715	0.2	0.23	756	6.75	-68.0	19.7	
1415	3.5	2.716	0.2	0.17	747	6.71	-74.7	19.2	
1420	4.5	2.720	0.2	0.13	739	6.71	-81.1	19.2	
1425	5.5	2.721	0.2	0.10	735	6.72	-85.9	19.5	
1430	6.5	2.723	0.2	0.10	735	6.73	-89.8	19.7	
1435	7.5	2.731	0.2	0.08	729	6.72	-91.1	19.4	
1440	8.5	2.735	0.2	0.07	727	6.71	-92.1	19.2	
1445	9.5	2.741	0.2	0.06	725	6.73	-94.4	20.0	
1450	10.5	2.743	0.2	0.06	728	6.73	-95.5	20.1	
1455	11.5	2.748	0.2	0.06	730	6.73	-97.9	20.1	Sample, NO, NS, LT, Clear
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
Metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
				1	CN^-	1	NH_3

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature	6/12/23 Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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ANZ

FQM - Groundwater Sampling and Purging Record

MW164

Q4AN(EV)-405-FM1

Project Name:	Mac Point	Project Number:	60693007	PM Name:	S. Lake	Bore ID:	MW 164
Client:	MPDC	Project Location:	Mac Point	Fieldwork Staff:	C. Fell	Sample Date:	4/12/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination:	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.582	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Baller ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1535	0	1.582	0.2	0.64	673	6.41	43.3	18.2	
1540	1	1.584	0.2	0.29	667	6.47	-35.4	18.4	
1545	2	1.585	0.2	0.25	665	6.48	-43.9	18.1	
1550	3	1.591	0.2	0.15	658	6.54	-59.7	18.3	
1555	4	1.593	0.2	0.13	653	6.56	-65.5	18.5	
~~1559~~ 1600	5	1.595	0.2	0.09	643	6.60	-73.9	18.6	
1605	6	1.597	0.2	0.07	629	6.63	-81.3	18.6	
1610	7	1.599	0.2	0.05	607	6.67	-86.3	18.6	
1615	8	1.602	0.2	0.05	557.5	6.73	-93.7	18.5	
1620	9	1.608	0.2	0.07	519.6	6.69	-93.0	18.4	
1625	10	1.609	0.2	0.07	512.5	6.68	-91.8	18.4	
1630	11	1.611	0.2	0.07	504.0	6.65	-89.6	18.4	NNO, NS, LT, Sample
			Acceptable Parameter Range:	± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
Metals			x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
				1	NH_3	1	CN^-	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

MW124A

Q4AN(EV)-405-FM1

Project Name:	Mt Pomt GMP	Project Number:	60693007	PM Name:	Slatter	Bore ID:	MW124A
Client:	MPDG	Project Location:	Mt Pomt	Fieldwork Staff:	Slatter	Sample Date:	5/12/23
						Well Development or Well Sampling Event? (circle)	

General bore information		Parameter Info	Decontamination	Sampling Method	Hydrasleeve Info	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or uS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0830	0	3.043	0.2	0.62	715	6.95	113.2	16.9	Mud blocking inlet line
0835	1	3.043	0.2	0.17	708	7.00	-63.2	17.4	
0840	2	3.043	0.2	0.11	713	7.03	-96.1	17.2	
0845	3	3.043	0.2	0.110	710	7.04	-113.0	17.6	
0850	4	3.043	0.2	0.07	716	7.04	-117.1	17.5	
0855	5	3.043	0.2	0.06	717	7.04	-123.2	17.4	
0900	6	3.043	0.2	0.055	715	7.04	-125.8	17.4	
0905	7	3.043	0.2	0.05	713	7.04	-128.3	17.3	
0910	8	3.043	0.02	0.05	713	7.05	-130.6	17.3	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
				1	CN^-	1	Nitrate/N	

Approval and Distribution

Fieldwork Staff Signature — Date: 5/12/23 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW124B

Project Name:	Mac Point	Project Number:	60649007	PM Name:	S. LATH
Client:	MPDL	Project Location:	Mac Point	Fieldwork Staff:	K. TELLER

Bore ID:	MW124B
Sample Date:	5/17
Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.056	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0925	0	3.056	0.2	0.32	335.6	6.35	-5.6	16.6	
0930	1	3.056	0.2	0.10	329.3	5.93	31.1	16.7	
0935	2	3.056	0.2	0.06	330.1	6.02	33.7	16.5	
0940	3	3.056	0.2	0.07	1215	7.40	-12.2	16.8	
0945	4	3.056	0.2	0.04	1584	7.61	-56.2	16.8	
0950	5	3.056	0.2	0.03	1630	7.68	-63.6	16.9	
0955	6	3.056	0.2	0.04	1676	7.67	-85.6	16.8	
1000	7	3.056	0.2	0.02	1690	7.70	-96.2	16.9	
1005	8	3.056	0.2	0.02	1697	7.71	-103.1	16.9	
1010	9	3.056	0.2	0.02	1707	7.73	-110.6	16.9	
1015	10	3.056	0.2	0.02	1708	7.74	-114.3	16.7.0	
1020	11	3.056	0.2	0.02	1714	7.75	-121.6	17.0	
1025	12	3.056	0.2	0.02	1721	7.76	-125.9	17.1	Sampled
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature — Date: 5/17 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

MW163

Project Name:	Mac Point 2017	Project Number:	60693007	PM Name:	S. Lath	Bore ID:	MW163
Client:	MPDL	Project Location:	Mac Point	Fieldwork Staff:	C. Feller	Sample Date:	5/17
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.681	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 3.84	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1130	0	1.681	0.2	0.44	320.1	~~8.00~~ 7.22	79.3	16.6	
1135	1	1.681	0.2	0.17	312.4	7.33	-7.9	17.1	
1140	2	1.681	0.2	0.011	308.9	7.38	-53.6	17.1	
1145	3	1.681	0.2	0.08	307.4	7.37	-69.2	17.1	
1150	4	1.681	0.2	0.05	305.6	7.36	-89.8	17.2	
1155	5	1.681	0.2	0.04	305.9	7.35	-94.2	17.2	
1200	6	1.681	0.2	0.05	305.4	7.35	-97.7	17.1	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information:	Field Comments:
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	CN	1	Mtroglyn		

Approval and Distribution

Fieldwork Staff Signature _____ Date 5/17 Checker Name and Signature _____ Date _____

Project Manager Signature _____ Date _____ Distribution: Project Central File

AECOM

AMZ

FQM - Groundwater Sampling and Purging Record

MW126A Q4AN(EV)-405-FM1

Project Name:	MacPoint GMF	Project Number:	60603007	PM Name:	S. Latih	Bore ID:	MW126A
Client:	MBDG	Project Location:	Mac Point	Fieldwork Staff:	C. Teller	Sample Date:	5/12/13
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameters Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.173	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1245	0	2.173	0.2	0.55	1467	6.52	83.4	16.2	
1250	1	2.173	0.2	0.23	1728	6.57	-8.3	16.2	
1255	2	2.173	0.2	0.11	1786	6.56	-42.2	16.0	
1300	3	2.173	0.2	0.11	1801	6.57	-56.0	16.0	
1305	4	2.173	0.2	0.07	1820	6.58	-67.9	15.9	
1310	5	2.173	0.2	0.05	1833	6.58	-71.4	15.9	
1315	6	2.173	0.2	0.06	1834	6.58	-77.3	15.9	
1320	7	2.173	0.2	0.07	1848	6.58	-80.1	16.0	
1325	8	2.173	0.2	0.05	1856	6.59	-83.8	16.2	
1330	9	2.173	0.2	0.04	1862	6.58	-85.2	16.1	
1335	10	2.173	0.2	0.04	1864	6.59	-87.0	16.2	
1340	11	2.173	0.2	0.04	1866	6.58	-88.5	16.2	Sampled
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected				QA/QC Information	Field Comments
Field Filtered: Metals	Unfiltered:		x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic		
				CN-	Nitrogen		

Approval and Distribution

Fieldwork Staff Signature: [signature] Date: 5/12

Checker Name and Signature: Date:

Project Manager Signature: Date:

Distribution: Project Central File

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AECOM

FQM - Groundwater Sampling and Purging Record

MW126B

Q4AN(EV)-405-FM1

Project Name:	Mac Point GME	Project Number:	60693007	PM Name:	S. Hatch	Bore ID:	MW126B
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	C. Tetley	Sample Date:	5/12/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.28	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1350	0	2.281	0.2	0.74	973	6.95	-87.6	16.0	
1355	1	2.281	0.2	0.65	963	6.95	-93.5	16.0	
1400	2	2.281	0.2	0.36	918	6.95	-81.0	16.1	
1405	3	2.281	0.2	0.17	915	6.95	-75.0	16.0	
1410	4	2.281	0.2	0.20	914	6.95	-71.4	16.0	
1415	5	2.281	0.22	0.21	914	6.95	-61.3	16.0	
1420	6	2.281	0.2	0.21	913	6.94	-60.9	16.0	
1425	7	2.281	0.2	0.14	914	6.95	-53.5	16.1	
1430	8	2.281	0.2	0.12	986	6.84	-53.2	16.0	
1435	9	2.281	0.2	0.11	992	6.83	-44.5	16.0	
1440	10	2.281	0.2	0.11	~~1198~~	6.66	~~89.7~~	16.0	Sudden spike in EC
1445	11	2.281	0.2	0.10	1982	6.65	-57.9	16.3	
1450	12	2.281	0.2	0.10	1994	6.65	-57.7	16.3	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered: Metals	Unfiltered:	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		2 x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
			1	CN-	1	Nitrate		

Approval and Distribution

Fieldwork Staff Signature — Date: 5/12 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

AECOM

ABIZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW60

Project Name:	Mar Point GME	Project Number:	60693007	PM Name:	S. Latta	Bore ID:	MW60
Client:	MPDG	Project Location:	Mar Point	Fieldwork Staff:	C. Teller	Sample Date:	5/12/23
						Well Development or Well Sampling Event? (circle)	

Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 5/12/23	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.04	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L)	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1520	0	2.04	0.2	0.47	1653	6.62	50.5	16.9	
1525	1	2.04	0.2	0.16	1617	6.65	1.0	17.0	
1530	2	2.04	0.2	0.09	1618	6.66	-38.0	17.2	
1535	3	2.04	0.2	0.05	1622	6.66	-65.7	17.6	
1540	4	2.04	0.2	0.04	1636	6.66	-73.8	17.7	
1545	5	2.04	0.2	0.04	1656	6.66	-84.6	17.6	
1550	6	2.04	0.2	0.02	1656	6.66	-87.8	17.4	
1555	7	2.04	0.2	0	1653	6.65	-92.0	17.2	
1600	8	2.04	0.2	0	1656	6.65	-93.5	17.1	
1605	9	2.04	0.2	0	1659	6.65	-95.4	17.0	
Acceptable Parameter Range:			± 10%		± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	CN^-	1	NH_3		

Approval and Distribution

Fieldwork Staff Signature — Date: 5/12/23 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

S4

Q4AN(EV)-405-FM1

Project Name:	Mac Point GME	Project Number:	60693007	PM Name:	S. Latz
Client:	MPDL	Project Location:	Mac Point	Fieldwork Staff:	Citelle

Bore ID:	S4
Sample Date:	5/12
Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 5/12	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.868	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☐ Retrieved				

Calculated bore volume (L): | Includes/ excludes bore annulus (circle) | # purge volumes removed: | Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1625	0	1.868	0.2	1.17	1357	6.54	11.3	18.2	
1630	1	1.869	0.2	0.16	1349	6.58	-12.6	18.3	
1635	2	1.871	0.2	0.09	1343	6.60	-38.0	18.3	
1640	3	1.872	0.2	0.05	1344	6.61	-56.4	18.4	
1645	4	1.874	0.2	0.03	1344	6.63	-71.8	18.4	
1650	5	1.875	0.2	0.03	1342	6.64	-77.3	18.4	
1655	6	1.876	0.2	0.03	1340	6.64	-81.8	18.3	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered: Metals	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	CN	1	NH_3		

Approval and Distribution

Fieldwork Staff Signature	5/12 Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

MW155

Project Name:	Mac Fast 2023	Project Number:	60693007	PM Name:	S. Lath	Bore ID:	MW 155
Client:	MPJC	Project Location:	Mac Point	Fieldwork Staff:	C. Fella	Sample Date:	6/12/23
						Well Development or Well Sampling Event? (circle)	

Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 6/12	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.740	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.52	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0910	0	2.740	0.2	1.97	753	7.08	117.7	17.2	
0915	1	2.740	0.2	0.75	724	6.98	114.7	16.5	
0920	2	2.740	0.2	0.14	715	7.04	32.8	16.5	
0925	3	2.740	0.2	0.08	722	7.04	37.9	16.4	
0930	4	2.740	0.2	0.04	712	7.05	-67.4	16.3	
0935	5	2.740	0.2	0.04	708	7.05	-75.7	16.4	
0940	6	2.740	0.2	0.04	698	7.06	-88.2	16.5	
0945	7	2.740	0.2	0.04	690	7.06	-92.4	16.4	
0950	8	2.740	0.2	0.04	687	7.06	-97.1	16.3	
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled	Bottles Collected	QA/QC Information	Field Comments
Field Filtered: Metals, Ferrous	Unfiltered:	4 x 40 mL Vial (HCl) / 1 x 60 mL Ferrous / 1 x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc
		4 x 40 mL Vial (H_2SO_4) / 1 x 100 mL Amber / 1 x 250 mL Plastic	
		$NO_3 + NH_3$ / CN^-	

Approval and Distribution

Fieldwork Staff Signature — Date: 6/12

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

MW154 Q4AN(EV)-405-FM1

Project Name:	Mac Point 2023	Project Number:	60693007	PM Name:	S. Lath	Bore ID:	MW154
Client:	MPC	Project Location:	Mac Point	Fieldwork Staff:	C. Teller	Sample Date:	6/12/23

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method		Monitoring sequence followed (number in order):
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Gauging
Depth to GW (m-pvc): 2.136	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Hydrasleeve in
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve out
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Parameters
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	
	Key Type (if applicable):	☐ Retrieved				
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1050	0	2.136	0.2	0.49	1585	6.57	98.1	17.5	
1055	1	2.136	0.2	0.11	1640	6.62	16.1	17.4	
1100	2	2.136	0.2	0.08	1651	6.62	-12.8	17.7	
1105	3	2.136	0.2	0.05	1671	6.61	-40.7	17.4	
1110	4	2.136	0.2	0.03	1676	6.62	-52.7	17.4	
1115	5	2.136	0.2	0.03	1677	6.61	-58.0	17.6	
1120	6	2.136	0.2	0.03	1678	6.61	-65.4	17.7	
1125	7	2.136	0.2	0.03	1686	6.61	-71.6	17.3	
1130	8	2.136	0.2	0.03	1681	6.61	-75.9	17.4	
1135	9	2.136	0.2	0.03	1682	6.61	-78.3	17.4	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Bottles Collected						QA/QC Information
	x 40 mL Vial (HCl)		x 60 mL Ferrous		x 60 mL metals (HNO_3)	
4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
		1	CN-	1	M.N. Trake	

Field Filtered: Ferrous, Metals

Unfiltered:

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature — Date: 6/12 — Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

S6

Q4AN(EV)-405-FM1

Project Name:	Mac Point GWE	Project Number:	60693007	PM Name:	S. Lath	Bore ID:	S6
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	C. TP/L	Sample Date:	6/12/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.963	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve In
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1150	0	1.963	0.2	1.60	2518	6.68	2.1	19.5	
1155	1	1.963	0.2	0.16	2525	6.63	-15.4	18.2	
1200	2	1.963	0.2	0.07	2547	6.64	-35.9	18.2	
1205	3	1.963	0.2	0.05	2618	6.64	-52.5	18.0	
1210	4	1.963	0.2	0.05	2598	6.64	-65.7	17.8	
1215	5	1.963	0.2	0.05	2617	6.65	-76.5	18.0	
1220	6	1.963	0.2	0.05	2627	6.65	-79.3	17.8	
1225	7	1.963	0.2	0.05	2636	6.65	-85.0	17.8	Sample
Acceptable Parameter Range:			± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)	

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered: Ferrous, Methods	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1 x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1 x 250 mL Plastic		
				1	CN-	1 Nitrogen		

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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ANZ

FQM - Groundwater Sampling and Purging Record

MW6 Q4AN(EV)-405-FM1

Project Name:	Mac Point 2023	Project Number:	60693007	PM Name:	S. Lafy	Bore ID:	MW6
Client:	UPDC	Project Location:	Mac Point	Fieldwork Staff:	C. Feller	Sample Date:	6/12/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination?	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.981	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1330	0	1.981	0.2	0.40	~~1403~~	6.83	83.8	17.7	
1335	1	1.981	0.2	0.16	881	6.81	83.0	17.7	
1340	2	1.981	0.2	0.06	850	6.87	66.6	17.2	
1345	3	1.981	0.2	0.04	844	6.89	37.2	17.2	
1350	4	1.981	0.2	0.04	836	6.88	12.4	17.2	
1355	5	1.981	0.2	0.04	829	6.89	-9.9	17.7	
1400	6	1.981	0.2	0.04	829	6.89	-23.6	17.8	
1405	7	1.981	0.2	0.04	827	6.89	-35.9	17.7	
1410	8	1.981	0.2	0.04	824	6.89	-45.1	17.7	
1415	9	1.981	0.2	0.02	825	6.89	-52.8	17.8	
1420	10	1.981	0.2	0.02	820	6.89	-59.9	17.8	~~Sample~~
1425	11	1.981	0.2	0.02	821	6.89	-62.4	17.9	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Ferrous Metals		4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	CN-	1	Nitrogen		

Approval and Distribution

Fieldwork Staff Signature — Date: 6/17 — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

MW16

Q4AN(EV)-405-FM1

						Bore ID:	mw16
Project Name:	Mac Point 2013	Project Number:	60693007	PM Name:	S. Loth	Sample Date:	
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	C Tellier	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.042	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1450	0	2.042	0.2	0.32	543.6	6.45	53.5	16.5	
1455	1	2.042	0.2	0.23	539.2	6.50	49.5	17.1	
1500	2	2.042	0.2	0.14	527.2	6.56	35.7	17.0	
1505	3	2.042	0.2	0.08	490.5	6.60	21.4	17.1	
1510	4	2.042	0.2	0.06	404.6	6.62	-0.4	16.2	
1515	5	2.042	0.2	0.05	374.9	6.68	-22.8	16.3	
1520	6	2.042	0.2	0.04	359.2	6.68	-24.6	16.4	
1525	7	2.042	0.2	0.04	348.9	6.70	-33.2	17.2	
1530	8	2.042	0.2	0.04	347.8	6.69	-36.7	16.9	
1535	9	2.042	0.2	0.04	351.1	6.70	-42.7	16.9	
1540	10	2.042	0.2	0.04	351.0	6.69	-45.7	17.7	Sample
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered: Ferrous, Metals	Unfiltered:		x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	CN-	1	Nitrogen		

Approval and Distribution

Fieldwork Staff Signature	6/12 Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

RN4

Q4AN(EV)-405-FM1

Project Name:	Mac Point 2023 GM	Project Number:	60693007	PM Name:	S. Lath	Bore ID:	2N4
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:	CT	Sample Date:	29/11/23
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 29/11	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.176	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.20	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L): 10.12	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 2		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1557	0	3.176	—	0.27	3490	6.88	-80.7	16.6	
1602	~~[illegible]~~ 1	3.202	—	0.11	~~[illegible]~~ 2945	6.81	-105.3	16.4	
1607	~~[illegible]~~ 1.2	3.202	—	0.13	2872	6.81	-111.5	17	
1612	1.4	3.202	—	0.09	2740	6.79	-115.7	16.3	
1617	1.6	3.202	—	0.09	2629	6.79	-119	16.1	
1622	1.8	3.202	—	0.08	2600	6.79	-121.5	16.1	
1627	~~1.6~~ 2	3.202	—	0.08	2543	6.78	-123.1	16.0	Sampled NO, NS, MT, clear
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Co[illegible]						Comments
Field Filtered: Metals, Ferrous	Unfiltered: All others		x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
		4	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
				1	~~[illegible]~~ Nitric	1	cyanide	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature	Date 29/11	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

MW176

Q4AN(EV)-405-FM1

						Bore ID:	MW176
Project Name:	Mac Point GME	Project Number:	60693007	PM Name:		Sample Date:	30/11/23
Client:	MPDG	Project Location:	Mac Point	Fieldwork Staff:		Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.250	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.71	Casing Radius (mm):	Corrected Redox: Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1010	0	3.25	—	2.23	1268	6.89	56.2	16.1	
1015	0.5	3.293	—	0.49	1268	6.91	54.7	16.1	
1023	1.5	3.293	—	0.23	1253	6.90	44.7	16.0	
1030	2.5	3.312	—	0.16	1248	6.90	35.6	16.1	
1035	3.0	3.313	—	0.14	1227	6.88	13.6	16.1	
1040	3.5	3.322	—	0.12	1214	6.87	3.2	16.1	
1045	4.4	3.323	—	0.13	1204	6.86	-4.1	16.1	
1050	4.5	3.362	—	0.12	1199	6.86	-12.9	16.2	
1055	5	3.371	—	0.14	1194	6.85	-19.4	16.2	
1100	5.5	3.383	—	0.13	1192	6.85	-22.5	16.3	Sample / NO, NS, LT, clear
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
metals		2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
						1	cyanide		
						1	Nitrogen		

Approval and Distribution

Fieldwork Staff Signature — Date: 30/11

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

4/12

AECOM

QAANE(V)-414-FM1

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Project Name:	Mac Point 2023	**Project Location:**	Mac POINT	**PM Name:**	S. Latz
Project Number:	60693007	**Client:**	MPDG	**Fieldwork Staff Name:**	L. Teller

Confirm NAPL and groundwater level by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Well ID	Date (dd/mm/yy)	Time (24hr mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments: well condition, odour, NAPL colour and viscosity
MW175	4/12	0715	1.1	—	2.997	—	—	4.35	—	ND, NS, GC
MW176	4/12	0750	0.1	—	3.125	—	—	4.66	—	ND, NS, GC
MW162	4/12	0755	0	—	3.154	—	—	4.88	—	ND, NS, GC
RW4	4/12	0800	0	—	3.161	—	—	5.21	—	ND, NS, GC
MW146	4/12	0805	0	—	3.255	—	—	5.52	—	ND, NS, GC
MW174	4/12	0840	0	—	2.995	—	—	5.07	—	ND, NS, GC
MW174B	4/12	0845	0	—	3.019	—	—	11.50	—	ND, NS, GC
MW274	4/12	0900	0	—	3.1[illegible]5	—	—	4.86	—	ND, NS, GC
MW278	4/12	0905	0	—	3.195	—	—	16.96	—	ND, NS, GC
MW55	4/12	0910	0	—	2.956	—	—	5.10	—	ND, NS, GC
[illegible]										
MW125A	4/12	0915	0	—	2.480	—	—	5.04	—	ND, NS, GC
MW125B	4/12	0920	0	—	2.649	—	—	15.49	—	ND, NS, GC
MW16	4/12	0935	0	—	2.042	—	—	5.18	—	ND, NS, GC
MW05	4/12	0942	1.7	2.00	2.170	0.070	—	4.62	—	ND, HCO
RW02	4/12	0950	2.4	2.09	2.25	0.16	—	—	—	HCO
MW03	4/12	1000	1.4	1.92	1.97	0.05	—	—	—	HCO, SY. LEL
MW06	4/12	1005	0	1.981	1.981	—	—	4.95	—	ND, NS, GC
MW164	4/12	1035	0.6	—	1.582	—	—	3.88	—	NS, funky odor, GC
MW163	4/12	1040	0.5	—	1.681	—	—	3.84	—	ND, NS, GC

Measurement Equipment

Make & Model:	—	**Supplier:**	Enviro
Serial No.:	—	**Calibration Report Provided?**	Yes

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature — Date: 4/12/23

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

AECOM

Q4AN(EV)-414-FM1

Project Name:	Mac Point 2023	**Project Location:**	Mac point	**PM Name:**	S. Layh
Project Number:	60693007	**Client:**	MPDG	**Fieldwork Staff Name:**	C. Teller

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column

Well ID	Date (dd/mm/yy)	Time (24hr mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
S4	4/12	1045	5.0	—	1.868	—	—	3.88	—	NO, NS, GC
S6	4/12	1050	24.3		1.963			4.88		40% LEL
S8	4/12	1100	36.1	~~1.87~~	1.99	0.1	—	—		59% LEL
MW10	4/12	1105	0	—	2.04	—	—	2.98	—	NO, NS, GC
MW12A	4/12	1105	0	—	2.173	—	—	5.18	—	NO, NS, GC
MW12B	4/12	1110	0	—	2.281	—	—	19.17	—	NO, NS, GC
MW154	4/12	1115	0	—	2.136	—	—	4.97	-	NO, NS, GC
MW153	4/12	1120	0	—	2.182	—		4.40		
MW152	4/12	1125	0	—	2.316	—		5.04		
MW151	4/12	1130	0	—	2.267	—		4.93		

Measurement Equipment

Make & Model:	—	**Supplier:**	Enquip
Serial No.:	—	**Calibration Report Provided?**	Yes

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature — Date: 4/12/23

Project Manager Signature — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Sample QAQC Tracking Sheet

Q4AN(EV)-011-FM1

Project Name:		**Project Number:**	
Project Location:		**Client:**	
PM Name:		**Fieldwork Staff:**	

QAQC Information

QAQC ID	Primary Sample ID	Sample Type	Batch Number
QA101	MW146	Duplicate	
QA201	MW146	Triplicate	
QA301	N/A	Rinsate	
QA401	N/A	Field blank	
QA501	N/A	Trip blank	
QA 102	MW127A	Dup	
QA 202	MW127A	Trip	
QA 302	N/A	Rinsate	
QA 402	N/A	Field blank	
QA 502	N/A	Trip blank	
QA 103	MW 151	Dup	
QA 203	MW 151	Trip	
QA 503		Trip blank 4/12	
QA 104	MW 126A	Dup 4/12	
QA 204	MW 126B	Dup 4/12	
QA 303		Rinsate 4/12	
QA ~~304~~ 403		~~Rin~~ Field blank 4/12	
QA 504		Trip blank 4/12	
QA 304		Rinsate 5/12	
QA 404		~~Rinsate~~ Field blank 5/12	
~~QA 504~~			
QA 305		Rinsate 6/12	
QA 405		Field 6/12	
QA 505		Trip blank	

QAQC	Required		Frequency		Method Used
Field Duplicates	☐ Yes	☐ No	☐ 1 in 10	☐ 1 in 20	
Field Triplicates	☐ Yes	☐ No	☐ 1 in 10	☐ 1 in 20	
Rinsate Blanks	☐ Yes	☐ No	☐ 1 per matrix/equipment/day		
Field Blanks	☐ Yes	☐ No	☐ 1 per day		
Trip Blanks	☐ Yes	☐ No	☐ 1 per ice chest		
Trip Spikes	☐ Yes	☐ No	☐ 1 per ice chest		

Approval and Distribution

Fieldwork Staff Signature _____ Date _____

Project Manager Signature _____ Date _____

Distribution: Project Central File

Appendix D

CoC and SRN Documentation

AECOM

ANZ

FQM - Generic Chain of Custody Form

FREIGHT

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: C.Teller	Destination Laboratory: ALS
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0424250415 PHONE:	
PROJECT NUMBER / TASK CODE 60693007/3	P.O. NO.:	EMAIL REPORT TO: chloe.teller@aecom.com; supriya.lath@aecom.com; robert.crowe@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	10 Metals (Al, As, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Zn)	TRH(C6-C40), BTEXN, PAH, Phenols	Ammonia (As N); Cyanide (Free, WAD & Total)	TDS; Major Cations & Anions + Ionic Balance	Natural attenuation (NO_3, SO_4^{2-}, Fe^{2+}, CH_4)	TRH Speciation - CWG - Aliphatic/Aromatic	VOC/SVOC, CHC, OCP	Trip Blanks - TRH (C6-C10) and BTEXN					HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
1	MW116	W	29/11				X	X	X	X	X	X	X							
2	RN4	W	29/11				X	X	X	X	X	X	X							
3	MW175	W	30/11				X	X	X	X										
4	MW176	W	30/11				X	X	X	X										
5	MW162	W	30/11				X	X	X	X										
6	QA101	W	29/11				X	X	X	X	X	X	X							
	QA201	W	29/11				X	X	X	X	X	X	X							TO EUROFINS
7	QA301	W	30/11				X	X	X	X										
8	QA401	W	30/11				X	X	X	X									X	
9	QA501	W	30/11											X						

Environmental Division
Melbourne
Work Order Reference
EM2321407
Telephone : +61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chloe Teller	Date: 30/11	Name:	Date:	Name:	Date: 1/12	Con' Note No:
Of: AECOM	Time: 1300	Of:	Time:	Of: (AM)	Time: 1130	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2321407**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007/3	Page	: 1 of 3
Order number	: Project: 60693007/3	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point, 41 Evans St, Hobart		
Sampler	: C. Teller		

Dates

Date Samples Received	: 01-Dec-2023 11:30	Issue Date	: 01-Dec-2023
Client Requested Due Date	: 12-Dec-2023	Scheduled Reporting Date	: **12-Dec-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 1.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 9 / 8

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale and ALS Sydney.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - CN-FWT Cyanide-Free,WAD & Total	WATER - EG020F Dissolved Metals by ICP/MS	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - TRH-CWG Aromatic/Aliphatic -CWG/RIVM bands	WATER - W-23 minus BTEX SVOC/VOC without BTEX	WATER - W-27 TRH/BTEXN/PAH/Phenols/8 Metals	WATER - W-28 Natural Attenuation Indicators
EM2321407-001	29-Nov-2023 00:00	MW146	✓	✓	✓	✓	✓	✓	✓
EM2321407-002	29-Nov-2023 00:00	RN4	✓	✓	✓	✓		✓	✓
EM2321407-003	30-Nov-2023 00:00	MW175	✓	✓	✓			✓	
EM2321407-004	30-Nov-2023 00:00	MW176	✓	✓	✓			✓	
EM2321407-005	30-Nov-2023 00:00	MW162	✓	✓	✓			✓	
EM2321407-006	29-Nov-2023 00:00	QA101	✓	✓	✓	✓	✓	✓	✓
EM2321407-007	30-Nov-2023 00:00	QA301		✓				✓	

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EP068A (OC) OC Pesticides	WATER - W-18 TRH(C6 - C9)/BTEXN
EM2321407-001	29-Nov-2023 00:00	MW146		✓	✓	✓	
EM2321407-002	29-Nov-2023 00:00	RN4		✓	✓		
EM2321407-003	30-Nov-2023 00:00	MW175		✓	✓		
EM2321407-004	30-Nov-2023 00:00	MW176		✓	✓		
EM2321407-005	30-Nov-2023 00:00	MW162		✓	✓		
EM2321407-006	29-Nov-2023 00:00	QA101		✓	✓	✓	
EM2321407-008	30-Nov-2023 00:00	QA401	✓				
EM2321407-009	30-Nov-2023 00:00	QA501					✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

CHLOE TELLER

- *AU Certificate of Analysis - NATA (COA)	Email	CHLOE.TELLER@AECOM.COM
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	CHLOE.TELLER@AECOM.COM
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	CHLOE.TELLER@AECOM.COM
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	CHLOE.TELLER@AECOM.COM
- Chain of Custody (CoC) (COC)	Email	CHLOE.TELLER@AECOM.COM
- Chromatogram (CHROM)	Email	CHLOE.TELLER@AECOM.COM
- EDI Format - ESDAT (ESDAT)	Email	CHLOE.TELLER@AECOM.COM

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

SUPRIYA LATH

- *AU Certificate of Analysis - NATA (COA)	Email	supriya.lath@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	supriya.lath@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	supriya.lath@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	supriya.lath@aecom.com
- Chain of Custody (CoC) (COC)	Email	supriya.lath@aecom.com
- Chromatogram (CHROM)	Email	supriya.lath@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	supriya.lath@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

FREIGHT

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: C.Teller	**Destination Laboratory**
PROJECT MANAGER (PM): **R.Crowe**	SITE: **Macquarie Point, 41 Evans St, Hobart**	MOBILE: 0424250415 PHONE:	ALS
PROJECT NUMBER / TASK CODE **60693007/3**	P.O. NO.:	EMAIL REPORT TO: chloe.teller@aecom.com; supriya.lath@aecom.com; robert.crowe@aecom.com	
RESULTS REQUIRED (**Date**):	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	10 Metals (Al, As, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Zn)	TRH(C6-C40), BTEXN, PAH, Phenols	Ammonia (As N); Cyanide (Free, WAD & Total)	TDS; Major Cations & Anions + Ionic Balance	Natural attenuation (NO_3^-, SO_4^{2-}, Fe^{2+}, CH_4)	TRH Speciation - CWG - Aliphatic/Aromatic	VOC/SVOC, CHC, OCP	Trip Blanks - TRH (C6-C10) and BTEXN					HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
1	MW 55	W	30/11				X	X	X	X										
2	MW 127A		30/11				X	X	X	X	X	X	X							
3	MW 127B		30/11				X	X	X	X										
4	MW 150		1/12				X	X	X	X										
5	MW 151		1/12				X	X	X	X	X	X	X							
6	MW 152		1/12				X	X	X	X										
7	MW 153		1/12				X	X	X	X										
8	QA 102		30/11				X	X	X	X	X	X	X							
9	QA 103		1/12				X	X	X	X	X	X	X							
10	QA 302		1/12				X	X		X										Rinsate
11	QA 402		1/12				X	X		X									X	Field blank
12	QA 502		1/12							X				X						

Environmental Division
Melbourne
Work Order Reference
EM2321582

Telephone : + 61-3-8549 9600

RELINQUISHED BY: Chloe Teller		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chloe Teller	Date:	Name:	Date:	Name: RICHARD BAEZ	Date: 04/12/23	Con' Note No:
Of: AECOM	Time:	Of:	Time:	Of: ALS	Time: 11:28	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2321582**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007/3	Page	: 1 of 3
Order number	: 60693007/3	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point, 41 Evans St, Hobart		
Sampler	: C. TELLER		

Dates

Date Samples Received	: 04-Dec-2023 11:28	Issue Date	: 05-Dec-2023
Client Requested Due Date	: 13-Dec-2023	Scheduled Reporting Date	: **13-Dec-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 5.6°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 12 / 11

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale and ALS Sydney.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - CN-FWT Cyanide-Free,WAD & Total	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG020F Dissolved Metals by ICP/MS	WATER - EG035F Dissolved Mercury	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - W-24 TRH/BTEXN/PAH/Phenols
EM2321582-001	30-Nov-2023 00:00	MW 55	✓	✓	✓	✓	✓	✓	✓
EM2321582-002	30-Nov-2023 00:00	MW 127A	✓	✓	✓	✓	✓	✓	✓
EM2321582-003	30-Nov-2023 00:00	MW 127B	✓	✓	✓	✓	✓	✓	✓
EM2321582-004	01-Dec-2023 00:00	MW 150	✓	✓	✓	✓	✓	✓	✓
EM2321582-005	01-Dec-2023 00:00	MW 151	✓	✓	✓	✓	✓	✓	✓
EM2321582-006	01-Dec-2023 00:00	MW 152		✓	✓	✓	✓	✓	✓
EM2321582-007	01-Dec-2023 00:00	MW 153	✓	✓	✓	✓	✓	✓	✓
EM2321582-008	30-Nov-2023 00:00	QA 102	✓	✓	✓	✓	✓	✓	✓
EM2321582-009	01-Dec-2023 00:00	QA 103	✓	✓	✓	✓	✓	✓	✓
EM2321582-010	01-Dec-2023 00:00	QA 302			✓	✓			✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP068A (OC) OC Pesticides	WATER - TRH-CWG Aromatic/Aliphatic -CWG/RIVM bands	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-23 minus BTEX SVOC/VOC without BTEX	WATER - W-28 Natural Attenuation Indicators
EM2321582-002	30-Nov-2023 00:00	MW 127A		✓	✓		✓	✓
EM2321582-005	01-Dec-2023 00:00	MW 151		✓	✓		✓	✓
EM2321582-008	30-Nov-2023 00:00	QA 102		✓	✓		✓	✓
EM2321582-009	01-Dec-2023 00:00	QA 103		✓	✓		✓	✓
EM2321582-011	01-Dec-2023 00:00	QA 402	✓					
EM2321582-012	01-Dec-2023 00:00	QA 502				✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

CHLOE TELLER

- *AU Certificate of Analysis - NATA (COA)	Email	CHLOE.TELLER@AECOM.COM
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	CHLOE.TELLER@AECOM.COM
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	CHLOE.TELLER@AECOM.COM
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	CHLOE.TELLER@AECOM.COM
- Chain of Custody (CoC) (COC)	Email	CHLOE.TELLER@AECOM.COM
- Chromatogram (CHROM)	Email	CHLOE.TELLER@AECOM.COM
- EDI Format - ESDAT (ESDAT)	Email	CHLOE.TELLER@AECOM.COM

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

SUPRIYA LATH

- *AU Certificate of Analysis - NATA (COA)	Email	supriya.lath@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	supriya.lath@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	supriya.lath@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	supriya.lath@aecom.com
- Chain of Custody (CoC) (COC)	Email	supriya.lath@aecom.com
- Chromatogram (CHROM)	Email	supriya.lath@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	supriya.lath@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

AECOM

ANZ

FQM - Generic Chain of Custody Form

FREIGHT

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: C.Teller	Destination Laboratory: ALS
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0424250415 PHONE:	
PROJECT NUMBER / TASK CODE 60693007/3	P.O. NO.:	EMAIL REPORT TO: chloe.teller@aecom.com; supriya.lath@aecom.com; robert.crowe@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note: suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION: Type / Code	Total bottles	10 Metals (Al, As, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Zn)	TRH(C6-C40), BTEXN, PAH, Phenols	Ammonia (As N); Cyanide (Free, WAD & Total)	TDS; Major Cations & Anions + Ionic Balance	Natural attenuation (NO_3^-, SO_4^{2-}, Fe^{2+}, CH_4)	TRH Speciation - CWG - Aliphatic/Aromatic	VOC/SVOC, CHC, OCP	Trip Blanks - TRH (C6-C10) and BTEXN					HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
1	MW ~~126A~~ 125A	W	4/12			7	X	X	X	X										
2	MW ~~126B~~ 125B	W	4/12			7	X	X	X	X										
3	MW164	W	4/12			7	X	X	X	X										
4	QA 104	W	4/12			7	X	X	X	X									X	
→	QA 204	W	4/12			7	X	X	X	X									X	To ALS Rd
5	MW124A	W	5/12			7	X	X	X	X										
6	MW124B	W	5/12			7	X	X	X	X										
7	MW 163	W	5/12			7	X	X	X	X										
8	MW126A	W	5/12			7	X	X	X	X										
9	MW126B	W	5/12			7	X	X	X	X										
10	MW 60	W	5/12			7	X	X	X	X										
11	S4	W	5/12			7	X	X	X	X										
12	QA303	W	4/12			7	X	X	X	X										Rinsate
13	QA403	W	4/12			7	X	X	X	X									X	
14	QA304	W	~~4~~/12			7	X	X	X	X										
15	QA404	W	5/12			7	X	X	X	X									X	12, rinsate
16	QA504	W	5/12			1								X						

Environmental Division
Melbourne
Work Order Reference
EM2321824
Telephone : +61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name: Maria (for)	Date: 7/12	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time: 11.55	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page of

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM, Macquarie Point	SAMPLER: C.Teller	Destination Laboratory: ALS
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0424250415 PHONE:	
PROJECT NUMBER / TASK CODE 60693007/3	P.O. NO.:	EMAIL REPORT TO: chloe.teller@aecom.com; supriya.lath@aecom.com; robert.crowe@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		10 Metals (Al, As, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Zn)	TRH(C6-C40), BTEXN, PAH, Phenols	Ammonia (As N); Cyanide (Free, WAD & Total)	TDS; Major Cations & Anions + Ionic Balance	Natural attenuation (NO_3^-, SO_4^{2-}, Fe^{2+}, CH_4)	TRH Speciation - CWG - Aliphatic/Aromatic	VOC/SVOC, CHC, OCP	Trip Blanks - TRH (C6-C10) and BTEXN					HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
17	MW155	W	6/6/12				X	X	X	X	X									
18	MW154						✓	—	✓	—	—									
19	S6						✓	✓	✓	✓	✓									
20	MW06						✓	✓	✓	✓	✓									
21	MW16						✓	✓	✓	✓	✓									
22	QA305						✓	✓	✓	✓	✓									Rinsate
23	QA405						✓	✓	✓	✓	✓								X	Field
24	QA505													X						

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date: 3/12	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time: 11:30	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page of

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2321824**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007/3	Page	: 1 of 3
Order number	: 60693007/3	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point, 41 Evans St, Hobart		
Sampler	: C. TELLER		

Dates

Date Samples Received	: 07-Dec-2023 11:55	Issue Date	: 07-Dec-2023
Client Requested Due Date	: 19-Dec-2023	Scheduled Reporting Date	: **14-Dec-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 3.8°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 24 / 20

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Preliminary results will be available on the scheduled reporting date listed in this report. However the final report with methane analysis will be complete on 19/12.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - CN-FWT Cyanide-Free,WAD & Total	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG020F Dissolved Metals by ICP/MS	WATER - EG035F Dissolved Mercury	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - W-24 TRH/BTEXN/PAH/Phenols
EM2321824-001	04-Dec-2023 00:00	MW125A	✓	✓	✓	✓	✓	✓	✓
EM2321824-002	04-Dec-2023 00:00	MW125B	✓	✓	✓	✓	✓	✓	✓
EM2321824-003	04-Dec-2023 00:00	MW164	✓	✓	✓	✓	✓	✓	
EM2321824-005	05-Dec-2023 00:00	MW124A	✓	✓	✓	✓	✓	✓	✓
EM2321824-006	05-Dec-2023 00:00	MW124B	✓	✓	✓	✓	✓	✓	✓
EM2321824-007	05-Dec-2023 00:00	MW163	✓	✓	✓	✓	✓	✓	✓
EM2321824-008	05-Dec-2023 00:00	MW126A	✓	✓	✓	✓	✓	✓	✓
EM2321824-009	05-Dec-2023 00:00	MW126B	✓	✓	✓	✓	✓	✓	✓
EM2321824-010	05-Dec-2023 00:00	MW60	✓	✓	✓	✓	✓	✓	✓
EM2321824-011	05-Dec-2023 00:00	S4	✓	✓	✓	✓	✓	✓	✓
EM2321824-012	04-Dec-2023 00:00	QA303	✓	✓	✓	✓	✓	✓	✓
EM2321824-014	05-Dec-2023 00:00	QA304	✓	✓	✓	✓		✓	✓
EM2321824-017	06-Dec-2023 00:00	MW155	✓	✓	✓	✓	✓	✓	✓
EM2321824-018	06-Dec-2023 00:00	MW154	✓	✓	✓	✓	✓	✓	✓
EM2321824-019	06-Dec-2023 00:00	S6	✓	✓	✓	✓	✓	✓	✓
EM2321824-020	06-Dec-2023 00:00	MW06	✓	✓	✓	✓	✓	✓	✓
EM2321824-021	06-Dec-2023 00:00	MW16	✓	✓	✓	✓		✓	✓
EM2321824-022	06-Dec-2023 00:00	QA305	✓	✓	✓	✓		✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - ED041G Sulfate (Turbidimetric) as SO4 2 by Discrete	WATER - EG051G Ferrous Iron	WATER - EP033 - Methane Methane in Water	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-28 Natural Attenuation Indicators
EM2321824-003	04-Dec-2023 00:00	MW164					✓	
EM2321824-004	04-Dec-2023 00:00	QA104	✓					
EM2321824-013	04-Dec-2023 00:00	QA403	✓					
EM2321824-015	05-Dec-2023 00:00	QA404	✓					
EM2321824-016	05-Dec-2023 00:00	QA504					✓	
EM2321824-017	06-Dec-2023 00:00	MW155						✓

			(On Hold) WATER No analysis requested	WATER - ED041G Sulfate (Turbidimetric) as SO4 2 by Discrete	WATER - EG051G Ferrous Iron	WATER - EP033 - Methane Methane in Water	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-28 Natural Attenuation Indicators
EM2321824-018	06-Dec-2023 00:00	MW154						✓
EM2321824-019	06-Dec-2023 00:00	S6						✓
EM2321824-020	06-Dec-2023 00:00	MW06						✓
EM2321824-021	06-Dec-2023 00:00	MW16		✓	✓	✓		
EM2321824-022	06-Dec-2023 00:00	QA305		✓	✓			
EM2321824-023	06-Dec-2023 00:00	QA405	✓					
EM2321824-024	06-Dec-2023 00:00	QA505					✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

CHLOE TELLER

- *AU Certificate of Analysis - NATA (COA)	Email	CHLOE.TELLER@AECOM.COM
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	CHLOE.TELLER@AECOM.COM
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	CHLOE.TELLER@AECOM.COM
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	CHLOE.TELLER@AECOM.COM
- Chain of Custody (CoC) (COC)	Email	CHLOE.TELLER@AECOM.COM
- Chromatogram (CHROM)	Email	CHLOE.TELLER@AECOM.COM
- EDI Format - ESDAT (ESDAT)	Email	CHLOE.TELLER@AECOM.COM

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

SUPRIYA LATH

- *AU Certificate of Analysis - NATA (COA)	Email	supriya.lath@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	supriya.lath@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	supriya.lath@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	supriya.lath@aecom.com
- Chain of Custody (CoC) (COC)	Email	supriya.lath@aecom.com
- Chromatogram (CHROM)	Email	supriya.lath@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	supriya.lath@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

FS1049877 1/12/23

ANZ

FQM - Generic Chain of Custody Form

FREIGHT

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: C.Teller	Destination Laboratory: ALS
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0424250415 PHONE:	
PROJECT NUMBER / TASK CODE 60693007/3	P.O. NO.:	EMAIL REPORT TO: chloe.teller@aecom.com; supriya.lath@aecom.com; robert.crowe@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated sample e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	10 Metals (Al, As, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Zn)	TRH(C6-C40), BTEXN, PAH, Phenols	Ammonia (As N); Cyanide (Free, WAD & Total)	TDS; Major Cations & Anions + Ionic Balance	Natural attenuation (NO_3, SO_4^{2-}, Fe^{2+}, CH_4)	TRH Speciation - CWG - Aliphatic/Aromatic	VOC/SVOC, CHC, OCP	Trip Blanks - TRH (C6-C10) and BTEXN	HOLD	
1	MW146	W	29/11				X	X	X	X	X	X	X			
2	RW4	W	29/11		M		X	X	X	X	X	X	VHA			
3	MW175	W	30/11				X	X	X	X						
4	MW176	W	30/11				X	X	X	X						
5	MW162	W	30/11				X	X	X	X						
6	QA101	W	29/11				X	X	X	X	X	X	X			
	QA201	W	29/11				X	X	X	X	X	X	X			TO EUROFINS
7	QA301	W	30/11				X	X	X	X						
8	QA401	W	30/11				X	X	X	X					X	
9	QA501	W	30/11											X		

DATE: 1/12/23
TIME: 5:15pm
COURIER:
TEMPERATURE 14.6°C
ATTEMP TO CHILL: YES NO
Nade

Environmental Division Melbourne
Work Order Reference
EM2321407

Telephone : +61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chloe Teller	Date: 30/11	Name:	Date:	Name:	Date: 1/12	Con' Note No:
Of: AECOM	Time: 1300	Of:	Time:	Of:	Time: 1123	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

COC Page of

Tyrone Gowans

From: Lath, Supriya <Supriya.Lath@aecom.com>
Sent: Monday, 4 December 2023 1:39 PM
To: #AU_CAU001_EnviroSampleVic; Michael Morrison
Cc: Teller, Chloe; Crowe, Robert
Subject: RE: Eurofins Sample Receipt Advice - Report 1049877 : Site MACQUARIE POINT 41 EVANS ST HOBART (60693007/3)

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins. Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Farjad,
In this sample batch, could you please trip-blank sample off-hold, and analyse it for TRH (C_6-C_{10}) and BTEXN?
Thanks

Supriya Lath PhD
(she, her, hers)

Senior Environmental Scientist, ANZ NWA
D +61 430 379 599
supriya.lath@aecom.com

AECOM
Level 8, 540 Wickham Street
Fortitude Valley
QLD 4006, Australia
T +61 7 3056 4800
aecom.com

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From: EnviroSampleVic@eurofins.com <EnviroSampleVic@eurofins.com>
Sent: Friday, December 1, 2023 6:05 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Teller, Chloe <Chloe.Teller@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1049877 : Site MACQUARIE POINT 41 EVANS ST HOBART (60693007/3)

Dear Valued Client,

EXTRA SAMPLE: TRIP BLANK (2VIALS). PLACED ON HOLD.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	- All Invoices
Project name:	MACQUARIE POINT 41 EVANS ST HOBART
Project ID:	60693007/3
Turnaround time:	5 Day
Date/Time received	Dec 1, 2023 5:15 PM
Eurofins reference	1049877

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

EXTRA SAMPLE: TRIP BLANK (2VIALS). PLACED ON HOLD.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : +61 3 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to - All Invoices - AP_CustomerService.ANZ@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/3

Order No.: 60693007/3
Report #: 1049877
Phone: 08 7223 5400
Fax:

Received: Dec 1, 2023 5:15 PM
Due: Dec 8, 2023
Priority: 5 Day
Contact Name: - All Invoices

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	Aluminium (filtered)	Ammonia (as N)	Arsenic (filtered)	Cadmium (filtered)	Chromium (filtered)	Copper (filtered)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	Ionic Balance*	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Chlorinated Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Phenols (Speciated)	BTEX and Naphthalene	Volatile Organics	Semivolatile Organics	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C	Eurofins Suite B16D: SO4, CH4, NO3, Fe2+, Mn(filt)
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																												

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																									
1	QA201	Nov 29, 2023		Water	M23-De0002428	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
2	TB (TRIP BLANK)	Nov 29, 2023		Water	M23-De0002429																							X				
Test Counts						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: Mac Point	SAMPLER: Chloe Tellis	**Destination Laboratory**
PROJECT MANAGER (PM): S. Lath	SITE:	MOBILE: 0427250415 PHONE:	
PROJECT NUMBER & TASK CODE: 60693007	P.O. NO.:	EMAIL REPORT TO: Supriya.Lath@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
48 hr hold time

Notes: e.g. Highly contaminated sample e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil W=Water)					CONTAINER INFORMATION		Al, As, Cd, Cr, Cu, Pb, Mn, Hg, Ni, Zn	TRH, BTEXN, PAH	Phenols	Ammonia	Cyanide	MNA	TRH speciation (C6-C10, F1 on/Arom, VOC/SVOC, CHC, 6)	Trip blank				HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	QA202	W	30/11				/	/	/	/	/	/	/	/				
	QA203	W	1/12				/	/	/	/	/	/	/	/				
	QA503													/				

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 1/12/23	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 2:26pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

Av. Temp 4.4°C

Note: Samples arrived submerged in water from loose melted ice.

#1049962

COC Page of

Tyrone Gowans

From: Lath, Supriya <Supriya.Lath@aecom.com>
Sent: Monday, 4 December 2023 3:24 PM
To: #AU_CAU001_EnviroSampleVic; Michael Morrison
Cc: Crowe, Robert; Teller, Chloe
Subject: RE: Eurofins Sample Receipt Advice - Report 1049962 : Site 60693007

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins. Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Farjad,

For this sample batch (1049962):

1. Could you please update the SRN as follows:
   - Sample Date for **QA503** = 1 Dec 2023
   - For **QA202**, please **exclude** analysis of:
     - VOC, SVOC, OCP and chlorinated hydrocarbons
   - For **QA202** and **QA203**, please **include** analysis of:
     - Cyanide (Free, Total and WAD
     - TDS, Major cations, Major Ions, Ionic Balance

2. Sample receipt suggests some sample(s) exceeded holding time. Could you advise which these are?

Thanks,

Supriya Lath PhD
(she, her, hers)

Senior Environmental Scientist, ANZ NWA
D +61 430 379 599
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eurofins | Environment Testing

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Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Asb)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Supriya Lath
Project name:	Not provided
Project ID:	60693007
Turnaround time:	5 Day
Date/Time received	Dec 1, 2023 2:26 PM
Eurofins reference	1049962

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : +61 3 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Supriya Lath - supriya.lath@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: 60693007

Order No.: 60693007/3
Report #: 1049962
Phone: 08 7223 5400
Fax:

Received: Dec 1, 2023 2:26 PM
Due: To Be Advised
Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	Aluminium	Ammonia (as N)	Arsenic	Cadmium	Chromium	Copper	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	Ionic Balance*	Lead	Manganese	Mercury	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Chlorinated Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Phenols (Speciated)	BTEX and Naphthalene	Volatile Organics	Semivolatile Organics	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH	Eurofins Suite B16A: SO4, CH4, NO3, Fe2+	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																													

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																										
1	QA202	Nov 30, 2023		Water	M23-De0003199	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X			X		X	X	X	X
2	QA203	Dec 01, 2023		Water	M23-De0003200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
3	QA503	Dec 01, 2023		Water	M23-De0003201																							X				
Test Counts	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	1	1	2	1	2	2	3	2

Appendix E

Laboratory Certificates

CERTIFICATE OF ANALYSIS

Work Order	: **EM2321407**	Page	: 1 of 31
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 01-Dec-2023 11:30
Order number	: Project: 60693007/3	Date Analysis Commenced	: 01-Dec-2023
C-O-C number	: ----	Issue Date	: 13-Dec-2023 17:08
Sampler	: C. Teller		
Site	: Macquarie Point, 41 Evans St, Hobart		
Quote number	: EN/004/23		
No. of samples received	: 9		
No. of samples analysed	: 8		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP070-CWG: EM2321407-001 Higher than expected surrogate recovery due to matrix interference. Confirmed by re-prep and re-analysis.
- ED041G: EM2321407 #1 and #6 has been confirmed for Sulfate by re-preparation and re-analysis.
- ED045G: EM2321407 #1 and #6 has been confirmed for Chloride by re-preparation and re-analysis.
- EG051G: EM2321407 #1-2 and #6 Results for Ferrous Iron have been confirmed by re-preparation and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- EA015H: EM2321407 #5 TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- Ionic balances were calculated using: major anions - chloride, alkalinity and sulfate; and major cations - calcium, magnesium, potassium, sodium and ammonia for sample #5.
- EK057G: EM2321407 #1 Poor matrix spike recovery for NO2 due to sample matrix.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**735**	**1440**	**714**	**794**	**1810**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**570**	**560**	**586**	**640**	**884**
Total Alkalinity as CaCO3	----	1	mg/L		**570**	**560**	**586**	**640**	**884**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**40**	**7**	**15**	**20**	<1
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**38**	**536**	**27**	**28**	**713**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**87**	**154**	**99**	**112**	**142**
Magnesium	7439-95-4	1	mg/L		**46**	**48**	**37**	**38**	**61**
Sodium	7440-23-5	1	mg/L		**77**	**257**	**96**	**99**	**400**
Potassium	7440-09-7	1	mg/L		**18**	**27**	**14**	**20**	**47**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.05**	<0.01	**0.01**	<0.01	**0.02**
Arsenic	7440-38-2	0.001	mg/L		**0.003**	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		**0.002**	<0.001	<0.001	<0.001	**0.001**
Manganese	7439-96-5	0.001	mg/L		**0.590**	**1.76**	**1.54**	**1.64**	**0.767**
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	**0.001**	**0.001**	**0.001**
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	**0.006**	**0.007**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EG051G: Ferrous Iron by Discrete Analyser									
Ferrous Iron	----	0.05	mg/L		**17.2**	**35.6**	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.010**	**0.022**	**0.009**	**0.008**	**0.072**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**3.85**	**8.84**	**1.20**	**1.05**	**47.5**
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.01**	<0.01	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**13.3**	**26.4**	**12.8**	**14.0**	**37.8**
ø Total Cations	----	0.01	meq/L		----	----	----	----	**34.1**
ø Total Cations	----	0.01	meq/L		**11.9**	**23.5**	**12.5**	**13.5**	----
ø Ionic Balance	----	0.01	%		----	----	----	----	**5.14**
ø Ionic Balance	----	0.01	%		**5.38**	**5.90**	**1.04**	**1.67**	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		**6420**	**5120**	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ **Total Chlordane (sum)**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	5	µg/L		<5	----	----	----	----
Isopropylbenzene	98-82-8	5	µg/L		<5	----	----	----	----
n-Propylbenzene	103-65-1	5	µg/L		<5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	----	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	----	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	----	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
n-Butylbenzene	104-51-8	5	µg/L		<5	----	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	----	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	----	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	----	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	----	----	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	----	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	----	----	----	----
Chloromethane	74-87-3	50	µg/L		<50	----	----	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	----	----	----	----
Bromomethane	74-83-9	50	µg/L		<50	----	----	----	----
Chloroethane	75-00-3	50	µg/L		<50	----	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	----	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	----	----	----	----
Iodomethane	74-88-4	5	µg/L		<5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	----	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	----	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	----	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	----	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	----	----	----	----
Trichloroethene	79-01-6	5	µg/L		<5	----	----	----	----
Dibromomethane	74-95-3	5	µg/L		<5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	----	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	----	----	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	----	----	----	----
Pentachloroethane	76-01-7	5	µg/L		<5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	----	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	----	----	----	----
Bromobenzene	108-86-1	5	µg/L		<5	----	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	----	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	----	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	----	----	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	----	----	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	----	----	----	----
Bromoform	75-25-2	5	µg/L		<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
Phenol	108-95-2	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	<2.0	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		----	**2.8**	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		----	**2.6**	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		----	**3.1**	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		----	**1.4**	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		----	**1.6**	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		----	**1.2**	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	**12.7**	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L		<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L		<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L		<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L		<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L		<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L		<2	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L		<2	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L		<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L		<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L		<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L		<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	2	µg/L		<2	----	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L		<2	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L		<2	----	----	----	----
Acenaphthylene	208-96-8	2	µg/L		<2	----	----	----	----
Acenaphthene	83-32-9	2	µg/L		**3**	----	----	----	----
Fluorene	86-73-7	2	µg/L		**3**	----	----	----	----
Phenanthrene	85-01-8	2	µg/L		<2	----	----	----	----
Anthracene	120-12-7	2	µg/L		<2	----	----	----	----
Fluoranthene	206-44-0	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	2	µg/L		<2	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	----	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L		<2	----	----	----	----
Chrysene	218-01-9	2	µg/L		<2	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		<4	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	----	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L		<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		<2	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		<2	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		<2	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		<2	----	----	----	----
^ Sum of PAHs	----	2	µg/L		6	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L		<2	----	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L		<2	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		<10	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L		<2	----	----	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		<2	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	----	----	----	----
Methapyrilene	91-80-5	2	µg/L		<2	----	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L		<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L		<2	----	----	----	----
Isophorone	78-59-1	2	µg/L		<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L		<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L		<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L		<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L		<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L		<2	----	----	----	----
Pronamide	23950-58-5	2	µg/L		<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L		<2	----	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075F: Haloethers - Continued									
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L		<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L		<2	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L		<2	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L		<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L		<2	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		<4	----	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L		<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L		<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L		<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L		<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L		<2	----	----	----	----
Carbazole	86-74-8	2	µg/L		<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	----	----	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		<2	----	----	----	----
beta-BHC	319-85-7	2	µg/L		<2	----	----	----	----
gamma-BHC	58-89-9	2	µg/L		<2	----	----	----	----
delta-BHC	319-86-8	2	µg/L		<2	----	----	----	----
Heptachlor	76-44-8	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
Aldrin	309-00-2	2	µg/L		<2	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L		<2	----	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L		<2	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L		<2	----	----	----	----
Dieldrin	60-57-1	2	µg/L		<2	----	----	----	----
Endrin	72-20-8	2	µg/L		<2	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L		<2	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L		<2	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L		<2	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L		<4	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	4	µg/L		<4	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	4	µg/L		<4	----	----	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	2	µg/L		<2	----	----	----	----
Dimethoate	60-51-5	2	µg/L		<2	----	----	----	----
Diazinon	333-41-5	2	µg/L		<2	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L		<2	----	----	----	----
Malathion	121-75-5	2	µg/L		<2	----	----	----	----
Fenthion	55-38-9	2	µg/L		<2	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L		<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L		<2	----	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L		<2	----	----	----	----
Prothiofos	34643-46-4	2	µg/L		<2	----	----	----	----
Ethion	563-12-2	2	µg/L		<2	----	----	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C5-C6	----	20	µg/L		<20	<20	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions - Continued									
Aliphatic >C6-C8	TPHCWG-ALV2	20	µg/L		<20	<20	----	----	----
Aliphatic >C8-C10	TPHCWG-ALV3	20	µg/L		<20	<20	----	----	----
Aliphatic >C10-C12	TPHCWG-ALE1	50	µg/L		<50	<50	----	----	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	µg/L		<50	<50	----	----	----
Aliphatic >C16-C21	----	50	µg/L		<50	<50	----	----	----
Aliphatic >C21-C35	----	50	µg/L		<50	<50	----	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	5	µg/L		<5	<5	----	----	----
Aromatic >C7-C8	TPHCWG-ARV2	5	µg/L		<5	<5	----	----	----
Aromatic >C8-C10	TPHCWG-ARV3	5	µg/L		<5	<5	----	----	----
Aromatic >C10-C12	TPHCWG-ARE1	50	µg/L		<50	<50	----	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	µg/L		**140**	<50	----	----	----
Aromatic >C16-C21	TPHCWG-ARE3	50	µg/L		<50	<50	----	----	----
Aromatic >C21-C35	TPHCWG-ARE4	50	µg/L		<50	<50	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		**140**	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		**530**	**190**	**200**	**120**	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		**670**	**190**	**200**	**120**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	<20
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		**340**	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		**390**	**170**	**170**	**120**	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C40 Fraction (sum)	----	100	µg/L		**730**	**170**	**170**	**120**	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		**340**	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**79.1**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**116**	----	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**104**	----	----	----	----
Toluene-D8	2037-26-5	5	%		**109**	----	----	----	----
4-Bromofluorobenzene	460-00-4	5	%		**110**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**29.4**	**29.3**	**28.3**	**26.2**
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**72.3**	**74.2**	**70.8**	**63.2**
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**99.4**	**97.6**	**89.4**	**75.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**72.8**	**75.4**	**74.4**	**63.3**
Anthracene-d10	1719-06-8	1.0	%		----	**68.5**	**70.8**	**68.6**	**65.7**
4-Terphenyl-d14	1718-51-0	1.0	%		----	**81.1**	**84.3**	**82.4**	**75.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW146	RN4	MW175	MW176	MW162
				Sampling date / time	29-Nov-2023 00:00	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321407-001	EM2321407-002	EM2321407-003	EM2321407-004	EM2321407-005
					Result	Result	Result	Result	Result
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		**35.5**	----	----	----	----
Phenol-d6	13127-88-3	2	%		**22.2**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%		**45.1**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%		**69.8**	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		**61.1**	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%		**44.0**	----	----	----	----
2-Fluorobiphenyl	321-60-8	2	%		**54.9**	----	----	----	----
Anthracene-d10	1719-06-8	2	%		**64.4**	----	----	----	----
4-Terphenyl-d14	1718-51-0	2	%		**62.9**	----	----	----	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Fluorobiphenyl	321-60-8	1	%		**115**	**105**	----	----	----
2-Bromonaphthalene	580-13-2	1	%		**121**	**111**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**107**	**120**	**110**	**107**	**105**
Toluene-D8	2037-26-5	2	%		**100.0**	**107**	**100**	**96.0**	**99.1**
4-Bromofluorobenzene	460-00-4	2	%		**108**	**116**	**110**	**106**	**107**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**583**	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**534**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**534**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**15**	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**25**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**90**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**49**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**85**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**18**	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.03**	<0.01	----	----	----
Arsenic	7440-38-2	0.001	mg/L		**0.003**	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		**0.001**	<0.001	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.499**	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EG051G: Ferrous Iron by Discrete Analyser									
Ferrous Iron	----	0.05	mg/L		**16.0**	----	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.006**	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**3.85**	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**11.7**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**12.7**	----	----	----	----
ø Ionic Balance	----	0.01	%		**4.08**	----	----	----	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		**6040**	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ **Total Chlordane (sum)**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	5	µg/L		<5	----	----	----	----
Isopropylbenzene	98-82-8	5	µg/L		<5	----	----	----	----
n-Propylbenzene	103-65-1	5	µg/L		<5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	----	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	----	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	----	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	----	----	----	----
n-Butylbenzene	104-51-8	5	µg/L		<5	----	----	----	----
EP074B: Oxygenated Compounds									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP074B: Oxygenated Compounds - Continued									
Vinyl Acetate	108-05-4	50	µg/L		<50	----	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	----	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	----	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	----	----	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	----	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	----	----	----	----
Chloromethane	74-87-3	50	µg/L		<50	----	----	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	----	----	----	----
Bromomethane	74-83-9	50	µg/L		<50	----	----	----	----
Chloroethane	75-00-3	50	µg/L		<50	----	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	----	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	----	----	----	----
Iodomethane	74-88-4	5	µg/L		<5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	----	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	----	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	----	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	----	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.2-Dichloroethane	107-06-2	5	µg/L		<5	----	----	----	----
Trichloroethene	79-01-6	5	µg/L		<5	----	----	----	----
Dibromomethane	74-95-3	5	µg/L		<5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	----	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	----	----	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	----	----	----	----
Pentachloroethane	76-01-7	5	µg/L		<5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	----	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	----	----	----	----
Bromobenzene	108-86-1	5	µg/L		<5	----	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	----	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	----	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	----	----	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	----	----	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	----	----	----	----
Bromoform	75-25-2	5	µg/L		<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**----**	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		**----**	<0.5	----	----	----
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L		<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L		<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L		<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L		<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L		<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L		<2	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L		<2	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L		<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L		<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L		<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L		<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	2	µg/L		<2	----	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L		<2	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L		<2	----	----	----	----
Acenaphthylene	208-96-8	2	µg/L		<2	----	----	----	----
Acenaphthene	83-32-9	2	µg/L		**3**	----	----	----	----
Fluorene	86-73-7	2	µg/L		**3**	----	----	----	----
Phenanthrene	85-01-8	2	µg/L		<2	----	----	----	----
Anthracene	120-12-7	2	µg/L		<2	----	----	----	----
Fluoranthene	206-44-0	2	µg/L		<2	----	----	----	----
Pyrene	129-00-0	2	µg/L		<2	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	2	µg/L		<2	----	----	----	----
Chrysene	218-01-9	2	µg/L		<2	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		<4	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	----	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L		<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		<2	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		<2	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		<2	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		<2	----	----	----	----
^ Sum of PAHs	----	2	µg/L		6	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L		<2	----	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L		<2	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		<10	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L		<2	----	----	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		<2	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075D: Nitrosamines - Continued									
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	----	----	----	----
Methapyrilene	91-80-5	2	µg/L		<2	----	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L		<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L		<2	----	----	----	----
Isophorone	78-59-1	2	µg/L		<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L		<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L		<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L		<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L		<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L		<2	----	----	----	----
Pronamide	23950-58-5	2	µg/L		<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L		<2	----	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		<2	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075G: Chlorinated Hydrocarbons - Continued									
1.3-Dichlorobenzene	541-73-1	2	µg/L		<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L		<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L		<2	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L		<2	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L		<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L		<2	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		<4	----	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L		<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L		<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L		<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L		<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L		<2	----	----	----	----
Carbazole	86-74-8	2	µg/L		<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	----	----	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		<2	----	----	----	----
beta-BHC	319-85-7	2	µg/L		<2	----	----	----	----
gamma-BHC	58-89-9	2	µg/L		<2	----	----	----	----
delta-BHC	319-86-8	2	µg/L		<2	----	----	----	----
Heptachlor	76-44-8	2	µg/L		<2	----	----	----	----
Aldrin	309-00-2	2	µg/L		<2	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L		<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075I: Organochlorine Pesticides - Continued									
alpha-Endosulfan	959-98-8	2	µg/L		<2	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L		<2	----	----	----	----
Dieldrin	60-57-1	2	µg/L		<2	----	----	----	----
Endrin	72-20-8	2	µg/L		<2	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L		<2	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L		<2	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L		<2	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L		<4	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	4	µg/L		<4	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	4	µg/L		<4	----	----	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	2	µg/L		<2	----	----	----	----
Dimethoate	60-51-5	2	µg/L		<2	----	----	----	----
Diazinon	333-41-5	2	µg/L		<2	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L		<2	----	----	----	----
Malathion	121-75-5	2	µg/L		<2	----	----	----	----
Fenthion	55-38-9	2	µg/L		<2	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L		<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L		<2	----	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L		<2	----	----	----	----
Prothiofos	34643-46-4	2	µg/L		<2	----	----	----	----
Ethion	563-12-2	2	µg/L		<2	----	----	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C5-C6	----	20	µg/L		<20	----	----	----	----
Aliphatic >C6-C8	TPHCWG-ALV2	20	µg/L		<20	----	----	----	----
Aliphatic >C8-C10	TPHCWG-ALV3	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions - Continued									
Aliphatic >C10-C12	TPHCWG-ALE1	50	µg/L		<50	----	----	----	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	µg/L		<50	----	----	----	----
Aliphatic >C16-C21	----	50	µg/L		<50	----	----	----	----
Aliphatic >C21-C35	----	50	µg/L		<50	----	----	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	5	µg/L		<5	----	----	----	----
Aromatic >C7-C8	TPHCWG-ARV2	5	µg/L		<5	----	----	----	----
Aromatic >C8-C10	TPHCWG-ARV3	5	µg/L		<5	----	----	----	----
Aromatic >C10-C12	TPHCWG-ARE1	50	µg/L		<50	----	----	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	µg/L		**90**	----	----	----	----
Aromatic >C16-C21	TPHCWG-ARE3	50	µg/L		<50	----	----	----	----
Aromatic >C21-C35	TPHCWG-ARE4	50	µg/L		<50	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L		**100**	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		**410**	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		**510**	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L		**260**	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		**290**	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		**550**	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		**260**	<100	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	<2	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**81.8**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**119**	----	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**98.7**	----	----	----	----
Toluene-D8	2037-26-5	5	%		**109**	----	----	----	----
4-Bromofluorobenzene	460-00-4	5	%		**111**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**29.3**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**72.7**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**80.9**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**73.0**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**66.5**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**77.2**	----	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		**39.9**	----	----	----	----
Phenol-d6	13127-88-3	2	%		**22.5**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA101	QA301	QA501	----	----
				Sampling date / time	29-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2321407-006	EM2321407-007	EM2321407-009	--------	--------
					Result	Result	Result	----	----
EP075S: Acid Extractable Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	2	%		47.7	----	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%		78.2	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		65.2	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%		48.1	----	----	----	----
2-Fluorobiphenyl	321-60-8	2	%		58.0	----	----	----	----
Anthracene-d10	1719-06-8	2	%		67.5	----	----	----	----
4-Terphenyl-d14	1718-51-0	2	%		67.9	----	----	----	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Fluorobiphenyl	321-60-8	1	%		110	----	----	----	----
2-Bromonaphthalene	580-13-2	1	%		112	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		101	92.0	95.6	----	----
Toluene-D8	2037-26-5	2	%		100	93.1	91.9	----	----
4-Bromofluorobenzene	460-00-4	2	%		110	101	100.0	----	----

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	117
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	51	127
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	132
Toluene-D8	2037-26-5	77	132
4-Bromofluorobenzene	460-00-4	67	131
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	6	83
Phenol-d6	13127-88-3	10	65
2-Chlorophenol-D4	93951-73-6	22	112
2.4.6-Tribromophenol	118-79-6	22	125
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	37	115
1.2-Dichlorobenzene-D4	2199-69-1	32	99
2-Fluorobiphenyl	321-60-8	39	116
Anthracene-d10	1719-06-8	49	123
4-Terphenyl-d14	1718-51-0	47	129
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Fluorobiphenyl	321-60-8	75	115
2-Bromonaphthalene	580-13-2	71	117
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2321407**	Page	: 1 of 14
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 01-Dec-2023
Site	: Macquarie Point, 41 Evans St, Hobart	Issue Date	: 13-Dec-2023
Sampler	: C. Teller	No. of samples received	: 9
Order number	: Project: 60693007/3	No. of samples analysed	: 8

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	QC-5478064-001	----	**Vinyl chloride**	75-01-4	138 %	58.1-135%	**Recovery greater than upper control limit**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP079/EP070S:TPH Surrogates - semivolatile speciatio	EM2321407-001	MW146	**2-Bromonaphthalene**	580-13-2	121 %	71.0-117 %	**Recovery greater than upper data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Pesticides by GCMS	EP068	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	15	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Pesticides by GCMS	EP068	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	15	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H) MW146, RN4, QA101	**29-Nov-2023**	**----**	----	----	**06-Dec-2023**	06-Dec-2023	✓
Clear Plastic Bottle - Natural (EA015H) MW175, MW176, MW162	**30-Nov-2023**	**----**	----	----	**07-Dec-2023**	07-Dec-2023	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P) MW146, RN4, QA101	**29-Nov-2023**	**----**	----	----	**08-Dec-2023**	13-Dec-2023	✓
Clear Plastic Bottle - Natural (ED037-P) MW175, MW176, MW162	**30-Nov-2023**	**----**	----	----	**08-Dec-2023**	14-Dec-2023	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G) MW146, RN4, QA101	**29-Nov-2023**	**----**	----	----	**01-Dec-2023**	27-Dec-2023	✓
Clear Plastic Bottle - Natural (ED041G) MW175, MW176, MW162	**30-Nov-2023**	**----**	----	----	**11-Dec-2023**	28-Dec-2023	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G) MW146, RN4, QA101	**29-Nov-2023**	**----**	----	----	**01-Dec-2023**	27-Dec-2023	✓
Clear Plastic Bottle - Natural (ED045G) MW175, MW176, MW162	**30-Nov-2023**	**----**	----	----	**11-Dec-2023**	28-Dec-2023	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F) MW146, RN4, QA101	**29-Nov-2023**	**----**	----	----	**08-Dec-2023**	27-Dec-2023	✓
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F) MW175, MW176, MW162	**30-Nov-2023**	**----**	----	----	**08-Dec-2023**	28-Dec-2023	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F) MW146, RN4, QA101	**29-Nov-2023**	**----**	----	----	**08-Dec-2023**	27-May-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F) MW175, MW176, MW162, QA301	**30-Nov-2023**	**----**	----	----	**08-Dec-2023**	28-May-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F) MW146, RN4, QA101	**29-Nov-2023**	----	----	----	**08-Dec-2023**	27-Dec-2023	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F) MW175, MW176, MW162, QA301	**30-Nov-2023**	----	----	----	**08-Dec-2023**	28-Dec-2023	✓
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl - Filtered (EG051G) MW146, RN4, QA101	**29-Nov-2023**	----	----	----	**06-Dec-2023**	06-Dec-2023	✓
EK025SF: Free CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK025SF) MW146, RN4, QA101	**29-Nov-2023**	----	----	----	**05-Dec-2023**	13-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK025SF) MW175, MW176, MW162	**30-Nov-2023**	----	----	----	**05-Dec-2023**	14-Dec-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK026SF) MW146, RN4, QA101	**29-Nov-2023**	----	----	----	**05-Dec-2023**	13-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK026SF) MW175, MW176, MW162	**30-Nov-2023**	----	----	----	**05-Dec-2023**	14-Dec-2023	✓
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK028SF) MW146, RN4, QA101	**29-Nov-2023**	----	----	----	**05-Dec-2023**	13-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK028SF) MW175, MW176, MW162	**30-Nov-2023**	----	----	----	**05-Dec-2023**	14-Dec-2023	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW146, RN4, QA101	**29-Nov-2023**	----	----	----	**09-Dec-2023**	27-Dec-2023	✓
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW175, MW176, MW162	**30-Nov-2023**	----	----	----	**09-Dec-2023**	28-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP033: C1 - C4 Hydrocarbon Gases							
Amber VOC Vial - Sulfuric Acid (EP033) MW146	**29-Nov-2023**	**----**	----	**----**	**05-Dec-2023**	13-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP033) RN4, QA101	**29-Nov-2023**	**----**	----	**----**	**06-Dec-2023**	13-Dec-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP068) MW146	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074) MW146, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RN4	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW175, MW176, MW162, QA301	**30-Nov-2023**	**05-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RN4	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW175, MW176, MW162, QA301	**30-Nov-2023**	**05-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved (EP075) MW146, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Amber Glass Bottle - Unpreserved (EP070-CWG) MW146, RN4, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP079-CWG) MW146, RN4, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Amber Glass Bottle - Unpreserved (EP070-CWG) MW146, RN4, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**07-Dec-2023**	14-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP079-CWG) MW146, RN4, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) MW146, RN4, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW175, MW176, MW162, QA301	**30-Nov-2023**	**05-Dec-2023**	07-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW146, RN4, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW175, MW176, MW162, QA301, QA501	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) MW146, RN4, QA101	**29-Nov-2023**	**05-Dec-2023**	06-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW175, MW176, MW162, QA301	**30-Nov-2023**	**05-Dec-2023**	07-Dec-2023	✓	**06-Dec-2023**	14-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW146, RN4, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW175, MW176, MW162, QA301, QA501	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) MW146, RN4, QA101	**29-Nov-2023**	**08-Dec-2023**	13-Dec-2023	✓	**08-Dec-2023**	13-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW175, MW176, MW162, QA301, QA501	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	3	17	**17.65**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	4	31	**12.90**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	3	19	**15.79**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	8	76	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	15	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	4	17	**23.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	31	**6.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	4	19	**21.05**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	6	76	**7.89**	**7.50**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	31	**6.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	4	76	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	31	**6.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Ferrous Iron by Discrete Analyser	EG051G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	15	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Ferrous Iron by Discrete Analyser	EG051G	WATER	In house: Referenced to APHA 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	WATER	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	WATER	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromotic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG,Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

QUALITY CONTROL REPORT

Work Order	: **EM2321407**	Page	: 1 of 21
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 01-Dec-2023
Order number	: Project: 60693007/3	Date Analysis Commenced	: 01-Dec-2023
C-O-C number	: ----	Issue Date	: 13-Dec-2023
Sampler	: C. Teller		
Site	: Macquarie Point, 41 Evans St, Hobart		
Quote number	: EN/004/23		
No. of samples received	: 9		
No. of samples analysed	: 8		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5471337)									
EM2321378-005	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	4290	4100	4.6	0% - 20%
EM2321389-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	4640	4560	1.6	0% - 20%
EM2321412-006	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	3350	3510	4.5	0% - 20%
EM2321521-006	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	94	95	1.4	No Limit
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5474702)									
EM2321360-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	6080	6080	0.1	0% - 20%
EM2321360-011	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	654	597	9.0	0% - 20%
EM2321379-007	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1480	1510	2.1	0% - 20%
EM2321412-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	2550	2580	1.4	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 5475051)									
EM2321404-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1550	1550	0.1	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1550	1550	0.1	0% - 20%
EM2321441-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1440	1400	3.2	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1440	1400	3.2	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5464087)									
EM2321407-001	MW146	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	40	40	0.0	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5478996)									
EM2321407-003	MW175	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	15	16	0.0	0% - 50%
EM2321582-007	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	1120	1120	0.2	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 5464088)									
EM2321407-001	MW146	ED045G: Chloride	16887-00-6	1	mg/L	38	37	0.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 5478997)									
EM2321407-003	MW175	ED045G: Chloride	16887-00-6	1	mg/L	27	26	4.1	0% - 20%
EM2321582-007	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	11600	11700	0.4	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 5478301)									
EM2321407-001	MW146	ED093F: Calcium	7440-70-2	1	mg/L	87	87	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	46	46	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	77	77	0.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	18	18	0.0	0% - 50%
EM2321567-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	103	103	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	215	215	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	1100	1100	0.3	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	32	33	0.0	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5478300)									
EM2321399-011	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.039	0.039	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EM2321567-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.845	0.829	1.9	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.029	0.028	6.0	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.040	<0.005	155	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.01	<0.01	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5478729)									
EM2321396-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5478729) - continued									
EM2321396-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.008	0.007	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.080	0.082	2.2	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.020	0.018	8.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.07	0.07	0.0	No Limit
EM2321396-010	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.007	0.007	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.268	0.268	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.013	0.010	19.3	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.74	0.74	0.0	0% - 20%
EG035F: Dissolved Mercury by FIMS (QC Lot: 5478299)									
EM2321399-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2321407-001	MW146	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5478730)									
EM2321407-007	QA301	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2321582-009	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 5471470)									
EM2321407-001	MW146	EG051G: Ferrous Iron	----	0.05	mg/L	17.2	15.8	8.3	0% - 20%
EM2321582-002	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	37.2	37.8	1.6	0% - 20%
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 5466557)									
EM2321441-002	Anonymous	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321373-001	Anonymous	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5466555)									
EM2321441-002	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321373-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 5466556)									
EM2321373-001	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 5478231)									
EM2321229-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01 (0.02)*	mg/L	0.41	0.40	0.0	0% - 20%
EM2321582-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	15.4	15.4	0.4	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 5469666)									
EM2321348-001	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EM2321379-005	Anonymous	EP033: Methane	74-82-8	10	µg/L	606	569	6.4	0% - 20%
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5478064) - continued									
EM2321407-001	MW146	EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 5478064)									
EM2321407-001	MW146	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5465597)									
EM2321425-005	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5465597) - continued									
EM2321425-005	Anonymous	EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EM2321425-003	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5465597)									
EM2321425-005	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2321425-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5465597) - continued									
EM2321425-003	Anonymous	EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 5478063)									
EM2321407-001	MW146	EP079-CWG: Aliphatic >C5-C6	----	20	µg/L	<20	<20	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	20	µg/L	<20	<20	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	20	µg/L	<20	<20	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 5478063)									
EM2321407-001	MW146	EP079-CWG: Aromatic >C5-C7	----	1 (5)*	µg/L	<5	<5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	10 (5)*	µg/L	<5	<5	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	2 (5)*	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5478066)									
EM2321407-001	MW146	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5478066)									
EM2321407-001	MW146	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5478066)									
EM2321407-001	MW146	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5471337)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	106	91.0	110
				<10	2340 mg/L	108	80.8	119
				<10	293 mg/L	105	91.0	110
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5474702)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	98.4	91.0	110
				<10	2340 mg/L	105	80.8	119
				<10	293 mg/L	102	91.0	110
ED037P: Alkalinity by PC Titrator (QCLot: 5475051)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	93.6	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5464087)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	106	90.0	110
				<1	25 mg/L	107	90.0	110
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5478996)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	104	90.0	110
				<1	25 mg/L	107	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 5464088)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	101	90.0	110
				<1	10 mg/L	99.1	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 5478997)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	98.2	90.0	110
				<1	10 mg/L	102	90.0	110
ED093F: Dissolved Major Cations (QCLot: 5478301)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	92.6	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.9	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	92.6	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	92.8	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478300)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	92.6	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.0	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	92.5	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	92.6	83.2	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478300) - continued								
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	93.9	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	95.5	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	93.2	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.4	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	104	86.3	112
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478729)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	96.7	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.6	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.6	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	93.7	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.3	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	99.5	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	95.2	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	98.3	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.3	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 5478299)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	85.9	71.6	116
EG035F: Dissolved Mercury by FIMS (QCLot: 5478730)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	103	71.6	116
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5471470)								
EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	2 mg/L	110	75.8	112
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5466557)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	101	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5466555)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	94.1	77.7	116
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5466556)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	106	82.6	119
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5478231)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	96.9	90.0	110
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5469666)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	98.6	86.0	114
EP068A: Organochlorine Pesticides (OC) (QCLot: 5465595)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	2.5 µg/L	99.8	50.6	119
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	2.5 µg/L	87.3	44.2	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5465595) - continued								
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	2.5 µg/L	102	53.7	119
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	2.5 µg/L	99.7	47.7	117
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	2.5 µg/L	101	52.5	117
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	2.5 µg/L	104	46.9	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	2.5 µg/L	97.9	48.0	115
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	2.5 µg/L	104	51.1	119
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	2.5 µg/L	99.5	48.4	120
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	2.5 µg/L	82.6	50.1	122
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	2.5 µg/L	103	51.0	118
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	2.5 µg/L	101	48.4	116
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	2.5 µg/L	100	49.3	116
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	2.5 µg/L	120	47.1	130
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	2.5 µg/L	103	51.6	118
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	2.5 µg/L	104	48.6	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	2.5 µg/L	81.6	49.4	128
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	2.5 µg/L	104	49.1	123
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	2.5 µg/L	106	45.6	126
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	2.5 µg/L	95.5	52.8	117
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	2.5 µg/L	111	47.1	126
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 5478064)								
EP074: Styrene	100-42-5	5	µg/L	<5	20 µg/L	97.8	80.9	116
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	20 µg/L	101	76.6	117
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	20 µg/L	93.3	69.5	116
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	20 µg/L	92.3	72.1	114
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	20 µg/L	94.1	71.4	115
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	20 µg/L	92.9	74.2	114
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	20 µg/L	95.4	73.4	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	20 µg/L	95.3	70.4	116
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	20 µg/L	97.0	64.1	115
EP074B: Oxygenated Compounds (QCLot: 5478064)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	200 µg/L	104	70.7	128
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	200 µg/L	106	58.0	134
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	200 µg/L	106	70.8	136
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	200 µg/L	118	67.1	132

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP074C: Sulfonated Compounds (QCLot: 5478064)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	20 µg/L	92.7	56.9	132
EP074D: Fumigants (QCLot: 5478064)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	20 µg/L	102	71.1	118
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	20 µg/L	98.1	78.5	117
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	20 µg/L	93.9	75.7	115
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	20 µg/L	94.3	76.4	115
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	20 µg/L	100	77.1	118
EP074E: Halogenated Aliphatic Compounds (QCLot: 5478064)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	200 µg/L	103	51.9	140
EP074: Chloromethane	74-87-3	50	µg/L	<50	200 µg/L	108	63.2	134
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	200 µg/L	# 138	58.1	135
EP074: Bromomethane	74-83-9	50	µg/L	<50	200 µg/L	98.3	54.4	130
EP074: Chloroethane	75-00-3	50	µg/L	<50	200 µg/L	114	69.4	129
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	200 µg/L	107	70.1	126
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	20 µg/L	101	68.4	125
EP074: Iodomethane	74-88-4	5	µg/L	<5	20 µg/L	112	30.9	126
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	20 µg/L	99.5	70.8	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	20 µg/L	99.4	76.6	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	20 µg/L	100	79.1	120
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	20 µg/L	104	72.5	120
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	20 µg/L	101	69.4	120
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	20 µg/L	103	67.8	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	20 µg/L	108	78.4	120
EP074: Trichloroethene	79-01-6	5	µg/L	<5	20 µg/L	97.3	73.1	120
EP074: Dibromomethane	74-95-3	5	µg/L	<5	20 µg/L	101	78.3	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	20 µg/L	104	81.1	120
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	20 µg/L	104	80.3	120
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	20 µg/L	102	73.1	118
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	20 µg/L	96.9	76.9	111
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	20 µg/L	110	70.0	122
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	20 µg/L	89.2	62.4	118
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	20 µg/L	111	77.9	128
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	20 µg/L	112	78.5	124
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	20 µg/L	87.0	68.5	110

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)
						LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 5478064) - continued								
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	20 µg/L	97.8	70.7	116
EP074F: Halogenated Aromatic Compounds (QCLot: 5478064)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	20 µg/L	99.3	82.6	116
EP074: Bromobenzene	108-86-1	5	µg/L	<5	20 µg/L	94.2	79.3	115
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	20 µg/L	93.0	75.5	116
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	20 µg/L	91.6	75.0	115
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	20 µg/L	99.2	70.4	124
EP074G: Trihalomethanes (QCLot: 5478064)								
EP074: Chloroform	67-66-3	5	µg/L	<5	20 µg/L	105	79.6	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	20 µg/L	104	76.3	117
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	20 µg/L	99.4	73.5	113
EP074: Bromoform	75-25-2	5	µg/L	<5	20 µg/L	99.6	68.5	113
EP075(SIM)A: Phenolic Compounds (QCLot: 5465597)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.4	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	70.4	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	62.3	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	57.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	75.5	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	69.4	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	63.3	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	73.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	65.1	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	67.8	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	77.4	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	61.9	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5465597)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	69.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	74.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	72.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	76.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	78.1	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	77.9	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	79.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	74.8	50.0	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5465597) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	83.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	79.4	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	83.8	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	76.5	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	79.5	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	71.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	81.9	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	71.4	54.4	126
EP075A: Phenolic Compounds (QCLot: 5465594)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	25.7	19.5	48.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	60.8	46.3	101
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	48.8	41.1	94.4
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	49.8	35.1	88.8
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	61.2	45.3	113
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	61.8	47.6	108
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	64.3	48.2	110
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	63.7	48.9	107
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	56.4	47.2	110
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	60.5	45.2	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	61.1	42.4	113
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	24.2	14.2	124
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5465594)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	10 µg/L	60.3	50.9	107
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	62.6	50.3	111
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	58.7	50.8	110
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	10 µg/L	64.0	52.9	111
EP075: Acenaphthene	83-32-9	2	µg/L	<2	10 µg/L	68.9	54.5	109
EP075: Fluorene	86-73-7	2	µg/L	<2	10 µg/L	64.1	55.7	110
EP075: Phenanthrene	85-01-8	2	µg/L	<2	10 µg/L	60.8	55.4	112
EP075: Anthracene	120-12-7	2	µg/L	<2	10 µg/L	67.6	55.9	111
EP075: Fluoranthene	206-44-0	2	µg/L	<2	10 µg/L	68.8	55.9	112
EP075: Pyrene	129-00-0	2	µg/L	<2	10 µg/L	65.4	56.5	112
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	68.1	50.0	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5465594) - continued								
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	10 µg/L	70.0	55.5	114
EP075: Chrysene	218-01-9	2	µg/L	<2	10 µg/L	69.6	56.0	114
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	20 µg/L	76.1	55.4	120
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	77.6	54.4	121
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	10 µg/L	77.4	53.9	121
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	69.4	51.9	121
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	10 µg/L	67.5	54.4	114
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	10 µg/L	70.4	54.0	115
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	10 µg/L	73.1	51.7	116
EP075C: Phthalate Esters (QCLot: 5465594)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	63.4	56.5	115
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	67.8	58.0	113
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	66.4	57.6	120
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	66.4	56.3	119
EP075: bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	10 µg/L	80.2	57.6	122
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	79.2	56.5	122
EP075D: Nitrosamines (QCLot: 5465594)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	36.5	23.9	106
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	59.1	46.1	108
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	47.5	36.6	83.2
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	41.6	34.6	79.0
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	63.2	53.1	114
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	61.7	51.0	111
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	51.4	37.0	111
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	68.1	51.3	113
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	74.4	10.0	125
EP075E: Nitroaromatics and Ketones (QCLot: 5465594)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	42.8	18.8	108
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	60.8	52.5	111
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	61.7	50.6	109
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	64.1	53.7	113
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	65.0	54.0	115
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	64.3	53.3	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 5465594) - continued								
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	119	10.9	119
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	36.4	27.3	147
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	69.6	44.6	119
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	65.7	55.6	110
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	55.9	37.6	124
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	66.4	44.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	141	24.0	149
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	62.6	54.6	111
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	64.8	56.5	113
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	59.0	53.8	112
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	72.4	55.0	113
EP075F: Haloethers (QCLot: 5465594)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	56.1	45.3	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	63.2	52.7	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	67.3	55.8	110
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	69.1	55.7	114
EP075G: Chlorinated Hydrocarbons (QCLot: 5465594)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	53.4	43.2	104
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	49.8	42.7	103
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	54.8	44.4	104
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	53.6	41.5	105
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	58.5	46.1	107
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	43.7	41.4	109
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	55.3	43.9	108
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	18.1	14.6	133
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	67.6	53.3	109
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	66.4	48.4	116
EP075H: Anilines and Benzidines (QCLot: 5465594)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	60.8	21.2	116
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	67.6	14.5	126
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	65.9	49.5	111
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	79.8	28.4	125
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	63.6	55.4	110
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	79.1	37.3	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075H: Anilines and Benzidines (QCLot: 5465594) - continued								
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	71.4	51.6	116
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	61.6	42.3	142
EP075I: Organochlorine Pesticides (QCLot: 5465594)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	10 µg/L	68.0	56.2	112
EP075: beta-BHC	319-85-7	2	µg/L	<2	10 µg/L	66.2	56.2	113
EP075: gamma-BHC	58-89-9	2	µg/L	<2	10 µg/L	63.4	55.2	113
EP075: delta-BHC	319-86-8	2	µg/L	<2	10 µg/L	69.0	52.6	117
EP075: Heptachlor	76-44-8	2	µg/L	<2	10 µg/L	62.7	53.4	111
EP075: Aldrin	309-00-2	2	µg/L	<2	10 µg/L	62.2	54.0	112
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	10 µg/L	68.9	54.2	113
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	10 µg/L	56.2	49.3	122
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	10 µg/L	68.3	56.0	121
EP075: Dieldrin	60-57-1	2	µg/L	<2	10 µg/L	66.3	55.2	118
EP075: Endrin	72-20-8	2	µg/L	<2	10 µg/L	59.4	52.7	121
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	10 µg/L	69.0	55.1	119
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	10 µg/L	69.1	55.4	120
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	10 µg/L	57.3	49.6	123
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	10 µg/L	51.5	47.8	127
EP075J: Organophosphorus Pesticides (QCLot: 5465594)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	10 µg/L	64.8	50.1	115
EP075: Dimethoate	60-51-5	2	µg/L	<2	10 µg/L	56.8	40.8	108
EP075: Diazinon	333-41-5	2	µg/L	<2	10 µg/L	67.7	55.4	118
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	10 µg/L	56.1	53.0	118
EP075: Malathion	121-75-5	2	µg/L	<2	10 µg/L	60.2	54.6	122
EP075: Fenthion	55-38-9	2	µg/L	<2	10 µg/L	60.5	55.1	119
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	10 µg/L	67.3	55.3	118
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	10 µg/L	63.5	55.8	118
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	10 µg/L	66.8	45.8	118
EP075: Prothiofos	34643-46-4	2	µg/L	<2	10 µg/L	65.2	56.1	118
EP075: Ethion	563-12-2	2	µg/L	<2	10 µg/L	66.5	57.7	119
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5465593)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	µg/L	<50	15986 µg/L	68.9	57.1	125
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	µg/L	<50	52785 µg/L	77.4	59.6	132

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5465593) - continued								
EP070-CWG: Aliphatic >C16-C21	----	50	µg/L	<50	45990 µg/L	78.5	54.7	120
EP070-CWG: Aliphatic >C21-C35	----	50	µg/L	<50	11321 µg/L	71.9	58.1	114
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5478063)								
EP079-CWG: Aliphatic >C5-C6	----	20	µg/L	<20	50 µg/L	74.2	49.4	135
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	20	µg/L	<20	100 µg/L	84.4	50.6	130
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	20	µg/L	<20	100 µg/L	79.0	53.8	124
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5465593)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	µg/L	<50	6319 µg/L	59.0	53.6	149
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	µg/L	<50	24109 µg/L	62.2	59.5	144
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	µg/L	<50	17104 µg/L	70.2	51.4	138
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	µg/L	<50	3570 µg/L	70.9	48.7	137
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5478063)								
EP079-CWG: Aromatic >C5-C7	----	1	µg/L	<1	20 µg/L	97.5	67.5	124
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	2	µg/L	<2	20 µg/L	95.3	70.0	124
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	10	µg/L	<10	160 µg/L	94.3	67.6	122
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5465596)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	81.9	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	88.5	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	95.9	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5478066)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	87.0	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5465596)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	87.2	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	88.2	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	98.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5478066)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	85.9	66.2	132
EP080: BTEXN (QCLot: 5478066)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5478066) - continued								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	97.5	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	95.0	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	95.6	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	95.4	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	99.3	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	123	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5464087)							
EM2321407-001	MW146	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	99.8	70.0	130
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5478996)							
EM2321407-004	MW176	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	106	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 5464088)							
EM2321407-001	MW146	ED045G: Chloride	16887-00-6	400 mg/L	114	70.0	142
ED045G: Chloride by Discrete Analyser (QCLot: 5478997)							
EM2321407-004	MW176	ED045G: Chloride	16887-00-6	400 mg/L	120	70.0	142
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478300)							
EM2321399-011	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	92.5	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	85.8	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	90.8	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	91.4	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	92.0	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	91.0	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	93.1	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	90.0	75.0	131
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478729)							
EM2321396-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	101	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	95.0	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	93.1	71.0	135

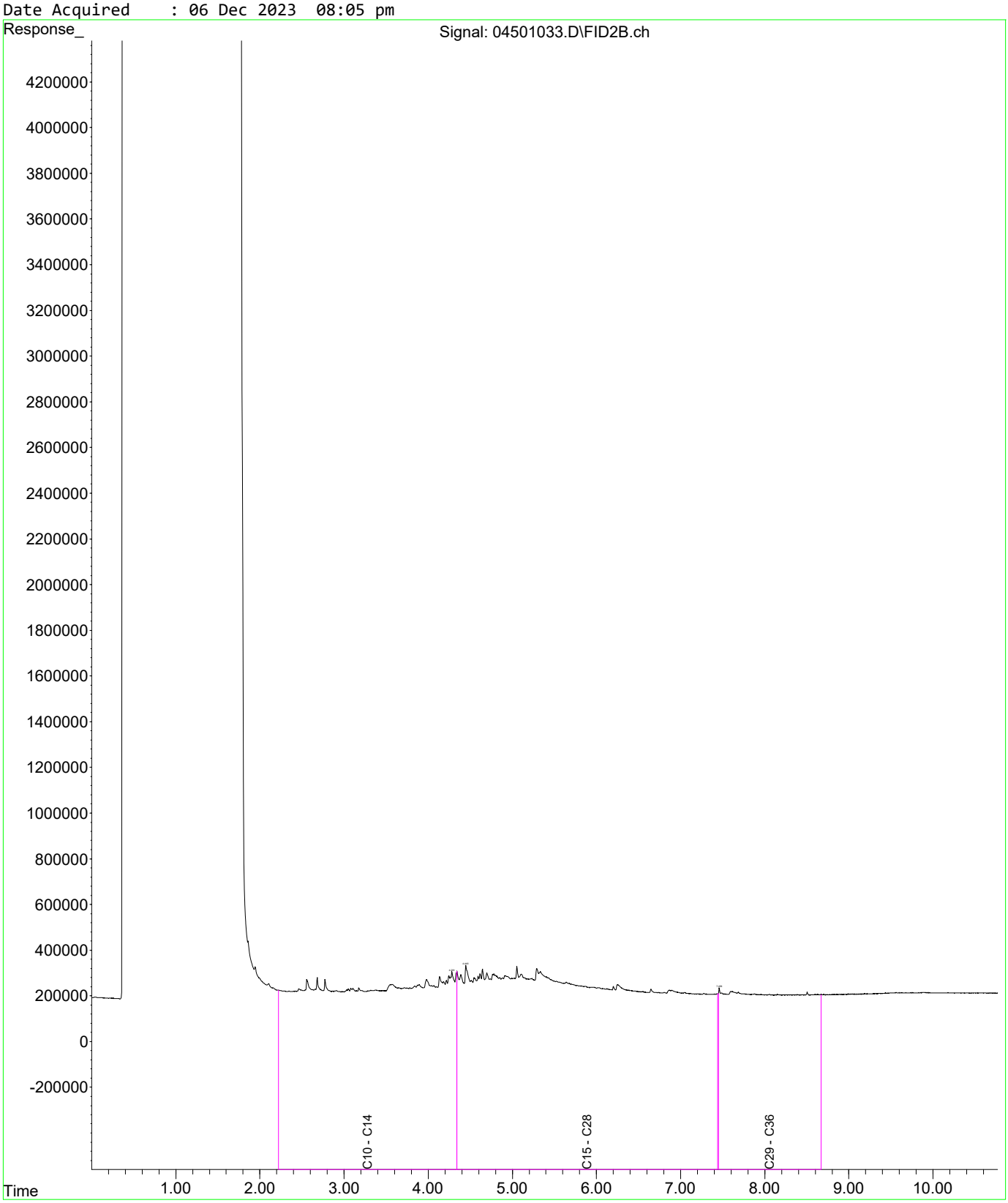
Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478729) - continued							
EM2321396-001	Anonymous	EG020A-F: Copper	7440-50-8	0.2 mg/L	96.4	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	93.7	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	93.0	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	97.0	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	96.4	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 5478299)							
EM2321399-002	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	107	70.0	120
EG035F: Dissolved Mercury by FIMS (QCLot: 5478730)							
EM2321582-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	97.3	70.0	120
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5471470)							
EM2321407-002	RN4	EG051G: Ferrous Iron	----	10 mg/L	95.5	70.0	130
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5466557)							
EM2321373-002	Anonymous	EK025SF: Free Cyanide	----	1 mg/L	92.4	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5466555)							
EM2321407-001	MW146	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	102	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5466556)							
EM2321373-002	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	82.8	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5478231)							
EM2321229-002	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	105	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5469666)							
EM2321348-002	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	104	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 5478064)							
EM2321407-006	QA101	EP074: 1.1-Dichloroethene	75-35-4	20 µg/L	82.1	33.0	150
		EP074: Trichloroethene	79-01-6	20 µg/L	83.6	51.4	124
EP074F: Halogenated Aromatic Compounds (QCLot: 5478064)							
EM2321407-006	QA101	EP074: Chlorobenzene	108-90-7	20 µg/L	86.4	63.6	128
EP075(SIM)A: Phenolic Compounds (QCLot: 5465597)							
EM2321425-007	Anonymous	EP075(SIM): Phenol	108-95-2	5 µg/L	31.4	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	76.5	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	79.8	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	61.7	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	60.2	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5465597)							
EM2321425-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	78.0	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	75.9	44.0	124

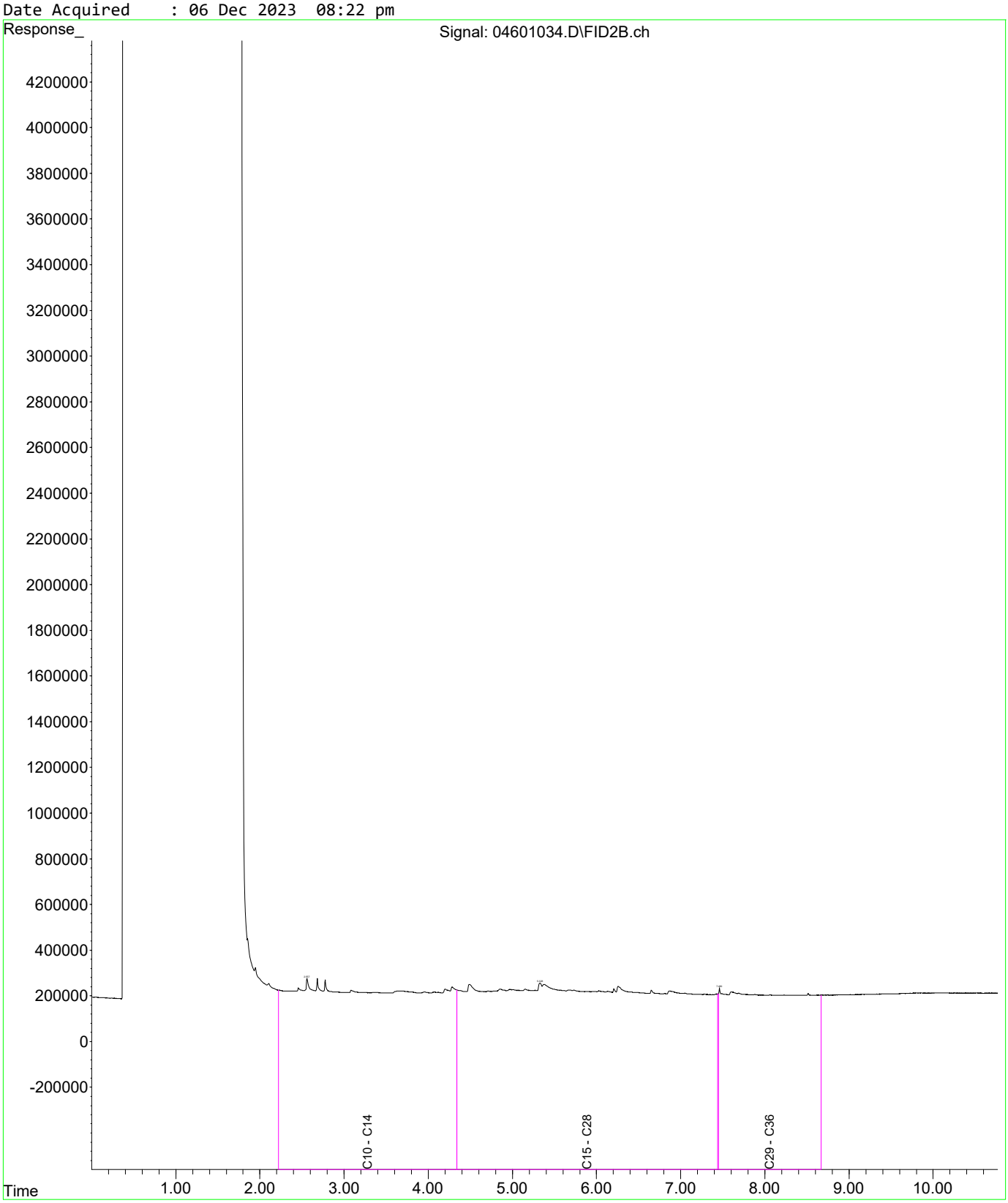
Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5478063)							
EM2321407-006	QA101	EP079-CWG: Aliphatic >C5-C6	----	70 µg/L	86.2	43.0	147
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	120 µg/L	97.4	40.0	148
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5478063)							
EM2321407-006	QA101	EP079-CWG: Aromatic >C5-C7	----	20 µg/L	99.1	58.3	137
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	20 µg/L	93.5	63.1	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5478066)							
EM2321407-006	QA101	EP080: C6 - C9 Fraction	----	280 µg/L	75.4	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5478066)							
EM2321407-006	QA101	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	71.6	34.0	122
EP080: BTEXN (QCLot: 5478066)							
EM2321407-006	QA101	EP080: Benzene	71-43-2	20 µg/L	97.3	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	93.1	60.4	132

Fraction Scheme : Legacy Fractions
Data File : 04501033.D
Laboratory Number: EM2321407-001
Sample ID : MW146
Date Acquired : 06 Dec 2023 08:05 pm



Fraction Scheme : Legacy Fractions
Data File : 04601034.D
Laboratory Number: EM2321407-002
Sample ID : RN4
Date Acquired : 06 Dec 2023 08:22 pm



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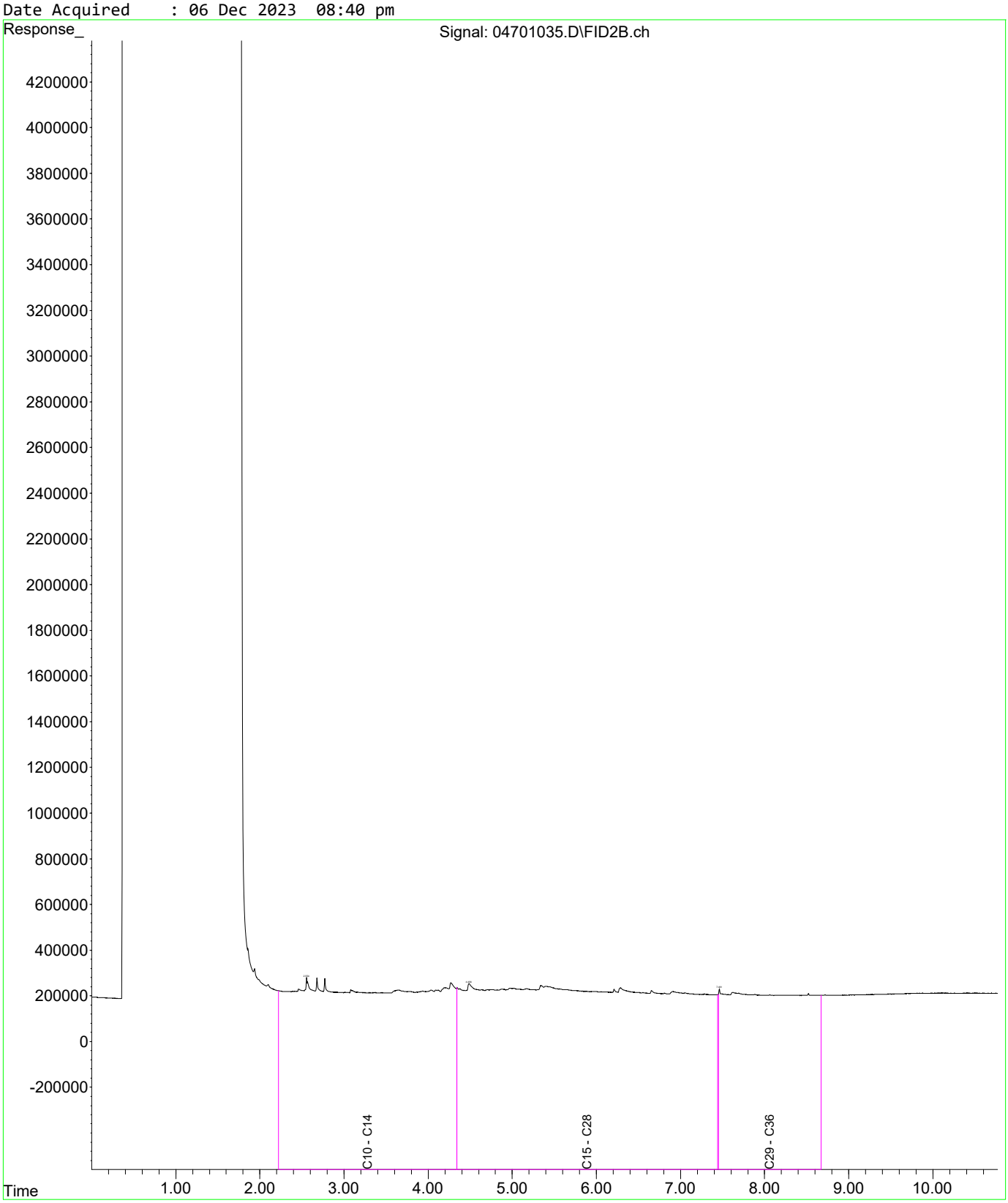
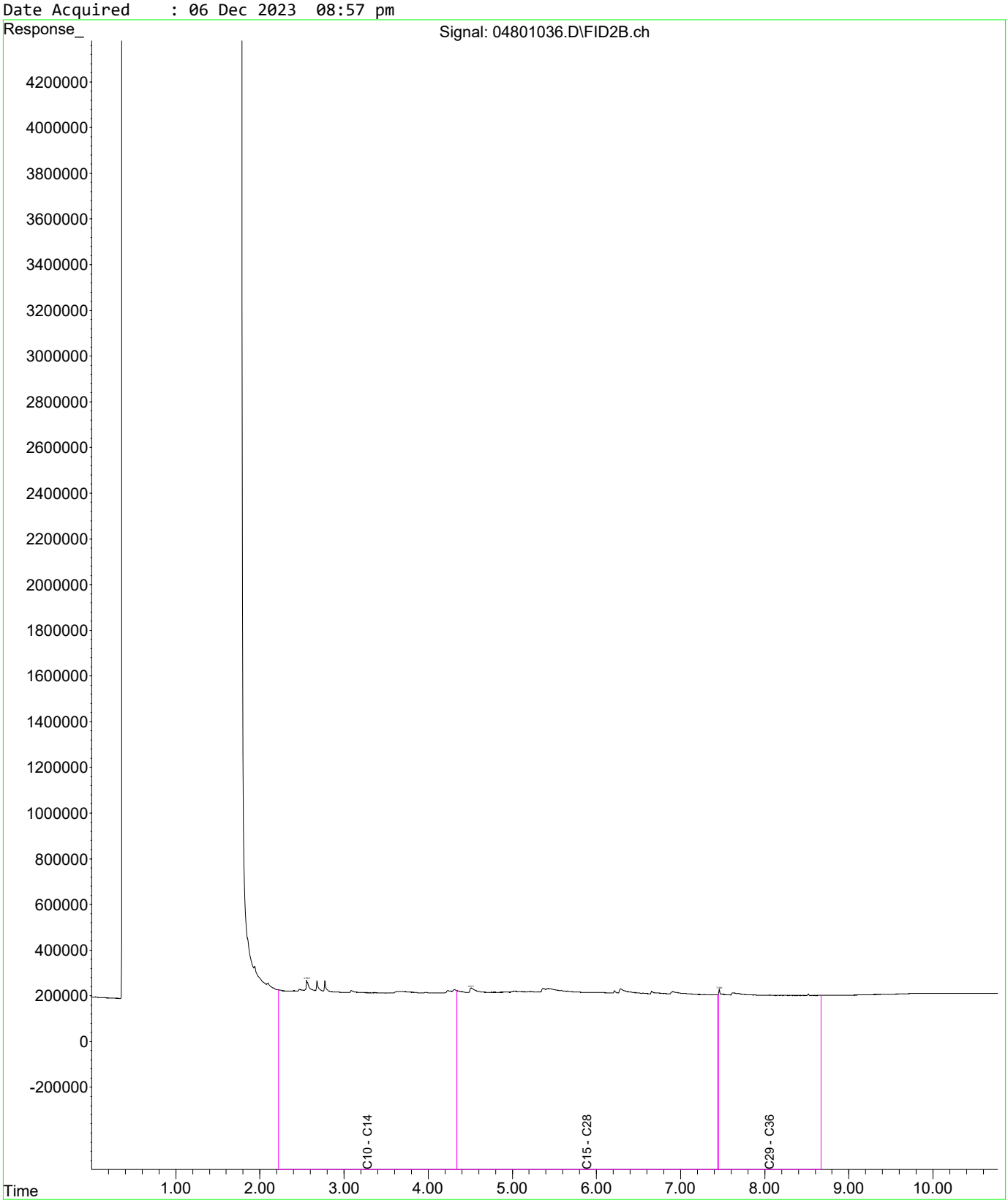
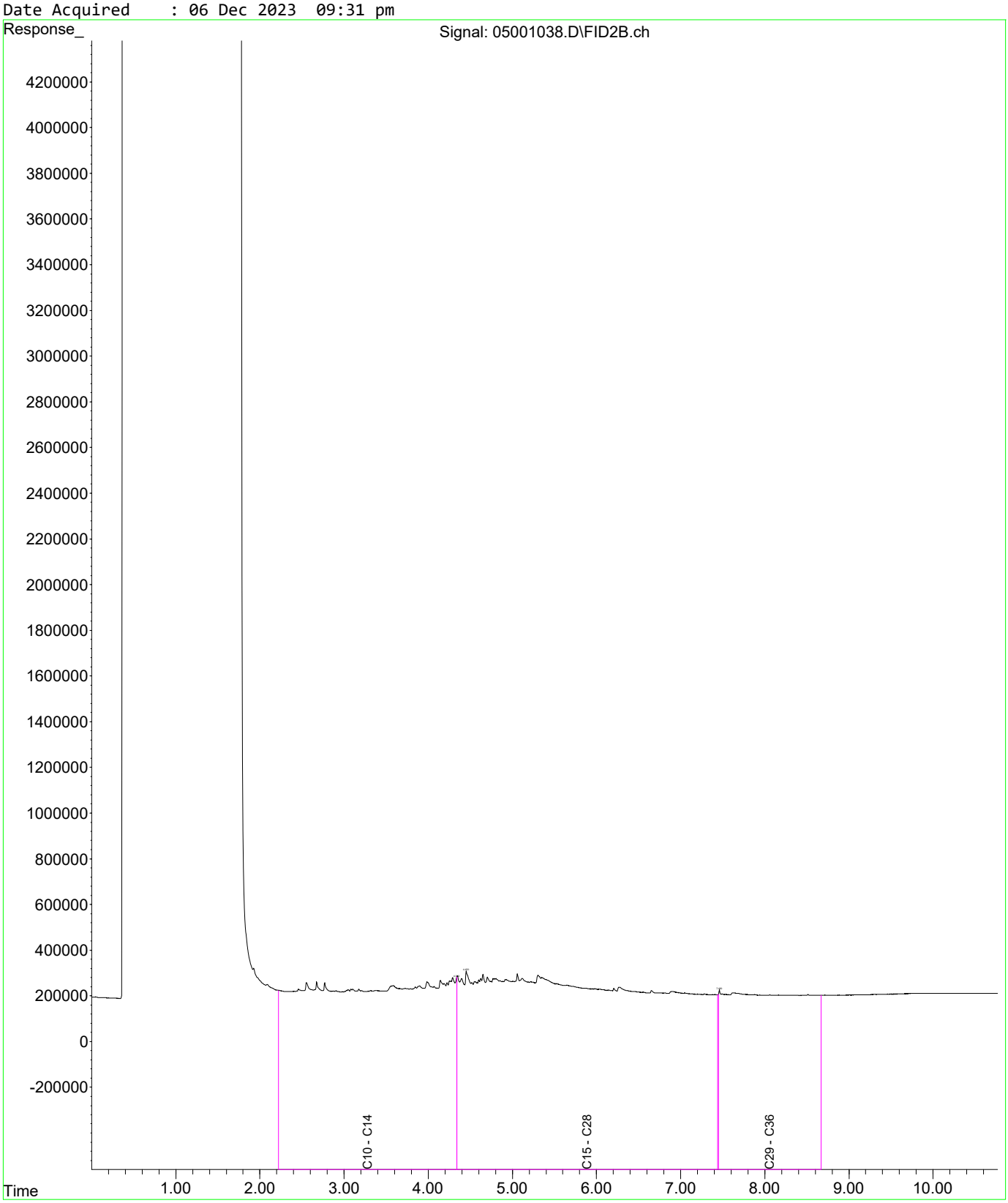
Laboratory Number: EM2321407-003
Sample ID : MW175
Date Acquired : 06 Dec 2023 08:40 pm



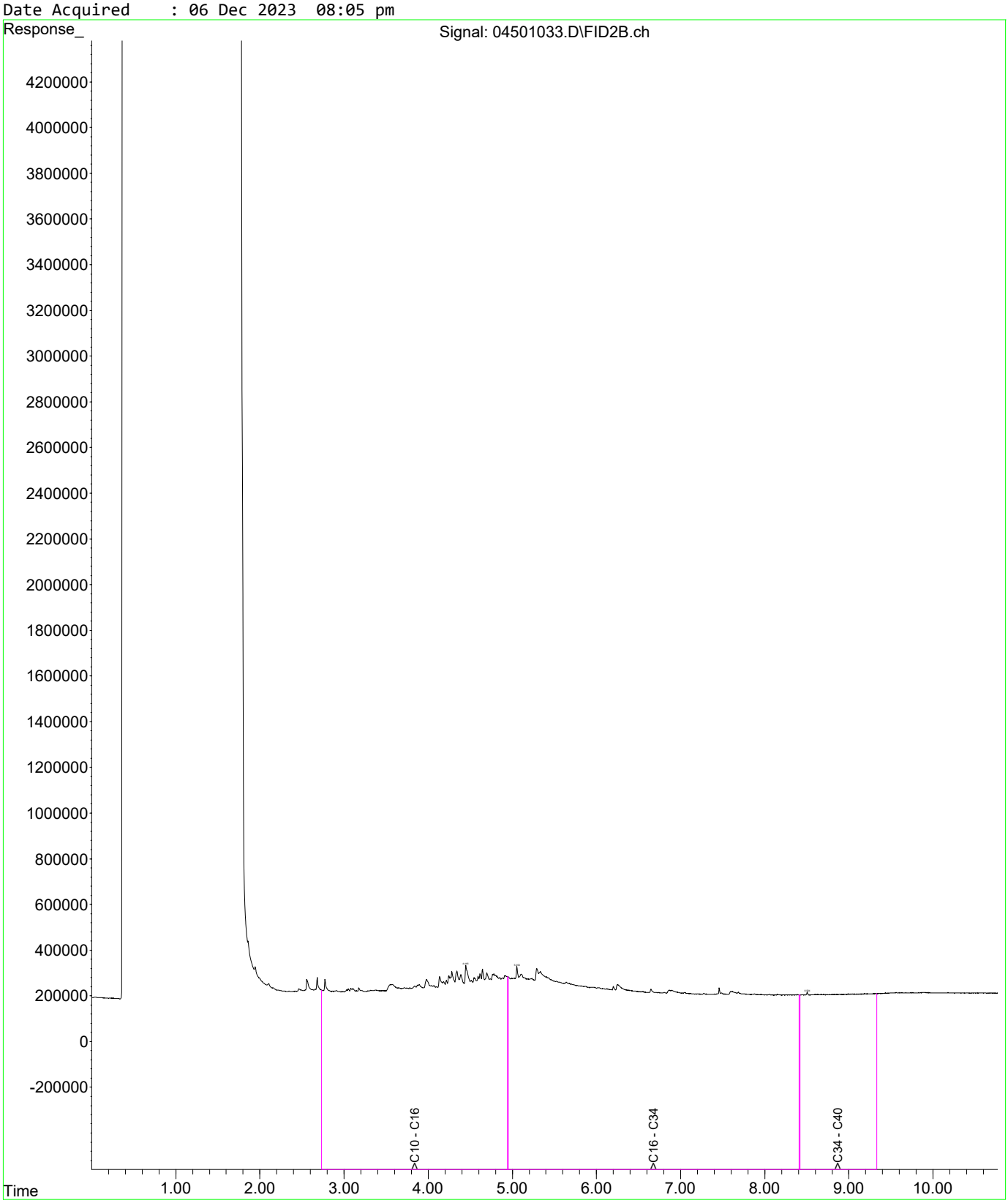
Fraction Scheme : Legacy Fractions
Data File : 04801036.D
Laboratory Number: EM2321407-004
Sample ID : MW176
Date Acquired : 06 Dec 2023 08:57 pm



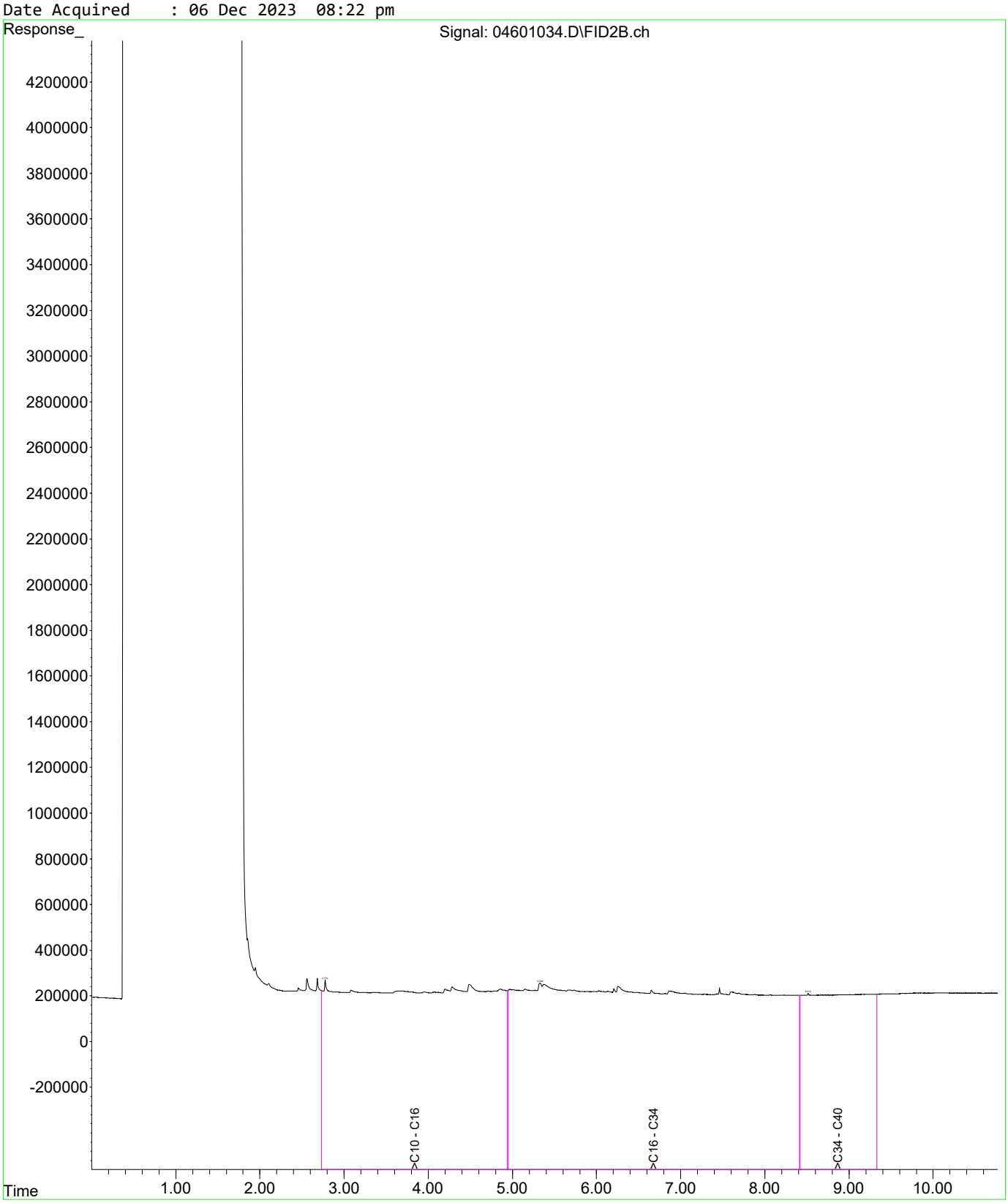
Fraction Scheme : Legacy Fractions
Data File : 05001038.D
Laboratory Number: EM2321407-006
Sample ID : QA101
Date Acquired : 06 Dec 2023 09:31 pm



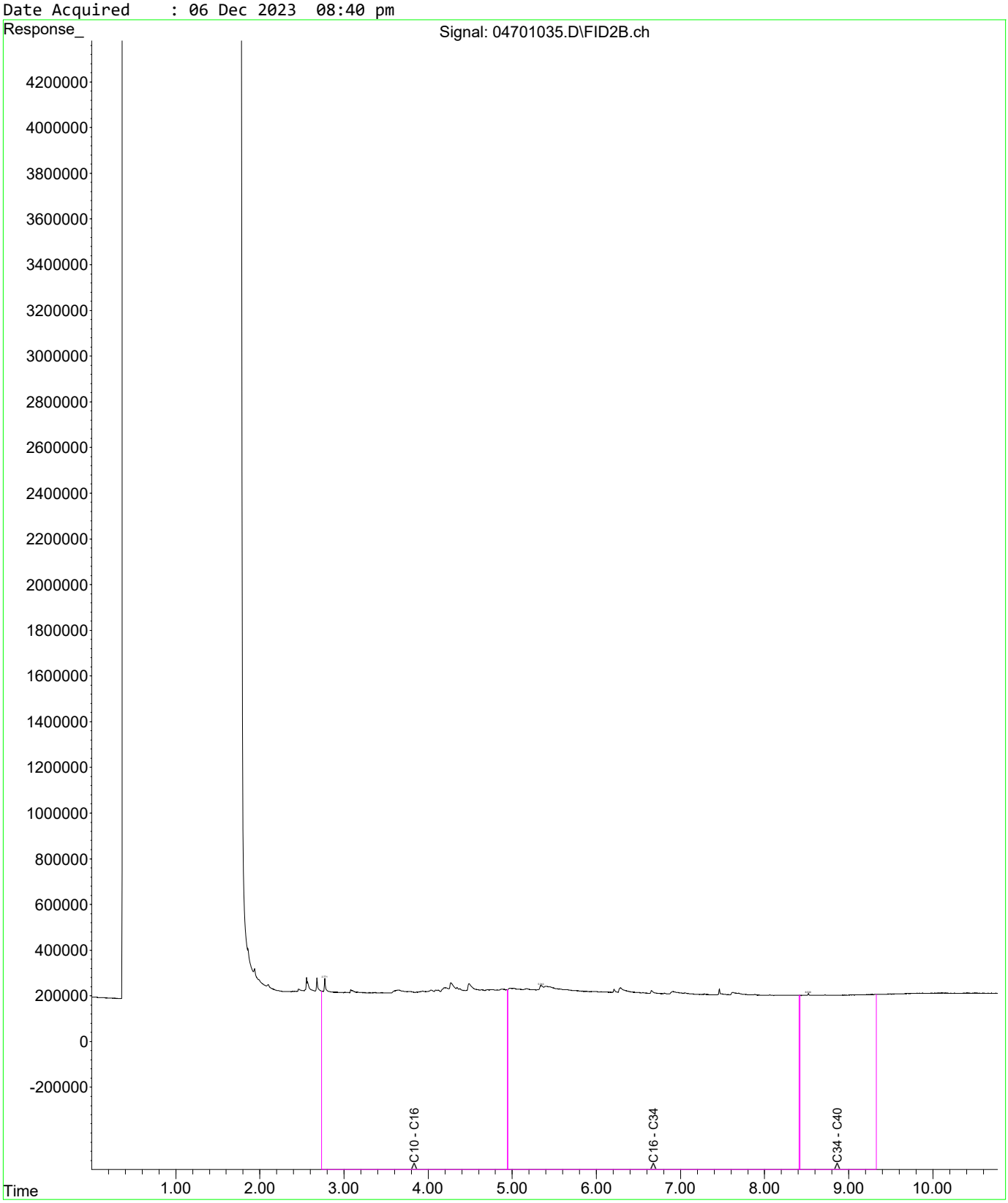
Fraction Scheme : NEPM Fractions
Data File : 04501033.D
Laboratory Number: EM2321407-001
Sample ID : MW146
Date Acquired : 06 Dec 2023 08:05 pm



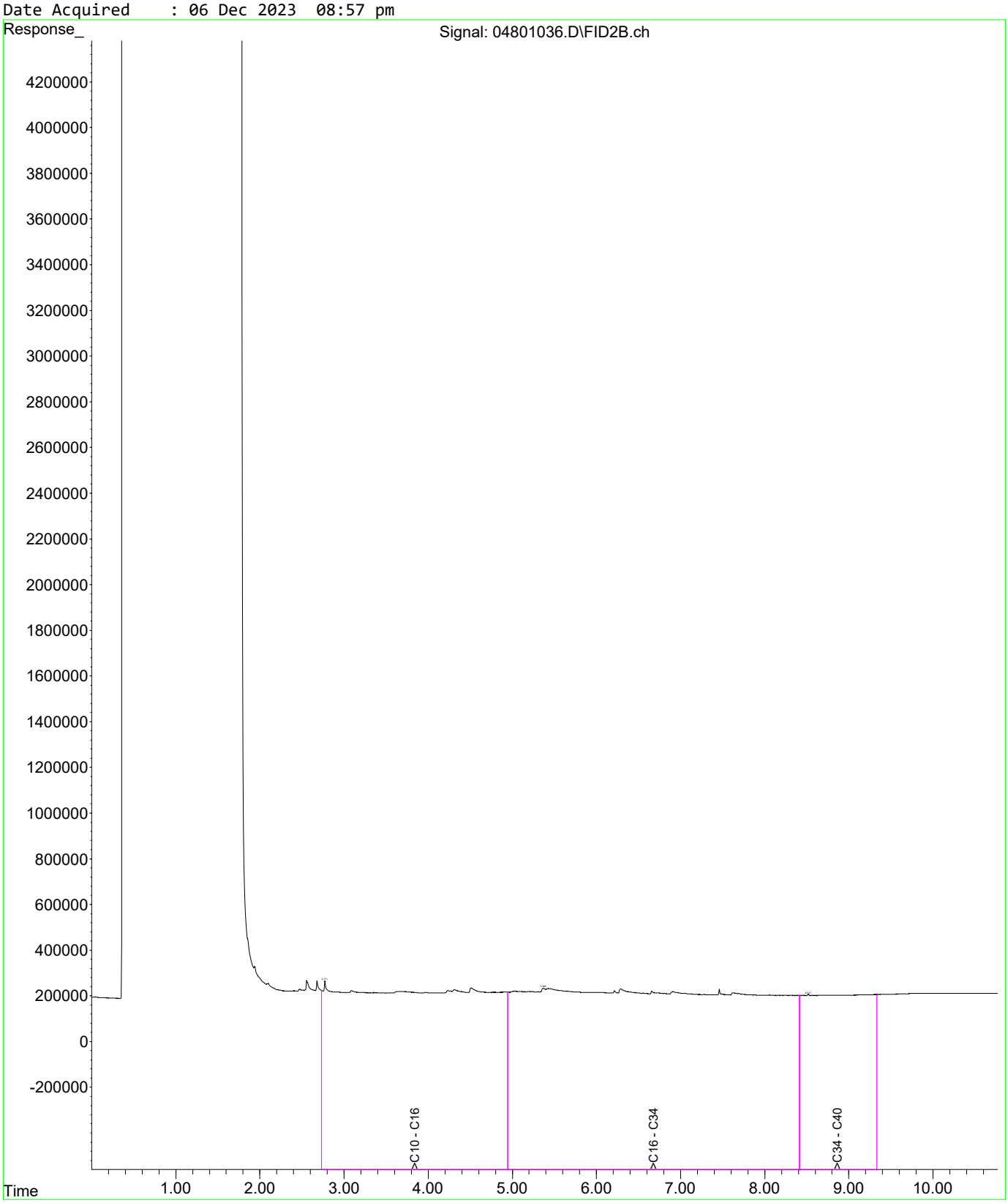
Fraction Scheme : NEPM Fractions
Data File : 04601034.D
Laboratory Number: EM2321407-002
Sample ID : RN4
Date Acquired : 06 Dec 2023 08:22 pm



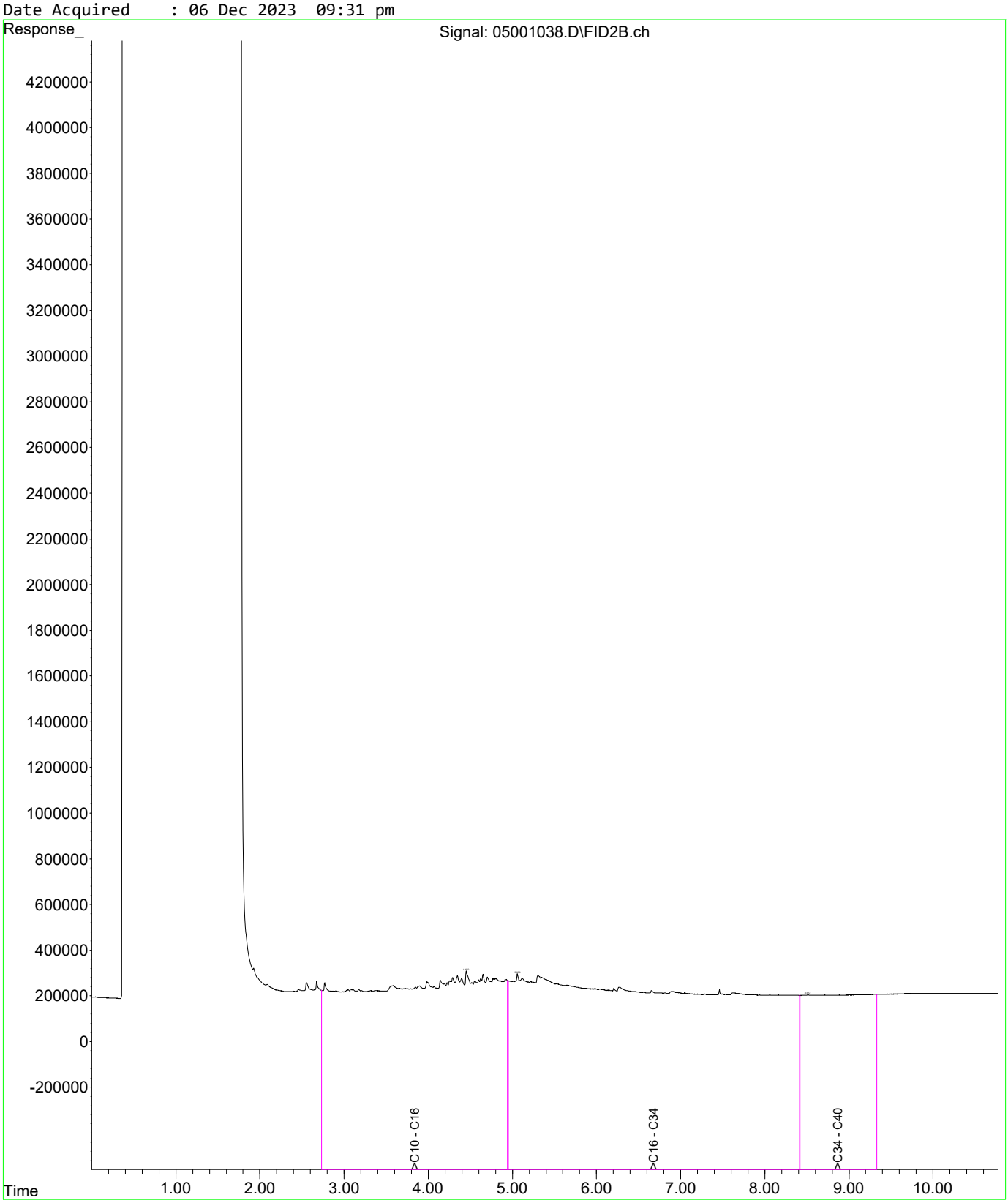
Fraction Scheme : NEPM Fractions
Data File : 04701035.D
Laboratory Number: EM2321407-003
Sample ID : MW175
Date Acquired : 06 Dec 2023 08:40 pm



Fraction Scheme : NEPM Fractions
Data File : 04801036.D
Laboratory Number: EM2321407-004
Sample ID : MW176
Date Acquired : 06 Dec 2023 08:57 pm



Fraction Scheme : NEPM Fractions
Data File : 05001038.D
Laboratory Number: EM2321407-006
Sample ID : QA101
Date Acquired : 06 Dec 2023 09:31 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2321582**	Page	: 1 of 32
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 04-Dec-2023 11:28
Order number	: 60693007/3	Date Analysis Commenced	: 06-Dec-2023
C-O-C number	: ----	Issue Date	: 13-Dec-2023 14:00
Sampler	: C. TELLER		
Site	: Macquarie Point, 41 Evans St, Hobart		
Quote number	: EN/004/23		
No. of samples received	: 12		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Sample MW 152 (Blue container) has been received empty. Bottle's cap was loose.
- ED041G: EM2321582-006 required dilution prior to Sulfate as SO4 2- analysis due to sample matrix interference. LOR values have been raised accordingly
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- EG020F: EM2321582#7 has been diluted prior to metals analysis due to sample matrix. LOR values have been raised accordingly.
- EA015H: EM2321582 #3 TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EP070-CWG: EM2321582-009 Insufficient sample remains for standard analysis. Where applicable LOR values have been adjusted accordingly.
- EP071: Sample EM2321582-009 was extracted using volatiles vials instead of unpreserved amber bottle.
- EP070-CWG: Sample EM2321582-009 was extracted using volatiles vials instead of unpreserved amber bottle.
- Ionic balances were calculated using: major anions - chloride, alkalinity and sulfate; and major cations - calcium, magnesium, potassium, sodium and ammonia for sample #1.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**1600**	**2080**	**189**	**641**	**1610**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**952**	**841**	**89**	**508**	**666**
Total Alkalinity as CaCO3	----	1	mg/L		**952**	**841**	**89**	**508**	**666**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	<1	**6**	**2**	**21**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**554**	**800**	**15**	**50**	**495**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**145**	**179**	**32**	**94**	**92**
Magnesium	7439-95-4	1	mg/L		**57**	**64**	**5**	**33**	**61**
Sodium	7440-23-5	1	mg/L		**329**	**404**	**7**	**43**	**304**
Potassium	7440-09-7	1	mg/L		**42**	**36**	**3**	**28**	**34**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.04**	**0.01**	**0.04**	**0.01**	**0.03**
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	**0.003**	<0.001
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.004**	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	**0.002**	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**1.40**	**3.47**	**0.079**	**0.350**	**0.537**
Nickel	7440-02-0	0.001	mg/L		**0.001**	<0.001	**0.004**	<0.001	**0.001**
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	**0.017**	<0.005	<0.005
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EG051G: Ferrous Iron by Discrete Analyser									
Ferrous Iron	----	0.05	mg/L		----	37.2	----	----	6.82
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		0.071	0.045	<0.004	0.018	0.008
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		37.0	15.4	<0.01	20.9	15.6
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		----	<0.01	----	----	<0.01
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		34.6	39.4	2.33	11.6	27.7
ø Total Cations	----	0.01	meq/L		30.0	----	----	----	----
ø Total Cations	----	0.01	meq/L		----	32.7	2.39	9.99	23.7
ø Ionic Balance	----	0.01	%		7.29	----	----	----	----
ø Ionic Balance	----	0.01	%		----	9.26	----	7.45	7.79
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		----	16700	----	----	13500
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		----	<0.5	----	----	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		----	<0.5	----	----	<0.5
beta-BHC	319-85-7	0.5	µg/L		----	<0.5	----	----	<0.5
gamma-BHC	58-89-9	0.5	µg/L		----	<0.5	----	----	<0.5
delta-BHC	319-86-8	0.5	µg/L		----	<0.5	----	----	<0.5
Heptachlor	76-44-8	0.5	µg/L		----	<0.5	----	----	<0.5
Aldrin	309-00-2	0.5	µg/L		----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Heptachlor epoxide	1024-57-3	0.5	µg/L		----	<0.5	----	----	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L		----	<0.5	----	----	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L		----	<0.5	----	----	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L		----	<0.5	----	----	<0.5
Dieldrin	60-57-1	0.5	µg/L		----	<0.5	----	----	<0.5
4.4`-DDE	72-55-9	0.5	µg/L		----	<0.5	----	----	<0.5
Endrin	72-20-8	0.5	µg/L		----	<0.5	----	----	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L		----	<0.5	----	----	<0.5
4.4`-DDD	72-54-8	0.5	µg/L		----	<0.5	----	----	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L		----	<0.5	----	----	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L		----	<0.5	----	----	<0.5
4.4`-DDT	50-29-3	2.0	µg/L		----	<2.0	----	----	<2.0
Endrin ketone	53494-70-5	0.5	µg/L		----	<0.5	----	----	<0.5
Methoxychlor	72-43-5	2.0	µg/L		----	<2.0	----	----	<2.0
^ **Total Chlordane (sum)**	----	0.5	µg/L		----	<0.5	----	----	<0.5
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.5	µg/L		----	<0.5	----	----	<0.5
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L		----	<0.5	----	----	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	5	µg/L		----	<5	----	----	<5
Isopropylbenzene	98-82-8	5	µg/L		----	<5	----	----	<5
n-Propylbenzene	103-65-1	5	µg/L		----	<5	----	----	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		----	<5	----	----	<5
sec-Butylbenzene	135-98-8	5	µg/L		----	<5	----	----	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		----	<5	----	----	<5
tert-Butylbenzene	98-06-6	5	µg/L		----	<5	----	----	<5
p-Isopropyltoluene	99-87-6	5	µg/L		----	<5	----	----	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
n-Butylbenzene	104-51-8	5	µg/L		----	<5	----	----	<5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		----	<50	----	----	<50
2-Butanone (MEK)	78-93-3	50	µg/L		----	<50	----	----	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		----	<50	----	----	<50
2-Hexanone (MBK)	591-78-6	50	µg/L		----	<50	----	----	<50
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		----	<5	----	----	<5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		----	<5	----	----	<5
1.2-Dichloropropane	78-87-5	5	µg/L		----	<5	----	----	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		----	<5	----	----	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		----	<5	----	----	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		----	<5	----	----	<5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		----	<50	----	----	<50
Chloromethane	74-87-3	50	µg/L		----	<50	----	----	<50
Vinyl chloride	75-01-4	50	µg/L		----	<50	----	----	<50
Bromomethane	74-83-9	50	µg/L		----	<50	----	----	<50
Chloroethane	75-00-3	50	µg/L		----	<50	----	----	<50
Trichlorofluoromethane	75-69-4	50	µg/L		----	<50	----	----	<50
1.1-Dichloroethene	75-35-4	5	µg/L		----	<5	----	----	<5
Iodomethane	74-88-4	5	µg/L		----	<5	----	----	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L		----	<5	----	----	<5
1.1-Dichloroethane	75-34-3	5	µg/L		----	<5	----	----	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L		----	<5	----	----	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L		----	<5	----	----	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloropropylene	563-58-6	5	µg/L		----	<5	----	----	<5
Carbon Tetrachloride	56-23-5	5	µg/L		----	<5	----	----	<5
1.2-Dichloroethane	107-06-2	5	µg/L		----	<5	----	----	<5
Trichloroethene	79-01-6	5	µg/L		----	<5	----	----	<5
Dibromomethane	74-95-3	5	µg/L		----	<5	----	----	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L		----	<5	----	----	<5
1.3-Dichloropropane	142-28-9	5	µg/L		----	<5	----	----	<5
Tetrachloroethene	127-18-4	5	µg/L		----	<5	----	----	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		----	<5	----	----	<5
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		----	<5	----	----	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		----	<5	----	----	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		----	<5	----	----	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L		----	<5	----	----	<5
Pentachloroethane	76-01-7	5	µg/L		----	<5	----	----	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		----	<5	----	----	<5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		----	<5	----	----	<5
Bromobenzene	108-86-1	5	µg/L		----	<5	----	----	<5
2-Chlorotoluene	95-49-8	5	µg/L		----	<5	----	----	<5
4-Chlorotoluene	106-43-4	5	µg/L		----	<5	----	----	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		----	<5	----	----	<5
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		----	<5	----	----	<5
Bromodichloromethane	75-27-4	5	µg/L		----	<5	----	----	<5
Dibromochloromethane	124-48-1	5	µg/L		----	<5	----	----	<5
Bromoform	75-25-2	5	µg/L		----	<5	----	----	<5
EP075(SIM)A: Phenolic Compounds									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
Phenol	108-95-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	**3.2**	**3.0**
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	**1.8**	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	**1.9**	**1.9**
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	**2.4**
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	**2.2**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	**6.9**	**9.5**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		----	<2	----	----	<2
2-Chlorophenol	95-57-8	2	µg/L		----	<2	----	----	<2
2-Methylphenol	95-48-7	2	µg/L		----	<2	----	----	<2
3- & 4-Methylphenol	1319-77-3	4	µg/L		----	<4	----	----	<4
2-Nitrophenol	88-75-5	2	µg/L		----	<2	----	----	<2
2.4-Dimethylphenol	105-67-9	2	µg/L		----	<2	----	----	<2
2.4-Dichlorophenol	120-83-2	2	µg/L		----	<2	----	----	<2
2.6-Dichlorophenol	87-65-0	2	µg/L		----	<2	----	----	<2
4-Chloro-3-methylphenol	59-50-7	2	µg/L		----	<2	----	----	<2
2.4.6-Trichlorophenol	88-06-2	2	µg/L		----	<2	----	----	<2
2.4.5-Trichlorophenol	95-95-4	2	µg/L		----	<2	----	----	<2
Pentachlorophenol	87-86-5	4	µg/L		----	<4	----	----	<4
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	2	µg/L		----	<2	----	----	<2
2-Methylnaphthalene	91-57-6	2	µg/L		----	<2	----	----	<2
2-Chloronaphthalene	91-58-7	2	µg/L		----	<2	----	----	<2
Acenaphthylene	208-96-8	2	µg/L		----	<2	----	----	<2
Acenaphthene	83-32-9	2	µg/L		----	<2	----	----	**3**
Fluorene	86-73-7	2	µg/L		----	<2	----	----	<2
Phenanthrene	85-01-8	2	µg/L		----	<2	----	----	<2
Anthracene	120-12-7	2	µg/L		----	<2	----	----	<2
Fluoranthene	206-44-0	2	µg/L		----	<2	----	----	**2**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	2	µg/L		----	<2	----	----	**2**
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		----	<2	----	----	<2
Benz(a)anthracene	56-55-3	2	µg/L		----	<2	----	----	<2
Chrysene	218-01-9	2	µg/L		----	<2	----	----	<2
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		----	<4	----	----	<4
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		----	<2	----	----	<2
Benzo(a)pyrene	50-32-8	2	µg/L		----	<2	----	----	<2
3-Methylcholanthrene	56-49-5	2	µg/L		----	<2	----	----	<2
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		----	<2	----	----	<2
Dibenz(a.h)anthracene	53-70-3	2	µg/L		----	<2	----	----	<2
Benzo(g.h.i)perylene	191-24-2	2	µg/L		----	<2	----	----	<2
^ Sum of PAHs	----	2	µg/L		----	<2	----	----	**7**
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L		----	<2	----	----	<2
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		----	<2	----	----	<2
Diethyl phthalate	84-66-2	2	µg/L		----	<2	----	----	<2
Di-n-butyl phthalate	84-74-2	2	µg/L		----	<2	----	----	<2
Butyl benzyl phthalate	85-68-7	2	µg/L		----	<2	----	----	<2
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		----	<10	----	----	<10
Di-n-octylphthalate	117-84-0	2	µg/L		----	<2	----	----	<2
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		----	<2	----	----	<2
N-Nitrosodiethylamine	55-18-5	2	µg/L		----	<2	----	----	<2
N-Nitrosopyrrolidine	930-55-2	4	µg/L		----	<4	----	----	<4
N-Nitrosomorpholine	59-89-2	2	µg/L		----	<2	----	----	<2
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		----	<2	----	----	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosopiperidine	100-75-4	2	µg/L		----	<2	----	----	<2
N-Nitrosodibutylamine	924-16-3	2	µg/L		----	<2	----	----	<2
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		----	<4	----	----	<4
Methapyrilene	91-80-5	2	µg/L		----	<2	----	----	<2
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		----	<2	----	----	<2
Acetophenone	98-86-2	2	µg/L		----	<2	----	----	<2
Nitrobenzene	98-95-3	2	µg/L		----	<2	----	----	<2
Isophorone	78-59-1	2	µg/L		----	<2	----	----	<2
2.6-Dinitrotoluene	606-20-2	4	µg/L		----	<4	----	----	<4
2.4-Dinitrotoluene	121-14-2	4	µg/L		----	<4	----	----	<4
1-Naphthylamine	134-32-7	2	µg/L		----	<2	----	----	<2
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		----	<2	----	----	<2
5-Nitro-o-toluidine	99-55-8	2	µg/L		----	<2	----	----	<2
Azobenzene	103-33-3	2	µg/L		----	<2	----	----	<2
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		----	<2	----	----	<2
Phenacetin	62-44-2	2	µg/L		----	<2	----	----	<2
4-Aminobiphenyl	92-67-1	2	µg/L		----	<2	----	----	<2
Pentachloronitrobenzene	82-68-8	2	µg/L		----	<2	----	----	<2
Pronamide	23950-58-5	2	µg/L		----	<2	----	----	<2
Dimethylaminoazobenzene	60-11-7	2	µg/L		----	<2	----	----	<2
Chlorobenzilate	510-15-6	2	µg/L		----	<2	----	----	<2
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		----	<2	----	----	<2
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		----	<2	----	----	<2
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		----	<2	----	----	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075F: Haloethers - Continued									
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		----	<2	----	----	<2
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		----	<2	----	----	<2
1.4-Dichlorobenzene	106-46-7	2	µg/L		----	<2	----	----	<2
1.2-Dichlorobenzene	95-50-1	2	µg/L		----	<2	----	----	<2
Hexachloroethane	67-72-1	2	µg/L		----	<2	----	----	<2
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		----	<2	----	----	<2
Hexachloropropylene	1888-71-7	2	µg/L		----	<2	----	----	<2
Hexachlorobutadiene	87-68-3	2	µg/L		----	<2	----	----	<2
Hexachlorocyclopentadiene	77-47-4	10	µg/L		----	<10	----	----	<10
Pentachlorobenzene	608-93-5	2	µg/L		----	<2	----	----	<2
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		----	<4	----	----	<4
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		----	<2	----	----	<2
4-Chloroaniline	106-47-8	2	µg/L		----	<2	----	----	<2
2-Nitroaniline	88-74-4	4	µg/L		----	<4	----	----	<4
3-Nitroaniline	99-09-2	4	µg/L		----	<4	----	----	<4
Dibenzofuran	132-64-9	2	µg/L		----	<2	----	----	<2
4-Nitroaniline	100-01-6	2	µg/L		----	<2	----	----	<2
Carbazole	86-74-8	2	µg/L		----	<2	----	----	<2
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		----	<2	----	----	<2
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		----	<2	----	----	<2
beta-BHC	319-85-7	2	µg/L		----	<2	----	----	<2
gamma-BHC	58-89-9	2	µg/L		----	<2	----	----	<2
delta-BHC	319-86-8	2	µg/L		----	<2	----	----	<2
Heptachlor	76-44-8	2	µg/L		----	<2	----	----	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound		CAS Number	LOR	Unit	EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
	Aldrin	309-00-2	2	µg/L	----	<2	----	----	<2
	Heptachlor epoxide	1024-57-3	2	µg/L	----	<2	----	----	<2
	alpha-Endosulfan	959-98-8	2	µg/L	----	<2	----	----	<2
	4.4`-DDE	72-55-9	2	µg/L	----	<2	----	----	<2
	Dieldrin	60-57-1	2	µg/L	----	<2	----	----	<2
	Endrin	72-20-8	2	µg/L	----	<2	----	----	<2
	beta-Endosulfan	33213-65-9	2	µg/L	----	<2	----	----	<2
	4.4`-DDD	72-54-8	2	µg/L	----	<2	----	----	<2
	Endosulfan sulfate	1031-07-8	2	µg/L	----	<2	----	----	<2
	4.4`-DDT	50-29-3	4	µg/L	----	<4	----	----	<4
^	**Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	4	µg/L	----	<4	----	----	<4
^	**Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	4	µg/L	----	<4	----	----	<4
EP075J: Organophosphorus Pesticides									
	Dichlorvos	62-73-7	2	µg/L	----	<2	----	----	<2
	Dimethoate	60-51-5	2	µg/L	----	<2	----	----	<2
	Diazinon	333-41-5	2	µg/L	----	<2	----	----	<2
	Chlorpyrifos-methyl	5598-13-0	2	µg/L	----	<2	----	----	<2
	Malathion	121-75-5	2	µg/L	----	<2	----	----	<2
	Fenthion	55-38-9	2	µg/L	----	<2	----	----	<2
	Chlorpyrifos	2921-88-2	2	µg/L	----	<2	----	----	<2
	Pirimphos-ethyl	23505-41-1	2	µg/L	----	<2	----	----	<2
	Chlorfenvinphos	470-90-6	2	µg/L	----	<2	----	----	<2
	Prothiofos	34643-46-4	2	µg/L	----	<2	----	----	<2
	Ethion	563-12-2	2	µg/L	----	<2	----	----	<2
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
	Aliphatic >C5-C6	----	20	µg/L	----	<20	----	----	<20

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions - Continued									
Aliphatic >C6-C8	TPHCWG-ALV2	20	µg/L		----	<20	----	----	<20
Aliphatic >C8-C10	TPHCWG-ALV3	20	µg/L		----	<20	----	----	<20
Aliphatic >C10-C12	TPHCWG-ALE1	50	µg/L		----	<50	----	----	<50
Aliphatic >C12-C16	TPHCWG-ALE2	50	µg/L		----	<50	----	----	<50
Aliphatic >C16-C21	----	50	µg/L		----	<50	----	----	<50
Aliphatic >C21-C35	----	50	µg/L		----	<50	----	----	<50
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	5	µg/L		----	<5	----	----	<5
Aromatic >C7-C8	TPHCWG-ARV2	5	µg/L		----	<5	----	----	<5
Aromatic >C8-C10	TPHCWG-ARV3	5	µg/L		----	<5	----	----	<5
Aromatic >C10-C12	TPHCWG-ARE1	50	µg/L		----	<50	----	----	<50
Aromatic >C12-C16	TPHCWG-ARE2	50	µg/L		----	<50	----	----	<50
Aromatic >C16-C21	TPHCWG-ARE3	50	µg/L		----	<50	----	----	<50
Aromatic >C21-C35	TPHCWG-ARE4	50	µg/L		----	<50	----	----	<50
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	**140**	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	<50	**140**	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	<20
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	**160**	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	**160**	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		----	**100**	----	----	**95.7**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		----	**122**	----	----	**116**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		----	**89.8**	----	----	**96.4**
Toluene-D8	2037-26-5	5	%		----	**103**	----	----	**98.8**
4-Bromofluorobenzene	460-00-4	5	%		----	**102**	----	----	**100**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**31.0**	**33.4**	**32.3**	**33.0**	**30.4**
2-Chlorophenol-D4	93951-73-6	1.0	%		**74.5**	**78.6**	**77.1**	**75.2**	**72.0**
2.4.6-Tribromophenol	118-79-6	1.0	%		**92.8**	**96.4**	**96.7**	**91.8**	**93.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.1**	**84.0**	**84.4**	**81.2**	**77.7**
Anthracene-d10	1719-06-8	1.0	%		**80.6**	**84.3**	**83.4**	**80.7**	**82.4**
4-Terphenyl-d14	1718-51-0	1.0	%		**86.7**	**89.9**	**87.0**	**86.0**	**87.0**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 55	MW 127A	MW 127B	MW 150	MW 151
				Sampling date / time	30-Nov-2023 00:00	30-Nov-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-001	EM2321582-002	EM2321582-003	EM2321582-004	EM2321582-005
					Result	Result	Result	Result	Result
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		----	**64.6**	----	----	**60.0**
Phenol-d6	13127-88-3	2	%		----	**32.5**	----	----	**29.6**
2-Chlorophenol-D4	93951-73-6	2	%		----	**56.8**	----	----	**59.0**
2.4.6-Tribromophenol	118-79-6	2	%		----	**87.8**	----	----	**85.7**
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		----	**79.4**	----	----	**71.9**
1.2-Dichlorobenzene-D4	2199-69-1	2	%		----	**63.1**	----	----	**61.6**
2-Fluorobiphenyl	321-60-8	2	%		----	**74.6**	----	----	**65.4**
Anthracene-d10	1719-06-8	2	%		----	**87.9**	----	----	**87.4**
4-Terphenyl-d14	1718-51-0	2	%		----	**105**	----	----	**97.2**
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Fluorobiphenyl	321-60-8	1	%		----	**103**	----	----	**105**
2-Bromonaphthalene	580-13-2	1	%		----	**106**	----	----	**101**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**98.8**	**92.4**	**100**	**90.0**	**98.2**
Toluene-D8	2037-26-5	2	%		**93.9**	**95.2**	**97.8**	**87.3**	**90.5**
4-Bromofluorobenzene	460-00-4	2	%		**105**	**104**	**108**	**95.4**	**101**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**2170**	**22000**	**2020**	**1500**	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**1670**	**567**	**837**	**670**	----
Total Alkalinity as CaCO3	----	1	mg/L		**1670**	**567**	**837**	**670**	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<2	**1120**	<1	**21**	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**661**	**11600**	**819**	**498**	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**56**	**270**	**195**	**95**	----
Magnesium	7439-95-4	1	mg/L		**116**	**784**	**69**	**63**	----
Sodium	7440-23-5	1	mg/L		**747**	**5990**	**429**	**314**	----
Potassium	7440-09-7	1	mg/L		**106**	**284**	**39**	**35**	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.02**	**0.29**	**0.01**	**0.03**	<0.01
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.002	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0002	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		**0.001**	<0.002	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	**0.004**	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	**0.015**	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.394**	**0.287**	**3.41**	**0.564**	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.002	<0.001	**0.001**	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	**0.035**	<0.005	<0.005	<0.005
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EG051G: Ferrous Iron by Discrete Analyser									
Ferrous Iron	----	0.05	mg/L		----	----	**36.9**	**7.06**	----
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		----	<0.004	<0.004	<0.004	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		----	**0.023**	**0.043**	**0.007**	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		----	<0.004	<0.004	<0.004	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**34.6**	**6.04**	**15.5**	**15.7**	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		----	----	<0.01	<0.01	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**52.0**	**362**	**39.8**	**27.9**	----
ø Total Cations	----	0.01	meq/L		**47.5**	**346**	**35.1**	**24.5**	----
ø Ionic Balance	----	0.01	%		**4.49**	**2.27**	**6.35**	**6.48**	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		----	----	**17100**	**12700**	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		----	----	<0.5	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		----	----	<0.5	<0.5	----
beta-BHC	319-85-7	0.5	µg/L		----	----	<0.5	<0.5	----
gamma-BHC	58-89-9	0.5	µg/L		----	----	<0.5	<0.5	----
delta-BHC	319-86-8	0.5	µg/L		----	----	<0.5	<0.5	----
Heptachlor	76-44-8	0.5	µg/L		----	----	<0.5	<0.5	----
Aldrin	309-00-2	0.5	µg/L		----	----	<0.5	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		----	----	<0.5	<0.5	----
trans-Chlordane	5103-74-2	0.5	µg/L		----	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.5	µg/L		----	----	<0.5	<0.5	----
cis-Chlordane	5103-71-9	0.5	µg/L		----	----	<0.5	<0.5	----
Dieldrin	60-57-1	0.5	µg/L		----	----	<0.5	<0.5	----
4.4`-DDE	72-55-9	0.5	µg/L		----	----	<0.5	<0.5	----
Endrin	72-20-8	0.5	µg/L		----	----	<0.5	<0.5	----
beta-Endosulfan	33213-65-9	0.5	µg/L		----	----	<0.5	<0.5	----
4.4`-DDD	72-54-8	0.5	µg/L		----	----	<0.5	<0.5	----
Endrin aldehyde	7421-93-4	0.5	µg/L		----	----	<0.5	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		----	----	<0.5	<0.5	----
4.4`-DDT	50-29-3	2.0	µg/L		----	----	<2.0	<2.0	----
Endrin ketone	53494-70-5	0.5	µg/L		----	----	<0.5	<0.5	----
Methoxychlor	72-43-5	2.0	µg/L		----	----	<2.0	<2.0	----
^ Total Chlordane (sum)	----	0.5	µg/L		----	----	<0.5	<0.5	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L		----	----	<0.5	<0.5	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		----	----	<0.5	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	5	µg/L		----	----	<5	<5	----
Isopropylbenzene	98-82-8	5	µg/L		----	----	<5	<5	----
n-Propylbenzene	103-65-1	5	µg/L		----	----	<5	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		----	----	<5	<5	----
sec-Butylbenzene	135-98-8	5	µg/L		----	----	<5	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		----	----	<5	<5	----
tert-Butylbenzene	98-06-6	5	µg/L		----	----	<5	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L		----	----	<5	<5	----
n-Butylbenzene	104-51-8	5	µg/L		----	----	<5	<5	----
EP074B: Oxygenated Compounds									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP074B: Oxygenated Compounds - Continued									
Vinyl Acetate	108-05-4	50	µg/L		----	----	<50	<50	----
2-Butanone (MEK)	78-93-3	50	µg/L		----	----	<50	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		----	----	<50	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L		----	----	<50	<50	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		----	----	<5	<5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		----	----	<5	<5	----
1.2-Dichloropropane	78-87-5	5	µg/L		----	----	<5	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		----	----	<5	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		----	----	<5	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		----	----	<5	<5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		----	----	<50	<50	----
Chloromethane	74-87-3	50	µg/L		----	----	<50	<50	----
Vinyl chloride	75-01-4	50	µg/L		----	----	<50	<50	----
Bromomethane	74-83-9	50	µg/L		----	----	<50	<50	----
Chloroethane	75-00-3	50	µg/L		----	----	<50	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L		----	----	<50	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L		----	----	<5	<5	----
Iodomethane	74-88-4	5	µg/L		----	----	<5	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		----	----	<5	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L		----	----	<5	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		----	----	<5	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		----	----	<5	<5	----
1.1-Dichloropropylene	563-58-6	5	µg/L		----	----	<5	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L		----	----	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.2-Dichloroethane	107-06-2	5	µg/L		----	----	<5	<5	----
Trichloroethene	79-01-6	5	µg/L		----	----	<5	<5	----
Dibromomethane	74-95-3	5	µg/L		----	----	<5	<5	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		----	----	<5	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L		----	----	<5	<5	----
Tetrachloroethene	127-18-4	5	µg/L		----	----	<5	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		----	----	<5	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		----	----	<5	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		----	----	<5	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		----	----	<5	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		----	----	<5	<5	----
Pentachloroethane	76-01-7	5	µg/L		----	----	<5	<5	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		----	----	<5	<5	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		----	----	<5	<5	----
Bromobenzene	108-86-1	5	µg/L		----	----	<5	<5	----
2-Chlorotoluene	95-49-8	5	µg/L		----	----	<5	<5	----
4-Chlorotoluene	106-43-4	5	µg/L		----	----	<5	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		----	----	<5	<5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		----	----	<5	<5	----
Bromodichloromethane	75-27-4	5	µg/L		----	----	<5	<5	----
Dibromochloromethane	124-48-1	5	µg/L		----	----	<5	<5	----
Bromoform	75-25-2	5	µg/L		----	----	<5	<5	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**1.5**	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		**9.3**	<1.0	<1.0	**3.3**	<1.0
Fluorene	86-73-7	1.0	µg/L		**2.8**	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		**2.0**	<1.0	<1.0	**2.0**	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	**2.3**	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	**2.2**	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**15.6**	<0.5	<0.5	**9.8**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		----	----	<2	<2	----
2-Chlorophenol	95-57-8	2	µg/L		----	----	<2	<2	----
2-Methylphenol	95-48-7	2	µg/L		----	----	<2	<2	----
3- & 4-Methylphenol	1319-77-3	4	µg/L		----	----	<4	<4	----
2-Nitrophenol	88-75-5	2	µg/L		----	----	<2	<2	----
2.4-Dimethylphenol	105-67-9	2	µg/L		----	----	<2	<2	----
2.4-Dichlorophenol	120-83-2	2	µg/L		----	----	<2	<2	----
2.6-Dichlorophenol	87-65-0	2	µg/L		----	----	<2	<2	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L		----	----	<2	<2	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L		----	----	<2	<2	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L		----	----	<2	<2	----
Pentachlorophenol	87-86-5	4	µg/L		----	----	<4	<4	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	2	µg/L		----	----	<2	<2	----
2-Methylnaphthalene	91-57-6	2	µg/L		----	----	<2	<2	----
2-Chloronaphthalene	91-58-7	2	µg/L		----	----	<2	<2	----
Acenaphthylene	208-96-8	2	µg/L		----	----	<2	<2	----
Acenaphthene	83-32-9	2	µg/L		----	----	<2	**3**	----
Fluorene	86-73-7	2	µg/L		----	----	<2	<2	----
Phenanthrene	85-01-8	2	µg/L		----	----	<2	<2	----
Anthracene	120-12-7	2	µg/L		----	----	<2	<2	----
Fluoranthene	206-44-0	2	µg/L		----	----	<2	**2**	----
Pyrene	129-00-0	2	µg/L		----	----	<2	**2**	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		----	----	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	2	µg/L		----	----	<2	<2	----
Chrysene	218-01-9	2	µg/L		----	----	<2	<2	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		----	----	<4	<4	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		----	----	<2	<2	----
Benzo(a)pyrene	50-32-8	2	µg/L		----	----	<2	<2	----
3-Methylcholanthrene	56-49-5	2	µg/L		----	----	<2	<2	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		----	----	<2	<2	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		----	----	<2	<2	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		----	----	<2	<2	----
^ Sum of PAHs	----	2	µg/L		----	----	<2	7	----
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L		----	----	<2	<2	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		----	----	<2	<2	----
Diethyl phthalate	84-66-2	2	µg/L		----	----	<2	<2	----
Di-n-butyl phthalate	84-74-2	2	µg/L		----	----	<2	<2	----
Butyl benzyl phthalate	85-68-7	2	µg/L		----	----	<2	<2	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		----	----	<10	<10	----
Di-n-octylphthalate	117-84-0	2	µg/L		----	----	<2	<2	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		----	----	<2	<2	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		----	----	<2	<2	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		----	----	<4	<4	----
N-Nitrosomorpholine	59-89-2	2	µg/L		----	----	<2	<2	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		----	----	<2	<2	----
N-Nitrosopiperidine	100-75-4	2	µg/L		----	----	<2	<2	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		----	----	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		----	----	<4	<4	----
Methapyrilene	91-80-5	2	µg/L		----	----	<2	<2	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		----	----	<2	<2	----
Acetophenone	98-86-2	2	µg/L		----	----	<2	<2	----
Nitrobenzene	98-95-3	2	µg/L		----	----	<2	<2	----
Isophorone	78-59-1	2	µg/L		----	----	<2	<2	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		----	----	<4	<4	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		----	----	<4	<4	----
1-Naphthylamine	134-32-7	2	µg/L		----	----	<2	<2	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		----	----	<2	<2	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		----	----	<2	<2	----
Azobenzene	103-33-3	2	µg/L		----	----	<2	<2	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		----	----	<2	<2	----
Phenacetin	62-44-2	2	µg/L		----	----	<2	<2	----
4-Aminobiphenyl	92-67-1	2	µg/L		----	----	<2	<2	----
Pentachloronitrobenzene	82-68-8	2	µg/L		----	----	<2	<2	----
Pronamide	23950-58-5	2	µg/L		----	----	<2	<2	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		----	----	<2	<2	----
Chlorobenzilate	510-15-6	2	µg/L		----	----	<2	<2	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		----	----	<2	<2	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		----	----	<2	<2	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		----	----	<2	<2	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		----	----	<2	<2	----
EP075G: Chlorinated Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
1.3-Dichlorobenzene	541-73-1	2	µg/L		----	----	<2	<2	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		----	----	<2	<2	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		----	----	<2	<2	----
Hexachloroethane	67-72-1	2	µg/L		----	----	<2	<2	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		----	----	<2	<2	----
Hexachloropropylene	1888-71-7	2	µg/L		----	----	<2	<2	----
Hexachlorobutadiene	87-68-3	2	µg/L		----	----	<2	<2	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L		----	----	<10	<10	----
Pentachlorobenzene	608-93-5	2	µg/L		----	----	<2	<2	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		----	----	<4	<4	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		----	----	<2	<2	----
4-Chloroaniline	106-47-8	2	µg/L		----	----	<2	<2	----
2-Nitroaniline	88-74-4	4	µg/L		----	----	<4	<4	----
3-Nitroaniline	99-09-2	4	µg/L		----	----	<4	<4	----
Dibenzofuran	132-64-9	2	µg/L		----	----	<2	<2	----
4-Nitroaniline	100-01-6	2	µg/L		----	----	<2	<2	----
Carbazole	86-74-8	2	µg/L		----	----	<2	<2	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		----	----	<2	<2	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		----	----	<2	<2	----
beta-BHC	319-85-7	2	µg/L		----	----	<2	<2	----
gamma-BHC	58-89-9	2	µg/L		----	----	<2	<2	----
delta-BHC	319-86-8	2	µg/L		----	----	<2	<2	----
Heptachlor	76-44-8	2	µg/L		----	----	<2	<2	----
Aldrin	309-00-2	2	µg/L		----	----	<2	<2	----
Heptachlor epoxide	1024-57-3	2	µg/L		----	----	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
alpha-Endosulfan	959-98-8	2	µg/L		----	----	<2	<2	----
4.4`-DDE	72-55-9	2	µg/L		----	----	<2	<2	----
Dieldrin	60-57-1	2	µg/L		----	----	<2	<2	----
Endrin	72-20-8	2	µg/L		----	----	<2	<2	----
beta-Endosulfan	33213-65-9	2	µg/L		----	----	<2	<2	----
4.4`-DDD	72-54-8	2	µg/L		----	----	<2	<2	----
Endosulfan sulfate	1031-07-8	2	µg/L		----	----	<2	<2	----
4.4`-DDT	50-29-3	4	µg/L		----	----	<4	<4	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	4	µg/L		----	----	<4	<4	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	4	µg/L		----	----	<4	<4	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	2	µg/L		----	----	<2	<2	----
Dimethoate	60-51-5	2	µg/L		----	----	<2	<2	----
Diazinon	333-41-5	2	µg/L		----	----	<2	<2	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L		----	----	<2	<2	----
Malathion	121-75-5	2	µg/L		----	----	<2	<2	----
Fenthion	55-38-9	2	µg/L		----	----	<2	<2	----
Chlorpyrifos	2921-88-2	2	µg/L		----	----	<2	<2	----
Pirimphos-ethyl	23505-41-1	2	µg/L		----	----	<2	<2	----
Chlorfenvinphos	470-90-6	2	µg/L		----	----	<2	<2	----
Prothiofos	34643-46-4	2	µg/L		----	----	<2	<2	----
Ethion	563-12-2	2	µg/L		----	----	<2	<2	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C5-C6	----	20	µg/L		----	----	<20	<20	----
Aliphatic >C6-C8	TPHCWG-ALV2	20	µg/L		----	----	<20	<20	----
Aliphatic >C8-C10	TPHCWG-ALV3	20	µg/L		----	----	<20	<20	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions - Continued									
Aliphatic >C10-C12	TPHCWG-ALE1	50	µg/L		----	----	<50	<60	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	µg/L		----	----	<50	<60	----
Aliphatic >C16-C21	----	50	µg/L		----	----	<50	<60	----
Aliphatic >C21-C35	----	50	µg/L		----	----	<50	<60	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	5	µg/L		----	----	<5	<5	----
Aromatic >C7-C8	TPHCWG-ARV2	5	µg/L		----	----	<5	<5	----
Aromatic >C8-C10	TPHCWG-ARV3	5	µg/L		----	----	<5	<5	----
Aromatic >C10-C12	TPHCWG-ARE1	50	µg/L		----	----	<50	<60	----
Aromatic >C12-C16	TPHCWG-ARE2	50	µg/L		----	----	<50	<60	----
Aromatic >C16-C21	TPHCWG-ARE3	50	µg/L		----	----	<50	<60	----
Aromatic >C21-C35	TPHCWG-ARE4	50	µg/L		----	----	<50	<60	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		**30**	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		**170**	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		**160**	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		**330**	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		**40**	<20	<20	<20	<20
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		**30**	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		**220**	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		**130**	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		**350**	<100	<100	<100	<100
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		**220**	<100	<100	<100	<100

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		**2**	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		**4**	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ **Total Xylenes**	----	2	µg/L		**4**	<2	<2	<2	<2
^ **Sum of BTEX**	----	1	µg/L		**6**	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**----**	**----**	**88.2**	**97.0**	**----**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**----**	**----**	**107**	**118**	**----**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**----**	**----**	**97.6**	**95.7**	**----**
Toluene-D8	2037-26-5	5	%		**----**	**----**	**107**	**105**	**----**
4-Bromofluorobenzene	460-00-4	5	%		**----**	**----**	**106**	**106**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**34.3**	**31.6**	**29.9**	**32.2**	**33.1**
2-Chlorophenol-D4	93951-73-6	1.0	%		**77.6**	**68.9**	**71.8**	**77.8**	**79.1**
2.4.6-Tribromophenol	118-79-6	1.0	%		**96.6**	**87.9**	**83.0**	**90.0**	**84.0**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.7**	**72.7**	**76.5**	**82.6**	**83.1**
Anthracene-d10	1719-06-8	1.0	%		**84.6**	**76.8**	**75.6**	**81.2**	**84.8**
4-Terphenyl-d14	1718-51-0	1.0	%		**88.8**	**76.0**	**80.6**	**83.9**	**90.6**
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		**----**	**----**	**60.4**	**65.3**	**----**
Phenol-d6	13127-88-3	2	%		**----**	**----**	**26.3**	**29.5**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW 152	MW 153	QA 102	QA 103	QA 302
				Sampling date / time	01-Dec-2023 00:00	01-Dec-2023 00:00	30-Nov-2023 00:00	01-Dec-2023 00:00	01-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321582-006	EM2321582-007	EM2321582-008	EM2321582-009	EM2321582-010
					Result	Result	Result	Result	Result
EP075S: Acid Extractable Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	2	%		----	----	51.0	60.6	----
2.4.6-Tribromophenol	118-79-6	2	%		----	----	72.0	90.9	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		----	----	72.0	79.4	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%		----	----	59.3	64.5	----
2-Fluorobiphenyl	321-60-8	2	%		----	----	63.3	65.7	----
Anthracene-d10	1719-06-8	2	%		----	----	79.8	85.0	----
4-Terphenyl-d14	1718-51-0	2	%		----	----	93.2	98.7	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Fluorobiphenyl	321-60-8	1	%		----	----	109	111	----
2-Bromonaphthalene	580-13-2	1	%		----	----	115	106	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		110	85.8	100.0	98.1	94.9
Toluene-D8	2037-26-5	2	%		107	73.4	98.2	96.8	92.9
4-Bromofluorobenzene	460-00-4	2	%		117	101	106	107	100

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA 502	----	----	----	----
				Sampling date / time	01-Dec-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2321582-012	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**93.7**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**92.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**96.3**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	117
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	51	127
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	132
Toluene-D8	2037-26-5	77	132
4-Bromofluorobenzene	460-00-4	67	131
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	6	83
Phenol-d6	13127-88-3	10	65
2-Chlorophenol-D4	93951-73-6	22	112
2.4.6-Tribromophenol	118-79-6	22	125
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	37	115
1.2-Dichlorobenzene-D4	2199-69-1	32	99
2-Fluorobiphenyl	321-60-8	39	116
Anthracene-d10	1719-06-8	49	123
4-Terphenyl-d14	1718-51-0	47	129
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Fluorobiphenyl	321-60-8	75	115
2-Bromonaphthalene	580-13-2	71	117
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2321582**	Page	: 1 of 17
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 04-Dec-2023
Site	: Macquarie Point, 41 Evans St, Hobart	Issue Date	: 13-Dec-2023
Sampler	: C. TELLER	No. of samples received	: 12
Order number	: 60693007/3	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	QC-5478109-001	----	**Vinyl chloride**	75-01-4	140 %	58.1-135%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	EM2321390--001	Anonymous	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED045G: Chloride by Discrete Analyser	EM2321390--001	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG020F: Dissolved Metals by ICP-MS	EM2321582--008	QA 102	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP033: C1 - C4 Hydrocarbon Gases	EB2338117--006	Anonymous	**Methane**	74-82-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H) MW 150, MW 151, MW 152, MW 153, QA 103	**01-Dec-2023**	**----**	----	**----**	**08-Dec-2023**	08-Dec-2023	✓
Clear Plastic Bottle - Natural (EA015H) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	**----**	**07-Dec-2023**	07-Dec-2023	✓
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P) MW 150, MW 151, MW 152, MW 153, QA 103	**01-Dec-2023**	**----**	----	**----**	**11-Dec-2023**	15-Dec-2023	✓
Clear Plastic Bottle - Natural (ED037-P) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	**----**	**11-Dec-2023**	14-Dec-2023	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G) MW 151, QA 103	**01-Dec-2023**	**----**	----	**----**	**06-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Natural (ED041G) MW 150, MW 152, MW 153	**01-Dec-2023**	**----**	----	**----**	**11-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Natural (ED041G) MW 127A, QA 102	**30-Nov-2023**	**----**	----	**----**	**06-Dec-2023**	28-Dec-2023	✓
Clear Plastic Bottle - Natural (ED041G) MW 55, MW 127B	**30-Nov-2023**	**----**	----	**----**	**11-Dec-2023**	28-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G) MW 151, QA 103	**01-Dec-2023**	**----**	----	----	**06-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Natural (ED045G) MW 150, MW 152, MW 153	**01-Dec-2023**	**----**	----	----	**11-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Natural (ED045G) MW 127A, QA 102	**30-Nov-2023**	**----**	----	----	**06-Dec-2023**	28-Dec-2023	✓
Clear Plastic Bottle - Natural (ED045G) MW 55, MW 127B	**30-Nov-2023**	**----**	----	----	**11-Dec-2023**	28-Dec-2023	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F) MW 150, MW 151, MW 152, MW 153, QA 103	**01-Dec-2023**	**----**	----	----	**08-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**08-Dec-2023**	28-Dec-2023	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F) MW 150, MW 151, MW 152, MW 153, QA 103, QA 302	**01-Dec-2023**	**----**	----	----	**08-Dec-2023**	29-May-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**08-Dec-2023**	28-May-2024	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F) MW 150, MW 151, MW 152, MW 153, QA 103, QA 302	**01-Dec-2023**	**----**	----	----	**08-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**08-Dec-2023**	28-Dec-2023	✓
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl - Filtered (EG051G) MW 151, QA 103	**01-Dec-2023**	**----**	----	----	**06-Dec-2023**	08-Dec-2023	✓
Clear Plastic Bottle - HCl - Filtered (EG051G) MW 127A, QA 102	**30-Nov-2023**	**----**	----	----	**06-Dec-2023**	07-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK025SF: Free CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK025SF) MW 150, MW 151, MW 153, QA 103	**01-Dec-2023**	**----**	----	----	**07-Dec-2023**	15-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK025SF) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**07-Dec-2023**	14-Dec-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK026SF) MW 150, MW 151, MW 153, QA 103	**01-Dec-2023**	**----**	----	----	**07-Dec-2023**	15-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK026SF) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**07-Dec-2023**	14-Dec-2023	✓
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK028SF) MW 150, MW 151, MW 153, QA 103	**01-Dec-2023**	**----**	----	----	**07-Dec-2023**	15-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK028SF) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**07-Dec-2023**	14-Dec-2023	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW 150, MW 151, MW 152, MW 153, QA 103	**01-Dec-2023**	**----**	----	----	**09-Dec-2023**	29-Dec-2023	✓
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**----**	----	----	**09-Dec-2023**	28-Dec-2023	✓
EP033: C1 - C4 Hydrocarbon Gases							
Amber VOC Vial - Sulfuric Acid (EP033) MW 151	**01-Dec-2023**	**----**	----	----	**07-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP033) QA 103	**01-Dec-2023**	**----**	----	----	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP033) MW 127A, QA 102	**30-Nov-2023**	**----**	----	----	**07-Dec-2023**	14-Dec-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP068) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP068) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP074B: Oxygenated Compounds								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP074C: Sulfonated Compounds								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP074D: Fumigants								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP074E: Halogenated Aliphatic Compounds								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP074F: Halogenated Aromatic Compounds								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP074G: Trihalomethanes								
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 151,	QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP074)								
MW 127A,	QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW 150, MW 151, MW 152, MW 153, QA 302	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075(SIM)) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW 150, MW 151, MW 152, MW 153, QA 302	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075(SIM)) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved (EP075) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075) MW 127A, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP075) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Amber Glass Bottle - Unpreserved (EP070-CWG) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP070-CWG) QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP070-CWG) MW 127A	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP070-CWG) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP079-CWG) MW 151, QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP079-CWG) MW 127A, QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Amber Glass Bottle - Unpreserved (EP070-CWG) MW 151	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP070-CWG) QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP070-CWG) MW 127A	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**08-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP070-CWG) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP079-CWG) MW 151, QA 103	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP079-CWG) MW 127A, QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) MW 150, MW 151, MW 152, MW 153, QA 302	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP071) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW 150, MW 151, MW 152, MW 153, QA 103, QA 302, QA 502	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) MW 150, MW 151, MW 152, MW 153, QA 302	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**06-Dec-2023**	07-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP071) QA 103	**01-Dec-2023**	**06-Dec-2023**	08-Dec-2023	✓	**07-Dec-2023**	15-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW 150, MW 151, MW 152, MW 153, QA 103, QA 302, QA 502	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) MW 150, MW 151, MW 152, MW 153, QA 103, QA 302, QA 502	**01-Dec-2023**	**08-Dec-2023**	15-Dec-2023	✓	**08-Dec-2023**	15-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW 55, MW 127A, MW 127B, QA 102	**30-Nov-2023**	**08-Dec-2023**	14-Dec-2023	✓	**08-Dec-2023**	14-Dec-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	3	21	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	4	31	**12.90**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	4	21	**19.05**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	4	31	**12.90**	**7.50**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	21	**9.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	31	**6.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Ferrous Iron by Discrete Analyser	EG051G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	21	**9.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Ferrous Iron by Discrete Analyser	EG051G	WATER	In house: Referenced to APHA 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	WATER	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	WATER	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromotic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG,Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

QUALITY CONTROL REPORT

Work Order	: **EM2321582**	Page	: 1 of 20
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 04-Dec-2023
Order number	: 60693007/3	Date Analysis Commenced	: 06-Dec-2023
C-O-C number	: ----	Issue Date	: 13-Dec-2023
Sampler	: C. TELLER		
Site	: Macquarie Point, 41 Evans St, Hobart		
Quote number	: EN/004/23		
No. of samples received	: 12		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5474703)									
EM2321412-016	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	646	662	2.4	0% - 20%
EM2321633-006	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	586	574	2.1	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5477915)									
EM2321635-009	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1890	1820	3.8	0% - 20%
EM2321452-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1200	1200	0.3	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 5478705)									
EM2321542-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	283	279	1.4	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	283	279	1.4	0% - 20%
EM2321655-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1260	1260	0.4	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1260	1260	0.4	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5471634)									
EM2321390-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	574	568	1.1	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5478996)									
EM2321407-003	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	15	16	0.0	0% - 50%
EM2321582-007	MW 153	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	1120	1120	0.2	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 5471635)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED045G: Chloride by Discrete Analyser (QC Lot: 5471635) - continued									
EM2321607-003	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	8830	8990	1.8	0% - 20%
EM2321390-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	2070	2100	1.4	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 5478997)									
EM2321407-003	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	27	26	4.1	0% - 20%
EM2321582-007	MW 153	ED045G: Chloride	16887-00-6	1	mg/L	11600	11700	0.4	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 5478731)									
EM2321582-002	MW 127A	ED093F: Calcium	7440-70-2	1	mg/L	179	190	5.9	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	64	67	3.8	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	404	422	4.3	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	36	38	4.5	0% - 20%
EM2321631-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	55	54	1.9	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	105	104	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	694	687	1.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	112	111	0.0	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5478729)									
EM2321396-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.008	0.007	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.080	0.082	2.2	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.020	0.018	8.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.07	0.07	0.0	No Limit
EM2321396-010	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.007	0.007	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.268	0.268	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.013	0.010	19.3	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.74	0.74	0.0	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5478732)									
EM2321582-008	QA 102	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5478732) - continued									
EM2321582-008	QA 102	EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	3.41	3.44	1.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.01	0.01	0.0	No Limit
EM2321631-007	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.070	0.069	2.4	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.006	0.006	0.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5478730)									
EM2321407-007	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2321582-009	QA 103	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 5471470)									
EM2321407-001	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	17.2	15.8	8.3	0% - 20%
EM2321582-002	MW 127A	EG051G: Ferrous Iron	----	0.05	mg/L	37.2	37.8	1.6	0% - 20%
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 5471479)									
EM2321602-002	Anonymous	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321582-001	MW 55	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5471477)									
EM2321624-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004 (0.200) *	mg/L	4.59	4.60	0.3	0% - 20%
EM2321582-001	MW 55	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	0.071	0.076	6.6	0% - 50%
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 5471478)									
EM2321602-002	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321582-001	MW 55	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 5478231)									
EM2321229-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01 (0.02)*	mg/L	0.41	0.40	0.0	0% - 20%
EM2321582-002	MW 127A	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	15.4	15.4	0.4	0% - 20%
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 5475035)									
EM2321582-002	MW 127A	EP033: Methane	74-82-8	10	µg/L	16700	16000	4.4	0% - 20%
EP2317017-001	Anonymous	EP033: Methane	74-82-8	10	µg/L	21	20	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 5475648)									
EB2338117-001	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EM2321634-001	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 5478109) - continued									
EM2321582-002	MW 127A	EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 5478109)									
EM2321582-002	MW 127A	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 5478108)									
EM2321582-002	MW 127A	EP079-CWG: Aliphatic >C5-C6	----	20	µg/L	<20	<20	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	20	µg/L	<20	<20	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	20	µg/L	<20	<20	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 5478108)									
EM2321582-002	MW 127A	EP079-CWG: Aromatic >C5-C7	----	1 (5)*	µg/L	<5	<5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	10 (5)*	µg/L	<5	<5	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	2 (5)*	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5478107)									
EM2321582-006	MW 152	EP080: C6 - C9 Fraction	----	20	µg/L	30	20	0.0	No Limit
EM2321582-002	MW 127A	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5478107)									
EM2321582-006	MW 152	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	40	30	0.0	No Limit
EM2321582-002	MW 127A	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5478107)									
EM2321582-006	MW 152	EP080: Benzene	71-43-2	1	µg/L	2	3	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	4	4	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2321582-002	MW 127A	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5474703)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	96.9	91.0	110
				<10	2340 mg/L	107	80.8	119
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5477915)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	101	91.0	110
				<10	2340 mg/L	116	80.8	119
ED037P: Alkalinity by PC Titrator (QCLot: 5478705)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	90.4	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5471634)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	104	90.0	110
				<1	25 mg/L	109	90.0	110
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5478996)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	104	90.0	110
				<1	25 mg/L	107	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 5471635)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	101	90.0	110
				<1	10 mg/L	98.8	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 5478997)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	98.2	90.0	110
				<1	10 mg/L	102	90.0	110
ED093F: Dissolved Major Cations (QCLot: 5478731)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	94.1	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	99.8	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	93.7	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	93.4	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478729)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	96.7	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.6	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.6	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	93.7	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.3	83.1	107

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478729) - continued								
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	99.5	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	95.2	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	98.3	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.3	86.3	112
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478732)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	95.0	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	97.1	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.4	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	94.2	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.0	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.9	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	93.9	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.8	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.8	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 5478730)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	103	71.6	116
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5471470)								
EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	2 mg/L	110	75.8	112
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5471479)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	97.2	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5471477)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	102	77.7	116
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5471478)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	94.5	82.6	119
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5478231)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	96.9	90.0	110
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5475035)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	94.9	86.0	114
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5475648)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	92.4	86.0	114
EP068A: Organochlorine Pesticides (OC) (QCLot: 5471116)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	2.5 µg/L	97.0	50.6	119
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	2.5 µg/L	86.0	44.2	117
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	2.5 µg/L	94.4	53.7	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5471116) - continued								
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	2.5 µg/L	97.4	47.7	117
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	2.5 µg/L	95.4	52.5	117
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	2.5 µg/L	96.0	46.9	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	2.5 µg/L	91.1	48.0	115
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	2.5 µg/L	95.7	51.1	119
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	2.5 µg/L	96.7	48.4	120
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	2.5 µg/L	91.9	50.1	122
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	2.5 µg/L	94.5	51.0	118
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	2.5 µg/L	96.0	48.4	116
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	2.5 µg/L	93.8	49.3	116
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	2.5 µg/L	96.3	47.1	130
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	2.5 µg/L	97.0	51.6	118
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	2.5 µg/L	95.1	48.6	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	2.5 µg/L	102	49.4	128
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	2.5 µg/L	99.8	49.1	123
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	2.5 µg/L	102	45.6	126
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	2.5 µg/L	99.2	52.8	117
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	2.5 µg/L	105	47.1	126
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 5478109)								
EP074: Styrene	100-42-5	5	µg/L	<5	20 µg/L	95.6	80.9	116
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	20 µg/L	95.9	76.6	117
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	20 µg/L	90.6	69.5	116
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	20 µg/L	91.6	72.1	114
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	20 µg/L	91.2	71.4	115
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	20 µg/L	90.8	74.2	114
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	20 µg/L	93.8	73.4	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	20 µg/L	93.2	70.4	116
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	20 µg/L	93.0	64.1	115
EP074B: Oxygenated Compounds (QCLot: 5478109)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	200 µg/L	82.0	70.7	128
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	200 µg/L	102	58.0	134
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	200 µg/L	100	70.8	136
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	200 µg/L	120	67.1	132
EP074C: Sulfonated Compounds (QCLot: 5478109)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP074C: Sulfonated Compounds (QCLot: 5478109) - continued								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	20 µg/L	82.8	56.9	132
EP074D: Fumigants (QCLot: 5478109)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	20 µg/L	89.3	71.1	118
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	20 µg/L	86.3	78.5	117
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	20 µg/L	79.6	75.7	115
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	20 µg/L	77.5	76.4	115
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	20 µg/L	91.4	77.1	118
EP074E: Halogenated Aliphatic Compounds (QCLot: 5478109)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	200 µg/L	102	51.9	140
EP074: Chloromethane	74-87-3	50	µg/L	<50	200 µg/L	108	63.2	134
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	200 µg/L	# 140	58.1	135
EP074: Bromomethane	74-83-9	50	µg/L	<50	200 µg/L	97.8	54.4	130
EP074: Chloroethane	75-00-3	50	µg/L	<50	200 µg/L	108	69.4	129
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	200 µg/L	96.1	70.1	126
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	20 µg/L	88.3	68.4	125
EP074: Iodomethane	74-88-4	5	µg/L	<5	20 µg/L	95.6	30.9	126
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	20 µg/L	86.4	70.8	122
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	20 µg/L	88.1	76.6	121
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	20 µg/L	93.3	79.1	120
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	20 µg/L	89.9	72.5	120
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	20 µg/L	89.0	69.4	120
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	20 µg/L	87.5	67.8	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	20 µg/L	90.9	78.4	120
EP074: Trichloroethene	79-01-6	5	µg/L	<5	20 µg/L	84.6	73.1	120
EP074: Dibromomethane	74-95-3	5	µg/L	<5	20 µg/L	86.2	78.3	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	20 µg/L	95.3	81.1	120
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	20 µg/L	97.5	80.3	120
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	20 µg/L	104	73.1	118
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	20 µg/L	96.0	76.9	111
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	20 µg/L	88.4	70.0	122
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	20 µg/L	74.4	62.4	118
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	20 µg/L	94.5	77.9	128
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	20 µg/L	96.4	78.5	124
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	20 µg/L	86.8	68.5	110

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 5478109) - continued								
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	20 µg/L	77.8	70.7	116
EP074F: Halogenated Aromatic Compounds (QCLot: 5478109)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	20 µg/L	94.7	82.6	116
EP074: Bromobenzene	108-86-1	5	µg/L	<5	20 µg/L	96.5	79.3	115
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	20 µg/L	92.2	75.5	116
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	20 µg/L	90.6	75.0	115
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	20 µg/L	104	70.4	124
EP074G: Trihalomethanes (QCLot: 5478109)								
EP074: Chloroform	67-66-3	5	µg/L	<5	20 µg/L	92.6	79.6	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	20 µg/L	88.8	76.3	117
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	20 µg/L	90.9	73.5	113
EP074: Bromoform	75-25-2	5	µg/L	<5	20 µg/L	87.5	68.5	113
EP075(SIM)A: Phenolic Compounds (QCLot: 5471112)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	41.1	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	89.7	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	81.2	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	76.1	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	95.4	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	93.2	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	94.0	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	92.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	106	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	94.3	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	95.3	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	109	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5471112)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	87.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	95.2	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	87.8	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	95.2	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	95.4	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	93.6	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	94.5	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	96.4	50.0	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5471112) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	101	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.1	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	92.8	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	96.8	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	93.0	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	96.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	96.7	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	96.3	54.4	126
EP075A: Phenolic Compounds (QCLot: 5471115)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	32.2	19.5	48.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	74.7	46.3	101
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	63.6	41.1	94.4
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	67.6	35.1	88.8
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	74.2	45.3	113
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	73.6	47.6	108
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	79.7	48.2	110
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	73.0	48.9	107
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	75.6	47.2	110
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	73.4	45.2	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	63.9	42.4	113
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	10 µg/L	56.0	14.2	124
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5471115)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	10 µg/L	59.5	50.9	107
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	63.2	50.3	111
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	63.9	50.8	110
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	10 µg/L	70.9	52.9	111
EP075: Acenaphthene	83-32-9	2	µg/L	<2	10 µg/L	72.1	54.5	109
EP075: Fluorene	86-73-7	2	µg/L	<2	10 µg/L	78.4	55.7	110
EP075: Phenanthrene	85-01-8	2	µg/L	<2	10 µg/L	77.6	55.4	112
EP075: Anthracene	120-12-7	2	µg/L	<2	10 µg/L	78.4	55.9	111
EP075: Fluoranthene	206-44-0	2	µg/L	<2	10 µg/L	83.8	55.9	112
EP075: Pyrene	129-00-0	2	µg/L	<2	10 µg/L	77.8	56.5	112
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	96.5	50.0	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5471115) - continued								
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	10 µg/L	93.4	55.5	114
EP075: Chrysene	218-01-9	2	µg/L	<2	10 µg/L	92.0	56.0	114
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	20 µg/L	80.6	55.4	120
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	84.0	54.4	121
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	10 µg/L	88.6	53.9	121
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	78.2	51.9	121
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	10 µg/L	86.2	54.4	114
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	10 µg/L	81.0	54.0	115
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	10 µg/L	83.4	51.7	116
EP075C: Phthalate Esters (QCLot: 5471115)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	69.3	56.5	115
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	79.6	58.0	113
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	81.0	57.6	120
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	88.6	56.3	119
EP075: bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	10 µg/L	79.6	57.6	122
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	79.0	56.5	122
EP075D: Nitrosamines (QCLot: 5471115)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	66.3	23.9	106
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	74.0	46.1	108
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	61.0	36.6	83.2
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	59.3	34.6	79.0
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	75.3	53.1	114
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	76.5	51.0	111
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	61.9	37.0	111
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	10 µg/L	78.3	51.3	113
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	70.6	10.0	125
EP075E: Nitroaromatics and Ketones (QCLot: 5471115)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	65.8	18.8	108
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	73.6	52.5	111
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	72.6	50.6	109
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	71.4	53.7	113
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	71.3	54.0	115
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	79.4	53.3	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 5471115) - continued								
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	56.7	10.9	119
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	93.6	27.3	147
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	87.0	44.6	119
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	78.1	55.6	110
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	84.5	37.6	124
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	83.8	44.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	78.9	24.0	149
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	77.1	54.6	111
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	78.2	56.5	113
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	89.1	53.8	112
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	82.8	55.0	113
EP075F: Haloethers (QCLot: 5471115)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	69.8	45.3	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	72.5	52.7	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	74.6	55.8	110
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	81.8	55.7	114
EP075G: Chlorinated Hydrocarbons (QCLot: 5471115)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	54.0	43.2	104
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	53.4	42.7	103
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	55.2	44.4	104
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	52.6	41.5	105
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	60.4	46.1	107
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	53.2	41.4	109
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	52.6	43.9	108
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	44.4	14.6	133
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	75.2	53.3	109
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	73.0	48.4	116
EP075H: Anilines and Benzidines (QCLot: 5471115)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	68.3	21.2	116
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	71.4	14.5	126
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	72.9	49.5	111
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	76.0	28.4	125
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	77.5	55.4	110
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	94.3	37.3	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075H: Anilines and Benzidines (QCLot: 5471115) - continued								
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	86.9	51.6	116
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	123	42.3	142
EP075I: Organochlorine Pesticides (QCLot: 5471115)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	10 µg/L	81.2	56.2	112
EP075: beta-BHC	319-85-7	2	µg/L	<2	10 µg/L	82.2	56.2	113
EP075: gamma-BHC	58-89-9	2	µg/L	<2	10 µg/L	79.8	55.2	113
EP075: delta-BHC	319-86-8	2	µg/L	<2	10 µg/L	80.6	52.6	117
EP075: Heptachlor	76-44-8	2	µg/L	<2	10 µg/L	74.2	53.4	111
EP075: Aldrin	309-00-2	2	µg/L	<2	10 µg/L	76.0	54.0	112
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	10 µg/L	82.9	54.2	113
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	10 µg/L	85.3	49.3	122
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	10 µg/L	88.6	56.0	121
EP075: Dieldrin	60-57-1	2	µg/L	<2	10 µg/L	81.5	55.2	118
EP075: Endrin	72-20-8	2	µg/L	<2	10 µg/L	91.7	52.7	121
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	10 µg/L	88.3	55.1	119
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	10 µg/L	91.9	55.4	120
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	10 µg/L	96.9	49.6	123
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	10 µg/L	89.4	47.8	127
EP075J: Organophosphorus Pesticides (QCLot: 5471115)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	10 µg/L	74.9	50.1	115
EP075: Dimethoate	60-51-5	2	µg/L	<2	10 µg/L	79.8	40.8	108
EP075: Diazinon	333-41-5	2	µg/L	<2	10 µg/L	87.4	55.4	118
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	10 µg/L	73.9	53.0	118
EP075: Malathion	121-75-5	2	µg/L	<2	10 µg/L	81.7	54.6	122
EP075: Fenthion	55-38-9	2	µg/L	<2	10 µg/L	77.5	55.1	119
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	10 µg/L	79.5	55.3	118
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	10 µg/L	84.3	55.8	118
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	10 µg/L	88.9	45.8	118
EP075: Prothiofos	34643-46-4	2	µg/L	<2	10 µg/L	86.0	56.1	118
EP075: Ethion	563-12-2	2	µg/L	<2	10 µg/L	102	57.7	119
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5471114)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	µg/L	<50	15986 µg/L	100	57.1	125
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	µg/L	<50	52785 µg/L	112	59.6	132

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5471114) - continued								
EP070-CWG: Aliphatic >C16-C21	----	50	µg/L	<50	45990 µg/L	111	54.7	120
EP070-CWG: Aliphatic >C21-C35	----	50	µg/L	<50	11321 µg/L	103	58.1	114
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5478108)								
EP079-CWG: Aliphatic >C5-C6	----	20	µg/L	<20	50 µg/L	113	49.4	135
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	20	µg/L	<20	100 µg/L	118	50.6	130
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	20	µg/L	<20	100 µg/L	109	53.8	124
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5471114)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	µg/L	<50	6319 µg/L	85.9	53.6	149
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	µg/L	<50	24109 µg/L	88.4	59.5	144
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	µg/L	<50	17104 µg/L	98.2	51.4	138
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	µg/L	<50	3570 µg/L	98.7	48.7	137
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5478108)								
EP079-CWG: Aromatic >C5-C7	----	1	µg/L	<1	20 µg/L	108	67.5	124
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	2	µg/L	<2	20 µg/L	108	70.0	124
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	10	µg/L	<10	160 µg/L	105	67.6	122
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5471113)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	89.9	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	98.1	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	107	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5478107)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	110	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5471113)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	92.4	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	98.2	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	106	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5478107)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	108	66.2	132
EP080: BTEXN (QCLot: 5478107)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5478107) - continued								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	107	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	106	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	107	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	93.1	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5471634)							
EM2321390-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	# Not Determined	70.0	130
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5478996)							
EM2321407-004	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	106	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 5471635)							
EM2321390-001	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	# Not Determined	70.0	142
ED045G: Chloride by Discrete Analyser (QCLot: 5478997)							
EM2321407-004	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	120	70.0	142
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478729)							
EM2321396-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	101	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	95.0	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	93.1	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	96.4	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	93.7	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	93.0	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	97.0	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	96.4	75.0	131
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478732)							
EM2321582-008	QA 102	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	106	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	98.1	74.6	118

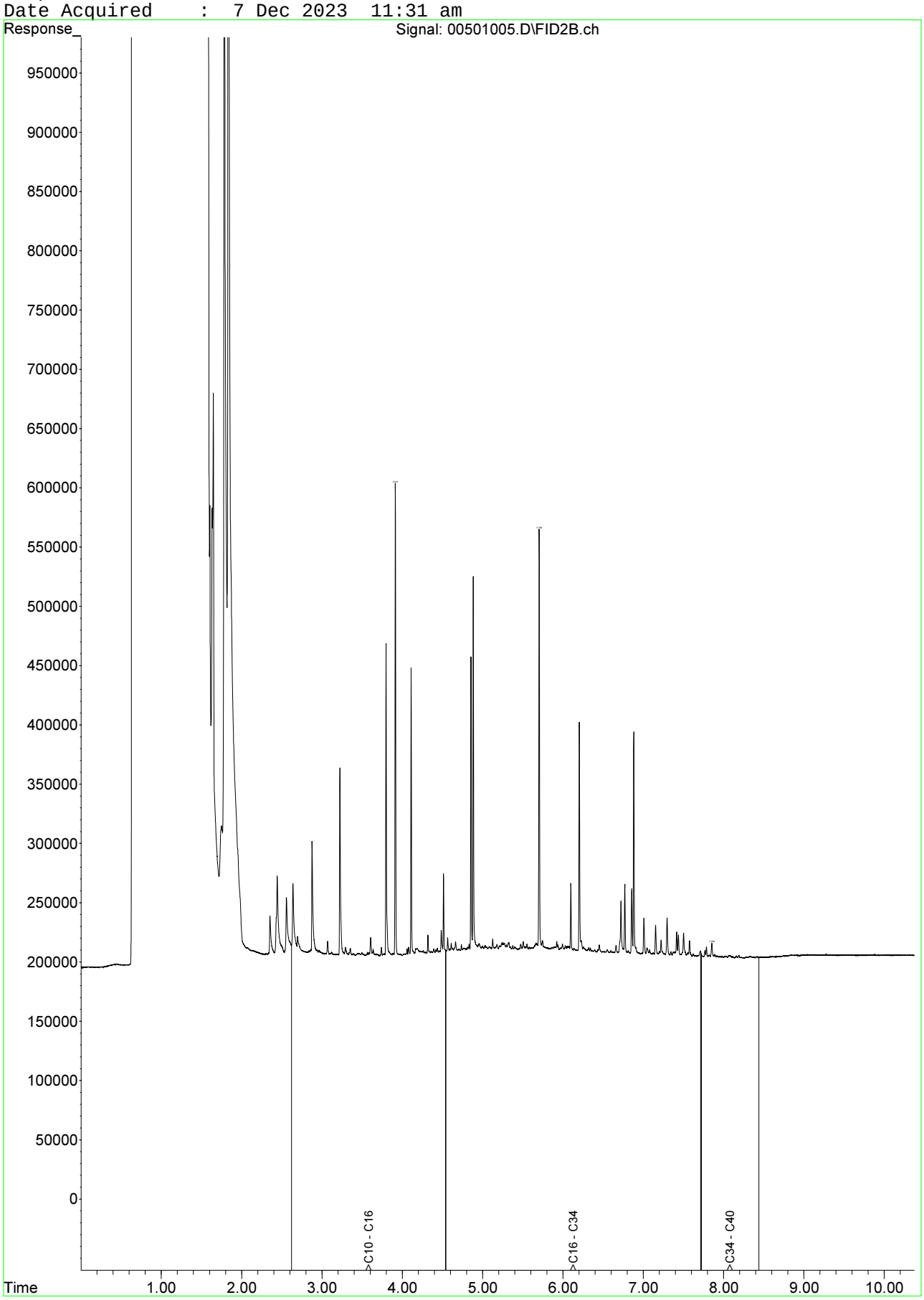
Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5478732) - continued							
EM2321582-008	QA 102	EG020A-F: Chromium	7440-47-3	0.2 mg/L	100	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	101	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	100	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	104	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	102	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 5478730)							
EM2321582-001	MW 55	EG035F: Mercury	7439-97-6	0.01 mg/L	97.3	70.0	120
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5471470)							
EM2321407-002	Anonymous	EG051G: Ferrous Iron	----	10 mg/L	95.5	70.0	130
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5471479)							
EM2321582-003	MW 127B	EK025SF: Free Cyanide	----	0.2 mg/L	97.8	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5471477)							
EM2321582-002	MW 127A	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	80.5	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5471478)							
EM2321582-003	MW 127B	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	100	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5478231)							
EM2321229-002	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	105	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5475035)							
EP2317016-001	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	99.5	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5475648)							
EB2338117-006	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	# Not Determined	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 5478109)							
EM2321582-005	MW 151	EP074: 1.1-Dichloroethene	75-35-4	20 µg/L	71.1	33.0	150
		EP074: Trichloroethene	79-01-6	20 µg/L	74.7	51.4	124
EP074F: Halogenated Aromatic Compounds (QCLot: 5478109)							
EM2321582-005	MW 151	EP074: Chlorobenzene	108-90-7	20 µg/L	84.5	63.6	128
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5478108)							
EM2321582-005	MW 151	EP079-CWG: Aliphatic >C5-C6	----	70 µg/L	72.4	43.0	147
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	120 µg/L	80.2	40.0	148
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5478108)							
EM2321582-005	MW 151	EP079-CWG: Aromatic >C5-C7	----	20 µg/L	89.2	58.3	137

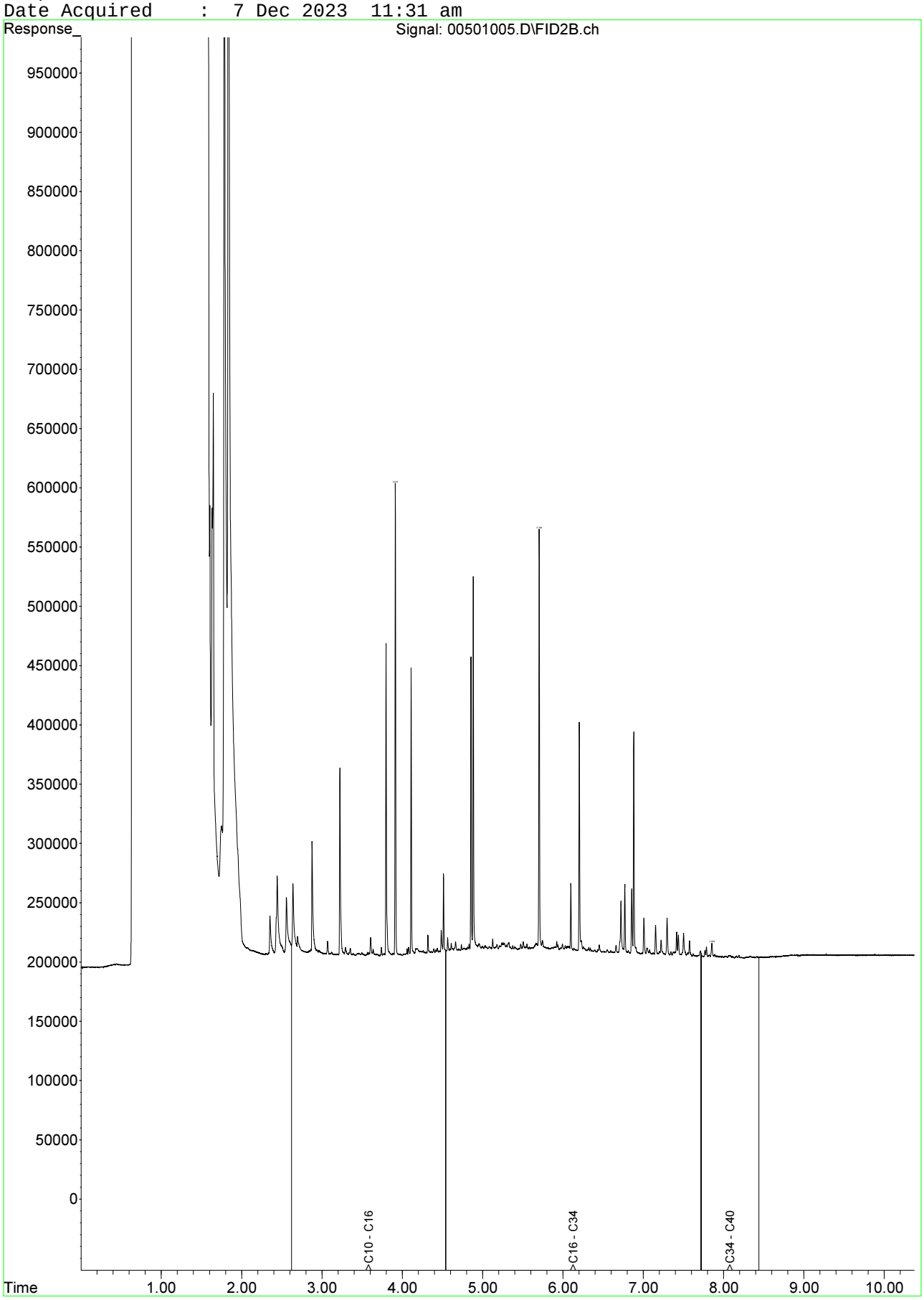
Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5478108) - continued							
EM2321582-005	MW 151	EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	20 µg/L	89.6	63.1	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5478107)							
EM2321582-005	MW 151	EP080: C6 - C9 Fraction	----	280 µg/L	68.7	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5478107)							
EM2321582-005	MW 151	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	64.1	34.0	122
EP080: BTEXN (QCLot: 5478107)							
EM2321582-005	MW 151	EP080: Benzene	71-43-2	20 µg/L	88.1	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	89.5	60.4	132

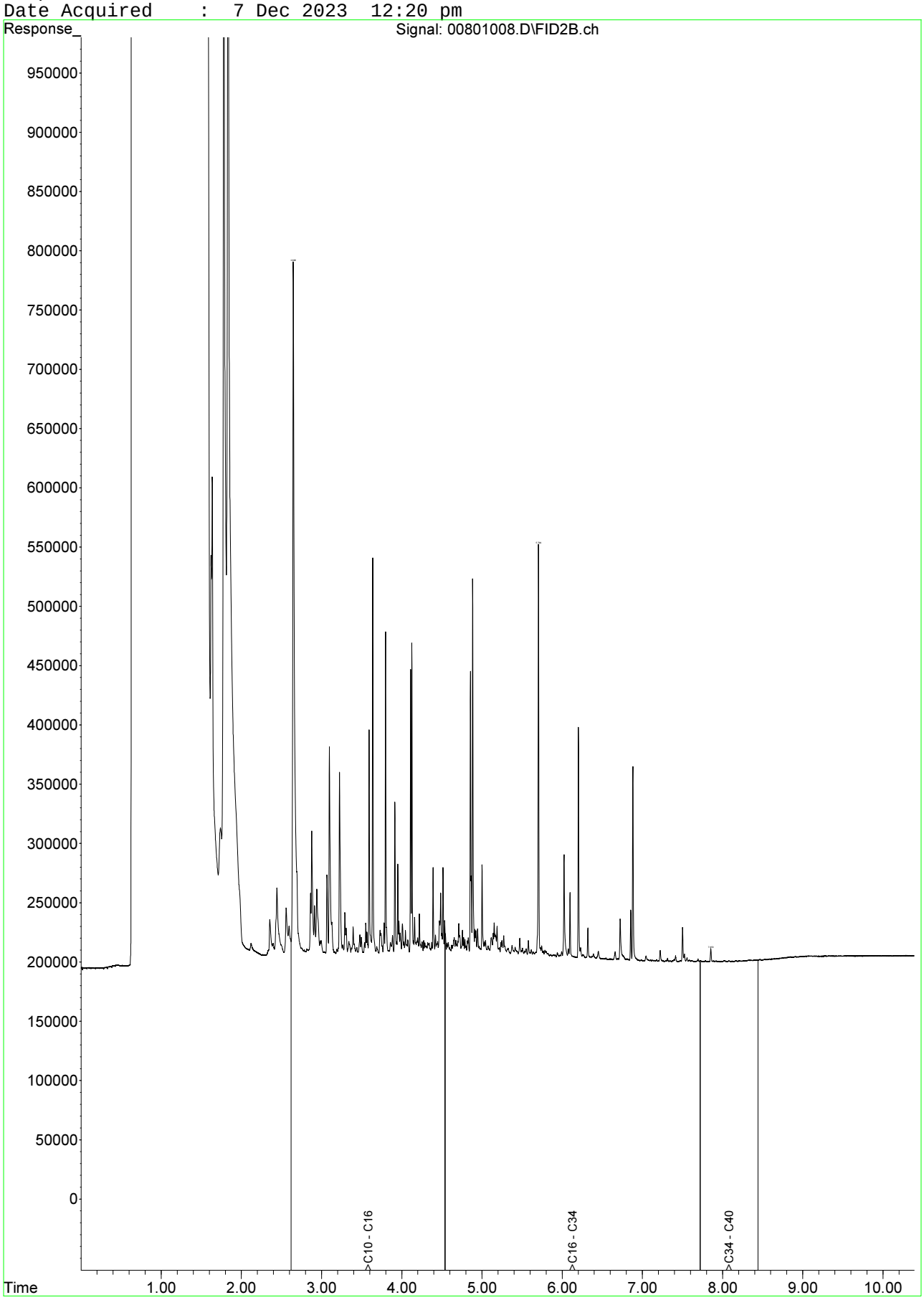
Fraction Scheme : NEPM Draft HIL
Data File : 00501005.D
Laboratory Number: EM2321582-003
Sample ID : MW 127B
Date Acquired : 7 Dec 2023 11:31 am



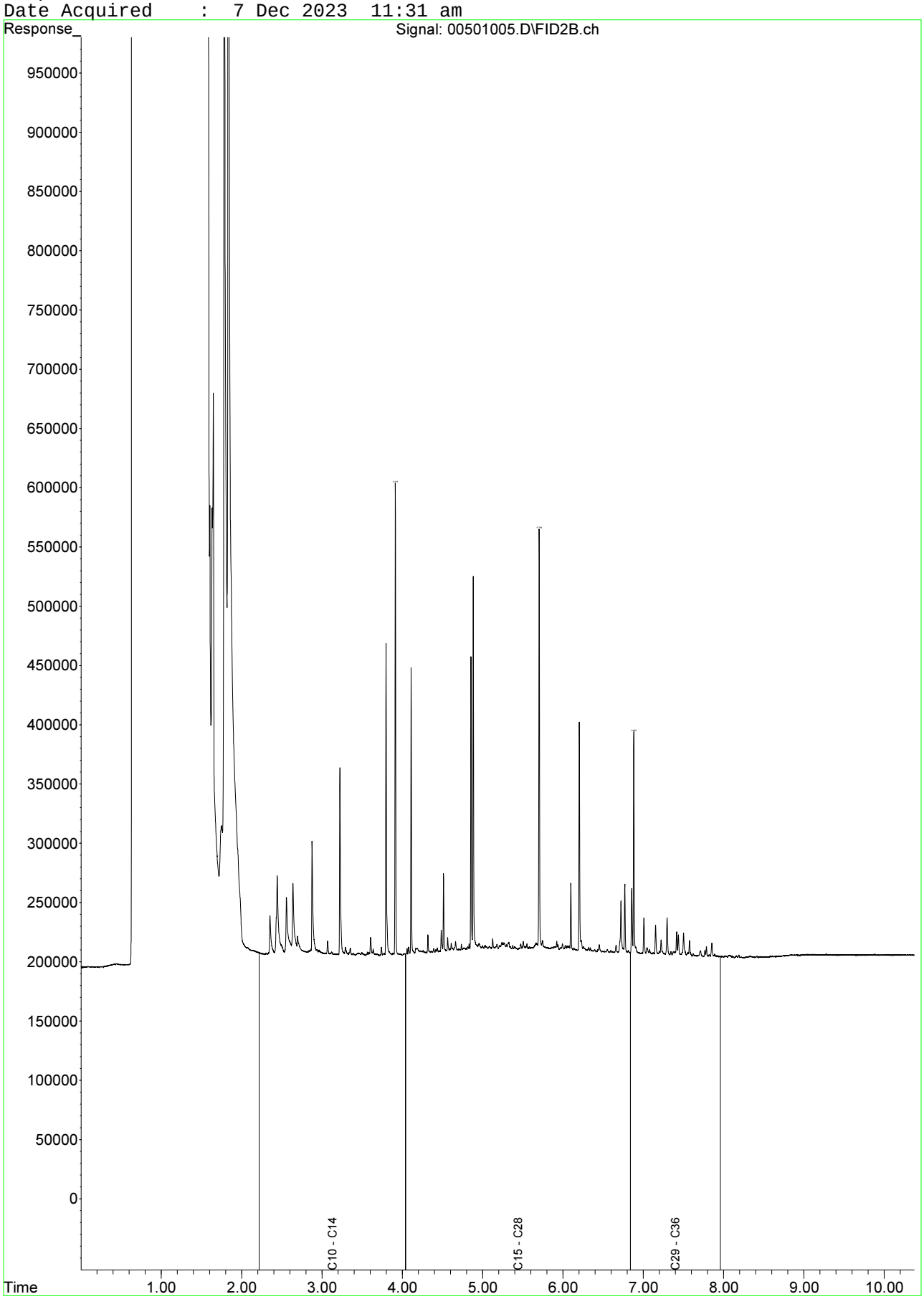
Fraction Scheme : NEPM Draft HIL
Data File : 00501005.D
Laboratory Number: EM2321582-003
Sample ID : MW 127B
Date Acquired : 7 Dec 2023 11:31 am



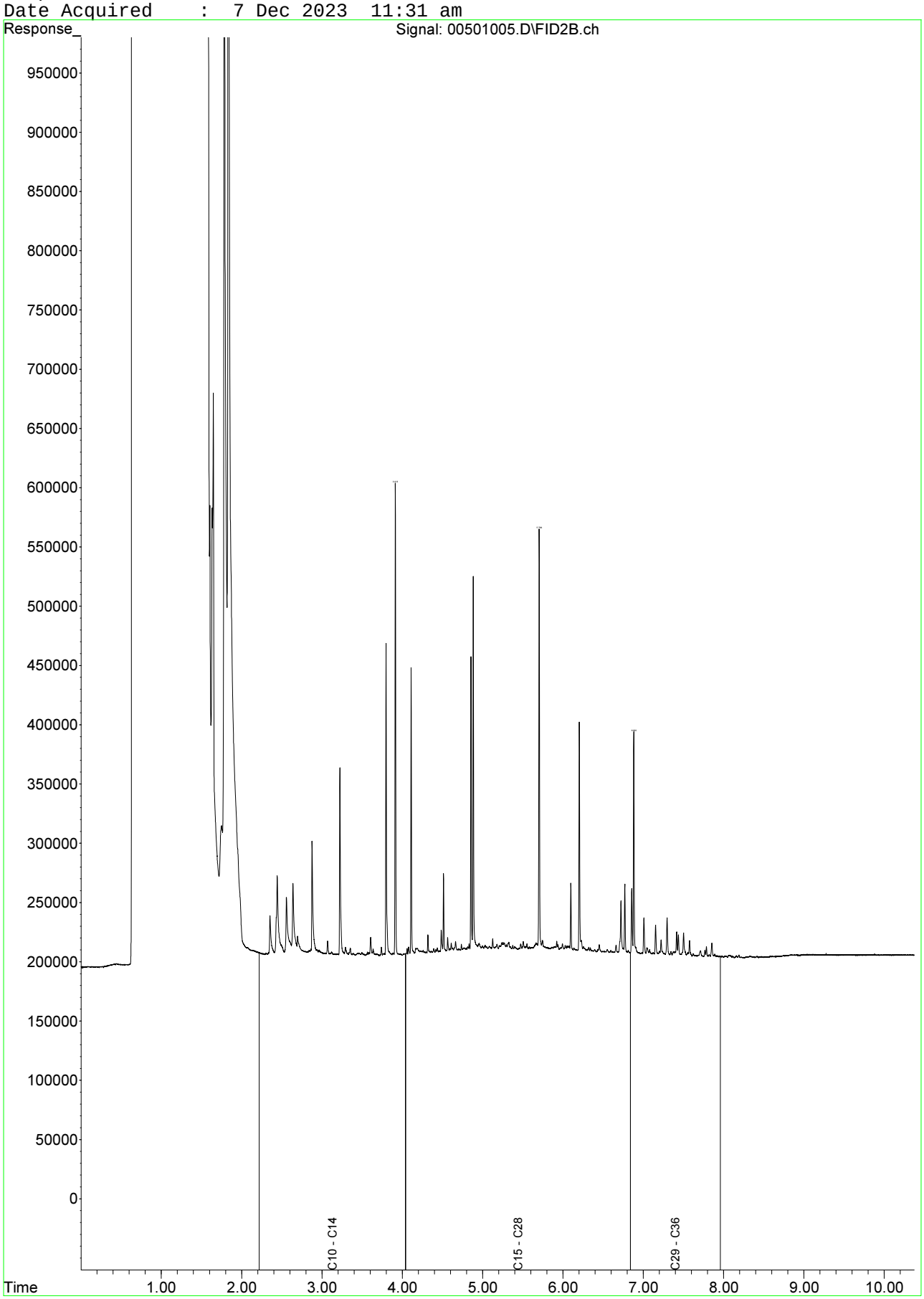
Fraction Scheme : NEPM Draft HIL
Data File : 00801008.D
Laboratory Number: EM2321582-006
Sample ID : MW 152
Date Acquired : 7 Dec 2023 12:20 pm



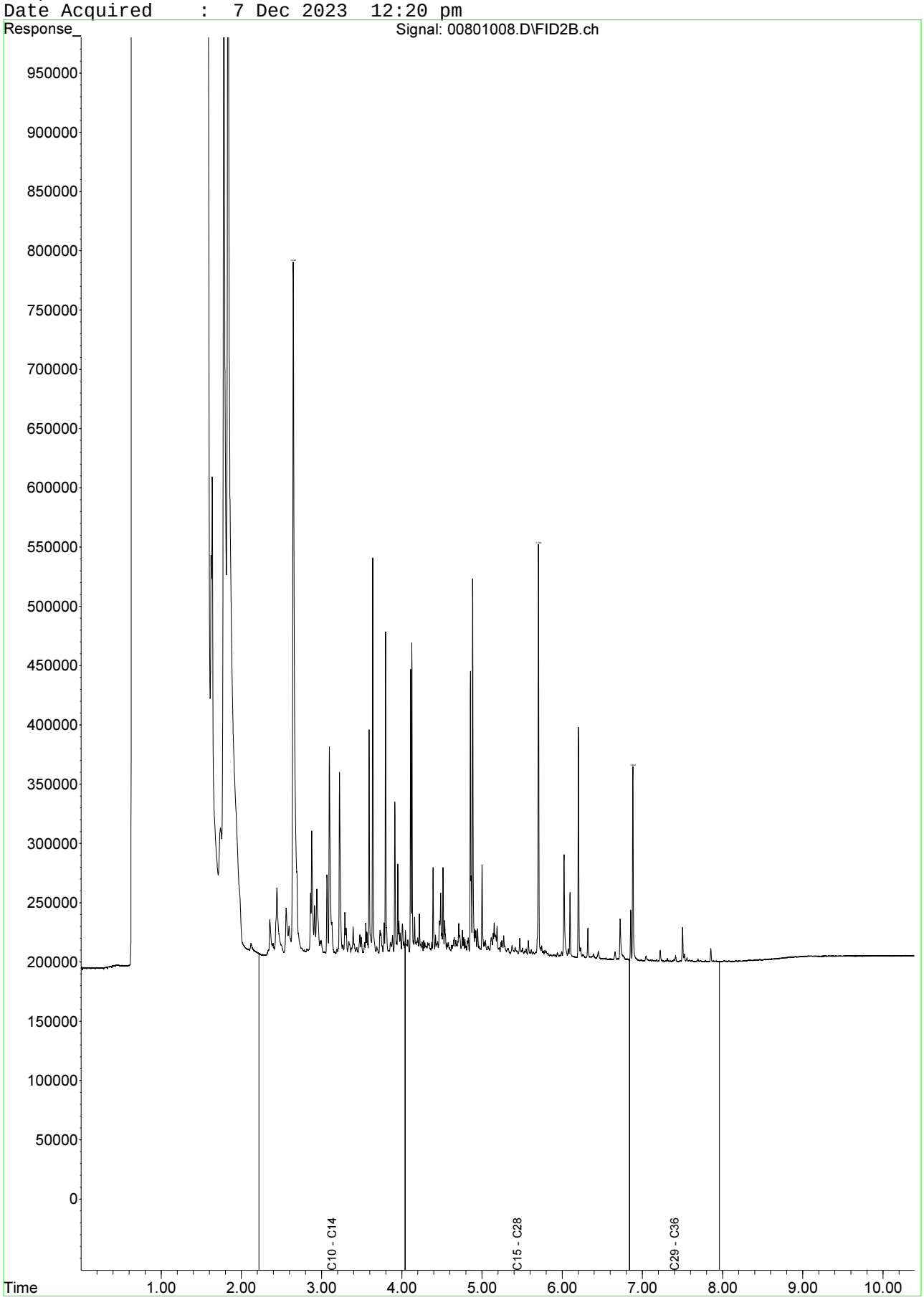
Fraction Scheme : Standard
Data File : 00501005.D
Laboratory Number: EM2321582-003
Sample ID : MW 127B
Date Acquired : 7 Dec 2023 11:31 am



Fraction Scheme : Standard
Data File : 00501005.D
Laboratory Number: EM2321582-003
Sample ID : MW 127B
Date Acquired : 7 Dec 2023 11:31 am



Fraction Scheme : Standard
Data File : 00801008.D
Laboratory Number: EM2321582-006
Sample ID : MW 152
Date Acquired : 7 Dec 2023 12:20 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2321824**	Page	: 1 of 21
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 07-Dec-2023 11:55
Order number	: 60693007/3	Date Analysis Commenced	: 08-Dec-2023
C-O-C number	: ----	Issue Date	: 14-Dec-2023 17:23
Sampler	: C. TELLER		
Site	: Macquarie Point, 41 Evans St, Hobart		
Quote number	: EN/004/23		
No. of samples received	: 24		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- ED041G/EK057G: EM2321824 #18 and #19 Samples required dilution prior Sulfate and Nitrite as N analysis due to matrix interferences. LOR values have been adjusted accordingly.
- ED041G: EM2321824 #11 Sample required dilution prior Sulfate analysis due to matrix interferences. LOR value has been adjusted accordingly.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW125A	MW125B	MW164	MW124A	MW124B
				Sampling date / time	04-Dec-2023 00:00	04-Dec-2023 00:00	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-001	EM2321824-002	EM2321824-003	EM2321824-005	EM2321824-006
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**314**	**361**	**306**	**381**	**962**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	**48**
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**347**	**348**	**194**	**341**	**758**
Total Alkalinity as CaCO3	----	1	mg/L		**347**	**348**	**194**	**341**	**805**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	<1	**15**	<1	**4**
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**16**	**17**	**18**	**18**	**139**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**82**	**82**	**43**	**63**	**41**
Magnesium	7439-95-4	1	mg/L		**17**	**17**	**13**	**21**	**107**
Sodium	7440-23-5	1	mg/L		**47**	**44**	**33**	**33**	**180**
Potassium	7440-09-7	1	mg/L		**12**	**12**	**12**	**22**	**63**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.01**	<0.01	**0.07**	<0.01	**0.01**
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	**0.003**	**0.011**	**0.002**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.002**	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	**0.009**	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.533**	**0.531**	**0.912**	**0.222**	**0.107**
Nickel	7440-02-0	0.001	mg/L		**0.002**	**0.002**	**0.001**	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	**0.063**	<0.005	<0.005
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW125A	MW125B	MW164	MW124A	MW124B
			Sampling date / time	04-Dec-2023 00:00	04-Dec-2023 00:00	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit	EM2321824-001	EM2321824-002	EM2321824-003	EM2321824-005	EM2321824-006
				Result	Result	Result	Result	Result
EK025SF: Free CN by Segmented Flow Analyser								
Free Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	0.004	mg/L	**0.010**	**0.009**	**0.036**	**0.016**	**0.019**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**4.98**	**5.05**	**1.73**	**15.1**	**10.4**
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**7.38**	**7.43**	**4.70**	**7.32**	**20.1**
ø Total Cations	----	0.01	meq/L	**7.84**	**7.71**	**4.96**	**6.87**	**20.3**
ø Ionic Balance	----	0.01	%	**3.01**	**1.84**	**2.71**	**3.18**	**0.51**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	----	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW125A	MW125B	MW164	MW124A	MW124B
				Sampling date / time	04-Dec-2023 00:00	04-Dec-2023 00:00	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-001	EM2321824-002	EM2321824-003	EM2321824-005	EM2321824-006
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthene	83-32-9	1.0	µg/L		**1.2**	<1.0	----	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		**1.1**	<1.0	----	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		**1.2**	<1.0	----	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**3.5**	<0.5	----	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	----	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	**20**	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	<50	<50
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	<50	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	**40**	<20	<20
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	**40**	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	<100	<100

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW125A	MW125B	MW164	MW124A	MW124B
				Sampling date / time	04-Dec-2023 00:00	04-Dec-2023 00:00	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-001	EM2321824-002	EM2321824-003	EM2321824-005	EM2321824-006
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	----	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	----	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**25.0**	**26.8**	----	**25.5**	**29.8**
2-Chlorophenol-D4	93951-73-6	1.0	%		**61.7**	**64.9**	----	**60.7**	**68.6**
2.4.6-Tribromophenol	118-79-6	1.0	%		**88.7**	**87.8**	----	**87.2**	**92.0**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**89.7**	**89.0**	----	**85.6**	**94.7**
Anthracene-d10	1719-06-8	1.0	%		**84.6**	**81.2**	----	**86.8**	**90.5**
4-Terphenyl-d14	1718-51-0	1.0	%		**92.8**	**88.8**	----	**93.2**	**100**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**102**	**98.0**	**82.0**	**102**	**106**
Toluene-D8	2037-26-5	2	%		**99.6**	**96.2**	**71.3**	**100**	**104**
4-Bromofluorobenzene	460-00-4	2	%		**107**	**104**	**99.1**	**108**	**113**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW163	MW126A	MW126B	MW60	S4
				Sampling date / time	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-007	EM2321824-008	EM2321824-009	EM2321824-010	EM2321824-011
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**196**	**994**	**1180**	**953**	**813**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**131**	**1060**	**1120**	**932**	**697**
Total Alkalinity as CaCO3	----	1	mg/L		**131**	**1060**	**1120**	**932**	**697**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**2**	<1	<1	**4**	<5
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**16**	**32**	**110**	**24**	**32**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**34**	**189**	**153**	**188**	**168**
Magnesium	7439-95-4	1	mg/L		**5**	**86**	**88**	**72**	**41**
Sodium	7440-23-5	1	mg/L		**23**	**76**	**161**	**67**	**69**
Potassium	7440-09-7	1	mg/L		**6**	**48**	**58**	**41**	**32**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.01**	**0.01**	**0.01**	**0.02**	**0.02**
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	**0.001**	**0.008**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	**0.006**	<0.001
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L		**0.198**	**0.626**	**0.573**	**0.670**	**1.09**
Nickel	7440-02-0	0.001	mg/L		<0.001	**0.004**	**0.003**	**0.004**	**0.005**
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	**0.005**	**0.020**	<0.005
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW163	MW126A	MW126B	MW60	S4
			Sampling date / time	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit	EM2321824-007	EM2321824-008	EM2321824-009	EM2321824-010	EM2321824-011
				Result	Result	Result	Result	Result
EK025SF: Free CN by Segmented Flow Analyser								
Free Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	0.004	mg/L	**0.052**	**0.186**	**0.113**	**0.028**	**0.028**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**1.51**	**43.0**	**47.0**	**27.5**	**8.27**
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**3.11**	**22.1**	**25.5**	**19.4**	**14.8**
ø Total Cations	----	0.01	meq/L	**3.26**	**21.0**	**23.4**	**19.3**	**15.6**
ø Ionic Balance	----	0.01	%	**2.38**	**2.41**	**4.33**	**0.29**	**2.46**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	**2.6**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW163	MW126A	MW126B	MW60	S4
				Sampling date / time	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-007	EM2321824-008	EM2321824-009	EM2321824-010	EM2321824-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthene	83-32-9	1.0	µg/L		<1.0	**13.2**	**46.0**	<1.0	**2.6**
Fluorene	86-73-7	1.0	µg/L		<1.0	**9.7**	**22.2**	<1.0	**3.4**
Phenanthrene	85-01-8	1.0	µg/L		<1.0	**26.6**	**17.7**	<1.0	**5.1**
Anthracene	120-12-7	1.0	µg/L		<1.0	**3.7**	**2.9**	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	**5.4**	**2.0**	<1.0	**1.4**
Pyrene	129-00-0	1.0	µg/L		<1.0	**3.8**	**1.4**	<1.0	**1.3**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	**62.4**	**94.8**	<0.5	**13.8**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	**80**
C10 - C14 Fraction	----	50	µg/L		<50	<50	**230**	<50	**870**
C15 - C28 Fraction	----	100	µg/L		<100	**160**	**420**	<100	**860**
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	**160**	**650**	<50	**1730**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	**20**	<20	**120**
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	**120**
>C10 - C16 Fraction	----	100	µg/L		<100	<100	**370**	<100	**1140**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW163	MW126A	MW126B	MW60	S4
				Sampling date / time	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-007	EM2321824-008	EM2321824-009	EM2321824-010	EM2321824-011
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C16 - C34 Fraction	----	100	µg/L		<100	**130**	**280**	<100	**570**
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	**130**	**650**	<100	**1710**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	**370**	<100	**1140**
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	**6**	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	**6**	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	**6**	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**28.6**	**23.1**	**20.9**	**25.1**	**25.6**
2-Chlorophenol-D4	93951-73-6	1.0	%		**62.4**	**52.2**	**46.9**	**61.1**	**65.4**
2.4.6-Tribromophenol	118-79-6	1.0	%		**89.0**	**81.6**	**88.1**	**82.3**	**95.3**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**85.4**	**74.3**	**68.4**	**94.2**	**90.9**
Anthracene-d10	1719-06-8	1.0	%		**83.9**	**78.1**	**82.0**	**87.4**	**86.0**
4-Terphenyl-d14	1718-51-0	1.0	%		**90.3**	**90.7**	**90.7**	**93.8**	**91.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**78.8**	**101**	**87.2**	**105**	**73.1**
Toluene-D8	2037-26-5	2	%		**70.6**	**99.4**	**72.8**	**99.7**	**70.5**
4-Bromofluorobenzene	460-00-4	2	%		**99.3**	**108**	**101**	**108**	**82.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA303	QA304	QA504	MW155	MW154
				Sampling date / time	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-012	EM2321824-014	EM2321824-016	EM2321824-017	EM2321824-018
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		<10	<10	----	**392**	**1020**
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	----	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	----	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**2**	**1**	----	**344**	**988**
Total Alkalinity as CaCO3	----	1	mg/L		**2**	**1**	----	**344**	**988**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	<1	----	<1	<5
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		<1	<1	----	**21**	**30**
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		<1	<1	----	**64**	**207**
Magnesium	7439-95-4	1	mg/L		<1	<1	----	**12**	**71**
Sodium	7440-23-5	1	mg/L		<1	<1	----	**76**	**94**
Potassium	7440-09-7	1	mg/L		<1	<1	----	**18**	**42**
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		<0.01	<0.01	----	**0.02**	**0.05**
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	<0.001	**0.003**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	<0.001	**0.001**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	**0.001**	**0.006**
Manganese	7439-96-5	0.001	mg/L		<0.001	<0.001	----	**0.247**	**1.07**
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	<0.001	**0.006**
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	----	**0.077**	**0.012**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	<0.0001	<0.0001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA303	QA304	QA504	MW155	MW154
			Sampling date / time	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit	EM2321824-012	EM2321824-014	EM2321824-016	EM2321824-017	EM2321824-018
				Result	Result	Result	Result	Result
EG051G: Ferrous Iron by Discrete Analyser								
Ferrous Iron	----	0.05	mg/L	**----**	**----**	**----**	**8.82**	**40.2**
EK025SF: Free CN by Segmented Flow Analyser								
Free Cyanide	----	0.004	mg/L	<0.004	<0.004	**----**	<0.004	<0.004
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	**----**	<0.004	**0.016**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	**----**	<0.004	<0.004
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.01	**----**	**----**	**4.86**	**15.9**
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	**----**	**----**	**----**	<0.01	<0.05
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**0.04**	**0.02**	**----**	**7.46**	**20.6**
ø Total Cations	----	0.01	meq/L	<0.01	<0.01	**----**	**7.95**	**21.3**
ø Ionic Balance	----	0.01	%	**----**	**----**	**----**	**3.13**	**1.79**
EP033: C1 - C4 Hydrocarbon Gases								
Methane	74-82-8	10	µg/L	**----**	**----**	**----**	**8260**	**12900**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	**----**	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	**----**	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA303	QA304	QA504	MW155	MW154
				Sampling date / time	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-012	EM2321824-014	EM2321824-016	EM2321824-017	EM2321824-018
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	<1.0	**3.4**
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	<1.0	**3.2**
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	<1.0	**3.1**
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	<1.0	**1.0**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	----	<0.5	**10.7**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	----	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	**110**
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	<50	**550**
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	<100	**630**
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	<50	**50**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA303	QA304	QA504	MW155	MW154
				Sampling date / time	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-012	EM2321824-014	EM2321824-016	EM2321824-017	EM2321824-018
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	----	<50	1230
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	130
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	130
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	<100	780
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	<100	410
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	----	<100	1190
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	----	<100	780
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		25.0	23.2	----	25.6	27.0
2-Chlorophenol-D4	93951-73-6	1.0	%		65.0	57.0	----	60.6	58.6
2.4.6-Tribromophenol	118-79-6	1.0	%		84.3	86.2	----	92.9	100.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		94.7	85.9	----	84.7	74.0
Anthracene-d10	1719-06-8	1.0	%		86.6	83.8	----	87.0	79.0
4-Terphenyl-d14	1718-51-0	1.0	%		92.8	91.6	----	93.8	82.3

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QA303	QA304	QA504	MW155	MW154
				Sampling date / time	04-Dec-2023 00:00	05-Dec-2023 00:00	05-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-012	EM2321824-014	EM2321824-016	EM2321824-017	EM2321824-018
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**96.5**	**99.0**	**93.2**	**99.2**	**109**
Toluene-D8	2037-26-5	2	%		**93.8**	**96.3**	**93.9**	**95.0**	**97.5**
4-Bromofluorobenzene	460-00-4	2	%		**104**	**106**	**102**	**105**	**114**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	S6	MW06	MW16	QA305	QA505
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-019	EM2321824-020	EM2321824-021	EM2321824-022	EM2321824-024
					Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**1320**	**466**	**190**	<10	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**1370**	**392**	**163**	**2**	----
Total Alkalinity as CaCO3	----	1	mg/L		**1370**	**392**	**163**	**2**	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<5	<1	<1	<1	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**180**	**35**	**10**	<1	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**209**	**77**	**48**	<1	----
Magnesium	7439-95-4	1	mg/L		**125**	**22**	**7**	<1	----
Sodium	7440-23-5	1	mg/L		**188**	**68**	**12**	<1	----
Potassium	7440-09-7	1	mg/L		**87**	**20**	**6**	<1	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		**0.32**	**0.01**	**0.01**	<0.01	----
Arsenic	7440-38-2	0.001	mg/L		**0.005**	<0.001	**0.002**	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
Copper	7440-50-8	0.001	mg/L		**0.004**	<0.001	<0.001	<0.001	----
Lead	7439-92-1	0.001	mg/L		**0.025**	<0.001	<0.001	<0.001	----
Manganese	7439-96-5	0.001	mg/L		**1.23**	**0.443**	**0.354**	<0.001	----
Nickel	7440-02-0	0.001	mg/L		**0.003**	**0.002**	<0.001	<0.001	----
Zinc	7440-66-6	0.005	mg/L		**0.033**	**0.006**	<0.005	<0.005	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	S6	MW06	MW16	QA305	QA505
			Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit	EM2321824-019	EM2321824-020	EM2321824-021	EM2321824-022	EM2321824-024
				Result	Result	Result	Result	Result
EG051G: Ferrous Iron by Discrete Analyser								
Ferrous Iron	----	0.05	mg/L	**39.4**	**8.57**	**10.6**	<0.05	----
EK025SF: Free CN by Segmented Flow Analyser								
Free Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	<0.004	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	0.004	mg/L	**0.028**	**0.020**	**0.017**	<0.004	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	<0.004	<0.004	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**52.0**	**10.6**	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	<0.05	<0.01	----	----	----
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**32.4**	**8.82**	**3.54**	**0.04**	----
ø Total Cations	----	0.01	meq/L	**31.1**	**9.12**	**3.65**	<0.01	----
ø Ionic Balance	----	0.01	%	**2.09**	**1.69**	**1.50**	----	----
EP033: C1 - C4 Hydrocarbon Gases								
Methane	74-82-8	10	µg/L	**12100**	**13200**	**12200**	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	S6	MW06	MW16	QA305	QA505
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-019	EM2321824-020	EM2321824-021	EM2321824-022	EM2321824-024
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L		2.9	1.1	1.5	<1.0	----
Fluorene	86-73-7	1.0	µg/L		2.4	<1.0	1.4	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L		6.7	1.5	1.3	<1.0	----
Anthracene	120-12-7	1.0	µg/L		1.6	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L		4.5	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L		4.3	<1.0	<1.0	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L		1.2	<1.0	<1.0	<1.0	----
Chrysene	218-01-9	1.0	µg/L		1.1	<1.0	<1.0	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		1.2	<1.0	<1.0	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		1.3	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		27.2	2.6	4.2	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		1.6	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		20	<20	550	<20	<20
C10 - C14 Fraction	----	50	µg/L		440	170	580	<50	----
C15 - C28 Fraction	----	100	µg/L		1060	250	480	<100	----
C29 - C36 Fraction	----	50	µg/L		110	<50	<50	<50	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	S6	MW06	MW16	QA305	QA505
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-019	EM2321824-020	EM2321824-021	EM2321824-022	EM2321824-024
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
^ C10 - C36 Fraction (sum)	----	50	µg/L		1610	420	1060	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		30	<20	600	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		30	<20	600	<20	<20
>C10 - C16 Fraction	----	100	µg/L		740	210	680	<100	----
>C16 - C34 Fraction	----	100	µg/L		800	220	330	<100	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		1540	430	1010	<100	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		740	210	680	<100	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		25.0	24.6	26.9	23.2	----
2-Chlorophenol-D4	93951-73-6	1.0	%		58.9	59.1	67.9	54.7	----
2.4.6-Tribromophenol	118-79-6	1.0	%		102	99.2	104	78.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		90.5	79.8	92.3	73.3	----
Anthracene-d10	1719-06-8	1.0	%		87.3	87.4	89.8	75.0	----
4-Terphenyl-d14	1718-51-0	1.0	%		86.8	90.9	93.1	81.6	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	S6	MW06	MW16	QA305	QA505
				Sampling date / time	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00	06-Dec-2023 00:00
Compound	CAS Number	LOR	Unit		EM2321824-019	EM2321824-020	EM2321824-021	EM2321824-022	EM2321824-024
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**101**	**95.3**	**104**	**99.0**	**98.0**
Toluene-D8	2037-26-5	2	%		**94.9**	**91.8**	**102**	**94.9**	**95.4**
4-Bromofluorobenzene	460-00-4	2	%		**105**	**106**	**107**	**106**	**105**

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2321824**	Page	: 1 of 14
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 07-Dec-2023
Site	: Macquarie Point, 41 Evans St, Hobart	Issue Date	: 14-Dec-2023
Sampler	: C. TELLER	No. of samples received	: 24
Order number	: 60693007/3	No. of samples analysed	: 20

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK055G: Ammonia as N by Discrete Analyser	EM2321824--002	MW125B	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	17	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	17	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H) MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**----**	----	----	**09-Dec-2023**	11-Dec-2023	✓
Clear Plastic Bottle - Natural (EA015H) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**----**	----	----	**12-Dec-2023**	12-Dec-2023	✓
Clear Plastic Bottle - Natural (EA015H) MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**----**	----	----	**13-Dec-2023**	13-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	----	----	----	**11-Dec-2023**	18-Dec-2023	✓
Clear Plastic Bottle - Natural (ED037-P)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	----	----	----	**11-Dec-2023**	19-Dec-2023	✓
Clear Plastic Bottle - Natural (ED037-P)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	----	----	----	**11-Dec-2023**	20-Dec-2023	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	----	----	----	**12-Dec-2023**	01-Jan-2024	✓
Clear Plastic Bottle - Natural (ED041G)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	----	----	----	**12-Dec-2023**	02-Jan-2024	✓
Clear Plastic Bottle - Natural (ED041G)							
MW155, MW154, S6, MW06	**06-Dec-2023**	----	----	----	**08-Dec-2023**	03-Jan-2024	✓
Clear Plastic Bottle - Natural (ED041G)							
MW16, QA305	**06-Dec-2023**	----	----	----	**12-Dec-2023**	03-Jan-2024	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	----	----	----	**12-Dec-2023**	01-Jan-2024	✓
Clear Plastic Bottle - Natural (ED045G)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	----	----	----	**12-Dec-2023**	02-Jan-2024	✓
Clear Plastic Bottle - Natural (ED045G)							
MW155, MW154, S6, MW06	**06-Dec-2023**	----	----	----	**08-Dec-2023**	03-Jan-2024	✓
Clear Plastic Bottle - Natural (ED045G)							
MW16, QA305	**06-Dec-2023**	----	----	----	**12-Dec-2023**	03-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	----	----	----	**09-Dec-2023**	01-Jan-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	----	----	----	**09-Dec-2023**	02-Jan-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (ED093F)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	----	----	----	**09-Dec-2023**	03-Jan-2024	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	----	----	----	**08-Dec-2023**	01-Jun-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	----	----	----	**08-Dec-2023**	02-Jun-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	----	----	----	**08-Dec-2023**	03-Jun-2024	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	----	----	----	**08-Dec-2023**	01-Jan-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	----	----	----	**08-Dec-2023**	02-Jan-2024	✓
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	----	----	----	**08-Dec-2023**	03-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl - Filtered (EG051G)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**----**	----	----	**13-Dec-2023**	13-Dec-2023	✓
EK025SF: Free CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK025SF)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**----**	----	----	**11-Dec-2023**	18-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK025SF)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**----**	----	----	**11-Dec-2023**	19-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK025SF)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**----**	----	----	**11-Dec-2023**	20-Dec-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK026SF)							
MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**----**	----	----	**11-Dec-2023**	18-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK026SF)							
MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**----**	----	----	**11-Dec-2023**	19-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK026SF)							
MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**----**	----	----	**11-Dec-2023**	20-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK028SF) MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**----**	----	----	**11-Dec-2023**	18-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK028SF) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**----**	----	----	**11-Dec-2023**	19-Dec-2023	✓
Black Opaque Plastic Bottle - NaOH (EK028SF) MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**----**	----	----	**11-Dec-2023**	20-Dec-2023	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G) QA303	**04-Dec-2023**	**----**	----	----	**12-Dec-2023**	01-Jan-2024	✓
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW125A, MW125B, MW164	**04-Dec-2023**	**----**	----	----	**13-Dec-2023**	01-Jan-2024	✓
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4	**05-Dec-2023**	**----**	----	----	**13-Dec-2023**	02-Jan-2024	✓
Clear Plastic Bottle - Sulfuric Acid (EK055G) MW155, MW154, S6, MW06	**06-Dec-2023**	**----**	----	----	**12-Dec-2023**	03-Jan-2024	✓
EP033: C1 - C4 Hydrocarbon Gases							
Amber VOC Vial - Sulfuric Acid (EP033) MW155, MW154, S6, MW06, MW16	**06-Dec-2023**	**----**	----	----	**12-Dec-2023**	20-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW125A, MW125B	**04-Dec-2023**	**08-Dec-2023**	11-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QA303	**04-Dec-2023**	**08-Dec-2023**	11-Dec-2023	✓	**12-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW124A	**05-Dec-2023**	**08-Dec-2023**	12-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**08-Dec-2023**	12-Dec-2023	✓	**12-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**08-Dec-2023**	13-Dec-2023	✓	**12-Dec-2023**	17-Jan-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW125A, MW125B	**04-Dec-2023**	**08-Dec-2023**	11-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QA303	**04-Dec-2023**	**08-Dec-2023**	11-Dec-2023	✓	**12-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW124A	**05-Dec-2023**	**08-Dec-2023**	12-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**08-Dec-2023**	12-Dec-2023	✓	**12-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**08-Dec-2023**	13-Dec-2023	✓	**12-Dec-2023**	17-Jan-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) MW125A, MW125B, QA303	**04-Dec-2023**	**08-Dec-2023**	11-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**08-Dec-2023**	12-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**08-Dec-2023**	13-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**09-Dec-2023**	18-Dec-2023	✓	**10-Dec-2023**	18-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304, QA504	**05-Dec-2023**	**09-Dec-2023**	19-Dec-2023	✓	**10-Dec-2023**	19-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW155, MW154, S6, MW06, MW16, QA305, QA505	**06-Dec-2023**	**09-Dec-2023**	20-Dec-2023	✓	**10-Dec-2023**	20-Dec-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) MW125A, MW125B, QA303	**04-Dec-2023**	**08-Dec-2023**	11-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304	**05-Dec-2023**	**08-Dec-2023**	12-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber Glass Bottle - Unpreserved (EP071) MW155, MW154, S6, MW06, MW16, QA305	**06-Dec-2023**	**08-Dec-2023**	13-Dec-2023	✓	**11-Dec-2023**	17-Jan-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**09-Dec-2023**	18-Dec-2023	✓	**10-Dec-2023**	18-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304, QA504	**05-Dec-2023**	**09-Dec-2023**	19-Dec-2023	✓	**10-Dec-2023**	19-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW155, MW154, S6, MW06, MW16, QA305, QA505	**06-Dec-2023**	**09-Dec-2023**	20-Dec-2023	✓	**10-Dec-2023**	20-Dec-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) MW125A, MW125B, MW164, QA303	**04-Dec-2023**	**09-Dec-2023**	18-Dec-2023	✓	**10-Dec-2023**	18-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW124A, MW124B, MW163, MW126A, MW126B, MW60, S4, QA304, QA504	**05-Dec-2023**	**09-Dec-2023**	19-Dec-2023	✓	**10-Dec-2023**	19-Dec-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) MW155, MW154, S6, MW06, MW16, QA305, QA505	**06-Dec-2023**	**09-Dec-2023**	20-Dec-2023	✓	**10-Dec-2023**	20-Dec-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	4	33	**12.12**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	4	30	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	3	28	**10.71**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	4	32	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	12	119	**10.08**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	17	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	3	23	**13.04**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	9	119	**7.56**	**7.50**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Ammonia as N by Discrete analyser	EK055G	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	6	119	**5.04**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	30	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	17	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Ferrous Iron by Discrete Analyser	EG051G	WATER	In house: Referenced to APHA 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

QUALITY CONTROL REPORT

Work Order	: **EM2321824**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/3	Date Samples Received	: 07-Dec-2023
Order number	: 60693007/3	Date Analysis Commenced	: 08-Dec-2023
C-O-C number	: ----	Issue Date	: 14-Dec-2023
Sampler	: C. TELLER		
Site	: Macquarie Point, 41 Evans St, Hobart		
Quote number	: EN/004/23		
No. of samples received	: 24		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5480981)									
EM2321634-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	3700	4010	8.2	0% - 20%
EM2321696-002	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	4590	4580	0.4	0% - 20%
EM2321710-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1830	1900	3.9	0% - 20%
EM2321824-012	QA303	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	<10	0.0	No Limit
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5485675)									
EM2321753-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	2040	2380	15.0	0% - 20%
EM2321756-005	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1570	1580	0.6	0% - 20%
EM2321824-007	MW163	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	196	201	2.5	0% - 20%
EM2321832-005	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	2450	2420	1.4	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 5488216)									
EM2321822-014	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	4430	4640	4.6	0% - 20%
EM2321822-025	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	325	356	9.2	0% - 20%
EM2321822-035	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	294	301	2.4	0% - 20%
EM2321824-021	MW16	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	190	180	5.2	0% - 50%
ED037P: Alkalinity by PC Titrator (QC Lot: 5479627)									
EM2321822-024	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	124	124	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	124	124	0.0	0% - 20%
EM2321822-034	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED037P: Alkalinity by PC Titrator (QC Lot: 5479627) - continued									
EM2321822-034	Anonymous	ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	107	120	11.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	107	120	11.0	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 5479629)									
EM2321824-005	MW124A	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	341	342	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	341	342	0.0	0% - 20%
EM2321824-018	MW154	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	988	990	0.2	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	988	990	0.2	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5477730)									
EM2321822-026	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	27	26	0.0	0% - 20%
EM2321822-035	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	13	13	0.0	0% - 50%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 5486496)									
EM2321824-001	MW125A	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	1	0.0	No Limit
EM2321824-011	S4	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1 (5)*	mg/L	<5	<5	0.0	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 5477731)									
EM2321822-026	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	85	85	0.0	0% - 20%
EM2321822-035	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	99	99	0.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 5486497)									
EM2321824-001	MW125A	ED045G: Chloride	16887-00-6	1	mg/L	16	17	0.0	0% - 50%
EM2321824-011	S4	ED045G: Chloride	16887-00-6	1	mg/L	32	34	6.6	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 5479254)									
EM2321707-015	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Potassium	7440-09-7	1	mg/L	<1	<1	0.0	No Limit
EM2321822-008	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	77	77	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	142	143	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	1010	1010	0.3	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	16	16	0.0	0% - 50%
ED093F: Dissolved Major Cations (QC Lot: 5479257)									
EM2321824-003	MW164	ED093F: Calcium	7440-70-2	1	mg/L	43	42	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	13	13	0.0	0% - 50%
		ED093F: Sodium	7440-23-5	1	mg/L	33	33	0.0	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED093F: Dissolved Major Cations (QC Lot: 5479257) - continued									
EM2321824-003	MW164	ED093F: Potassium	7440-09-7	1	mg/L	12	12	0.0	0% - 50%
EM2321824-012	QA303	ED093F: Calcium	7440-70-2	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	<1	<1	0.0	No Limit
		ED093F: Potassium	7440-09-7	1	mg/L	<1	<1	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5479255)									
EM2321707-017	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.009	0.009	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.014	0.013	0.0	0% - 50%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.055	0.054	3.4	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.005	0.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EM2321822-010	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.013	0.014	0.0	0% - 50%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.052	0.054	4.0	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.111	0.112	0.9	0% - 20%
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5479258)									
EM2321824-005	MW124A	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.011	0.011	0.0	0% - 50%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.222	0.223	0.5	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EM2321824-017	MW155	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5479258) - continued									
EM2321824-017	MW155	EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.247	0.262	6.1	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.077	0.085	9.8	0% - 50%
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.02	0.02	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5479256)									
EM2321822-007	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2321822-016	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5479259)									
EM2321824-011	S4	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 5488245)									
EM2321733-001	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EM2321822-011	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 5488246)									
EM2321824-021	MW16	EG051G: Ferrous Iron	----	0.05	mg/L	10.6	10.5	1.3	0% - 20%
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 5479079)									
EM2321824-001	MW125A	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321824-021	MW16	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5479077)									
EM2321757-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321824-001	MW125A	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	0.010	0.010	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5479080)									
EM2321824-007	MW163	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	0.052	0.050	5.2	0% - 50%
EM2321824-021	MW16	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	0.017	0.017	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 5479078)									
EM2321818-003	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2321824-007	MW163	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 5479081)									
EM2321824-021	MW16	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 5483884)									
EM2321680-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.10	0.09	0.0	No Limit
EM2321824-019	S6	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	52.0	52.4	0.6	0% - 20%
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 5485046)									
EM2321824-001	MW125A	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	4.98	4.96	0.4	0% - 20%
EM2321824-012	QA303	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 5486218)									
EB2339059-001	Anonymous	EP033: Methane	74-82-8	10	µg/L	15400	15100	2.3	0% - 20%
EM2321963-005	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5481270)									
EM2321824-001	MW125A	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2321824-014	QA304	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5481270)									
EM2321824-001	MW125A	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2321824-014	QA304	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5481270)									
EM2321824-001	MW125A	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2321824-014	QA304	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5480981)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	105	91.0	110
				<10	2340 mg/L	111	80.8	119
				<10	293 mg/L	99.6	91.0	110
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5485675)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	96.6	91.0	110
				<10	2340 mg/L	103	80.8	119
				<10	293 mg/L	98.6	91.0	110
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 5488216)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	102	91.0	110
				<10	2340 mg/L	107	80.8	119
				<10	293 mg/L	106	91.0	110
ED037P: Alkalinity by PC Titrator (QCLot: 5479627)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	93.1	85.0	116
ED037P: Alkalinity by PC Titrator (QCLot: 5479629)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	95.3	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5477730)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	104	90.0	110
				<1	25 mg/L	106	90.0	110
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5486496)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	110	90.0	110
				<1	25 mg/L	108	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 5477731)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	97.7	90.0	110
				<1	10 mg/L	96.1	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 5486497)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	101	90.0	110
				<1	10 mg/L	102	90.0	110
ED093F: Dissolved Major Cations (QCLot: 5479254)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	107	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	104	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	103	80.0	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED093F: Dissolved Major Cations (QCLot: 5479254) - continued								
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	98.8	80.0	120
ED093F: Dissolved Major Cations (QCLot: 5479257)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	107	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	104	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	103	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	99.0	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 5479255)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	104	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	102	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	93.9	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	102	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.5	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	99.5	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	102	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.5	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	102	86.3	112
EG020F: Dissolved Metals by ICP-MS (QCLot: 5479258)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	100	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.5	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	90.5	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	96.3	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.4	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.0	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	99.0	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.6	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	104	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 5479256)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	114	71.6	116
EG035F: Dissolved Mercury by FIMS (QCLot: 5479259)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	114	71.6	116
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5488245)								
EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	2 mg/L	96.4	75.8	112
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5488246)								
EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	2 mg/L	94.9	75.8	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5479079)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	92.7	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5479077)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	115	77.7	116
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5479080)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	109	77.7	116
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5479078)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	102	82.6	119
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5479081)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	102	82.6	119
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5483884)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	109	90.0	110
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5485046)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	99.6	90.0	110
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5486218)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	95.9	86.0	114
EP075(SIM)A: Phenolic Compounds (QCLot: 5477712)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	38.5	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	92.0	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	83.4	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	77.4	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	100	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	98.5	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	104	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	98.6	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	99.6	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	104	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	106	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	97.3	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5477712)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	94.5	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	106	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	97.9	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	97.8	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	99.3	49.4	121

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5477712) - continued								
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	99.1	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	104	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	99.8	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	104	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	102	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	94.2	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	95.9	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	107	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	107	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	108	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	106	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5477713)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	90.8	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	96.2	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	98.7	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5481270)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	106	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5477713)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	95.2	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	94.0	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	101	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5481270)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 5481270)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	102	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	111	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	111	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	108	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	115	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

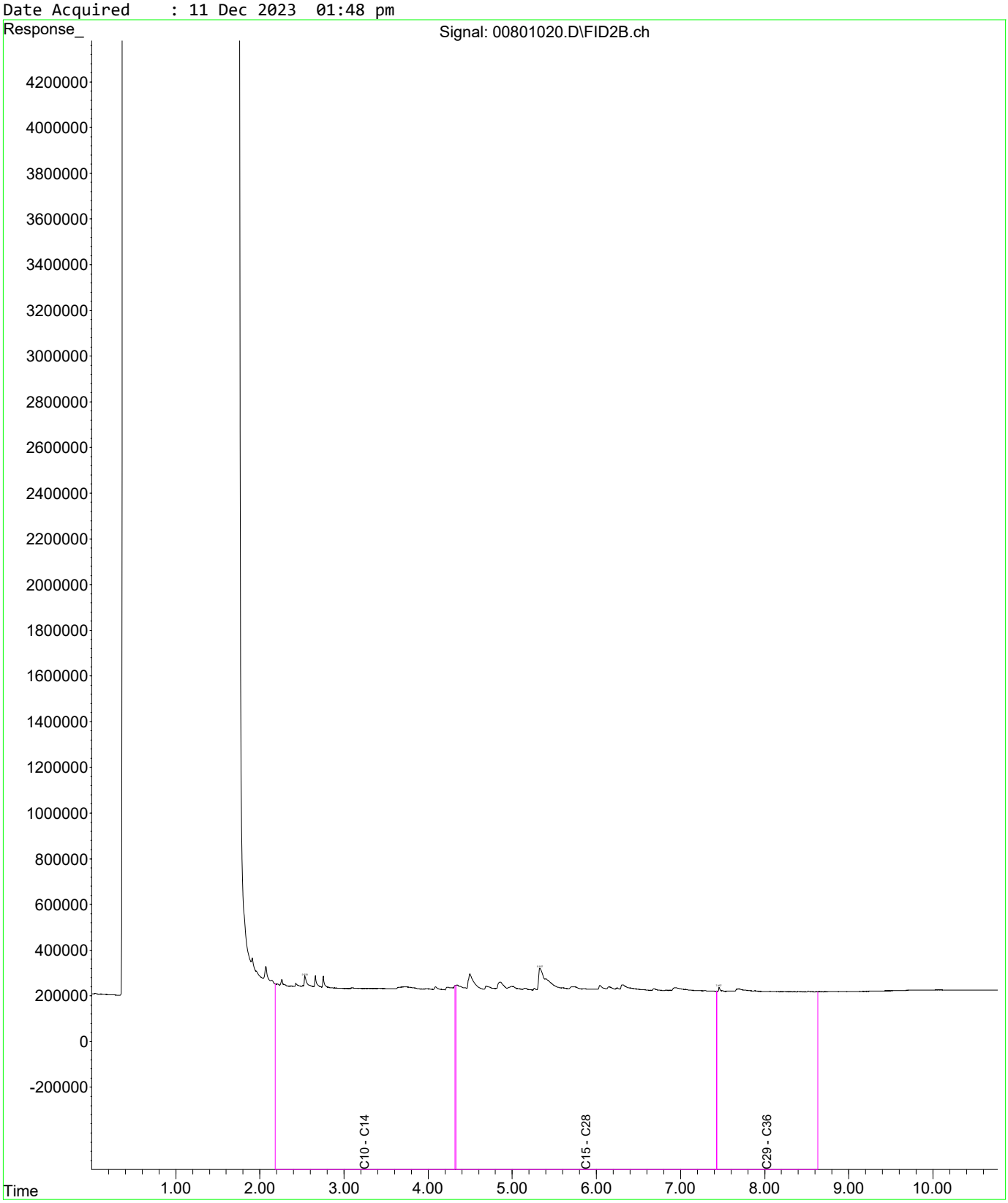
Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5477730)							
EM2321822-027	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	90.0	70.0	130
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 5486496)							
EM2321824-002	MW125B	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	106	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 5477731)							
EM2321822-027	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	110	70.0	142
ED045G: Chloride by Discrete Analyser (QCLot: 5486497)							
EM2321824-002	MW125B	ED045G: Chloride	16887-00-6	400 mg/L	110	70.0	142
EG020F: Dissolved Metals by ICP-MS (QCLot: 5479255)							
EM2321707-017	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	96.9	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	89.1	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	83.0	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	85.2	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	83.4	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	95.3	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	84.5	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	94.0	75.0	131
EG020F: Dissolved Metals by ICP-MS (QCLot: 5479258)							
EM2321824-005	MW124A	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	98.6	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	95.3	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	99.6	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	98.8	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	98.1	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	96.2	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	97.8	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	99.8	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 5479256)							
EM2321822-008	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	92.0	70.0	120
EG035F: Dissolved Mercury by FIMS (QCLot: 5479259)							
EM2321824-012	QA303	EG035F: Mercury	7439-97-6	0.01 mg/L	110	70.0	120
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5488245)							
EM2321733-002	Anonymous	EG051G: Ferrous Iron	----	1 mg/L	106	70.0	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 5488246)							
EM2321824-022	QA305	EG051G: Ferrous Iron	----	1 mg/L	97.0	70.0	130
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5479079)							

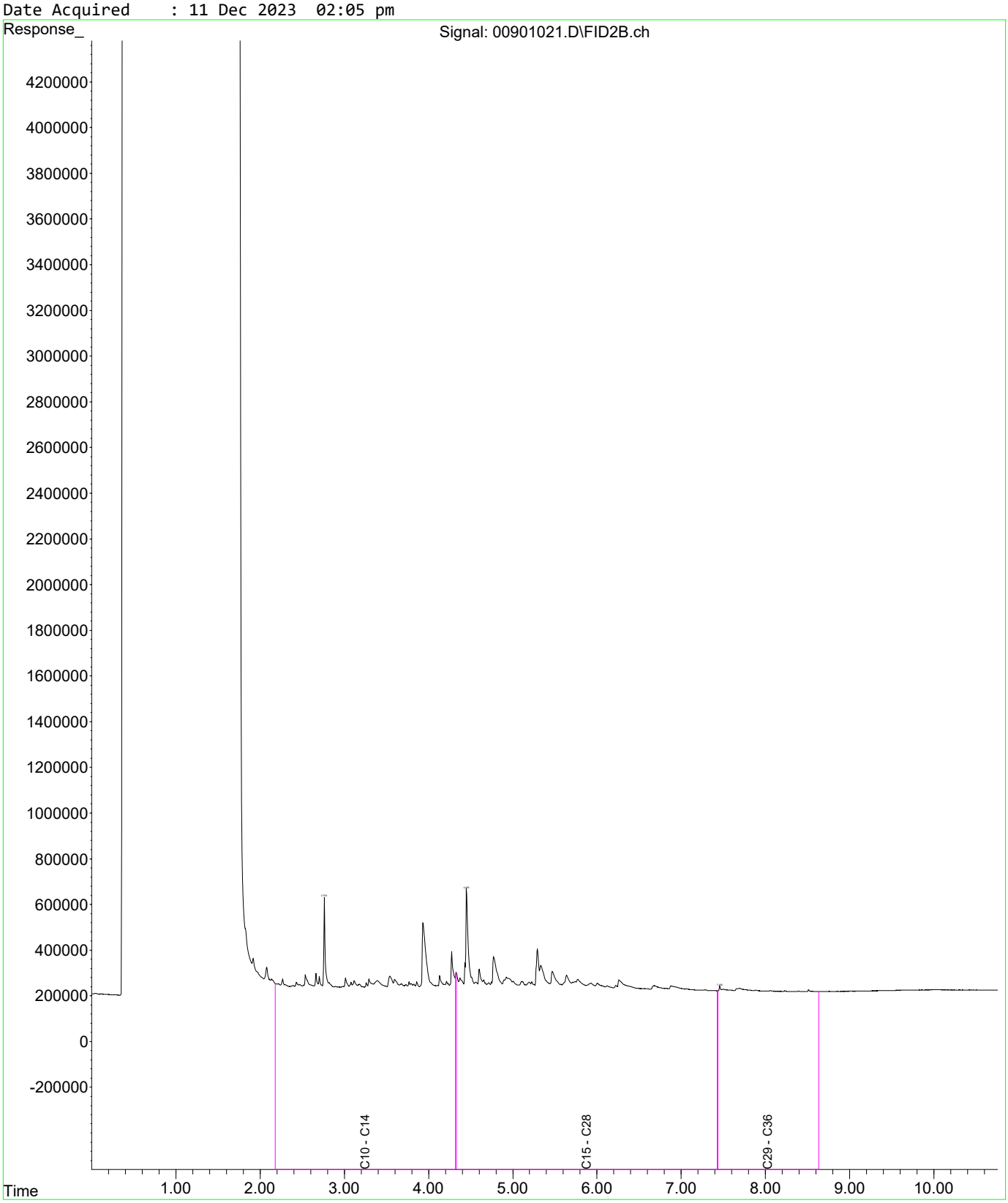
Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 5479079) - continued							
EM2321824-003	MW164	EK025SF: Free Cyanide	----	0.2 mg/L	92.8	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5479077)							
EM2321789-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	112	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5479080)							
EM2321824-005	MW124A	EK026SF: Total Cyanide	57-12-5	0.4 mg/L	110	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5479078)							
EM2321818-004	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	105	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 5479081)							
EM2321824-022	QA305	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	97.9	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5483884)							
EM2321759-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	99.6	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 5485046)							
EM2321824-002	MW125B	EK055G: Ammonia as N	7664-41-7	1 mg/L	# Not Determined	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 5486218)							
EM2321725-023	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	107	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5481270)							
EM2321824-002	MW125B	EP080: C6 - C9 Fraction	----	280 µg/L	75.7	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5481270)							
EM2321824-002	MW125B	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	73.9	34.0	122
EP080: BTEXN (QCLot: 5481270)							
EM2321824-002	MW125B	EP080: Benzene	71-43-2	20 µg/L	94.0	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	97.4	60.4	132

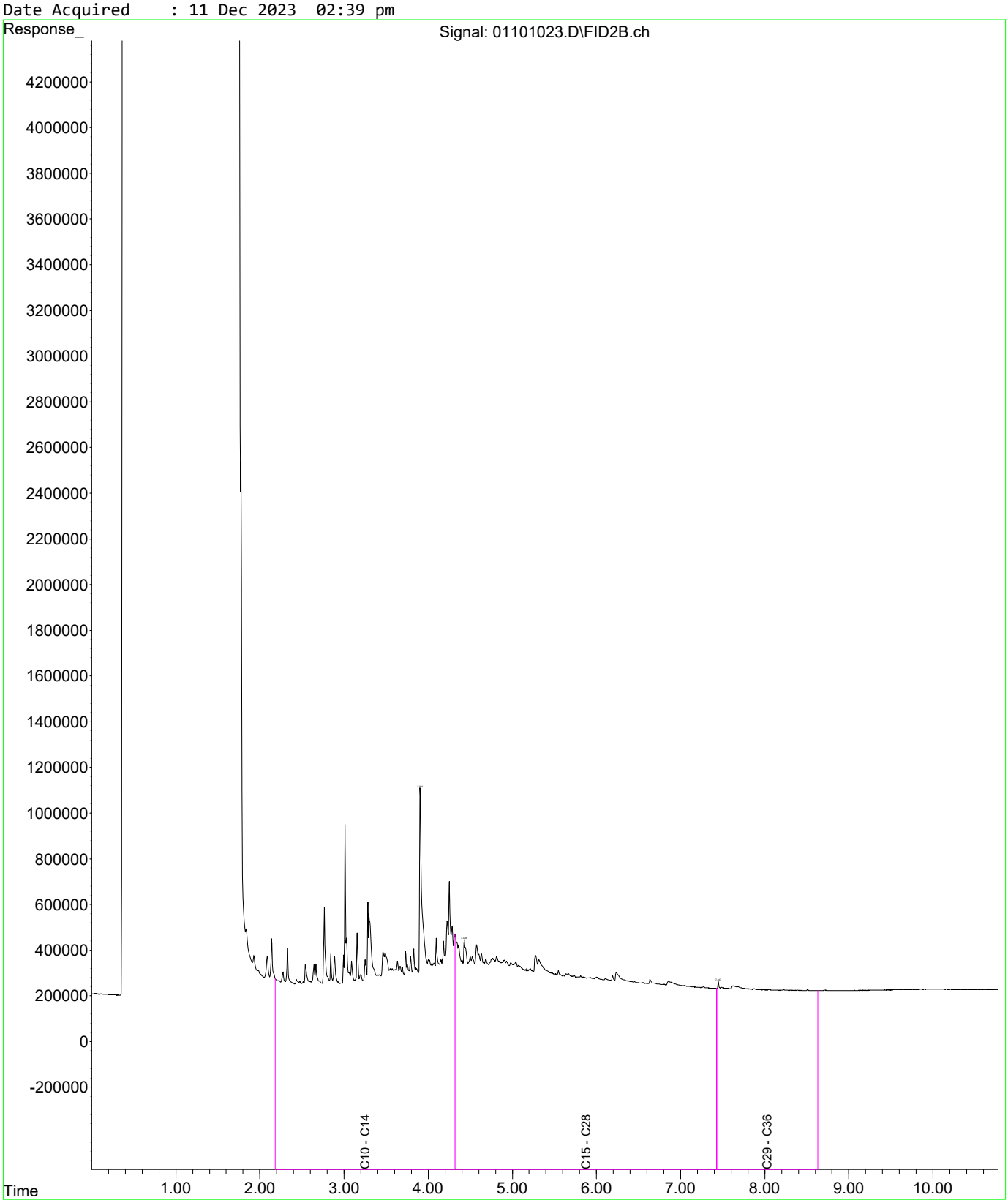
Fraction Scheme : Legacy Fractions
Data File : 00801020.D
Laboratory Number: EM2321824-008
Sample ID : MW126A
Date Acquired : 11 Dec 2023 01:48 pm



Fraction Scheme : Legacy Fractions
Data File : 00901021.D
Laboratory Number: EM2321824-009
Sample ID : MW126B
Date Acquired : 11 Dec 2023 02:05 pm



Fraction Scheme : Legacy Fractions
Data File : 01101023.D
Laboratory Number: EM2321824-011
Sample ID : S4
Date Acquired : 11 Dec 2023 02:39 pm



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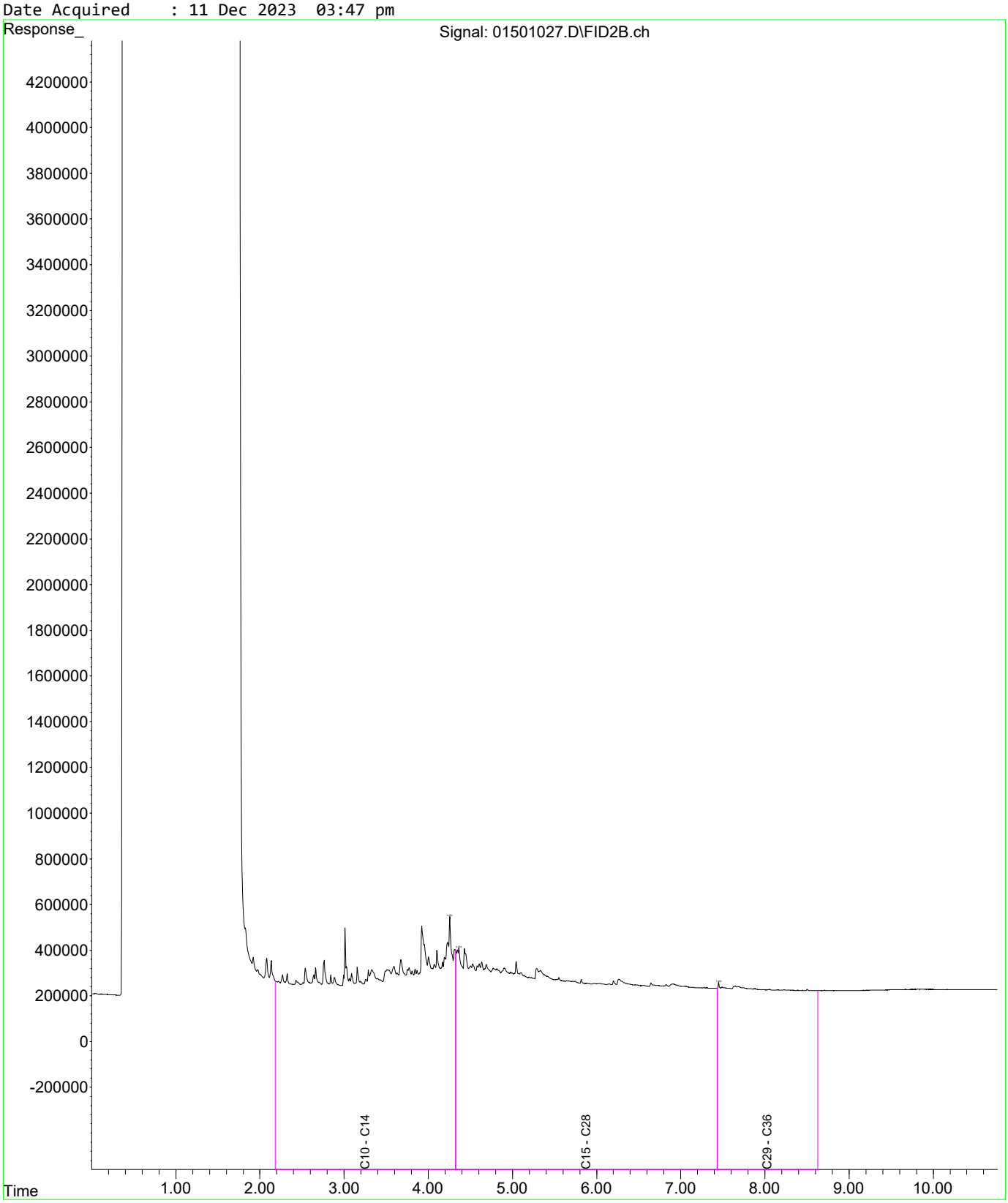
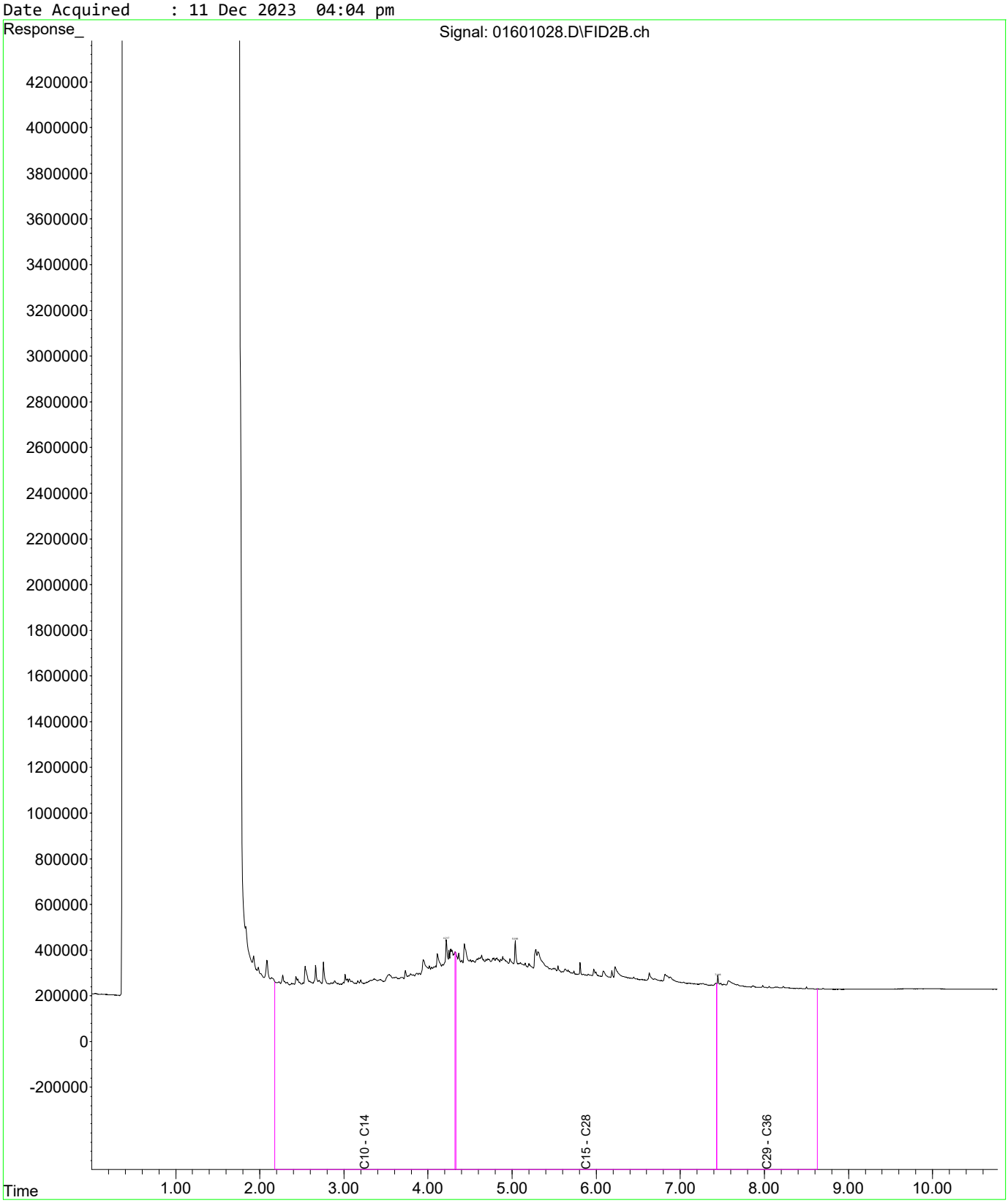
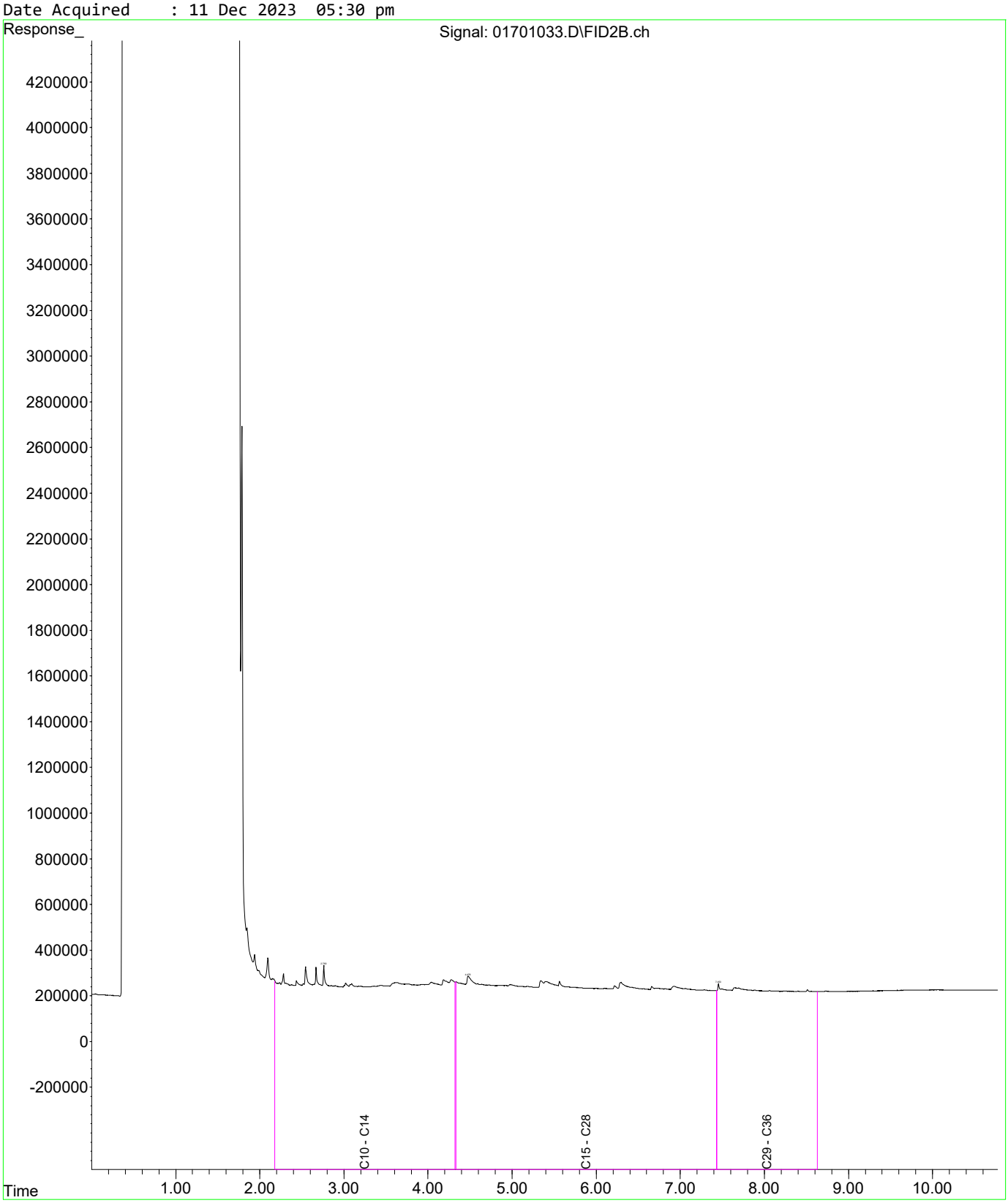
Data File : 01501027.D
Laboratory Number: EM2321824-018
Sample ID : MW154
Date Acquired : 11 Dec 2023 03:47 pm



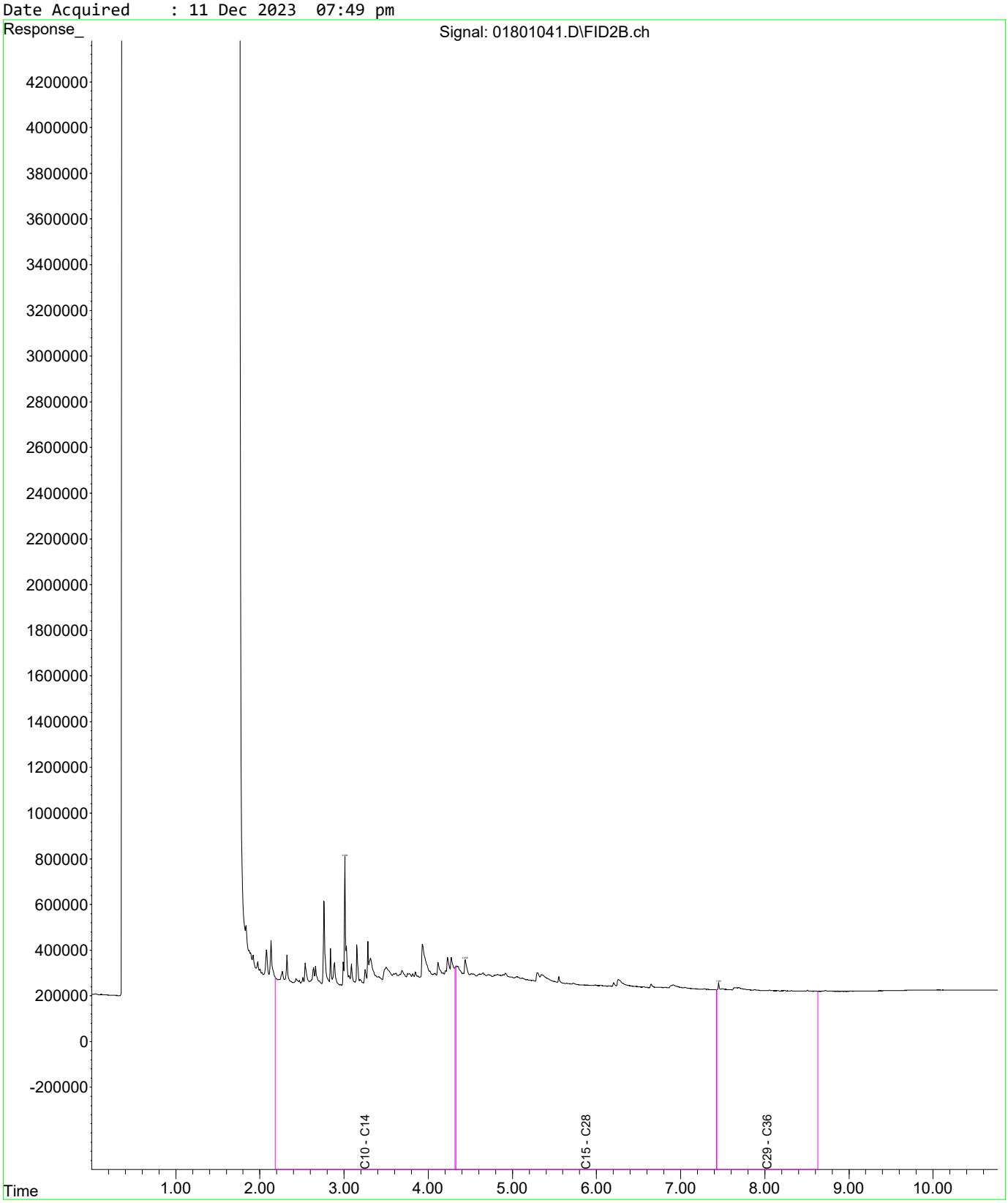
Fraction Scheme : Legacy Fractions
Data File : 01601028.D
Laboratory Number: EM2321824-019
Sample ID : S6
Date Acquired : 11 Dec 2023 04:04 pm



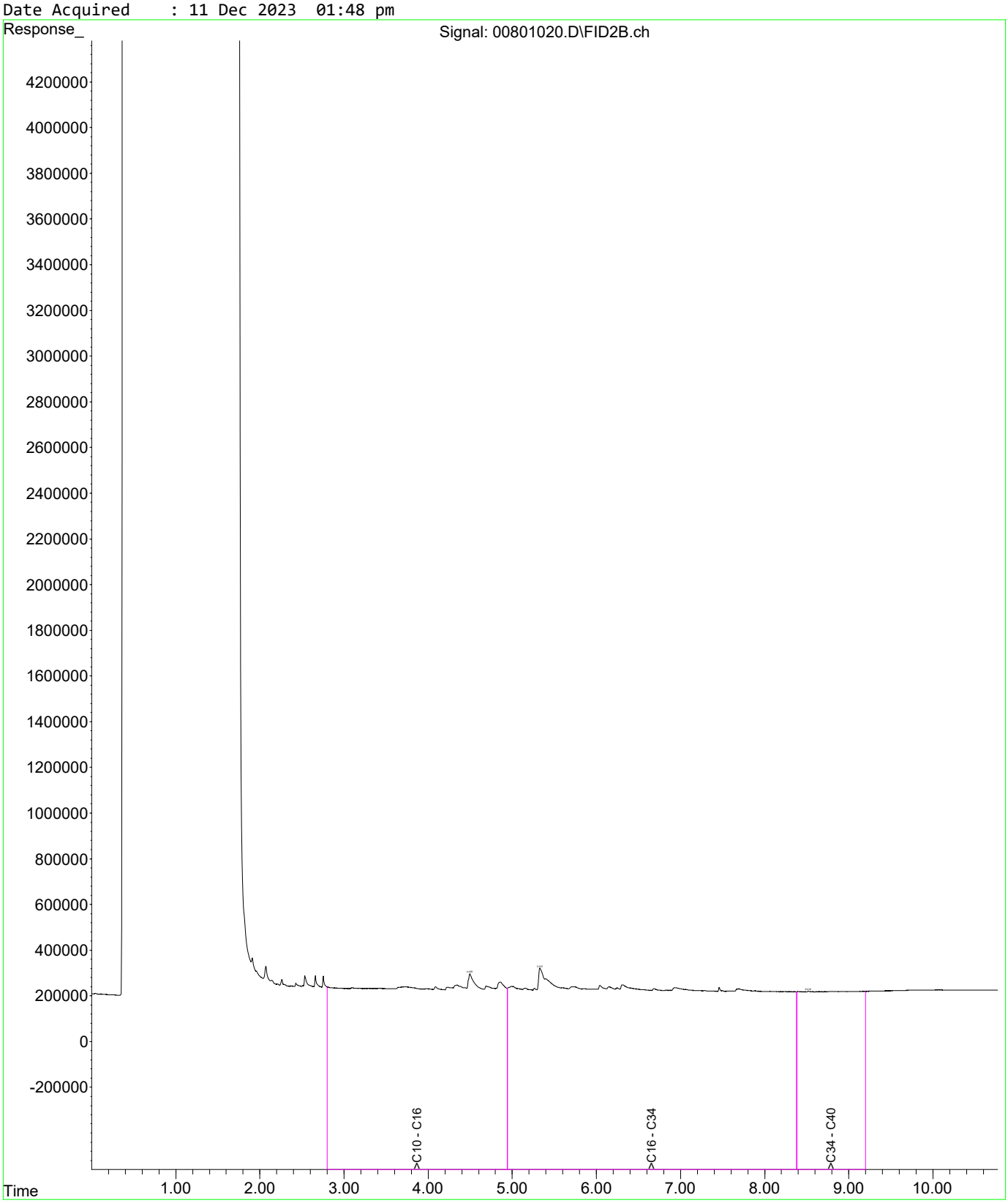
Fraction Scheme : Legacy Fractions
Data File : 01701033.D
Laboratory Number: EM2321824-020
Sample ID : MW06
Date Acquired : 11 Dec 2023 05:30 pm



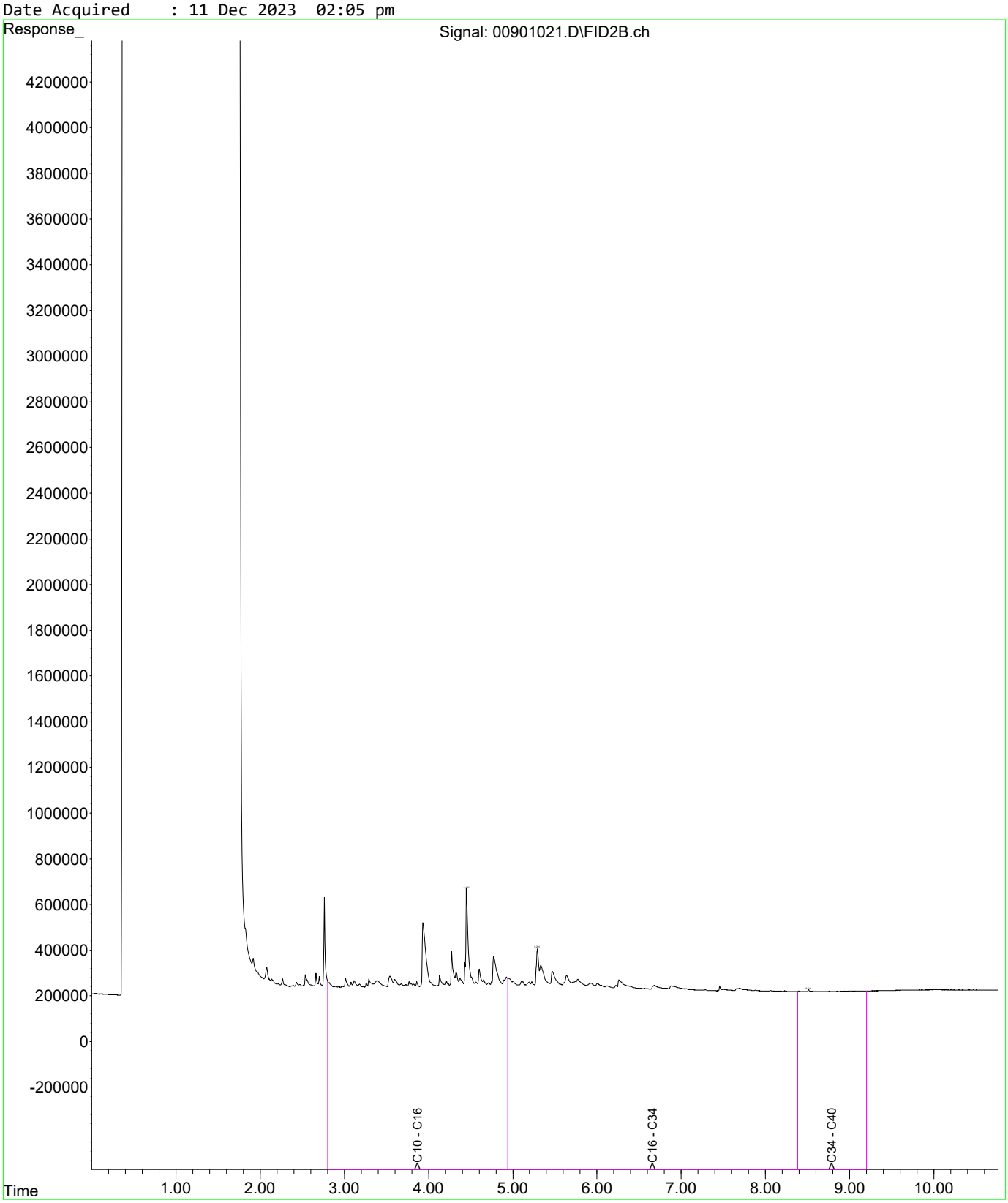
Fraction Scheme : Legacy Fractions
Data File : 01801041.D
Laboratory Number: EM2321824-021
Sample ID : MW16
Date Acquired : 11 Dec 2023 07:49 pm



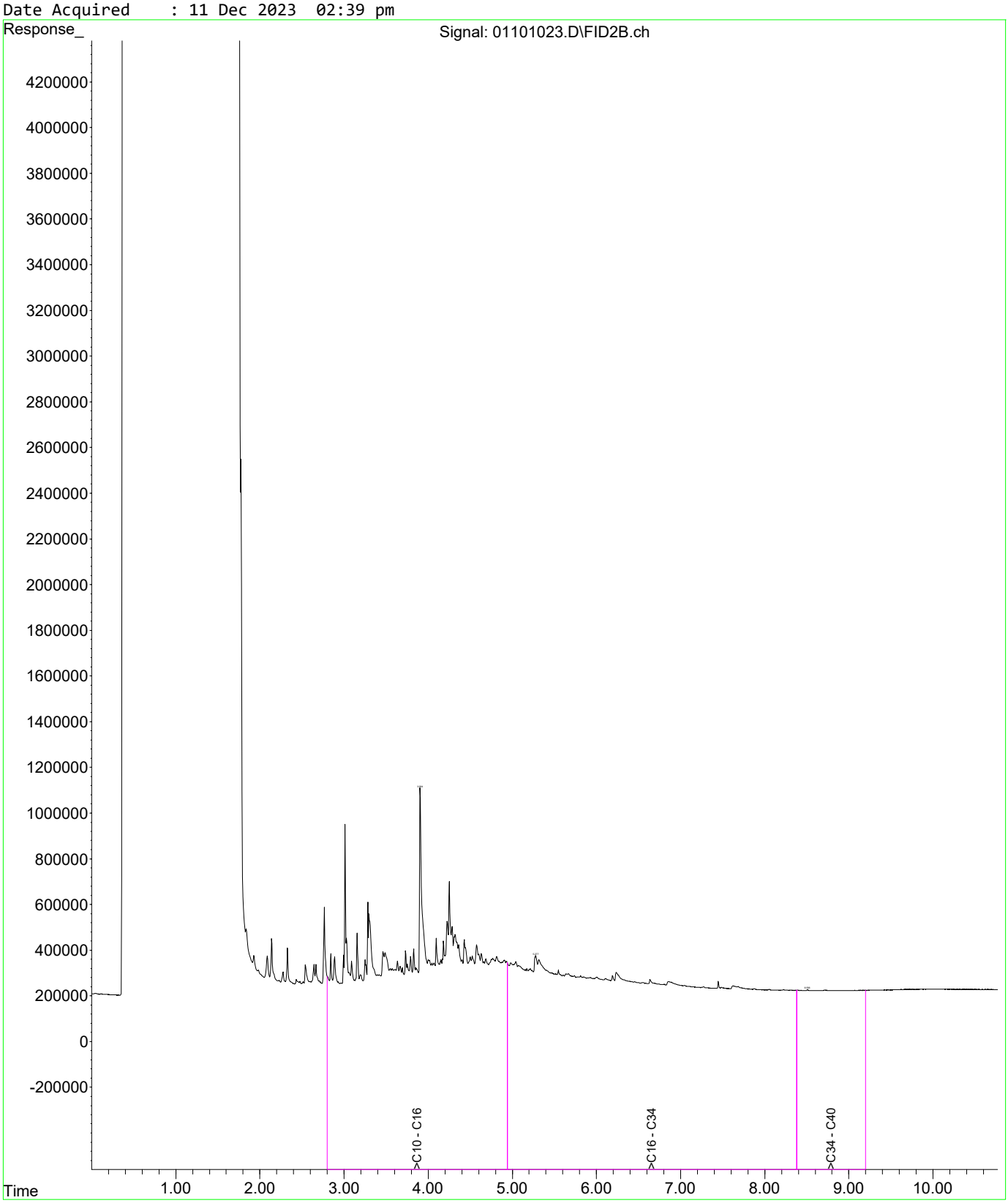
Fraction Scheme : NEPM Fractions
Data File : 00801020.D
Laboratory Number: EM2321824-008
Sample ID : MW126A
Date Acquired : 11 Dec 2023 01:48 pm



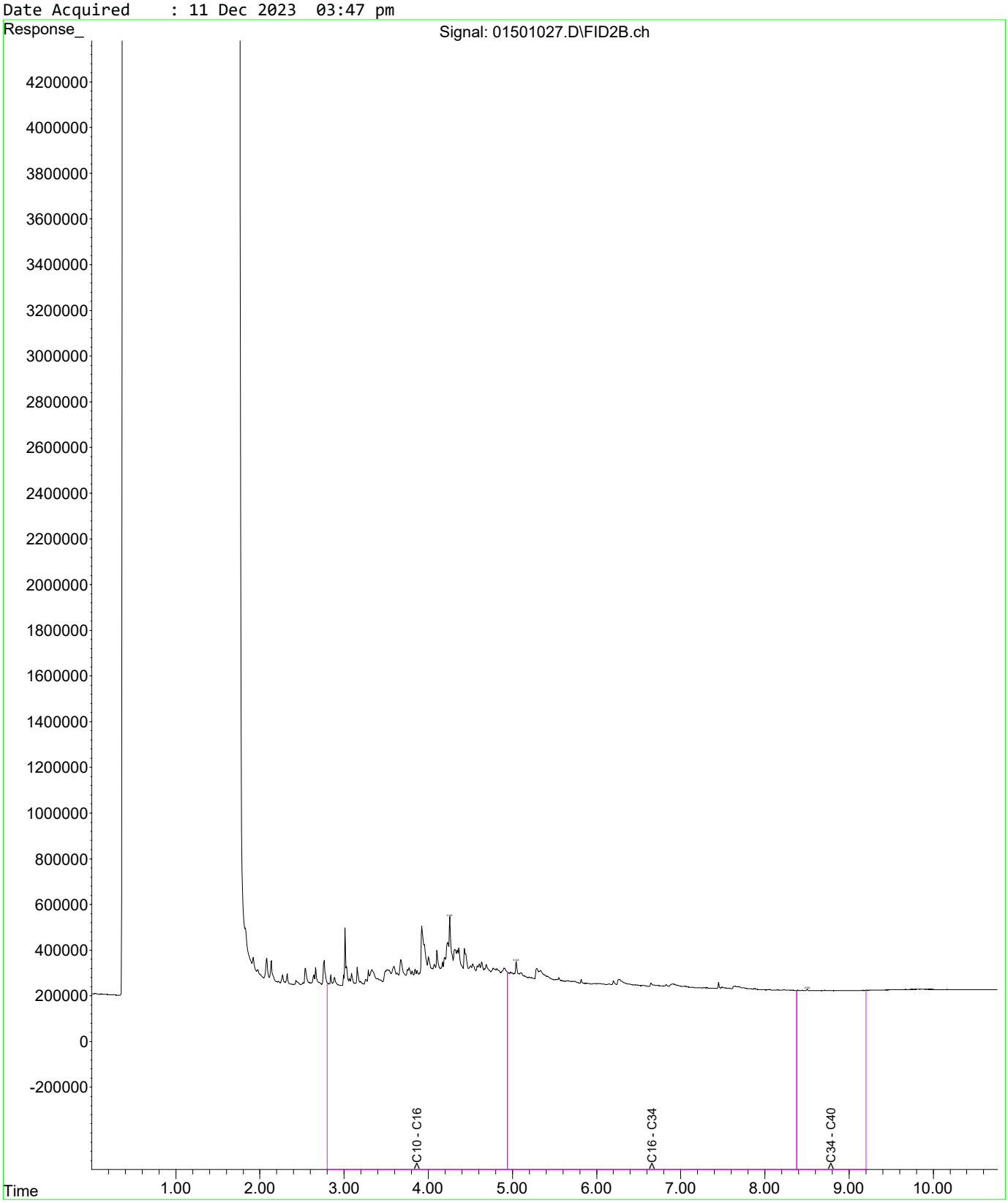
Fraction Scheme : NEPM Fractions
Data File : 00901021.D
Laboratory Number: EM2321824-009
Sample ID : MW126B
Date Acquired : 11 Dec 2023 02:05 pm



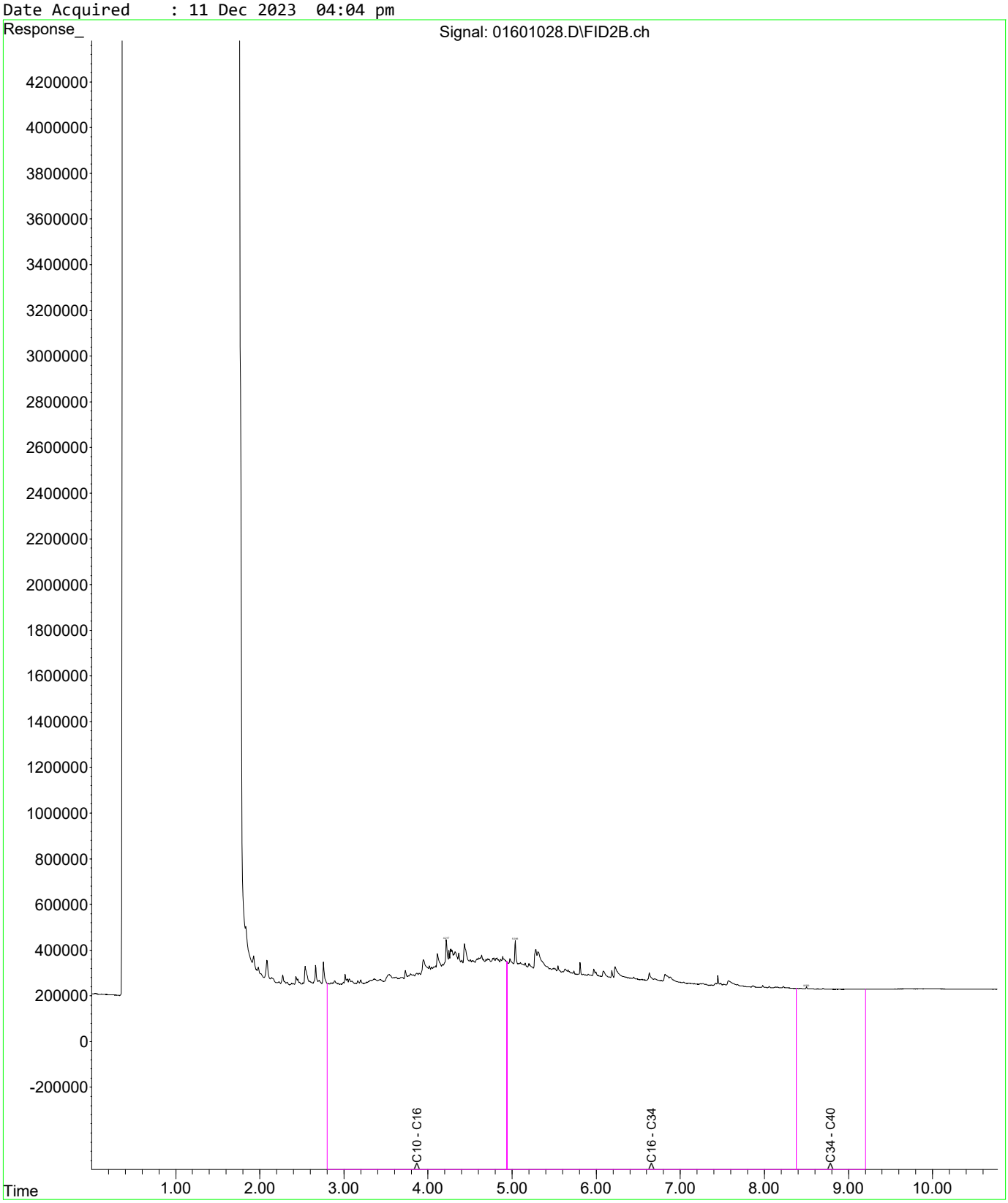
Fraction Scheme : NEPM Fractions
Data File : 01101023.D
Laboratory Number: EM2321824-011
Sample ID : S4
Date Acquired : 11 Dec 2023 02:39 pm



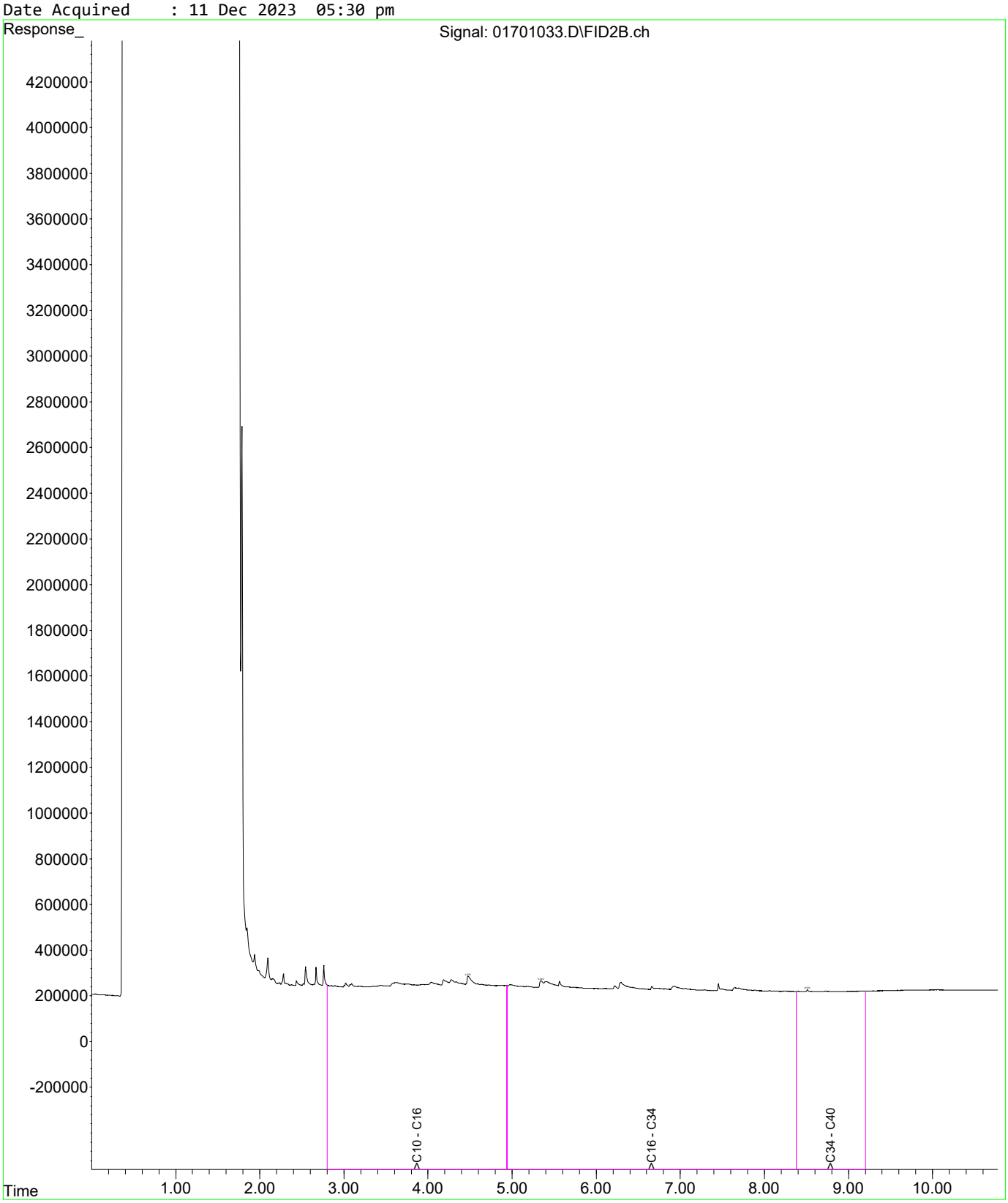
Fraction Scheme : NEPM Fractions
Data File : 01501027.D
Laboratory Number: EM2321824-018
Sample ID : MW154
Date Acquired : 11 Dec 2023 03:47 pm



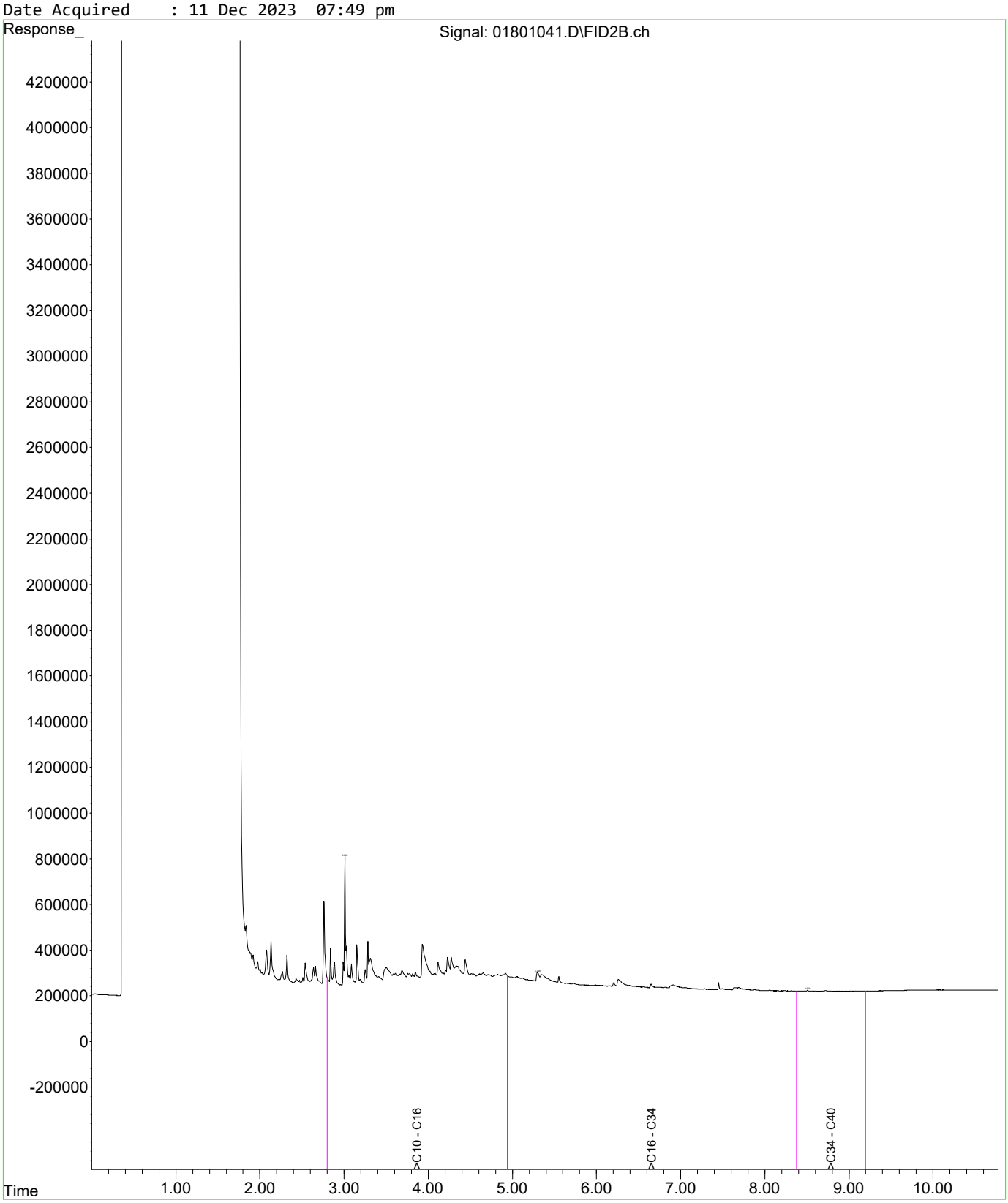
Fraction Scheme : NEPM Fractions
Data File : 01601028.D
Laboratory Number: EM2321824-019
Sample ID : S6
Date Acquired : 11 Dec 2023 04:04 pm



Fraction Scheme : NEPM Fractions
Data File : 01701033.D
Laboratory Number: EM2321824-020
Sample ID : MW06
Date Acquired : 11 Dec 2023 05:30 pm



Fraction Scheme : NEPM Fractions
Data File : 01801041.D
Laboratory Number: EM2321824-021
Sample ID : MW16
Date Acquired : 11 Dec 2023 07:49 pm



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Tasmania 7000

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Attention: **Robert Crowe**

Report **1049877-W-V2**
Project name MACQUARIE POINT 41 EVANS ST HOBART
Project ID 60693007/3
Received Date Dec 01, 2023

Client Sample ID			**QA201**	**TB (TRIP BLANK)**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M23-De0002428**	**M23-De0002429**
Date Sampled			**Nov 29, 2023**	**Nov 29, 2023**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.09	-
TRH C15-C28	0.1	mg/L	0.2	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	0.29	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.16	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.16	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	0.16	-
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	99
Aliphatic TRH Speciation - >C6 - C10				
TRH >C6-C8 Aliphatic	0.02	mg/L	< 0.02	-
TRH >C8-C10 Aliphatic	0.02	mg/L	< 0.02	-
Aromatic TRH Speciation - >C5 - C10				
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	< 0.001	-
TRH >C7-C8 Aromatic	0.001	mg/L	< 0.001	-
TRH >C8-C10 Aromatic	0.01	mg/L	< 0.01	-
Dissolved Gases				
Methane	0.05	mg/L	15	-
Volatile Organics				
1.1-Dichloroethane	0.001	mg/L	< 0.001	-
1.1-Dichloroethene	0.001	mg/L	< 0.001	-
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	-
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Volatile Organics				
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	-
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	-
1.2-Dibromoethane	0.001	mg/L	< 0.001	-
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	-
1.2-Dichloroethane	0.001	mg/L	< 0.001	-
1.2-Dichloropropane	0.001	mg/L	< 0.001	-
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	-
1.2.4-Trimethylbenzene	0.001	mg/L	0.002	-
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	-
1.3-Dichloropropane	0.001	mg/L	< 0.001	-
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	-
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	-
2-Butanone (MEK)	0.005	mg/L	< 0.005	-
2-Propanone (Acetone)	0.005	mg/L	< 0.005	-
4-Chlorotoluene	0.001	mg/L	< 0.001	-
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005	-
Allyl chloride	0.001	mg/L	< 0.001	-
Benzene	0.001	mg/L	< 0.001	-
Bromobenzene	0.001	mg/L	< 0.001	-
Bromochloromethane	0.001	mg/L	< 0.001	-
Bromodichloromethane	0.001	mg/L	< 0.001	-
Bromoform	0.001	mg/L	< 0.001	-
Bromomethane	0.005	mg/L	< 0.005	-
Carbon disulfide	0.001	mg/L	< 0.001	-
Carbon Tetrachloride	0.001	mg/L	< 0.001	-
Chlorobenzene	0.001	mg/L	< 0.001	-
Chloroethane	0.005	mg/L	< 0.005	-
Chloroform	0.005	mg/L	< 0.005	-
Chloromethane	0.005	mg/L	< 0.005	-
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	-
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	-
Dibromochloromethane	0.001	mg/L	< 0.001	-
Dibromomethane	0.001	mg/L	< 0.001	-
Dichlorodifluoromethane	0.005	mg/L	< 0.005	-
Ethylbenzene	0.001	mg/L	< 0.001	-
Iodomethane	0.001	mg/L	< 0.001	-
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	-
Methylene Chloride	0.005	mg/L	< 0.005	-
o-Xylene	0.001	mg/L	< 0.001	-
Styrene	0.001	mg/L	< 0.001	-
Tetrachloroethene	0.001	mg/L	< 0.001	-
Toluene	0.001	mg/L	< 0.001	-
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	-
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	-
Trichloroethene	0.001	mg/L	< 0.001	-
Trichlorofluoromethane	0.005	mg/L	< 0.005	-
Vinyl chloride	0.005	mg/L	< 0.005	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Volatile Organics				
Xylenes - Total*	0.003	mg/L	< 0.003	-
Total MAH*	0.003	mg/L	< 0.003	-
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005	-
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005	-
4-Bromofluorobenzene (surr.)	1	%	98	-
Toluene-d8 (surr.)	1	%	96	-
Naphthalene[N02]	0.01	mg/L	-	< 0.01
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	-
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	0.002	-
Acenaphthylene	0.001	mg/L	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	-
Fluorene	0.001	mg/L	0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	-
Total PAH*	0.001	mg/L	0.003	-
2-Fluorobiphenyl (surr.)	1	%	83	-
p-Terphenyl-d14 (surr.)	1	%	79	-
Organochlorine Pesticides				
Chlordanes - Total	0.002	mg/L	< 0.002	-
4.4'-DDD	0.0002	mg/L	< 0.0002	-
4.4'-DDE	0.0002	mg/L	< 0.0002	-
4.4'-DDT	0.0002	mg/L	< 0.0002	-
a-HCH	0.0002	mg/L	< 0.0002	-
Aldrin	0.0002	mg/L	< 0.0002	-
b-HCH	0.0002	mg/L	< 0.0002	-
d-HCH	0.0002	mg/L	< 0.0002	-
Dieldrin	0.0002	mg/L	< 0.0002	-
Endosulfan I	0.0002	mg/L	< 0.0002	-
Endosulfan II	0.0002	mg/L	< 0.0002	-
Endosulfan sulphate	0.0002	mg/L	< 0.0002	-
Endrin	0.0002	mg/L	< 0.0002	-
Endrin aldehyde	0.0002	mg/L	< 0.0002	-
Endrin ketone	0.0002	mg/L	< 0.0002	-
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	-
Heptachlor	0.0002	mg/L	< 0.0002	-
Heptachlor epoxide	0.0002	mg/L	< 0.0002	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Hexachlorobenzene	0.0002	mg/L	< 0.0002	-
Methoxychlor	0.0002	mg/L	< 0.0002	-
Toxaphene	0.005	mg/L	< 0.005	-
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	-
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	-
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	-
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	-
Dibutylchlorendate (surr.)	1	%	62	-
Tetrachloro-m-xylene (surr.)	1	%	67	-
Chlorinated Hydrocarbons				
1.2-Dichlorobenzene	0.005	mg/L	< 0.005	-
1.2.3-Trichlorobenzene	0.005	mg/L	< 0.005	-
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	< 0.005	-
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	-
1.2.4-Trichlorobenzene	0.005	mg/L	< 0.005	-
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	-
1.3-Dichlorobenzene	0.005	mg/L	< 0.005	-
1.3.5-Trichlorobenzene	0.005	mg/L	< 0.005	-
1.4-Dichlorobenzene	0.005	mg/L	< 0.005	-
Benzal chloride	0.0001	mg/L	< 0.0001	-
Benzotrichloride	0.0001	mg/L	< 0.0001	-
Benzyl chloride	0.005	mg/L	< 0.005	-
Hexachlorobenzene	0.005	mg/L	< 0.005	-
Hexachlorobutadiene	0.005	mg/L	< 0.005	-
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	-
Hexachloroethane	0.005	mg/L	< 0.005	-
Pentachlorobenzene	0.005	mg/L	< 0.005	-
Tetrachloro-m-xylene (surr.)	1	%	67	-
Phenols (Halogenated)				
2-Chlorophenol	0.003	mg/L	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	-
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Phenols (non-Halogenated)				
Dinoseb	0.1	mg/L	< 0.1	-
Phenol	0.003	mg/L	< 0.003	-
Phenol-d6 (surr.)	1	%	34	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	-
Aliphatic TRH Speciation - >C10 - C35				
TRH >C10-C12 Aliphatic	0.05	mg/L	< 0.05	-
TRH >C12-C16 Aliphatic	0.1	mg/L	< 0.1	-
TRH >C16-C21 Aliphatic	0.1	mg/L	< 0.1	-
TRH >C21-C35 Aliphatic	0.1	mg/L	< 0.1	-
Aromatic TRH Speciation - >C10 - C35				
TRH >C10-C12 Aromatic	0.05	mg/L	< 0.05	-
TRH >C12-C16 Aromatic	0.1	mg/L	< 0.1	-
TRH >C16-C21 Aromatic	0.1	mg/L	< 0.1	-
TRH >C21-C35 Aromatic	0.1	mg/L	< 0.1	-
Semivolatile Organics				
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.005	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.005	-
Total PAH*	0.001	mg/L	0.003	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	-
1-Chloronaphthalene	0.005	mg/L	< 0.005	-
1-Naphthylamine	0.005	mg/L	< 0.005	-
1.2-Dichlorobenzene	0.005	mg/L	< 0.005	-
1.2.3-Trichlorobenzene	0.005	mg/L	< 0.005	-
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	< 0.005	-
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	-
1.2.4-Trichlorobenzene	0.005	mg/L	< 0.005	-
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	-
1.3-Dichlorobenzene	0.005	mg/L	< 0.005	-
1.3.5-Trichlorobenzene	0.005	mg/L	< 0.005	-
1.4-Dichlorobenzene	0.005	mg/L	< 0.005	-
2-Chloronaphthalene	0.005	mg/L	< 0.005	-
2-Chlorophenol	0.003	mg/L	< 0.003	-
2-Fluorobiphenyl (surr.)	1	%	83	-
2-Methylnaphthalene	0.005	mg/L	< 0.005	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-
2-Naphthylamine	0.005	mg/L	< 0.005	-
2-Nitroaniline	0.005	mg/L	< 0.005	-
2-Nitrophenol	0.01	mg/L	< 0.01	-
2-Picoline	0.005	mg/L	< 0.005	-
2.3.4.6-Tetrachlorophenol	0.01	mg/L	< 0.01	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	-
2.4-Dinitrotoluene	0.005	mg/L	< 0.005	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	-
2.4.6-Tribromophenol (surr.)	1	%	41	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Semivolatile Organics				
2.6-Dinitrotoluene	0.005	mg/L	< 0.005	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-
3-Methylcholanthrene	0.005	mg/L	< 0.005	-
3.3'-Dichlorobenzidine	0.005	mg/L	< 0.005	-
4-Aminobiphenyl	0.005	mg/L	< 0.005	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	-
4.4'-DDD	0.005	mg/L	< 0.005	-
4.4'-DDE	0.005	mg/L	< 0.005	-
4.4'-DDT	0.005	mg/L	< 0.005	-
7.12-Dimethylbenz(a)anthracene	0.005	mg/L	< 0.005	-
a-HCH	0.005	mg/L	< 0.005	-
Acenaphthene	0.001	mg/L	0.002	-
Acenaphthylene	0.001	mg/L	< 0.001	-
Acetophenone	0.005	mg/L	< 0.005	-
Aldrin	0.005	mg/L	< 0.005	-
Aniline	0.005	mg/L	< 0.005	-
Anthracene	0.001	mg/L	< 0.001	-
b-HCH	0.005	mg/L	< 0.005	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-
Benzyl chloride	0.005	mg/L	< 0.005	-
Bis(2-ethylhexyl)phthalate	0.005	mg/L	< 0.005	-
Butyl benzyl phthalate	0.005	mg/L	< 0.005	-
Chrysene	0.001	mg/L	< 0.001	-
d-HCH	0.005	mg/L	< 0.005	-
Di-n-butyl phthalate	0.005	mg/L	< 0.005	-
Di-n-octyl phthalate	0.005	mg/L	< 0.005	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-
Dibenz(a.j)acridine	0.005	mg/L	< 0.005	-
Dibenzofuran	0.005	mg/L	< 0.005	-
Dieldrin	0.005	mg/L	< 0.005	-
Diethyl phthalate	0.005	mg/L	< 0.005	-
Dimethyl phthalate	0.005	mg/L	< 0.005	-
Dimethylaminoazobenzene	0.005	mg/L	< 0.005	-
Diphenylamine	0.005	mg/L	< 0.005	-
Endosulfan I	0.005	mg/L	< 0.005	-
Endosulfan II	0.005	mg/L	< 0.005	-
Endosulfan sulphate	0.005	mg/L	< 0.005	-
Endrin	0.005	mg/L	< 0.005	-
Endrin aldehyde	0.005	mg/L	< 0.005	-
Endrin ketone	0.005	mg/L	< 0.005	-
Fluoranthene	0.001	mg/L	< 0.001	-
Fluorene	0.001	mg/L	0.001	-
g-HCH (Lindane)	0.005	mg/L	< 0.005	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Semivolatile Organics				
Heptachlor	0.005	mg/L	< 0.005	-
Heptachlor epoxide	0.005	mg/L	< 0.005	-
Hexachlorobenzene	0.005	mg/L	< 0.005	-
Hexachlorobutadiene	0.005	mg/L	< 0.005	-
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	-
Hexachloroethane	0.005	mg/L	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-
Methoxychlor	0.005	mg/L	< 0.005	-
N-Nitrosodibutylamine	0.005	mg/L	< 0.005	-
N-Nitrosodipropylamine	0.005	mg/L	< 0.005	-
N-Nitrosopiperidine	0.005	mg/L	< 0.005	-
Naphthalene	0.001	mg/L	< 0.001	-
Nitrobenzene	0.05	mg/L	< 0.05	-
Nitrobenzene-d5 (surr.)	1	%	83	-
Pentachlorobenzene	0.005	mg/L	< 0.005	-
Pentachloronitrobenzene	0.005	mg/L	< 0.005	-
Pentachlorophenol	0.01	mg/L	< 0.01	-
Phenanthrene	0.001	mg/L	< 0.001	-
Phenol	0.003	mg/L	< 0.003	-
Phenol-d6 (surr.)	1	%	34	-
Pronamide	0.005	mg/L	< 0.005	-
Pyrene	0.001	mg/L	< 0.001	-
Trifluralin	0.005	mg/L	< 0.005	-
Haloethers				
4-Bromophenyl phenyl ether	0.005	mg/L	< 0.005	-
4-Chlorophenyl phenyl ether	0.005	mg/L	< 0.005	-
Bis(2-chloroethoxy)methane	0.005	mg/L	< 0.005	-
Bis(2-chloroisopropyl)ether	0.005	mg/L	< 0.005	-
Ammonia (as N)	0.01	mg/L	3.6	-
Chloride	1	mg/L	37	-
Cyanide (free)	0.005	mg/L	< 0.005	-
Cyanide (total)	0.005	mg/L	< 0.005	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	-
Ferrous Iron - Fe2+	0.05	mg/L	18	-
Ionic Balance*	0.01	%	0.7	-
Nitrate (as N)	0.02	mg/L	0.18	-
Sulphate (as SO4)	5	mg/L	21	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	830	-
Alkalinity (speciated)				
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	590	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	-
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	-
Total Alkalinity (as CaCO3)	20	mg/L	590	-

Client Sample ID			QA201	TB (TRIP BLANK)
Sample Matrix			Water	Water
Eurofins Sample No.			M23-De0002428	M23-De0002429
Date Sampled			Nov 29, 2023	Nov 29, 2023
Test/Reference	LOR	Unit		
Heavy Metals				
Aluminium (filtered)	0.05	mg/L	< 0.05	-
Arsenic (filtered)	0.001	mg/L	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	-
Copper (filtered)	0.001	mg/L	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	-
Manganese (filtered)	0.005	mg/L	0.63	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-
Nickel (filtered)	0.001	mg/L	< 0.001	-
Zinc (filtered)	0.005	mg/L	< 0.005	-
Alkali Metals				
Calcium	0.5	mg/L	88	-
Magnesium	0.5	mg/L	47	-
Potassium	0.5	mg/L	16	-
Sodium	0.5	mg/L	96	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Eurofins Suite B16D: SO4, CH4, NO3, Fe2+, Mn(filt)			
Dissolved Gases	Melbourne	Dec 04, 2023	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Ferrous Iron - Fe2+	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
Nitrate (as N)	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Heavy Metals (filtered)	Melbourne	Dec 04, 2023	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Chlorinated Hydrocarbons	Melbourne	Dec 04, 2023	7 Days
- Method: USEPA 8121 Chlorinated Hydrocarbons			
Semivolatile Organics	Melbourne	Dec 04, 2023	7 Days
- Method: USEPA SW 846 8270			
Ammonia (as N)	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser			
Cyanide (free)	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Mobil Metals : Metals M15	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11C: Na/K/Ca/Mg	Melbourne	Dec 04, 2023	180 Days

Description	Testing Site	Extracted	Holding Time
- Method: LTM-MET-3010 Alkali Metals by ICP-AES			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Alkalinity (speciated)	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/3

Order No.: 60693007/3
Report #: 1049877
Phone: 08 7223 5400
Fax:

Received: Dec 1, 2023 5:15 PM
Due: Dec 8, 2023
Priority: 5 Day
Contact Name: - All Invoices

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	Aluminium (filtered)	Ammonia (as N)	Arsenic (filtered)	Cadmium (filtered)	Chromium (filtered)	Copper (filtered)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	Ionic Balance*	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Chlorinated Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Phenols (Speciated)	BTEX and Naphthalene	Volatile Organics	Semivolatile Organics	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C	Eurofins Suite B16D: SO4, CH4, NO3, Fe2+, Mn(filt)
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																												

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																									
1	QA201	Nov 29, 2023		Water	M23-De0002428	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
2	TB (TRIP BLANK)	Nov 29, 2023		Water	M23-De0002429																							X				
Test Counts						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit	**Colour:** Pt-Co Units	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 70 – 130%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.005			0.005	Pass	
2-Propanone (Acetone)	mg/L	< 0.005			0.005	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.005			0.005	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.005			0.005	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.005			0.005	Pass	
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.001			0.001	Pass	
Dichlorodifluoromethane	mg/L	< 0.005			0.005	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.005			0.005	Pass	
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.005			0.005	Pass	
Vinyl chloride	mg/L	< 0.005			0.005	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Chlorinated Hydrocarbons							
1.2-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.4-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3.5-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.4-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
Benzal chloride	mg/L	< 0.0001			0.0001	Pass	
Benzotrichloride	mg/L	< 0.0001			0.0001	Pass	
Benzyl chloride	mg/L	< 0.005			0.005	Pass	
Hexachlorobenzene	mg/L	< 0.005			0.005	Pass	
Hexachlorobutadiene	mg/L	< 0.005			0.005	Pass	
Hexachlorocyclopentadiene	mg/L	< 0.005			0.005	Pass	
Hexachloroethane	mg/L	< 0.005			0.005	Pass	
Pentachlorobenzene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Semivolatile Organics							
1-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
1-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
2-Methylnaphthalene	mg/L	< 0.005			0.005	Pass	
2-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Nitroaniline	mg/L	< 0.005			0.005	Pass	
2-Picoline	mg/L	< 0.005			0.005	Pass	
2.3.4.6-Tetrachlorophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
2.6-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
3-Methylcholanthrene	mg/L	< 0.005			0.005	Pass	
3.3'-Dichlorobenzidine	mg/L	< 0.005			0.005	Pass	
4-Aminobiphenyl	mg/L	< 0.005			0.005	Pass	
4.4'-DDD	mg/L	< 0.005			0.005	Pass	
4.4'-DDE	mg/L	< 0.005			0.005	Pass	
4.4'-DDT	mg/L	< 0.005			0.005	Pass	
7.12-Dimethylbenz(a)anthracene	mg/L	< 0.005			0.005	Pass	
a-HCH	mg/L	< 0.005			0.005	Pass	
Acetophenone	mg/L	< 0.005			0.005	Pass	
Aldrin	mg/L	< 0.005			0.005	Pass	
Aniline	mg/L	< 0.005			0.005	Pass	
b-HCH	mg/L	< 0.005			0.005	Pass	
Bis(2-ethylhexyl)phthalate	mg/L	< 0.005			0.005	Pass	
Butyl benzyl phthalate	mg/L	< 0.005			0.005	Pass	
d-HCH	mg/L	< 0.005			0.005	Pass	
Di-n-butyl phthalate	mg/L	< 0.005			0.005	Pass	
Di-n-octyl phthalate	mg/L	< 0.005			0.005	Pass	
Dibenz(a.j)acridine	mg/L	< 0.005			0.005	Pass	
Dibenzofuran	mg/L	< 0.005			0.005	Pass	
Dieldrin	mg/L	< 0.005			0.005	Pass	
Diethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethylaminoazobenzene	mg/L	< 0.005			0.005	Pass	
Diphenylamine	mg/L	< 0.005			0.005	Pass	
Endosulfan I	mg/L	< 0.005			0.005	Pass	
Endosulfan II	mg/L	< 0.005			0.005	Pass	
Endosulfan sulphate	mg/L	< 0.005			0.005	Pass	
Endrin	mg/L	< 0.005			0.005	Pass	
Endrin aldehyde	mg/L	< 0.005			0.005	Pass	
Endrin ketone	mg/L	< 0.005			0.005	Pass	
g-HCH (Lindane)	mg/L	< 0.005			0.005	Pass	
Heptachlor	mg/L	< 0.005			0.005	Pass	
Heptachlor epoxide	mg/L	< 0.005			0.005	Pass	
Methoxychlor	mg/L	< 0.005			0.005	Pass	
N-Nitrosodibutylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosodipropylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosopiperidine	mg/L	< 0.005			0.005	Pass	
Nitrobenzene	mg/L	< 0.05			0.05	Pass	
Pentachloronitrobenzene	mg/L	< 0.005			0.005	Pass	
Pronamide	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Trifluralin	mg/L	< 0.005			0.005	Pass	
Method Blank							
Haloethers							
4-Bromophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Chlorophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroethoxy)methane	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroisopropyl)ether	mg/L	< 0.005			0.005	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Heavy Metals							
Aluminium (filtered)	mg/L	< 0.05			0.05	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	124			70-130	Pass	
TRH C10-C14	%	72			70-130	Pass	
TRH C6-C10	%	97			70-130	Pass	
TRH >C10-C16	%	71			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	108			70-130	Pass	
Toluene	%	122			70-130	Pass	
Ethylbenzene	%	112			70-130	Pass	
m&p-Xylenes	%	121			70-130	Pass	
Xylenes - Total*	%	118			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	127			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	103			70-130	Pass	
1.1.1-Trichloroethane	%	112			70-130	Pass	
1.2-Dichlorobenzene	%	114			70-130	Pass	
1.2-Dichloroethane	%	116			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Trichloroethene	%	108			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	87			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	88			70-130	Pass	
Benz(a)anthracene	%	87			70-130	Pass	
Benzo(a)pyrene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	86			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	101			70-130	Pass	
Chrysene	%	93			70-130	Pass	
Dibenz(a.h)anthracene	%	109			70-130	Pass	
Fluoranthene	%	73			70-130	Pass	
Fluorene	%	82			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	73			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	71			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	104			70-130	Pass	
4.4'-DDD	%	101			70-130	Pass	
4.4'-DDE	%	101			70-130	Pass	
4.4'-DDT	%	89			70-130	Pass	
a-HCH	%	101			70-130	Pass	
Aldrin	%	110			70-130	Pass	
b-HCH	%	97			70-130	Pass	
d-HCH	%	99			70-130	Pass	
Dieldrin	%	115			70-130	Pass	
Endosulfan I	%	95			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endosulfan sulphate	%	98			70-130	Pass	
Endrin	%	121			70-130	Pass	
Endrin aldehyde	%	95			70-130	Pass	
Endrin ketone	%	72			70-130	Pass	
g-HCH (Lindane)	%	96			70-130	Pass	
Heptachlor	%	119			70-130	Pass	
Heptachlor epoxide	%	112			70-130	Pass	
Hexachlorobenzene	%	116			70-130	Pass	
Methoxychlor	%	73			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	74			25-140	Pass	
2.4-Dichlorophenol	%	66			25-140	Pass	
2.4.5-Trichlorophenol	%	58			25-140	Pass	
2.4.6-Trichlorophenol	%	65			25-140	Pass	
2.6-Dichlorophenol	%	69			25-140	Pass	
4-Chloro-3-methylphenol	%	71			25-140	Pass	
Pentachlorophenol	%	50			25-140	Pass	
Tetrachlorophenols - Total	%	45			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Cyclohexyl-4.6-dinitrophenol	%	129			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	49			25-140	Pass	
2-Nitrophenol	%	61			25-140	Pass	
2.4-Dimethylphenol	%	106			25-140	Pass	
2.4-Dinitrophenol	%	51			25-140	Pass	
2-Methylphenol (o-Cresol)	%	67			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	66			25-140	Pass	
4-Nitrophenol	%	56			25-140	Pass	
Dinoseb	%	72			25-140	Pass	
Phenol	%	37			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	93			70-130	Pass	
Chloride	%	103			70-130	Pass	
Cyanide (total)	%	87			70-130	Pass	
Sulphate (as SO4)	%	102			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	86			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	73			70-130	Pass	
Total Alkalinity (as CaCO3)	%	79			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium (filtered)	%	108			80-120	Pass	
Arsenic (filtered)	%	101			80-120	Pass	
Cadmium (filtered)	%	95			80-120	Pass	
Chromium (filtered)	%	103			80-120	Pass	
Copper (filtered)	%	102			80-120	Pass	
Lead (filtered)	%	102			80-120	Pass	
Manganese (filtered)	%	105			80-120	Pass	
Mercury (filtered)	%	98			80-120	Pass	
Nickel (filtered)	%	104			80-120	Pass	
Zinc (filtered)	%	103			80-120	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	94			80-120	Pass	
Magnesium	%	97			80-120	Pass	
Potassium	%	94			80-120	Pass	
Sodium	%	99			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-De0002733	NCP	%	92			70-130	Pass	
TRH C10-C14	M23-No0048509	NCP	%	114			70-130	Pass	
TRH C6-C10	M23-De0002733	NCP	%	95			70-130	Pass	
TRH >C10-C16	M23-No0048509	NCP	%	106			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-De0002733	NCP	%	91			70-130	Pass	
Toluene	M23-De0002733	NCP	%	90			70-130	Pass	
Ethylbenzene	M23-De0002733	NCP	%	101			70-130	Pass	
m&p-Xylenes	M23-De0002733	NCP	%	112			70-130	Pass	
o-Xylene	M23-De0002733	NCP	%	104			70-130	Pass	
Xylenes - Total*	M23-De0002733	NCP	%	109			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dissolved Gases				Result 1					
Methane	M23-No0074721	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M23-De0002733	NCP	%	114			70-130	Pass	
1.1.1-Trichloroethane	M23-De0002733	NCP	%	92			70-130	Pass	
1.2-Dichlorobenzene	M23-De0002733	NCP	%	108			70-130	Pass	
1.2-Dichloroethane	M23-De0002733	NCP	%	118			70-130	Pass	
Trichloroethene	M23-De0002733	NCP	%	136			70-130	Fail	Q08
Naphthalene	M23-De0002733	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-De0014440	NCP	%	96			70-130	Pass	
Acenaphthylene	M23-De0014440	NCP	%	96			70-130	Pass	
Anthracene	M23-De0014440	NCP	%	87			70-130	Pass	
Benz(a)anthracene	M23-De0014440	NCP	%	104			70-130	Pass	
Benzo(a)pyrene	M23-De0014440	NCP	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	M23-De0014440	NCP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	M23-De0014440	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	M23-De0014440	NCP	%	113			70-130	Pass	
Chrysene	M23-De0014440	NCP	%	113			70-130	Pass	
Dibenz(a.h)anthracene	M23-De0014440	NCP	%	73			70-130	Pass	
Fluoranthene	M23-De0014440	NCP	%	90			70-130	Pass	
Fluorene	M23-De0014440	NCP	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-De0014440	NCP	%	80			70-130	Pass	
Naphthalene	M23-De0014440	NCP	%	102			70-130	Pass	
Phenanthrene	M23-De0014440	NCP	%	76			70-130	Pass	
Pyrene	M23-De0014440	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M23-De0014440	NCP	%	82			70-130	Pass	
4.4'-DDD	M23-De0014440	NCP	%	81			70-130	Pass	
4.4'-DDE	M23-De0014440	NCP	%	80			70-130	Pass	
4.4'-DDT	M23-De0014440	NCP	%	88			70-130	Pass	
a-HCH	M23-De0014440	NCP	%	75			70-130	Pass	
Aldrin	M23-De0014440	NCP	%	77			70-130	Pass	
b-HCH	M23-De0014440	NCP	%	84			70-130	Pass	
d-HCH	M23-De0014440	NCP	%	80			70-130	Pass	
Dieldrin	M23-De0014440	NCP	%	87			70-130	Pass	
Endosulfan I	M23-De0014440	NCP	%	85			70-130	Pass	
Endosulfan II	M23-De0014440	NCP	%	85			70-130	Pass	
Endosulfan sulphate	M23-De0014440	NCP	%	81			70-130	Pass	
Endrin	M23-De0014440	NCP	%	97			70-130	Pass	
Endrin aldehyde	M23-De0014440	NCP	%	75			70-130	Pass	
Endrin ketone	M23-De0014440	NCP	%	85			70-130	Pass	
g-HCH (Lindane)	M23-De0014440	NCP	%	77			70-130	Pass	
Heptachlor	M23-De0014440	NCP	%	83			70-130	Pass	
Heptachlor epoxide	M23-De0014440	NCP	%	81			70-130	Pass	
Hexachlorobenzene	M23-De0014440	NCP	%	76			70-130	Pass	
Methoxychlor	M23-De0014440	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Chlorinated Hydrocarbons				Result 1					
1.2-Dichlorobenzene	M23-De0006367	NCP	%	91			70-130	Pass	
1.2.4-Trichlorobenzene	M23-De0006367	NCP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.4-Dichlorobenzene	M23-De0006367	NCP	%	94			70-130	Pass	
Hexachlorobenzene	M23-De0014440	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-De0014440	NCP	%	50			30-130	Pass	
2.4-Dichlorophenol	M23-De0014440	NCP	%	39			30-130	Pass	
2.4.5-Trichlorophenol	M23-De0014440	NCP	%	33			30-130	Pass	
2.4.6-Trichlorophenol	M23-De0014440	NCP	%	45			30-130	Pass	
2.6-Dichlorophenol	M23-De0014440	NCP	%	40			30-130	Pass	
4-Chloro-3-methylphenol	M23-De0014440	NCP	%	54			30-130	Pass	
Pentachlorophenol	M23-De0014440	NCP	%	31			30-130	Pass	
Tetrachlorophenols - Total	M23-De0014440	NCP	%	57			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-De0014440	NCP	%	70			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-De0014440	NCP	%	46			30-130	Pass	
2-Nitrophenol	M23-De0014440	NCP	%	40			30-130	Pass	
2.4-Dimethylphenol	M23-De0014440	NCP	%	46			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-De0014440	NCP	%	50			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-De0014440	NCP	%	55			30-130	Pass	
Dinoseb	M23-De0014440	NCP	%	53			30-130	Pass	
Phenol	M23-De0014440	NCP	%	45			30-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
2.4-Dinitrotoluene	M23-De0006367	NCP	%	77			70-130	Pass	
N-Nitrosodipropylamine	M23-De0006367	NCP	%	128			70-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M23-De0001828	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Aluminium (filtered)	M23-De0002246	NCP	%	101			75-125	Pass	
Arsenic (filtered)	M23-De0002246	NCP	%	104			75-125	Pass	
Cadmium (filtered)	M23-De0002246	NCP	%	93			75-125	Pass	
Chromium (filtered)	M23-De0002246	NCP	%	102			75-125	Pass	
Copper (filtered)	M23-De0002246	NCP	%	96			75-125	Pass	
Lead (filtered)	M23-De0002246	NCP	%	96			75-125	Pass	
Mercury (filtered)	M23-De0002246	NCP	%	100			75-125	Pass	
Nickel (filtered)	M23-De0002246	NCP	%	97			75-125	Pass	
Zinc (filtered)	M23-De0002246	NCP	%	94			75-125	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M23-De0001825	NCP	%	95			75-125	Pass	
Magnesium	M23-De0001825	NCP	%	99			75-125	Pass	
Sodium	M23-De0001825	NCP	%	97			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-De0002306	NCP	mg/L	0.08	0.07	13	30%	Pass	
TRH C10-C14	M23-No0044242	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M23-No0044242	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M23-No0044242	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M23-De0002306	NCP	mg/L	0.12	0.10	18	30%	Pass	
TRH >C10-C16	M23-No0044242	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C16-C34	M23-No0044242	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M23-No0044242	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M23-De0005107	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M23-De0005107	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M23-De0002306	NCP	mg/L	0.016	0.014	12	30%	Pass	
Xylenes - Total*	M23-De0002306	NCP	mg/L	0.016	0.014	12	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M23-De0001123	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1-Dichloroethene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1-Trichloroethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2-Trichloroethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dibromoethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichlorobenzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloroethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloropropane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.3-Trichloropropane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.4-Trimethylbenzene	M23-De0005107	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichlorobenzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichloropropane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3.5-Trimethylbenzene	M23-De0002306	NCP	mg/L	0.003	0.002	31	30%	Fail	Q15
1.4-Dichlorobenzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
2-Butanone (MEK)	M23-De0005107	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Propanone (Acetone)	M23-De0002306	NCP	mg/L	0.14	0.11	26	30%	Pass	
4-Chlorotoluene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M23-De0005107	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Allyl chloride	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromobenzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromochloromethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromodichloromethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromoform	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromomethane	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Carbon disulfide	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Carbon Tetrachloride	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chlorobenzene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chloroethane	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloroform	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloromethane	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
cis-1.2-Dichloroethene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
cis-1.3-Dichloropropene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromochloromethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromomethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dichlorodifluoromethane	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Iodomethane	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Isopropyl benzene (Cumene)	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Methylene Chloride	M23-De0002306	NCP	mg/L	0.014	0.013	5.2	30%	Pass	
Styrene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Tetrachloroethene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
trans-1.2-Dichloroethene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
trans-1.3-Dichloropropene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trichloroethene	M23-De0002306	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trichlorofluoromethane	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Vinyl chloride	M23-De0002306	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M23-De0002306	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M23-De0003199	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-De0003199	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	M23-De0003199	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Chlorinated Hydrocarbons				Result 1	Result 2	RPD			
1.2-Dichlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3-Trichlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4-Trichlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3-Dichlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3.5-Trichlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.4-Dichlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Benzal chloride	M23-De0003199	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Benzotrichloride	M23-De0003199	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Benzyl chloride	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobutadiene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorocyclopentadiene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachloroethane	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pentachlorobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-De0003199	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M23-De0003199	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-De0003199	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-De0003199	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M23-De0003199	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-De0003199	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M23-De0003199	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M23-De0003199	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-De0003199	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-De0003199	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M23-De0003199	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M23-De0003199	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M23-De0003199	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-De0003199	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-De0003199	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M23-De0003199	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M23-De0003199	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M23-De0003199	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
1-Chloronaphthalene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1-Naphthylamine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Chloronaphthalene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Methylnaphthalene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Naphthylamine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Nitroaniline	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Picoline	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.3.4.6-Tetrachlorophenol	M23-De0003199	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dinitrotoluene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.6-Dinitrotoluene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3-Methylcholanthrene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3.3'-Dichlorobenzidine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Aminobiphenyl	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
4.4'-DDD	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDE	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDT	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
7.12-Dimethylbenz(a)anthracene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
a-HCH	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Acetophenone	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aldrin	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aniline	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
b-HCH	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-ethylhexyl)phthalate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Butyl benzyl phthalate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
d-HCH	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-butyl phthalate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-octyl phthalate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.j)acridine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenzofuran	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dieldrin	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diethyl phthalate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethyl phthalate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethylaminoazobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diphenylamine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan I	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan II	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan sulphate	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin aldehyde	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin ketone	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
g-HCH (Lindane)	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor epoxide	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Methoxychlor	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodibutylamine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodipropylamine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosopiperidine	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nitrobenzene	M23-De0003199	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Pentachloronitrobenzene	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pronamide	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Trifluralin	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Haloethers				Result 1	Result 2	RPD			
4-Bromophenyl phenyl ether	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chlorophenyl phenyl ether	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroethoxy)methane	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroisopropyl)ether	M23-De0003199	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M23-De0001835	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Chloride	M23-De0002733	NCP	mg/L	14	15	10	30%	Pass	
Cyanide (total)	M23-De0010004	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Sulphate (as SO4)	M23-De0002733	NCP	mg/L	18	18	<1	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M23-De0002308	NCP	mg/L	770	860	11	30%	Pass	

Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M23-De0005033	NCP	mg/L	170	170	<1	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M23-De0005033	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M23-De0005033	NCP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M23-De0005033	NCP	mg/L	170	170	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium (filtered)	M23-De0002246	NCP	mg/L	0.14	0.15	4.2	30%	Pass	
Arsenic (filtered)	M23-De0002246	NCP	mg/L	0.001	0.001	2.0	30%	Pass	
Cadmium (filtered)	M23-De0002246	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M23-De0002246	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M23-De0002246	NCP	mg/L	0.008	0.008	3.0	30%	Pass	
Lead (filtered)	M23-De0002246	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M23-De0002246	NCP	mg/L	0.59	0.61	4.5	30%	Pass	
Mercury (filtered)	M23-De0002246	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M23-De0002246	NCP	mg/L	0.004	0.004	3.2	30%	Pass	
Zinc (filtered)	M23-De0002246	NCP	mg/L	0.071	0.073	3.1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M23-De0001825	NCP	mg/L	27	28	2.4	30%	Pass	
Magnesium	M23-De0001825	NCP	mg/L	11	12	3.0	30%	Pass	
Potassium	M23-De0001825	NCP	mg/L	5.0	4.7	6.0	30%	Pass	
Sodium	M23-De0001825	NCP	mg/L	75	77	1.4	30%	Pass	

Comments

V2 Amendments made to correct 'r' for NCP M23-De0001825 for Potassium.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Harry Bacalis	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Vivian Wang	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

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Attention: **Supriya Lath**

Report **1049962-W**
Project name
Project ID 60693007
Received Date Dec 01, 2023

Client Sample ID			**QA202**	**QA203**	**QA503**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**M23-De0003199**	**M23-De0003200**	**M23-De0003201**
Date Sampled			**Nov 30, 2023**	**Dec 01, 2023**	**Dec 01, 2023**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-
BTEX					
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	97	99
Aliphatic TRH Speciation - >C6 - C10					
TRH >C6-C8 Aliphatic	0.02	mg/L	< 0.02	< 0.02	-
TRH >C8-C10 Aliphatic	0.02	mg/L	< 0.02	< 0.02	-
Aromatic TRH Speciation - >C5 - C10					
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	< 0.001	< 0.001	-
TRH >C7-C8 Aromatic	0.001	mg/L	< 0.001	< 0.001	-
TRH >C8-C10 Aromatic	0.01	mg/L	< 0.01	< 0.01	-
Dissolved Gases					
Methane	0.05	mg/L	16	< 0.05	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	-

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	75	58	-
p-Terphenyl-d14 (surr.)	1	%	80	85	-
Phenols (Halogenated)					
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	-
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	-
Phenol	0.003	mg/L	< 0.003	< 0.003	-
Phenol-d6 (surr.)	1	%	47	49	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	-
Aliphatic TRH Speciation - >C10 - C35					
TRH >C10-C12 Aliphatic	0.05	mg/L	< 0.05	< 0.05	-
TRH >C12-C16 Aliphatic	0.1	mg/L	< 0.1	< 0.1	-
TRH >C16-C21 Aliphatic	0.1	mg/L	< 0.1	< 0.1	-
TRH >C21-C35 Aliphatic	0.1	mg/L	< 0.1	< 0.1	-

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Aromatic TRH Speciation - >C10 - C35					
TRH >C10-C12 Aromatic	0.05	mg/L	< 0.05	< 0.05	-
TRH >C12-C16 Aromatic	0.1	mg/L	< 0.1	< 0.1	-
TRH >C16-C21 Aromatic	0.1	mg/L	< 0.1	< 0.1	-
TRH >C21-C35 Aromatic	0.1	mg/L	< 0.1	< 0.1	-
Ammonia (as N)	0.01	mg/L	18	18	-
Chloride	1	mg/L	800	460	-
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	-
Cyanide (total)	0.005	mg/L	0.008	0.010	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	-
Ferrous Iron - Fe2+	0.05	mg/L	41	0.25	-
Ionic Balance*	0.01	%	2.9	4.7	-
Nitrate (as N)	0.02	mg/L	0.03	< 0.02	-
Sulphate (as SO4)	5	mg/L	< 50	16	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	2200	1700	-
Alkalinity (speciated)					
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	920	760	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	-
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	-
Total Alkalinity (as CaCO3)	20	mg/L	920	760	-
Heavy Metals					
Aluminium	0.05	mg/L	0.14	0.08	-
Arsenic	0.001	mg/L	< 0.001	< 0.001	-
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	-
Chromium	0.001	mg/L	< 0.001	< 0.001	-
Copper	0.001	mg/L	< 0.001	< 0.001	-
Lead	0.001	mg/L	0.002	< 0.001	-
Manganese	0.005	mg/L	3.4	0.60	-
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	-
Nickel	0.001	mg/L	< 0.001	< 0.001	-
Zinc	0.005	mg/L	0.006	< 0.005	-
Alkali Metals					
Calcium	0.5	mg/L	200	88	-
Magnesium	0.5	mg/L	67	57	-
Potassium	0.5	mg/L	35	30	-
Sodium	0.5	mg/L	480	340	-
Volatile Organics					
1.1-Dichloroethane	0.001	mg/L	-	< 0.001	-
1.1-Dichloroethene	0.001	mg/L	-	< 0.001	-
1.1.1-Trichloroethane	0.001	mg/L	-	< 0.001	-
1.1.1.2-Tetrachloroethane	0.001	mg/L	-	< 0.001	-
1.1.2-Trichloroethane	0.001	mg/L	-	< 0.001	-
1.1.2.2-Tetrachloroethane	0.001	mg/L	-	< 0.001	-
1.2-Dibromoethane	0.001	mg/L	-	< 0.001	-
1.2-Dichlorobenzene	0.001	mg/L	-	< 0.001	-
1.2-Dichloroethane	0.001	mg/L	-	< 0.001	-
1.2-Dichloropropane	0.001	mg/L	-	< 0.001	-
1.2.3-Trichloropropane	0.001	mg/L	-	< 0.001	-

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Volatile Organics					
1.2.4-Trimethylbenzene	0.001	mg/L	-	< 0.001	-
1.3-Dichlorobenzene	0.001	mg/L	-	< 0.001	-
1.3-Dichloropropane	0.001	mg/L	-	< 0.001	-
1.3.5-Trimethylbenzene	0.001	mg/L	-	< 0.001	-
1.4-Dichlorobenzene	0.001	mg/L	-	< 0.001	-
2-Butanone (MEK)	0.005	mg/L	-	< 0.005	-
2-Propanone (Acetone)	0.005	mg/L	-	< 0.005	-
4-Chlorotoluene	0.001	mg/L	-	< 0.001	-
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	-	< 0.005	-
Allyl chloride	0.001	mg/L	-	< 0.001	-
Benzene	0.001	mg/L	-	< 0.001	-
Bromobenzene	0.001	mg/L	-	< 0.001	-
Bromochloromethane	0.001	mg/L	-	< 0.001	-
Bromodichloromethane	0.001	mg/L	-	< 0.001	-
Bromoform	0.001	mg/L	-	< 0.001	-
Bromomethane	0.005	mg/L	-	< 0.005	-
Carbon disulfide	0.001	mg/L	-	< 0.001	-
Carbon Tetrachloride	0.001	mg/L	-	< 0.001	-
Chlorobenzene	0.001	mg/L	-	< 0.001	-
Chloroethane	0.005	mg/L	-	< 0.005	-
Chloroform	0.005	mg/L	-	< 0.005	-
Chloromethane	0.005	mg/L	-	< 0.005	-
cis-1.2-Dichloroethene	0.001	mg/L	-	< 0.001	-
cis-1.3-Dichloropropene	0.001	mg/L	-	< 0.001	-
Dibromochloromethane	0.001	mg/L	-	< 0.001	-
Dibromomethane	0.001	mg/L	-	< 0.001	-
Dichlorodifluoromethane	0.005	mg/L	-	< 0.005	-
Ethylbenzene	0.001	mg/L	-	< 0.001	-
Iodomethane	0.001	mg/L	-	< 0.001	-
Isopropyl benzene (Cumene)	0.001	mg/L	-	< 0.001	-
m&p-Xylenes	0.002	mg/L	-	< 0.002	-
Methylene Chloride	0.005	mg/L	-	< 0.005	-
o-Xylene	0.001	mg/L	-	< 0.001	-
Styrene	0.001	mg/L	-	< 0.001	-
Tetrachloroethene	0.001	mg/L	-	< 0.001	-
Toluene	0.001	mg/L	-	< 0.001	-
trans-1.2-Dichloroethene	0.001	mg/L	-	< 0.001	-
trans-1.3-Dichloropropene	0.001	mg/L	-	< 0.001	-
Trichloroethene	0.001	mg/L	-	< 0.001	-
Trichlorofluoromethane	0.005	mg/L	-	< 0.005	-
Vinyl chloride	0.005	mg/L	-	< 0.005	-
Xylenes - Total*	0.003	mg/L	-	< 0.003	-
Total MAH*	0.003	mg/L	-	< 0.003	-
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	-	< 0.005	-
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	-	< 0.005	-
4-Bromofluorobenzene (surr.)	1	%	-	97	-
Toluene-d8 (surr.)	1	%	-	96	-
Naphthalene[N02]	0.01	mg/L	-	-	< 0.01

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.002	mg/L	-	< 0.002	-
4.4'-DDD	0.0002	mg/L	-	< 0.0002	-
4.4'-DDE	0.0002	mg/L	-	< 0.0002	-
4.4'-DDT	0.0002	mg/L	-	< 0.0002	-
a-HCH	0.0002	mg/L	-	< 0.0002	-
Aldrin	0.0002	mg/L	-	< 0.0002	-
b-HCH	0.0002	mg/L	-	< 0.0002	-
d-HCH	0.0002	mg/L	-	< 0.0002	-
Dieldrin	0.0002	mg/L	-	< 0.0002	-
Endosulfan I	0.0002	mg/L	-	< 0.0002	-
Endosulfan II	0.0002	mg/L	-	< 0.0002	-
Endosulfan sulphate	0.0002	mg/L	-	< 0.0002	-
Endrin	0.0002	mg/L	-	< 0.0002	-
Endrin aldehyde	0.0002	mg/L	-	< 0.0002	-
Endrin ketone	0.0002	mg/L	-	< 0.0002	-
g-HCH (Lindane)	0.0002	mg/L	-	< 0.0002	-
Heptachlor	0.0002	mg/L	-	< 0.0002	-
Heptachlor epoxide	0.0002	mg/L	-	< 0.0002	-
Hexachlorobenzene	0.0002	mg/L	-	< 0.0002	-
Methoxychlor	0.0002	mg/L	-	< 0.0002	-
Toxaphene	0.005	mg/L	-	< 0.005	-
Aldrin and Dieldrin (Total)*	0.0002	mg/L	-	< 0.0002	-
DDT + DDE + DDD (Total)*	0.0002	mg/L	-	< 0.0002	-
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	-	< 0.002	-
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	-	< 0.002	-
Dibutylchlorendate (surr.)	1	%	-	55	-
Tetrachloro-m-xylene (surr.)	1	%	-	59	-
Chlorinated Hydrocarbons					
1.2-Dichlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.3-Trichlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.4-Trichlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	-	< 0.005	-
1.3-Dichlorobenzene	0.005	mg/L	-	< 0.005	-
1.3.5-Trichlorobenzene	0.005	mg/L	-	< 0.005	-
1.4-Dichlorobenzene	0.005	mg/L	-	< 0.005	-
Benzal chloride	0.0001	mg/L	-	< 0.0001	-
Benzotrichloride	0.0001	mg/L	-	< 0.0001	-
Benzyl chloride	0.005	mg/L	-	< 0.005	-
Hexachlorobenzene	0.005	mg/L	-	< 0.005	-
Hexachlorobutadiene	0.005	mg/L	-	< 0.005	-
Hexachlorocyclopentadiene	0.005	mg/L	-	< 0.005	-
Hexachloroethane	0.005	mg/L	-	< 0.005	-
Pentachlorobenzene	0.005	mg/L	-	< 0.005	-
Tetrachloro-m-xylene (surr.)	1	%	-	59	-

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Semivolatile Organics					
Aldrin and Dieldrin (Total)*	0.0001	mg/L	-	< 0.005	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	-	< 0.005	-
Total PAH*	0.001	mg/L	-	< 0.001	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	< 0.03	-
1-Chloronaphthalene	0.005	mg/L	-	< 0.005	-
1-Naphthylamine	0.005	mg/L	-	< 0.005	-
1.2-Dichlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.3-Trichlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.4-Trichlorobenzene	0.005	mg/L	-	< 0.005	-
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	-	< 0.005	-
1.3-Dichlorobenzene	0.005	mg/L	-	< 0.005	-
1.3.5-Trichlorobenzene	0.005	mg/L	-	< 0.005	-
1.4-Dichlorobenzene	0.005	mg/L	-	< 0.005	-
2-Chloronaphthalene	0.005	mg/L	-	< 0.005	-
2-Chlorophenol	0.003	mg/L	-	< 0.003	-
2-Fluorobiphenyl (surr.)	1	%	-	58	-
2-Methylnaphthalene	0.005	mg/L	-	< 0.005	-
2-Methylphenol (o-Cresol)	0.003	mg/L	-	< 0.003	-
2-Naphthylamine	0.005	mg/L	-	< 0.005	-
2-Nitroaniline	0.005	mg/L	-	< 0.005	-
2-Nitrophenol	0.01	mg/L	-	< 0.01	-
2-Picoline	0.005	mg/L	-	< 0.005	-
2.3.4.6-Tetrachlorophenol	0.01	mg/L	-	< 0.01	-
2.4-Dichlorophenol	0.003	mg/L	-	< 0.003	-
2.4-Dimethylphenol	0.003	mg/L	-	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	-	< 0.03	-
2.4-Dinitrotoluene	0.005	mg/L	-	< 0.005	-
2.4.5-Trichlorophenol	0.01	mg/L	-	< 0.01	-
2.4.6-Tribromophenol (surr.)	1	%	-	98	-
2.4.6-Trichlorophenol	0.01	mg/L	-	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	-	< 0.003	-
2.6-Dinitrotoluene	0.005	mg/L	-	< 0.005	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	< 0.006	-
3-Methylcholanthrene	0.005	mg/L	-	< 0.005	-
3.3'-Dichlorobenzidine	0.005	mg/L	-	< 0.005	-
4-Aminobiphenyl	0.005	mg/L	-	< 0.005	-
4-Chloro-3-methylphenol	0.01	mg/L	-	< 0.01	-
4-Nitrophenol	0.03	mg/L	-	< 0.03	-
4.4'-DDD	0.005	mg/L	-	< 0.005	-
4.4'-DDE	0.005	mg/L	-	< 0.005	-
4.4'-DDT	0.005	mg/L	-	< 0.005	-
7.12-Dimethylbenz(a)anthracene	0.005	mg/L	-	< 0.005	-
a-HCH	0.005	mg/L	-	< 0.005	-
Acenaphthene	0.001	mg/L	-	< 0.001	-
Acenaphthylene	0.001	mg/L	-	< 0.001	-
Acetophenone	0.005	mg/L	-	< 0.005	-
Aldrin	0.005	mg/L	-	< 0.005	-

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Semivolatile Organics					
Aniline	0.005	mg/L	-	< 0.005	-
Anthracene	0.001	mg/L	-	< 0.001	-
b-HCH	0.005	mg/L	-	< 0.005	-
Benz(a)anthracene	0.001	mg/L	-	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	-	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	-	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	-	< 0.001	-
Benzyl chloride	0.005	mg/L	-	< 0.005	-
Bis(2-ethylhexyl)phthalate	0.005	mg/L	-	< 0.005	-
Butyl benzyl phthalate	0.005	mg/L	-	< 0.005	-
Chrysene	0.001	mg/L	-	< 0.001	-
d-HCH	0.005	mg/L	-	< 0.005	-
Di-n-butyl phthalate	0.005	mg/L	-	< 0.005	-
Di-n-octyl phthalate	0.005	mg/L	-	< 0.005	-
Dibenz(a.h)anthracene	0.001	mg/L	-	< 0.001	-
Dibenz(a.j)acridine	0.005	mg/L	-	< 0.005	-
Dibenzofuran	0.005	mg/L	-	< 0.005	-
Dieldrin	0.005	mg/L	-	< 0.005	-
Diethyl phthalate	0.005	mg/L	-	< 0.005	-
Dimethyl phthalate	0.005	mg/L	-	< 0.005	-
Dimethylaminoazobenzene	0.005	mg/L	-	< 0.005	-
Diphenylamine	0.005	mg/L	-	< 0.005	-
Endosulfan I	0.005	mg/L	-	< 0.005	-
Endosulfan II	0.005	mg/L	-	< 0.005	-
Endosulfan sulphate	0.005	mg/L	-	< 0.005	-
Endrin	0.005	mg/L	-	< 0.005	-
Endrin aldehyde	0.005	mg/L	-	< 0.005	-
Endrin ketone	0.005	mg/L	-	< 0.005	-
Fluoranthene	0.001	mg/L	-	< 0.001	-
Fluorene	0.001	mg/L	-	< 0.001	-
g-HCH (Lindane)	0.005	mg/L	-	< 0.005	-
Heptachlor	0.005	mg/L	-	< 0.005	-
Heptachlor epoxide	0.005	mg/L	-	< 0.005	-
Hexachlorobenzene	0.005	mg/L	-	< 0.005	-
Hexachlorobutadiene	0.005	mg/L	-	< 0.005	-
Hexachlorocyclopentadiene	0.005	mg/L	-	< 0.005	-
Hexachloroethane	0.005	mg/L	-	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	< 0.001	-
Methoxychlor	0.005	mg/L	-	< 0.005	-
N-Nitrosodibutylamine	0.005	mg/L	-	< 0.005	-
N-Nitrosodipropylamine	0.005	mg/L	-	< 0.005	-
N-Nitrosopiperidine	0.005	mg/L	-	< 0.005	-
Naphthalene	0.001	mg/L	-	< 0.001	-
Nitrobenzene	0.05	mg/L	-	< 0.05	-
Nitrobenzene-d5 (surr.)	1	%	-	82	-
Pentachlorobenzene	0.005	mg/L	-	< 0.005	-
Pentachloronitrobenzene	0.005	mg/L	-	< 0.005	-
Pentachlorophenol	0.01	mg/L	-	< 0.01	-

Client Sample ID			QA202	QA203	QA503
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M23-De0003199	M23-De0003200	M23-De0003201
Date Sampled			Nov 30, 2023	Dec 01, 2023	Dec 01, 2023
Test/Reference	LOR	Unit			
Semivolatile Organics					
Phenanthrene	0.001	mg/L	-	< 0.001	-
Phenol	0.003	mg/L	-	< 0.003	-
Phenol-d6 (surr.)	1	%	-	49	-
Pronamide	0.005	mg/L	-	< 0.005	-
Pyrene	0.001	mg/L	-	< 0.001	-
Trifluralin	0.005	mg/L	-	< 0.005	-
Haloethers					
4-Bromophenyl phenyl ether	0.005	mg/L	-	< 0.005	-
4-Chlorophenyl phenyl ether	0.005	mg/L	-	< 0.005	-
Bis(2-chloroethoxy)methane	0.005	mg/L	-	< 0.005	-
Bis(2-chloroisopropyl)ether	0.005	mg/L	-	< 0.005	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Eurofins Suite B16A: SO4, CH4, NO3, Fe2+			
Dissolved Gases	Melbourne	Dec 04, 2023	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Ferrous Iron - Fe2+	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
Nitrate (as N)	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 07, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Ammonia (as N)	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser			
Cyanide (free)	Melbourne	Dec 06, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Dec 04, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Dec 06, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11C: Na/K/Ca/Mg	Melbourne	Dec 06, 2023	180 Days
- Method: LTM-MET-3010 Alkali Metals by ICP-AES			
Volatile Organics	Melbourne	Dec 04, 2023	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
Organochlorine Pesticides	Melbourne	Dec 07, 2023	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Chlorinated Hydrocarbons	Melbourne	Dec 07, 2023	7 Days
- Method: USEPA 8121 Chlorinated Hydrocarbons			
Semivolatile Organics	Melbourne	Dec 07, 2023	7 Days
- Method: USEPA SW 846 8270			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Dec 07, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			

Description	Testing Site	Extracted	Holding Time
Phenols (non-Halogenated)	Melbourne	Dec 07, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	Dec 06, 2023	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Melbourne	Dec 04, 2023	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Alkalinity (speciated)	Melbourne	Dec 06, 2023	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Dec 06, 2023	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name:
Project ID: 60693007

Order No.: 60693007/3
Report #: 1049962
Phone: 08 7223 5400
Fax:

Received: Dec 1, 2023 2:26 PM
Due: Dec 6, 2023
Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	Aluminium	Ammonia (as N)	Arsenic	Cadmium	Chromium	Copper	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	Ionic Balance*	Lead	Manganese	Mercury	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Chlorinated Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Phenols (Speciated)	BTEX and Naphthalene	Volatile Organics	Semivolatile Organics	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH	Eurofins Suite B16A: SO4, CH4, NO3, Fe2+	Eurofins Suite B11E: Cl/SO4/Alkalinity	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																													

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																									
1	QA202	Nov 30, 2023		Water	M23-De0003199	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X			X		X	X	X	X
2	QA203	Dec 01, 2023		Water	M23-De0003200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
3	QA503	Dec 01, 2023		Water	M23-De0003201																							X				
Test Counts						2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	2	1	1	2	1	2	2	3	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit	**Colour:** Pt-Co Units	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 70 – 130%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Chlorinated Hydrocarbons							
1.2-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.4-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3.5-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.4-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
Benzal chloride	mg/L	< 0.0001			0.0001	Pass	
Benzotrichloride	mg/L	< 0.0001			0.0001	Pass	
Benzyl chloride	mg/L	< 0.005			0.005	Pass	
Hexachlorobenzene	mg/L	< 0.005			0.005	Pass	
Hexachlorobutadiene	mg/L	< 0.005			0.005	Pass	
Hexachlorocyclopentadiene	mg/L	< 0.005			0.005	Pass	
Hexachloroethane	mg/L	< 0.005			0.005	Pass	
Pentachlorobenzene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Semivolatile Organics							
1-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
1-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
2-Methylnaphthalene	mg/L	< 0.005			0.005	Pass	
2-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Nitroaniline	mg/L	< 0.005			0.005	Pass	
2-Picoline	mg/L	< 0.005			0.005	Pass	
2.3.4.6-Tetrachlorophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
2.6-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
3-Methylcholanthrene	mg/L	< 0.005			0.005	Pass	
3.3'-Dichlorobenzidine	mg/L	< 0.005			0.005	Pass	
4-Aminobiphenyl	mg/L	< 0.005			0.005	Pass	
4.4'-DDD	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDE	mg/L	< 0.005			0.005	Pass	
4.4'-DDT	mg/L	< 0.005			0.005	Pass	
7.12-Dimethylbenz(a)anthracene	mg/L	< 0.005			0.005	Pass	
a-HCH	mg/L	< 0.005			0.005	Pass	
Acetophenone	mg/L	< 0.005			0.005	Pass	
Aldrin	mg/L	< 0.005			0.005	Pass	
Aniline	mg/L	< 0.005			0.005	Pass	
b-HCH	mg/L	< 0.005			0.005	Pass	
Bis(2-ethylhexyl)phthalate	mg/L	< 0.005			0.005	Pass	
Butyl benzyl phthalate	mg/L	< 0.005			0.005	Pass	
d-HCH	mg/L	< 0.005			0.005	Pass	
Di-n-butyl phthalate	mg/L	< 0.005			0.005	Pass	
Di-n-octyl phthalate	mg/L	< 0.005			0.005	Pass	
Dibenz(a.j)acridine	mg/L	< 0.005			0.005	Pass	
Dibenzofuran	mg/L	< 0.005			0.005	Pass	
Dieldrin	mg/L	< 0.005			0.005	Pass	
Diethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethylaminoazobenzene	mg/L	< 0.005			0.005	Pass	
Diphenylamine	mg/L	< 0.005			0.005	Pass	
Endosulfan I	mg/L	< 0.005			0.005	Pass	
Endosulfan II	mg/L	< 0.005			0.005	Pass	
Endosulfan sulphate	mg/L	< 0.005			0.005	Pass	
Endrin	mg/L	< 0.005			0.005	Pass	
Endrin aldehyde	mg/L	< 0.005			0.005	Pass	
Endrin ketone	mg/L	< 0.005			0.005	Pass	
g-HCH (Lindane)	mg/L	< 0.005			0.005	Pass	
Heptachlor	mg/L	< 0.005			0.005	Pass	
Heptachlor epoxide	mg/L	< 0.005			0.005	Pass	
Methoxychlor	mg/L	< 0.005			0.005	Pass	
N-Nitrosodibutylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosodipropylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosopiperidine	mg/L	< 0.005			0.005	Pass	
Nitrobenzene	mg/L	< 0.05			0.05	Pass	
Pentachloronitrobenzene	mg/L	< 0.005			0.005	Pass	
Pronamide	mg/L	< 0.005			0.005	Pass	
Trifluralin	mg/L	< 0.005			0.005	Pass	
Method Blank							
Haloethers							
4-Bromophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Chlorophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroethoxy)methane	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroisopropyl)ether	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	53			25-140	Pass	
2.4-Dichlorophenol	%	41			25-140	Pass	
2.4.5-Trichlorophenol	%	40			25-140	Pass	
2.4.6-Trichlorophenol	%	80			25-140	Pass	
2.6-Dichlorophenol	%	40			25-140	Pass	
4-Chloro-3-methylphenol	%	85			25-140	Pass	
Tetrachlorophenols - Total	%	76			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Cyclohexyl-4.6-dinitrophenol	%	58			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	74			25-140	Pass	
2-Nitrophenol	%	43			25-140	Pass	
2-Methylphenol (o-Cresol)	%	52			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	54			25-140	Pass	
4-Nitrophenol	%	77			25-140	Pass	
Dinoseb	%	40			25-140	Pass	
Phenol	%	49			25-140	Pass	
LCS - % Recovery							
Chloride	%	100			70-130	Pass	
Cyanide (weak acid dissoc.)	%	74			70-130	Pass	
Ferrous Iron - Fe2+	%	92			70-130	Pass	
Sulphate (as SO4)	%	107			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-De0002733	NCP	%	92			70-130	Pass	
TRH C6-C10	M23-No0075145	NCP	%	92			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-De0002733	NCP	%	91			70-130	Pass	
Toluene	M23-De0002733	NCP	%	90			70-130	Pass	
Ethylbenzene	M23-De0002733	NCP	%	101			70-130	Pass	
m&p-Xylenes	M23-De0002733	NCP	%	112			70-130	Pass	
o-Xylene	M23-De0002733	NCP	%	104			70-130	Pass	
Xylenes - Total*	M23-De0002733	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Dissolved Gases				Result 1					
Methane	M23-No0074721	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-No0075145	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-De0014440	NCP	%	96			70-130	Pass	
Acenaphthylene	M23-De0014440	NCP	%	96			70-130	Pass	
Anthracene	M23-De0014440	NCP	%	87			70-130	Pass	
Benz(a)anthracene	M23-De0014440	NCP	%	104			70-130	Pass	
Benzo(a)pyrene	M23-De0014440	NCP	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	M23-De0014440	NCP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	M23-De0014440	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	M23-De0014440	NCP	%	113			70-130	Pass	
Chrysene	M23-De0014440	NCP	%	113			70-130	Pass	
Dibenz(a.h)anthracene	M23-De0014440	NCP	%	73			70-130	Pass	
Fluoranthene	M23-De0014440	NCP	%	90			70-130	Pass	
Fluorene	M23-De0014440	NCP	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-De0014440	NCP	%	80			70-130	Pass	
Naphthalene	M23-De0014440	NCP	%	102			70-130	Pass	
Phenanthrene	M23-De0014440	NCP	%	76			70-130	Pass	
Pyrene	M23-De0014440	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-De0014440	NCP	%	50			30-130	Pass	
2.4-Dichlorophenol	M23-De0014440	NCP	%	39			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4.5-Trichlorophenol	M23-De0014440	NCP	%	33			30-130	Pass	
2.4.6-Trichlorophenol	M23-De0014440	NCP	%	45			30-130	Pass	
2.6-Dichlorophenol	M23-De0014440	NCP	%	40			30-130	Pass	
4-Chloro-3-methylphenol	M23-De0014440	NCP	%	54			30-130	Pass	
Pentachlorophenol	M23-De0014440	NCP	%	31			30-130	Pass	
Tetrachlorophenols - Total	M23-De0014440	NCP	%	57			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-De0014440	NCP	%	70			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-De0014440	NCP	%	46			30-130	Pass	
2-Nitrophenol	M23-De0014440	NCP	%	40			30-130	Pass	
2.4-Dimethylphenol	M23-De0014440	NCP	%	46			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-De0014440	NCP	%	50			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-De0014440	NCP	%	55			30-130	Pass	
Dinoseb	M23-De0014440	NCP	%	53			30-130	Pass	
Phenol	M23-De0014440	NCP	%	45			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Aluminium	M23-De0005616	NCP	%	105			75-125	Pass	
Arsenic	M23-De0005616	NCP	%	98			75-125	Pass	
Cadmium	M23-De0005616	NCP	%	112			75-125	Pass	
Chromium	M23-De0005616	NCP	%	96			75-125	Pass	
Copper	M23-De0005616	NCP	%	93			75-125	Pass	
Lead	M23-De0005616	NCP	%	96			75-125	Pass	
Manganese	M23-De0005616	NCP	%	68			75-125	Fail	Q08
Mercury	M23-De0005616	NCP	%	100			75-125	Pass	
Nickel	M23-De0005616	NCP	%	94			75-125	Pass	
Zinc	M23-De0005616	NCP	%	93			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M23-De0003200	CP	%	81			70-130	Pass	
TRH >C10-C16	M23-De0003200	CP	%	75			70-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2.4-Dinitrophenol	B23-De0008276	NCP	%	93			30-130	Pass	
4-Nitrophenol	B23-De0008276	NCP	%	66			30-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M23-De0005062	NCP	%	73			70-130	Pass	
Sulphate (as SO4)	M23-De0003200	CP	%	102			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M23-No0075145	NCP	%	100			70-130	Pass	
1.2-Dichlorobenzene	M23-No0075145	NCP	%	124			70-130	Pass	
1.2-Dichloroethane	M23-No0075145	NCP	%	103			70-130	Pass	
Trichloroethene	M23-No0075145	NCP	%	102			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-De0000446	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	N23-De0001141	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	N23-De0001141	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	N23-De0001141	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M23-De0000446	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C10-C16	N23-De0001141	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	N23-De0001141	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	N23-De0001141	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M23-De0000446	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M23-De0000446	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	N23-No0060730	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-De0000446	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M23-De0003199	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-De0003199	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M23-De0003199	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-De0003199	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-De0003199	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M23-De0003199	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-De0003199	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M23-De0003199	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M23-De0003199	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-De0003199	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-De0003199	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M23-De0003199	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M23-De0003199	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M23-De0003199	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Methylphenol (o-Cresol)	M23-De0003199	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-De0003199	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M23-De0003199	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M23-De0003199	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M23-De0003199	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M23-De0003199	CP	mg/L	18	18	<1	30%	Pass	
Chloride	M23-De0003199	CP	mg/L	800	810	1.7	30%	Pass	
Cyanide (total)	M23-De0010004	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Ferrous Iron - Fe2+	M23-De0003199	CP	mg/L	41	41	<1	30%	Pass	
Sulphate (as SO4)	M23-De0001347	NCP	mg/L	380	370	2.1	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M23-De0011440	NCP	mg/L	290	260	<1	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M23-De0008541	NCP	mg/L	88	88	<1	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M23-De0008541	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M23-De0008541	NCP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M23-De0008541	NCP	mg/L	88	88	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium	M23-De0005616	NCP	mg/L	0.12	0.12	1.8	30%	Pass	
Arsenic	M23-De0005616	NCP	mg/L	0.010	0.010	3.3	30%	Pass	
Cadmium	M23-De0005616	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M23-De0005616	NCP	mg/L	0.002	0.002	3.4	30%	Pass	
Copper	M23-De0005616	NCP	mg/L	0.005	0.005	2.6	30%	Pass	
Lead	M23-De0005616	NCP	mg/L	0.009	0.009	1.3	30%	Pass	
Manganese	M23-De0005616	NCP	mg/L	0.33	0.33	2.4	30%	Pass	
Mercury	M23-De0005616	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M23-De0005616	NCP	mg/L	0.008	0.007	3.2	30%	Pass	
Zinc	M23-De0005616	NCP	mg/L	0.041	0.040	1.3	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M23-No0059855	NCP	mg/L	12	12	<1	30%	Pass	
Magnesium	M23-De0007883	NCP	mg/L	200	200	1.9	30%	Pass	
Potassium	M23-No0059855	NCP	mg/L	8.2	8.2	<1	30%	Pass	
Sodium	M23-No0059855	NCP	mg/L	170	170	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-De0003199	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin ketone	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	M23-De0003199	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Chlorinated Hydrocarbons				Result 1	Result 2	RPD			
1.2-Dichlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3-Trichlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4-Trichlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3-Dichlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3.5-Trichlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.4-Dichlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Benzal chloride	M23-De0003199	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Benzotrichloride	M23-De0003199	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Benzyl chloride	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobutadiene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorocyclopentadiene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachloroethane	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pentachlorobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
1-Chloronaphthalene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1-Naphthylamine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Chloronaphthalene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Methylnaphthalene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Naphthylamine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Nitroaniline	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Picoline	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.3.4.6-Tetrachlorophenol	M23-De0003199	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dinitrotoluene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.6-Dinitrotoluene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3-Methylcholanthrene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3.3'-Dichlorobenzidine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Aminobiphenyl	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDD	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDE	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDT	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
7.12-Dimethylbenz(a)anthracene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
a-HCH	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Acetophenone	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aldrin	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aniline	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
b-HCH	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-ethylhexyl)phthalate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Butyl benzyl phthalate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
d-HCH	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-butyl phthalate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Di-n-octyl phthalate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a,j)acridine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenzofuran	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dieldrin	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diethyl phthalate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethyl phthalate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethylaminoazobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diphenylamine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan I	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan II	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan sulphate	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin aldehyde	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin ketone	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
g-HCH (Lindane)	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor epoxide	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Methoxychlor	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodibutylamine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodipropylamine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosopiperidine	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nitrobenzene	M23-De0003199	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Pentachloronitrobenzene	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pronamide	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Trifluralin	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Haloethers				Result 1	Result 2	RPD			
4-Bromophenyl phenyl ether	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chlorophenyl phenyl ether	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroethoxy)methane	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroisopropyl)ether	M23-De0003199	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1-Dichloroethene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1-Trichloroethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2-Trichloroethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dibromoethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichlorobenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloroethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloropropane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.3-Trichloropropane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.4-Trimethylbenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichlorobenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichloropropane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3.5-Trimethylbenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.4-Dichlorobenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
2-Butanone (MEK)	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Propanone (Acetone)	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chlorotoluene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Allyl chloride	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Bromobenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromochloromethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromodichloromethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromoform	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromomethane	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Carbon disulfide	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Carbon Tetrachloride	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chlorobenzene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chloroethane	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloroform	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloromethane	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
cis-1.2-Dichloroethene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
cis-1.3-Dichloropropene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromochloromethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromomethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dichlorodifluoromethane	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Iodomethane	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Isopropyl benzene (Cumene)	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Methylene Chloride	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Styrene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Tetrachloroethene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
trans-1.2-Dichloroethene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
trans-1.3-Dichloropropene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trichloroethene	M23-De0000446	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trichlorofluoromethane	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Vinyl chloride	M23-De0000446	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-De0014445	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	M23-De0014445	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Chlorinated Hydrocarbons				Result 1	Result 2	RPD			
1.2-Dichlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3-Trichlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4-Trichlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3-Dichlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3.5-Trichlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.4-Dichlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Benzal chloride	M23-De0006366	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Benzotrichloride	M23-De0006366	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Benzyl chloride	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobenzene	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobutadiene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorocyclopentadiene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachloroethane	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pentachlorobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
1-Chloronaphthalene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1-Naphthylamine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Chloronaphthalene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Methylnaphthalene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Naphthylamine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Nitroaniline	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Picoline	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.3.4.6-Tetrachlorophenol	M23-De0014445	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dinitrotoluene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.6-Dinitrotoluene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3-Methylcholanthrene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3.3'-Dichlorobenzidine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Aminobiphenyl	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDD	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDE	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDT	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
7.12-Dimethylbenz(a)anthracene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
a-HCH	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Acetophenone	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aldrin	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aniline	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
b-HCH	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-ethylhexyl)phthalate	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Butyl benzyl phthalate	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
d-HCH	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-butyl phthalate	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-octyl phthalate	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.j)acridine	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenzofuran	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dieldrin	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diethyl phthalate	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethyl phthalate	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethylaminoazobenzene	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diphenylamine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan I	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Endosulfan II	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan sulphate	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin aldehyde	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin ketone	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
g-HCH (Lindane)	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor epoxide	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Methoxychlor	M23-De0014445	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodibutylamine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodipropylamine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosopiperidine	B23-De0008275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nitrobenzene	M23-De0006366	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Pentachloronitrobenzene	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pronamide	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Trifluralin	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Haloethers				Result 1	Result 2	RPD			
4-Bromophenyl phenyl ether	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chlorophenyl phenyl ether	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroethoxy)methane	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroisopropyl)ether	M23-De0006366	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Michael Morrison	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Vivian Wang	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix F

Assessment Criteria

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Assessment Criteria

Groundwater analytical data obtained from the laboratories were reviewed and screened against assessment criteria for comparison purposes. The Assessment Criteria were presented in the Sampling, Analysis and Quality Plan (SAQP) [AECOM, 2023b] previously prepared for the works, and are described in the sections below.

1.0 Tier 1 Screening Criteria – Groundwater

The Protected Environmental Values (PEVs) for groundwater relevant under the Tasmanian Government *State Policy on Water Quality Management* (1997) [SPoWQM] include:

- Drinking Water
- Irrigation
- Industry
- Stock
- Ecosystem Protection

In addition to the above-mentioned PEVs, recreation (primary and secondary contact), aesthetics, buildings and structures, and human health (via the vapour intrusion pathway) have been included as PEVs to be considered.

A summary of the water quality objectives that have been adopted as Tier 1 Screening Criteria for each groundwater PEV is provided in **Table 1** below.

Table 1 Adopted Tier 1 Screening Criteria - Groundwater

Protected Environmental Value	Adopted Assessment Criteria	Rationale / Comment
Drinking Water	• NHMRC Australian Drinking Water Guidelines (Updated September 2022) Aesthetic • NHMRC Australian Drinking Water Guidelines (Updated September 2022) Human Health Where no NHMRC guideline values are available, screening values have been adopted from the following international sources: • WHO (2017) Guidelines for Drinking-Water Quality: Fourth Edition Incorporating the First Addendum • US EPA RSLs (2022) Tap Water Quality • Health Canada (2022) • NZMH (2018) Drinking Water Standards	• Whilst groundwater at the Site is unlikely to be extracted for drinking water purposes, these criteria have been conservatively adopted for the purpose of assessing this PEV.
Irrigation	• ANZECC (2000) Short Term Trigger Values (STV) for Irrigation Water	• STV have been adopted on the basis of the surrounding land use, where ongoing irrigation of plants and garden

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Protected Environmental Value	Adopted Assessment Criteria	Rationale / Comment
		beds is unlikely to occur. STV can be tolerated for up to 20 years of irrigation.
Industry	• Due to the wide and varied potential industrial uses of groundwater, water quality requirements for use in industrial processes are assessed on an industry-specific basis.	• Groundwater at the Site is unlikely to be used for industrial purposes. In the absence of any standard or reliable criteria to apply for this PEV without a specific planned industrial use, this PEV has not been considered.
Stock	• ANZECC (2000) Livestock Drinking Water Quality	• Based on the Site setting, it is unlikely that groundwater would be used for stock watering purposes. However, for the purpose of assessing this PEV, the ANZECC (2000) guidance has been adopted.
Ecosystem Protection	• ANZG (2018) 90% level of ecosystem protection (marine water) Where no high reliability guideline values are available in ANZG (2018), screening values have been adopted from the following sources: • ANZG (2018) low to moderate reliability guideline values (marine) • US EPA (2013) Ambient Water Quality Criteria (chronic – Marine) • US EPA (2006b) Region 3 Mid-Atlantic Biological Technical Assistance Group (BTAG) Screening Benchmarks (marine). • RIVM (2001) Dutch Intervention Values (DIV) for TPH. • There are currently no relevant Australian guidelines for TRH in groundwater. Therefore, for the purpose of this assessment, the Netherlands Ministry of Housing - DIV (2000) for Mineral Oil has been adopted.	• The nearest surface water ecosystems that may receive groundwater discharge, i.e. River Derwent and Sullivans Cove, would be characterised as a moderately to highly disturbed (i.e. active port area) marine environment according to the ANZG (2018) definitions. As such, the assessment criteria based on 90% level of ecosystem protection (marine) have been adopted.
Recreation (Primary Contact) Recreation (Secondary contact)	• NHMRC (2008) Guidelines for Managing Risk in Recreational Water	• NHMRC (2008) recommends applying Australian Drinking Water Guidelines - Health (NHMRC, 2018), adjusted for a 10-fold decrease in ingestion of water. • Primary contact recreation activities (i.e. swimming, diving and water skiing) are considered unlikely at the inferred points of groundwater discharge (active

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Protected Environmental Value	Adopted Assessment Criteria	Rationale / Comment
		port), however, these criteria have been conservatively adopted for the purpose of assessing this PEV.
Aesthetics	• NHMRC Australian Drinking Water Guidelines (amended 2018) Aesthetic	• This may relate to aesthetic issues associated with the presence of objectionable odours, colours, taints, visible floating material, foam, oil or grease or 'dirty' water.
Buildings and Structures	• AS 2159 – 2009	• Building and structures have been assessed on the basis of concrete piles in a mild exposure classification scenario in high permeability soils. • In addition to a pH of 5.5, sulphate and chloride concentrations of 1,000 mg/L and 6,000 mg/L respectively has been adopted to assess potential impacts to concrete piles.
Human Health*	CRC CARE (2011) Groundwater HSLs for vapour intrusion including: • Residential - HSL A/B (sand, depth to groundwater 2.0 – <4.0 m bgl) • Recreation/ Open Space - HSL C (sand, depth to groundwater 2.0 – <4.0 m bgl) • Commercial/ Industrial - HSL D (sand, depth to groundwater 2.0 – <4.0 m bgl) • Intrusive Maintenance Worker - HSL: (sand, depth to groundwater 2.0 – <4.0 m bgl)	• Groundwater HSLs for vapour intrusion for TRH fractions have been developed based on typical petroleum mixtures and consider the solubility limits of petroleum mixtures. HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, where solubility limits are much higher. The HSL (infinite) values presented in Appendix F of CRC CARE, 2011 have been adopted in accordance with CRC CARE guidance. The theoretical solubility of the pure compound in water was used instead to identify vapour limiting HSLs (i.e. chemicals where a vapour inhalation risk was calculated to be only present at concentrations exceeding the theoretical solubility). Whilst it is noted that petroleum products do exist at the Site, given the varying types of hydrocarbon impact (i.e. gasworks, diesel, and petrol) the HSL infinite values have been adopted as a conservative approach. • HSLs associated with depths to groundwater of between 2.0 and <4.0 m bgl in sand lithology are selected to assess groundwater analytical results on the basis of the expected depth to groundwater water at and surrounding the Precinct South area.

Notes: ANZG (2018) – Australian and New Zealand Guidelines for Fresh and Marine Water Quality; ANZECC (2000) – Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality; US EPA (2013) – United States Environmental Protection Agency, Ambient Water Quality Criteria (chronic – Marine); US EPA (2006b) –Region 3 Mid-Atlantic

*Biological Technical Assistance Group (BTAG) Screening Benchmarks; RSL – Regional Screening Levels; NHMRC (2022) – National Health and Medical research Council, Australian Drinking Water Guidelines 6, 2011 (Version 3.8, Updated September 2022); NHMRC (2008) – National Health and Medical Research Council, Guidelines for Managing Risks in Recreational Water; NZMH – New Zealand Ministry of Health Drinking Water Standards for New Zealand 2005 (Revised 2018); Health Canada (2022), Guidelines for Canadian Drinking Water Quality – Summary Tables; RIVM – Rijksinstituut voor Volksgezondheid en Milieu; WHO (2017) – World Health Organization, Guidelines for Drinking Water Quality: Fourth Edition Incorporating the First Addendum; CRC CARE – Cooperative Research Centre for Contamination Assessment and Remediation of the Environment; HSL – Health Screening Level; * While Residential use is not planned for the Precinct South area, groundwater results have been be compared to Residential criteria for completeness of Tier 1 screening assessment against all potential PEVs.*

Groundwater analytical data compared with the specific Tier 1 Screening Criteria values are shown in **Table T3** to **Table T5** in the **Tables** section.

2.0 Site-Derived Remediation Criteria

AECOM has prepared Site Derived Remediation Criteria (RC) to inform potential remediation/ management works required at the Site for the protection of human health (*Macquarie Point Development Project – Derivation of Remediation Criteria* [AECOM, 2016]). The RC are based on generic assumptions regarding future land use including:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Maintenance Workers) to have direct contact with soils.
- A Site Environmental Management Plan (SEMP) will be in place to maintain/manage surface cover.
- Adjacent off-Site land uses include open space, commercial/industrial and residential areas. As these potential land uses have been considered on-Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary).
- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan (CEMP).

Site-specific RC criteria are provided in AECOM, 2016 for the following potential future land use scenarios:

- Residential:
  - Slab-on-grade buildings with unknown construction or multi-storey building
  - Low rise slab-on-grade
  - Buildings with a basement.
- Commercial:
  - Slab-on-grade buildings with unknown construction or multi-storey building
  - Low rise slab-on-grade
  - Working within a basement car park.
- Recreation / Open Space Users
- Maintenance Workers (including excavation to depths of up to 1.0 m bgl).

Groundwater analytical data compared with Site-derived RC are presented on **Table T6** in the **Tables** section.

Appendix G-2: The Precinct South – LNAPL Gauging and Transmissivity Testing, March 2024

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18 April 2024

Mr James Puustinen
Senior Project Officer
Macquarie Point Development Corporation
GPO Box 51
Hobart, Tasmania, 7001

Dear James

The Precinct South - LNAPL Gauging and Transmissivity Testing, March 2024

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site). The Site location is shown on **Figure F1**.

The Site has historically been used for mixture of commercial and industrial purposes. As part of ongoing assessment undertaken at the Site, a Groundwater Monitoring Event (GME) was undertaken targeting the southeastern portion of the Site, referred to as the Precinct South, between 29 November and 6 December 2023. Results of the 2023 GME were reported in *The Precinct South – Well Maintenance and Targeted Groundwater Monitoring Event* (the GME Report) (AECOM, 2024a).

During the 2023 GME, measurable Light Non-Aqueous Phase Liquid (LNAPL) was recorded in four wells in the Precinct South (MW03, MW05, PW02, and S8). The thickness of LNAPL in PW02 and S8 exceeded historical recorded thicknesses measured between 2015 and 2019. As a result, the GME Report included a recommendation that additional testing be conducted to confirm LNAPL thicknesses and assess LNAPL mobility via baildown testing.

At the request of the Corporation, AECOM conducted a gauging round and LNAPL baildown testing in the Precinct South on 21 March 2024 in order to fulfil this recommendation from the GME Report. This report has been prepared to report the results of gauging and LNAPL transmissivity assessment.

1.1 Objectives

The objectives of the work were:

- To confirm LNAPL detections and thickness which were reported during the 2023 GME.
- To assess the LNAPL transmissivity for wells within the Precinct South where LNAPL has exceeded historic maximum thickness.
- To assess if further LNAPL remediation may be practicable.

1.2 Scope of Work

The following scope of work has been undertaken by AECOM:

- Gauging of 13 groundwater wells in the Precinct South. Two gauging rounds were conducted on 20 and 21 March 2024.
- Conducting field works and analysis associated with LNAPL baildown tests on groundwater wells PW02 and S8, in accordance with the guidance provided by the *Standard Guide for Estimation of LNAPL Transmissivity* (ASTM, 2013).
- Assessment of whether the further remediation of the detected LNAPL is likely to be practicable.

1.3 Background

The Site, and surrounding area, largely located on reclaimed land within the Hobart port, has a history of mixed industrial use including the former Hobart Gasworks, rail freight and bulk fuel storage. Former industrial activities have been ceased at the Site. The Site is currently undergoing an Environmental Audit by Mr David Lam of Tetra Tech Coffey, under the *Macquarie Point Development Act 2012*.

LNAPL, sourced from historic fuel storage prior to occupation of the Site by the Corporation, was known to exist on groundwater in four locations at the Site defined as LNAPL Plumes A1, A2, and A3 (located in the central portion of the Site), and LNAPL Plume B, located in the Precinct South.

LNAPL remediation has been undertaken at the Site, primarily during the periods 2000 to 2001 and 2015 to 2019.

In 2017, the *LNAPL Remediation Action Plan* (the RAP) (AECOM, 2017) was prepared to guide the LNAPL remediation activities and to clearly identify LNAPL remediation end-points, namely:

1. LNAPL recovery rates have reached asymptotic levels, and demonstrate marginal recovery rates, such as less than 5% of initial recovery volumes. Further recoverability of residual LNAPL is demonstrated to be impractical within the constraints of the adopted technology, reasonable timeframes and with consideration of the net environmental benefit.
2. The residual LNAPL plumes are shown to be stable or decreasing, including demonstration that LNAPL is not observed in wells where LNAPL has historically been absent.
3. No unacceptable risks to current and future human-health or environmental receptors based on the proposed future land uses.

Following cessation of LNAPL remediation in 2019, the *Assessment of LNAPL Endpoints* report (AECOM, 2021) assessed LNAPL remediation data against the endpoints identified in the RAP and concluded that the endpoints identified in the RAP had been met and that clean-up of LNAPL had been conducted to the extent practicable. No LNAPL remediation has been conducted since this period.

The LNAPL thicknesses in PW02 and S8, recorded during the December 2023 GME, were in excess of historic recorded maximum thickness for LNAPL Plume B and were assessed as representing a potential change in the stability which required further assessment of LNAPL recoverability.

2.0 Field Works and Assessment Methodology

The following field activities associated with LNAPL assessment are included in this report:

Table 1 Field Activities

Date	Activity
20 March 2024	Gauging of 13 groundwater wells in the Precinct South.
21 March 2024	Gauging of 13 groundwater wells in the Precinct South to assess any temporal changes in standing water levels (SWL), followed by LNAPL baildown tests on groundwater wells PW02 and S8, and extraction of LNAPL from well MW05.

Groundwater gauging and LNAPL baildown testing was undertaken by a suitably trained and qualified AECOM field engineer.

Specific details regarding field methodology are summarised in **Table 2** below, and records generated during the fieldwork are tabulated in **Attachment B**, with field records included as **Attachment C**. The location of wells is shown as **Figure F2**.

Table 2 Methodology

Activity	Methodology
Groundwater Monitoring Well Gauging	• Monitoring wells were gauged using an Interface Meter and standing water levels (SWLs) and total well depths were measured as metres below top of casing (mBTOC). • For wells which reported LNAPL presence during the 2023 GME, but did not report detectable LNAPL during gauging, a bailer was used to confirm LNAPL presence/absence.
LNAPL Baildown Testing	• LNAPL was removed using gravity-selective 38 mm bailers to remove LNAPL only. Field observations, including time of removal, and quantity of LNAPL and any groundwater removed, were recorded. • LNAPL rebound in groundwater wells was recorded at increasing intervals over 6 and 7 hours post LNAPL extraction. • Extracted LNAPL and/or groundwater was disposed off-Site following completion of works.

3.0 Results and Discussion

3.1 Gauging

Recorded gauging results are attached as **Table T1**, including the results of gauging during December 2023, recorded LNAPL maximum thicknesses (AECOM, 2021) and Standing Water Level (SWL) ranges (AECOM, 2022).

The following observations and assessments are made based on gauging results:

- LNAPL was still present in groundwater wells MW05, PW02, and S8. LNAPL thicknesses in PW02 and S8 were consistent with recorded values during the 2023 GME, while the LNAPL thickness in MW05 had decreased by approximately an order of magnitude.
- LNAPL was not present in well MW03 on 20 or 21 March 2024. This was confirmed via bailer on 21 March 2024.
- The recorded LNAPL thicknesses in PW02 and S8 were still above historic (2015 to 2019) recorded values. However, LNAPL thickness in MW03 and MW05 were below recorded maximum historical thicknesses in both December 2023 and March 2024.
- No LNAPL was detected in other wells on the Site in the vicinity of LNAPL Plume B. All wells with LNAPL detected have previously had LNAPL present.
- It is noted that groundwater wells on TasPorts land to the east of LNAPL Plume B were not accessible, and previous assessments have identified that LNAPL Plume B is likely to extend to the east.
- Bore logs for gauged wells are included as **Attachment E**, excluding MW60 which was installed by other parties and does not have a bore log available. The screened interval of MW60 was provided as part of data when AECOM commenced work on the project and is included in **Table T1**.

  All wells (excluding deep well MW126B) are screened in fill across the depth range where LNAPL was detected. It is considered unlikely that LNAPL is present in the formation at these locations which was not detected by monitoring based on screen depth, as the aquifer lithology consists of fill material, which is unlikely to have perching or confining conditions present which could lead to groundwater fluctuations isolating LNAPL from groundwater wells.
- Bureau of Meteorology daily weather observations[1] for Hobart in November and December 2023 (the period of and preceding the previous gauging round) and March 2024 (when gauging and baildown testing was conducted) are provided as **Attachment F**, with parameters which may affect gauging results summarised on **Table 3** below.

Table 3 Daily Weather Observations - Hobart

Date	Temperature (°C)	Pressure (hPa)			Activity/ Comments
		9am	3pm	Average	
4-Dec-23	11.8-24.8	1015.5	1011.6	1013.6	Gauging MW164. Minor rain (0.2 mm) recorded
5-Dec-23	13.0-22.3	1010.4	1005.6	1008.0	Gauging MW125A, MW125B, MW60 and S4
6-Dec-23	13.1-23.4	1014.6	1013.9	1014.3	Gauging MW03, MW05, PW02, S8, MW154, MW16, MW6, S6
20-Mar-24	10.6-16.8	1015.3	1019.2	1017.3	Gauging all wells. Minor rain (1.4mm) recorded
21-Mar-24	8.5-22.0	1026.3	1024.4	1025.4	Gauging all wells, baildown testing

[1] Accessed at http://www.bom.gov.au/climate/dwo/IDCJDW7021.latest.shtml on 16 April 2024

Temperature and weather conditions during gauging in December 2023 and March 2024 were relatively consistent, with slightly higher average pressure and slightly cooler minimum temperatures in March. Minor rainfall occurred in both periods, but no major rain events occurred during or in the seven days prior to either gauging round.

Weather conditions may have contributed between ~10 and 20 mm of decrease to corrected standing water level (SWL), based on an increase in approximately 10 to 20 hPa in average atmospheric pressure which can depress the water table. However, this fluctuation, and other weather differences, are considered minor and is not considered likely to have had any effects which could cause significant difference in the results of gauging in each period.

Based on the decrease or relative consistency of LNAPL thicknesses with the previous monitoring round and no new LNAPL detections during this period, it is considered unlikely that LNAPL Plume B is mobile or extending. No source of additional LNAPL to LNAPL Plume B is known as historic bulk fuel storage (the inferred initial source of this LNAPL) ceased in the early 1970s, and no potential sources of new LNAPL such as fuel storage or spills in the area of the plume have been identified in the period since. The use of the off-Site areas to the south and west have remained consistent in this period (as public roadways/carparking and TasPorts dock lands respectively) and are considered unlikely to have had any change in use which could lead or have led to additional fuel release in this area.

The cause of the increase above historical maxima in PW02 and S8 recorded in December 2023 is not known. Soil remediation was undertaken to the west of the SeaRoad Shed Slab in 2023 (AECOM, 2024b), which included excavation to the water table, and is a potential source of inducted LNAPL movement via either disturbance to groundwater during excavation or while excavations were open, , or from vibrations of heavy machinery moving over LNAPL Plume B.

3.2 LNAPL Removal, Rebound Monitoring and Baildown Testing

LNAPL was removed from wells PW02, S8, and MW05 using LNAPL selective bailers, with rebound monitoring for up to 6 hours 51 minutes following removal.

MW05 did not have any detectable LNAPL recharge until the final gauging at the end of monitoring and was not assessed for LNAPL transmissivity. The low recharge, and overall low absolute LNAPL thickness in the well (0.004 m), indicate that LNAPL remediation is unlikely to be practicable at this location.

Hydrographs of LNAPL recharge in PW02 and S8 are presented as **Plate 1** and **Plate 2** below. Calculated LNAPL volume and LNAPL gauging results prior to bailing, following initial recharge, and at the end of the day are presented on **Table 4** below.

Table 4 LNAPL Monitoring and Volume in Well

Time	Period	DTP (mBTOC)	DTW (mBTOC)	LNAPL Thickness (m)	Estimated LNAPL Volume in Well and Packing Sand (L)	% of initial volume
PW02						
9:10	Pre-Bailing	2.112	2.270	0.158	1.51	N/A
9:20	10 minutes after bailing	2.149	2.161	0.011	0.11	7.3%
15:41	End of Day	2.149	2.166	0.017	0.16	10.6%
S8						
9:26	Pre-Bailing	1.879	2.010	0.131	0.62	N/A
9:36	10 minutes after bailing	1.906	1.921	0.015	0.07	11.3%
15:44	End of Day	1.904	1.924	0.020	0.09	14.5%

Notes: DTP – Depth to product (LNAPL); DTW – Depth to water.; N/A – Not applicable; 1. LNAPL volume estimated by the American Petroleum Institute (API) LNAPL Transmissivity Workbook: A Tool for Baildown Test Analysis (2012).

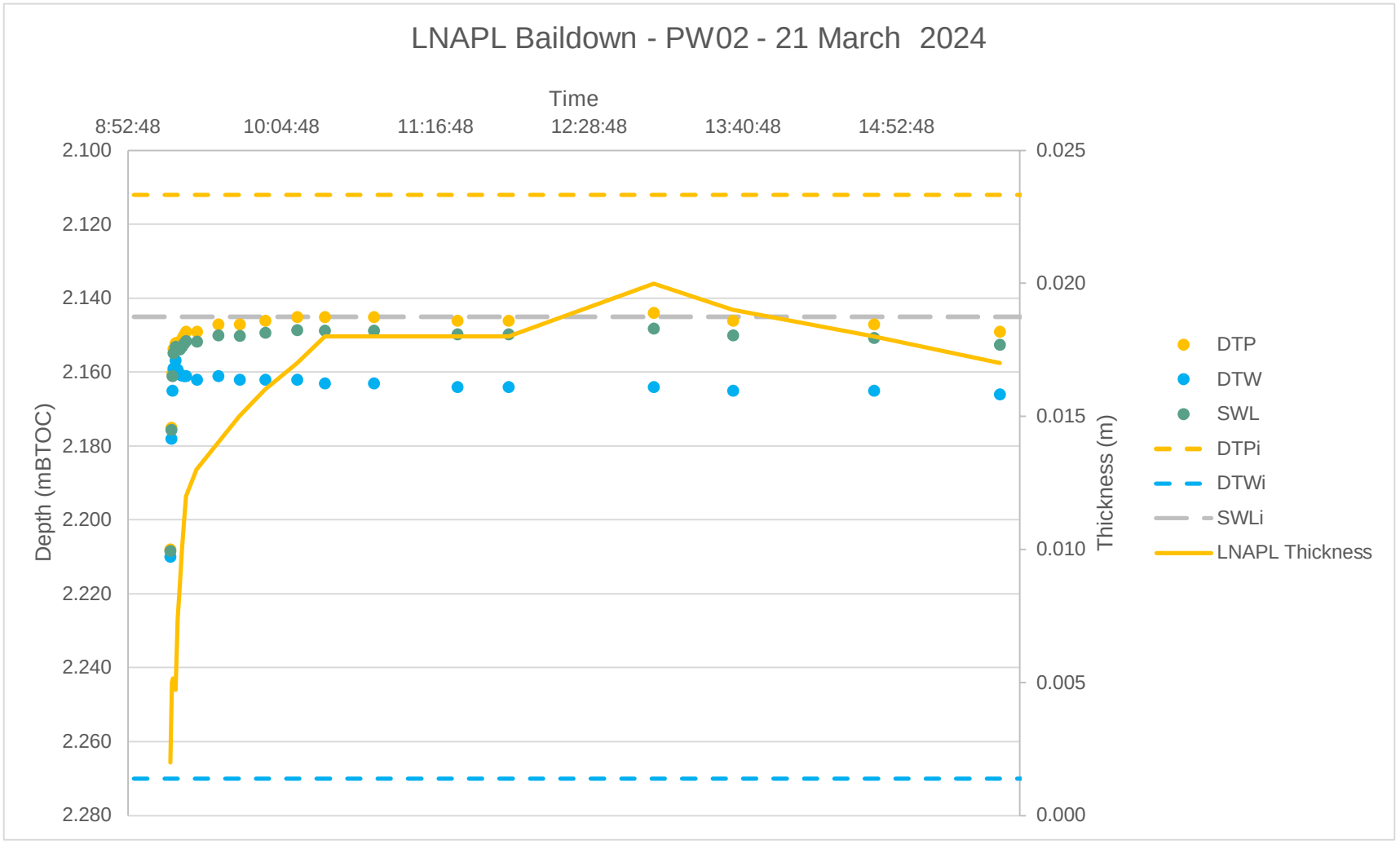

Plate 1 PW02 – LNAPL Recharge Monitoring

Notes: DTPi – Initial Depth to Product (before LNAPL removal); DTWi – Initial Depth to Water (before LNAPL removal); SWLi – Initial Standing Water Level (before LNAPL removal)

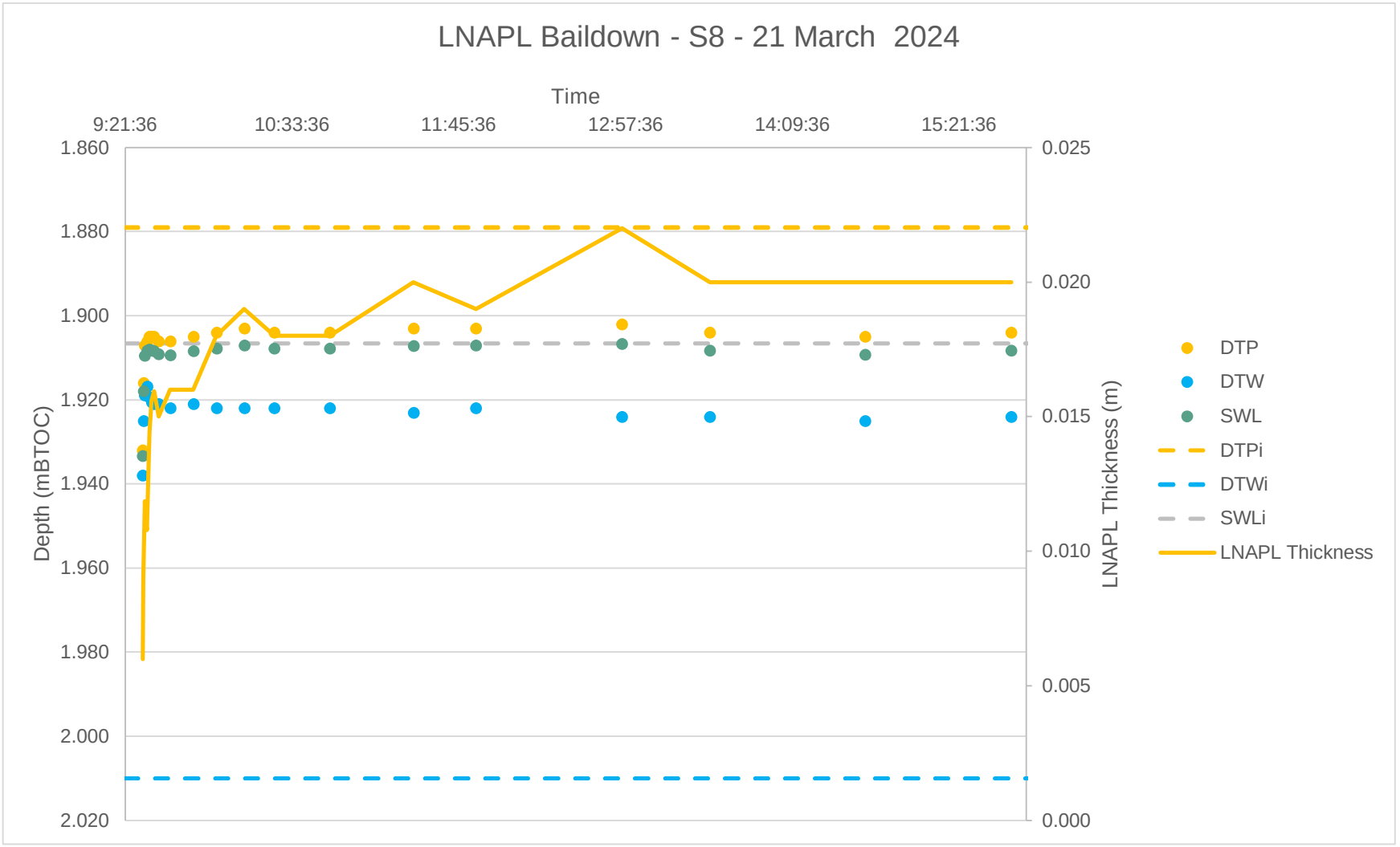

Plate 2 **S8 – LNAPL Recharge Monitoring**

LNAPL volume in each well was calculated by the American Petroleum Institute (API) *LNAPL Transmissivity Workbook: A Tool for Baildown Test Analysis* (2012) using the following formula:

$$V_{LNAPL} = \frac{T_{LNAPL} \times \pi \times \left[(r_{well}^2) + S_y \times (r_{bore}^2 - r_{well}^2)\right]}{1000}$$

Where:

V_{LNAPL} = volume of LNAPL in the well and bore (L)

T_{LNAPL} = thickness of LNAPL in the bore (m)

r_{well} = radius of the well (m)

r_{bore} = radius of the bore (m)

S_y = Specific yield (dimensionless). A specific yield of 0.175 was used as a typical value for well packed medium to coarse sand (i.e., packing sand around the screened interval of a groundwater well).

PW02 and S8 reported greater than 50% of the total recharge observed within the first 10 minutes, with groundwater also flowing into the well and returning the SWL to close to the pre-test value. Initial flow into the well is considered likely to be due to hydrostatic pressure from the surrounding aquifer, and to residual LNAPL entering the well from the surrounding packing sand.

Limited to no LNAPL is considered likely to have returned to either PW02 or S8 over the remaining monitoring period, as the estimated LNAPL volume in the wells at the end of monitoring was less than the volume estimated to remain in the well and packing sand following bailing, as shown on **Table 5** below.

Table 5 Estimated LNAPL Volumes

LNAPL Volume	Estimated LNAPL Volume (L)	
	PW02	S8
Prior to test	1.51	0.62
Removed by Bailing	1.20	0.50
Calculated Remaining after Bailing	0.31	0.11
End of Monitoring	0.16	0.09
Calculated Recharge from Formation	-0.15	-0.02

LNAPL transmissivity (Tn) values were calculated for PW02 and S8 using the *LNAPL Transmissivity Workbook: A Tool for Baildown Test Analysis* (API, 2012). This workbook employs the following three methods and worksheets to calculate LNAPL Tn in unconfined conditions:

- Bouwer and Rice (1976) (B&R)
- Cooper and Jacob (1946) (C&J)
- Cooper, Bredehoeft and Papadopulos (1967) (CB&J).

No Tn value could be calculated for MW05 as initial LNAPL thickness and rebound over the course of the day were too low.

The outputs of the API workbook for each well are included as **Attachment D** and summarised on **Table 6** below.

Table 6 Calculated LNAPL Transmissivity Values

Calculation Method	Calculated Value	PW02	S8
Bouwer and Rice	Tn (m^2/day)	0.002	0.0004
Cooper and Jacob	Tn (m^2/day)	0.018	0.009
Cooper, Bredehoeft and Papadopulos	Tn (m^2/day)	0.020	0.002
Average / Summary Result	**Tn (m^2/day)**	**0.013**	**0.004**
	Standard Deviation (m^2/day)	0.009	0.005
	Co-efficient of Variation	0.71	1.23

Evaluation of LNAPL Remediation Technologies for Achieving Project Goals (ITRC, 2009), notes that in previous observed operating hydraulic and pneumatic remediation systems, LNAPL transmissivity has generally been reduced to between 0.009 to 0.074 m^2/day at the point at which there has been assessed further LNAPL recovery will generally be inefficient, will take long periods to marginally affect LNAPL transmissivity, and will have little benefit in terms of reduction of LNAPL mass, migration potential, or longevity of the plume. The calculated and average LNAPL transmissivity values for both PW02 and S8 were within or below this range.

It is noted that the calculated co-efficient of variation, which assesses the level of difference between each calculation method, was greater than 0.5, which indicates there was a low level of agreement between the three calculated Tn values and thus the overall reliability of the average/summary Tn value should be considered low. This discrepancy between results is considered likely to be due to the relatively low Tn values calculated, and the limited or lacking LNAPL inflow from the formation, which would lead to discrepancies between the modelled and observed LNAPL recharge under each model. However, as even the highest modelled Tn value for each well (0.020 m^2/day for PW02, and 0.009 m^2/day for S8) is within the range where further LNAPL recovery would not be considered practicable, this level of uncertainty is not considered to affect the outcomes of this assessment.

On the basis of the limited recharge from the formation to all three wells with detectable LNAPL, and the low calculated LNAPL transmissivity values for PW02 and S8, further active LNAPL recovery from LNAPL Plume B is not considered likely to result in any practicable benefit or in material or significant LNAPL recovery .

4.0 Conclusions and Recommendations

Following detected LNAPL thickness in excess of historic maximums in two wells (S8 and PW02) located in LNAPL Plume B at the Macquarie Point site, a gauging and LNAPL baildown test round was conducted between 20 and 21 March 2024.

Based on the results of this assessment:

- Detected LNAPL thicknesses in wells were consistent with, or less than, the reported LNAPL thicknesses in December 2023, and no new LNAPL detections occurred between December 2023 and March 2024. Based on these results, the low Tn values calculated for PW02 and S8, and on the lack of any identified source of ongoing LNAPL release which could be increasing the volume of LNAPL Plume B, it is considered that LNAPL Plume B remains stable and is unlikely to have mobilised. The cause of the increases in LNAPL thickness observed in PW02 and S8 in December 2023 is unknown but may be due to disturbance of LNAPL induced by remediation activities undertaken in this area in 2023.
- Very limited LNAPL rebound was observed during monitoring following the removal of LNAPL from PW02, S8, and MW05 by LNAPL-selective bailers. Recorded rebound is considered likely to consist primarily of remaining LNAPL in the well or surrounding packing sand, and not from the surrounding formation, based on comparison of removed volumes to the estimated volumes in each well and packing sand before removal and at the end of rebound monitoring.
- LNAPL transmissivity (Tn) values were calculated for PW02 (0.002 to 0.020 m^2/day, with an average of 0.013 m^2/day) and S8 (0.0004 to 0.009 m^2/day, with an average of 0.004 m^2/day). While the calculated co-efficient of variation for each well exceeded 0.5, indicating a lower level of reliability for the average value, all calculated Tn values, including the highest for each well, were within or below the range (0.009 to 0.074 m^2/day) which *Evaluation of LNAPL Remediation Technologies for Achieving Project Goals* (ITRC, 2009) notes as the point at which there has been assessed further LNAPL recovery will generally be inefficient, will take long periods to marginally affect LNAPL transmissivity, and will have little benefit in terms of reduction of LNAPL mass, migration potential, or longevity of the plume.

On the basis of the above, further remediation of LNAPL Plume B is not considered likely to have a practicable effect on Site condition or achieve significant LNAPL recovery rates or reduction in LNAPL volume on the aquifer, and further remediation is not recommended.

Yours faithfully

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Limitations

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Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Report. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

Attachment A

Figures

AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



PROJECT ID 60321835
CREATED BY DJB
LAST MODIFIED PK 18 JAN 2024

AECOM
www.aecom.com

N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 100 200 400
metres
1:10,000 (when printed at A3)

LEGEND
Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

The Precinct South - LNAPL Gauging and Transmissivity Testing, March 2025
Macquarie Point, Hobart, TAS

Figure
F1

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\01\Well_Maintenance_Targetted_GME\F1_A3P_Site_Location.mxd)

A3 size

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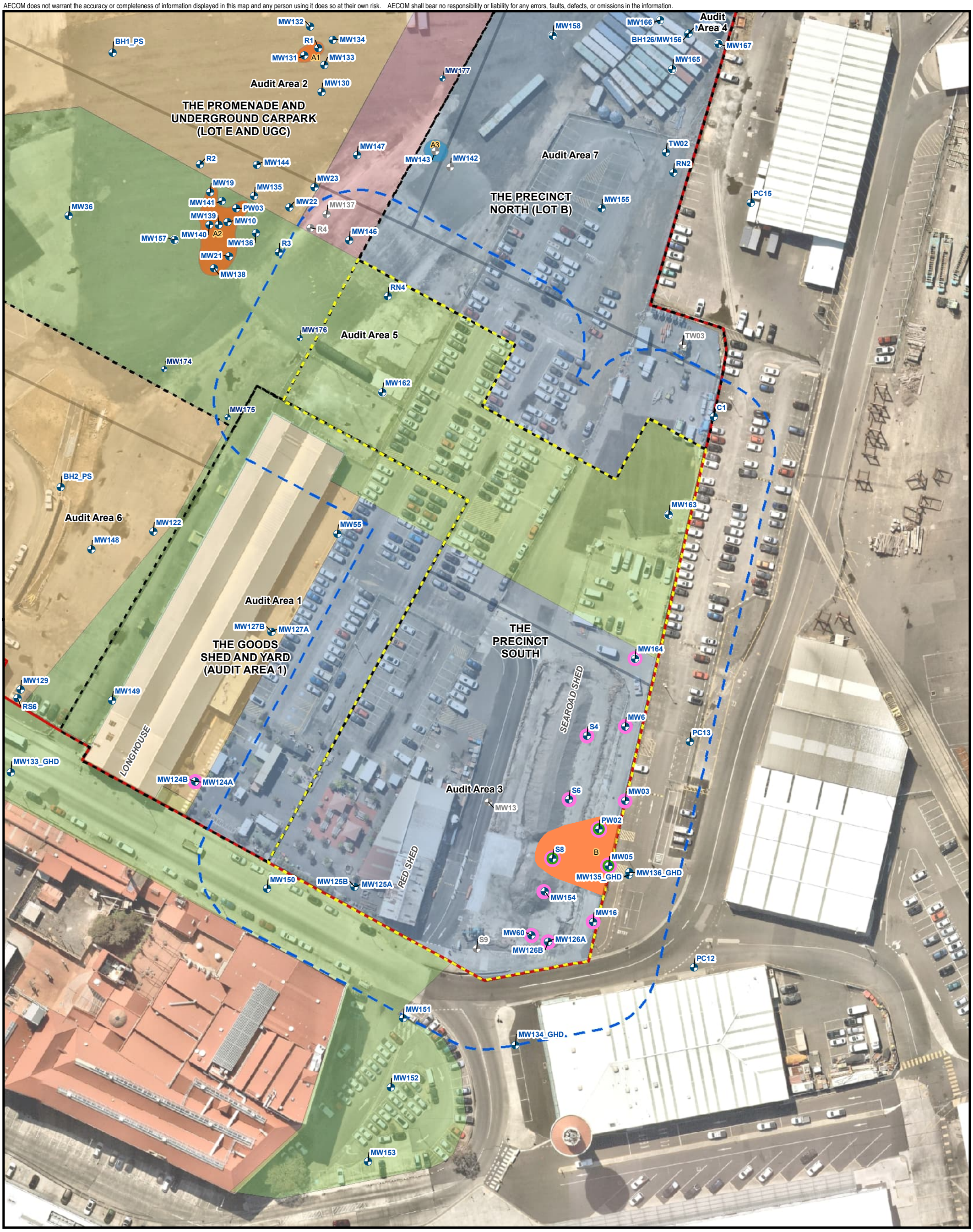


PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 06 Feb 2024

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,000 (when printed at A3)

Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Groundwater Well - Lost / Destroyed
- Wells monitored in March 2024
- Wells with measurable LNAPL
- The Precinct South
- Assessment Area
- 20m Buffer - The Precinct South
- Former Audit Areas
- Site Boundary
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

GROUNDWATER WELLS – THE PRECINCT SOUTH AND SURROUNDING AREA

Macquarie Point Development Corporation

The Precinct South - LNAPL Gauging and Transmissivity Testing, March 2024

Macquarie Point, Hobart, TAS

Figure
F2

Map Document: (L:\Legacy\Projects\603X\603218351\4. Tech work area\4.99 GIS\02_Maps\2024\01\Well_Maintenance_Targetted_GME\F4_A3P_ThePrecinctSouth_GW_Wells.mxd)

A3 size

Attachment B

Tables

Table T1 - Gauging Results

AECOM

Well ID	Approximate Well Depth (m bgl)	Shallow / Deep Wells	Screened Interval (m bTOC)	Screen Lithology	Easting	Northing	Top of Casing (m AHD)	Date Gauged	Depth to LNAPL (m bTOC)	Depth to Groundwater (m bTOC)	LNAPL Thickness (m)	SWL (m AHD) [2]	Historic Maximum LNAPL Thickness (2015-2019 (m)
MW03	8.6	Shallow	1.8-7.5	Fill	527629.967	5252344.531	2.596	6-Dec-23	1.920	1.970	0.050	0.626	0.091
								20-Mar-24	-	2.002	-	0.594	
								21-Mar-24	-	1.990	-	0.606	
MW05	4.4	Shallow	1.4-4.4	Fill	527625.558	5252326.18	2.663	6-Dec-23	2.100	2.170	0.070	0.494	0.096
								20-Mar-24	2.196	2.202	0.006	0.461	
								21-Mar-24	2.188	2.192	0.004	0.471	
PW02	5.6	Shallow	1.5-6.0	Fill	527624.264	5252337.008	2.723	6-Dec-23	2.090	2.250	0.160	0.474	0.080
								20-Mar-24	2.127	2.282	0.155	0.442	
								21-Mar-24	2.112	2.270	0.158	0.454	
S8	5	Shallow	1.2-5.2	Fill	527610.904	5252328.497	2.83	6-Dec-23	1.870	1.990	0.120	0.841	0.014
								20-Mar-24	1.910	2.022	0.112	0.809	
								21-Mar-24	1.879	2.010	0.131	0.821	
MW126A	5.1	Shallow	2.1-5.1	Fill	527609.6	5252304.45	2.857	5-Dec-23	-	2.173	-	0.684	-
								20-Mar-24	-	2.205	-	0.652	
								21-Mar-24	-	2.193	-	0.664	
MW126B	18.9	Deep	15.9.0-18.9	Slope Deposits	527609.66	5252304.43	2.831	5-Dec-23	-	2.281	-	0.550	-
								20-Mar-24	-	2.313	-	0.518	
								21-Mar-24	-	2.301	-	0.530	
MW154	4	Shallow	1.0-4.0	Fill	527608.419	5252318.975	2.827	6-Dec-23	-	2.136	-	0.691	-
								20-Mar-24	-	2.168	-	0.659	
								21-Mar-24	-	2.156	-	0.671	
MW16	5	Shallow	3.0-6.0	Fill	527622.576	5252310.246	2.63	6-Dec-23	-	2.042	-	0.588	-
								20-Mar-24	-	2.074	-	0.556	
								21-Mar-24	-	2.062	-	0.568	
MW164	3.9	Shallow	0.5-4.0	Fill	527634.673	5252386.218	2.685	4-Dec-23	-	1.582	-	1.103	-
								20-Mar-24	-	1.614	-	1.071	
								21-Mar-24	-	1.602	-	1.083	
MW6	5	Shallow	2.0-5.0	Fill	527631.882	5252366.709	2.896	6-Dec-23	-	1.981	-	0.915	-
								20-Mar-24	-	2.013	-	0.883	
								21-Mar-24	-	2.001	-	0.895	
MW60	5.2	Shallow	3.0-6.0	Fill	527604.842	5252306.32	2.864	5-Dec-23	-	2.040	-	0.824	-
								20-Mar-24	-	2.072	-	0.792	
								21-Mar-24	-	2.060	-	0.804	
S4	4	Shallow	1.0-4.0	Fill	527620.807	5252363.953	2.842	5-Dec-23	-	1.868	-	0.974	-
								20-Mar-24	-	1.900	-	0.942	
								21-Mar-24	-	1.888	-	0.954	
S6	4.8	Shallow	1.0-4.8	Fill	527615.679	5252345.586	2.895	6-Dec-23	-	1.963	-	0.932	-
								20-Mar-24	-	1.995	-	0.900	
								21-Mar-24	-	1.983	-	0.912	

Notes:

m bgl - metres below ground level
TOC - top of casing
AHD - Australian Height Datum
SWL - Standing Water Level

[1] *Wells installed to depths of >10 m bgl are considered herein as deep monitoring wells, and those installed to depths of <10 m bgl are considered as shallow monitoring wells*

[2] *SWL values in wells containing LNAPL have been corrected for the depression of the LNAPL/water interface in the well by multiplying the apparent LNAPL thickness in the well an LNAPL specific gravity of 0.85*

Table T2 - Rebound Monitoring

Time of Gauge	Elapsed Time	Depth to Product (m BTOC)	Depth to Water (m BTOC)	LNAPL Thickness (m)	Standing Water Level (m BTOC)	Comments
PW02						
9:10:00	0	2.112	2.270	0.158	2.145	Prior to LNAPL removal
9:12:30	2.50	2.208	2.210	0.002	2.208	
9:13:00	3.00	2.175	2.178	0.003	2.176	
9:13:30	3.50	2.160	2.165	0.005	2.161	
9:14:00	4.00	2.154	2.159	0.005	2.155	
9:15:00	5.00	2.152	2.157	0.005	2.153	
9:16:00	6.00	2.152	2.159	0.007	2.154	
9:17:00	7.00	2.152	2.161	0.009	2.154	
9:18:00	8.00	2.151	2.161	0.010	2.153	
9:19:00	9.00	2.150	2.161	0.011	2.152	
9:20:00	10.00	2.149	2.161	0.012	2.152	
9:25:00	15.00	2.149	2.162	0.013	2.152	
9:35:00	25.00	2.147	2.161	0.014	2.150	
9:45:00	35.00	2.147	2.162	0.015	2.150	
9:57:00	47.00	2.146	2.162	0.016	2.149	
10:12:00	62.00	2.145	2.162	0.017	2.149	
10:25:00	75.00	2.145	2.163	0.018	2.149	
10:48:00	98.00	2.145	2.163	0.018	2.149	
11:27:00	137.00	2.146	2.164	0.018	2.150	
11:51:00	161.00	2.146	2.164	0.018	2.150	
12:59:00	229.00	2.144	2.164	0.020	2.148	
13:36:00	266.00	2.146	2.165	0.019	2.150	
14:42:00	332.00	2.147	2.165	0.018	2.151	
15:41:00	391.00	2.149	2.166	0.017	2.153	End of monitoring
S8						
9:26:00	0	1.879	2.010	0.131	1.907	Prior to LNAPL removal
9:29:00	3	1.932	1.938	0.006	1.933	
9:29:30	3.5	1.916	1.925	0.009	1.918	
9:30:00	4	1.907	1.919	0.012	1.909	
9:31:00	5	1.906	1.917	0.011	1.908	
9:32:00	6	1.905	1.919	0.014	1.908	
9:33:00	7	1.905	1.921	0.016	1.908	
9:34:00	8	1.905	1.921	0.016	1.908	
9:36:00	10	1.906	1.921	0.015	1.909	
9:41:00	15	1.906	1.922	0.016	1.909	
9:51:00	25	1.905	1.921	0.016	1.908	
10:01:00	35	1.904	1.922	0.018	1.908	
10:13:00	47	1.903	1.922	0.019	1.907	
10:26:00	60	1.904	1.922	0.018	1.908	
10:50:00	84	1.904	1.922	0.018	1.908	
11:26:00	120	1.903	1.923	0.020	1.907	
11:53:00	147	1.903	1.922	0.019	1.907	
12:56:00	210	1.902	1.924	0.022	1.907	
13:34:00	248	1.904	1.924	0.020	1.908	
14:41:00	315	1.905	1.925	0.020	1.909	
15:44:00	378	1.904	1.924	0.020	1.908	End of monitoring
MW05						
9:05:00	0	2.188	2.192	0.004	2.189	Prior to LNAPL removal
9:06:00	1	ND	2.189	-	2.189	
10:05:00	60	ND	2.190	-	2.190	
10:55:00	110	ND	2.192	-	2.192	
11:58:00	173	ND	2.189	-	2.189	
13:05:00	240	ND	2.191	-	2.191	
13:39:00	274	ND	2.190	-	2.190	
14:45:00	340	ND	2.190	-	2.190	
15:48:00	403	2.189	2.190	0.001	2.189	End of monitoring

Attachment C

Field Records

DAILY ACTIVITY REPORT

AECOM

DATE	LOCATION	PROJECT NAME/NO.
20/3/24	MAC POINT	

WORK TASKS

- Gauging PS Wells

WEATHER CONDITIONS

Sunny, some scattered rain

SIMULTANEOUS ACTIVITIES

Other activities onsite	Supervisor

PERMIT TYPE	–
OTHER PERMIT(S)	–
JSA/SMWS NUMBER(S)	–

TIME SUMMARY

Mobilise to site Time		Time on site Time		Demobilise from site Time	
From	To	From	To	To	From
		12:00	17:00		

Time From	Time To	Description of Daily Acitivties
12:00		Arrive @ Goods Shed. Sign in, get keys, talk to MIOC staff about access to Seaford Shed.
13:00		Move to SR S66. Locate B gauge well
14:00		Return to Goods Shed. Meeting for remainder of day.
17:00		Off-site

Does temporary LOTO remain in place at the end of the day? Yes, where? ☐ YES ☐ NO

ON-SITE PERSONNEL

AECOM	Subcontractor	Other
R. Crowe		

WASTE TRANSPORT

	YES	NO	Comment
Electronic Waste Transport Certificate (WTC) provided to supervisor			*WTC Reference:*
WTC details are accurate and checked in field by supervisor & transporter			
Consignment going Directly to disposal facility			
Disposal facility			
Disposal facility as per table found in HSEP			Facility:

Transporter Name/Company:	Supervisor Name: Robert Crowe
Signature:	Signature:

DAILY ACTIVITY REPORT

AECOM

DATE	LOCATION	PROJECT NAME/NO.
21-3	Macquarie Point	

WORK TASKS

Cool in morning, overcast → Clear & sunny by ~9am

WEATHER CONDITIONS

SIMULTANEOUS ACTIVITIES

Other activities onsite	Supervisor

PERMIT TYPE	
OTHER PERMIT(S)	
JSA/SMWS NUMBER(S)	

TIME SUMMARY

Mobilise to site Time		Time on site Time		Demobilise from site Time	
From	To	From	To	To	From

Time		Description of Daily Acitivties
From	To	
	8:30	Arrive at Mac Point Access Precinct Sth & gauge wells
	9:10	Begin bail down test on ~~AA~~ PW02 & ~~MW~~ S8. Confirm no LNAPL in MW03 w/ bailer. Attempt bail of MW05 → Cannot retrieve LNAPL.
	11:00	Inspect soil vapour point in & around Gas Road Slab. SV05, SV07, SV23 & SV25 present & in good condition. Could not locate SV06, SV08, SV30, SV29 or SV24.
	16:00	Complete bail test & return to office.

Does temporary LOTO remain in place at the end of the day? Yes, where? ☐ YES ☐ NO

ON-SITE PERSONNEL

AECOM	Subcontractor	Other
A. Crowe.		

WASTE TRANSPORT

	YES	NO	Comment
Electronic Waste Transport Certificate (WTC) provided to supervisor			*WTC Reference:*
WTC details are accurate and checked in field by supervisor & transporter			
Consignment going Directly to disposal facility			
Disposal facility			
Disposal facility as per table found in HSEP			Facility:

Transporter Name/Company:	Supervisor Name: A. Crowe
Signature:	Signature:

DAILY ACTIVITY REPORT

AECOM

DATE	LOCATION	PROJECT NAME/NO.
20/3/24	Mac Point	

WORK TASKS

B 21/3/24

WEATHER CONDITIONS

SIMULTANEOUS ACTIVITIES

Other activities onsite	Supervisor

PERMIT TYPE	
OTHER PERMIT(S)	
JSA/SMWS NUMBER(S)	

TIME SUMMARY

Mobilise to site Time		Time on site Time		Demobilise from site Time	
From	To	From	To	To	From

Time		Description of Daily Acitivties 20/3			21/03	
From	To	Well	DTP	DTW	DTP	DTW
		MW03	ND	2.002	ND	1.990
		PW02	2.127	2.282	2.112	2.270
		MW05	2.196	2202	2.188	2.190
		S8	1.910	2.022	1.879	2.010
		S6	ND	1.995	ND	1.983
		S4	ND	1.900		1.888
		MW06	ND	2.013		2.001
		MW164	ND	1.614		1.602
		MW154	ND	2.168		2.156
		MW60	ND	2.072		2.050
		MW126A	ND	2.205		2.193
		MW126B	ND	2.313		2.301
		MW16	ND	2.074		2.062

Does temporary LOTO remain in place at the end of the day? Yes, where? ☐ YES ☐ NO

ON-SITE PERSONNEL

AECOM	Subcontractor	Other

WASTE TRANSPORT

	YES	NO	Comment
Electronic Waste Transport Certificate (WTC) provided to supervisor			*WTC Reference:*
WTC details are accurate and checked in field by supervisor & transporter			
Consignment going Directly to disposal facility			
Disposal facility			
Disposal facility as per table found in HSEP			Facility:

Transporter Name/Company:	Supervisor Name:
Signature:	Signature:

LNAPL BAILDOWN TEST FORM

Site and Job Number		Location Information	
Project Name:	Mac Point	Well ID:	58
Job Number:		Well Location:	Sea Road
Location:	Precent Stn	Date:	21-Mar-24

Gauging			
Depth to Product :	1.879	Well Casing Volume (L/m):	
Depth to Water:	2.010	Filter Pack Volume (L/m):	
Pre-test Product Thickness:	0.131		
		Estimate of LNAPL Vol in Well:	
Depth to Top of Screen (m):			
Depth to Bottom of Screen (m):		Volume LNAPL Removed:	
Well Casing Diameter (m):	50mm	Volume Water Removed:	

Baildown Test

Date / Time Start 9:26

Method (Pump/Bailer Type): LNAPL Bailer

Clock Time	Elapsed Time	Depth to LNAPL (m)	Depth to Water (m)	LNAPL Thickness (m)	Comments
29		1.932	1.938		
29:30		1.916	1.925		
30		1.907	1.919		
31		1.906	1.917		
32		1.905	1.919		
33		1.905	1.921		
34		1.905	1.921		
36		1.906	1.921		
41		1.906	1.921		
51		1.905	1.922		
10:01		1.904	1.921		
13		1.903	1.922		
26		1.904	1.922		
50		1.904	1.922		
11:26		1.903	1.933		
53		1.903	1.922		
12:56		1.902	1.924		
13:34		1.904	1.924		
14:41		1.905	1.925		
15:41		1.904	1.924		

Record of Cummulative LNAPL/Water Volumes

Time	Elapsed Time	Total Volume (L)	Water Volume (L)	LNAPL Volume (L)
9:26	~~0.8~~			~~0.2~~ 0.2
9:27	~~0.~~			~~0.2~~ 0.2
9.28				~~0.1~~ 0.1

Authorisation

Sampler's name	R. Crone	Signature	[signature]
Checked by		Signature	

LNAPL BAILDOWN TEST FORM

Site and Job Number		Location Information	
Project Name:	Macquarie Point	Well ID:	P W02
Job Number:	~~60707008~~	Well Location:	
Location:	Precinct South	Date:	21 / 3 / 24
Gauging			
Depth to Product :	2.112	Well Casing Volume (L/m):	
Depth to Water:	2.270	Filter Pack Volume (L/m):	
Pre-test Product Thickness:	0.158		
		Estimate of LNAPL Vol in Well:	
Depth to Top of Screen (m):	1.5		
Depth to Bottom of Screen (m):	6.0	Volume LNAPL Removed:	2.3 L
Well Casing Diameter (m):	100mm	Volume Water Removed:	0

Baildown Test

Date / Time Start: 9.10

Method (Pump/Bailer Type): LNAPL Selective Bailer

Clock Time	Elapsed Time	Depth to LNAPL (m)	Depth to Water (m)	LNAPL Thickness (m)	Comments
9:12:30		2.208	2.210		
9:13		2.175	2.178		
9:13:30		2.160	2.165		
9:14		2.154	2.159		
9:15		2.151	2.157		
9:16		2.152	2.159		
9:17		2.152	2.161		
9:18		2.151	2.161		
9:19		2.150	2.161		
9:20		2.149	2.161		
9:25		2.149	2.162		
9:35		2.147	2.161		
9:45		2.147	2.162		
9:57		2.146	2.162		
10:13		2.145	2.162		
10:35		2.145	2.163		
10:48		2.145	2.163		
11:27		2.146	2.164		
11:51		2.146	2.164		
12:59		2.144	2.164		
13:36		2.146	2.165		
14:42		2.147	2.165		
15:41		2.149	2.166		

Record of Cummulative LNAPL/Water Volumes

Time	Elapsed Time	Total Volume (L)	Water Volume (L)	LNAPL Volume (L)
9.10			0	0.5
9.11			0	0.7
9.12				1.2

Authorisation

Sampler's name	R. Crowe	Signature	
Checked by		Signature	

LNAPL BAILDOWN TEST FORM

Site and Job Number	Location Information
Project Name: Mac Point	Well ID: MW05
Job Number:	Well Location: Sea Roads / Plant B
Location:	Date: 21-3-21

Gauging	
Depth to Product: 2.188	Well Casing Volume (L/m):
Depth to Water: 2.192	Filter Pack Volume (L/m):
Pre-test Product Thickness:	
	Estimate of LNAPL Vol in Well:
Depth to Top of Screen (m):	
Depth to Bottom of Screen (m):	Volume LNAPL Removed:
Well Casing Diameter (m):	Volume Water Removed:

Baildown Test

Date / Time Start 9.05

Method (Pump/Bailer Type):

Clock Time	Elapsed Time	Depth to LNAPL (m)	Depth to Water (m)	LNAPL Thickness (m)	Comments
9.06		ND	2.190		
10.05		ND	2.189		
10.55		ND	2.190		
11:58		ND	2.192		
13:05		ND	2.189		
13:38		ND	2.191		
14:45		ND	2.190		
15:48		2.189	2.190		

Record of Cummulative LNAPL/Water Volumes

Time	Elapsed Time	Total Volume (L)	Water Volume (L)	LNAPL Volume (L)
9.06				40.01

Authorisation

Sampler's name L. Crow Signature

Checked by Signature

Equipment Calibration Form
RKI GX-6000

Enqip #: 21866

Company: AECOM Australia Pty Ltd

Consultant: Robert Crowe

PO #: 60693007/2

Certificate #: 32234

INSTRUMENT IDENTIFICATION

Model Number: GX-6000

Serial Number: 52H01001033 RN

INSPECTION RECORD

Flow Rate:	PASS
Buzzer:	PASS
Date & Time:	PASS

CALIBRATION DETAILS

Sensor	Span Gas	Value	Reading	
O_2	Air	20.9 %	20.9	%
	O_2	18.0 %	18.0	%
H_2S	Hydrogen Sulphide	25ppm	N/A	ppm
LEL	Methane 2.5%	50%	50	%
CO	Carbon Monoxide	100ppm	N/A	ppm
CO2	Carbon Dioxide	5000ppm	N/A	ppm
VOC	Isobutylene	100ppm	100	ppm

Correction Factor: 1

Calibration Successful: YES

Calibrated By: James Ziemkiewicz **Test Date:** 19/03/2024

enqip
116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987
E info@enqip.com.au | W www.enqip.com.au

Instrument Quality Report
Interface Meter

Enqip #: 21866
Company: AECOM Australia Pty Ltd
Consultant: Robert Crowe
PO #: 60693007/2
Certificate #: 32235

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter
Model Number: 122
Serial Number: IM-1525

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: James Ziemkiewicz **Test Date:** 19/03/2024

Attachment D

LNAPL Transmissivity Assessment

API LNAPL Transmissivity Workbook

Calculation of LNAPL Transmissivity from Baildown Test Data

STEP 1: RESET OUTPUT SUMMARY

STEP 2: ENTER DATA & VIEW FIGURES

STEP 3: CHOOSE WELL CONDITIONS

STEP 4: LNAPL TRANSMISSIVITY SUMMARY

Mean LNAPL Transmissivity (m^2/d)

0.013

Standard Deviation (m^2/d)

0.009

Coefficient of Variation

0.71

Well Designation:	PW02	Beckett and Lyverse (2002)
Date:	21-Mar-24	

Ground Surface Elev (m msl)	0.000	Enter These Data
Top of Casing Elev (m msl)	0.000	
Well Casing Radius, r_c (m):	0.050	r_{e1}
Well Radius, r_w (m):	0.075	
LNAPL Specific Yield, S_y:	0.175	
LNAPL Density Ratio, ρ_r:	0.780	
Top of Screen (m bgs):	1.500	
Bottom of Screen (m bgs):	6.000	
LNAPL Baildown Vol. (liter):	1.2	
Effective Radius, r_{e3} (m):	0.055	Calculated Parameters
Effective Radius, r_{e2} (m):	0.052	
Initial Casing LNAPL Vol. (liter):	1.24	
Initial Filter LNAPL Vol. (liter):	0.27	

Drawdown Adjustment (m)
0.028

Enter Data Here

	Time (min)	DTP (m btoc)	DTW (m btoc)	DTP (m bgs)	DTW (m bgs)	Water Table Depth (m)	LNAPL Drawdown s_n (m)	Average Time (min)	LNAPL Discharge Q_n (m^3/d)	s_n (m)	b_n (m)	r_e (m)
Initial Fluid Levels:	0	2.112	2.270	2.112	2.270	2.15					0.16	
Enter Test Data:	2.5	2.208	2.210	2.208	2.210	2.21	0.068				0.00	
	3.0	2.175	2.178	2.175	2.178	2.18	0.035	2.8	0.028	0.05	0.00	0.055
	3.5	2.160	2.165	2.160	2.165	2.16	0.020	3.3	0.055	0.03	0.00	0.055
	4.0	2.154	2.159	2.154	2.159	2.15	0.014	3.8	0.004	0.02	0.01	0.055
	5.0	2.152	2.157	2.152	2.157	2.15	0.012	4.5	-0.006	0.01	0.00	0.055
	6.0	2.152	2.159	2.152	2.159	2.15	0.012	5.5	0.037	0.01	0.01	0.055
	7.0	2.152	2.161	2.152	2.161	2.15	0.012	6.5	0.017	0.01	0.01	0.055
	8.0	2.151	2.161	2.151	2.161	2.15	0.011	7.5	0.019	0.01	0.01	0.055
	9.0	2.150	2.161	2.150	2.161	2.15	0.010	8.5	0.015	0.01	0.01	0.055
	10.0	2.149	2.161	2.149	2.161	2.15	0.009	9.5	0.014	0.01	0.01	0.055
	15.0	2.149	2.162	2.149	2.162	2.15	0.009	12.5	0.003	0.01	0.01	0.055
	25.0	2.147	2.161	2.147	2.161	2.15	0.007	20.0	0.001	0.01	0.01	0.055
	35.0	2.147	2.162	2.147	2.162	2.15	0.007	30.0	0.001	0.01	0.02	0.055
	47.0	2.146	2.162	2.146	2.162	2.15	0.006	41.0	0.001	0.01	0.02	0.055
	62.0	2.145	2.162	2.145	2.162	2.15	0.005	54.5	0.001	0.01	0.02	0.055
	75.5	2.145	2.163	2.145	2.163	2.15	0.005	68.8	0.001	0.00	0.02	0.055
	98.0	2.145	2.163	2.145	2.163	2.15	0.005	86.8	0.000	0.00	0.02	0.055
	137.0	2.146	2.164	2.146	2.164	2.15	0.006	117.5	0.000	0.01	0.02	0.055
	161.0	2.146	2.164	2.146	2.164	2.15	0.006	149.0	0.000	0.01	0.02	0.055
	229.0	2.144	2.164	2.144	2.164	2.15	0.004	195.0	0.000	0.00	0.02	0.055
	266.0	2.146	2.165	2.146	2.165	2.15	0.006	247.5	0.000	0.00	0.02	0.055
	332.0	2.147	2.165	2.147	2.165	2.15	0.007	299.0	0.000	0.01	0.02	0.055
	391.0	2.149	2.166	2.149	2.166	2.15	0.009	361.5	0.000	0.01	0.02	0.055
				#N/A	#N/A	#N/A	#N/A	0.0	#N/A	#N/A	#N/A	0.000

Figure 1

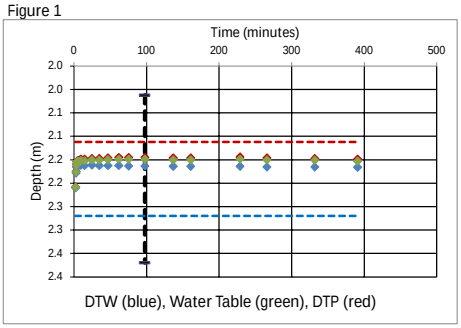
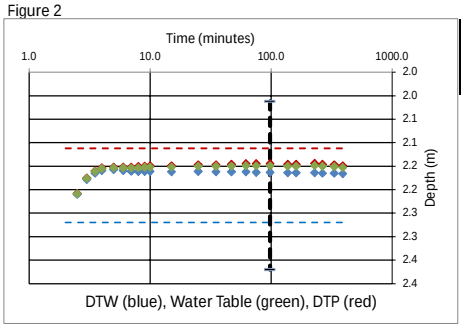


Figure 2



2.0	2.11
391	2.11
2.0	2.27
391	2.27

97.8	2.012
97.8	2.4

Figure 3

Q_n (m^3/d)	s_n (m)
0	0
0.1	0.1

Drawdown Adjust.	
Δs_n (m)	0.028

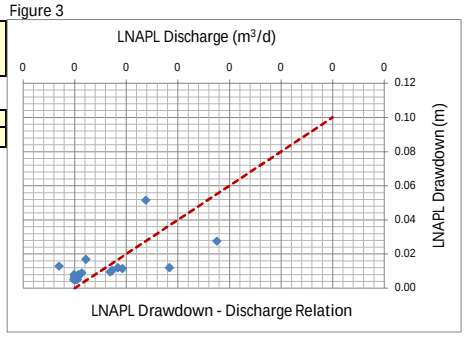


Figure 4

b_n	s_n
0.025	0
0.005	0.012

J-ratio	-0.600

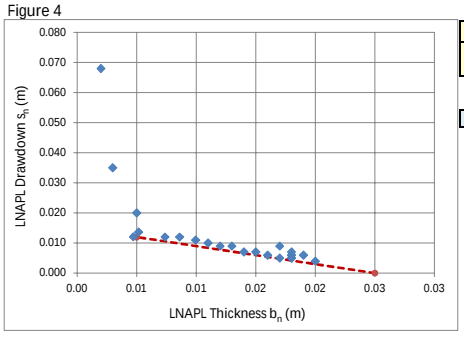


Figure 5

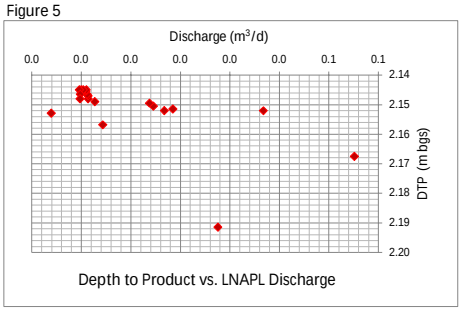


Figure 6

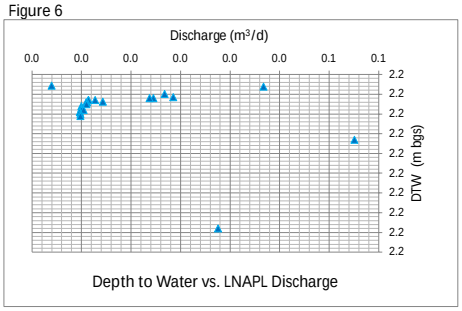


Figure 7

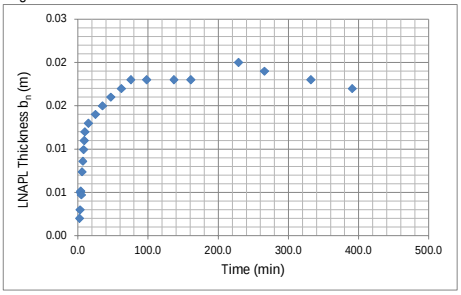


Figure 8

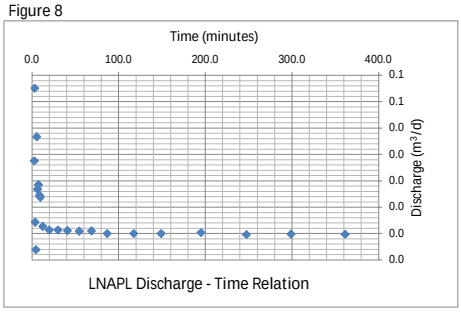


Figure 9

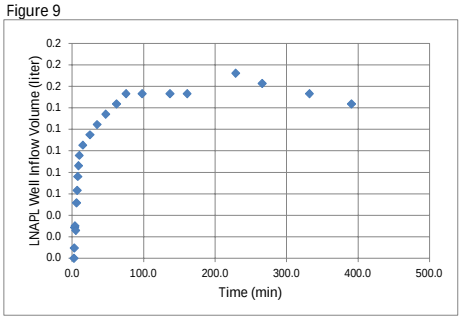
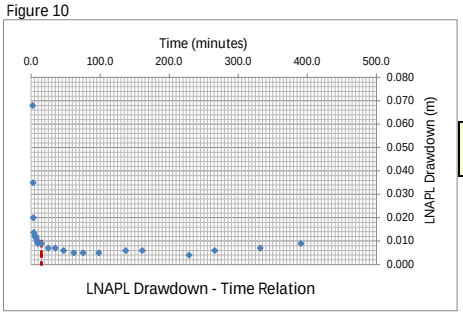


Figure 10



t (min)	s_n (m)
15	0.01
15	0

Generalized Bouwer and Rice (1976)

Well Designation:	PW02
Date:	21-Mar-24

$$T_n = \frac{r_e^{\,2} \ln(R/r_e) \ln(s_n(t_1)/s_n(t))}{2(-J)(t - t_1)}$$

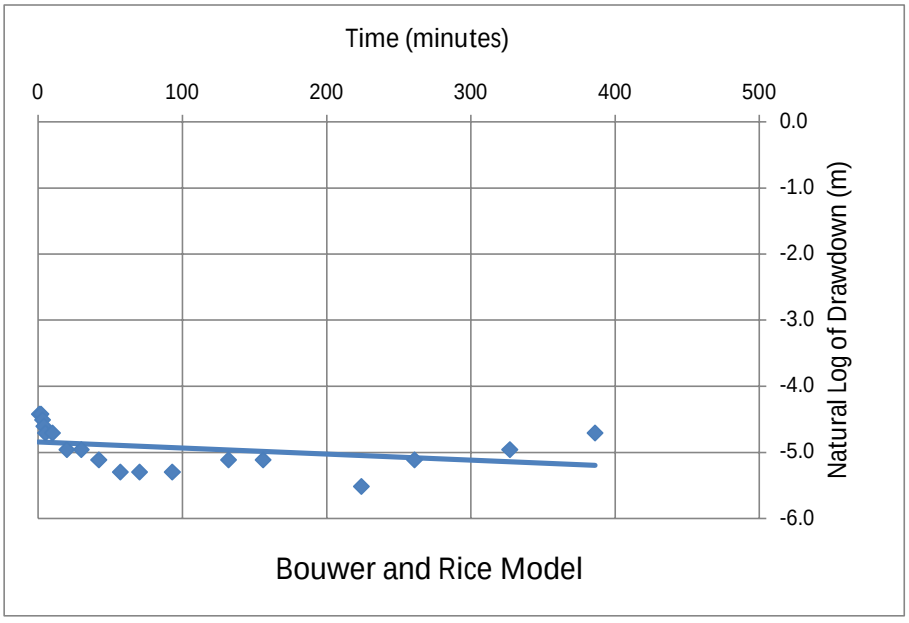
Enter early time cut-off for least-squares model fit

$Time_{cut}$	5	<- Enter or change value here

L_e/r_e
2.9
C
0.91
R/r_e
2.08

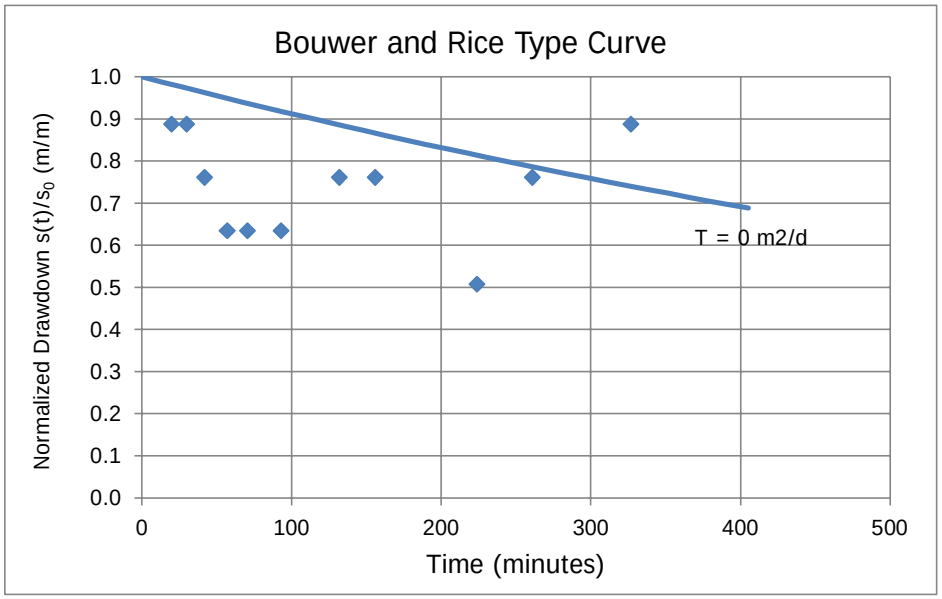
Model Results: T_n (m^2/d) = 0.002 +/- 0.002 m^2/d

J-Ratio
-0.600



Coef. Of Variation
0.69

C coefficient calculated from Eq. 6.5(c) of Butler, The Design, Performance, and Analysis of Slug Tests, CRC Press, 2000.



Cooper and Jacob (1946)

Well Designation:	PW02
Date:	21-Mar-24

$$V_n(t_i) = \sum_j^i \frac{4\pi T_n s_j}{\ln\left(\frac{2.25 T_n t_j}{r_e^{\,2} S_n}\right)} \Delta t_j$$

Enter early time cut-off for least-squares model fit

$Time_{cut}$ (min):	15	<- Enter or change values here
Time Adjustment (min):	10	

Trial S_n: 0.010 <-- Enter d for default or enter S_n value

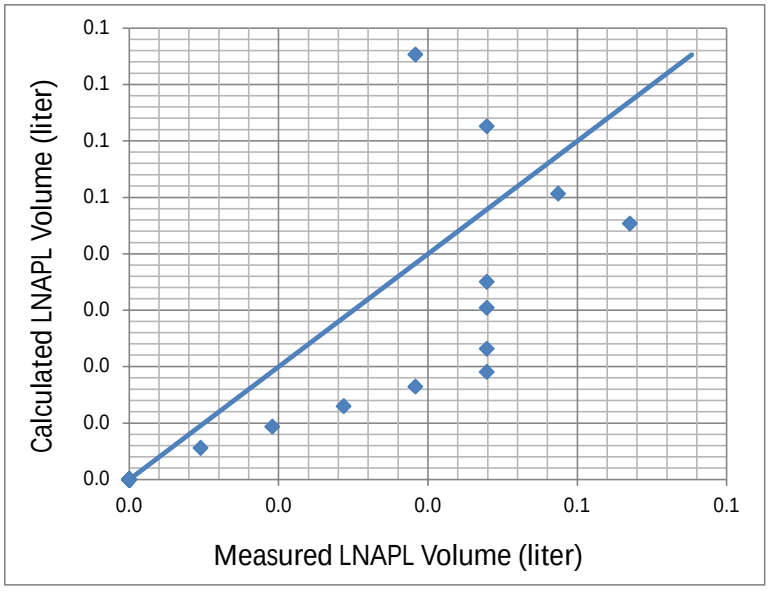
Root-Mean-Square Error: 0.070 <-- Minimize this using "Solver"

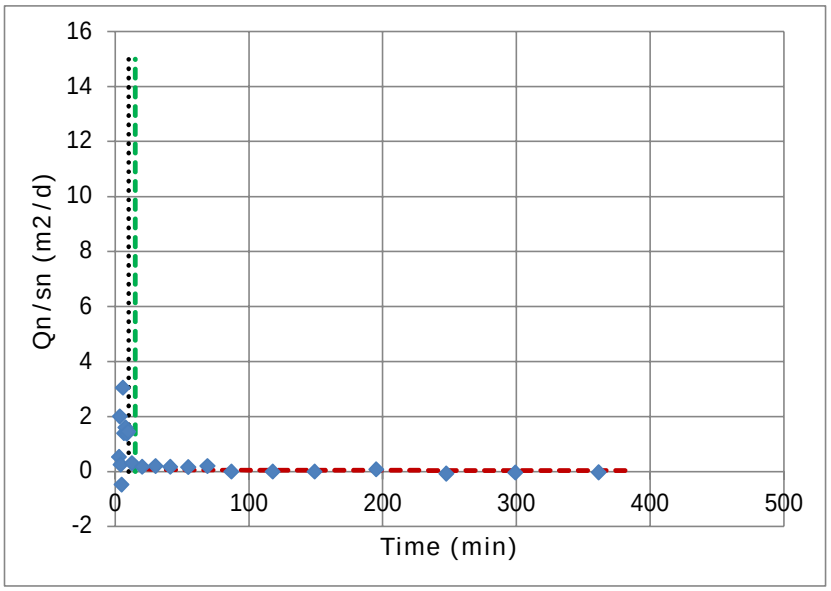
0.010 <-- Working S_n

Trial T_n (m^2/d): 0.018 <-- By changing T_n through "Solver"

Add constraint T_n > 0.00001

Model Result: T_n (m^2/d) = 0.018





Height
15

Cooper, Bredehoeft and Papadopulos (1967)

Well Designation:	PW02
Date:	21-Mar-24

Enter early time cut-off for least-squares model fit

$Time_{cut}$ (min):	15	<- Enter or change values here
Initial Drawdown s_n (m):	0.0075	

Trial S_n: d <-- Enter d for default

Root-Mean-Square Error: 0.960 <-- Minimize this using "Solver"

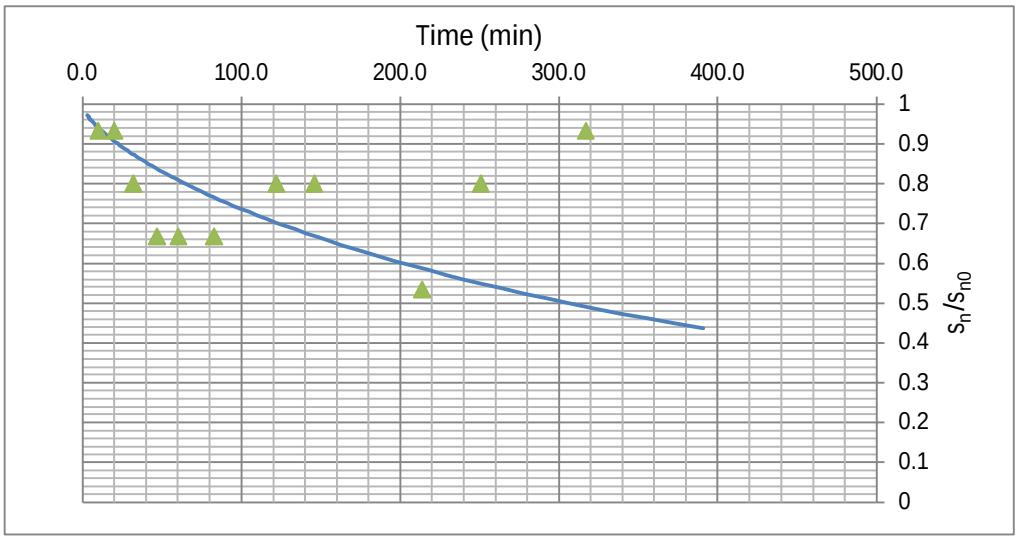
Trial T_n (m^2/d): 0.020 <-- By changing T_n through "Solver"

0.012 <-- Working S_n

Add constraint Tn > 0.00001

Model Result: T_n (m^2/d) = 0.020

T_{min}	3
T_{max}	391



J-Ratio
-0.600

API LNAPL Transmissivity Workbook

Calculation of LNAPL Transmissivity from Baildown Test Data

STEP 1: RESET OUTPUT SUMMARY

STEP 2: ENTER DATA & VIEW FIGURES

STEP 3: CHOOSE WELL CONDITIONS

STEP 4: LNAPL TRANSMISSIVITY SUMMARY

Mean LNAPL Transmissivity (m^2/d)

0.004

Standard Deviation (m^2/d)

0.005

Coefficient of Variation

1.23

Well Designation:	S8	Beckett and Lyverse (2002)
Date:	21-Mar-24	

Ground Surface Elev (m msl)	0.000	Enter These Data	Drawdown Adjustment (m)
Top of Casing Elev (m msl)	0.000		
Well Casing Radius, r_c (m):	0.025	r_{e1}	0.02
Well Radius, r_w (m):	0.075		
LNAPL Specific Yield, S_y:	0.175		
LNAPL Density Ratio, ρ_r:	0.780		
Top of Screen (m bgs):	1.200		
Bottom of Screen (m bgs):	5.200		
LNAPL Baildown Vol. (liter):	0.5		
Effective Radius, r_{e3} (m):	0.039	Calculated Parameters	
Effective Radius, r_{e2} (m):	0.006		
Initial Casing LNAPL Vol. (liter):	0.26		
Initial Filter LNAPL Vol. (liter):	0.36		

	Enter Data Here											
	Time (min)	DTP (m btoc)	DTW (m btoc)	DTP (m bgs)	DTW (m bgs)	Water Table Depth (m)	LNAPL Drawdown s_n (m)	Average Time (min)	LNAPL Discharge Q_n (m^3/d)	s_n (m)	b_n (m)	r_e (m)
Initial Fluid Levels:	0	1.879	2.010	1.879	2.010	1.91					0.13	
Enter Test Data:	3.0	1.932	1.938	1.932	1.938	1.93	0.033				0.01	
	3.5	1.916	1.925	1.916	1.925	1.92	0.017	3.3	0.041	0.02	0.01	0.039
	4.0	1.907	1.919	1.907	1.919	1.91	0.008	3.8	0.039	0.01	0.01	0.039
	5.0	1.906	1.917	1.906	1.917	1.91	0.007	4.5	-0.007	0.01	0.01	0.039
	6.0	1.905	1.919	1.905	1.919	1.91	0.006	5.5	0.024	0.01	0.01	0.039
	7.0	1.905	1.921	1.905	1.921	1.91	0.006	6.5	0.008	0.01	0.02	0.039
	8.0	1.905	1.921	1.905	1.921	1.91	0.006	7.5	0.002	0.01	0.02	0.039
	10.0	1.906	1.921	1.906	1.921	1.91	0.007	9.0	-0.003	0.01	0.01	0.039
	15.0	1.906	1.922	1.906	1.922	1.91	0.007	12.5	0.001	0.01	0.02	0.039
	25.0	1.905	1.921	1.905	1.921	1.91	0.006	20.0	0.000	0.01	0.02	0.039
	35.0	1.904	1.922	1.904	1.922	1.91	0.005	30.0	0.001	0.01	0.02	0.039
	47.0	1.903	1.922	1.903	1.922	1.91	0.004	41.0	0.001	0.00	0.02	0.039
	60.0	1.904	1.922	1.904	1.922	1.91	0.005	53.5	-0.001	0.00	0.02	0.039
	84.0	1.904	1.922	1.904	1.922	1.91	0.005	72.0	0.000	0.00	0.02	0.039
	120.0	1.903	1.923	1.903	1.923	1.91	0.004	102.0	0.000	0.00	0.02	0.039
	147.0	1.903	1.922	1.903	1.922	1.91	0.004	133.5	0.000	0.00	0.02	0.039
	210.0	1.902	1.924	1.902	1.924	1.91	0.003	178.5	0.000	0.00	0.02	0.039
	248.0	1.904	1.924	1.904	1.924	1.91	0.005	229.0	0.000	0.00	0.02	0.039
	315.0	1.905	1.925	1.905	1.925	1.91	0.006	281.5	0.000	0.01	0.02	0.039
	375.0	1.904	1.924	1.904	1.924	1.91	0.005	345.0	0.000	0.01	0.02	0.039
				#N/A	#N/A	#N/A	#N/A	0.0	#N/A	#N/A	#N/A	0.000

Figure 1

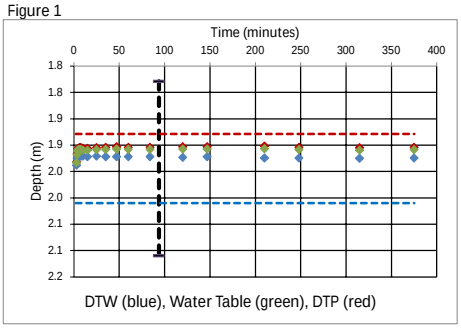
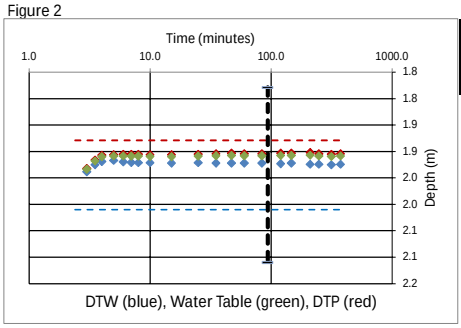


Figure 2



2.4	1.88
375	1.88
2.4	2.01
375	2.01
93.8	1.779
93.8	2.1

Figure 3

Q_n (m^3/d)	s_n (m)
0	0
0.1	0.1

Drawdown Adjust.	
Δs_n (m)	0.02

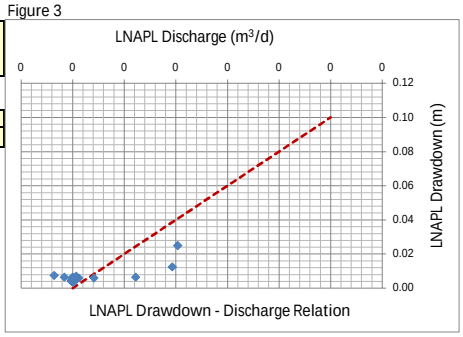


Figure 4

b_n	s_n
0.024	0
0	0.040

J-ratio	-1.667

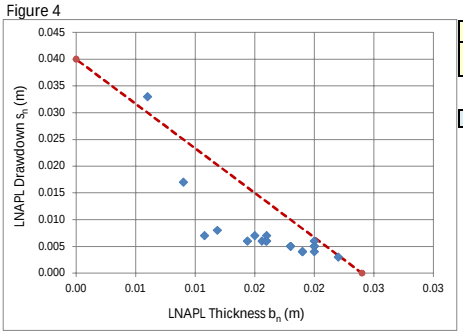


Figure 5

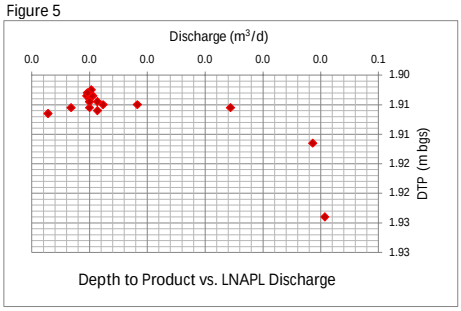


Figure 6

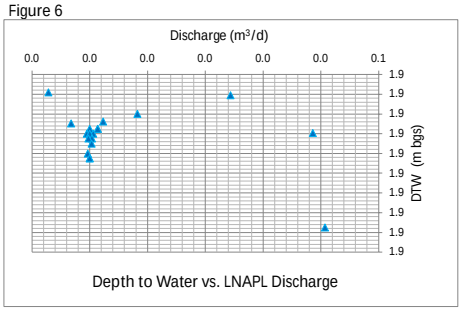


Figure 7

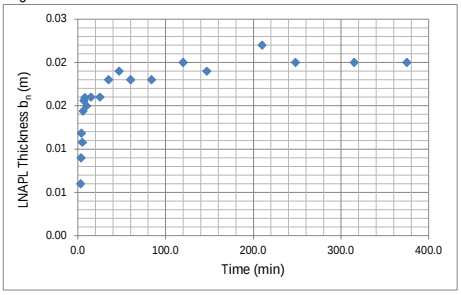


Figure 8

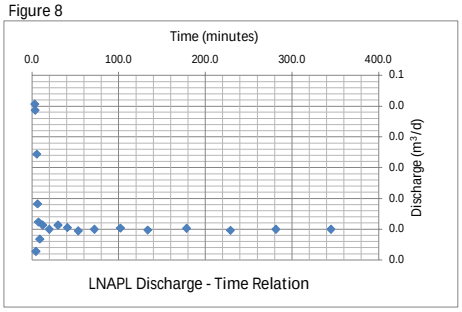


Figure 9

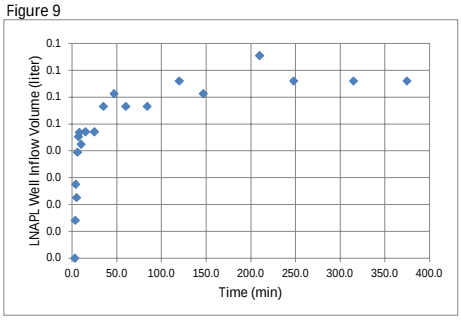
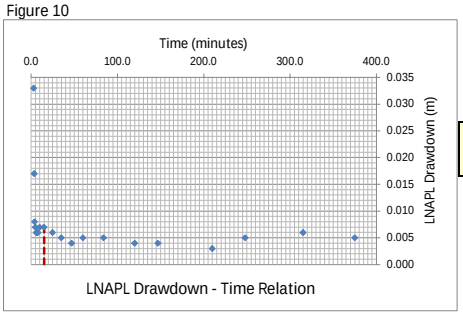


Figure 10



t (min)	s_n (m)
15	0.007
15	0

Generalized Bouwer and Rice (1976)

Well Designation:	S8
Date:	21-Mar-24

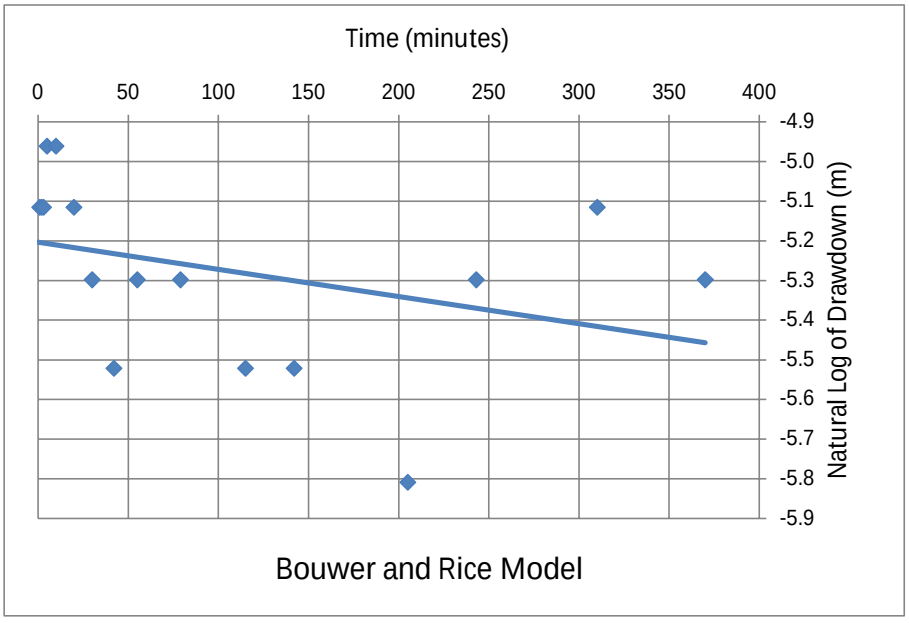
$$T_n = \frac{r_e^{\,2} \ln(R/r_e) \ln(s_n(t_1)/s_n(t))}{2(-J)(t - t_1)}$$

Enter early time cut-off for least-squares model fit

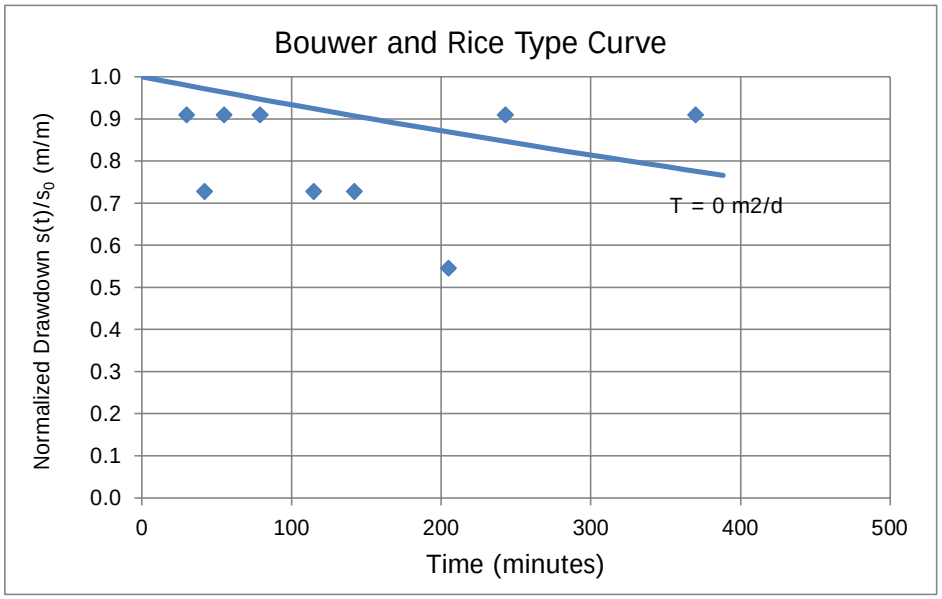
$Time_{cut}$	5	<- Enter or change value here

Model Results:	T_n (m^2/d) = 0.000	+/-	0.000	m^2/d

L_e/r_e	3.4
C	0.93
R/r_e	2.34
J-Ratio	-1.667
Coef. Of Variation	0.70



C coefficient calculated from Eq. 6.5(c) of Butler, The Design, Performance, and Analysis of Slug Tests, CRC Press, 2000.



Cooper and Jacob (1946)

Well Designation:	S8
Date:	21-Mar-24

$$V_n(t_i) = \sum_j^i \frac{4\pi T_n s_j}{\ln\left(\frac{2.25 T_n t_j}{r_e^{\,2} S_n}\right)} \Delta t_j$$

Enter early time cut-off for least-squares model fit

$Time_{cut}$ (min):	5	<- Enter or change values here
Time Adjustment (min):	3	

Trial S_n: 0.007 <-- Enter d for default or enter S_n value

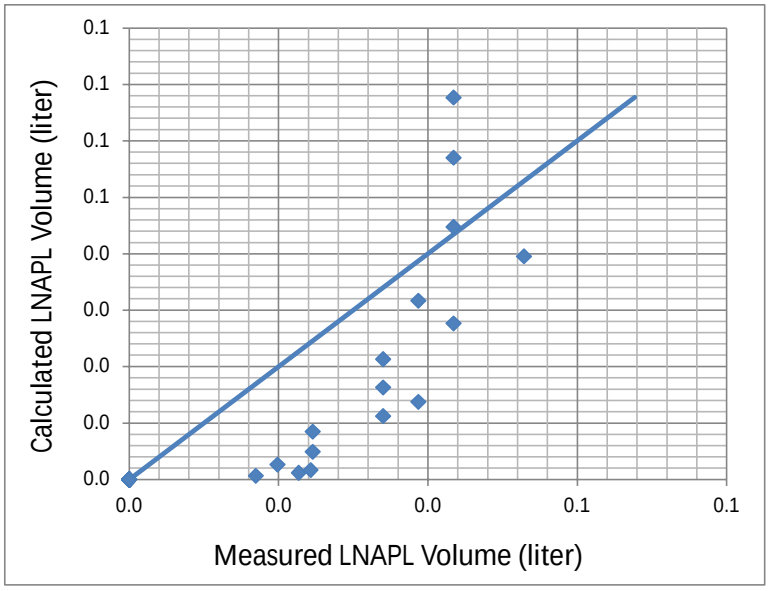
Root-Mean-Square Error: 0.071 <-- Minimize this using "Solver"

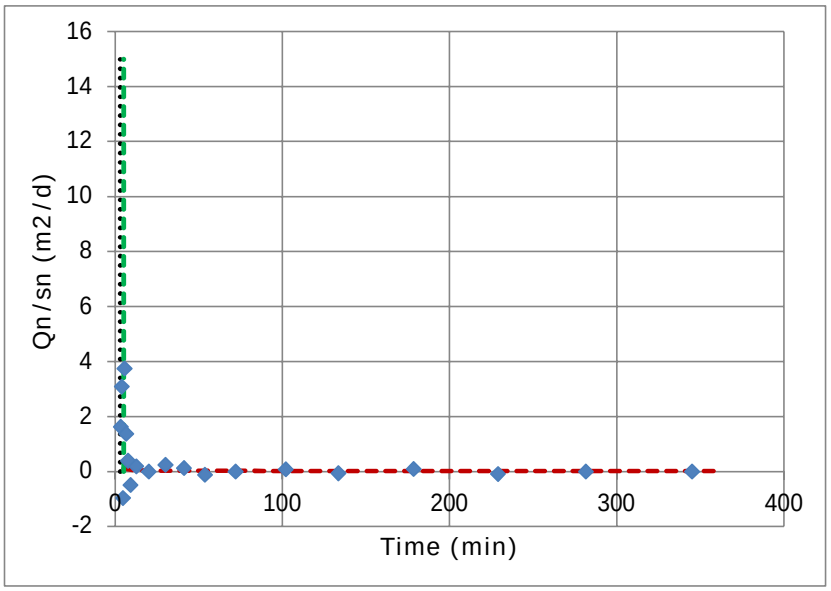
0.007 <-- Working S_n

Trial T_n (m^2/d): 0.027 <-- By changing T_n through "Solver"

Add constraint T_n > 0.00001

Model Result: T_n (m^2/d) = 0.009





Height
15

Cooper, Bredehoeft and Papadopulos (1967)

Well Designation:	S8
Date:	21-Mar-24

Enter early time cut-off for least-squares model fit

$Time_{cut}$ (min):	5	<- Enter or change values here
Initial Drawdown s_n (m):	0.0062	

Trial S_n:	0.007	<-- Enter d for default
Root-Mean-Square Error:	0.633	<-- Minimize this using "Solver"
Trial T_n (m^2/d):	0.002	<-- By changing T_n through "Solver"
	0.007	<-- Working S_n

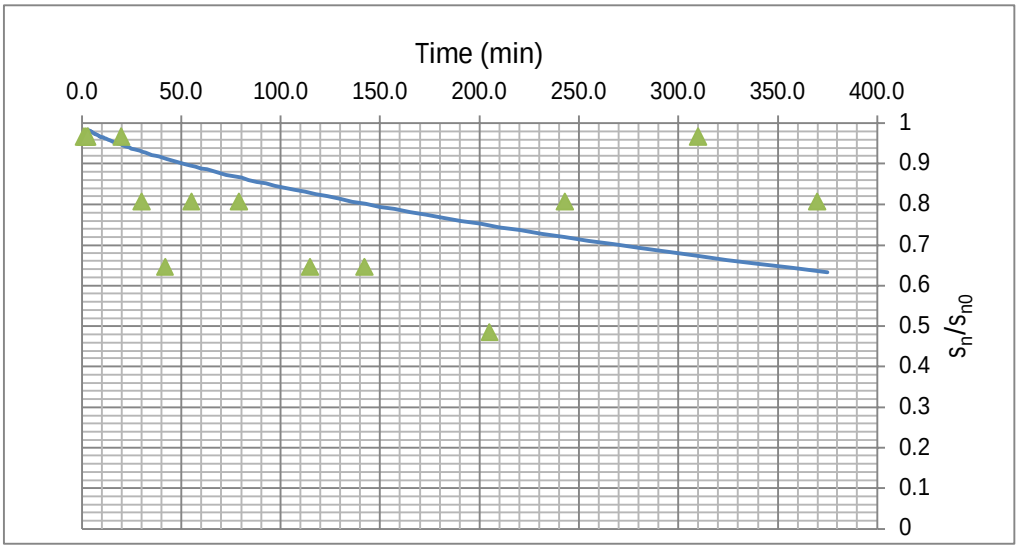
Add constraint Tn > 0.00001

T_{min}	3
T_{max}	375

Model Result:

T_n (m^2/d) =	0.002

J-Ratio
-1.667



Attachment E

Bore Logs

Sinclair Knight Merz

BOREHOLE LOG

BOREHOLE NO. MW3/BH3

Sheet 1 of 1

Client:	Australian National	Bore Location:	Eastern Boundary
Project:	AN Hobart	Site Manager:	Guy Fazzino
Project No:	AD00317072	Logged By:	Peter James
Drilling Contractor:	Stacpoole Enterprises		

Drill Method:	Air Hammer(without air)	Date Commenced:	4/12/96
Drilling Fluid Used:	None	Date Completed:	4/12/96

Bore Diameter (mm):	150	Casing/Screen Material:	Class 18 uPVC
Bore Depth (m):	9	Casing/Screen Dia. (mm):	50
RL TOC (mAHD):	2.819	Screen Length (m):	3.0
SWL (mTOC):	2.300	Slot Size (mm):	0.5
SWL (mAHD):	0.519	Gravel Pack Size (mm):	1.5

Depth (m)	Water	Graphic Log	Classification	Material Description	Moisture Condition	Sample ID		Well Diagram
0.00				Concrete(0.0 - 0.1)				
				Fill: Silt, dark brown, contains pieces of debris	M			
0.60				such as wire, glass, brick.		MW3_		
				Very strong hydrocarbon odours, discoloration		0.0 - 0.6		
1.20				and free product present from 2 - 9.0 metres.				
				Bentonite (1.0 - 1.5 m)		MW3_		
1.80						1.0 - 2.0		
2.40				Gravel pack (1.5 - 7.5 m)	S			
						MW3_		
3.00						2.0 - 9.0		
3.60						MW3		
4.20								
4.00								
4.80								
5.40								
6.00								
6.60								
7.20								
							7.5	
7.80								
8.40								
9.00								
				End of hole at 9.0 metres.				

Sinclair Knight Merz

BOREHOLE LOG

BOREHOLE NO. MW5/BH5

Sheet 1 of 1

Client:	Australian National	Bore Location:	Eastern Boundary
Project:	AN Hobart	Site Manager:	Guy Fazzino
Project No:	AD00317072	Logged By:	Peter James
Drilling Contractor:	Stacpoole Enterprises		
Drill Method:	Air Hammer(without air)	Date Commenced:	4/12/96
Drilling Fluid Used:	None	Date Completed:	4/12/96
Bore Diameter (mm):	150	Casing/Screen Material:	Class 18 uPVC
Bore Depth (m):	6	Casing/Screen Dia. (mm):	50
RL TOC (mAHD):	4.085	Screen Length (m):	3.0
SWL (mTOC):	3.150	Slot Size (mm):	0.5
SWL (mAHD):	0.935	Gravel Pack Size (mm):	1.5

Depth (m)	Water	Graphic Log	Classification	Material Description	Moisture Condition	Sample ID		Well Diagram
0.00				Concrete(0.0 - 0.1)				
				Fill: Silt, dark brown, contains pieces of debris	M			
0.50				such as wire, glass, brick.				
				Very strong hydrocarbon odours, discoloration			1.0	
1.00				and free product present from 0.5 - 5.0 metres.				
				Bentonite (1.0 - 1.5 m)			1.5	
1.50				Gravel pack (1.5 - 5.0 m)				
2.00					S		2	
2.50				Screen (2.0 - 5.0 m)		MW5		
3.00								
3.50								
4.00								
4.50								
							5.0	
5.00				End of hole at 5.0 metres.				
5.50								
6.00								
6.50								
7.00								
7.50								
8.00								

Sinclair Knight Merz

BOREHOLE LOG

BOREHOLE NO. MW6/BH6

Sheet 1 of 1

Client:	Australian National	Bore Location:	Eastern Boundary
Project:	AN Hobart	Site Manager:	Guy Fazzino
Project No:	AD00317072	Logged By:	Peter James
Drilling Contractor:	Stacpoole Enterprises		

Drill Method:	Air Hammer(withour air)	Date Commenced:	5/12/96
Drilling Fluid Used:	None	Date Completed:	5/12/96

Bore Diameter (mm):	150	Casing/Screen Material:	Class 18 uPVC
Bore Depth (m):	6	Casing/Screen Dia. (mm):	50
RL TOC (mAHD):	2.888	Screen Length (m):	3.0
SWL (mTOC):	2.410	Slot Size (mm):	0.5
SWL (mAHD):	0.478	Gravel Pack Size (mm):	1.5

Depth (m)	Water	Graphic Log	Classification	Material Description	Moisture Condition	Sample ID		Well Diagram
0.00				Concrete (0.0 - 0.1 m)				
0.50				Fill: Silt, dark brown, contains pieces of debris such as wire, glass, brick.	M			
1.00				Very strong hydrocarbon odours, discoloration and free product present from 0.5 - 5.0 metres.			1.0	
1.50				Bentonite (1.0 - 1.5 m)			1.5	
2.00				Gravel pack (1.5 - 5.0 m)	S		2.0	
2.50				Screen (2.0 - 5.0 m)				
3.00								
3.50								
4.00								
4.50								
5.00				End of hole at 5.0 metres			5.0	
5.50								
6.00								
6.50								
7.00								
7.50								
8.00								

Sinclair Knight Merz

BOREHOLE LOG

BOREHOLE NO. MW16/BH32

Sheet 1 of 1

Client:	Australian National	Bore Location:	Towards Centre of Site
Project:	AN Hobart	Site Manager:	Guy Fazzino
Project No:	AD00317072	Logged By:	Peter James
Drilling Contractor:	KMR Drilling		

Drill Method:	Solid Flight	Date Commenced:	31/01/97
Drilling Fluid Used:	None	Date Completed:	31/01/97

Bore Diameter (mm):	150	Casing/Screen Material:	Class 18 uPVC
Bore Depth (m):	6	Casing/Screen Dia. (mm):	50
RL TOC (mAHD):	2.856	Screen Length (m):	3.0
SWL (mTOC):	2.400	Slot Size (mm):	0.5
SWL (mAHD):	0.456	Gravel Pack Size (mm):	1.5

Depth (m)	Water	Graphic Log	Classification	Material Description	Moisture Condition	Sample ID		Well Diagram
0.00				Concrete (0.0 - 0.1 m)				
0.50				Fill: Silt and clay, beige/brown/dark brown, intermixed with pieces of gravel.	M			
1.00								
1.50								
2.00				Bentonite (2.0 - 2.5 m)	S		2.0	
2.50						MW16	2.5	
3.00				Gravel pack (2.5 - 6.0 m)			3.0	
3.50				Screen (3.0 - 6.0 m)				
4.00								
4.50								
5.00								
5.50								
6.00							3.0	
6.50				End of borehole at 6.0 metres.				
7.00								
7.50								
8.00								

AECOM
Level 45, 80 Collins Street
MELBOURNE VIC 3004
Telephone: 03 9653 1234
Fax: 03 9654 7117

BORING/WELL CONSTRUCTION LOG

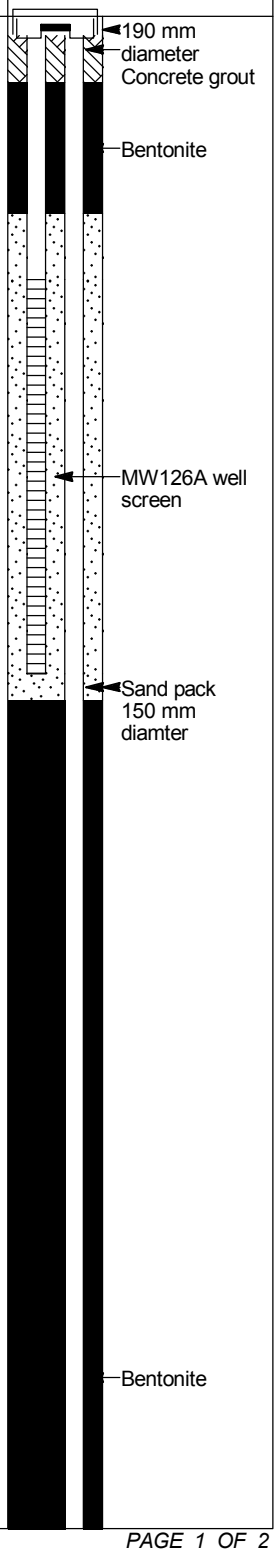
MW126

PROJECT NUMBER 60321835
PROJECT NAME Macquarie Point Development Project
LOCATION 8A Evans Street, Hobart
DRILLING METHOD NDD/Sonic
SAMPLING METHOD Grab
SURFACE ELEVATION MW126A - 2.857; MW126B - 2.831 mAHD
WELL HEAD/TOC MW126A - 2.857; MW126B - 2.831 mAHD
LOGGED BY ZO
COMMENTS NDD to 1.6 m bgl

DATE 22/07/2015, 30/07/2015 (Sonic)
BLANK A: 0 - 2; B: 0 - 16 m bgl
SCREEN A: 2 - 5; B: 16 - 19 m bgl
GRAVEL PACK A:1.5 - 5.2; B: 15.5 - 19 m bgl
SANITARY SEAL/BENTONITE A: 0.5 - 1.5; B: 5.2 - 15.5 m bgl
STABILISED WATER LEVEL MW126A - 2.202; MW126B - 2.219 m btoc
GROUND WATER ELEVATION Not Measured

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (mBGS)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0			MW126/0.15				FILL; Concrete	0.13
							FILL; Sand (bedding material), light brown / brown, loose, medium-coarse grained, well sorted, slightly moist, no odour	0.25
0			MW126/0.5					0.40
							FILL; Sandy Clay, grey / brown, soft, medium plasticity, slightly moist, no odour, trace fine basalt cobbles	0.70
0			MW126/1.0		1			1.15
							FILL; Silty Gravel, black, loose-medium dense, fine gravel, sub-angular, dry, no odour, minor coke / coal, trace slag	1.40
1.3			MW126/1.5					1.60
					2		FILL; Silty Gravel, dark brown / black, soft, medium-coarse gravel, sub-angular, slightly moist, no odour, trace shell grit and basalt cobbles	
30.1			MW126/2.5				As above; trace red bricks	
					3		As above; increasing shell grit, trace wood and organic matter, no cobbles	3.00
5.2			MW126/3.5 QC23 QC24				FILL; Gravelly Silt, black / dark grey, soft-firm, medium-coarse gravel, angular, moist, slight diesel odour, some medium grained sand, trace glass and brick fragments	
					4		As above; black, wet, trace wood and organic matter	4.10
							FILL; Coal with silt, black, loose-medium dense, very moist, slight diesel odour, some organic matter	4.70
					5		FILL; sandy Silt, dark grey, soft, fine grained sand, very moist, no odour, minor wood and organic matter, some shells, fabric	5.00 5.20
							As above; increasing sand content, medium dense, rubber inclusions	
					6		FILL; silty Sand, dark grey, medium dense-dense, fine grained, uniform, very moist, no odour	6.10
							As above; wet, some coarse gravel, sub-angular	6.40
							As above; trace concrete rubble	6.70
1.6			MW126/7.0		7		As above; increasing silt content, organic matter inclusions	
							As above; decreasing silt content, medium-dense, medium grained sand, grey clay inclusions throughout	7.60
					8		As above; light / sweet hydrocarbon odour	8.20
					9		FILL; Silt, dark brown / black, very soft - soft, wet, sweet odour, some medium grained sand and fine gravel, trace organic matter	9.20
1.4			MW126/9.8		10		As above; increasing sand and gravel, some fine cobbles, sub-angular	10.10
							As above; clay brick encountered	10.50 10.60
					11		FILL; silty Clay, black, soft, medium-high plasticity, very moist, no odour, reworked natural	10.80 11.10
							Silty SAND; grey / brown, medium dense-dense, fine	

WELL DIAGRAM



BORING / WELL CONSTRUCTION LOG MAC POINT BORE LOGS.GPJ HLA_SYD.GDT 14/10/15

AECOM
Level 45, 80 Collins Street
MELBOURNE VIC 3004
Telephone: 03 9653 1234
Fax: 03 9654 7117

BORING/WELL CONSTRUCTION LOG

MW126

PROJECT NUMBER 60321835 **DATE** 22/07/2015, 30/07/2015 (Sonic)
PROJECT NAME Macquarie Point Development Project
LOCATION 8A Evans Street, Hobart

- Continued from Previous Page -

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (mBGS)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
							grained, saturated, no odour, some shell grit		
							As above; increasing shells and shell grit *(Continued)*	11.90	
					12		SILT; dark brown / dark grey, soft-firm, wet, no odour, shell grit		
								12.50	
							As above; trace sand, medium grained		
					13			13.20	
							Silty SAND; dark brown / dark grey, medium dense, wet, no odour, trace shell grit		
					14				
								14.60	
							As above; minor fine cobbles, rounded		
					15			15.00	
							Dolerite GRAVEL and COBBLES with clay; stiff, coarse gravel, medium-coarse cobbles, moderately weathered, inferred dolerite slope deposits, slightly moist	15.20	
3.7			MW126/15.8				As above; decreasing clay content, mostly weathered rock		Sand pack
					16				
					17				MW126B well screen
					18				
					19		BEDROCK; fractured dolerite	19.00	
					20				
					21				Bentonite
					22		Total Depth: 22.00 m	22.00	

BORING / WELL CONSTRUCTION LOG MAC POINT BORE LOGS.GPJ HLA_SYD.GDT 14/10/15

GROUNDWATER LOG MW154

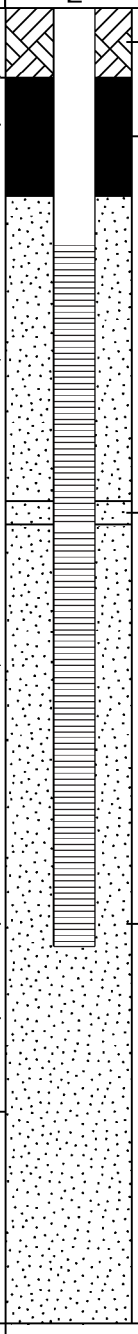
PROJECT NUMBER 60321835	**DRILLING DATE** 31/07/2018 3:19:34 PM -	**COORDINATES** ,
PROJECT NAME Macquarie Point Investigations	**TOTAL DEPTH** 5.600	**COORD SYS** GDA94_MGA_zone_55
CLIENT Macquarie Point Development Corporatio	**DIAMETER** 150	**COMPLETION**
ADDRESS 8a Evans Street, Hobart TAS 7000	**CASING**	**SURFACE ELEVATION**
LICENCE NO.	**SCREEN**	**WELL TOC**

COMMENTS Soil bore converted to groundwater bore

LOGGED BY Simon Meich
CHECKED BY Matthew Johnson

PID	Samples	Analysed	Depth (m)	Material Description	Additional Observations
0	BH107_02	Y	0	CONCRETE	
				FILL:CLAYEY GRAVEL, (GP-GC), coarse grained, subangular, brown with yellowish red, with clay, dry	
0.4	BH107_0.5	Y	0.5	FILL:COBBLES, coarse grained, subangular, grey, dry	
			1		
2.1	BH107_1.5		1.5	FILL:SILTY SANDY CLAY, (CL-ML), low plasticity, black and grey, some fine sand, trace silt, moist to very moist, soft	Hydrocarbon odour and apparent impact
347	BH107_2.0		2		
437	BH107_2.5	Y	2.5		
266	BH107_3.0		3	FILL:CLAYEY SAND, (SP-SC), low plasticity, medium grained, black and grey, some clayey sand, moist to very moist	Hydrocarbon odour
76			3.5		
24	BH107_4.0		4	FILL:CLAYEY SANDY GRAVEL, (SP-GC) coarse grained, subangular, black, little coarse sand, trace clay, saturated	Hydrocarbon odour
					Hydrocarbon odour, cave in.
12	BH107_4.5		4.5	FILL:CLAYEY SAND, (SP-SC), low plasticity, medium grained, black and grey, some clayey sand, saturated	no odour, coreloss, cave in.
				COBBLES	
			5		
			5.5		
				Termination Depth at:5.600 m.	

Well Diagram — MW154



AECOM
Level 45, 80 Collins Street
MELBOURNE VIC 3004
Telephone: 03 9653 1234
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LOG OF SOIL BORING MW164

PROJECT NUMBER 60598077
PROJECT NAME Macquarie Point Development Project
LOCATION 41 Evans Street, Hobart
DRILLING METHOD NDD/Push Tube
SAMPLING METHOD Grab
LOGGED BY TS/ CM
COMMENTS

DATE 3/7/2019
SURFACE ELEVATION 2.79 m AHD
STABILISED WATER LEVEL 0.70 m bTOC
GROUND WATER ELEVATION 2.791 - 0.697 m AHD

PID (ppm)	SAMPLE NUMBER	DEPTH (m BGL)	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
			CONCRETE	0.20
			FILL; gravelly SAND, medium grained, brown/ black sand, fine, black/ grey, subangular gravel, dry, medium density	0.40
0.0	MW164_0.5		FILL; sandy GRAVEL, coarse grained, brown/ black, subangular gravel, with coarse grained, black sand	0.50 0.55
			FILL; GRAVEL, coarse grained, black/ brown, subangular Refusal of NDD at 0.55 mbgl on cobbles	0.70
50.4	MW164_1.0	1	FILL; GRAVEL, coarse grained, grey, angular, with medium to coarse sand (15%), dry, dense	
			FILL; CLAY, high plasticity, brown clay trace fine to medium grained sands (5%), and subangular gravels (10%), moist, firm Hydrocarbon odour present	
184.2	MW164_1.5		As above, but gravel content increases to 20% and darker brown, moist, firm, hydrocarbon odour	1.60
			FILL; CLAY, high plasticity, brown/black clay trace fine to medium grained sands (5%), and subangular gravels (10%), moist, soft	1.70
6.6	MW164_2.0	2	Only 5cm return of water gravels in push tube. FILL; GRAVEL, coarse grained, black, angular, wet, dense. Sampled as MW164_2.0	
			FILL; Gravelly SILT, low plasticity, black silt, fine to medium grained, subangular to angular gravels, with fine to coarse grained sand, wet, very soft	2.70
		3		
12.4	MW164_3.5			3.70
			FILL; GRAVEL, coarse grained, black, angular gravel, trace fine to coarse grained sand (5%), with black silt, wet, dense	3.90
			EOH at 3.9 mbgl Total Depth: 3.90 m	

WELL DIAGRAM: Cement - grout (0 - 0.25 m); Bentonite (0.25 - 0.45 m); Sand (0.45 - 4 m); Screen (0.5 - 4 m)

LOG OF SOIL BORING MAC POINT BORE LOGS.GPJ HLA_SYD.GDT 11/3/20

SINCLAIR KNIGHT MERZ

Borehole N°: PW02

Client: ANR / Indec	**Hole Location:** Holymans (S.E. Corner)	**Drilling Contractor:** KMR Drilling
Job No: AD00317.079	**Datum:** AMG Zone 55 AGD66	**Drill Rig Type:** Air Rotary
Project: AN Hobart MNA	**Easting:** 527515.168	**Commenced:** 7/9/2001
Logged By: Robert Gauthier	**Northing:** 5252154.899	**Completed:** 7/9/2001
Hole Diamater: 8" (203.2mm)	**Reduced Level:** 3.103 @ surface	**Checked By:** Tim Wicks

Drilling Method	Depth (m)	Graphic Log	Moisture	Description	Depth/Elev.	Well Construction	Comments	Comments
Air Rotary - Advance Casing	0			Ground Surface	0			
				Concrete	0.25			
	0.5			***Silty Gravel*** Loose, wet, orange-brown silty, coarse gravel			Bentonite	
	1							
	1.5							
	2				2			
	2.5			***Gravel, Ash and Sand*** Loose, wet black gravel, ash and sand.	2.75			
	3							
	3.5							
	4			***Silty Gravel*** Soft, wet black silts, gravels, wood waste, nails and brick shards			Fine to medium grained washed sand	
	4.5							
	5							
	5.5							
	6				6			
	6.5			End of Borehole				

Casing Type: Threaded Join	Screen Type: Machine Slotted PVC	
Casing Diameter: 100mm	Screen Apeture: 0.5mm	
Casing Class: Class 12 PVC	Screen Diameter: 100mm	Sheet: 1 of 1

BOREHOLE LOG

SOIL

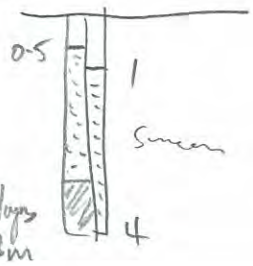
GHD MANAGEMENT ENGINEERING ENVIRONMENT

Bore No.: S4

Page: 1 of 1

Client: MPDC	**Drilling Co.:** KMR	**Easting:**	
Project: Seawalls	**Driller:** Des	**Northing:**	
Job No.: 321683803	**Rig Type:** N07.	**Grid Ref:**	
Location:	**Inclination:** 90	**Collar RL:**	
Date Drilled: 30/9/14 to: 30/9/14	**Bearing:** 0.50	**Logged by:** JTO	**Checked by:**

Depth (m)	Run	Method	Support	Samples, Tests.	Water	Graphic Log	SOIL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Componants.	Moisture	Consistency	STRUCTURE, ADDITIONAL OBSERVATIONS AND COMMENTS	Depth (m)
0.0							Ground Surface				0.0
	1	PT	NIL			0.3	CONCRETE	D	VD		
				0.4-0.5 0.2ppm		0.5	FILL, SAND, grey, f to m gr	SM	L	No staining/odour.	
1.0											1.0
1 2.0				0.9-1.0 0.3ppm		1.3	FILL, clayey GRAVEL blue angular, clay brown, low plast. fm gr.	SM	MD	No staining/odour	2.0
	2					1.5	FILL, clayey GRAVEL, brown sub ang, brok pieces, ash/coal	SM	MD		
3.0											3.0
2 4.0				1.7-1.8 25ppm		1.8	FILL, CLAY dk grey/dk brown mottle stiff/high plast	SM	St	hydrocarbon odour.	4.0
	3					2.4	FILL, GRAVEL as previous	SM	MD		
5.0											5.0
				2.4-2.5 81.4ppm		2.7	FILL, clayey SAND, grey trace weathered gravels, weak.	W	L	strong hydrocarbon odour	
3 6.0	4					3.3 3.5	FILL, sandy GRAVEL, weak angular, grey increasing clay content. grey/br, high plast	W	MD	hydrocarbon odour	6.0
7.0											7.0
				3.6-3.7 8.5ppm			FILL, SAND, black, wood pieces, f-c gr, trace gr	W	L	Hydrocarbon odour	
4 8.0		PD(A)									8.0
	5						Lab - tdr.				
9.0											9.0
5 10.0											10.0



NOTES: Pt off vert @ 1.0m, ch to Augers to loosen up.
Overdrill with hammer.

GHD Soil Classifications: The GHD Soil Classification is based on Australian Standards AS 1726-1993: Geotechnical Site Investigation.

BOREHOLE LOG

GHD MANAGEMENT ENGINEERING ENVIRONMENT

SOIL

Bore No.:	S6
Page:	1 of 1

Client: MPDC
Project: Seawalls
Job No.: 321683803
Location:
Date Drilled: 29/9/14 **to:** 29/9/14

Drilling Co.: KWR
Driller: Des
Rig Type: NO1
Inclination: 90
Bearing: SW

Easting:
Northing:
Grid Ref:
Collar RL:
Logged by: SED **Checked by:**

DRILLING

Depth (m)	Run	Method	Support	Samples, Tests.	Water	Graphic Log	SOIL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Componants.	Moisture	Consistency	STRUCTURE, ADDITIONAL OBSERVATIONS AND COMMENTS	Depth (m)
0.0							Ground Surface				0.0
						0.3	CONCRETE	D	VL		
1.0	1	PT	NIL	LOSS/ POOR RETURN			FILL, sandy GRAVEL, brown, fine-coarse, as sands.	D	MD	No staining/odour	1.0
2.0	2					1.5					2.0
3.0				1.5-1.6 21.8ppm			FILL clayey SAND w GR. Mix of brown to grey (dgy4-dk) brks wood ets f to c gr. clays low plast, gr any. Interbedded layrs of changing dominance. (ie. sandy clay etc)	SM	MD	Hydrocarbon odour.	3.0
4.0	3			2.4-2.5 2.0ppm							4.0
5.0							2.5 brick/wood				5.0
							2.7 ultra/cream stone.				
6.0	4			2.9-3.0 62ppm			3.2 brick pieces				6.0
						3.5	3.4-3.5 stone? old slab?			not very dense.	
7.0				3.7-3.8 3.2ppm			FILL, sandy SILT, black, some wood pieces, ceramics etc.	W	L/S	Hydrocarbon odour.	7.0
8.0		PD(A)								1.0 / 4-8	8.0
9.0											9.0
10.0											10.0

Limit of borehole

NOTES:

Over drill w hammer to 5m

GHD Soil Classifications: The GHD Soil Classification is based on Australian Standards AS 1726-1993: Geotechnical Site Investigation.

BOREHOLE LOG

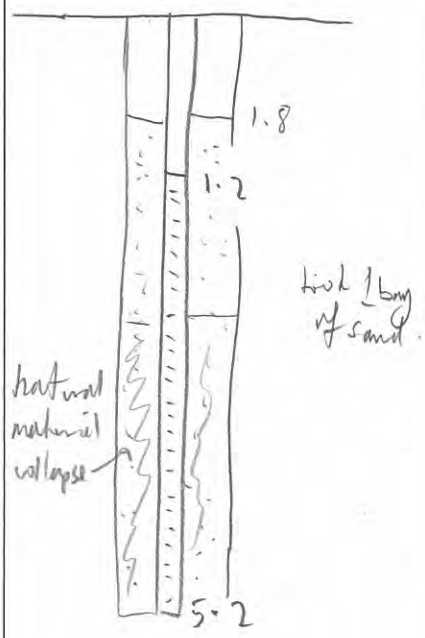
SOIL

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Bore No.:	S8
Page:	1 of 1

Client:	MPDC	**Drilling Co.:**	KMR	**Easting:**	
Project:	Seawards	**Driller:**	Des	**Northing:**	
Job No.:	321683803	**Rig Type:**	No7	**Grid Ref:**	
Location:		**Inclination:**	90	**Collar RL:**	
Date Drilled:	29/9/14 to: 29/9/14	**Bearing:**	WO	**Logged by:**	STO **Checked by:**

Depth (m)	Run	Method	Support	Samples, Tests.	Water	Graphic Log	SOIL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	STRUCTURE, ADDITIONAL OBSERVATIONS AND COMMENTS	Depth (m)
0.0							Ground Surface				0.0
						0.3	CONCRETE	D	VD		
1.0	1	PT	NIL	0.4-0.5 0ppm		0.6?	FILL, SAND, grey/brown, some fine angular gravels, f to mgr.	D	L	No odour/staining.	1.0
2.0				Loss.		1.2	FILL, GRAVEL, angular med to coarse brown fines sand f to gr!	D	MD	No odour/staining	2.0
3.0	2			1.7-1.8 397 ppm			FILL, gravelly SILT, black staining, pieces of wood, ceramics, glass, gravelles angular, fine-mgr	M	VL VS	Hydrocarbon odour.	3.0
4.0				Loss			Some lenses of more clay rich materials.				4.0
5.0	3			2.7-2.8 229 ppm	2.5		2.5 strong hydrocarbon odour.	W	VL VS		5.0
6.0	4			3.4-3.5 13.5 ppm							6.0
7.0											7.0
8.0		PDA									8.0
9.0											9.0
10.0											10.0



NOTES:

Limit of borehole - TDR.

Overdrill w/ hammer to 5m.

GHD Soil Classifications: The GHD Soil Classification is based on Australian Standards AS 1726-1993: Geotechnical Site Investigation.

Attachment F

Bureau of Meteorology Daily Weather Observations - Hobart

Hobart, Tasmania
November 2023 Daily Weather Observations

Most observations from Battery Point, but some from Hobart Airport West.

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	We	6.6	18.9	0			E	33	15:32	14.1	51		SW	6	1019.8	16.1	58		ESE	20	1019.2
2	Th	6.5	17.4	0			ESE	37	15:08	13.1	56		N	9	1022.3	15.7	54		E	19	1019.6
3	Fr	10.2	13.3	0			SE	48	13:44	11.3	82		SSW	26	1021.5	12.1	53		SE	33	1022.2
4	Sa	5.2	14.5	0			S	35	09:42	12.1	52		NNW	11	1026.5	11.9	69		SE	17	1027.2
5	Su	8.6	16.1	0			SE	35	13:16	11.2	69		SSE	7	1030.8	13.7	62		SE	22	1029.4
6	Mo	9.5	20.0	0			SE	37	13:54	15.9	58		NNW	17	1026.2	18.6	47		SE	24	1023.5
7	Tu	10.2	19.8	0			SE	31	14:19	13.4	71		NW	15	1021.5	19.1	51		ESE	17	1019.2
8	We	12.8	23.1	0.8			SW	33	15:23	15.9	74		W	4	1016.5	20.5	75		SE	13	1012.0
9	Th	14.8	22.2	6.0			SE	30	16:38	16.1	84		ESE	15	1015.5	21.2	61		SE	15	1012.9
10	Fr	13.8	27.2	0.2			NW	35	11:27	19.7	62		NNW	20	1012.9	19.9	67		SE	22	1010.2
11	Sa	14.7	20.8	0			SSW	59	12:12	18.3	69		W	7	1005.3	18.7	34		SSW	26	1011.2
12	Su	8.1	19.0	0			WSW	72	15:46	12.2	56		NNW	17	1012.8	18.2	47		NW	24	1009.6
13	Mo	8.9	22.3	0			NW	61	18:58	14.6	44		NNW	26	1013.4	21.4	29		NW	31	1009.7
14	Tu	11.5	17.6	0.2			NNW	48	00:43	15.8	38		SSW	17	1013.6	15.7	51		ESE	22	1013.1
15	We	10.3	20.3	0			NNW	48	22:39	12.0	55		NE	9	1013.7	16.6	51		SE	28	1008.5
16	Th	9.8	15.9	0						12.4	46		SSW	19	1009.6	13.8	43		WSW	28	1010.6
17	Fr	6.8	22.8	0.4			NW	46	12:17	14.0	54		NNW	24	1015.7	20.6	39		NW	24	1014.1
18	Sa	10.7	16.0	0			SE	39	13:29	14.9	64		SE	13	1018.5	14.6	65		SE	24	1018.0
19	Su	11.1	22.9	0			SE	39	17:03	12.8	81		NNW	11	1018.3	19.6	53		E	20	1014.3
20	Mo	9.6	20.9	0			SSE	37	15:06	16.9	63		ENE	4	1020.8	19.0	51		SE	22	1020.6
21	Tu	12.4	20.0	0			SE	41	13:43	16.1	73		E	15	1020.6	16.3	60		SE	30	1019.7
22	We	12.3	20.4	0			SE	37	12:21	17.0	50		NNW	13	1025.7	18.2	55		SE	24	1024.8
23	Th	9.5	18.2	0			E	43	07:19	15.2	67		E	11	1028.4	16.8	63		SE	28	1027.9
24	Fr	11.0	23.6	0			ESE	31	12:50	17.9	62		NNW	11	1023.9	23.0	53		SE	20	1019.2
25	Sa	14.1	17.3	0.2			S	37	22:54	15.8	86		S	11	1012.8	17.1	85		S	6	1009.5
26	Su	13.1	13.9	13.8			S	54	14:55	13.3	91		SSE	28	1012.4	12.7	91		S	26	1014.0
27	Mo	8.6	14.0	5.6			ESE	31	12:41	11.0	64		SSW	13	1018.8	12.8	60		SE	19	1017.3
28	Tu	10.6	16.1	0.2						13.2	67		SSW	11	1020.8	15.0	63		SE	26	1020.3
29	We	11.2	17.3	7.0			SSE	39	15:17	14.3	66		ESE	19	1021.8	16.9	45		ESE	20	1020.3
30	Th	11.9	17.4	0			SE	35	01:17	14.1	72		SE	17	1020.9	16.1	55		ESE	20	1019.2
Statistics for November 2023																					
Mean		10.5	19.0							14.5	64			14	1018.7	17.1	56			22	1017.2
Lowest		5.2	13.3							11.0	38		#	4	1005.3	11.9	29		S	6	1008.5
Highest		14.8	27.2	13.8			WSW	72		19.7	91		SSE	28	1030.8	23.0	91		SE	33	1029.4
Total				34.4																	

Temperature, humidity, wind, pressure and rainfall observations are from Hobart (Ellerslie Road) {station 094029}. Cloud, evaporation and sunshine observations are from Hobart Airport West {station 094008}

Hobart Airport West {station 94008} was originally called Hobart Airport. The name was changed with the opening of the new site Hobart Airport {station 94250}.

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Hobart, Tasmania
December 2023 Daily Weather Observations

Most observations from Battery Point, but some from Hobart Airport West.

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Fr	11.5	19.1	0.4			ESE	26	16:19	14.9	67		ENE	7	1016.7	17.7	56		ESE	15	1013.2
2	Sa	11.3	19.8	0			SSE	41	14:54	15.4	75		E	13	1012.9	19.1	61		SE	26	1012.4
3	Su	12.6	19.7	0.8			S	30	03:23	15.1	74		SSE	13	1019.4	19.0	59		SE	19	1018.3
4	Mo	11.8	24.8	0.2			NW	44	15:25	17.8	64		NNW	20	1015.5	22.9	41		NE	15	1011.1
5	Tu	13.0	22.3	0			WNW	74	18:40	18.0	67		ESE	13	1010.4	21.0	60		ESE	19	1005.6
6	We	13.1	23.4	0			SW	37	23:02	17.0	41		NNW	17	1014.6	21.0	29		W	15	1013.9
7	Th	11.0	24.9	0			NW	37	11:41	17.0	45		SE	13	1015.0	22.9	35		ESE	17	1013.2
8	Fr	11.1	21.8	0			NNW	43	22:23	17.1	57		W	4	1010.1	18.6	62		S	9	1005.7
9	Sa	13.2	19.6	6.0			SSW	50	10:34	13.3	84		SSW	15	1010.3	18.0	38		S	22	1015.4
10	Su	6.6	20.2	0.2			SSE	41	15:42	14.2	47		NNW	13	1024.9	19.3	43		ESE	20	1020.8
11	Mo	10.3	20.5	0			SE	43	12:22	16.8	48		E	6	1021.9	18.0	59		ESE	28	1021.6
12	Tu	9.5	23.3	0			ESE	35	13:46	18.6	58		N	11	1022.1	21.3	44		ESE	28	1018.9
13	We	13.0	27.3	0			NNW	35	19:11	19.9	48		N	11	1012.3	24.9	45		E	11	1007.8
14	Th	15.9	22.4	17.8			NW	69	12:28	18.6	67		NW	22	994.5	21.1	53		NW	33	994.2
15	Fr	10.7	19.1	0			NNW	35	08:39	15.8	40		NNW	19	1007.2	17.1	48		E	24	1005.0
16	Sa	12.5	19.3	0			WNW	57	12:39	15.7	54		NW	28	996.7	18.6	37		WNW	24	999.0
17	Su	11.9	23.8	0.4			NW	46	09:31	15.4	56		NNW	22	1011.0	23.1	34		NW	22	1009.6
18	Mo	13.5	21.6	0			NW	30	08:05	15.1	62		NNW	17	1010.7	19.8	51		NE	15	1007.5
19	Tu	14.4	20.1	1.0			SSW	59	16:21	16.2	58		ENE	2	1010.3	15.9	56		SSE	31	1011.3
20	We	7.9	17.3	0.2			ESE	39	13:24	13.3	60		S	15	1022.3	15.6	55		ESE	28	1022.8
21	Th	11.7	18.4	0			SE	31	13:51	14.6	65		SW	9	1027.6	18.1	55		SE	22	1026.4
22	Fr	9.9	19.2	0			ESE	30	11:44	16.2	50		E	11	1024.3	17.8	49		SE	22	1021.4
23	Sa	9.9	20.3	0			SE	35	15:29	16.8	53		NE	7	1016.3	19.0	47		SE	22	1012.4
24	Su	12.8	21.5	0			SSE	31	14:42	16.7	58		ESE	7	1010.1	20.5	50		SE	17	1010.5
25	Mo	11.5	21.0	0			ESE	43	12:41	17.6	57		SE	9	1016.3	20.1	50		ESE	26	1015.0
26	Tu	12.7	23.6	0			E	43	14:47	19.5	54		NNW	19	1017.6	22.3	52		ESE	26	1016.1
27	We	14.5	24.6	0			ESE	31	12:10	21.6	56		N	13	1016.3	23.6	57		ESE	20	1012.4
28	Th	14.4	21.4	0			W	59	16:04	19.8	61		SE	20	1008.5	19.9	56		NW	11	1007.3
29	Fr	11.2	19.6	2.0			NW	56	11:03	16.2	48		NW	24	1010.5	17.2	51		NW	20	1006.7
30	Sa	11.0	18.2	0.2			SW	56	04:24	13.3	59		SW	22	1007.1	15.8	41		WSW	26	1010.4
31	Su	12.3	23.1	0			E	41	14:41	17.7	49		NNW	15	1019.4	20.5	55		SE	24	1019.3
Statistics for December 2023																					
	Mean	11.8	21.3							16.6	57			14	1014.0	19.7	49			21	1012.4
	Lowest	6.6	17.3							13.3	40		ENE	2	994.5	15.6	29		S	9	994.2
	Highest	15.9	27.3	17.8			WNW	74		21.6	84		NW	28	1027.6	24.9	62		NW	33	1026.4
	Total			29.2																	

Temperature, humidity, wind, pressure and rainfall observations are from Hobart (Ellerslie Road) {station 094029}. Cloud, evaporation and sunshine observations are from Hobart Airport West {station 094008}

Hobart Airport West {station 94008} was originally called Hobart Airport. The name was changed with the opening of the new site Hobart Airport {station 94250}.

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Hobart, Tasmania
March 2024 Daily Weather Observations

Most observations from Battery Point, but some from Hobart Airport West.

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Fr	13.2	24.6	0			NW	59	14:23	18.0	52		NNW	17	1009.9	23.9	38		NW	24	1006.4
2	Sa	11.9	20.1	0			WNW	80	21:30	12.6	61		SSW	13	1014.0	18.7	35		W	9	1013.9
3	Su	12.7	15.7	0			WSW	94	08:34	14.7	47		WSW	46	1003.8	14.8	43		SW	39	1011.9
4	Mo	8.9	17.6	0.6			S	43	10:58	11.4	53		WSW	11	1025.7	16.3	47		ESE	24	1024.9
5	Tu	8.0	23.7	0			NNW	35	07:23	12.0	68		NNW	20	1019.9	21.6	42		SE	20	1017.5
6	We	11.4	27.4	0			NW	50	16:53	16.2	61		N	13	1014.0	26.6	29		NNW	13	1011.7
7	Th	11.9		0			WNW	39	02:03	16.5	46		NNW	9	1024.9	18.2	54		SE	24	1025.4
8	Fr			0									NNW	7	1027.7	20.0	58		SE	22	1025.4
9	Sa	13.5	33.8							16.9	74		NNW	17	1020.5	32.7	30		N	33	1013.4
10	Su	16.9	20.6	0			NNW	33	00:05	19.8	76		ESE	17	1017.8	17.7	81		SE	20	1023.0
11	Mo	14.7	25.3	6.2			NW	44	22:46	16.8	92		NNW	30	1021.8	21.5	75		SE	11	1016.3
12	Tu	15.8	19.7	0.2			SSE	54	13:25	17.6	59		S	19	1016.5	17.5	46		SSW	30	1018.7
13	We	10.2	19.1	0			SE	39	15:56	13.1	61		N	7	1021.2	18.5	50		SE	24	1017.0
14	Th	9.9	17.0	0			SSE	56	14:57	13.6	61		NNW	9	1017.8	16.1	52		SSE	35	1018.1
15	Fr	7.4	17.8	0			ESE	35	14:42	11.3	65		N	13	1026.0	16.7	51		SE	22	1024.5
16	Sa	7.9	18.8	0			SE	31	15:14	13.1	73		ESE	4	1024.9	18.5	55		SE	17	1021.8
17	Su	11.8	26.4	0			SSE	35	14:53	14.3	77		NNW	22	1018.7	25.6	31		NNE	13	1016.2
18	Mo	13.8	29.8	0			N	46	13:44	17.0	69		NNW	15	1018.2	28.4	29		N	24	1015.4
19	Tu	17.0	29.4	0			N	74	12:17	23.8	62		N	7	1009.4	28.7	37		N	43	1000.8
20	We	10.6	16.8	1.4			SW	63	12:32	11.1	61		WSW	17	1015.3	14.9	36		W	19	1019.2
21	Th	8.6	22.0	0			NNW	46	12:22	14.2	61		NNW	22	1026.3	20.4	37		NNW	30	1024.4
22	Fr	9.2	22.0	0			NNW	44	12:19	12.5	71		NNW	15	1022.4	21.0	40		NW	26	1019.5
23	Sa	10.2	21.6	0			NNW	61	20:53	12.7	61		SW	4	1025.7	20.8	35		NNW	24	1019.8
24	Su	12.2	19.8	0			WNW	56	10:12	15.1	66		ENE	6	1010.2	18.6	45		WNW	28	1009.4
25	Mo	14.4	21.7	0			WNW	80	04:13	16.5	56		NW	28	1005.0	18.2	56		E	17	1008.5
26	Tu	13.7	20.7	0			NNW	46	14:03	15.3	55		N	13	1012.6	18.9	47		NNW	28	1013.9
27	We	9.6	20.1	0			SE	37	14:16	13.9	63			Calm	1023.1	17.0	55		SE	26	1022.5
28	Th	7.8	18.9	0			SE	30	15:12	11.8	68		NNW	15	1027.1	18.1	51		ESE	17	1025.7
29	Fr	10.6	20.6	0			SE	41	15:44	12.8	79		NNW	13	1026.6	19.1	63		SE	26	1024.4
30	Sa	12.8	17.7	0			SE	30	15:15	15.5	79		SW	2	1024.8	17.5	73		SE	19	1024.0
31	Su	12.8	20.1	0.2			ESE	22	14:18	13.8	88		N	6	1024.5	19.6	59		SE	17	1020.8
Statistics for March 2024																					
	Mean	11.6	21.7							14.8	65			14	1019.2	20.2	47			23	1017.9
	Lowest	7.4	15.7							11.1	46			Calm	1003.8	14.8	29		W	9	1000.8
	Highest	17.0	33.8	6.2			WSW	94		23.8	92		WSW	46	1027.7	32.7	81		N	43	1025.7
	Total			8.6																	

Temperature, humidity, wind, pressure and rainfall observations are from Hobart (Ellerslie Road) {station 094029}. Cloud, evaporation and sunshine observations are from Hobart Airport West {station 094008}

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Appendix G-3: The Precinct South – Remediation Validation Report



Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

The Precinct South - Remediation Validation Report

Macquarie Point

09-Aug-2024
Macquarie Point Development Project

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Delivering a better world

The Precinct South - Remediation Validation Report

Macquarie Point

Client: Macquarie Point Development Corporation

ABN: 92 657 409 841

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List of Acronyms

Acronym	Meaning
ACM	Asbestos Containing Material
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended in May 2013)
AST	Aboveground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene
CEMP	Construction Environment Management Plan
CNMP	Construction Noise Management Plan
CoPC	Chemicals of Potential Concern
CSM	Conceptual Site Model
CoC	Chain of Custody
CUTEP	Clean Up to the Extent Practicable
DNAPL	Dense Non-Aqueous Phase Liquid
DQI	Data Quality Indicators
DQO	Data Quality Objectives
EMPCA	Environmental Management and Pollution Control Act 1994
EPA	Environment Protection Authority
ha	Hectares
IMW	Intrusive Maintenance Worker
kL	Kilolitre
L	Litre
LEL	Lower Explosive Limit
LNAPL	Light Non-Aqueous Phase Liquid
LOR	Limit of Reporting
m AHD	metres Australian Height Datum
m bgl	metres below ground level
NATA	National Association of Testing Authorities
OCP	Organochlorine Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
PFAS	Per and Poly-fluoroalkyl Substances

Acronym	Meaning
PID	Photo-Ionisation Detector
PPE	Personal Protective Equipment
QA/QC	Quality Assurance / Quality Control
RAP	Remediation Action Plan
RC	Remediation Criteria
RPD	Relative Percentage Difference
RWP	Remediation Work Plan
SDS	Safety Data Sheet
SEMP	Site Environment Management Plan
SVOC	Semi-Volatile Organic Compound
SWL	Standing Water Level
SWMS	Safe Work Method Statement
TCC	Total Contaminant Concentration
TFE	Total Fluids Extraction
TIT	Triple Interceptor Tank
TRH	Total Recoverable Hydrocarbons
UST	Underground Storage Tank
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compound
WHSP	Work Health and Safety Plan
WWTP	Waste Water Treatment Plant

Executive Summary

The redevelopment of Macquarie Point aims to restore and energise a Site that has long been associated with industrial, freight and rail use into a significant hub for the people of Hobart. In order to realise the planned future Site uses, previous investigations of the Site have identified areas of impacted soil and remnant infrastructure associated with historic Site uses and activities which may preclude the planned future Site development.

To provide a framework for remediation of impacts within the areas of the Site referred to as the Precinct South, and for removal of fuel and oil pipelines, the following documentation was prepared:

- *The Precinct South – Remediation Work Plan* (AECOM, 2023a)
- *The Precinct South – Technical Specification* (AECOM, 2023b).

Excavation of the impacts and infrastructure identified in the above documents, has been conducted by BlackCap Group Pty Ltd (BlackCap), with excavation validation sampling conducted by AECOM between 27 February and 7 June 2023. As part of work to conduct remediation in the Precinct South, BlackCap and AECOM have completed the following scope of work:

- Excavation and removal of:
  - Two disused fuel pipelines (the Diesel Line and the Oil Line).
  - Two areas (the Northern Excavation Area and the Former Underground Storage Tank [UST] Area) where previous assessments had identified soil impacts which could represent unacceptable risks to future Site uses and development.
  - Features uncovered during excavation of soil, including a former boiler within the Northern Excavation Area, and a buried railway in the Former UST Area.
- Backfilling of excavations with Virgin Excavated Natural Material (VENM), reused Site soil (included remediated Site soil) and road base, and reinstatement of Site surfaces.
- Validation of excavation and removal of pipelines and impacted soil.
- Investigation of potential risks to future Site uses which may exist due to changes in the proposed future development of the Site.

Remediation and Validation Work

Soil and pipeline excavations were undertaken to remove remnant pipelines and soil impacts. Excavation works were undertaken with a mechanical excavator to a depth of between 1 metre below ground level (m bgl) in pipeline trenches, to approximately 2 m bgl in soil excavations, where groundwater was encountered. The extent of excavation in each area was determined by the following factors and field conditions:

- The initial estimates of excavation areas in *The Precinct South – Remediation Work Plan* (AECOM, 2023a) and *The Precinct South – Technical Specification* (AECOM, 2023b)
- Field observations of the locations and routes of pipelines, or indicators of soil impact (i.e., staining or odours) reported by AECOM and BlackCap
- Results of soil validation samples collected from the base or walls of excavations by AECOM compared against the Site Specific Remediation Criteria (RC) previously prepared for the Site (Draft *Derivation of Remediation Criteria, Macquarie Point Development Project*, AECOM, 2016a).
- Physical restrictions on further excavation, including:
  - The Site boundary to the east (for the Northern Excavation Area) or the south (for the removal of pipelines).
  - Light Non-Aqueous Phase Liquid (LNAPL) Plume B to the east (for the Former UST Area).
  - Groundwater at approximately 2 m bgl

The works undertaken to remove potential impacts and validate remediation are discussed below.

Removal of Pipelines

Removal of pipelines has been previously identified as required for Site development in order to remove any risk of residual liquids within the pipelines, or any contamination which may exist in the soil surrounding them from potential historic leaks or releases.

Two pipelines and surrounding soils were removed as part of these works:

- The Diesel Line, a 200 mm diameter steel pipeline with a bituminous cladding of Asbestos Containing Material (ACM). Approximately 110 m of this pipeline was excavated and removed from the Site as part of the work completed.

  Prior to removal, the Diesel Line ran north-south beneath a Site road from the termination point of previous remediation undertaken in 2020 (AECOM, 2021b), to the south-east corner of the Red Shed, where it turned west and terminated at a flanged cap. A separate section of the line with a 45° elbow was uncovered immediately to the west and removed within the Site boundary to the extent possible. A section of the pipeline approximately 5 m long remained on the Site where services under Evans Street rendered removal impractical. The pipeline was sealed with a concrete cap where disconnected.

  Clear, non-odorous water was encountered in the main section of the Diesel Line (running north/south), and a mixture of degraded diesel and water was encountered in the section in front of the Red Shed when tapped prior to cutting. Both liquids were decanted from the pipeline before cutting and removed from Site.

- The Oil Line, a 200 mm diameter pipe of steel construction with bituminous cladding. No ACM was detected within the cladding following testing undertaken as part of this program of work. Approximately 90 m of this pipeline was excavated and removed from the Site as part of the work completed.

  Prior to removal, the Oil Line ran north-south beneath a Site road from the termination point of previous remediation undertaken in 2020, to the Site boundary to the south. Removal of the pipeline was ceased approximately 2 m from the southern Site boundary due to the presence of services under Evans Street which prevent cutting or removal, and sealed with a concrete cap.

  No liquids were encountered within the Oil Line during removal.

- Approximately 325 m^3 of soil surrounding the fuel pipelines was excavated, consisting of 120 m^3 surrounding the Oil Line north of the former UST Area, and 205 m^3 surrounding the Diesel Line, and surrounding the Oil Line south of the Former UST Area where the pipelines were within a single trench.

  The 205 m^3 surrounding the Diesel Line was treated on Site to reduce lead leachate and removed from Site. The 120 m^3 was used as backfill in the Northern Excavation Area.

- No staining or indicators of leaks from either the Diesel or Oil Line were noted in soil surrounding the pipelines during removal. Potential indicators of hydrocarbon/fuel impact were observed in the soil surrounding the pipelines where they passed through the Former UST Area but is considered likely to be associated with the former UST impacts in this area.

- Contaminant concentrations with the potential to represent unacceptable risks to the proposed future uses of the Precinct were detected within the surrounding soil during validation of excavation consisting of:

  - Potential ACM fragments (cladding fragments) in the soil removed from around the Diesel Line. This soil, and fragments, were removed from Site.

  - Concentrations of Total Recoverable Hydrocarbon (TRH) >C10-16 (minus naphthalene) exceeding the Potential Future Commercial (unknown construction or multi-storey building) RC at DL_23_1.0 and OL_17_0.6E. Speciation of soil samples collected at these locations identified that no exceedance of RC applicable to future uses of the Precinct South were present.

- Exceedances of Commercial/Light Industrial, and/or Intrusive Maintenance Worker RC were reported at DL_71_0.6E, DL_71_1.0, OL_77_0.6W and OL_77_1.0. However, soil at these locations was removed as part of the Former UST Area excavation, or as soil surrounding the Diesel Line, and does not remain on-Site.

- The surface at the locations of pipeline excavation were covered with bitumen to reinstate the Site road following backfilling with a mixture of VENM, crushed concrete, and reinstated road base.

Based on the information above, no further remediation associated with the remnant pipelines is required for the proposed future uses of the Precinct South.

Soil Excavation

Approximately 1,320 m^3 of impacted or potentially impacted soil was excavated as part of the work completed and discussed in the report, consisting of:

- 325 m^3 of soil surrounding removed pipelines, discussed above.
- 650 m^3 of lead impacted soil from the Northern Excavation Area. This soil was treated on Site to reduce lead leachability and removed from Site.
- 360 m^3 of hydrocarbon impacted soil from the Former UST Area. This soil was reuses as fill material in the Northern Excavation Area, with a portion which reported hydrocarbon concentrations in excess of Site Specific RC remediated on Site before use as fill.

Soil remediation consisted of the following activities:

- Excavation of approximately 650 m^3 of soil was from the Northern Excavation Area to remove previously detected lead concentrations in excess of the future Maintenance Worker RC.

  Soil with concentrations of lead, TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) in excess of the Site Specific RC for Residential, Commercial/Light Industrial, and Maintenance Worker uses were excavated from the Northern Excavation Area and disposed off-Site.

  No exceedances of the Site Specific RC for the Commercial / Light Industrial, Intrusive Maintenance Worker, and Open Space uses, which are considered applicable to future uses of the Precinct South, were detected in validation samples collected from material which remains *in situ* in the Northern Excavation Area.

  The Northern Excavation Area was backfilled with a combination of VENM and with Site soil excavated from the Oil Line excavation and the Former UST Area. Where excavated soil had exceedances of RC, on-Site remediation was conducted to reduce hydrocarbon concentrations below a level assessed as representing unacceptable risks to future Site users. A surface layer of VENM was placed to act as a barrier to casual access to soil.

  In addition, the following features were noted in excavated soil:

  - Two isolated ACM fragments were observed in stockpiles excavated from the southern boundary of the Northern Excavation Area. No asbestos fibres were detected in soil samples, and no other fragments were observed in the excavation or in other stockpiles excavated from this area, and it is considered unlikely that the ACM observed represents an area of asbestos impact in excess of the ASC NEPM criteria of <0.05%$^{w}/_{w}$ for Commercial/Industrial land use. As no further fragments were observed, collection, sorting and weighing of a 20 kg sample of soil using the methodology described in the ASC NEPM could not be conducted.
  - Blue colouration/paint was noted in a small quantity (<100 g estimated) in a soil stockpile collected from the southern end of this area and identified by AECOM field staff as potential Prussian Blue, based on colour. Assessment of the soil from this stockpile did not identify elevated levels of cyanide, and no other blue colouration was observed in the stockpile or excavation wall, and it is not considered likely that the observation constituted a potential risk to future Site uses.

- A boiler, filled with water, was uncovered in the eastern portion of the Northern Excavation Area, near the Site boundary. The source of the boiler is not known. There were no pipes or other lines connected to it, and it is considered likely that it was buried as waste by a previous Site occupier at an unknown time.

  The water within the boiler was analysed and reported concentrations of TRH C6-C10 (minus Benzene, Toluene, Ethylbenzene and Xylenes [BTEX]) in excess of the RC for future Commercial / Light Industrial uses and was decanted and removed from the Site. No exceedances of Site Specific RC for hydrocarbons were detected in excavation validation samples to the north, east, south or below the boiler, or within soil excavated to west of the boiler. In addition, no hydrocarbon impacts which may represent an unacceptable risk to future Site uses have been detected in groundwater sampling from monitoring well MW163, approximately 10 m hydraulically downgradient, including in preliminary results from the most recent sampling event conducted on 5 December 2023, although it is noted that results of this event have not had data validation completed or confirmed.

  Based on currently available information, no unacceptable risks to future Site users have been identified associated with the former boiler, and no further remediation or management actions are recommended.

- Excavation of approximately 360 m^3 of soil was excavated from the Former UST Area to remove hydrocarbon impacts associate with historic USTs (removed during an earlier period).

  Concentrations of lead, TRH C6-C10 fraction (minus BTEX), TRH >C10-16 (minus naphthalene) and/or naphthalene in excess of Commercial/Light Industrial, and Maintenance Worker RC were reported in validation samples collected from soil removed from the Former UST Area and is no longer present on Site.

  The following exceedances of RC applicable to future uses of the Precinct South were detected in validation samples collected from material which remains *in situ*:

  - Concentrations of TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) were reported above Commercial / Light Industrial RC at the following locations:
    - UST_77_SE_1.6 and UST_80_1.2_S at the southern end of the excavation.

    Speciation of the soil samples collected at these locations was conducted and, while concentrations of aliphatic and aromatic TRH >C21-C35 in excess of Residential RC were detected, no exceedance of RC considered applicable to future Precinct South uses were detected.

    - UST_EXT_59E_1.6 and UST_EXT_59N_1.6 in the eastern portion of the excavation, under the area cut out from under the SeaRoad Shed Slab.

    The results of TRH speciation at UST_EXT_59E_1.6 reported an exceedance of the Commercial/Light Industrial (Working within a basement) RC for aliphatic TRH >C8-C10. It is also noted that samples were not collected at 0.8 m bgl at these locations, and the detected concentrations of aromatic TPH >C8-C10 at UST_EX_59N_1.6 are not delineated vertically would be considered to represent a potential vapour intrusion risk if present in soil <1 m bgl.

    Detected concentrations are not considered to represent an unacceptable risk to future development as:

    - Previous sub-slab soil vapour assessment conducted in 2019 included sample points within 5 to 13 m of the detected soil impacts and did not report potentially hazardous concentrations of hydrocarbon vapour.
    - The AA3 DSI (AECOM, 2022a) notes that further vapour assessment or protection is required for any future development which alters the Site surface. In the event that a change in Site surface occurs, further investigation or protection measures should be considered and prevent unacceptable risk from soil impacts at these locations.

  - The AA3 DSI also contains a requirement that mitigation methods for potential methane intrusion detected in parts of Audit Area 3, which are now contained in the Precinct South, are required to be incorporated into for future building designs. Suitable methane intrusion protection measures would also capture and prevent soil vapour intrusion from hydrocarbons in soil.

- The concentration of lead at 1.6 m bgl at UST_66_E_1.6 exceeded the Intrusive Maintenance Worker RC. This concentration is not considered to represent an unacceptable risk to future Site users as:
  - The Maintenance Worker RC is considered applicable for soil up to 1 m bgl. This exceedance of criteria was detected at 1.6 m bgl and is delineated vertically at 0.8 m bgl by UST_66_0.8_E, and this soil is not considered likely to come into contact with future Maintenance Workers.
  - The extent of lead above RC is considered likely to be limited in extent, as surrounding validation samples to the north, south, east and west did not report lead concentrations in excess of this RC.
  - The adopted RC for lead is 620 mg/kg. The reported result at UST_66_E_1.6 was 621 mg/kg, which is a minor exceedance of the criteria. The RWP and the AA3 DSI both contain statistical assessment of minor exceedances of criteria in accordance with the ASC NEMP, and similar isolated exceedances of RC are present within the Precinct South and are not considered to represent an unacceptable risk to future Maintenance Workers.

No other exceedances of the Site Specific RC for Commercial / Light Industrial, Intrusive Maintenance Worker, and Public Open Space uses were detected in validation samples collected from material which remains *in situ* in the Former UST Area.

The Former UST Area was backfilled with a combination of VENM, crushed concrete from the SeaRoad Shed Slab, and reinstated road base, and the surface was sealed with bitumen or concrete to reinstate the Site Road and SeaRoad Shed Slab.

In addition, the following feature was noted in excavated soil:

- A buried railway was uncovered in the western portion of the Former UST Area and was removed as a precautionary measure by BlackCap. Based on review of historic aerial photographs, the railway is believed to have been installed at some point prior to 1946 and buried between 1984 and 1990.

  Based on aerial photographs, the railway previously extended to the north into an area where soil excavation and remediation was conducted in 2020 (AECOM, 2021b). No railway sections were encountered during previous works, and it is inferred that the railway was removed at least partially at some point in the Site history.

  Assessment of a sample collected from a railway sleeper, and of Former UST Area or Pipeline Validation Samples collected beneath, or less than 2 m from, the railway line, indicate that it is considered unlikely that the sleepers were treated with creosote, and did not detect any indication of impact or contamination from the railway line, and is it considered unlikely that the railway line has acted as a historic or ongoing source of impact to the Site.

  It is noted that review of historical aerial photographs attached to the AA3 DSI identified that there may be other buried railway lines in the Precinct South. However, further investigation or remediation work is not considered to be required to locate or remove these railway lines as:
  - The railway lines are of a similar era and age as the buried railway line removed as part of this remediation program. It is considered likely that they would have similar properties and not represent ongoing sources of contamination or unacceptable risk to current or future Site uses.
  - At least a portion of the historic railway lines have been removed from the Site, prior to it being transferred to the Corporation, as no buried sections were encountered during remediation works in 2020 in areas where railways historically were present.

Change in Use Investigation

Previous assessment of the Precinct South had reported exceedances of the Commercial RC for TRH >C10-C16 (minus naphthalene) in samples collected from the following locations:

- Soil bore BH62.
- Remediation validation samples OL-EX-107 and OL-EX-110.

Previously, the proposed future use of this area in the *New Territory from Old Ground – Macquarie Point Strategic Framework and Masterplan 2015-2030* (MPDC, 2015) was Open Space, and the reported detections were not considered to represent an unacceptable risk to future Site uses. If Commercial/Light Industrial Use of this area occurs in accordance with the proposed *Mac Point Draft Precinct Plan* (MPDC, 2023), detected impacts at BH62, OL-EX-107 and OL-EX-110 had the potential to represent an unacceptable risk to future Site uses.

The location of BH62 was included in the excavation of the Northern Excavation Area during chase-out and removal of identified lead impacts, and as a result, the soil which was identified as potentially representing an unacceptable risk to future Site uses was excavated and removed from the Site as part of this remediation program. No further investigation at this location was conducted as a result.

A 1.1 m deep trench was excavated through backfilled material where a section of the Oil Line was removed in 2020, between sample locations OL-EX-107 and OL-EX-110, and soil samples were collected from existing site fill beneath the previous remediation area.

The samples collected from the base of the trench did not report TRH >C10-C16 (minus naphthalene) above the laboratory Limit of Reporting (LOR) and were generally lower for all TRH ranges than the 2020 samples from this location. The potential reasons for the lower results than previous detection considered are:

- The investigation trench may have been advanced in the incorrect location. However, this is considered unlikely, based on the available GPS data on previous locations and the visible differences between backfill placed at this location in 2020 and surrounding soils.
- The TRH concentrations detected in 2020 may have oxidised or volatilised during the period the trench was open between collection of validation samples and backfilling in 2020. This period may have been greater than 2 weeks (to allow laboratory turnaround of validation samples to determine if further excavation was recommended) and the exposure to ambient air would provide an opportunity a reduction in TRH concentrations.

Further assessment of available data from 2020 was conducted and concluded that:

- The TRH concentrations detected in 2020 in excess of Commercial / Light Industrial RC may have been limited in extent and could be considered delineated to the north, south and west, and delineated in shallow soil to the east.
- A level of vapour management for future buildings is required in the AA3 DSI (AECOM, 2022a) would also provide protection/mitigation of soil vapour from potential impacts in this area.

On the basis of the above, it is considered unlikely that the detected TRH >C10-C16 (minus naphthalene) detected at OL-EX-107 and OL-EX_110 in 2020 represent a source of unacceptable risk to future Site uses, and no further investigation or remediation is considered required.

Further Works and Recommendations

The following actions are recommended for future works prior to or during development of the Precinct of the Site:

- As part of the Contaminated Land Audit Report, a Site Environmental Management Plan (SEMP) will need to be developed to maintain the Site conditions associated with the assumptions which form the basis of the Site Specific RC adopted for assessment of this remediation, namely:
  - An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Maintenance Workers) to have direct contact with soils. Agreement with the Environmental Auditor will likely be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
    - Paved surfaces (e.g., concrete, asphalt, etc.)
    - Building footings
    - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g., 0.5 – 1.0 m topsoil)
    - Other suitable materials: e.g., geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternatives to a thicker earthen layer.

  The SEMP will need to be in place in the future to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground-breaking activities, including IMWs.
- The SEMP should also contain considerations of the following potential impacts:
  - Saturated soil (>2 m bgl) in the Former UST Area and Northern Excavation Area excavations, which may represent a risk to future Site users if exposed, excavated, or dewatered.
  - Areas of potential vapour intrusion near OL-EX-107 and OL-EX-110, and on the eastern boundary of the Former UST Area excavation, which may require further mitigation or investigation if the vapour control measures in the AA3 DSI are not adopted.
  - If any changes to the assumptions of future use and conditions developed for the RC occur, for example a change in surface elevation, reassessment of identified impacts and exposure scenarios must be undertaken.

1.0 Introduction

1.1 Purpose

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of a remediation strategy for the Macquarie Point site in Hobart, Tasmania (the Site). The location of the Site is shown on **Figure F1**.

The redevelopment of Macquarie Point aims to restore and energise a Site that has long been associated with industrial, freight and rail use into a significant hub for the people of Hobart. Historic contamination at the Site is a legacy of past land uses, including gasworks, fuel handling and bulk storage, freight and rail transfer and locomotive servicing, and land reclamation across areas of the Site.

Previous investigations of the Site have identified areas of impacted soil and remnant infrastructure associated with historic Site uses and activities which may preclude the planned future Site development. To provide a framework for remediation of impacts within the areas of the Site referred to as the Precinct South, and for removal of fuel and oil pipelines, the following documentation was prepared:

- *The Precinct South – Remediation Work Plan* (the RWP) (AECOM, 2023a)
- *The Precinct South – Technical Specification* (the Technical Specification) (AECOM, 2023b).

Excavation of the impacts and infrastructure identified in the above documents, has been conducted by BlackCap Group Pty Ltd (BlackCap), with excavation validation sampling conducted by AECOM between 27 February and 7 June 2023.

This report provides details of the remediation and validation works conducted by BlackCap and AECOM in 2023 to remove identified impacts. The area of the Site considered in the report is shown on **Figure F2**.

1.2 Remediation Goals and Drivers

The Corporation has a series of overarching and interrelated remediation goals in relation to the Site. These include:

- Ensuring that there are no unacceptable risks to human health associated with the Site.
- Ensuring there are no unacceptable risks to the off-Site environment / ecology related to on-Site contamination.
- Remediating the Site to a suitable standard to allow for redevelopment for the intended future land uses.
- Remediating primary sources of contamination to the extent practicable as these represent an ongoing source of pollution to groundwater.

These objectives are generally consistent with those adopted by regulatory authorities around Australia. The Corporation has engaged an independent Site Contaminated Land Auditor to provide confidence to key stakeholders that environmental investigations and remedial planning activities have been completed to a level compliant with required standards.

In addition, the *Macquarie Point Development Corporation Act 2012* was amended in 2015 to enable the accreditation of a Contaminated Land Auditor, which for the first time in Tasmania allows for a statutory audit of contaminated land to be undertaken. The Corporation has engaged an independent Contaminated Land Auditor, Mr David Lam of Tetra Tech Coffey Pty Ltd (the Auditor) to provide confidence to key stakeholders that environmental investigations, remediation, and validation activities have been completed to a level compliant with required standards (discussed in **Section 2.4**).

2.0 The Precinct South – Area Details and Background

2.1 Area Details

For the purpose of assessment and completion of the Environmental Audit, the Site has been divided into seven sub-areas for assessment based on the nature of identified contamination, historic activity, and the intended future uses of each area. The sub-areas of the Site are shown on **Figure 1** below.

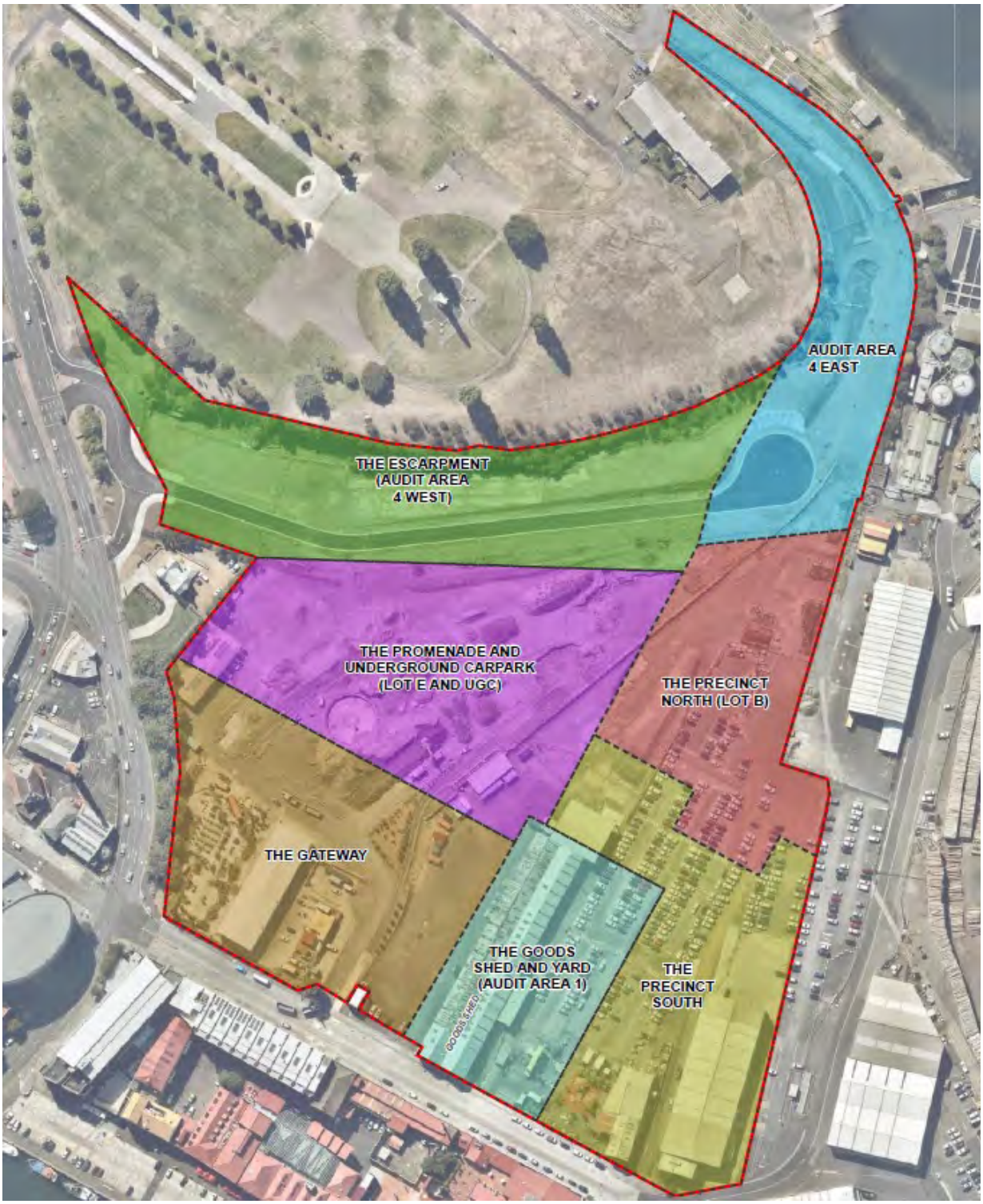

Figure 1 Site Areas

The details of the Precinct South, as a subsection of the Site, are provided in **Table 1** below.

Table 1 Precinct South Details

Item	Details
Area Identification	The Precinct South
Address	10 Evans Street, Hobart, Tasmania, 7000 (see **Figure F1**)
Area	Approximately 1.4 hectares (ha)
Title Details	The Precinct comprises a portion of land title 113521/1 (formerly CT 114462/1) which makes the overall Site area.
Current Owner	State of Tasmania (Crown Land)
Local Government Authority	Hobart City Council
Current Zoning	Mixed Use (*Sullivans Cove Planning Scheme 1997* [amended on 30 October 2019])
Layout and Current Usage	The Precinct South is relatively flat, with a slight rise to the northern edge. The surface is sealed with bitumen, concrete, and gravel. One building currently occupies the central southern area of the Precinct South area: • The Red Shed, currently occupied by a microbrewery (Hobart Brewing Company). A slab is present to the east of the Red Shed, which was formerly occupied by the SeaRoad Shed, which was demolished in late 2022. Red Square, to the west of the Red Shed, is currently used as an intermittent public events space, and is used as a market place for small mobile vendors (e.g., coffee and food vendors, hairdressers). The current layout of the Precinct South is shown on **Figure F2**.
Surrounding Land Uses	• North – Unoccupied area of the Site (referred to as the Precinct North), used as parking space. A Waste Water Treatment Plan (WWTP) is located to the north and east beyond the Site boundary. • East –TasPorts owned land including carparking and port facilities. • South – Evans Street, with commercial properties beyond (including TasPorts), which extend towards Hunter Street and Sullivans Cove. • West – The Goods Shed and Yard portion of the Site, which is used for office space and temporary events works.
Geology	The Precinct South has been subject to significant filling since the early 1800s and is located on reclaimed land. Fill material across the Precinct South, and the greater Macquarie Point Site, consists of clays, sands, gravels, cobbles and bricks. Deeper fill material consists of silty sands, similar to the underlaying natural material, and may be associated with reworked natural material or dredged material. Natural soils encountered below the Precinct South consists of estuarine/marine deposits (silty sands) and weathered dolerite including clays, gravels, cobbles. Dolerite bedrock is present below the Precinct South and is noted to generally increase in depth and decrease in elevation to the south and east.

Item	Details
	The known lithology is summarised below: • Fill material: 0 to 12 m below ground level (bgl) • Estuarine/marine deposits: 3.7 to 15 m bgl • Weathered dolerite: 11.2 to 19 m bgl • Dolerite bedrock: 5 to 25+ m bgl
Hydrogeology	Regional groundwater flow is inferred to be in a general easterly direction toward the River Derwent. The Site is underlain by a single aquifer unit (within multiple lithological units). Groundwater flow beneath the Precinct South is in a generally southerly direction towards Sullivan's Cove. Groundwater below the Precinct South is generally encountered between 1.9 to 4 m bgl. Groundwater modelling completed by GHD (2016) indicates groundwater flow to the south of the Site is in an easterly direction between the southern boundary of the Site and the location of Hunter Island. The easterly groundwater flow direction is considered to be influenced by Hunter Island, which is likely to be relatively low permeability when compared to the surrounding sediment, and the higher permeability sediment located in the former Hobart Rivulet (i.e., beneath Evans Street). The former Hobart Rivulet is considered to be a likely preferential pathway for groundwater flow. There are a number of former sea walls located beneath and surrounding the Site. The sea walls were used the progressive stages of land reclamation and are likely to influence localised groundwater flow direction. Evidence of tidal influence on groundwater levels has been identified to the south of the Site within the inferred groundwater flow path at MW151, where tidal variation of approximately 0.1 m has been noted. Tidal influence (i.e., increasing Standing Water Level (SWL) variations) has been noted to increase toward Sullivans Cove.

It is noted that, for the purposes of assessment and the Site Environmental Audit, the Site was divided into seven audit areas (referred to as Audit Area 1 to Audit Area 7) when planning future works in 2015. Due to changes in the remediation and development approach and refinement of the process by which the Corporation has planned to engage and develop the Site, these boundaries were redefined in 2021 to better reflect the overall planned development of the Site.

For the purposes of reference to earlier reports, the Precinct South covers:

- Audit Area 3 in its entirety
- A portion of Audit Area 5.

2.1.1 Proposed Future Land Use

Based on the *New Territory from Old Ground – Macquarie Point Strategic Framework and Masterplan 2015-2030* (the Masterplan) (MPDC, 2015), the Precinct South was intended for development for a mixture of future uses comprising:

- Commercial (including visitor accommodation, retail, arts and institutional); and
- Public open space.

In September 2022, it was announced by the Tasmanian Government Department of State Growth that the Macquarie Point Site is the preferred location for a future sports stadium and multipurpose area. In October 2023, the *Mac Point Draft Precinct Plan* (the Draft Precinct Plan) (MPDC, 2023) was released for the redevelopment of the Site, which sets out a mixed-use precinct comprised of interconnected discrete Zones. The Draft Precinct Plan is presented in **Plate 1**.

Based on the Draft Precinct Plan (MPDC, 2023), the Precinct South area is proposed to comprise a combination of Commercial and Open Space use areas, specifically:

- The Complementary Integrated Mixed Use Zone; and
- The 'Multipurpose Stadium and Associated Concourse Zone'

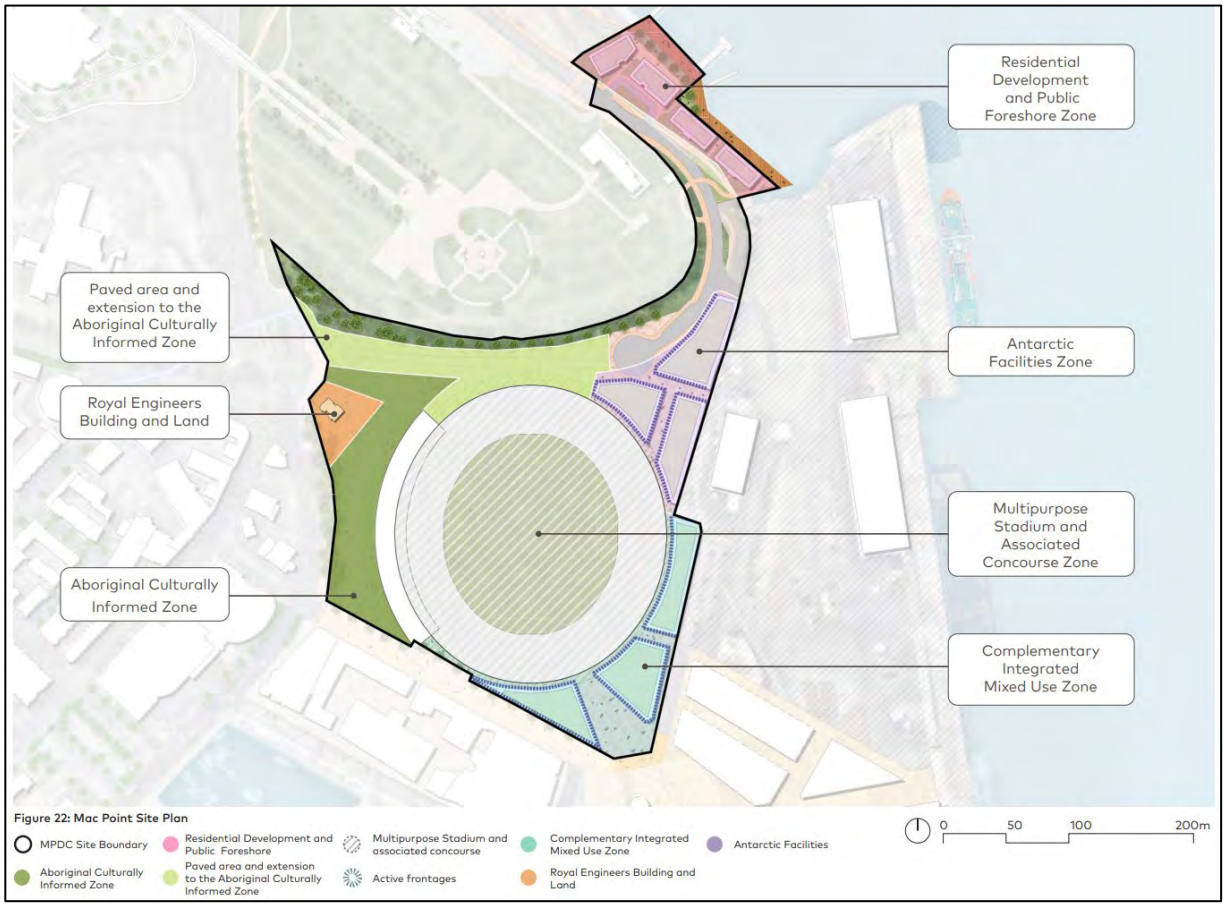

Plate 1 Draft Future Land Uses (MPDC, 2023)

As the Draft Plan is not yet confirmed and may change in future, assessment of the Precinct South has been undertaken with reference to the future land uses in the Masterplan (MPDC, 2015) with the following exceptions:

- It has been assumed that the future site use for the entire area will be potentially Commercial / Light Industrial and that the surface level will not be changed as part of future development.
- The entire area of the Precinct South will be covered in hardstand.
- Basement carparking is not currently planned for this area and is considered unlikely to occur based on the shallow depth to groundwater, and potential management issues associated with residual Light Non-Aqueous Phase Liquid (LNAPL) present in the south eastern portion of the Site. Additional remediation and/or mitigation controls will be required if basement parking is considered in future.

Due to the exceptions noted above, remediation of the Precinct South has been conducted to a more conservative level of protection than required under the current Masterplan.

It is noted that if and when further details of the changes in future development of the area are made available, review of the remediation and approved future Site uses may be required to confirm that no unacceptable risks remain.

2.2 The Precinct South History

2.2.1 Previous Land Uses

A summary of the previous potentially contaminating land uses undertaken within or adjacent to the Precinct South is provided on **Table 2** below.

Table 2 The Precinct South Historical Land Uses

Historical Land Use	Details
The Precinct South	
Land Reclamation	The Precinct South has been subject to land reclamation activities from circa 1830s to the 1900s. It is unclear what was used to backfill the Site; however, it is suggested that material used to fill the Site consisted of rubble, waste and dredged material from the adjacent former Hobart Rivulet and River Derwent (Austral, *Macquarie Point Development Project, Historical Summary* [Austral, 2013]). The *Draft Precinct Plan* (MPDC, 2023) includes Figure 17, which is a layout of progressive changes in the Site shoreline between 1827 and present day, and indicates that land reclamation in the Precinct South occurred primarily between 1891 and 1937. Austral, 2013, notes that between the 1920s and 1937, an area of 6.5 acres off Macquarie Point had been reclaimed for oil storage use, which may have included the Precinct South. Investigations completed beneath the Precinct South have generally characterised the fill material as consisting of sands with dolerite gravels and cobbles with occasional rubble, glass and metal fragments, coal, coke and ash. This is consistent with the material suggested to be used for land reclamation.
Bulk Fuel Terminals	The eastern portion of the Precinct South was part of the former bulk fuel terminal that operated from the 1920s to the early 1970s. A series of aboveground storage tanks (ASTs) of varying size were located in the various fuel terminals. These contained oil/petroleum products including light kerosene, dieseline, fuel oil, motor spirit, diesel fuel, white spirit, and motor spirit. A review of available information indicates caustic soda was also stored. In addition to ASTs, products were also stored in 205 L drums.
Fuel and Oil Transfer	Two fuel (diesel) and oil pipelines were present on the western side of the SeaRoad Shed Slab. The pipelines were used for the transfer of petroleum products to the Ocean Pier, located in the position of the current WWTP and to other locations to the north of the Site. Sections of the pipelines to the north of the SeaRoad Shed Slab were removed as part of remediation works in 2020 (AECOM, 2021b) (discussed in **Section 2.2.5.2**), but and the remaining sections of the pipelines were removed in 2023 as discussed in this report.

Historical Land Use	Details
Freight Handling	Historic freight handled within the Precinct South consisted of general freight (i.e., domestic consumables, etc.) and industrial chemicals (i.e., paints, oils, degreasers, etc). The SeaRoads Shed (also referred to as the Holyman Building) used for freight storage and handling was previously located in the south-east corner of the Precinct South was demolished in late 2022, leaving a slab behind. Two underground storage tanks (USTs) (15 kL diesel and 5.4 kL unleaded petrol [ULP]) were located adjacent to the south-west corner of the SeaRoad Shed. It is understood this infrastructure was owned and operated by BP and has since been removed from Site (prior to occupation and management of the Site by the Corporation). A UST removal and validation report has not been made available for review.
Waste Paper Depot	When the Red Shed was erected circa 1953, it was used by the Boy Scouts as a waste paper depot where collected paper was received and pressed into bundles.
Mechanics Workshop	The Red Shed was leased out as a truck repair and maintenance workshop in the 1990s for a short period (i.e., < 5 years). Whilst detail on activities undertaken is not available, small quantities of chemicals, including paints, solvents, welding gas, fuels and oils were stored in the area, and it is likely that activities such as spray painting, welding and high pressure water cleaning was undertaken.
Goods Shed Annexe	The former Goods Shed Annexe adjoined the northern extent of the Good Shed. Remediation of this area was undertaken in early 2020 and is discussed in **Section 2.2.5.3**.
Surrounding the Precinct South	
Land Reclamation	The area surrounding the Precinct South (in all directions) has been subject to land reclamation activities as previously described.
Rail Activities	The former Roundhouse for freight and rail transport was located to the west of the Precinct South. The Roundhouse consisted of a locomotive maintenance facility featuring a large turntable in the centre. Supplementary facilities included a workshop, offices, stores, amenities, an electrical and boiler shop, and a blacksmith. Rail tracks entered the Roundhouse from the north east via the former Roundhouse Refuelling Area (discussed below). Dismantling of the Roundhouse began in the early 1980s. Anecdotal information indicates that pits and service trenches were backfilled with building rubble including potential asbestos. Five small, isolated fragments of ACM were encountered during investigation in 2020, but no areas of bulk asbestos in trenches have been located by investigations to date. Intact corrugated ACM used as formwork was uncovered as part of an archaeological dig to the west of the Roundhouse in 2023, and was removed entirely from the Site following discovery.
Bulk Fuel Terminals	The area to the east of the Precinct South has been subject to use for bulk fuel terminals as previously described. In addition, the Roundhouse Refuelling area (associated with the former rail Roundhouse) was located to the north west of the Precinct South and consisted of four large ASTs which serviced locomotive and tanker refuelling operations until the late 1908s. Two smaller ASTs were also located in this area and may have also been used for refuelling activities.

Historical Land Use	Details
Port Operations	Tasports' port operations currently located to east of the Precinct South occupies the former bulk fuel terminals footprint. It is understood that TasPorts gained possession of the former bulk fuel terminal area following decommissioning in the early 1970s.
Freight Handling	Freight handling occurred across the broader Site between 1915 and 2014. Freight handled consisted of general freight (i.e., domestic consumables, mail etc.) and industrial chemicals (such as fuels, oils, degreasers, etc).
Former Hobart Rivulet	The Hobart Rivulet was formerly located south of the Precinct beneath the existing Evans Street but was backfilled. Prior to the backfilling the former Hobart Rivulet, the channel which consisted of timber and stone walls, was regularly dredged to remove contaminated material associated with nearby industrial activities (e.g., gasworks, slaughter yard, soap manufacturing, tannery).

2.2.2 Chemical Storage

The Precinct South and surrounding areas have been subject to a history of industrial activities including locomotive activities, freight handling and distribution, and bulk fuel storage which have included the storage of a range of potentially dangerous substances.

The following is noted with regards to chemical storage and handling known to have occurred on or near the Precinct South:

- Bulk Fuel Terminals: Historical fuel releases from handling and storage activities undertaken as part of bulk fuel terminal operations (formerly located in the eastern portion of the Precinct South and extending further east) are likely to have been a source of hydrocarbon impact to soils and groundwater.
- USTs: Two USTs were previously located on the western side of the SeaRoad Shed. The report *Environmental Audit of the AN Tasrail Facilities* (PPK, 1996) identified tanks inferred to be a 15 kL diesel (distillate) and a 5.4 kL ULP (based on a review of licensing) tank off the south-west corner of the SeaRoad Shed (formerly known as the "Holymans Building"). It is understood that these were installed circa 1972, and the USTs have since been removed from Site (prior to occupation and management of the Site by the Corporation). A UST removal and validation report has not been made available for review.
- Based on the Site history and the UST storage capacity, it is considered likely that the USTs were used for fuel storage for supply to vehicles (i.e., to refuel trucks transporting freight) rather than for bulk storage for distribution. Historical fuel releases from USTs (and associated transfer infrastructure) have the potential to have been a source of hydrocarbon impact to soils and groundwater.
- Mechanics Workshops: The Red Shed has been previously used as a mechanics workshop for truck repair and maintenance work. Rust PPK, 1996 identified a number of fuels stored in the building for vehicle maintenance, including oil drums, 20 L containers of paint, welding gases, waste oil and potential solvents.
- Rust PPK, 1996 also reported 360 containers (20 L) of paint, 56 drums (205 L) of motor oil and 144 containers (20 L) of lubricating oil were observed to be stored in the "Holymans Building" (later known as the SeaRoad Shed), which was demolished in late 2022.

2.2.3 Subsurface Features

Table 3 below provides a summary of the known current and former subsurface features which may be present contamination source risks or influence subsurface hydrogeology/contaminant transport mechanisms within or adjacent to the Precinct South.

Table 3 Subsurface Feature Summary

Feature	Comment
Within the Precinct South	
Sewer pipelines	The Sewer (Main Hobart Pipeline) traverses the western portion of the Precinct South. AECOM, 2017a identified that the Sewer (Main Hobart Pipeline) is likely to be in contact with the water table for the entire section in which the sewer line traverses the Site. The invert depth of the Sewer (Main Hobart Pipeline) ranges from 0.15 m Australian Height Datum (AHD) to 0.88 m Australian Height Datum (m AHD). Another sewer pipeline enters the Site near SeaRoad Shed Slab at the southern boundary. Construction details are not known. Based on the depth of pipelines at the Site, it is likely to be buried between 0.6 – 1.2 m bgl, and likely to be above the water table.
Oil/Diesel Pipeline	Two former fuel pipelines (diesel and oil) constructed out of steel were located west of the SeaRoad Shed Slab and south of the Red Shed in the Precinct South. The northern sections of these pipelines were removed in 2020 (AECOM, 2021b), and the remaining sections (within the Precinct South) were removed as part of the remediation work described in this report. Some sections are known to remain in the northern portion of the Site (outside the Precinct South). Details of these pipelines, as encountered during this work, and their removal can be found in **Section 5.1**.
Naval Oil Pipeline	A former naval oil pipeline was reported previously on the southern boundary of the Precinct South. Based on the findings of the remediation work described in this report, the Naval Oil Pipeline is believed to potentially be an extension of the Oil Line which was removed as part of this project
USTs	PPK 1996 identified a 15 kL diesel and a 5.4 kL ULP tank off the south-west corner of the SeaRoad Shed (formerly known as the “Holymans Building”). These USTs have been removed from Site (prior to occupation and management of the Site by the Corporation); however, a UST removal and validation report has not been made available for review. Further investigations were undertaken by GHD in 2014 where these USTs were previously located. Excavations at location RS3 revealed a fabric covering bedding sands with a strong hydrocarbon odour. Soil samples collected from the excavation identified detectable concentrations of hydrocarbons above the water table indicating soil impacts associated with the former USTs are present. The soil in this area was removed as part of the remediation described in this this report. Details of this process can be found in **Section 5.2**.
Water/ Stormwater Pipeline	AECOM, 2017a identified water and stormwater infrastructure located on the south and eastern boundary, and in the western portion, of the Precinct South. A stormwater pit was identified in the south-eastern portion of the Site adjacent to groundwater well MW6 (refer **Figure F2** in the **Figures** section). The depth of the pit and the discharge location could not be determined. The depth is inferred to be 0.7 m bgl based on the measured depth of the base of a stormwater inspection point connected to the identified stormwater pit (~20 m south).

Feature	Comment
Sea Walls	Sea walls were historically used during land reclamation, and a review of historical information has informed the location of sea walls across the Site. In August 2015, GHD completed further investigations to gain supplementary information regarding the location, construction and integrity of sea walls. The following is noted: • A sea wall comprising horizontal timber boards was encountered at approximately 2.0 m bgl in the south-western portion of the Precinct South. • GHD noted that anecdotal information indicated the retaining wall that bisects the Site to the west of the Precinct South could be a former sea wall. The retaining wall was observed to terminate at ~0.8 m bgl, which indicates the retaining wall is unlikely to be a historic sea wall. • During construction of the car park in the northern portion of the Precinct South in 2018, a potential sea wall comprising cemented dolerite cobbles was encountered at a depth of approximately 0.5 m bgl to the east of the Goods Shed.
Good Shed Annexe (Mechanics Workshop and Truck Wash	The Goods Shed Annexe contained a mechanics workshop (which was used for painting and repairs of shipping containers), truck wash, mechanics pit and triple interceptor trap (TIT). This infrastructure was removed in 2020 as discussed in **Section 2.2.5.3**.
Telecommunications Services	Telecommunication services enter the Precinct South to the south. The depths of services are typically between 0.6 m bgl – 1.2 m bgl.
Adjacent to the Precinct South	
Former Hobart Rivulet	The former Hobart Rivulet was located directly down inferred hydraulic gradient to the south of the Precinct South, beneath the existing Evans Street. Prior to filling of the former Hobart Rivulet after 1918, the channel which consisted of timber and stone walls, was regularly dredged to remove contaminated material associated with nearby industrial activities (e.g., gasworks, slaughter yard, soap manufacturing, tannery). The former Hobart Rivulet is inferred to be a preferential flow pathway for groundwater migration. In addition, the presence of waste materials within the former rivulet is a potential source of impact to soils and groundwater.
TasGas Pipeline	A TasGas pipeline is known to run along Evans Street to the south of the Precinct South.

2.2.4 Contamination Source Zones

Environmental investigations completed at the Site to date have identified the following key contaminant source zones across the Site consisting of Non-Aqueous Phase Liquid (NAPL), namely, LNAPL Plume A1, LNAPL Plume A2, LNAPL Plume B and Gasworks Dense Non-Aqueous Phase Liquid (DNAPL).

LNAPL Plume B is within the boundaries of the Precinct South and is shown on **Figure F2** in the **Figures** section.

In addition to the four key contaminant source zones, LNAPL Plume A3, understood to have been present in the Promenade and Underground Carpark Area (also referred to as Lot E and the Underground Carpark) to the north and west of the Precinct South, has also previously been identified as a historical source zone.

Table 4 below provides an overview of these identified contaminant source zones.

Table 4 Contaminant Source Zones

ID	Location	Contaminants Identified	Inferred Contamination Source
LNAPL Plume A1	Former Roundhouse Refuelling Area, central portion of the Site.	Metals, TRH, PAH	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities in the Roundhouse Refuelling Area. Plume A1 appears to be a localised LNAPL source correlating with historical information indicating the presence of an AST in this location.
LNAPL Plume A2	Former Roundhouse Area and Roundhouse Refuelling Area, central portion of the Site.		Similar to Plume A1, LNAPL has been identified at the water table and is likely associated with locomotive refuelling activities in the Roundhouse Refuelling Area. The LNAPL is understood to comprise predominantly diesel fuel, as well as fuel oils associated with diesel engine operation (e.g., lubricants, engine oils etc.).
LNAPL Plume A3	Former Roundhouse Refuelling Area and Central Eastern Area central portion of the Site.		Historical documents reference localised LNAPL at this location. Similar to Plume A1, LNAPL is likely associated with locomotive refuelling activities in the Roundhouse Refuelling Area. The LNAPL is understood to comprise predominantly diesel fuel, as well as fuel oils associated with diesel engine operation (e.g., lubricants, engine oils etc.). Measurable LNAPL not been identified since July 2017. On this basis, LNAPL Plume A3 is not considered to be a key ongoing contaminant source at the Site.
LNAPL Plume B	Beneath and inferred to extend off Site to the east of the SeaRoad Shed Slab), south eastern portion of the Site and eastern portion of the Precinct South.		LNAPL (comprising predominantly diesel with some petrol) has been identified at the water table and is understood to be associated with historical fuel handling and storage activities in proximity to the SeaRoad Shed (AECOM, 2017e).
Gasworks DNAPL	The Gateway Area, south western portion of the Site.	Metals, TRH, PAH, BTEX, phenols, ammonia, cyanide	Comprising tar and gross tar impacts, DNAPL has been observed to depth up to 7.6 m below ground level (bgl) beneath the former Cold Store. The DNAPL is associated with tar from the production of coal gas which was previously undertaken on the footprint of the Cold Store.

Notes: TRH – Total Recoverable Hydrocarbon; PAH – Polycyclic Aromatic Hydrocarbon; BTEX – Benzene, Toluene, Ethylbenzene and Xylenes; AECOM, 2017e – Macquarie Point Development Project - LNAPL Remediation Action Plan, 30 May 2017

2.2.5 Previous Remediation Works

2.2.5.1 LNAPL Remediation

LNAPL delineation and remediation (including LNAPL Plume B within the Precinct South) was conducted by AECOM between 2015 and 2017. Prior to AECOM conducting works, remediation of LNAPL Plume B was previously undertaken by Sinclair Knight Merz (SKM) and reported:

- An active skimmer system was deployed in 2000 and reported removal of approximately 5,000 L of LNAPL.
- After one year, a passive system was installed and recovered approximately 25 L of LNAPL.

An assessment of potential remediation options for LNAPL associated with the LNAPL Plumes A1, A2, A3 and B was prepared by AECOM as part of the *LNAPL Remediation Action Plan* (the RAP) (AECOM, 2017b) and selected Total Fluids Extraction (TFE) as the most practicable LNAPL remediation method for the Site.

A detailed assessment of LNAPL impacts and remediation conducted on Site has been reported in *Assessment of LNAPL Remediation Endpoints* (AECOM, 2021c), and is summarised below.

- TFE trial events were undertaken by AECOM between November 2015 and February 2016. Fluid extraction was induced by deploying submersible top-loading pneumatic pumps in groundwater wells containing LNAPL, or at locations considered likely to release LNAPL from the aquifer matrix after a period of localised groundwater drawdown.
- A fixed TFE system was installed at the Site in 2015/16 and TFE activities were undertaken at the Site over the period August 2016 – November 2017. TFE activities have included a combination of continuous TFE operations on LNAPL Plumes A1, A2 and B and periodic TFE (LNAPL Plume A3). The AECOM document titled *Total Fluid Extraction System, Operation and Performance Overview, May 2017* (AECOM, 2017e) includes operational data collected between August 2016 and May 2017, and the following conclusions were provided as part of AECOM, 2017e:
    - A total of 445 L of LNAPL was extracted over a total of 4,190 hours of TFE system operation and 13 Mobile LNAPL Recovery Unit (MLRU) events.
    - LNAPL was detected in two non-TFE wells where it was previously absent (MW131 and MW138); both wells are located in the immediate vicinity of LNAPL Plume A1 (MW131) and Plume A2 (MW138).
    - Overall, the TFE data indicated a steady reduction in LNAPL extracted by the TFE system and LNAPL recovery thicknesses in the wells.
- Rebound of LNAPL was not observed in groundwater wells and LNAPL Plume B appeared to be stable and not increasing.

During a Groundwater Monitoring Event (GME) between 29 November and 6 December 2023 (AECOM, 2024a), LNAPL was detected at four wells in the Precinct South – MW03, MW05, PW02 and S8. The thickness of LNAPL in PW02 and S8 exceeded historically recorded maximums, and as result, an additional LNAPL gauging and transmissivity (Tn) test event was conducted between 20 and 21 March 2024 (AECOM, 2024b) and reported that:

- LNAPL thicknesses in March 2024 were consistent with the 2023 GME in PW02 and S8. LNAPL thickness in MW05 had decreased by an order of magnitude, and LNAPL was no longer present (confirmed by bailer) in MW03 or detectable in other accessible wells in the Precinct South. Based on these results, the LNAPL Tn values discussed below, and the lack of any identified source of further LNAPL impact in the Precinct South, it was considered that Plume B remains apparently stable and is unlikely to be mobilised.
- LNAPL Tn values were calculated for PW02 (0.002 to 0.020 m^2/day) and S8 (0.004 to 0.009 m^2/day). Insufficient LNAPL rebound occurred in MW05 for a LNAPL Tn value to be determined. All calculated LNAPL Tn values were within or below range (0.009 to 0.074 m^2/day) which *Evaluation of LNAPL Remediation Technologies for Achieving Project Goals* (ITRC, 2009) notes as the point at which there has been assessed further LNAPL recovery will generally be inefficient, will

take long periods to marginally affect LNAPL transmissivity, and will have little benefit in terms of reduction of LNAPL mass, migration potential, or longevity of the plume.

Based on this assessment, it was concluded that further active remediation of Plume B was not considered likely to have a practicable effect on Site condition, or achieve significant LNAPL recovery or reduction in the volume of Plume B.

Soil vapour assessment conducted in the SeaRoad Shed in 2018 and 2019 did not identify an unacceptable risk to human health from potential vapour intrusion from LNAPL Plume B which would represent a potential risk to potential future commercial use of the area.

The *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c) concluded that further LNAPL remediation is not practicable or required for the proposed future uses, and the additional LNAPL Tn assessment conducted in 2024 (AECOM, 2024b) did not provide any information which is considered to alter this conclusion. While residual LNAPL is present, on-Site groundwater management is required as documented in the SEMP.

2.2.5.2 Remnant Pipeline and Impacted Soil Removal

Between February and November 2020, soil impacts and remnant fuel and oil pipelines were excavated and removed from the north eastern section of the Precinct South and adjacent areas the Precinct North and the Promenade and Underground Carpark Area (shown on **Figure F2**). Details of the remediation and validations works completed have been detailed in AECOM, 2021b and are summarised below:

- Two sections of unused pipelines from former Site uses within the Precinct South were excavated and removed:
  - The Oil Line which entered the Site from the north of Audit Area 4 East and extended south along the eastern boundary, through Audit Area 4 East, the Precinct North, and the Precinct South, before exiting the Site in the south east corner of the Precinct.
  - The Diesel Line which runs parallel to the Oil Line in the Precinct North and the Precinct South.

  Excavation of the pipelines was stopped at the northwest corner of the SeaRoad Shed Slab, with the sections remaining on-Site removed in 2023, as discussed in the body of this report.

  Each pipeline consisted of 8” diameter steel piping. Both the Oil and Diesel Lines had a bituminous cladding present. No asbestos was detected in samples collected from the Oil Line. However, asbestos fibres were detected in the cladding of the Diesel Line. The Diesel Line and the surrounding soil were excavated as ACM and the area of excavation validated by an asbestos hygienist following excavation.

  Excavated soil surrounding the pipeline sections was sampled and validated against the Site-specific Remediation Criteria (RC), discussed in **Section 3.1**.
- Soil surrounding the pipelines in the Precinct South was excavated as part of removal of identified soil impacts in those areas. The remediation extents were validated against the applicable RC for the areas of excavation. The following was recommended during assessment of validation samples with respect to the Precinct South:
  - Delineation, removal and validation of soil with lead concentrations above the Future Maintenance Worker RC.
- Excavations in the Precinct South were backfilled with Virgin Excavated Natural Material (VENM) or with material excavated from other areas of the Site which was approved for reuse by the Contaminated Land Auditor prior to placement. Details of assessment of materials which were reused and record of Auditor approval can be found in AECOM, 2021b.

2.2.5.3 The Goods Shed Annexe

Excavation and removal of three pieces of defunct infrastructure (the Mechanics Pit, TIT and Truck Wash) and surrounding soils from the Goods Shed Annexe, formerly a mechanics workshop located to the north of the Goods Shed, was conducted in 2020 and is reported in *Goods Shed Annexe Remediation Validation Report* (AECOM, 2021c).

The following remediation works were conducted:

- An estimated 210 m^3 of remnant infrastructure and surrounding soils were removed in three excavations within the Good Shed Annexe:
- 90 m^3 of soil and infrastructure was excavated to a maximum depth of 2.6 m bgl surrounding the former Mechanics Pit.
- 30 m^3 of soil and infrastructure was excavated to a maximum depth of 1.8 m bgl surrounding the former TIT.
- 90 m^3 of soil and infrastructure was excavated to a maximum depth of 1.8 m bgl surrounding the former Truck Wash.

All excavated soil and infrastructure have been disposed off-Site.

Where exceedances of the RC in excavation validation samples were detected, applicable to the planned future use of the Goods Shed Annexe, additional soil was removed, and further validation samples were collected to verify that soil with exceedances was removed.

A PVC pipe was located in the Truck Wash excavation with some sludge within it. A sample of the sludge was collected, and no exceedances of RC were detected within the material. The PVC pipe was removed to the boundary of the excavation and sealed with a PVC cap.

The excavations were backfilled with VENM sourced from a natural dolerite rock quarry at Leslie Vale, operated by Hazel Brothers. Three samples of the VENM were collected and reported no exceedances of any RC for the future Site use.

On the basis of the above and the currently available information, no further remediation of the Goods Shed Annexe for the proposed future Site use of Open Space was considered to be required.

2.3 Chemicals of Potential Concern

On the basis of the historical land uses of the Precinct South and the surrounding historic land uses, the chemicals of potential concern (CoPC) that have been identified are summarised in **Table 5** below.

Table 5 Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Chemicals of Potential Concern	Potential Impacted Media
The Precinct South		
Land Reclamation	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs	• Soil • Groundwater • Soil Vapour
Freight Handling	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, pH	
Fuel Storage	Lead, TRH, PAH, BTEX, ACM	
Mechanics Workshop	Heavy metals[2], TRH, PAH, BTEX, phenolic compounds	
Adjacent Areas		
Land Reclamation	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs	• Soil • Groundwater • Soil Vapour
Roundhouse (Locomotive maintenance and refuelling)	TRH, BTEXN, PAHs, phenolic compounds, chlorinated hydrocarbons, SVOC, VOC	
Railyards (including fuel storage) and Freight Handling	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC	
Port Operations	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC	
Gasworks	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, cyanide, ammonia, ACM	
Fuel Storage and Bulk Fuel Terminals	Lead, TRH, PAH, BTEX, PFAS[3], ACM	
Former Hobart Rivulet	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, cyanide, ammonia, SVOC, VOC, OCPs	

Notes: SVOC: Semi-Volatile Organic Compounds; VOC: Volatile Organic Compounds; OCP: Organochlorine Pesticides; PFAS – Per and Poly-fluoroalkyl Substances; ACM – Asbestos Containing Material Heavy metals: 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel and zinc; 2 - lead and arsenic; 3. A review of historical information has not identified the use of products containing PFAS, however there is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations.

2.4 Regulatory Framework

Contaminated sites in Tasmania are regulated under the *Environmental Management and Pollution Control Act 1994* (EMPCA).

The National Environment Protection Council (1999) *National Environment Protection (Assessment of Site Contamination) Measure* (as amended in May 2013) [ASC NEPM] is the primary document referenced by EPA Tasmania for the assessment of contamination and risk to human health and/ or the environment. As such, the ASC NEPM has been adopted as the overarching project guidance.

Environmental related guidelines to be considered as part of future remedial planning works at the Site should include (but are not limited to):

- ASC NEPM.
- *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites*, Australian and New Zealand Environment and Conservation Council 1992 (ANZECC 1992).
- The *National Remediation Framework* (the NRF) (CRC CARE, 2020)
- *Environmental Management and Pollution Control (Waste Management) Regulations 2010*.
- EPA Tasmania *Information Bulletin No. 105 Classification and Management of Contaminated Soil for Disposal*, (IB105)

The ASC NEPM came into effect on 18 May 2013. There have been changes to health investigation levels (HILs) for various land use settings (e.g., residential, commercial/industrial); however, in many instances, the changes have resulted in less conservative criteria. The ASC NEPM notes that the HILs are not intended to be used as remediation criteria and that remediation of contaminated land is outside of the scope of the Measure, therefore the amended ASC NEPM has had no notable effect on the selection of potential remedial strategies for the Site.

The NRF was developed to support and complement the ASC NEPM and provide a nationally consistent approach to remediation of contaminated sites for Australian regulatory bodies and industries which clean up and manage sites across multiple jurisdictions. The NRF provides guidance in planning and implementing a range of approaches throughout the lifecycle of site remediation. In November 2019, the NRF was endorsed by the Heads of EPA (HEPA).

2.4.1 Environmental Audit

In conjunction with the amendment of the *Macquarie Point Development Corporation Act 2012*, the Corporation has engaged a Contaminated Land Auditor, David Lam of Tetra Tech Coffey Pty Ltd (the Auditor). David is included on the EPA Tasmania Register of Interstate Contaminated Land Auditors and is considered suitably qualified by EPA to undertake an Environmental Audit to review the progress of environmental assessment, remedial planning and execution works at the Site.

The role of the Auditor is to ensure that the works are carried out in compliance with local Tasmanian legislation and guidelines with consideration given to the requirements of the Victorian EPA Environmental Audit framework in the absence of an Audit scheme in Tasmania. It is noted that Victoria legislation which defines the Audit process was updated and superseded by the *Environment Protection Act 2017* (the EP Act), which came into effect on 1 July 2021, and contains significant changes to Audit methodology and terminology under the Victorian framework. Under Section 478 of the EP Act, existing Audits where an Auditor has been engaged prior to 1 July 2021, and the Audit has not been completed by 1 July 2021, can be conducted under either the EP Act or the previous framework. To maintain continuity with the portions of the Audit already completed, and due to elements of the EP Act which give powers and place requirements on EPA Victoria, which does not have authority to make decisions or give direction within Tasmania, the Site Audit will continue under the previous framework and terminology.

The overarching outcome required for the Environmental Audit is a Contaminated Land Audit Report (i.e., sign off) prepared by the Contaminated Land Auditor confirming that Clean Up to the Extent Practicable (CUTEP) has been achieved and that the Site is suitable for the intended future uses.

Auditor review and endorsement of the proposed methodology and overall outcomes of Site remediation will be required prior to future development of the Site.

2.4.2 Clean Up to the Extent Practicable

The Audit will include consideration of CUTEP, similar to that adopted by the Victorian audit scheme as discussed in **Section 2.4.1**. Section 1.0 of Victorian EPA Publication 840.2 (2016) *The cleanup and management of polluted groundwater* (EPA Publication 840.2) has been used as guidance for the CUTEP process in the absence of an equivalent Tasmanian document, and notes that:

> '*Where polluted groundwater has been identified, EPA Victoria's role is to require clean up. If it is impracticable to clean up groundwater to the level needed to restore beneficial uses, EPA may accept that cleanup to the extent practicable has occurred and that, subject to appropriate ongoing management, further cleanup is not required*'.

The CUTEP process recognises that polluted groundwater should be cleaned up such that the protection of beneficial uses is restored, and were considered acceptable (by the authority, in this case the independent Auditor in conjunction with the Tasmanian EPA), groundwater may be cleaned up to the extent practicable.

It is noted that a CUTEP determination needs to be made for the whole Site (i.e., each Audit Area), not just individual remediation areas. However, interim agreement will likely be sought from the Auditor that individual areas have reached remediation end-points, so that active remediation works can cease.

3.0 Assessment Criteria

3.1 Site Specific Remediation Criteria

3.1.1 Human Health

AECOM has prepared Site Derived Remediation Criteria (RC) for soil and groundwater to inform potential remediation/ management works required at the Site for the protection of human health (*Derivation of Remediation Criteria, Macquarie Point Development Project*, AECOM, 2016a). The following scenarios have been considered based on the potential future land uses:

- Recreational Open Space Users
- Residents:
  - Slab-on-grade unknown construction or multi-storey building
  - Low rise slab-on grade
  - Building with basement car park.
- Commercial:
  - Slab-on-grade unknown construction or multi-storey building.
- Commercial/ Light Industrial Workers:
  - Working within a basement car park
  - Low rise slab-on-grade.
- Maintenance Workers (including excavation to depths of up to 1 m bgl).

The RC is based on generic assumptions regarding future land use including:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Intrusive Maintenance Workers [IMW]) to have direct contact with soils. Agreement with the Site Contaminated Land Auditor will likely be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
  - Paved surfaces (e.g., concrete, asphalt, etc.)
  - Building footings
  - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g., 0.5 – 1.0 m topsoil)
  - Other suitable materials: e.g., geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternative to a thicker earthen layer.
- A Site Environment Management Plan (SEMP) will be in place in the future to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground breaking activities, including Intrusive Maintenance Workers.
- Adjacent off-Site land uses include open space, commercial/industrial and residential areas. As these potential land uses have been considered on Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g., via groundwater migration beyond the Site boundary).
- Soil RC are not considered to be applicable to soil located within the saturated zone (i.e., beneath the water table). Where soil impacts are located beneath the water table, this impact is considered to be a factor for groundwater assessment and management as partitioning to vapour will be dominated by groundwater rather than soil in the saturated zone.

Concentrations of CoPC have been reported in excess of the RC within the Precinct South. The current Masterplan presents a mixture of Commercial/Industrial and Open Space uses for the Precinct South. However, as discussed in **Section 2.1.1**, the Site has recently been announced as a preferred location

for development of a future sports stadium, and under the Draft Precinct Plan (MPDC, 2023), portions of the Precinct South will be used for either stadium or mixed use. The existing Site Specific RC for Commercial / Light Industrial, Intrusive Maintenance Worker, and Public Open Space use have been applied for assessment of this area. Assessment against residential use criteria has also been conducted, however it is noted that this use is not considered likely to be realised for the Precinct South based on the Draft Precinct Plan and zoning regulations in the vicinity of TasPorts operations on the eastern boundary.

It is noted that a future risk assessment of site data and completed remediation against stadium requirements will be required in the future and additional remediation may be required if specific risk scenarios not considered by the existing RC are identified.

3.1.2 Ecological

The Site Derived RC discussed in **Section 3.1** are noted to have been developed to be protective of human health exposure scenarios and did not consider potential ecological receptors. The *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020a) was prepared to evaluate the potential risk to identified ecological receptors from groundwater impacts on the Site, primarily the nearby marine ecosystems of the River Derwent and Sullivans Cove, which contain the inferred points of discharge of Site groundwater. The ecological receptors were identified to be artificial, of low ecological value and considered to be within 'highly disturbed' environments. Specific ecological criteria were developed to be protective of this environment and assessed using data from the Site boundaries.

Based on the weight of evidence approach, which considered concentrations of Chemicals of Potential Ecological Concern (CoPEC), composition and stability of LNAPL impacts, and interaction between groundwater and seawater, including the effects of subsurface infrastructure and seawalls, it is considered that groundwater emanating from the Site boundary is unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors within Sullivans Cove and the River Derwent.

3.2 Data Quality Objectives

Guidance regarding the development of Data Quality Objectives (DQOs) has been referenced from the following primary documents:

- National Environment Protection Council, National Environment Protection (*Assessment of Site Contamination*) Measure 1999, *Schedule B2: Guideline on Site Characterisation* (as amended in May 2013) [ASC NEPM].
- EPA New South Wales, *Sampling Design Part 1 – Application, Contaminated Land Guidelines* (EPA NSW, 2022a)
- EPA New South Wales, *Sampling Design Part 2 – Interpretation* (EPA NSW, 2022b)
- US EPA, 2006 *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4).

The process of establishing appropriate DQOs is defined by the seven-step planning approach presented in the ASC NEPM and summarised in **Table 6** below.

Table 6 Data Quality Objectives

Step	Data Quality Objective Step Summary
1	***State the Problem*** – Summarise the problem that will require new environmental data, identify the resources available to resolve the problem and develop a Conceptual Site Model (CSM) based on available information prior to the commencement of the site investigation.
2	***Identify the Goal of the Study*** – Identify the decisions that need to be made and the new environmental data required to support the identified decisions. Develop a decision statement linking the principal project objective(s) to the possible actions that will address the problem.

Step	Data Quality Objective Step Summary
3	***Identify Information Inputs*** – Identify the information needed to support any decision and whether new environmental data will be needed.
4	***Define the Boundaries of the Study*** – Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision(s).
5	***Develop the Analytical Approach*** – Define the parameter of interest, specify the action level, and integrate information from Steps 1–4 into a single statement that gives a logical basis for choosing between alternative actions.
6	***Specify Performance or Acceptance Criteria*** – Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.
7	***Develop the Plan for Obtaining Data*** – Identify the most resource-effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

The methodology presents a sampling plan which is designed to meet the objectives for the investigation and to achieve the nominated DQOs. The approach to be adopted relative to the seven steps presented above is discussed in the following sections.

3.2.1 Step 1 – State the Problem

The overarching problem to be addressed is to remove contamination or potential contamination sources which may represent an unacceptable risk to current or future Site uses, or current or future uses of neighbouring sites.

The problem to be addressed as part of remediation is removal of infrastructure and impacted soil to the extent practicable and demonstrate that identified impacts have been removed to an appropriate extent to remove any unacceptable risks to future Site uses arising from these materials.

3.2.2 Step 2 – Identify the Goal of the Study

The overarching goals of remediation works were to:

- Remove unacceptable risks to future Site uses.

The goals of this remediation works are to:

- Assessment and validation the removal of impacted soil and remnant infrastructure.
- Support future CUTEP assessment of the Precinct South.

3.2.3 Step 3 – Identify Information Inputs

To allow assessment of the data against the issues listed in **Section 3.2.2**, various inputs will be considered as follows:

- Review of the existing Conceptual Site Model (CSM) and Site data, and planned future Site uses.
- Identification of existing areas of known or potential impacts which may present an unacceptable risk to future uses.
- Identification of criteria to assess the success of the remediation.
- Assessment of field records, analytical certificates, and records of remediation against adopted criteria to consider if unacceptable risks remain.

3.2.4 Step 4 – Define the Boundaries of the Study

The spatial boundaries (geographical limits) applied for data collection and decision making for remediation works are defined as follows:

- The area of the Site referred to as the Precinct South (as shown on **Figure F2**).
- The area of works is vertically delineated by the underlaying groundwater at a variable depth below the site. Groundwater is estimated to be at approximately 2 m bgl in the area of works, based on recorded historical groundwater levels of between 1.72 to 2.80 m bgl in the area of work (AECOM, 2021a, 2022a).

The assessment area is shown in **Figure F2** in the **Figures** section.

The temporal boundaries for decision making are:

- Available records of current and historic land use and investigation, including Site history as presented in **Section 2.2.1**.
- Field records from remediation between 27 February and 6 June 2023.

3.2.5 Step 5 – Develop the Analytical Approach

Environmental data collected for the purpose of the remediation validation must be of sufficient representativeness to further inform decision making regarding the status of contamination at the Site.

The RWP (AECOM, 2023a) and Technical Specification (AECOM, 2023b) were developed to provide a framework outlining the scope and methodologies for remediation of the Precinct South and contain details of the sample analytical suites, density, and collection methodology required to collect and assess the outcomes of the implemented remediation.

Laboratories for the analysis of collected soil samples will be National Association of Testing Authorities (NATA) accredited for the requested analysis and will be consistent with the following methodologies summarised in **Table 7** below.

Table 7 Laboratory Analytical Methods

Matrix	Analyte	Method Reference
Soil	Metals*	USEPA 200.2 /ICP-AES, CV/FIMS /ICPMS
	TRH and BTEXN	GC/FID, HS/P&T-GC/MS
	PAH and Phenols	GC/MS – SIM
	Cyanide	APHA 4500 CN- -C&N
	Ammonia	APHA 4500 NH3- - G
Water/ Leachate	Metals*	ICP/MS/CV/FIMS
	TRH and BTEXN	GC/FID, P&T/HS/MS
	PAH and Phenols	USEPA 3510/8270 SIM
	Cyanide	APHA 4500 CN- -C&N, APHA 4500 CN- -I&N
	Ammonia	APHA 4500 NH3 - - G

*Notes: *arsenic, barium, cadmium, chromium, copper, lead, nickel, manganese, zinc, mercury.*

The decision rule for remediation validation samples is to assess the laboratory data against the performance criteria outlined in **Section 3.1**

Where the performance criteria are not achieved, further assessment or remediation will be required.

3.2.6 Step 6 – Specify Performance or Acceptance Criteria

A decision error in the context of the decision rule presented in **Section 3.2.5** would lead to inadequate removal of impacted material, and failure to achieve the remediation objectives. Decision errors may include:

- Data constraints and uncertainties resultant from errors identified:
  - in the scope of work documented in the RWP (such as extent of excavation or density of validation sampling)
  - during the implementation and assessment of remediation
  - in the laboratory testing program.
- Limitations:
  - in understanding of the extent of the impacts
  - based on inaccurate/inadequate data from previous investigations
  - where aspects of the proposed work could not be implemented
  - in the ability to collect representative samples for laboratory testing.

The decision rules for acceptance of remediation validation samples are:

- Comparison and assessment of results against the remediation criteria for chemical concentrations outlined in **Section 3.1.**
- Assessment of the density of validation sampling against the criteria outlines in the RWP.
- Assessment of laboratory Data Quality Indicators (DQIs) outlines on **Table 5** below.

Table 8 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate blanks	Less than the laboratory limit of reporting (LOR)
Intra and inter laboratory field duplicates (1) (2)	Relative Percentage Difference (RPD) less than ± 30%
Laboratory duplicates (2)	RPDs Less than: • 20% for high level laboratory duplicates (i.e., >20 x LOR) • 50% for medium level laboratory duplicates (i.e., 10 to 20 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery, or laboratory supplied limits
Method blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%, or laboratory supplied limits
Surrogate spikes	See Note 5

Notes:

1. *Potential exceptions to this criterion may occur where the results are close to the LOR. This typical RPD range is obtained from AS4482.1 and Schedule B2 of the ASC NEPM.*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous, and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if laboratory control spike data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*

Where one or more of the identified decision errors is realised, or the QA/QC and data validation program identifies limitations in the dataset, a data review will be undertaken to ascertain the acceptability of the data with respect to the objectives of remediation.

3.2.7 Step 7 – Develop the Plan for Obtaining Data

The RWP (AECOM, 2023a) and Technical Specification (AECOM, 2023b) were developed to provide a framework outlining the scope and methodologies for remediation of the Precinct South.

4.0 Remediation Requirements

4.1 Identified Impacts

Sections 4.1.1 to **4.2** below describe impacts which were identified as requiring or potentially requiring remediation in the RWP or during remediation works.

4.1.1 Former Fuel Pipeline Removal

Two former fuel pipelines (referred to as the Diesel and the Oil Lines) were known to be present beneath the Site roadway between the Red Shed and the SeaRoad Shed Slab. Prior to the activities described in this report, each pipeline terminated at the north-west corner of the SeaRoad Shed following remediation in 2020 (AECOM, 2021b).

Each pipeline as encountered during the Precinct South remediation in 2023 is described below.

- The Diesel Line, located to the west of the Oil Line, consisted of approximately 200 mm diameter steel pipe with a bituminous, ACM cladding, and ran north-south at a depth of approximately 0.5 m bgl under the Site road before turning west and terminating in a sealed flange on Site in front of the Red Shed. ACM was also detected in the cladding of this pipeline during earlier removal of other sections (AECOM, 2021b).

  An additional pipeline, not connected but identical in appearance to the Diesel Line, was uncovered to the west of the termination point. This was inferred to be the extension of the Diesel Line, and potentially a historic “Naval Oil Line”, identified in previous assessments, and was removed and capped with concrete at the Site boundaries as part of this remediation program.

  Soil surrounding the Diesel Line was also removed as potentially containing ACM as described in **Section 5.1.1**, as it was assessed as possible that fragments of the cladding may have broken loose.

- The Oil Line, located to the east of the Diesel Line, consisted of approximately 200 mm diameter steel pipe with a bituminous cladding, which was sampled and did not have any ACM detected, consistent with previous remediation activities (AECOM, 2021b). The Oil Line ran north-south at approximately 0.5 m bgl until it reached the southern Site boundary of the Site, in front of the SeaRoad Shed Slab, prior to removal and capping as discussed in **Section 5.1.2**.

  Soil surrounding the Oil Line was assessed for re-use on Site as discussed in **Section 5.5.1**.

The location of the removed fuel lines is shown on **Figure F4**. Removal of the fuel pipelines is discussed in **Section 5.1** and analytical results and validation are discussed in **Section 6.1** below, and assessment of the cladding of the Diesel and Oil Lines for potential asbestos is attached as **Appendix G**.

4.1.2 Soil Requiring Remediation

The RWP identified soil impacts which could represent an unacceptable risk to potential future uses of the Site consisting of:

- The Northern Excavation Area (shown on **Figure F3**), where lead impacts in excess of the future Intrusive Maintenance Worker RC were detected in a continuous area in soil samples OL-EX-320, OL-EX-321, OL-EX-322 and OL-EX-334, indicative of a probable lead hot spot area, and were not removed or delineated at the conclusion of works in this area in 2020 (AECOM, 2021b), where soil excavation was not extended into what, at that time, was a separate Audit Area (as noted at the end of **Section 2.1**), which was not included in the planned scope of remediation completed in 2020.

  A former boiler was also uncovered and removed during excavation of this area.

- The Former UST Area and Pipeline Excavation Area (shown on **Figure F4**) consist of an excavation along the length of the pipelines to be removed, and includes the following components:

  - Soil surrounding the pipelines, which was considered to have the potential to be impacted by leaks from the pipeline or by ACM within the bituminous cladding of the Oil Line.

- Hydrocarbon concentrations in soil in the Former UST Area under the Site access road, where exceedances of the Commercial/Light Industrial RC were previously reported for speciated TRH at BH194. Excavation of materials at near BH193, BH195 and RS3 in this area was also required as, while speciation of TRH in these samples was completed at depths greater than 1 m bgl and indicated that soil vapour is not an unacceptable risk from soils at that depth, impacts were not delineated vertically, and it was considered possible that TRH impacted soil could be present in shallower material.
- A buried railway was also uncovered and removed during excavation of this area and is discussed in **Section 5.2.2.1**.

The areas of soil excavation are shown on **Figure F2** in context of the Site as a whole, and discussed in **Section 5.2**, **6.1.2** and **6.1.2** below.

4.2 Change in Use Investigation

As noted in **Section 2.1.1**, under the Masterplan (MPDC, 2015) a significant portion of the Precinct South is planned for future Open Space Use. However, changes proposed in the Draft Precinct Plan (MPDC, 2023) include a Complementary Integrated Mixed Use Zone and the Multipurpose Stadium and Associated Concourse Zone, which includes Open Space areas. Assessment for Commercial / Light Industrial use is considered more appropriate for these areas, and a more conservative level of remediation may be required.

As part of the RWP, soil data from previous investigations in the Precinct South was assessed against the Site Specific RC for Commercial and Commercial / Light Industrial use to assess potential remediation requirements beyond those previously identified for the future uses in the Masterplan. Two locations where a potential risk of vapour intrusion due to concentrations of TRH >C_{10}-C_{16} in excess of the Commercial/Light Industrial RC were identified:

- At 0.5 m bgl in soil bore BH62, located in the northeast corner of the Precinct South.
- At 9 m bgl from wall validation sample OL-EX-107 and 1.0 m bgl from wall validation sample OL-EX-110, collected from the trench excavated during the removal of a former pipeline route in the eastern section of the Precinct South.

The TRH ranges assessed against the RC at these locations considers a range of hydrocarbon components, each of which present a different level of risk to future Site users based on the chemical structure of the components. Shorter carbon chain hydrocarbons with aromatic ring structures present a higher risk to human health, and as a conservative measure, the RC adopted for TRH C_6-C_{10} and TRH C_{10}-C_{16} assume that all contaminants detected consist of the higher risk components. Speciation assessment of results can assess the composition of the detected hydrocarbons with more precision and determine the quantities present of aromatic or aliphatic hydrocarbons in samples collected, however this was not conducted at the time of sampling due to the proposed future Open Space use of each area.

Soil at location BH62 (where an exceedance of the RC was previously detected at 0.5 m bgl) was excavated until groundwater was encountered (approximately 2.2 m bgl) as part of removal of lead impacted soil in the Northern Excavation Area, and no further investigation was conducted as potentially impacted soil has been removed from the Site. However, a trench was excavated through previously placed backfill between locations OL-EX-107 and OL-EX-110.

The area of additional investigation is shown on **Figure F3** and discussed in **Sections 5.3** and **6.2**.

4.3 Buried Railway(s)

During excavation of the Site road between the SeaRoad Shed Slab and the Red Shed to remove the former fuel pipelines, a buried section of railway track was uncovered running north / south beneath the road. The rail section was visible on historic aerial photographs of the Site from 1946 onwards attached to the *Audit Area 3 Detailed Site Investigation* (the AA3 DSI) (AECOM, 2022b), which indicate that the railway was buried/covered in bitumen to a point north of the SeaRoad Shed at some point between 1984 and 1990.

Two other potential buried railways within the Precinct South from the same time period were also noted on aerial photographs:

- One running north from the north-east corner of the Red Shed beneath the carpark area.
- One running north-south beneath the carpark along the western boundary of the Precinct South.

Potential buried railways may also exist beneath the carpark in the adjacent Goods Shed and Yard area to the west. It was anecdotally reported by staff of the Corporation that no indications of buried railways were uncovered during installation of the carpark, although limited intrusive work was undertaken as part of this activity.

Railway sleepers potentially leach contaminants if treated with cresols/tar, which was a common to prevent rot/decay of the wood. However, old or exposed sleepers generally do not have detectable levels of leachate due to the impregnation of the treatment materials into the wood. Previous advice from EPA Tasmania in 2019 was that they consider creosote treated timbers to be general waste, although there is no specific Tasmanian legislation of this approach. EPA NSW Approval 2001/12 (EPA NSW, 2001) also considered creosote treated timbers as solid or inert waste. EPA Victoria does consider creosote treated timber as priority waste for the purpose of disposal (EPA Victoria, 2022).

As a precaution, a sample was collected and analysed from a timber removed from the buried railway and the uncovered railway was removed as part of the Precinct South remediation. Removal and assessment of the railway is discussed in **Section 5.2.2.1**

The uncovered railway is shown on **Plate 2** below, and the location of the buried railway is shown on **Figure F2.**



Plate 2 Uncovered Railway, 9 March 2023

4.4 Stockpile Remediation

Soil excavated as part of the Precinct South was considered for potential on-Site remediation based on initial results of categorisation samples. Remediation of contaminated soil is considered beneficial as it can:

- Reduce the concentration of contaminants, or availability of contaminants to migrate to receptors, reducing the risks of future disposal of the material.
- Potentially allow beneficial reuse of soil (on- or off-Site) which would not be possible otherwise.
- Lower the waste classification of soil and allow reduced costs in disposal if reuse is not possible.

Remediated soil was only considered for reuse on Site if, during post-remediation categorisation sampling:

- No exceedances of Site-Specific RC were detected.
- No signs of material organic impact were detected by field screening, including visual and olfactory assessment, and measurement of potential hydrocarbon vapours.
- No previous detection had reported any contaminants which would not be treated or reduced by the employed remediation technique.

Auditor approval was required prior to reuse of remediated soil on Site.

Two soil remediation techniques were employed as part of the Precinct South remediation:

- Chemical immobilisation to stabilise lead impacted soil and reduce lead leachability. Stockpiles treated by this methodology were not considered suitable for reuse on-Site, as the total concentration of lead is not reduced by treatment.
- A combination of biopiling and landfarming to volatilise and encourage aerobic digestion of TPH (hydrocarbon) impacts.

Remediation and reuse of stockpiles is discussed in **Section 5.6** and assessment of stockpile remediation, including summary of remediation technologies referenced from the CRC Care National Remediation Framework *Technology guide: Bioremediation* (CRC Care, 2018) and CRC Care National Remediation Framework *Technology Guide: Soil – Chemical immobilisation and stabilisation* (CRC Care, 2019), are attached as **Appendix F**.

5.0 Field Activities Completed

5.1 Removal of Pipelines

Excavation and removal of the Diesel and Oil Lines was undertaken between 20 February and 24 March 2023 by Blackcap using a 12 tonne mechanical excavator. Based on the survey data provided by BlackCap and the AECOM field assessment of soil stockpiles, the following material was excavated and removed as part of this phase of works:

- Approximately 110 m of the Diesel Line (including the disconnected extension noted in **Section 4.1.1**).
- Approximately 90 m of the Oil Line.

Both pipelines were removed from the sealed northern ends, adjacent to the northwest corner of the SeaRoad Shed, where previous remediation activities were concluded (AECOM, 2022a). The route of pipeline removal is shown on **Figure F2**, noting that the pipelines were in separate trenches north of the Former UST Area and in a single trench south of this area. Validation of the pipeline excavations based on samples collected by AECOM is discussed in **Section 6.1**.

The extent of excavation was determined by:

- Tracing and exposing of the pipelines by BlackCap.
- Field observations and analytical results from soil samples along the route of the pipelines.
- Restrictions on further excavation imposed by the Site boundary to the south.

Samples of the cladding of each pipeline were collected and assessed for ACM presence by AEGIS under the direction of BlackCap (**Appendix G**), with ACM detected in the Diesel Line cladding, but not surrounding the Oil Line, which was consistent with results from previous removal of sections of these fuel pipelines to the north (AECOM, 2022a).

5.1.1 Removal of Diesel Line

The Diesel Line ran south from the previous end of removal at a point near the northwest corner of the SeaRoad Shed Slab, at a depth of approximately 0.5 m bgl, before turning west just south of the SeaRoad Shed Slab and terminated at a 90° elbow, such that the pipeline was directed vertically up towards the surface, in front of the Red Shed. The termination point was sealed with a flange and cap, which was removed by BlackCap before a visual record (photograph) could be recorded. All remaining sections of this pipeline on the Site were removed as part of works. A removed section of the Diesel Line is shown on **Plate 3** below.



Plate 3 Section of Diesel Line following disconnection, 2 March 2023

A separate previously unknown section of pipeline was uncovered to the west of the termination point of the Diesel Line. This pipeline appeared identical to the Diesel Line, with same cladding and dimensions, and entered and exited the Site from the Southern Boundary due to a 45° elbow in the pipe and a slight bend in Evans Street in front of the Red Shed. This pipeline was removed by BlackCap before a photographic record could be captured.

AECOM field staff observed clear water without odour or PID readings in the section of the Diesel Line which ran north-south beneath the Site road, which was decanted and captured by BlackCap. AECOM field staff were not onsite when BlackCap tapped the previously unknown section of the Diesel Line in south-east corner (south of the Red Shed), but BlackCap reported a mixture of water and degraded diesel was present which was also captured and removed from Site.

Historic reports indicated a potential “Naval Oil Pipeline” was in the area, and that the Diesel Line may run west adjacent to or beneath Evans Street, and based on the similarity in appearance and age this was inferred to be the same pipeline. The section of this line on the Site was removed and capped with cement:

- At the Site boundary on the eastern end.

- Approximately 5 m from the Site boundary on the western end due to the presence of high risk services (power, gas) beneath Evans Street and access requirements by the Red Shed tenants.

Fragments of potential ACM cladding from the Diesel Line were noted by AECOM field staff when sampling the excavated soil from this stockpile, and it was not considered suitable for reuse on Site. The excavated soil was disposed of off Site as discussed in **Section 5.7**.

5.1.2 Removal of Oil Line

The Oil Line ran south at approximately 0.5 m bgl to the Site boundary without any change in direction. The Oil Line was removed to the southern boundary of the Site (Evans Street), where it was capped and sealed with concrete approximately 2 m from the Site boundary due to the presence of underground services and a fire hydrant on the corner of the Site (shown on **Plate 4**, below).



Plate 4 The Oil Line, in situ at Evans Street prior to removal, 20 March 2023

The soil surrounding the Oil Line was reused on Site as discussed in **Section 5.5**.

5.2 Soil Excavation

Excavation and removal of hydrocarbon impacted soil in the former UST Area and lead impacted soil in the Northern Excavation Area was undertaken between 13 March and 7 June 2023 by BlackCap using a 12 tonne mechanical excavator. Vertical excavation was limited to approximately 2 m bgl in each area, where groundwater was encountered, and lateral excavation was undertaken in stages based on the results of wall validation samples collected by AECOM during works.

Based on the survey data provided by BlackCap and the AECOM field assessment of soil stockpiles the following material was excavated and removed as part of this phase of works:

- Approximately 325 m^3 of soil surrounding the fuel pipelines (consisting of 120 m^3 surrounding the Oil Line north of the former UST Area, and 205 m^3 surrounding the Diesel Line, and surrounding the Oil Line south of the Former UST Area where the pipelines were within a single trench).

- Approximately 360 m^3 of soil was removed from the Former UST Area.
- Approximately 650 m^3 of soil was removed from the Northern Excavation Area.

The extent of excavation was determined by:

- The locations of two remnant pipelines (the Oil Line and Diesel Line), and two areas of soil impact (the Northern Excavation Area and the Former UST Area) identified in the RWP and Technical Specification.
- Field observations of soil encountered during excavations, by field staff from AECOM and BlackCap
- Results of validation sampling assessed against the RC by AECOM. Further excavation was undertaken where possible when exceedances of the RC for the proposed future Site uses were identified.
- Restrictions on further excavation including:
  - The Site boundary to the east (for the Northern Excavation Area) or the south (for the removal of pipelines).
  - LNAPL Plume B to the east (for the Former UST Area).
  - Groundwater at approximately 2 m bgl.

Each area of excavation is shown on **Figure F2**, and validation of the soil excavations based on samples collected by AECOM is discussed in **Section 6.1**. Each excavation was backfilled as described in **Section 5.5**.

5.2.1 The Northern Excavation Area (Lead Impacted Soil)

The Northern Excavation Area consisted of soil with concentrations of lead in excess of RC in the northeast corner of the Precinct South. Removal of lead impacted soil was conducted to the north of this area in 2020 (AECOM, 2021b), but validation samples collected during the 2020 works indicated that lead impacts extended to the south.

An estimated 650 m^3 of soil, consisting of fill material, was removed using a mechanical excavator to approximately 2 m bgl, where groundwater was encountered and acted as a vertical limit to excavation. Lateral excavation to the south, east and west, beyond the initial area estimated in the RWP and Technical Specification, was conducted based on the results of validation samples collected from the excavation wall, or if backfill material from the 2020 soil remediation program in this area (AECOM, 2021b) was encountered. Assessment of validation samples from this area is provided in **Section 6.1.2**.

Excavated soil was sampled and remediated to reduce lead leachate concentrations, prior to off-Site disposal, as discussed in **Section 6.2**.

The following features of interest were noted during excavation of this area:

- A water-filled boiler (see **Plate 5** below), initially noted by field staff as a potential pipe or UST, was uncovered in fill on the eastern wall of the Northern Excavation Area. The boiler was not connected to any pipelines and appeared to have been buried as a disposal method at some point in the past.

  The water in the boiler was sampled by AECOM and decanted by Cleanaway (under BlackCap supervision), prior to the boiler being removed and disposed off-Site by BlackCap. The location where the boiler was found is shown on **Figure F3**, and assessment of the boiler, the water within it, and surrounding soils is discussed in **Section 6.1.2.1**.



Plate 5 Boiler in Norther Excavation Area, 26 April 2023

- Two potential ACM fragments were noted by AECOM staff in stockpiled material (one in OL_EX_SP4 and one in OL_EX_SP5) from the south-east corner of the excavation (near sample locations OL_EX_415 to OL_EX_417). The presence of asbestos could not be verified by laboratory testing as the observed fragments were removed from the stockpiles and disposed of to an ACM waste container by field staff, and as such the stockpiled material from these areas was treated as potentially ACM containing, however no other fragments were observed. Assessment of the ACM is discussed in **Section 6.1.2**.



Plate 6 ACM Fragment in OL_EX_SP5, 23 May 2023

- Blue colouration (shown on **Plate 7** below) was noted in soil collected from stockpiled material (OL_EX_SP6) on the south west corner (near sample locations OL_EX_418 and OL_EX_419) and flagged, based on colour, by AECOM field staff as potential Prussian Blue, a blue material historical used in paints or associated with gasworks wastes with high levels of cyanide. No blue colouration was observed in soil in the excavation or at any other point. Assessment of the potential cyanide is discussed in **Section 6.1.2**.



Plate 7 Blue material located in OL_EX_SP6, 23 May 2023

5.2.2 The Former UST Area (Hydrocarbon Impacted Soil)

The Former UST Area consisted of soil with concentrations of fuel hydrocarbons in excess of RC beneath the SeaRoad Slab and the Site road to the west.

During excavation of the initial inferred extent of the Former UST Area, beneath the Site Road west of the SeaRoad Shed Slab to the edge of the slab, excavated soil was segregated into four stockpiles based on depth the soil was removed from and field observations:

- A stockpile of fine crushed rock / road base (approximately 90 m^3, based on reported depth and dimensions of road removed) between the surface (below bitumen) to approximately 0.5 m bgl which was stockpiled separately.
- Gravelly clay fill material between 0.5 and 1.3 m bgl, with noted gravels, cobbles, marine sands and shells, and trace anthropogenic fragments of bricks, glass, ceramics, wood, leather, metal and bones. This material was stockpiled in two stockpiles: UST_SP_0.5-1.0 (approximately 85 m^3), consisting of material from between 0.5 and 0.9 m bgl, and UST_SP_1.0-1.5 (approximately 65 m^3) consisting of material from between 0.9 and 1.3 m bgl.
- Similar clay material to the above was exposed from 1.3 to 2.0 m bgl, with a noted hydrocarbon odour and detectable PID readings. This material was stockpiled as UST_SP_1.5-2.0 (approximately 125 m^3) and included fill material from shallower than 1.3 m bgl (surrounding Oil Line validation sample point OL_77) from the southern end of the excavation where field screening detected potential hydrocarbon impacts.

Based on field screening during initial excavation, further excavation was undertaken (to 2 m bgl where groundwater was encountered):

- To the east below the SeaRoad Shed Slab, generating stockpile UST_SP_EXT (approximately 180 m^3). This stockpile was further extended based on validation sampling, generating stockpile UST_SP_Ext_59SP (approximately 10 m^3).
- To the south and east of Oil Line validation sample point OL_77, generating stockpile UST_SP_Ch77-80 (approximately 30 m^3).

An estimated 360 m^3 of soil, consisting of fill material, was removed using a mechanical excavator. Groundwater was encountered at approximately 2 m bgl in the area to the east of the roadway beneath the SeaRoad Shed Slab, and acted as a vertical limit to excavation. The initial excavation was undertaken in 0.5 m lifts, with the top 0.5 m consisting of road base which was stockpiled for reinstatement at the surface and sealing following completion of remediation, and the remaining material separated into three stockpiles (from 0.5 to 1.0 m bgl, 1 to 1.5 m bgl, and 1.5 to 2.0 m bgl) based on field observations of staining and odours occurring only deeper in the material. Some material from the southern end of the excavation at depths shallower than 1.5 m bgl was included in the 1.5 to 2.0 m bgl stockpile based on field screening indicating potential hydrocarbon impacts.

Based on validation samples from the south and east walls of the excavation, the excavation was extended laterally in these directions and further validation samples collected.

Where excavation was assessed as required under the SeaRoad Shed Slab, the ~300 mm thick concrete slab was cut and removed to allow access to underlying soil. Approximately 175 m^2 of slab surface, or ~50 m^3 of concrete in total, was inspected by field staff following removal, and was reused as fill as discussed in **Section 5.5**. The area where concrete was cut, and fresh concrete reinstated to restore the SeaRoad Shed Slab at the completion of works, is shown on **Figure F3**.

Lateral excavation of the Former UST Area was limited to the east where concerns of contact with LNAPL on the surface of groundwater (LNAPL Plume B) were raised as a safety concern for site staff. Assessment of validation samples from this area, and discussion regarding extent of excavation, is provided in **Section 6.1.2**.

Excavated soil was sampled and either remediated for use as fill or disposed off-Site as discussed in **Section 5.5** to **5.7** .

5.2.2.1 Removal of Buried Railway

A buried railway, uncovered during exposure of the Diesel and Oil Lines, was located just below the bitumen surface of the road to the west of the SeaRoad Shed Slab as described in **Section 4.3**. The railway was present to a maximum depth of 0.2 to 0.4 m bgl. BlackCap excavated and removed the railway, including sleepers and metal rails, which were disposed off-Site as waste. The area of removal was bought back to level using imported fill for re-sealing at the end of works to reinstate the Site road.

Assessment of the railway is provided in **Section 6.1.3.1**.

5.3 Change in Use Investigation

As discussed in **Section 4.2**, the RWP and Technical Specification identified two areas where further investigation to assess if potential vapour risks to future Commercial or Light Industrial users could exist under the possible future development as proposed in the Draft Precinct Plan, and as a result, a more conservative level of remediation than required by the Masterplan should be implemented:

- At 0.5 m bgl in soil bore BH62, located in the northeast corner of the Precinct South.
- At.9 m bgl from wall validation sample OL-EX-107 and 1.0 m bgl from wall validation sample OL-EX-110, collected from the trench excavated during the removal of a former pipeline route in the eastern section of the Precinct South.

Due to chase-out of lead impacted soil, BH62 was included in the overall Northern Excavation Area and no further investigation was conducted or is considered required as potentially impacted soil was removed as part of the soil excavation in this area to a depth of approximately 2 m bgl on average.

On 3 May 2023, a trench between the recorded locations of OL-EX-107 and OL-EX-110 was advanced by excavator to a depth of 1.1 m bgl. Field staff noted that the backfill from the previous remediation was clearly identifiable and distinct from the existing fill material at the limit of the previous remediation. The investigation trench was advanced into the material which predated the 2020 remediation by 200 mm to avoid sampling backfill placed in 2020. No odours or staining was noted in the trench during advancement. Two soil samples were collected from the trench wall at 1.1 m bgl, at the previous locations of OL-EX-107 and OL-EX-110, for analysis, and are discussed in **Section 6.2**.

5.4 Field Screening and Sampling

Soil validation sampling and screening was undertaken by AECOM staff in accordance with the RWP and the Technical Specification in order to characterise the excavation during the removal of pipelines and impacted soil and assess if contamination has been removed or if further excavation is required.

Two stockpiles (PS-PB-SP1 and PS-PB-SP2), which consisted of soil treated to reduce lead leachate prior to removal from Site, were sampled by a suitability qualified environmental scientist from Elgin Associates (Elgin), a Hobart-based environmental consultancy, as suitably qualified AECOM field staff were not available. AECOM provided technical advice during sampling and review and assessed sample results for the purposes of categorising these stockpiles for off-Site disposal, with results of this assessment attached in **Appendix F**.

Validation samples were collected from the mid-point of walls and the base of excavations at a minimum rate of one sample per 25 m^2 of excavation face, and from a depth of at least 300 mm below any surface to minimise the potential for volatilisation of contaminants to occur. Where excavations reached groundwater, base samples were not collected as further excavation below the water table was not considered required or practicable for remediation as:

- As noted in **Section 3.1**, the rate of partitioning of contaminants to the vapour phase will be dominated by groundwater concentrations rather than soil impacts, and assessment and management of risks below the water table is considered a groundwater issue rather than a soil issue.
- The SEMP includes restrictions and limitations on contact with or extraction of groundwater.
- Excavation of saturated soil decreases the stability of excavation walls and increases the risk of collapse, and potential risk to occupied adjacent buildings.

Groundwater was encountered at the base of the Northern Excavation Area, and in the eastern portion of Former UST Area, where excavation was extended beneath the SeaRoad Shed Slab based on initial validation samples.

All validation samples were analysed for:

- Lead

- TRH C_6 – C_{40} fractions
- BTEXN
- PAHs and phenols.

Stockpile categorisation samples were collected at a density of at least 1 primary sample per 25 m^3 of material, using the same methodology as validation samples.

Stockpile categorisation samples were analysed for:

- At least 30% of samples per stockpile for *Information Bulletin No. 105 – Classification and Management of Contaminated Soil for Disposal* (IB105) (EPA Tasmania, 2018).
- Remaining samples for the analytical suites used for validation samples, above.

Some validation and categorisation samples were assessed for additional analytical suites based on observations by AECOM or BlackCap, or results of initial samples, and are discussed in **Section 6.0**.

AECOM and Elgin field staff inspected excavations and stockpiles for any sign of impact (staining, hydrocarbon odour, miscoloured soils, or other indicators) following excavation and provided advice to BlackCap as to whether further excavation was recommended. Soil at all samples points was screened for the presence of volatile gases using a Photo Ionisation Detector (PID). The locations of samples were recorded on field notes based on excavation extent, stockpile configuration, and surrounding Site features.

A total of 110 primary samples were collected to validate excavations, and as part of other investigations during the Precinct South remediation. **Table 9** below provides the source area and sample name nomenclature used by field staff.

A further 152 primary samples were collected as part of stockpile assessment (including stockpile remediation assessment), included in **Appendix F.**

Locations of validation samples are shown on **Figure F3** and **Figure F4**, and assessment of analytical results is presented in **Section 6.0**.

Field staff recorded the location of validation samples along the pipeline trench and in the Former UST Area excavation with reference to estimated chainage length, or the length along the trench from the commencement point of the pipeline removal without reference to direction or turns distance (i.e., the estimated length of a chain extended along the base of the trench).

Table 9 Validation and Stockpile Categorisation Sample Nomenclature and Sources

Source Area	Number of Primary Samples	Sample Name Nomenclature	
		Example Sample Name	Sample Name Explanation
Excavations			
Diesel Line Excavation[1]	20	DL_00_0.6E	Sample collected at chainage[2] 0 m, at 0.6 m bgl, on the east wall of the Diesel Line excavation.
Oil Line Excavation[1]	14	OL_05_0.6W	Sample collected at chainage 5 m, at 0.6 m bgl, on the west wall of the Oil Line excavation.
Former UST Area	18	UST_73_59E_1.6	Sample collected form chainage 63, location 59, east wall, at 1.6 m bgl in the Former UST Area excavation.

Source Area	Number of Primary Samples	Sample Name Nomenclature	
		Example Sample Name	Sample Name Explanation
	3	UST_EXT_59E_1.6	Sample collected form chainage 63, location 59, east wall, at 1.6 m bgl in the extension of the Former UST Area excavation beneath the SeaRoad Shed Slab to the east.
Northern Excavation Area	47	OL_EX_413_0.8	Sample collected at location OL_EX_413 at 0.8 m bgl.
Investigations			
Change in Use Investigation Trench	2	OL_EX_107_1.1	Sample collected at location OL_EX_107 at a depth of 1.1 m bgl.
Investigation of Boiler	1	OL_EX_UST[3]	Sample of water collected form boiler uncovered in Northern Excavation Area.
Buried Railway	1	Rail Timber 1	Sample collected of rail timber.
Imported Backfill	1	UST_OL_DL_BF	Sample of imported backfill to verify consistency with previous assessment.

Notes: 1. Note that Diesel Line and Oil Line were within a single trench to the south of the Former UST Area – Diesel Line validation samples (i.e., of the format DL_90_1.0) more than 80 m south of the point where removed of pipelines commenced (greater than chainage 80 m) are also applicable for the Oil Line Excavation; 2. Chainage was estimated by field staff from the northern end of the pipeline trenches. Field recorded values may not correspond to exact meterage along the trench; 3. Field staff initially suspected the boiler may be a UST and named the sample of water from this location as such.

5.5 Backfill of Excavations

Backfill of excavations was undertaken by BlackCap using an excavator to place and use the shovel to compact soil. Backfill was undertaken using either:

- Imported Virgin Excavated Natural Material (VENM)
- Reused and validated material excavated as part of the remediation work, including material which was remediated on Site.

Figure F5 shows where backfill material was used as part of the works, which is discussed by area below. Consideration and assessment of backfill material used is discussed in **Section 6.4**.

5.5.1 Pipeline Trenches and the Former UST Area

In order to restore direct access to the Site carpark to the north of the Red Shed, excavations beneath the Site road between the SeaRoad Shed Slab and the Red Shed were backfilled using material from the following sources:

- Imported VENM (approximately 600 m^3)
- Crushed concrete from the portion of the SeaRoad Shed Slab (approximately 50 m^3) removed to access underlying soil
- Reinstatement of road base (approximately 90 m^3) from the original Site road west of the SeaRoad Shed.
- A small stockpile of soil (approximately 20 m^3) from the Gateway area of the Site (assessed in *Soil Categorisation and Waste Management Plan – Stockpile RH_SP* [AECOM, 2023f])

Initial backfilling, which occurred in the pipeline trenches and the portion of the UST excavation under the Site road between the Red Shed and SeaRoad Shed Slab, was undertaken using VENM, with beneficial reuse of soil from stockpile RH_SP and crushed concrete from the portion of the SeaRoad Shed Slab removed as fill in the northern section of the pipeline trench. The original road base was reinstated on top prior to sealing with bitumen. The area of excavation under the SeaRoad Shed Slab was backfilled with VENM and a fresh concrete slab reinstated to edge of the Site road (to the initial boundary of the SeaRoad Shed Slab).

5.5.2 The Northern Excavation Area

The Northern Excavation Area was backfilled with as follows:

- Due to groundwater ingress into the excavation, and concerns about Site security and possible ingress to the excavation by unauthorised people looking for artifacts in the fill (such as buried bottles etc), a layer of imported VENM approximately 0.5 m thick was placed in the base of the excavation.
- To further discourage unauthorised entrance to the excavation, approximately 270 m^3 of soil excavated the Former UST Area and surrounding the northern portion of the Oil Line was used as fill material in the northern portion of the excavation while chase out of lead impacts in the southern portion continued. Additional assessment of the backfilled material, as discussed in **Section 6.4.2** below, was undertaken and provided to the Auditor for approval, as Auditor approval for reuse was not received prior to backfilling due to a communication error between BlackCap and AECOM field and office staff.
- The remaining portion of the excavation was backfilled with remediated soil from the Former UST Area and VENM.

The surface of the excavation was covered with a VENM layer of at least 300 mm thickness to prevent contact with soil by Site users.

5.5.3 Survey of Backfill Locations

At the completion of works, final dimensions of the Former UST Area and the Northern Excavation Area were surveyed by Walter Surveys Pty Ltd (Walters) under BlackCap supervision after backfilling was conducted. The extent of excavation areas was assessed based on surface indicators included cuts in concrete, changes in soil colour and characteristics, and comments from BlackCap field staff who had been present for soil works.

The following is noted regarding the survey extents provided from Walters:

- The width and extent of the pipeline trenches were not surveyed by Walters and have been estimated on the figures provided. The location of pipeline trenches was inferred using:
  - The previously surveyed end of pipeline removal in 2020 (AECOM, 2021b).
  - The surveyed extent of the UST Excavation Area.
  - AECOM field records including physical features visible on aerial photographs, such as the Red Shed and edge of the SeaRoad Shed, and field recorded length (chainage) of pipelines, and measured length along the excavation (chainage) during collection of validation samples.
- The surveyed extent of the Northern Excavation Area:
  - Did not include a section in the south-east corner where additional soil was removed to the north of validation sample location OL_EX_424 after survey of the excavation had been conducted. BlackCap reported that soil in this area was removed until a change in lithology (to the fill material previously imported as part of the 2020 remediation work (AECOM, 2021b) was reached.
  - May overestimate the extent of soil excavated on the northern boundary by approximately 4 m, as BlackCap reported that they excavated material from a clear change in lithology between the backfill material used as part of the 2020 remediation work in this area (AECOM, 2021b). Initial extent of excavation was marked out prior to breaking ground based on the previously surveyed extent of excavation in 2020 (AECOM, 2021b), however BlackCap

reported that survey of excavation extent was conducted after backfilling of this area, and that the northern edge may have been disturbed by heavy equipment movements.

The survey data from Walters is attached as **Appendix I**. Georeferenced survey data is shown on **Figure F2** to **Figure F5**.

5.6 Stockpile Remediation

Stockpile remediation was undertaken using the methodologies discussed in **Section 4.4**, prior to excavated soil being either reused as fill or disposed off-Site.

Assessment of stockpile remediation was conducted prior to reuse or disposal in the following documents, attached as **Appendix F**:

- *Soil Categorisation and Waste Management Plan – Precinct South Remediation – Former UST Area Excavation Stockpiles* (AECOM, 2023c)
- *Stockpile Remediation Validation and Waste Management Plan – PS-Pb-SP1 and PS-Pb-SP2* (AECOM, 2023d).

5.6.1 Biopiling / Landfarming

Excavated soil from the Former UST Area and soil surrounding the Oil Line within the southern section of the area, totalling approximately 210 m^3, were identified as potential candidates for biopiling/landfarming remediation based on initial categorisation samples collected from the soil, and field observations of odours or staining indicative of hydrocarbon impact.

Soil to be treated was stockpiled on the hardstand of the former SeaRoad Shed Slab and turned by BlackCap with inclusion of 100 L of a commercially available fertiliser, mixed with water, with a reported nitrogen / phosphorus / potassium (NPK) ratio of 14% / 7% / 3% to provide additional nutrients to the stockpiles to encourage microbial activity. The stockpiles were then allowed to sit for two weeks, before being inspected by AECOM field staff and assessed for potential hydrocarbon indicators such as staining, odours, or detectable readings on handheld PID.

As no indicators of impact were detected, the material was sampled and, following validation as discussed in **Section 6.3**, was reused as fill material in the Northern Excavation Area.

5.6.2 Lead Stabilisation

Soil from the Northern Excavation Areas (stockpiles OL_EX_SP1 to OL_EX_SP8; consisting of approximately 600 m^3 of soil) and, and from the Diesel Line Trench (stockpile DL_SP; consisting of approximately 200 m^3 of soil) reported lead leachate concentrations in excess of the maximum allowable IB105 Level 2 Leachable Contaminant Concentration (LCC). BlackCap was engaged by the Corporation to undertake lead immobilisation treatment of this material.

The soil being treated was spread at a uniform level across the intact area of the SeaRoad Shed Slab, and 40 tonnes of Single Super Phosphate (SSP) were spread using a computerised spreading truck and 60 tonnes of magnesium oxide (MgO) were placed on a grid layout in 20 kg paper bags, or in small volumes from 1 tonne bulk bags, for uniform spread.

Soil and reagents were then mixed using a rotary mixer shown on **Plate 8** below, before being re-established in windrows for testing and storage.



Plate 8 Soil mixing of remediation reagents through soil (photograph provided by BlackCap)

Following remediation, the material was validated as discussed in **Section 6.3**, and disposed off-Site to McRobies Gully Waste Management Facility under Environmental Approval 11649/1.

5.7 Disposal of Excavated Materials

Excavated materials (soil, pipelines, and other materials) were managed by BlackCap for on-Site reuse or off-Site disposal.

The excavated Oil Line and the uncovered boiler were disposed of to a recycler, with the water in the boiler decanted by Veolia and removed from Site. The buried railway was disposed of as solid waste, and the Diesel Line was disposed of as ACM due to the presence of asbestos in cladding.

Excavated soil and materials from the following areas were either reused on Site following remediation as discussed in **Section 5.5**, or removed from Site as waste. Approximately 850 m^3 of soil, sourced from the Northern Excavation Area and from soil surrounding the Diesel Line with potential ACM fragments present, was removed from the Site as Level 2 – Low Level Contaminated Soil. Assessment of soil prior to disposal is documented in *Stockpile Remediation Validation and Waste Management Plan – PS-Pb-SP1 and PS-Pb-SP2* (AECOM, 2023d), attached in **Appendix F**.

No waste from remediation remained on-Site following completion of works. Waste disposal documentation provided by the Corporation and BlackCap is attached as **Appendix H**.

6.0 Assessment of Analytical Results

In order to validate that remediation of soil had been sufficient to remove potentially unacceptable risks to future Site users, the analytical results of samples collected by AECOM have been assessed against the Site Specific RC detailed in Section **3.1** and the DQOs detailed in **Section 3.2**.

Laboratory reports for soil sample analyses are included as **Appendix C** and presented on **Table T1** to **Table T3**. Assessment of data quality is attached as **Appendix D** and is summarised in **Section 6.5**. The locations of validation samples are shown on **Figure F3** and **Figure F4**. Field notes collected by AECOM staff during works are attached in **Appendix E**.

Assessment of stockpiles, including remediation, reuse, and/or disposal, conducted over the course of the remediation work is attached as **Appendix F**.

6.1 Validation of Excavations

During remediation work, results of soil validation samples were reviewed against the RC by AECOM and advice was provided to BlackCap as to whether further excavation was recommended. The following approach was taken when considering soil sampling data:

- As discussed in **Section 2.1.1** and **Section 3.1.1**, the Site Specific RC for Commercial / Light Industrial, Intrusive Maintenance Worker, and Public Open Space uses are considered applicable for potential future uses of the Precinct South. Assessment against Residential use RC was also conducted; however, exceedances of Residential RC have not been considered as requiring further remediation if the RC for potential future uses have not been exceeded.
- Analytical suites for TRH C_6-C_{10} and TRH C_{10}-C_{16} consider a range of hydrocarbon components, each of which present a different level of risk to future Site users based on the chemical structure of the components. Shorter carbon chain hydrocarbons with aromatic ring structures present a higher risk to human health, and as a conservative measure, the RC adopted for TRH C_6-C_{10} and TRH C_{10}-C_{16} assume that all contaminants detected consist of the higher risk components.

  Speciation assessment of results can assess the composition of the detected hydrocarbons with more precision and determine the quantities present of aromatic or aliphatic hydrocarbons in samples collected. For samples where speciation analysis was conducted, the results of the speciated hydrocarbons was to assess the RC exceedances present and if there was an unacceptable risk to future Site users present in the material and has been considered to supersede exceedances reported for broader ranges of hydrocarbons.
- The Potential Future Maintenance Worker RC is considered applicable for the first 1 m bgl for non-volatile CoPC, as future intrusive works following development, such as installation or repair of conduits, are considered unlikely to occur below this depth. Where exceedances of this RC were reported for samples collected from the base of the excavation at a depth of greater than 1 m bgl, no further excavation was recommended.
- Where excavations encountered groundwater (i.e., at approximately 2 m bgl in both the Former UST Area and in the Northern Excavation Area), validation samples were not collected from the base of the excavation. As noted in **Section 3.1.1**, partitioning to vapour is considered to be dominated by groundwater concentrations rather than soil in the saturated zone. The SEMP (AECOM, 2021e) contains restrictions on access to groundwater.

  It is noted that, if the proposed future development of the Precinct South includes excavation or dewatering, contamination which may be present in deeper soil will need to be considered and assessed, and discussion of management of deeper impacts should be included in the next update of the SEMP.

Assessment of excavation validation samples are presented by excavation below.

6.1.1 Fuel Pipeline Excavations

Results of validation samples collected from the Diesel and Oil Lines are presented on **Table T1**, and sample locations are shown on **Figure F4**.

Pipelines and surrounding soil were removed in trenches approximately 1 m wide and 1 m deep, with the excavations merged into a single trench south of the Former UST Area. Validation samples were collected from the base (1.0 m bgl) and midpoint of walls (0.6 m bgl) at approximately 12 m intervals along the pipeline excavation trenches, which fulfils the validation sample frequency in the RWP (1 primary sample per 25 m^2 of excavation base or wall area).

The following exceedances of RC were detected in Diesel Line and Oil Line validation samples collected from material which remains *in situ*:

- Concentrations of TRH >C10-16 (minus naphthalene) exceeding the Potential Future Commercial (unknown construction or multi-storey building) RC were detected at:
  - DL_23_1.0, from the base of the Diesel Line excavation at chainage 23 m (i.e., 23 m from the northern end of the trench).
  - OL_17_0.6E, from the east wall of the Oil Line excavation at chainage 17 m.

  Speciation of the soil samples collected at these locations was conducted and, while concentrations of aliphatic TRH >C16-C21 and aliphatic TRH >C21-C35 in excess of Residential use RC were detected at DL_23_1.0, no exceedance of RC considered applicable to future Precinct South uses were detected.

  No further excavation is considered required at these locations.
- Concentrations of TRH >C10-C16 (minus naphthalene) and/or naphthalene in excess of Residential RC were detected at:
  - DL_11_1.0, DL_35_1.0, DL_47_0.6E, DL_47_1.0 and DL_100_1.0 on the Diesel Line excavation.

  This RC is not considered applicable to future Site uses and no further remediation is considered required at these locations.

Exceedances of Residential, Commercial/Light Industrial, and/or Intrusive Maintenance Worker RC were reported at DL_71_0.6E, DL_71_1.0, OL_77_0.6W and OL_77_1.0. However, soil at these locations was removed as part of the Former UST Area excavation.

During field assessment of the pipeline excavations:

- A slight odour described as “hydrocarbon with slight phenolic odour” was noted towards the southern portion of the Oil Line excavation. No ambient PID readings were recorded, however PID readings of 2.0 to 5.0 ppm were recorded at OL_77_0.6W and OL_77_1.0. Soil in this area was removed as part of the excavation of the former UST Area.
- AECOM field staff observed clear, non-odorous water in the section of the Diesel Line running north-south under the Site road, and BlackCap reported elevated fuel odours and a mixture of water and degraded diesel was present when tapping the section of the Diesel Line in the south-east corner of the pipeline trench, to the south of the Red Shed. Liquid was extracted from both sections of Diesel Line and removed from Site before cutting the line and did not come into contact with Site soil.

On the basis of the above, no further excavation is considered to be required of soil surrounding the former location of the Diesel and Oil Lines.

6.1.2 Northern Excavation Area

Results of validation samples collected from the Northern Excavation Area are presented on **Table T1**, and sample locations are shown on **Figure F3**.

Soil was removed from the Northern Excavation Area in a series of stages based on the results of earlier validation sampling, where additional soil was removed if exceedances of RC applicable to future Site uses was detected.

Validation samples were collected from the walls of the excavation at 0.5-0.6 m bgl and at 1.5 – 1.6 m bgl at linear intervals of 5 m or less, which fulfils the validation sample frequency in the RWP (1 primary sample per 25 m^2 of floor or wall space). As groundwater was encountered at the bottom of the excavation (approximately 2 m bgl), no samples were collected or analysed from the base, with the

exception of OL_EX_411_2.0 which was collected from beneath the boiler (discussed in **Section 6.1.2.1**). Validation samples were not collected on the north or west boundary of the Northern Excavation Area if backfill from the 2020 remediation work (AECOM, 2021b) was encountered.

The following has been considered in assessing the remediation of the Northern Excavation Area:

- No exceedances of the Site Specific RC for Commercial / Light Industrial, Intrusive Maintenance Worker, and Public Open Space uses were detected in validation samples collected from material which remains *in situ* in the Northern Excavation Area.
- Concentrations of TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) in excess of Residential RC were reported at OL_EX_412_0.5, OL_EX_412_1.5, OL_EX414_1.5, and OL_EX_416_1.5, but this RC is not considered applicable to future Site uses and no further remediation is considered required at these locations.
- Concentrations of lead, TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) in excess of Residential, Commercial/Light Industrial, and Maintenance Worker RC were reported in validation samples collected from soil removed from the Northern Excavation Area and is no longer present on Site. It is noted that exceedances of applicable RCs could be present in soil beneath the water table and should be considered if excavation or dewatering/tanking is undertaken as part of any future land development.
- A water-filled boiler was uncovered in the south-west portion of the excavation and is discussed in **Section 6.1.2.1** below. Further excavation or remediation is not considered required due to the boiler.
- Blue colouration (shown on **Plate 7** in **Section 5.2.1**) was noted in soil collected from stockpiled material (OL_EX_SP6) on the south west corner (near sample locations OL_EX_418 and OL_EX_419) and flagged by AECOM field staff based on colour as potential Prussian Blue, a blue pigment historical associated with paints, or gasworks wastes, with high levels of cyanide.

  Assessment of the material from OL_EX_SP6 for cyanide was conducted and is discussed in *Stockpile Remediation Validation and Waste Management Plan – PS-Pb-SP1 and PS-Pb-SP2* (AECOM, 2023d), attached in **Appendix F**. Elevated cyanide concentrations indicative of Prussian Blue were not detected in OL_EX_SP6, and it was concluded that:

  - The observed blue colouration was not Prussian Blue; or
  - There was not sufficient material to impact the stockpile.

  No other blue colouration was observed in the excavation or stockpiles, and OL_EX_SP6 was disposed off-Site. Further excavation or assessment is not considered required.
- Two fragments of potential ACM were observed in stockpiles OL_EX_SP4 and OL_EX_SP5, consisting of soil excavated from the south-east corner of the excavation near sample locations OL_EX_415 to OL_EX_417.

  Assessment of the material from OL_EX_SP4 and OL_EX_SP5 is discussed in *Stockpile Remediation Validation and Waste Management Plan – PS-Pb-SP1 and PS-Pb-SP2* (AECOM, 2023d), attached in **Appendix F.**

  Observed fragments were removed from the stockpiles and the stockpiled material from these areas was treated as potentially ACM containing, however no other fragments were observed in the excavation or other stockpiled material from this area. Assessment of soil from OL_EX_SP4 for ACM was conducted as part of stockpile categorisation and no asbestos fibres were detected by the analytical laboratory.

  Isolated fragments of ACM can be common in industrial fill. No other fragments were observed in stockpiles from this area or in the excavation, and as only two fragments were observed in the approximate 90 m^3 volume of OL_EX_SP4 and OL_EX_SP5, it is considered unlikely that the ACM observed represents an area of asbestos impact in excess of the ASC NEPM criteria of <0.05%$^w/_w$ for Commercial/Industrial land use. As no further potential ACM fragments were observed, collection, sorting and weighing of a 20 kg sample of soil using the methodology described in the ASC NEPM could not be conducted.

On the basis of the above, no further excavation is considered to be required of soil in the Northern Excavation Area.

6.1.2.1 Buried Boiler

As discussed in **Section 5.2.1**, a buried, disconnected boiler (shown on **Plate 4**) was discovered in fill in the Northern Excavation Area. The boiler was filled with an estimated 2,000 L of water when uncovered.

The source and/or previous purpose of the boiler is not known. There were no pipes or other lines connected to it, and it is considered likely that it was buried as waste by a previous Site occupier at an unknown time.

The water in the boiler was sampled and analysed, with results presented on **Table T3**. Concentrations of TRH C6-C10 (minus BTEX) in excess of Commercial groundwater RC, and of TRH >C10-16 in excess of Residential groundwater RC were reported. This water was decanted by Veolia under BlackCap supervision and removed from the Site.

The following validation samples, with analytical results presented on **Table T1**, were collected from soil from a distance of 0 to approximately 3.6 m of the boiler:

- North – OL_EX_401, OL_EX_412 (remaining *in situ)*
- East – OL_EX_409 and OL_EX_413 (both later excavated), and OL_EX_420, OL_EX_421 (remaining *in situ*)
- South – OL_EX_410 (later excavated), and OL_EX_414 (remaining *in situ*)
- West – soil to the west of the boiler had previously been excavated and consolidated in stockpile OL_EX_SP2, which is discussed in *Stockpile Remediation Validation and Waste Management Plan – PS-Pb-SP1 and PS-Pb-SP2* (AECOM, 2023d), attached in **Appendix F**.
- Beneath – OL_EX_411 (collected from saturated soil at the base of the excavation immediately below the boiler and remaining *in situ*).

Of the surrounding soils considered:

- Concentrations of TRH C6-C10 (minus BTEX) and/or of TRH >C10-16 in excess of Residential RC were detected in samples from *in situ* soil collected at OL_EX_412_0.5, OL_EX_412_1.5, OL_EX_414_1.5, and in soil which was later removed collected at OL_EX_409_0.6, OL_EX_413_0.5, and OL_EX_413_1.5.

  The Residential RC is not considered applicable to future Site uses and no further remediation is considered required at these locations. The concentrations reported in excess of Residential RC (between 31 and 260 mg/kg) have been detected in other areas of the Site and are not considered to represent a potentially hazardous area of impact which may have come from the boiler.
- Concentrations of lead in excess of the Maintenance Worker RC were detected in samples from soil later excavated at OL_EX_409_0.6, OL_EX_409_1.6, OL_EX_410_1.6, OL_EX_413_0.5 and OL_EX_413_1.5. The detected lead concentrations are considered unlikely to be a result of the buried boiler, as the water sample collected reported a lead concentration of 0.001 mg/L and are attributed to the overall fill used in the area which was removed as part of remediation.
- Although the location from which soil was excavated in OL_EX_SP2 cannot be directly correlated to proximity to the boiler, and volatilisation of hydrocarbons is likely to have occurred during excavation and stockpiling, concentrations of TRH C6-C10 (minus BTEX) and/or of TRH >C10-16 in OL_EX_SP2 were reported below LOR (50 mg/kg) in all samples collected from this stockpile.
- The closest groundwater well to the buried boiler (MW163) is located approximately 10 m south and, based on the inferred groundwater contours (AECOM, 2022a) may be down hydraulic gradient from the buried boiler. No CoPC, including TRH, has been previous detected above Site RC in groundwater samples collected from this well, including in analytics of a sample collected on 5 December 2023 as part of a Groundwater Monitoring Event (GME) in this area (AECOM, 2024a).

On the basis of the above, it is not considered that further excavation of soil at the location the buried boiler was discovered is required.

6.1.3 Former UST Area

Results of validation samples collected from the Former UST Area are presented on **Table T1**, and sample locations are shown on **Figure F4**.

Soil was removed from the Former UST Area in a series of stages based on the results of earlier validation sampling, where additional soil was removed if exceedances of RC applicable to future Site uses was detected.

Validation samples were collected from the walls of the excavation at 0.6 m bgl and at 1.6 m bgl at linear intervals of 5 m or less, which fulfils the validation sample frequency in the RWP (1 primary sample per 25 m^2 of base or wall area). As groundwater was encountered at the bottom of the excavation (approximately 2 m bgl), no samples were collected or analysed from the base.

The following has been considered in assessing the remediation of the Former UST Area:

- Concentrations of TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) were reported above Commercial / Light Industrial RC at the following locations:
  - UST_77_SE_1.6 and UST_80_1.2_S at the southern end of the excavation.

  Speciation of the soil samples collected at these locations was conducted and, while concentrations of aliphatic and aromatic TRH >C21-C35 in excess of Residential RC were detected, no exceedance of RC considered applicable to future Precinct South uses were detected.
  - UST_EXT_59E_1.6 and UST_EXT_59N_1.6 in the eastern portion, under the area cut out from under the SeaRoad Shed Slab.

  The results of TRH speciation at UST_EXT_59E_1.6 reported an exceedance of the Commercial/Light Industrial (Working within a basement) RC for aliphatic TRH >C8-C10. It is also noted that samples were not collected at 0.8 m bgl at these locations, and the detected concentrations of aromatic TPH >C8-C10 at UST_EXT_59N_1.6 are not delineated vertically and would be considered to represent a potential vapour intrusion risk if present in soil less than 1 m bgl.

  However, detected concentrations are not considered to represent an unacceptable risk to current uses or future development as:
  - The planned use of this area until future development is Open Space, for which the reported concentrations do not represent a potential vapour risk.
  - Two rounds of soil vapour monitoring were conducted between August and November 2019 at sub-slab vapour pins SV05 (approximately 10 m north of UST_EXT_59N_1.6), SV06 (approximately 13 m north-east of UST_EXT_59N_1.6 and 15 m north-east of UST_EXT_59E_1.6), and SV30 (approximately 5 m east of UST_EXT_59S_1.6) in 2019 and did not report soil vapour concentrations in excess of adopted criteria (AECOM, 2020b). Based on the proximity of these monitoring points, it is considered unlikely that the TRH detected at these locations is generating soil vapours which may represent a risk to future Commercial/Industrial use.
  - The *Audit Area 3 Detailed Site Investigation* (the AA3 DSI) (AECOM, 2022a) notes that further vapour assessment or protection is required for any future development which alters the Site surface. In the event that a change in Site surface occurs, further investigation or protection measures should be considered to prevent unacceptable risk from soil impacts at these locations.
  - The AA3 DSI also contains a requirement that mitigation methods for potential methane intrusion detected in parts of AA3, which are now contained in the Precinct South, are required to be incorporated into for future building designs. Suitable methane intrusion protection measures would also capture and prevent soil vapour intrusion from hydrocarbons in soil.

  No further excavation is considered required at these locations based on the above considerations.

- The concentration of lead at 1.6 m bgl at UST_66_E_1.6 exceeded the Intrusive Maintenance Worker RC. This concentration is not considered to represent an unacceptable risk to future Site users as:
  - The Maintenance Worker RC is considered applicable for soil up to 1 m bgl. This exceedance of criteria was detected at 1.6 m bgl and is delineated vertically at 0.8 m bgl by UST_66_0.8_E, and this soil is not considered likely to come into contact with future Maintenance Workers.
  - The extent of lead above RC is considered likely to be limited in extent, as surrounding validation samples to the north (UST_59_0.8_E and UST_59_1.6_E), east (UST_EXT_59S_1.6), south (UST_74_E_0.8 and UST_74_E_1.6), and west (OL_65) did not report exceedances of this RC for lead.
  - The adopted RC for lead is 620 mg/kg. The reported result at UST_66_E_1.6 was 621 mg/kg, which is a minor exceedance of the criteria. The RWP and the AA3 DSI both contain statistical assessment of minor exceedances of criteria in accordance with the ASC NEMP, and similar isolated exceedances of RC are present within the Precinct South and not considered to represent an unacceptable risk to future Maintenance Workers.
  - The presence of the concrete slab (the original SeaRoad Shed Slab and the reinstated portion in the area of remediation) above UST_66_E_1.6 will further act to limit any potential future contact with this soil. If the concrete layer is removed as part of future Site development, the SEMP requires reinstatement of a barrier layer.

  No further excavation is considered required at these locations based on the above considerations.
- No other exceedances of the Site-Specific RC for Commercial / Light Industrial, Intrusive Maintenance Worker, and Public Open Space uses were detected in validation samples collected from material which remains *in situ* in the Northern Excavation Area.
- Concentrations of TRH >C10-16 (minus naphthalene) and naphthalene in excess of Residential RC were reported at UST_66_E_1.6, but this RC is not considered applicable to future Site uses and impacts are delineated vertically. No further remediation is considered required at this location.
- Concentrations of lead, TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) were reported in validation samples of soil removed from the Former UST Area and no longer present on Site.
- A buried railway was uncovered and removed to the west of the Former UST Area and Fuel Pipeline Excavations and is discussed in **Section 6.1.3.1**. However, no further excavation or remediation of soil in this area is considered required based on the outcomes of assessment of this railway.

On the basis of the above, no further excavation is considered to be required of soil surrounding the former location of the Diesel and Oil Lines.

6.1.3.1 Buried Railway

As discussed in **Section 4.3**, a buried railway (shown on **Plate 2**) was uncovered to the west of the Former UST Area and the Fuel Pipeline Excavations. The location of the buried railway is shown on **Figure F4**.

The buried railway was removed by BlackCap and disposed off-Site. The following was considered in assessing if the railway was a potential source of impact to the Precinct South:

- An indicative sample of railway timber (Rail Timber 01) was collected from a rail sleeper following excavation and prior to disposal off-Site. The timber sample was analysed for total concentrations of BTEXN, TRH, PAHs, and metals, and leachable concentrations of PAHs, with results attached on **Table T1** and **Table T2**.

  The sleepers reported detectable concentrations of TRH >C16-C34 and TRH >C34-C40, which do not have adopted RC. Shorter chain TRH, BTEXN, and PAH concentrations (total and leachate) were reported below LOR, and it considered likely that:

  - Review of assessments conducted by Environment Canada in 1992 (Environment Canada, 1992) reported that creosote used on railway sleepers is typically around 80% PAHs. While different compositions may have been used in Australia, all PAHs (including Sum of PAH) in the sleeper sample analysed were reported below LOR, and it is considered unlikely that the encountered railway sleepers were treated with creosote, or had any potential to generate creosol leachate.
  - The below LOR concentrations of shorter chain and more mobile hydrocarbons indicate that leaching of BTEXN and TRH is unlikely to occur.

- Validation samples UST_59_0.8_W, UST_59_1.6_W, UST_66_0.8_W, UST_66_1.6_W, UST_73_0.8_W, and UST_73_1.6_W were collected from the west wall of the Former UST Area excavation below the buried railway. No exceedance of any RC, or any concentrations of TRH, BTEXN, PAHs, phenols, or metals were reported which could indicate impact from the buried railway. It is considered unlikely that the buried railway has impacted soil in this area.

  It is noted that soil samples below the northern section of the railway could not be collected as this area was backfilled by Blackcap before sampling could occur. While no soil samples were collected from directly beneath where the northern segment of the railway was removed, it is considered unlikely that contamination of soil in this area has occurred from the railway, or that contamination will be limited in area if it has occurred, as:

  - No contamination to soil was detected in samples collected from directly below the buried railway (noted above).
  - No concentrations of TRH, BTEXN, PAHs, phenols, or metals were detected in validation samples collected at DL_11, DL_23, or DL_35, which were collected an estimated 0.5 to 1.5 m from the rail line (based on field staff comments, and the separation between the railway and the pipeline trench visible in **Plate 2** in **Section 4.3**.
  - As noted in **Section 4.3**, EPA Tasmania and EPA NSW consider railway sleepers as inert waste based on these agencies historical experience with railway materials.

Based on the consideration, while the buried railway was removed from the Site as a precaution, it is not considered likely to have been an ongoing source of impact to the Precinct South.

While buried railways may be present in other areas of the Site, as discussed in **Section 4.3**, they are considered unlikely to be sources of impact to the Site which require remediation for the proposed future Site uses as:

- Other potential buried railways are from a similar period and age and are considered likely to have similar properties and not be acting as ongoing sources of impact.
- No buried railways have been encountered elsewhere on the Site, including during excavation for remediation conducted along the historic location of railways to the north in 2020 (AECOM, 2021b), and while no records have been located, removal of railways to some level has historically occurred.
- Buried railway sleepers (not connected to an intact railway) have been previously encountered in fill on-Site in the Escarpment area during remediation work in 2019 to 2020, and were assessed as inert and non-polluting (AECOM, 2020d). While analysis of samples of the buried sleeper in the Escarpment indicated that they likely had been treated with creosote, no indications of impact to surrounding soil were observed, and advice from EPA Tasmania received at that time provided their view that, based on experience with railway sleepers, even if treated with creosote they are generally inert and non-polluting.

The potential presence of buried railways should be noted in the SEMP.

6.2 Change in Use Investigation

Two assessment samples, OL_EX_107_1.1 and OL_EX_110_1.1, were collected from the trench advanced at the location of concentrations of TRH >C10-C16 (minus naphthalene) detected in excess of the Commercial / Industrial RC during previous works in 2020, which were not further excavated as, at that time, the proposed future use of this area of the Precinct South was as Open Space.

The location of the trench is shown on **Figure F3**, and the results of samples are presented on **Table T1**. Soil excavated to advance the trench was backfilled in place following collection of soil samples.

The samples collected at these locations did not report concentrations of TRH >C10-C16 (minus naphthalene) above the LOR, and speciation of TRH could not be conducted. Heavier chain hydrocarbons (TRH >C16-C34) were detected in soil samples. However, this hydrocarbon range:

- Does not have any adopted criteria and are not considered to represent a risk to future Site uses under the conditions in the RC.
- Is low (279 mg/kg [OL_EX_107_1.1] to 310 mg/kg [OL_EX_110_1.1]) and the hydrocarbon impact in soil is unlikely to be an ongoing source of impact to groundwater or indicative of the presence of LNAPL as:
    - The adopted RC are considered protective of ongoing uses, and heavier chain hydrocarbons such as these are lower solubility and mobility in soil and groundwater.
    - LNAPL is considered unlikely as:
        - No indication of leakage from the removed pipeline was observed and recorded during remediation (AECOM, 2021b)
        - No groundwater results which could be considered to indicate a dissolved phase hydrocarbon plume have been detected in inferred down hydraulic gradient groundwater wells (AECOM, 2024a).

Detected concentrations of TRH in these samples were lower than previous assessment in 2020. The potential reasons for the low detected concentrations of TRH in the validation samples from the trench considered are:

- The potential exists that the locations of 2020 sample points OL-EX-107 and OL-EX-108 were missed or incorrectly recorded, and samples were collected at the wrong location. However, this is considered of low probability as:
    - The backfill material used in 2020 was visually distinct from the surrounding soil, and field staff advancing the investigation trench were confident that the trench was within the route of the former excavation and reached soil beneath it, where samples were collected.
    - The locations from which samples were collected in 2020 were recorded by field staff from Geo-Environmental Solutions Pty Ltd (GES) using a hand-held GPS unit with a reported accuracy of +/- 1-3 m, depending on signal strength at the time of record. The investigation trench was approximately 5 m in length and, even if the maximum margin of error (3 m) was achieved directly along the alignment of the trench, should have still exposed potentially impacted soil at either end which would have been visible to AECOM field staff.
- TRH may have had an opportunity to oxidise or volatilise during the period in 2020 when soil was exposed to ambient air following the trench being opened to remove the section of the Oil Line previously present and prior to placement and compaction of backfill, or exposure to air following trenching may have provided additional oxygen to support biological oxidation of TRH.

  The trench is likely to have been open for a period of greater than 2 weeks while awaiting results of wall and base validation samples, prior to back-filling. Shorter carbon chain TRH ranges are generally more volatile and oxidisable/reactive than longer carbon chain hydrocarbons, and if volatilisation/oxidation had occurred, results like those observed (short chain TRH below LOR and some remnants of longer chain TRH) would be expected.

The fuel impact detected in 2020 may have been limited in extent. **Plate 9**, taken from Figure F14 from AECOM, 2020b, shows the location of the initial samples and surrounding samples, noting that limited TRH concentrations are present in the surrounding area and no other exceedances of the Commercial RC were detected in this section of pipeline removal. Potential hydrocarbon impacts would be delineated to the north, south and west based on surrounding samples collected from the base of the Diesel or Oil Line trenches in these areas and may be considered partially delineated to the east by OL-EX-108 and OL-EX-146, collected from the walls of the Oil Line trench.

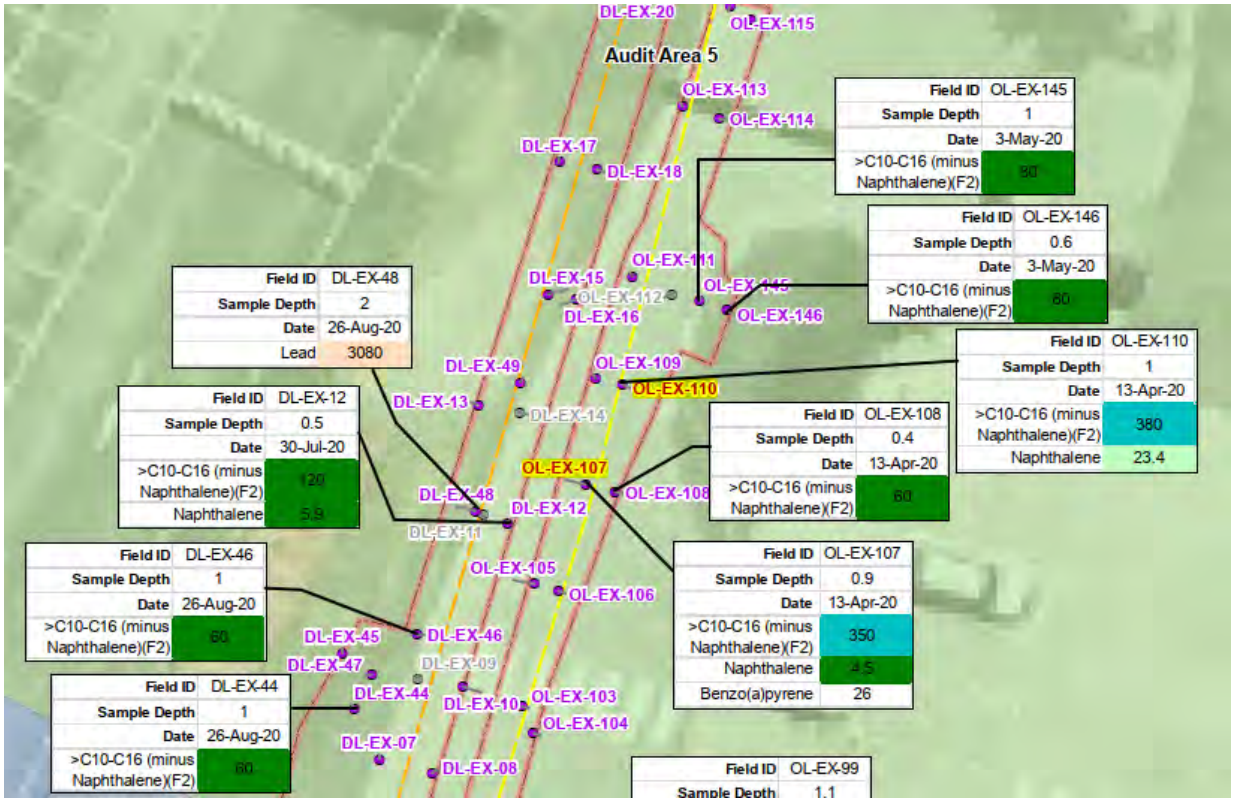

Plate 9 Sample Results Surrounding OL-EX-107 and OL-EX-110, 2020 Remediation (AECOM, 2020b)

A level of vapour management for future buildings is required in the AA3 DSI (AECOM, 2022a) as discussed in **Section 6.1.3** above and would also provide protection/mitigation of soil vapour from potential impacts in this area.

On the basis of the results of additional sampling in this area, and recommended vapour mitigation measures included the AA3 DSI which would be applicable for any buildings constructed in this area of the Site, it is considered unlikely that the detected TRH >C10-C16 (minus naphthalene) detected at OL-EX-107 and OL-EX-110 in 2020 represents a source of unacceptable risk to future Site uses, and no further investigation or remediation is considered required.

6.3 Stockpile Remediation

Assessment of stockpile remediation prior to reuse or disposal, including assessment of analytical results, are included in:

- *Soil Categorisation and Waste Management Plan – Precinct South Remediation – Former UST Area Excavation Stockpiles* (AECOM, 2023c)
- *Stockpile Remediation Validation and Waste Management Plan – PS-Pb-SP1 and PS-Pb-SP2* (AECOM, 2023d)

Copies of these assessments are attached in **Appendix F**, and are summarised for material reused on Site in **Section 6.4.2.2** below.

6.4 Backfill Material

6.4.1 Virgin Excavated Natural Material (VENM)

VENM for use as backfill was imported to the Site from Pawleena Quarry, located at 798 Pawleena Road, Pawleena.

An assessment of the quarried material, *Crushed Rock Backfill Assessment* (EM&C, 2019), was provided to the Environmental Auditor prior to import of the material for use as backfill in previous

remediation works in other Site areas. The material used has been quarried at the same location from the same lithology.

As part of previous assessment of the VENM, it was noted that:

- The proposed backfill material was natural crushed dolerite and was free of any apparent anthropogenic fill. The VENM was classified as Fill Material under IB105 Section 4.1.2 – "*Fill Material includes inert construction material, spoils and rocks, which have not been contaminated with any substance*".
- Exceedance of the Level 1 Fill Material maximum total concentrations (IB105) for manganese was reported in three of the four representative samples collected and reported in EM&C 2019. IB105 Section 4.1 notes that Fill Material may naturally contain contaminants at levels which are higher than Fill criteria due to regional geological characteristics. EPA Tasmania reported during previous use that the VENM appeared suitable for the proposed use (as backfill) if it did not pose a risk to human health or the environment.
- No exceedances of the Health Investigation Levels (HILs) or Ecological Investigation Levels (EILs) adopted in EM&C, 2019 were detected.

On this basis, the VENM was assessed to not present an unacceptable risk to human or ecological health for the future proposed land uses at the Site. Material from Pawleena Quarry has been previously accepted by the Auditor for use as backfill. An indicative sample (UST_OL_DL_BF) was collected and assessed for the key CoPC and reported below LOR for all analytes (see **Table T1**).

Imported VENM was used as cover material and as backfill in the Diesel Line, Former UST Area, and Northern Excavation Area excavations.

6.4.2 Reuse of Excavated Material

6.4.2.1 Excavated Soil without Remediation

<u>Oil Line Trench and Former UST Area Soil</u>

An estimated 270 m^3 of soil from the section of the Oil Line trench north of the Former UST Area excavated from between chainage 0 and ~77, and shallow soil from between 0.5 and 1.5 m bgl from the Former UST Area, was reused as fill material in the Northern Excavation Area as discussed in **Section 5.5.2**.

Assessment of the pipeline trench materials for reuse is reported in *Macquarie Point – Precinct South Lead Area Backfill Assessment* (AECOM, 2023e), attached in **Appendix F** and summarised briefly below.

- Soil used as backfill was sourced from the following stockpiles:
  - UST_SP_0.5-1.0, approximately 85 m^3 sourced from between 0.5 to 1.0 m bgl in the Former UST Area
  - UST_SP_1.0-1.5, approximately 65 m^3 sourced from between 1.0 to 1.5 m bgl in the Former UST Area
  - OL_SP, approximately 120 m^3 sourced from soil surrounding the Oil Line north of chainage 77. A section of soil at the end of the Oil Line excavation, from chainage 77 to 80, was segregated and stockpiled separately based discolouration, odours, and PID readings noted by field staff.
- An *in situ* assessment of backfill material was conducted as backfilling was conducted by BlackCap prior to receipt of Auditor approval and is attached in **Appendix F**. Exceedances of the Commercial / Industrial RC were detected for TRH >C10-C16 (minus naphthalene), however following speciation of these samples, no exceedances of applicable RC for future uses of the Precinct South were detected in the aromatic and aliphatic TRH subranges reported. No other exceedances of RC for Commercial / Industrial, Maintenance Worker, or Open Space use were detected in *in situ* samples.

- Prior to backfilling:
    - Exceedances of the Commercial / Industrial RC were detected for TRH >C10-C16 (minus naphthalene) in precursor stockpiles, however where speciated, no exceedance of criteria was reported for aliphatic or aromatic subranges of TRH. Although not all exceedances of this RC detected prior to backfill were speciated, stockpiled material was present at the Site surface for approximately 2 months and was moved at least once, which would provide an opportunity for oxidation and volatilisation to lower concentrations of hydrocarbons.
    - Exceedance of the Intrusive Maintenance Worker RC for lead in one sample in a precursor stockpile. No other exceedances of this RC for lead were detected in other stockpiles, or samples from the same stockpile, and no lead in excess of criteria was detected in *in situ* samples, and it is considered unlikely that the reported detection represents an unacceptable risk to future Site users.

Based on the above, the use of this material as backfill is not considered likely to represent an unacceptable risk to future Site uses. This assessment was reviewed by the Auditor and a record of Auditor comments and acceptance of responses on 12 April 2024 is included in **Appendix F**.

Gateway Area Soil Stockpile RH_SP

A small (20 m^3) stockpile of soil from beneath a slab in the Gateway area of the Site, to the west of the Precinct South, was generated during removal of overburden to access deeper impacted material during a remediation pilot trial conducted in June and July of 2022.

The material was assessed in *Soil Categorisation and Waste Management Plan – Stockpile RH_SP* (AECOM, 2023f) and did not report any CoPC concentrations in excess of the Site RC. The results of assessment were submitted to the Site Auditor, who accepted the proposed reuse scenario via email on 28 March 2023. Assessment of this stockpile and Auditor acceptance is include in **Appendix F**.

6.4.2.2 Remediated Soil

An estimated 210 m^3 of soil excavated from the Former UST Area and a section of the Oil Pipeline Excavation within it was reused as fill material in the Northern Excavation Area as discussed in **Section 5.5.2**

Assessment of the remediation (via biopiling/landfarming) and suitability for reuse of this material is reported in *Soil Categorisation and Waste Management Plan – Precinct South Remediation – Former UST Area Stockpiles* (AECOM, 2023c), and is summarised briefly below.

- Soil used as backfill was sourced from the following stockpiles:
    - UST_SP1, approximately 200 m^3 of soil sourced from between initial excavation of the Former UST Area between 1.5 to 2 m bgl (and shallower soil from the southern end of the excavation where field screening noted indications of hydrocarbon impact), from the eastern extension of this excavation under the SeaRoad Shed Slab, and from the Oil Line excavation between chainage 77 and 80, where field screening noted indicators of hydrocarbon impact.
    - UST_SP_Ext_59SP, approximately 10 m^3 of soil from a separate chase out of impact.
- The stockpiles were wetted and dosed with a commercially available fertiliser to support microbial activity and allowed to sit for approximately two weeks. It is noted that stockpiles were present at the Site surface for between one and two months prior to dosing.
- Prior to remediation, samples from the stockpiles reported concentrations of naphthalene, TRH C6-C10 (minus BTEX), and/or TRH >C10-C16 (minus naphthalene) in excess of Site Specific RC for future Residential and Commercial/Industrial uses. Following remediation, concentrations of TRH C6-C10 (minus BTEX) in excess of Site Specific RC for future Residential uses were reported in both stockpiles, however this use is not considered likely to occur in the Precinct South. No exceedances of RC for Commercial / Industrial, Maintenance Worker, or Open Space use were detected in post-remediation samples.

Based on the above, the use of this material as backfill is not considered to represent an unacceptable risk to future Site uses. Assessment of this stockpile and Auditor acceptance for reuse received on 14 July 2023 is include in **Appendix F**.

6.4.2.3 SeaRoad Shed Slab Concrete

Concrete from the SeaRoad Shed Slab was cut and removed to excavate underlying soil. Section 4.1.2 of IB105 notes that inert building materials can be considered Level 1 – Fill Material, and the concrete was considered suitable for reuse as:

- No staining, odours, or other indicators of potential impact were observed on concrete.
- The proposed area of reuse would be under a cover layer to prevent surface contact with crushed concrete and would be installed above the water table to reduce potential for leaching or a change in groundwater pH.

This approach was accepted by the Auditor via email on 28 March 2023, and the removed concrete was crushed and reused as fill in the Former UST Area excavation.

Approximately 50 m^3 of crushed concrete was reused in this manner.

6.5 Data Quality

The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. QA/QC assessment of the analytical data and sampling methodology has been conducted by AECOM on assessment of the data collected by during the field program against the DQIs discussed in **Section 3.2**. The detailed data validation report is presented in **Appendix D**, and results are summarised below.

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- If all duplicate samples are included, a total of 905 RPD values are calculated, with 86 RPD values (~9.5%) reported above the adopted acceptable RPD DQO limits. If the inter-laboratory duplicates with sample receipt discrepancies noted below are excluded, a total of 712 RPD values are calculated, with 37 RPD values (~5.2%) reported above the adopted acceptable RPD DQO limits.

  The RPD exceedances were predominantly associated with concentrations of PAHs and metals. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

- Detectable concentrations of copper, lead and zinc were present in rinsate blank DL_QCB04, collected during sampling of the Diesel Line excavation on 2 March 2023. The detected concentrations are not considered to affect the outcomes of interpretation of this data as no exceedances of criteria for these CoPC were detected during the sampling on that date, and if cross-contamination occurred resulting in higher detections of metals in validation samples, additional excavation may have occurred.

- Three secondary laboratory sample batches (975786, 978711, 993445, and 997785) were received between 6.2 and 9.7°C, greater than the recommended temperature of 6°C. The higher than recommended receipt temperatures are not expected to affect interpretation as primary samples reported higher concentrations of CoPC considered sensitive to temperature degradation and were used for interpretation.

  In addition, if inter-laboratory samples received outside the recommended temperature range are excluded, inter-laboratory sample analysis for sample batches received below the recommended temperature was conducted at a rate of one sample per 22 primary samples, which is close to the required rate and would be considered suitable for interpretation.

- Other laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals.

These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of remediation.

7.0 Discussion and Summary

7.1 Removal of Pipelines

Redundant fuel pipelines were removed from beneath the Precinct South in the areas shown on **Figure F2** and **Figure F4**.The northern sections of the pipelines were previously removed in 2020 (AECOM, 2021b).

While it is understood that the pipelines were no longer in use, prior to removal it was unclear if residual hydrocarbon products remained in the pipelines which could present an ongoing source of contamination, or if there was residual contamination surrounding the pipes from historic leaks. In addition, there was potential that the pipelines could present a preferential pathway for contamination travelling across the Site.

Two distinct pipelines (the Diesel Line and the Oil Line) were excavated and removed as from the Site part of the work, with the following features noted:

- The Diesel Line:
  - The Diesel Line was comprised of a 200 mm diameter pipe of steel construction with bituminous cladding. Asbestos was detected within the cladding, and the pipeline and surrounding soils were removed and managed as potential ACM.
  - Prior to removal, the Diesel Line ran north-south beneath a Site road from the termination point of previous remediation undertaken in 2020, to the south-east corner of the Red Shed, where it turned west and terminated at a flanged cap. A pipeline with a 45° elbow, potentially a historic “Naval Oil Pipeline” (see **Sections 2.2.3** and **4.1.1**) was uncovered immediately to the west and was also removed within the Site boundary to the extent possible.
  - Approximately 110 m of the Diesel Line (including the section in front of the Red Shed) was removed. Where the section in front of the Red Shed ran off Site, it was sealed and capped with concrete seals at the Site boundary on the eastern end, and approximately 5 m from the Site boundary (due to services under Evans Street and access requirements for the Red Shed) on the western end.
  - Approximately 205 m^3 of soil surrounding the Diesel Line, including soil surrounding the Oil Line to the south where the pipelines were removed from a single trench, was excavated and disposed of off Site as potential ACM.
  - Clear, non-odorous water was encountered in the main section of the Diesel Line (running north/south), and a mixture of degraded diesel and water was encountered in the section in front of the Red Shed when tapped prior to cutting. Both liquids were decanted from the pipeline before cutting and removed from Site.
- The Oil Line
  - The Oil Line was comprised of a 200 mm diameter pipe of steel construction with bituminous cladding. No ACM was detected within the cladding following testing undertaken as part of this program of work, or during previous remediation in 2020.
  - Prior to removal, the Oil Line ran north-south beneath a Site road from the termination point of previous remediation undertaken in 2020, to the Site boundary to the south.
  - Approximately 90 m of the Oil Line was removed from the Site as part of these works and was sealed with a cement cap approximately 2 m from where the pipeline crosses the Site boundary to the south due to the presence of buried services along Evans Street.
  - Approximately 120 m^3 of soil surrounding the Oil Line was reused as fill in the Northern Excavation Area, with remediation by biopiling / land farming if assessed as required to reduce hydrocarbon impacts.
  - No liquid was encountered in the Oil Line during excavation and removal.

Validation of the excavations surrounding each pipeline is discussed in **Section 7.2** below.

On the basis of the above, no unacceptable risks to future Site uses associated with the remnant pipelines are considered likely to remain on Site, and no further excavation or remediation of these pipelines is considered required.

7.2 Soil Excavation

An estimated volume of 1,320 m^3 of soil was excavated to remove potentially contaminated soil surrounding remnant pipelines and areas of contaminated soil within the Precinct South. The areas of excavation are shown on **Figure F2** to **Figure F4**.

The areas of excavation were determined by the following factors:

- The locations of two remnant pipelines (the Oil Line and Diesel Line), and two areas of soil impact (the Northern Excavation Area and the Former UST Area) identified in the RWP and Technical Specification.
- Field observations of soil encountered during excavations, by field staff from AECOM and BlackCap
- Results of validation sampling assessed against the RC by AECOM. Further excavation was undertaken where possible when exceedances of the RC for the proposed future Site uses were identified.
- Restrictions on further excavation including:
    - The Site boundary to the east (for the Northern Excavation Area) or the south (for the removal of pipelines).
    - LNAPL Plume B to the east (for the Former UST Area), where safety concerns around physical disturbance of LNAPL on groundwater were identified.
    - Groundwater at approximately 2 m bgl.

The excavations were backfilled with a combination of imported VENM from Pawleena Quarry, pipeline trench material which was assessed to not present an unacceptable risk to future Site uses, or excavated soil which was remediated on Site to reduce hydrocarbon concentrations.

106 primary soil validation samples were collected from the walls and bases of the excavations by AECOM at a frequency of approximately every 12 linear metres (trench excavations) or every 5 m (soil excavations), and assessed against the Site Specific RC for the following future use scenarios:

- Residential. It is noted that Residential use is not considered likely to occur in the Precinct South and exceedances of the RC for this purpose were not considered to require further remediation.
- Commercial / Light Industrial
- Intrusive Maintenance Worker
- Open Space

The following was considered during validation of excavation extent:

- Detected CoPC in the soil in excess of the RC consisted primarily of TRH C10-C16 (excluding naphthalene) and lead, although TRH C6-C10 (excluding BTEX) and naphthalene were detected at some locations. Additional assessment of TRH samples to assess the concentrations of aliphatic and aromatic hydrocarbon species was undertaken for some samples, as discussed in **Section 6.1** to further assess the level of risk detected impacts represented.

  Where exceedances of the Site RC were detected, excavations were extended in order to remove contamination and additional validation samples collected at the boundaries of the area of additional excavation.

- The Potential Future Maintenance Worker RC is considered applicable for the first 1 m bgl for non-volatile CoPC, as future intrusive works following development, such as installation or repair of conduits, are considered unlikely to occur below this depth. Where exceedances of this RC were reported for samples collected from the base of the excavation at a depth of greater than 1 m bgl, no further excavation was recommended.
- Where excavations encountered groundwater (i.e., at approximately 2 m bgl in both the Former UST Area and in the Northern Excavation Area), validation samples were not collected from the base of the excavation. Partitioning to vapour is considered to be dominated by groundwater concentrations rather than soil in the saturated zone, and the SEMP (AECOM, 2021e) contains restrictions on access to groundwater.

  It is noted that, if the proposed future development of the Precinct South includes excavation or dewatering, contamination which may be present in deeper soil will need to be considered and assessed.

Validation of each excavation is discussed below by area. On the basis of the work conducted and described in this report, no further soil remediation or excavation is considered required in the Precinct South.

7.2.1 Pipeline Excavations

- Approximately 325 m^3 of soil surrounding the fuel pipelines was excavated, consisting of 120 m^3 surrounding the Oil Line north of the former UST Area, and 205 m^3 surrounding the Diesel Line, and surrounding the Oil Line south of the Former UST Area where the pipelines were within a single trench.
- No staining or indicators of leaks from either the Diesel or Oil Line were noted in soil surrounding the pipelines during removal. Potential indicators of hydrocarbon/fuel impact were observed in the soil surrounding the pipelines where they passed through the Former UST Area but are considered likely to be associated with the former UST impacts in this area.
- Contaminant concentrations with the potential to represent unacceptable risks to the proposed future uses of the Precinct were detected within the surrounding soil during validation of excavation consisting of:
  - Potential ACM fragments (cladding fragments) in the soil removed from around the Diesel Line. This soil, and identified fragments, were removed from Site.
  - Concentrations of TRH >C10-16 (minus naphthalene) exceeding the Potential Future Commercial (unknown construction or multi-storey building) RC at DL_23_1.0 and OL_17_0.6E. Speciation of soil samples collected at these locations identified that no exceedance of RC applicable to future uses of the Precinct South were present.
  - Exceedances of Commercial/Light Industrial, and/or Intrusive Maintenance Worker RC were reported at DL_71_0.6E, DL_71_1.0, OL_77_0.6W and OL_77_1.0. However, soil at these locations was removed as part of the Former UST Area excavation, or as soil surrounding the Diesel Line, and does not remain on Site.
- The surface at the locations of pipeline excavation were covered with bitumen to reinstate the Site road following backfilling with a mixture of VENM, crushed concrete from the SeaRoad Shed Slab, reinstated road base, and beneficial reuse of stockpile RH_SP from the Gateway area of the Site.

7.2.2 The Northern Excavation Area

- Approximately 650 m^3 of soil was excavated from the Northern Excavation Area to remove previously detected lead concentrations in excess of the future Maintenance Worker RC.
- Concentrations of lead, TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) in excess of Residential, Commercial/Light Industrial, and Maintenance Worker RC were reported in validation samples collected from soil removed from the Northern Excavation Area and is no longer present on Site.

- No exceedances of the Site Specific RC for the Commercial / Light Industrial, Intrusive Maintenance Worker, and Open Space uses, which are considered applicable to future uses of the Precinct South, were detected in validation samples collected from material which remains *in situ* in the Northern Excavation Area.
- Blue colouration was noted in a small quantity (<100 g estimated) in a soil stockpile (OL_EX_SP6) from the southern end of this area and identified by AECOM field staff, based on colour, as potential Prussian Blue, a material with high cyanide concentrations. Assessment of the soil from this stockpile did not identify elevated levels of cyanide, and no other blue colouration was observed in the stockpile or excavation wall, and it is not considered likely that the observation constituted a potential risk to future Site uses.
- Two isolated fragments of ACM were noted in stockpiles OL_EX_SP4 and OL_EX_SP5 (one in each stockpile) collected from the southern wall of this excavation. No other fragments were observed in these stockpiles, and no asbestos fibres were detected in additional analysis conducted on OL_EX_SP4.

  Isolate fragments of ACM can be common in industrial fill. No other fragments were observed in stockpiles from this area or in the excavation, and as only two fragments were observed in the approximate 90 m^3 volume of OL_EX_SP4 and OL_EX_SP5, it is considered unlikely that the ACM observed represents an area of asbestos impact in excess of the ASC NEPM criteria of <0.05%$^{w}/_{w}$ for Commercial/Industrial land use. As the two samples were collected, and no further fragments were observed, collection, sorting and weighing of a 20 kg sample of soil using the methodology described in the ASC NEPM could not be conducted.
- A buried boiler, filled with water, was uncovered in the eastern portion of the Northern Excavation Area, near the Site boundary. The source of the boiler is not known. There were no pipes or other lines connected to it, and it is considered likely that it was buried as waste by a previous Site occupier at an unknown time.

  The water within the boiler was sampled and reported concentrations of TRH C6-C10 (minus BTEX) in excess of Commercial RC, and of TRH >C10-16 in excess of Residential RC, and the water was decanted and disposed off-Site by Veolia (under BlackCap supervision).

  Assessment of soil samples to the north, south, east, and from below the boiler, and of stockpiled soil excavated to the west of the buried boiler, did not report any indication that soil impacts from the boiler may be present. The closest groundwater well, MW163, which is inferred to be approximately 10 m down hydraulic gradient, did not have any detectable concentrations of TRH in preliminary assessment of a sample collected on 5 December 2023, and has not had detection of TRH above Site RC in previous sampling in 2019.

  Based on currently available information, no unacceptable risk to future Site use has been identified associated with the former boiler, and no further remediation or management actions are recommended.
- The Northern Excavation Area was backfilled with a combination of VENM and with Site soil excavated from the Oil Line excavation and the Former UST Area. Where excavated soil had exceedances of RC, on-Site remediation was conducted to reduce hydrocarbon concentrations below a level assesses as representing unacceptable risks to future Site use. A surface layer of VENM was placed to act as a barrier to casual access to soil.

7.2.3 The Former UST Area

- Approximately 360 m^3 of soil was excavated from the Former UST Area to remove hydrocarbon impacts associate with historic USTs (removed during an earlier period).
- Concentrations of lead, TRH C6-C10 fraction (minus BTEX), TRH >C10-16 (minus naphthalene) and/or naphthalene in excess of Residential, Commercial/Light Industrial, and Maintenance Worker RC were reported in validation samples collected from soil removed from the Former UST Area and is no longer present on Site.

- The following exceedances of RC applicable to future uses of the Precinct South were detected in validation samples collected from material which remains *in situ*:
  - Concentrations of TRH C6-C10 fraction (minus BTEX) and/or TRH >C10-16 (minus naphthalene) were reported above Commercial / Light Industrial RC at the following locations:
    - UST_77_SE_1.6 and UST_80_1.2_S at the southern end of the excavation.

    Speciation of the soil samples collected at these locations was conducted and, while concentrations of aliphatic and aromatic TRH >C21-C35 in excess of Residential RC were detected, no exceedance of RC considered applicable to future Precinct South uses were detected.

    - UST_EXT_59E_1.6 and UST_EXT_59N_1.6 in the eastern portion of the excavation, under the area cut out from under the SeaRoad Shed Slab.

    The results of TRH speciation at UST_EXT_59E_1.6 reported an exceedance of the Commercial/Light Industrial (Working within a basement) RC for aliphatic TRH >C8-C10. It is also noted that samples were not collected at 0.8 m bgl at these locations, and the detected concentrations of aromatic TPH >C8-C10 at UST_EX_59N_1.6 are not delineated vertically and would be considered to represent a potential vapour intrusion risk if present in soil less than 1 m bgl.

    Detected concentrations are not considered to represent an unacceptable risk to current uses or future development as:

    - The planned use of this area until future development is Open Space, for which the reported concentrations do not represent a potential vapour risk.
    - Previous sub-slab soil vapour assessment conducted in 2019 included sample points within 5 to 13 m of the detected soil impacts and did not report potentially hazardous concentrations of hydrocarbon vapour.
    - The AA3 DSI (AECOM, 2022a) notes that further vapour assessment or protection is required for any future development which alters the Site surface. In the event that a change in Site surface occurs, further investigation or protection measures should be considered and prevent unacceptable risk from soil impacts at these locations.
    - The AA3 DSI also contains a requirement that mitigation methods for potential methane intrusion detected in parts of Audit Area 3, which are now contained in the Precinct South, are required to be incorporated into for future building designs. Suitable methane intrusion protection measures would also capture and prevent soil vapour intrusion from hydrocarbons in soil.
  - The concentration of lead at 1.6 m bgl at UST_66_E_1.6 exceeded the Intrusive Maintenance Worker RC. This concentration is not considered to represent an unacceptable risk to future Site users as:
    - The Maintenance Worker RC is considered applicable for soil up to 1 m bgl. This exceedance of criteria was detected at 1.6 m bgl and is delineated vertically at 0.8 m bgl by UST_66_0.8_E, and this soil is not considered likely to come into contact with future Maintenance Workers.
    - The extent of lead above RC is considered likely to be limited in extent, as surrounding validation samples to the north, south, east and west did not report lead concentrations in excess of this RC.
    - The adopted RC for lead is 620 mg/kg. The reported result at UST_66_E_1.6 was 621 mg/kg, which is a minor exceedance of the criteria. The RWP and the AA3 DSI both contain statistical assessment of minor exceedances of criteria in accordance with the ASC NEMP, and similar isolated exceedances of RC are present within the Precinct South and not considered to represent an unacceptable risk to future Maintenance Workers.

No other exceedances of the Site Specific RC for Commercial / Light Industrial, Intrusive Maintenance Worker, and Public Open Space uses were detected in validation samples collected from material which remains *in situ* in the Former UST Area.

- A railway, buried just below the surface, was uncovered in the western portion of the Former UST Area and removed as a precautionary measure by BlackCap. Based on review of historic aerial photographs, the railway is believed to have been installed at some point prior to 1946 and buried between 1984 and 1990.

  Assessment of the buried railway concluded:

  - PAH concentrations in the rail sleeper sample was reported below LOR, and it is not considered likely that the encountered sleepers had been treated with creosote.
  - Assessment of a sample collected of the railway sleepers following removal detected heavy chain (TRH >C16-C24 and TRH >C34-C40) hydrocarbons, but did not no detect any shorter chain TRH, BTEXN, or PAHs, which are considered more likely to be leachable.
  - Pipeline and Former UST Area excavation validation soil samples collected from beneath, or less than 2 m from, the buried railway did not report any results which may indicate impact from the railway was present.

  It is considered that the buried railway is unlikely to have acted as an ongoing source of impact or to have represented an unacceptable risk to current or future Site uses based on these results.

  It is noted that review of historical aerial photographs attached to the AA3 DSI identified that there may be other buried railways in the Precinct South. However, further investigation or remediation work is not considered to be required to locate or remove these railways as:

  - The railways are of a similar era and age as the buried railway removed as part of this remediation program. It is considered likely that they would have similar properties and not represent ongoing sources of contamination or unacceptable risk to current or future Site uses.
  - At least a portion of the historic railways have been removed from the Site, as no buried sections were encountered during remediation works in 2020 in areas where railways historically were present.

- The Former UST Area was backfilled with VENM. Road base was reinstated in under the Site road to the west of the SeaRoad Shed, which was then sealed with bitumen, and a fresh slab was installed to restore the SeaRoad Shed Slab to its original footprint.

7.3 Change in Use Investigation

Previous assessment of the Precinct South had reported exceedances of the Commercial RC for TRH >C10-C16 (minus naphthalene) in samples collected from the following locations:

- At 0.5 m bgl in soil bore BH62.
- At 0.9 m bgl in remediation validation sample OL-EX-107 and at 1.0 m bgl in remediation validation sample OL-EX-110.

However, at the time of remediation, the proposed future use of this area was Open Space, and the reported detections were not considered to represent an unacceptable risk to future Site uses. Further investigation was identified in the RWP based on the potential changes to future Site uses discussed in **Section 2.1.1**.

The location of BH62 was included in the excavation of the Northern Excavation Area, where soil was excavated to the water table (approximately 2 m bgl) and any soil which may have represent an unacceptable risk to future Site uses was removed. No further investigation was conducted as a result.

A 1.1 m deep trench was excavated through backfilled material where a section of the Oil Line was removed in 2020, between sample locations OL-EX-107 and OL-EX-110, and soil samples were collected from existing site fill beneath the previous remediation area.

The samples collected from the base of the trench did not report TRH >C10-C16 (minus naphthalene) above the LOR and were generally lower for all TRH ranges than the 2020 samples from this location. The potential reasons for the lower detected results considered in this report are:

- The investigation trench may have been advanced in the incorrect location. However, this is considered unlikely as:
  - The location of validation samples collected in 2020 were recorded with a handheld GPS with a reported accuracy of +/-1 to 3 m. The trench was approximately 5 m in length, and even if at the maximum deviation from recorded values, would still intersect the previous sample locations.
  - The fill material used in 2020 was distinct from the existing soil and could be clearly differentiated by field staff and provides high level of confidence that the trench was advanced through the previous remediation area.
- The TRH concentrations detected in 2020 may have oxidised or volatilised during the period the trench was open between collection of validation samples and backfilling in 2020. This period may have been greater than 2 weeks (to allow laboratory turnaround of validation samples to determine if further excavation was recommended) and the exposure to ambient air would provide an opportunity a reduction in TRH concentrations.

Further assessment of available data from 2020 was conducted and concluded that:

- The TRH concentrations detected in 2020 in excess of Commercial / Light Industrial RC may have been limited in extent and could be considered delineated to the north, south and west, and delineated in shallow soil to the east.
- The reported concentrations of TRH >C10-C16 (minus naphthalene) in 2020 would only be considered to represent an unacceptable risk to future Commercial / Light Industrial users of the Site if they constituted at least 80-90% TRH >C10-C12 aliphatic, or 35-40% TRH >C10-C12 aromatic, which is considered unlikely.

In any event, a level of vapour management for future buildings is required in the AA3 DSI (AECOM, 2022a) as discussed in **Section 6.1.3** above and would also provide protection/mitigation of soil vapour from potential impacts in this area.

On the basis of the above, it is considered unlikely that the detected TRH >C10-C16 (minus naphthalene) detected at OL-EX-107 and OL-EX_110 in 2020 represent a source of unacceptable risk to future Site uses, and no further investigation or remediation is considered required.

7.4 Soil Management Requirements

The soil remediation works described in this report have been conducted with reference to the Site-Specific RC discussed in **Section 3.1**. As part of the future Site development scenarios, the following conditions should be maintained at the Site in order to fulfil the assumptions of the RC:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users, with the exception of Maintenance Workers, to have direct contact with soil. Agreement with the Environmental Auditor will be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
  - Paved surfaces (e.g., concrete, asphalt, etc.)
  - Building footings
  - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g., 0.5 – 1.0 m topsoil)
  - Other suitable materials: e.g., geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternatives to a thicker earthen layer.

Implementation of the SEMP should be continued to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground-breaking activities, including IMWs.

8.0 Conclusions and Recommendations

8.1 Conclusions

Approximately 200 m of redundant fuel lines and 1,320 m^3 of soil was excavated to remove potentially contaminated soil surrounding remnant pipelines and areas of contaminated soil within the Precinct South.

All known redundant fuel lines, consisting of the Diesel Line (approximately 110 m) and the Oil Line (approximately 90 m) have been removed entirely or to as close to the Site boundary as practicable. Where fuel pipelines were cut at the Site boundary, they were sealed with concrete to prevent any leakage of remnant liquid in the pipeline. The location of the pipelines removed is shown on **Figure F2** and **Figure F4**.

Impacted or potentially impacted soil was excavated from surrounding the pipelines, and from two areas of known contamination detected during previous assessments:

- The Northern Excavation Area, where lead impacted soil was known to be present.
- The Former UST Area, where hydrocarbon impacts soil associated with previously removed USTs were present.

The extent of excavation is shown on **Figure F2** to **Figure F4**.

Excavated material was either:

- Reused as fill material where no potential unacceptable risk to future Site uses was detected (~270 m^3 of soil, sourced from the Oil Line excavation and shallow soil in the Former UST Area).
- Remediated on-Site to reduce hydrocarbon concentrations to a level where no potential unacceptable risk to future Site uses was detected (~210 m^3 of soil sourced from the Former UST Area).
- Disposed off-Site as contaminated material due to the presence of lead or ACM (~855 m^3 sourced from soil surrounding the Diesel Line or from the Northern Excavation Area)

Any excavated material not used as backfill was removed from the Site following completion of remediation.

No exceedances of Site Specific RC adopted for the proposed future uses of the Precinct South were detected in soil remaining *in situ*, with the exception of:

- Concentrations of TRH >C10-16 (minus naphthalene) exceeding the Potential Future Commercial (unknown construction or multi-storey building) RC at the following validation sample locations:
  - DL_23_1.0 and OL_17_0.6E on the pipeline excavation.
  - UST_77_SE_1.6 and UST_80_1.2_S at the southern end of the Former UST Area excavation.

  Speciation of soil samples collected at these locations identified that no exceedance of RC applicable to future uses of the Precinct South were present, and no unacceptable risk to future Site uses is considered present.
  - UST_EXT_59E_1.6 and UST_EXT_59N_1.6 in the eastern portion of the Former UST Area excavation, under the area cut out from under the SeaRoad Shed Slab.

  The results of TRH speciation at UST_EXT_59E_1.6 reported an exceedance of the Commercial/Light Industrial (Working within a basement) RC for aliphatic TRH >C8-C10. It is also noted that samples were not collected at 0.8 m bgl at these locations, and the detected concentrations of aromatic TPH >C8-C10 at UST_EX_59N_1.6 are not delineated vertically and would be considered to represent a potential vapour intrusion risk if present in soil at depths less than 1 m bgl.

Detected concentrations are not considered to represent an unacceptable risk to future development as previous sub-slab soil vapour investigation within 5 m of impacts did not report potentially hazardous soil vapour concentrations. This area of the Site is currently planned to remain as Open Space until further development, at which the detected TRH do not represent a vapour risk, and a level of soil vapour protection is required in the AA3 DSI and should be maintained to provide a level of protection and mitigation against soil vapour in this area.

- The concentration of lead at 1.6 m bgl at UST_66_E_1.6 exceeded the Intrusive Maintenance Worker RC. This concentration is not considered to represent an unacceptable risk to future Site users as:
  - The Maintenance Worker RC is considered applicable for soil up to 1 m bgl. This exceedance of criteria was detected at 1.6 m bgl and is delineated vertically at 0.8 m bgl by UST_66_0.8_E, and this soil is not considered likely to come into contact with future Maintenance Workers.
  - The extent of lead above RC is considered likely to be limited in extent, as surrounding validation samples to the north, south, east, and west did not report lead concentrations in excess of this RC.
  - The adopted RC for lead is 620 mg/kg. The reported result at UST_66_E_1.6 was 621 mg/kg, which is a minor exceedance of the criteria. The RWP and the AA3 DSI both contain statistical assessment of minor exceedances of criteria in accordance with the ASC NEMP, and similar isolated exceedances of RC are present within the Precinct South and not considered to represent an unacceptable risk to future Maintenance Workers.

No other exceedances of RC applicable to future Site uses were detected in validation samples of soil which remains *in situ*. It is noted that samples were not collected from the base of the Former UST Area or Northern Excavation Area excavations, where groundwater was encountered, and if future development requires disturbance or dewatering of these areas, additional assessment or management should be undertaken.

The areas of excavation have been backfilled with a combination of reused soil, imported VENM, crushed concrete, and reinstated road base. A layer of VENM was placed over the Northern Excavation Area to prevent casual contact with soil, while the Pipeline Excavation and Former UST Area excavation were sealed with bitumen, and with concrete to reinstate the SeaRoad Shed Slab where excavation had progressed in this area. The backfill uses in each area is shown on **Figure F5**.

The following features of interest were identified during remediation:

- A boiler filled with water was uncovered in the Northern Excavation Area. The water in the boiler was decanted, and the boiler excavated, and both were removed from Site.

  Assessment of the water in the boiler reported concentrations of TRH in excess of groundwater RC, however assessment of surrounding soil validation samples did not uncover any indication of soil contamination, and the most recent groundwater data from the closest groundwater well, collected on 5 Decembe3 2023 from MW163 approximately 10 m down hydraulic gradient to the south, did not have any detectable concentrations of TRH or BTEXN (noting that this sample results has not yet been validated). This result is consistent with prior samples from MW163 collected in 2019.

  No further remediation of the area of the buried boiler is considered to be required at this time.

- A buried railway was uncovered to the west of the Pipeline Excavation and the Former UST Area. The railway was removed as a precautionary measure, however, assessment of a sample of the sleeper and of validation samples collected beneath or less than 2 m of the railway, indicate that it is considered unlikely that the sleepers were treated with creosote, and did not report any results which would indicate that the railway was either a source of contamination to the Precinct South, or represented an unacceptable risk to current or future Site uses.

  Review of historic aerial images indicated the potential that other buried railways may be present in or adjacent to the Precinct South:

  - Running north from the north-east corner of the Red Shed beneath the carpark area.

- Running north-south beneath the carpark along the western boundary of the Precinct South.
- Beneath the Goods Shed and Yard area to the west.

However, based on the results from assessment of this buried railway, and under consideration that other railways are of similar age and era and would be assumed to have similar characteristics, and may have already been removed from the Site, no further investigation or excavation of railways is considered recommended at this time.

Additional investigation of two locations, soil bore BH62 and the area between previous remediation validation samples OL-EX-107 and OL-EX-110, was proposed to assess historic sample results which may represent unacceptable risk to future Site uses. Soil at BH62 was excavated and removed as part of the Northern Excavation Area, and investigation of the soil between OL-EX-107 and OL-EX-110 did not detect any soil impacts considered to represent an unacceptable risk to future Site uses.

In any event, a level of vapour management for future buildings is required in the AA3 DSI (AECOM, 2022a) would also provide protection/mitigation of soil vapour from potential impacts in this area.

On the basis of the above, no further remediation of soil or remnant infrastructure within the Precinct South is considered required to fulfil the proposed future Site uses, if the conditions within the SEMP are fulfilled.

8.2 Recommendations

The following actions are recommended for future works prior to or during development of the Precinct of the Site:

- As part of the Contaminated Land Audit Report, a SEMP will need to be developed to maintain the Site conditions associated with the assumptions which form the basis of the Site Specific RC adopted for assessment of this remediation, namely:
  - An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of IMWs) to have direct contact with soils. Agreement with the Environmental Auditor will likely be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
    - Paved surfaces (e.g., concrete, asphalt, etc.)
    - Building footings
    - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g., 0.5 – 1.0 m topsoil)
    - Other suitable materials: e.g., geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternatives to a thicker earthen layer.

  The SEMP will need to be in place in the future to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground-breaking activities, including IMWs.
- The SEMP should also contain considerations of the following considerations:
  - Saturated soil (>2 m bgl) in the Former UST Area and Northern Excavation Area excavations, which may represent a risk to future Site users if exposed, excavated, or dewatered.
  - Areas of potential vapour intrusion near OL-EX-107 and OL-EX-110, and on the eastern boundary of the Former UST Area excavation, which may require further mitigation or investigation if the vapour control measures in the AA3 DSI are not adopted.
  - If any changes to the assumptions of future use and conditions developed for the RC occur, for example a change in surface elevation, reassessment of identified impacts and exposure scenarios must be undertaken.

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10.0 Limitations

AECOM Australia Pty Limited (AECOM) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of the Macquarie Point Development Corporations and only those third parties who have been authorised in writing by AECOM to rely on this Report.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Report.

It is prepared in accordance with the scope of work and for the purpose outlined in the contract dated 20 December 2022.

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Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Report. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

Appendix A

Figures

AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.

DOMAIN HWY
TASMAN HWY BDGE
DOMAIN HWY ON RAMP
TASMAN HWY
QUEENS DOMAIN
RIVER DERWENT
BURNETT ST
BROOKER AV
GLEBE
ARGYLE ST
EVANS ST
LIVERPOOL ST
HOBART
HARRINGTON ST
MACQUARIE ST
SULLIVAN'S COVE
GOULBURN ST
DAVEY ST
MOLLE ST
BATTERY POINT
SANDY BAY RD
BYRON ST
ANTILL ST
DIGNEY ST
REGENT ST
TASMANIA
SITE

PROJECT ID 60321835 CREATED BY DJB LAST MODIFIED DJB 11 NOV 2015 AECOM www.aecom.com	**LEGEND** Site Boundary	**SITE LOCATION PLAN**
N DATUM GDA 1994, PROJECTION MGA ZONE 55 0 100 200 400 metres 1:10,000 (when printed at A3)		**Macquarie Point Development Corporation** *The Precinct South - Remediation Validation Report* Macquarie Point, Hobart, TAS **Figure** F1

Map Document: (P:\603X\603218835\4. Tech work area\4.99 GIS\02_Maps\2015\11\SEMP\60321835_FigF1_Site_Location_20151111.mxd)

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 4.25 8.5 17
metres
1:300 (when printed at A3)

Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Pipeline Trenches
- Assessment Area
- SeaRoad Shed Slab
- Northern Excavation Area
- Former UST Area
- Additional Excavation Area (Unsurveyed)
- Buried Railway (Approximate Location)
- Buried Boiler (Approximate Location)
- Change in Use Investigation Trench
- Diesel Pipeline (Remaining)
- Diesel Pipeline (Removed)
- Oil Line (Remaining)
- Oil Pipeline (Removed)
- Previous UST Location
- Inferred Extent of LNAPL Plume
- Remedation Excavation Extent (2020)
- Site Boundary

SITE LAYOUT

Macquarie Point Development Corporation

The Precinct South – Remediation Validation Report

Macquarie Point, Hobart, TAS

Figure

F2

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\07\The_Precinct_South_RVR_Update\F2_Site_Layout_Extent_Excavation.mxd)

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BH80
BH57
C2
THE PRECINCT NORTH (LOT B)
RN6
DP01
BH58
C3
C1
OL-EX-320
OL-EX-321
OL-EX-322
OL-EX-334
BH60
OL_EX_400_0.8
OL_EX_400_1.6
OL_EX_404_0.8
OL_EX_404_1.6
C4
Additional Excavation Area (Unsurveyed)
OL_EX_405_0.8
OL_EX_405_1.6
OL_EX_403_0.8
OL_EX_403_1.6
OL_EX_401_0.8
OL_EX_401_1.6
OL_EX_402_1.6
OL_EX_402_0.8
OL_EX_424_0.5
OL_EX_424_1.5
Northern Excavation Area
BH62
Buried Boiler (Approximate Location)
OL_EX_412_0.5
OL_EX_423_1.5
OL_EX_423_0.5
OL_EX_406_1.6
OL_EX_406_0.8
OL_EX_411_2.0
OL_EX_409_1.6
OL_EX_420_0.5
OL_EX_UST
OL_EX_409_0.8
OL_EX_420_1.5
OL_EX_407_0.8
OL_EX_419_1.5
OL_EX_419_0.5
OL_EX_407_1.6
OL_EX_413_1.5
OL_EX_413_0.5
OL_EX_408_0.8
OL_EX_408_1.6
OL_EX_422_1.5
OL_EX_422_0.5
OL_EX_410_0.8
OL_EX_410_1.6
OL_EX_414_0.5
OL_EX_414_1.5
OL_EX_421_0.5
OL_EX_418_0.5
OL_EX_418_1.5
OL_EX_415_0.5
OL_EX_415_1.5
OL_EX_417_0.5
OL_EX_417_1.5
OL_EX_416_0.5
OL_EX_416_1.5
MW163
BH61
OL_EX_110_1.1
Change in Use Investigation Trench
OL_EX_107_1.1
THE PRECINCT SOUTH
RS12
S10
BH201

Sample Location	OL_EX_412_1.5
Depth (m bgl)	1.5
Date	23/05/2023
C6-C10 fraction (minus BTEX)(F1)	31

Sample Location	OL_EX_412_0.5
Depth (m bgl)	0.5
Date	23/05/2023
>C10-C16 (minus Naphthalene)(F2)	60

Sample Location	OL_EX_414_1.5
Depth (m bgl)	1.5
Date	23/05/2023
>C10-C16 (minus Naphthalene)(F2)	90

Sample Location	OL_EX_416_1.5
Depth (m bgl)	1.5
Date	23/05/2023
>C10-C16 (minus Naphthalene)(F2)	60

Site Specific Remediation Criteria
Potential Future Residents (building with a basement car park)
Potential Future Residents (low rise slab-on-grade)
Potential Future Residents (unknown constr. or multi-storey bldg)
Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)
Potential Future Comm/Light Ind Workers (working within a basement)
Potential Future Comm (unknown construction or multi-storey bldg)
Potential Future Maintenance Workers
Potential Future Recreational Open Space Users

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 1.25 2.5 5
metres
(when printed at A3)
1:120

Legend

- Change in Use Investigation Trench Sample
- Northern Excavation Area Validation Sample
- Northern Excavation Area Validation Sample (Further Excavated)
- Buried Boiler Water Sample
- Groundwater Well
- Soil Bores/Test Pits
- Assessment Area
- Northern Excavation Area
- Former UST Area
- Additional Excavation Area (Unsurveyed)
- Buried Boiler (Approximate Location)
- Change in Use Investigation Trench
- Diesel Pipeline (Remaining)
- Diesel Pipeline (Removed)
- Oil Pipeline (Removed)
- Remedation Excavation Extent (2020)
- Site Boundary

NORTHERN EXCAVATION AREA

Macquarie Point Development Corporation

The Precinct South – Remediation Validation Report

Macquarie Point, Hobart, TAS

Figure
F3

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\07\The_Precinct_South_RVR_Update\F3_Northern_Excavation_Area.mxd)

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THE GOODS SHED AND YARD (AUDIT AREA 1)

BH199 BH204 BH202 SV25 BH64 BH200 OL_05 S2 BH116 BH171 BH101 DL_11 S1 BH68 OL_17 PIPELINE EXCAVATION DL_23 OL_29 S3 BH65 DL_35 Buried Railway (Approximate Location) BH69 OL_41 BH102 THE PRECINCT SOUTH SV05 S5 BH150 OL_53 BH72 SEAROAD SHED SLAB UST_55_1.6_N SV06 IA01_RS SV04 UST_55_0.8_NE UST_55_1.6_NE UST_59_1.6_W UST_EXT_59N_1.6 UST_59_0.8_W UST_59_2.0_W UST_59_2.0_E RED SHED Former UST Area UST_59_1.6_E UST_59_0.8_E SV08 UST_66_0.8_W UST_66_1.6_W UST_EXT_59E_1.6 UST_66_2.0_W BH194 OL_65 MW05 UST_66_2.0_E UST_66_E_1.6 UST_66_E_0.8 UST_EXT_59S_1.6 RS3 BH195 S7 SV30 DL_71 UST_73_1.6_W UST_73_0.8_W UST_73_2.0_W UST_73_2.0_E MW154 BH107 UST_74_E_0.8 UST_74_E_1.6 UST_77_1.6_S BH193 OL_77 UST_80_1.2_S UST_77_SE_1.6 UST_77_SI DL_80 BH103 MW16 BG01-AA3 DL_100 DL_90 MW60 MW126A MW126B

Sample Location	DL_11_1.0
Depth (m bgl)	1
Date	2/03/2023
C6-C10 fraction (minus BTEX)(F1)	90
Naphthalene	5.1

Sample Location	OL_17_0.6E
Depth (m bgl)	0.6
Date	27/02/2023
>C10-C16 (minus Naphthalene)(F2)	140
>C10 - C12 Aliphatic	<50
>C10 - C12 Aromatic	<50
>C12 - C16 Aromatic	57
Naphthalene	9.3

Sample Location	DL_23_1.0
Depth (m bgl)	1
Date	2/03/2023
>C10-C16 (minus Naphthalene)(F2)	260
>C10 - C12 Aliphatic	<50
>C12 - C16 Aliphatic	<50
Aliphatic >C16-C21	51
Aliphatic >C21-C35	100
>C10 - C12 Aromatic	<50
>C12 - C16 Aromatic	104
> C16-C21 Aromatic	521
> C21-C35 Aromatic	1720
Naphthalene	5.8

Sample Location	DL_35_1.0
Depth (m bgl)	1
Date	2/03/2023
>C10-C16 (minus Naphthalene)(F2)	100

Sample Location	OL_53_0.6W
Depth (m bgl)	0.6
Date	27/02/2023
>C10-C16 (minus Naphthalene)(F2)	70
Naphthalene	3

Sample Location	UST_EXT_59N_1.6
Depth (m bgl)	1.6
Date	27/04/2023
C6-C10 fraction (minus BTEX)(F1)	269
>C10-C16 (minus Naphthalene)(F2)	2940
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	<5
>C6 - C8 Aliphatic	32
>C8 - C10 Aliphatic	179
>C10 - C12 Aliphatic	232
>C12 - C16 Aliphatic	913
Aliphatic >C16-C21	671
Aliphatic >C21-C35	306
TPH C5 - C7 Aromatic	<0.2
TPH >C7 - C8 Aromatic Toluene	<0.5
>C8 - C10 Aromatic	<1
>C10 - C12 Aromatic	59
>C12 - C16 Aromatic	522
> C16-C21 Aromatic	666
> C21-C35 Aromatic	580

Sample Location	UST_77_SE_1.6
Depth (m bgl)	1.6
Date	16/03/2023
C6-C10 fraction (minus BTEX)(F1)	44
>C10-C16 (minus Naphthalene)(F2)	570
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	<5
>C6 - C8 Aliphatic	<5
>C8 - C10 Aliphatic	36
>C10 - C12 Aliphatic	<50
>C12 - C16 Aliphatic	178
Aliphatic >C16-C21	138
Aliphatic >C21-C35	<50
TPH C5 - C7 Aromatic	<0.2
TPH >C7 - C8 Aromatic Toluene	<0.5
>C8 - C10 Aromatic	<1
>C10 - C12 Aromatic	<50
>C12 - C16 Aromatic	204
> C16-C21 Aromatic	240
> C21-C35 Aromatic	484

Sample Location	UST_66_E_1.6
Depth (m bgl)	1.6
Date	16/03/2023
>C10-C16 (minus Naphthalene)(F2)	120
Lead	621
Naphthalene	8

Sample Location	UST_EXT_59E_1.6
Depth (m bgl)	1.6
Date	27/04/2023
C6-C10 fraction (minus BTEX)(F1)	639
>C10-C16 (minus Naphthalene)(F2)	3750
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	<5
>C6 - C8 Aliphatic	133
>C8 - C10 Aliphatic	386
>C10 - C12 Aliphatic	335
>C12 - C16 Aliphatic	1380
Aliphatic >C16-C21	1240
Aliphatic >C21-C35	486
TPH C5 - C7 Aromatic	<0.2
TPH >C7 - C8 Aromatic Toluene	<0.5
>C8 - C10 Aromatic	7.3
>C10 - C12 Aromatic	64
>C12 - C16 Aromatic	747
> C16-C21 Aromatic	1200
> C21-C35 Aromatic	898

Sample Location	UST_80_1.2_S
Depth (m bgl)	1.2
Date	16/03/2023
C6-C10 fraction (minus BTEX)(F1)	19
>C10-C16 (minus Naphthalene)(F2)	2540
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	<5
>C6 - C8 Aliphatic	<5
>C8 - C10 Aliphatic	11
>C10 - C12 Aliphatic	<237
>C12 - C16 Aliphatic	938
Aliphatic >C16-C21	714
Aliphatic >C21-C35	<248
TPH C5 - C7 Aromatic	<0.2
TPH >C7 - C8 Aromatic Toluene	<0.5
>C8 - C10 Aromatic	<1
>C10 - C12 Aromatic	32
>C12 - C16 Aromatic	355
> C16-C21 Aromatic	375
> C21-C35 Aromatic	335
Naphthalene	4.9

Sample Location	DL_100_1.0
Depth (m bgl)	1
Date	28/02/2023
>C10-C16 (minus Naphthalene)(F2)	50

Site Specific Remediation Criteria

- Potential Future Residents (building with a basement car park)
- Potential Future Residents (low rise slab-on-grade)
- Potential Future Residents (unknown constr. or multi-storey bldg)
- Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)
- Potential Future Comm/Light Ind Workers (working within a basement)
- Potential Future Comm (unknown construction or multi-storey bldg)
- Potential Future Maintenance Workers
- Potential Future Recreational Open Space Users

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 1.75 3.5 7
metres
1:130 (when printed at A3)

Legend

- Pipeline Excavation Validation Sample
- Former UST Area Validation Sample
- Pipeline Excavation Validation Sample (Further Excavated)
- Former UST Area Validation Sample (Further Excavated)
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- SeaRoad Shed Slab
- Slab Removed and Reinstated. Excavation to water table
- Assessment Area
- Pipeline Trenches
- Former UST Area
- Buried Railway (Approximate Location)
- Diesel Pipeline (Remaining)
- Diesel Pipeline (Removed)
- Oil Line (Remaining)
- Oil Pipeline (Removed)
- Previous UST Location
- Inferred Extent of LNAPL Plume
- Remedation Excavation Extent (2020)
- Site Boundary

FORMER UST AREA

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The Precinct South – Remediation Validation Report

Macquarie Point, Hobart, TAS

Figure F4

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THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)
THE PRECINCT NORTH (LOT B)
THE GOODS SHED AND YARD (AUDIT AREA 1)
THE PRECINCT SOUTH
Additional Excavation Area (Unsurveyed)
Northern Excavation Area
Buried Boiler (Approximate Location)
Change in Use Investigation Trench
Buried Railway (Approximate Location)
Former UST Area
PIPELINE EXCAVATION
SEAROAD SHED SLAB
RED SHED
ENTRY

MW10 MW140 MW139 MW136 MW157 MW146 MW21 MW138 MW162 MW55 MW127A MW127B MW124B MW124A MW150 MW125B MW125A MW151 MW131 MW163 MW164 MW6 MW03 MW05 MW136_GHD MW135_GHD MW154 MW16 MW60 MW126B MW126A
BH32 BH53 BH122 BH33 BH115 BH47 BH112 BH170 BH52 BH34 BH56 BH113 BH58 BH35 BH59 BH36 BH79 BH54 BH55 BH57 BH80 BH60 BH61 BH62 BH66 BH48 BH49 BH37 BH38 BH39 BH63 BH203 BH197 BH201 BH67 BH196 BH198 BH199 BH204 BH200 BH64 BH171 BH116 BH68 BH43 BH42 BH65 BH44 BH45 BH114 BH69 BH150 BH105 BH102 BH72 BH70 BH106 BH107 BH101 BH202 BH194 BH195 BH193 BH103 BH71 BH41
R3 R5 RN4 RS9 RN10 RS12 RN6 RS10 BS01 BH104
SV01 SV02 SV26 SV24 SV23 SV25 SV29 SV30 SV05 SV06 SV07 SV08 IA01_SS IA01_RS IA02_RS IA02_SS IA03_SS IA01 CS01 BG01-AA3 BG02_AA5
DP04 DP02 DP01
RN3 S10 S2 S1 S4 S3 S5 S6 S8 S7 PW02 PC13 PC12
C2 C3 C1 C4

Legend

- Groundwater Well
- Soil Bores/Test Pits
- Vapour Probe/Air Sampling Location
- Assessment Area
- Pipeline Trenches
- Northern Excavation Area
- Former UST Area
- Additional Excavation Area (Unsurveyed)
- SeaRoad Shed Slab
- Buried Railway (Approximate Location)
- Buried Boiler (Approximate Location)
- Change in Use Investigation Trench
- UST_SP1, UST_SP_Ext_59SP, and VENM
- UST_SP_0.5-1.0, UST_SP_1.0-1.5, OL_SP, and VENM
- VENM, crushed concrete and road base
- Diesel Pipeline (Remaining)
- Diesel Pipeline (Removed)
- Oil Line (Remaining)
- Oil Pipeline (Removed)
- Previous UST Location
- Inferred Extent of LNAPL Plume
- Remedation Excavation Extent (2020)
- Site Boundary

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LAST MODIFIED PRACHI.KULKARNI1 25 Jul 2024

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N
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0 4.25 8.5 17
metres
1:300 (when printed at A3)

LOCATIONS OF BACKFILL

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Macquarie Point, Hobart, TAS

Figure
F5

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\07\The_Precinct_South_RVR_Update\F5_Backfill_Locations.mxd)

A3 size

Appendix B

Tables

Table T1
Analytical Results
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																Fuel Line Excavation											

Table T1
Analytical Results
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

| | | |

Table T1
Analytical Results
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

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																			Fuel Line Excavation								*Fuel Line Excavation (Excavated Material)*					
																		Field_ID	OL_29_0.6W	OL_29_1.0	OL_41_0.5E	OL_41_1.0	OL_53_0.6W	OL_53_1.0	*DL_71_0.6E*	*DL_71_1.0*	*OL_65_0.6E*	*OL_65_1.0*	*OL_77_0.6W*	*OL_77_1.0*
																		Location_Code	OL_29_0.6W	OL_29_1.0	OL_41_0.5E	OL_41_1.0	OL_53_0.6W	OL_53_1.0	*DL_71_0.6E*	*DL_71_1.0*	*OL_65_0.6E*	*OL_65_1.0*	*OL_77_0.6W*	*OL_77_1.0*
																		Sample_Depth_Range	0.6	1	0.5	1	0.6	1	*0.6*	*1*	*0.6*	*1*	*0.6*	*1*
																		Sampled_Date_Time	27/02/2023	27/02/2023	27/02/2023	27/02/2023	27/02/2023	27/02/2023	*1/03/2023*	*1/03/2023*	*27/02/2023*	*27/02/2023*	*27/02/2023*	*27/02/2023*
																		Lab_Report_Number	EM2303516	EM2303516	EM2303516	EM2303516	EM2303516	EM2303516	*EM2303927*	*EM2303927*	*EM2303516*	*EM2303516*	*EM2303516*	*EM2303516*
																		Sample_Type	Normal	Normal	Normal	Normal	Normal	Normal	*Normal*	*Normal*	*Normal*	*Normal*	*Normal*	*Normal*
				Potential Future Residents (building with a basement car park)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr. or multi-storey bldg)				Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Comm (unknown construction or multi-storey bldg)				Potential Future Maintenance Workers	Potential Future Recreational Open Space Users														
Chem_Group	**ChemName**	**output unit**	**EQL**			0-1m	1-2m	2-4m	>4m			0-1m	1-2m	2-4m	>4m																
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	*<10*	*37*	*<10*	*<10*	*84*	*87*
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	28[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	130[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		<10	<10	<10	<10	<10	<10	*<10*	*37*	*<10*	*<10*	*82*	*87*
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		<50	<50	<50	<50	70	<50	*<50*	*1530*	*<50*	*<50*	*5000*	*8110*
	>C10-C16 fraction	mg/kg	50															<50	<50	<50	<50	70	<50	*<50*	*1530*	*<50*	*<50*	*5000*	*8110*
	>C16-C34 fraction	mg/kg	100															720	390	<100	730	1380	550	*390*	*1370*	*340*	*230*	*3900*	*5540*
	>C34-C40 fraction	mg/kg	100															140	<100	<100	130	200	110	*<100*	*<100*	*<100*	*<100*	*170*	*240*
	>C10-C40 fraction (sum)	mg/kg	50															860	390	<50	860	1650	660	*390*	*2900*	*340*	*230*	*9070*	*13,900*
Total Petroleum Hydrocarbons (Speciation)	C5-C6 Aliphatic Hydrocarbons (ref. to	mg/kg	5															-	-	-	-	-	-	-	-	-	-	-	-
	>C6 - C8 Aliphatic	mg/kg	5	120[#1]	94[#1]	53.9[#2]	82.7[#3]	124[#4]	208[#5]		570[#1]	311[#6]	440[#7]	706[#8]	1240[#9]	1000000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	>C8 - C10 Aliphatic	mg/kg	5	28[#1]	88[#1]	82.2[#2]	137[#3]	207[#4]	338[#5]	510[#1]	130[#1]	514[#6]	734[#7]	1180[#8]	2020[#9]	270000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	>C10 - C12 Aliphatic	mg/kg	50		140[#1]	51.3[#2]	84.3[#3]	144[#4]	275[#5]			305[#6]	441[#7]	799[#8]	1620[#9]	270000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	>C12 - C16 Aliphatic	mg/kg	50			334[#2]	1170[#3]	2480[#4]	5130[#5]			1720[#6]	5270[#7]	13500[#8]	30300[#9]	270000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	Aliphatic >C16-C21	mg/kg	1															-	-	-	-	-	-	-	-	-	-	-	-
	Aliphatic >C21-C35	mg/kg	50															-	-	-	-	-	-	-	-	-	-	-	-
	TPH C5 - C7 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-	-	-	-
	TPH >C7 - C8 Aromatic Toluene	mg/kg	50															-	-	-	-	-	-	-	-	-	-	-	-
	>C8 - C10 Aromatic	mg/kg	0.5	36[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	170[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	>C10 - C12 Aromatic	mg/kg	0.2	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	>C12 - C16 Aromatic	mg/kg	50			110[#2]	352[#3]	718[#4]	1450[#5]			508[#6]	1550[#7]	3850[#8]	8250[#9]	110000[#1]		-	-	-	-	-	-	-	-	-	-	-	-
	> C16-C21 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-	-	-	-
	> C21-C35 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	*<10*	*18*	*<10*	*<10*	*50*	*55*
	C10-C14 fraction	mg/kg	50															<50	<50	<50	<50	<50	<50	*60*	*960*	*<50*	*<50*	*2640*	*4400*
	C15-C28 fraction	mg/kg	100															470	260	<100	480	1020	390	*280*	*1910*	*200*	*140*	*5990*	*8890*
	C29-C36 fraction	mg/kg	100															320	180	<100	320	510	250	*160*	*110*	*170*	*120*	*420*	*580*
	C10-C36 fraction (sum)	mg/kg	50															790	440	<50	800	1530	640	*500*	*2980*	*370*	*260*	*9050*	*13,900*
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1															<1	<1	<1	<1	<1	<1	*<1*	*<1*	*<1*	*<1*	*1*	*1*
	Benzene	mg/kg	0.2	0.5[#1]	0.5[#1]	0.5[#2]	0.5[#3]	0.5[#4]	0.5[#5]	3[#1]	3[#1]	3[#6]	3[#7]	3[#8]	3[#9]	170[#1]	360[#1]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*
	Toluene	mg/kg	0.5	290[#1]	200[#1]	160[#2]	220[#3]	310[#4]	540[#5]	2500[#1]	1400[#1]	950[#6]	1200[#7]	1800[#8]	3100[#9]	660000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
	Ethylbenzene	mg/kg	0.5	24[#1]	57[#1]	55[#2]	80[#3]	130[#4]	240[#5]	340[#1]	110[#1]	340[#6]	450[#7]	720[#8]	1400[#9]	290000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
	m&p-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*1.7*	*<0.5*
	o-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
	Total Xylenes	mg/kg	0.5	93[#1]	67[#1]	40[#2]	60[#3]	95[#4]	170[#5]	830[#1]	430[#1]	240[#6]	320[#7]	520[#8]	1000[#9]	530000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*1.7*	*<0.5*
	Total BTEX	mg/kg	0.2															<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*1.7*	*<0.2*
Metals	Arsenic	mg/kg	5															15	11	15	5	374	148	*43*	*25*	*10*	*6*	*130*	*64*
	Cadmium	mg/kg	1															<1	<1	<1	<1	<1	<1	*<1*	*<1*	*4*	*<1*	*2*	*<1*
	Chromium	mg/kg	2															12	9	4	6	9	4	*9*	*10*	*6*	*7*	*10*	*13*
	Copper	mg/kg	5															249	96	<5	82	64	195	*119*	*47*	*37*	*41*	*118*	*49*
	Lead	mg/kg	5													620[#1]		551	233	5	168	354	585	*680*	*132*	*37*	*115*	*178*	*146*
	Mercury	mg/kg	0.1															-	-	-	-	-	-	*0.7*	*1.2*	*-*	*-*	*-*	*-*
	Nickel	mg/kg	2															21	16	<2	13	13	12	*10*	*12*	*11*	*12*	*16*	*10*
	Zinc	mg/kg	5															352	375	62	818	270	553	*202*	*201*	*412*	*96*	*458*	*228*
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															28.5	11.2	0.6	28.7	46.4	15.2	*16.4*	*21.1*	*32.2*	*9.8*	*18.6*	*24.6*
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															28.5	11.2	<0.5	28.7	46.4	15.2	*16.4*	*21.1*	*32.2*	*9.8*	*18.6*	*24.6*
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5															28.5	11.2	1.2	28.7	46.4	15.2	*16.4*	*21.1*	*32.2*	*9.8*	*18.6*	*24.6*
	Naphthalene	mg/kg	0.5	20[#1]	13[#1]	3[#2]	9[#3]	20[#4]	40[#5]	160[#1]	97[#1]	10[#6]	40[#7]	100[#8]	230[#9]	38000[#1]		0.8	<0.5	<0.5	0.7	3	2.2	*0.5*	*1.2*	*18*	*<0.5*	*3.8*	*4.2*
	Acenaphthylene	mg/kg	0.5															3	1.2	<0.5	2.9	5.8	2.7	*1.4*	*1.9*	*2.4*	*1.1*	*3*	*3.4*
	Acenaphthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*1.8*	*4.9*	*<0.5*	*1.7*	*3.1*
	Anthracene	mg/kg	0.5															2.6	1.2	<0.5	2.8	11.2	1	*2.3*	*5*	*10.8*	*1*	*4.8*	*6.7*
	Fluorene	mg/kg	0.5															<0.5	<0.5	<0.5	0.5	1.8	<0.5	*<0.5*	*3.3*	*6.4*	*<0.5*	*4.5*	*11*
	Phenanthrene	mg/kg	0.5															9.3	3	<0.5	7.7	38.5	3	*6.3*	*14.6*	*53.6*	*3.4*	*19.9*	*31.3*
	Fluoranthene	mg/kg	0.5															27.2	8.7	<0.5	28	66.6	7.8	*20*	*26.5*	*49.6*	*9.8*	*29.3*	*30.6*
	Benz(a)anthracene	mg/kg	0.5															16.7	6.8	<0.5	17.4	34.5	5.2	*10.6*	*16.4*	*22.2*	*5.6*	*13.2*	*16.3*
	Benzo(k)fluoranthene	mg/kg	0.5															8	3.2	<0.5	7.8	11.9	3.1	*4.3*	*5.4*	*7.4*	*2.8*	*4.8*	*6*
	Benzo(b&j)fluoranthene	mg/kg	0.5															19.1	7.8	<0.5	19.8	32.4	10.1	*12*	*14.7*	*26.3*	*6.5*	*12.9*	*18.8*
	Benzo(a)pyrene	mg/kg	0.5													110[#1]		20.2	7.8	<0.5	20.4	32.5	11.2	*11.8*	*14.8*	*22.9*	*7*	*13.1*	*17.4*
	Chrysene	mg/kg	0.5															14.3	6.1	<0.5	14.5	27.4	5.5	*9.2*	*12.5*	*22.4*	*4.8*	*10.2*	*14*
	Pyrene	mg/kg	0.5															27.3	9.8	<0.5	26.4	62	11.6	*20.1*	*27.4*	*51.9*	*9.6*	*30.1*	*32.7*
	Benzo(g,h,i)perylene	mg/kg	0.5															12.1	4.1	<0.5	11.4	17.3	7.3	*5.5*	*6.6*	*12*	*4.2*	*7.9*	*9.2*
	Dibenz(a,h)anthracene	mg/kg	0.5															2.7	1.1	<0.5	2.6	4.1	1.5	*1.3*	*1.9*	*2.5*	*0.9*	*1.6*	*2.1*
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5															10	3.7	<0.5	9.7	14.7	5.8	*4.8*	*5.9*	*8.9*	*3.5*	*6.5*	*7.7*
	Sum of PAHs	mg/kg	0.5															173	64.5	<0.5	173	364	78	*110*	*160*	*322*	*60.2*	*167*	*214*
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1															<1	<1	<1	<1	<1	<1	*<1*	*<1*	*<2*	*<1*	*<1*	*<1*
	Phenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*1.8*	*<0.5*	*<0.5*	*<0.5*
	2-Chlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	2-Methylphenol (o-Cresol)	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*1.4*	*<0.5*	*<0.5*	*<0.5*
	2-Nitrophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	2,4-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	2,4-Dimethylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*1.4*	*<0.5*	*<1*	*<0.5*
	2,6-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	4-Chloro-3-methylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	2,4,6-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	2,4,5-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	*<0.5*	*<0.5*	*<1.1*	*<0.5*	*<0.5*	*<0.5*
	Pentachlorophenol	mg/kg	2															<2	<2	<2	<2	<2	<2	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*
Physico-Chemical	Moisture Content	%	0.1															18.4	18.7	9.9	10.8	28.6	49.6	*11.3*	*16.5*	*10*	*18.9*	*21.2*	*13.4*

Env Stds Comments
#1:Derivation of Remediation Criteria, August 2016 (AECOM, 2016)
#2:CRC CARE 2011 HSL A&B (SAND, 0-<1m) - Appendix F
#3:CRC CARE 2011 HSL A&B (SAND, 1-<2m) - Appendix F
#4:CRC CARE 2011 HSL A&B (SAND, 2-<4m) - Appendix F
#5:CRC CARE 2011 HSL A&B (SAND, 4m+) - Appendix F
#6:CRC CARE 2011 HSL D (SAND, 0-<1m) - Appendix F
#7:CRC CARE 2011 HSL D (SAND, 1-<2m) - Appendix F
#8:CRC CARE 2011 HSL D (SAND, 2-<4m) - Appendix F
#9:CRC CARE 2011 HSL D (SAND, 4m+) - Appendix F

Table T1
Analytical Results
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

																	Northern Excavation Area							
												Field_ID	OL_EX_400_0.8	OL_EX_400_1.6	OL_EX_401_0.8	OL_EX_401_1.6	OL_EX_405_0.8	OL_EX_405_1.6	OL_EX_411_2.0	OL_EX_412_0.5	OL_EX_412_1.5
												Location_Code	OL_EX_400_0.8	OL_EX_400_1.6	OL_EX_401_0.8	OL_EX_401_1.6	OL_EX_405_0.8	OL_EX_405_1.6	OL_EX_411_2.0	OL_EX_412_0.5	OL_EX_412_1.5
												Sample_Depth_Range	0.8	1.6	0.8	1.6	0.8	1.6	2	0.5	1.5
												Sampled_Date_Time	3/04/2023	3/04/2023	3/04/2023	3/04/2023	27/04/2023	27/04/2023	1/05/2023	23/05/2023	23/05/2023
												Lab_Report_Number	EM2305896	EM2305896	EM2305896	EM2305896	EM2307637	EM2307637	EM2307528	EM2309340	EM2309340
												Sample_Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Potential Future Residents (building with a basement car park)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr. or multi-storey bldg)				Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Comm (unknown construction or multi-storey bldg)				Potential Future Maintenance Workers	Potential Future Recreational Open Space Users							
Chem_Group	**ChemName**	**output unit**	**EQL**			0-1m	1-2m	2-4m	>4m			0-1m	1-2m	2-4m	>4m									
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	<10	<10	31
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	28[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	130[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		<10	<10	<10	<10	<10	<10	<10	<10	31
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		<50	<50	<50	<50	<50	<50	<50	60	<50
	>C10-C16 fraction	mg/kg	50															<50	<50	<50	<50	<50	<50	<50	60	<50
	>C16-C34 fraction	mg/kg	100															1420	220	3400	<100	360	280	<100	2150	1110
	>C34-C40 fraction	mg/kg	100															390	<100	710	<100	<100	<100	<100	380	200
	>C10-C40 fraction (sum)	mg/kg	50															1810	220	4110	<50	360	280	<50	2590	1310
Total Petroleum Hydrocarbons (Speciation)	C5-C6 Aliphatic Hydrocarbons (ref. to	mg/kg	5															-	-	-	-	-	-	-	-	-
	>C6 - C8 Aliphatic	mg/kg	5	120[#1]	94[#1]	53.9[#2]	82.7[#3]	124[#4]	208[#5]		570[#1]	311[#6]	440[#7]	706[#8]	1240[#9]	1000000[#1]		-	-	-	-	-	-	-	-	-
	>C8 - C10 Aliphatic	mg/kg	5	28[#1]	88[#1]	82.2[#2]	137[#3]	207[#4]	336[#5]	510[#1]	130[#1]	514[#6]	734[#7]	1180[#8]	2020[#9]	270000[#1]		-	-	-	-	-	-	-	-	-
	>C10 - C12 Aliphatic	mg/kg	50		140[#1]	51.3[#2]	84.3[#3]	144[#4]	275[#5]			305[#6]	441[#7]	799[#8]	1620[#9]	270000[#1]		-	-	-	-	-	-	-	-	-
	>C12 - C16 Aliphatic	mg/kg	50			334[#2]	1170[#3]	2480[#4]	5130[#5]			1720[#6]	5270[#7]	13500[#8]	30300[#9]	270000[#1]		-	-	-	-	-	-	-	-	-
	Aliphatic >C16-C21	mg/kg	1															-	-	-	-	-	-	-	-	-
	Aliphatic >C21-C35	mg/kg	50															-	-	-	-	-	-	-	-	-
	TPH C5 - C7 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-
	TPH >C7 - C8 Aromatic Toluene	mg/kg	50															-	-	-	-	-	-	-	-	-
	>C8 - C10 Aromatic	mg/kg	0.5	36[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	170[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		-	-	-	-	-	-	-	-	-
	>C10 - C12 Aromatic	mg/kg	0.2	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		-	-	-	-	-	-	-	-	-
	>C12 - C16 Aromatic	mg/kg	50			110[#2]	352[#3]	718[#4]	1450[#5]			508[#6]	1550[#7]	3850[#8]	8250[#9]	110000[#1]		-	-	-	-	-	-	-	-	-
	> C16-C21 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-
	> C21-C35 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	<10	<10	26
	C10-C14 fraction	mg/kg	50															<50	<50	<50	<50	<50	<50	<50	<50	<50
	C15-C28 fraction	mg/kg	100															790	130	1760	<100	240	190	<100	1460	730
	C29-C36 fraction	mg/kg	100															820	100	2030	<100	150	120	<100	950	510
	C10-C36 fraction (sum)	mg/kg	50															1610	230	3790	<50	390	310	<50	2410	1240
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1															<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzene	mg/kg	0.2	0.5[#1]	0.5[#1]	0.5[#2]	0.5[#3]	0.5[#4]	0.5[#5]	3[#1]	3[#1]	3[#6]	3[#7]	3[#8]	3[#9]	170[#1]	360[#1]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	290[#1]	200[#1]	160[#2]	220[#3]	310[#4]	540[#5]	2500[#1]	1400[#1]	950[#6]	1200[#7]	1800[#8]	3100[#9]	660000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	0.5	24[#1]	57[#1]	55[#2]	80[#3]	130[#4]	240[#5]	340[#1]	110[#1]	340[#6]	450[#7]	720[#8]	1400[#9]	290000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	m&p-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	o-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total Xylenes	mg/kg	0.5	93[#1]	67[#1]	40[#2]	60[#3]	95[#4]	170[#5]	830[#1]	430[#1]	240[#6]	320[#7]	520[#8]	1000[#9]	530000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2															<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Metals	Arsenic	mg/kg	5															-	-	-	-	-	-	-	-	-
	Cadmium	mg/kg	1															-	-	-	-	-	-	-	-	-
	Chromium	mg/kg	2															-	-	-	-	-	-	-	-	-
	Copper	mg/kg	5															-	-	-	-	-	-	-	-	-
	Lead	mg/kg	5													620[#1]		608	115	565	42	208	408	153	317	277
	Mercury	mg/kg	0.1															-	-	-	-	-	-	-	-	-
	Nickel	mg/kg	2															-	-	-	-	-	-	-	-	-
	Zinc	mg/kg	5															-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															10.4	1.7	14.5	1.1	11.7	5.8	2	51	12.3
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															10.4	1.5	14.5	0.8	11.7	5.8	1.7	51	12.3
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5															10.4	2	14.5	1.4	11.7	5.8	2.2	51	12.3
	Naphthalene	mg/kg	0.5	20[#1]	13[#1]	3[#2]	9[#3]	20[#4]	40[#5]	160[#1]	97[#1]	10[#6]	40[#7]	100[#8]	230[#9]	38000[#1]		0.6	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	1.7	0.9
	Acenaphthylene	mg/kg	0.5															1.4	<0.5	1.1	<0.5	1.5	<0.5	<0.5	7.9	1.8
	Acenaphthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5
	Anthracene	mg/kg	0.5															1.2	<0.5	1.8	<0.5	1.4	0.6	0.5	12.4	1.5
	Fluorene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.7	<0.5
	Phenanthrene	mg/kg	0.5															5.3	0.6	4.6	<0.5	3.7	1.5	1.1	45.5	3.7
	Fluoranthene	mg/kg	0.5															11.1	1.8	10.1	1	9.8	5.9	2.2	61.8	16.6
	Benz(a)anthracene	mg/kg	0.5															6.4	1.2	7.7	0.7	7	3.7	1.3	41.2	9.6
	Benzo(k)fluoranthene	mg/kg	0.5															4.4	0.6	4.9	<0.5	3.5	1.6	0.6	16.4	3.9
	Benzo(b&j)fluoranthene	mg/kg	0.5															5.7	1.2	8.2	0.6	9.2	4.3	1.5	35.4	10.7
	Benzo(a)pyrene	mg/kg	0.5													110[#1]		7	1.1	9.2	0.7	7.7	4.1	1.3	34.5	8.5
	Chrysene	mg/kg	0.5															6.9	1.1	8.4	0.7	6.8	3.5	1.1	34.7	7.4
	Pyrene	mg/kg	0.5															11.1	1.9	10.6	1	9.7	6.6	2.1	61.6	13.8
	Benzo(g,h,i)perylene	mg/kg	0.5															6.1	0.7	9	0.6	6.6	2.2	0.9	18.6	4.2
	Dibenz(a,h)anthracene	mg/kg	0.5															1.1	<0.5	2.3	<0.5	1.4	0.5	<0.5	5.1	0.9
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5															5.1	0.6	7.5	<0.5	5.2	1.9	0.7	15.6	3.8
	Sum of PAHs	mg/kg	0.5															73.4	10.8	86	5.3	73.5	36.4	13.3	397	87.3
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1															<1	<1	<1	<1	<1	<1	<1	1	<1
	Phenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5
	2-Chlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol (o-Cresol)	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	mg/kg	2															<2	<2	<2	<2	<2	<2	<2	<2	<2
Physico-Chemical	Moisture Content	%	0.1															14.8	19	26	22.6	16.8	17.5	21.2	15.5	18.5

Env Stds Comments
#1:Derivation of Remediation Criteria, August 2016 (AECOM, 2016)
#2:CRC CARE 2011 HSL A&B (SAND, 0-<1m) - Appendix F
#3:CRC CARE 2011 HSL A&B (SAND, 1-<2m) - Appendix F
#4:CRC CARE 2011 HSL A&B (SAND, 2-<4m) - Appendix F
#5:CRC CARE 2011 HSL A&B (SAND, 4m+) - Appendix F
#6:CRC CARE 2011 HSL D (SAND, 0-<1m) - Appendix F
#7:CRC CARE 2011 HSL D (SAND, 1-<2m) - Appendix F
#8:CRC CARE 2011 HSL D (SAND, 2-<4m) - Appendix F
#9:CRC CARE 2011 HSL D (SAND, 4m+) - Appendix F

Table T1
Analytical Results
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

																			Northern Excavation Area							
																Field_ID	OL_EX_414_0.5	OL_EX_414_1.5	OL_EX_415_0.5	OL_EX_415_1.5	OL_EX_416_0.5	OL_EX_416_1.5	OL_EX_417_0.5	OL_EX_417_1.5	OL_EX_418_0.5
																Location_Code	OL_EX_414_0.5	OL_EX_414_1.5	OL_EX_415_0.5	OL_EX_415_1.5	OL_EX_416_0.5	OL_EX_416_1.5	OL_EX_417_0.5	OL_EX_417_1.5	OL_EX_418_0.5
																Sample_Depth_Range	0.5	1.5	0.5	1.5	0.5	1.5	0.5	1.5	0.5
																Sampled_Date_Time	23/05/2023	23/05/2023	23/05/2023	23/05/2023	23/05/2023	23/05/2023	23/05/2023	23/05/2023	23/05/2023
																Lab_Report_Number	EM2309340	EM2309340	EM2309340	EM2309340	EM2309340	EM2309340	EM2309340	EM2309340	EM2309340
																Sample_Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Potential Future Residents (building with a basement car park)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr. or multi-storey bldg)				Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Comm (unknown construction or multi-storey bldg)				Potential Future Maintenance Workers	Potential Future Recreational Open Space Users									
Chem_Group	**ChemName**	**output unit**	**EQL**			0-1m	1-2m	2-4m	>4m			0-1m	1-2m	2-4m	>4m											
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	<10	<10	<10
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	28[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	130[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		<10	<10	<10	<10	<10	<10	<10	<10	<10
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		<50	90	<50	<50	<50	60	<50	<50	<50
	>C10-C16 fraction	mg/kg	50															<50	90	<50	<50	<50	60	<50	<50	<50
	>C16-C34 fraction	mg/kg	100															200	1400	150	<100	330	1390	150	<100	1450
	>C34-C40 fraction	mg/kg	100															<100	300	<100	<100	<100	210	<100	<100	200
	>C10-C40 fraction (sum)	mg/kg	50															200	1790	150	<50	330	1660	150	<50	1650
Total Petroleum Hydrocarbons (Speciation)	C5-C6 Aliphatic Hydrocarbons (ref. to	mg/kg	5															-	-	-	-	-	-	-	-	-
	>C6 - C8 Aliphatic	mg/kg	5	120[#1]	94[#1]	53.9[#2]	82.7[#3]	124[#4]	208[#5]		570[#1]	311[#6]	440[#7]	706[#8]	1240[#9]	1000000[#1]		-	-	-	-	-	-	-	-	-
	>C8 - C10 Aliphatic	mg/kg	5	28[#1]	88[#1]	82.2[#2]	137[#3]	207[#4]	336[#5]	510[#1]	130[#1]	514[#6]	734[#7]	1180[#8]	2020[#9]	270000[#1]		-	-	-	-	-	-	-	-	-
	>C10 - C12 Aliphatic	mg/kg	50		140[#1]	51.3[#2]	84.3[#3]	144[#4]	275[#5]			305[#6]	441[#7]	799[#8]	1620[#9]	270000[#1]		-	-	-	-	-	-	-	-	-
	>C12 - C16 Aliphatic	mg/kg	50			334[#2]	1170[#3]	2480[#4]	5130[#5]			1720[#6]	5270[#7]	13500[#8]	30300[#9]	270000[#1]		-	-	-	-	-	-	-	-	-
	Aliphatic >C16-C21	mg/kg	1															-	-	-	-	-	-	-	-	-
	Aliphatic >C21-C35	mg/kg	50															-	-	-	-	-	-	-	-	-
	TPH C5 - C7 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-
	TPH >C7 - C8 Aromatic Toluene	mg/kg	50															-	-	-	-	-	-	-	-	-
	>C8 - C10 Aromatic	mg/kg	0.5	36[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	170[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		-	-	-	-	-	-	-	-	-
	>C10 - C12 Aromatic	mg/kg	0.2	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		-	-	-	-	-	-	-	-	-
	>C12 - C16 Aromatic	mg/kg	50			110[#2]	352[#3]	718[#4]	1450[#5]			508[#6]	1550[#7]	3850[#8]	8250[#9]	110000[#1]		-	-	-	-	-	-	-	-	-
	> C16-C21 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-
	> C21-C35 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	<10	<10	<10
	C10-C14 fraction	mg/kg	50															<50	<50	<50	<50	<50	<50	<50	<50	<50
	C15-C28 fraction	mg/kg	100															100	870	<100	<100	200	1010	<100	<100	1040
	C29-C36 fraction	mg/kg	100															130	720	<100	<100	150	530	110	<100	550
	C10-C36 fraction (sum)	mg/kg	50															230	1590	<50	<50	350	1540	110	<50	1590
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1															<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzene	mg/kg	0.2	0.5[#1]	0.5[#1]	0.5[#2]	0.5[#3]	0.5[#4]	0.5[#5]	3[#1]	3[#1]	3[#6]	3[#7]	3[#8]	3[#9]	170[#1]	360[#1]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	290[#1]	200[#1]	160[#2]	220[#3]	310[#4]	540[#5]	2500[#1]	1400[#1]	950[#6]	1200[#7]	1800[#8]	3100[#9]	660000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	0.5	24[#1]	57[#1]	55[#2]	80[#3]	130[#4]	240[#5]	340[#1]	110[#1]	340[#6]	450[#7]	720[#8]	1400[#9]	290000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	m&p-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	o-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total Xylenes	mg/kg	0.5	93[#1]	67[#1]	40[#2]	60[#3]	95[#4]	170[#5]	830[#1]	430[#1]	240[#6]	320[#7]	520[#8]	1000[#9]	530000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2															<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Metals	Arsenic	mg/kg	5															-	-	-	-	-	-	-	-	-
	Cadmium	mg/kg	1															-	-	-	-	-	-	-	-	-
	Chromium	mg/kg	2															-	-	-	-	-	-	-	-	-
	Copper	mg/kg	5															-	-	-	-	-	-	-	-	-
	Lead	mg/kg	5													620[#1]		115	502	125	118	312	411	448	30	356
	Mercury	mg/kg	0.1															-	-	-	-	-	-	-	-	-
	Nickel	mg/kg	2															-	-	-	-	-	-	-	-	-
	Zinc	mg/kg	5															-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															2.2	23.4	4.9	0.6	7.5	39.2	3.8	0.6	35.8
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															2	23.4	4.6	<0.5	7.5	39.2	3.5	<0.5	35.8
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5															2.5	23.4	5.1	1.2	7.5	39.2	4	1.2	35.8
	Naphthalene	mg/kg	0.5	20[#1]	13[#1]	3[#2]	9[#3]	20[#4]	40[#5]	160[#1]	97[#1]	10[#6]	40[#7]	100[#8]	230[#9]	38000[#1]		<0.5	1	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	0.6
	Acenaphthylene	mg/kg	0.5															<0.5	4	0.7	<0.5	1	7.6	0.5	<0.5	3.7
	Acenaphthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	0.5
	Anthracene	mg/kg	0.5															<0.5	3	0.6	<0.5	1.2	13.8	<0.5	<0.5	14.8
	Fluorene	mg/kg	0.5															<0.5	0.5	<0.5	<0.5	<0.5	5.1	<0.5	<0.5	4.4
	Phenanthrene	mg/kg	0.5															1.5	7.4	1.2	<0.5	2.8	40.4	1.1	<0.5	47.3
	Fluoranthene	mg/kg	0.5															2.7	20.2	4	0.6	7.6	59.1	3.2	<0.5	56.7
	Benz(a)anthracene	mg/kg	0.5															1.4	15.1	3.2	<0.5	6.4	31.3	2.3	<0.5	30.4
	Benzo(k)fluoranthene	mg/kg	0.5															0.6	8.1	1.4	<0.5	2.3	12.4	1	<0.5	10.7
	Benzo(b&j)fluoranthene	mg/kg	0.5															1.6	19.8	3.7	<0.5	5.5	28.3	3	<0.5	25.3
	Benzo(a)pyrene	mg/kg	0.5													110[#1]		1.5	15.1	3.6	<0.5	5.1	27.3	2.7	<0.5	24.8
	Chrysene	mg/kg	0.5															1.3	14.1	2.8	<0.5	4.8	23.8	2	<0.5	25.5
	Pyrene	mg/kg	0.5															2.7	21.2	4.2	0.6	8	52.2	3.4	<0.5	53.8
	Benzo(g,h,i)perylene	mg/kg	0.5															1	11.6	2	<0.5	2.2	15	1.8	<0.5	12.2
	Dibenz(a,h)anthracene	mg/kg	0.5															<0.5	2.8	<0.5	<0.5	0.7	3.1	<0.5	<0.5	3
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5															0.8	9.8	1.6	<0.5	1.9	12.6	1.4	<0.5	10.4
	Sum of PAHs	mg/kg	0.5															15.1	154	29	1.2	49.5	334	22.4	<0.5	324
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1															<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol (o-Cresol)	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	mg/kg	2															<2	<2	<2	<2	<2	<2	<2	<2	<2
Physico-Chemical	Moisture Content	%	0.1															10.2	18.6	13.7	15.6	11.3	19.7	23.1	19.6	17.5

Env Stds Comments
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#3:CRC CARE 2011 HSL A&B (SAND, 1-<2m) - Appendix F
#4:CRC CARE 2011 HSL A&B (SAND, 2-<4m) - Appendix F
#5:CRC CARE 2011 HSL A&B (SAND, 4m+) - Appendix F
#6:CRC CARE 2011 HSL D (SAND, 0-<1m) - Appendix F
#7:CRC CARE 2011 HSL D (SAND, 1-<2m) - Appendix F
#8:CRC CARE 2011 HSL D (SAND, 2-<4m) - Appendix F
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Table T1
Analytical Results
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

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																Former UST Area									
															Field_ID	UST_55_1.6_N	UST_55_NE_0.8	UST_55_NE_1.6	UST_59_0.8_W	UST_59_1.6_W	UST_66_0.8_W	UST_66_1.6_W	UST_66_E_0.8	UST_66_E_1.6	UST_73_0.8_W
															Location_Code	UST_55_1.6_N	UST_55_NE_0.8	UST_55_NE_1.6	UST_59_0.8_W	UST_59_1.6_W	UST_66_0.8_W	UST_66_1.6_W	UST_66_E_0.8	UST_66_E_1.6	UST_73_0.8_W
															Sample_Depth_Range	1.6	0.8	1.6	0.8	1.6	0.8	1.6	0.8	1.6	0.8
															Sampled_Date_Time	16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
															Lab_Report_Number	EM2304628	EM2305209-AA	EM2305209-AA	EM2304628	EM2304628	EM2304628	EM2304628	EM2305209-AA	EM2305209-AA	EM2304628
															Sample_Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Potential Future Residents (building with a basement car park)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr. or multi-storey bldg)				Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Comm (unknown construction or multi-storey bldg)				Potential Future Maintenance Workers	Potential Future Recreational Open Space Users									
Chem_Group	ChemName	output unit	EQL			0-1m	1-2m	2-4m	>4m			0-1m	1-2m	2-4m	>4m											
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10													110000[#1]		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	28[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	130[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		<50	<50	<50	<50	<50	<50	<50	<50	120	<50
	>C10-C16 fraction	mg/kg	50															<50	<50	<50	<50	<50	<50	<50	<50	120	<50
	>C16-C34 fraction	mg/kg	100															<100	720	350	350	740	<100	460	290	1070	310
	>C34-C40 fraction	mg/kg	100															<100	130	<100	<100	150	<100	100	<100	140	<100
	>C10-C40 fraction (sum)	mg/kg	50															<50	850	350	350	890	<50	560	290	1330	310
Total Petroleum Hydrocarbons (Speciation)	C5-C6 Aliphatic Hydrocarbons (ref. to	mg/kg	5															-	-	-	-	-	-	-	-	-	-
	>C6 - C8 Aliphatic	mg/kg	5	120[#1]	94[#1]	53.9[#2]	82.7[#3]	124[#4]	208[#5]		570[#1]	311[#6]	440[#7]	706[#8]	1240[#9]	1000000[#1]		-	-	-	-	-	-	-	-	-	-
	>C8 - C10 Aliphatic	mg/kg	5	28[#1]	88[#1]	82.2[#2]	137[#3]	207[#4]	338[#5]	510[#1]	130[#1]	514[#6]	734[#7]	1180[#8]	2020[#9]	270000[#1]		-	-	-	-	-	-	-	-	-	-
	>C10 - C12 Aliphatic	mg/kg	50		140[#1]	51.3[#2]	84.3[#3]	144[#4]	275[#5]			305[#6]	441[#7]	799[#8]	1620[#9]	270000[#1]		-	-	-	-	-	-	-	-	-	-
	>C12 - C16 Aliphatic	mg/kg	50			334[#2]	1170[#3]	2480[#4]	5130[#5]			1720[#6]	5270[#7]	13500[#8]	30300[#9]	270000[#1]		-	-	-	-	-	-	-	-	-	-
	Aliphatic >C16-C21	mg/kg	1															-	-	-	-	-	-	-	-	-	-
	Aliphatic >C21-C35	mg/kg	50															-	-	-	-	-	-	-	-	-	-
	TPH C5 - C7 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-	-
	TPH >C7 - C8 Aromatic Toluene	mg/kg	50															-	-	-	-	-	-	-	-	-	-
	>C8 - C10 Aromatic	mg/kg	0.5	36[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	170[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		-	-	-	-	-	-	-	-	-	-
	>C10 - C12 Aromatic	mg/kg	0.2	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		-	-	-	-	-	-	-	-	-	-
	>C12 - C16 Aromatic	mg/kg	50			110[#2]	352[#3]	718[#4]	1450[#5]			508[#6]	1550[#7]	3850[#8]	8250[#9]	110000[#1]		-	-	-	-	-	-	-	-	-	-
	> C16-C21 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-	-
	> C21-C35 Aromatic	mg/kg	50															-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10															<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C10-C14 fraction	mg/kg	50															<50	<50	<50	<50	<50	<50	<50	<50	70	<50
	C15-C28 fraction	mg/kg	100															<100	500	260	240	510	<100	310	210	860	220
	C29-C36 fraction	mg/kg	100															<100	300	130	160	320	<100	220	120	360	130
	C10-C36 fraction (sum)	mg/kg	50															<50	800	390	400	830	<50	530	330	1290	350
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1															<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzene	mg/kg	0.2	0.5[#1]	0.5[#1]	0.5[#2]	0.5[#3]	0.5[#4]	0.5[#5]	3[#1]	3[#1]	3[#6]	3[#7]	3[#8]	3[#9]	170[#1]	360[#1]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	290[#1]	200[#1]	160[#2]	220[#3]	310[#4]	540[#5]	2500[#1]	1400[#1]	950[#6]	1200[#7]	1800[#8]	3100[#9]	660000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	0.5	24[#1]	57[#1]	55[#2]	80[#3]	130[#4]	240[#5]	340[#1]	110[#1]	340[#6]	450[#7]	720[#8]	1400[#9]	290000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	m&p-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	o-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total Xylenes	mg/kg	0.5	93[#1]	67[#1]	40[#2]	60[#3]	95[#4]	170[#5]	830[#1]	430[#1]	240[#6]	320[#7]	520[#8]	1000[#9]	530000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2															<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Metals	Arsenic	mg/kg	5															-	-	-	-	-	-	-	-	-	14
	Cadmium	mg/kg	1															-	-	-	-	-	-	-	-	-	<1
	Chromium	mg/kg	2															-	-	-	-	-	-	-	-	-	10
	Copper	mg/kg	5															-	-	-	-	-	-	-	-	-	32
	Lead	mg/kg	5													620[#1]		92	268	371	595	168	403	354	152	621	144
	Mercury	mg/kg	0.1															-	-	-	-	-	-	-	-	-	0.8
	Nickel	mg/kg	2															-	-	-	-	-	-	-	-	-	10
	Zinc	mg/kg	5															-	-	-	-	-	-	-	-	-	121
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															0.8	24.8	9.6	8.9	26.7	1.2	16.1	8.6	27	-
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															0.5	24.8	9.6	8.9	26.7	0.8	16.1	8.6	27	-
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5															1.2	24.8	9.6	8.9	26.7	1.5	16.1	8.6	27	-
	Naphthalene	mg/kg	0.5	20[#1]	13[#1]	3[#2]	9[#3]	20[#4]	40[#5]	160[#1]	97[#1]	10[#6]	40[#7]	100[#8]	230[#9]	38000[#1]		<0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.8	<0.5	8	-
	Acenaphthylene	mg/kg	0.5															<0.5	2.7	0.7	0.8	1.5	<0.5	1.6	0.7	1.8	-
	Acenaphthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11.1	-
	Anthracene	mg/kg	0.5															<0.5	3.1	1.8	0.8	5.9	<0.5	1.2	0.9	10.9	-
	Fluorene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	11	-
	Phenanthrene	mg/kg	0.5															<0.5	9.3	5.6	2.9	12.2	<0.5	2.5	3	44.9	-
	Fluoranthene	mg/kg	0.5															0.8	24.5	11.5	8.8	32	0.8	11.9	8.3	37	-
	Benz(a)anthracene	mg/kg	0.5															<0.5	14.6	6.6	5	16.4	0.7	8.5	5.2	19.3	-
	Benzo(k)fluoranthene	mg/kg	0.5															<0.5	6.6	2.6	2.2	7	<0.5	4.7	2.3	7.5	-
	Benzo(b&j)fluoranthene	mg/kg	0.5															<0.5	17.9	7.3	7	17.3	0.8	10	6.4	19.1	-
	Benzo(a)pyrene	mg/kg	0.5													110[#1]		0.5	17.8	6.8	6.3	19.3	0.7	11.6	6.2	19.3	-
	Chrysene	mg/kg	0.5															<0.5	13	5.2	5	15.1	0.6	7.4	4.7	15.4	-
	Pyrene	mg/kg	0.5															0.8	24.5	10.3	8.8	30.3	0.9	12.9	8.3	34.3	-
	Benzo(g,h,i)perylene	mg/kg	0.5															<0.5	9.6	3.1	3.6	9.5	<0.5	6.6	3.1	8.4	-
	Dibenz(a,h)anthracene	mg/kg	0.5															<0.5	2.1	0.8	0.8	2.3	<0.5	1.5	0.7	2.2	-
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5															<0.5	8.1	2.8	3	8.2	<0.5	5.6	2.6	7.2	-
	Sum of PAHs	mg/kg	0.5															2.1	154	65.1	55	178	4.5	86.8	52.4	257	-
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1															<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	Phenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-Chlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-Methylphenol (o-Cresol)	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-Nitrophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4-Dimethylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,6-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	4-Chloro-3-methylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4,6-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4,5-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	Pentachlorophenol	mg/kg	2															<2	<2	<2	<2	<2	<2	<2	<2	<2	-
Physico-Chemical	Moisture Content	%	0.1															22.3	22.2	21.4	22.5	16.6	18.9	21.7	22.3	23.8	16.9

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																Former UST Area (Excavated		Change in Use Investigation		Backfill Assessment	Railway Assessment
															Field_ID	UST_59_E_0.8	UST_59_E_1.6	OL_EX_107_1.1	OL_EX_110_1.1	UST_OL_DL_BF	Rail Timber 01
															Location_Code	UST_59_E_0.8	UST_59_E_1.6	OL_EX_107_1.1	OL_EX_110_1.1	UST_OL_DL_BF	Rail Timber 01
															Sample_Depth_Range	0.8	1.6	1.1	1.1	N/A	N/A
															Sampled_Date_Time	16/03/2023	16/03/2023	1/05/2023	1/05/2023	16/03/2023	21/03/2023
															Lab_Report_Number	EM2305209-AA	EM2305209-AA	EM2307528	EM2307528	EM2305209-AA	EM2305209-AB
															Sample_Type	Normal	Normal	Normal	Normal	Normal	Normal
				Potential Future Residents (building with a basement car park)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr. or multi-storey bldg)				Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Comm (unknown construction or multi-storey bldg)				Potential Future Maintenance Workers	Potential Future Recreational Open Space Users						
Chem_Group	ChemName	output unit	EQL			0-1m	1-2m	2-4m	>4m			0-1m	1-2m	2-4m	>4m								
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10															<10	281	<10	<10	<10	<10
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	28[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	130[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		<10	281	<10	<10	<10	<10
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		100	11,800	<50	<50	<50	<50
	>C10-C16 fraction	mg/kg	50															100	11,800	<50	<50	<50	<50
	>C16-C34 fraction	mg/kg	100															1370	8140	270	310	<100	2080
	>C34-C40 fraction	mg/kg	100															240	470	<100	<100	<100	710
	>C10-C40 fraction (sum)	mg/kg	50															1710	20,400	270	310	<50	2790
Total Petroleum Hydrocarbons (Speciation)	C5-C6 Aliphatic Hydrocarbons (ref. to	mg/kg	5															-	<5	-	-	-	-
	>C6 - C8 Aliphatic	mg/kg	5	120[#1]	94[#1]	53.9[#2]	82.7[#3]	124[#4]	208[#5]		570[#1]	311[#6]	440[#7]	706[#8]	1240[#9]	1000000[#1]		-	67	-	-	-	-
	>C8 - C10 Aliphatic	mg/kg	5	28[#1]	88[#1]	82.2[#2]	137[#3]	207[#4]	336[#5]	510[#1]	130[#1]	514[#6]	734[#7]	1180[#8]	2020[#9]	270000[#1]		-	185	-	-	-	-
	>C10 - C12 Aliphatic	mg/kg	50		140[#1]	51.3[#2]	84.3[#3]	144[#4]	275[#5]			305[#6]	441[#7]	799[#8]	1620[#9]	270000[#1]		-	1100	-	-	-	-
	>C12 - C16 Aliphatic	mg/kg	50			334[#2]	1170[#3]	2480[#4]	5130[#5]			1720[#6]	5270[#7]	13500[#8]	30300[#9]	270000[#1]		-	4480	-	-	-	-
	Aliphatic >C16-C21	mg/kg	1															-	3330	-	-	-	-
	Aliphatic >C21-C35	mg/kg	50															-	1160	-	-	-	-
	TPH C5 - C7 Aromatic	mg/kg	50															-	<0.2	-	-	-	-
	TPH >C7 - C8 Aromatic Toluene	mg/kg	50															-	<0.5	-	-	-	-
	>C8 - C10 Aromatic	mg/kg	0.5	36[#1]	27[#1]	11.5[#2]	19.1[#3]	32.4[#4]	61.2[#5]	340[#1]	170[#1]	66.6[#6]	97.5[#7]	177[#8]	359[#9]	110000[#1]		-	<1	-	-	-	-
	>C10 - C12 Aromatic	mg/kg	0.2	170[#1]	130[#1]	25[#2]	55.3[#3]	106[#4]	211[#5]		770[#1]	137[#6]	261[#7]	573[#8]	1240[#9]	110000[#1]		-	139	-	-	-	-
	>C12 - C16 Aromatic	mg/kg	50			110[#2]	352[#3]	718[#4]	1450[#5]			508[#6]	1550[#7]	3850[#8]	8250[#9]	110000[#1]		-	1750	-	-	-	-
	> C16-C21 Aromatic	mg/kg	50															-	1820	-	-	-	-
	> C21-C35 Aromatic	mg/kg	50															-	1600	-	-	-	-
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10															<10	207	<10	<10	<10	<10
	C10-C14 fraction	mg/kg	50															<50	6360	<50	<50	<50	<50
	C15-C28 fraction	mg/kg	100															980	13,200	170	170	<100	1070
	C29-C36 fraction	mg/kg	100															580	1160	120	170	<100	1240
	C10-C36 fraction (sum)	mg/kg	50															1560	20,700	290	340	<50	2310
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1															<1	2	<1	<1	<1	<1
	Benzene	mg/kg	0.2	0.5[#1]	0.5[#1]	0.5[#2]	0.5[#3]	0.5[#4]	0.5[#5]	3[#1]	3[#1]	3[#6]	3[#7]	3[#8]	3[#9]	170[#1]	360[#1]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	290[#1]	200[#1]	160[#2]	220[#3]	310[#4]	540[#5]	2500[#1]	1400[#1]	950[#6]	1200[#7]	1800[#8]	3100[#9]	660000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	0.5	24[#1]	57[#1]	55[#2]	80[#3]	130[#4]	240[#5]	340[#1]	110[#1]	340[#6]	450[#7]	720[#8]	1400[#9]	290000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	m&p-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	o-Xylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total Xylenes	mg/kg	0.5	93[#1]	67[#1]	40[#2]	60[#3]	95[#4]	170[#5]	830[#1]	430[#1]	240[#6]	320[#7]	520[#8]	1000[#9]	530000[#1]		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2															<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Metals	Arsenic	mg/kg	5															-	-	-	-	-	10
	Cadmium	mg/kg	1															-	-	-	-	-	78
	Chromium	mg/kg	2															-	-	-	-	-	4
	Copper	mg/kg	5															-	-	-	-	-	80
	Lead	mg/kg	5													620[#1]		131	142	560	564	<5	26
	Mercury	mg/kg	0.1															-	-	-	-	-	<0.1
	Nickel	mg/kg	2															-	-	-	-	-	13
	Zinc	mg/kg	5															-	-	-	-	-	615
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															15.2	43.3	5.7	6.6	0.6	0.6
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															15.2	43.3	5.7	6.6	<0.5	<0.5
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5															15.2	43.3	5.7	6.6	1.2	1.2
	Naphthalene	mg/kg	0.5	20[#1]	13[#1]	3[#2]	9[#3]	20[#4]	40[#5]	160[#1]	97[#1]	10[#6]	40[#7]	100[#8]	230[#9]	38000[#1]		0.6	4.2	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5															1.8	4	<0.5	0.6	<0.5	<0.5
	Acenaphthene	mg/kg	0.5															<0.5	13.6	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5															2.6	19.4	<0.5	0.6	<0.5	<0.5
	Fluorene	mg/kg	0.5															<0.5	19.8	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5															6.5	73.8	1.3	1.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5															12.2	67.9	5	4.5	<0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5															7.5	31.6	3.5	3.7	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5															3.8	10.6	1.6	1.8	<0.5	<0.5
	Benzo(b&j)fluoranthene	mg/kg	0.5															10.9	33.1	4.3	5.3	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5													110[#1]		10.8	31.1	3.9	4.6	<0.5	<0.5
	Chrysene	mg/kg	0.5															6.8	25.8	3.2	3.4	<0.5	<0.5
	Pyrene	mg/kg	0.5															12.3	66.1	5.3	4.7	<0.5	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5															8	13.7	2.3	3.2	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5															1.5	3.1	0.6	0.6	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5															5.8	12	2	2.6	<0.5	<0.5
	Sum of PAHs	mg/kg	0.5															91.1	430	33	37.1	<0.5	<0.5
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1															<1	<1	<1	<1	<1	-
	Phenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-Chlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-Methylphenol (o-Cresol)	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2-Nitrophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4-Dimethylphenol	mg/kg	0.5															<0.5	<2	<0.5	<0.5	<0.5	-
	2,6-Dichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	4-Chloro-3-methylphenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4,6-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	2,4,5-Trichlorophenol	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	-
	Pentachlorophenol	mg/kg	2															<2	<2	<2	<2	<2	-
Physico-Chemical	Moisture Content	%	0.1															15.4	24.3	24	20.3	13.2	34

Env Stds Comments
#1:Derivation of Remediation Criteria, August 2016 (AECOM, 2016)
#2:CRC CARE 2011 HSL A&B (SAND, 0-<1m) - Appendix F
#3:CRC CARE 2011 HSL A&B (SAND, 1-<2m) - Appendix F
#4:CRC CARE 2011 HSL A&B (SAND, 2-<4m) - Appendix F
#5:CRC CARE 2011 HSL A&B (SAND, 4m+) - Appendix F
#6:CRC CARE 2011 HSL D (SAND, 0-<1m) - Appendix F
#7:CRC CARE 2011 HSL D (SAND, 1-<2m) - Appendix F
#8:CRC CARE 2011 HSL D (SAND, 2-<4m) - Appendix F
#9:CRC CARE 2011 HSL D (SAND, 4m+) - Appendix F

Table T2
Analytical Results - Buried Railway Sleeper - Leachate Assessment
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

Field_ID	Rail Timber 01
Location_Code	Rail Timber 01
Sampled_Date_Time	21/03/2023
Lab_Report_Number	EM2305209-AB
Sample_Type	Normal

Chem_Group	ChemName	output unit	EQL	
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5	<0.5
	Naphthalene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Acenaphthene	µg/L	1	<1
	Anthracene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Benz(a)anthracene	µg/L	1	<1
	Benzo(k)fluoranthene	µg/L	1	<1
	Benzo(b&j)fluoranthene	µg/L	1	<1
	Benzo(a)pyrene	µg/L	0.5	<0.5
	Chrysene	µg/L	1	<1
	Pyrene	µg/L	1	<1
	Benzo(g,h,i)perylene	µg/L	1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1
	Indeno(1,2,3-cd)pyrene	µg/L	1	<1
	Sum of PAHs	µg/L	0.5	<0.5

Env Stds Comments

Table T3
Analytical Results - Buried Buried Boiler - Water
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

												Field_ID	OL_EX_UST
												Location_Code	Buried Boiler
												Sampled_Date_Time	19/04/2023
												Lab_Report_Number	EM2306802
												Sample_Type	Normal
				Potential Future Comm (unknown construction or multi-storey bldg)	Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	Potential Future Residents (building with a basement car park)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr. or multi-storey bldg)		
Chem_Group	**ChemName**	**output unit**	**EQL**										
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20									10,600	
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	4000#1		79000#1				30000#1	600#1	4480	
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100	5000#1		40000#1					800#1	1390	
	>C10-C16 fraction	µg/L	100									1460	
	>C16-C34 fraction	µg/L	100									1380	
	>C34-C40 fraction	µg/L	100									<100	
	>C10-C40 fraction (sum)	µg/L	100									2840	
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5									74	
	Benzene	µg/L	1	5000#1	9000#1	5000#1			6000#1	800#1	800#1	457	
	Toluene	µg/L	2			5500000#1					950000#1	1690	
	Ethylbenzene	µg/L	2			1600000#1				250000#1	250000#1	459	
	m&p-Xylene	µg/L	2									2210	
	o-Xylene	µg/L	2									1300	
	Total Xylenes	µg/L	2			2800000#1					180000#1	3510	
	Total BTEX	µg/L	1									6120	
Metals	Lead (Filtered)	mg/L	0.001									0.001	
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5									<0.5	
	Naphthalene	µg/L	1	12000#1	28000#1	6000#1			7000#1	3000#1	2000#1	36.5	
	Acenaphthylene	µg/L	1									<1	
	Acenaphthene	µg/L	1									<1	
	Anthracene	µg/L	1									<1	
	Fluorene	µg/L	1									<1	
	Phenanthrene	µg/L	1									<1	
	Fluoranthene	µg/L	1									<1	
	Benz(a)anthracene	µg/L	1									<1	
	Benzo(k)fluoranthene	µg/L	1									<1	
	Benzo(b&j)fluoranthene	µg/L	1									<1	
	Benzo(a)pyrene	µg/L	0.5			50#1						<0.5	
	Chrysene	µg/L	1									<1	
	Pyrene	µg/L	1									<1	
	Benzo(g,h,i)perylene	µg/L	1									<1	
	Dibenz(a,h)anthracene	µg/L	1									<1	
	Indeno(1,2,3-cd)pyrene	µg/L	1									<1	
	Sum of PAHs	µg/L	0.5									36.5	
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20									8880	
	C10-C14 fraction	µg/L	50									2480	
	C15-C28 fraction	µg/L	100									1630	
	C29-C36 fraction	µg/L	50									150	
	C10-C36 fraction (sum)	µg/L	50									4260	
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	2									30.4	
	Phenol	µg/L	1									13.2	
	2-Chlorophenol	µg/L	1									<1	
	2-Methylphenol (o-Cresol)	µg/L	1			4300000#1						65.4	
	2-Nitrophenol	µg/L	1									<1	
	2,4-Dichlorophenol	µg/L	1									<1	
	2,4-Dimethylphenol	µg/L	1			1300000#1						5.8	
	2,6-Dichlorophenol	µg/L	1									<1	
	4-Chloro-3-methylphenol	µg/L	1									<1	
	2,4,6-Trichlorophenol	µg/L	1									<1	
	2,4,5-Trichlorophenol	µg/L	1									<1	
	Pentachlorophenol	µg/L	2									<2	

Env Stds Comments
#1:Derivation of Remediation Criteria, August 2016 (AECOM, 2016)

Appendix C

Laboratory Reports

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2303516**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023 11:20
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 07-Mar-2023 18:54
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 22		
No. of samples analysed	: 22		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP075(SIM): Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.
- EG005T: EM2303516 #1, Poor duplicate precision for zinc due to sample heterogeneity. Confirmed by re-extraction and re-analysis. The following results were observed: 441 mg/kg, 434 mg/kg, 561 mg/kg and 318 mg/kg.
- EP075(SIM): Poor duplicate precision for EM2303516_012 due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_QCA01	OL_QCB01	OL_QCB02	----	----
				Sampling date / time	27-Feb-2023 09:30	27-Feb-2023 09:31	28-Feb-2023 09:32	----	----
Compound	CAS Number	LOR	Unit		EM2303516-021	EM2303516-022	EM2303516-023	--------	--------
					Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	<0.001	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	<1.0	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_QCA01	OL_QCB01	OL_QCB02	----	----
				Sampling date / time	27-Feb-2023 09:30	27-Feb-2023 09:31	28-Feb-2023 09:32	----	----
Compound	CAS Number	LOR	Unit		EM2303516-021	EM2303516-022	EM2303516-023	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	<100	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	<100	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**23.4**	**16.8**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**54.1**	**38.9**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**91.3**	**71.4**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**60.3**	**38.2**	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**86.6**	**65.7**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**89.2**	**66.0**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**94.4**	**94.8**	**99.3**	----	----

Analytical Results

Sub-Matrix: **RINSATE** (Matrix: **WATER**)				Sample ID	OL_QCA01	OL_QCB01	OL_QCB02	----	----
				Sampling date / time	27-Feb-2023 09:30	27-Feb-2023 09:31	28-Feb-2023 09:32	----	----
Compound	CAS Number	LOR	Unit		EM2303516-021	EM2303516-022	EM2303516-023	--------	--------
					Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**99.1**	**99.0**	**107**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**104**	**101**	**112**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_05_1.0	OL_05_0.6W	OL_17_1.0	OL_17_0.6E	OL_29_1.0
			Sampling date / time	27-Feb-2023 09:07	27-Feb-2023 09:08	27-Feb-2023 09:09	27-Feb-2023 09:10	27-Feb-2023 09:10
Compound	CAS Number	LOR	Unit	EM2303516-001	EM2303516-002	EM2303516-003	EM2303516-004	EM2303516-005
				Result	Result	Result	Result	Result
EA055: Moisture Content								
Moisture Content	----	1.0	%	----	----	15.7	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.8	11.3	----	6.1	18.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	20	31	6	<5	11
Cadmium	7440-43-9	1	mg/kg	3	1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	25	5	<2	9
Copper	7440-50-8	5	mg/kg	84	58	122	<5	96
Lead	7439-92-1	5	mg/kg	154	76	457	<5	233
Nickel	7440-02-0	2	mg/kg	21	102	14	<2	16
Zinc	7440-66-6	5	mg/kg	561	238	226	16	375
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	<2	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	9.3	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	4.6	1.2
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	4.8	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	5.8	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	63.5	3.0
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	13.5	1.2
Fluoranthene	206-44-0	0.5	mg/kg	0.9	0.8	----	77.0	8.7
Pyrene	129-00-0	0.5	mg/kg	0.9	0.9	----	84.2	9.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	0.6	----	38.7	6.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_05_1.0	OL_05_0.6W	OL_17_1.0	OL_17_0.6E	OL_29_1.0
			Sampling date / time	27-Feb-2023 09:07	27-Feb-2023 09:08	27-Feb-2023 09:09	27-Feb-2023 09:10	27-Feb-2023 09:10
Compound	CAS Number	LOR	Unit	EM2303516-001	EM2303516-002	EM2303516-003	EM2303516-004	EM2303516-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	**0.6**	**0.6**	----	**36.0**	**6.1**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**0.8**	**0.8**	----	**37.4**	**7.8**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	**14.7**	**3.2**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**0.8**	**0.8**	----	**39.0**	**7.8**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	**16.4**	**3.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	**4.6**	**1.1**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.5**	**0.5**	----	**21.5**	**4.1**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**5.1**	**5.0**	----	**471**	**64.5**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**1.0**	**1.0**	----	**54.9**	**11.2**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	**54.9**	**11.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.6**	**1.6**	----	**54.9**	**11.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**190**	<100	**310**	**2460**	**260**
C29 - C36 Fraction	----	100	mg/kg	**170**	<100	**290**	**1300**	**180**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**360**	<50	**600**	**3760**	**440**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	**140**	<50
>C16 - C34 Fraction	----	100	mg/kg	**310**	<100	**530**	**3400**	**390**
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	**150**	**530**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**310**	<50	**680**	**4070**	**390**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	**140**	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_05_1.0	OL_05_0.6W	OL_17_1.0	OL_17_0.6E	OL_29_1.0
			Sampling date / time	27-Feb-2023 09:07	27-Feb-2023 09:08	27-Feb-2023 09:09	27-Feb-2023 09:10	27-Feb-2023 09:10
Compound	CAS Number	LOR	Unit	EM2303516-001	EM2303516-002	EM2303516-003	EM2303516-004	EM2303516-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**93.4**	**96.1**	**----**	**84.0**	**96.8**
2-Chlorophenol-D4	93951-73-6	0.5	%	**96.8**	**101**	**----**	**88.9**	**101**
2.4.6-Tribromophenol	118-79-6	0.5	%	**88.0**	**89.7**	**----**	**84.8**	**93.6**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**101**	**106**	**----**	**94.9**	**105**
Anthracene-d10	1719-06-8	0.5	%	**112**	**119**	**----**	**129**	**114**
4-Terphenyl-d14	1718-51-0	0.5	%	**105**	**107**	**----**	**97.5**	**108**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**74.8**	**69.3**	**104**	**74.5**	**66.4**
Toluene-D8	2037-26-5	0.2	%	**76.0**	**72.8**	**102**	**76.5**	**69.6**
4-Bromofluorobenzene	460-00-4	0.2	%	**78.1**	**78.6**	**105**	**82.9**	**73.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_29_0.6W	OL_41_1.0	OL_41_0.5E	OL_53_1.0	OL_53_0.6W
			Sampling date / time	27-Feb-2023 09:11	27-Feb-2023 09:13	27-Feb-2023 09:15	27-Feb-2023 09:18	27-Feb-2023 09:19
Compound	CAS Number	LOR	Unit	EM2303516-006	EM2303516-007	EM2303516-008	EM2303516-009	EM2303516-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.4	10.8	9.9	49.6	28.6
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	15	5	15	148	174
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	6	4	4	9
Copper	7440-50-8	5	mg/kg	249	82	<5	195	64
Lead	7439-92-1	5	mg/kg	551	168	5	585	354
Nickel	7440-02-0	2	mg/kg	21	13	<2	12	13
Zinc	7440-66-6	5	mg/kg	352	818	62	553	270
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.8	0.7	<0.5	2.2	3.0
Acenaphthylene	208-96-8	0.5	mg/kg	3.0	2.9	<0.5	2.7	5.8
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	1.8
Phenanthrene	85-01-8	0.5	mg/kg	9.3	7.7	<0.5	3.0	38.5
Anthracene	120-12-7	0.5	mg/kg	2.6	2.8	<0.5	1.0	11.2
Fluoranthene	206-44-0	0.5	mg/kg	27.2	28.0	<0.5	7.8	66.6
Pyrene	129-00-0	0.5	mg/kg	27.3	26.4	<0.5	11.6	62.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	16.7	17.4	<0.5	5.2	34.5
Chrysene	218-01-9	0.5	mg/kg	14.3	14.5	<0.5	5.5	27.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	19.1	19.8	<0.5	10.1	32.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_29_0.6W	OL_41_1.0	OL_41_0.5E	OL_53_1.0	OL_53_0.6W
				Sampling date / time	27-Feb-2023 09:11	27-Feb-2023 09:13	27-Feb-2023 09:15	27-Feb-2023 09:18	27-Feb-2023 09:19
Compound	CAS Number	LOR	Unit		EM2303516-006	EM2303516-007	EM2303516-008	EM2303516-009	EM2303516-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		8.0	7.8	<0.5	3.1	11.9
Benzo(a)pyrene	50-32-8	0.5	mg/kg		20.2	20.4	<0.5	11.2	32.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		10.0	9.7	<0.5	5.8	14.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		2.7	2.6	<0.5	1.5	4.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		12.1	11.4	<0.5	7.3	17.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		173	173	<0.5	78.0	364
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		28.5	28.7	<0.5	15.2	46.4
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		28.5	28.7	0.6	15.2	46.4
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		28.5	28.7	1.2	15.2	46.4
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		470	480	<100	390	1020
C29 - C36 Fraction	----	100	mg/kg		320	320	<100	250	510
^ C10 - C36 Fraction (sum)	----	50	mg/kg		790	800	<50	640	1530
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	70
>C16 - C34 Fraction	----	100	mg/kg		720	730	<100	550	1380
>C34 - C40 Fraction	----	100	mg/kg		140	130	<100	110	200
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		860	860	<50	660	1650
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	70
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_29_0.6W	OL_41_1.0	OL_41_0.5E	OL_53_1.0	OL_53_0.6W
				Sampling date / time	27-Feb-2023 09:11	27-Feb-2023 09:13	27-Feb-2023 09:15	27-Feb-2023 09:18	27-Feb-2023 09:19
Compound	CAS Number	LOR	Unit		EM2303516-006	EM2303516-007	EM2303516-008	EM2303516-009	EM2303516-010
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		98.1	87.4	98.0	92.7	86.8
2-Chlorophenol-D4	93951-73-6	0.5	%		104	94.4	104	96.3	91.8
2.4.6-Tribromophenol	118-79-6	0.5	%		96.7	85.9	90.1	88.7	82.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		107	95.4	104	102	95.4
Anthracene-d10	1719-06-8	0.5	%		114	115	123	112	108
4-Terphenyl-d14	1718-51-0	0.5	%		108	96.3	103	104	96.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		78.8	79.2	83.3	70.3	73.8
Toluene-D8	2037-26-5	0.2	%		79.2	81.6	83.2	65.6	77.0
4-Bromofluorobenzene	460-00-4	0.2	%		78.3	83.0	86.6	60.9	75.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_65_1.0	OL_65_0.6E	OL_77_1.0	OL_77_0.6W	OL_QC101
				Sampling date / time	27-Feb-2023 09:20	27-Feb-2023 09:21	27-Feb-2023 09:21	27-Feb-2023 09:22	27-Feb-2023 09:23
Compound	CAS Number	LOR	Unit		EM2303516-011	EM2303516-012	EM2303516-013	EM2303516-014	EM2303516-015
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		18.9	10.0	13.4	21.2	19.8
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		6	10	64	130	60
Cadmium	7440-43-9	1	mg/kg		<1	4	<1	2	1
Chromium	7440-47-3	2	mg/kg		7	6	13	10	9
Copper	7440-50-8	5	mg/kg		41	37	49	118	102
Lead	7439-92-1	5	mg/kg		115	37	146	178	178
Nickel	7440-02-0	2	mg/kg		12	11	10	16	12
Zinc	7440-66-6	5	mg/kg		96	412	228	458	396
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	1.8	<0.5	<0.5	1.1
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	1.4	<0.5	<0.5	0.8
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<2	<1	<1	2
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	1.4	<0.5	<1.0	3.1
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	18.0	4.2	3.8	13.2
Acenaphthylene	208-96-8	0.5	mg/kg		1.1	2.4	3.4	3.0	4.3
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	4.9	3.1	1.7	7.6
Fluorene	86-73-7	0.5	mg/kg		<0.5	6.4	11.0	4.5	15.1
Phenanthrene	85-01-8	0.5	mg/kg		3.4	53.6	31.3	19.9	64.8
Anthracene	120-12-7	0.5	mg/kg		1.0	10.8	6.7	4.8	15.1
Fluoranthene	206-44-0	0.5	mg/kg		9.8	49.6	30.6	29.3	54.2
Pyrene	129-00-0	0.5	mg/kg		9.6	51.9	32.7	30.1	56.6
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.6	22.2	16.3	13.2	28.0
Chrysene	218-01-9	0.5	mg/kg		4.8	22.4	14.0	10.2	23.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.5	26.3	18.8	12.9	25.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_65_1.0	OL_65_0.6E	OL_77_1.0	OL_77_0.6W	OL_QC101
			Sampling date / time	27-Feb-2023 09:20	27-Feb-2023 09:21	27-Feb-2023 09:21	27-Feb-2023 09:22	27-Feb-2023 09:23
Compound	CAS Number	LOR	Unit	EM2303516-011	EM2303516-012	EM2303516-013	EM2303516-014	EM2303516-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.8	7.4	6.0	4.8	10.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.0	22.9	17.4	13.1	27.3
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.5	8.9	7.7	6.5	12.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.9	2.5	2.1	1.6	3.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.2	12.0	9.2	7.9	15.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	60.2	322	214	167	376
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	9.8	32.2	24.6	18.6	38.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	9.8	32.2	24.6	18.6	38.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	9.8	32.2	24.6	18.6	38.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	55	50	41
C10 - C14 Fraction	----	50	mg/kg	<50	<50	4400	2640	4170
C15 - C28 Fraction	----	100	mg/kg	140	200	8890	5990	8910
C29 - C36 Fraction	----	100	mg/kg	120	170	580	420	760
^ C10 - C36 Fraction (sum)	----	50	mg/kg	260	370	13900	9050	13800
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	87	84	64
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	87	82	64
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	8110	5000	7720
>C16 - C34 Fraction	----	100	mg/kg	230	340	5540	3900	5880
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	240	170	300
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	230	340	13900	9070	13900
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	8110	5000	7710
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.7	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	1.7	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	1.7	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	1	1	6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_65_1.0	OL_65_0.6E	OL_77_1.0	OL_77_0.6W	OL_QC101
				Sampling date / time	27-Feb-2023 09:20	27-Feb-2023 09:21	27-Feb-2023 09:21	27-Feb-2023 09:22	27-Feb-2023 09:23
Compound	CAS Number	LOR	Unit		EM2303516-011	EM2303516-012	EM2303516-013	EM2303516-014	EM2303516-015
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**95.2**	**87.5**	**94.3**	**99.0**	**103**
2-Chlorophenol-D4	93951-73-6	0.5	%		**99.7**	**89.4**	**97.2**	**103**	**106**
2.4.6-Tribromophenol	118-79-6	0.5	%		**91.6**	**84.0**	**104**	**100**	**108**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**102**	**95.7**	**96.4**	**96.9**	**101**
Anthracene-d10	1719-06-8	0.5	%		**112**	**112**	**124**	**105**	**109**
4-Terphenyl-d14	1718-51-0	0.5	%		**102**	**105**	**101**	**99.9**	**109**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**76.5**	**77.2**	**81.0**	**78.4**	**69.0**
Toluene-D8	2037-26-5	0.2	%		**79.1**	**76.2**	**88.5**	**83.7**	**58.3**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.5**	**80.3**	**85.7**	**82.2**	**65.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_100_1.0	DL_100_0.6N	DL_90_1.0	DL_90_0.6S	----
			Sampling date / time	28-Feb-2023 09:26	28-Feb-2023 09:27	28-Feb-2023 09:28	28-Feb-2023 09:29	----
Compound	CAS Number	LOR	Unit	EM2303516-017	EM2303516-018	EM2303516-019	EM2303516-020	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.2**	**15.8**	**18.3**	**17.5**	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**6**	**6**	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	**9**	**17**	**11**	**10**	----
Copper	7440-50-8	5	mg/kg	**112**	**96**	**54**	**93**	----
Lead	7439-92-1	5	mg/kg	**189**	**380**	**84**	**103**	----
Nickel	7440-02-0	2	mg/kg	**24**	**17**	**9**	**12**	----
Zinc	7440-66-6	5	mg/kg	**350**	**628**	**94**	**71**	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**2.8**	**0.5**	<0.5	**1.1**	----
Acenaphthylene	208-96-8	0.5	mg/kg	**1.7**	**2.5**	**0.9**	**4.7**	----
Acenaphthene	83-32-9	0.5	mg/kg	**3.0**	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	**2.3**	**1.0**	<0.5	**1.7**	----
Phenanthrene	85-01-8	0.5	mg/kg	**16.4**	**14.8**	**4.8**	**23.9**	----
Anthracene	120-12-7	0.5	mg/kg	**4.3**	**2.8**	**1.1**	**4.6**	----
Fluoranthene	206-44-0	0.5	mg/kg	**19.2**	**25.7**	**7.9**	**25.1**	----
Pyrene	129-00-0	0.5	mg/kg	**20.8**	**23.5**	**7.2**	**25.2**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**9.9**	**9.8**	**3.5**	**12.9**	----
Chrysene	218-01-9	0.5	mg/kg	**8.2**	**8.5**	**3.0**	**10.1**	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**10.4**	**11.5**	**4.0**	**11.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_100_1.0	DL_100_0.6N	DL_90_1.0	DL_90_0.6S	----
				Sampling date / time	28-Feb-2023 09:26	28-Feb-2023 09:27	28-Feb-2023 09:28	28-Feb-2023 09:29	----
Compound	CAS Number	LOR	Unit		EM2303516-017	EM2303516-018	EM2303516-019	EM2303516-020	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		3.9	4.1	1.6	4.7	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		11.4	11.8	4.1	12.2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		5.5	6.5	2.3	5.3	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		1.5	1.4	0.5	1.7	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		7.1	7.8	2.7	6.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		128	132	43.6	151	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		16.0	16.6	5.8	17.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		16.0	16.6	5.8	17.5	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		16.0	16.6	5.8	17.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		450	400	100	460	----
C29 - C36 Fraction	----	100	mg/kg		280	310	<100	210	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		730	710	100	670	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg		50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg		630	620	160	600	----
>C34 - C40 Fraction	----	100	mg/kg		140	190	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		820	810	160	600	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		50	<50	<50	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_100_1.0	DL_100_0.6N	DL_90_1.0	DL_90_0.6S	----
				Sampling date / time	28-Feb-2023 09:26	28-Feb-2023 09:27	28-Feb-2023 09:28	28-Feb-2023 09:29	----
Compound	CAS Number	LOR	Unit		EM2303516-017	EM2303516-018	EM2303516-019	EM2303516-020	--------
					Result	Result	Result	Result	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**99.6**	**92.2**	**100**	**88.0**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**102**	**98.2**	**104**	**92.0**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**96.6**	**92.0**	**96.6**	**84.2**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**100**	**99.6**	**102**	**90.9**	**----**
Anthracene-d10	1719-06-8	0.5	%		**109**	**109**	**119**	**98.9**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**99.4**	**97.5**	**103**	**90.0**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.8**	**80.1**	**80.0**	**111**	**----**
Toluene-D8	2037-26-5	0.2	%		**81.4**	**81.2**	**83.5**	**111**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**81.2**	**84.0**	**86.2**	**113**	**----**

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2303516**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 07-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 22		
No. of samples analysed	: 22		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4903234)									
EM2303516-001	OL_05_1.0	EG005T: Copper	7440-50-8	5	mg/kg	84	86	1.6	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	154	128	18.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	561	# 434	25.4	0% - 20%
EM2303516-010	OL_53_0.6W	EG005T: Lead	7439-92-1	5	mg/kg	354	315	11.7	0% - 20%
EM2303516-001	OL_05_1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	3	6	57.9	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	16	15.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	25	16.3	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	20	32	45.1	No Limit
EM2303516-010	OL_53_0.6W	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	9	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	13	14	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	374	418	11.2	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	64	64	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	270	225	18.3	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4903299)									
EM2303516-001	OL_05_1.0	EA055: Moisture Content	----	0.1	%	6.8	5.2	25.6	No Limit
EM2303516-011	OL_65_1.0	EA055: Moisture Content	----	0.1	%	18.9	15.4	20.2	0% - 50%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4903221)									
EM2303516-012	OL_65_0.6E	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	1.8	<1.1	49.2	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	1.4	<1.1	27.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	1.4	<1.1	27.5	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<1.1	<1.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4903221) - continued									
EM2303516-012	OL_65_0.6E	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<2	<2	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2303516-001	OL_05_1.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4903221)									
EM2303516-012	OL_65_0.6E	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	18.0	# 6.0	99.9	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.4	1.9	25.2	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	4.9	1.4	111	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	6.4	2.0	106	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	53.6	# 16.2	107	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	10.8	4.5	81.6	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	49.6	# 19.8	85.9	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	51.9	# 22.0	80.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	22.2	# 10.6	71.0	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	22.4	# 9.8	77.7	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	26.3	# 12.4	71.6	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	7.4	4.4	51.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	22.9	# 12.1	61.6	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.9	5.2	51.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.5	1.4	54.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.0	# 6.9	54.5	0% - 50%
EM2303516-001	OL_05_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4903221) - continued									
EM2303516-001	OL_05_1.0	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	0.9	1.2	25.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	0.9	1.2	30.4	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	0.9	33.2	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.6	0.8	33.2	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	0.8	1.1	34.1	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.8	1.1	37.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.5	0.7	35.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4903219)									
EM2303516-001	OL_05_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2303516-011	OL_65_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4903222)									
EM2303516-012	OL_65_0.6E	EP071: C15 - C28 Fraction	----	100	mg/kg	200	280	31.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	170	230	26.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2303516-001	OL_05_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	190	180	5.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	170	190	9.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4903219)									
EM2303516-001	OL_05_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2303516-011	OL_65_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4903222)									
EM2303516-012	OL_65_0.6E	EP071: >C16 - C34 Fraction	----	100	mg/kg	340	450	30.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	110	12.8	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2303516-001	OL_05_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	310	320	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	110	12.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4903219)									
EM2303516-001	OL_05_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4903219) - continued									
EM2303516-001	OL_05_1.0	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2303516-011	OL_65_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4903563)									
EM2303478-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.040	0.039	0.0	0% - 20%
EM2303526-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.014	0.014	0.0	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4904257)									
EM2303560-005	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4905052)									
EM2303515-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4904257)									
EM2303560-005	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4905052)									
EM2303515-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4905052)									
EM2303515-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4903234)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	112	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	90.1	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.3	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	88.5	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	90.3	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	74.7	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4903221)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	117	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	116	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	113	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	108	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	105	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	106	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	102	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	112	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	97.9	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4903221)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	118	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	118	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	117	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	120	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	121	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	118	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	119	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	117	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	119	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	124	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	112	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	123	80.4	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4903221) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	113	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	115	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	114	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	116	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903219)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.9	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903222)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	111	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	103	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	102	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903219)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.0	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903222)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	109	73.3	137
EP080: BTEXN (QCLot: 4903219)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.8	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	86.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	81.2	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	85.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	83.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	106	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4903563)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	104	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4904256)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	39.9	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	94.9	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	81.9	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	75.9	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	101	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	100	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	92.8	45.3	115

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4904256) - continued								
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	85.8	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	95.1	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	93.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	84.4	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	80.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4904256)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	83.2	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	95.7	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	88.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	89.9	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	94.5	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	99.8	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	108	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	118	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	112	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	105	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	104	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	101	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	101	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	101	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	99.9	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	95.2	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4904257)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	58.1	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	65.7	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	66.4	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4905052)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	91.5	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4904257)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	59.6	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	64.0	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	63.6	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4905052)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	98.5	66.2	132
EP080: BTEXN (QCLot: 4905052)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	81.5	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	97.3	72.9	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4905052) - continued								
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	90.1	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	94.7	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	99.1	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4903234)							
EM2303516-002	OL_05_0.6W	EG005T: Arsenic	7440-38-2	50 mg/kg	110	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.2	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	121	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.8	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	104	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	89.6	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4903221)							
EM2303516-002	OL_05_0.6W	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	100	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	79.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	76.6	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	74.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4903221)							
EM2303516-002	OL_05_0.6W	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	110	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903219)							
EM2303516-002	OL_05_0.6W	EP080: C6 - C9 Fraction	----	28 mg/kg	58.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903222)							
EM2303516-003	OL_17_1.0	EP071: C10 - C14 Fraction	----	770 mg/kg	113	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	99.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903219)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903219) - continued							
EM2303516-002	OL_05_0.6W	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	52.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903222)							
EM2303516-003	OL_17_1.0	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	97.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	117	66.8	138
EP080: BTEXN (QCLot: 4903219)							
EM2303516-002	OL_05_0.6W	EP080: Benzene	71-43-2	2 mg/kg	70.4	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.2	57.1	131

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 4903563)							
EM2303478-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	91.2	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4905052)							
EM2303515-005	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	76.3	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4905052)							
EM2303515-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	77.5	34.0	122
EP080: BTEXN (QCLot: 4905052)							
EM2303515-005	Anonymous	EP080: Benzene	71-43-2	20 µg/L	80.7	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	102	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2303516**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 07-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 22
Order number	: 60693007-2	No. of samples analysed	: 22

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2303516--001	OL_05_1.0	**Zinc**	7440-66-6	25.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Naphthalene**	91-20-3	99.9 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Phenanthrene**	85-01-8	107 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Fluoranthene**	206-44-0	85.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Pyrene**	129-00-0	80.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benz(a)anthracene**	56-55-3	71.0 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Chrysene**	218-01-9	77.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benzo(b+j)fluoranthene**	205-99-2 205-82-3	71.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benzo(a)pyrene**	50-32-8	61.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benzo(g.h.i)perylene**	191-24-2	54.5 %	0% - 50%	**RPD exceeds LOR based limits**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	1	20	5.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	20	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055)							
OL_17_1.0	**27-Feb-2023**	**----**	----	----	**01-Mar-2023**	13-Mar-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_05_1.0,	OL_05_0.6W,	**27-Feb-2023**	**----**	----	----	**01-Mar-2023**	13-Mar-2023	✓
OL_17_0.6E,	OL_29_1.0,							
OL_29_0.6W,	OL_41_1.0,							
OL_41_0.5E,	OL_53_1.0,							
OL_53_0.6W,	OL_65_1.0,							
OL_65_0.6E,	OL_77_1.0,							
OL_77_0.6W,	OL_QC101							
Soil Glass Jar - Unpreserved (EA055)								
DL_100_1.0,	DL_100_0.6N,	**28-Feb-2023**	**----**	----	----	**01-Mar-2023**	14-Mar-2023	✓
DL_90_1.0,	DL_90_0.6S							
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
OL_05_1.0,	OL_05_0.6W,	**27-Feb-2023**	**01-Mar-2023**	26-Aug-2023	✓	**02-Mar-2023**	26-Aug-2023	✓
OL_17_1.0,	OL_17_0.6E,							
OL_29_1.0,	OL_29_0.6W,							
OL_41_1.0,	OL_41_0.5E,							
OL_53_1.0,	OL_53_0.6W,							
OL_65_1.0,	OL_65_0.6E,							
OL_77_1.0,	OL_77_0.6W,							
OL_QC101								
Soil Glass Jar - Unpreserved (EG005T)								
DL_100_1.0,	DL_100_0.6N,	**28-Feb-2023**	**01-Mar-2023**	27-Aug-2023	✓	**02-Mar-2023**	27-Aug-2023	✓
DL_90_1.0,	DL_90_0.6S							
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
OL_05_1.0,	OL_05_0.6W,	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
OL_17_0.6E,	OL_29_1.0,							
OL_29_0.6W,	OL_41_1.0,							
OL_41_0.5E,	OL_53_1.0,							
OL_53_0.6W,	OL_65_1.0,							
OL_65_0.6E,	OL_77_1.0,							
OL_77_0.6W,	OL_QC101							
Soil Glass Jar - Unpreserved (EP075(SIM))								
DL_100_1.0,	DL_100_0.6N,	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
DL_90_1.0,	DL_90_0.6S							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_05_1.0, OL_05_0.6W, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_05_1.0, OL_05_0.6W, OL_17_1.0, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_05_1.0, OL_05_0.6W, OL_17_1.0, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_05_1.0, OL_05_0.6W, OL_17_1.0, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	26-Aug-2023	✓	**02-Mar-2023**	26-Aug-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	27-Aug-2023	✓	**02-Mar-2023**	27-Aug-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071)							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_QCA01, OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCA01, OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCA01, OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	19	21.05	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	20	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2303516**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49082	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 01-Mar-2023 11:20	Issue Date	: 02-Mar-2023
Client Requested Due Date	: 08-Mar-2023	Scheduled Reporting Date	: **08-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 3.4°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 22 / 22

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-06 TRH/BTEXN/Pb	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2303516-001	27-Feb-2023 09:07	OL_05_1.0	✓		✓
EM2303516-002	27-Feb-2023 09:08	OL_05_0.6W	✓		✓
EM2303516-003	27-Feb-2023 09:09	OL_17_1.0	✓	✓	
EM2303516-004	27-Feb-2023 09:10	OL_17_0.6E	✓		✓
EM2303516-005	27-Feb-2023 09:10	OL_29_1.0	✓		✓
EM2303516-006	27-Feb-2023 09:11	OL_29_0.6W	✓		✓
EM2303516-007	27-Feb-2023 09:13	OL_41_1.0	✓		✓
EM2303516-008	27-Feb-2023 09:15	OL_41_0.5E	✓		✓
EM2303516-009	27-Feb-2023 09:18	OL_53_1.0	✓		✓
EM2303516-010	27-Feb-2023 09:19	OL_53_0.6W	✓		✓
EM2303516-011	27-Feb-2023 09:20	OL_65_1.0	✓		✓
EM2303516-012	27-Feb-2023 09:21	OL_65_0.6E	✓		✓
EM2303516-013	27-Feb-2023 09:21	OL_77_1.0	✓		✓
EM2303516-014	27-Feb-2023 09:22	OL_77_0.6W	✓		✓
EM2303516-015	27-Feb-2023 09:23	OL_QC101	✓		✓
EM2303516-017	28-Feb-2023 09:26	DL_100_1.0	✓		✓
EM2303516-018	28-Feb-2023 09:27	DL_100_0.6N	✓		✓
EM2303516-019	28-Feb-2023 09:28	DL_90_1.0	✓		✓
EM2303516-020	28-Feb-2023 09:29	DL_90_0.6S	✓		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2303516-021	27-Feb-2023 09:30	OL_QCA01	✓	
EM2303516-022	27-Feb-2023 09:31	OL_QCB01		✓
EM2303516-023	28-Feb-2023 09:32	OL_QCB02		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS COC#: 49082 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	FREIGHT DATE TIME:	DATE TIME:	DATE TIME: 13 11-20

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_05_1.0		27/02/2023 09:07 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
002	OL_05_0.6W		27/02/2023 09:08 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
003	OL_17_1.0		27/02/2023 09:09 AM	SOIL	ALS: 0 Non ALS: 2	No		Partial 1/4				
004	OL_17_0.6E		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
005	OL_29_1.0		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
006	OL_29_0.6W		27/02/2023 09:11 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
007	OL_41_1.0		27/02/2023 09:13 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
008	OL_41_0.5E		27/02/2023 09:15 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
009	OL_53_1.0		27/02/2023 09:18 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

Environmental Division Melbourne

Work Order Reference

EM2303516

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_53_0.6W		27/02/2023 09:19 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
011	OL_65_1.0		27/02/2023 09:20 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
012	OL_65_0.6E		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
013	OL_77_1.0		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
014	OL_77_0.6W		27/02/2023 09:22 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
015	OL_QC101		27/02/2023 09:23 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
016	OL_QC201		27/02/2023 09:24 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_100_1.0		28/02/2023 09:26 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
018	DL_100_0.6N		28/02/2023 09:27 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	DL_90_1.0		28/02/2023 09:28 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
020	DL_90_0.6S		28/02/2023 09:29 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
021	OL_QCA01		27/02/2023 09:30 AM	WATER	ALS: 0 Non ALS: 2	No				X		
022	OL_QCB01		27/02/2023 09:31 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			
023	OL_QCB02		28/02/2023 09:32 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_05_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_05_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_17_1.0	Soil Suite 2 SOIL	SOIL	- S-05 TRH/BTEXN/8 Metals
004	OL_17_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_29_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_29_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_41_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_41_0.5E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_53_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_53_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	OL_65_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	OL_65_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	OL_77_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	OL_77_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	OL_QC101	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

016	OL_QC201	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	DL_100_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	DL_100_0.6N	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	DL_90_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	DL_90_0.6S	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	OL_QCB01	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
023	OL_QCB02	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals

Total Bottle Count: ALS: 0, Non ALS: 50

CHAIN OF CUSTODY

COC#: 49082 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	FREIGHT DATE TIME:	DATE TIME:	DATE TIME: 1/3 11-20

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_05_1.0		27/02/2023 09:07 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
002	OL_05_0.6W		27/02/2023 09:08 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
003	OL_17_1.0		27/02/2023 09:09 AM	SOIL	ALS: 0 Non ALS: 2	No		Partial 1/4				
004	OL_17_0.6E		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
005	OL_29_1.0		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
006	OL_29_0.6W		27/02/2023 09:11 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
007	OL_41_1.0		27/02/2023 09:13 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
008	OL_41_0.5E		27/02/2023 09:15 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
009	OL_53_1.0		27/02/2023 09:18 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

Forwarded to Sydney Lab
Initials SH Date 1/3

Environmental Division
Melbourne
Work Order Reference
EM2303516



Telephone : +61-3-8549 9600

SH 1/3

CHAIN OF CUSTODY

ALS COC#: 49082 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_53_0.6W		27/02/2023 09:19 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
011	OL_65_1.0		27/02/2023 09:20 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
012	OL_65_0.6E		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
013	OL_77_1.0		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
014	OL_77_0.6W		27/02/2023 09:22 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
015	OL_QC101		27/02/2023 09:23 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
016	OL_QC201		27/02/2023 09:24 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_100_1.0		28/02/2023 09:26 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
018	DL_100_0.6N		28/02/2023 09:27 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
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020	DL_90_0.6S		28/02/2023 09:29 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
021	OL_QCA01		27/02/2023 09:30 AM	WATER	ALS: 0 Non ALS: 2	No				X		
022	OL_QCB01		27/02/2023 09:31 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			
023	OL_QCB02		28/02/2023 09:32 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			

CHAIN OF CUSTODY

(ALS) COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_05_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_05_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_17_1.0	Soil Suite 2 SOIL	SOIL	- S-05 TRH/BTEXN/8 Metals
004	OL_17_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_29_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_29_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_41_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_41_0.5E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_53_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_53_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	OL_65_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	OL_65_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	OL_77_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	OL_77_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	OL_QC101	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

(ALS) COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

016	OL_QC201	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	DL_100_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	DL_100_0.6N	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	DL_90_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	DL_90_0.6S	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	OL_QCB01	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
023	OL_QCB02	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals

Total Bottle Count: ALS: 0, Non ALS: 50

Scott Huett

From: COC Melbourne
Subject: RE: AECOM - Macquarie Point 60693007-2 samples received 1/3

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Thursday, 2 March 2023 12:30 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - Macquarie Point 60693007-2 samples received 1/3

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, I sent some samples Tuesday and in compass the analysis selected included the 8 metals suite. Can we change this to be just lead for all soil and rinsate samples.
Thanks in advance

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com

My regular work days are Monday to Thursday

AECOM
210 Collins Street
Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004
aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2303927**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 03-Mar-2023 11:50
Order number	: 60693007-2	Date Analysis Commenced	: 07-Mar-2023
C-O-C number	: 49100	Issue Date	: 10-Mar-2023 19:19
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 20		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2304038 #12 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG020-T : EM2303927 #21 results for total metals have been confirmed by re-digestion and re-analysis.
- EP075(SIM): EM2303927_021 has LOR raised for Phenol due to laboratory background.
- EP075(SIM): EM2303927_001 Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EG035T: EM230890#4 Poor duplicate precision for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.
- EG005T: EM2303927 #2, Poor matrix spike recovery for Lead due to sample matrix. Confirmed by re-extraction and re-analysis.
- EG035T: EM2303927-002 Poor matrix spike recovery for mercury due to sample matrix. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	DL_QCA02	DL_QCB03	DL_QCB04	----	----
				Sampling date / time	01-Mar-2023 07:13	01-Mar-2023 07:14	02-Mar-2023 07:14	----	----
Compound	CAS Number	LOR	Unit		EM2303927-019	EM2303927-020	EM2303927-021	--------	--------
					Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	<0.0001	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L		----	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L		----	<0.001	**0.001**	----	----
Lead	7439-92-1	0.001	mg/L		----	<0.001	**0.003**	----	----
Nickel	7440-02-0	0.001	mg/L		----	<0.001	<0.001	----	----
Zinc	7440-66-6	0.005	mg/L		----	<0.005	**0.008**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	<0.0001	<0.0001	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	<2.5	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	<1.0	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	DL_QCA02	DL_QCB03	DL_QCB04	----	----
			Sampling date / time	01-Mar-2023 07:13	01-Mar-2023 07:14	02-Mar-2023 07:14	----	----
Compound	CAS Number	LOR	Unit	EM2303927-019	EM2303927-020	EM2303927-021	--------	--------
				Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	----	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	----	<100	<100	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	<100	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	**32.5**	**36.6**	----	----

Analytical Results

Sub-Matrix: **RINSATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	DL_QCA02	DL_QCB03	DL_QCB04	----	----
				Sampling date / time	01-Mar-2023 07:13	01-Mar-2023 07:14	02-Mar-2023 07:14	----	----
					EM2303927-019	EM2303927-020	EM2303927-021	--------	--------
					Result	Result	Result	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**69.5**	**65.8**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**121**	**93.5**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**82.7**	**80.1**	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**96.3**	**79.3**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**85.3**	**81.9**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**104**	**102**	**102**	----	----
Toluene-D8	2037-26-5	2	%		**96.1**	**93.8**	**93.4**	----	----
4-Bromofluorobenzene	460-00-4	2	%		**100.0**	**100**	**99.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_71_1.0	DL_71_0.6E	DL_59_1.0	DL_59_0.6W	DL_47_1.0
			Sampling date / time	01-Mar-2023 07:05	01-Mar-2023 07:05	01-Mar-2023 07:04	01-Mar-2023 07:04	01-Mar-2023 07:04
Compound	CAS Number	LOR	Unit	EM2303927-001	EM2303927-002	EM2303927-003	EM2303927-004	EM2303927-005
				Result	Result	Result	Result	Result
EA055: Moisture Content								
Moisture Content	----	1.0	%	----	----	23.7	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.5	11.3	----	23.3	22.0
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	25	43	530	33	47
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	9	14	14	79
Copper	7440-50-8	5	mg/kg	47	119	69	100	141
Lead	7439-92-1	5	mg/kg	132	680	258	553	184
Nickel	7440-02-0	2	mg/kg	12	10	19	15	22
Zinc	7440-66-6	5	mg/kg	201	202	430	635	528
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.2	0.7	1.0	2.0	0.6
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	1.2	0.5	----	1.9	2.8
Acenaphthylene	208-96-8	0.5	mg/kg	1.9	1.4	----	2.4	2.9
Acenaphthene	83-32-9	0.5	mg/kg	1.8	<0.5	----	0.6	1.0
Fluorene	86-73-7	0.5	mg/kg	3.3	<0.5	----	0.7	1.7
Phenanthrene	85-01-8	0.5	mg/kg	14.6	6.3	----	8.3	21.8
Anthracene	120-12-7	0.5	mg/kg	5.0	2.3	----	2.1	5.9
Fluoranthene	206-44-0	0.5	mg/kg	26.5	20.0	----	15.3	33.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_71_1.0	DL_71_0.6E	DL_59_1.0	DL_59_0.6W	DL_47_1.0
			Sampling date / time	01-Mar-2023 07:05	01-Mar-2023 07:05	01-Mar-2023 07:04	01-Mar-2023 07:04	01-Mar-2023 07:04
Compound	CAS Number	LOR	Unit	EM2303927-001	EM2303927-002	EM2303927-003	EM2303927-004	EM2303927-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Pyrene	129-00-0	0.5	mg/kg	27.4	20.1	----	15.3	32.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	16.4	10.6	----	8.1	21.2
Chrysene	218-01-9	0.5	mg/kg	12.5	9.2	----	7.4	18.3
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.7	12.0	----	9.9	21.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	5.4	4.3	----	3.4	12.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	14.8	11.8	----	9.4	25.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.9	4.8	----	4.5	12.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.9	1.3	----	1.6	3.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.6	5.5	----	5.6	15.1
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	160	110	----	96.5	232
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	21.1	16.4	----	13.7	36.4
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	21.1	16.4	----	13.7	36.4
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	21.1	16.4	----	13.7	36.4
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	18	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	960	60	60	70	100
C15 - C28 Fraction	----	100	mg/kg	1910	280	200	340	950
C29 - C36 Fraction	----	100	mg/kg	110	160	130	230	590
^ C10 - C36 Fraction (sum)	----	50	mg/kg	2980	500	390	640	1640
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	37	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	37	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	1530	<50	<50	70	130
>C16 - C34 Fraction	----	100	mg/kg	1370	390	290	490	1340
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	220
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	2900	390	290	560	1690
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	1530	<50	<50	70	130
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_71_1.0	DL_71_0.6E	DL_59_1.0	DL_59_0.6W	DL_47_1.0
				Sampling date / time	01-Mar-2023 07:05	01-Mar-2023 07:05	01-Mar-2023 07:04	01-Mar-2023 07:04	01-Mar-2023 07:04
Compound	CAS Number	LOR	Unit		EM2303927-001	EM2303927-002	EM2303927-003	EM2303927-004	EM2303927-005
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		92.6	92.7	----	87.3	86.2
2-Chlorophenol-D4	93951-73-6	0.5	%		91.6	94.8	----	90.0	88.5
2.4.6-Tribromophenol	118-79-6	0.5	%		82.9	91.1	----	88.8	87.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		96.4	106	----	105	101
Anthracene-d10	1719-06-8	0.5	%		105	100	----	98.4	98.9
4-Terphenyl-d14	1718-51-0	0.5	%		97.2	94.3	----	92.7	93.3
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		95.8	101	92.5	94.5	91.6
Toluene-D8	2037-26-5	0.2	%		88.8	85.4	76.6	78.7	76.6
4-Bromofluorobenzene	460-00-4	0.2	%		77.7	87.4	79.5	78.2	73.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_47_0.6E	DL_35_1.0	DL_35_0.6W	DL_23_1.0	DL_23_0.6E
				Sampling date / time	01-Mar-2023 07:04	02-Mar-2023 07:05	02-Mar-2023 07:06	02-Mar-2023 07:07	02-Mar-2023 07:07
Compound	CAS Number	LOR	Unit		EM2303927-006	EM2303927-007	EM2303927-008	EM2303927-009	EM2303927-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		18.0	13.1	8.6	28.6	13.6
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		119	26	35	30	63
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		5	4	4	27	18
Copper	7440-50-8	5	mg/kg		81	95	83	117	160
Lead	7439-92-1	5	mg/kg		369	135	199	619	235
Nickel	7440-02-0	2	mg/kg		18	14	12	17	37
Zinc	7440-66-6	5	mg/kg		149	327	134	574	311
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	0.3	1.0	1.1	0.8
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	2.2	0.7	5.8	0.7
Acenaphthylene	208-96-8	0.5	mg/kg		0.5	1.0	2.6	10.5	2.4
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	2.0	<0.5	6.0	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	1.7	<0.5	7.1	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		0.8	10.0	5.8	82.7	5.3
Anthracene	120-12-7	0.5	mg/kg		<0.5	2.8	1.8	18.6	1.8
Fluoranthene	206-44-0	0.5	mg/kg		2.1	10.6	17.8	112	17.7
Pyrene	129-00-0	0.5	mg/kg		2.2	11.8	18.4	92.8	19.2
Benz(a)anthracene	56-55-3	0.5	mg/kg		1.6	6.6	11.9	74.4	11.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_47_0.6E	DL_35_1.0	DL_35_0.6W	DL_23_1.0	DL_23_0.6E
				Sampling date / time	01-Mar-2023 07:04	02-Mar-2023 07:05	02-Mar-2023 07:06	02-Mar-2023 07:07	02-Mar-2023 07:07
Compound	CAS Number	LOR	Unit		EM2303927-006	EM2303927-007	EM2303927-008	EM2303927-009	EM2303927-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		1.4	6.1	10.6	57.0	10.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		2.3	8.0	16.3	86.2	15.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		0.9	3.7	5.5	30.0	5.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg		2.2	7.7	15.2	82.3	15.4
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.3	3.5	7.1	33.2	7.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	1.0	1.9	9.5	1.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.6	4.2	8.4	35.4	8.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		16.9	82.9	124	754	123
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		2.8	11.0	21.4	115	21.4
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.1	11.0	21.4	115	21.4
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		3.3	11.0	21.4	115	21.4
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	80	<50	150	<50
C15 - C28 Fraction	----	100	mg/kg		170	420	320	2280	400
C29 - C36 Fraction	----	100	mg/kg		<100	250	220	1440	290
^ C10 - C36 Fraction (sum)	----	50	mg/kg		170	750	540	3870	690
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		50	100	<50	260	<50
>C16 - C34 Fraction	----	100	mg/kg		230	570	490	3280	620
>C34 - C40 Fraction	----	100	mg/kg		<100	110	100	580	130
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		280	780	590	4120	750
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		50	100	<50	260	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_47_0.6E	DL_35_1.0	DL_35_0.6W	DL_23_1.0	DL_23_0.6E
			Sampling date / time	01-Mar-2023 07:04	02-Mar-2023 07:05	02-Mar-2023 07:06	02-Mar-2023 07:07	02-Mar-2023 07:07
Compound	CAS Number	LOR	Unit	EM2303927-006	EM2303927-007	EM2303927-008	EM2303927-009	EM2303927-010
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	**2**	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**89.8**	**77.8**	**99.4**	**83.8**	**89.5**
2-Chlorophenol-D4	93951-73-6	0.5	%	**92.1**	**81.3**	**102**	**79.2**	**92.8**
2.4.6-Tribromophenol	118-79-6	0.5	%	**92.1**	**79.2**	**97.6**	**83.0**	**90.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**107**	**100**	**114**	**86.1**	**104**
Anthracene-d10	1719-06-8	0.5	%	**100**	**95.4**	**108**	**88.6**	**99.1**
4-Terphenyl-d14	1718-51-0	0.5	%	**94.5**	**93.8**	**98.6**	**91.2**	**94.3**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**96.9**	**102**	**100**	**94.8**	**99.5**
Toluene-D8	2037-26-5	0.2	%	**80.2**	**88.0**	**82.7**	**78.8**	**82.4**
4-Bromofluorobenzene	460-00-4	0.2	%	**74.1**	**99.8**	**83.6**	**81.5**	**82.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_11_1.0	DL_11_0.6W	DL_00_1.0	DL_00_0.6E	DL_QC102
			Sampling date / time	02-Mar-2023 07:08	02-Mar-2023 07:08	02-Mar-2023 07:09	02-Mar-2023 07:09	01-Mar-2023 07:10
Compound	CAS Number	LOR	Unit	EM2303927-011	EM2303927-012	EM2303927-013	EM2303927-014	EM2303927-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.9	18.3	26.9	20.2	20.5
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	68	30	16	155	92
Cadmium	7440-43-9	1	mg/kg	2	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	25	10	13	15
Copper	7440-50-8	5	mg/kg	117	201	61	165	61
Lead	7439-92-1	5	mg/kg	246	438	335	521	371
Nickel	7440-02-0	2	mg/kg	20	47	26	21	17
Zinc	7440-66-6	5	mg/kg	1080	446	310	590	499
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.4	1.1	1.0	1.2	1.0
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	5.1	<0.5	<0.5	1.6	1.5
Acenaphthylene	208-96-8	0.5	mg/kg	1.0	0.6	1.4	6.5	1.0
Acenaphthene	83-32-9	0.5	mg/kg	5.6	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	4.0	<0.5	<0.5	1.1	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	13.0	1.5	4.3	19.2	3.9
Anthracene	120-12-7	0.5	mg/kg	3.3	<0.5	1.2	6.1	1.4
Fluoranthene	206-44-0	0.5	mg/kg	14.2	4.1	11.0	51.8	9.8
Pyrene	129-00-0	0.5	mg/kg	14.6	4.3	11.2	56.1	10.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	8.1	3.0	6.3	34.2	6.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_11_1.0	DL_11_0.6W	DL_00_1.0	DL_00_0.6E	DL_QC102
			Sampling date / time	02-Mar-2023 07:08	02-Mar-2023 07:08	02-Mar-2023 07:09	02-Mar-2023 07:09	01-Mar-2023 07:10
Compound	CAS Number	LOR	Unit	EM2303927-011	EM2303927-012	EM2303927-013	EM2303927-014	EM2303927-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	7.3	2.7	5.5	30.0	5.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	9.1	4.0	7.7	37.2	7.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.0	1.4	3.1	18.2	3.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	9.1	3.9	7.6	42.4	7.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.9	1.9	3.3	18.0	3.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	0.5	0.9	4.8	1.0
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.6	2.4	3.9	23.2	4.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	108	30.3	67.4	350	65.6
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	12.8	5.5	10.6	58.5	10.7
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	12.8	5.5	10.6	58.5	10.7
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	12.8	5.5	10.6	58.5	10.7
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	480	130	230	580	730
C29 - C36 Fraction	----	100	mg/kg	320	<100	150	340	410
^ C10 - C36 Fraction (sum)	----	50	mg/kg	850	130	380	920	1140
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	90	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	690	190	340	830	1030
>C34 - C40 Fraction	----	100	mg/kg	130	<100	<100	130	160
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	910	190	340	960	1190
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	90	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_11_1.0	DL_11_0.6W	DL_00_1.0	DL_00_0.6E	DL_QC102
			Sampling date / time	02-Mar-2023 07:08	02-Mar-2023 07:08	02-Mar-2023 07:09	02-Mar-2023 07:09	01-Mar-2023 07:10
Compound	CAS Number	LOR	Unit	EM2303927-011	EM2303927-012	EM2303927-013	EM2303927-014	EM2303927-015
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**84.0**	**89.3**	**76.6**	**84.1**	**84.7**
2-Chlorophenol-D4	93951-73-6	0.5	%	**88.5**	**92.3**	**80.7**	**88.2**	**93.1**
2.4.6-Tribromophenol	118-79-6	0.5	%	**88.1**	**88.0**	**81.9**	**86.1**	**90.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**93.8**	**106**	**99.7**	**99.1**	**101**
Anthracene-d10	1719-06-8	0.5	%	**94.4**	**99.4**	**96.8**	**101**	**100**
4-Terphenyl-d14	1718-51-0	0.5	%	**93.7**	**99.1**	**89.1**	**95.6**	**97.4**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**99.2**	**99.8**	**95.9**	**93.7**	**98.6**
Toluene-D8	2037-26-5	0.2	%	**84.9**	**82.4**	**80.8**	**78.2**	**84.7**
4-Bromofluorobenzene	460-00-4	0.2	%	**88.1**	**81.0**	**80.6**	**82.0**	**91.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_80_1.0	DL_80_0.6W	----	----	----
				Sampling date / time	02-Mar-2023 07:11	02-Mar-2023 07:12	----	----	----
Compound	CAS Number	LOR	Unit		EM2303927-017	EM2303927-018	--------	--------	--------
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**16.8**	**10.5**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**176**	**197**	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		**14**	**11**	----	----	----
Copper	7440-50-8	5	mg/kg		**71**	**69**	----	----	----
Lead	7439-92-1	5	mg/kg		**236**	**165**	----	----	----
Nickel	7440-02-0	2	mg/kg		**16**	**13**	----	----	----
Zinc	7440-66-6	5	mg/kg		**535**	**409**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**0.4**	**0.8**	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**1.3**	**0.7**	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**2.9**	**2.5**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		**1.0**	**0.7**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**21.0**	**13.4**	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**4.9**	**3.2**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**33.8**	**25.3**	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**32.2**	**24.2**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**17.9**	**13.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_80_1.0	DL_80_0.6W	----	----	----
				Sampling date / time	02-Mar-2023 07:11	02-Mar-2023 07:12	----	----	----
Compound	CAS Number	LOR	Unit		EM2303927-017	EM2303927-018	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		**15.1**	**11.6**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**18.2**	**14.8**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**8.6**	**5.9**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**18.7**	**14.8**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**8.4**	**6.8**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**2.4**	**1.8**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**9.8**	**7.9**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**196**	**147**	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**26.6**	**20.9**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**26.6**	**20.9**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**26.6**	**20.9**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**240**	**1000**	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**160**	**720**	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**400**	**1720**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**360**	**1550**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	**280**	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**360**	**1830**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_80_1.0	DL_80_0.6W	----	----	----
			Sampling date / time	02-Mar-2023 07:11	02-Mar-2023 07:12	----	----	----
Compound	CAS Number	LOR	Unit	EM2303927-017	EM2303927-018	--------	--------	--------
				Result	Result	----	----	----
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**88.6**	**81.0**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**92.7**	**85.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**88.0**	**81.0**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**106**	**102**	----	----	----
Anthracene-d10	1719-06-8	0.5	%	**98.5**	**93.6**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**101**	**93.4**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**96.7**	**92.2**	----	----	----
Toluene-D8	2037-26-5	0.2	%	**81.0**	**76.1**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**80.2**	**76.7**	----	----	----

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2303927**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 03-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 07-Mar-2023
C-O-C number	: 49100	Issue Date	: 10-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 20		
No. of samples analysed	: 20		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4914101)									
EM2303927-001	DL_71_1.0	EG005T: Lead	7439-92-1	5	mg/kg	132	128	2.7	0% - 20%
EM2303927-001	DL_71_1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	12	16.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	18	43.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	25	29	14.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	47	48	3.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	201	182	10.0	0% - 20%
EM2303927-010	DL_23_0.6E	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	14	22.3	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	37	25	36.8	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	63	54	14.2	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	160	177	9.8	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	235	248	5.6	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	311	291	6.6	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4914089)									
EM2303927-001	DL_71_1.0	EA055: Moisture Content	----	0.1	%	16.5	18.8	12.6	0% - 50%
EM2303927-011	DL_11_1.0	EA055: Moisture Content	----	0.1	%	12.9	13.7	5.9	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4914102)									
EM2303927-001	DL_71_1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.2	0.7	48.4	0% - 50%
EM2303927-010	DL_23_0.6E	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.8	0.6	34.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4914098)									
EM2303927-001	DL_71_1.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4914098) - continued									
EM2303927-001	DL_71_1.0	EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2303927-012	DL_11_0.6W	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4914098)									
EM2303927-001	DL_71_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	0.8	35.8	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.9	0.7	90.5	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.8	1.5	20.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.3	2.2	36.5	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	14.6	# 5.5	90.3	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	5.0	1.3	117	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	26.5	# 7.3	113	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	27.4	# 7.3	116	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	16.4	# 3.7	127	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	12.5	# 3.1	119	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.7	# 4.7	102	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	5.4	# 1.3	123	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	14.8	# 4.2	112	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.9	# 2.1	94.1	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.9	0.6	105	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.6	# 2.5	90.8	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4914098) - continued									
EM2303927-012	DL_11_0.6W	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.5	1.8	18.8	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.1	4.8	16.1	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.3	5.1	16.7	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	3.0	3.4	12.5	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.7	3.1	12.4	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	4.6	12.4	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	1.8	21.6	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.9	4.5	14.4	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.9	2.2	13.3	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.5	0.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.4	2.7	12.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4913242)									
EM2303927-011	DL_11_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4914099)									
EM2303927-001	DL_71_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	1910	1790	6.4	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	110	<100	9.9	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	960	990	3.2	0% - 50%
EM2303927-012	DL_11_0.6W	EP071: C15 - C28 Fraction	----	100	mg/kg	130	140	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4913242)									
EM2303927-011	DL_11_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4914099)									
EM2303927-001	DL_71_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	1370	1260	8.8	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	1530	1520	0.0	0% - 20%
EM2303927-012	DL_11_0.6W	EP071: >C16 - C34 Fraction	----	100	mg/kg	190	210	7.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4913242)									
EM2303927-011	DL_11_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4913242) - continued									
EM2303927-011	DL_11_1.0	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4918797)									
EM2303967-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0003	0.0004	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.006	0.007	17.4	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.378	0.450	17.3	0% - 20%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.698	0.714	2.3	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.012	0.019	42.0	0% - 50%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.946	0.954	0.8	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.580	0.596	2.8	0% - 20%
EM2303815-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.117	0.113	3.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4914501)									
EM2303513-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2303815-003	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4913337)									
EM2303927-019	DL_QCA02	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4913337)									
EM2303927-019	DL_QCA02	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4913337)									
EM2303927-019	DL_QCA02	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4914101)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	85.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	50.0	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	90.0	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	84.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	82.0	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	86.4	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	72.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4914102)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	88.3	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4914098)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	106	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	107	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	110	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	107	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	97.3	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	103	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	104	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	103	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	110	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	111	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	79.2	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4914098)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	111	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	110	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	110	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	109	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	107	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	110	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	113	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	110	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4914098) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	111	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	109	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	107	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	105	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	104	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	107	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4913242)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	89.7	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4914099)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	114	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	115	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4913242)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	87.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4914099)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	94.6	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	108	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080: BTEXN (QCLot: 4913242)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	90.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	91.1	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	92.2	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	92.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	93.4	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	89.1	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4918797)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	105	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.8	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	104	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	102	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	108	86.7	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4914501)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	89.9	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 4913149)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	37.6	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	84.3	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	58.0	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	56.3	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	104	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	107	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	107	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	90.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	92.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	94.4	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	96.6	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	64.1	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4913149)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	83.4	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	89.3	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	89.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	93.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	93.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	101	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	98.2	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	98.9	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	99.0	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.1	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	93.2	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	95.2	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	96.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	99.2	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	98.7	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	98.4	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4913150)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	60.7	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	59.4	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	62.4	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4913337)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	95.0	66.2	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4913150)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	63.4	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	55.6	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	74.6	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4913337)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	102	66.2	132
EP080: BTEXN (QCLot: 4913337)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	99.4	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	101	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	102	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	100.0	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4914101)							
EM2303927-002	DL_71_0.6E	EG005T: Arsenic	7440-38-2	50 mg/kg	120	78.0	124
		EG005T: Copper	7440-50-8	250 mg/kg	102	80.0	120
EM2303927-002	DL_71_0.6E	EG005T: Cadmium	7440-43-9	50 mg/kg	91.2	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	88.6	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	# 57.4	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	92.2	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	99.9	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4914102)							
EM2303927-002	DL_71_0.6E	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 72.4	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 4914098)							
EM2303927-002	DL_71_0.6E	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.8	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	95.2	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	92.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	97.2	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	71.4	15.3	139

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4914098)							
EM2303927-002	DL_71_0.6E	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.9	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4913242)							
EM2303927-002	DL_71_0.6E	EP080: C6 - C9 Fraction	----	28 mg/kg	76.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4914099)							
EM2303927-003	DL_59_1.0	EP071: C10 - C14 Fraction	----	770 mg/kg	105	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	97.1	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	108	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4913242)							
EM2303927-002	DL_71_0.6E	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	63.9	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4914099)							
EM2303927-003	DL_59_1.0	EP071: >C10 - C16 Fraction	----	1170 mg/kg	88.5	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	101	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	92.3	66.8	138
EP080: BTEXN (QCLot: 4913242)							
EM2303927-002	DL_71_0.6E	EP080: Benzene	71-43-2	2 mg/kg	86.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	98.2	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4918797)							
EM2303815-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	95.3	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	94.2	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	96.8	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	96.1	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	97.8	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	94.9	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	95.5	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4914501)							
EM2303674-001	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	84.9	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4913337)							
EM2303927-020	DL_QCB03	EP080: C6 - C9 Fraction	----	280 µg/L	70.5	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4913337)							
EM2303927-020	DL_QCB03	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	66.3	34.0	122

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 4913337)							
EM2303927-020	DL_QCB03	EP080: Benzene	71-43-2	20 µg/L	89.6	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	88.1	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2303927**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 03-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 10-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 20
Order number	: 60693007-2	No. of samples analysed	: 20

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Phenanthrene**	85-01-8	90.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Fluoranthene**	206-44-0	113 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Pyrene**	129-00-0	116 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Benz(a)anthracene**	56-55-3	127 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Chrysene**	218-01-9	119 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Benzo(b+j)fluoranthene**	205-99-2 205-82-3	102 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Benzo(k)fluoranthene**	207-08-9	123 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Benzo(a)pyrene**	50-32-8	112 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Indeno(1.2.3.cd)pyrene**	193-39-5	94.1 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--001	DL_71_1.0	**Benzo(g.h.i)perylene**	191-24-2	90.8 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2303927--002	DL_71_0.6E	**Lead**	7439-92-1	57.4 %	80.0-120%	**Recovery less than lower data quality objective**
EG035T: Total Recoverable Mercury by FIMS	EM2303927--002	DL_71_0.6E	**Mercury**	7439-97-6	72.4 %	76.0-116%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303927--002	DL_71_0.6E	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
TRH Volatiles/BTEX	1	17	5.88	10.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055)							
DL_59_1.0	**01-Mar-2023**	**----**	----	----	**07-Mar-2023**	15-Mar-2023	✓
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
DL_71_1.0, DL_71_0.6E, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**----**	----	----	**07-Mar-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**----**	----	----	**07-Mar-2023**	16-Mar-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	28-Aug-2023	✓	**08-Mar-2023**	28-Aug-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	29-Aug-2023	✓	**08-Mar-2023**	29-Aug-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	29-Mar-2023	✓	**08-Mar-2023**	29-Mar-2023	✓
Soil Glass Jar - Unpreserved (EG035T)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	30-Mar-2023	✓	**08-Mar-2023**	30-Mar-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_71_1.0, DL_71_0.6E, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_35_1.0, DL_35_0.6W, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_23_1.0	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**09-Mar-2023**	16-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_71_1.0, DL_71_0.6E, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_35_1.0, DL_35_0.6W, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_23_1.0	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**09-Mar-2023**	16-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**07-Mar-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**07-Mar-2023**	16-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**07-Mar-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**07-Mar-2023**	16-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
DL_71_1.0, DL_71_0.6E, DL_59_1.0, DL_59_0.6W, DL_47_1.0, DL_47_0.6E, DL_QC102	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**07-Mar-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_35_1.0, DL_35_0.6W, DL_23_1.0, DL_23_0.6E, DL_11_1.0, DL_11_0.6W, DL_00_1.0, DL_00_0.6E, DL_80_1.0, DL_80_0.6W	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**07-Mar-2023**	16-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) DL_QCB03	**01-Mar-2023**	**09-Mar-2023**	28-Aug-2023	✓	**09-Mar-2023**	28-Aug-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) DL_QCB04	**02-Mar-2023**	**09-Mar-2023**	29-Aug-2023	✓	**09-Mar-2023**	29-Aug-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) DL_QCB03	**01-Mar-2023**	**----**	----	----	**07-Mar-2023**	29-Mar-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) DL_QCB04	**02-Mar-2023**	**----**	----	----	**07-Mar-2023**	30-Mar-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	08-Mar-2023	✓	**07-Mar-2023**	16-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	09-Mar-2023	✓	**07-Mar-2023**	16-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	08-Mar-2023	✓	**07-Mar-2023**	16-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	09-Mar-2023	✓	**07-Mar-2023**	16-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	08-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	09-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCA02, DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**07-Mar-2023**	15-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**07-Mar-2023**	16-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	08-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	09-Mar-2023	✓	**08-Mar-2023**	16-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCA02, DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**07-Mar-2023**	15-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**07-Mar-2023**	16-Mar-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCA02, DL_QCB03	**01-Mar-2023**	**07-Mar-2023**	15-Mar-2023	✓	**07-Mar-2023**	15-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB04	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**07-Mar-2023**	16-Mar-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	17	17.65	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	10.00	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	17	11.76	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	2	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2303927**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49100	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 03-Mar-2023 11:50	Issue Date	: 07-Mar-2023
Client Requested Due Date	: 15-Mar-2023	Scheduled Reporting Date	: **15-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 1.2°c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 20 / 20

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-05 TRH/BTEXN/8 Metals	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2303927-001	01-Mar-2023 07:05	DL_71_1.0	✓		✓
EM2303927-002	01-Mar-2023 07:05	DL_71_0.6E	✓		✓
EM2303927-003	01-Mar-2023 07:04	DL_59_1.0	✓	✓	
EM2303927-004	01-Mar-2023 07:04	DL_59_0.6W	✓		✓
EM2303927-005	01-Mar-2023 07:04	DL_47_1.0	✓		✓
EM2303927-006	01-Mar-2023 07:04	DL_47_0.6E	✓		✓
EM2303927-007	02-Mar-2023 07:05	DL_35_1.0	✓		✓
EM2303927-008	02-Mar-2023 07:06	DL_35_0.6W	✓		✓
EM2303927-009	02-Mar-2023 07:07	DL_23_1.0	✓		✓
EM2303927-010	02-Mar-2023 07:07	DL_23_0.6E	✓		✓
EM2303927-011	02-Mar-2023 07:08	DL_11_1.0	✓		✓
EM2303927-012	02-Mar-2023 07:08	DL_11_0.6W	✓		✓
EM2303927-013	02-Mar-2023 07:09	DL_00_1.0	✓		✓
EM2303927-014	02-Mar-2023 07:09	DL_00_0.6E	✓		✓
EM2303927-015	01-Mar-2023 07:10	DL_QC102	✓		✓
EM2303927-017	02-Mar-2023 07:11	DL_80_1.0	✓		✓
EM2303927-018	02-Mar-2023 07:12	DL_80_0.6W	✓		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2303927-019	01-Mar-2023 07:13	DL_QCA02	✓	
EM2303927-020	01-Mar-2023 07:14	DL_QCB03		✓
EM2303927-021	02-Mar-2023 07:14	DL_QCB04		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS COC#: 49100 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Caitlin (ALS) DATE TIME: 3/3/23 11:50	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	DL_71_1.0		01/03/2023 07:05 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
002	DL_71_0.6E		01/03/2023 07:05 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
003	DL_59_1.0		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/4				
004	DL_59_0.6W		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
005	DL_47_1.0		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
006	DL_47_0.6E		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
007	DL_35_1.0		02/03/2023 07:05 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
008	DL_35_0.6W		02/03/2023 07:06 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
009	DL_23_1.0		02/03/2023 07:07 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2303927



Telephone : +61-3-8549 9600

Forwarded to Secondary Lab
Initials BN Date 7/3

CHAIN OF CUSTODY

ALS COC#: 49100 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Caitlin (ALS) DATE TIME: 3/3/23 11:50	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_23_0.6E		02/03/2023 07:07 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
011	DL_11_1.0		02/03/2023 07:08 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
012	DL_11_0.6W		02/03/2023 07:08 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
013	DL_00_1.0		02/03/2023 07:09 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
014	DL_00_0.6E		02/03/2023 07:09 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
015	DL_QC102		01/03/2023 07:10 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
~~016~~	DL_QC202		01/03/2023 07:11 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_80_1.0		02/03/2023 07:11 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
018	DL_80_0.6W		02/03/2023 07:12 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					

CHAIN OF CUSTODY

ALS COC#: 49100 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Caitlin (ALS) DATE TIME: 3/3/23 11:50am	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	DL_QCA02		01/03/2023 07:13 AM	WATER	ALS: 0 Non ALS: 0	No				X		
020	DL_QCB03		01/03/2023 07:14 AM	WATER	ALS: 0 Non ALS: 0	No			Partial 1/2			
021	DL_QCB04		02/03/2023 07:14 AM	WATER	ALS: 0 Non ALS: 0	No			Partial 1/2			

ALSCompass
SAMPLING *Intelligence*

ALS Use Only

Custody Document for Submissions via ALS Compass App

Project: Macquarie Point Client: AECOM Project Manager:

Phone: ( )

ALS Compass COC Reference: 49100 # Samples: Sampler:

Phone: ( )

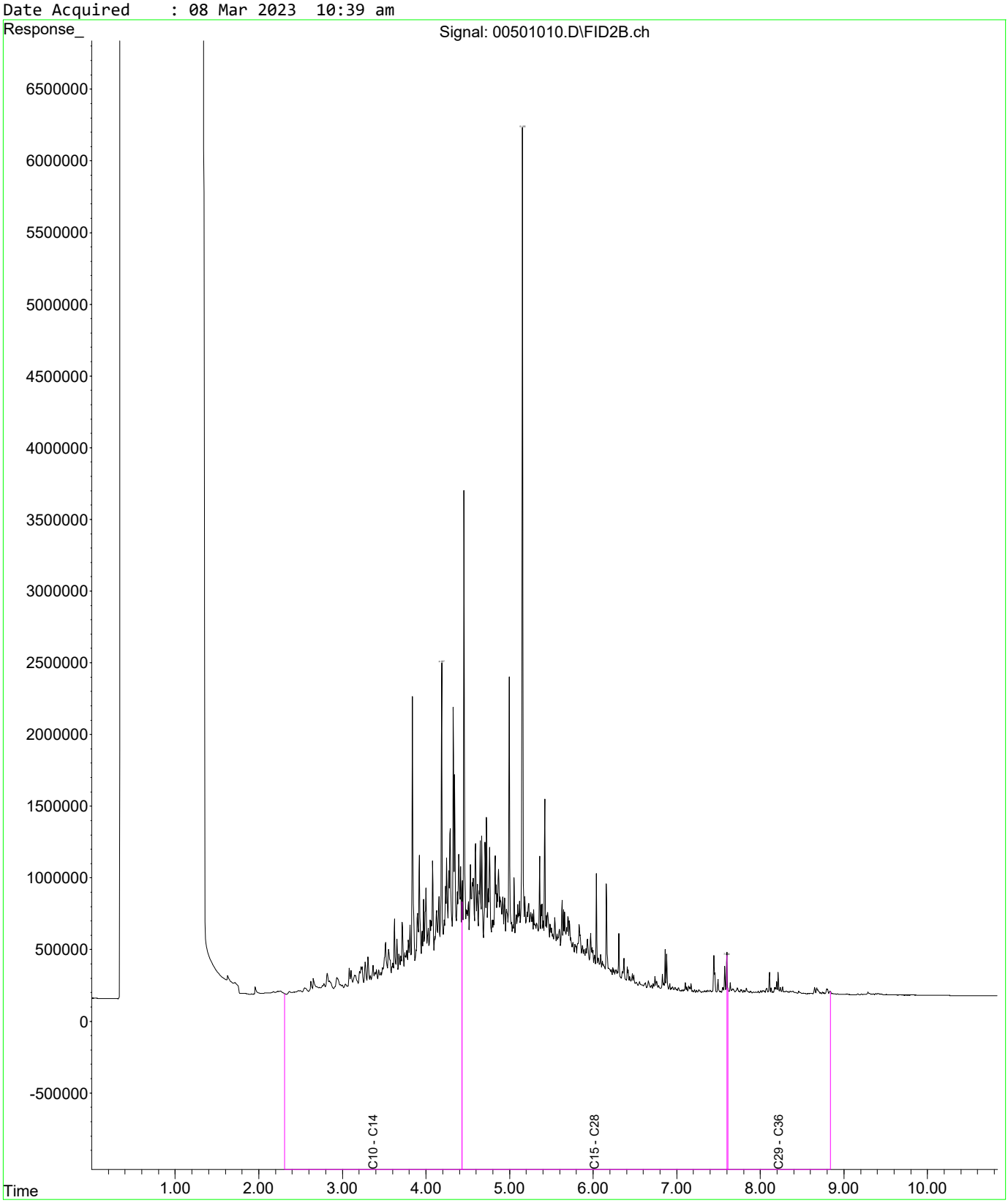
Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only			
FREIGHT	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

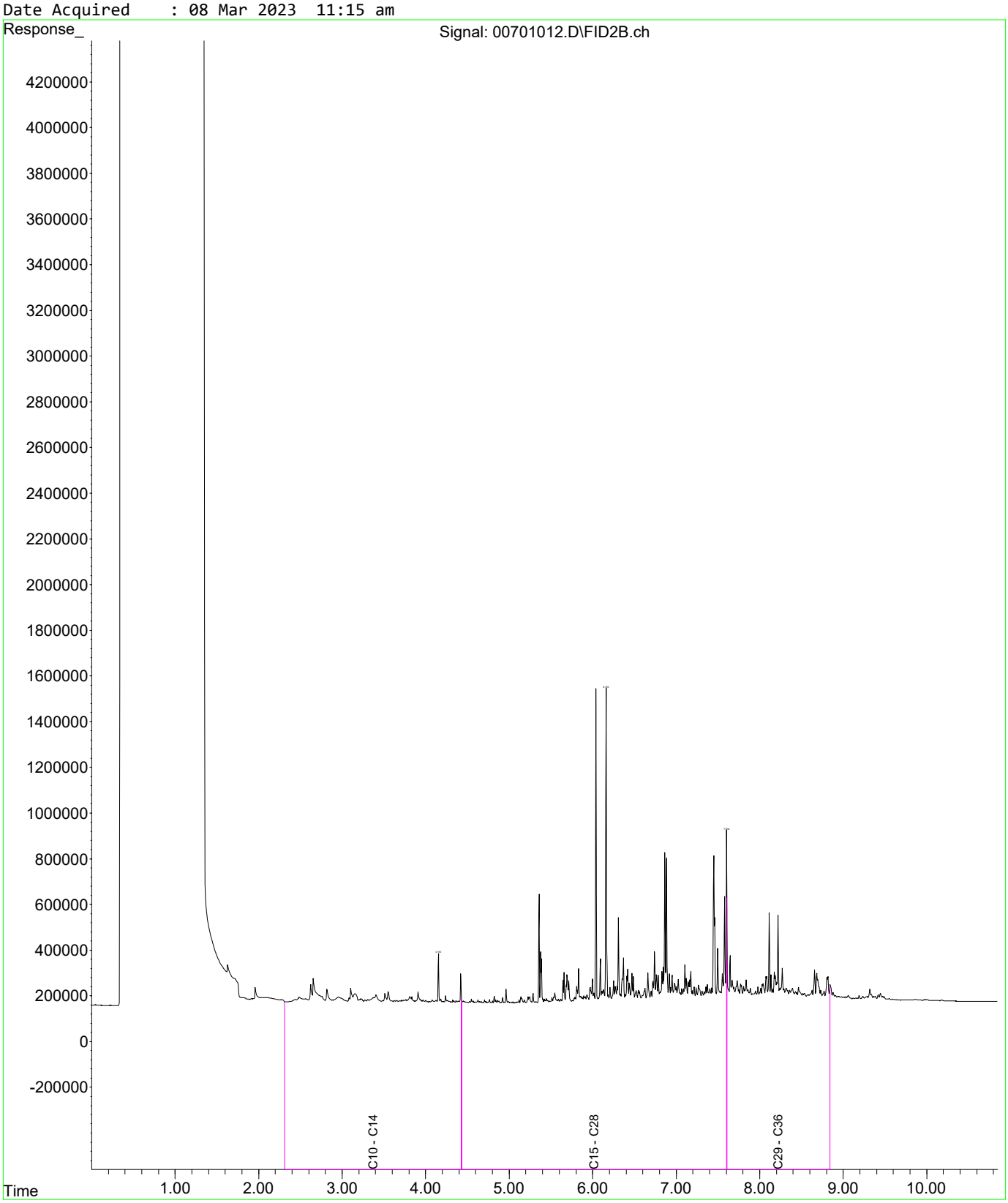
Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
	Caitlin (ALS)		
Date / Time:	Date / Time: 3/3/23 11:50	Date / Time:	Date / Time:

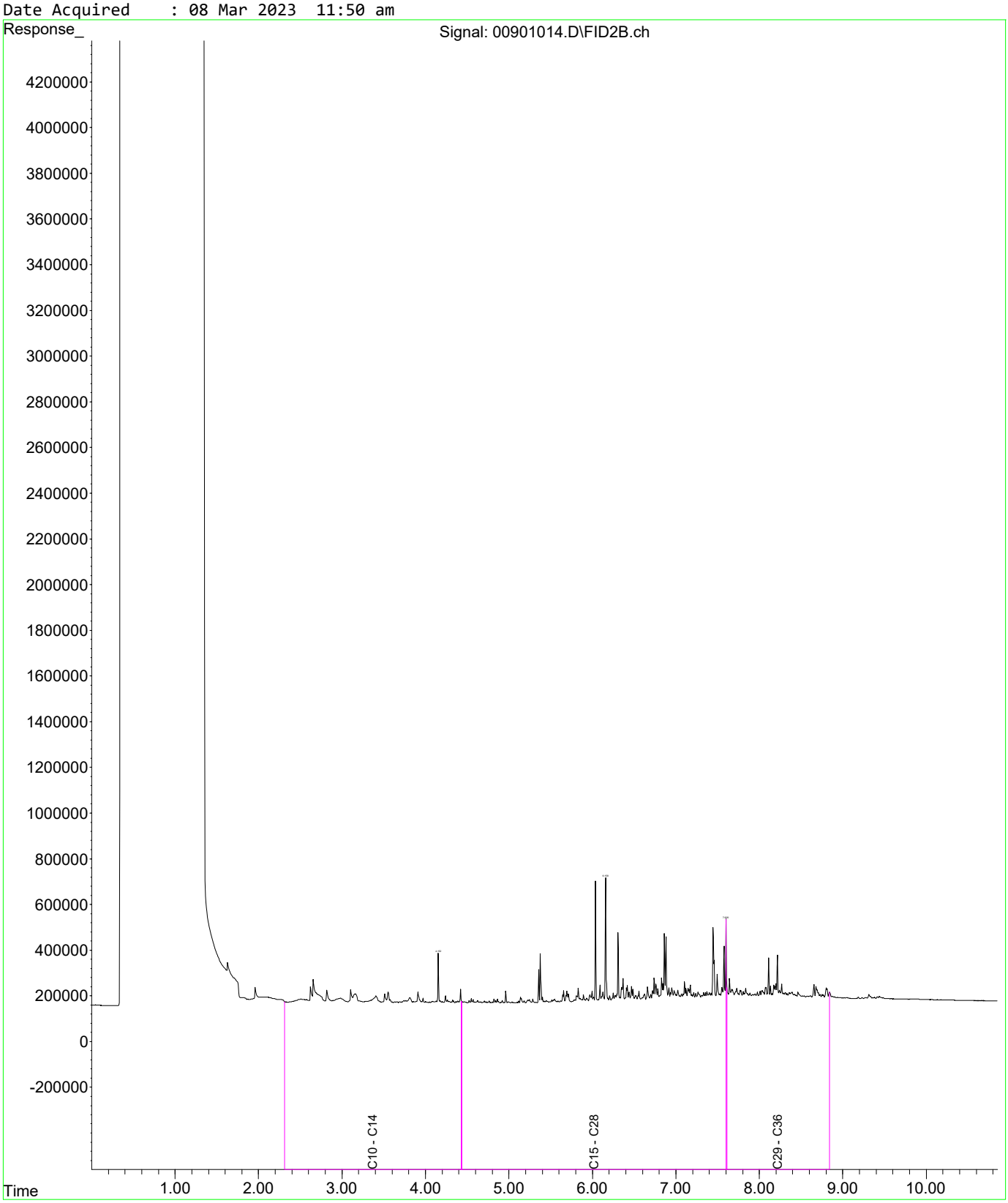
Fraction Scheme : Legacy Fractions
Data File : 00501010.D
Laboratory Number: EM2303927-001
Sample ID : DL_71_1.0
Date Acquired : 08 Mar 2023 10:39 am



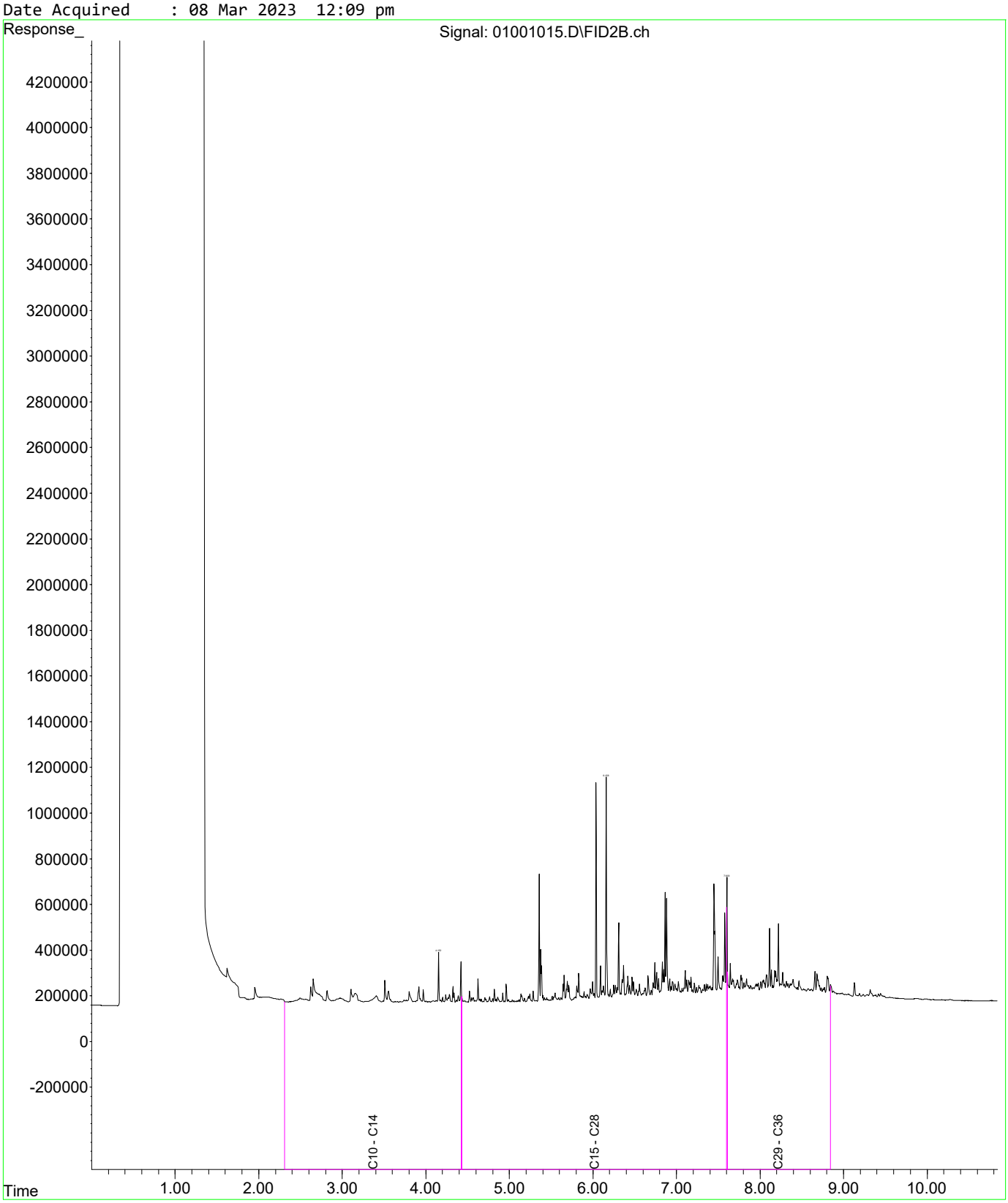
Fraction Scheme : Legacy Fractions
Data File : 00701012.D
Laboratory Number: EM2303927-002
Sample ID : DL_71_0.6E
Date Acquired : 08 Mar 2023 11:15 am



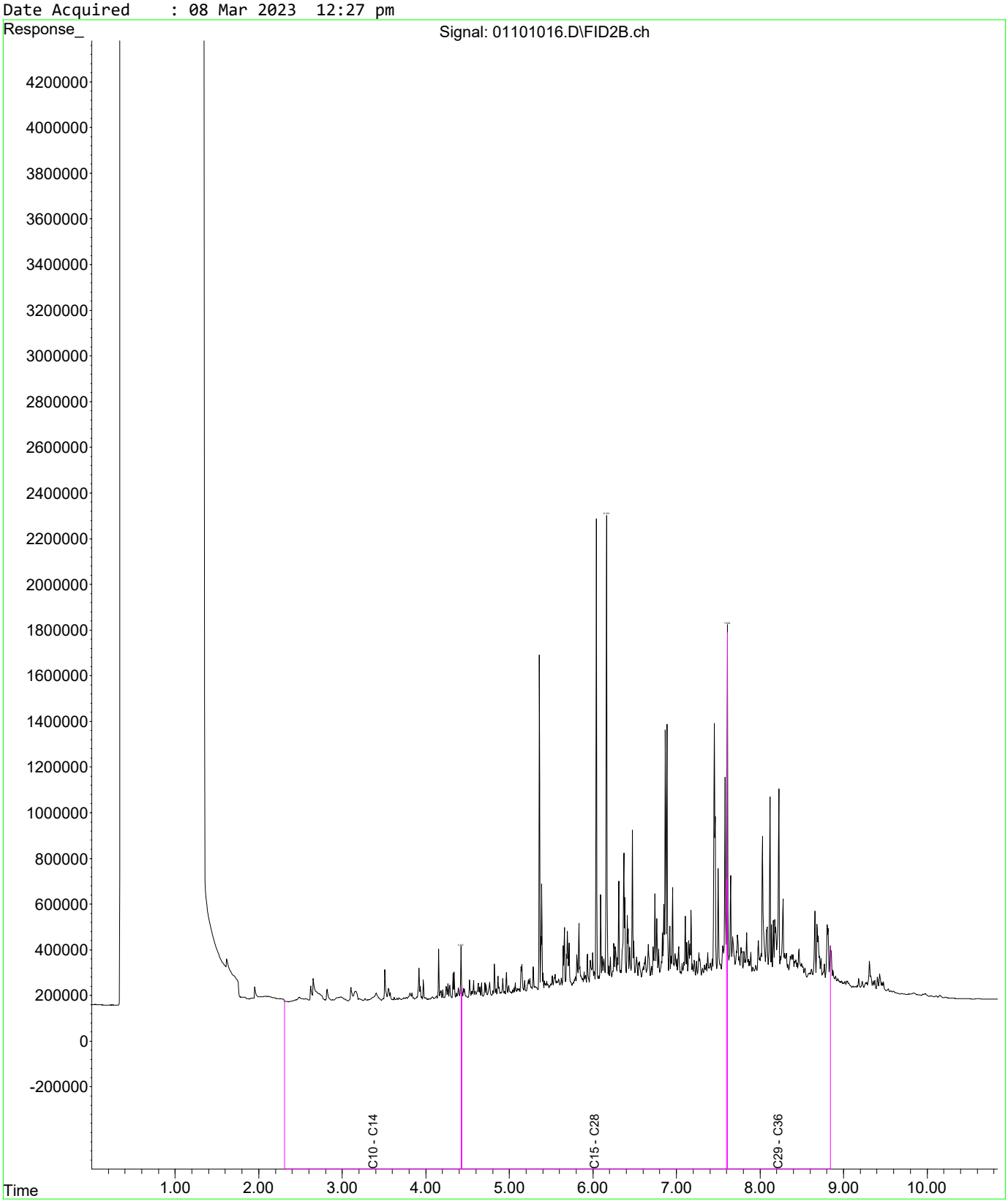
Fraction Scheme : Legacy Fractions
Data File : 00901014.D
Laboratory Number: EM2303927-003
Sample ID : DL_59_1.0
Date Acquired : 08 Mar 2023 11:50 am



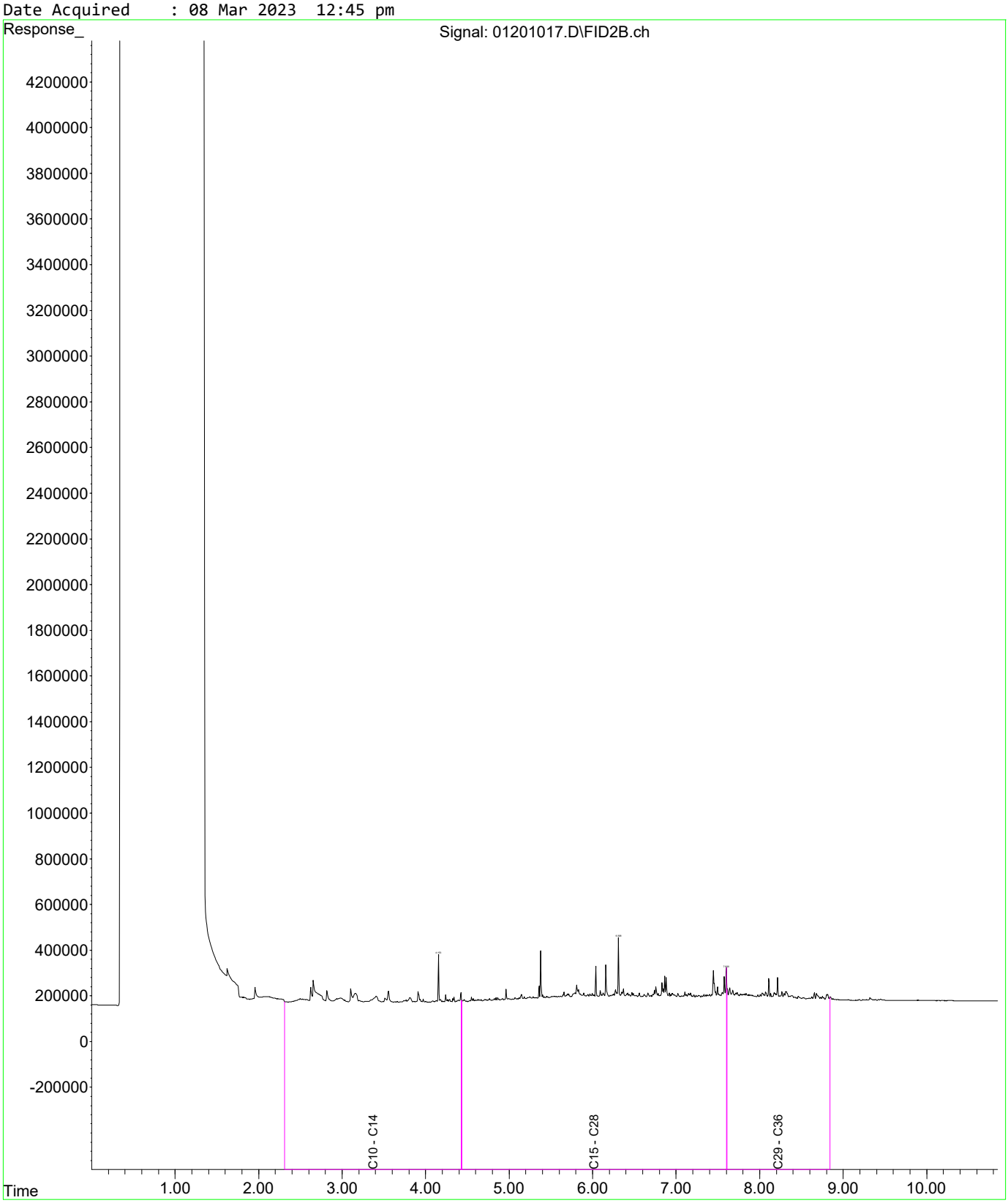
Fraction Scheme : Legacy Fractions
Data File : 01001015.D
Laboratory Number: EM2303927-004
Sample ID : DL_59_0.6W
Date Acquired : 08 Mar 2023 12:09 pm



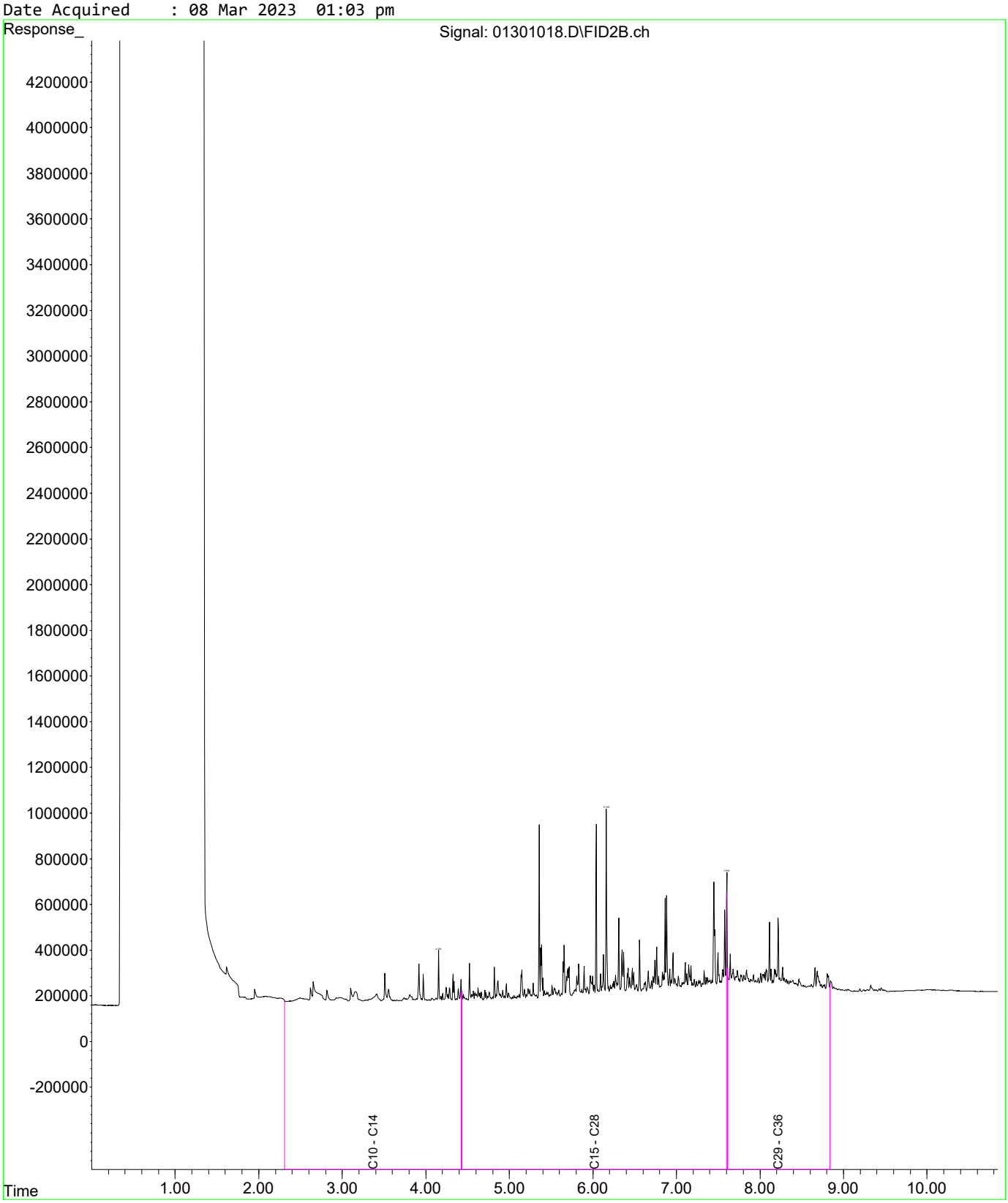
Fraction Scheme : Legacy Fractions
Data File : 01101016.D
Laboratory Number: EM2303927-005
Sample ID : DL_47_1.0
Date Acquired : 08 Mar 2023 12:27 pm



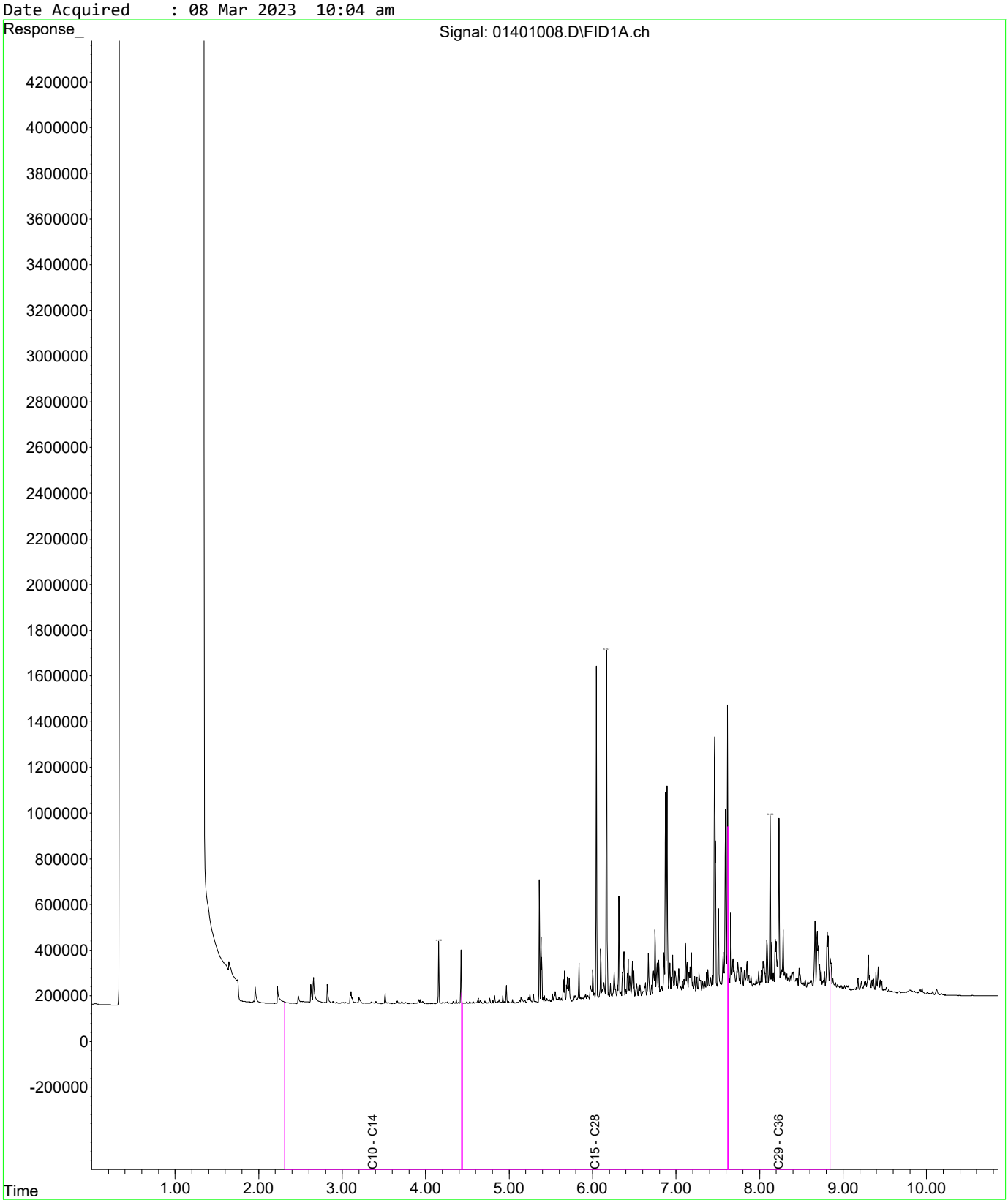
Fraction Scheme : Legacy Fractions
Data File : 01201017.D
Laboratory Number: EM2303927-006
Sample ID : DL_47_0.6E
Date Acquired : 08 Mar 2023 12:45 pm



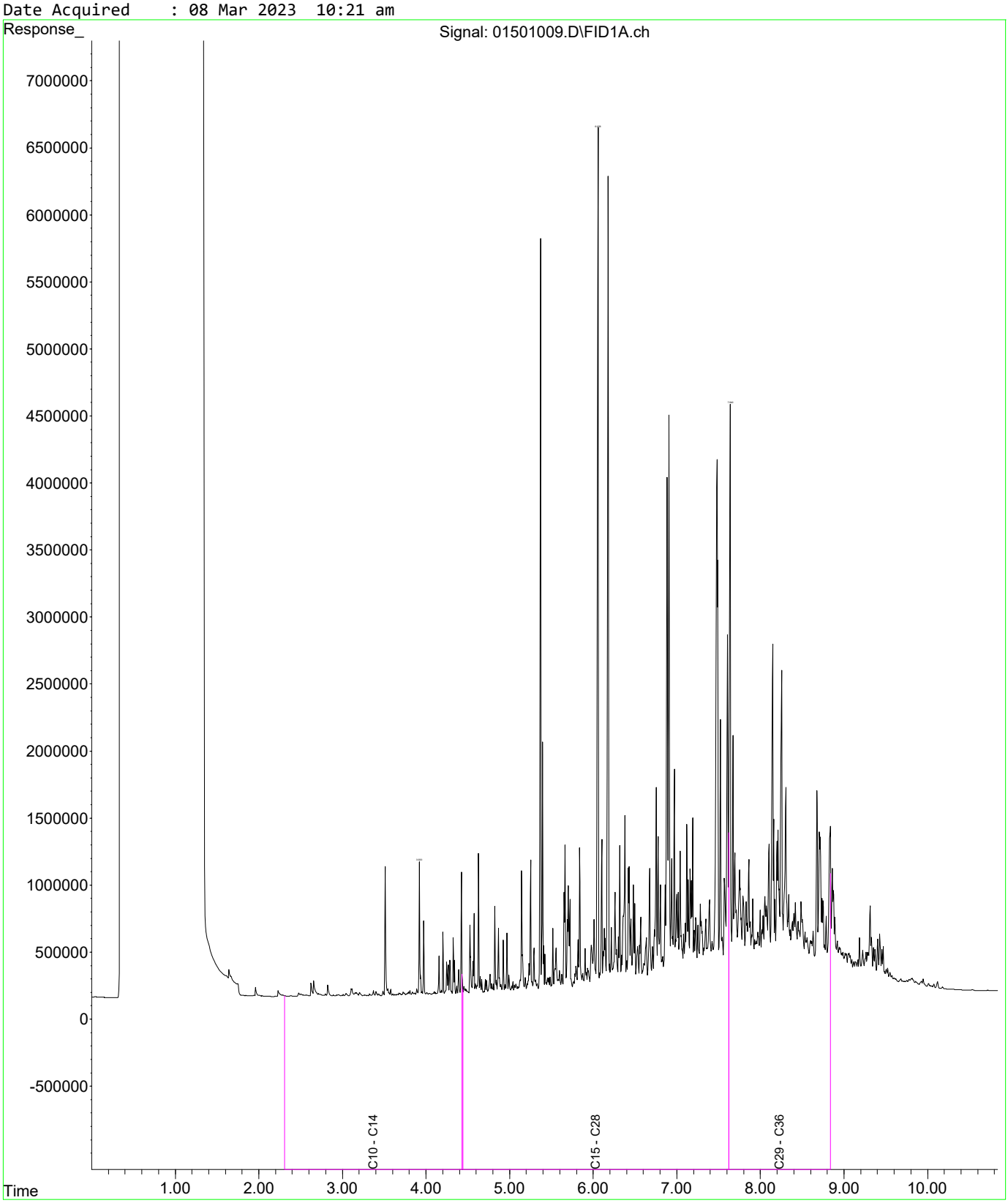
Fraction Scheme : Legacy Fractions
Data File : 01301018.D
Laboratory Number: EM2303927-007
Sample ID : DL_35_1.0
Date Acquired : 08 Mar 2023 01:03 pm



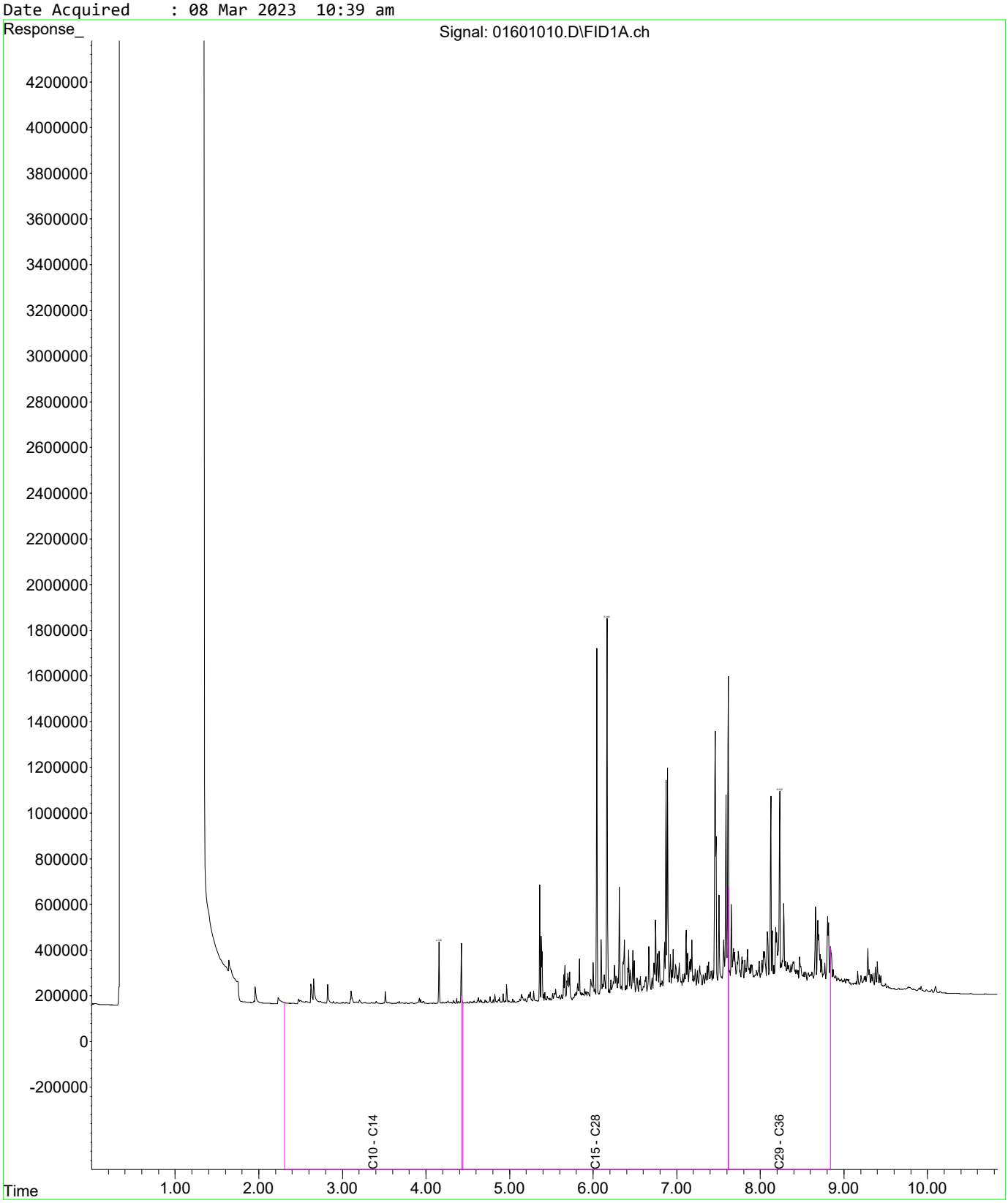
Fraction Scheme : Legacy Fractions
Data File : 01401008.D
Laboratory Number: EM2303927-008
Sample ID : DL_35_0.6W
Date Acquired : 08 Mar 2023 10:04 am



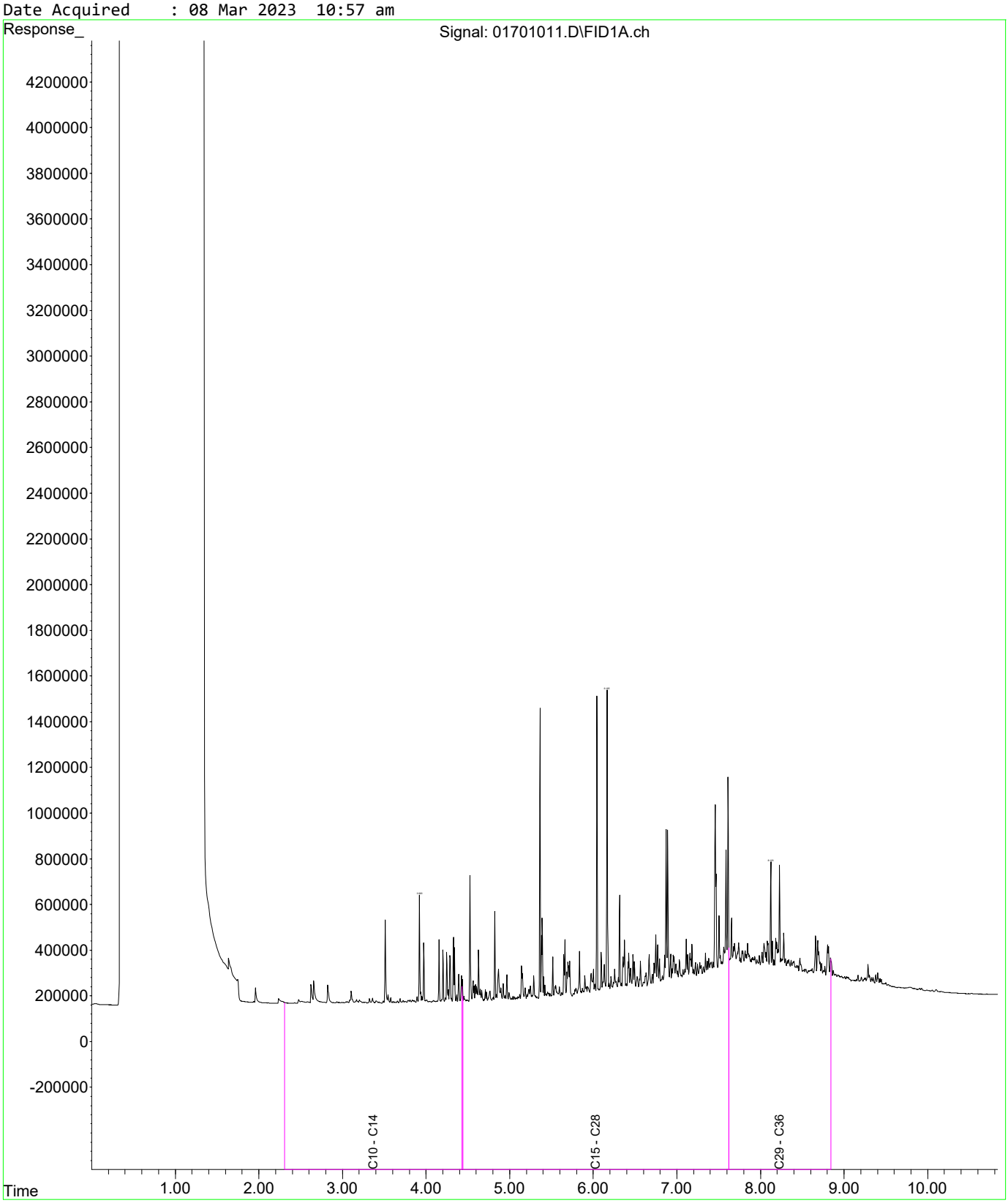
Fraction Scheme : Legacy Fractions
Data File : 01501009.D
Laboratory Number: EM2303927-009
Sample ID : DL_23_1.0
Date Acquired : 08 Mar 2023 10:21 am



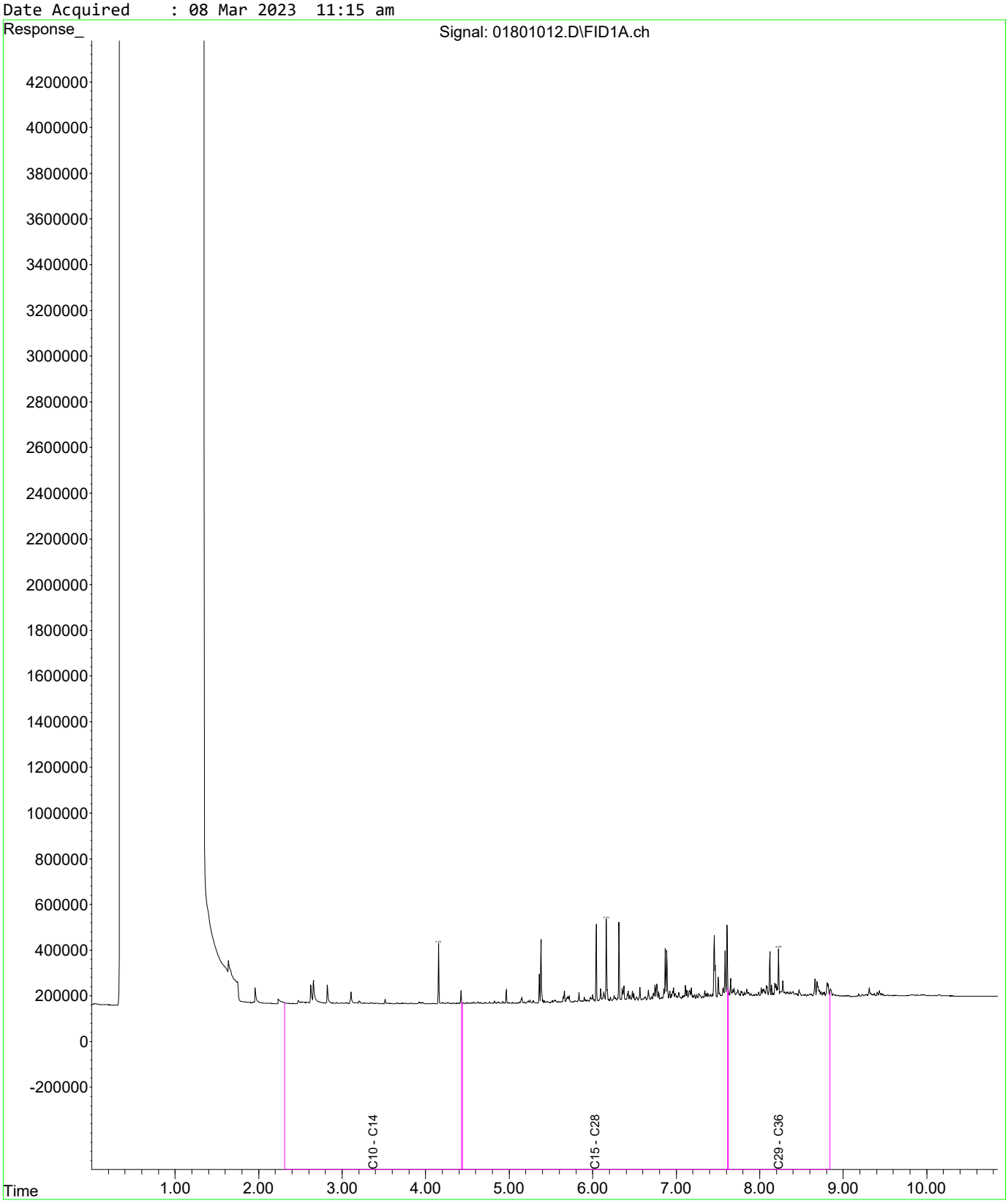
Fraction Scheme : Legacy Fractions
Data File : 01601010.D
Laboratory Number: EM2303927-010
Sample ID : DL_23_0.6E
Date Acquired : 08 Mar 2023 10:39 am



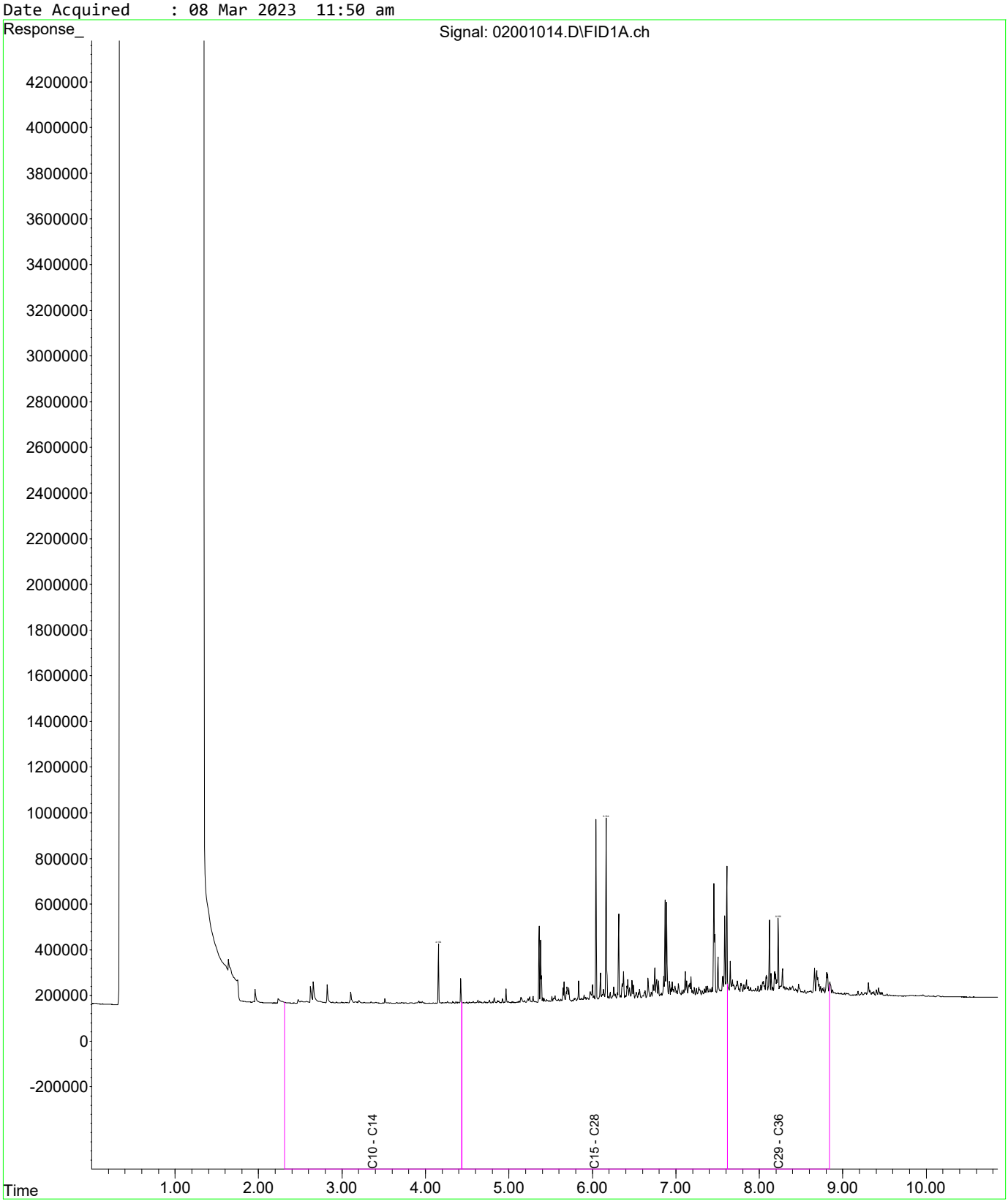
Fraction Scheme : Legacy Fractions
Data File : 01701011.D
Laboratory Number: EM2303927-011
Sample ID : DL_11_1.0
Date Acquired : 08 Mar 2023 10:57 am



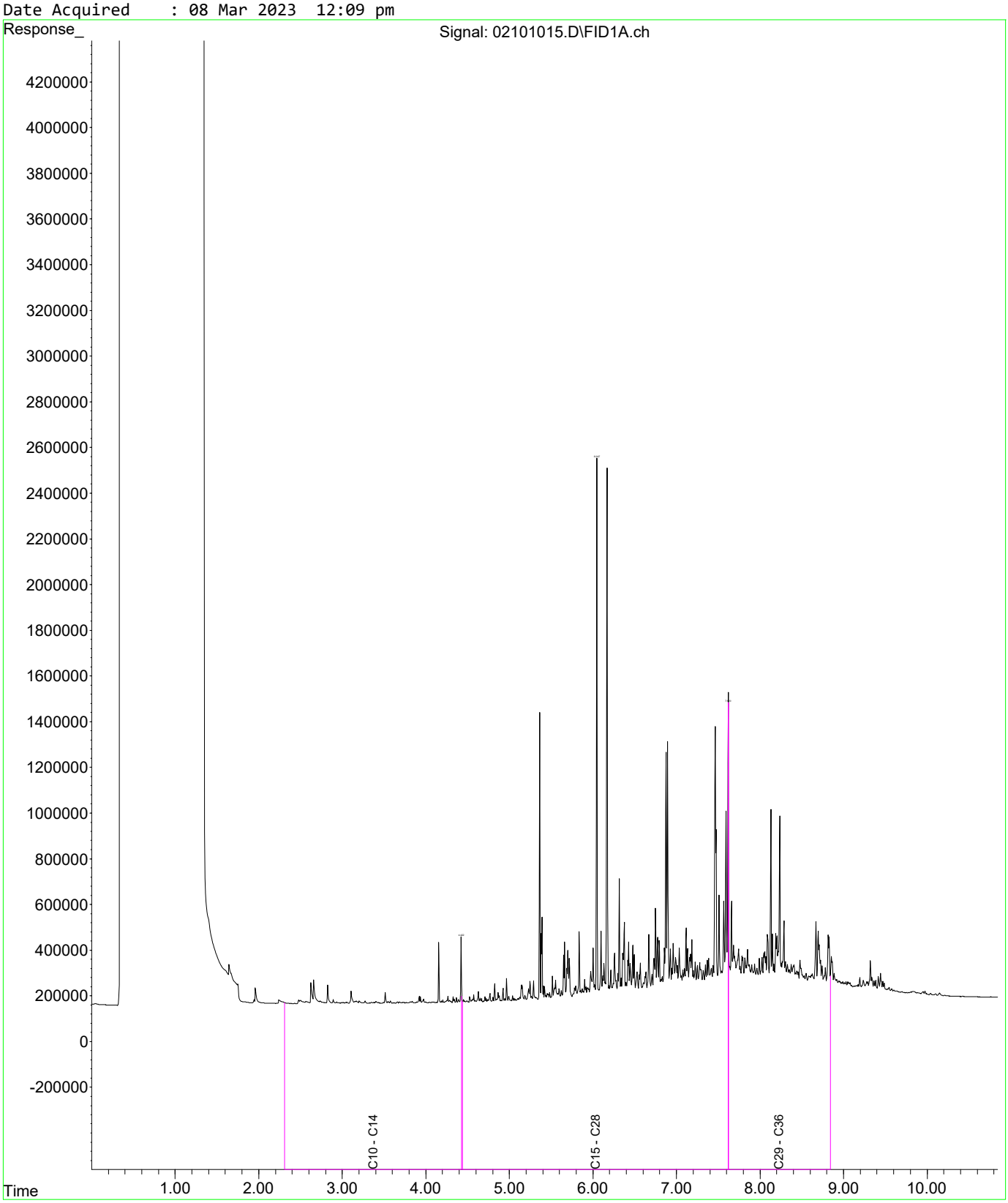
Fraction Scheme : Legacy Fractions
Data File : 01801012.D
Laboratory Number: EM2303927-012
Sample ID : DL_11_0.6W
Date Acquired : 08 Mar 2023 11:15 am



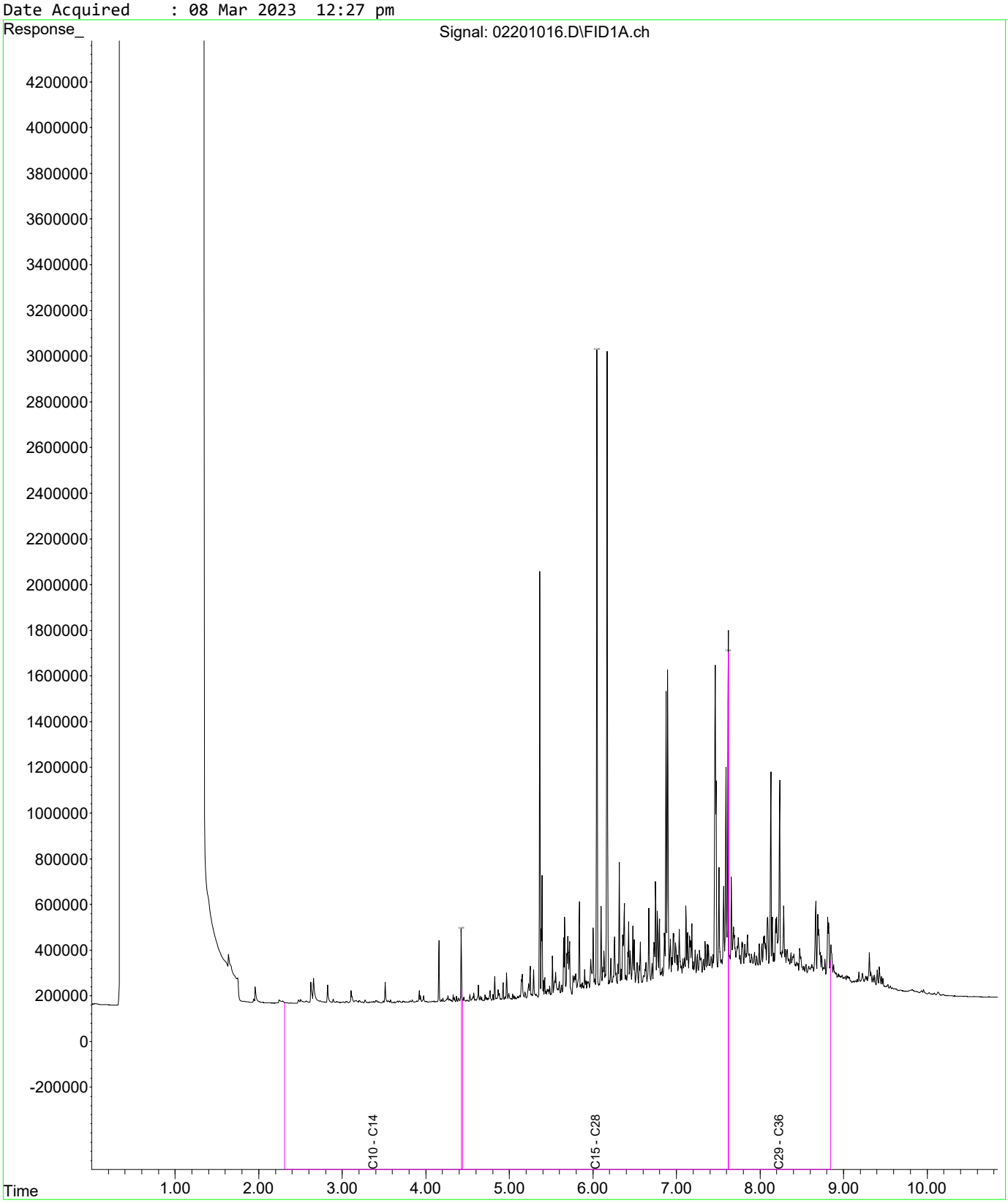
Fraction Scheme : Legacy Fractions
Data File : 02001014.D
Laboratory Number: EM2303927-013
Sample ID : DL_00_1.0
Date Acquired : 08 Mar 2023 11:50 am



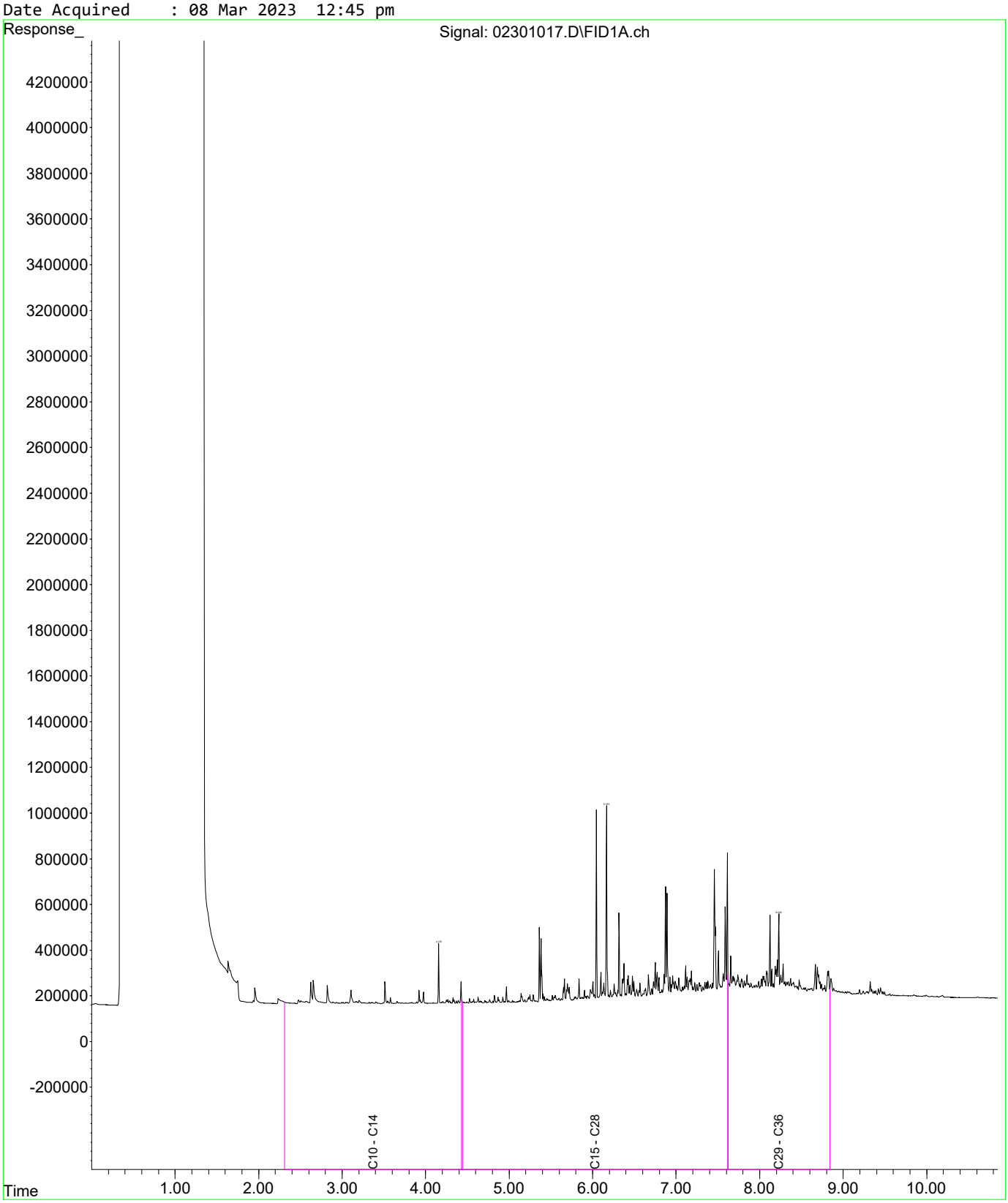
Fraction Scheme : Legacy Fractions
Data File : 02101015.D
Laboratory Number: EM2303927-014
Sample ID : DL_00_0.6E
Date Acquired : 08 Mar 2023 12:09 pm



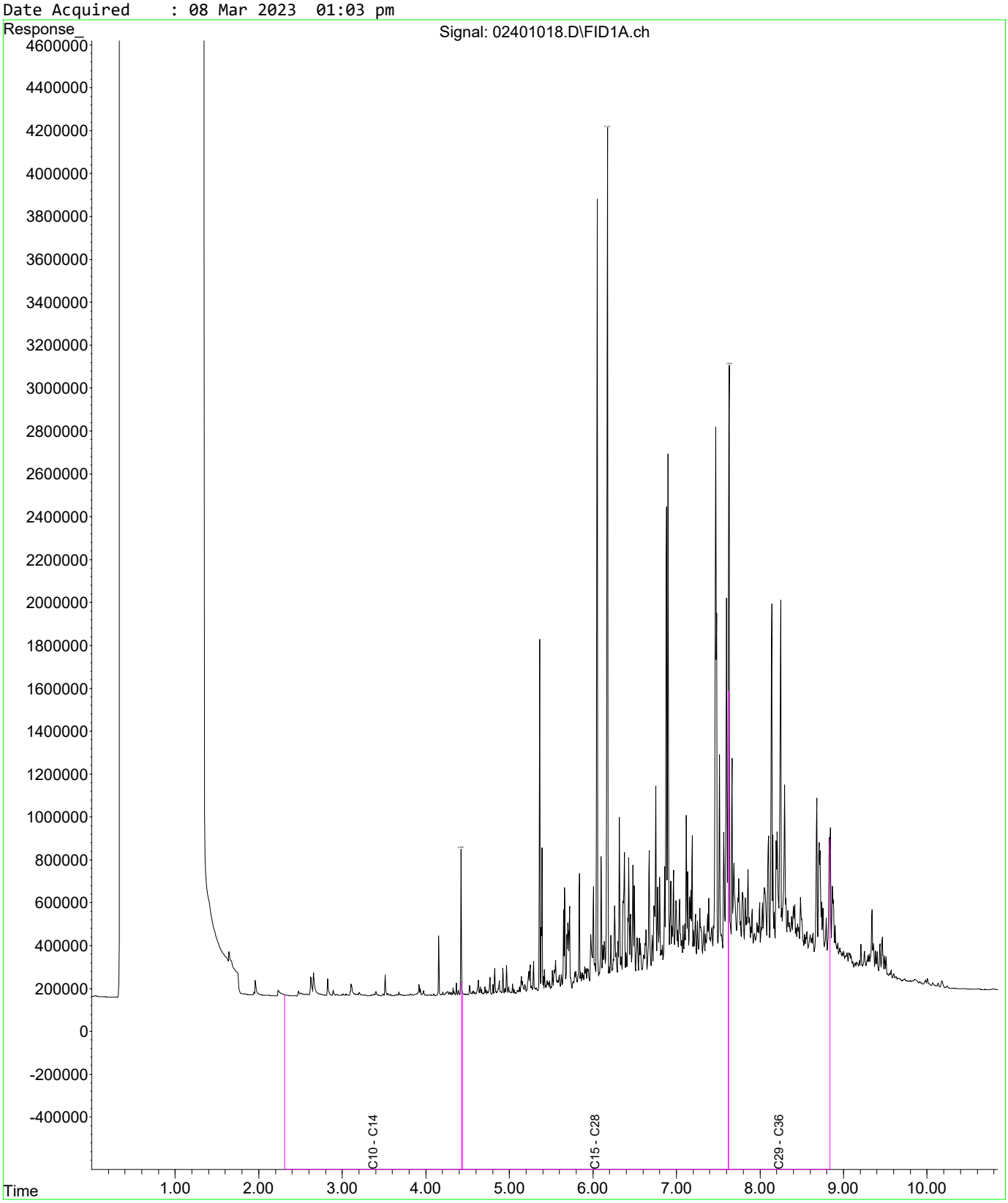
Fraction Scheme : Legacy Fractions
Data File : 02201016.D
Laboratory Number: EM2303927-015
Sample ID : DL_QC102
Date Acquired : 08 Mar 2023 12:27 pm



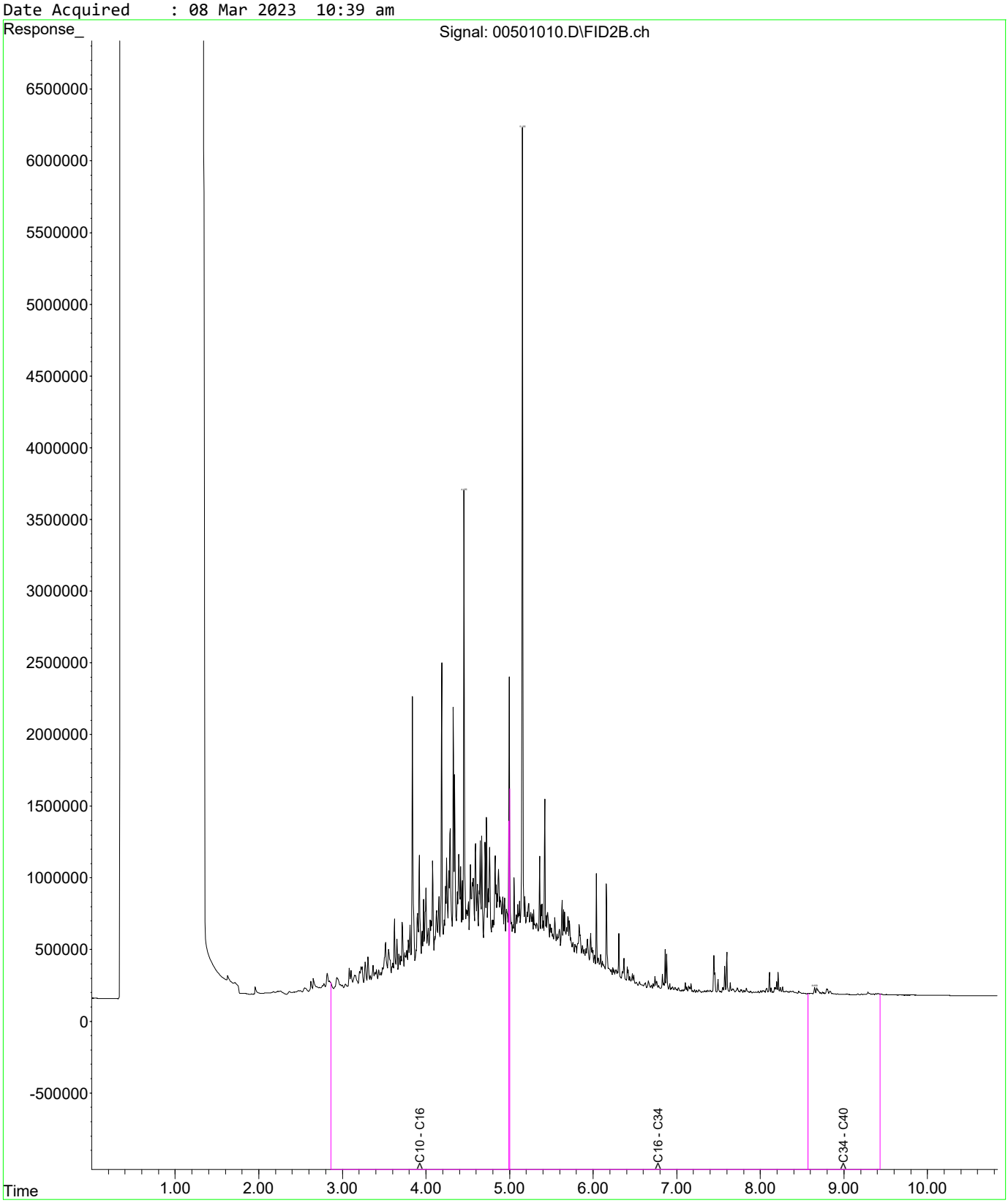
Fraction Scheme : Legacy Fractions
Data File : 02301017.D
Laboratory Number: EM2303927-017
Sample ID : DL_80_1.0
Date Acquired : 08 Mar 2023 12:45 pm



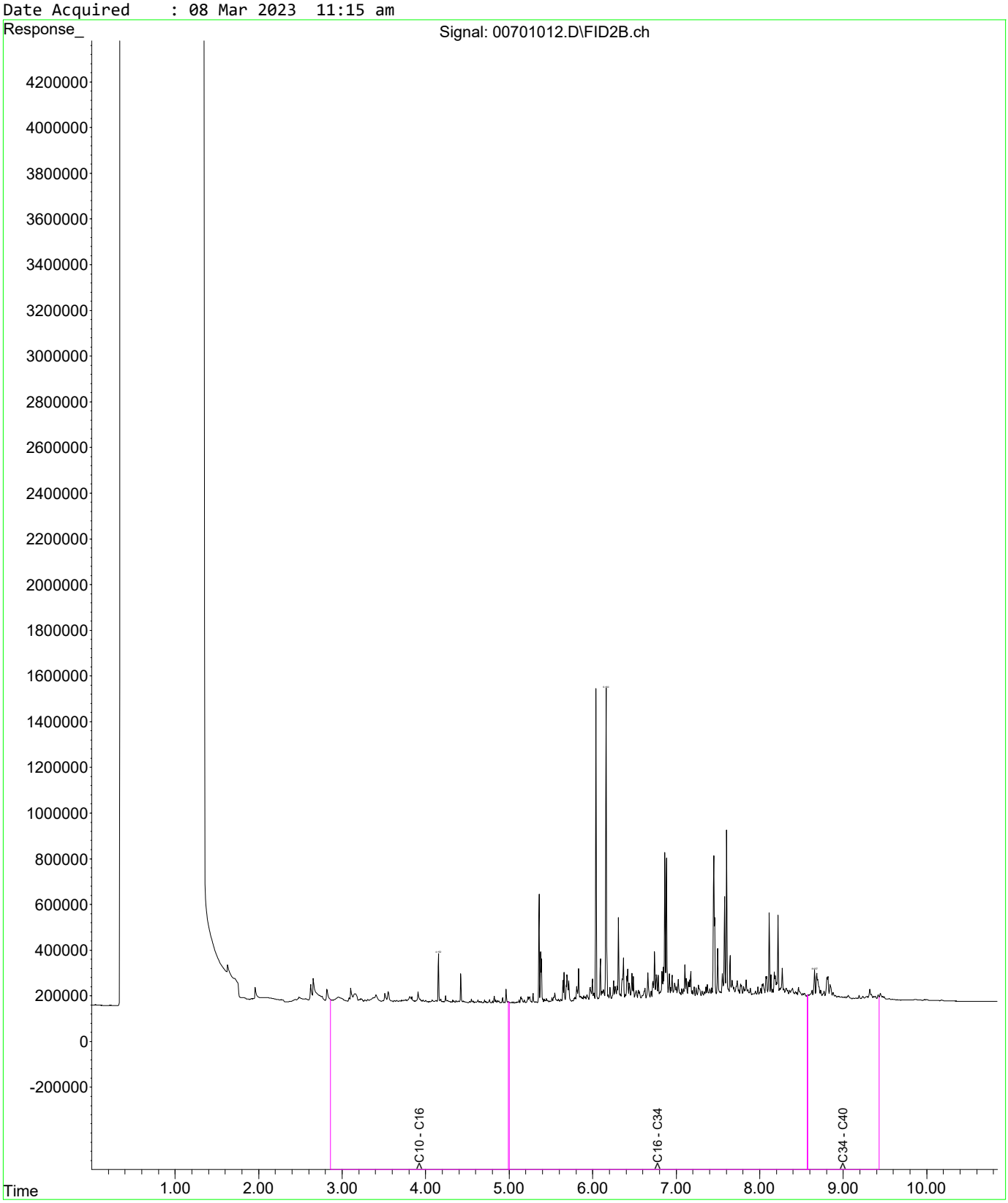
Fraction Scheme : Legacy Fractions
Data File : 02401018.D
Laboratory Number: EM2303927-018
Sample ID : DL_80_0.6W
Date Acquired : 08 Mar 2023 01:03 pm



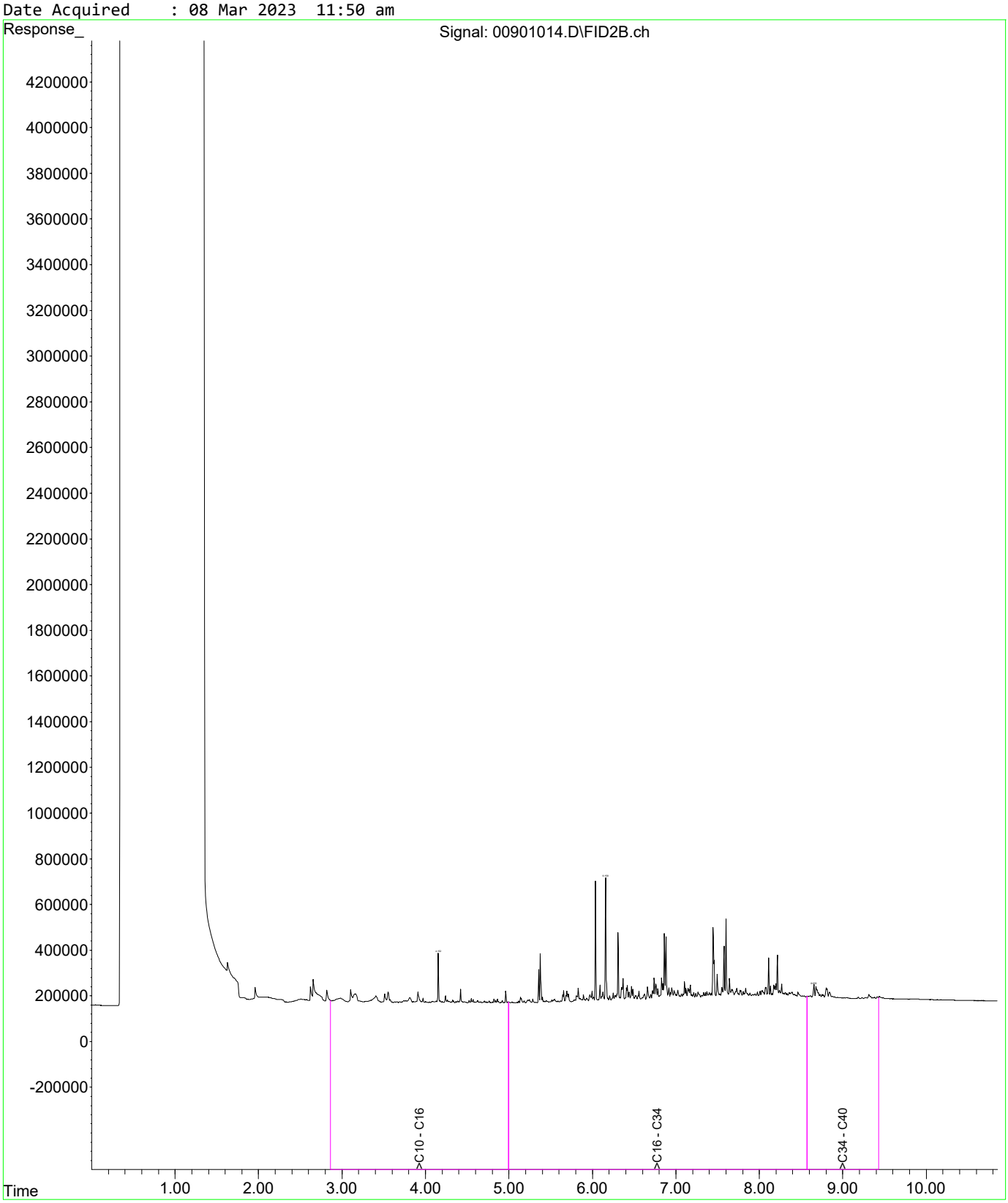
Fraction Scheme : NEPM Fractions
Data File : 00501010.D
Laboratory Number: EM2303927-001
Sample ID : DL_71_1.0
Date Acquired : 08 Mar 2023 10:39 am



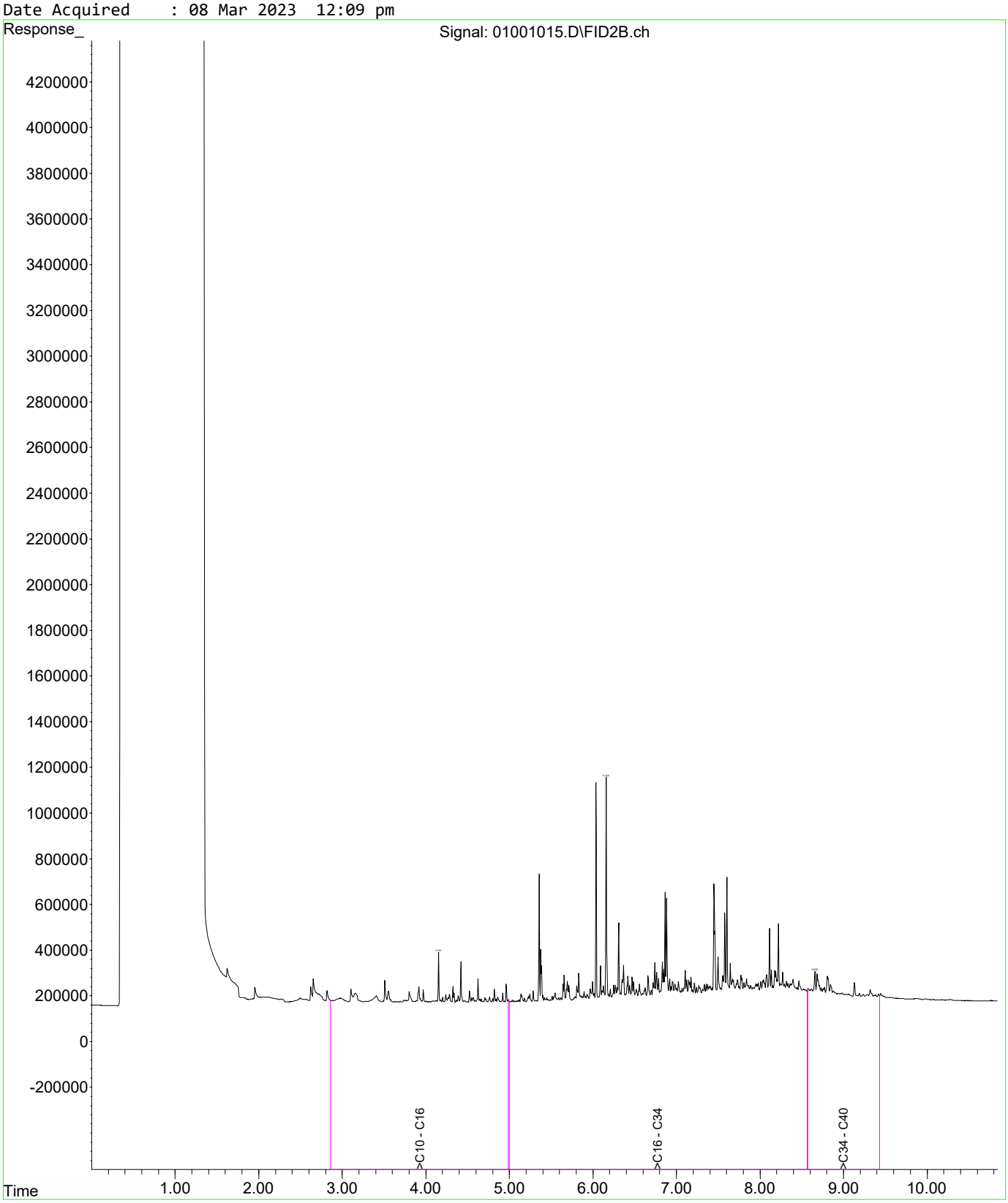
Fraction Scheme : NEPM Fractions
Data File : 00701012.D
Laboratory Number: EM2303927-002
Sample ID : DL_71_0.6E
Date Acquired : 08 Mar 2023 11:15 am



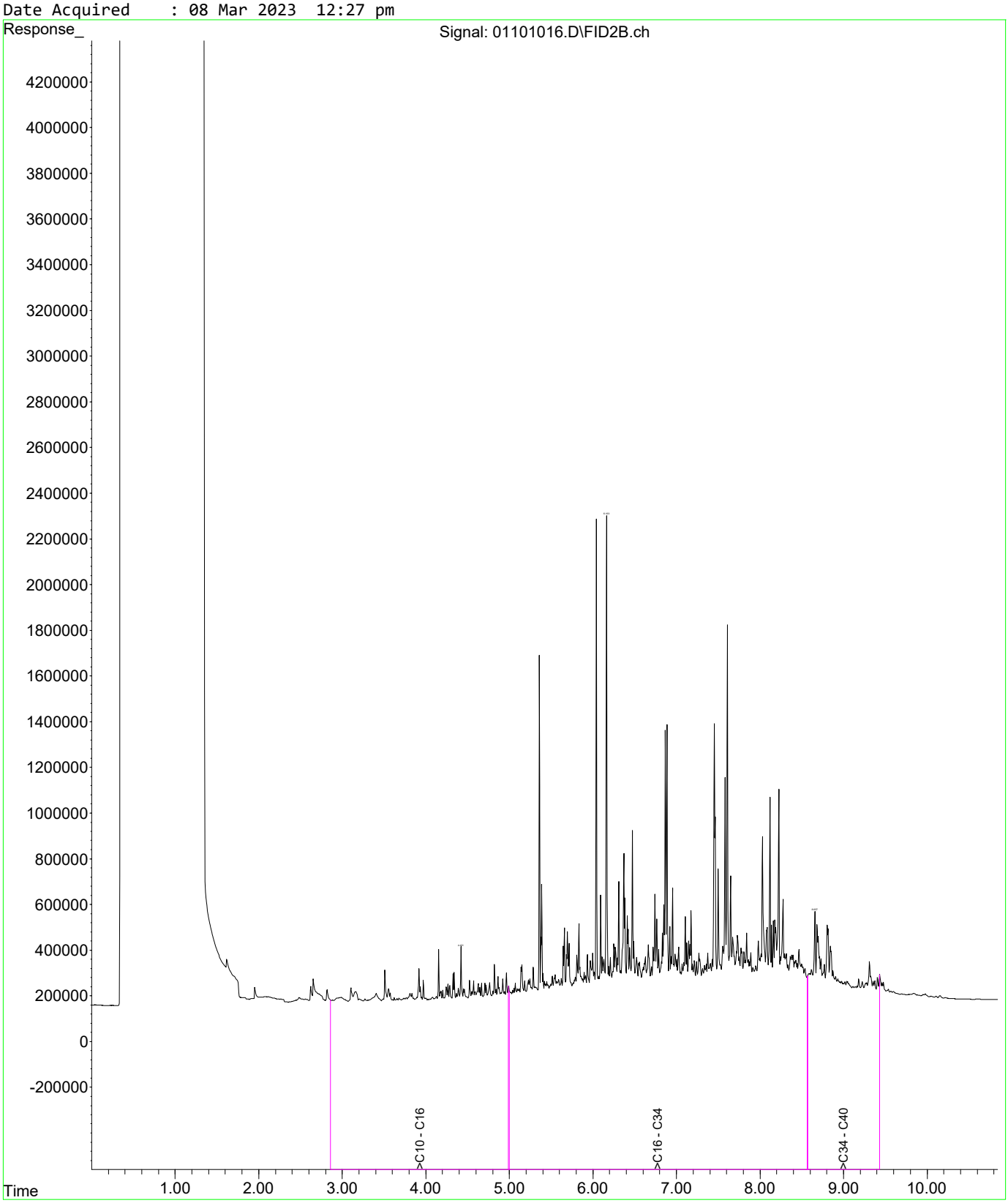
Fraction Scheme : NEPM Fractions
Data File : 00901014.D
Laboratory Number: EM2303927-003
Sample ID : DL_59_1.0
Date Acquired : 08 Mar 2023 11:50 am



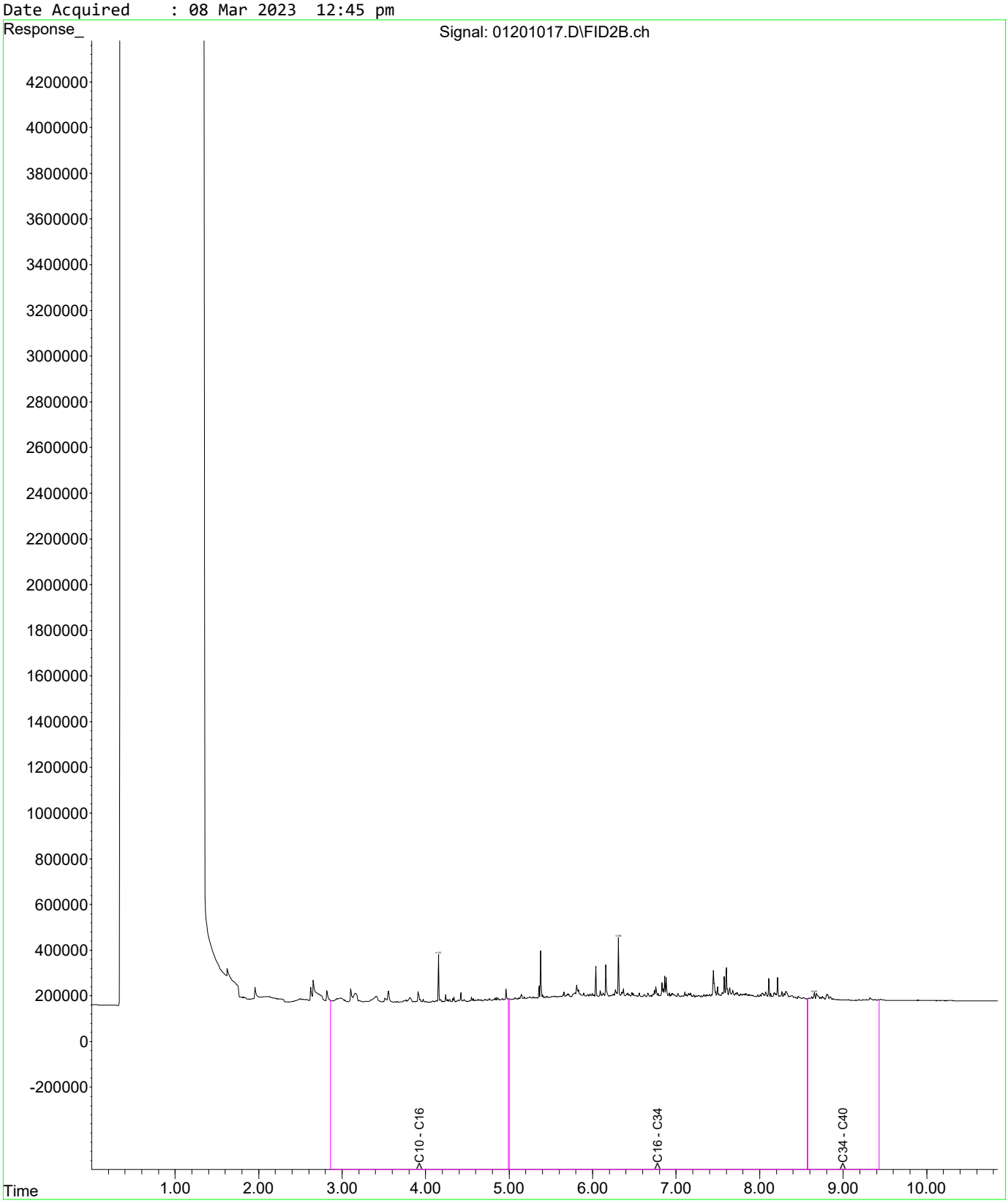
Fraction Scheme : NEPM Fractions
Data File : 01001015.D
Laboratory Number: EM2303927-004
Sample ID : DL_59_0.6W
Date Acquired : 08 Mar 2023 12:09 pm



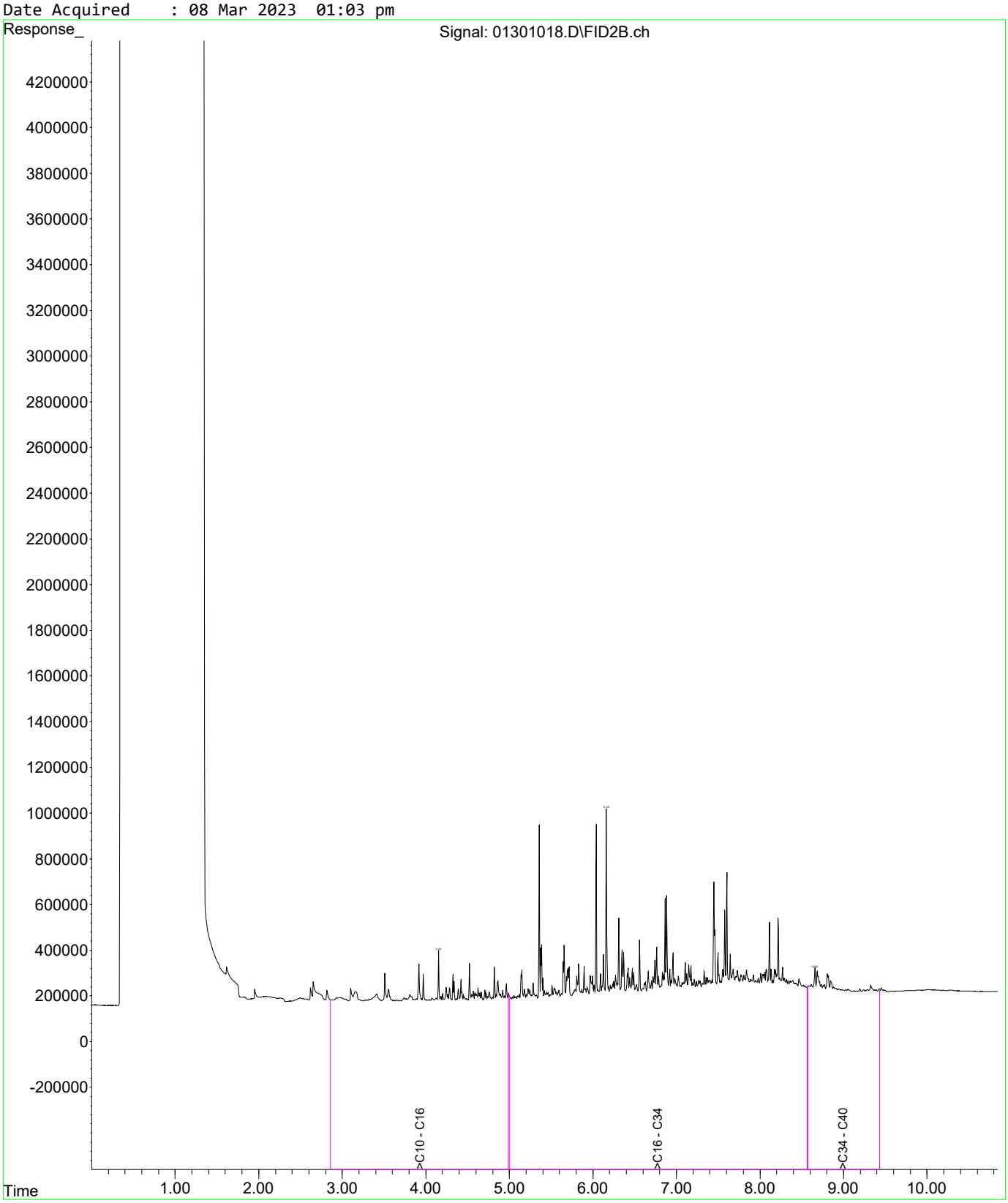
Fraction Scheme : NEPM Fractions
Data File : 01101016.D
Laboratory Number: EM2303927-005
Sample ID : DL_47_1.0
Date Acquired : 08 Mar 2023 12:27 pm



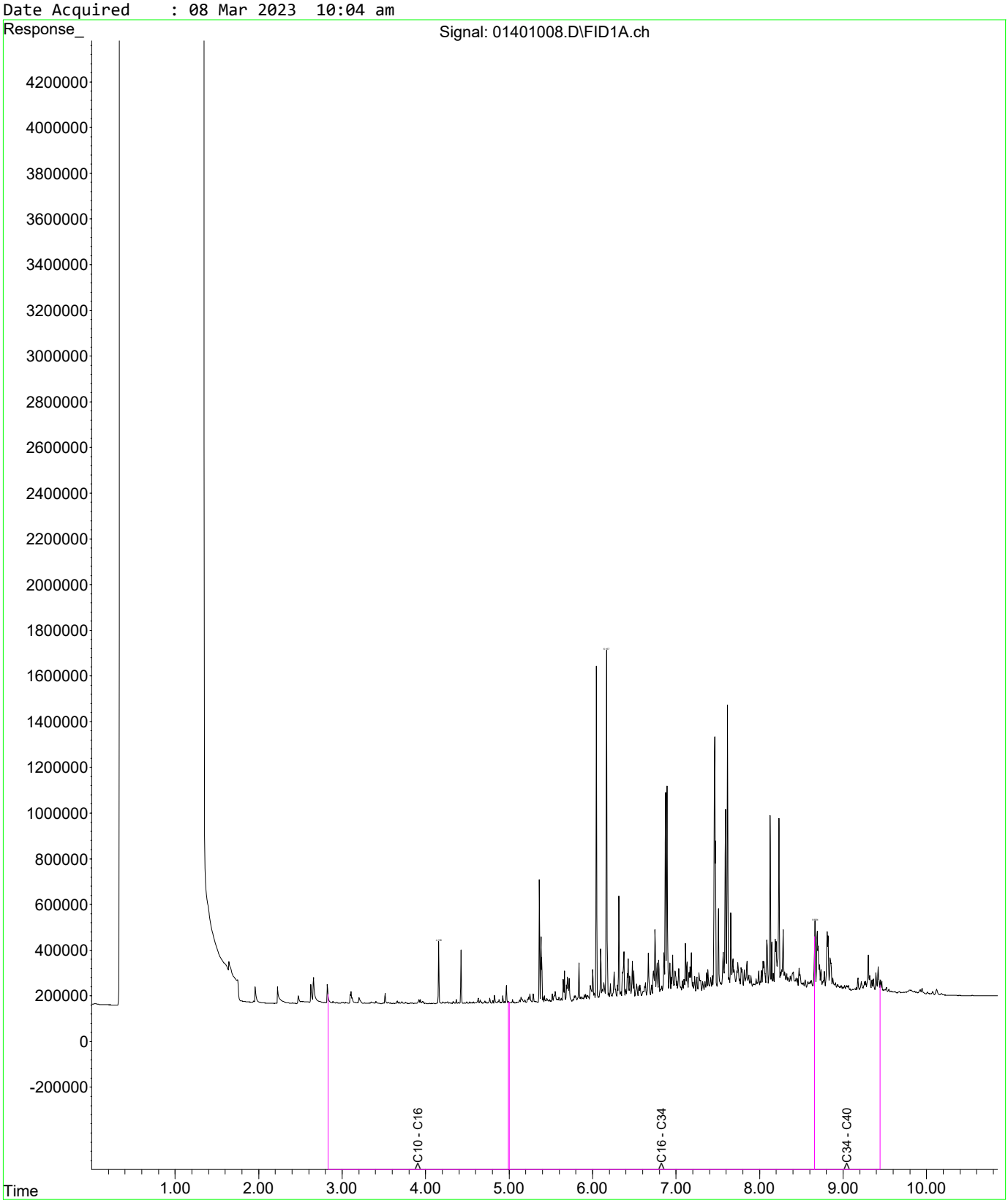
Fraction Scheme : NEPM Fractions
Data File : 01201017.D
Laboratory Number: EM2303927-006
Sample ID : DL_47_0.6E
Date Acquired : 08 Mar 2023 12:45 pm



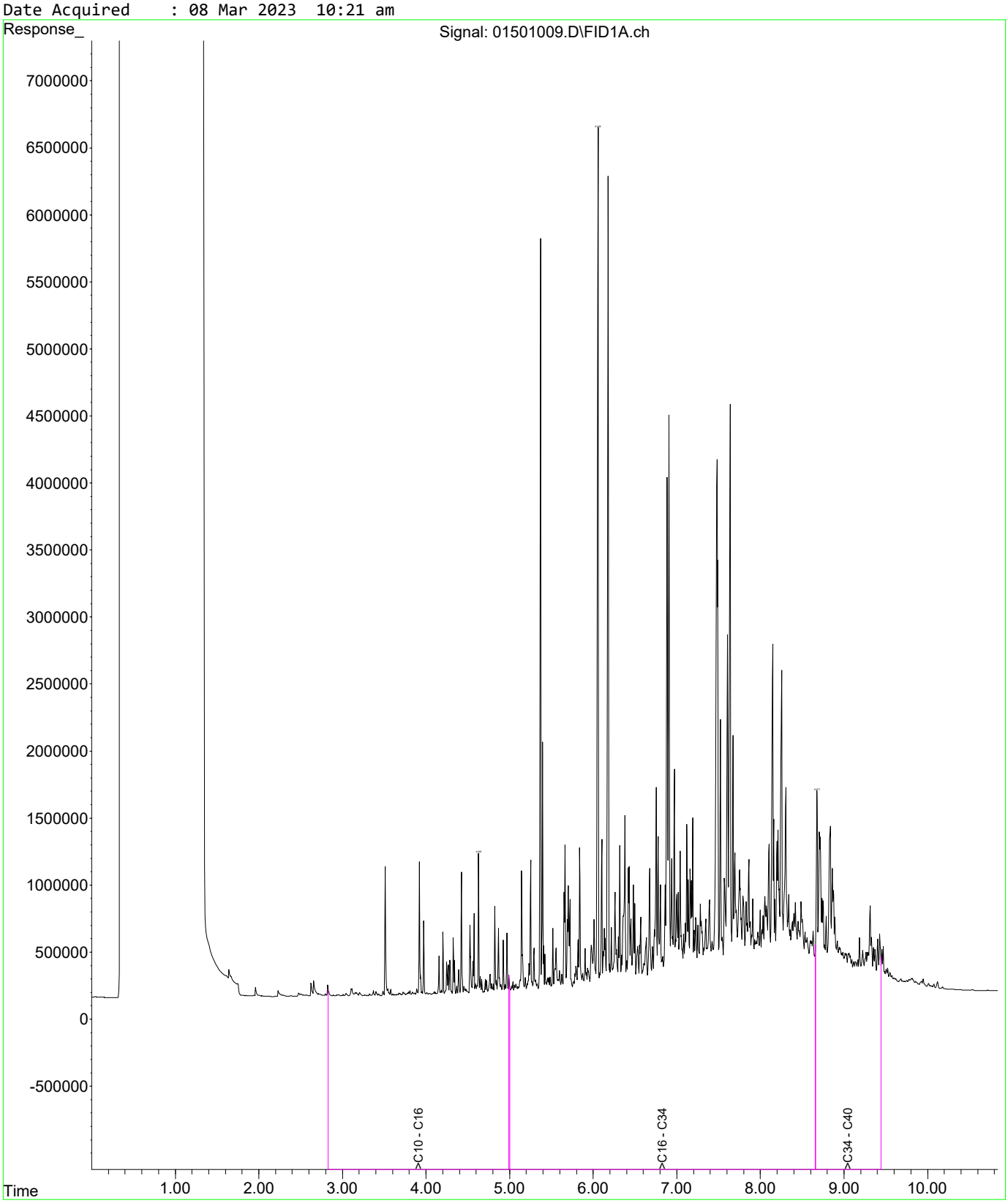
Fraction Scheme : NEPM Fractions
Data File : 01301018.D
Laboratory Number: EM2303927-007
Sample ID : DL_35_1.0
Date Acquired : 08 Mar 2023 01:03 pm



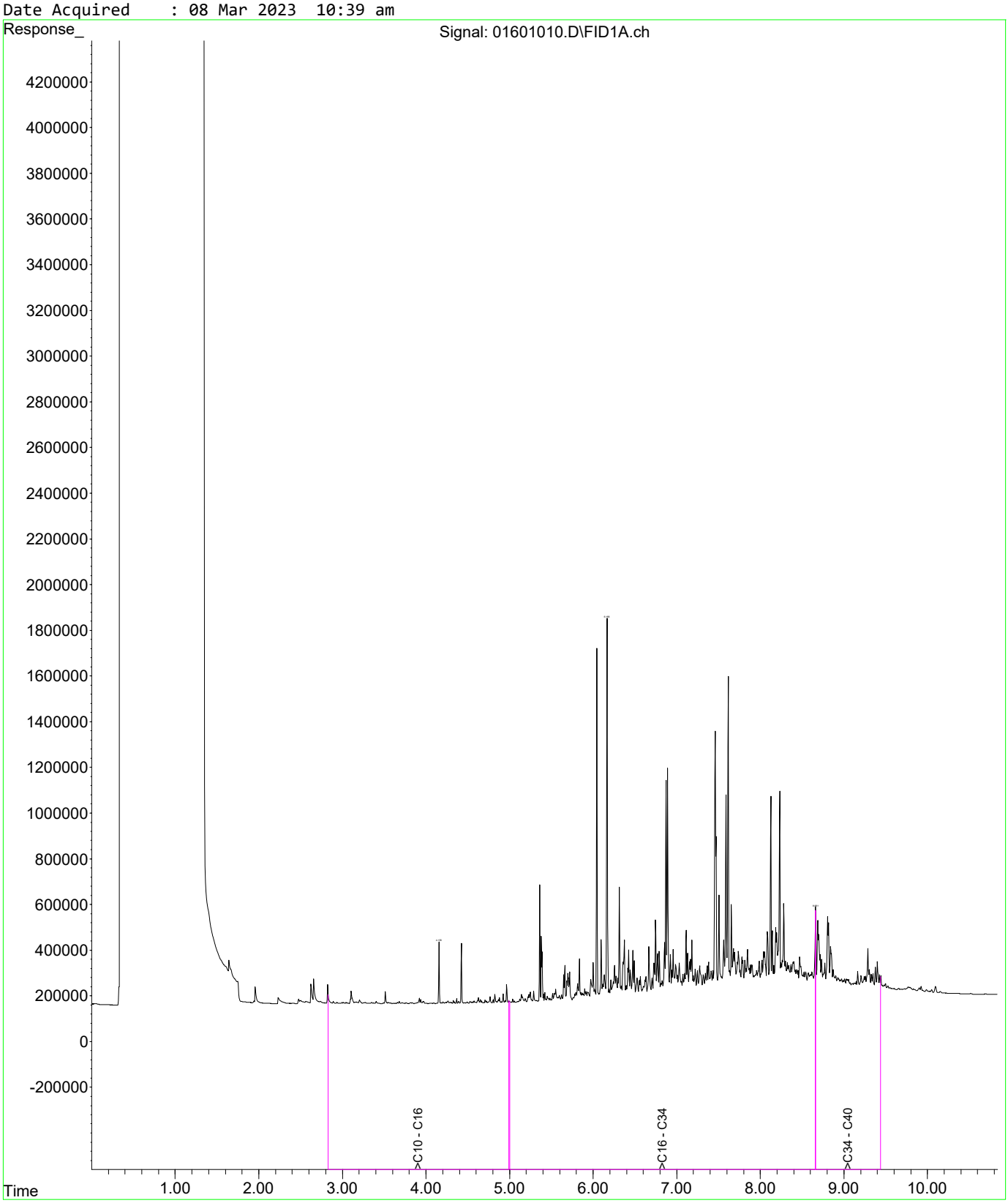
Fraction Scheme : NEPM Fractions
Data File : 01401008.D
Laboratory Number: EM2303927-008
Sample ID : DL_35_0.6W
Date Acquired : 08 Mar 2023 10:04 am



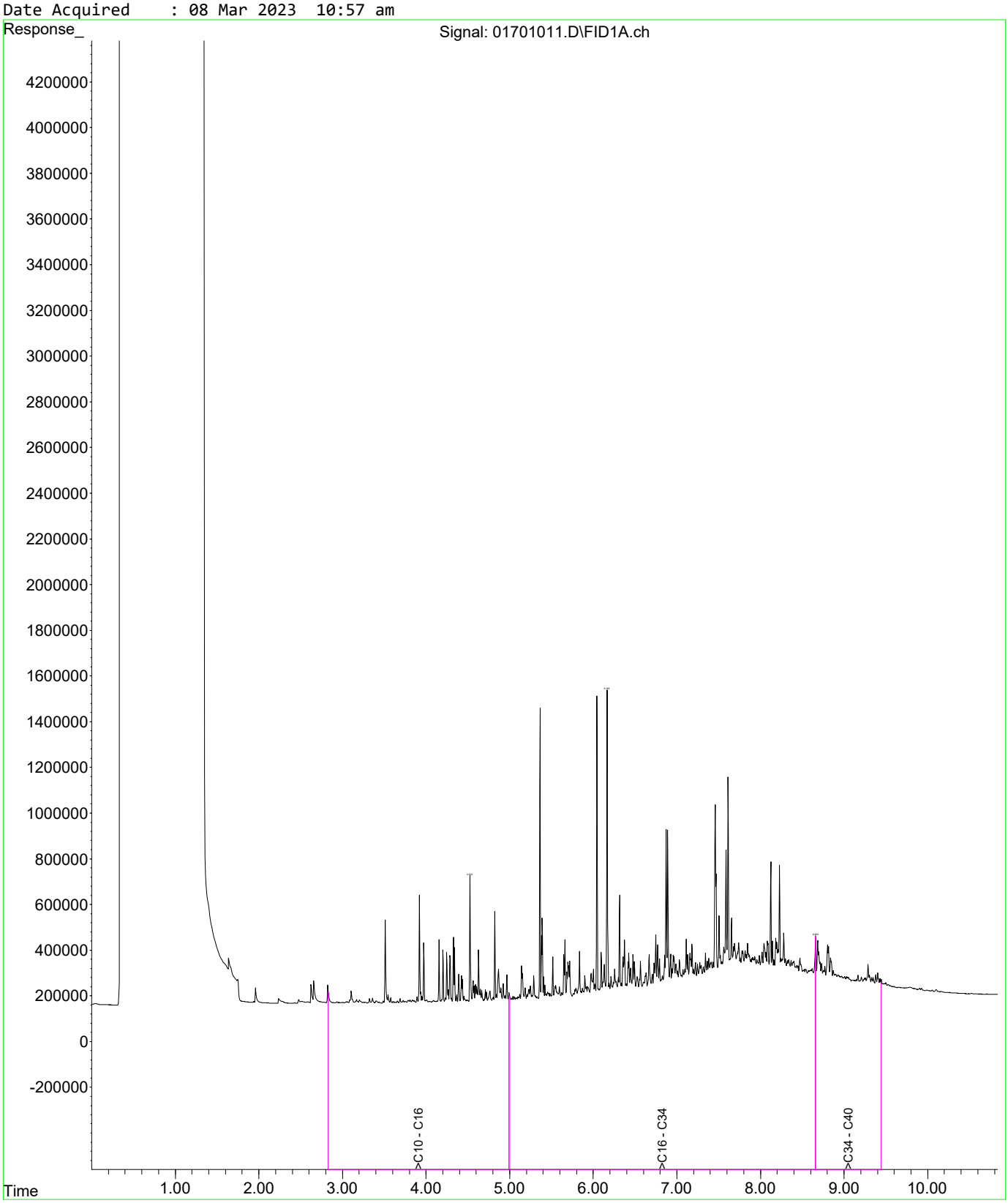
Fraction Scheme : NEPM Fractions
Data File : 01501009.D
Laboratory Number: EM2303927-009
Sample ID : DL_23_1.0
Date Acquired : 08 Mar 2023 10:21 am



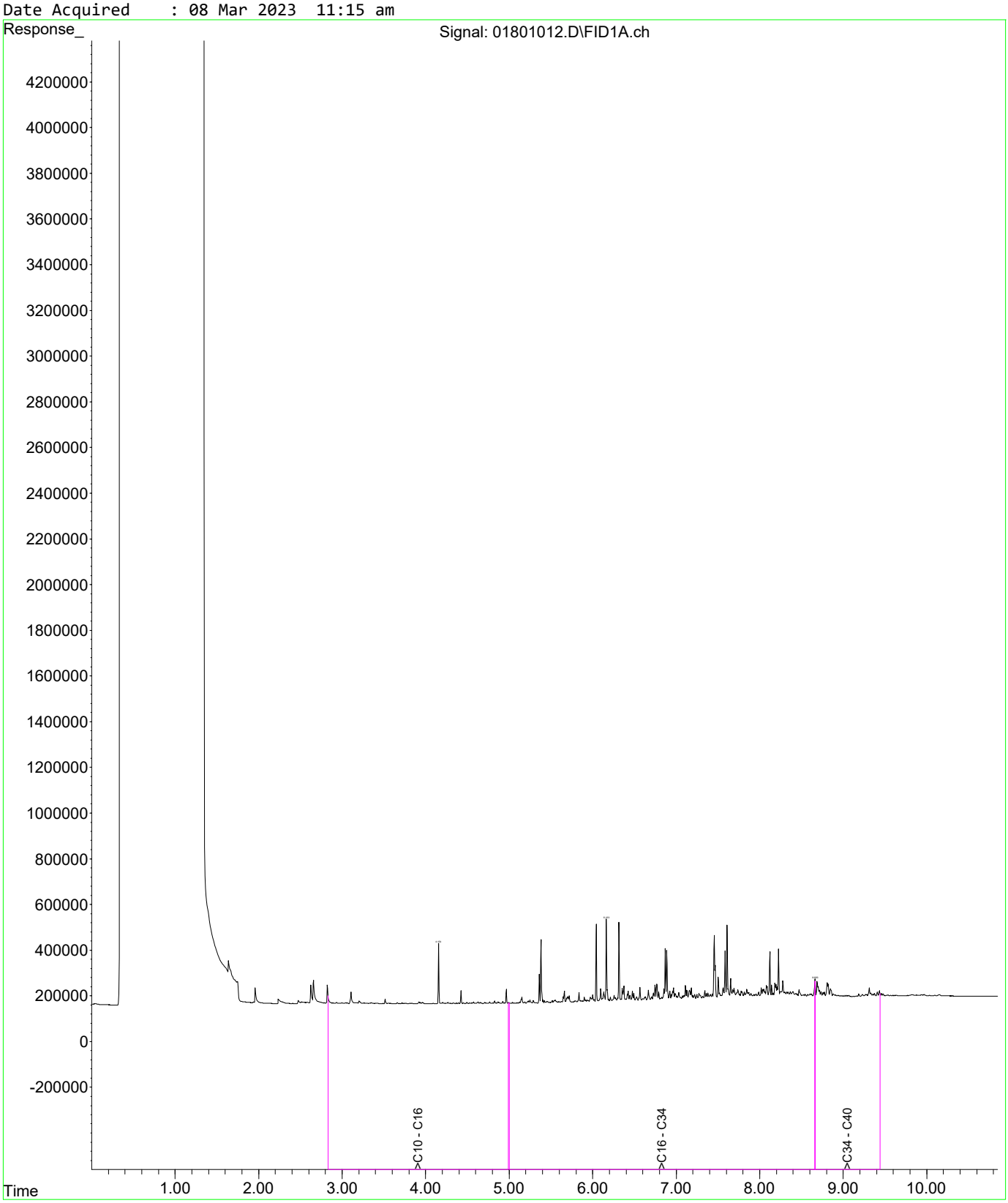
Fraction Scheme : NEPM Fractions
Data File : 01601010.D
Laboratory Number: EM2303927-010
Sample ID : DL_23_0.6E
Date Acquired : 08 Mar 2023 10:39 am



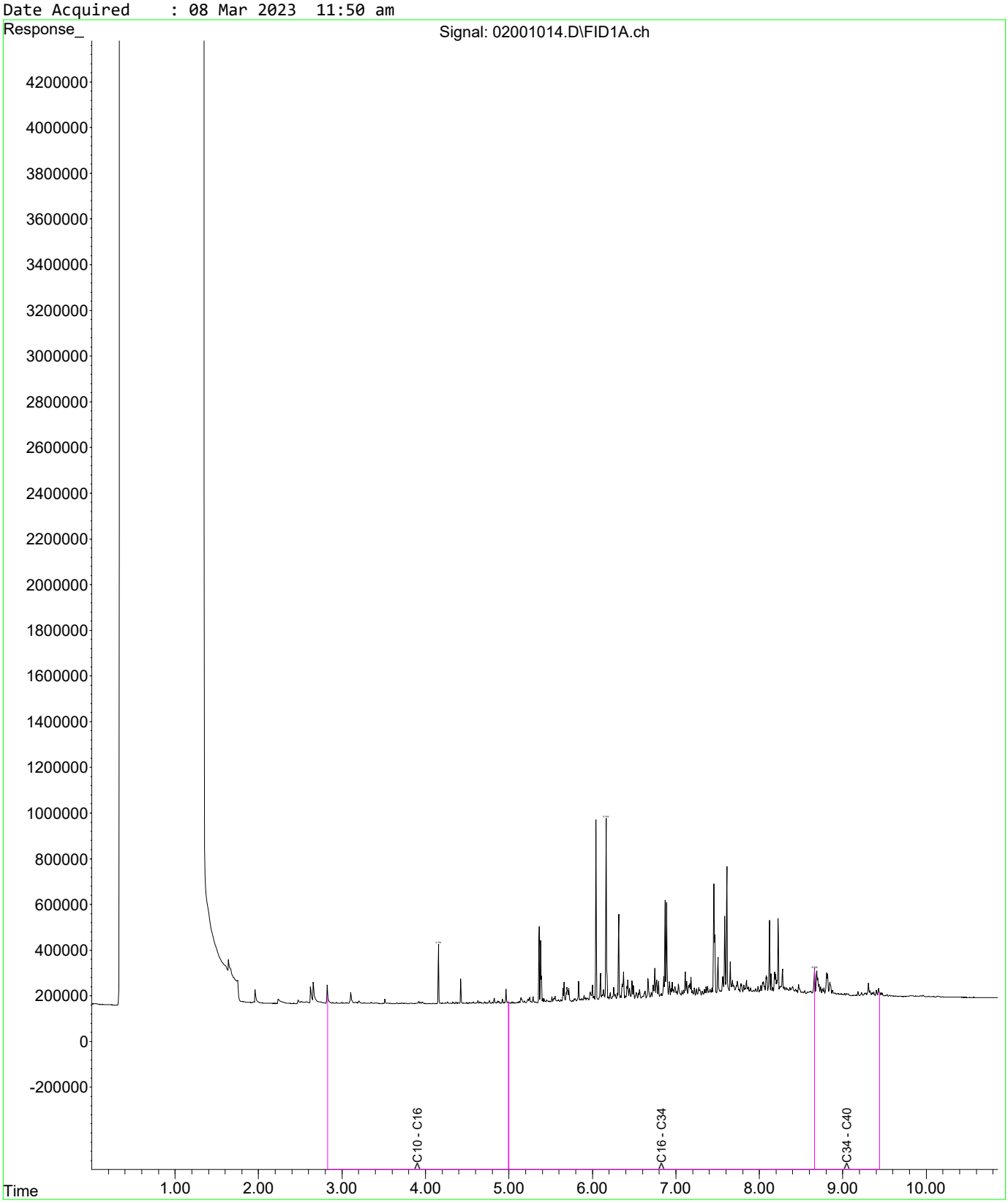
Fraction Scheme : NEPM Fractions
Data File : 01701011.D
Laboratory Number: EM2303927-011
Sample ID : DL_11_1.0
Date Acquired : 08 Mar 2023 10:57 am



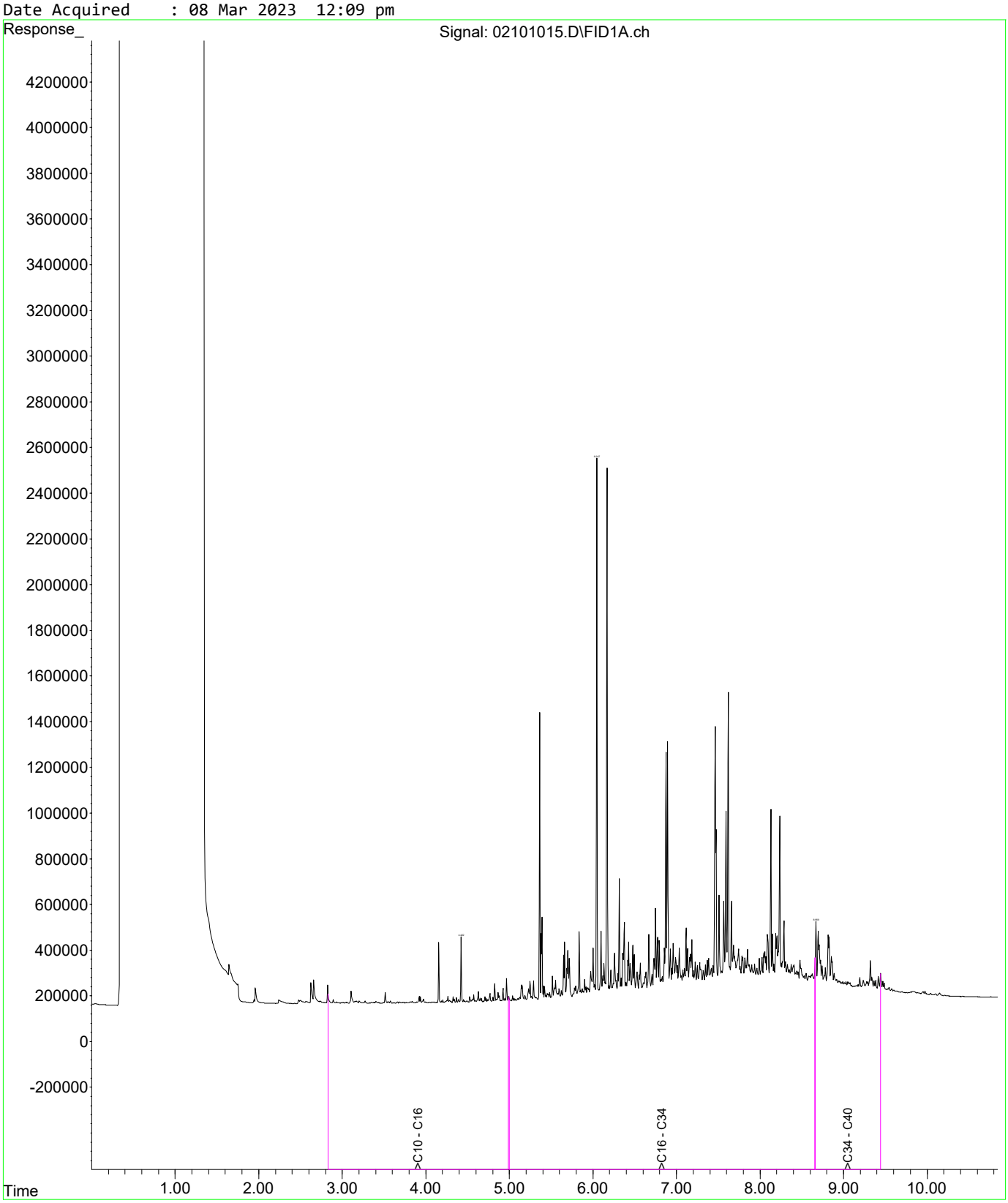
Fraction Scheme : NEPM Fractions
Data File : 01801012.D
Laboratory Number: EM2303927-012
Sample ID : DL_11_0.6W
Date Acquired : 08 Mar 2023 11:15 am



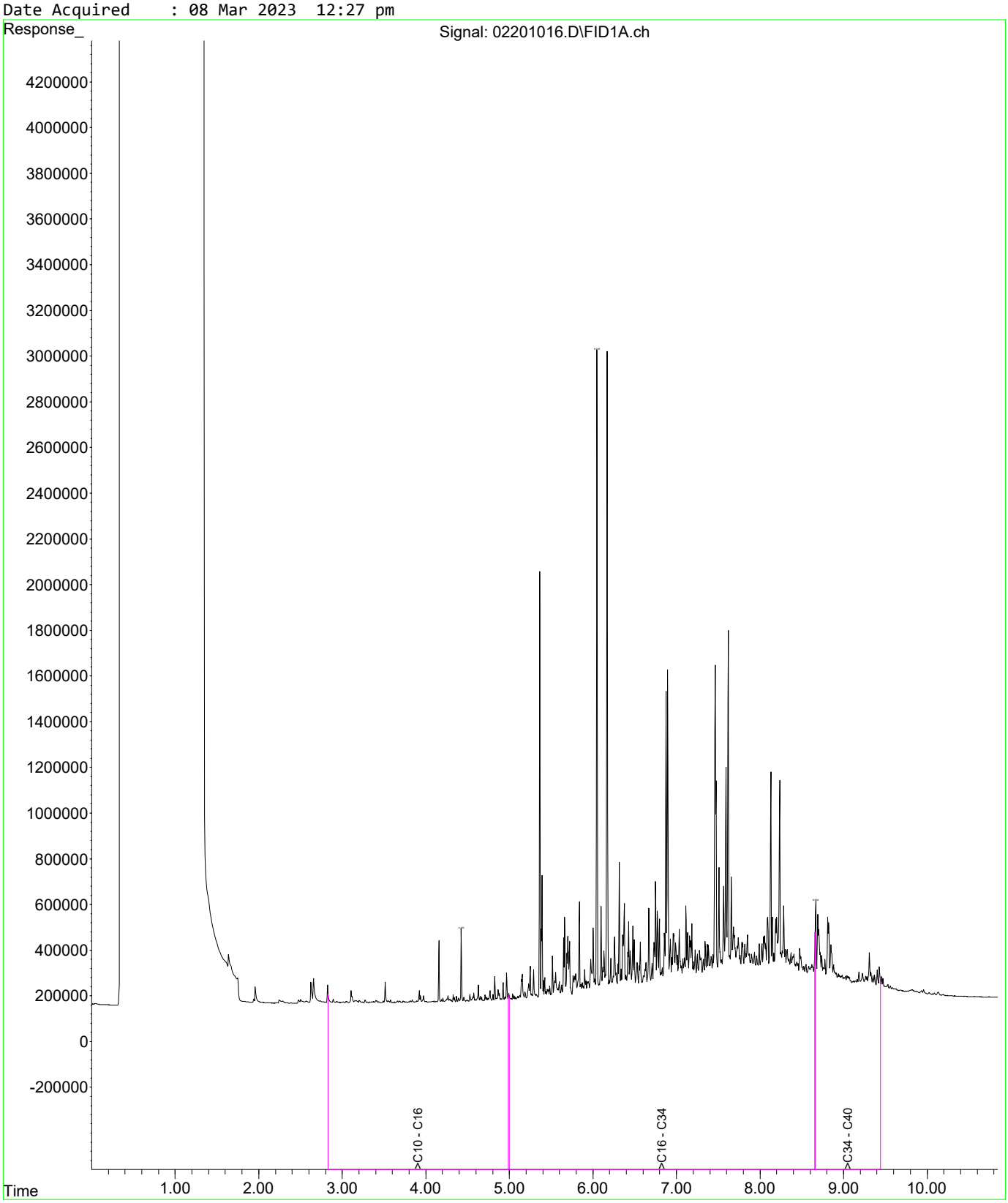
Fraction Scheme : NEPM Fractions
Data File : 02001014.D
Laboratory Number: EM2303927-013
Sample ID : DL_00_1.0
Date Acquired : 08 Mar 2023 11:50 am



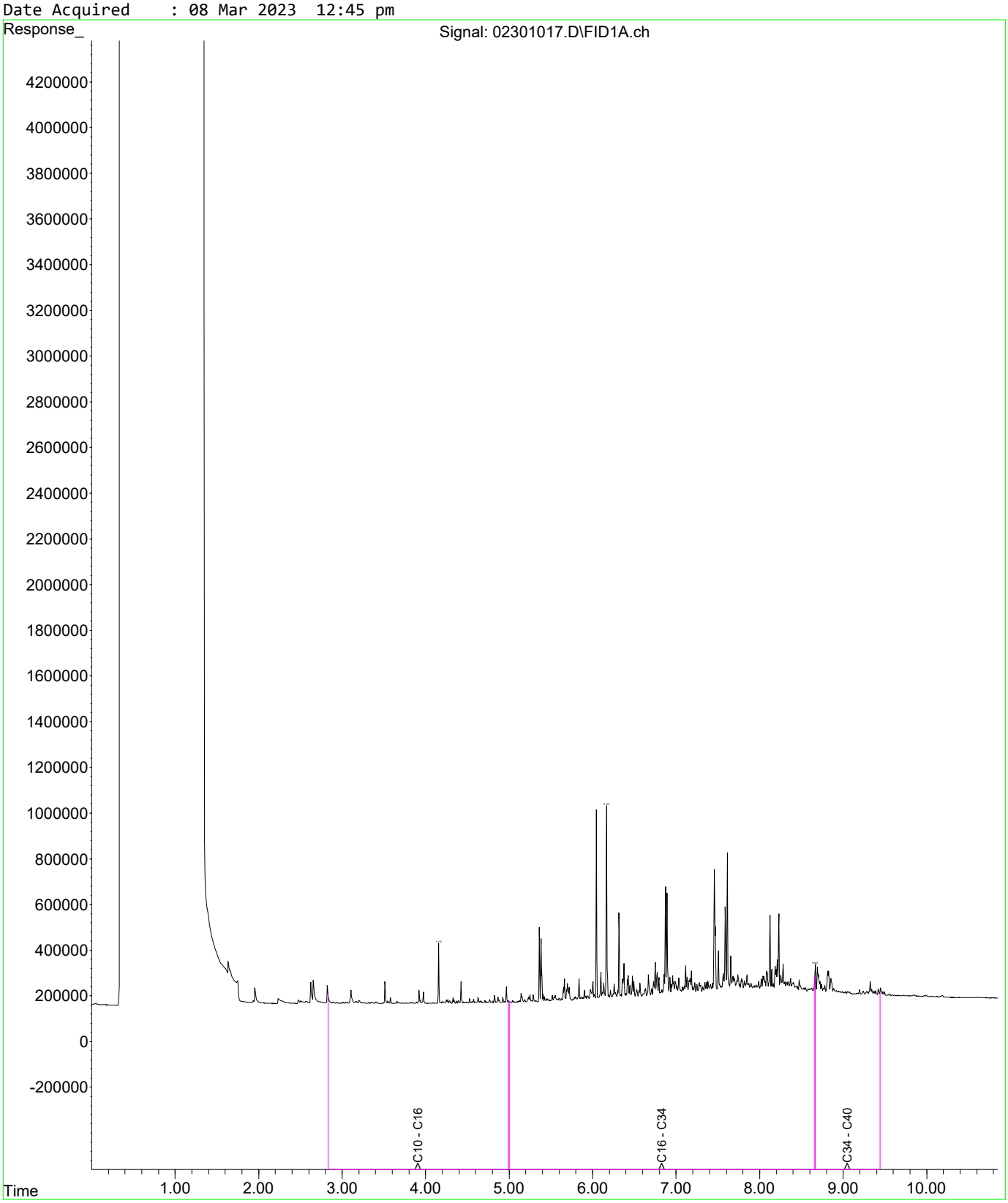
Fraction Scheme : NEPM Fractions
Data File : 02101015.D
Laboratory Number: EM2303927-014
Sample ID : DL_00_0.6E
Date Acquired : 08 Mar 2023 12:09 pm



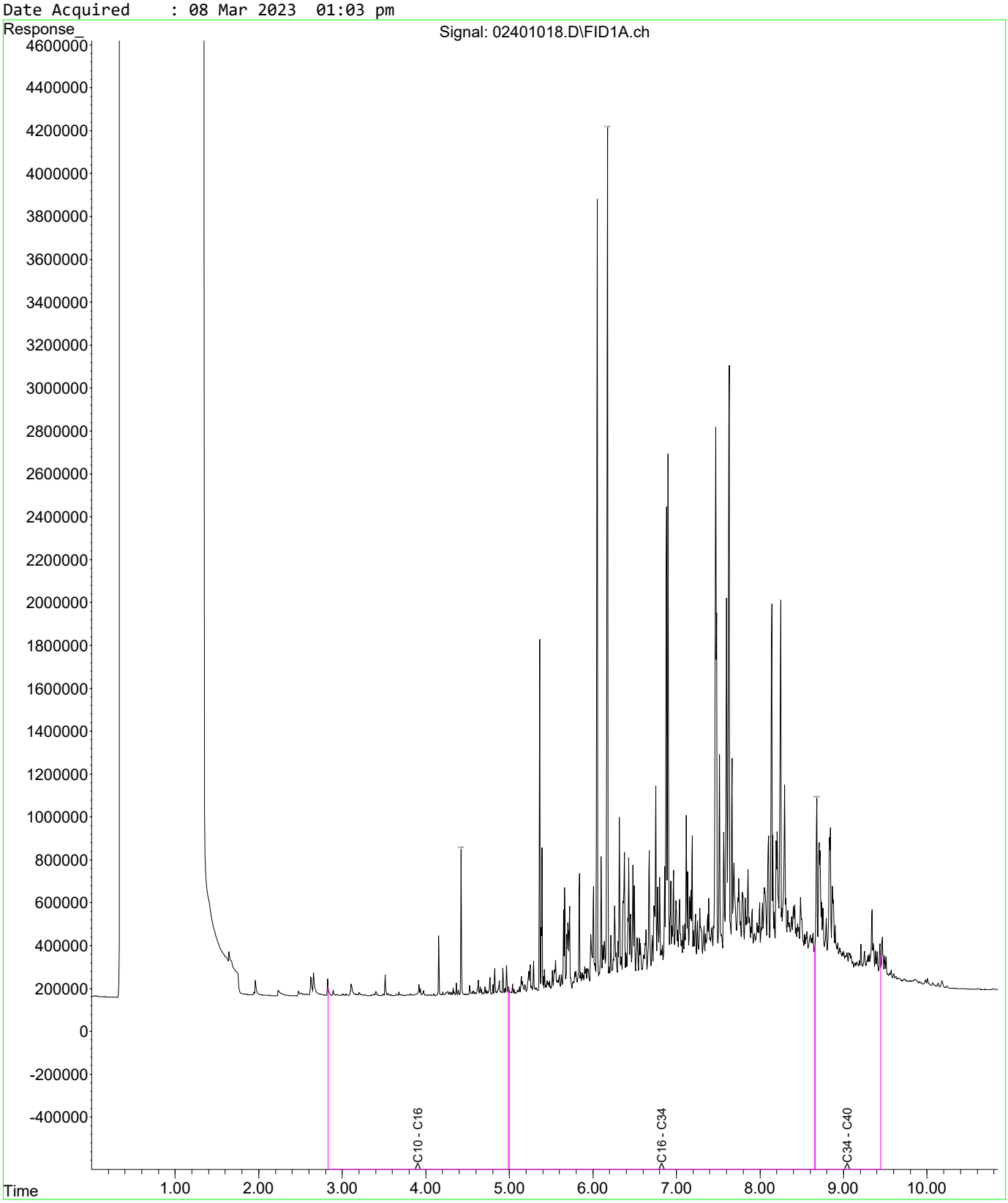
Fraction Scheme : NEPM Fractions
Data File : 02201016.D
Laboratory Number: EM2303927-015
Sample ID : DL_QC102
Date Acquired : 08 Mar 2023 12:27 pm



Fraction Scheme : NEPM Fractions
Data File : 02301017.D
Laboratory Number: EM2303927-017
Sample ID : DL_80_1.0
Date Acquired : 08 Mar 2023 12:45 pm



Fraction Scheme : NEPM Fractions
Data File : 02401018.D
Laboratory Number: EM2303927-018
Sample ID : DL_80_0.6W
Date Acquired : 08 Mar 2023 01:03 pm



ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304091**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023 11:20
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 14-Mar-2023 15:06
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP070-CWG: EM2304091_001 Unable to determine surrogate recovery due to matrix interferences.
- Rebatch of EM2303516

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)				Sample ID	**OL_17_0.6E**	----	----	----	----
				Sampling date / time	27-Feb-2023 00:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**EM2304091-001**	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**6.1**	----	----	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		<50	----	----	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		<50	----	----	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		**57**	----	----	----	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**Not Determined**	----	----	----	----
2-Fluorobiphenyl	321-60-8	1	%		**Not Determined**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304091**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

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Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

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Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4921118)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	115	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4921118)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	97.9	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	94.2	70.0	130

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304091**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 1
Order number	: 60693007-2	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
TPH Speciation (TPH CWG & RIVM fractions)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_17_0.6E	**27-Feb-2023**	**----**	----	----	**01-Mar-2023**	13-Mar-2023	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_17_0.6E	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**10-Mar-2023**	11-Apr-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_17_0.6E	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**10-Mar-2023**	11-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2304091**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 2
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49082	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 01-Mar-2023 11:20	Issue Date	: 15-Mar-2023
Client Requested Due Date	: 15-Mar-2023	Scheduled Reporting Date	: **15-Mar-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Rebatch of EM2303516
- Amendment (15/03/2023): This report has been amended to add missed analysis (TRH>C12-C16 Aliphatic) on sample #1. All analysis results are as per the report.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EP070-CWG TRH Semivolatile Aliphatic/Aromatic Speciation
EM2304091-001	27-Feb-2023 00:00	OL_17_0.6E	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Rebatch

Client / Client code: AECOMAU
Project: Macquarie Point
Project Manger: Robert Crowe
Date /time sample rec: 1/03/2023 11:20
Date/time Instructions rec: 8/03/2023 13:56
Due date: Wednesday, 15 March 2023
Due date surcharge: **STANDARD**

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order

Environmental Division
Melbourne
Work Order Reference
EM2304091

Telephone : + 61-3-8549 9600

New Lab ID	Sample information							Analysis									Shortest Holding time expiry
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of Containers	Standard: AROMATIC AND ALIPHATIC SPECIATION FOR TRH > C10-C16 Please use previous extract									
OL_17_0.6E		27/02/2023 9:10	EM2303516	4	MS: 1574-1576	JAR	2	X									13-Mar-23
						TOTAL	2										

Bryn Walker

From: Ru Jayasinghe
Sent: Wednesday, 8 March 2023 3:05 PM
To: Rebatches Melbourne
Cc: Peter Ravlic
Subject: AECOMAU-MACQUARIE POINT-REBATCH OF EM2303516
Attachments: AECOMAU-Macquarie Point -Rebatch of EM2303516-amended.xlsm

Hi Team,

Please see attached re-batch request on standard TAT.

Kind regards,

right solutions. right partner.

Ru Jayasinghe
Invoicing, Environmental
Springvale

D: +61 3 8549 9634
ru.jayasinghe@alsglobal.com
2-4 Westall Rd
Springvale, VIC 3178

alsglobal.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304468**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 03-Mar-2023 11:50
Order number	: Macquarie Point	Date Analysis Commenced	: 07-Mar-2023
C-O-C number	: ----	Issue Date	: 17-Mar-2023 16:49
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP070-CWG: EM2304468_001 Unable to determine surrogate recovery due to matrix interferences.
- This is a rebatch of EM2303927

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_23_1.0	----	----	----	----
				Sampling date / time	02-Mar-2023 07:07	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2304468-001	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**28.6**	----	----	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		<50	----	----	----	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		<50	----	----	----	----
Aliphatic >C16-C21	----	50	mg/kg		**51**	----	----	----	----
Aliphatic >C21-C35	----	50	mg/kg		**100**	----	----	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		<50	----	----	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		**104**	----	----	----	----
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		**521**	----	----	----	----
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		**1720**	----	----	----	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**Not Determined**	----	----	----	----
2-Fluorobiphenyl	321-60-8	1	%		**Not Determined**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304468**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 03-Mar-2023
Order number	: Macquarie Point	Date Analysis Commenced	: 07-Mar-2023
C-O-C number	: ----	Issue Date	: 17-Mar-2023
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4929991)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	116	70.0	130
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	107	70.0	130
EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	3163 mg/kg	111	70.0	130
EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	763 mg/kg	105	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4929991)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	109	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	105	70.0	130
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	mg/kg	<50	963 mg/kg	91.1	70.0	130
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	mg/kg	<50	202 mg/kg	89.2	70.0	130

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304468**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 03-Mar-2023
Site	: ----	Issue Date	: 17-Mar-2023
Sampler	: ----	No. of samples received	: 1
Order number	: Macquarie Point	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
TPH Speciation (TPH CWG & RIVM fractions)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	Due for extraction	Evaluation	*Date analysed*	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
DL_23_1.0	**02-Mar-2023**	**----**	----	----	**07-Mar-2023**	16-Mar-2023	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
DL_23_1.0	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**15-Mar-2023**	16-Apr-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
DL_23_1.0	**02-Mar-2023**	**07-Mar-2023**	16-Mar-2023	✓	**15-Mar-2023**	16-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2304468**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 2
Order number	:	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 03-Mar-2023 11:50	Issue Date	: 14-Mar-2023
Client Requested Due Date	: 16-Mar-2023	Scheduled Reporting Date	: **16-Mar-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2303927
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP070-CWG TRH Semivolatile Aliphatic/Aromatic Speciation
EM2304468-001	02-Mar-2023 07:07	DL_23_1.0	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Rebatch

Client / Client code: AECOMAU
Project: Macquarie Point
Project Manger: ROBERT CROWE
Date /time sample rec: 03/03/ 11:50 am
Date/time Instructions rec: 14/03/2023 14:18
Due date: Tuesday, 21 March 2023
Due date surcharge: **STANDARD**

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order

New Lab ID	Sample information						Number of Containers	Analysis										Shortest Holding time expiry
								Standard					Leach					
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container		EP070-CWG (aromatic/aliphatic speciation for TRH >C10-C16 (minus naphthalene)										
1	DL_23_1.0	2/03/2023 7:07	EM2303927	9	use previous extract			X										16-Mar-23
						TOTAL	0											

Environmental Division
Melbourne
Work Order Reference
EM2304468

Telephone : + 61-3-8549 9600

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304628**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 16-Mar-2023 11:20
Order number	: 60693007-2	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: 49344	Issue Date	: 21-Mar-2023 17:09
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 19		
No. of samples analysed	: 9		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2304628 #2 Poor duplicate precision for total Lead due to sample matrix. Confirmed by re-digestion and re-analysis.It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 330 mg/kg, 839 mg/kg, 545 mg/kg, and 351 mg/kg.
- Ep075(SIM): Poor duplicate precision for EM2304628_002 due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	UST_QCA04	UST_QCB06	----	----	----
				Sampling date / time	16-Mar-2023 14:16	16-Mar-2023 14:17	----	----	----
Compound	CAS Number	LOR	Unit		EM2304628-017	EM2304628-018	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		----	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		----	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	<0.0001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	UST_QCA04	UST_QCB06	----	----	----
			Sampling date / time	16-Mar-2023 14:16	16-Mar-2023 14:17	----	----	----
Compound	CAS Number	LOR	Unit	EM2304628-017	EM2304628-018	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L	----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	**30.6**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	UST_QCA04	UST_QCB06	----	----	----
				Sampling date / time	16-Mar-2023 14:16	16-Mar-2023 14:17	----	----	----
Compound	CAS Number	LOR	Unit		EM2304628-017	EM2304628-018	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		----	59.0	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	80.7	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	81.4	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	82.5	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	88.5	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		81.9	85.2	----	----	----
Toluene-D8	2037-26-5	2	%		90.4	81.2	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		93.7	90.6	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_73_1.6_W	UST_73_0.8_W	UST_66_1.6_W	UST_66_0.8_W	UST_59_0.8_W
			Sampling date / time	16-Mar-2023 14:20	16-Mar-2023 14:20	16-Mar-2023 14:19	16-Mar-2023 14:19	16-Mar-2023 14:18
Compound	CAS Number	LOR	Unit	EM2304628-002	EM2304628-003	EM2304628-006	EM2304628-007	EM2304628-012
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.0	16.9	21.7	18.9	22.5
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	14	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	9	10	----	----	----
Copper	7440-50-8	5	mg/kg	42	32	----	----	----
Lead	7439-92-1	5	mg/kg	351	144	354	403	595
Nickel	7440-02-0	2	mg/kg	10	10	----	----	----
Zinc	7440-66-6	5	mg/kg	47	121	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	0.8	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.5	----	0.8	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	3.7	----	1.6	<0.5	0.8
Acenaphthene	83-32-9	0.5	mg/kg	0.6	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	3.9	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	40.1	----	2.5	<0.5	2.9
Anthracene	120-12-7	0.5	mg/kg	14.2	----	1.2	<0.5	0.8
Fluoranthene	206-44-0	0.5	mg/kg	53.2	----	11.9	0.8	8.8
Pyrene	129-00-0	0.5	mg/kg	50.0	----	12.9	0.9	8.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	29.2	----	8.5	0.7	5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_73_1.6_W	UST_73_0.8_W	UST_66_1.6_W	UST_66_0.8_W	UST_59_0.8_W
				Sampling date / time	16-Mar-2023 14:20	16-Mar-2023 14:20	16-Mar-2023 14:19	16-Mar-2023 14:19	16-Mar-2023 14:18
Compound	CAS Number	LOR	Unit		EM2304628-002	EM2304628-003	EM2304628-006	EM2304628-007	EM2304628-012
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		24.4	----	7.4	0.6	5.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		26.4	----	10.0	0.8	7.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		11.8	----	4.7	<0.5	2.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg		28.6	----	11.6	0.7	6.3
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		11.5	----	5.6	<0.5	3.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		3.4	----	1.5	<0.5	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		13.9	----	6.6	<0.5	3.6
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		315	----	86.8	4.5	55.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		40.3	----	16.1	0.8	8.9
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		40.3	----	16.1	1.2	8.9
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		40.3	----	16.1	1.5	8.9
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		360	220	310	<100	240
C29 - C36 Fraction	----	100	mg/kg		200	130	220	<100	160
^ C10 - C36 Fraction (sum)	----	50	mg/kg		560	350	530	<50	400
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		510	310	460	<100	350
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		510	310	560	<50	350
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_73_1.6_W	UST_73_0.8_W	UST_66_1.6_W	UST_66_0.8_W	UST_59_0.8_W
			Sampling date / time	16-Mar-2023 14:20	16-Mar-2023 14:20	16-Mar-2023 14:19	16-Mar-2023 14:19	16-Mar-2023 14:18
Compound	CAS Number	LOR	Unit	EM2304628-002	EM2304628-003	EM2304628-006	EM2304628-007	EM2304628-012
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	78.5	----	98.9	91.0	85.5
2-Chlorophenol-D4	93951-73-6	0.5	%	80.2	----	93.0	89.0	85.2
2.4.6-Tribromophenol	118-79-6	0.5	%	81.4	----	98.5	81.0	81.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	90.0	----	85.6	90.3	84.0
Anthracene-d10	1719-06-8	0.5	%	91.9	----	93.0	95.1	90.7
4-Terphenyl-d14	1718-51-0	0.5	%	94.6	----	79.5	84.3	82.3
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	89.0	82.5	88.6	86.4	85.6
Toluene-D8	2037-26-5	0.2	%	77.5	71.5	74.6	73.0	77.3
4-Bromofluorobenzene	460-00-4	0.2	%	77.0	71.4	70.8	73.0	74.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_59_1.6_W	UST_55_1.6_N	----	----	----
			Sampling date / time	16-Mar-2023 14:18	16-Mar-2023 14:18	----	----	----
Compound	CAS Number	LOR	Unit	EM2304628-013	EM2304628-014	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**16.6**	**22.3**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**168**	**92**	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.6**	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**1.5**	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**0.7**	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**12.2**	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**5.9**	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**32.0**	**0.8**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**30.3**	**0.8**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**16.4**	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**15.1**	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**17.3**	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**7.0**	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**19.3**	**0.5**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**8.2**	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**2.3**	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**9.5**	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**178**	**2.1**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_59_1.6_W	UST_55_1.6_N	----	----	----
			Sampling date / time	16-Mar-2023 14:18	16-Mar-2023 14:18	----	----	----
Compound	CAS Number	LOR	Unit	EM2304628-013	EM2304628-014	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**26.7**	**0.5**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**26.7**	**0.8**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**26.7**	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	**510**	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	**320**	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**830**	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	**740**	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	**150**	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**890**	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**89.3**	**89.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**87.9**	**88.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**89.2**	**84.8**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**85.3**	**87.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_59_1.6_W	UST_55_1.6_N	----	----	----
			Sampling date / time	16-Mar-2023 14:18	16-Mar-2023 14:18	----	----	----
Compound	CAS Number	LOR	Unit	EM2304628-013	EM2304628-014	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**91.2**	**95.7**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%	**83.2**	**83.8**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**86.1**	**85.3**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%	**75.6**	**72.1**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%	**74.7**	**74.3**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304628**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 16-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: 49344	Issue Date	: 21-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 19		
No. of samples analysed	: 9		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4936253)									
EM2304628-002	UST_73_1.6_W	EG005T: Lead	7439-92-1	5	mg/kg	351	# 545	43.2	0% - 20%
EM2304628-002	UST_73_1.6_W	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	11	13.5	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	42	55	27.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	47	47	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4936180)									
EM2304628-002	UST_73_1.6_W	EA055: Moisture Content	----	0.1	%	19.0	18.3	4.1	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4936254)									
EM2304628-002	UST_73_1.6_W	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.2	35.5	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4936131)									
EM2304628-002	UST_73_1.6_W	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4936131) - continued									
EM2304628-002	UST_73_1.6_W	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4936131)									
EM2304628-002	UST_73_1.6_W	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.5	0.6	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	3.7	2.1	57.9	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.6	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.9	1.2	106	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	40.1	# 13.5	99.2	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	14.2	# 4.3	107	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	53.2	# 31.7	50.7	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	50.0	# 30.7	47.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	29.2	# 19.7	38.6	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	24.4	# 16.5	38.5	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	26.4	22.1	17.7	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	11.8	# 9.3	24.4	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	28.6	# 22.0	26.0	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	11.5	# 9.0	25.2	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	3.4	2.4	32.1	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	13.9	# 10.5	27.7	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4936124)									
EM2304628-002	UST_73_1.6_W	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4936132)									
EM2304628-002	UST_73_1.6_W	EP071: C15 - C28 Fraction	----	100	mg/kg	360	220	48.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	200	120	47.4	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4936124)									
EM2304628-002	UST_73_1.6_W	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4936132)									
EM2304628-002	UST_73_1.6_W	EP071: >C16 - C34 Fraction	----	100	mg/kg	510	310	48.4	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4936124)									
EM2304628-002	UST_73_1.6_W	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 4937275)									
EM2304441-011	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EM2304515-008	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0063	0.0066	5.5	0% - 20%
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.044	0.049	9.3	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.046	0.047	0.0	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	2.69	2.68	0.5	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4942178)									
EM2304725-013	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4936633)									
EM2304680-002	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4936633)									
EM2304680-002	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4936633) - continued									
EM2304680-002	Anonymous	EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4936634)									
EM2304680-002	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4938995)									
EM2304566-031	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2304700-012	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4936634)									
EM2304680-002	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4938995)									
EM2304566-031	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2304700-012	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4938995)									
EM2304566-031	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2304700-012	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4936253)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.0	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	98.9	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.9	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	94.0	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	96.2	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	78.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4936254)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	77.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4936131)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	97.6	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	97.4	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	98.1	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	96.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	85.4	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	93.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	82.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	93.8	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	103	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.7	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	94.1	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4936131)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	94.1	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	93.8	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	95.3	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	95.1	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	94.0	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	94.6	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.9	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	93.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	97.7	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4936131) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	94.1	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	92.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	88.0	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	87.2	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4936124)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.5	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4936132)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	106	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	94.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	98.0	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4936124)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	79.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4936132)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	89.3	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	97.0	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	87.0	73.3	137
EP080: BTEXN (QCLot: 4936124)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	75.1	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	79.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.7	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	78.2	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	80.0	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	81.5	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4937275)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	108	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	112	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	103	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	106	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	104	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	105	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	107	86.7	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4942178)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	117	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 4936633)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	40.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	87.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	78.4	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	73.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	92.2	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	88.5	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	93.0	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	93.3	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	95.7	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	96.3	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	97.1	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	90.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4936633)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	87.9	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	94.3	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	94.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	98.0	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	101	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	99.6	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	106	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	106	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	105	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	103	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	102	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	103	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	103	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	104	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	105	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	105	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4936634)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	72.8	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	83.3	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	82.6	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4938995)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	89.6	66.2	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4936634)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	85.8	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	77.8	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	97.4	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4938995)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	97.1	66.2	132
EP080: BTEXN (QCLot: 4938995)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	94.6	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	88.0	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	93.6	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	98.4	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	96.9	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	93.0	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4936253)							
EM2304628-003	UST_73_0.8_W	EG005T: Arsenic	7440-38-2	50 mg/kg	91.8	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	86.8	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	86.2	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	88.2	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	97.1	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	86.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	80.5	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4936254)							
EM2304628-003	UST_73_0.8_W	EG035T: Mercury	7439-97-6	0.5 mg/kg	108	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 4936131)							
EM2304628-006	UST_66_1.6_W	EP075(SIM): Phenol	108-95-2	3 mg/kg	84.3	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	86.2	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	68.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	86.2	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	68.9	15.3	139

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4936131)							
EM2304628-006	UST_66_1.6_W	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	84.2	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	132	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4936124)							
EM2304628-003	UST_73_0.8_W	EP080: C6 - C9 Fraction	----	28 mg/kg	62.8	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4936132)							
EM2304628-003	UST_73_0.8_W	EP071: C10 - C14 Fraction	----	770 mg/kg	103	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	93.3	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	97.8	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4936124)							
EM2304628-003	UST_73_0.8_W	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	53.4	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4936132)							
EM2304628-003	UST_73_0.8_W	EP071: >C10 - C16 Fraction	----	1170 mg/kg	87.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	96.1	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	91.1	66.8	138
EP080: BTEXN (QCLot: 4936124)							
EM2304628-003	UST_73_0.8_W	EP080: Benzene	71-43-2	2 mg/kg	82.8	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	85.6	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4937275)							
EM2304441-011	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	109	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	113	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	112	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	113	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	115	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	111	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	108	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4942178)							
EM2304628-018	UST_QCB06	EG035T: Mercury	7439-97-6	0.01 mg/L	115	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4938995)							
EM2304586-013	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	77.2	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4938995)							
EM2304586-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	75.0	34.0	122
EP080: BTEXN (QCLot: 4938995)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 4938995) - continued							
EM2304586-013	Anonymous	EP080: Benzene	71-43-2	20 µg/L	95.0	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	89.1	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304628**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 16-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 21-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 19
Order number	: 60693007-2	No. of samples analysed	: 9

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2304628--002	UST_73_1.6_W	**Lead**	7439-92-1	43.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Phenanthrene**	85-01-8	99.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Anthracene**	120-12-7	107 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Fluoranthene**	206-44-0	50.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Pyrene**	129-00-0	47.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Benz(a)anthracene**	56-55-3	38.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Chrysene**	218-01-9	38.5 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Benzo(k)fluoranthene**	207-08-9	24.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Benzo(a)pyrene**	50-32-8	26.0 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Indeno(1.2.3.cd)pyrene**	193-39-5	25.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304628--002	UST_73_1.6_W	**Benzo(g.h.i)perylene**	191-24-2	27.7 %	0% - 20%	**RPD exceeds LOR based limits**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Total Mercury by FIMS	1	17	5.88	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
UST_73_1.6_W,	UST_73_0.8_W,	**16-Mar-2023**	**----**	----	----	**17-Mar-2023**	30-Mar-2023	✓
UST_66_1.6_W,	UST_66_0.8_W,							
UST_59_0.8_W,	UST_59_1.6_W,							
UST_55_1.6_N								
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
UST_73_1.6_W,	UST_73_0.8_W,	**16-Mar-2023**	**17-Mar-2023**	12-Sep-2023	✓	**17-Mar-2023**	12-Sep-2023	✓
UST_66_1.6_W,	UST_66_0.8_W,							
UST_59_0.8_W,	UST_59_1.6_W,							
UST_55_1.6_N								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
UST_73_1.6_W,	UST_73_0.8_W	**16-Mar-2023**	**17-Mar-2023**	13-Apr-2023	✓	**18-Mar-2023**	13-Apr-2023	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
UST_73_1.6_W,	UST_66_1.6_W,	**16-Mar-2023**	**17-Mar-2023**	30-Mar-2023	✓	**18-Mar-2023**	26-Apr-2023	✓
UST_66_0.8_W,	UST_59_0.8_W,							
UST_59_1.6_W,	UST_55_1.6_N							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
UST_73_1.6_W,	UST_66_1.6_W,	**16-Mar-2023**	**17-Mar-2023**	30-Mar-2023	✓	**18-Mar-2023**	26-Apr-2023	✓
UST_66_0.8_W,	UST_59_0.8_W,							
UST_59_1.6_W,	UST_55_1.6_N							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
UST_73_1.6_W,	UST_73_0.8_W,	**16-Mar-2023**	**17-Mar-2023**	30-Mar-2023	✓	**17-Mar-2023**	30-Mar-2023	✓
UST_66_1.6_W,	UST_66_0.8_W,							
UST_59_0.8_W,	UST_59_1.6_W,							
UST_55_1.6_N								
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
UST_73_1.6_W,	UST_73_0.8_W,	**16-Mar-2023**	**17-Mar-2023**	30-Mar-2023	✓	**17-Mar-2023**	30-Mar-2023	✓
UST_66_1.6_W,	UST_66_0.8_W,							
UST_59_0.8_W,	UST_59_1.6_W,							
UST_55_1.6_N								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
UST_73_1.6_W, UST_73_0.8_W, UST_66_1.6_W, UST_66_0.8_W, UST_59_0.8_W, UST_59_1.6_W, UST_55_1.6_N	**16-Mar-2023**	**17-Mar-2023**	30-Mar-2023	✓	**17-Mar-2023**	30-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
UST_QCB06	**16-Mar-2023**	**18-Mar-2023**	12-Sep-2023	✓	**18-Mar-2023**	12-Sep-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T)							
UST_QCB06	**16-Mar-2023**	**----**	----	----	**21-Mar-2023**	13-Apr-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_QCB06	**16-Mar-2023**	**17-Mar-2023**	23-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_QCB06	**16-Mar-2023**	**17-Mar-2023**	23-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
UST_QCB06	**16-Mar-2023**	**17-Mar-2023**	23-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
UST_QCA04, UST_QCB06	**16-Mar-2023**	**20-Mar-2023**	30-Mar-2023	✓	**20-Mar-2023**	30-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
UST_QCB06	**16-Mar-2023**	**17-Mar-2023**	23-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
UST_QCA04, UST_QCB06	**16-Mar-2023**	**20-Mar-2023**	30-Mar-2023	✓	**20-Mar-2023**	30-Mar-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
UST_QCA04, UST_QCB06	**16-Mar-2023**	**20-Mar-2023**	30-Mar-2023	✓	**20-Mar-2023**	30-Mar-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	50.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	7	28.57	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	10.00	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2304628**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49344	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 16-Mar-2023 11:20	Issue Date	: 17-Mar-2023
Client Requested Due Date	: 23-Mar-2023	Scheduled Reporting Date	: **23-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 5.5°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 19 / 9

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-05 TRH/BTEXN/8 Metals	SOIL - S-06 TRH/BTEXN/Pb	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2304628-001	16-Mar-2023 14:20	UST_77_1.6_S	✓					
EM2304628-002	16-Mar-2023 14:20	UST_73_1.6_W		✓				✓
EM2304628-003	16-Mar-2023 14:20	UST_73_0.8_W		✓	✓	✓		
EM2304628-004	16-Mar-2023 14:20	UST_73_2.0_W	✓					
EM2304628-005	16-Mar-2023 14:20	UST_73_2.0_E	✓					
EM2304628-006	16-Mar-2023 14:19	UST_66_1.6_W		✓			✓	
EM2304628-007	16-Mar-2023 14:19	UST_66_0.8_W		✓			✓	
EM2304628-008	16-Mar-2023 14:19	UST_66_2.0_W	✓					
EM2304628-009	16-Mar-2023 14:19	UST_66_2.0_E	✓					
EM2304628-010	16-Mar-2023 14:18	UST_59_2.0_W	✓					
EM2304628-011	16-Mar-2023 14:18	UST_59_2.0_E	✓					
EM2304628-012	16-Mar-2023 14:18	UST_59_0.8_W		✓			✓	
EM2304628-013	16-Mar-2023 14:18	UST_59_1.6_W		✓			✓	
EM2304628-014	16-Mar-2023 14:18	UST_55_1.6_N		✓			✓	
EM2304628-015	16-Mar-2023 14:17	UST_QC105	✓					
EM2304628-016	16-Mar-2023 14:15	UST_QC205	✓					

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN
EM2304628-017	16-Mar-2023 14:16	UST_QCA04	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2304628-018	16-Mar-2023 14:17	UST_QCB06		✓	✓
EM2304628-019	16-Mar-2023 14:17	UST_QCC01	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com

ALSCompass SAMPLING Intelligence

ALS

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2304628

Telephone : + 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: _____ Client: ABCOM

Project Manager: TIM
Phone: (0428620162

ALS Compass COC Reference: 69346 # Samples: _____

Sampler: _____
Phone: ( )

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time:	Date / Time:	Date / Time: 18/3 1120

CHAIN OF CUSTODY

ALS COC#: 49344 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_77_1.6_S			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
002	UST_73_1.6_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
003	UST_73_0.8_W			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/4			Only Pb from the metals suite	
004	UST_73_2.0_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
005	UST_73_2.0_E			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
006	UST_66_1.6_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
007	UST_66_0.8_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
008	UST_66_2.0_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
009	UST_66_2.0_E			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	

CHAIN OF CUSTODY

(ALS) COC#: 49344 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_59_2.0_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
011	UST_59_2.0_E			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
012	UST_59_0.8_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
013	UST_59_1.6_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
014	UST_55_1.6_N			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
015	UST_QC105			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
016	UST_QC205			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	UST_QCA04			WATER	ALS: 0 Non ALS: 0	No				X		
018	UST_QCB06			WATER	ALS: 0 Non ALS: 0	No			Partial 1/2		Only Pb from the metals suite	

CHAIN OF CUSTODY

ALS COC#: 49344 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_QCC01			WATER	ALS: 0 Non ALS: 0	Yes			-		Only Pb from the metals suite	

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, there are other samples that should have arrived to Springvale today. When they are logged could you please send the SRN to Rob and I. There are some changes to make as follows

The following samples are to be put on hold:
UST_77_1.6_S
UST_73_2.0_E
UST_73_2.0_W
UST_66_2.0_E
UST_66_2.0_W
UST_59_2.0_E
UST_59_2.0_W
UST_QC105
UST_QC205 – please hold and don't forward to eurofins

All other samples should be analysed for TRH, BTEXN, PAH, PHENOLs and Pb

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







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ALSCompass SAMPLING Intelligence

ALS

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2304628

Telephone : +61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: _____ Client: ABLOM Project Manager: TIM

Phone: (0428620162

ALS Compass COC Reference: E9346 #Samples: _____ Sampler: _____

Phone: ( )

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time:	Date / Time:	Date / Time: 18/3 1120

CHAIN OF CUSTODY

ALS COC#: 49344 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_77_1.6_S			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
002	UST_73_1.6_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
003	UST_73_0.8_W			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/4			Only Pb from the metals suite	
004	UST_73_2.0_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
005	UST_73_2.0_E			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
006	UST_66_1.6_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
007	UST_66_0.8_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
008	UST_66_2.0_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
009	UST_66_2.0_E			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	

CHAIN OF CUSTODY

ALS COC#: 49344 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free Ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_59_2.0_W			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
011	UST_59_2.0_E			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
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014	UST_55_1.6_N			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
015	UST_QC105			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Only Pb from the metals suite	
016	UST_QC205			SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	UST_QCA04			WATER	ALS: 0 Non ALS: 0	No				X		
018	UST_QCB06			WATER	ALS: 0 Non ALS: 0	No			Partial 1/2		Only Pb from the metals suite	

CHAIN OF CUSTODY

(ALS) *COC#:* 49344 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_QCC01			WATER	ALS: 0 Non ALS: 0	Yes			-		Only Pb from the metals suite	

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AA**	Page	: 1 of 15
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023 10:25
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_010 has LOR raised for 2.4-Dimethylphenol due to sample matrix interferences.
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	23.7	13.2	19.5	15.5	13.7
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	289	<5	166	94	141
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	14.9	<0.5	0.6	0.6	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	2.3	<0.5	1.6	3.0	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	1.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	3.7	<0.5	0.7	1.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	9.9	<0.5	10.8	14.7	1.2
Anthracene	120-12-7	0.5	mg/kg	1.8	<0.5	4.0	4.2	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	14.1	<0.5	22.2	32.7	3.5
Pyrene	129-00-0	0.5	mg/kg	14.2	<0.5	20.9	33.5	3.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	<0.5	12.8	20.1	2.1
Chrysene	218-01-9	0.5	mg/kg	5.6	<0.5	11.2	17.2	2.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	<0.5	14.6	23.9	2.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	<0.5	5.2	6.6	1.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	<0.5	14.4	23.8	2.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	<0.5	6.5	10.7	1.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	<0.5	1.8	2.7	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	<0.5	7.8	12.5	1.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	104	<0.5	135	208	21.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**10.8**	<0.5	**20.3**	**32.9**	**3.6**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**10.8**	**0.6**	**20.3**	**32.9**	**3.8**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**10.8**	**1.2**	**20.3**	**32.9**	**4.0**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ Aliphatic >C5-C6	----	5	mg/kg		----	----	----	<5	----
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	<5	----
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	**36**	----
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	<50	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	**178**	----
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	**138**	----
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	<50	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	<0.2	----
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	<0.5	----
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	<1.0	----
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	<50	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	**204**	----
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	**240**	----
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	**484**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	**23**	<10
C10 - C14 Fraction	----	50	mg/kg		**1540**	<50	<50	**290**	<50
C15 - C28 Fraction	----	100	mg/kg		**3080**	<100	**500**	**1120**	<100
C29 - C36 Fraction	----	100	mg/kg		**300**	<100	**310**	**390**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**4920**	<50	**810**	**1800**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		**19**	<10	<10	**44**	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		**19**	<10	<10	**44**	<10
>C10 - C16 Fraction	----	50	mg/kg		**2540**	<50	<50	**570**	<50
>C16 - C34 Fraction	----	100	mg/kg		**2290**	<100	**720**	**1140**	**120**
>C34 - C40 Fraction	----	100	mg/kg		**120**	<100	**130**	**190**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**4950**	<50	**850**	**1900**	**120**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	**2540**	<50	<50	**570**	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	**4**	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**93.7**	**87.8**	**88.9**	**94.4**	**86.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**111**	**87.1**	**88.6**	**92.2**	**89.3**
2.4.6-Tribromophenol	118-79-6	0.5	%	**97.3**	**74.8**	**88.9**	**94.1**	**85.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**100**	**92.4**	**93.8**	**91.2**	**92.9**
Anthracene-d10	1719-06-8	0.5	%	**89.3**	**97.8**	**96.9**	**97.6**	**98.6**
4-Terphenyl-d14	1718-51-0	0.5	%	**100**	**94.7**	**96.4**	**95.8**	**95.8**
EP079/EP070S:TPH Surrogates - semivolatile speciation								
2-Bromonaphthalene	580-13-2	1	%	**----**	**----**	**----**	**103**	**----**
2-Fluorobiphenyl	321-60-8	1	%	**----**	**----**	**----**	**91.0**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**78.6**	**85.1**	**81.4**	**86.0**	**91.3**
Toluene-D8	2037-26-5	0.2	%	**71.4**	**74.7**	**69.4**	**89.2**	**80.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**74.6**	**85.1**	**77.9**	**111**	**87.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.4	22.3	23.8	15.4	24.3
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	227	152	621	131	142
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<2.0
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	8.0	0.6	4.2
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.7	1.8	1.8	4.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	11.1	<0.5	13.6
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	11.0	<0.5	19.8
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3.0	44.9	6.5	73.8
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.9	10.9	2.6	19.4
Fluoranthene	206-44-0	0.5	mg/kg	0.6	8.3	37.0	12.2	67.9
Pyrene	129-00-0	0.5	mg/kg	0.6	8.3	34.3	12.3	66.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	5.2	19.3	7.5	31.6
Chrysene	218-01-9	0.5	mg/kg	<0.5	4.7	15.4	6.8	25.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6.4	19.1	10.9	33.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	2.3	7.5	3.8	10.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.5	6.2	19.3	10.8	31.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2.6	7.2	5.8	12.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.7	2.2	1.5	3.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3.1	8.4	8.0	13.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.7	52.4	257	91.1	430

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**0.5**	**8.6**	**27.0**	**15.2**	**43.3**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.8**	**8.6**	**27.0**	**15.2**	**43.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**8.6**	**27.0**	**15.2**	**43.3**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ Aliphatic >C5-C6	----	5	mg/kg		----	----	----	----	<5
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	----	**67**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	----	**185**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	----	**1100**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	----	**4480**
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	----	**3330**
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	----	**1160**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	----	<0.2
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	----	<0.5
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	----	<1.0
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	----	**139**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	----	**1750**
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	----	**1820**
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	----	**1600**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**207**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	**70**	<50	**6360**
C15 - C28 Fraction	----	100	mg/kg		<100	**210**	**860**	**980**	**13200**
C29 - C36 Fraction	----	100	mg/kg		<100	**120**	**360**	**580**	**1160**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**330**	**1290**	**1560**	**20700**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	**281**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	**281**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**120**	**100**	**11800**
>C16 - C34 Fraction	----	100	mg/kg		<100	**290**	**1070**	**1370**	**8140**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**140**	**240**	**470**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**290**	**1330**	**1710**	**20400**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	**120**	**100**	**11800**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	**2**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**84.5**	**88.6**	**84.0**	**90.5**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**89.2**	**89.0**	**87.3**	**88.9**	**94.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**76.7**	**86.3**	**85.6**	**89.8**	**102**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**94.8**	**93.4**	**92.2**	**90.9**	**97.0**
Anthracene-d10	1719-06-8	0.5	%	**99.2**	**96.8**	**93.3**	**96.0**	**99.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**101**	**96.6**	**97.2**	**96.5**	**102**
EP079/EP070S:TPH Surrogates - semivolatile speciation								
2-Bromonaphthalene	580-13-2	1	%	**----**	**----**	**----**	**----**	**Not Determined**
2-Fluorobiphenyl	321-60-8	1	%	**----**	**----**	**----**	**----**	**Not Determined**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**87.5**	**91.9**	**92.3**	**89.6**	**82.2**
Toluene-D8	2037-26-5	0.2	%	**74.2**	**78.5**	**80.2**	**74.6**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%	**80.4**	**86.6**	**88.5**	**84.0**	**109**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**22.2**	**21.4**	**27.9**	**21.9**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**268**	**371**	**596**	**286**	**----**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	**0.7**	<0.5	**----**
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	**----**
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	**10.1**	**17.5**	**----**
Acenaphthylene	208-96-8	0.5	mg/kg	**2.7**	**0.7**	**5.8**	**2.0**	**----**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	**16.0**	**1.9**	**----**
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	**20.2**	**4.6**	**----**
Phenanthrene	85-01-8	0.5	mg/kg	**9.3**	**5.6**	**88.6**	**12.0**	**----**
Anthracene	120-12-7	0.5	mg/kg	**3.1**	**1.8**	**25.9**	**2.5**	**----**
Fluoranthene	206-44-0	0.5	mg/kg	**24.5**	**11.5**	**85.9**	**14.0**	**----**
Pyrene	129-00-0	0.5	mg/kg	**24.5**	**10.3**	**79.1**	**13.5**	**----**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**14.6**	**6.6**	**40.0**	**5.3**	**----**
Chrysene	218-01-9	0.5	mg/kg	**13.0**	**5.2**	**30.9**	**5.5**	**----**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**17.9**	**7.3**	**36.7**	**8.3**	**----**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**6.6**	**2.6**	**14.7**	**2.9**	**----**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**17.8**	**6.8**	**37.8**	**7.1**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**8.1**	**2.8**	**14.9**	**4.7**	**----**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**2.1**	**0.8**	**3.8**	**1.0**	**----**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**9.6**	**3.1**	**15.9**	**5.9**	**----**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**154**	**65.1**	**526**	**109**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**24.8**	**9.6**	**52.7**	**10.3**	**----**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**24.8**	**9.6**	**52.7**	**10.3**	**----**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**24.8**	**9.6**	**52.7**	**10.3**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**----**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	**1470**	**----**
C15 - C28 Fraction	----	100	mg/kg		**500**	**260**	**1530**	**2920**	**----**
C29 - C36 Fraction	----	100	mg/kg		**300**	**130**	**620**	**380**	**----**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**800**	**390**	**2150**	**4770**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	**17**	**----**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	**17**	**----**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**180**	**2600**	**----**
>C16 - C34 Fraction	----	100	mg/kg		**720**	**350**	**1890**	**2020**	**----**
>C34 - C40 Fraction	----	100	mg/kg		**130**	<100	**290**	**180**	**----**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**850**	**350**	**2360**	**4800**	**----**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	**180**	**2600**	**----**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	**----**
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	**----**
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	**1**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.7**	**86.1**	**83.6**	**88.5**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**88.3**	**90.2**	**102**	**88.1**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**90.2**	**86.5**	**88.6**	**95.2**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.8**	**91.6**	**87.4**	**97.3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
					Result	Result	Result	Result	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**95.6**	**95.7**	**85.8**	**95.1**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.2**	**94.8**	**90.2**	**91.1**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.7**	**90.4**	**83.9**	**79.9**	**----**
Toluene-D8	2037-26-5	0.2	%		**72.3**	**75.0**	**70.3**	**84.7**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**79.9**	**82.8**	**78.2**	**95.4**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	UST_QCA05	UST_QCB07	----	----	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-043	EM2305209-044	--------	--------	--------
				Result	Result	----	----	----
EG020T: Total Metals by ICP-MS								
Lead	7439-92-1	0.001	mg/L	----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L	----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L	----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L	----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L	----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	UST_QCA05	UST_QCB07	----	----	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-043	EM2305209-044	--------	--------	--------
				Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L	----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	**39.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	----	**71.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	----	**86.1**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	----	**76.3**	----	----	----
Anthracene-d10	1719-06-8	1.0	%	----	**82.8**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	----	**88.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**106**	**112**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**98.6**	**106**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**113**	**118**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023 10:25
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**15.6**	**18.5**	**10.9**	**10.0**	**15.4**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**150**	----	----	----	----
Barium	7440-39-3	10	mg/kg	**100**	----	----	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**2**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**14**	----	----	----	----
Cobalt	7440-48-4	2	mg/kg	**11**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**83**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**235**	**277**	**386**	**95**	**250**
Manganese	7439-96-5	5	mg/kg	**223**	----	----	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**24**	----	----	----	----
Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
Silver	7440-22-4	2	mg/kg	<2	----	----	----	----
Tin	7440-31-5	5	mg/kg	**24**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**403**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.3**	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**1**	----	----	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**130**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	1.3	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		0.5	<0.5	<0.5	<0.5	1.7
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	0.6
Phenanthrene	85-01-8	0.5	mg/kg		1.7	1.4	1.2	1.6	8.1
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	2.2
Fluoranthene	206-44-0	0.5	mg/kg		3.6	3.3	2.1	3.1	20.2
Pyrene	129-00-0	0.5	mg/kg		3.5	3.4	2.2	3.3	19.3
Benz(a)anthracene	56-55-3	0.5	mg/kg		1.8	1.9	1.2	1.8	11.6
Chrysene	218-01-9	0.5	mg/kg		1.7	1.8	1.2	1.7	10.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		2.3	2.6	1.7	2.4	13.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		0.8	0.9	0.7	0.9	5.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	2.3	1.6	2.3	14.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.1	1.1	0.8	1.1	6.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	1.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.4	1.4	1.0	1.4	7.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		20.5	21.4	13.7	19.6	123
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		2.7	3.0	2.1	3.0	19.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.0	3.2	2.3	3.2	19.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		3.2	3.5	2.6	3.4	19.8
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		2.15	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		150	110	<100	150	390
C29 - C36 Fraction	----	100	mg/kg		150	<100	<100	<100	230
^ C10 - C36 Fraction (sum)	----	50	mg/kg		300	110	<50	150	620
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		270	170	130	190	550

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**270**	**170**	**130**	**190**	**550**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**86.6**	**----**	**----**	**----**	**----**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**102**	**----**	**----**	**----**	**----**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**104**	**----**	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**95.0**	**87.8**	**88.7**	**81.5**	**89.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.9**	**87.3**	**93.6**	**85.4**	**87.9**
2.4.6-Tribromophenol	118-79-6	0.5	%		**87.7**	**84.2**	**85.6**	**83.6**	**87.6**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.1**	**92.2**	**96.7**	**91.7**	**92.7**
Anthracene-d10	1719-06-8	0.5	%		**95.0**	**97.2**	**102**	**95.3**	**96.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**90.1**	**95.4**	**101**	**92.6**	**94.6**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**72.5**	**----**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	0.025	%		**74.7**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.025	%		**76.6**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.7**	**90.1**	**87.4**	**90.6**	**91.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**77.4**	**73.1**	**72.8**	**79.8**	**75.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.4**	**83.2**	**82.3**	**83.9**	**83.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.7	11.8	19.7	18.9	19.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	32	----	13	----
Barium	7440-39-3	10	mg/kg	----	80	----	130	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	<1	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	----
Chromium	7440-47-3	2	mg/kg	----	14	----	11	----
Cobalt	7440-48-4	2	mg/kg	----	12	----	9	----
Copper	7440-50-8	5	mg/kg	----	71	----	60	----
Lead	7439-92-1	5	mg/kg	250	796	259	213	153
Manganese	7439-96-5	5	mg/kg	----	236	----	191	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	<2	----
Nickel	7440-02-0	2	mg/kg	----	31	----	12	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	<5	----
Silver	7440-22-4	2	mg/kg	----	<2	----	<2	----
Tin	7440-31-5	5	mg/kg	----	39	----	41	----
Zinc	7440-66-6	5	mg/kg	----	266	----	133	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.6	----	4.0	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	1	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	120	----	90	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	<0.2	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	0.9	1.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		0.9	0.9	1.0	0.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		3.4	2.6	5.0	3.7	2.0
Anthracene	120-12-7	0.5	mg/kg		1.1	0.8	2.6	1.4	0.6
Fluoranthene	206-44-0	0.5	mg/kg		9.4	6.1	14.4	8.9	3.0
Pyrene	129-00-0	0.5	mg/kg		9.5	6.5	14.3	9.2	3.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		6.2	3.9	8.9	6.1	1.9
Chrysene	218-01-9	0.5	mg/kg		5.5	3.5	7.9	5.2	1.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		7.8	5.1	10.2	7.0	2.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		3.0	1.6	4.0	2.4	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		7.9	----	10.4	----	2.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		3.4	2.4	4.2	3.0	1.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.9	0.7	1.2	0.9	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		4.1	2.9	4.9	3.6	1.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		63.1	42.9	90.0	59.2	22.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	3.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	3.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	4.0
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	16.2	----	4.53	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	11
C10 - C14 Fraction	----	50	mg/kg		<50	80	<50	<50	470
C15 - C28 Fraction	----	100	mg/kg		270	540	360	310	1190
C29 - C36 Fraction	----	100	mg/kg		150	150	230	160	110
^ C10 - C36 Fraction (sum)	----	50	mg/kg		420	770	590	470	1770
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	25
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	25
>C10 - C16 Fraction	----	50	mg/kg		<50	260	<50	80	1040
>C16 - C34 Fraction	----	100	mg/kg		360	480	530	380	700

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**360**	**740**	**530**	**460**	**1740**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**260**	<50	**80**	**1040**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**89.4**	----	**81.6**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**104**	----	**98.1**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**103**	----	**102**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**82.6**	**97.5**	**89.3**	**90.6**	**84.5**
2-Chlorophenol-D4	93951-73-6	0.5	%		**86.1**	**92.0**	**88.7**	**89.5**	**86.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**83.1**	**91.0**	**83.8**	**81.6**	**90.9**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**88.9**	**90.2**	**91.1**	**91.3**	**87.7**
Anthracene-d10	1719-06-8	0.5	%		**95.9**	**97.8**	**95.7**	**95.6**	**94.4**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.8**	**96.6**	**94.4**	**101**	**98.8**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	**76.5**	----	**81.5**	----
Anthracene-d10	1719-06-8	0.025	%		----	**81.3**	----	**91.9**	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	**88.5**	----	**85.9**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**92.2**	**86.5**	**89.1**	**86.0**	**86.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**72.1**	**71.2**	**74.6**	**72.9**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%		**80.1**	**80.2**	**81.3**	**79.5**	**119**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.1**	**21.9**	**19.5**	**25.1**	**17.7**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**20**	----	<5	----	<5
Barium	7440-39-3	10	mg/kg	**130**	----	**150**	----	**120**
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	**13**	----	**16**	----	**18**
Cobalt	7440-48-4	2	mg/kg	**10**	----	**23**	----	**16**
Copper	7440-50-8	5	mg/kg	**47**	----	**47**	----	**59**
Lead	7439-92-1	5	mg/kg	**306**	**373**	**152**	**181**	**421**
Manganese	7439-96-5	5	mg/kg	**182**	----	**222**	----	**344**
Molybdenum	7439-98-7	2	mg/kg	<2	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	**15**	----	**24**	----	**28**
Selenium	7782-49-2	5	mg/kg	<5	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	**32**	----	**67**	----	**24**
Zinc	7440-66-6	5	mg/kg	**243**	----	**111**	----	**202**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.8**	----	**0.7**	----	**0.8**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**70**	----	**80**	----	**130**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	**2.3**	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	**0.7**	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	**0.5**	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	**1.3**	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		1.2	7.4	1.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		1.0	1.3	0.6	0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	1.0	1.1	0.8	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.9	4.0	2.1	1.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		4.5	4.4	6.3	6.1	1.7
Anthracene	120-12-7	0.5	mg/kg		1.3	1.1	2.3	2.6	0.6
Fluoranthene	206-44-0	0.5	mg/kg		8.4	4.0	9.4	8.7	4.1
Pyrene	129-00-0	0.5	mg/kg		10.0	5.4	8.9	8.1	4.2
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.0	2.0	4.5	4.2	2.6
Chrysene	218-01-9	0.5	mg/kg		4.4	1.8	3.4	3.2	2.3
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.2	3.4	4.0	4.0	3.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.4	3.4	2.1	1.5	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	2.4	----	4.0	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.7	1.2	1.7	1.5	1.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.7	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.1	1.4	2.0	1.8	1.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		58.1	44.2	53.9	48.6	25.8
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		8.7	3.4	5.8	5.2	3.9
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		8.7	3.7	6.0	5.4	4.1
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		8.7	3.9	6.3	5.7	4.4
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		6.37	----	5.04	----	4.14
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	41	<10	11	<10
C10 - C14 Fraction	----	50	mg/kg		1130	4500	340	380	<50
C15 - C28 Fraction	----	100	mg/kg		2350	8550	880	850	370
C29 - C36 Fraction	----	100	mg/kg		160	<100	<100	<100	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg		3640	13000	1220	1230	490
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		19	82	<10	20	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		19	81	<10	20	<10
>C10 - C16 Fraction	----	50	mg/kg		2020	8010	760	620	150
>C16 - C34 Fraction	----	100	mg/kg		1540	4920	510	650	360

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**3560**	**12900**	**1270**	**1270**	**510**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**2020**	**8010**	**760**	**620**	**150**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**1.0**	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	**1.0**	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	**1.0**	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	**3**	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**85.5**	**----**	**86.8**	**----**	**86.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**101**	**----**	**102**	**----**	**98.9**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**104**	**----**	**107**	**----**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.1**	**91.1**	**89.3**	**84.2**	**90.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.6**	**88.9**	**105**	**86.6**	**89.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**93.4**	**98.4**	**84.4**	**84.1**	**83.1**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.6**	**93.0**	**93.1**	**92.8**	**88.3**
Anthracene-d10	1719-06-8	0.5	%		**94.8**	**94.3**	**84.2**	**95.7**	**96.6**
4-Terphenyl-d14	1718-51-0	0.5	%		**92.7**	**91.0**	**92.3**	**94.0**	**101**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**78.5**	**----**	**82.6**	**----**	**82.3**
Anthracene-d10	1719-06-8	0.025	%		**83.7**	**----**	**85.3**	**----**	**91.5**
4-Terphenyl-d14	1718-51-0	0.025	%		**87.2**	**----**	**88.7**	**----**	**86.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**75.7**	**83.2**	**91.6**	**96.0**	**114**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**81.0**	**93.4**	**75.9**	**80.2**	**80.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**94.1**	**116**	**84.3**	**89.9**	**91.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.8**	**19.8**	**12.8**	**21.2**	**21.2**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	----	**15**
Barium	7440-39-3	10	mg/kg	----	----	----	----	**160**
Beryllium	7440-41-7	1	mg/kg	----	----	----	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	----	**13**
Cobalt	7440-48-4	2	mg/kg	----	----	----	----	**12**
Copper	7440-50-8	5	mg/kg	----	----	----	----	**395**
Lead	7439-92-1	5	mg/kg	**260**	**425**	**516**	**393**	**316**
Manganese	7439-96-5	5	mg/kg	----	----	----	----	**204**
Molybdenum	7439-98-7	2	mg/kg	----	----	----	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	----	----	**16**
Selenium	7782-49-2	5	mg/kg	----	----	----	----	<5
Silver	7440-22-4	2	mg/kg	----	----	----	----	<2
Tin	7440-31-5	5	mg/kg	----	----	----	----	**50**
Zinc	7440-66-6	5	mg/kg	----	----	----	----	**301**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	----	**1.3**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	----	----	**80**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	0.6	<0.5	0.9	2.1
Acenaphthylene	208-96-8	0.5	mg/kg		0.7	0.7	0.6	0.9	0.9
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	0.9	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.7	0.7	<0.5	3.2	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		4.0	3.7	2.4	7.0	4.5
Anthracene	120-12-7	0.5	mg/kg		1.7	1.4	0.7	1.6	1.4
Fluoranthene	206-44-0	0.5	mg/kg		8.2	7.6	6.0	7.5	9.9
Pyrene	129-00-0	0.5	mg/kg		8.3	7.9	5.7	7.6	9.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		4.2	4.4	3.8	4.2	6.0
Chrysene	218-01-9	0.5	mg/kg		3.5	3.9	3.4	3.6	5.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		4.2	5.2	4.6	4.8	7.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.1	2.1	1.8	1.5	2.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		4.6	5.3	4.6	4.6	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.0	2.3	2.0	2.1	2.9
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.5	0.6	0.6	0.6	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		2.2	2.7	2.4	2.5	3.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		46.9	49.1	38.6	53.5	62.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	----	----	5.02
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	29	<10
C10 - C14 Fraction	----	50	mg/kg		220	140	<50	1320	<50
C15 - C28 Fraction	----	100	mg/kg		880	530	210	2550	200
C29 - C36 Fraction	----	100	mg/kg		190	140	110	140	140
^ C10 - C36 Fraction (sum)	----	50	mg/kg		1290	810	320	4010	340
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		10	<10	<10	59	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		10	<10	<10	59	<10
>C10 - C16 Fraction	----	50	mg/kg		410	240	<50	2670	<50
>C16 - C34 Fraction	----	100	mg/kg		830	520	280	1260	300

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**1240**	**760**	**280**	**3930**	**300**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**410**	**240**	<50	**2670**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	**86.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	**101**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**81.6**	**83.1**	**85.8**	**96.3**	**90.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**100**	**85.7**	**89.0**	**92.2**	**88.5**
2.4.6-Tribromophenol	118-79-6	0.5	%		**82.9**	**85.8**	**83.1**	**92.3**	**83.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**85.0**	**86.4**	**91.4**	**96.2**	**92.3**
Anthracene-d10	1719-06-8	0.5	%		**84.0**	**89.7**	**97.2**	**95.0**	**95.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**88.8**	**88.2**	**95.0**	**98.6**	**98.9**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	----	----	----	**86.6**
Anthracene-d10	1719-06-8	0.025	%		----	----	----	----	**95.9**
4-Terphenyl-d14	1718-51-0	0.025	%		----	----	----	----	**90.1**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**85.3**	**86.2**	**93.8**	**92.6**	**89.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**72.0**	**70.2**	**77.7**	**80.0**	**73.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**78.4**	**79.2**	**85.8**	**87.2**	**80.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.1	13.0	18.6	20.8	25.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	35	----	6
Barium	7440-39-3	10	mg/kg	----	----	130	----	160
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	11	----	19
Cobalt	7440-48-4	2	mg/kg	----	----	18	----	19
Copper	7440-50-8	5	mg/kg	----	----	181	----	44
Lead	7439-92-1	5	mg/kg	309	182	228	763	153
Manganese	7439-96-5	5	mg/kg	----	----	317	----	271
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	20	----	22
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	17	----	15
Zinc	7440-66-6	5	mg/kg	----	----	374	----	92
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	0.9	----	0.6
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	80	----	80
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	6.1	2.1	0.9	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		2.2	1.0	0.6	1.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	1.3	0.6	<0.5	0.6
Fluorene	86-73-7	0.5	mg/kg		0.5	1.9	1.5	0.8	1.4
Phenanthrene	85-01-8	0.5	mg/kg		10.5	6.3	2.4	7.7	3.4
Anthracene	120-12-7	0.5	mg/kg		2.4	1.8	1.2	3.5	1.0
Fluoranthene	206-44-0	0.5	mg/kg		24.8	8.8	6.3	21.8	3.8
Pyrene	129-00-0	0.5	mg/kg		25.6	10.6	7.2	22.2	3.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		14.9	5.7	4.0	12.5	2.1
Chrysene	218-01-9	0.5	mg/kg		13.0	5.0	3.5	10.4	1.7
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		16.4	7.6	4.8	14.0	2.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		5.4	2.2	1.6	4.6	0.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		16.6	6.9	----	13.9	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		7.6	3.4	2.3	5.8	1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		2.2	0.9	0.6	1.7	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		8.6	4.0	2.8	6.5	1.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		151	73.5	46.0	128	25.4
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.0
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.4
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	3.94	----	2.69
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	30	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	590	1820	<50	410
C15 - C28 Fraction	----	100	mg/kg		410	1710	3930	410	980
C29 - C36 Fraction	----	100	mg/kg		270	200	140	290	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		680	2500	5890	700	1390
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	57	<10	13
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	57	<10	13
>C10 - C16 Fraction	----	50	mg/kg		<50	1380	3900	<50	900
>C16 - C34 Fraction	----	100	mg/kg		620	1070	1910	640	530

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		**150**	**120**	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**770**	**2570**	**5810**	**640**	**1430**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**1380**	**3900**	<50	**900**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	**2**	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**----**	**----**	**87.8**	**----**	**84.4**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**----**	**----**	**103**	**----**	**97.1**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**----**	**----**	**118**	**----**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**97.3**	**91.5**	**93.8**	**90.1**	**89.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**91.7**	**87.4**	**92.1**	**108**	**86.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**89.8**	**87.4**	**88.4**	**85.9**	**77.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.8**	**92.9**	**98.2**	**98.3**	**89.0**
Anthracene-d10	1719-06-8	0.5	%		**95.9**	**95.3**	**98.2**	**99.0**	**94.1**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.4**	**97.6**	**106**	**94.9**	**100**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**----**	**----**	**88.1**	**----**	**74.6**
Anthracene-d10	1719-06-8	0.025	%		**----**	**----**	**89.4**	**----**	**72.8**
4-Terphenyl-d14	1718-51-0	0.025	%		**----**	**----**	**90.1**	**----**	**82.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.8**	**87.1**	**81.5**	**88.1**	**82.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**74.8**	**69.3**	**68.4**	**71.1**	**68.7**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.8**	**79.9**	**76.6**	**80.5**	**79.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_QC110	----	----	----	----
			Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-038	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**12.9**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**266**	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**0.5**	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.9**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**3.4**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**0.7**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**8.5**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**3.9**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**54.0**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**66.7**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**43.7**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**32.7**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**54.2**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**16.7**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**55.8**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**23.6**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**6.9**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**26.0**	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**398**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_QC110	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-038	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**77.1**	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**77.1**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**77.1**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1130**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**850**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1980**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**1800**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**430**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2230**	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**85.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**85.3**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.5**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_QC110	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-038	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**98.9**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**95.8**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.2**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**73.3**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.8**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**94.4**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**95.3**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**102**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**35.1**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**49.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**35.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**75.4**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**81.4**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**85.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**108**	**108**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**100**	**101**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**110**	**111**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)			Sample ID	Rail Timber 01	----	----	----	----
			Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-050	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**34.0**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**78**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**4**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**80**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**26**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**13**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**615**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**7.0**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.5**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.2**	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1070**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**1240**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**2310**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**2080**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**710**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2790**	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**76.1**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**75.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**80.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**78.9**	----	----	----	----

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**81.8**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**79.1**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**71.3**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**75.5**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.8**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)T: PAH Surrogates - Continued			
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: WOOD		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AA**	Page	: 1 of 27
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	UST_80_1.2_S	EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
EM2305209-013	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
EM2305209-030	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	UST_77_SE_1.6	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	UST_80_1.2_S	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	Anonymous	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	Anonymous	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	Anonymous	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	UST_QC106	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617) - continued									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635) - continued									
EM2305209-036	Anonymous	EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305277-008	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	3.0	2.6	16.3	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.6	1.2	27.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	14.7	12.4	17.5	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	4.2	3.6	15.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	32.7	28.1	15.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	33.5	28.6	15.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	20.1	17.6	13.8	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	17.2	14.8	15.0	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	23.9	21.4	11.1	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	5.5	19.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	23.8	20.6	14.8	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	10.7	9.1	16.6	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.7	2.3	16.3	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.5	10.4	18.0	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631) - continued									
EM2305209-014	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-013	Anonymous	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	36	22	47.3	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	178	155	14.0	No Limit
		EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	138	130	5.9	No Limit
		EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	<50	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	1	mg/kg	<1.0	<1.0	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	204	148	31.8	No Limit
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg	240	201	17.6	No Limit
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg	484	406	17.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: C15 - C28 Fraction	----	100	mg/kg	1120	980	13.7	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	390	350	10.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	290	240	17.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632) - continued									
EM2305209-001	UST_80_1.2_S	EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: >C16 - C34 Fraction	----	100	mg/kg	1140	1010	12.0	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	190	170	9.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	570	480	16.9	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632) - continued									
EM2305209-014	Anonymous	EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	UST_77_SE_1.6	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	104	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	105	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	103	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	102	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	99.2	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.5	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	44.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	93.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	92.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	90.8	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	90.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	80.8	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	89.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.5	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	90.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	86.6	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	77.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	87.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	62.5	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	109	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	102	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.9	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	110	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	96.0	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	102	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	101	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.7	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	79.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	87.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	90.7	55.0	124
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616) - continued								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	116	70.0	130
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	107	70.0	130
EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	3163 mg/kg	111	70.0	130
EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	763 mg/kg	105	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	90.3	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	88.8	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	85.4	72.2	107
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	109	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	105	70.0	130
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	mg/kg	<50	963 mg/kg	91.1	70.0	130
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	mg/kg	<50	202 mg/kg	89.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	114	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	104	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636) - continued								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	104	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	104	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	108	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952597) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474) - continued								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Phenol	108-95-2	3 mg/kg	93.1	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	94.6	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	96.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	89.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	73.6	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	86.5	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	91.8	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	92.1	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	88.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	84.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	116	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635) - continued							
EM2305209-025	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aliphatic >C5-C6	----	7 mg/kg	68.4	43.0	123
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	12 mg/kg	# Not Determined	46.0	134
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	1129 mg/kg	116	70.0	130
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	3884 mg/kg	110	70.0	130
		EP070-CWG: Aliphatic >C16-C21	----	3163 mg/kg	129	70.0	130
		EP070-CWG: Aliphatic >C21-C35	----	763 mg/kg	121	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aromatic >C5-C7	----	2 mg/kg	82.1	39.0	133
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	2 mg/kg	95.7	44.0	136
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	341 mg/kg	75.9	70.0	130
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	1365 mg/kg	80.0	70.0	130
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	963 mg/kg	75.0	70.0	130
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	202 mg/kg	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	98.3	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	94.9	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	94.0	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	110	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636) - continued							
EM2305209-027	Anonymous	EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479) - continued							
EM2305219-004	Anonymous	EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AB**	Page	: 1 of 32
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	90	15.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	7	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	18	16	11.3	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	258	248	4.1	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	81	72	12.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	172	178	2.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	23	17	28.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1320	1260	5.2	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Arsenic	7440-38-2	5	mg/kg	150	# 88	51.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	403	# 556	32.1	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	140	27.6	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	11	11	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	23	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	83	81	2.9	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	223	248	10.6	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	24	14	49.7	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	UST_SP_1.5-2.0_02	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	100	19.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	15.1	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	10	29.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	60	50	17.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	191	198	3.5	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	41	42	3.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	133	# 351	90.0	0% - 20%
EM2305209-030	UST_SP_EXT_06	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	12	12.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	12	11.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	19	9.1	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	8	40.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	66	61	7.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	245	222	10.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	26	16	49.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	198	167	16.9	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873)									
EM2305098-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	50	49	2.4	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873) - continued									
EM2305098-001	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	120	120	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	41	2.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	22	8.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	134	133	0.8	0% - 20%
EM2305119-013	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	44	3.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	50	51	2.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	7.8	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	Anonymous	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	Anonymous	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	UST_SP_EXT_02	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	UST_QC108	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	Anonymous	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953724)									
EM2305209-013	UST_SP_0.5-1.0_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953872)									
EM2305098-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2305119-013	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 4952639)									
EM2305209-013	UST_SP_0.5-1.0_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4954561)									
EM2305209-013	UST_SP_0.5-1.0_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 4952640)									
EM2305209-013	UST_SP_0.5-1.0_01	EK040T: Fluoride	16984-48-8	40	mg/kg	130	100	20.5	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952630)									
EM2305209-023	UST_SP_1.5-2.0_04	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952634)									
EM2305209-013	UST_SP_0.5-1.0_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952629)									
EM2305209-023	UST_SP_1.5-2.0_04	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633)									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631) - continued									
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	UST_QC108	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	3.4	96.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	4.2	123	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.6	25.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.9	2.7	102	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.5	# 16.9	116	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	# 6.6	133	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.4	# 26.9	105	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.0	# 27.1	92.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	# 16.2	106	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	# 13.7	102	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.2	# 18.7	101	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	# 8.0	108	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627) - continued									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.3	# 18.2	96.9	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	# 7.7	96.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	2.1	100	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.1	# 8.7	94.2	0% - 50%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-036	UST_QC108	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305209-046	Anonymous	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953231)									
EM2305209-013	UST_SP_0.5-1.0_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	2.15	2.03	5.6	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: C15 - C28 Fraction	----	100	mg/kg	2350	2000	16.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	160	110	38.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1130	970	15.0	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: >C16 - C34 Fraction	----	100	mg/kg	1540	1270	19.5	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2020	1750	14.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864)									
EM2305003-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864) - continued									
EM2305003-003	Anonymous	EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.4	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	98.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.7	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	94.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	93.5	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	97.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	94.3	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	95.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	94.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.5	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	115	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725) - continued								
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.2	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	104	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	91.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.1	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	79.3	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	101	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952630)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	100	68.0	133
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	98.8	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	70.2	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629) - continued								
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	90.8	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.6	55.5	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	96.1	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.5	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	98.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	37.7	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.8	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	101	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	99.8	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	89.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.5	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953231)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	86.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	110	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	108	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	122	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952613) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	85.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	86.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.1	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	82.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	96.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	89.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	101	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	101	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	99.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.2	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	101	54.5	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	100	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	97.2	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	96.1	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	95.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	103	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4953606) - continued								
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 172	80.0	120
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Arsenic	7440-38-2	50 mg/kg	114	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	99.0	78.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	UST_SP_1.5-2.0_03	EG005T: Arsenic	7440-38-2	50 mg/kg	89.2	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	87.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.9	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	93.1	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)							
EM2305098-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.1	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	91.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	95.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	88.2	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)							
EM2305209-019	UST_SP_1.0-1.5_03	EG035T: Mercury	7439-97-6	0.5 mg/kg	105	76.0	116

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)							
EM2305098-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)							
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 46.0	58.0	114
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	60.1	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)							
EM2305209-019	UST_SP_1.0-1.5_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	112	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)							
EM2305209-019	UST_SP_1.0-1.5_03	EK040T: Fluoride	16984-48-8	400 mg/kg	80.0	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)							
EM2305209-021	UST_SP_1.5-2.0_02	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	110	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)							
EM2305209-019	UST_SP_1.0-1.5_03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.0	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	93.7	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	64.8	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	99.1	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	94.1	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	71.2	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	98.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	90.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	81.9	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	70.1	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627) - continued							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 45.6	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	# 72.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	99.4	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851) - continued							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	89.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	101	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305209**	Page	: 1 of 21
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Site	: Macquarie Point	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 49
Order number	: 60693007-3	No. of samples analysed	: 45

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--013	UST_SP_0.5-1.0_01	**Arsenic**	7440-38-2	51.3 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--021	UST_SP_1.5-2.0_02	**Lead**	7439-92-1	38.9 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--030	UST_SP_EXT_06	**Lead**	7439-92-1	31.5 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--021	UST_SP_1.5-2.0_02	**Zinc**	7440-66-6	90.0 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--013	UST_SP_0.5-1.0_01	**Zinc**	7440-66-6	32.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Phenanthrene**	85-01-8	116 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Anthracene**	120-12-7	133 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--001	UST_80_1.2_S	**Fluoranthene**	206-44-0	21.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Fluoranthene**	206-44-0	105 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--001	UST_80_1.2_S	**Pyrene**	129-00-0	21.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Pyrene**	129-00-0	92.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benz(a)anthracene**	56-55-3	106 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Chrysene**	218-01-9	102 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(b+j)fluoranthene**	205-99-2 205-82-3	101 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(k)fluoranthene**	207-08-9	108 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(a)pyrene**	50-32-8	96.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Indeno(1.2.3.cd)pyrene**	193-39-5	96.2 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(g.h.i)perylene**	191-24-2	94.2 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--019	UST_SP_1.0-1.5_03	**Zinc**	7440-66-6	172 %	80.0-120%	**Recovery greater than upper data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2305209--019	UST_SP_1.0-1.5_03	**Hexavalent Chromium**	18540-29-9	46.0 %	58.0-114%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--010	UST_59_E_1.6	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Pyrene**	129-00-0	45.6 %	65.5-136%	**Recovery less than lower data quality objective**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions	EM2305209--010	UST_59_E_1.6	**Aliphatic >C6-C8**	TPHCWG-ALV2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP079/070: TPH CWG Aromatic Hydrocarbon Fraction	EM2305209--010	UST_59_E_1.6	**Aromatic >C21-C35**	TPHCWG-ARE4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--010	UST_59_E_1.6	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP080/071: Total Petroleum Hydrocarbons	EM2305209--024	UST_SP_1.5-2.0_05	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--024	UST_SP_1.5-2.0_05	**C15 - C28 Fraction**	----	72.6 %	75.6-122%	**Recovery less than lower data quality objective**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--010	UST_59_E_1.6	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--010	UST_59_E_1.6	**>C10 - C16 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--024	UST_SP_1.5-2.0_05	**>C10 - C16 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--010	UST_59_E_1.6	**C6 - C10 Fraction**	C6_C10	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**----**	----	----	**24-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
UST_QC106	**20-Mar-2023**	**----**	----	----	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**----**	----	----	**24-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
Rail Timber 01	**21-Mar-2023**	**----**	----	----	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
UST_80_1.2_S,	UST_OL_DL_BF,	**20-Mar-2023**	**27-Mar-2023**	16-Sep-2023	✓	**27-Mar-2023**	16-Sep-2023	✓
UST_77_SE_0.8,	UST_77_SE_1.6,							
UST_74_E_0.8,	UST_74_E_1.6,							
UST_66_E_0.8,	UST_66_E_1.6,							
UST_59_E_0.8,	UST_59_E_1.6,							
UST_55_NE_0.8,	UST_55_NE_1.6,							
UST_QC107,	UST_QC106							
Soil Glass Jar - Unpreserved (EG005T)								
UST_SP_0.5-1.0_01,	UST_SP_0.5-1.0_02,	**21-Mar-2023**	**27-Mar-2023**	17-Sep-2023	✓	**27-Mar-2023**	17-Sep-2023	✓
UST_SP_0.5-1.0_03,	UST_SP_0.5-1.0_04,							
UST_SP_1.0-1.5_01,	UST_SP_1.0-1.5_02,							
UST_SP_1.0-1.5_03,	UST_SP_1.5-2.0_01,							
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_03,							
UST_SP_1.5-2.0_04,	UST_SP_1.5-2.0_05,							
UST_SP_EXT_01,	UST_SP_EXT_02,							
UST_SP_EXT_03,	UST_SP_EXT_04,							
UST_SP_EXT_05,	UST_SP_EXT_06,							
UST_SP_EXT_07,	UST_SP_EXT_08,							
UST_SP_ch77-80_01,	UST_SP_ch77-81_02,							
UST_SP_ch77-82_03,	UST_QC108,							
UST_QC109,	UST_QC110,							
Rail Timber 01								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
UST_SP_0.5-1.0_01,	UST_SP_1.0-1.5_03,	**21-Mar-2023**	**27-Mar-2023**	18-Apr-2023	✓	**27-Mar-2023**	18-Apr-2023	✓
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_04,							
UST_SP_EXT_01,	UST_SP_EXT_03,							
UST_SP_EXT_08,	UST_SP_ch77-82_03,							
UST_QC109,	Rail Timber 01							
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)								
UST_SP_0.5-1.0_01,	UST_SP_1.0-1.5_03,	**21-Mar-2023**	**25-Mar-2023**	18-Apr-2023	✓	**28-Mar-2023**	01-Apr-2023	✓
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_04,							
UST_SP_EXT_01,	UST_SP_EXT_03,							
UST_SP_EXT_08,	UST_SP_ch77-82_03,							
UST_QC109								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**29-Mar-2023**	10-Apr-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	18-Apr-2023	✓	**28-Mar-2023**	18-Apr-2023	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
Rail Timber 01	**21-Mar-2023**	**26-Mar-2023**	04-Apr-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_02, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_02, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	06-May-2023	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued								
UST_SP_0.5-1.0_01,	UST_SP_0.5-1.0_02,	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
UST_SP_0.5-1.0_03,	UST_SP_0.5-1.0_04,							
UST_SP_1.0-1.5_01,	UST_SP_1.0-1.5_02,							
UST_SP_1.0-1.5_03,	UST_SP_1.5-2.0_01,							
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_03,							
UST_SP_1.5-2.0_04,	UST_SP_1.5-2.0_05,							
UST_SP_EXT_01,	UST_SP_EXT_02,							
UST_SP_EXT_03,	UST_SP_EXT_04,							
UST_SP_EXT_05,	UST_SP_EXT_06,							
UST_SP_EXT_07,	UST_SP_EXT_08,							
UST_SP_ch77-80_01,	UST_SP_ch77-81_02,							
UST_SP_ch77-82_03,	UST_QC108,							
UST_QC109,	UST_QC110							
Soil Glass Jar - Unpreserved (EP080)								
Rail Timber 01		**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T) UST_QCB07	**20-Mar-2023**	**26-Mar-2023**	16-Sep-2023	✓	**27-Mar-2023**	16-Sep-2023	✓
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T) UST_QCB08	**21-Mar-2023**	**26-Mar-2023**	17-Sep-2023	✓	**27-Mar-2023**	17-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) Rail Timber 01	**26-Mar-2023**	**27-Mar-2023**	02-Apr-2023	✓	**27-Mar-2023**	06-May-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP071) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP071) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	7	58	**12.07**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	8	52	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	7	60	**11.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	8	54	**14.81**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	6	45	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	60	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Analytical Methods	Method	Matrix	Method Descriptions
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromotic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998,Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Automated Guideline Comparison Report

Work Order	: **EM2305209-AA**	Page	: 1 of 2
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 18-Apr-2023 10:30
No. of samples received	: 16		
No. of samples analysed	: 16	Quote number	: EN/004/21

General Comments

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Analytical Results

Sub-Matrix:				Sample ID	Guideline Lower Limit	Guideline Upper Limit	----	----	----	----	----
				Sampling date/time			----	----	----	----	----
Compound	*Method*	*LOR*	*Unit*				MU	MU	MU	MU	MU
		-	-		----	----	----	----	----	----	----

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 18-Apr-2023 10:31
No. of samples received	: 29		
No. of samples analysed	: 29	Quote number	: EN/004/21

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 5,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.69 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Arsenic	EG005T	5	*< 20 mg/kg*	**150 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Zinc	EG005T	5	*< 200 mg/kg*	**403 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**20.5 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Arsenic	EG005T	5	*< 20 mg/kg*	**32 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Lead	EG005T	5	*< 300 mg/kg*	**796 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Zinc	EG005T	5	*< 200 mg/kg*	**266 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Mercury	EG035T	0.1	*< 1 mg/kg*	**4.0 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Arsenic	EG005T	5	*< 20 mg/kg*	**20 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Lead	EG005T	5	*< 300 mg/kg*	**306 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Zinc	EG005T	5	*< 200 mg/kg*	**243 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**3640 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Tin	EG005T	5	*< 50 mg/kg*	**67 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1220 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Lead	EG005T	5	*< 300 mg/kg*	**421 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Zinc	EG005T	5	*< 200 mg/kg*	**202 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.8 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Copper	EG005T	5	*< 100 mg/kg*	**395 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Lead	EG005T	5	*< 300 mg/kg*	**316 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Tin	EG005T	5	*< 50 mg/kg*	**50 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Zinc	EG005T	5	*< 200 mg/kg*	**301 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.3 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Arsenic	EG005T	5	*< 20 mg/kg*	**35 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Copper	EG005T	5	*< 100 mg/kg*	**181 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Zinc	EG005T	5	*< 200 mg/kg*	**374 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1390 mg/kg**
UST_QC109	**EM2305209-037**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.4 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.69 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**20.5**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**2.15**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**300**	**----**	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	1000	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	300	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	50	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	100	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	300	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	500	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	60	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	50	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	200	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1		<0.5	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 *Sample ID* / 21-Mar-2023 15:00 *Sampling date/time* / EM2305209-013	MU	UST_SP_0.5-1.0_02 / 21-Mar-2023 15:00 / EM2305209-014	MU	UST_SP_0.5-1.0_03 / 21-Mar-2023 15:00 / EM2305209-015	MU	UST_SP_0.5-1.0_04 / 21-Mar-2023 15:00 / EM2305209-016	MU	UST_SP_1.0-1.5_01 / 21-Mar-2023 15:00 / EM2305209-017	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	200	**150**	± 18	----		----		----		----	
Barium	EG005T	10	mg/kg	----	3000	**100**	± 10	----		----		----		----	
Beryllium	EG005T	1	mg/kg	----	40	<1	- -	----		----		----		----	
Cadmium	EG005T	1	mg/kg	----	40	**2**	± 0.2	----		----		----		----	
Chromium	EG005T	2	mg/kg	----	500	**14**	± 2	----		----		----		----	
Cobalt	EG005T	2	mg/kg	----	200	**11**	± 1	----		----		----		----	
Copper	EG005T	5	mg/kg	----	2000	**83**	± 10	----		----		----		----	
Lead	EG005T	5	mg/kg	----	1200	**235**	± 25	----		----		----		----	
Manganese	EG005T	5	mg/kg	----	5000	**223**	± 22	----		----		----		----	
Molybdenum	EG005T	2	mg/kg	----	1000	<2	- -	----		----		----		----	
Nickel	EG005T	2	mg/kg	----	600	**24**	± 2	----		----		----		----	
Selenium	EG005T	5	mg/kg	----	50	<5	- -	----		----		----		----	
Silver	EG005T	2	mg/kg	----	180	<2	- -	----		----		----		----	
Tin	EG005T	5	mg/kg	----	500	**24**	± 4	----		----		----		----	
Zinc	EG005T	5	mg/kg	----	14000	**403**	± 42	----		----		----		----	
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	30	**0.3**	± 0.03	----		----		----		----	
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5	- -	----		----		----		----	
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	1000	**1**	± 0.1	----		----		----		----	
EK040T: Fluoride Total															
Fluoride	EK040T	40	mg/kg	----	3000	**130**	± 30	----		----		----		----	
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1		----		----		----		----	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05		----		----		----		----	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05		----		----		----		----	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5		----		----		----		----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**20.5**		----		----		----		----	
EP075B: Polynuclear Aromatic Hydrocarbons															

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	30000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	5000	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	1000	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	7500	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	3000	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	25000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	4000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	3000	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	200	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	720	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	900	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	50000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID / Sampling date/time	UST_SP_1.0-1.5_02 21-Mar-2023 15:00 EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	<10	----	<10	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	<0.2	----	<0.2	----
Toluene	EP080	0.5	mg/kg	----	1000		----	<0.5	----	<0.5	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	<0.5	----	<0.5	----
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	<0.5	----	<0.5	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	300	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	2	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	3	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	50	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	100	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	100	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	300	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	500	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	60	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	10	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	50	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	200	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	<10	**----**	<10	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	<0.2	**----**	<0.2	**----**
Toluene	EP080	0.5	mg/kg	----	1	**----**	<0.5	**----**	<0.5	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	<0.5	**----**	<0.5	**----**
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	<0.5	**----**	<0.5	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	3000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	500	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	200	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	2000	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	1200	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	5000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	600	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	500	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	14000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.0-1.5_02 21-Mar-2023 15:00 EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	<10	----	<10	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	<0.2	----	<0.2	----
Toluene	EP080	0.5	mg/kg	----	100		----	<0.5	----	<0.5	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	<0.5	----	<0.5	----
Total Xylenes	EP080	0.5	mg/kg	----	180		----	<0.5	----	<0.5	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	30000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	400	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	7500	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	3000	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	25000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	4000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	200	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	50000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID						
				Sampling date/time	Guideline	Guideline	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
							21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	20	**20** ± 3	----	<5 --	----	<5 --	
Barium	EG005T	10	mg/kg	----	300	**130** ± 10	----	**150** ± 20	----	**120** ± 10	
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	<1 --	----	<1 --	
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	<1 --	----	<1 --	
Chromium	EG005T	2	mg/kg	----	50	**13** ± 2	----	**16** ± 2	----	**18** ± 2	
Cobalt	EG005T	2	mg/kg	----	100	**10** ± 1	----	**23** ± 3	----	**16** ± 2	
Copper	EG005T	5	mg/kg	----	100	**47** ± 6	----	**47** ± 6	----	**59** ± 7	
Lead	EG005T	5	mg/kg	----	300	**306** ± 32	----	**152** ± 16	----	**421** ± 44	
Manganese	EG005T	5	mg/kg	----	500	**182** ± 18	----	**222** ± 22	----	**344** ± 34	
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --	
Nickel	EG005T	2	mg/kg	----	60	**15** ± 1	----	**24** ± 2	----	**28** ± 3	
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	<5 --	----	<5 --	
Silver	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --	
Tin	EG005T	5	mg/kg	----	50	**32** ± 5	----	**67** ± 10	----	**24** ± 4	
Zinc	EG005T	5	mg/kg	----	200	**243** ± 26	----	**111** ± 12	----	**202** ± 21	
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	1	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08	
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	<0.5 --	----	<0.5 --	
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	32	<1 --	----	<1 --	----	<1 --	
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	300	**70** ± 30	----	**80** ± 30	----	**130** ± 30	
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	<0.1	----	<0.1	
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05	
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	<0.5	----	<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
Sample ID										
Sampling date/time										
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	3000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	200	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	2000	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	1200	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	5000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	14000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	30000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	5000	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	3000	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	25000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	3000	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	720	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	900	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	50000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal
Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	300	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	3	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	50	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	100	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	300	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	500	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	60	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	50	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	200	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	----	----	----	**62.2**	
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	----	----	----	----	**5.02**	
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65	----	----	----	----	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	----	----	----	----	**340**	
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1	----	----	----	----	<0.2	--
Toluene	EP080	0.5	mg/kg	----	1	----	----	----	----	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	3	----	----	----	----	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	14	----	----	----	----	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	3000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	500	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	1200	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	5000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	600	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	180	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	500	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	14000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	----	----	----	**340**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	7500	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	3000	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	25000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	50000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
						Sampling date/time	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
							EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	300	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	100	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	300	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	500	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	200	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date/time		21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	3000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	2000	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	1200	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	5000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	14000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date/time		21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	**----**	**----**	**----**	**----**
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
							EM2305209-038 MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	**----**	**----**	**----**	**----**
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AA**	Page	: 1 of 15
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 30-Mar-2023 16:56
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_010 has LOR raised for 2.4-Dimethylphenol due to sample matrix interferences.
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
					EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**23.7**	**13.2**	**19.5**	**15.5**	**13.7**
EG005(ED093)T: Total Metals by ICP-AES									
Lead	7439-92-1	5	mg/kg		**289**	<5	**166**	**94**	**141**
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**14.9**	<0.5	**0.6**	**0.6**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		**2.3**	<0.5	**1.6**	**3.0**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		**1.5**	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		**3.7**	<0.5	**0.7**	**1.6**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		**9.9**	<0.5	**10.8**	**14.7**	**1.2**
Anthracene	120-12-7	0.5	mg/kg		**1.8**	<0.5	**4.0**	**4.2**	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		**14.1**	<0.5	**22.2**	**32.7**	**3.5**
Pyrene	129-00-0	0.5	mg/kg		**14.2**	<0.5	**20.9**	**33.5**	**3.5**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**5.7**	<0.5	**12.8**	**20.1**	**2.1**
Chrysene	218-01-9	0.5	mg/kg		**5.6**	<0.5	**11.2**	**17.2**	**2.0**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**8.4**	<0.5	**14.6**	**23.9**	**2.9**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**3.6**	<0.5	**5.2**	**6.6**	**1.0**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**7.5**	<0.5	**14.4**	**23.8**	**2.8**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**4.5**	<0.5	**6.5**	**10.7**	**1.2**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**1.0**	<0.5	**1.8**	**2.7**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**5.4**	<0.5	**7.8**	**12.5**	**1.5**
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**104**	<0.5	**135**	**208**	**21.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**10.8**	<0.5	**20.3**	**32.9**	**3.6**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**10.8**	**0.6**	**20.3**	**32.9**	**3.8**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**10.8**	**1.2**	**20.3**	**32.9**	**4.0**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ **Aliphatic >C5-C6**	----	5	mg/kg		----	----	----	<5	----
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	<5	----
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	**36**	----
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	<50	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	**178**	----
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	**138**	----
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	<50	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	<0.2	----
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	<0.5	----
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	<1.0	----
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	<50	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	**204**	----
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	**240**	----
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	**484**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	**23**	<10
C10 - C14 Fraction	----	50	mg/kg		**1540**	<50	<50	**290**	<50
C15 - C28 Fraction	----	100	mg/kg		**3080**	<100	**500**	**1120**	<100
C29 - C36 Fraction	----	100	mg/kg		**300**	<100	**310**	**390**	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**4920**	<50	**810**	**1800**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		**19**	<10	<10	**44**	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		**19**	<10	<10	**44**	<10
>C10 - C16 Fraction	----	50	mg/kg		**2540**	<50	<50	**570**	<50
>C16 - C34 Fraction	----	100	mg/kg		**2290**	<100	**720**	**1140**	**120**
>C34 - C40 Fraction	----	100	mg/kg		**120**	<100	**130**	**190**	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**4950**	<50	**850**	**1900**	**120**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**2540**	<50	<50	**570**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		**4**	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.7**	**87.8**	**88.9**	**94.4**	**86.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**111**	**87.1**	**88.6**	**92.2**	**89.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**97.3**	**74.8**	**88.9**	**94.1**	**85.2**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**100**	**92.4**	**93.8**	**91.2**	**92.9**
Anthracene-d10	1719-06-8	0.5	%		**89.3**	**97.8**	**96.9**	**97.6**	**98.6**
4-Terphenyl-d14	1718-51-0	0.5	%		**100**	**94.7**	**96.4**	**95.8**	**95.8**
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**----**	**----**	**----**	**103**	**----**
2-Fluorobiphenyl	321-60-8	1	%		**----**	**----**	**----**	**91.0**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**78.6**	**85.1**	**81.4**	**86.0**	**91.3**
Toluene-D8	2037-26-5	0.2	%		**71.4**	**74.7**	**69.4**	**89.2**	**80.3**
4-Bromofluorobenzene	460-00-4	0.2	%		**74.6**	**85.1**	**77.9**	**111**	**87.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.4	22.3	23.8	15.4	24.3
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	227	152	621	131	142
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<2.0
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	8.0	0.6	4.2
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.7	1.8	1.8	4.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	11.1	<0.5	13.6
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	11.0	<0.5	19.8
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3.0	44.9	6.5	73.8
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.9	10.9	2.6	19.4
Fluoranthene	206-44-0	0.5	mg/kg	0.6	8.3	37.0	12.2	67.9
Pyrene	129-00-0	0.5	mg/kg	0.6	8.3	34.3	12.3	66.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	5.2	19.3	7.5	31.6
Chrysene	218-01-9	0.5	mg/kg	<0.5	4.7	15.4	6.8	25.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6.4	19.1	10.9	33.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	2.3	7.5	3.8	10.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.5	6.2	19.3	10.8	31.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2.6	7.2	5.8	12.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.7	2.2	1.5	3.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3.1	8.4	8.0	13.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.7	52.4	257	91.1	430

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**0.5**	**8.6**	**27.0**	**15.2**	**43.3**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.8**	**8.6**	**27.0**	**15.2**	**43.3**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**8.6**	**27.0**	**15.2**	**43.3**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ **Aliphatic >C5-C6**	----	5	mg/kg		----	----	----	----	<5
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	----	**67**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	----	**185**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	----	**1100**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	----	**4480**
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	----	**3330**
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	----	**1160**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	----	<0.2
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	----	<0.5
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	----	<1.0
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	----	**139**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	----	**1750**
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	----	**1820**
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	----	**1600**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**207**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	**70**	<50	**6360**
C15 - C28 Fraction	----	100	mg/kg		<100	**210**	**860**	**980**	**13200**
C29 - C36 Fraction	----	100	mg/kg		<100	**120**	**360**	**580**	**1160**
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	**330**	**1290**	**1560**	**20700**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	**281**
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	**281**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**120**	**100**	**11800**
>C16 - C34 Fraction	----	100	mg/kg		<100	**290**	**1070**	**1370**	**8140**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**140**	**240**	**470**
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	**290**	**1330**	**1710**	**20400**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	**120**	**100**	**11800**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	**2**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**84.5**	**88.6**	**84.0**	**90.5**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**89.2**	**89.0**	**87.3**	**88.9**	**94.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**76.7**	**86.3**	**85.6**	**89.8**	**102**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**94.8**	**93.4**	**92.2**	**90.9**	**97.0**
Anthracene-d10	1719-06-8	0.5	%	**99.2**	**96.8**	**93.3**	**96.0**	**99.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**101**	**96.6**	**97.2**	**96.5**	**102**
EP079/EP070S:TPH Surrogates - semivolatile speciation								
2-Bromonaphthalene	580-13-2	1	%	----	----	----	----	**Not Determined**
2-Fluorobiphenyl	321-60-8	1	%	----	----	----	----	**Not Determined**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**87.5**	**91.9**	**92.3**	**89.6**	**82.2**
Toluene-D8	2037-26-5	0.2	%	**74.2**	**78.5**	**80.2**	**74.6**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%	**80.4**	**86.6**	**88.5**	**84.0**	**109**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.2	21.4	27.9	21.9	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	268	371	596	286	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	10.1	17.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	2.7	0.7	5.8	2.0	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	16.0	1.9	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	20.2	4.6	----
Phenanthrene	85-01-8	0.5	mg/kg	9.3	5.6	88.6	12.0	----
Anthracene	120-12-7	0.5	mg/kg	3.1	1.8	25.9	2.5	----
Fluoranthene	206-44-0	0.5	mg/kg	24.5	11.5	85.9	14.0	----
Pyrene	129-00-0	0.5	mg/kg	24.5	10.3	79.1	13.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	14.6	6.6	40.0	5.3	----
Chrysene	218-01-9	0.5	mg/kg	13.0	5.2	30.9	5.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	17.9	7.3	36.7	8.3	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	2.6	14.7	2.9	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	17.8	6.8	37.8	7.1	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.1	2.8	14.9	4.7	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.1	0.8	3.8	1.0	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	9.6	3.1	15.9	5.9	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	154	65.1	526	109	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
				Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**24.8**	**9.6**	**52.7**	**10.3**	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**24.8**	**9.6**	**52.7**	**10.3**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**24.8**	**9.6**	**52.7**	**10.3**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	**1470**	----
C15 - C28 Fraction	----	100	mg/kg	**500**	**260**	**1530**	**2920**	----
C29 - C36 Fraction	----	100	mg/kg	**300**	**130**	**620**	**380**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**800**	**390**	**2150**	**4770**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	**17**	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	**17**	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	**180**	**2600**	----
>C16 - C34 Fraction	----	100	mg/kg	**720**	**350**	**1890**	**2020**	----
>C34 - C40 Fraction	----	100	mg/kg	**130**	<100	**290**	**180**	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**850**	**350**	**2360**	**4800**	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	**180**	**2600**	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	**1**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**85.7**	**86.1**	**83.6**	**88.5**	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**88.3**	**90.2**	**102**	**88.1**	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**90.2**	**86.5**	**88.6**	**95.2**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**91.8**	**91.6**	**87.4**	**97.3**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
					Result	Result	Result	Result	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**95.6**	**95.7**	**85.8**	**95.1**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.2**	**94.8**	**90.2**	**91.1**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.7**	**90.4**	**83.9**	**79.9**	**----**
Toluene-D8	2037-26-5	0.2	%		**72.3**	**75.0**	**70.3**	**84.7**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**79.9**	**82.8**	**78.2**	**95.4**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**39.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**71.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**86.1**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**76.3**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**82.8**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**88.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**106**	**112**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**98.6**	**106**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**113**	**118**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

ALS Environmental

Automated Guideline Comparison Report

Work Order	: **EM2305209-AA**	Page	: 1 of 2
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 30-Mar-2023 16:59
No. of samples received	: 16		
No. of samples analysed	: 16	Quote number	: EN/004/21

General Comments

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Analytical Results

Sub-Matrix:				Sample ID	Guideline Lower Limit	Guideline Upper Limit	----	----	----	----	----
				Sampling date/time			----	----	----	----	----
Compound	*Method*	*LOR*	*Unit*				MU	MU	MU	MU	MU
		-	-		----	----	----	----	----	----	----

ALS Environmental

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
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Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 30-Mar-2023 16:59
No. of samples received	: 29		
No. of samples analysed	: 29	Quote number	: EN/004/21

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 5,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.69 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Arsenic	EG005T	5	*< 20 mg/kg*	**150 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Zinc	EG005T	5	*< 200 mg/kg*	**403 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**20.5 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Arsenic	EG005T	5	*< 20 mg/kg*	**32 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Lead	EG005T	5	*< 300 mg/kg*	**796 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Zinc	EG005T	5	*< 200 mg/kg*	**266 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Mercury	EG035T	0.1	*< 1 mg/kg*	**4.0 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Arsenic	EG005T	5	*< 20 mg/kg*	**20 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Lead	EG005T	5	*< 300 mg/kg*	**306 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Zinc	EG005T	5	*< 200 mg/kg*	**243 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**3640 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	*ALS Sample ID*	*Compound*	*Method*	*LOR*	*Limits*	*Result*
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Tin	EG005T	5	*< 50 mg/kg*	**67 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1220 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Lead	EG005T	5	*< 300 mg/kg*	**421 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Zinc	EG005T	5	*< 200 mg/kg*	**202 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.8 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Copper	EG005T	5	*< 100 mg/kg*	**395 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Lead	EG005T	5	*< 300 mg/kg*	**316 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Tin	EG005T	5	*< 50 mg/kg*	**50 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Zinc	EG005T	5	*< 200 mg/kg*	**301 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.3 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Arsenic	EG005T	5	*< 20 mg/kg*	**35 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Copper	EG005T	5	*< 100 mg/kg*	**181 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Zinc	EG005T	5	*< 200 mg/kg*	**374 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1390 mg/kg**
UST_QC109	**EM2305209-037**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.4 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.69 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**20.5**	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-013 MU	EM2305209-014 MU	EM2305209-015 MU	EM2305209-016 MU	EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**300**	----	----	----	----
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	300	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	50	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	100	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	300	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	500	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	60	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	50	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	200	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-013 MU	EM2305209-014 MU	EM2305209-015 MU	EM2305209-016 MU	EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	3000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	40	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	40	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	500	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	200	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	2000	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	1200	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	5000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	600	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	50	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	180	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	500	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	14000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02 (Sample ID) 21-Mar-2023 15:00 (Sampling date/time) EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	30000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	5000	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	1000	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	7500	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	3000	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	25000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	4000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	3000	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	200	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	720	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	900	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	50000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	**----**	<10 --	**----**	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	**----**	<0.2 --	**----**	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg	----	1000	**----**	<0.5 --	**----**	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	**----**	<0.5 --	**----**	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	**----**	<0.5 --	**----**	<0.5 --	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02 *Sample ID* / 21-Mar-2023 15:00 *Sampling date/time* / EM2305209-018 MU	UST_SP_1.0-1.5_03 / 21-Mar-2023 15:00 / EM2305209-019 MU	UST_SP_1.5-2.0_01 / 21-Mar-2023 15:00 / EM2305209-020 MU	UST_SP_1.5-2.0_02 / 21-Mar-2023 15:00 / EM2305209-021 MU	UST_SP_1.5-2.0_03 / 21-Mar-2023 15:00 / EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	300	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	2	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	3	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	50	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	100	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	100	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	300	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	500	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	60	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	10	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	50	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	200	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.0-1.5_02 21-Mar-2023 15:00	UST_SP_1.0-1.5_03 21-Mar-2023 15:00	UST_SP_1.5-2.0_01 21-Mar-2023 15:00	UST_SP_1.5-2.0_02 21-Mar-2023 15:00	UST_SP_1.5-2.0_03 21-Mar-2023 15:00
							EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		----	<10 --	----	<10 --	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		----	<0.2 --	----	<0.2 --	----
Toluene	EP080	0.5	mg/kg	----	1		----	<0.5 --	----	<0.5 --	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		----	<0.5 --	----	<0.5 --	----
Total Xylenes	EP080	0.5	mg/kg	----	14		----	<0.5 --	----	<0.5 --	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	3000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	500	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	200	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	2000	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	1200	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	5000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	600	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	500	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	14000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date/time			21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	40	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	**----**	<10 --	**----**	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	**----**	<0.2 --	**----**	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg		----	100	**----**	<0.5 --	**----**	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	100	**----**	<0.5 --	**----**	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg		----	180	**----**	<0.5 --	**----**	<0.5 --	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023	MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024	MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025	MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026	MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	750	**20**	± 3	----		<5	--	----		<5	--
Barium	EG005T	10	mg/kg	----	30000	**130**	± 10	----		**150**	± 20	----		**120**	± 10
Beryllium	EG005T	1	mg/kg	----	400	<1	--	----		<1	--	----		<1	--
Cadmium	EG005T	1	mg/kg	----	400	<1	--	----		<1	--	----		<1	--
Chromium	EG005T	2	mg/kg	----	5000	**13**	± 2	----		**16**	± 2	----		**18**	± 2
Cobalt	EG005T	2	mg/kg	----	1000	**10**	± 1	----		**23**	± 3	----		**16**	± 2
Copper	EG005T	5	mg/kg	----	7500	**47**	± 6	----		**47**	± 6	----		**59**	± 7
Lead	EG005T	5	mg/kg	----	3000	**306**	± 32	----		**152**	± 16	----		**421**	± 44
Manganese	EG005T	5	mg/kg	----	25000	**182**	± 18	----		**222**	± 22	----		**344**	± 34
Molybdenum	EG005T	2	mg/kg	----	4000	<2	--	----		<2	--	----		<2	--
Nickel	EG005T	2	mg/kg	----	3000	**15**	± 1	----		**24**	± 2	----		**28**	± 3
Selenium	EG005T	5	mg/kg	----	200	<5	--	----		<5	--	----		<5	--
Silver	EG005T	2	mg/kg	----	720	<2	--	----		<2	--	----		<2	--
Tin	EG005T	5	mg/kg	----	900	**32**	± 5	----		**67**	± 10	----		**24**	± 4
Zinc	EG005T	5	mg/kg	----	50000	**243**	± 26	----		**111**	± 12	----		**202**	± 21
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	110	**0.8**	± 0.08	----		**0.7**	± 0.07	----		**0.8**	± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5	--	----		<0.5	--	----		<0.5	--
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	2500	<1	--	----		<1	--	----		<1	--
EK040T: Fluoride Total															
Fluoride	EK040T	40	mg/kg	----	10000	**70**	± 30	----		**80**	± 30	----		**130**	± 30
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1		----		<0.1		----		<0.1	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05		----		<0.05		----		<0.05	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05		----		<0.05		----		<0.05	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5		----		<0.5		----		<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	300	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	100	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	100	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	300	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	500	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	200	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.5-2.0_04 21-Mar-2023 15:00	UST_SP_1.5-2.0_05 21-Mar-2023 15:00	UST_SP_EXT_01 21-Mar-2023 15:00	UST_SP_EXT_02 21-Mar-2023 15:00	UST_SP_EXT_03 21-Mar-2023 15:00
							EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20		**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	3000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	200	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	2000	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	1200	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	5000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	14000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	30000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	5000	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	3000	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	25000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	3000	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	720	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	900	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	50000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	300	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	3	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	50	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	100	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	300	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	500	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	60	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	50	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	200	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	3000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	500	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	1200	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	5000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	600	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	180	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	500	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	14000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date/time	Guideline	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	7500	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	3000	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	25000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	50000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_ch77-80_01 21-Mar-2023 15:00 EM2305209-033 MU	UST_SP_ch77-81_02 21-Mar-2023 15:00 EM2305209-034 MU	UST_SP_ch77-82_03 21-Mar-2023 15:00 EM2305209-035 MU	UST_QC108 21-Mar-2023 15:00 EM2305209-036 MU	UST_QC109 21-Mar-2023 15:00 EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	300	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	100	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	300	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	500	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	200	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	3000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	2000	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	1200	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	5000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	14000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_ch77-80_01 21-Mar-2023 15:00 EM2305209-033 MU	UST_SP_ch77-81_02 21-Mar-2023 15:00 EM2305209-034 MU	UST_SP_ch77-82_03 21-Mar-2023 15:00 EM2305209-035 MU	UST_QC108 21-Mar-2023 15:00 EM2305209-036 MU	UST_QC109 21-Mar-2023 15:00 EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time* / Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Barium	EG005T	10	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Beryllium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cadmium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Chromium	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cobalt	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Copper	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Lead	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Manganese	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Molybdenum	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Nickel	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Selenium	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Silver	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Tin	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Zinc	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	**----** ----	**----** ----	**----** ----	**----** ----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time* / Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Barium	EG005T	10	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Beryllium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cadmium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Chromium	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cobalt	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Copper	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Lead	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Manganese	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Molybdenum	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Nickel	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Selenium	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Silver	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Tin	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Zinc	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	**----**	**----**	**----**	**----**
			Sampling date/time			21-Mar-2023 15:00	----	----	----	----
			Sample ID			**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons										
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
							EM2305209-038 MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	**----** ----	**----** ----	**----** ----	**----** ----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AA**	Page	: 1 of 26
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 30-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	UST_80_1.2_S	EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
EM2305209-013	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
EM2305209-030	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	UST_77_SE_1.6	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	UST_80_1.2_S	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	Anonymous	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	Anonymous	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	Anonymous	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	UST_QC106	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617) - continued									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635) - continued									
EM2305209-036	Anonymous	EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305277-008	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	3.0	2.6	16.3	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.6	1.2	27.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	14.7	12.4	17.5	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	4.2	3.6	15.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	32.7	28.1	15.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	33.5	28.6	15.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	20.1	17.6	13.8	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	17.2	14.8	15.0	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	23.9	21.4	11.1	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	5.5	19.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	23.8	20.6	14.8	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	10.7	9.1	16.6	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.7	2.3	16.3	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.5	10.4	18.0	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631) - continued									
EM2305209-014	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-013	Anonymous	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	36	22	47.3	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	178	155	14.0	No Limit
		EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	138	130	5.9	No Limit
		EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	<50	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	1	mg/kg	<1.0	<1.0	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	204	148	31.8	No Limit
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg	240	201	17.6	No Limit
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg	484	406	17.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: C15 - C28 Fraction	----	100	mg/kg	1120	980	13.7	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	390	350	10.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	290	240	17.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632) - continued									
EM2305209-001	UST_80_1.2_S	EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: >C16 - C34 Fraction	----	100	mg/kg	1140	1010	12.0	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	190	170	9.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	570	480	16.9	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952615) - continued									
EM2305209-025	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953590) - continued									
EM2305186-001	Anonymous	EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	104	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	105	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	103	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	102	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	99.2	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.5	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	44.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	93.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	92.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	90.8	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	90.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	80.8	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	89.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.5	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	90.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	86.6	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	77.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	87.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	62.5	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	109	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	102	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	110	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	96.0	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	102	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	101	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.7	65.8	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	79.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	87.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	90.7	55.0	124
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	116	70.0	130
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	107	70.0	130
EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	3163 mg/kg	111	70.0	130
EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	763 mg/kg	105	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	90.3	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	88.8	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	85.4	72.2	107
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	109	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	105	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616) - continued								
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	mg/kg	<50	963 mg/kg	91.1	70.0	130
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	mg/kg	<50	202 mg/kg	89.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	114	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	104	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	104	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	104	81.5	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618) - continued								
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	108	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952615) - continued								
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4953606) - continued								
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Phenol	108-95-2	3 mg/kg	93.1	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	94.6	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	96.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	89.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	73.6	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	86.5	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	91.8	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	92.1	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	88.8	61.5	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850) - continued							
EM2305245-002	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	84.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	116	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aliphatic >C5-C6	----	7 mg/kg	68.4	43.0	123
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	12 mg/kg	# Not Determined	46.0	134
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	1129 mg/kg	116	70.0	130
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	3884 mg/kg	110	70.0	130
		EP070-CWG: Aliphatic >C16-C21	----	3163 mg/kg	129	70.0	130
		EP070-CWG: Aliphatic >C21-C35	----	763 mg/kg	121	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aromatic >C5-C7	----	2 mg/kg	82.1	39.0	133
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	2 mg/kg	95.7	44.0	136
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	341 mg/kg	75.9	70.0	130
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	1365 mg/kg	80.0	70.0	130
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	963 mg/kg	75.0	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616) - continued							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	202 mg/kg	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	98.3	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	94.9	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	94.0	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	110	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AB**	Page	: 1 of 31
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 30-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	90	15.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	7	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	18	16	11.3	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	258	248	4.1	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	81	72	12.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	172	178	2.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	23	17	28.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1320	1260	5.2	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Arsenic	7440-38-2	5	mg/kg	150	# 88	51.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	403	# 556	32.1	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	140	27.6	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	11	11	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	23	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	83	81	2.9	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	223	248	10.6	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	24	14	49.7	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	UST_SP_1.5-2.0_02	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	100	19.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	15.1	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	10	29.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	60	50	17.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	191	198	3.5	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	41	42	3.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	133	# 351	90.0	0% - 20%
EM2305209-030	UST_SP_EXT_06	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	12	12.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	12	11.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	19	9.1	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	8	40.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	66	61	7.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	245	222	10.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	26	16	49.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	198	167	16.9	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873)									
EM2305098-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	50	49	2.4	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873) - continued									
EM2305098-001	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	120	120	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	41	2.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	22	8.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	134	133	0.8	0% - 20%
EM2305119-013	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	44	3.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	50	51	2.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	7.8	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	Anonymous	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	Anonymous	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	UST_SP_EXT_02	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	UST_QC108	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	Anonymous	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953724)									
EM2305209-013	UST_SP_0.5-1.0_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953872)									
EM2305098-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2305119-013	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 4952639)									
EM2305209-013	UST_SP_0.5-1.0_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4954561)									
EM2305209-013	UST_SP_0.5-1.0_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 4952640)									
EM2305209-013	UST_SP_0.5-1.0_01	EK040T: Fluoride	16984-48-8	40	mg/kg	130	100	20.5	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952630)									
EM2305209-023	UST_SP_1.5-2.0_04	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952634)									
EM2305209-013	UST_SP_0.5-1.0_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952629)									
EM2305209-023	UST_SP_1.5-2.0_04	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633)									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631) - continued									
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	UST_QC108	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	3.4	96.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	4.2	123	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.6	25.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.9	2.7	102	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.5	# 16.9	116	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	# 6.6	133	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.4	# 26.9	105	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.0	# 27.1	92.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	# 16.2	106	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	# 13.7	102	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.2	# 18.7	101	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	# 8.0	108	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627) - continued									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.3	# 18.2	96.9	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	# 7.7	96.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	2.1	100	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.1	# 8.7	94.2	0% - 50%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-036	UST_QC108	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305209-046	Anonymous	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953231)									
EM2305209-013	UST_SP_0.5-1.0_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	2.15	2.03	5.6	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: C15 - C28 Fraction	----	100	mg/kg	2350	2000	16.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	160	110	38.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1130	970	15.0	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: >C16 - C34 Fraction	----	100	mg/kg	1540	1270	19.5	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2020	1750	14.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864)									
EM2305003-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864) - continued									
EM2305003-003	Anonymous	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4953606)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953606) - continued									
EM2305209-039	UST_QCA06	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.4	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	98.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.7	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	94.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	93.5	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	97.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	94.3	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	95.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	94.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.5	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	115	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.2	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.6	50.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873) - continued								
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	104	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	91.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.1	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	79.3	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	101	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952630)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	100	68.0	133
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	98.8	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	66.3	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629) - continued								
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	90.8	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.6	55.5	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	96.1	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.5	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	98.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	37.7	10.0	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.8	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	101	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	99.8	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	89.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.5	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953231)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	86.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	110	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636) - continued								
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	108	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	122	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952597) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478) - continued								
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	85.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	86.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.1	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	82.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	96.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	89.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	101	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	101	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	99.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.2	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	101	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	100	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	97.2	55.6	135

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	96.1	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	95.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	103	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 172	80.0	120
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Arsenic	7440-38-2	50 mg/kg	114	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	99.0	78.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	UST_SP_1.5-2.0_03	EG005T: Arsenic	7440-38-2	50 mg/kg	89.2	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	87.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.9	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	93.1	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)							
EM2305098-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.1	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	91.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	95.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	88.2	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)							
EM2305209-019	UST_SP_1.0-1.5_03	EG035T: Mercury	7439-97-6	0.5 mg/kg	105	76.0	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)							
EM2305098-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)							
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 46.0	58.0	114
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	60.1	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)							
EM2305209-019	UST_SP_1.0-1.5_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	112	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)							
EM2305209-019	UST_SP_1.0-1.5_03	EK040T: Fluoride	16984-48-8	400 mg/kg	80.0	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)							
EM2305209-021	UST_SP_1.5-2.0_02	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	110	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)							
EM2305209-019	UST_SP_1.0-1.5_03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.0	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	93.7	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	64.8	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	99.1	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	94.1	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	71.2	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	98.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	90.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	81.9	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	70.1	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 45.6	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	# 72.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	99.4	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	89.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	101	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2305209**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
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Project	: 60693007	Page	: 1 of 4
Order number	: 60693007-3	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 22-Mar-2023 11:15	Issue Date	: 30-Mar-2023
Client Requested Due Date	: 29-Mar-2023	Scheduled Reporting Date	: **29-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 4.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 49 / 45

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Extra samples received:**
  UST_QC106 (sample 046)
  UST_QC206 (sample 047)
  OL_90_0.6_E (sample 048)
  OL_90_1.0 (sample 049)
  Rail Timber 01 (sample 050)
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - TRH-CWG Aliphatic/Aromatic CWG/RIVM Bands
EM2305209-001	20-Mar-2023 00:00	UST_80_1.2_S	✓		✓	
EM2305209-002	20-Mar-2023 00:00	UST_OL_DL_BF	✓		✓	
EM2305209-003	20-Mar-2023 00:00	UST_77_SE_0.8	✓		✓	
EM2305209-004	20-Mar-2023 00:00	UST_77_SE_1.6	✓		✓	✓
EM2305209-005	20-Mar-2023 00:00	UST_74_E_0.8	✓		✓	
EM2305209-006	20-Mar-2023 00:00	UST_74_E_1.6	✓		✓	
EM2305209-007	20-Mar-2023 00:00	UST_66_E_0.8	✓		✓	
EM2305209-008	20-Mar-2023 00:00	UST_66_E_1.6	✓		✓	
EM2305209-009	20-Mar-2023 00:00	UST_59_E_0.8	✓		✓	
EM2305209-010	20-Mar-2023 00:00	UST_59_E_1.6	✓		✓	✓
EM2305209-011	20-Mar-2023 00:00	UST_55_NE_0.8	✓		✓	
EM2305209-012	20-Mar-2023 00:00	UST_55_NE_1.6	✓		✓	
EM2305209-013	21-Mar-2023 00:00	UST_SP_0.5-1.0_01	✓	✓		
EM2305209-014	21-Mar-2023 00:00	UST_SP_0.5-1.0_02	✓		✓	
EM2305209-015	21-Mar-2023 00:00	UST_SP_0.5-1.0_03	✓		✓	
EM2305209-016	21-Mar-2023 00:00	UST_SP_0.5-1.0_04	✓		✓	
EM2305209-017	21-Mar-2023 00:00	UST_SP_1.0-1.5_01	✓		✓	
EM2305209-018	21-Mar-2023 00:00	UST_SP_1.0-1.5_02	✓		✓	
EM2305209-019	21-Mar-2023 00:00	UST_SP_1.0-1.5_03	✓	✓		
EM2305209-020	21-Mar-2023 00:00	UST_SP_1.5-2.0_01	✓		✓	
EM2305209-021	21-Mar-2023 00:00	UST_SP_1.5-2.0_02	✓	✓		
EM2305209-022	21-Mar-2023 00:00	UST_SP_1.5-2.0_03	✓		✓	
EM2305209-023	21-Mar-2023 00:00	UST_SP_1.5-2.0_04	✓	✓		
EM2305209-024	21-Mar-2023 00:00	UST_SP_1.5-2.0_05	✓		✓	
EM2305209-025	21-Mar-2023 00:00	UST_SP_EXT_01	✓	✓		
EM2305209-026	21-Mar-2023 00:00	UST_SP_EXT_02	✓		✓	
EM2305209-027	21-Mar-2023 00:00	UST_SP_EXT_03	✓	✓		
EM2305209-028	21-Mar-2023 00:00	UST_SP_EXT_04	✓		✓	
EM2305209-029	21-Mar-2023 00:00	UST_SP_EXT_05	✓		✓	
EM2305209-030	21-Mar-2023 00:00	UST_SP_EXT_06	✓		✓	
EM2305209-031	21-Mar-2023 00:00	UST_SP_EXT_07	✓		✓	
EM2305209-032	21-Mar-2023 00:00	UST_SP_EXT_08	✓	✓		
EM2305209-033	21-Mar-2023 00:00	UST_SP_ch77-80_01	✓		✓	
EM2305209-034	21-Mar-2023 00:00	UST_SP_ch77-81_02	✓		✓	
EM2305209-035	21-Mar-2023 00:00	UST_SP_ch77-82_03	✓	✓		

			SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - TRH-CWG Aliphatic/Aromatic CWG/RIVM Bands
EM2305209-036	21-Mar-2023 00:00	UST_QC108	✓		✓	
EM2305209-037	21-Mar-2023 00:00	UST_QC109	✓	✓		
EM2305209-038	21-Mar-2023 00:00	UST_QC110	✓		✓	
EM2305209-042	20-Mar-2023 00:00	UST_QC107	✓		✓	
EM2305209-046	20-Mar-2023 00:00	UST_QC106	✓		✓	
EM2305209-050	21-Mar-2023 00:00	Rail Timber 01	✓			

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) SOIL No analysis requested	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2305209-048	21-Mar-2023 00:00	OL_90_0.6_E	✓			
EM2305209-049	21-Mar-2023 00:00	OL_90_1.0	✓			
EM2305209-050	21-Mar-2023 00:00	Rail Timber 01		✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2305209-039	21-Mar-2023 00:00	UST_QCA06		✓	
EM2305209-040	21-Mar-2023 00:00	UST_QCB08			✓
EM2305209-041	21-Mar-2023 00:00	UST_QCC03	✓		
EM2305209-043	20-Mar-2023 00:00	UST_QCA05		✓	
EM2305209-044	20-Mar-2023 00:00	UST_QCB07			✓
EM2305209-045	20-Mar-2023 00:00	UST_QCC02	✓		

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- Chromatogram (CHROM)	Email	tim.smith02@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	tim.smith02@aecom.com

291

FREIGHT

SCANNED

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8467 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinstone QLD 4680 Ph: 07 4979 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY 11 [illegible] Ph: 07 4952 9700 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: enquiry.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4968 9600 E: samples.newcastle@alsglobal.com

NOWRA 4/10 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY Unit 6, 27-33 Woodlands Road Stinthfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Kirwan QLD Ph: 07 4775 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/19-21 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY: Scott (ALS)	RELINQUISHED BY:	RECEIVED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME:	DATE/TIME: 22/3/23, 1115	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com				
Email Invoice to (will default to PM if no other addresses are listed):				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Environmental Division
Melbourne
Work Order Reference
EM2305209

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 6/1 Burma Road Pooraka SA 5095 Ph: 08 8107 0180 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 45 Callemondah Drive Gladstone QLD 4680 Ph: 07 4975 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5705 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: soc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/15 Bearry Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rego Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Circuit Kirwan QLD Ph: 07 4779 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG Unit 21 Robert Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point — **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: — **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe — **CONTACT PH:** 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith — **SAMPLER MOBILE:** 0428 420 162	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)	**RELINQUISHED BY:** — **RECEIVED BY:**
COC Emailed to ALS? (YES / NO) — **EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME: 22/3/23, 1115	DATE/TIME: — DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE: 21 Burma Road Pooraka SA 5095 Ph: 08 8107 5130 E: adelaide@alsglobal.com

BRISBANE: 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE: 46 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 9944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY: Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5795 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE: 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: ABC.melbourne@alsglobal.com

MUDGEE: 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE: 6/69 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA: 4/13 Geary Place Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH: 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY: 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE: 13 Garden Street Bohle QLD Ph: 07 4713 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG: Unit 2/4 Ralph Black Drive Ph: 02 4225 8125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point **PROJECT NO 60693007**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: **PURCHASE ORDER NO.: 60693007-3**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**		
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	Scott (ALS)		
DATE/TIME:	DATE/TIME: 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
~~36~~														
				TOTAL	22	7	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: **please tick →**

ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8160 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Bohle QLD Ph: 07 4773 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 7/19-21 Kenjo Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Invoice to (will default to PM if no other addresses are listed):		**RELINQUISHED BY:** DATE/TIME:	**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

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SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Kirwan QLD Ph: 07 4796 0600 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/18-21 Rail Bank Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187		Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY: Scott (ALS)
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1									
	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1									please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1			
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1				
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1		
46	UST_QC106	20/3	S	Jar	2										
47	UST_QC206	20/3	S	Jar	2										
48	OL_90_0.6_E	21/3	S	Jar	2										
49	OL_90_1.0	21/3	S	Jar	2										
50	Rail Timber 01	21/3	Soil wood	Jar	2										
				TOTAL	14	2	0	0	0	0	1	1	1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MACKAY Ph: 07 4952 9755 E: ALSEnviro.Mackay@alsglobal.com

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WOLLONGONG 7/19-21 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

FREIGHT

SCANNED

291

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE: Hobart	
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	Free ice / frozen ice bricks present upon receipt? Yes No N/A
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com	Random Sample Temperature on Receipt: °C
Email Invoice to (will default to PM if no other addresses are listed):	Other comment:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:	RELINQUISHED BY: DATE/TIME: RECEIVED BY: Scott (ALS) DATE/TIME: 22/3/23, 1115 RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1		1						
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								potential high TRH
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1		1						
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								potential high TRH
					2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Environmental Division
Melbourne
Work Order Reference
EM2305209

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

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WOLLONGONG 1/19-21 Bligh Place Wollongong Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO 60693007**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.: 60693007-3**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MELBOURNE: 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: coc.melbourne@alsglobal.com

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NEWCASTLE: 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

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TOWNSVILLE: 13 Garden Street Kelwin QLD Ph: 07 4723 0600 E: ALSEnviro.Townsville@als

WOLLONGONG: 1/19-21 Neigh Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE:** 0428 420 162		
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: Scott (ALS) 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
~~36~~														
				TOTAL	22	7	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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Ph: 07 4727 9600 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 4/19-21 Robert Black Drive
Ph: 02 4725 2125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Invoice to (will default to PM if no other addresses are listed):		**RELINQUISHED BY:**	**RECEIVED BY:**
		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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WOLLONGONG 4/19-21 Asquith Street Ph: 02 4225 3125 E: Addsamples@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187		Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: Scott (ALS) 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	
46	UST_QC106	20/3	S	Jar	2									
47	UST_QC206	20/3	S	Jar	2									
48	OL_90_0.6_E	21/3	S	Jar	2									
49	OL_90_1.0	21/3	S	Jar	2									
50	Rail Timber 01	21/3	Soil, wood	Jar	2									
				TOTAL	14	2	0	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

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WOLLONGONG 1/19-31 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY:
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5796 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: coc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 0735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal

TOWNSVILLE 13 Carlton Street Kirwan QLD Ph: 07 4727 9000 E: ALSEnviro.Townsville@als

WOLLONGONG 1/19-21 Balgh Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.n

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
50	Rail Timber_01	21/03/2023 0:00	Soil	Jar	2			1						
				TOTAL	24	7	4	1	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: **please tick** →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8102 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.enviro@alsglobal.com

GLADSTONE 48 Cassimondah Drive Gladstone QLD 4680 Ph: 07 4975 7444 E: AL3Enviro.Gladstone@alsglobal.com

MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5784 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: enc.melbourne@alsglobal.com

MUDGEE 1/30 Sydney Road Mudgee NSW 2850 Ph: 02 8373 6735 E: enviromud.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: alsnowra@alsglobal.com

PERTH 2F Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 13 Garbutt Street Kirwan QLD Ph: 07 4773 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/19-21 Rails Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (**List due date**):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (**List due date**):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
→	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
→	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐BRISBANE 2 Byth Street Stafford QLD 4053
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Ph: 07 4979 9944 E: ALSEnviro.Gladstone@alsglobal.com

☐MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740
Ph: 07 4952 5795 E: ALSEnviro.Mackay@alsglobal.com

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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

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Ph: 07 4779 9000 E: ALSEnviro.Townsville@als

☐WOLLONGONG Unit 9 19-21 Ralph Black Drive,
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE:** 0428 420 162	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):			

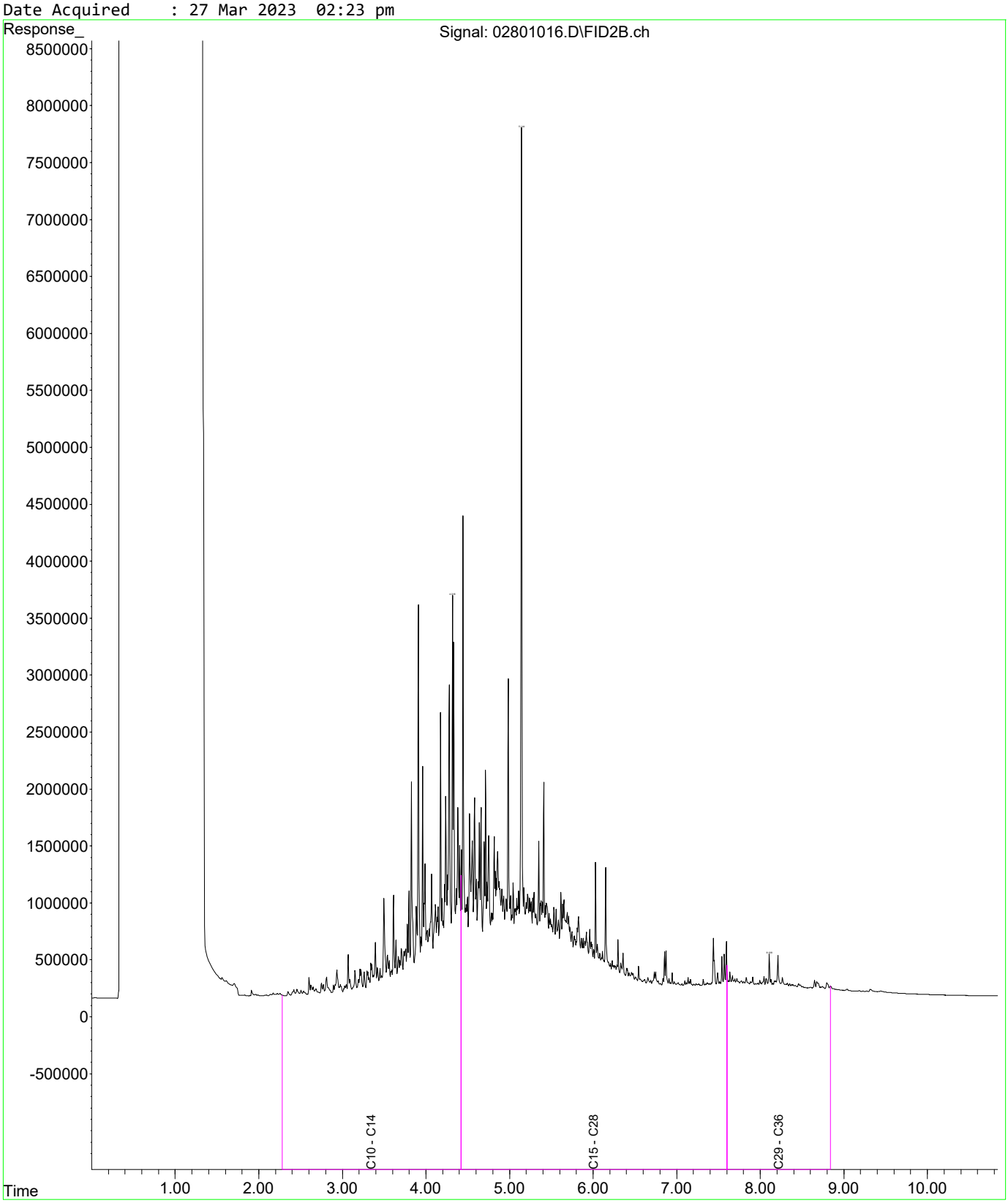
RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	
~~46~~ 46	UST _ QC106	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC206	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
				TOTAL	18	4	0	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Fraction Scheme : Legacy Fractions
Data File : 02801016.D
Laboratory Number: EM2305209-001
Sample ID : UST_80_1.2_S
Date Acquired : 27 Mar 2023 02:23 pm



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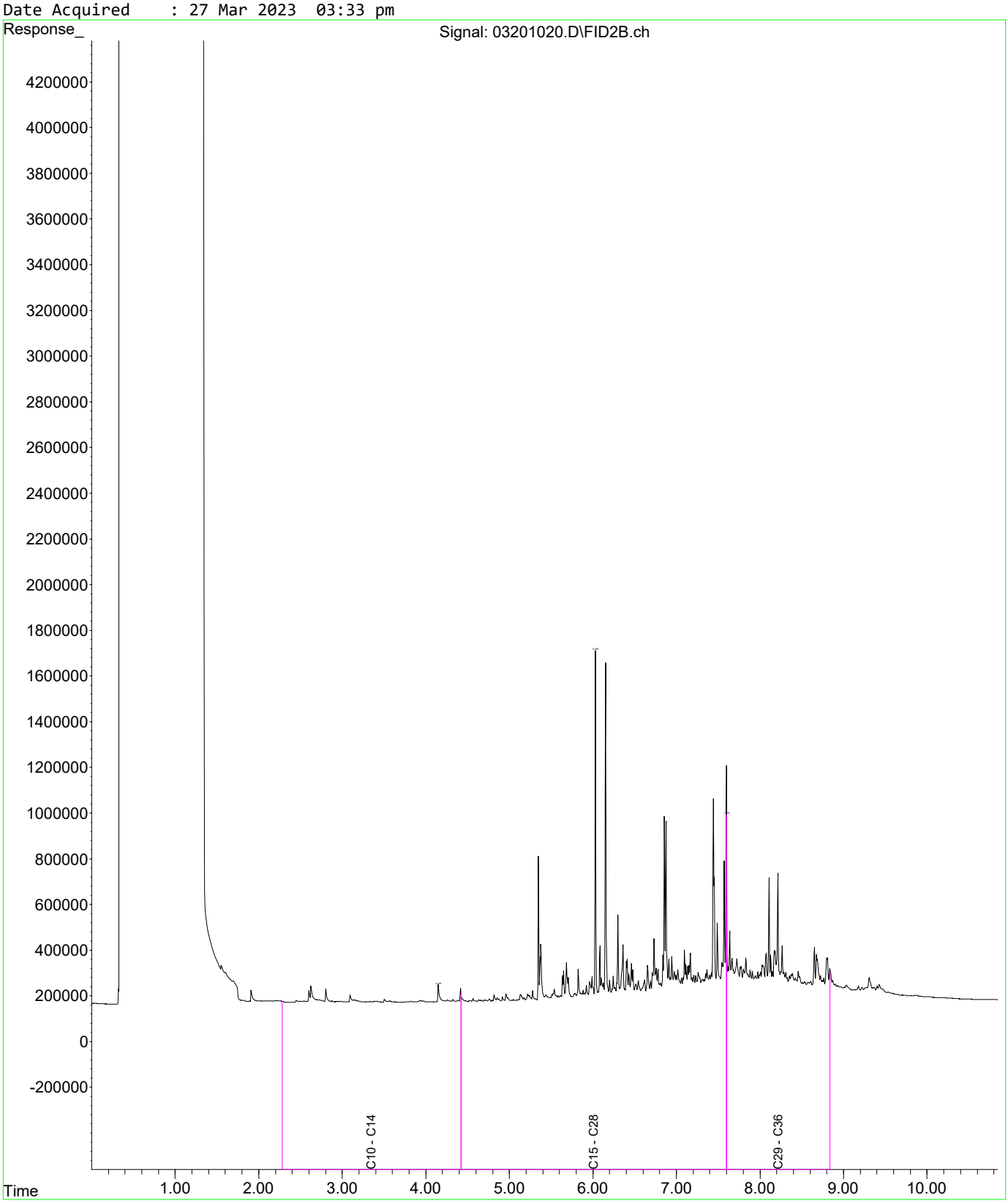
Laboratory Number: EM2305209-003
Sample ID : UST_77_SE_0.8
Date Acquired : 27 Mar 2023 03:33 pm



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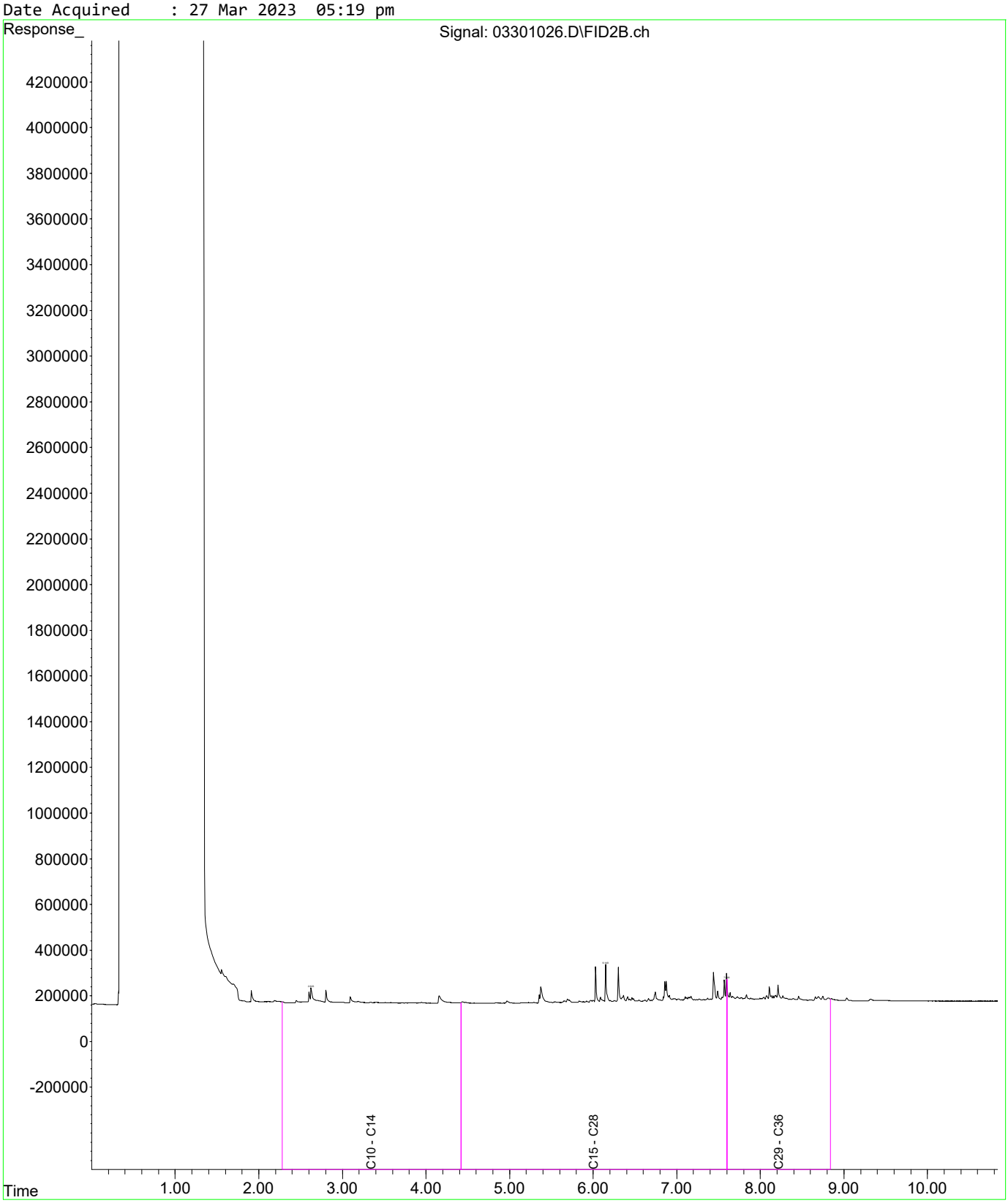
Laboratory Number: EM2305209-005
Sample ID : UST_74_E_0.8
Date Acquired : 27 Mar 2023 05:19 pm



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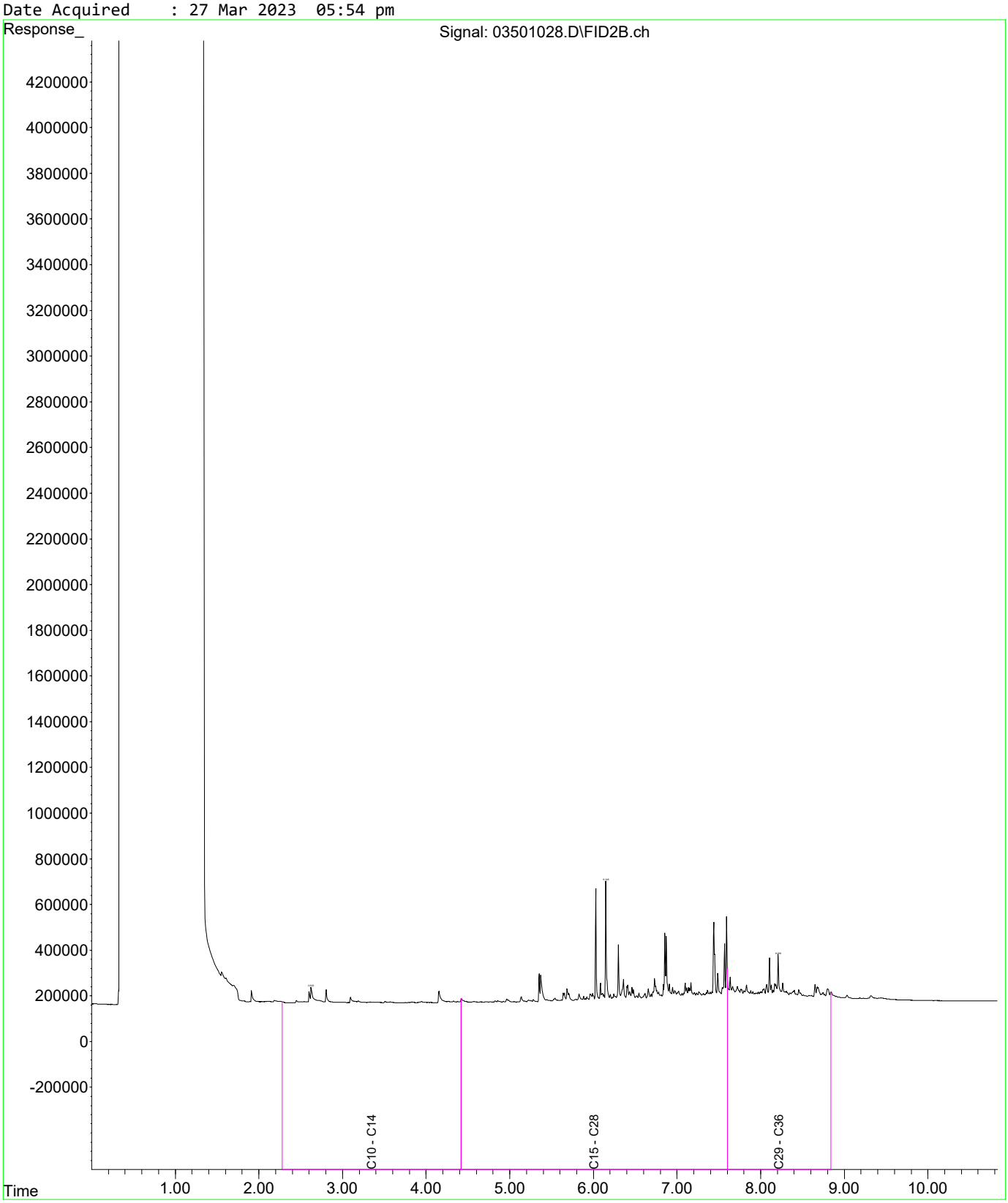
Date Acquired : 27 Mar 2023 05:54 pm



Fraction Scheme : Legacy Fractions
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Laboratory Number: EM2305209-008
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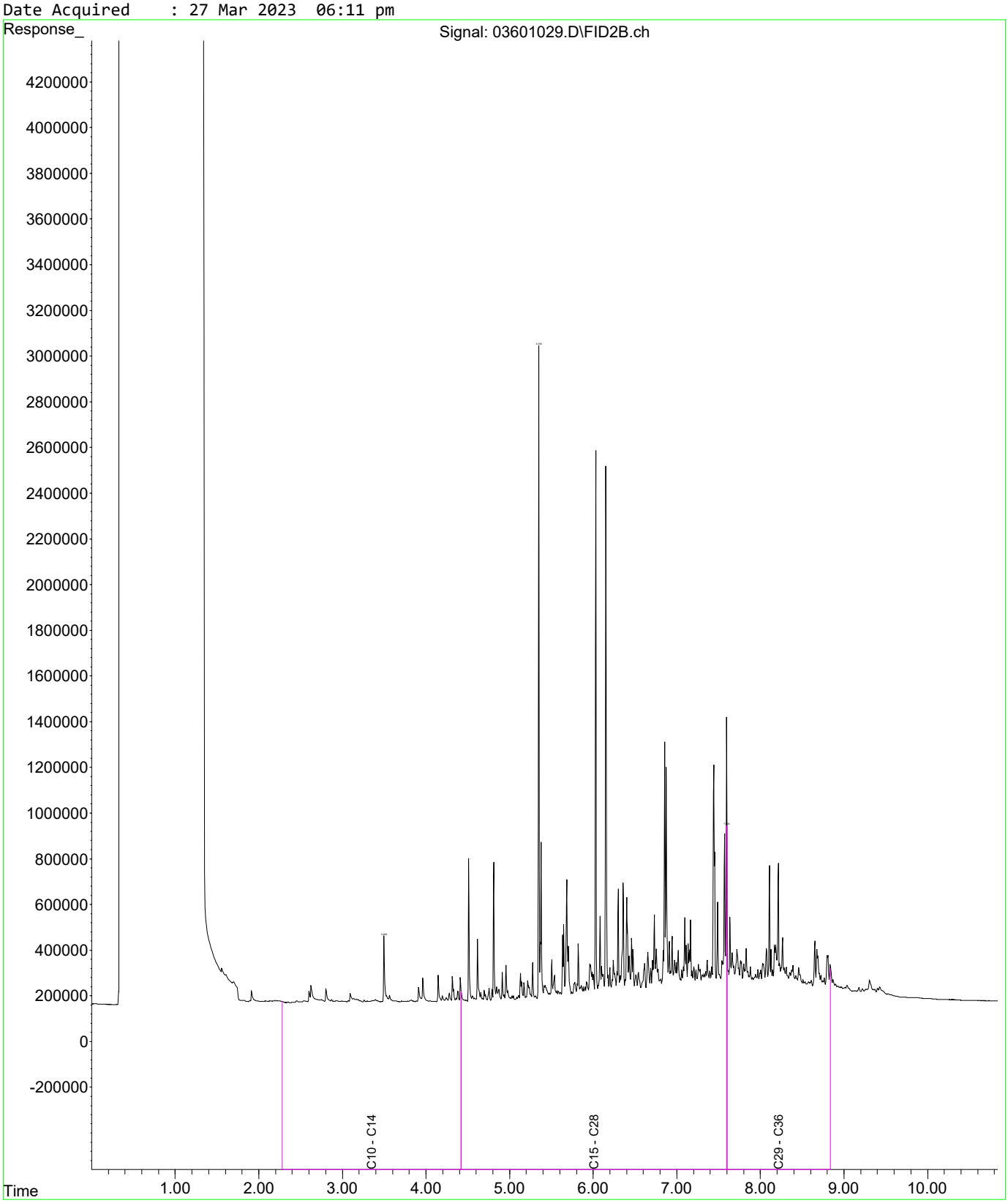
Date Acquired : 27 Mar 2023 06:11 pm



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Laboratory Number: EM2305209-009
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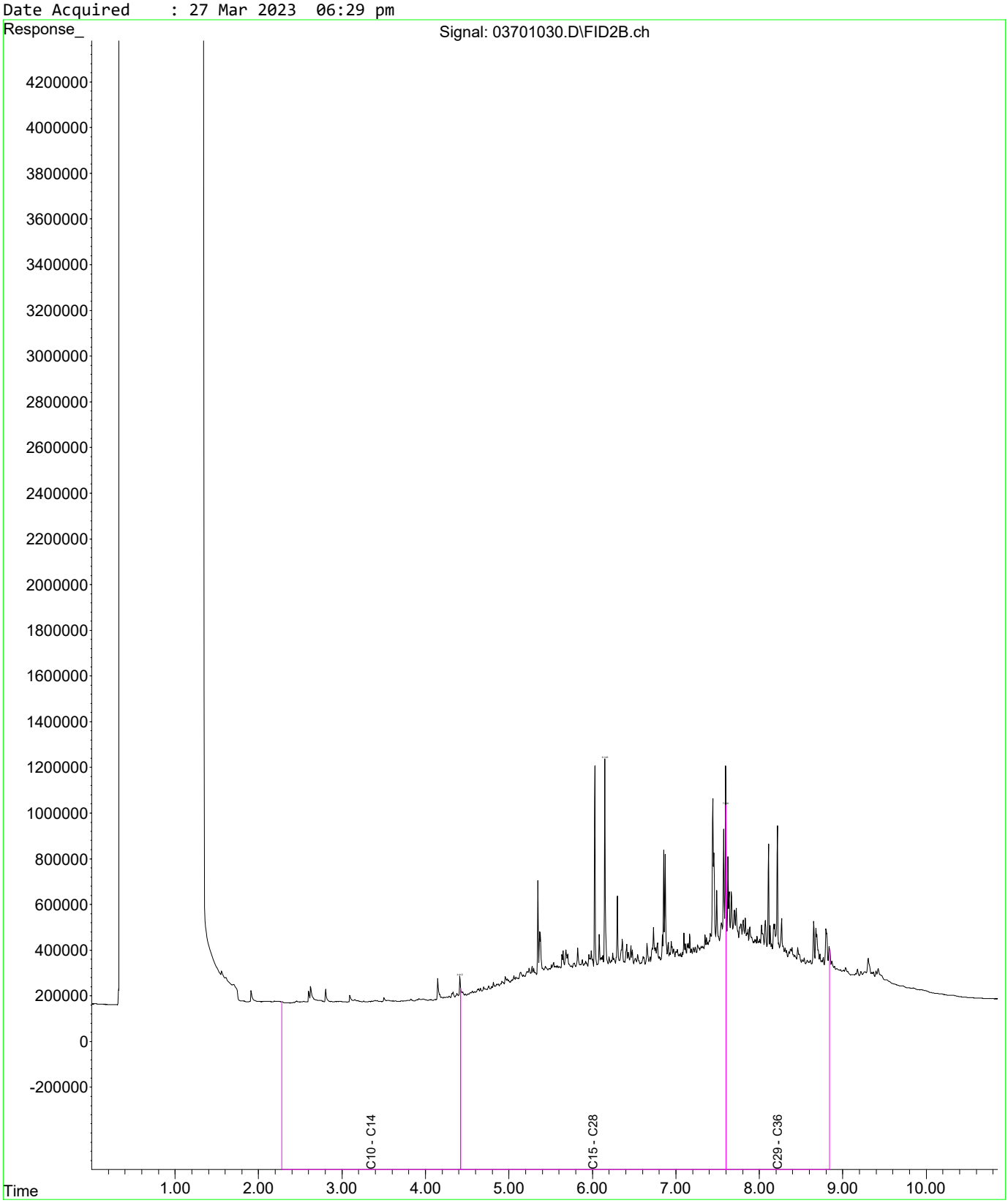
Date Acquired : 27 Mar 2023 06:29 pm



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Laboratory Number: EM2305209-011
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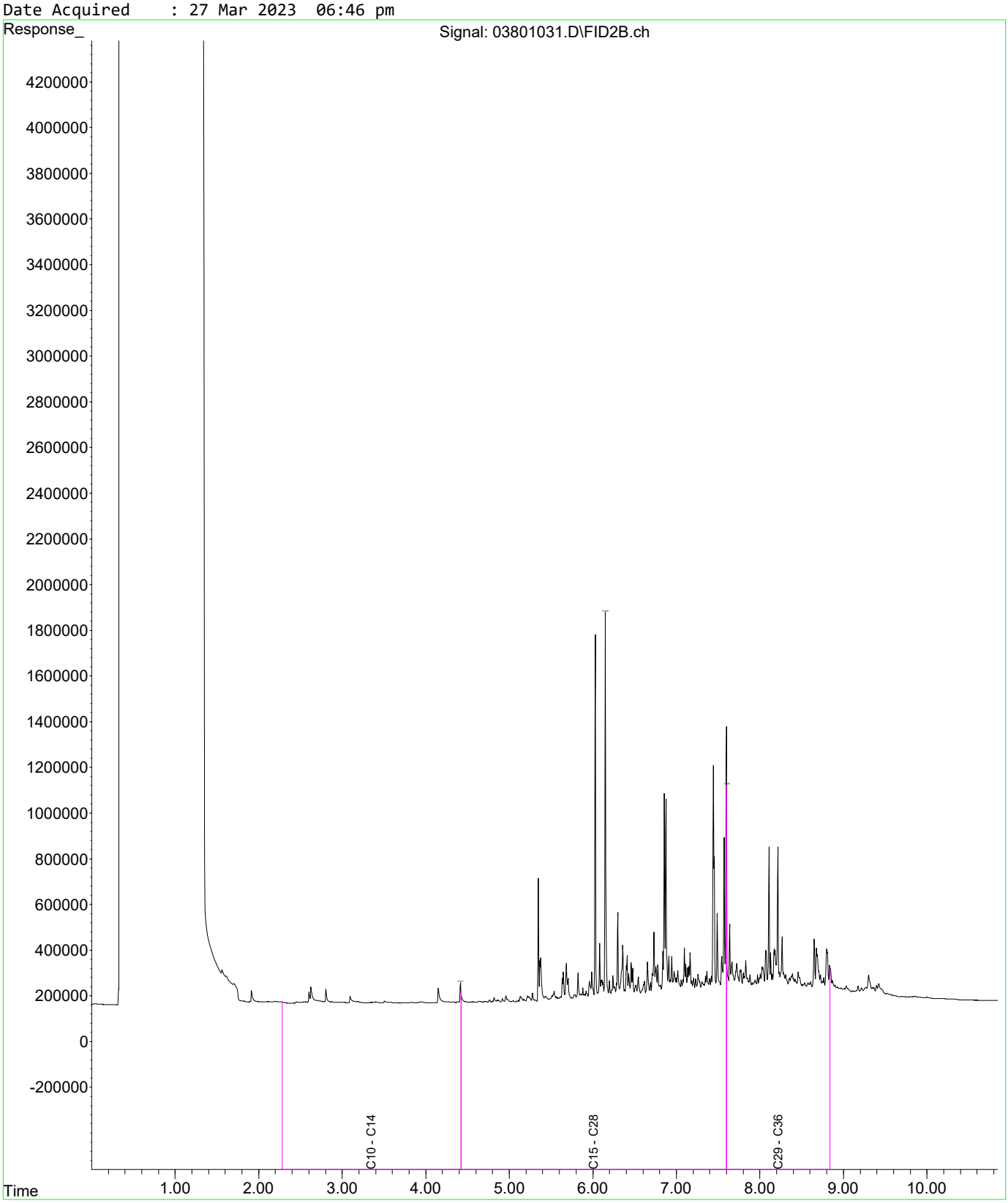
Date Acquired : 27 Mar 2023 06:46 pm



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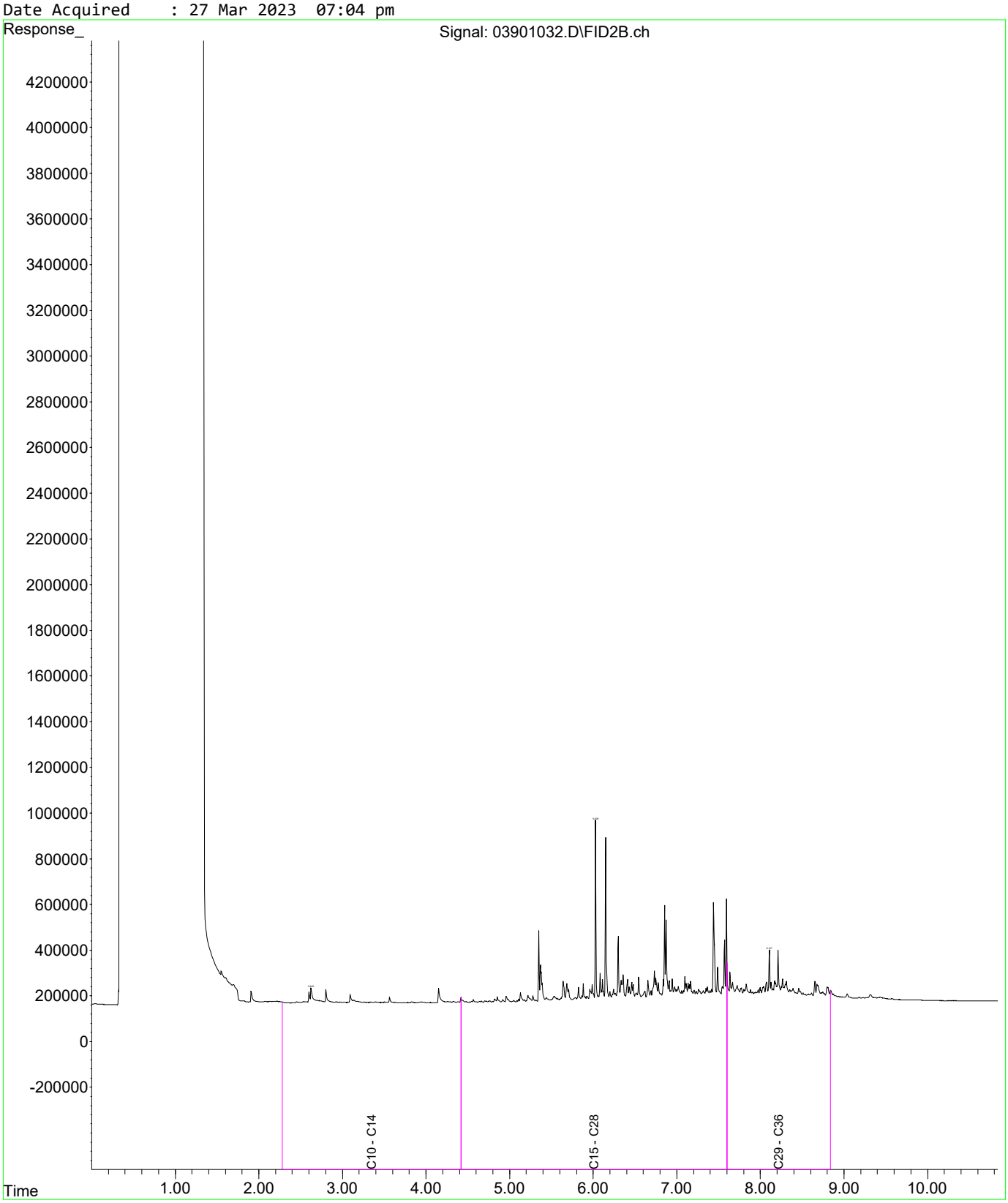
Sample ID : UST_55_NE_1.6
Date Acquired : 27 Mar 2023 07:04 pm



Fraction Scheme : Legacy Fractions
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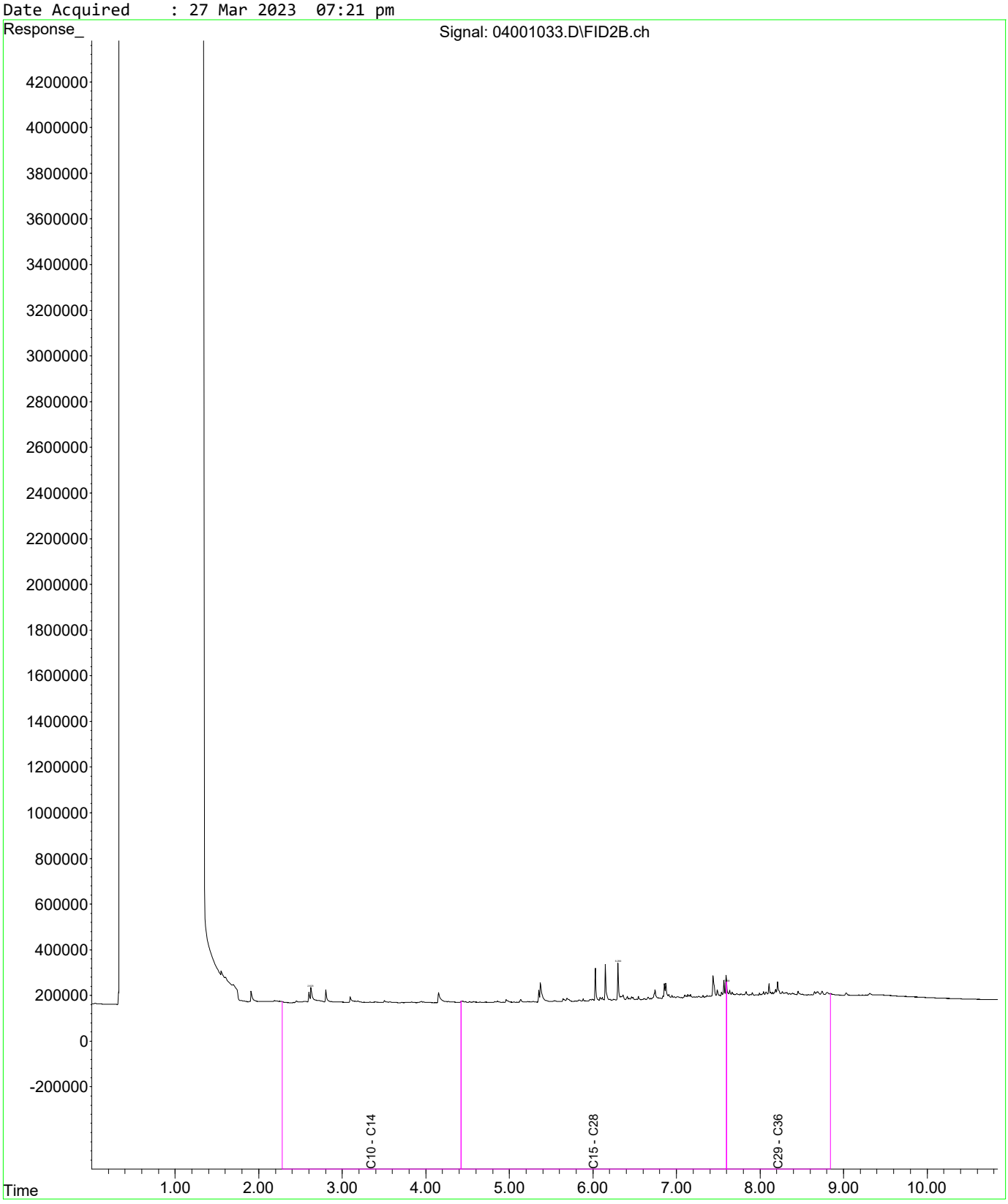
Laboratory Number: EM2305209-014
Sample ID : UST_SP_0.5-1.0_02
Date Acquired : 27 Mar 2023 07:21 pm



Fraction Scheme : Legacy Fractions
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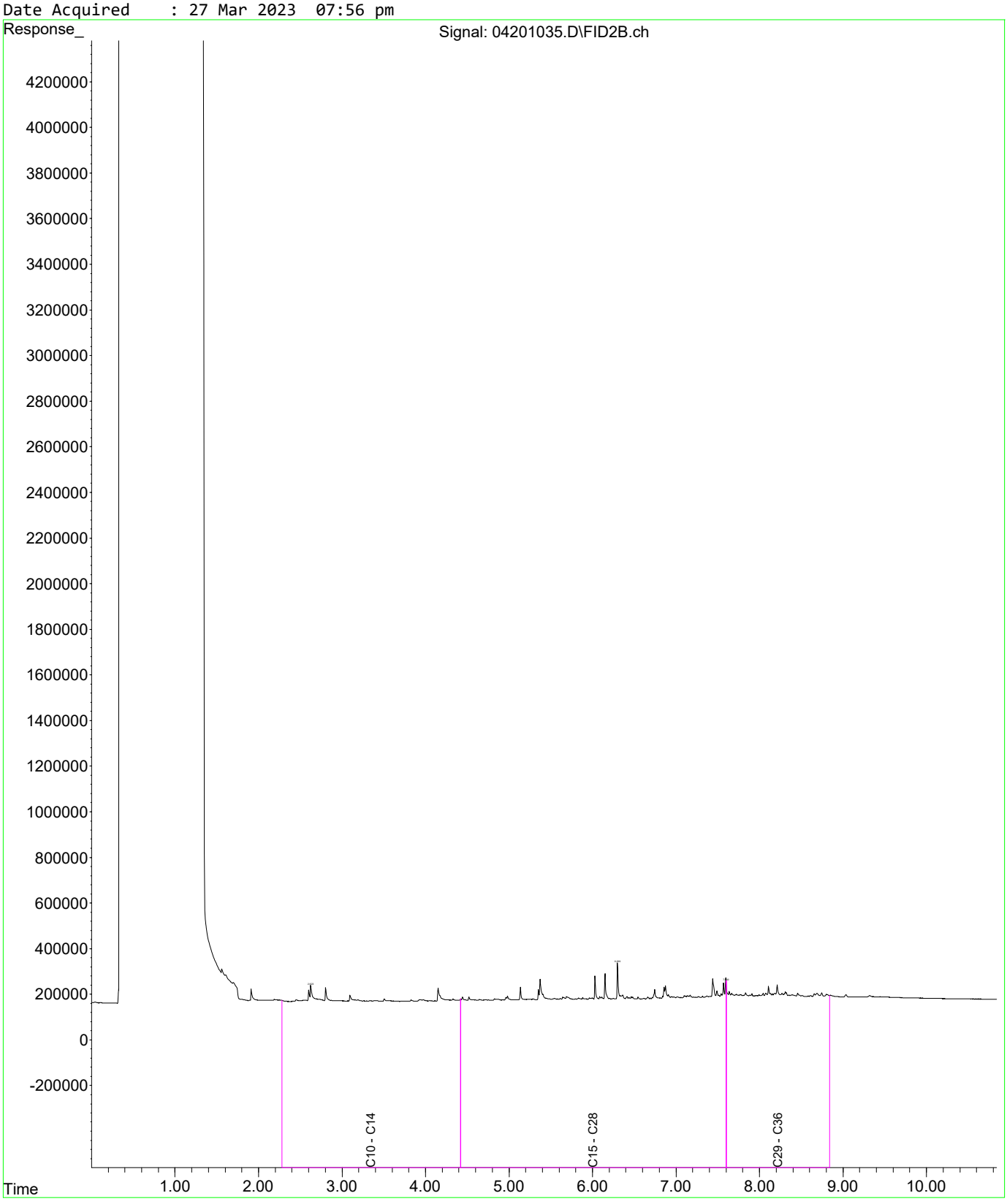
Laboratory Number: EM2305209-015
Sample ID : UST_SP_0.5-1.0_03
Date Acquired : 27 Mar 2023 07:56 pm



Fraction Scheme : Legacy Fractions
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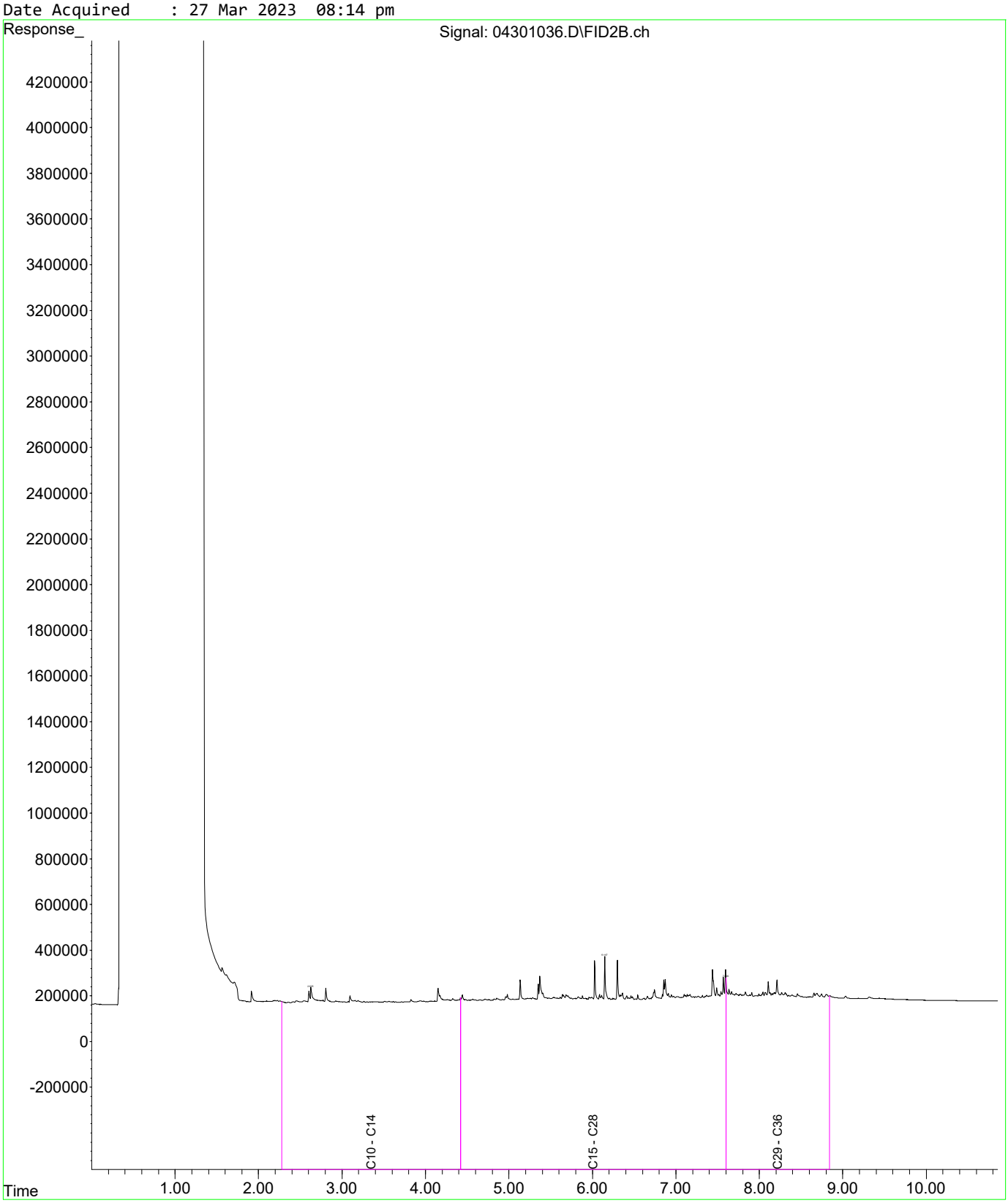
Sample ID : UST_SP_0.5-1.0_04
Date Acquired : 27 Mar 2023 08:14 pm



Fraction Scheme : Legacy Fractions
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Sample ID : UST_SP_1.0-1.5_01
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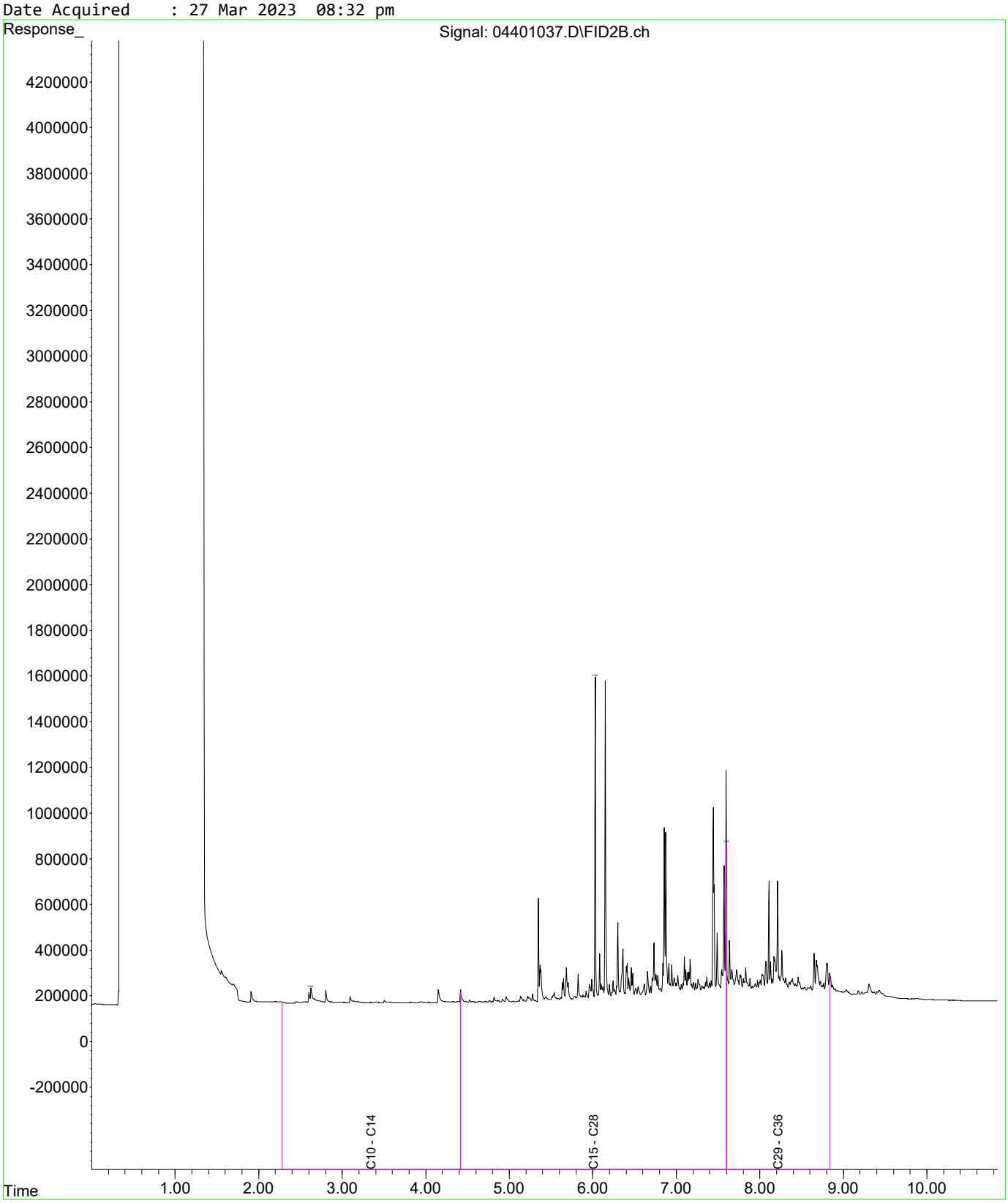

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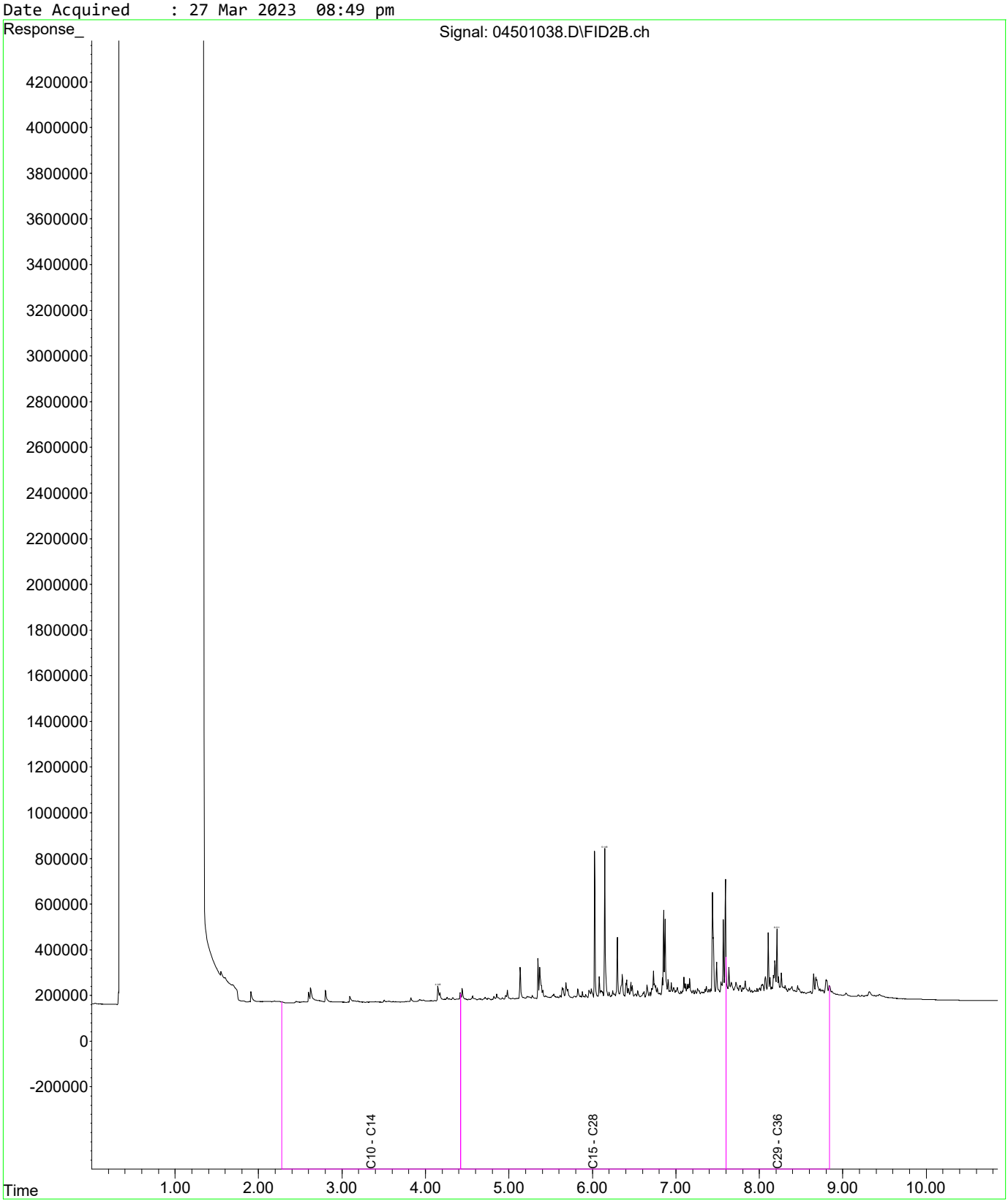
Sample ID : UST_SP_1.0-1.5_02
Date Acquired : 27 Mar 2023 08:49 pm



Fraction Scheme : Legacy Fractions
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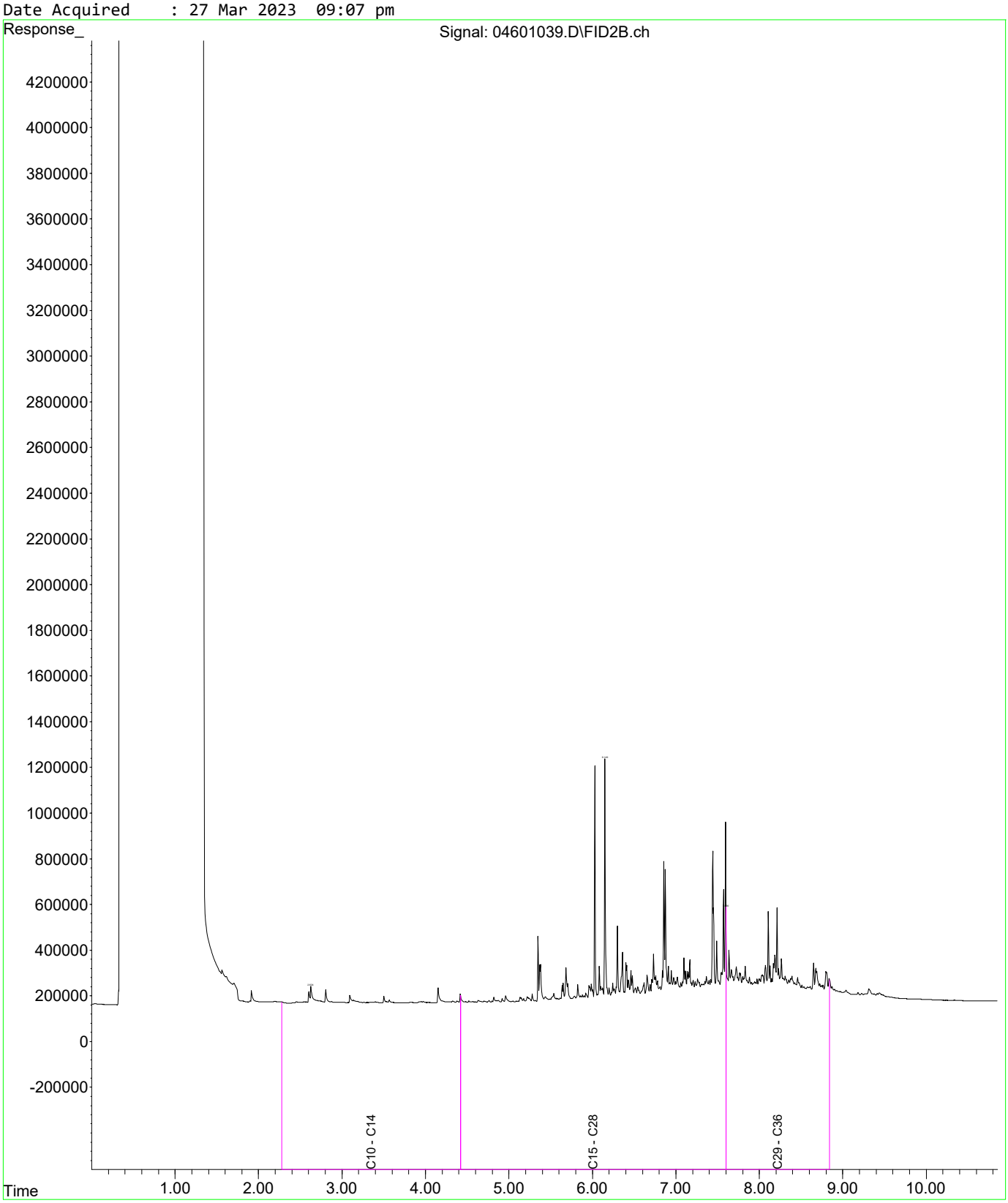
Laboratory Number: EM2305209-020
Sample ID : UST_SP_1.5-2.0_01
Date Acquired : 27 Mar 2023 09:07 pm



Fraction Scheme : Legacy Fractions
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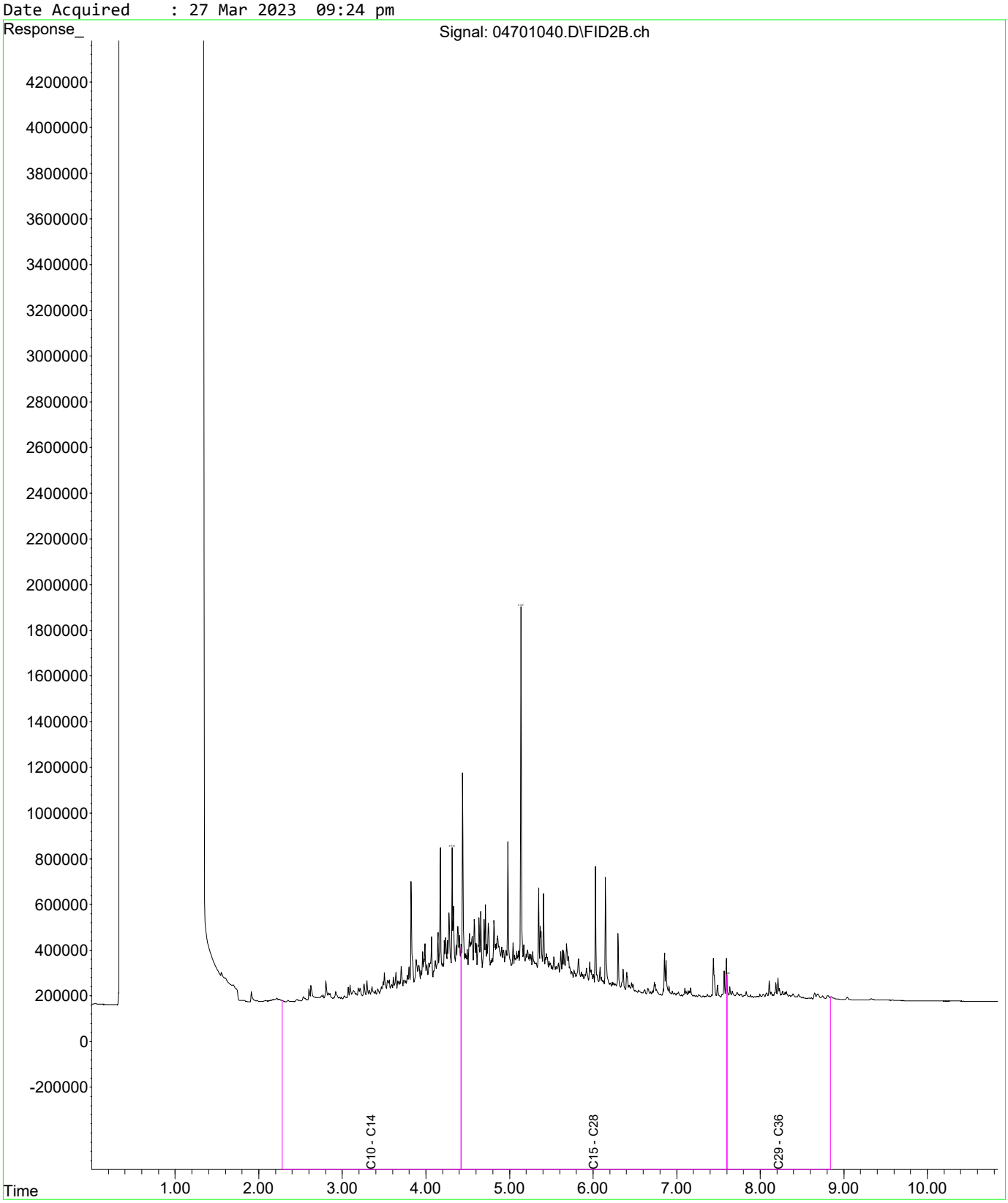
Laboratory Number: EM2305209-026
Sample ID : UST_SP_EXT_02
Date Acquired : 27 Mar 2023 09:24 pm



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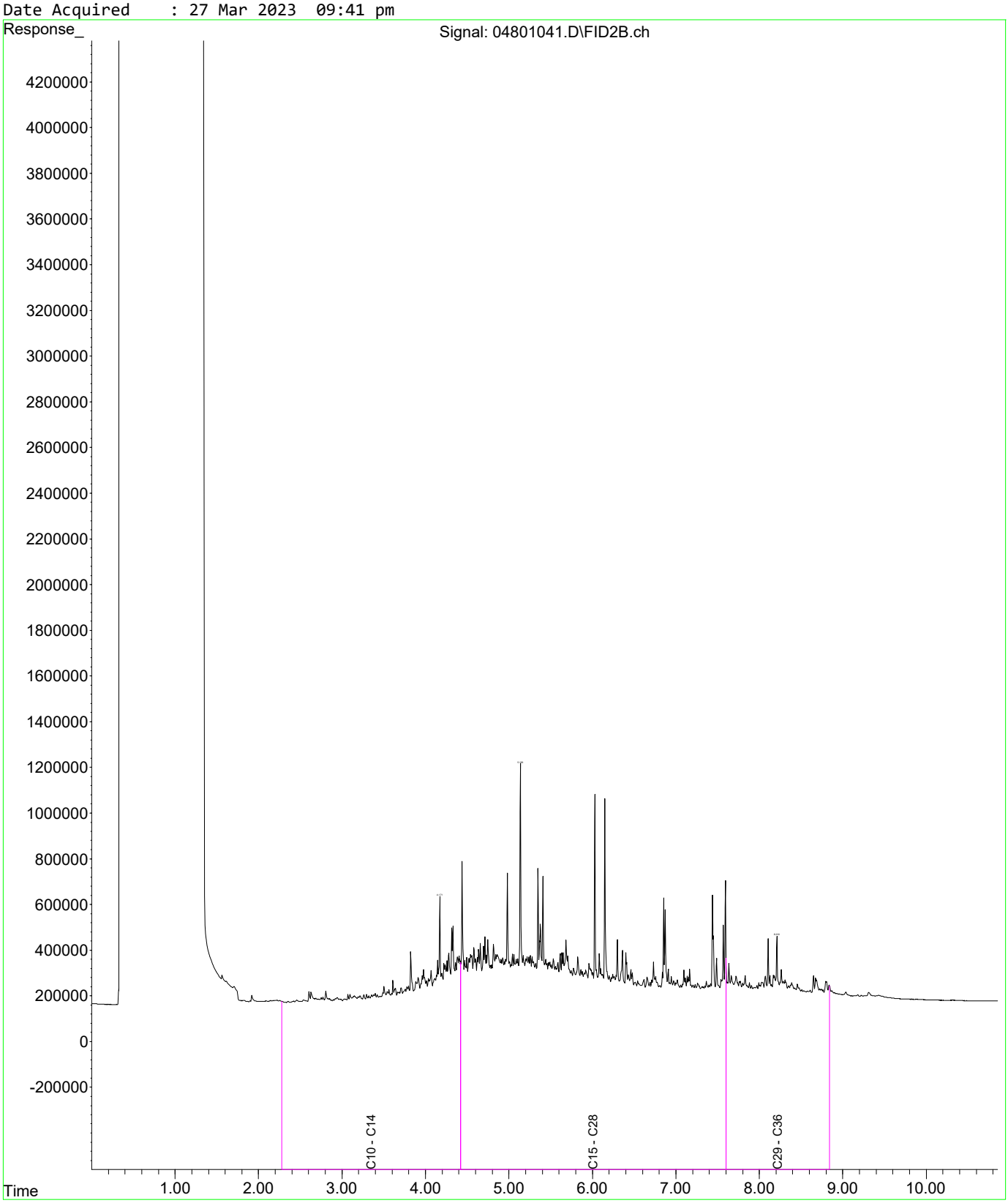
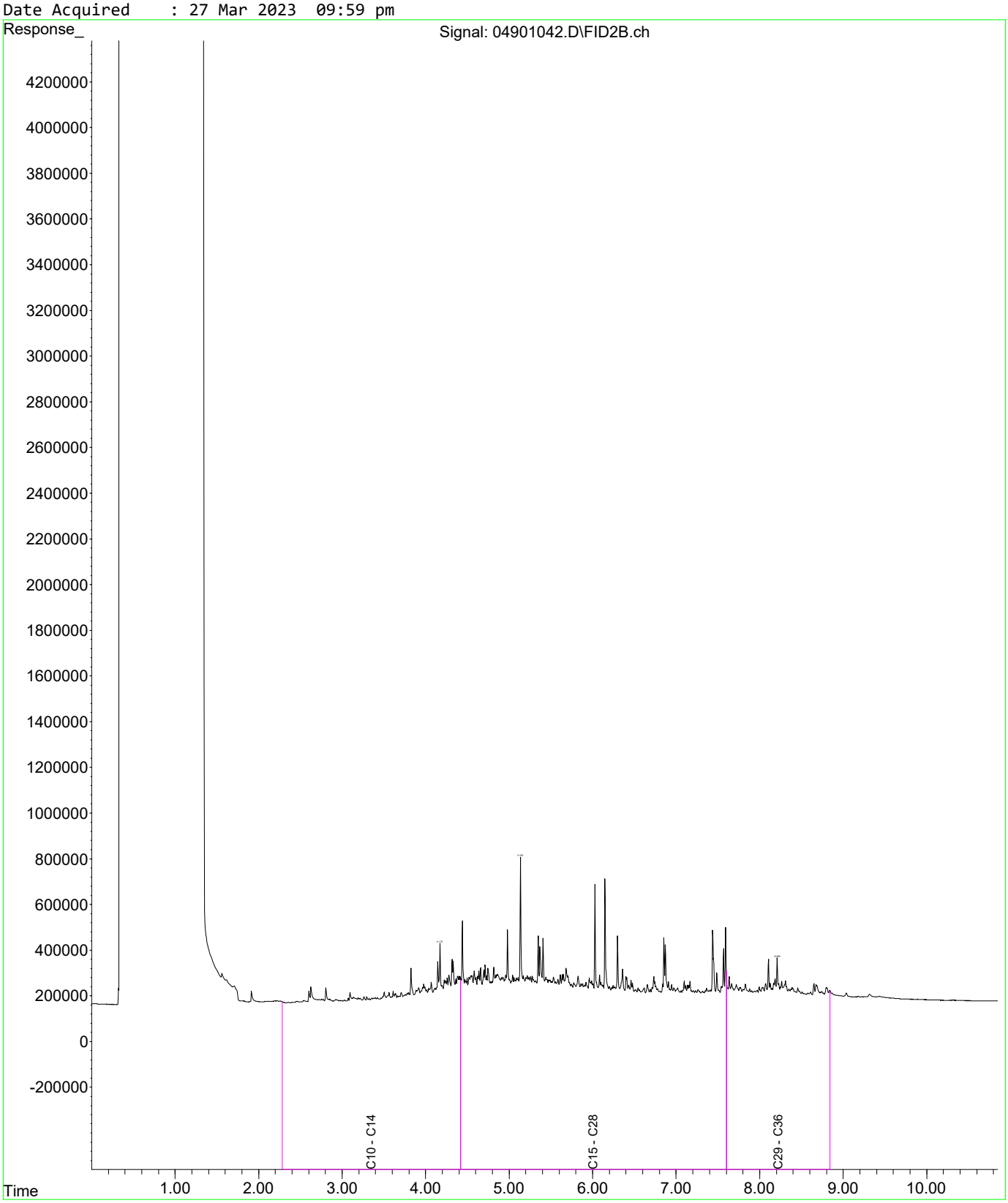
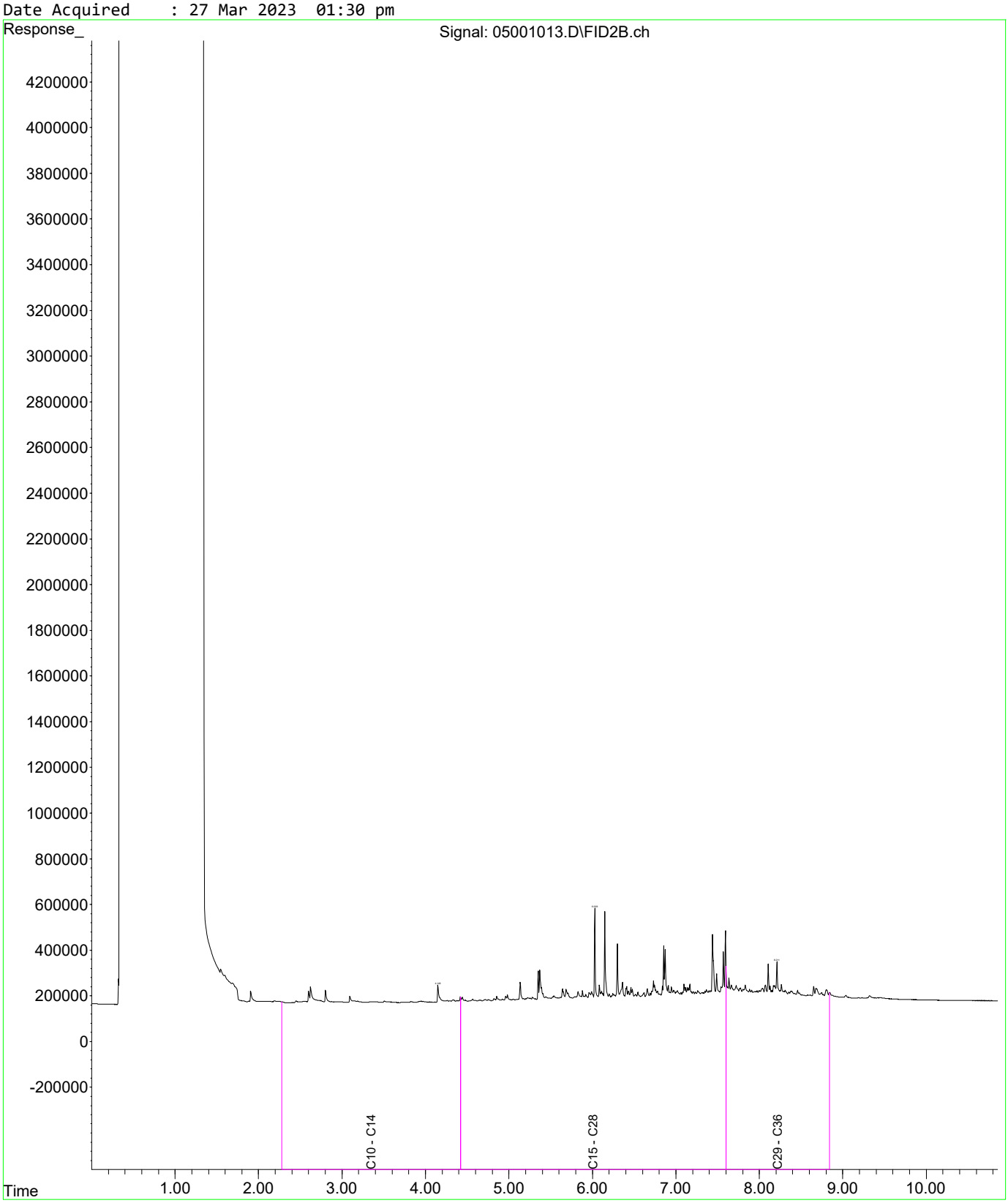
Laboratory Number: EM2305209-028
Sample ID : UST_SP_EXT_04
Date Acquired : 27 Mar 2023 09:41 pm



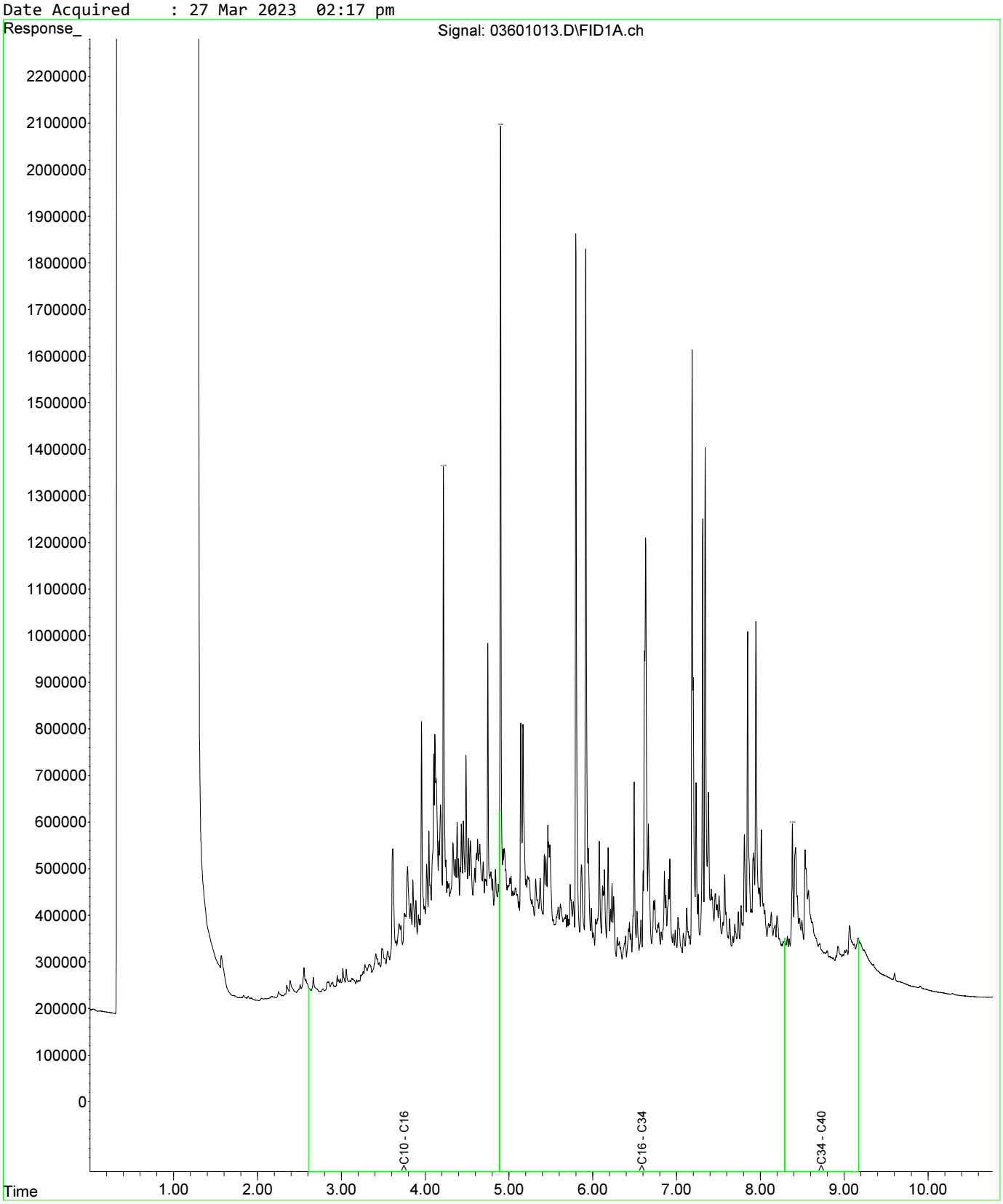
Fraction Scheme : Legacy Fractions
Data File : 04901042.D
Laboratory Number: EM2305209-029
Sample ID : UST_SP_EXT_05
Date Acquired : 27 Mar 2023 09:59 pm



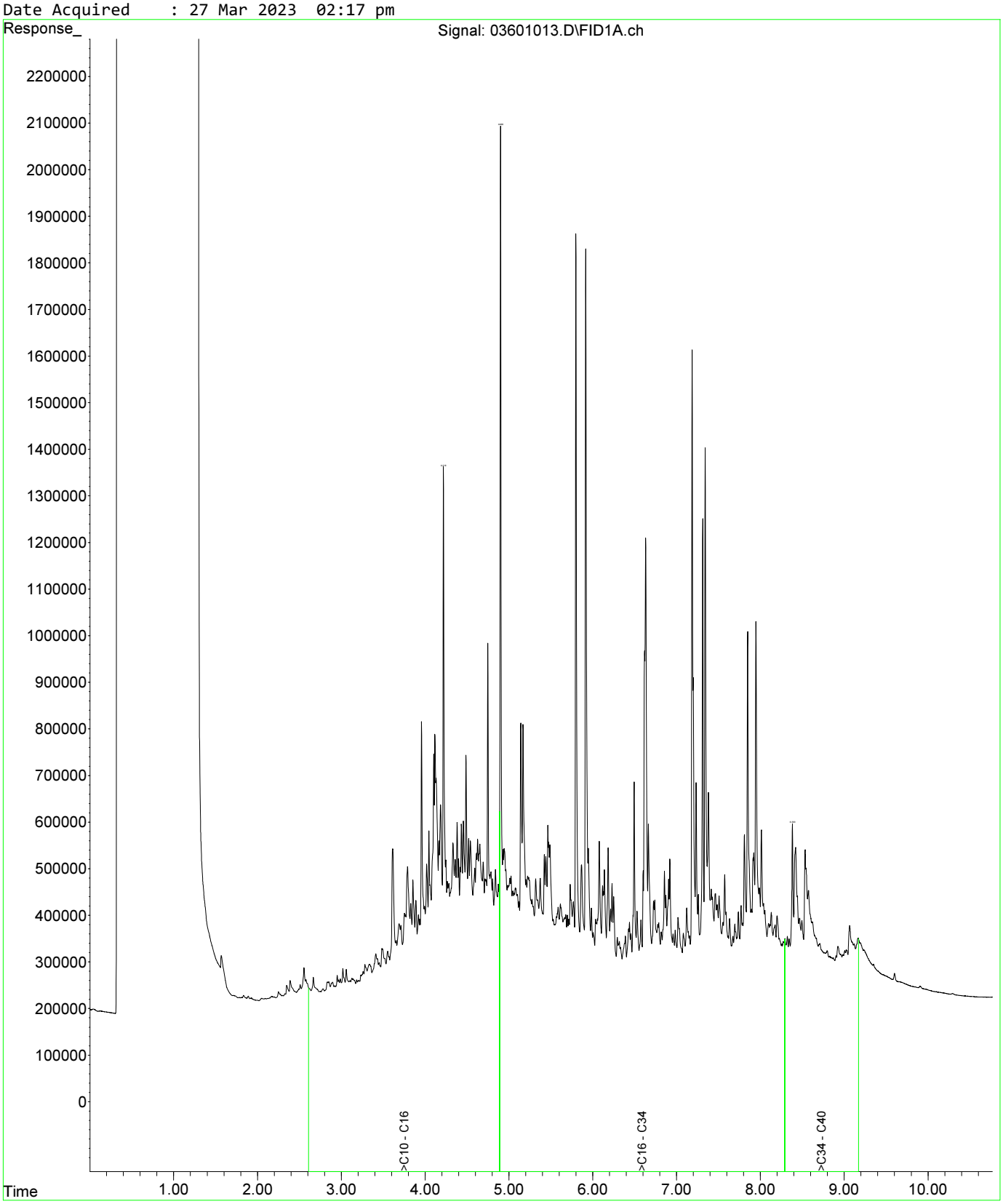
Fraction Scheme : Legacy Fractions
Data File   : 05001013.D
Laboratory Number: EM2305209-030
Sample ID   : UST_SP_EXT_06
Date Acquired   : 27 Mar 2023 01:30 pm



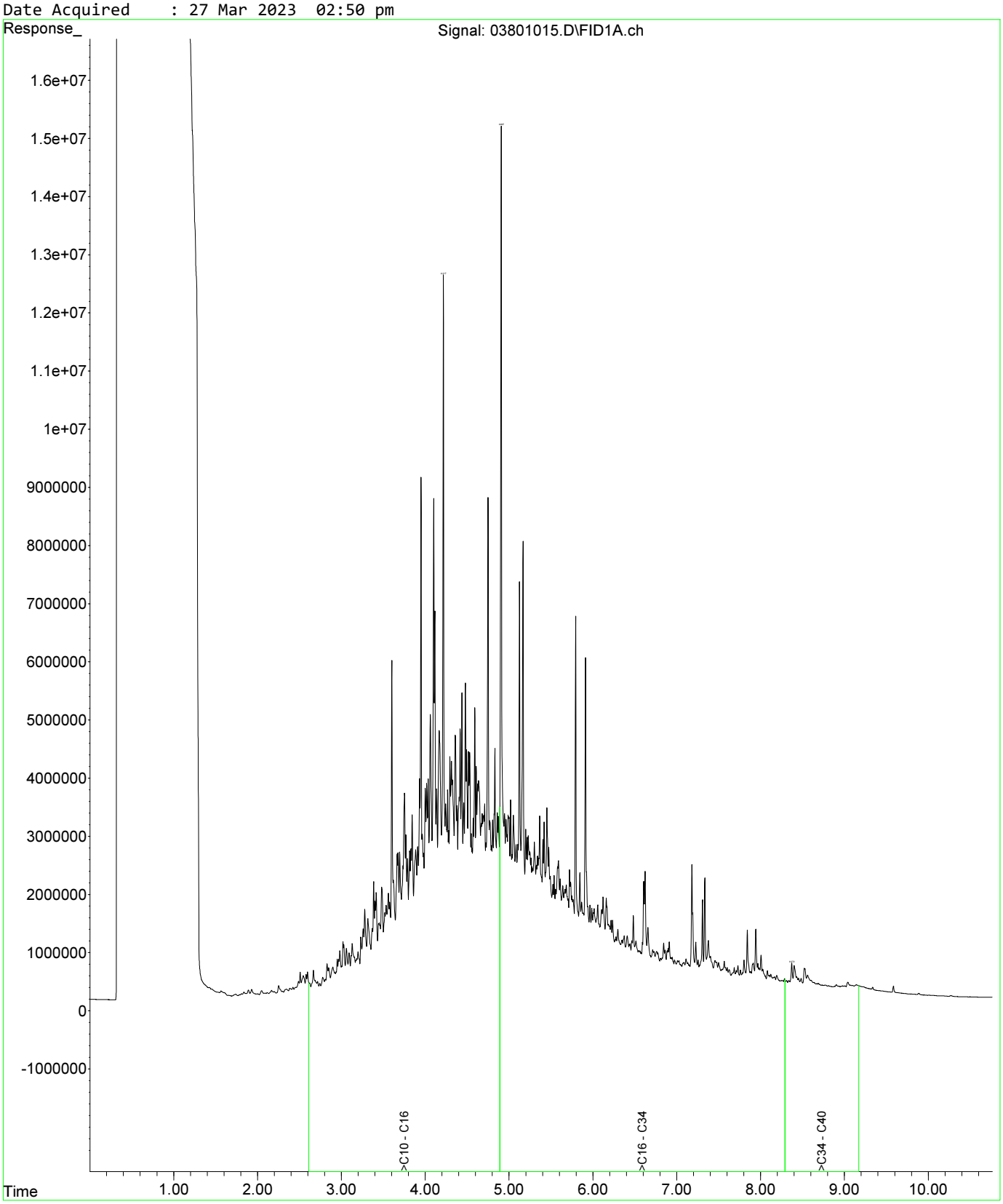
Fraction Scheme : NEPM DRAFT HIL
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



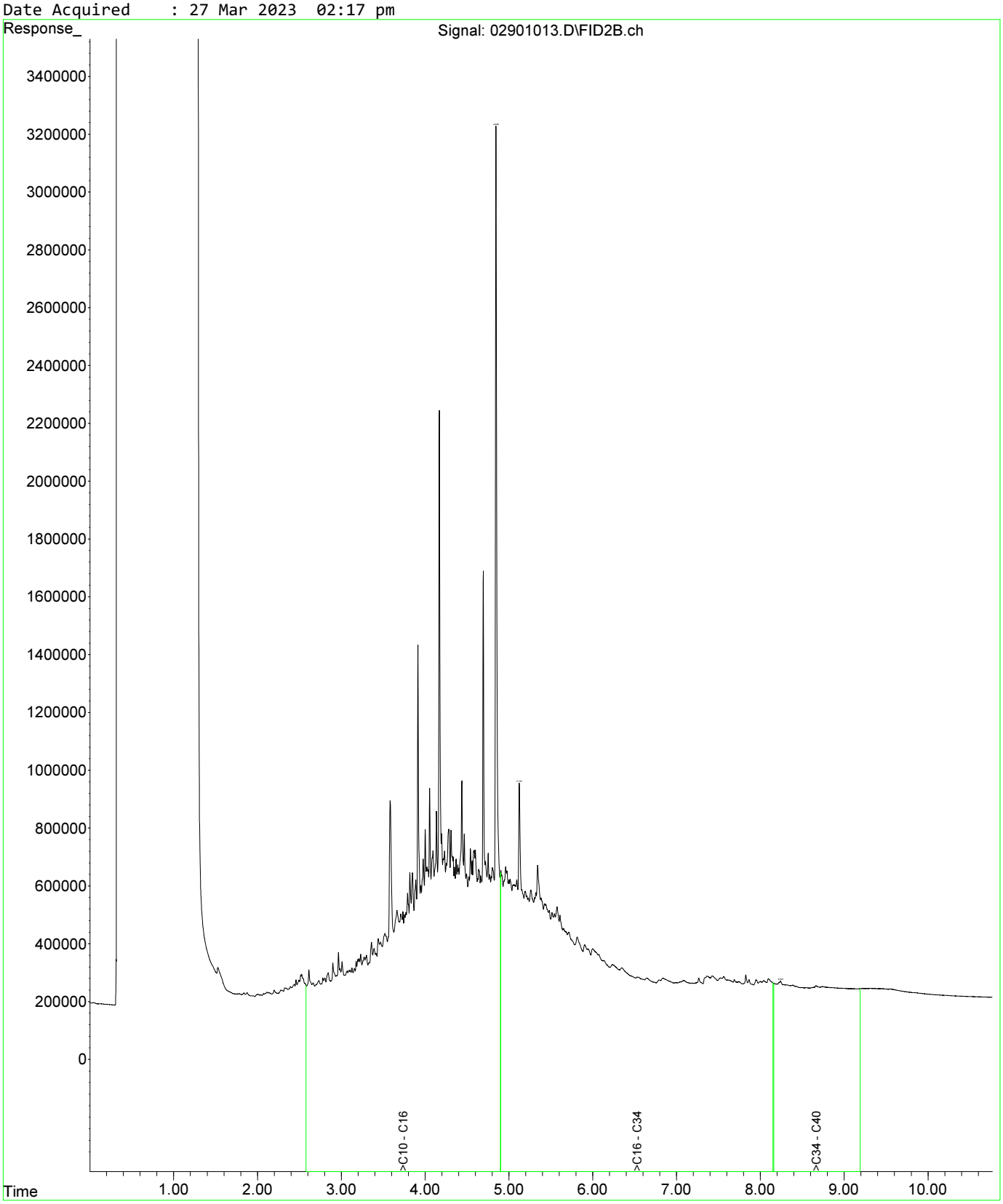
Fraction Scheme : NEPM DRAFT HIL
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



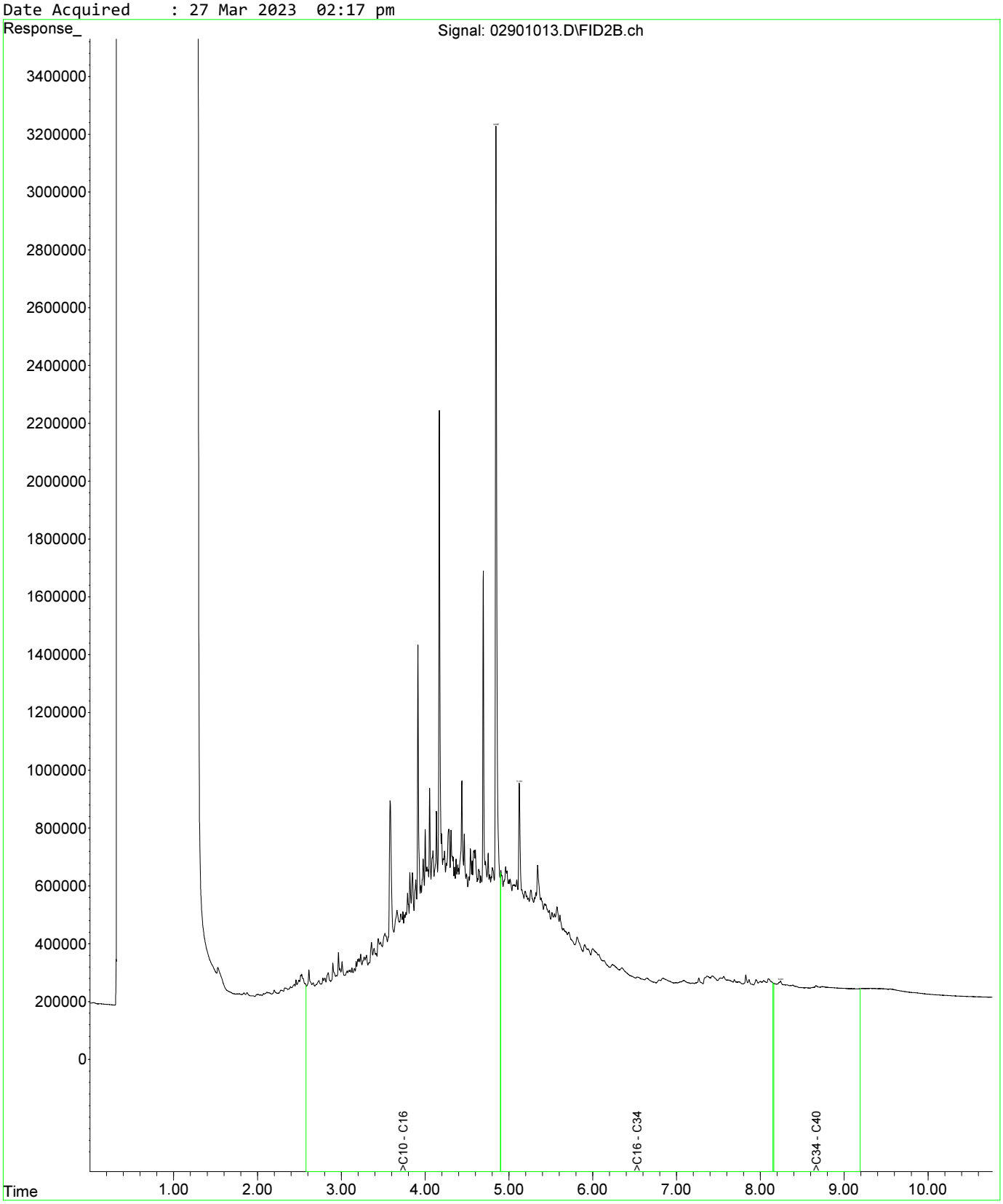
Fraction Scheme : NEPM DRAFT HIL
Data File : 03801015.D
Laboratory Number: EM2305209-010
Sample ID : UST_59_E_1.6
Date Acquired : 27 Mar 2023 02:50 pm



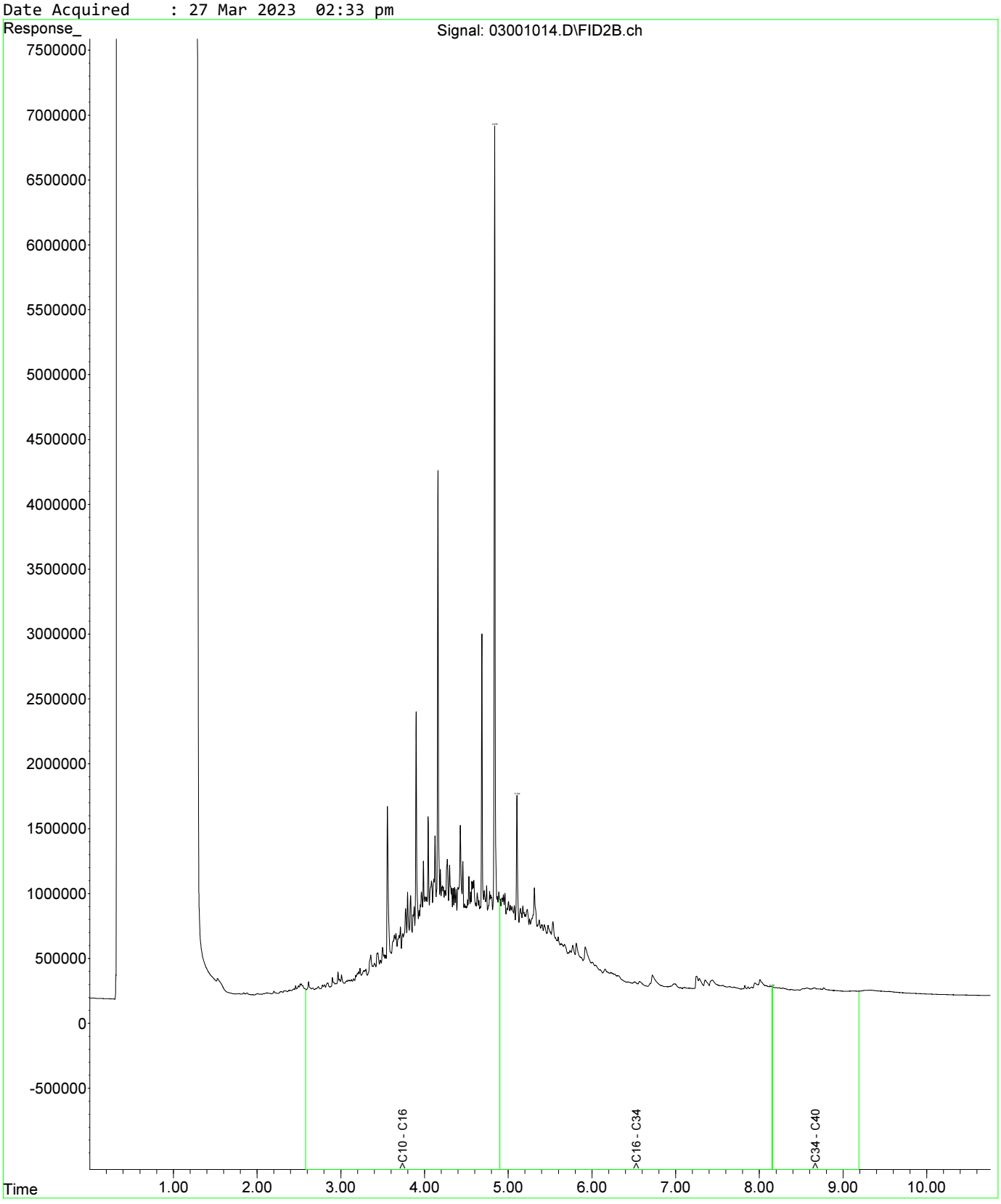
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



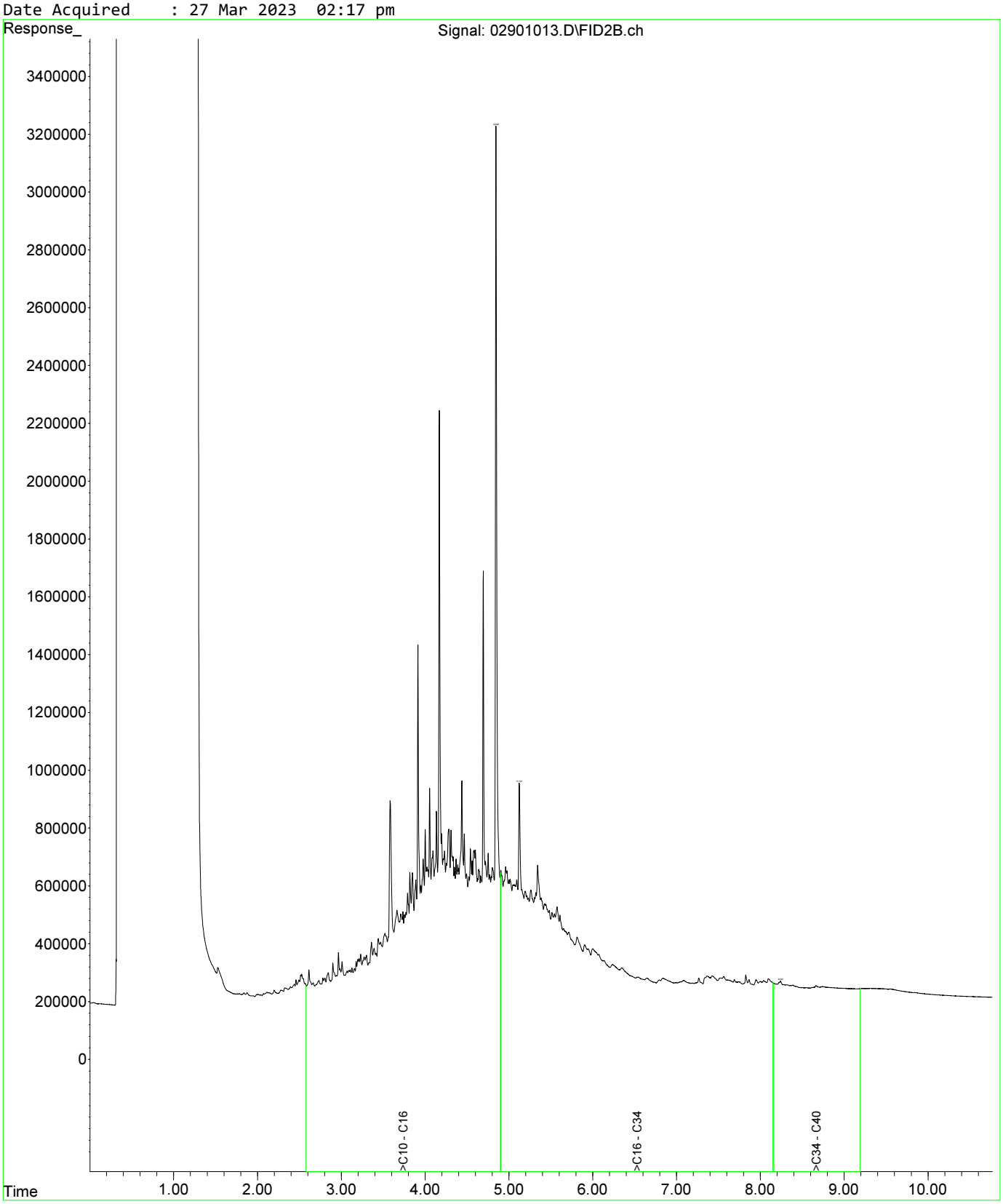
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



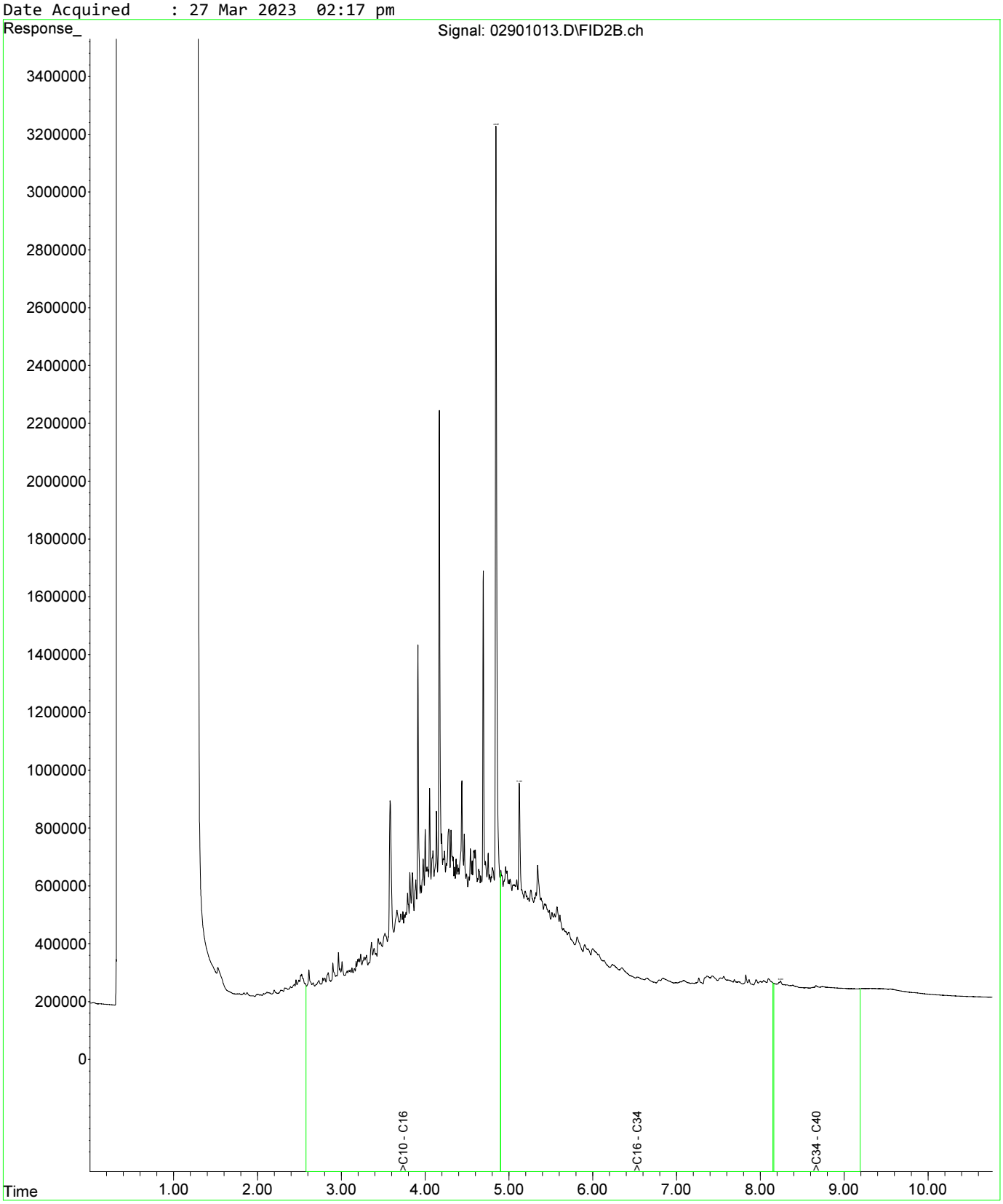
Fraction Scheme : NEPM DRAFT HIL
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



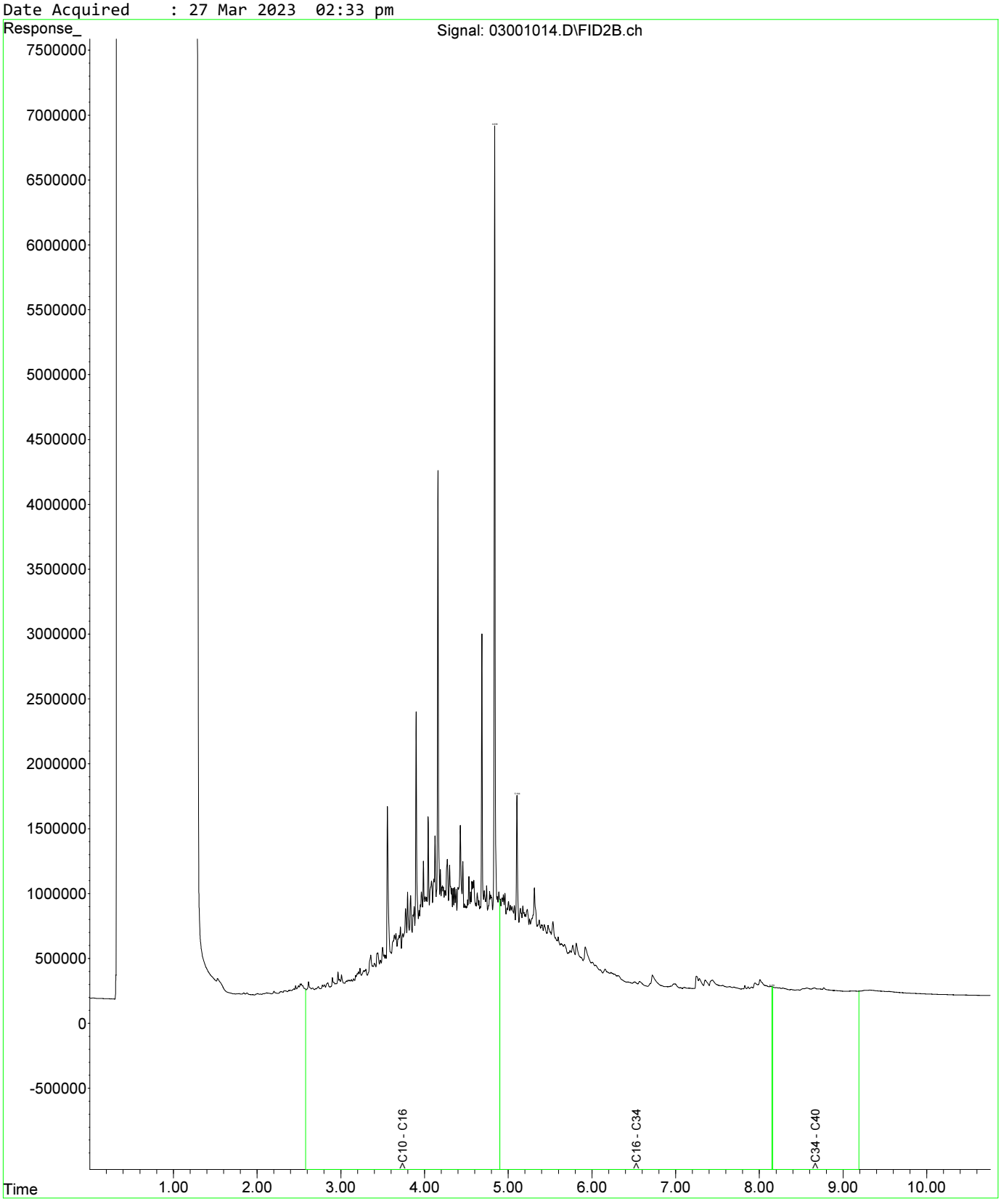
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



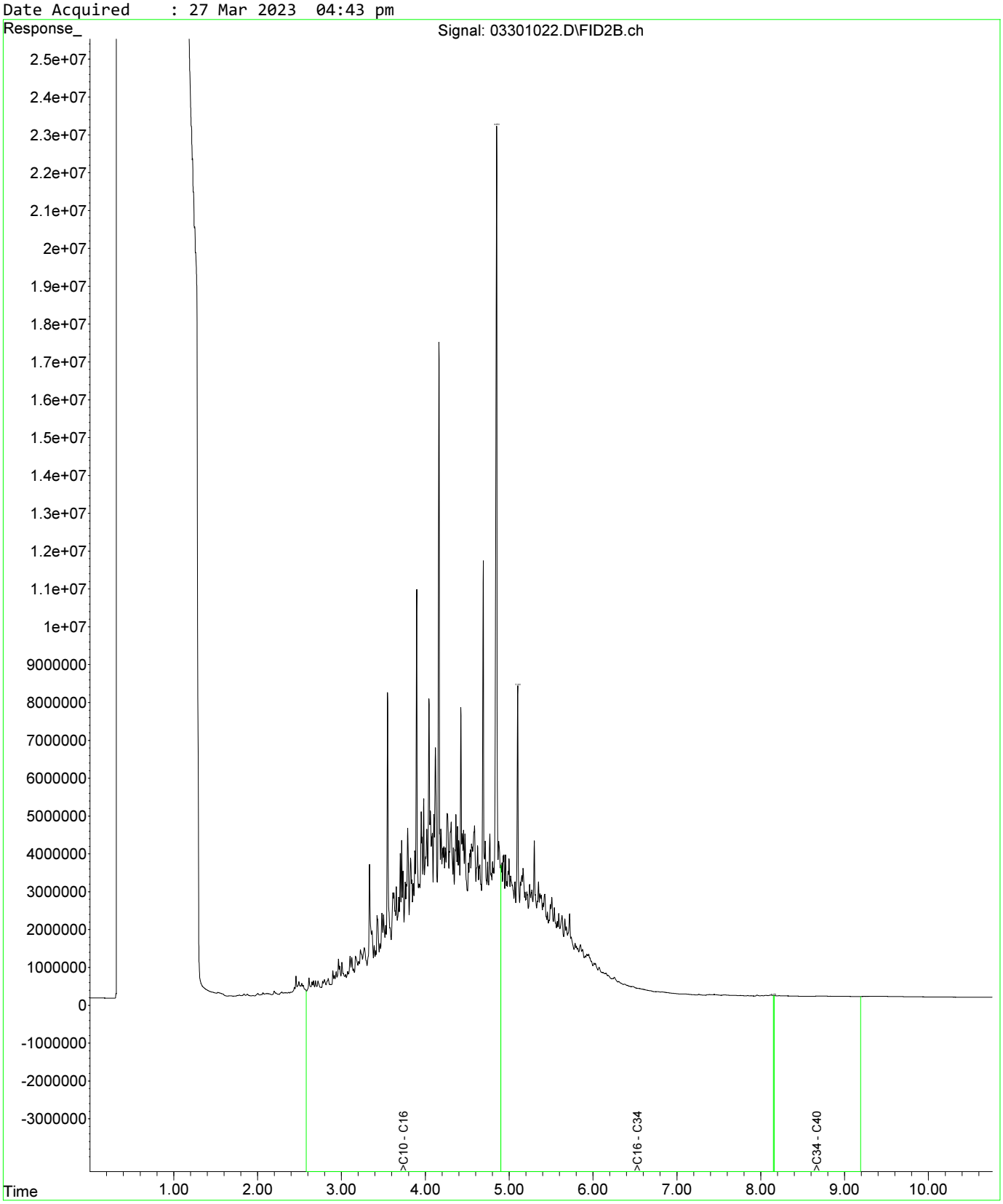
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



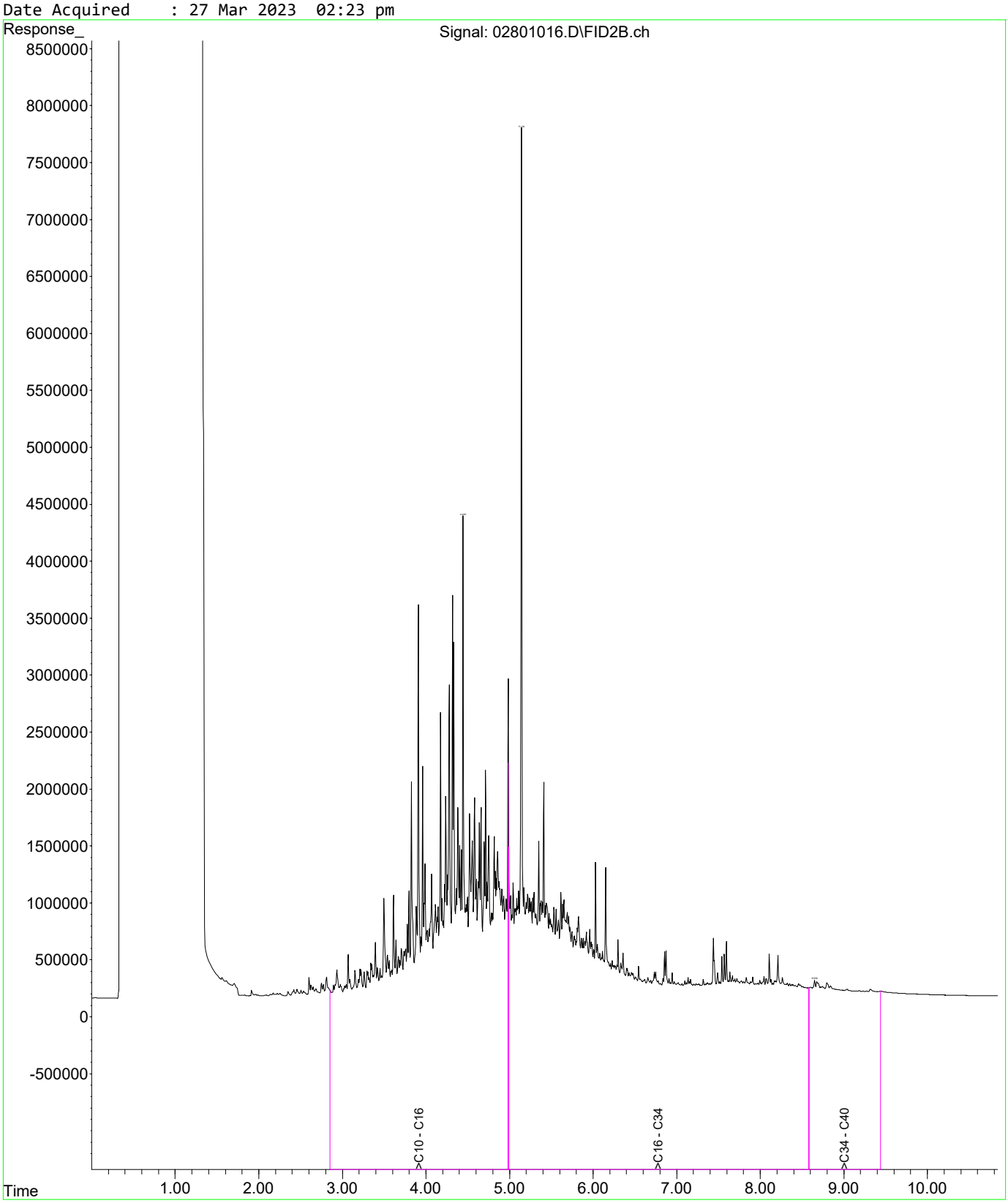
Fraction Scheme : NEPM DRAFT HIL
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



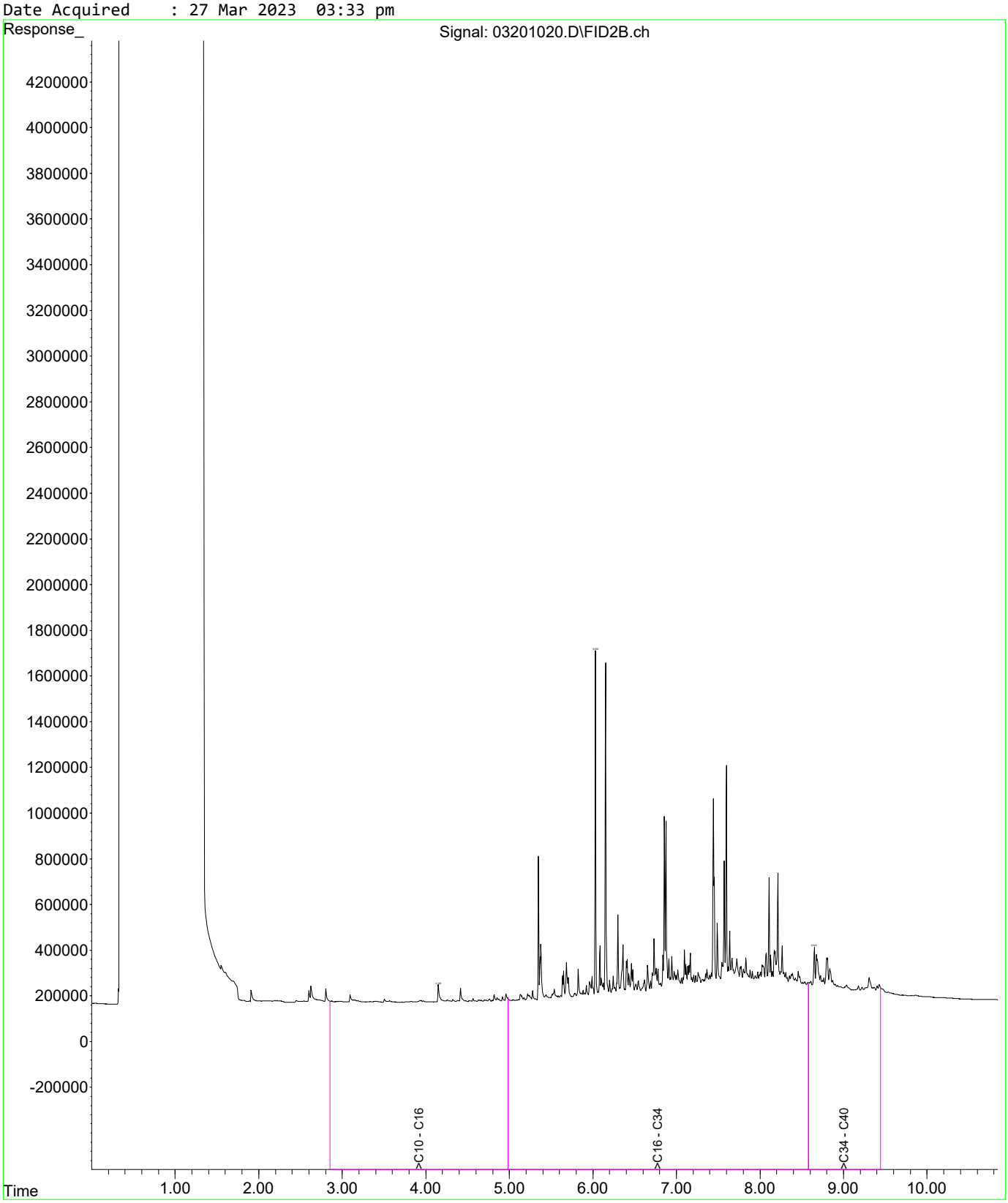
Fraction Scheme : NEPM DRAFT HIL
Data File : 03301022.D
Laboratory Number: EM2305209-024
Sample ID : UST_SP_1.5-2.0_05
Date Acquired : 27 Mar 2023 04:43 pm



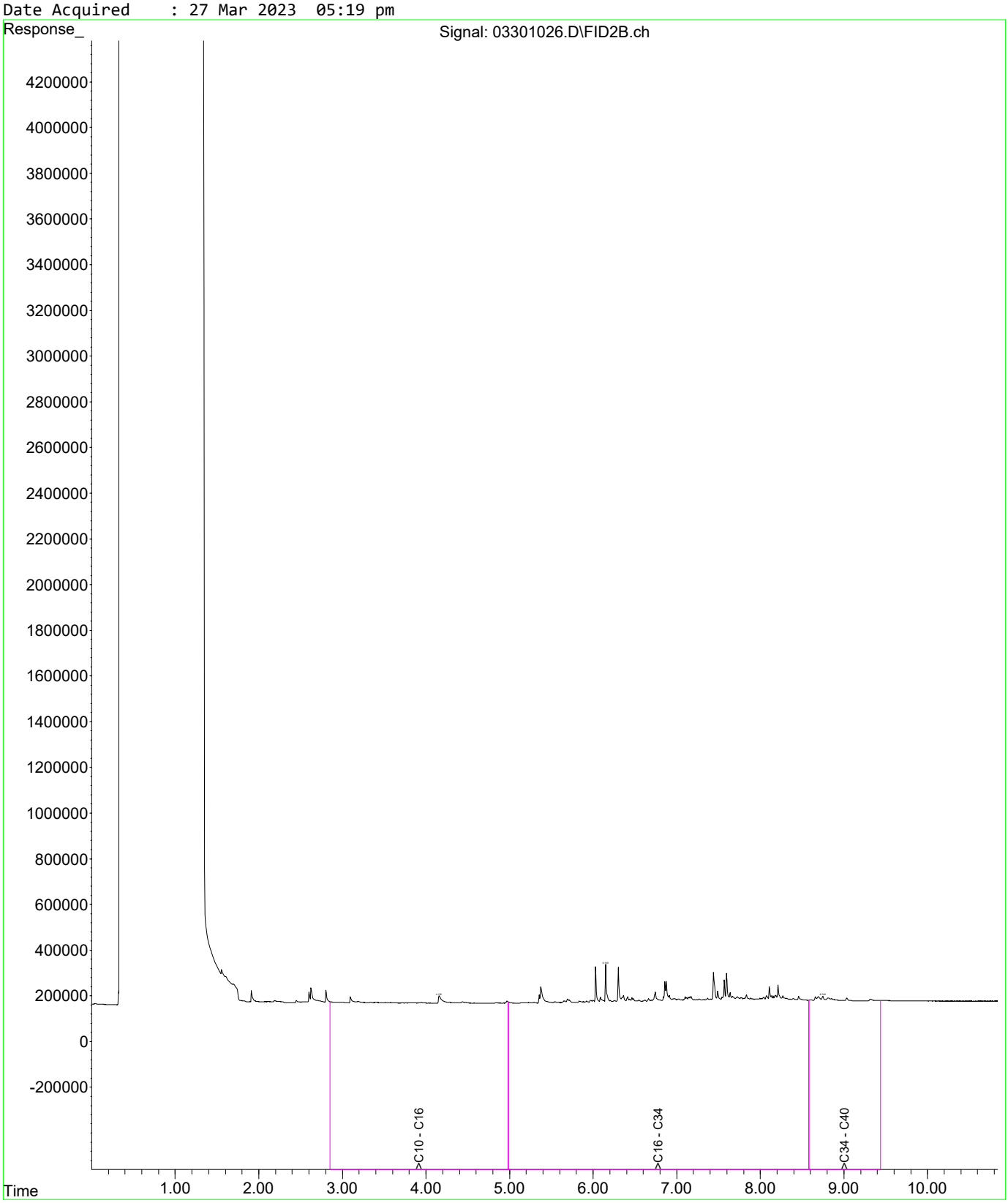
Fraction Scheme : NEPM Fractions
Data File : 02801016.D
Laboratory Number: EM2305209-001
Sample ID : UST_80_1.2_S
Date Acquired : 27 Mar 2023 02:23 pm



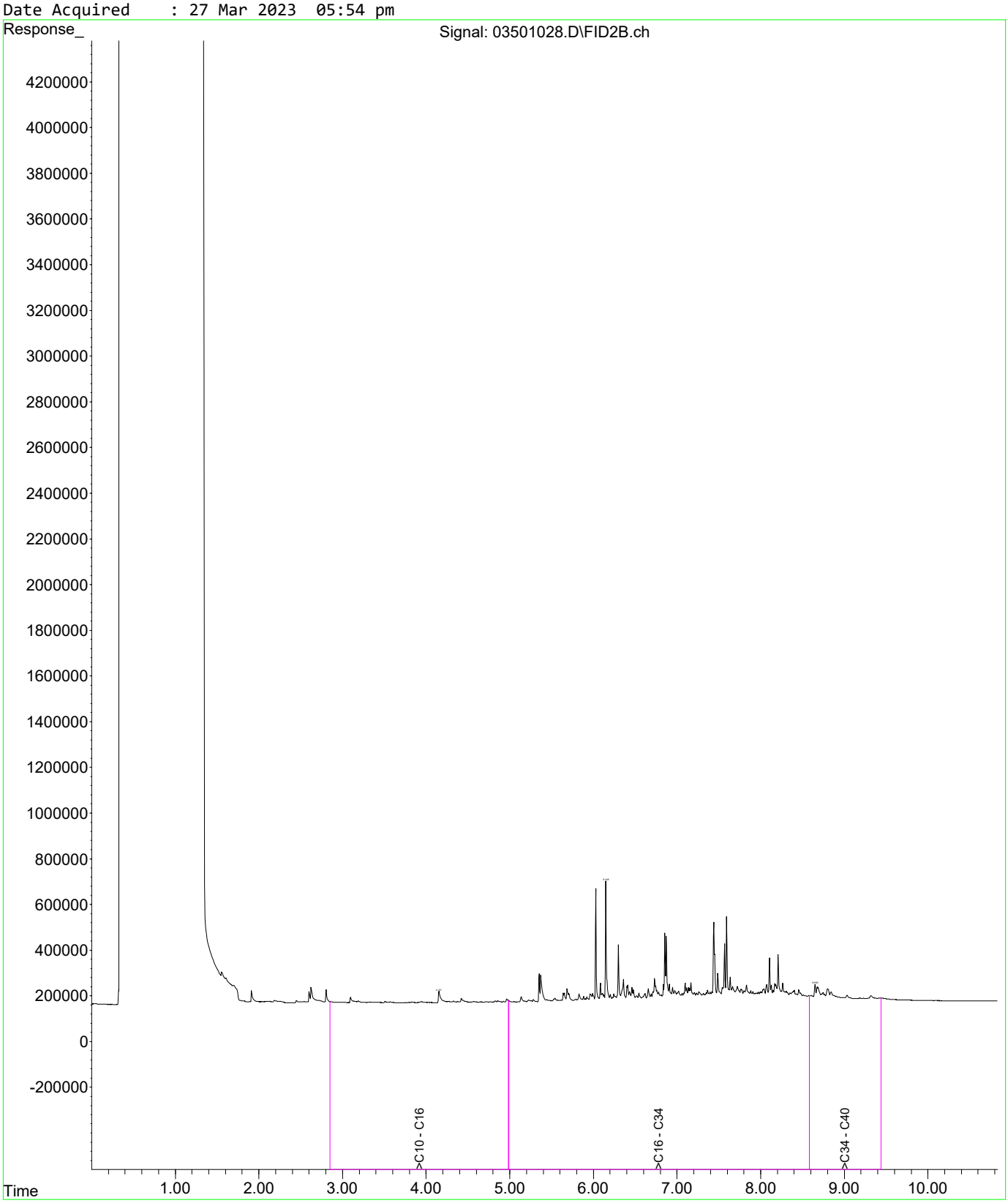
Fraction Scheme : NEPM Fractions
Data File : 03201020.D
Laboratory Number: EM2305209-003
Sample ID : UST_77_SE_0.8
Date Acquired : 27 Mar 2023 03:33 pm



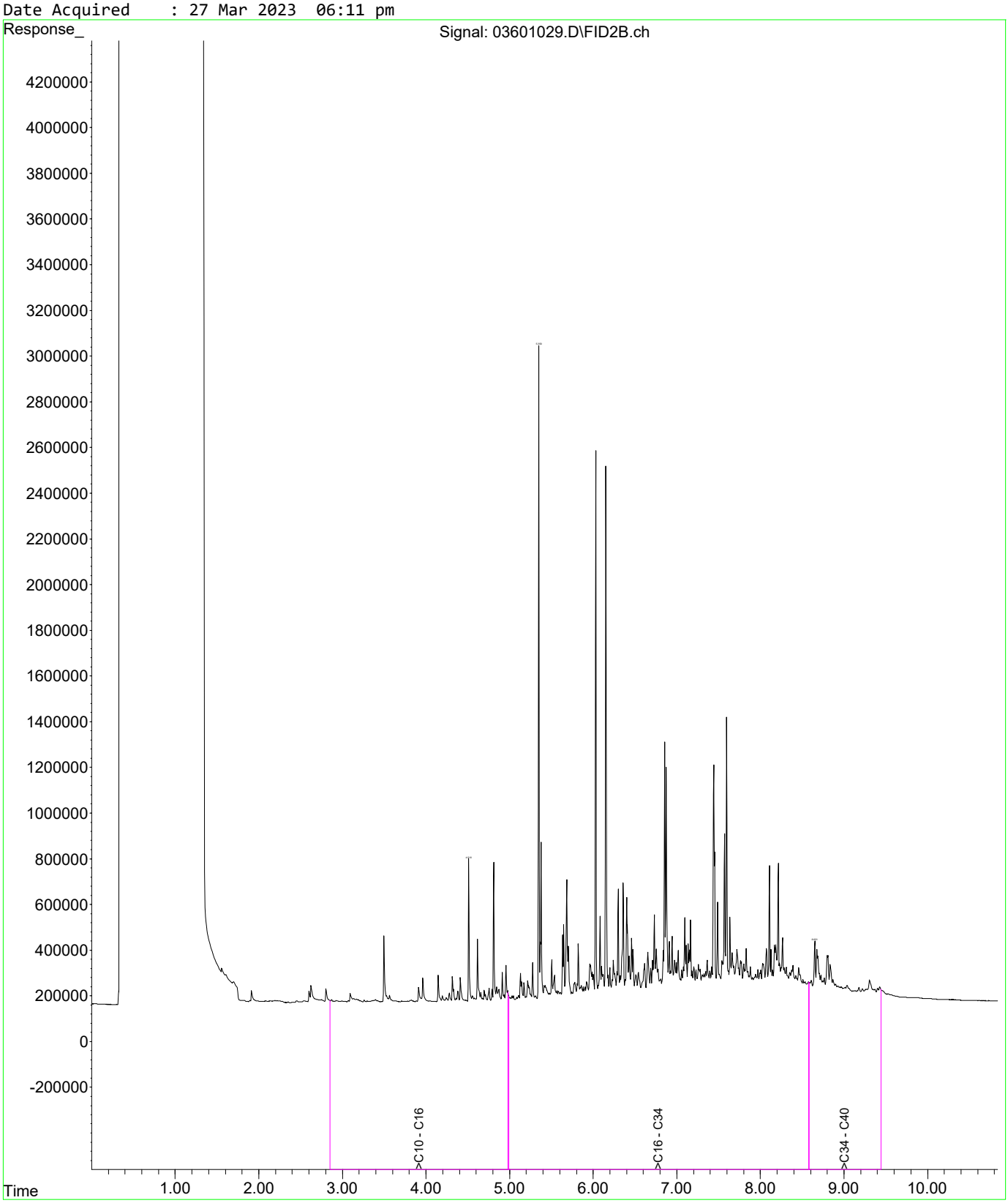
Fraction Scheme : NEPM Fractions
Data File : 03301026.D
Laboratory Number: EM2305209-005
Sample ID : UST_74_E_0.8
Date Acquired : 27 Mar 2023 05:19 pm



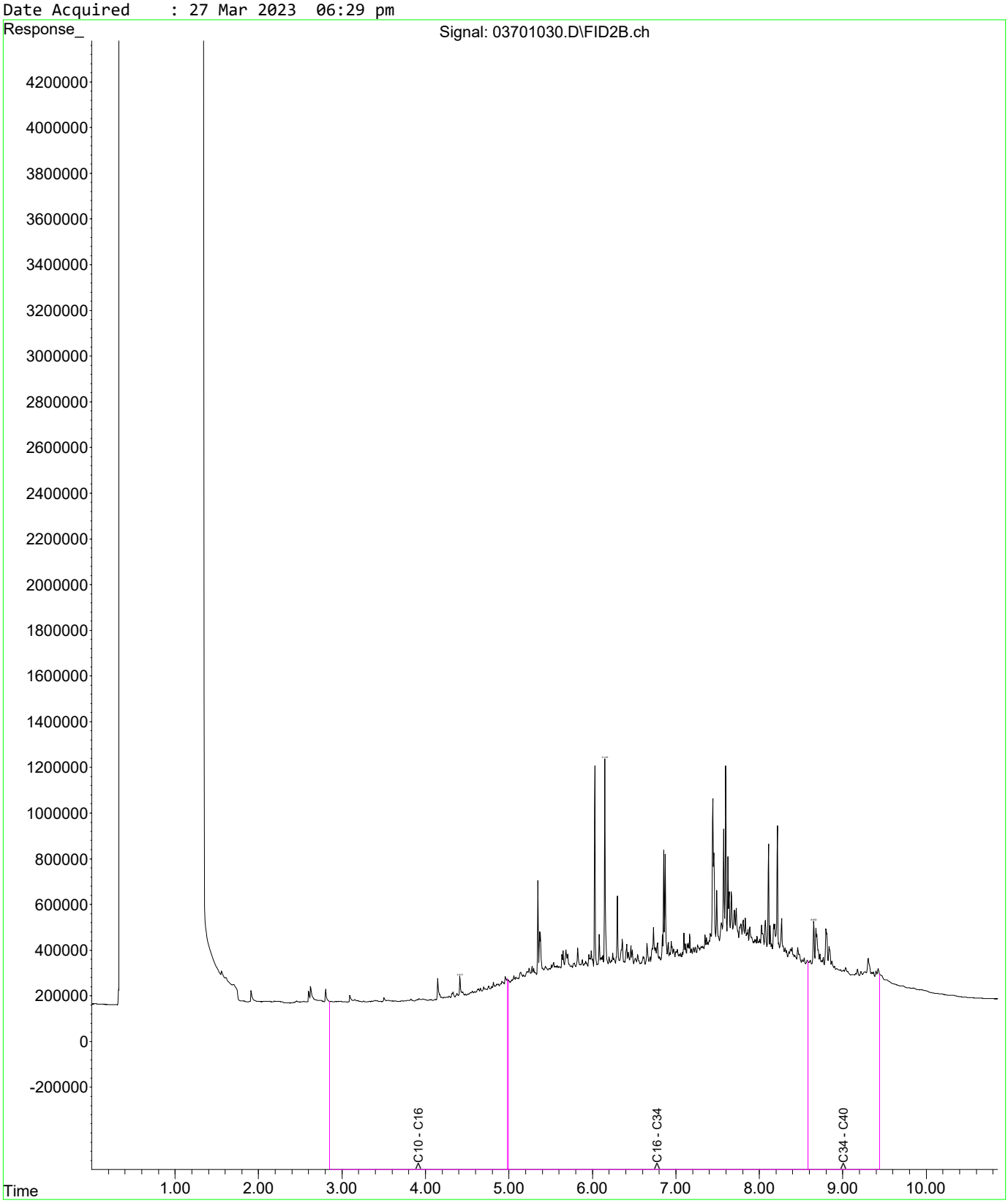
Fraction Scheme : NEPM Fractions
Data File : 03501028.D
Laboratory Number: EM2305209-007
Sample ID : UST_66_E_0.8
Date Acquired : 27 Mar 2023 05:54 pm



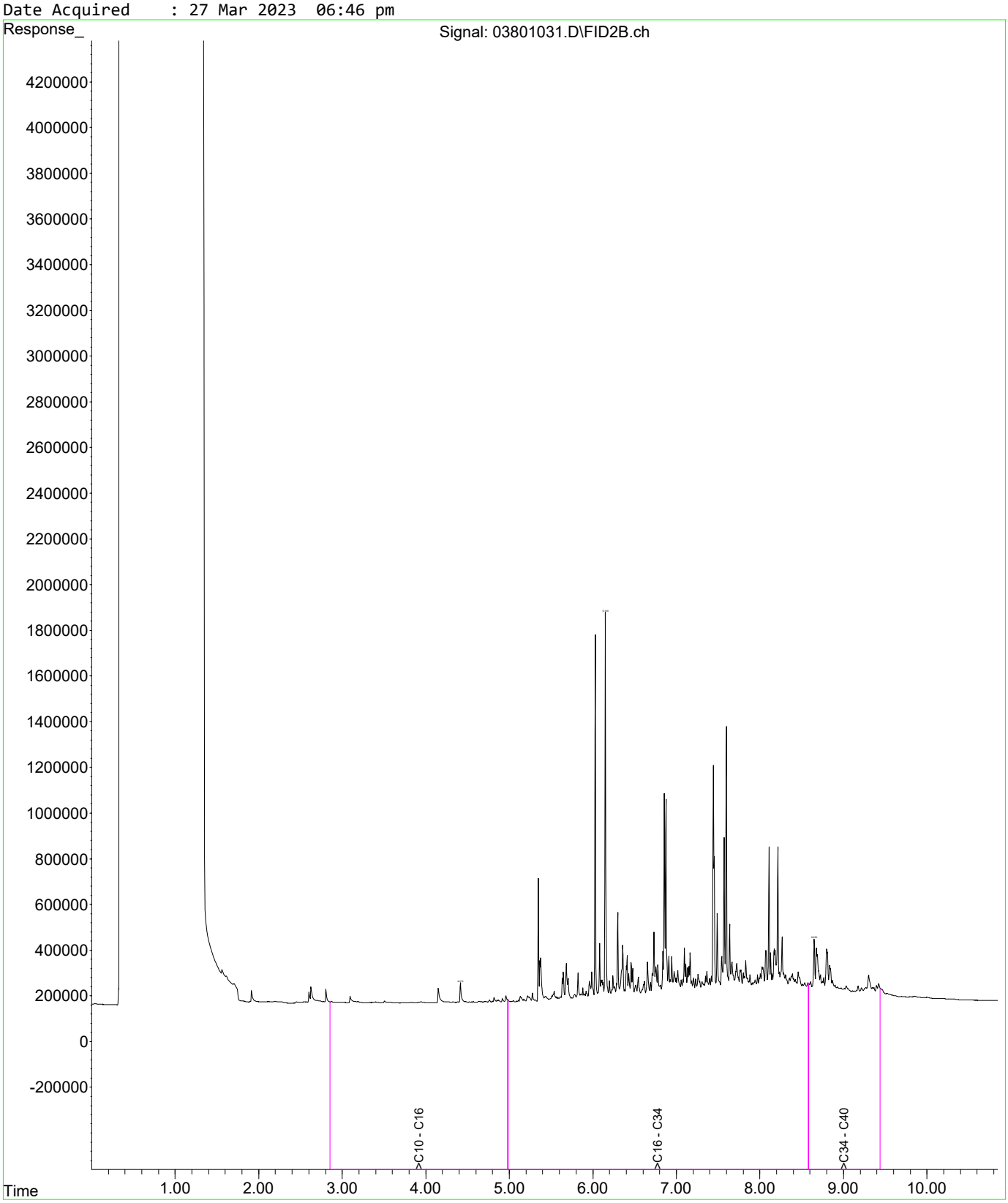
Fraction Scheme : NEPM Fractions
Data File : 03601029.D
Laboratory Number: EM2305209-008
Sample ID : UST_66_E_1.6
Date Acquired : 27 Mar 2023 06:11 pm



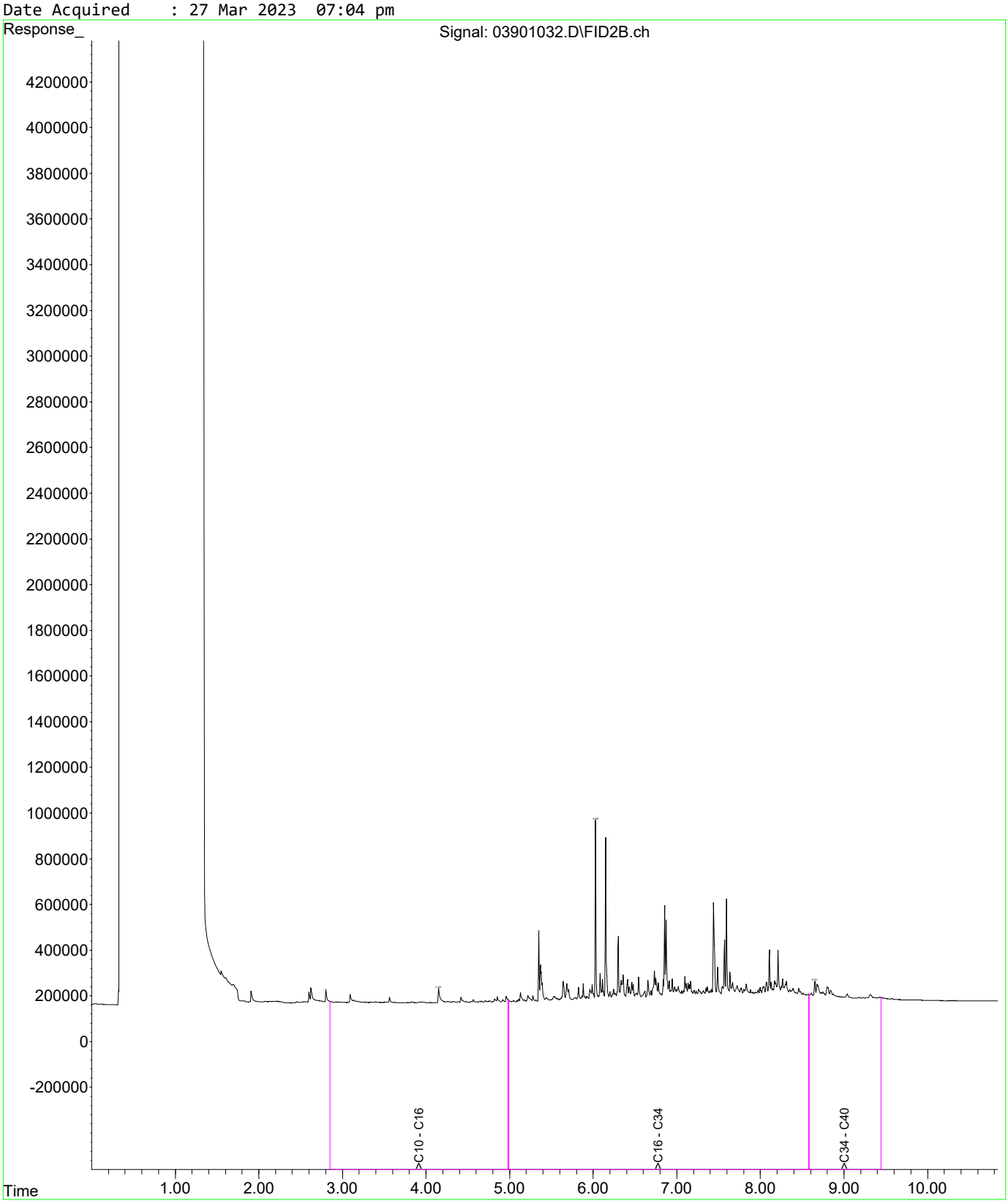
Fraction Scheme : NEPM Fractions
Data File : 03701030.D
Laboratory Number: EM2305209-009
Sample ID : UST_59_E_0.8
Date Acquired : 27 Mar 2023 06:29 pm



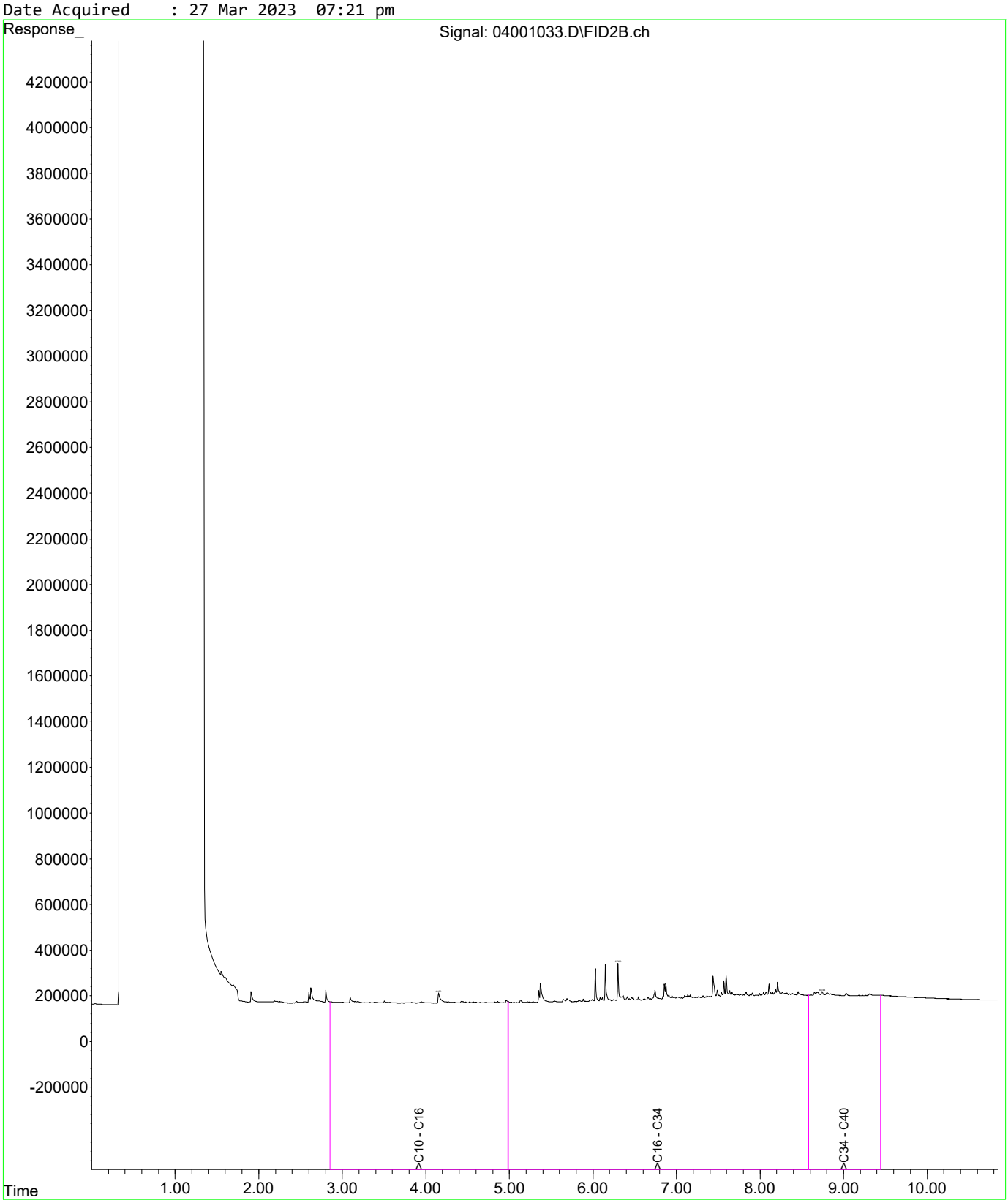
Fraction Scheme : NEPM Fractions
Data File : 03801031.D
Laboratory Number: EM2305209-011
Sample ID : UST_55_NE_0.8
Date Acquired : 27 Mar 2023 06:46 pm



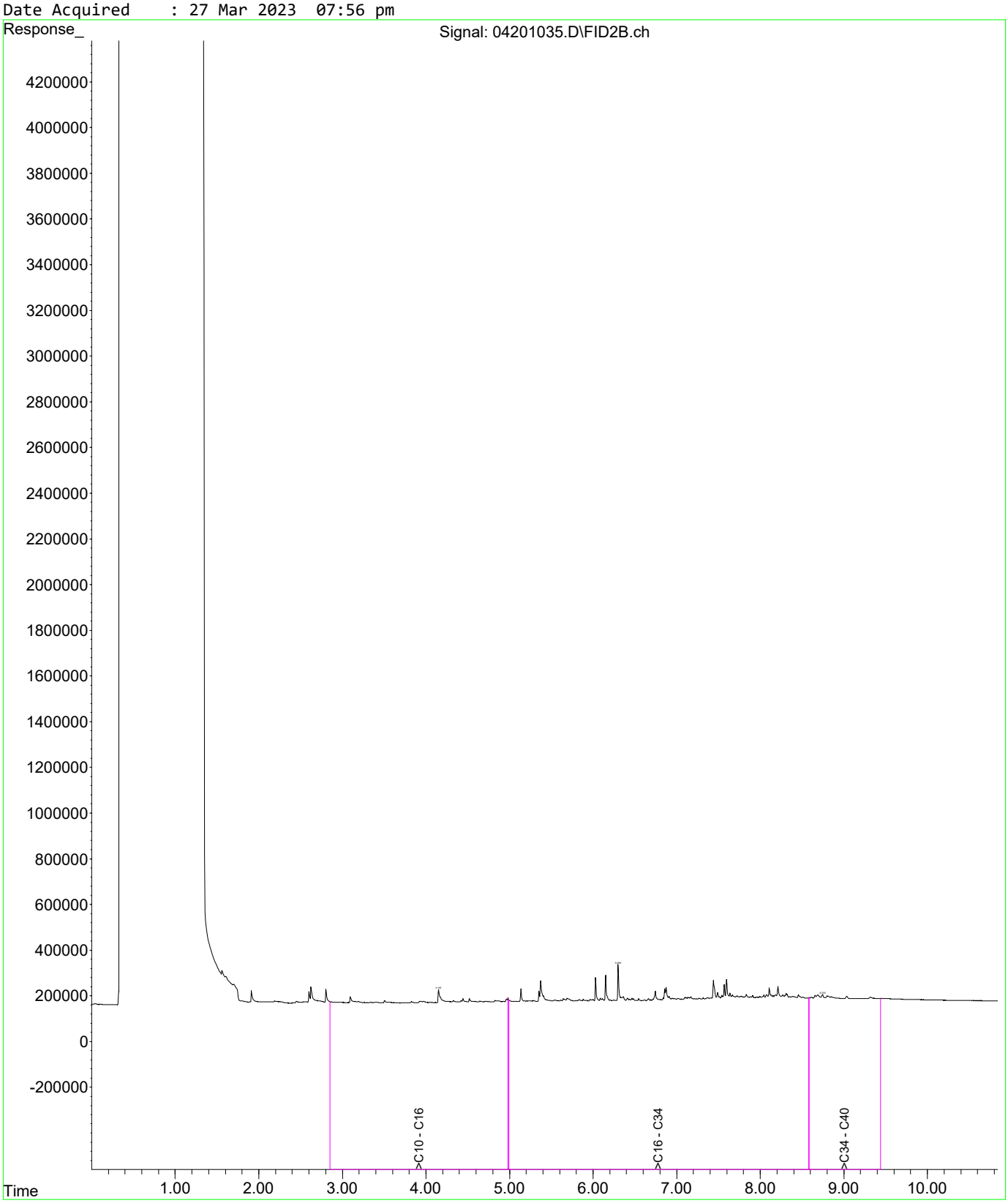
Fraction Scheme : NEPM Fractions
Data File : 03901032.D
Laboratory Number: EM2305209-012
Sample ID : UST_55_NE_1.6
Date Acquired : 27 Mar 2023 07:04 pm



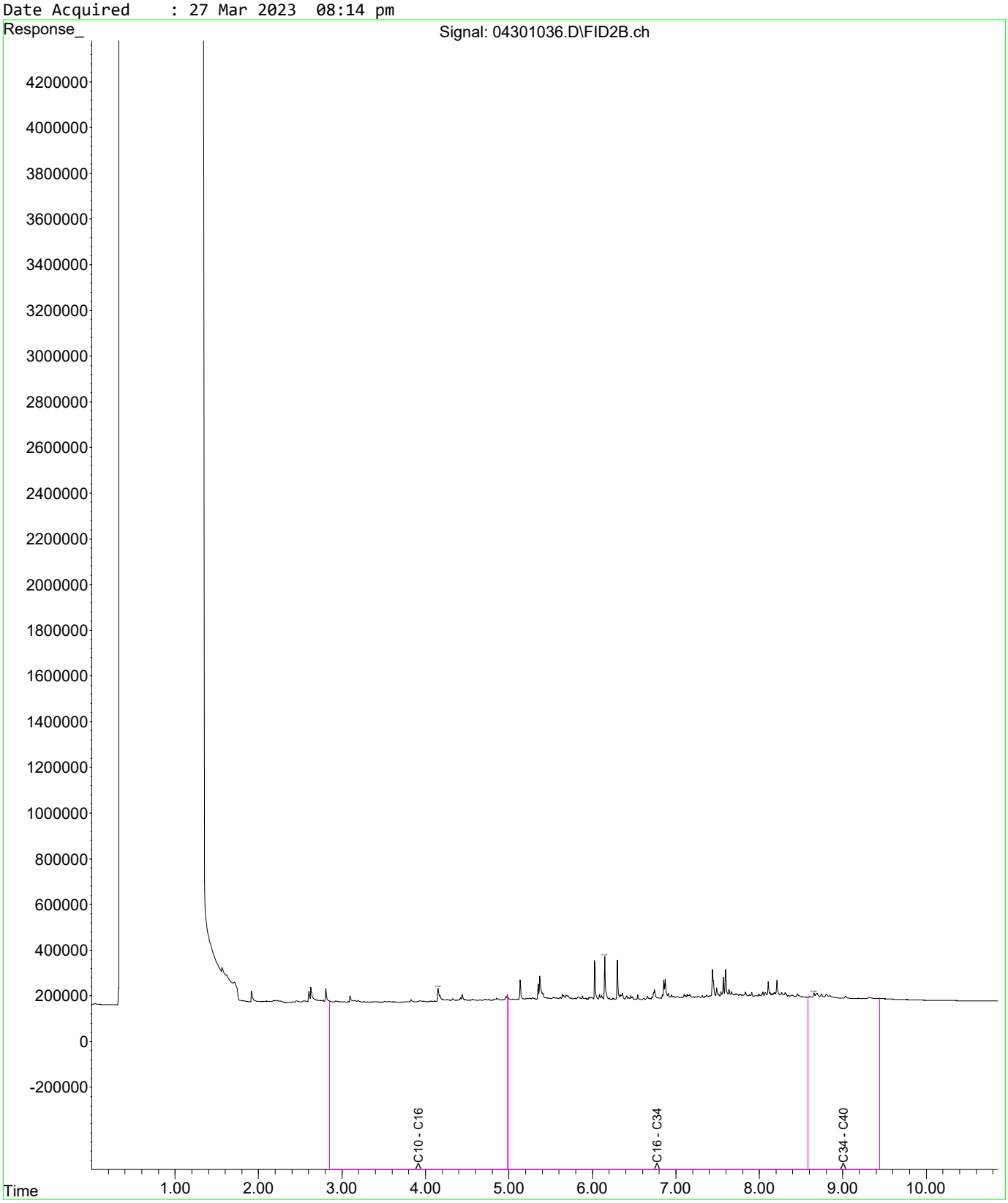
Fraction Scheme : NEPM Fractions
Data File : 04001033.D
Laboratory Number: EM2305209-014
Sample ID : UST_SP_0.5-1.0_02
Date Acquired : 27 Mar 2023 07:21 pm



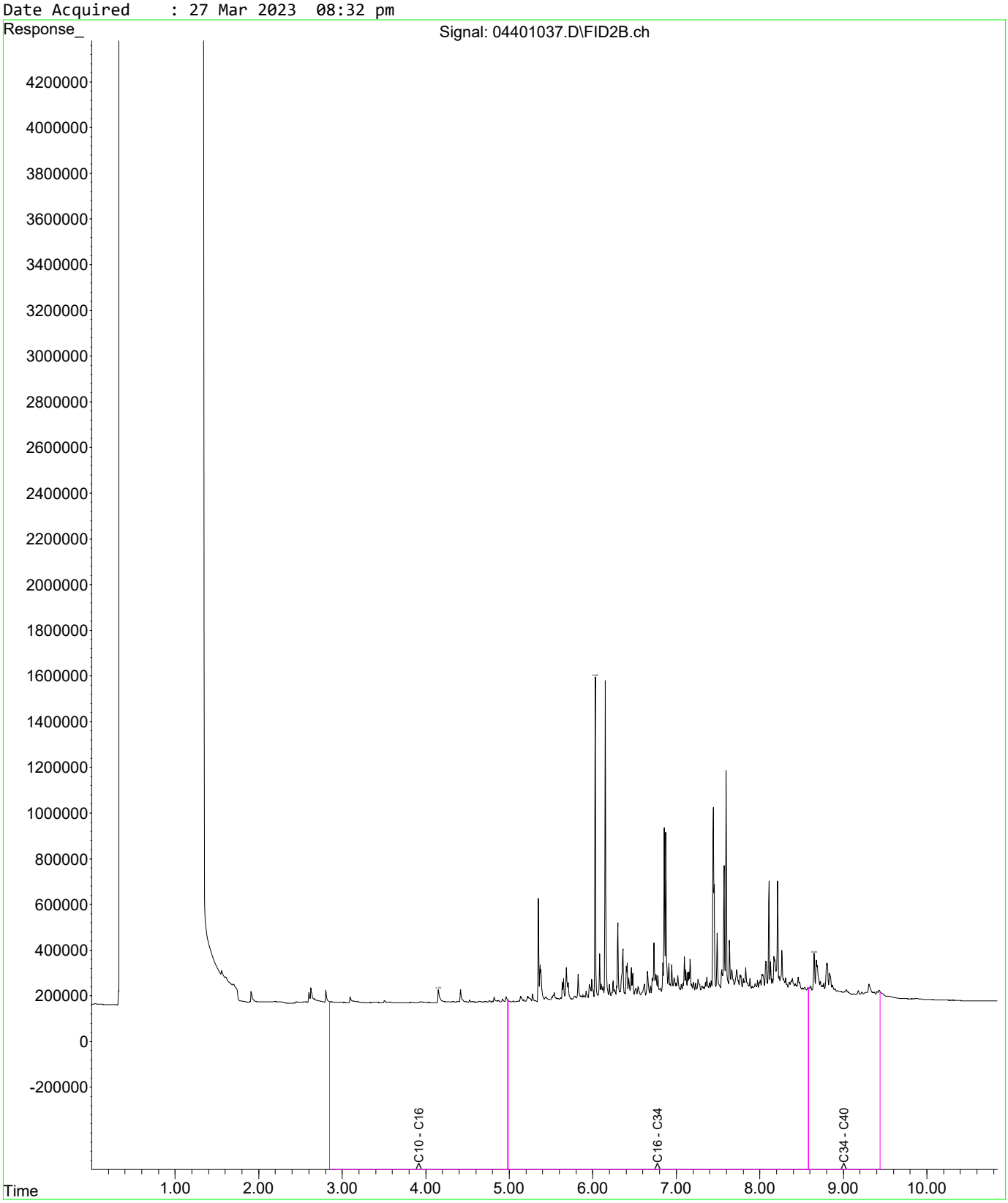
Fraction Scheme : NEPM Fractions
Data File : 04201035.D
Laboratory Number: EM2305209-015
Sample ID : UST_SP_0.5-1.0_03
Date Acquired : 27 Mar 2023 07:56 pm



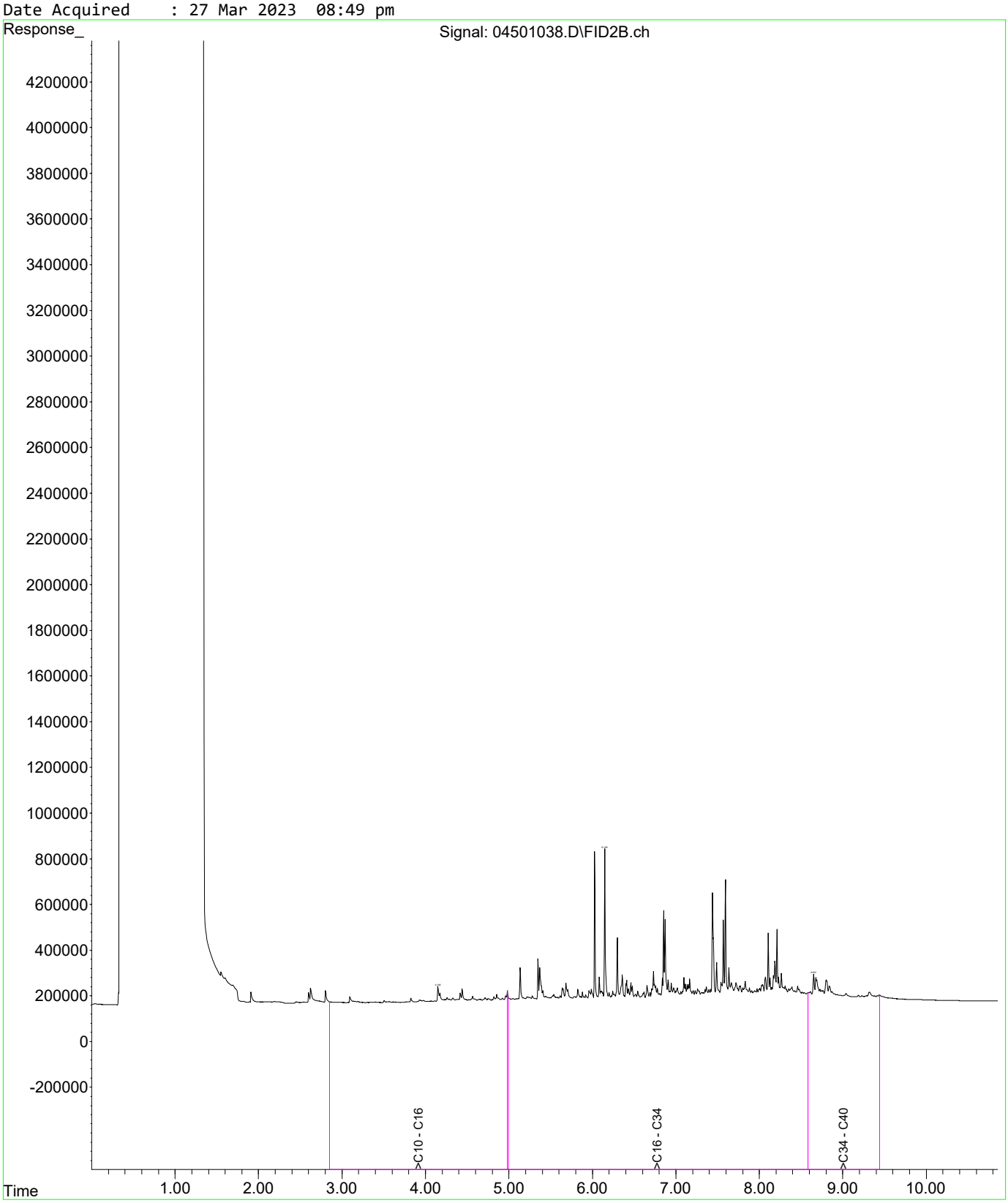
Fraction Scheme : NEPM Fractions
Data File : 04301036.D
Laboratory Number: EM2305209-016
Sample ID : UST_SP_0.5-1.0_04
Date Acquired : 27 Mar 2023 08:14 pm



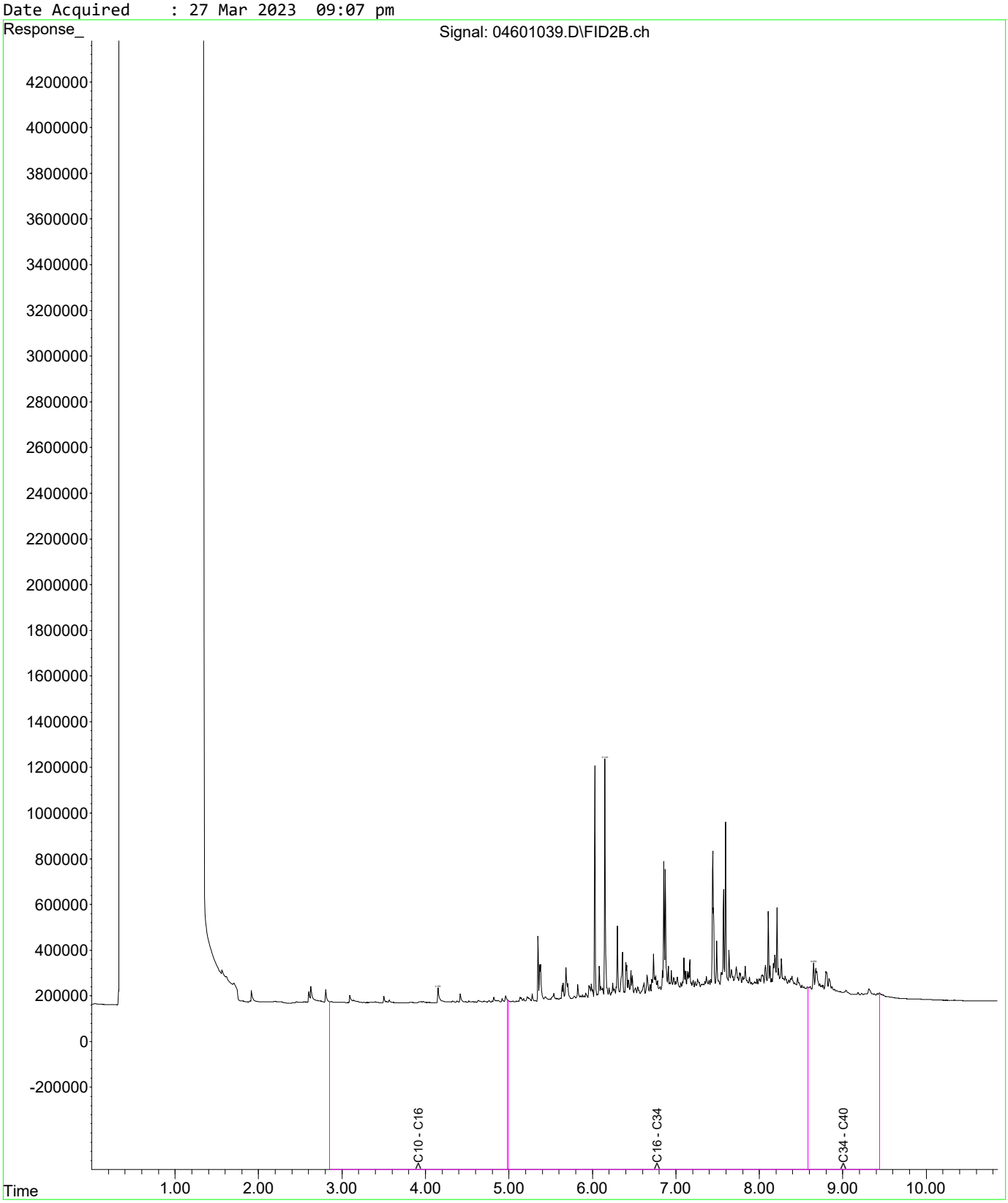
Fraction Scheme : NEPM Fractions
Data File : 04401037.D
Laboratory Number: EM2305209-017
Sample ID : UST_SP_1.0-1.5_01
Date Acquired : 27 Mar 2023 08:32 pm



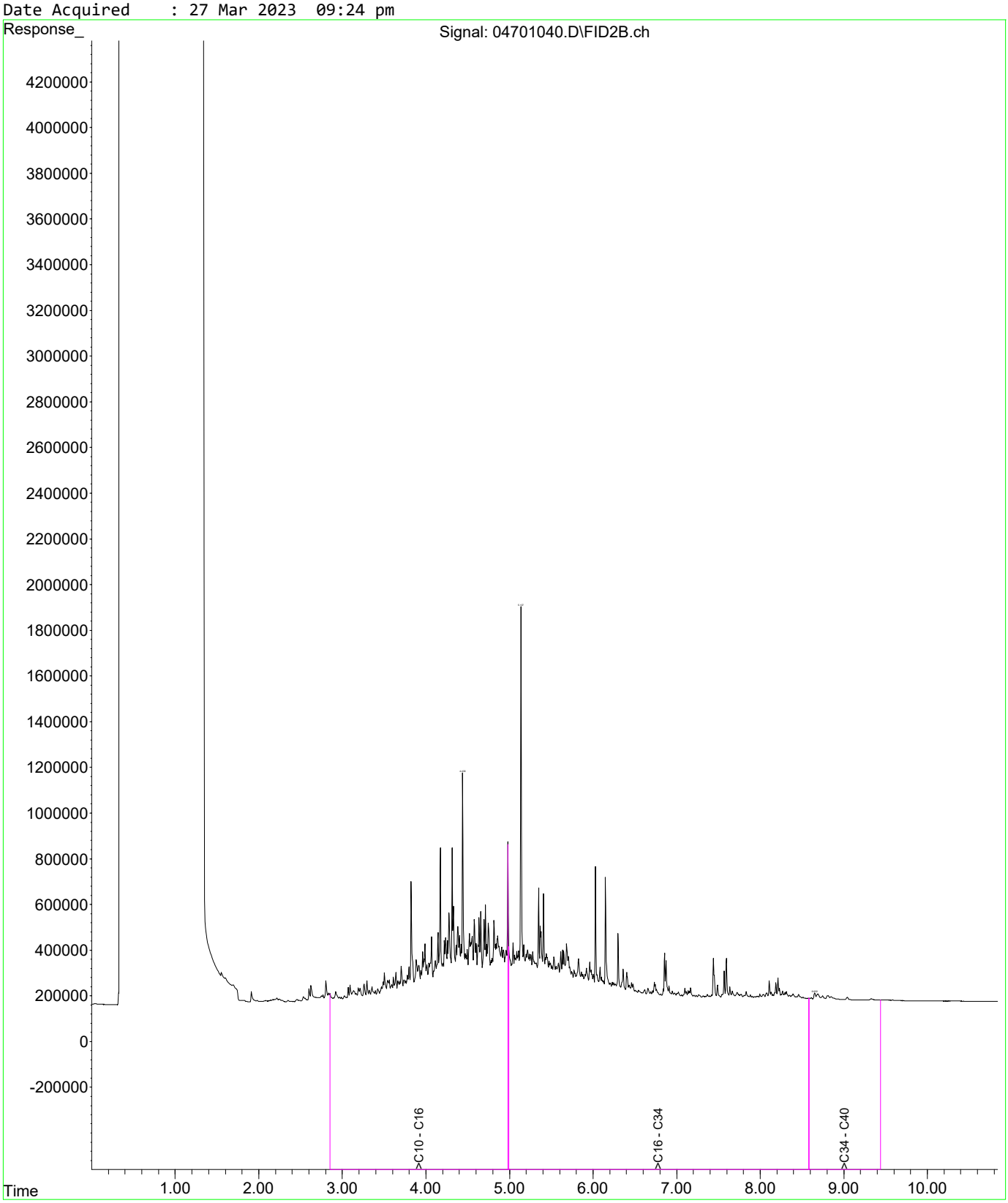
Fraction Scheme : NEPM Fractions
Data File : 04501038.D
Laboratory Number: EM2305209-018
Sample ID : UST_SP_1.0-1.5_02
Date Acquired : 27 Mar 2023 08:49 pm



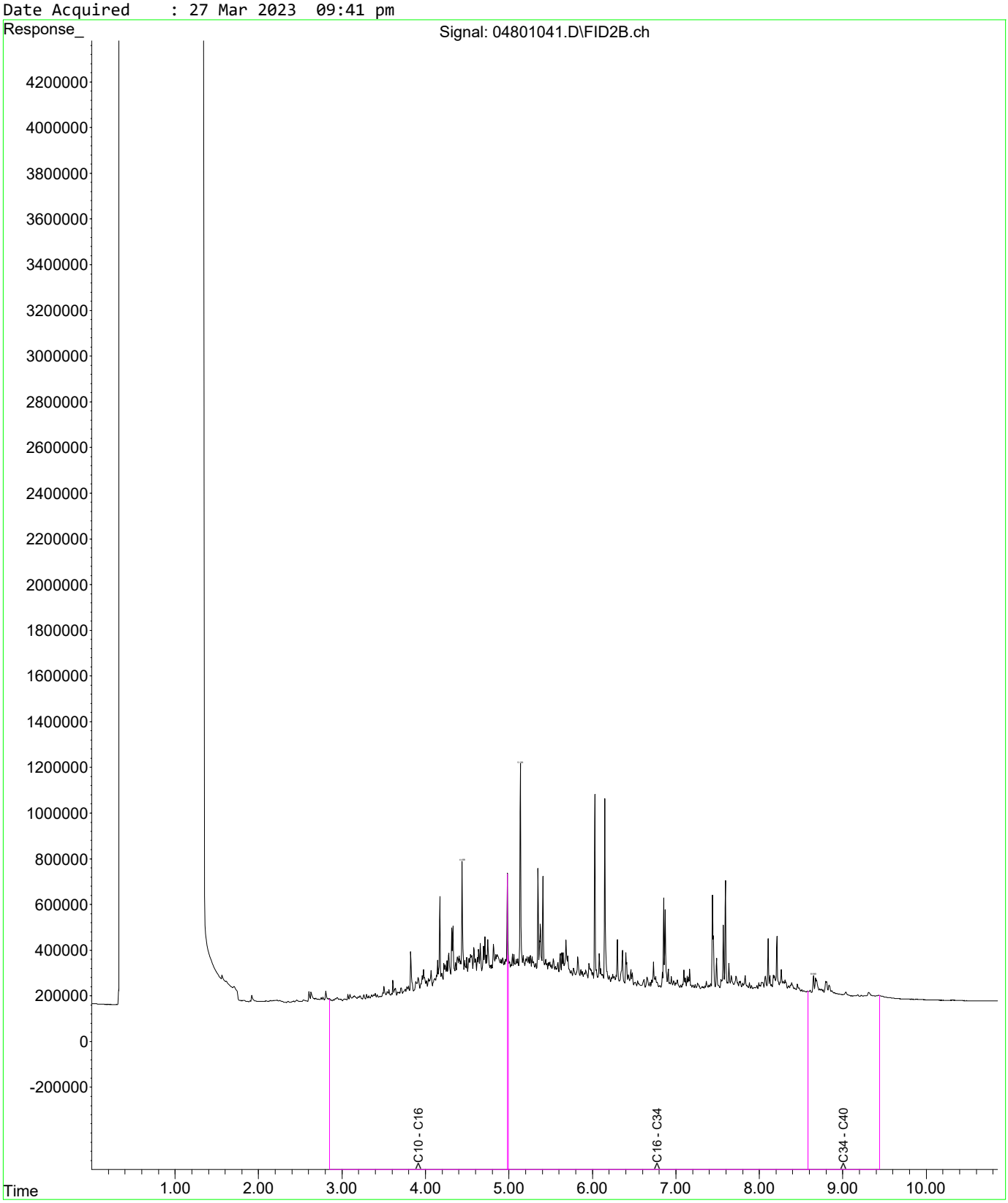
Fraction Scheme : NEPM Fractions
Data File : 04601039.D
Laboratory Number: EM2305209-020
Sample ID : UST_SP_1.5-2.0_01
Date Acquired : 27 Mar 2023 09:07 pm



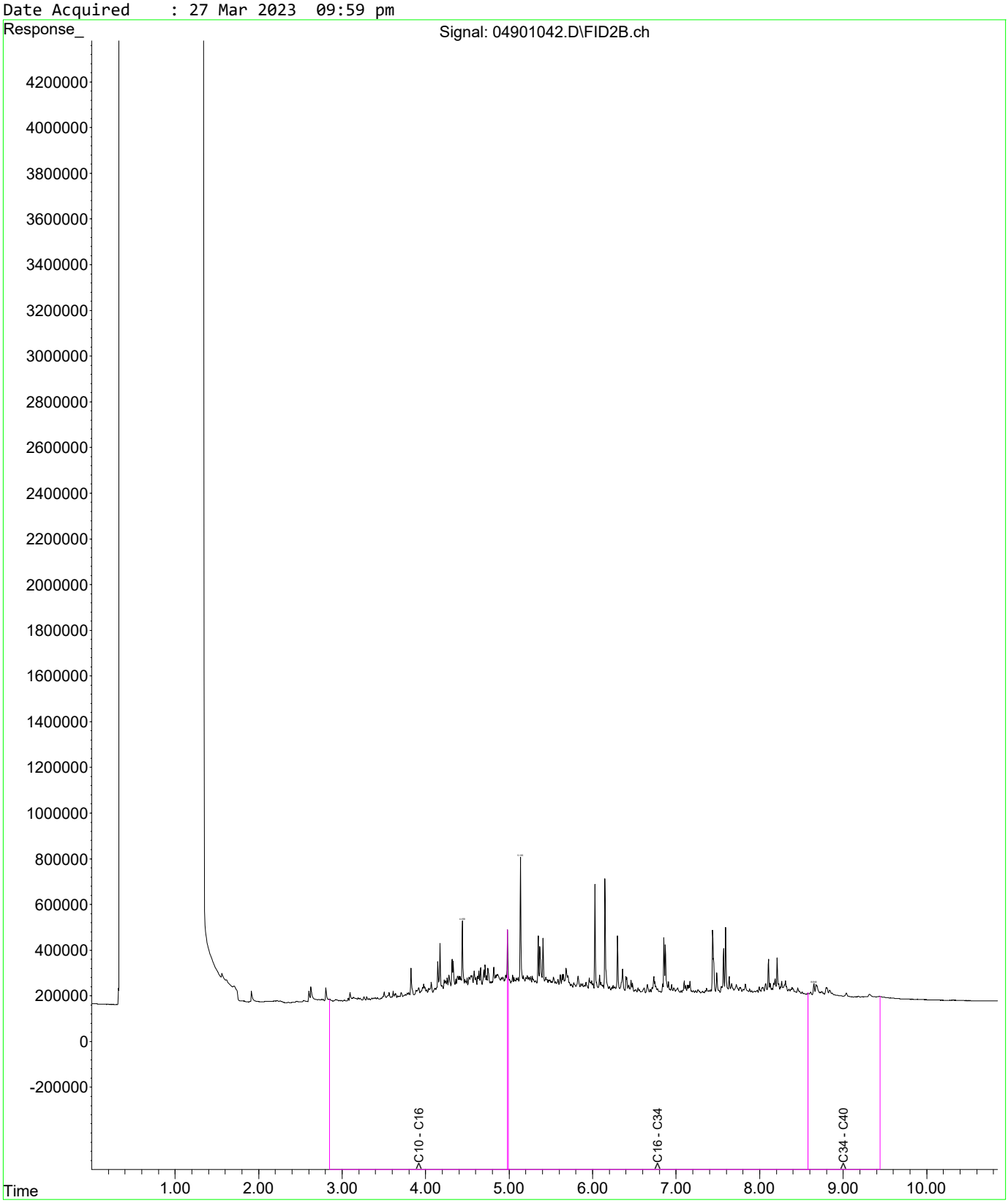
Fraction Scheme : NEPM Fractions
Data File : 04701040.D
Laboratory Number: EM2305209-026
Sample ID : UST_SP_EXT_02
Date Acquired : 27 Mar 2023 09:24 pm



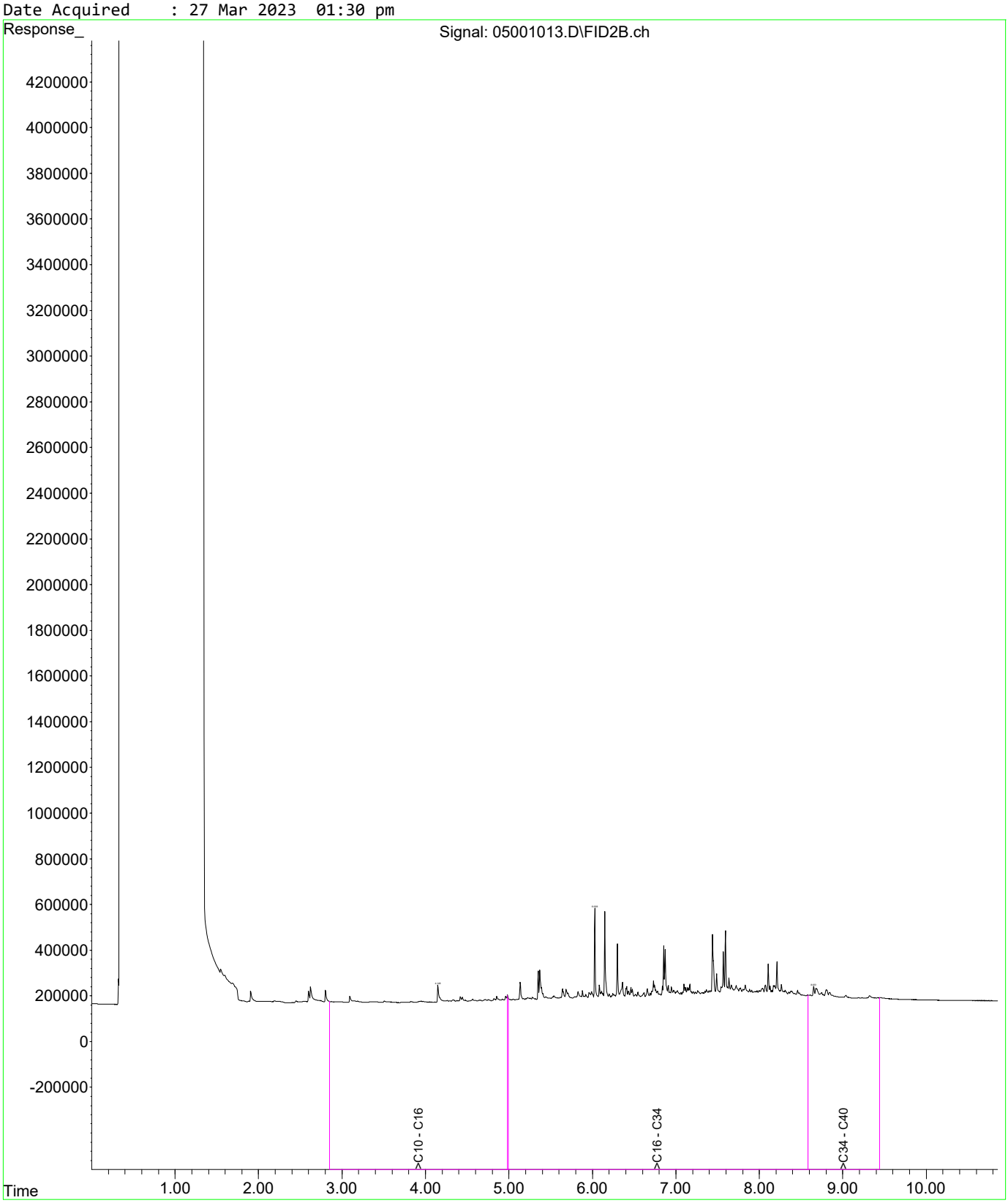
Fraction Scheme : NEPM Fractions
Data File : 04801041.D
Laboratory Number: EM2305209-028
Sample ID : UST_SP_EXT_04
Date Acquired : 27 Mar 2023 09:41 pm



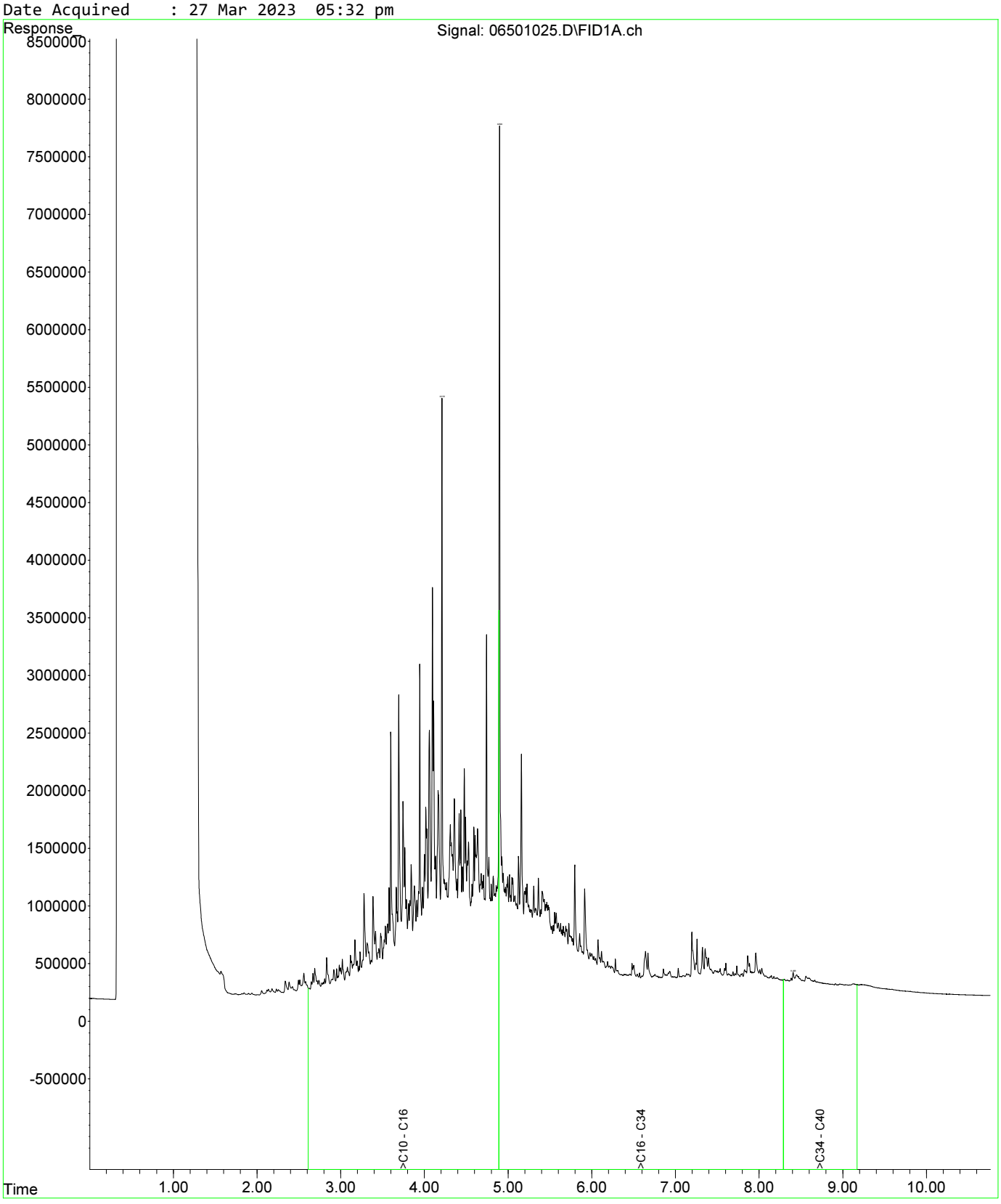
Fraction Scheme : NEPM Fractions
Data File : 04901042.D
Laboratory Number: EM2305209-029
Sample ID : UST_SP_EXT_05
Date Acquired : 27 Mar 2023 09:59 pm



Fraction Scheme : NEPM Fractions
Data File : 05001013.D
Laboratory Number: EM2305209-030
Sample ID : UST_SP_EXT_06
Date Acquired : 27 Mar 2023 01:30 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 06501025.D
Laboratory Number: EM2305209-046
Sample ID : UST_QC106
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 06501025.D
Laboratory Number: EM2305209-046
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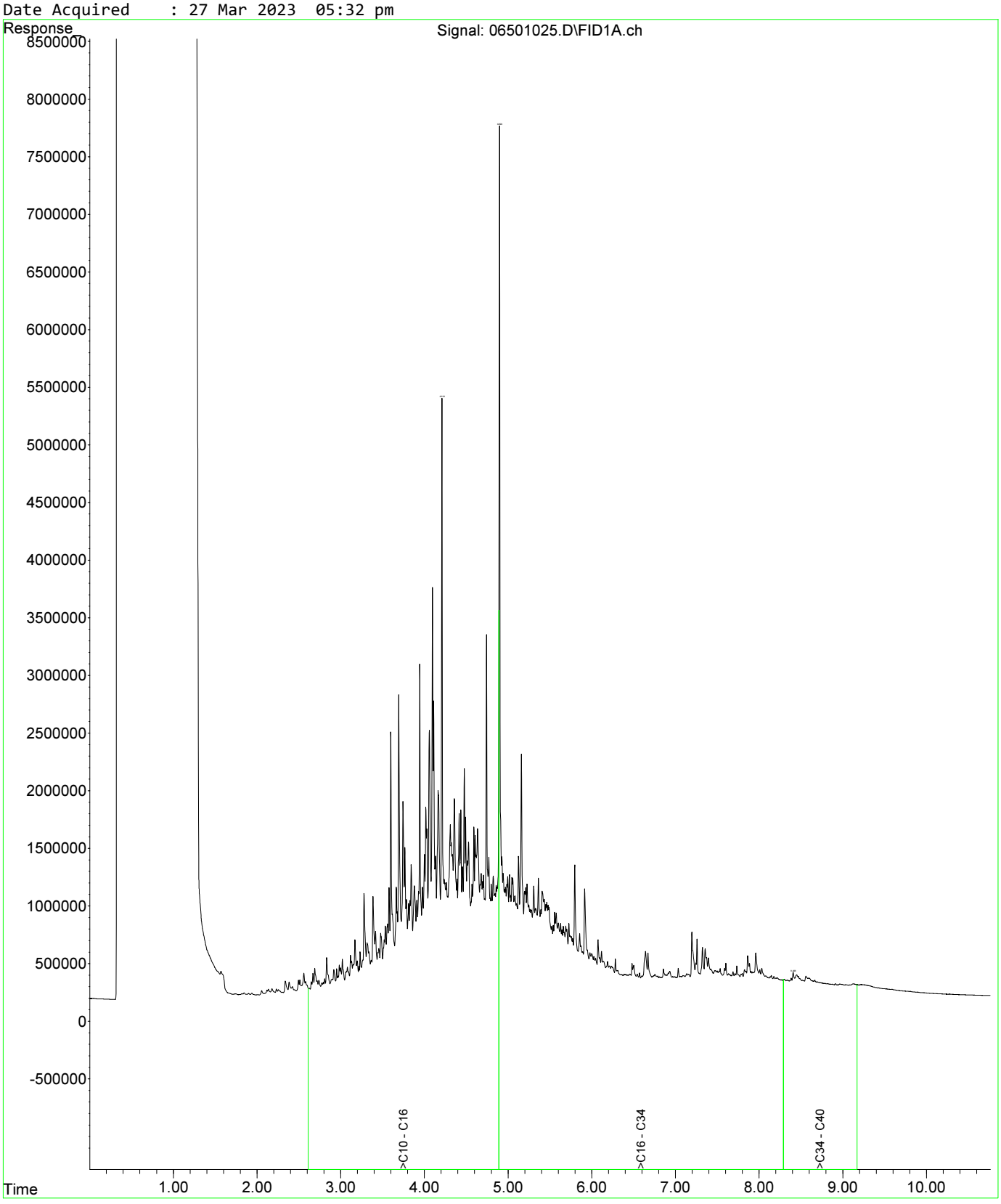
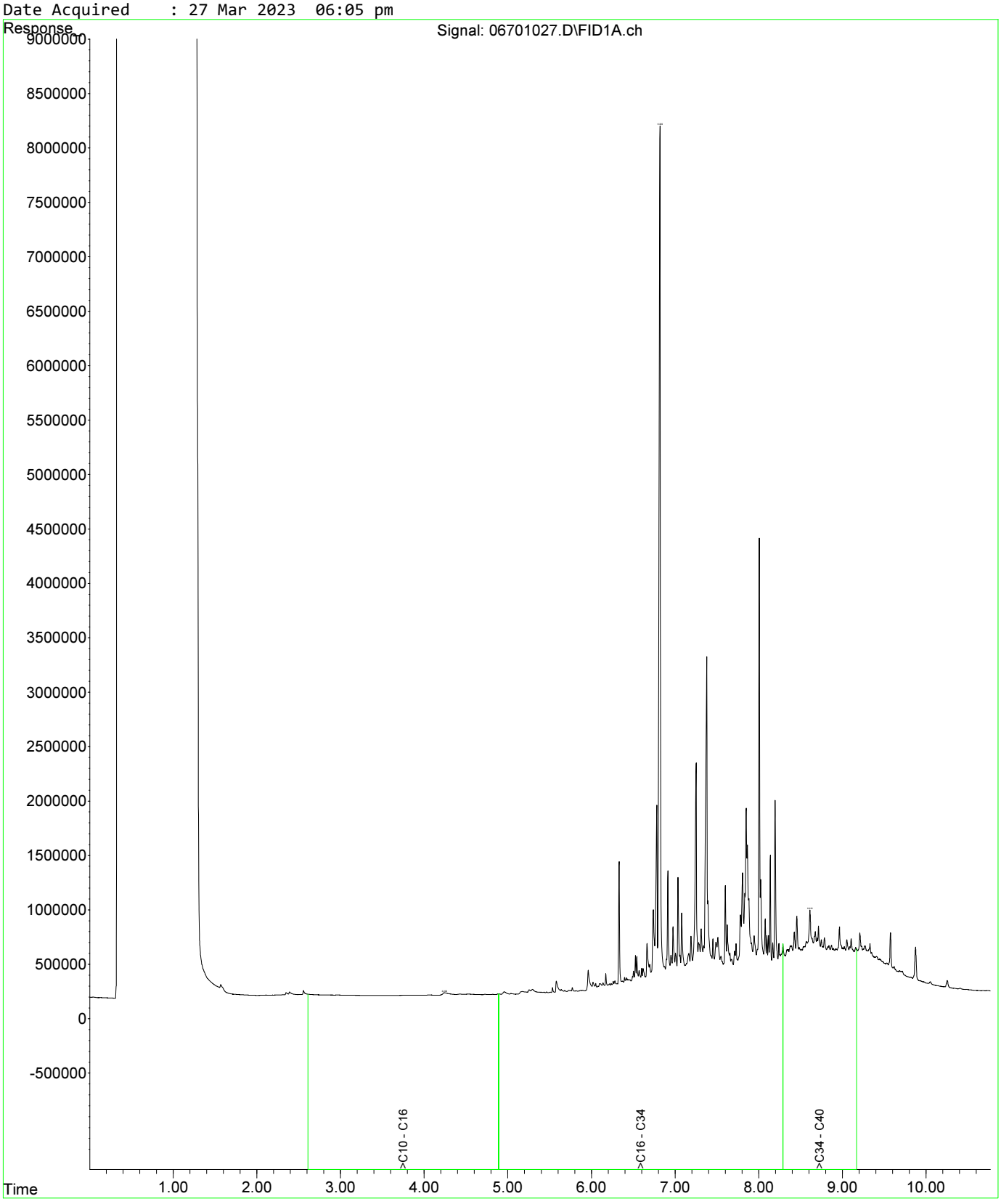
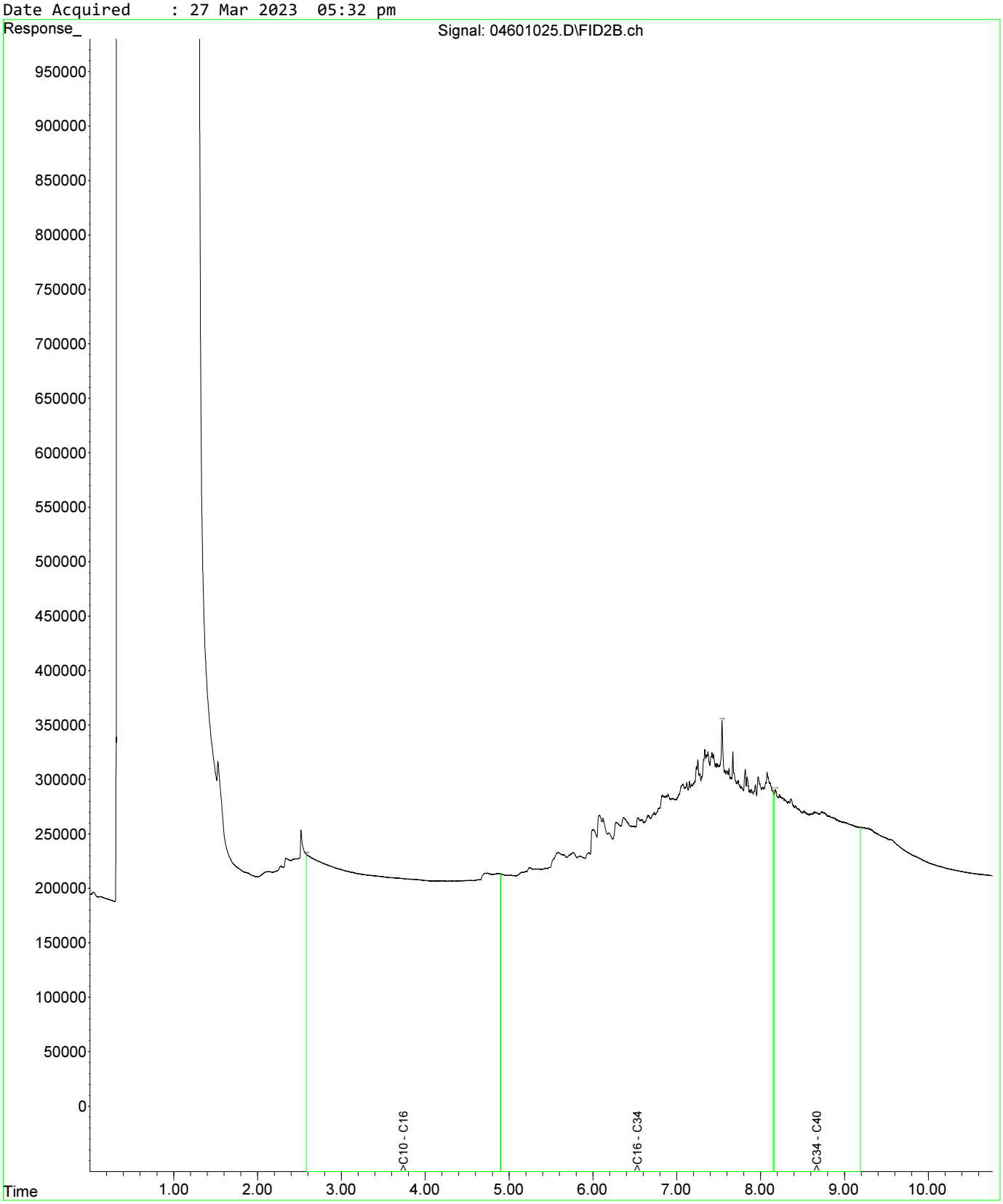
Date Acquired : 27 Mar 2023 05:32 pm



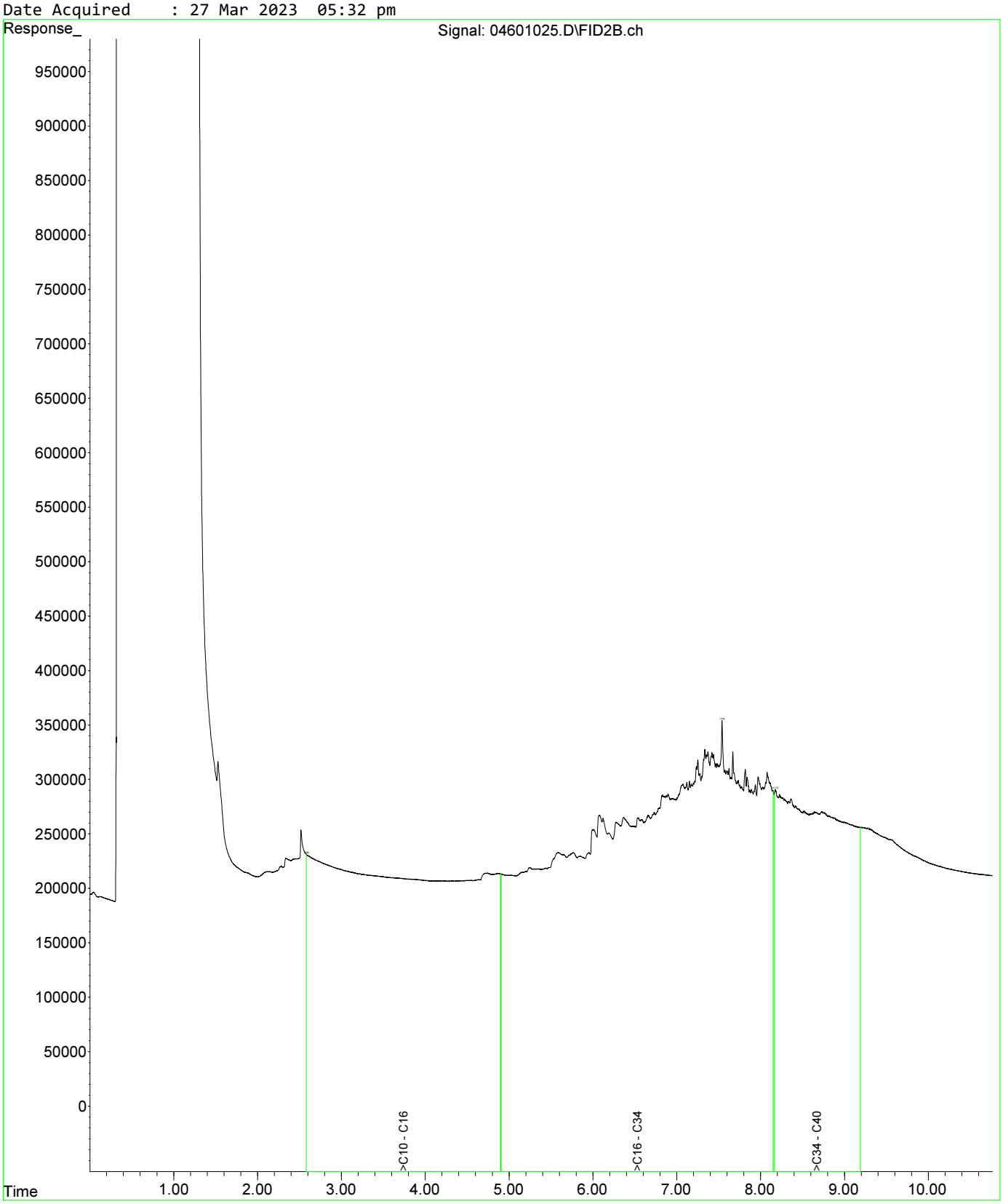
Fraction Scheme : NEPM DRAFT HIL
Data File : 06701027.D
Laboratory Number: EM2305209-050
Sample ID : Rail Timber 01
Date Acquired : 27 Mar 2023 06:05 pm



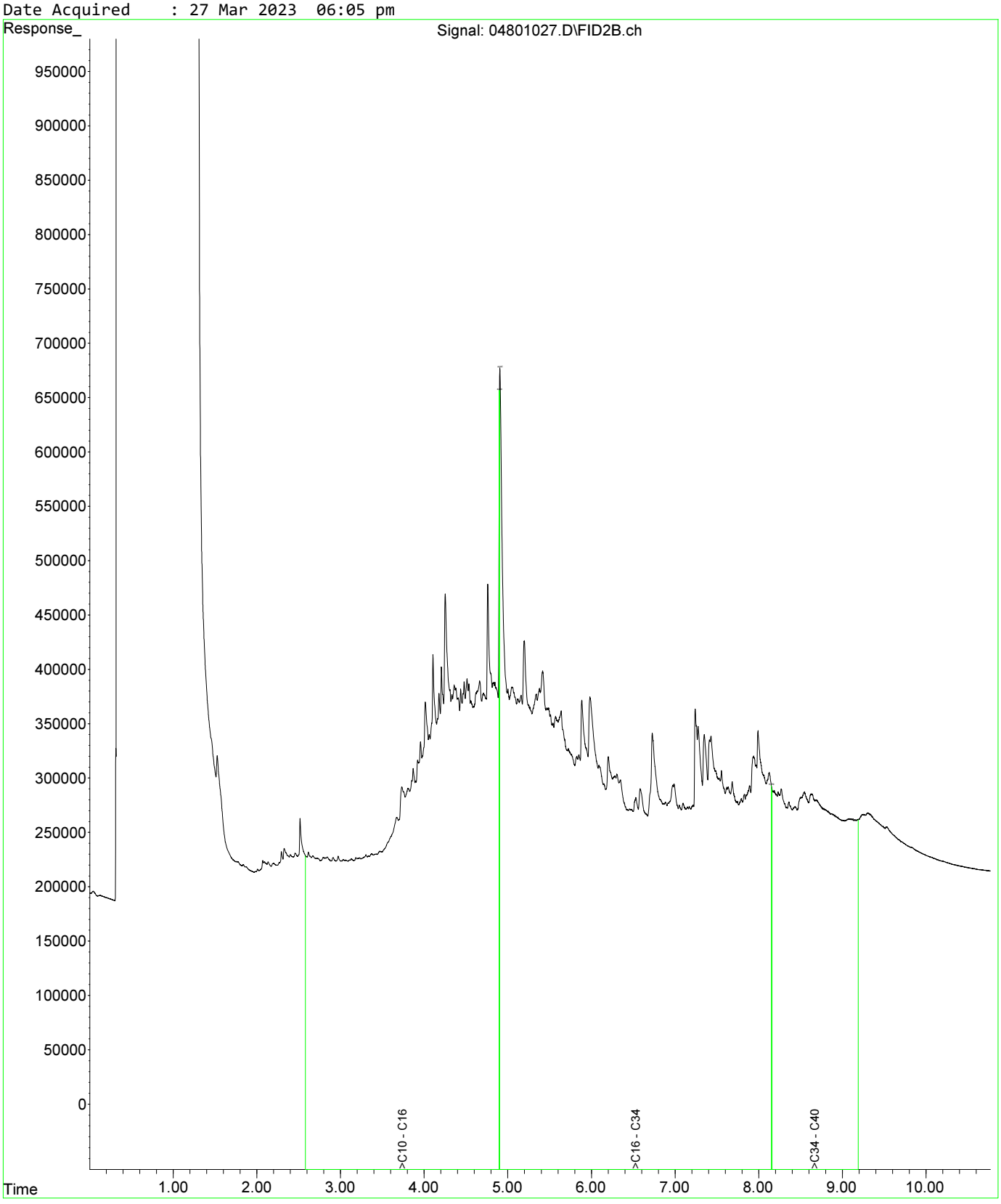
Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



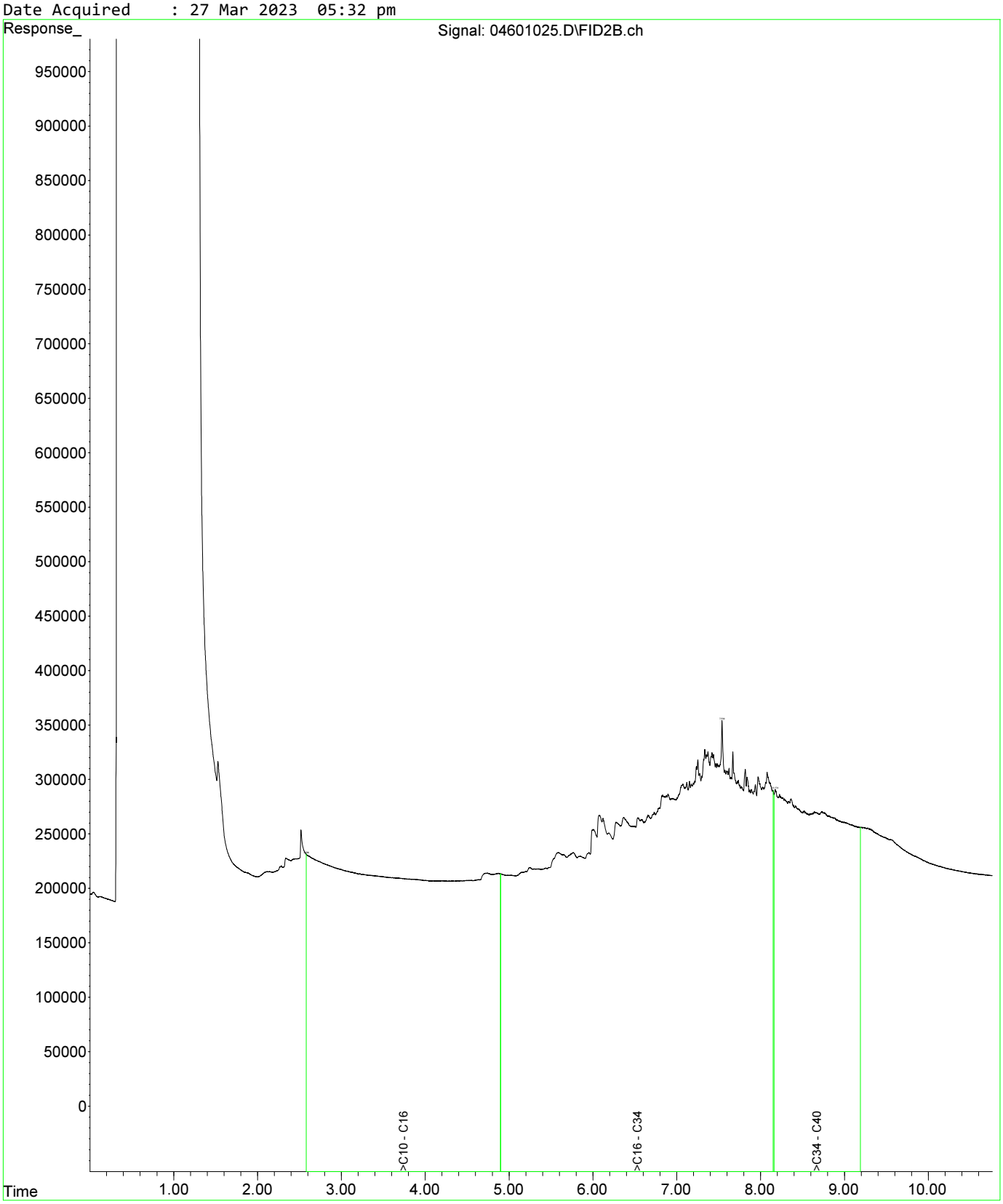
Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



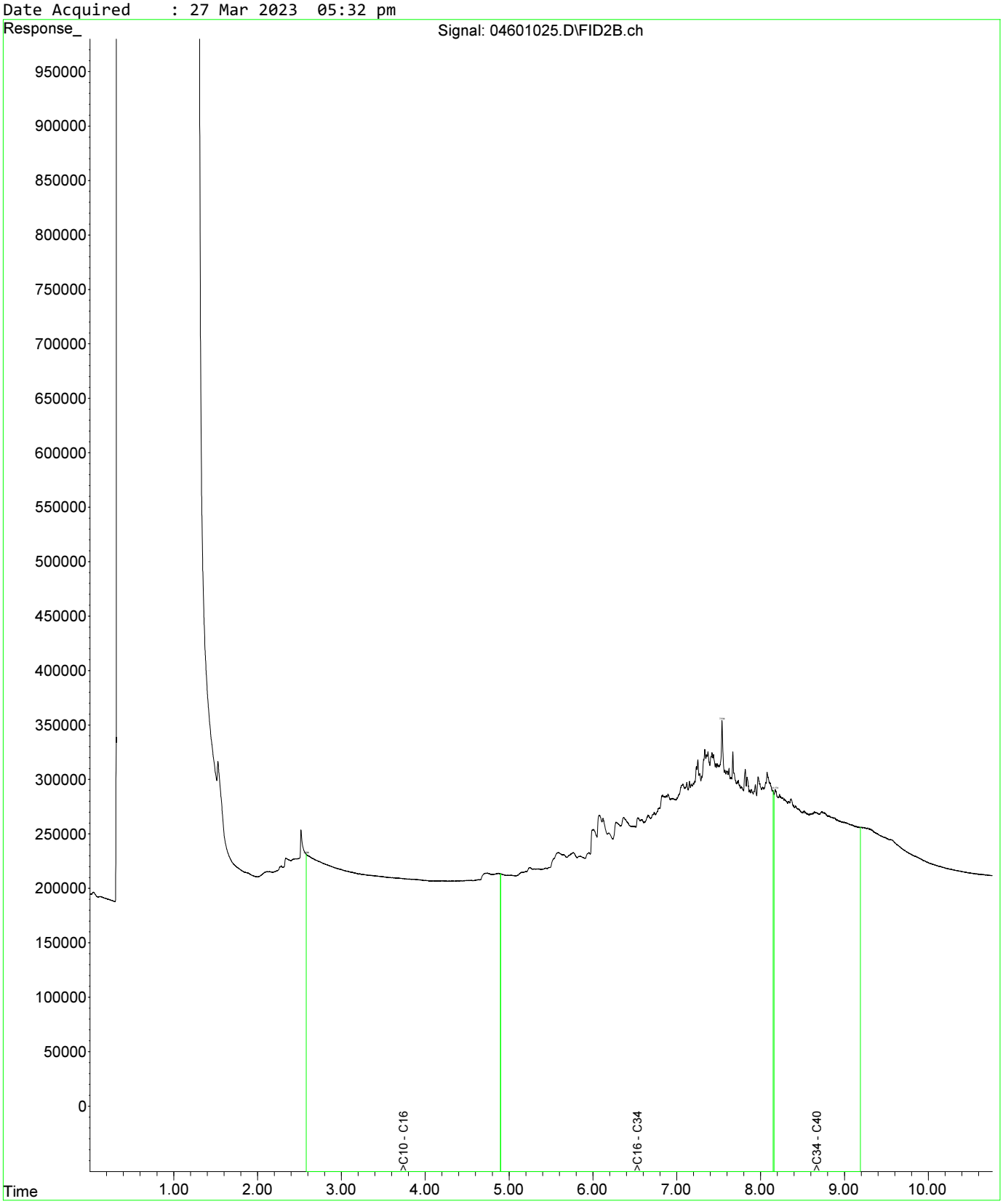
Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



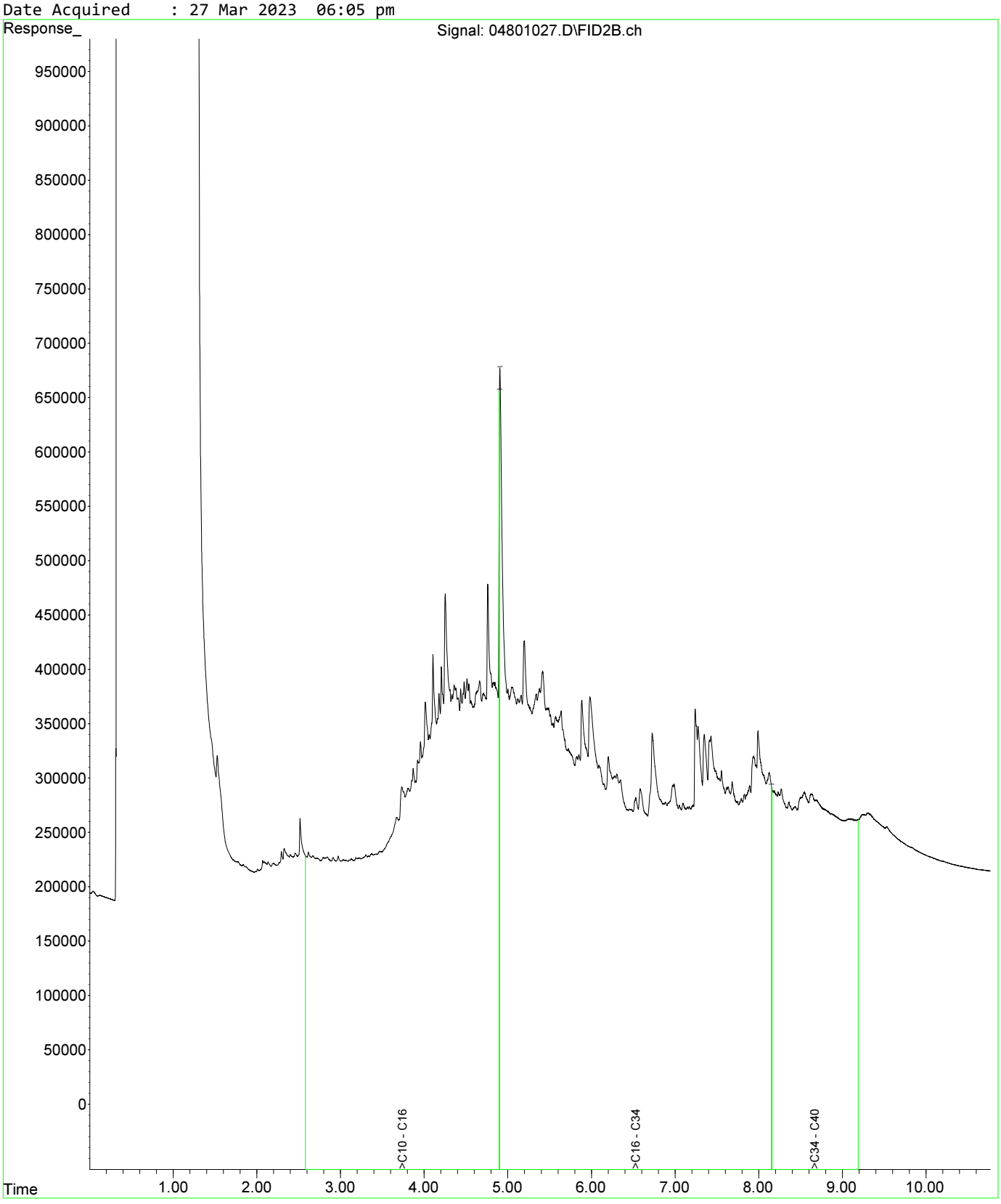
Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



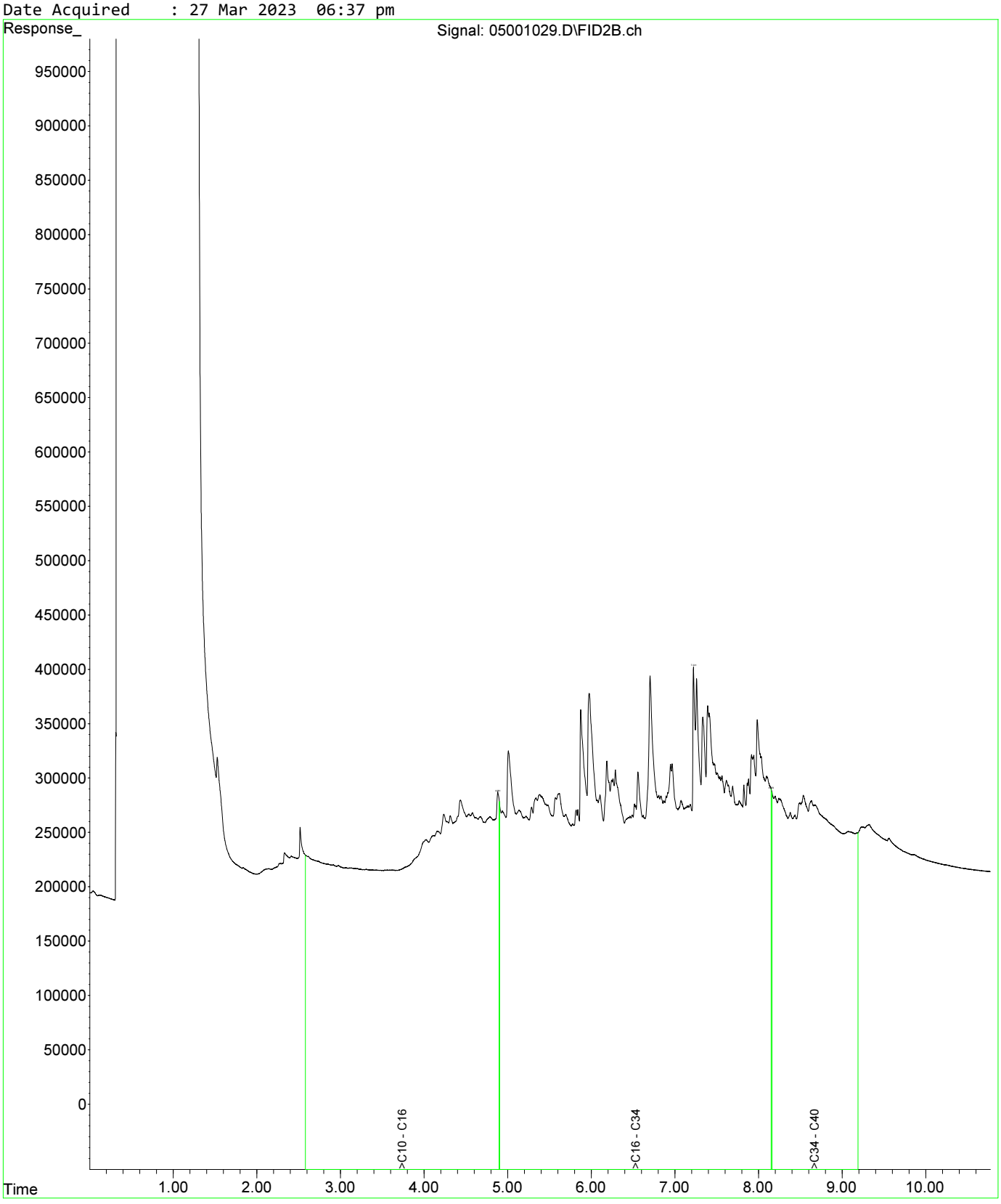
Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



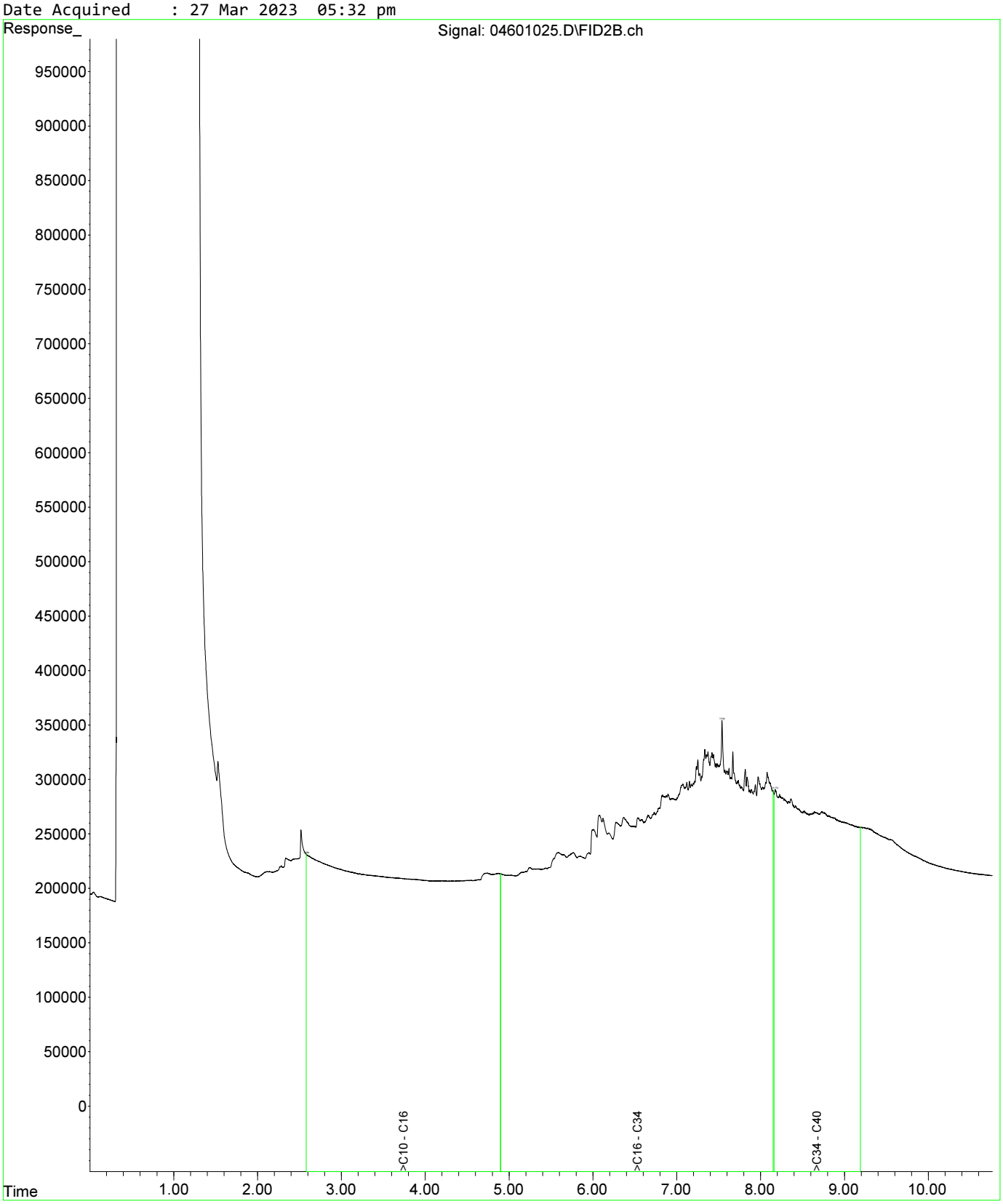
Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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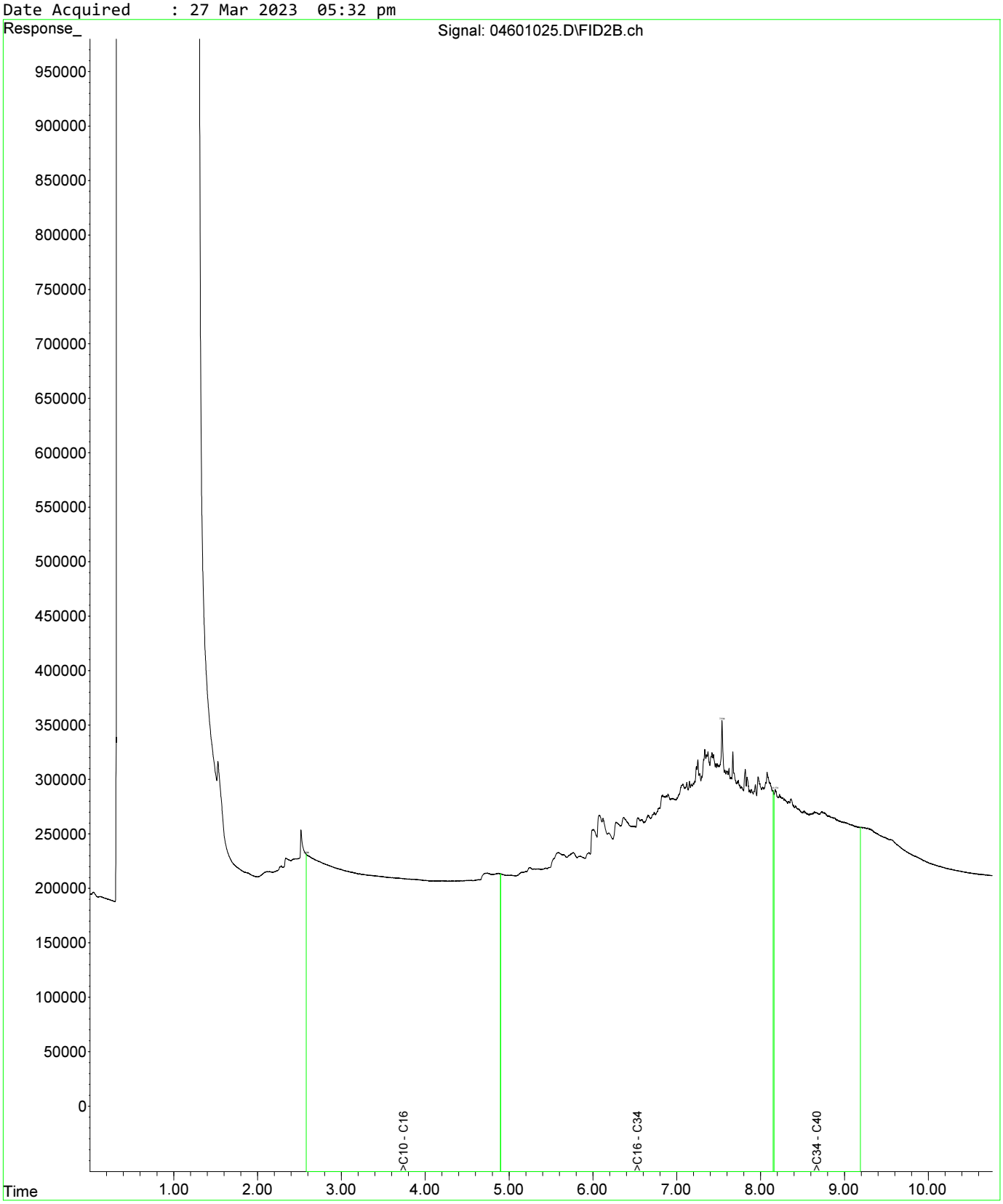

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Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
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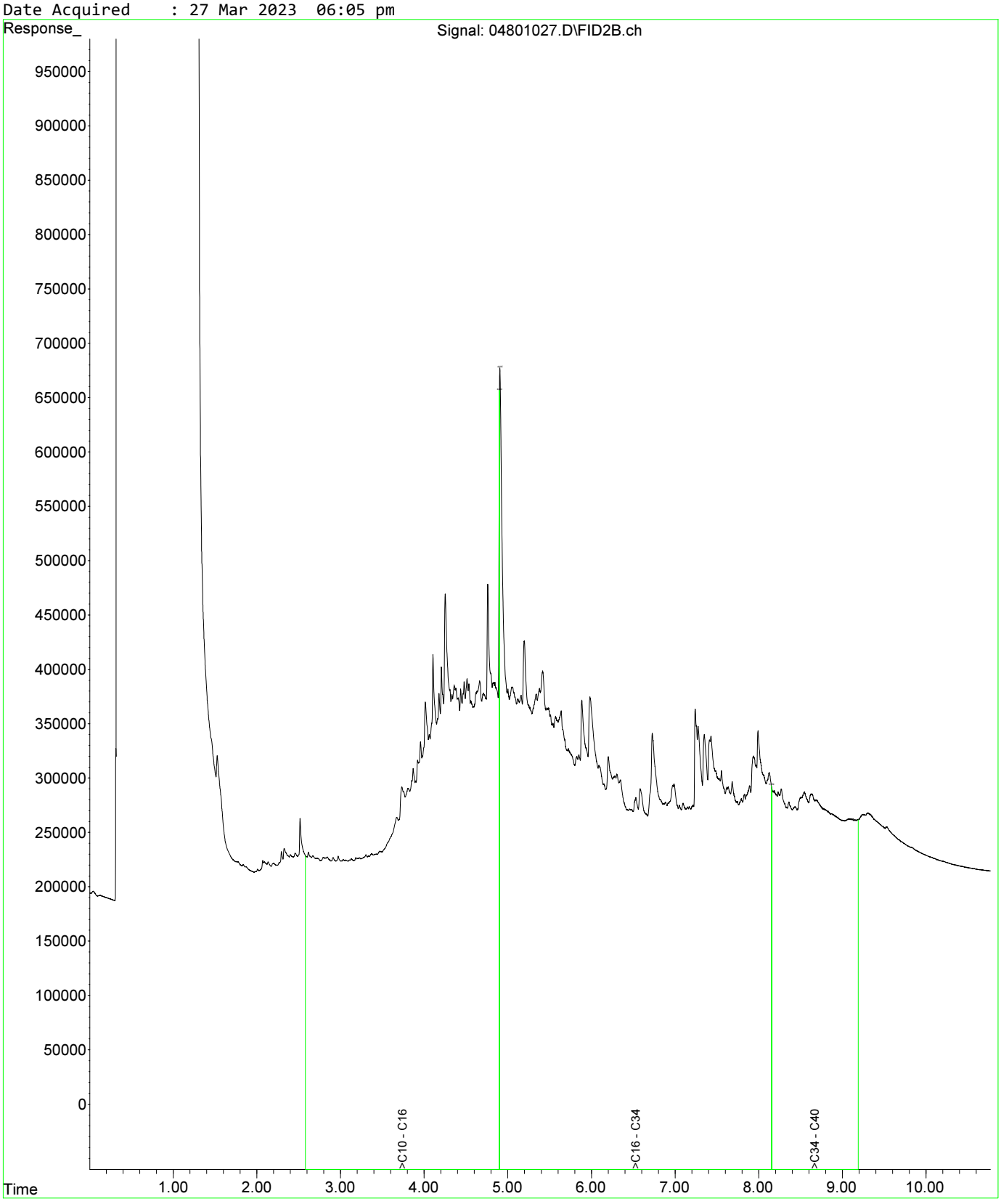

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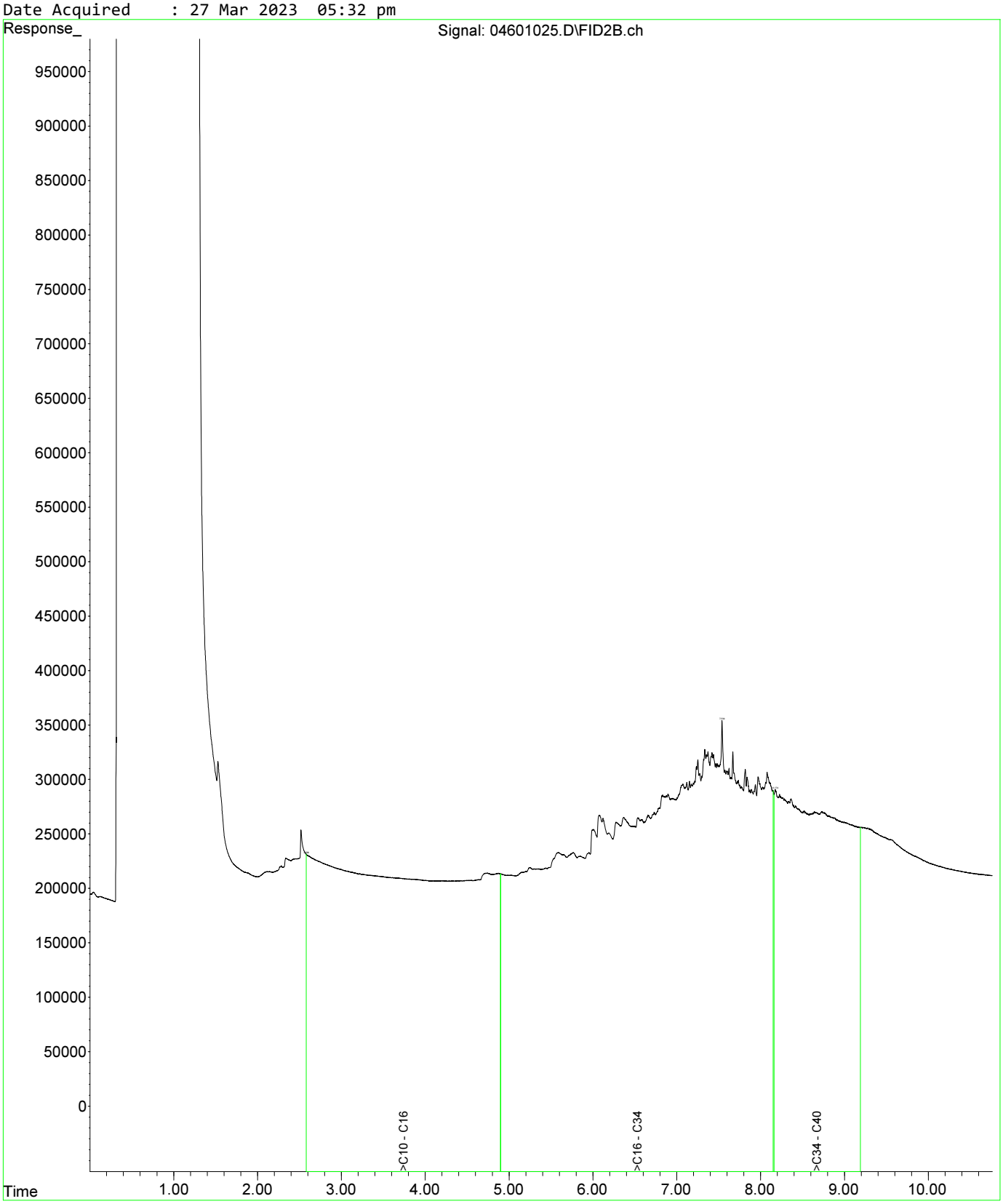

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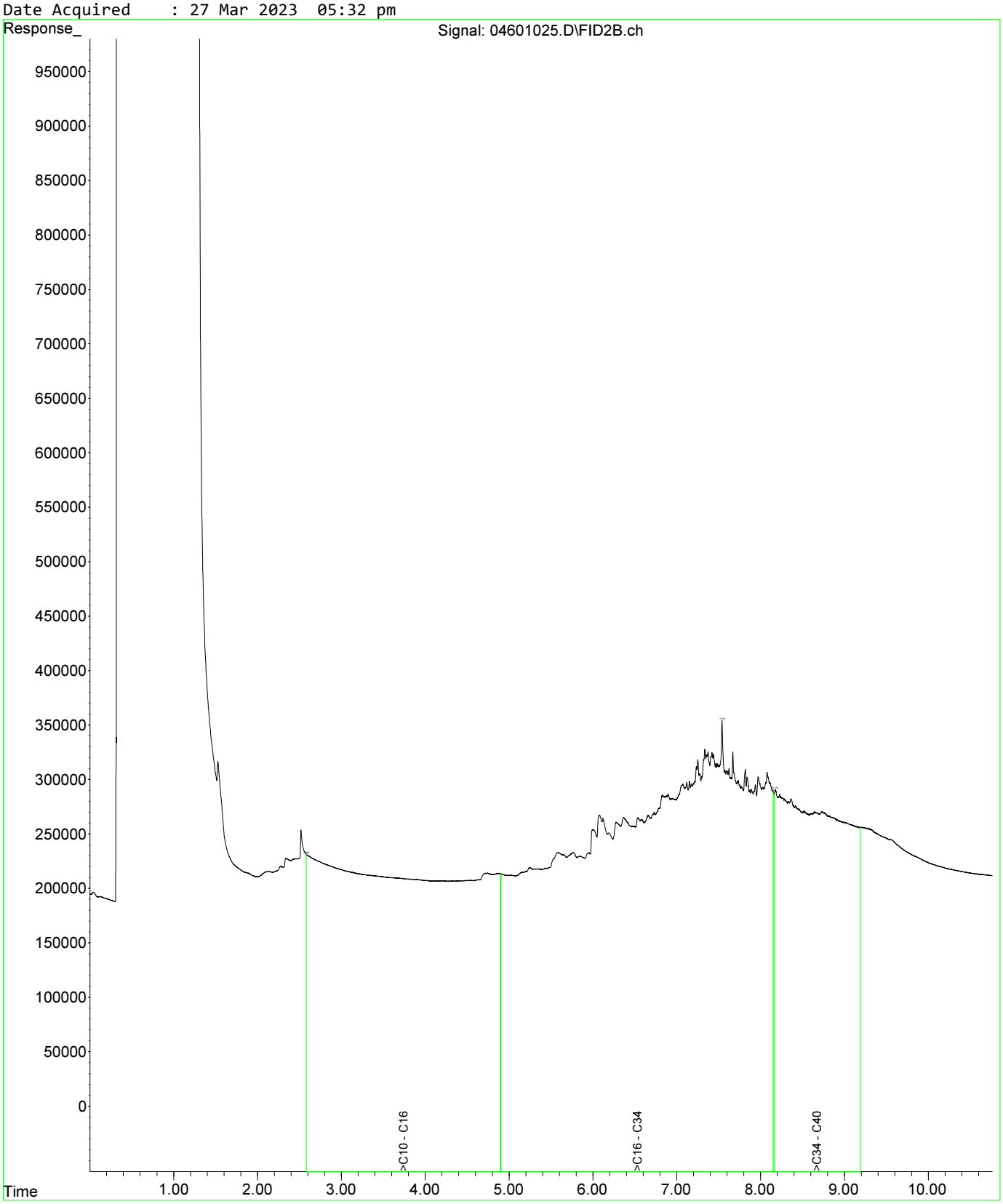

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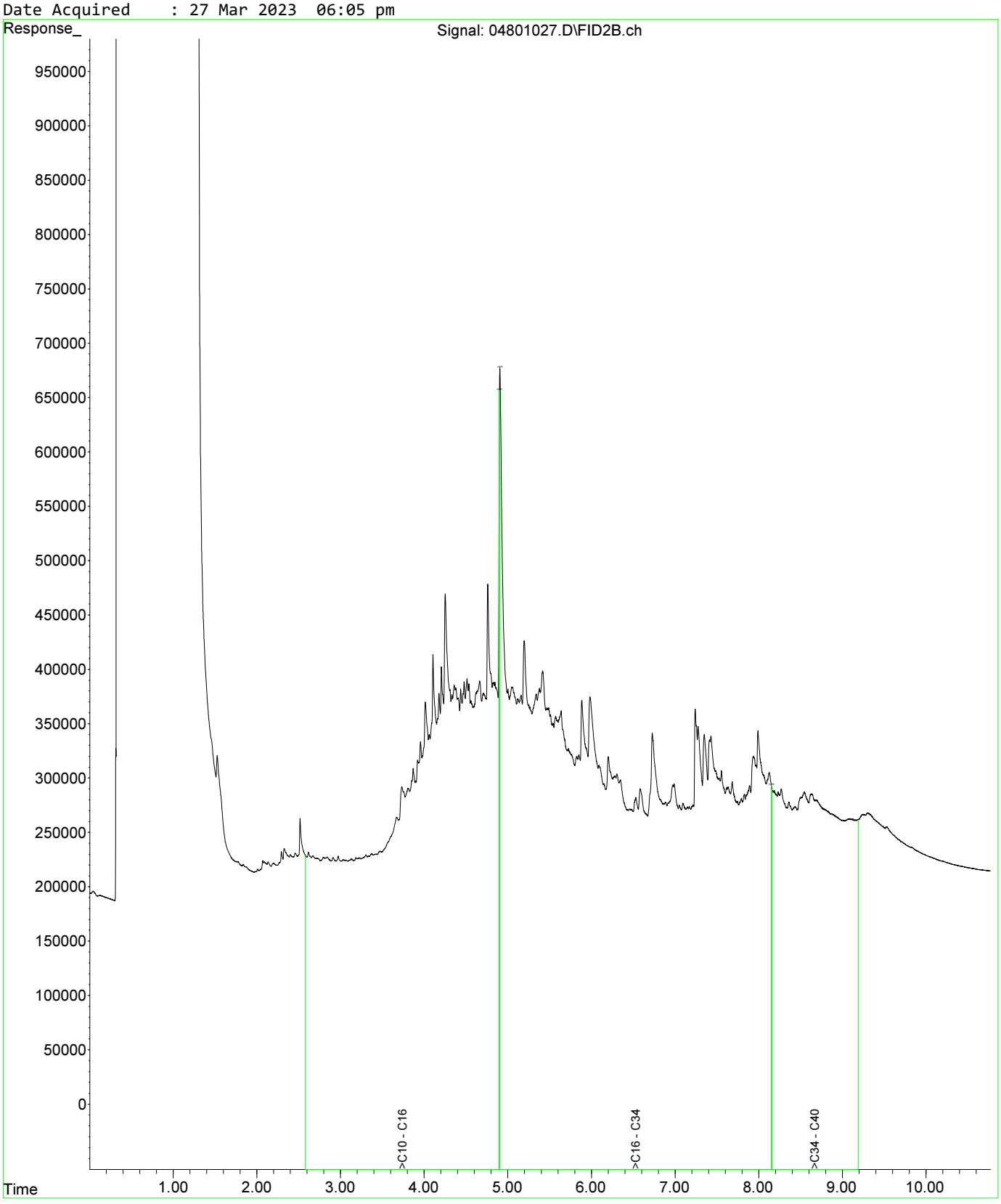

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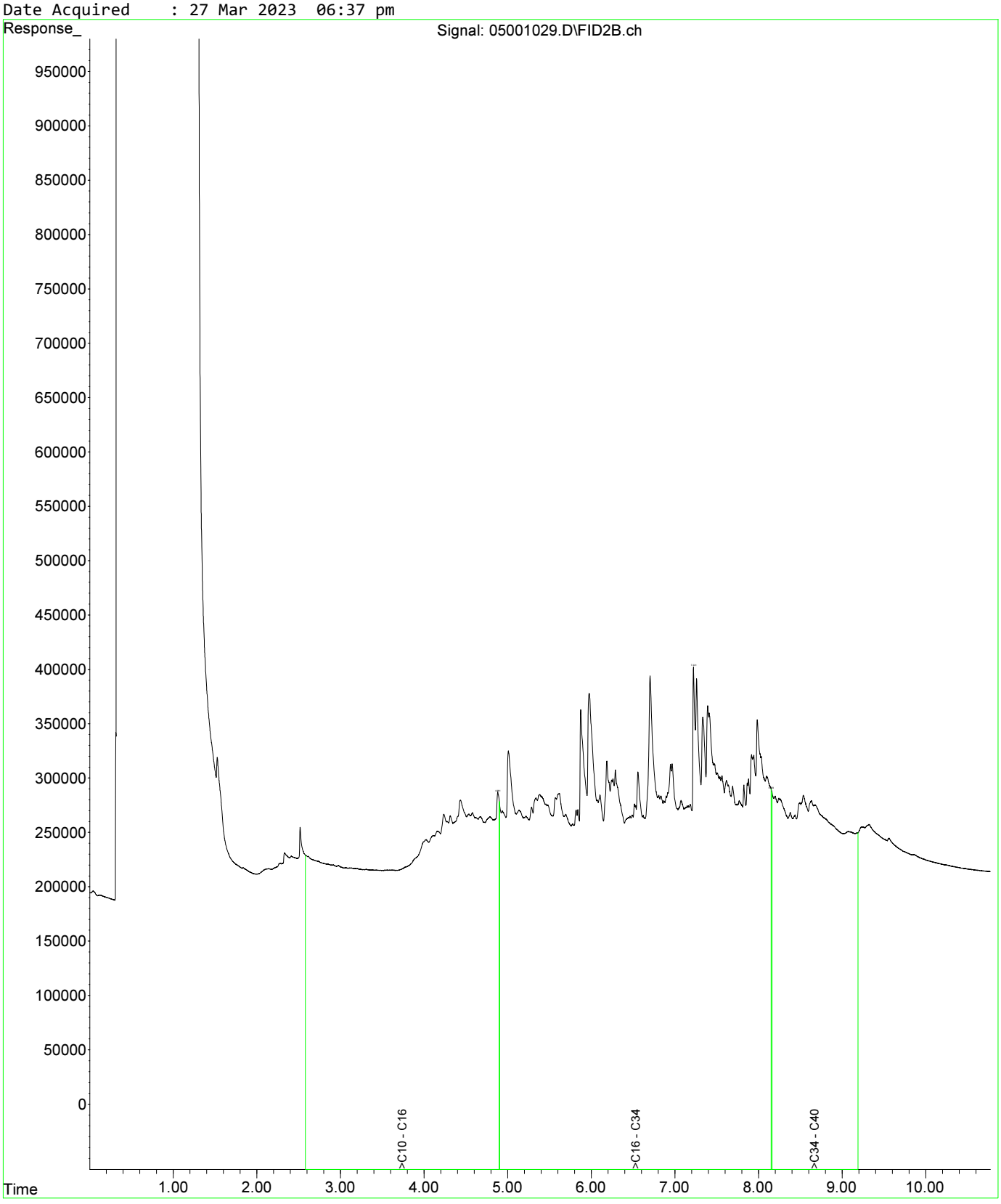

Fraction Scheme : NEPM DRAFT HIL
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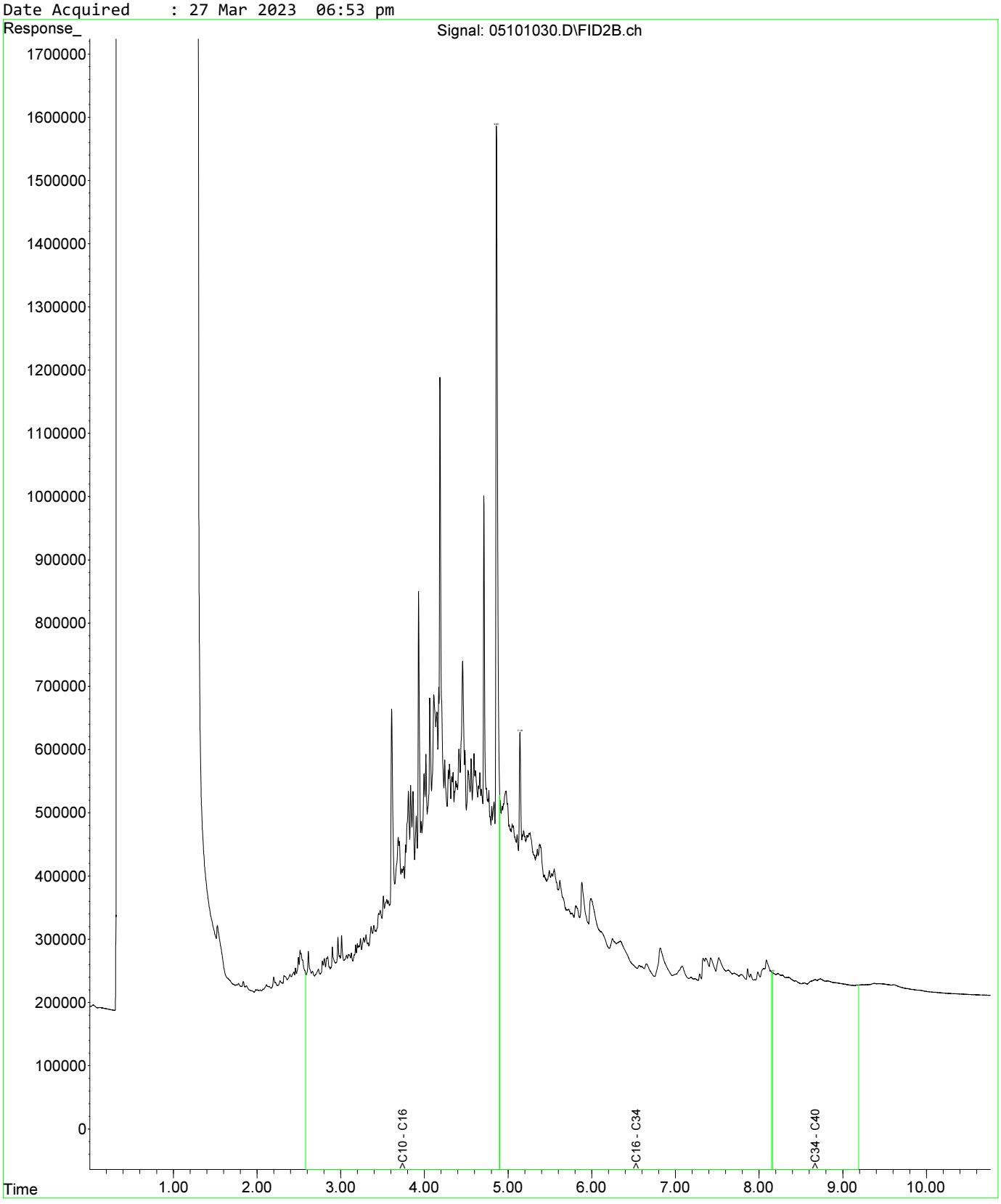

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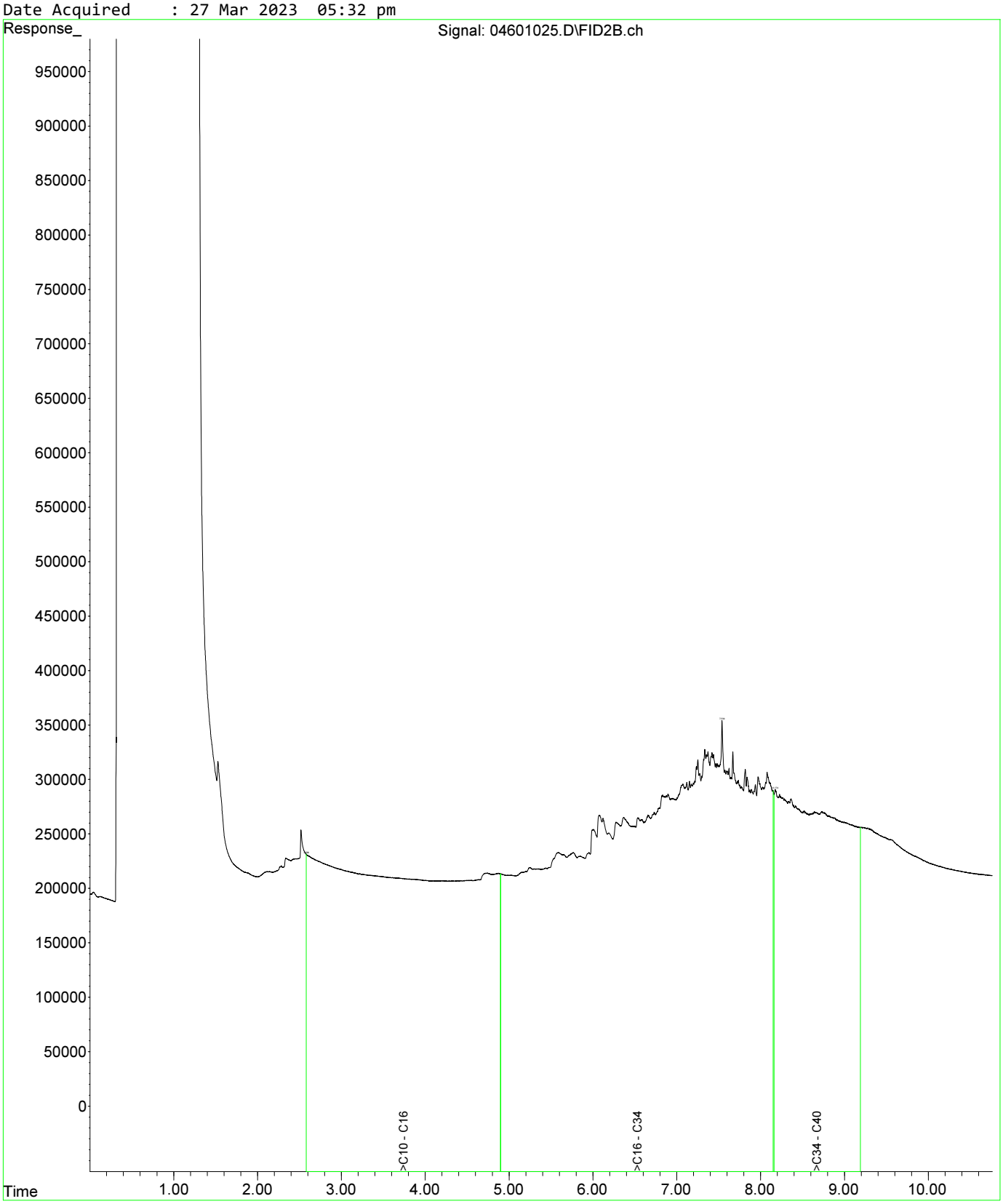

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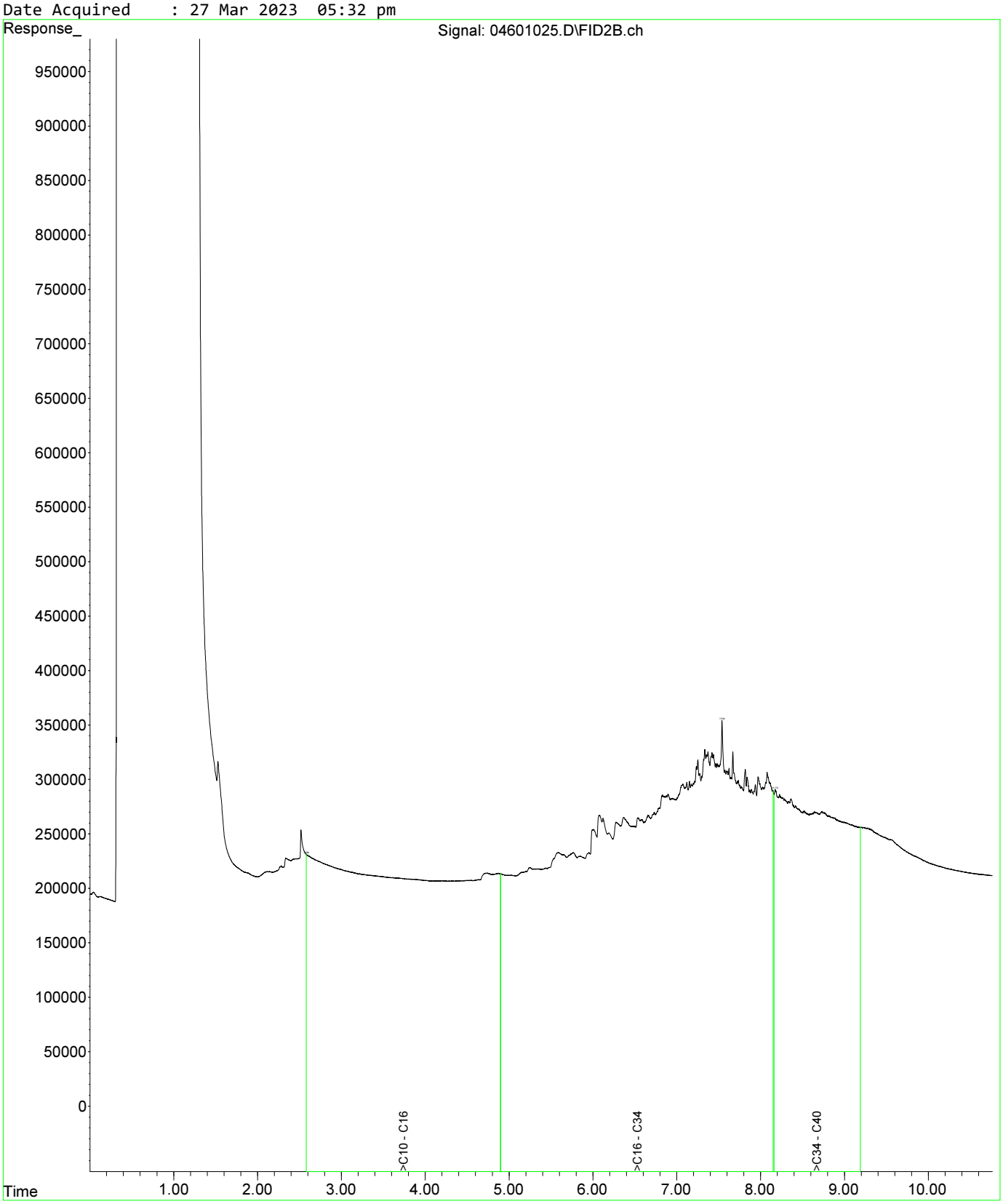

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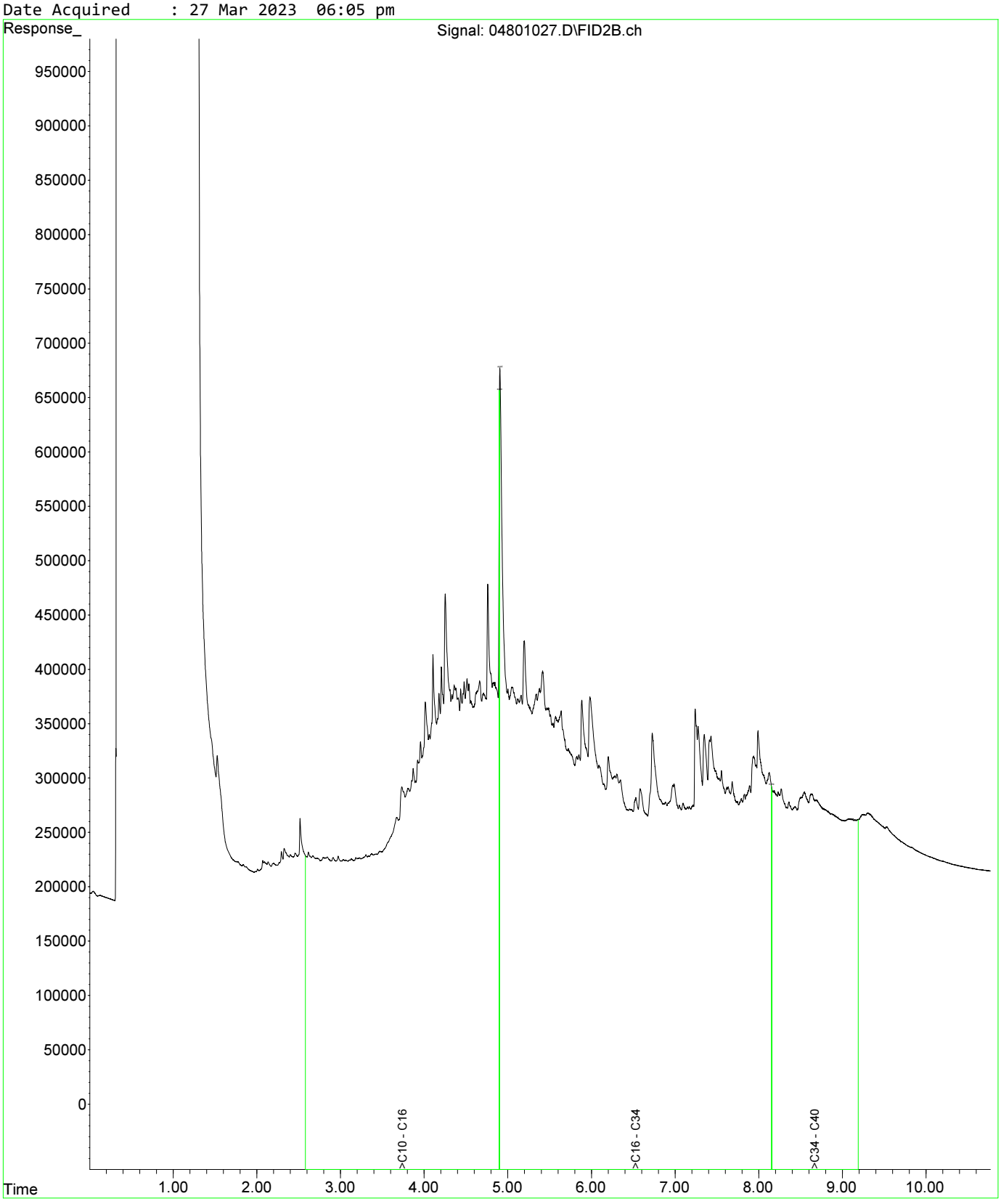

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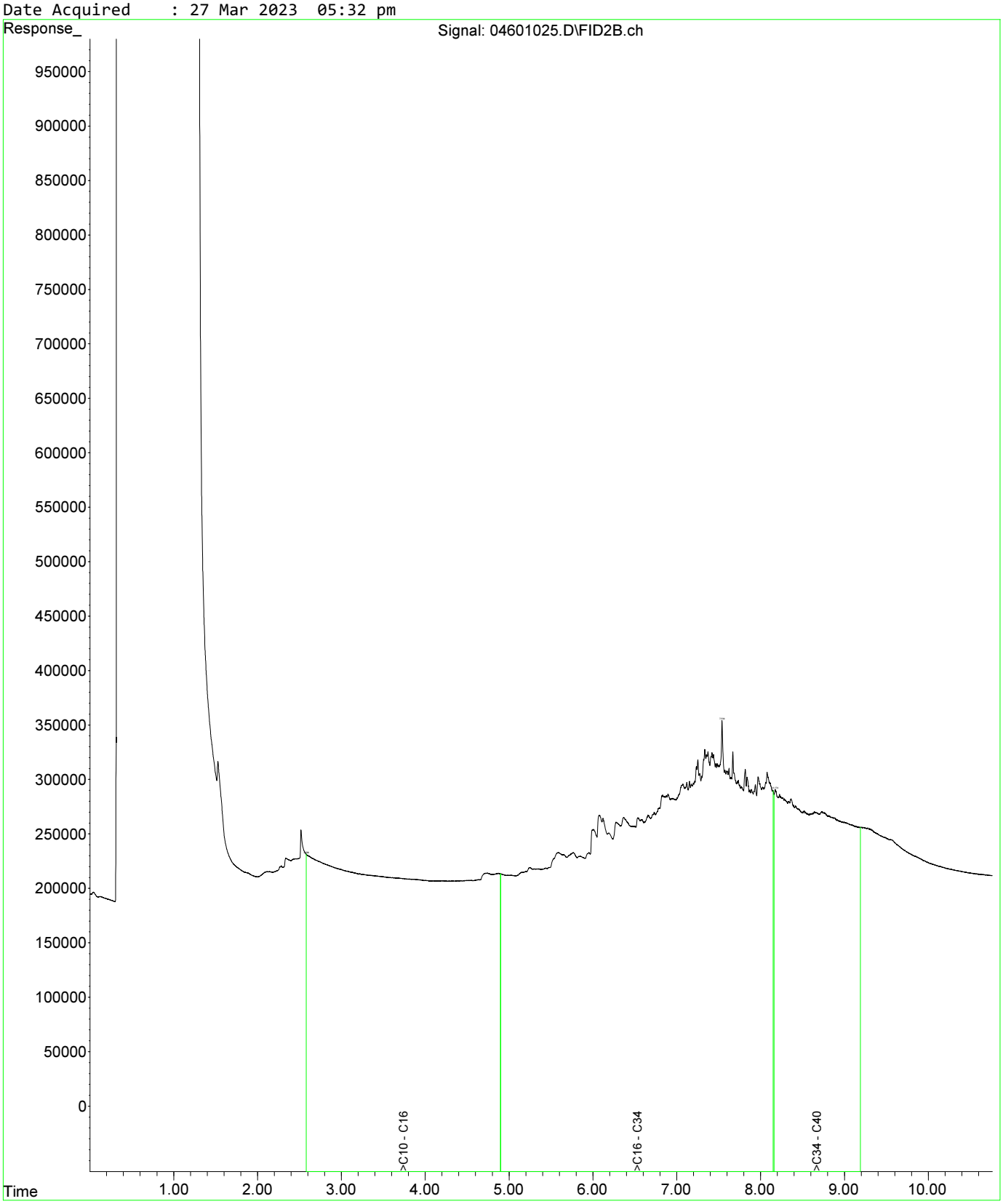

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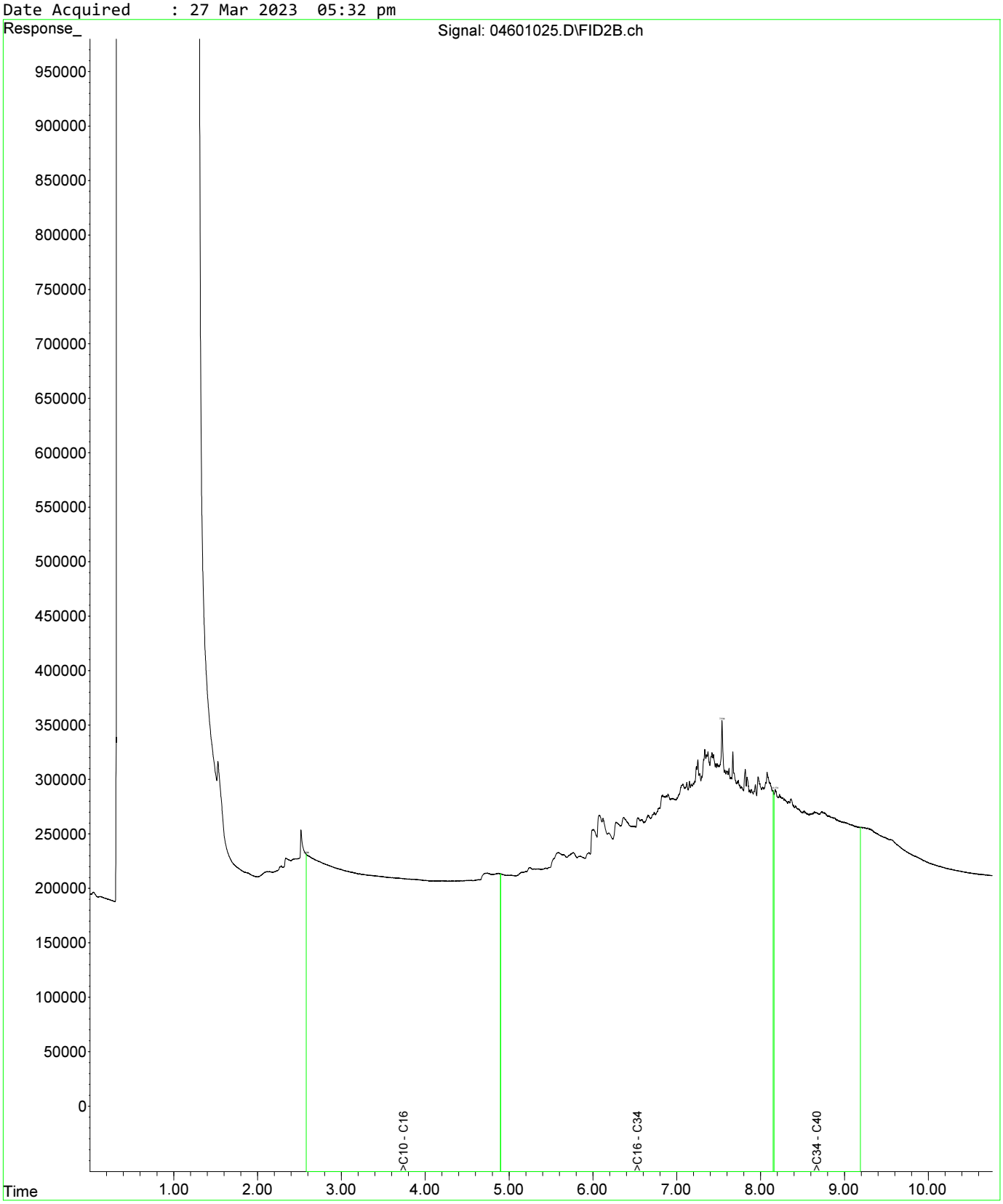

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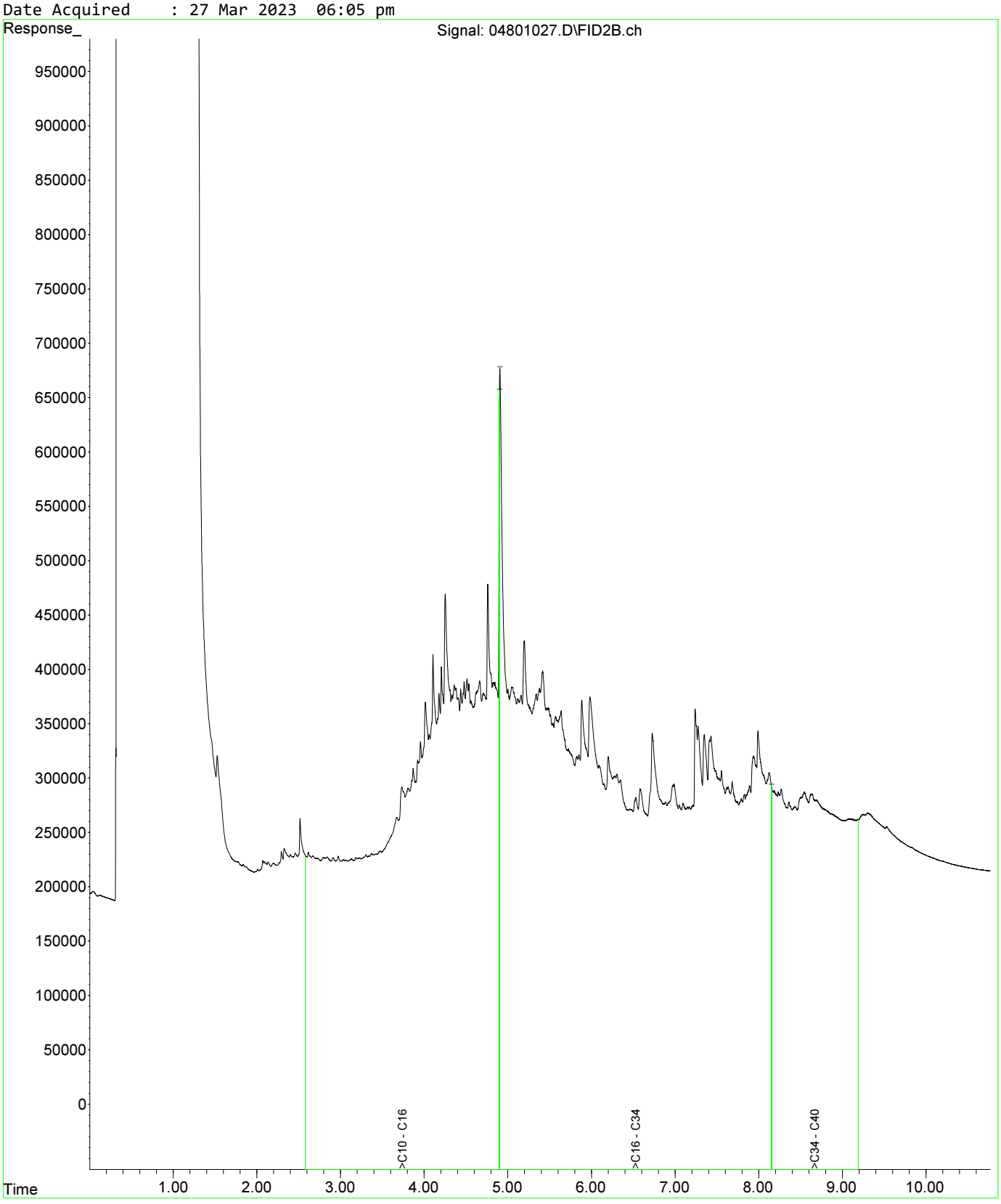

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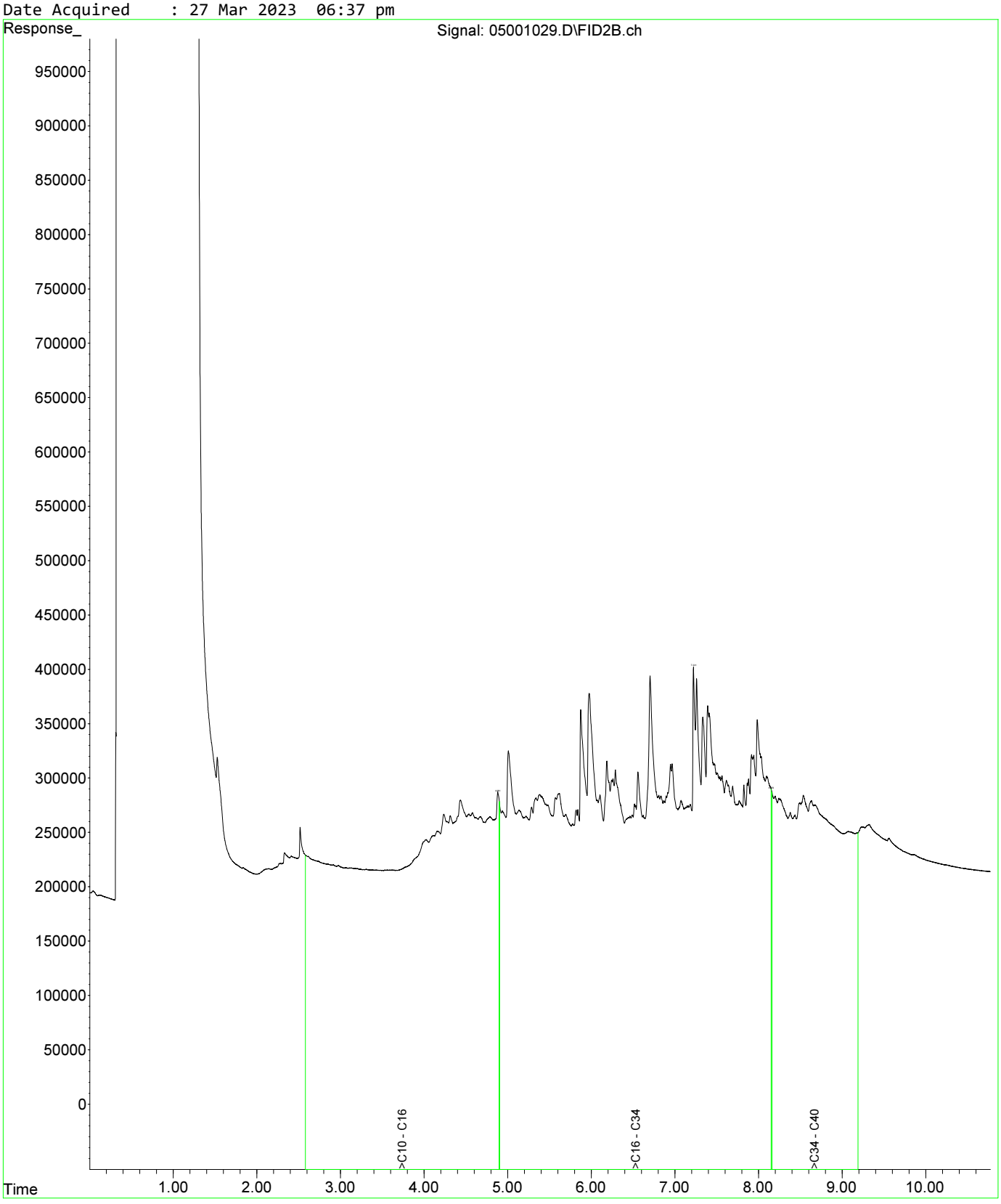

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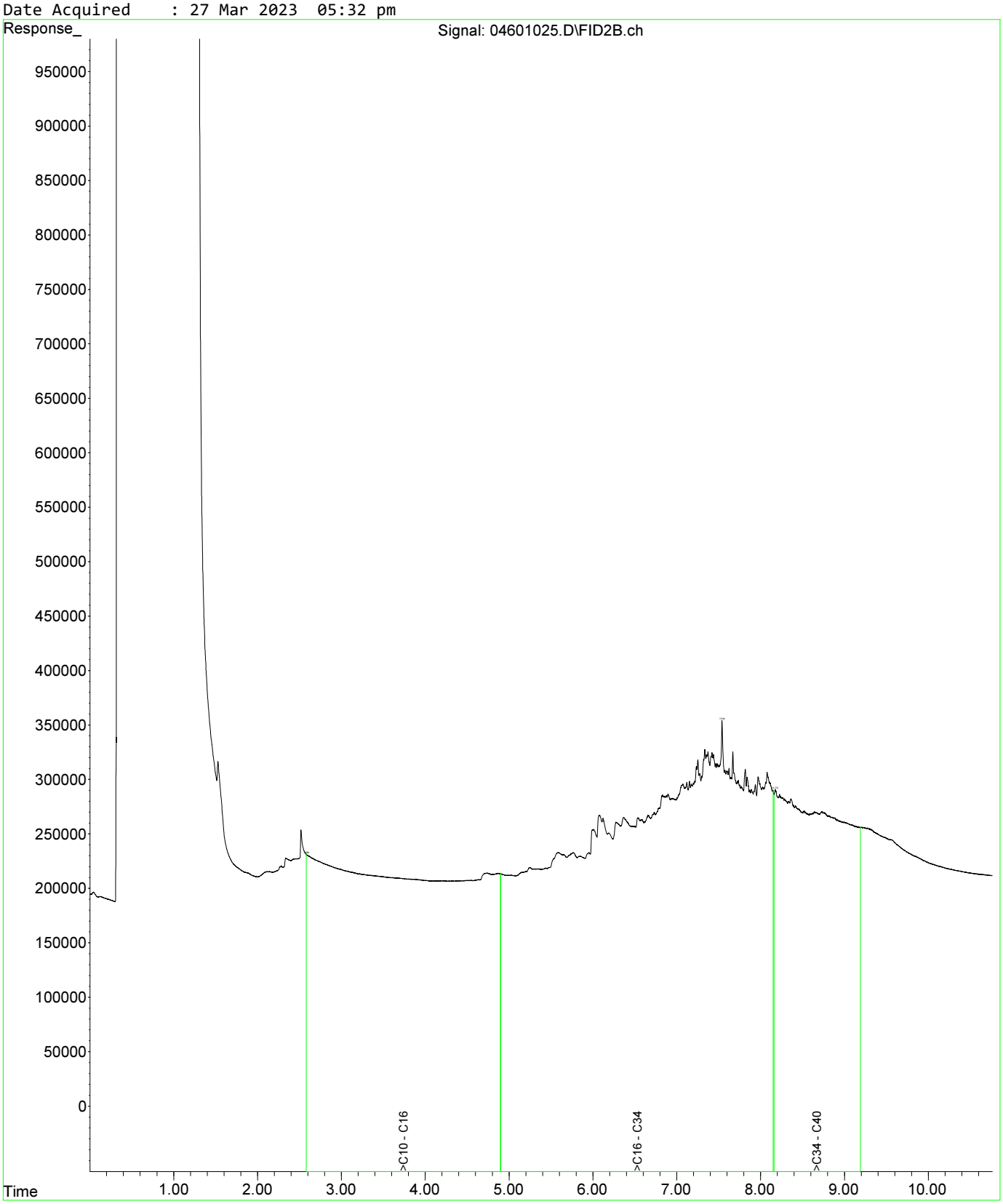

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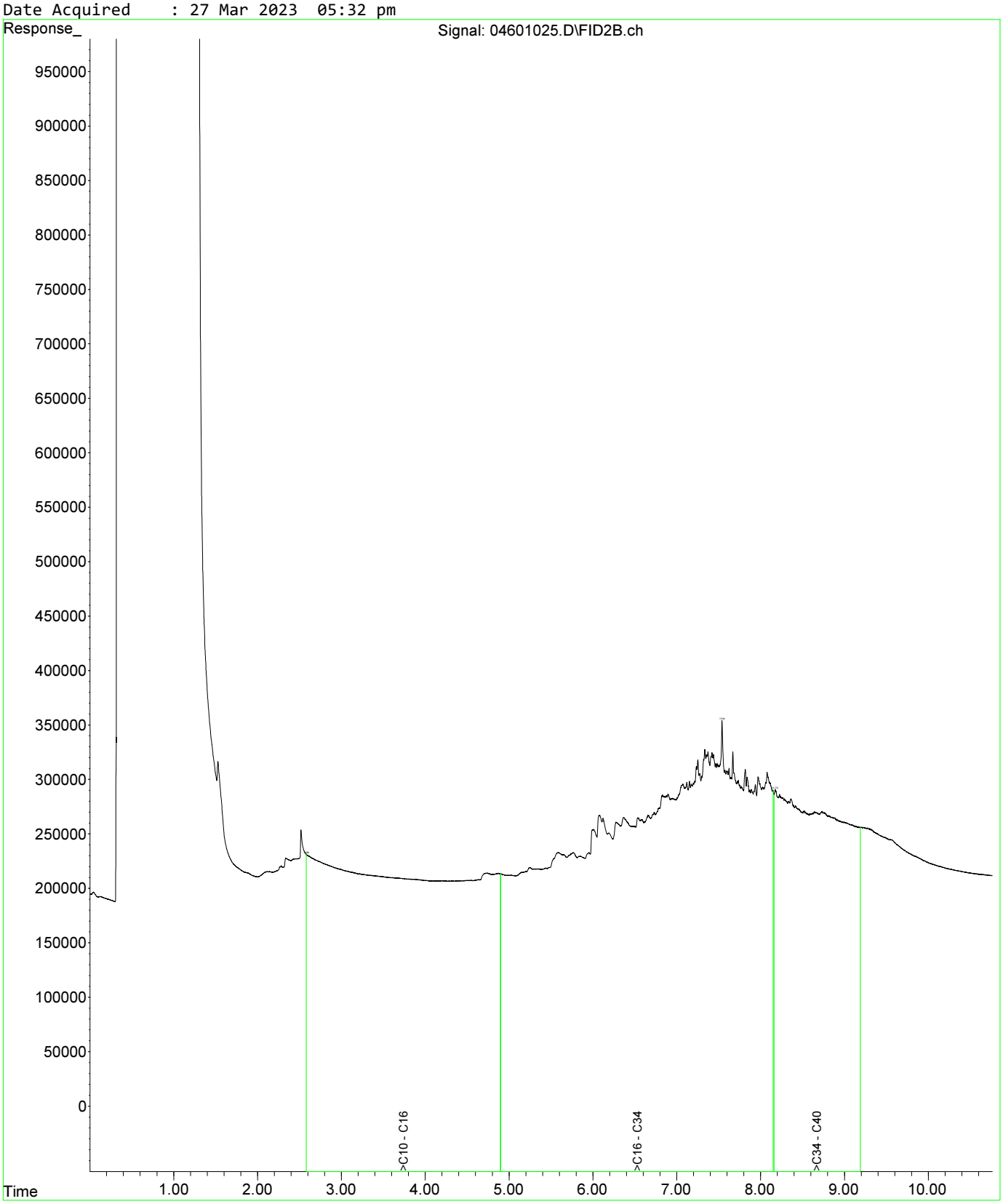

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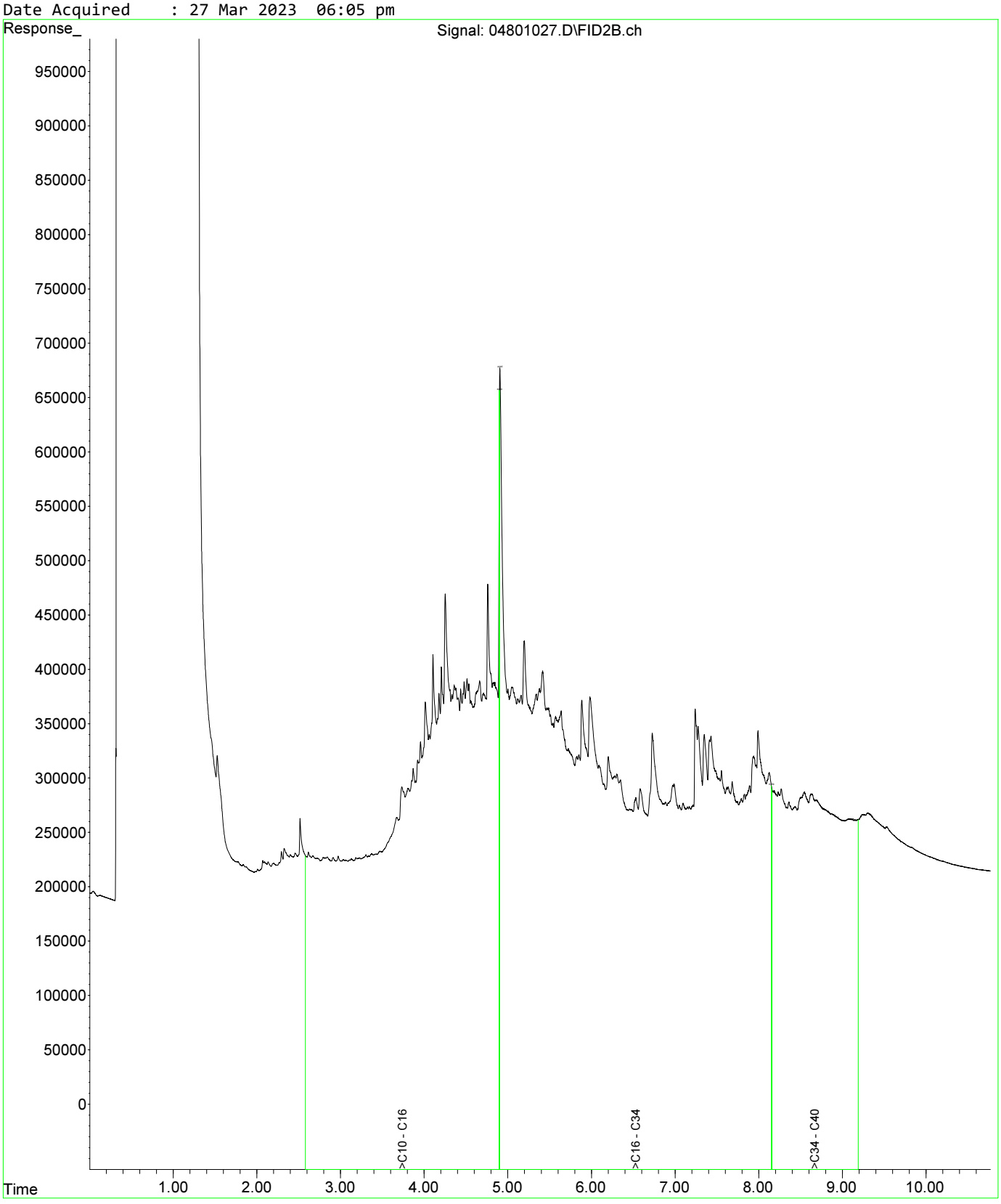

Fraction Scheme : NEPM DRAFT HIL
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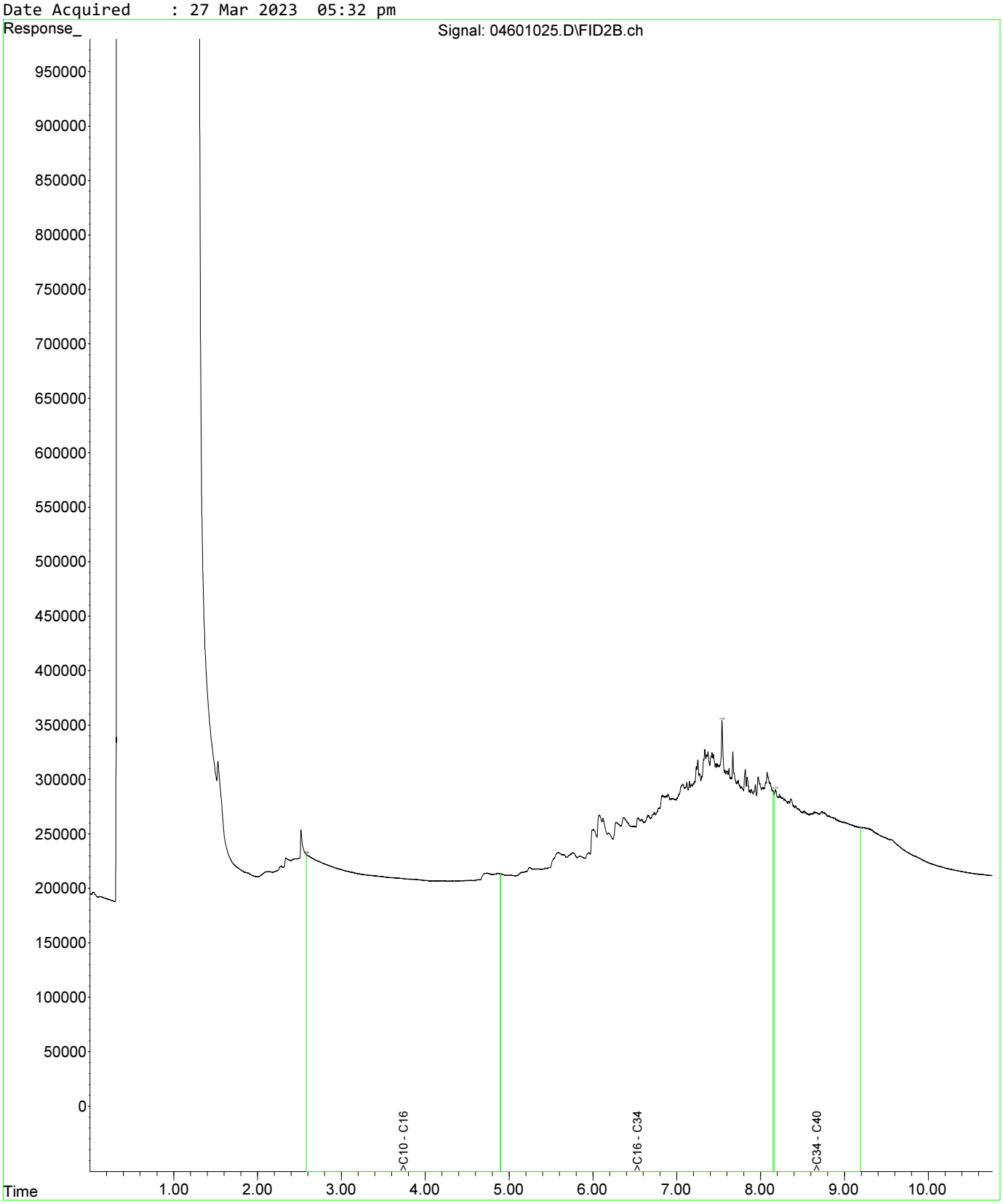

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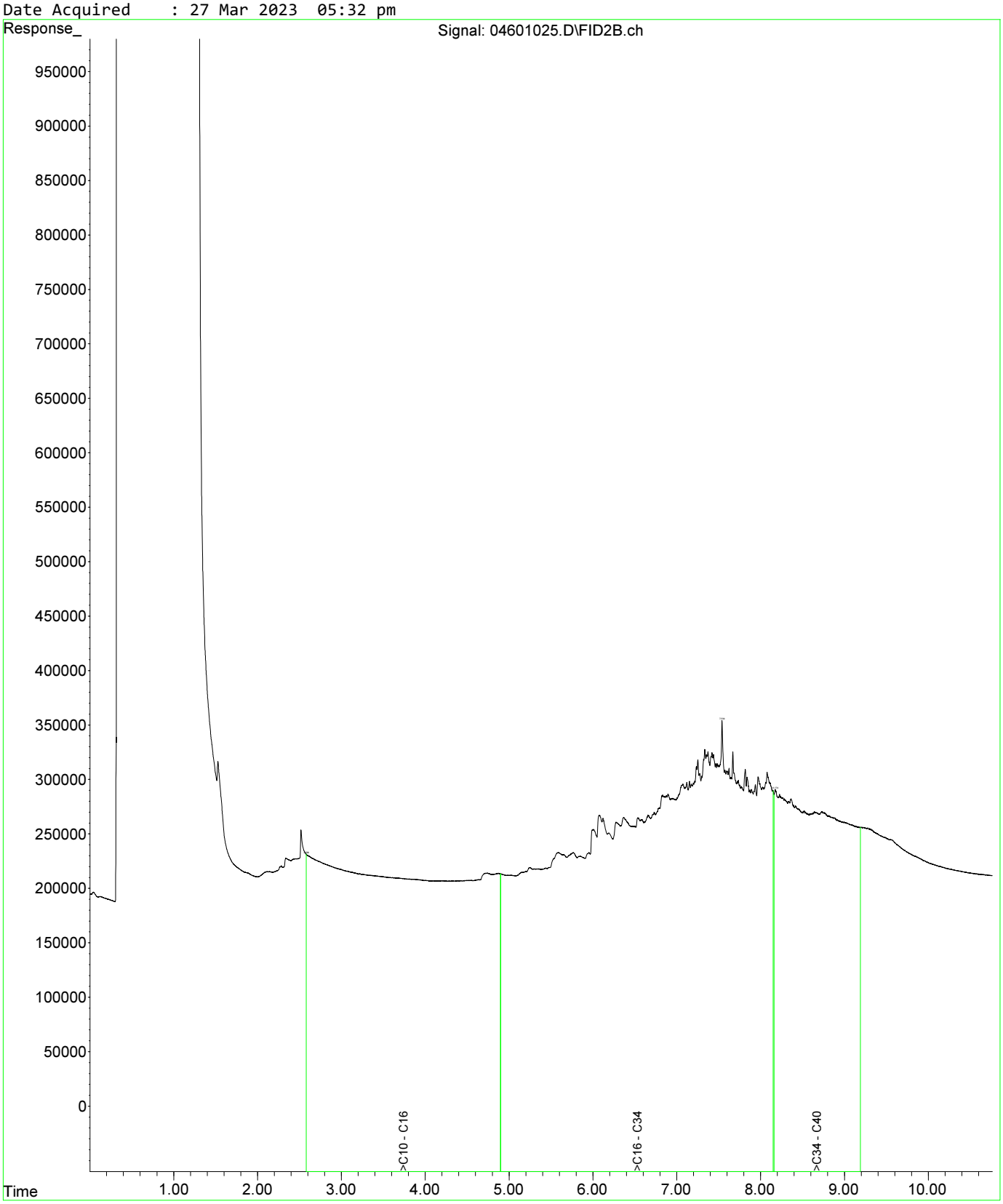

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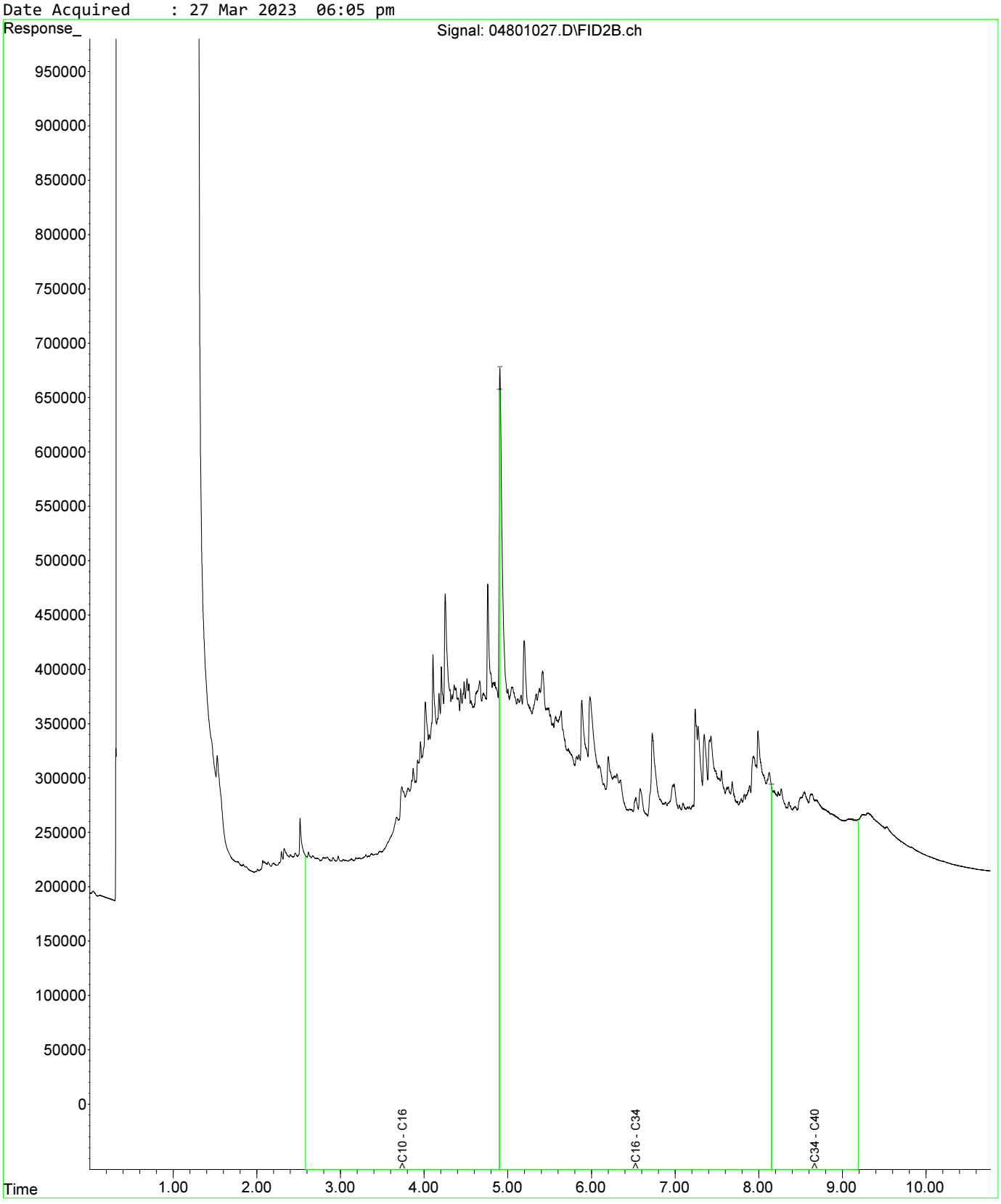

Fraction Scheme : NEPM DRAFT HIL
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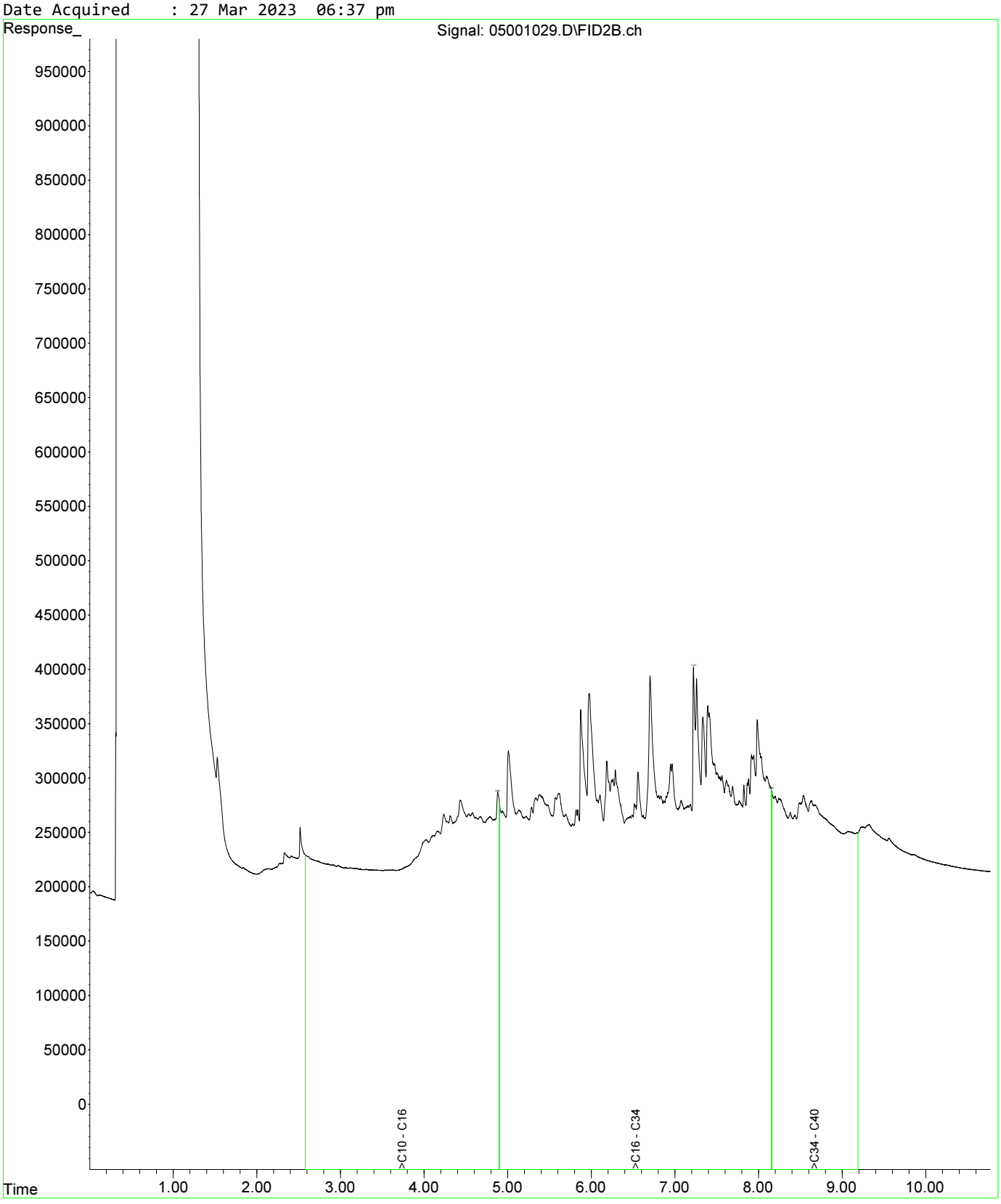

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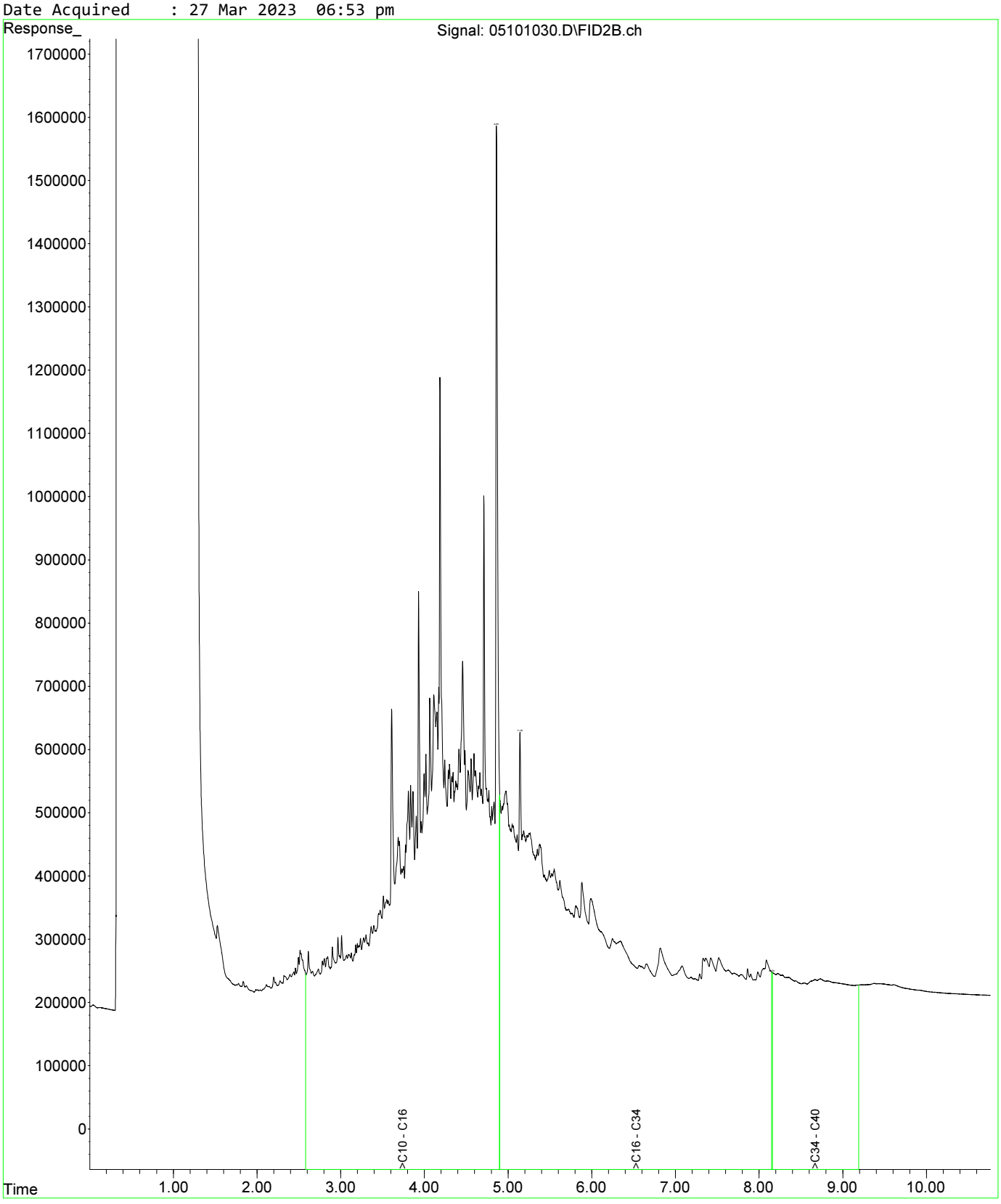

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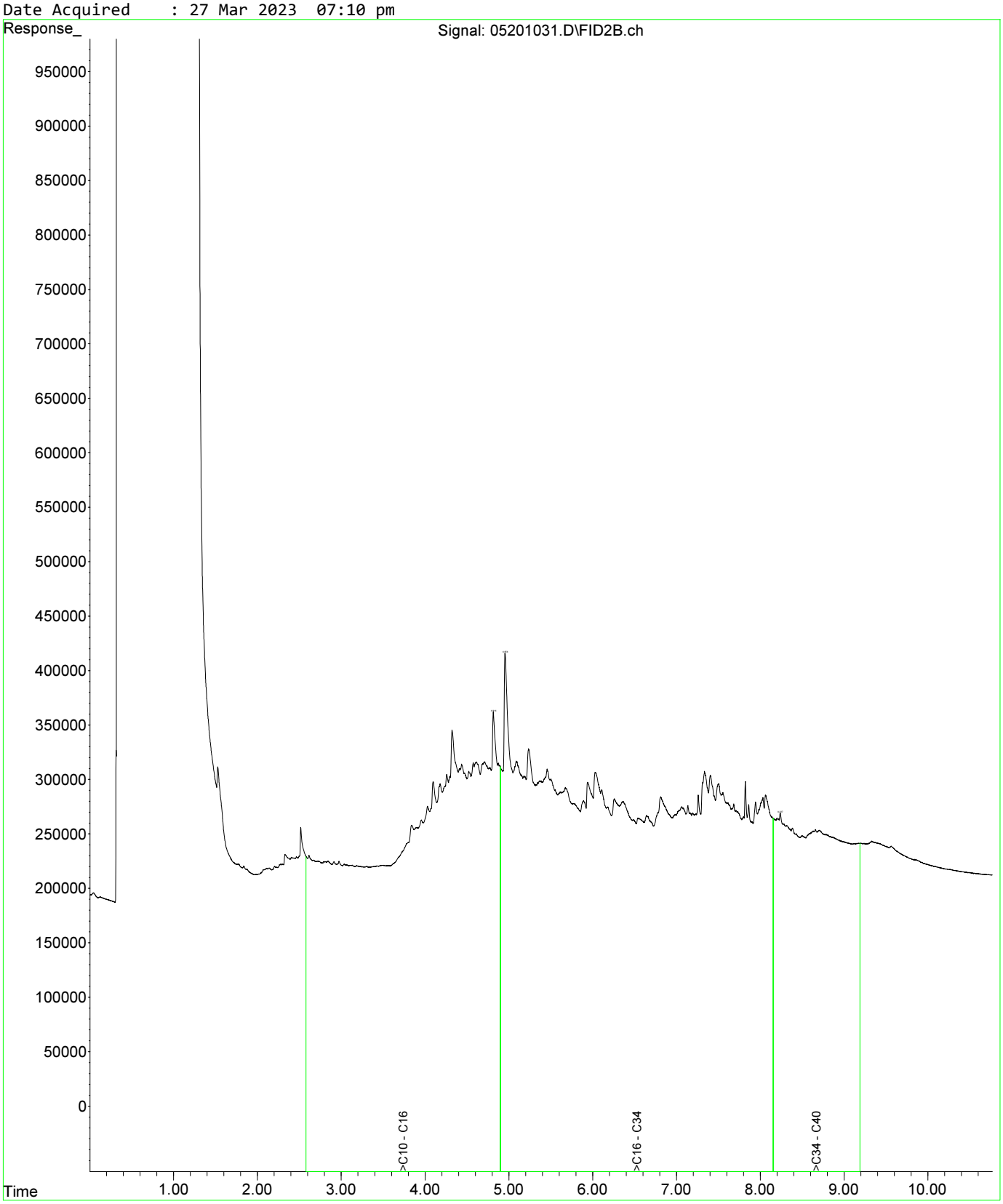

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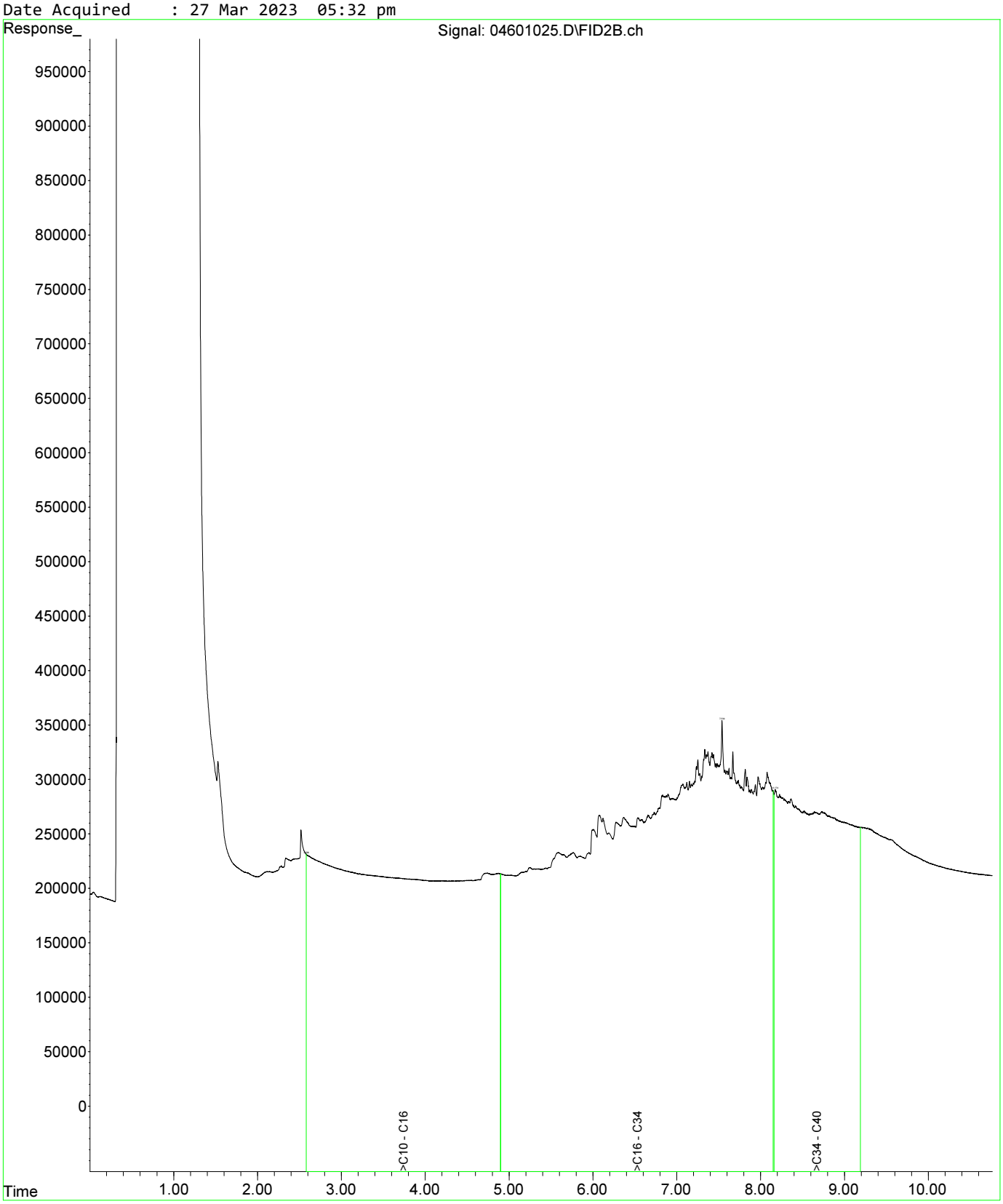

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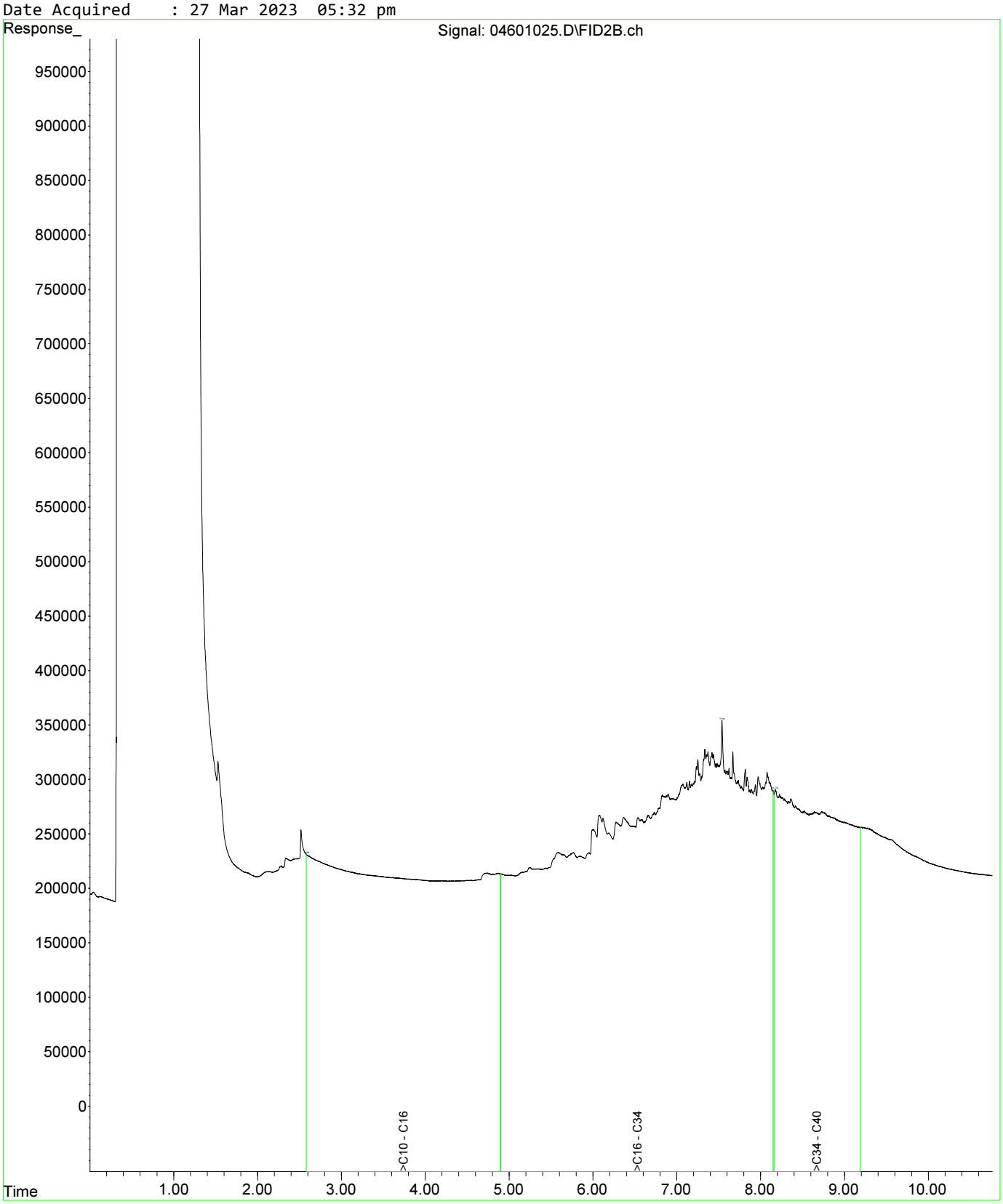

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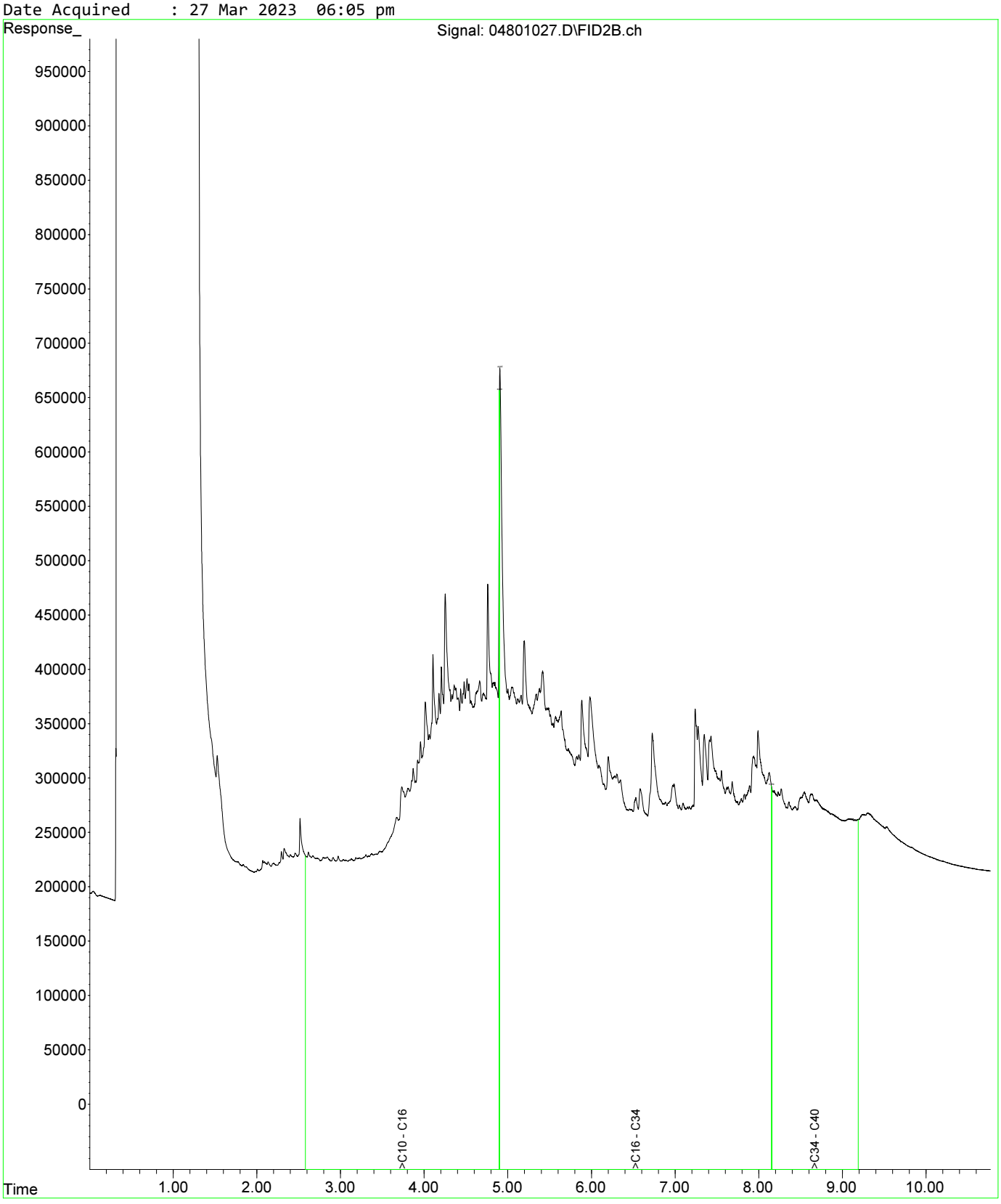

Fraction Scheme : NEPM DRAFT HIL
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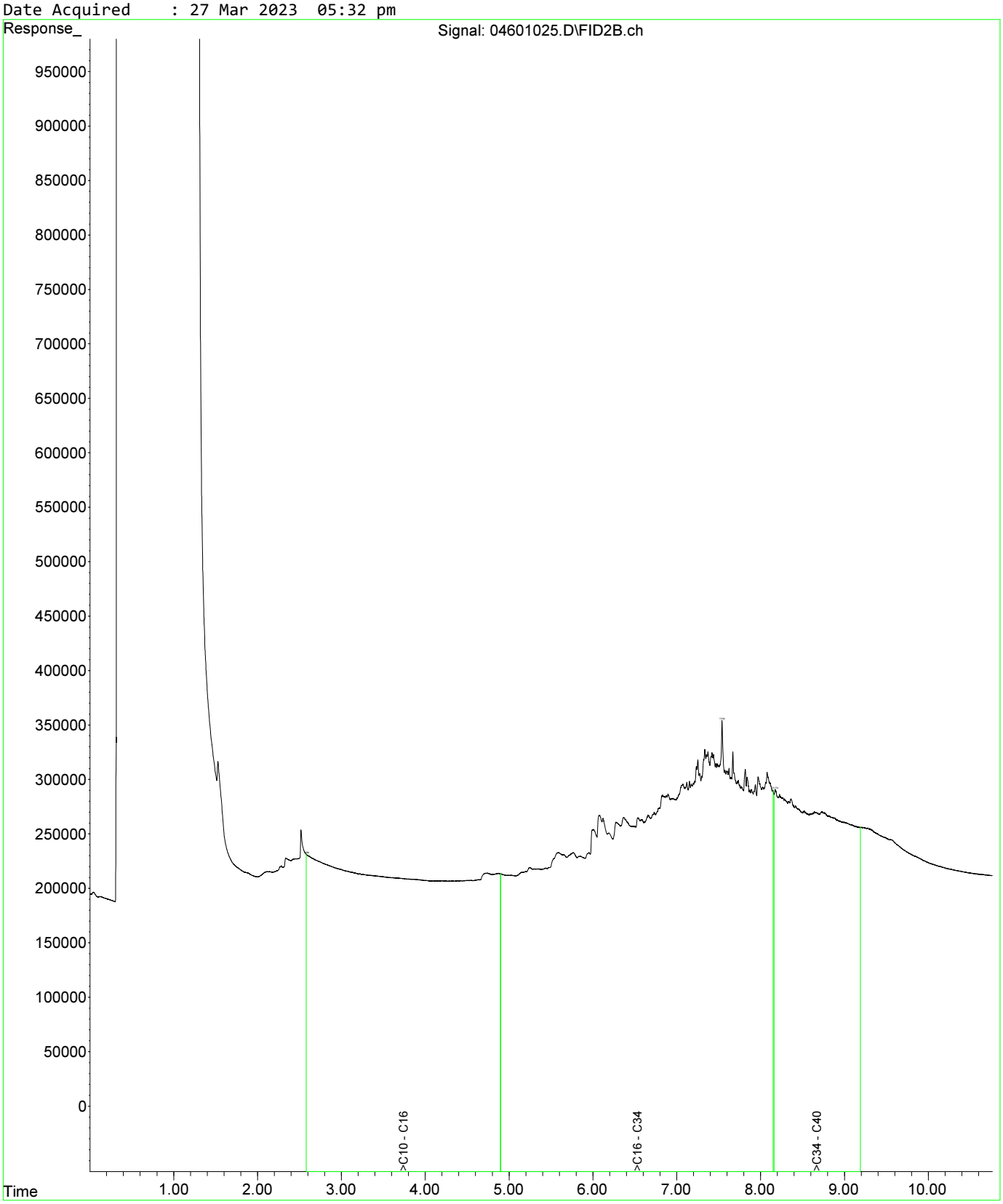

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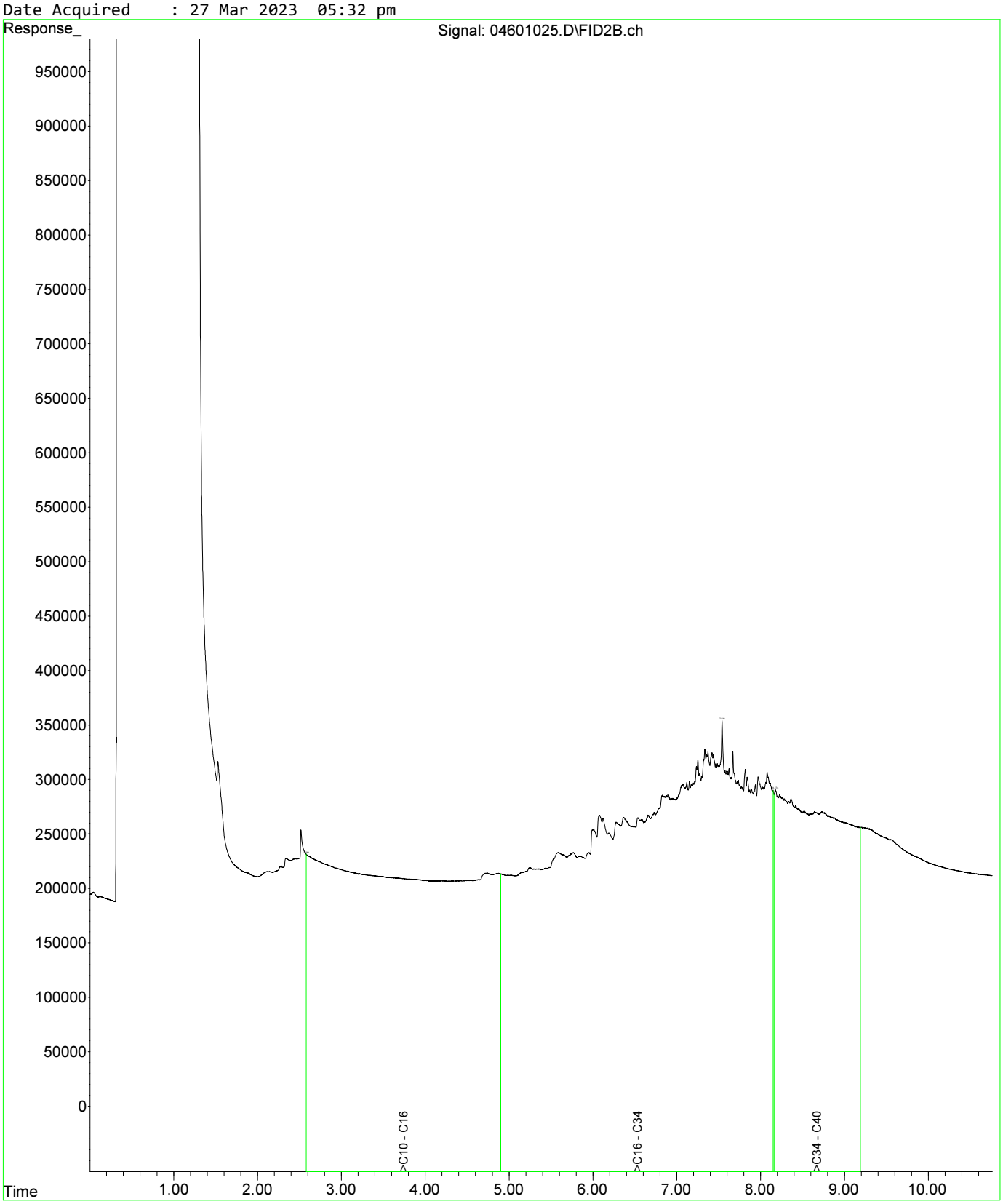

Fraction Scheme : NEPM DRAFT HIL
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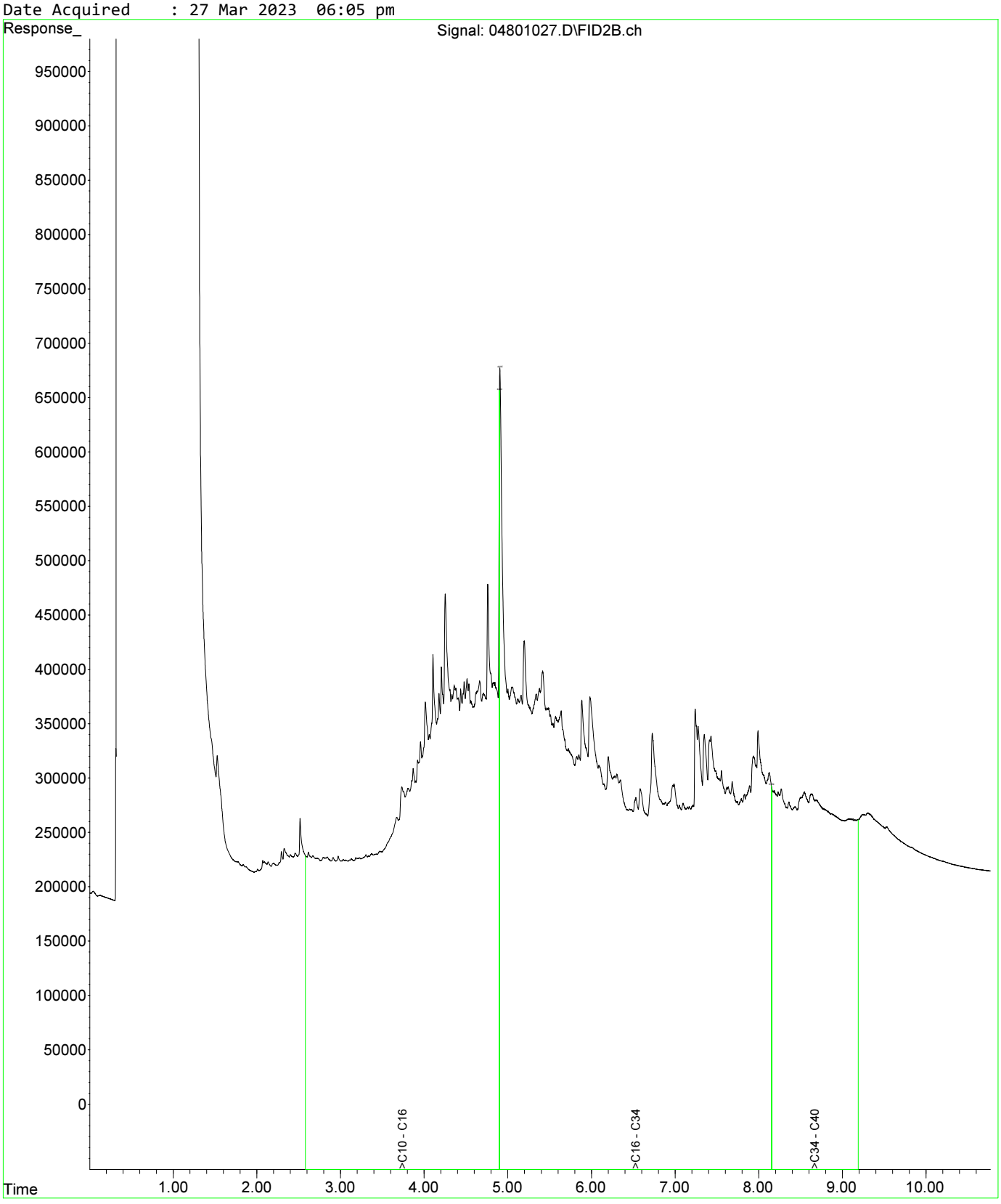

Fraction Scheme : NEPM DRAFT HIL
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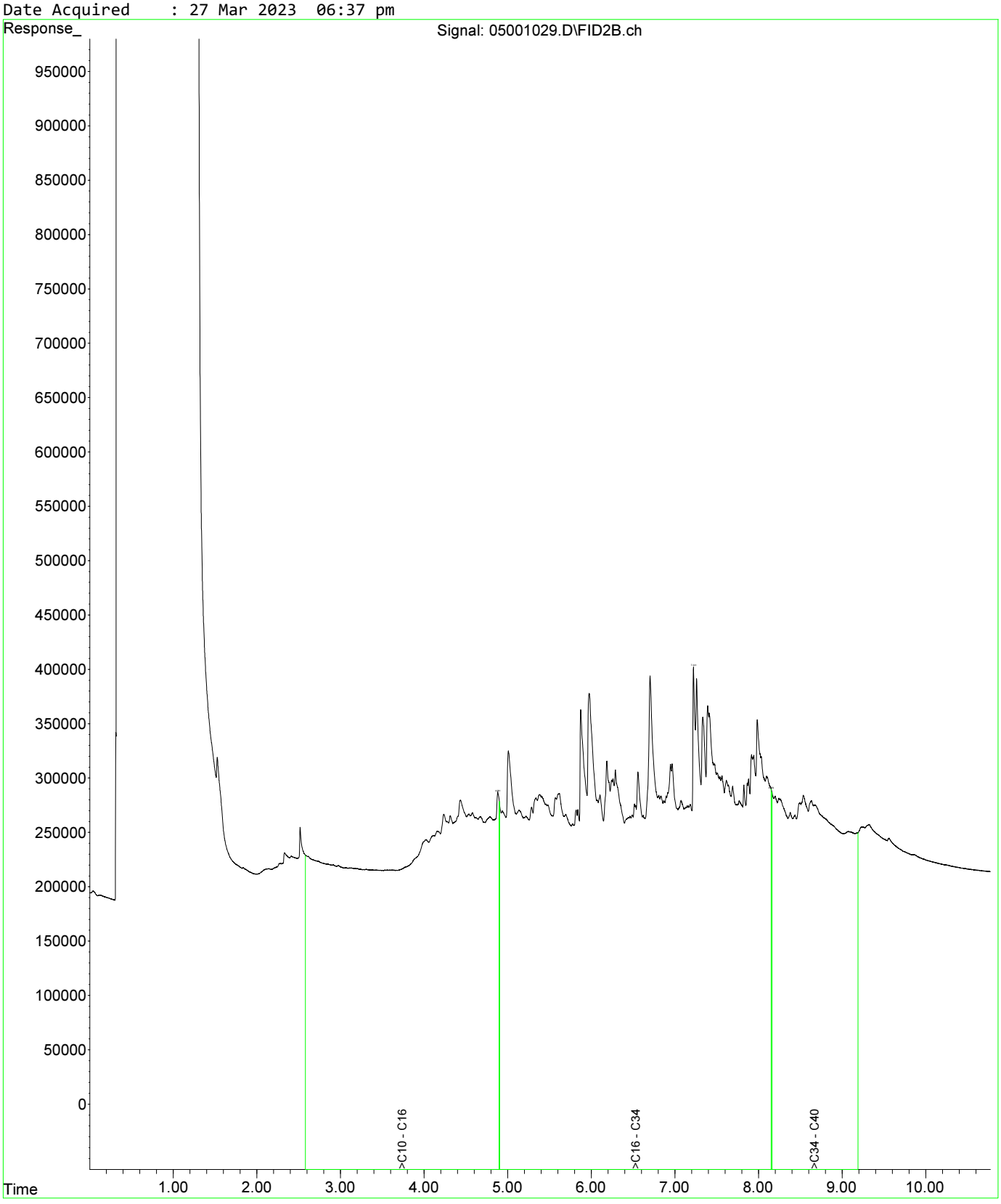

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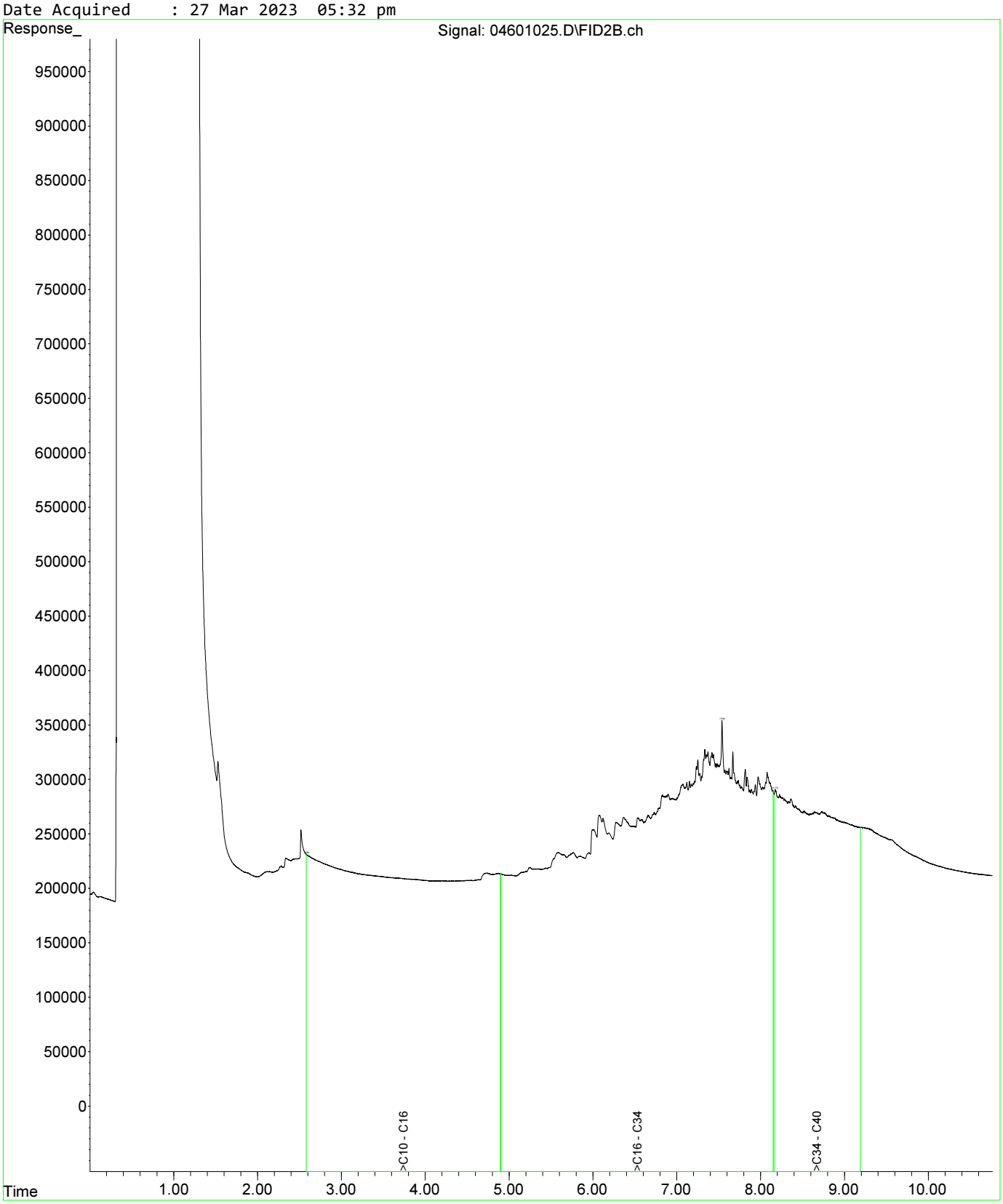

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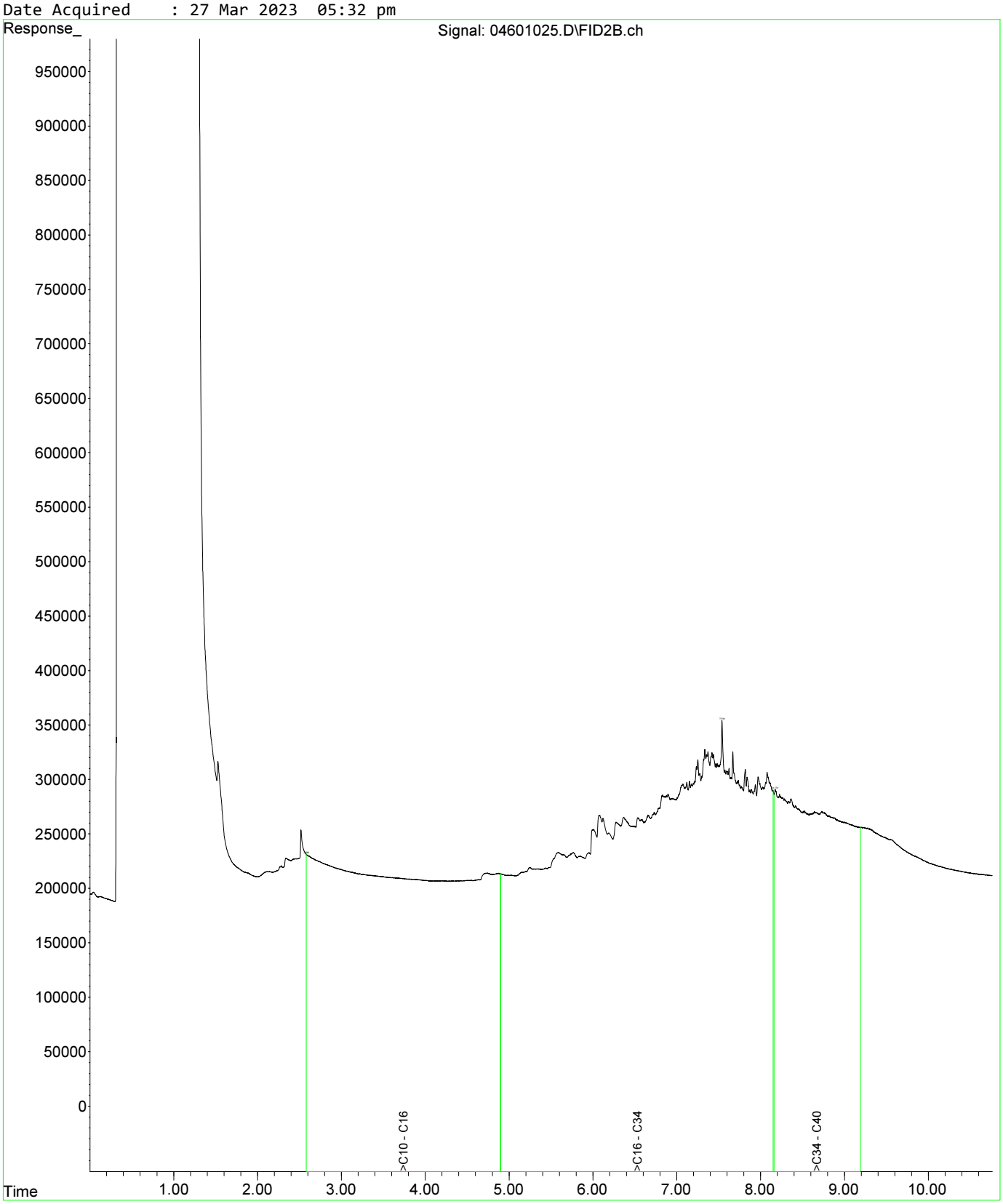

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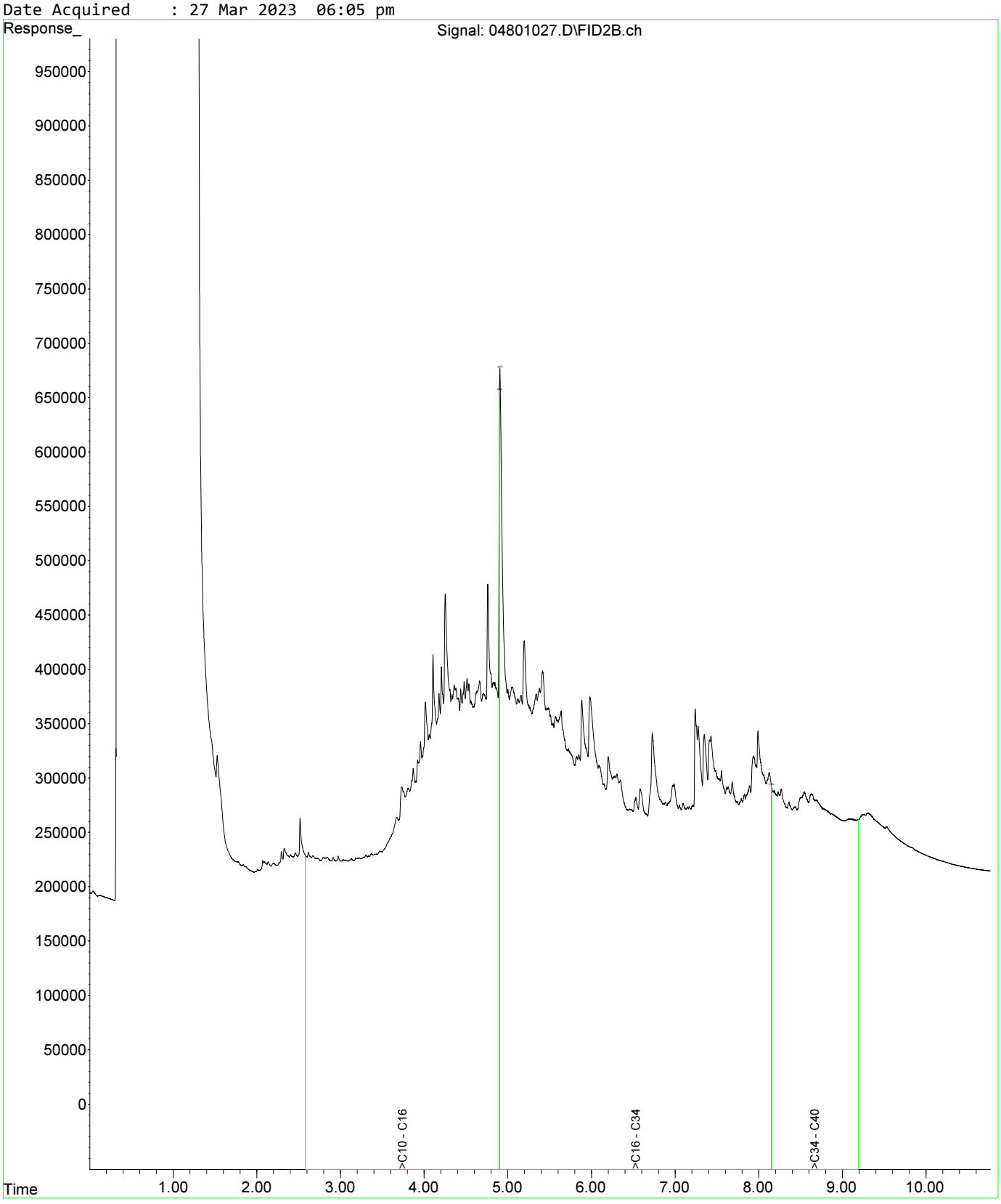

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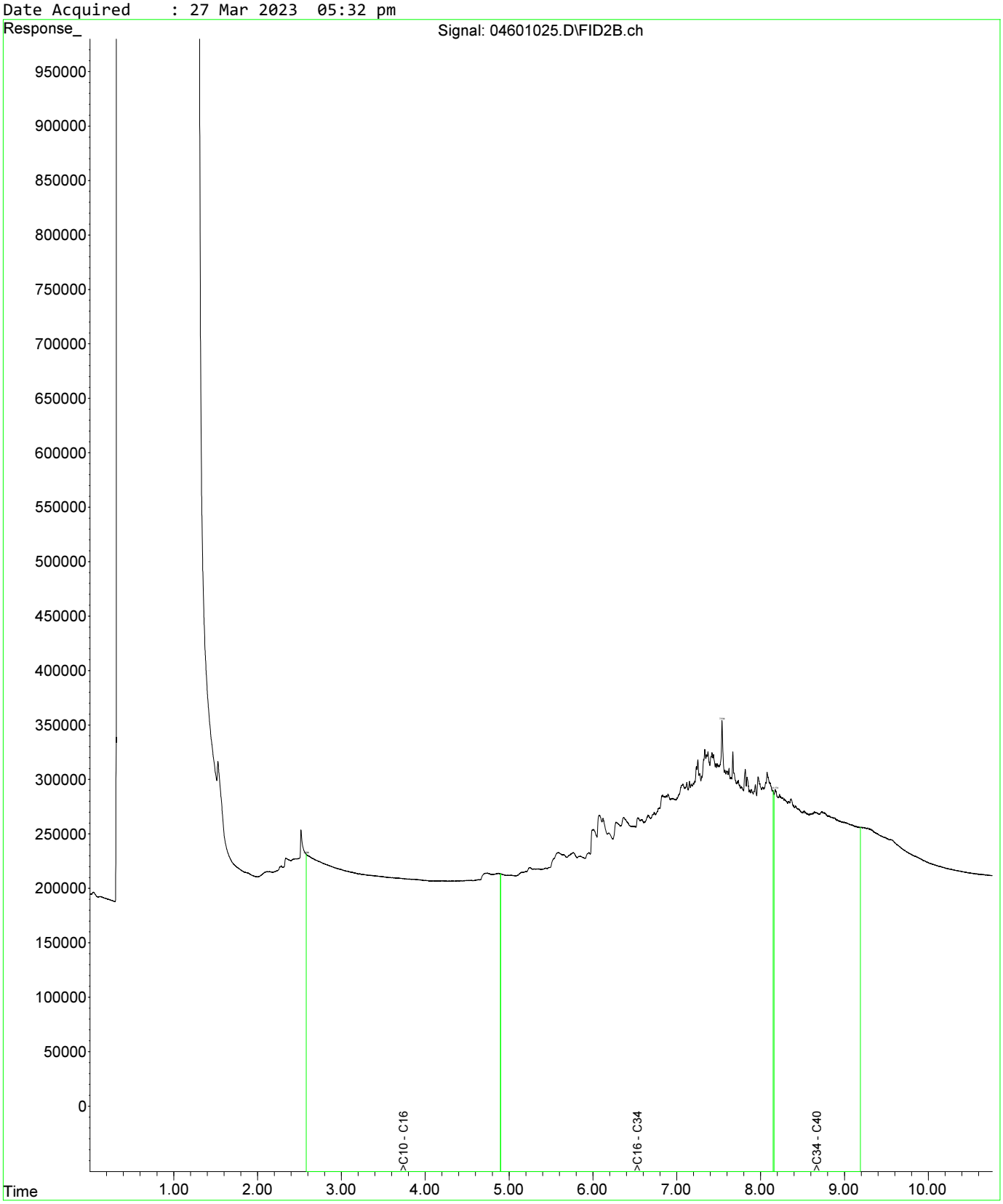

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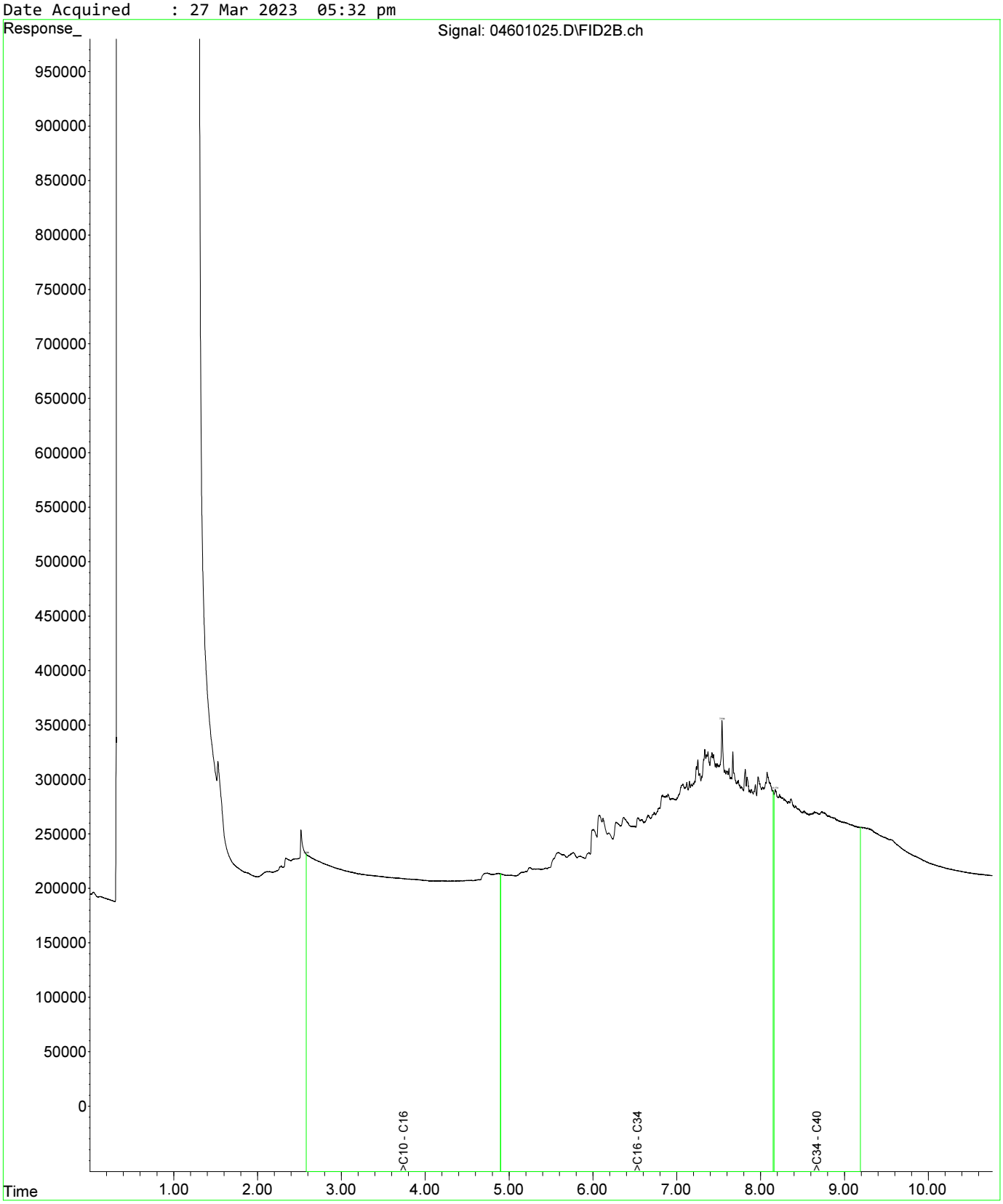

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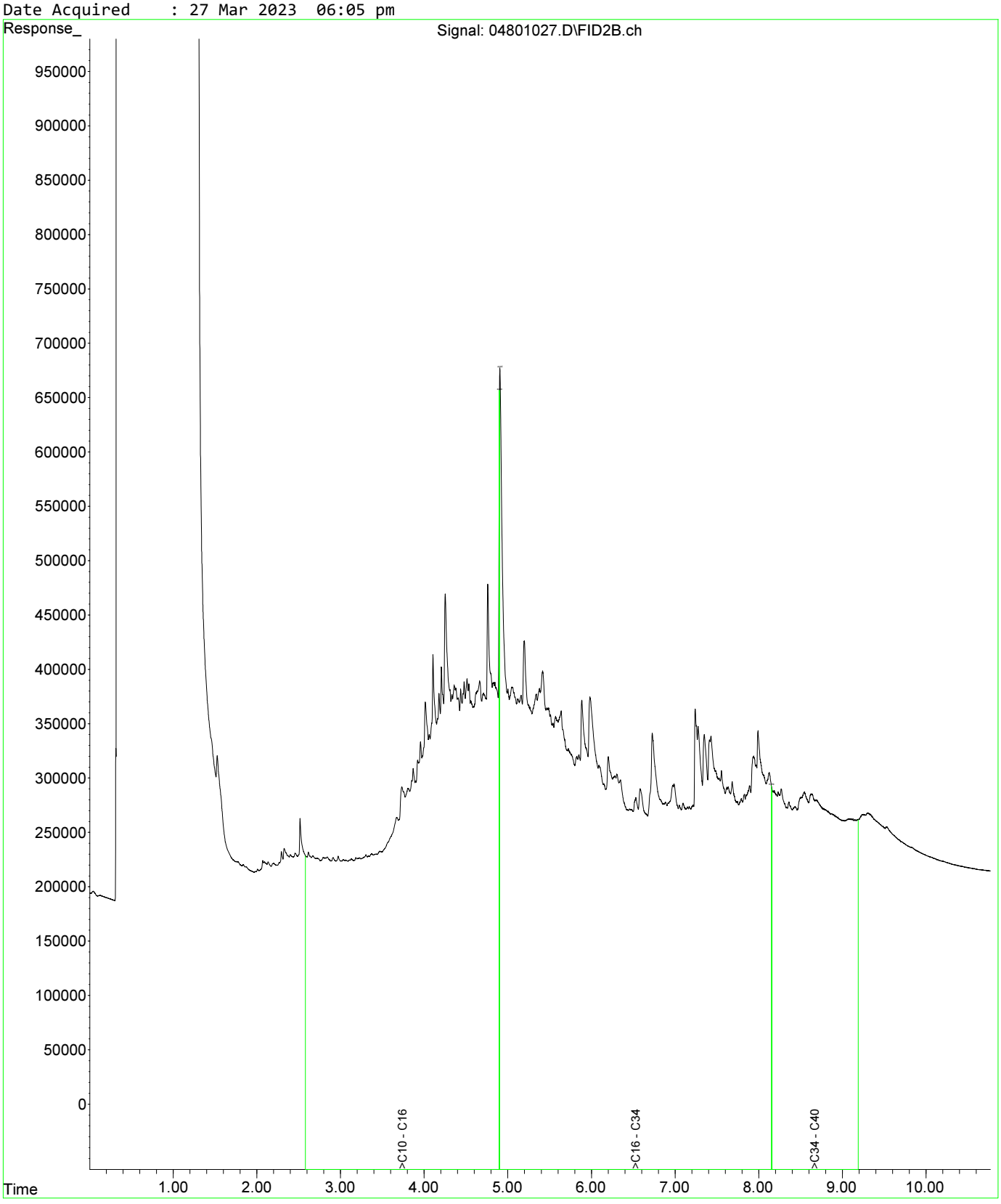

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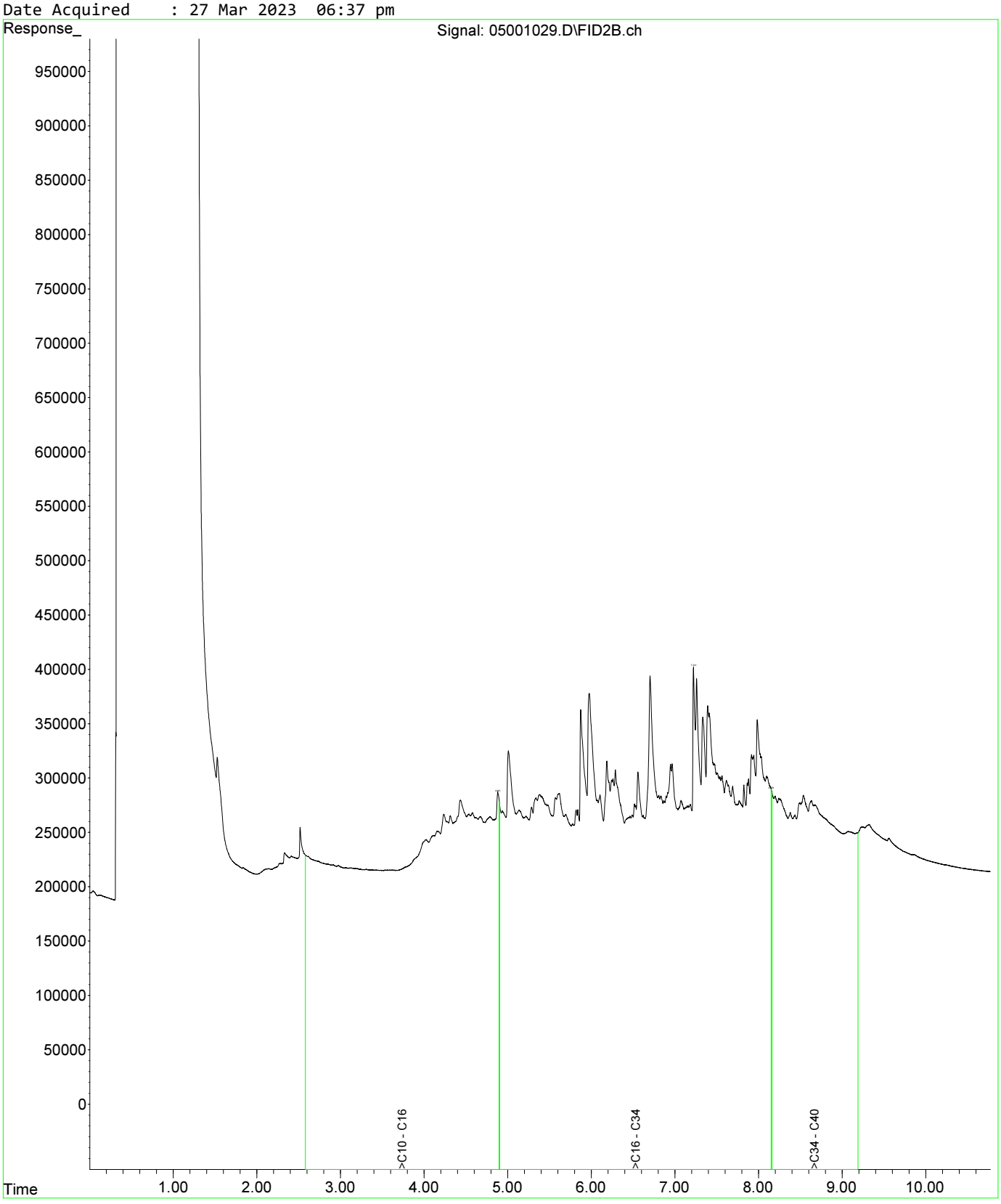

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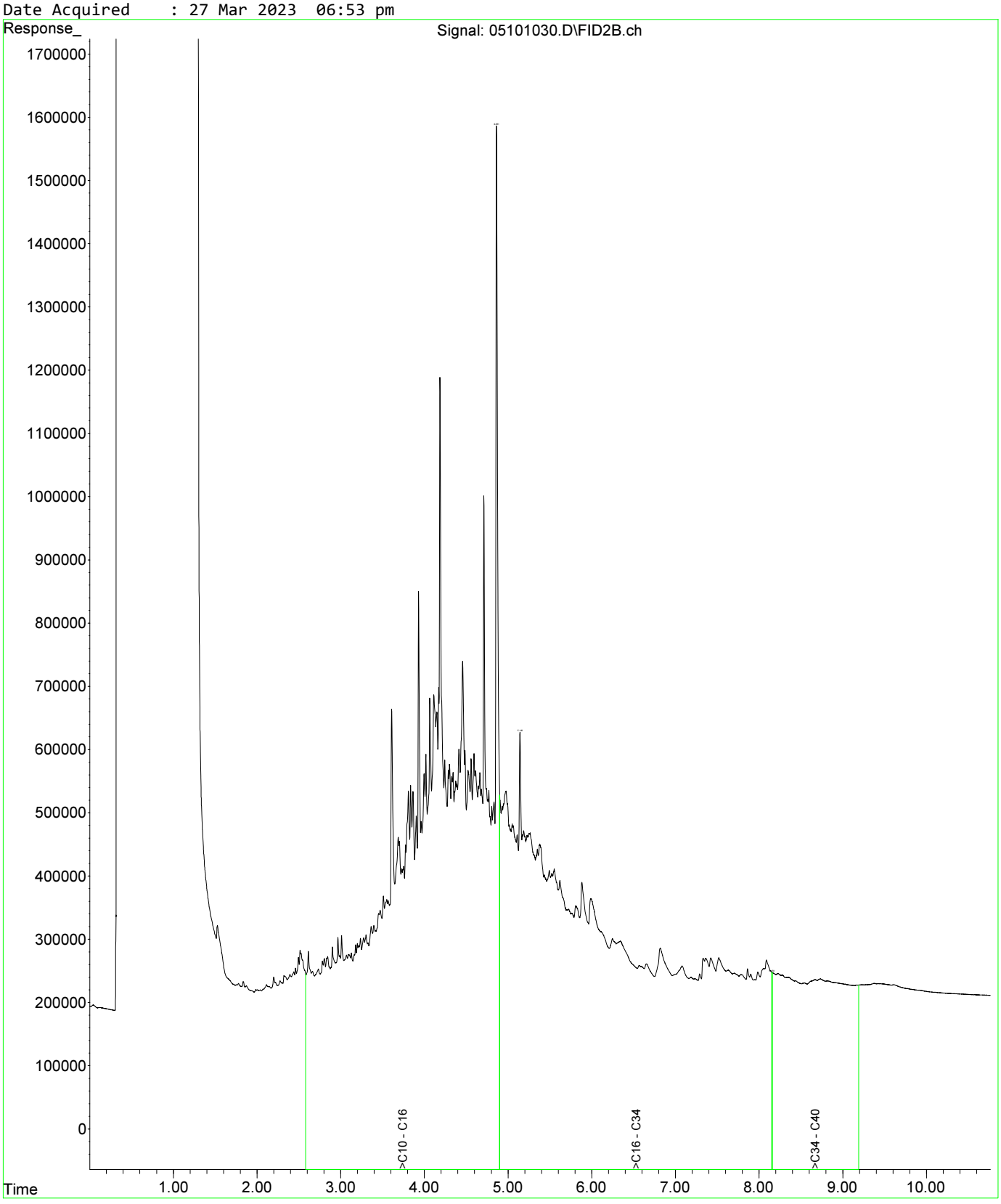

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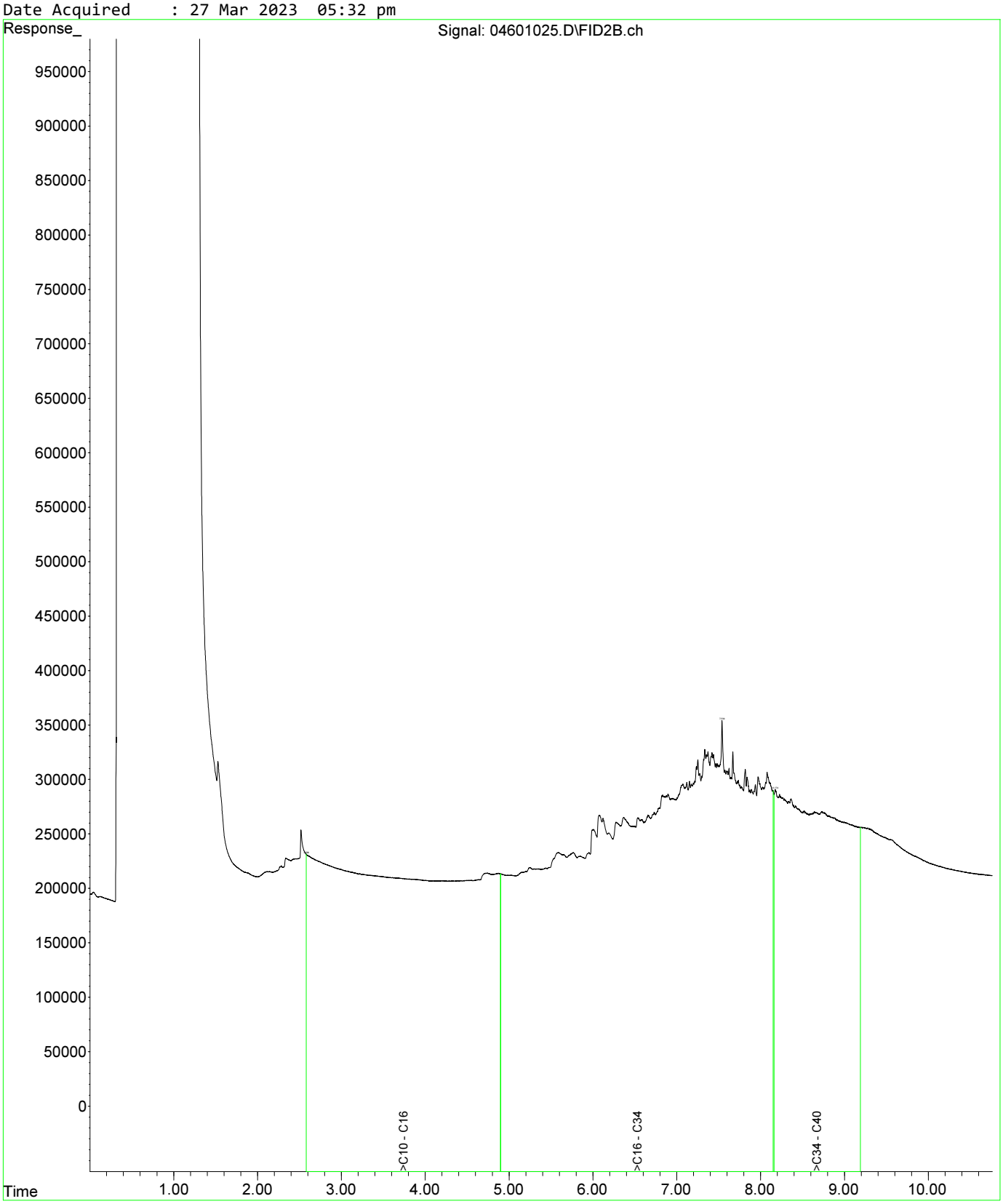
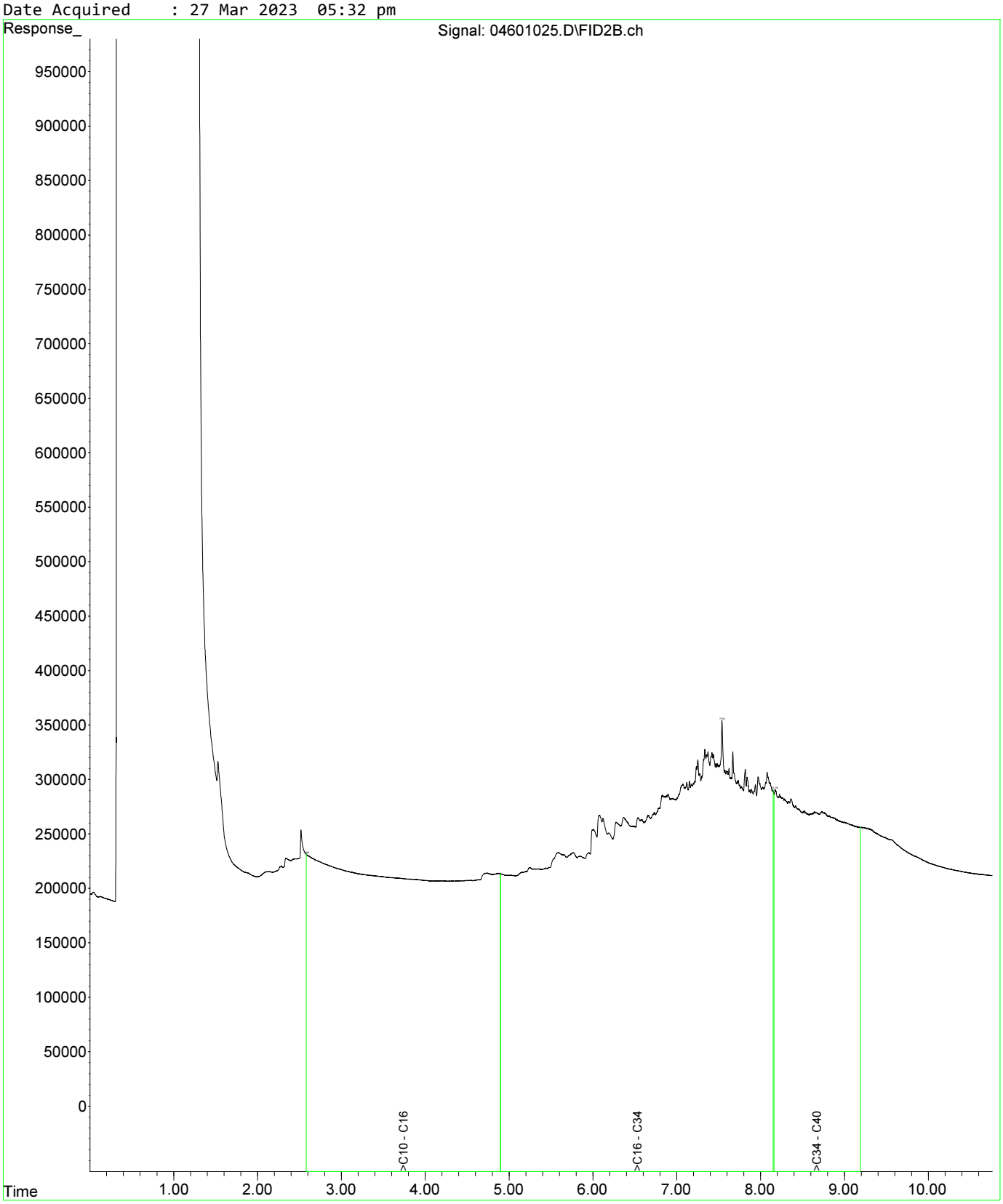
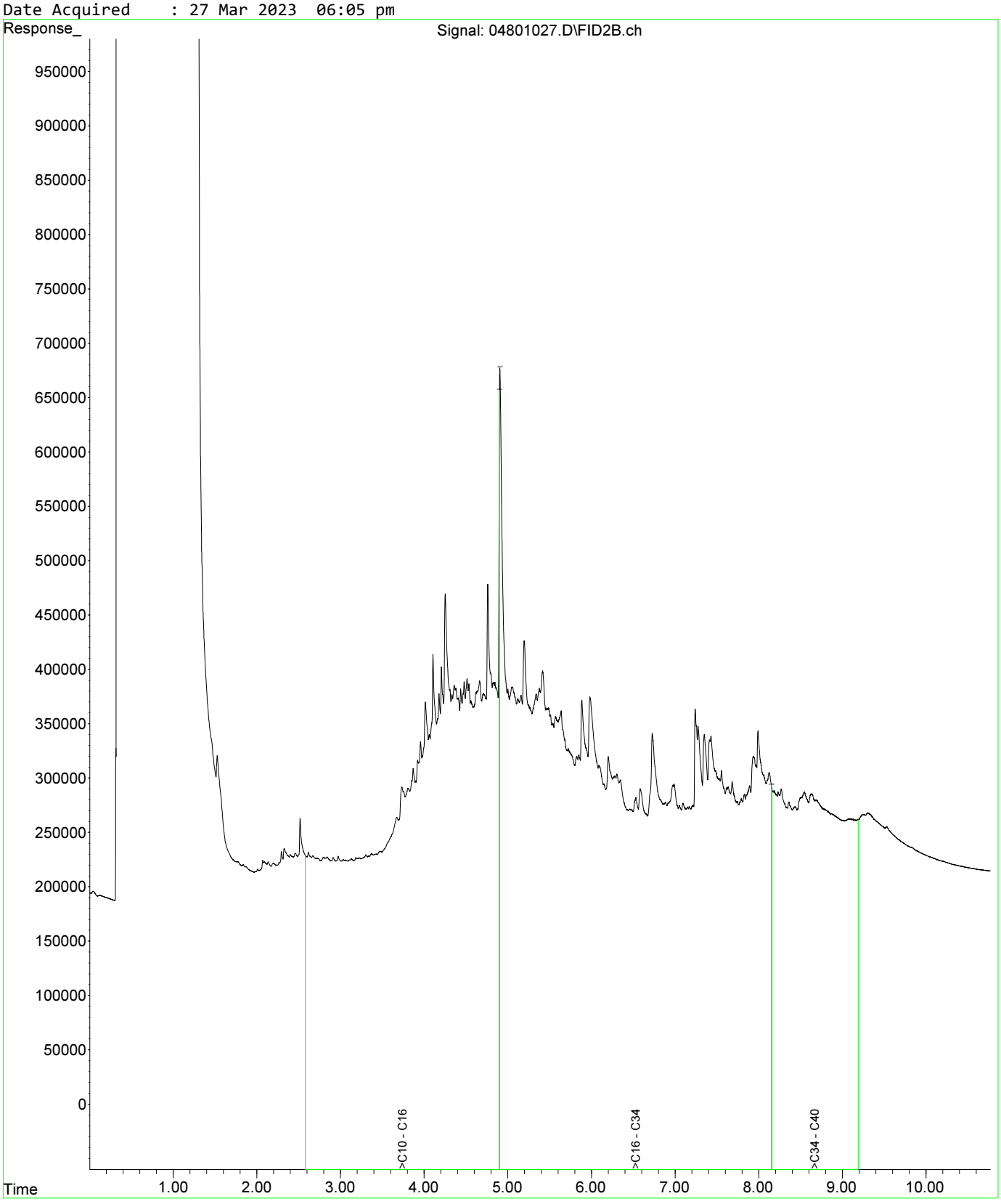
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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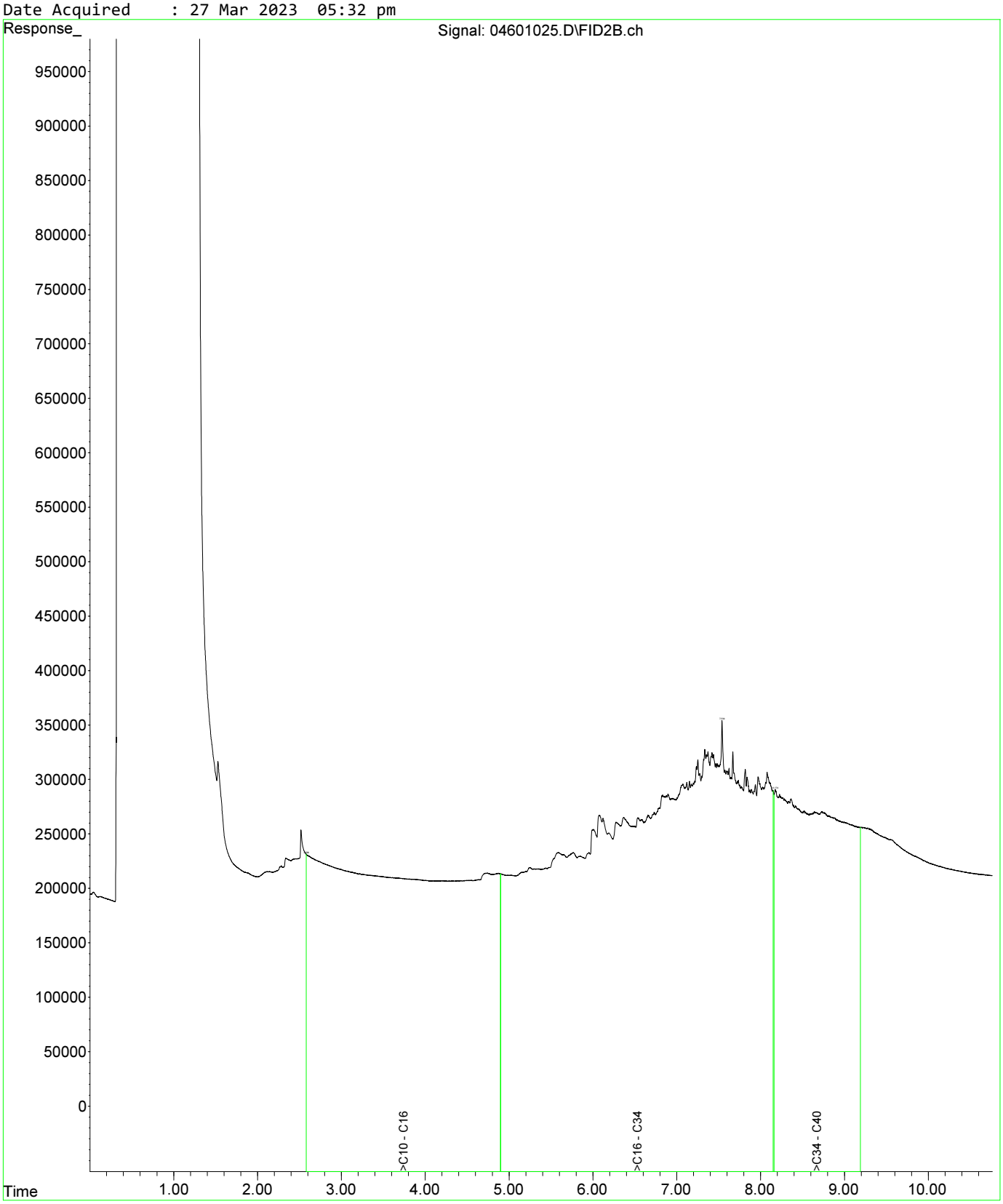

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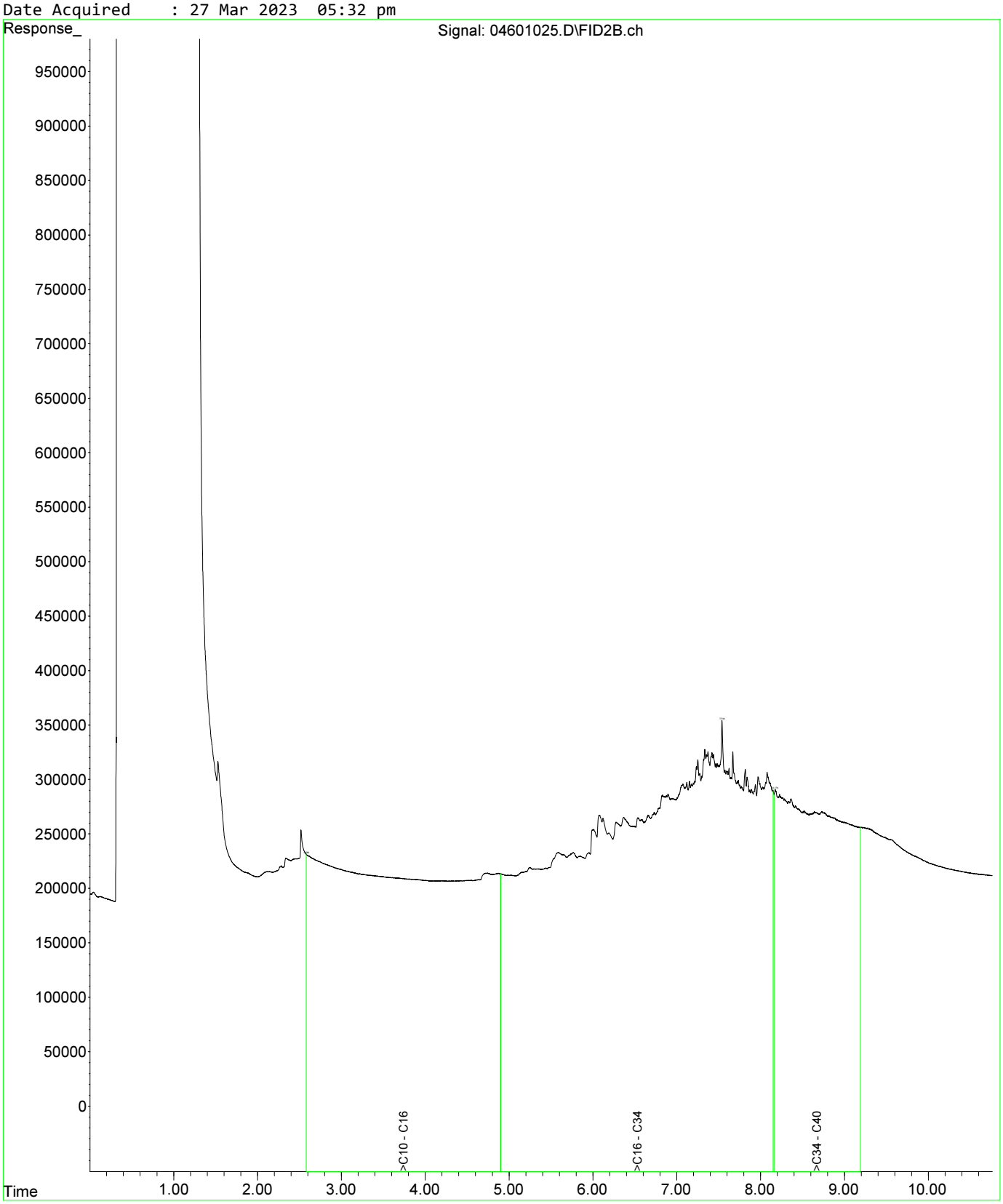

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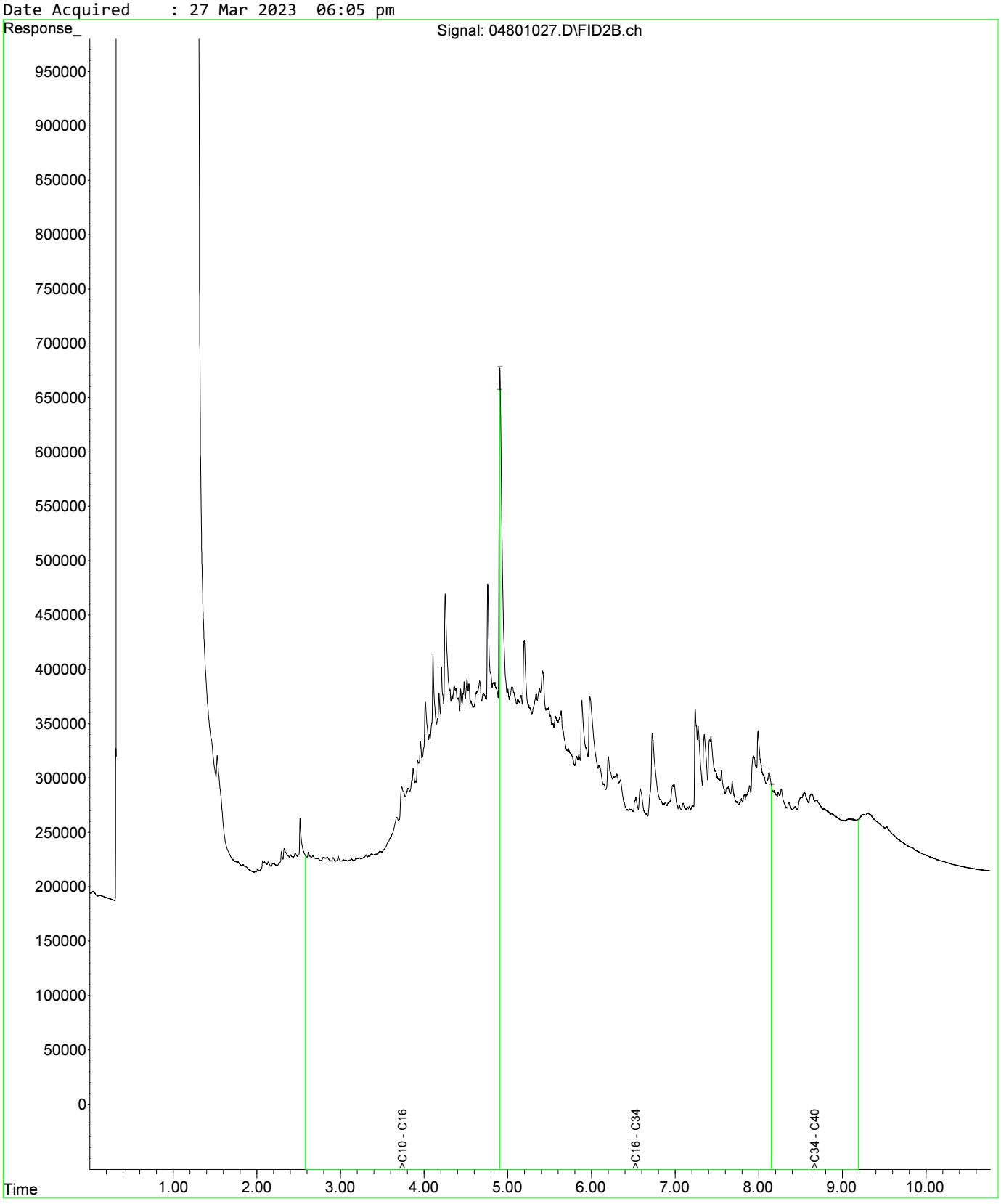

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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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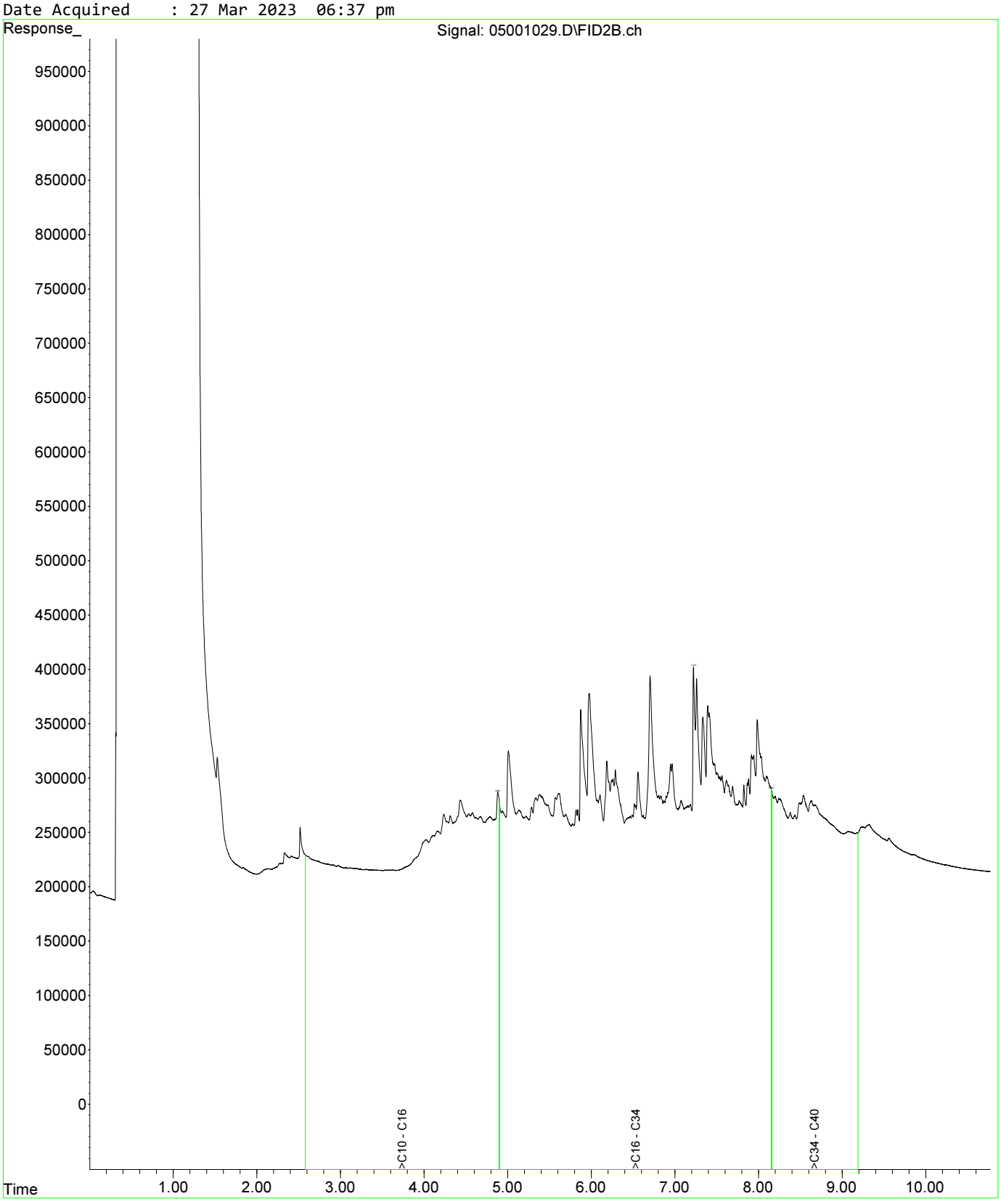

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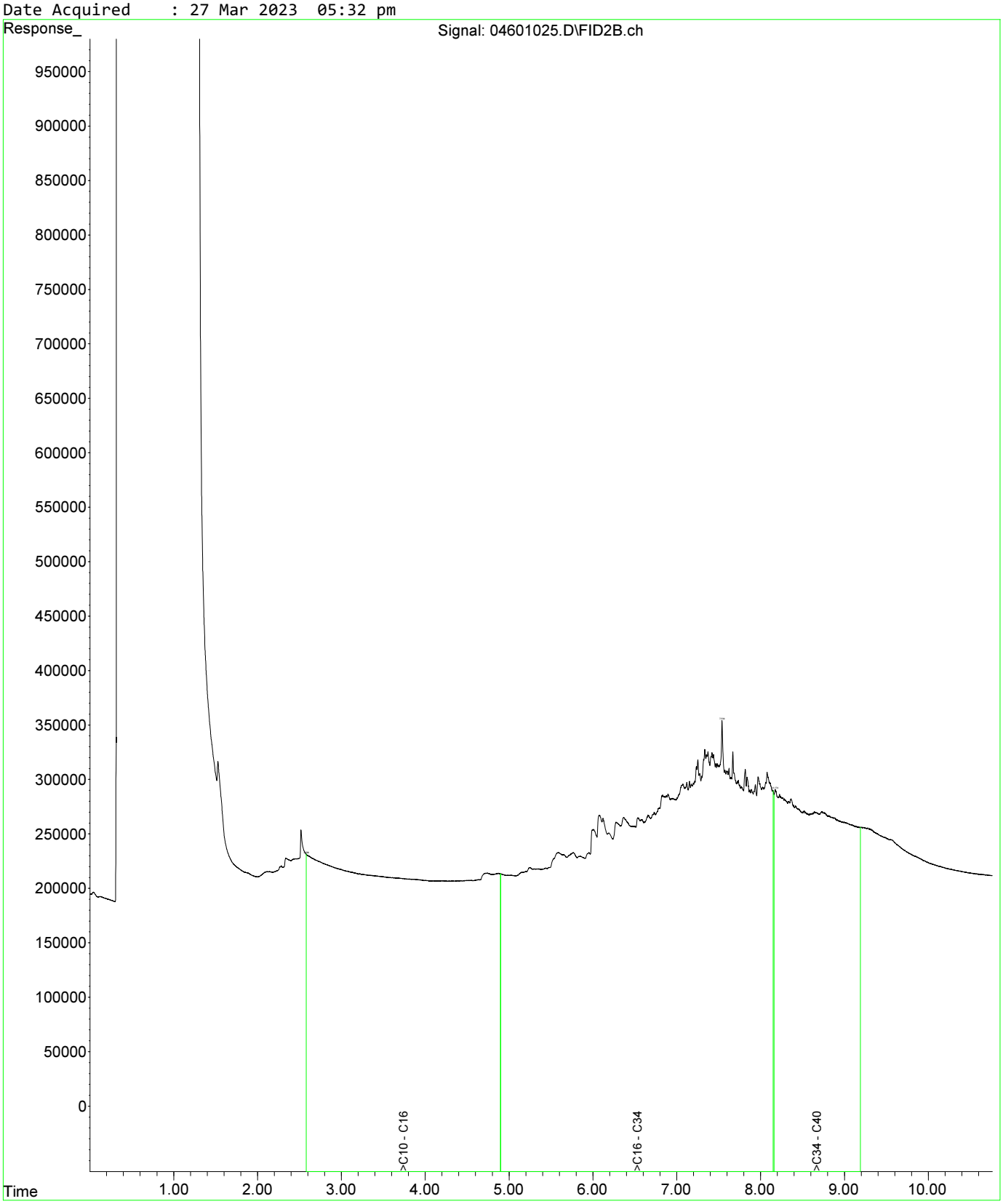

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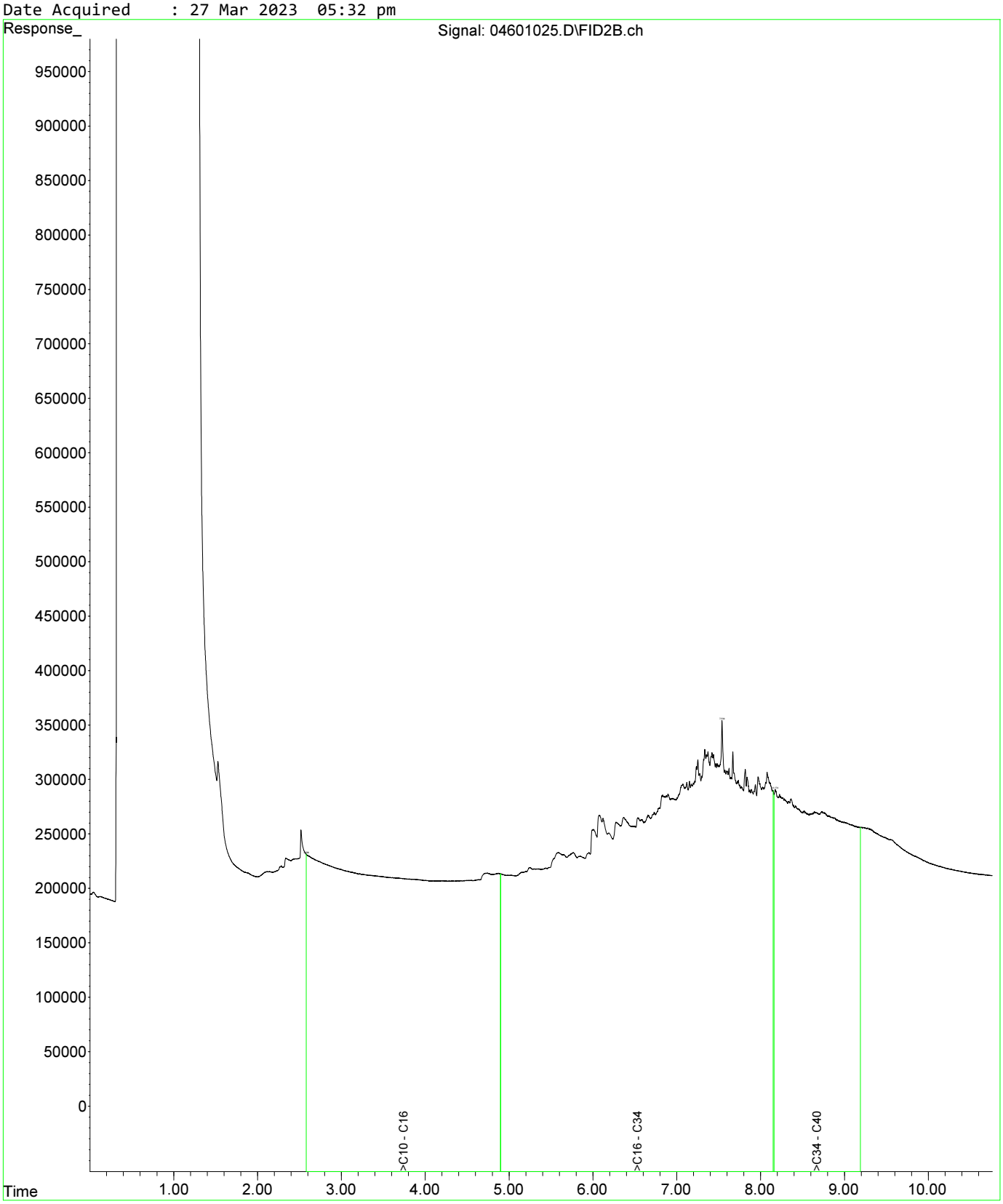

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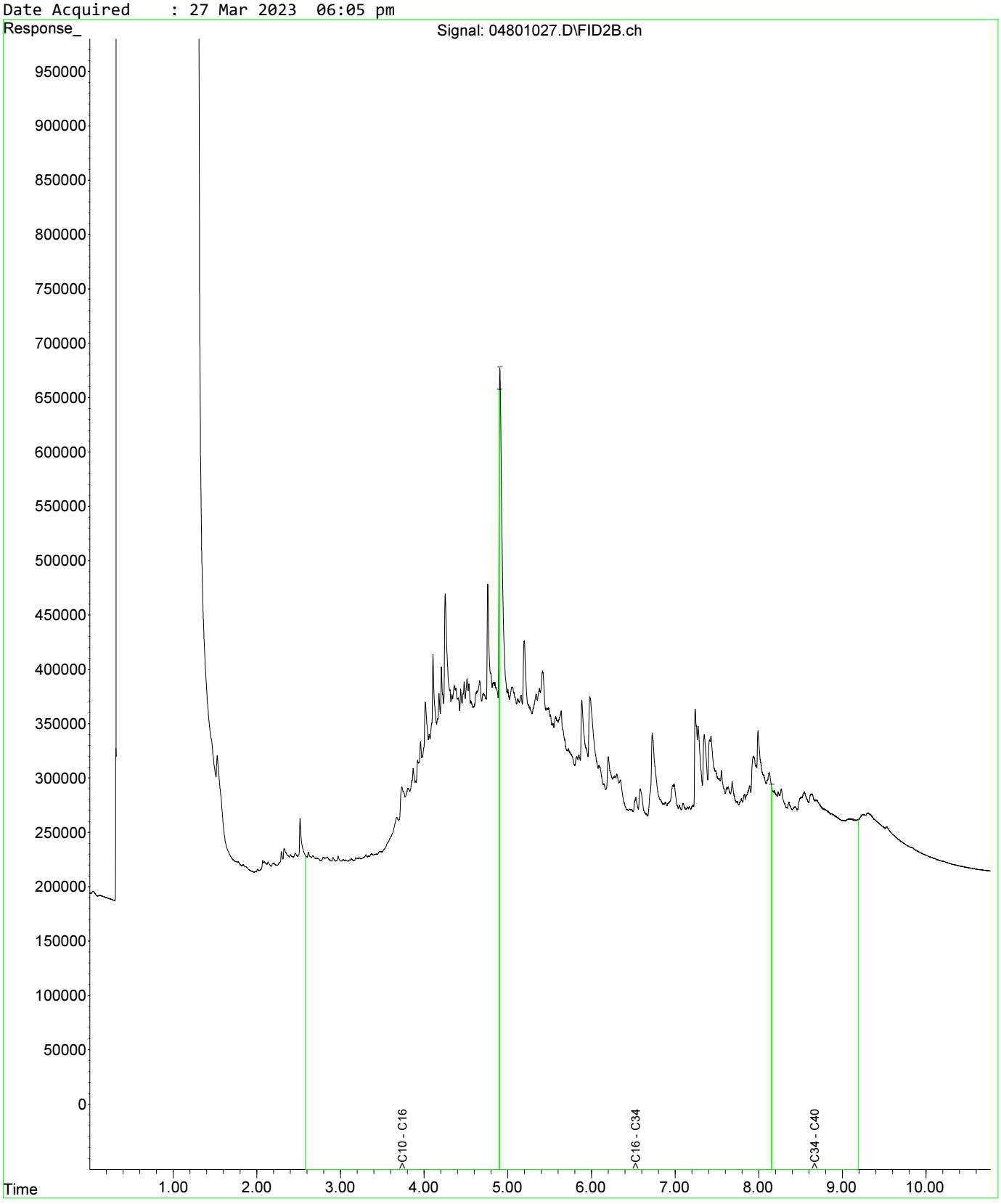

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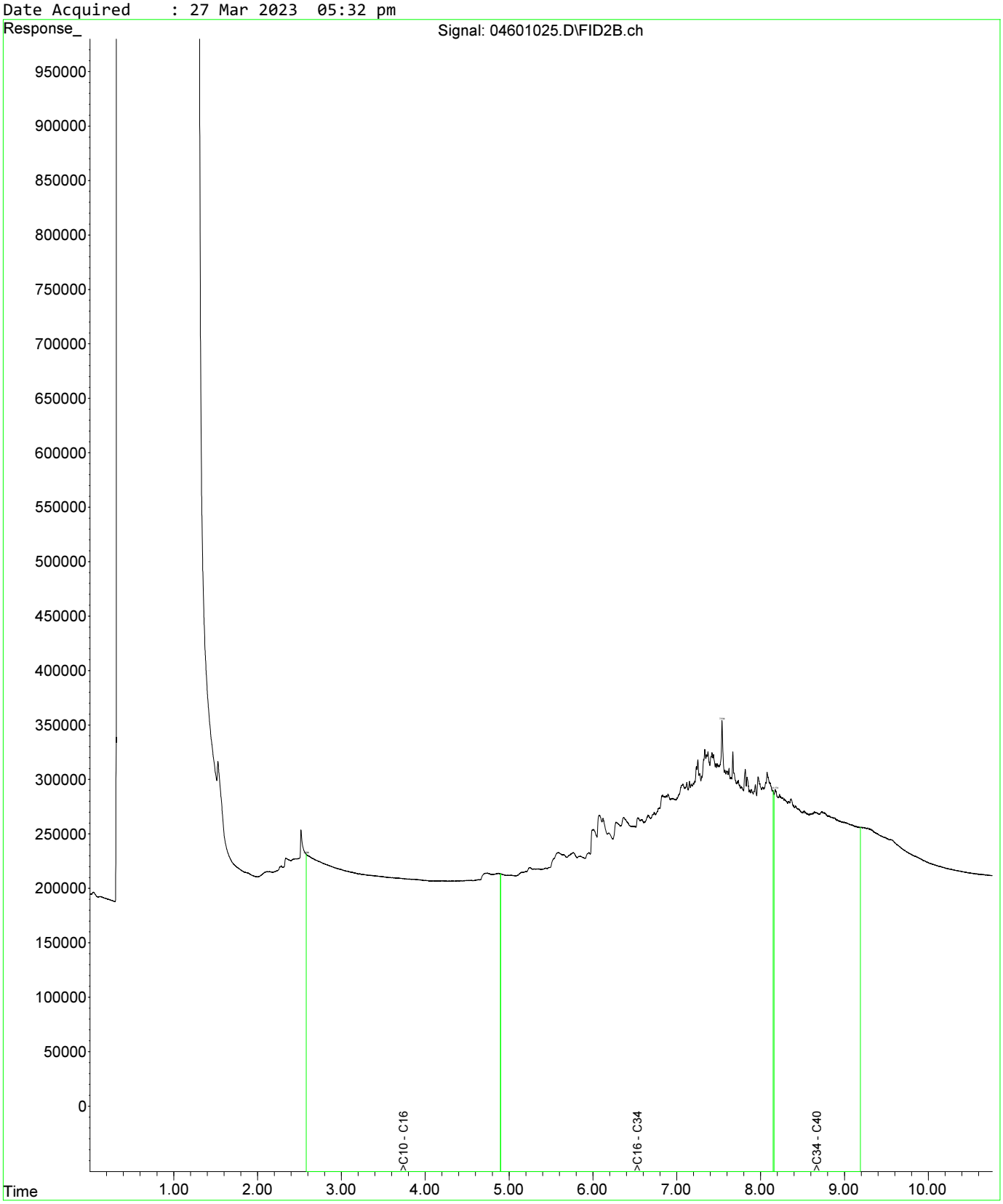

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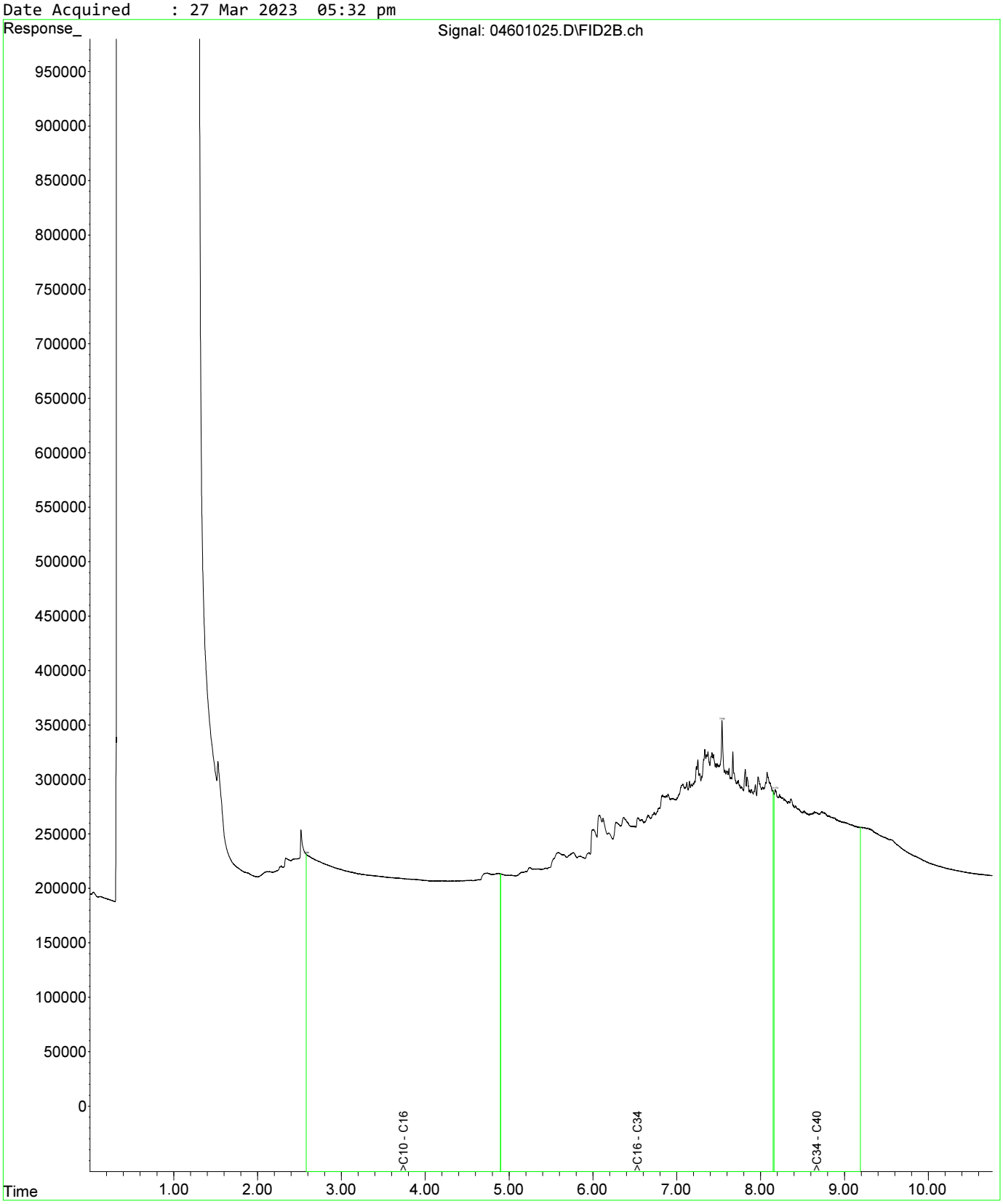

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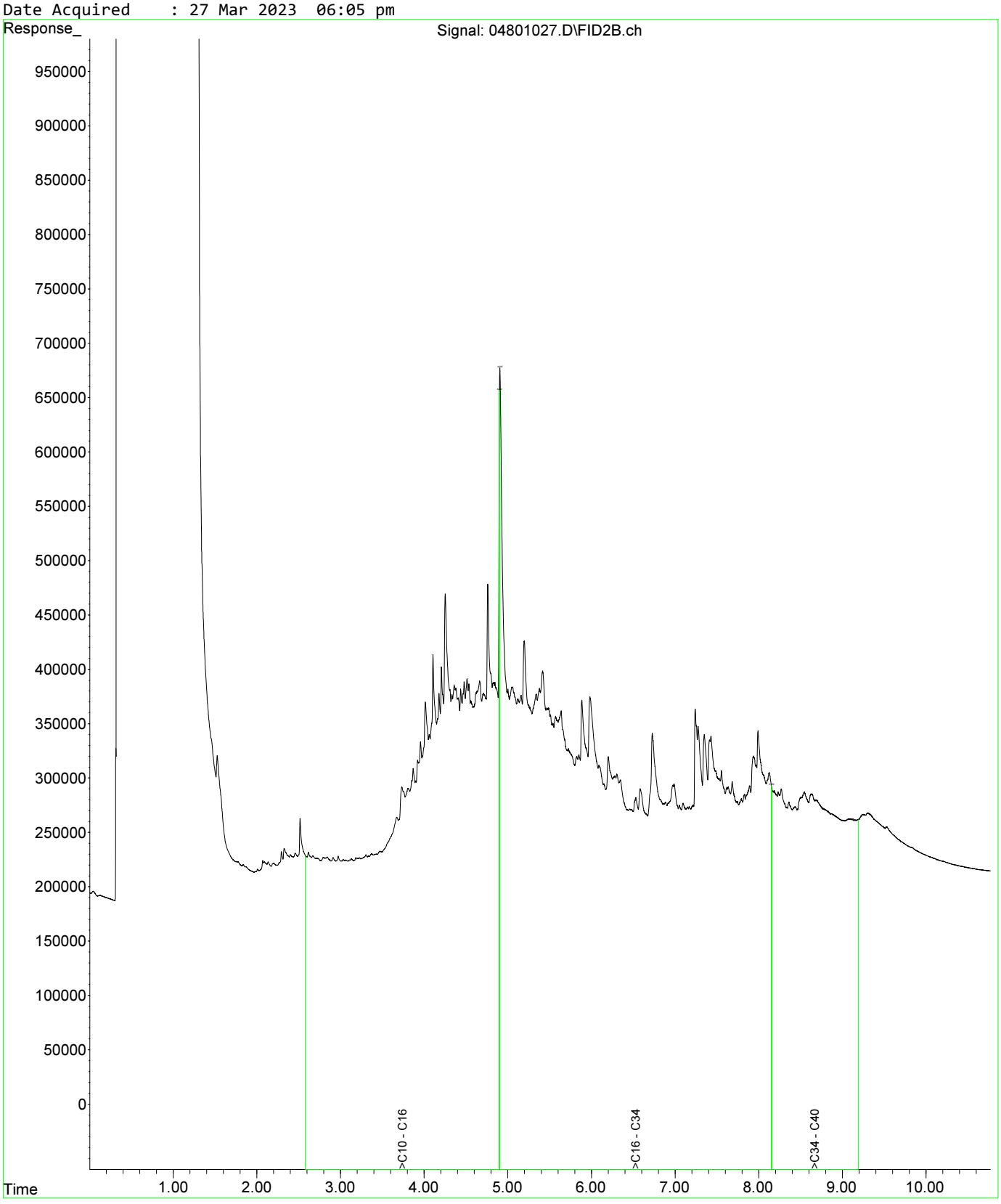

Fraction Scheme : NEPM DRAFT HIL
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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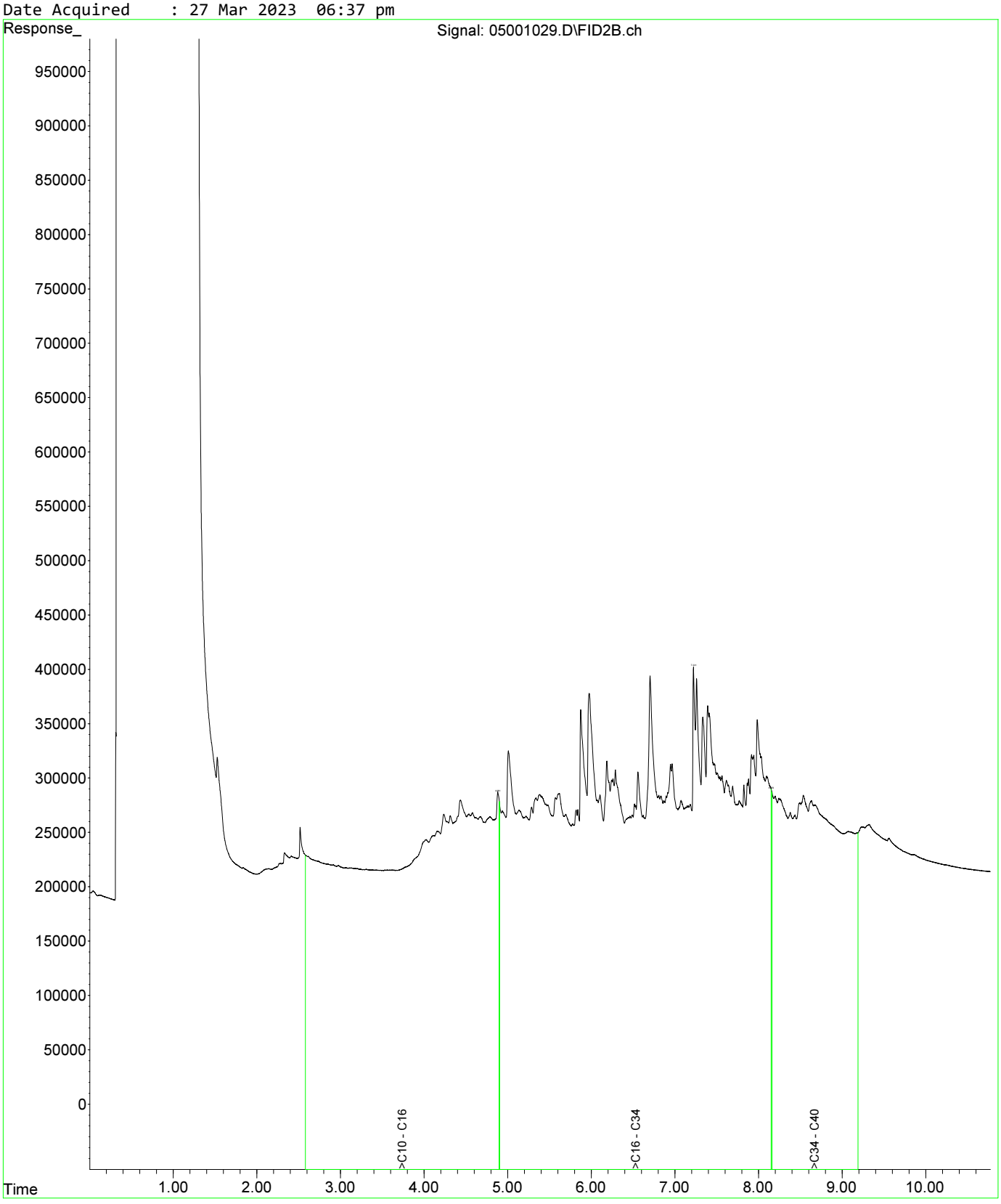

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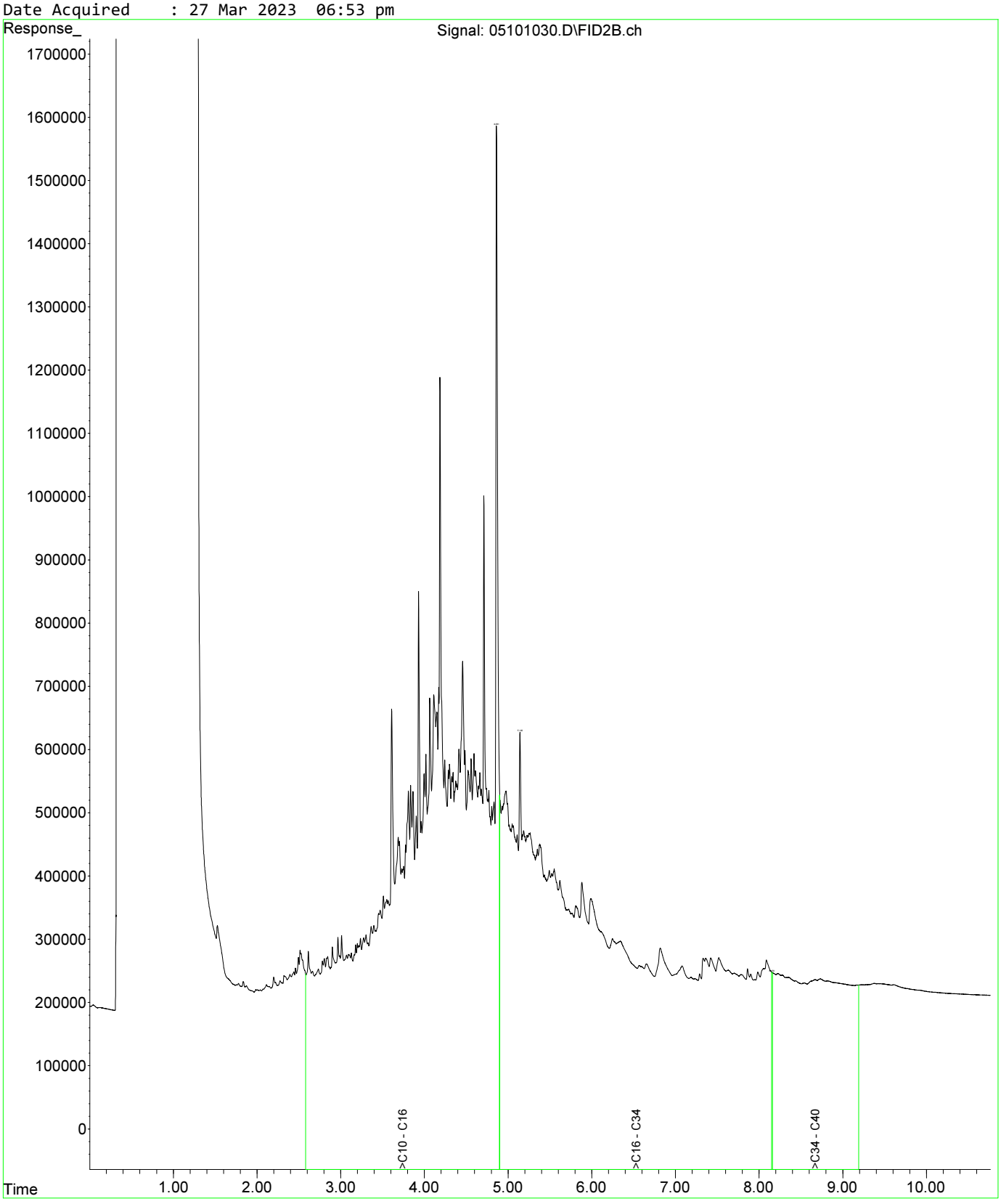

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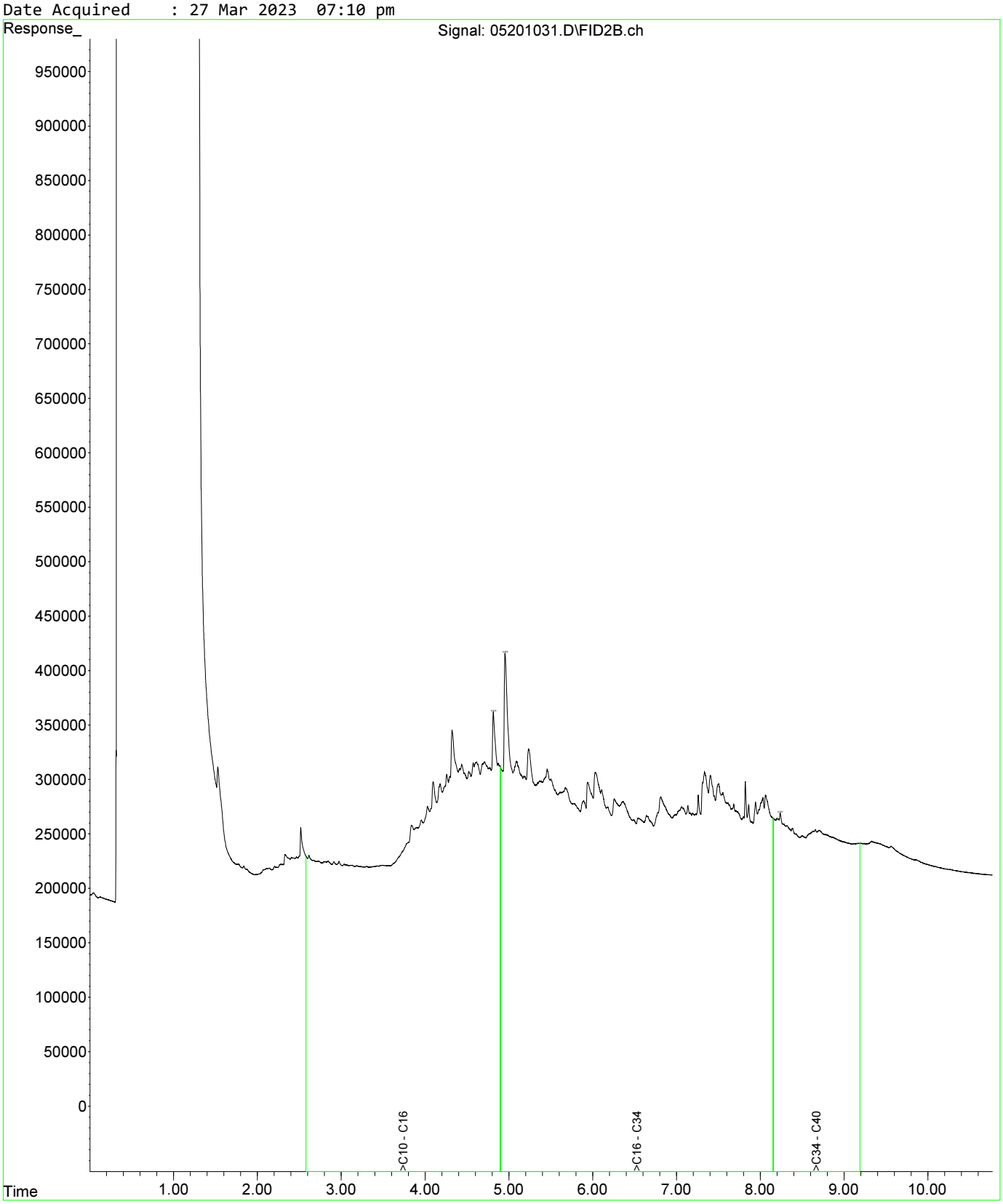

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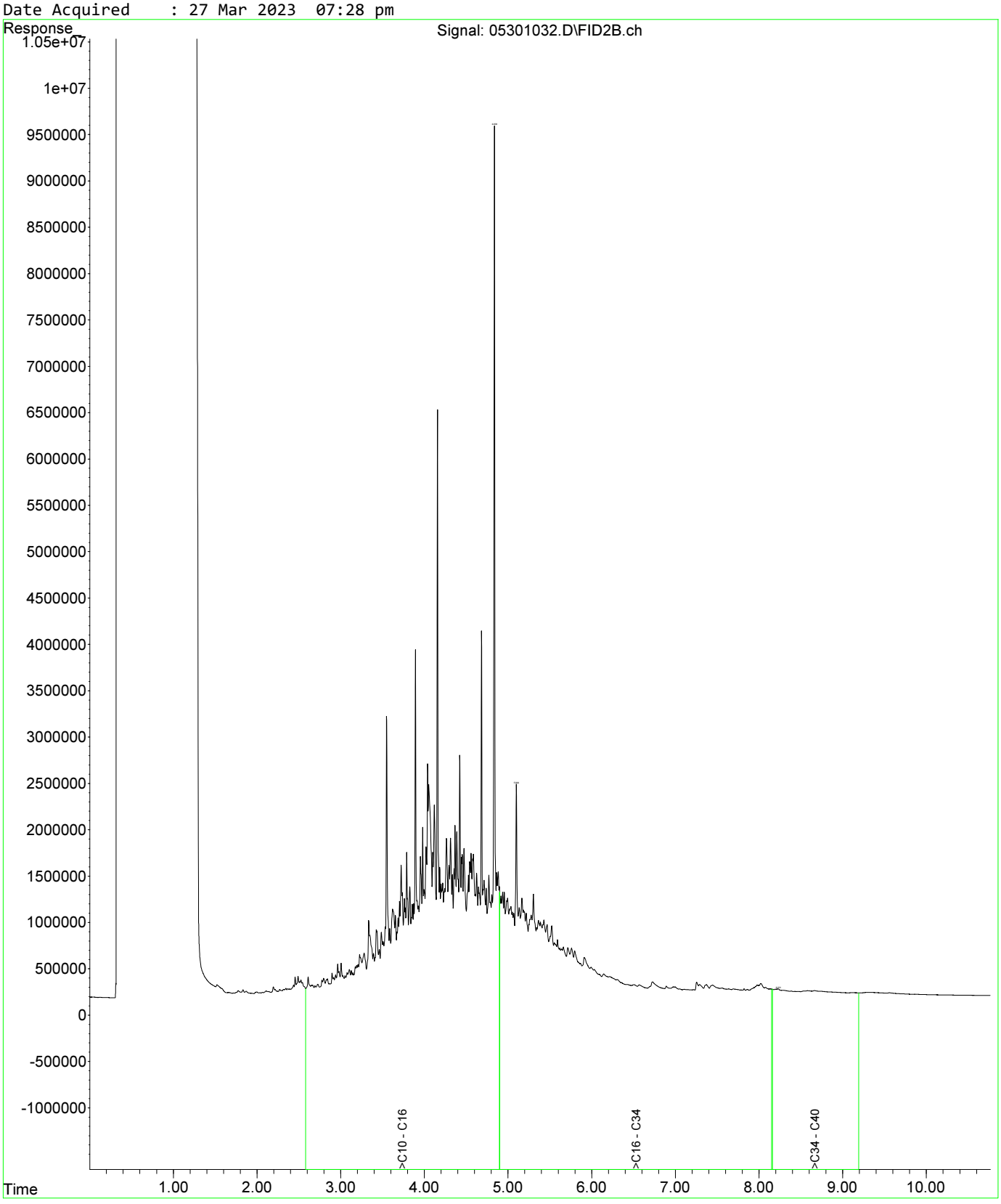

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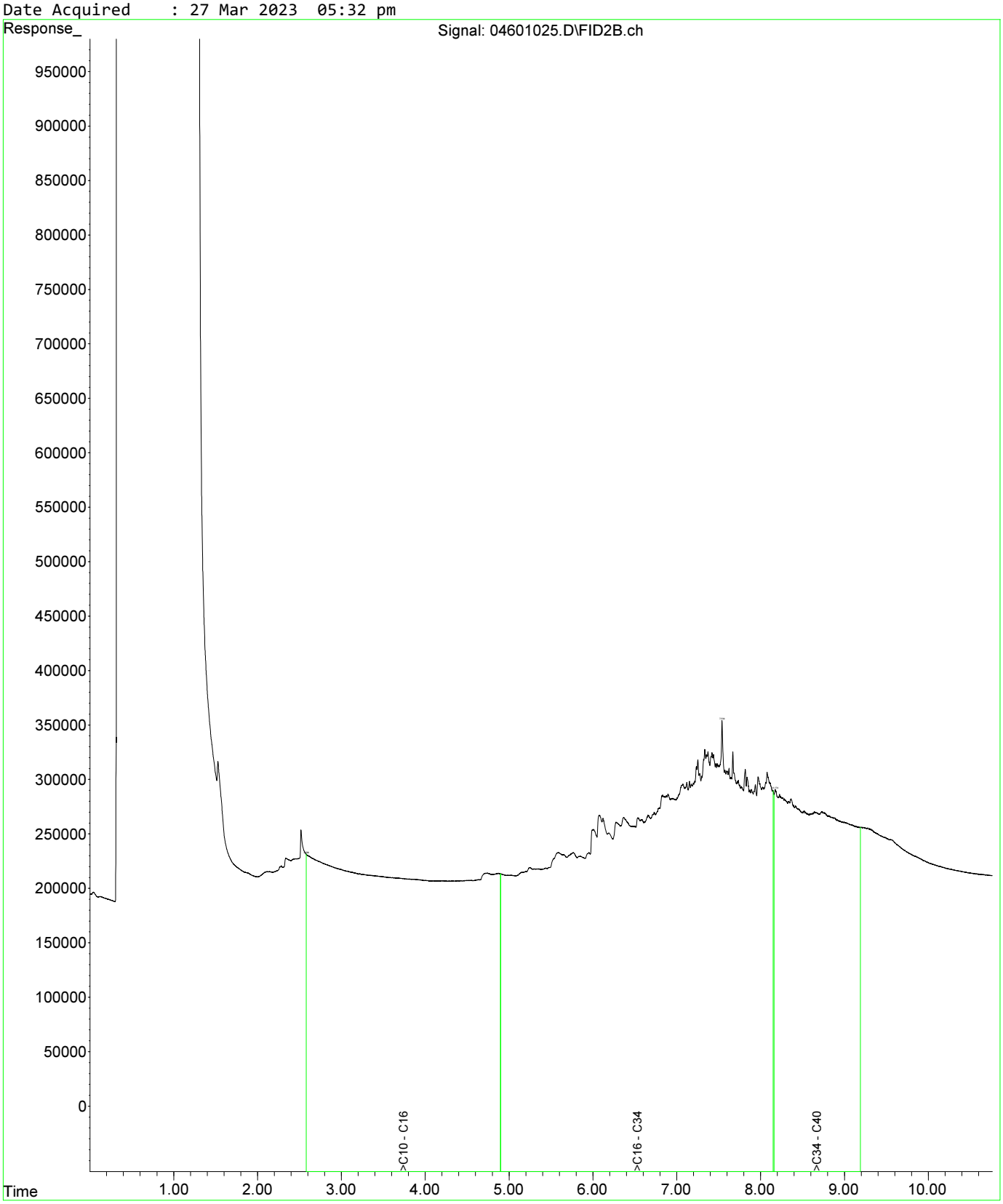

Fraction Scheme : NEPM DRAFT HIL
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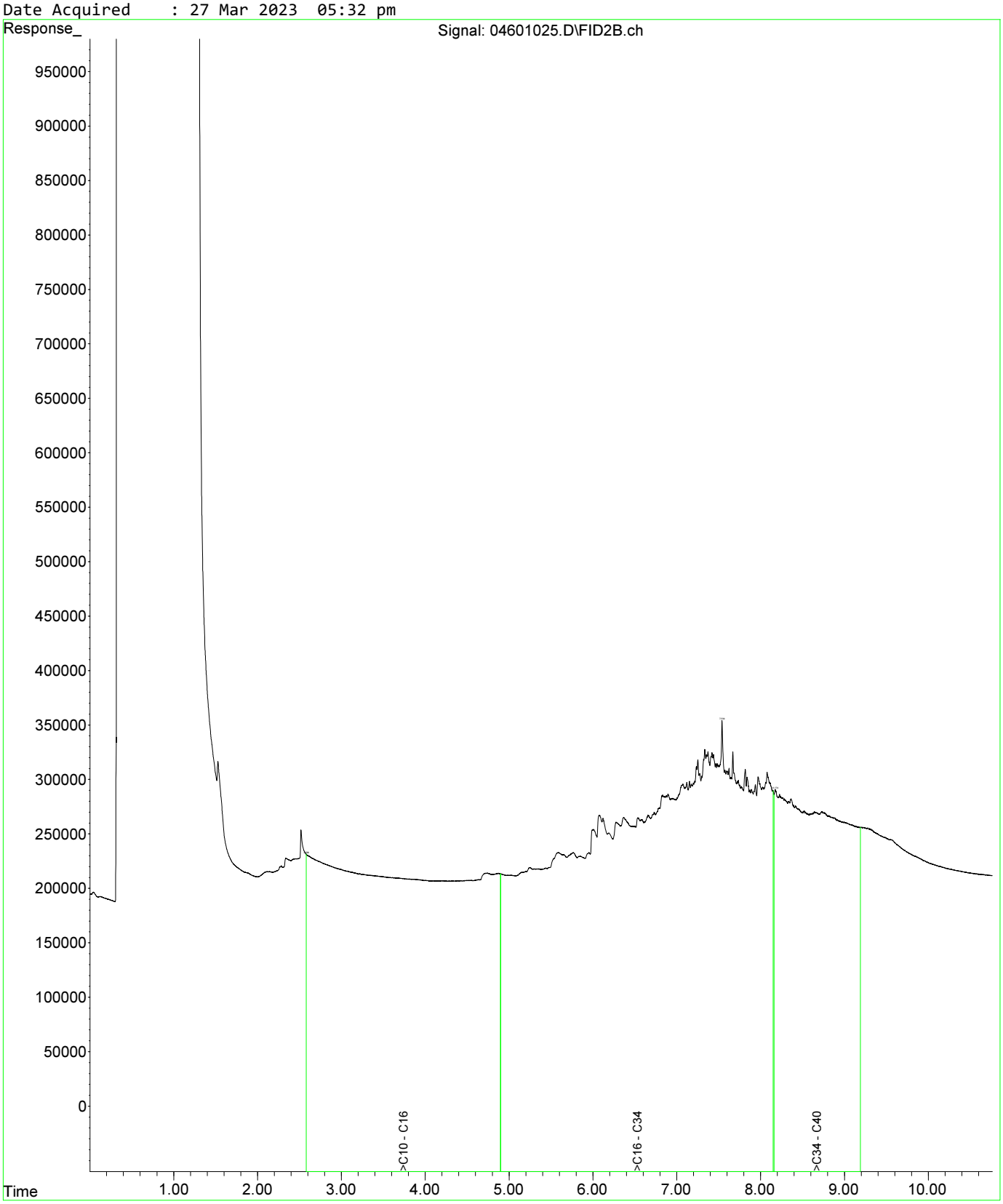

Fraction Scheme : NEPM DRAFT HIL
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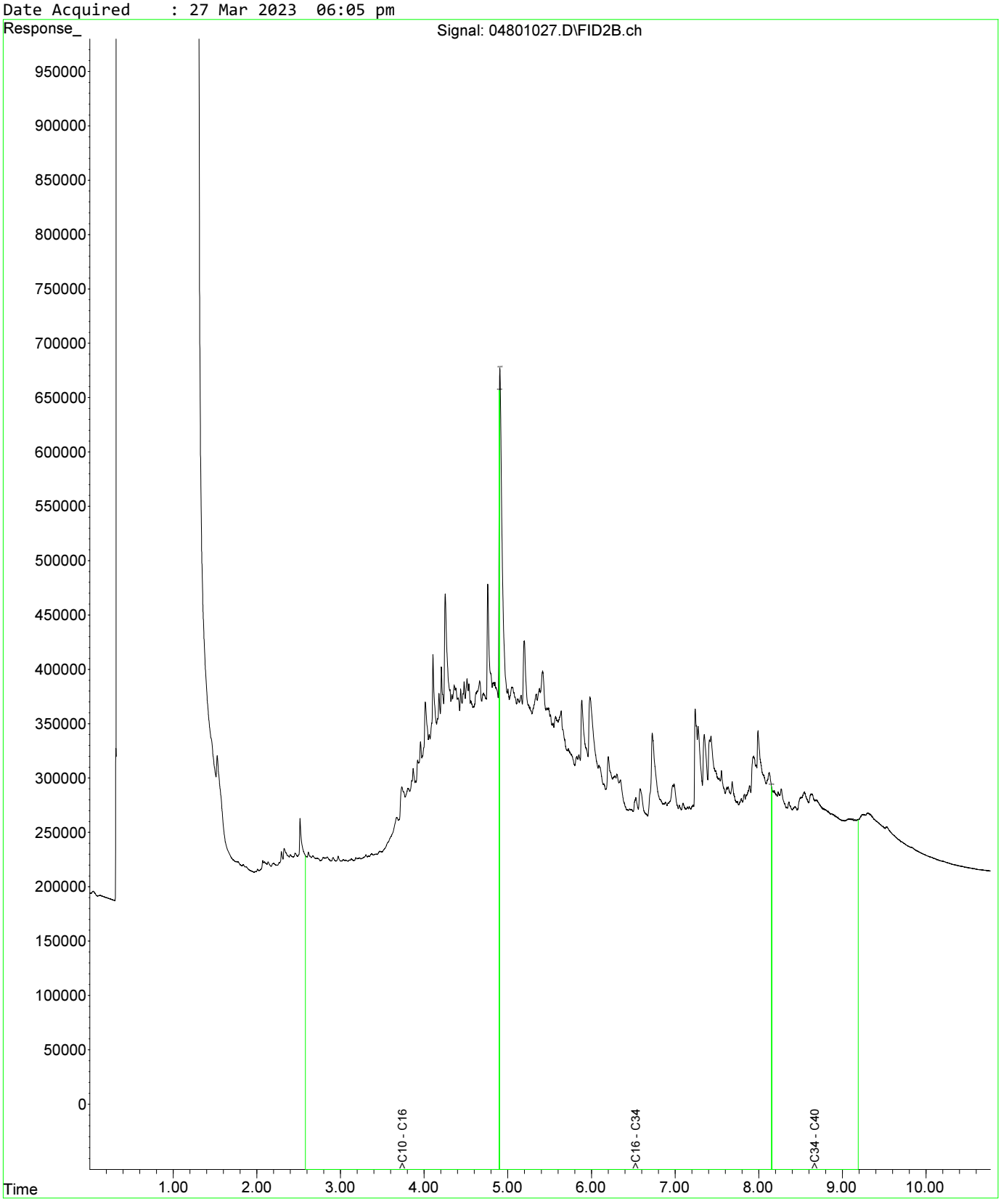

Fraction Scheme : NEPM DRAFT HIL
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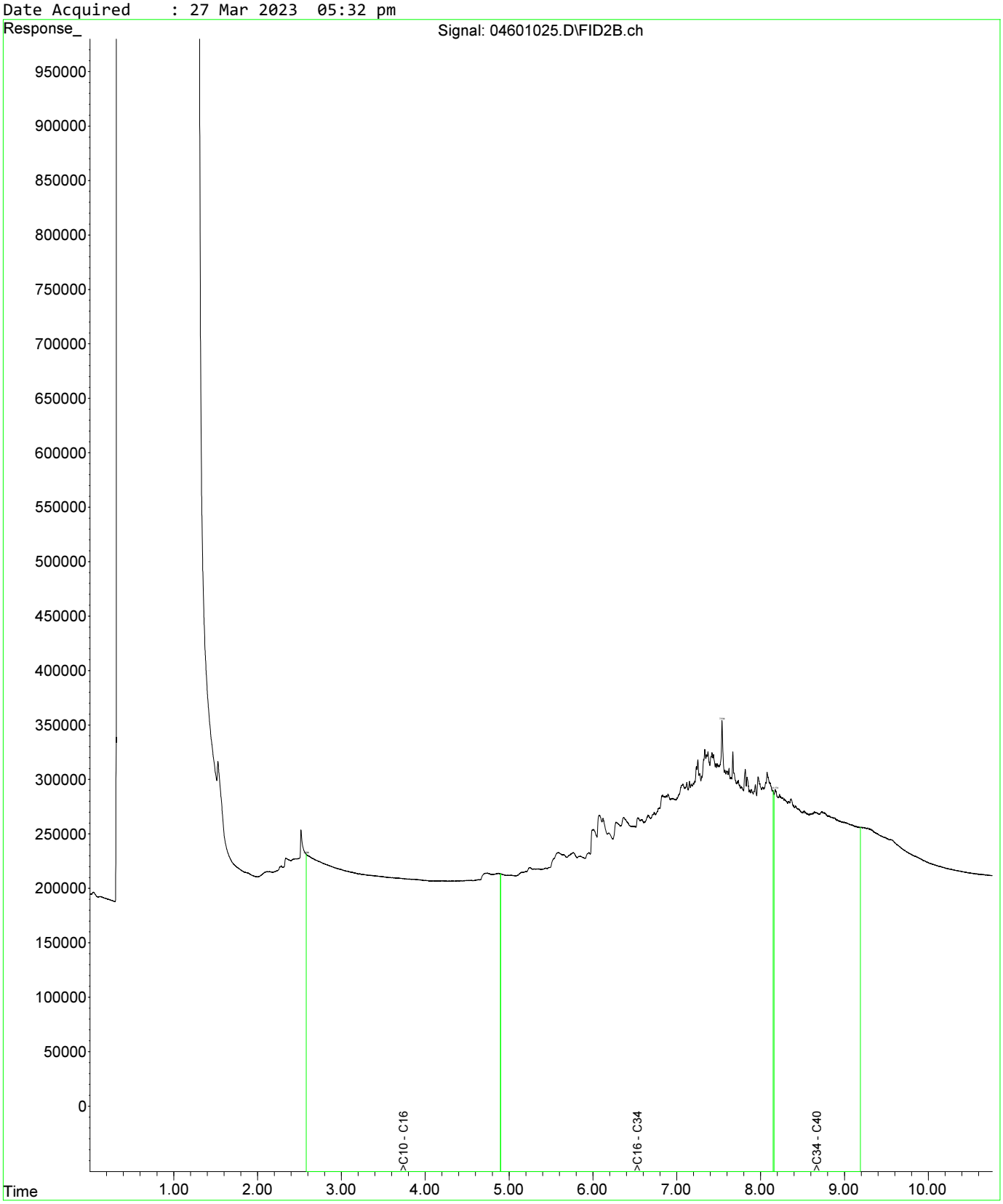

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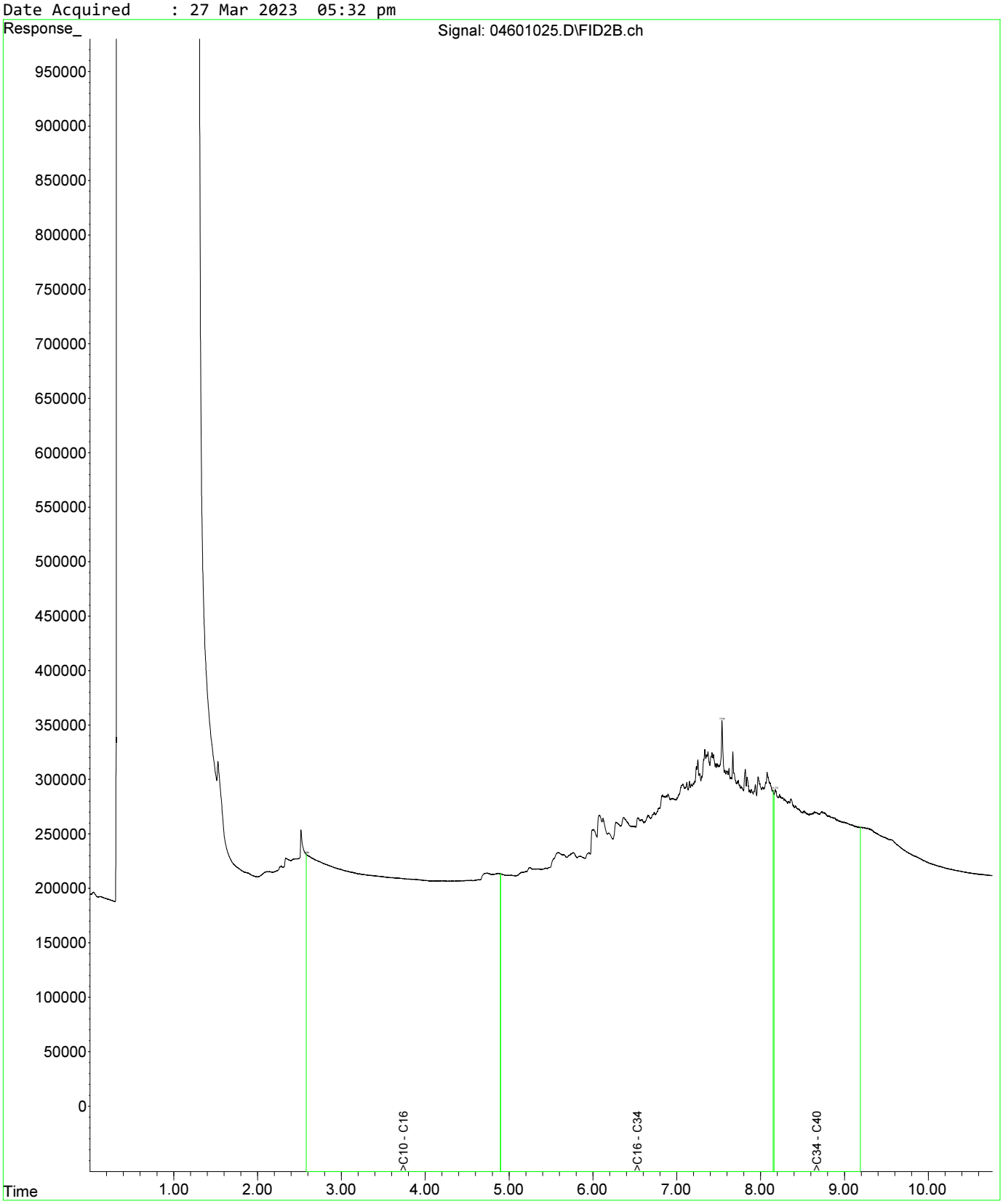

Fraction Scheme : NEPM DRAFT HIL
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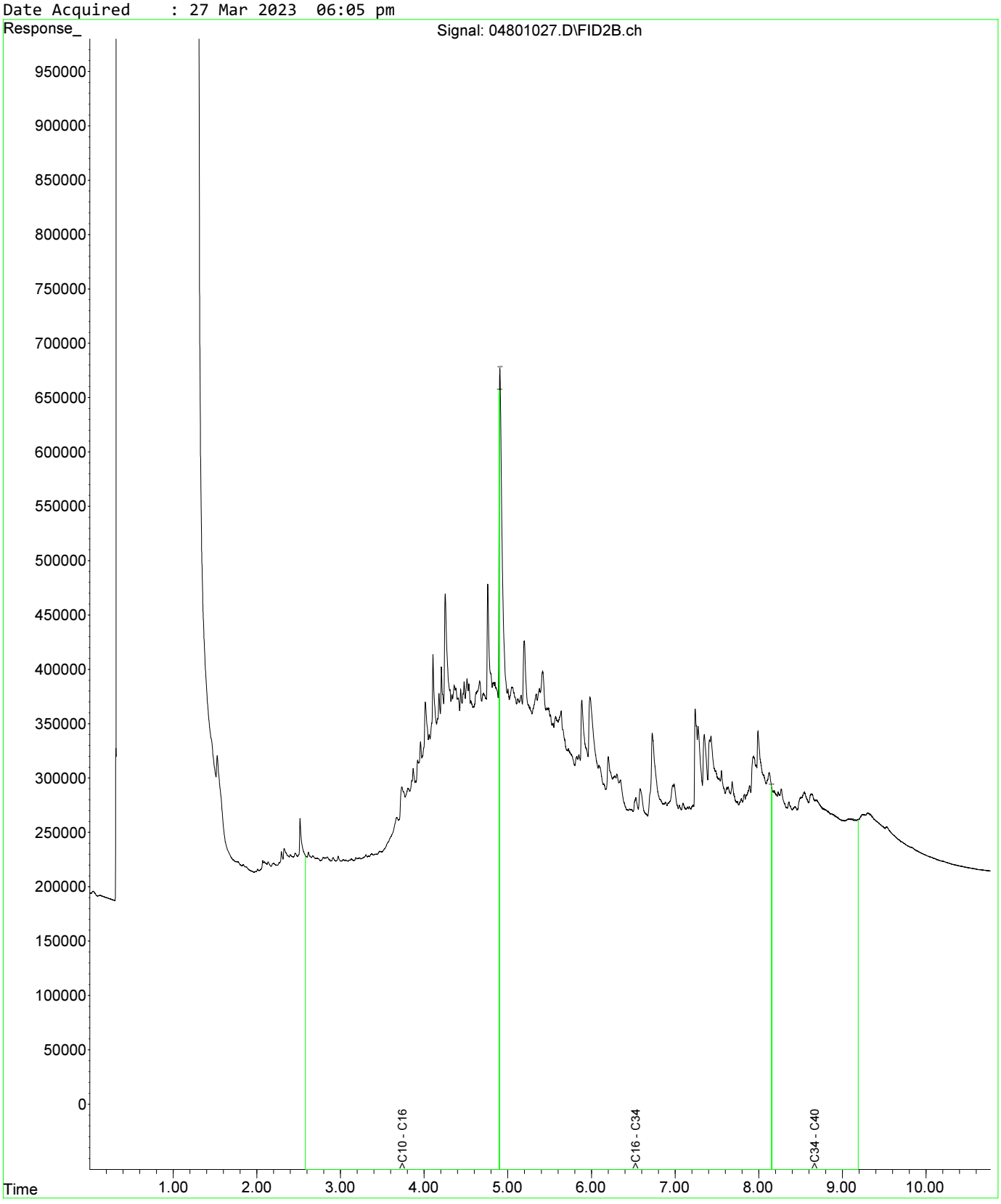

Fraction Scheme : NEPM DRAFT HIL
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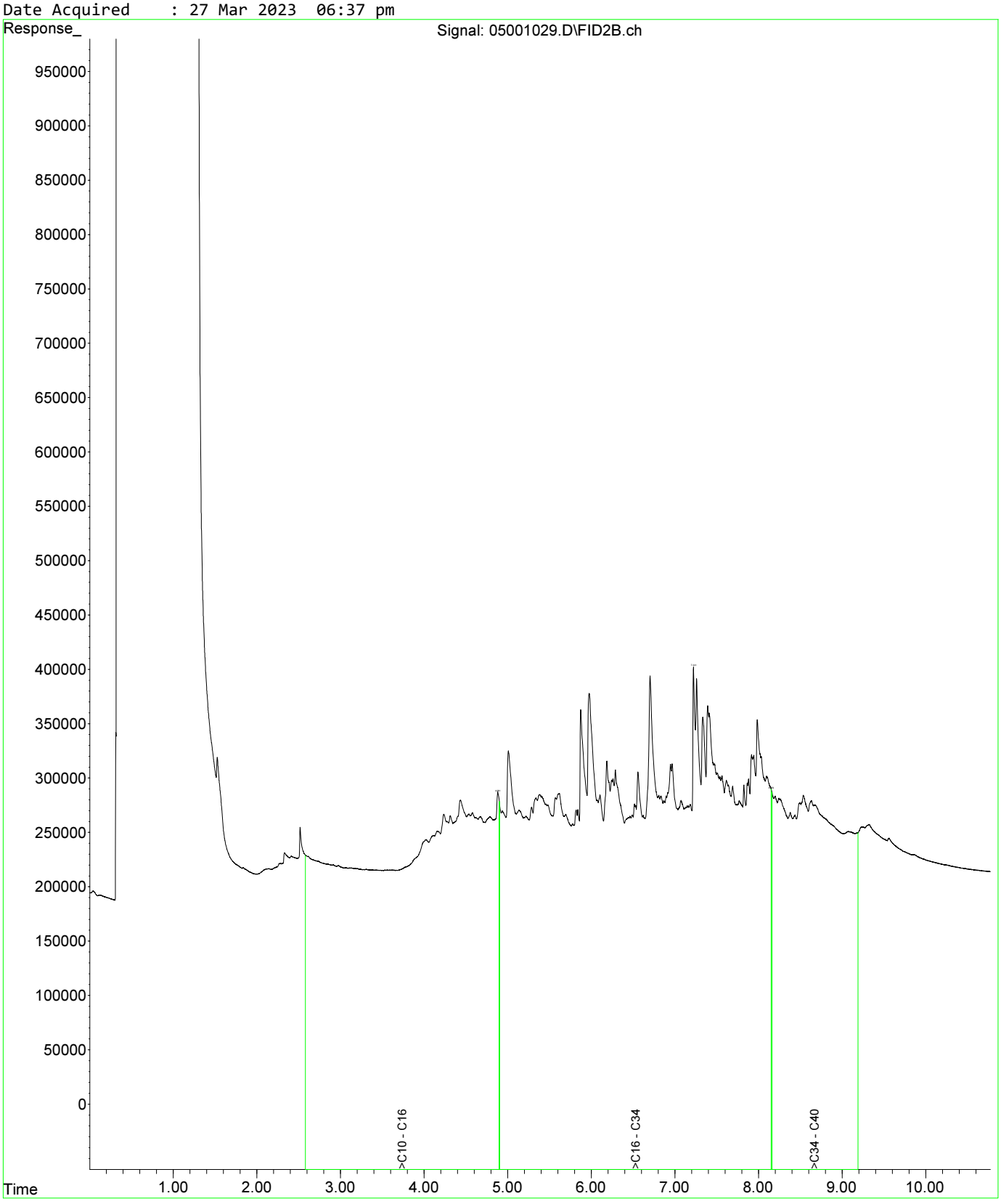
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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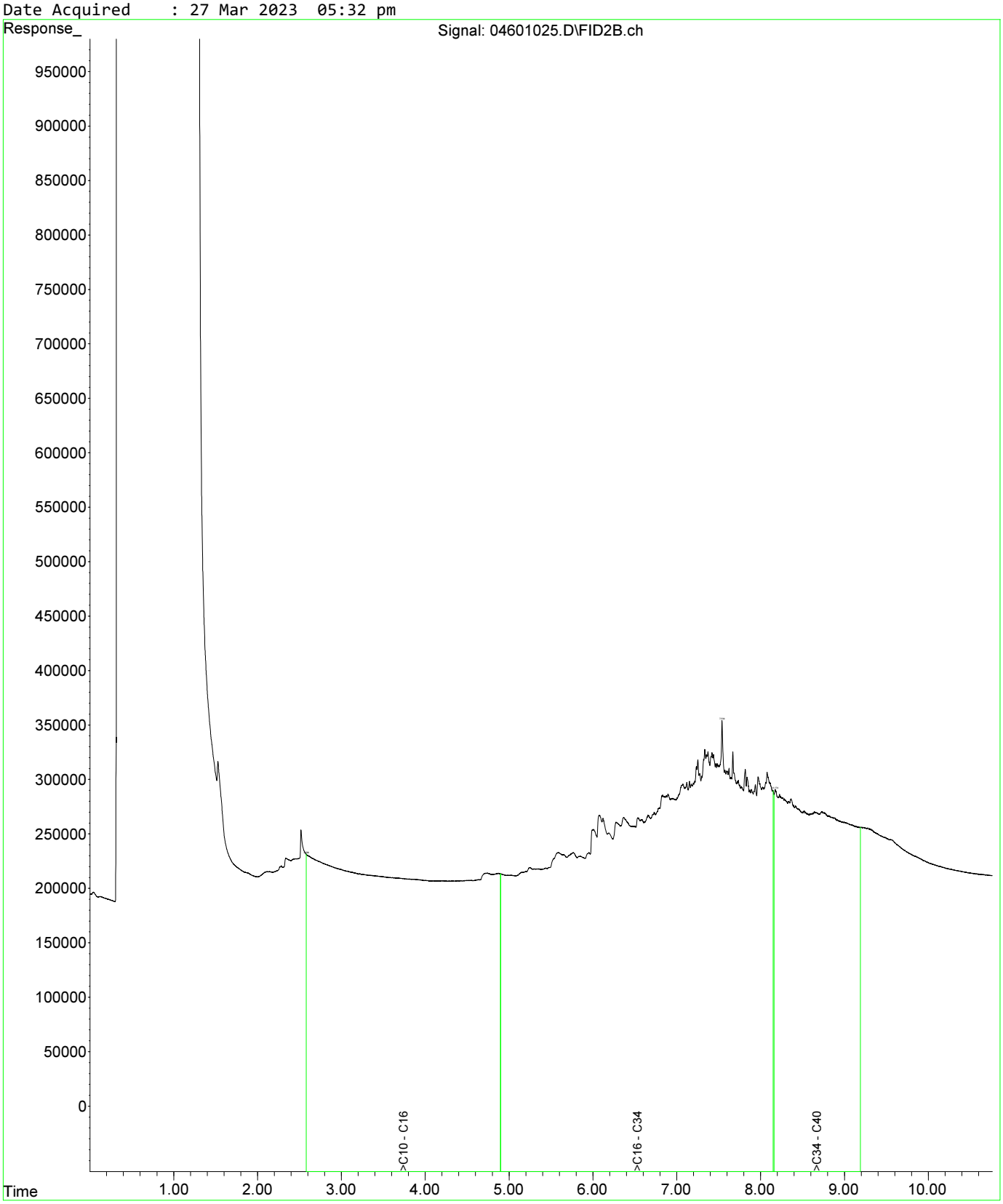

Fraction Scheme : NEPM DRAFT HIL
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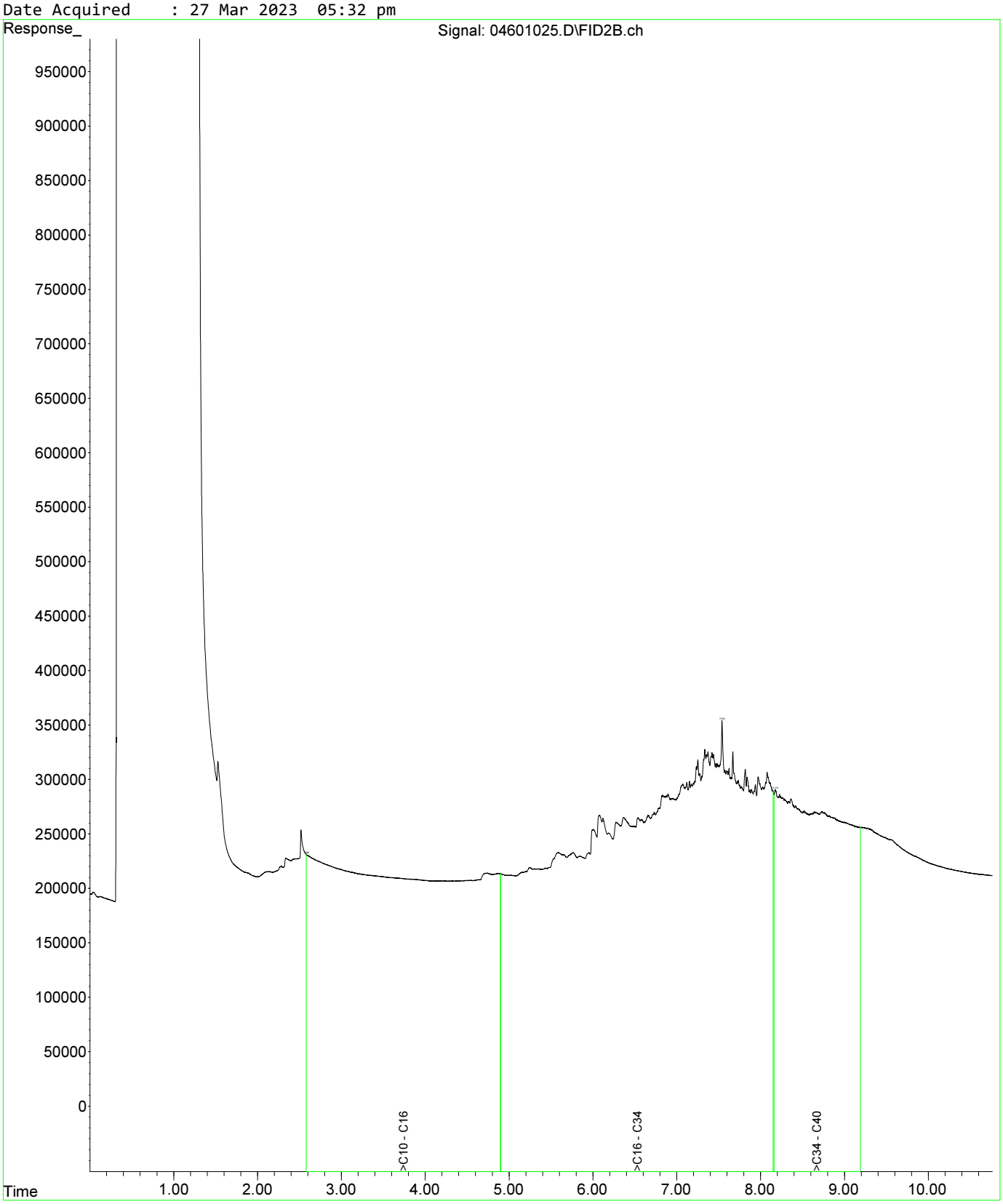

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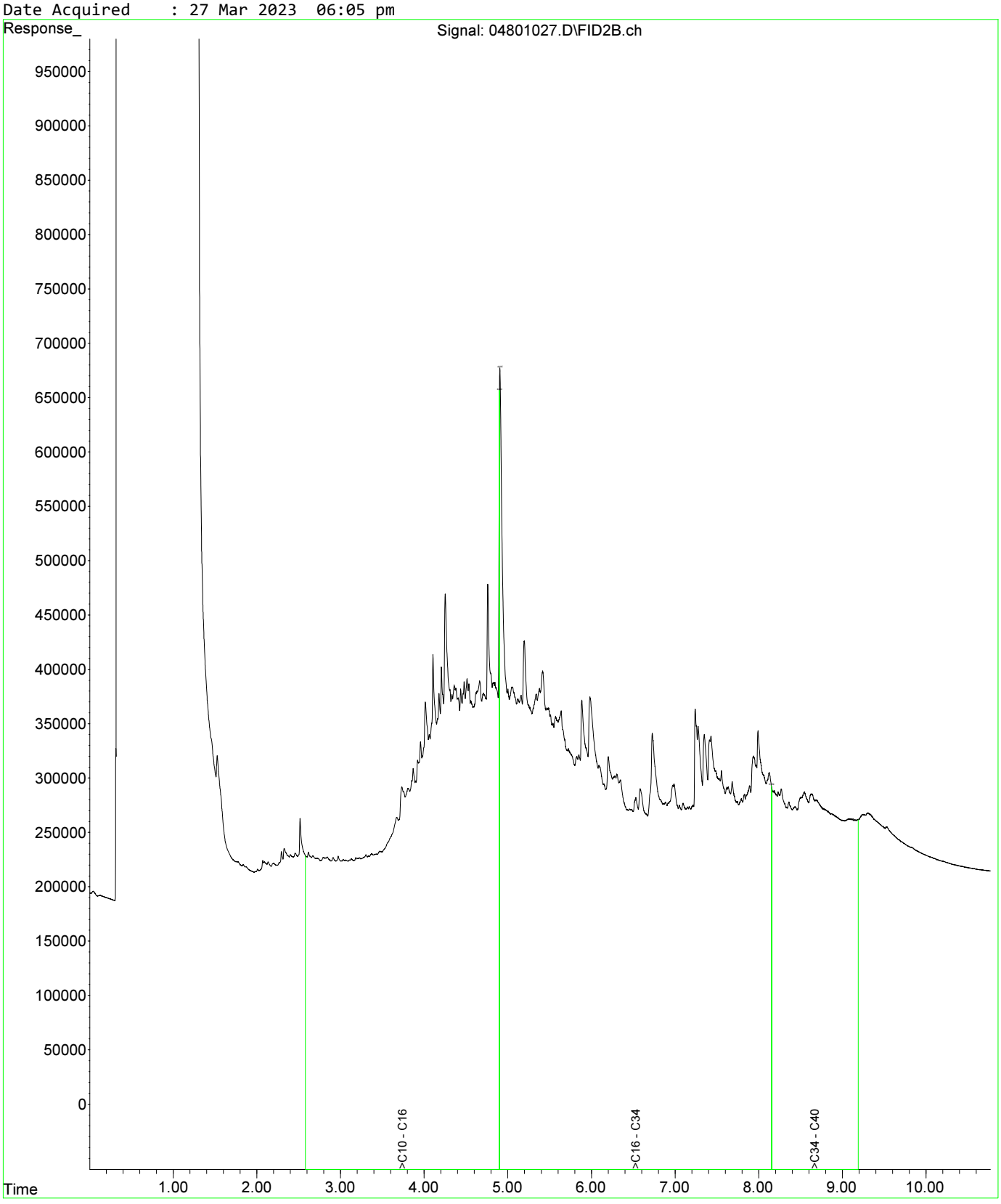

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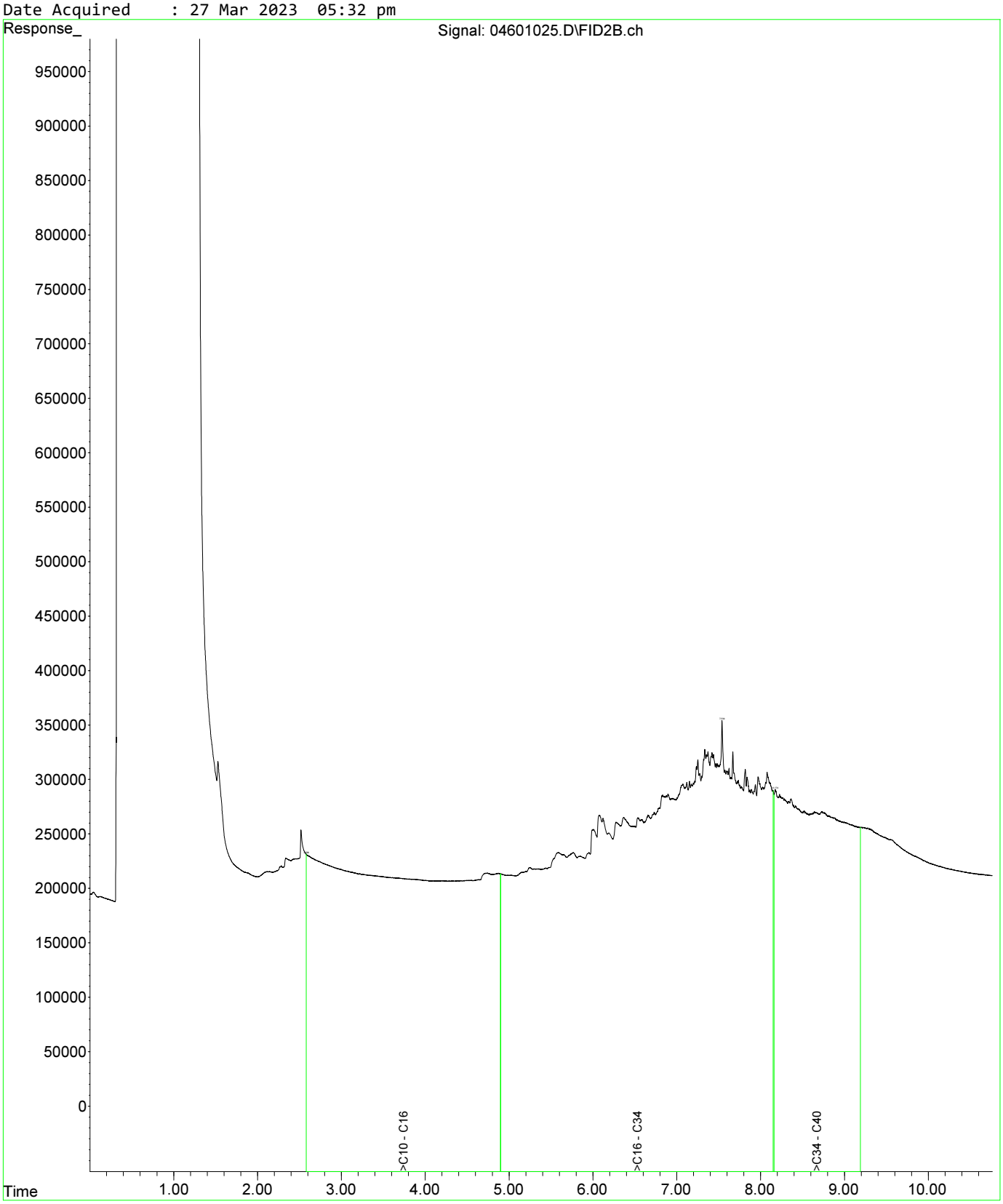

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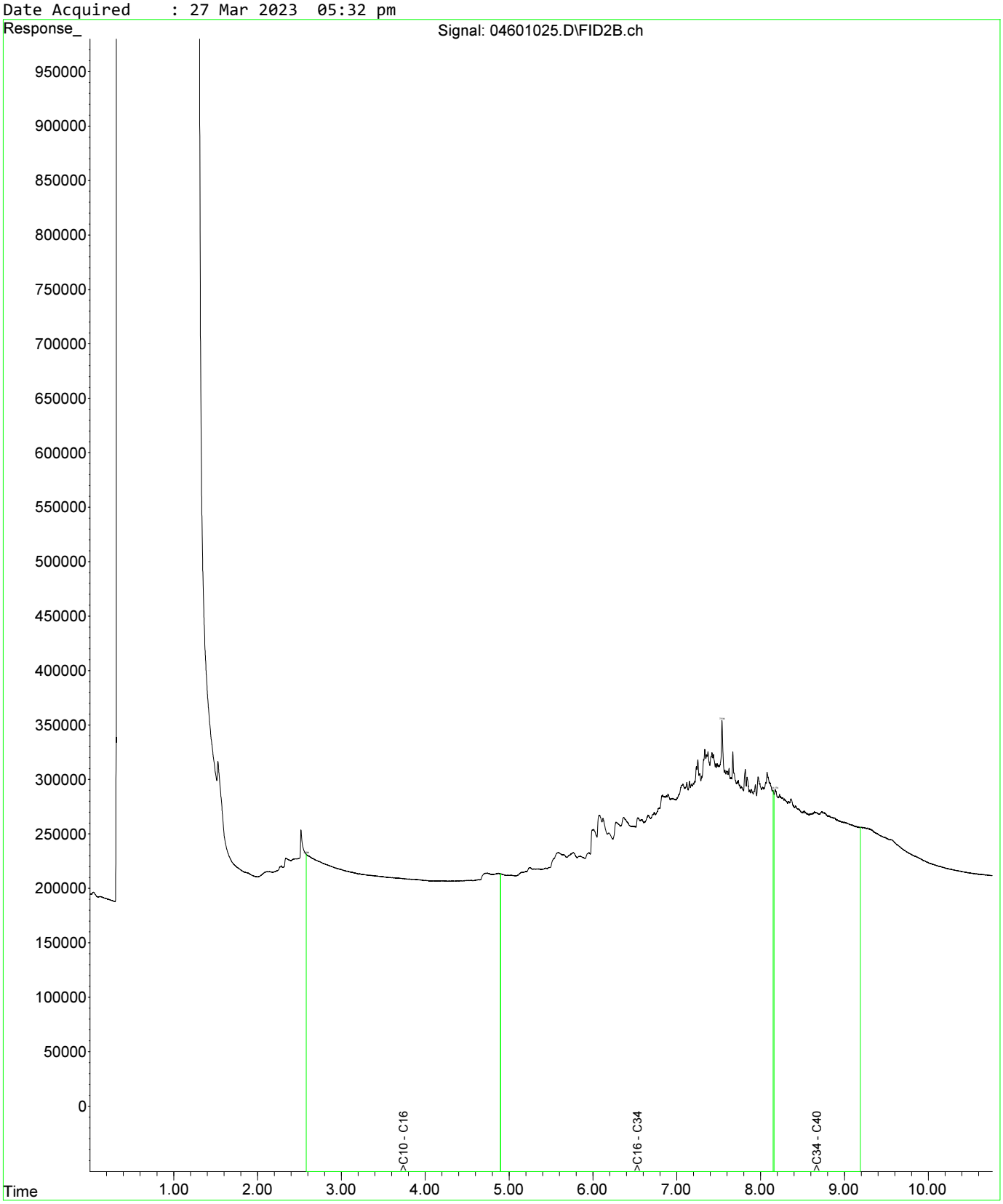

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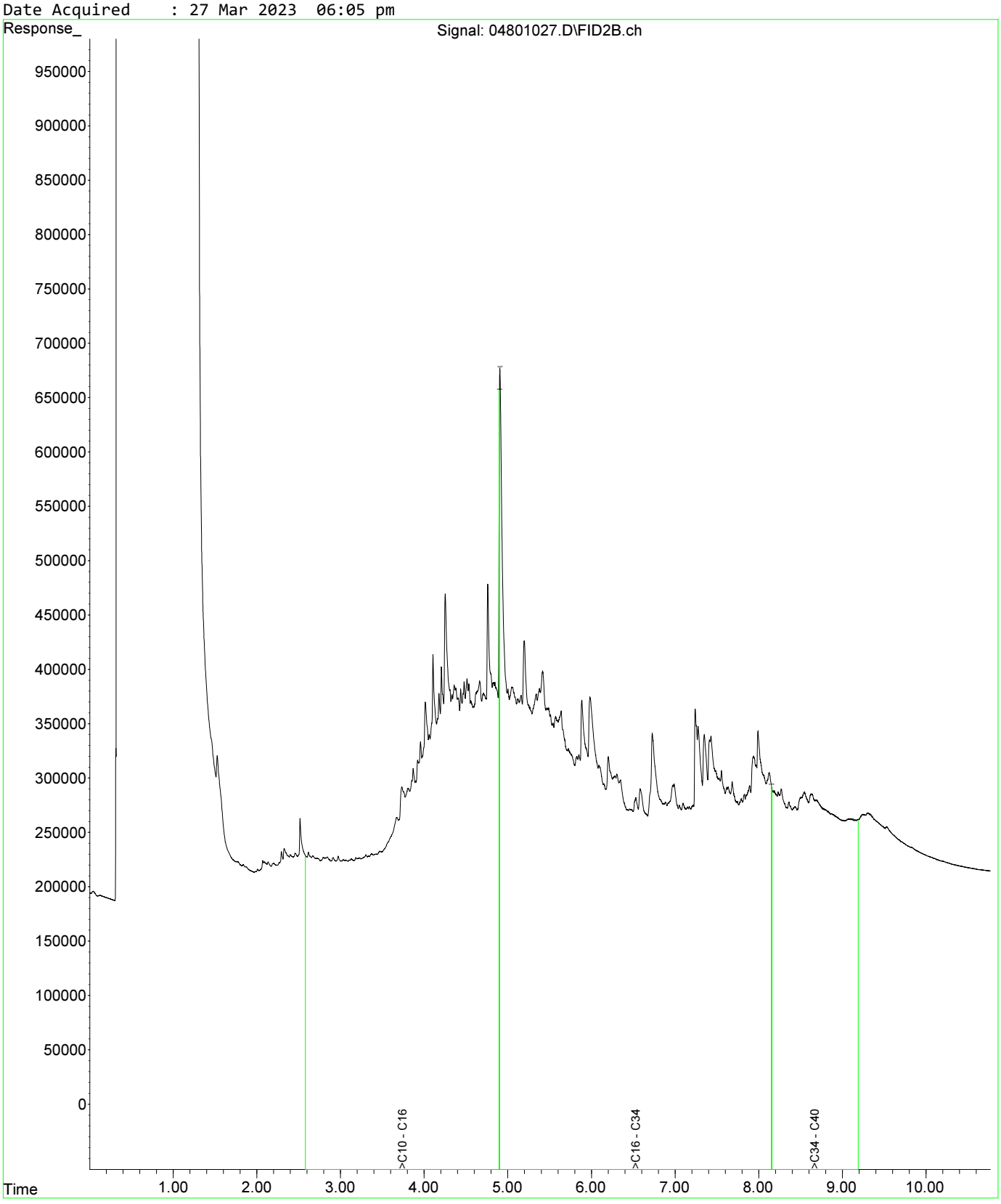

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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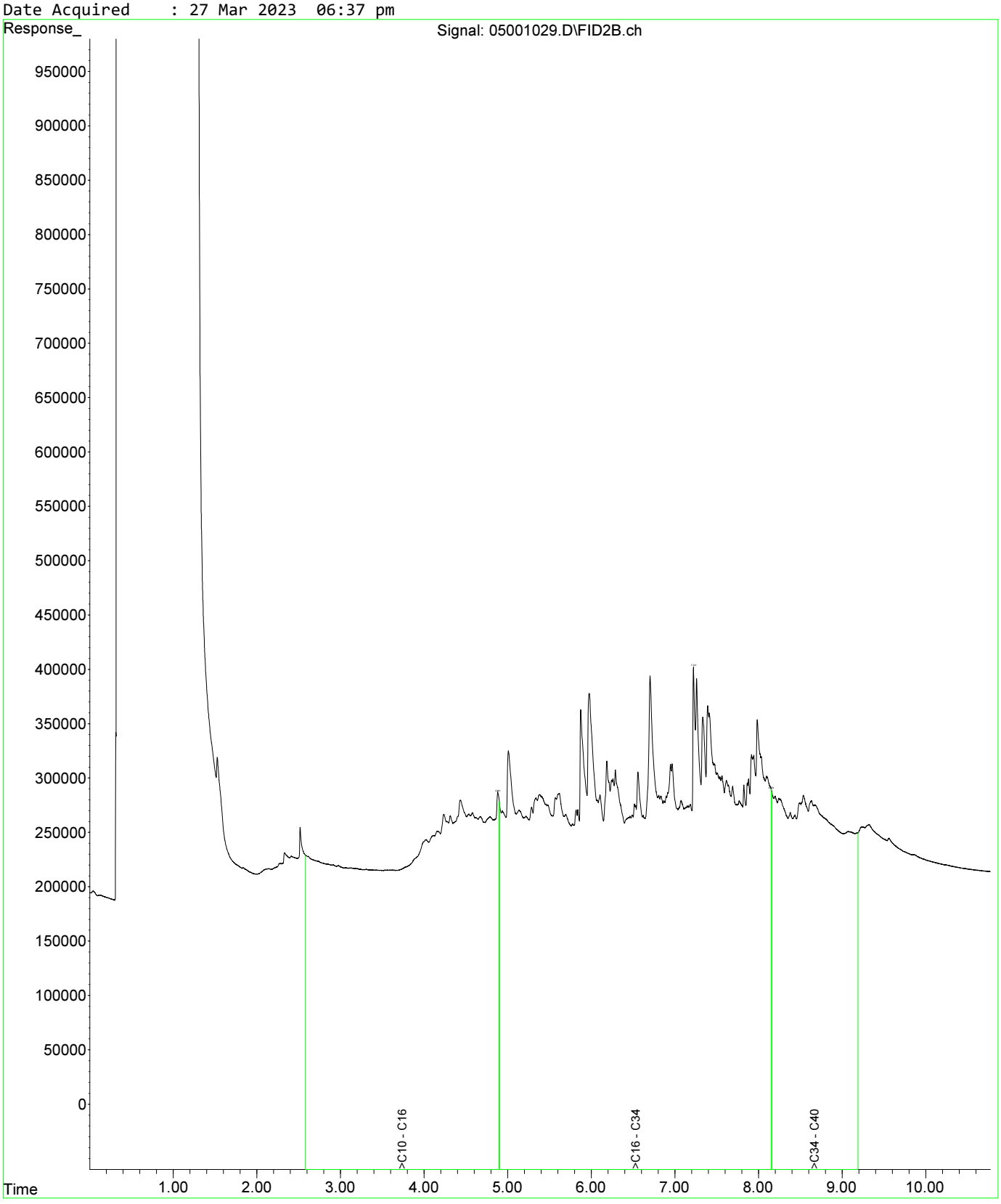

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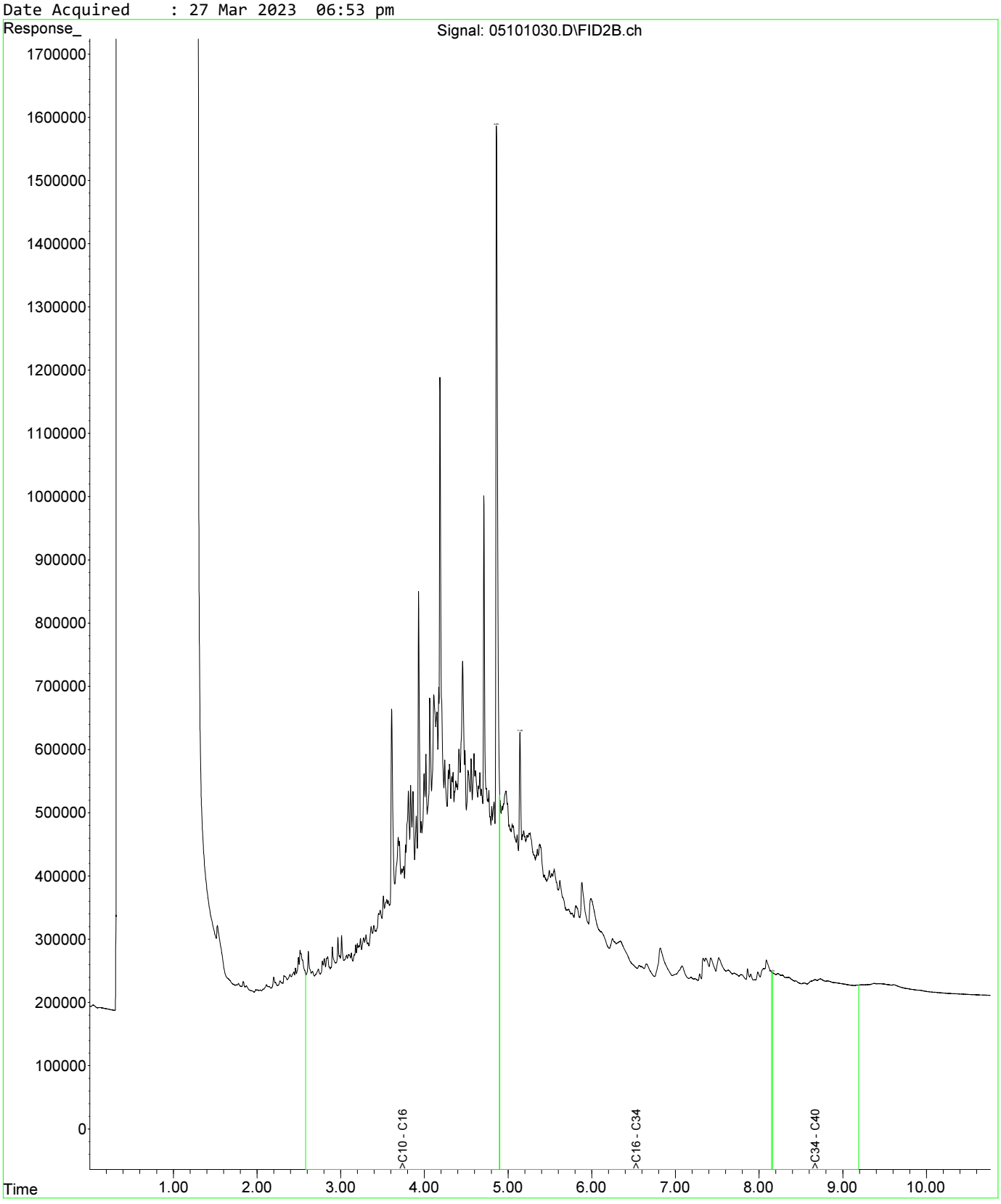
Date Acquired : 27 Mar 2023 06:53 pm



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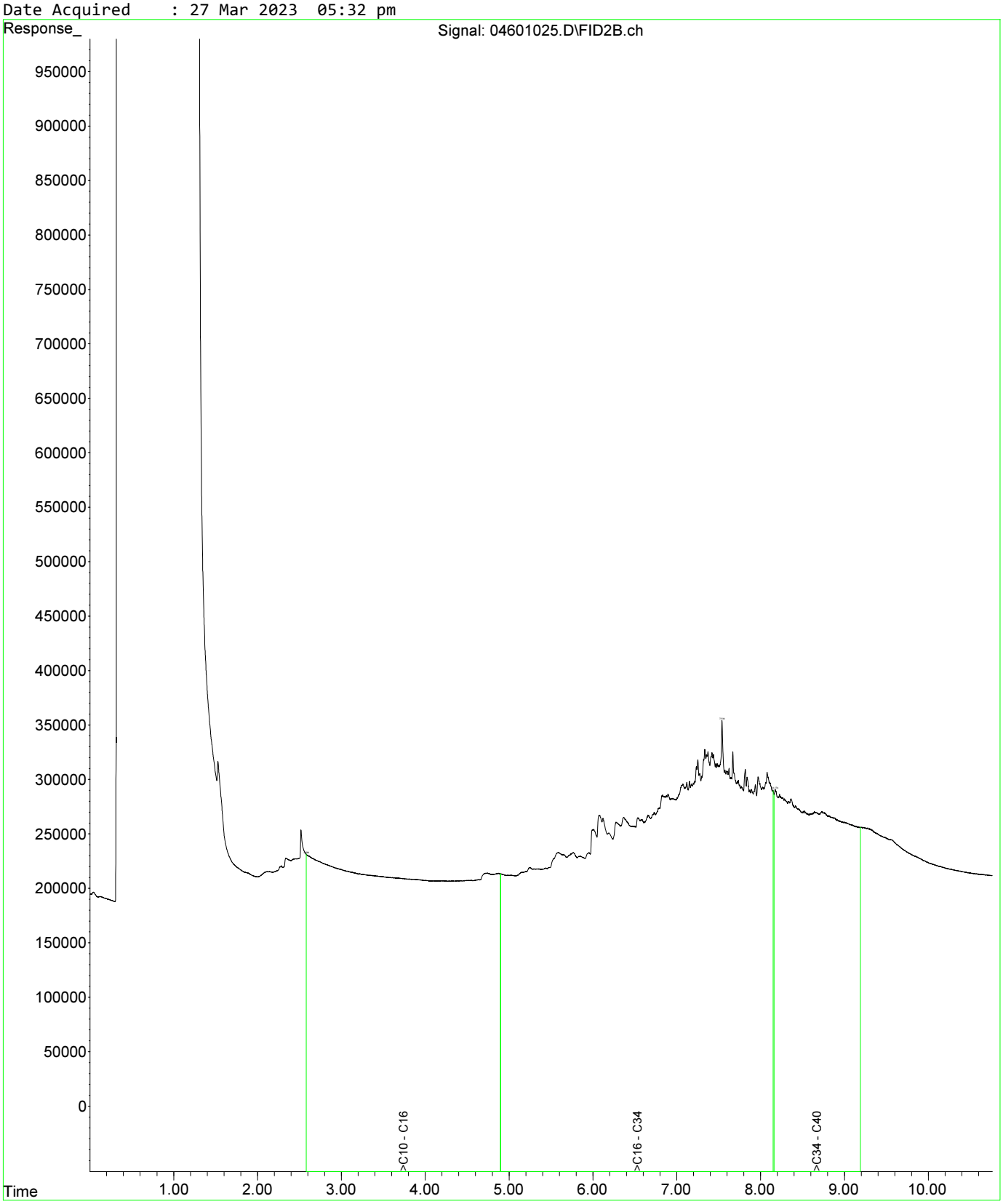

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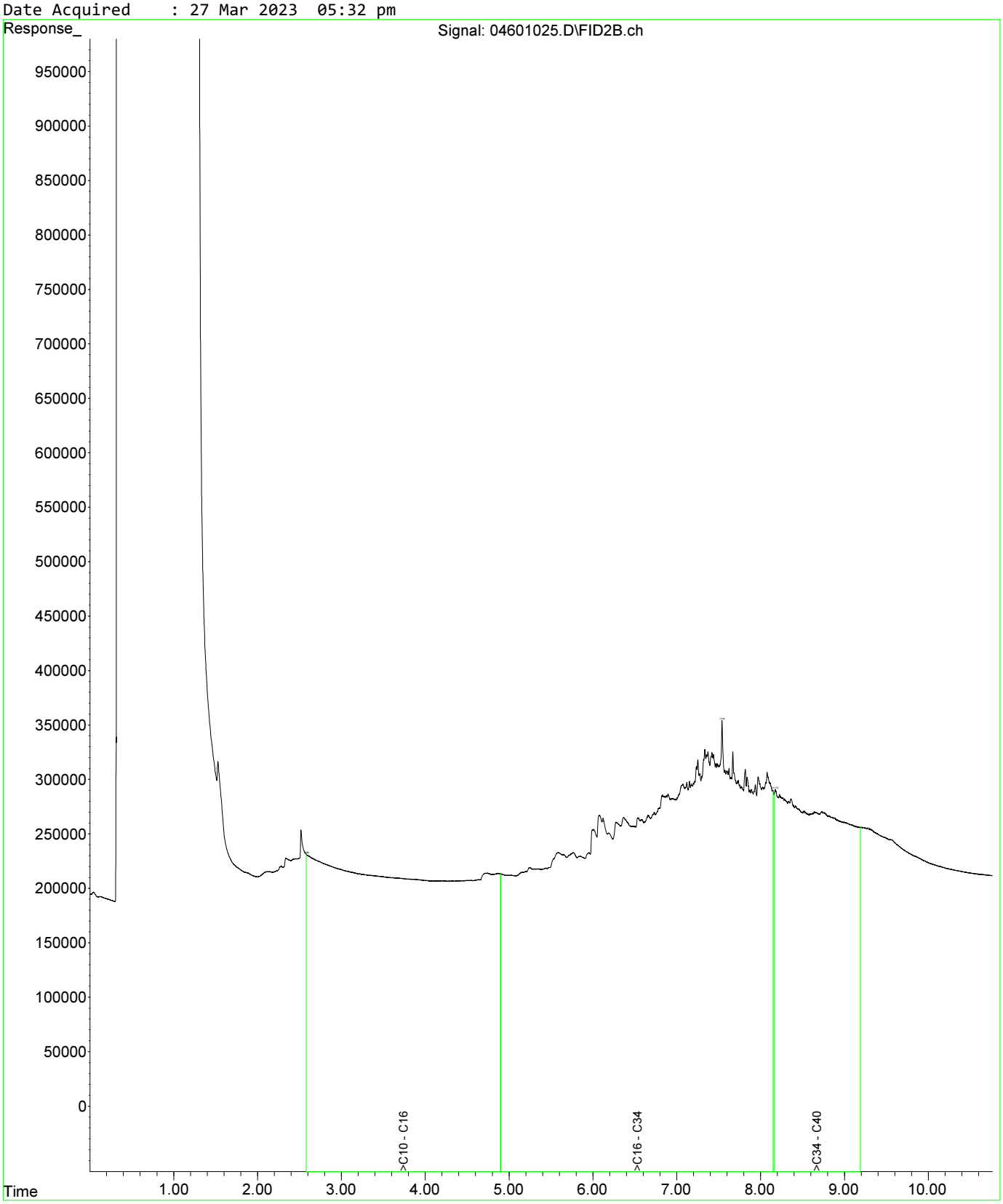

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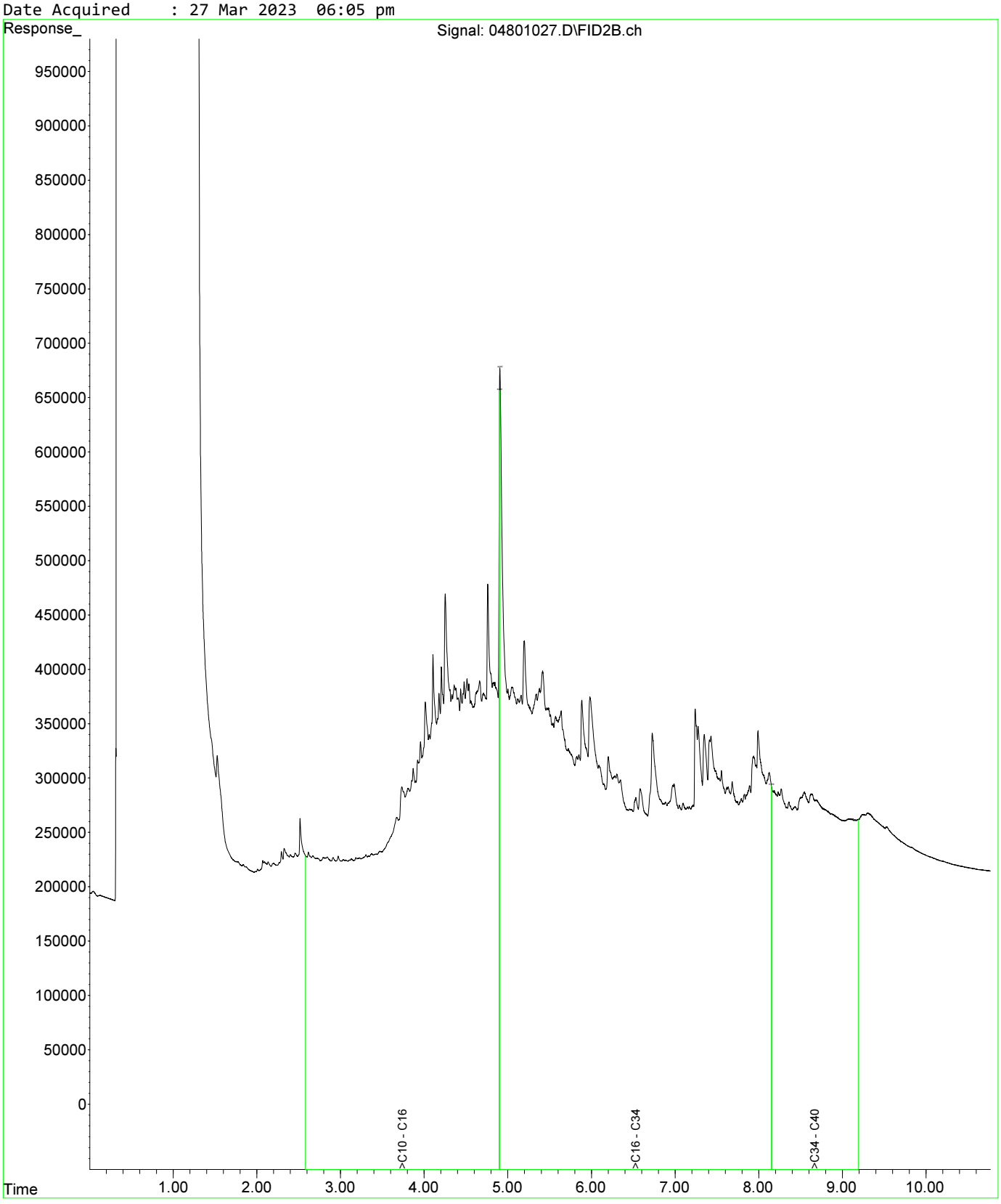

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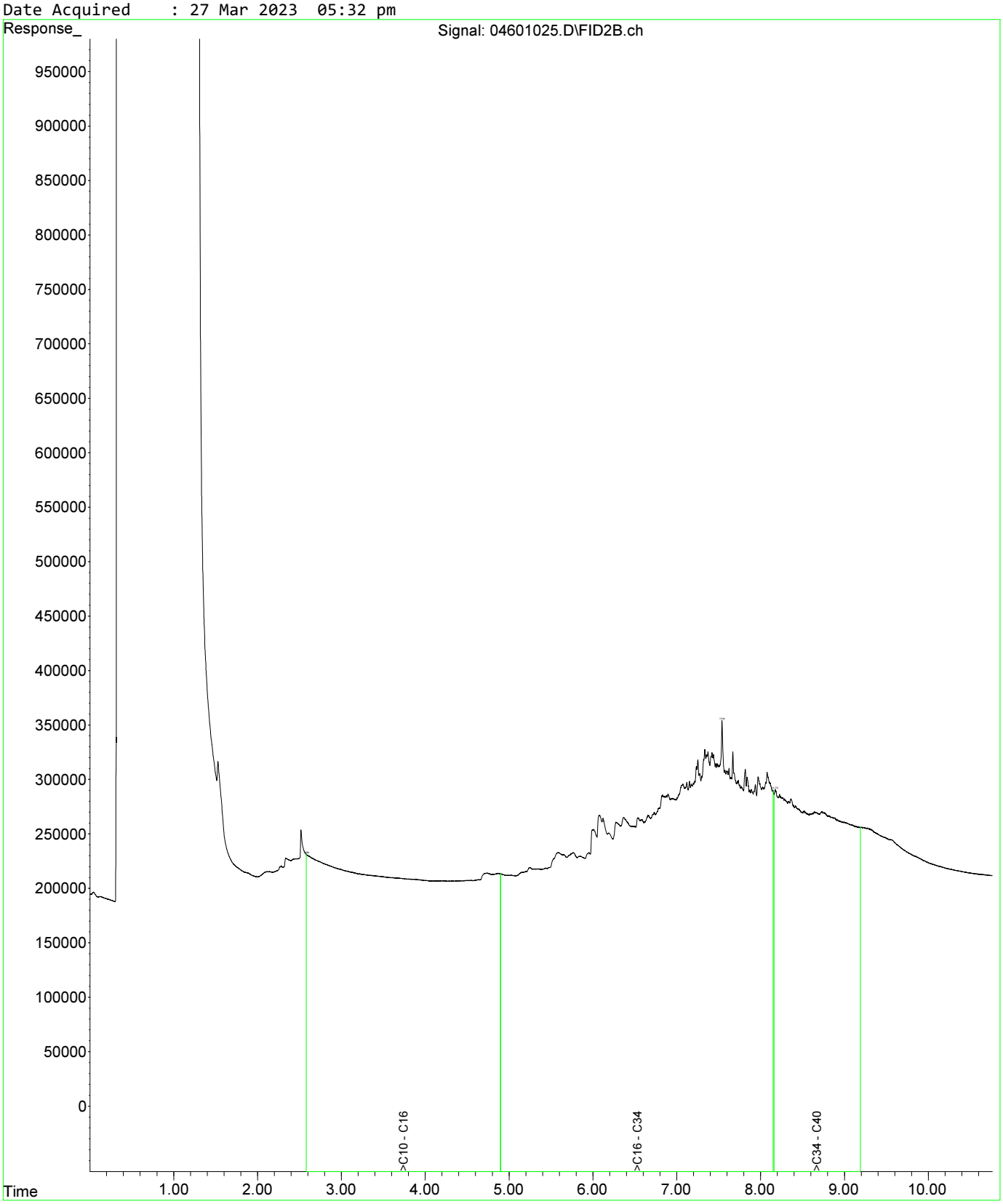

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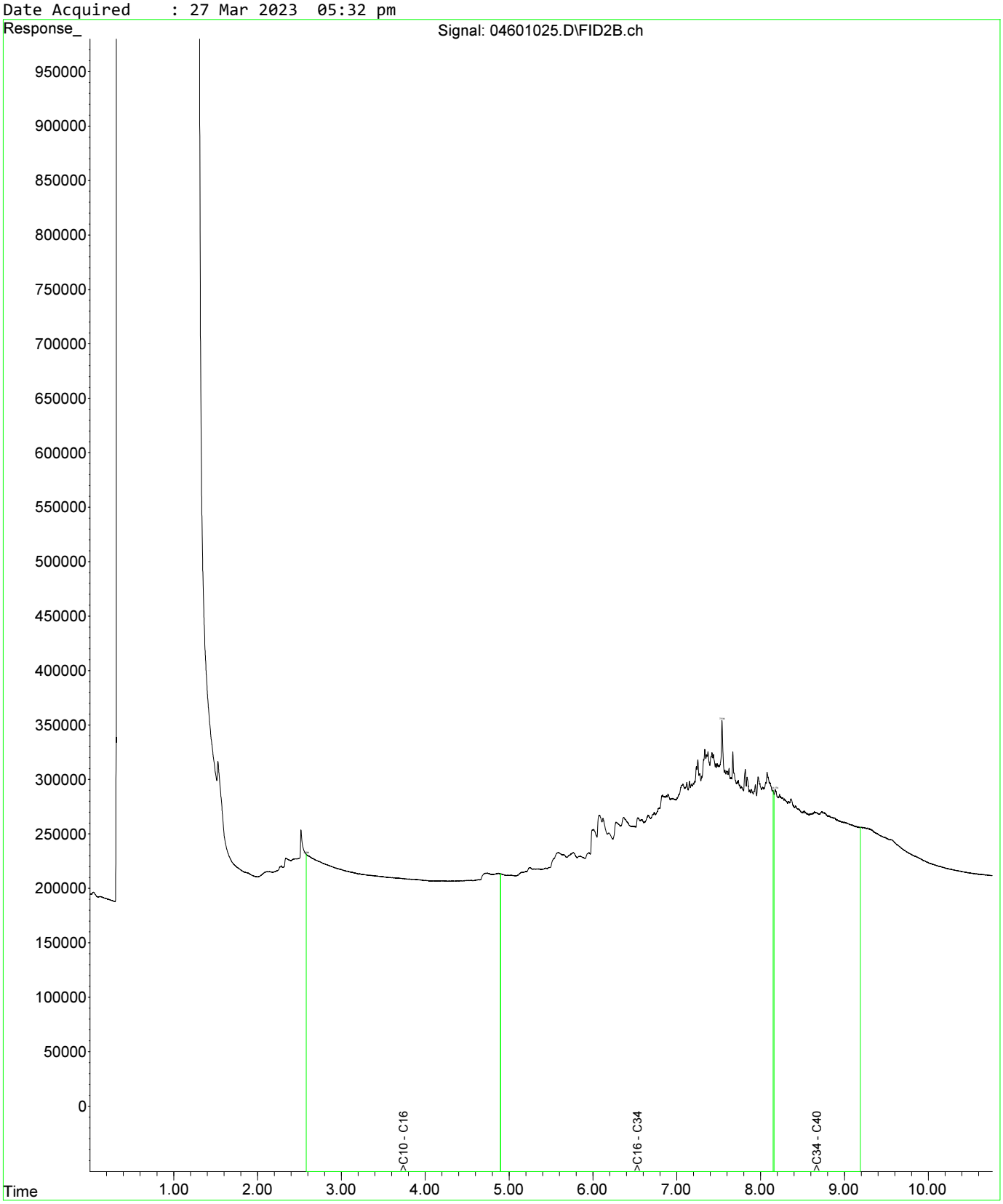

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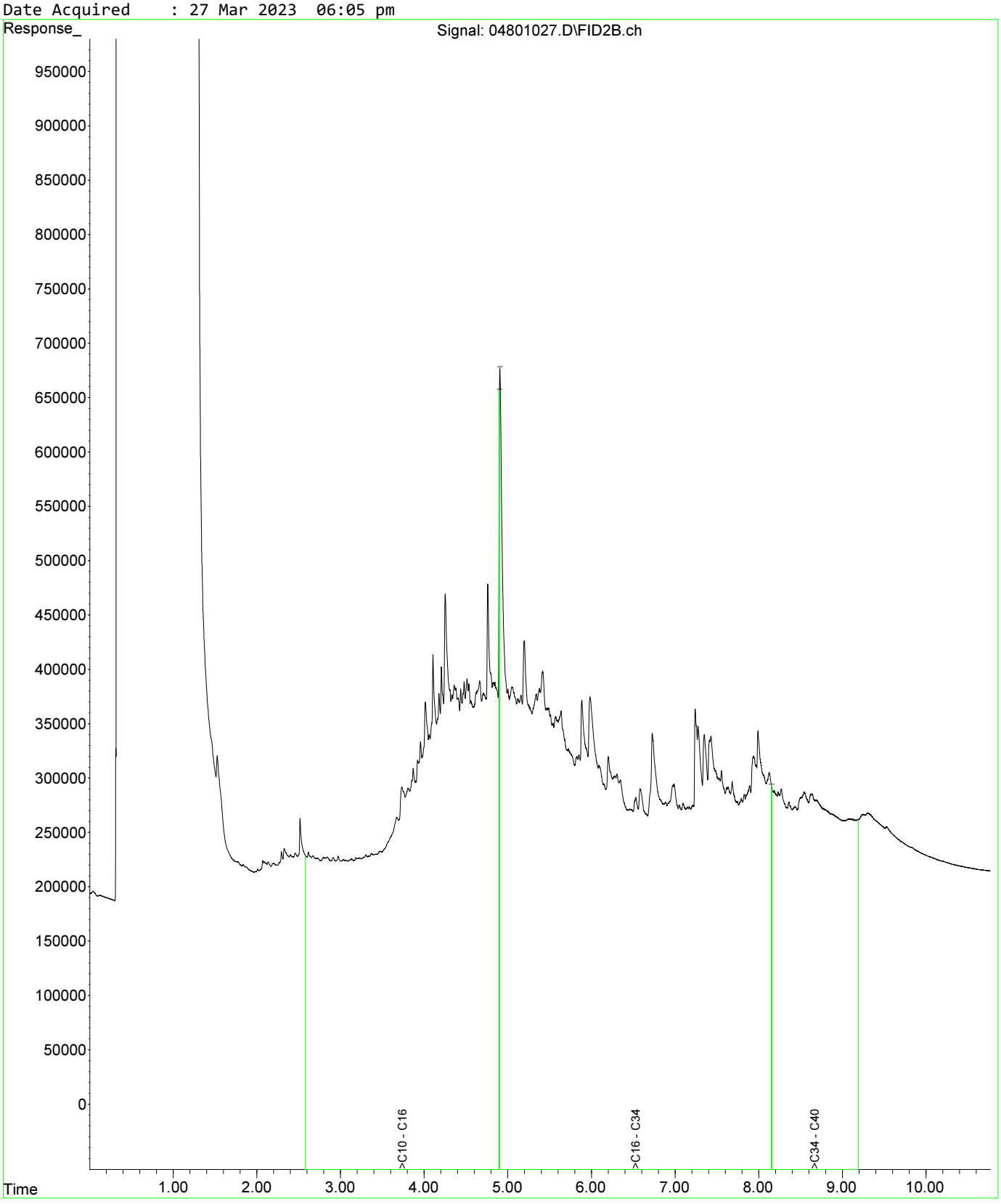

Fraction Scheme : NEPM DRAFT HIL
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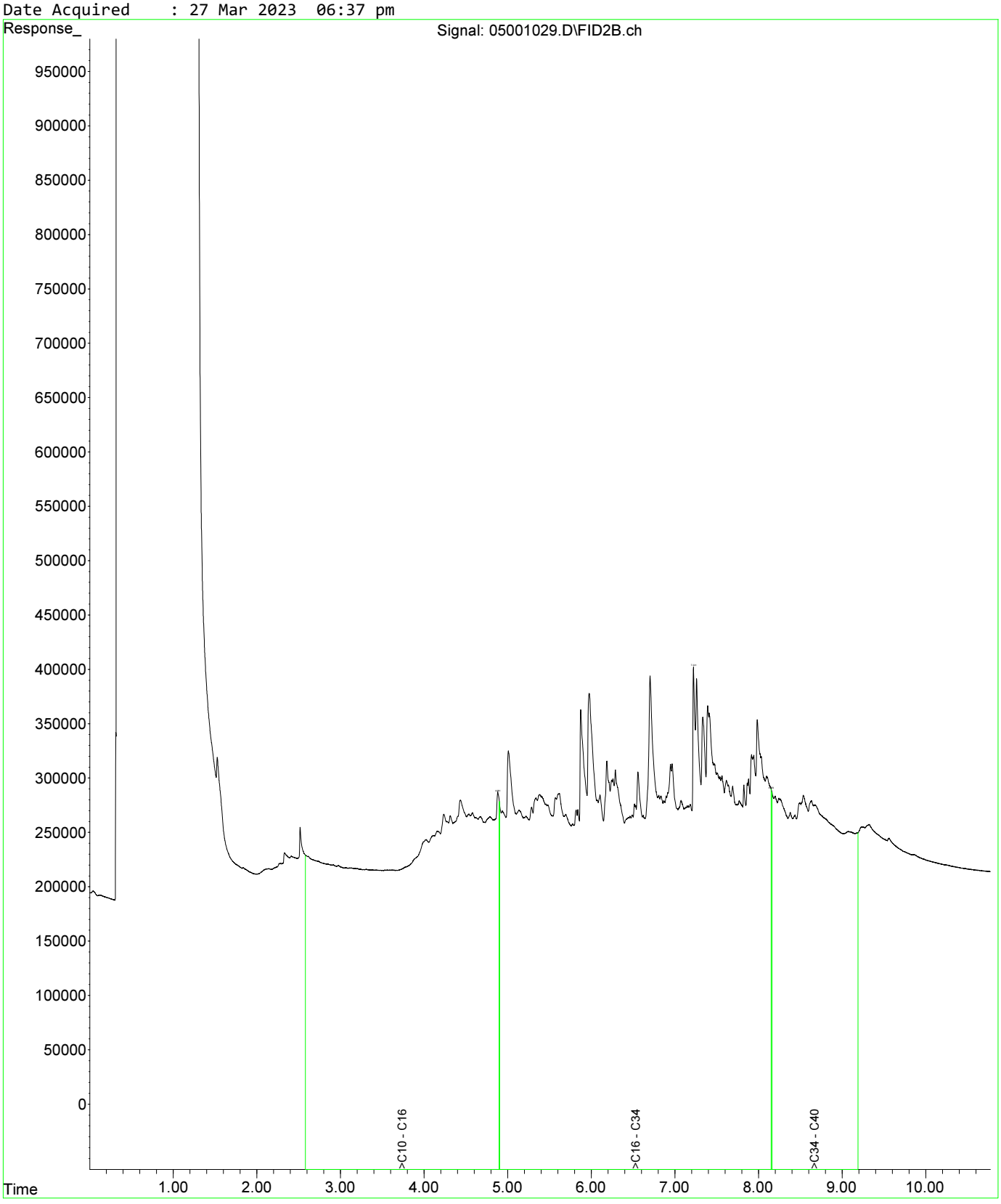

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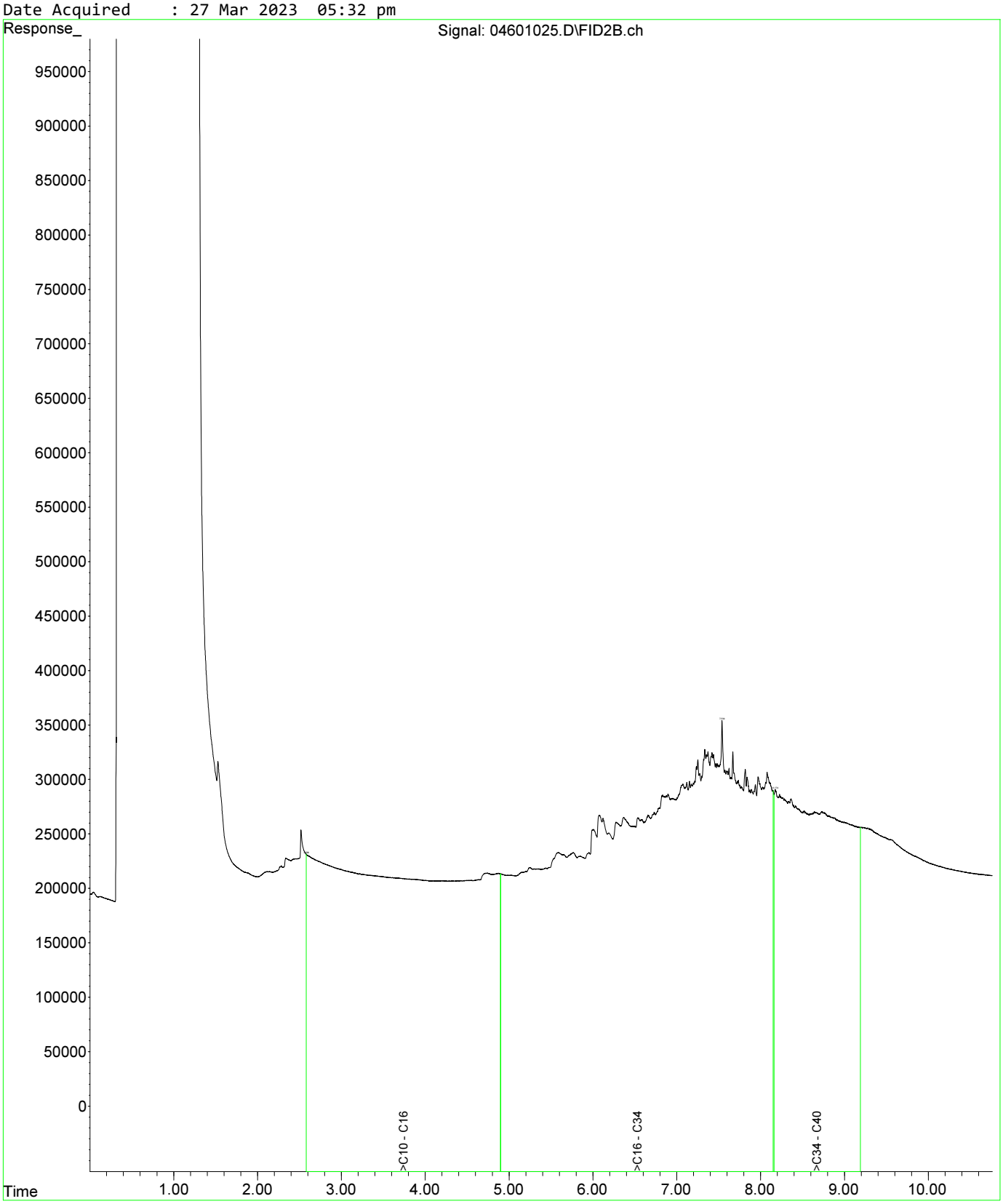

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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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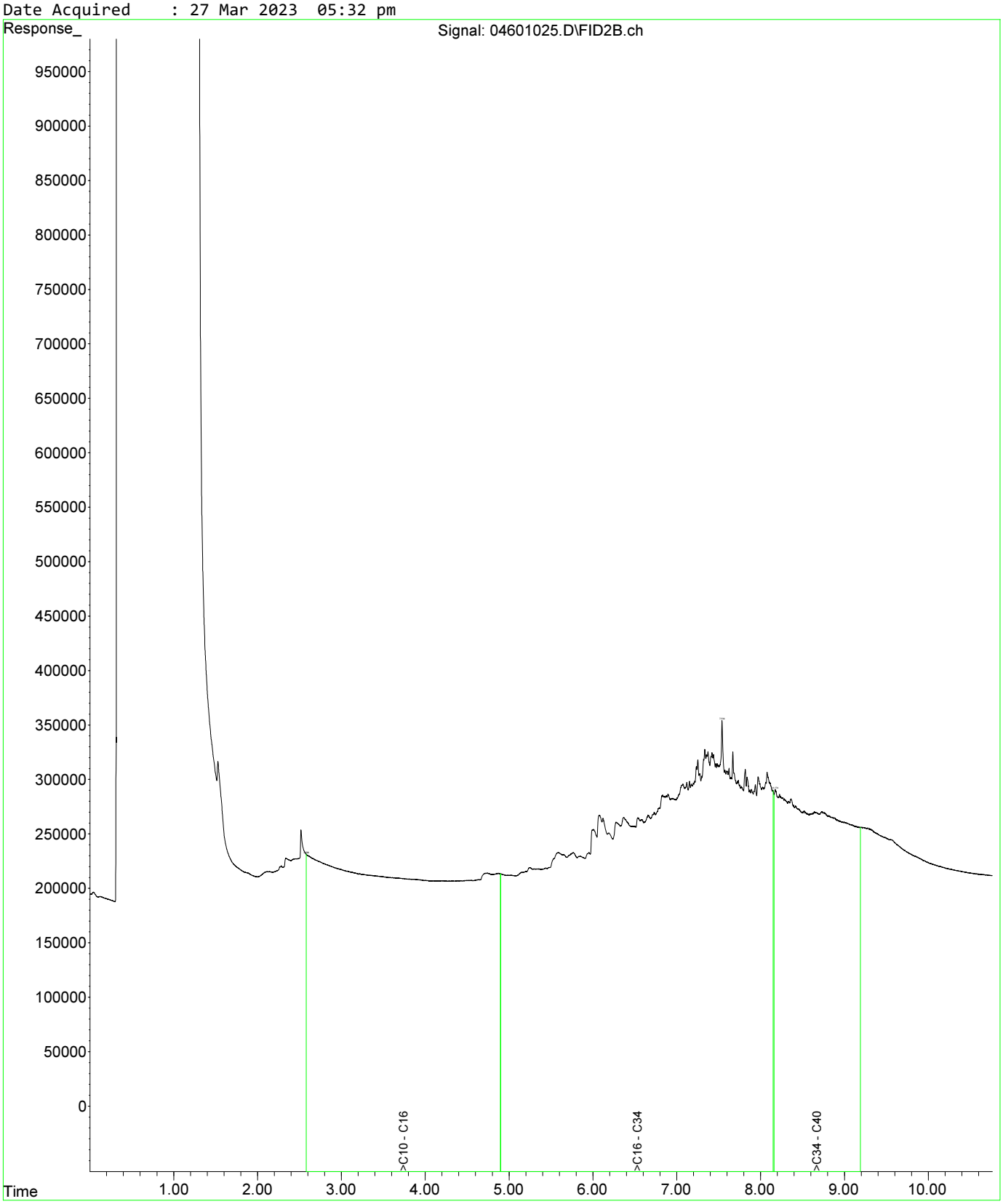

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Sample ID : UST_SP_1.0-1.5_03
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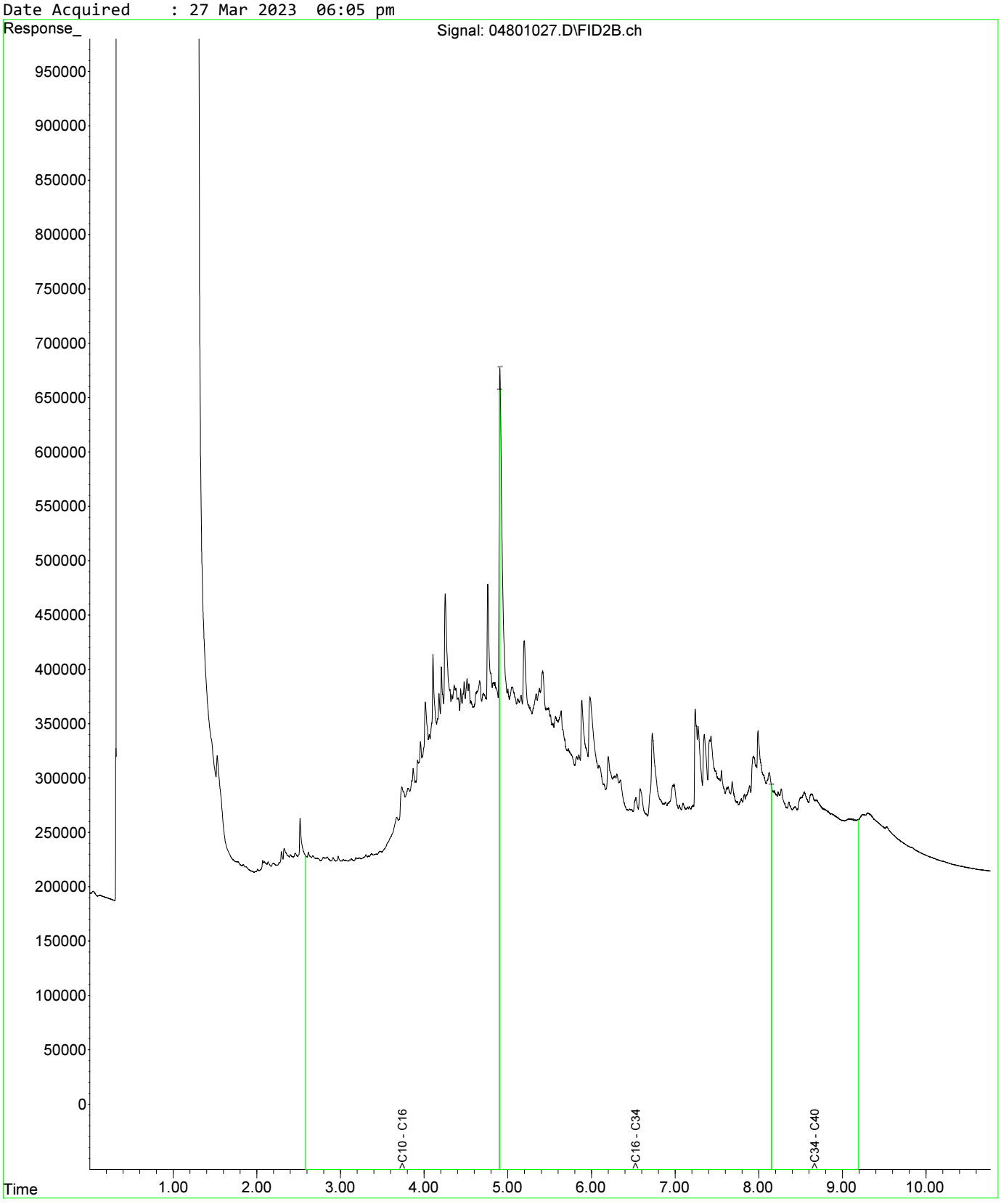

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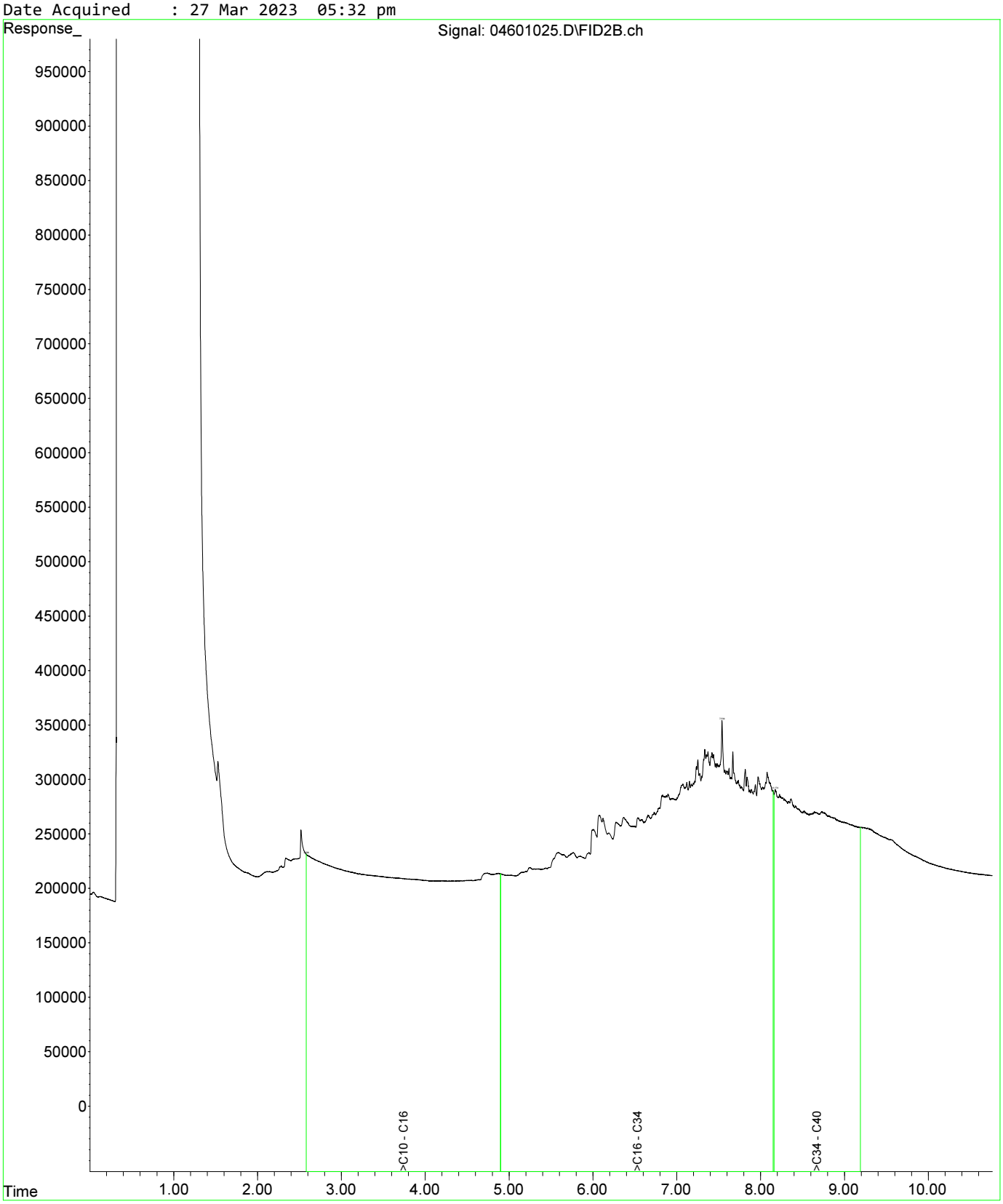

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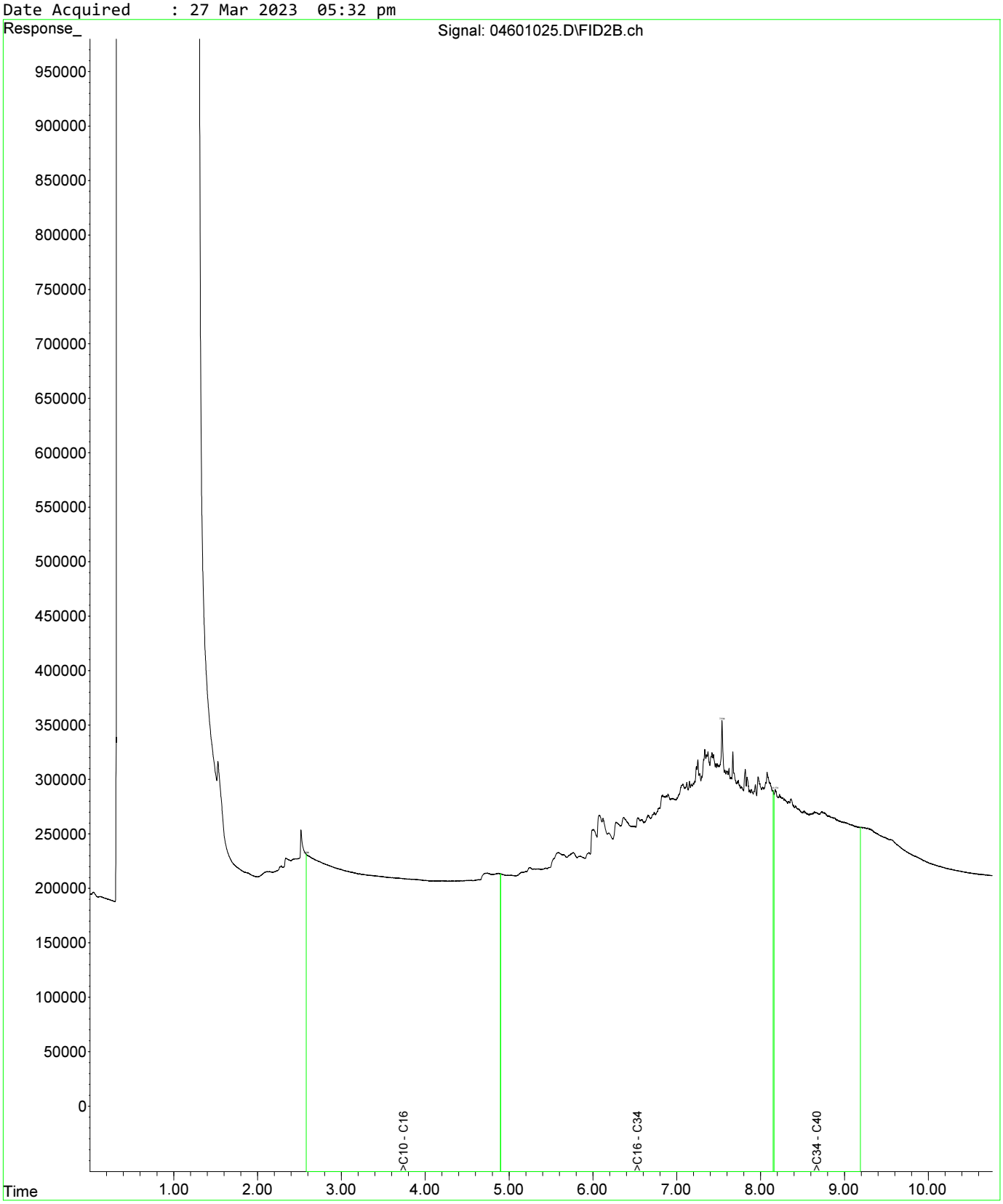

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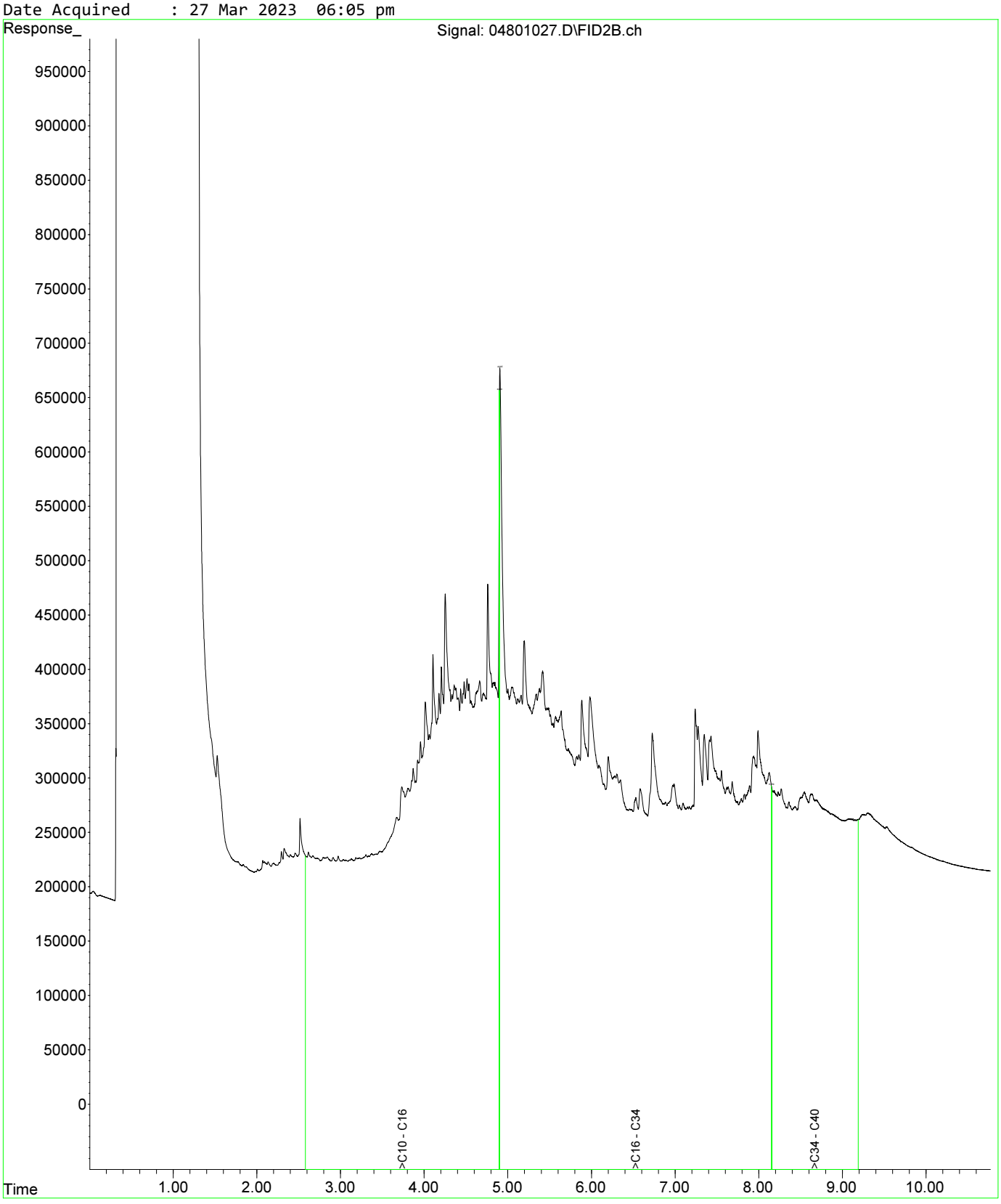

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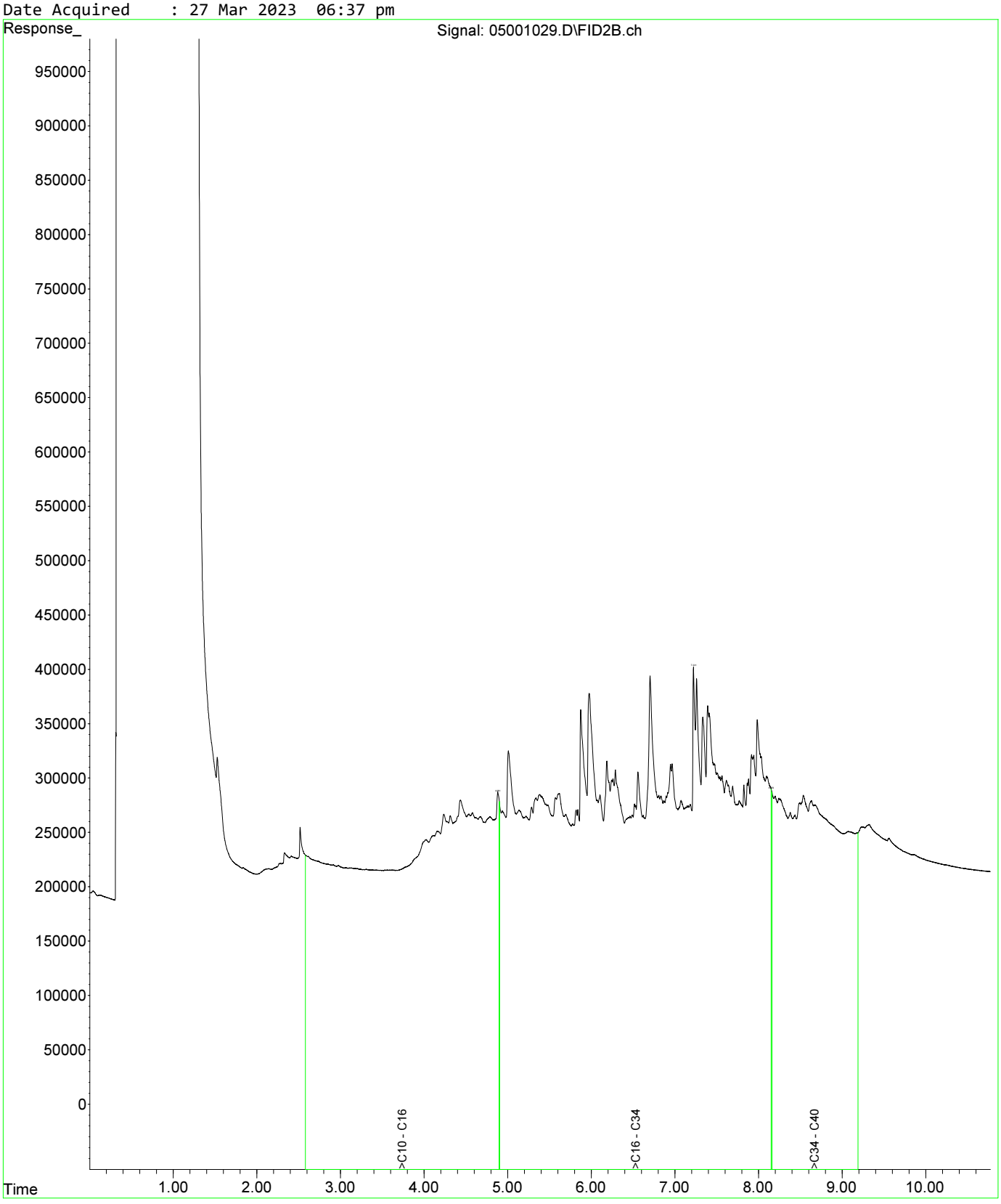

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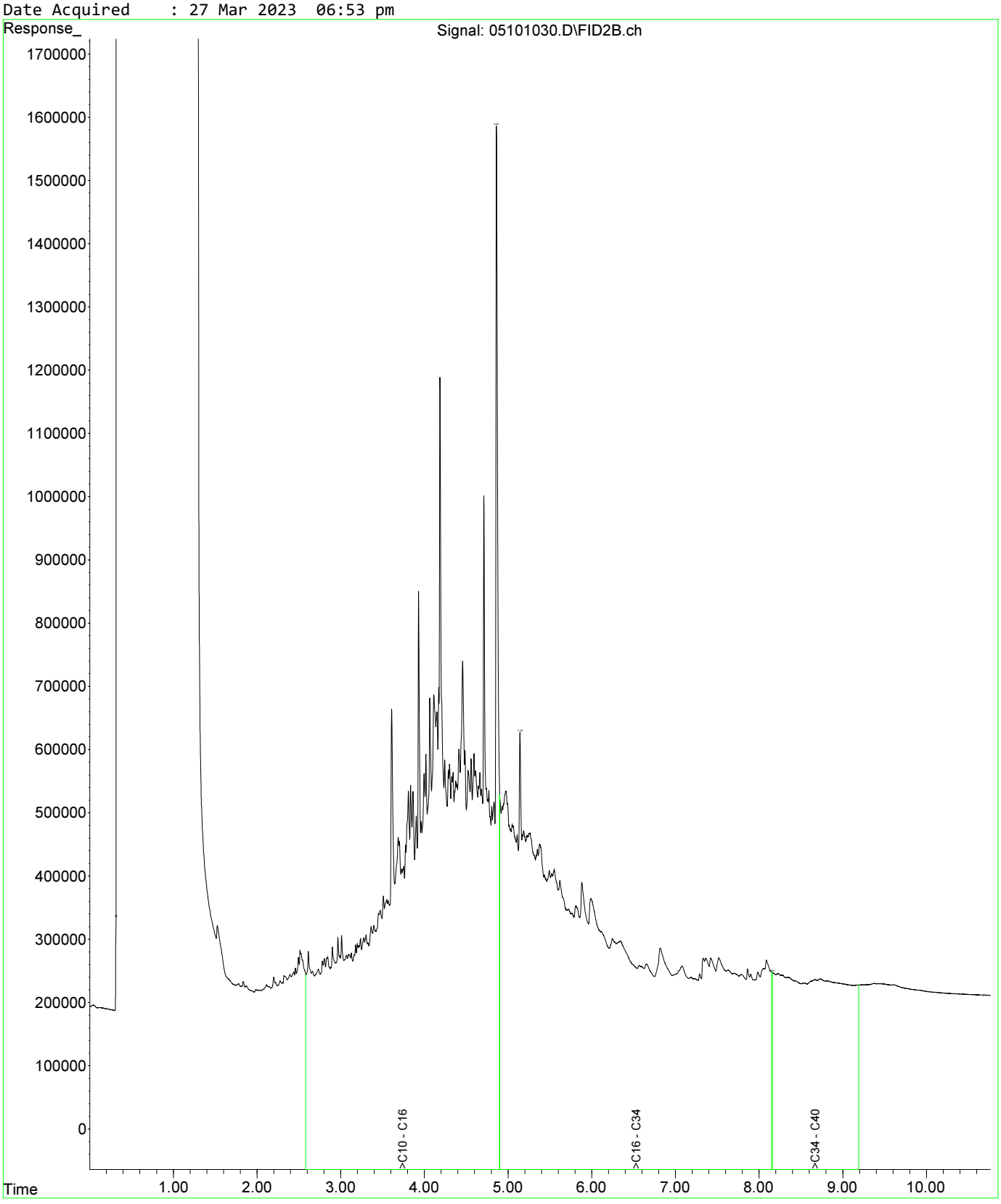

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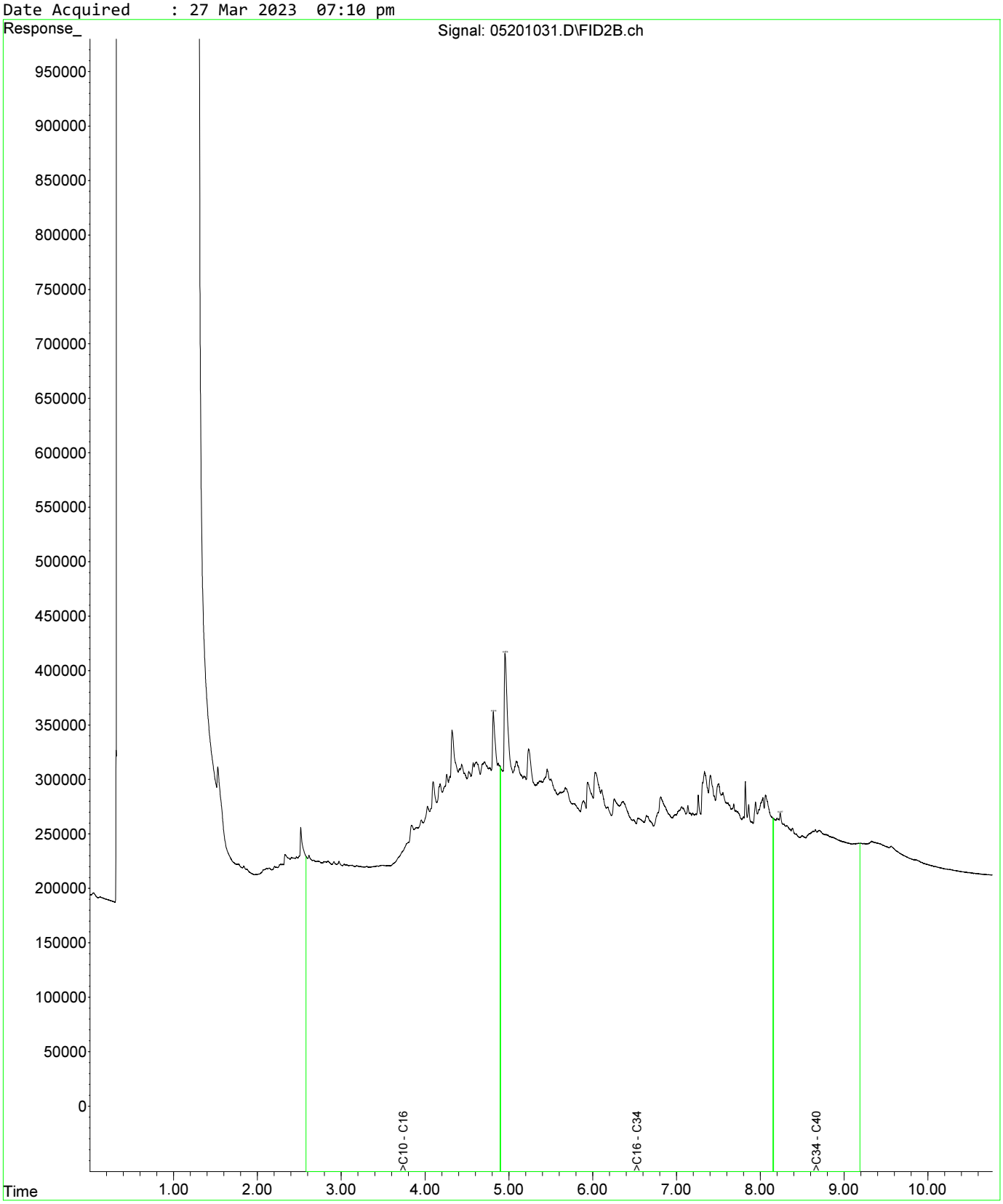

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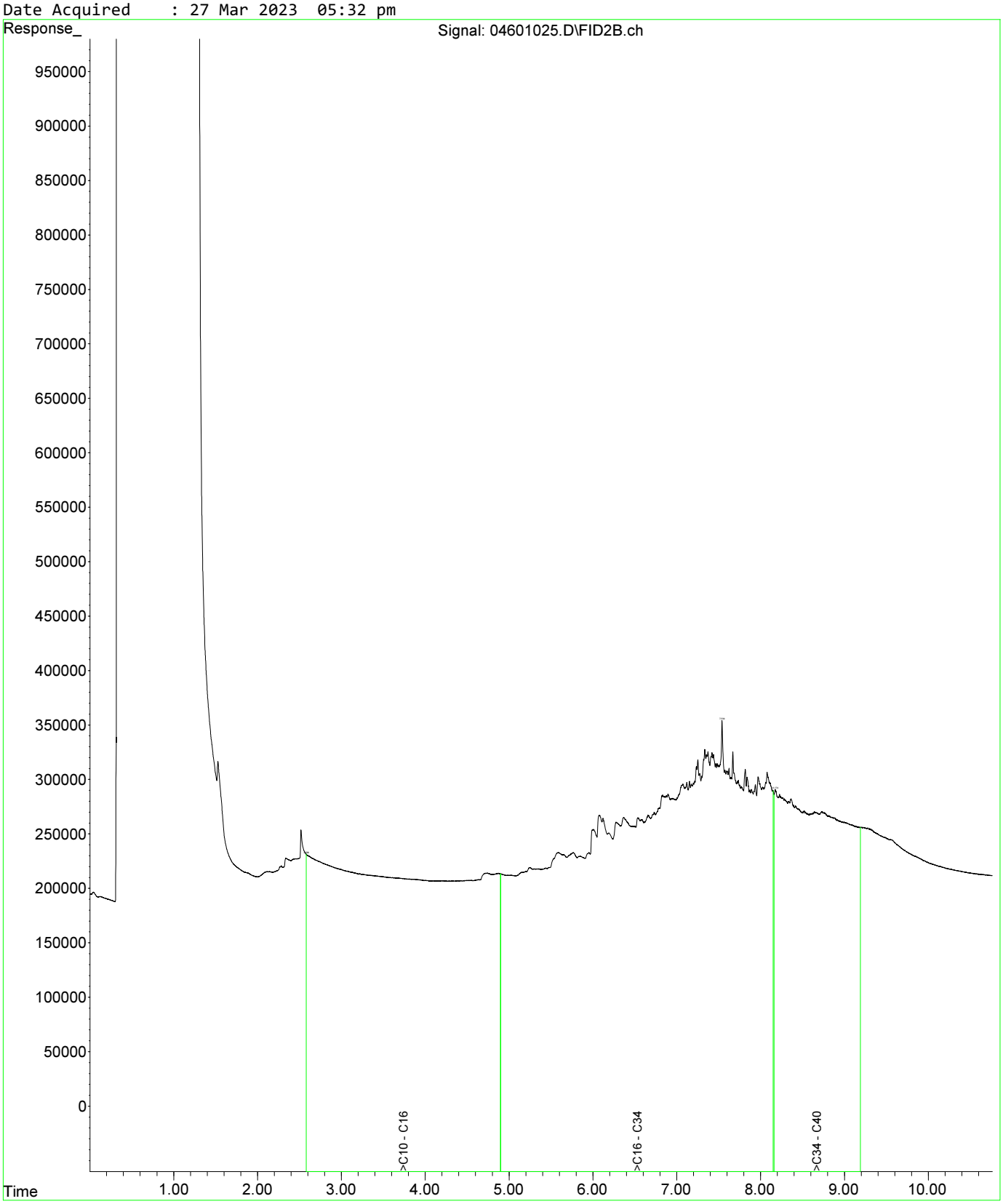

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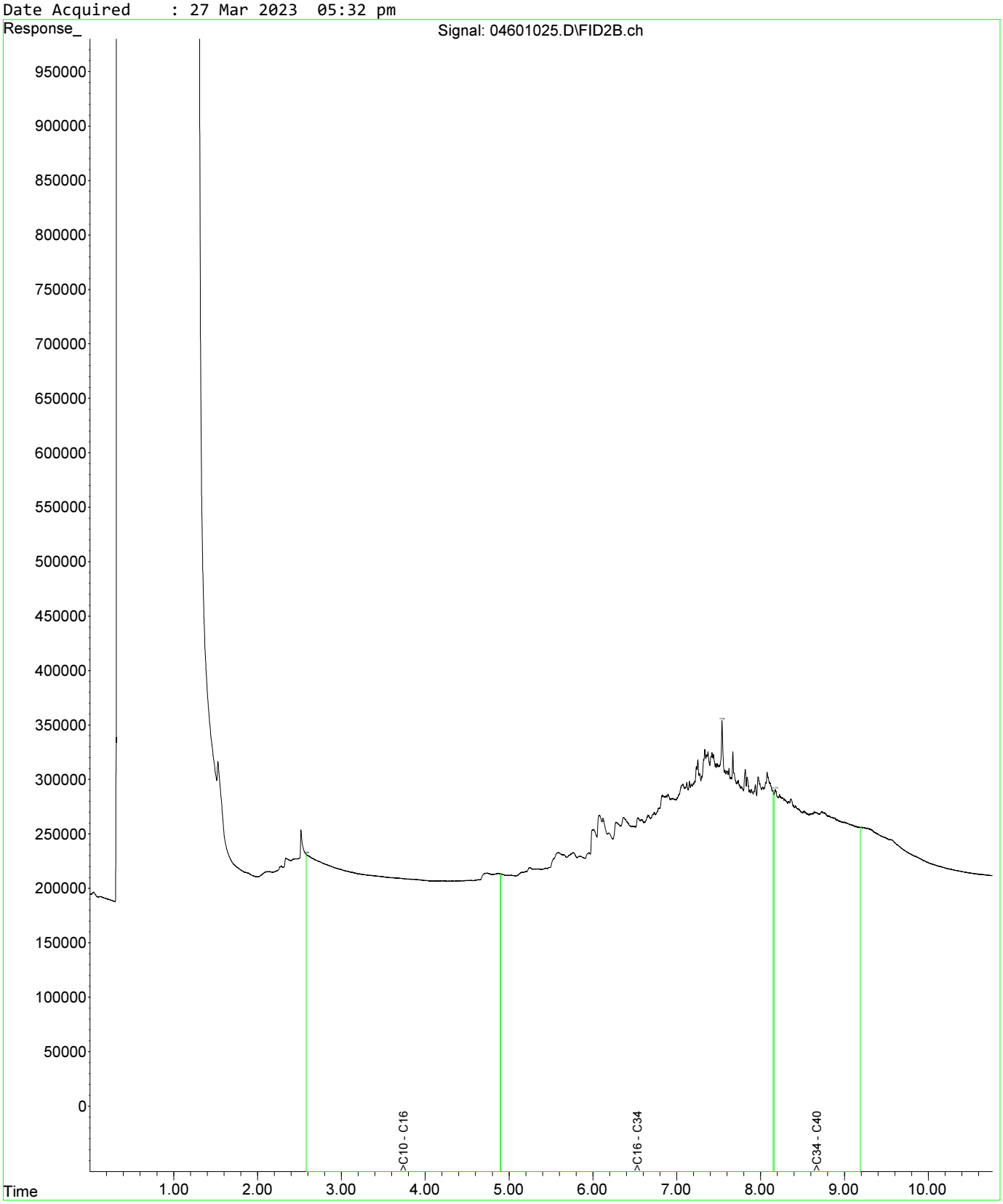

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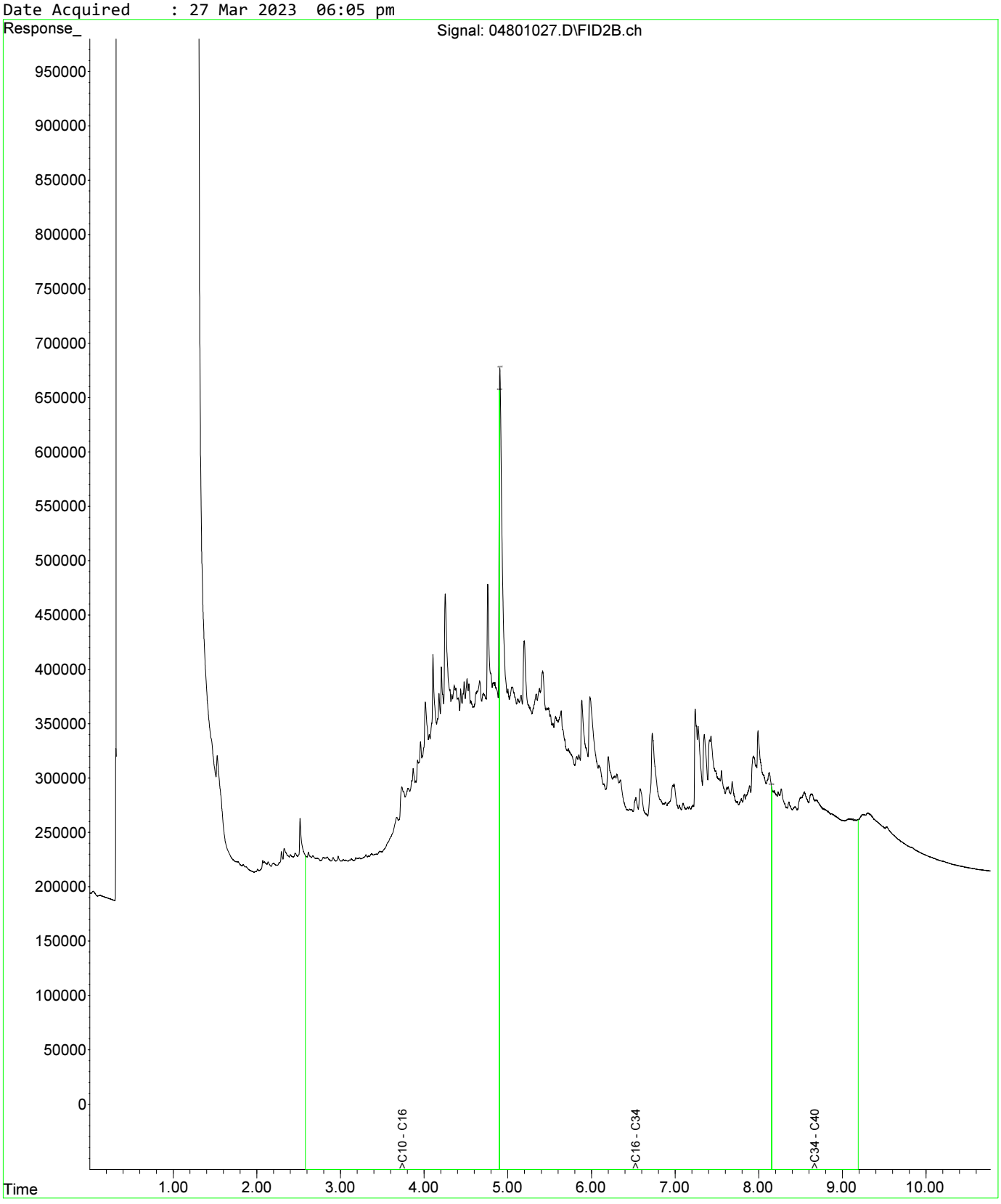

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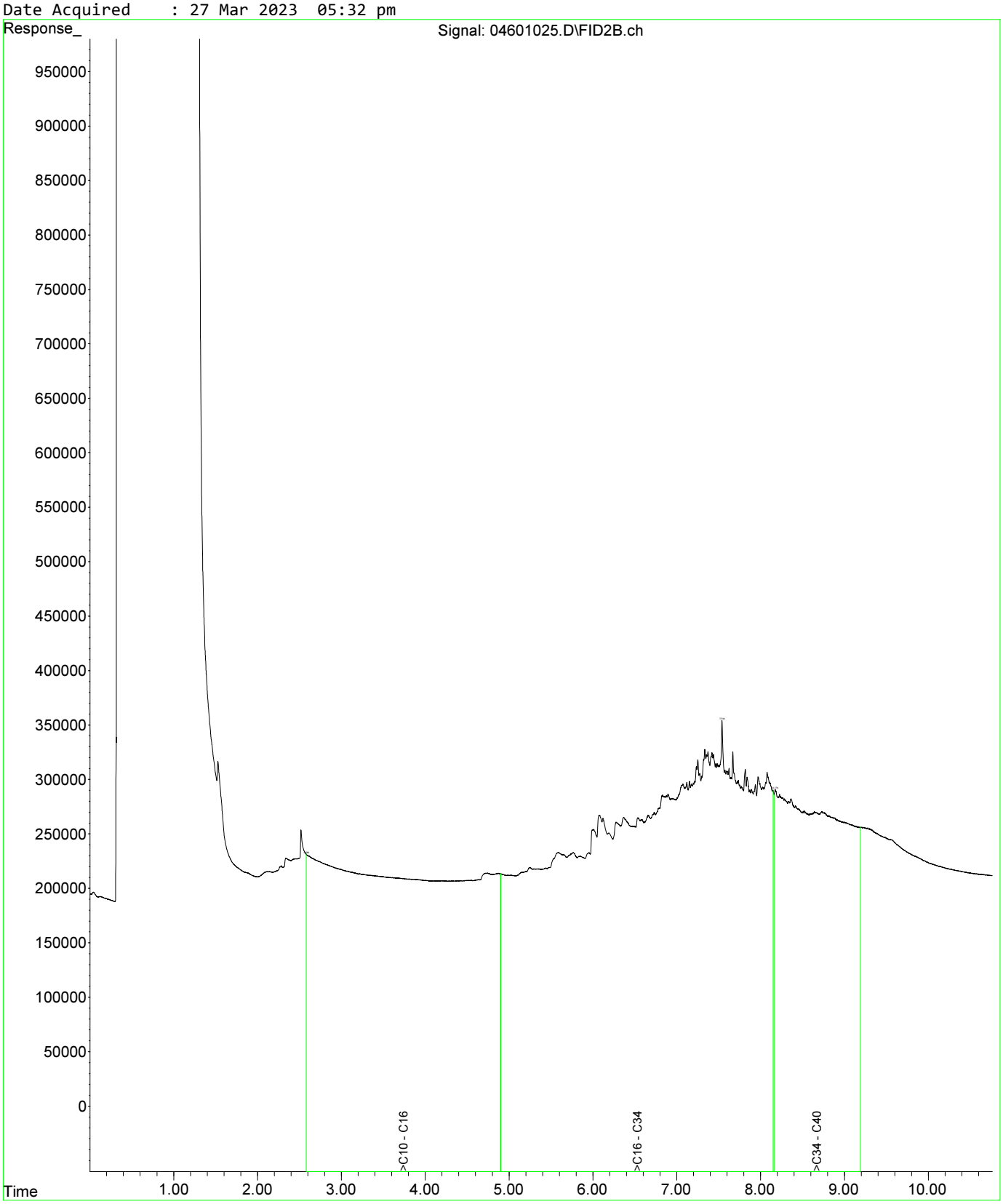

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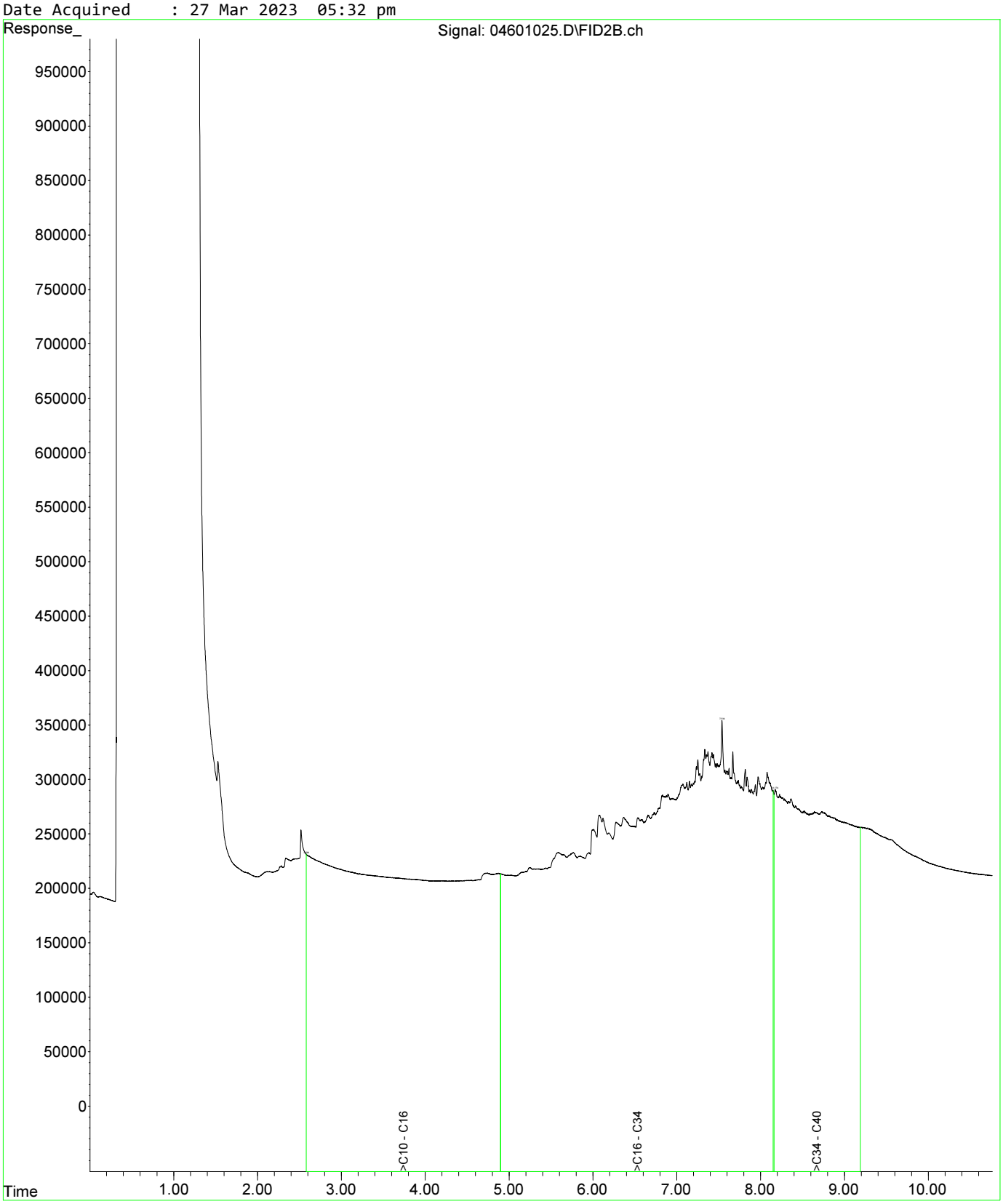

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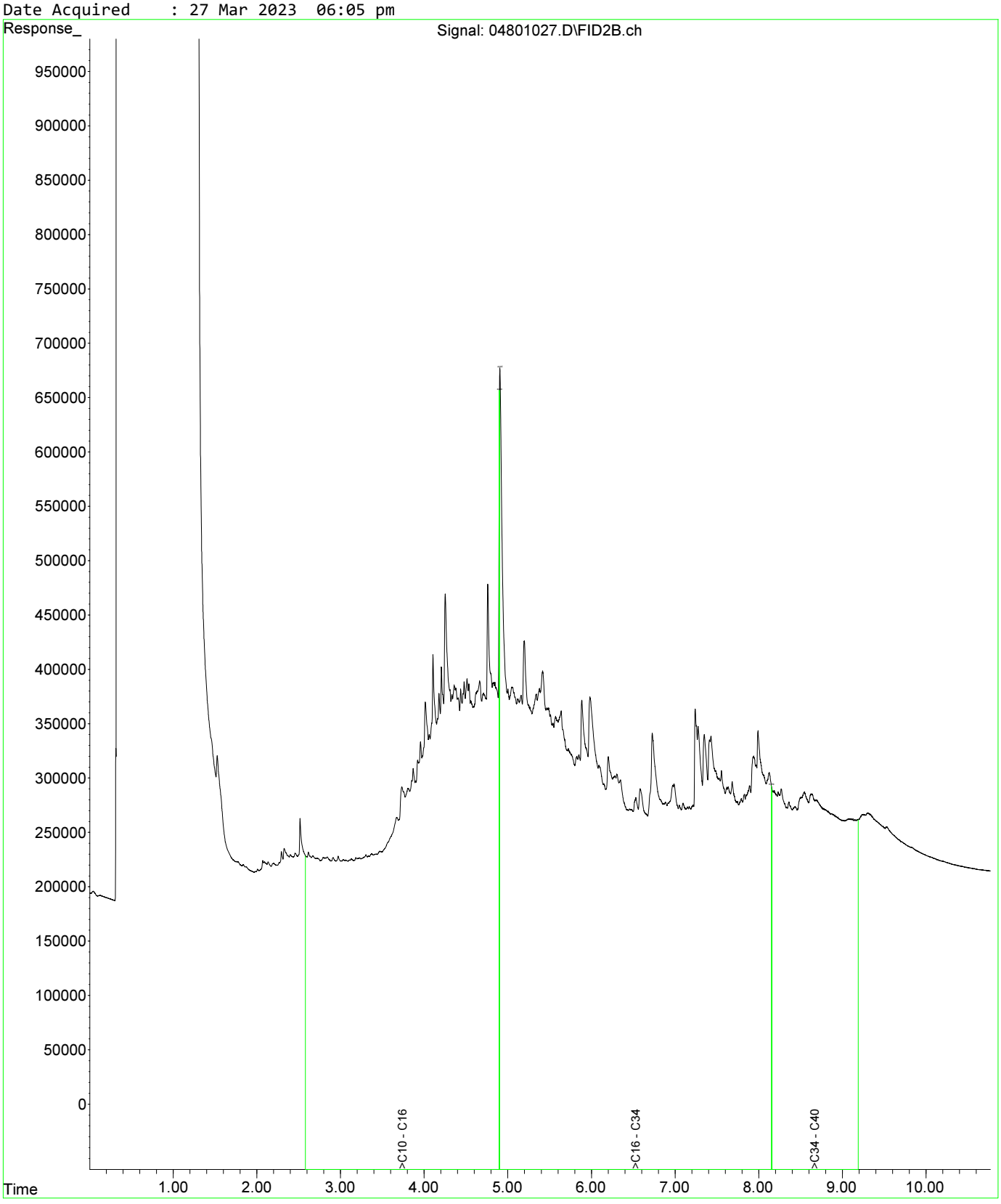

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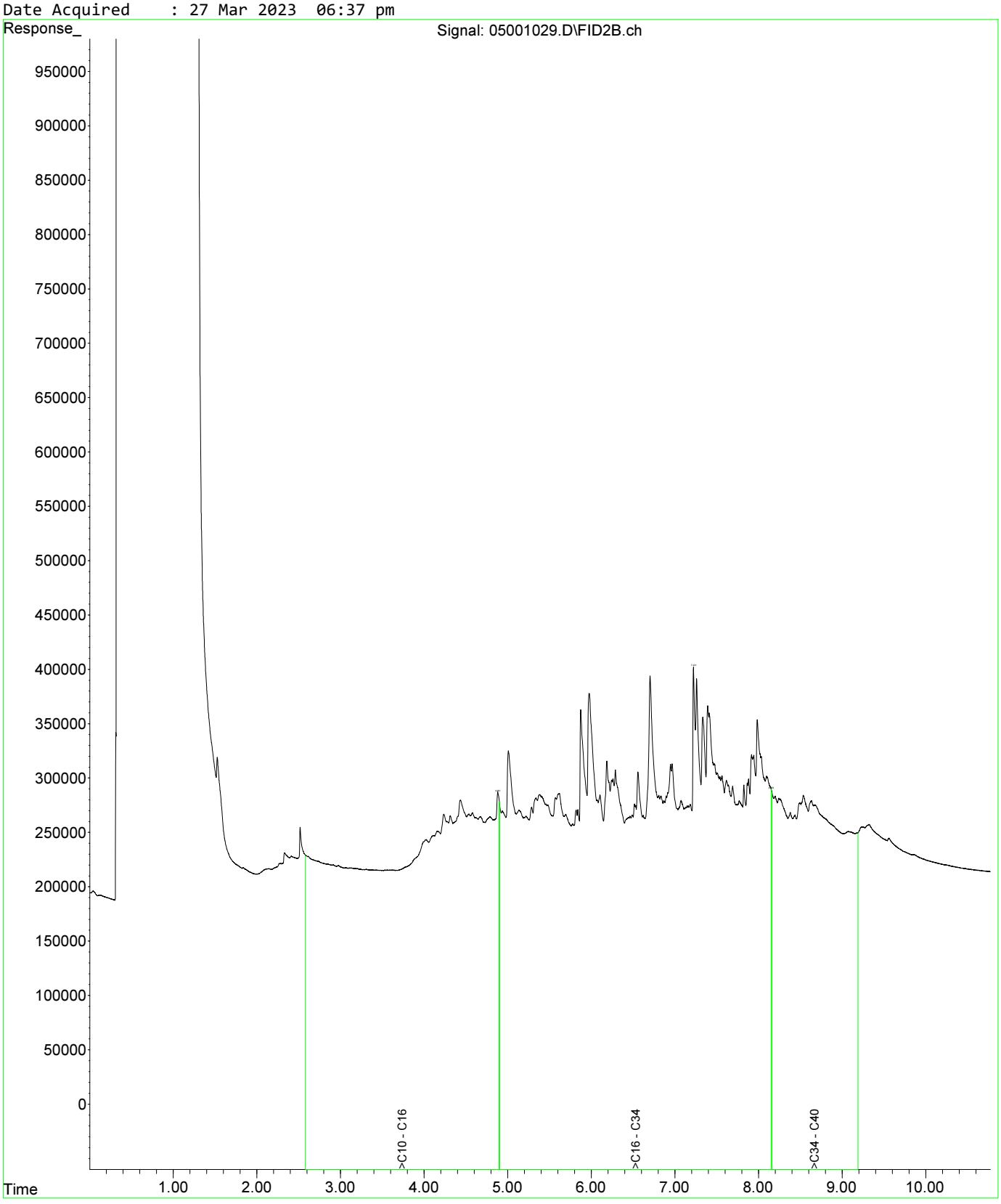

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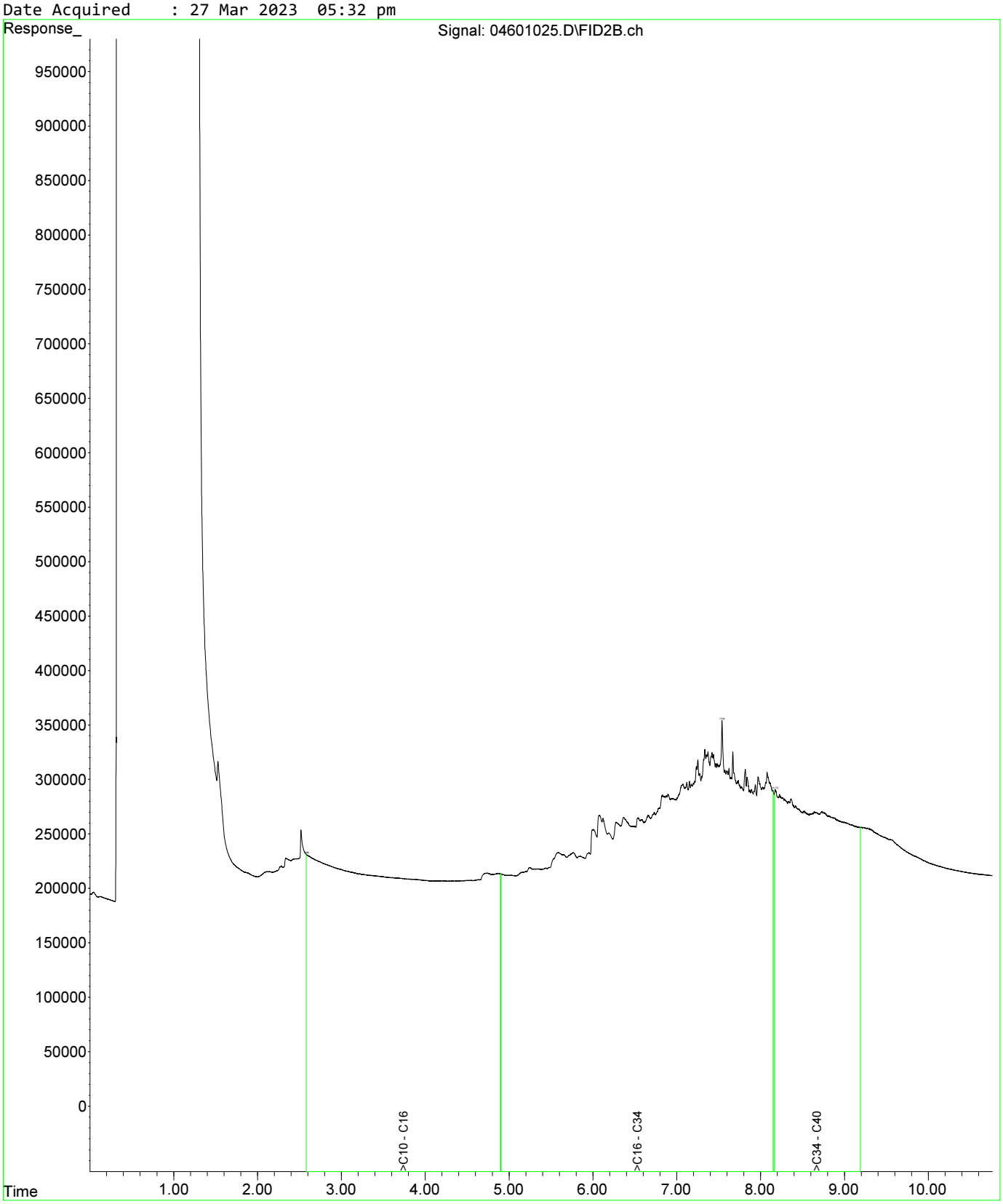

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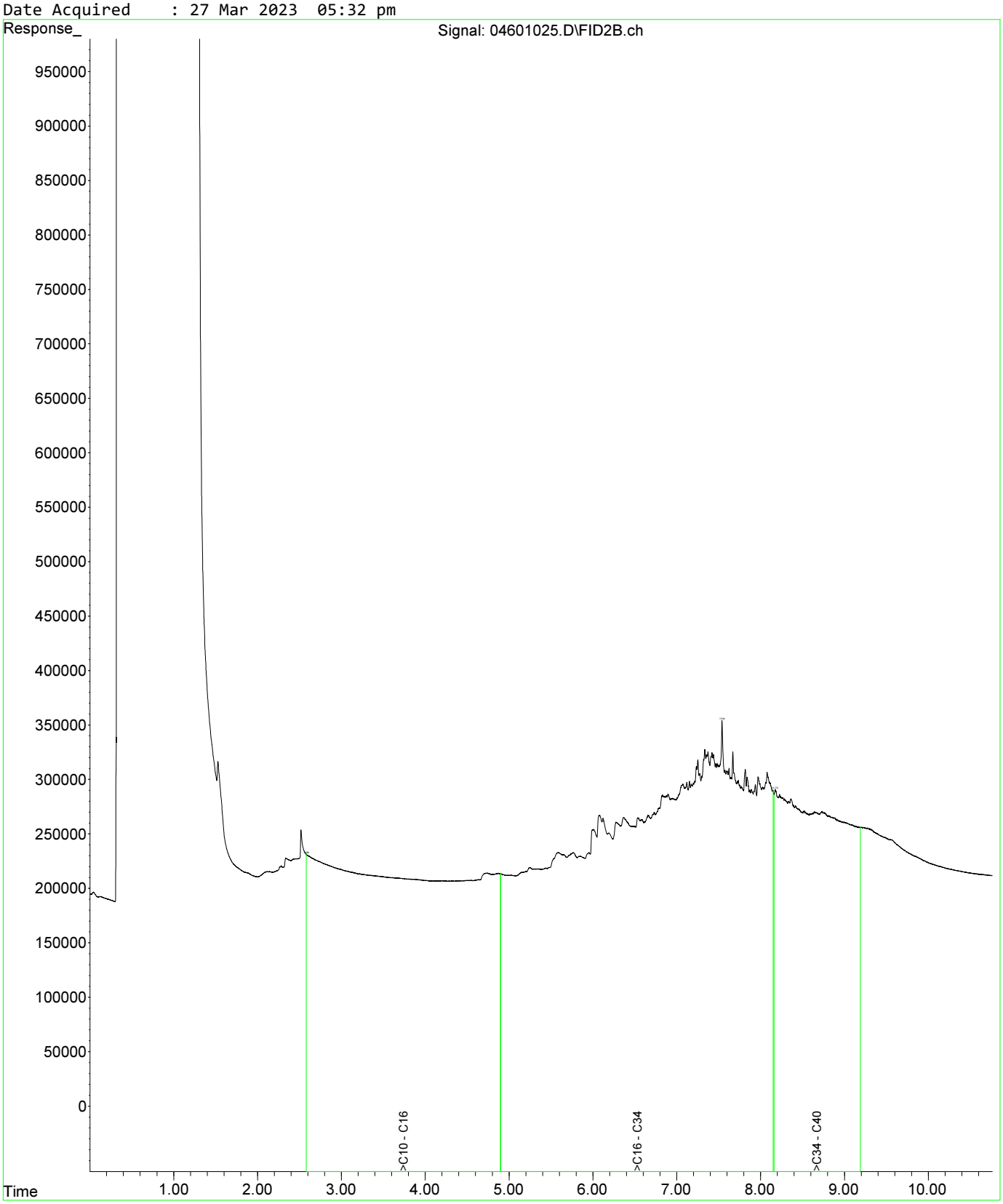

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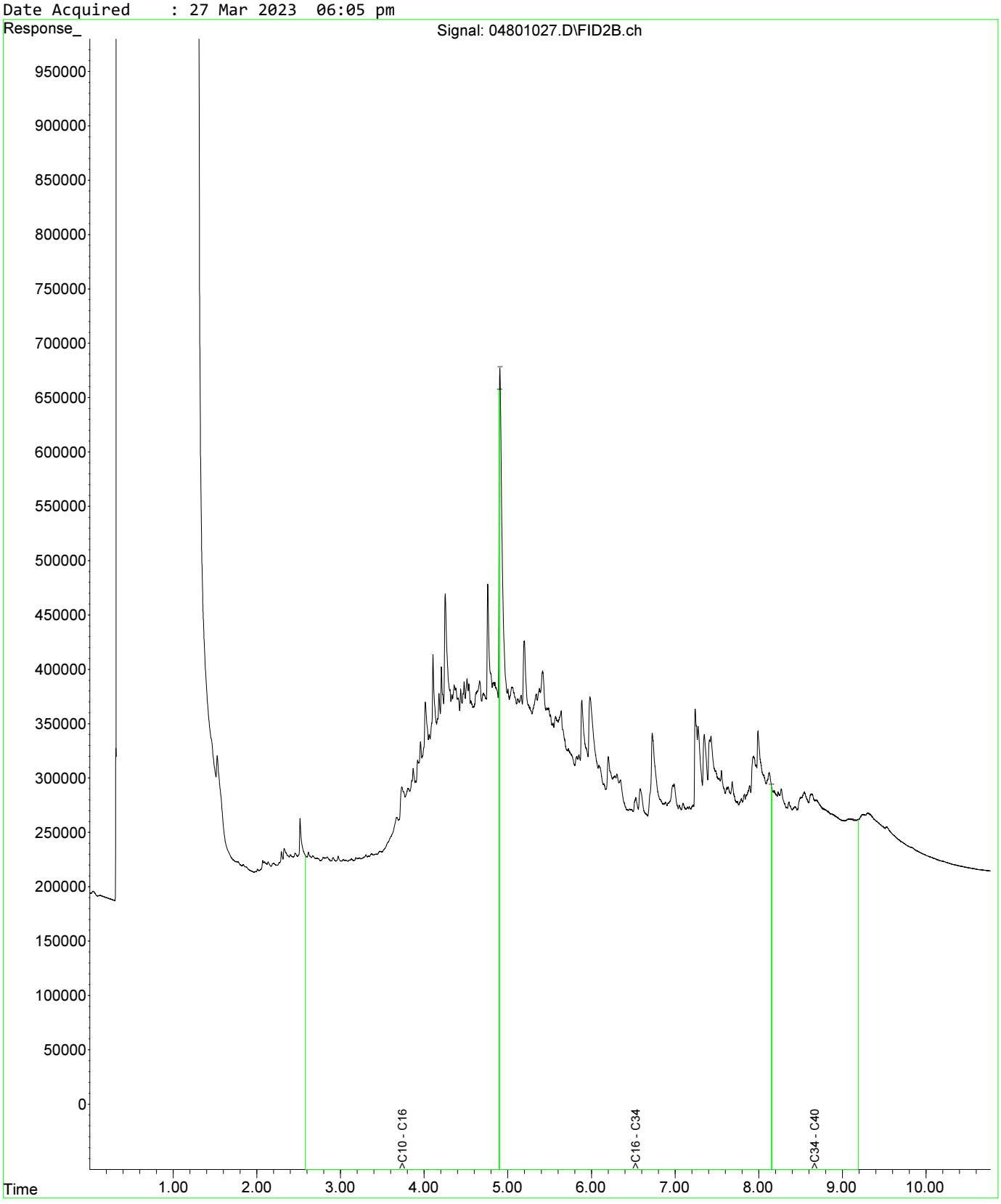

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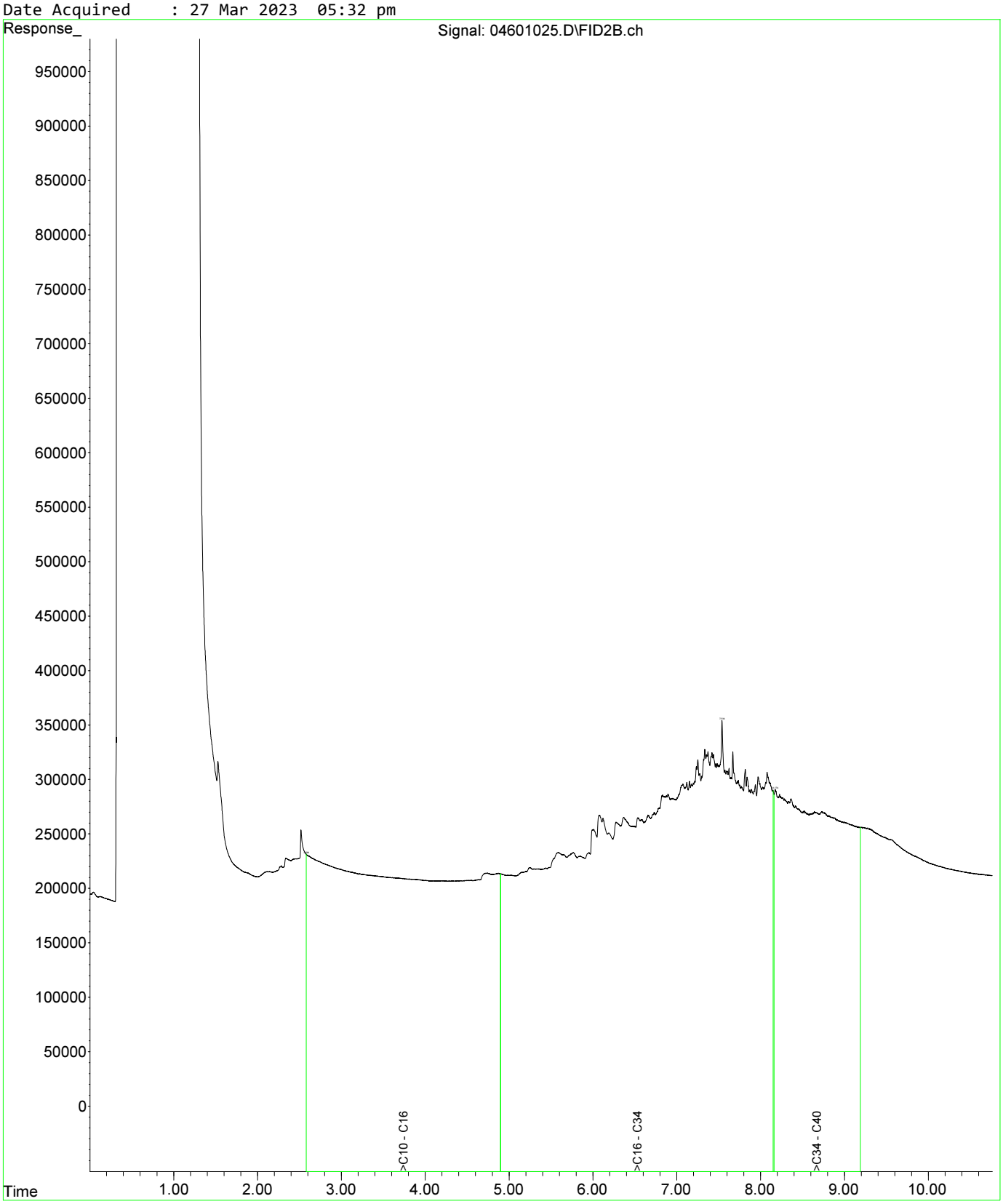

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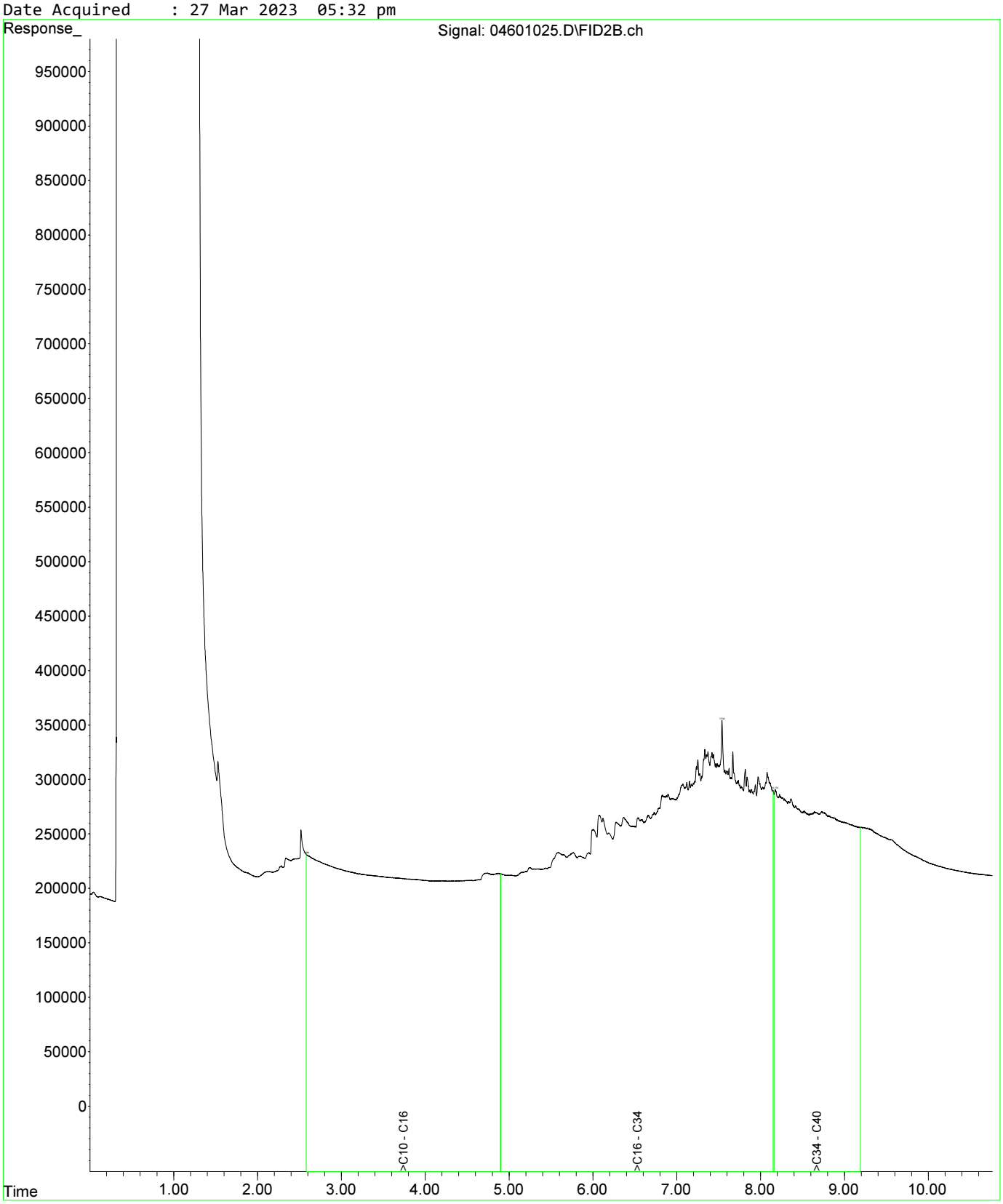

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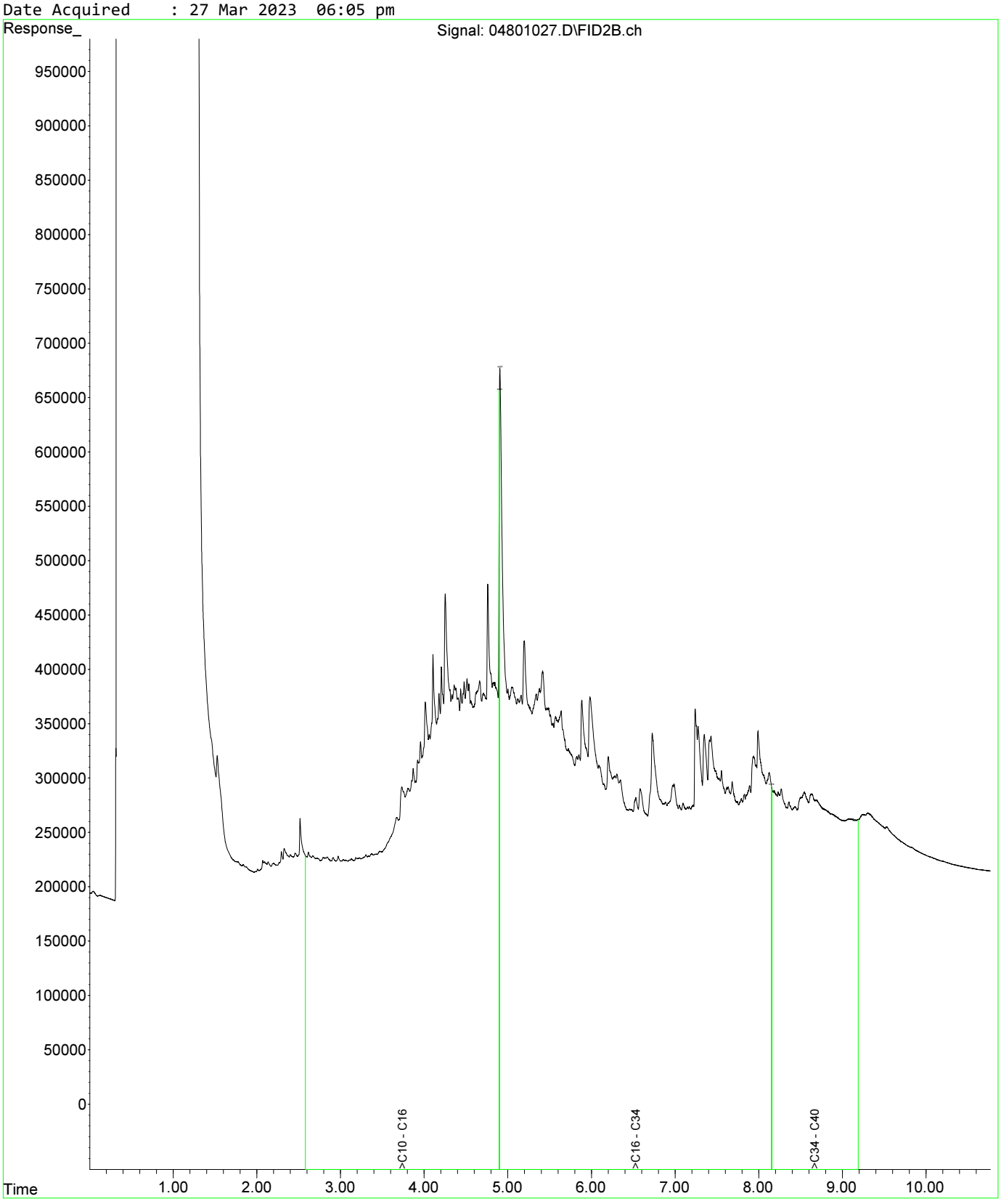

Fraction Scheme : NEPM DRAFT HIL
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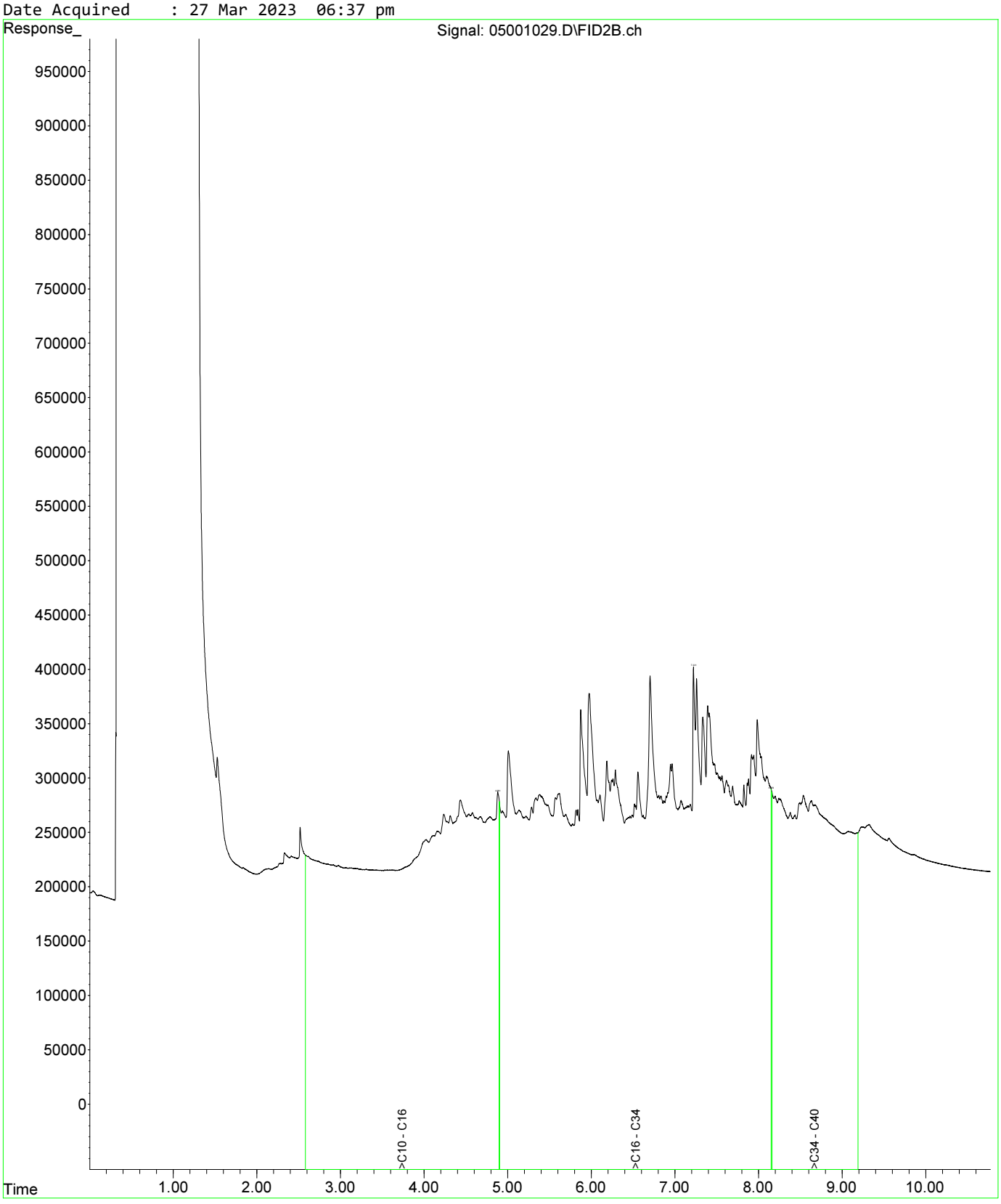

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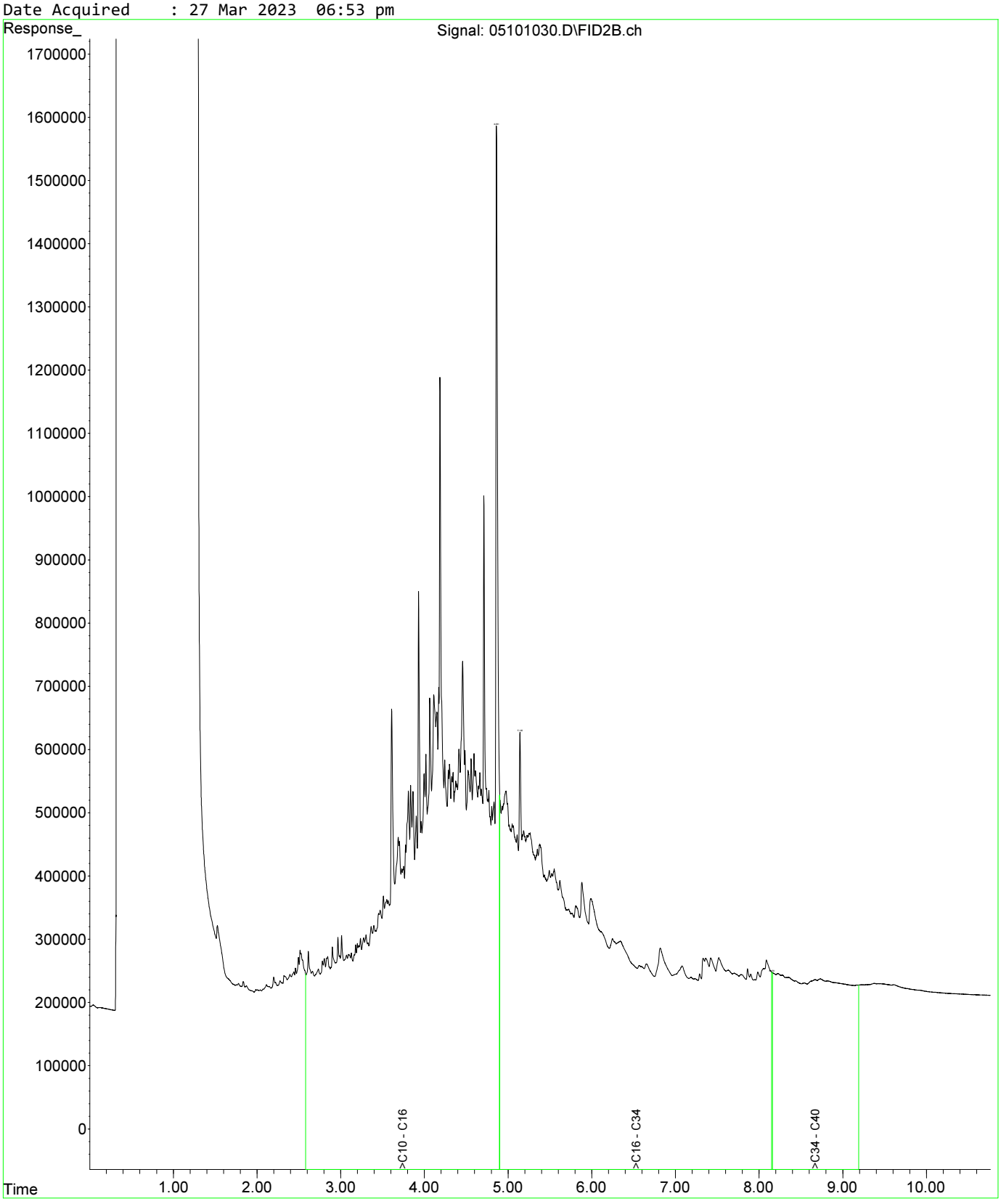

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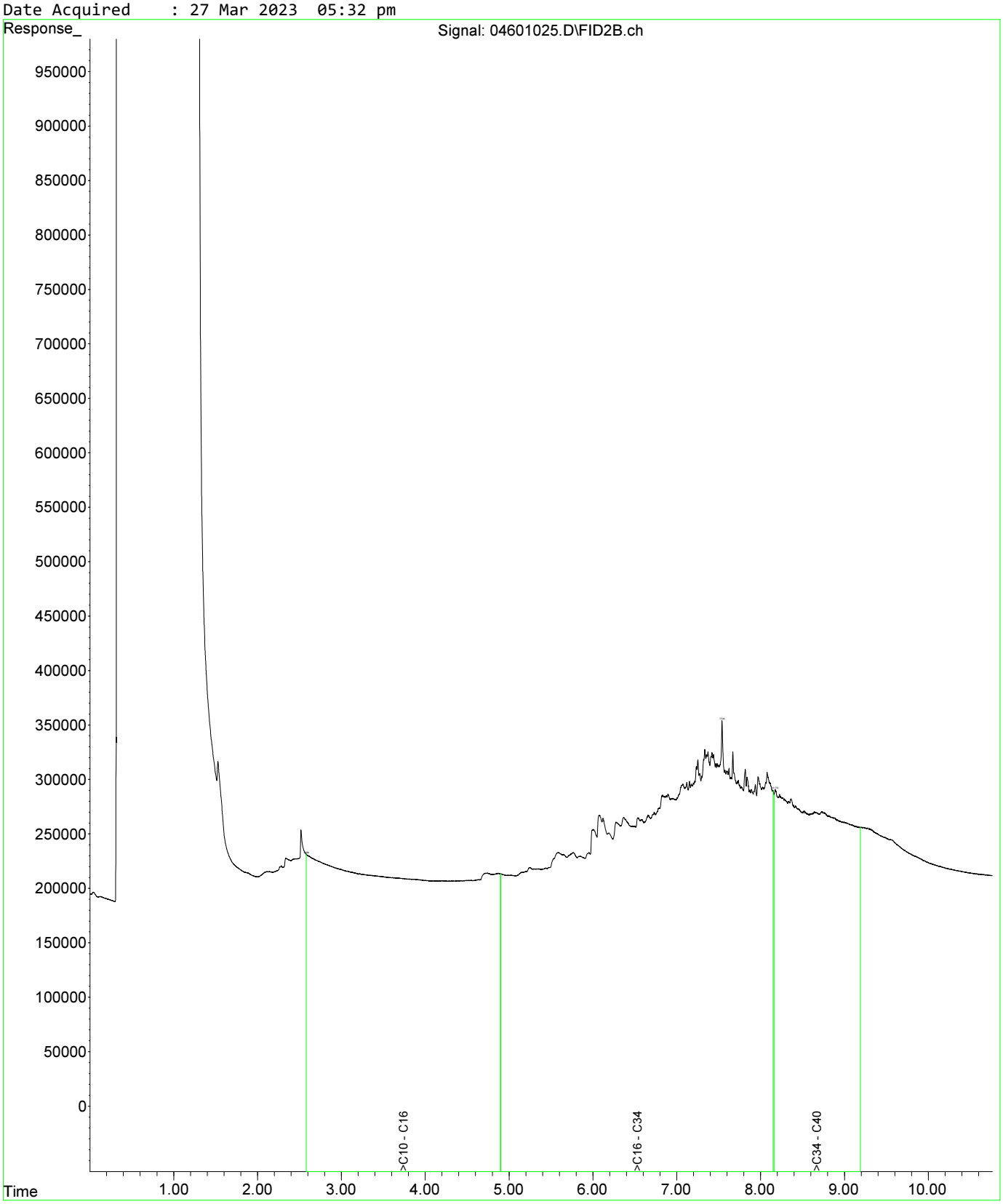

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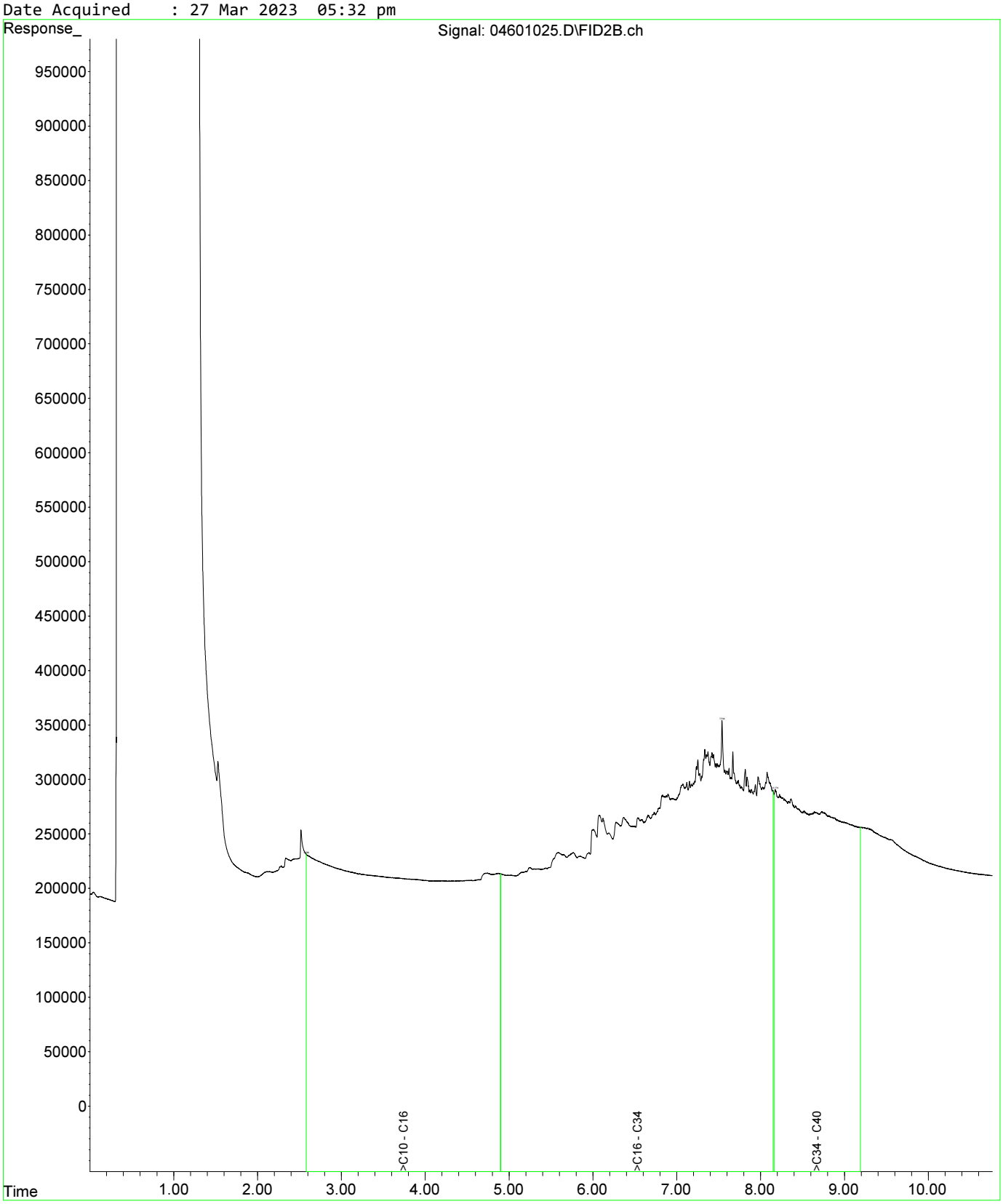

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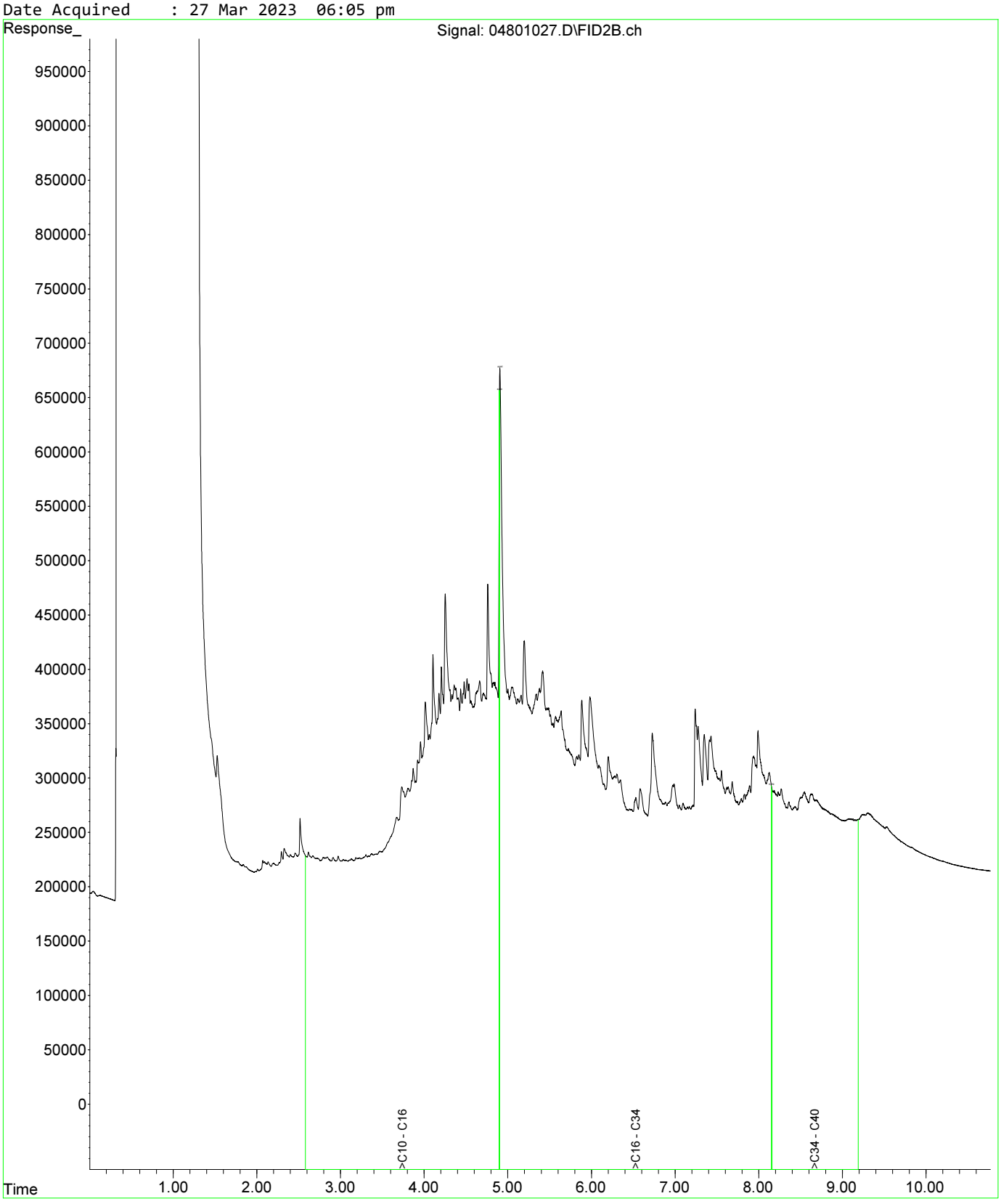

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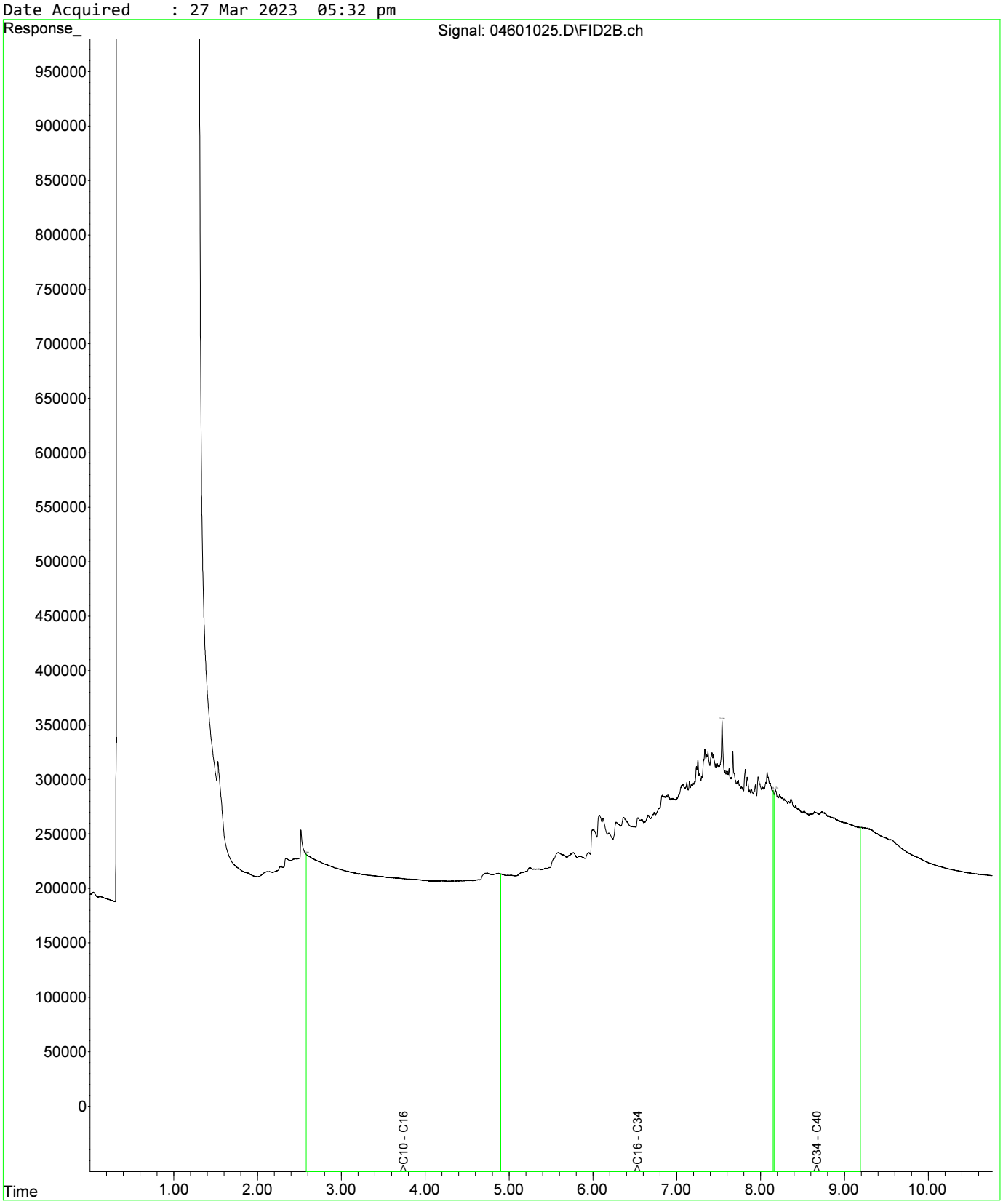

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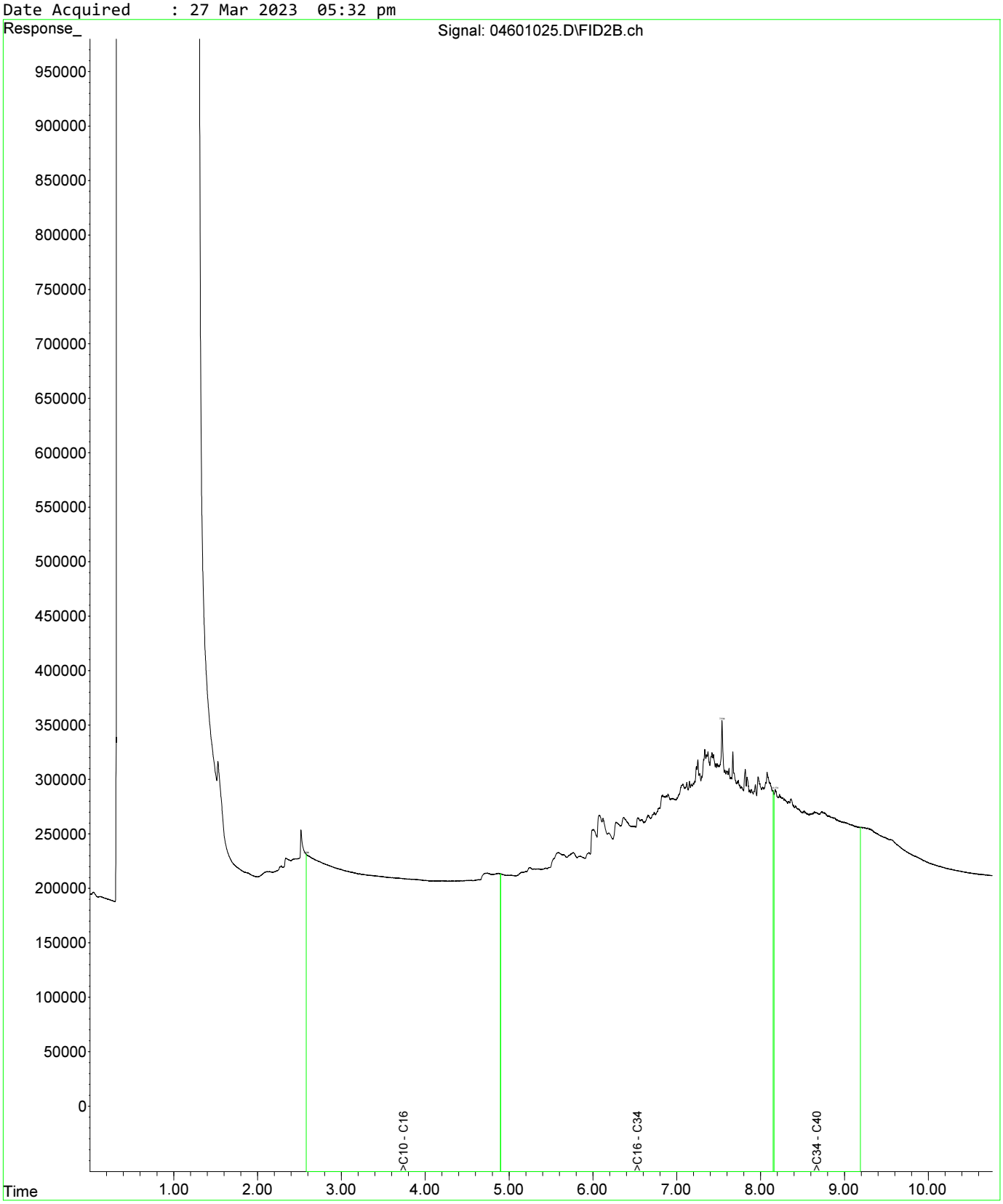

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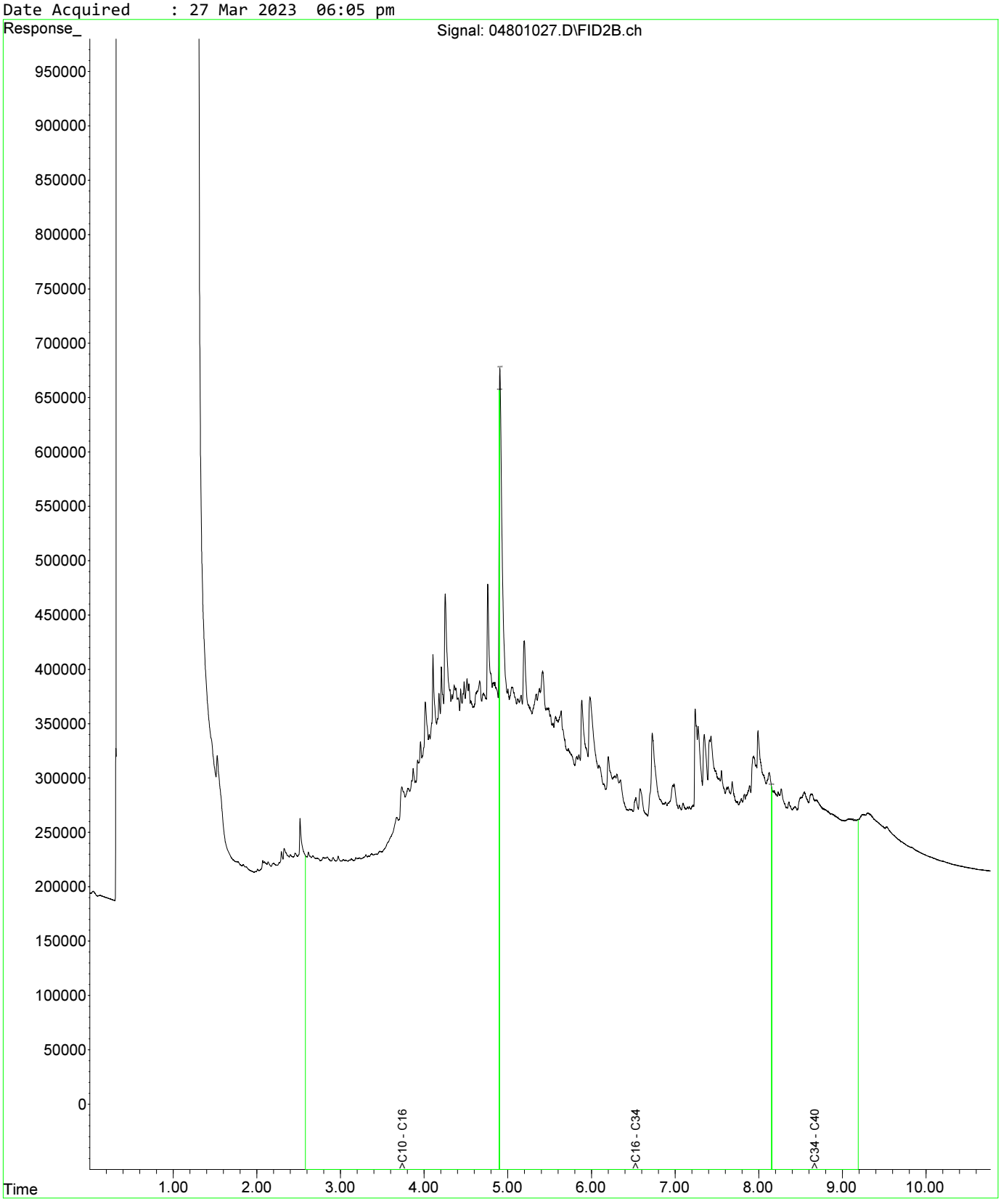

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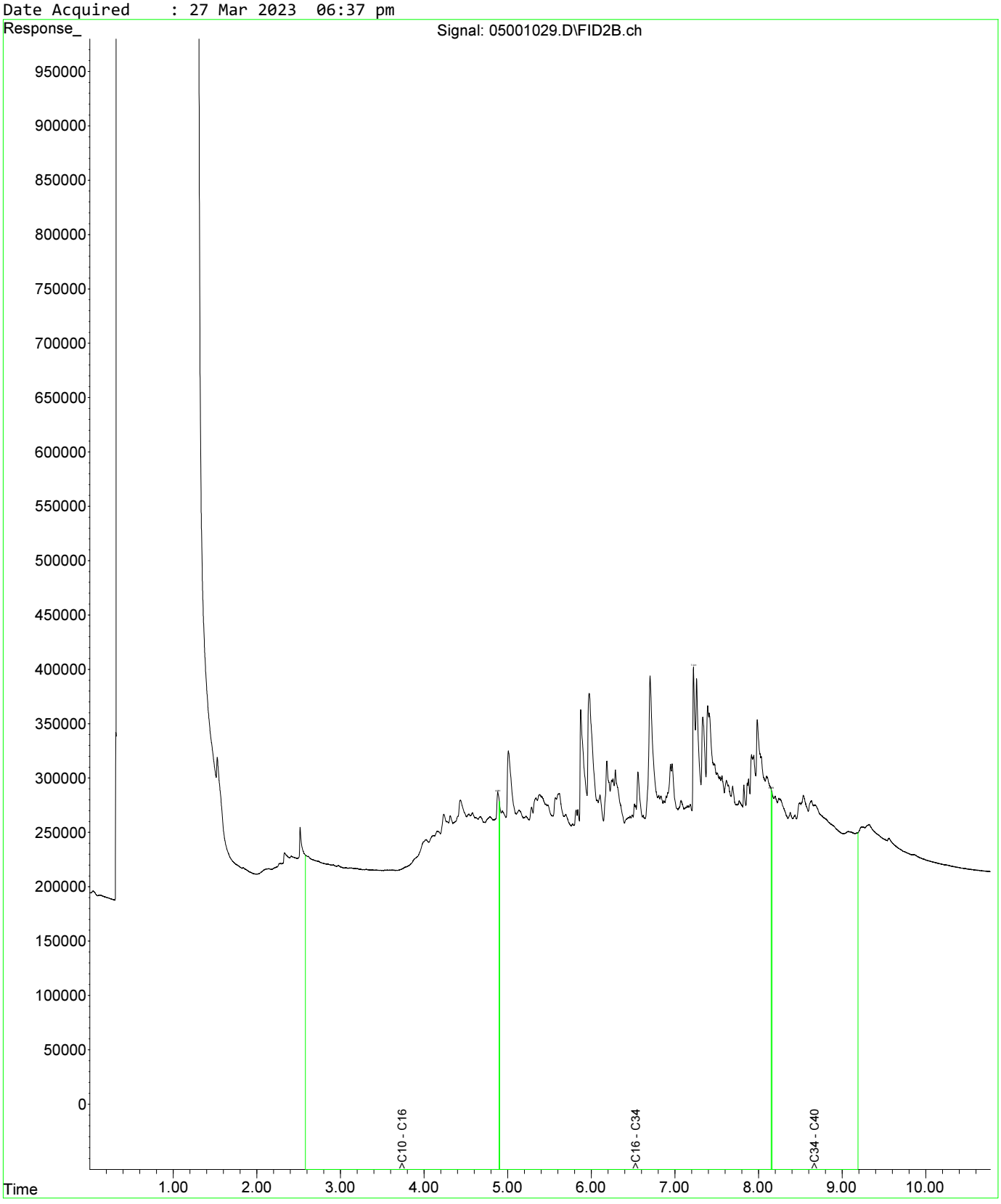

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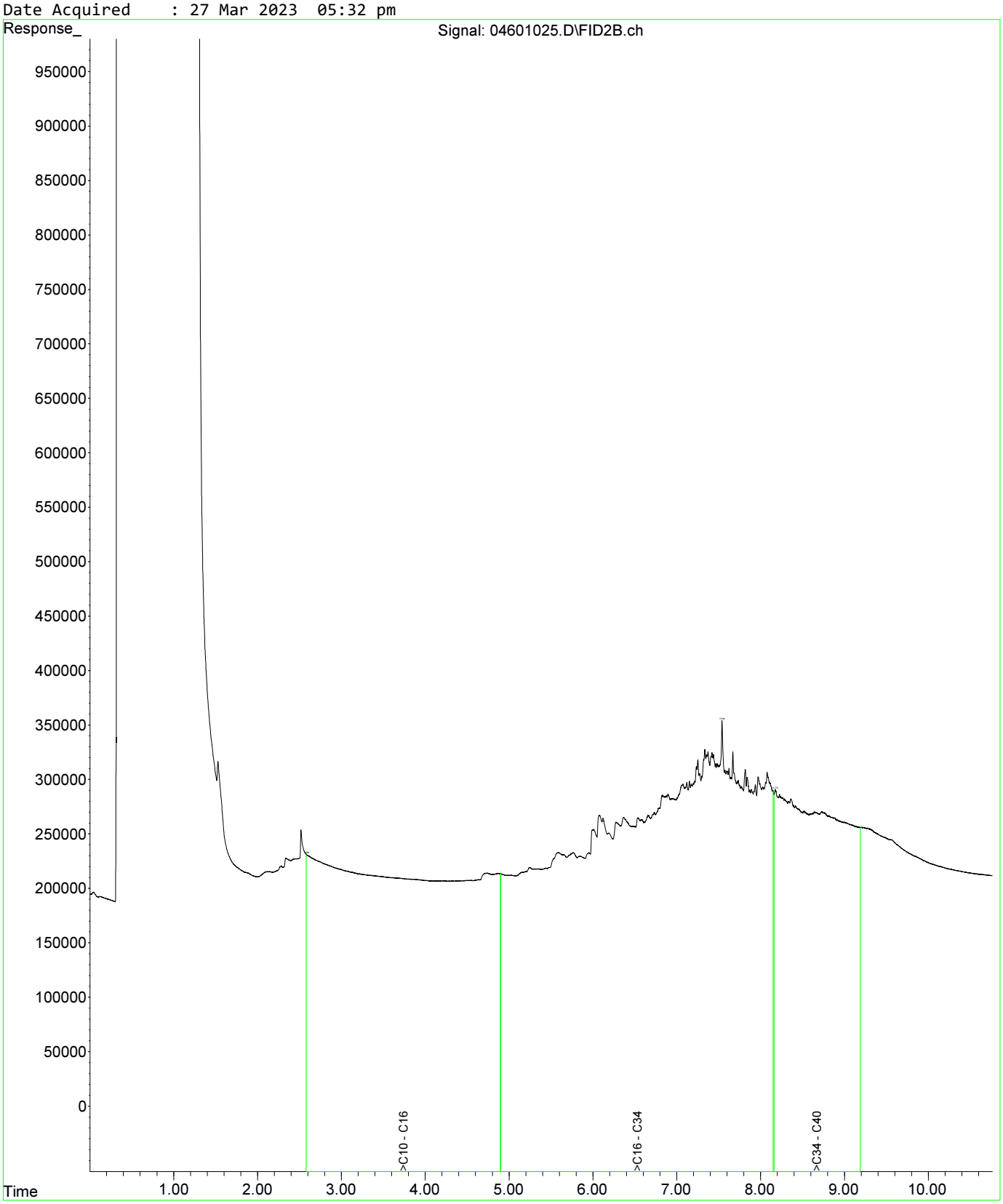

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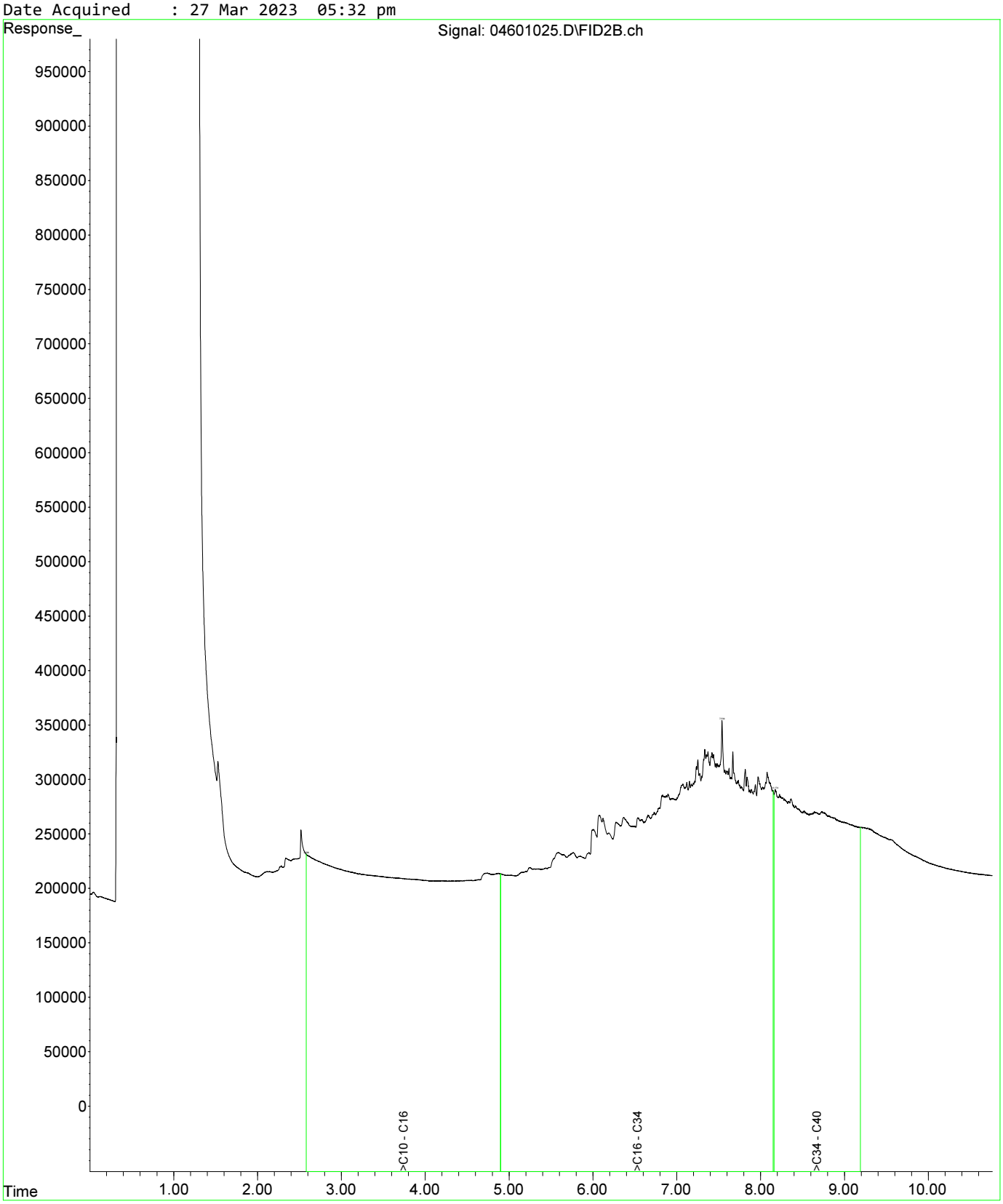

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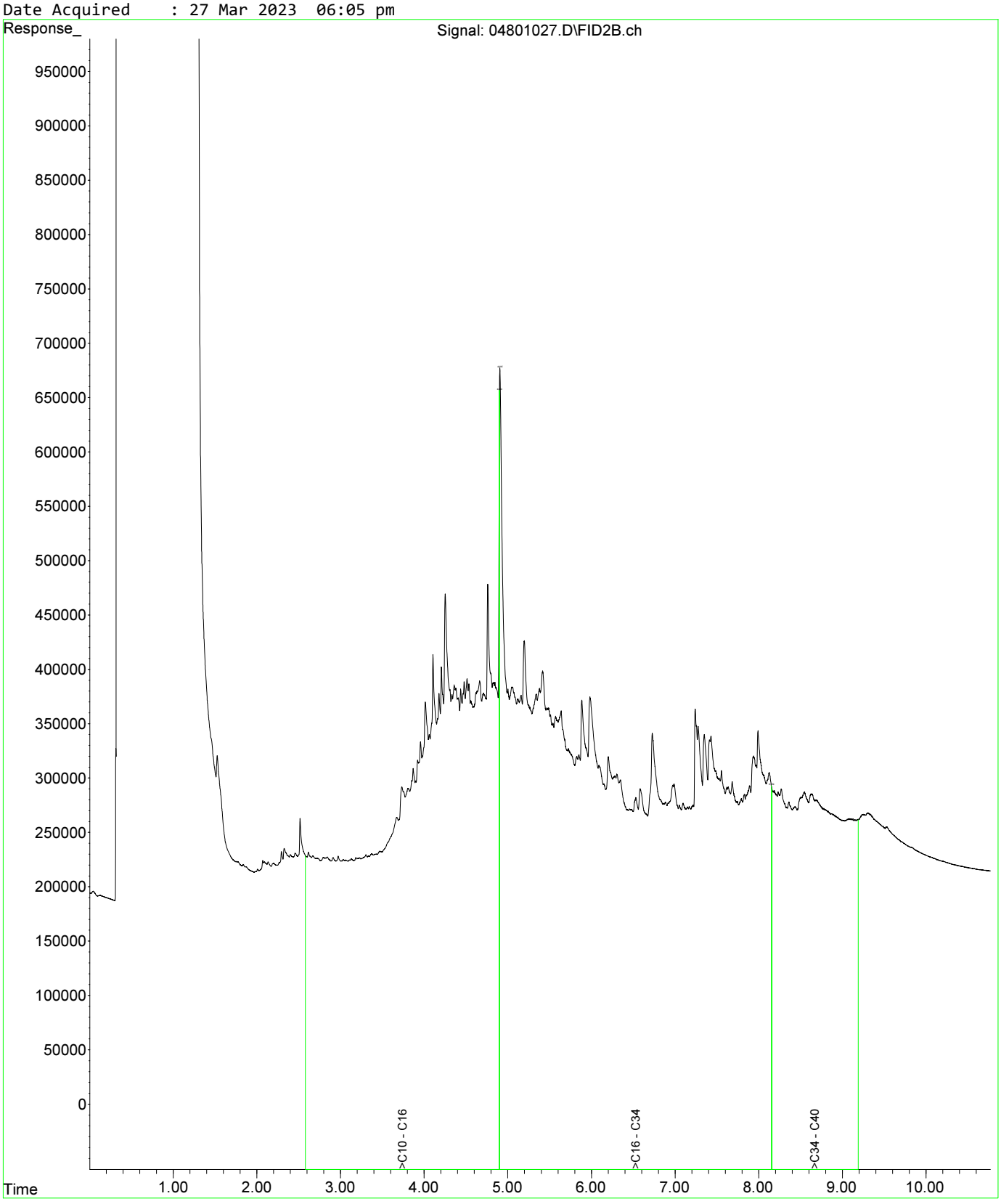

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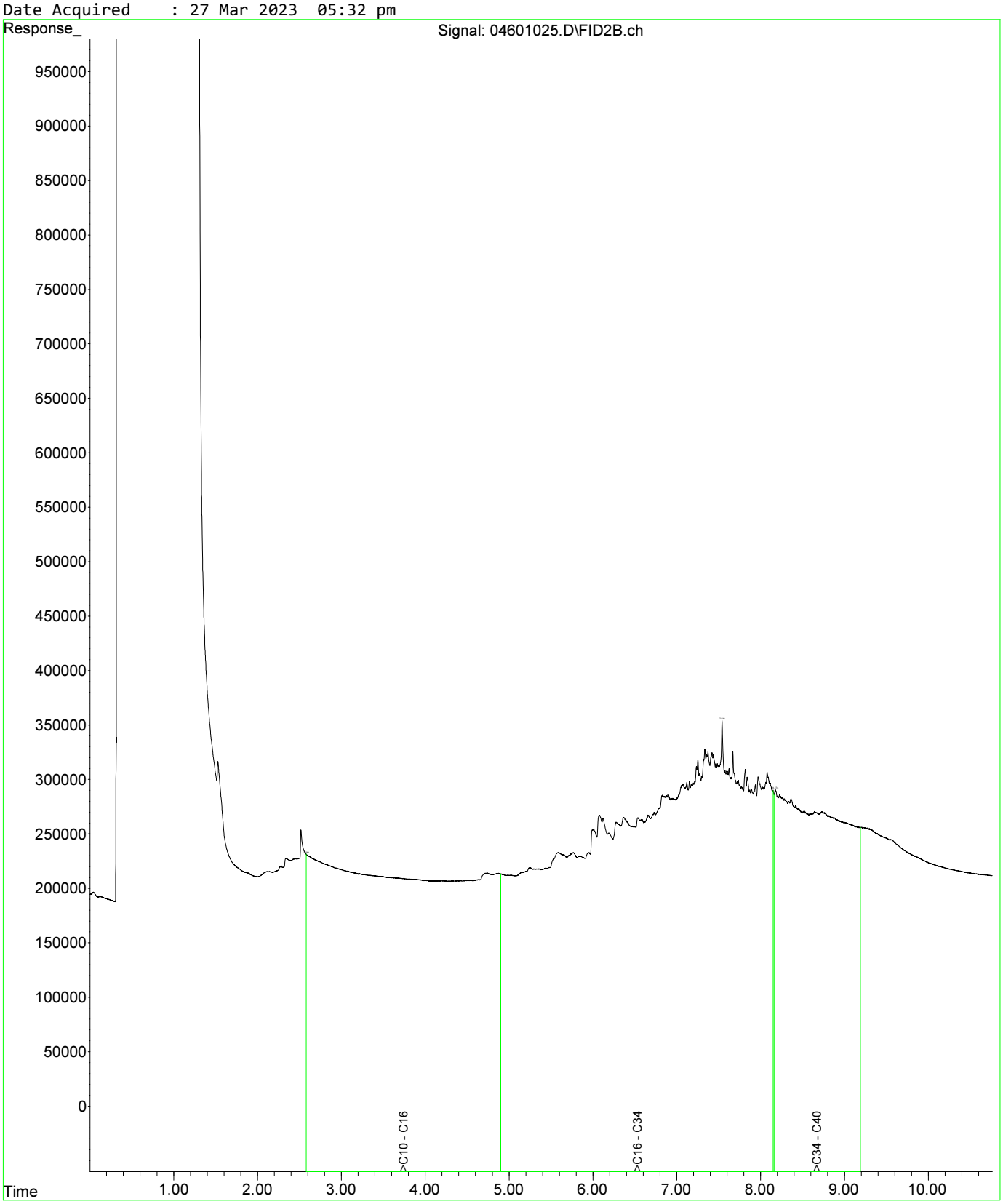

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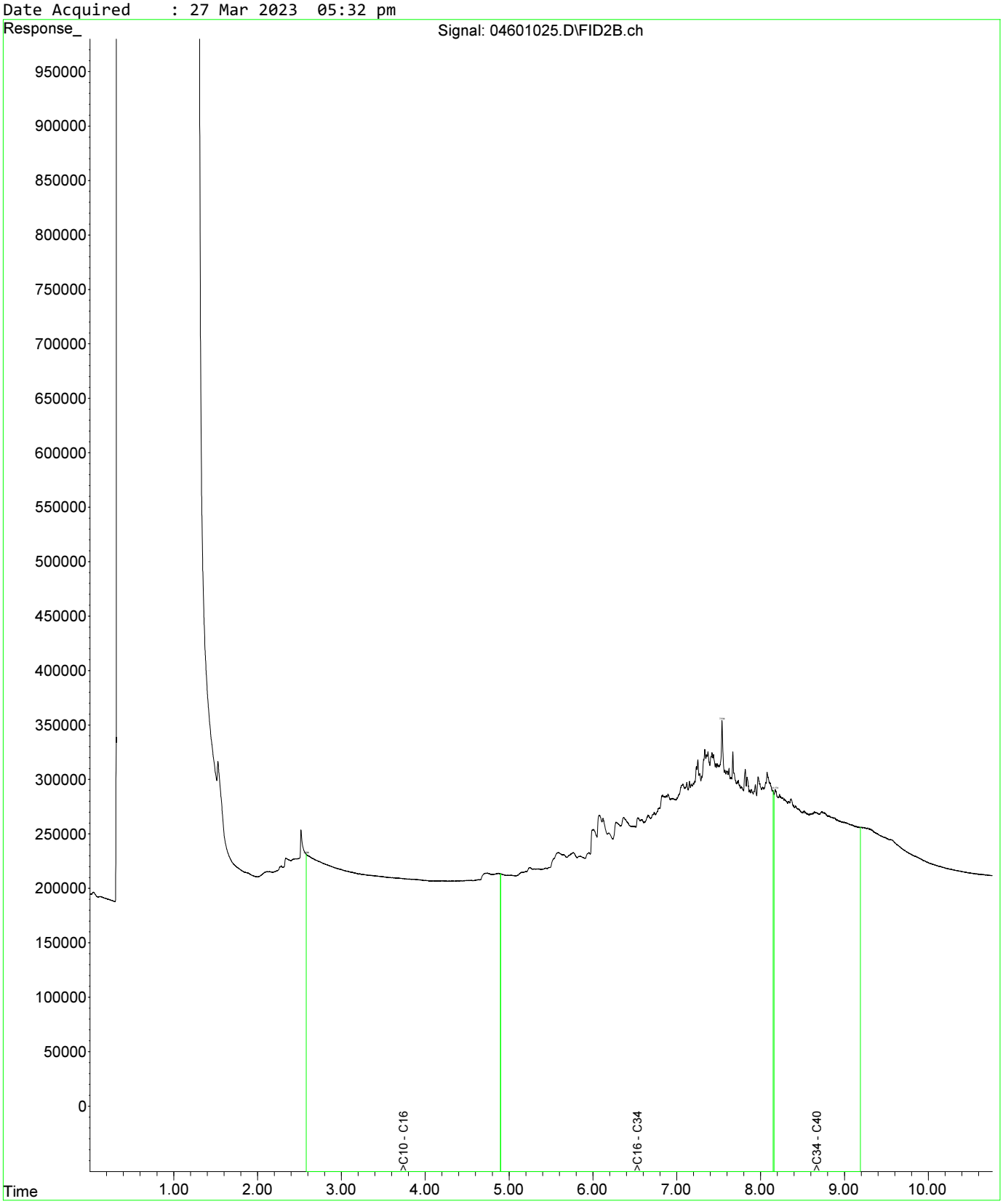

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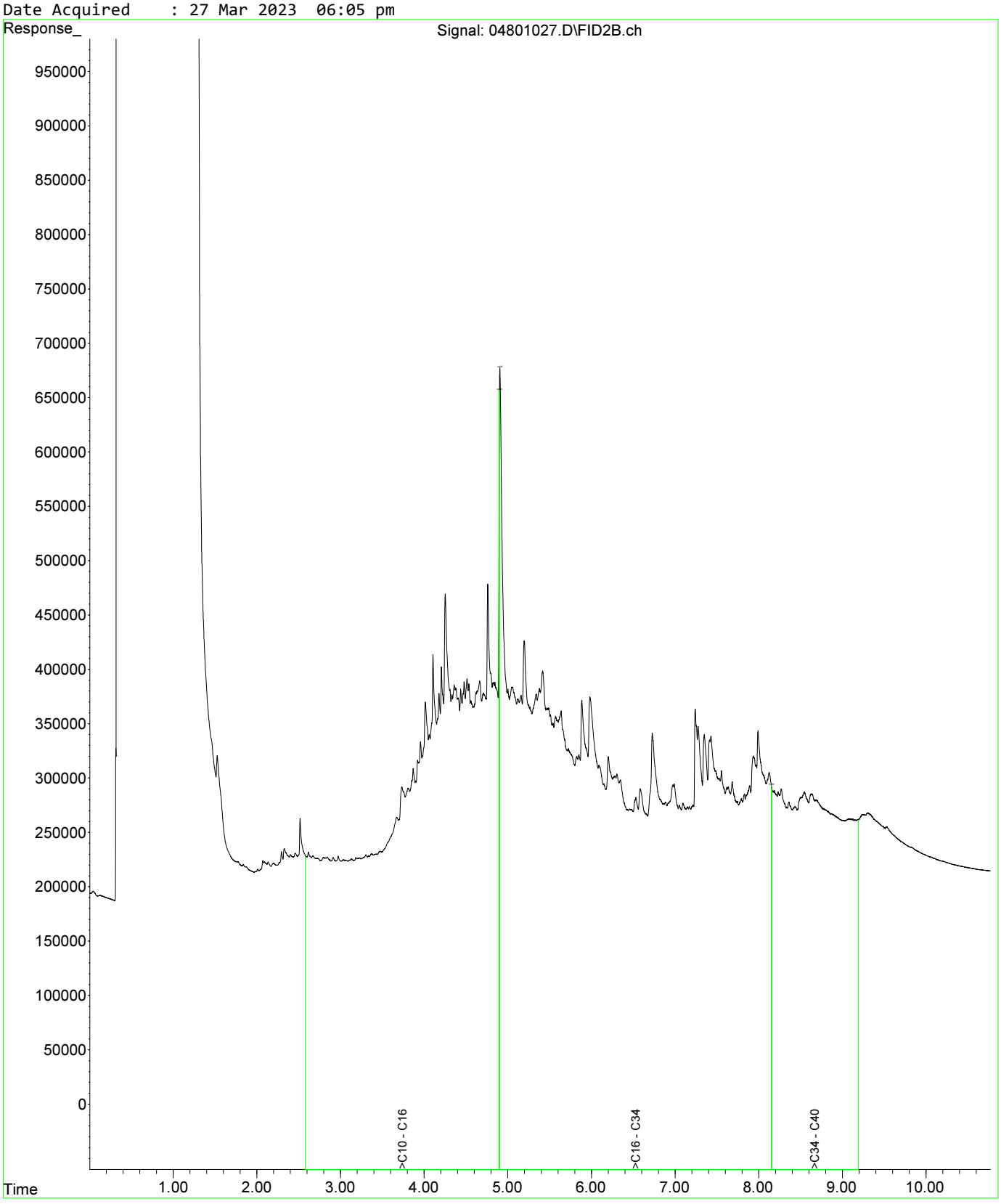

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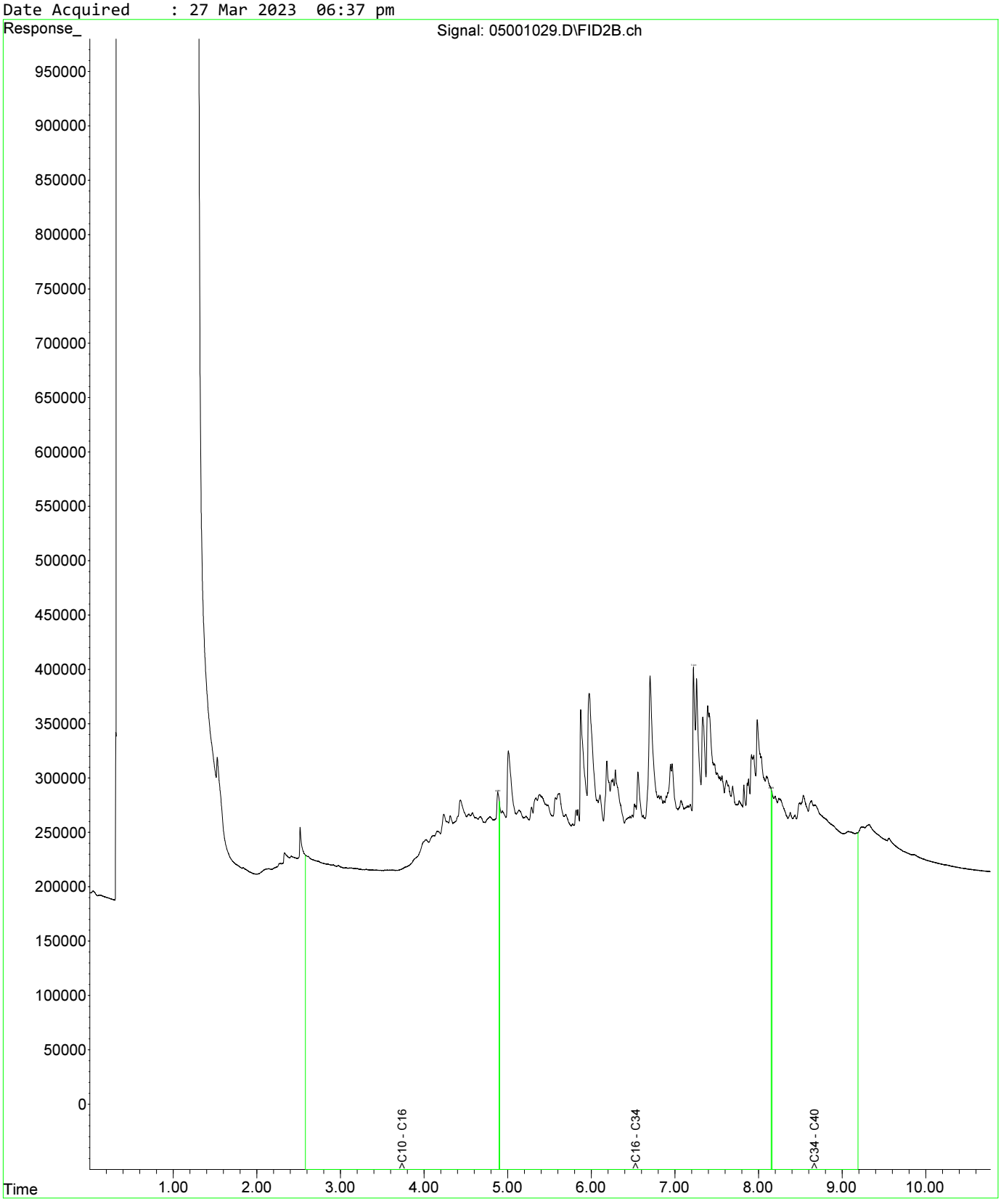

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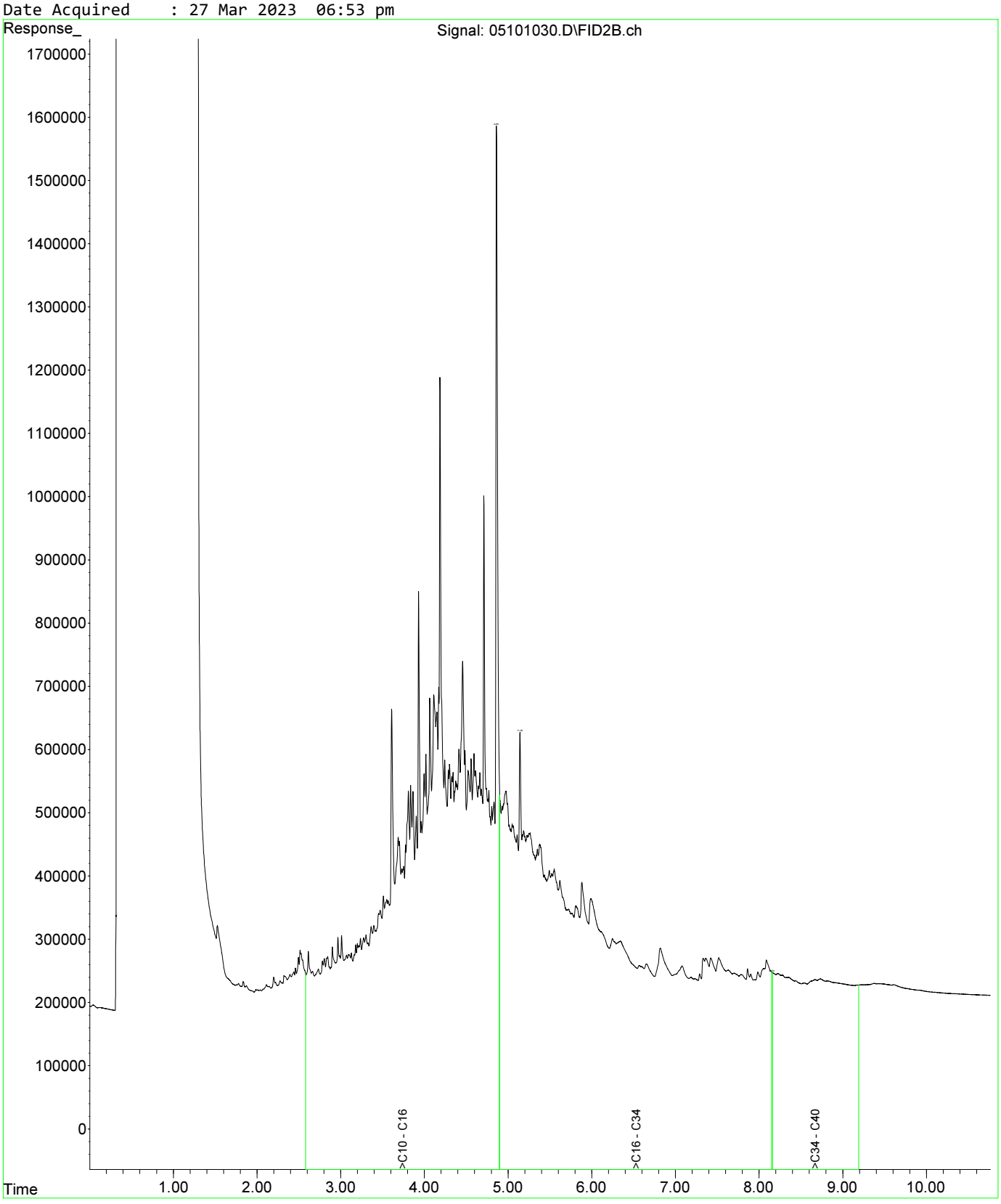

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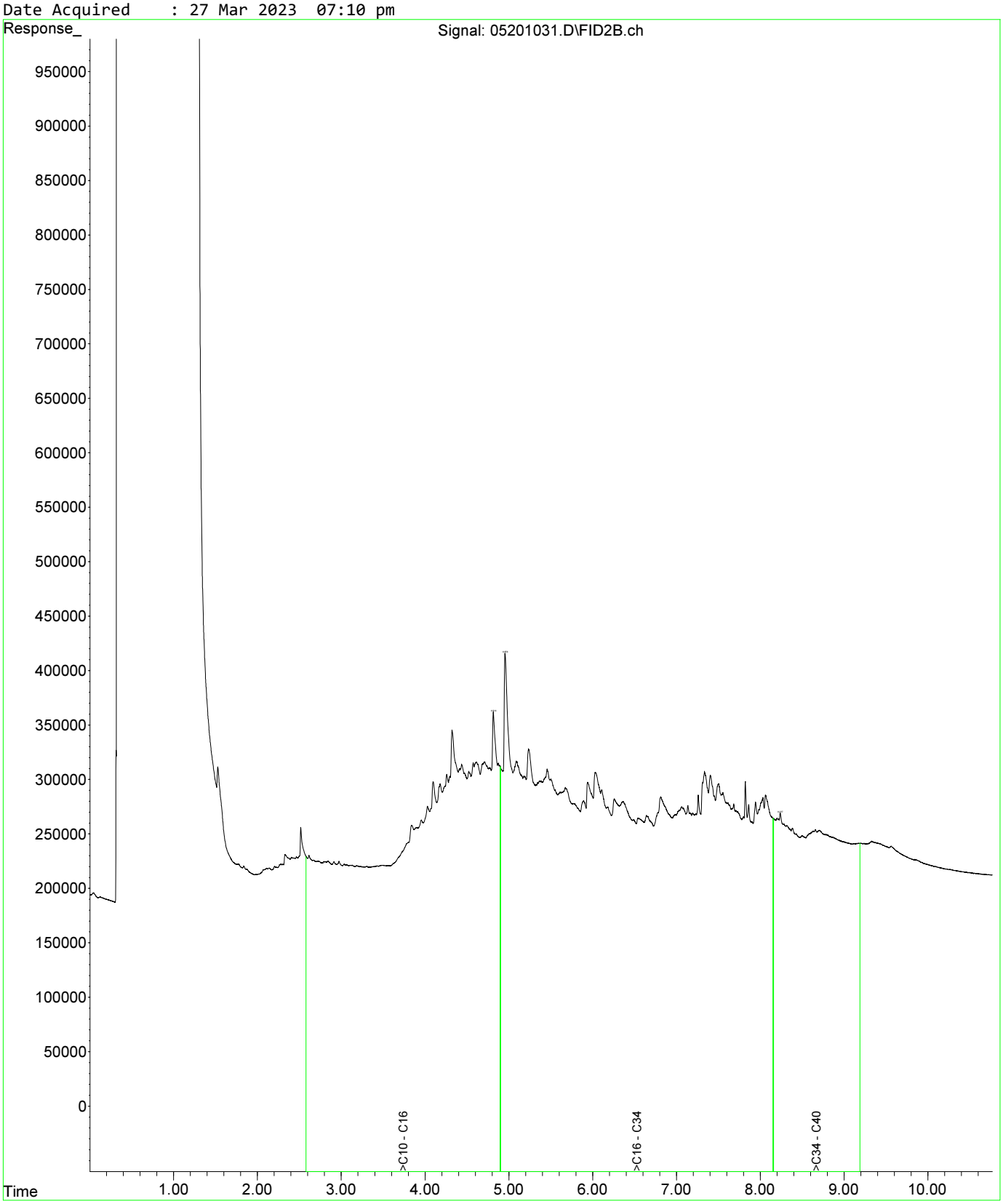

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Sample ID : UST_SP_EXT_07
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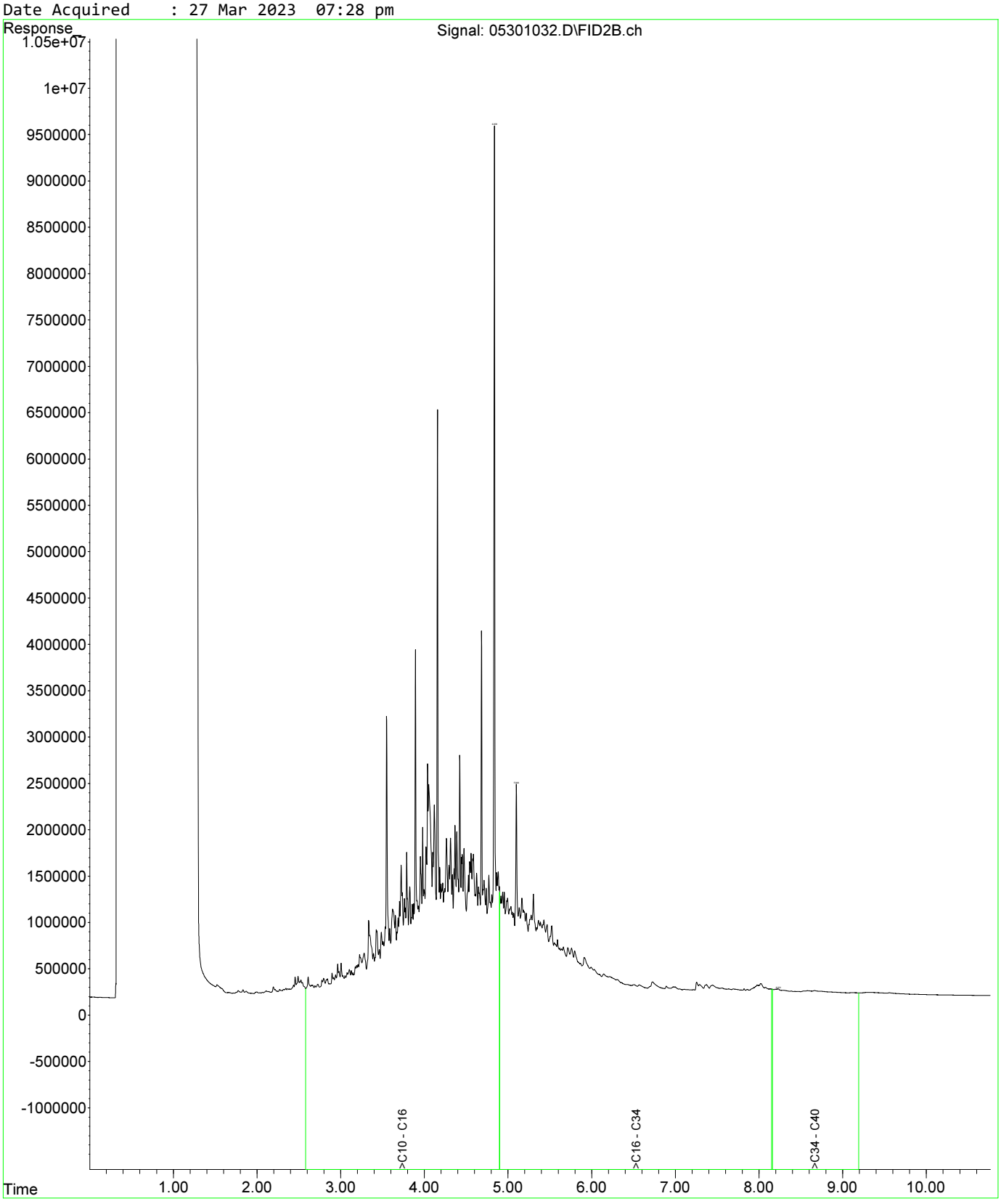

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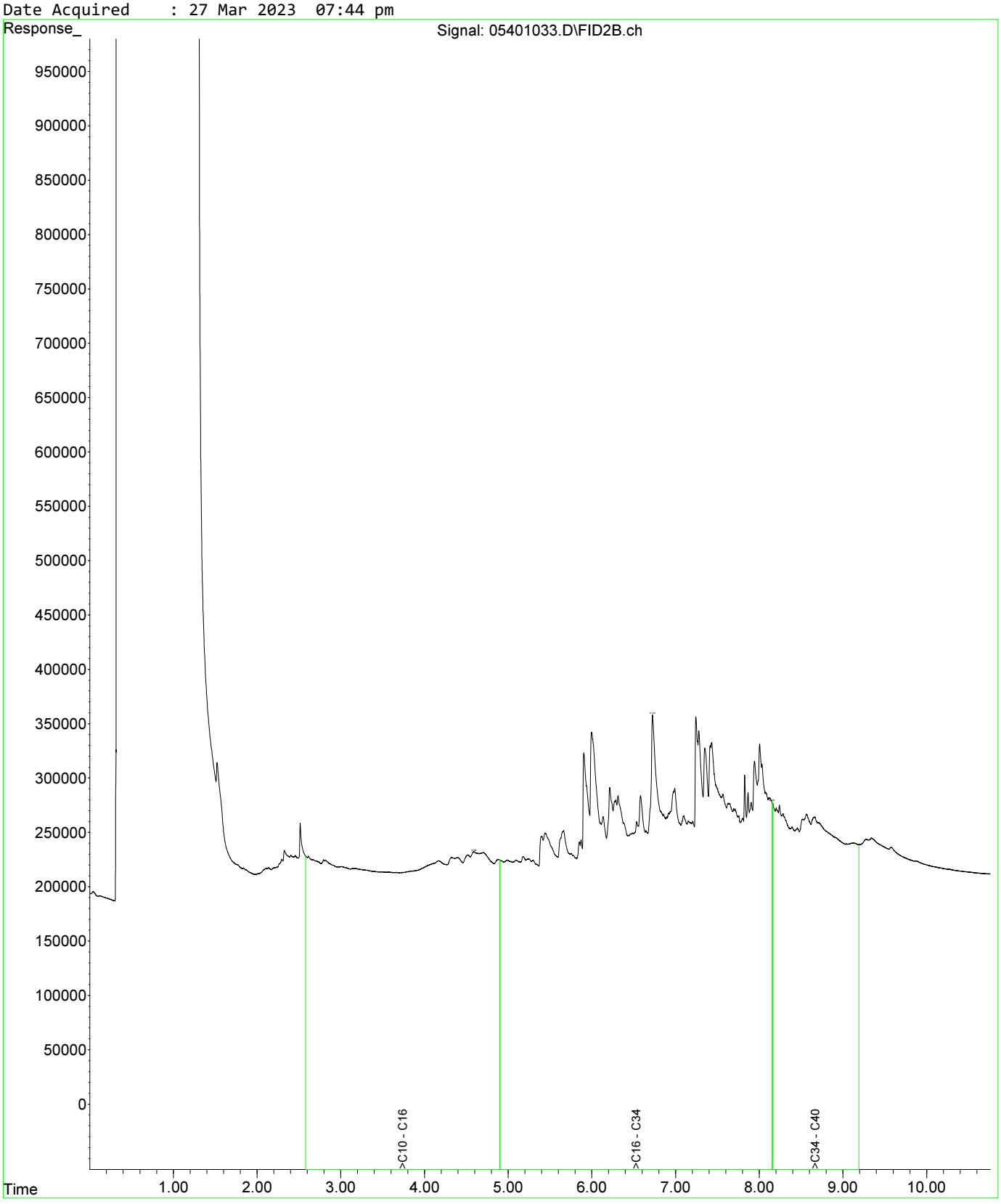
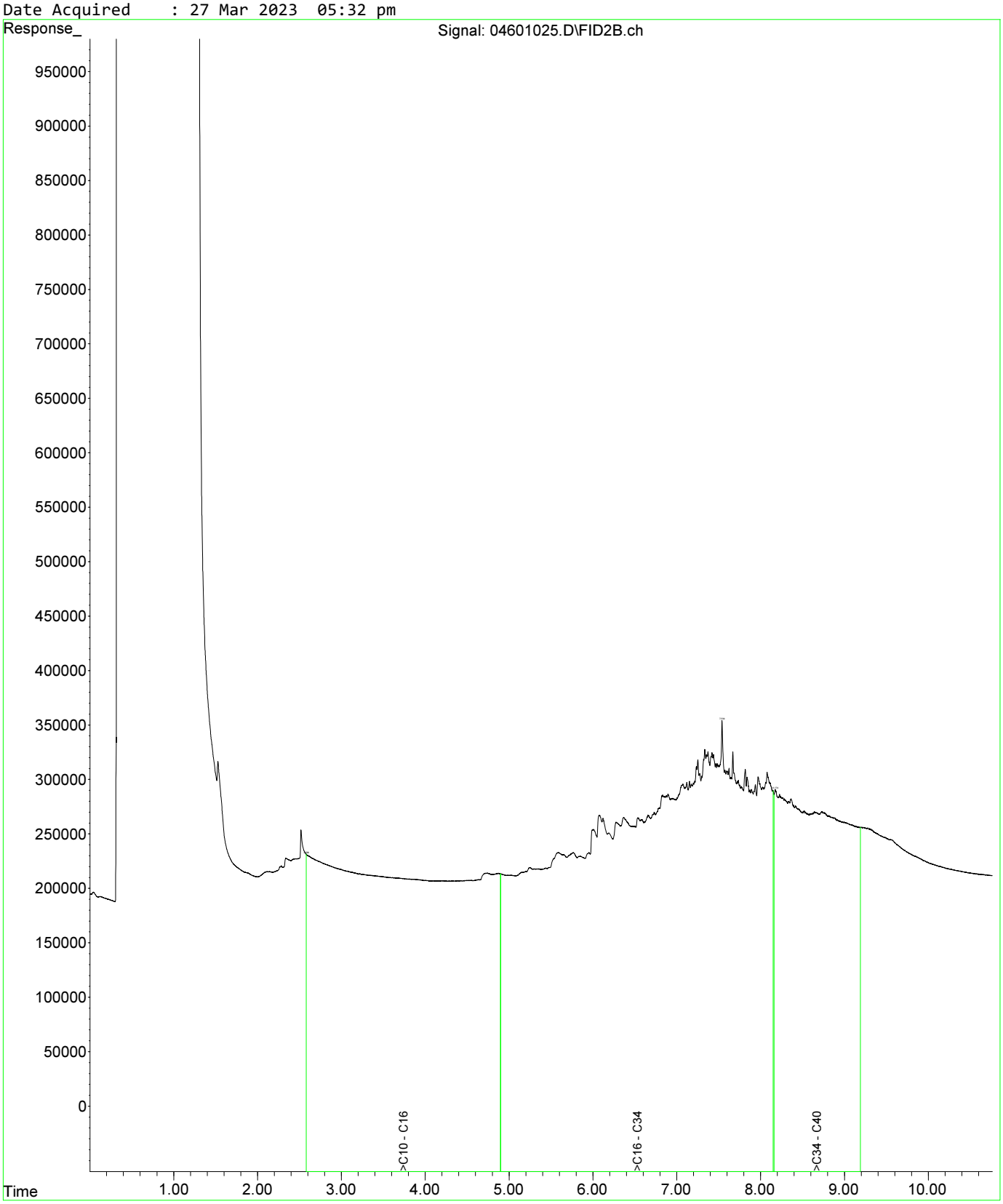
Laboratory Number: EM2305209-032
Sample ID : UST_SP_EXT_08
Date Acquired : 27 Mar 2023 07:44 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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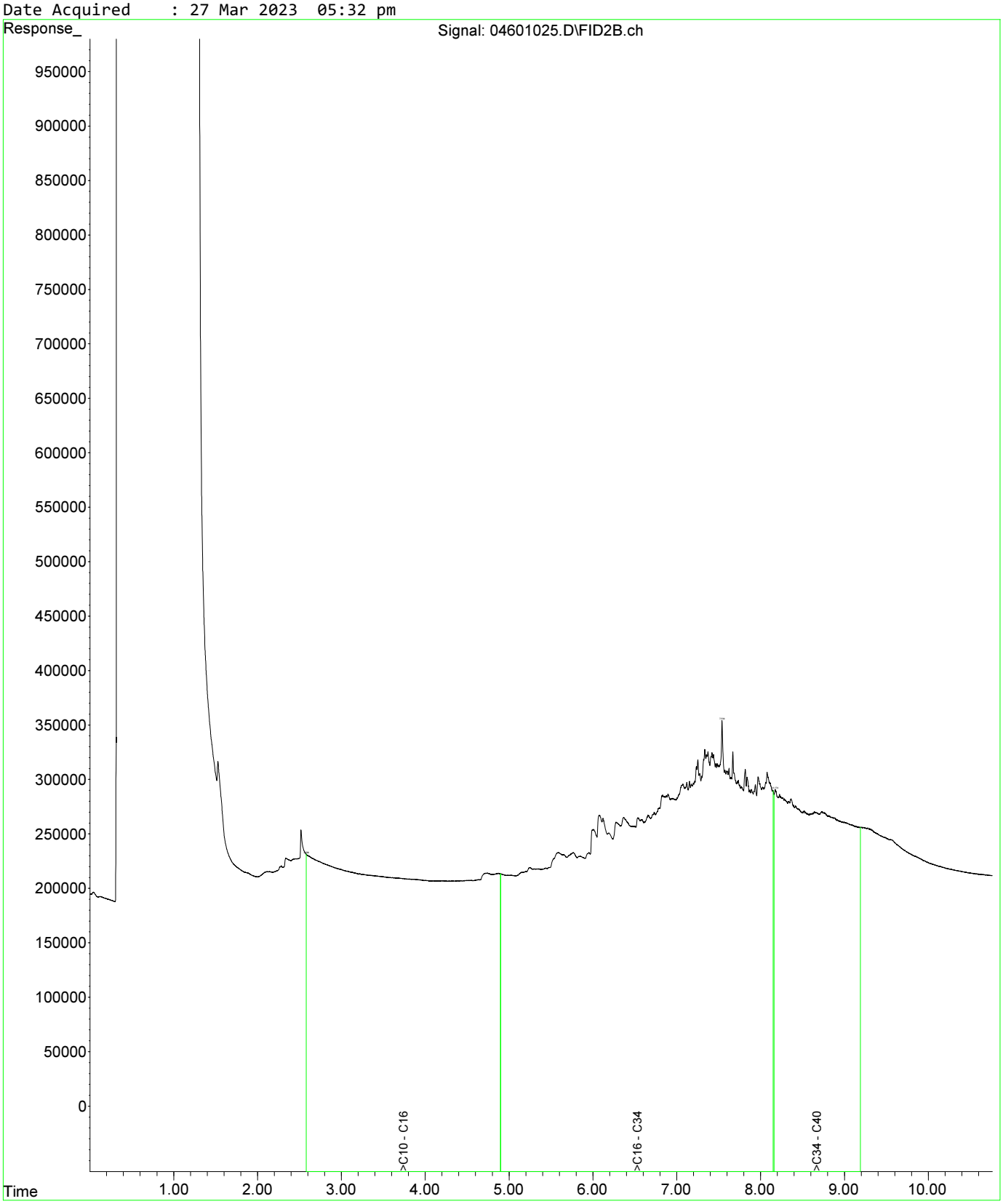
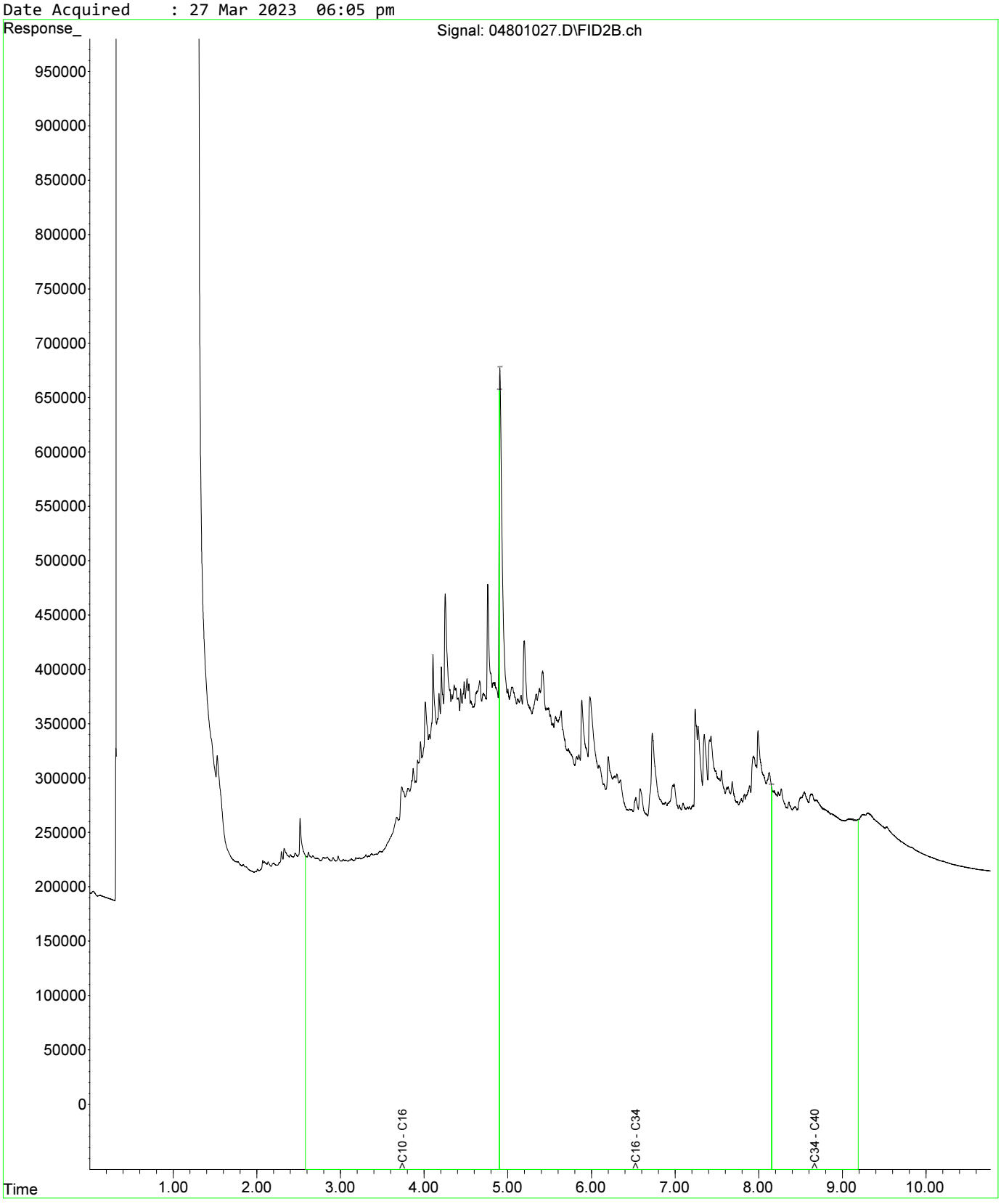
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
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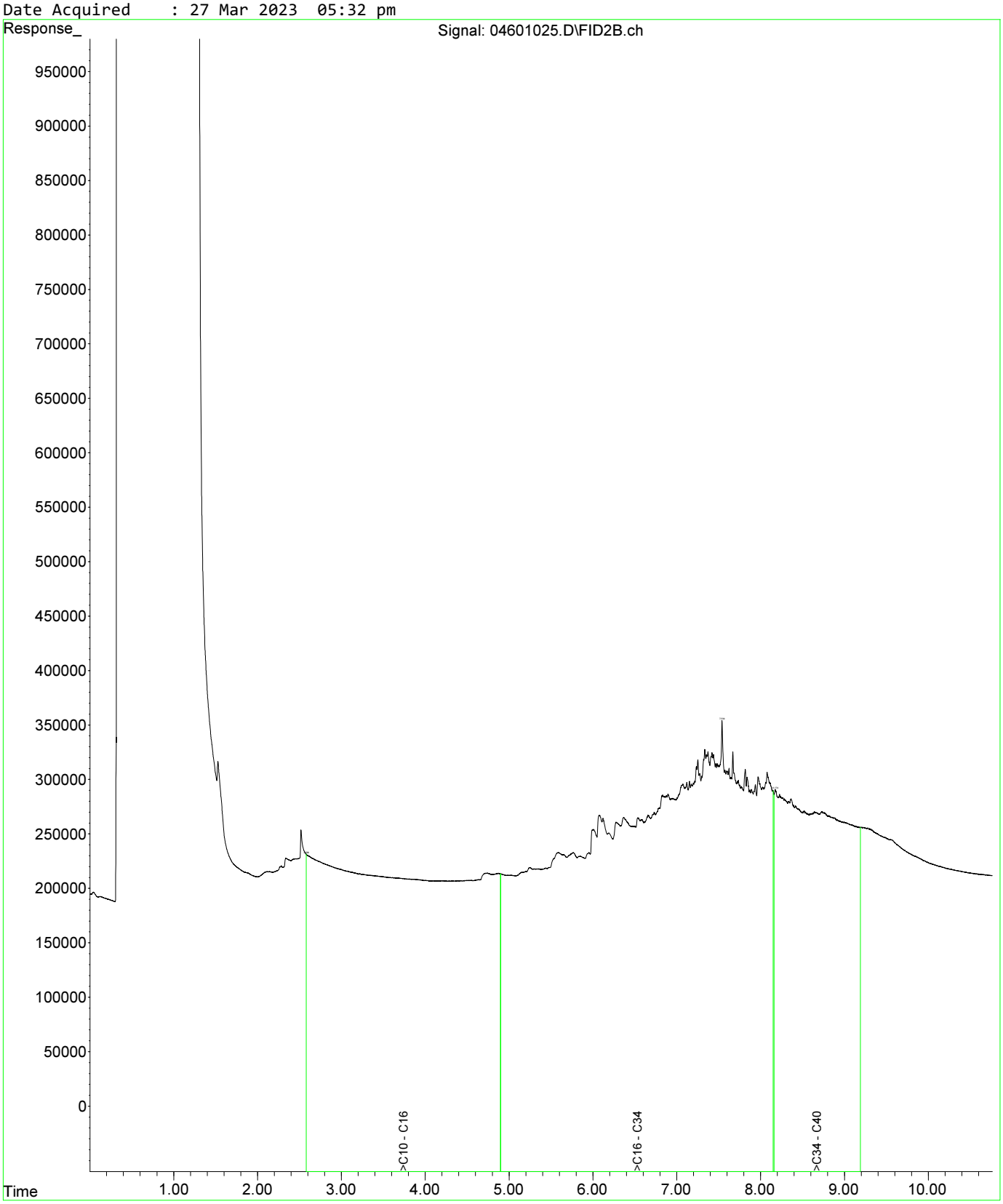

Fraction Scheme : NEPM DRAFT HIL
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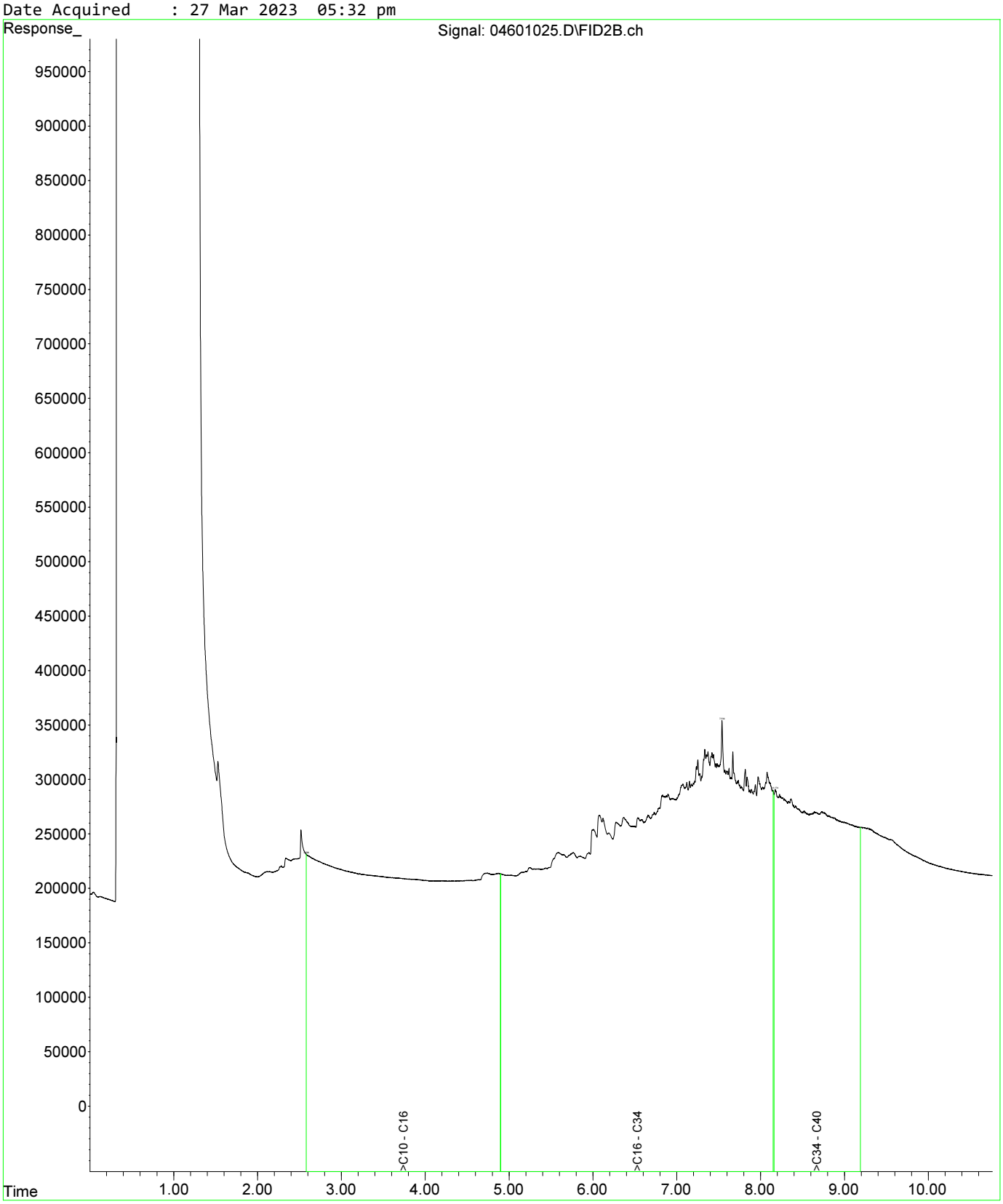

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-019
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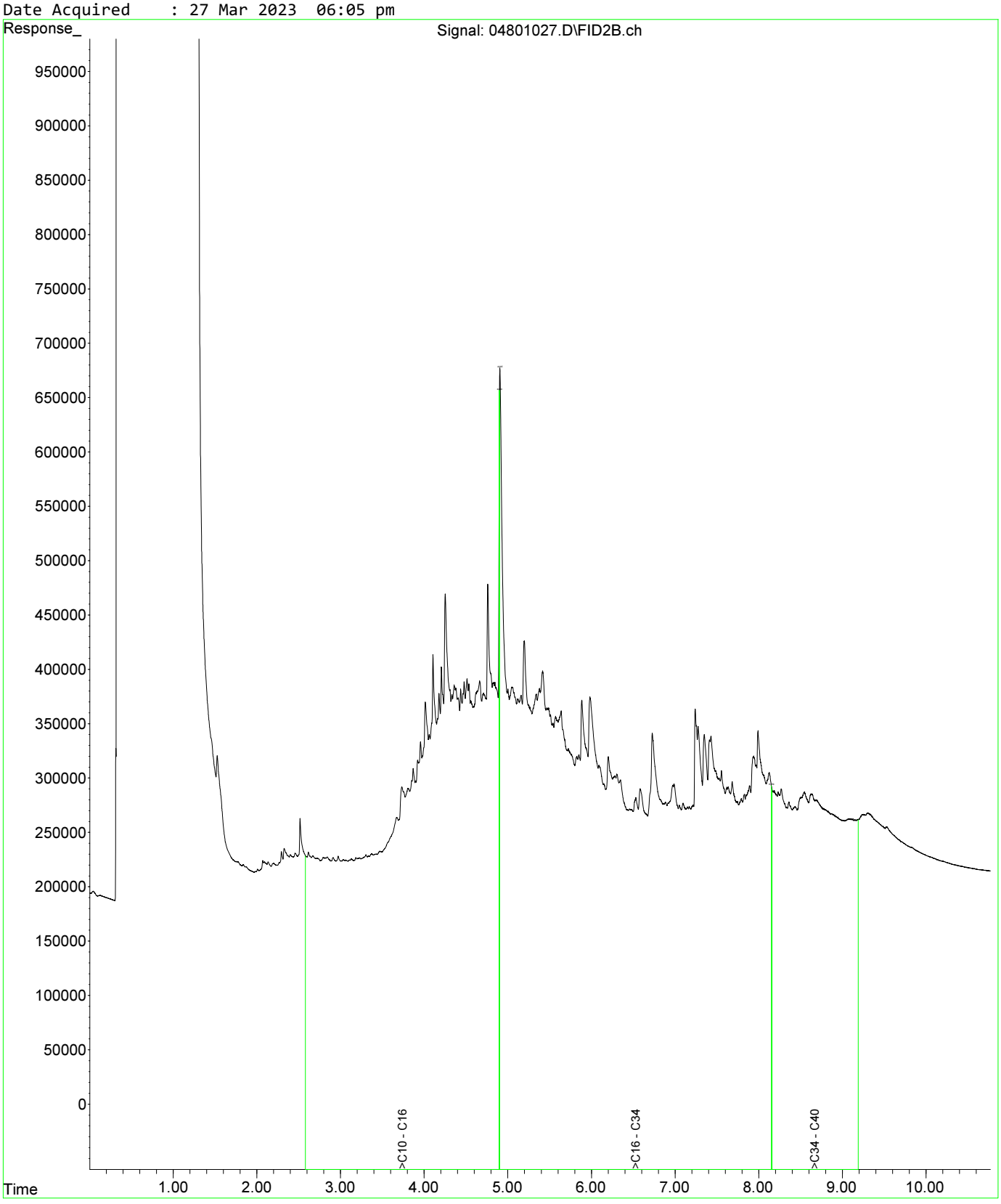
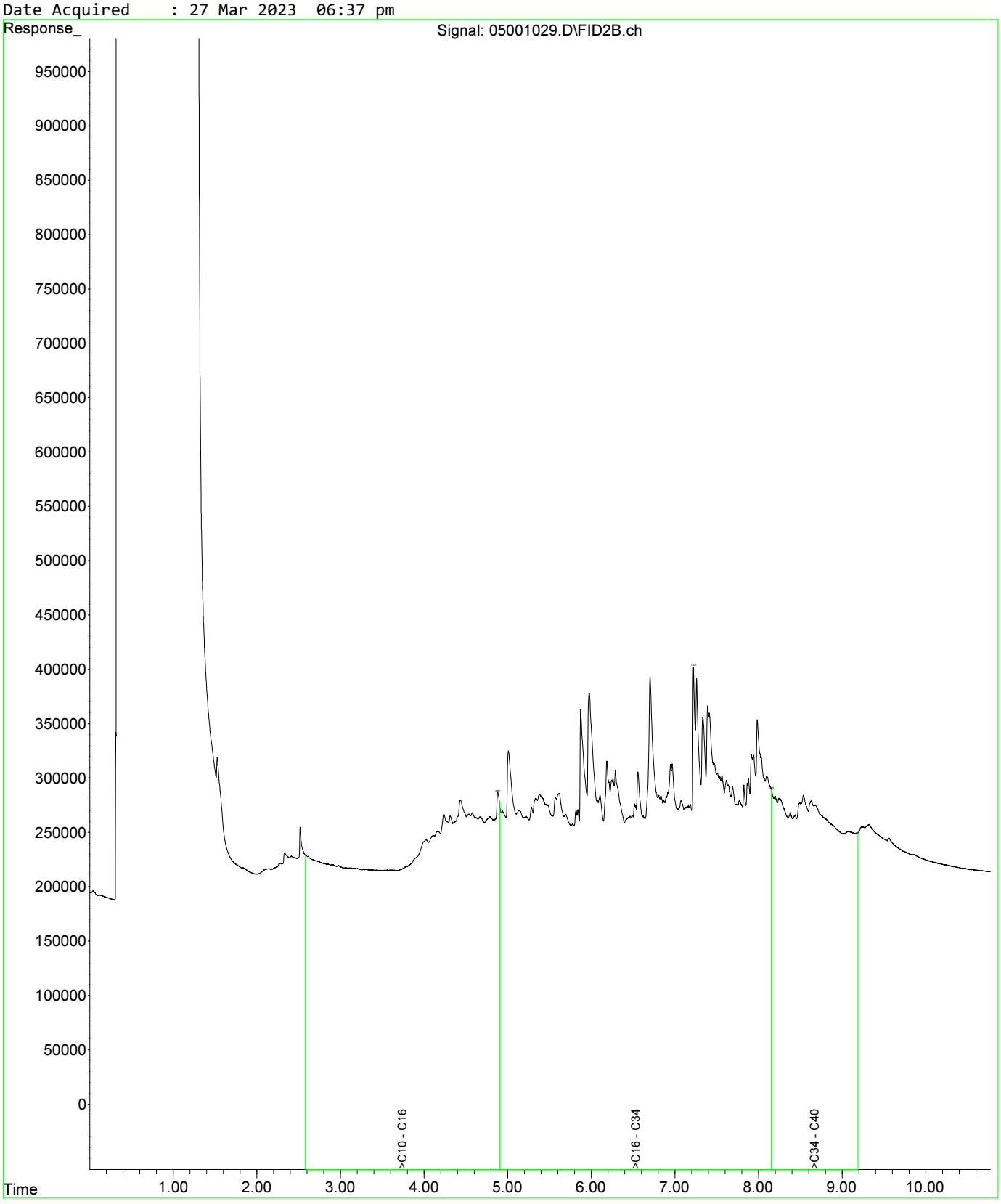
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : NEPM DRAFT HIL
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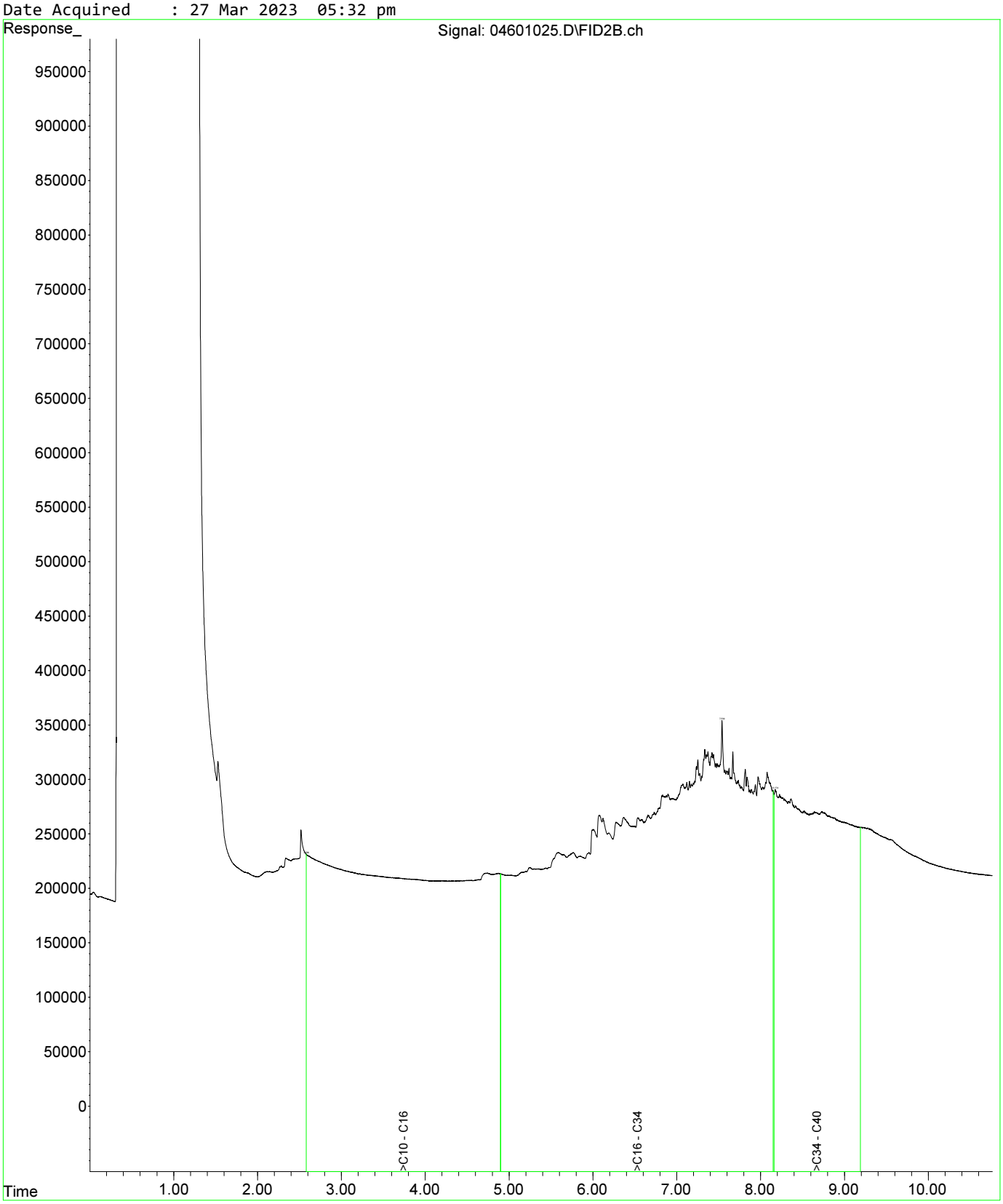

Fraction Scheme : NEPM DRAFT HIL
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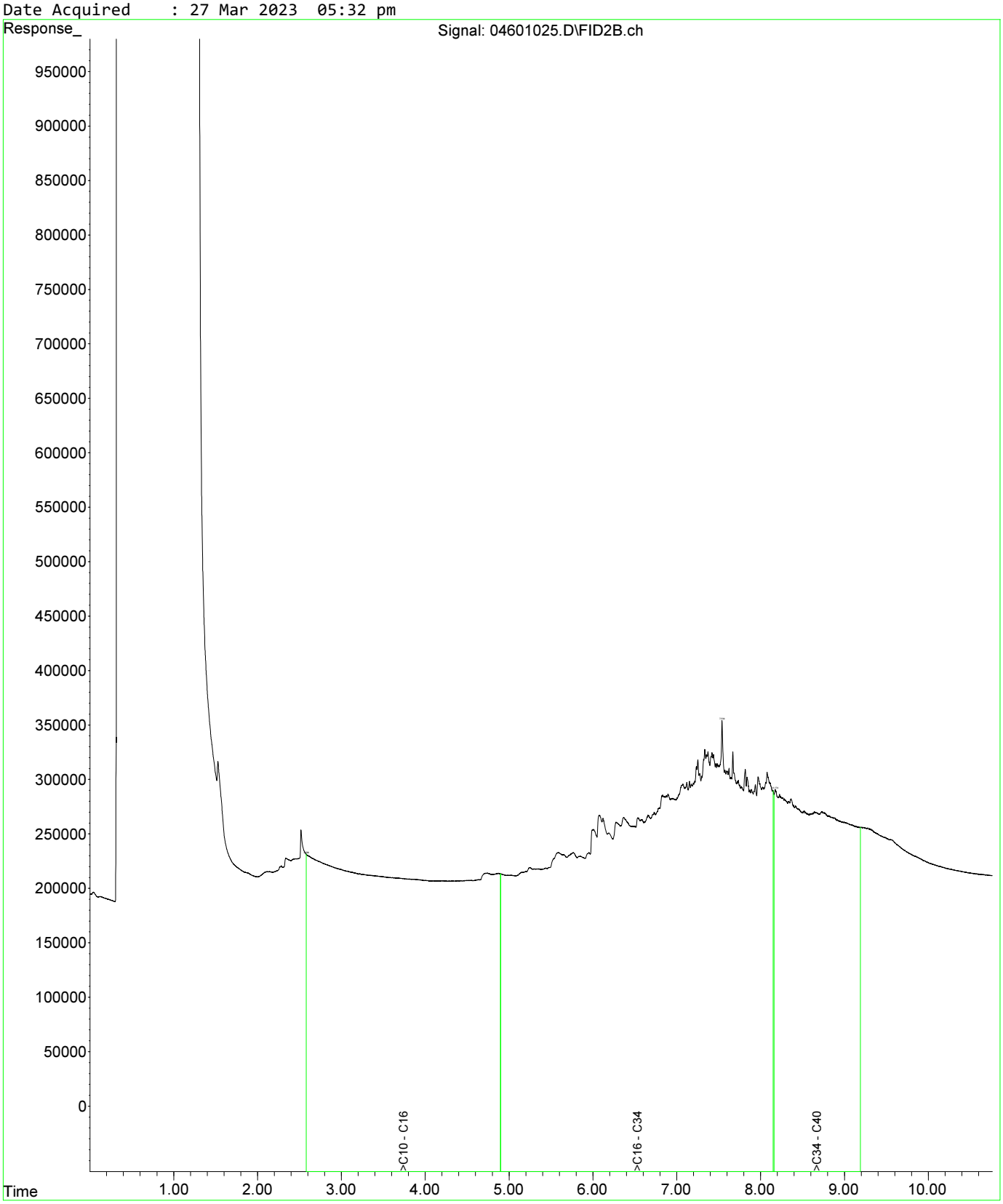

Fraction Scheme : NEPM DRAFT HIL
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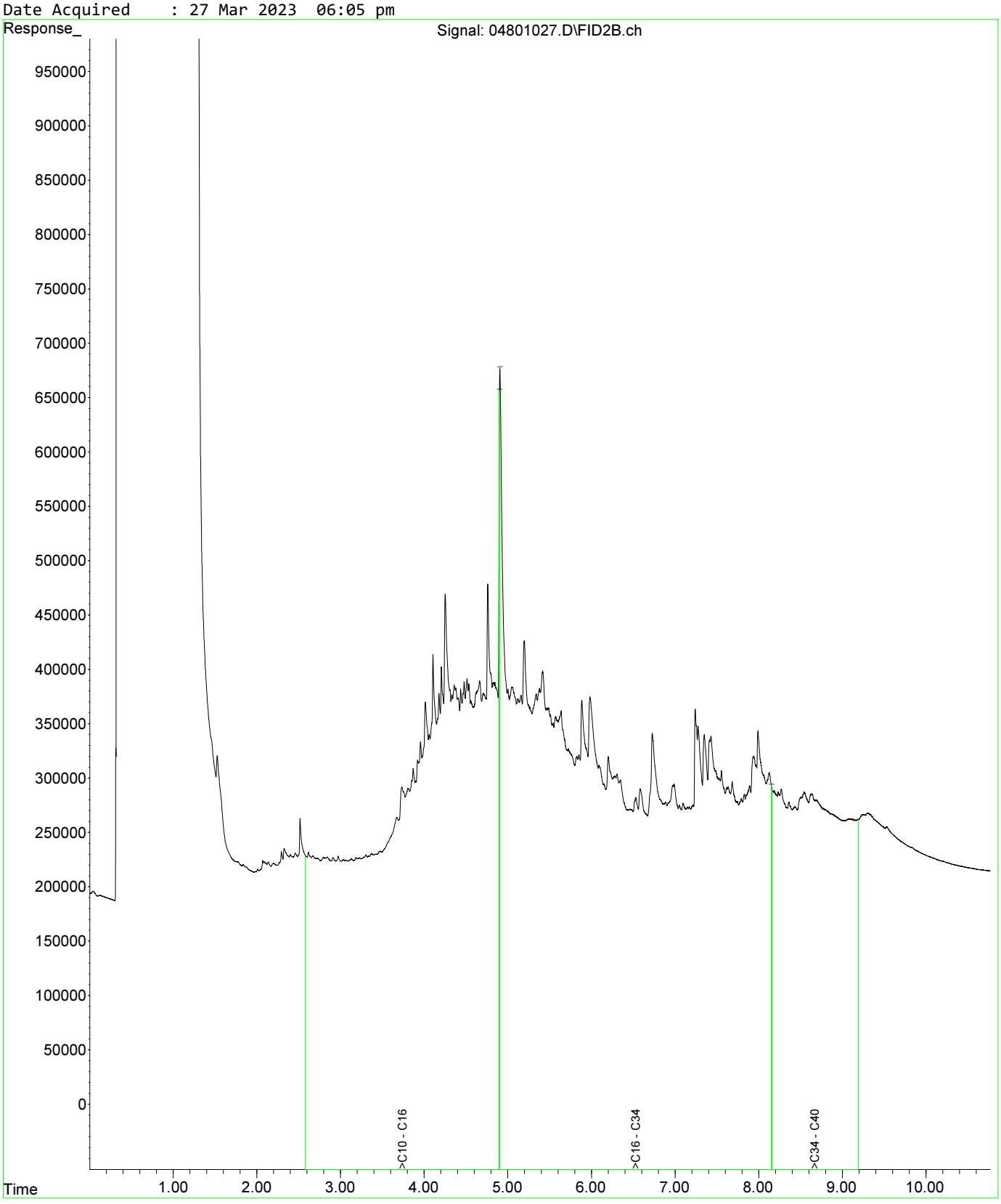

Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
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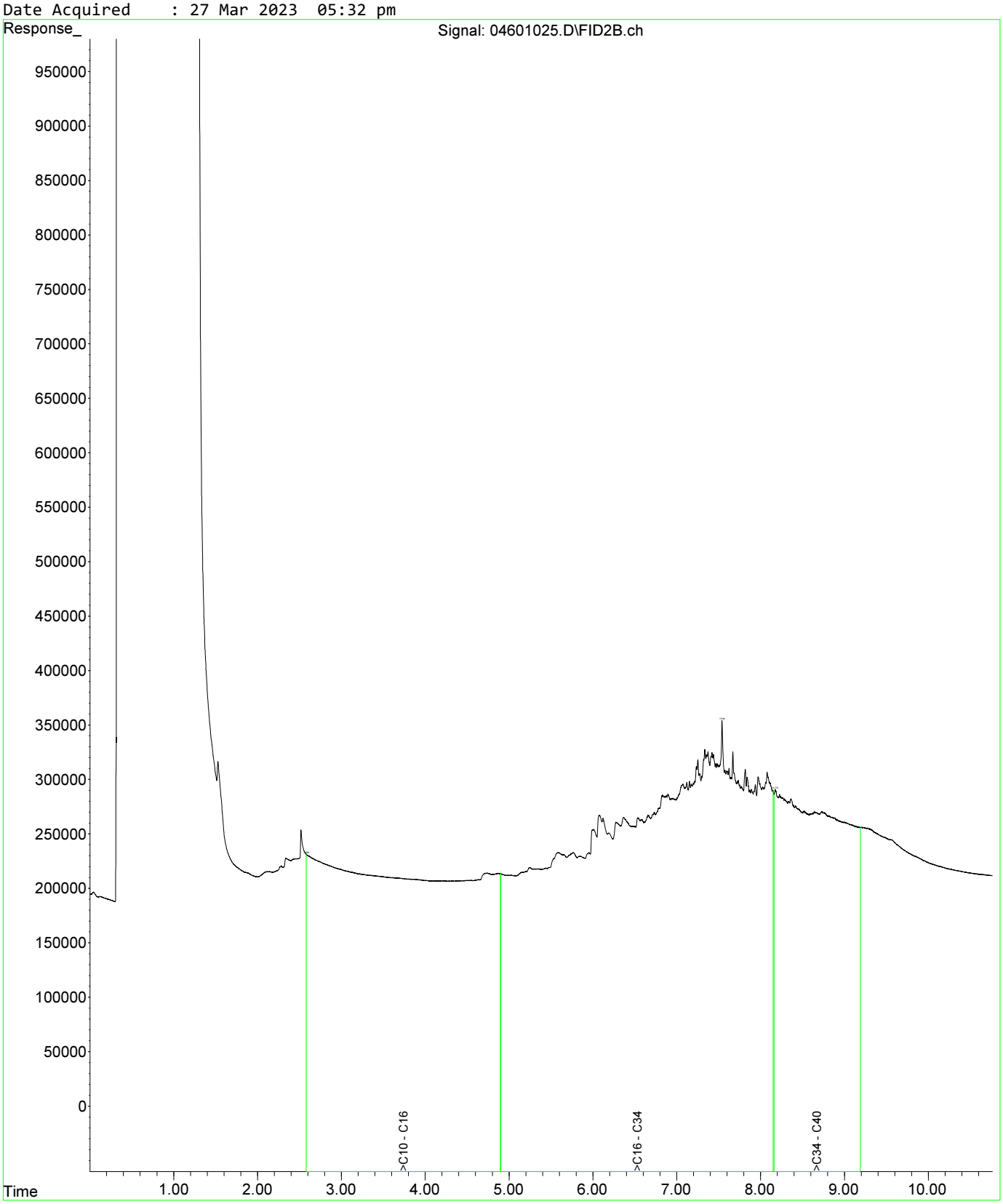

Fraction Scheme : NEPM DRAFT HIL
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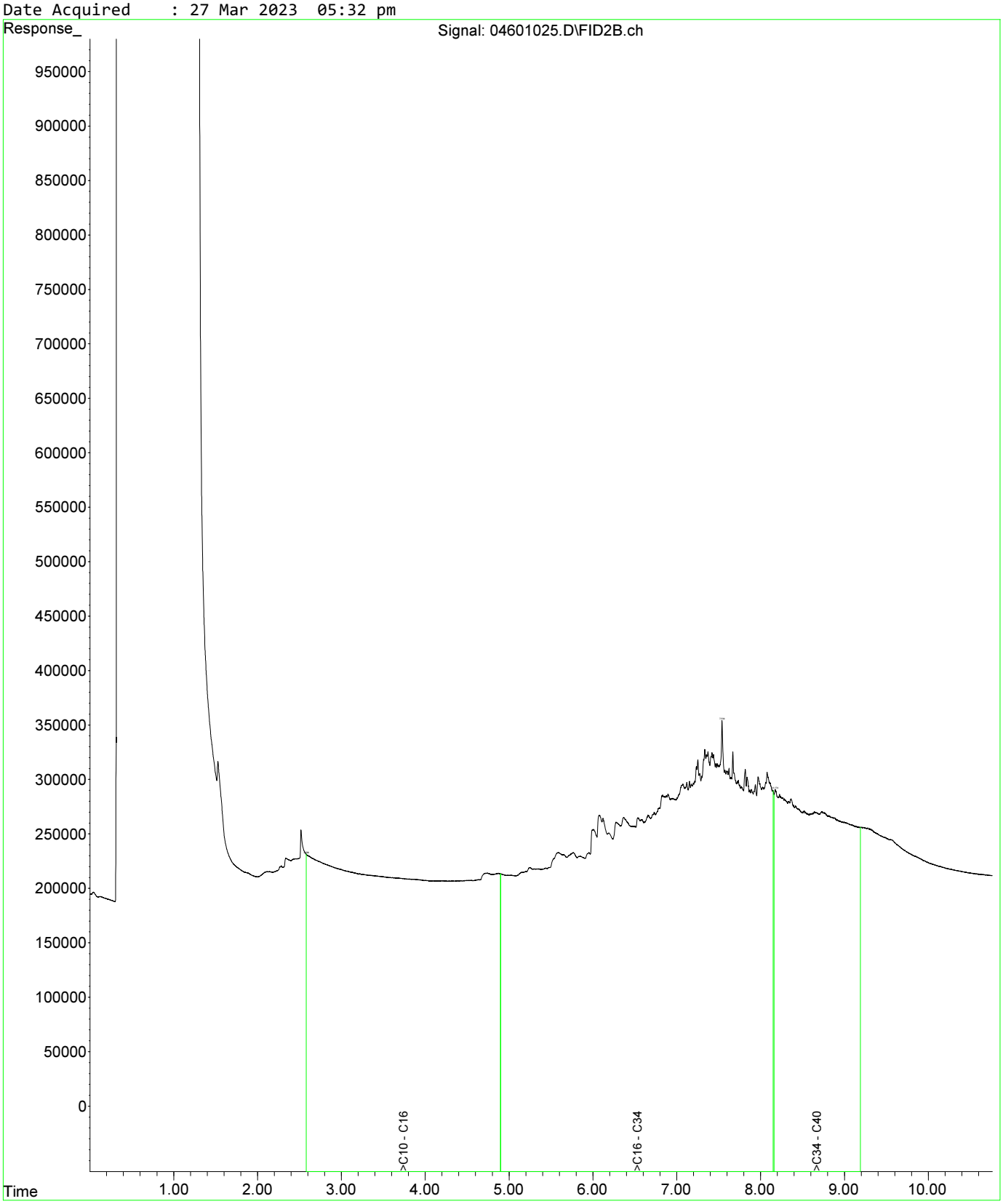

Fraction Scheme : NEPM DRAFT HIL
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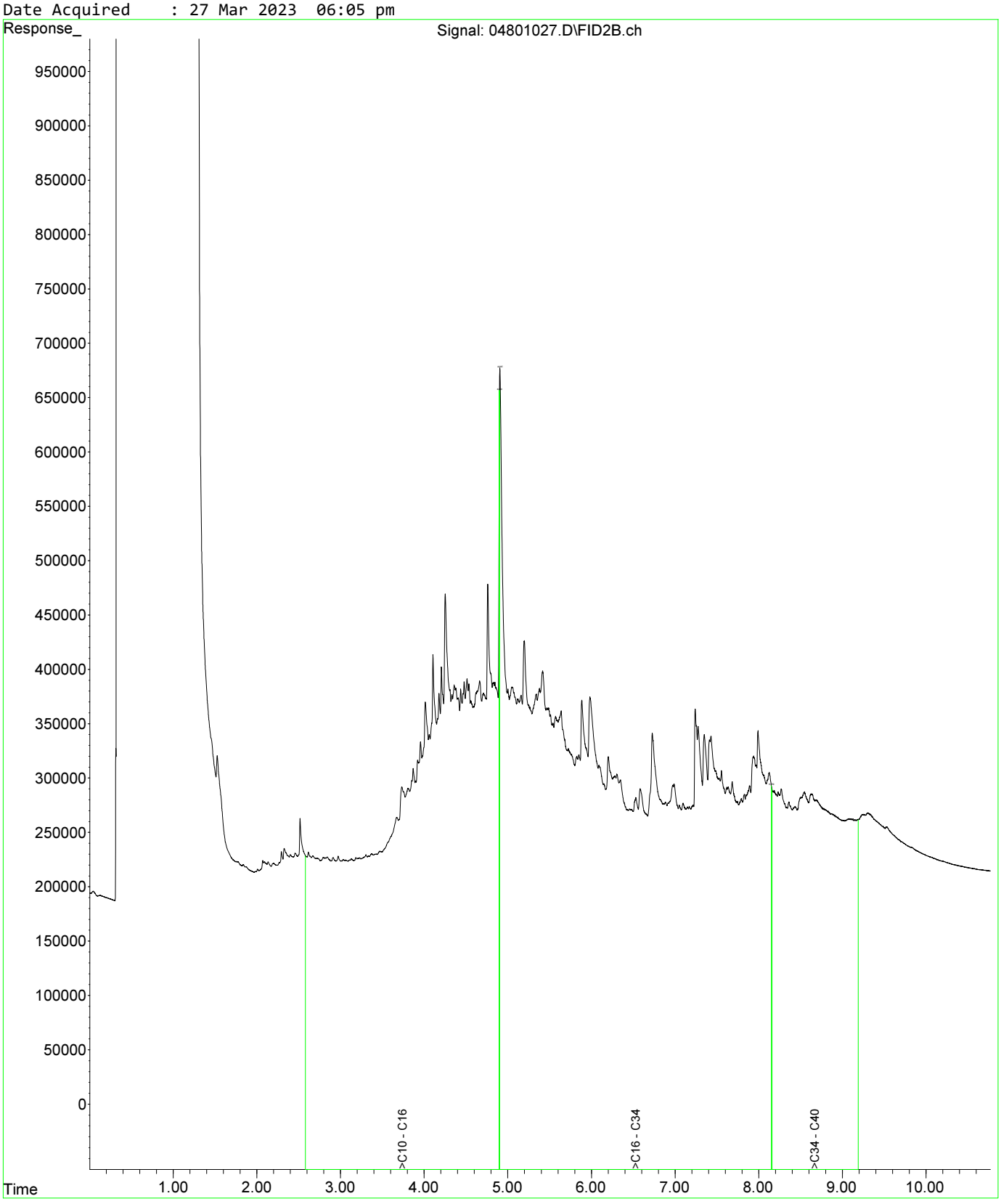

Fraction Scheme : NEPM DRAFT HIL
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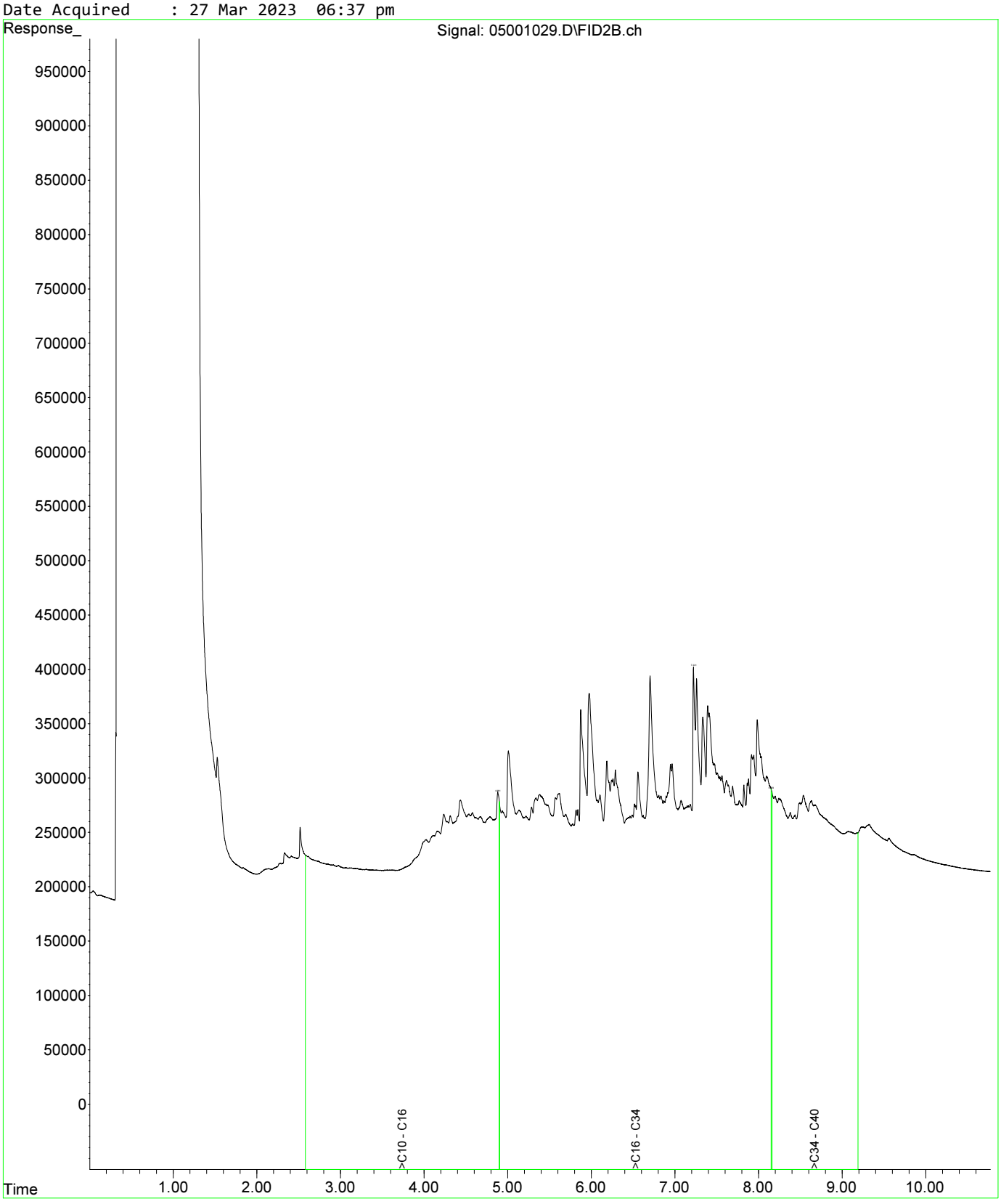
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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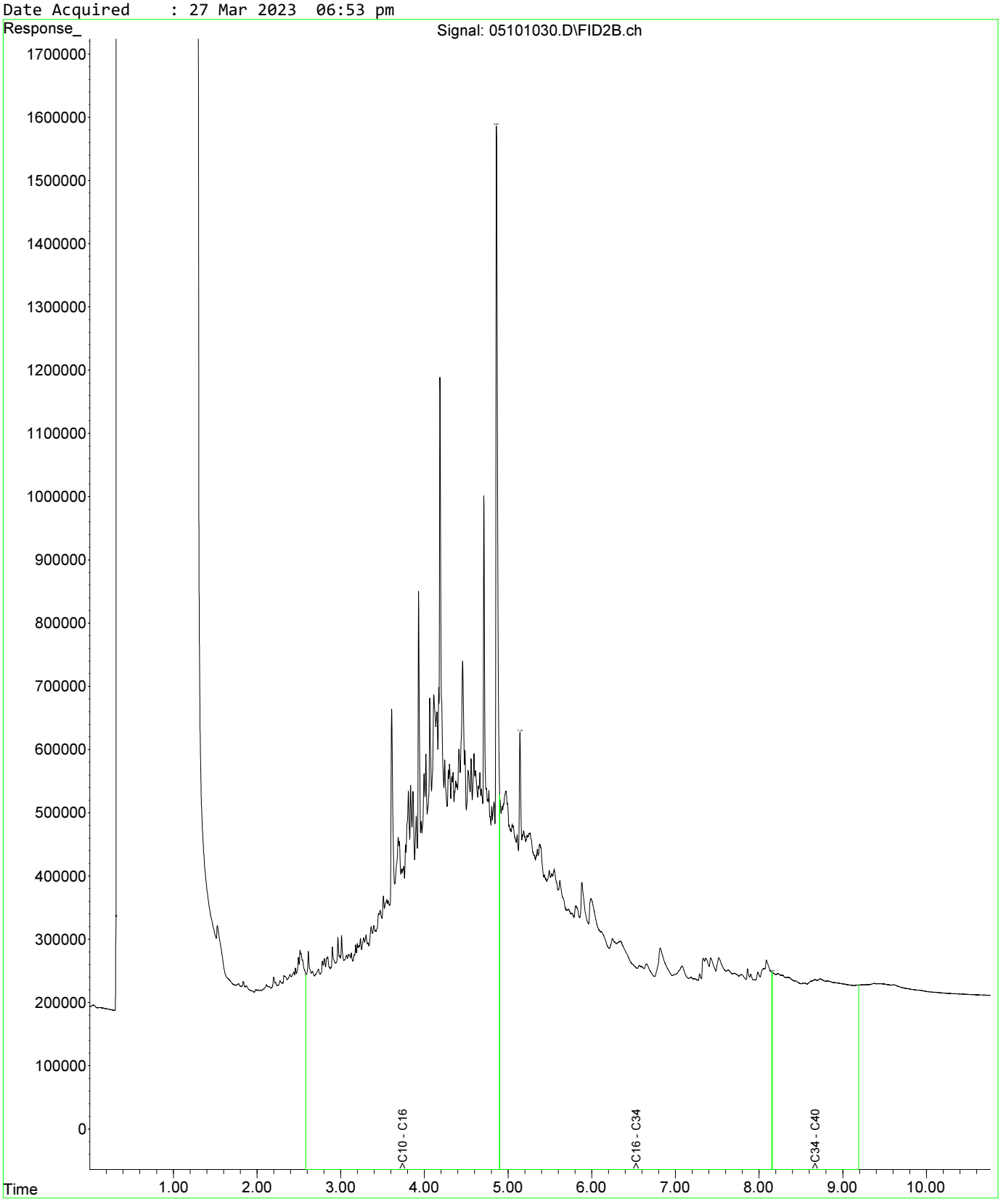
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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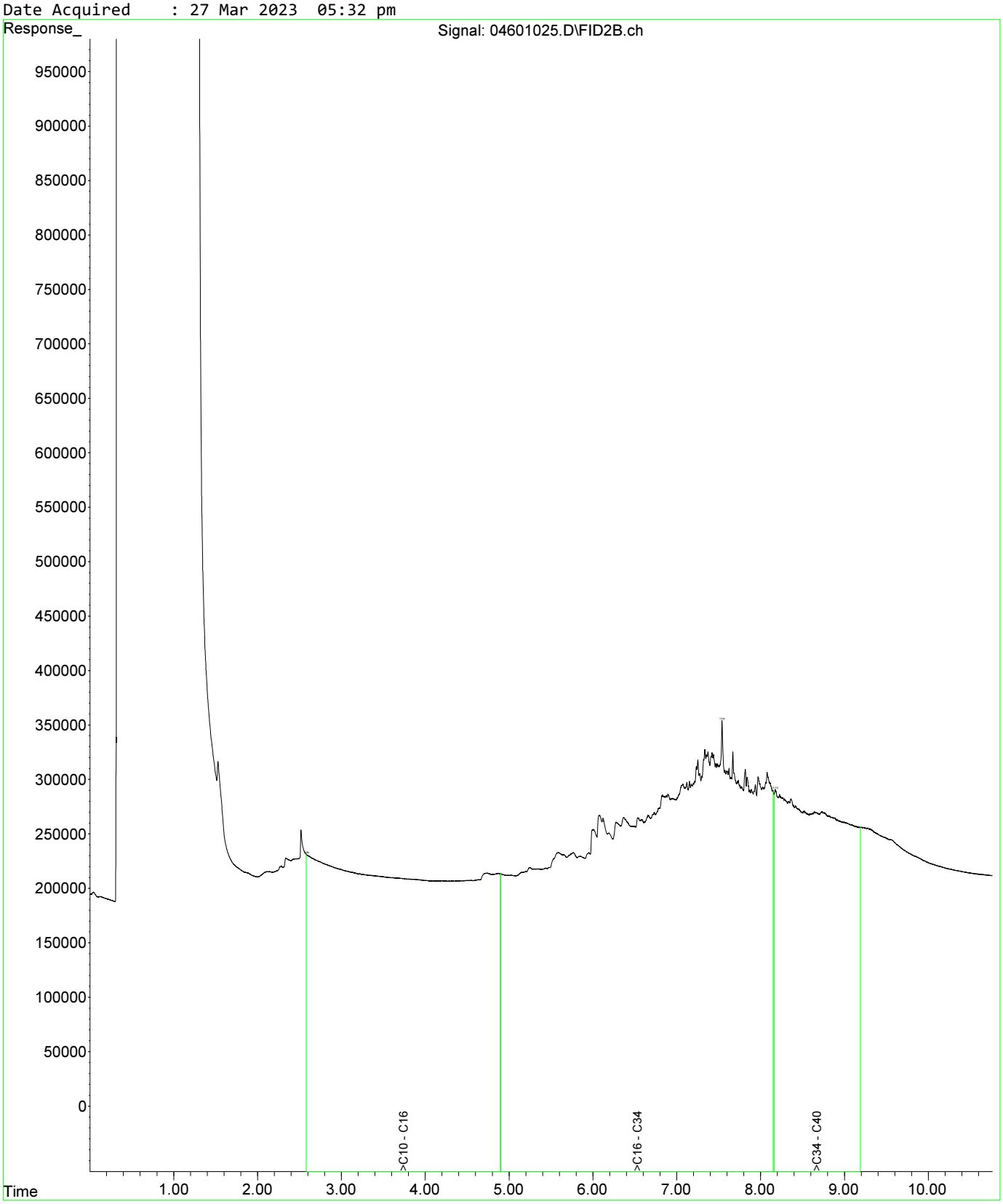

Fraction Scheme : NEPM DRAFT HIL
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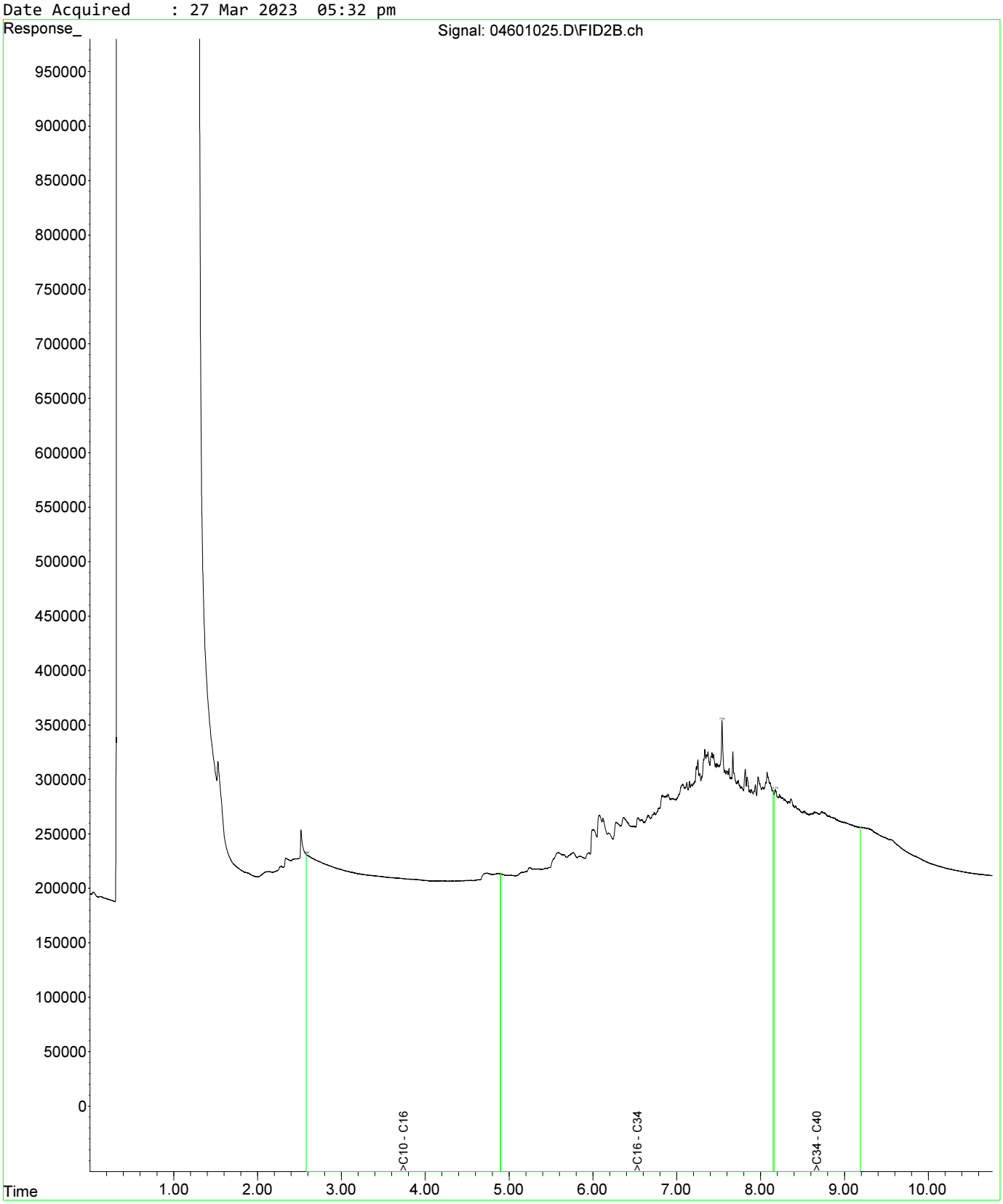

Fraction Scheme : NEPM DRAFT HIL
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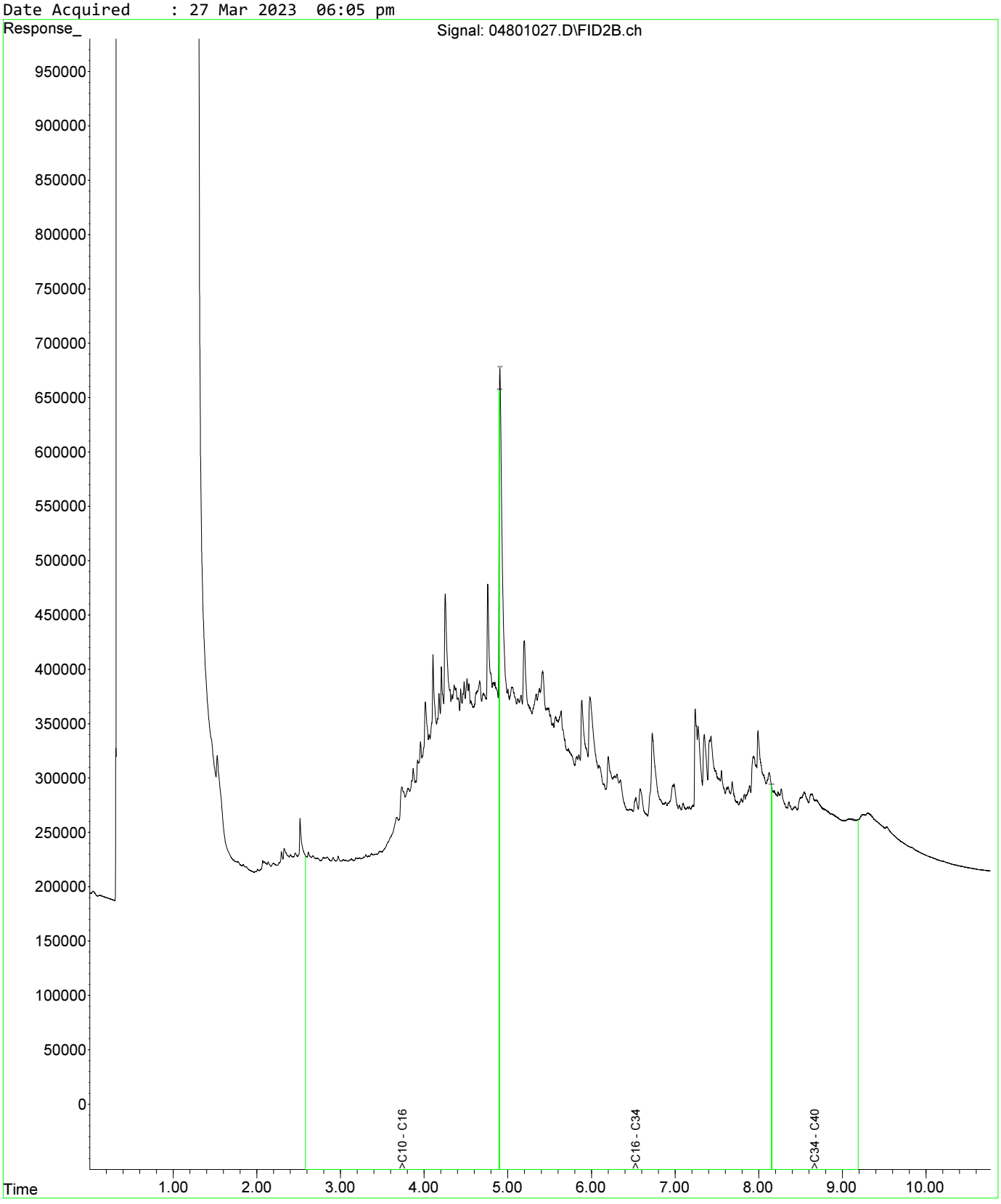

Fraction Scheme : NEPM DRAFT HIL
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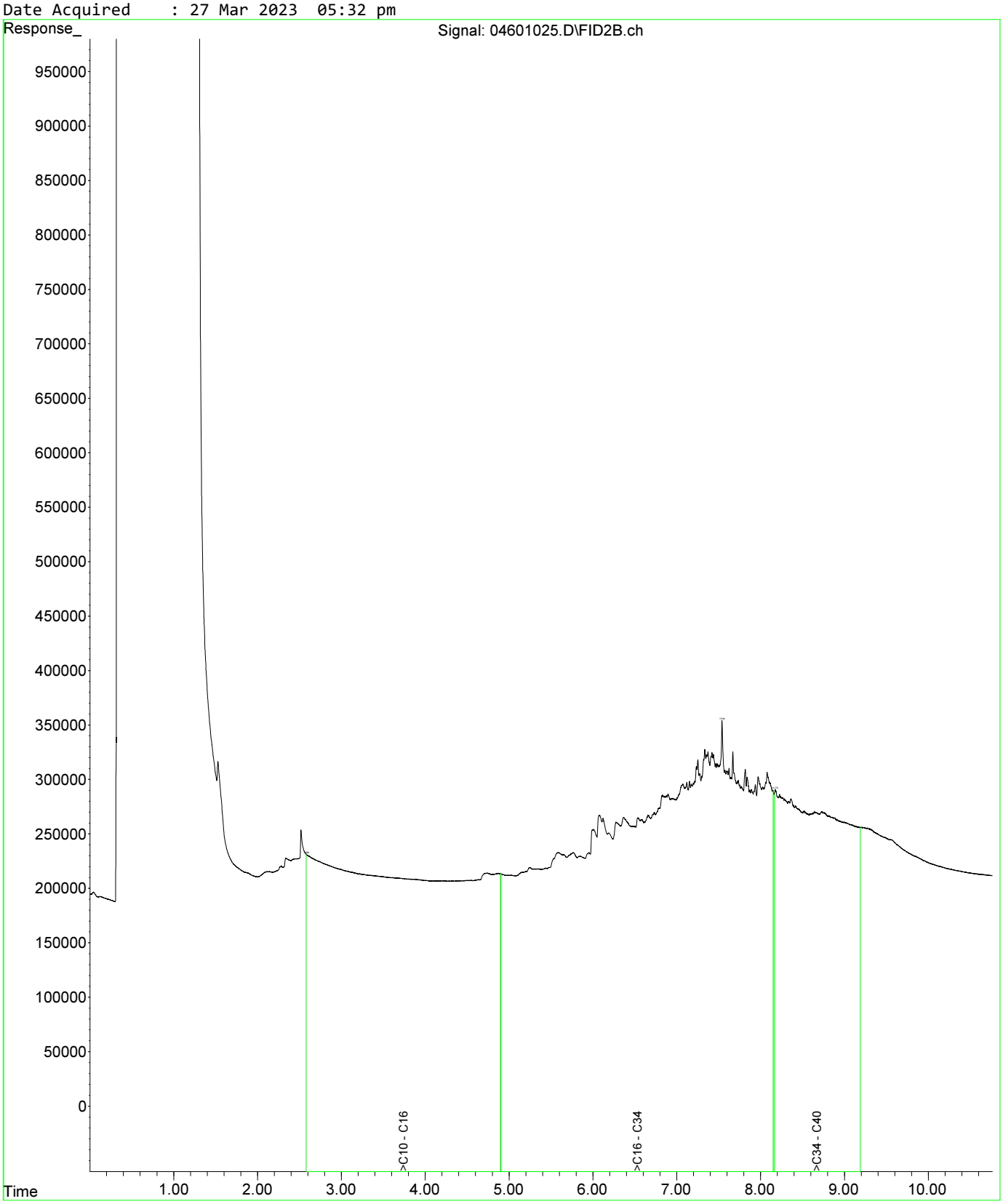

Fraction Scheme : NEPM DRAFT HIL
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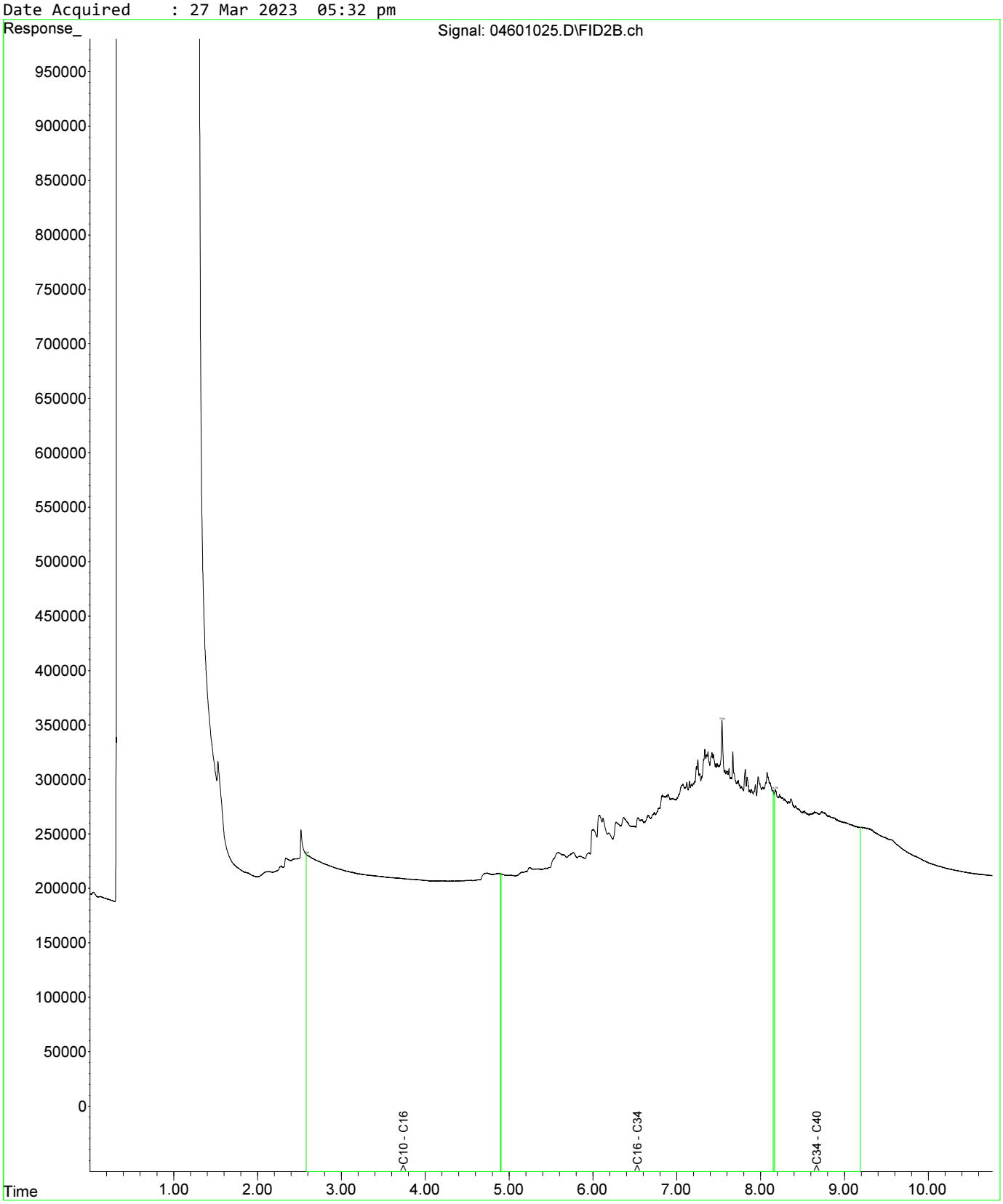

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-019
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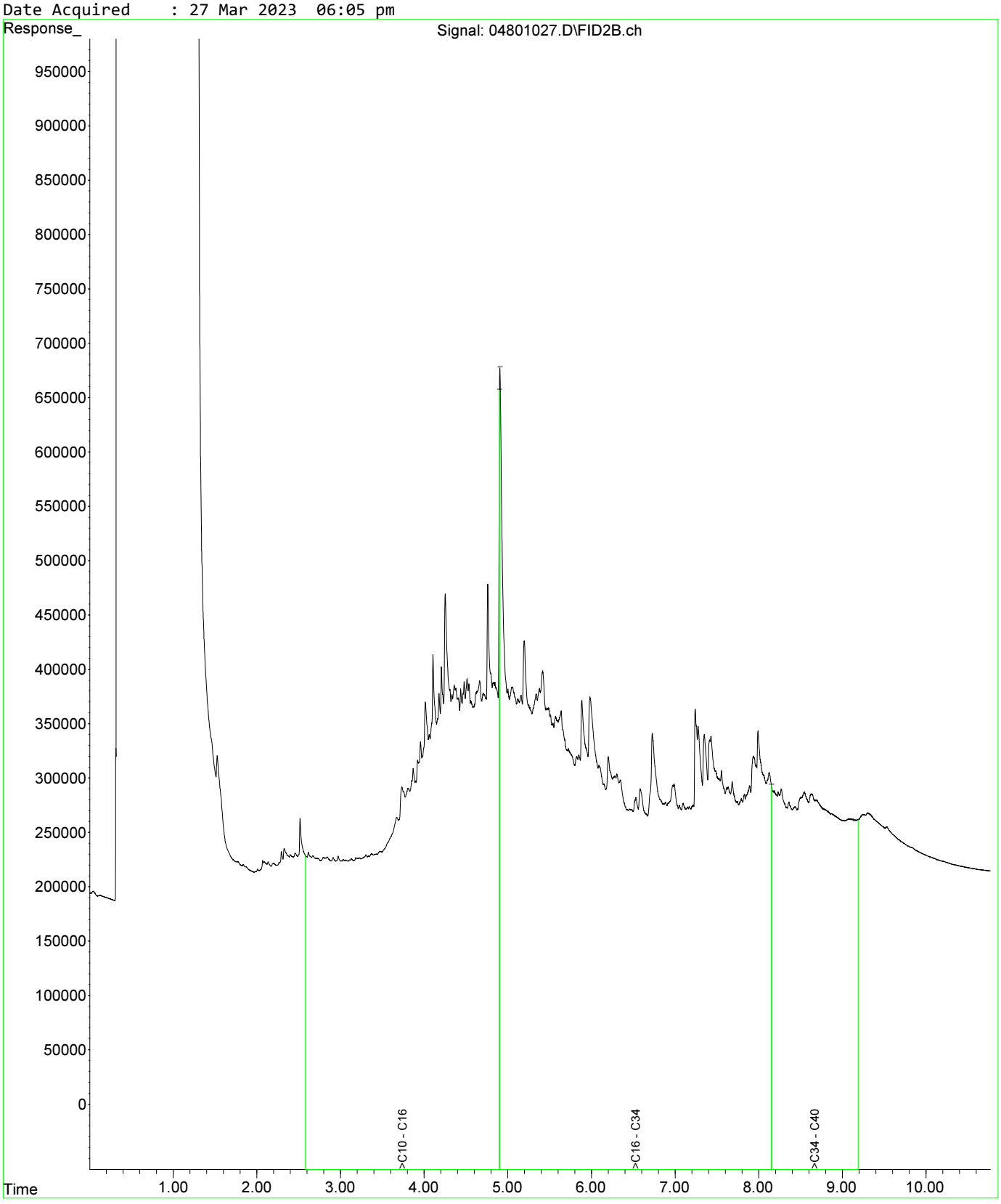
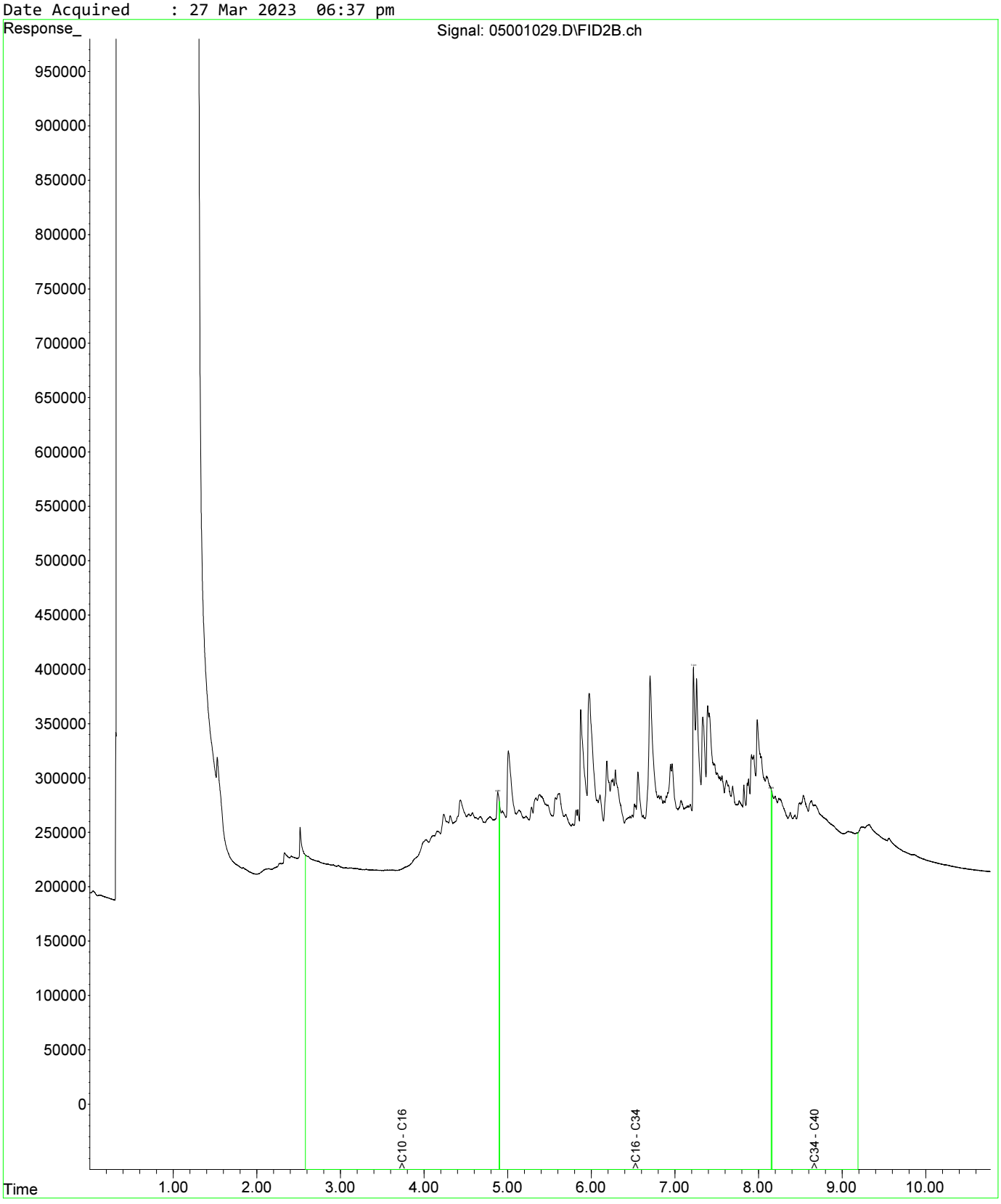
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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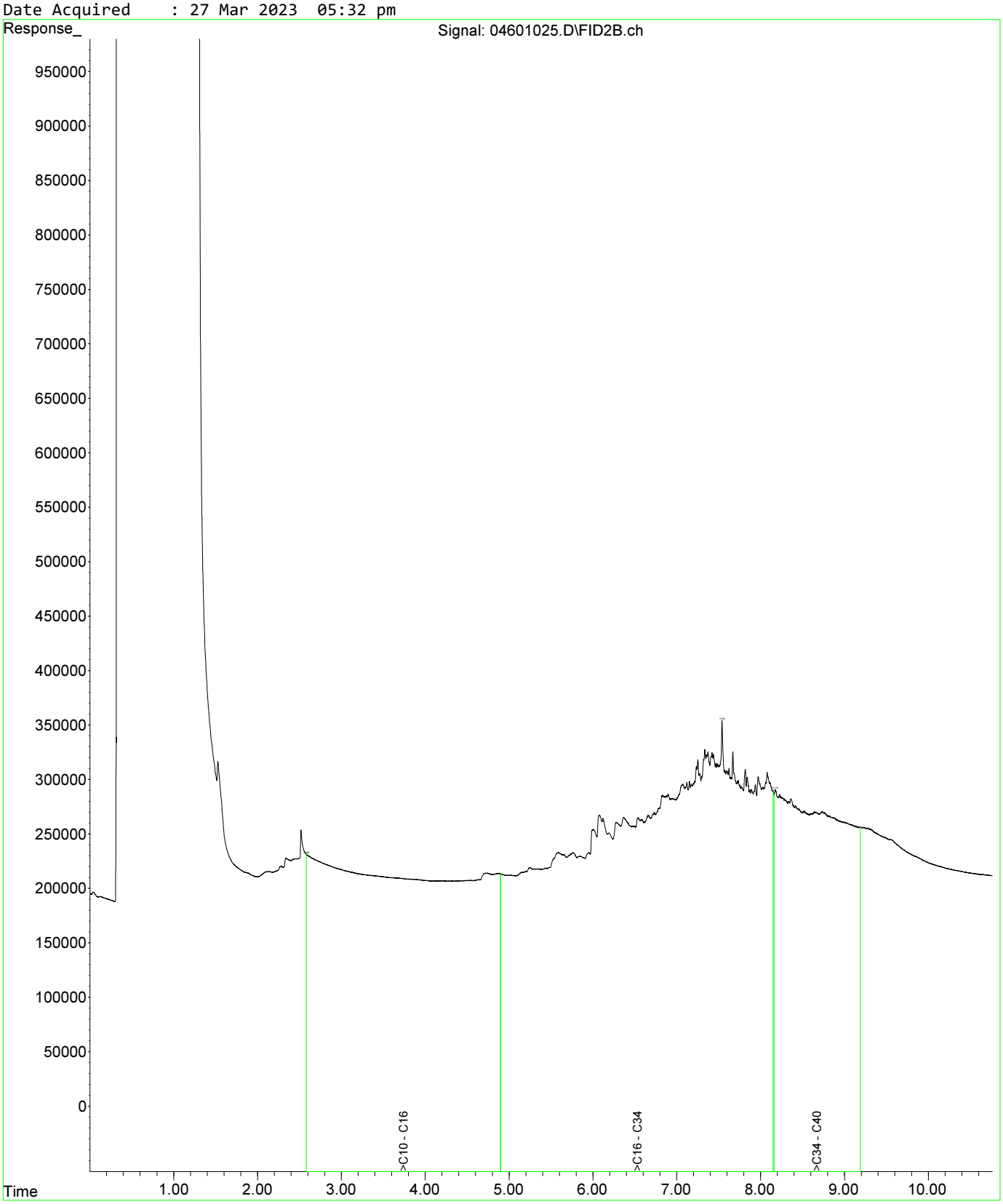

Fraction Scheme : NEPM DRAFT HIL
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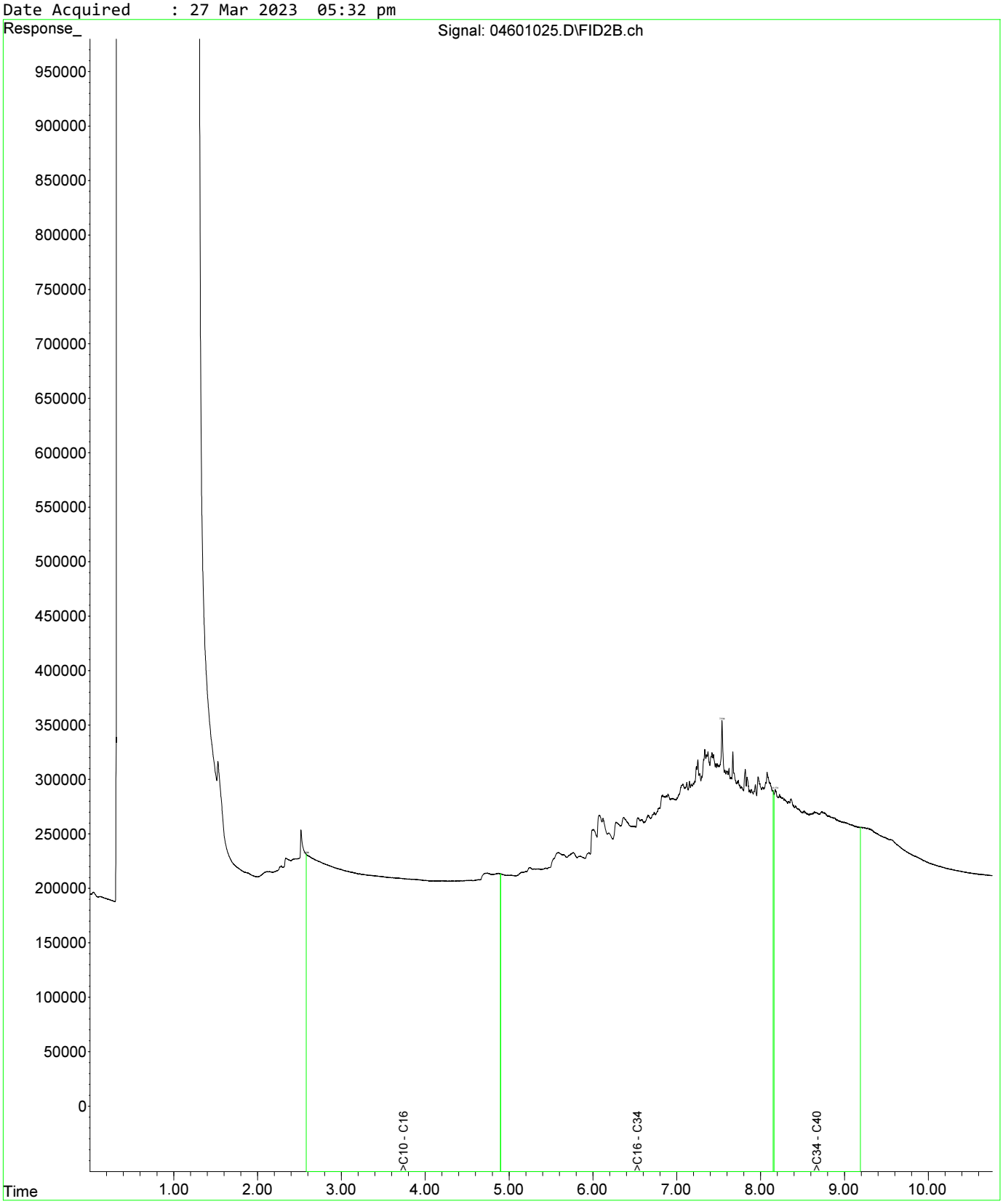

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-019
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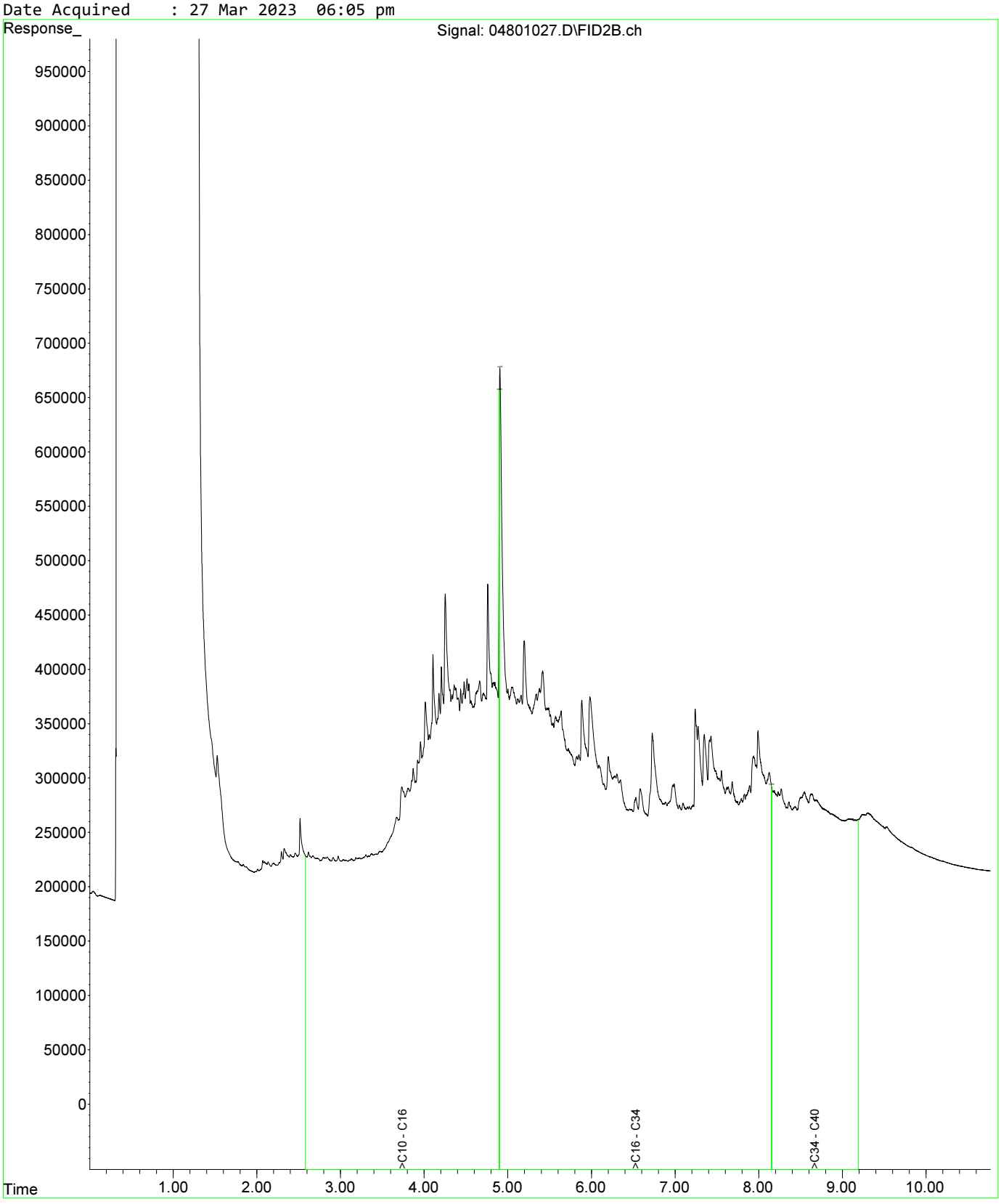

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
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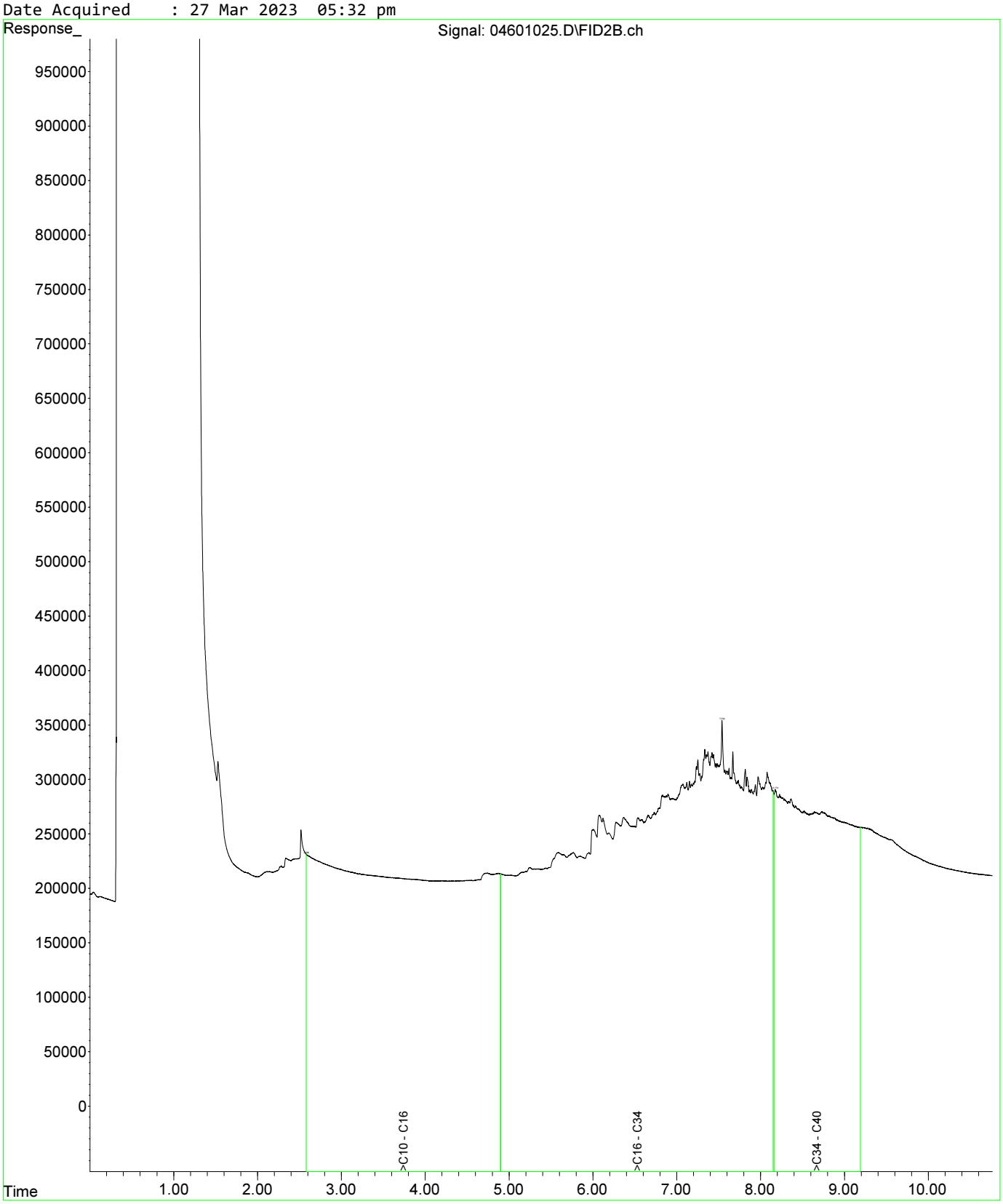

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
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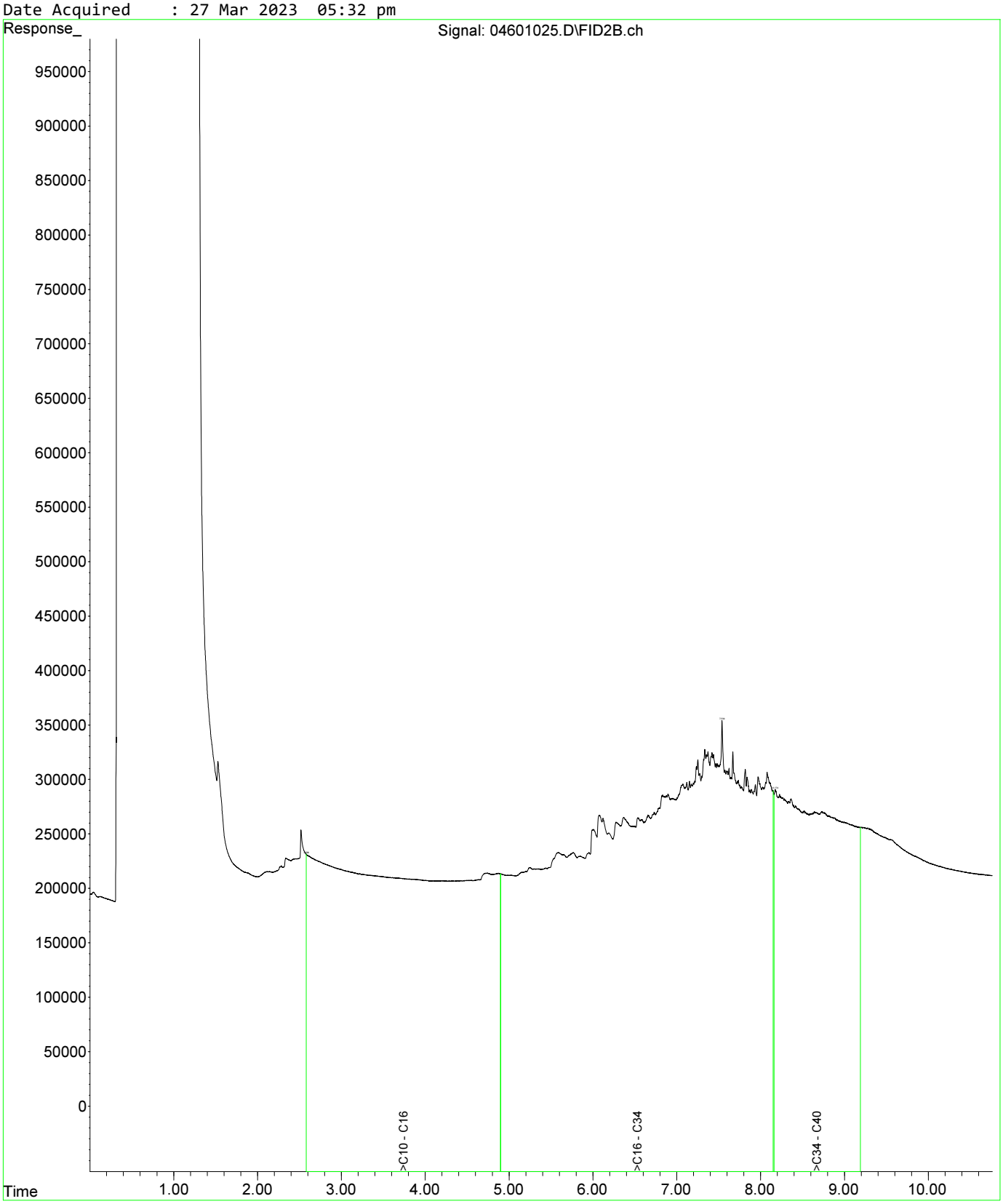

Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
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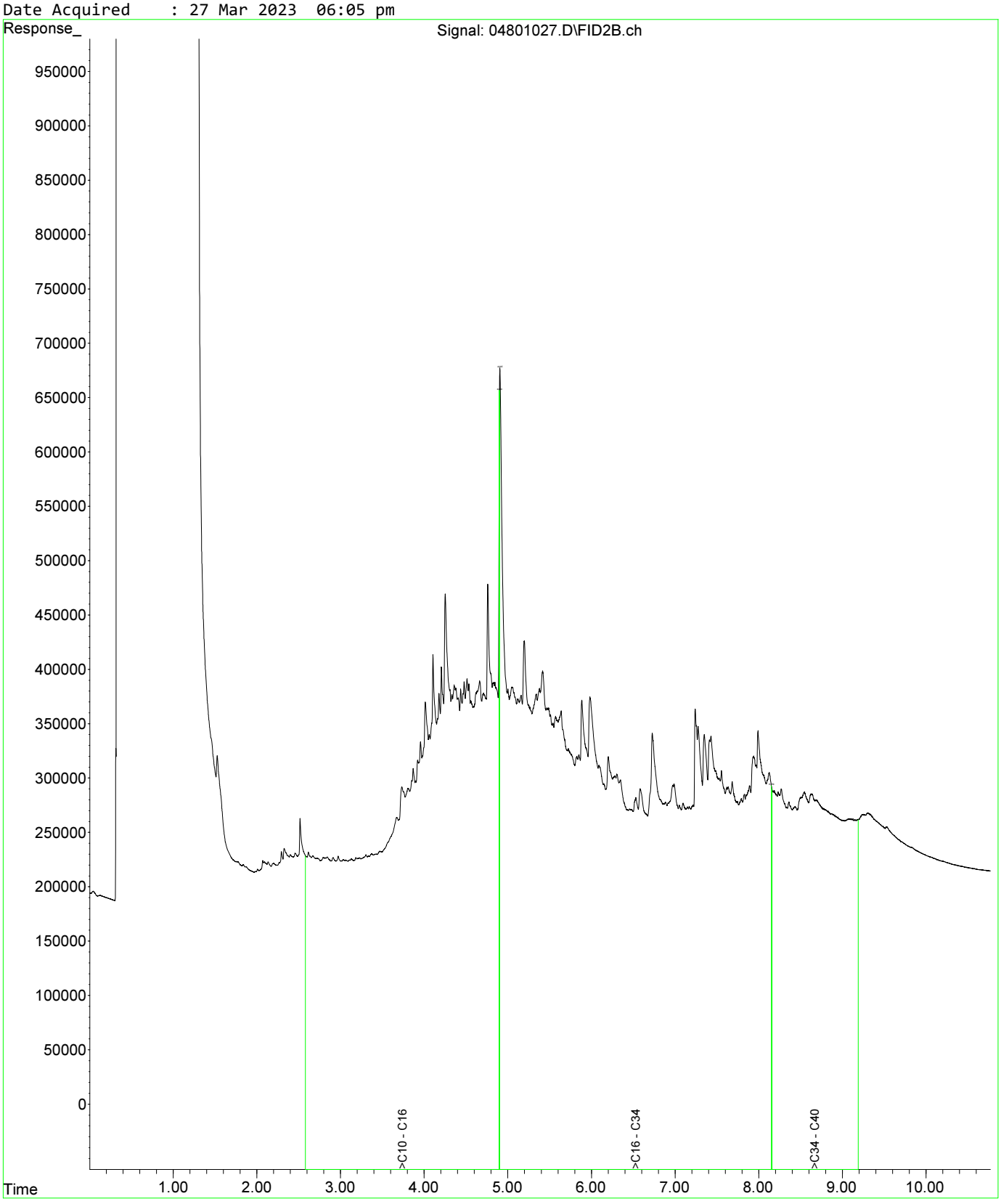

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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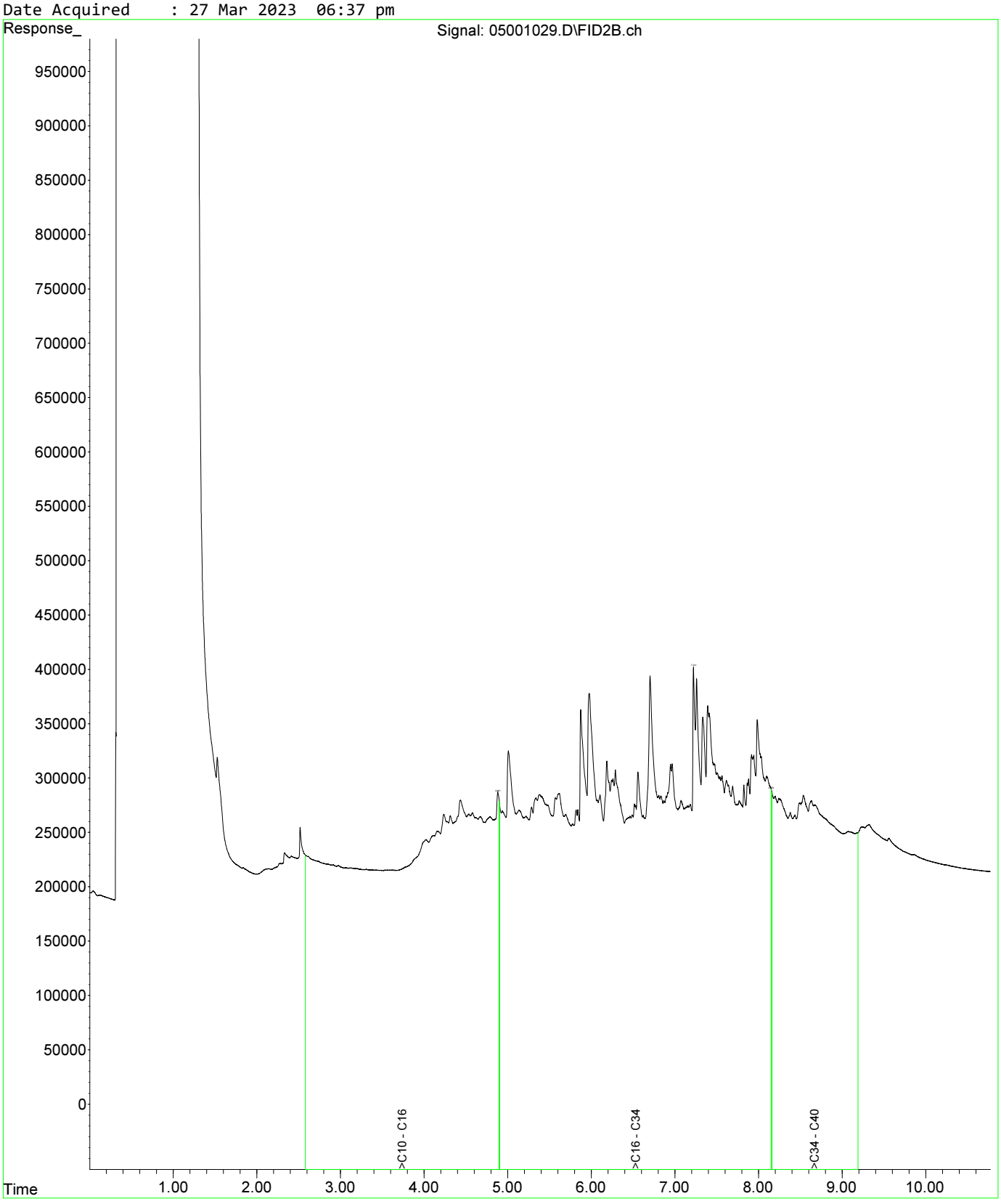

Fraction Scheme : NEPM DRAFT HIL
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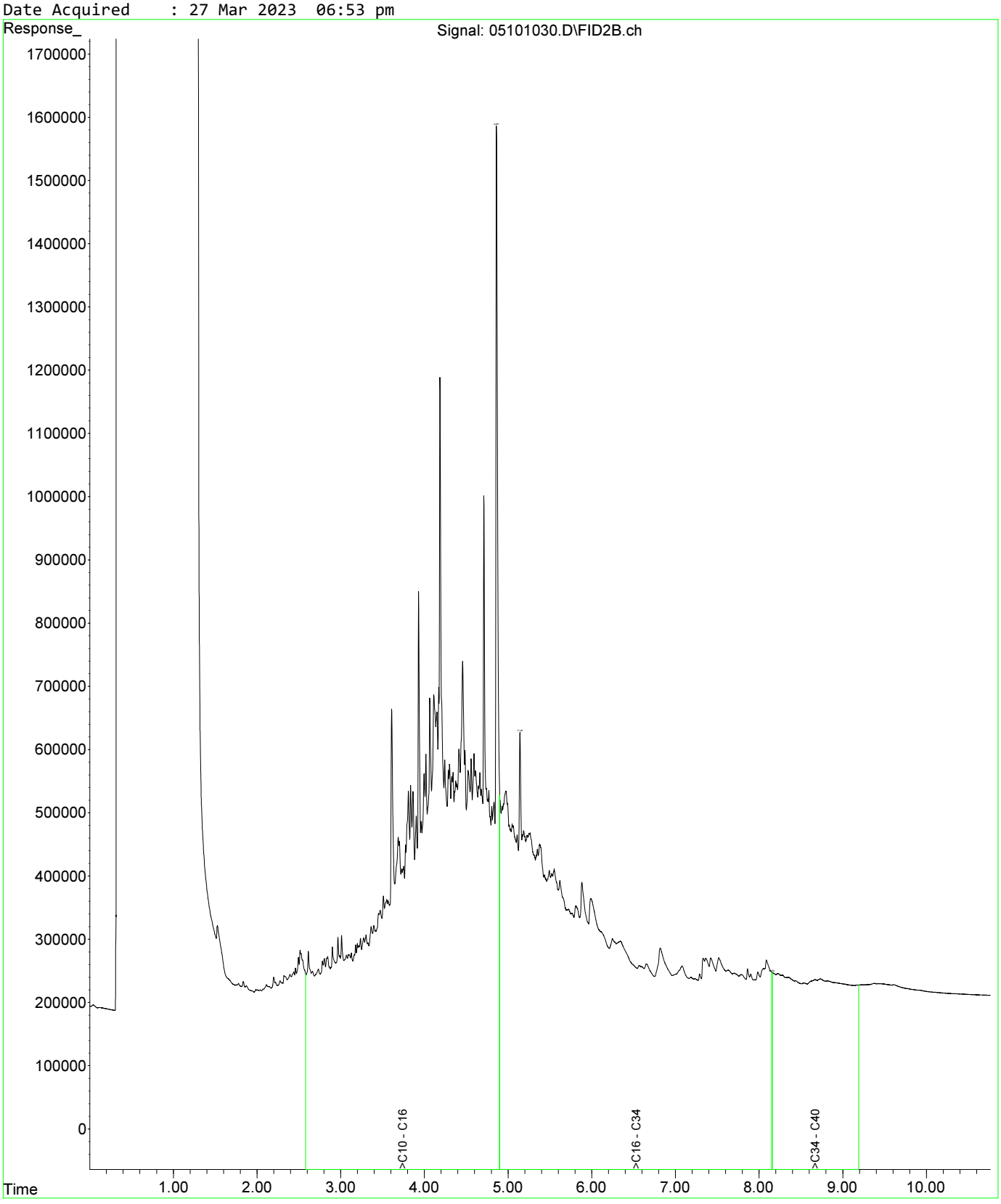
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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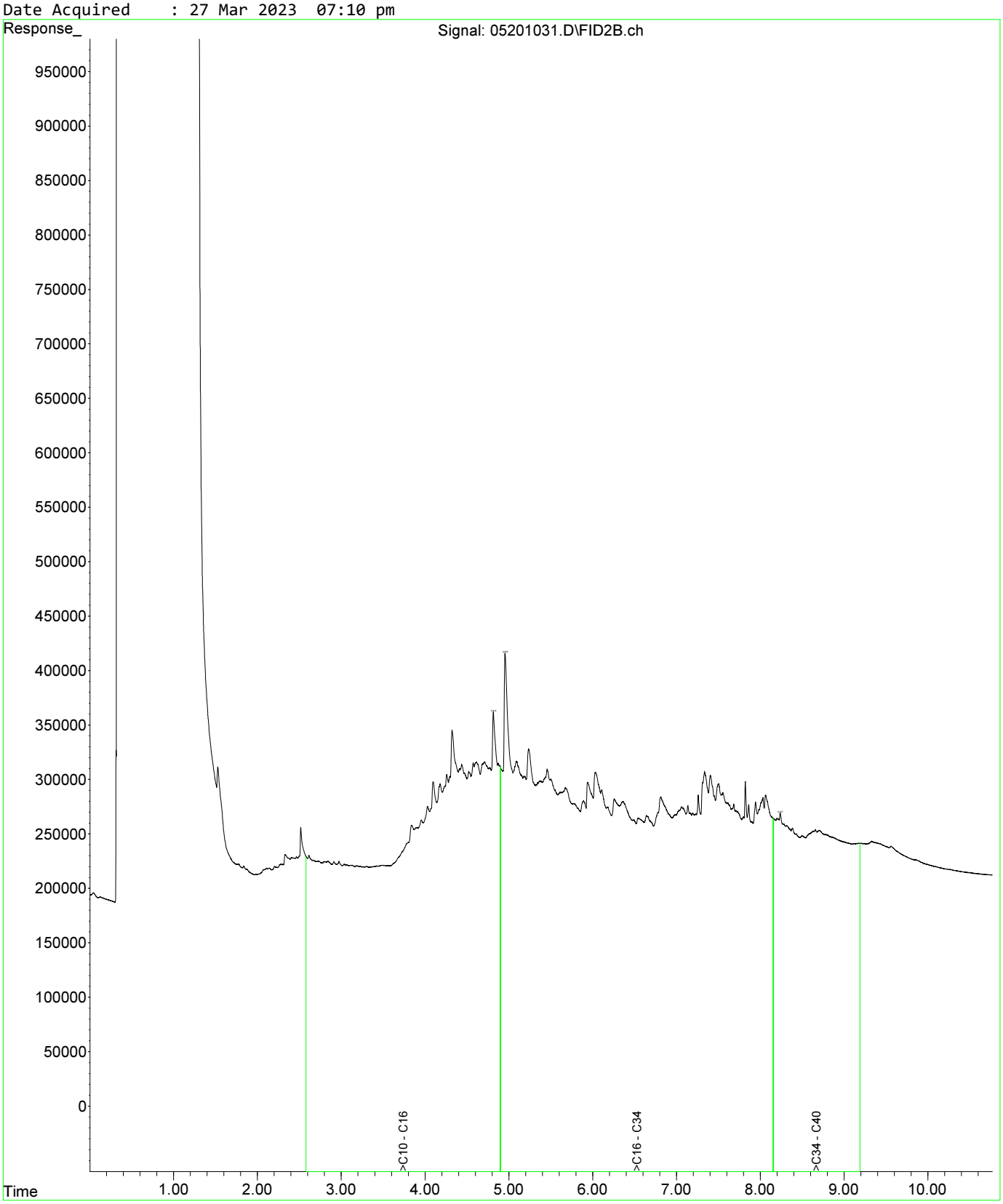
Date Acquired : 27 Mar 2023 07:10 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
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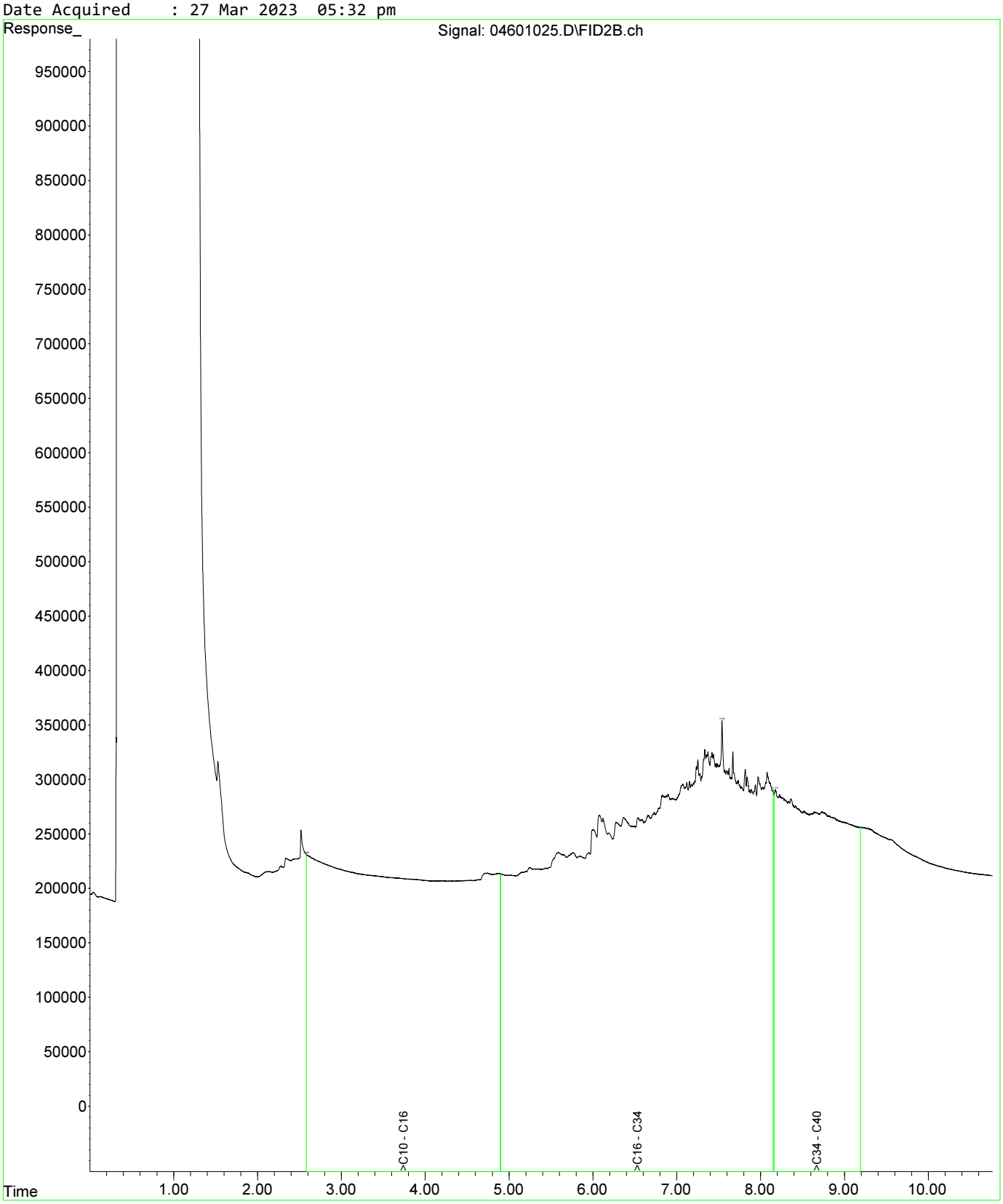
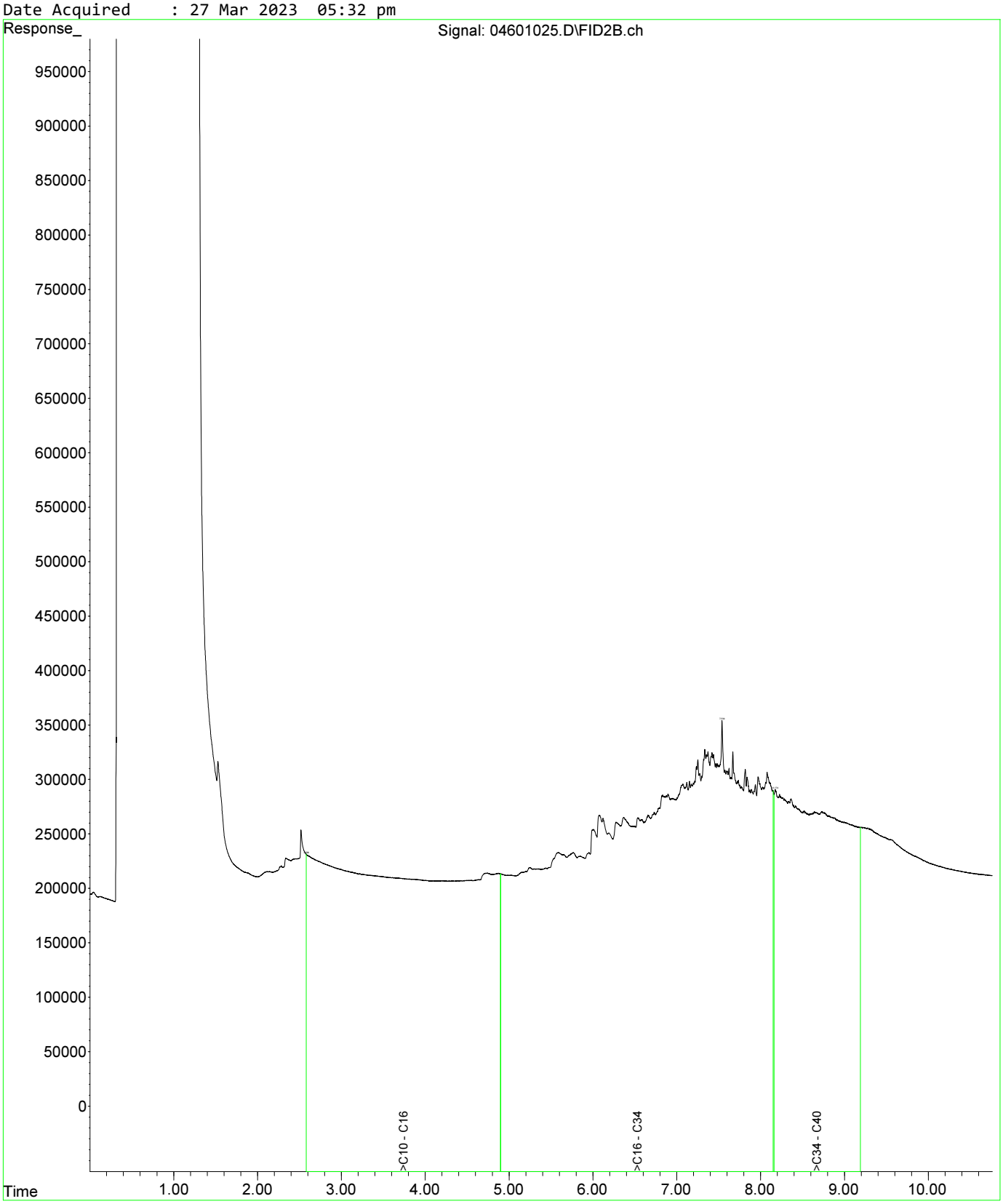
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
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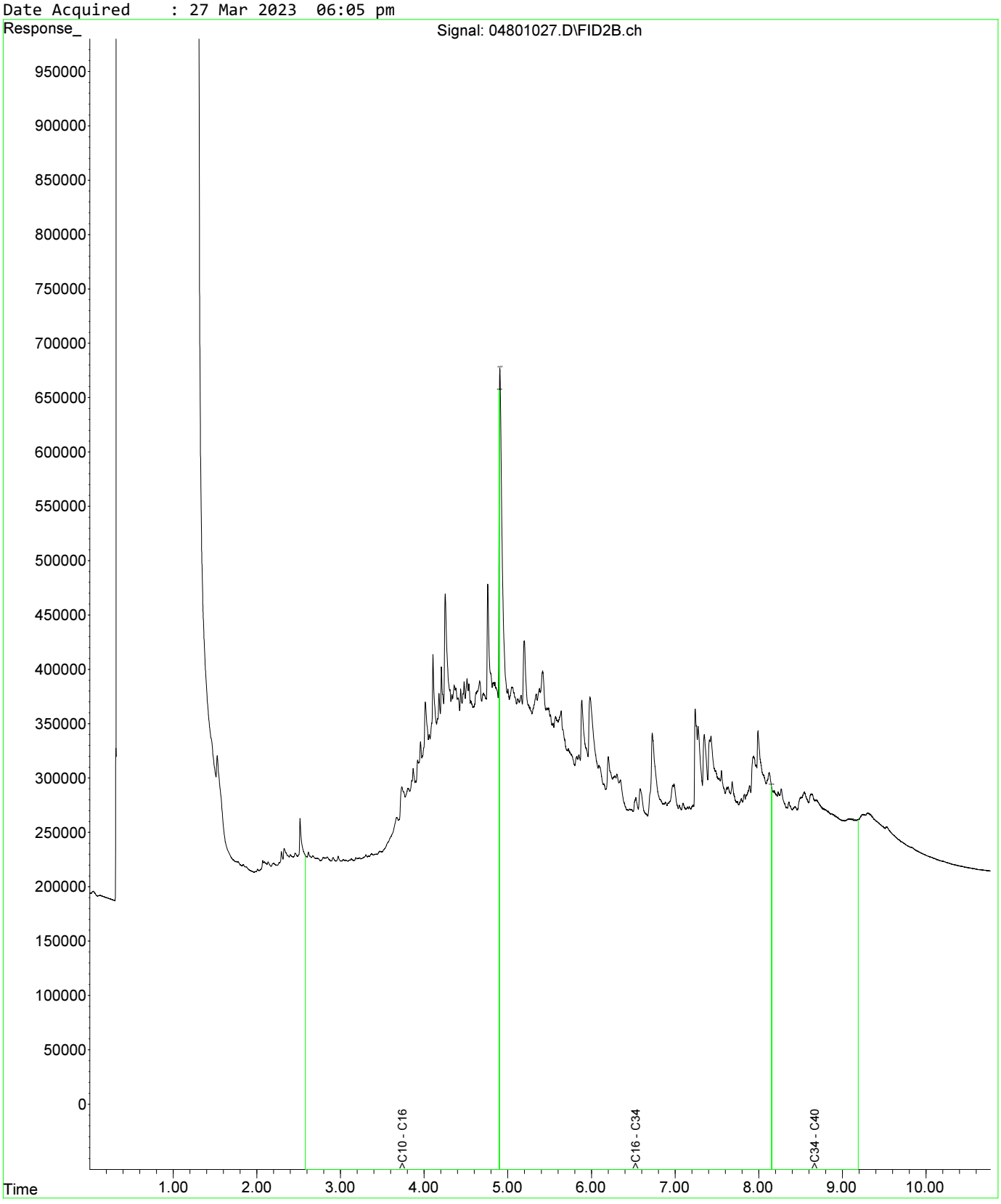
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
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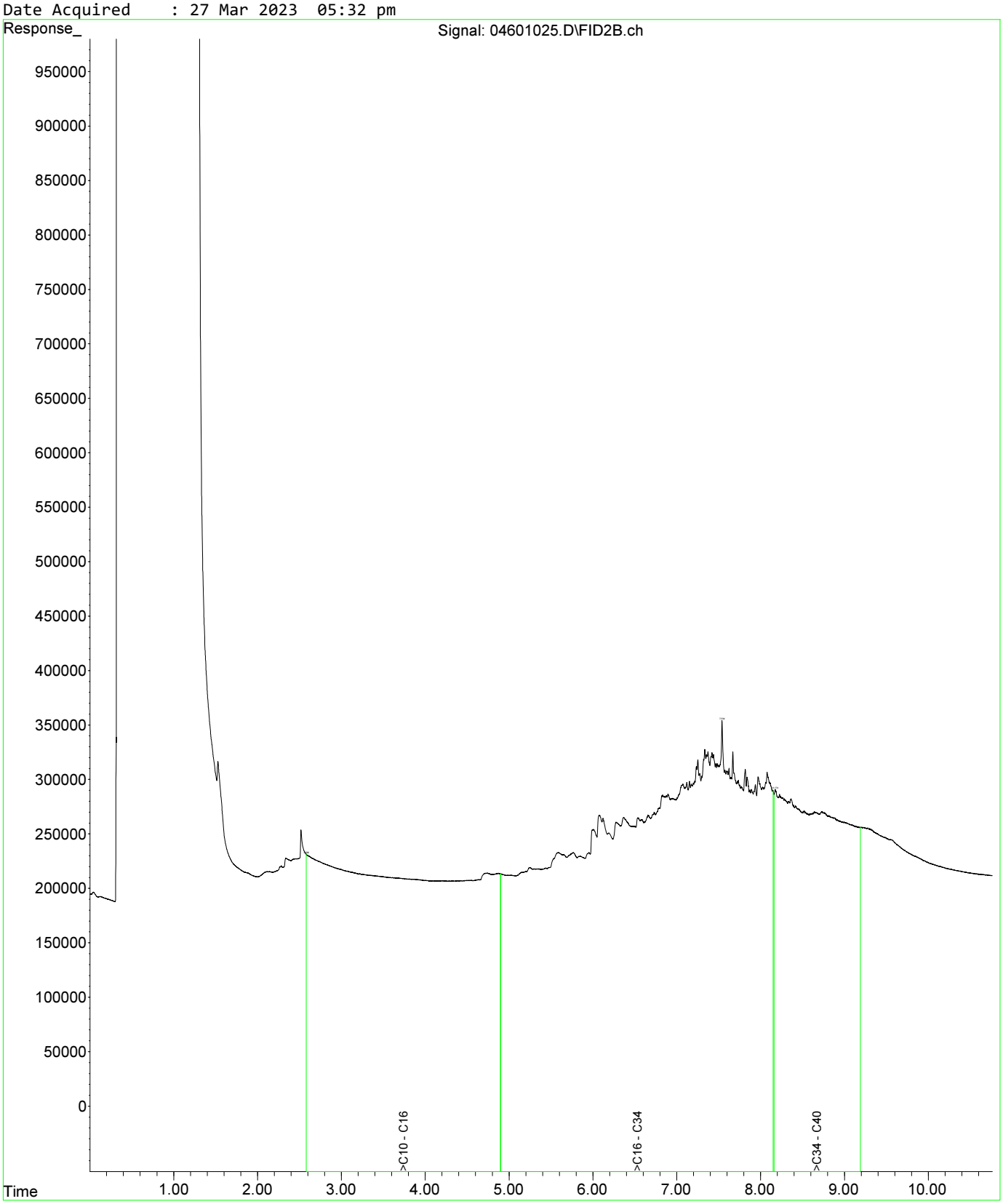

Fraction Scheme : NEPM DRAFT HIL
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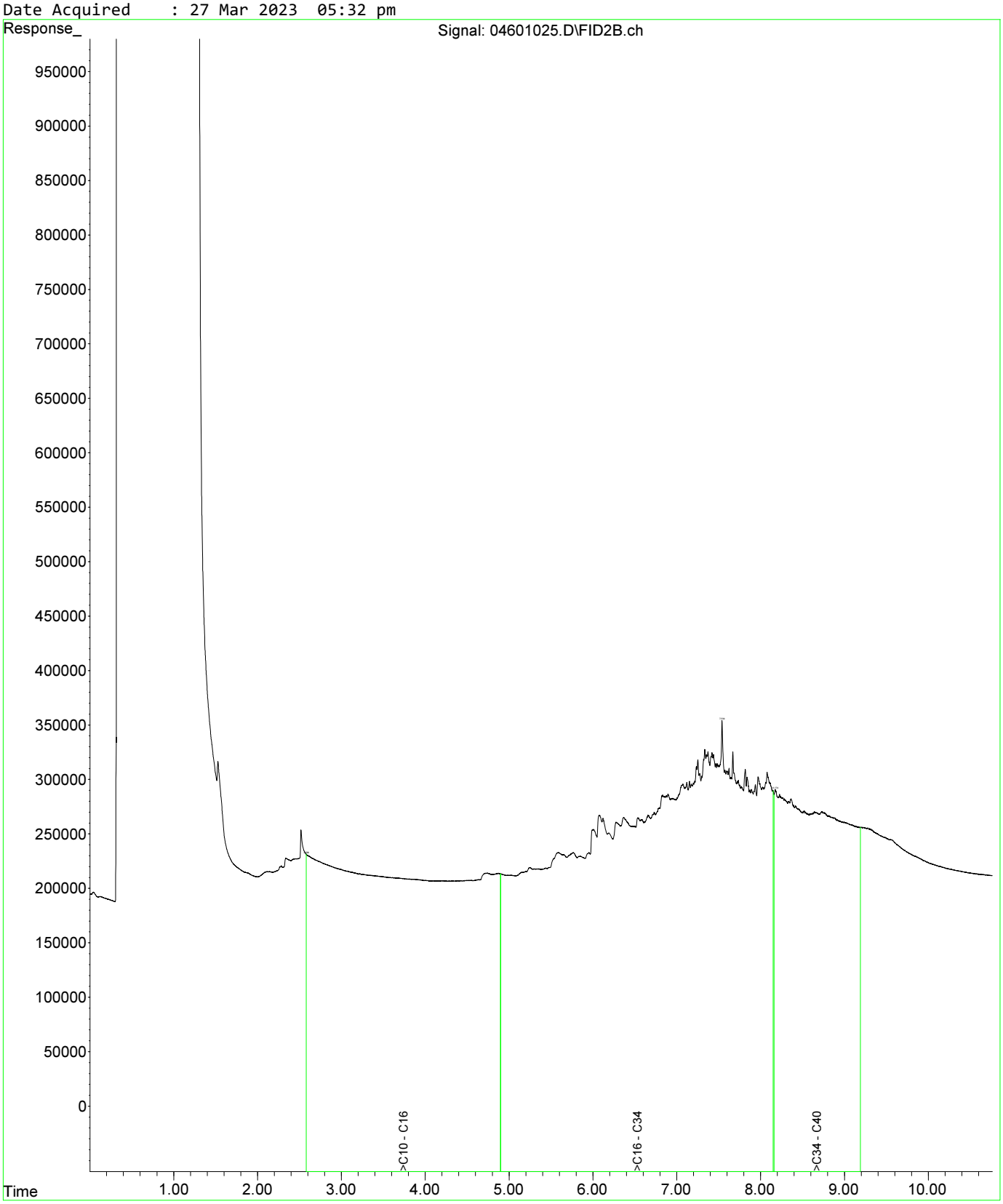
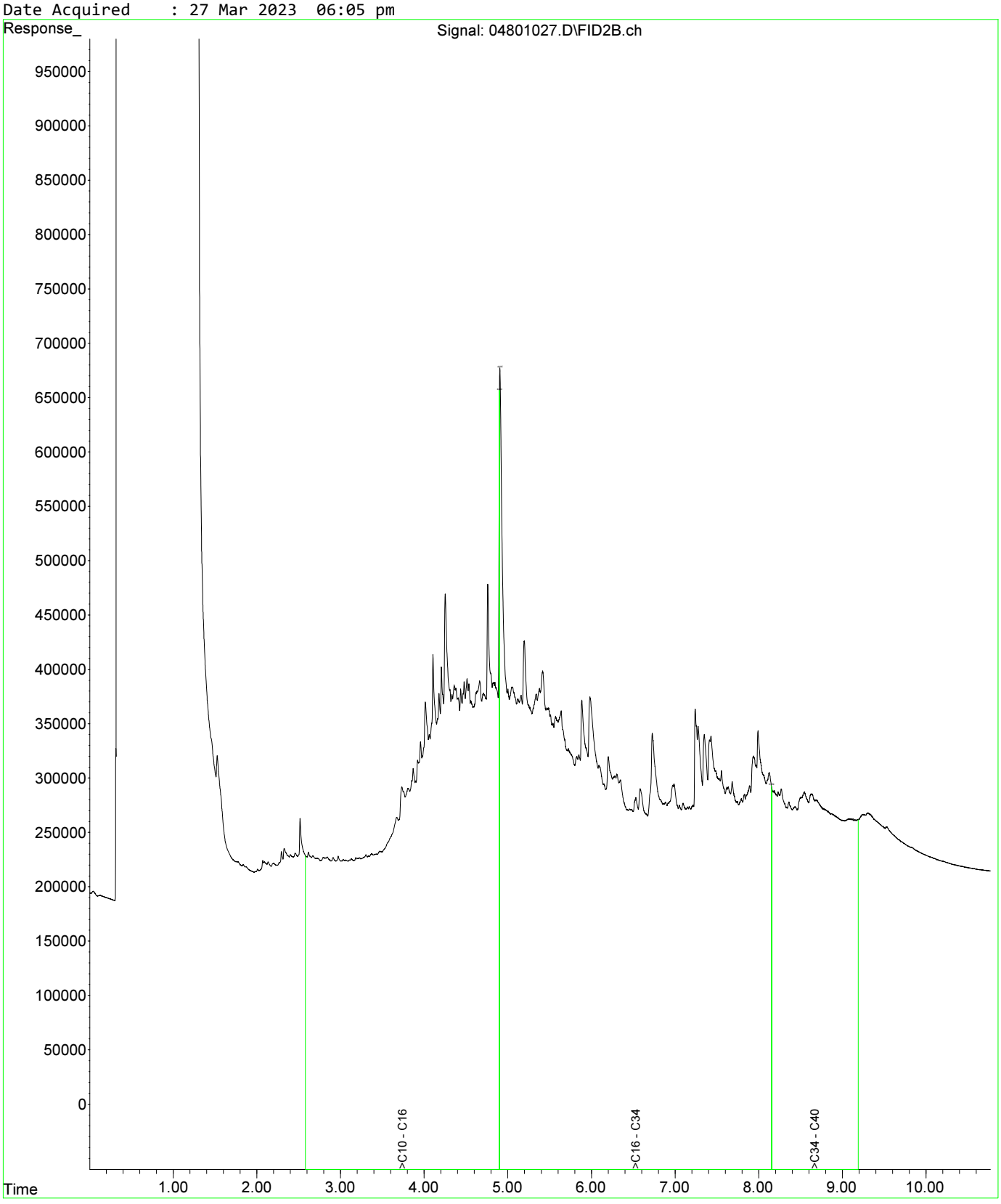


Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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Data File : 05001029.D
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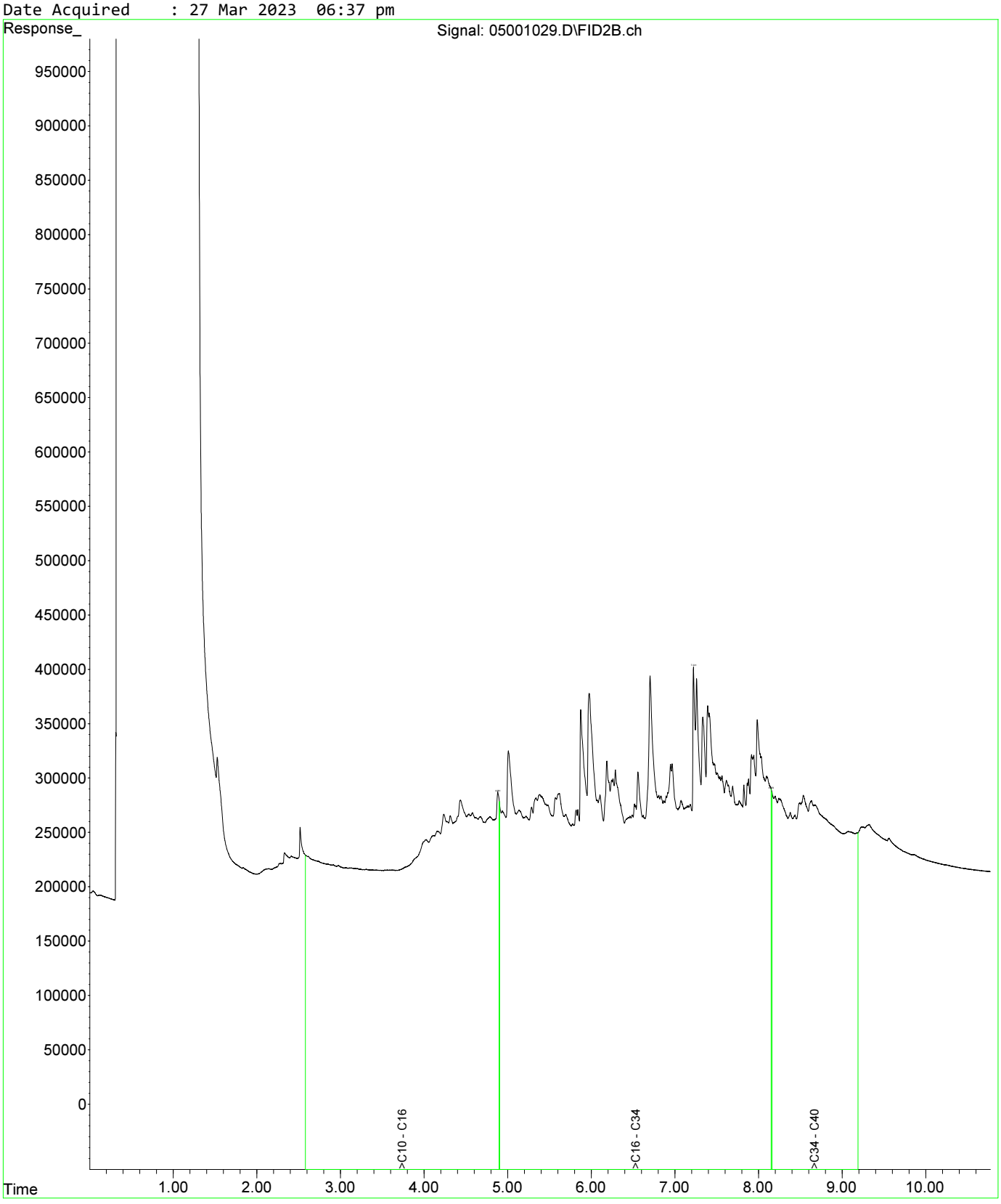
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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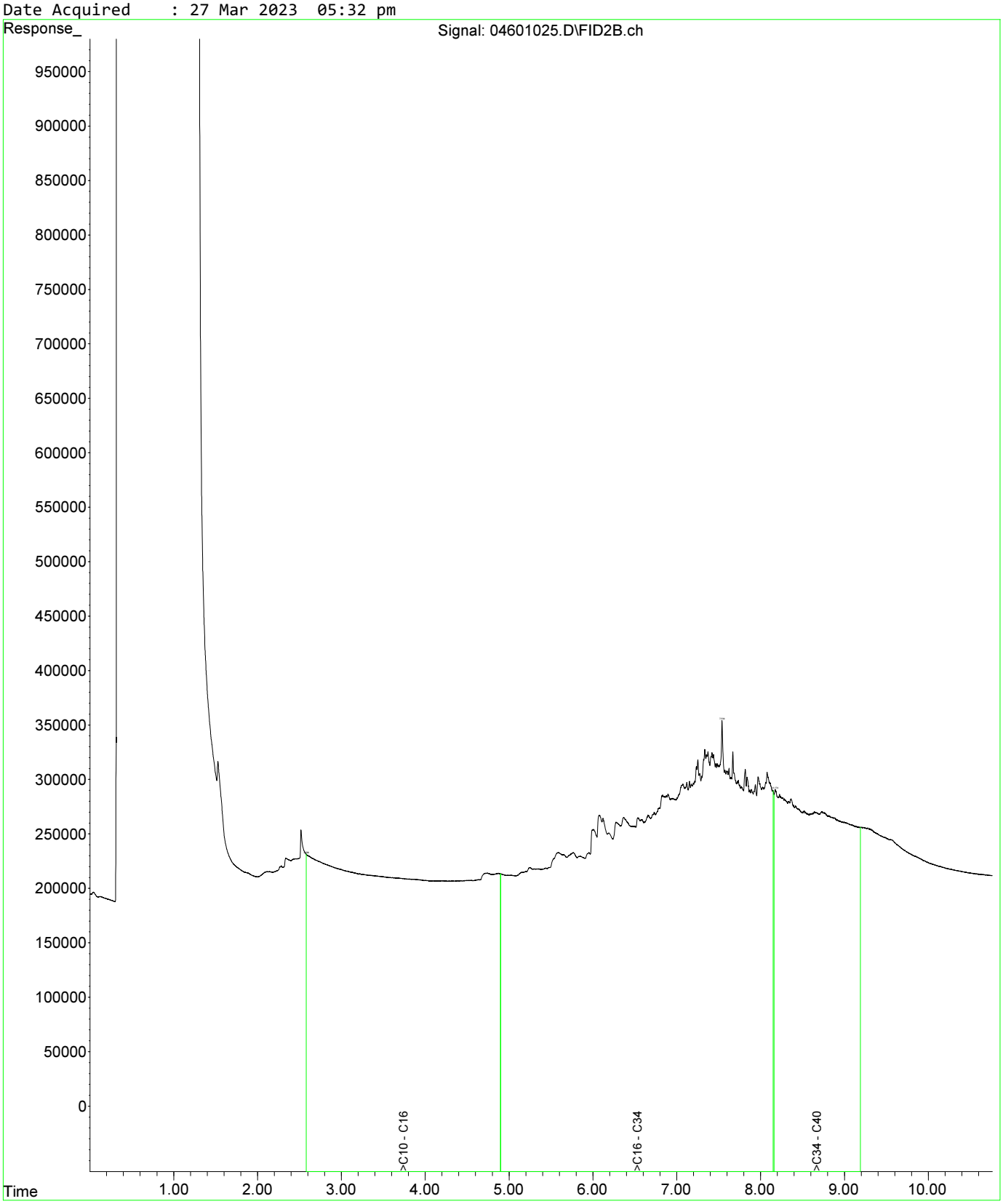

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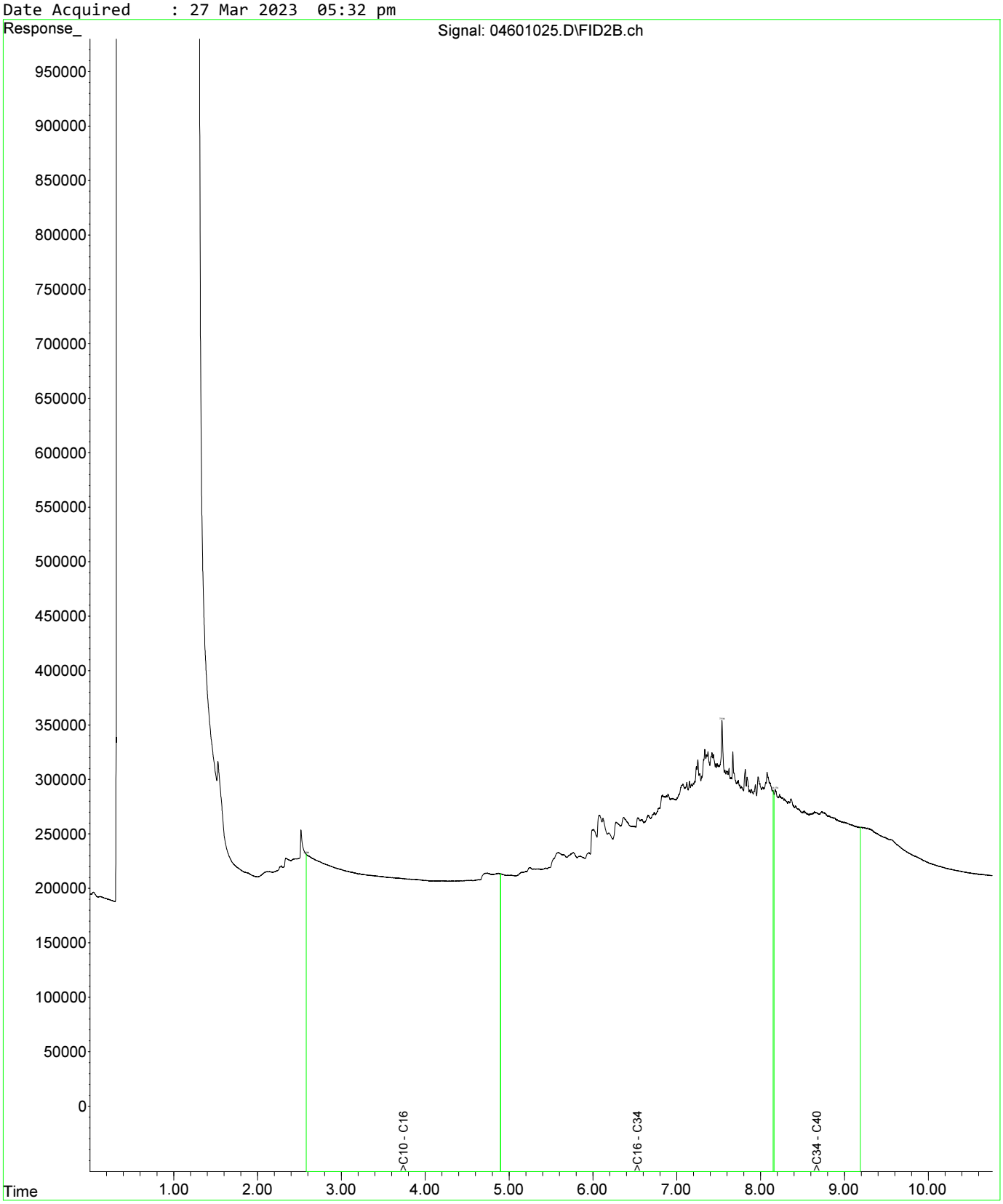

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Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
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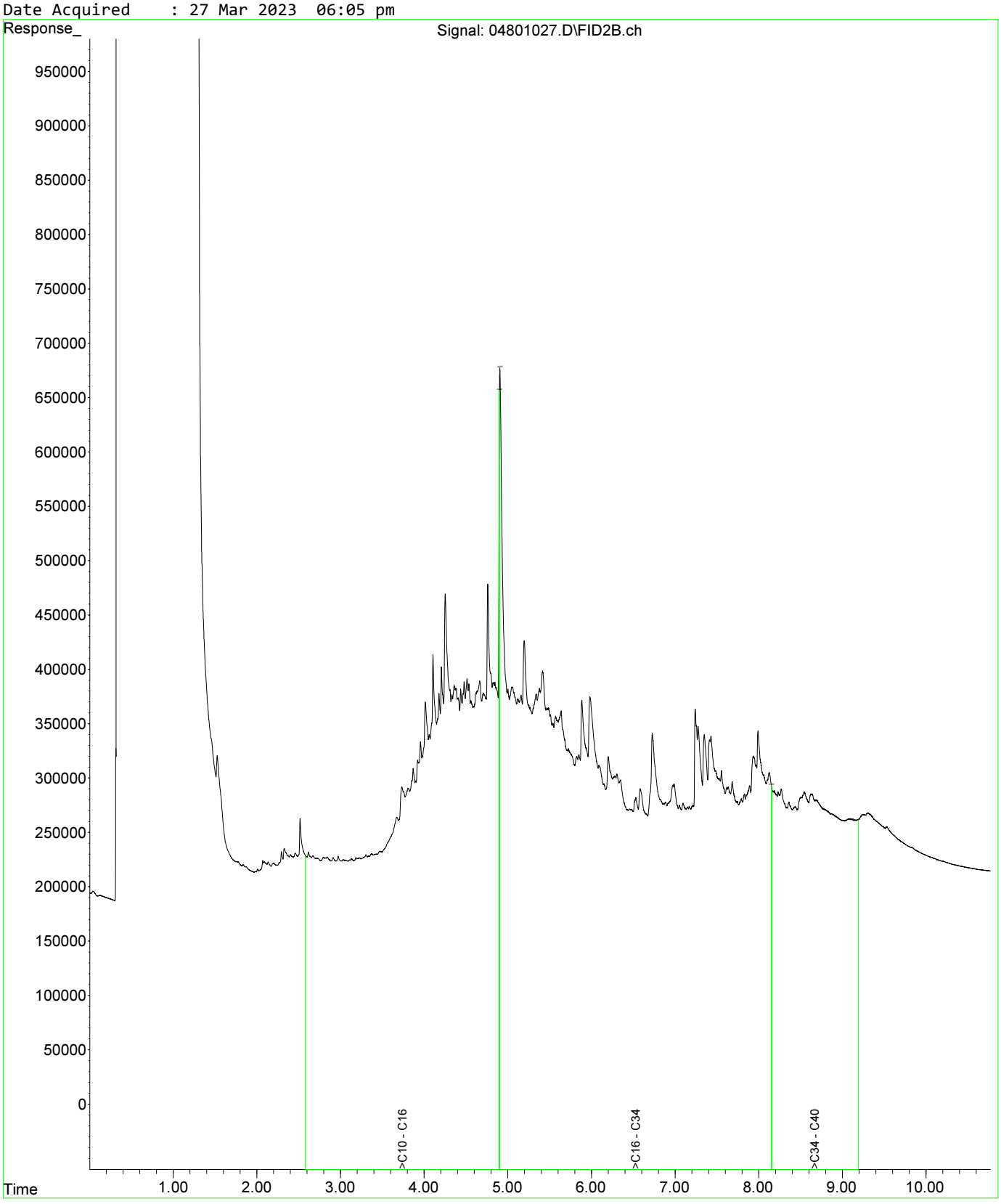

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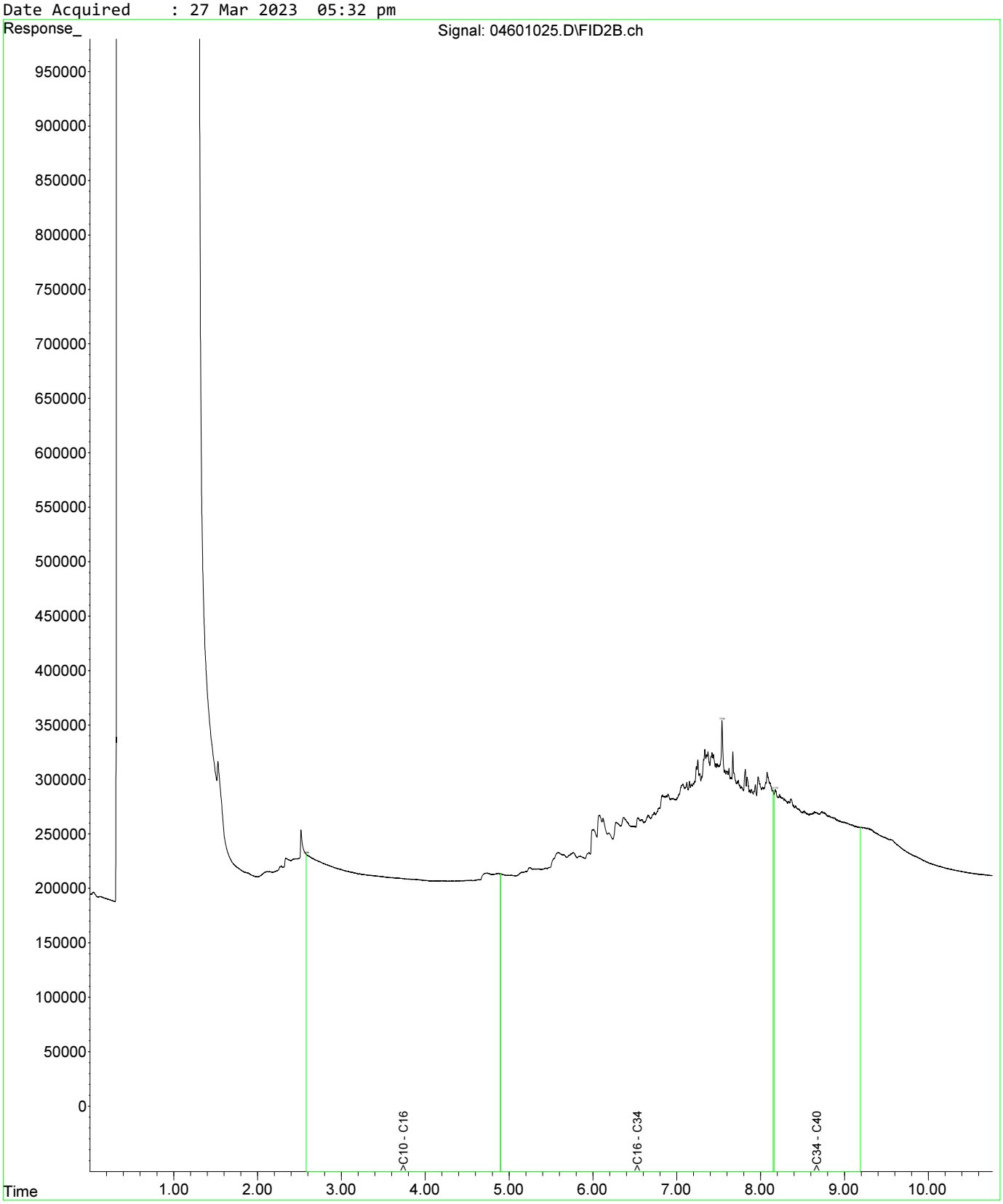

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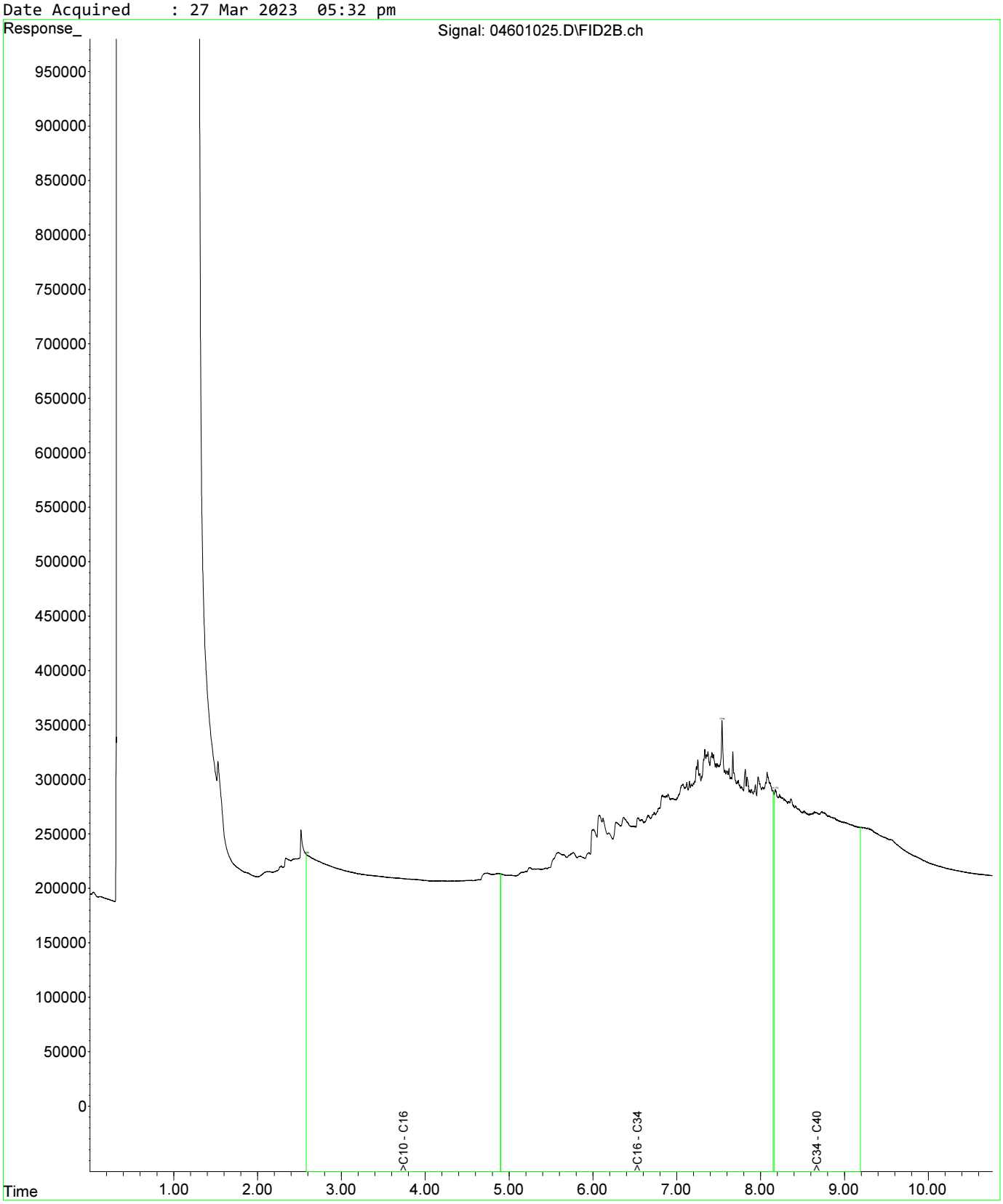

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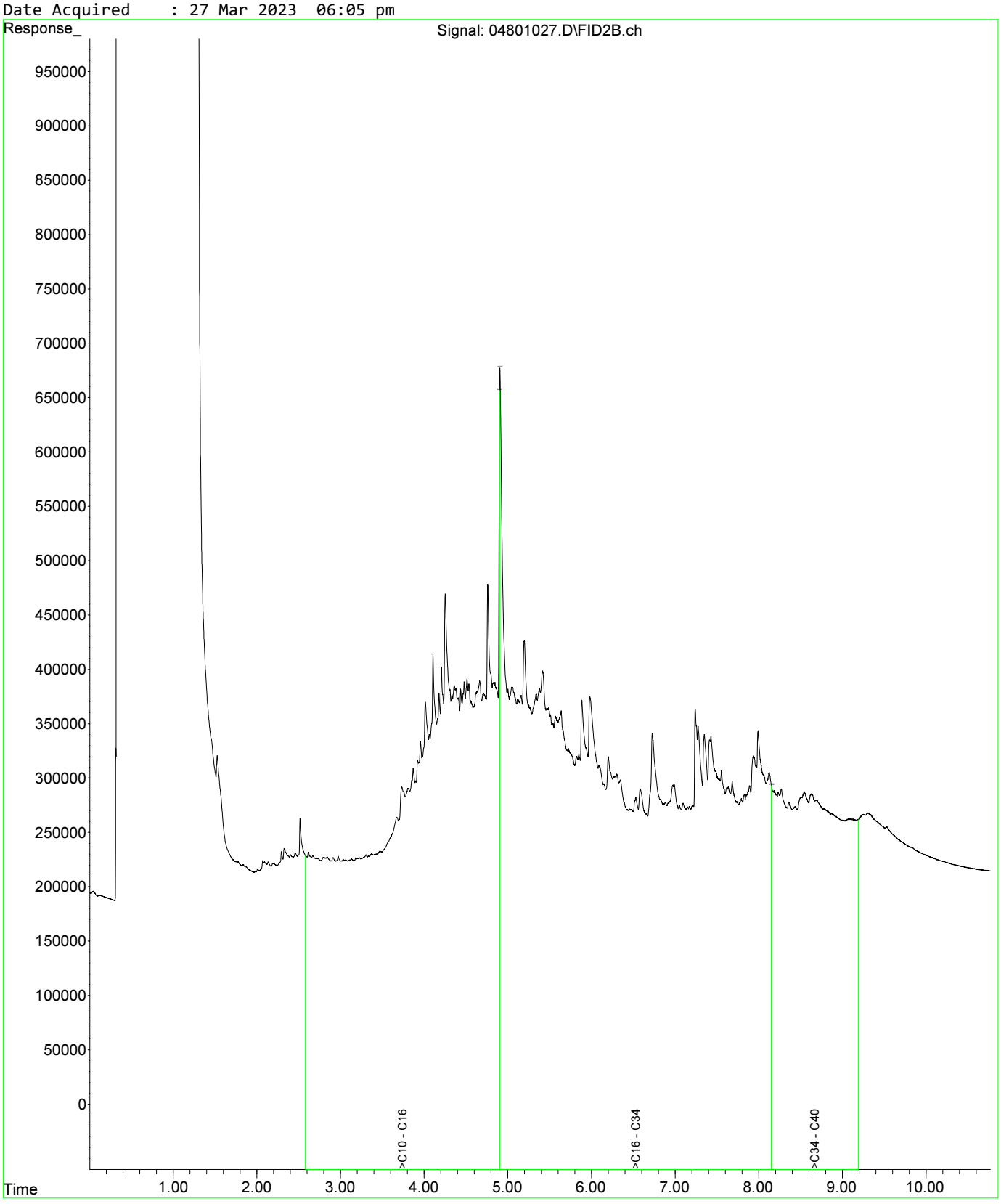

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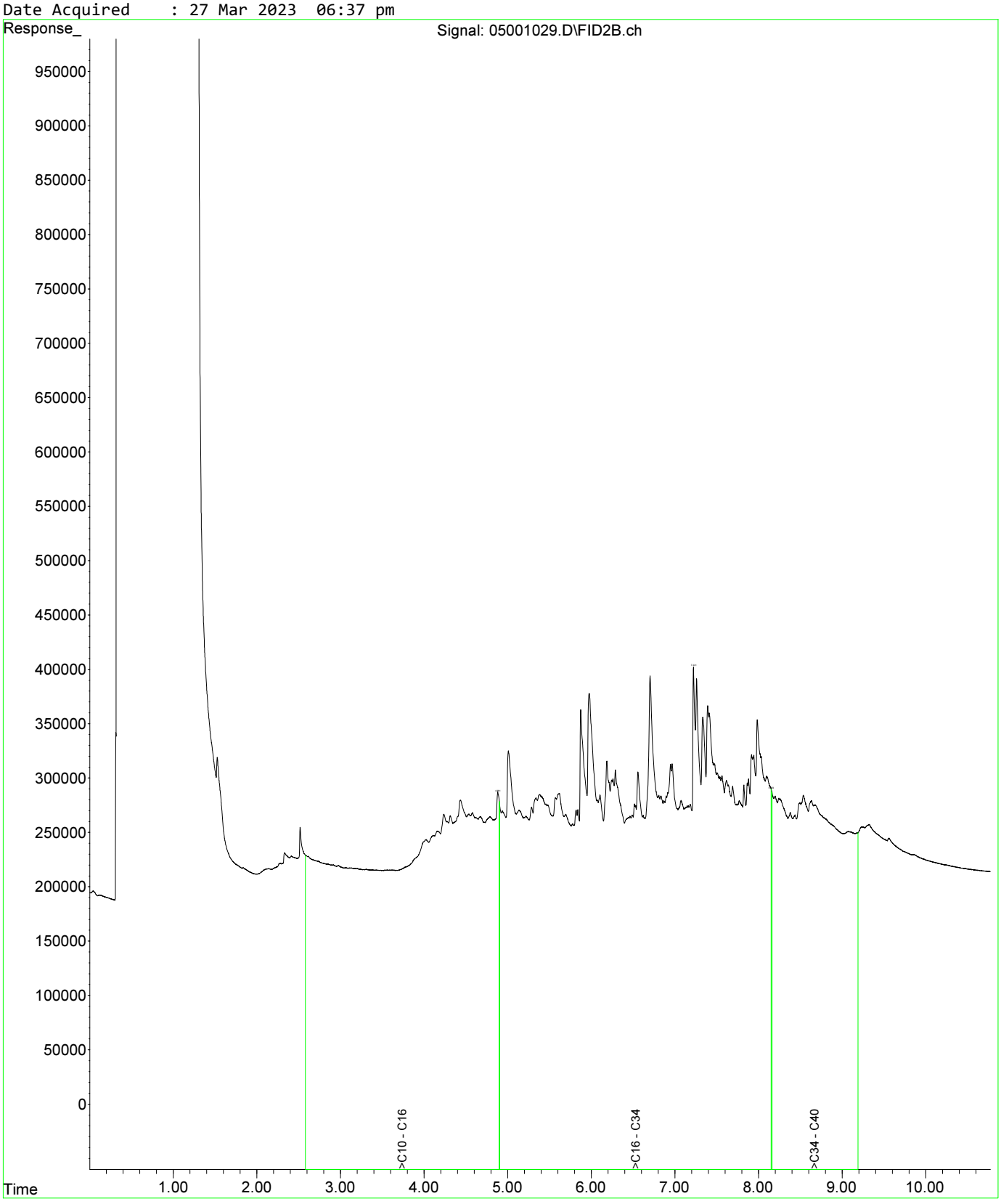
Date Acquired : 27 Mar 2023 06:37 pm



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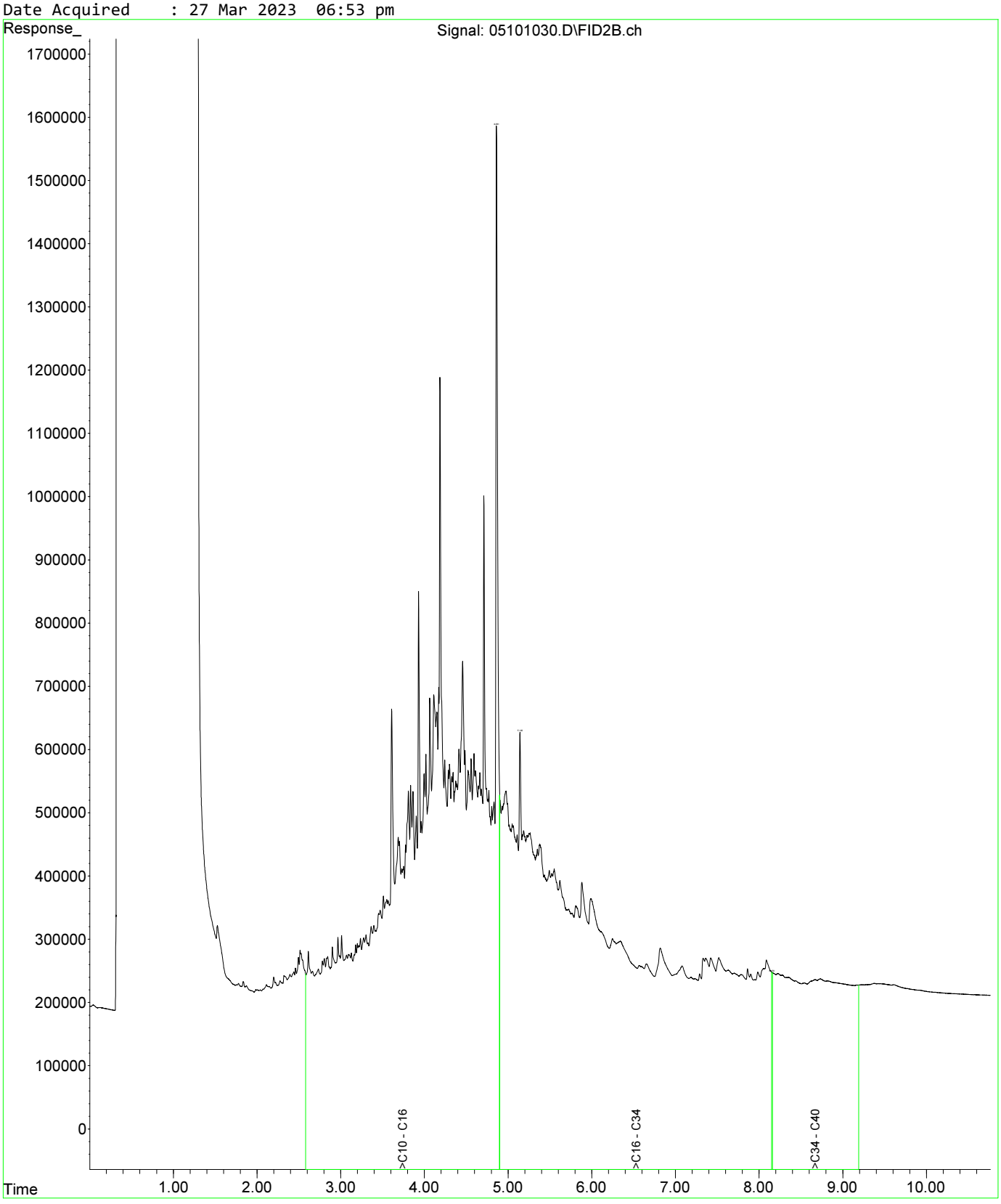

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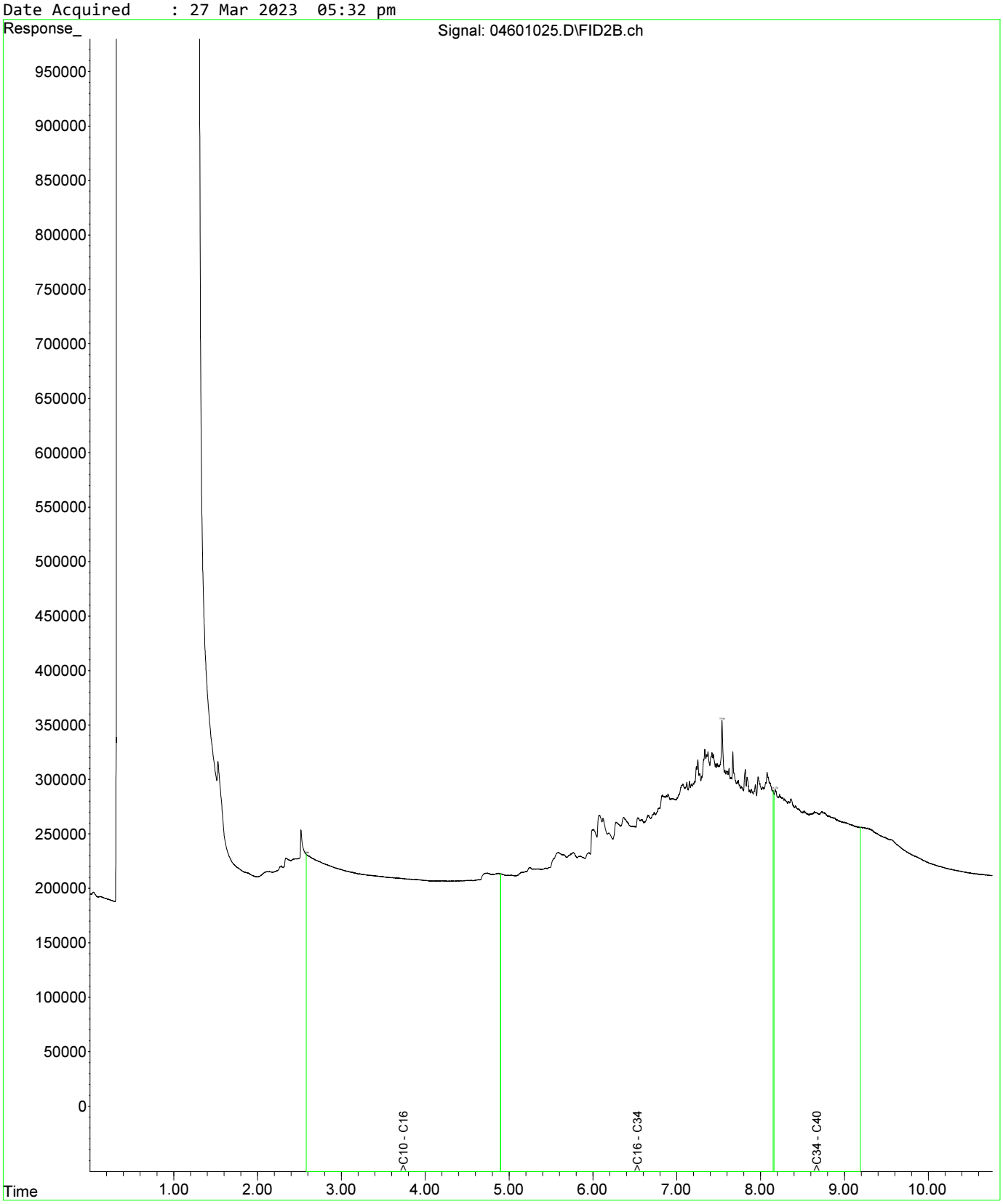

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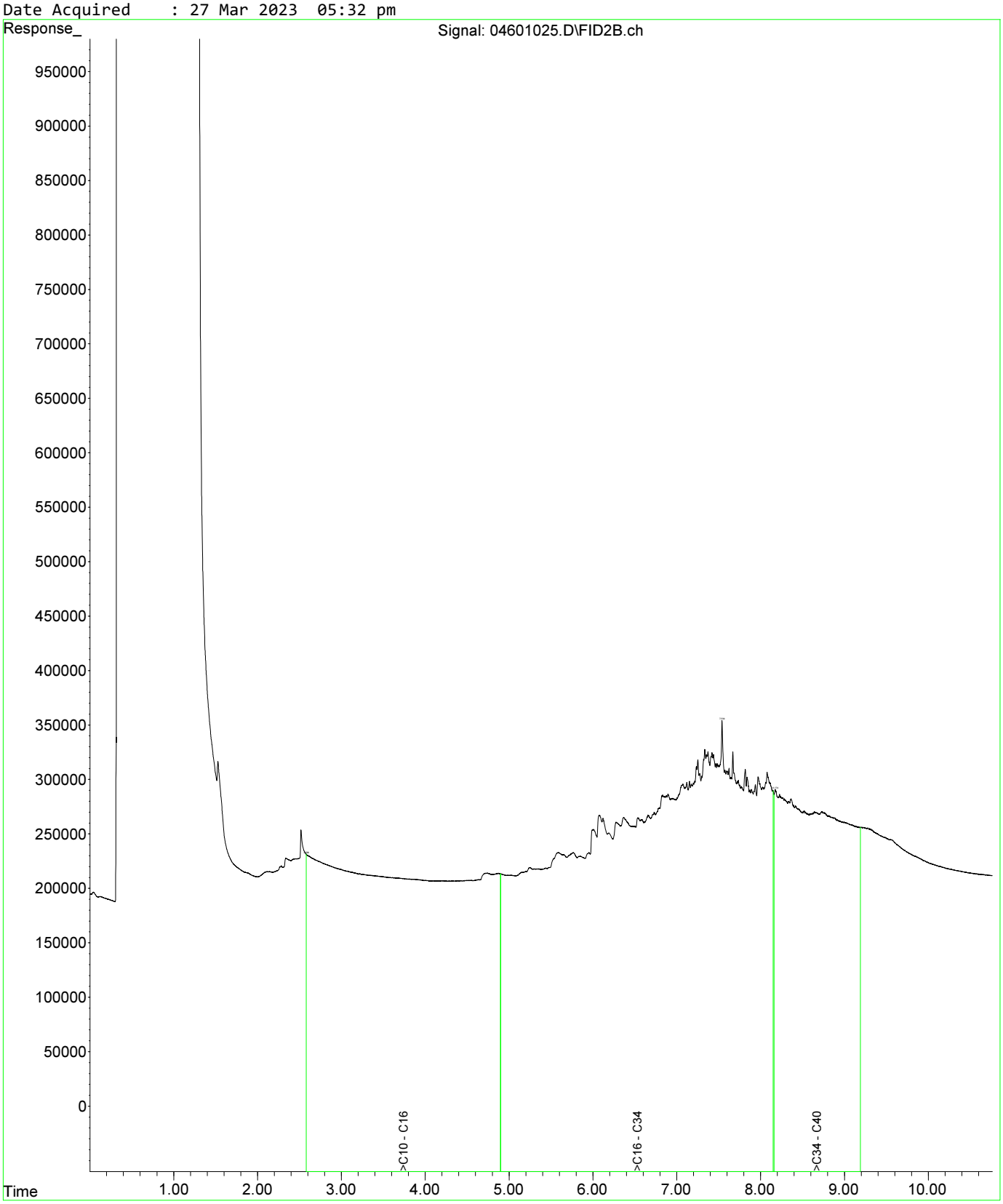

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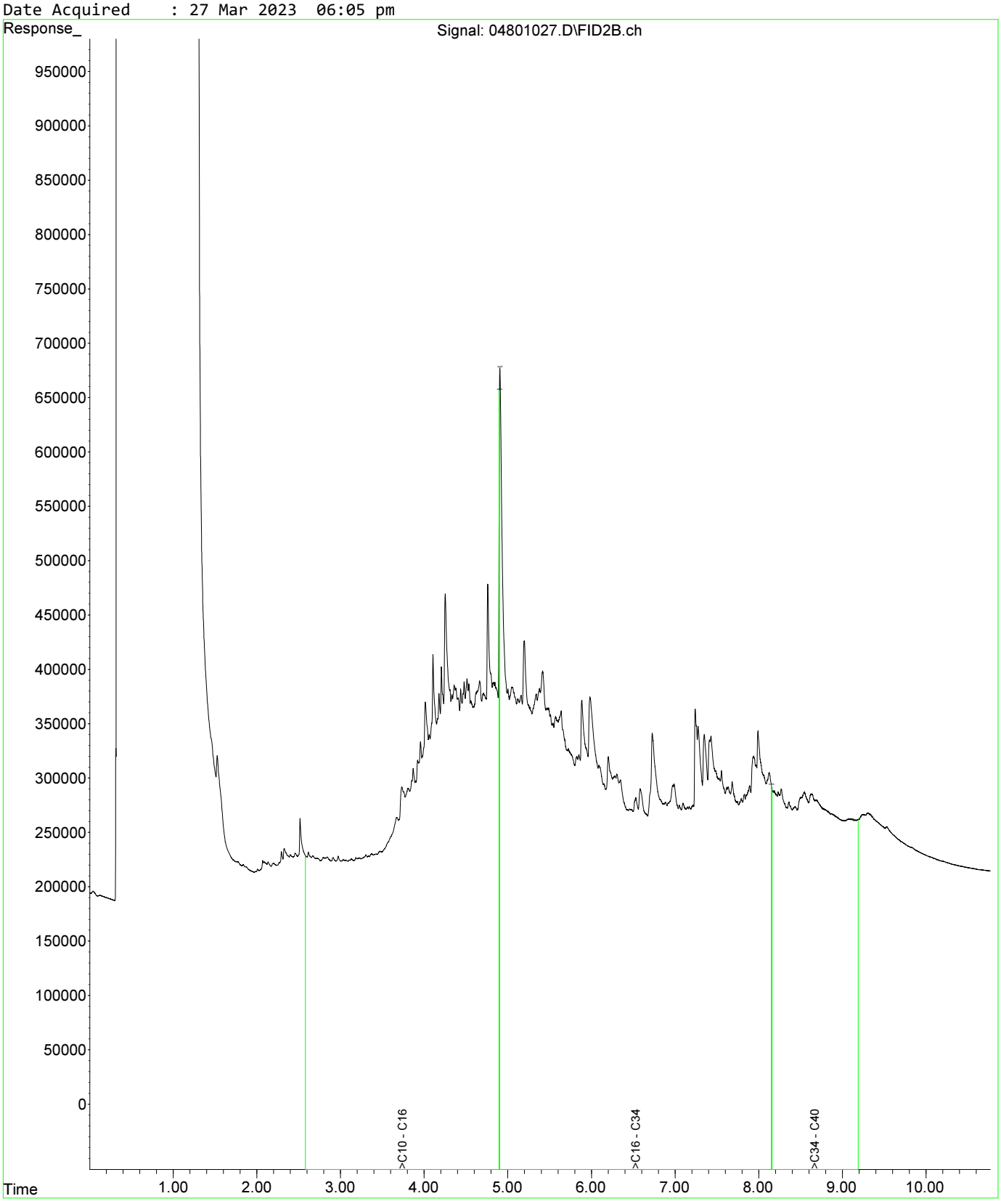

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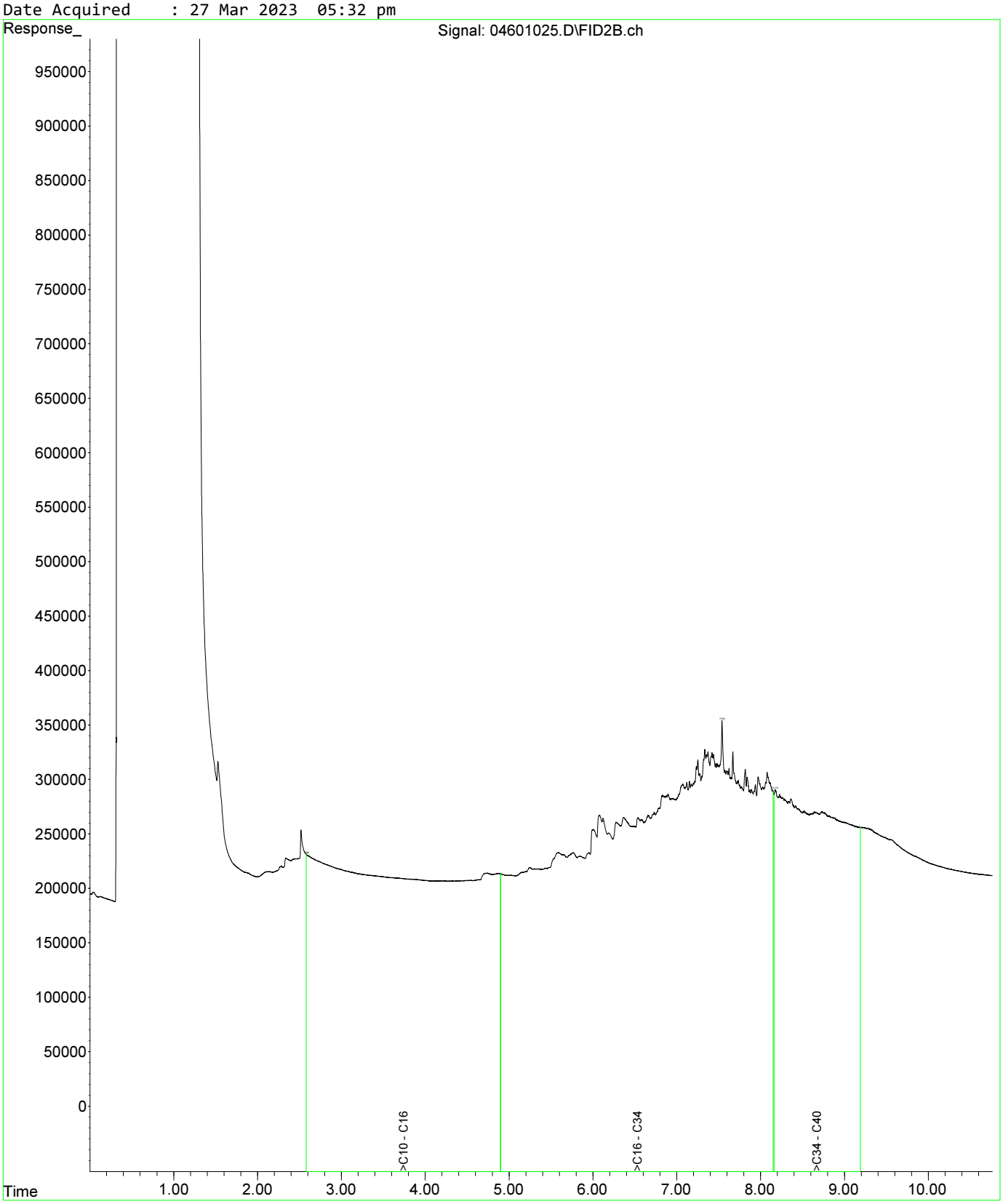

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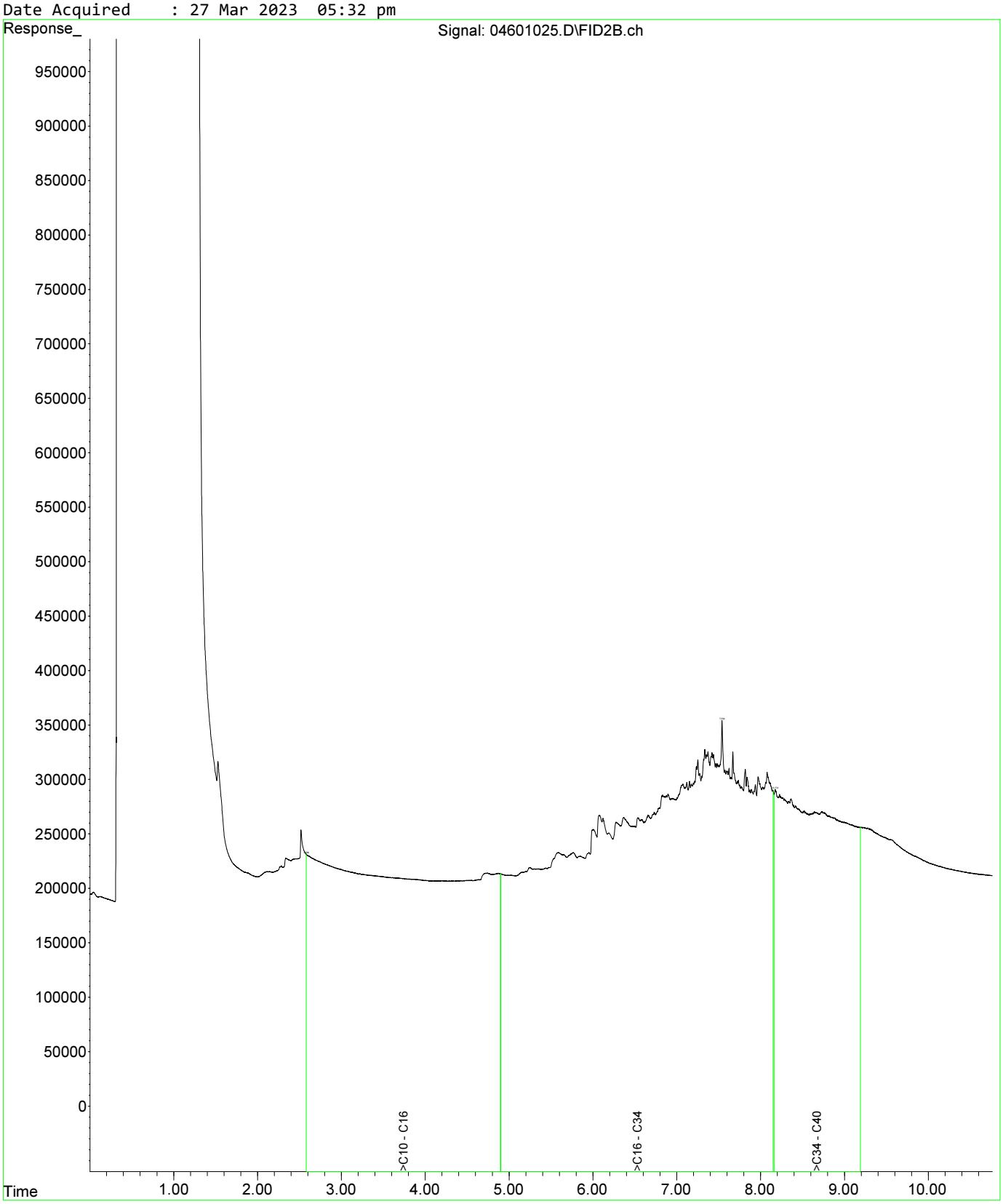

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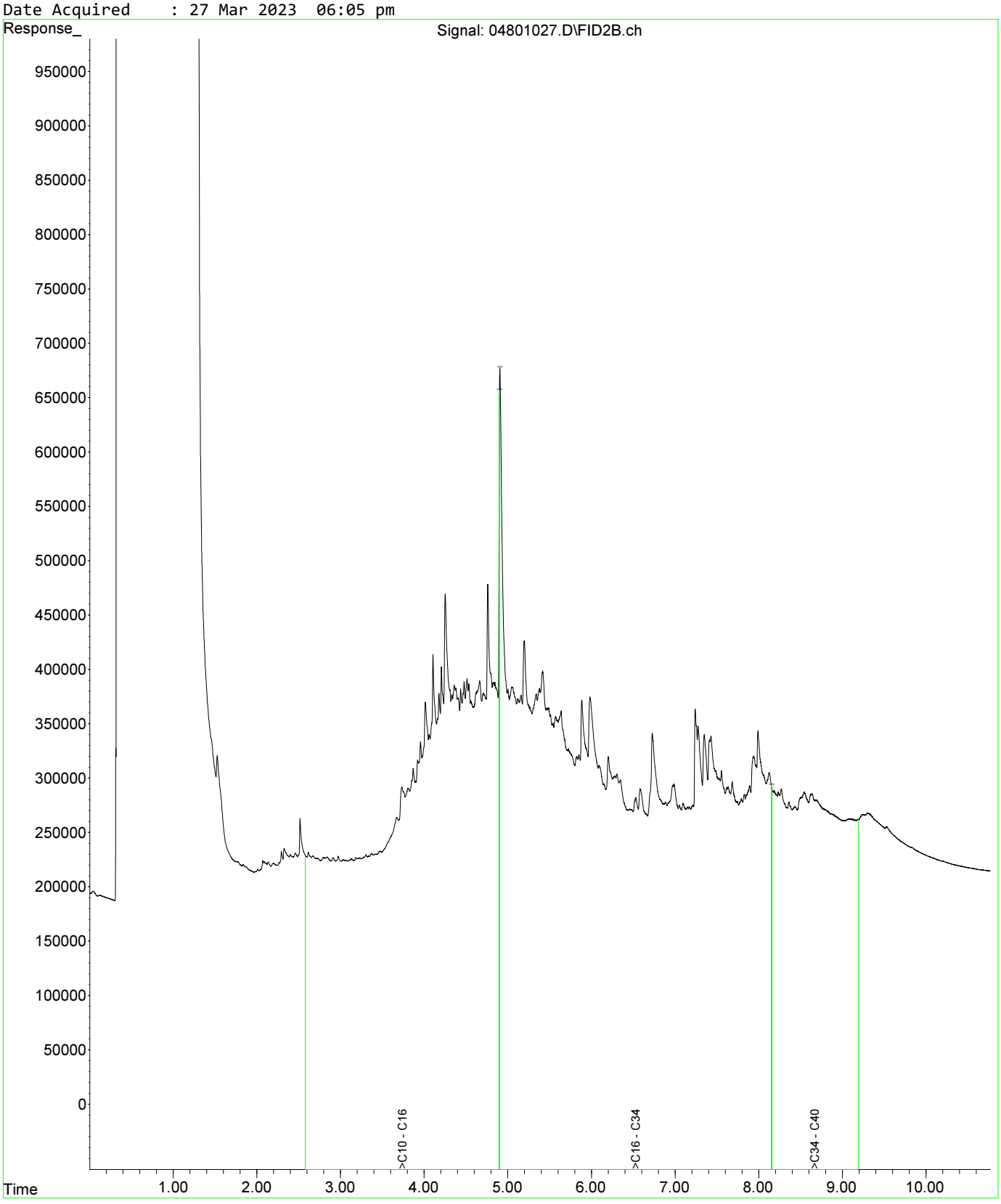

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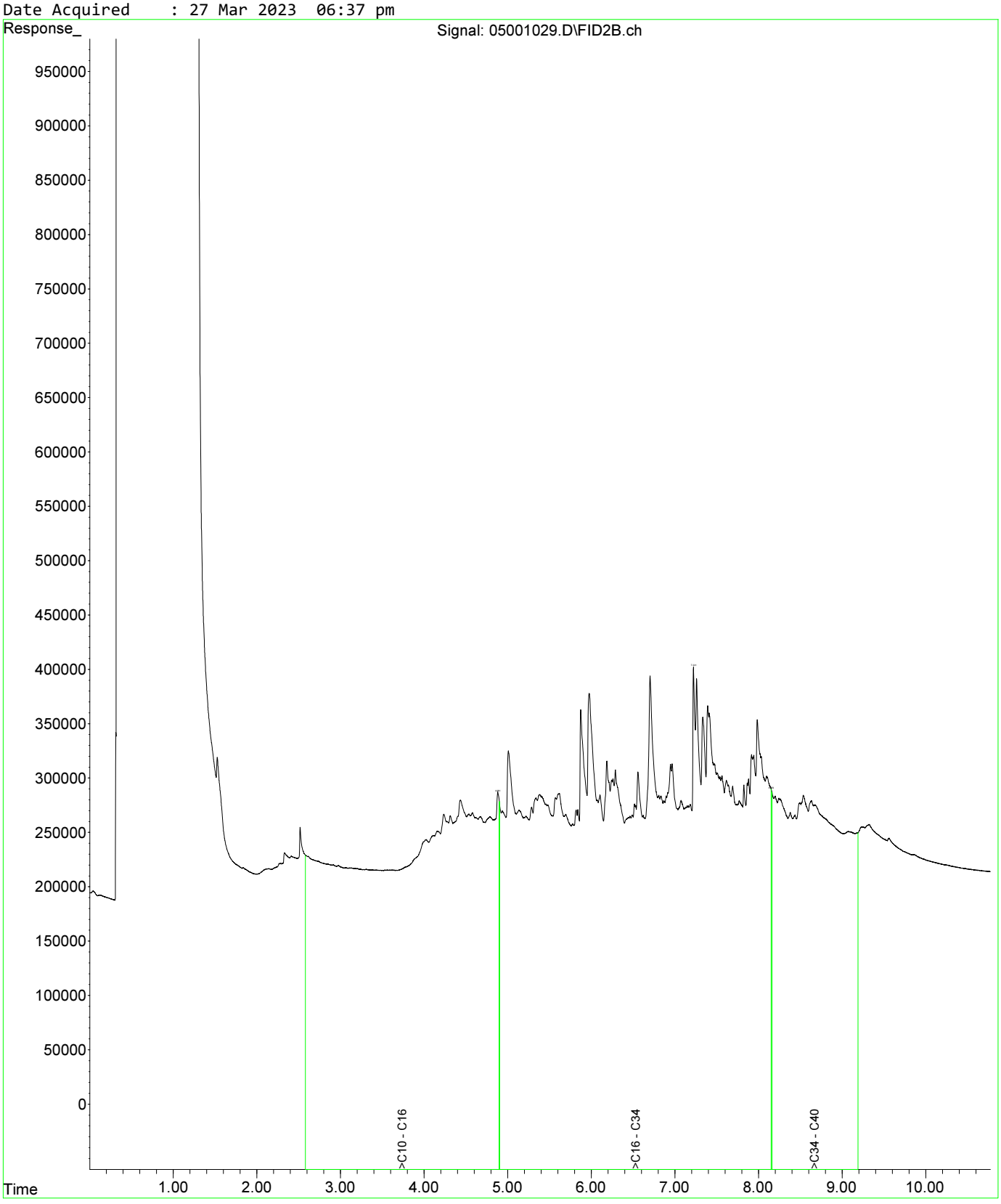

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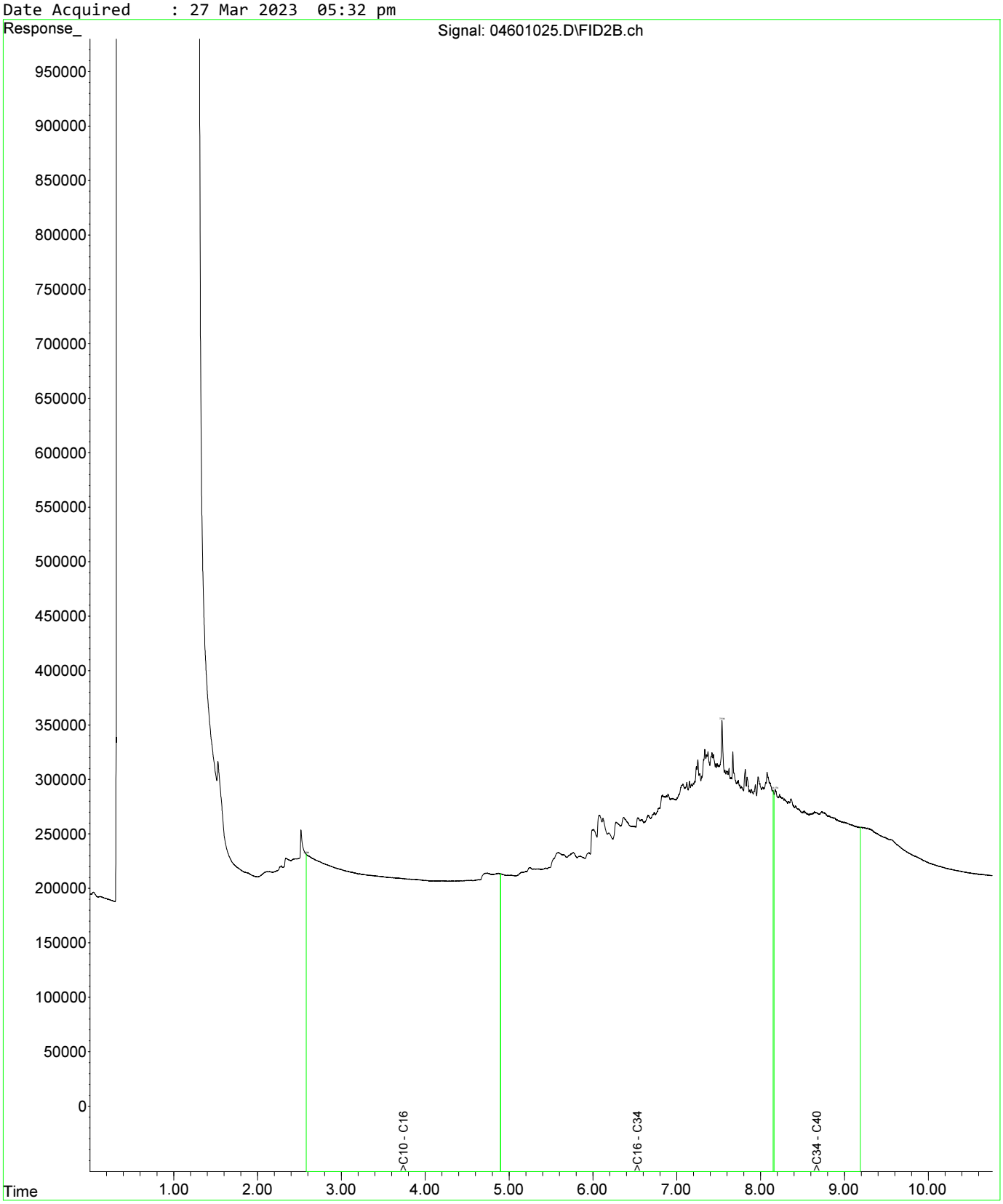

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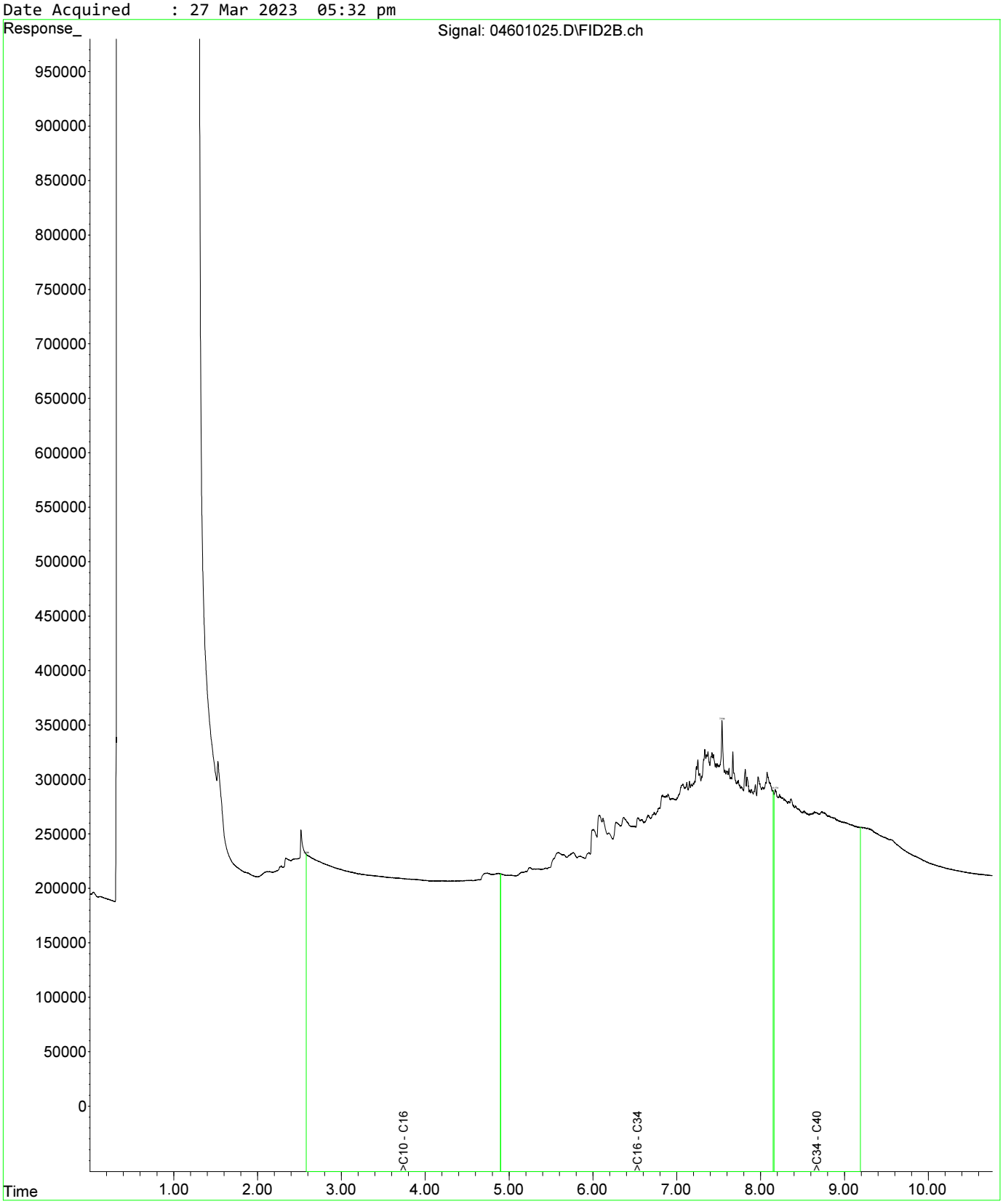

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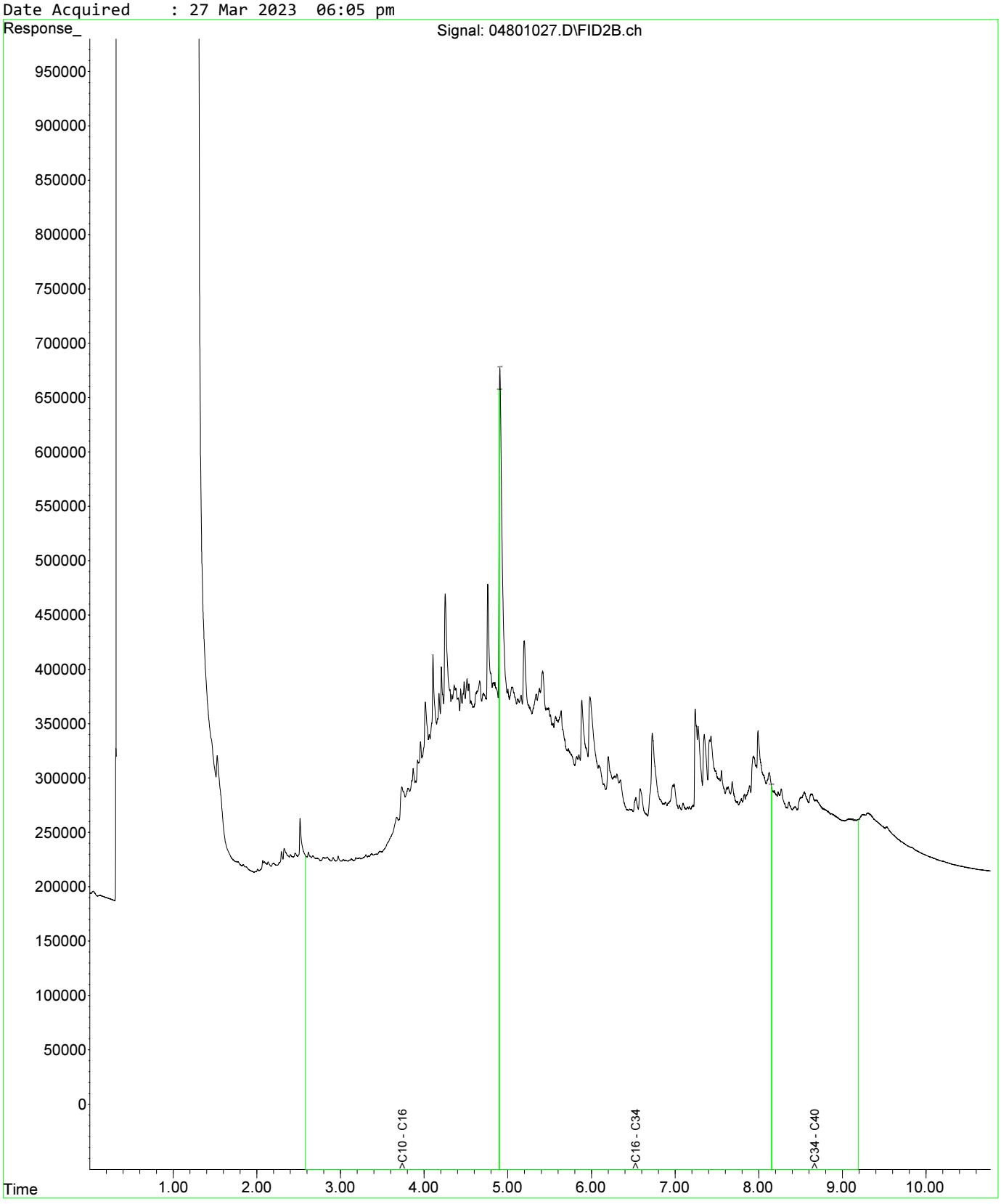

Fraction Scheme : NEPM DRAFT HIL
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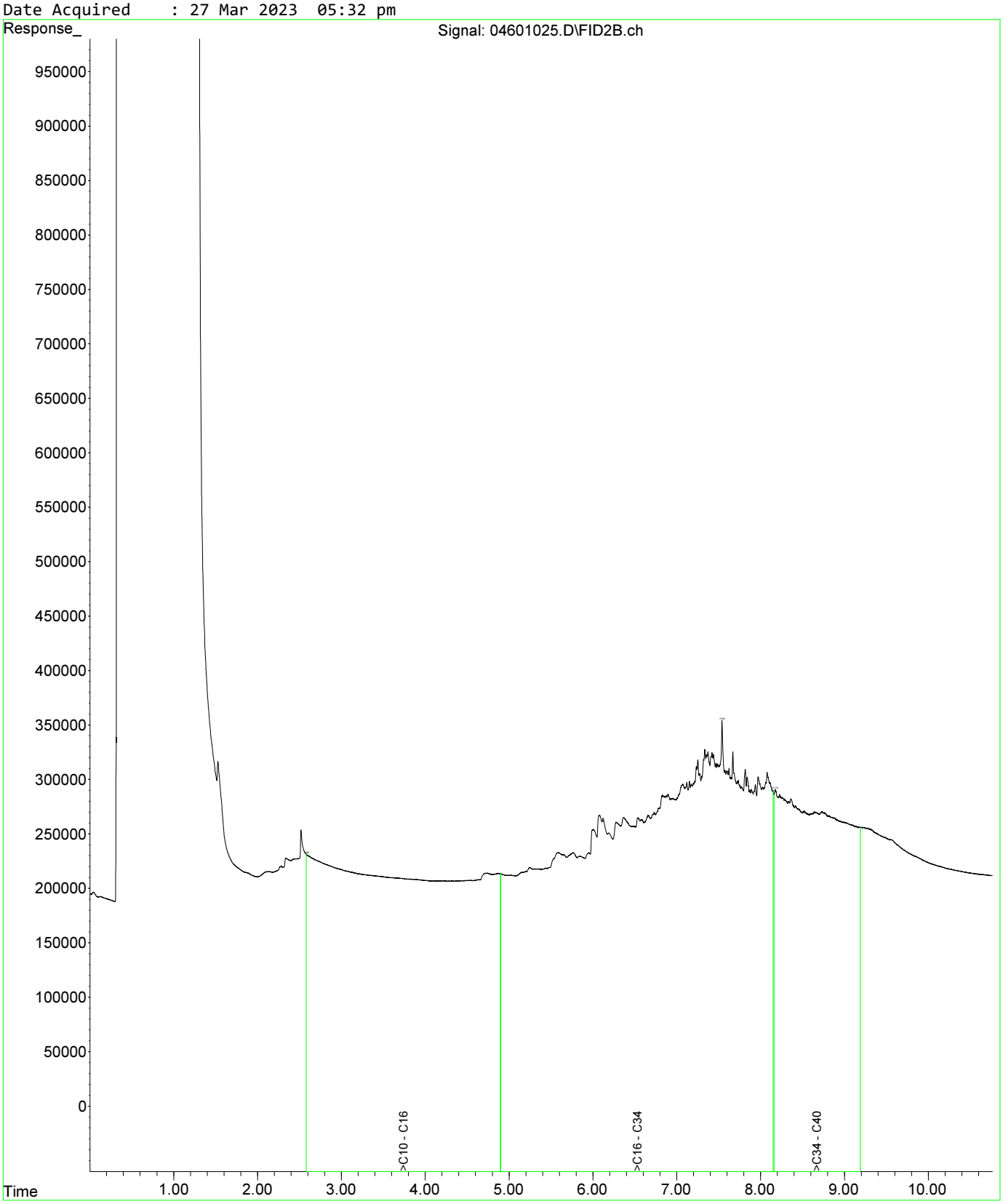

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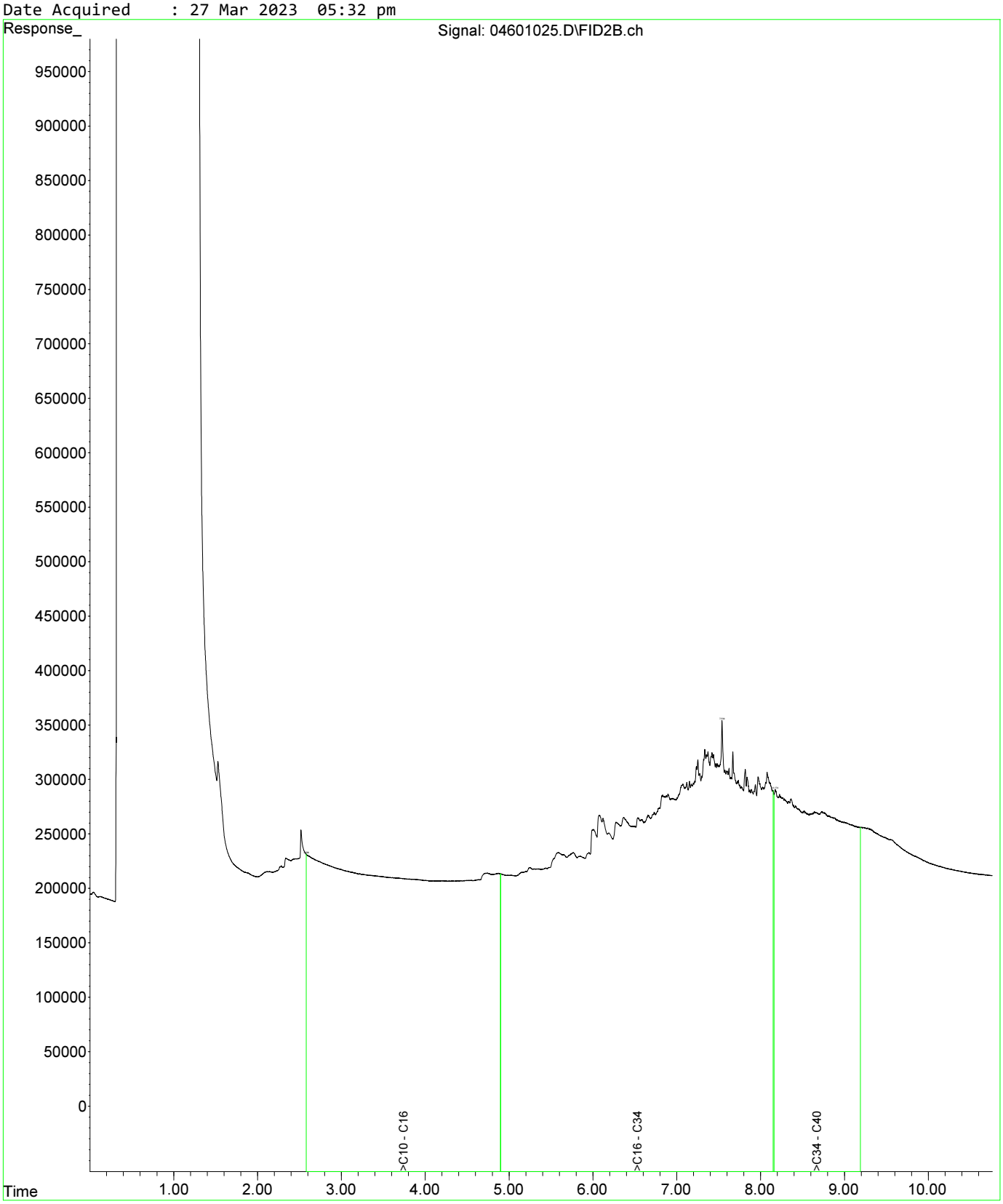

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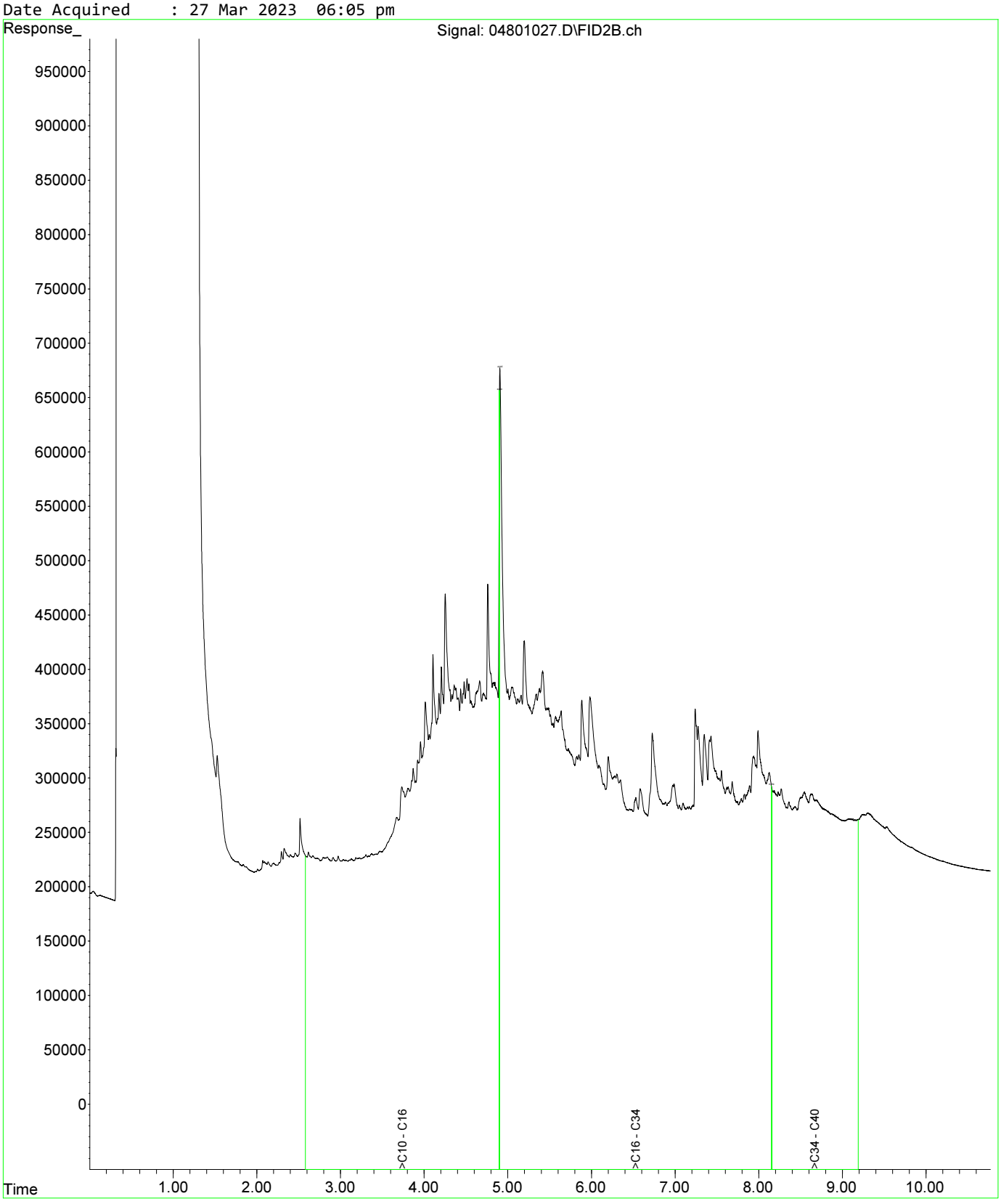

Fraction Scheme : NEPM DRAFT HIL
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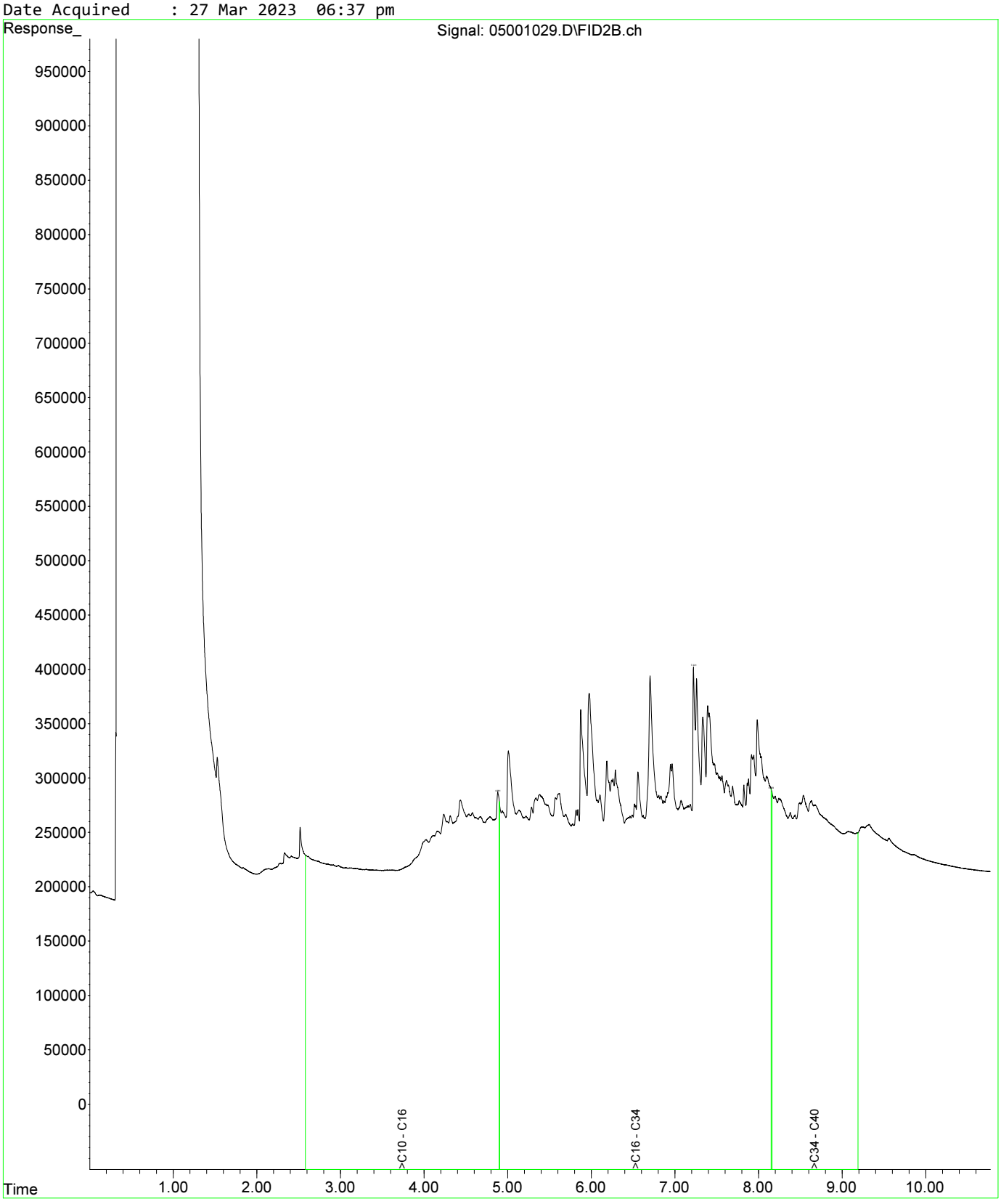
Date Acquired : 27 Mar 2023 06:37 pm



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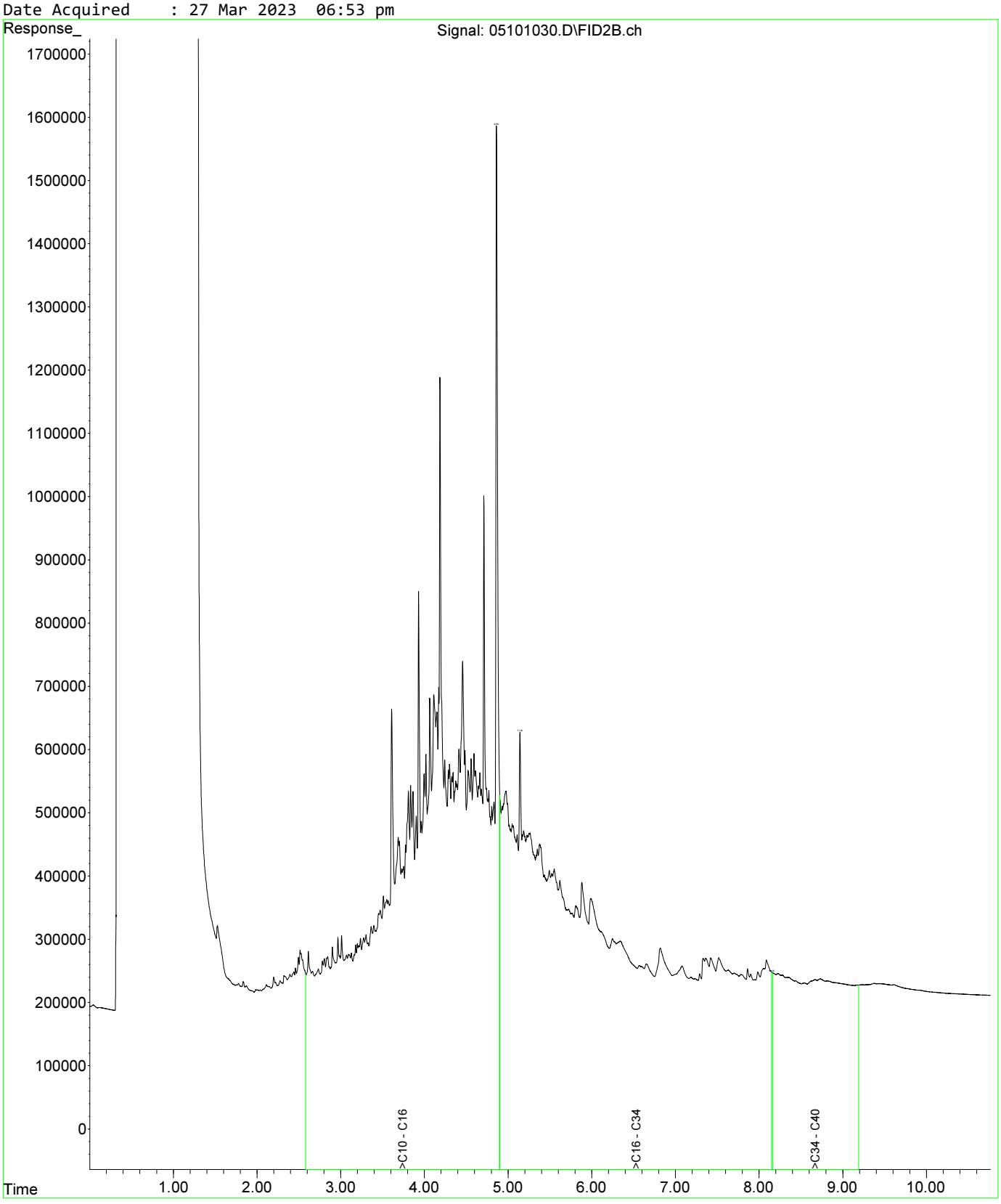
Date Acquired : 27 Mar 2023 06:53 pm



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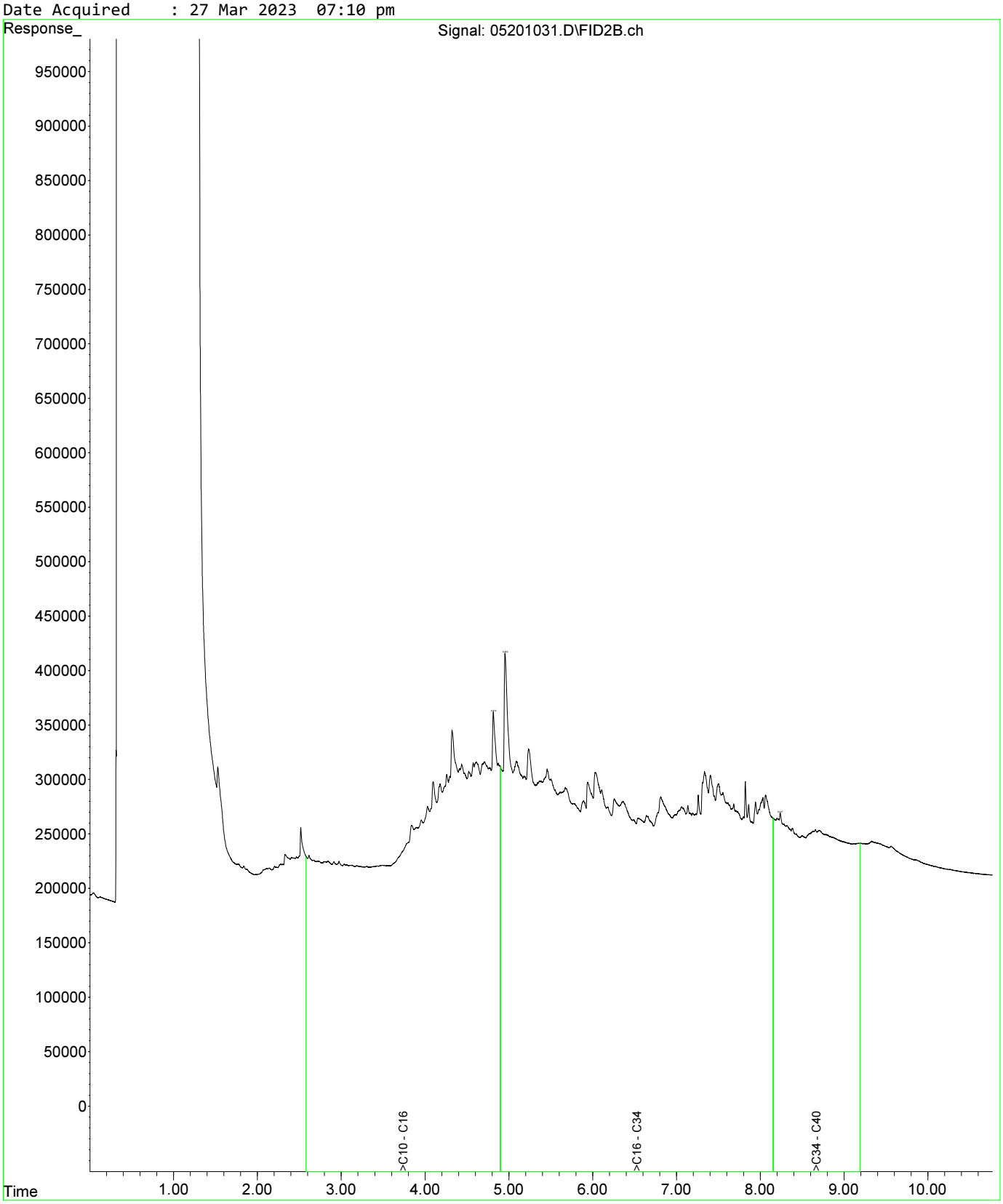

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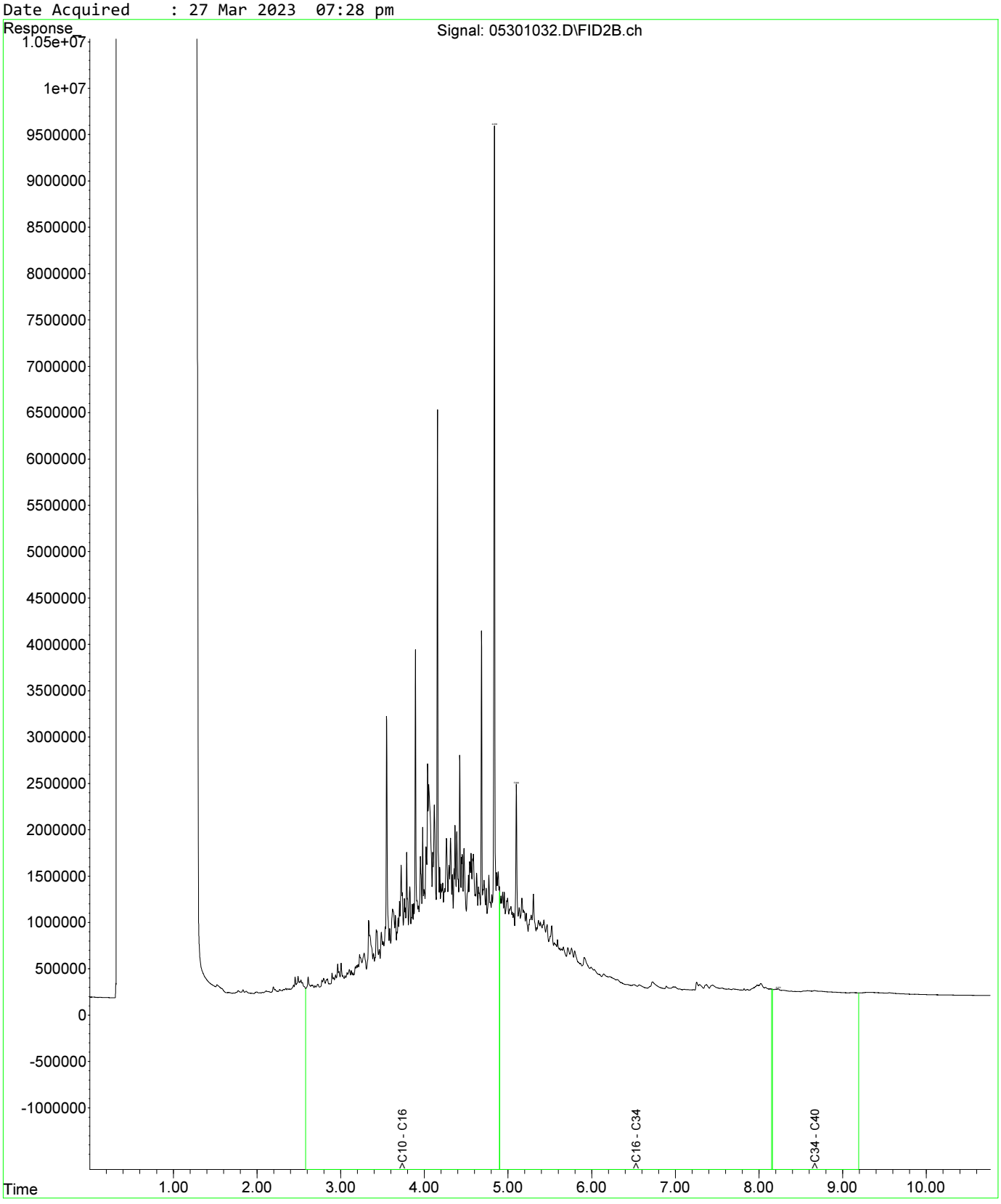

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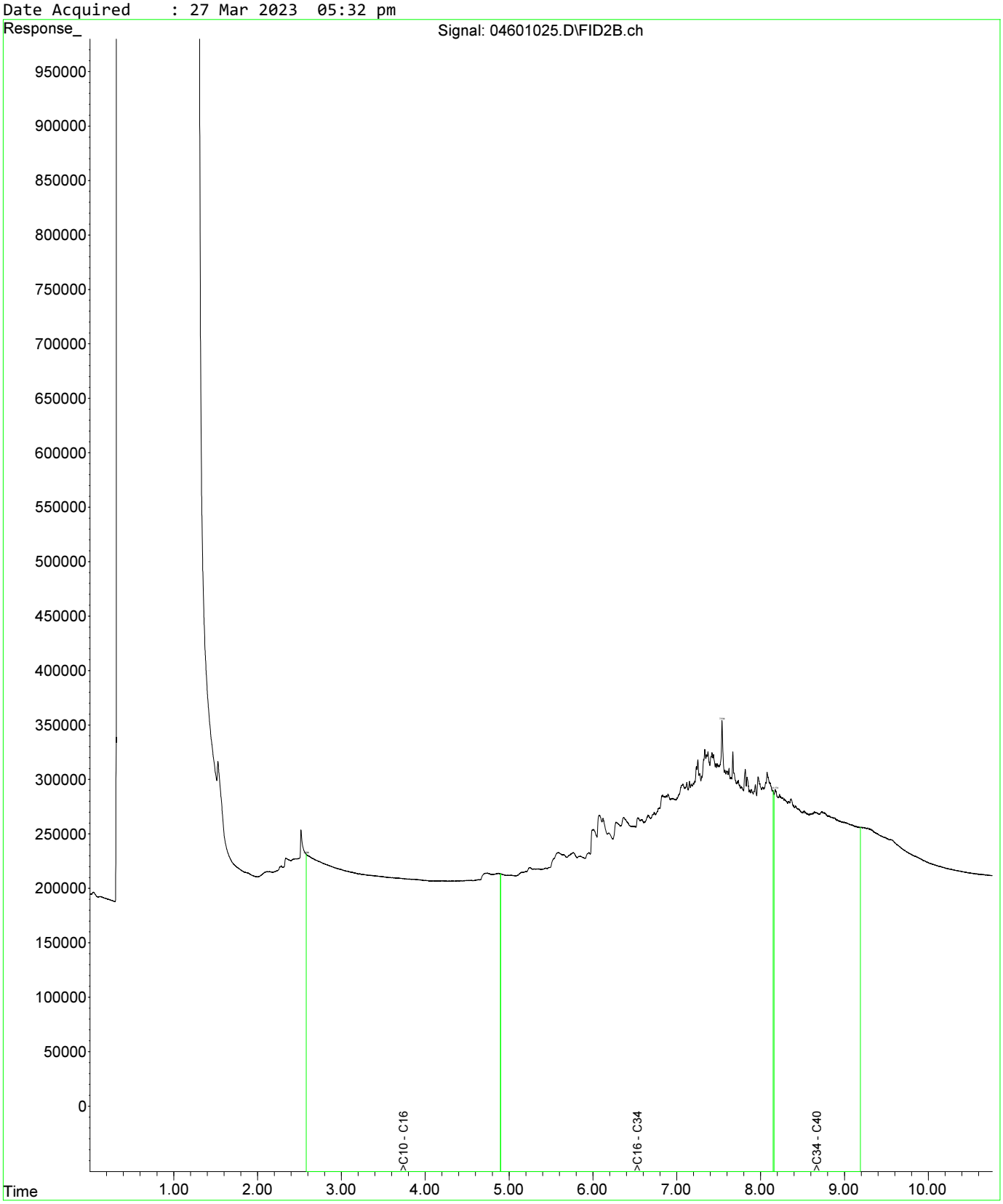

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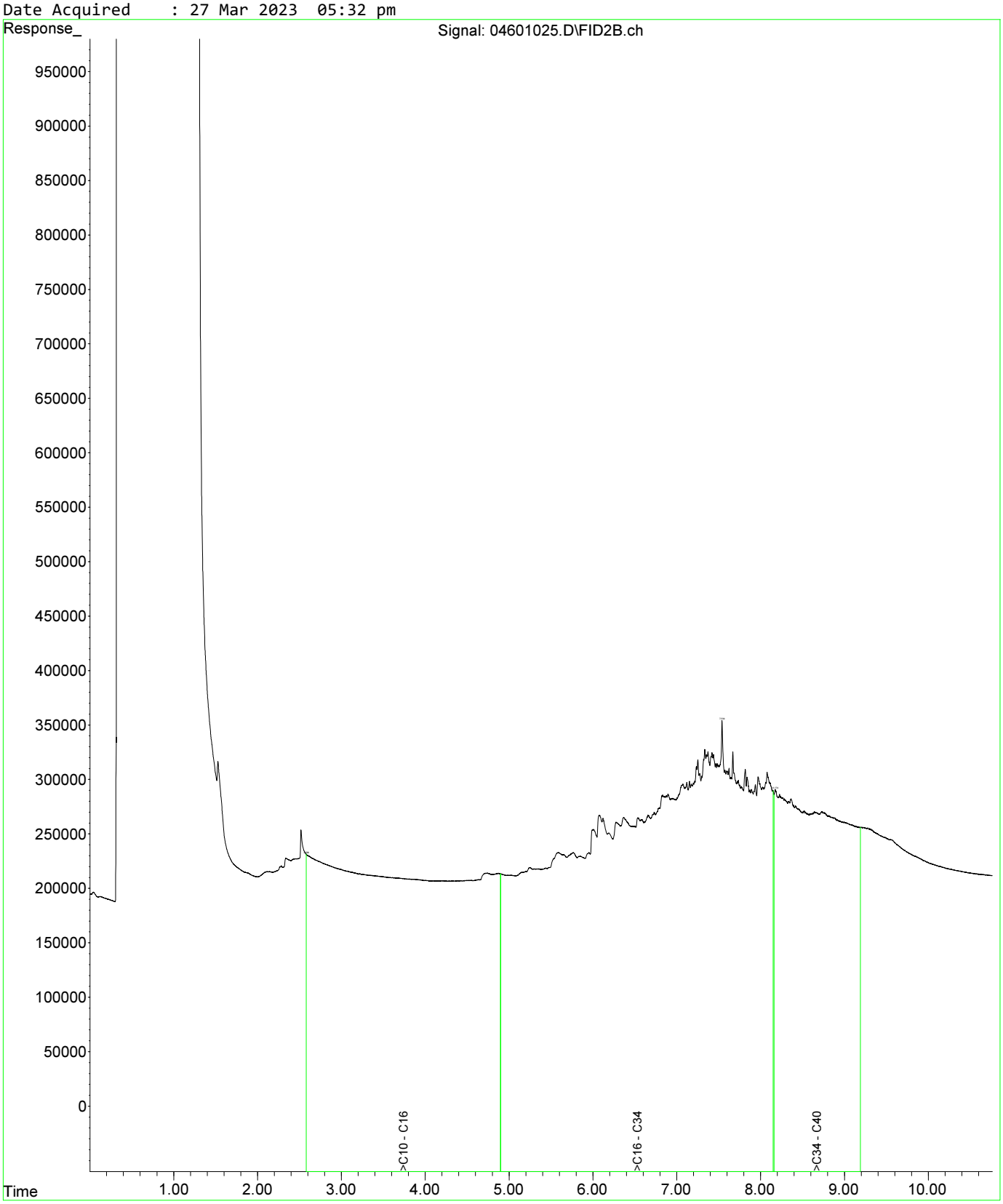

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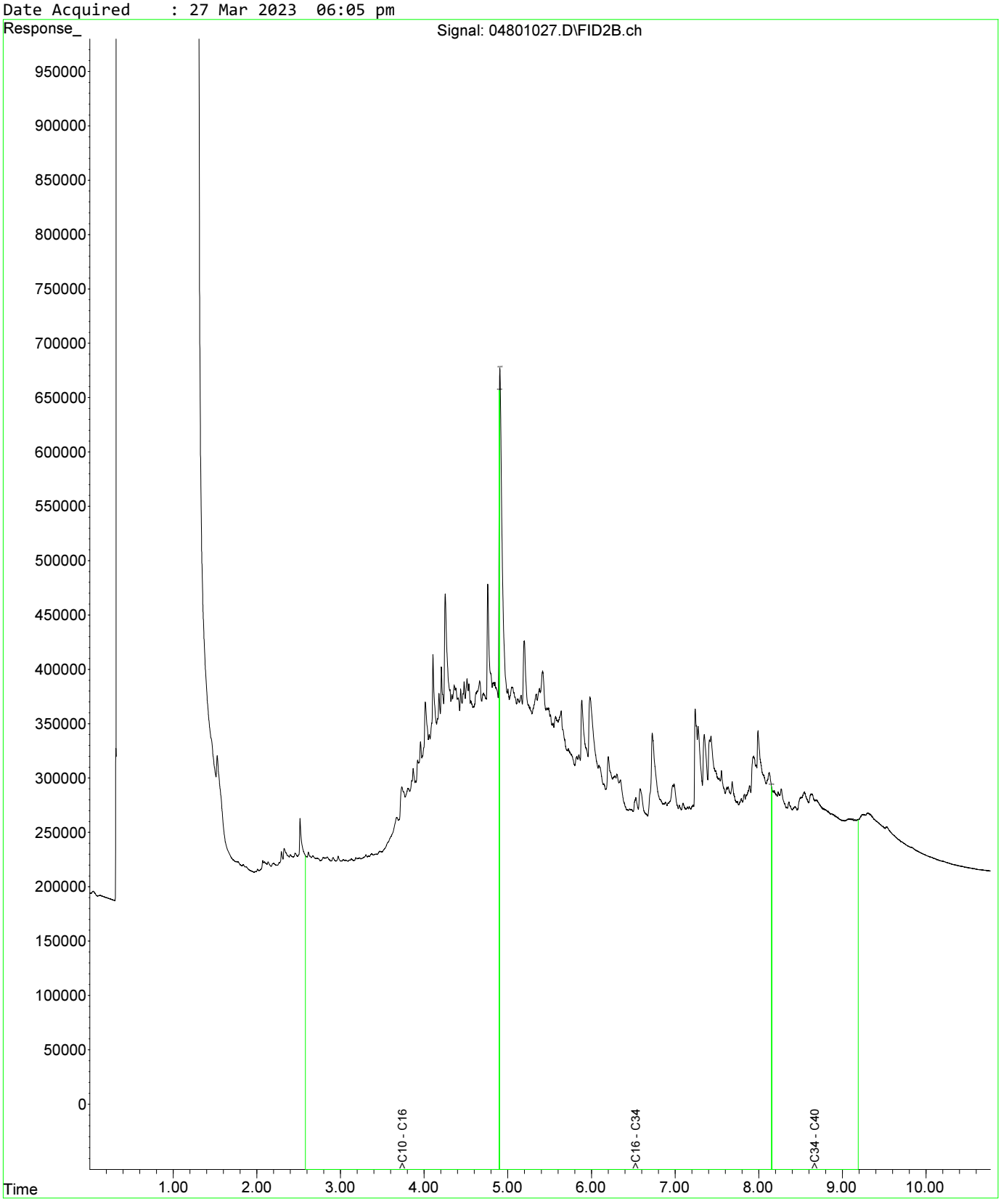

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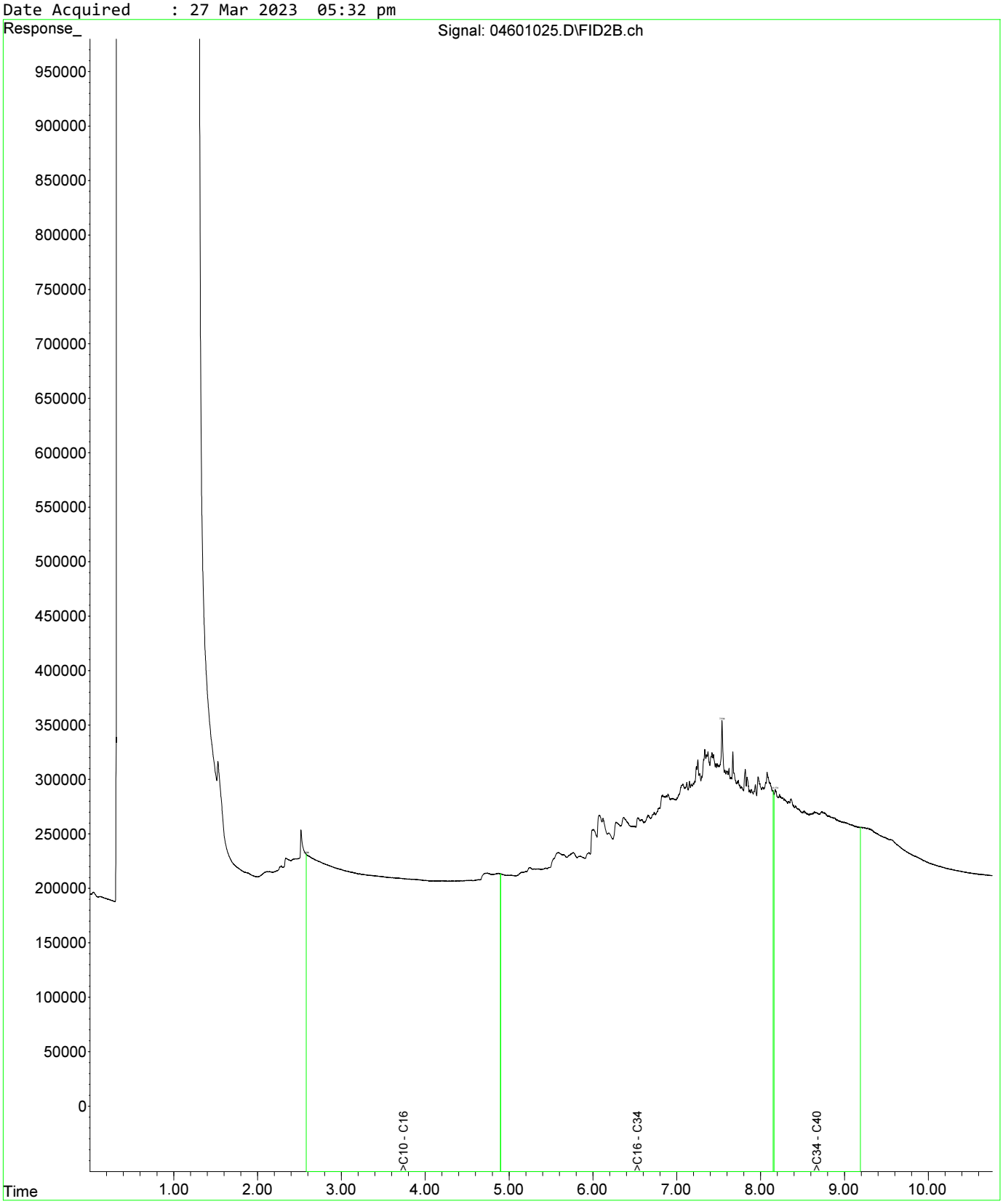

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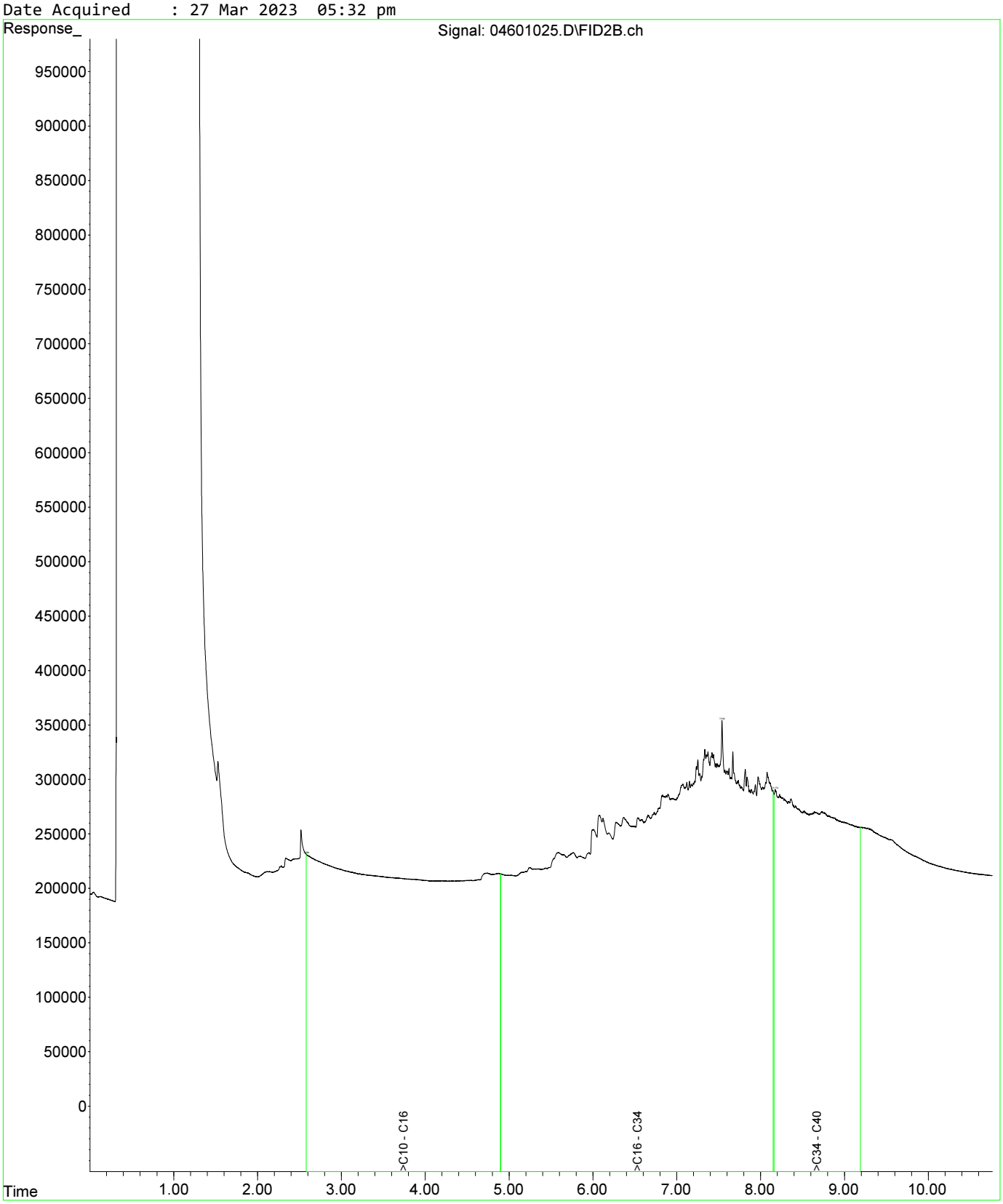

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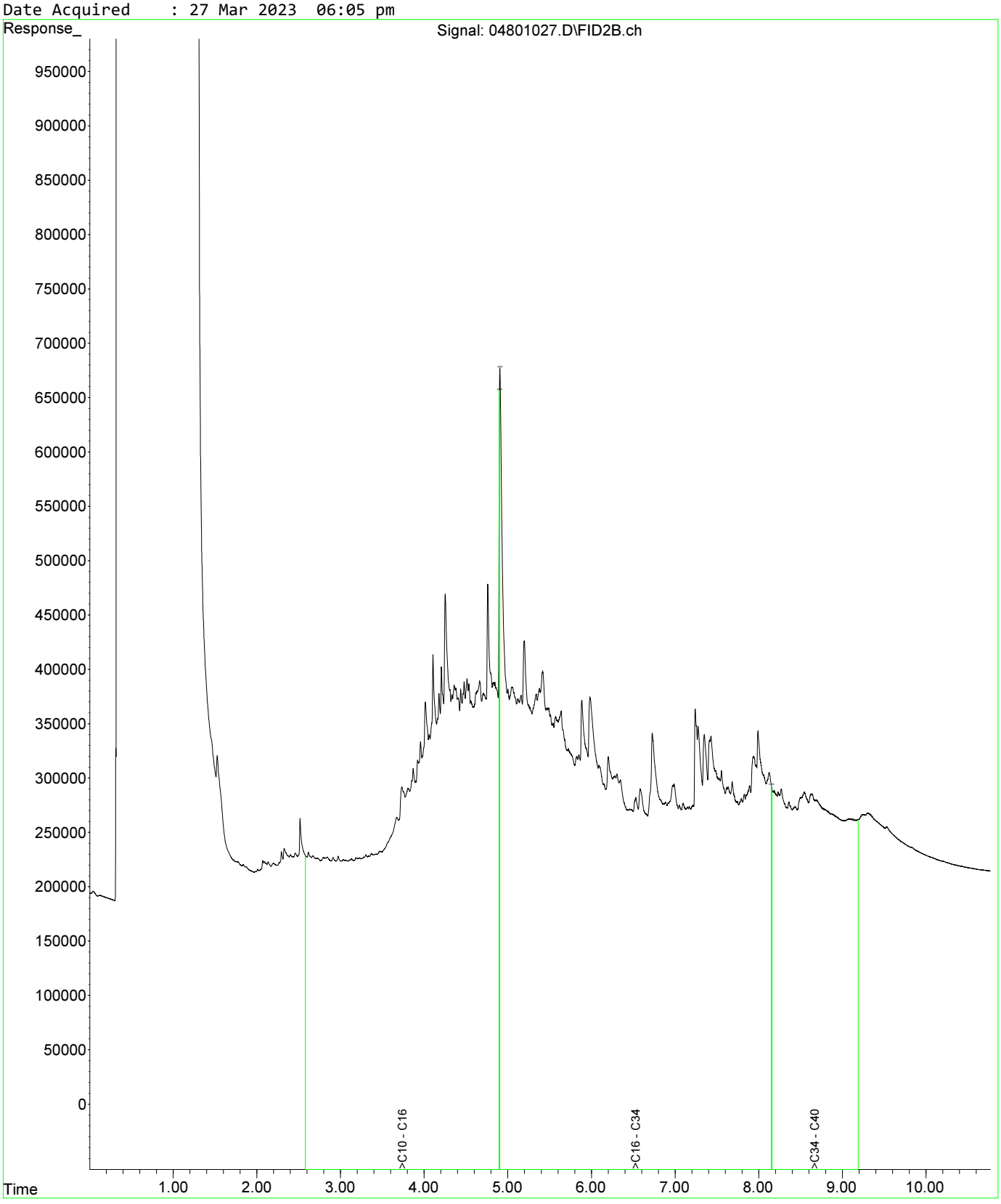

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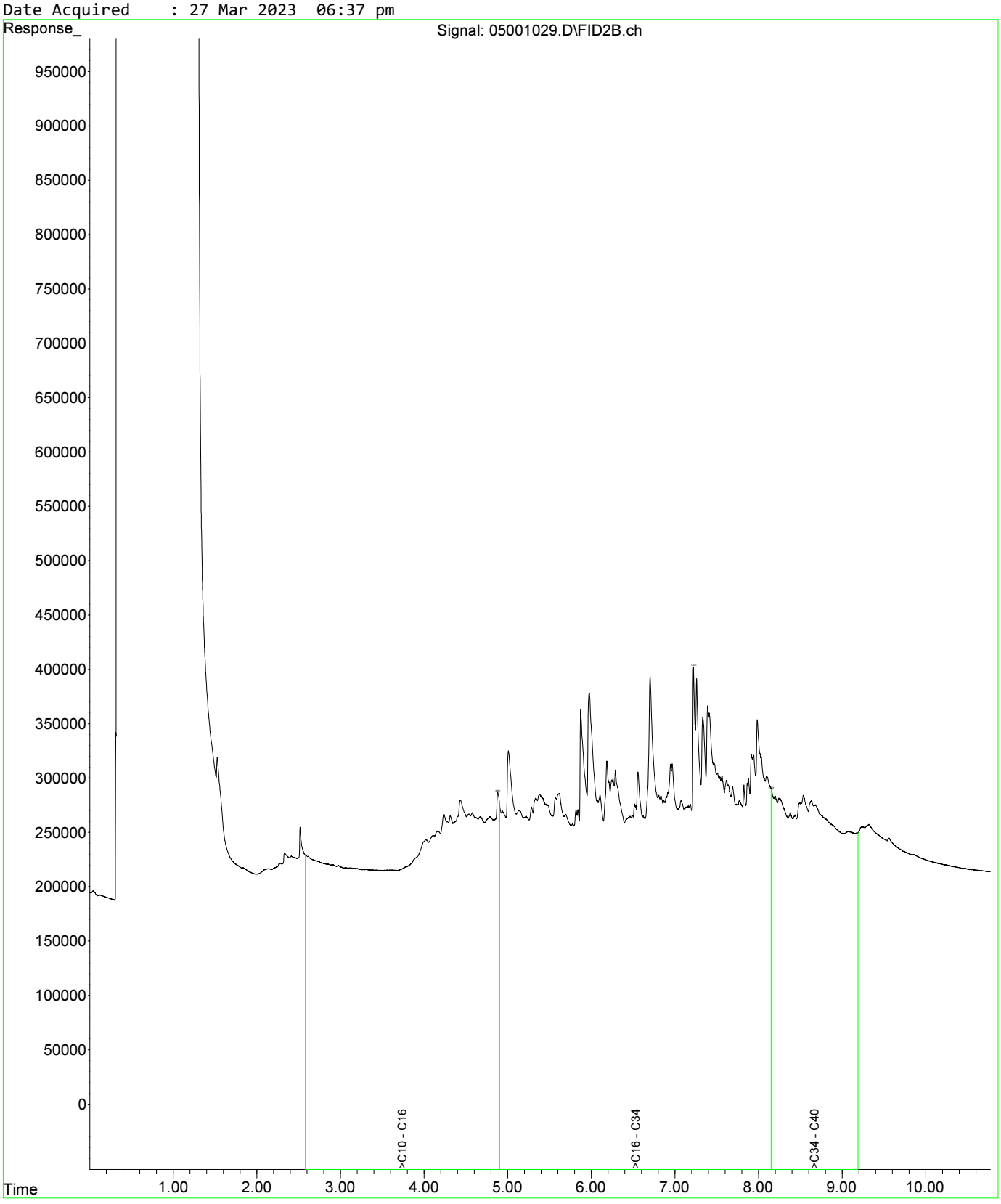

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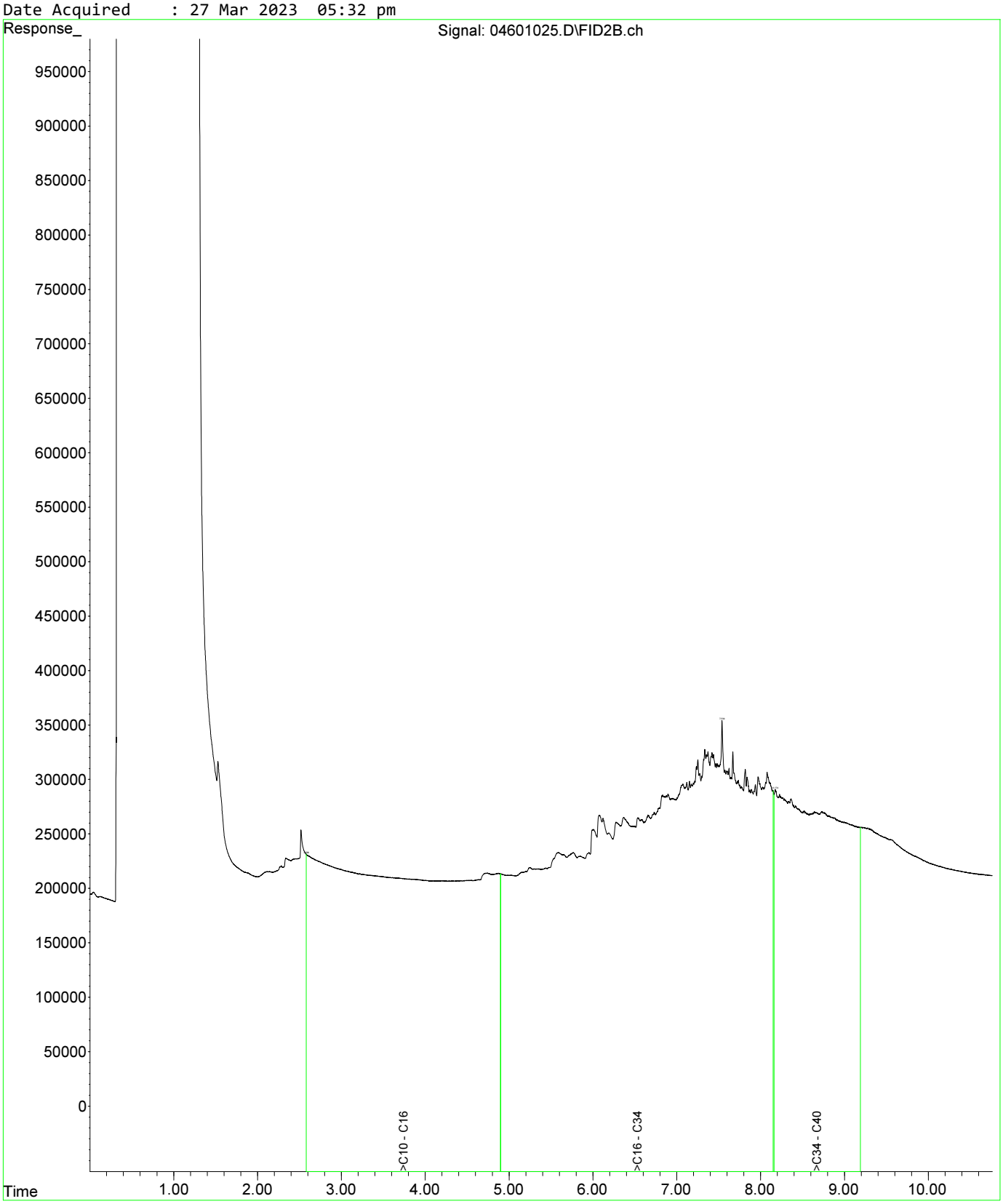

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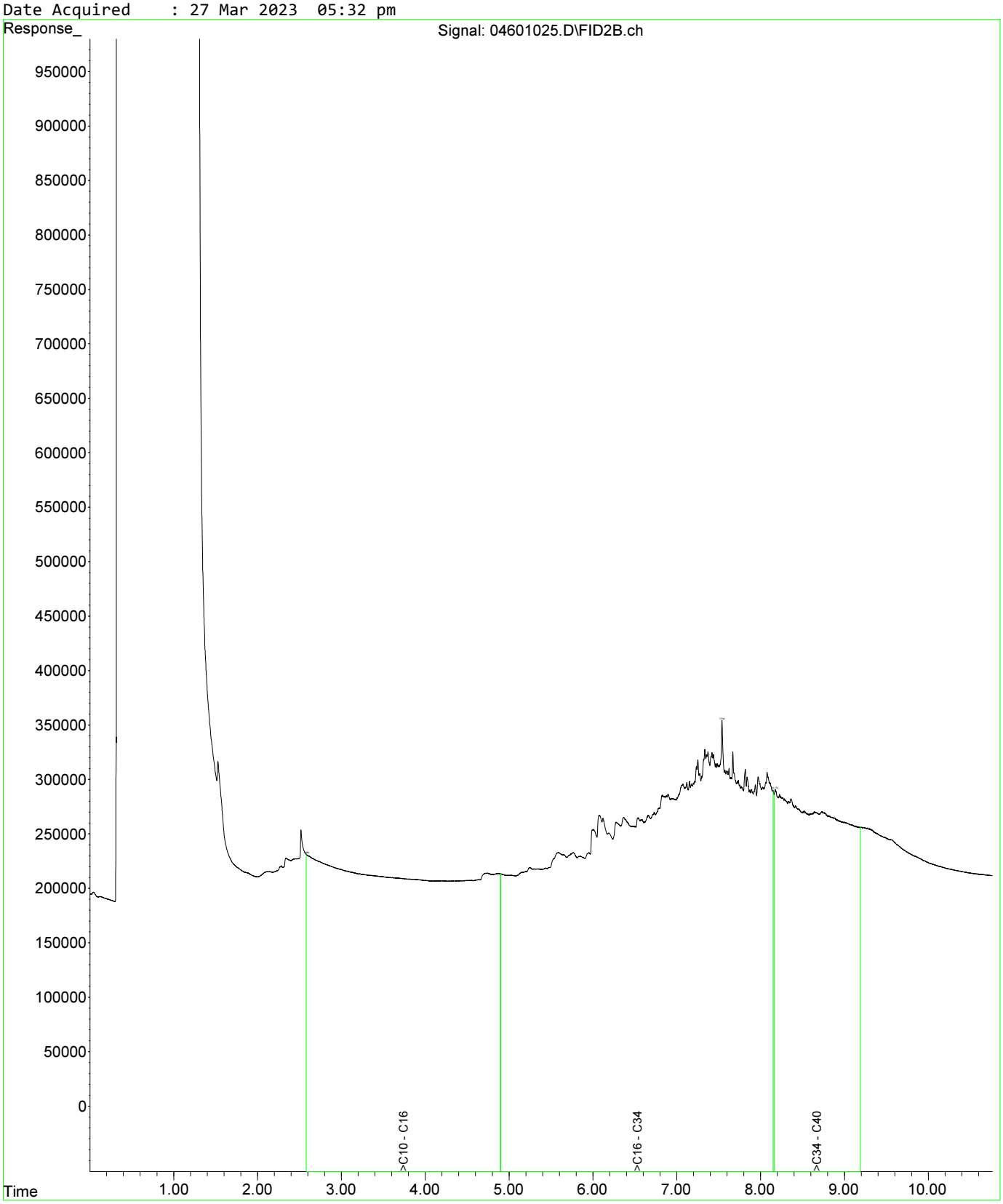

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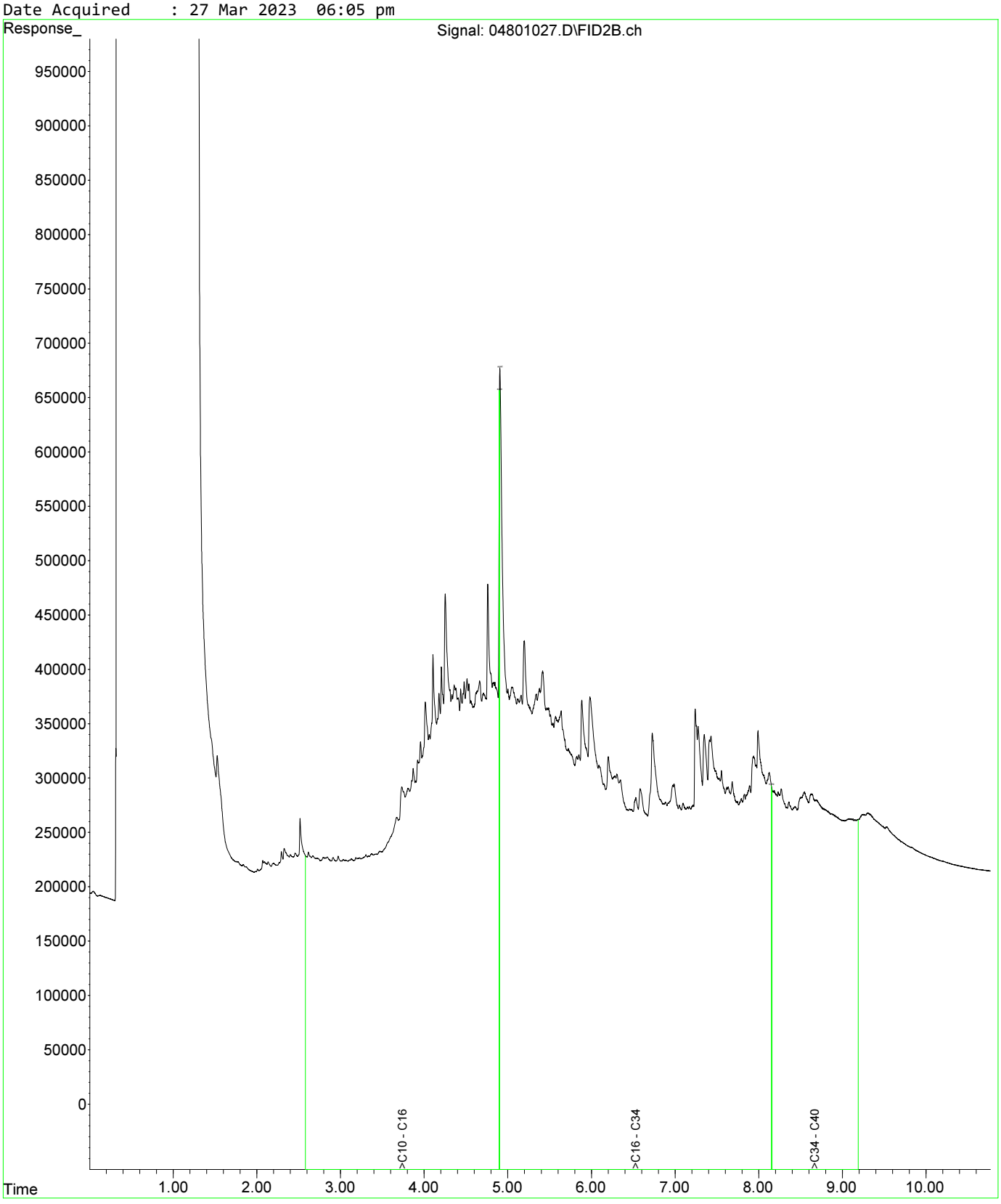

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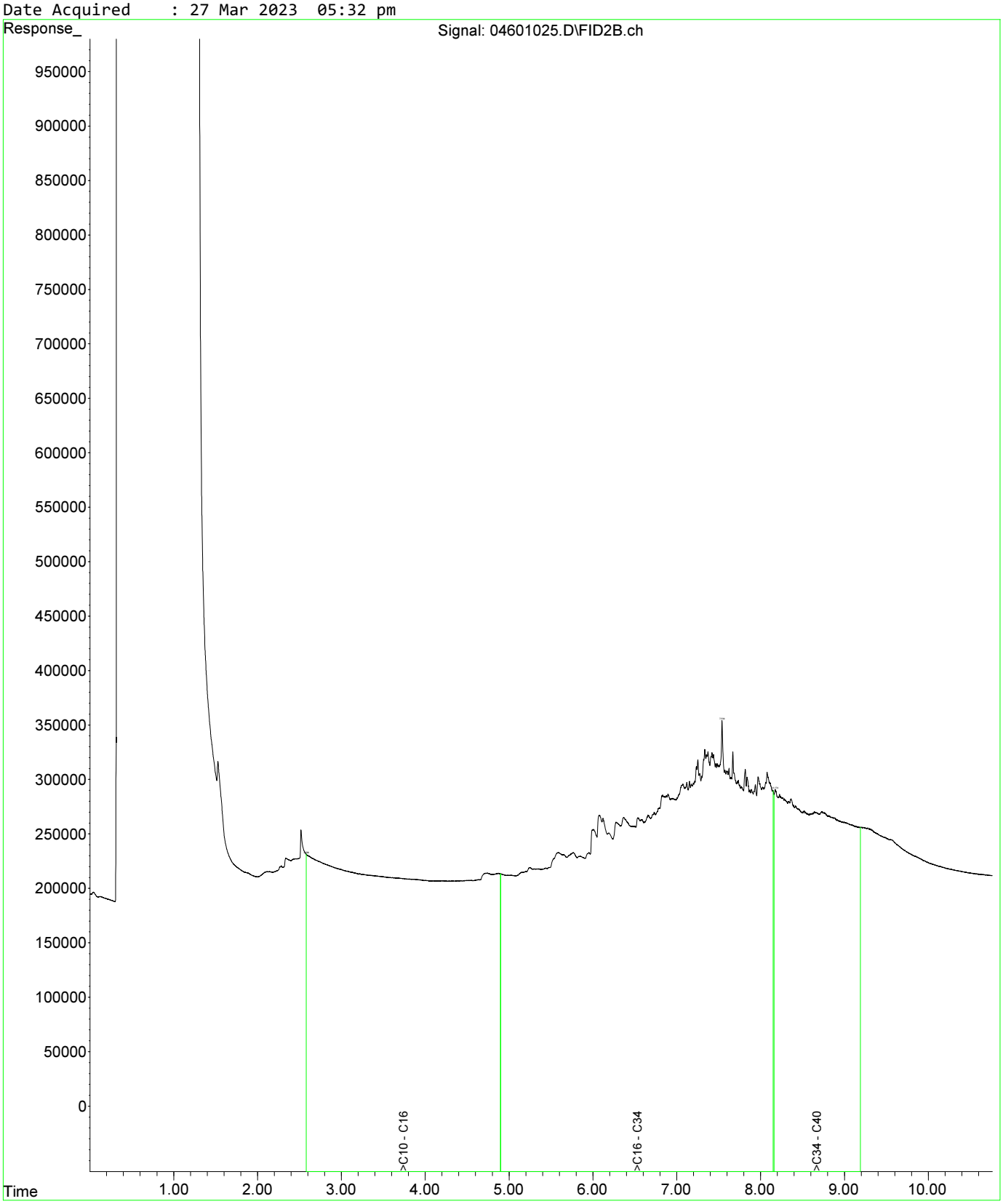

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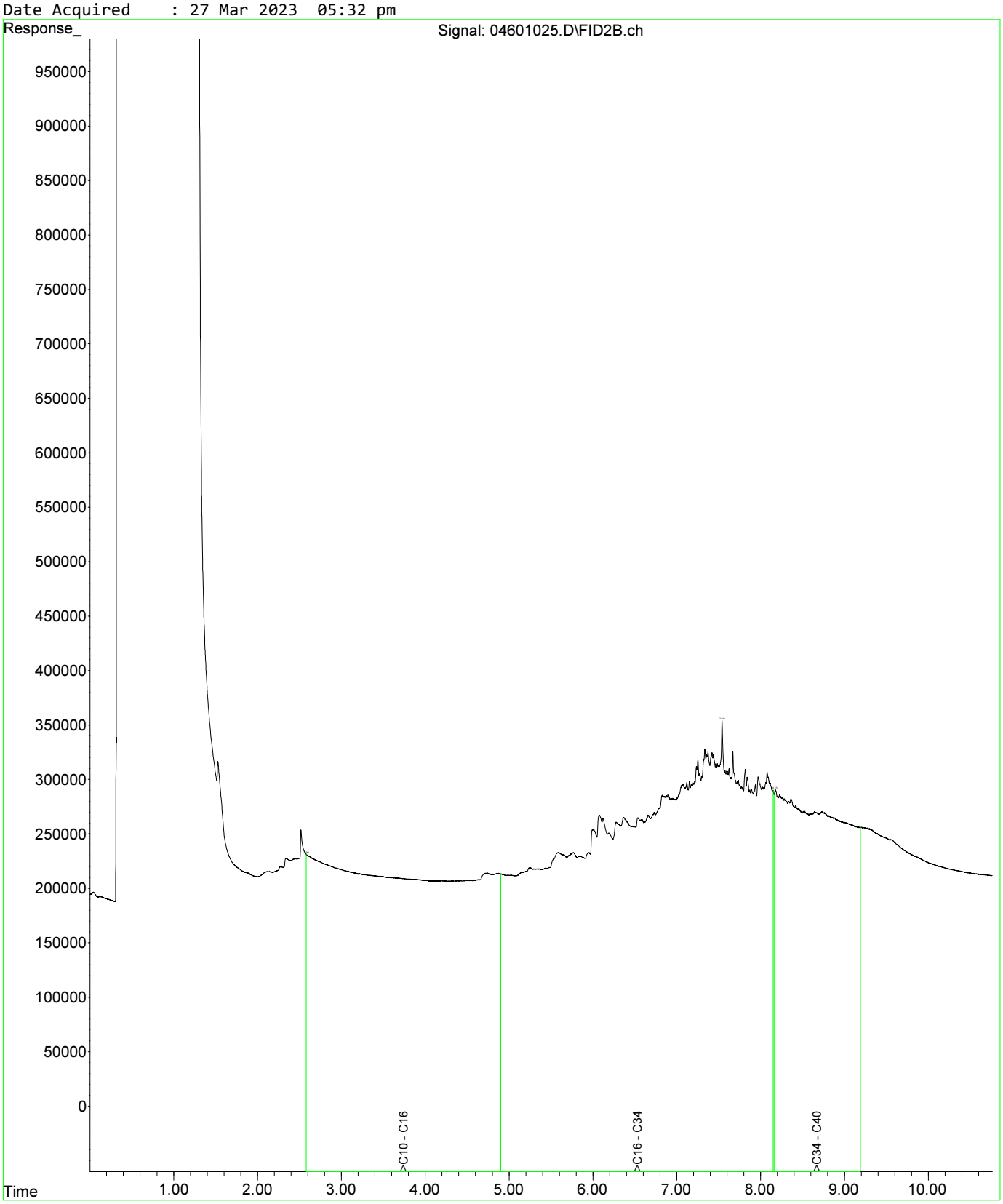

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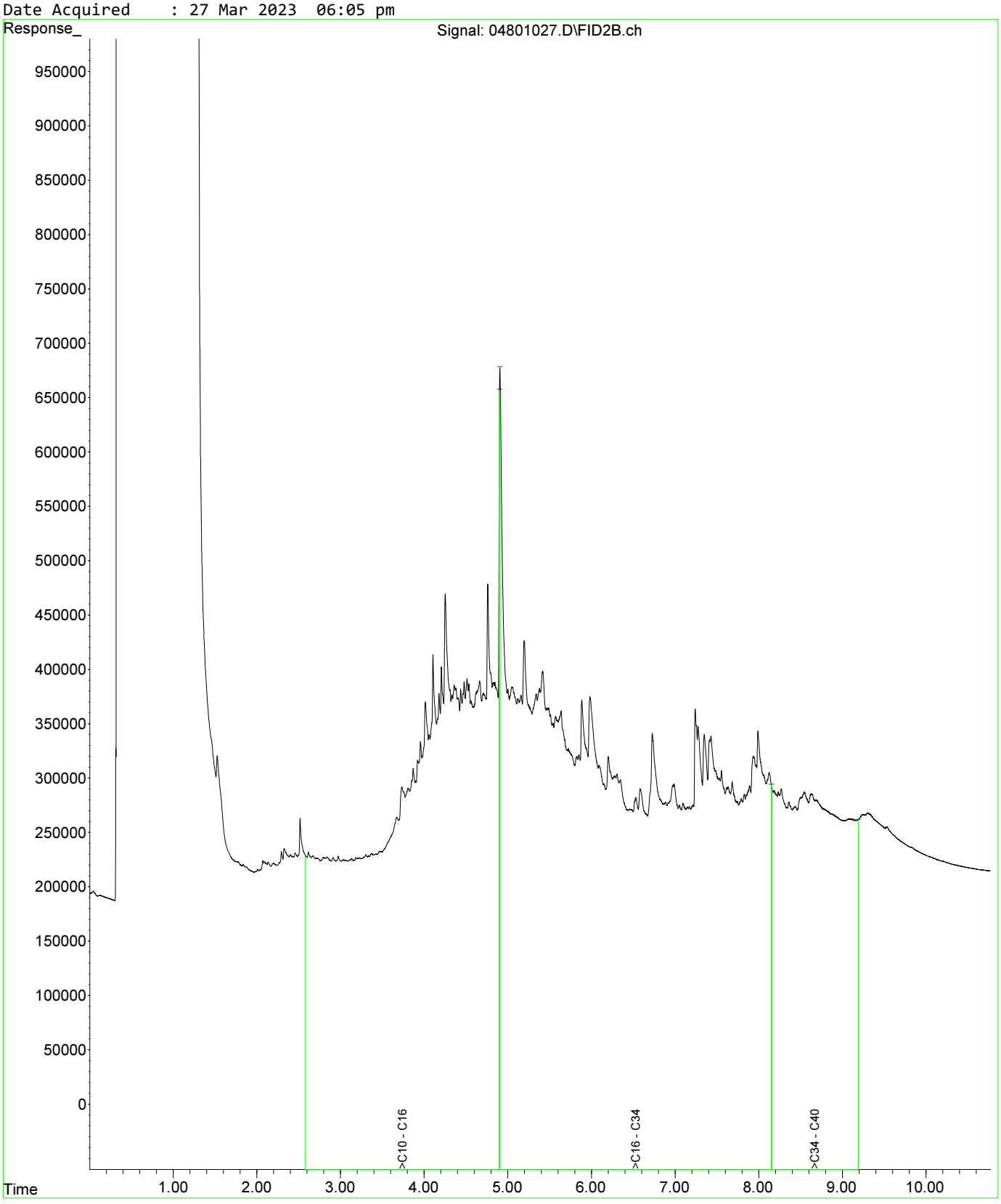

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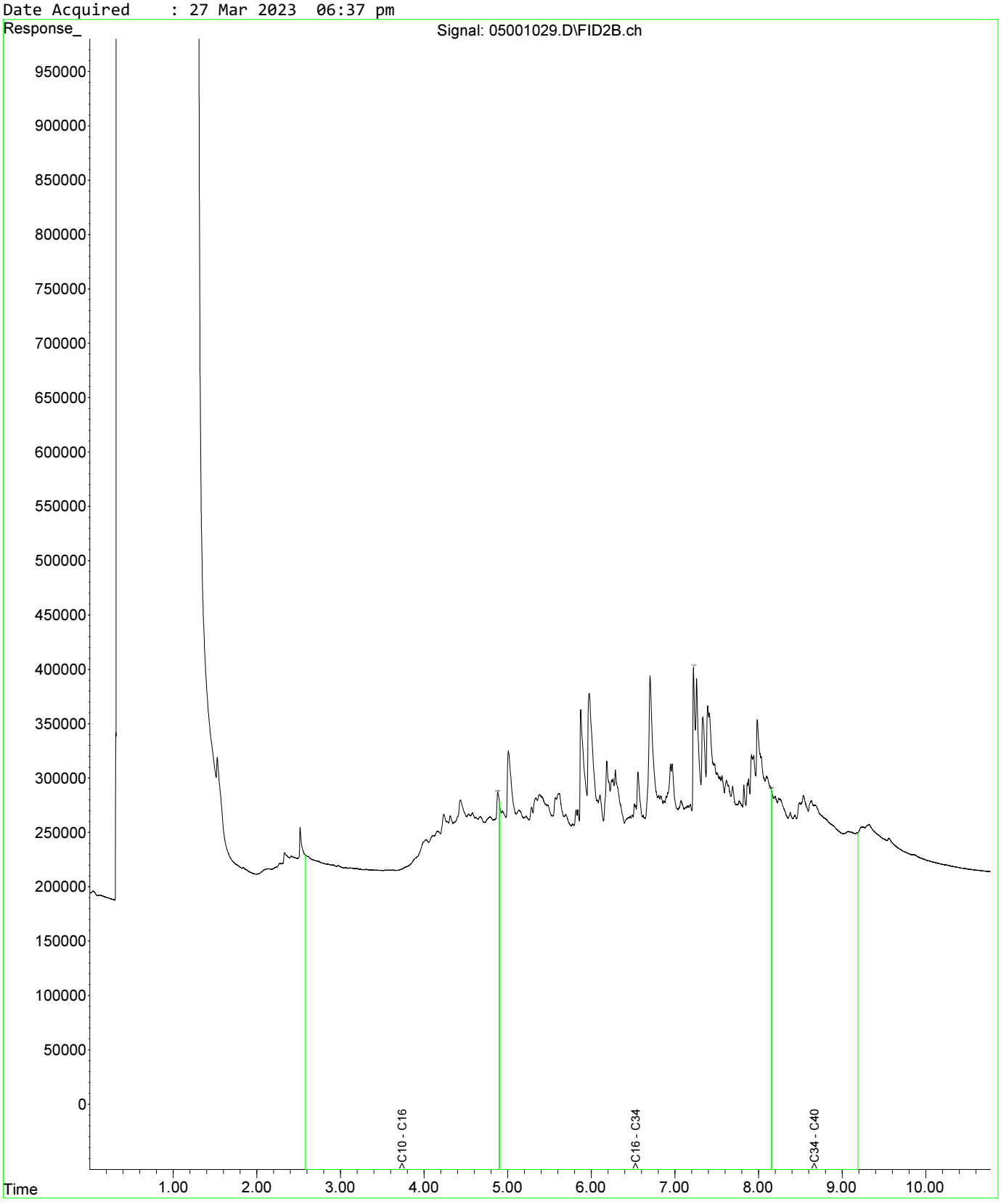

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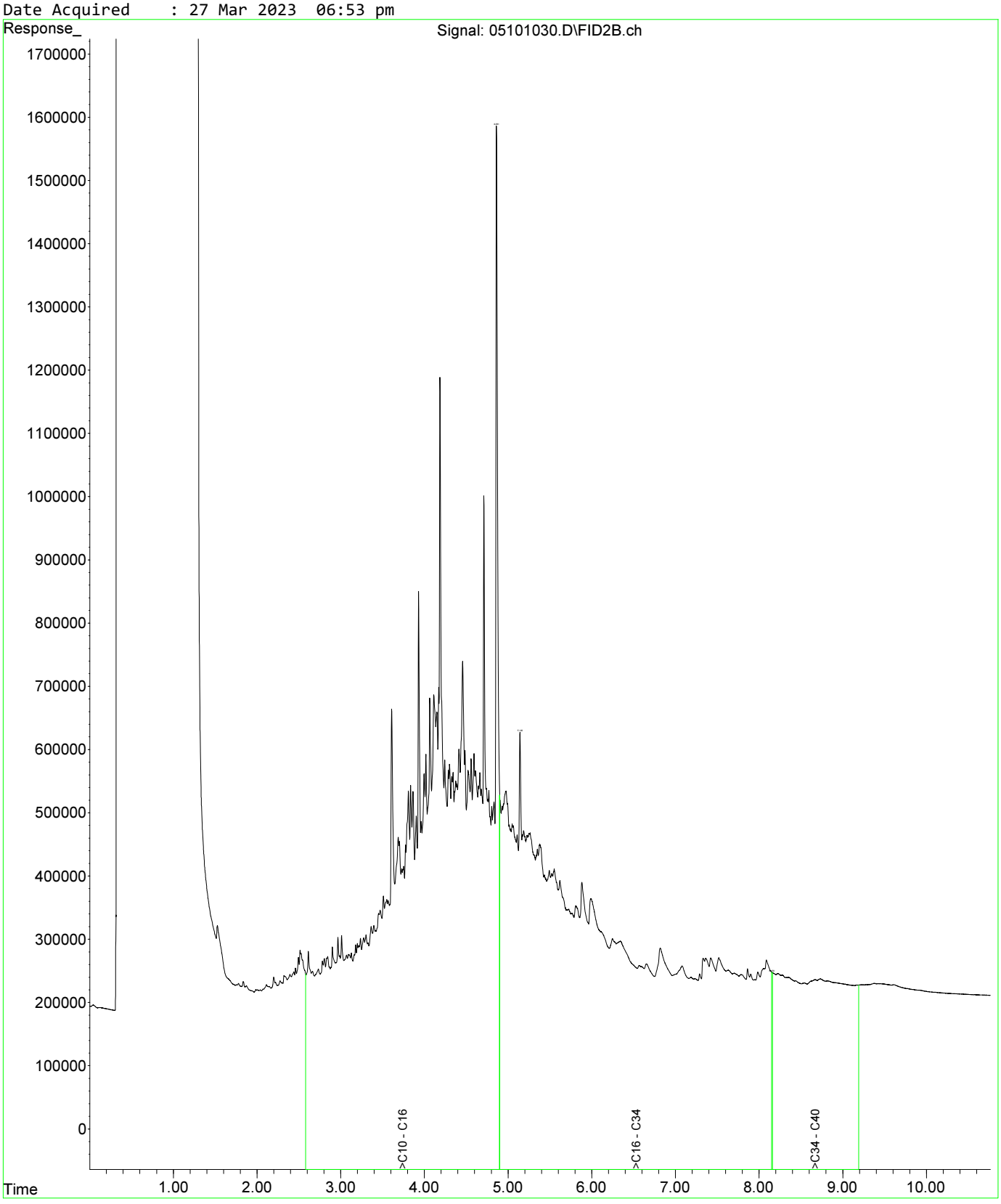
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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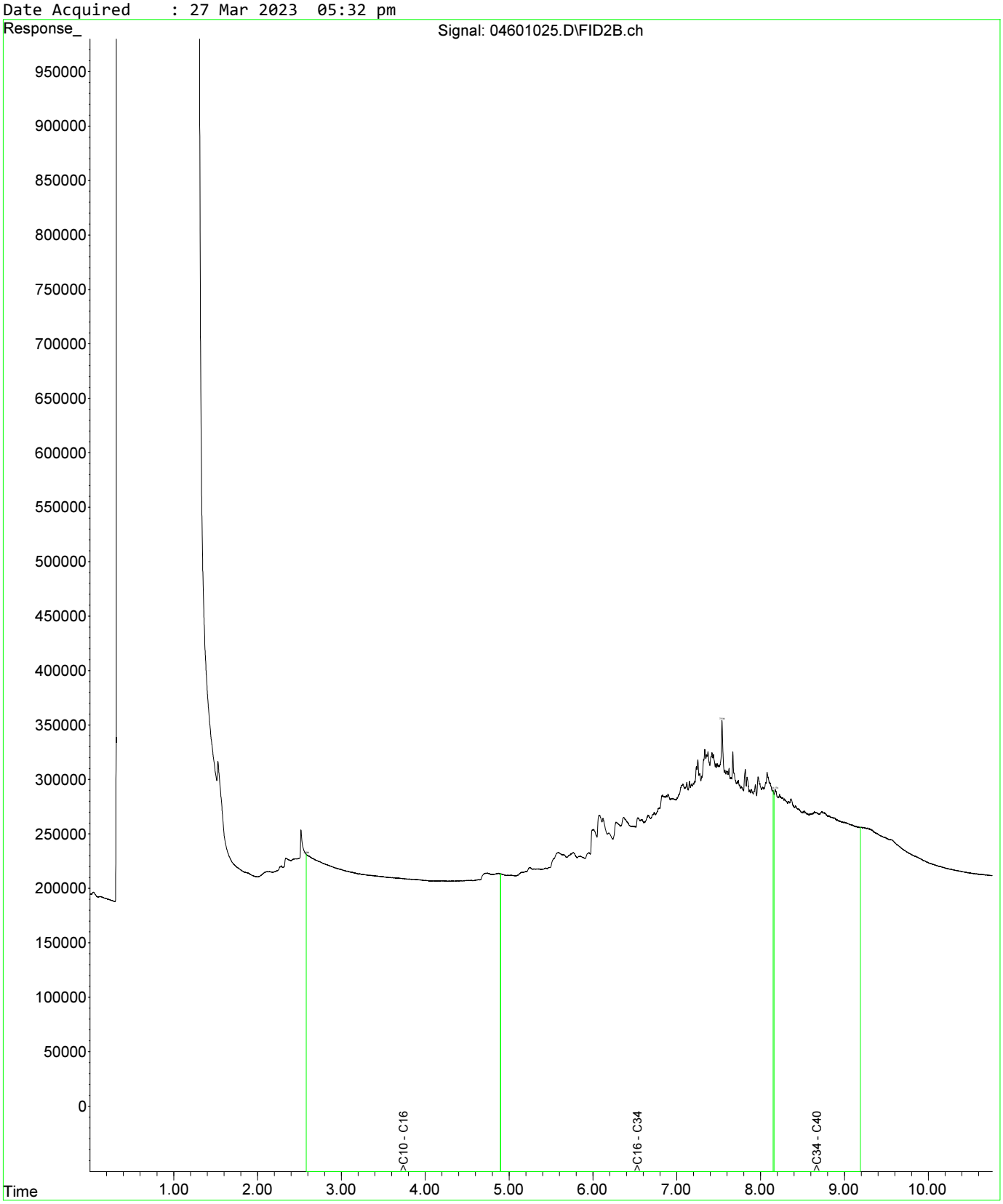

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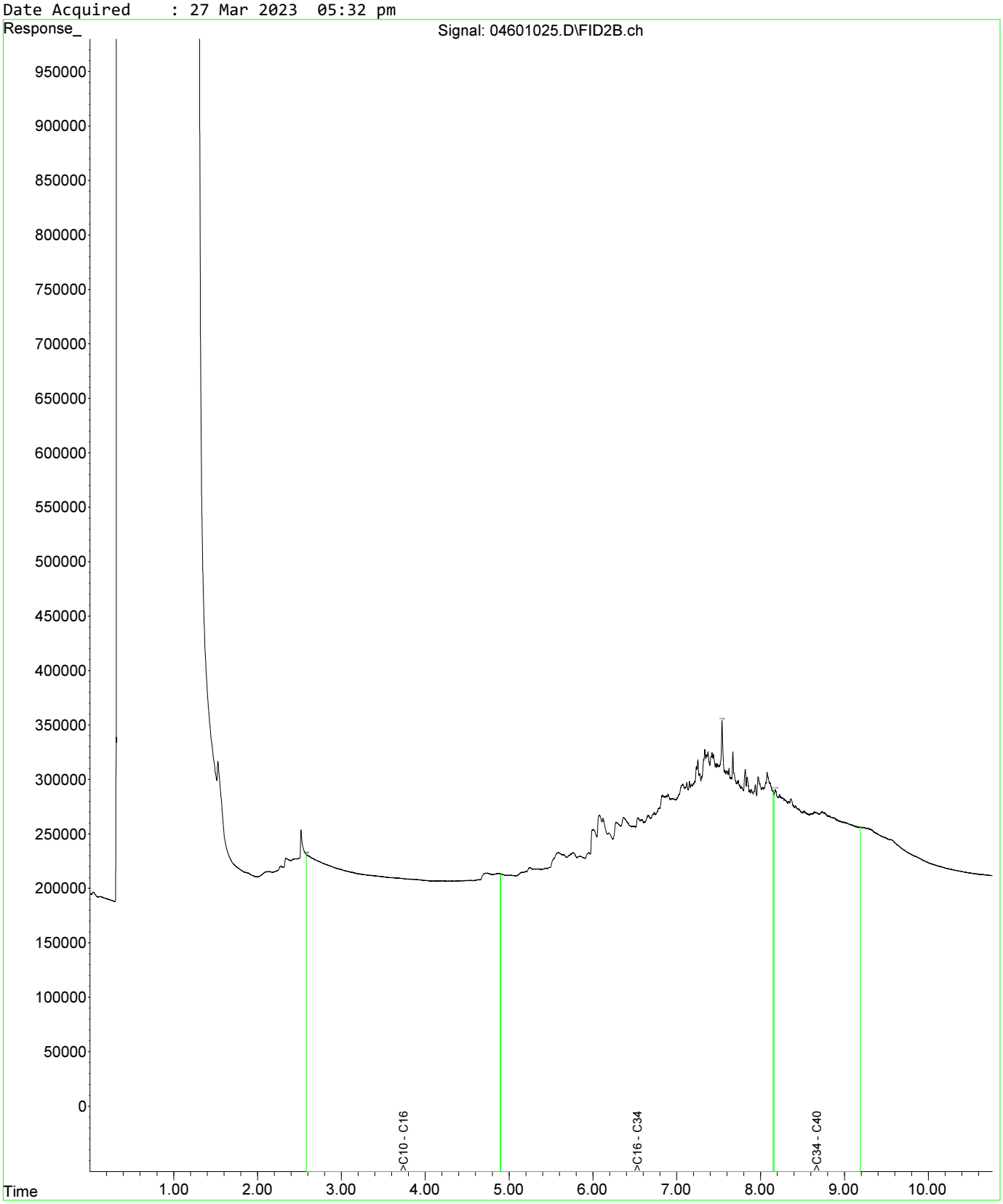
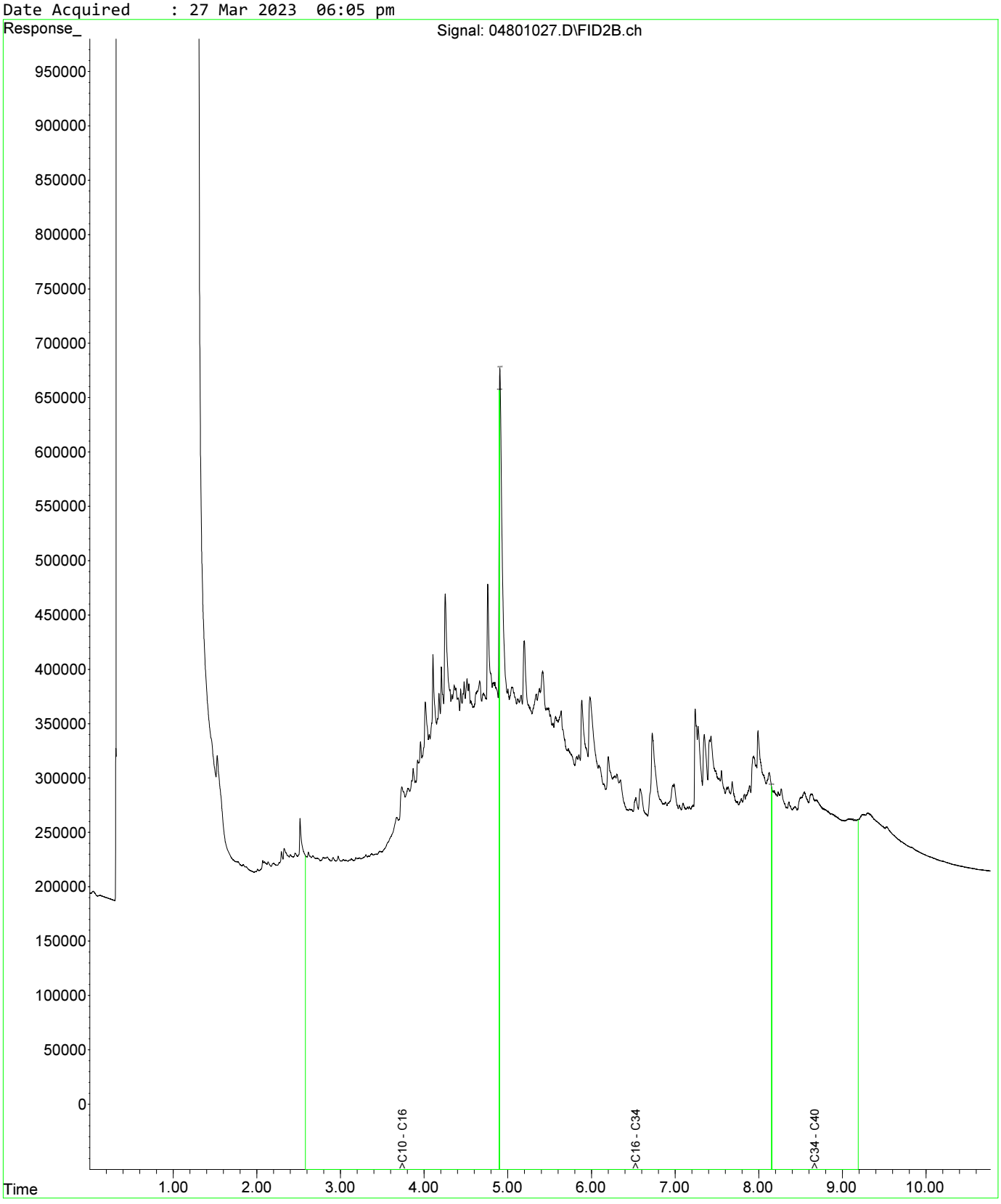


Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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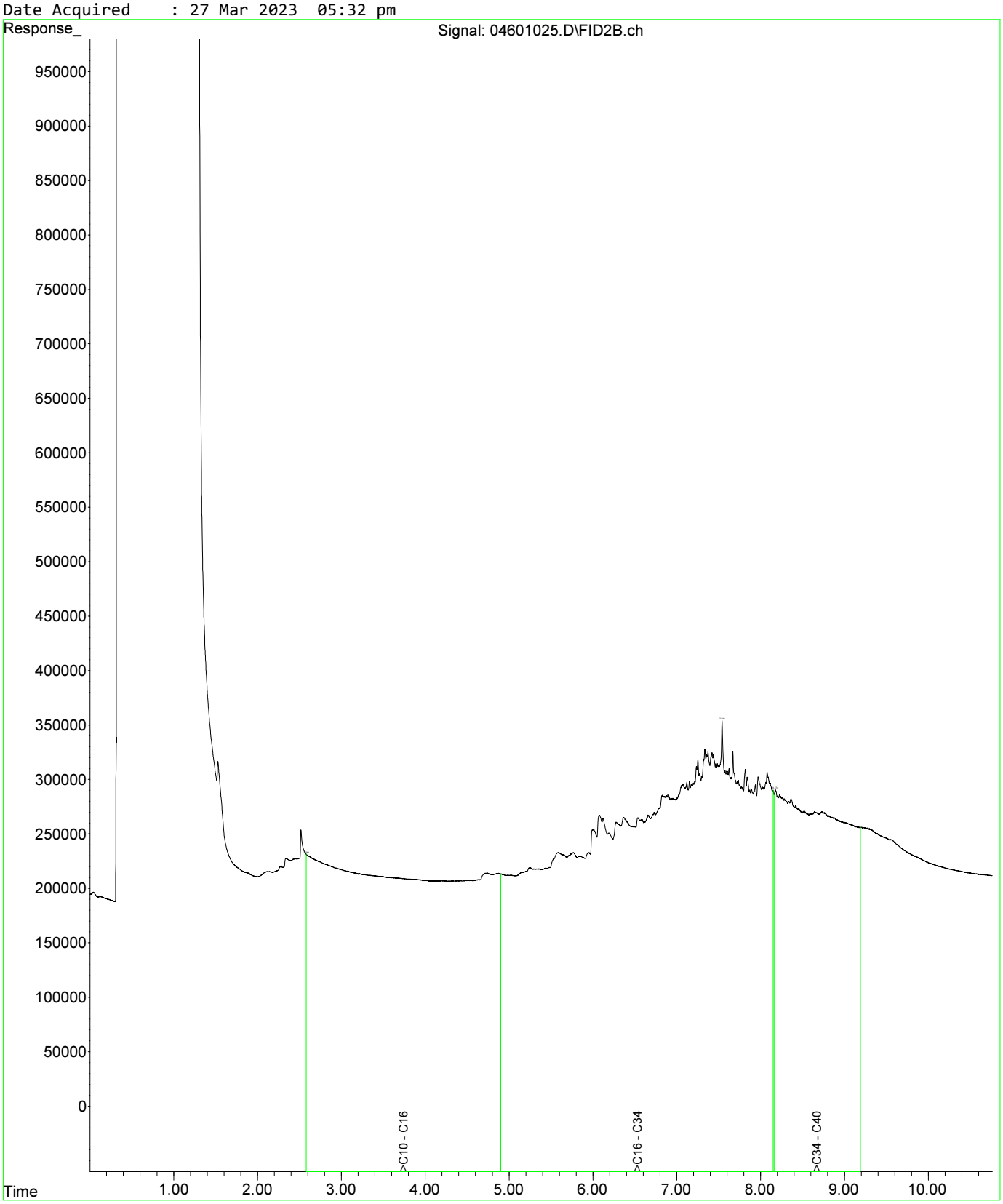

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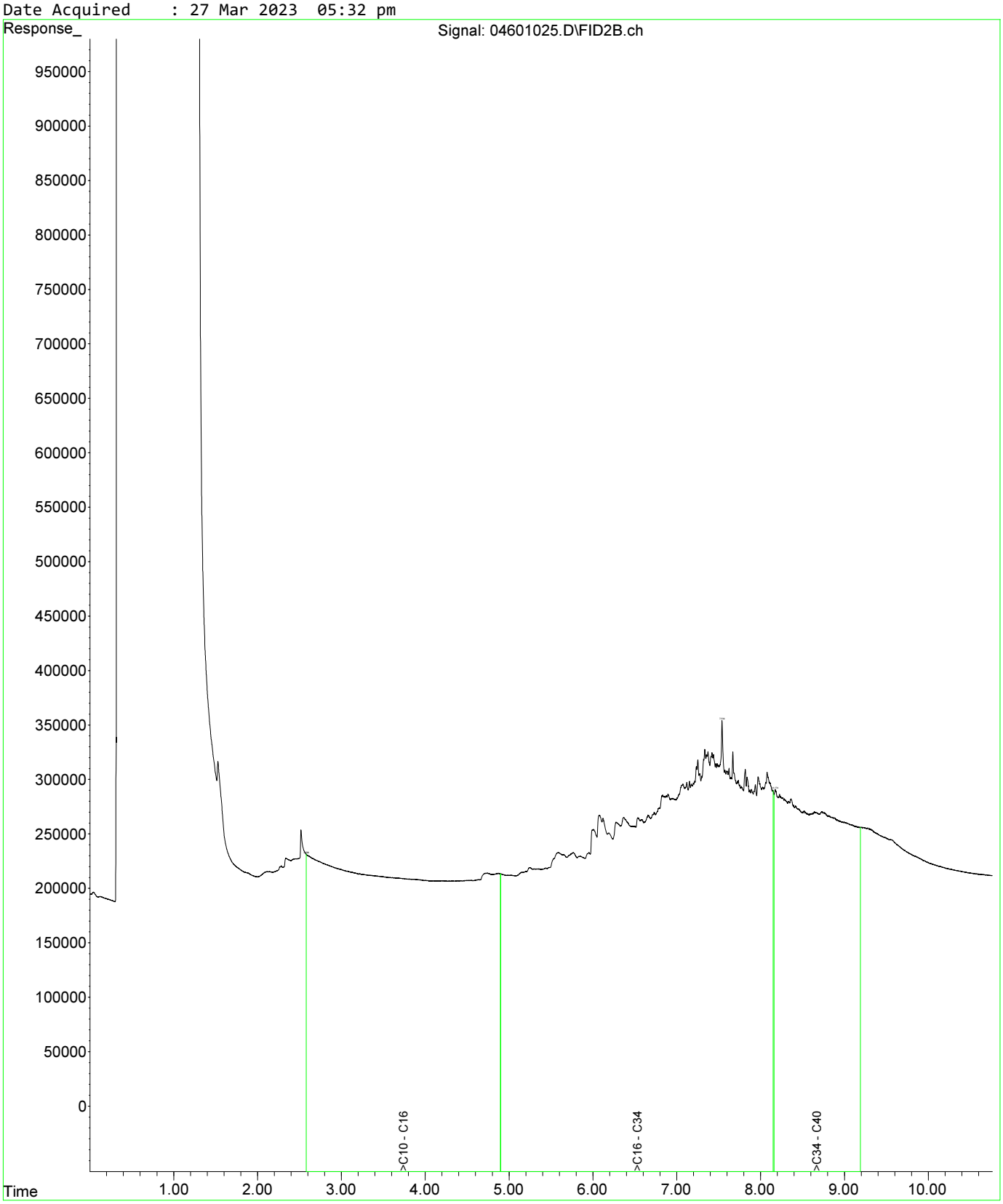

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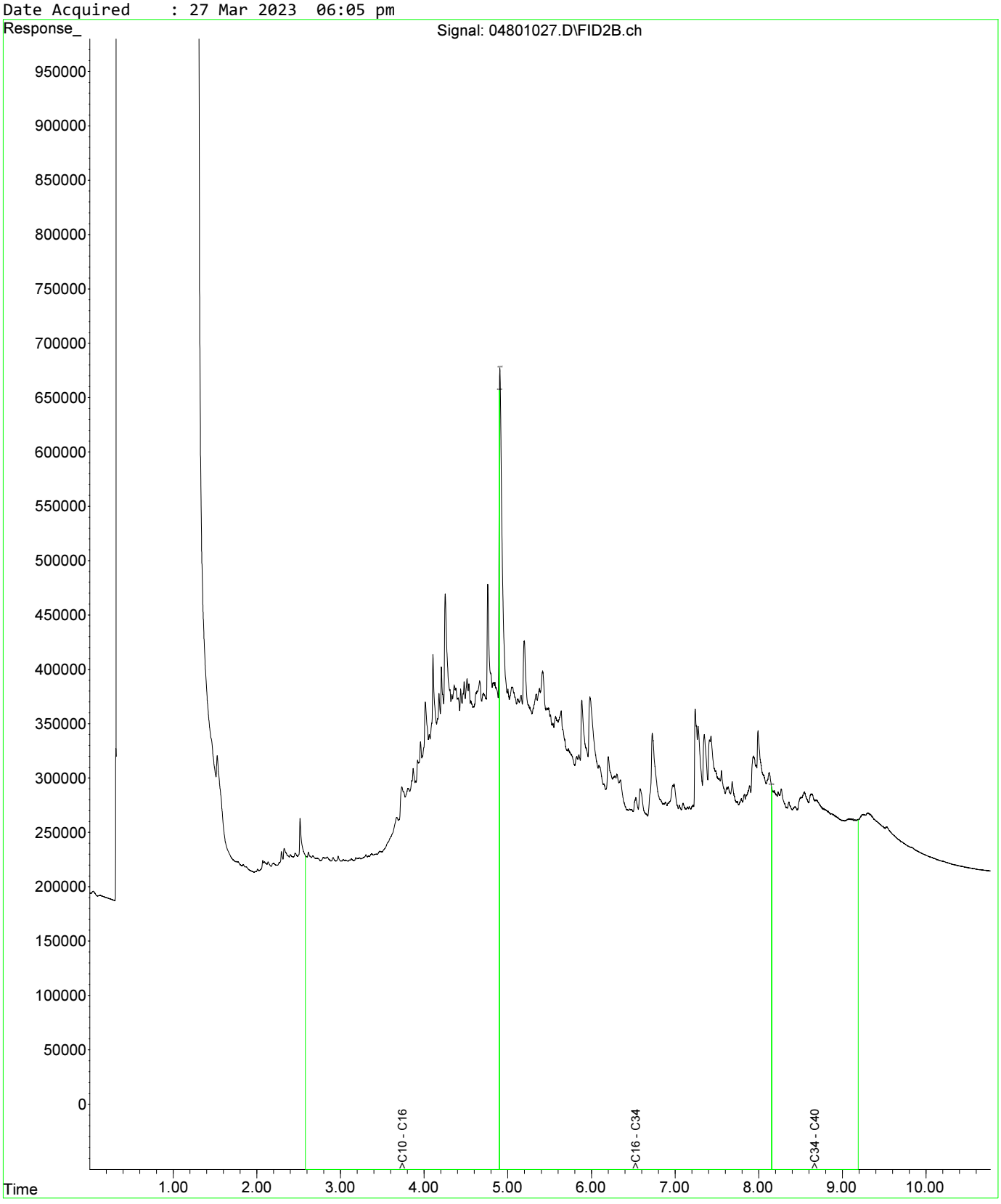

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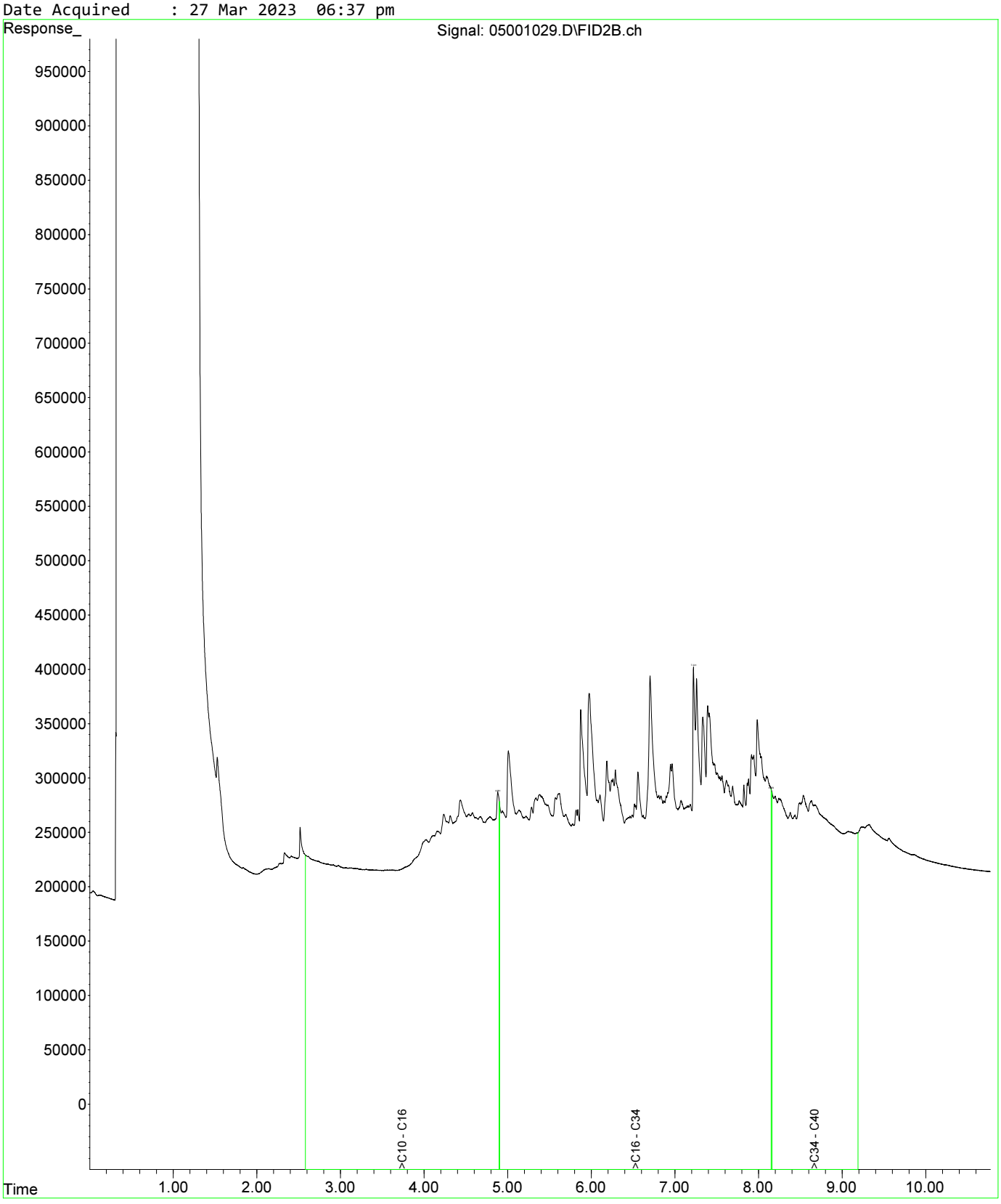
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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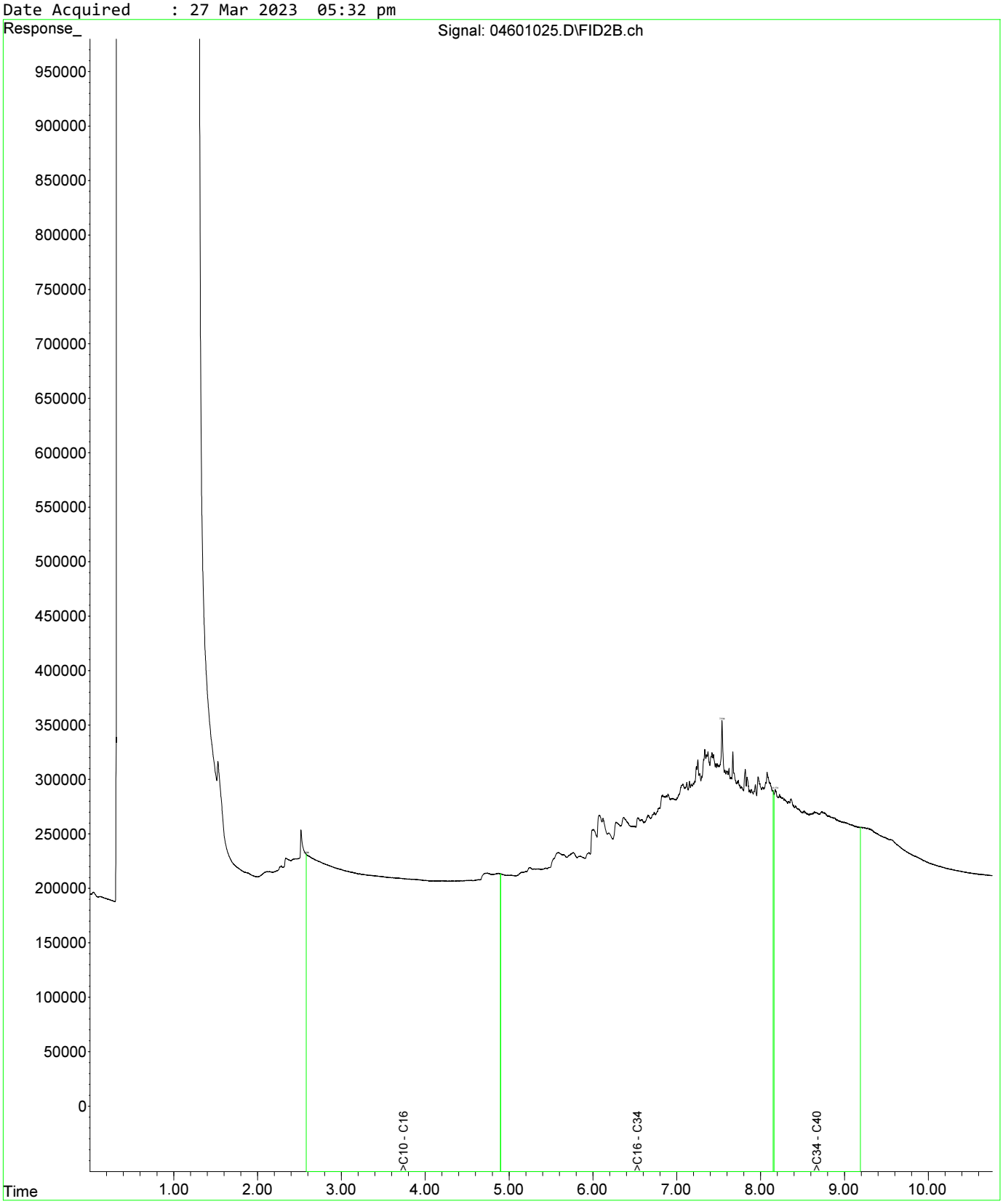

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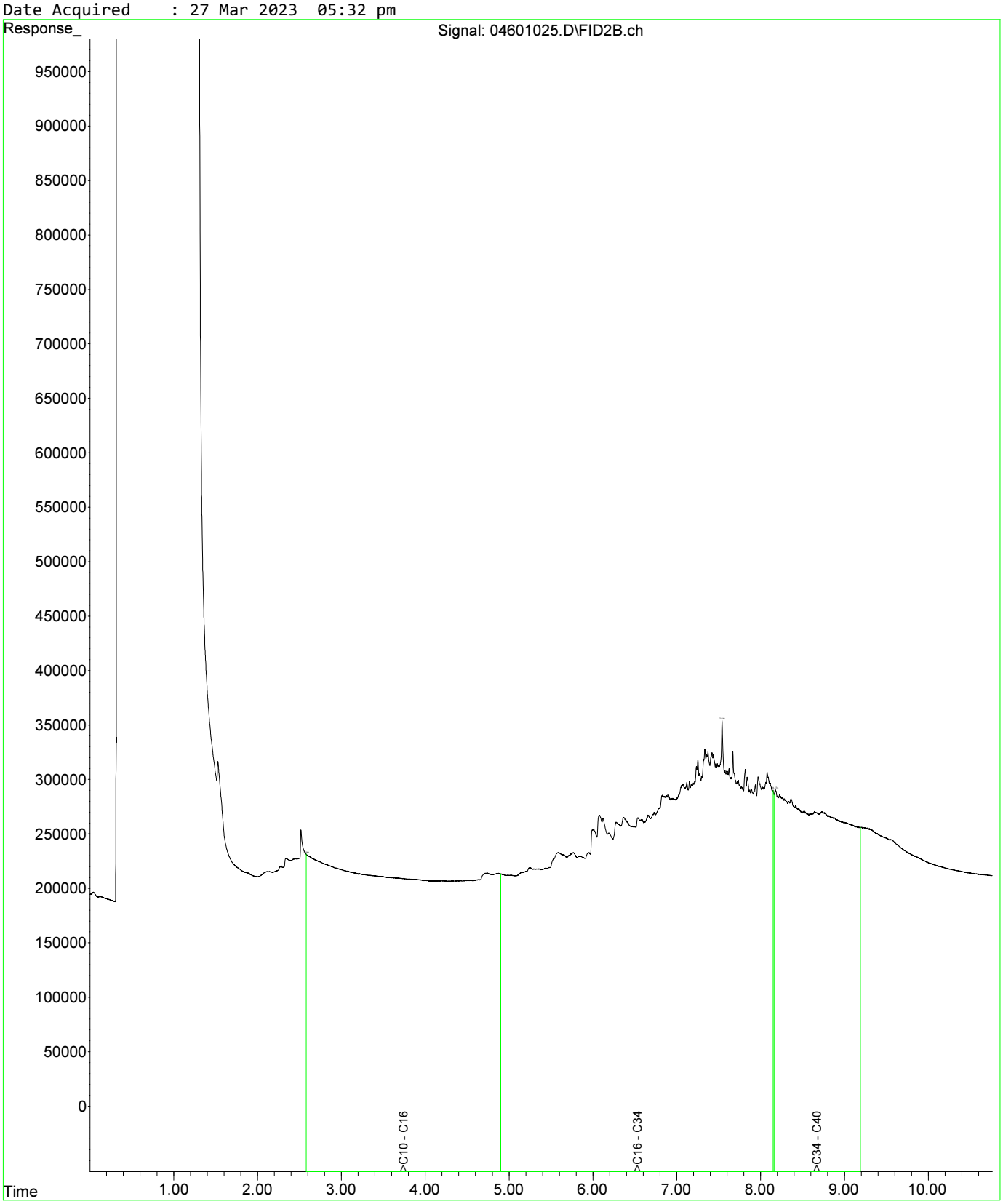

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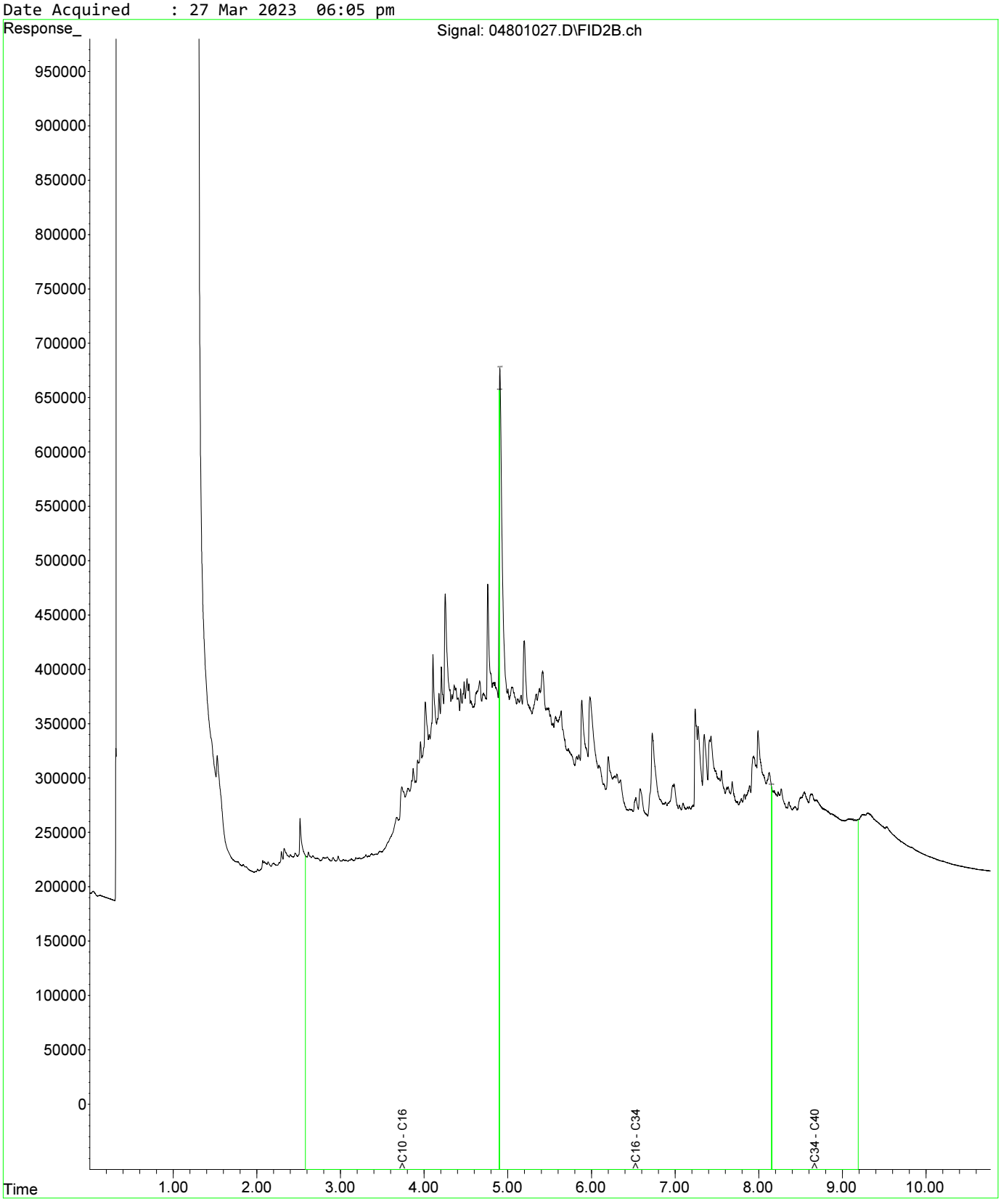

Fraction Scheme : NEPM DRAFT HIL
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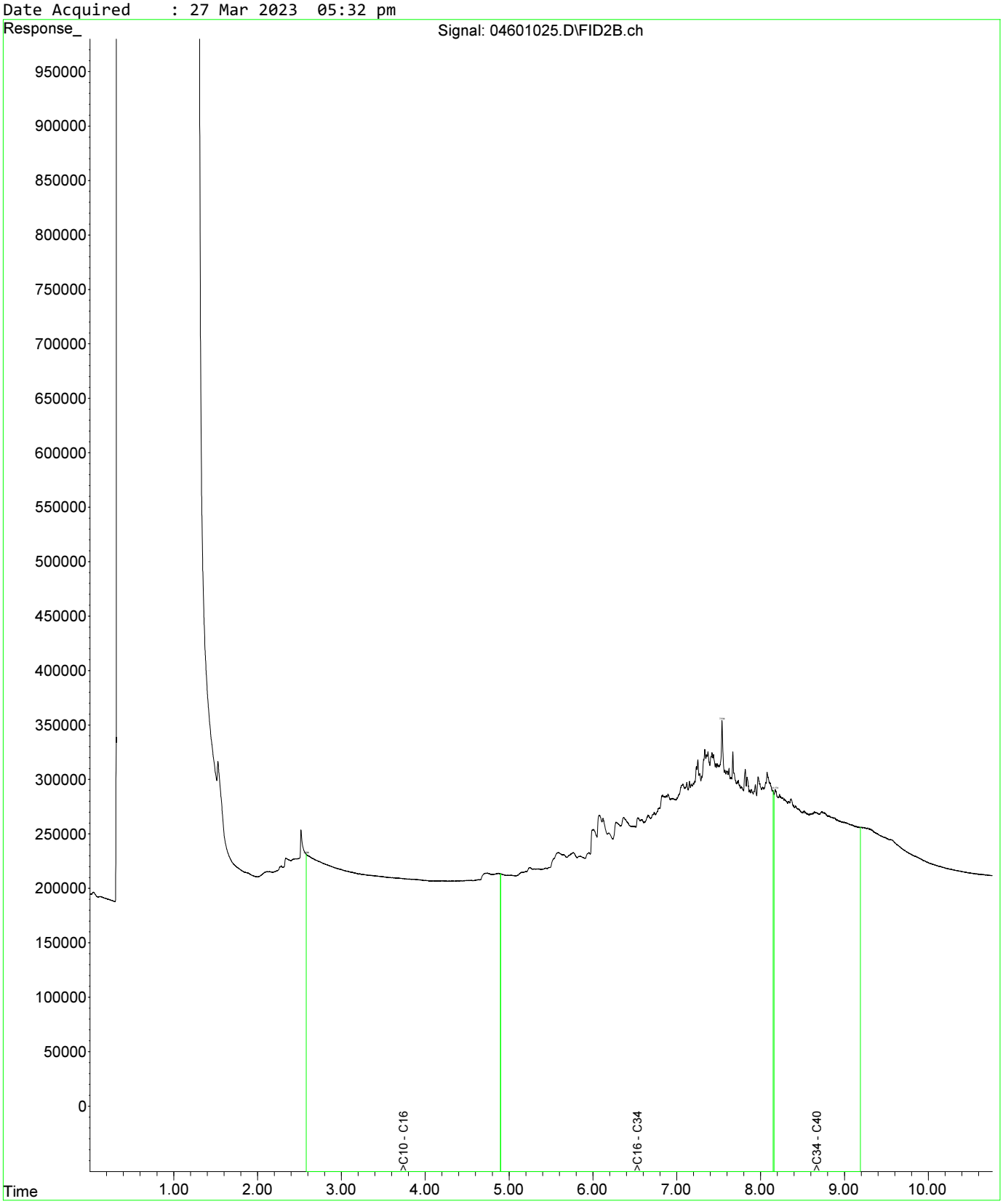

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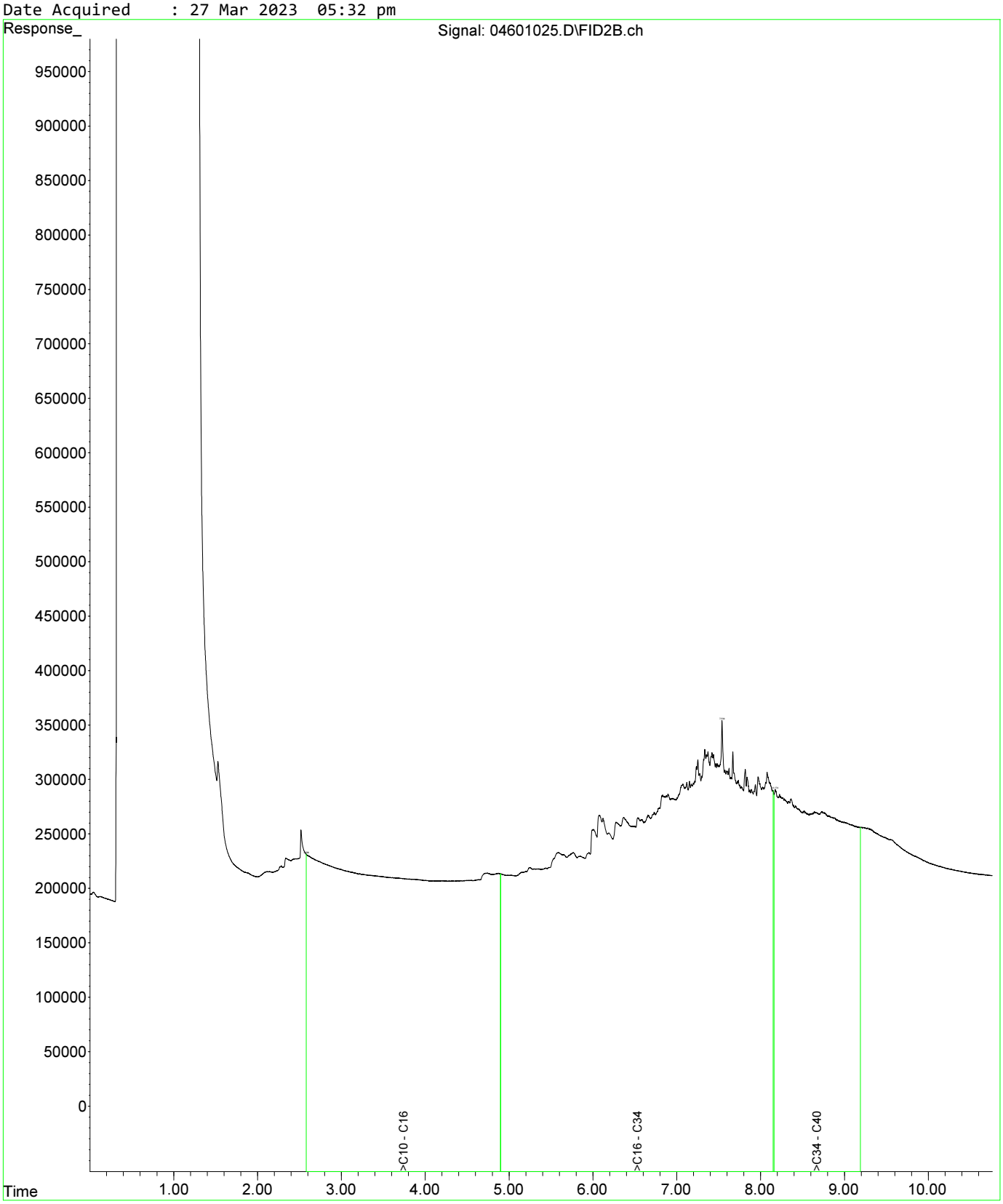

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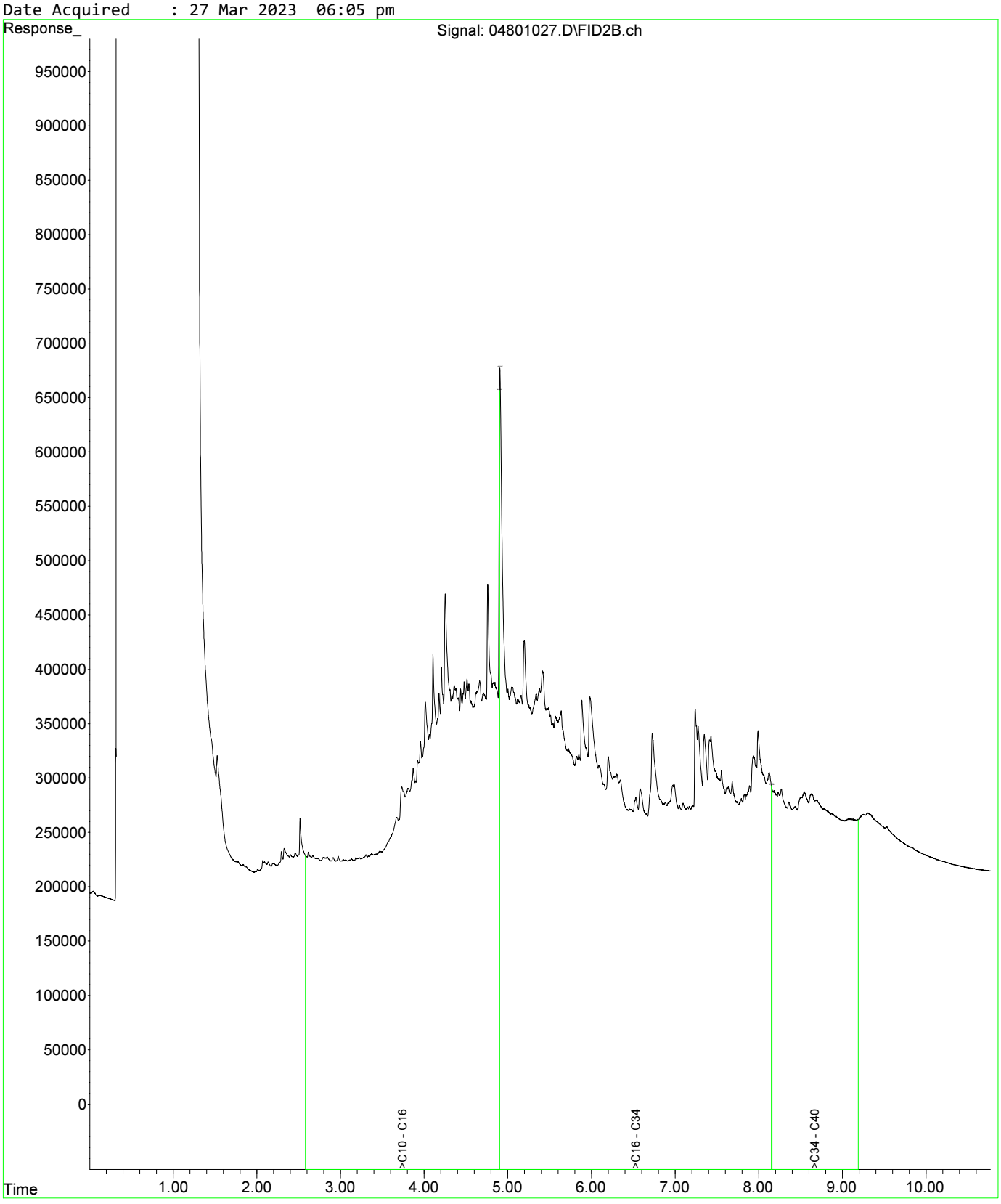

Fraction Scheme : NEPM DRAFT HIL
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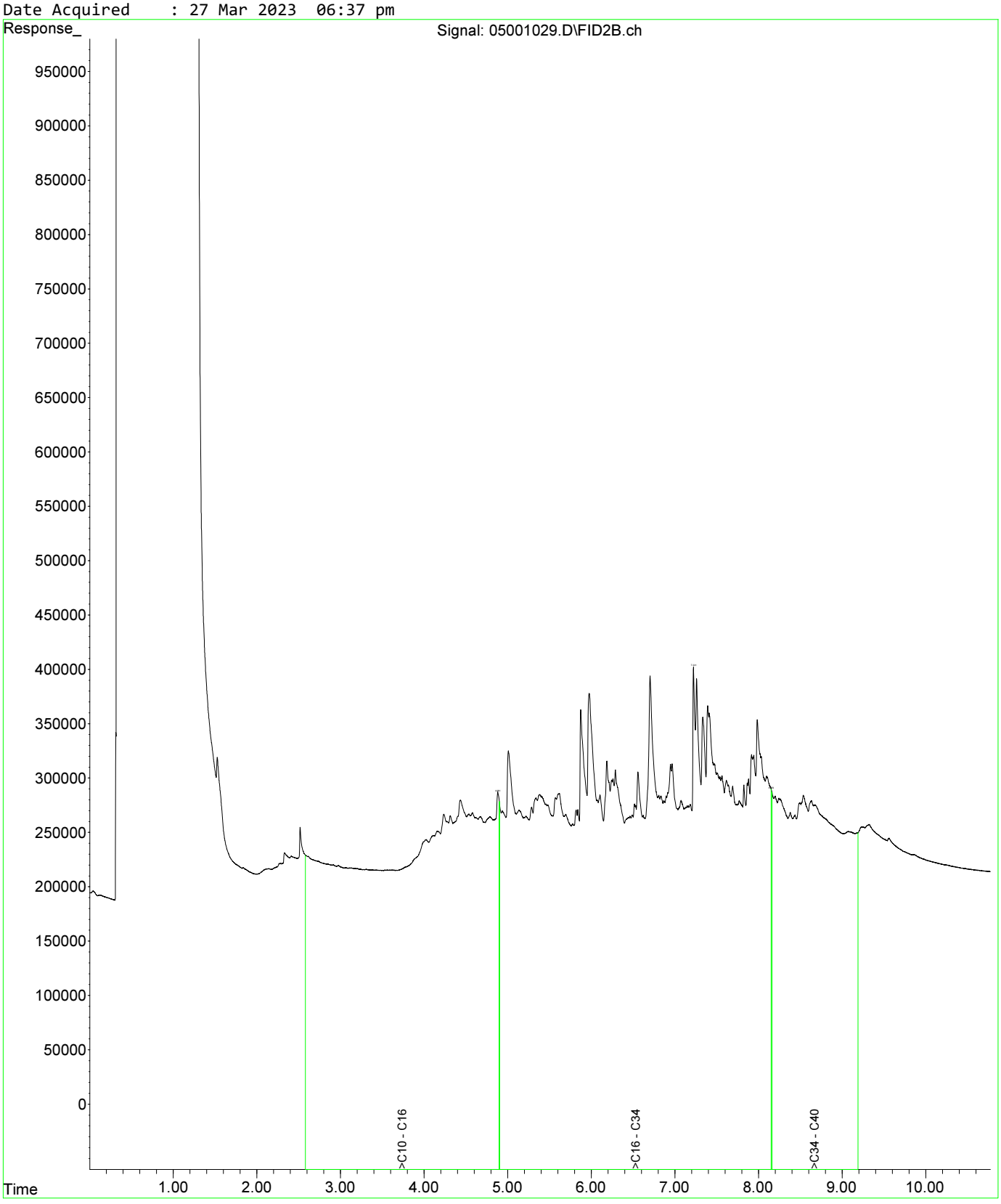

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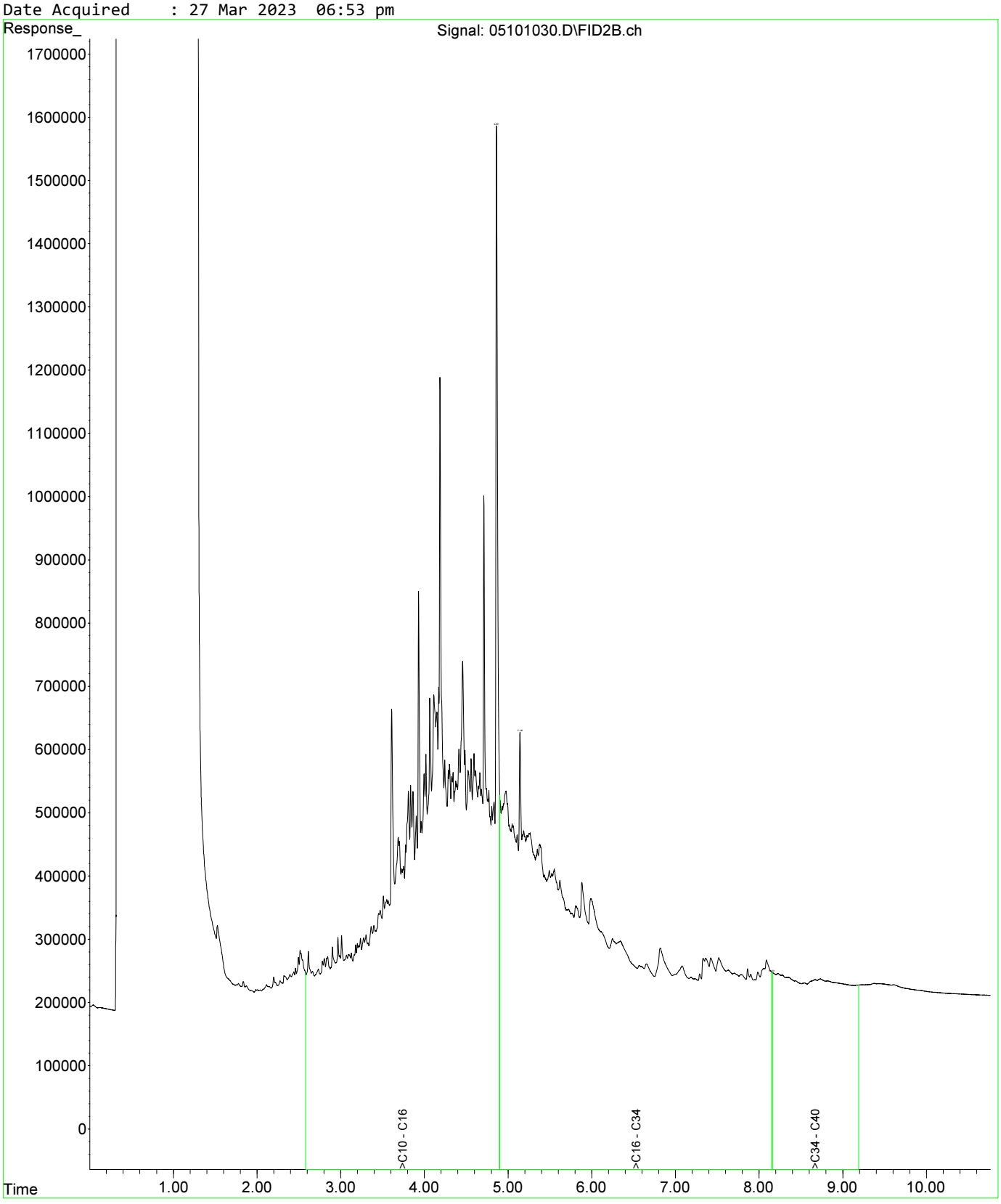

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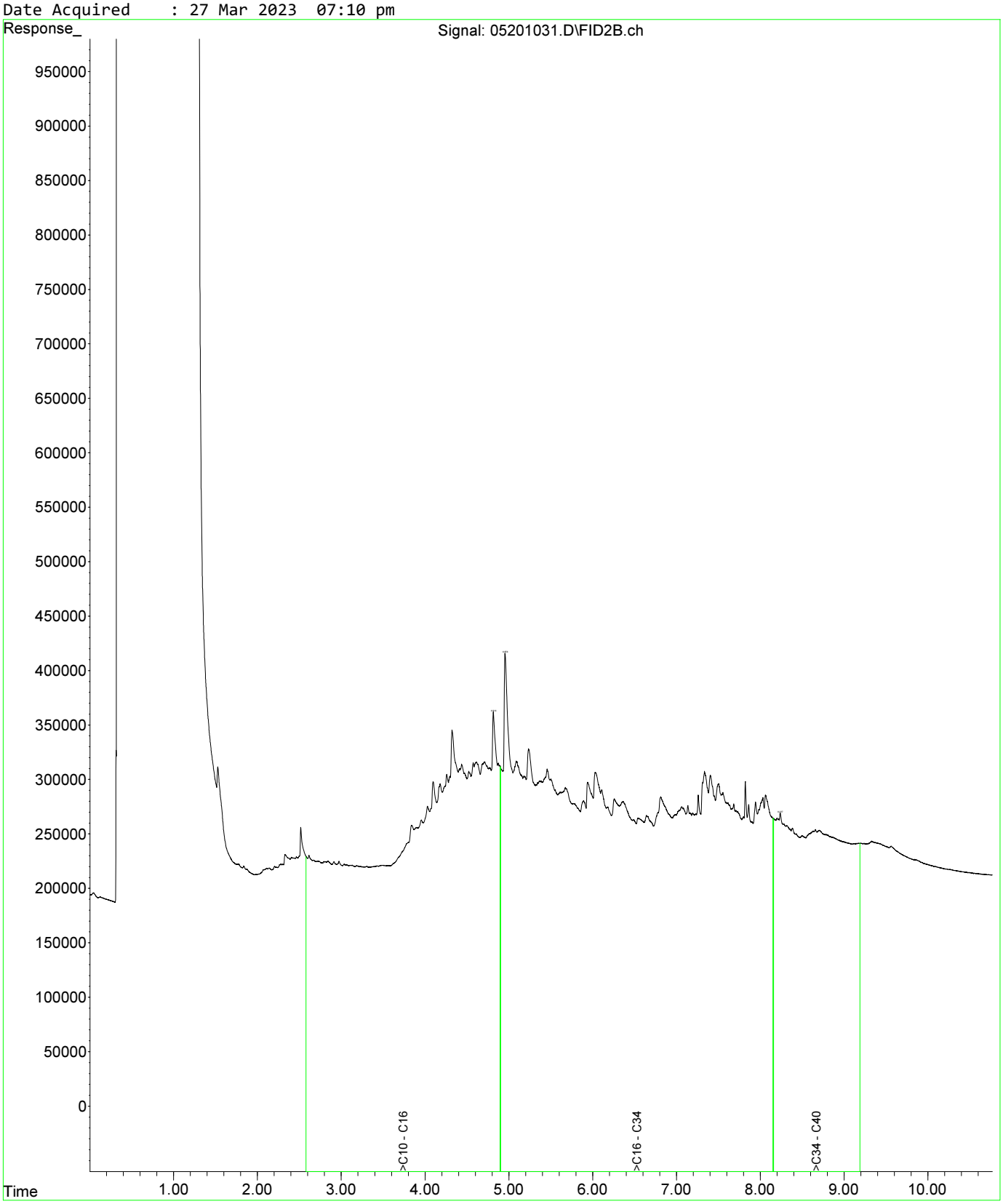

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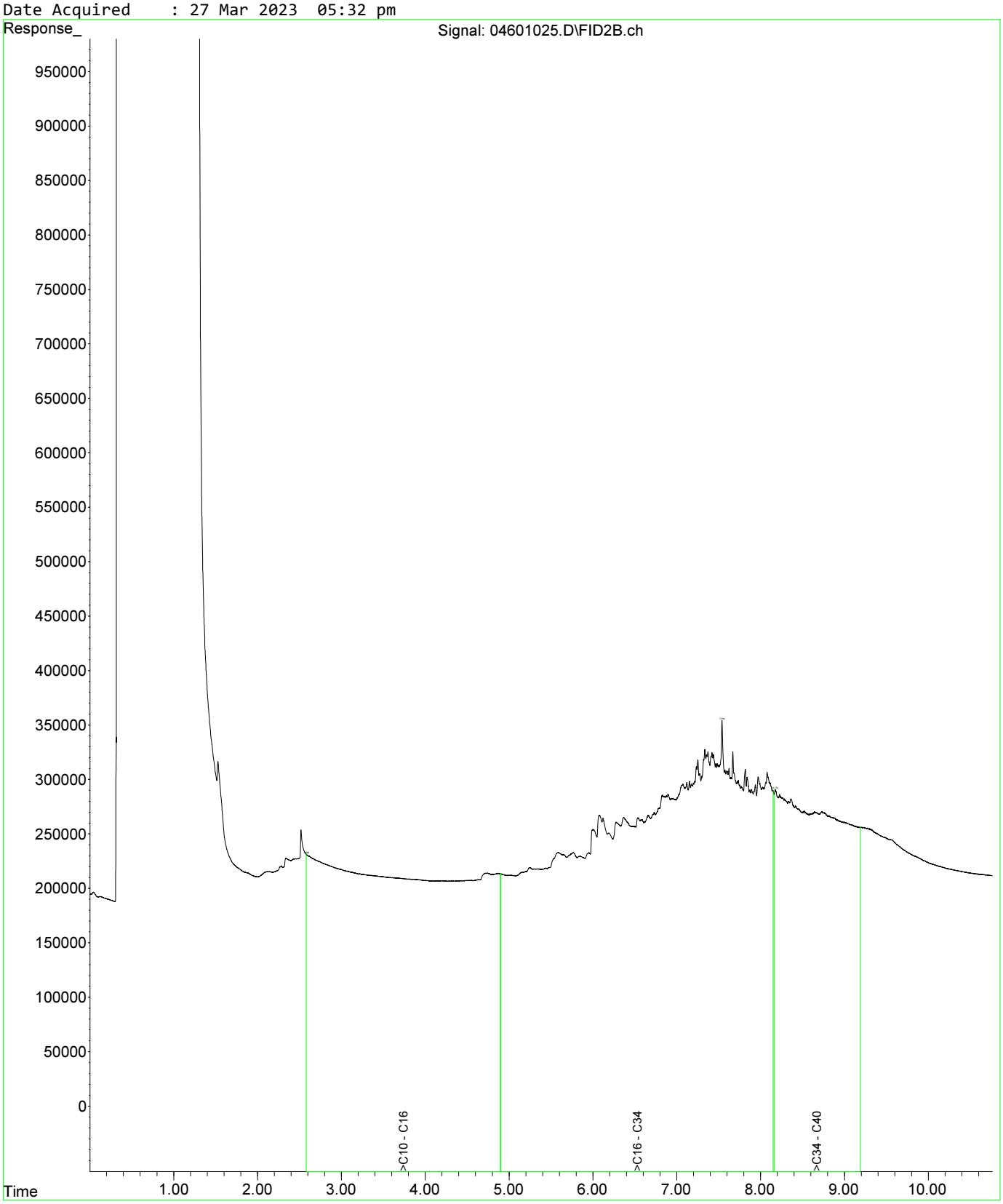

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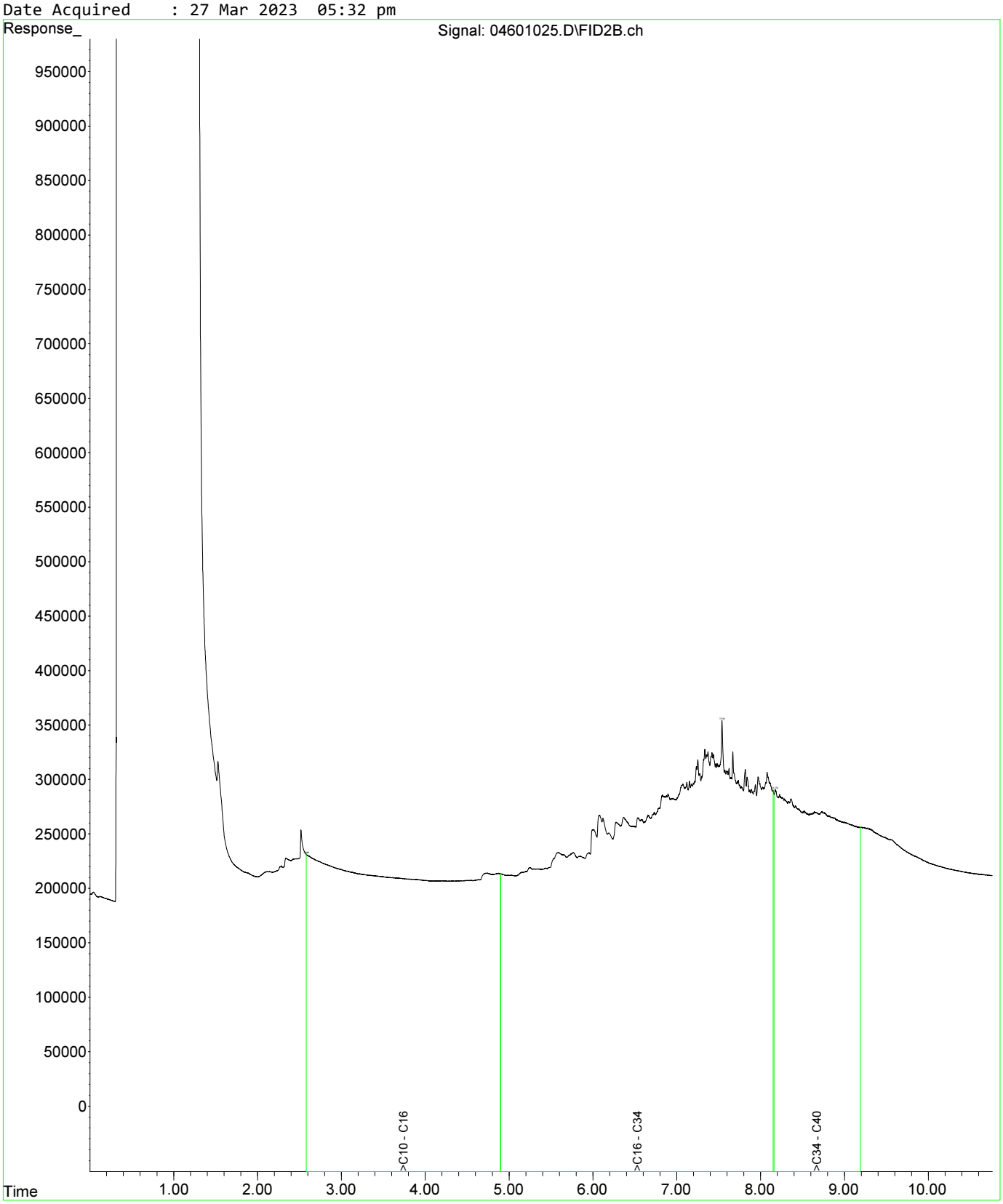

Fraction Scheme : NEPM DRAFT HIL
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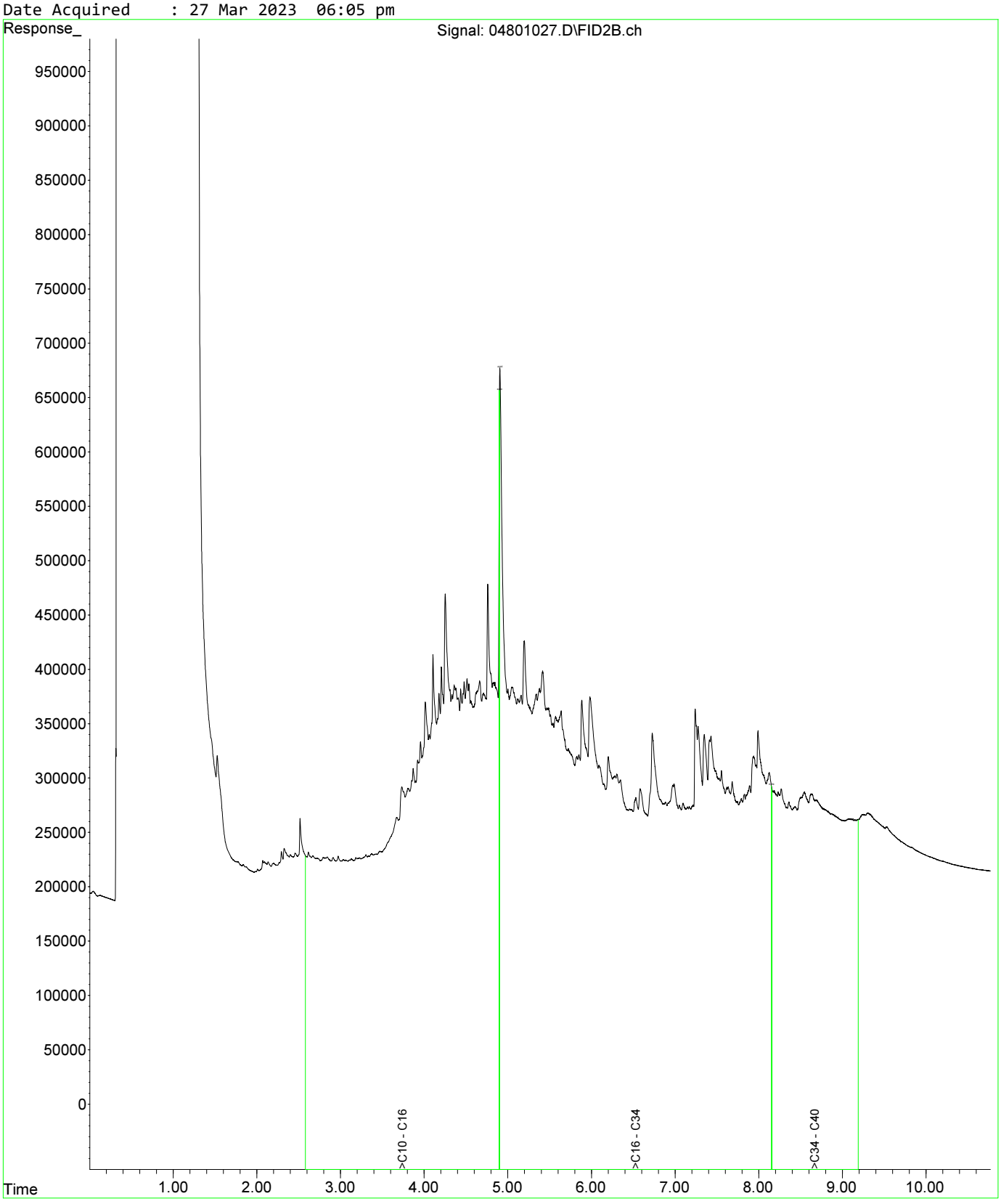

Fraction Scheme : NEPM DRAFT HIL
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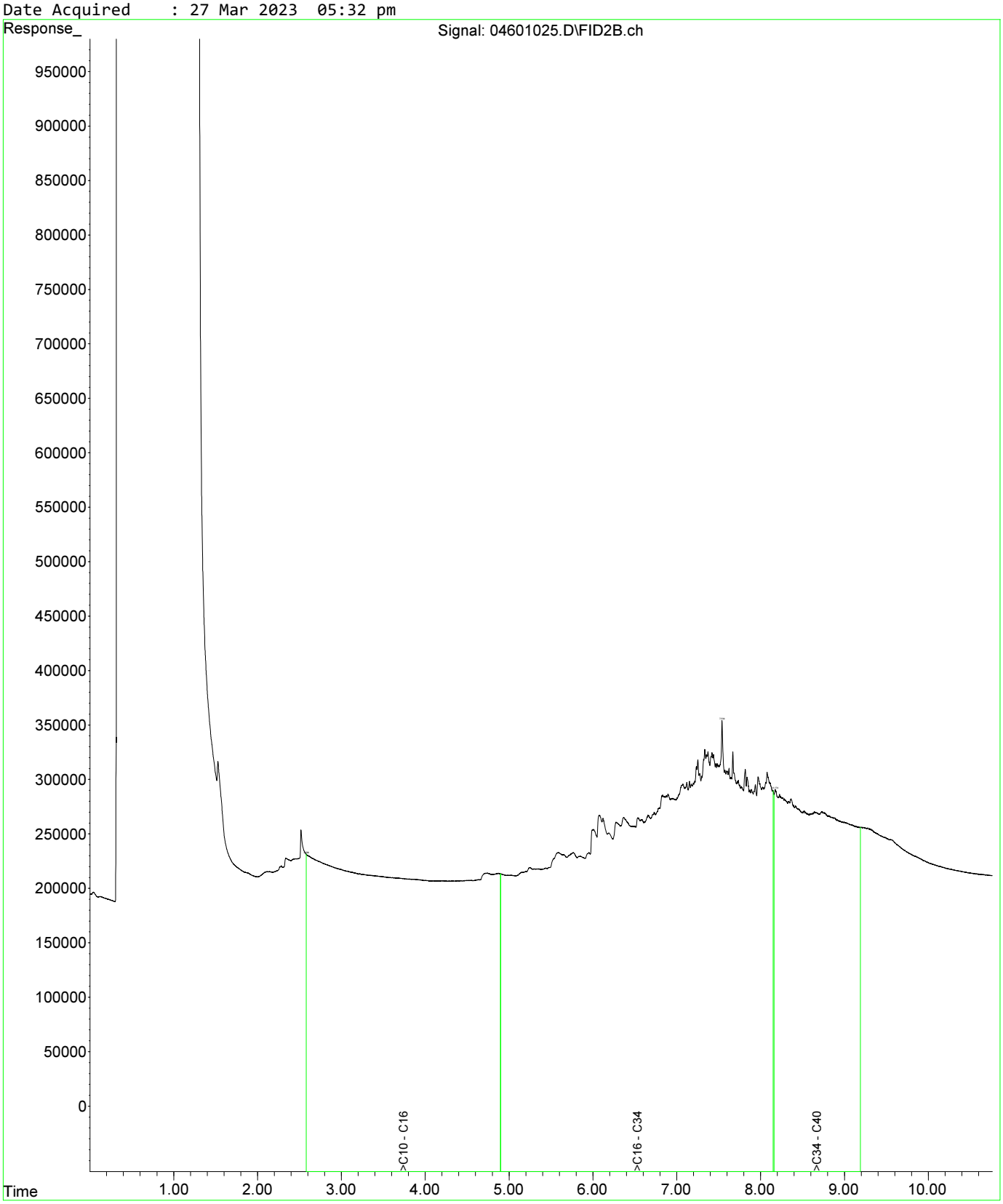

Fraction Scheme : NEPM DRAFT HIL
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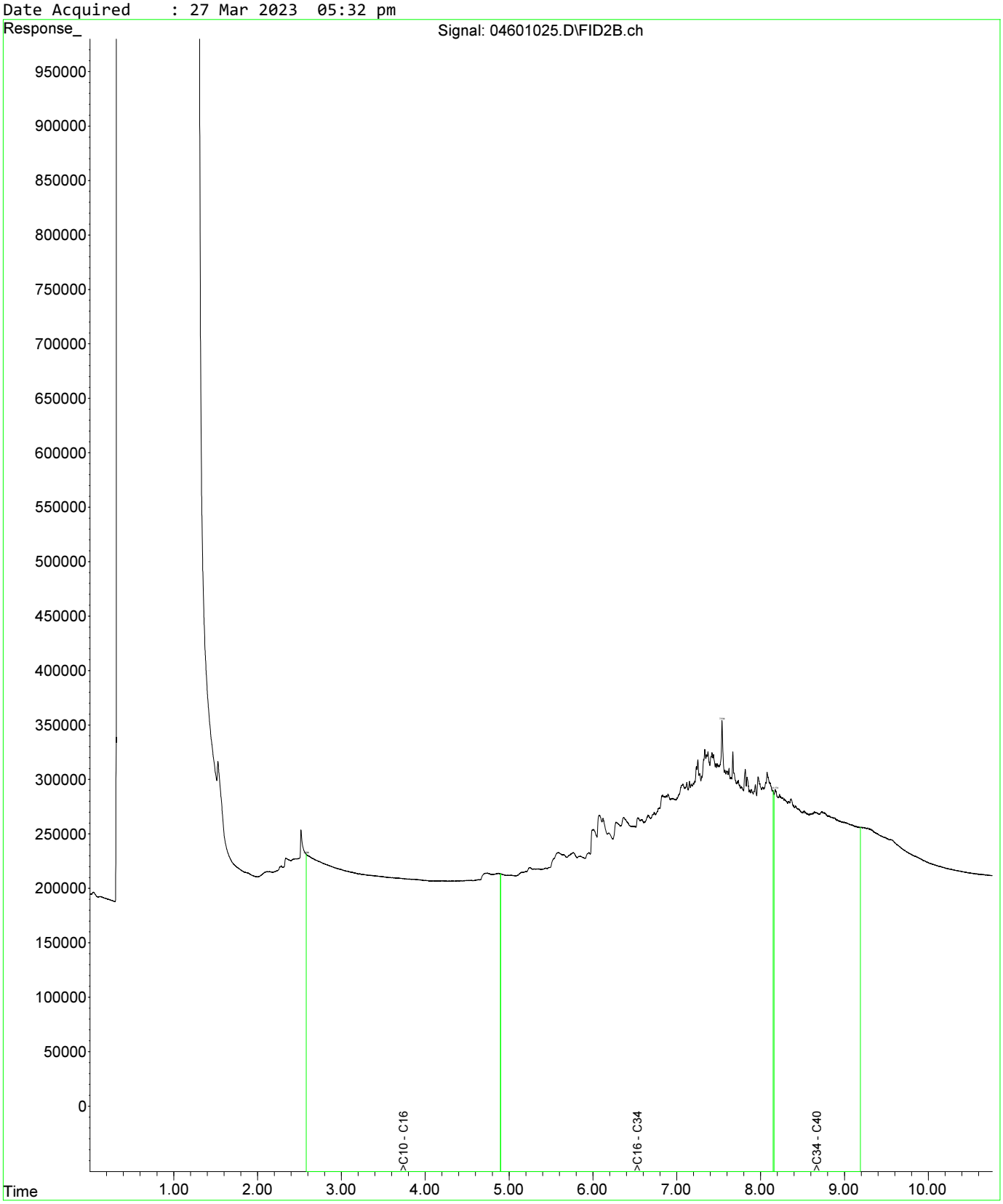

Fraction Scheme : NEPM DRAFT HIL
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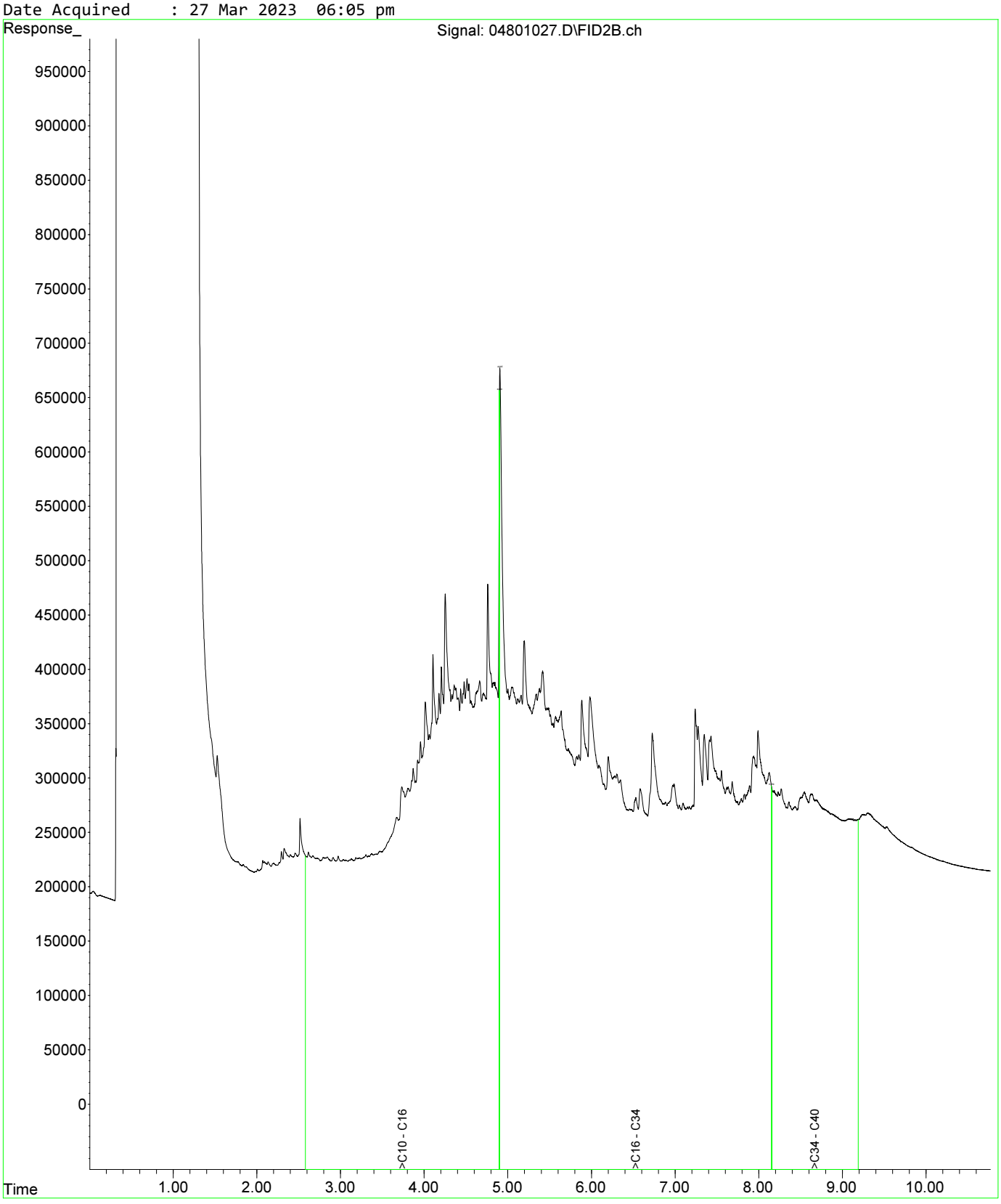

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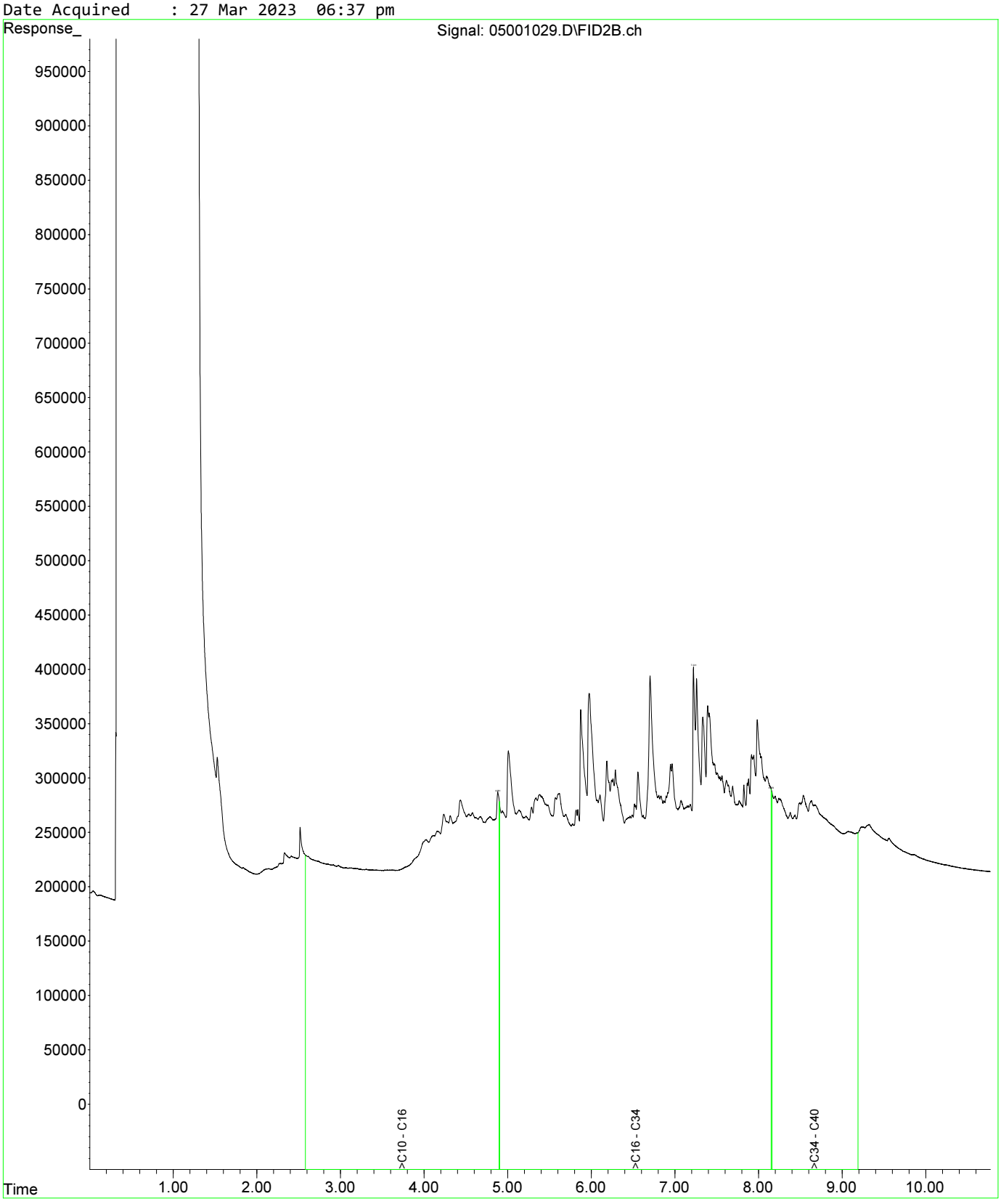

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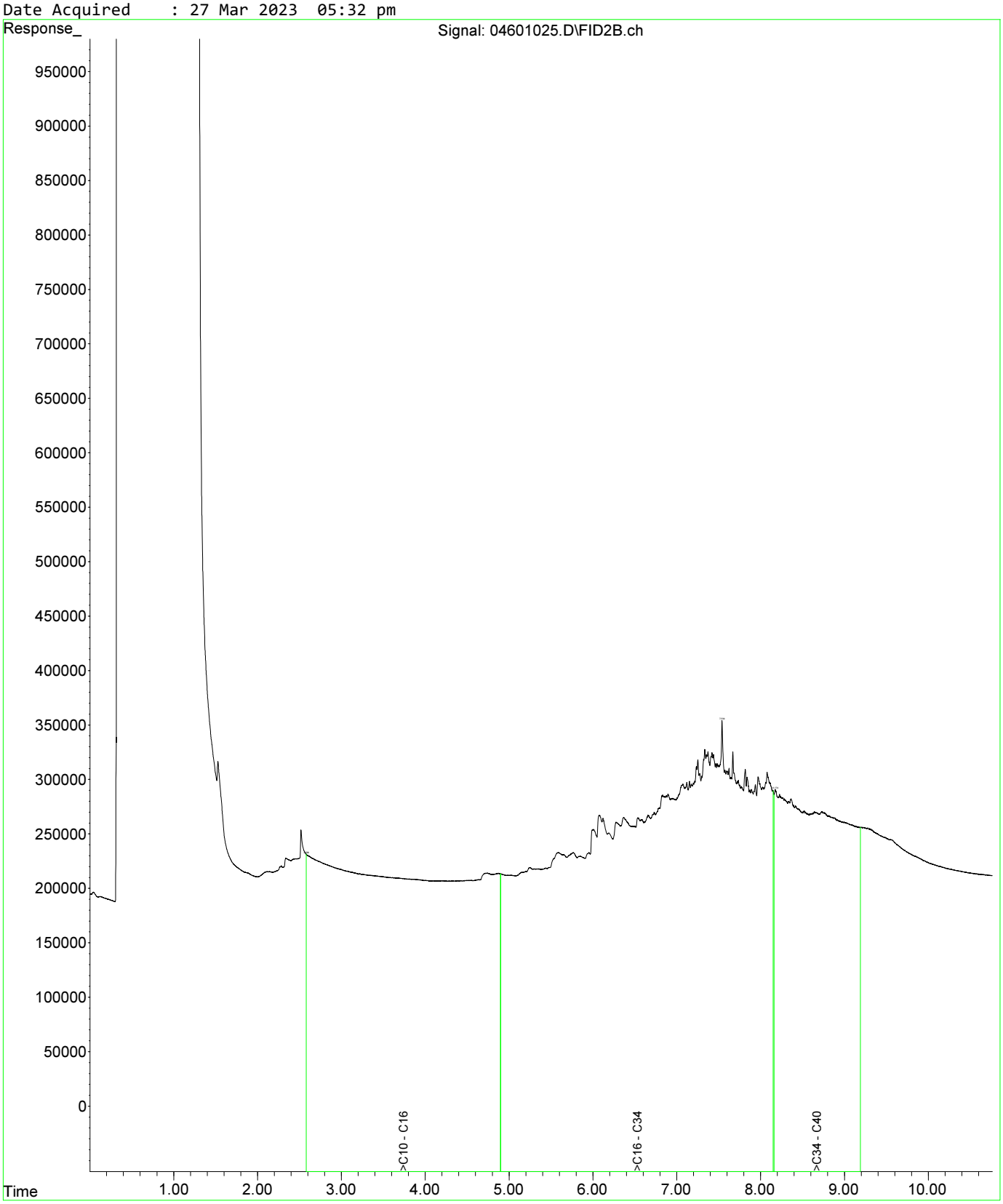

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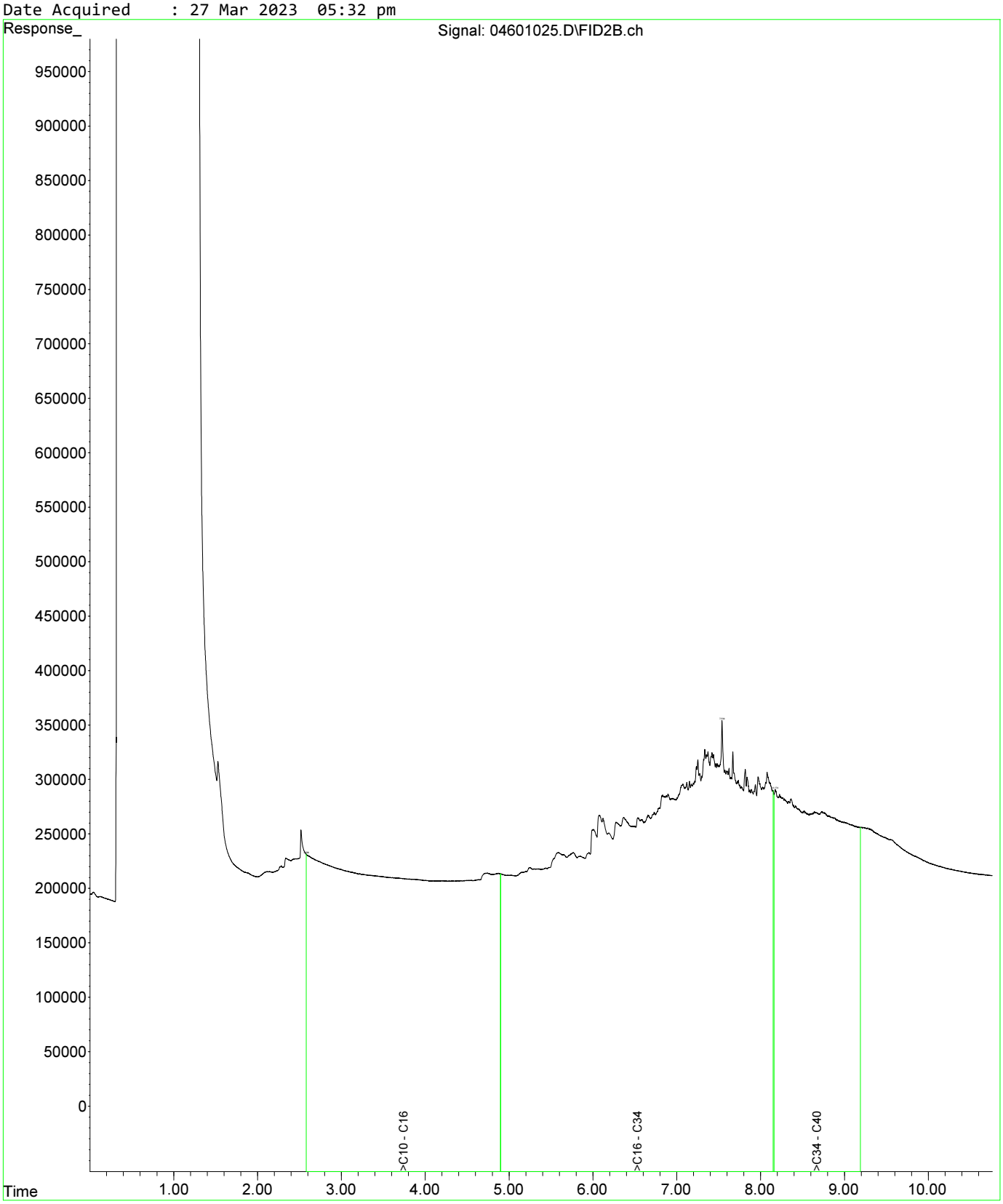

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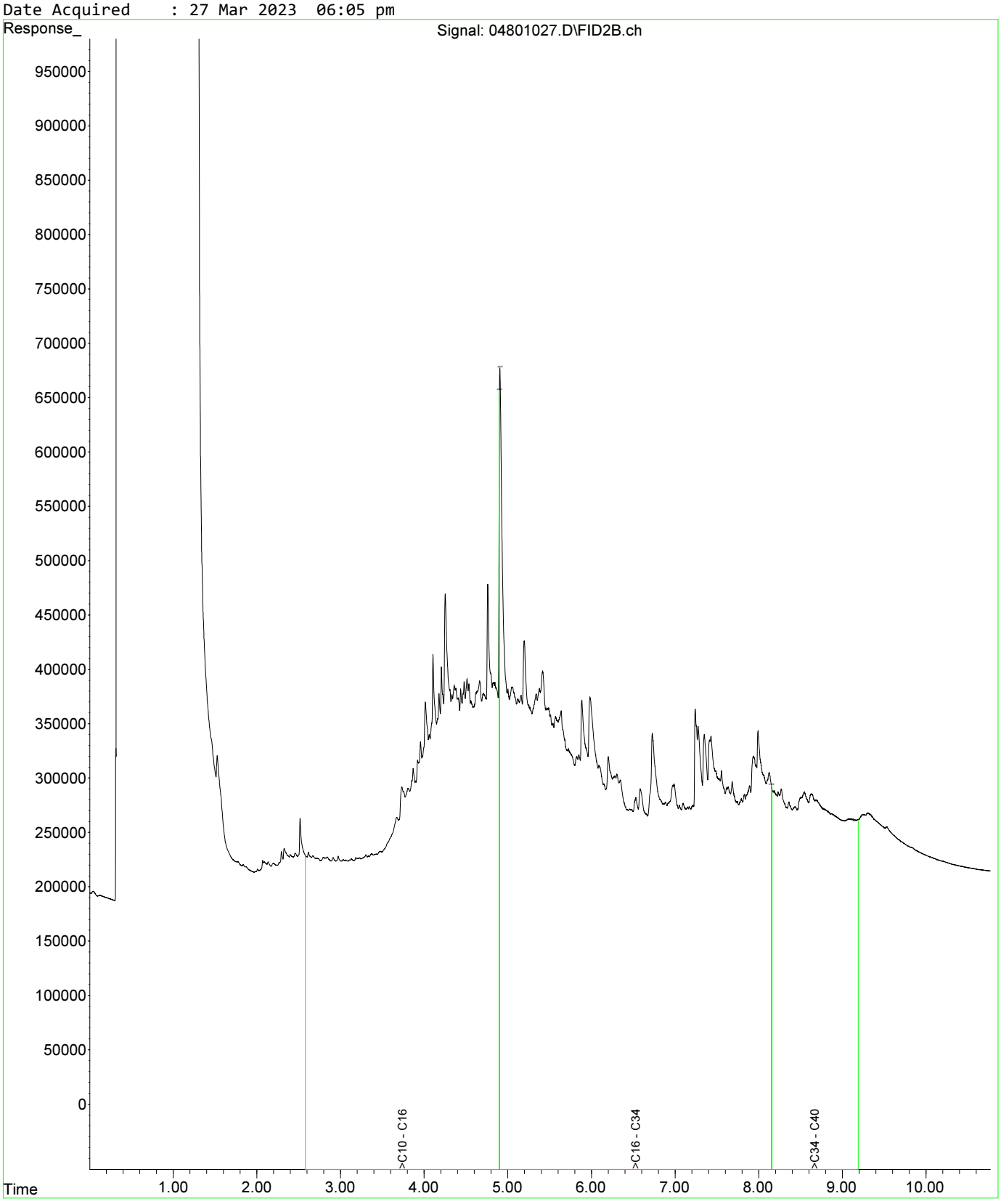

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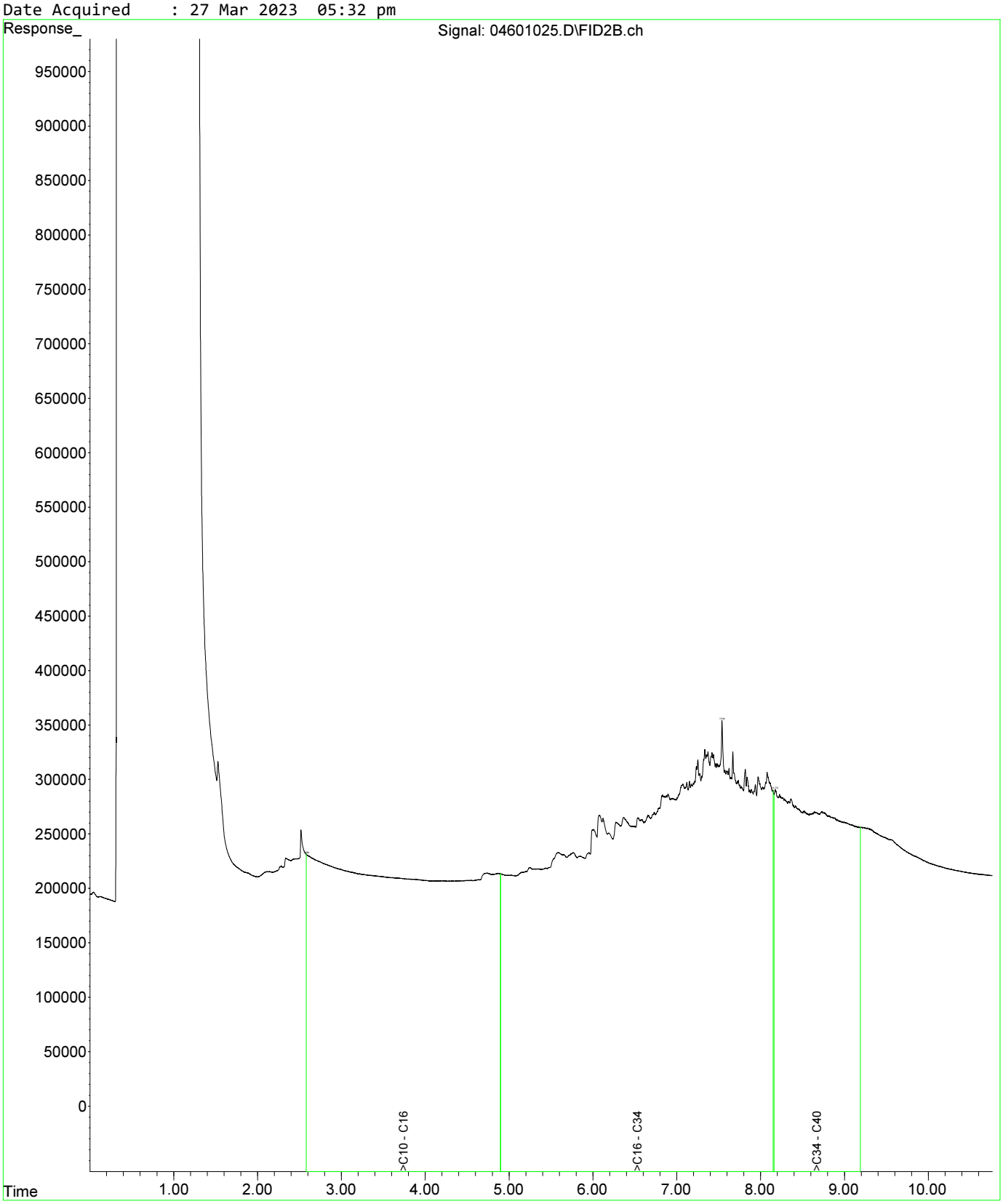

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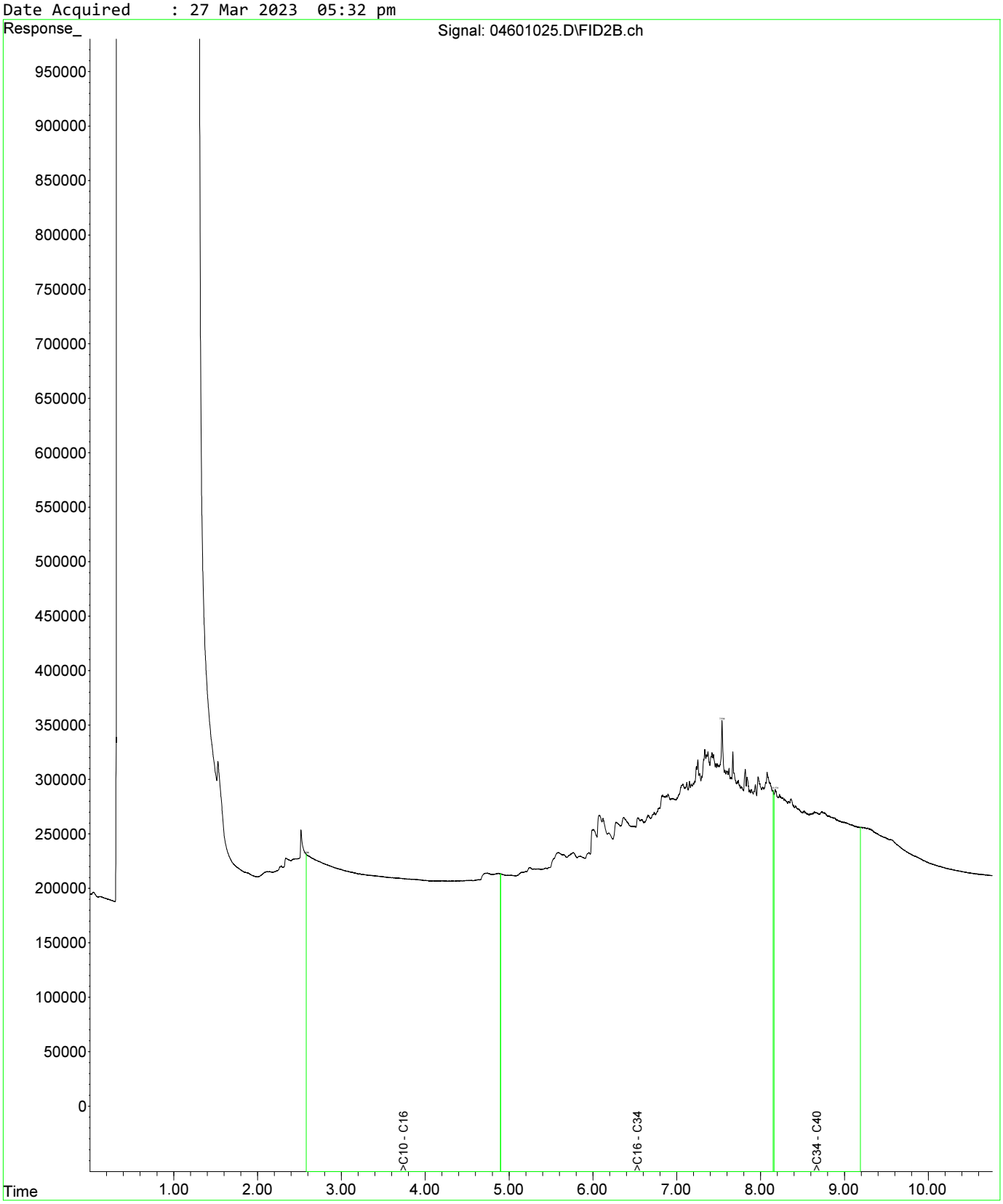

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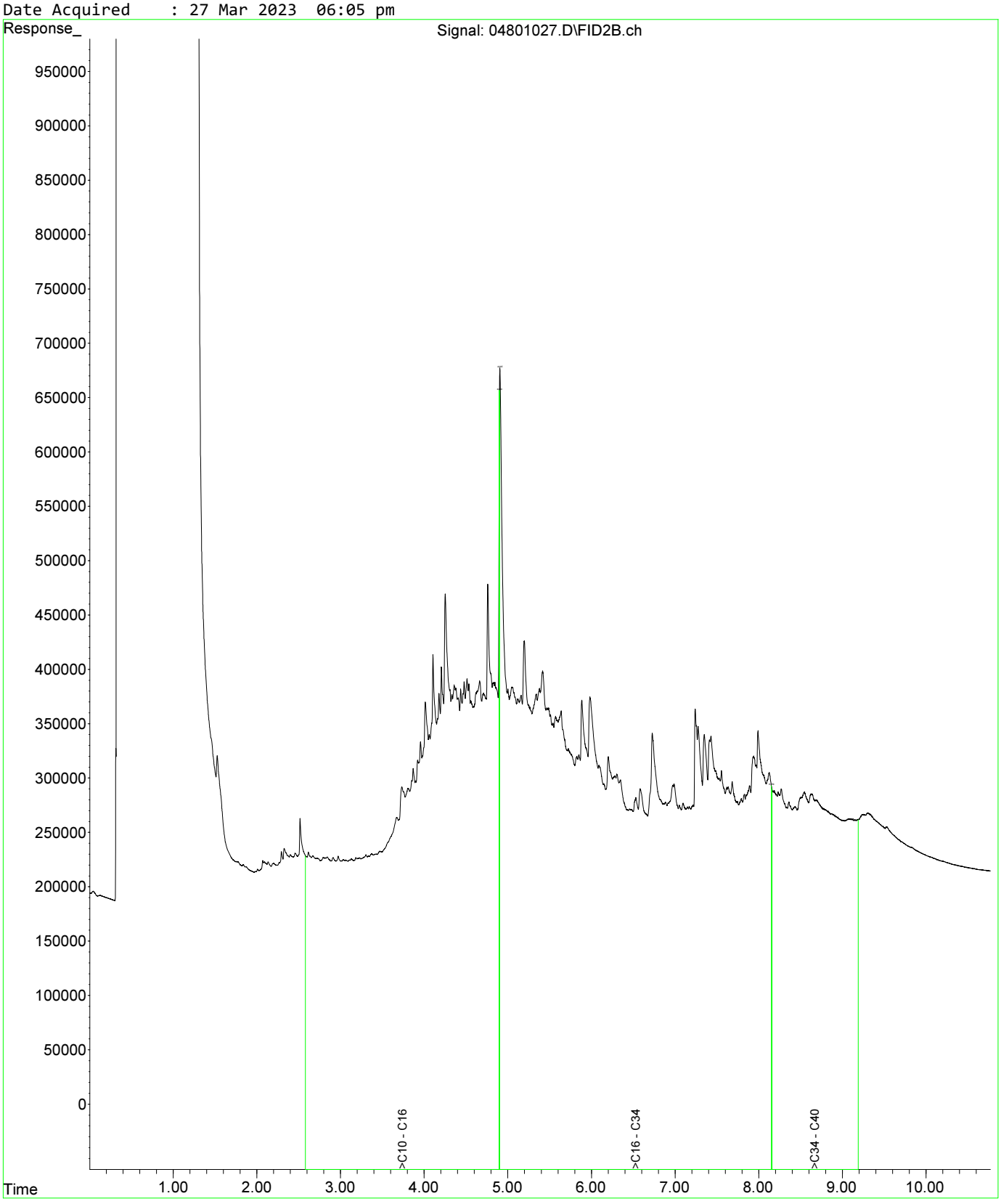

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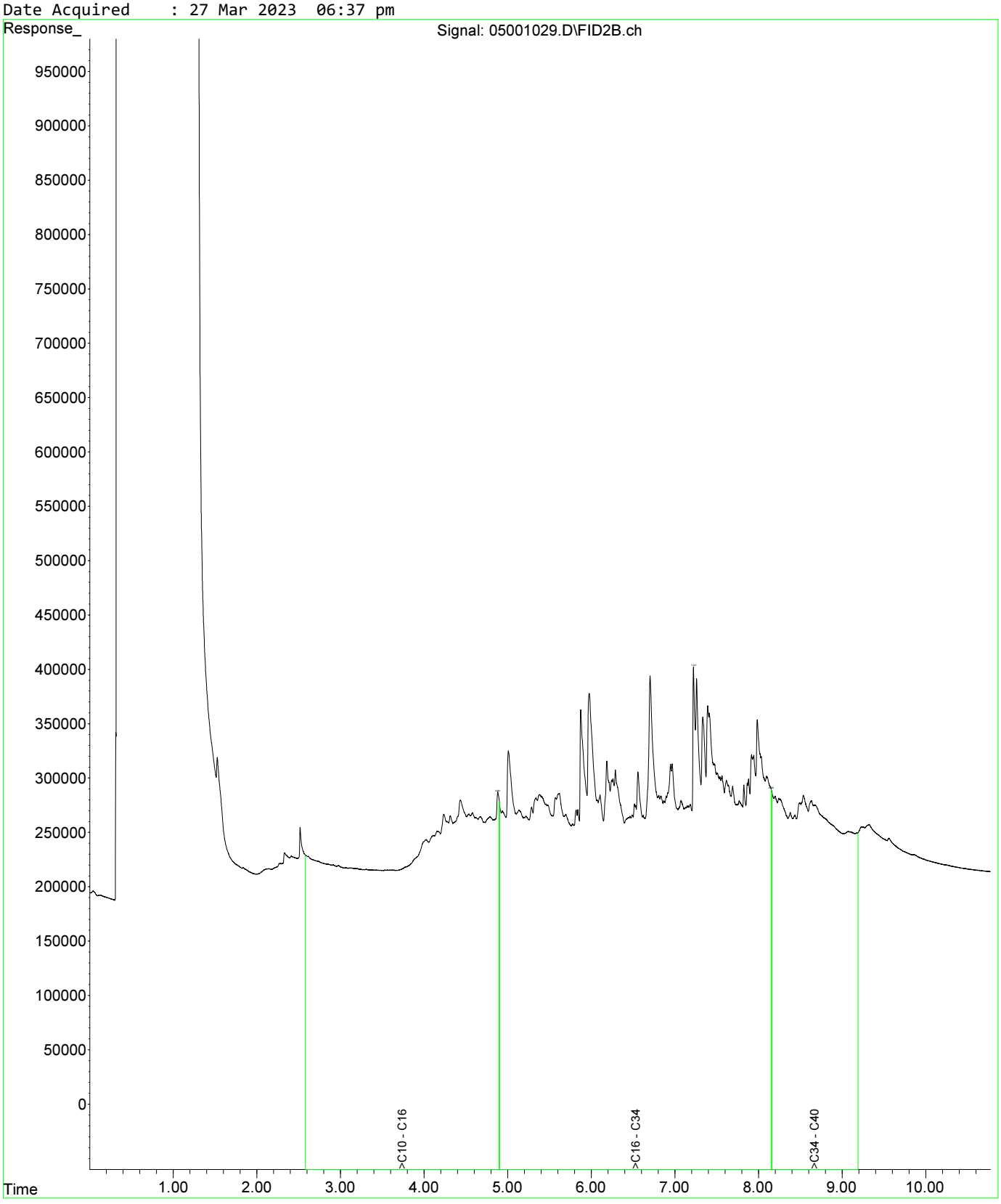

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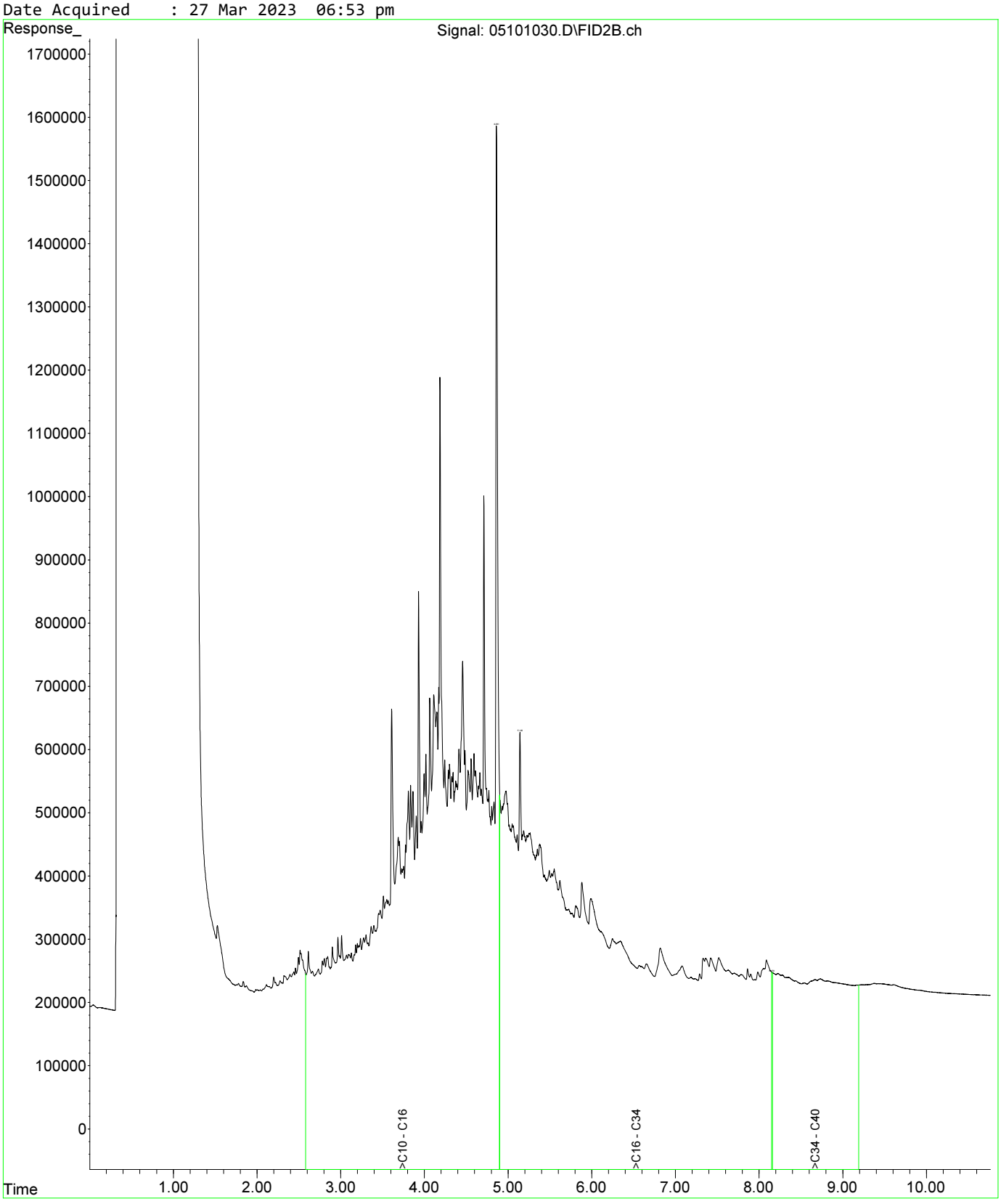

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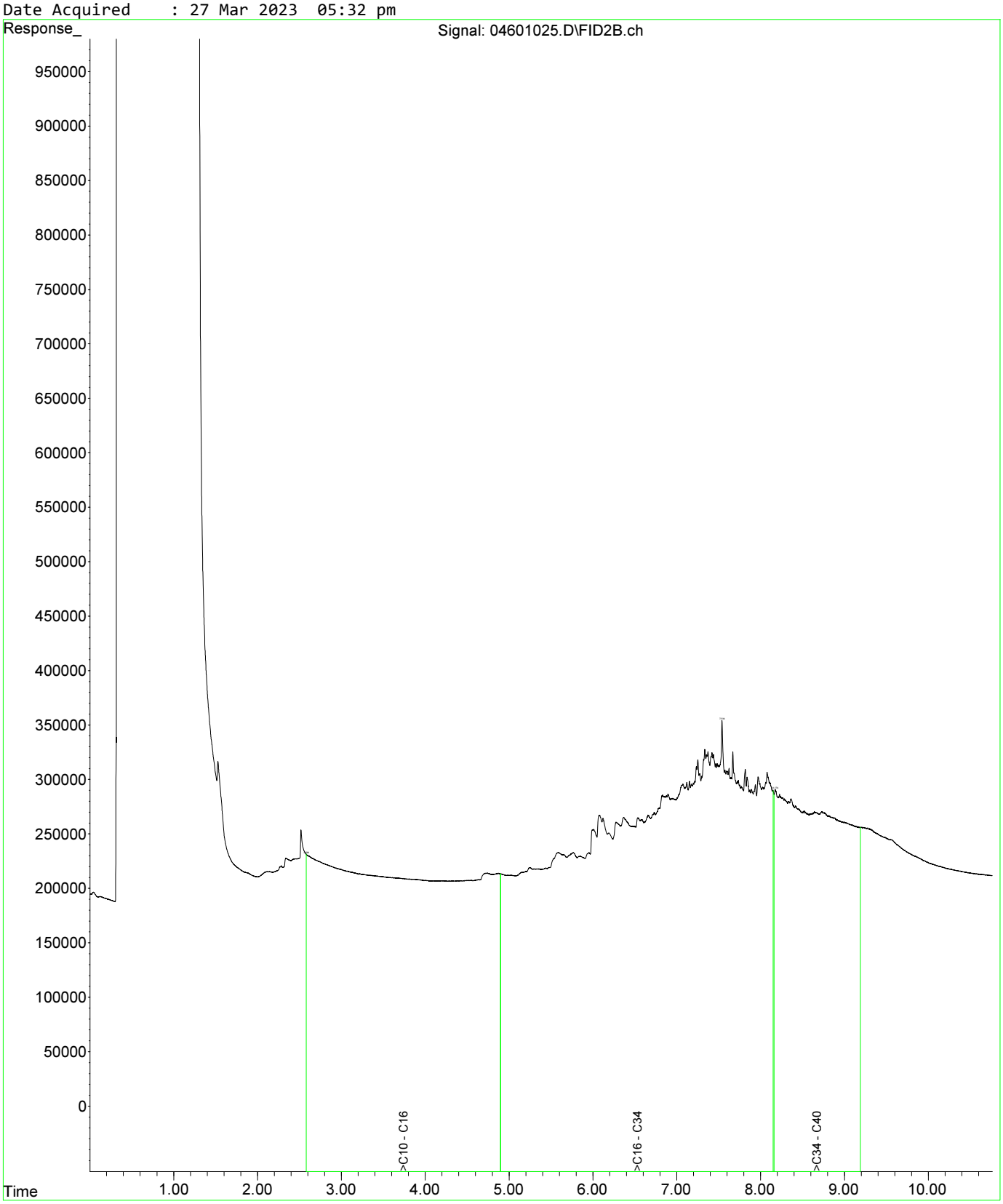

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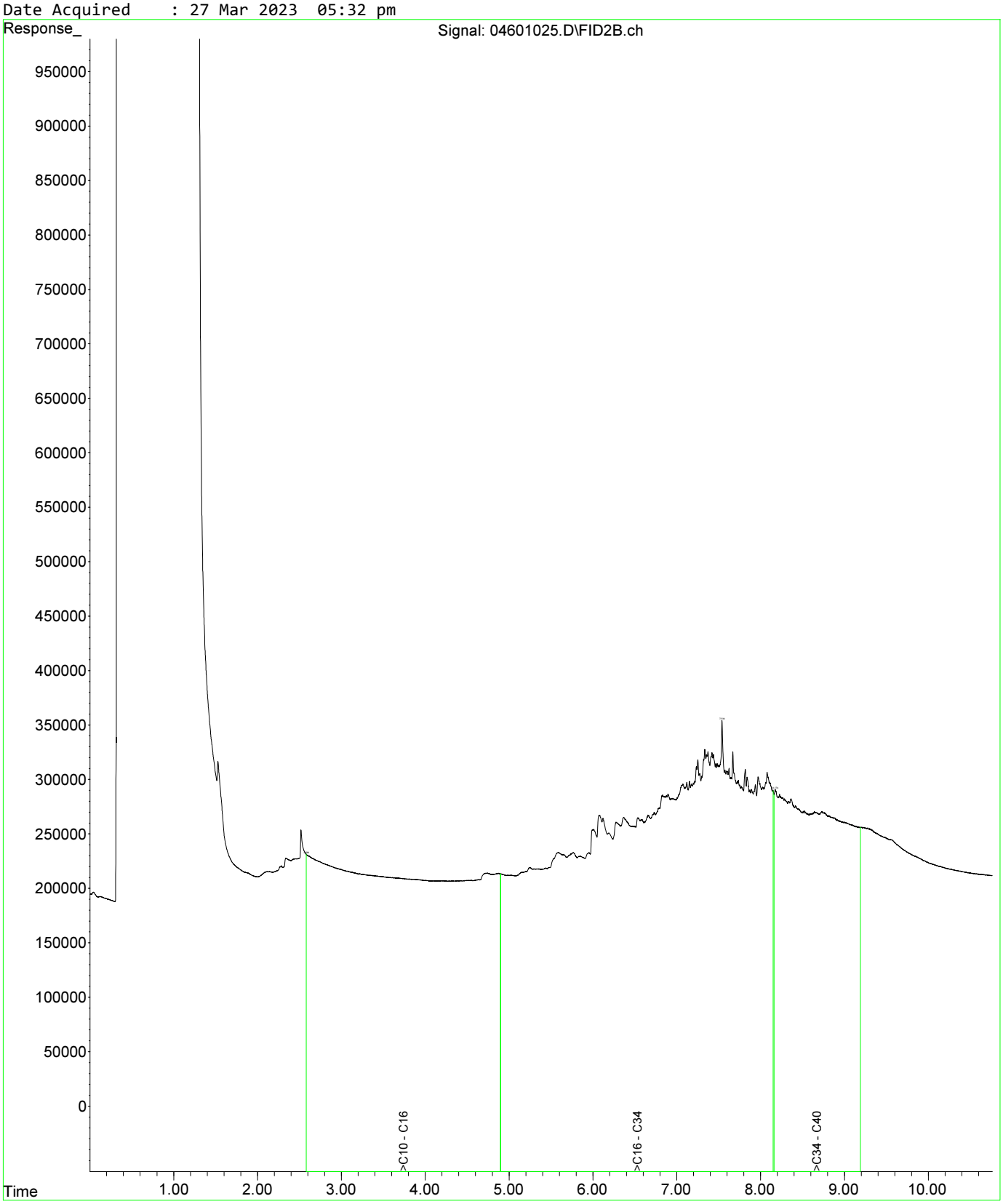

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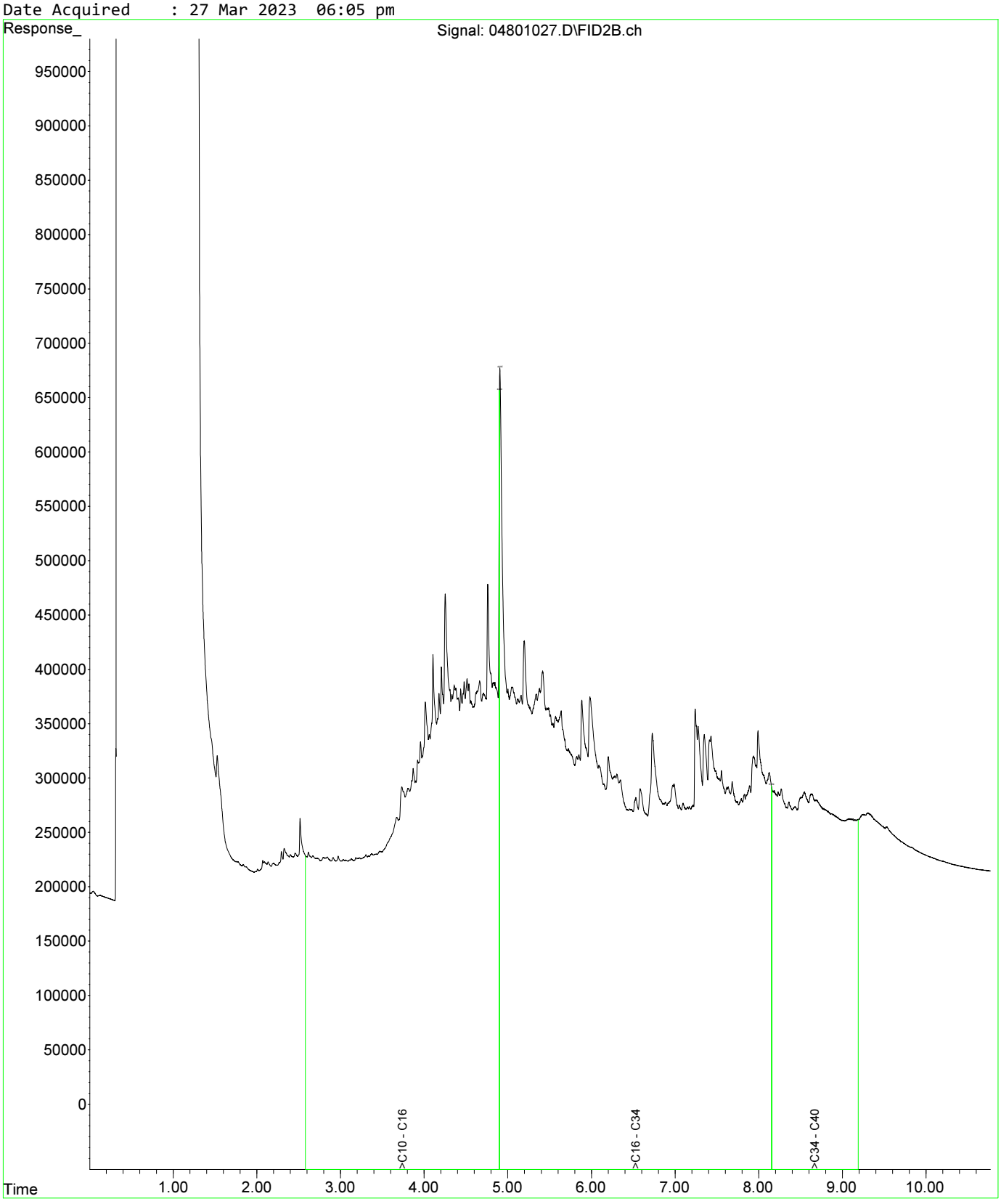

Fraction Scheme : NEPM DRAFT HIL
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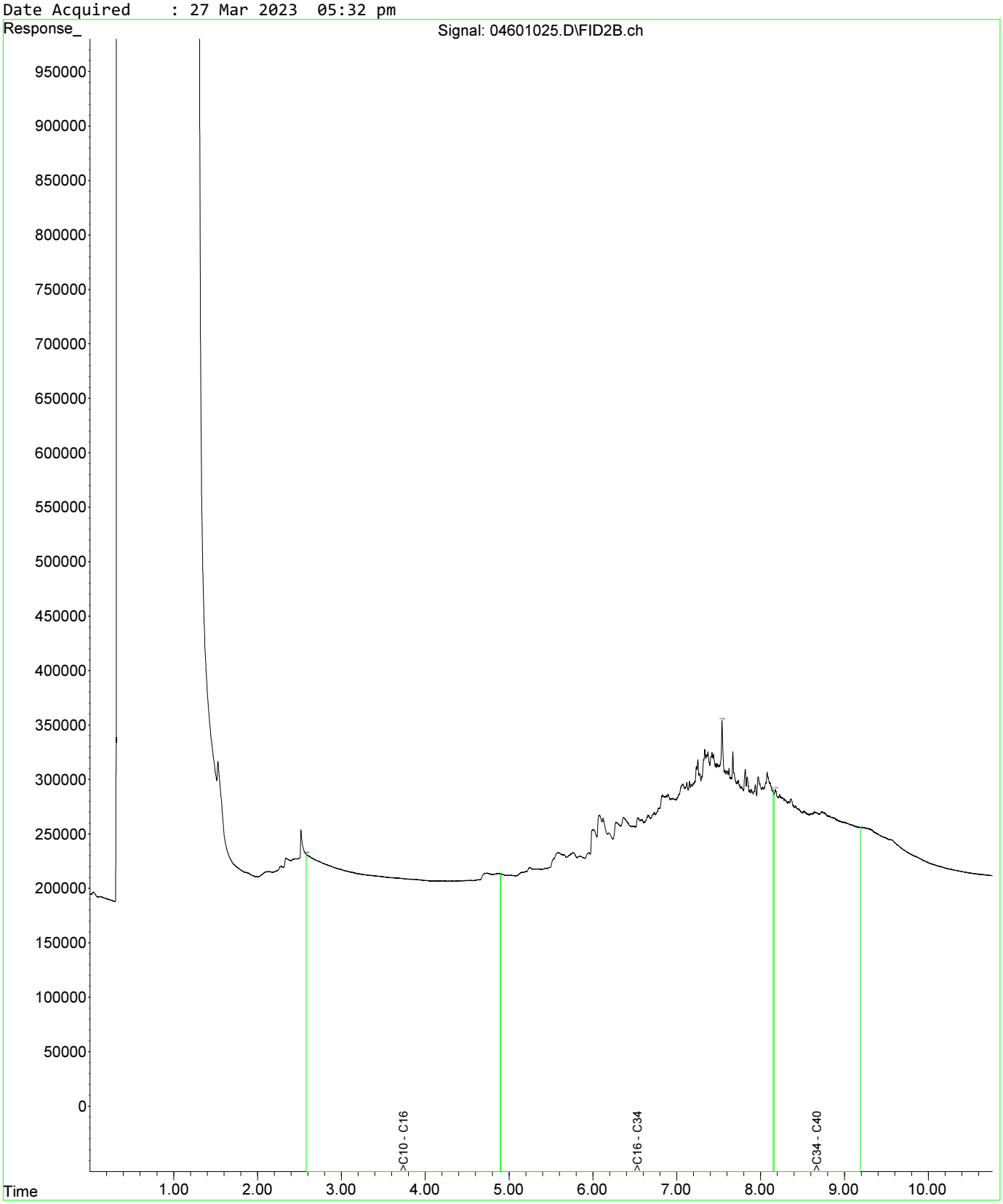

Fraction Scheme : NEPM DRAFT HIL
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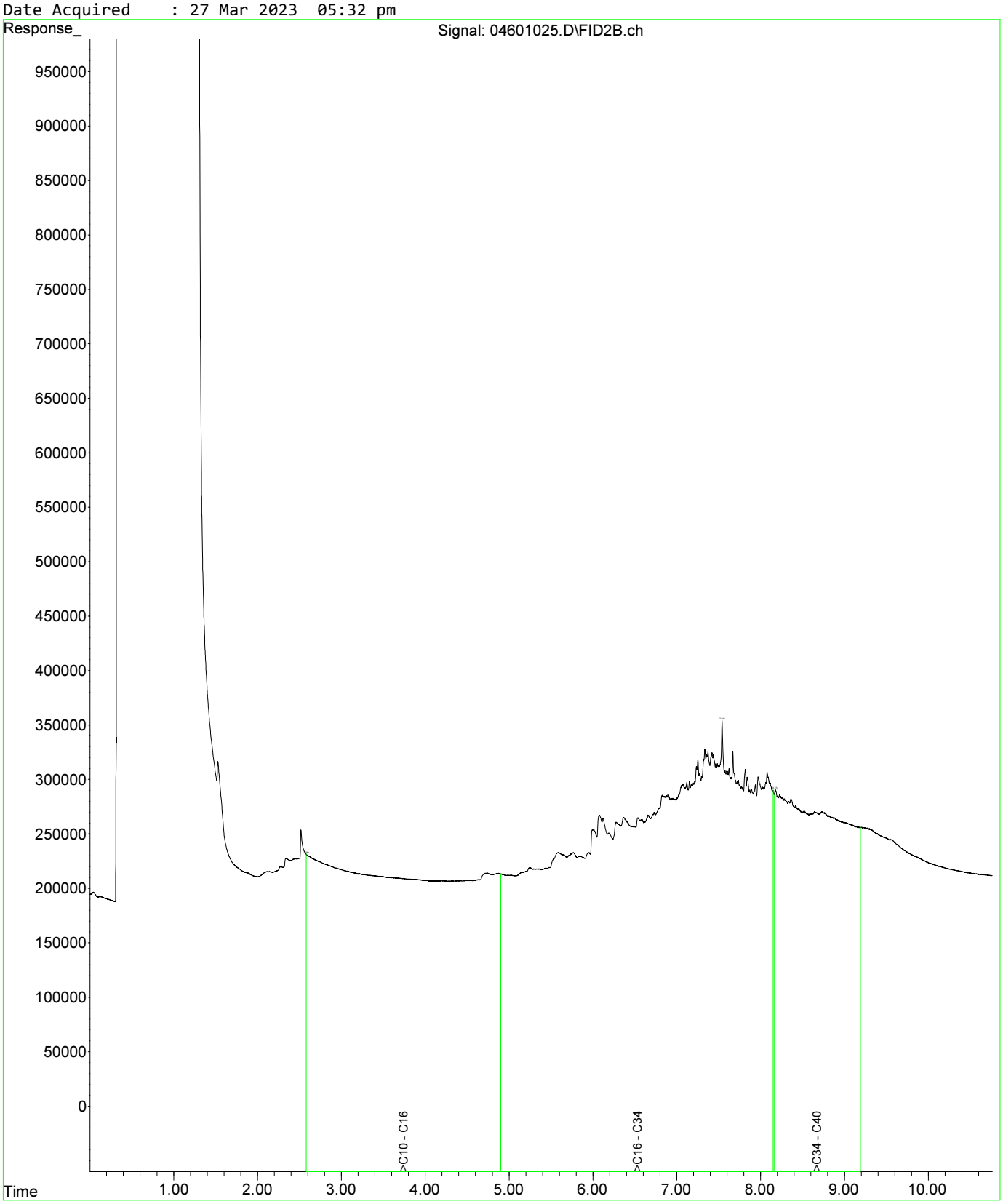

Fraction Scheme : NEPM DRAFT HIL
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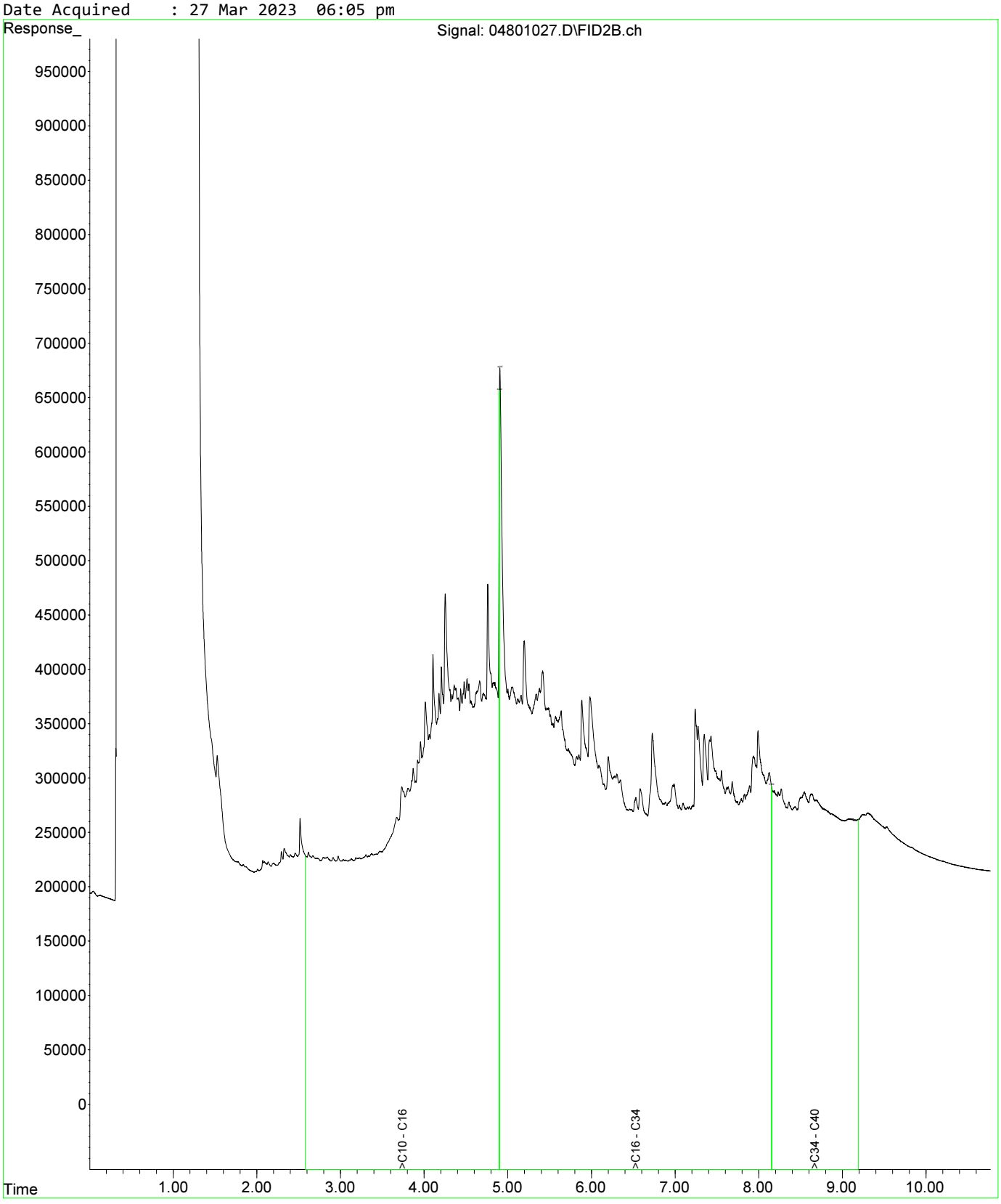

Fraction Scheme : NEPM DRAFT HIL
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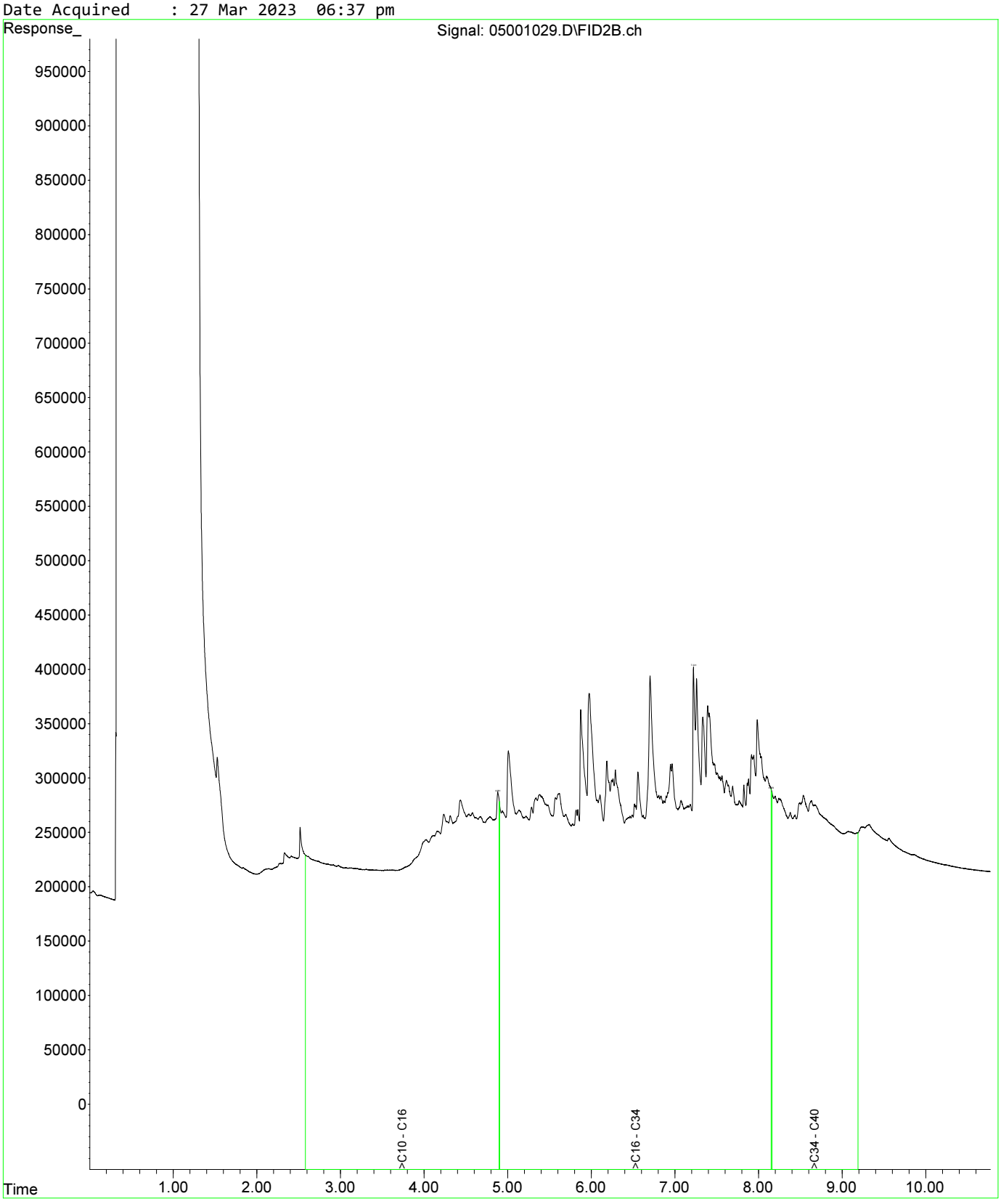
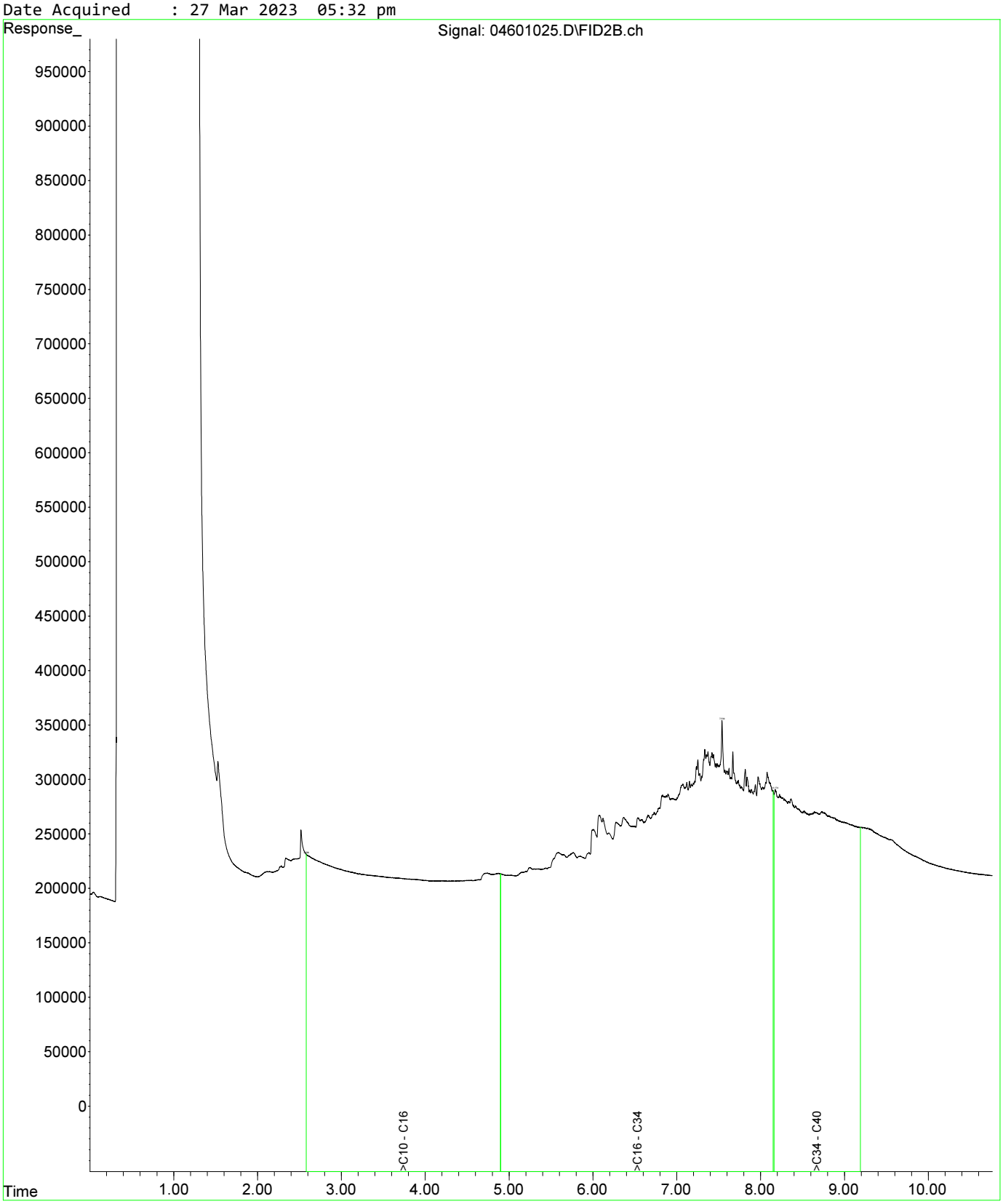
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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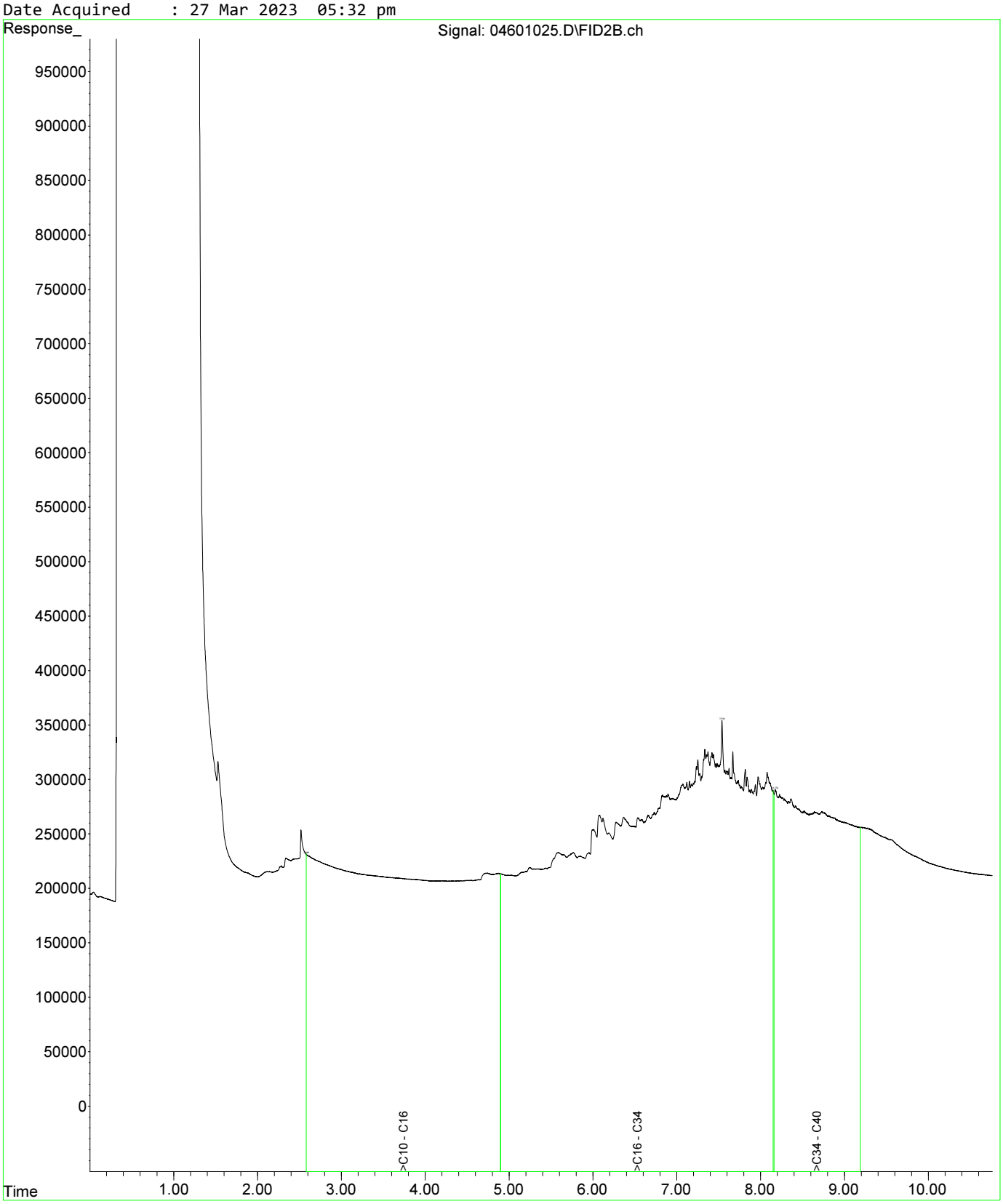
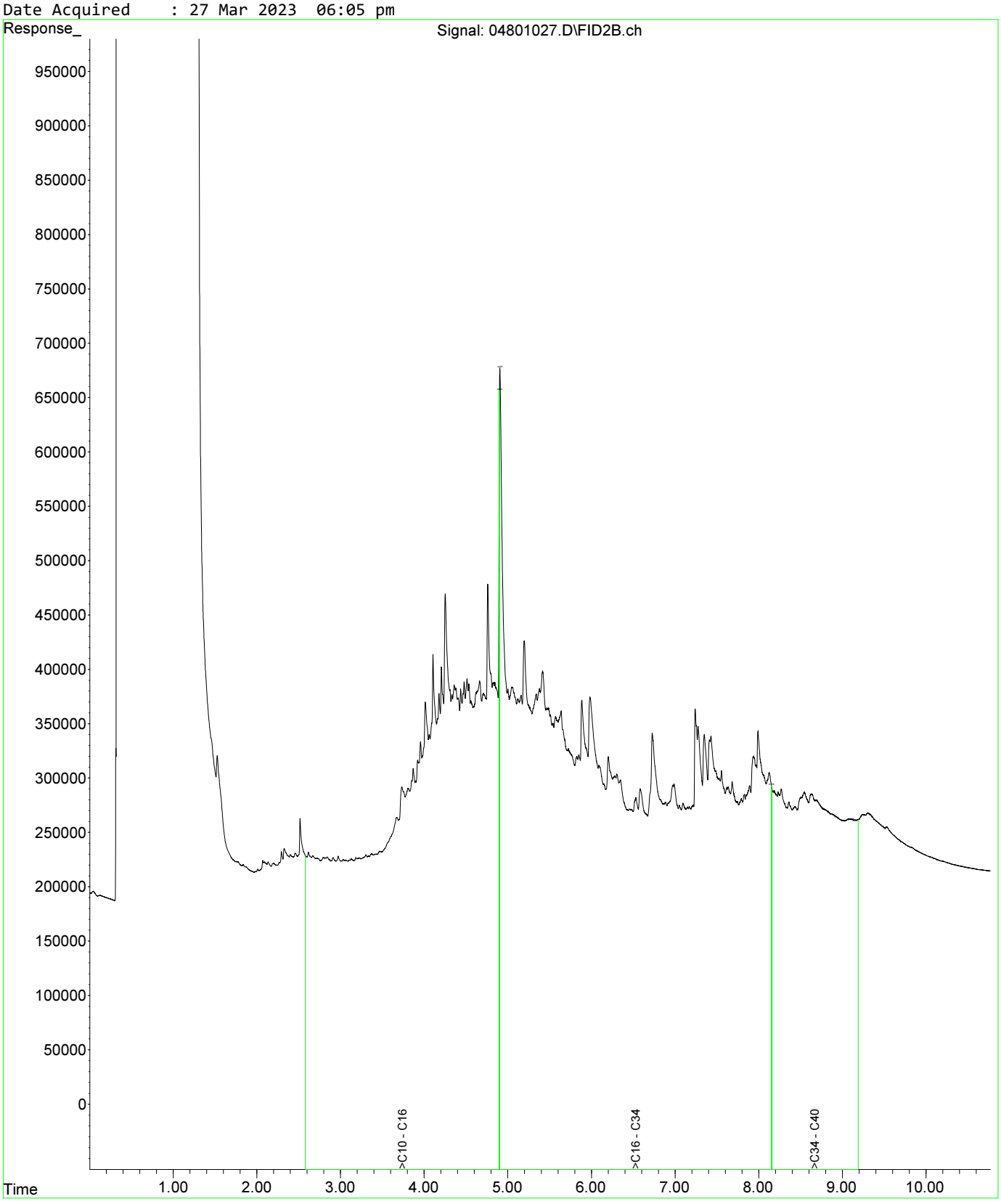
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
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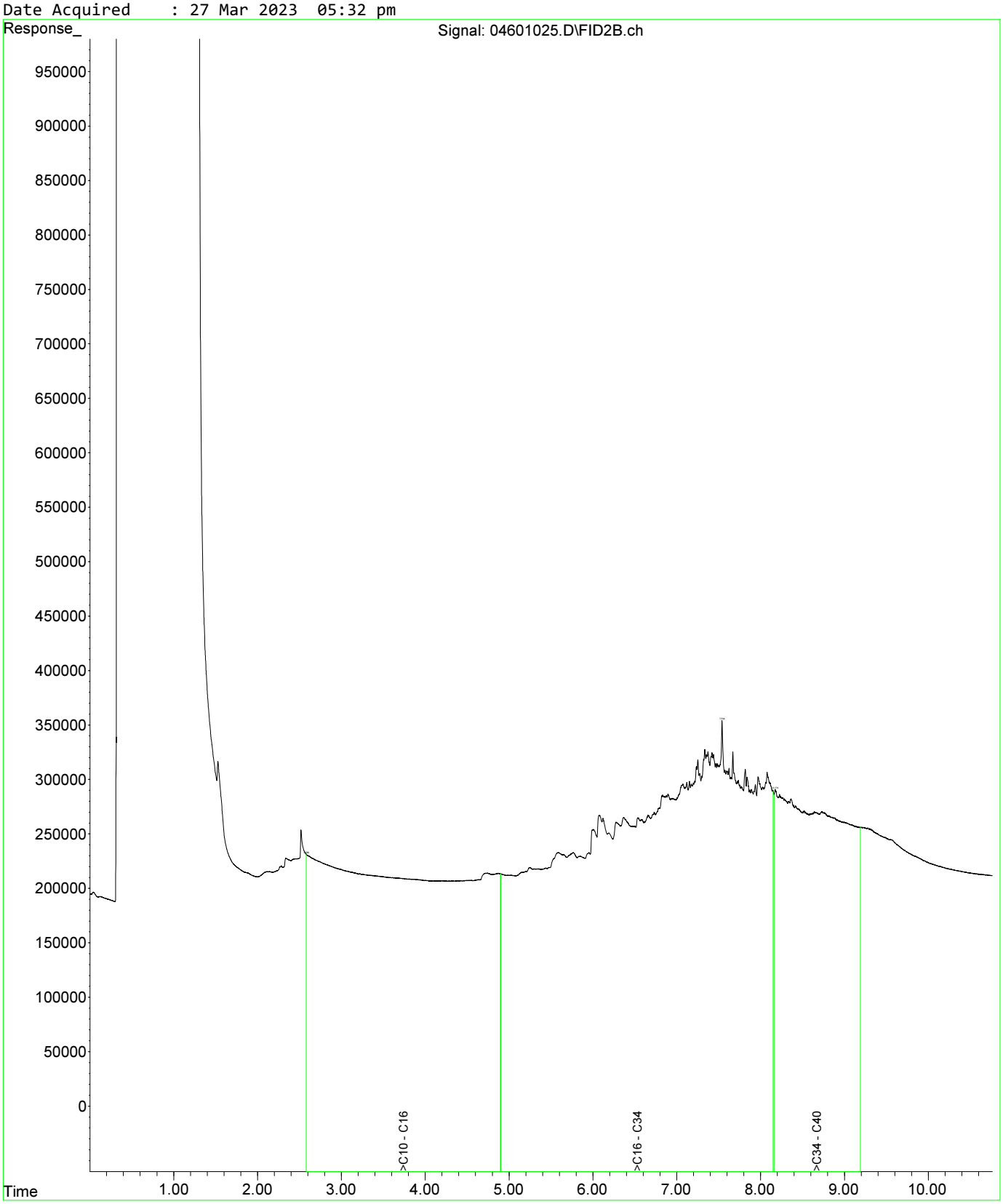

Fraction Scheme : NEPM DRAFT HIL
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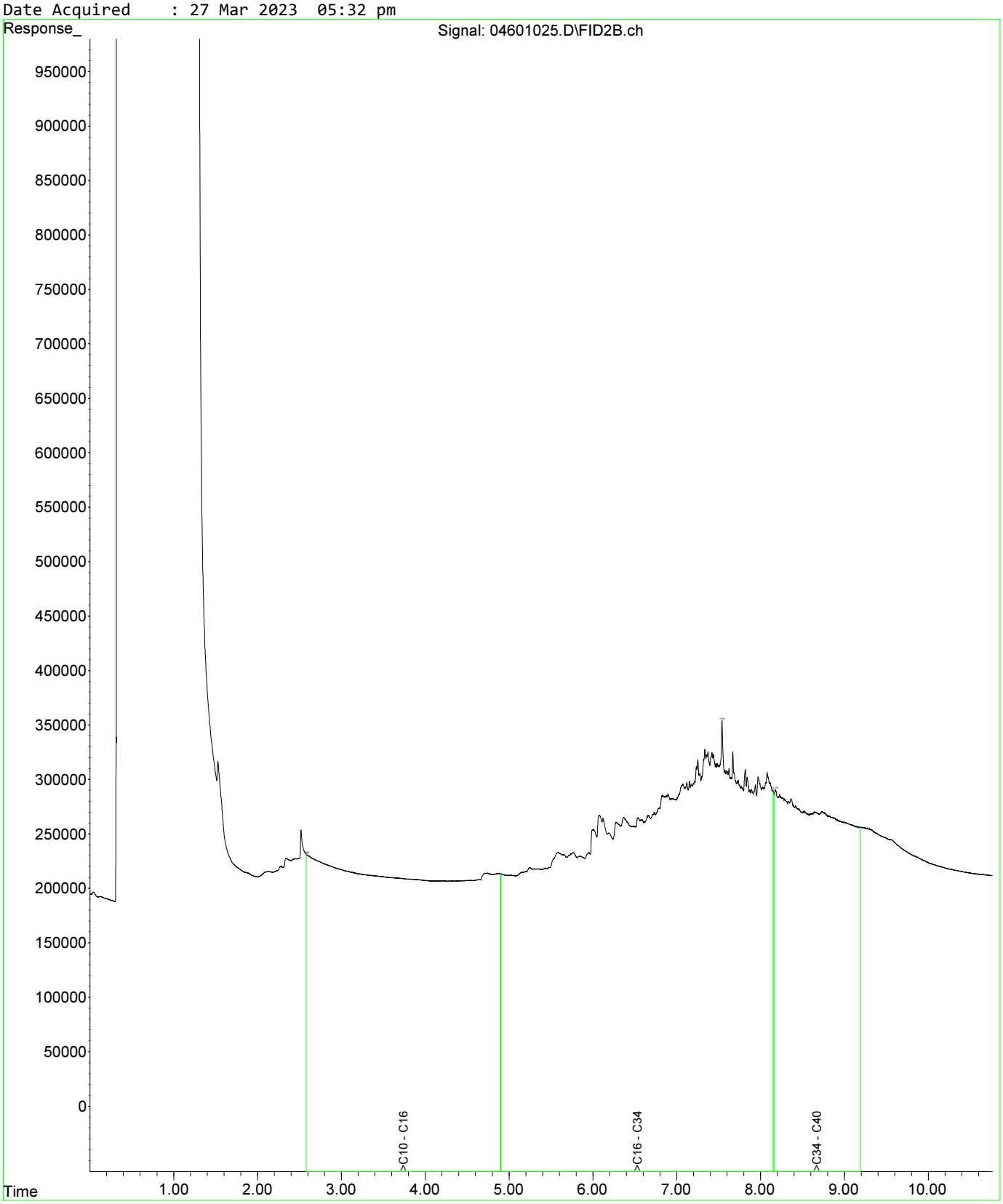

Fraction Scheme : NEPM DRAFT HIL
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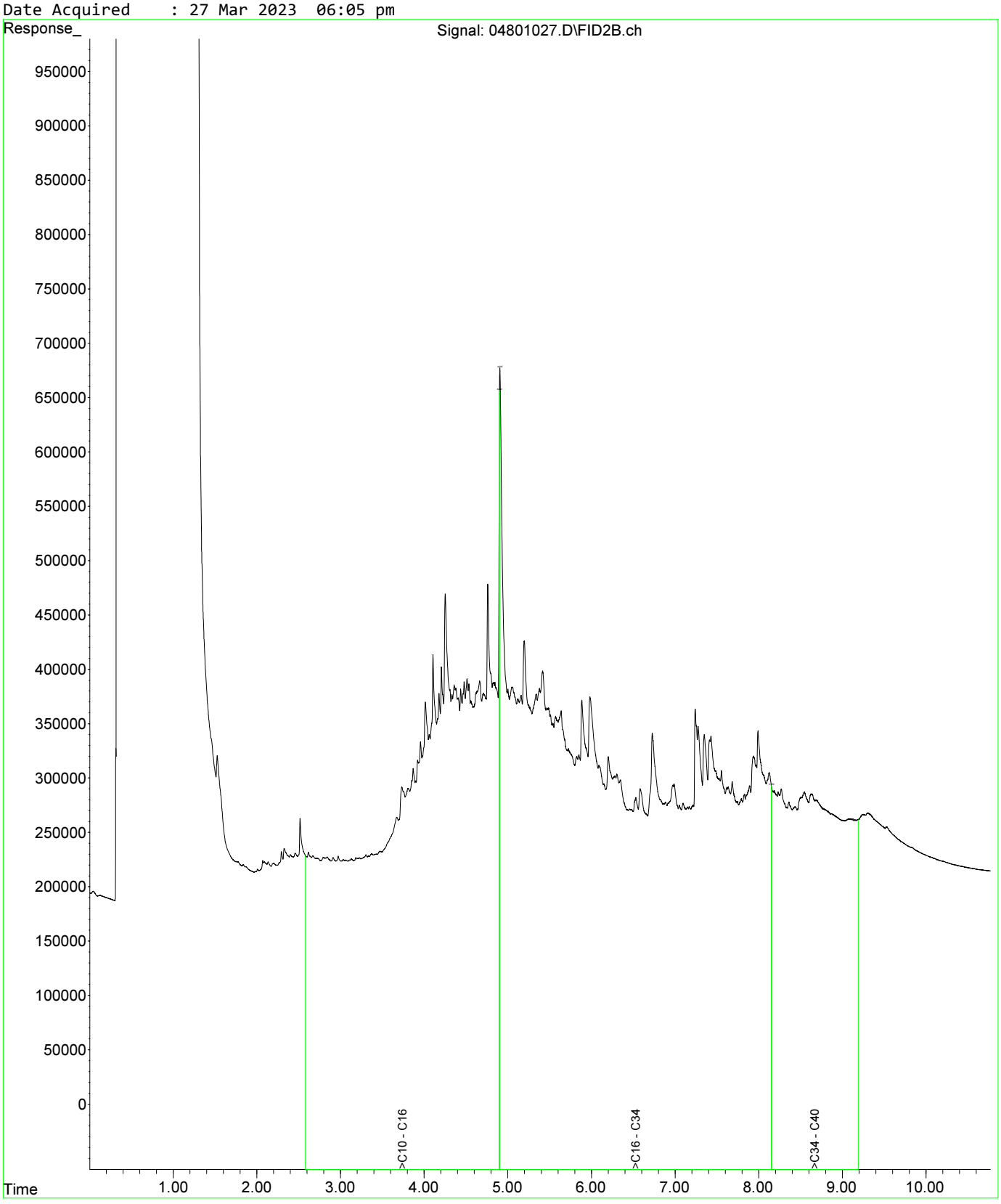

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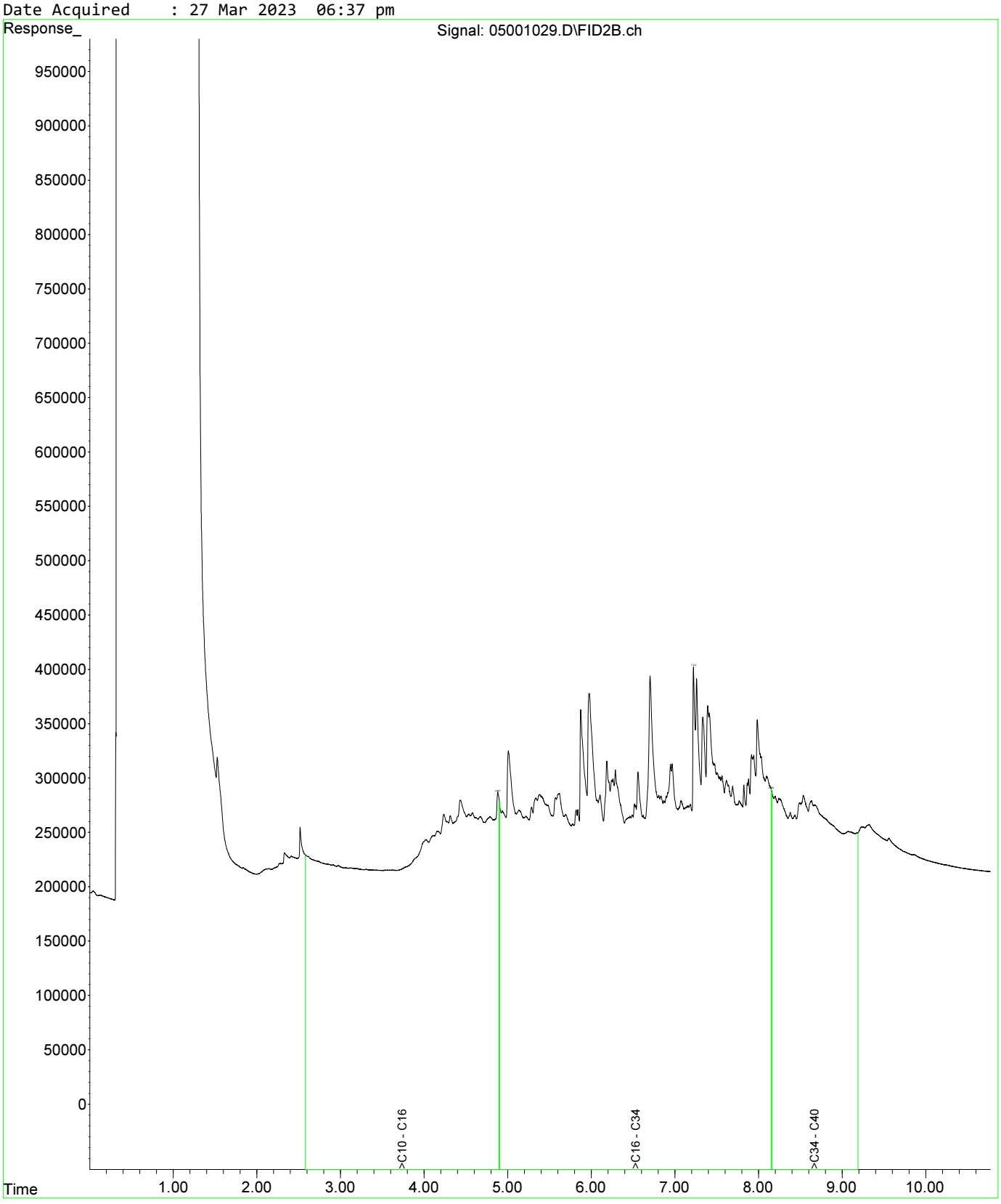
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Laboratory Number: EM2305209-025
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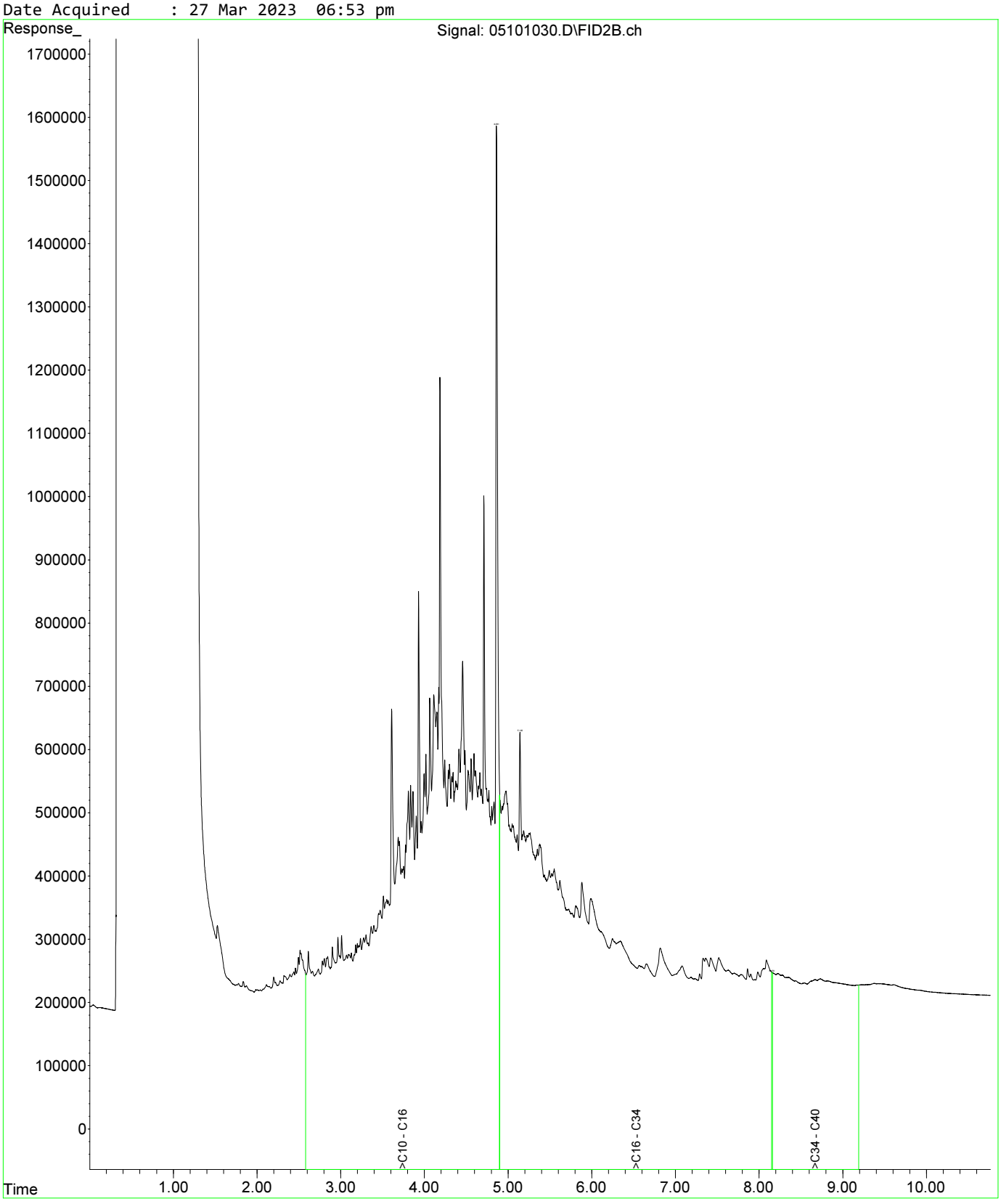

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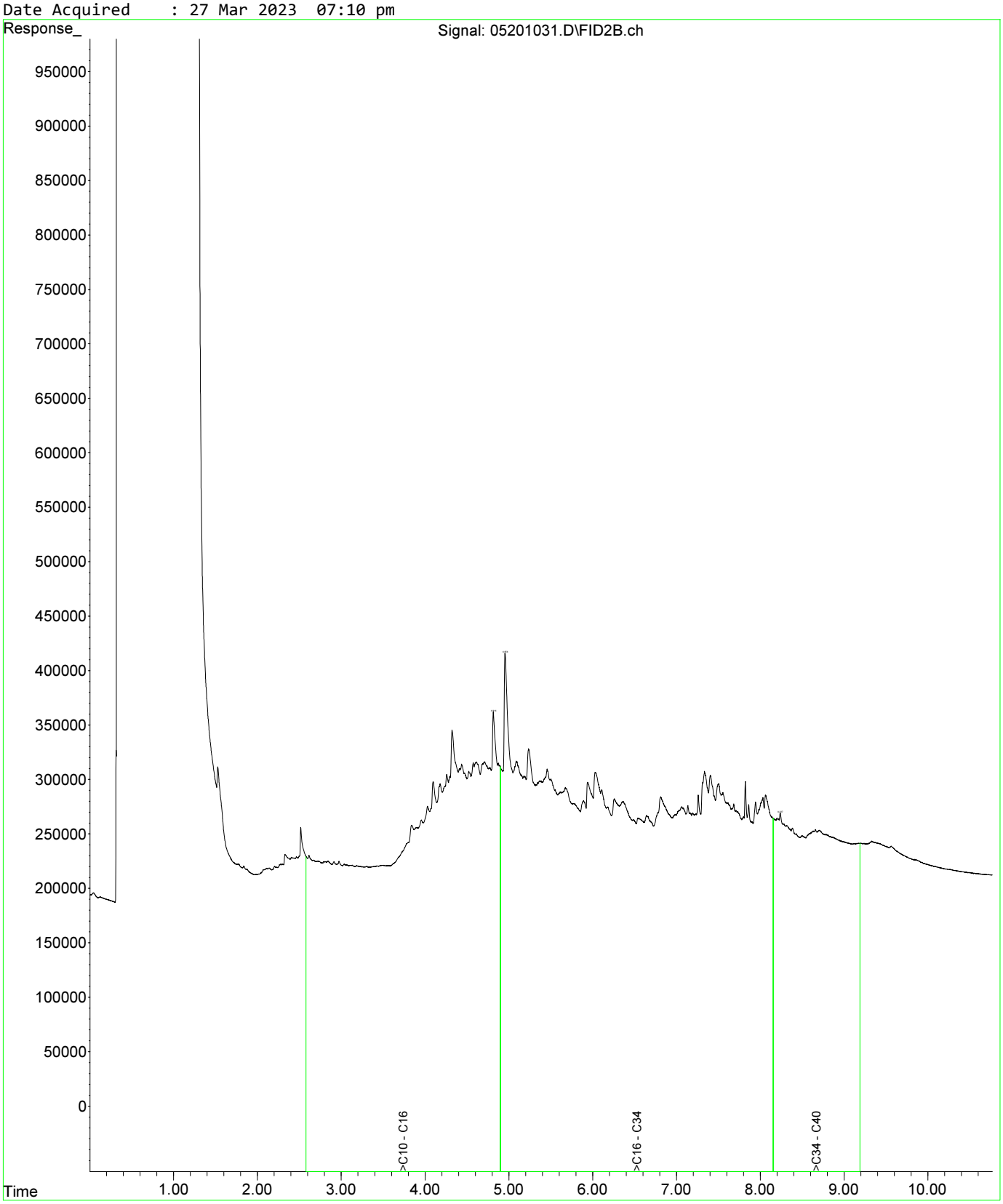
Date Acquired : 27 Mar 2023 07:10 pm



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Laboratory Number: EM2305209-031
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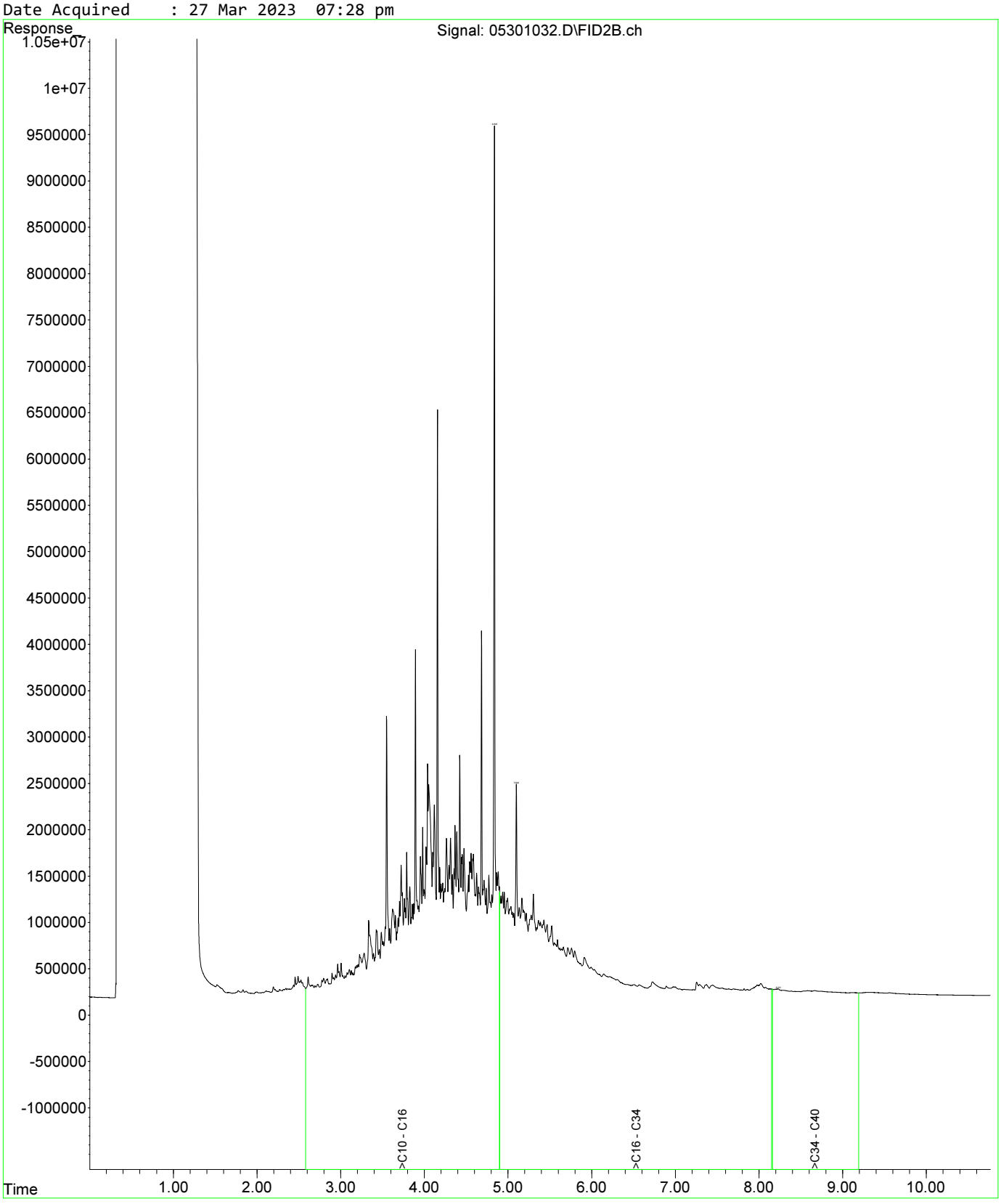
Date Acquired : 27 Mar 2023 07:28 pm



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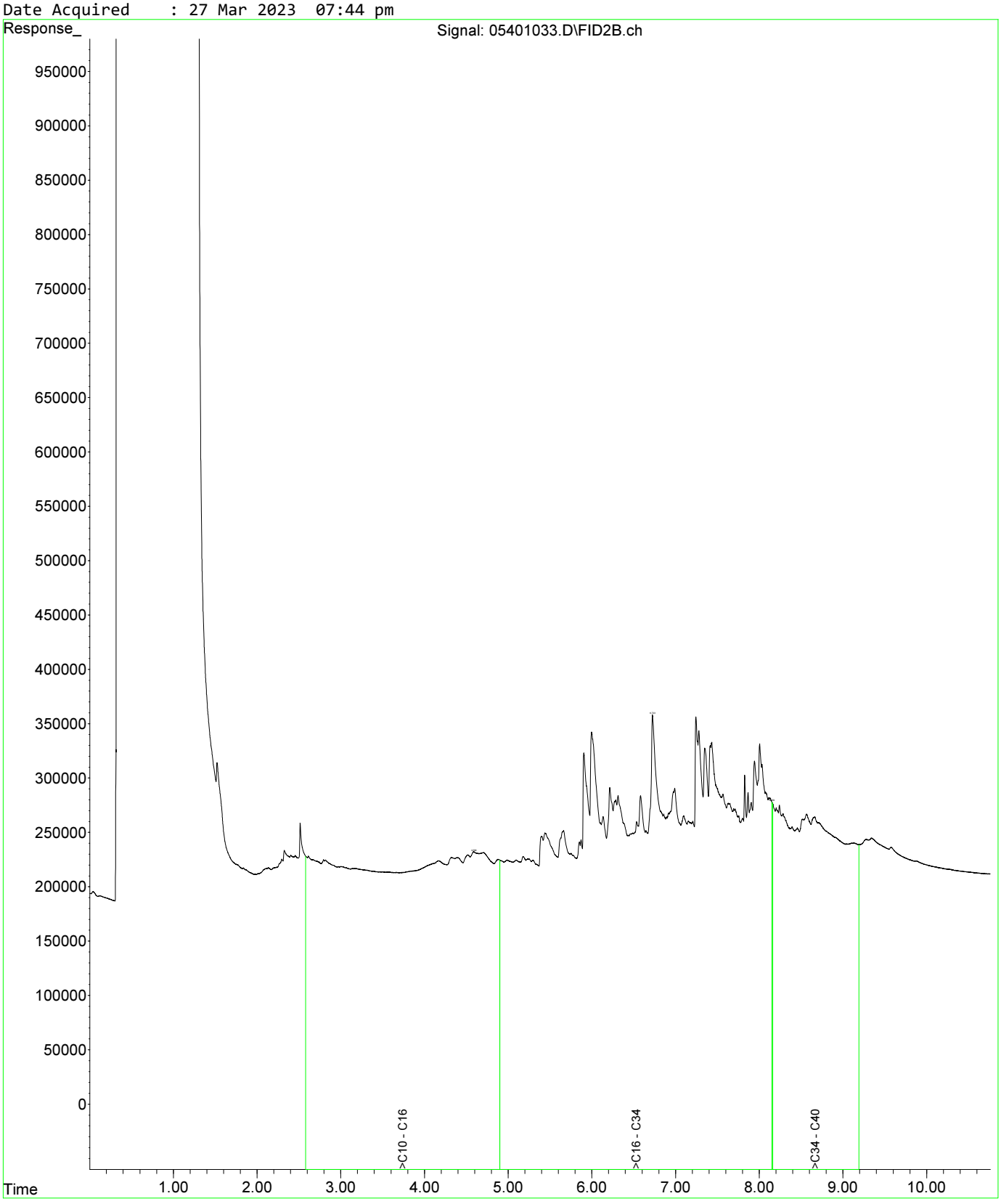
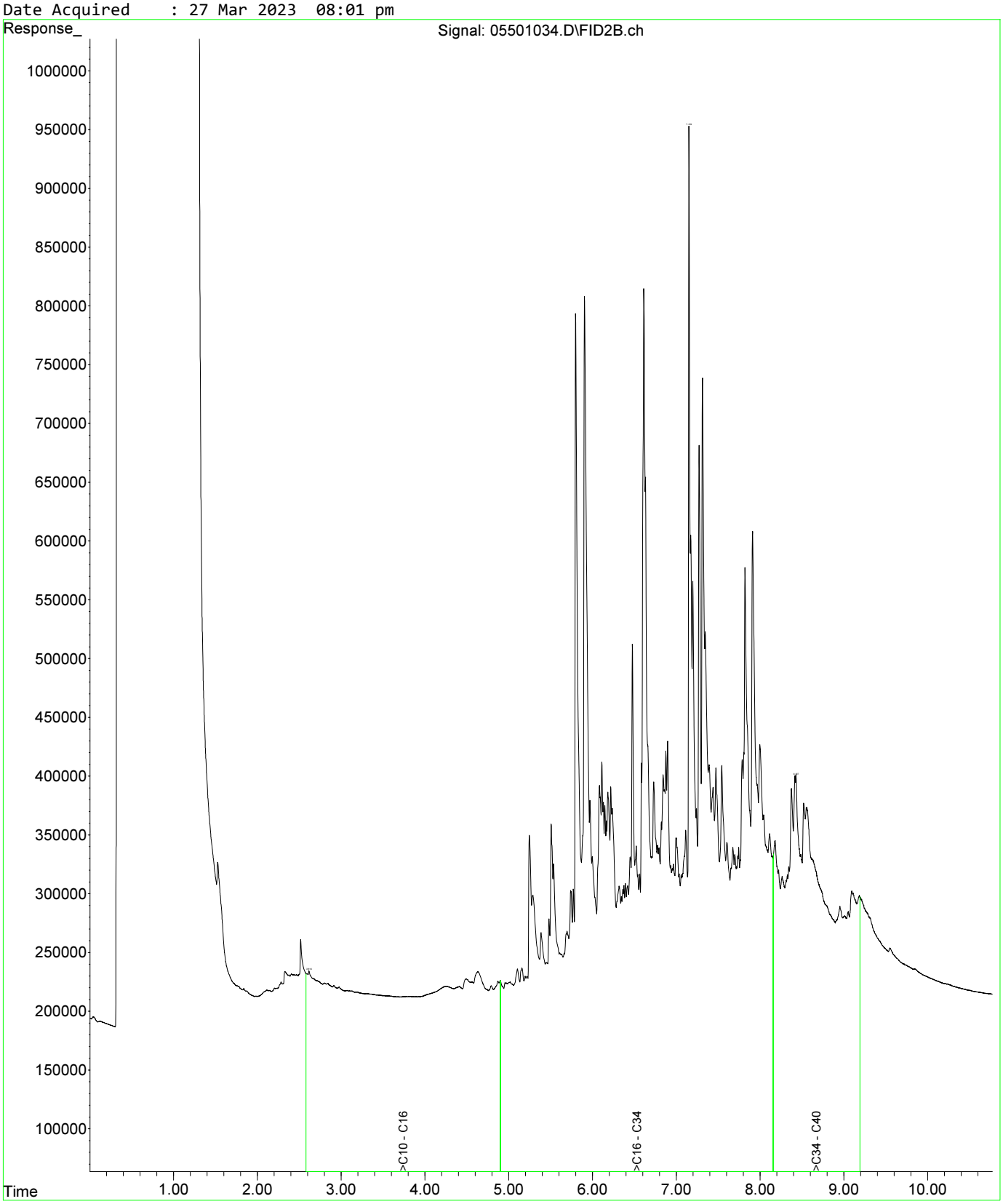
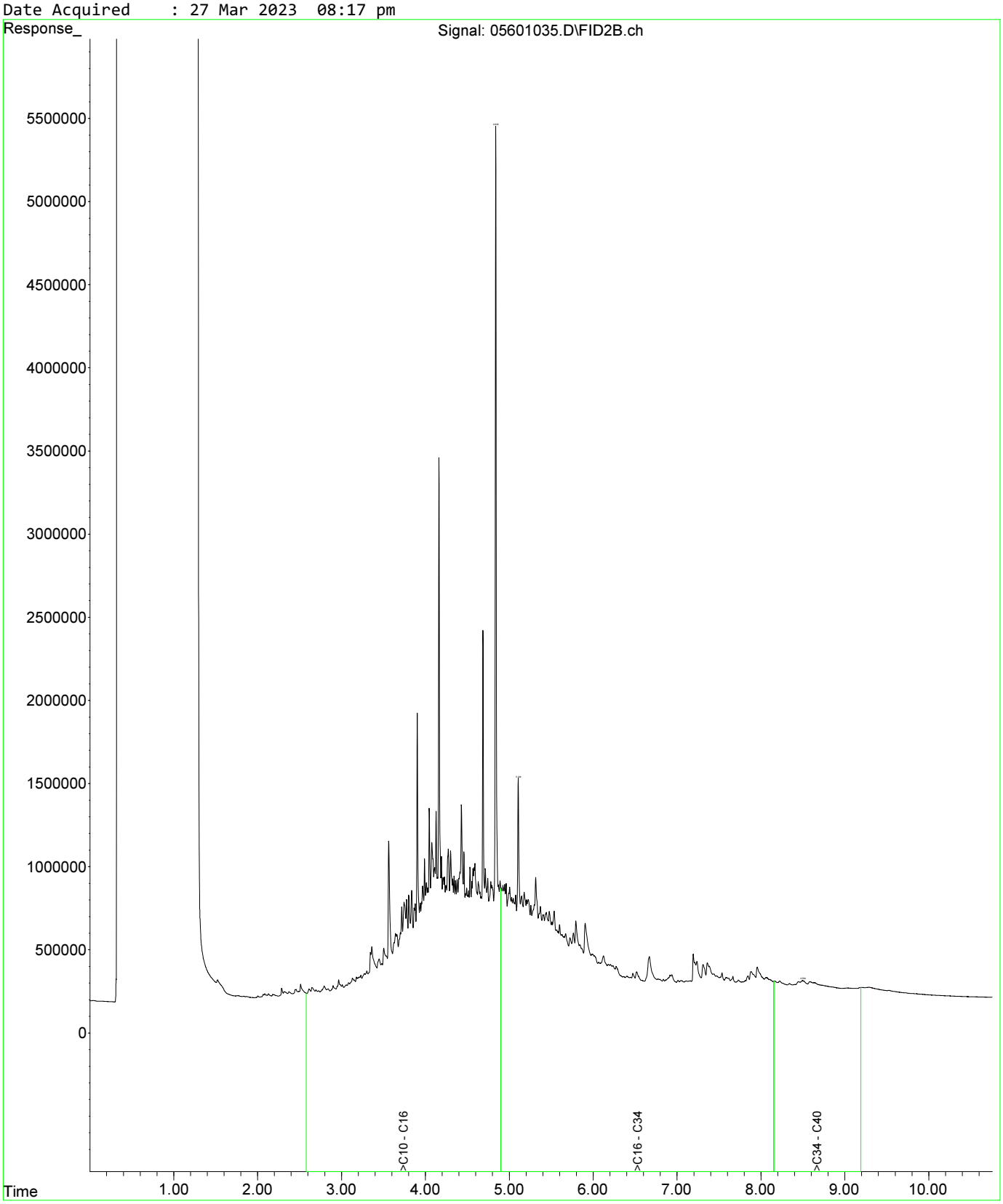
Data File : 05401033.D
Laboratory Number: EM2305209-032
Sample ID : UST_SP_EXT_08
Date Acquired : 27 Mar 2023 07:44 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05501034.D
Laboratory Number: EM2305209-033
Sample ID : UST_SP_ch77-80_01
Date Acquired : 27 Mar 2023 08:01 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
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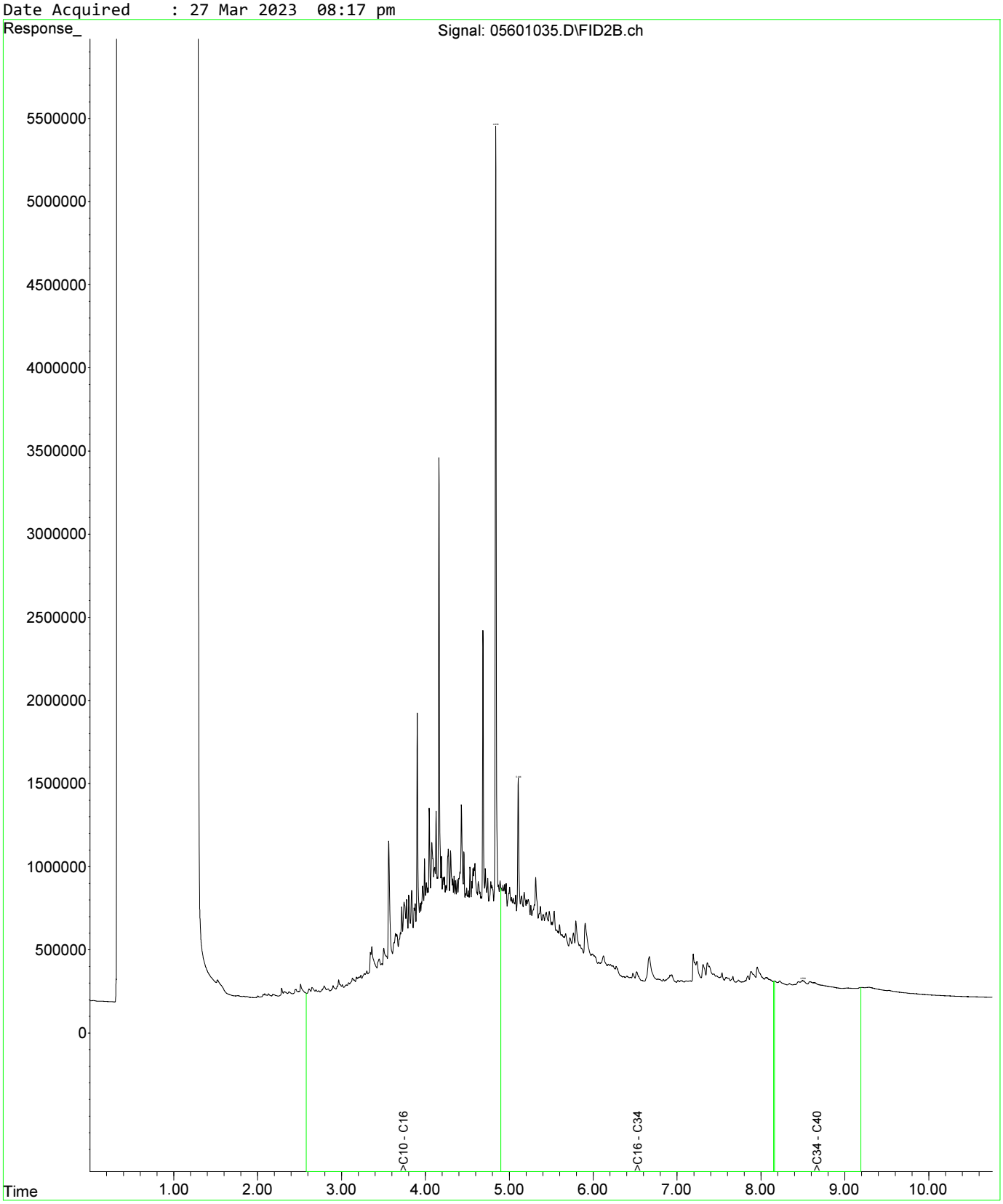
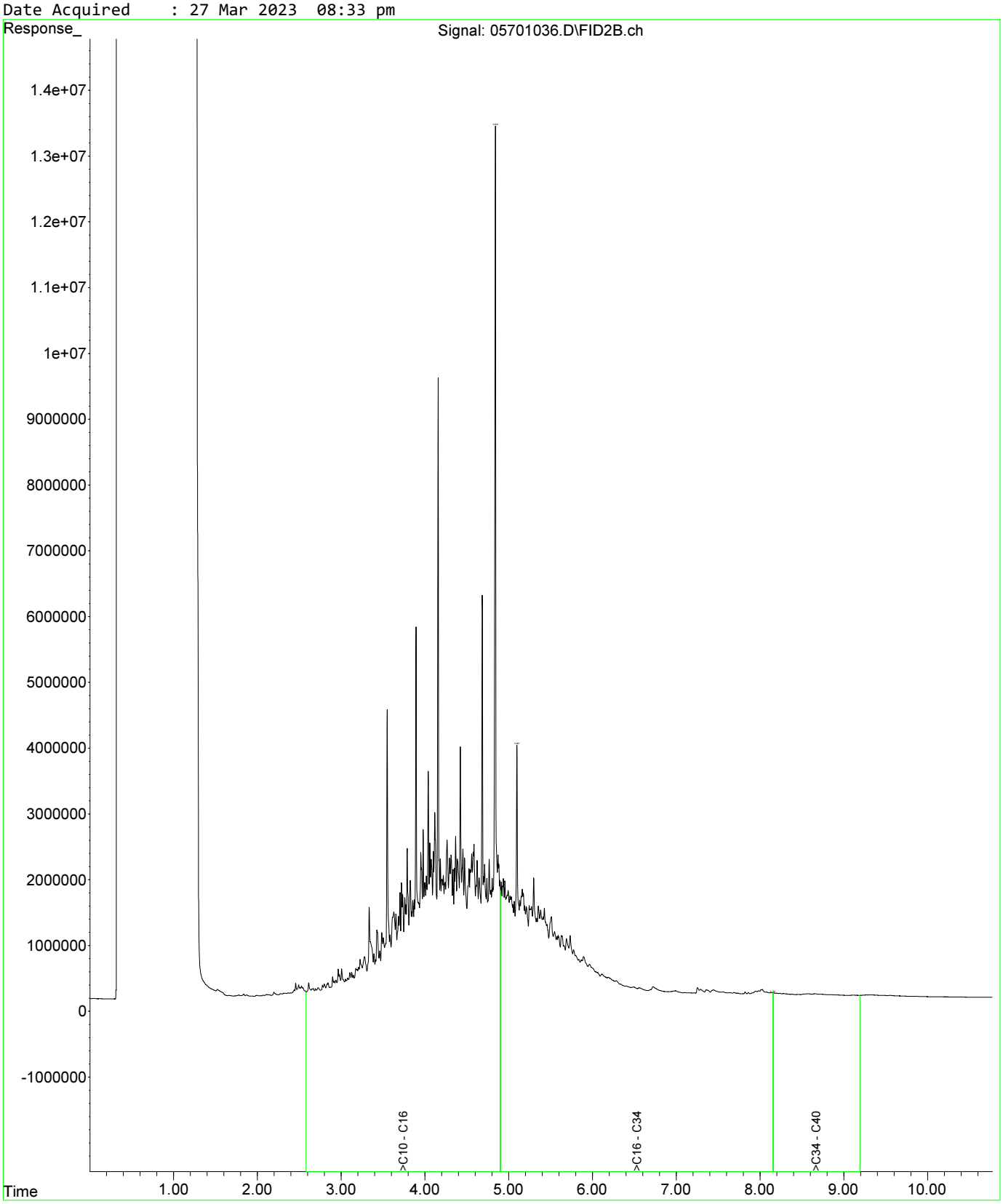
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
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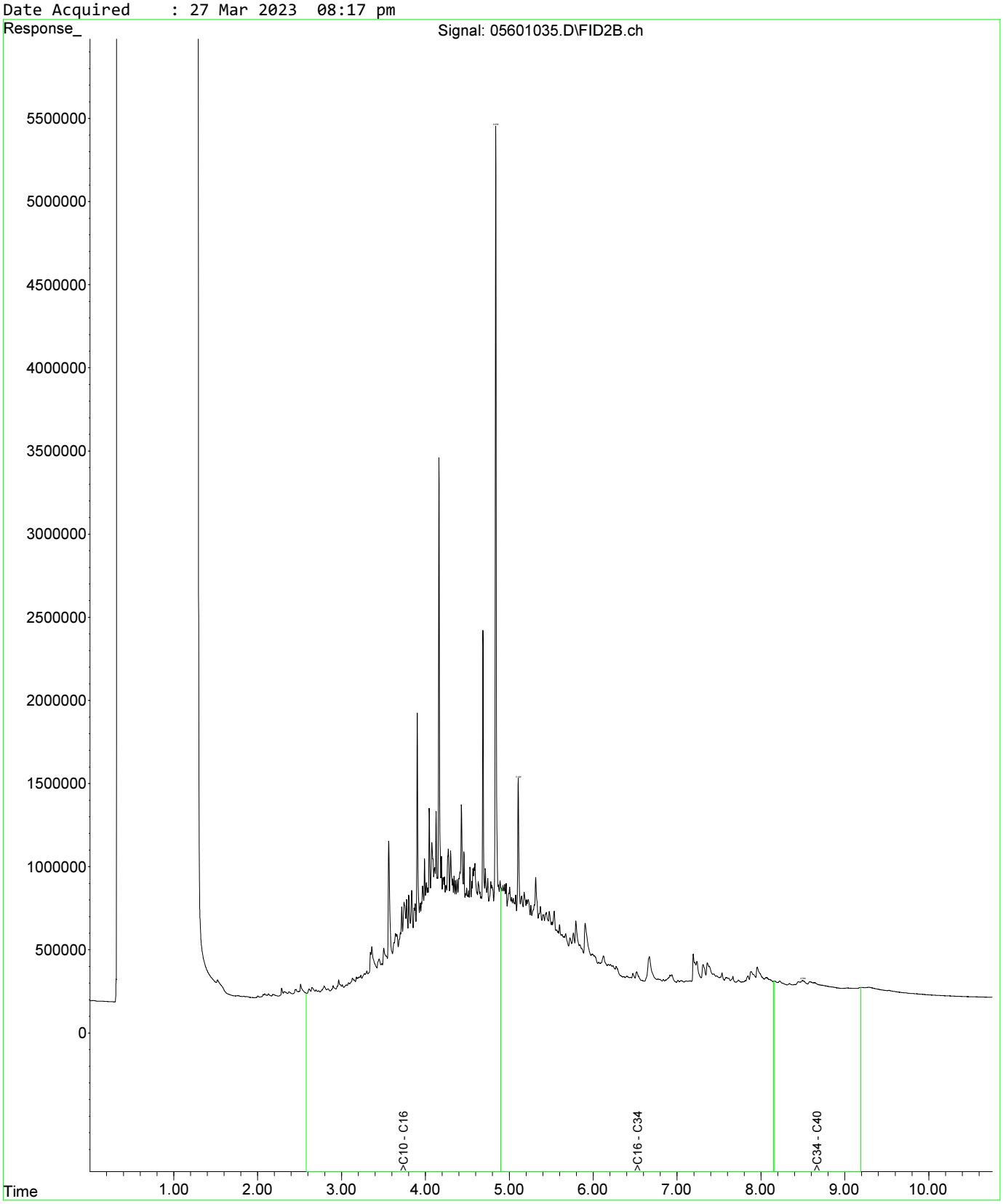

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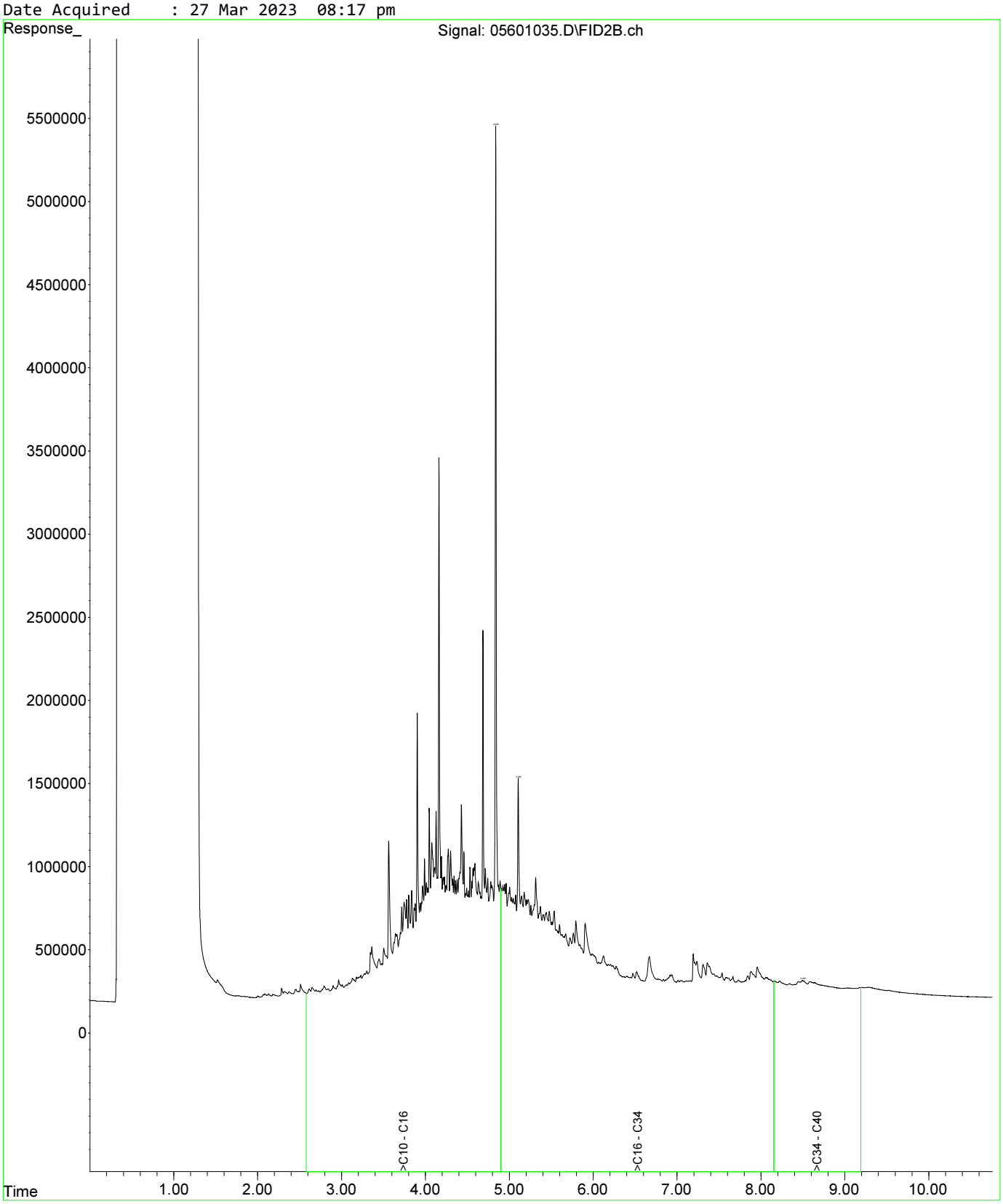

Fraction Scheme : NEPM DRAFT HIL
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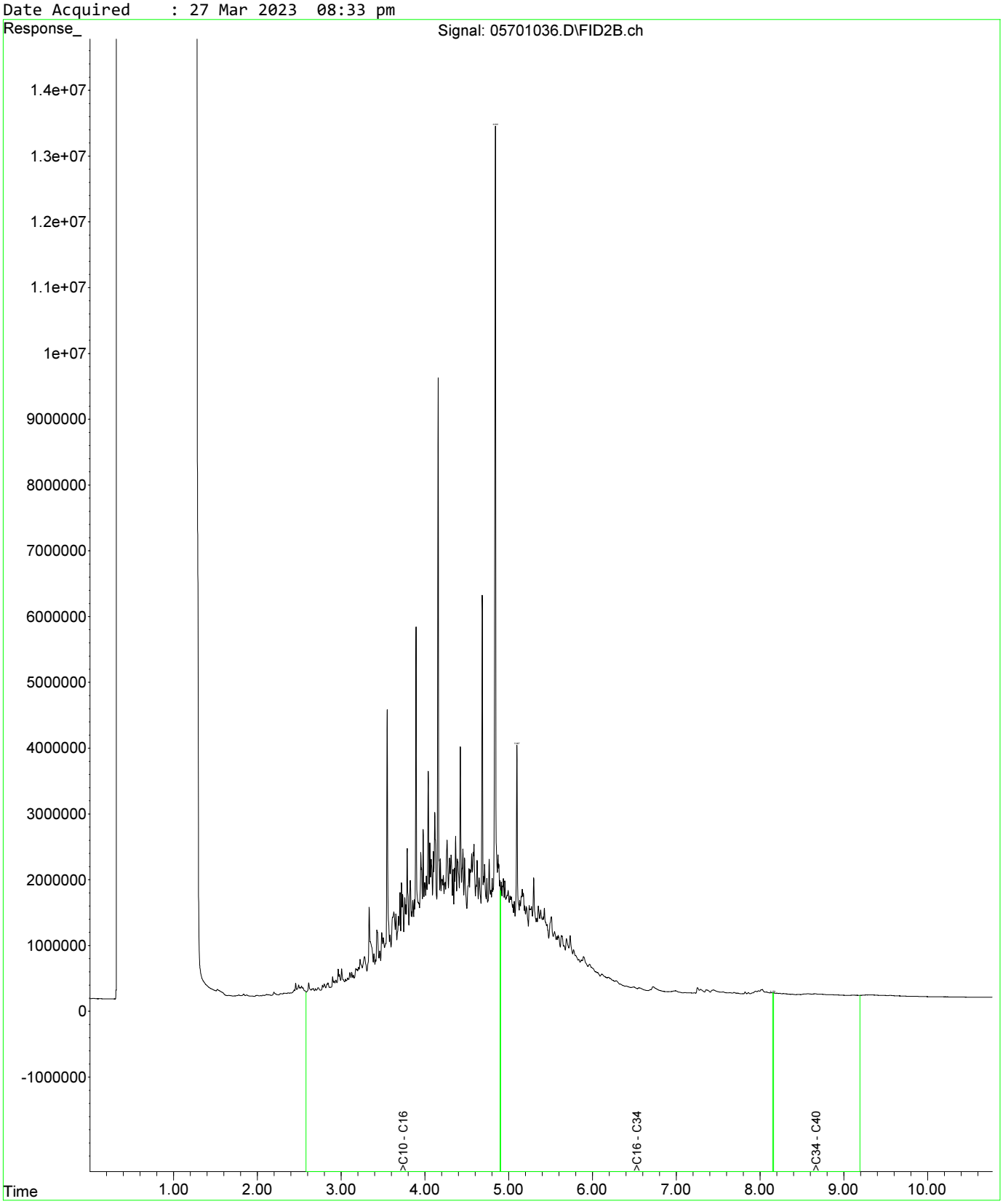
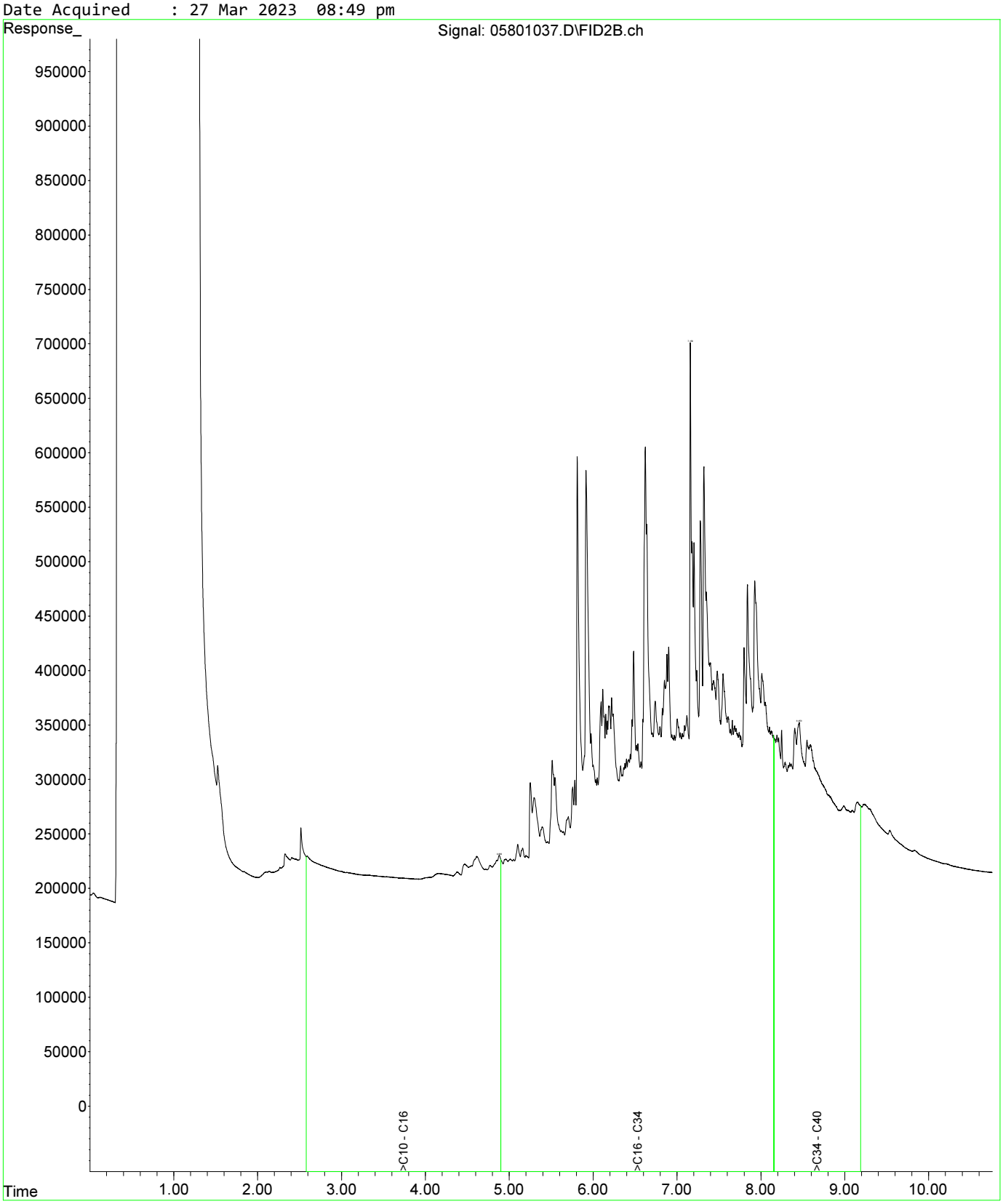
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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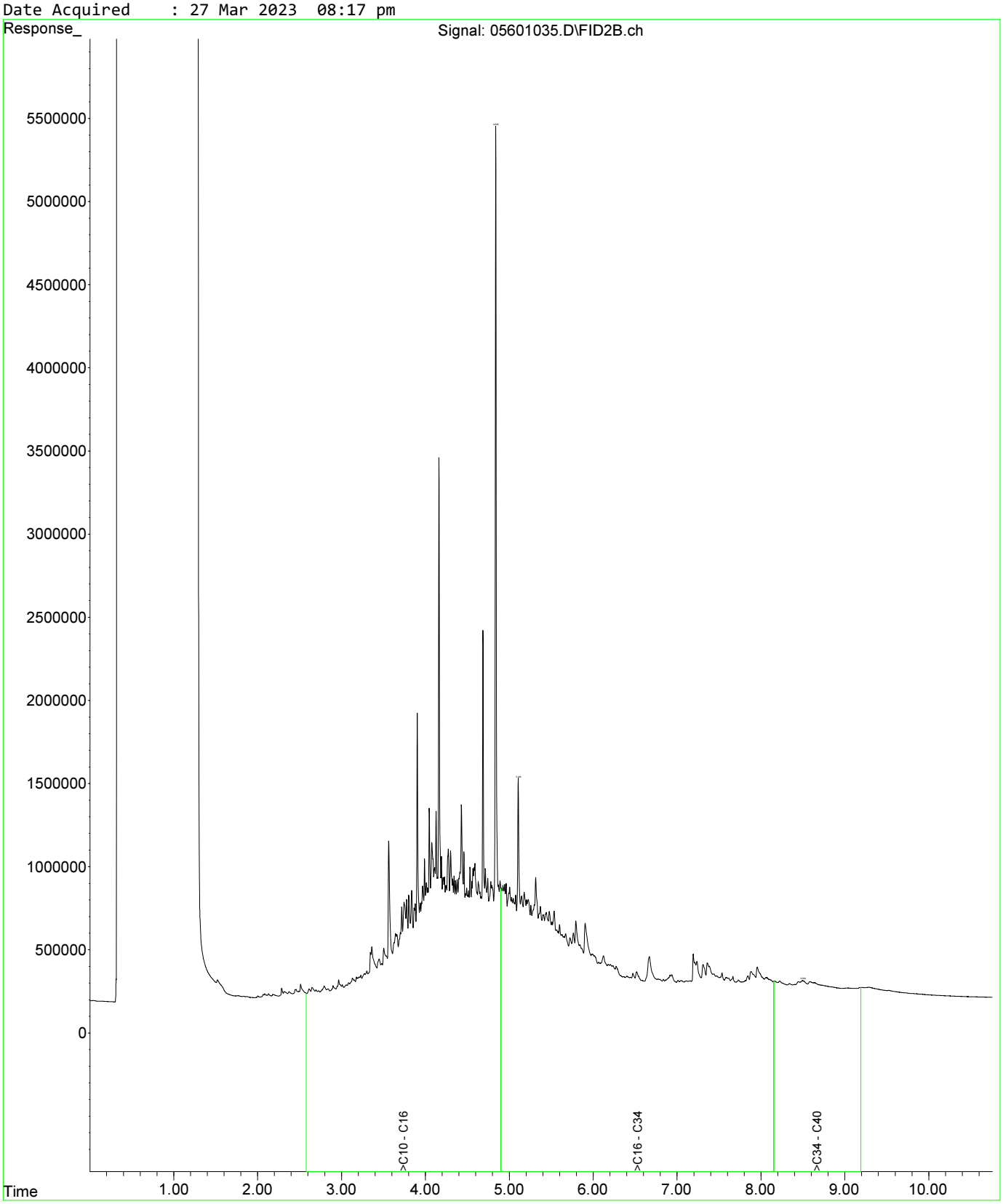

Fraction Scheme : NEPM DRAFT HIL
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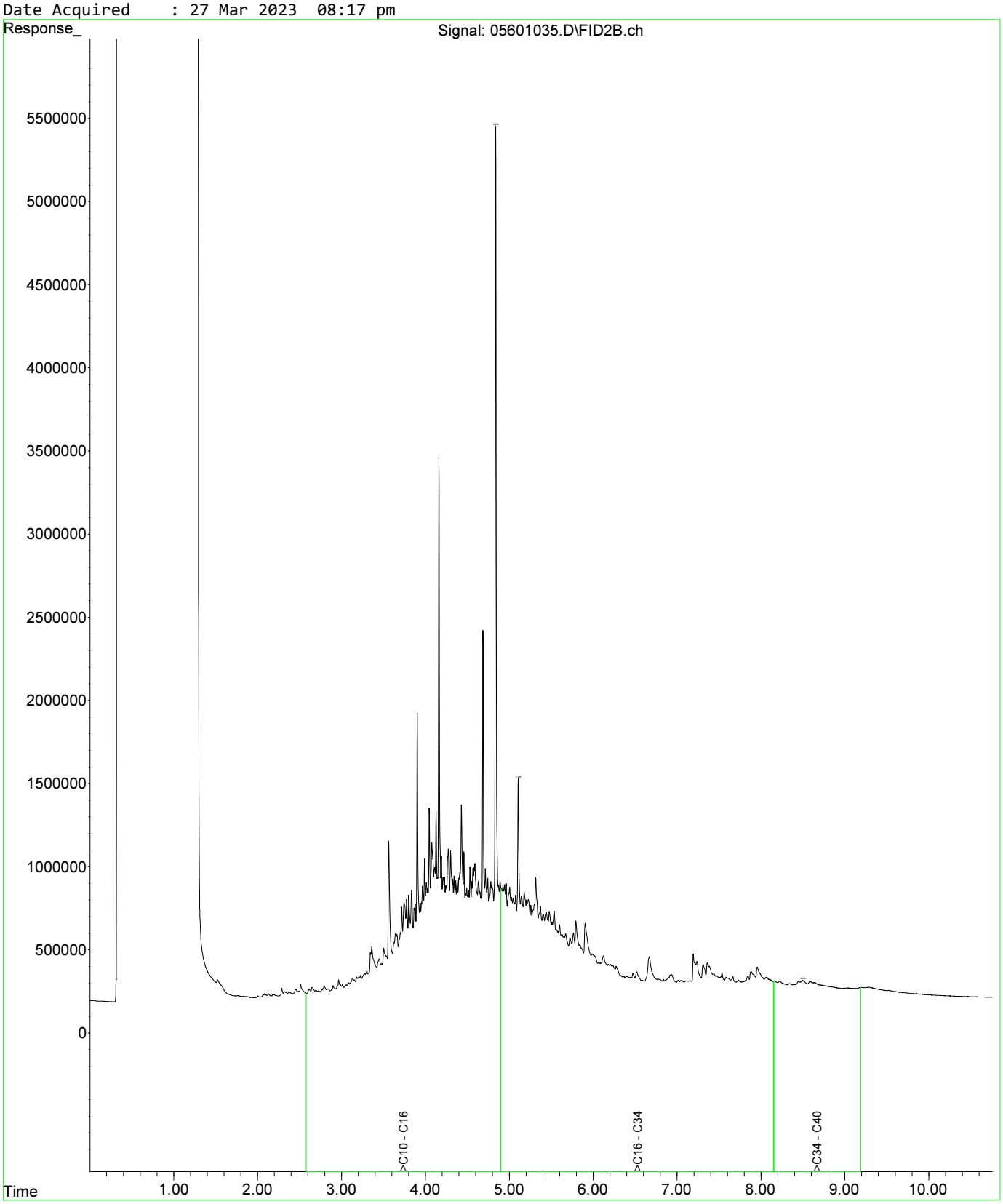

Fraction Scheme : NEPM DRAFT HIL
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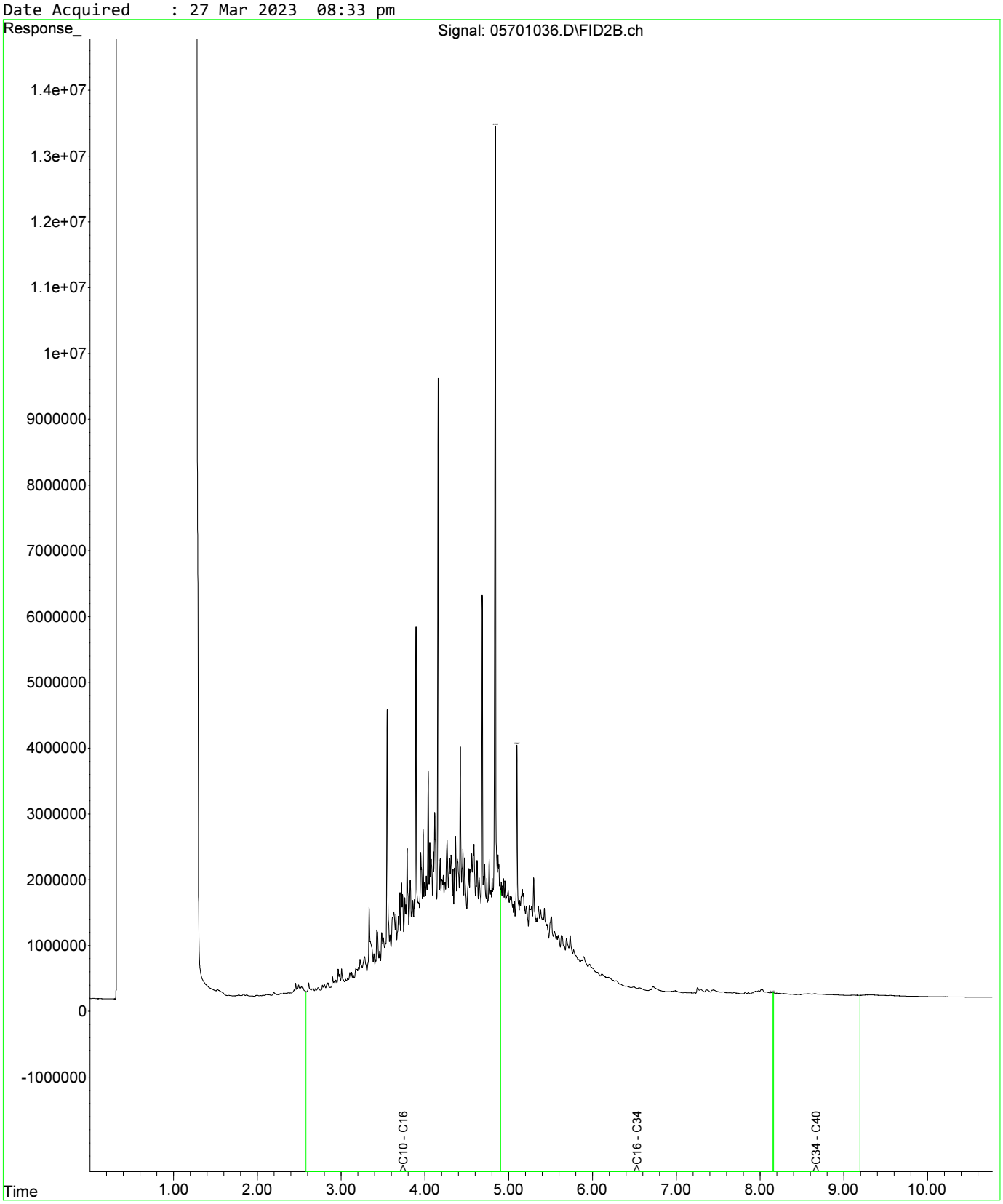
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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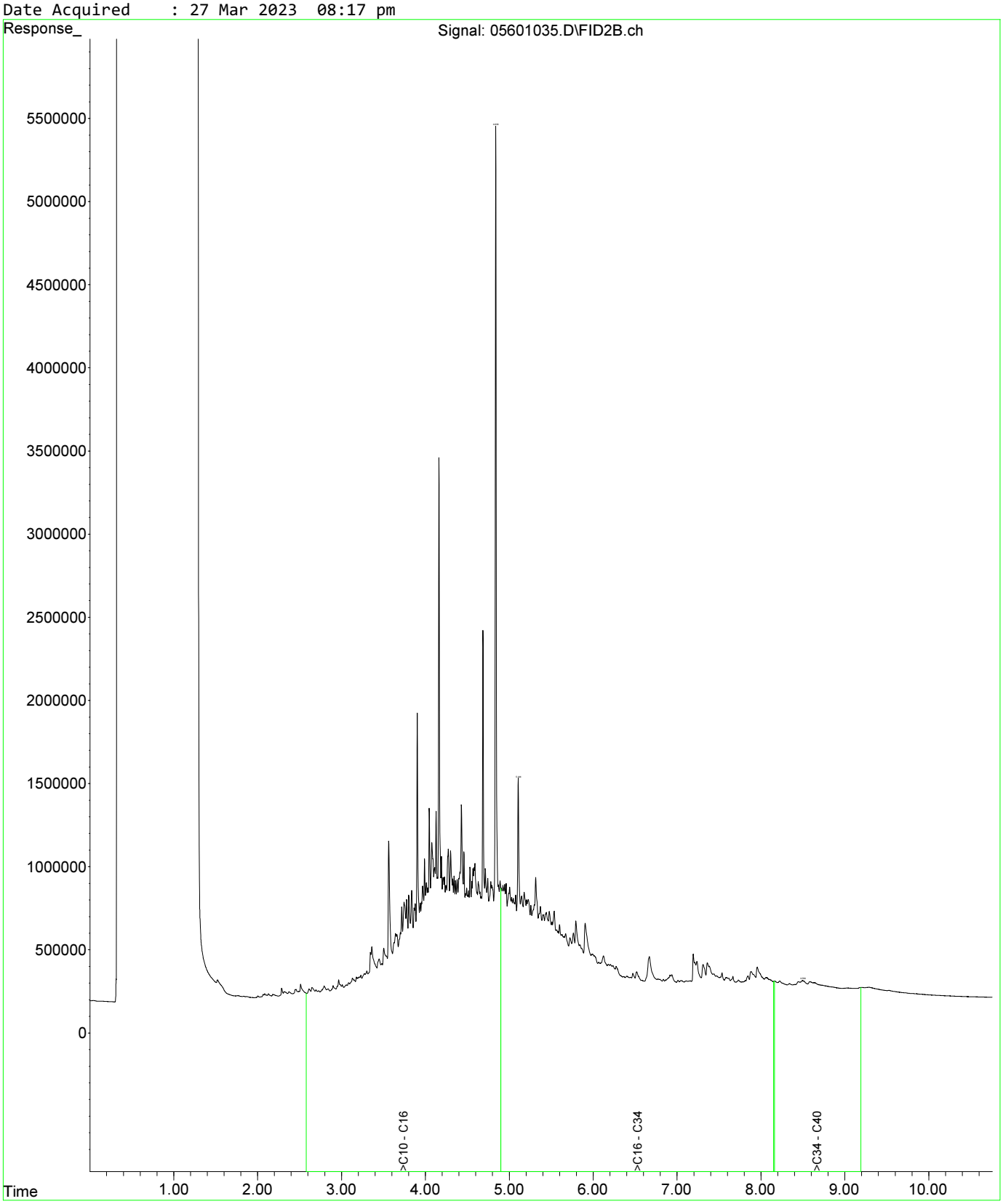
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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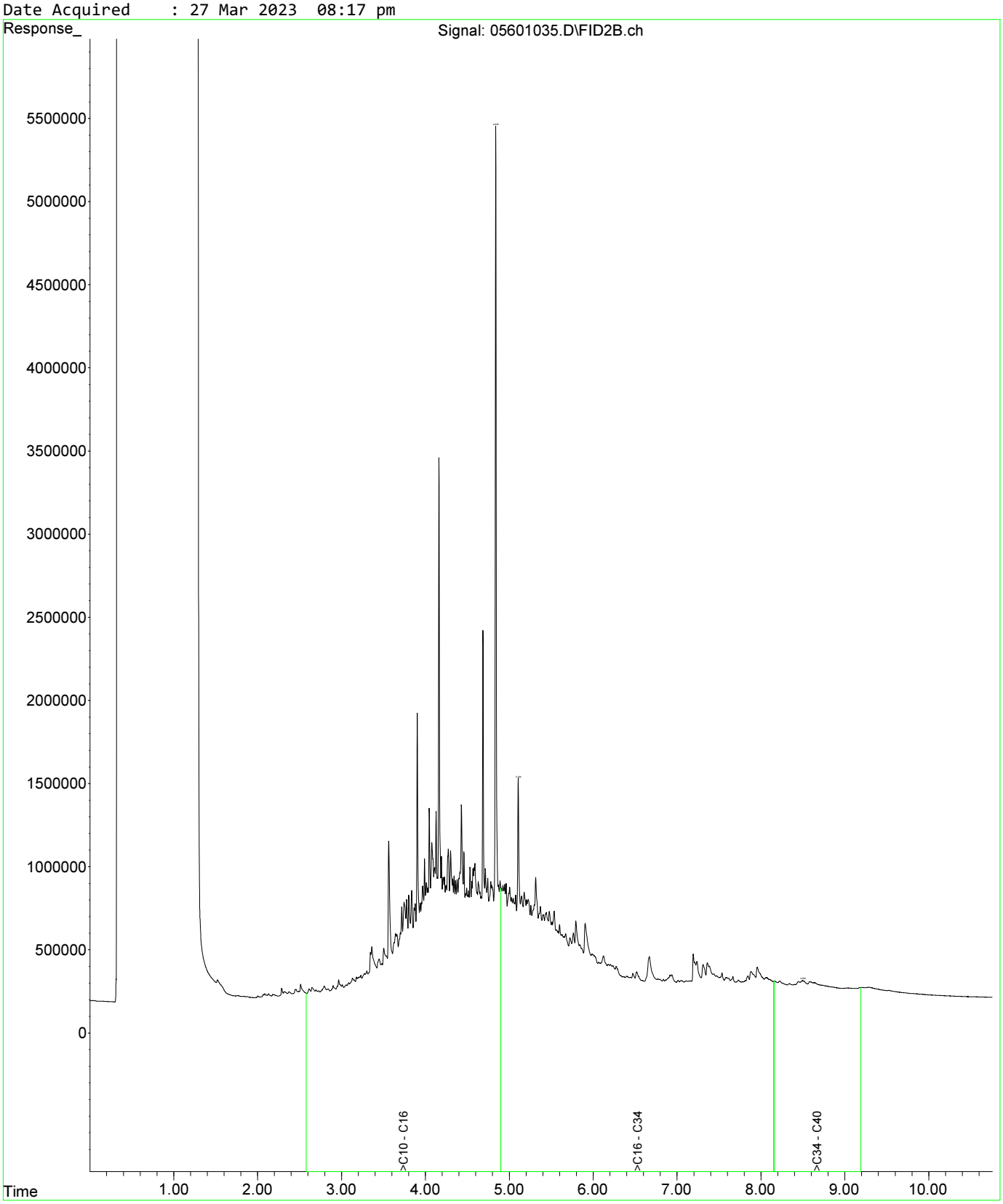

Fraction Scheme : NEPM DRAFT HIL
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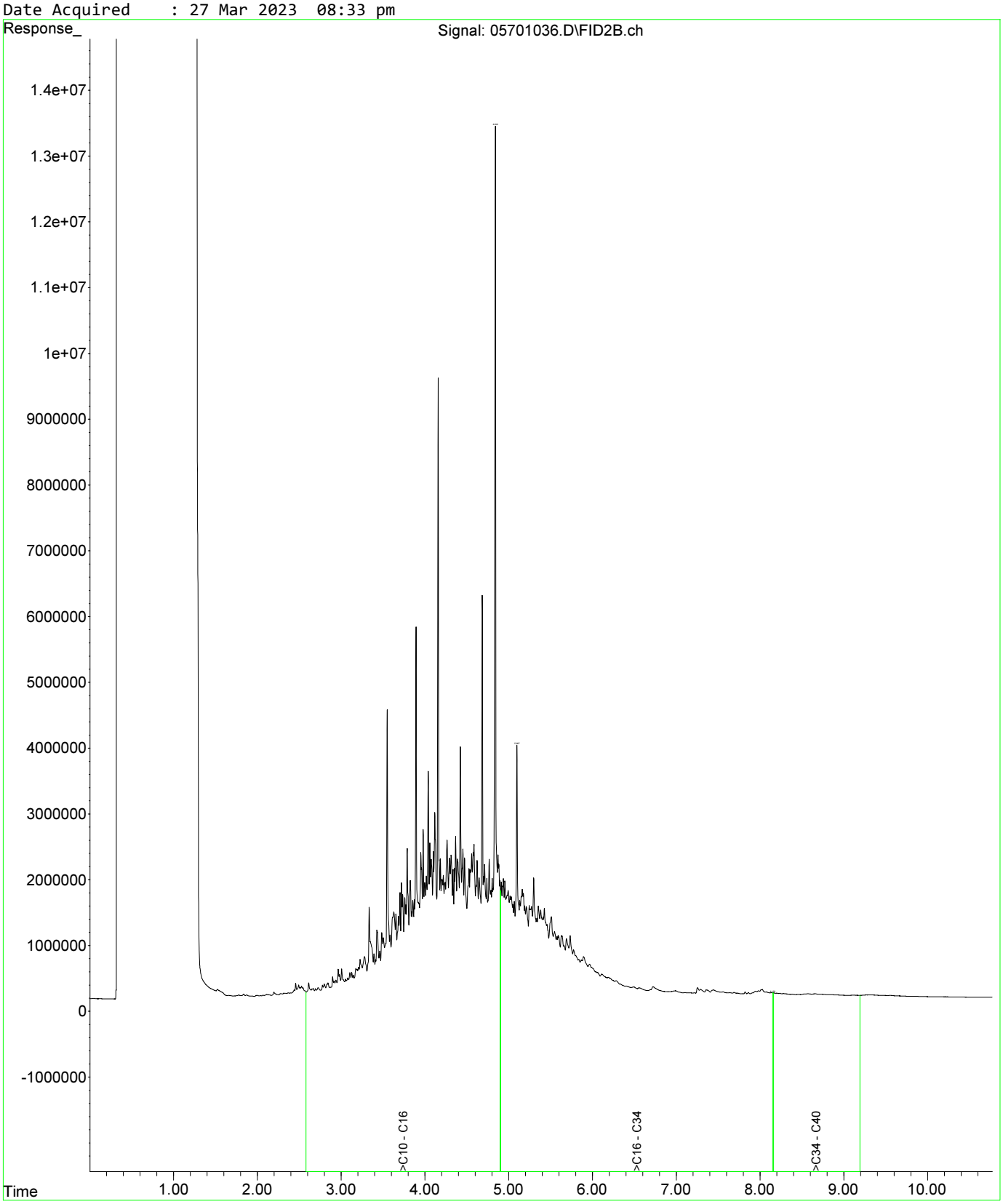
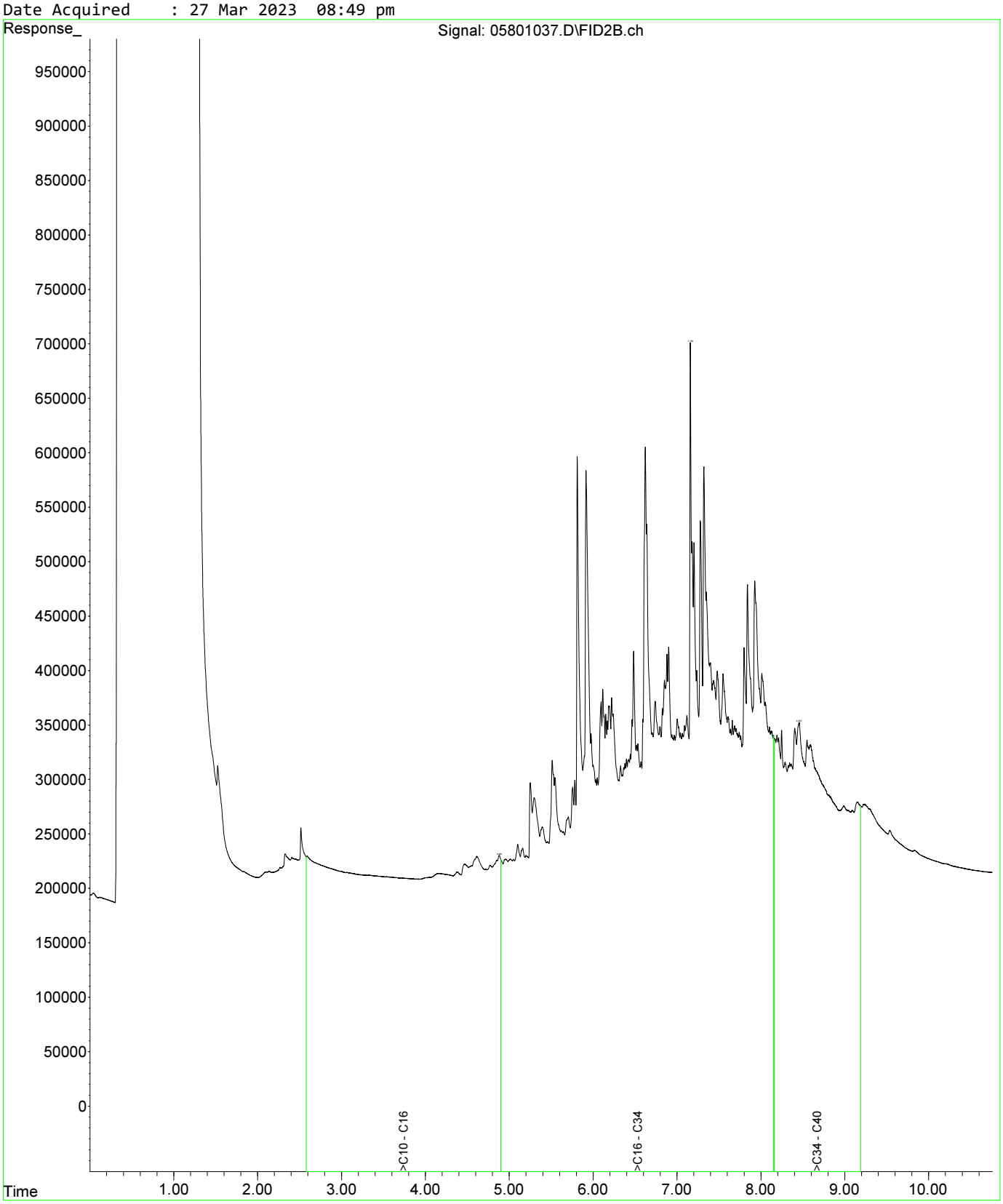


Fraction Scheme : NEPM DRAFT HIL
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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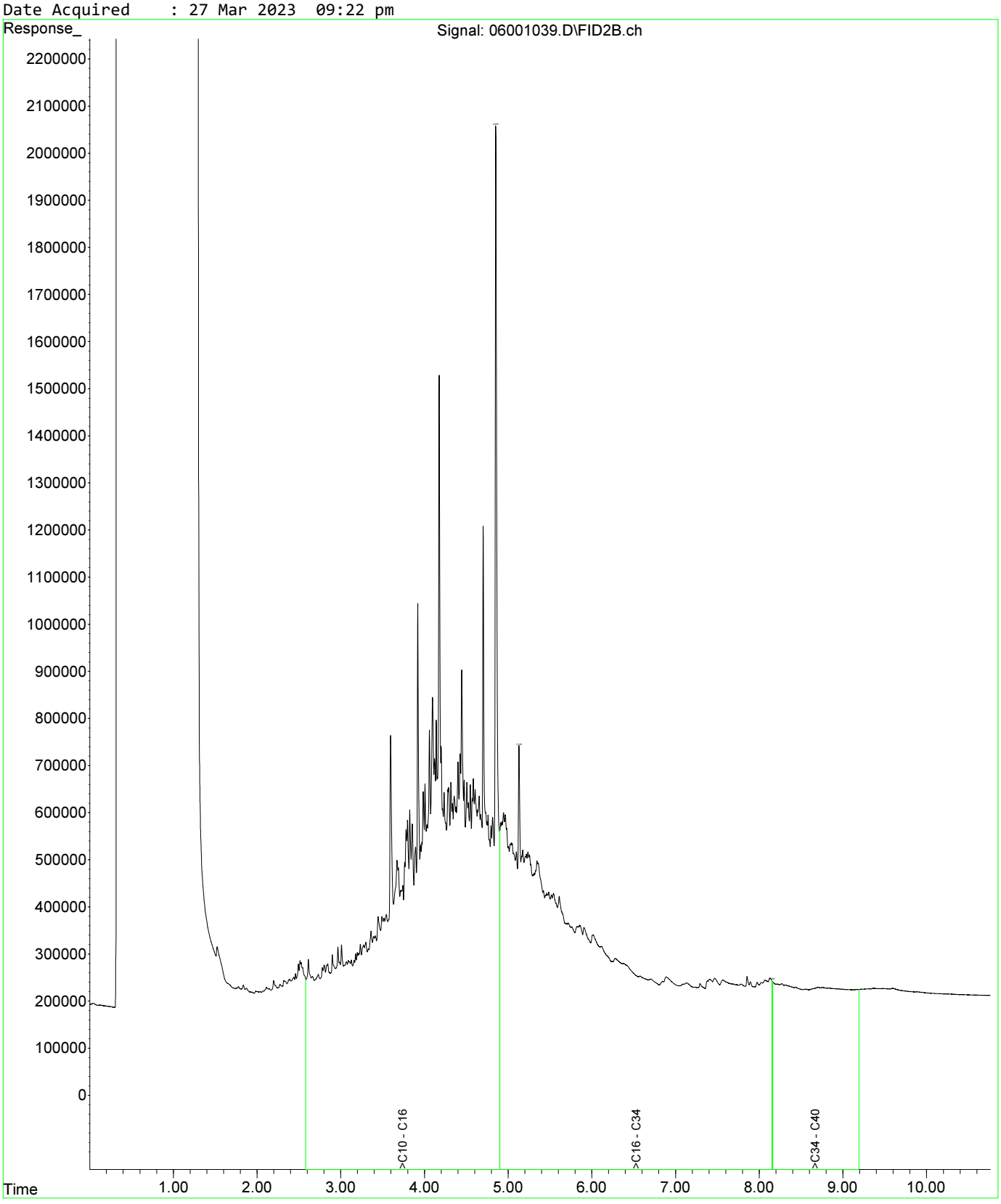
Date Acquired : 27 Mar 2023 09:22 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
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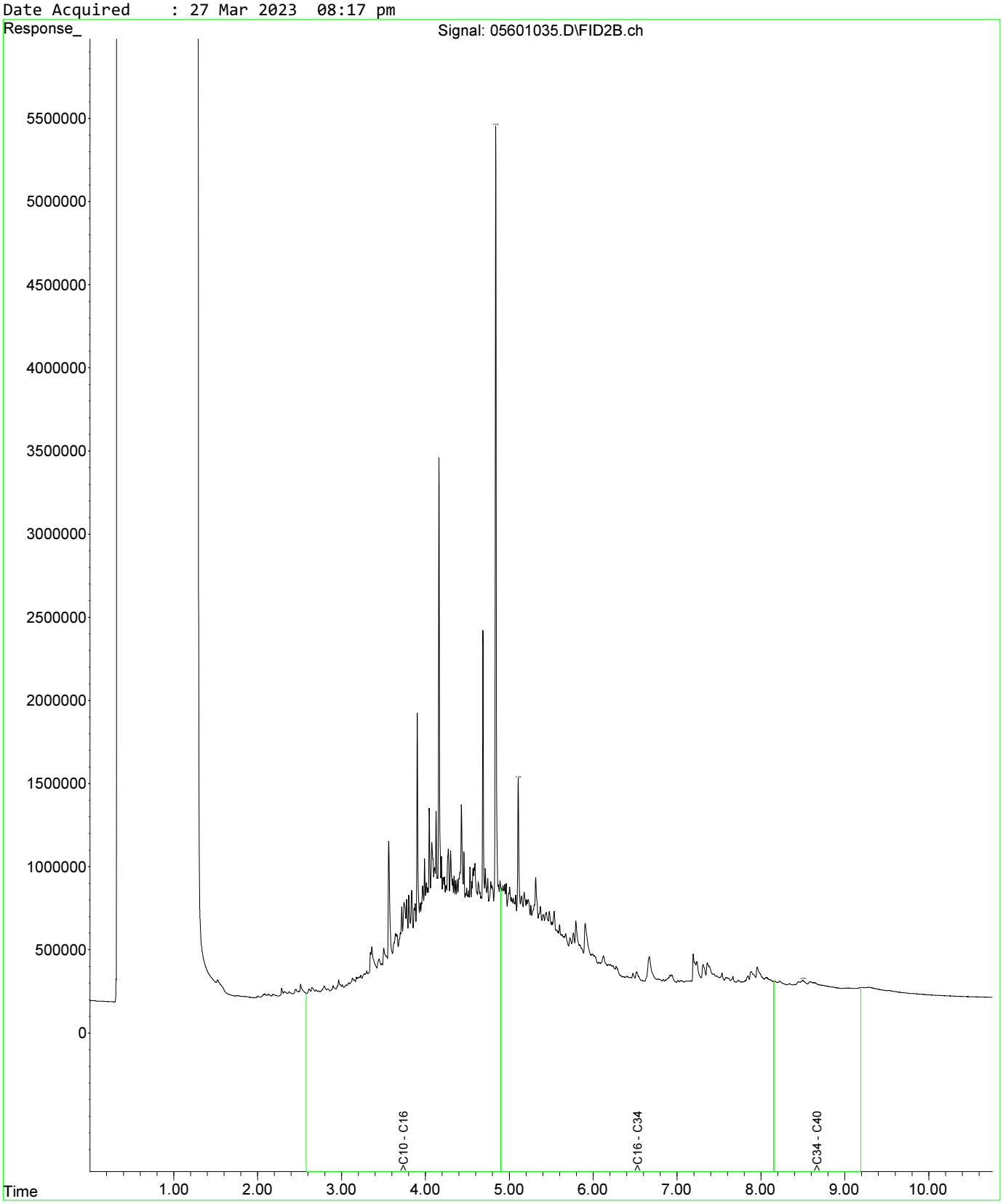
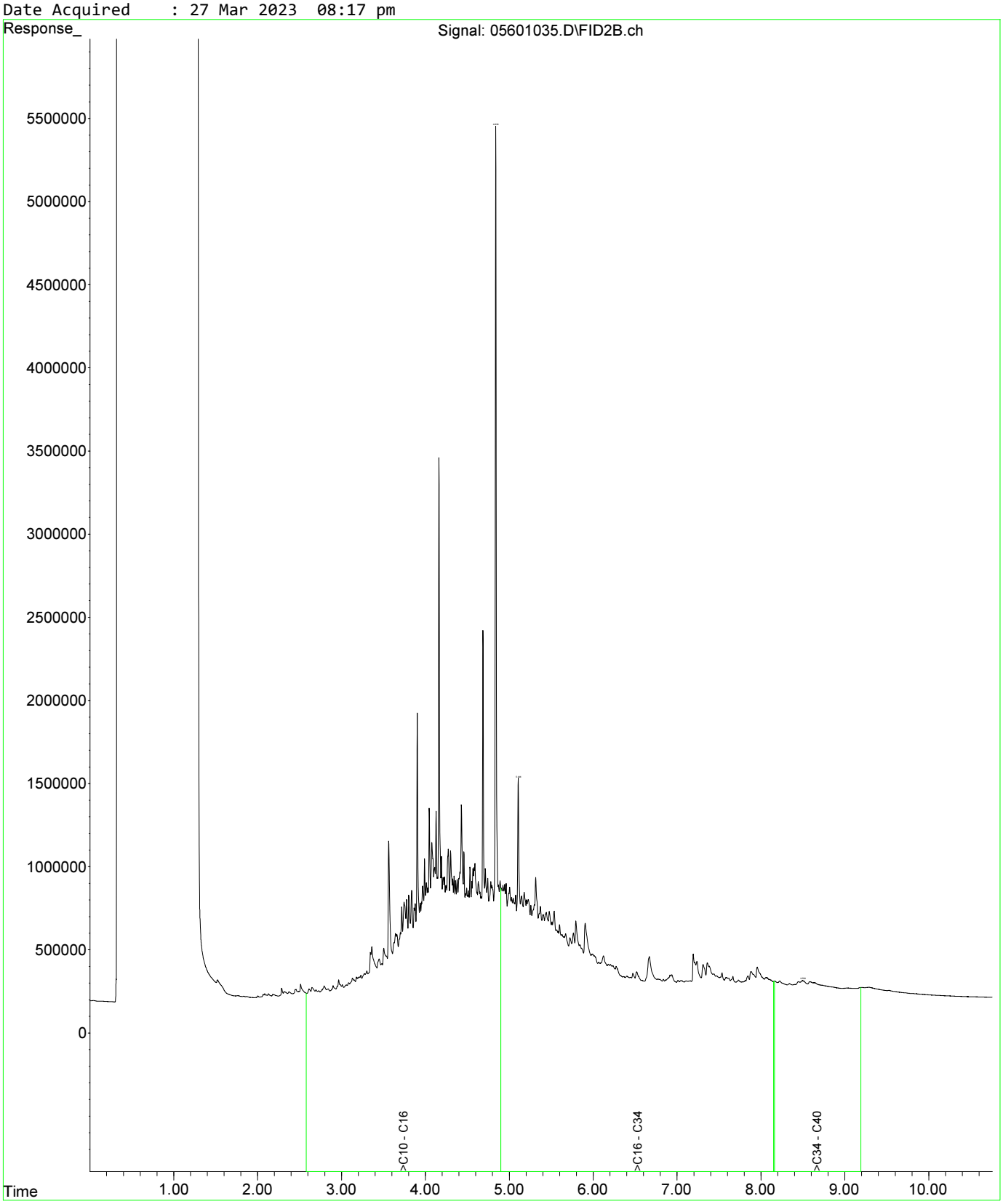
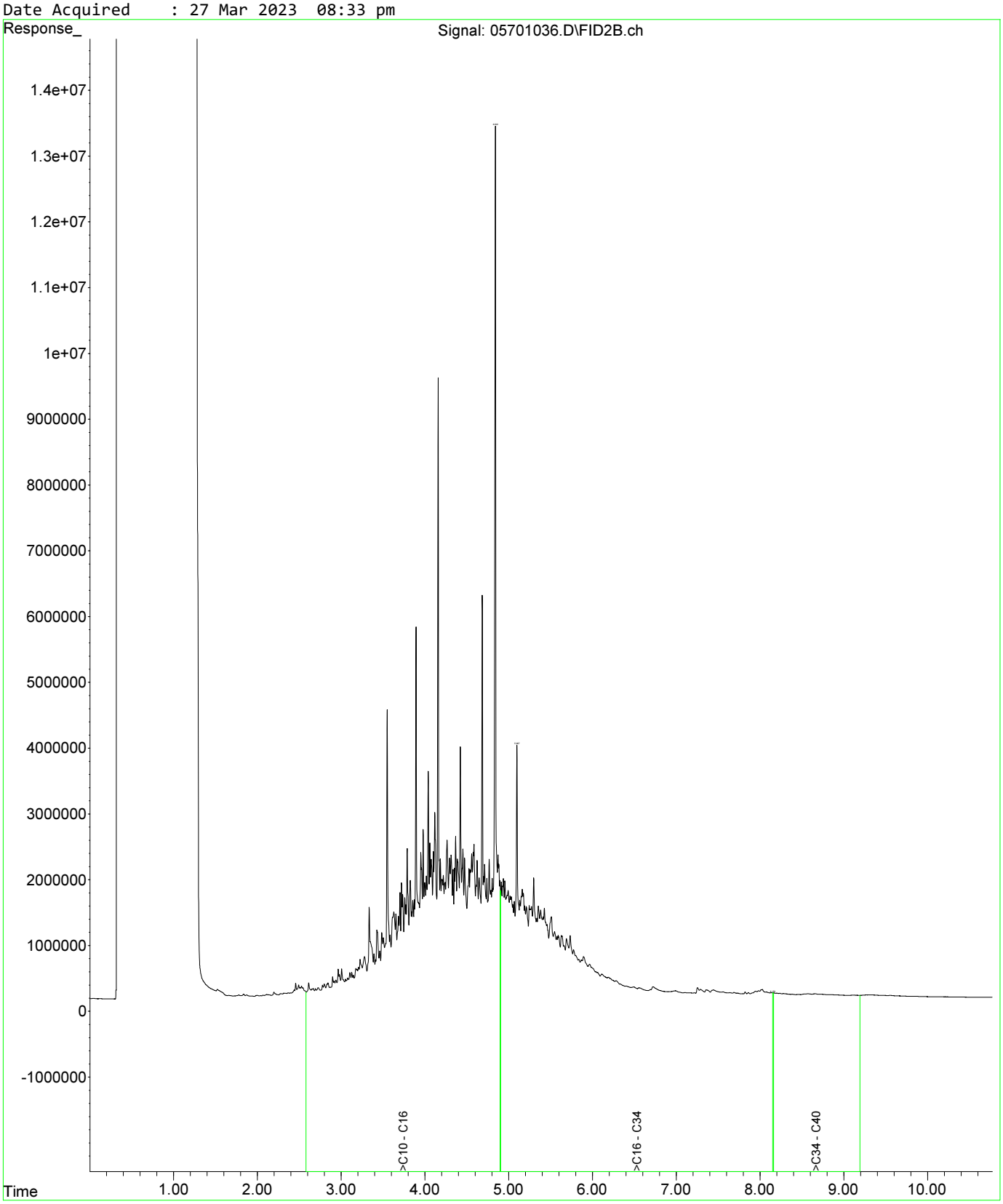
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
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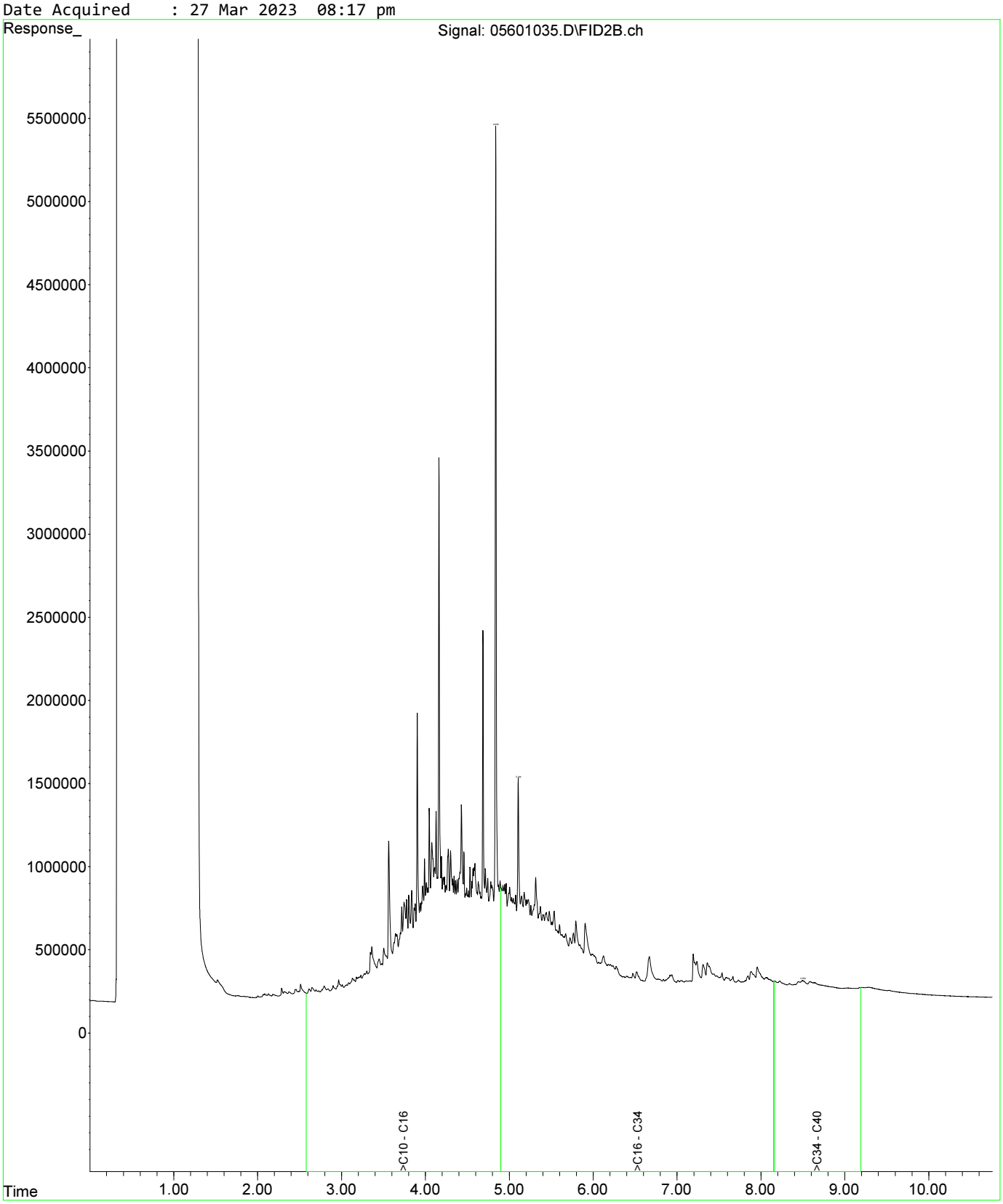

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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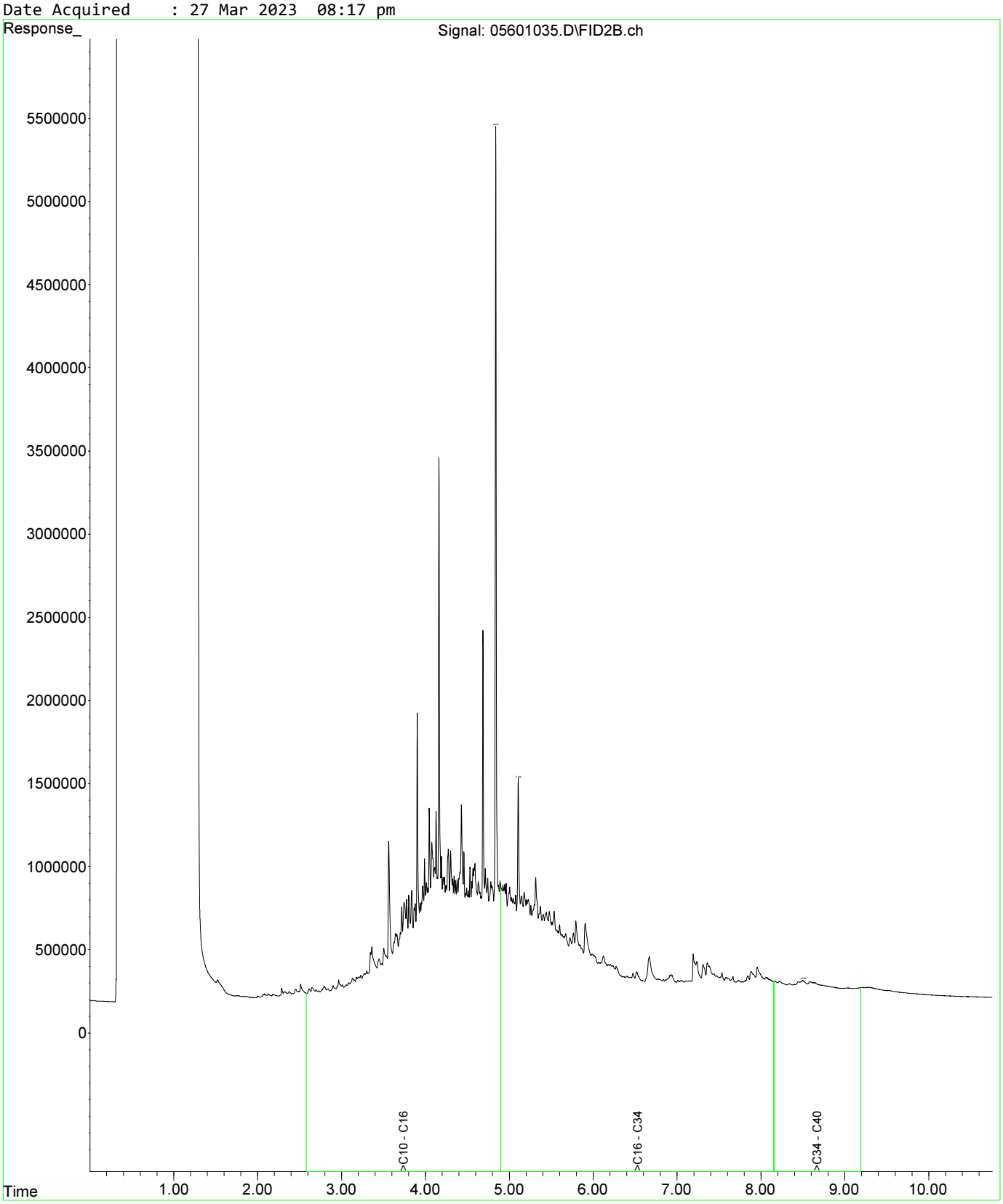

Fraction Scheme : NEPM DRAFT HIL
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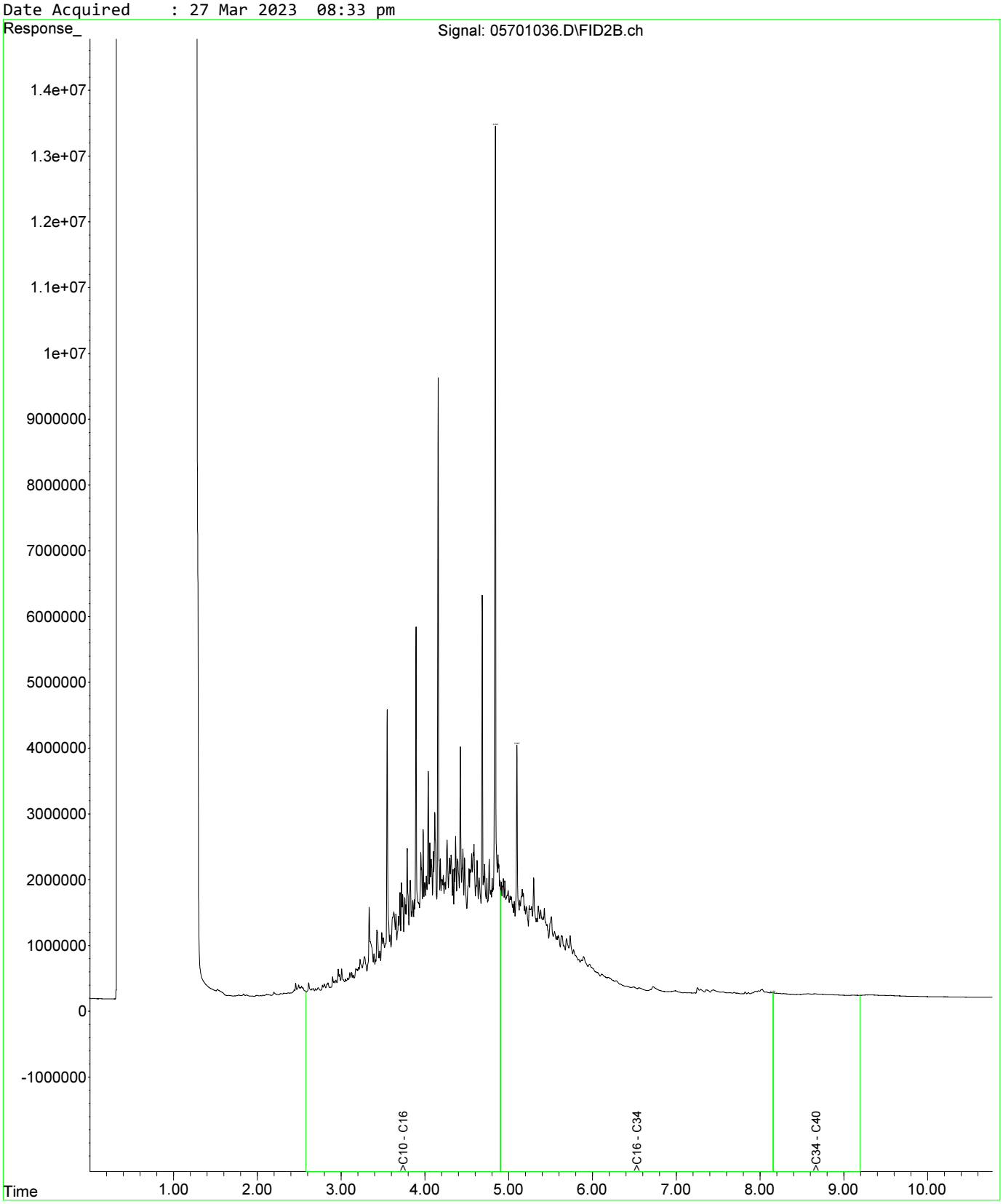

Fraction Scheme : NEPM DRAFT HIL
Data File : 05801037.D
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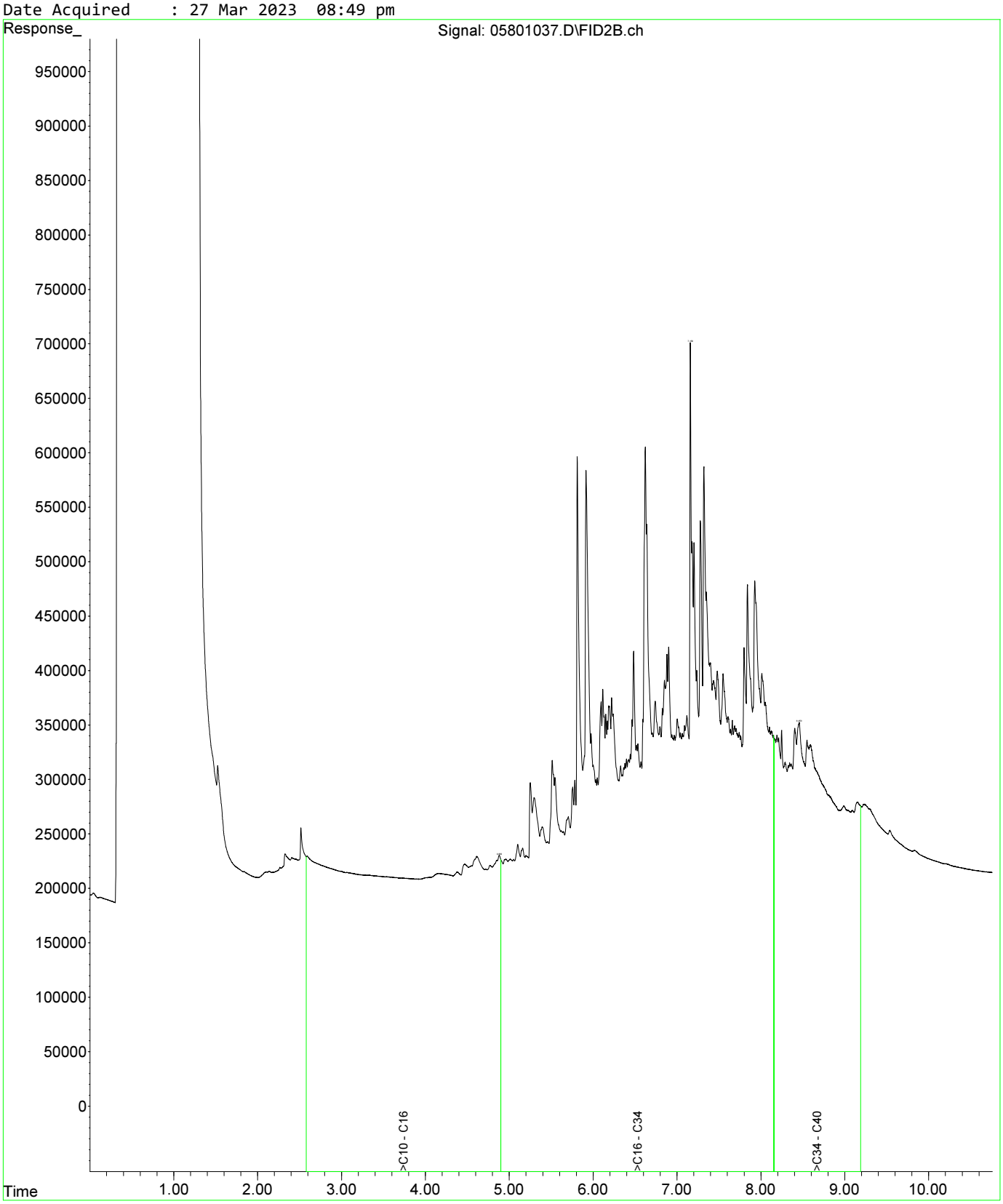
Date Acquired : 27 Mar 2023 08:49 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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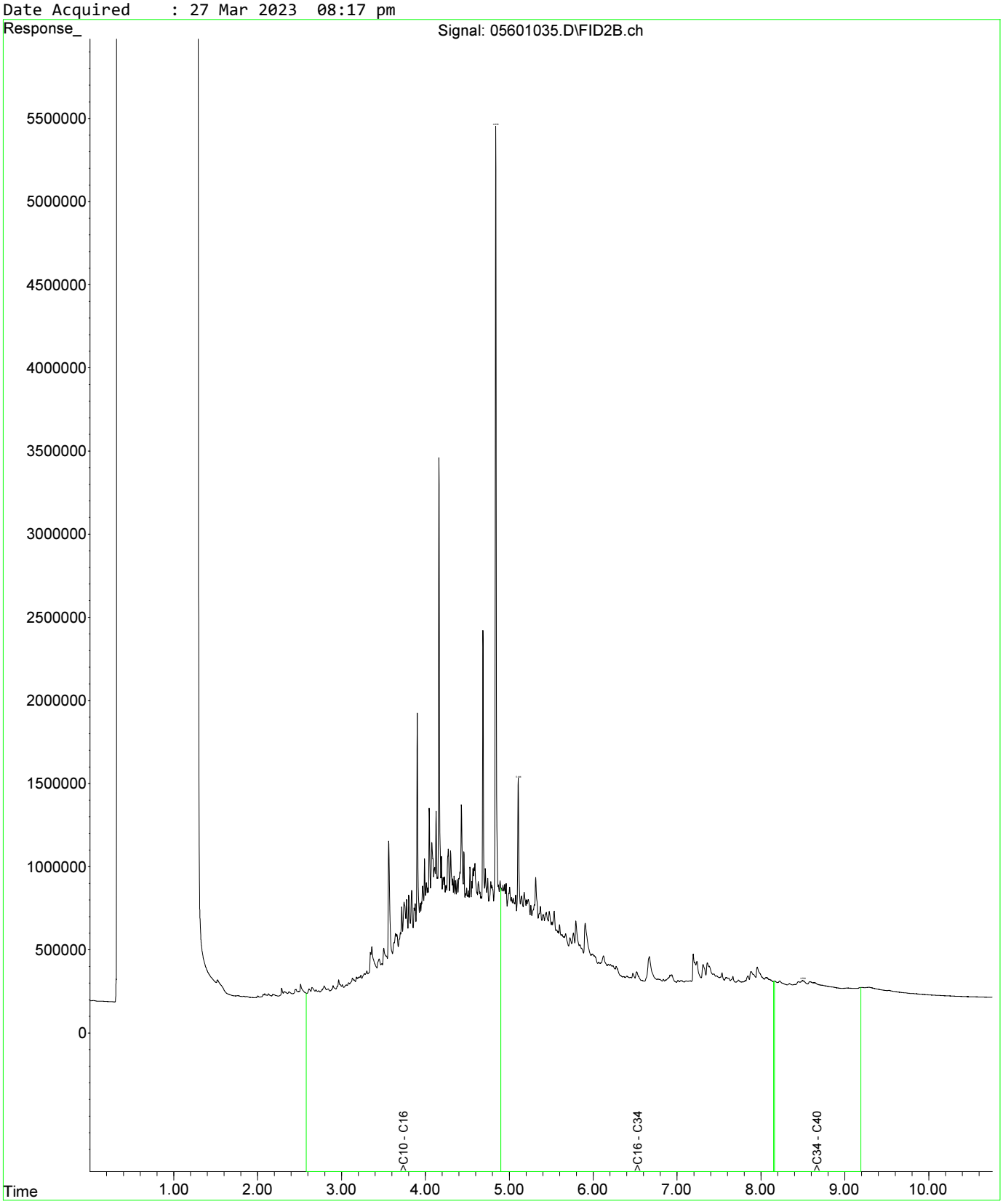

Fraction Scheme : NEPM DRAFT HIL
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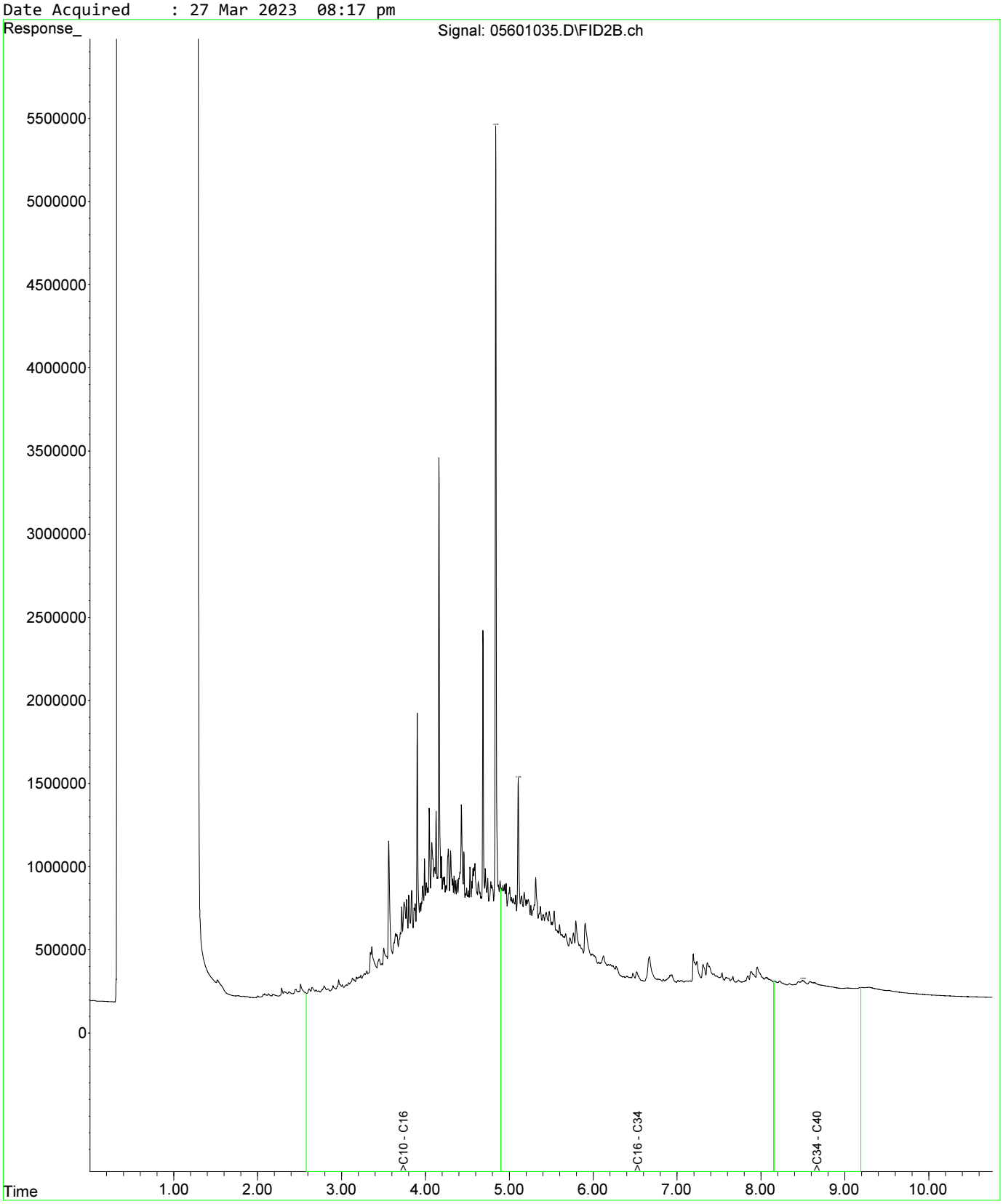
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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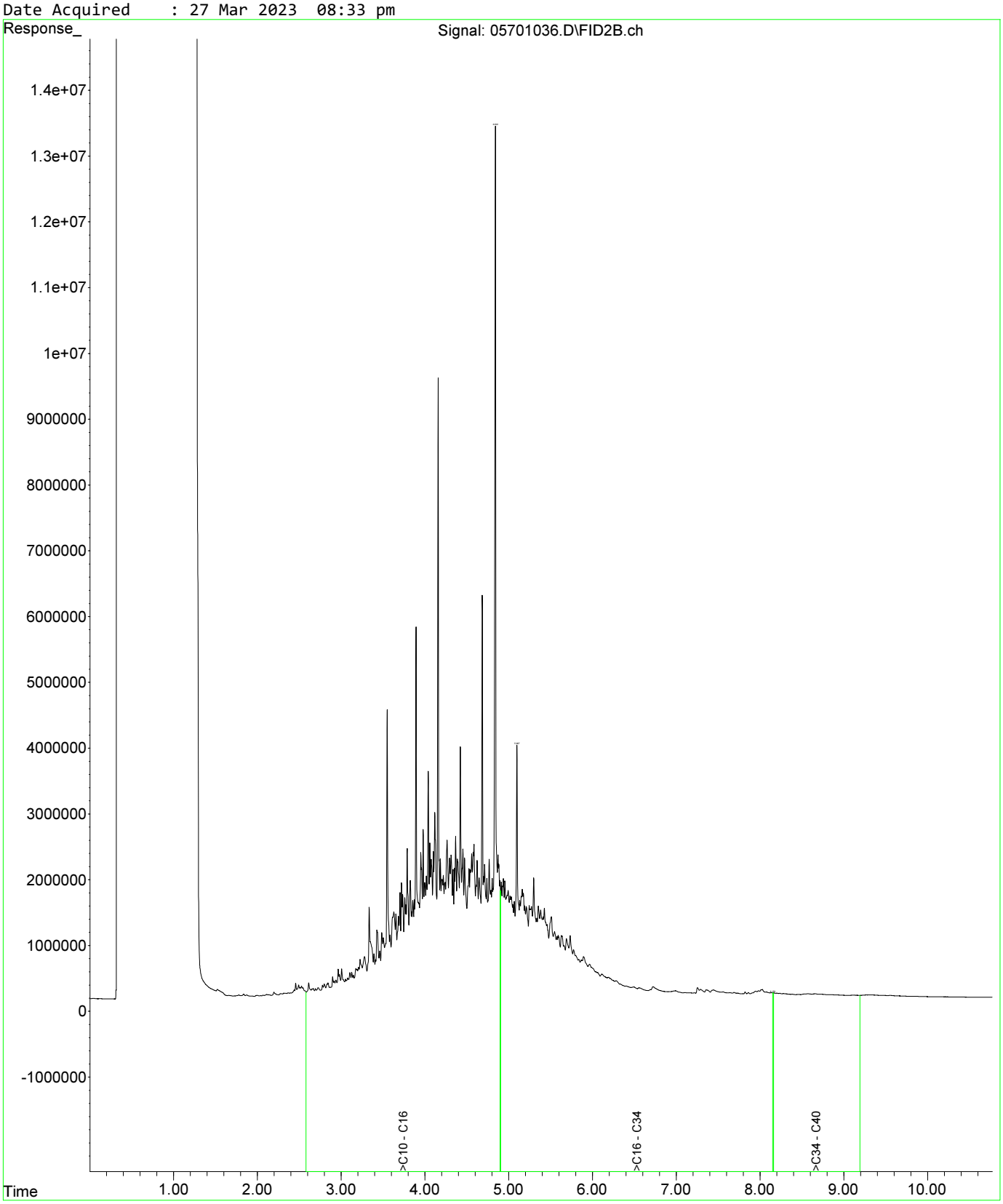
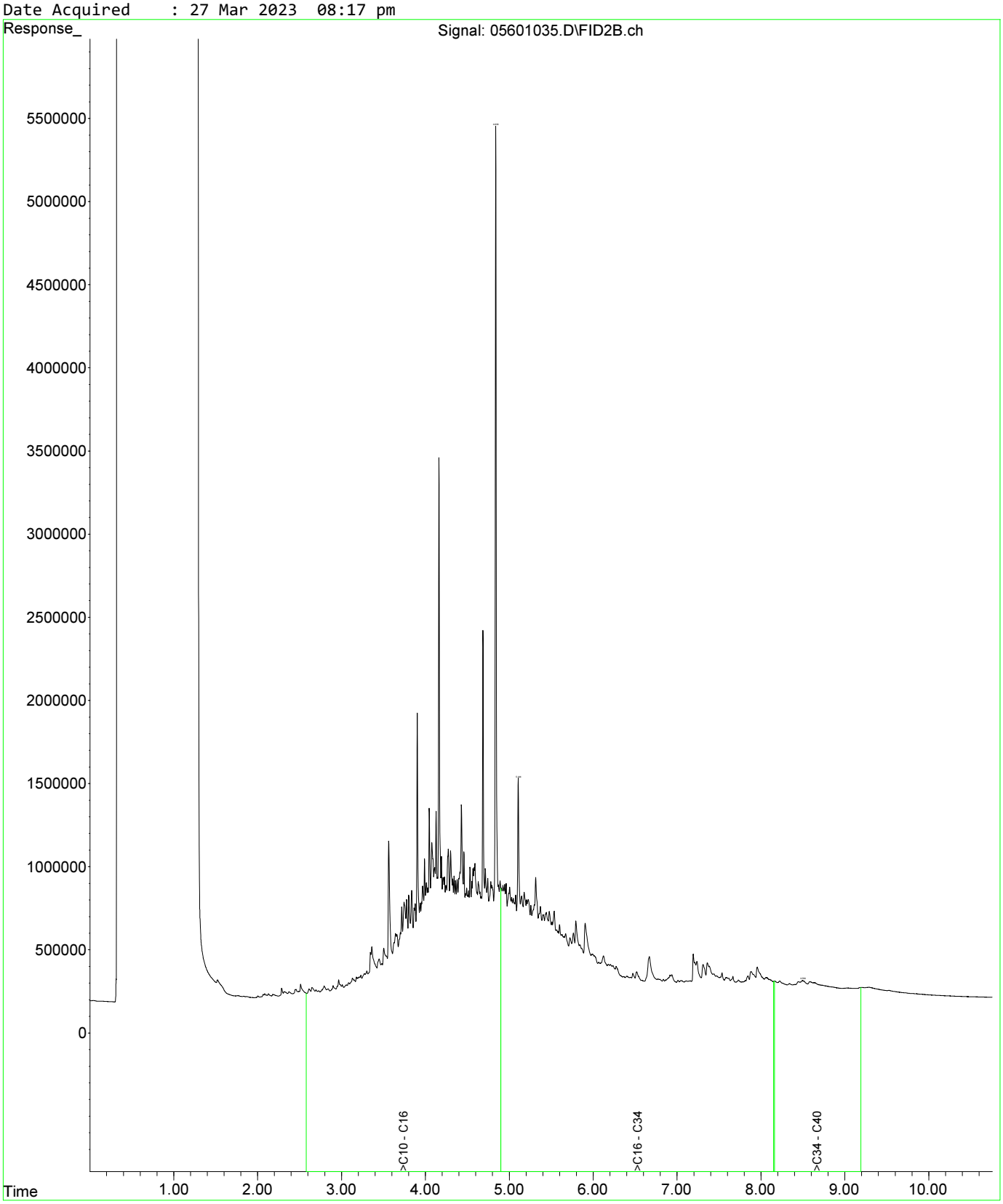
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
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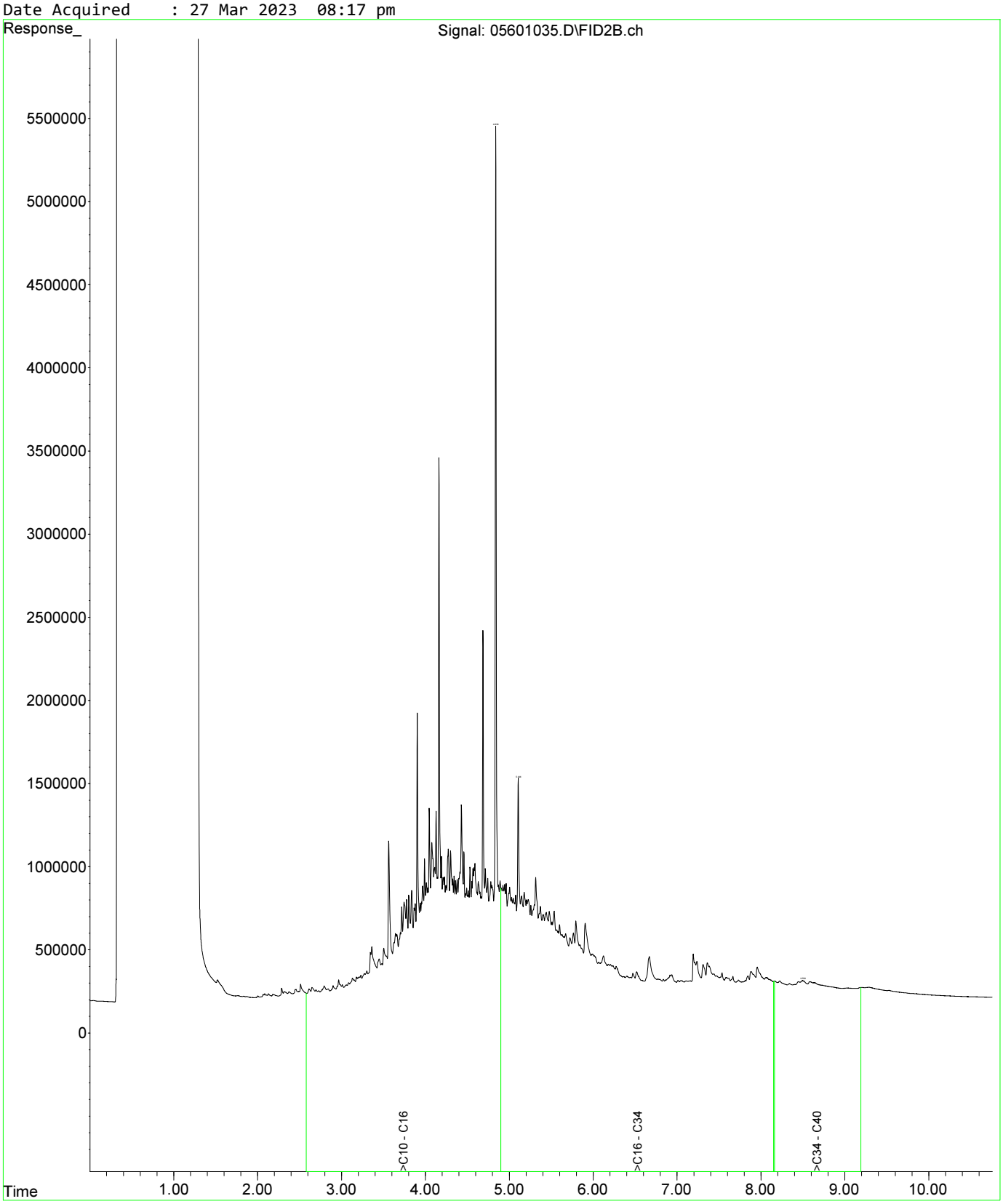
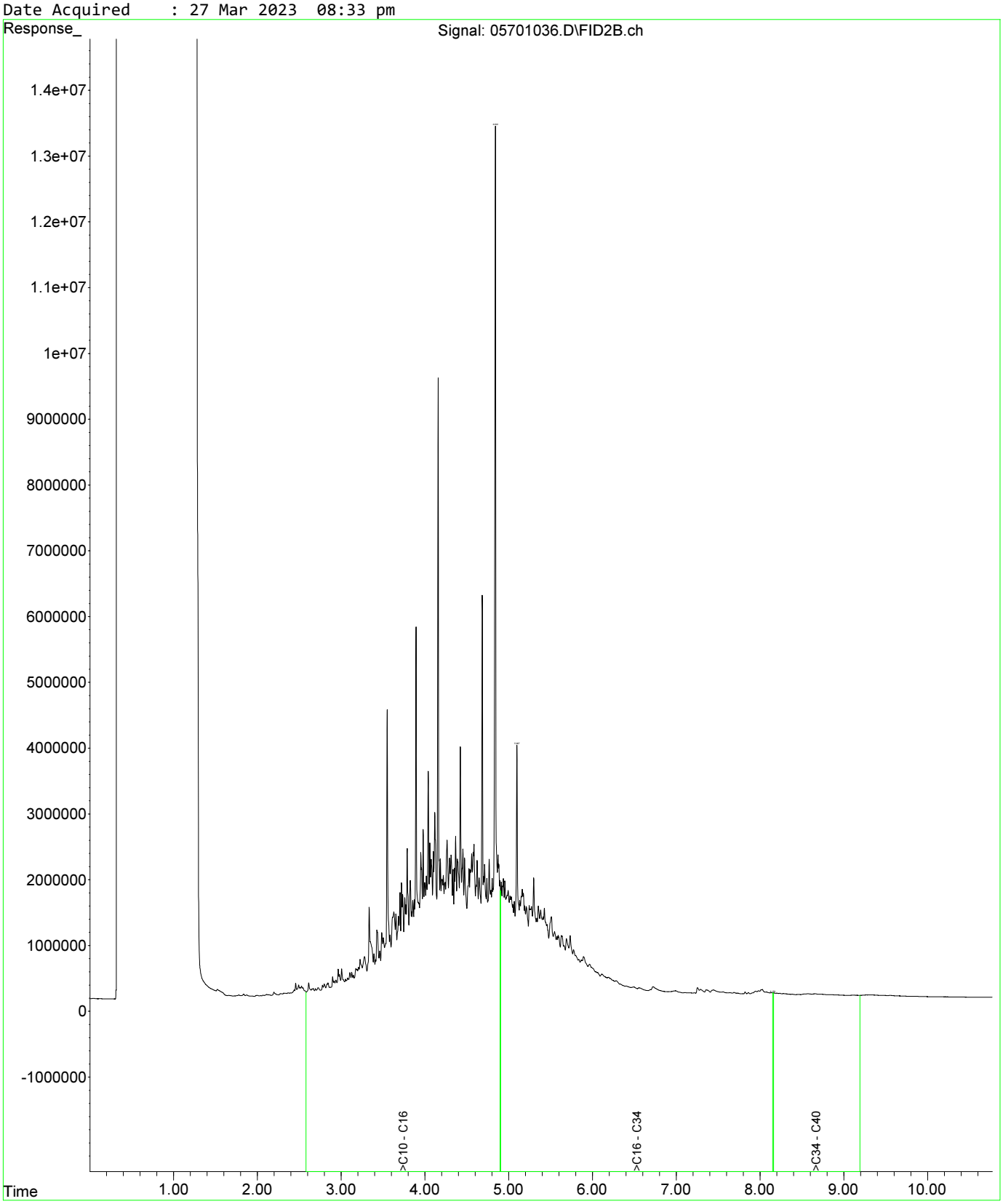


Fraction Scheme : NEPM DRAFT HIL
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
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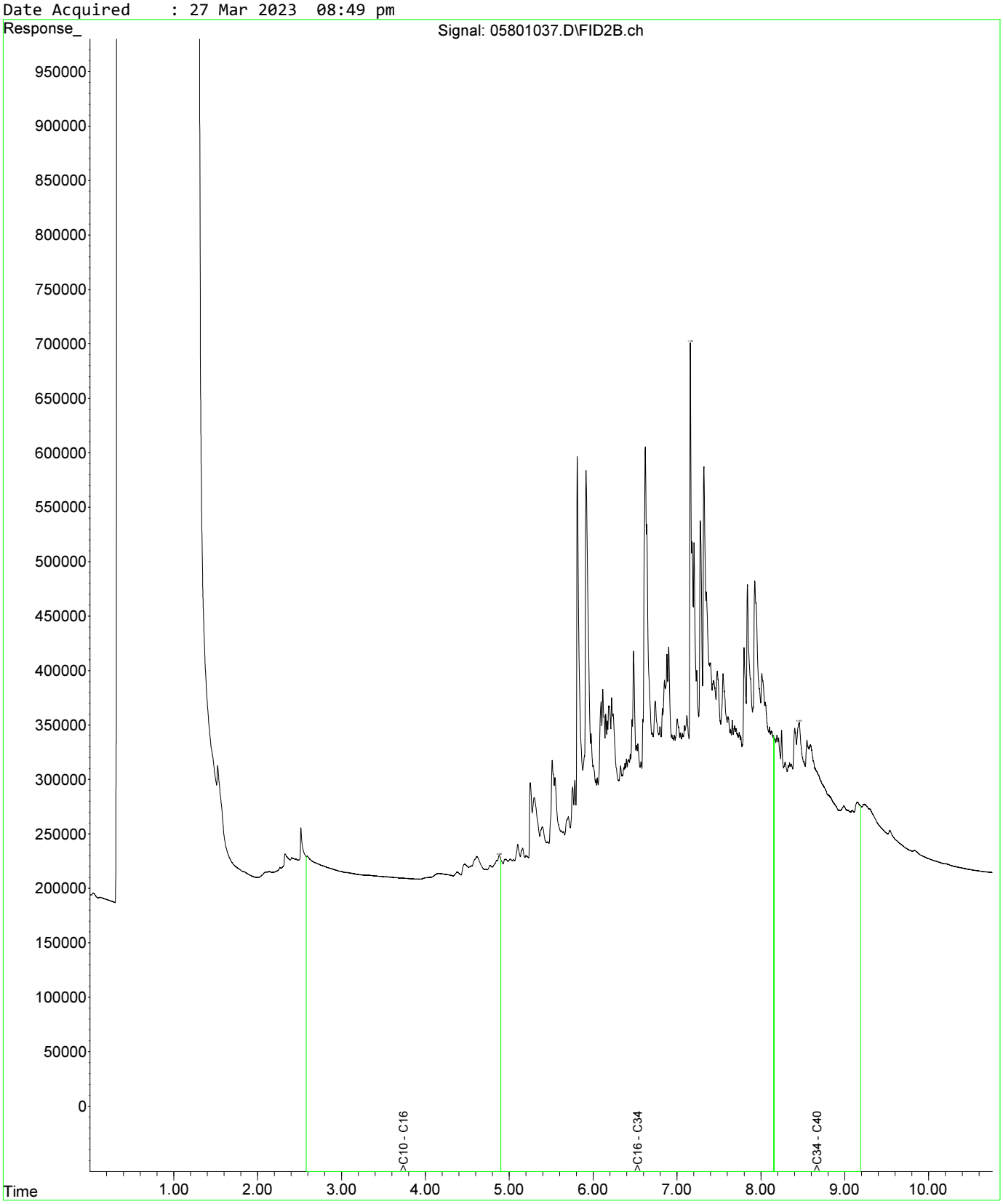
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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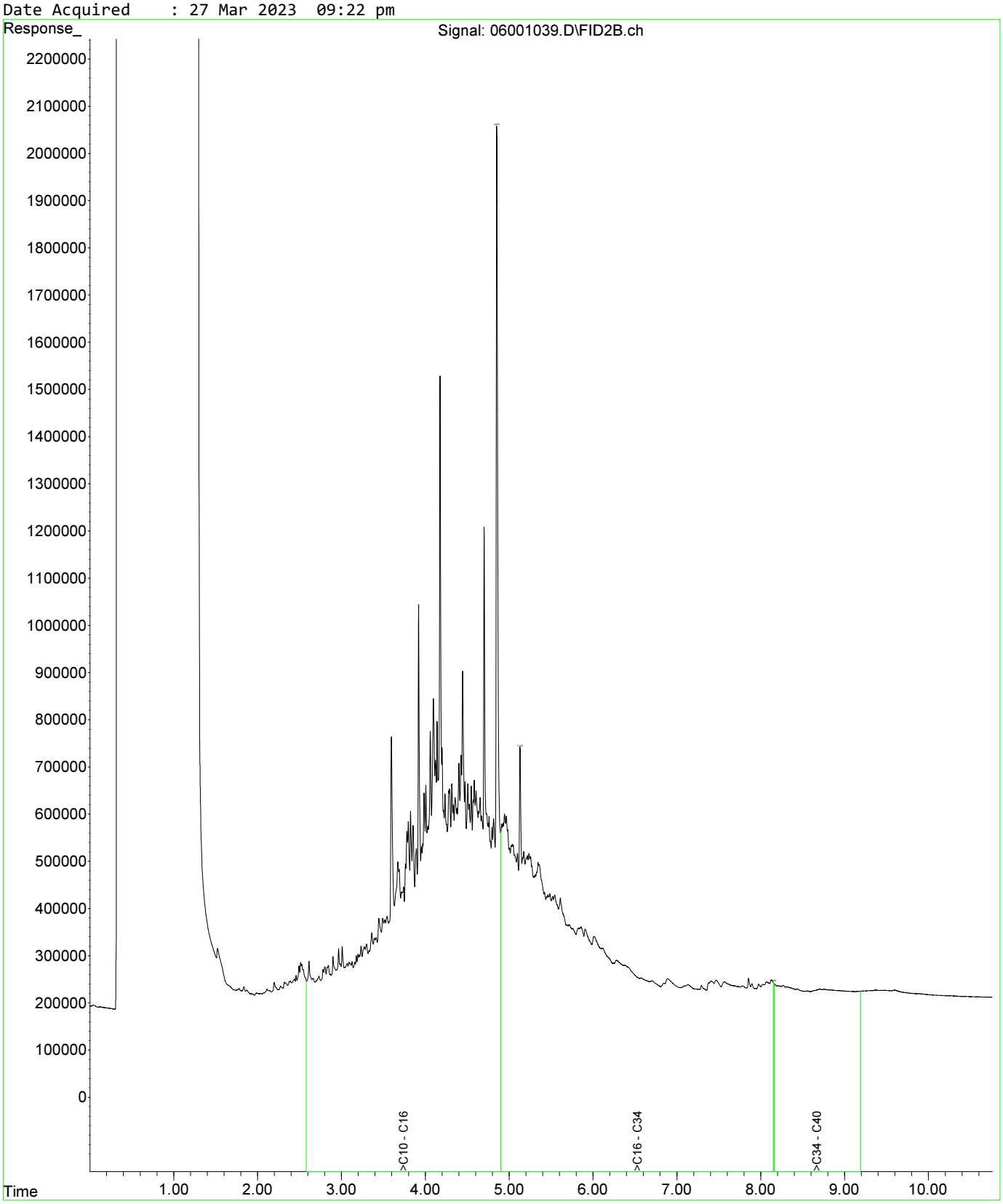
Sample ID : UST_QC109
Date Acquired : 27 Mar 2023 09:22 pm



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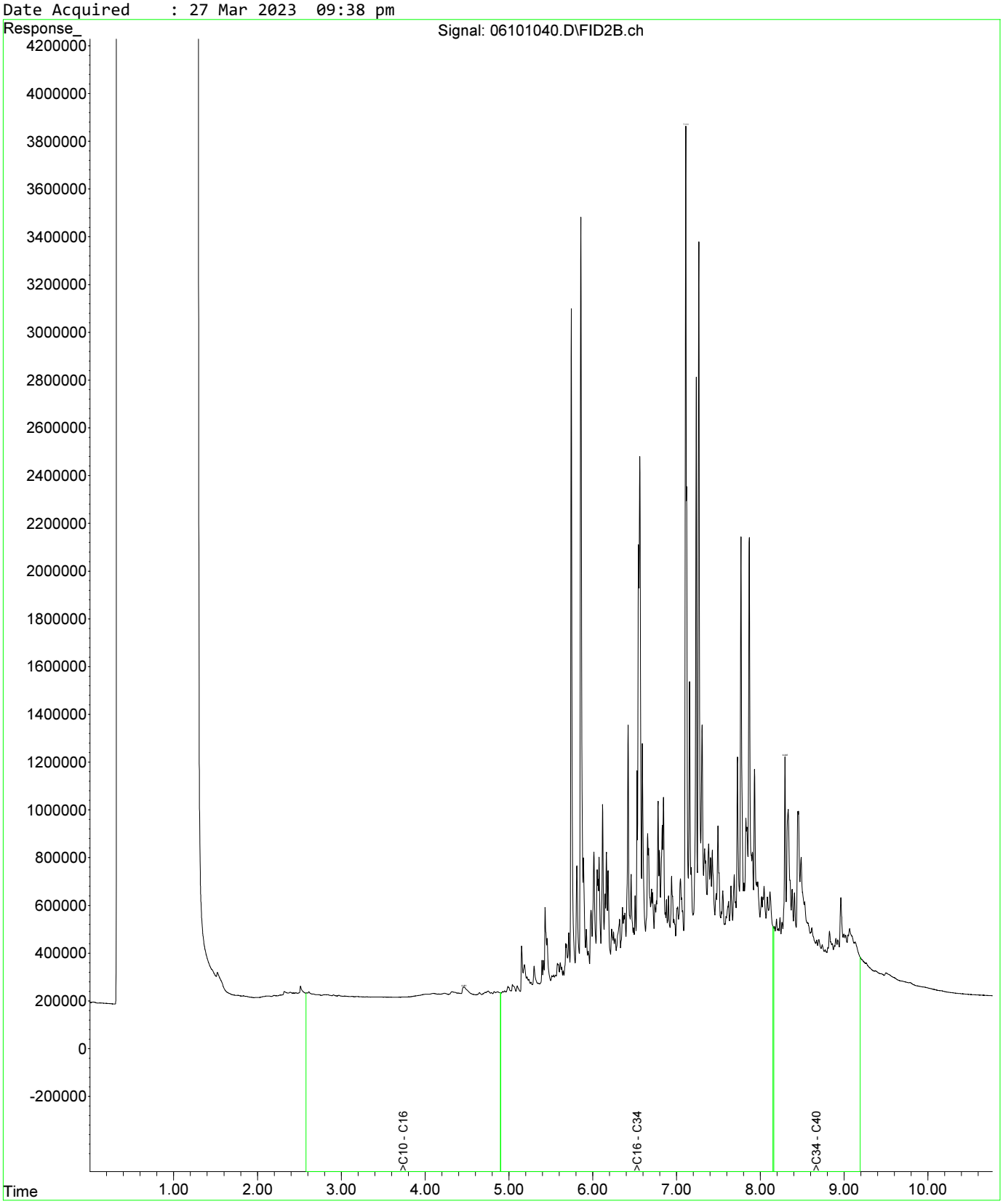
Sample ID : UST_QC110
Date Acquired : 27 Mar 2023 09:38 pm



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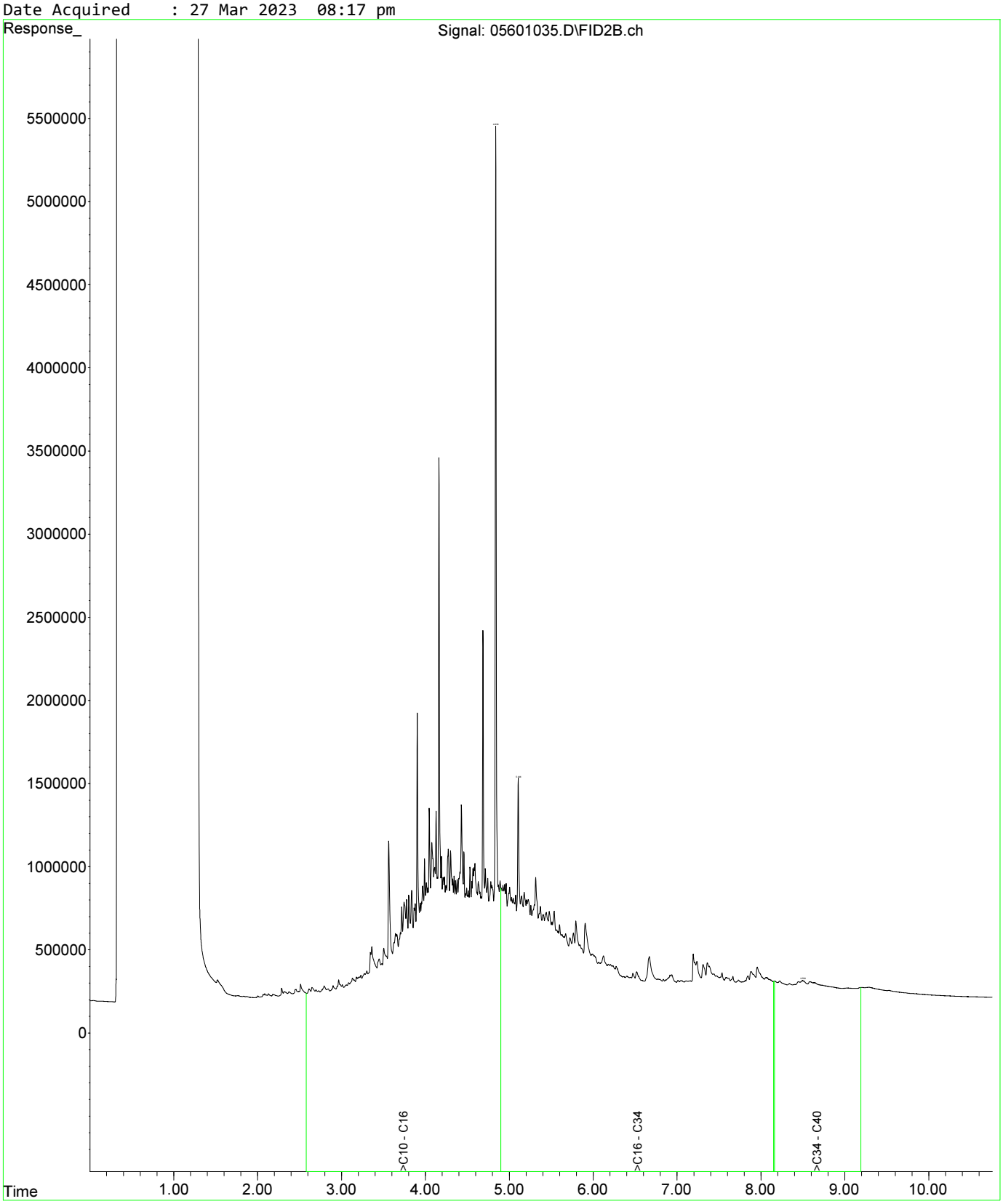
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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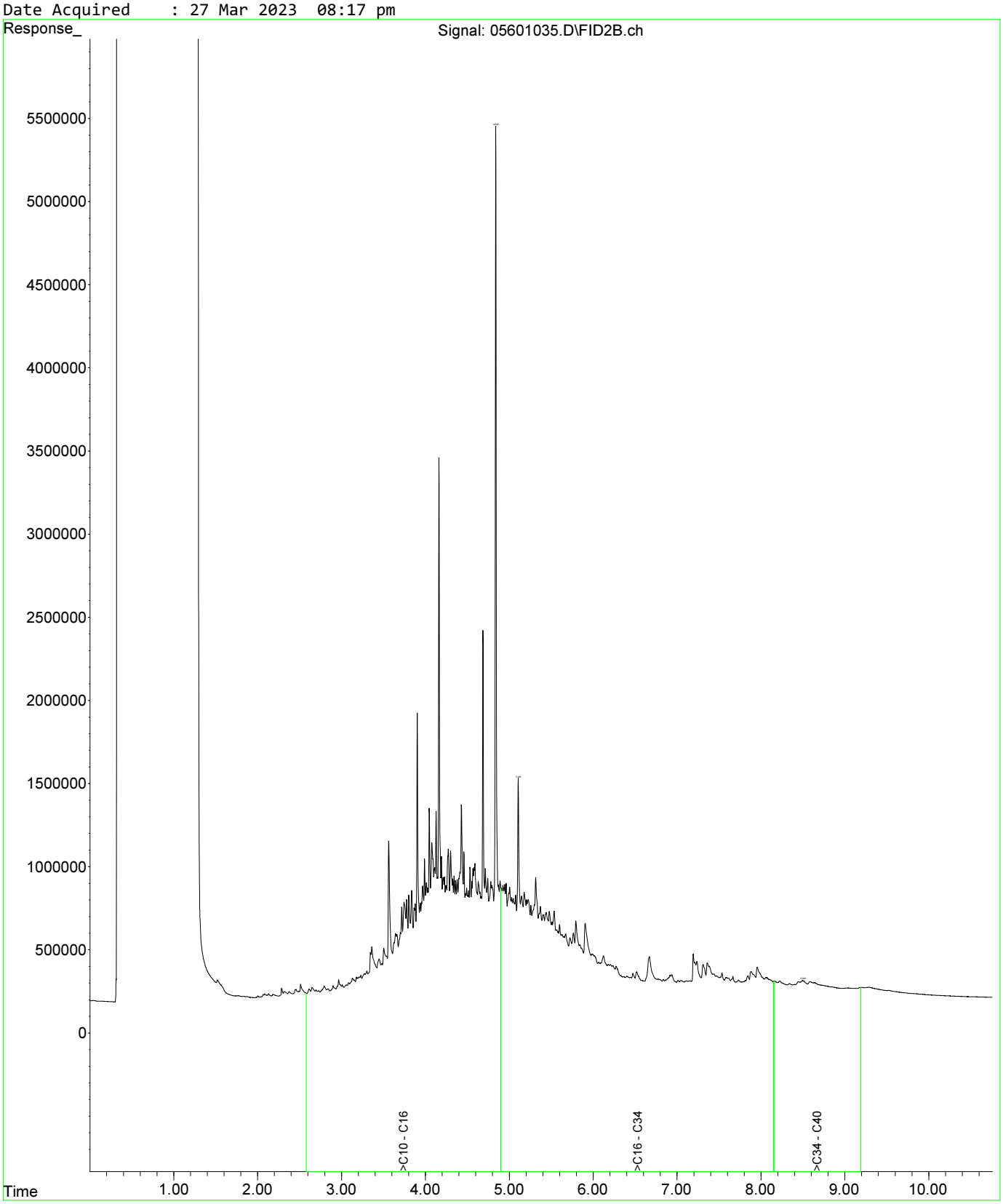

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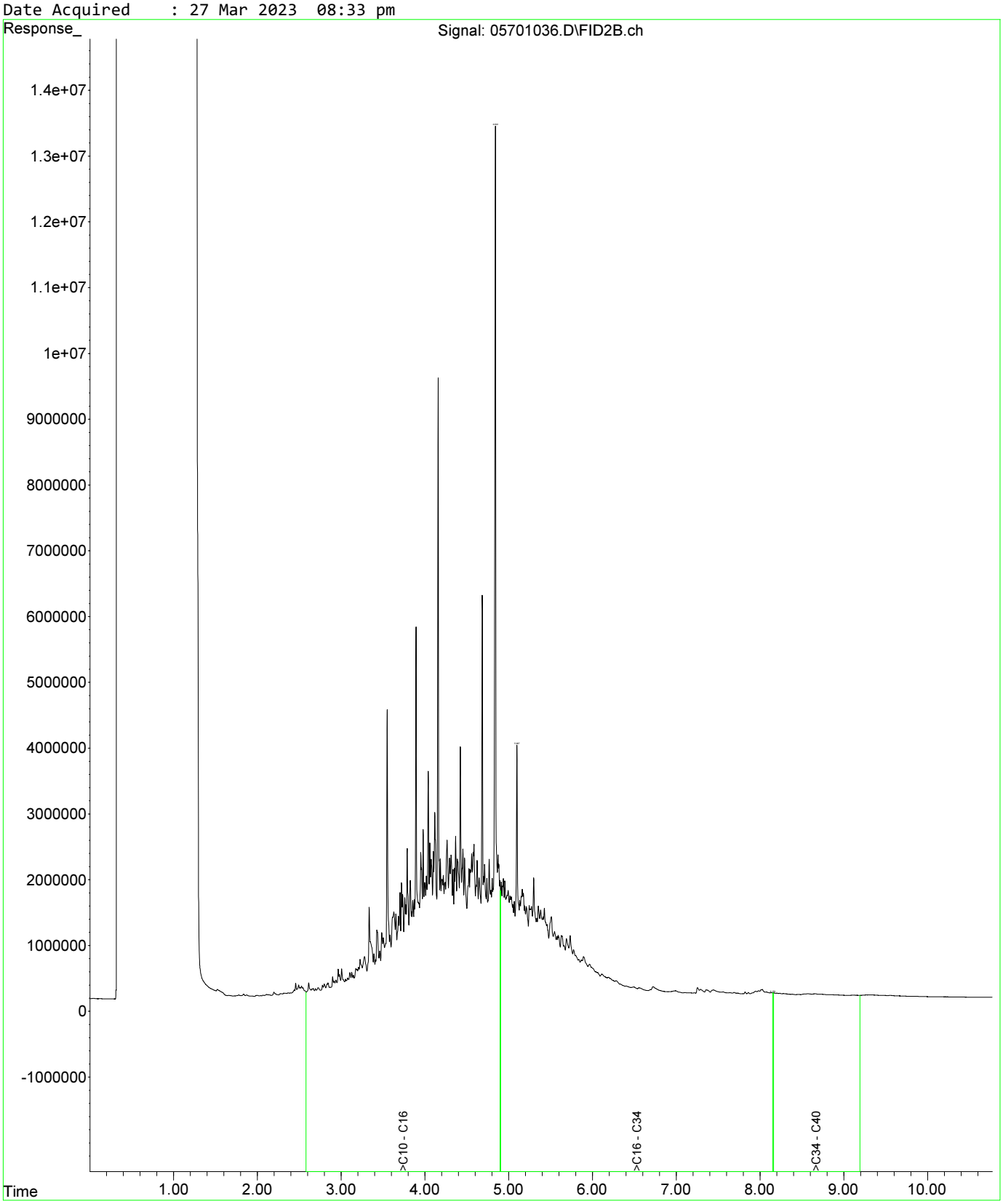

Fraction Scheme : NEPM DRAFT HIL
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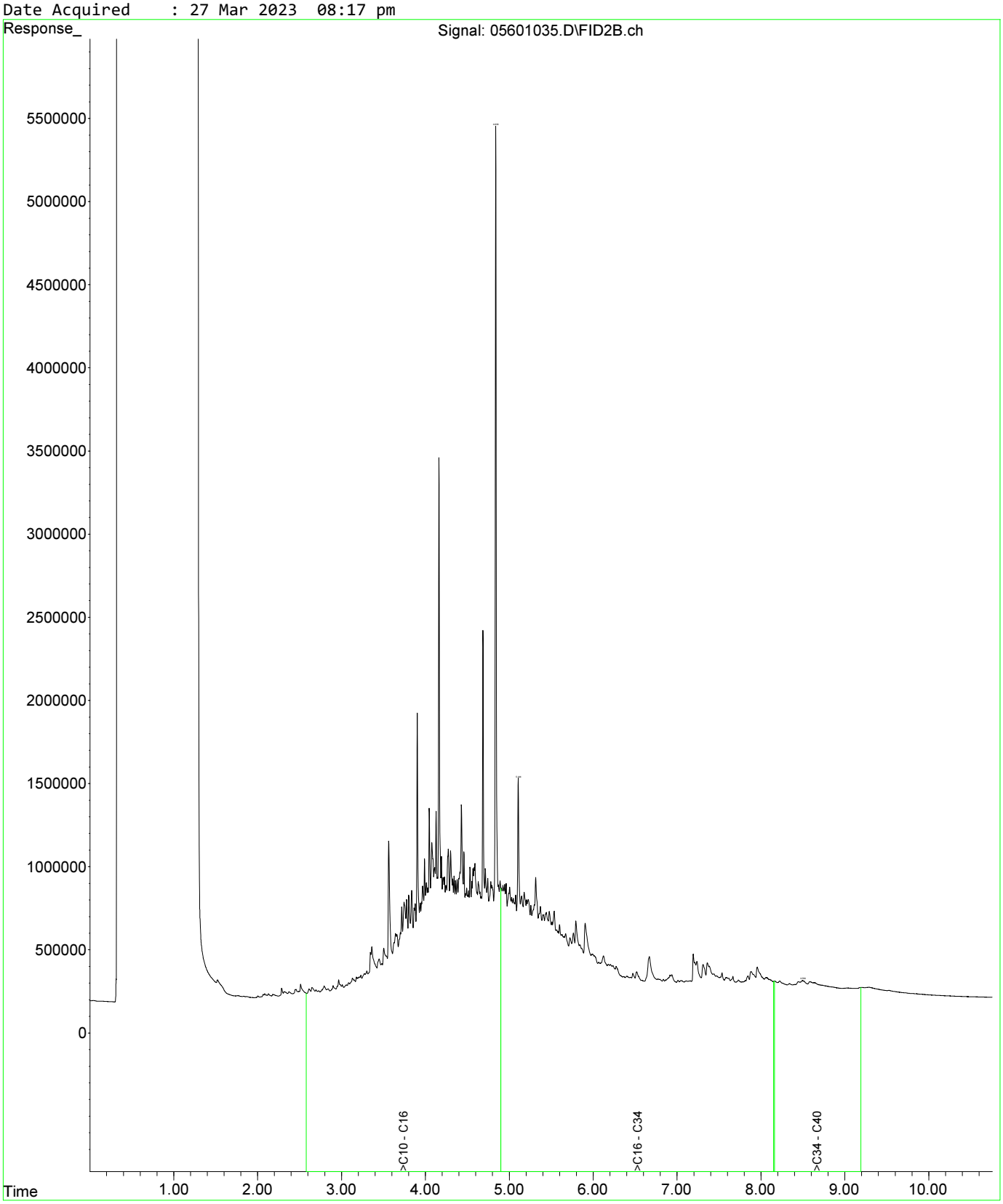

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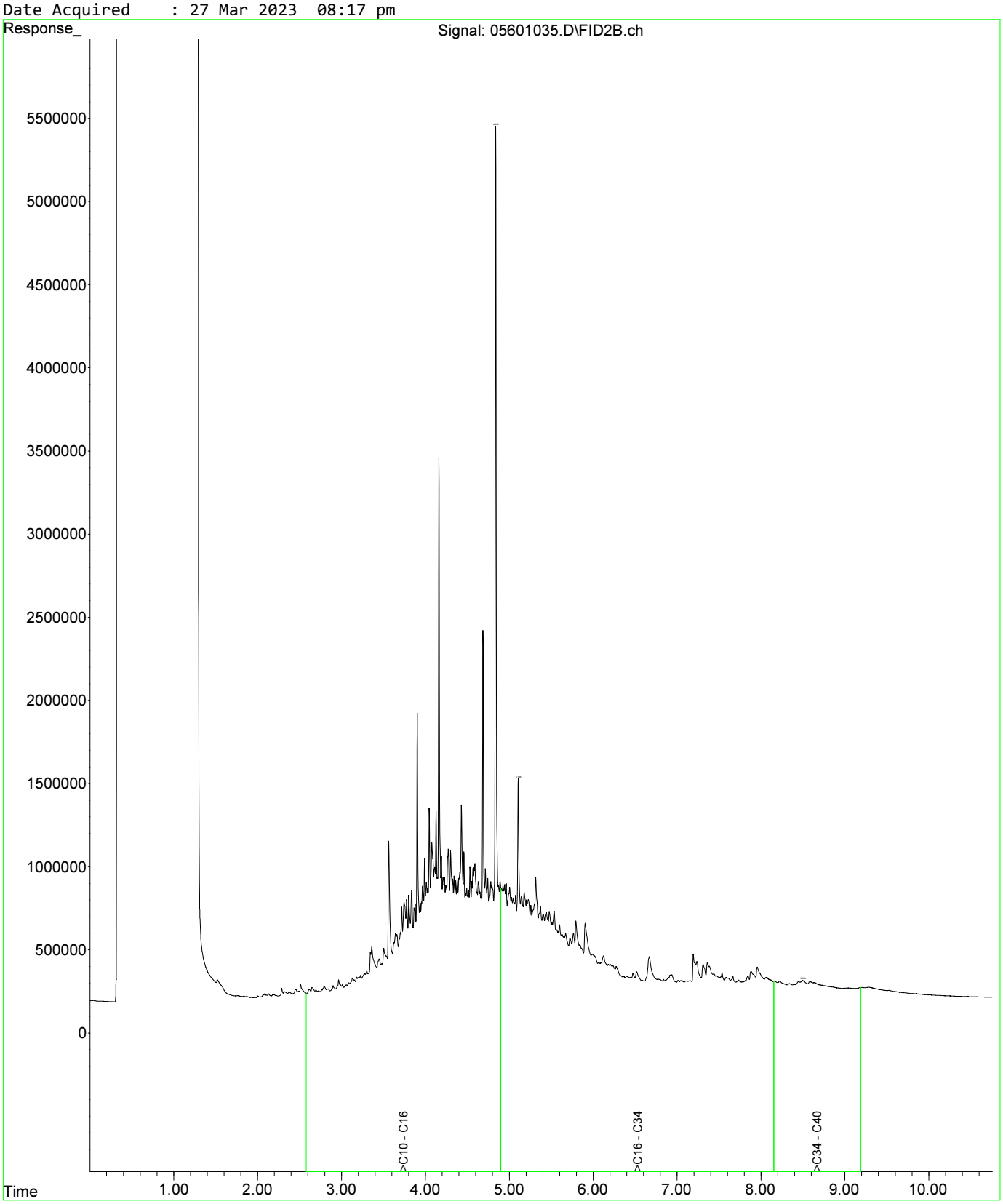

Fraction Scheme : NEPM DRAFT HIL
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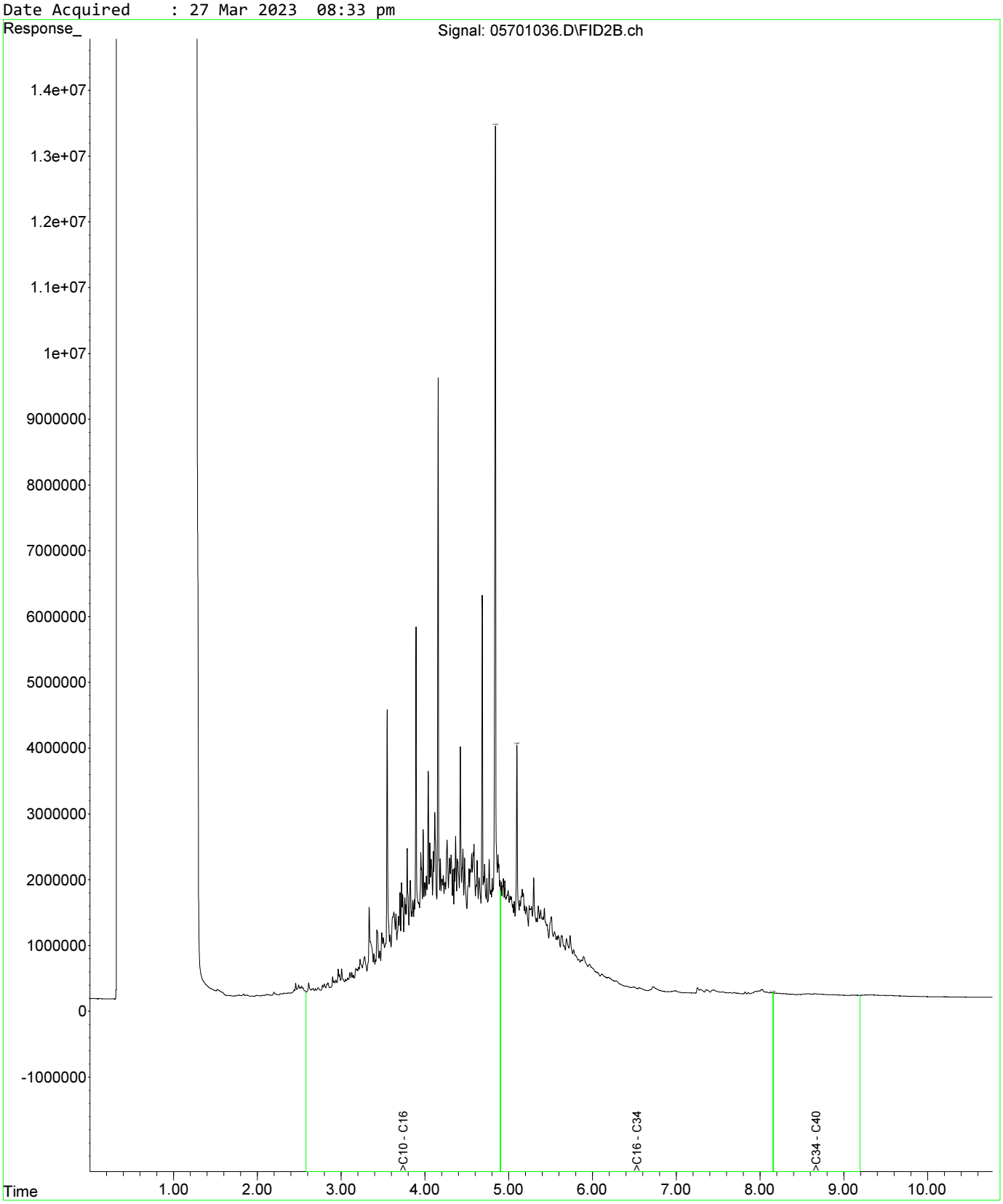

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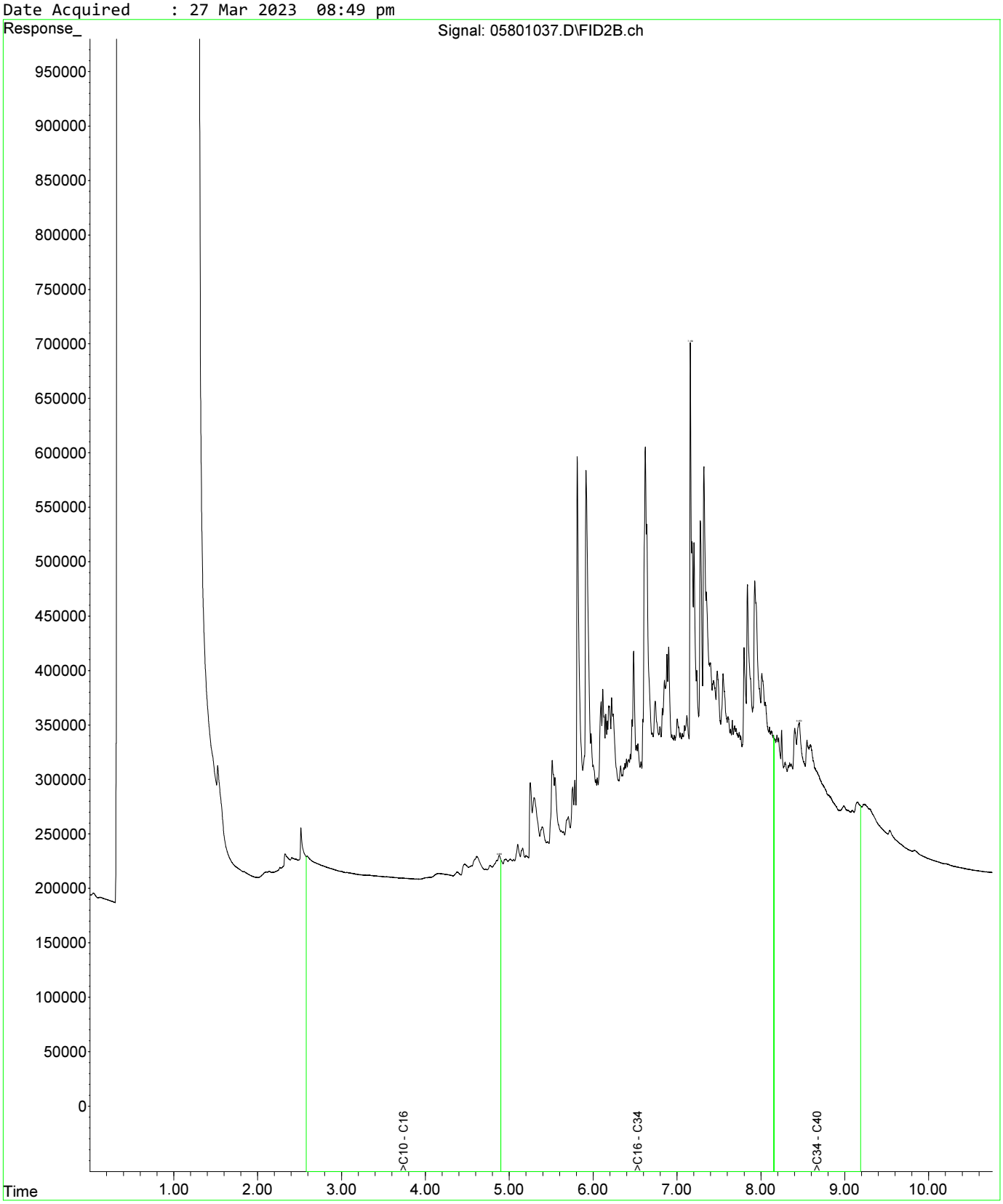

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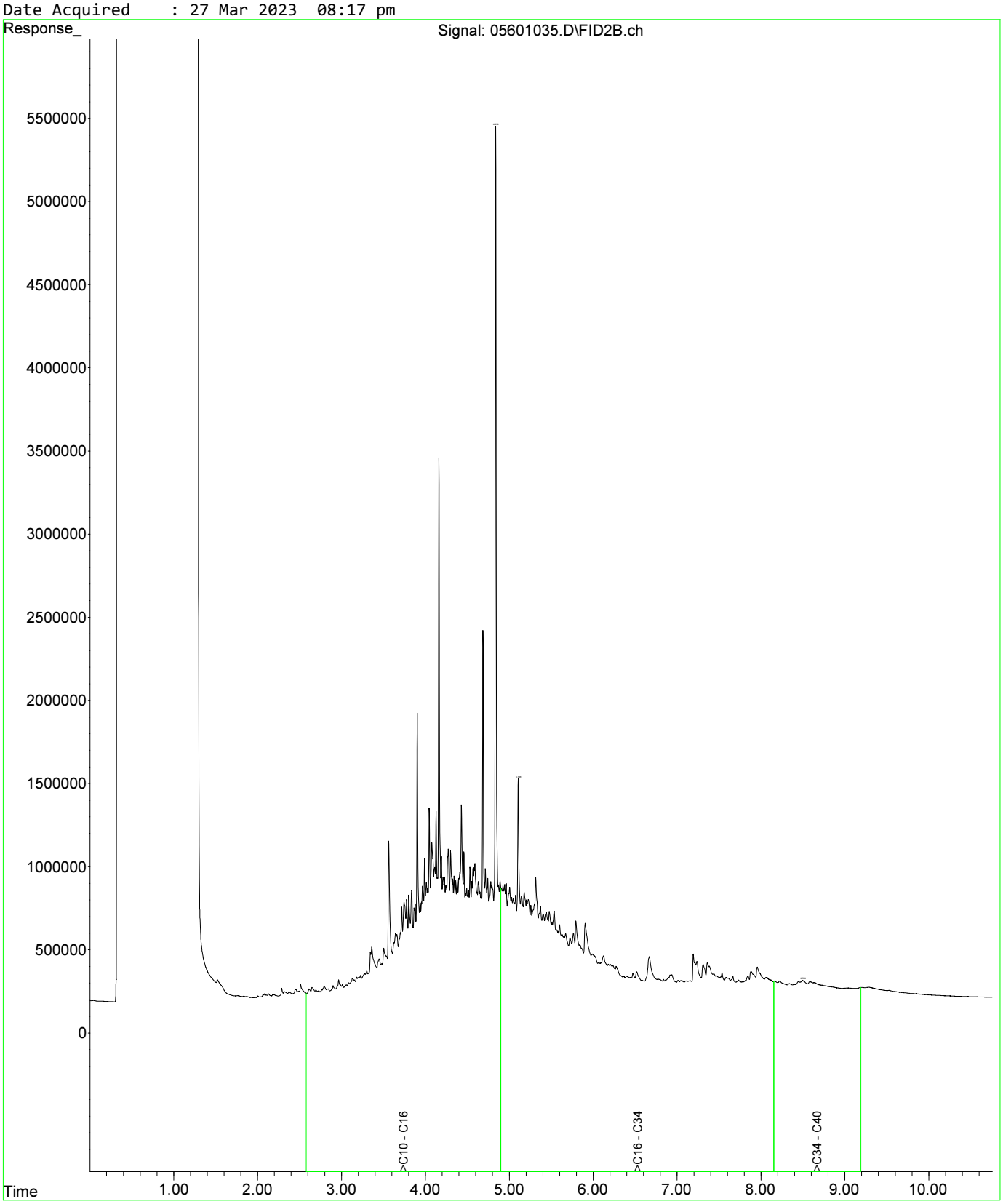

Fraction Scheme : NEPM DRAFT HIL
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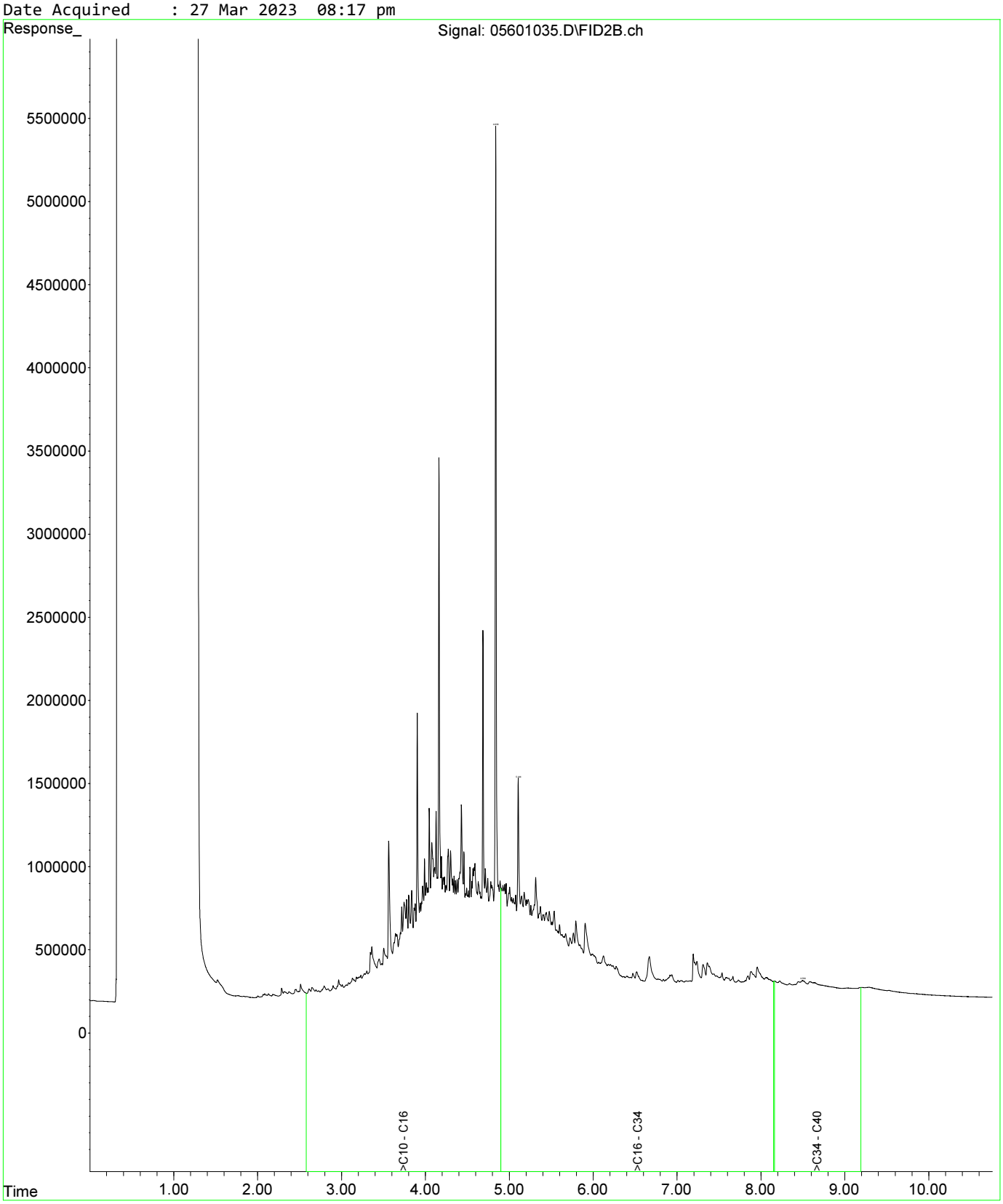

Fraction Scheme : NEPM DRAFT HIL
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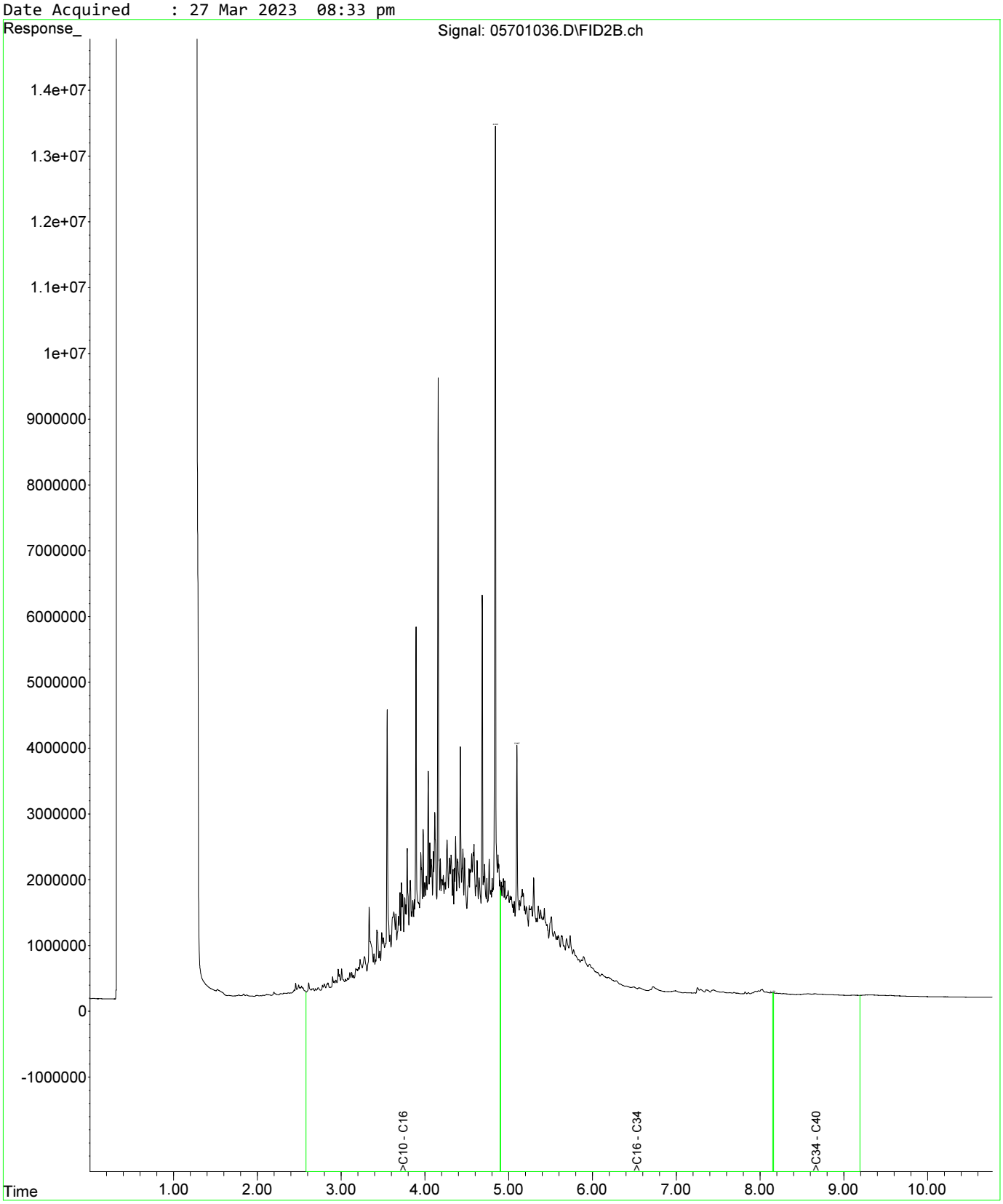

Fraction Scheme : NEPM DRAFT HIL
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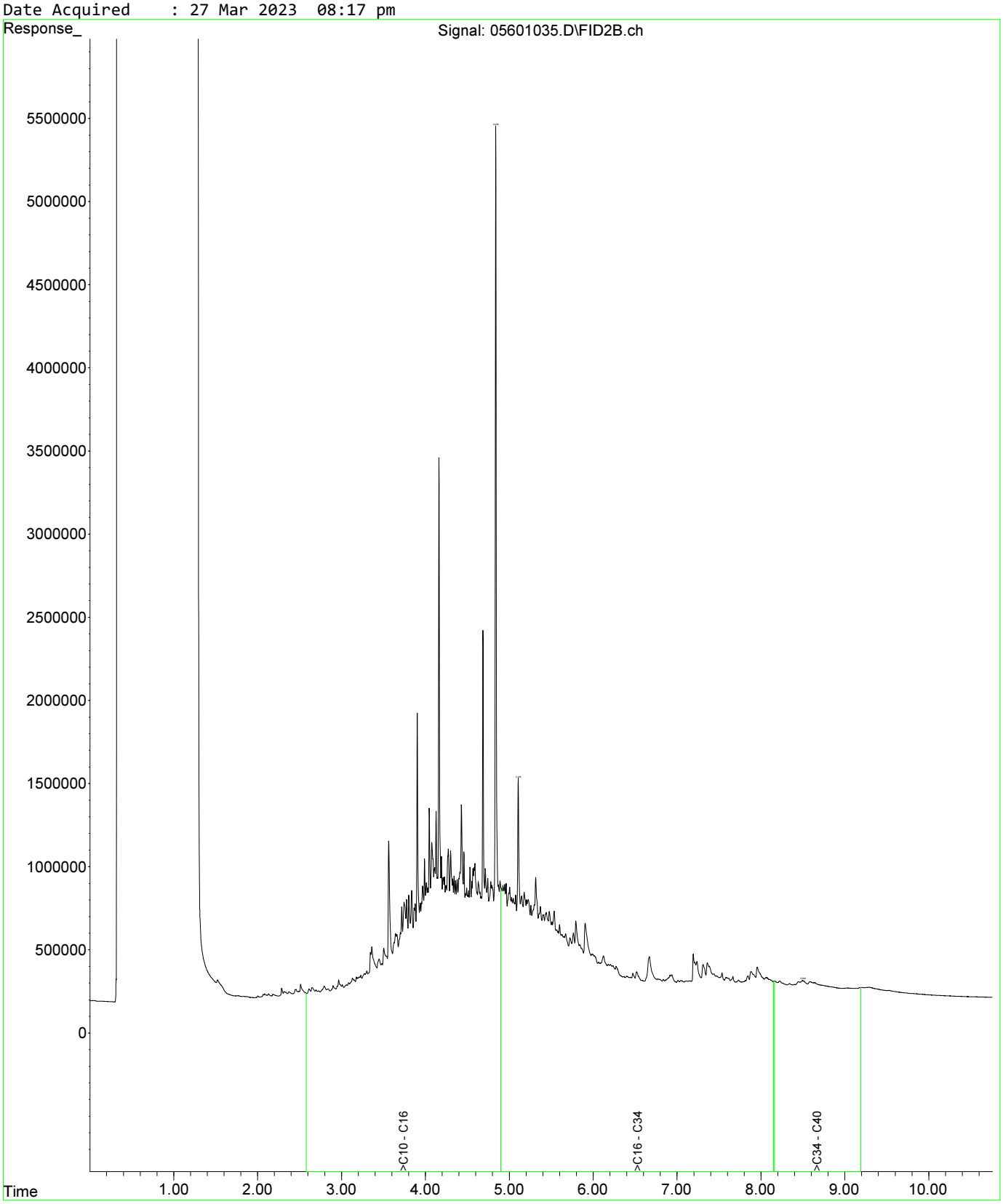

Fraction Scheme : NEPM DRAFT HIL
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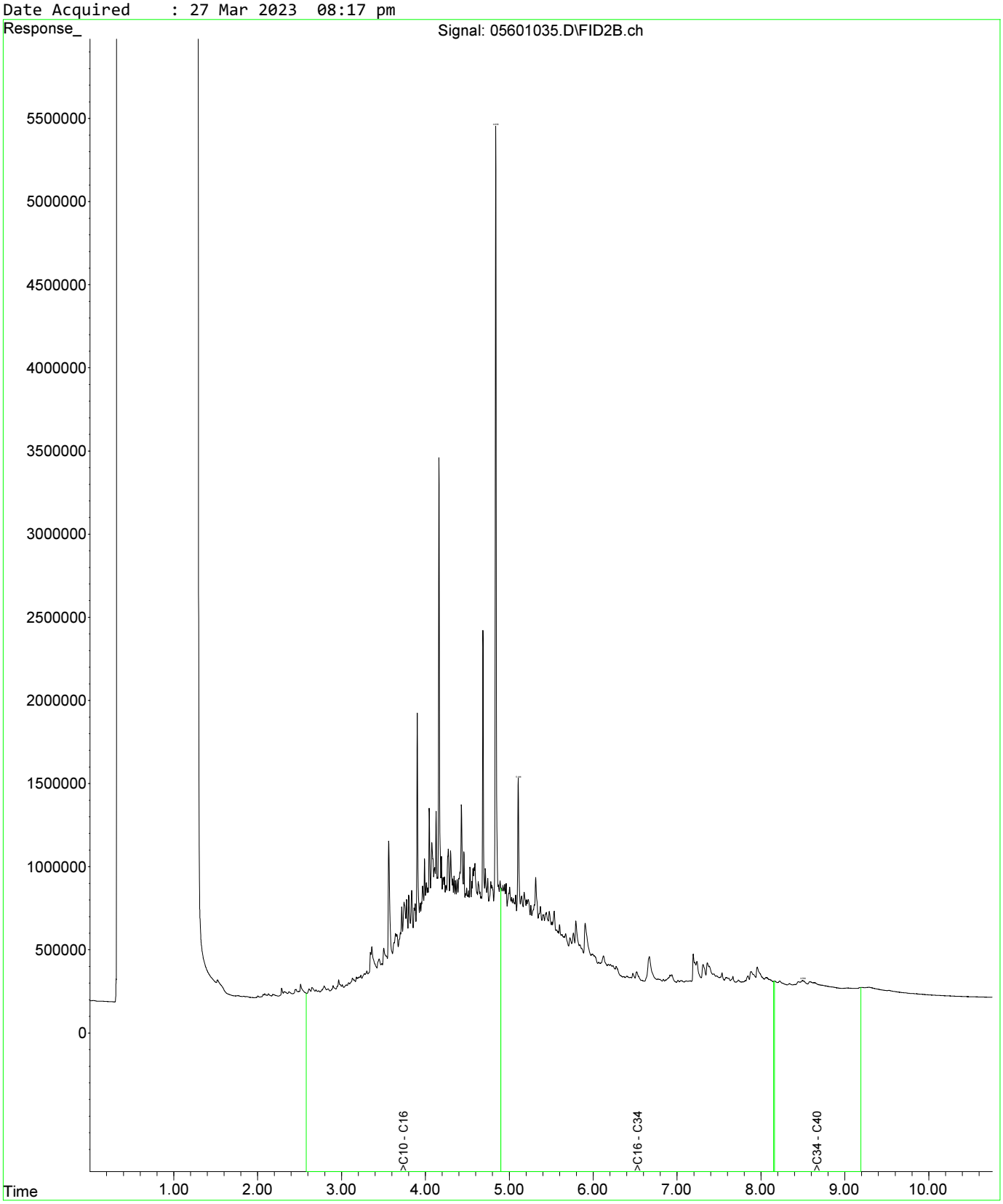

Fraction Scheme : NEPM DRAFT HIL
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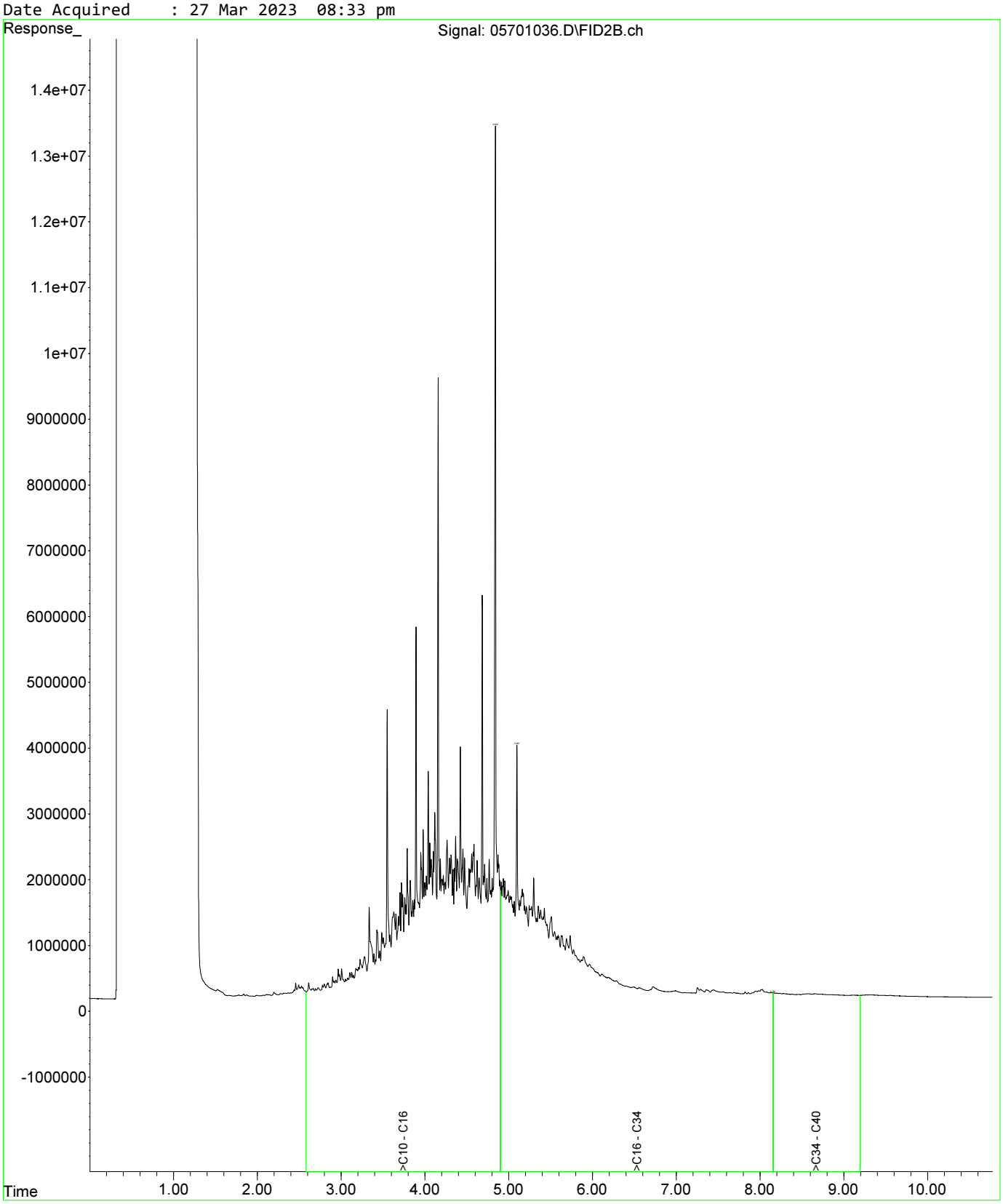

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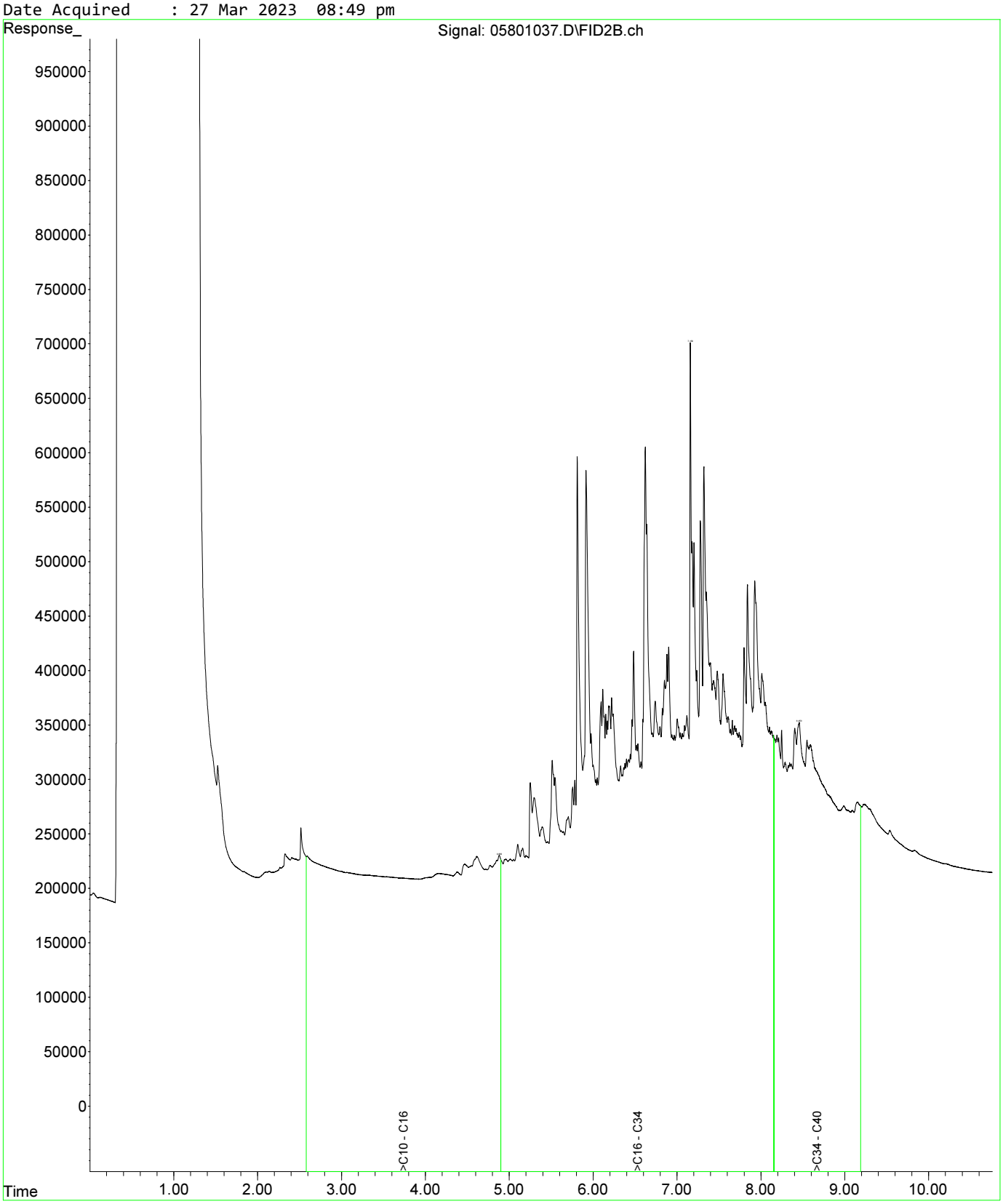

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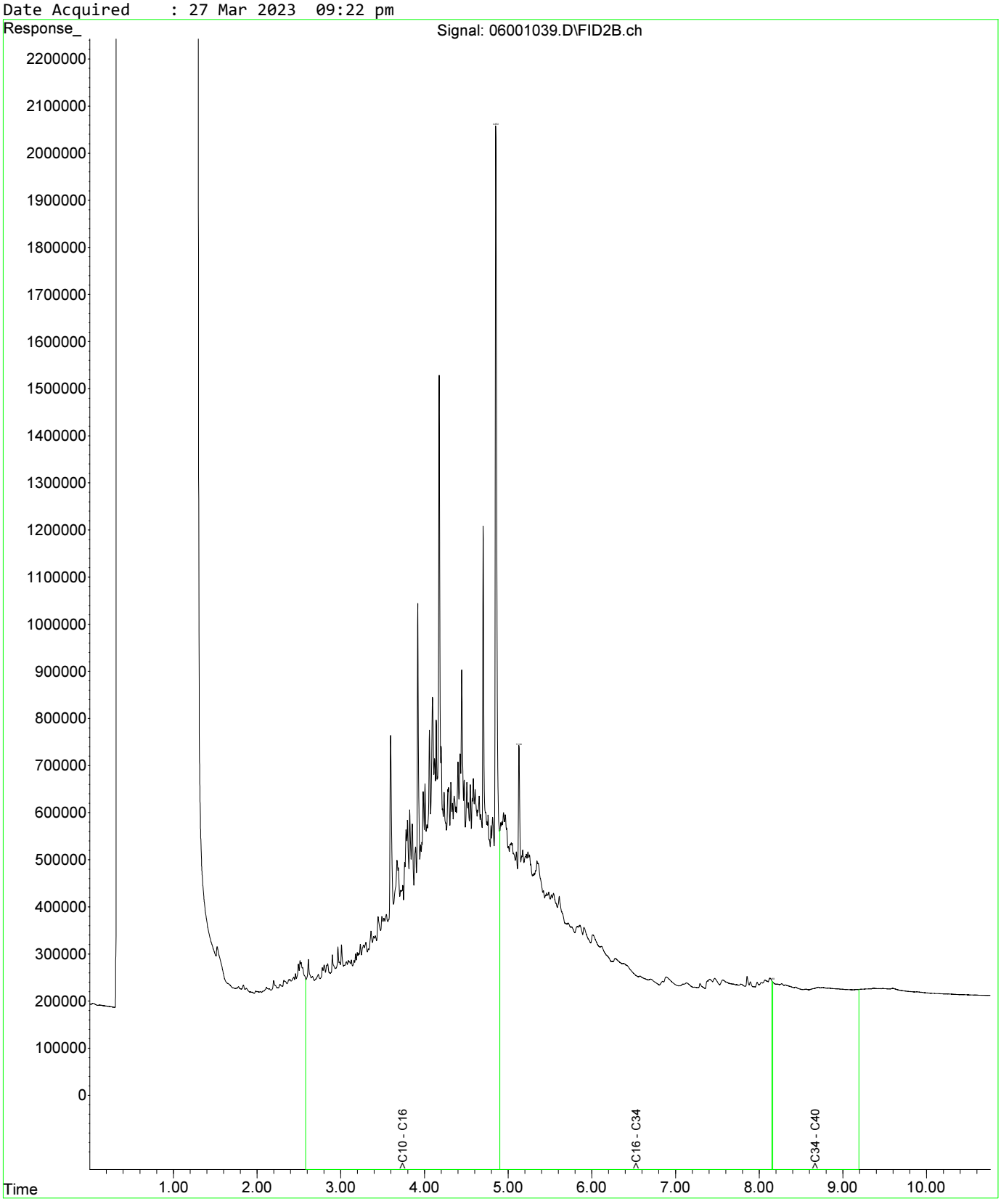

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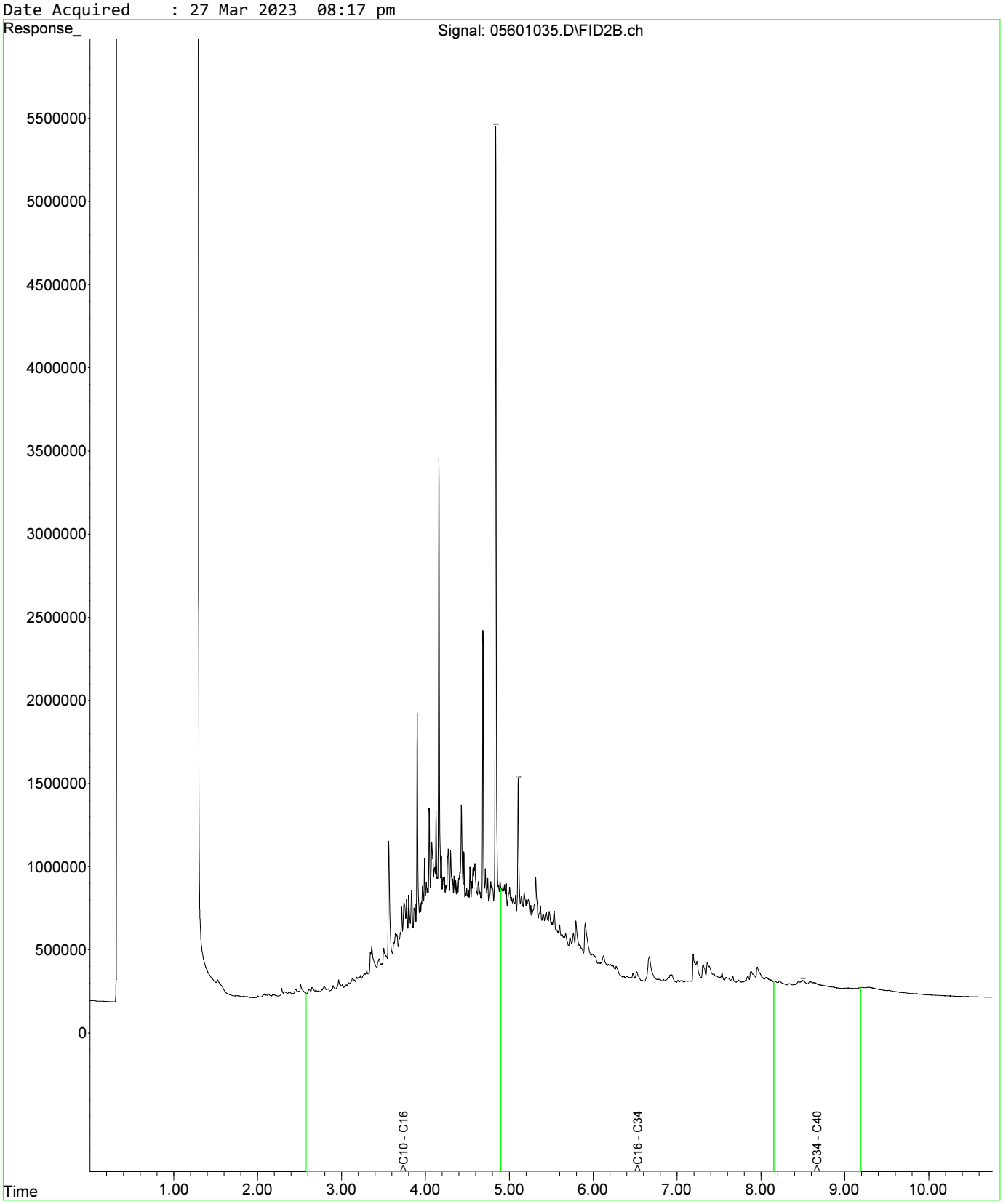

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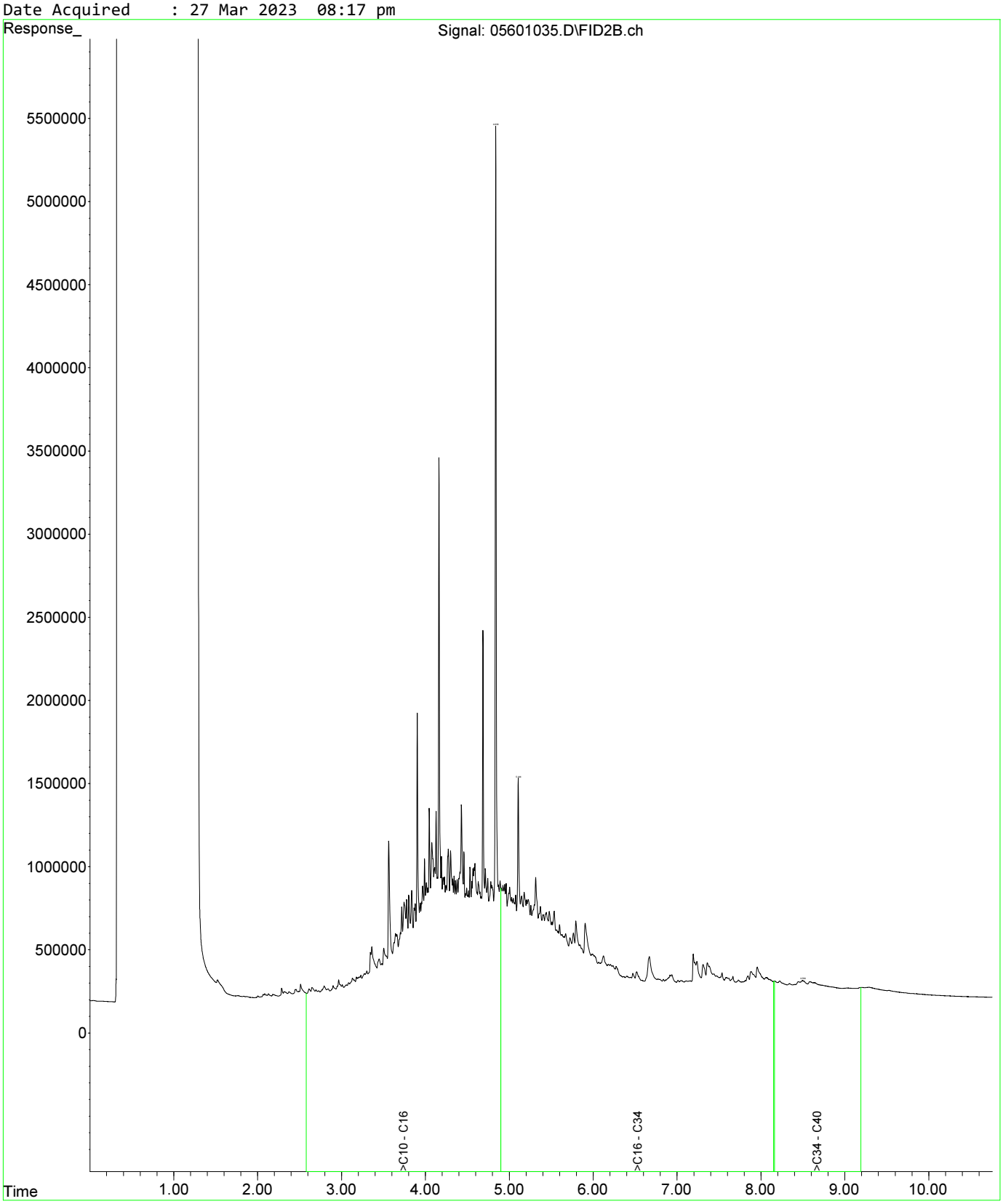

Fraction Scheme : NEPM DRAFT HIL
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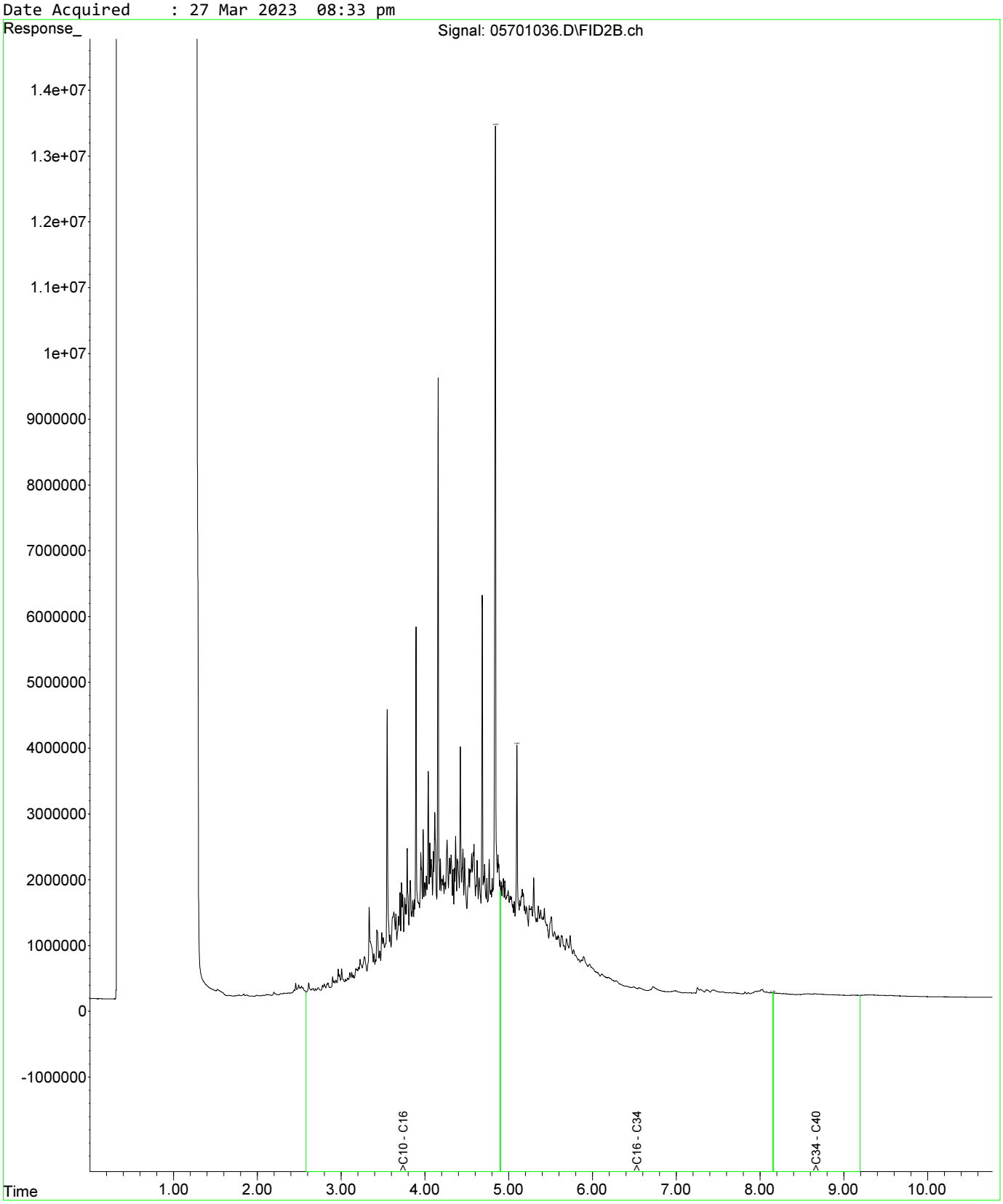

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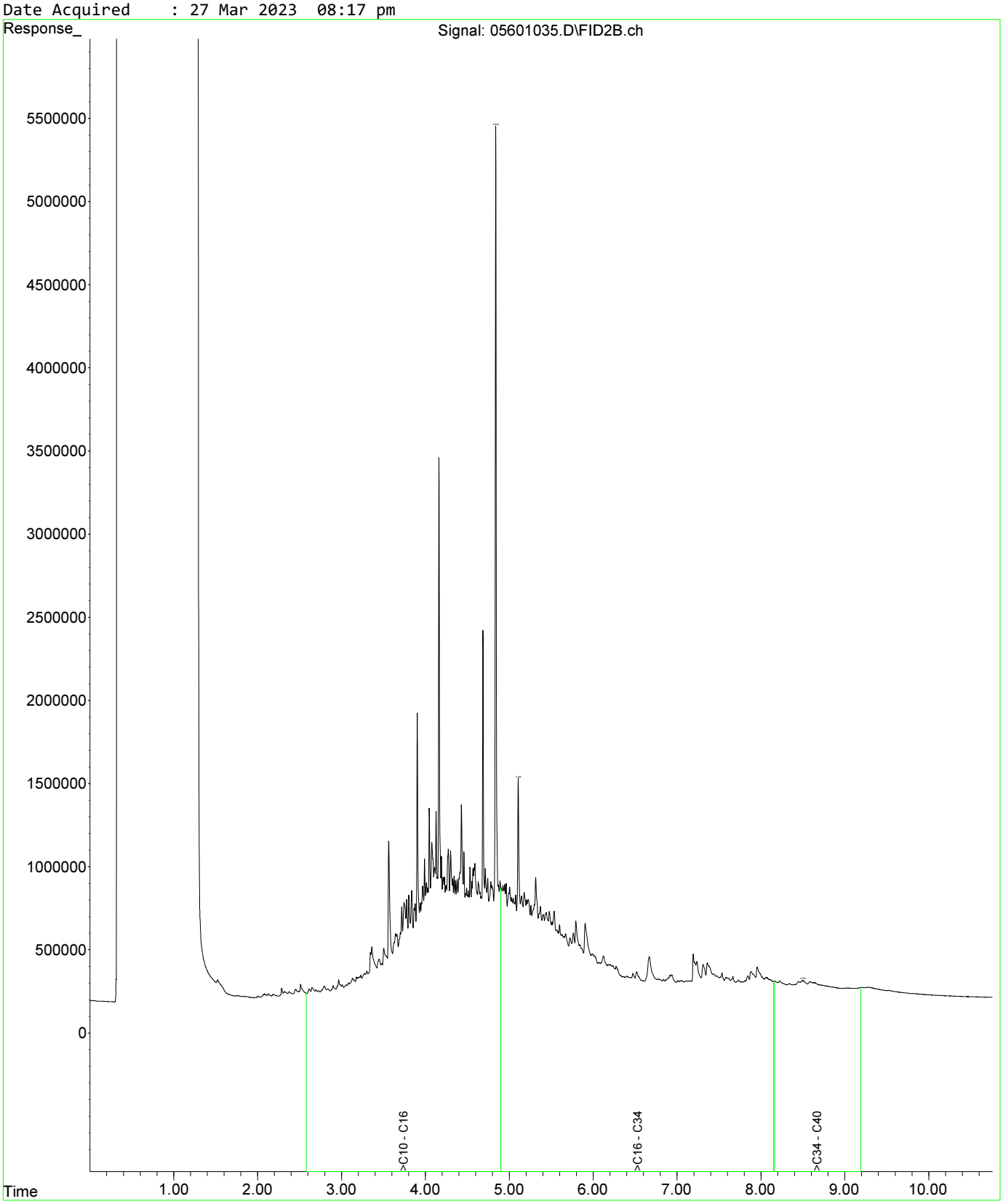

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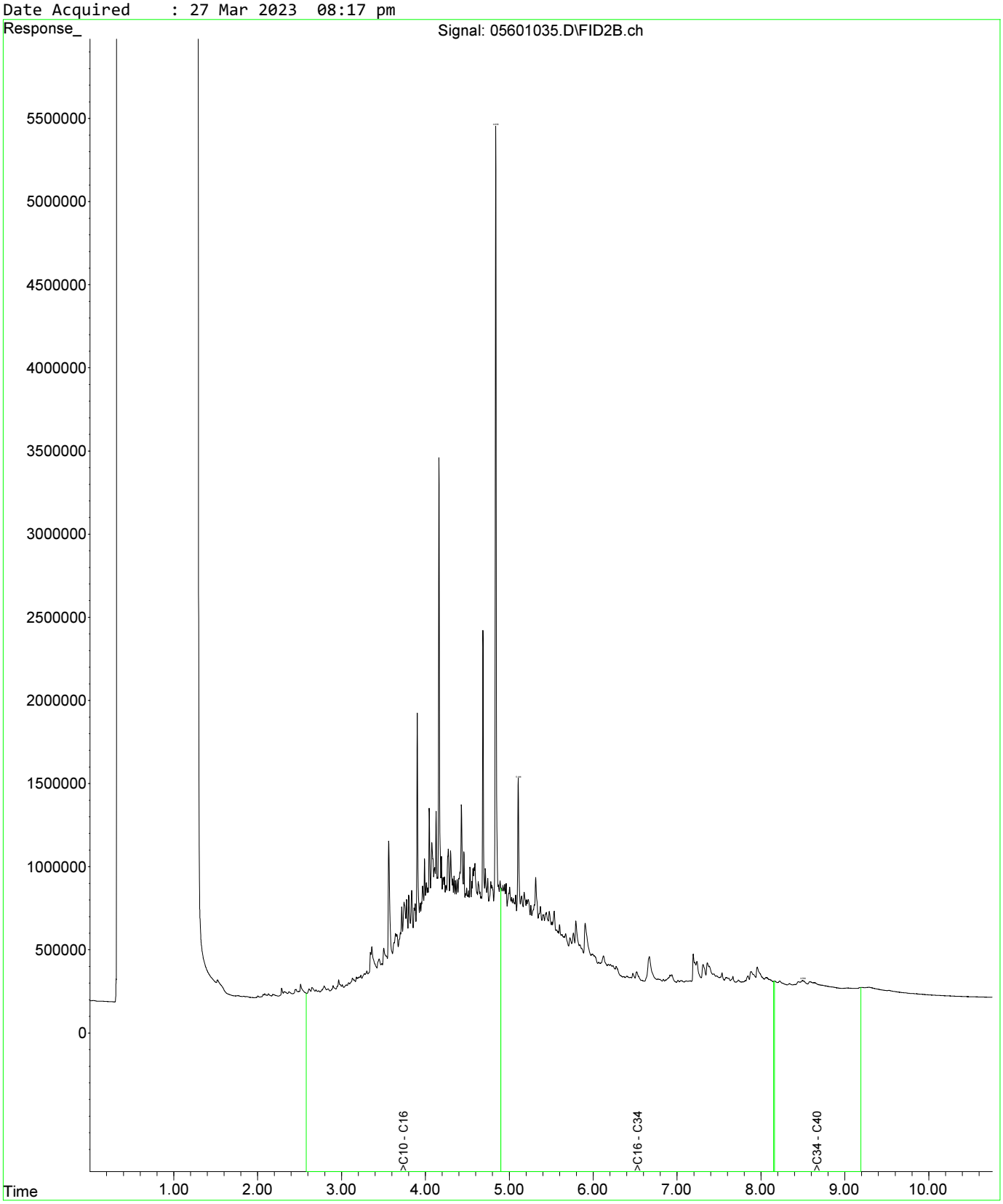

Fraction Scheme : NEPM DRAFT HIL
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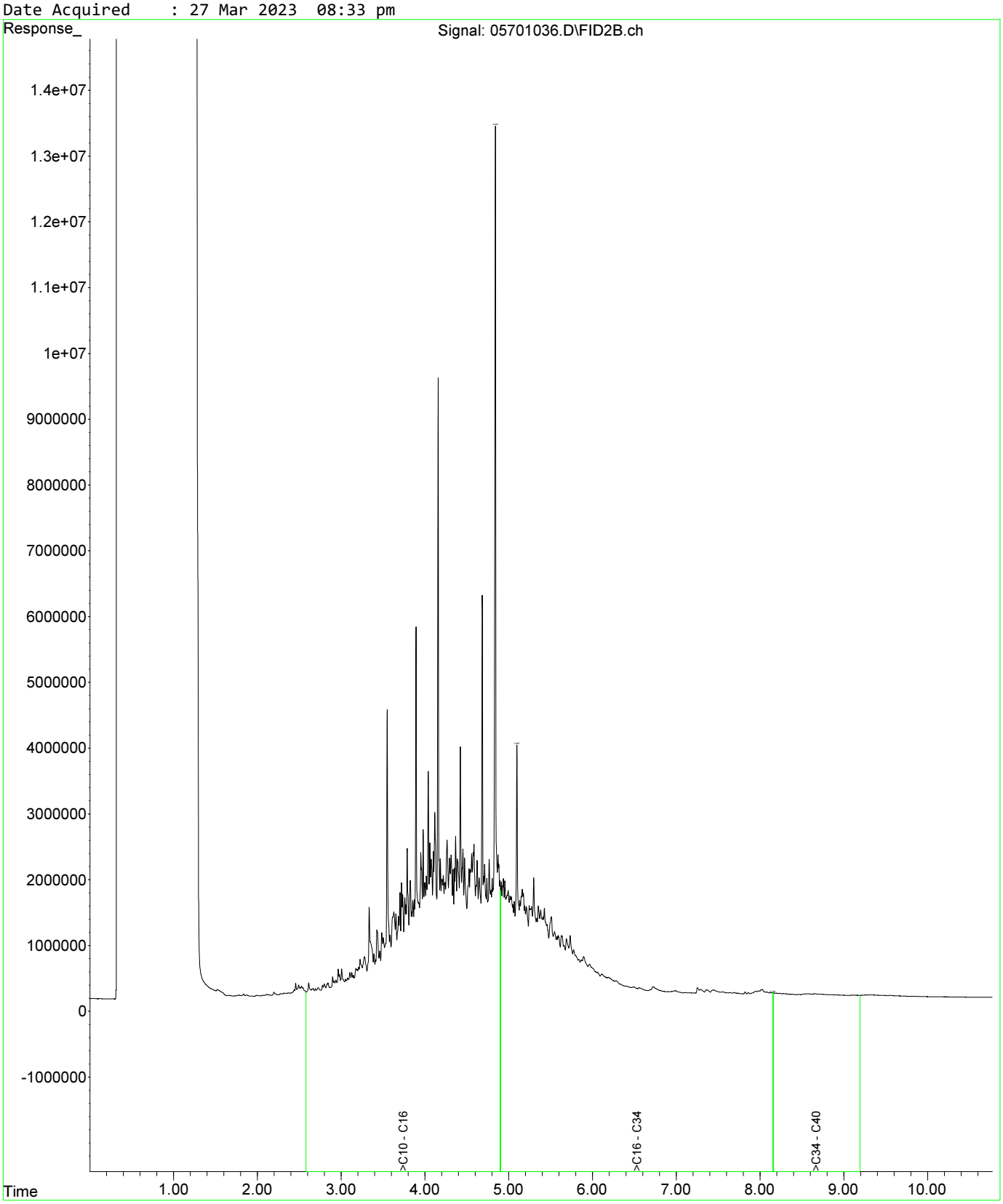

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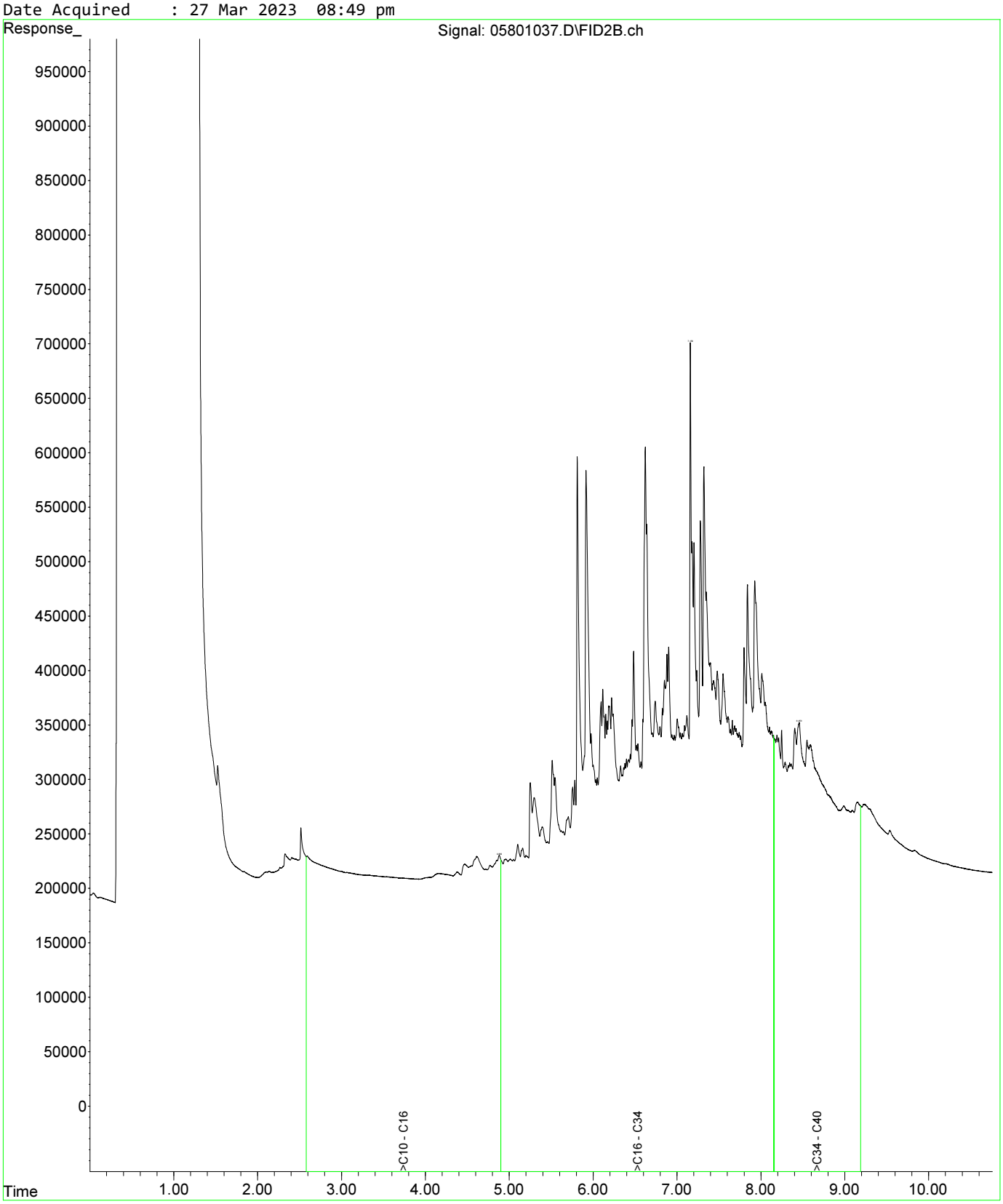

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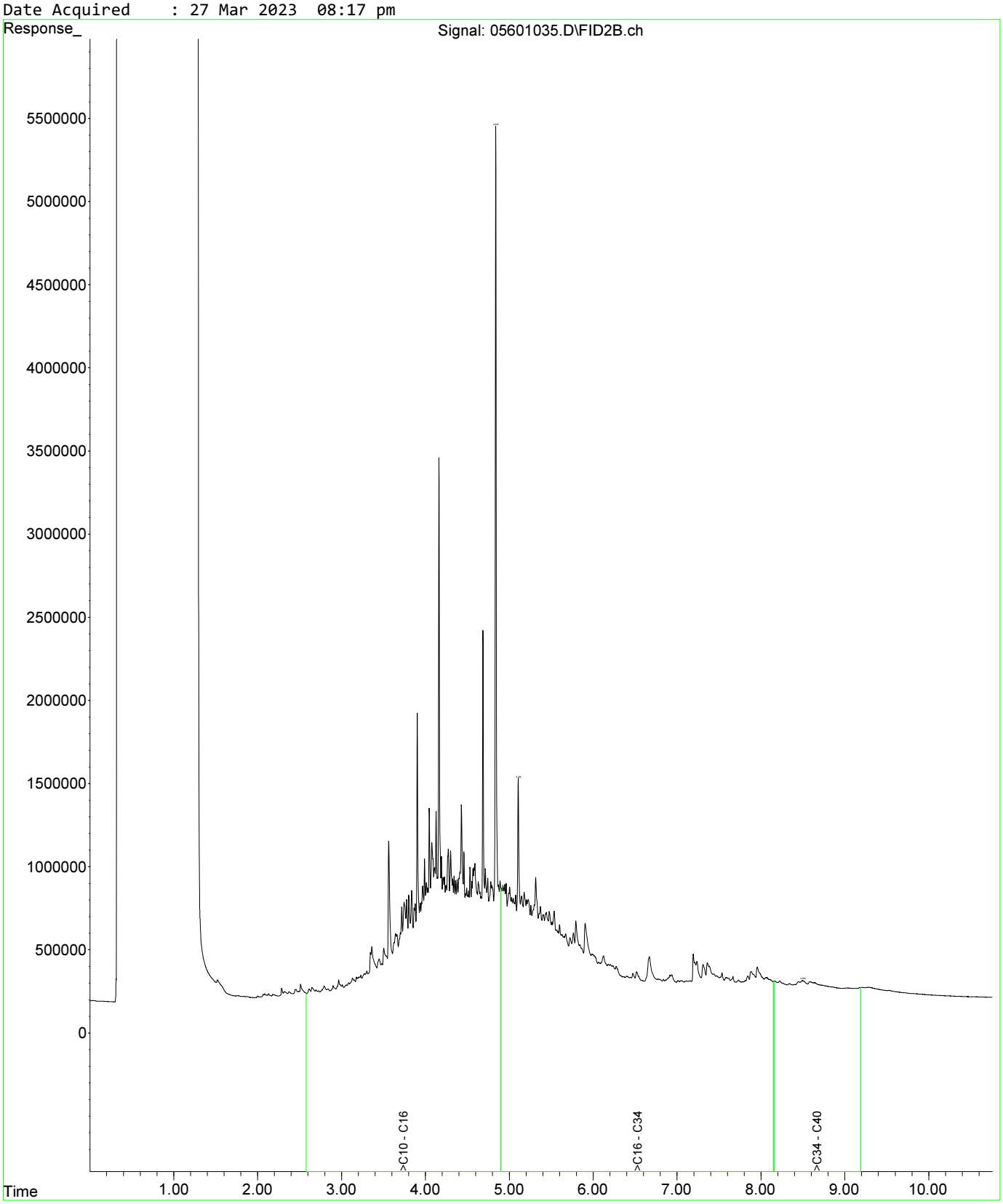

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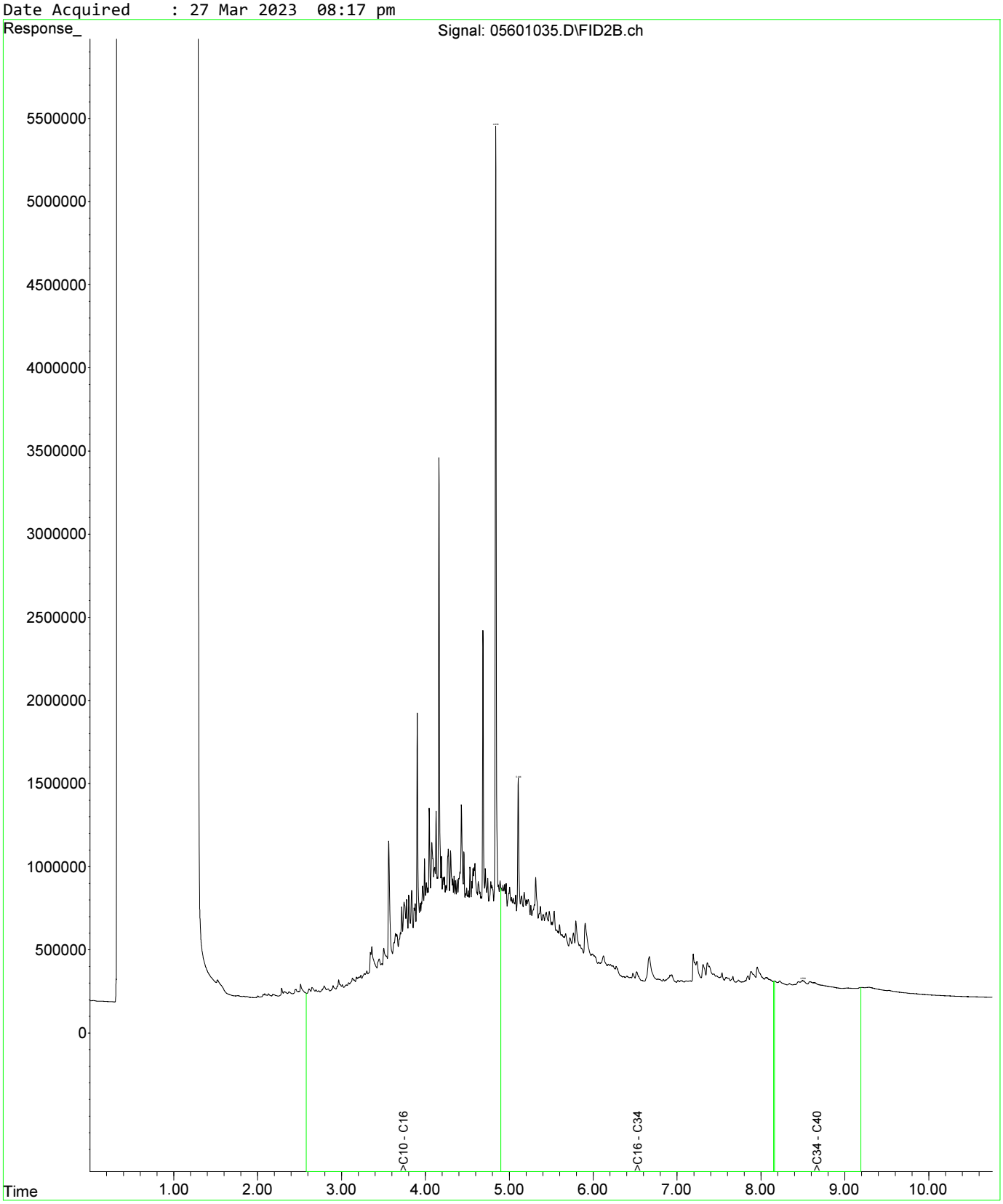

Fraction Scheme : NEPM DRAFT HIL
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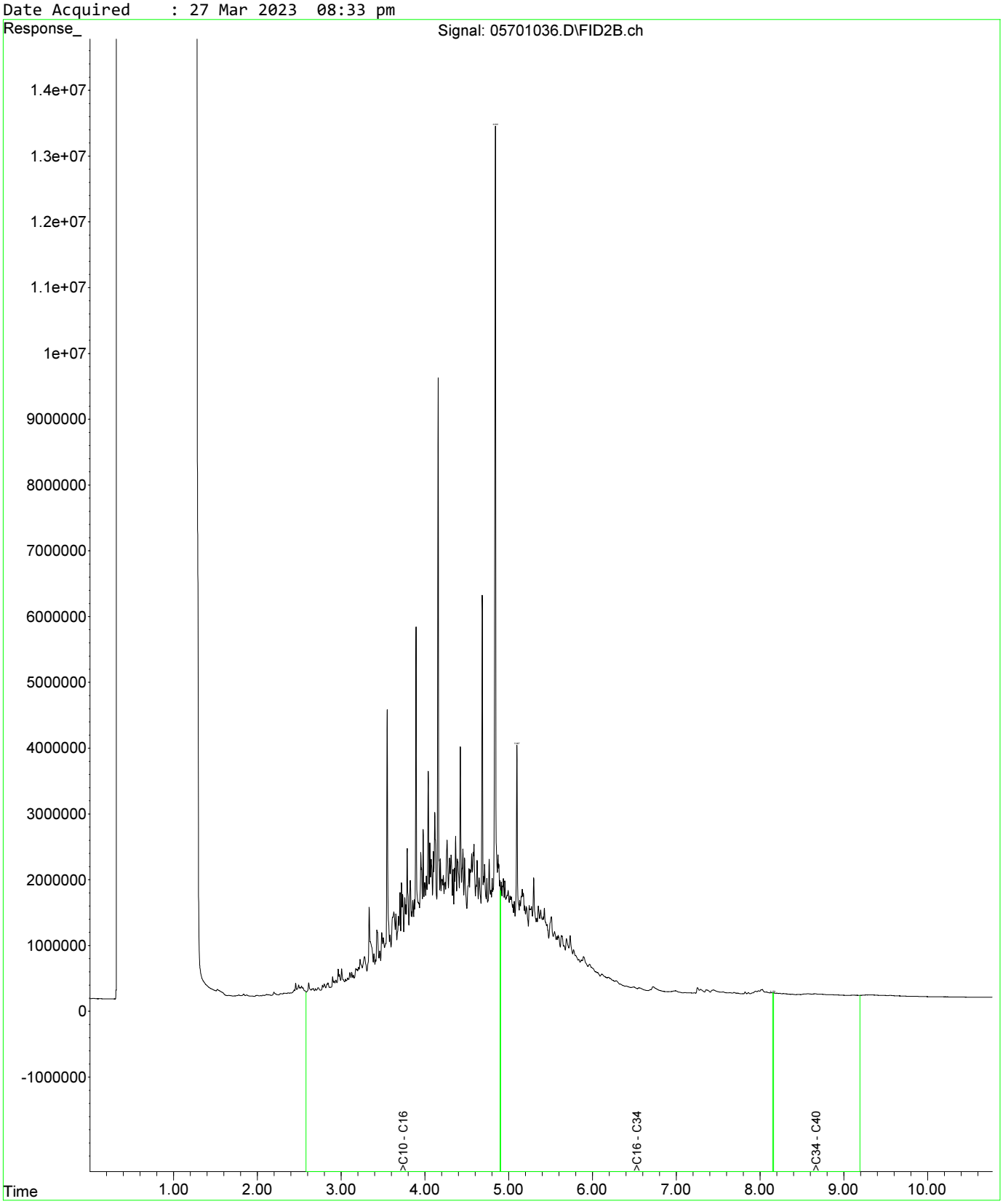

Fraction Scheme : NEPM DRAFT HIL
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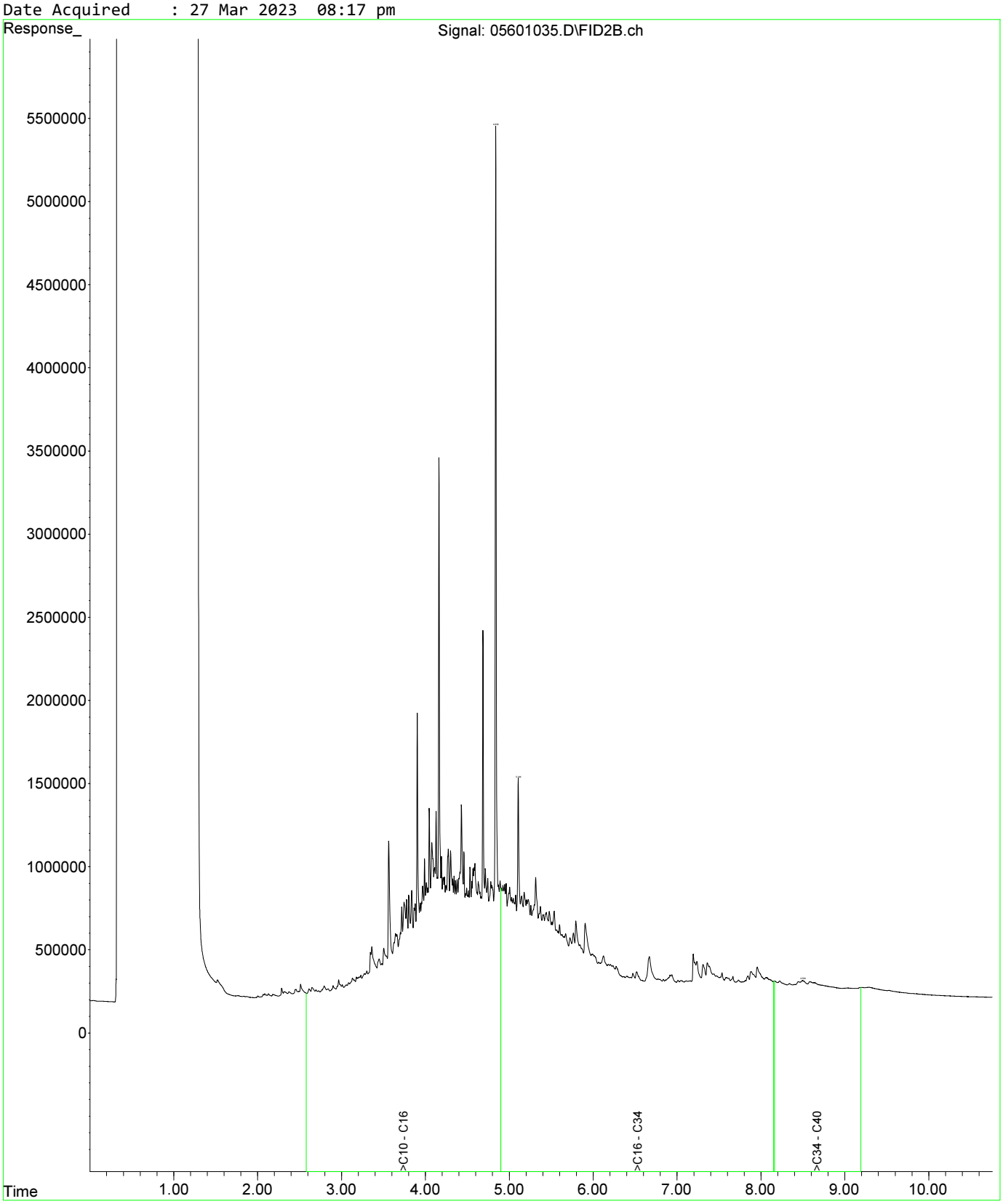

Fraction Scheme : NEPM DRAFT HIL
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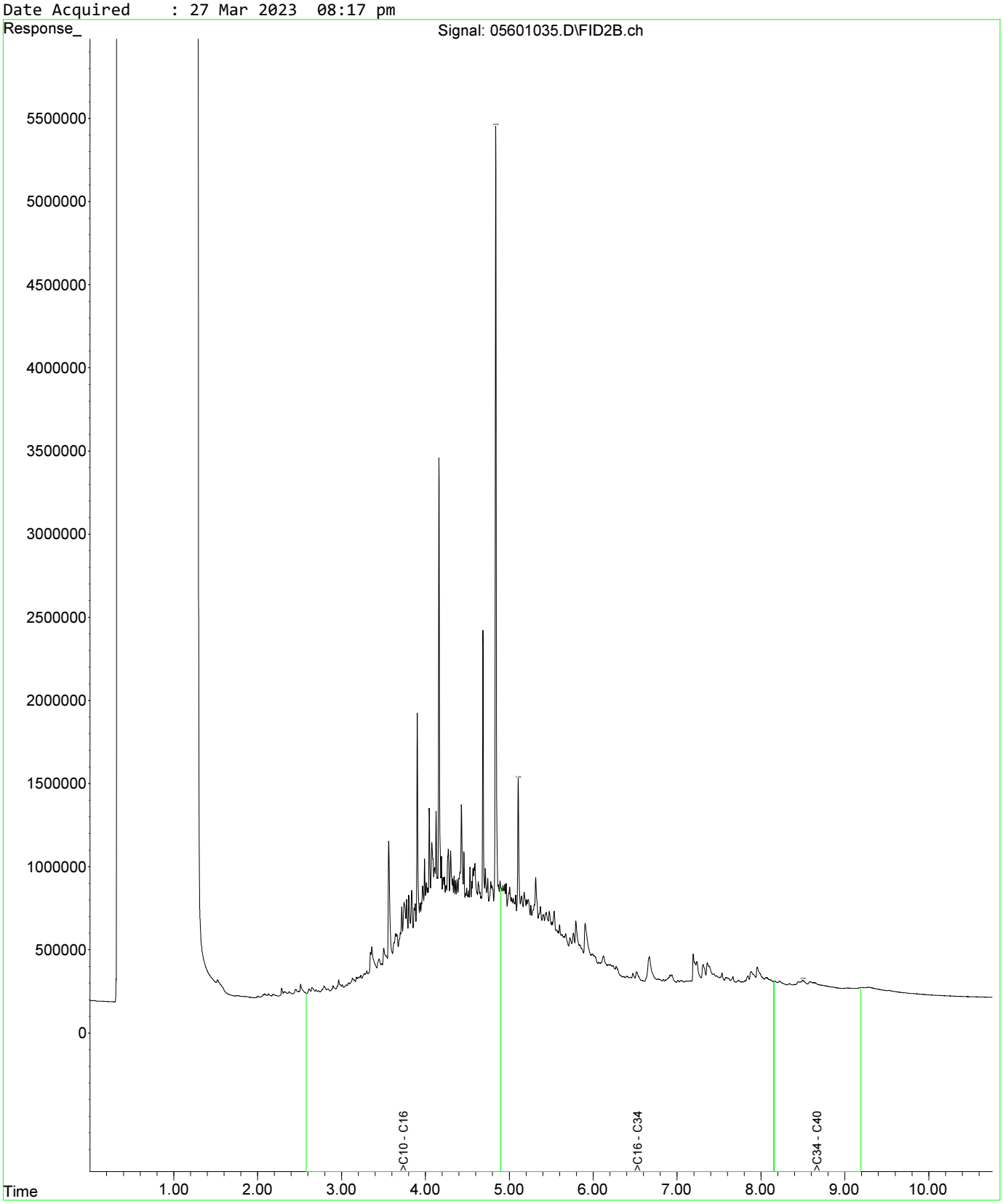

Fraction Scheme : NEPM DRAFT HIL
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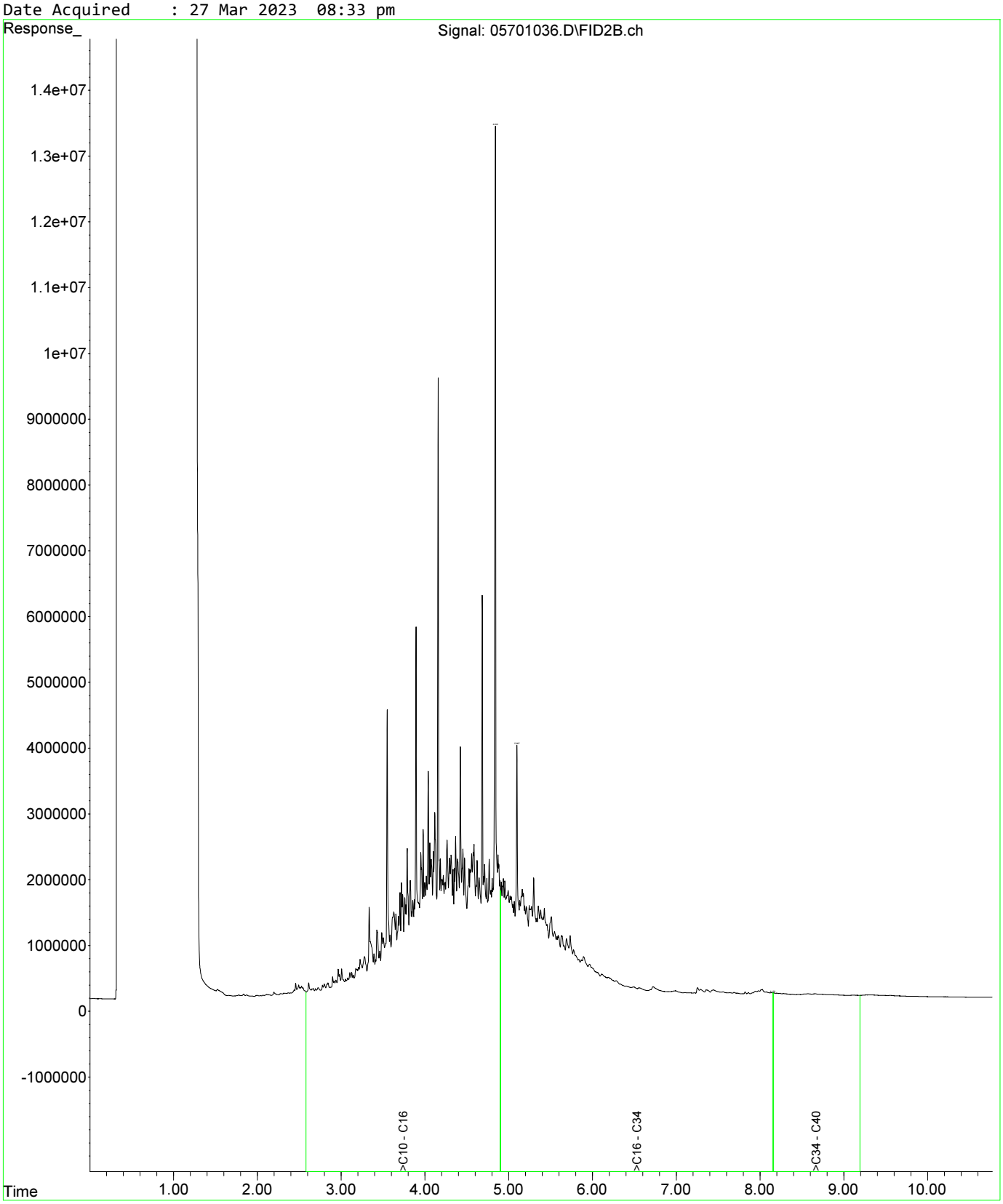

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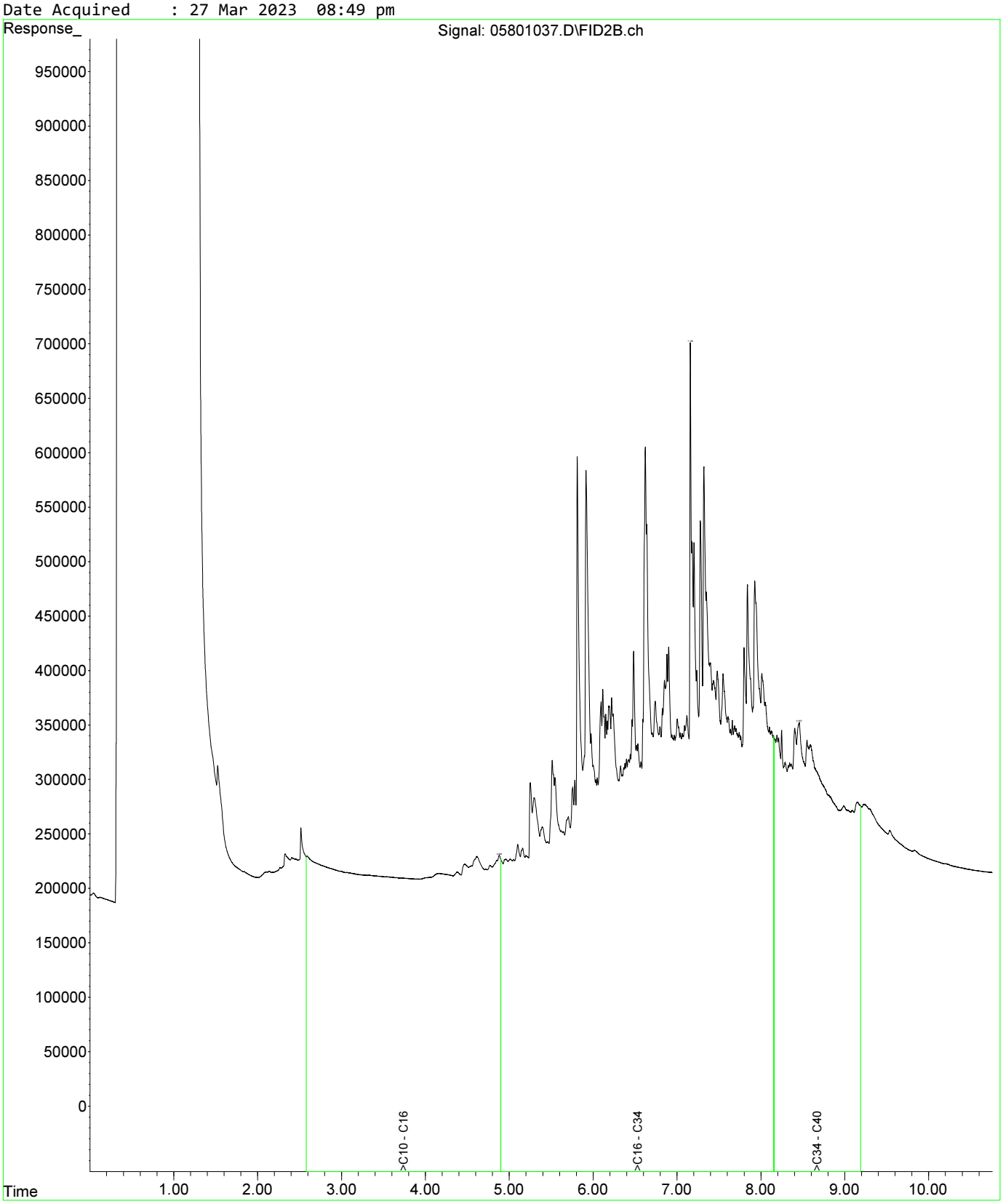

Fraction Scheme : NEPM DRAFT HIL
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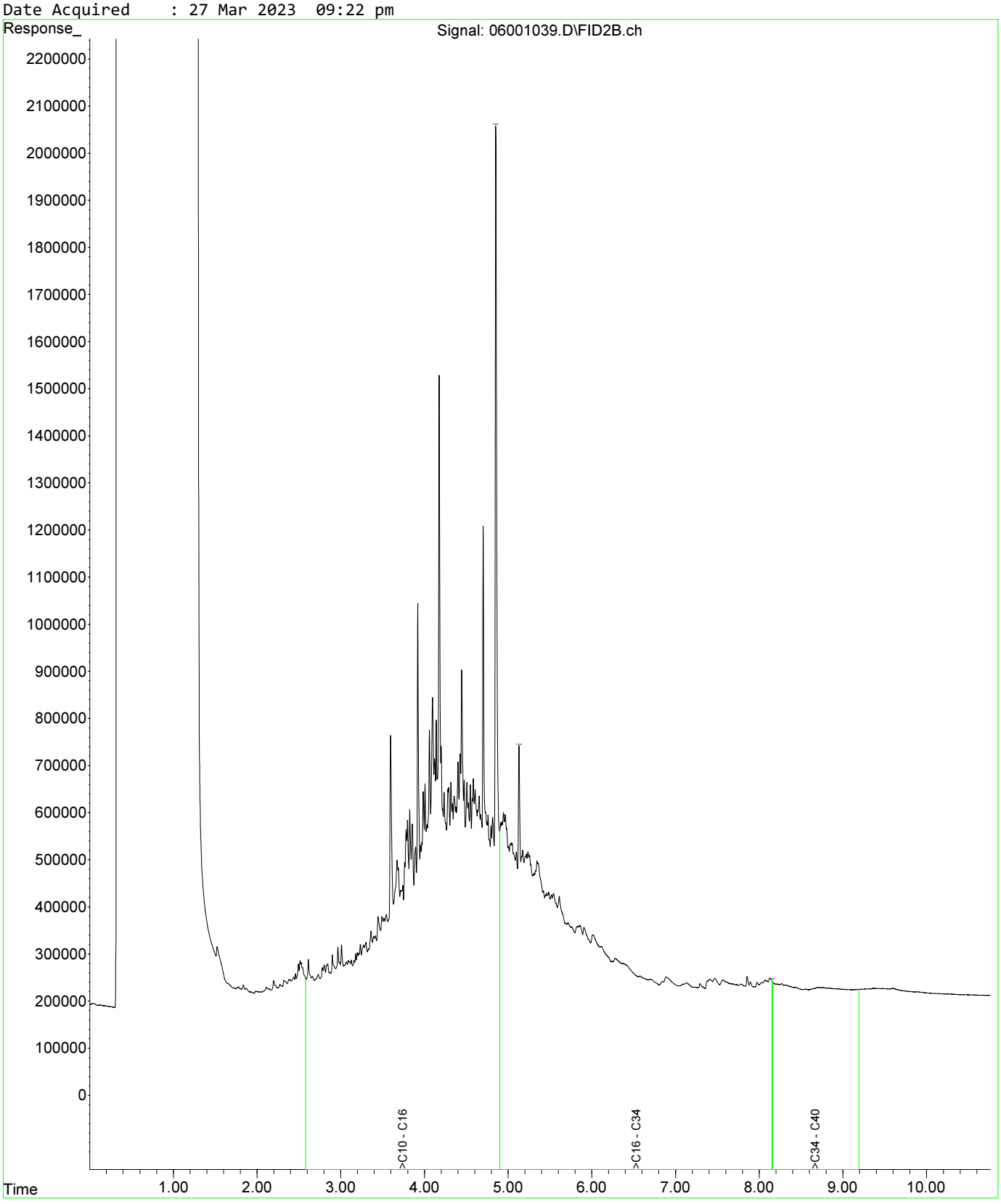

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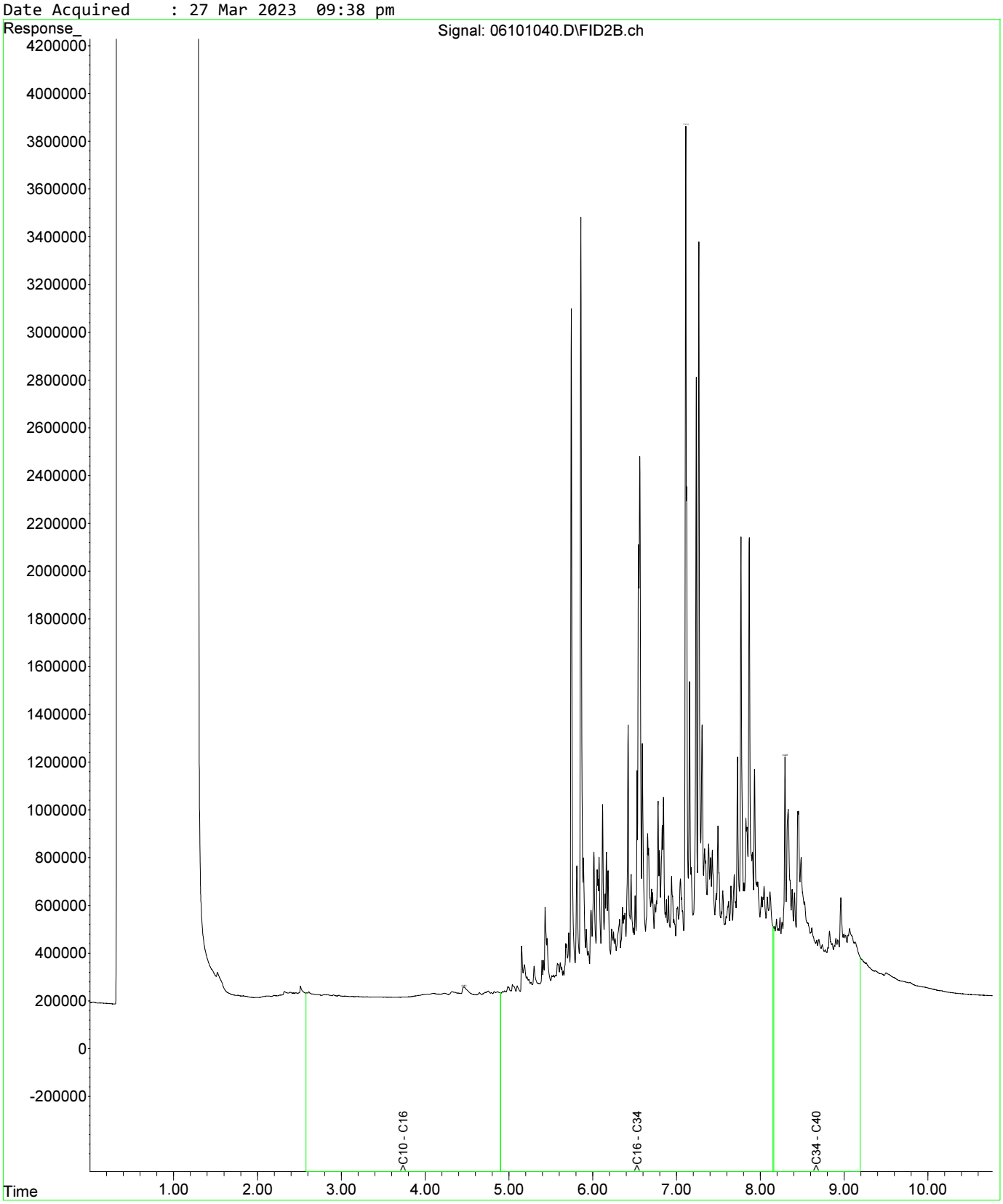
Date Acquired : 27 Mar 2023 09:38 pm



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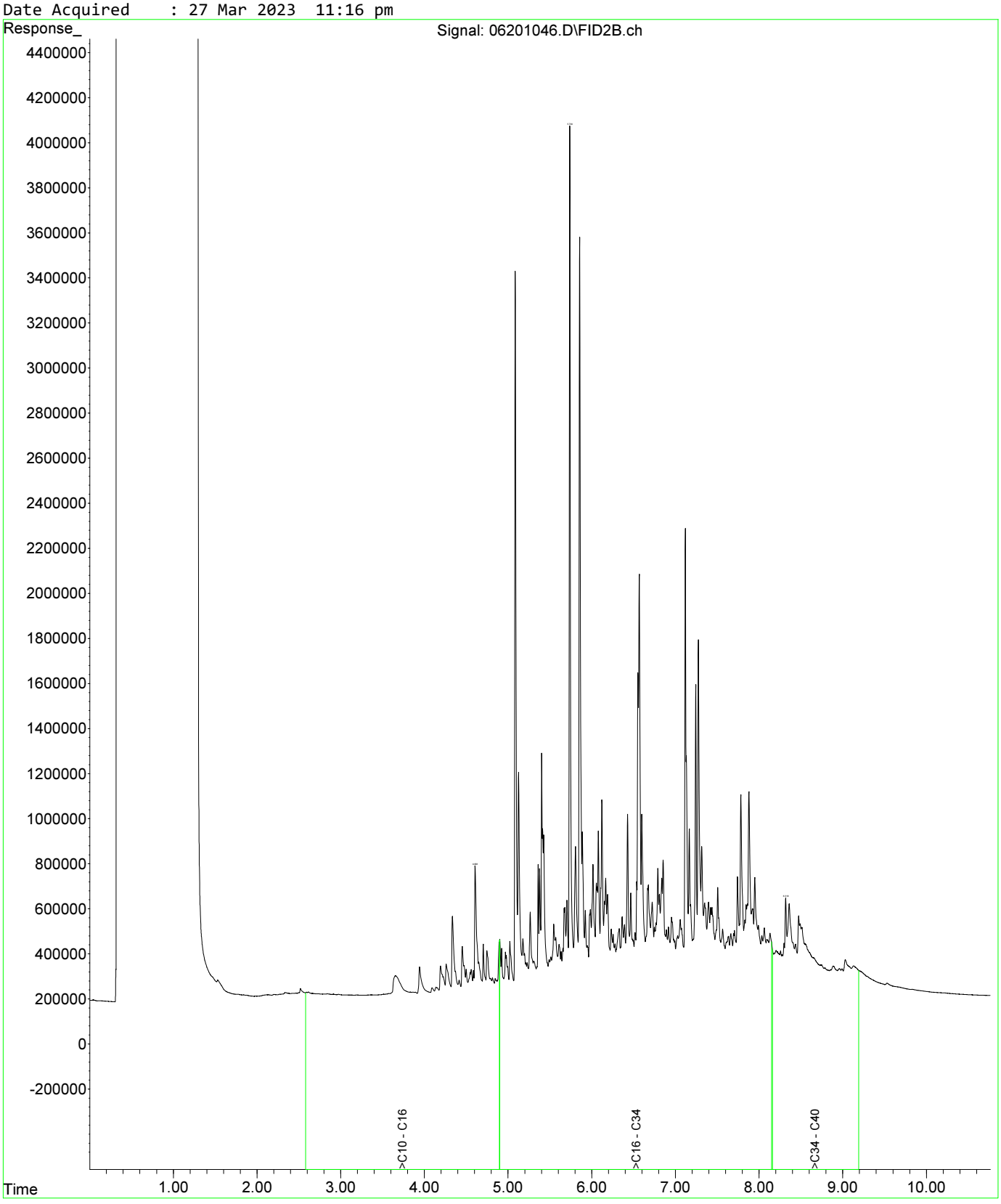

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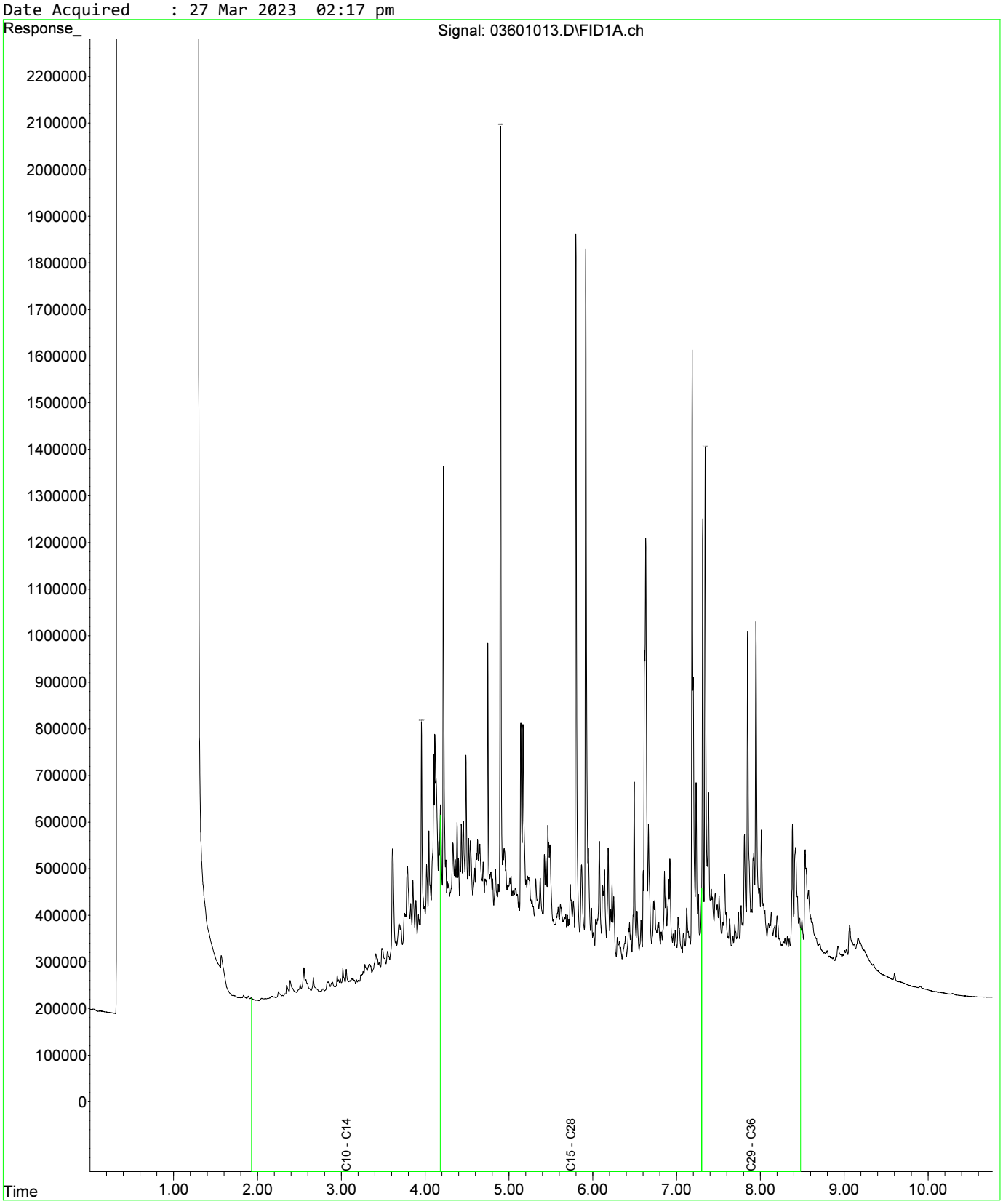
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



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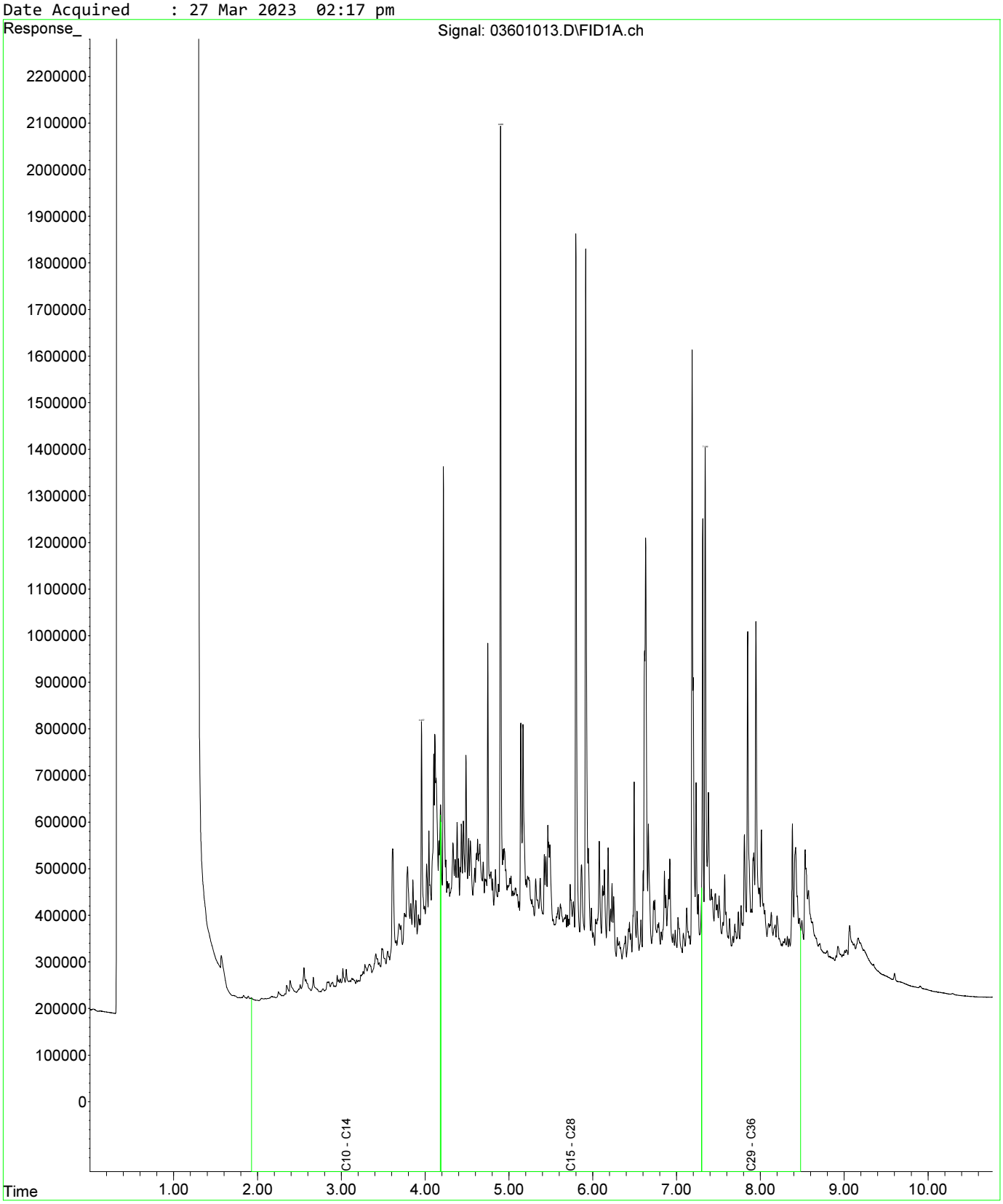

Fraction Scheme : Standard
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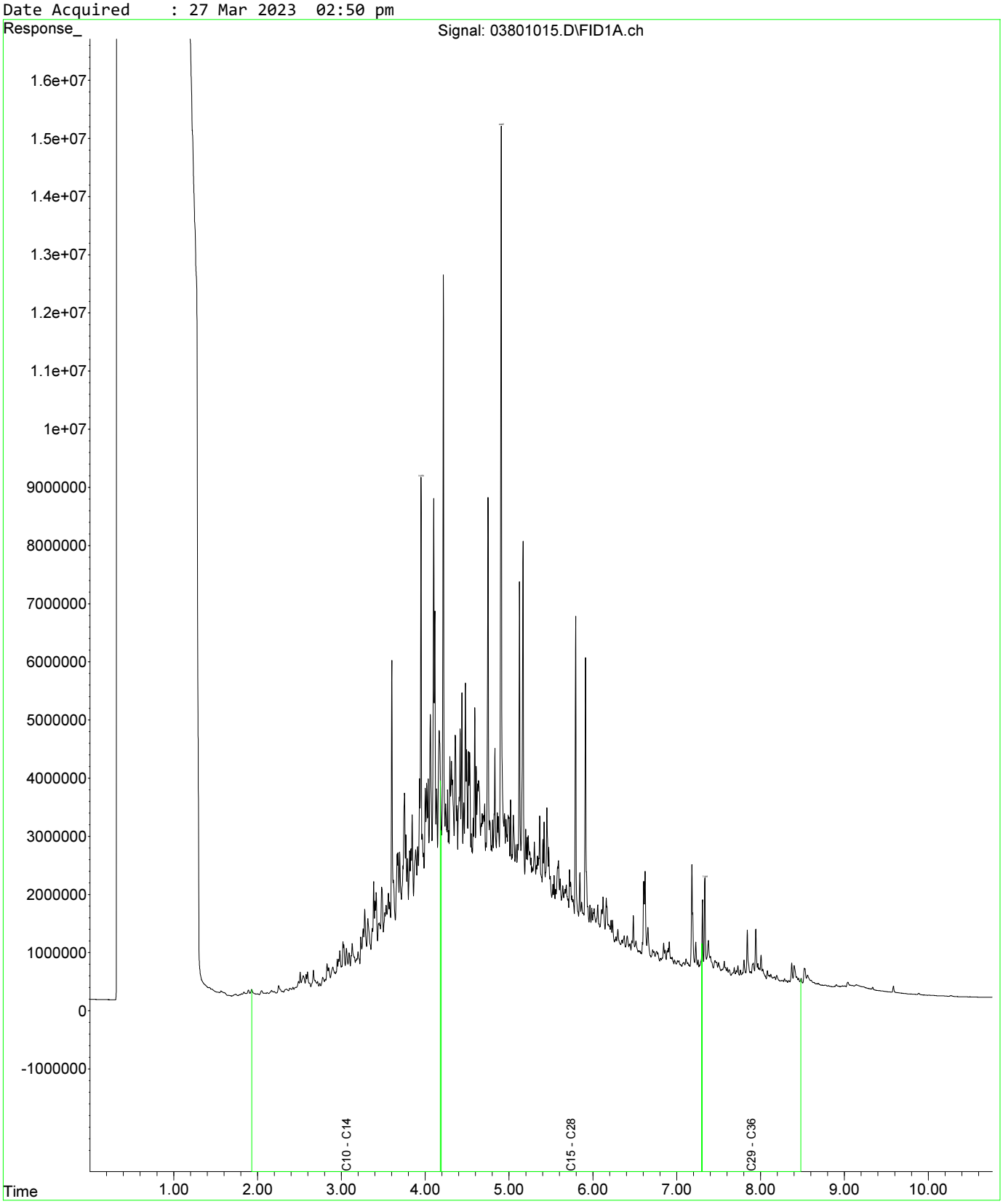
Date Acquired : 27 Mar 2023 02:50 pm



Fraction Scheme : Standard
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Laboratory Number: EM2305209-022
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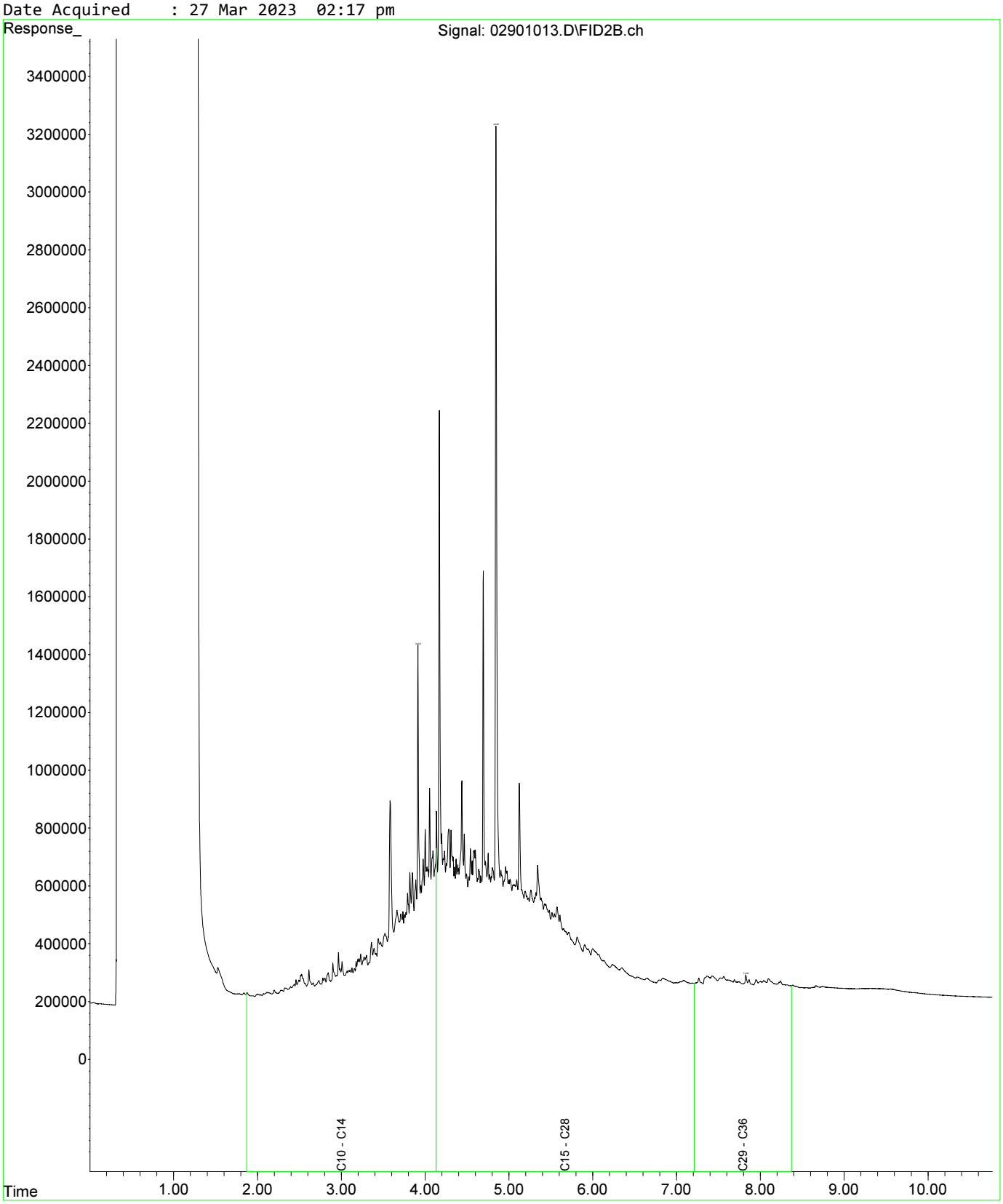

Fraction Scheme : Standard
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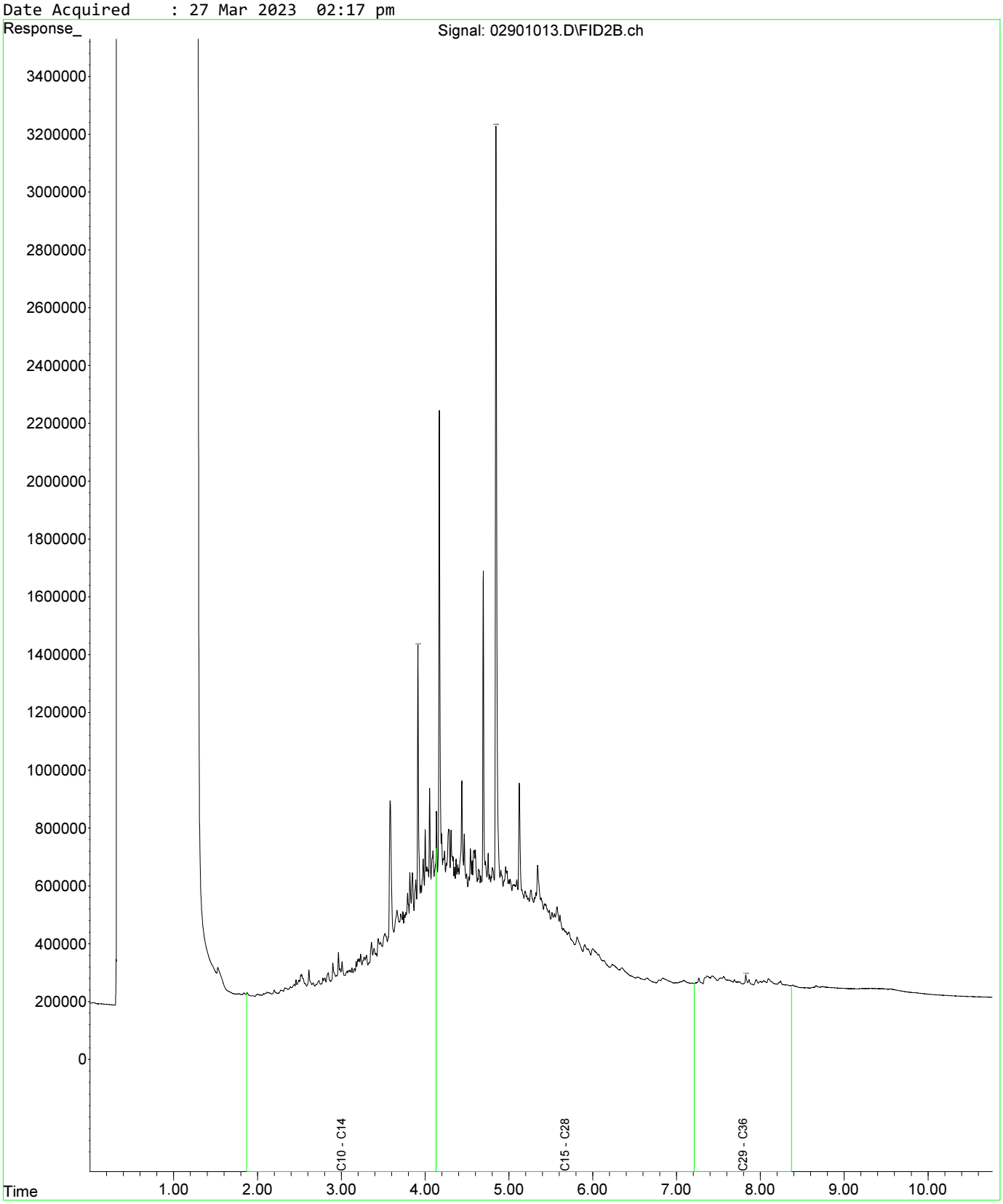
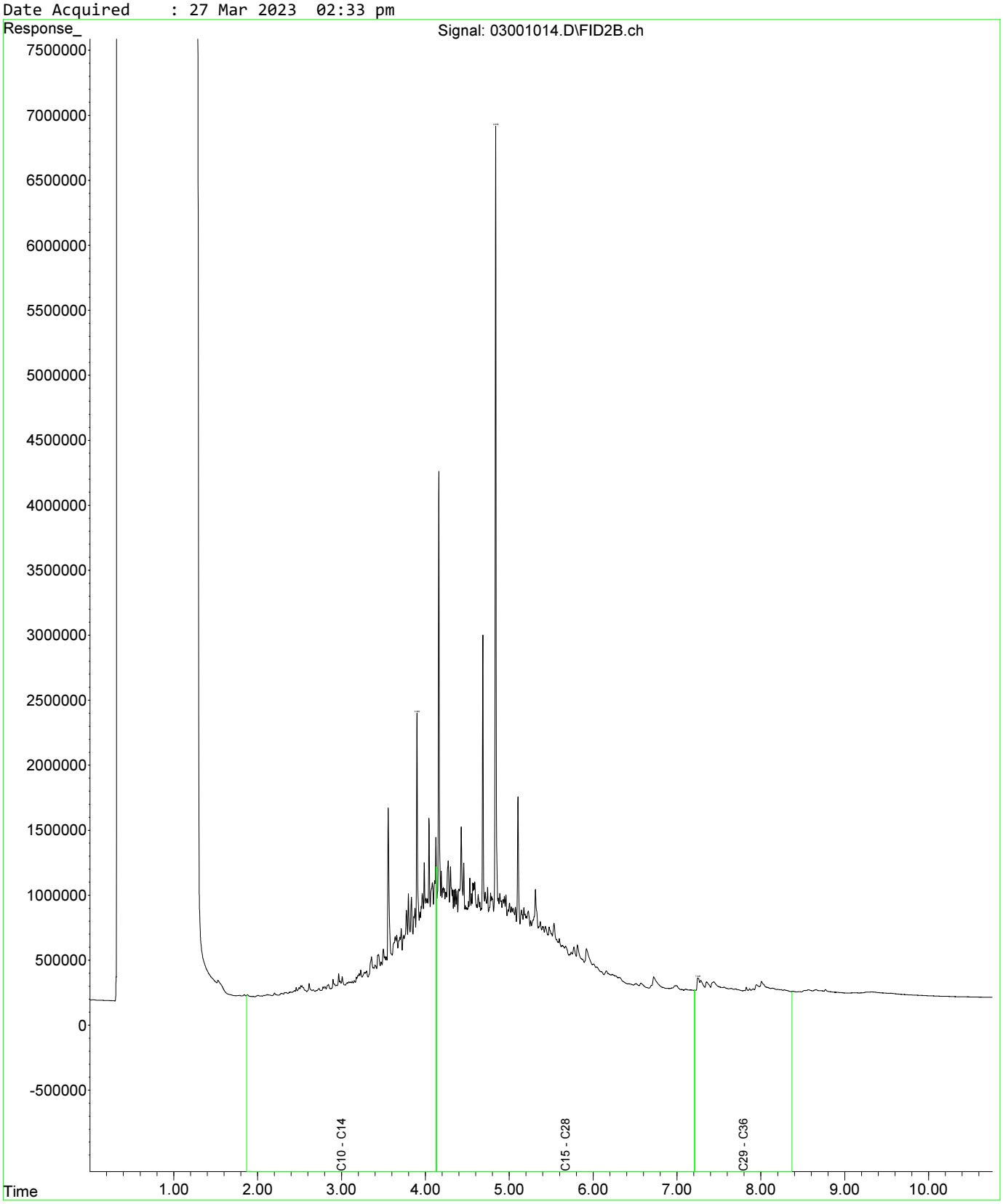
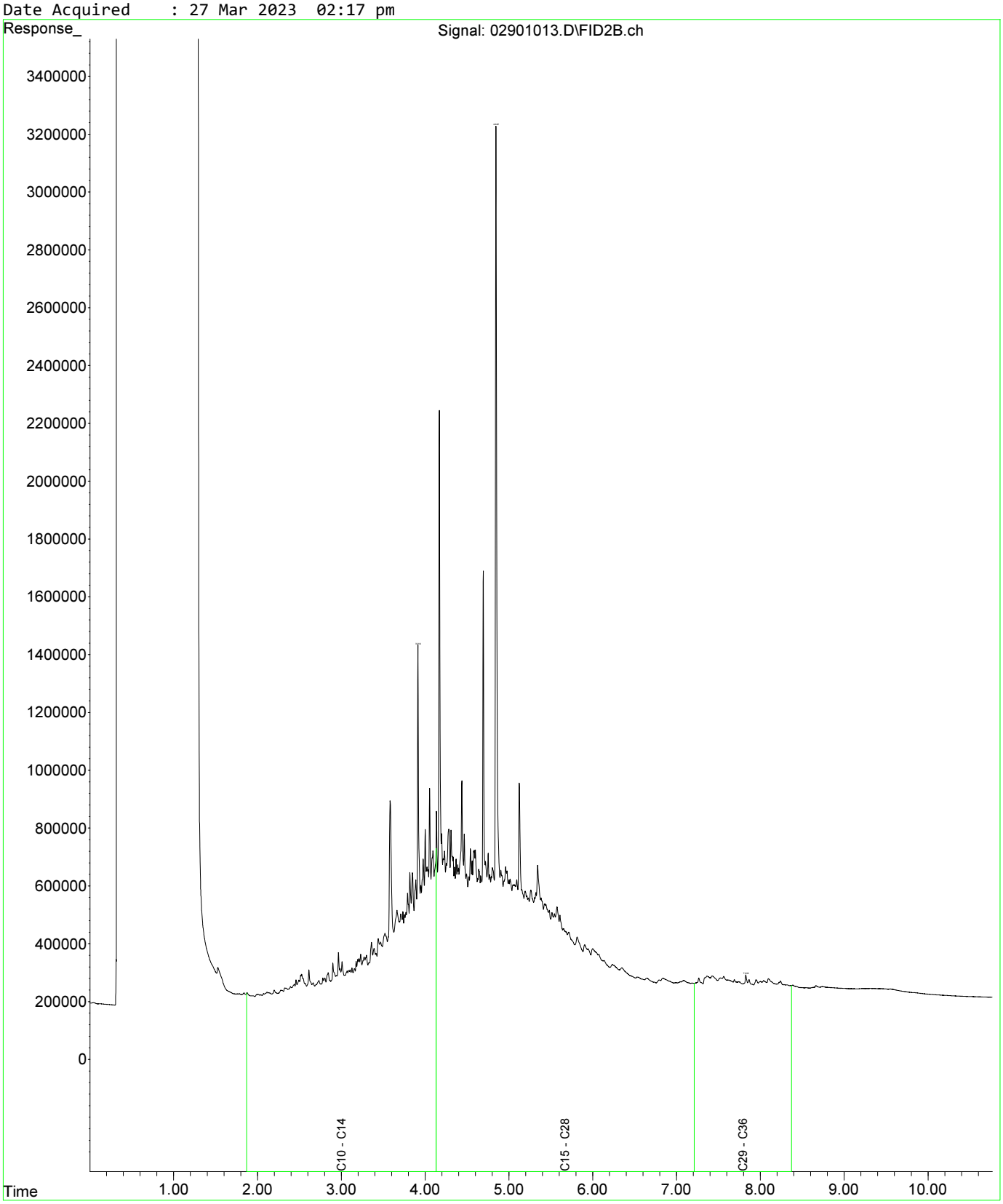
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



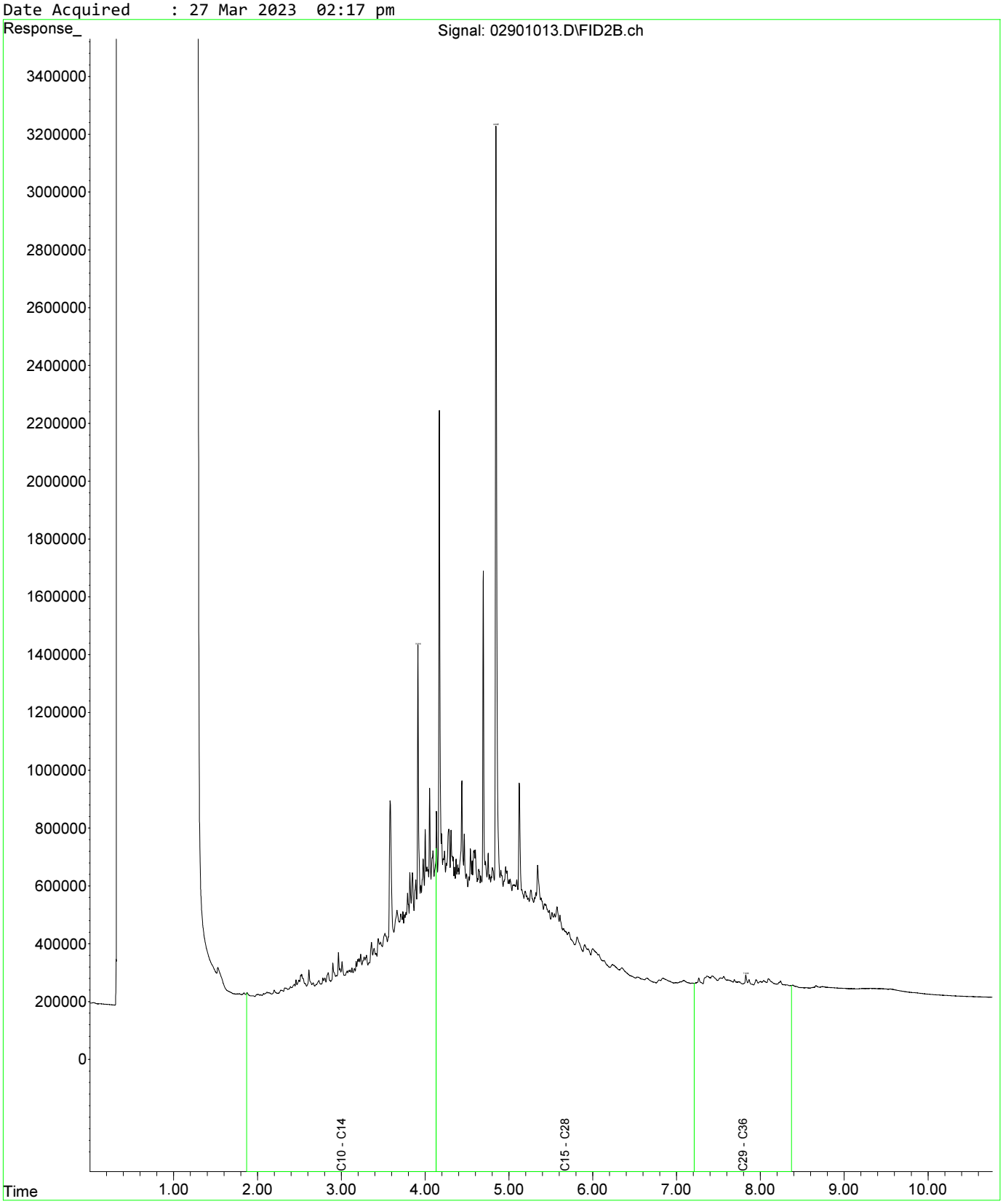
Fraction Scheme : Standard
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



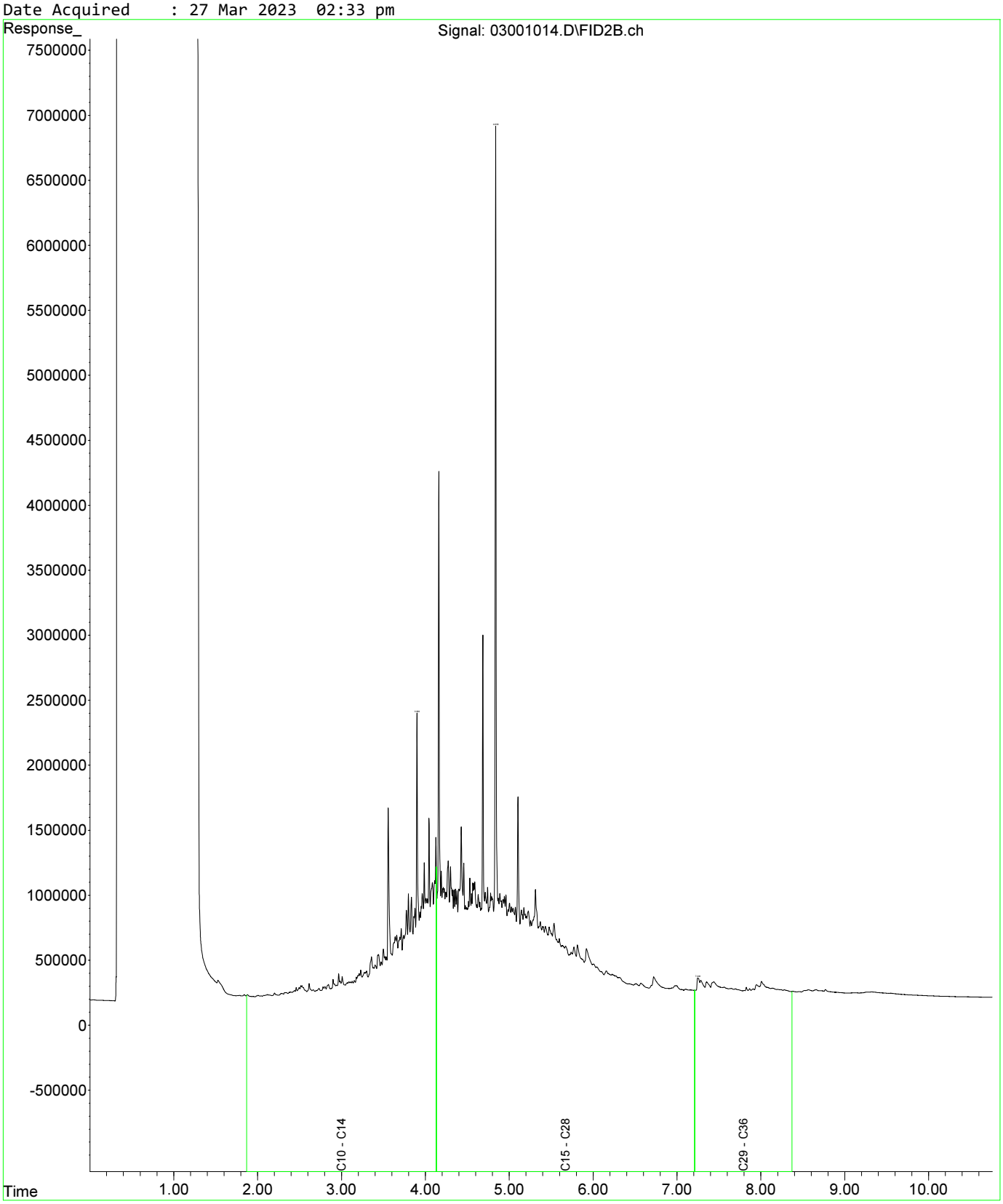
Fraction Scheme : Standard
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



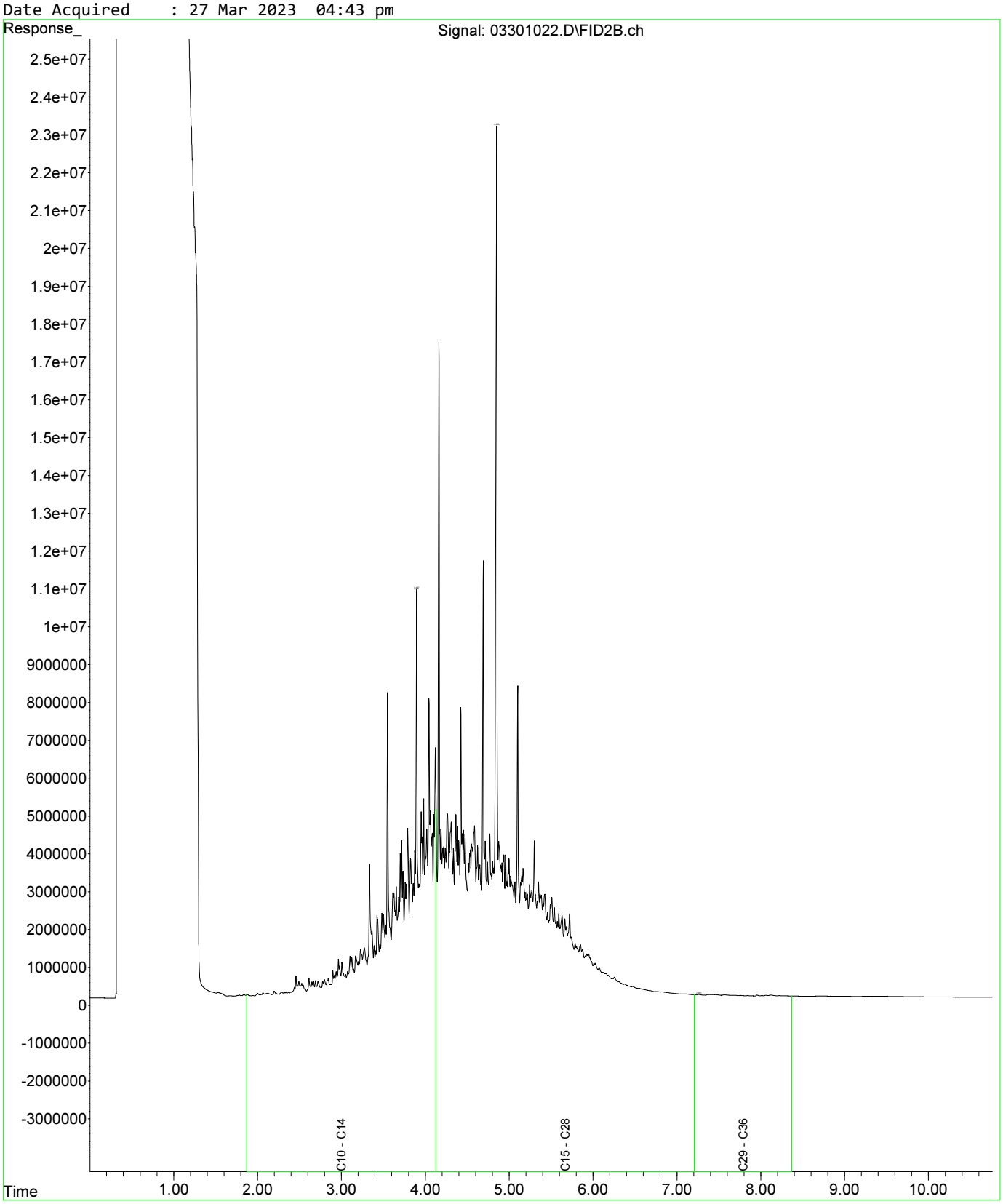
Fraction Scheme : Standard
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



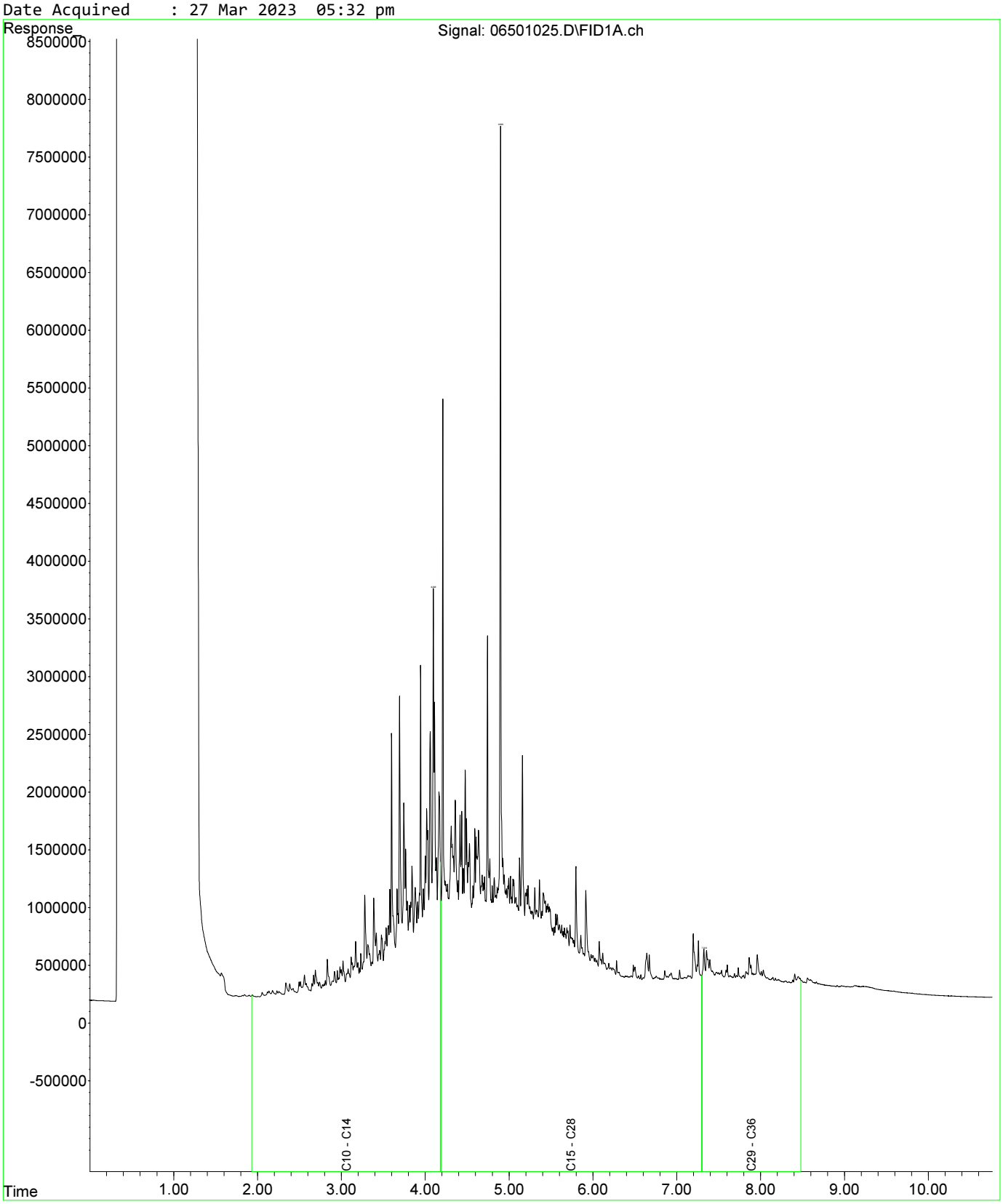
Fraction Scheme : Standard
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



Fraction Scheme : Standard
Data File : 03301022.D
Laboratory Number: EM2305209-024
Sample ID : UST_SP_1.5-2.0_05
Date Acquired : 27 Mar 2023 04:43 pm



Fraction Scheme : Standard
Data File : 06501025.D
Laboratory Number: EM2305209-046
Sample ID : UST_QC106
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 06501025.D
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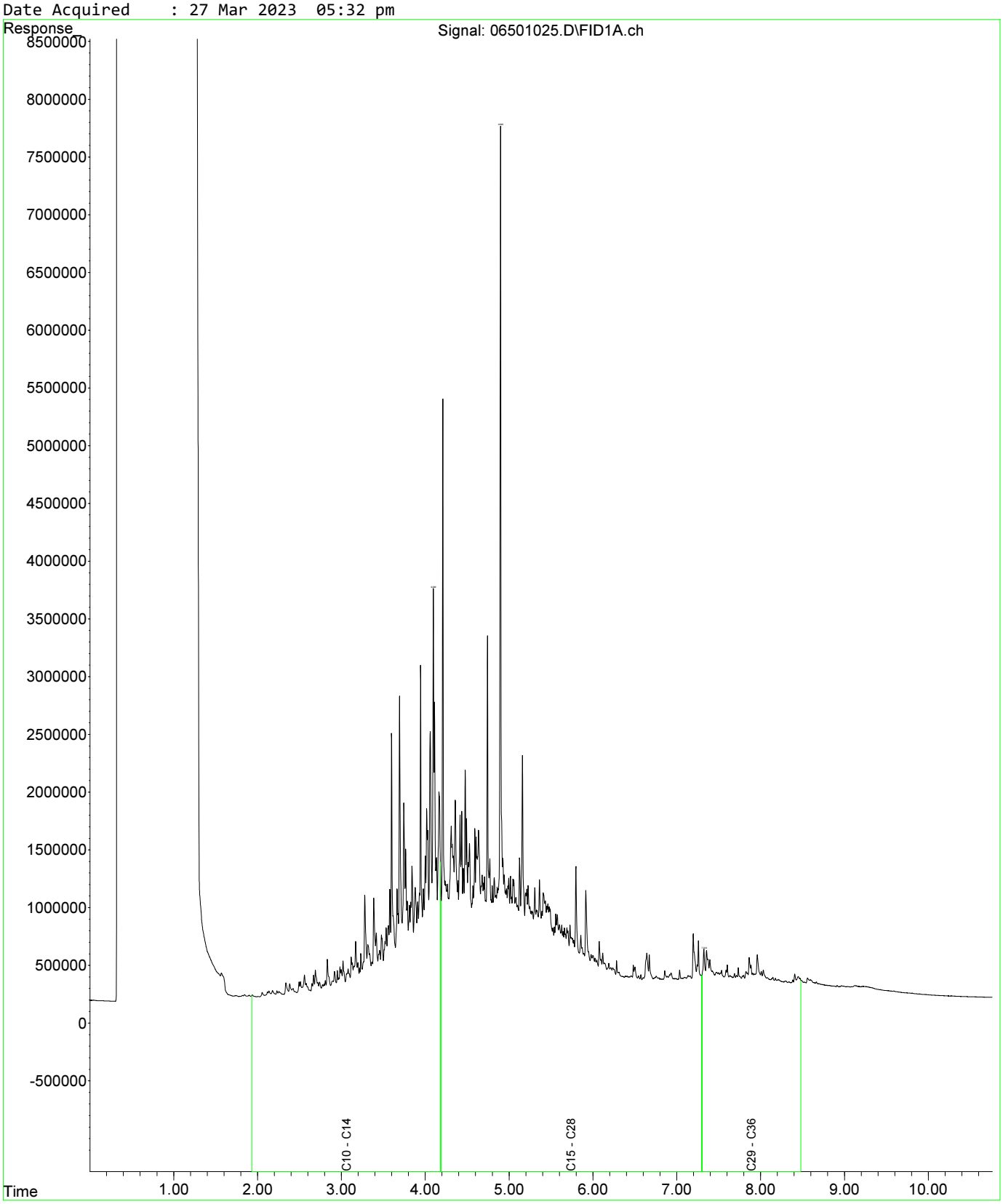
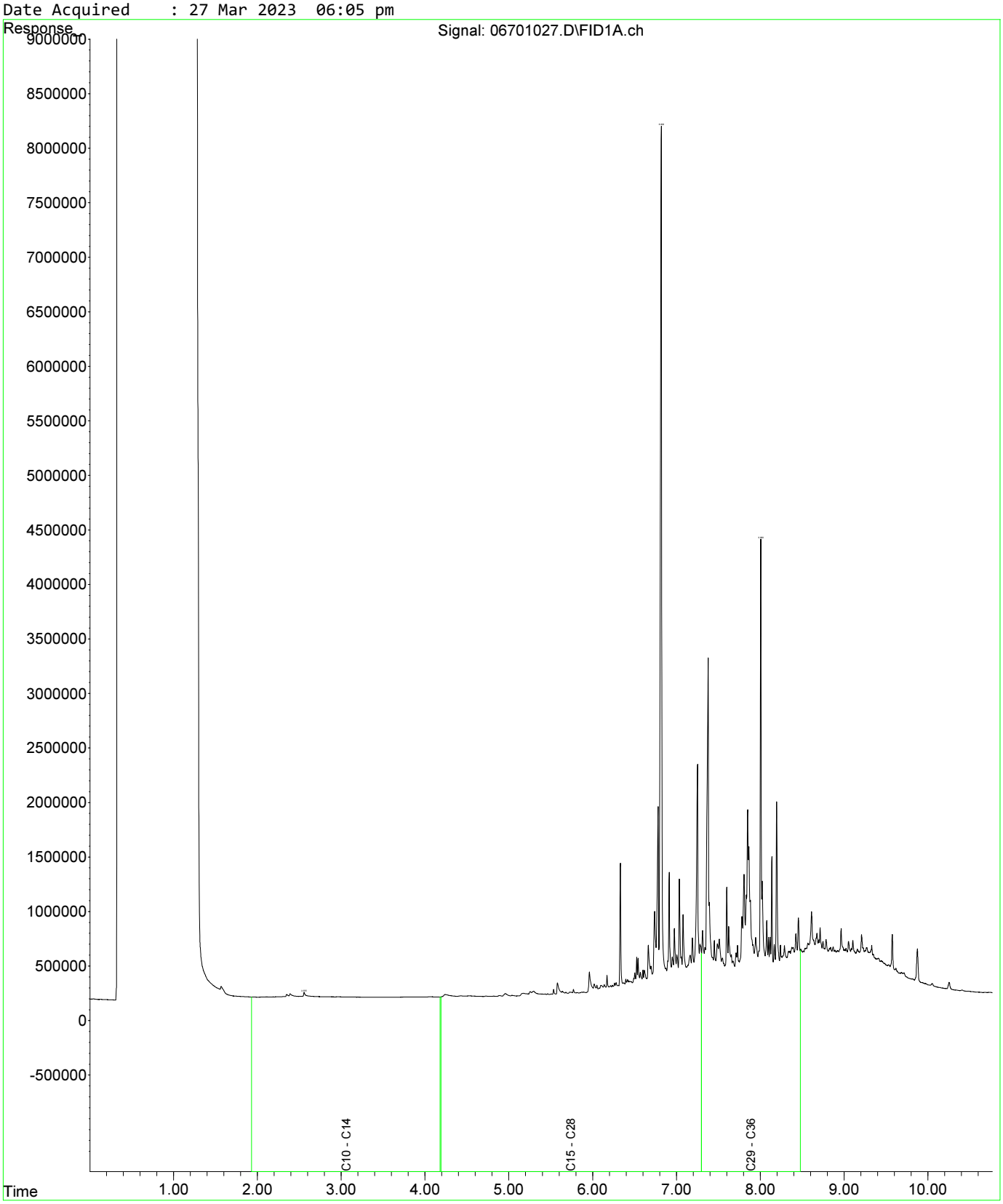
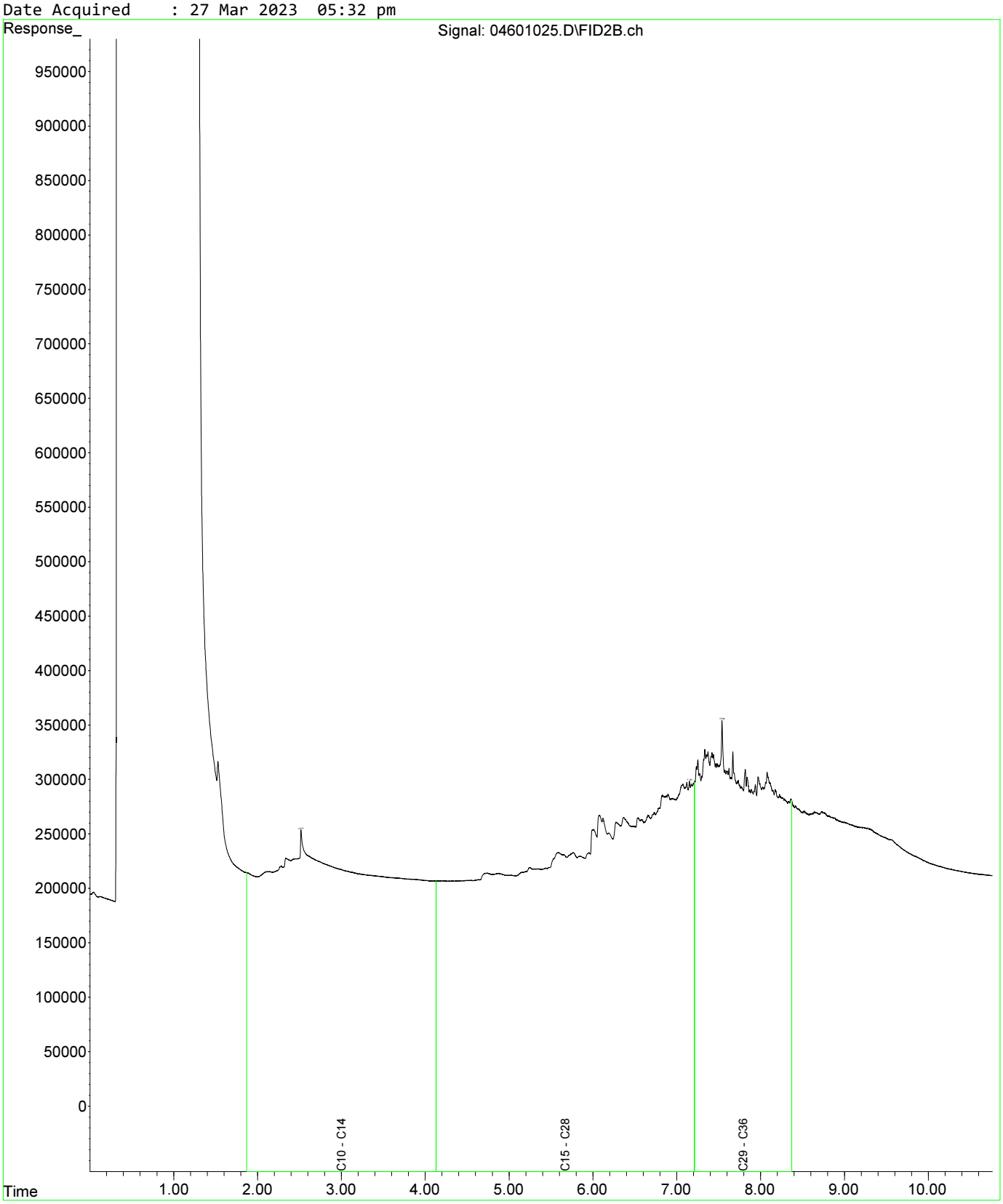
Date Acquired : 27 Mar 2023 05:32 pm



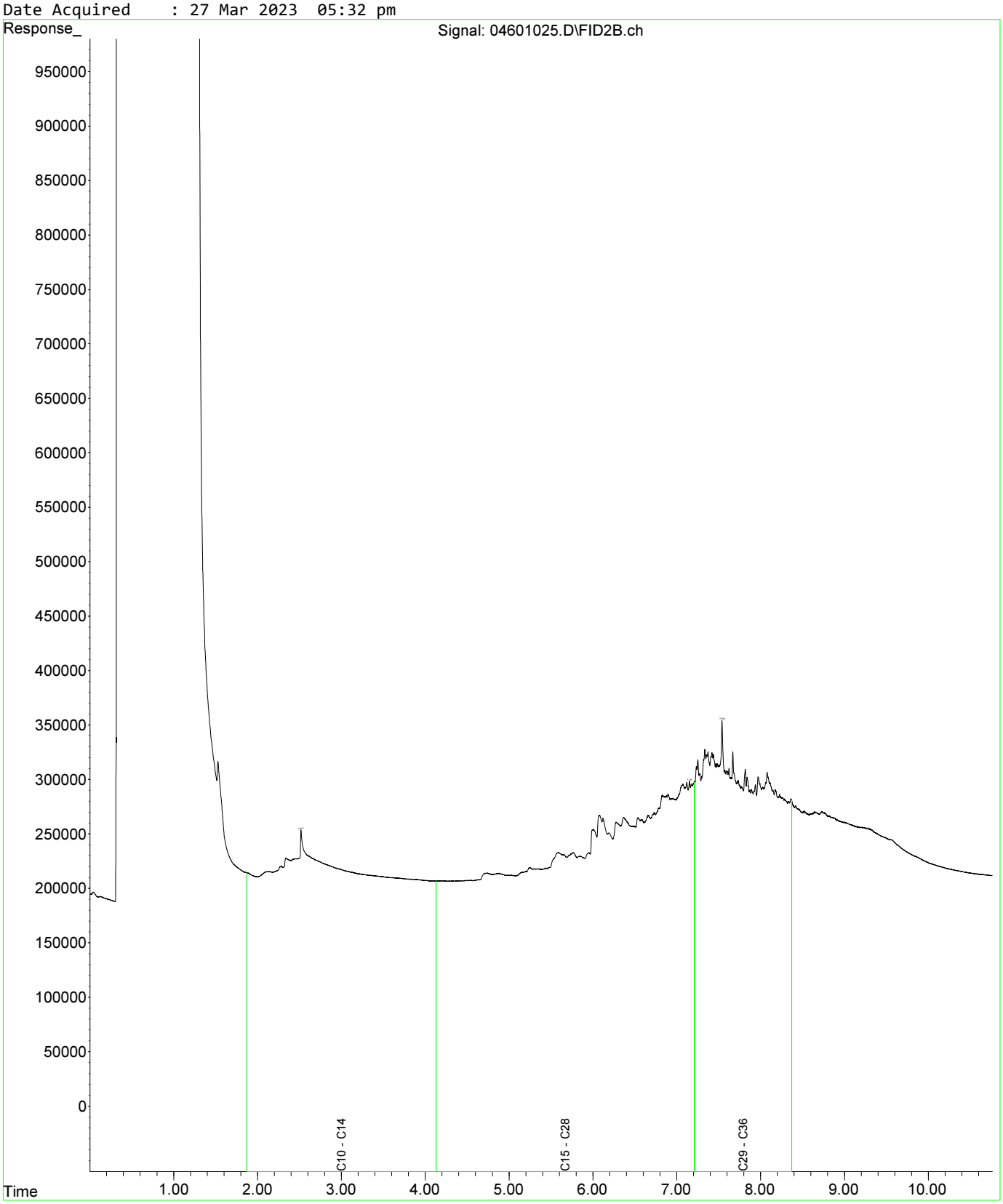
Fraction Scheme : Standard
Data File : 06701027.D
Laboratory Number: EM2305209-050
Sample ID : Rail Timber 01
Date Acquired : 27 Mar 2023 06:05 pm



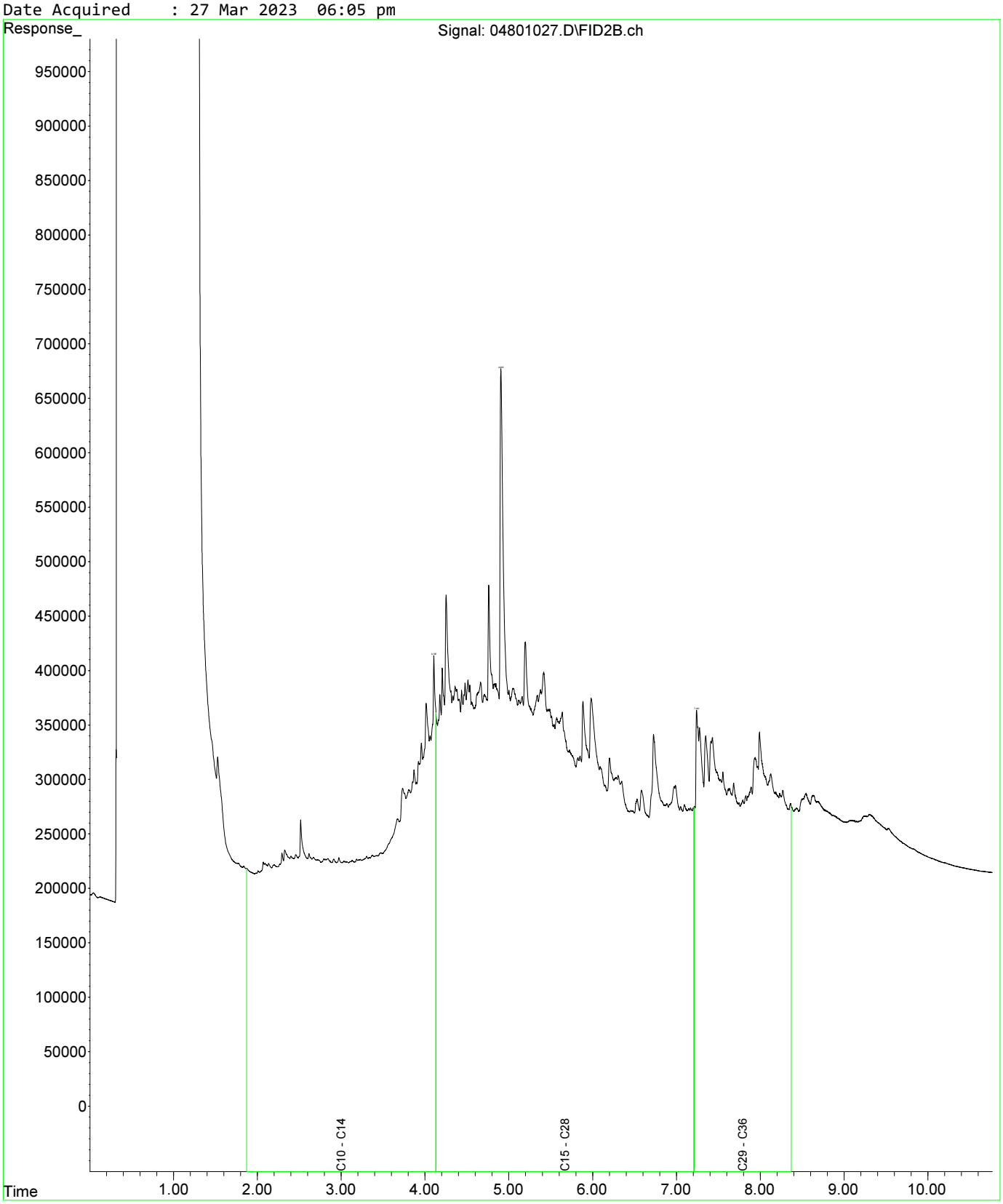
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



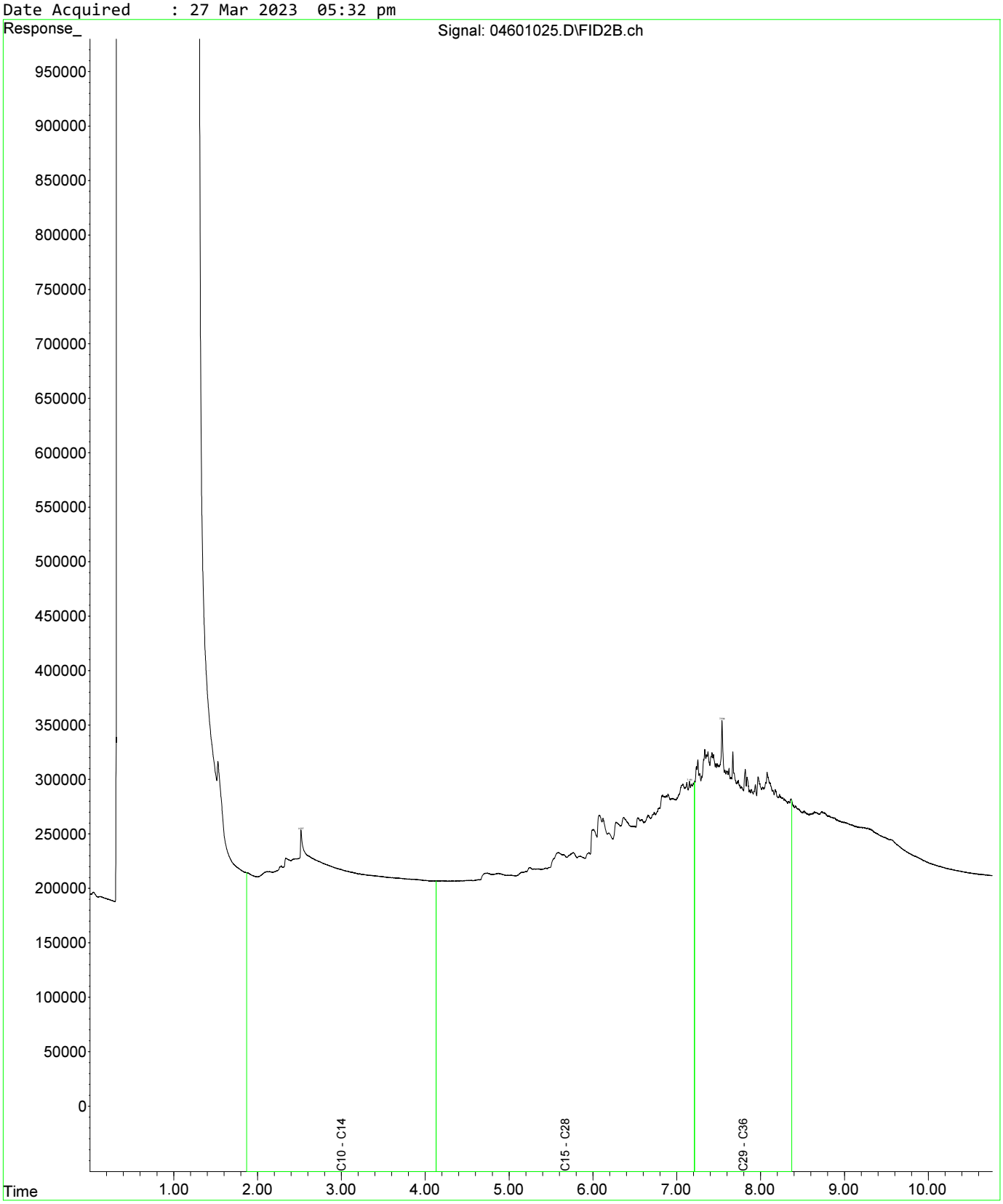
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



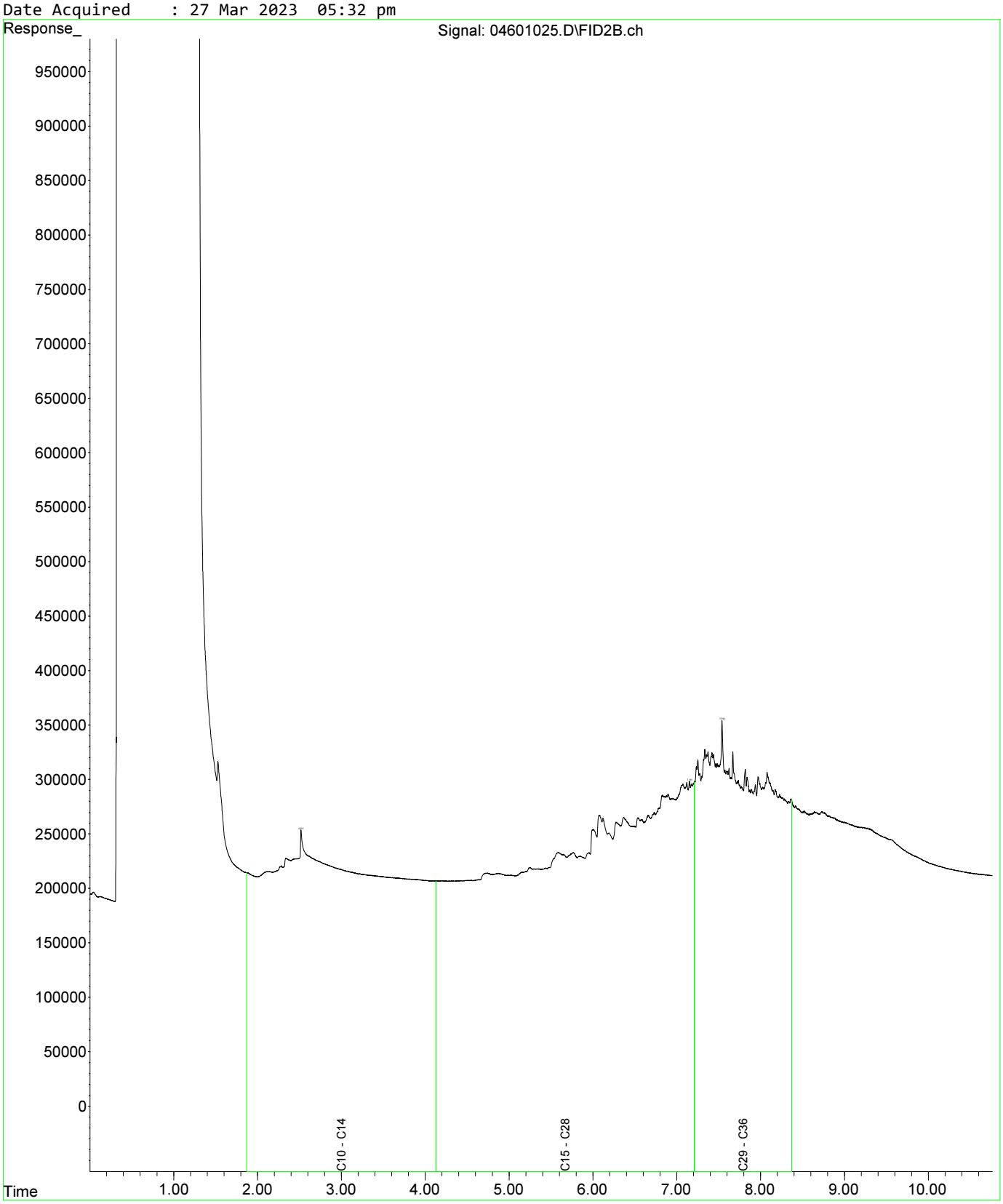
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



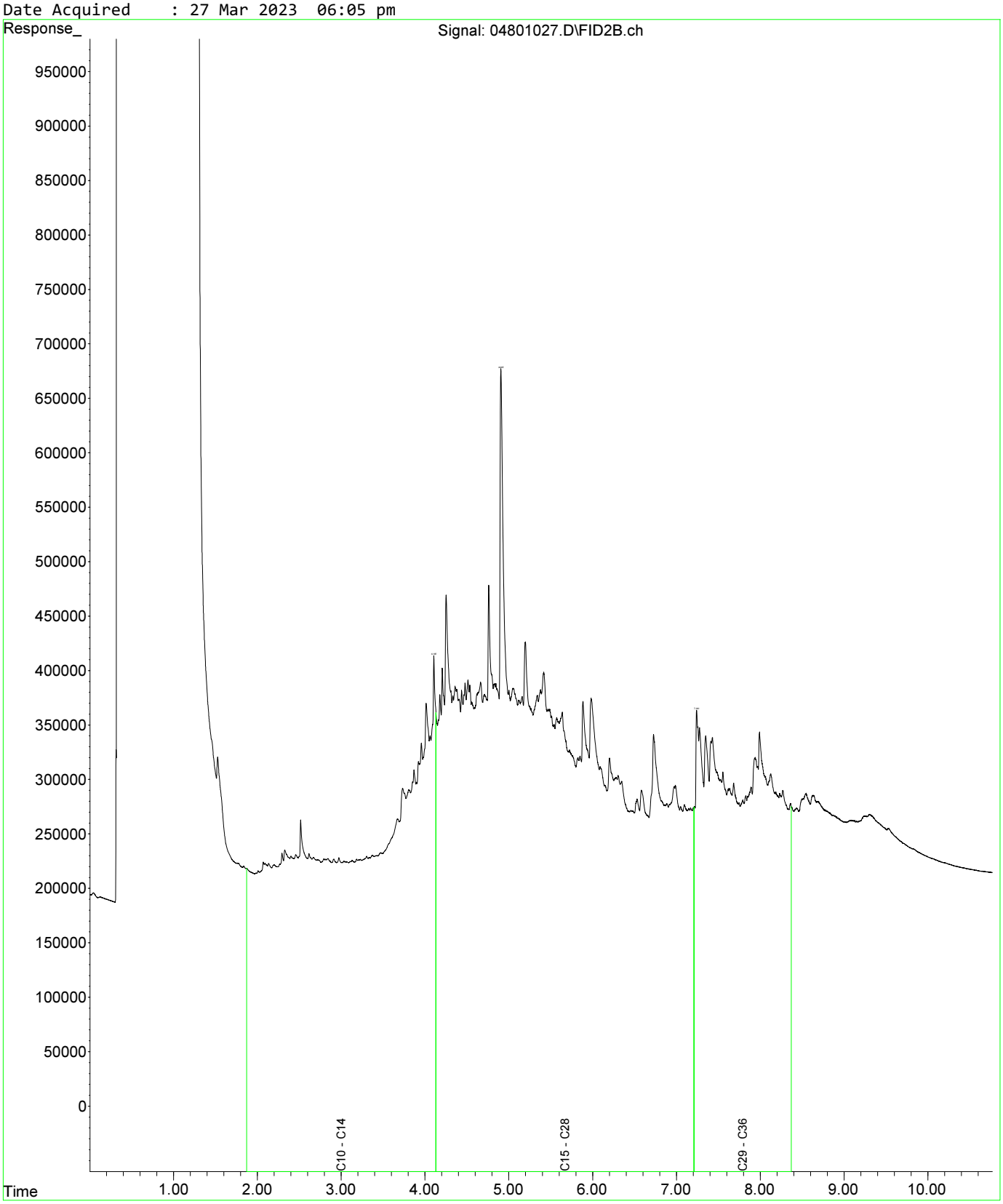
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



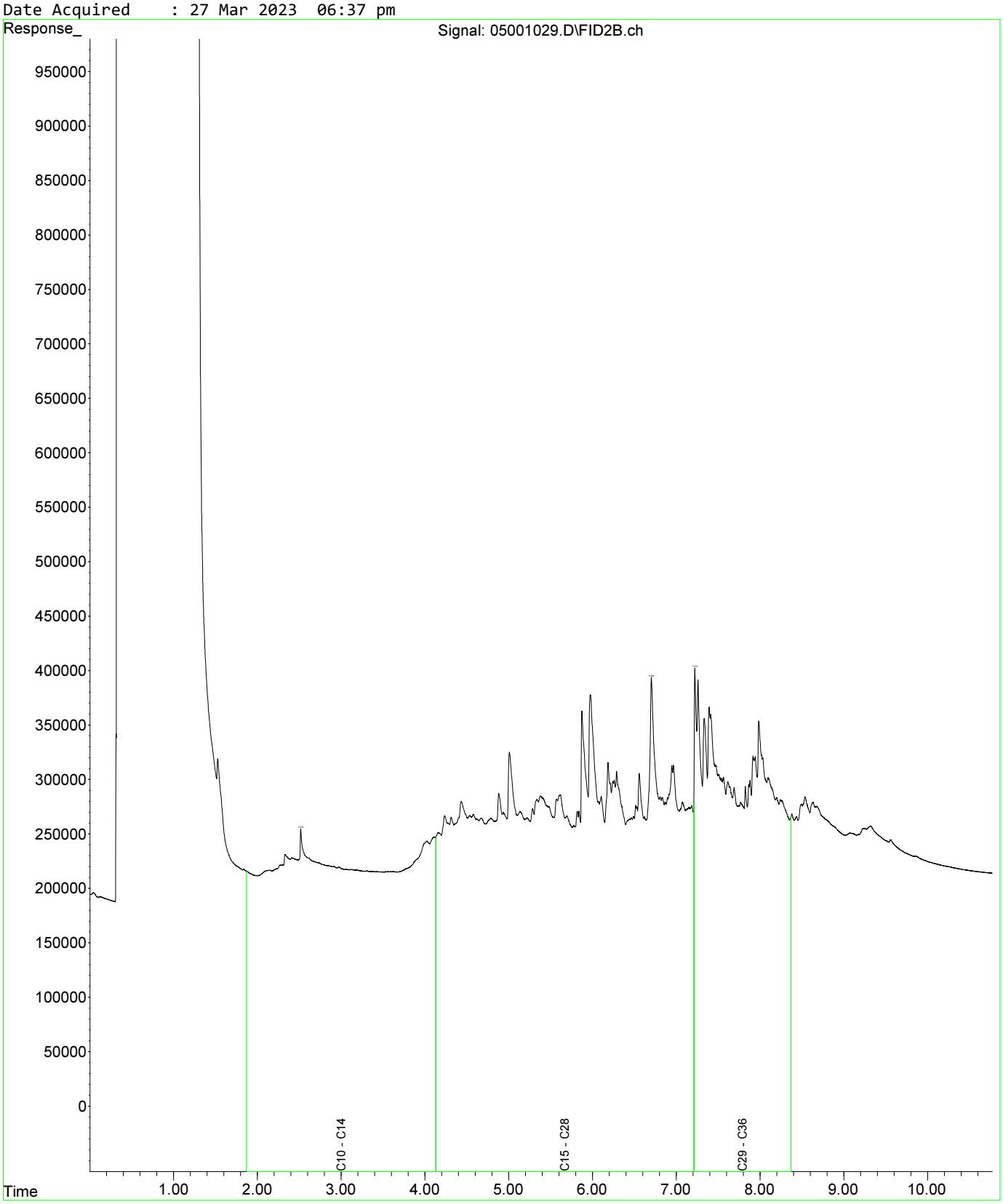
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



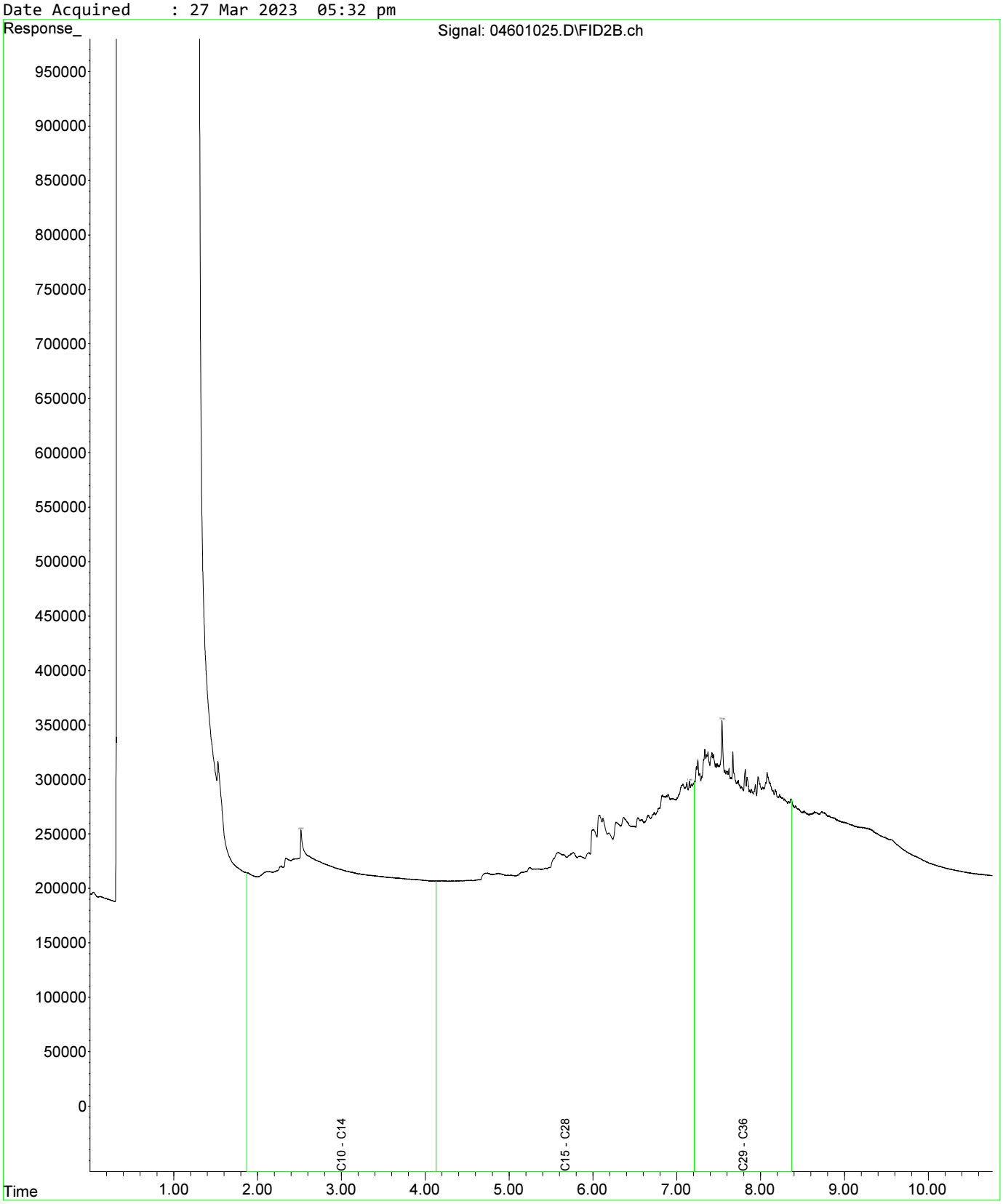
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



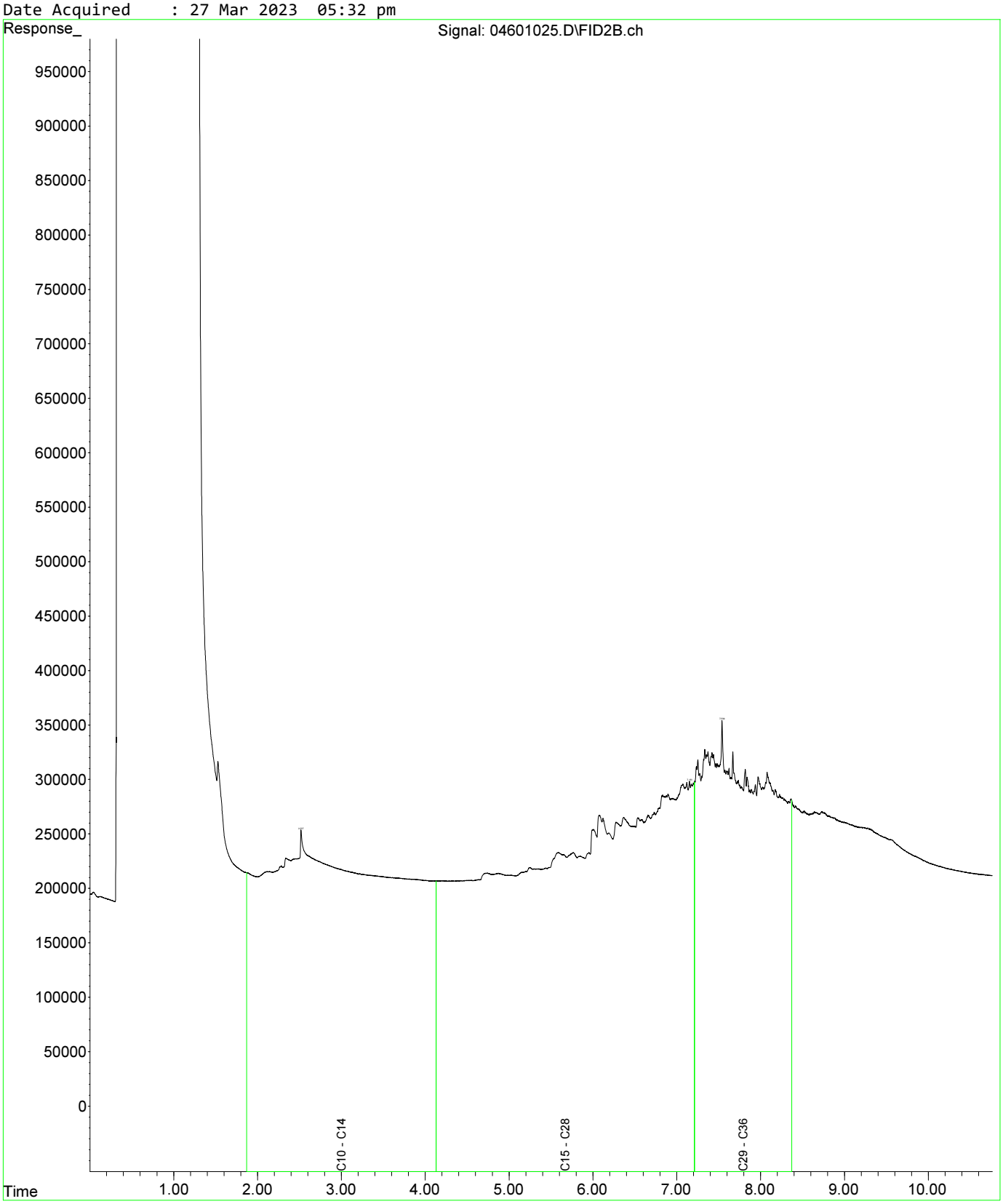
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
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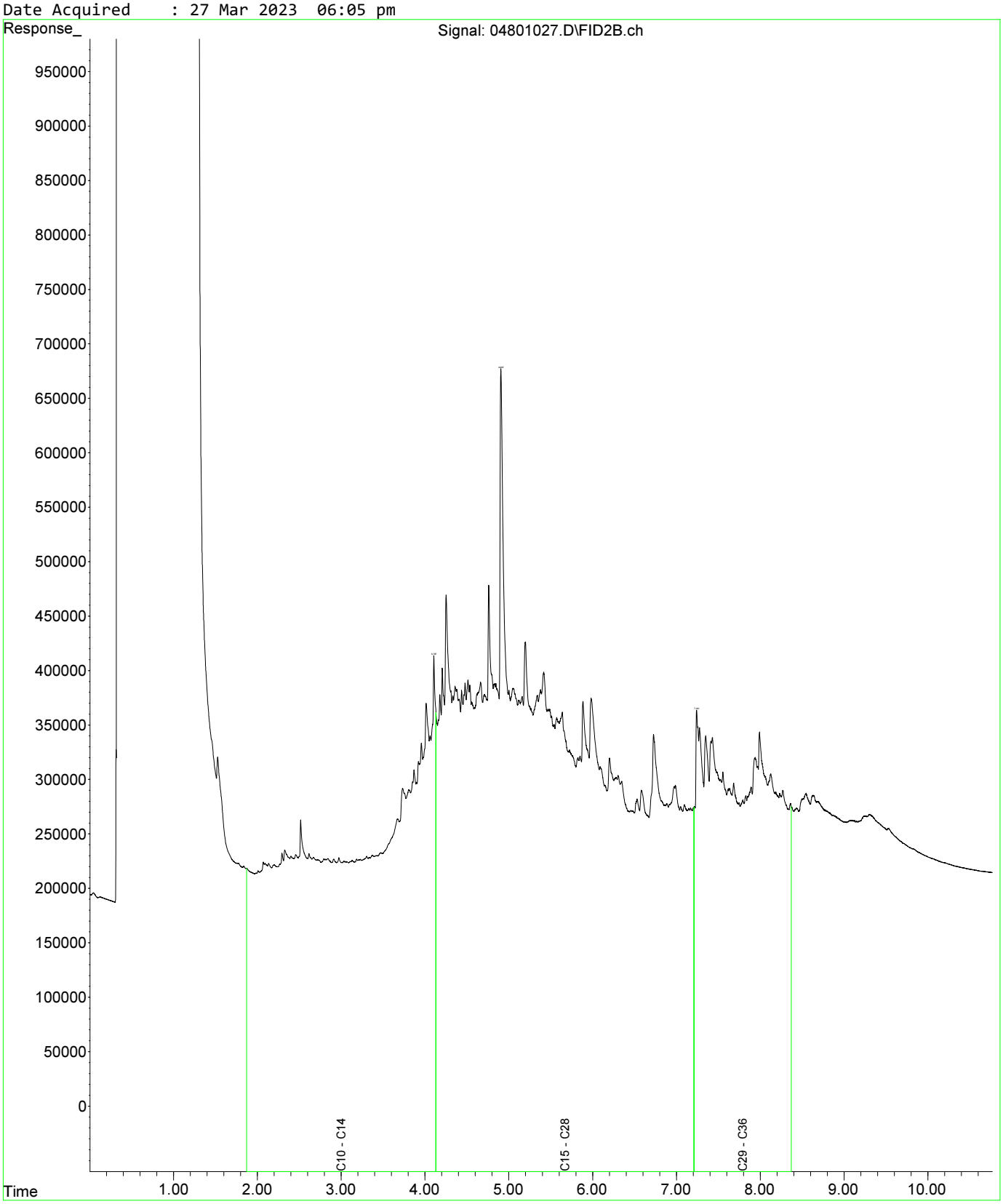
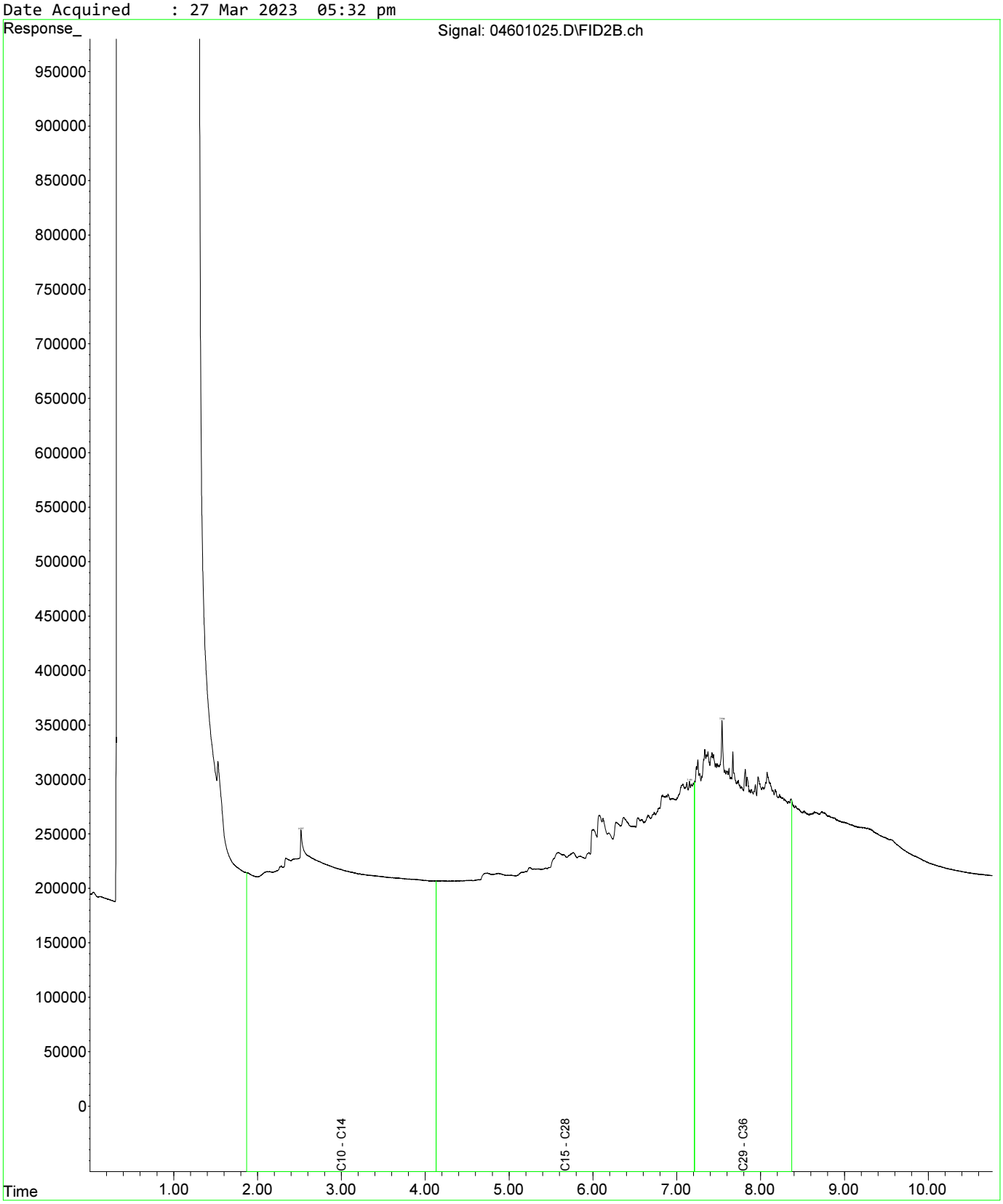
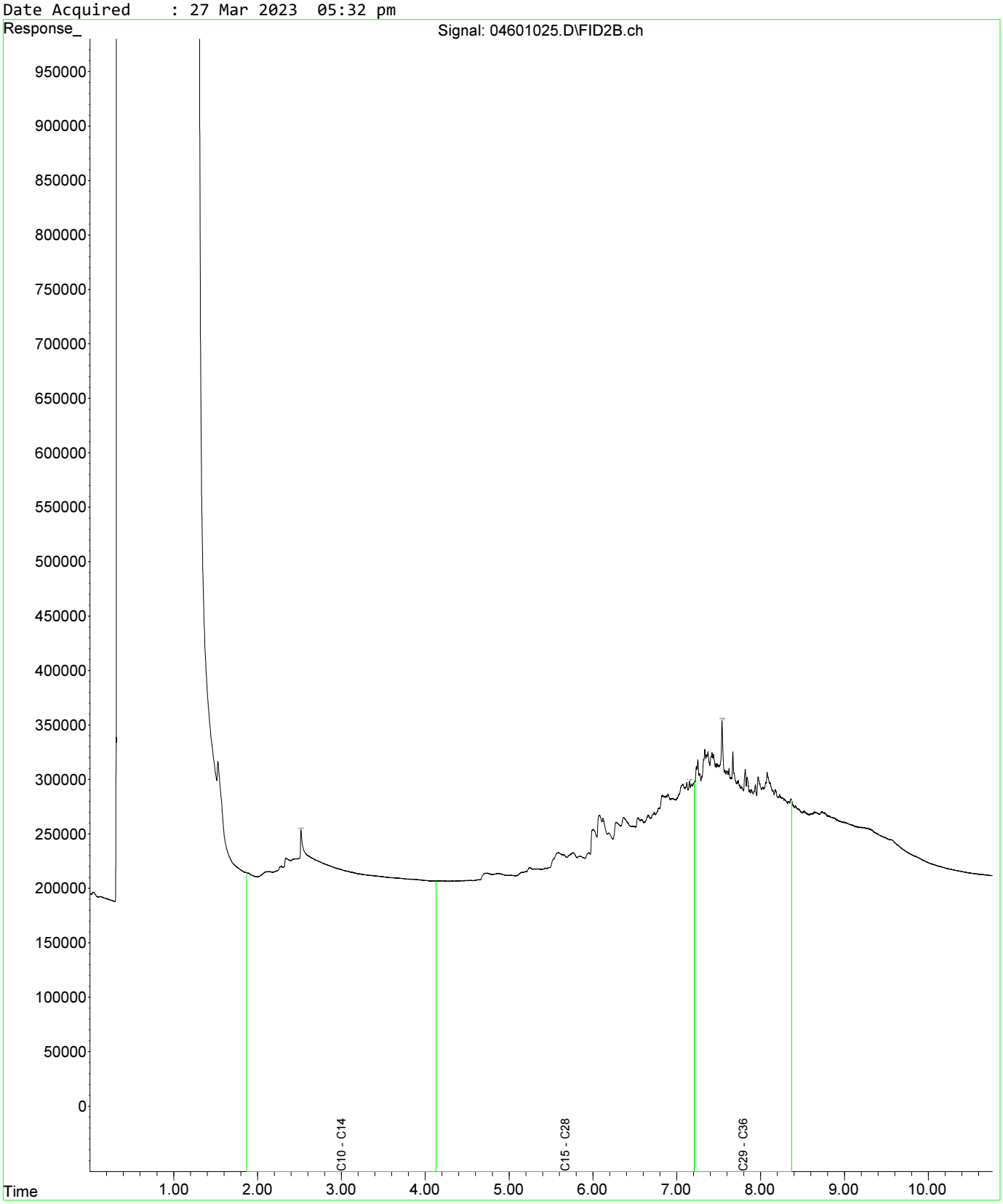
Date Acquired : 27 Mar 2023 06:05 pm



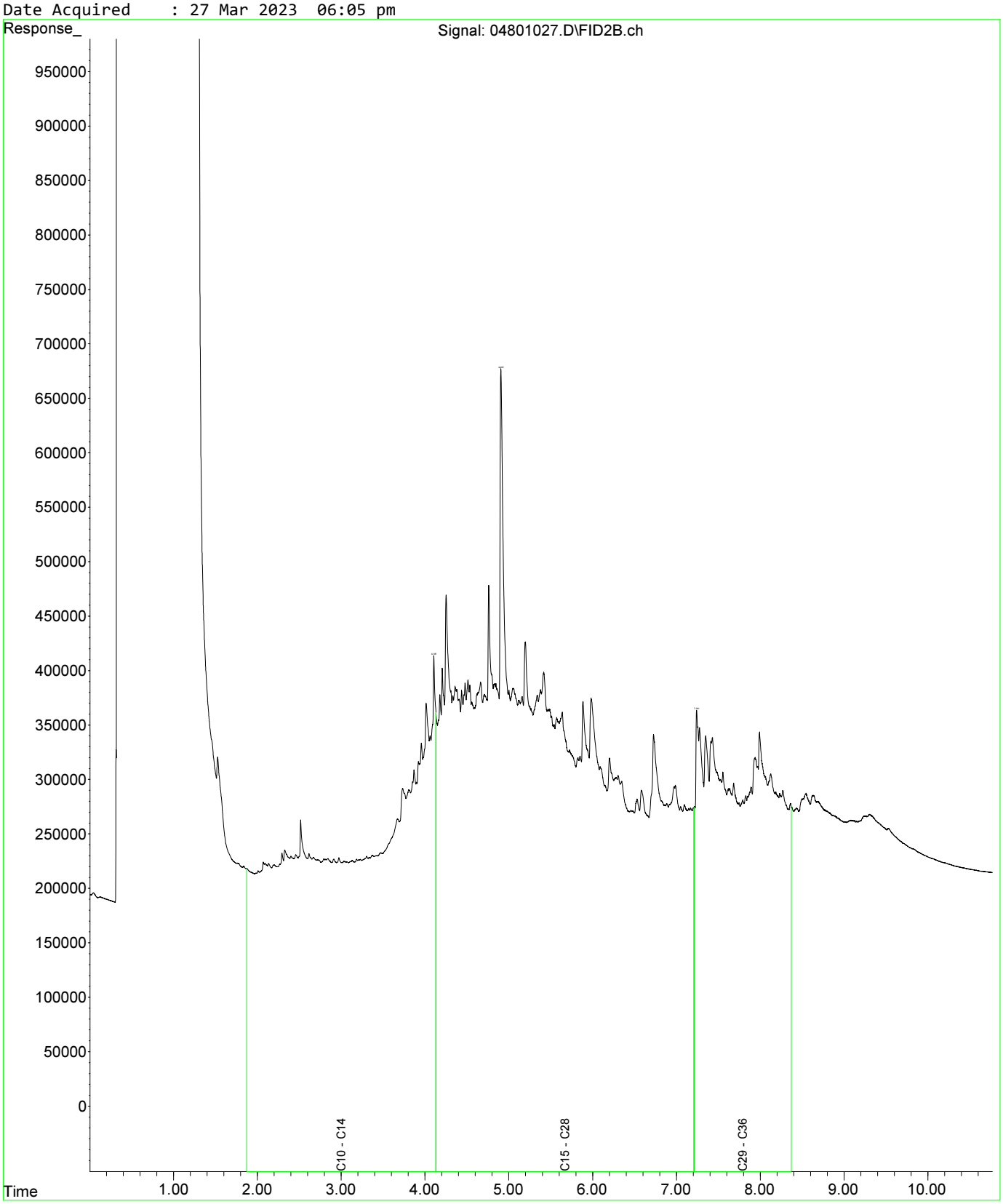
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



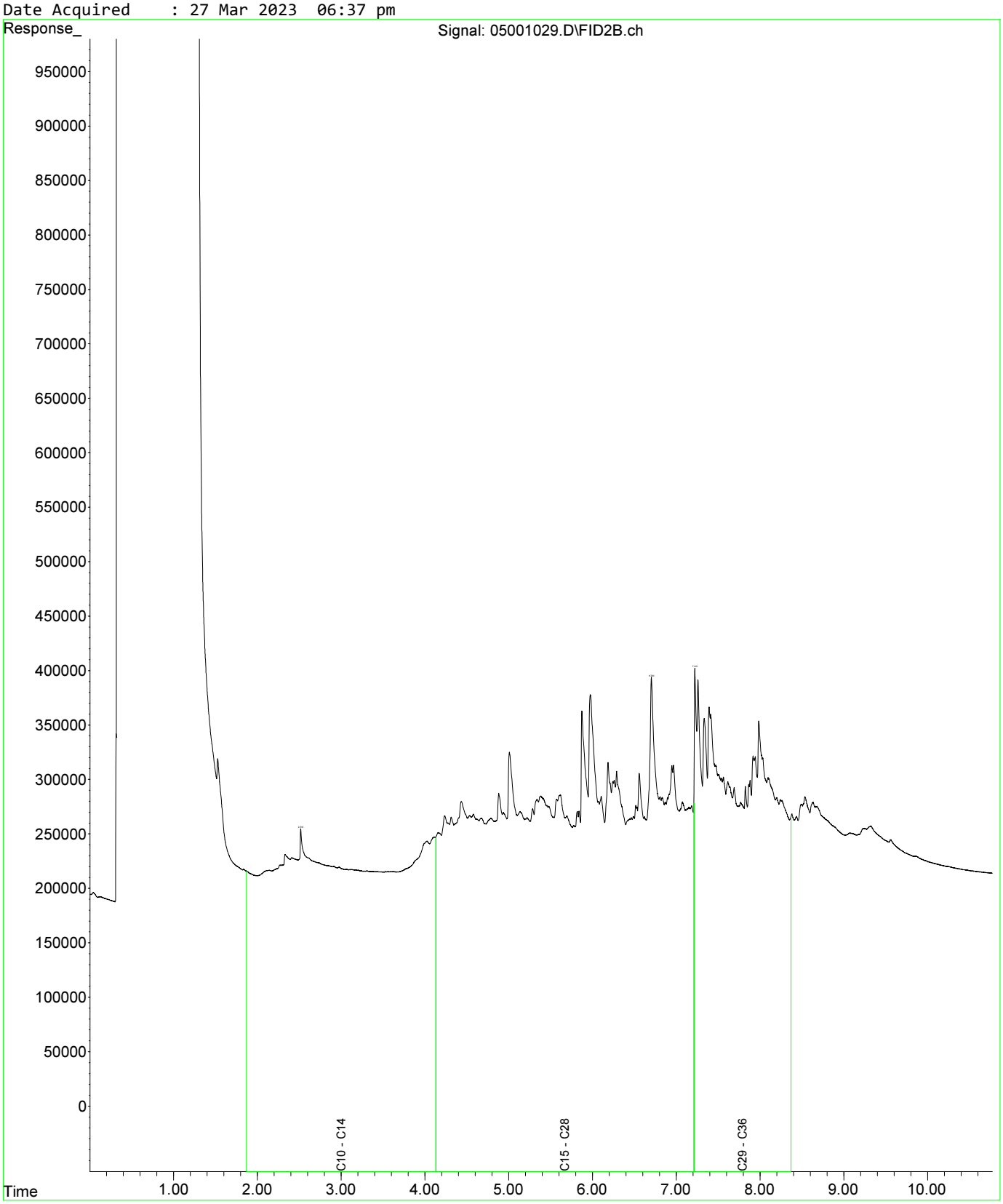
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



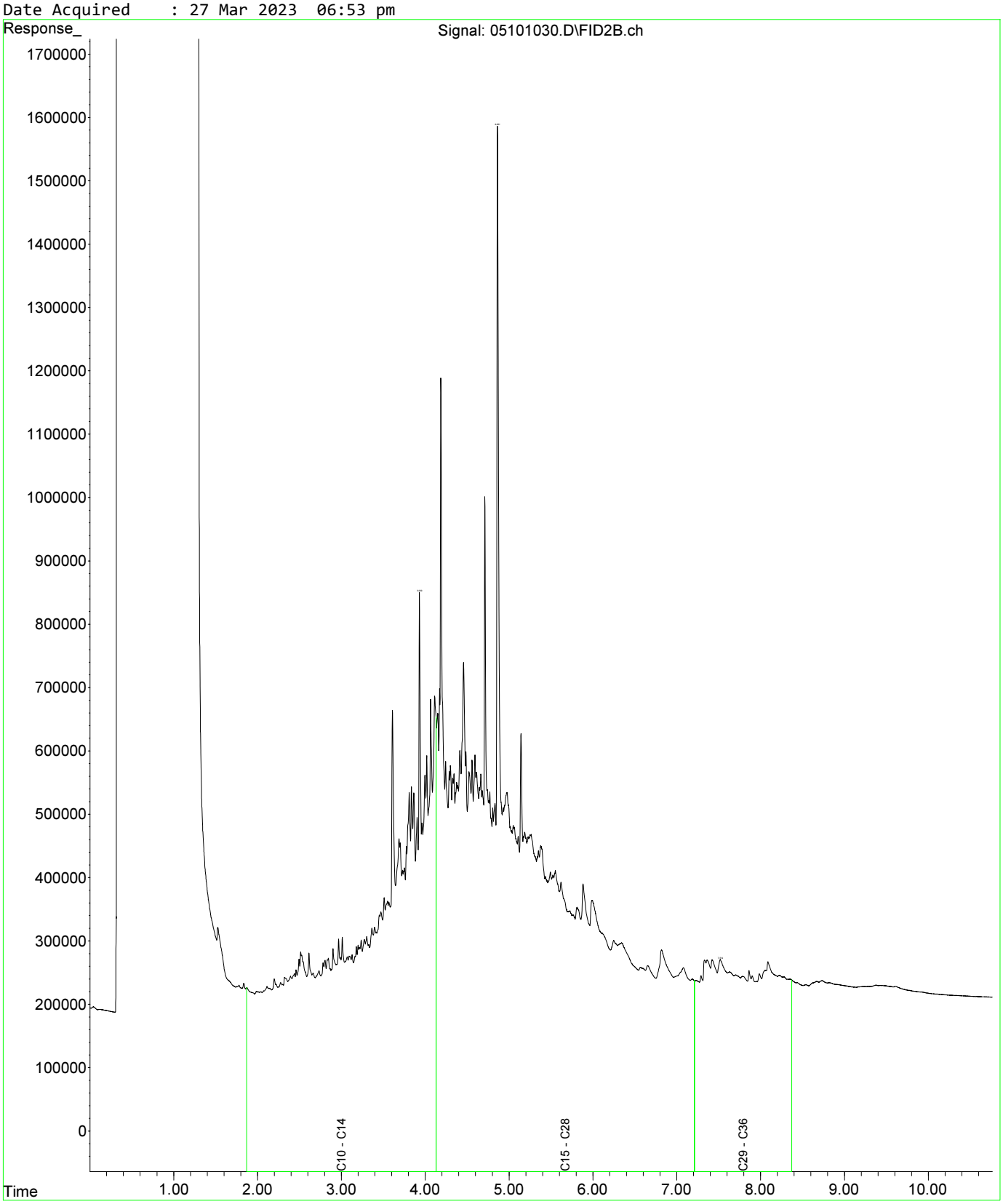
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



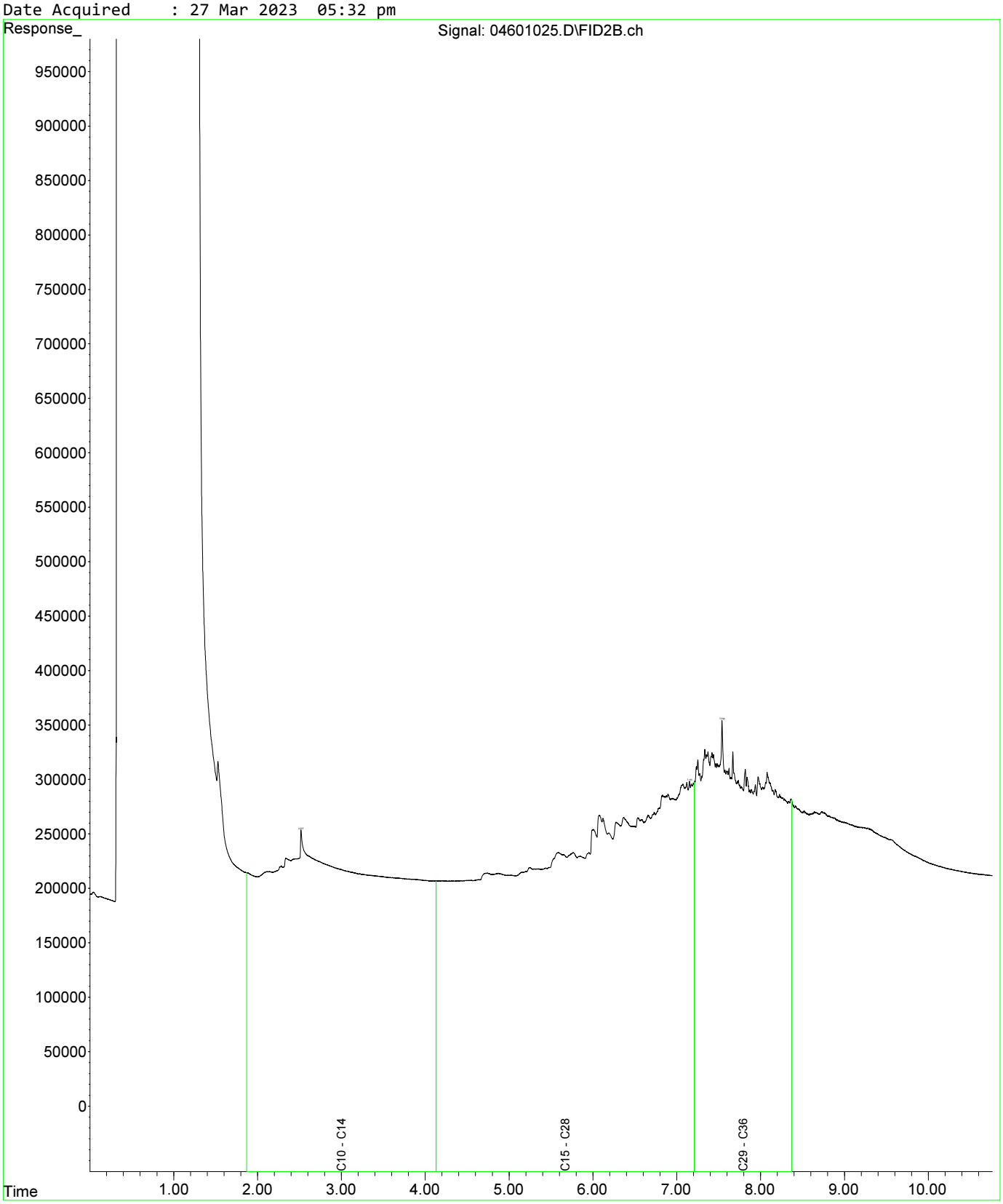
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



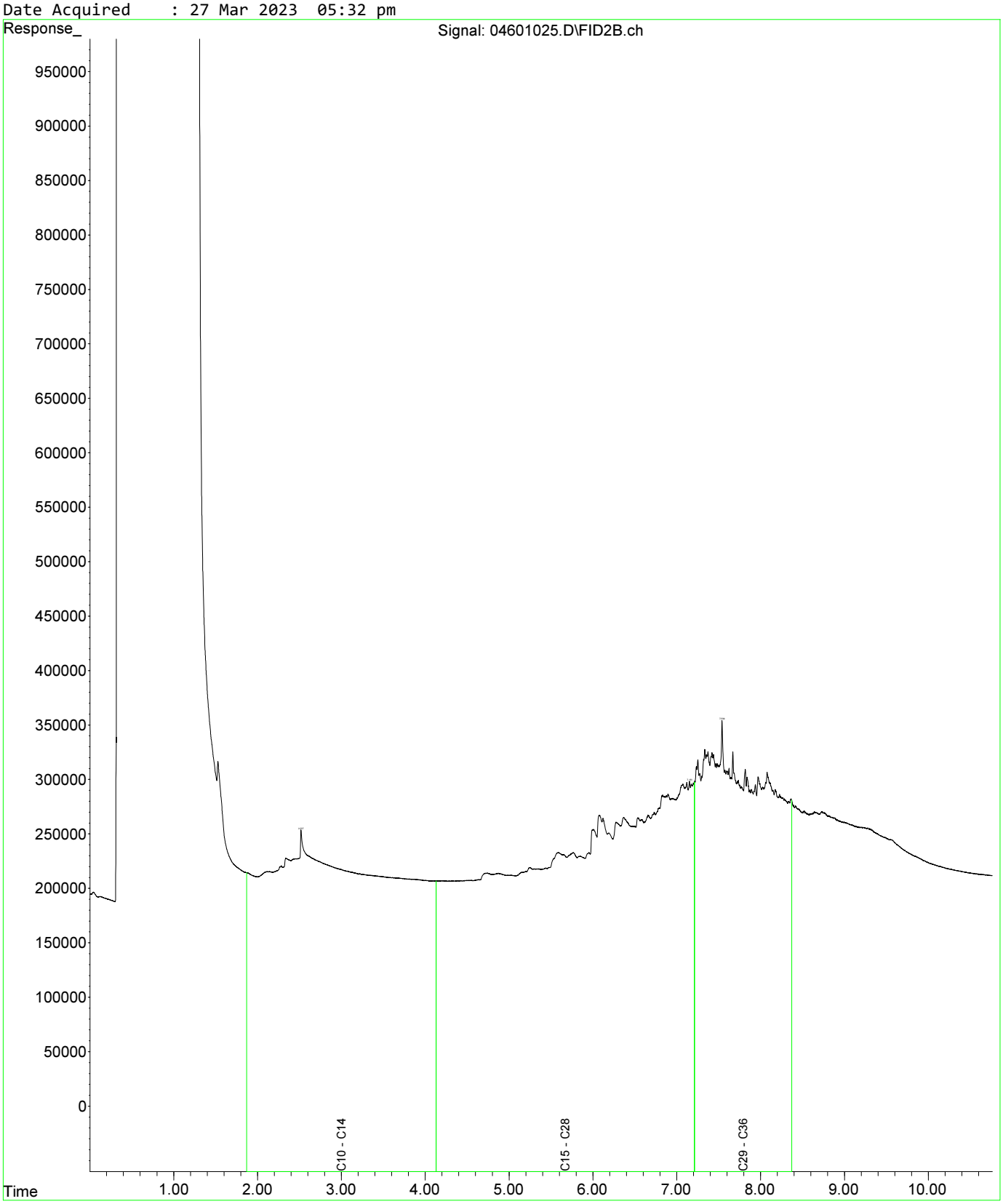
Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



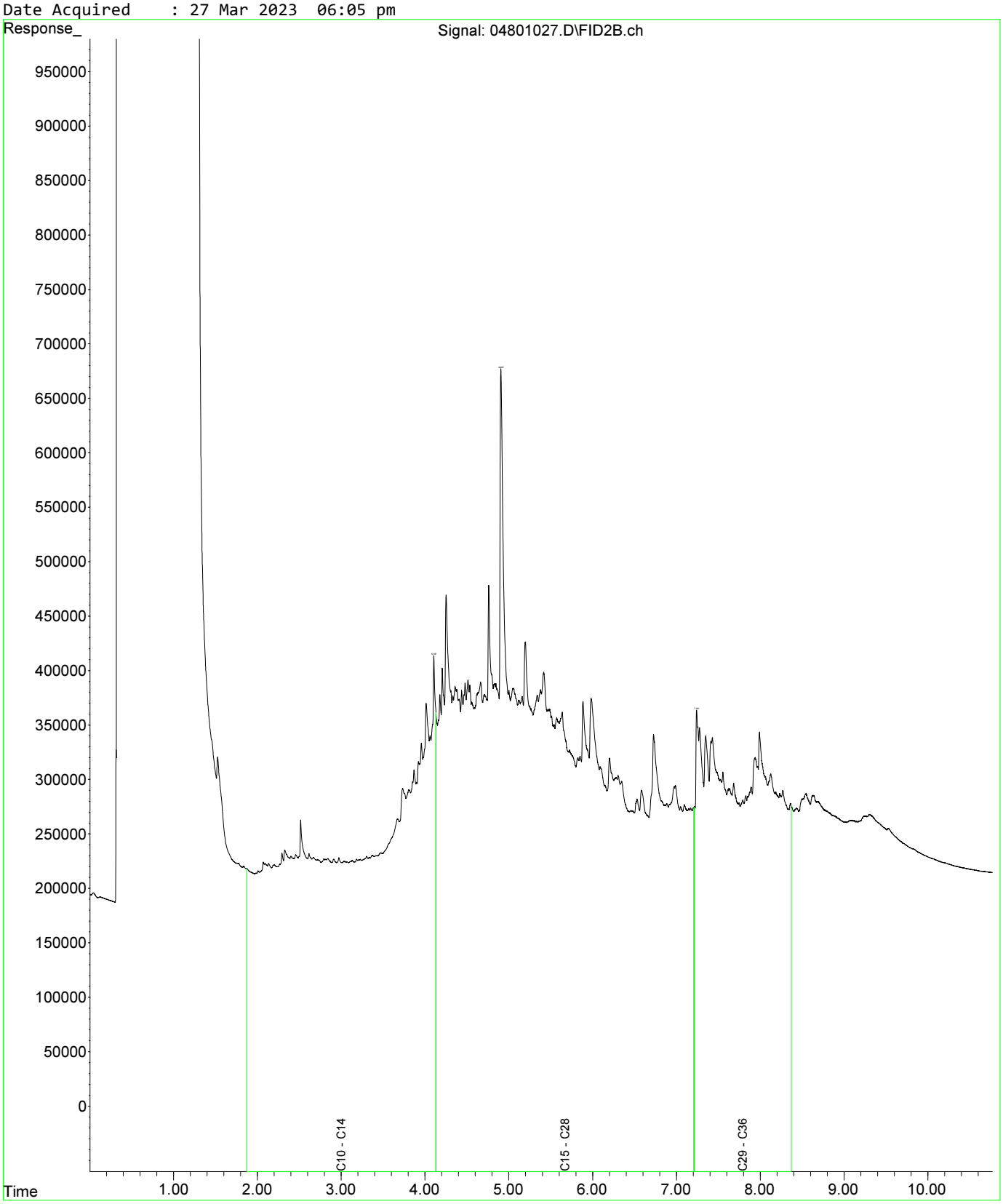
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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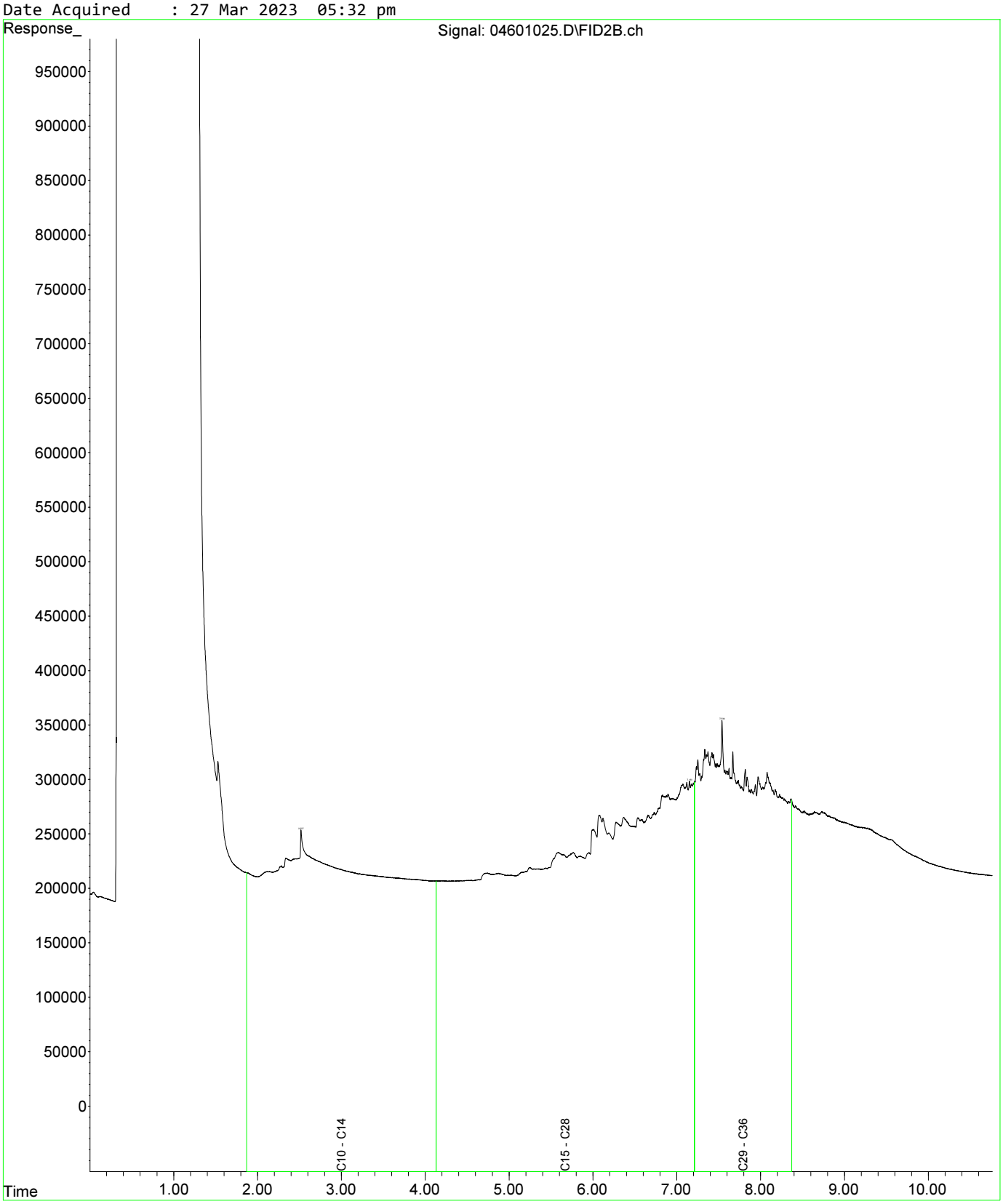
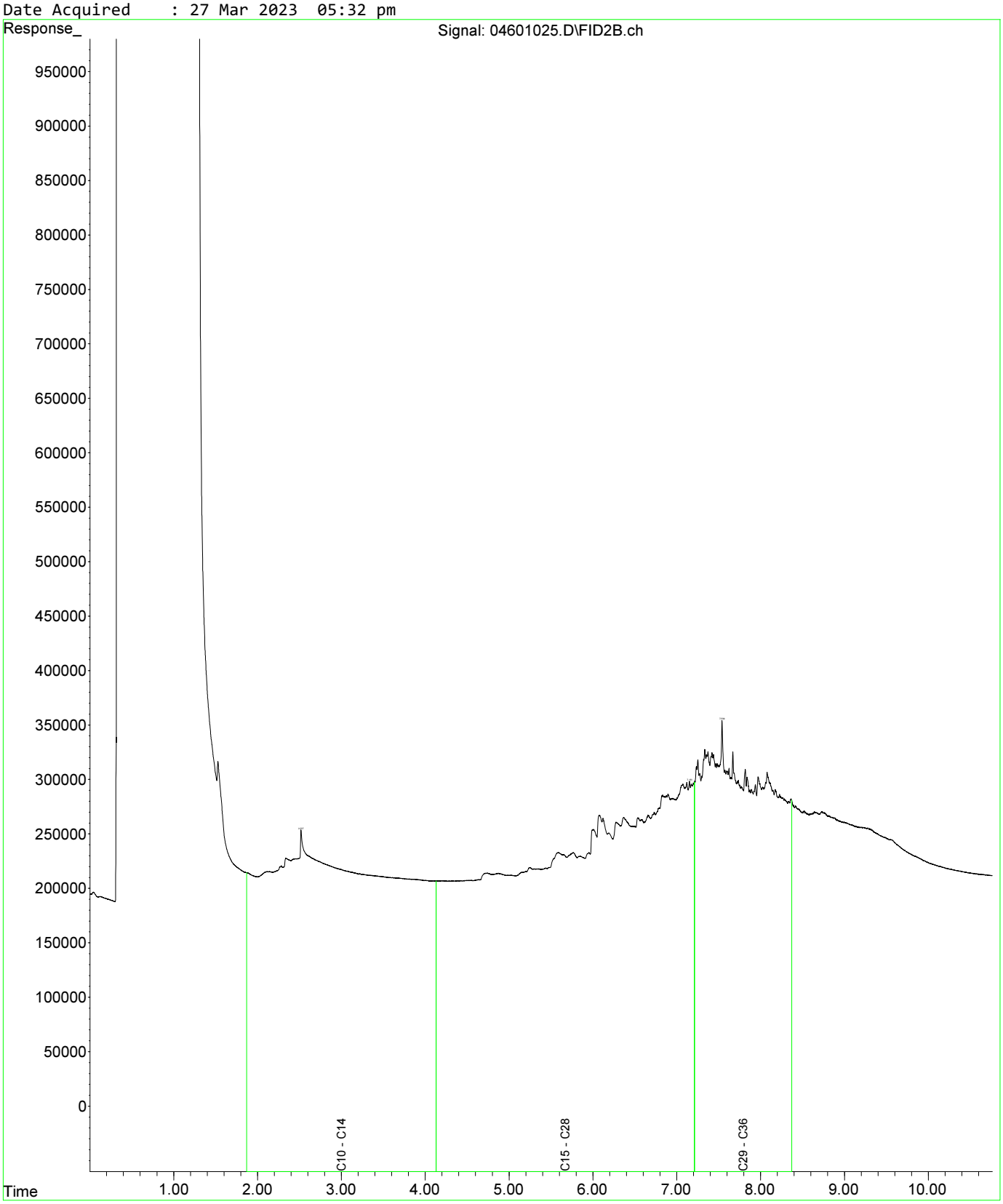
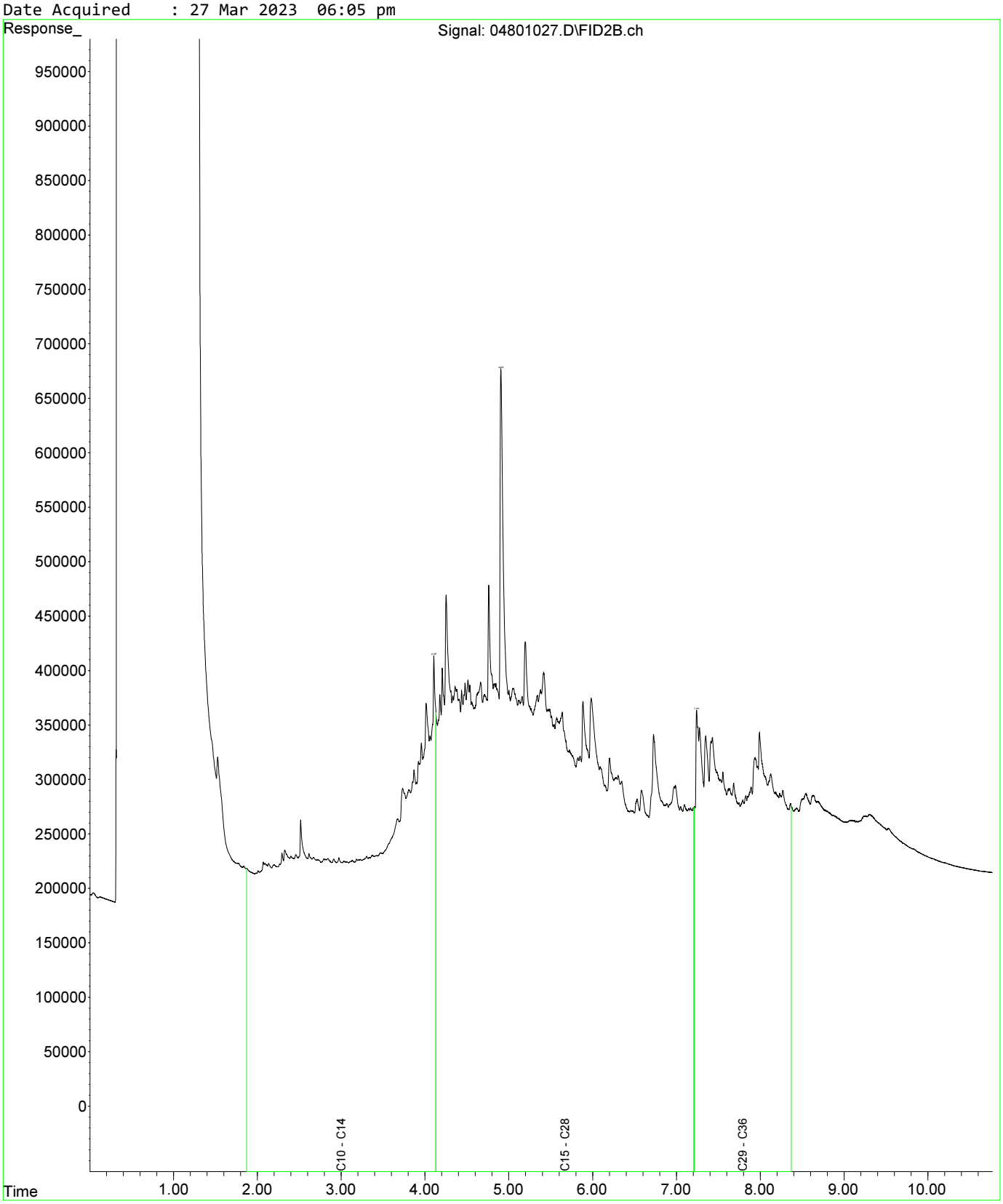
Date Acquired : 27 Mar 2023 05:32 pm



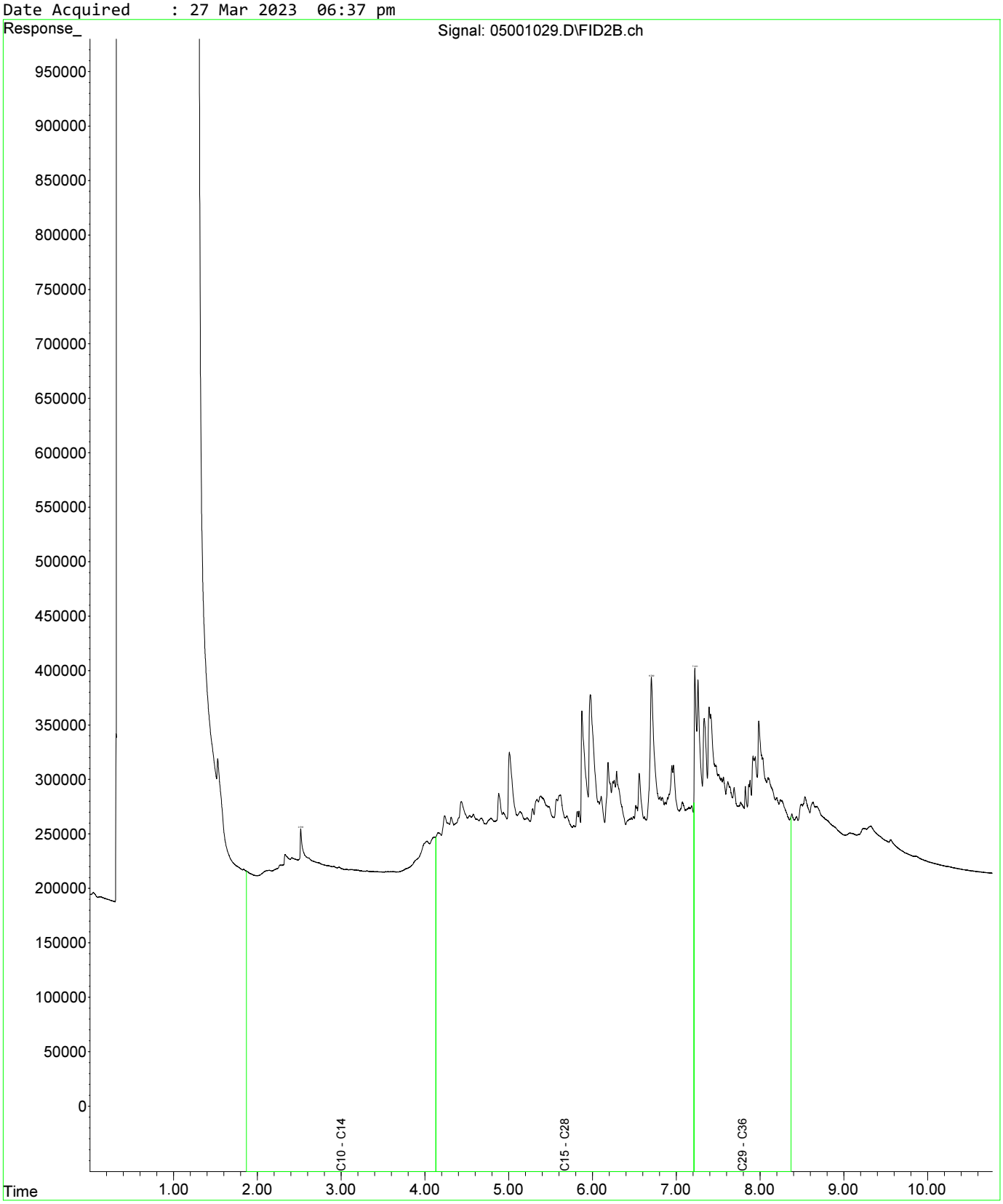
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



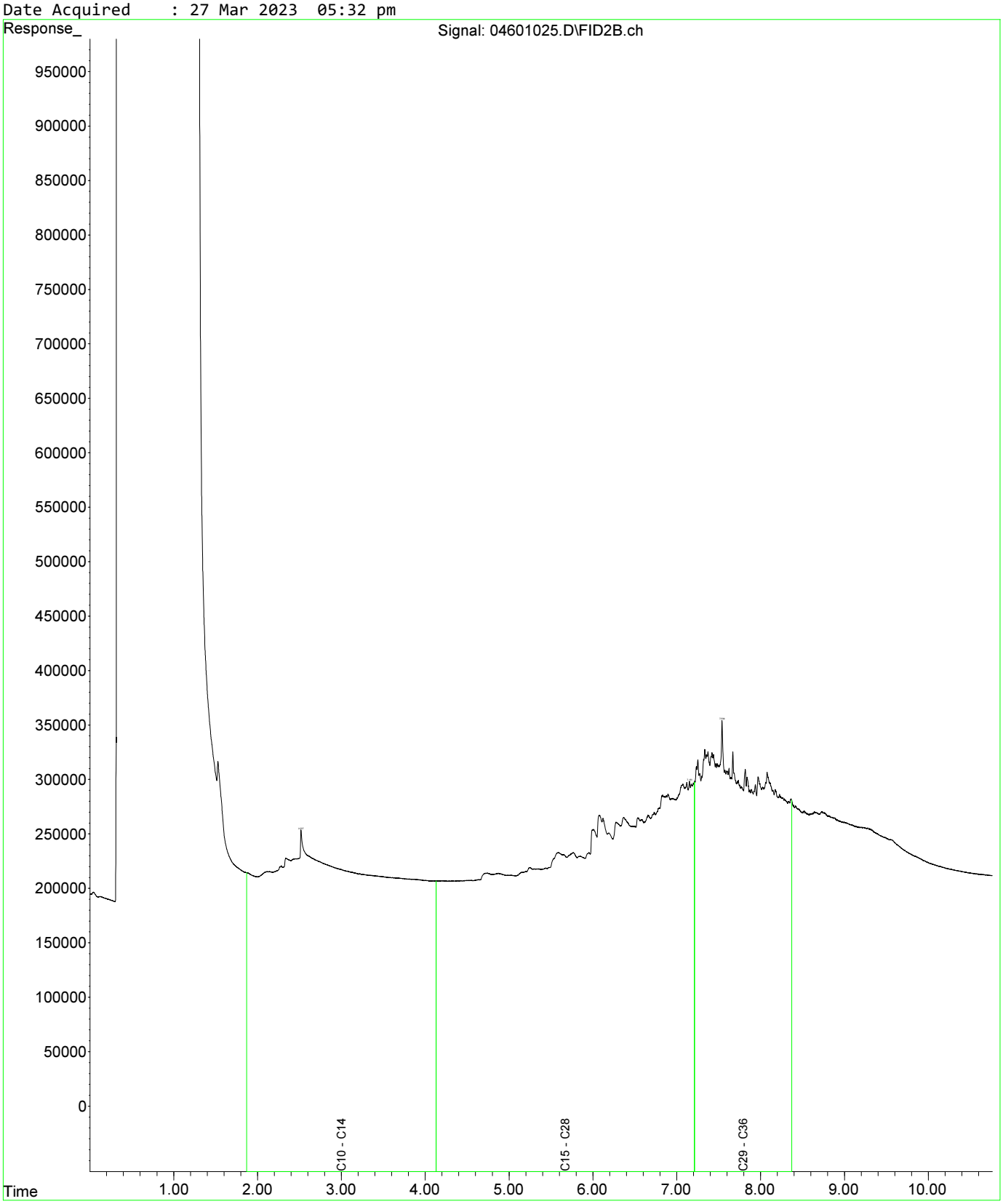
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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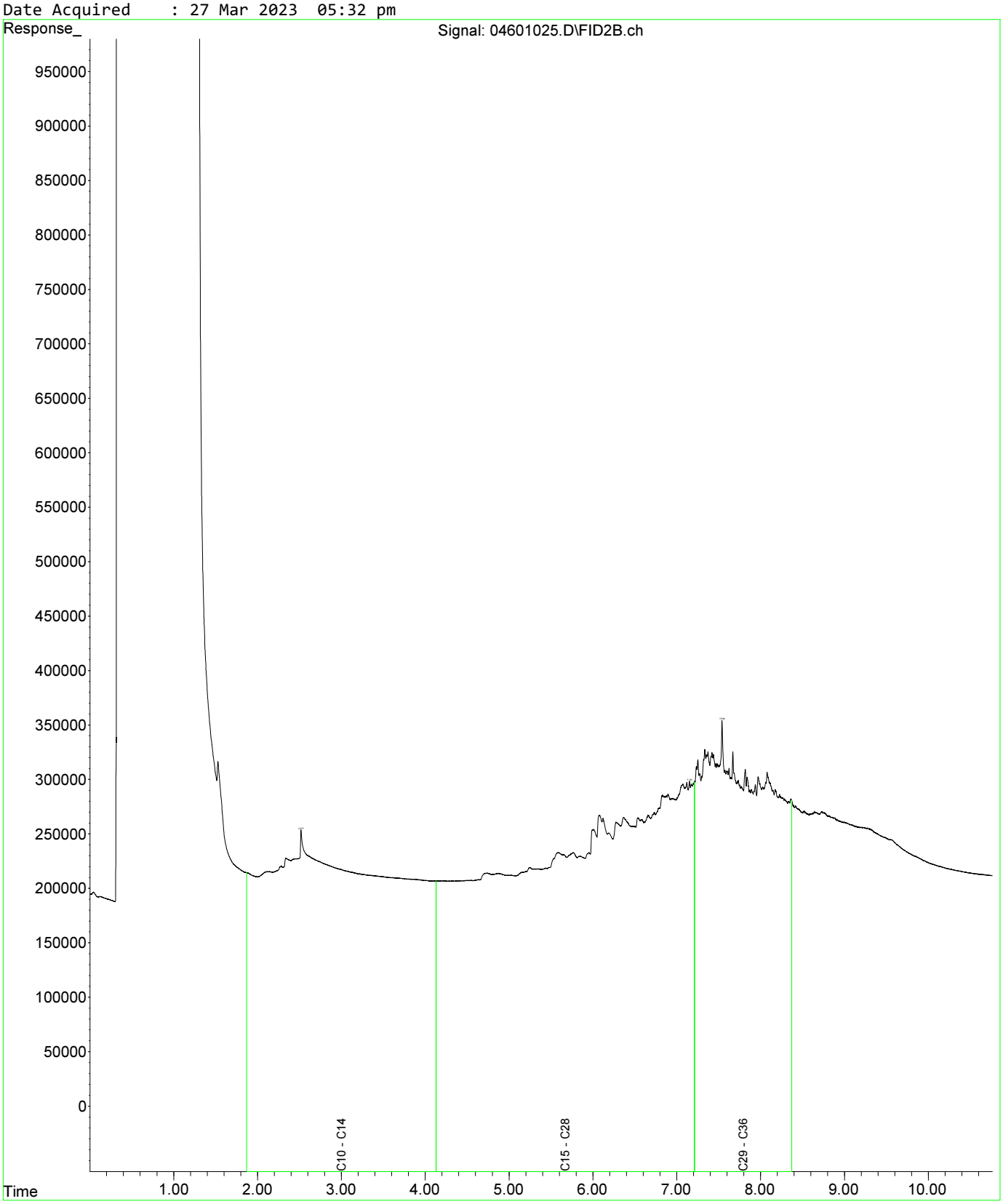
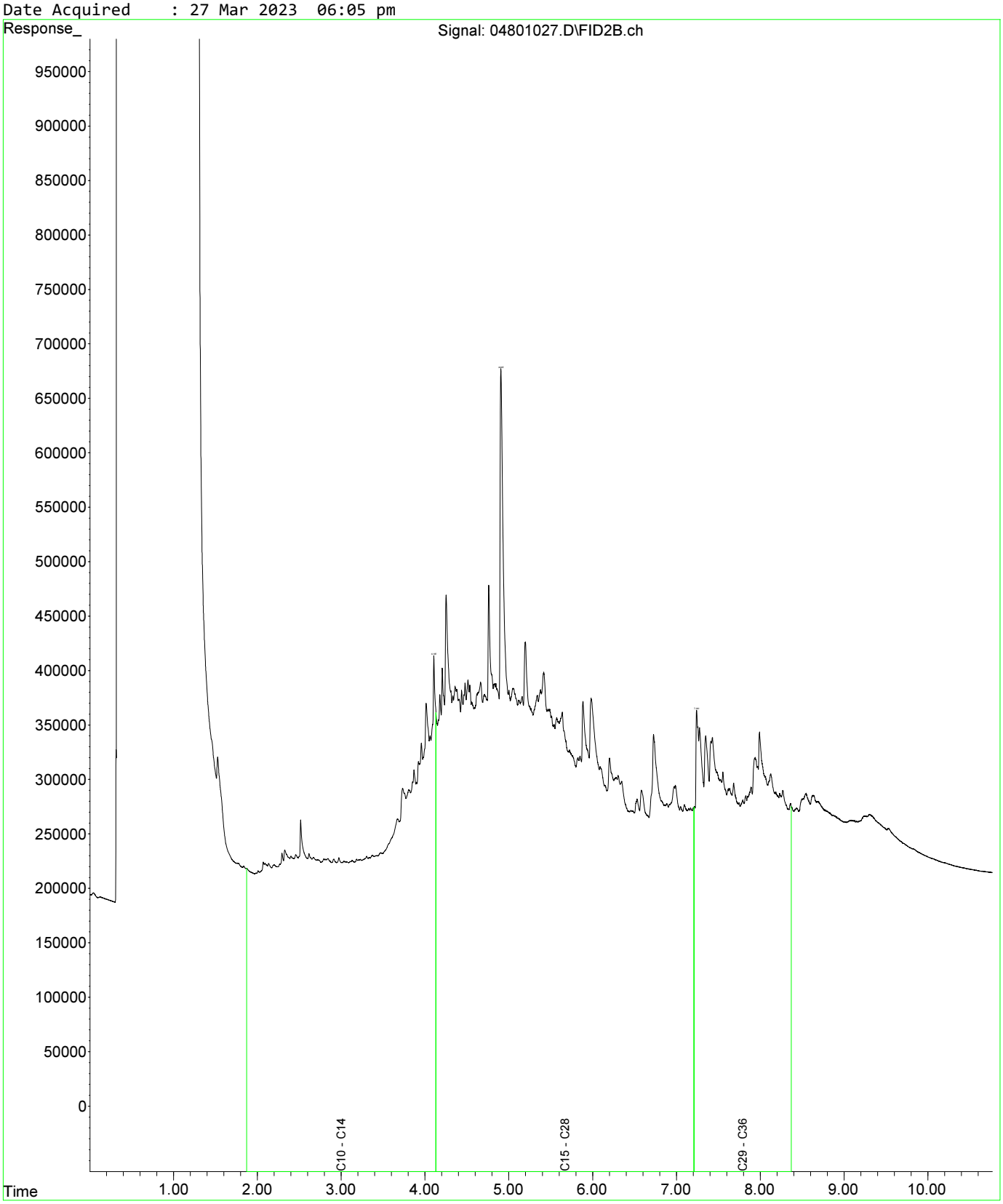
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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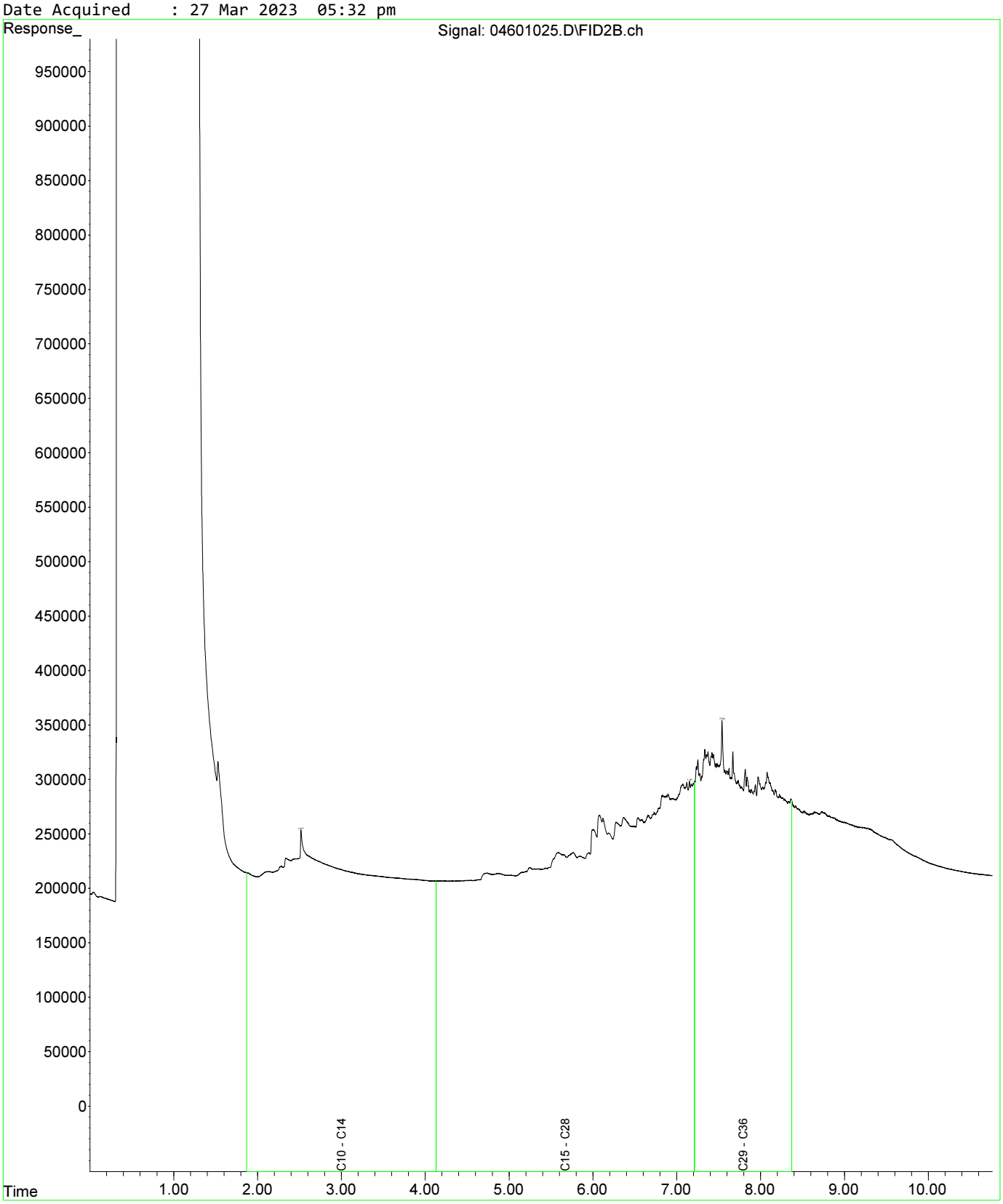
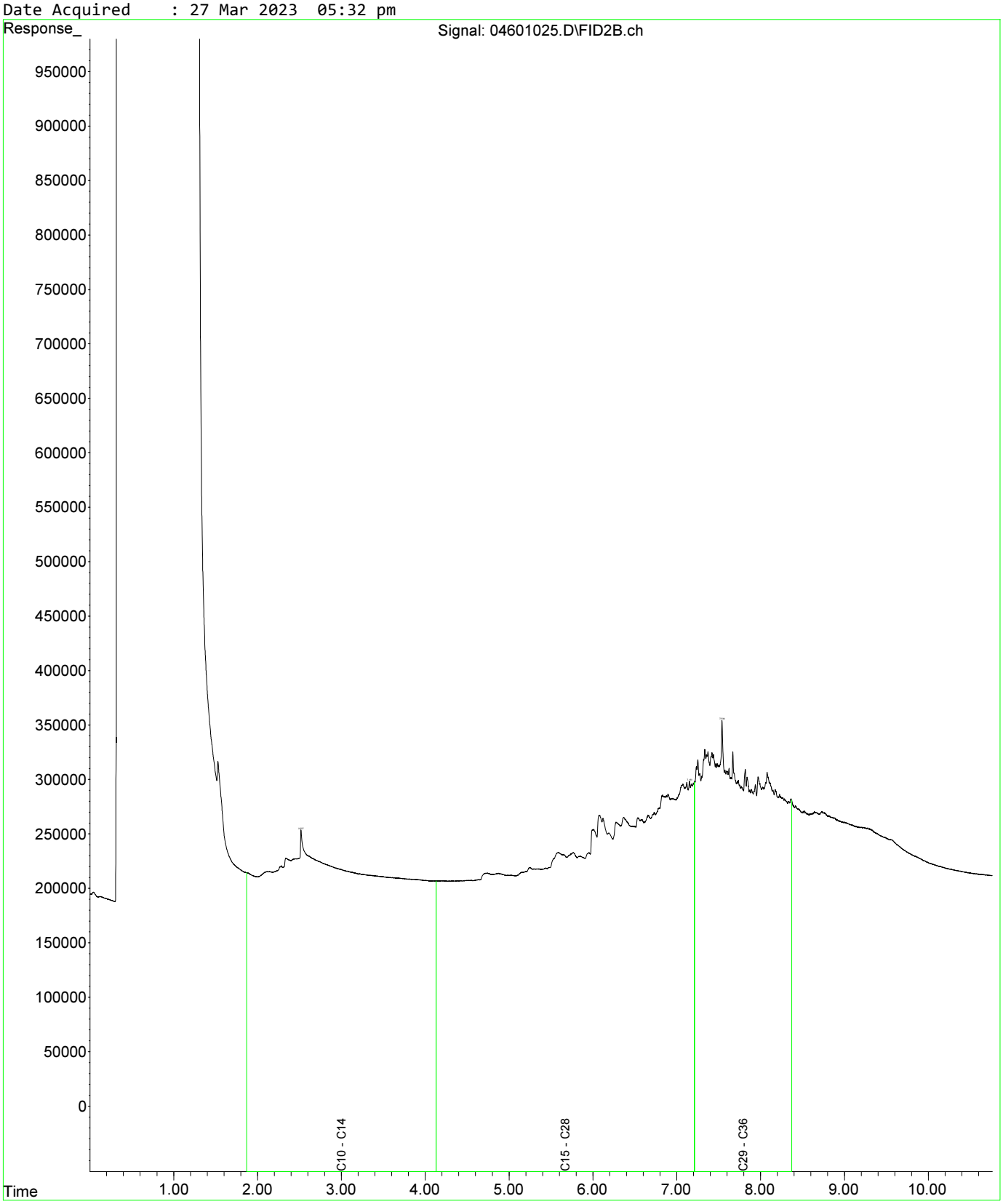
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
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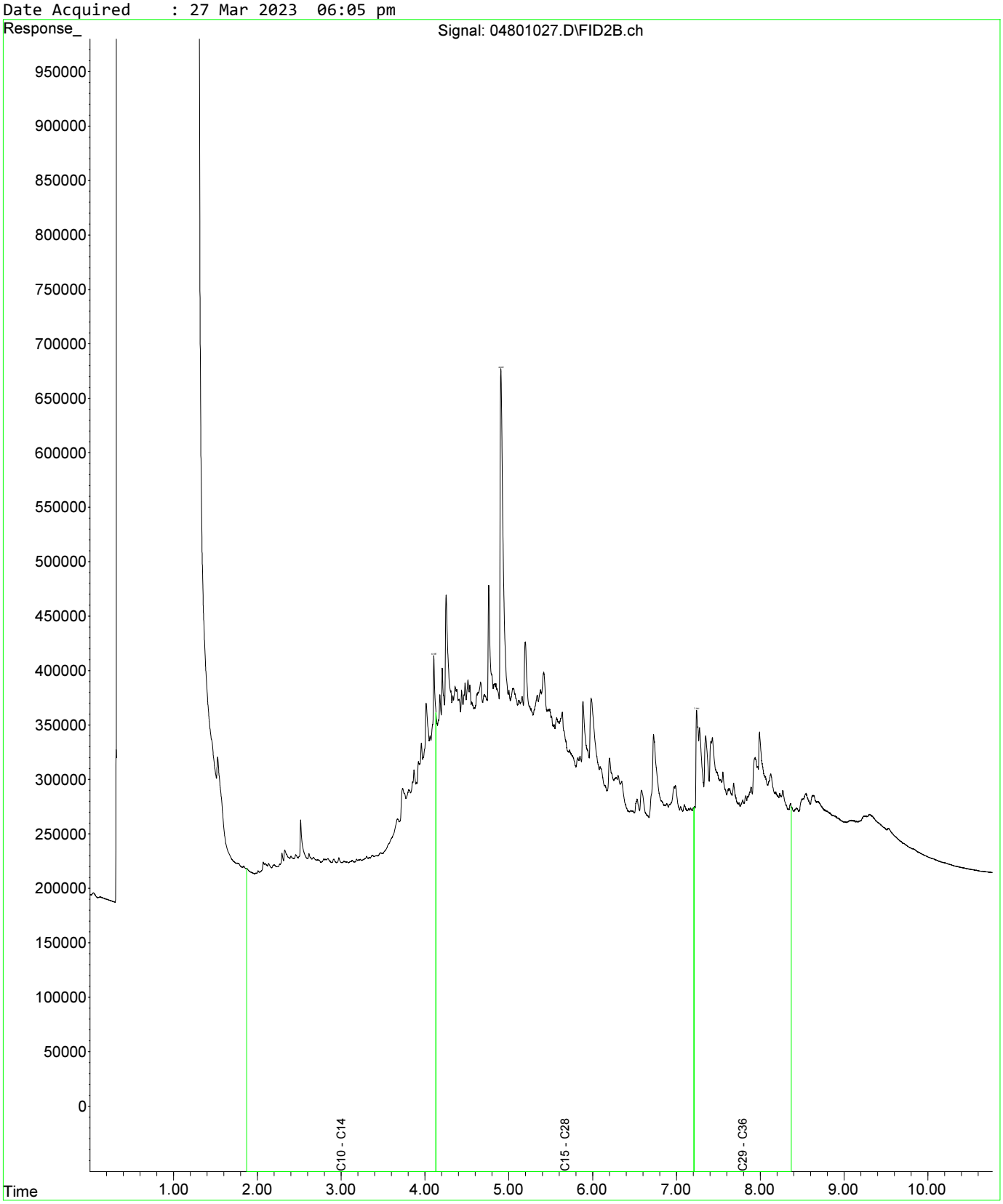
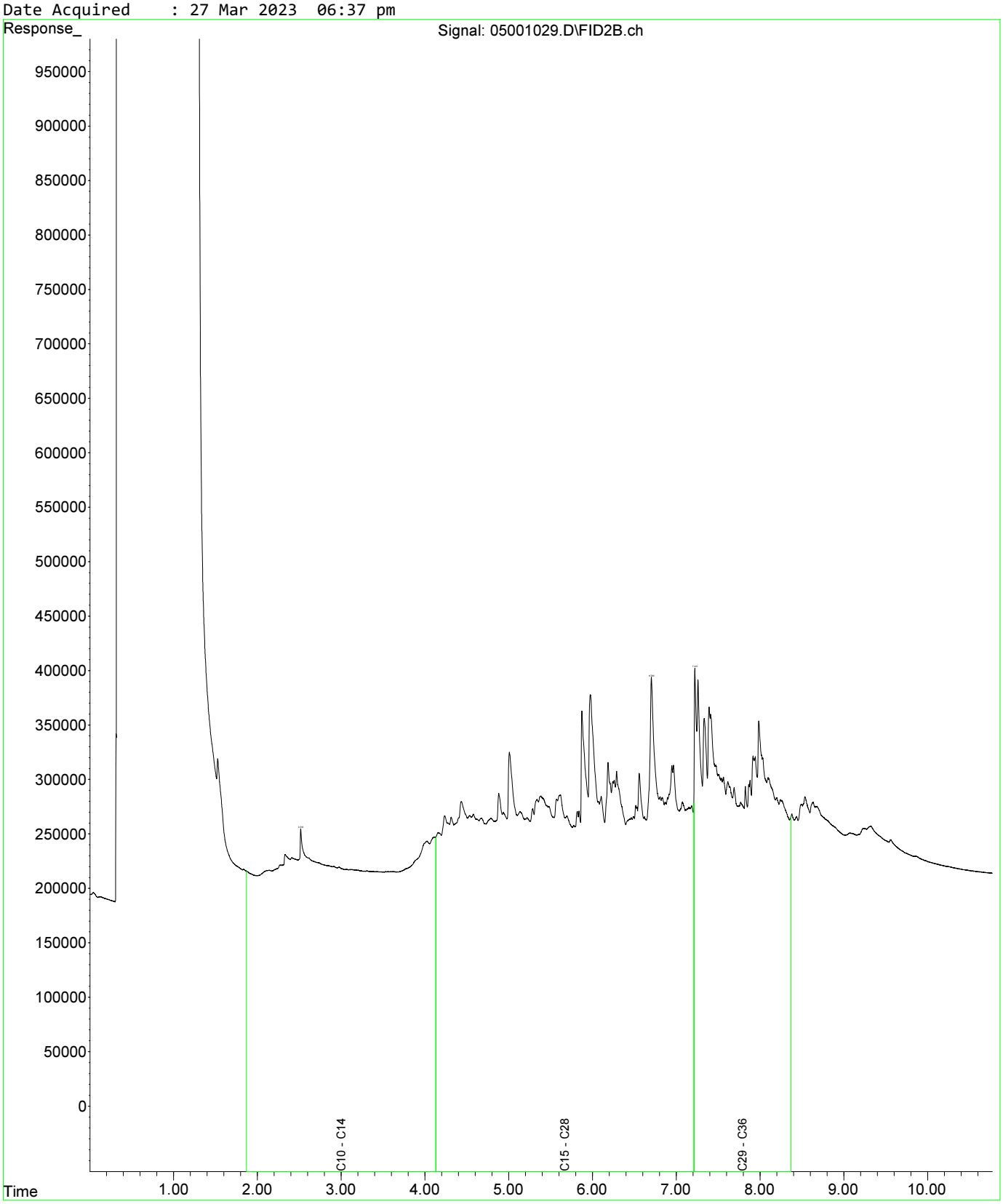
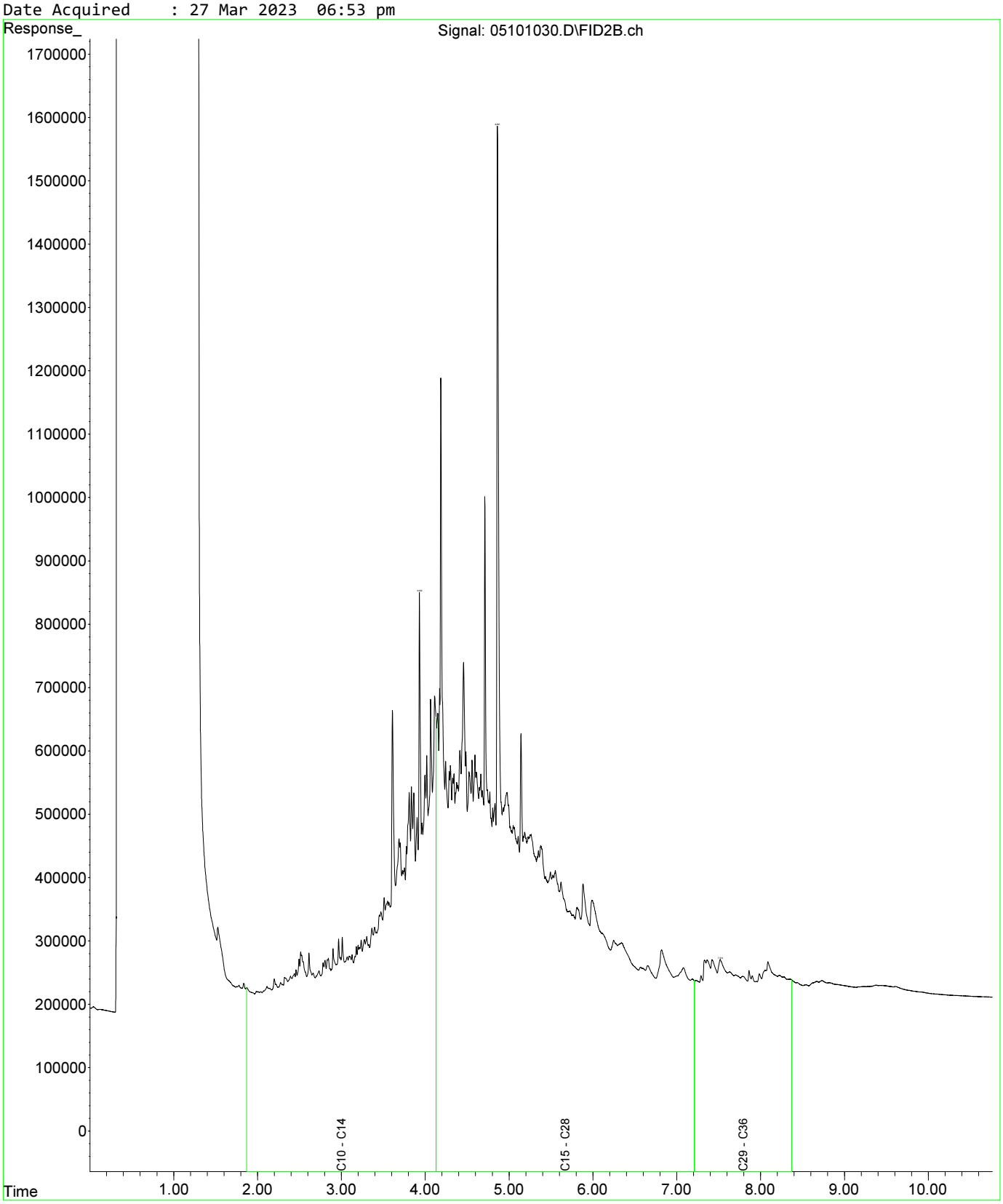
Date Acquired : 27 Mar 2023 06:05 pm



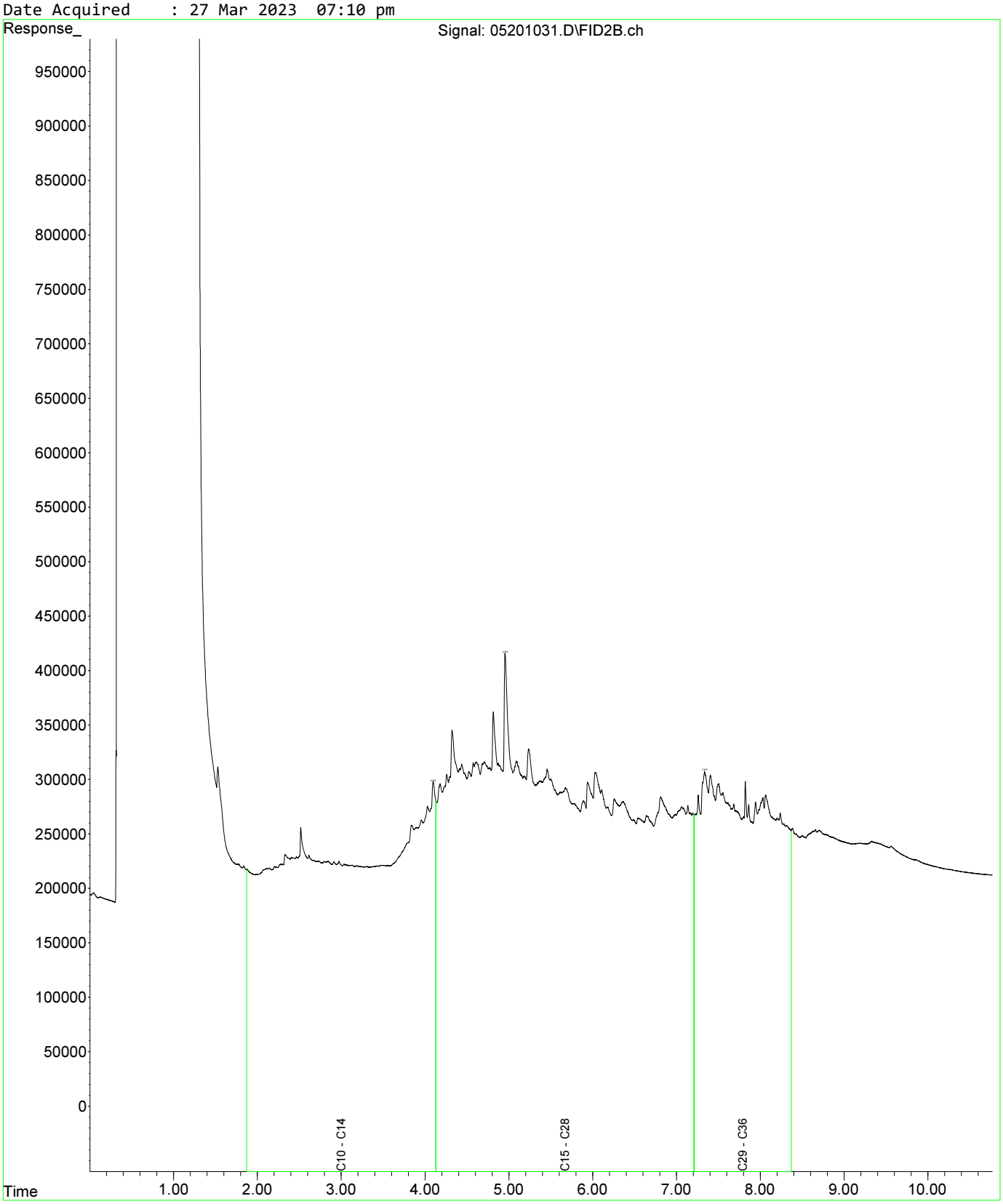
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



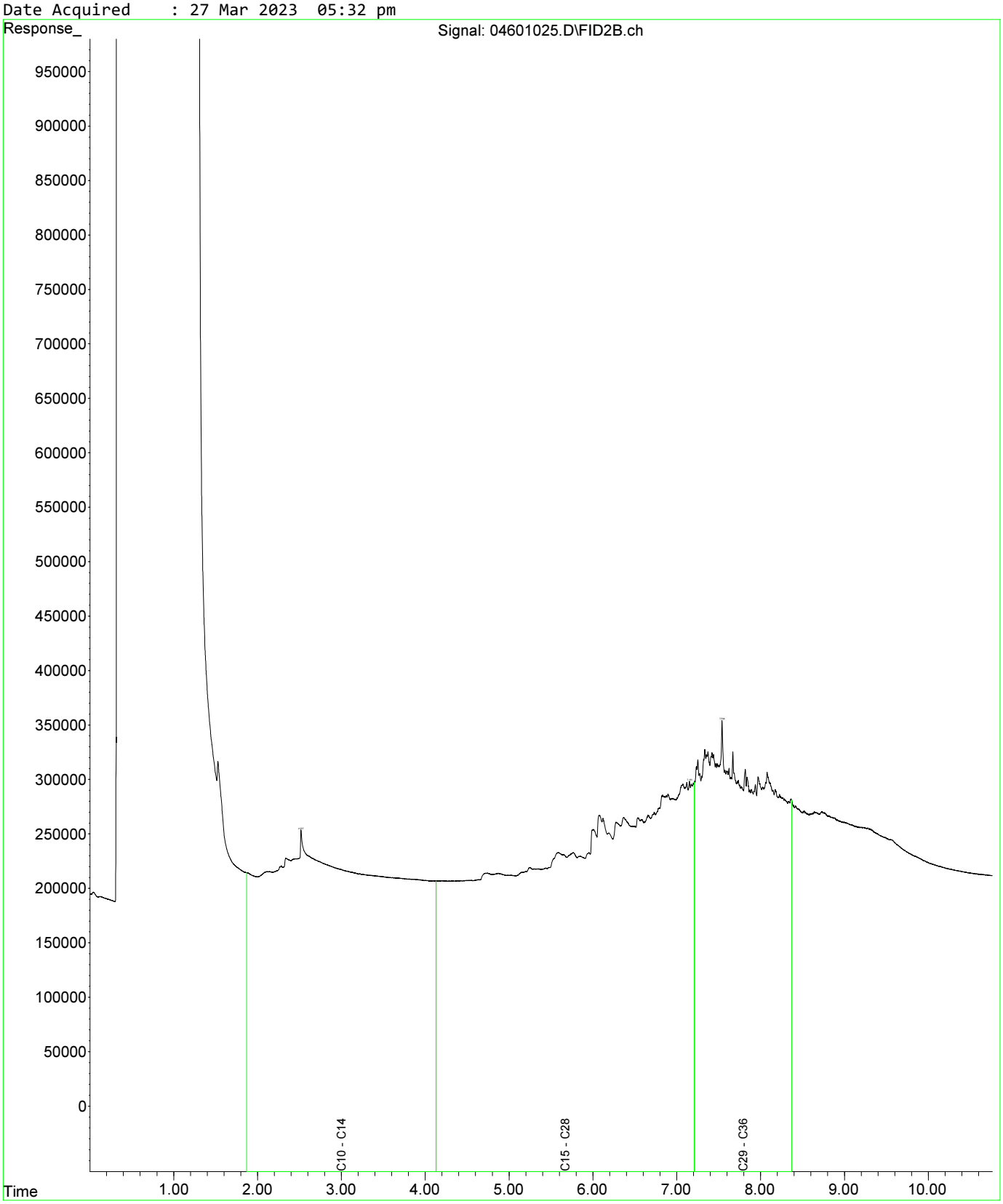
Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



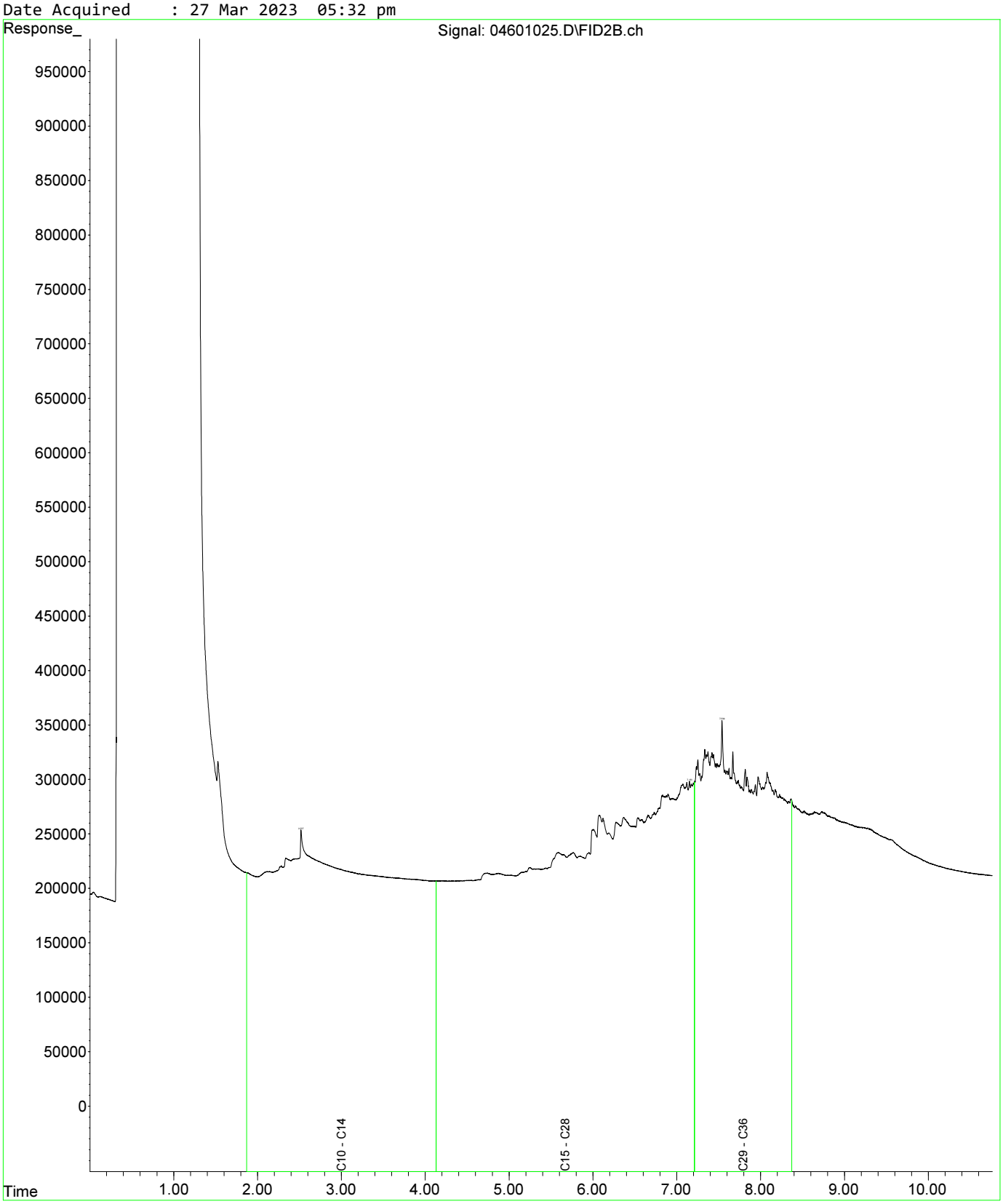
Fraction Scheme : Standard
Data File : 05201031.D
Laboratory Number: EM2305209-027
Sample ID : UST_SP_EXT_03
Date Acquired : 27 Mar 2023 07:10 pm



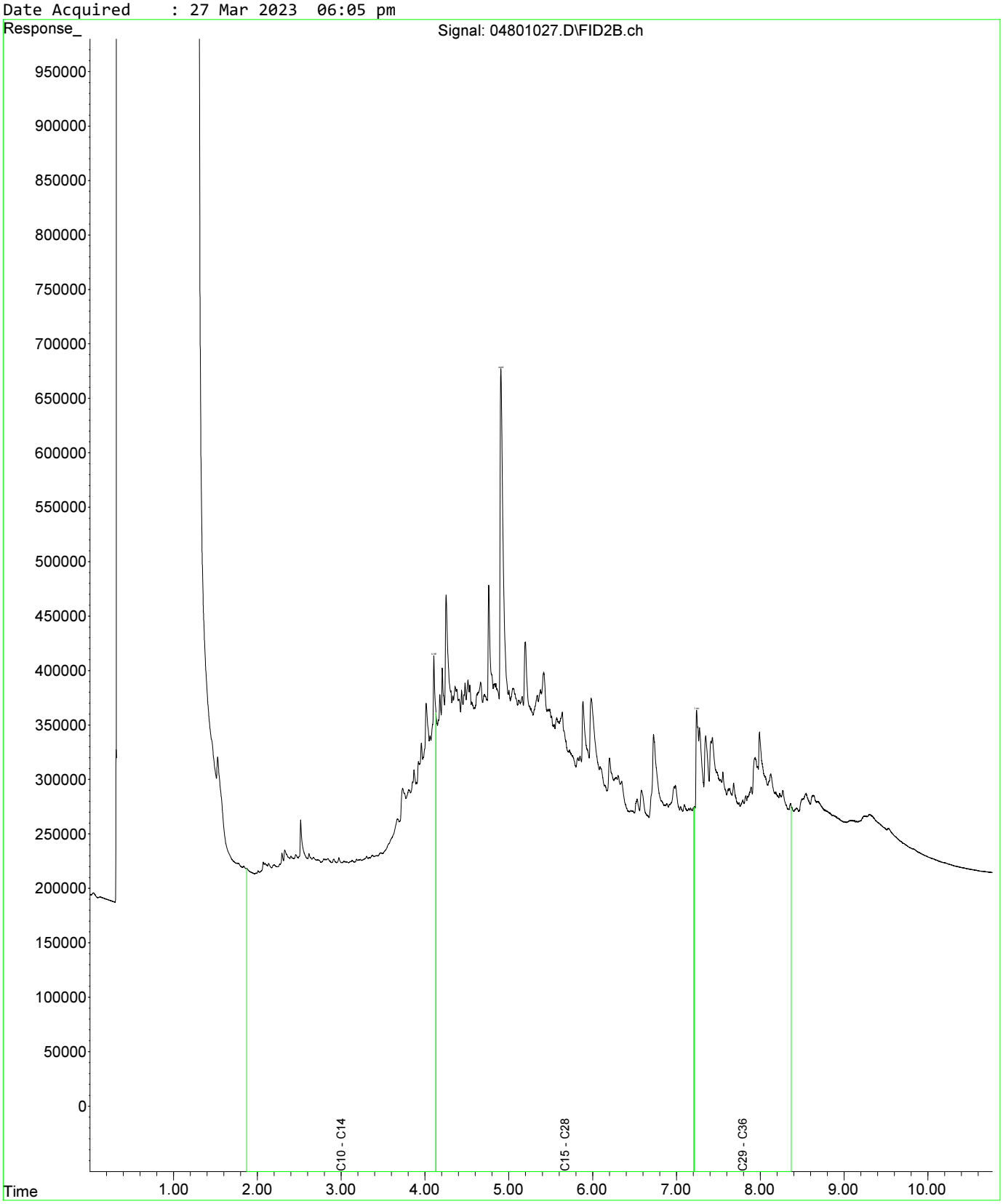
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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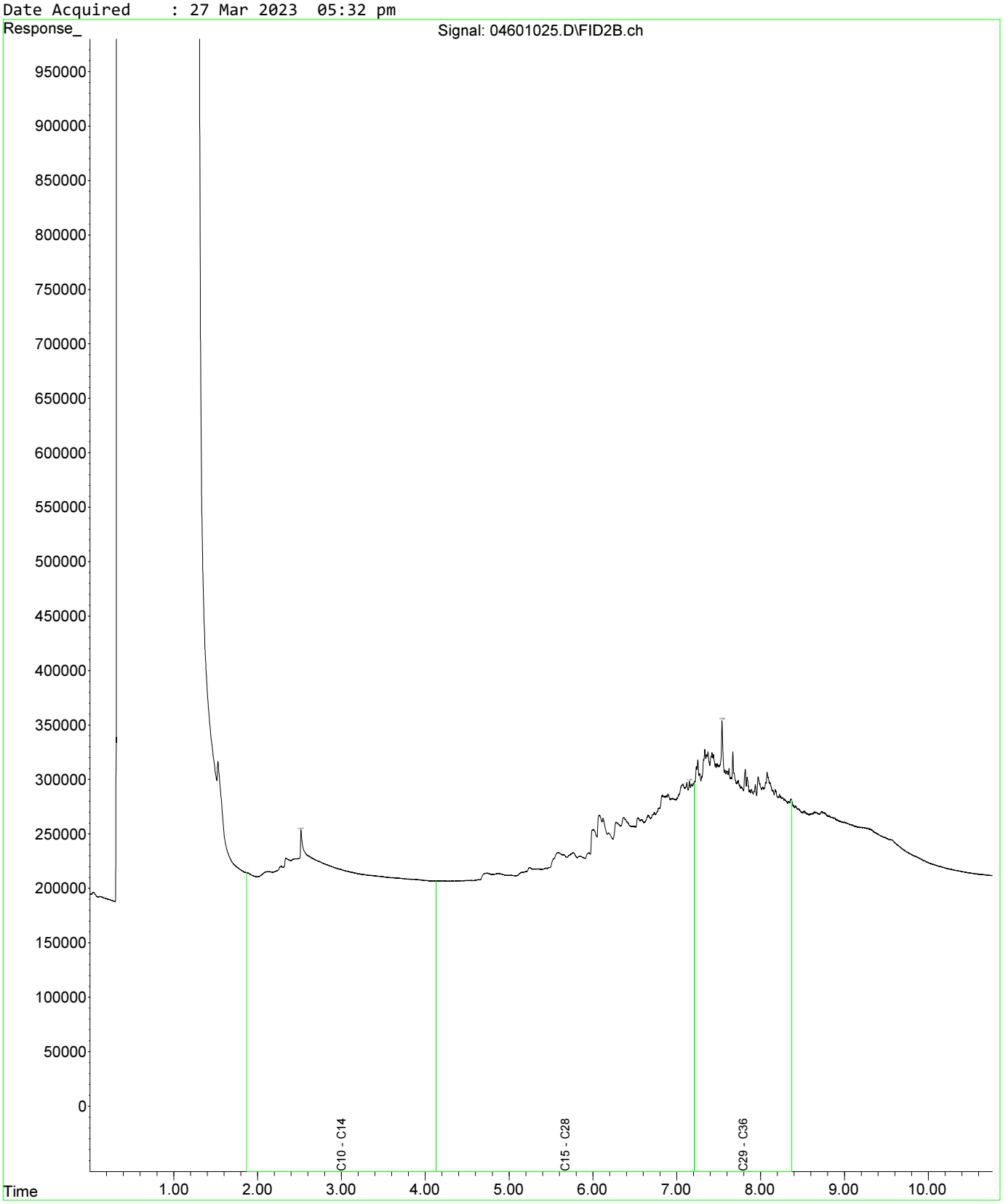

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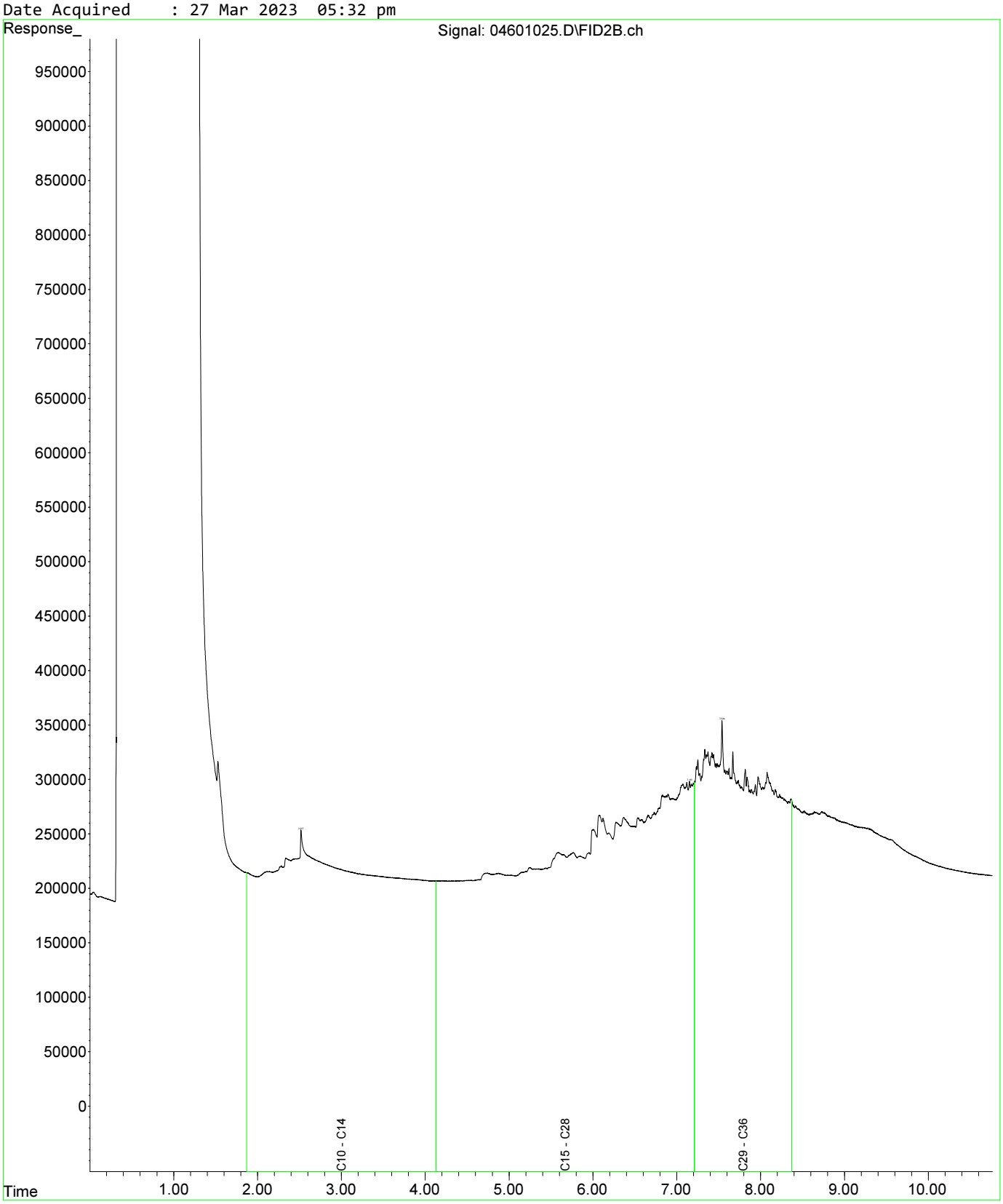

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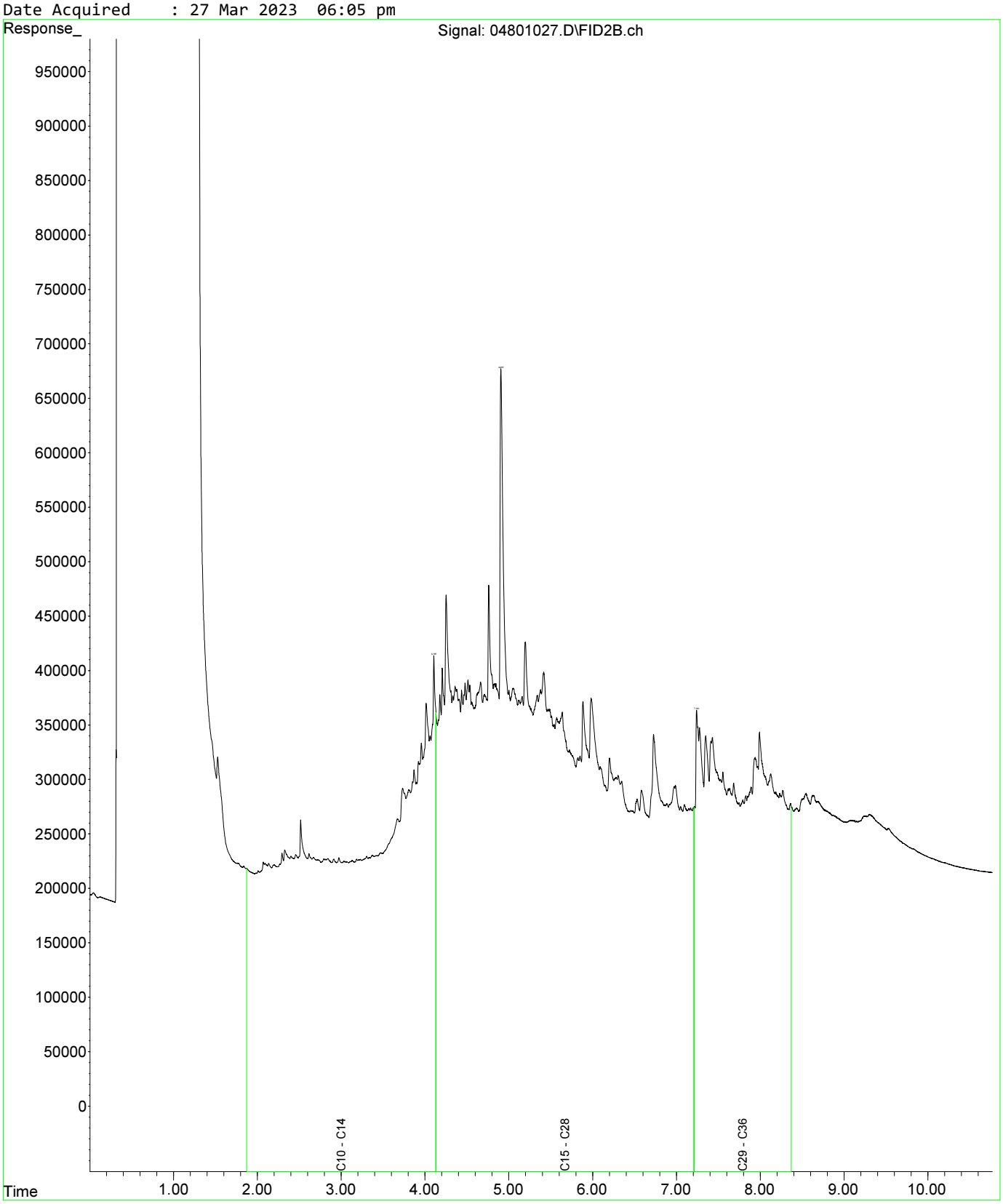

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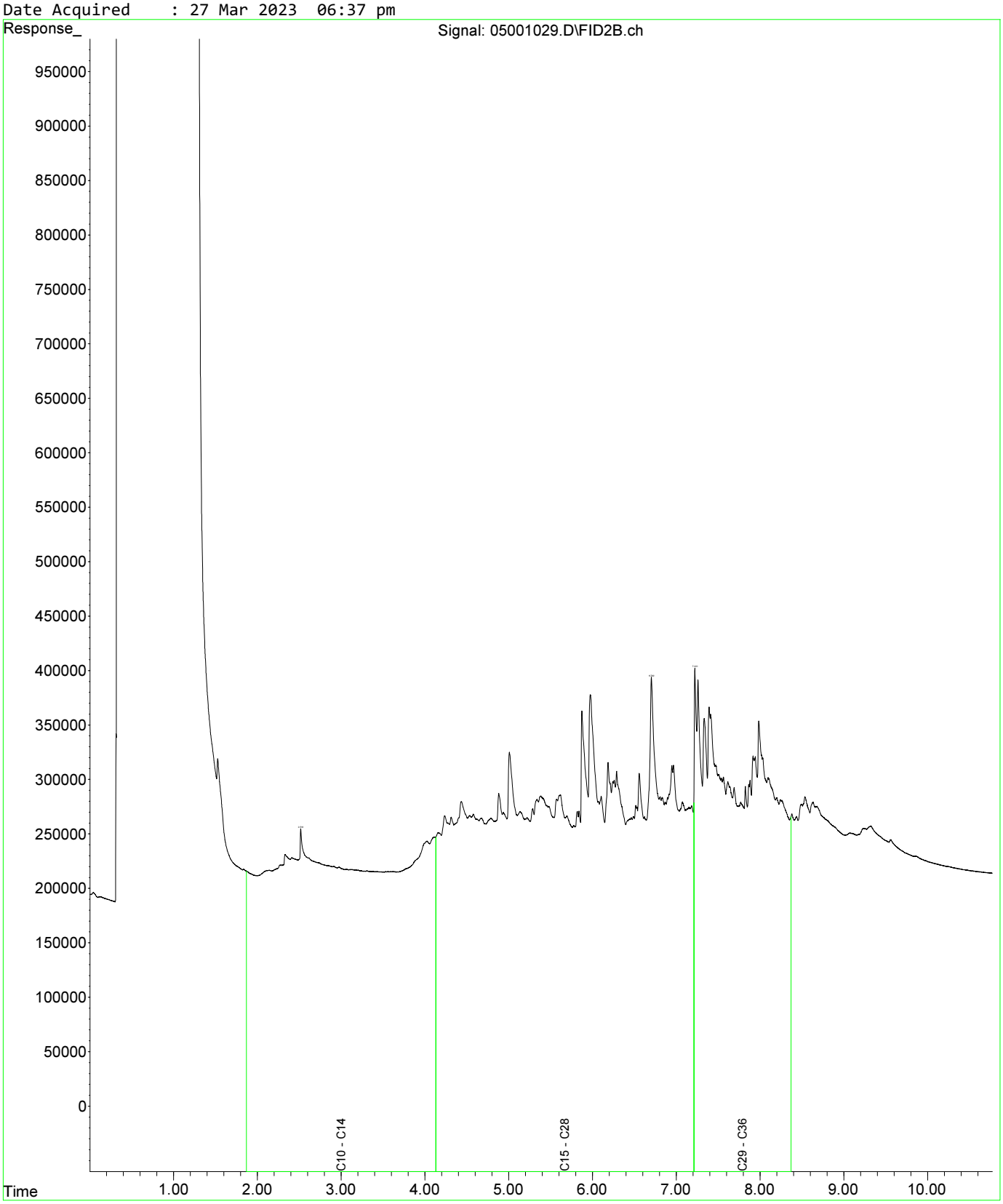
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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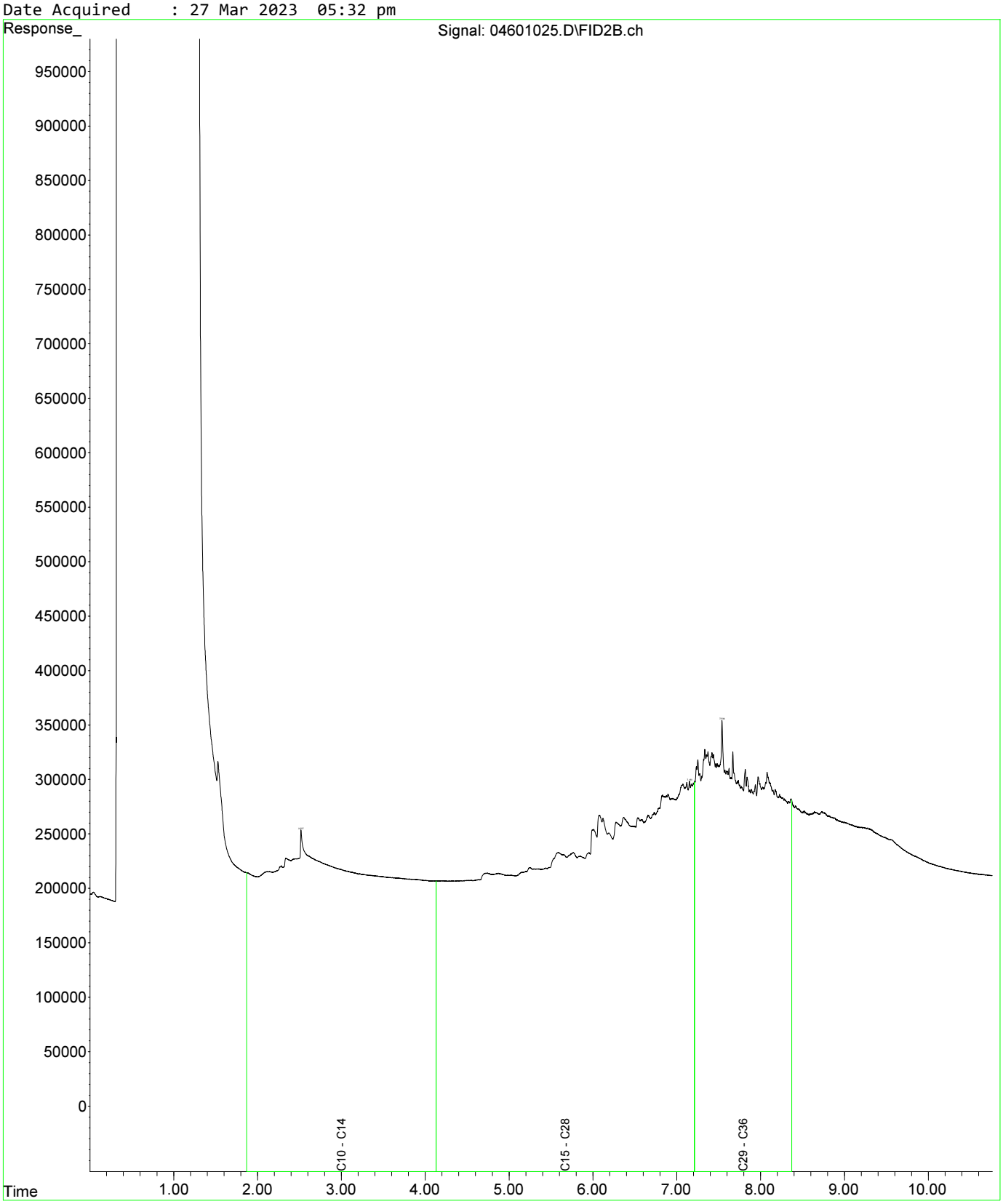

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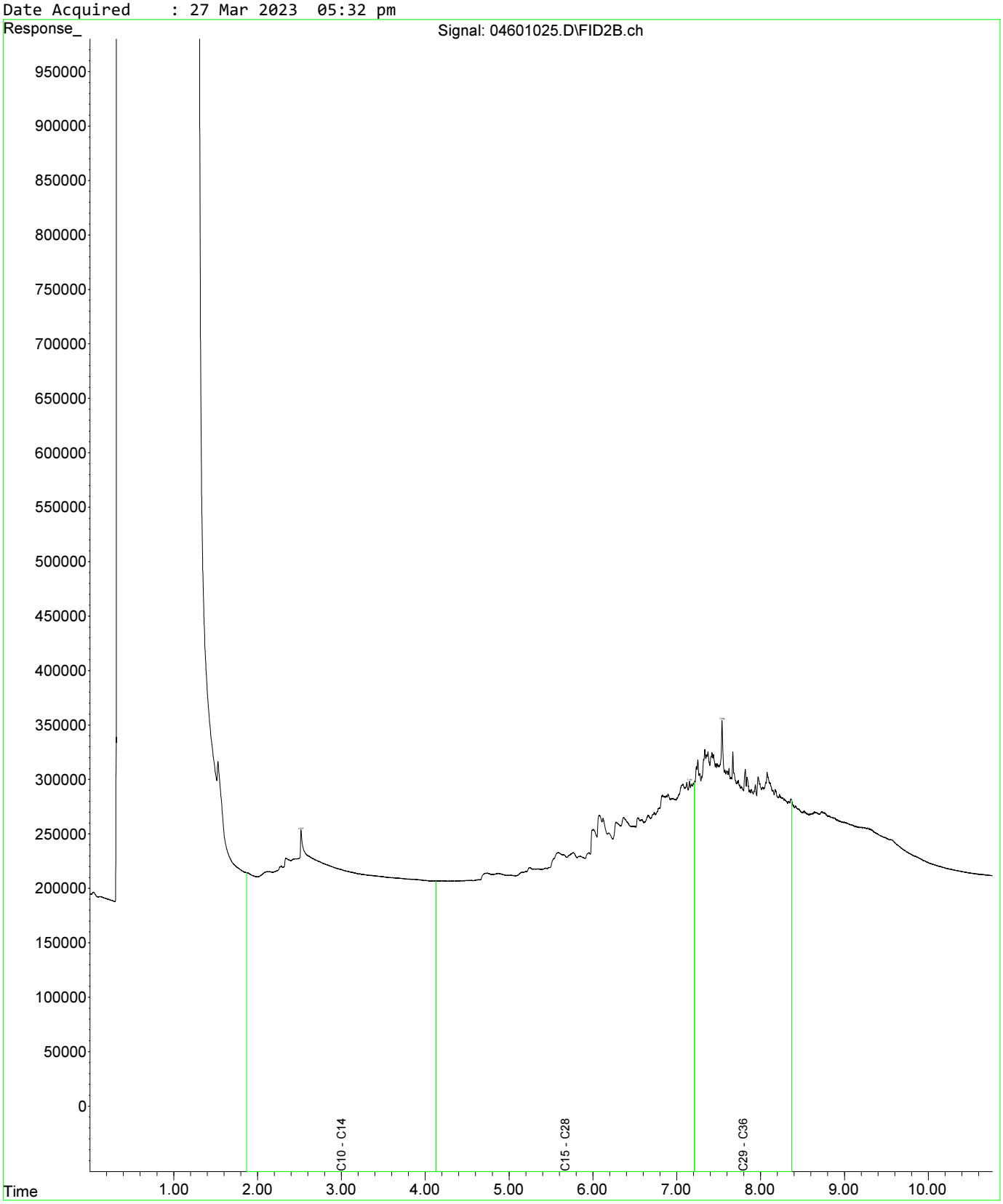

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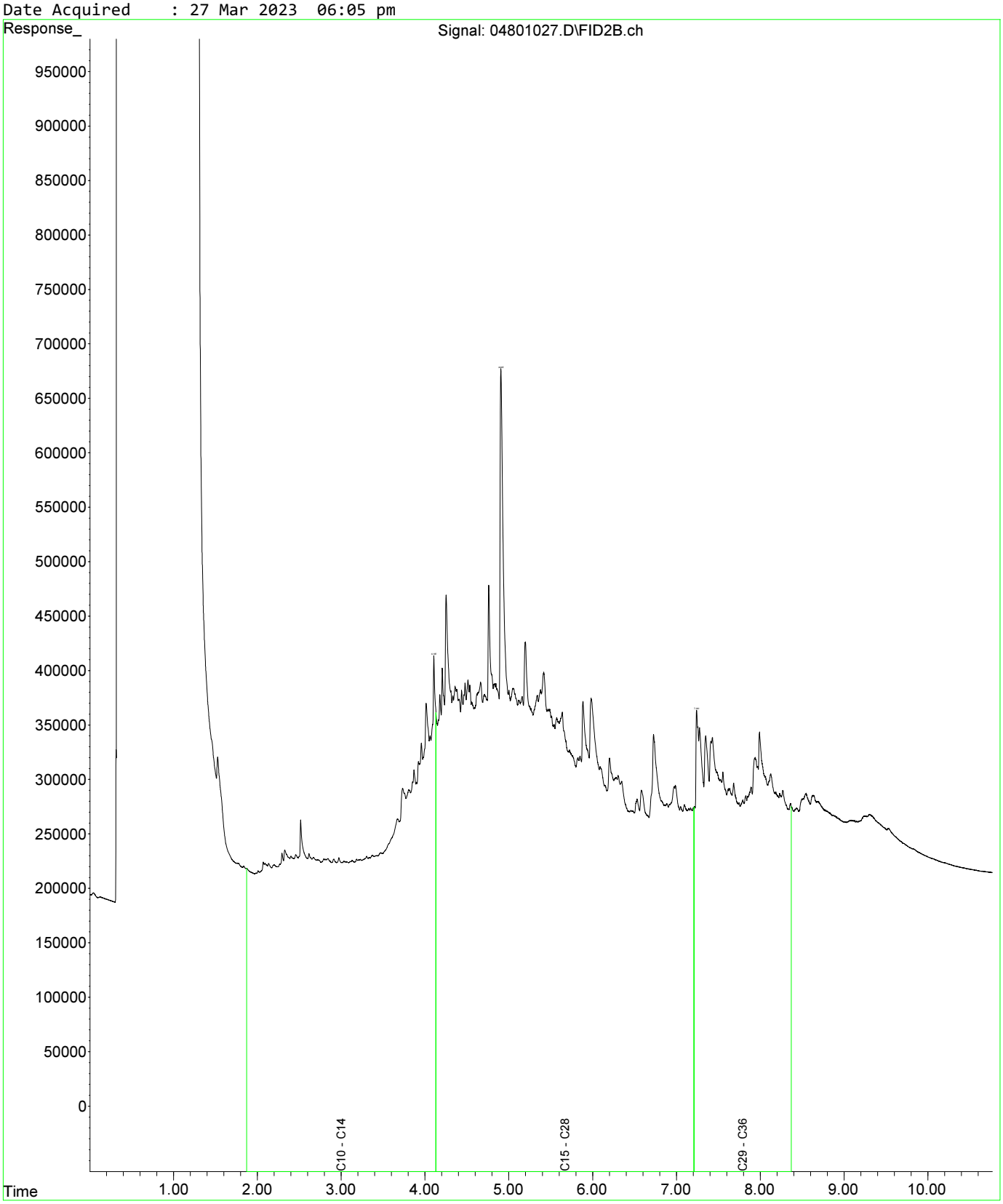

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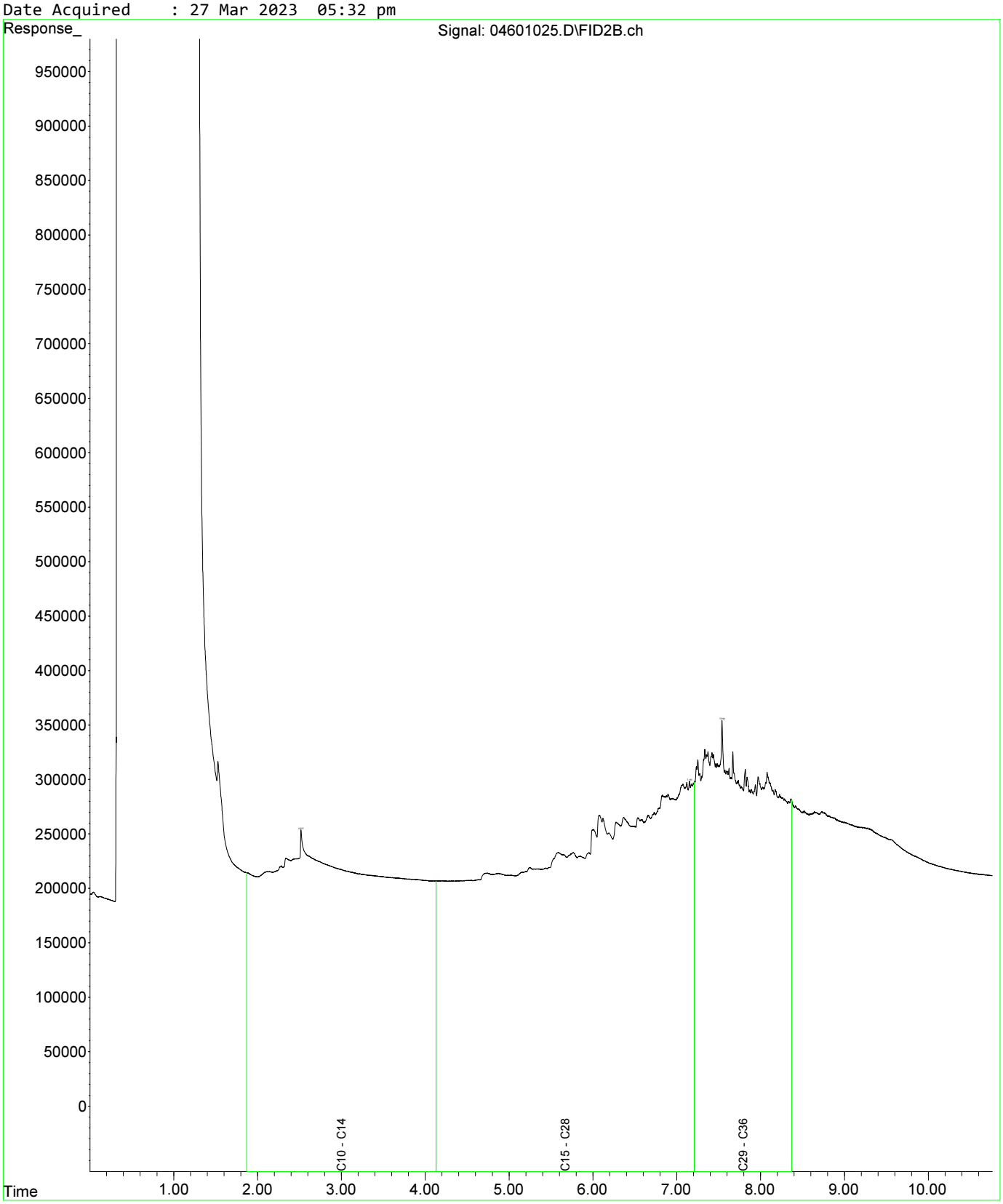

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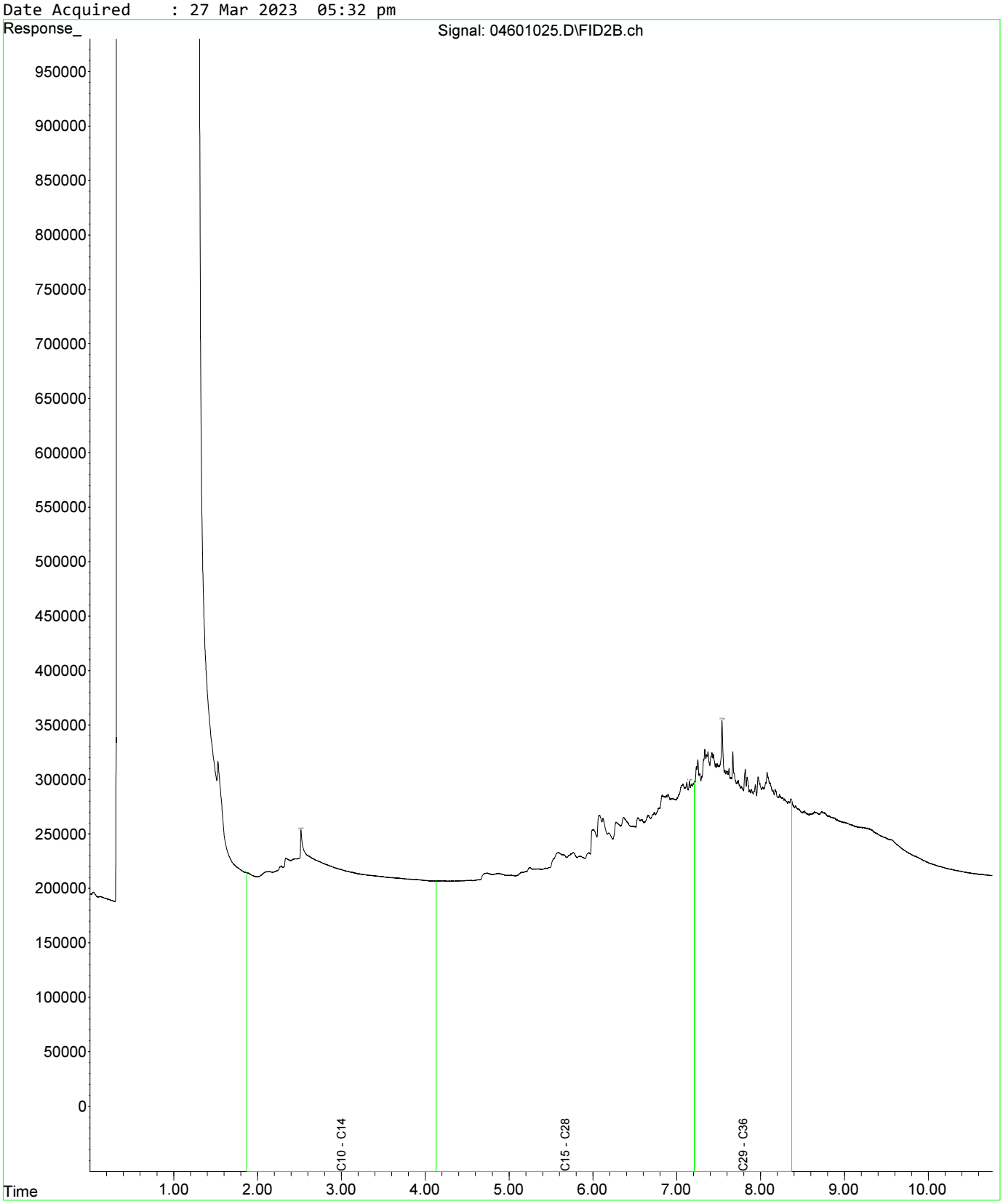

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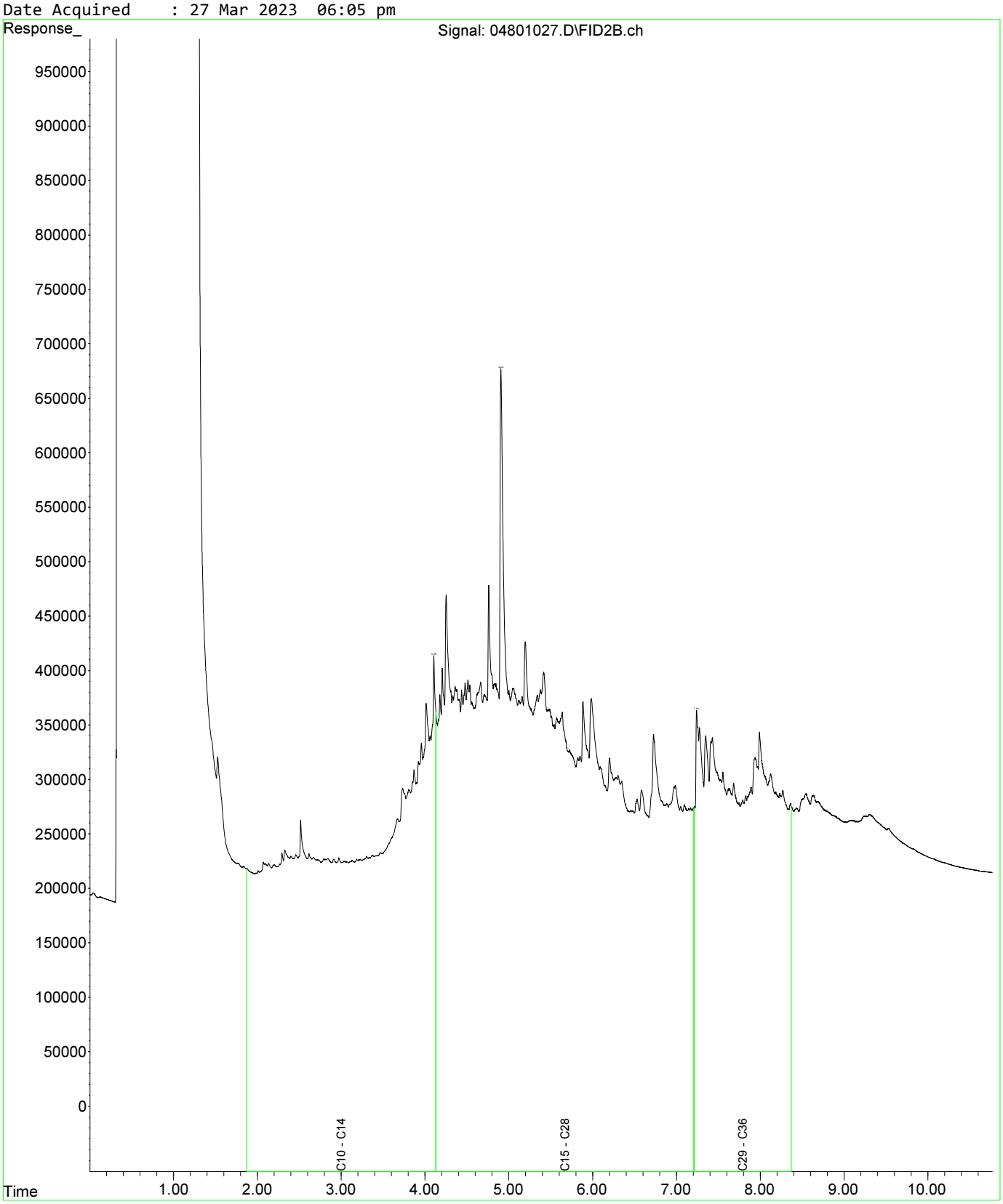

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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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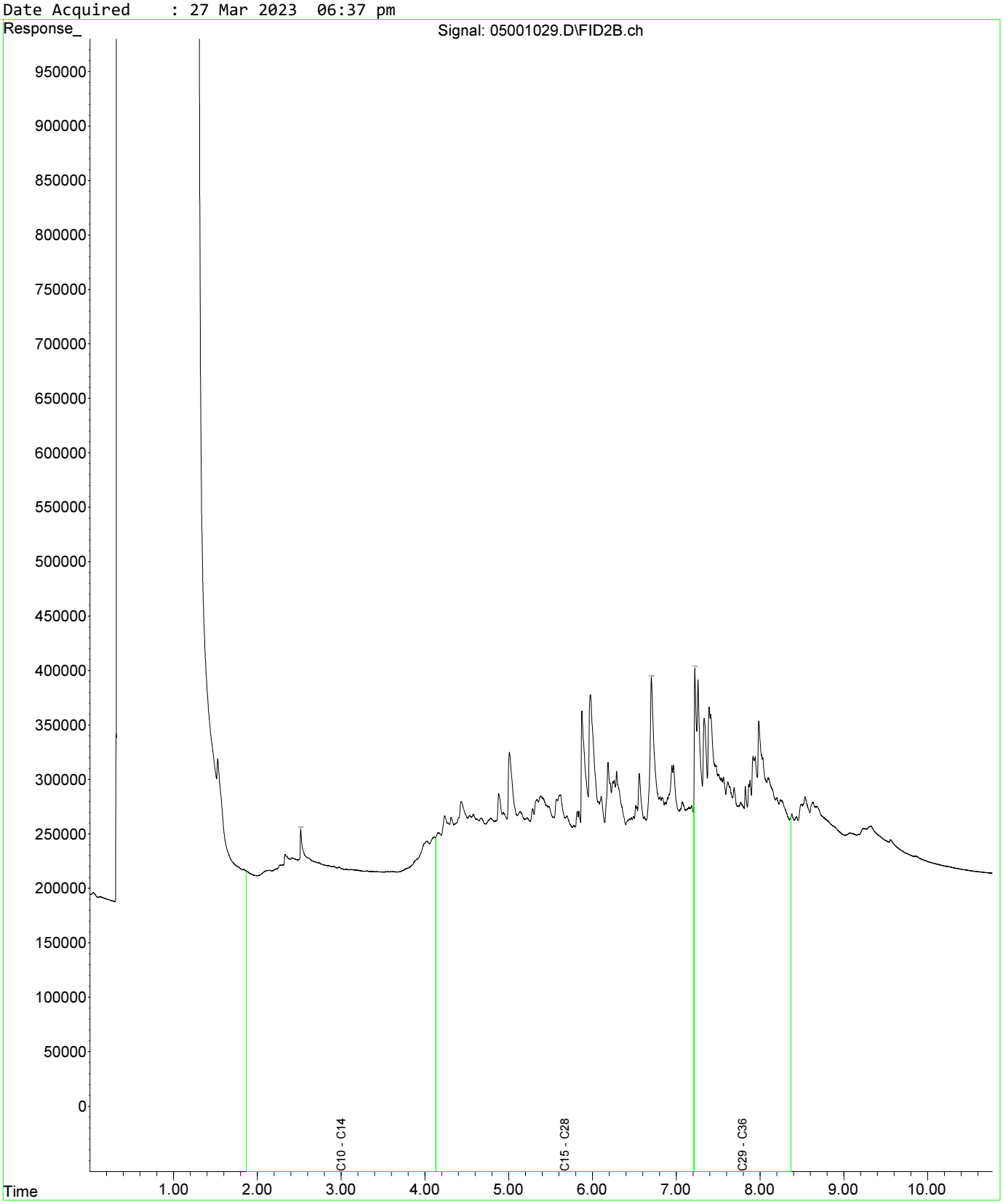

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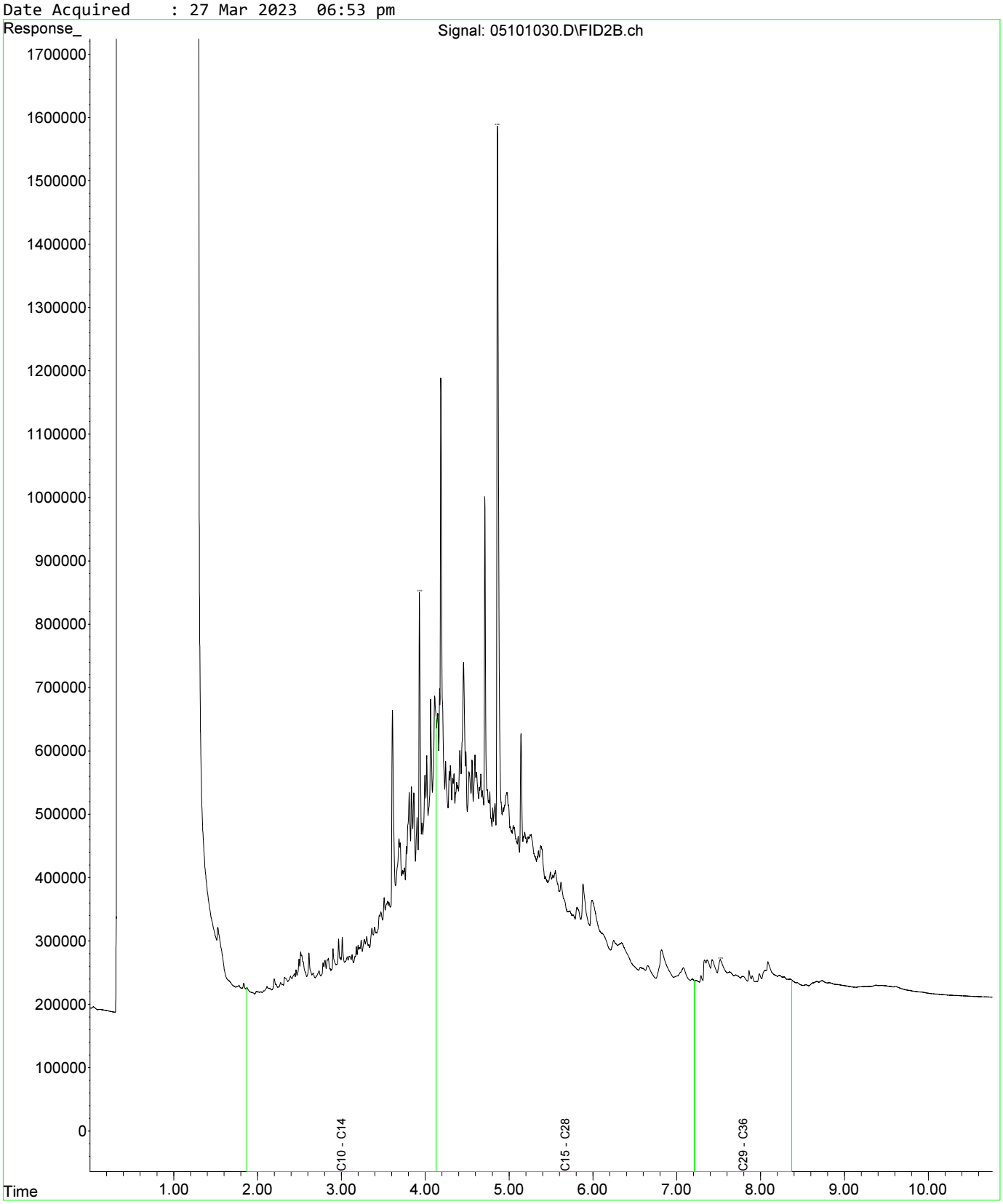

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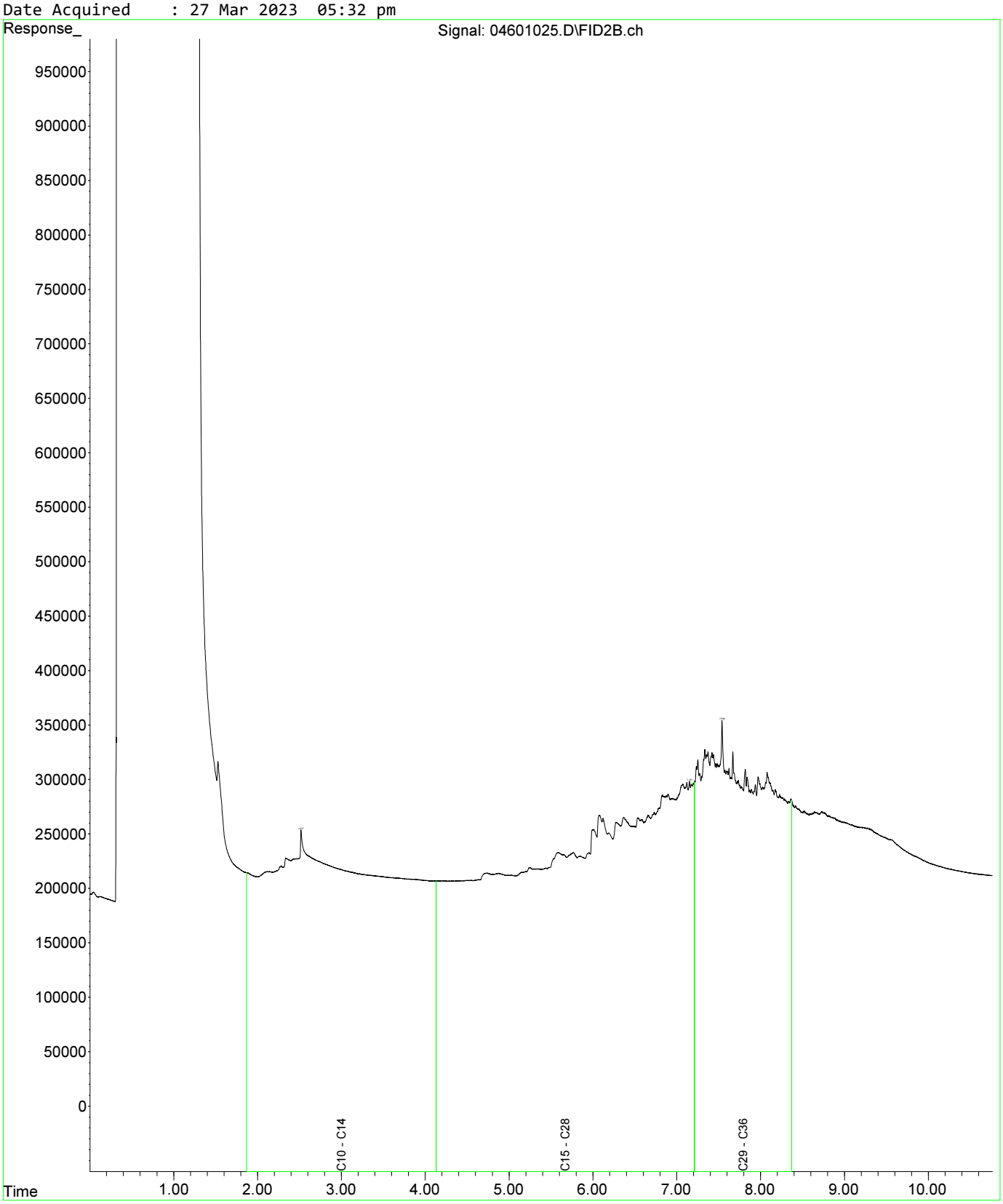

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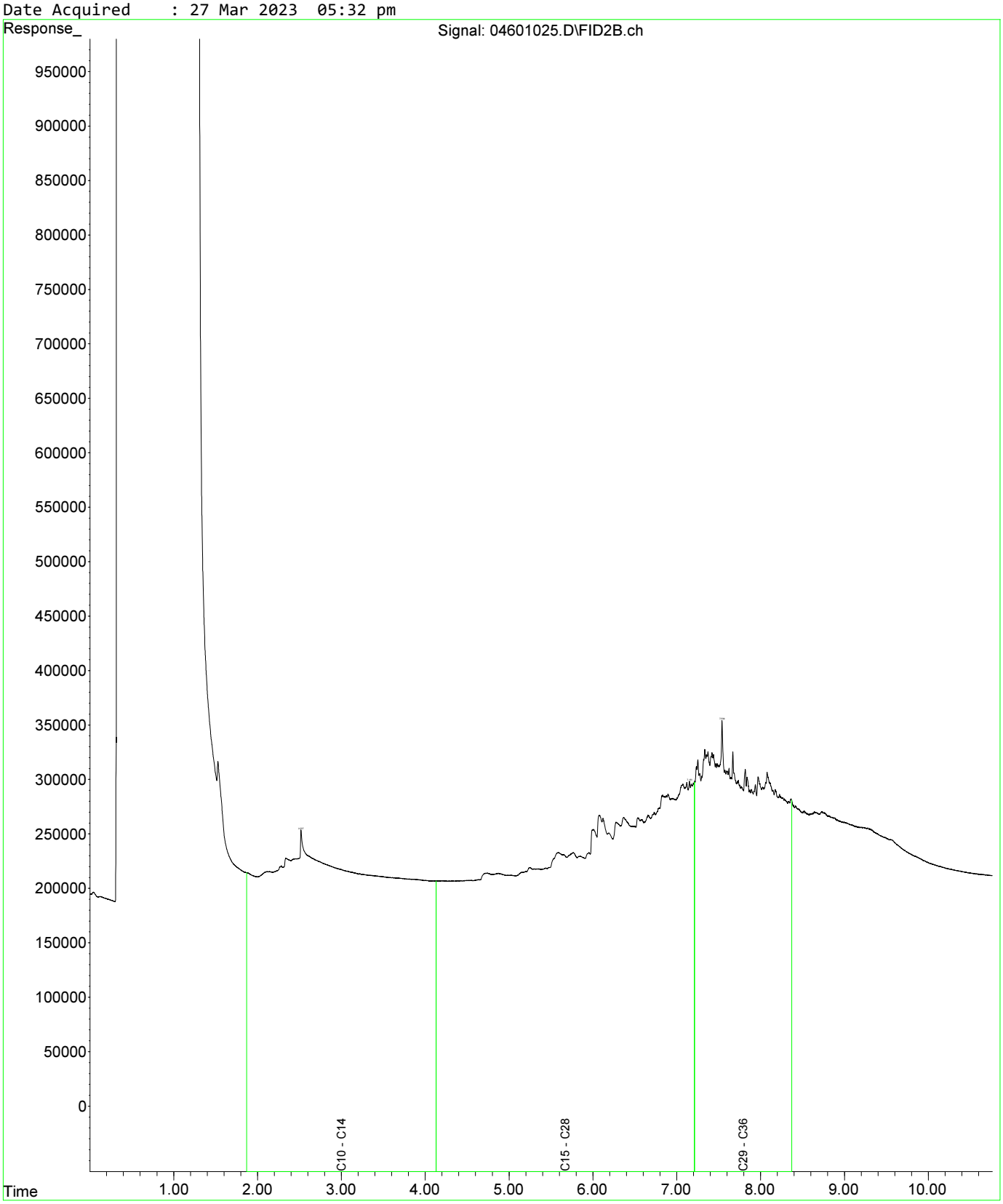

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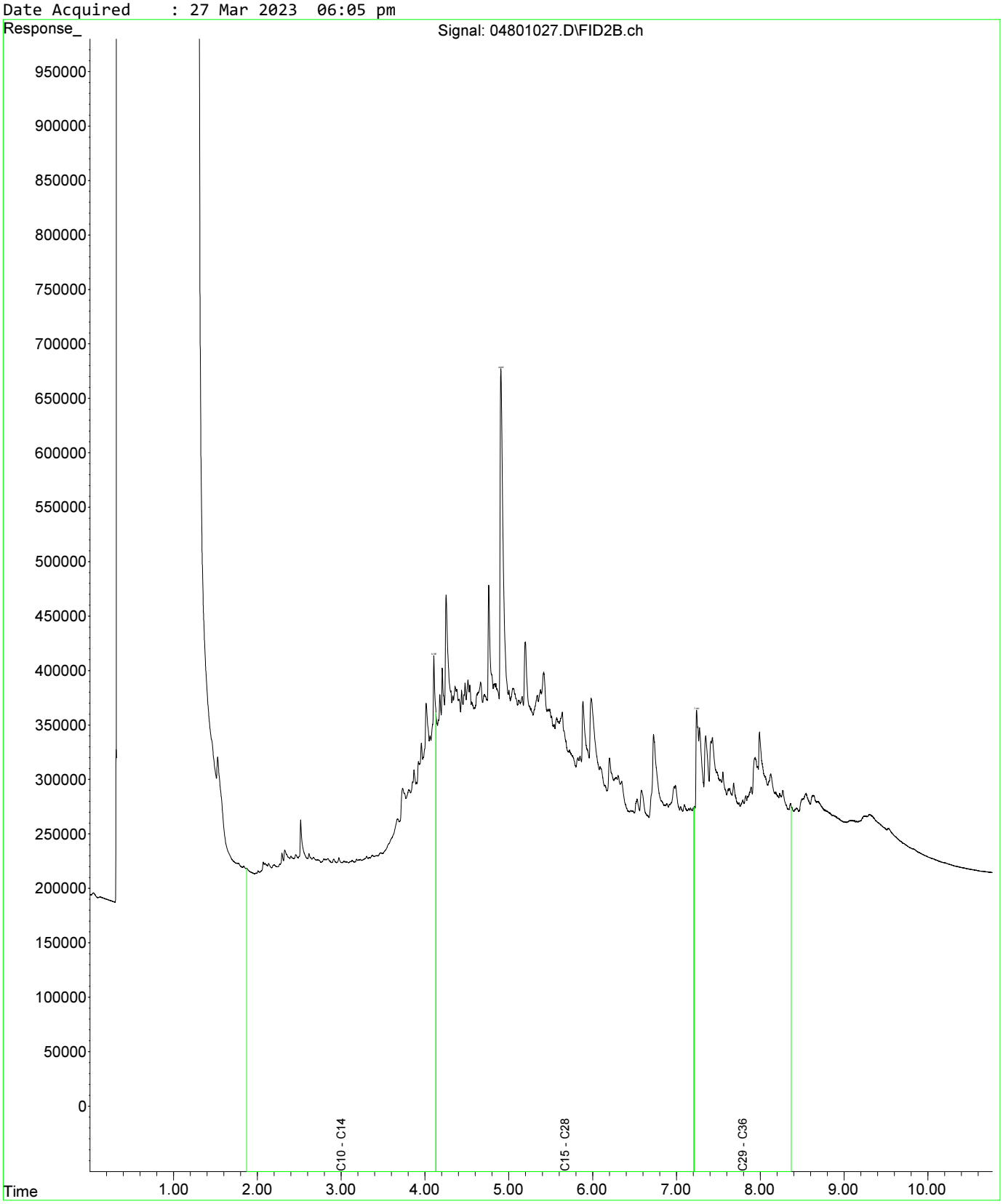

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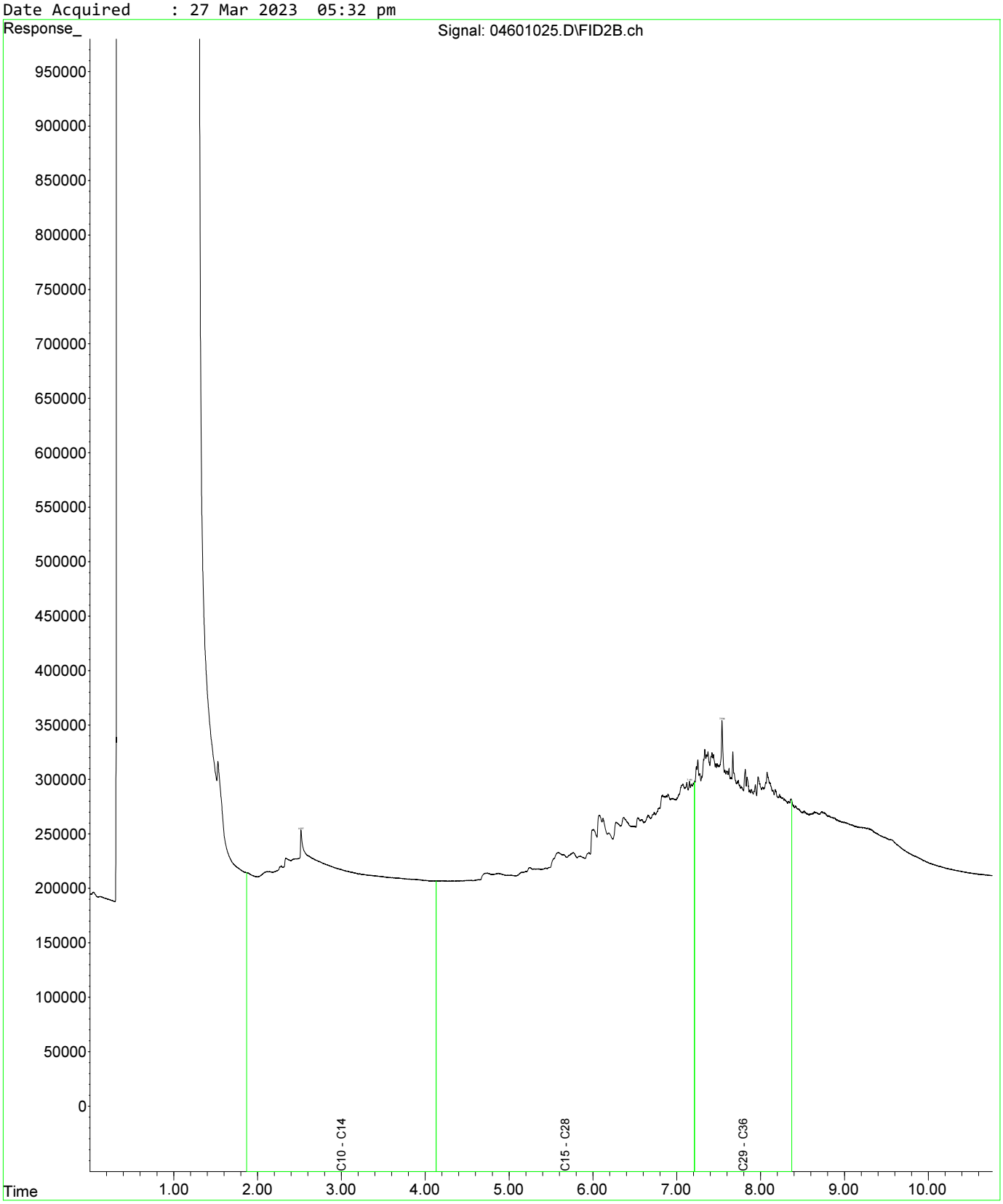

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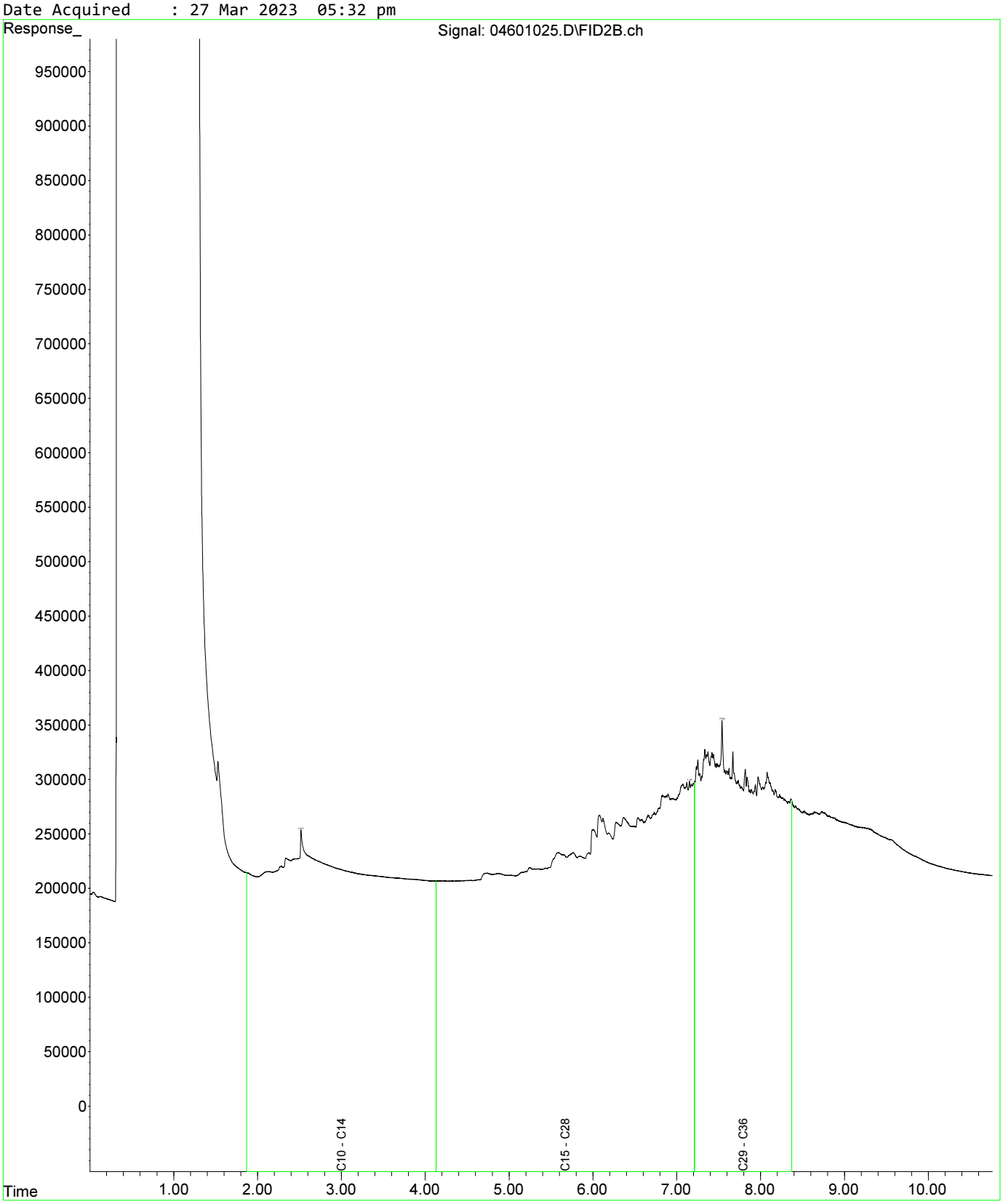

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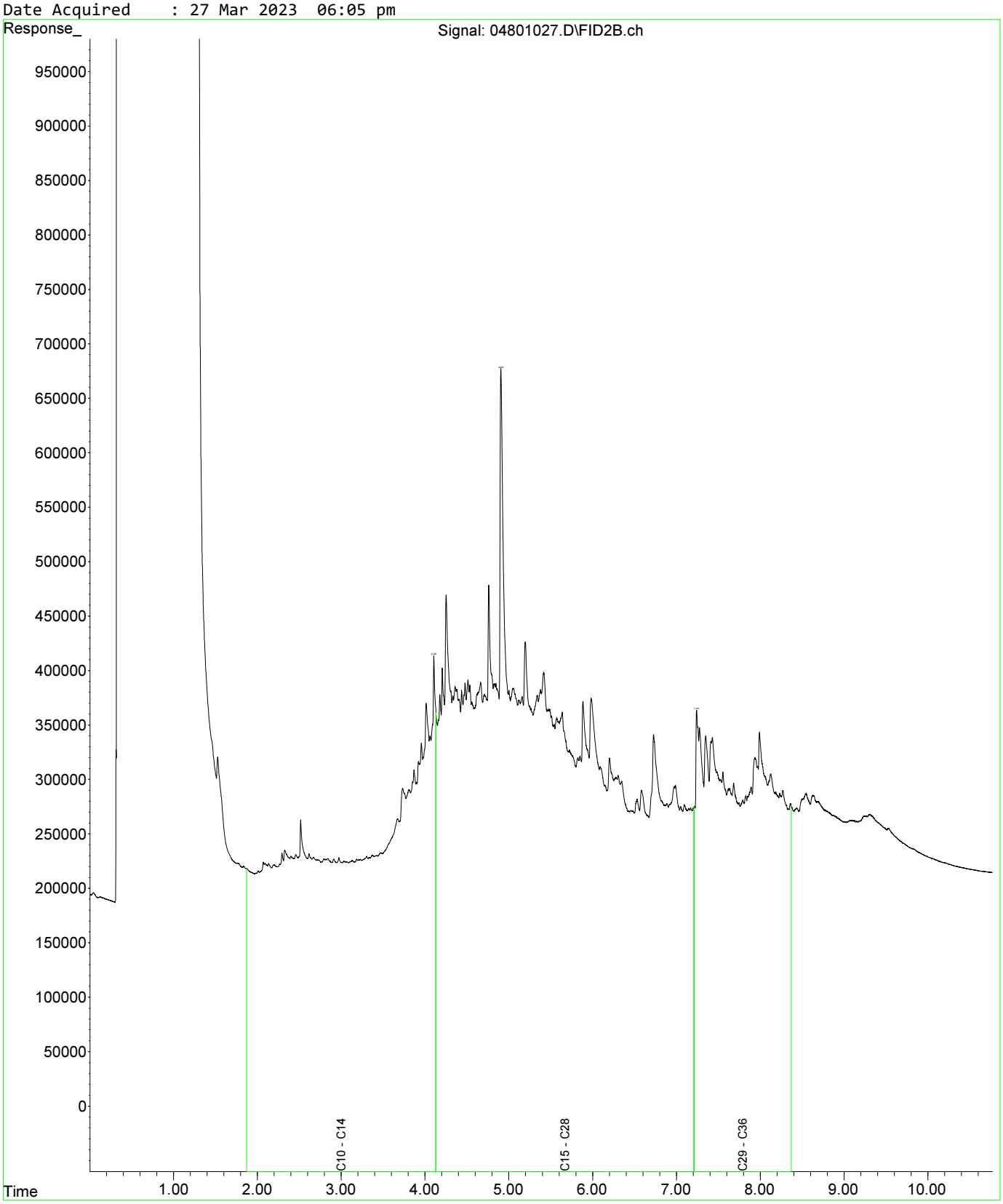

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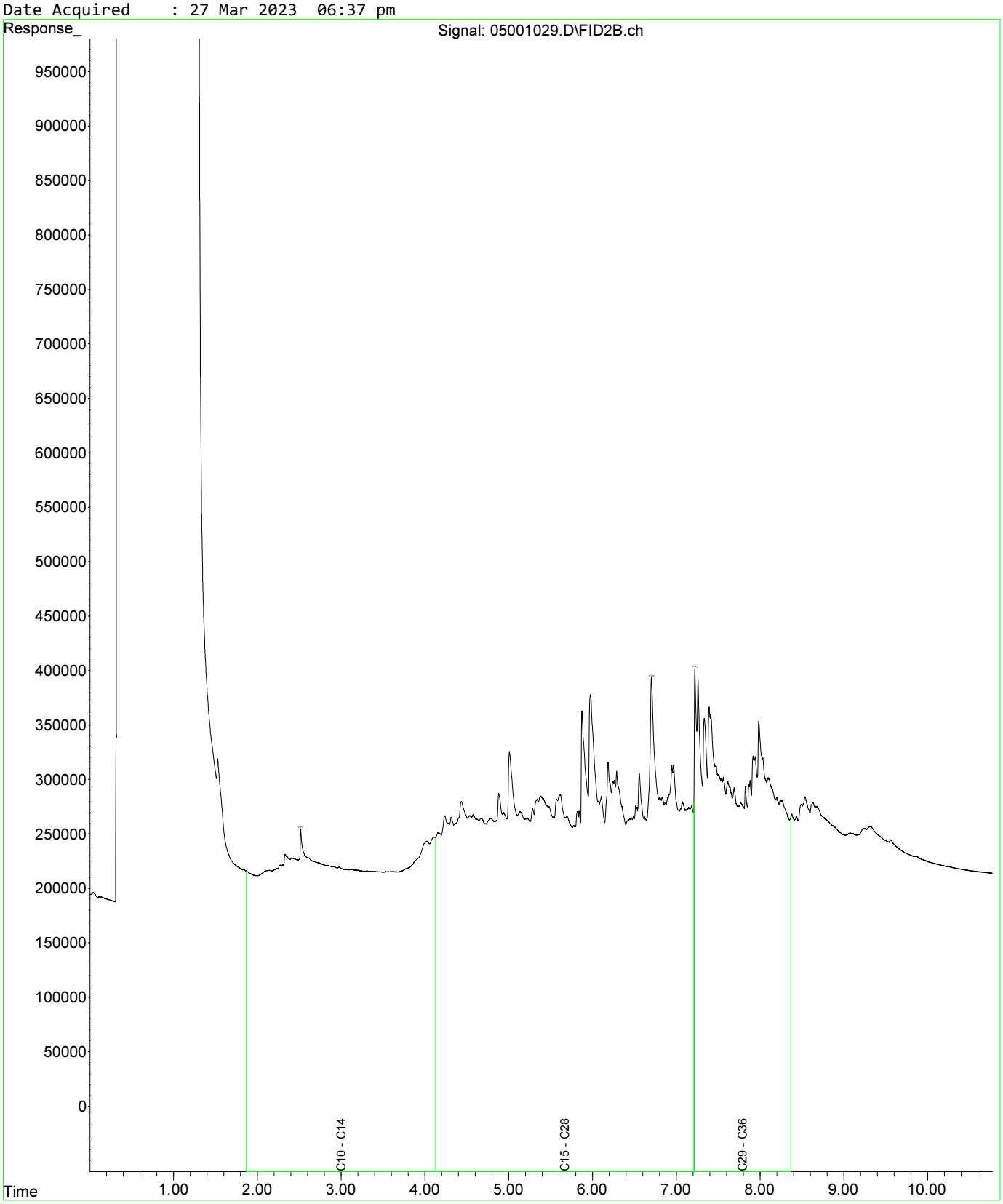

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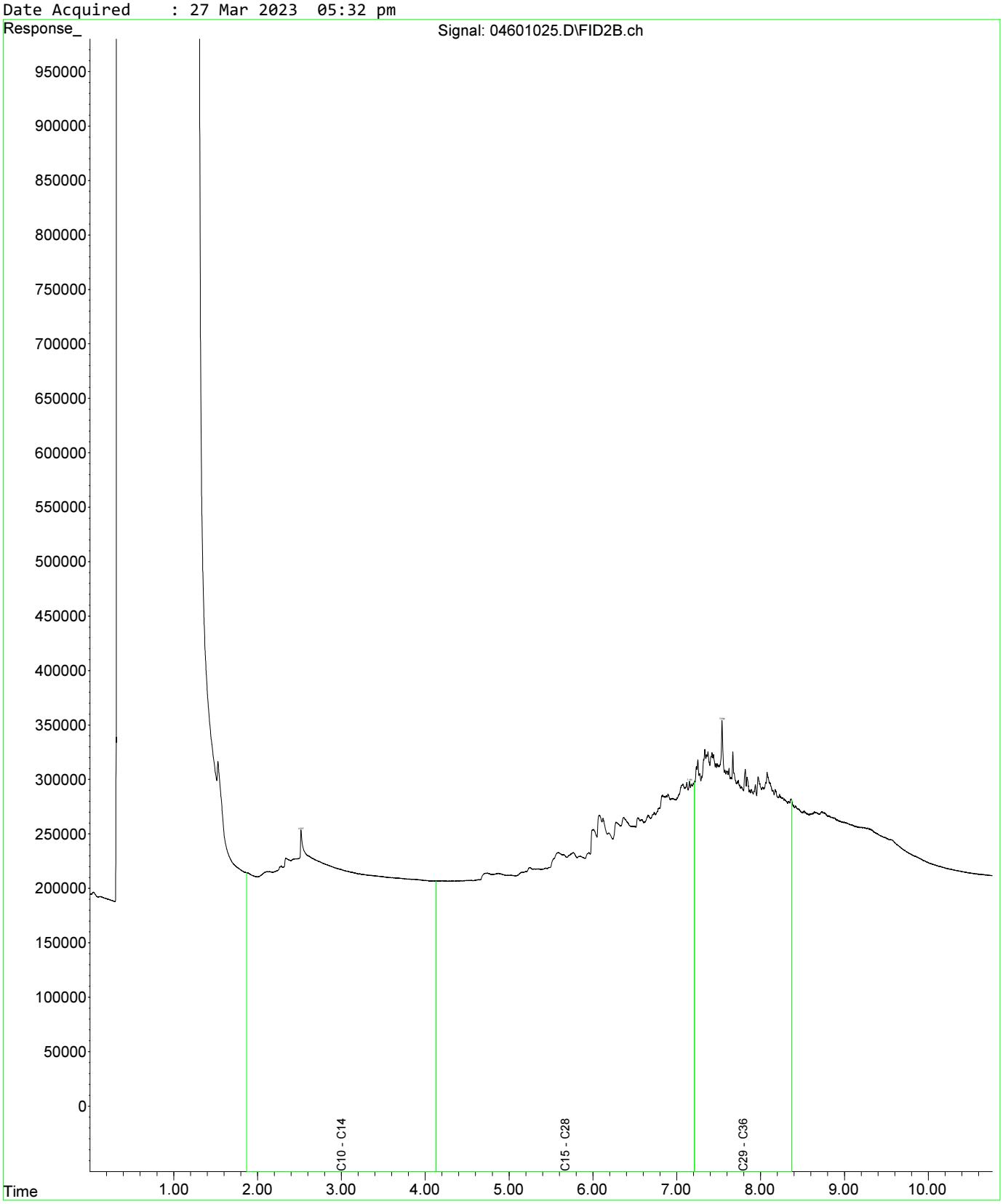

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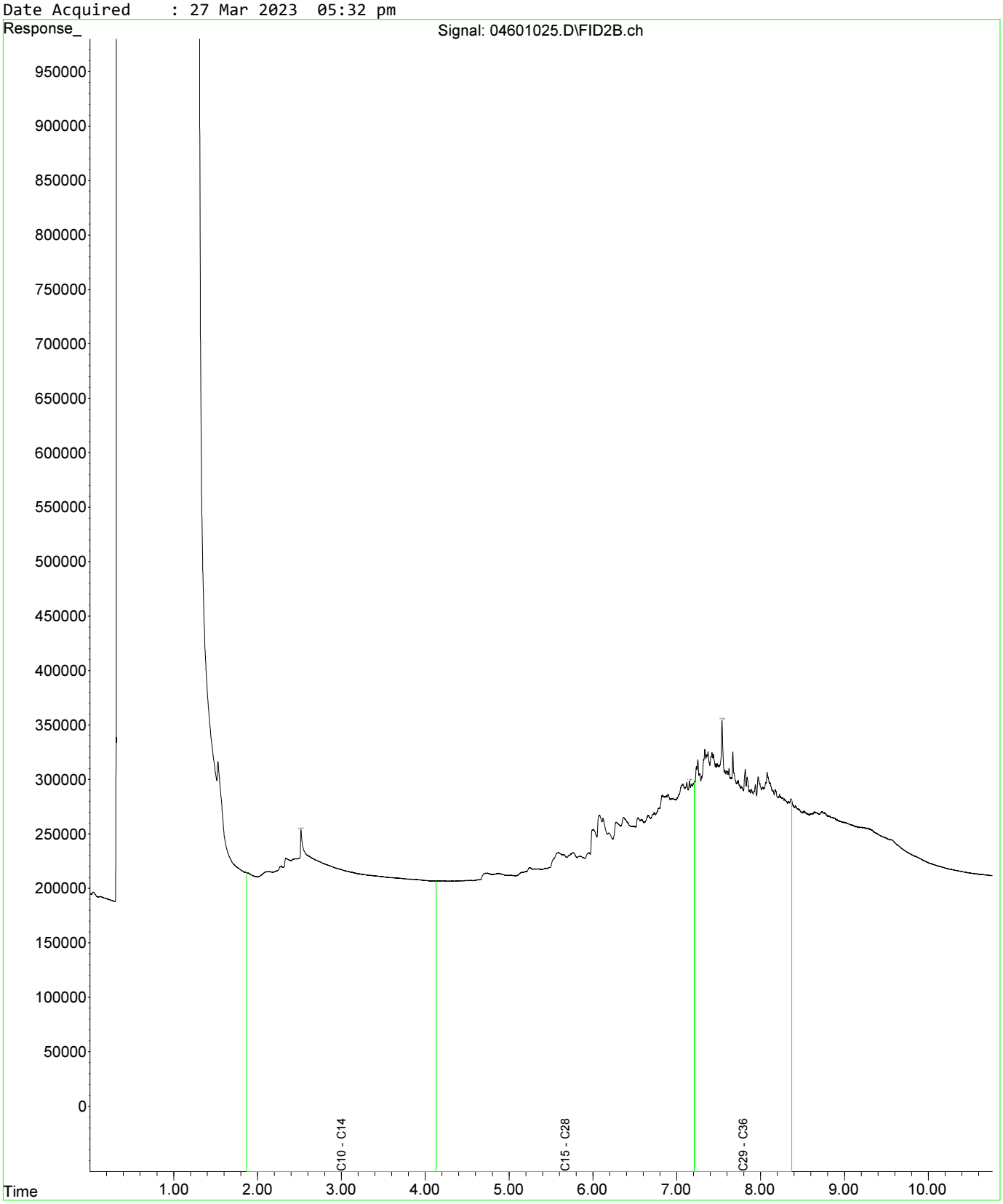

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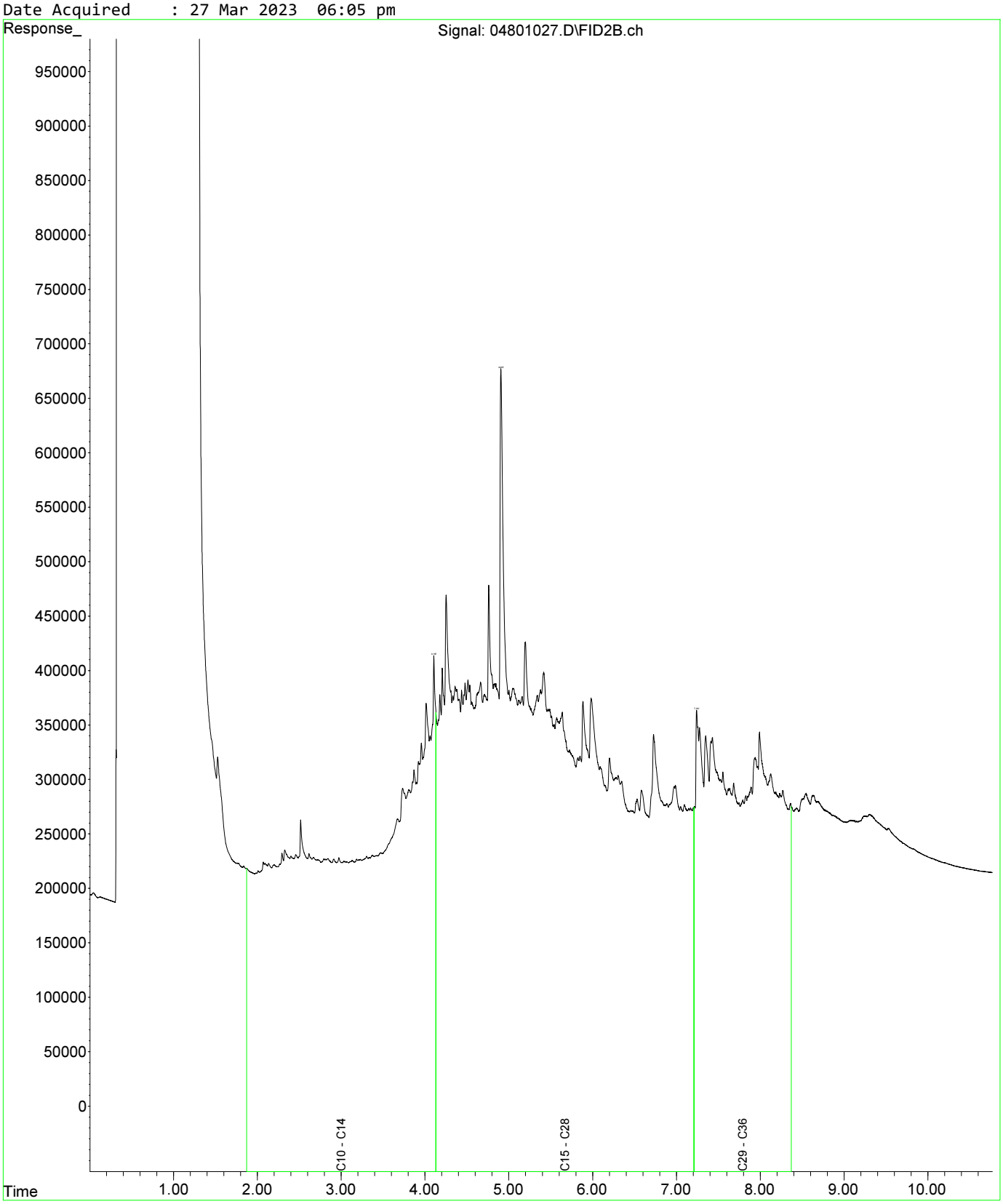

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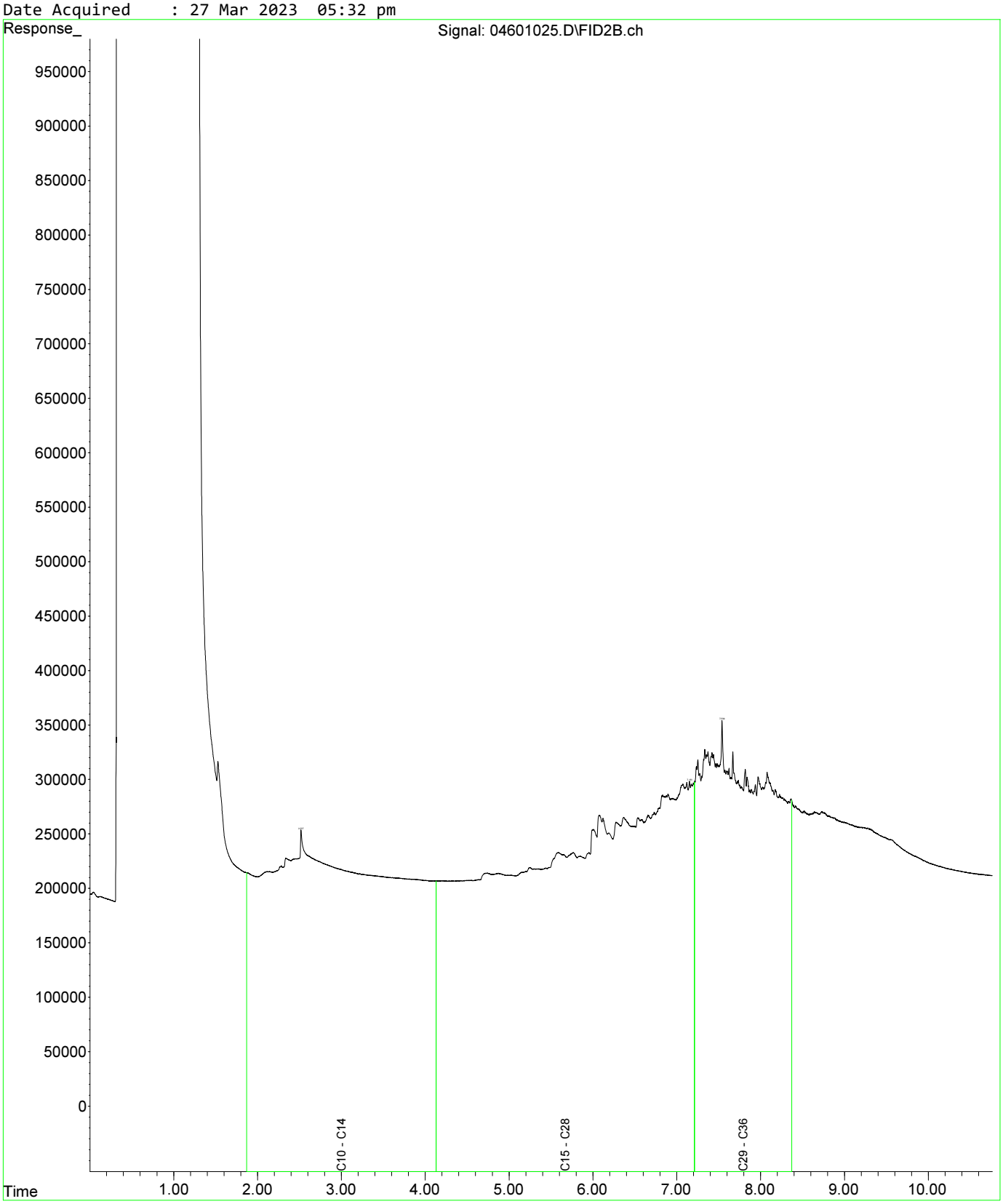

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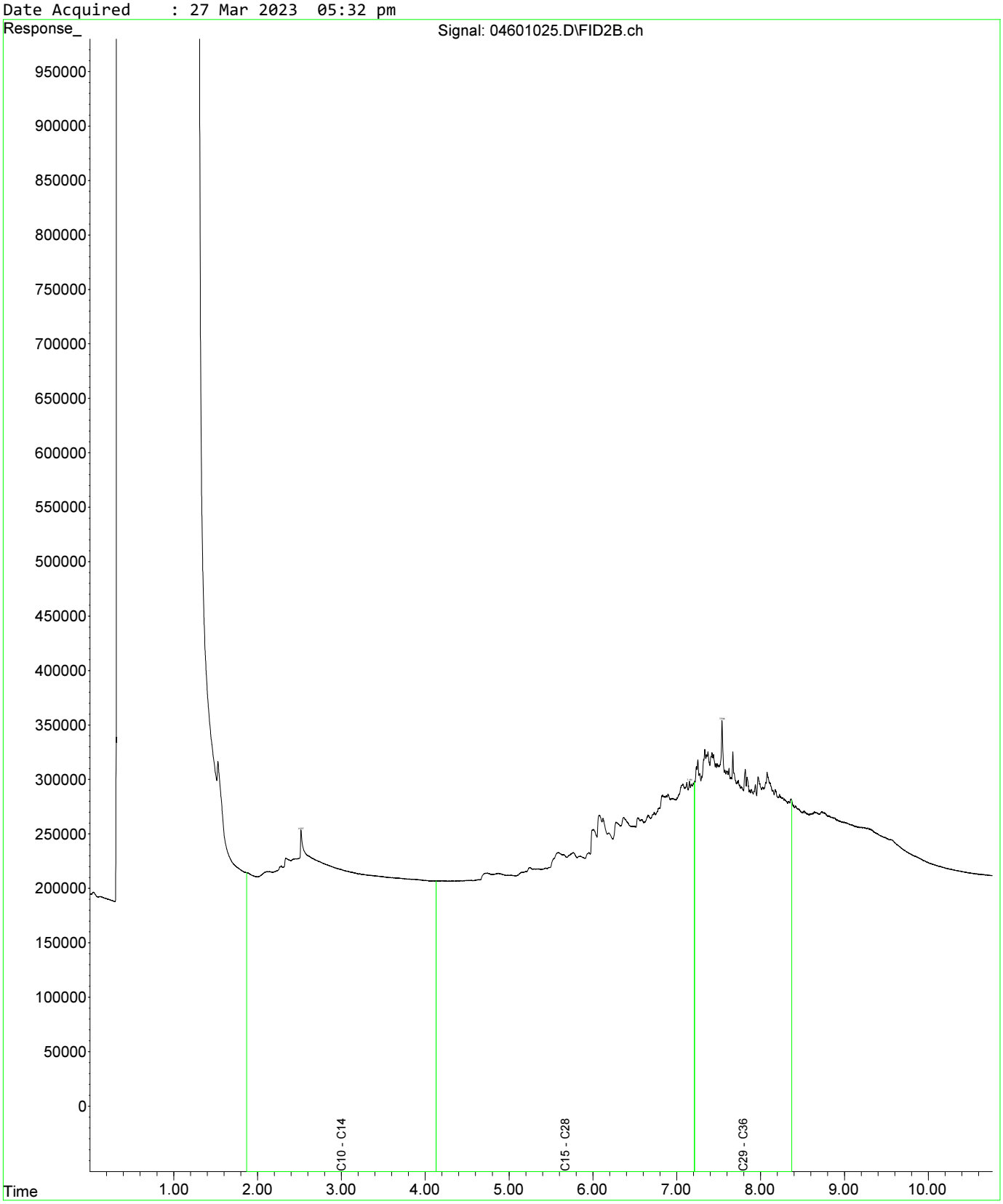

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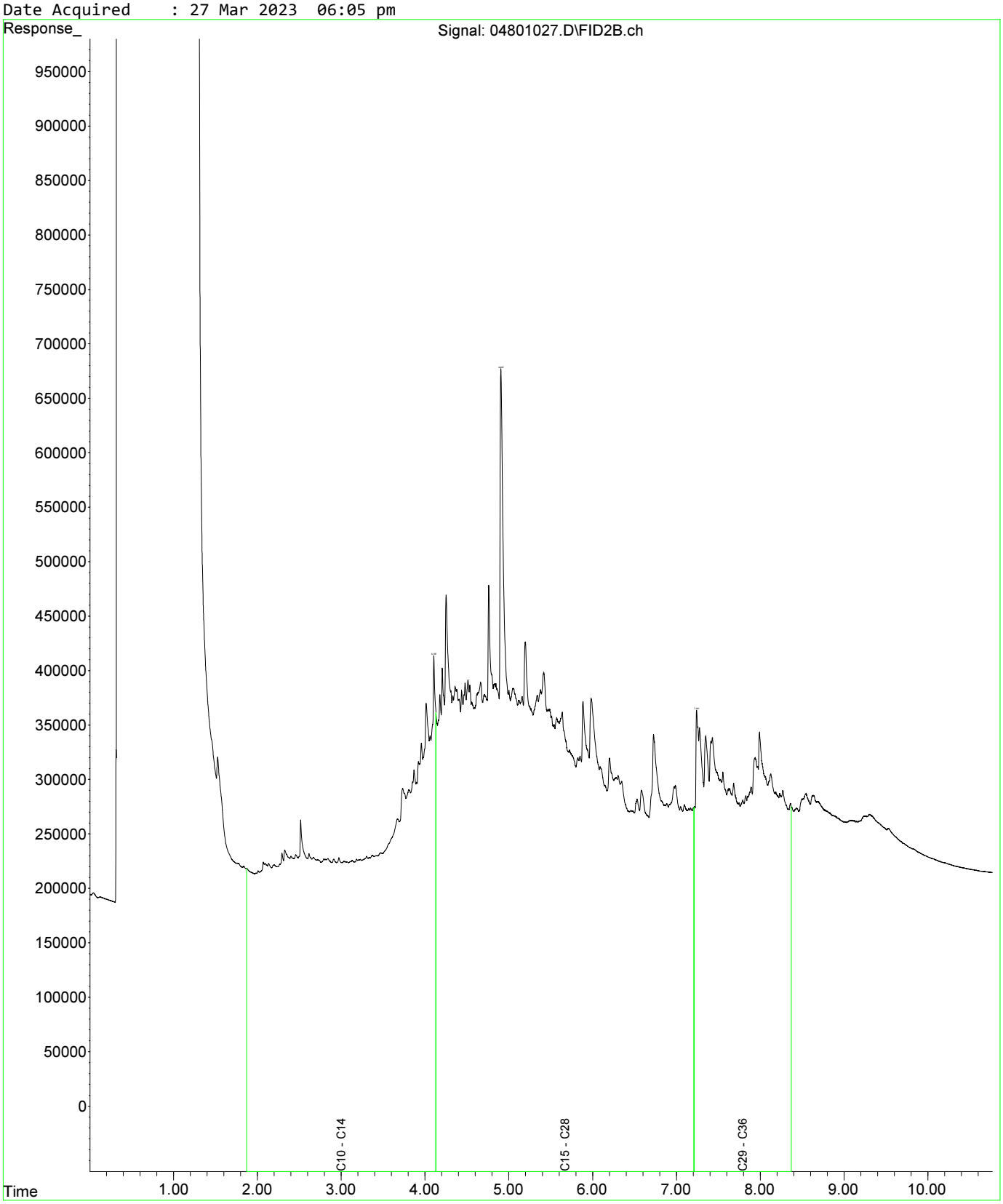

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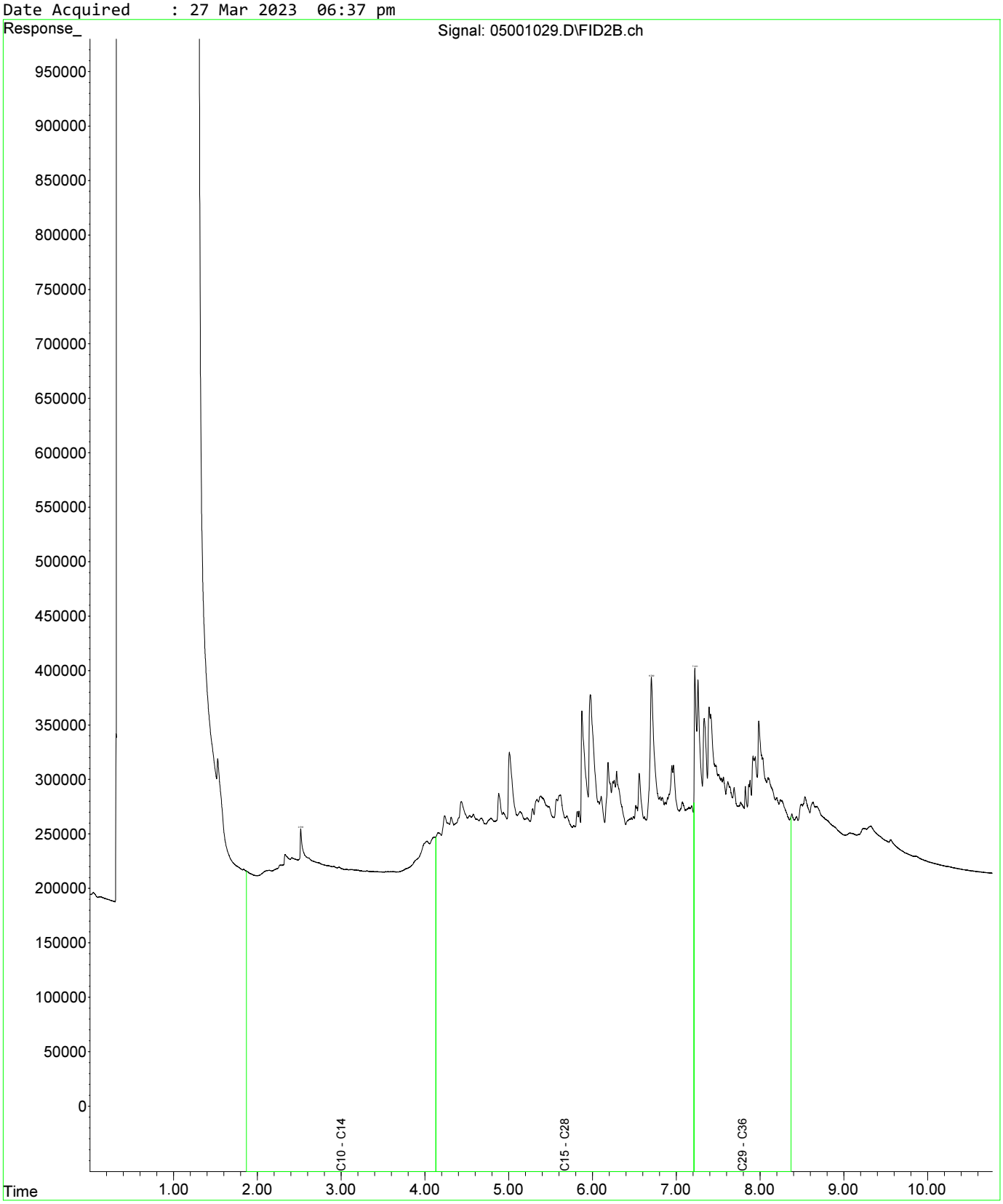
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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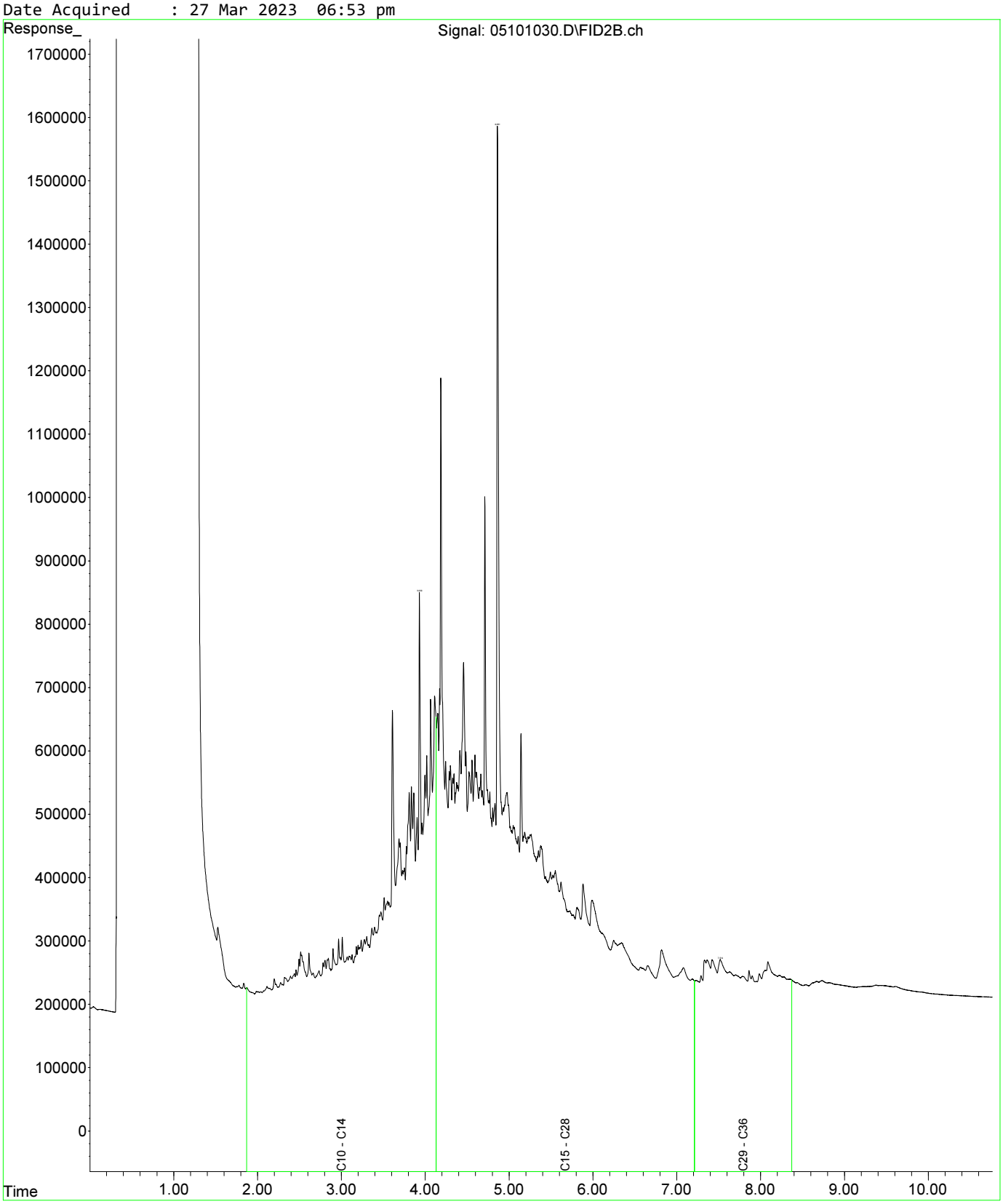
Date Acquired : 27 Mar 2023 06:53 pm



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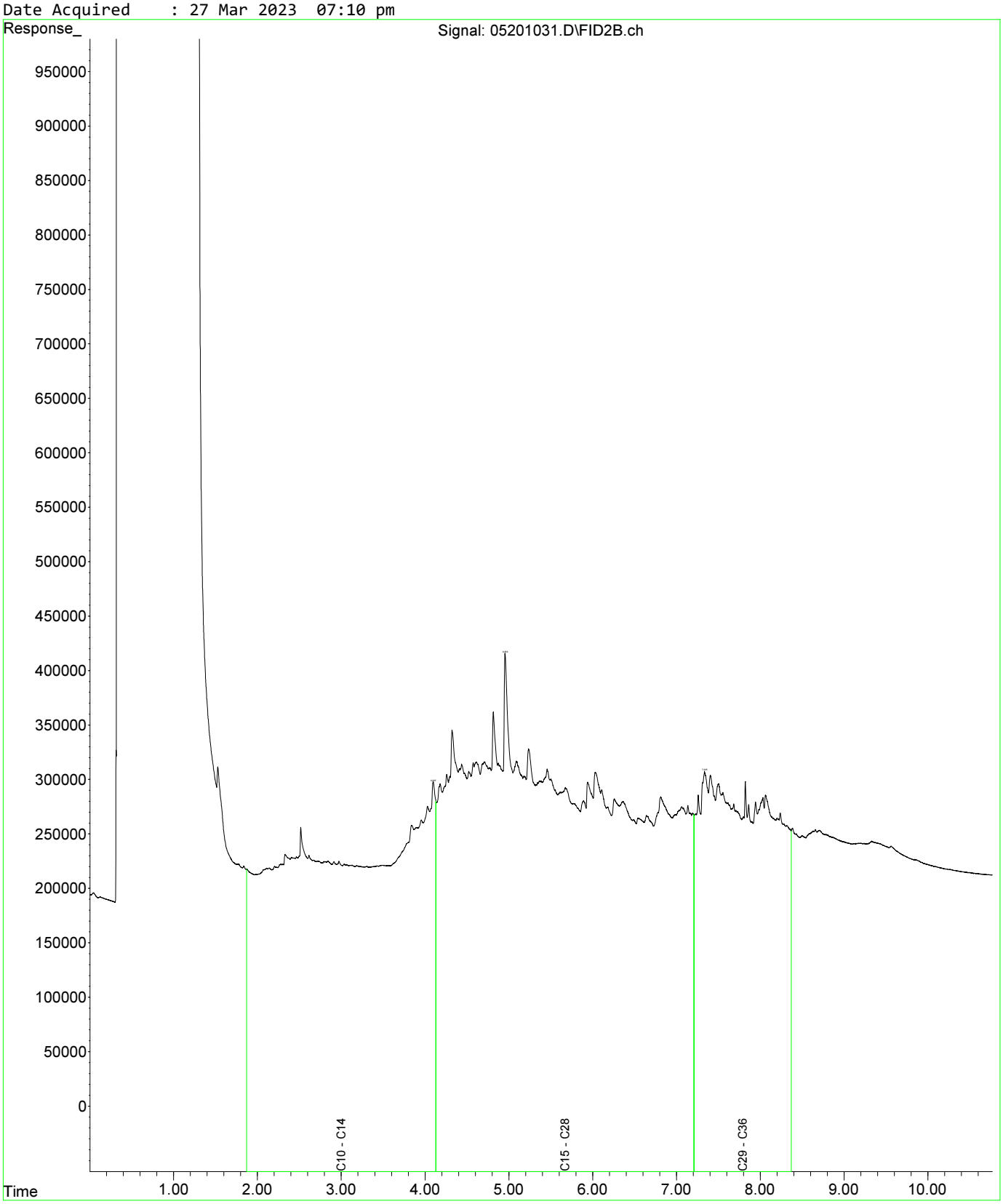

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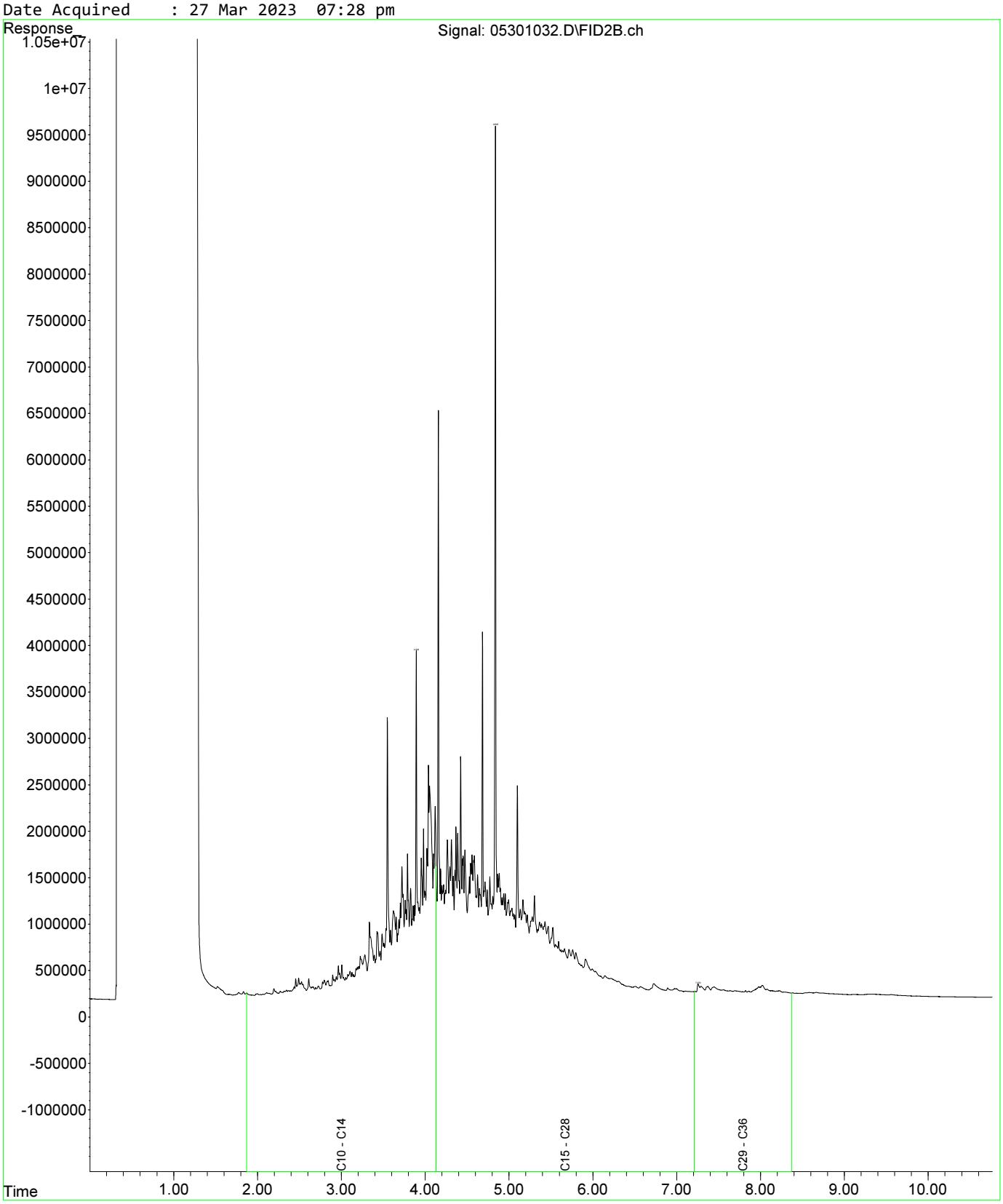

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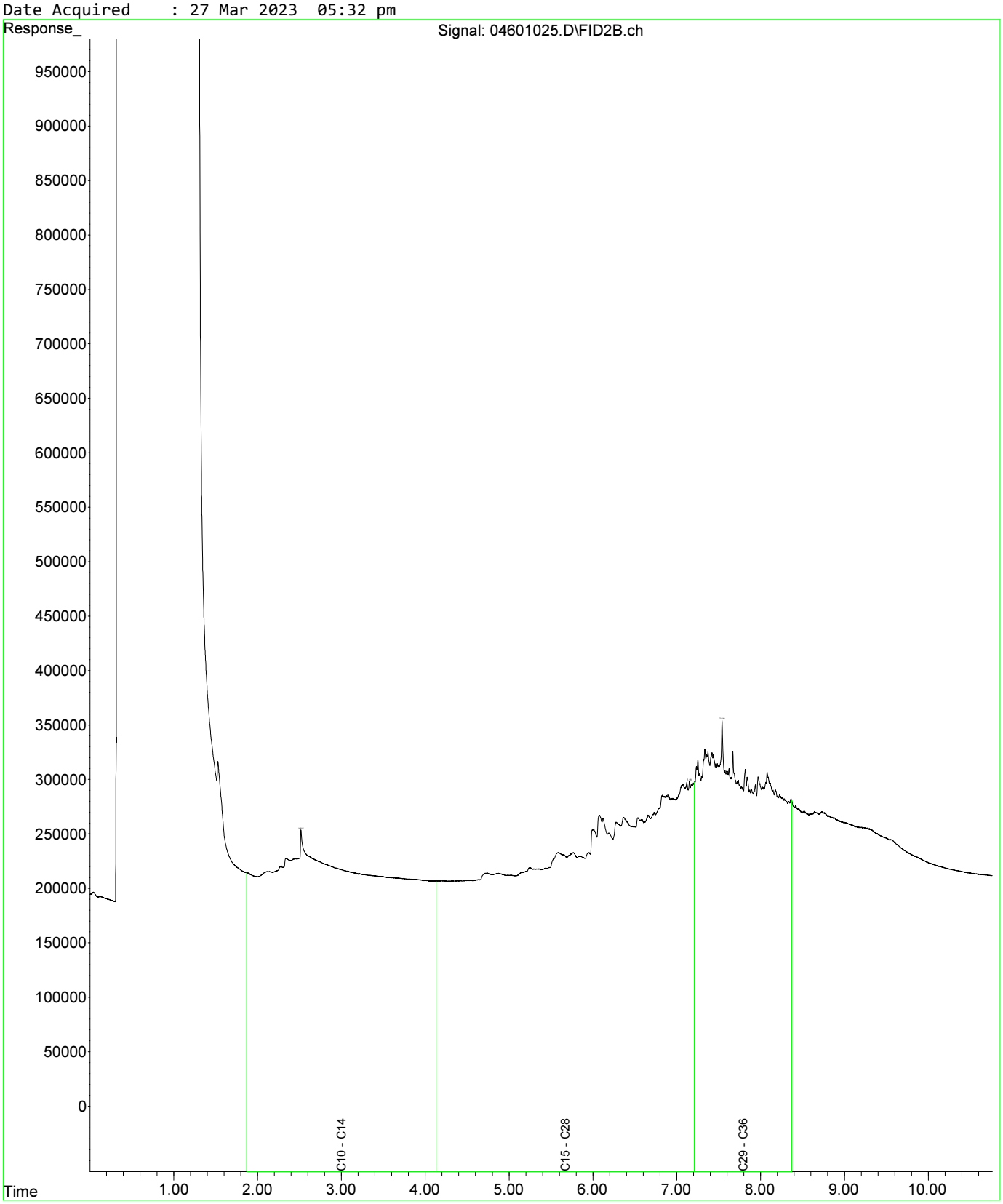

Fraction Scheme : Standard
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Laboratory Number: EM2305209-013
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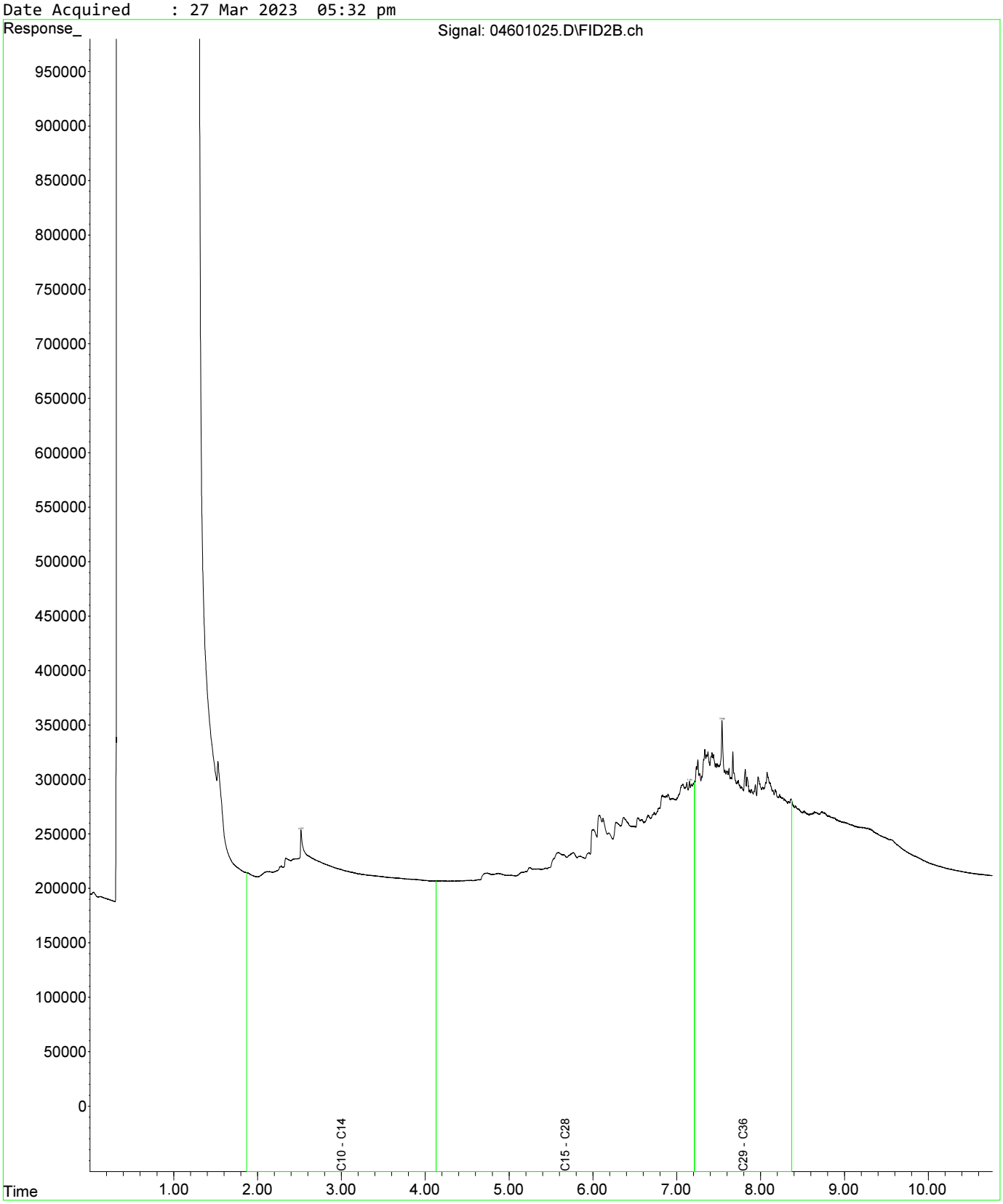
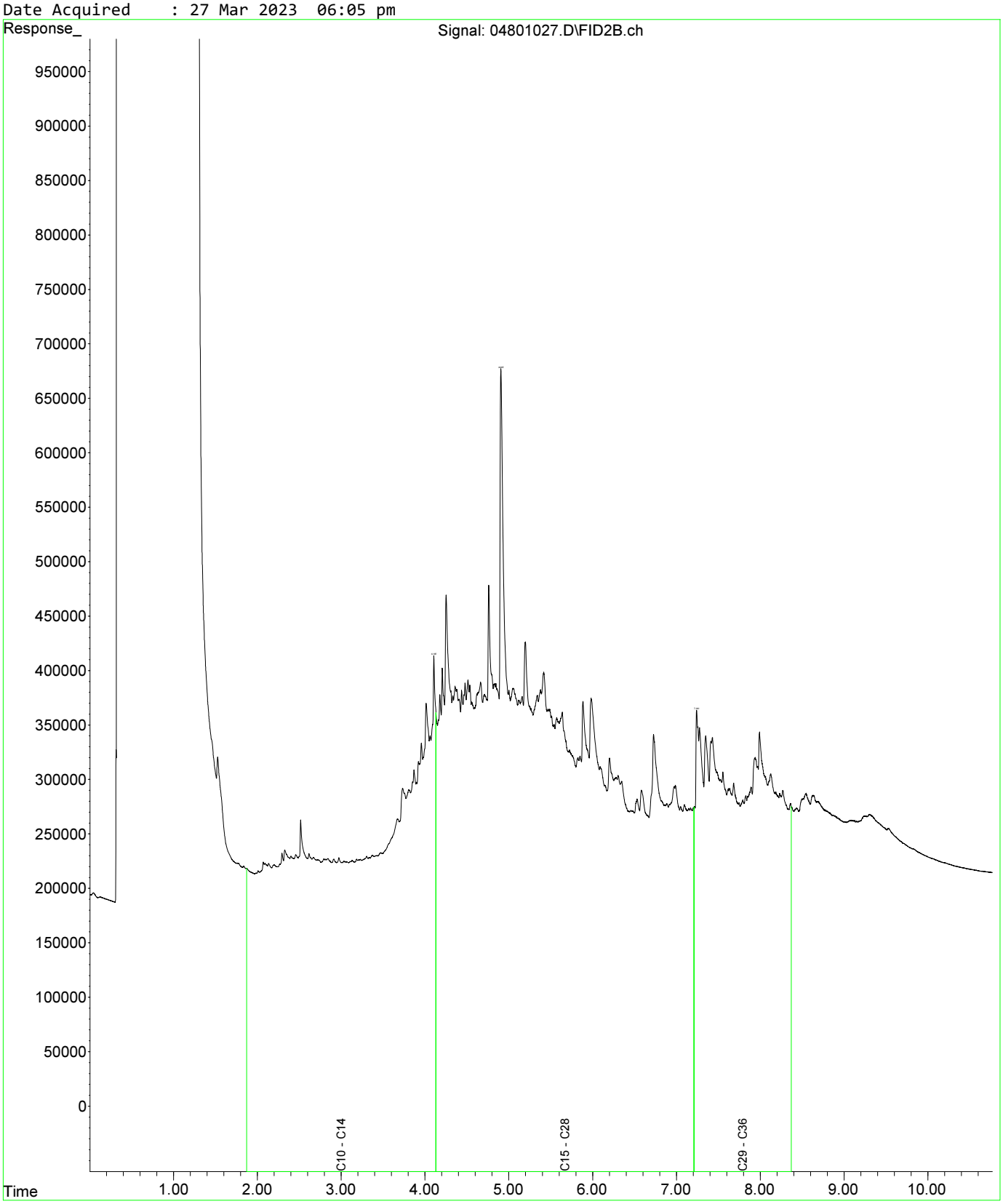
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
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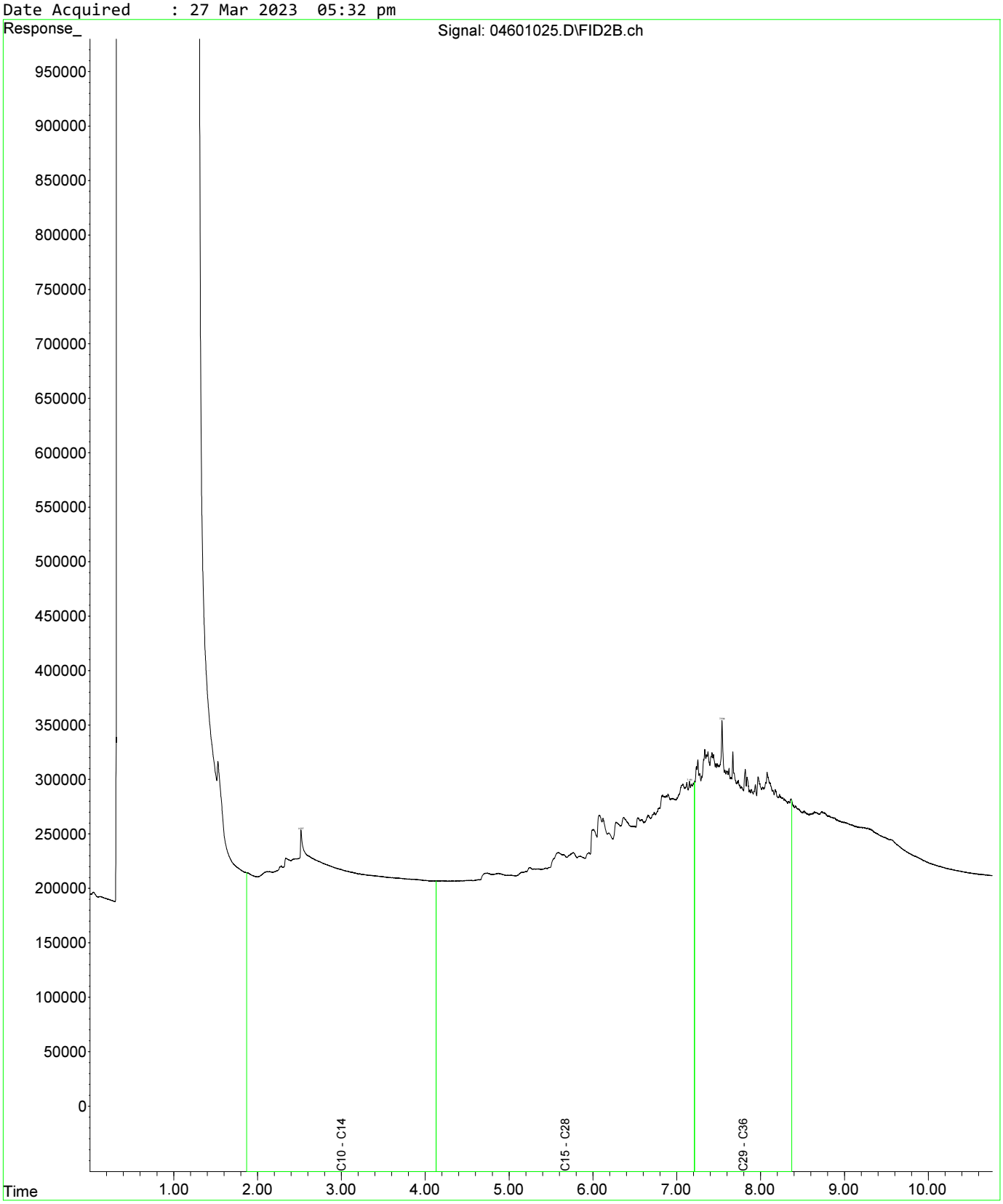

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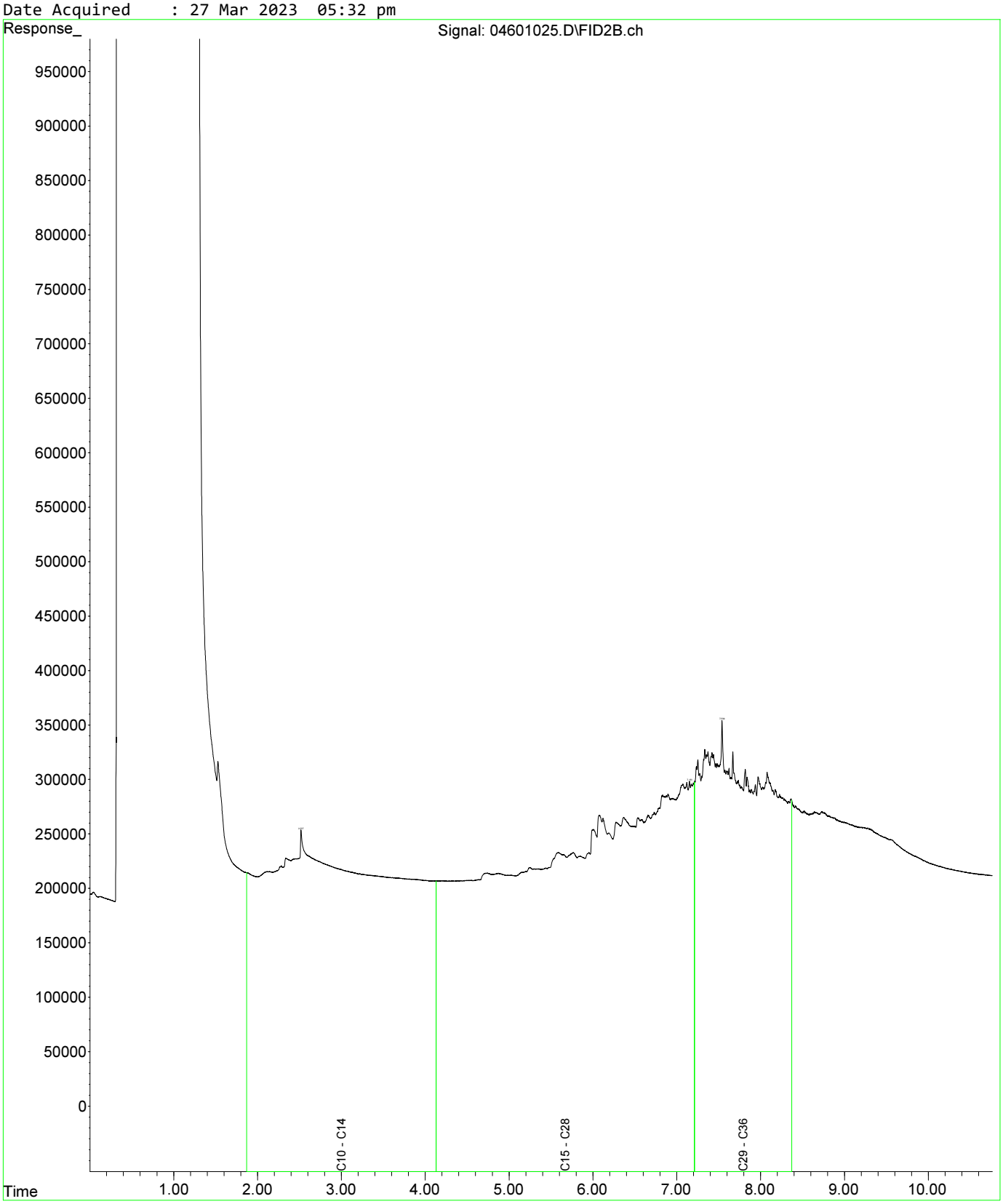

Fraction Scheme : Standard
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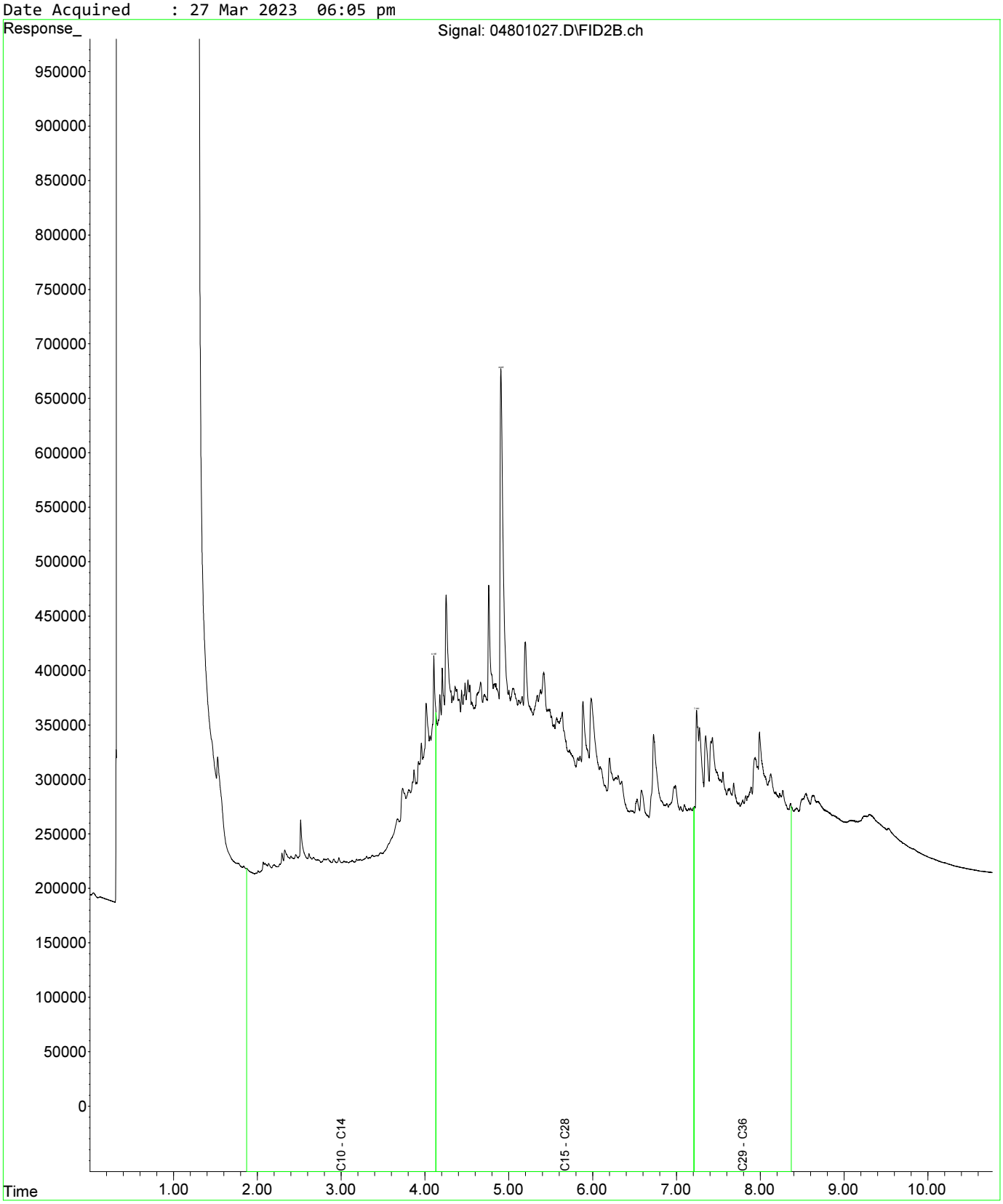

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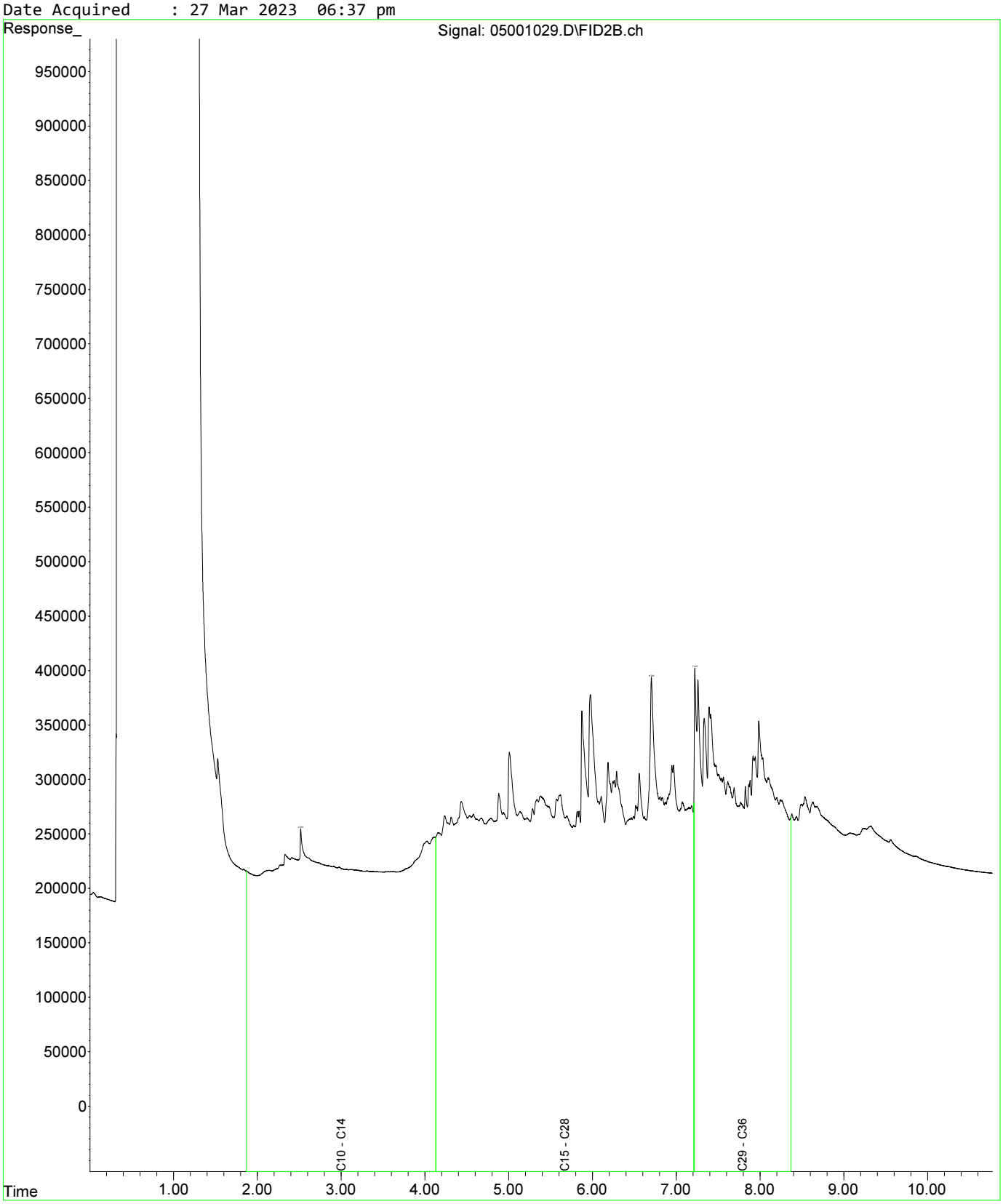

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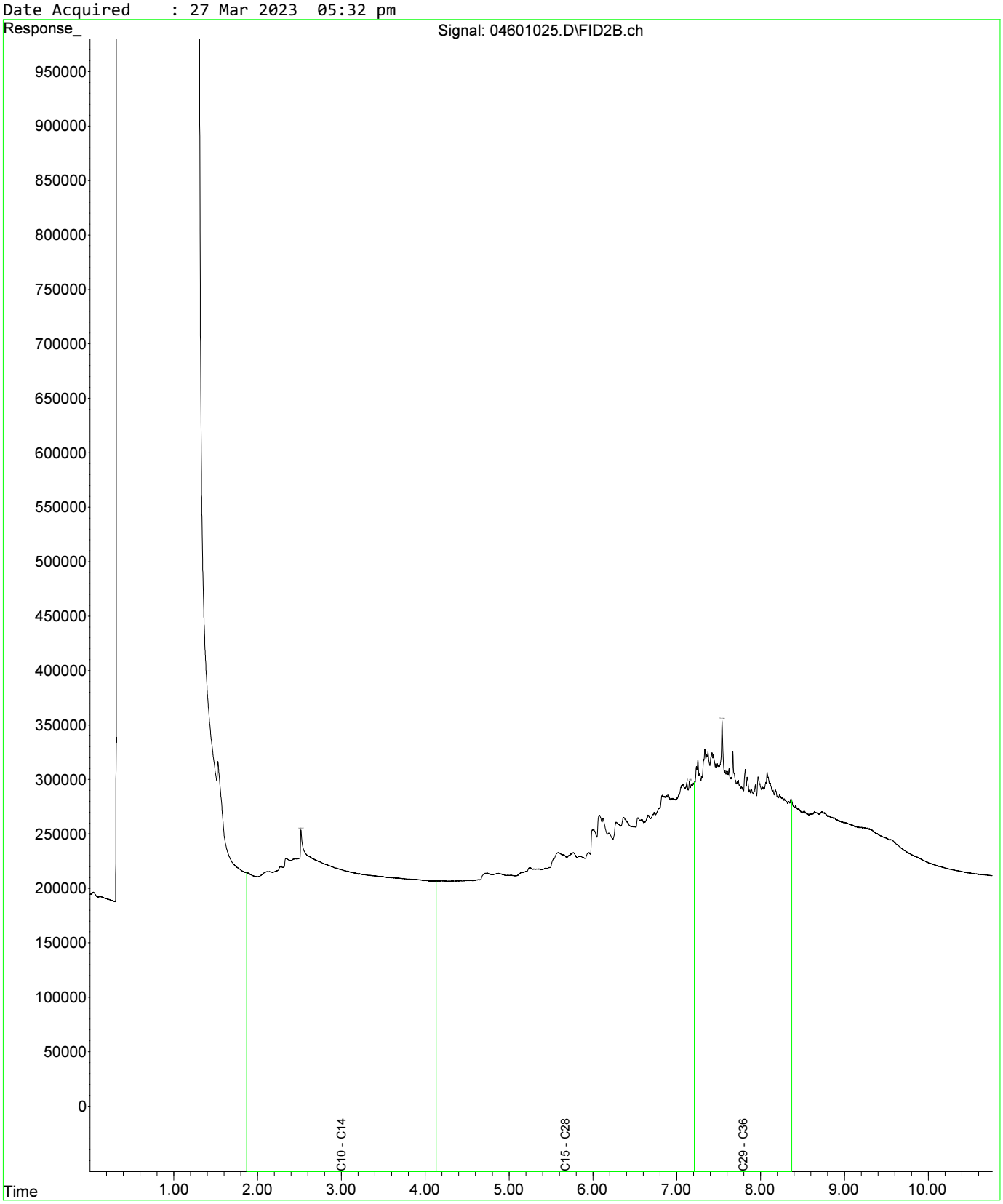

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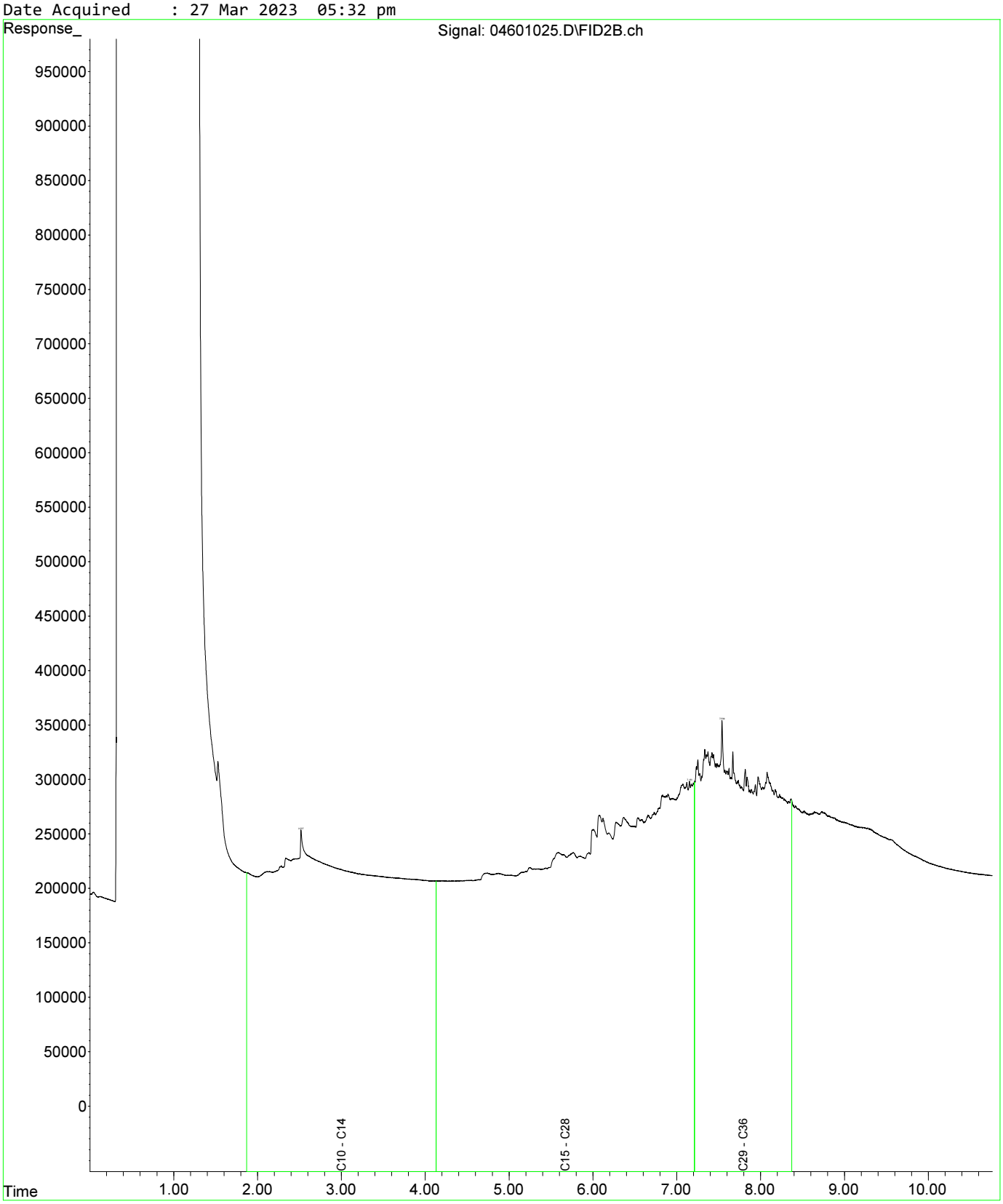
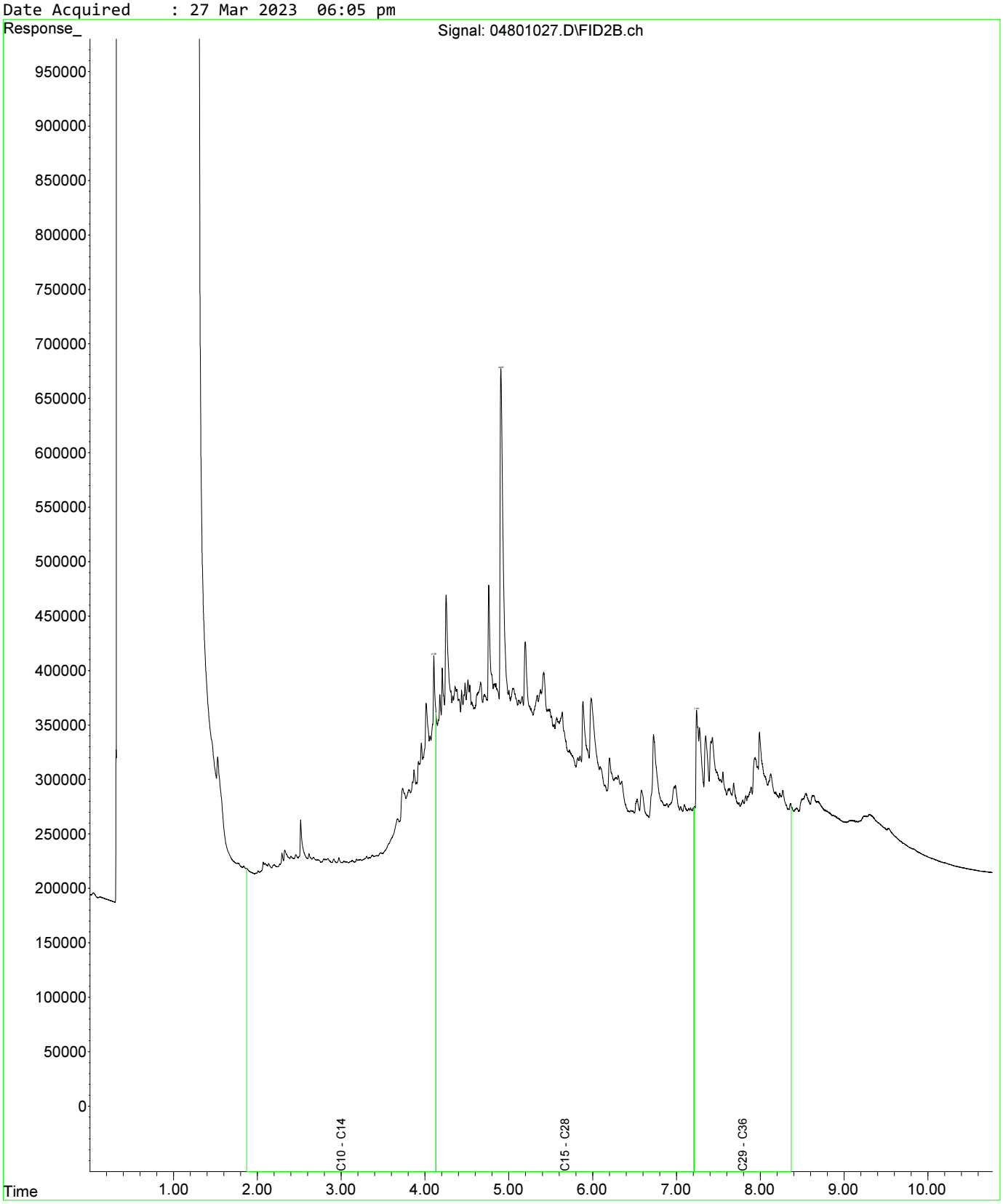


Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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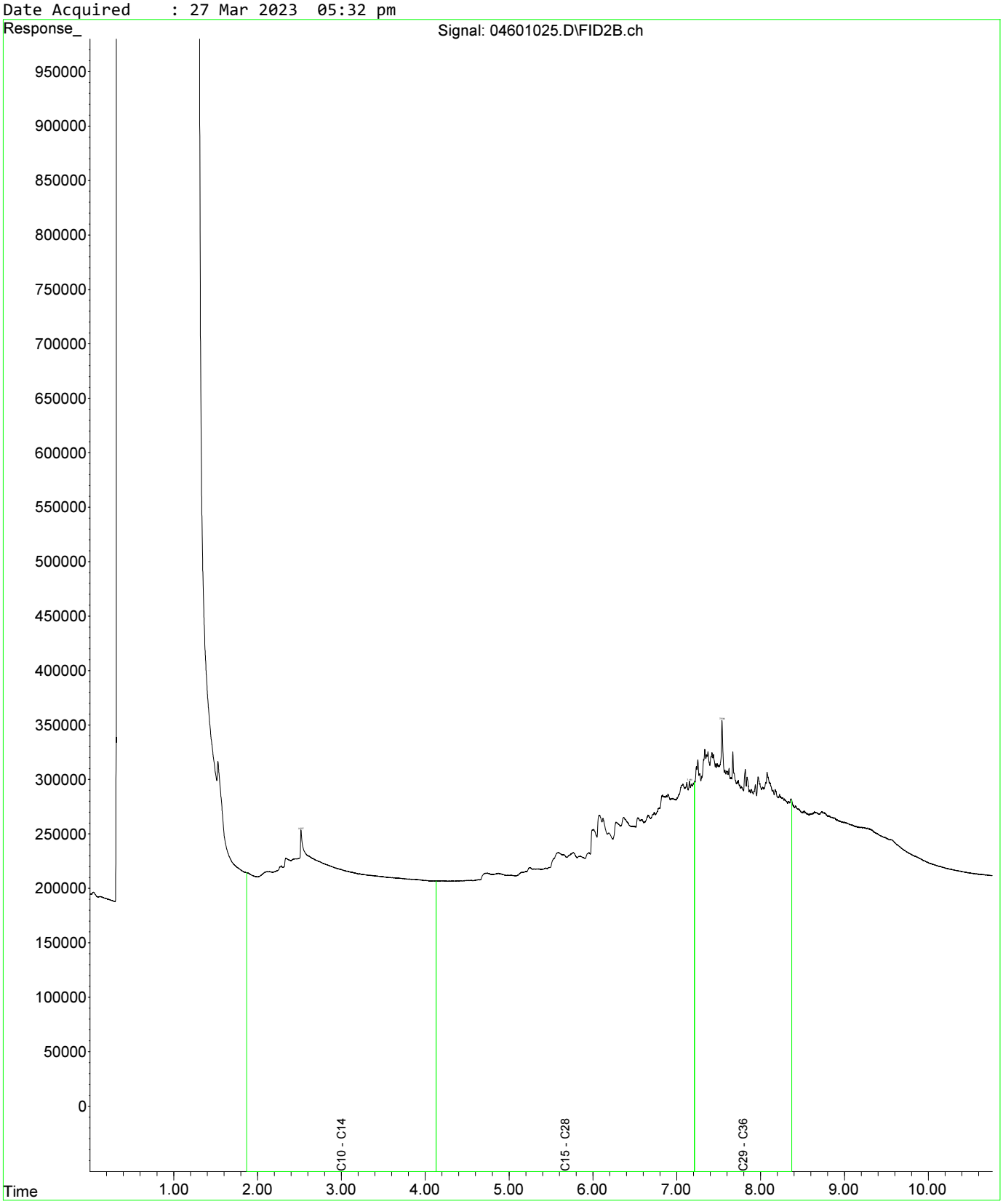

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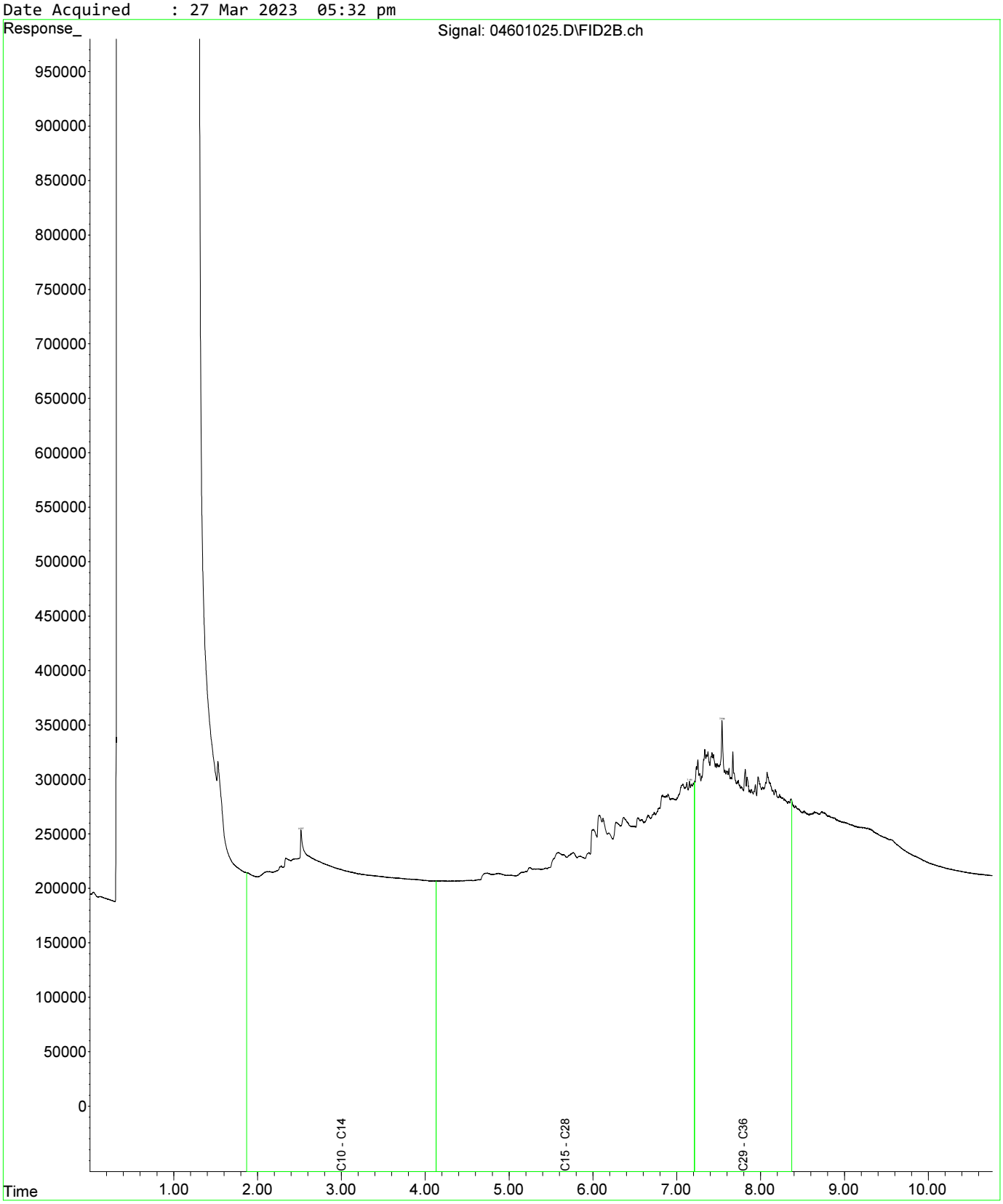

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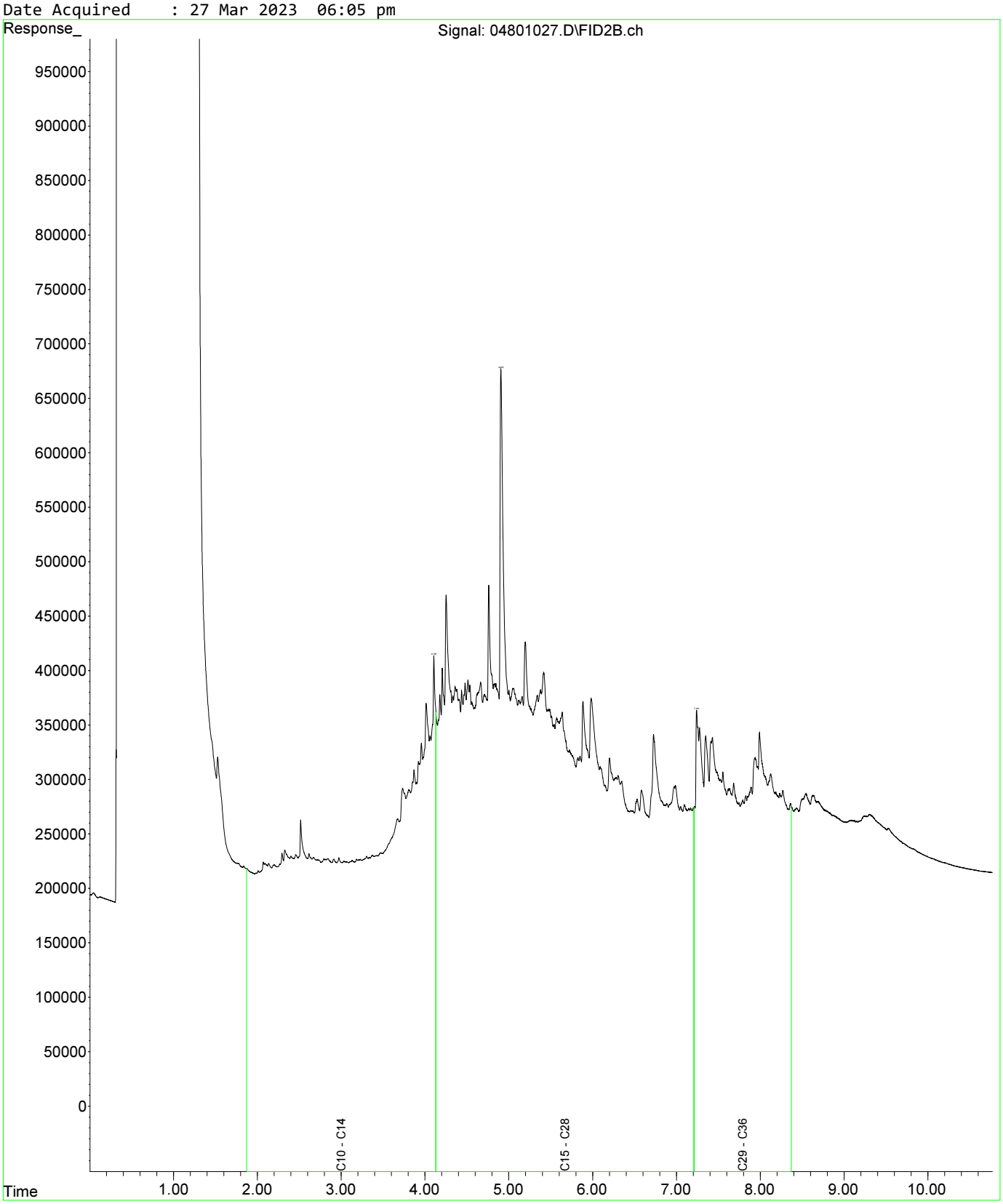

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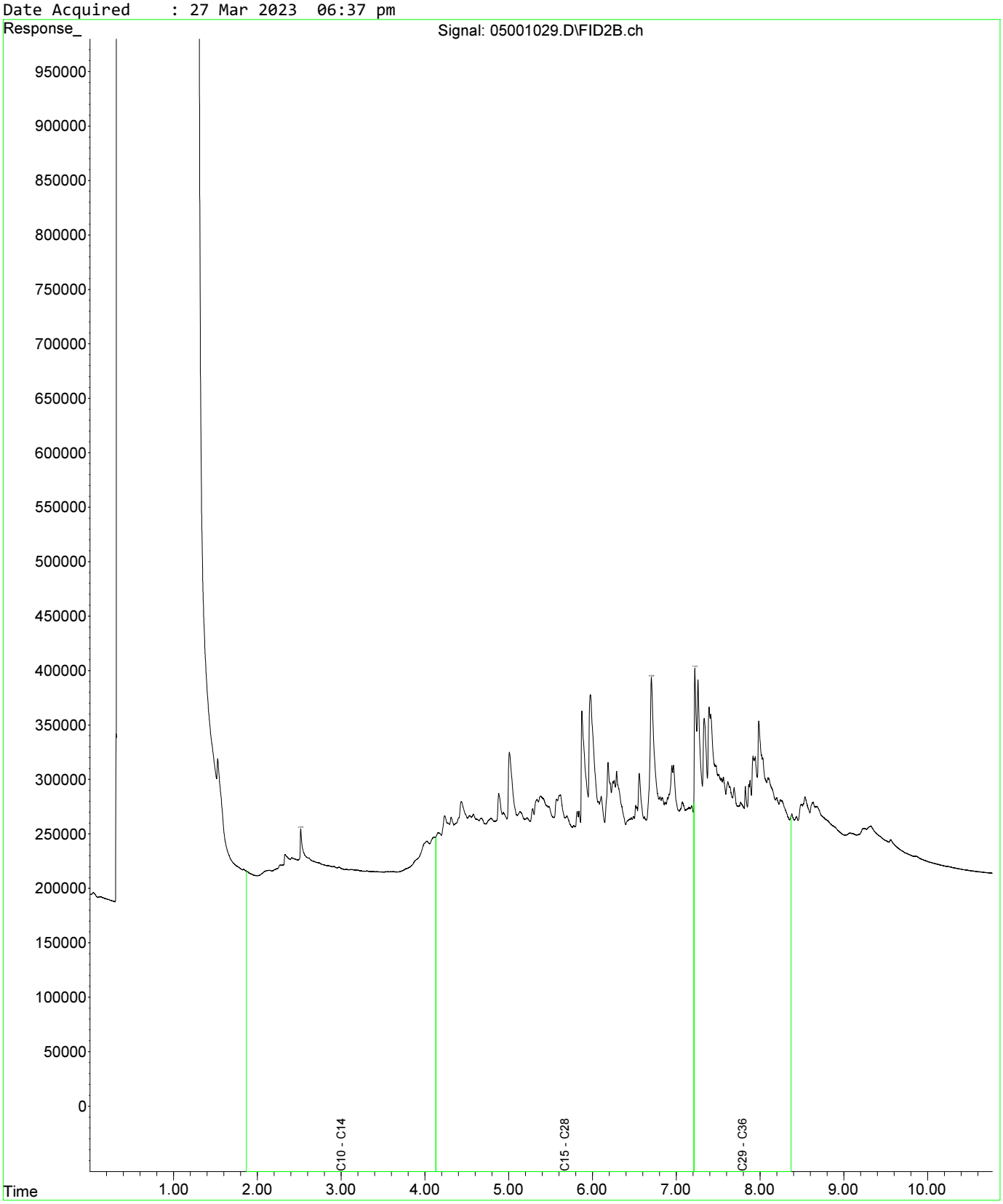
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Data File : 05101030.D
Laboratory Number: EM2305209-025
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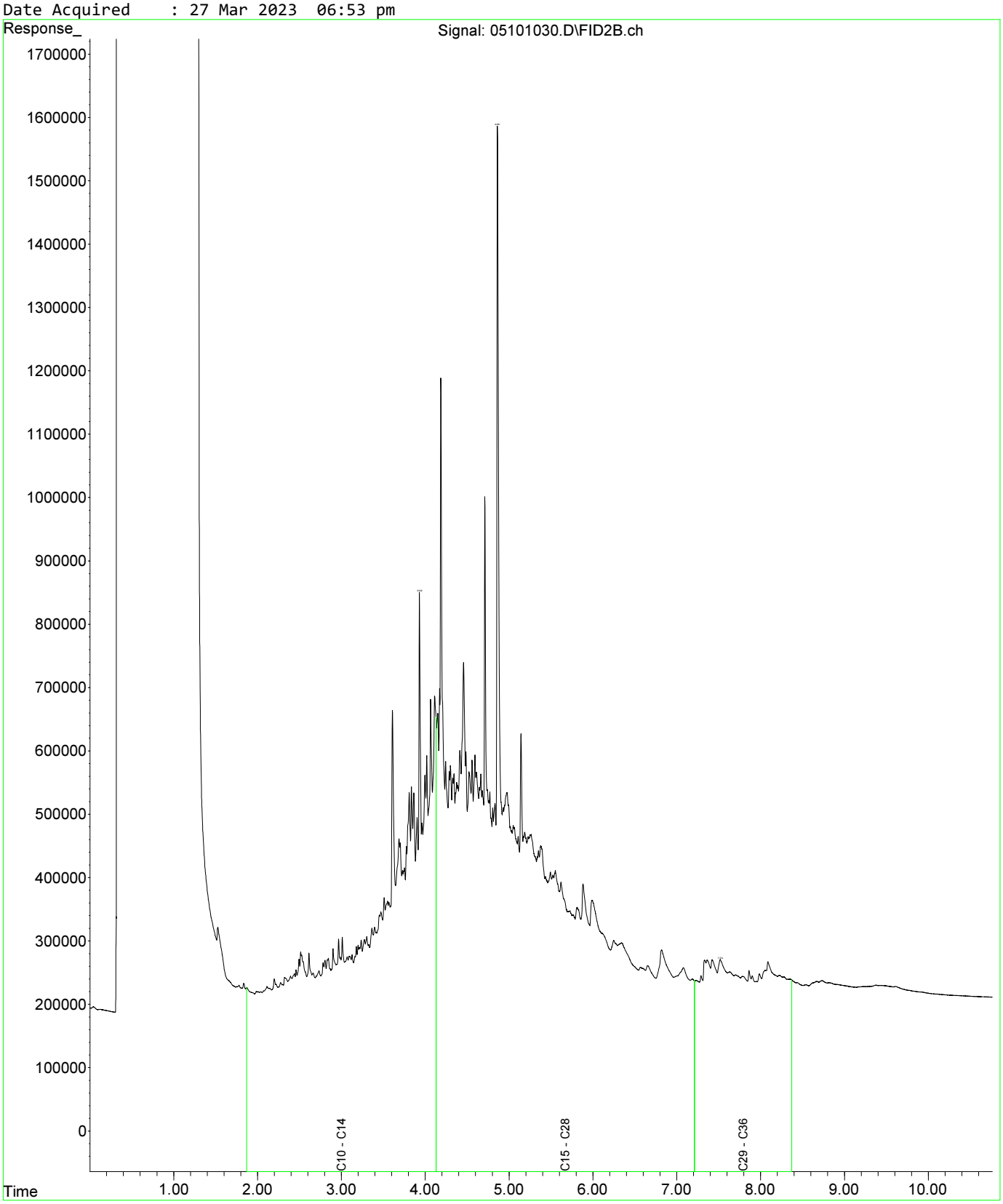
Date Acquired : 27 Mar 2023 06:53 pm



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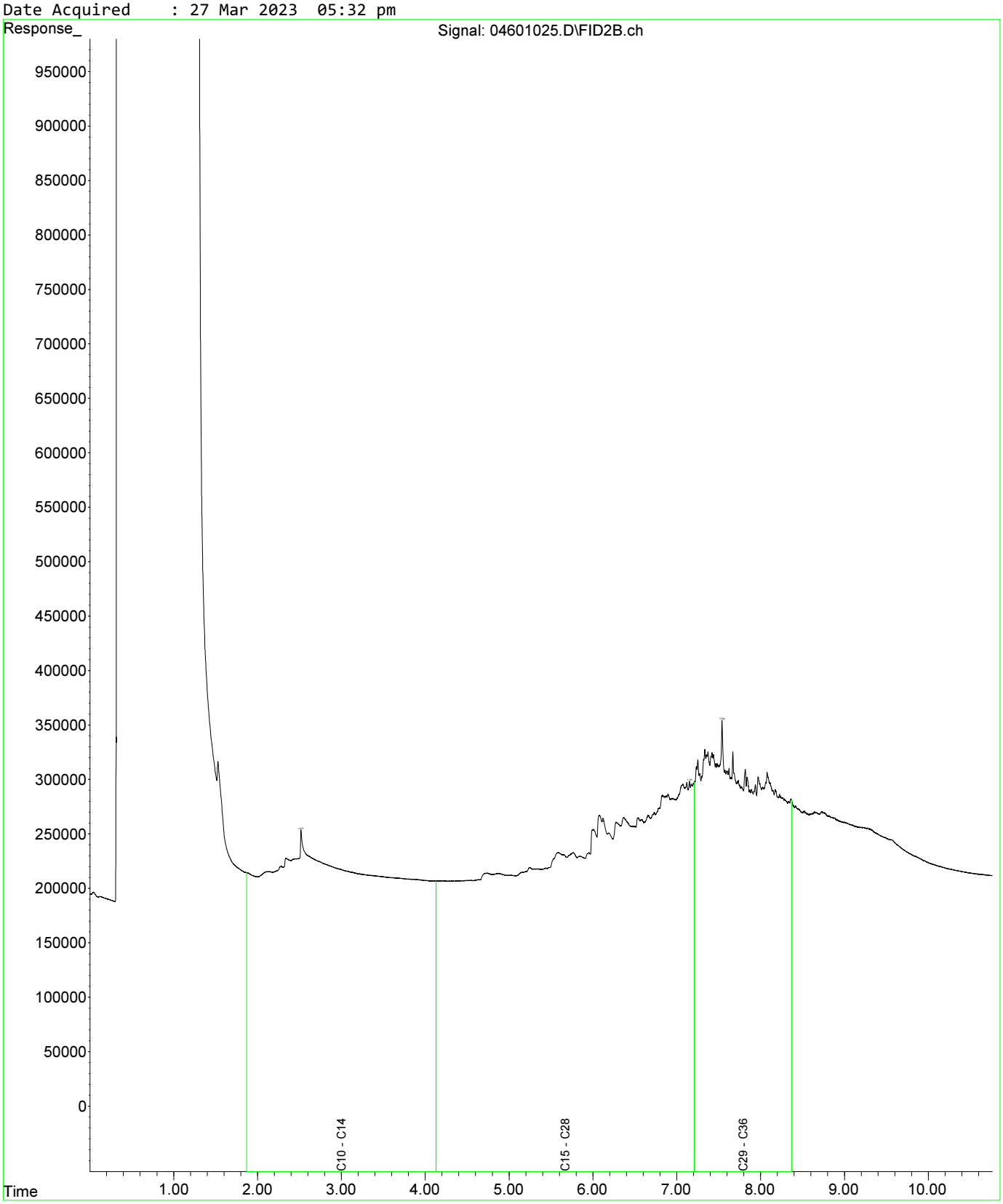

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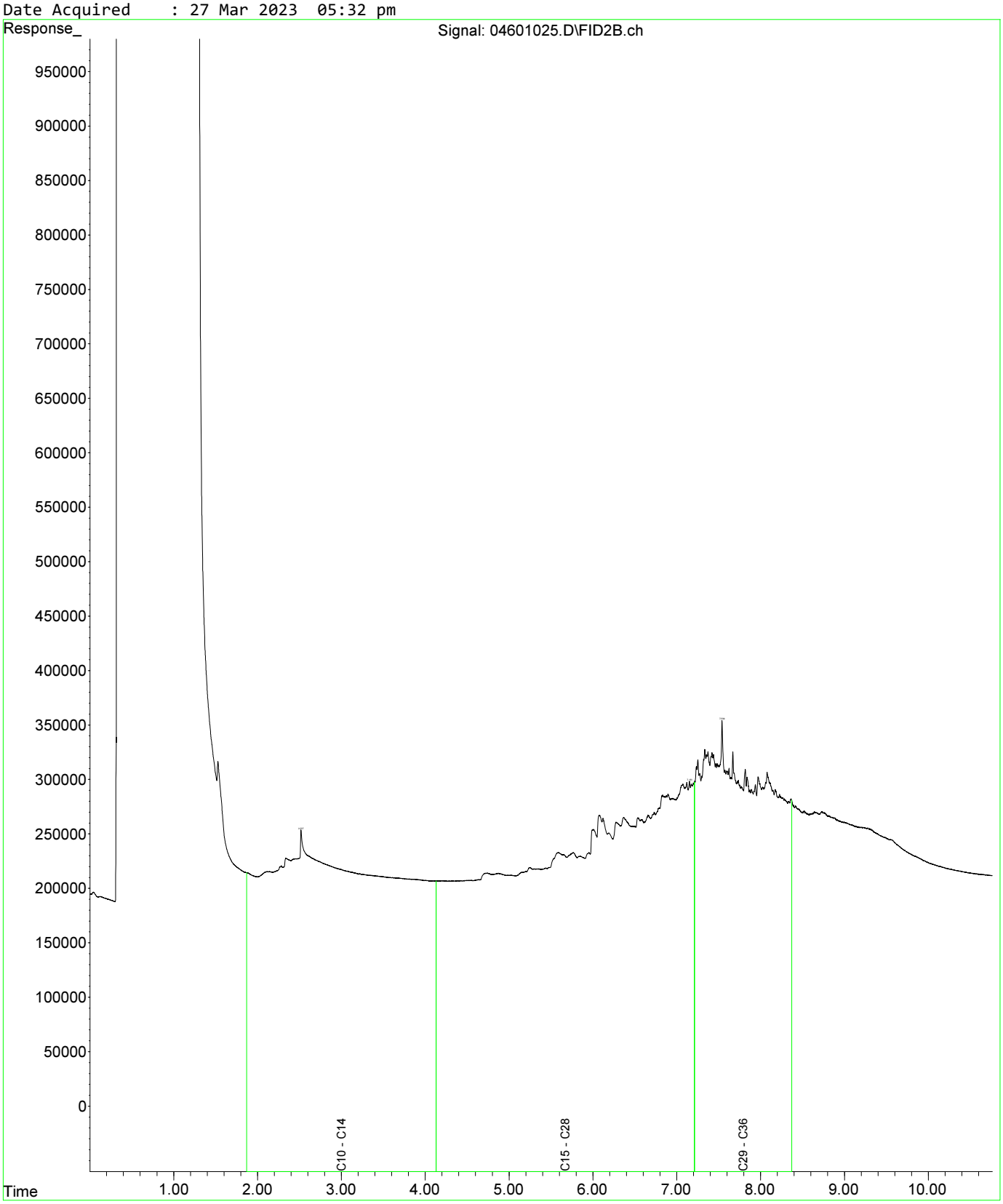

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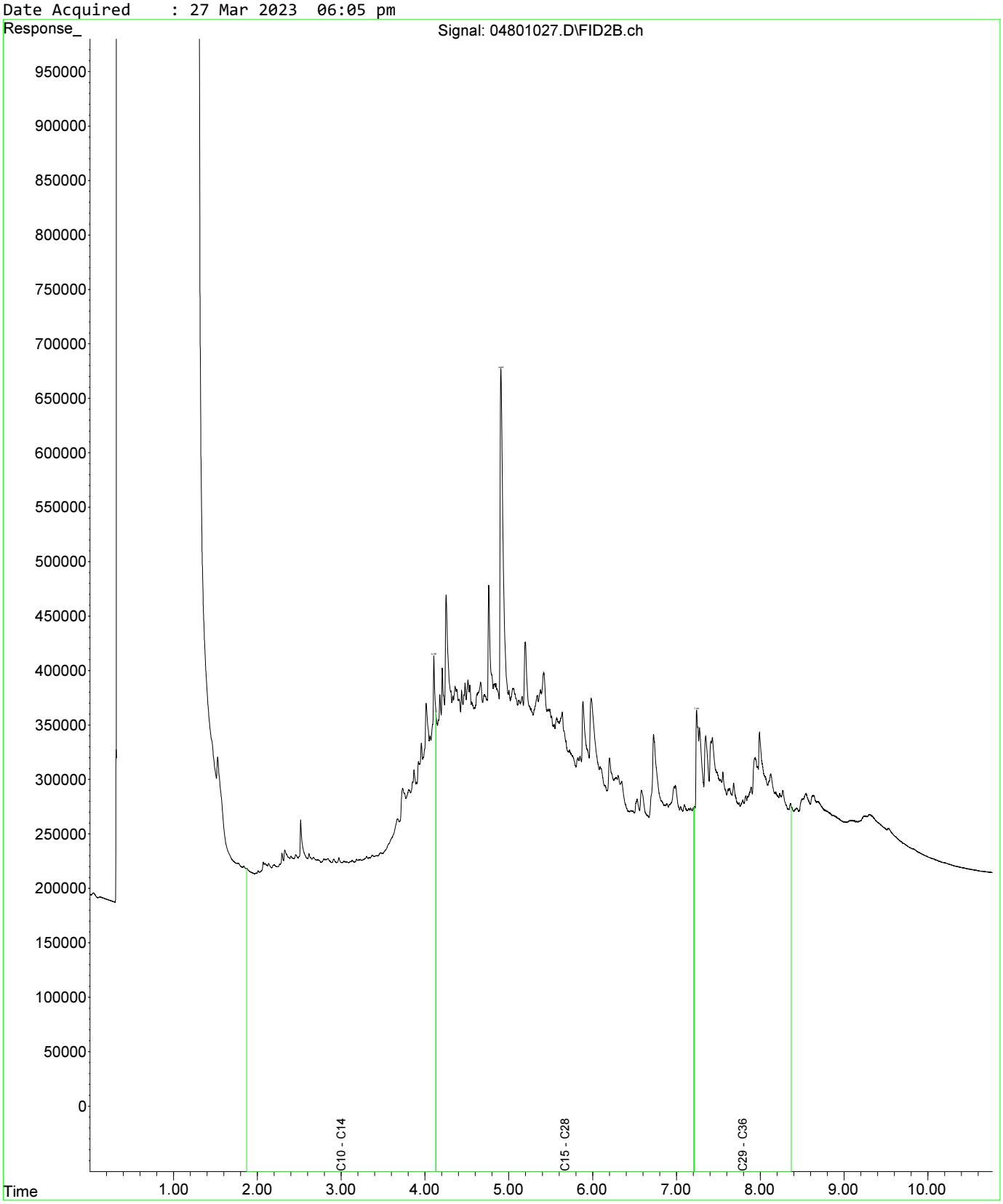

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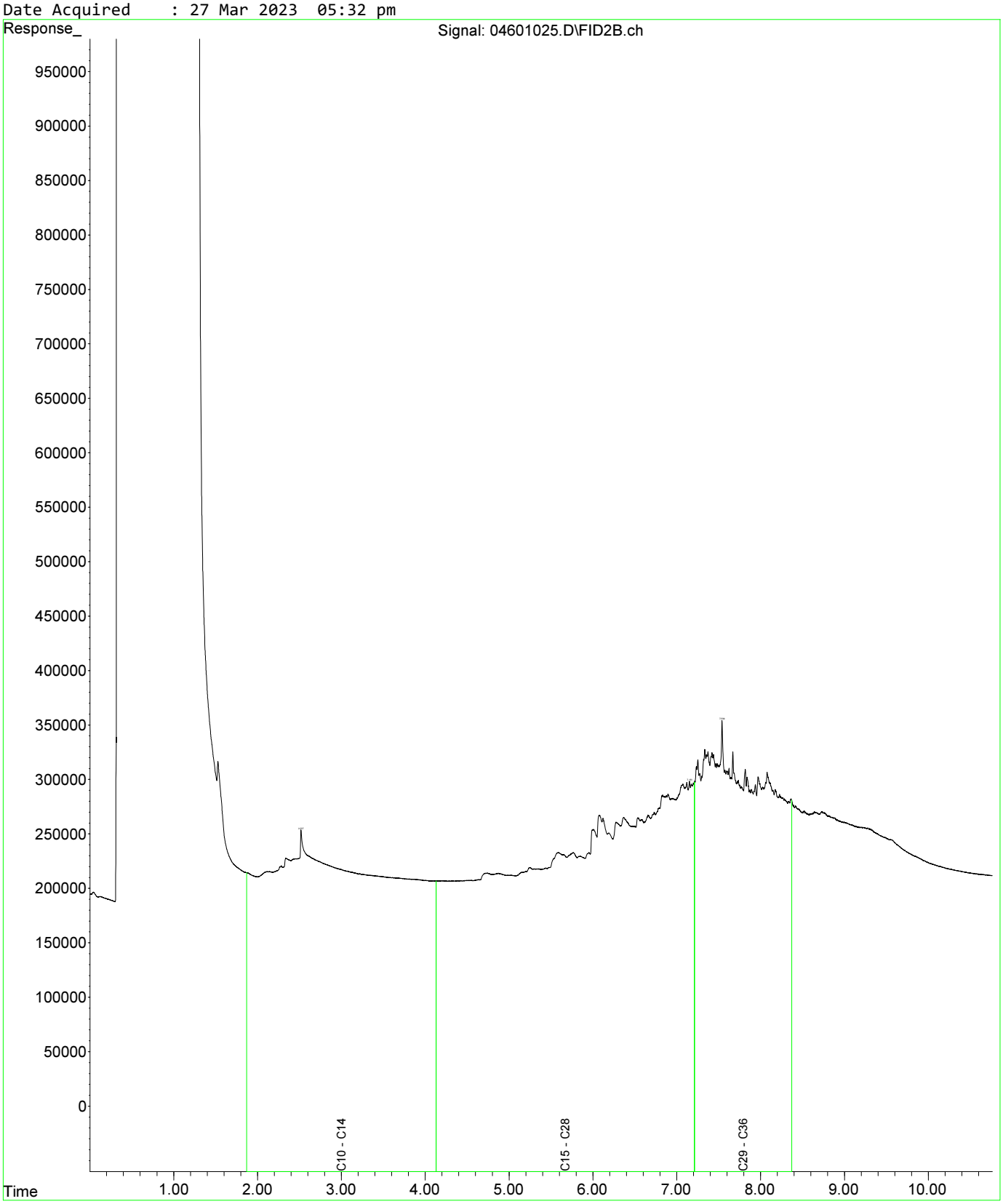

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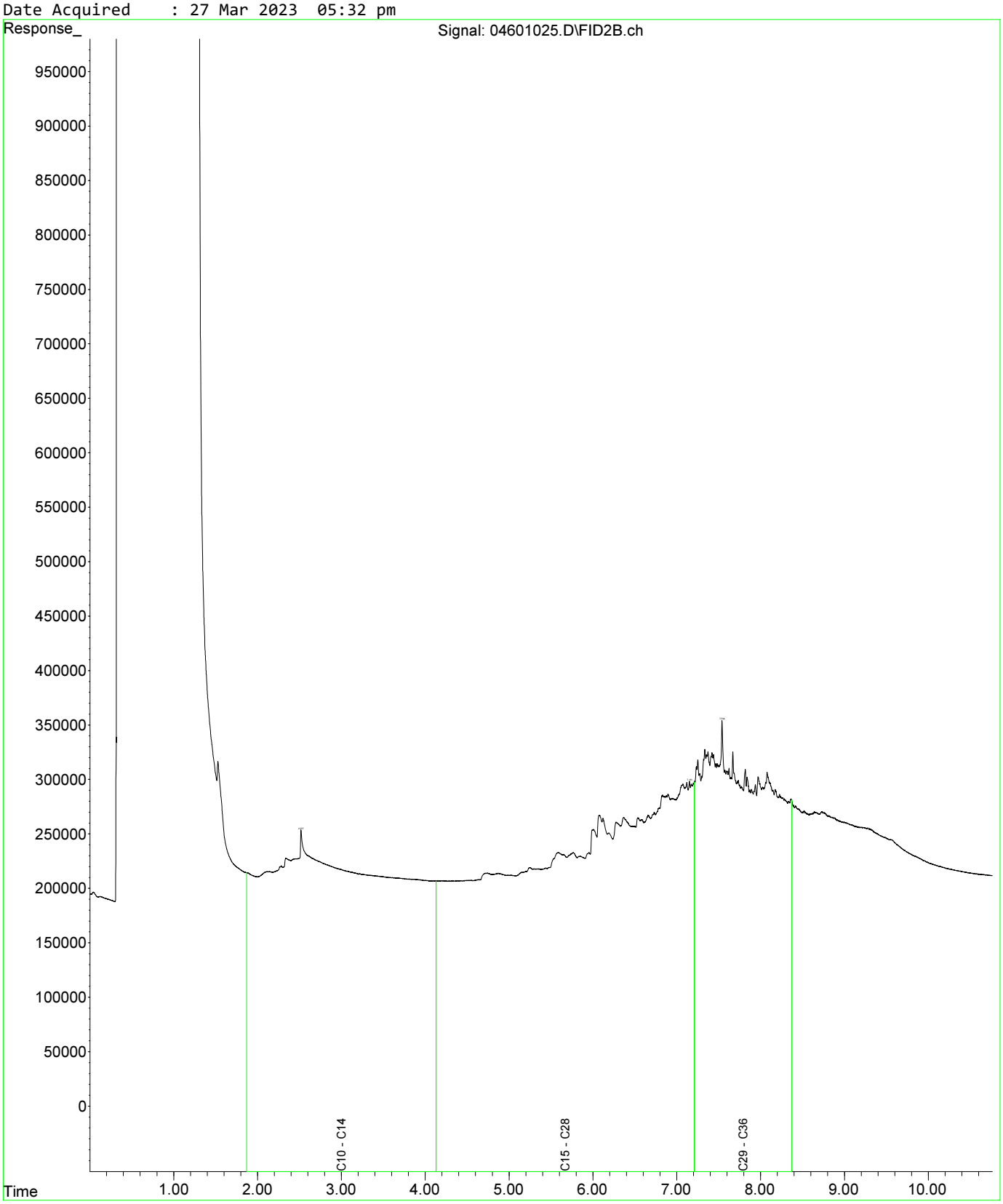

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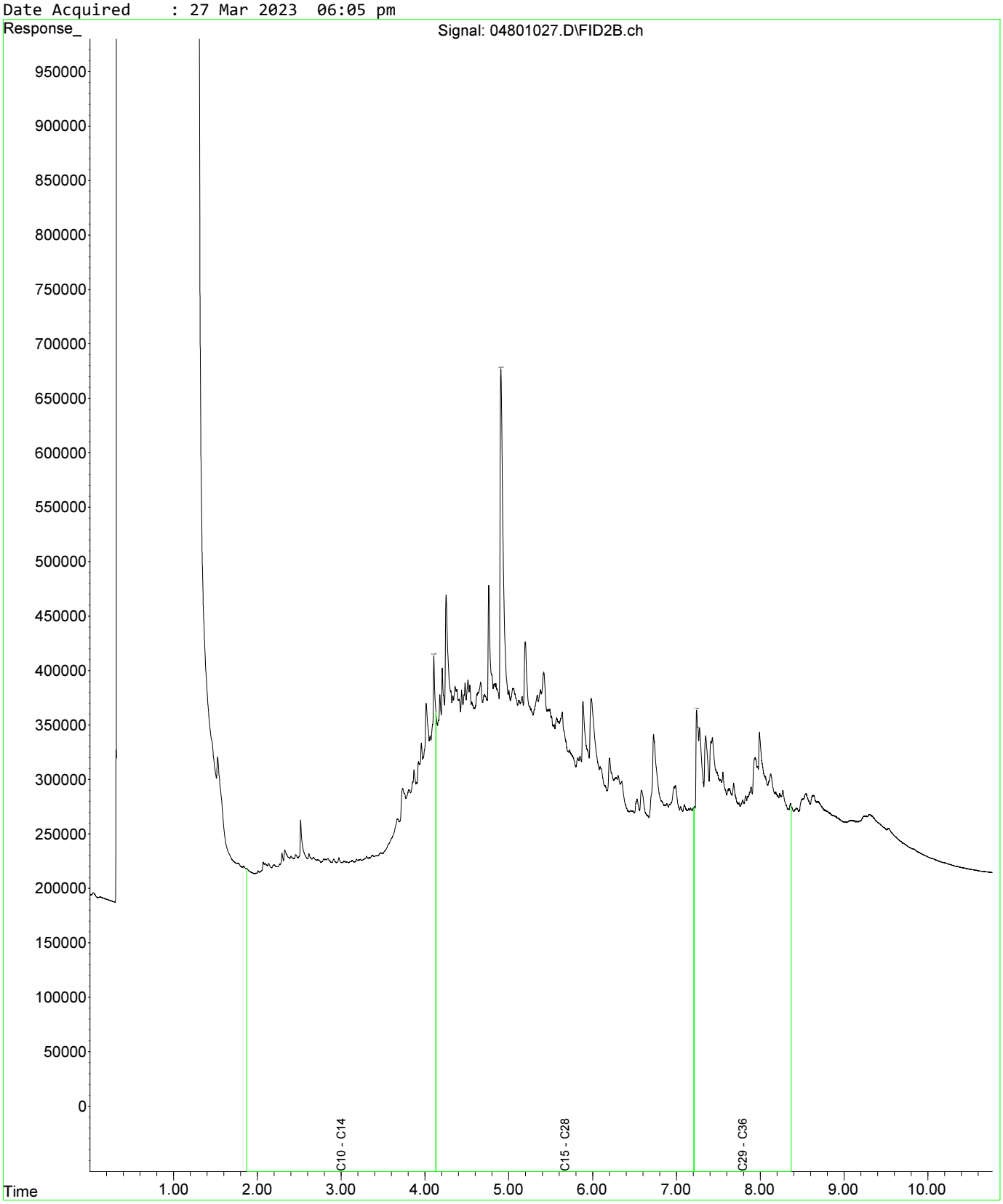

Fraction Scheme : Standard
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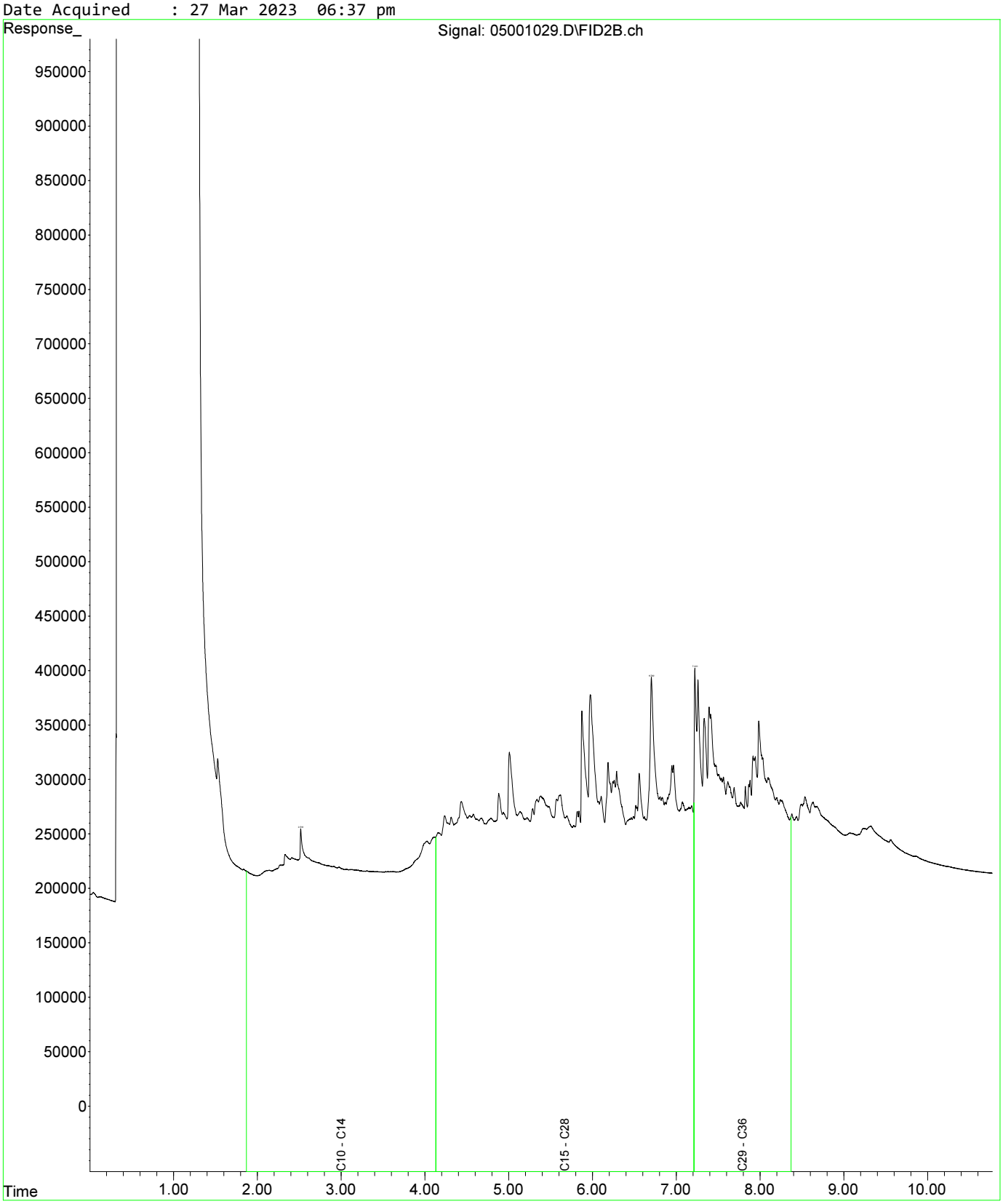
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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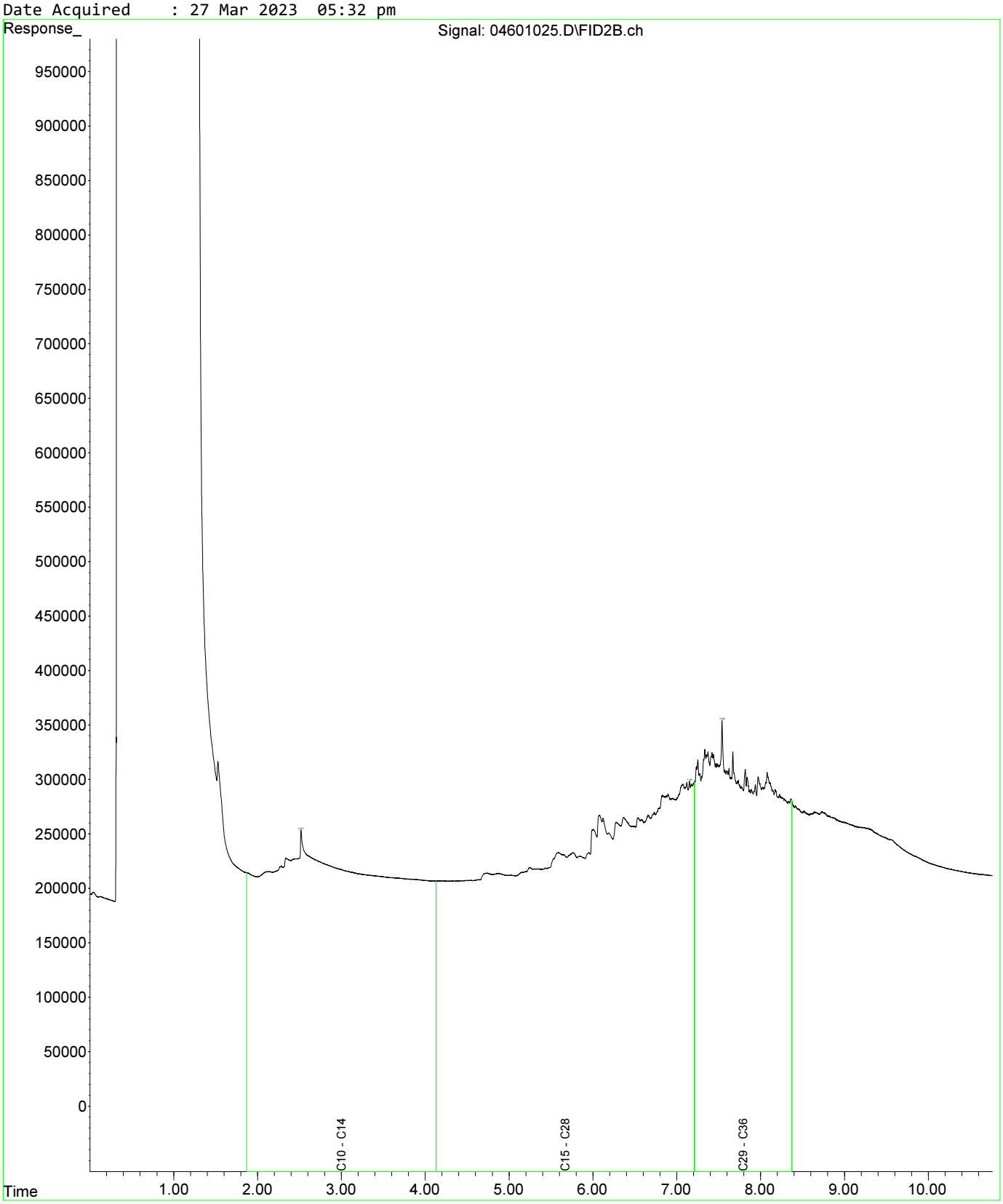

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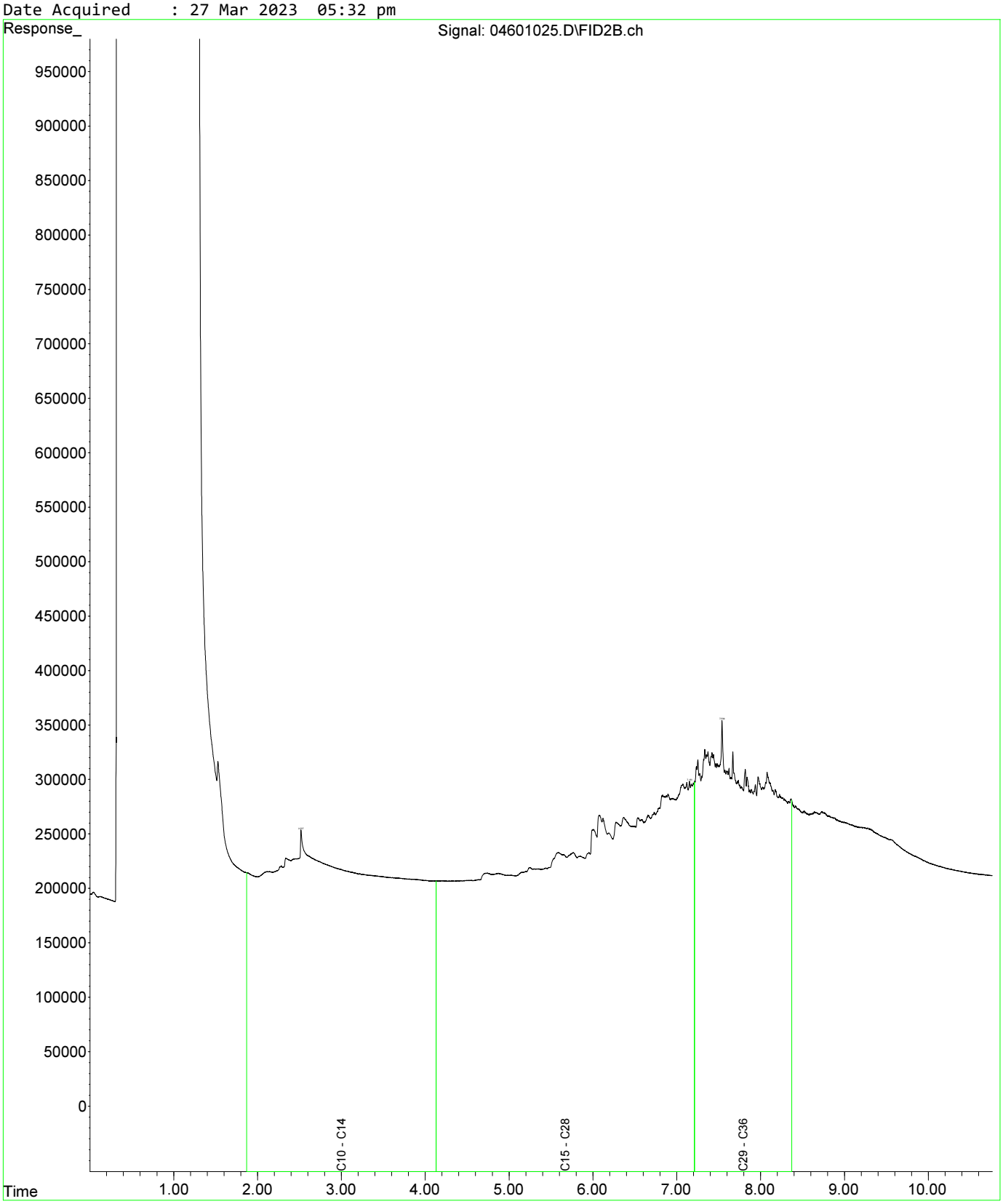

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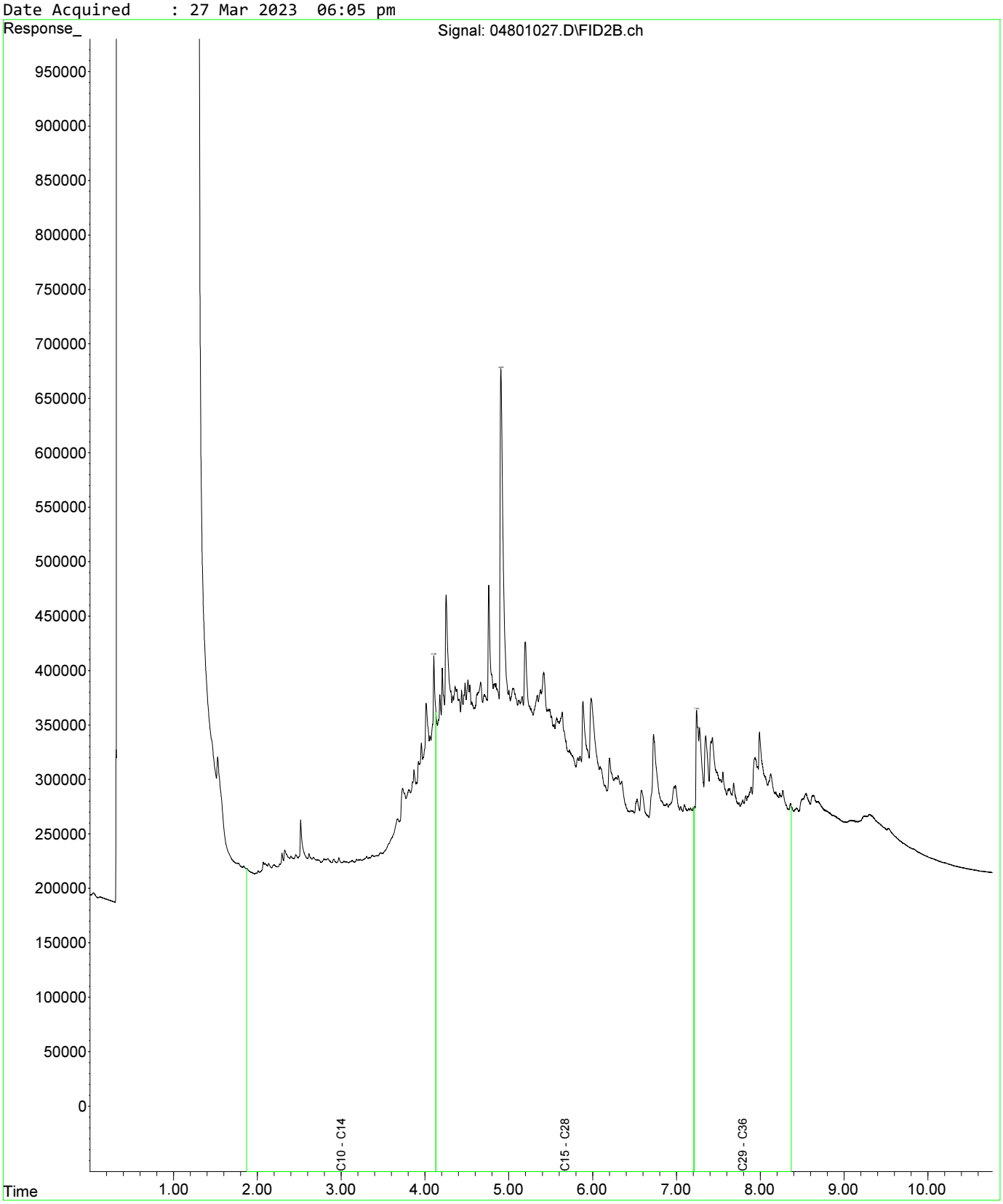

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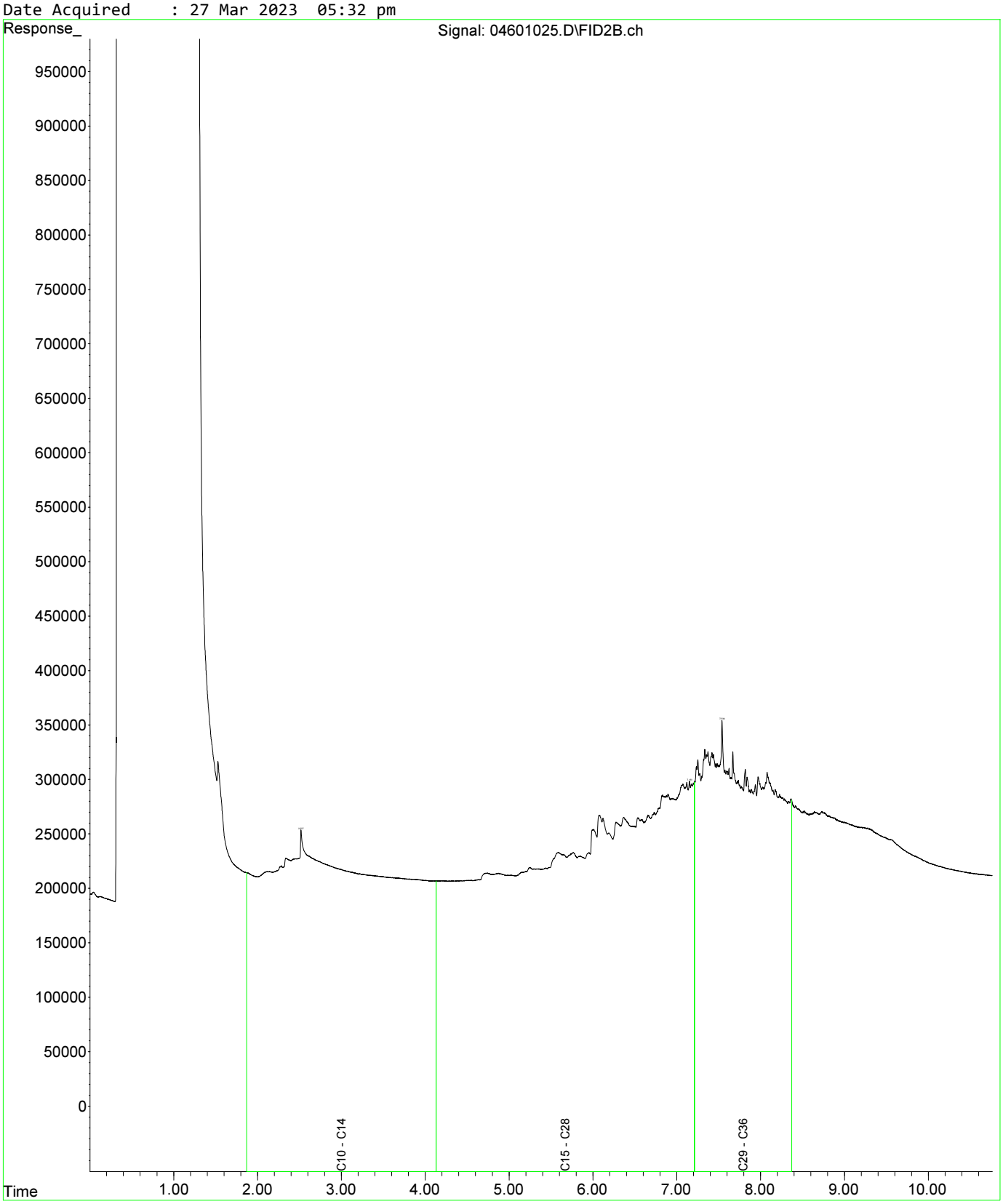

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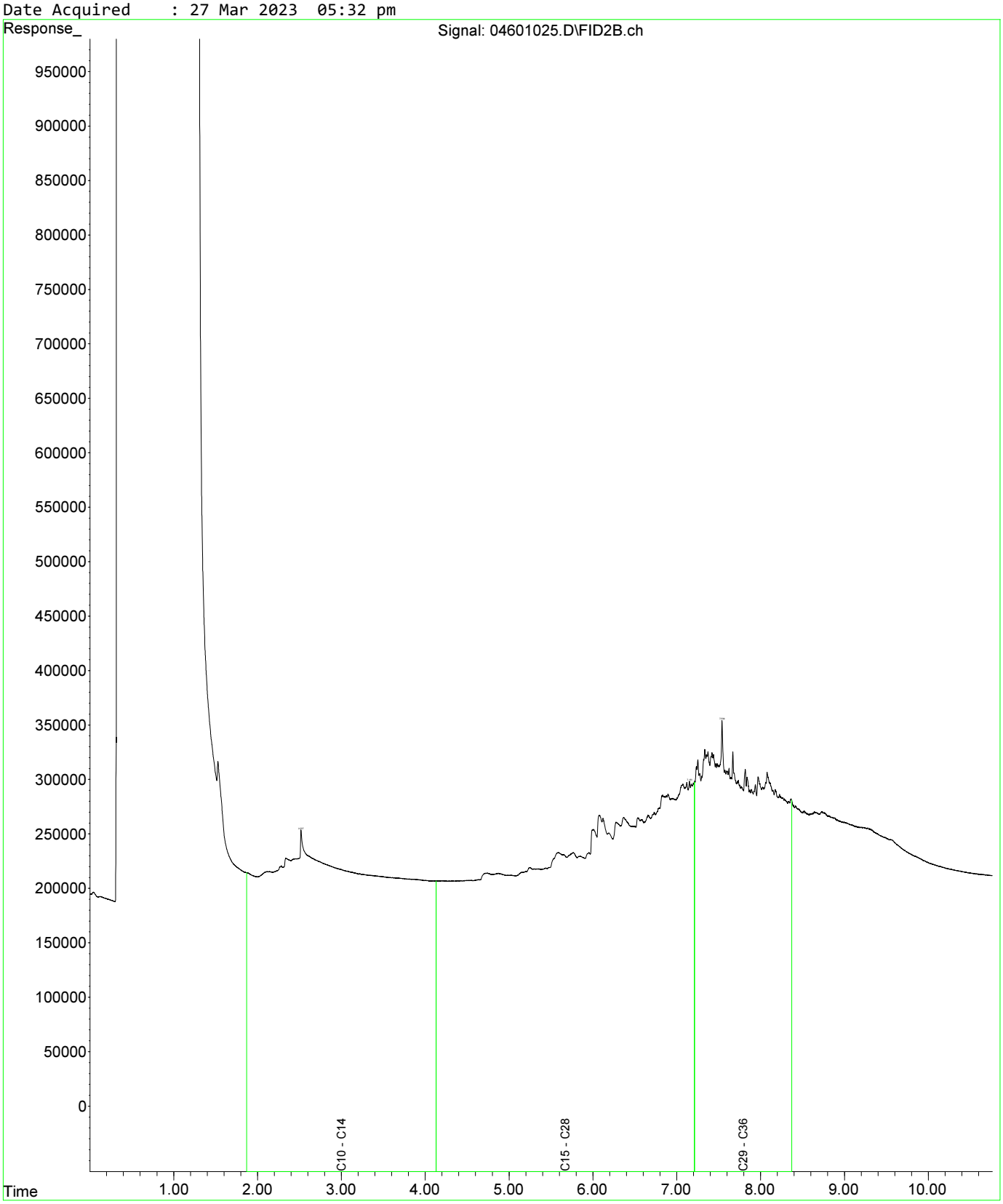

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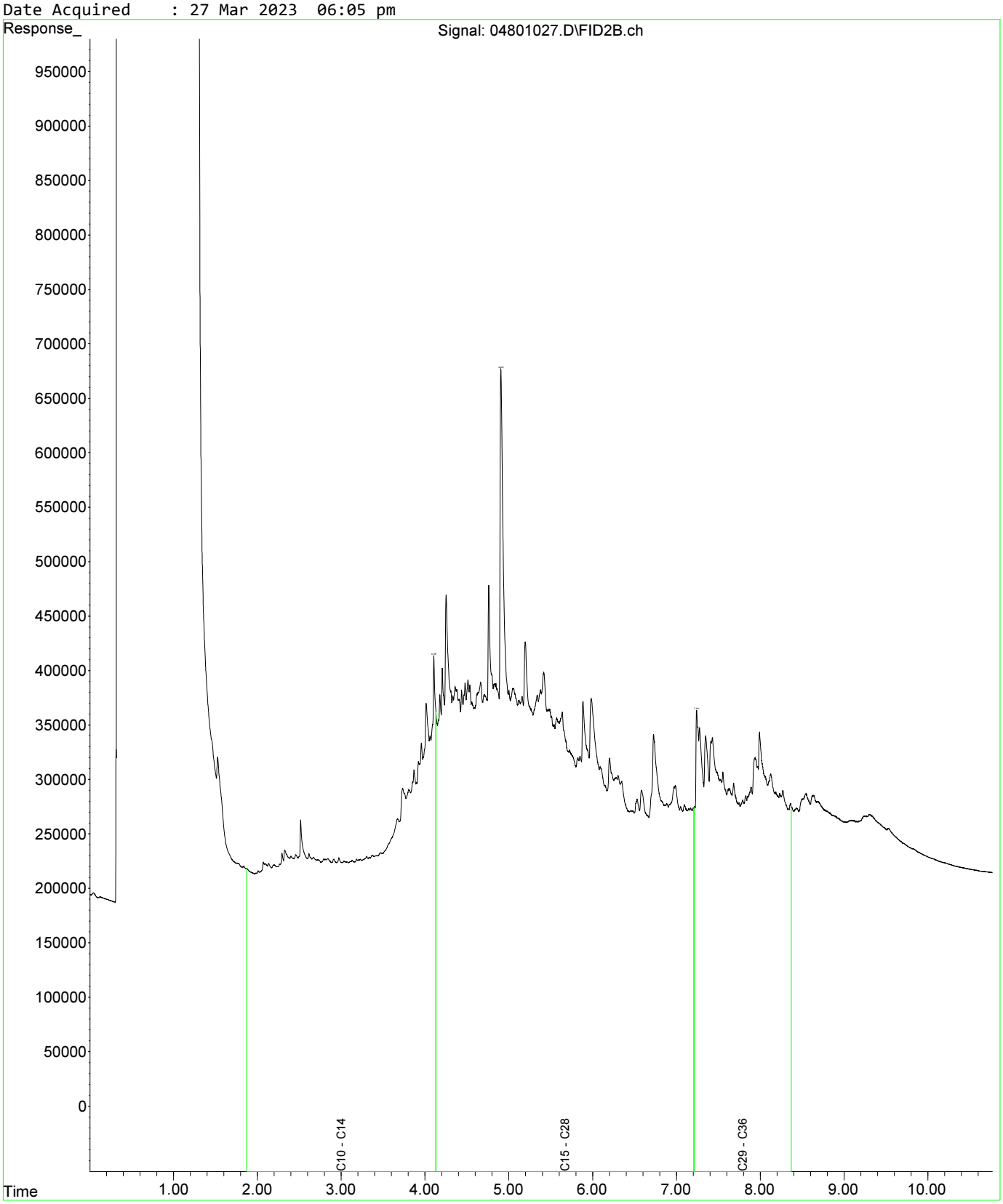

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Data File : 05001029.D
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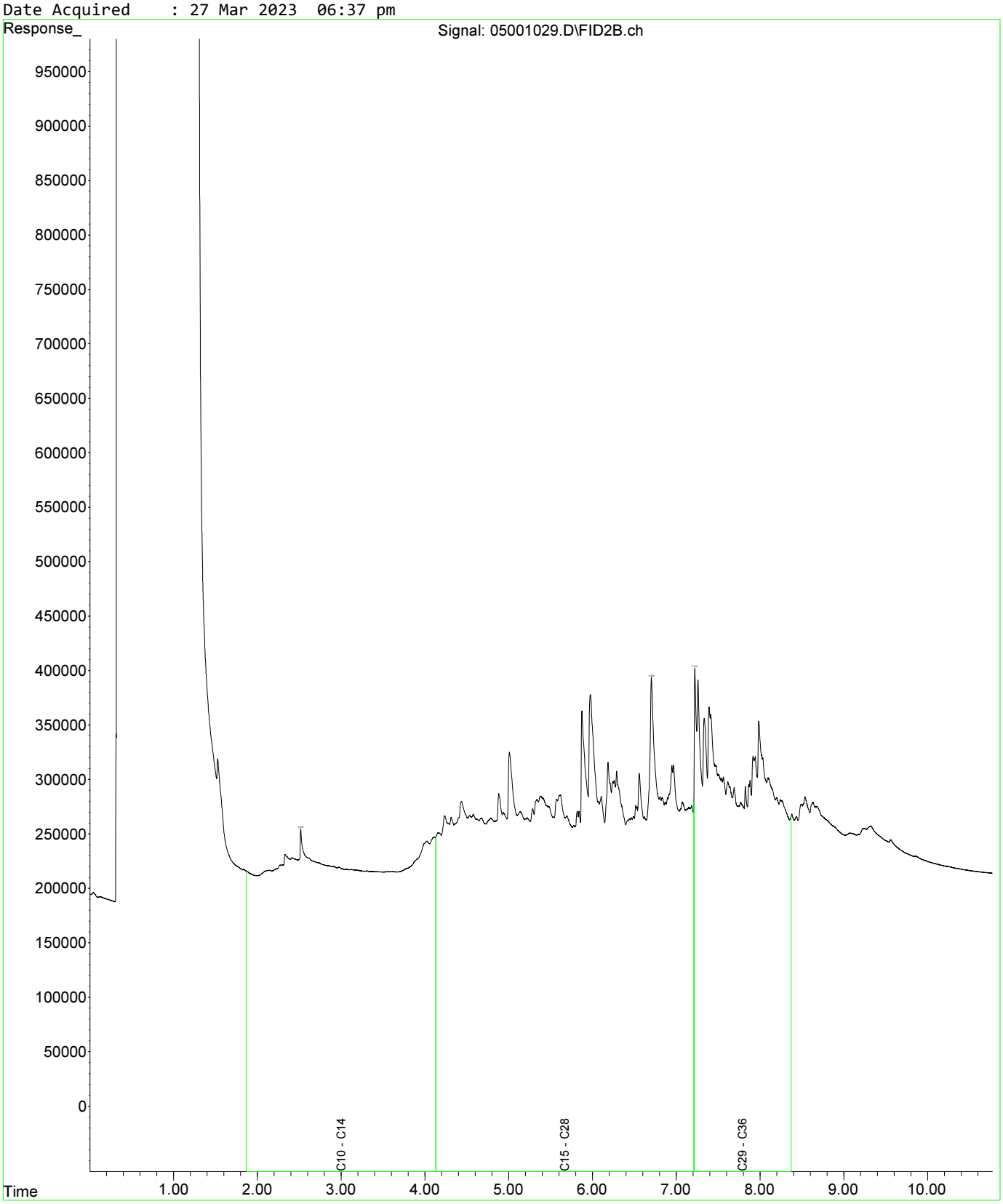
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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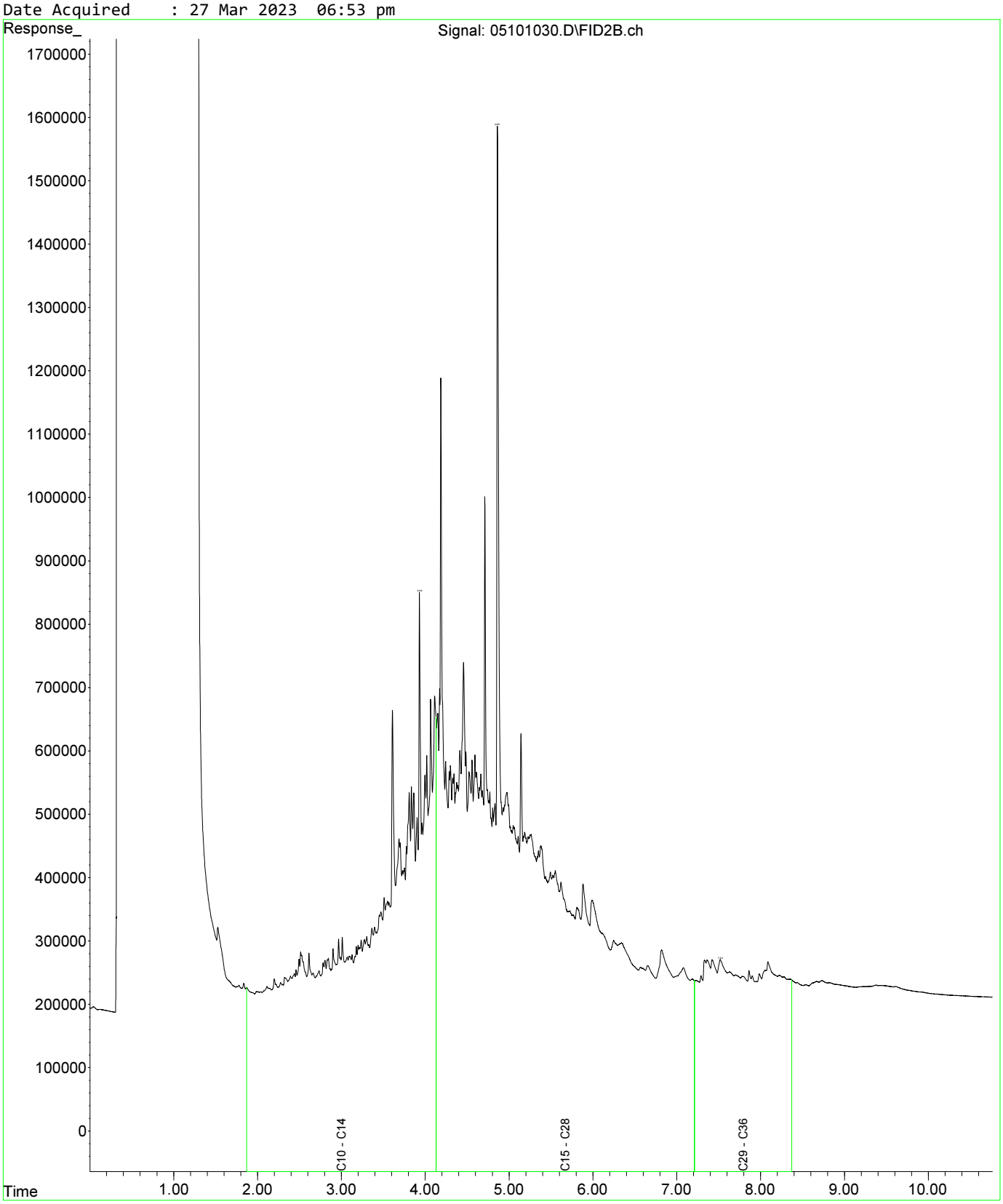

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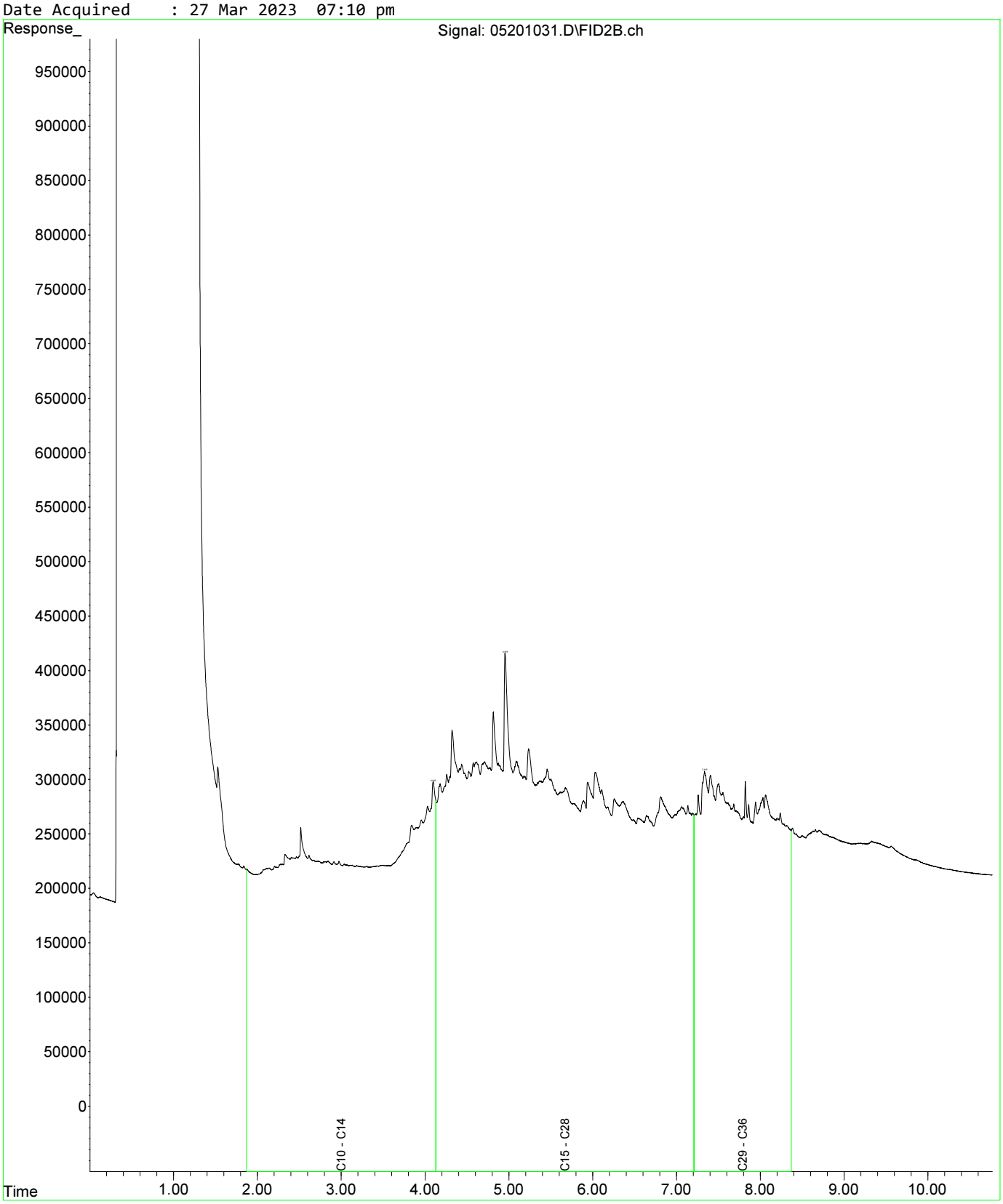

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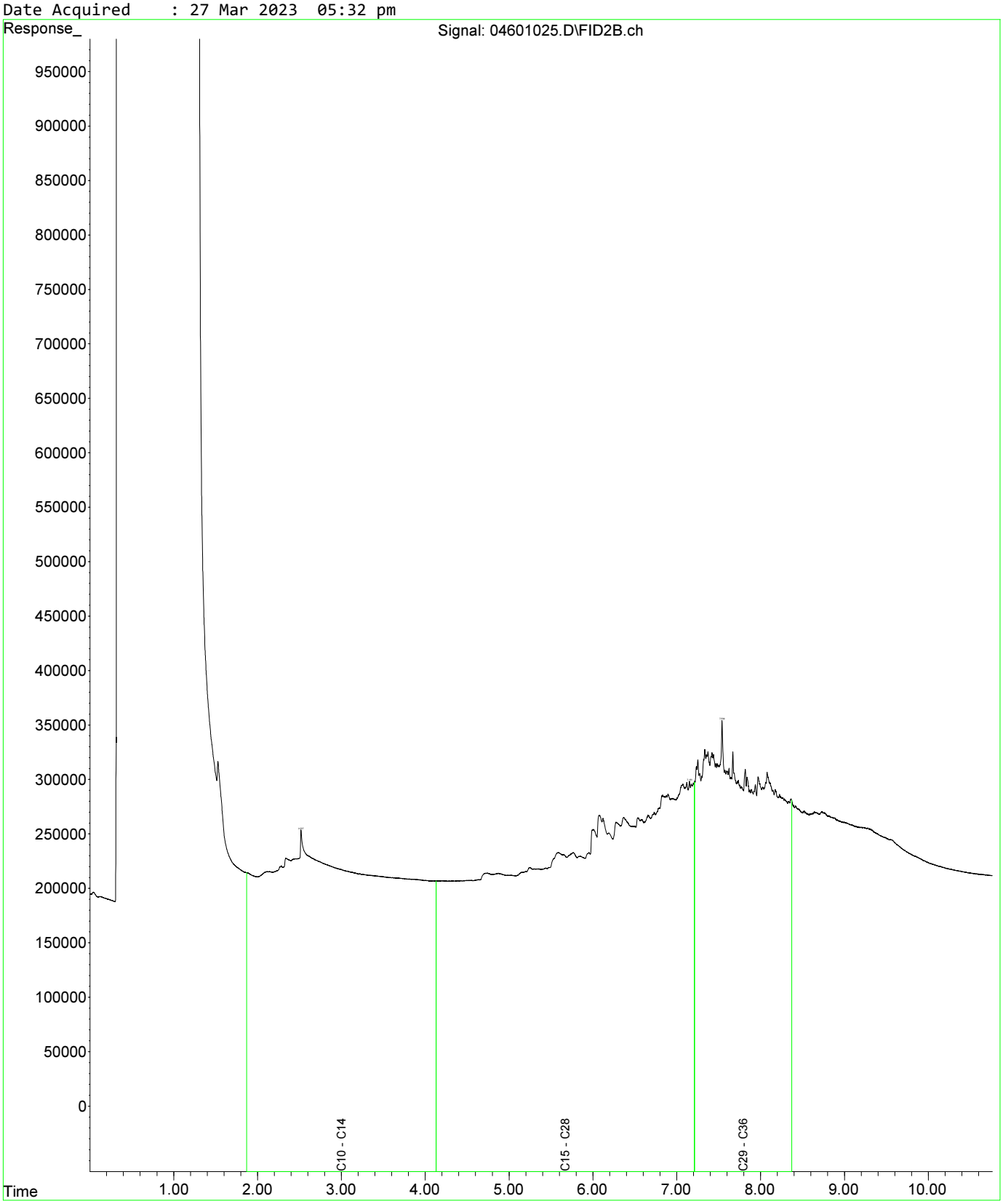

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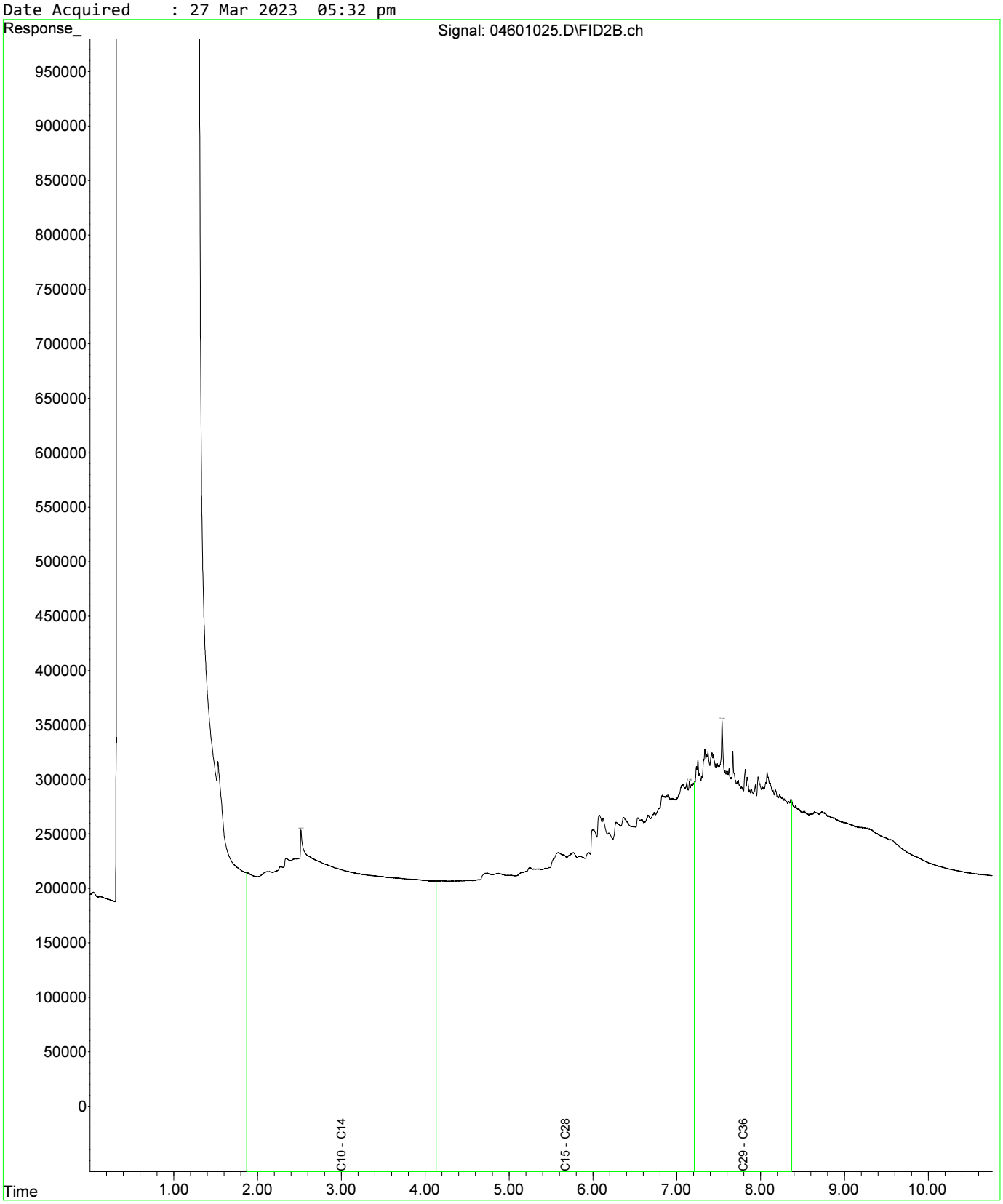

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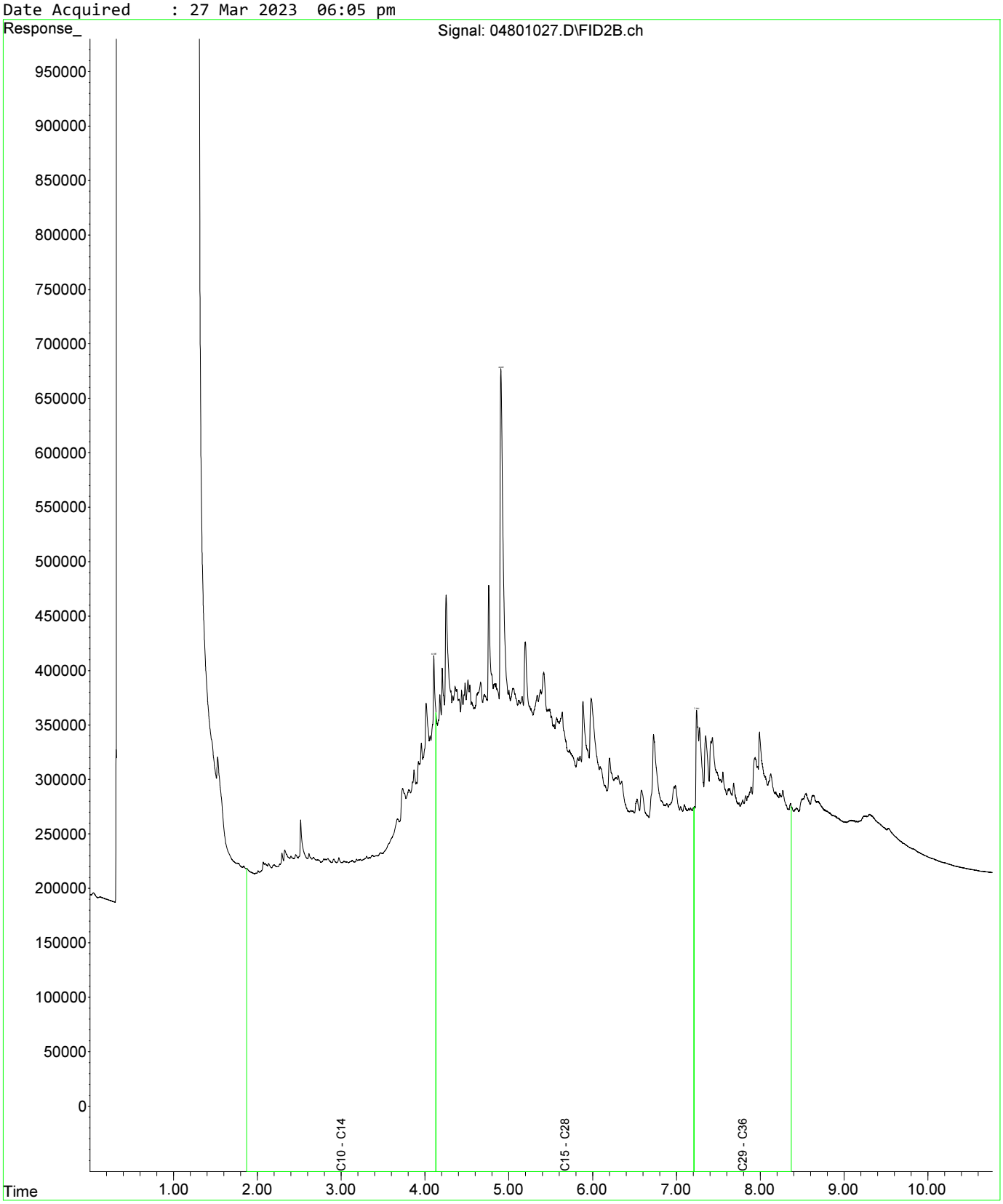

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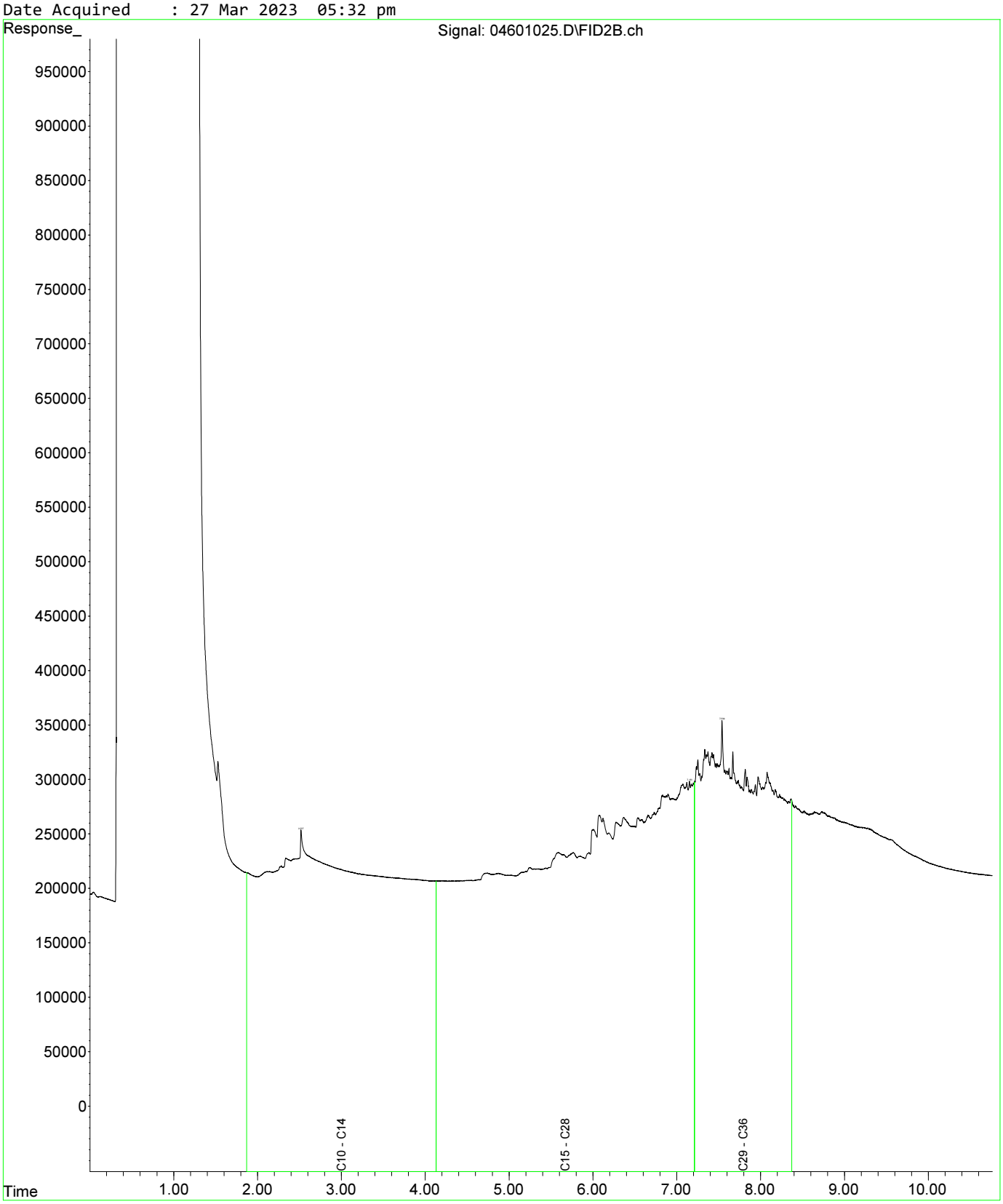

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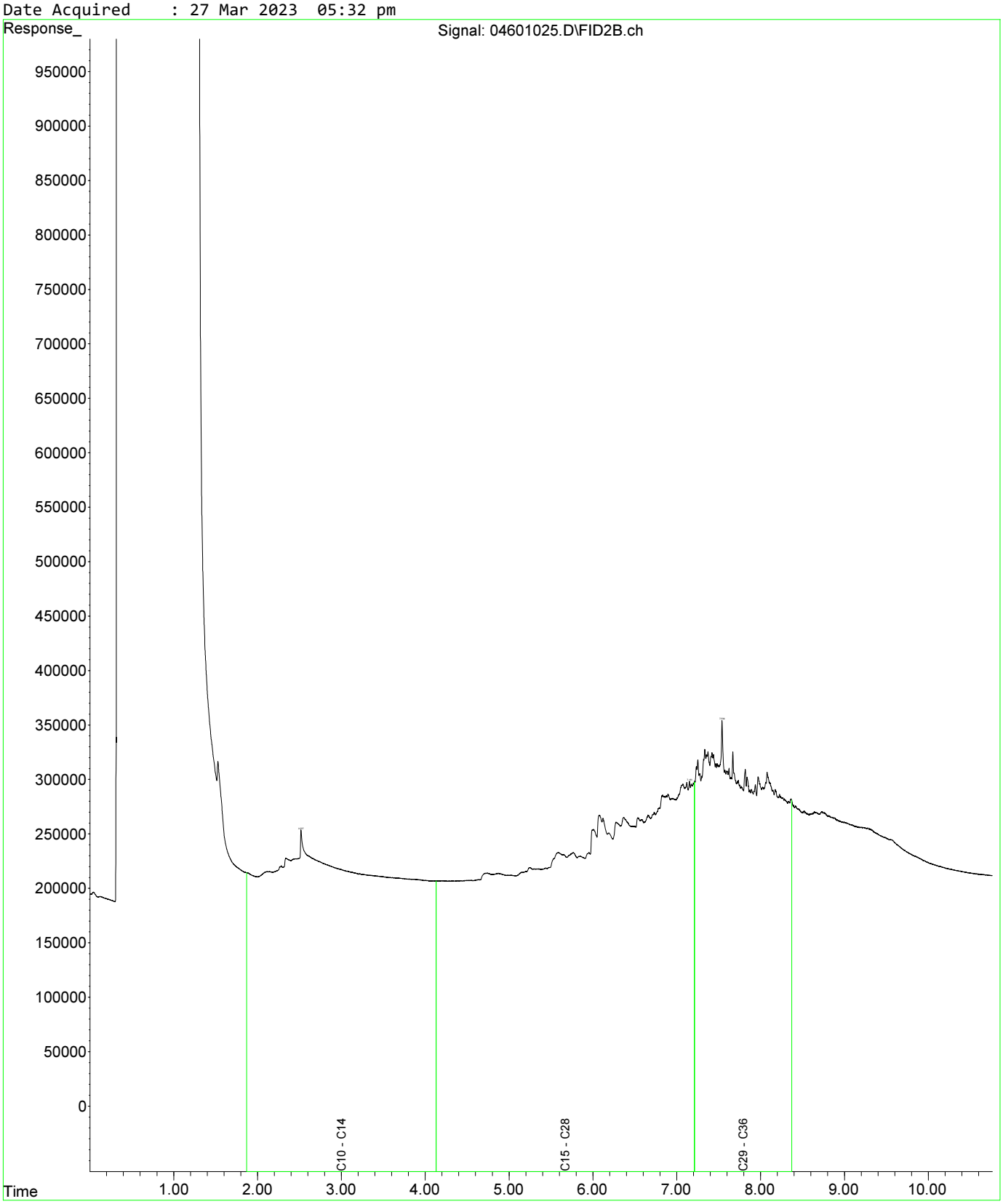

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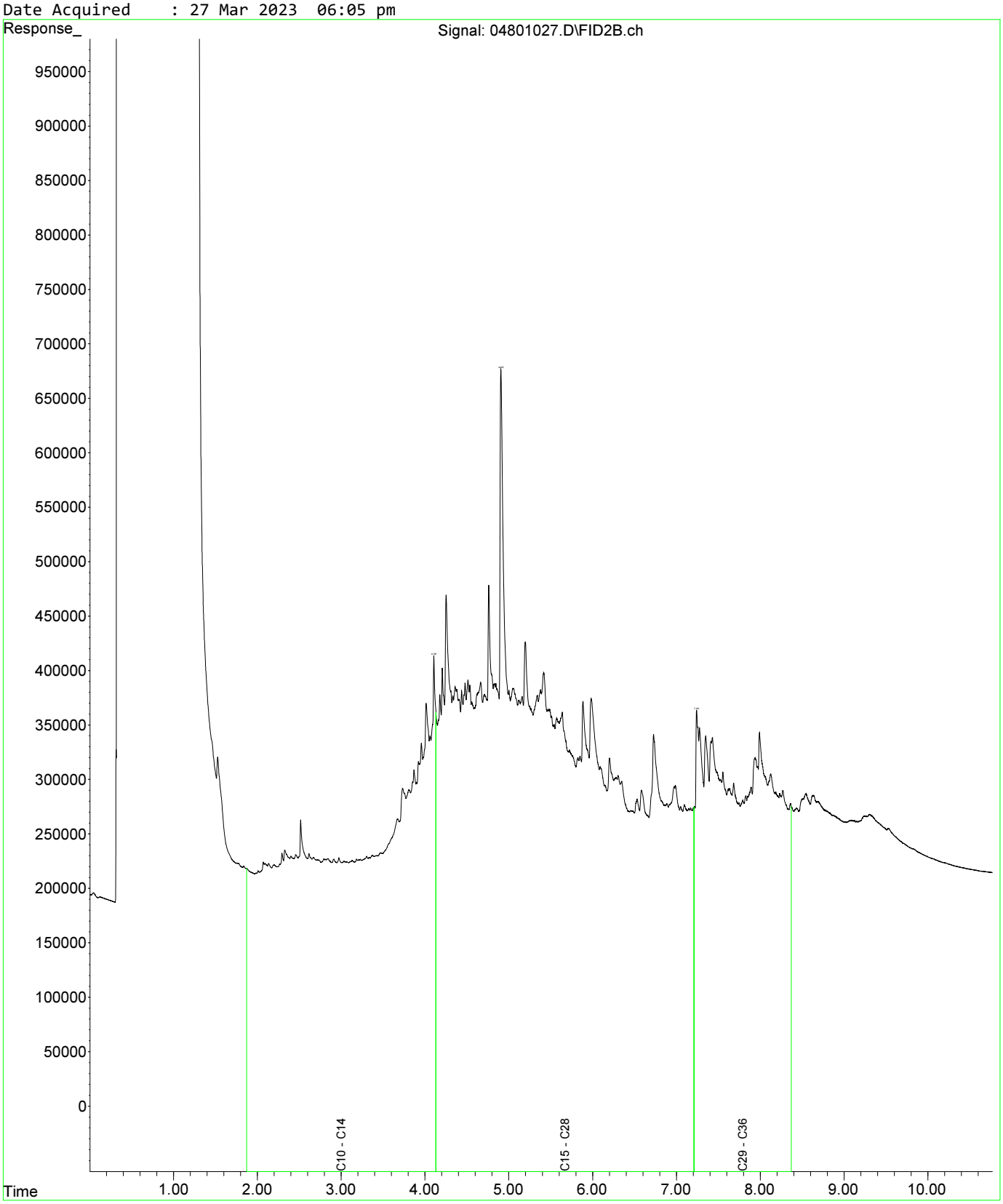

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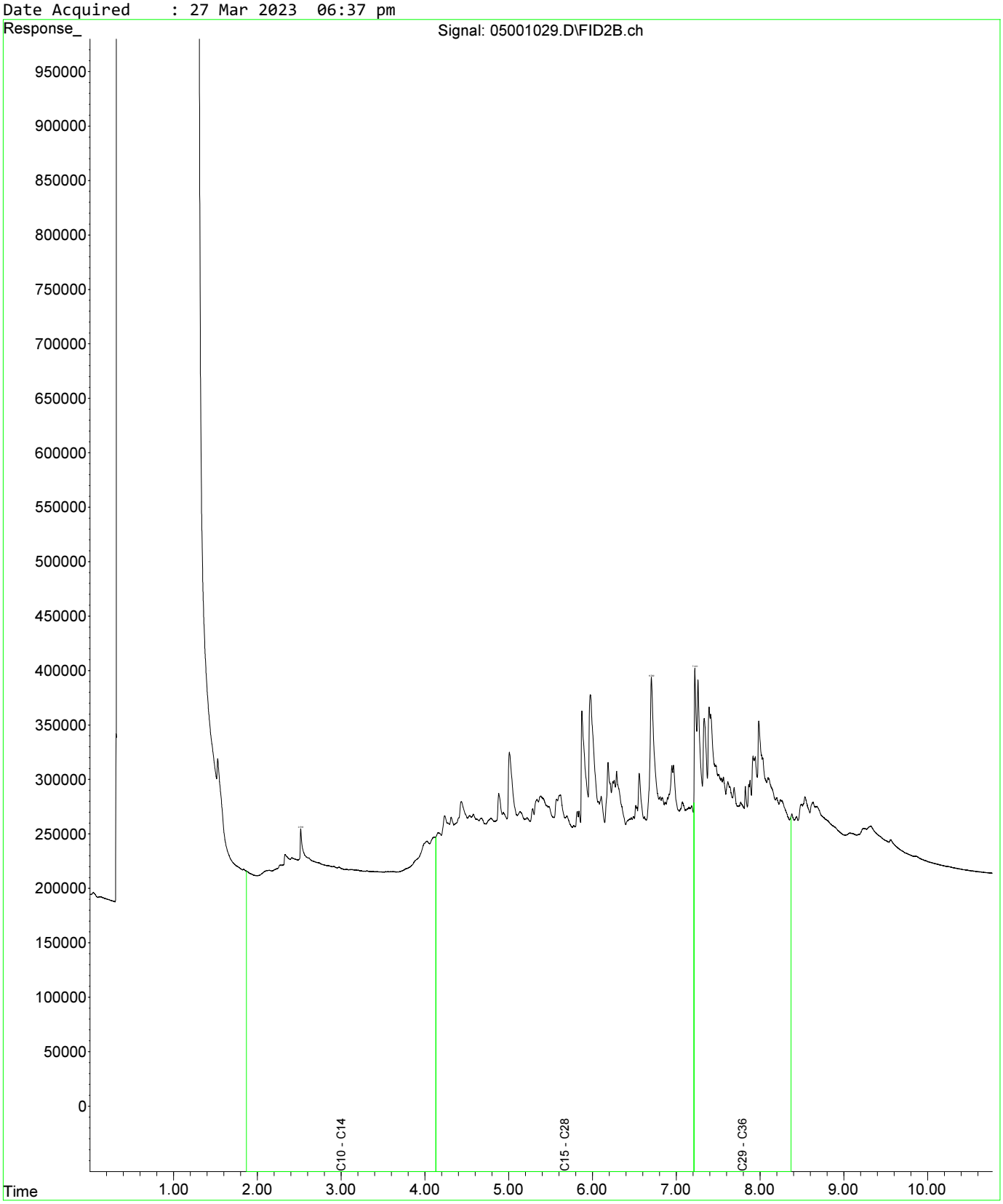
Date Acquired : 27 Mar 2023 06:37 pm



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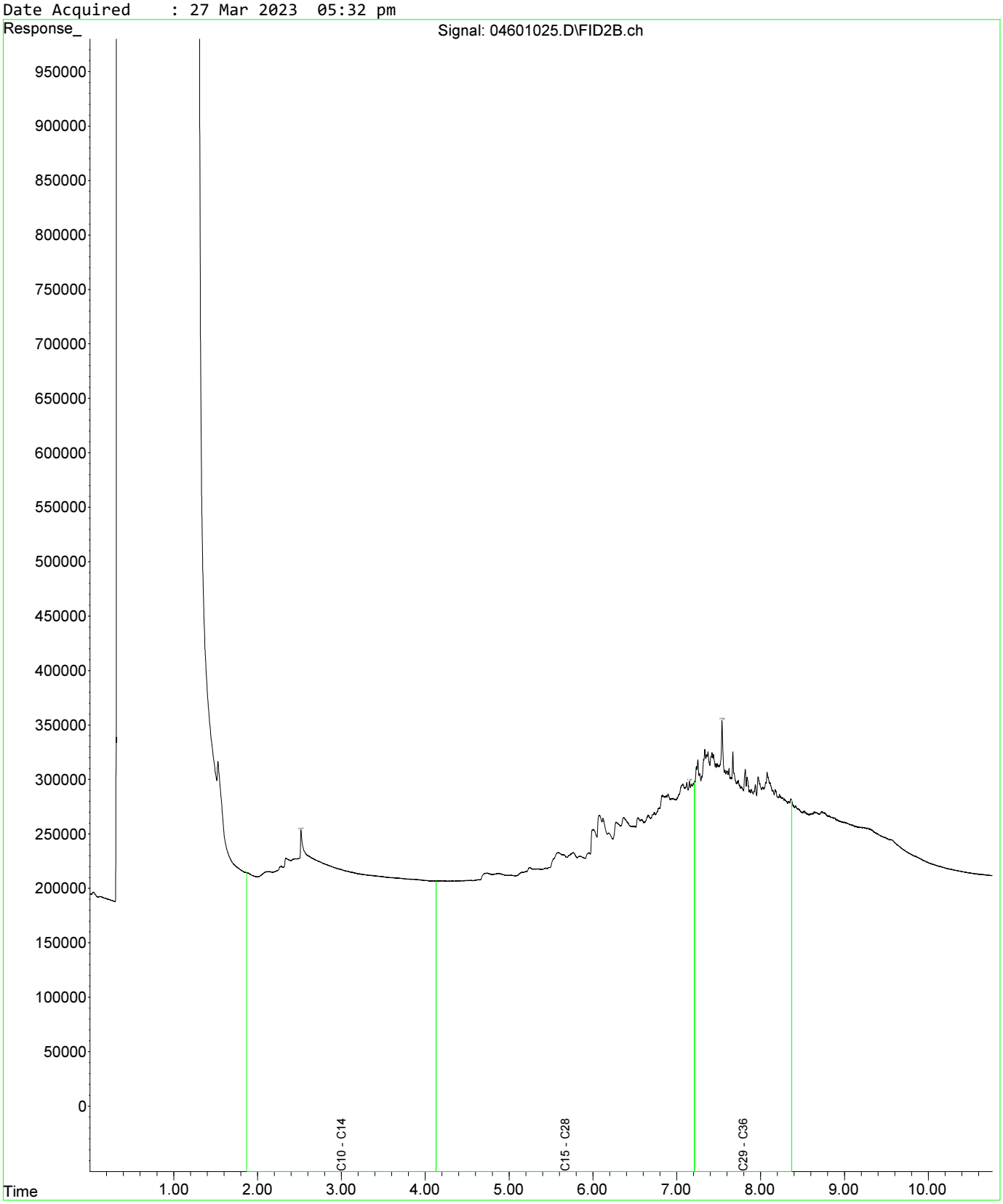

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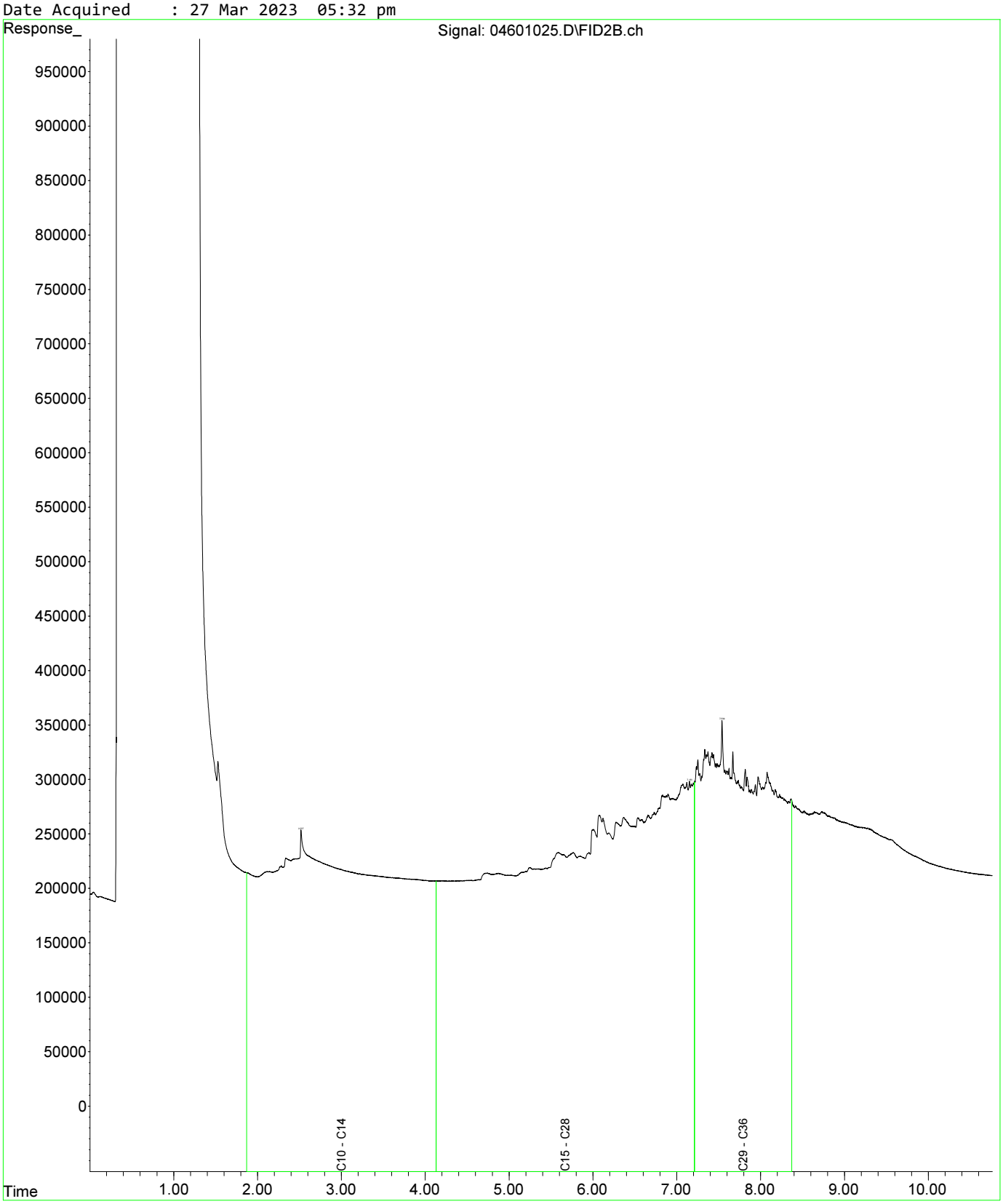

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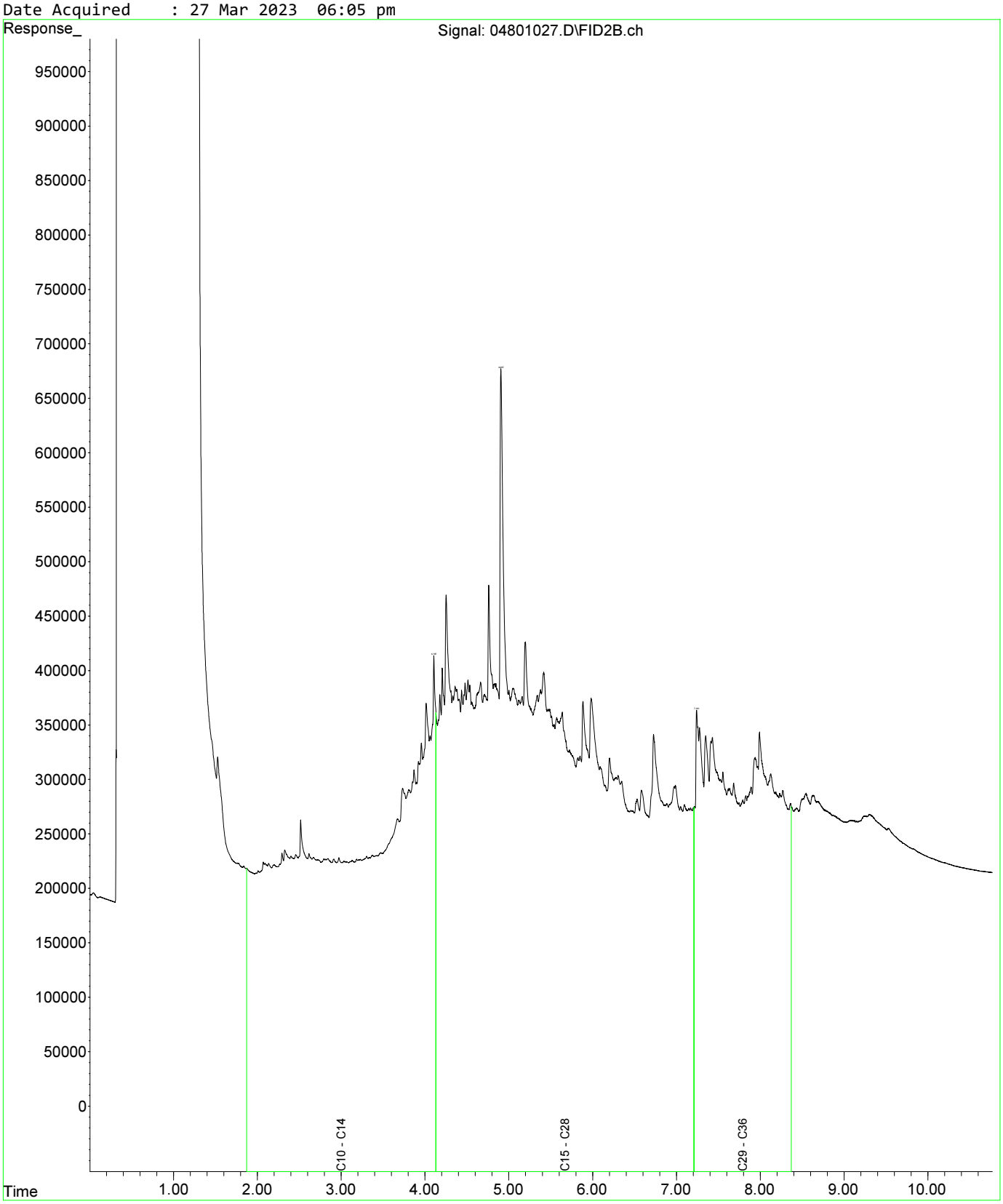

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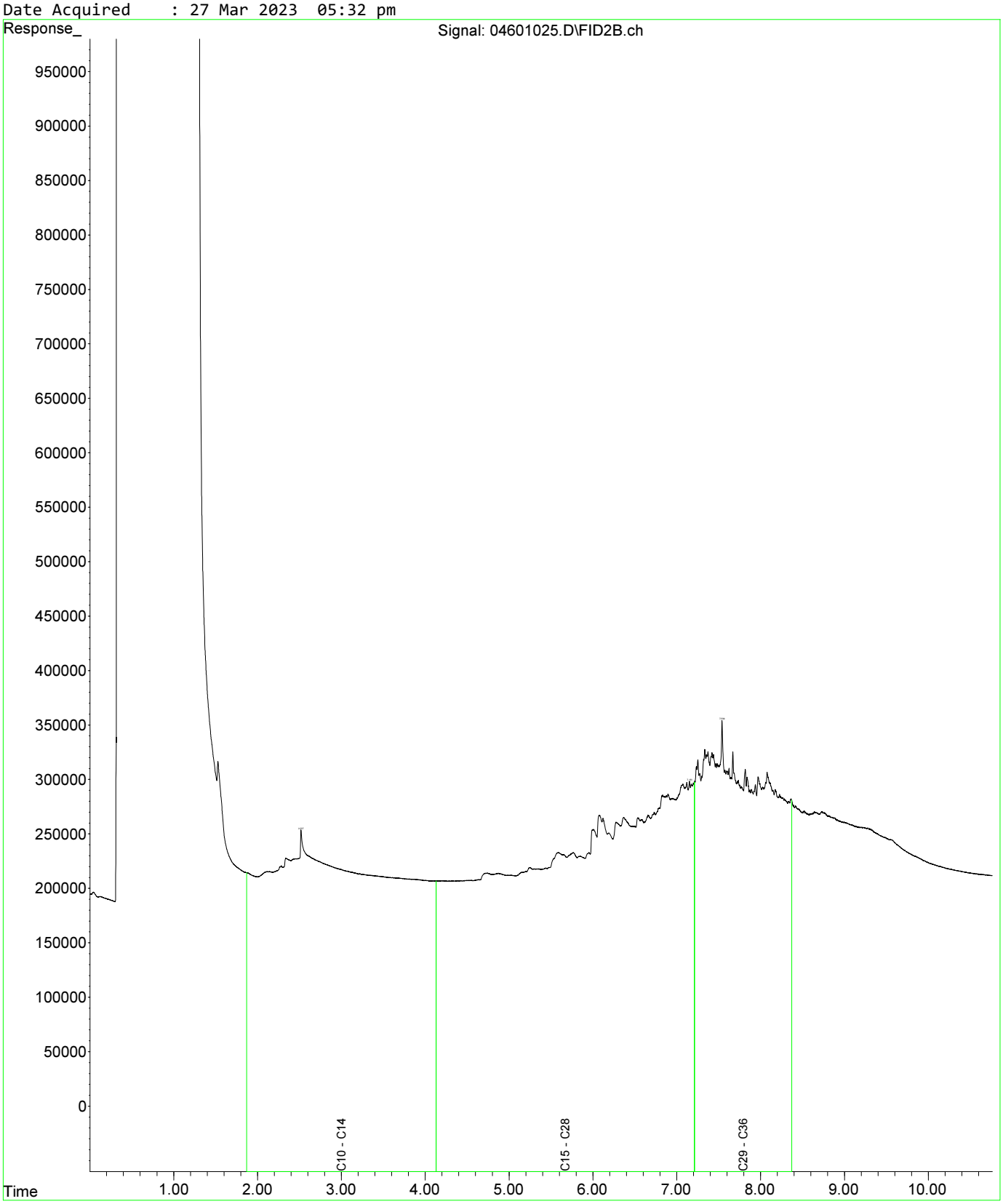

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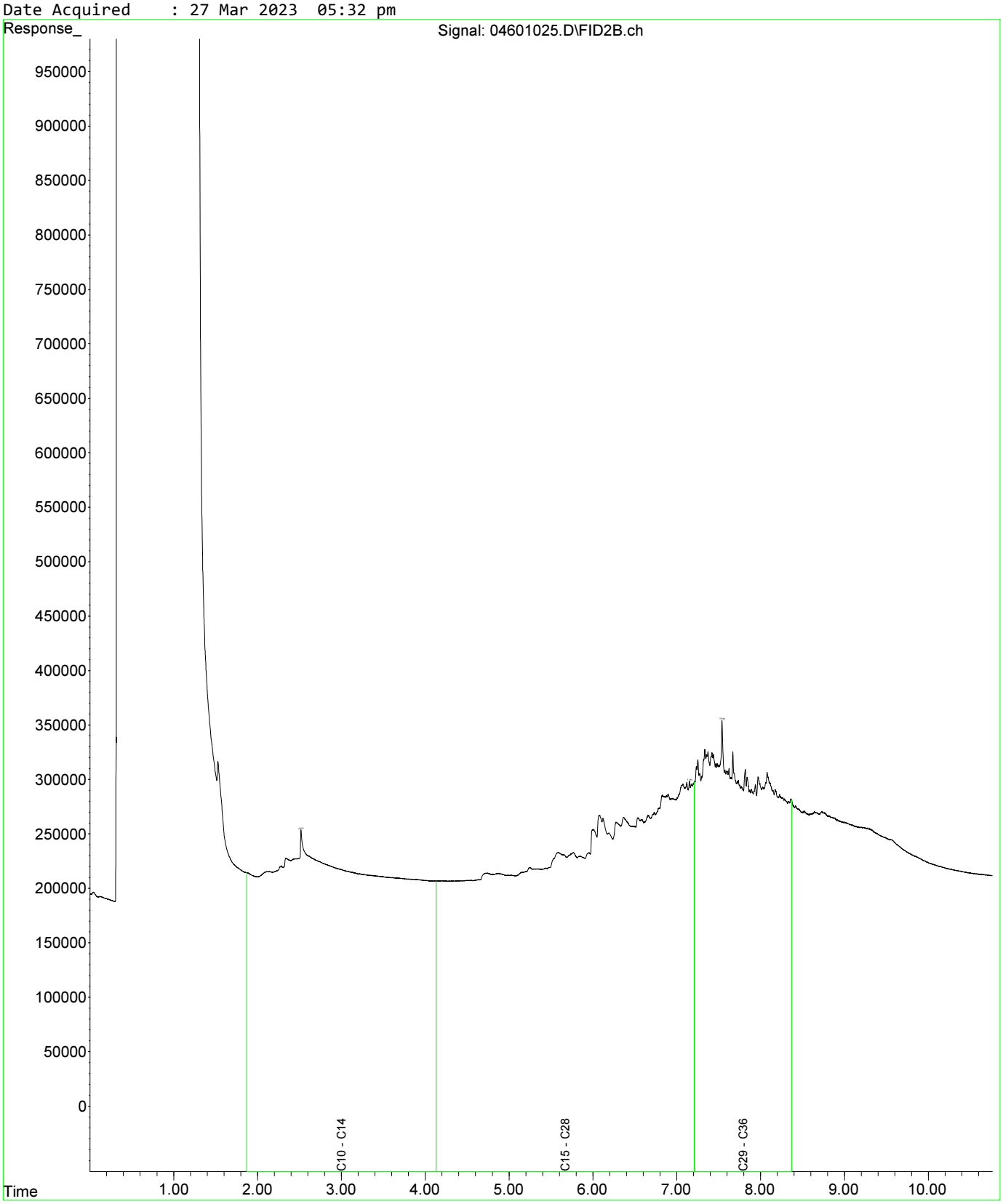

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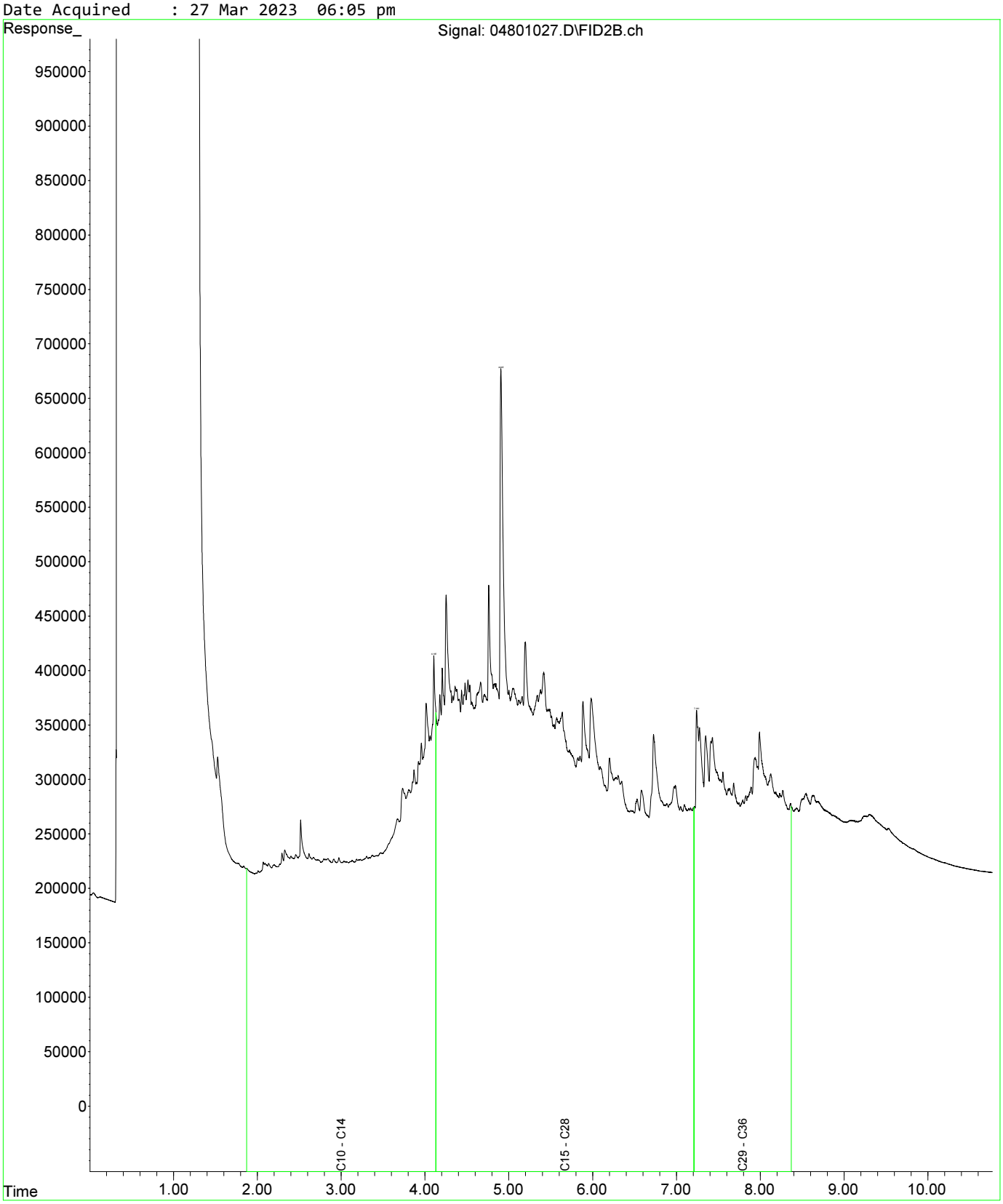

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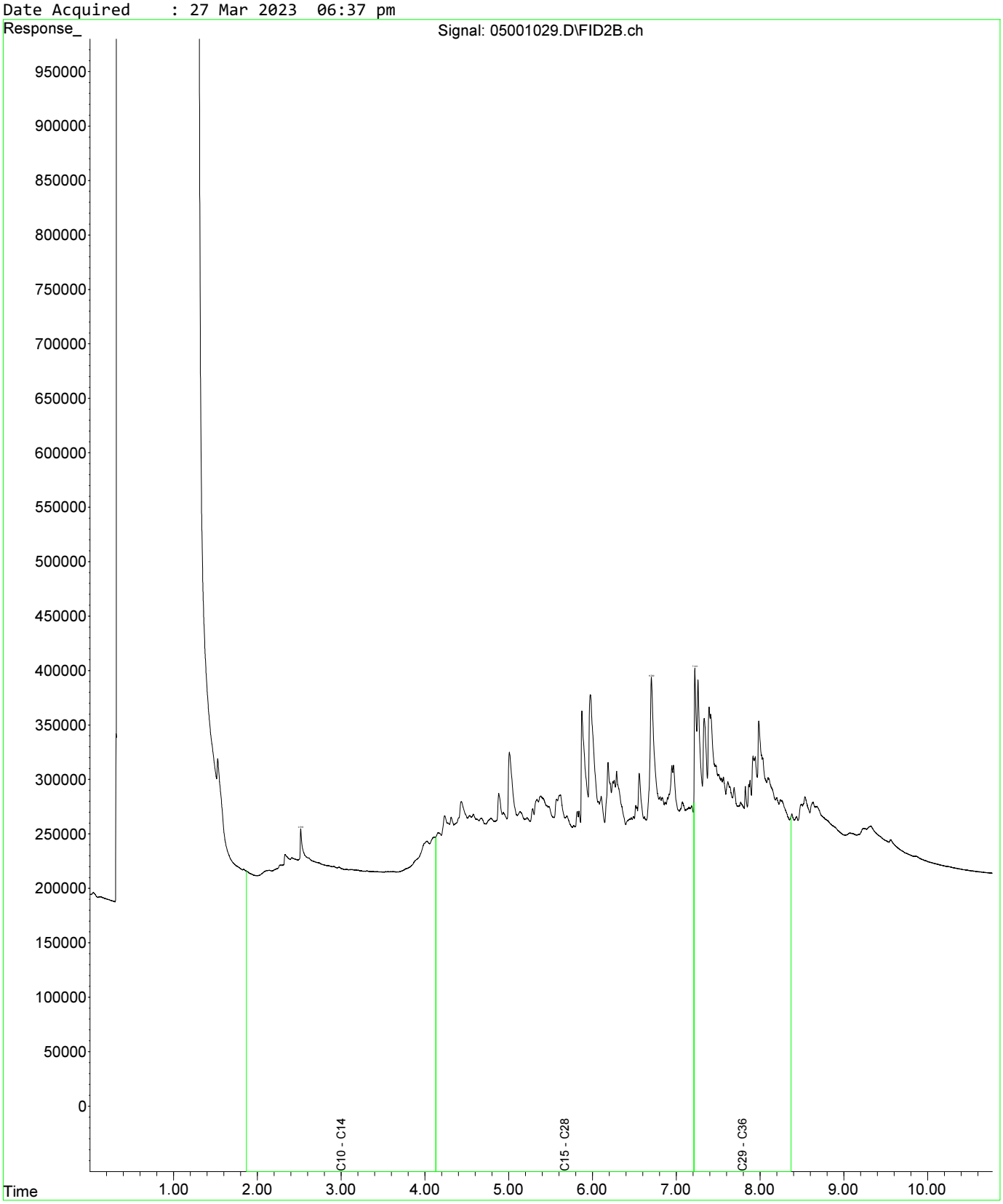

Fraction Scheme : Standard
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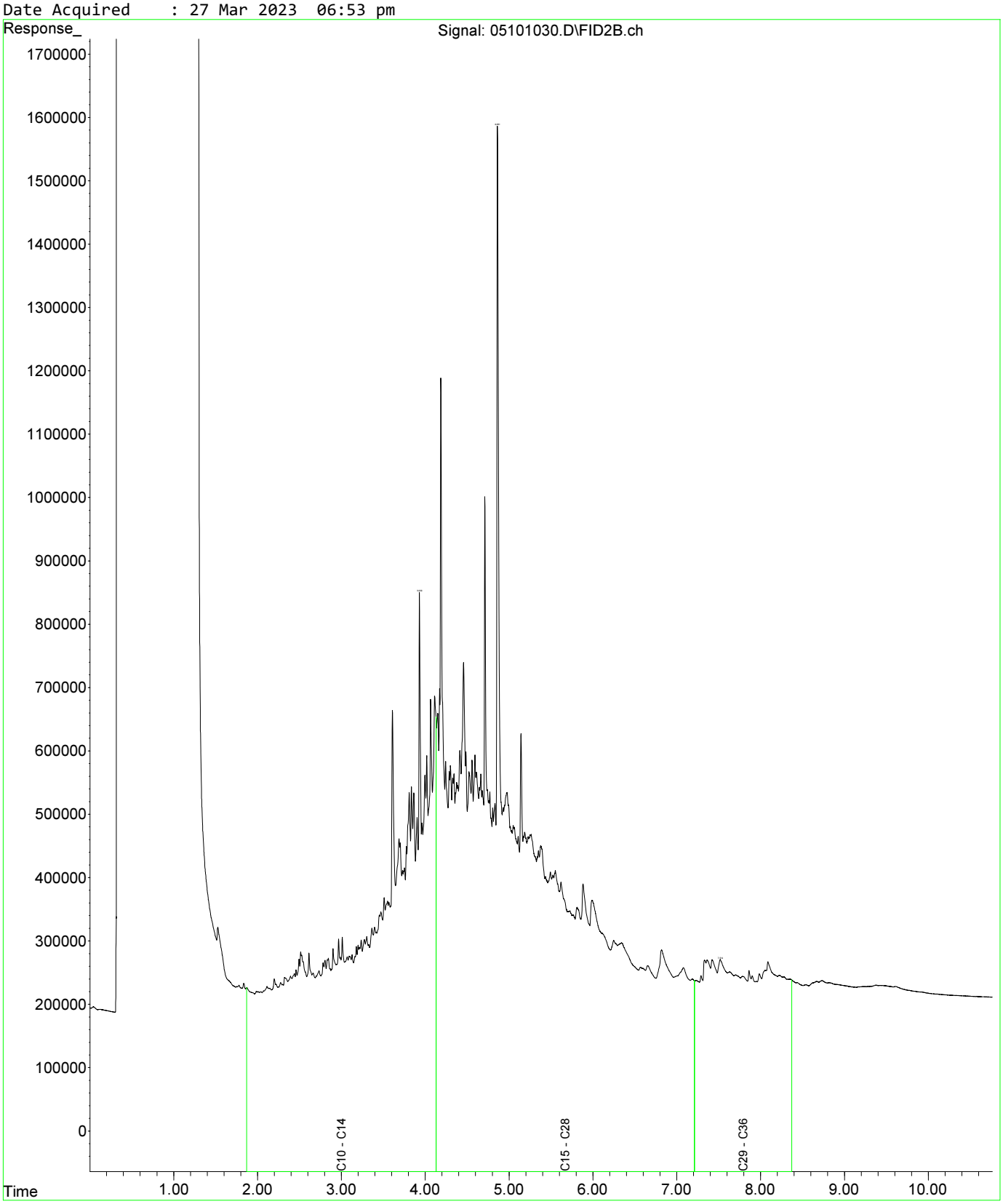

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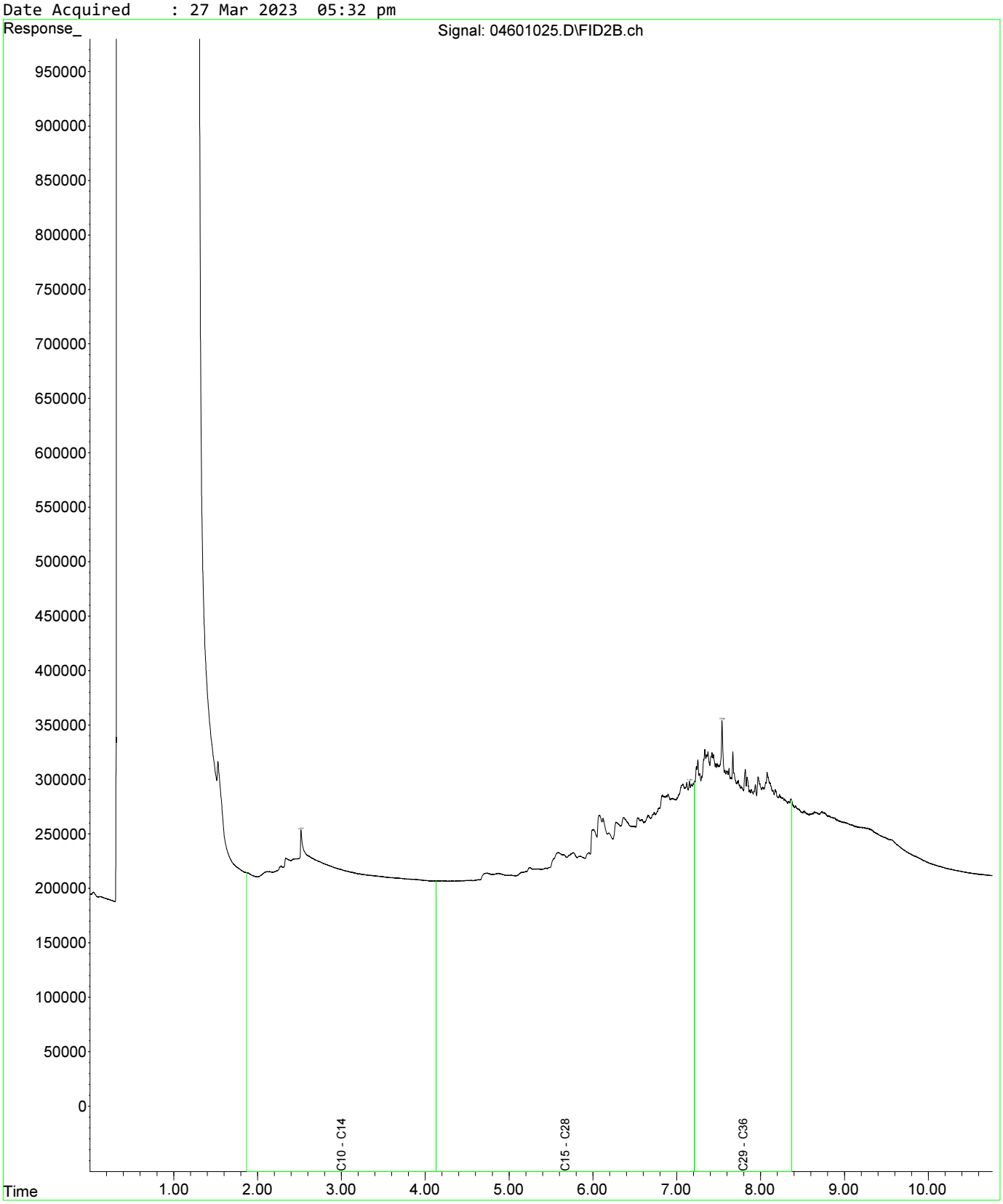

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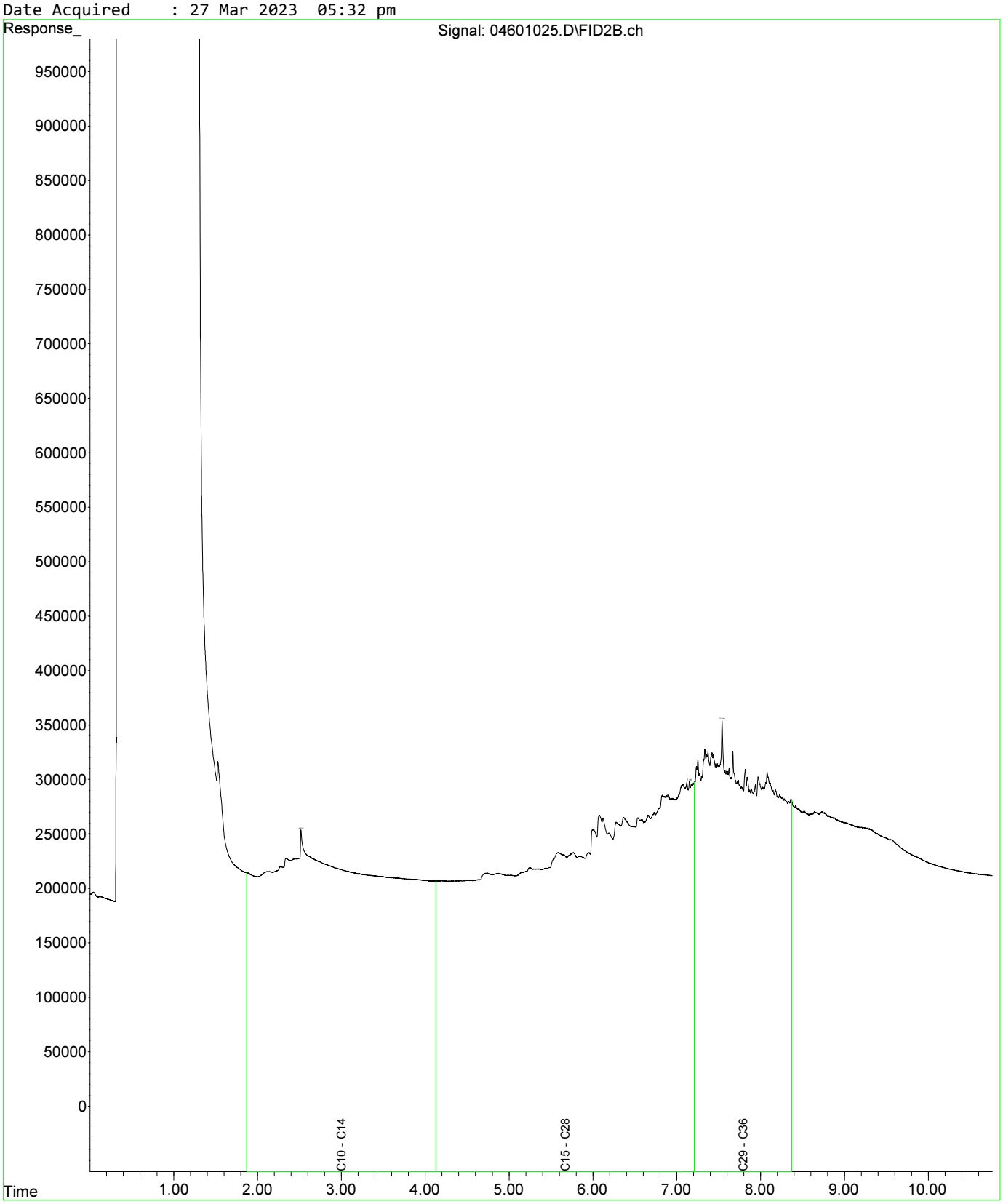

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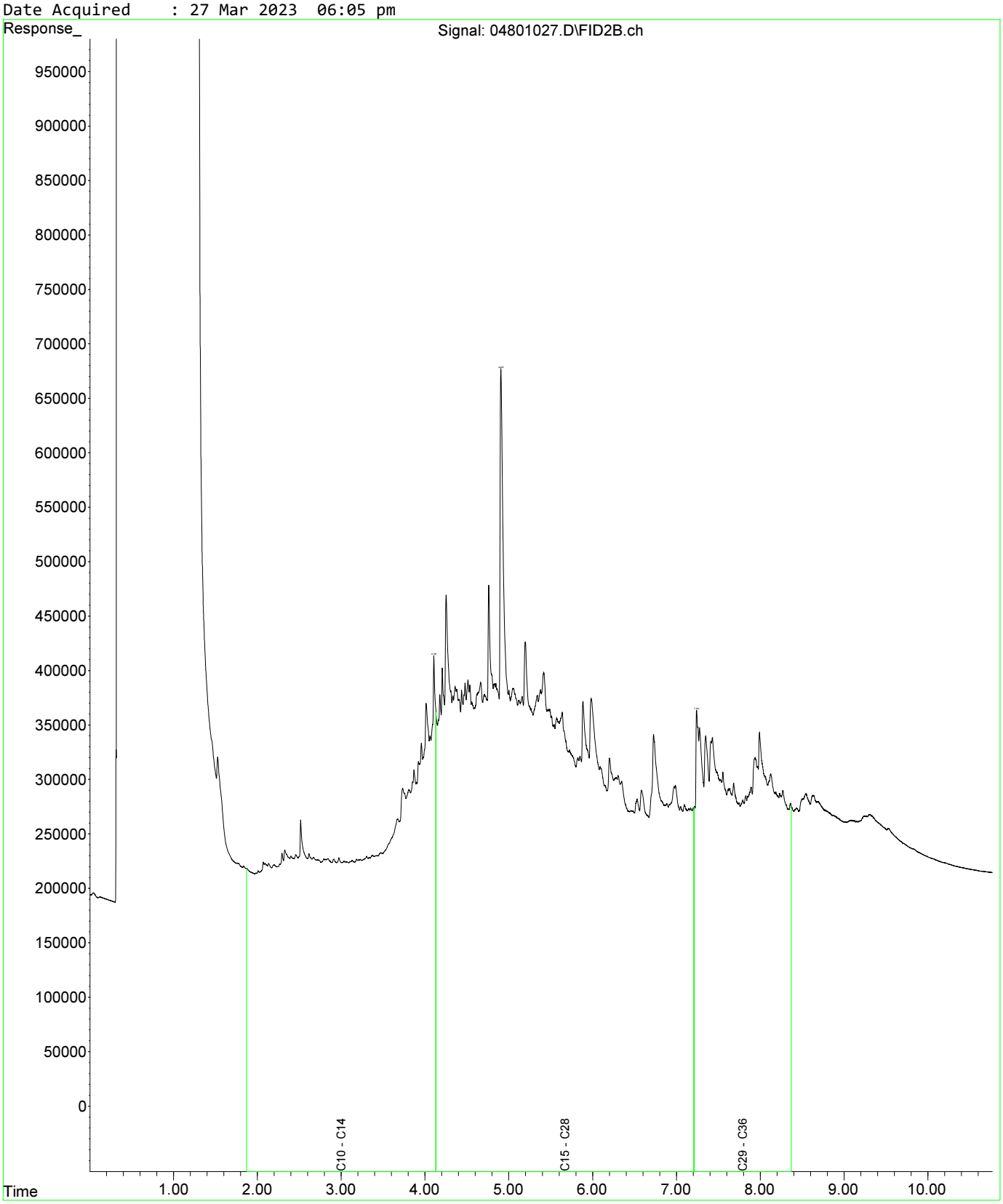
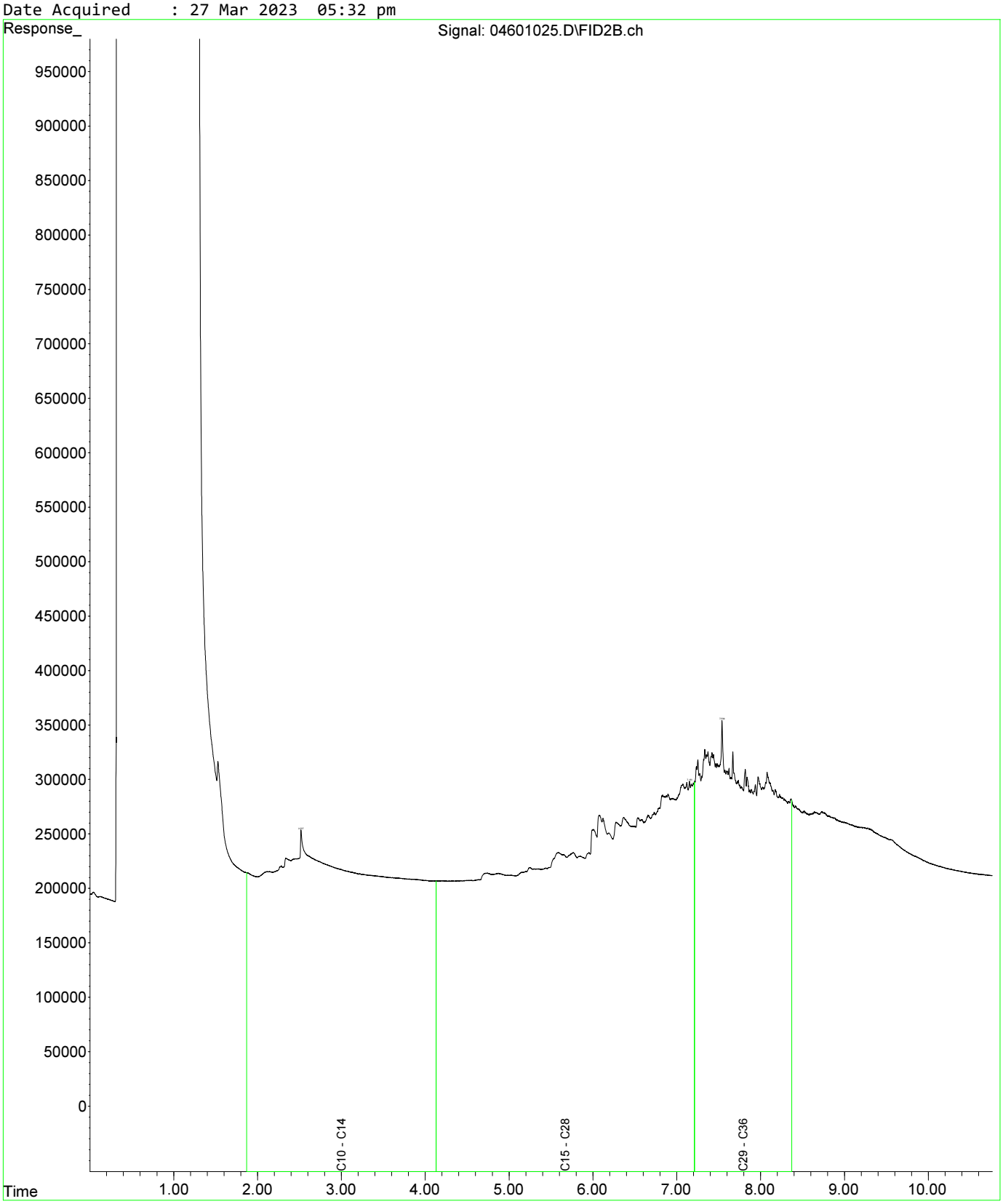
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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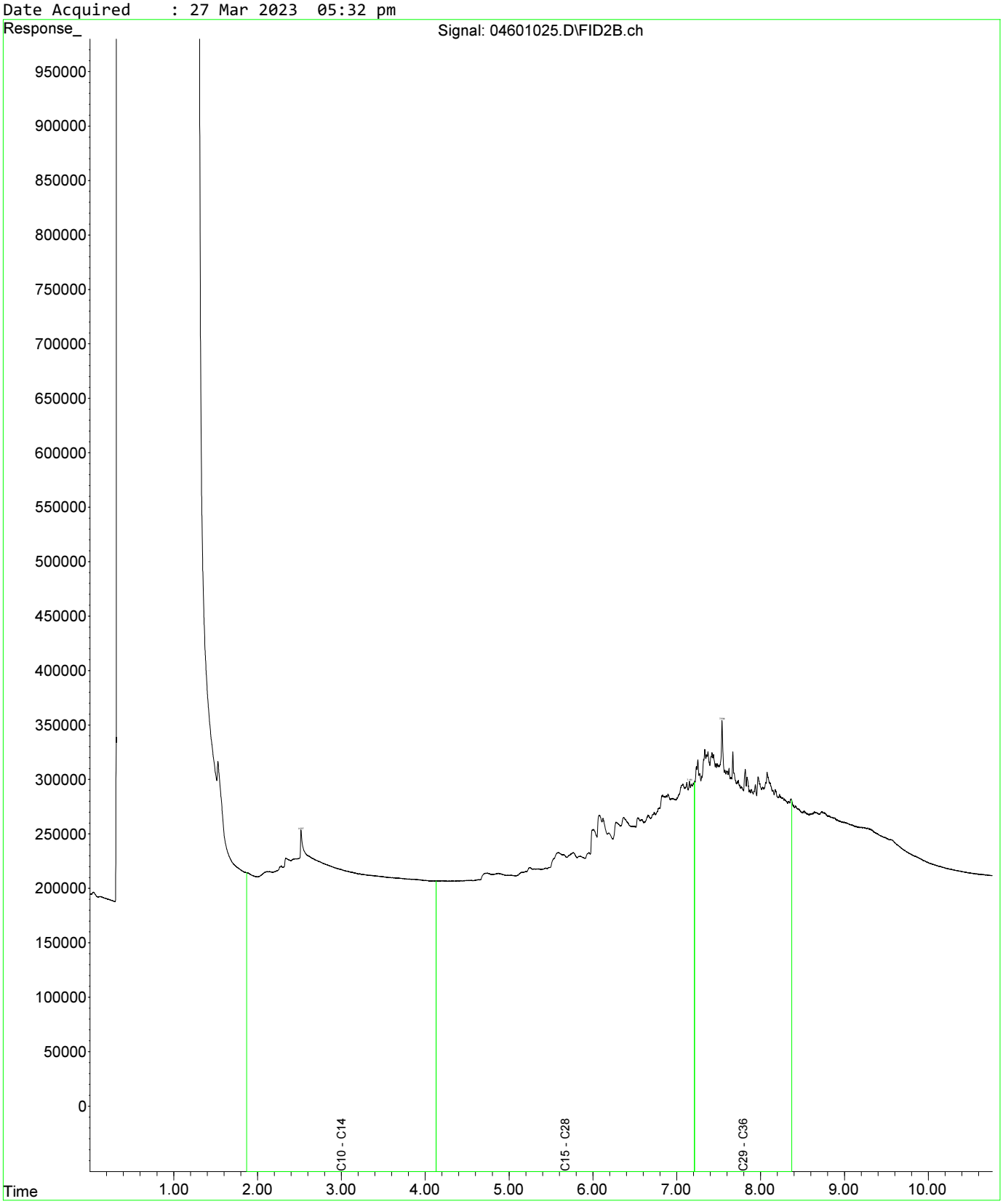
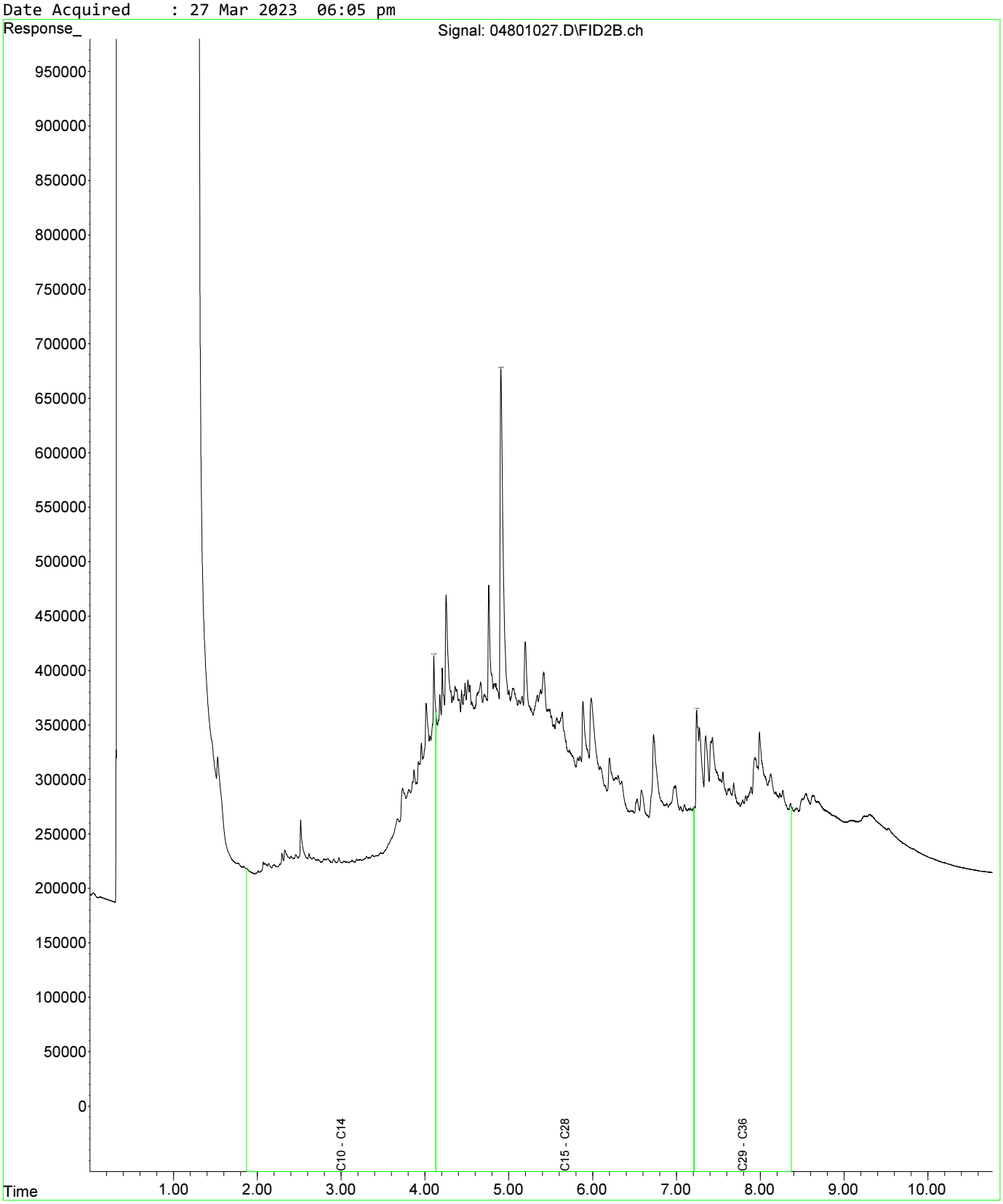
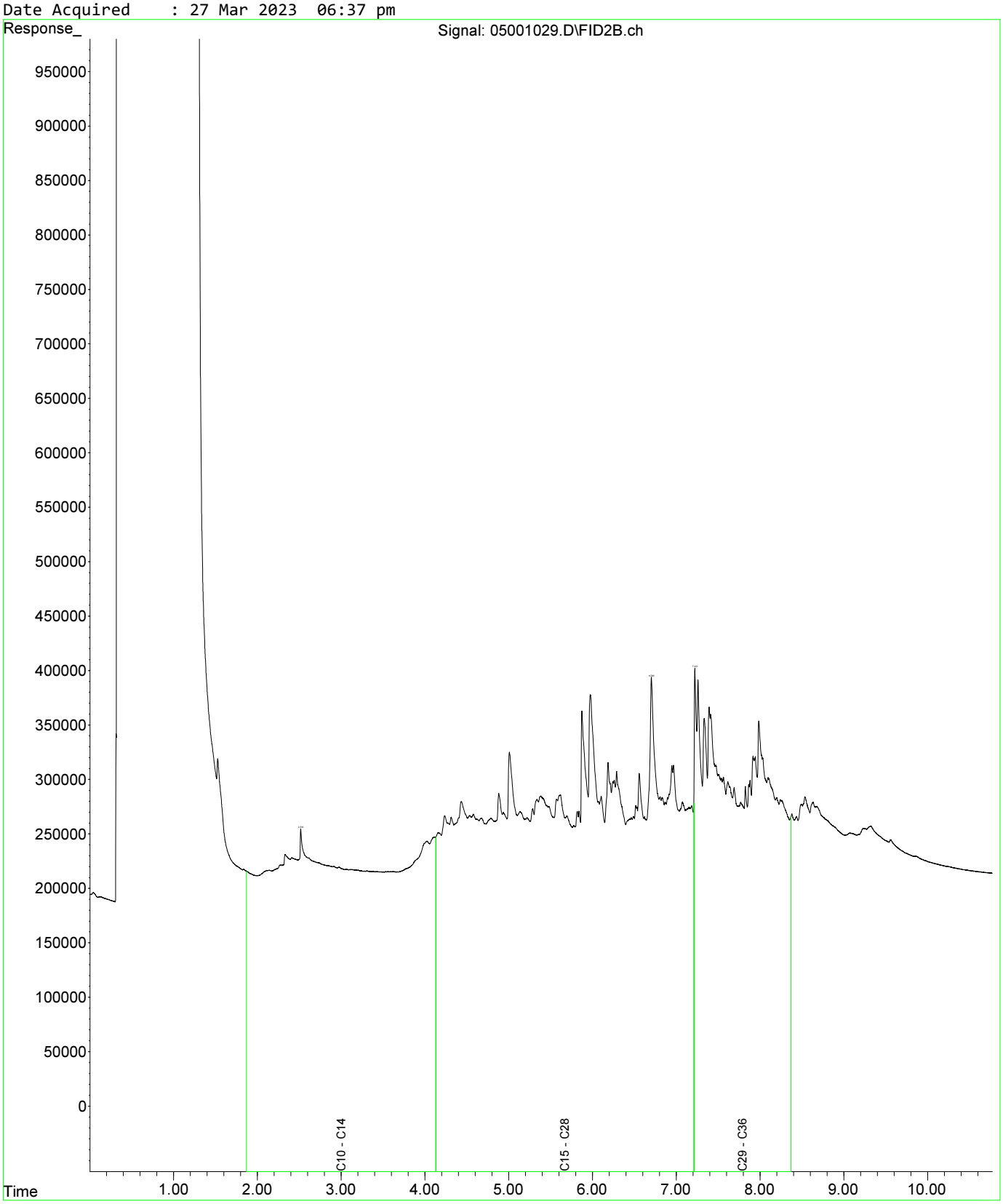


Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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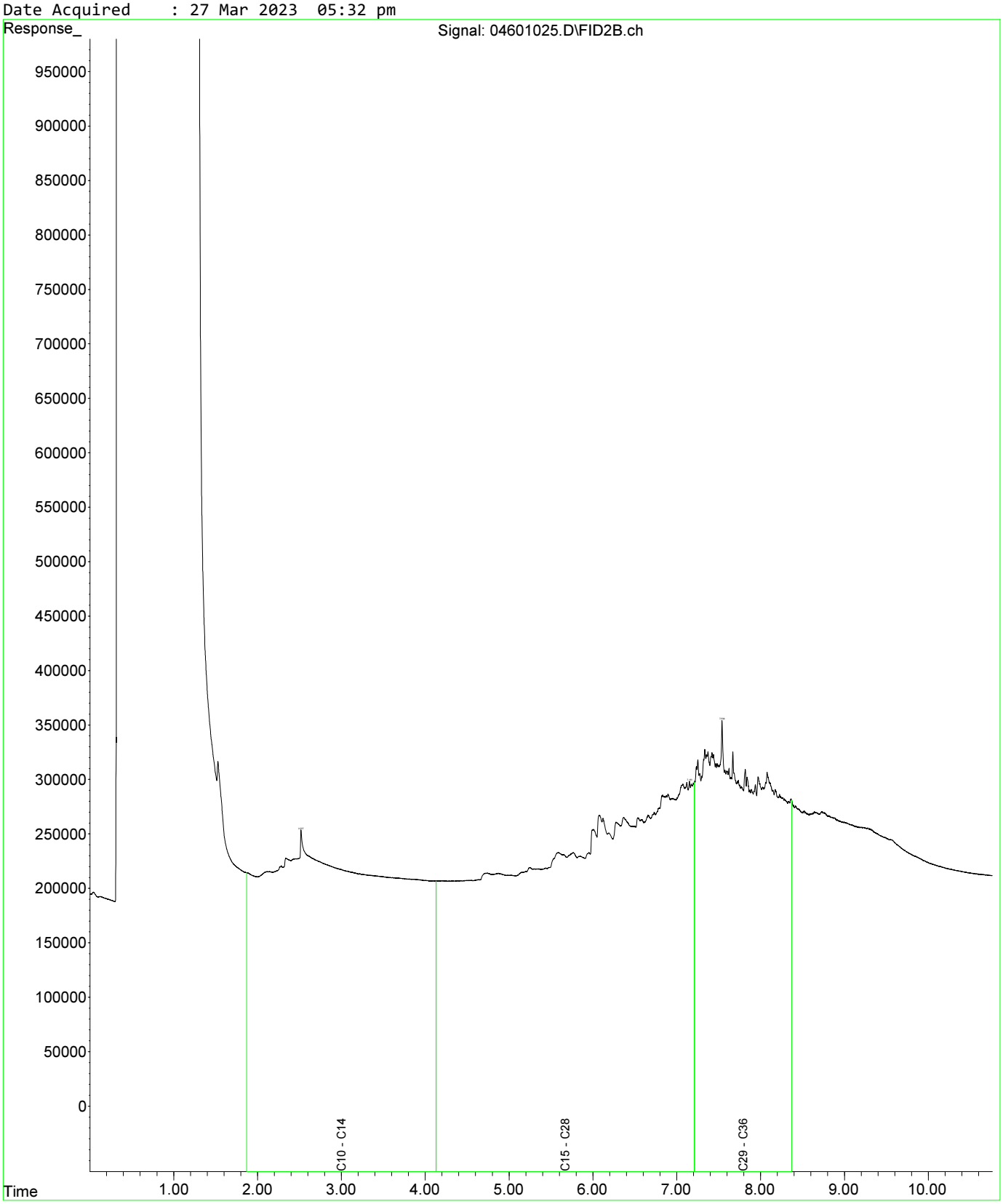

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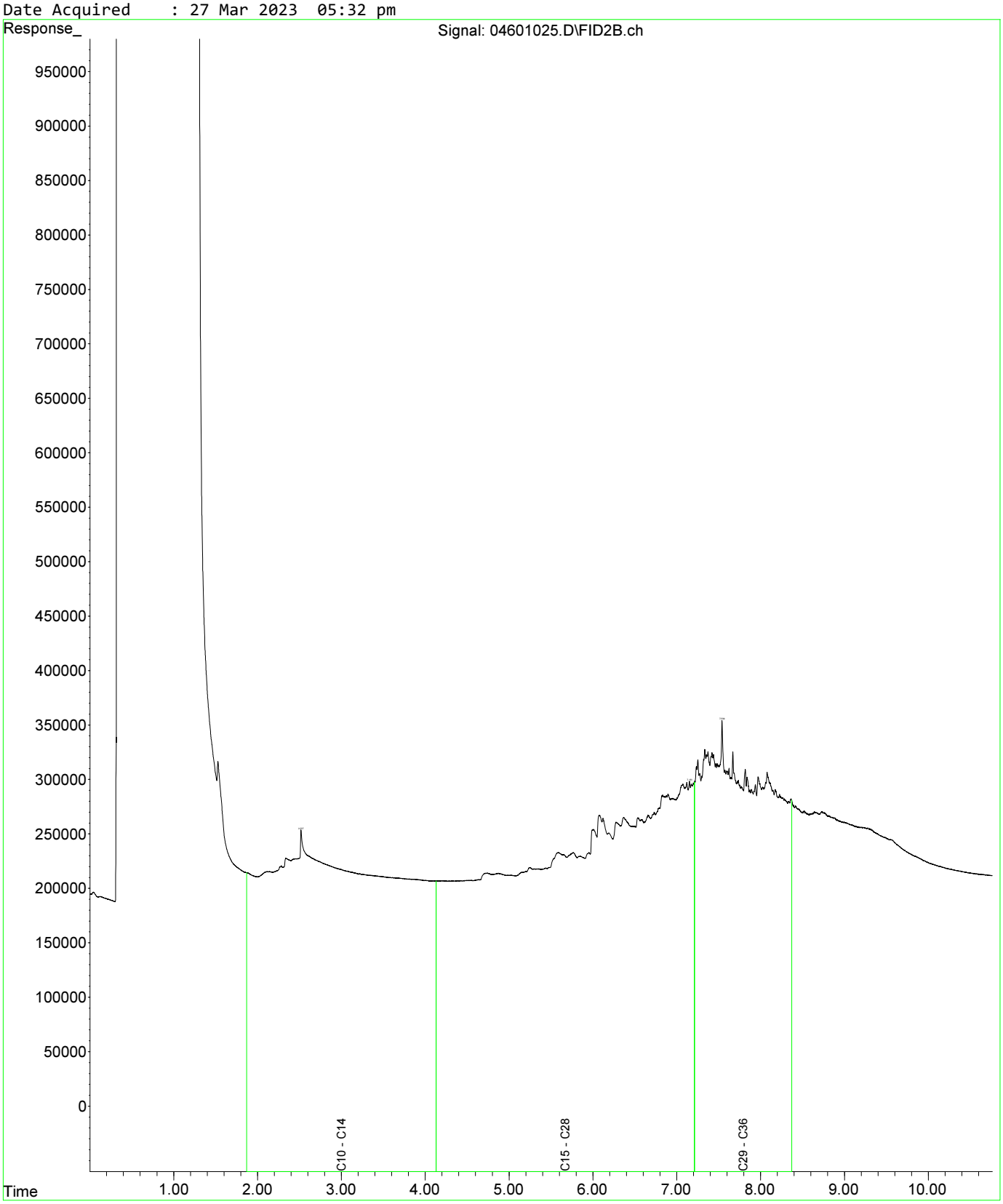

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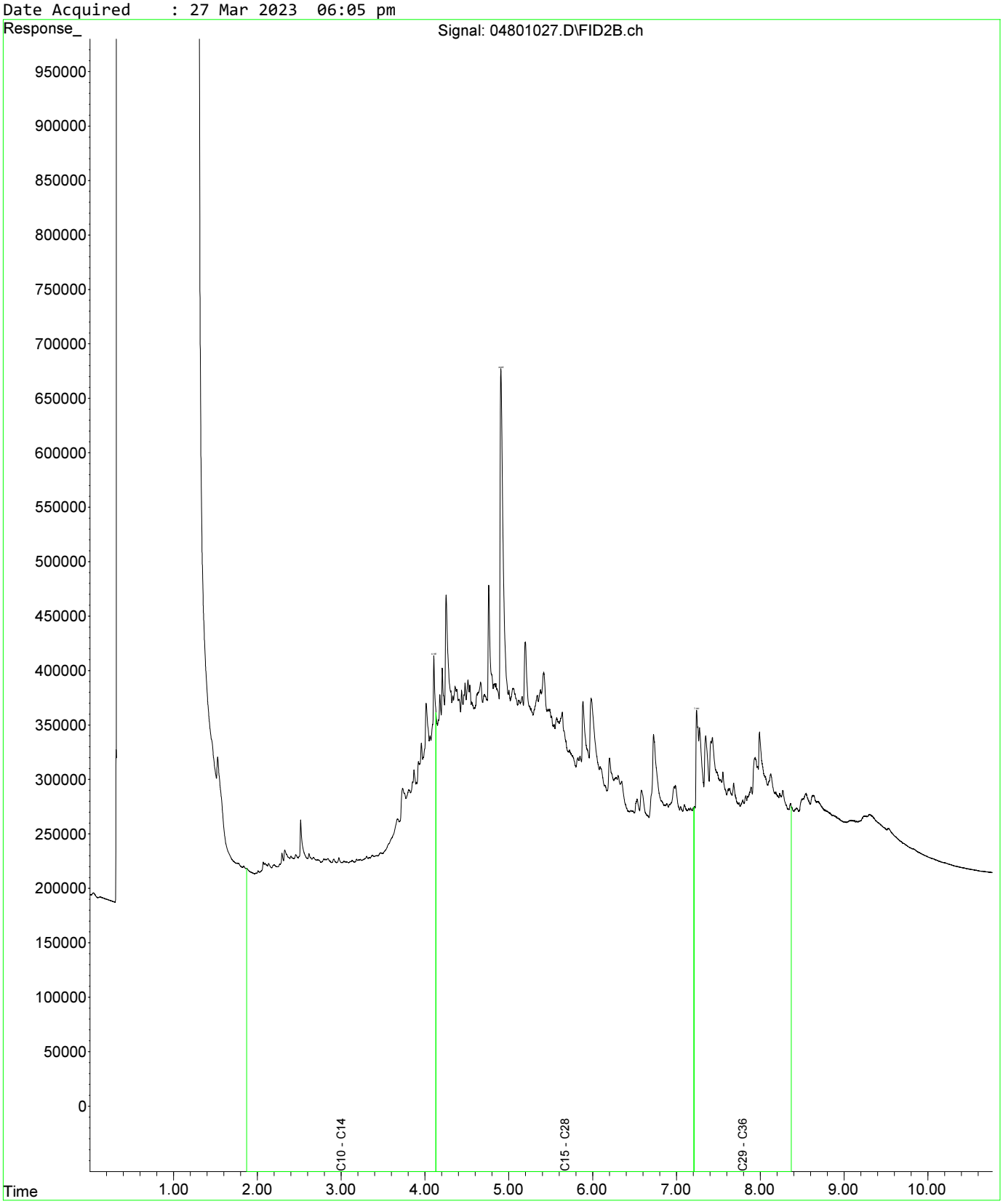

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Laboratory Number: EM2305209-013
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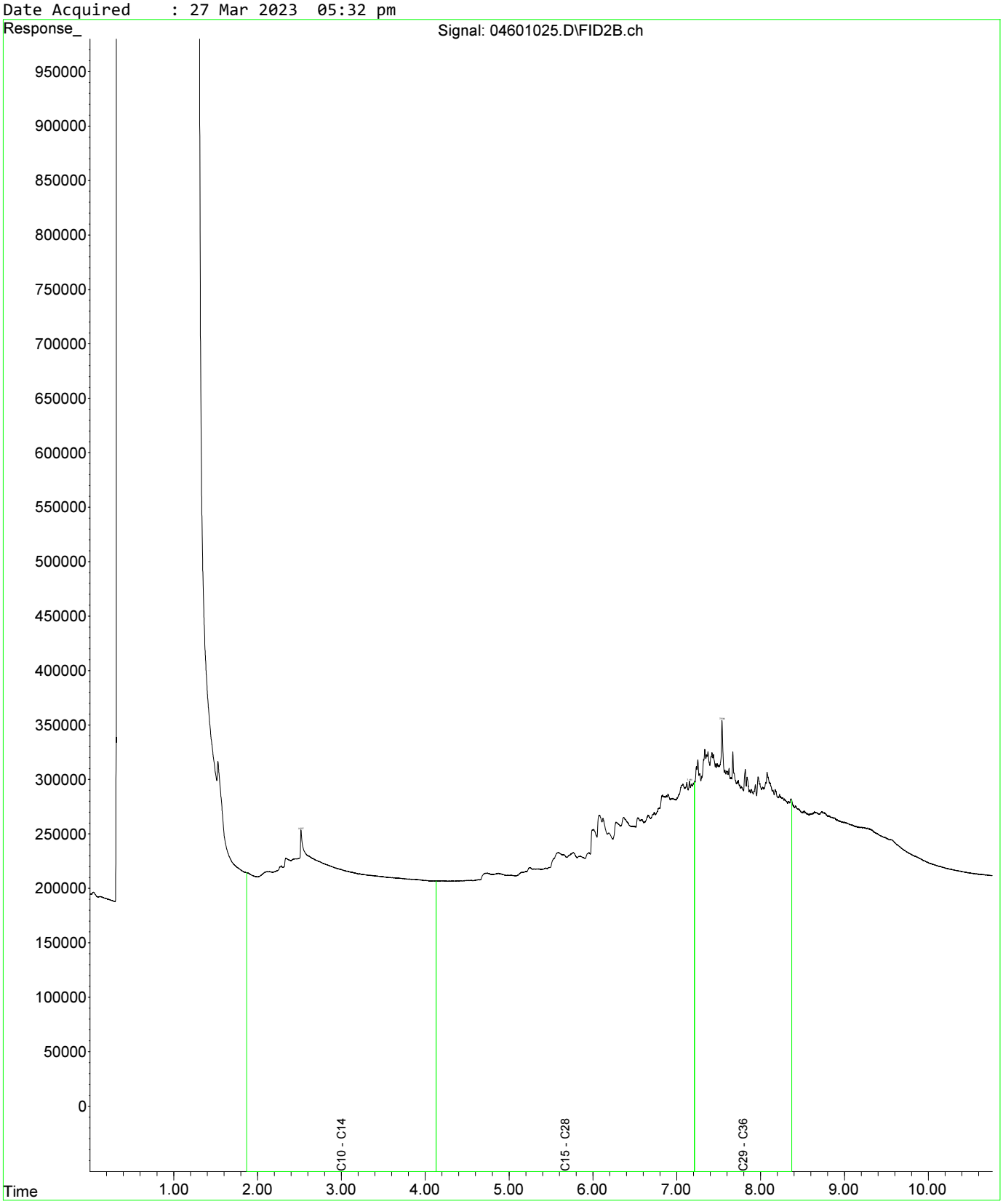

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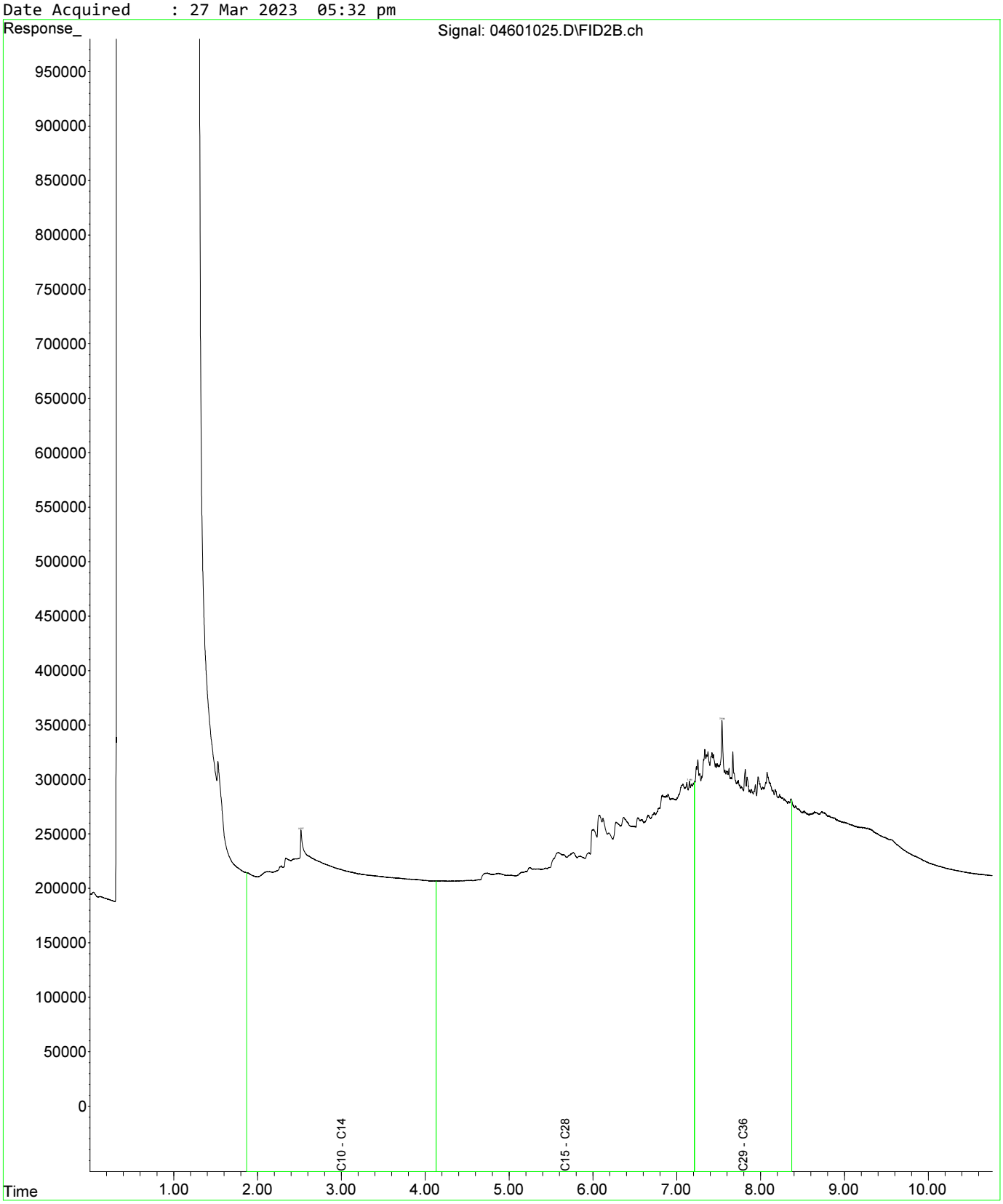

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Laboratory Number: EM2305209-019
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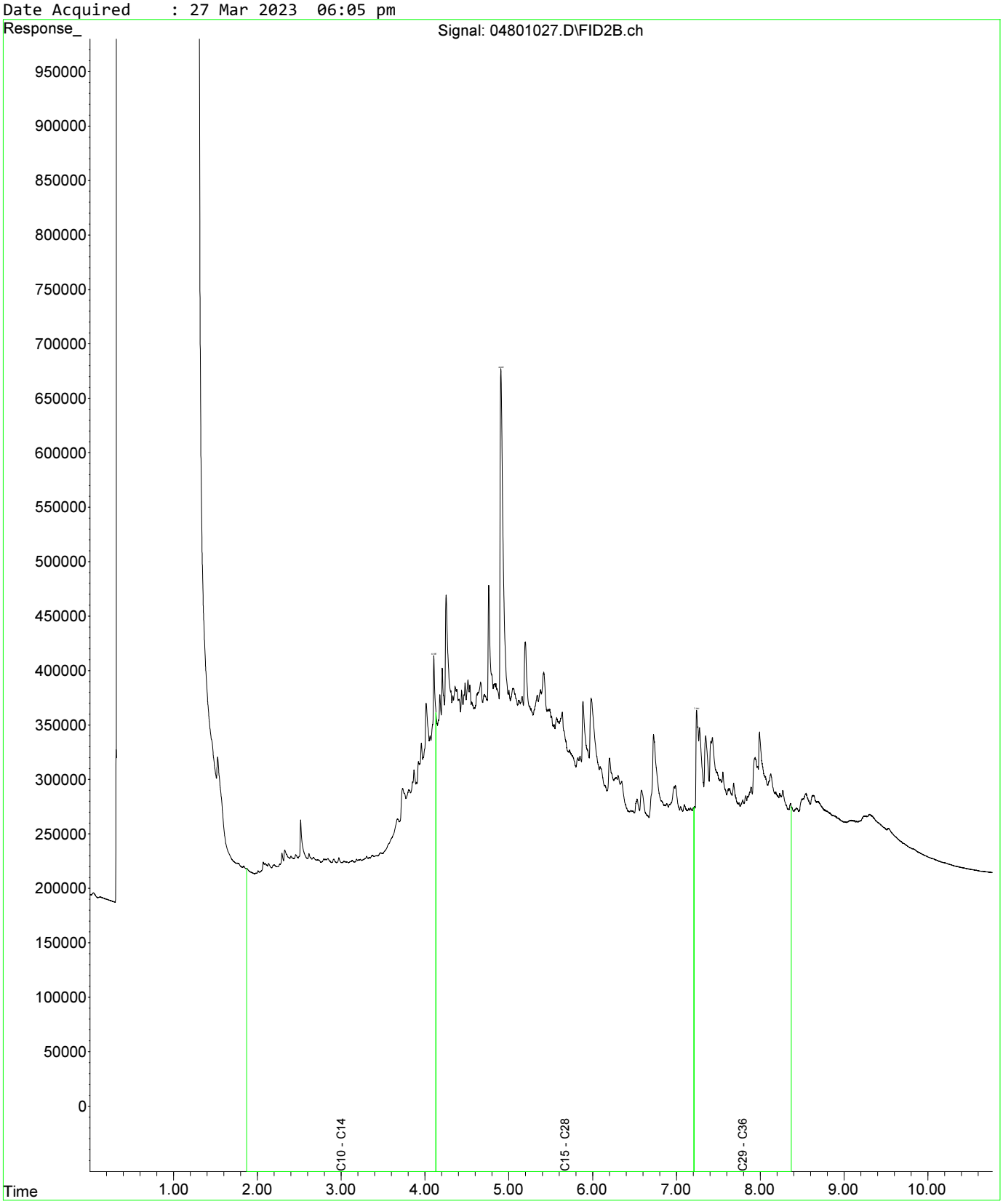
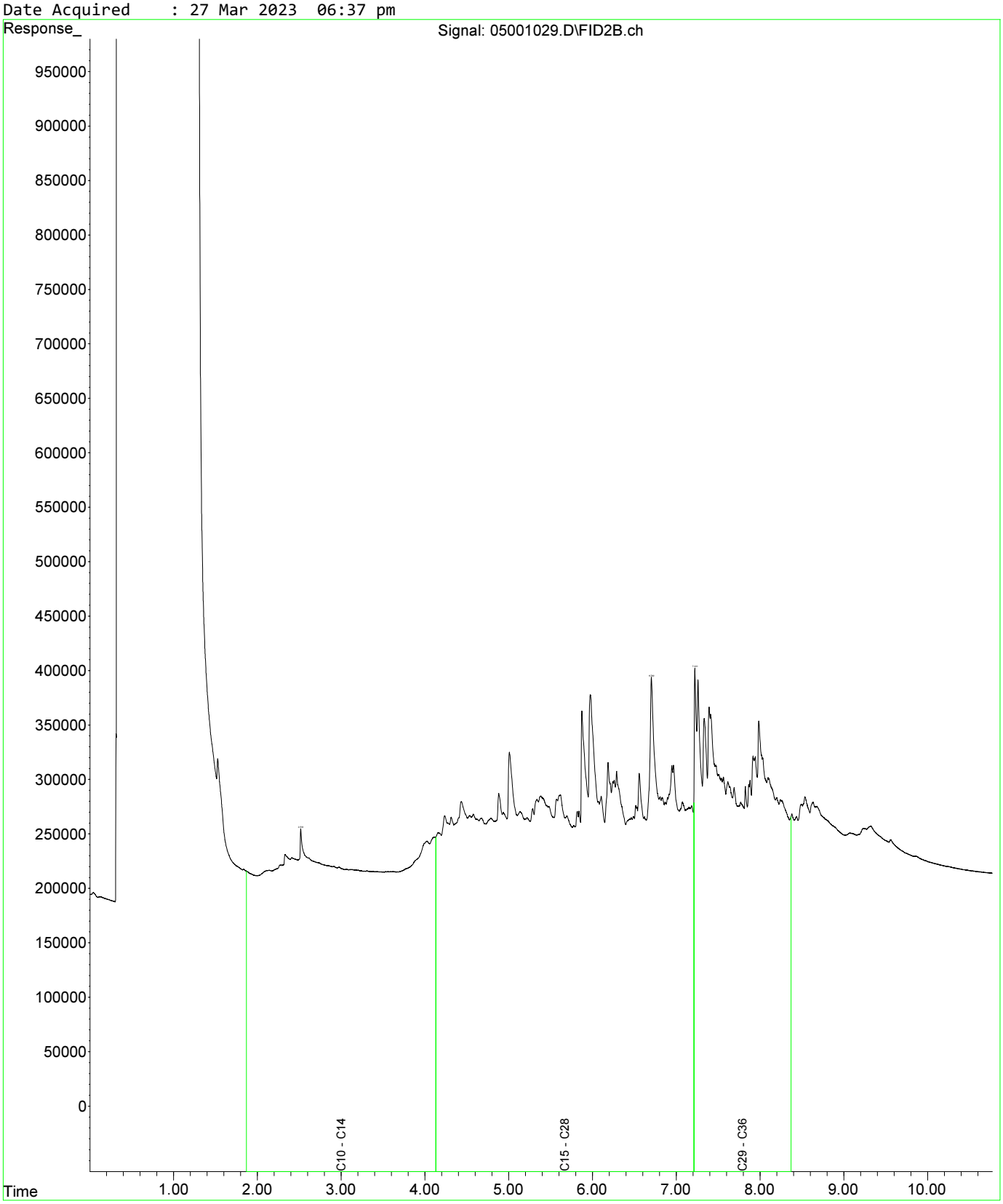
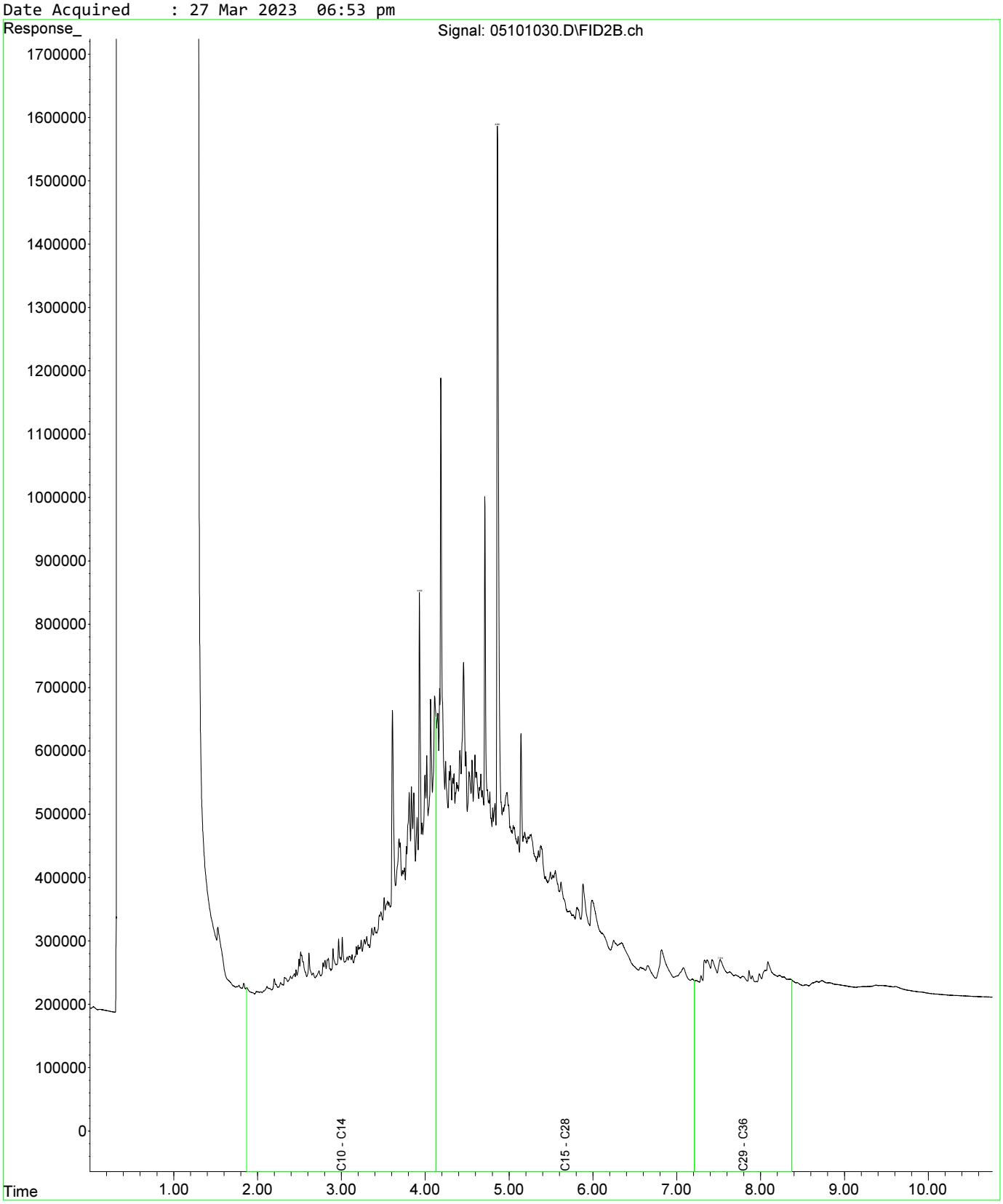
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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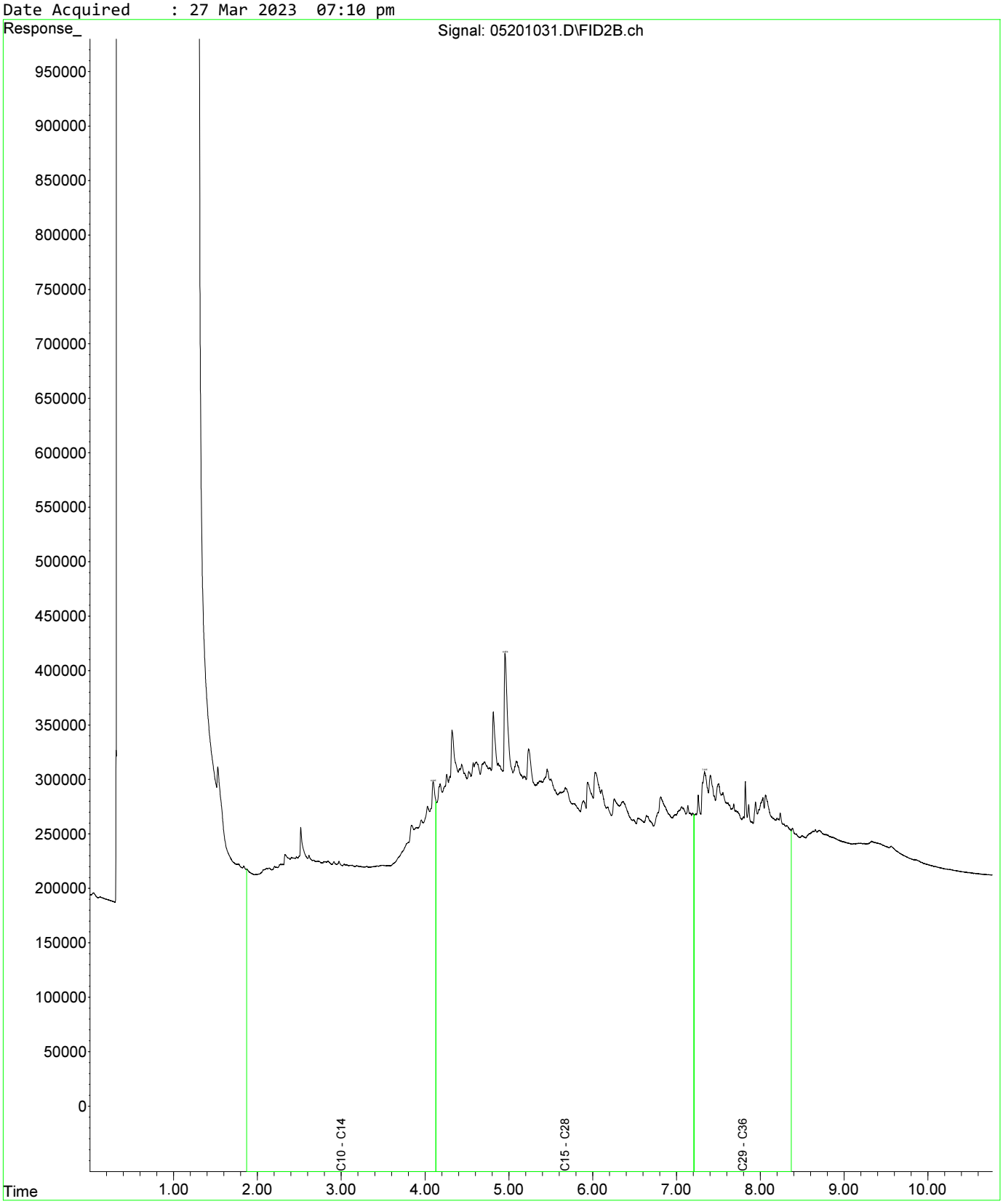

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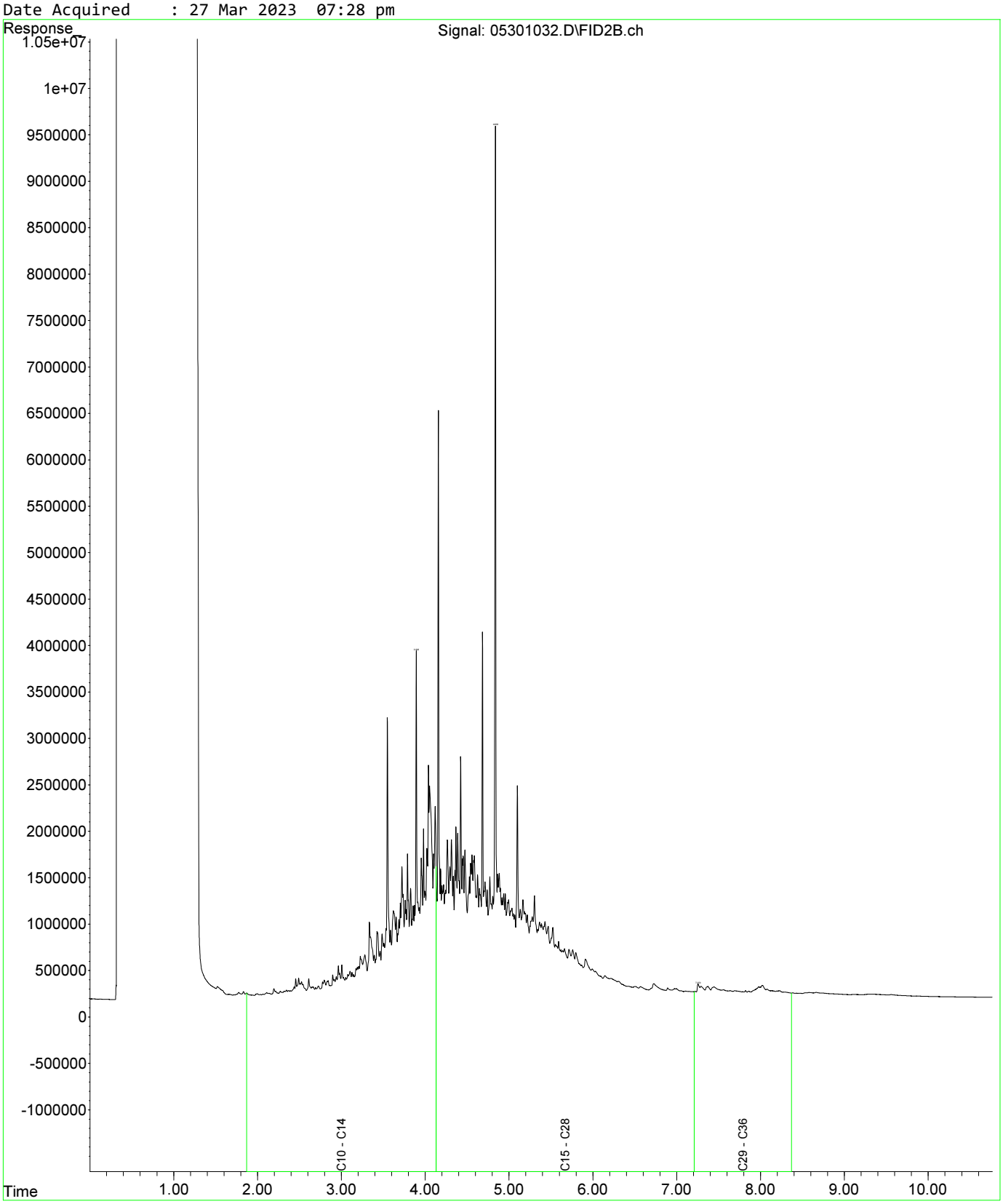
Laboratory Number: EM2305209-031
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



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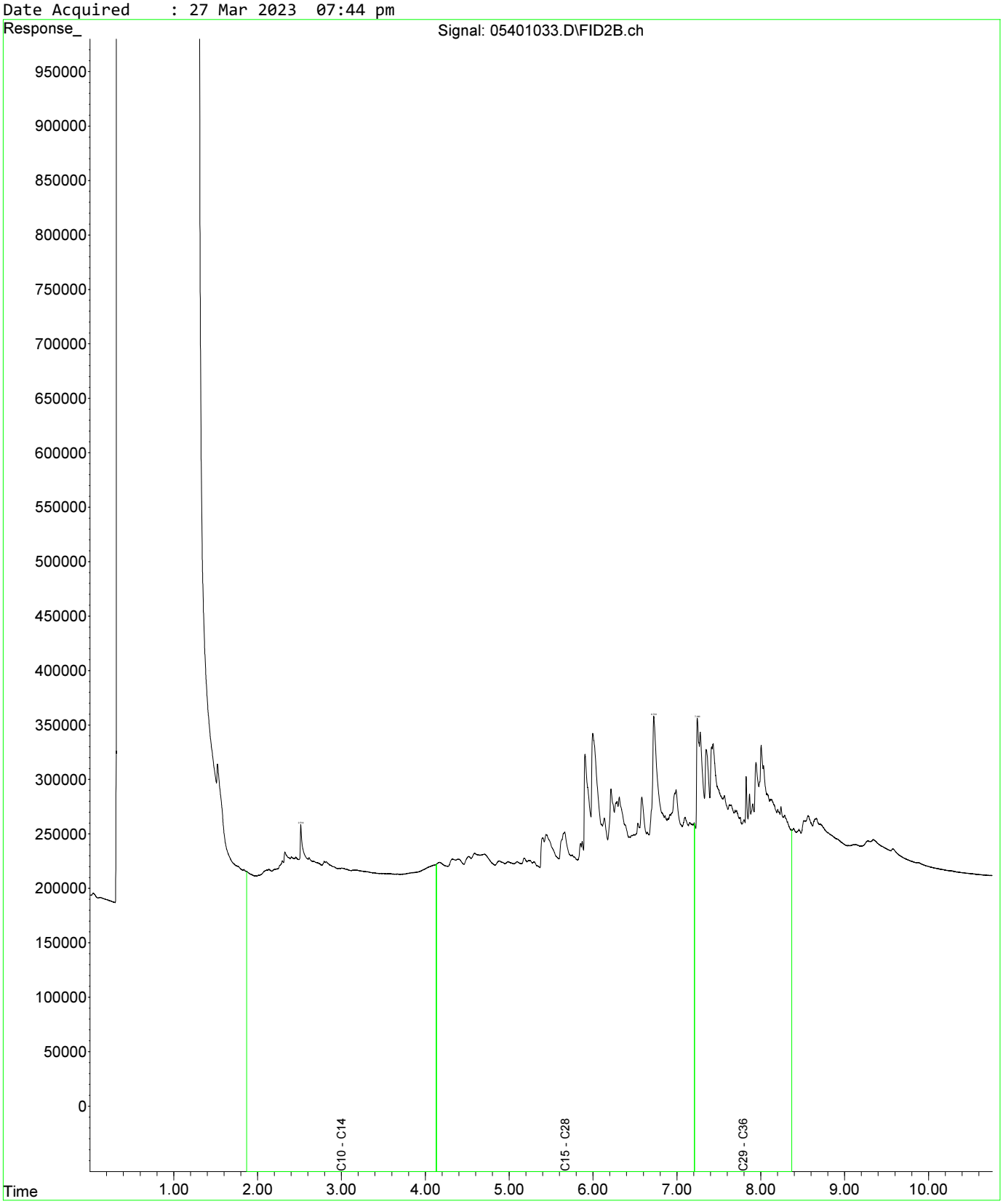
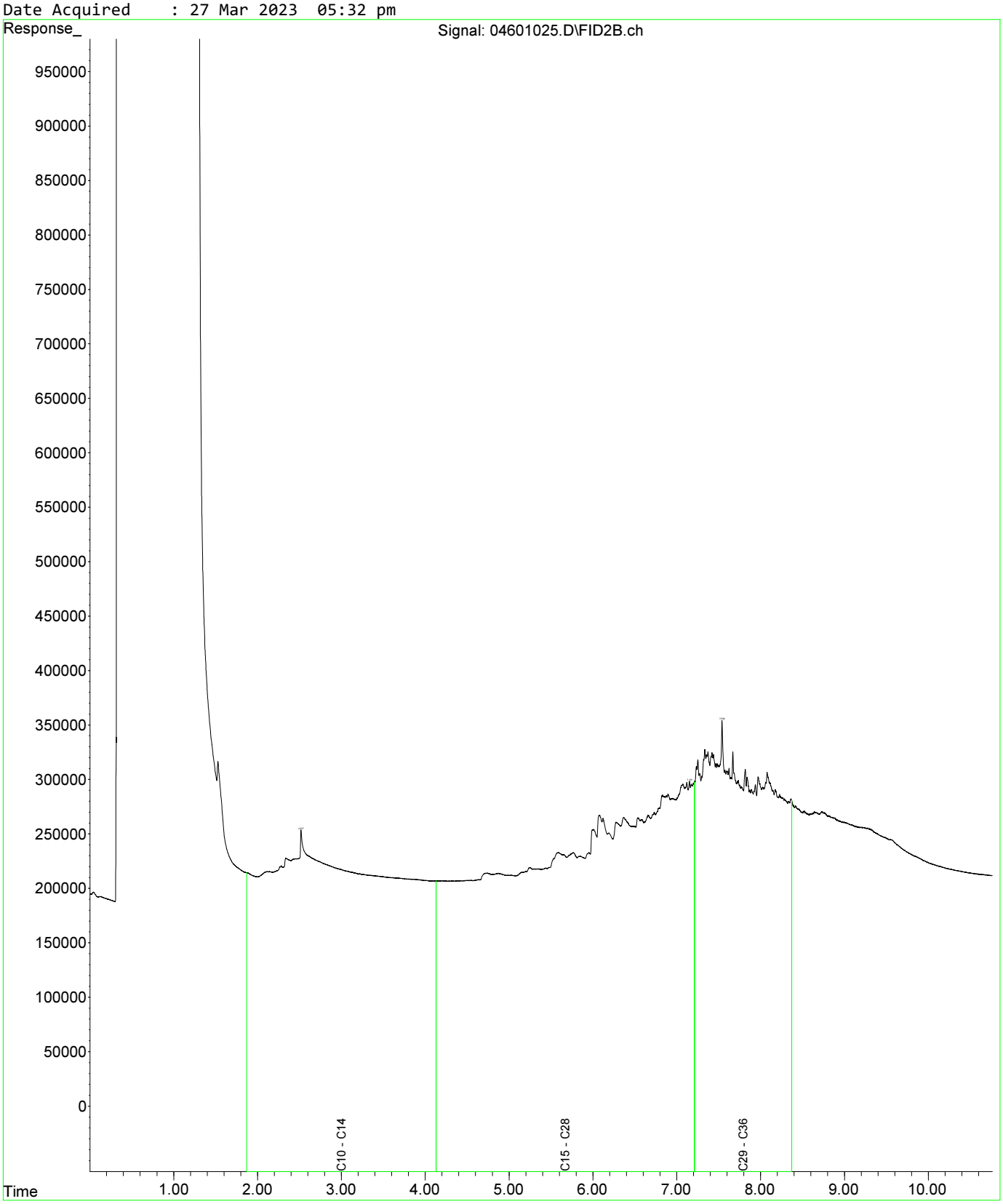


Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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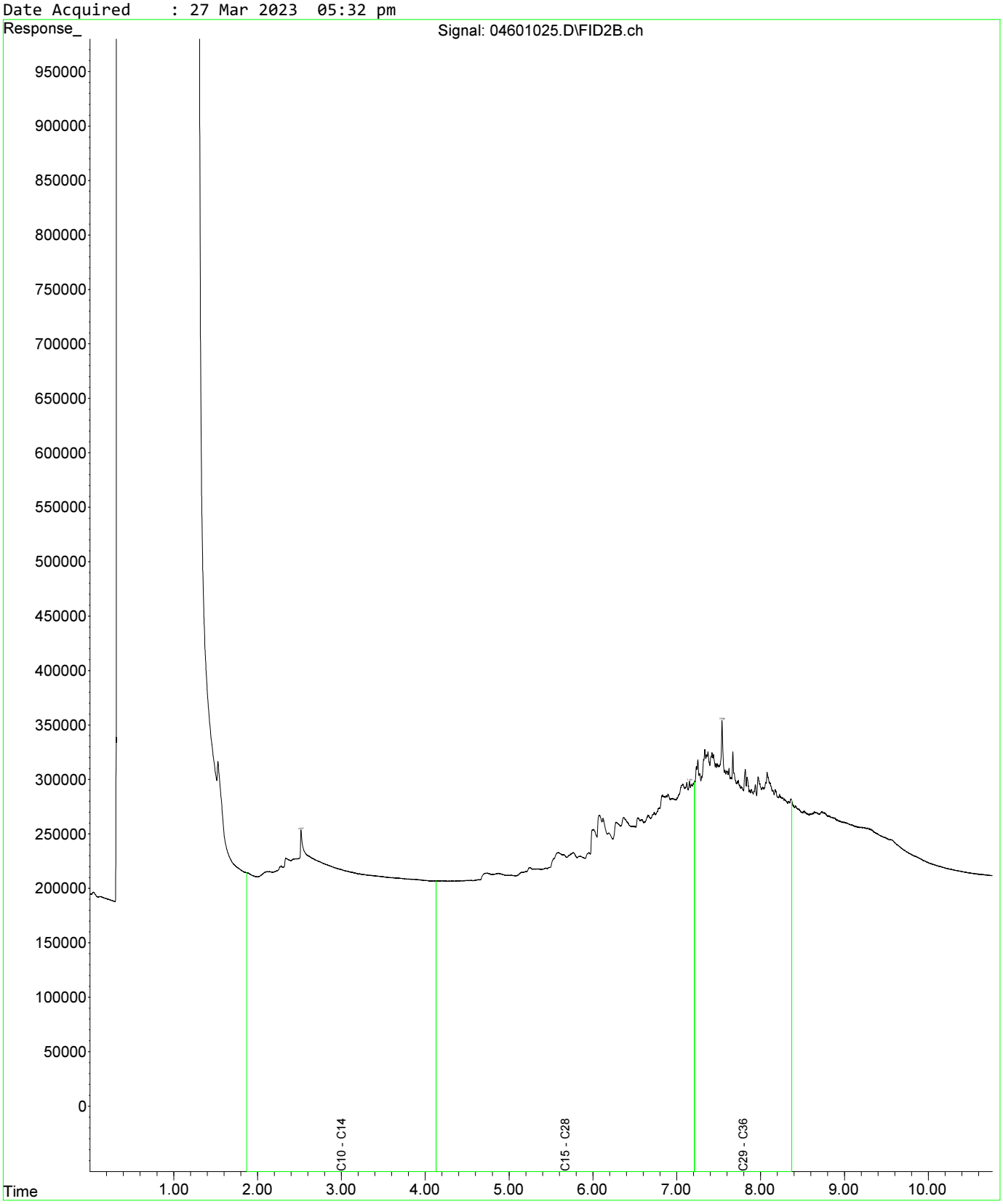
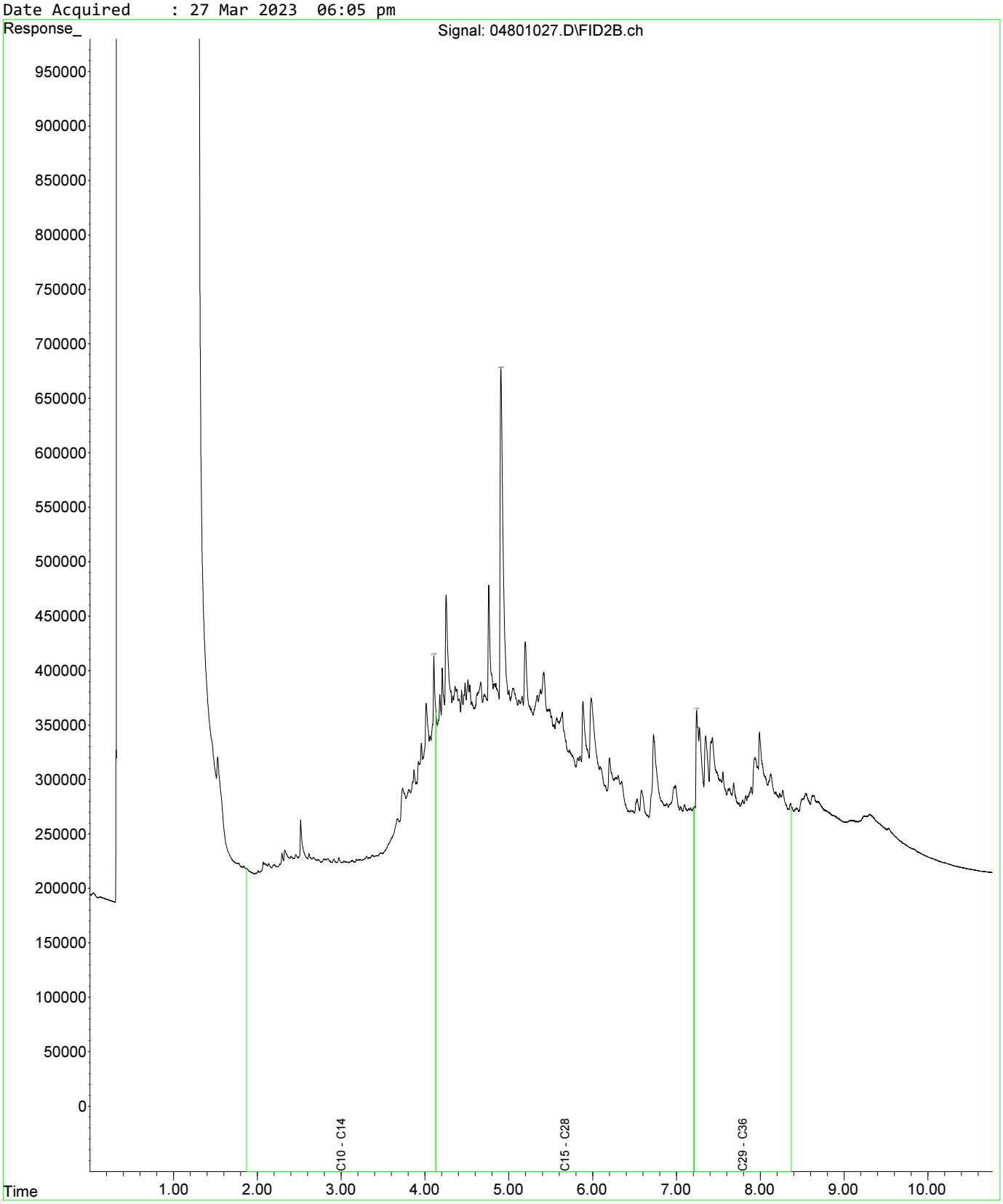


Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
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Laboratory Number: EM2305209-013
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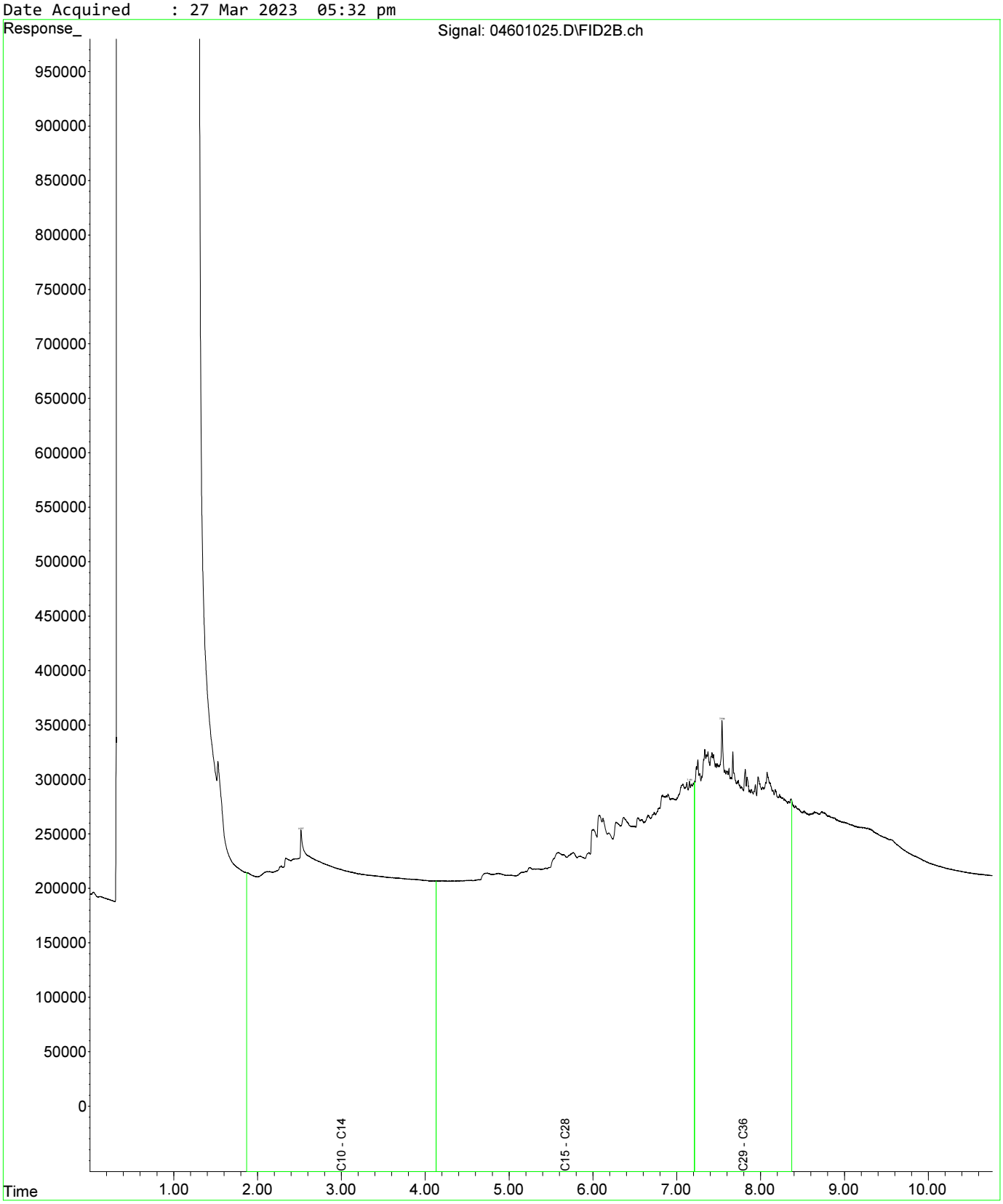

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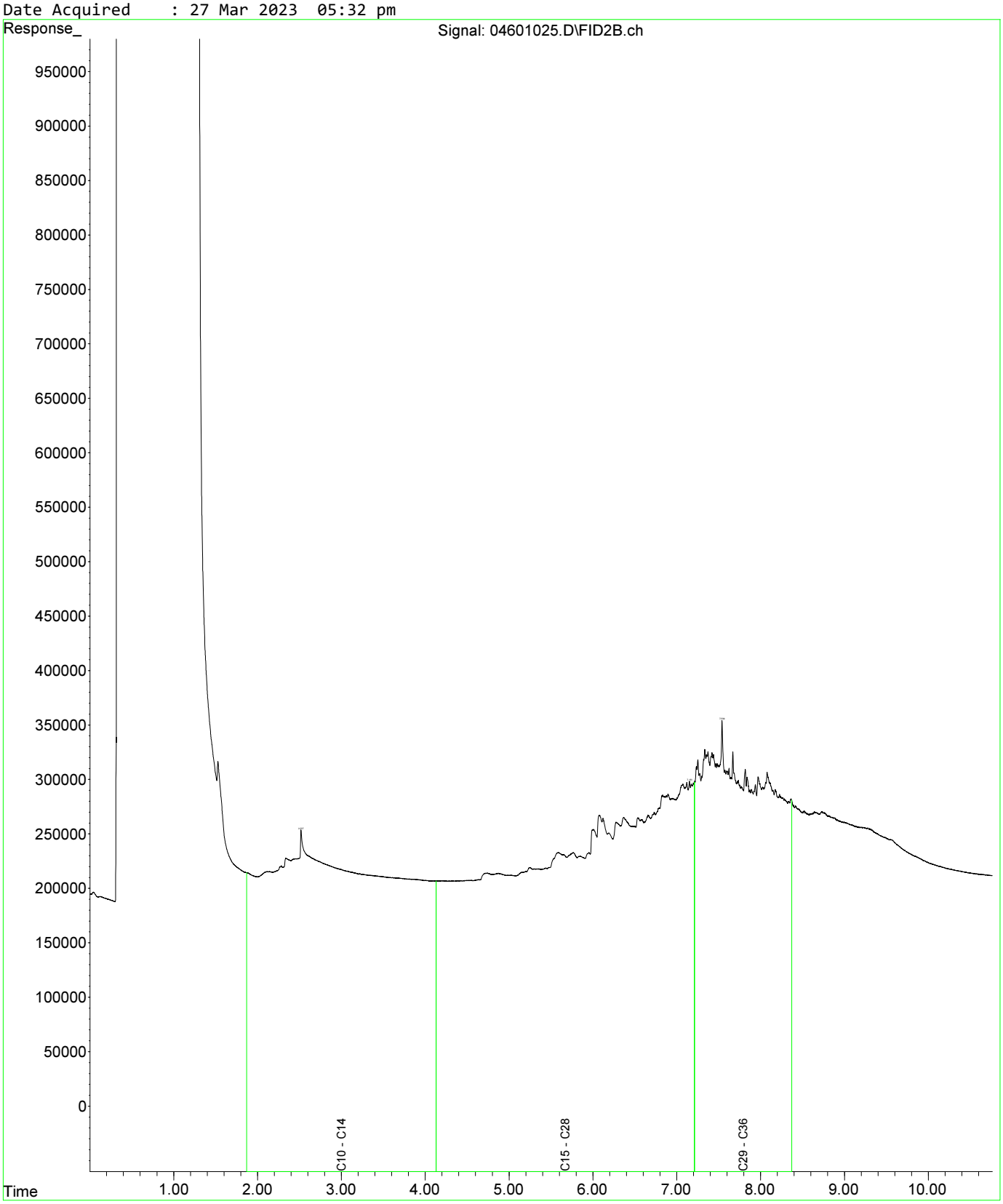

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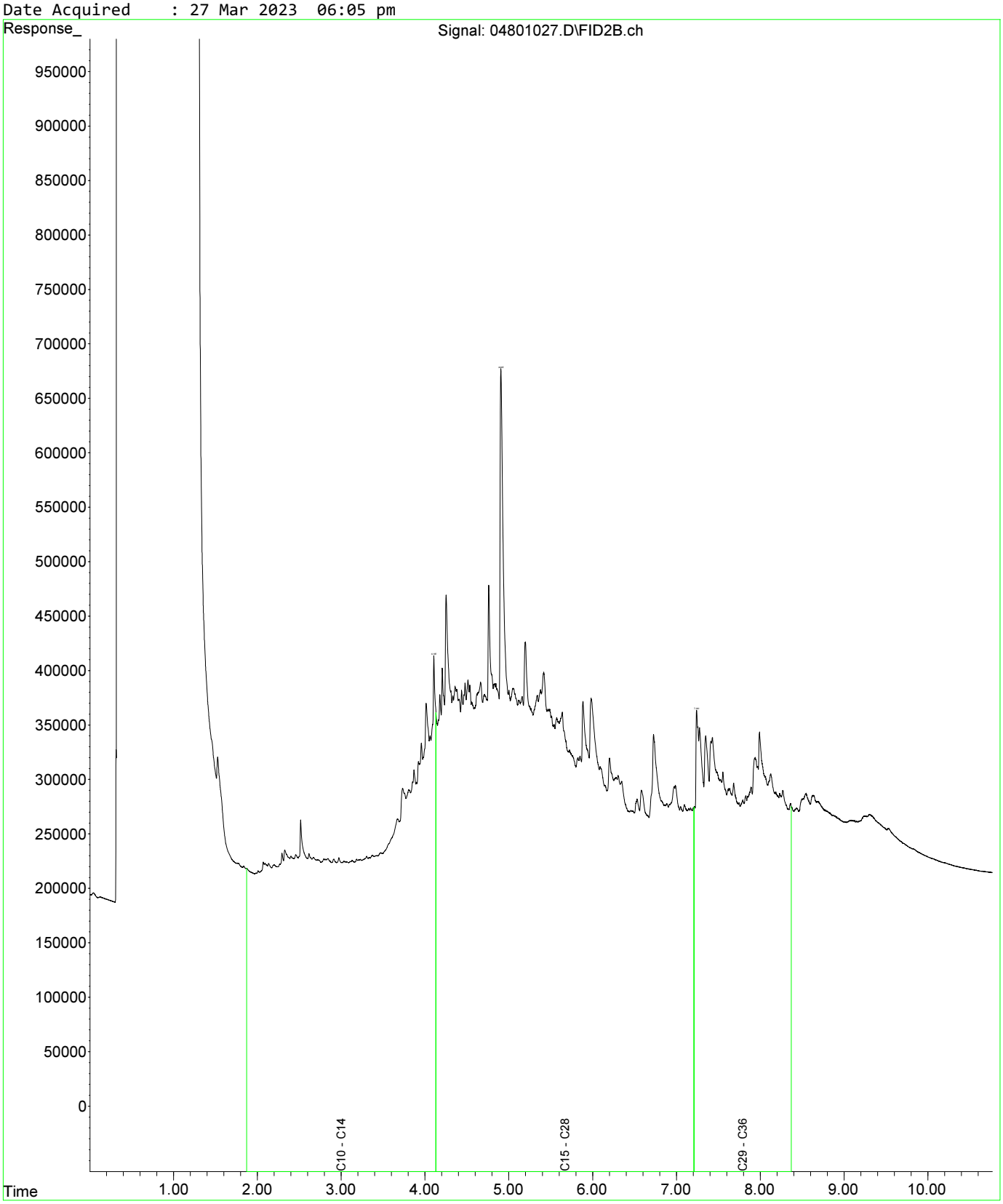
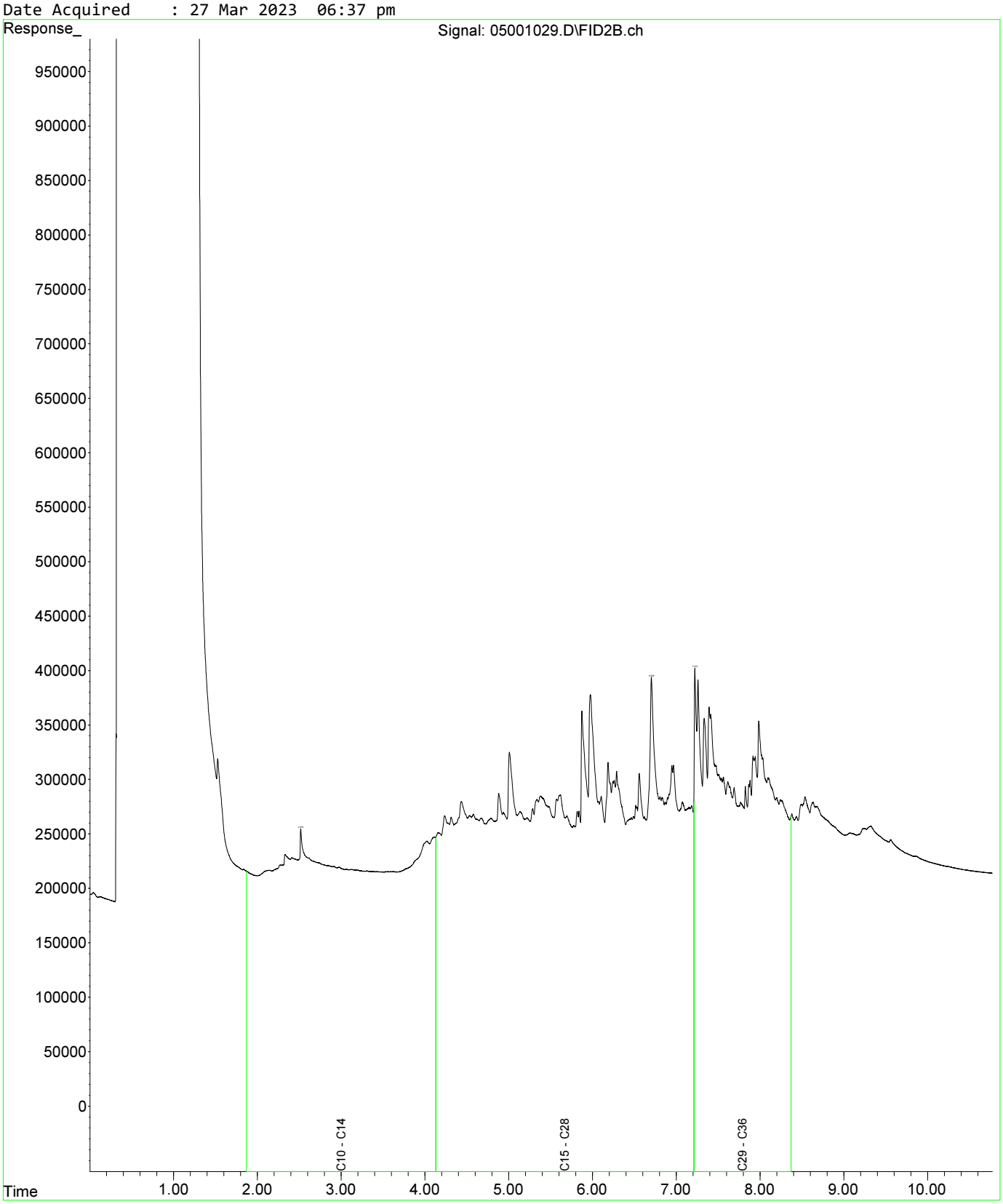


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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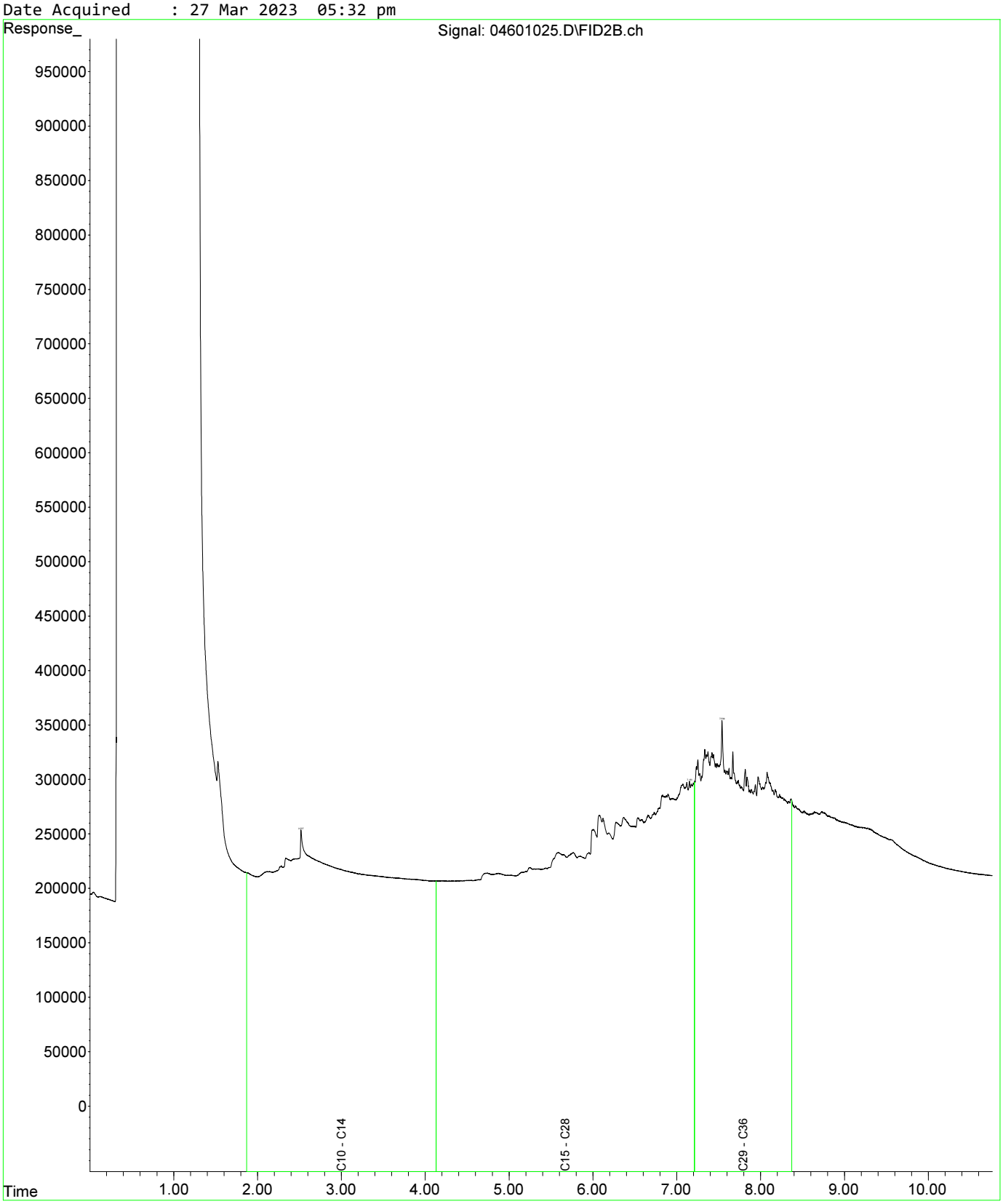

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Laboratory Number: EM2305209-013
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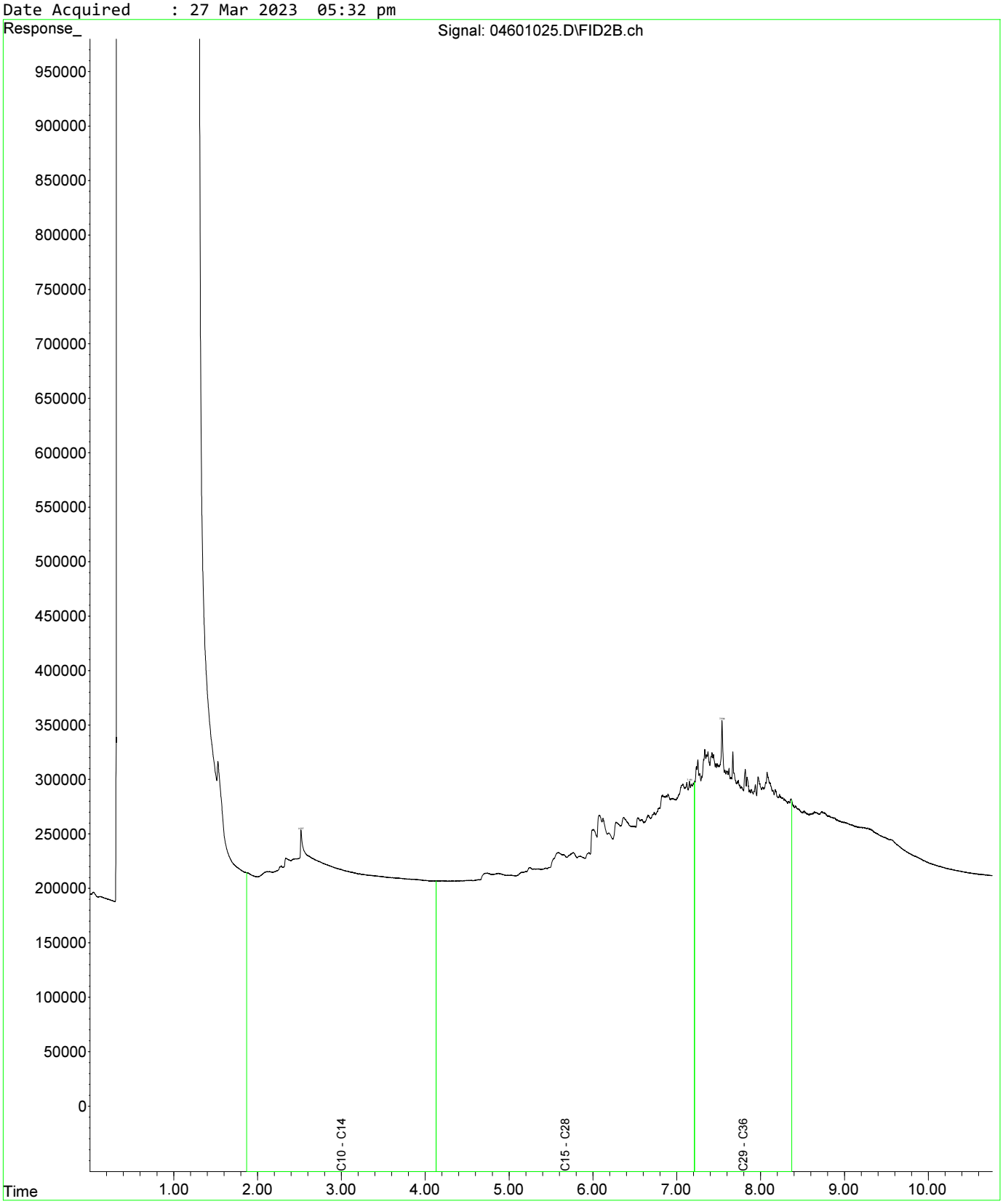

Fraction Scheme : Standard
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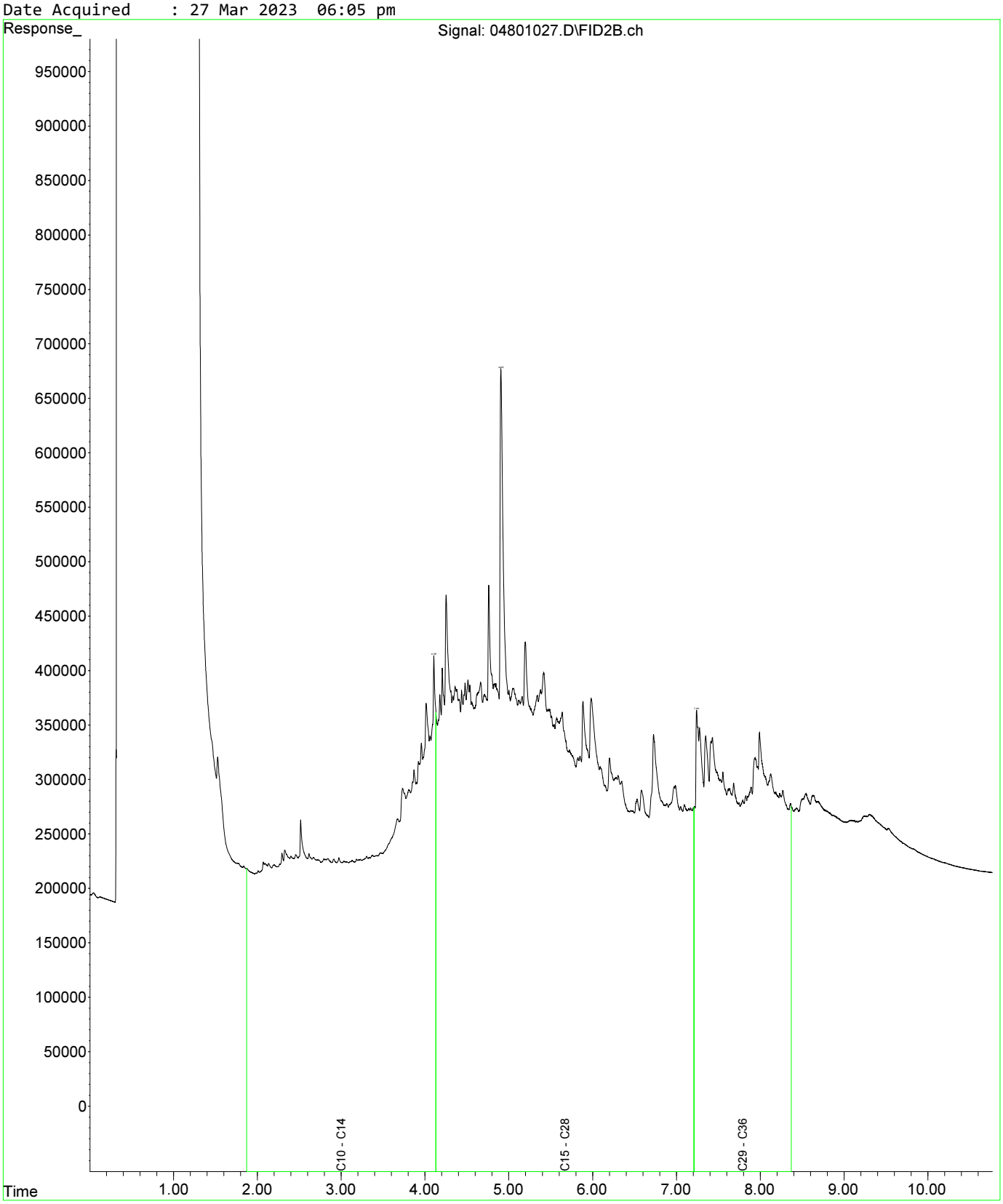

Fraction Scheme : Standard
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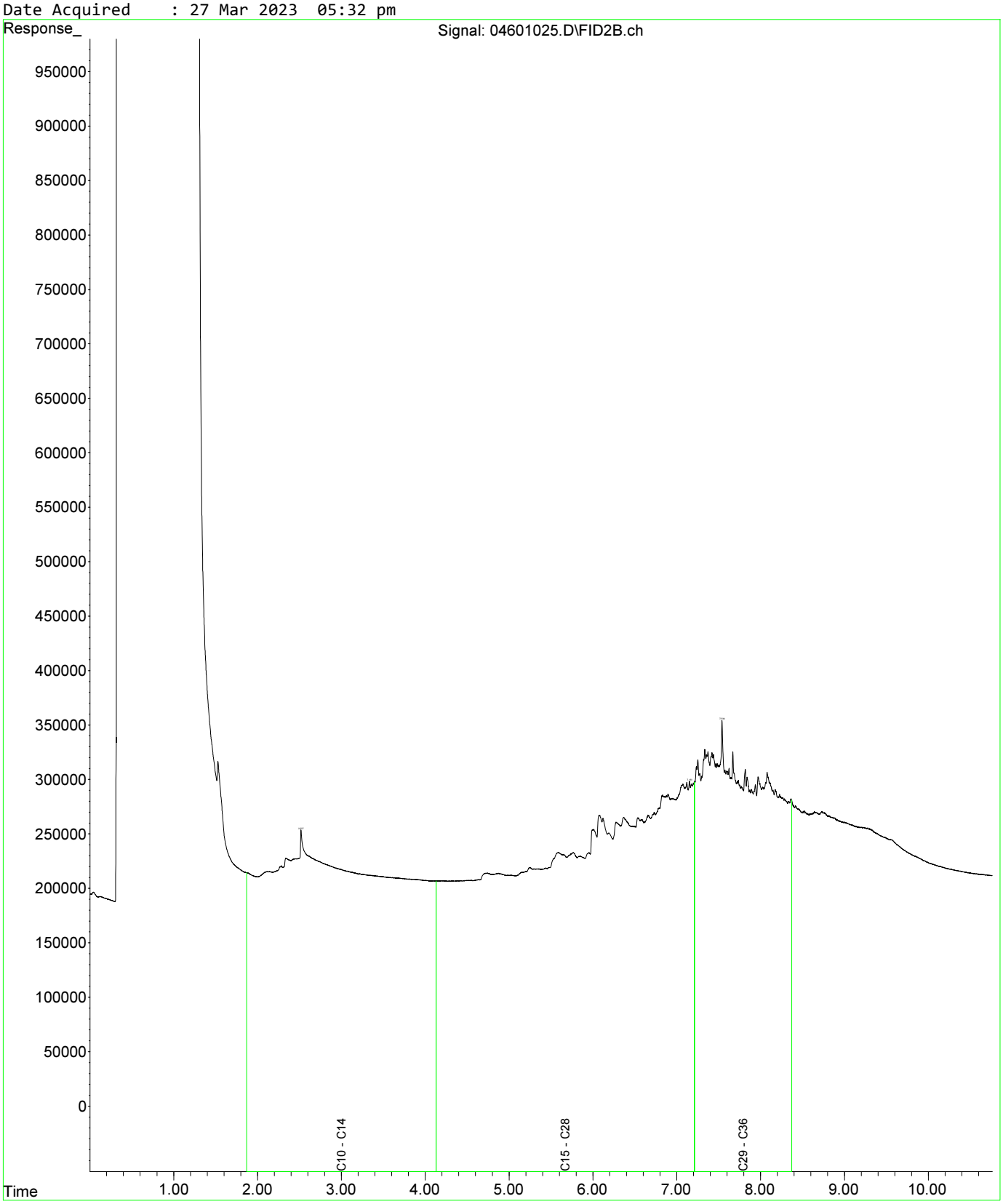

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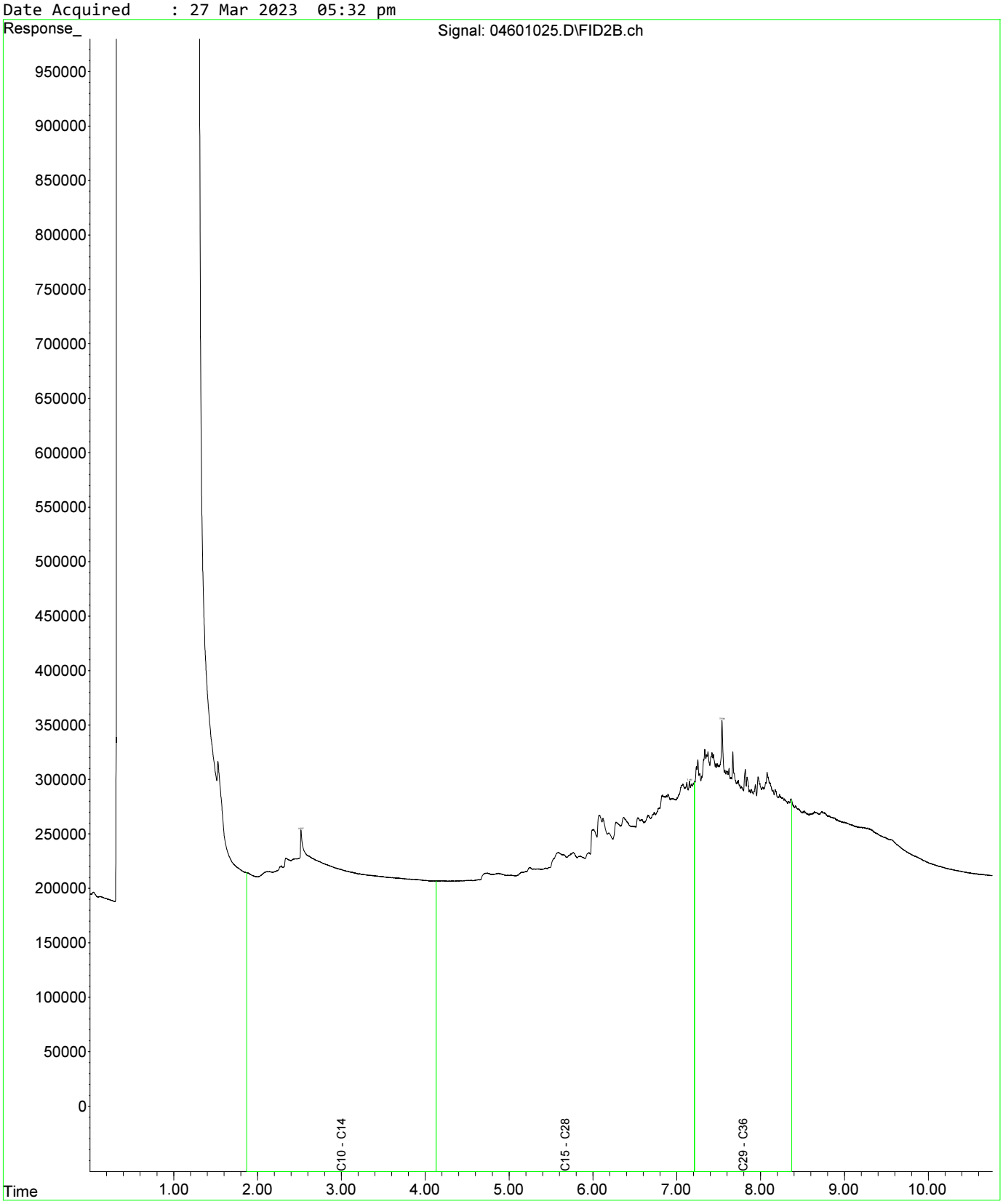

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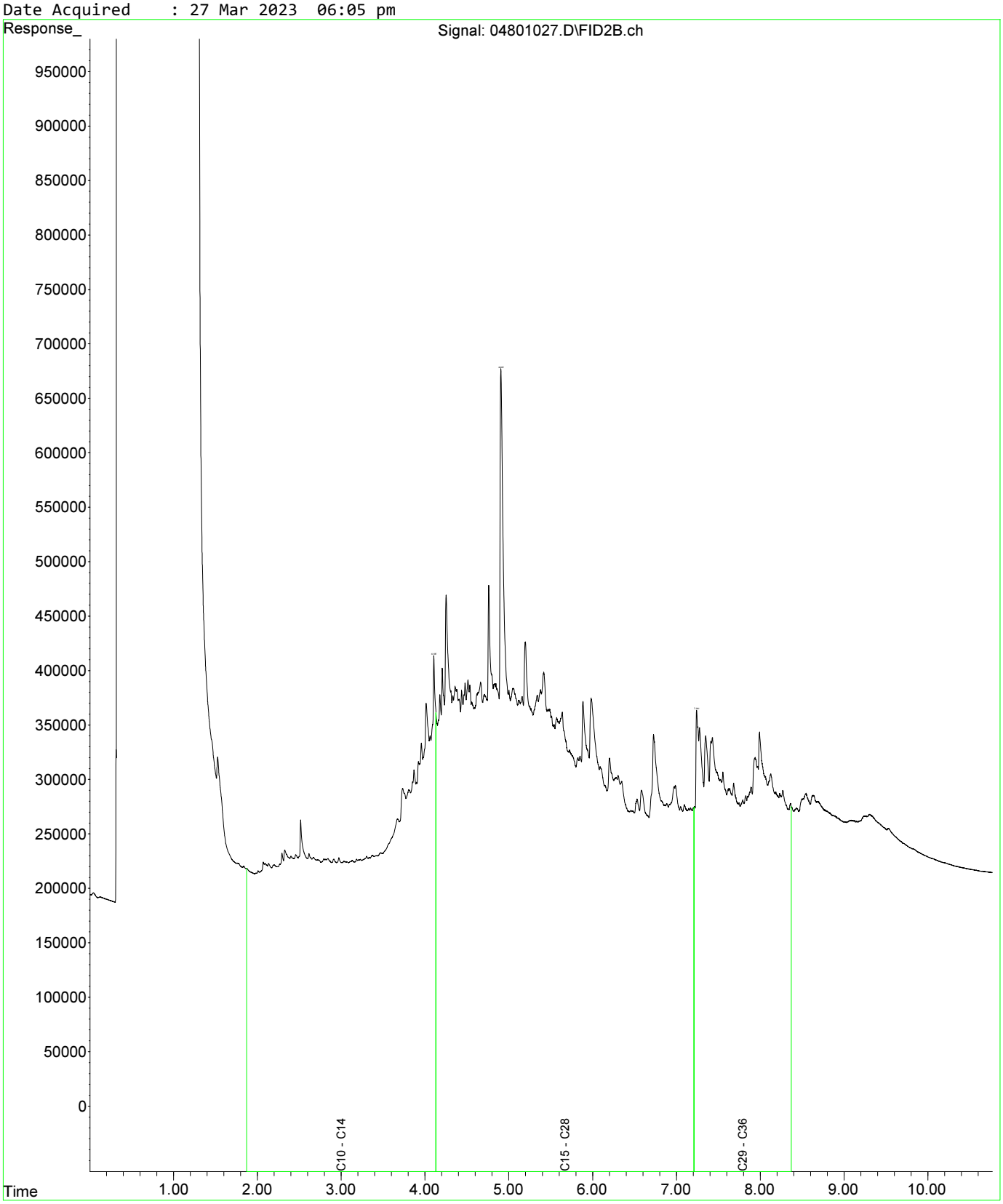

Fraction Scheme : Standard
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Laboratory Number: EM2305209-021
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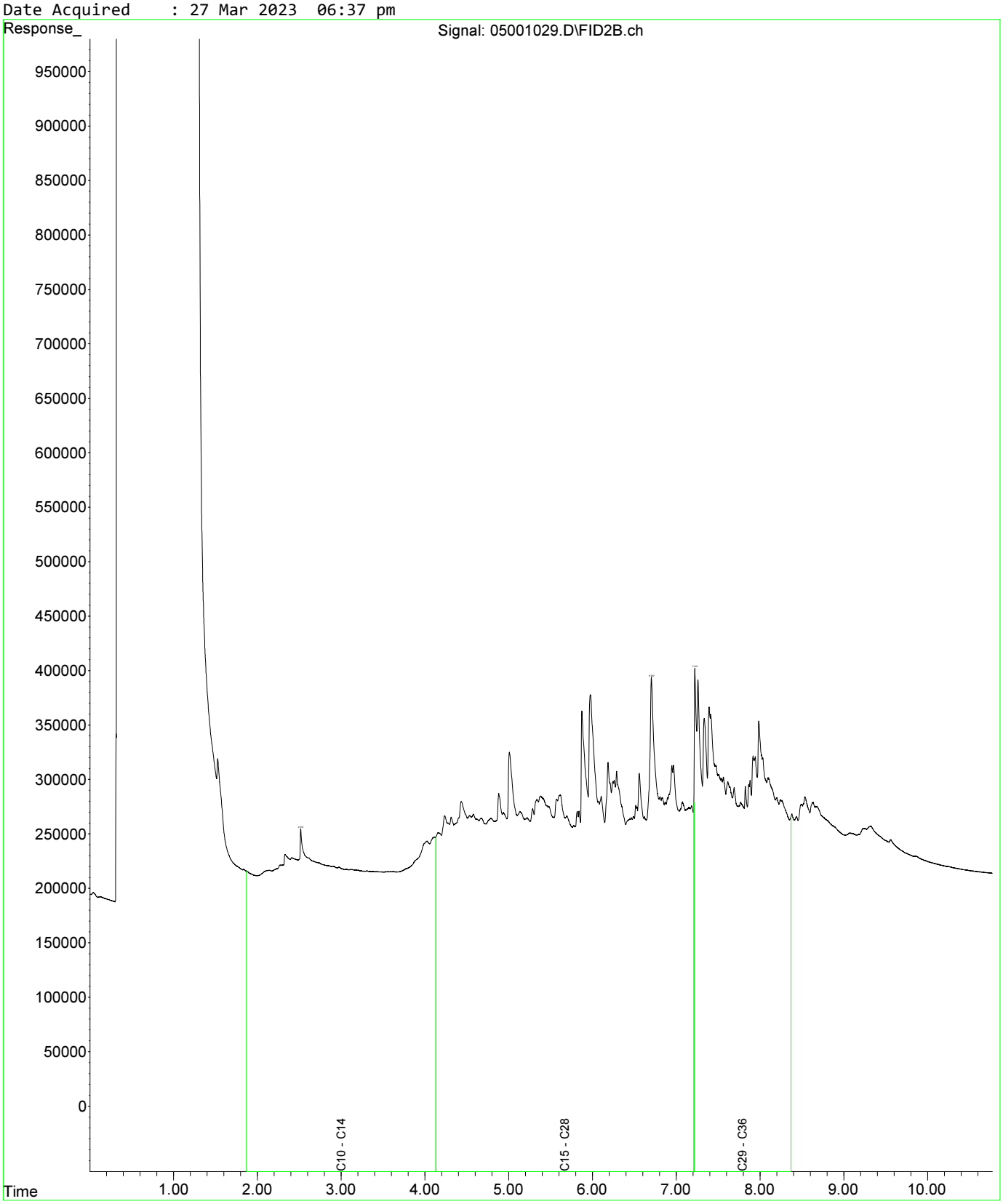
Date Acquired : 27 Mar 2023 06:37 pm



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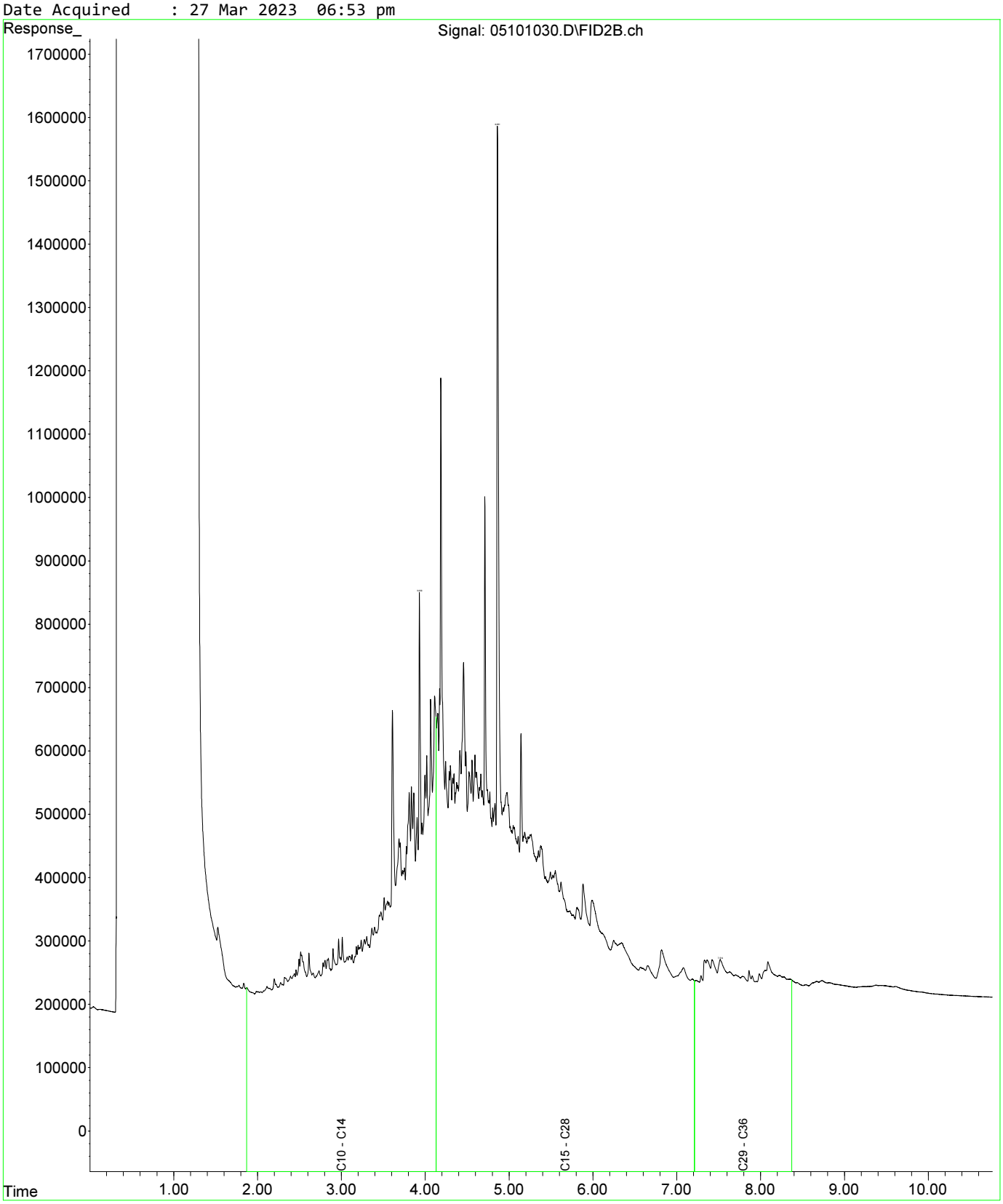

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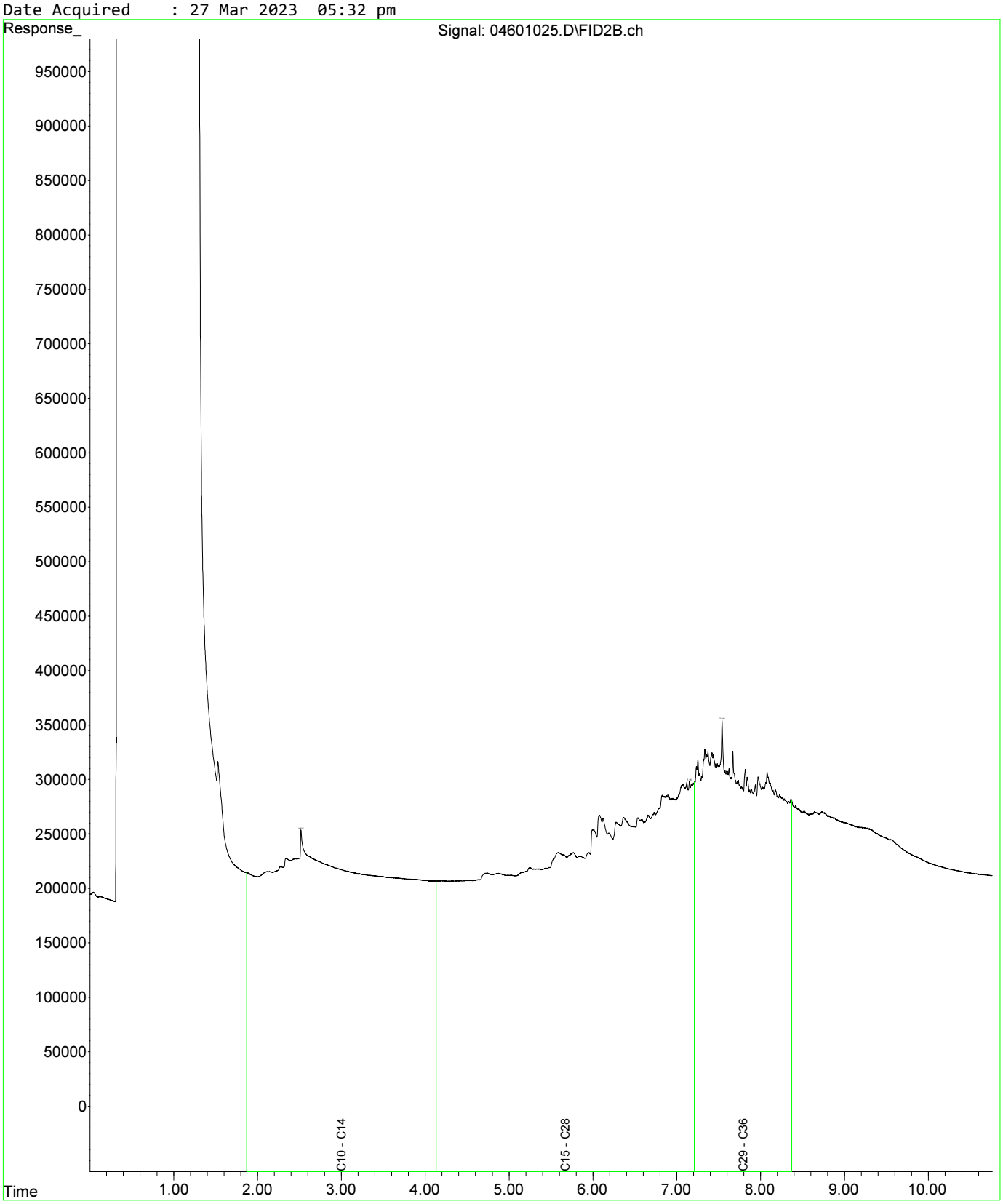

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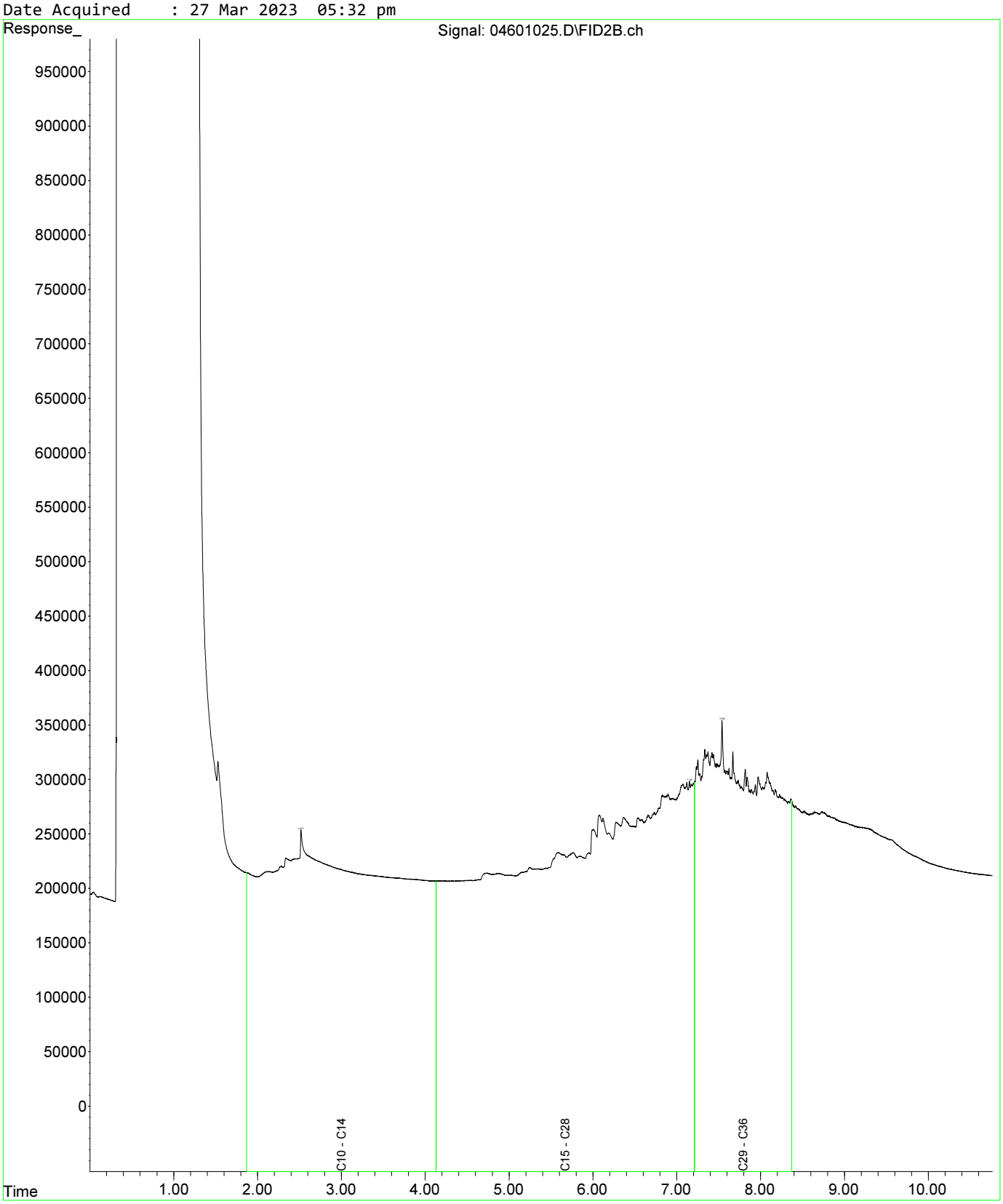

Fraction Scheme : Standard
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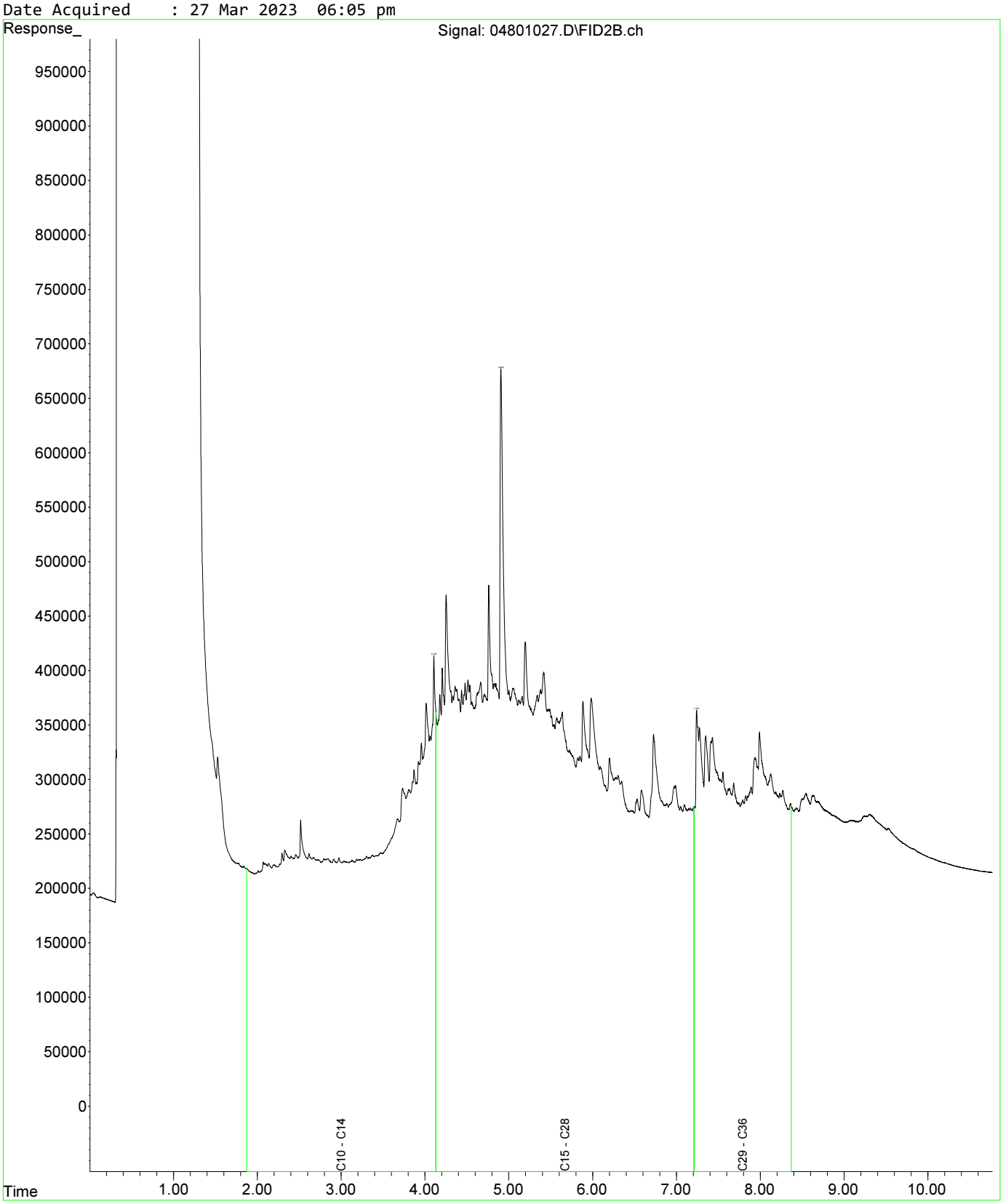

Fraction Scheme : Standard
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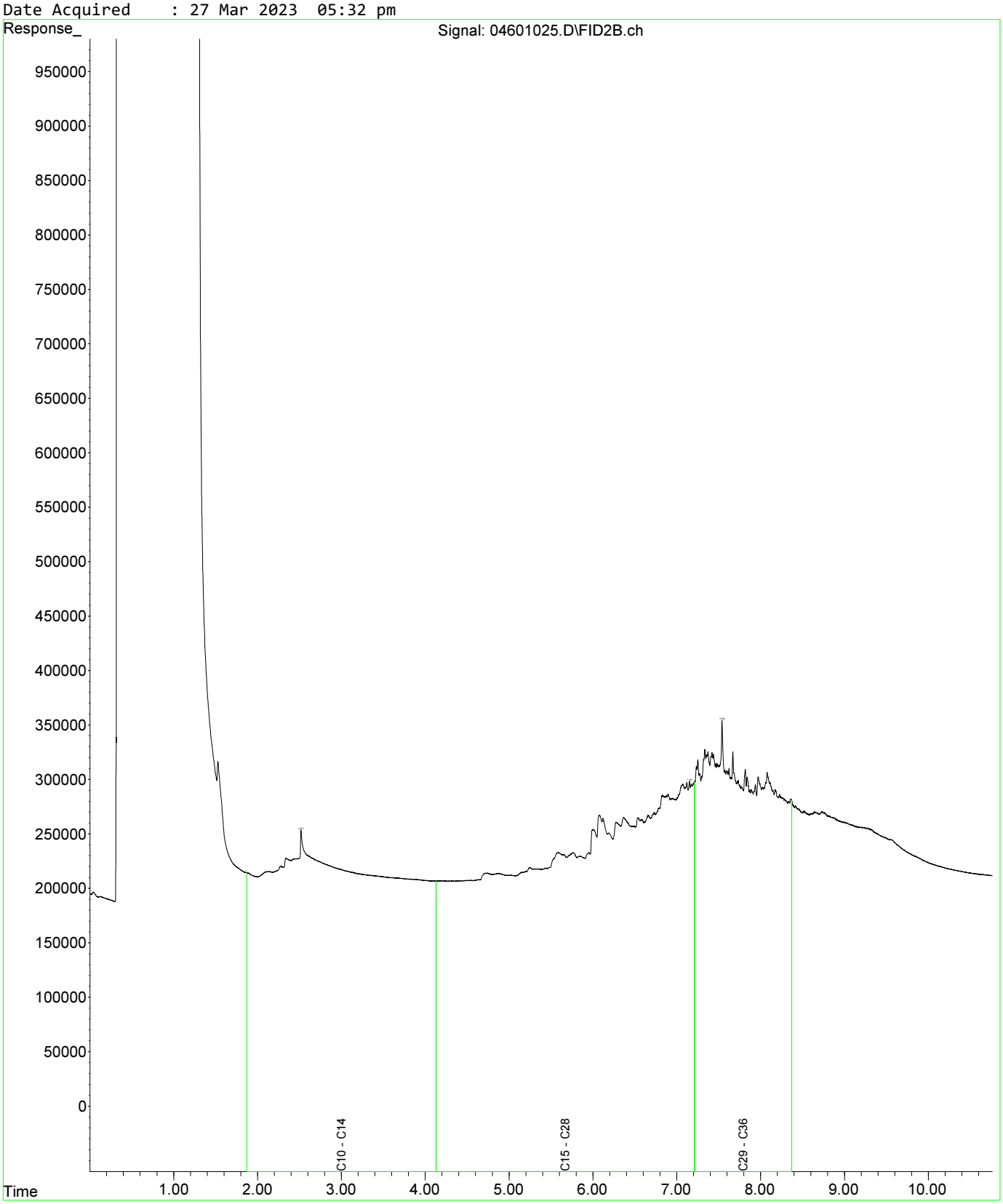

Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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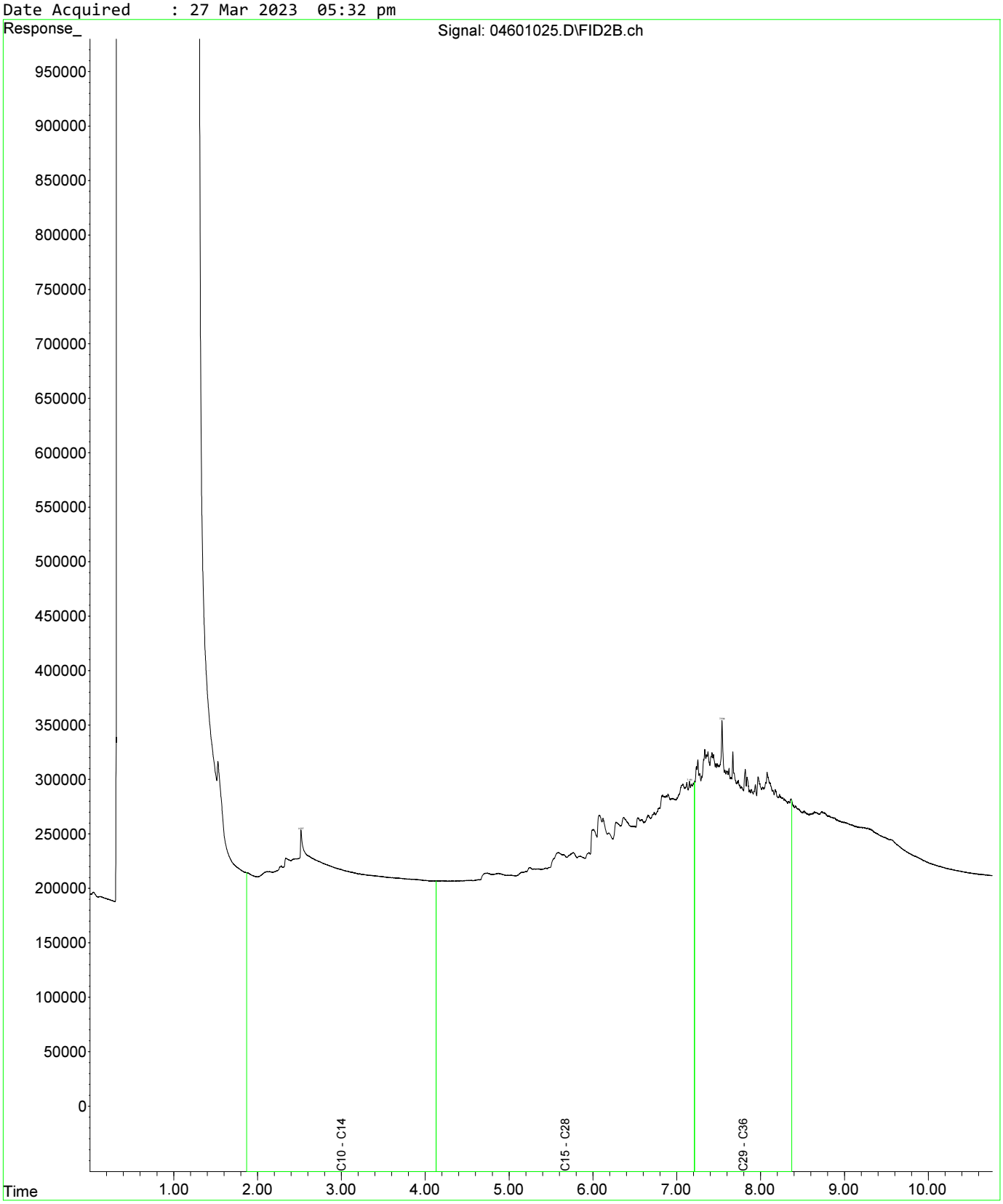

Fraction Scheme : Standard
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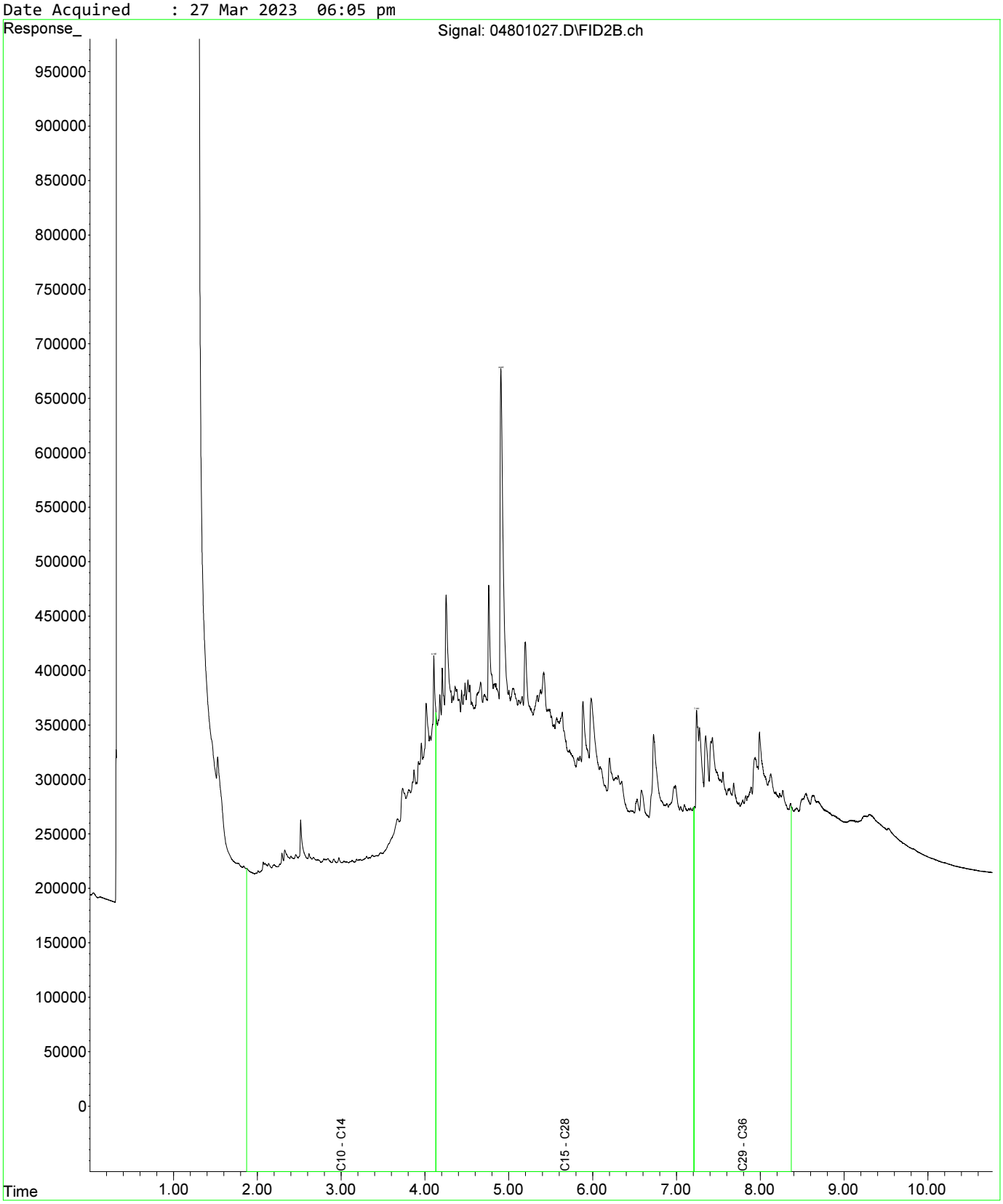
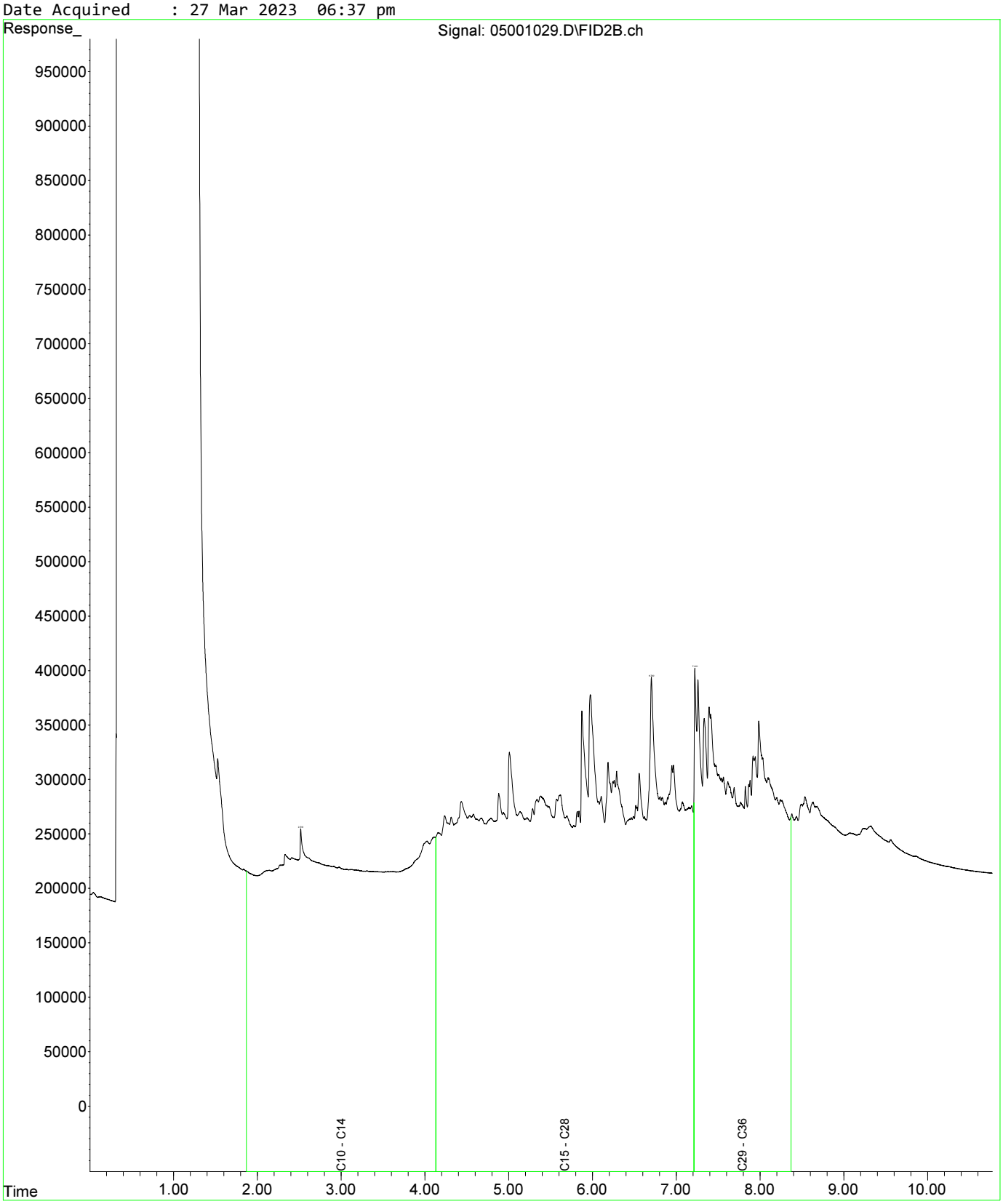


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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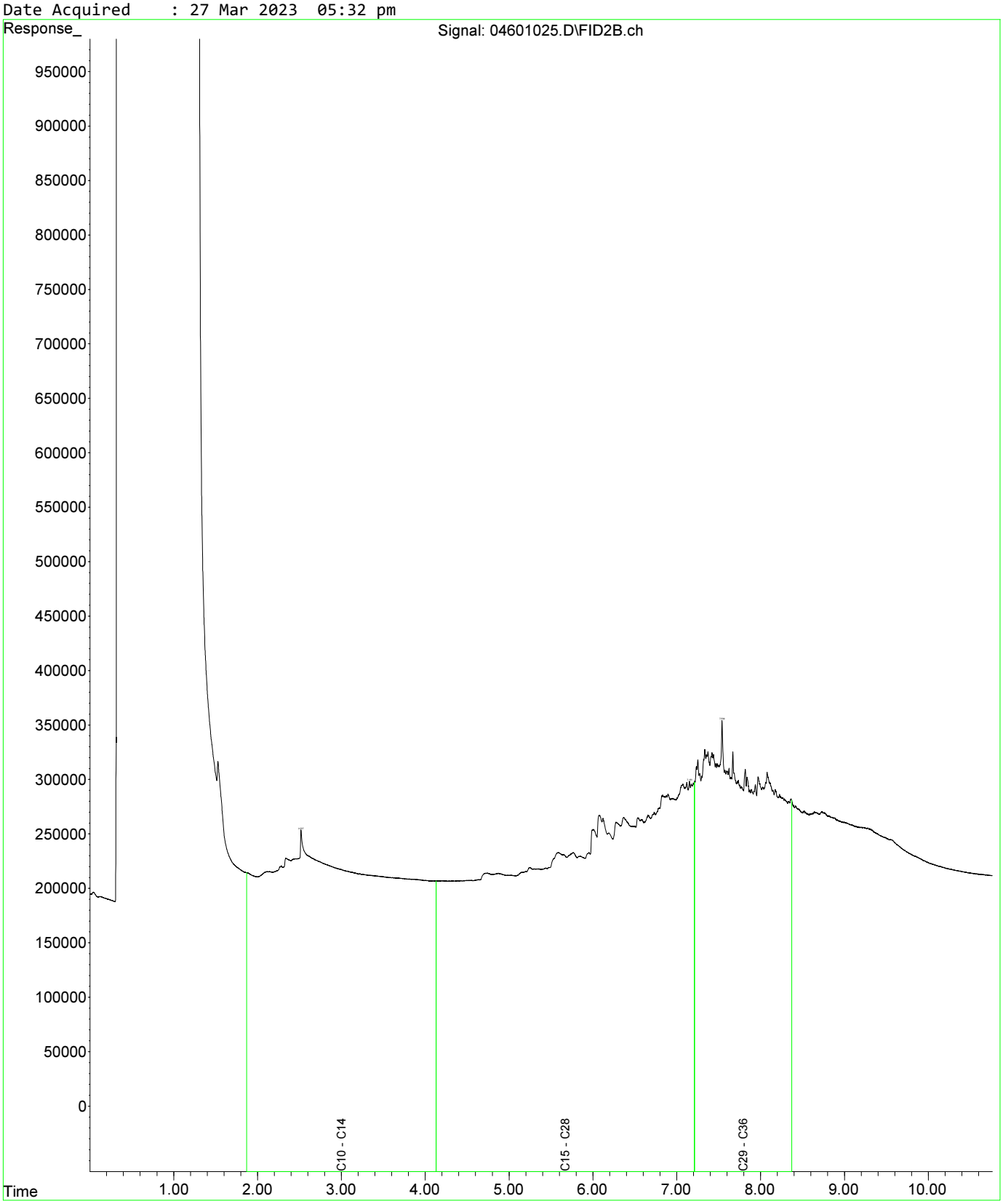

Fraction Scheme : Standard
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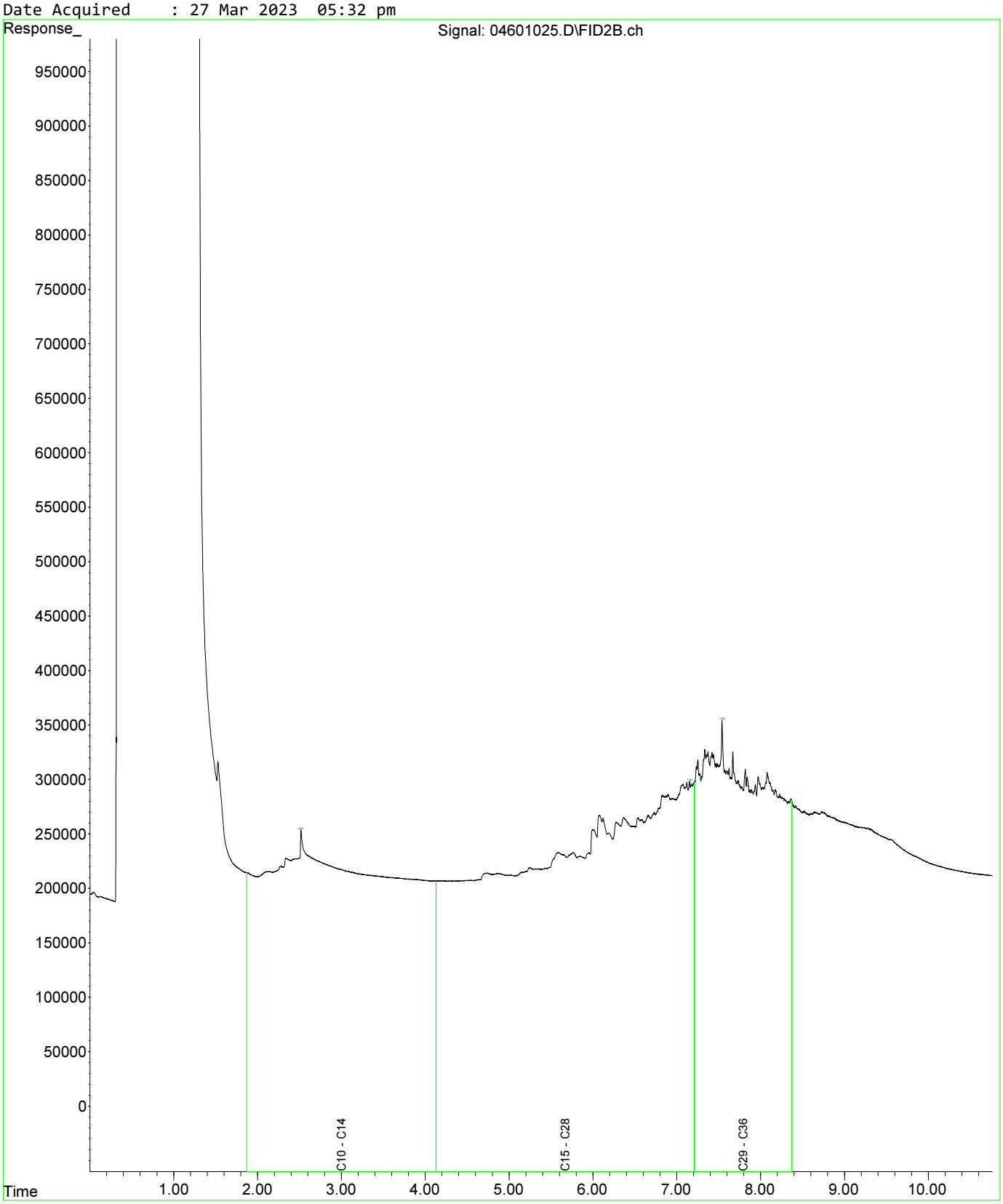

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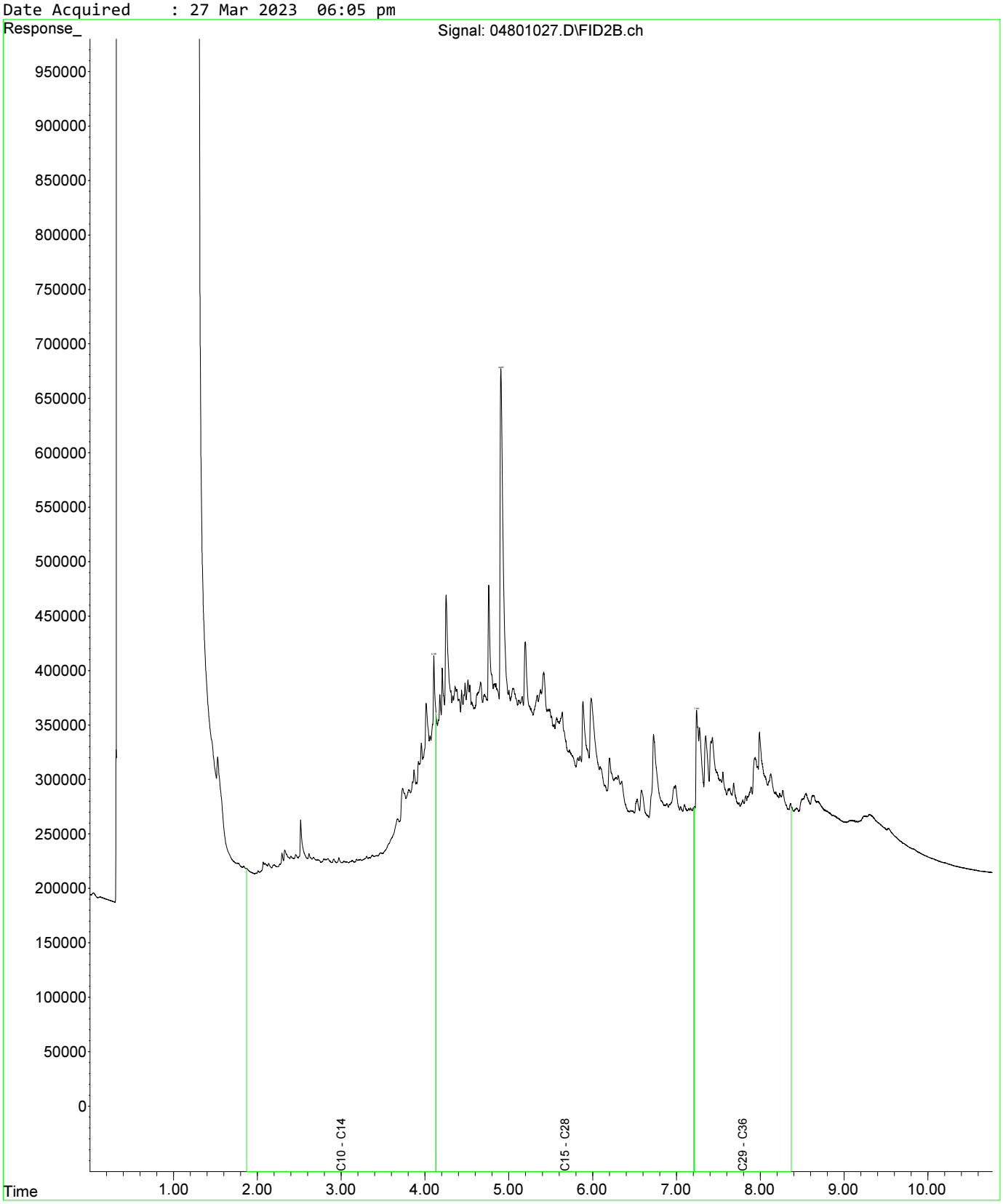
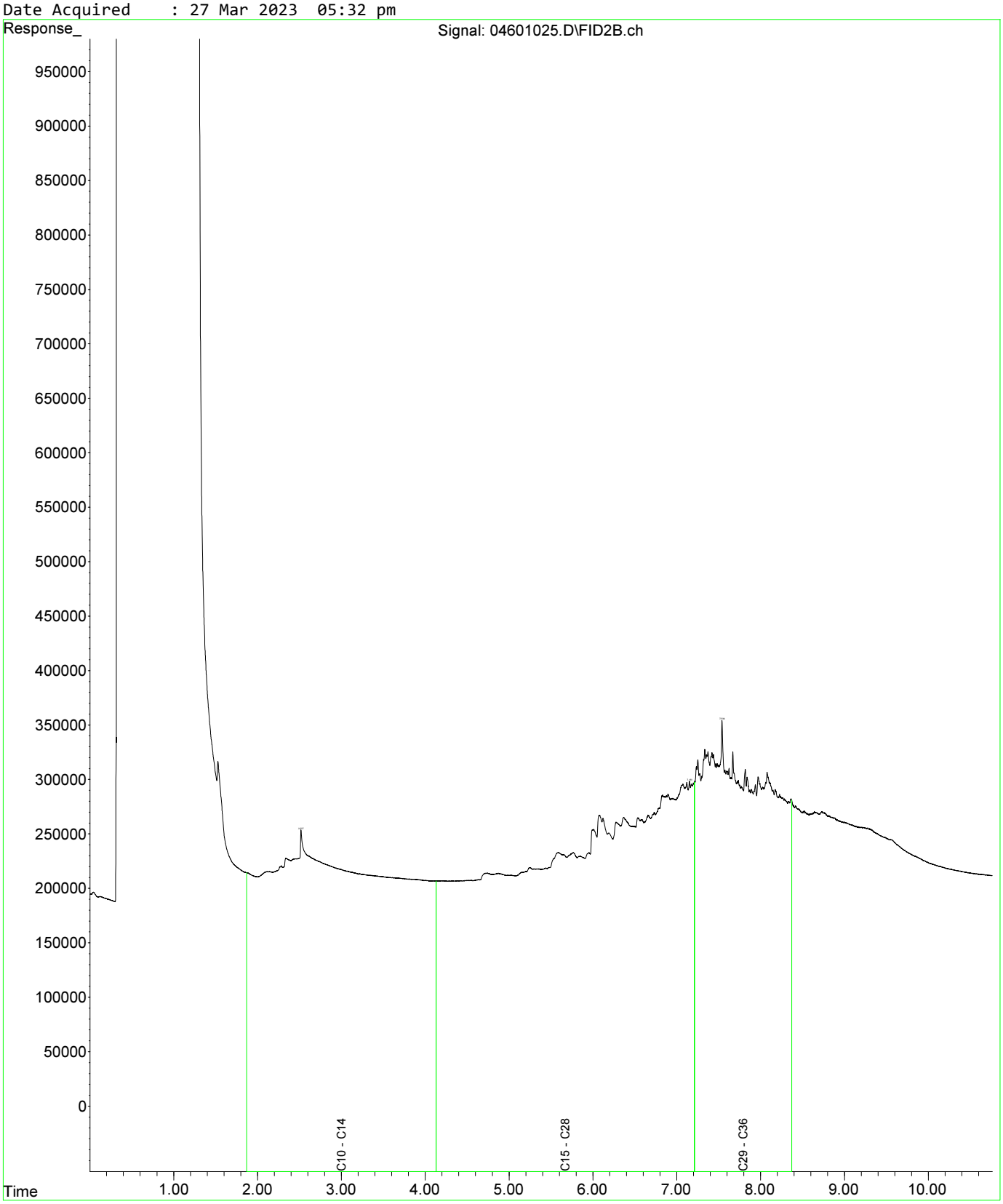
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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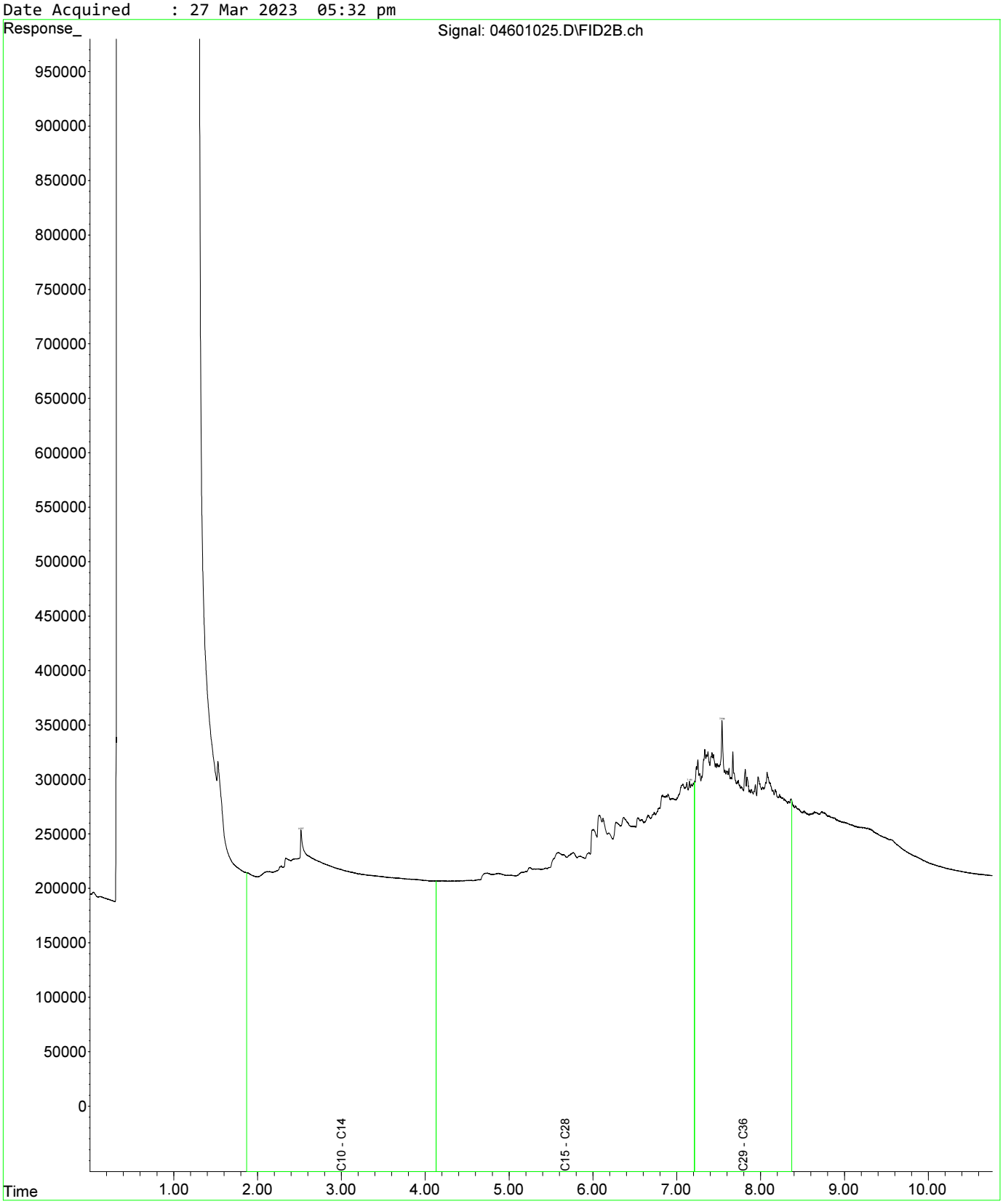

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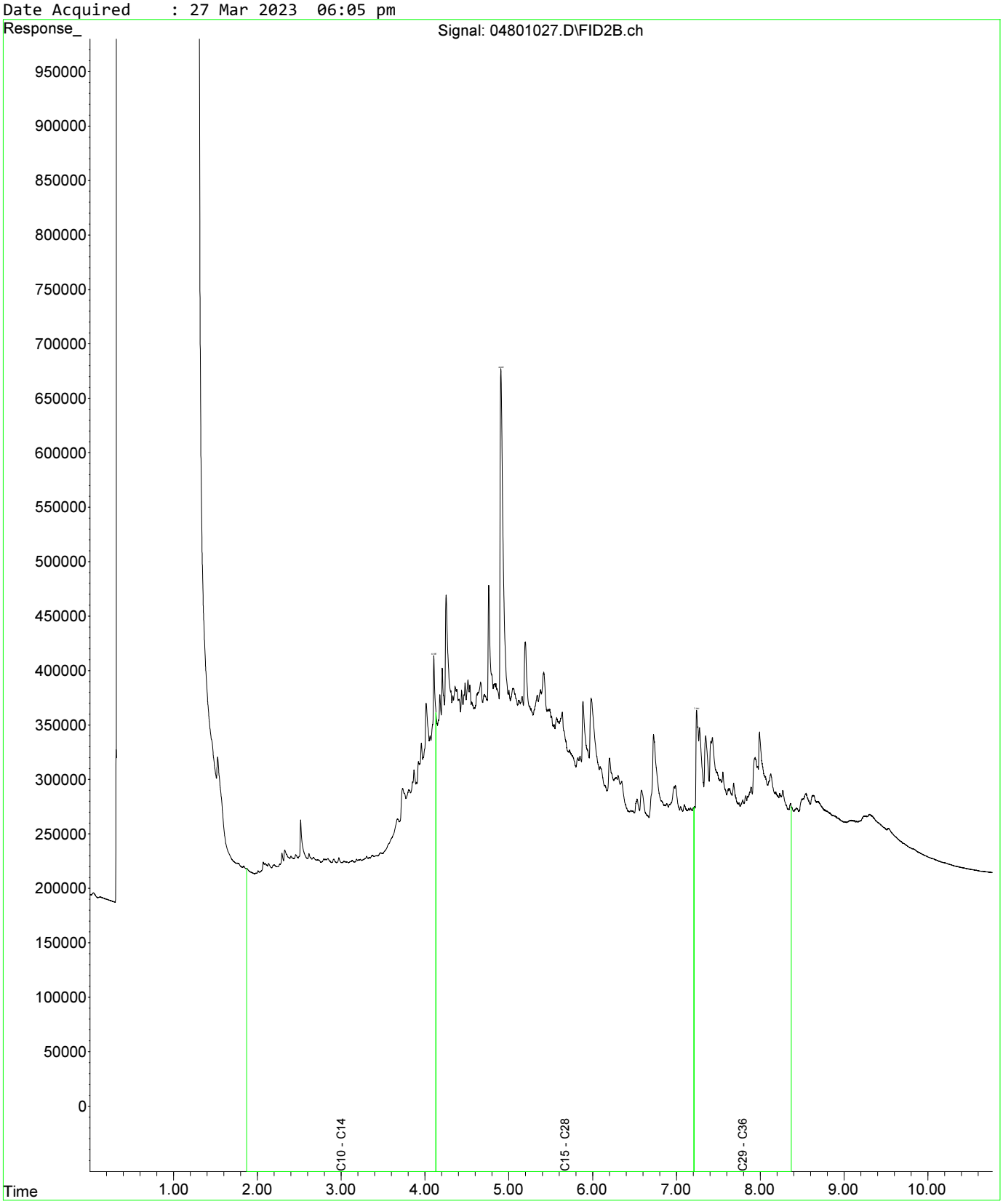
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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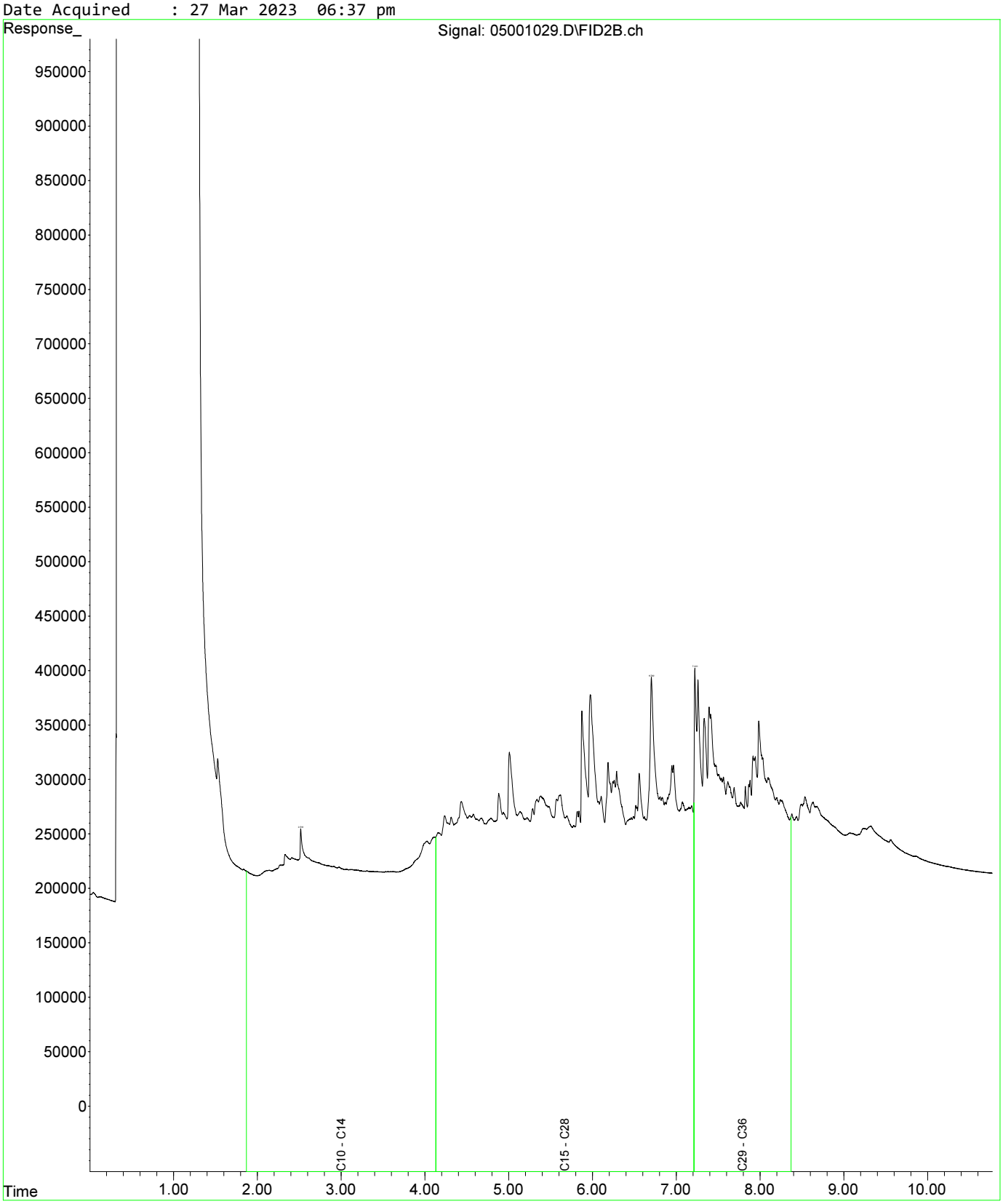
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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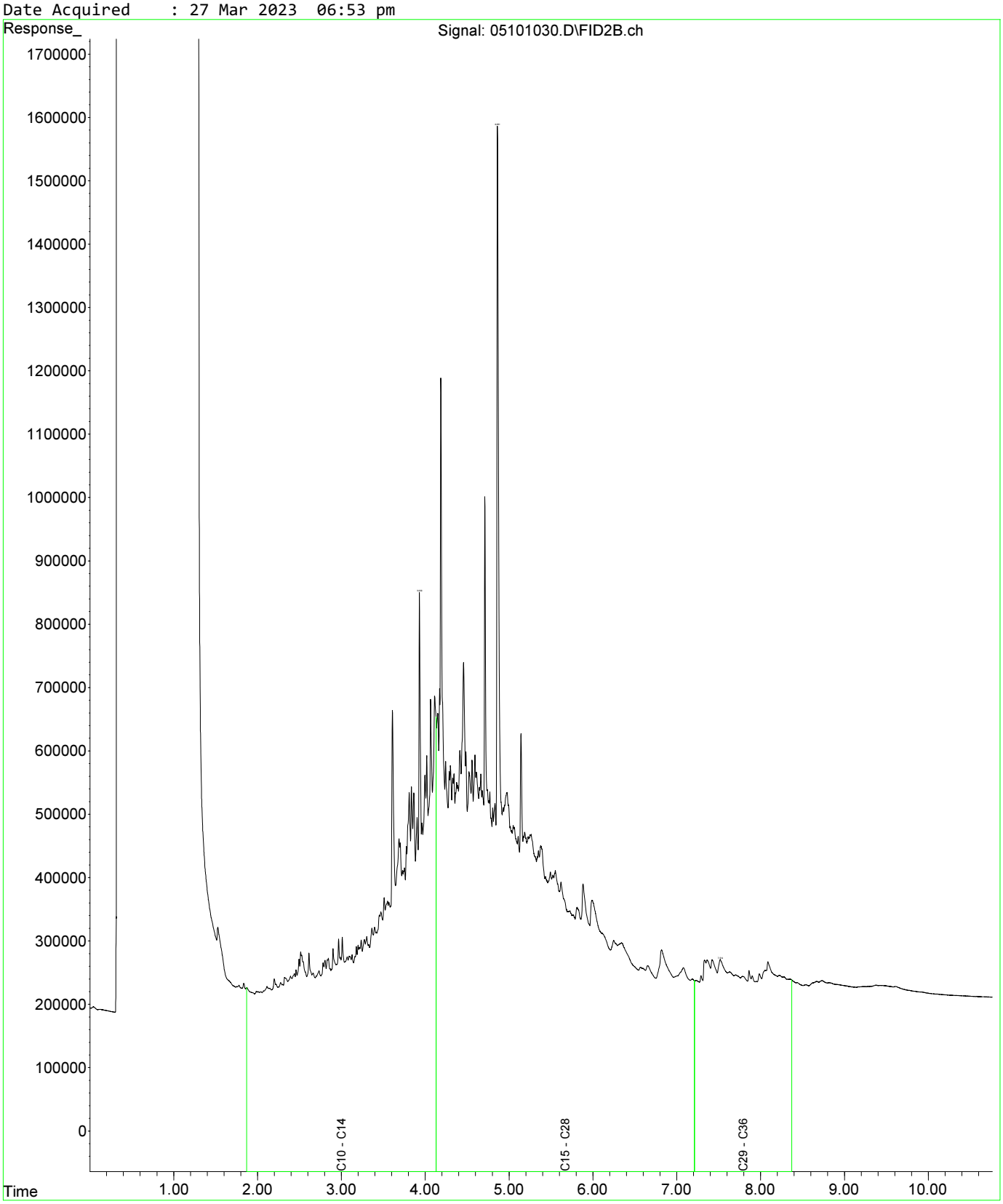
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : Standard
Data File : 05201031.D
Laboratory Number: EM2305209-027
Sample ID : UST_SP_EXT_03
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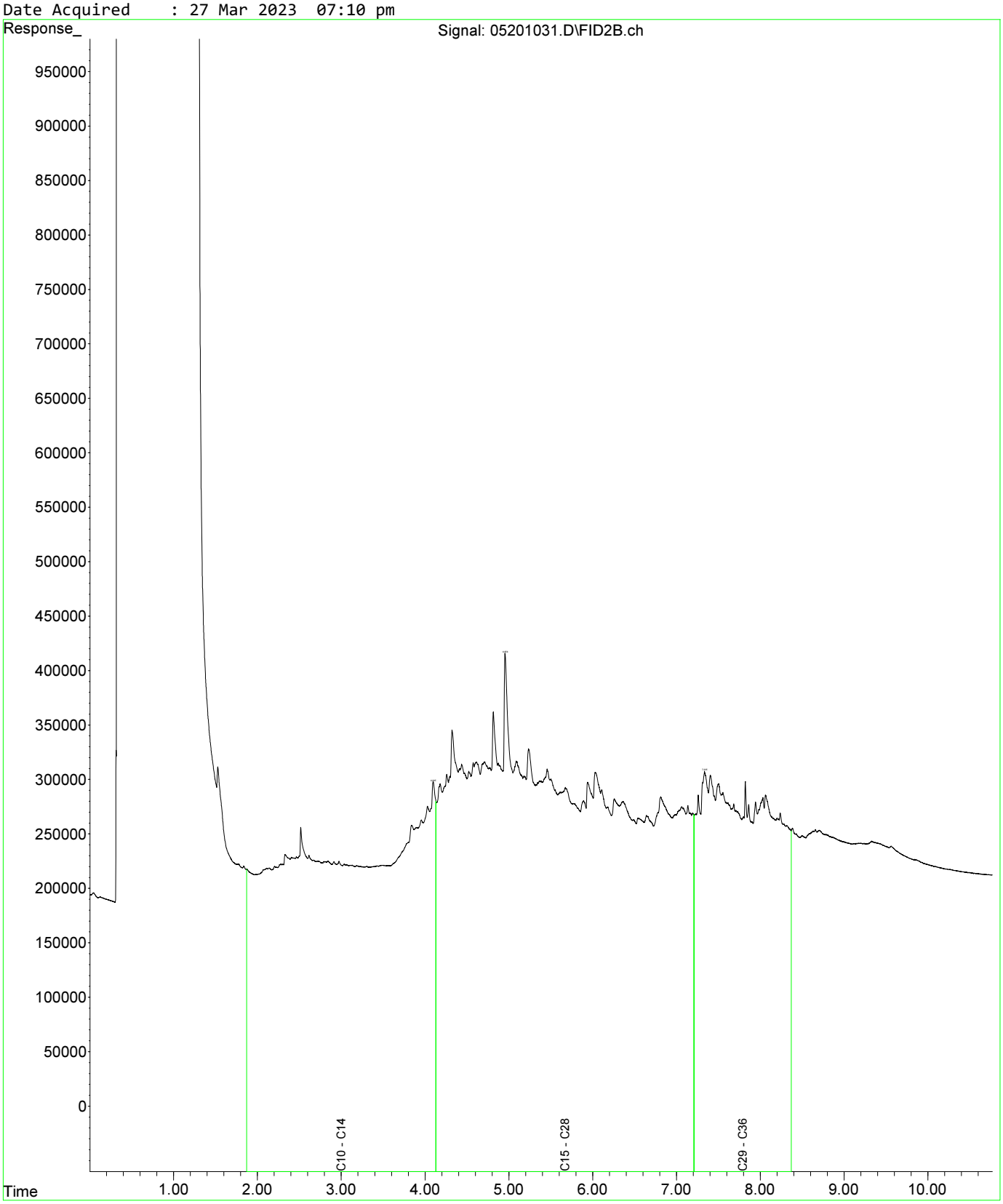

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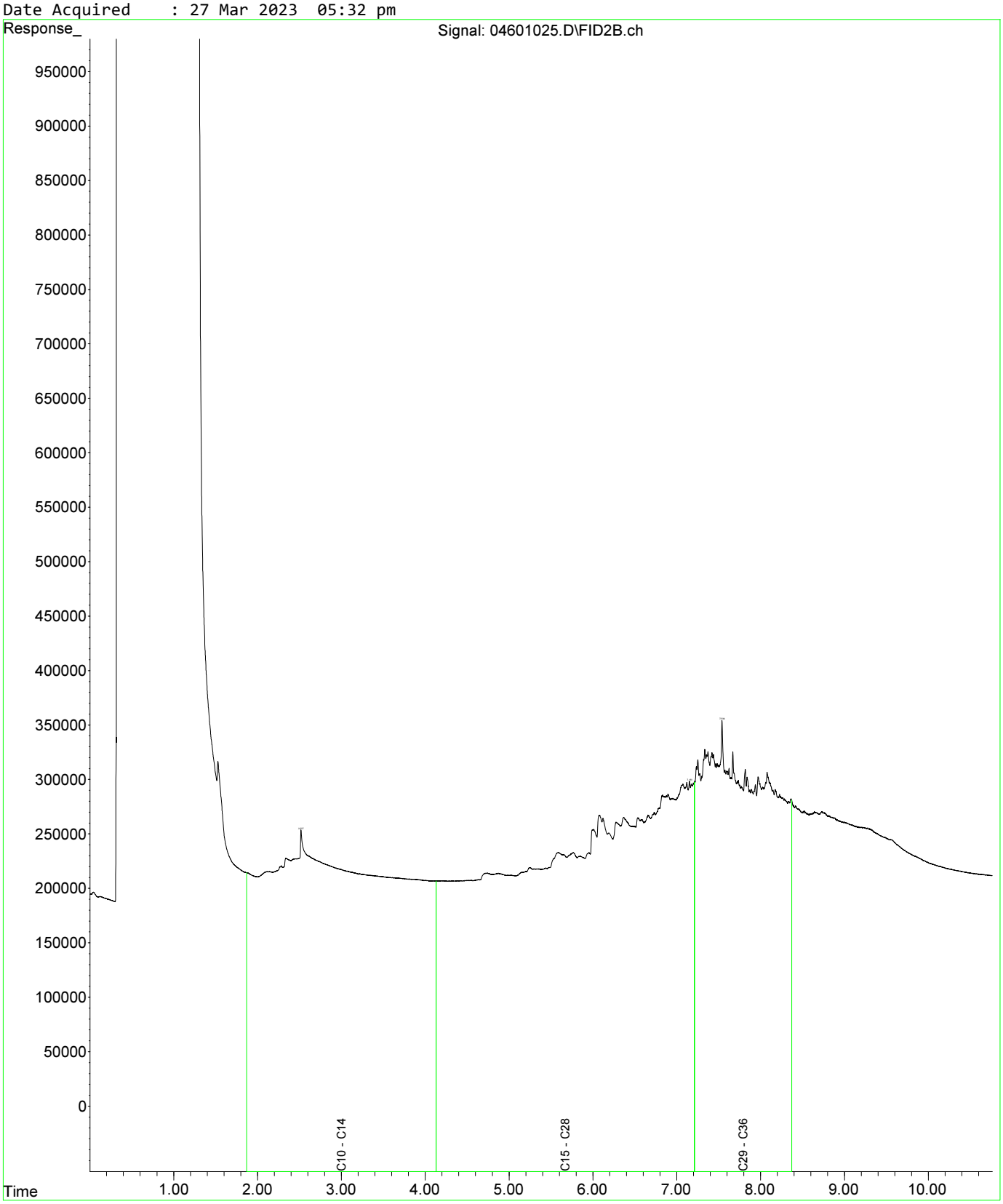

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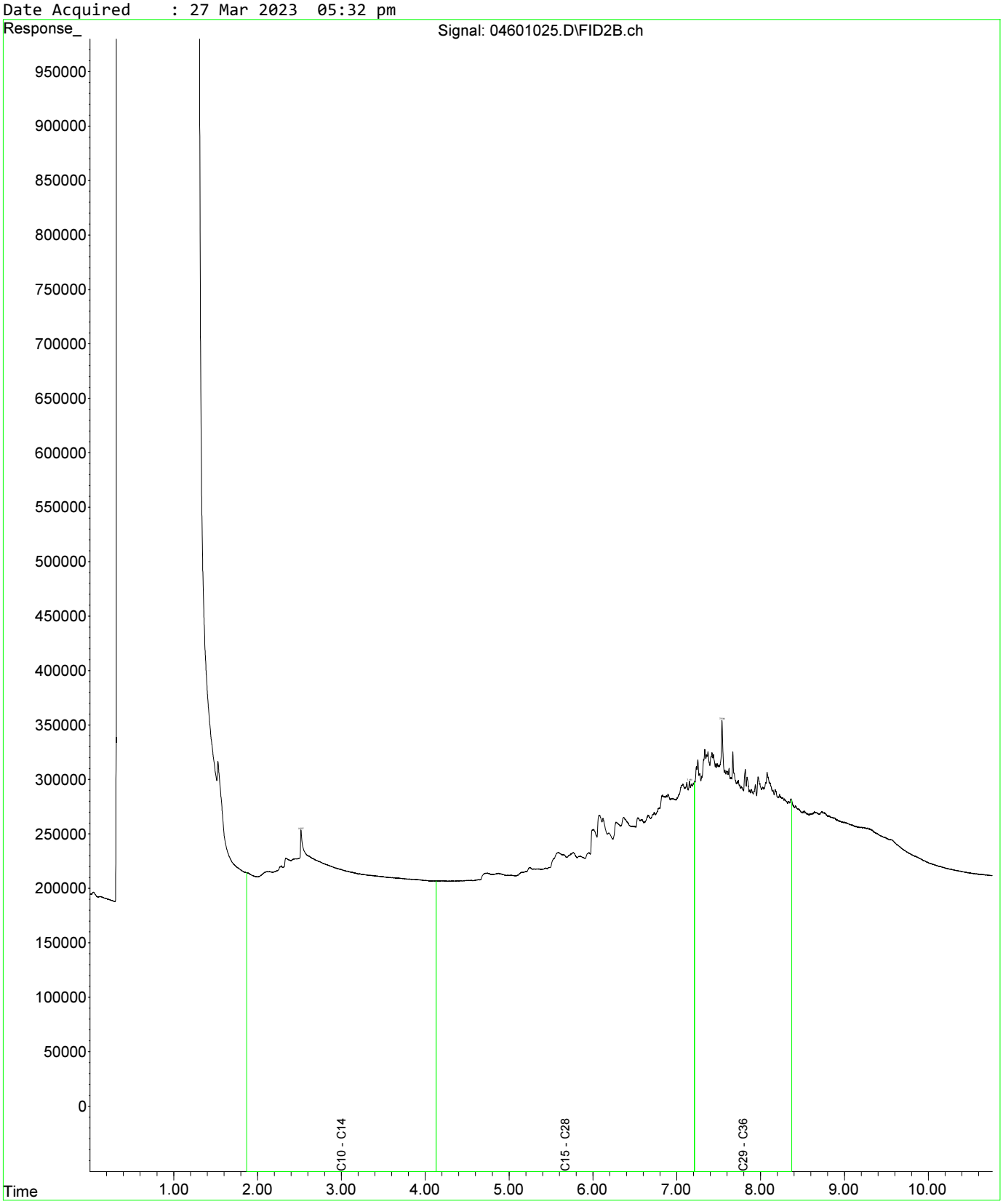

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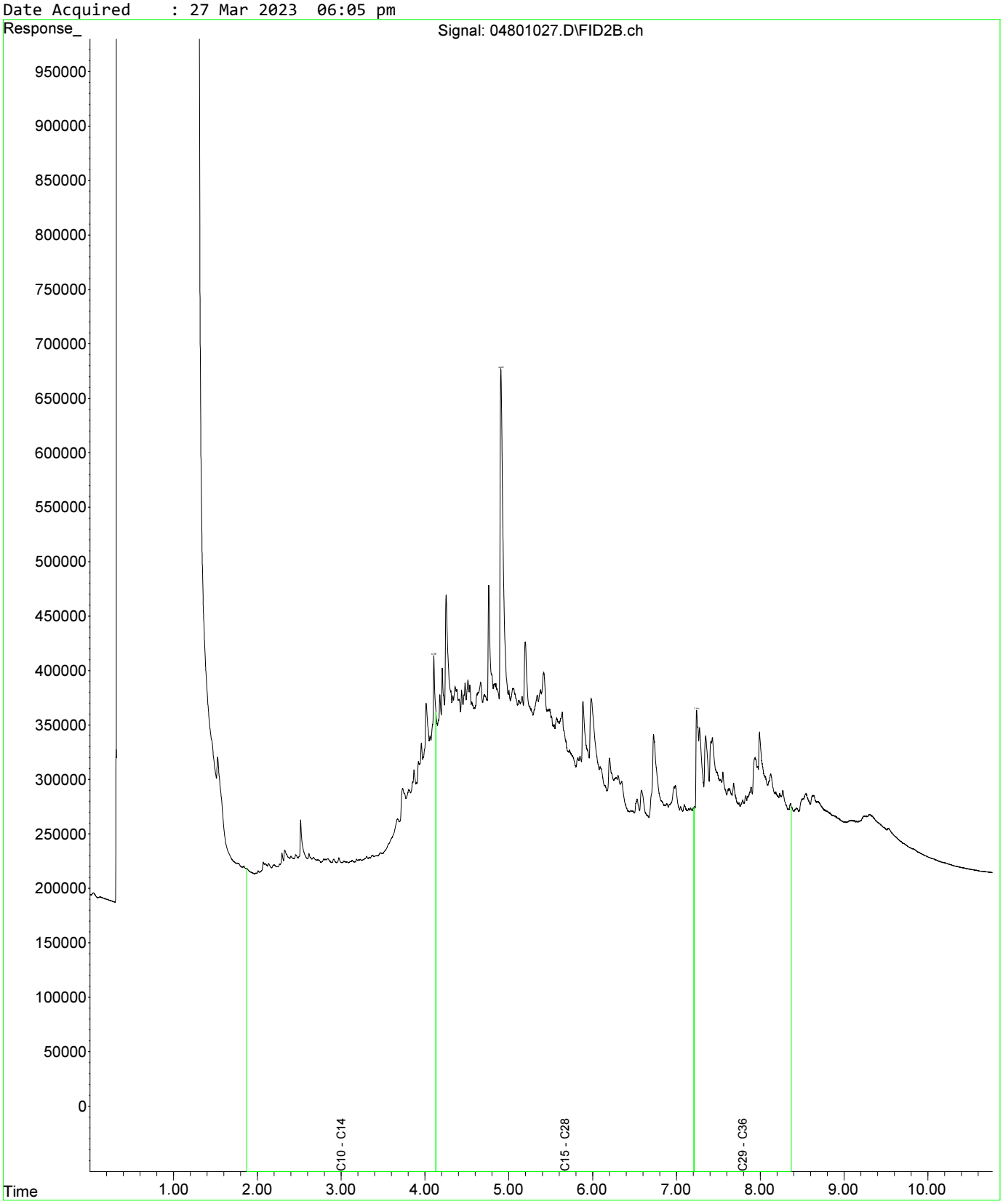

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Laboratory Number: EM2305209-013
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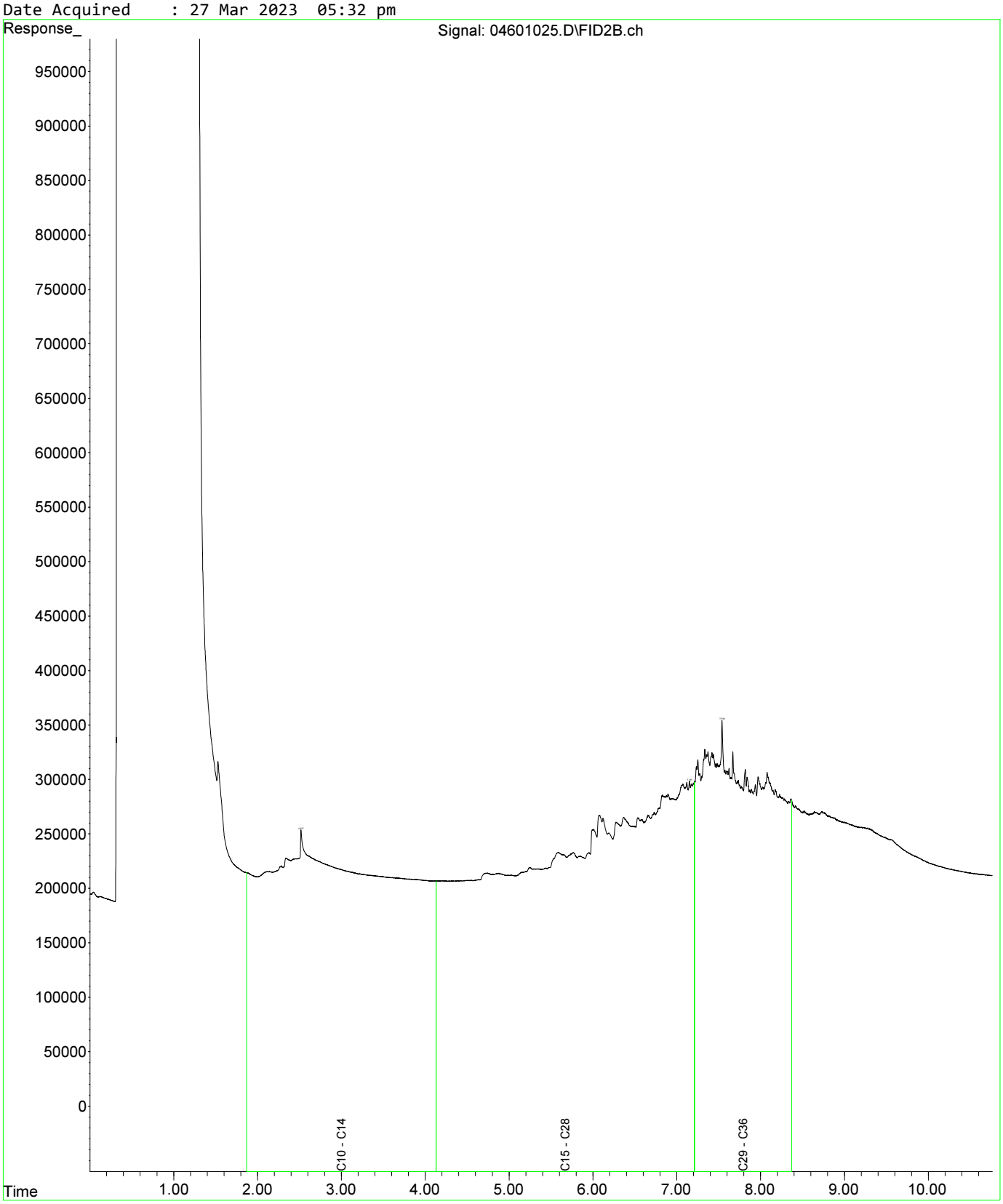

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Laboratory Number: EM2305209-013
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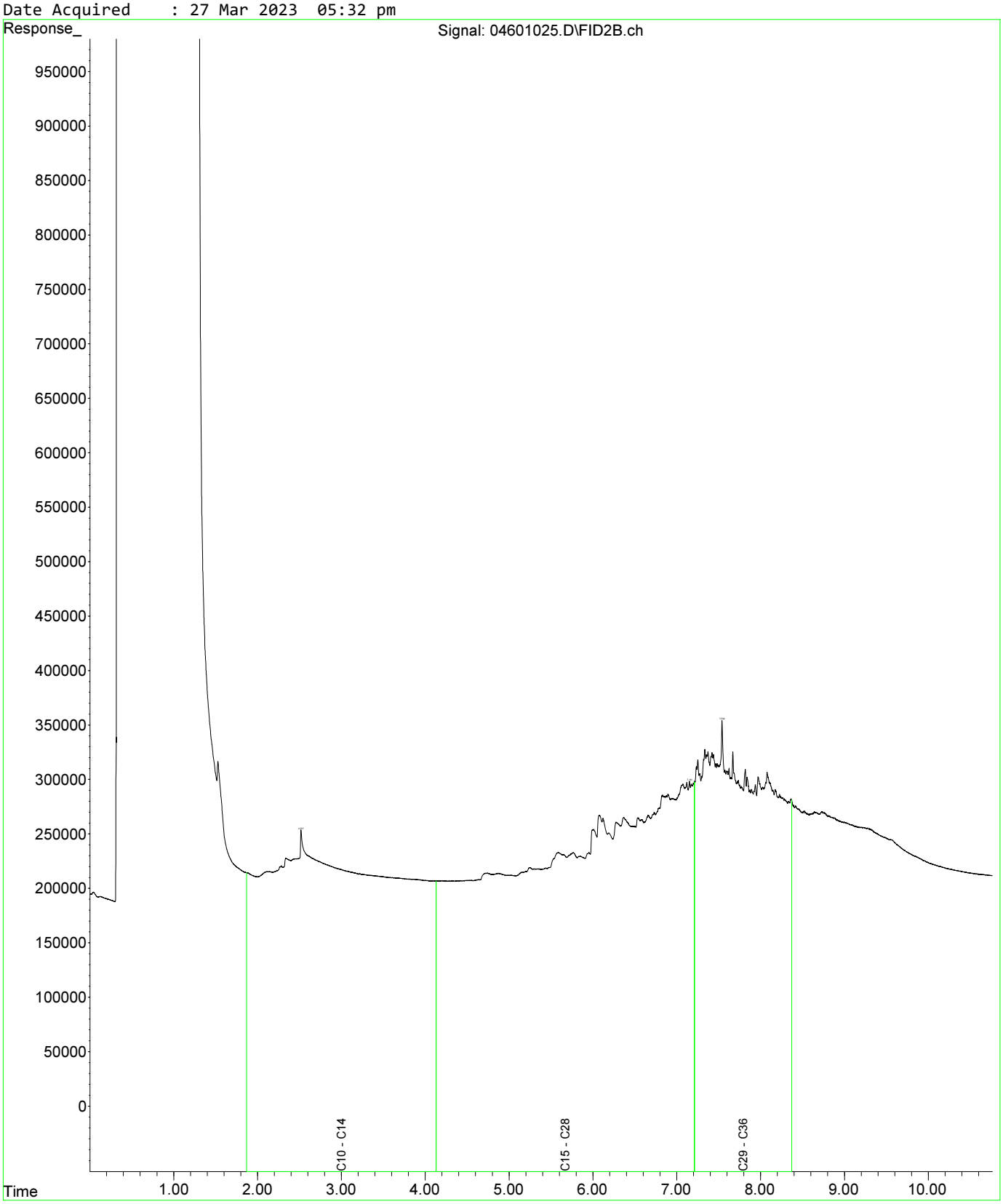
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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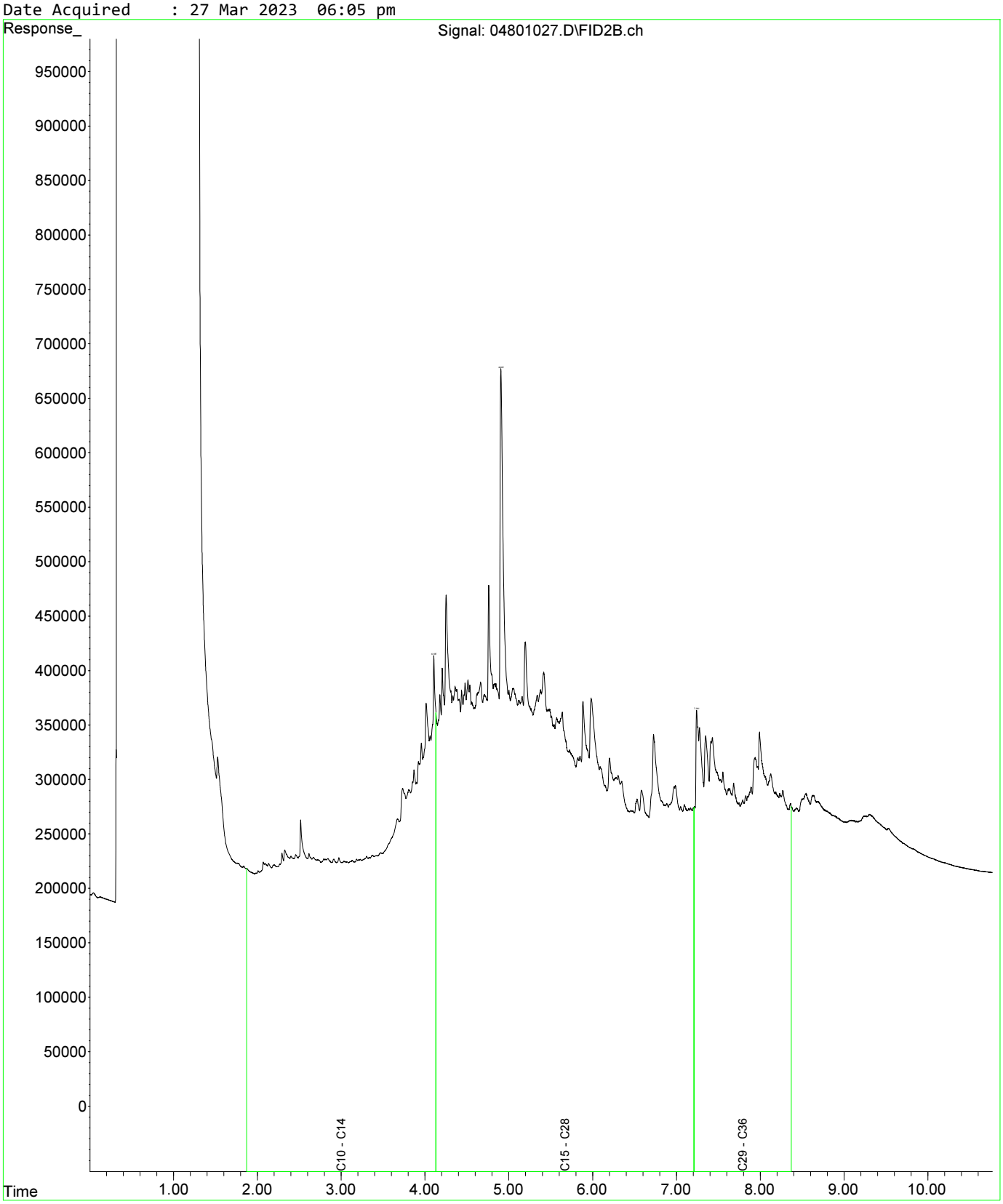
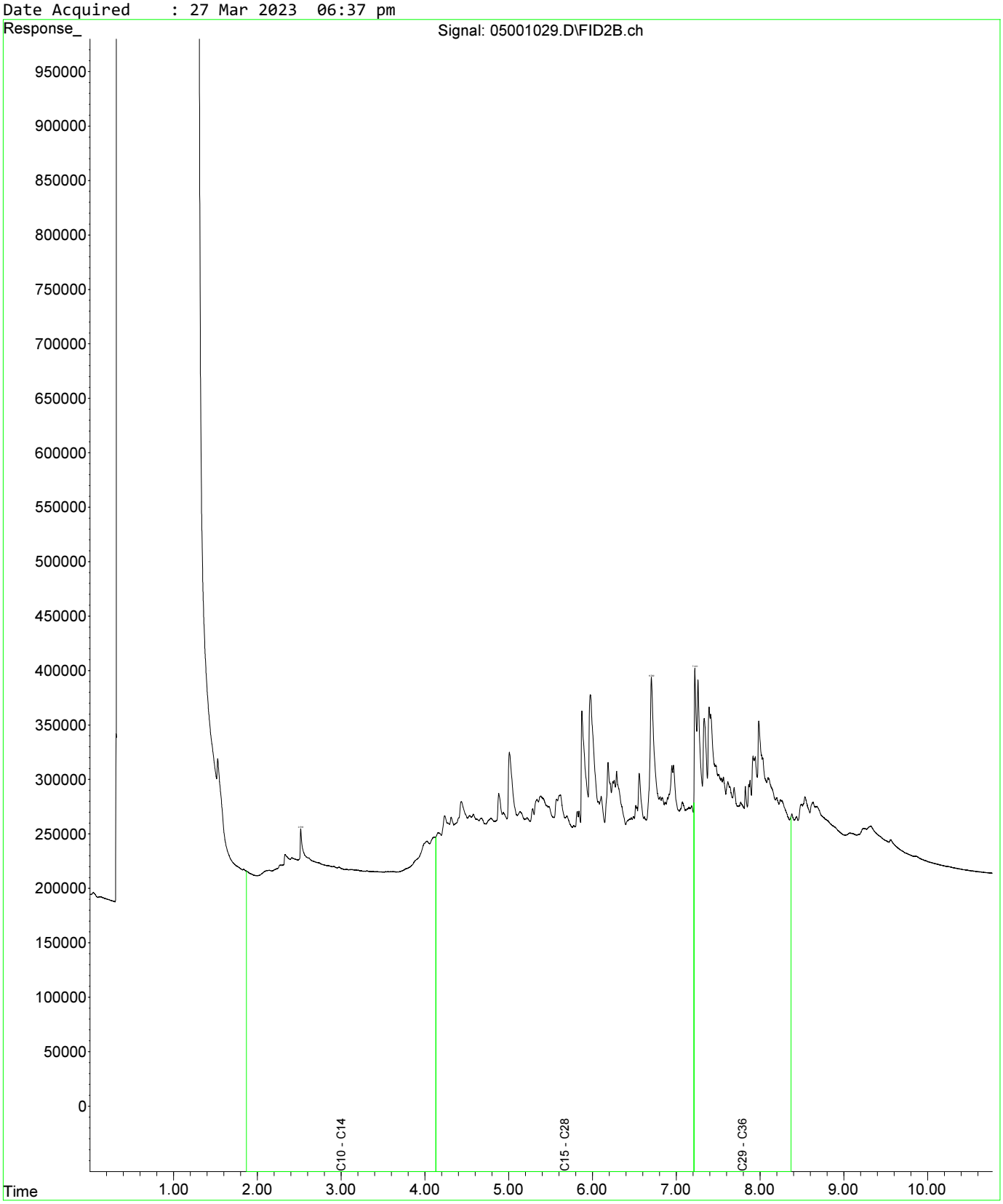


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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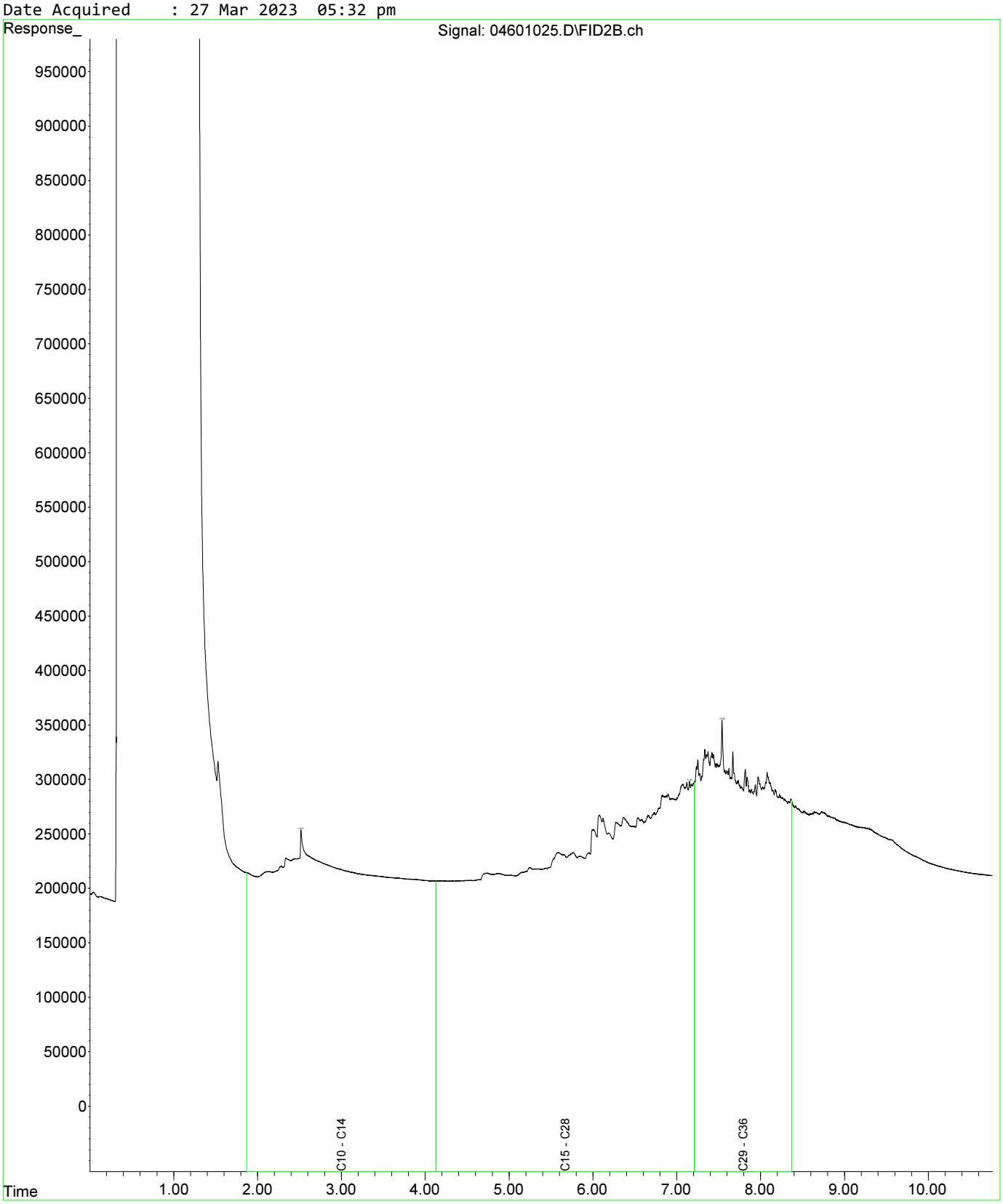

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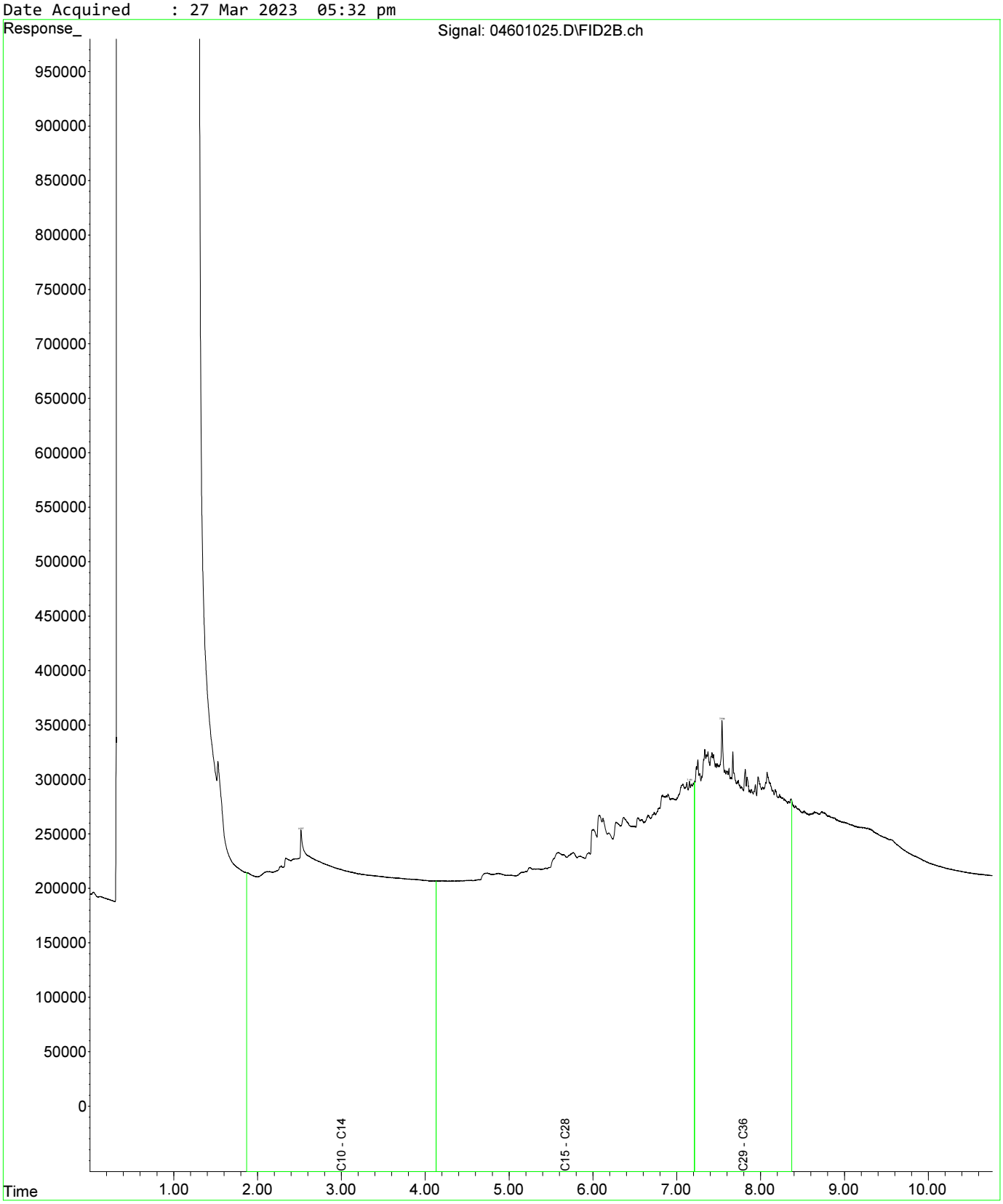

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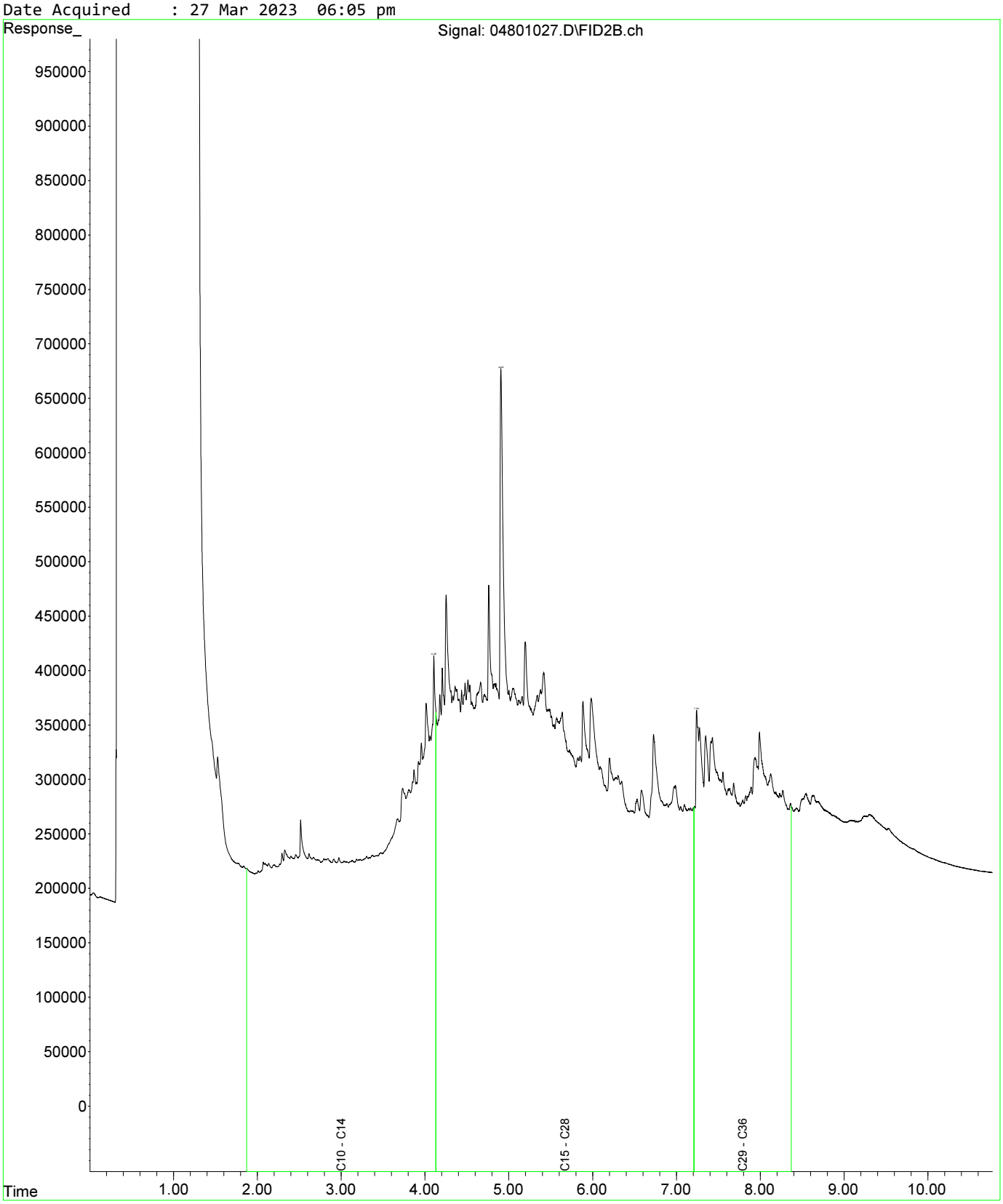

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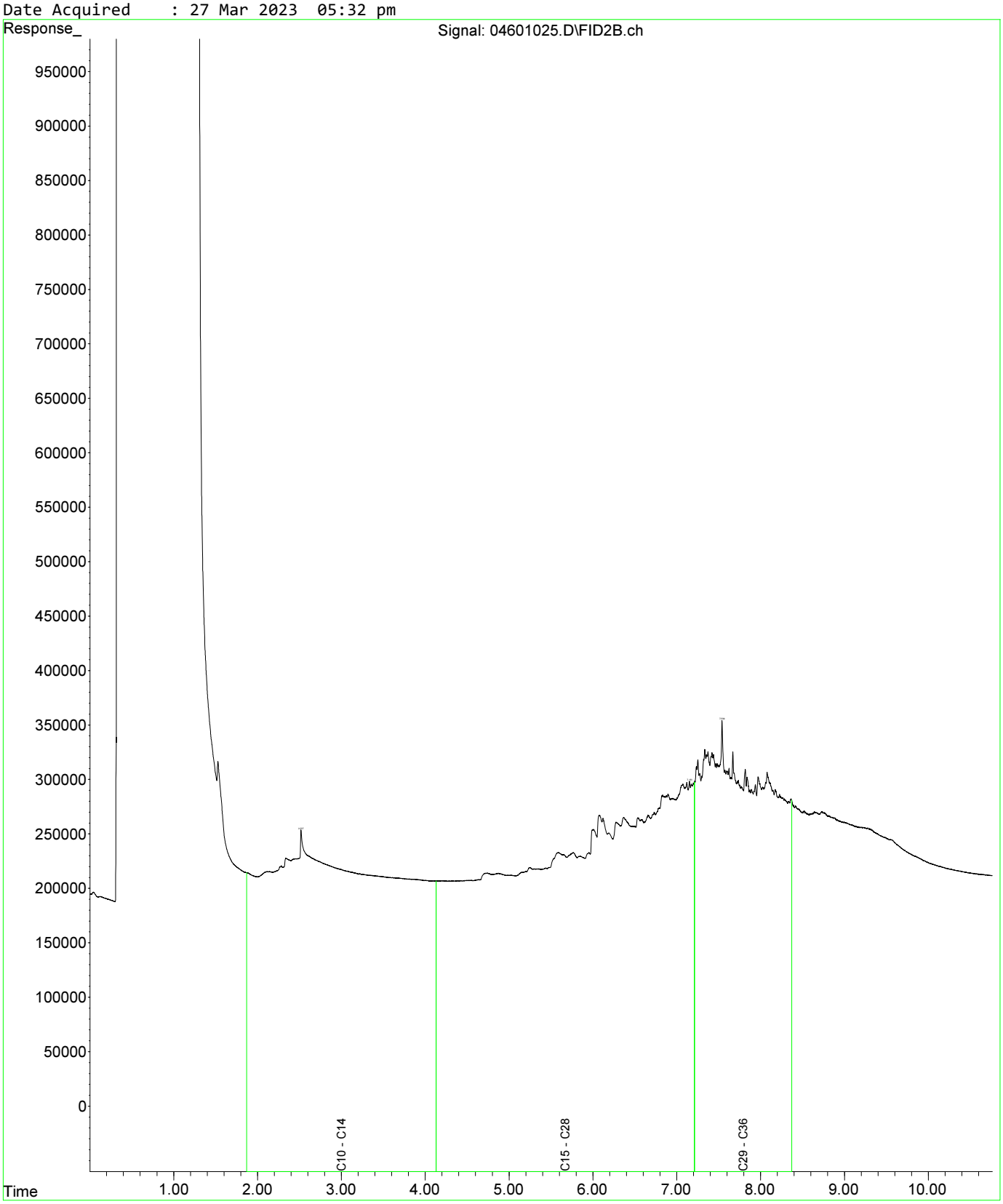

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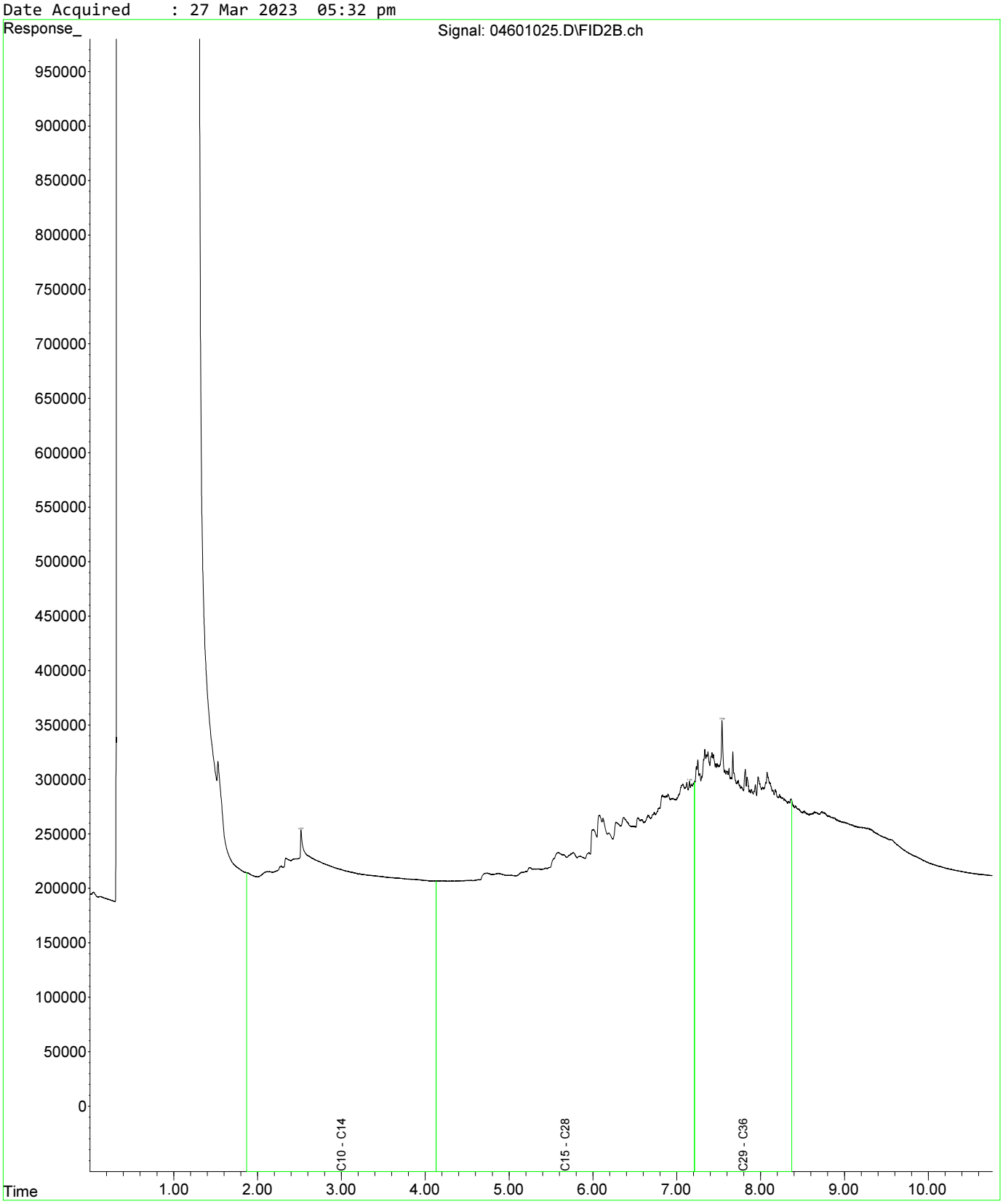

Fraction Scheme : Standard
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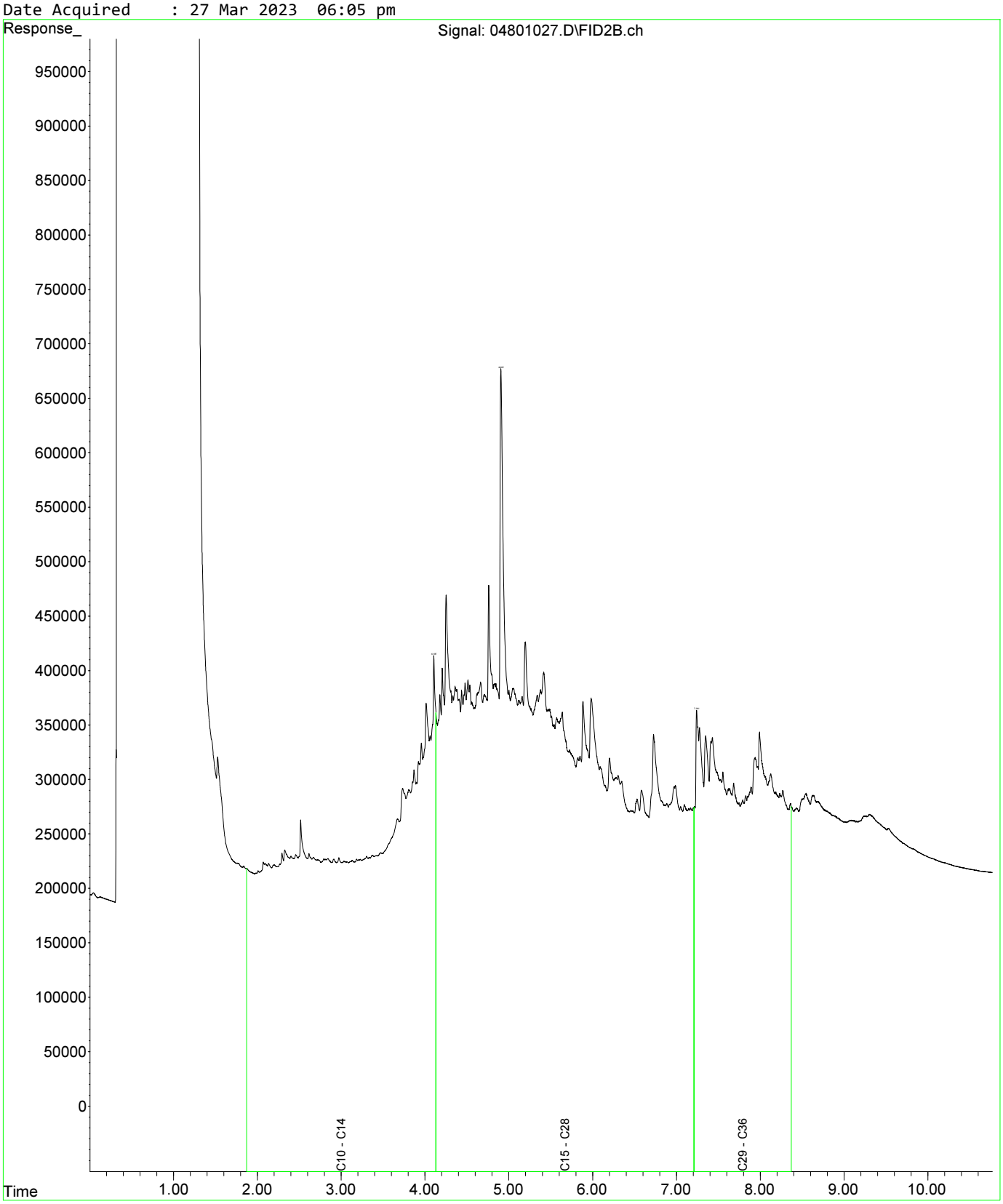

Fraction Scheme : Standard
Data File : 05001029.D
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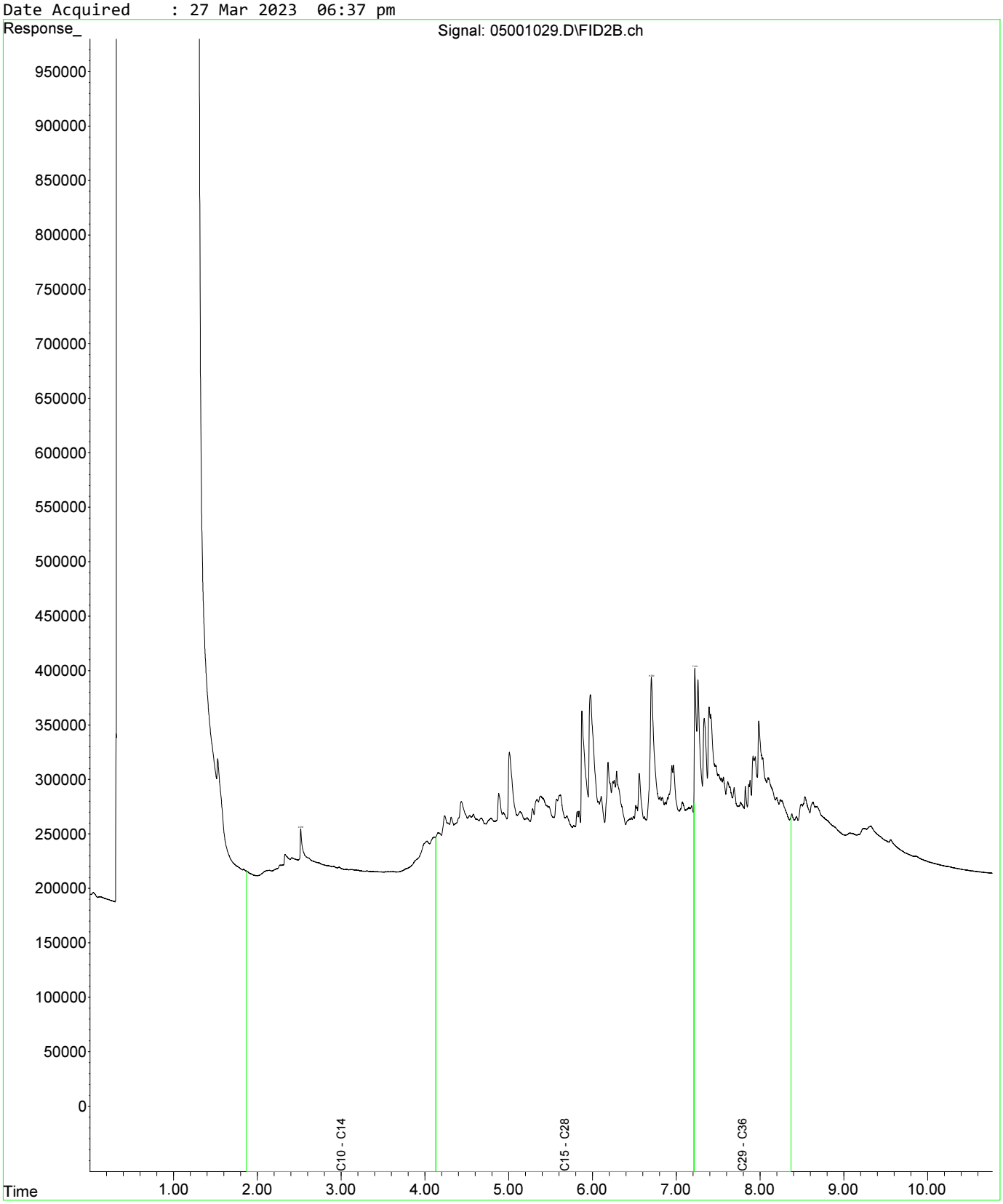

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Laboratory Number: EM2305209-025
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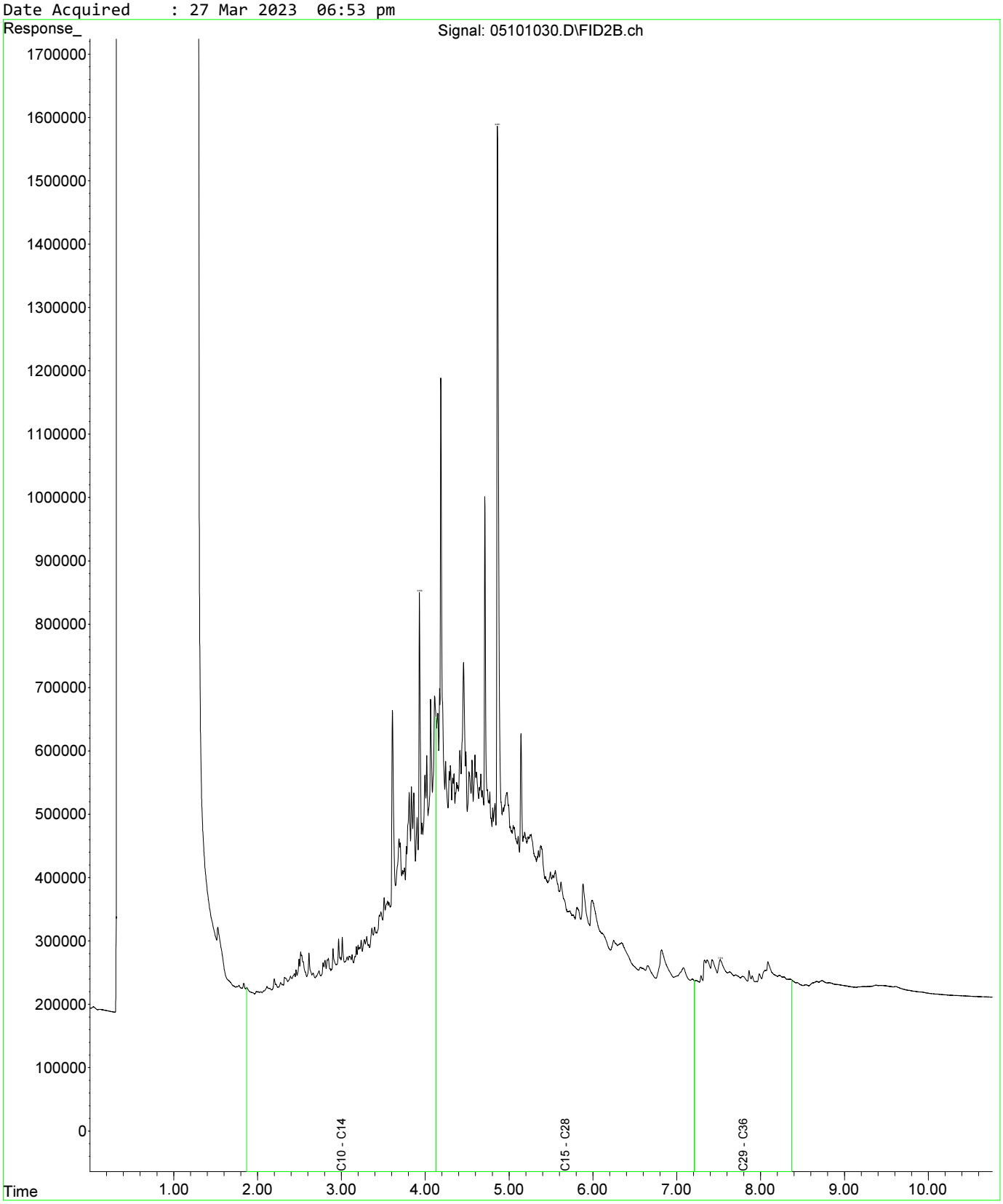
Date Acquired : 27 Mar 2023 06:53 pm



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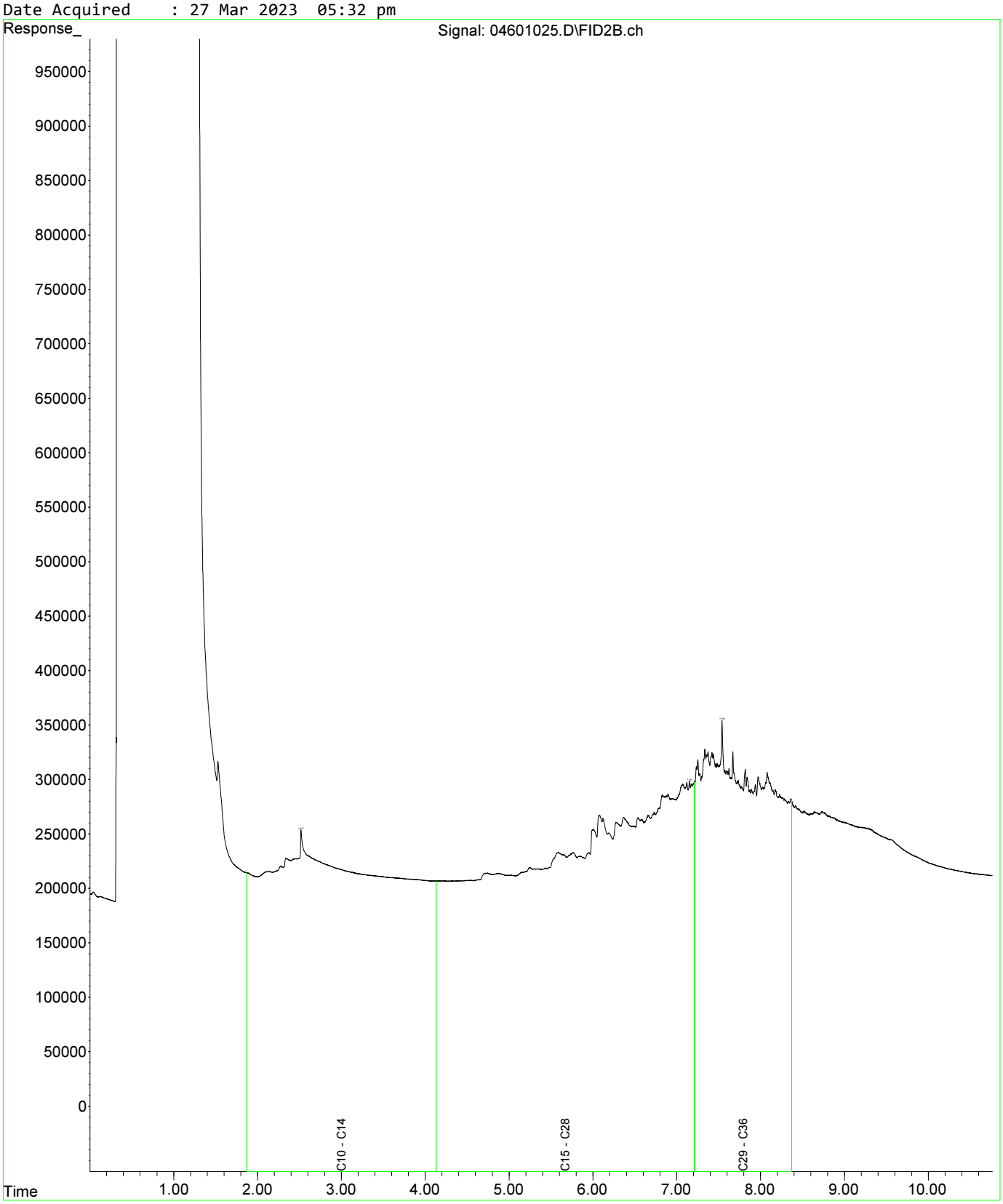

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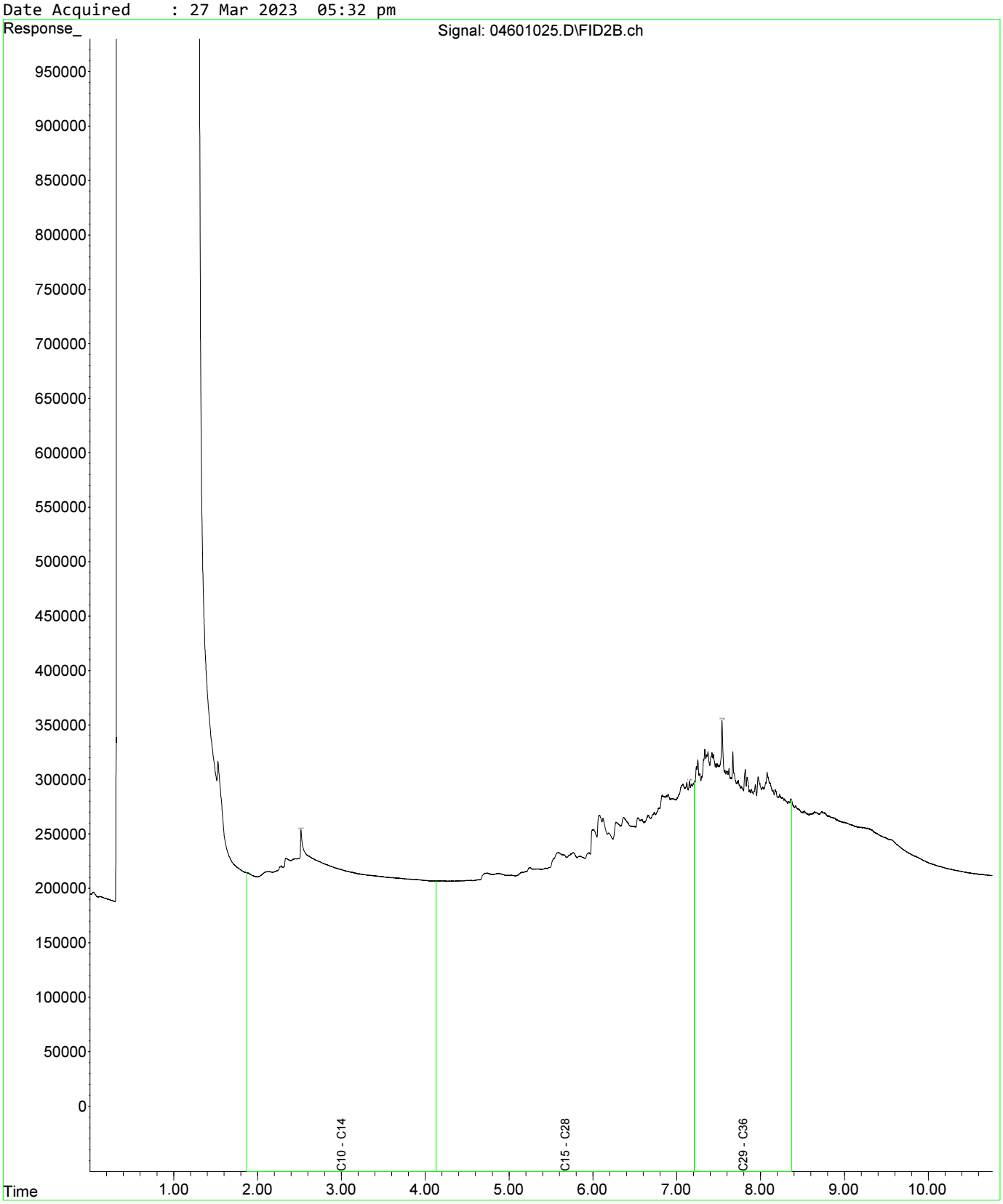

Fraction Scheme : Standard
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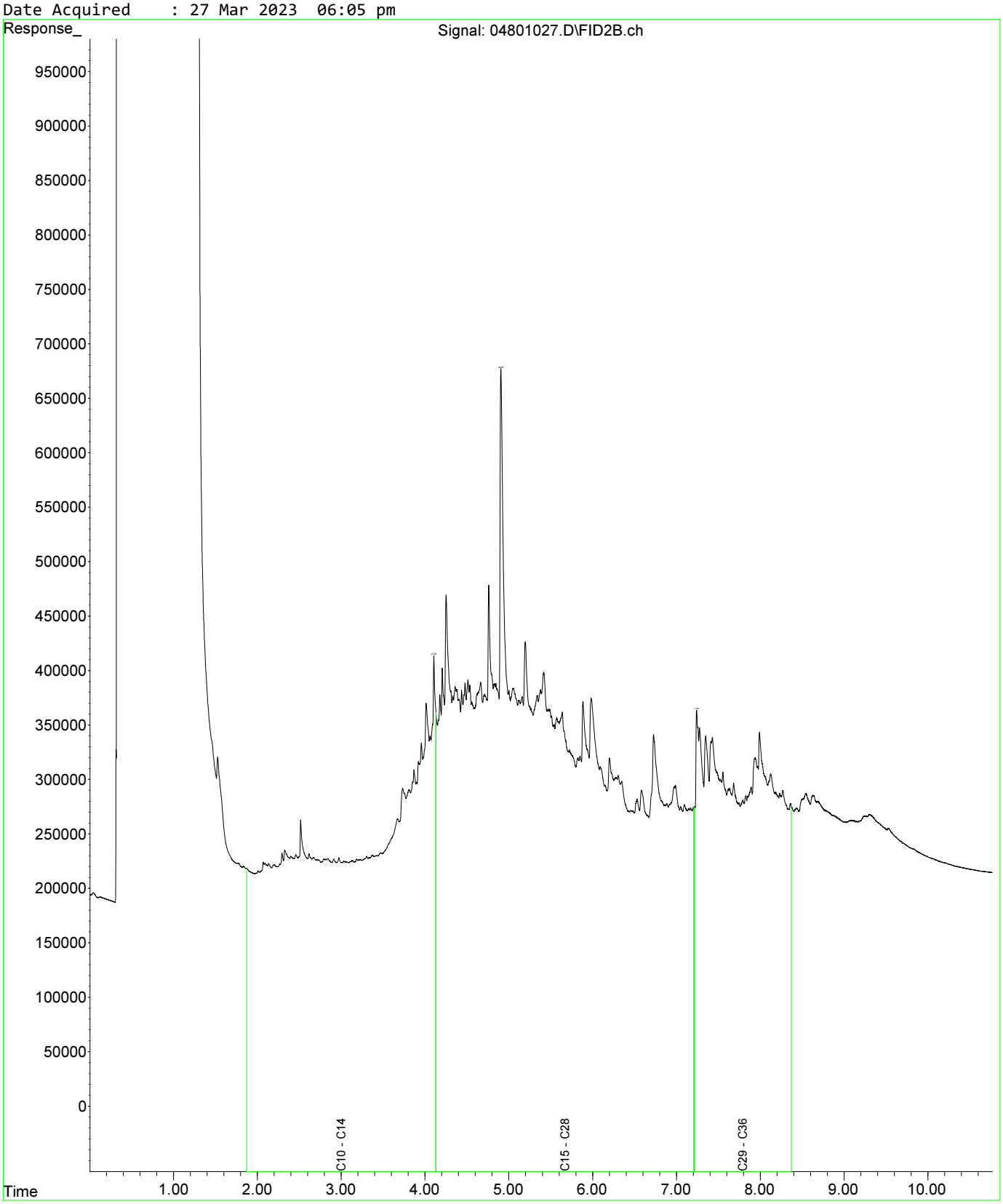

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Laboratory Number: EM2305209-013
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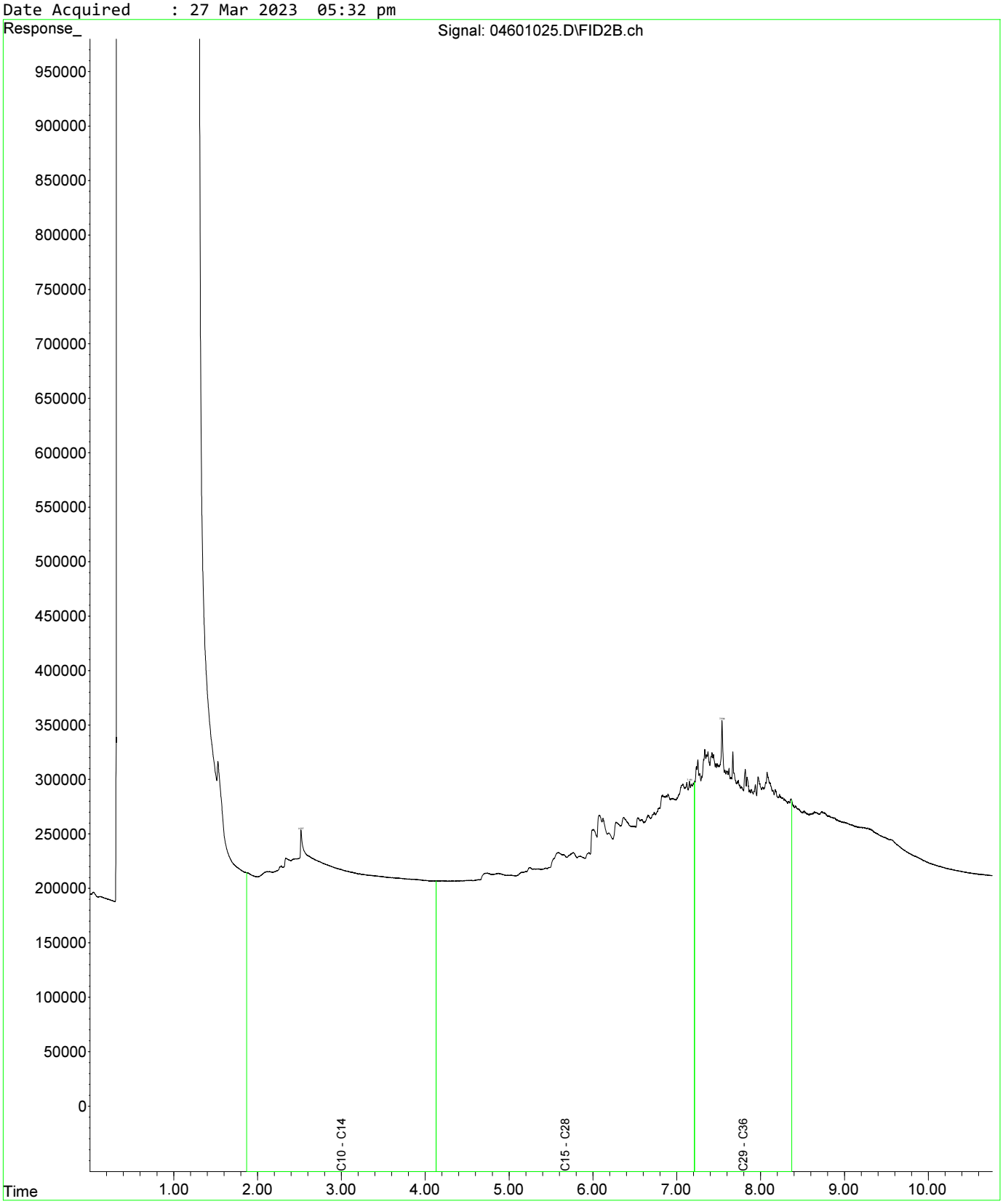

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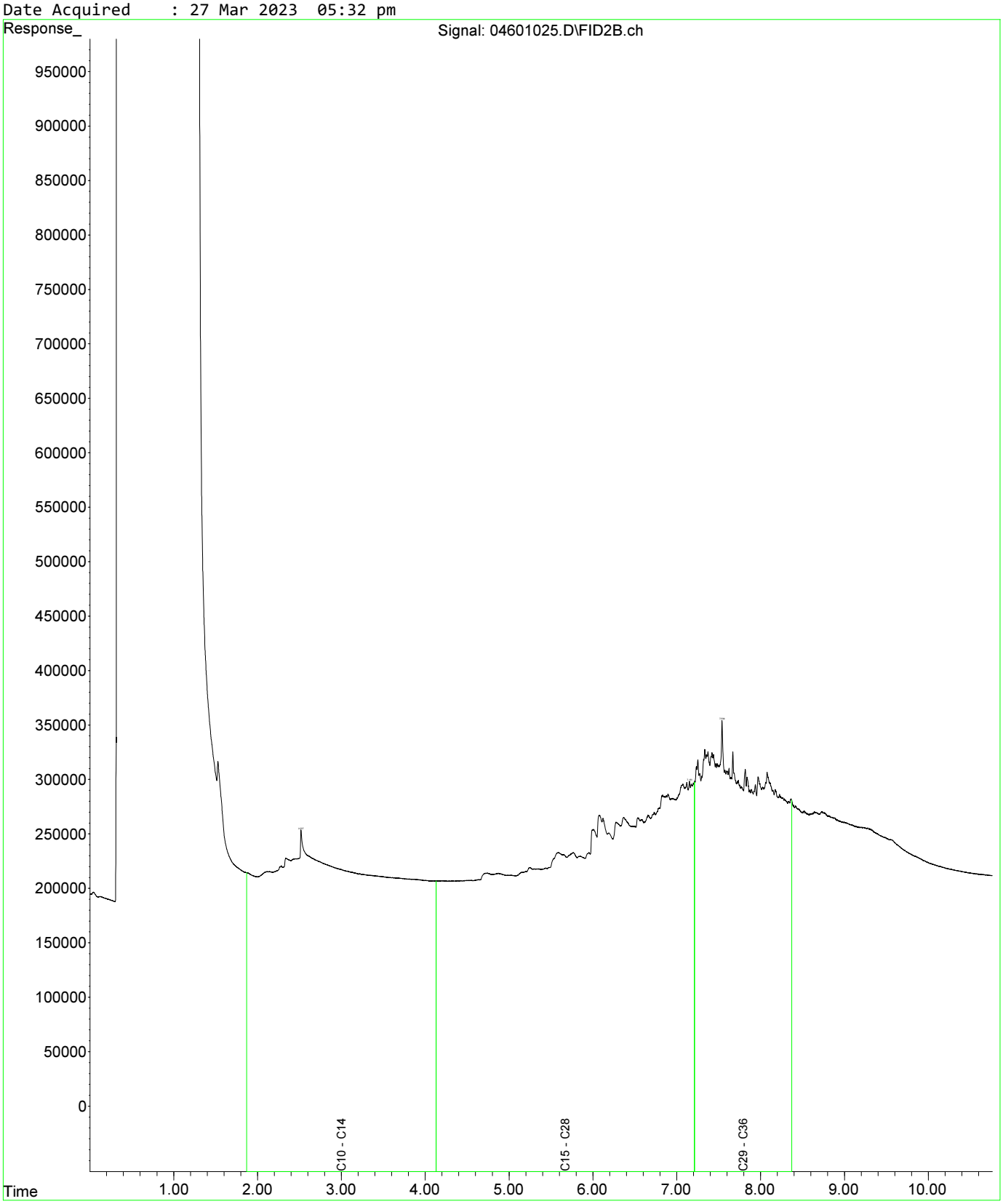

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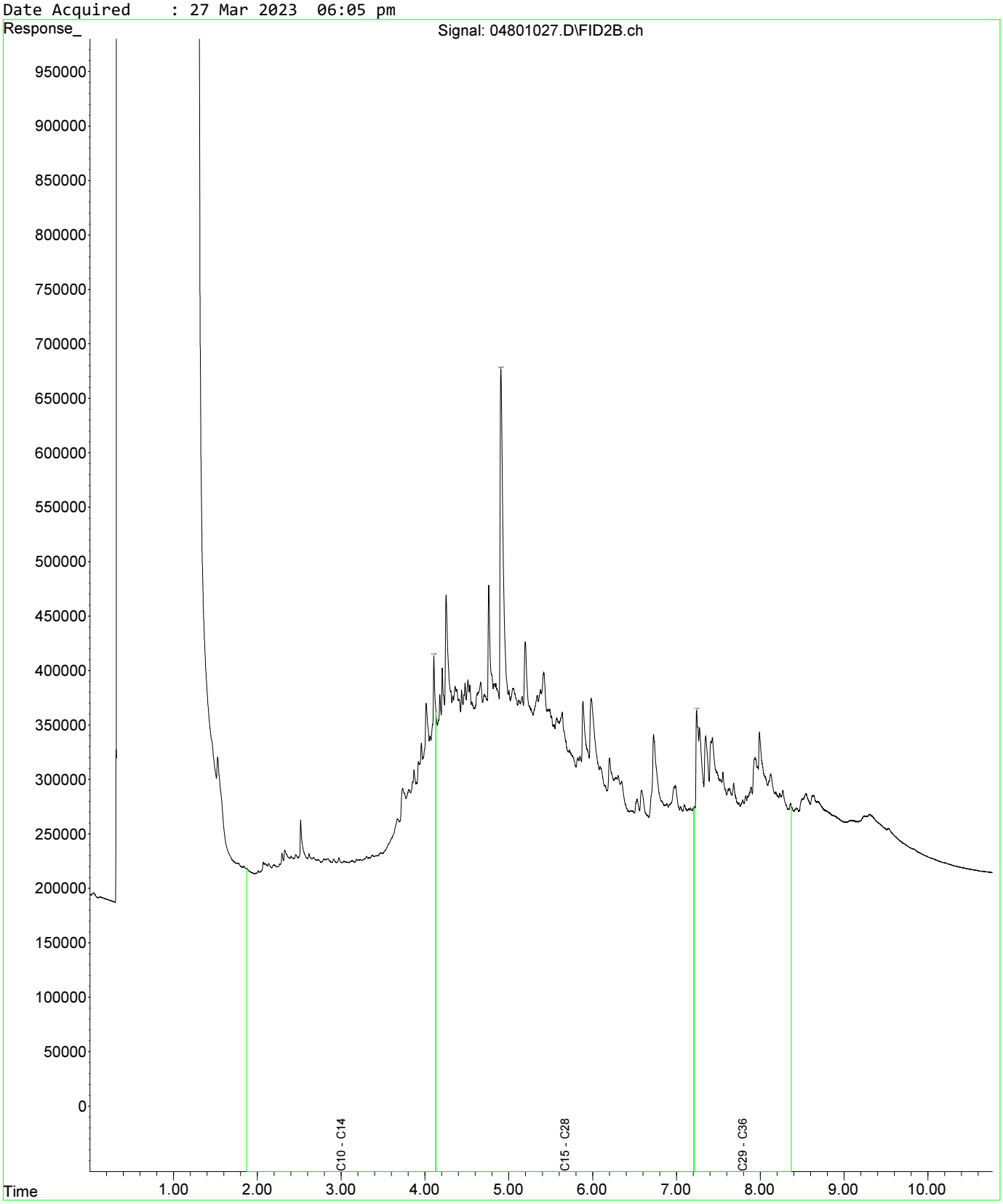

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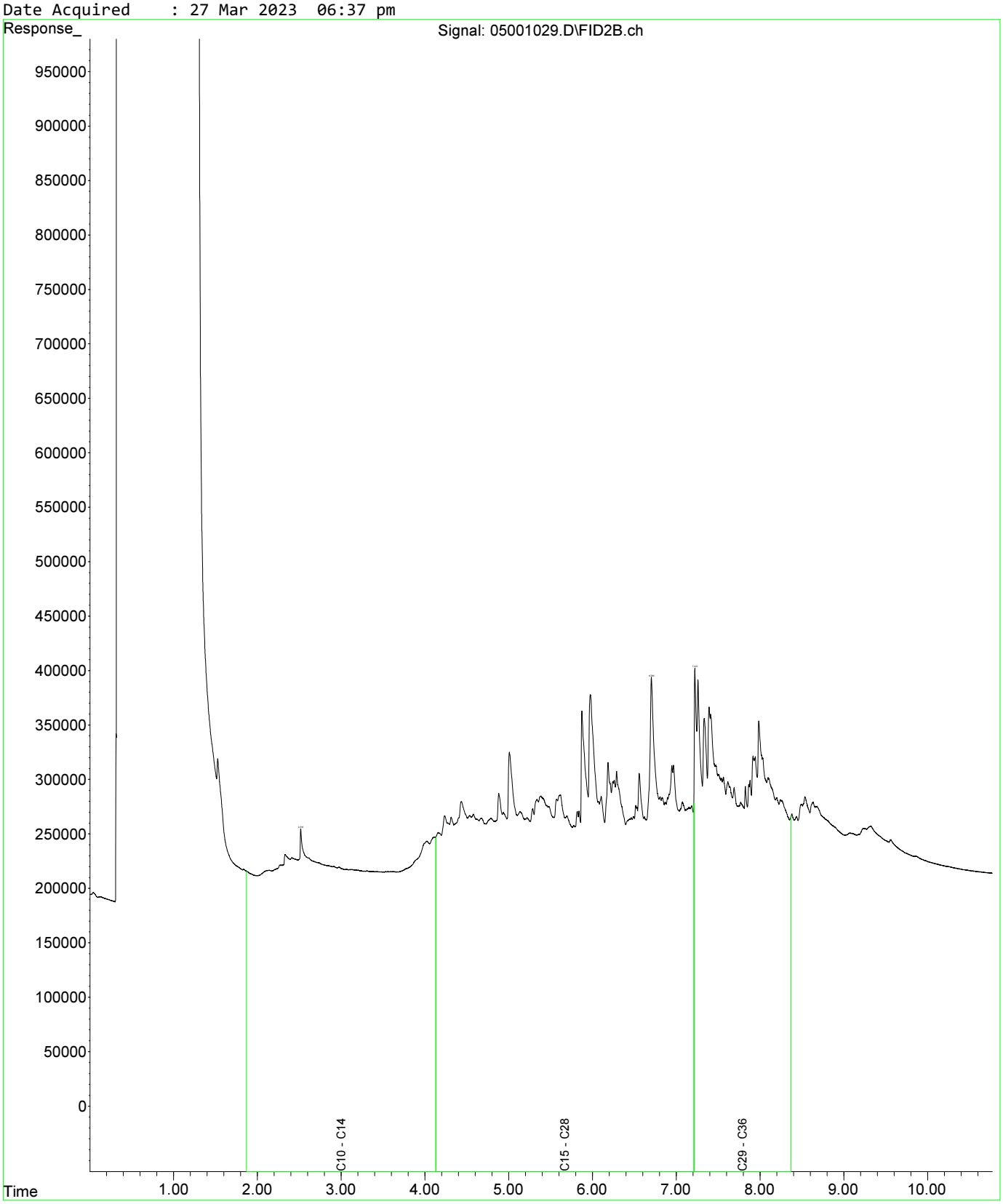
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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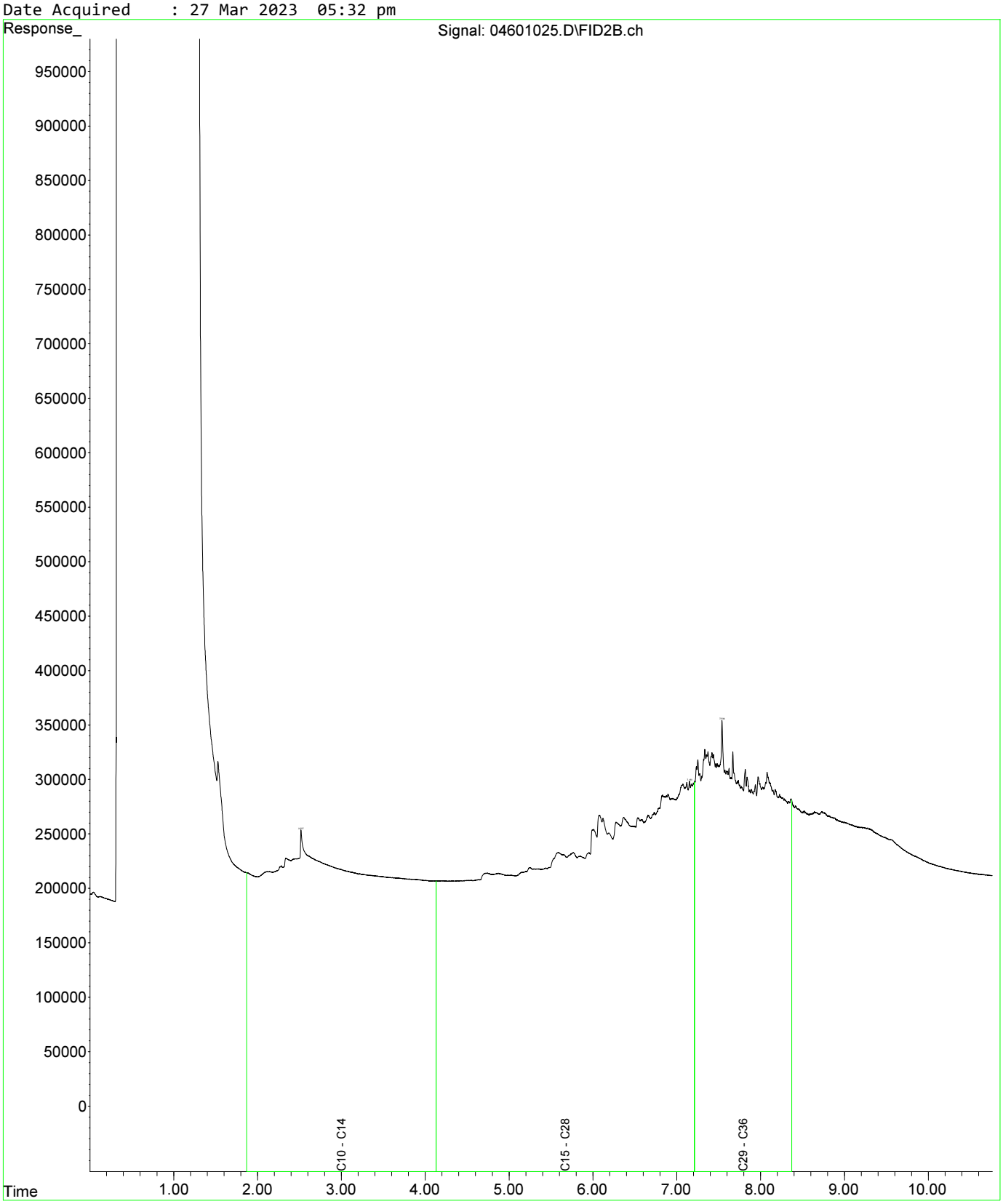

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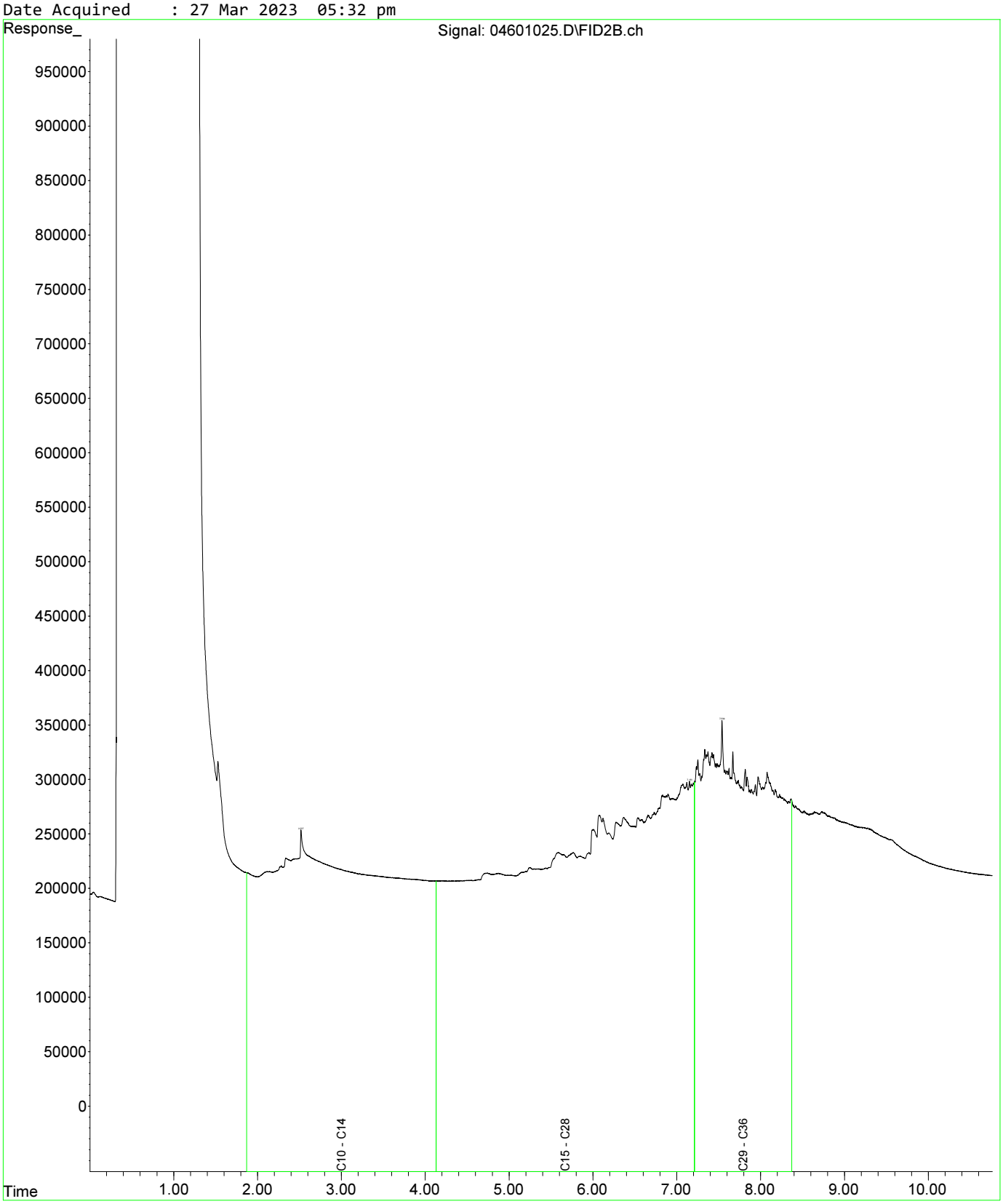

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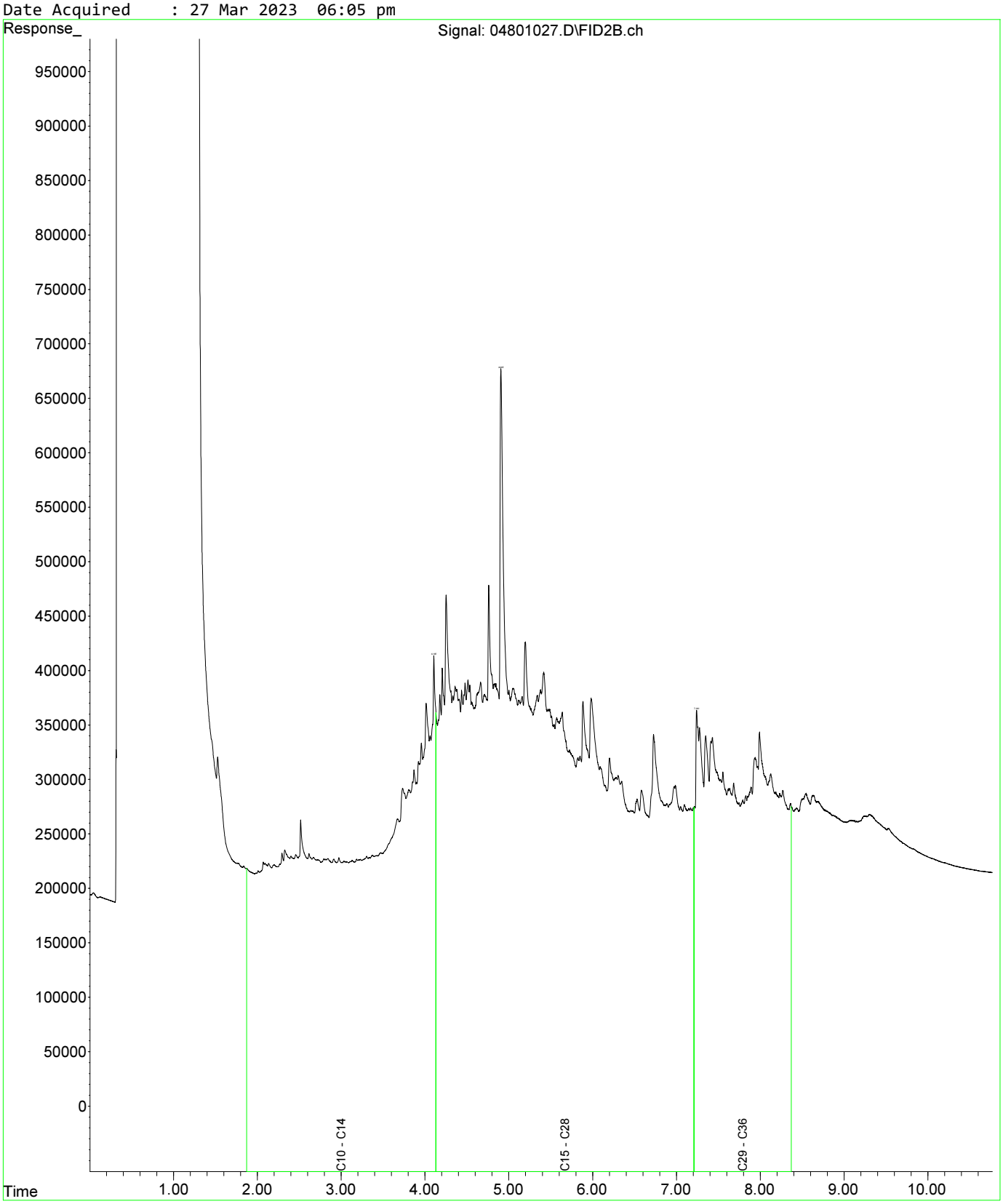

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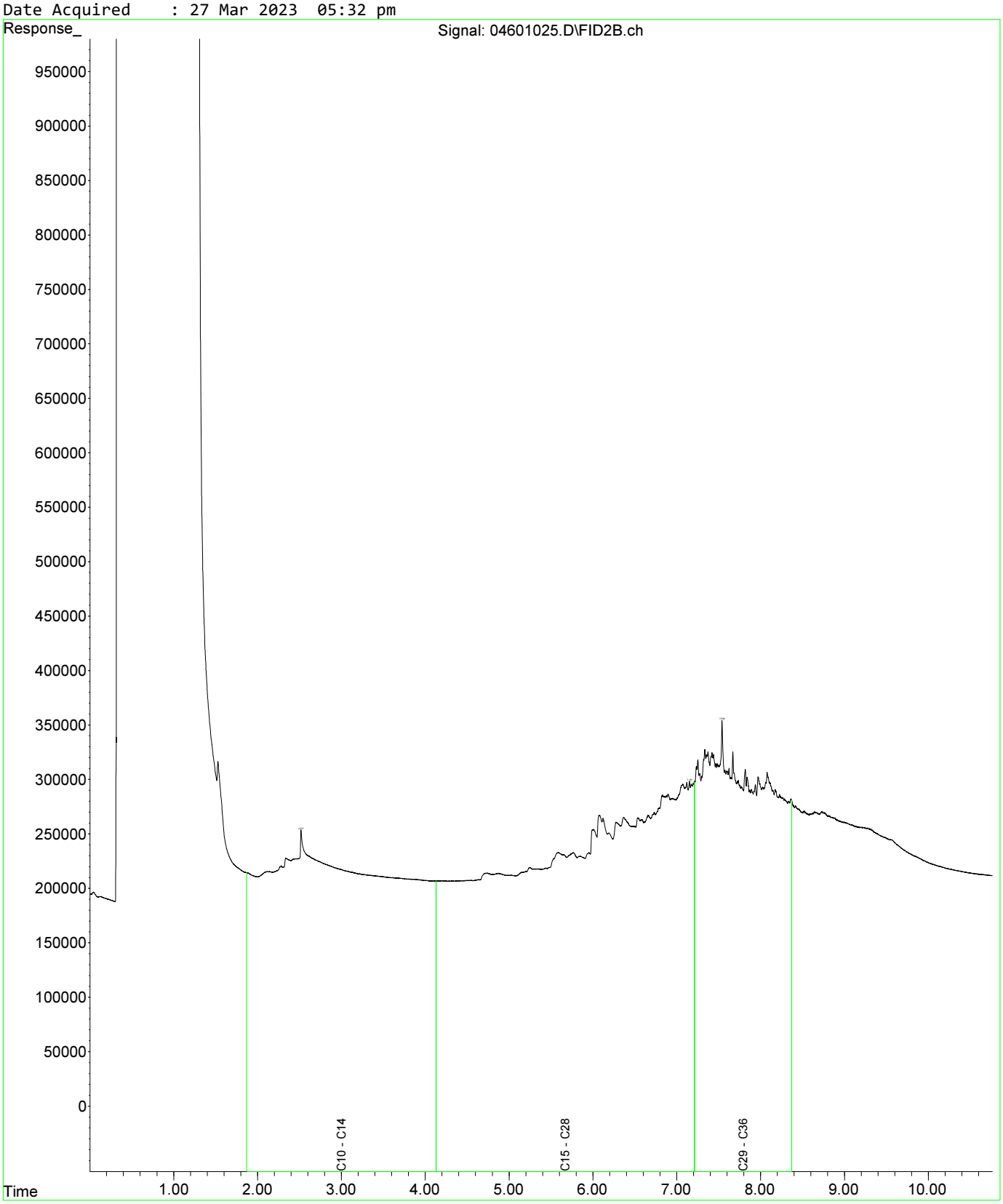

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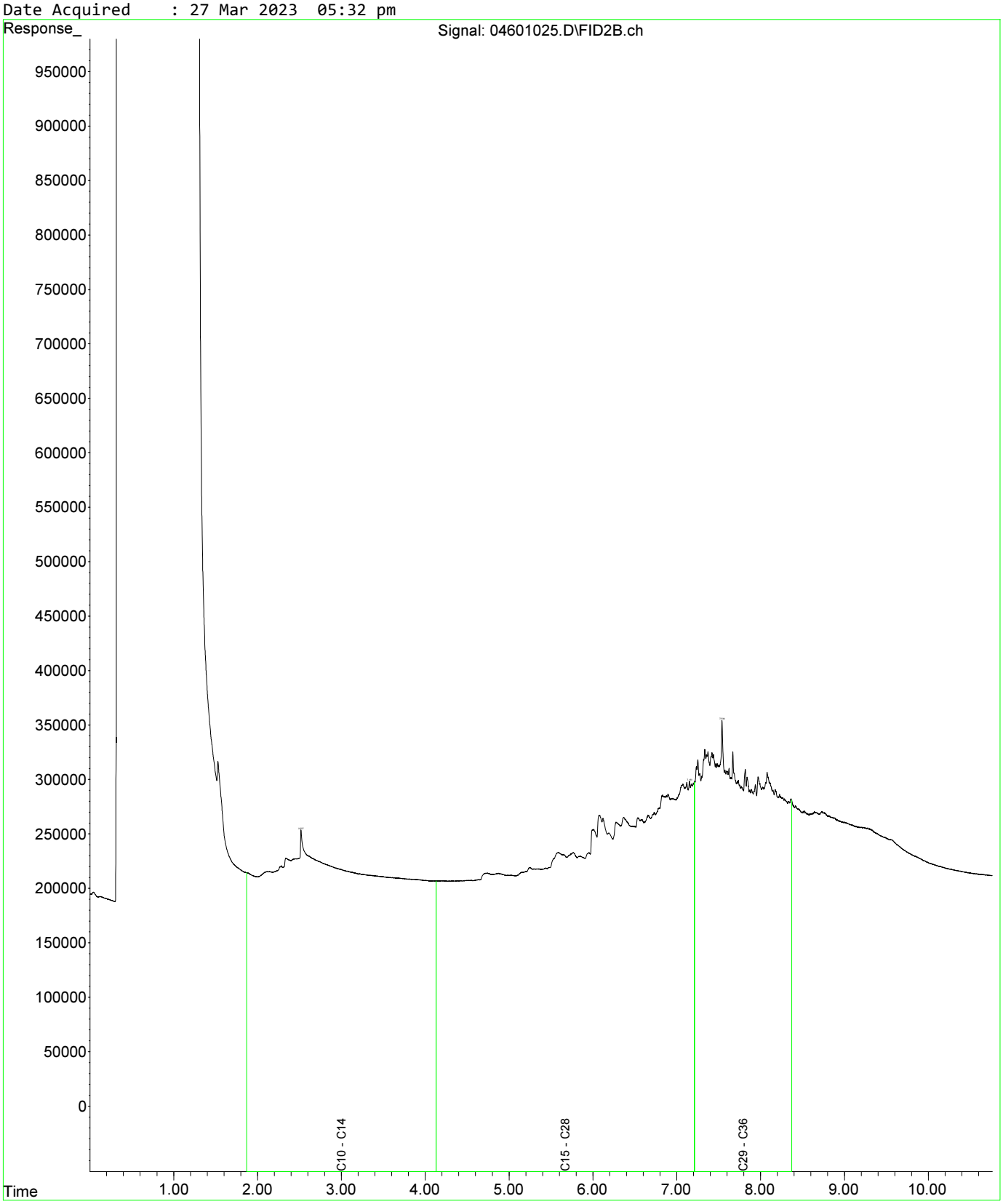

Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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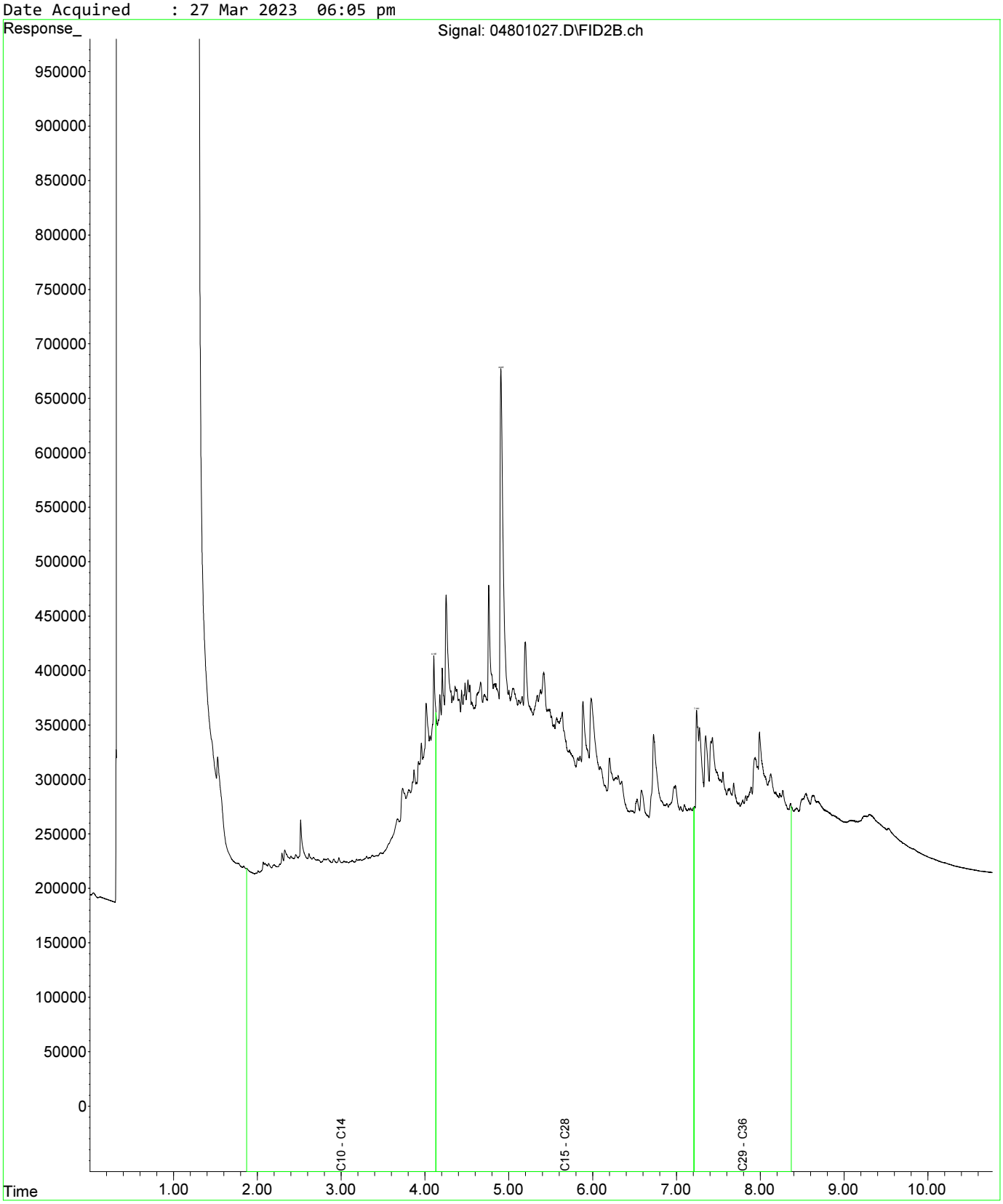

Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
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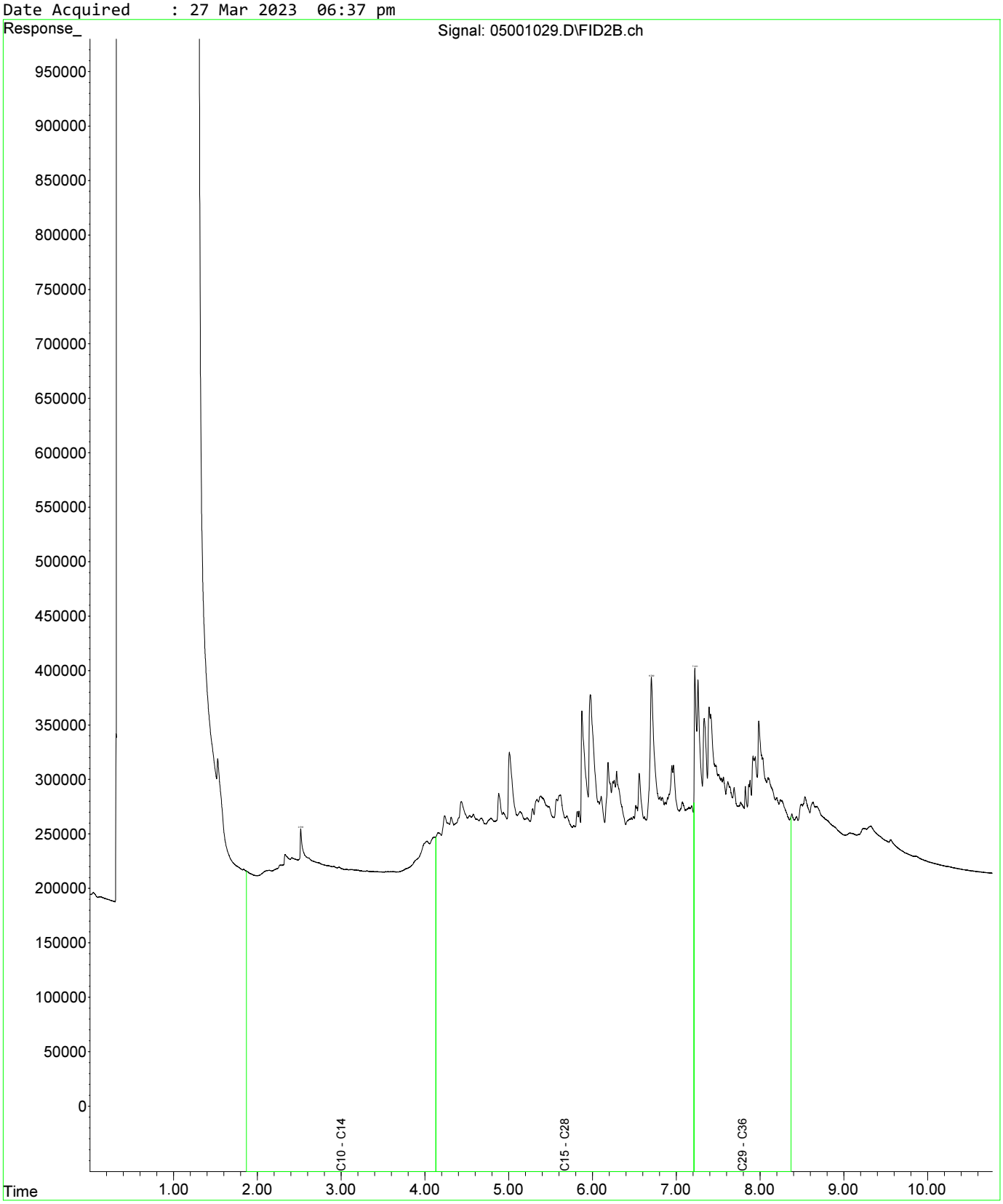
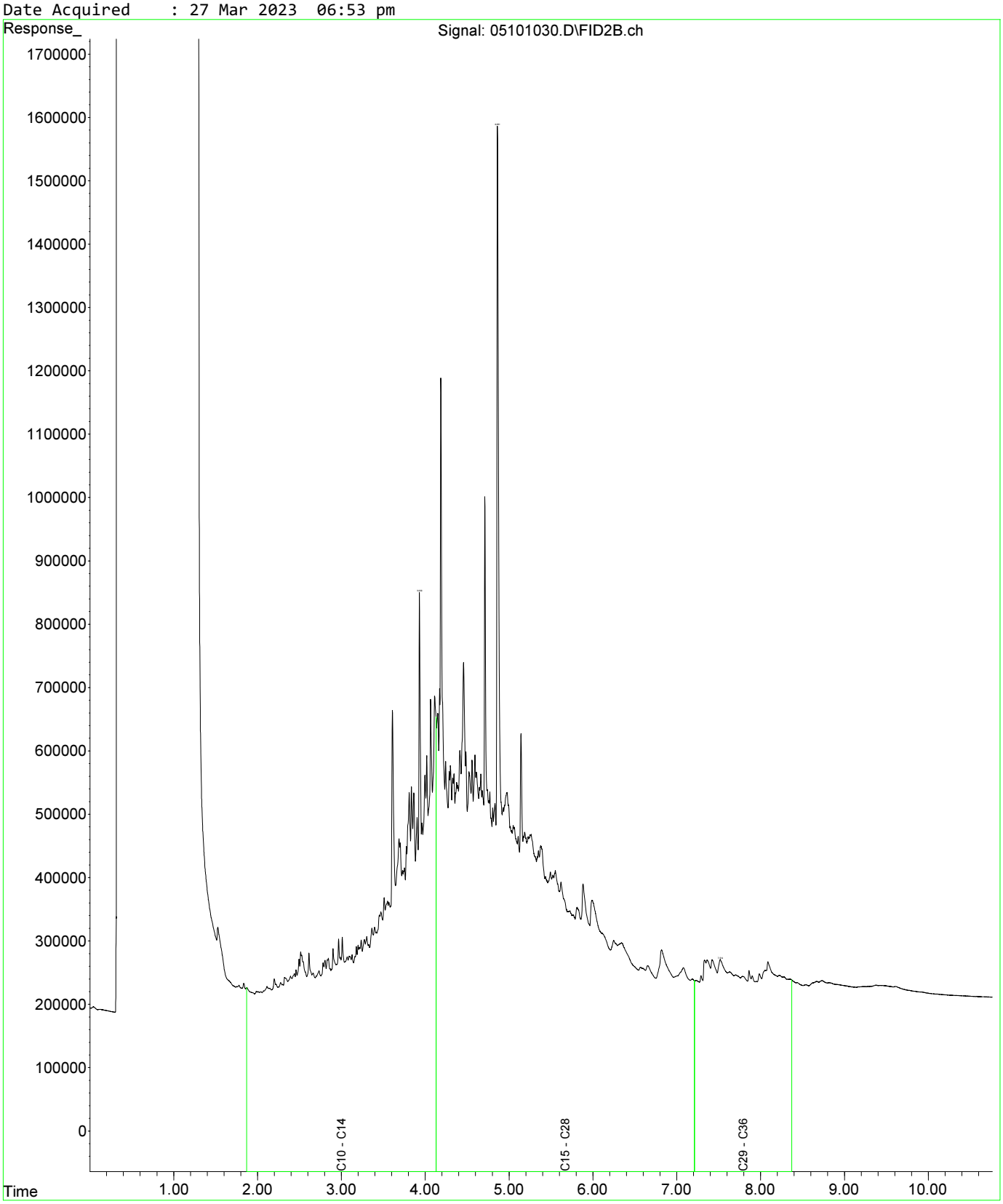
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : Standard
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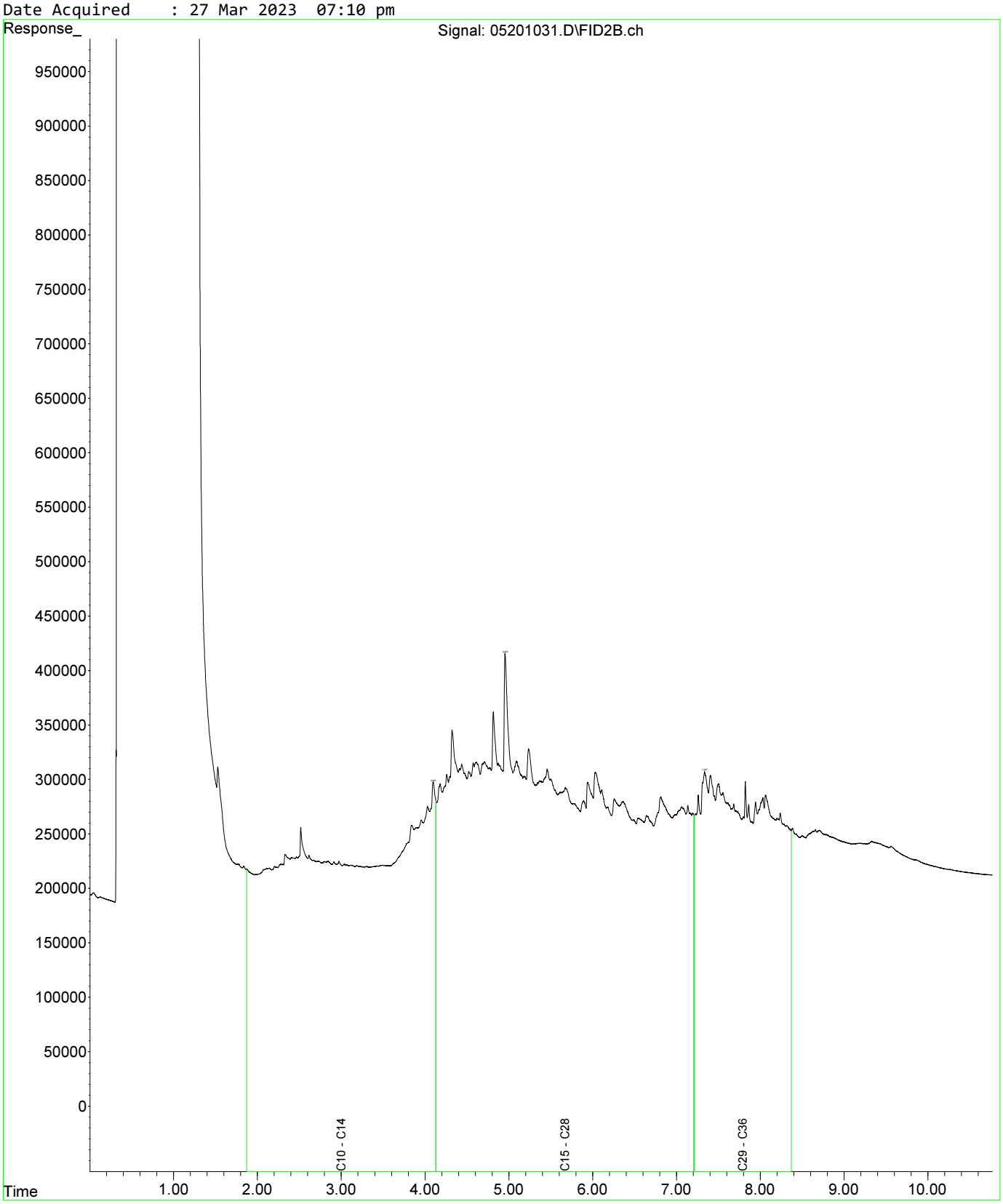
Laboratory Number: EM2305209-027
Sample ID : UST_SP_EXT_03
Date Acquired : 27 Mar 2023 07:10 pm



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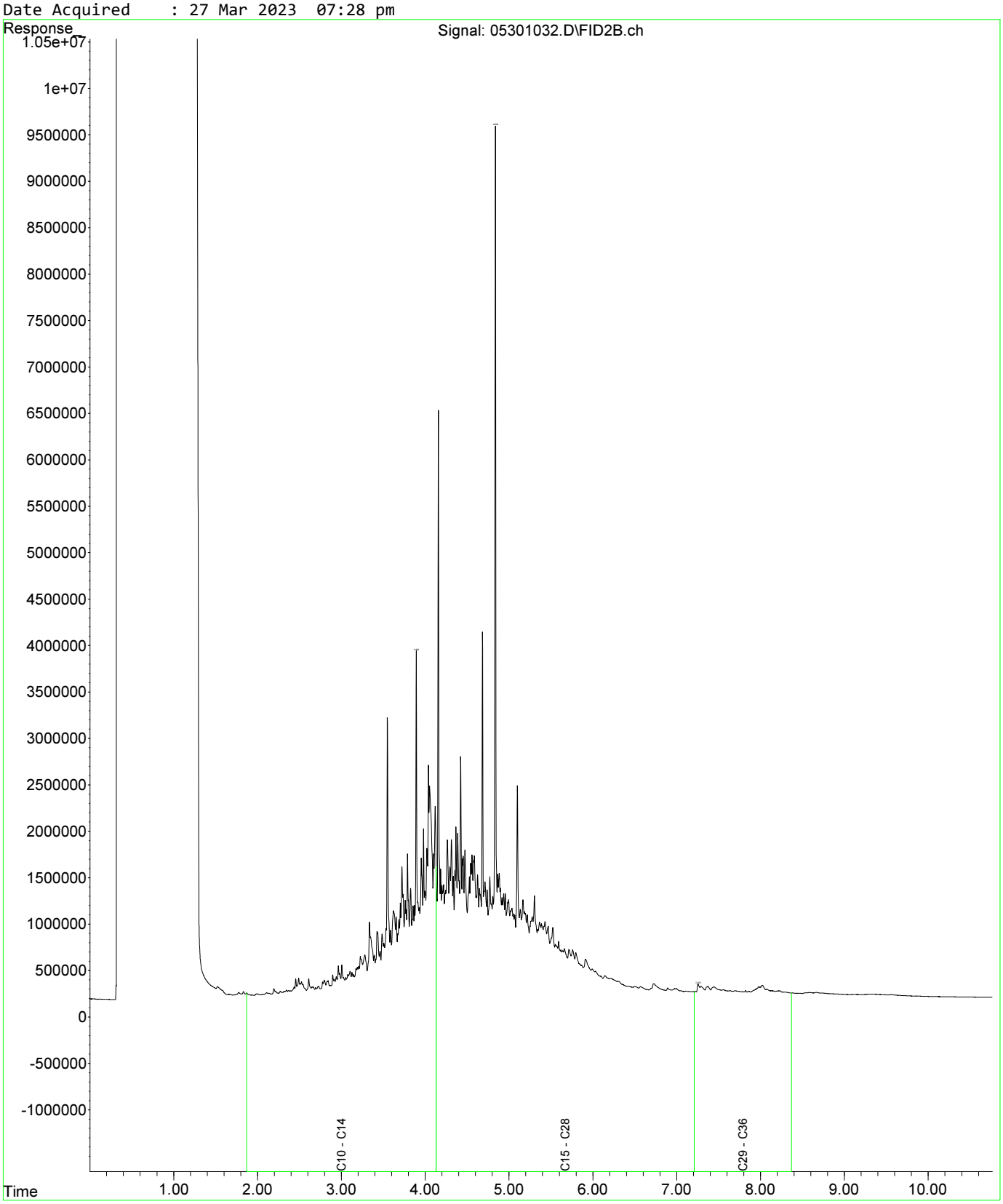
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



Fraction Scheme : Standard
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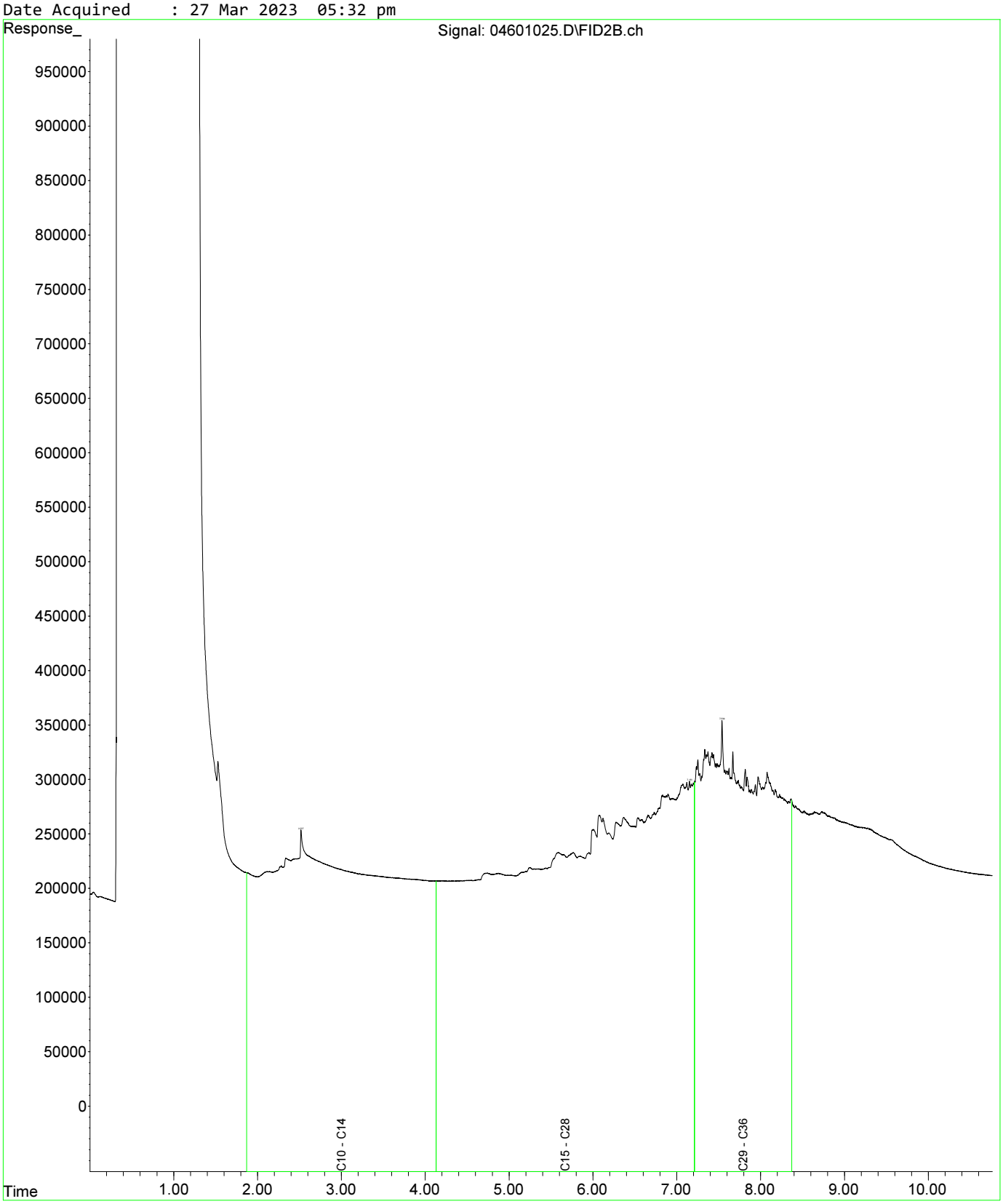
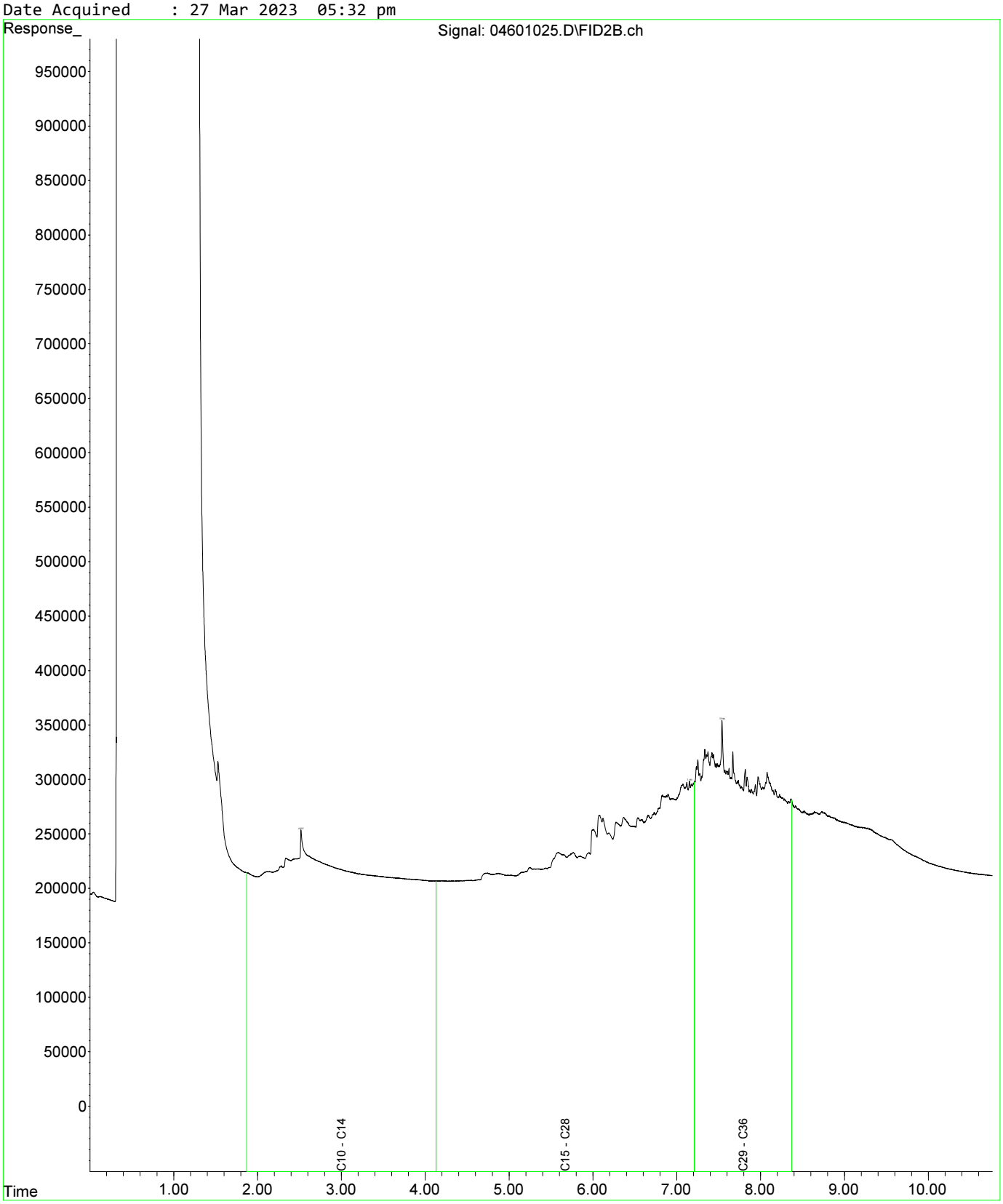
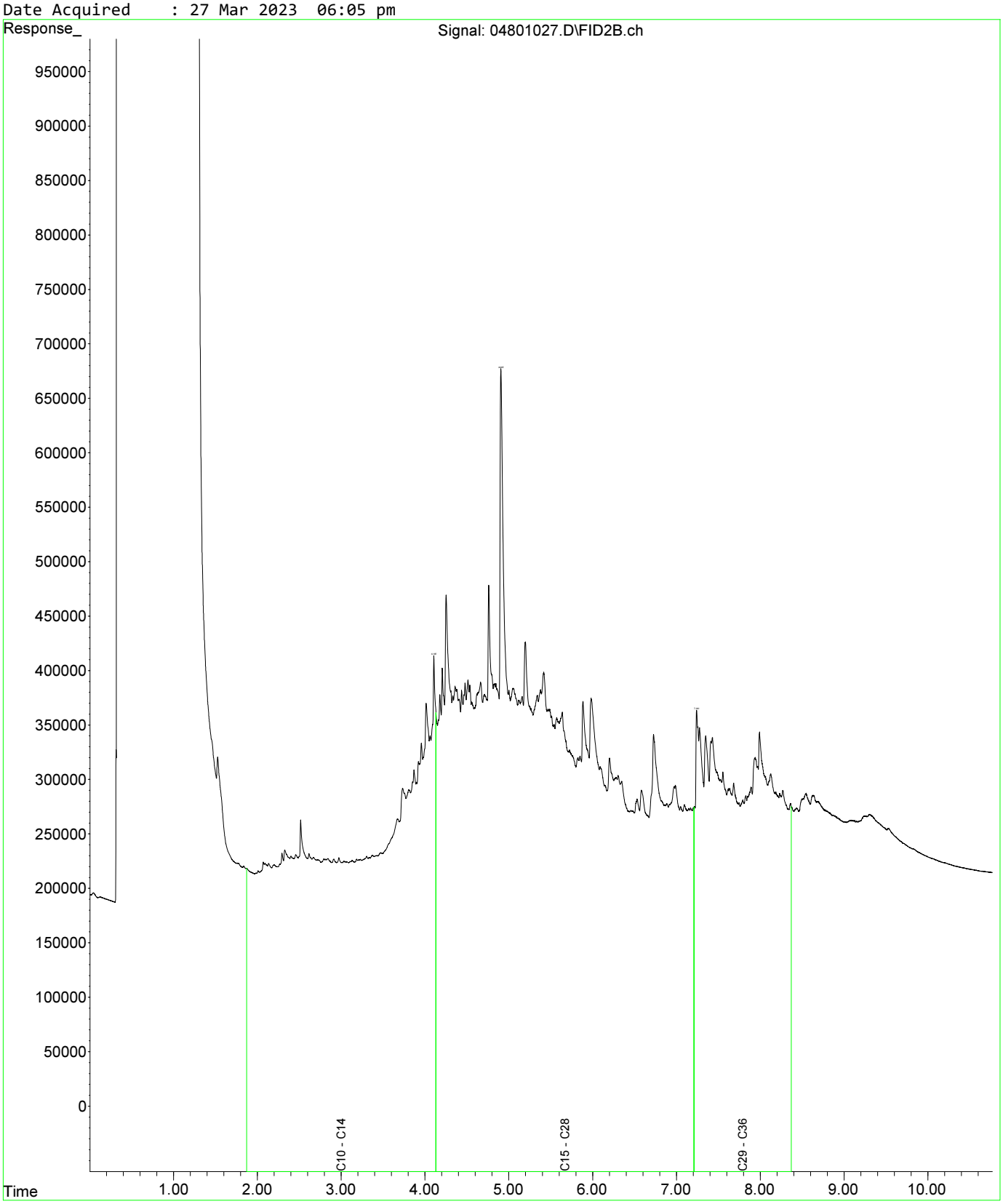
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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Sample ID : UST_SP_0.5-1.0_01
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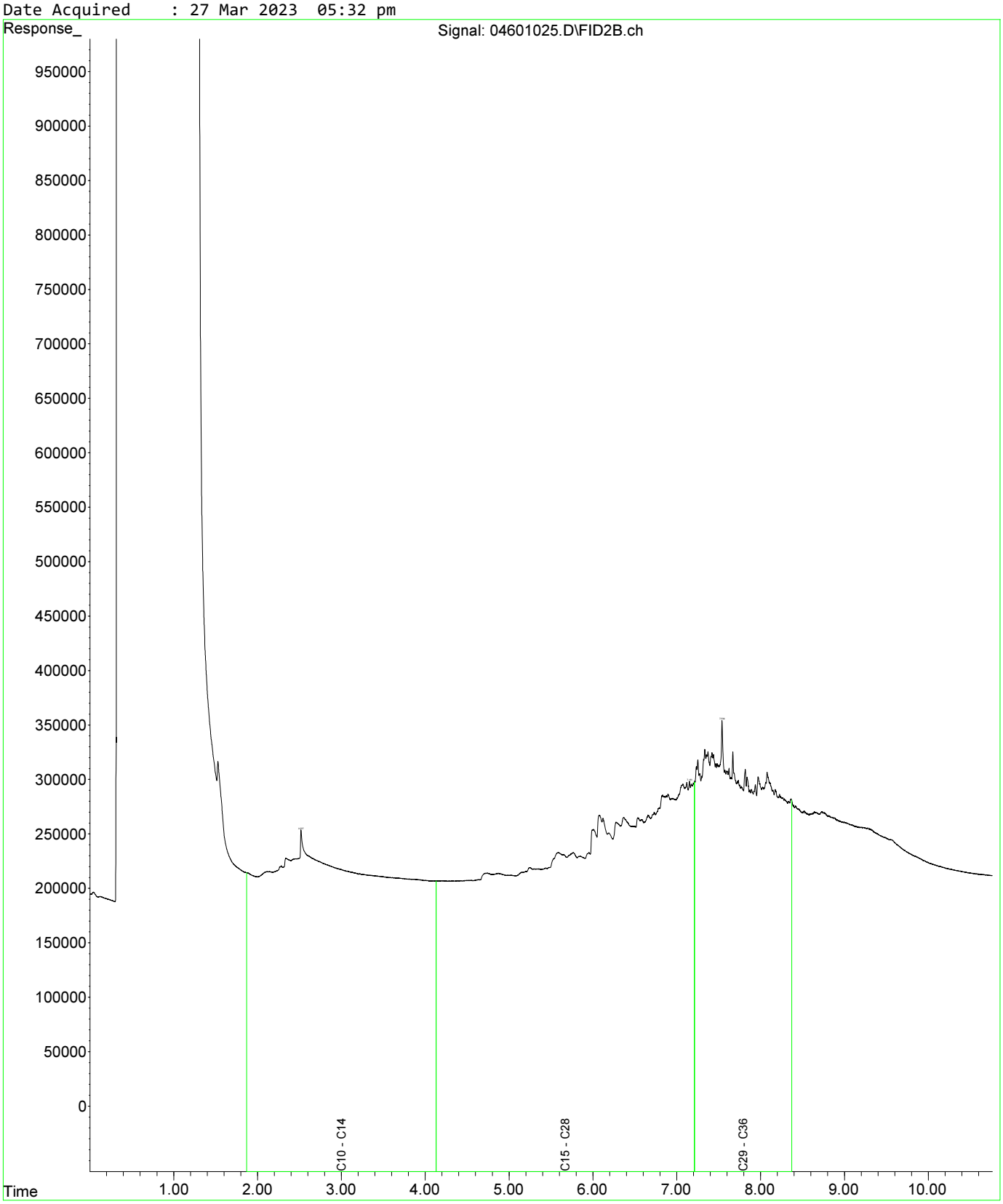

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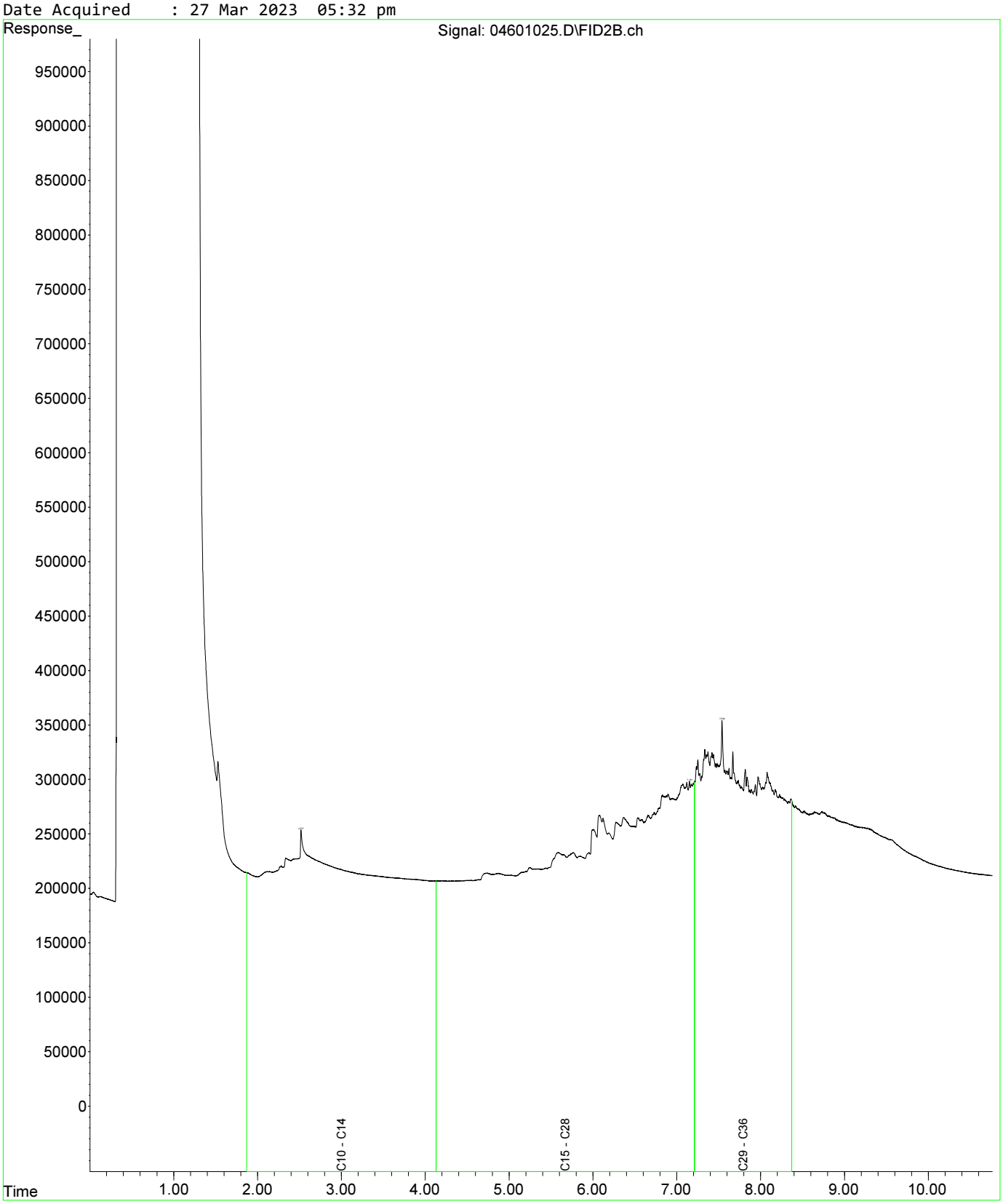

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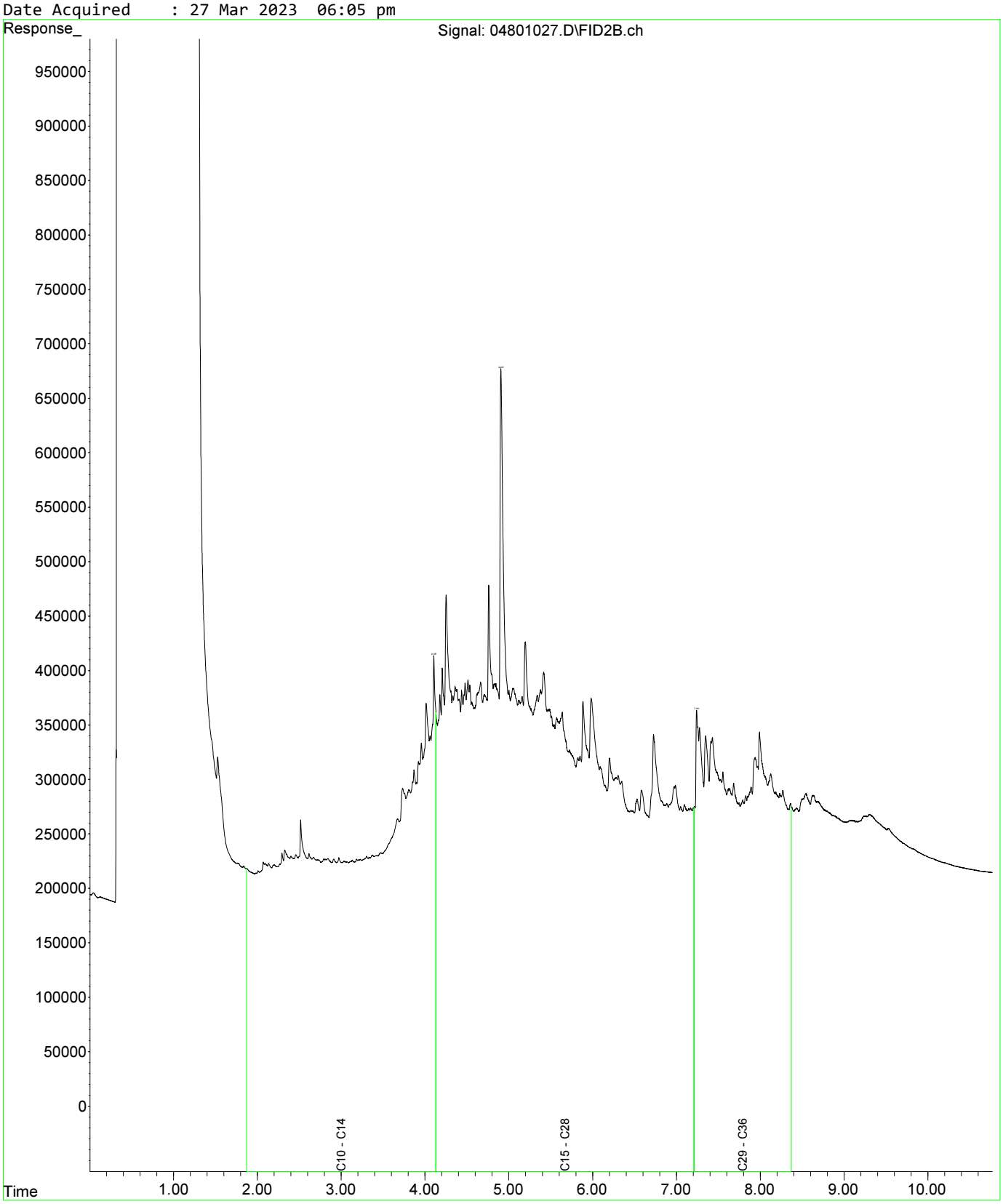

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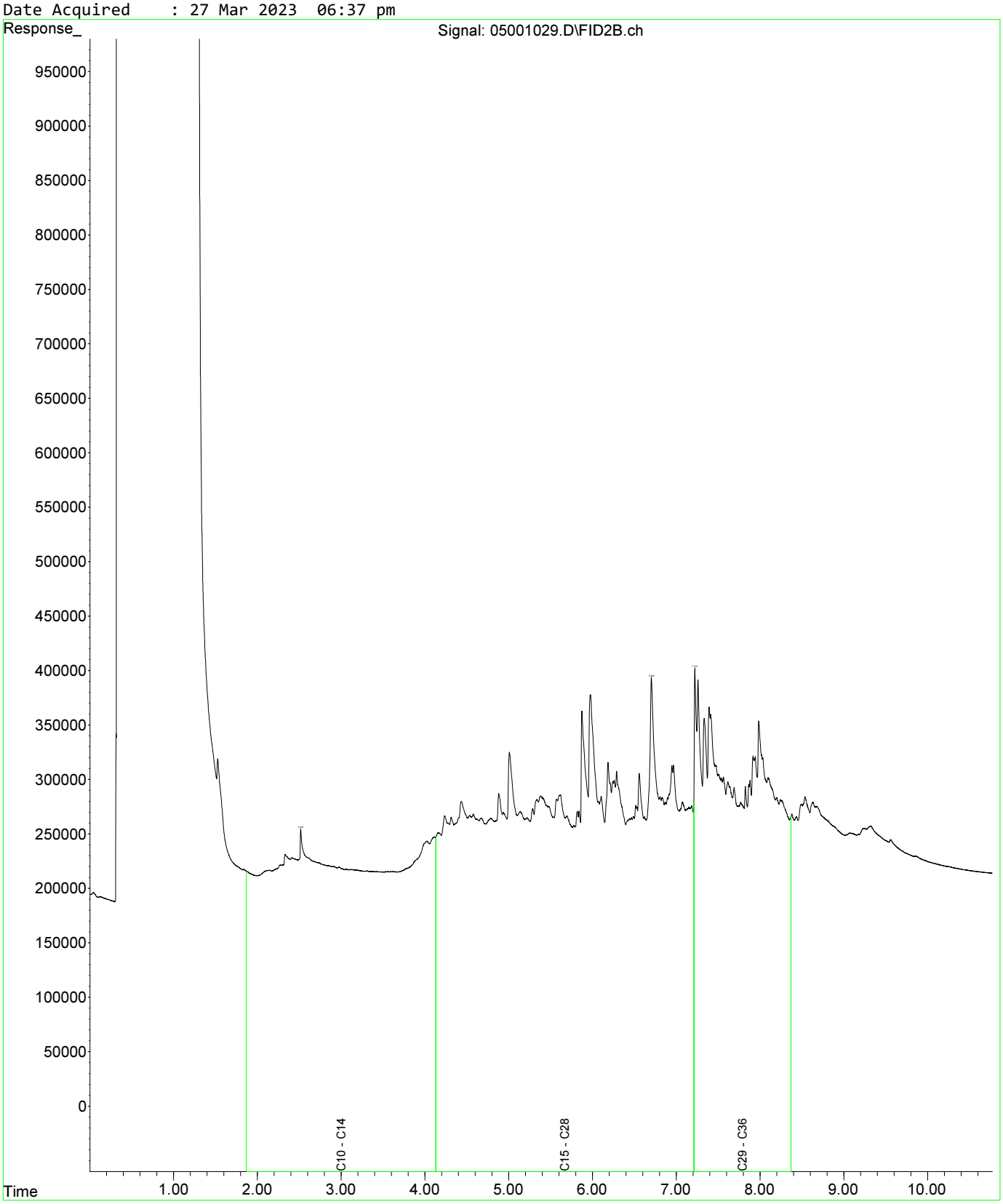
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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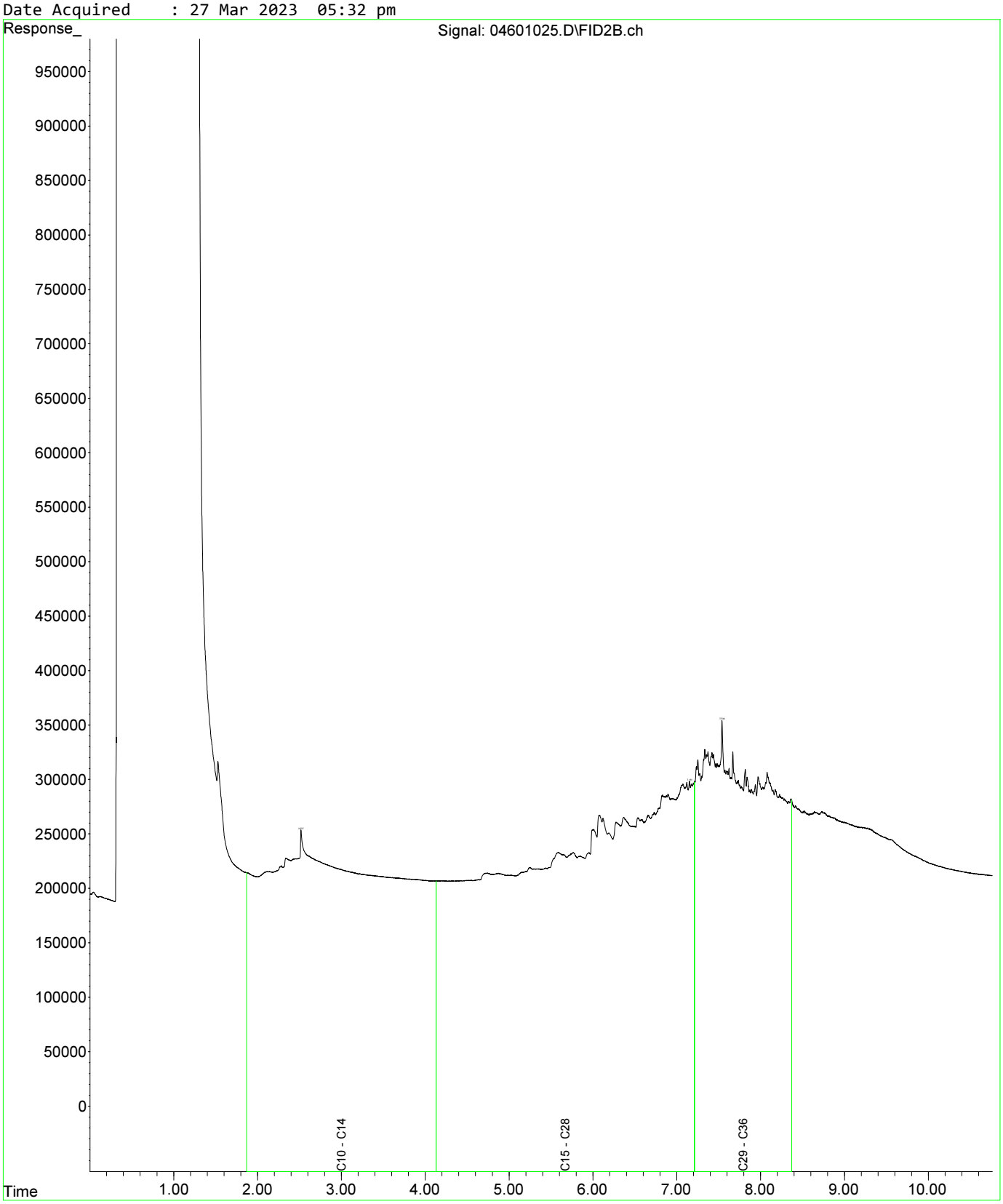

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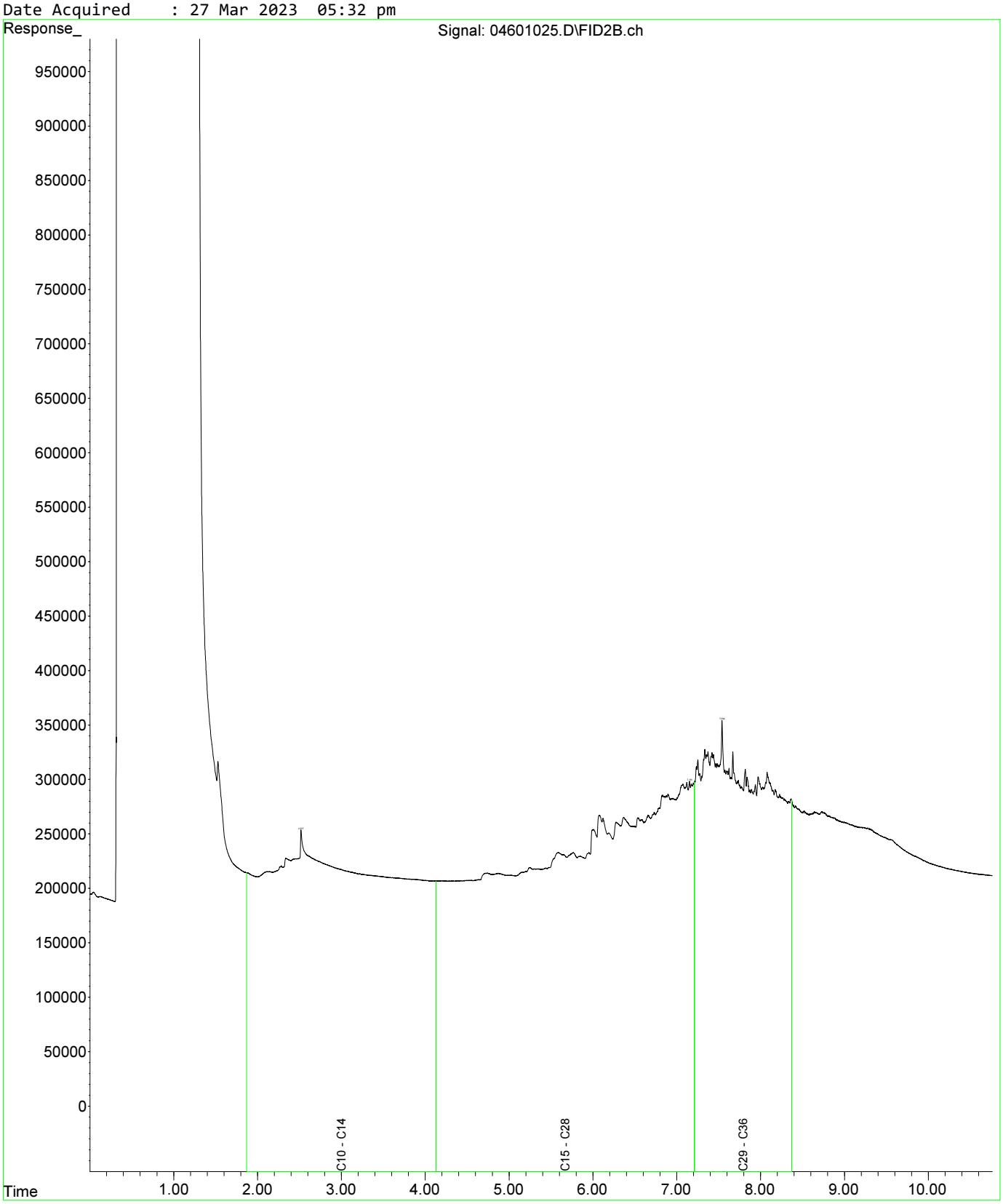

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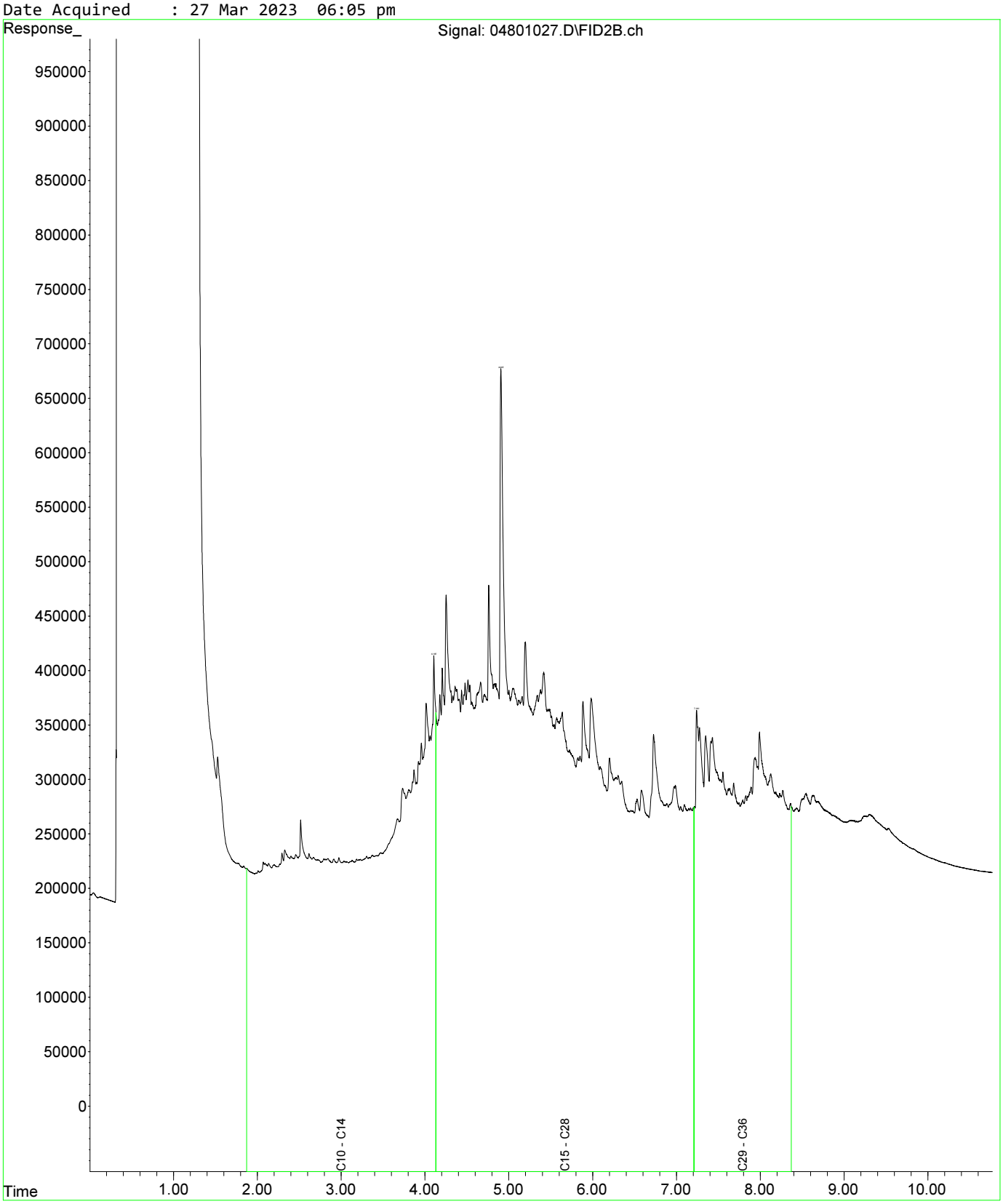

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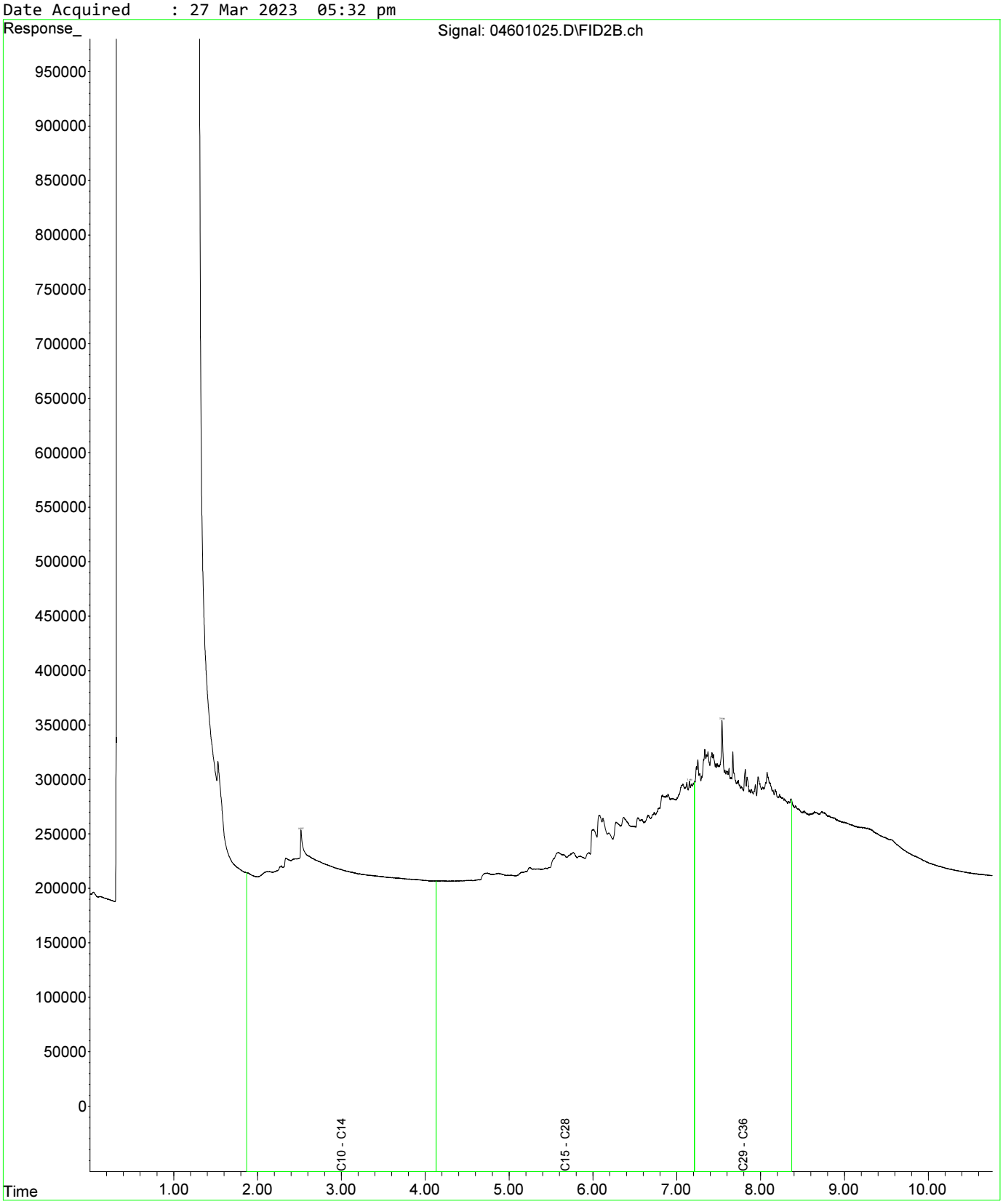

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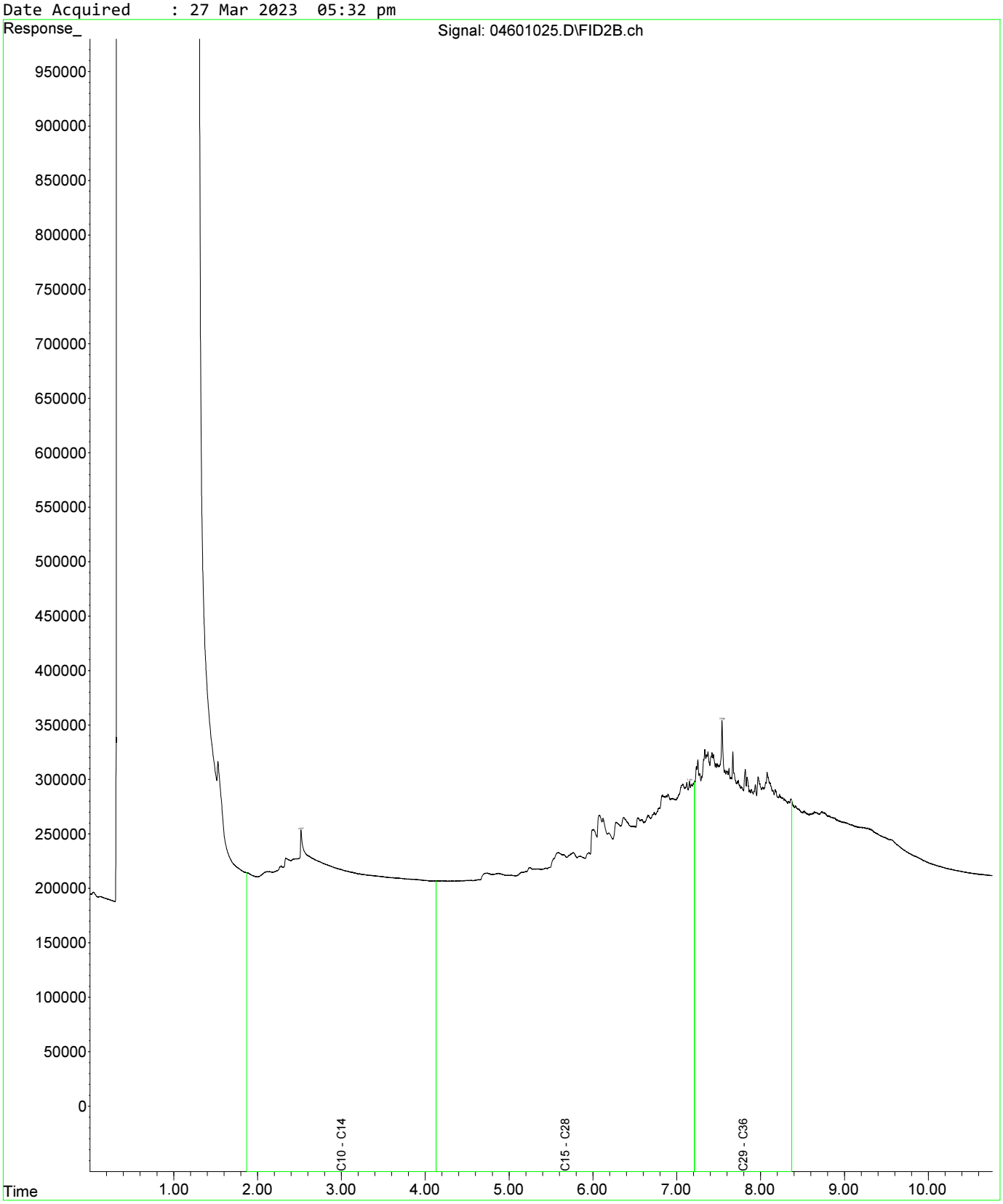

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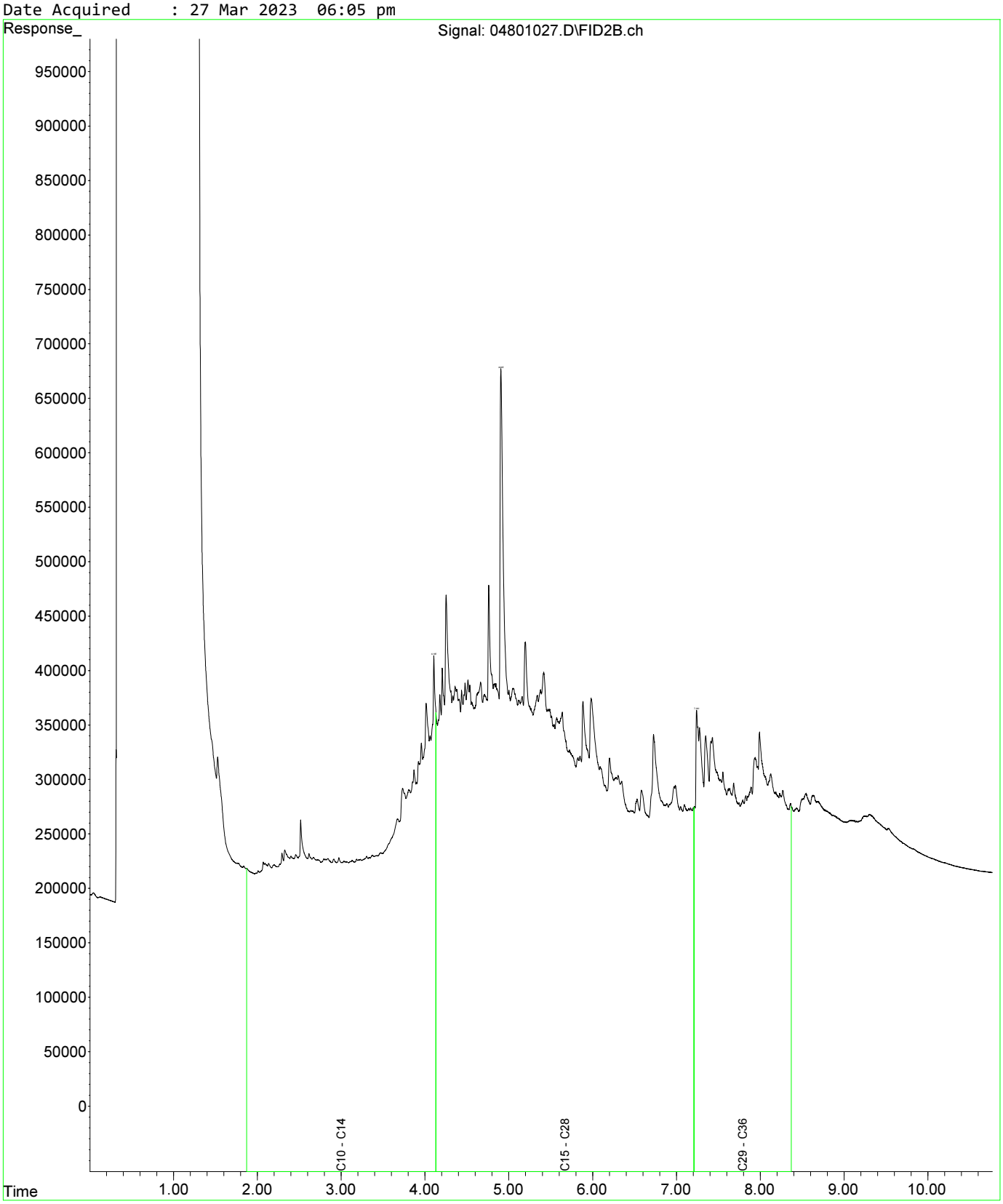
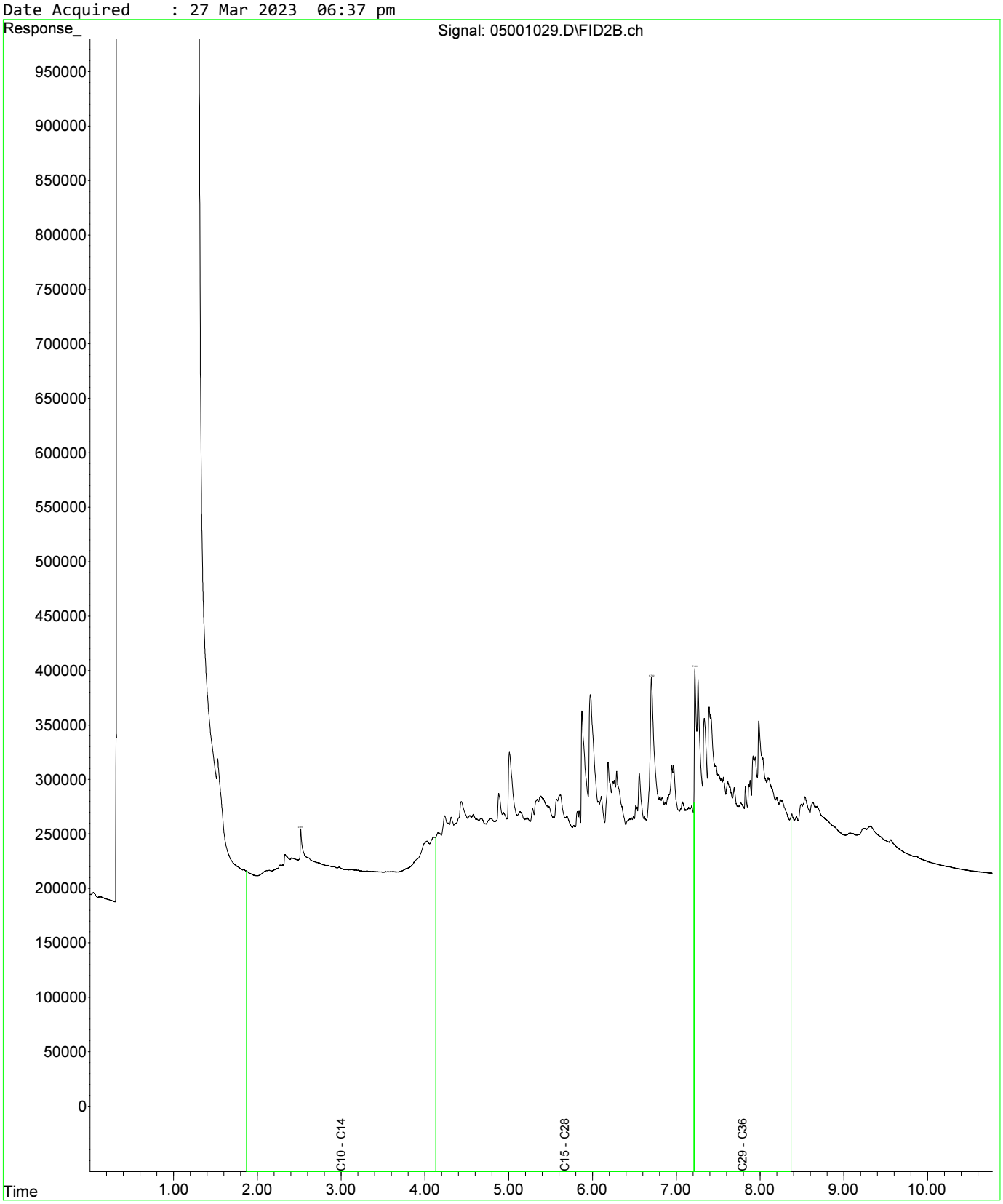


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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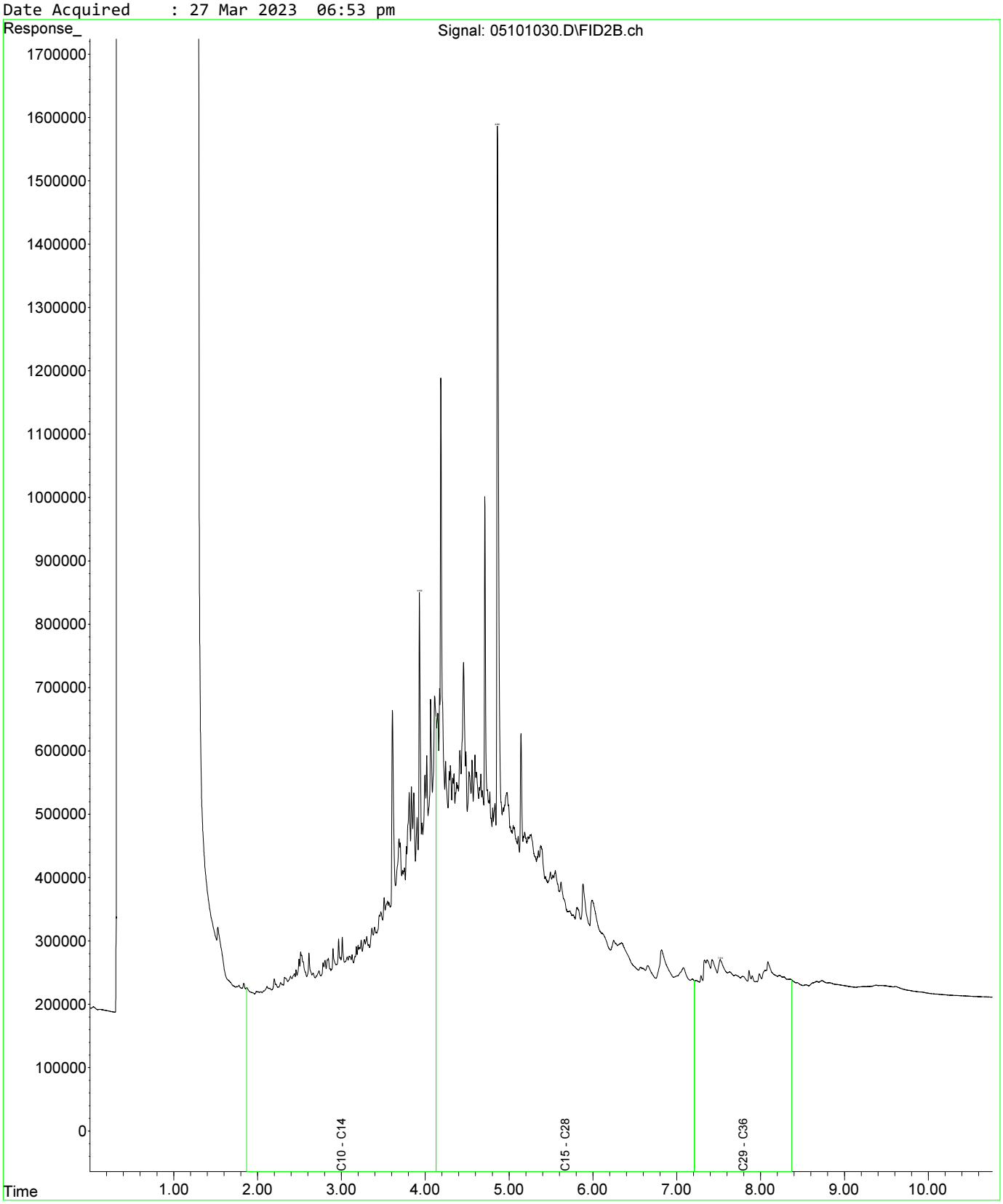
Date Acquired : 27 Mar 2023 06:53 pm



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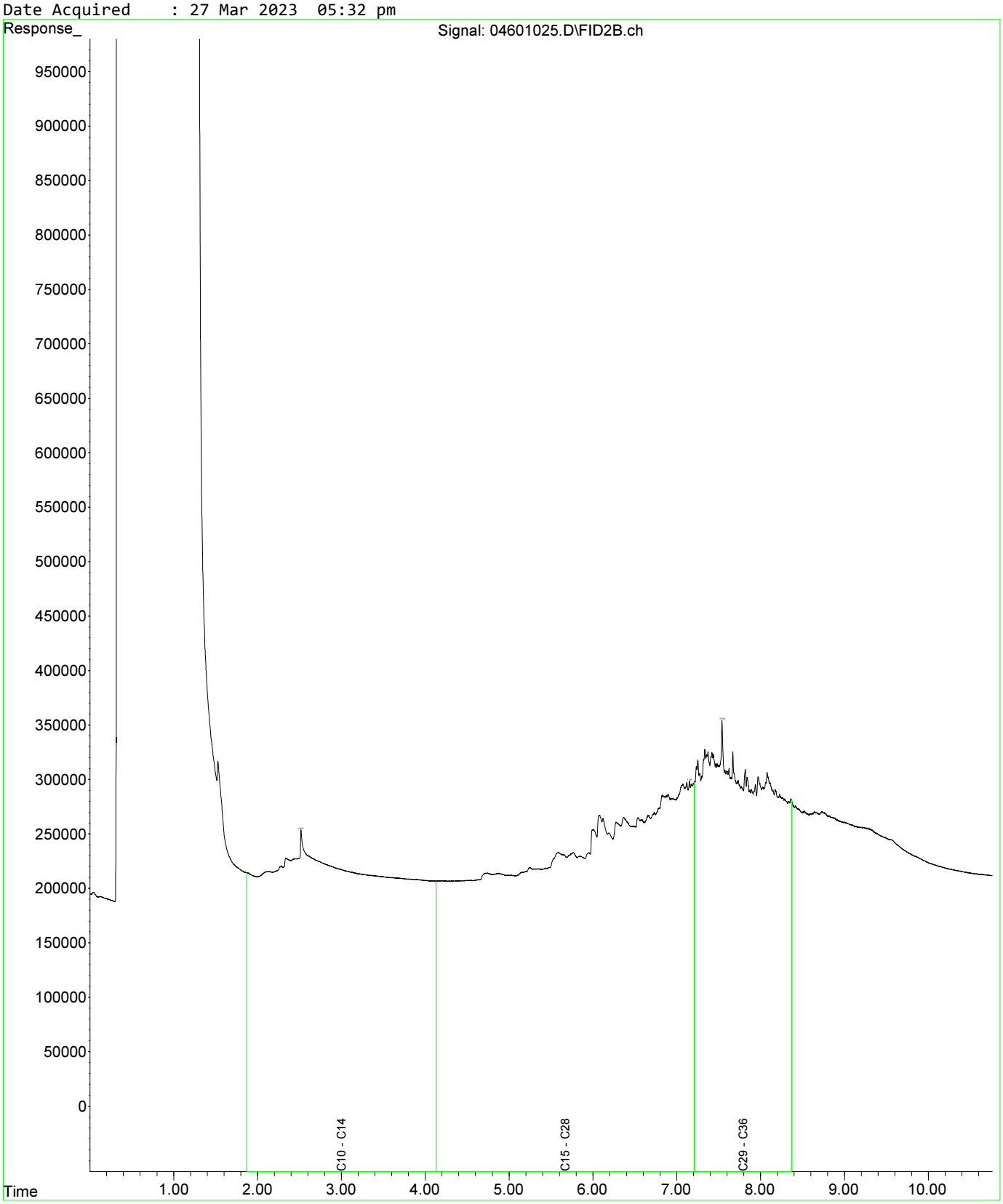

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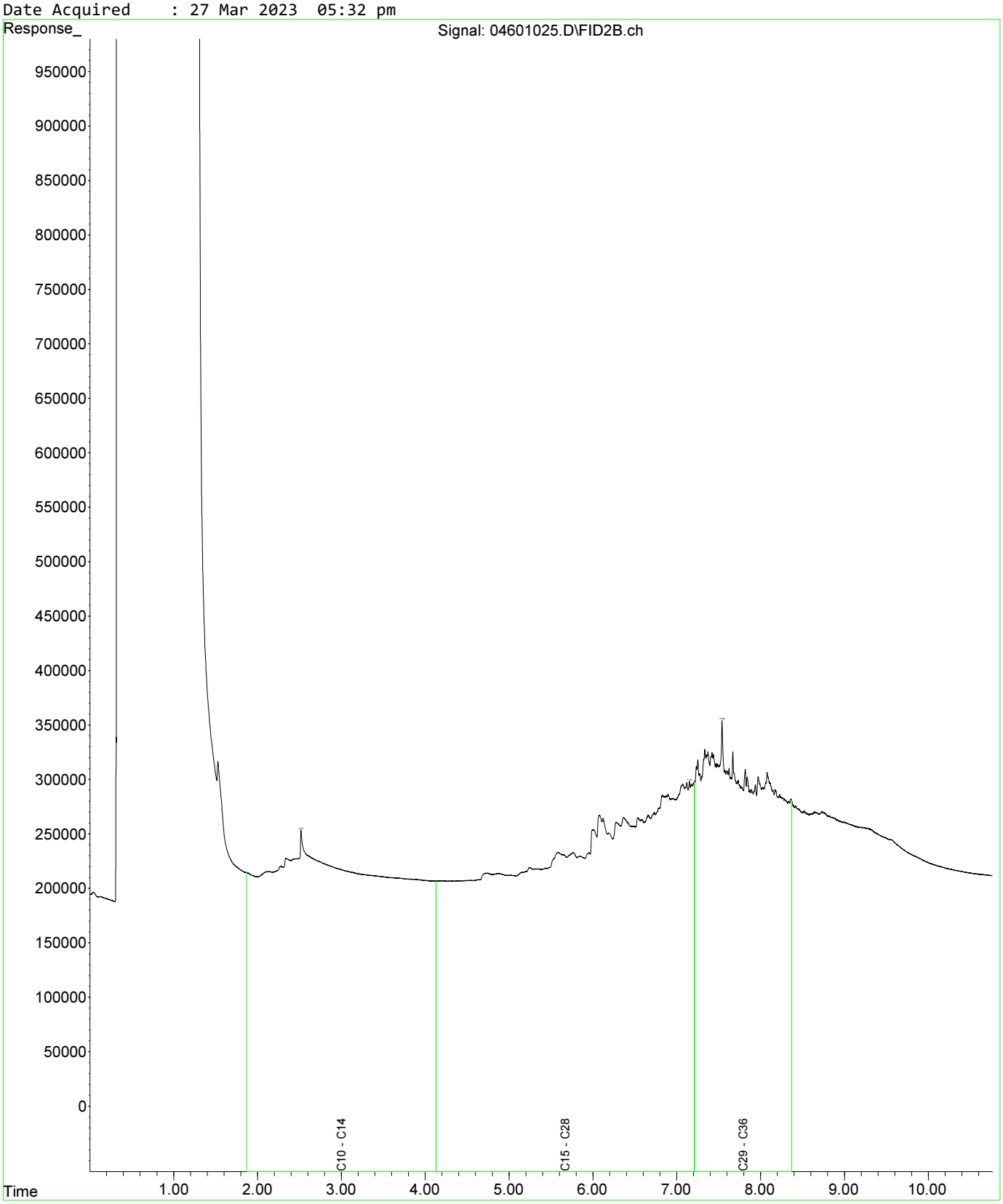

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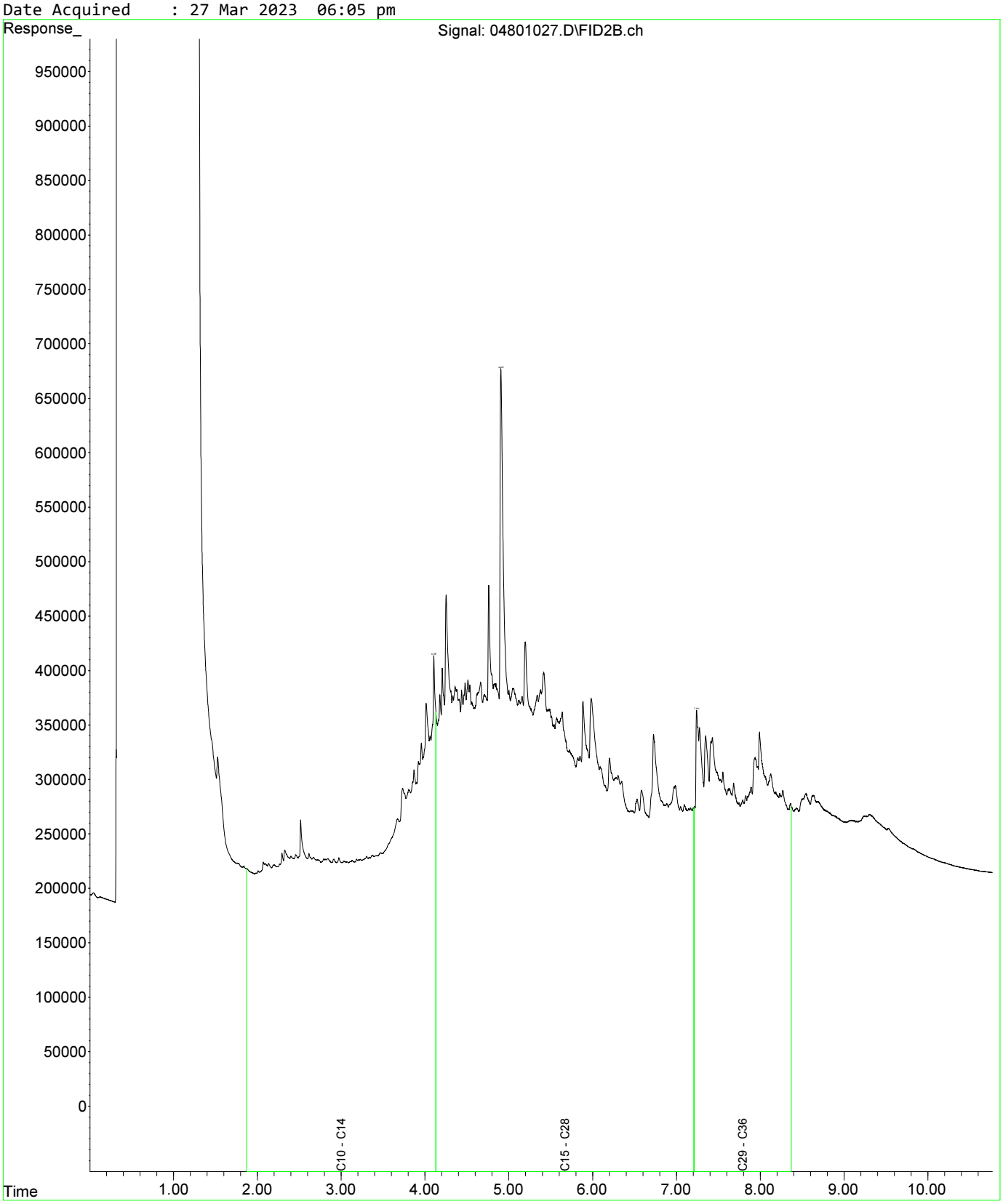

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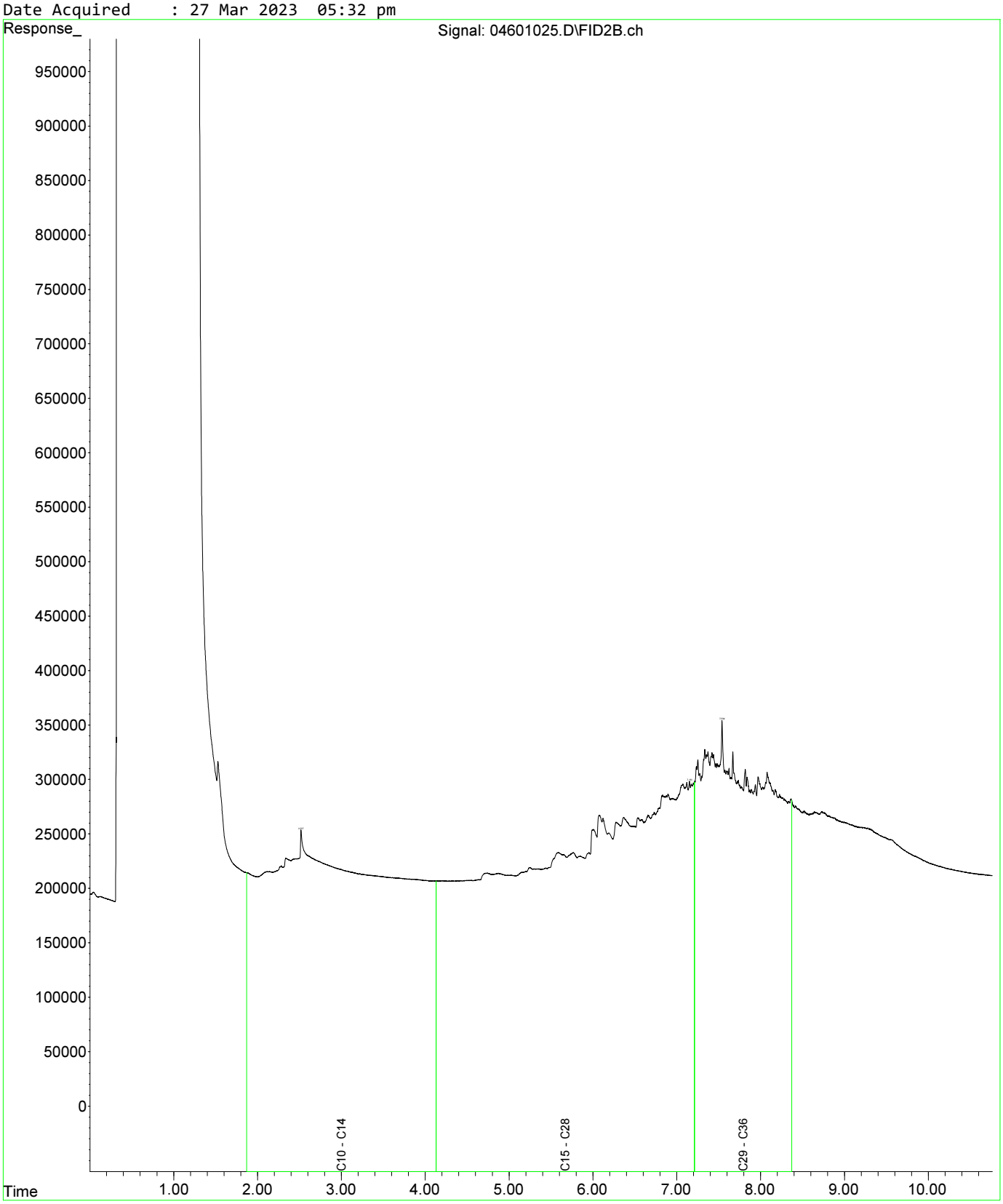

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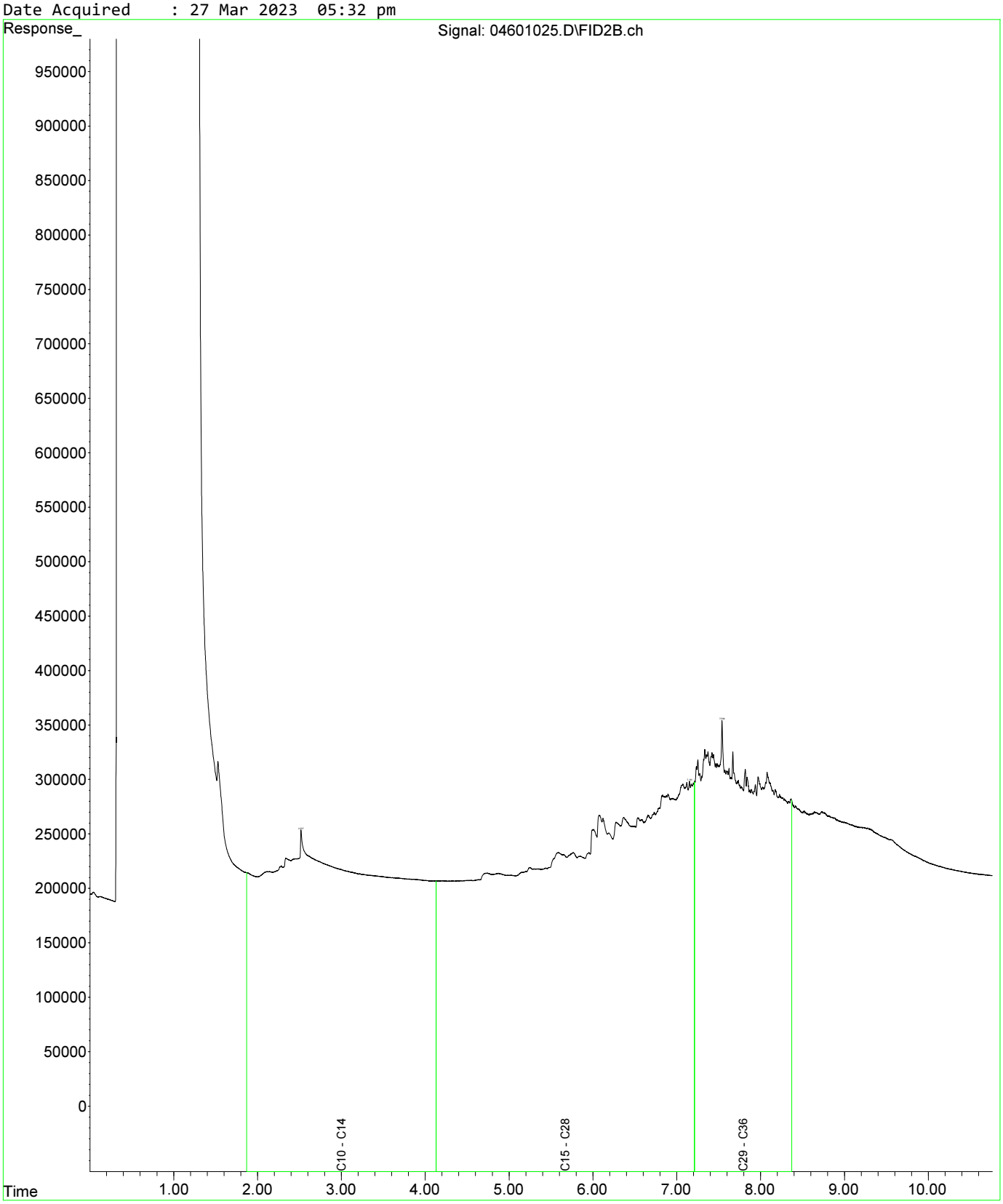

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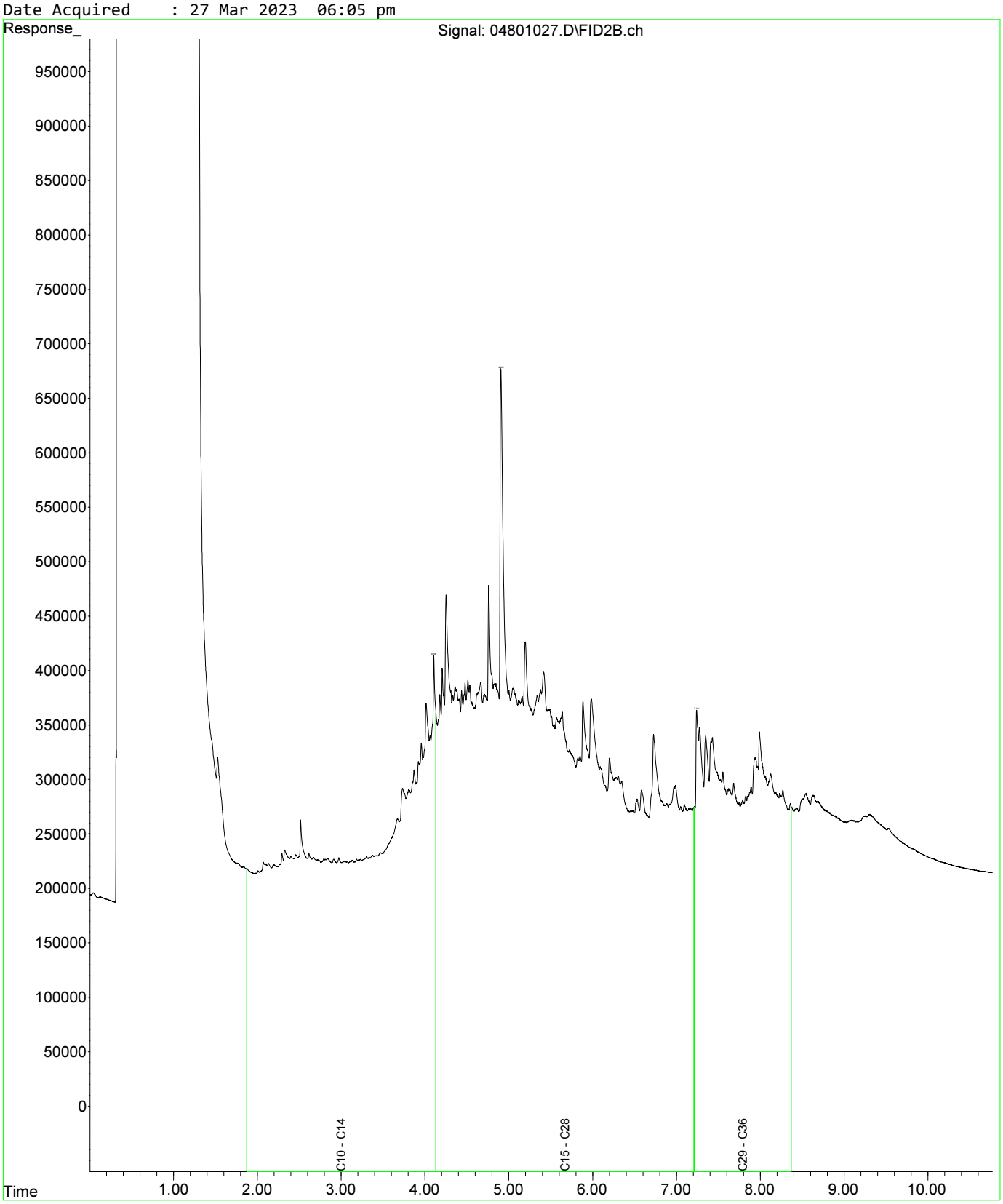

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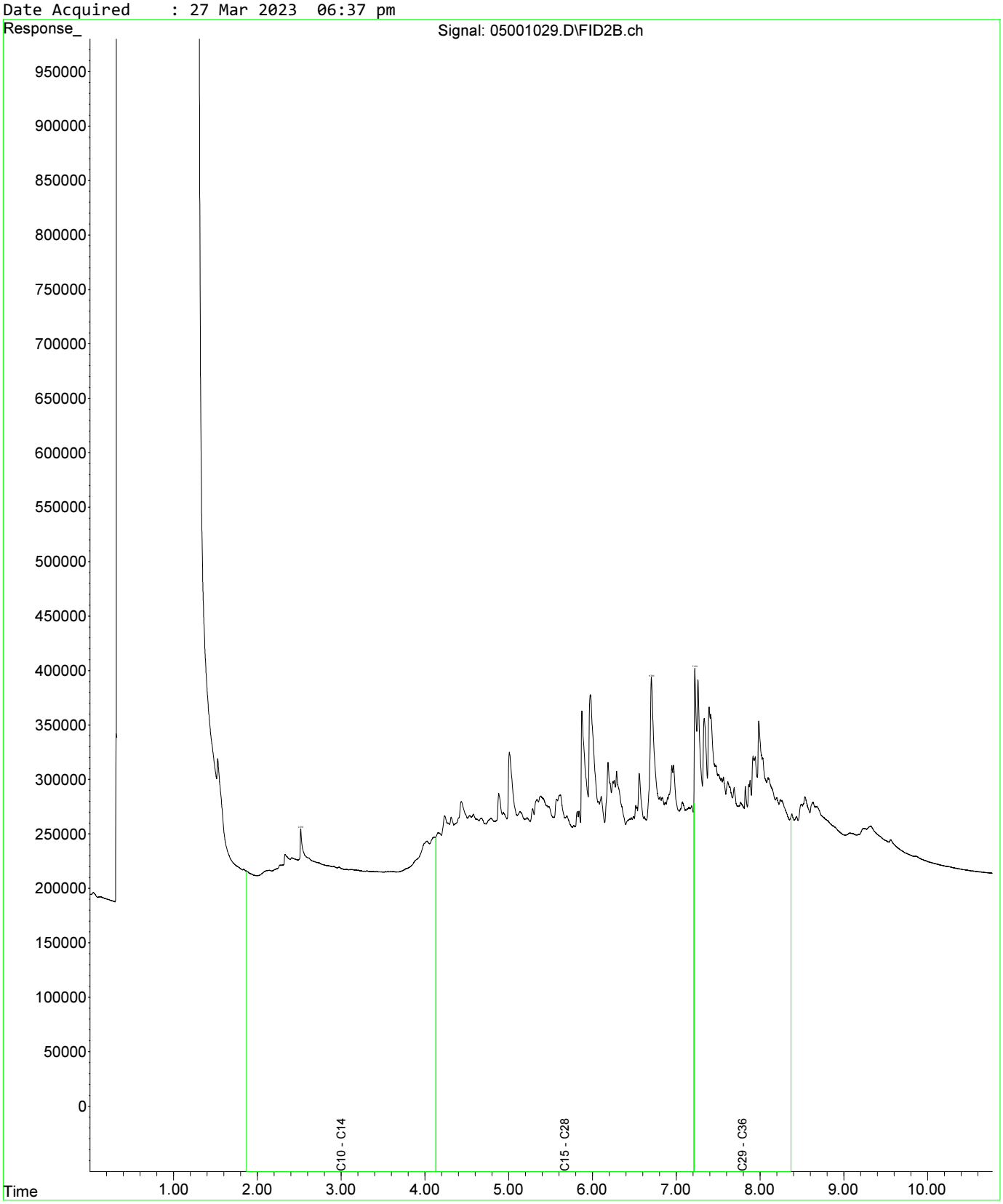

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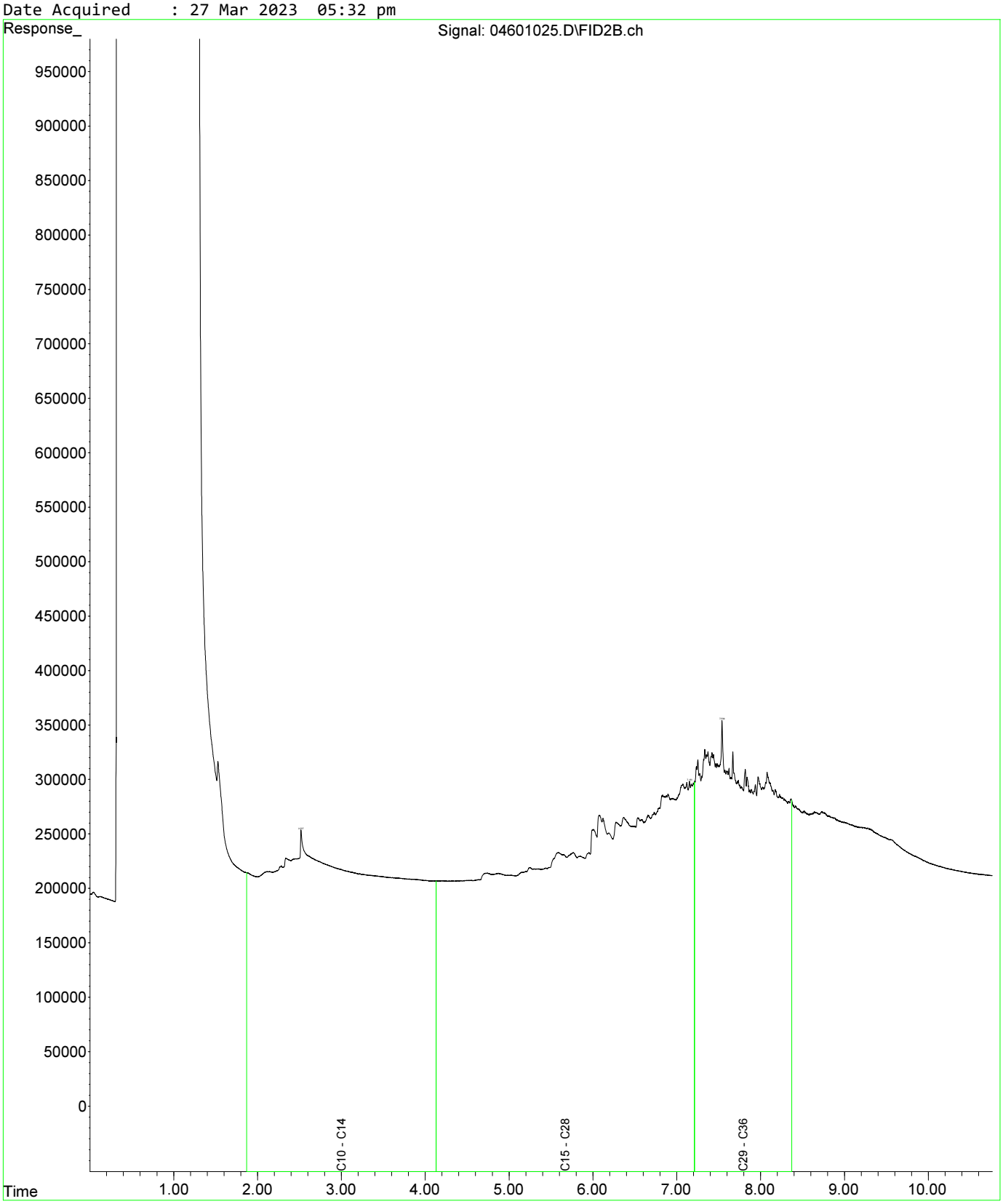

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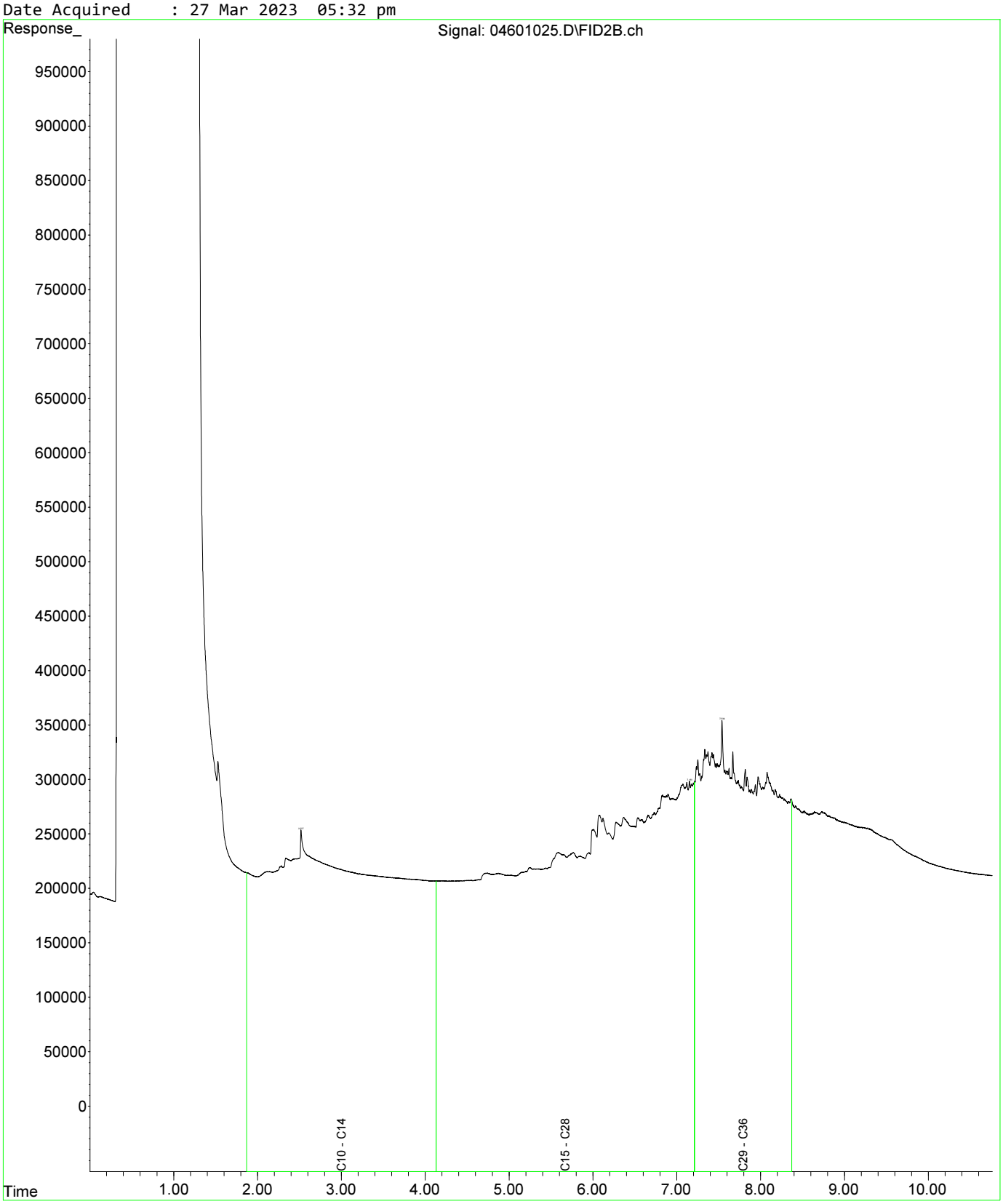

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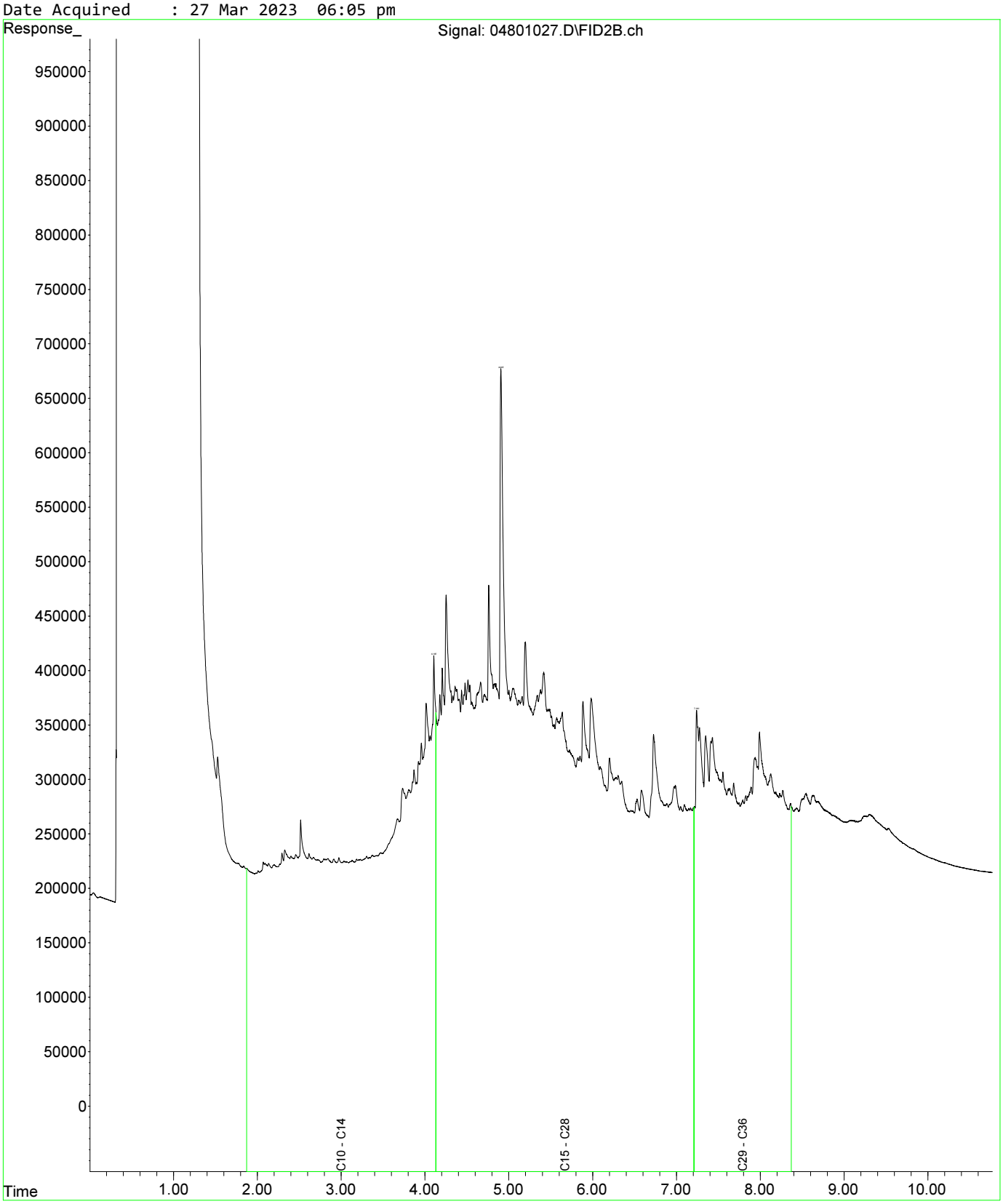

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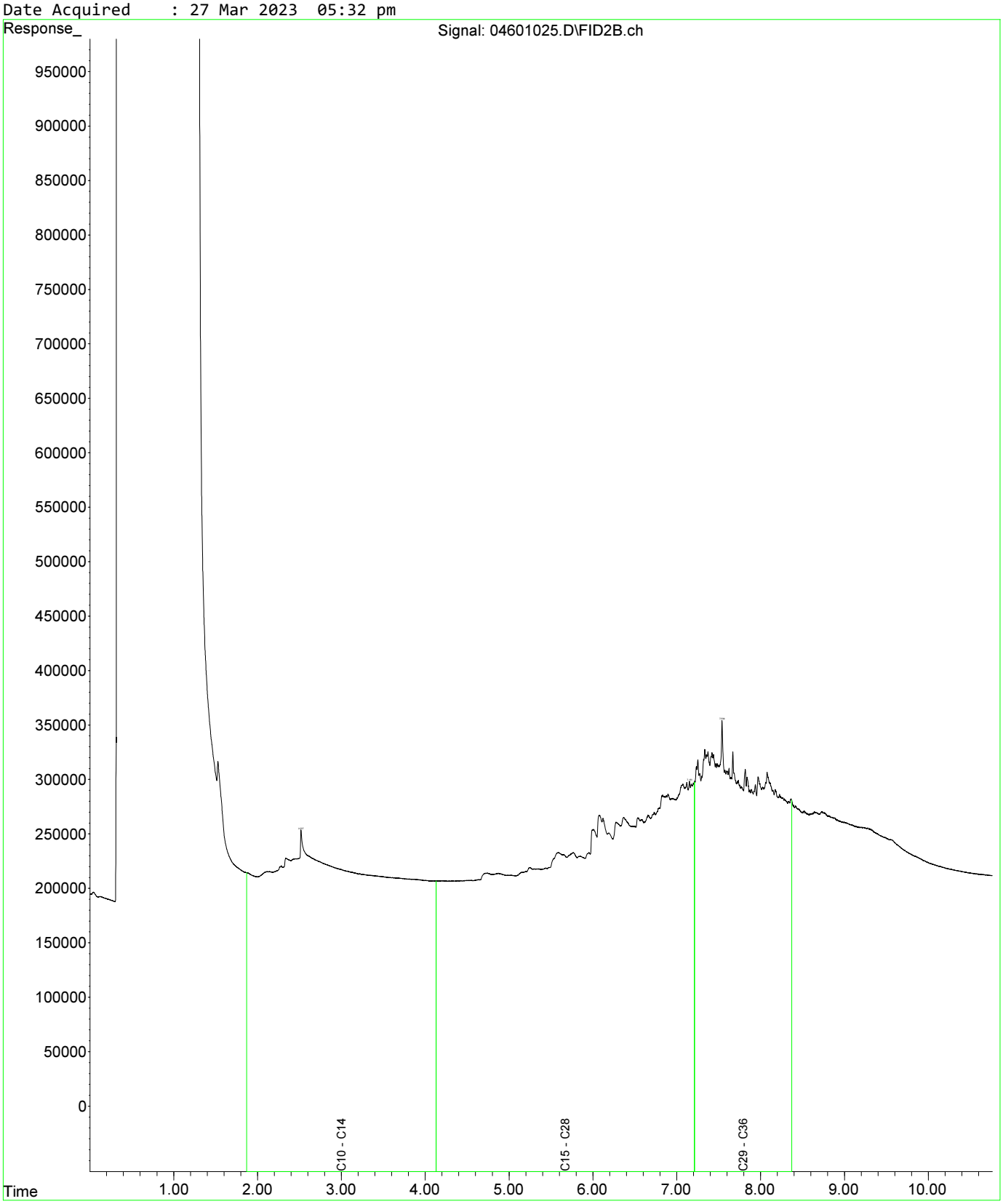

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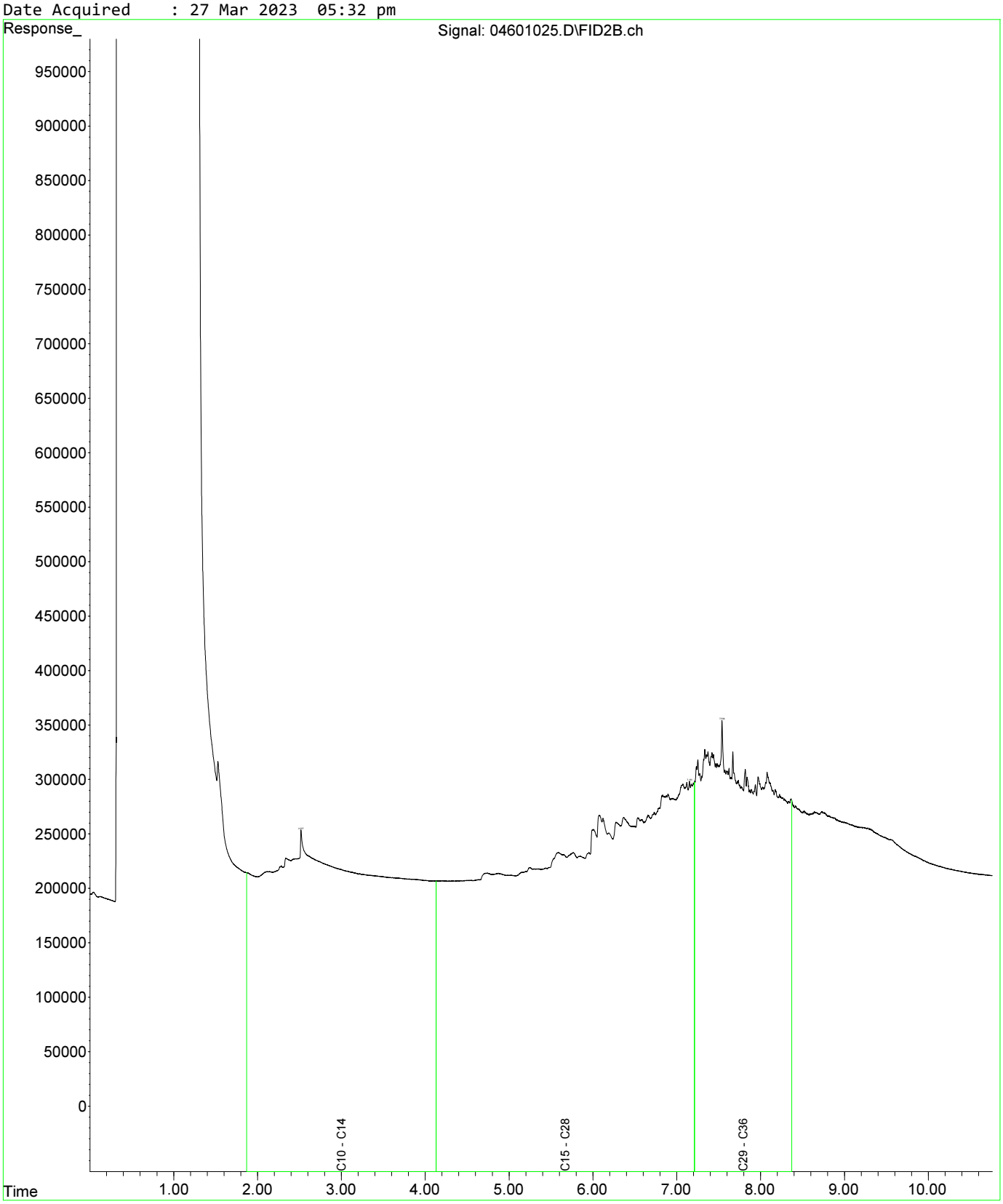

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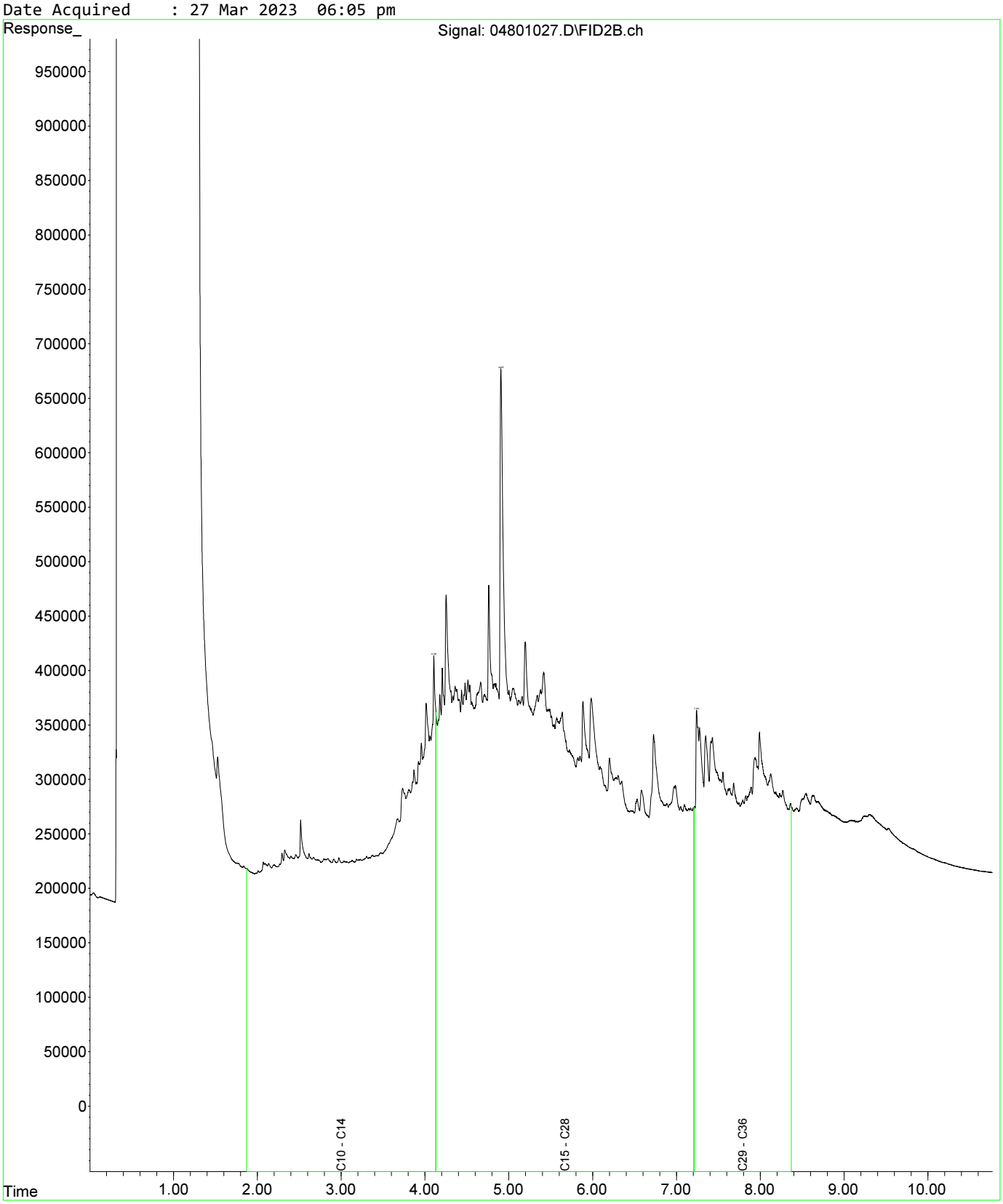

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Sample ID : UST_SP_1.5-2.0_02
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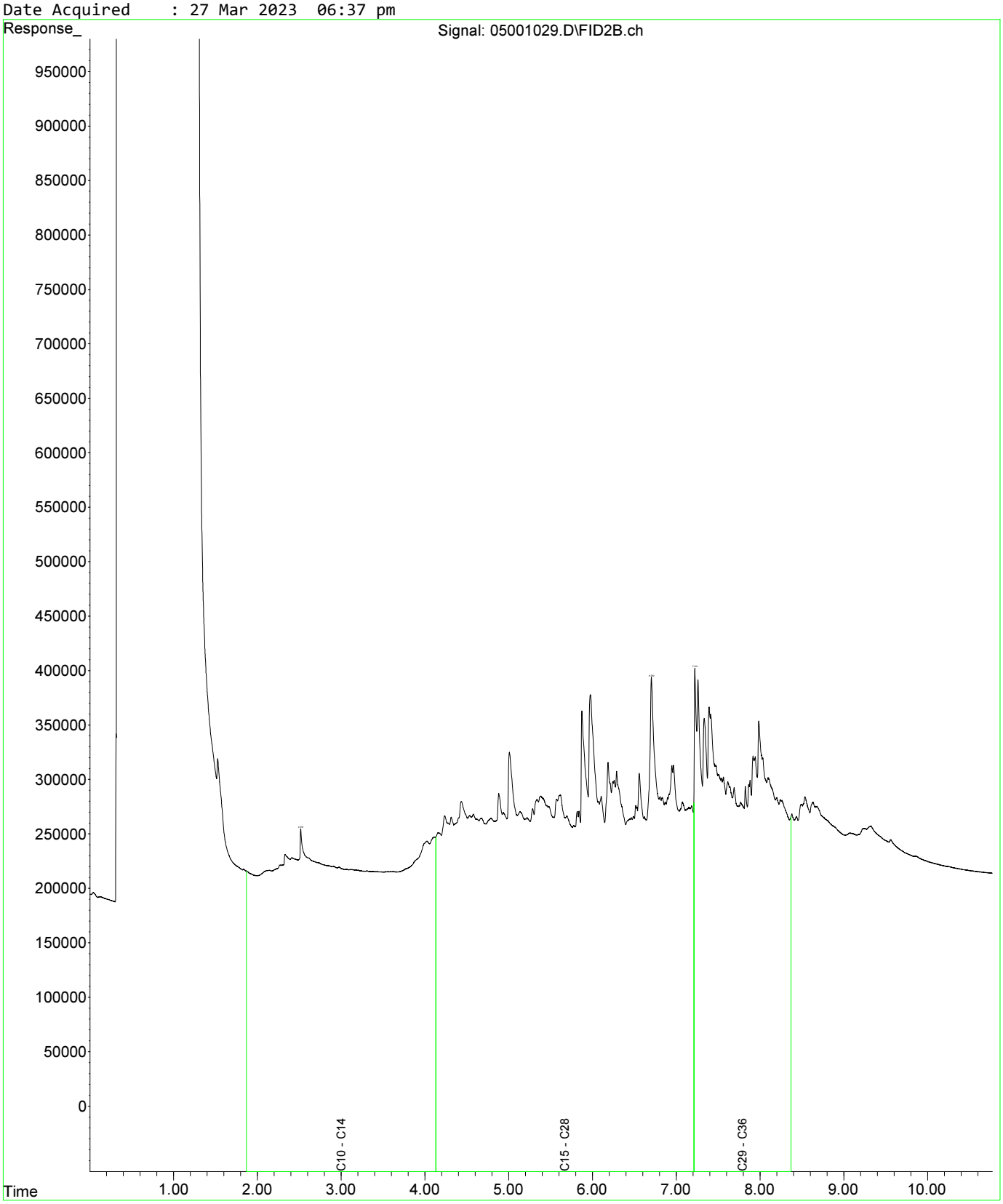

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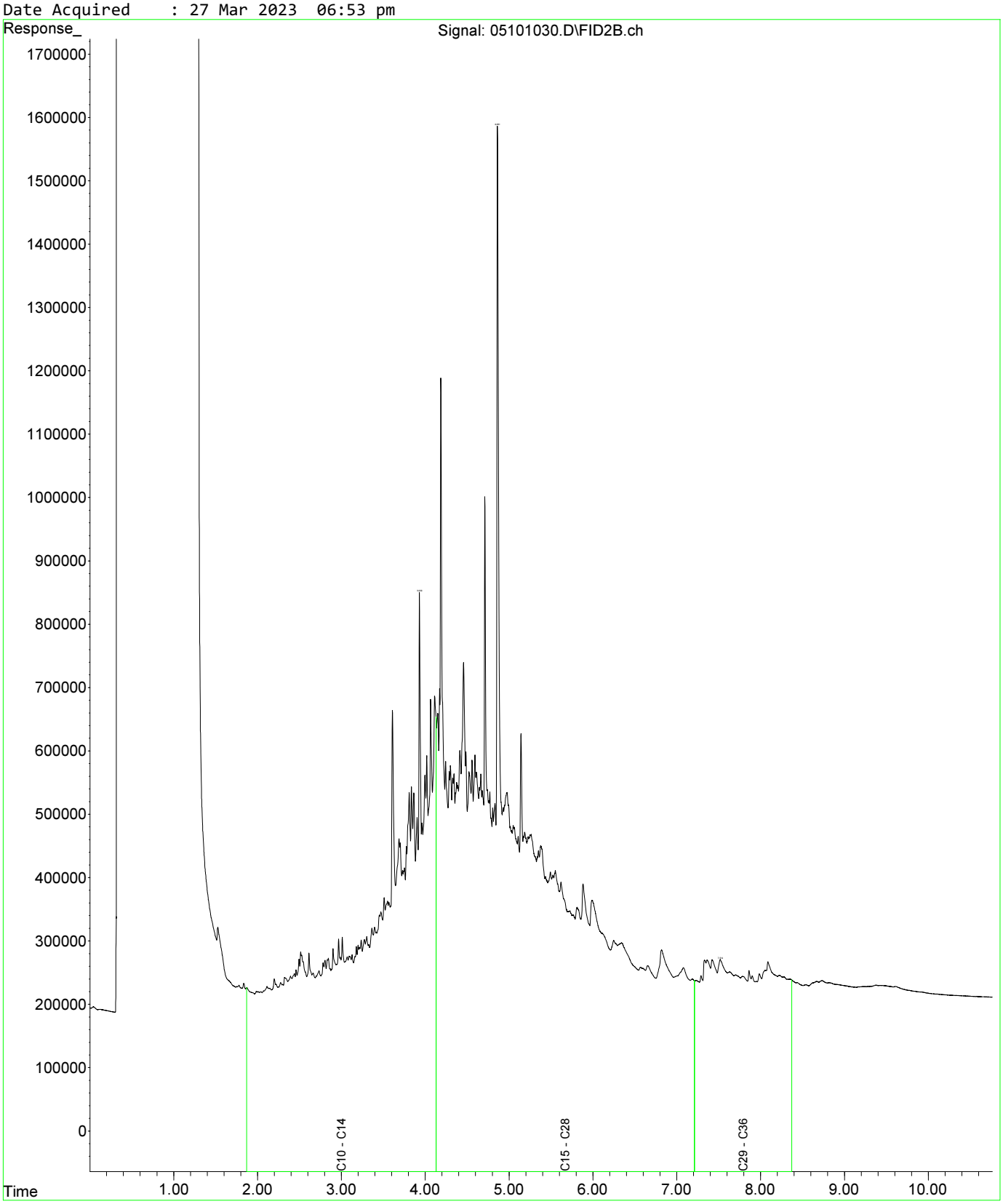

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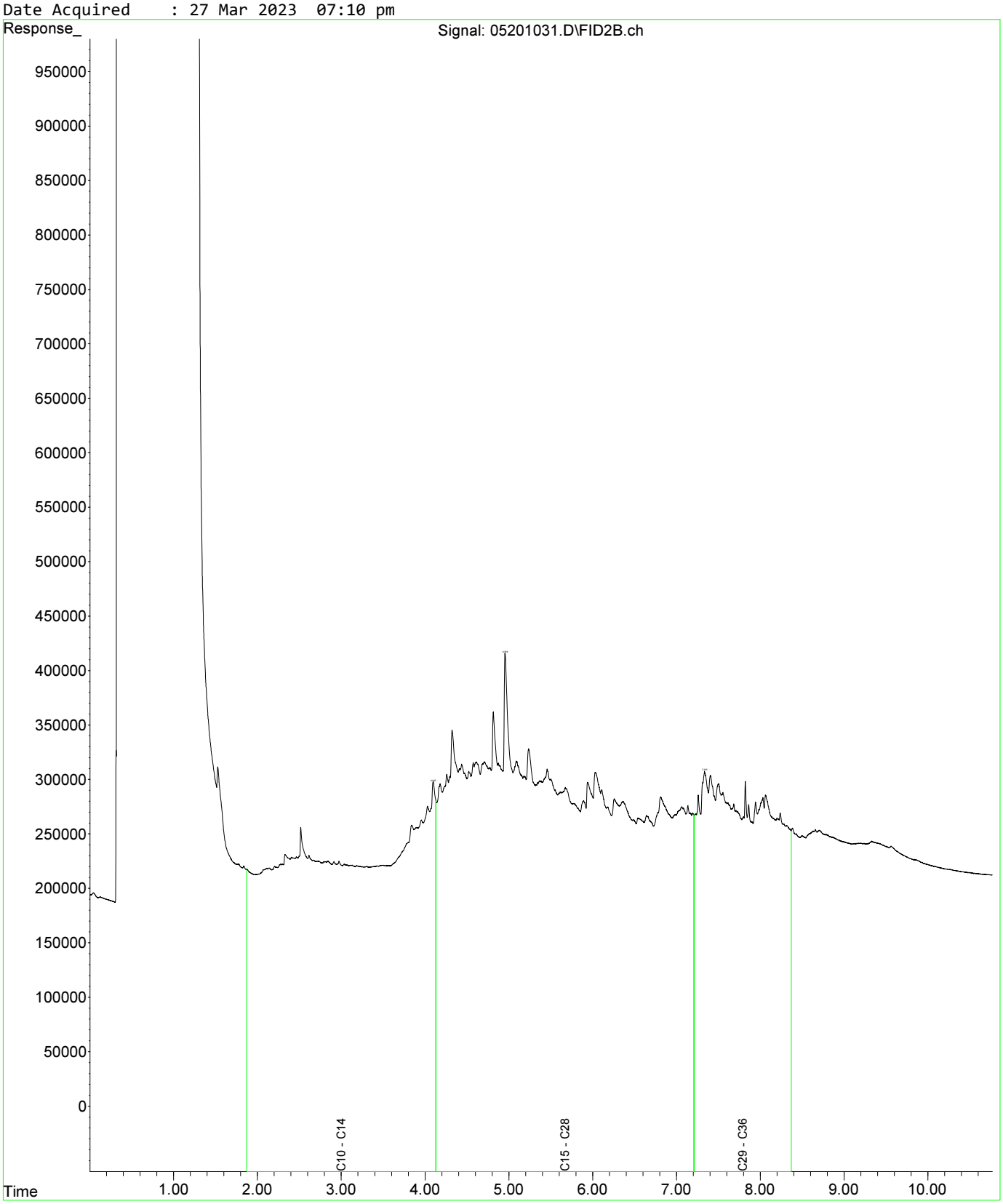

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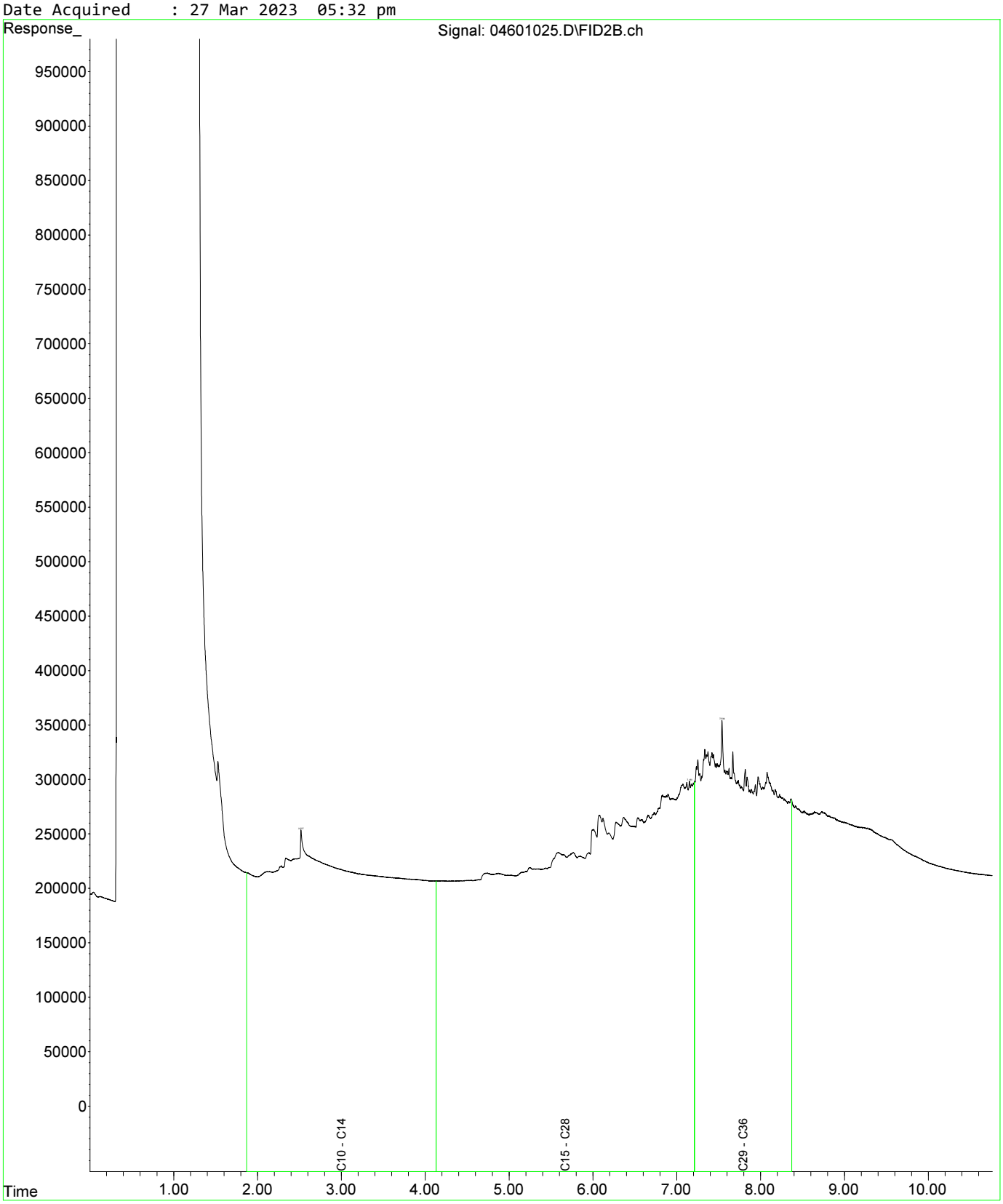

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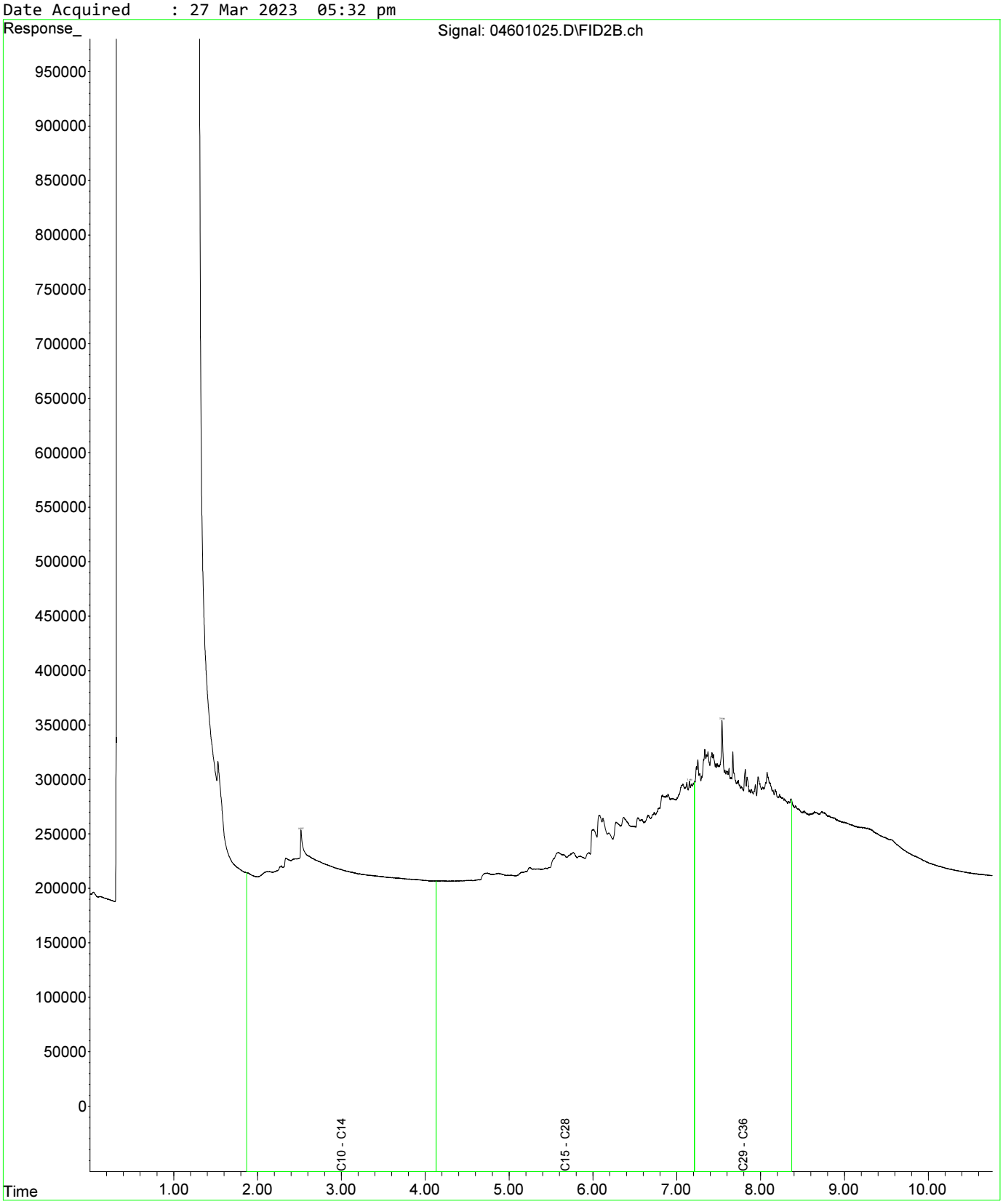

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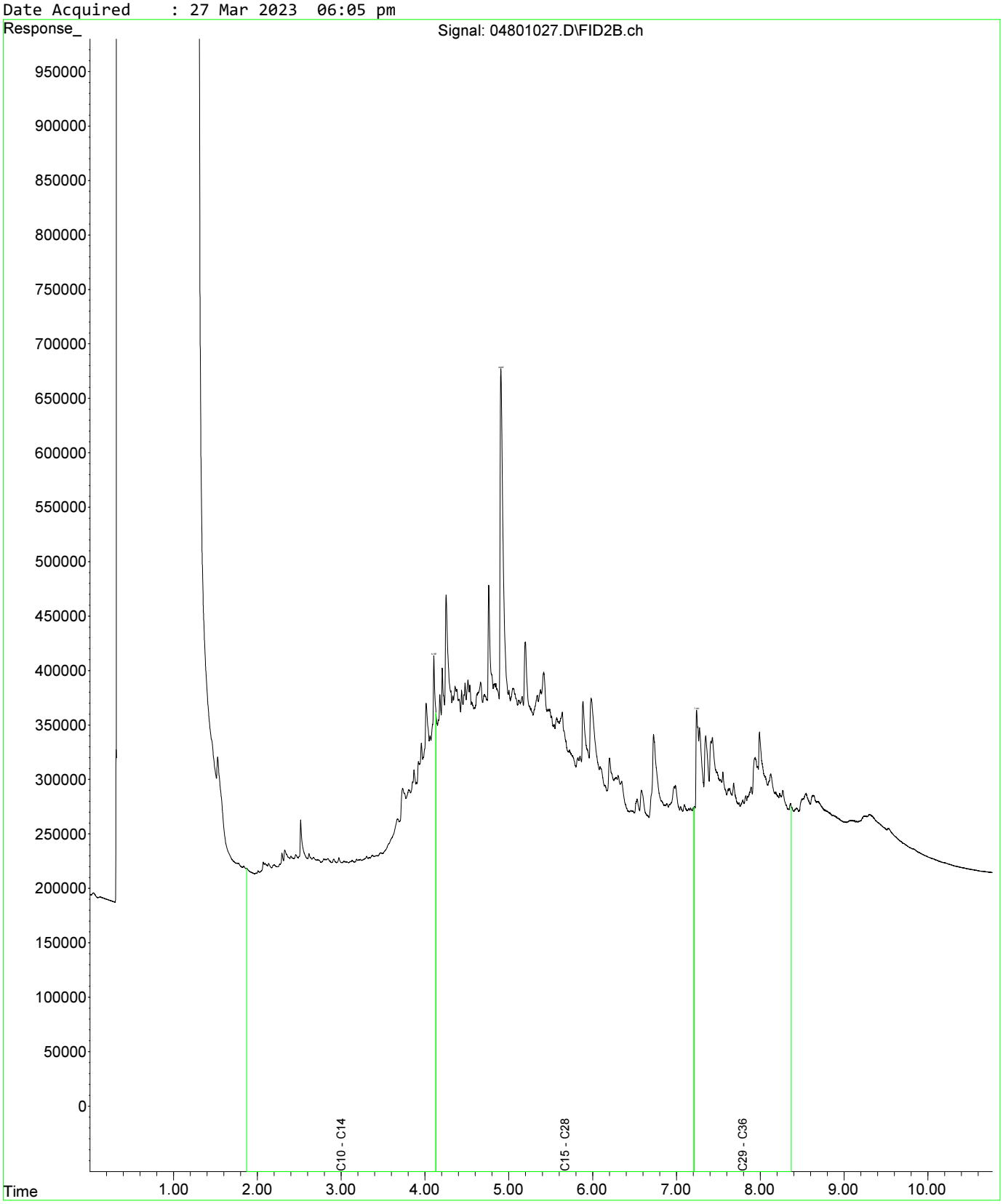

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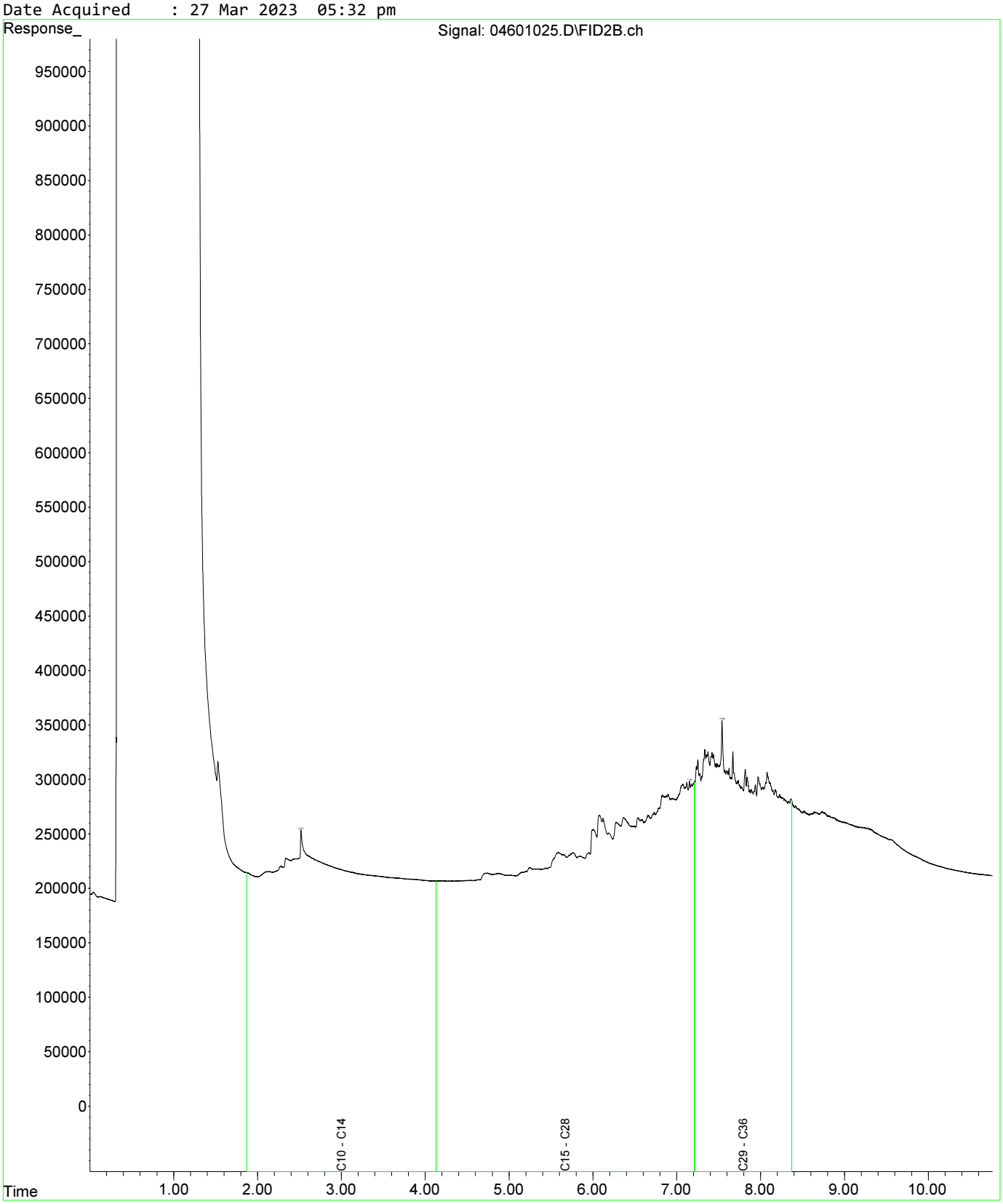

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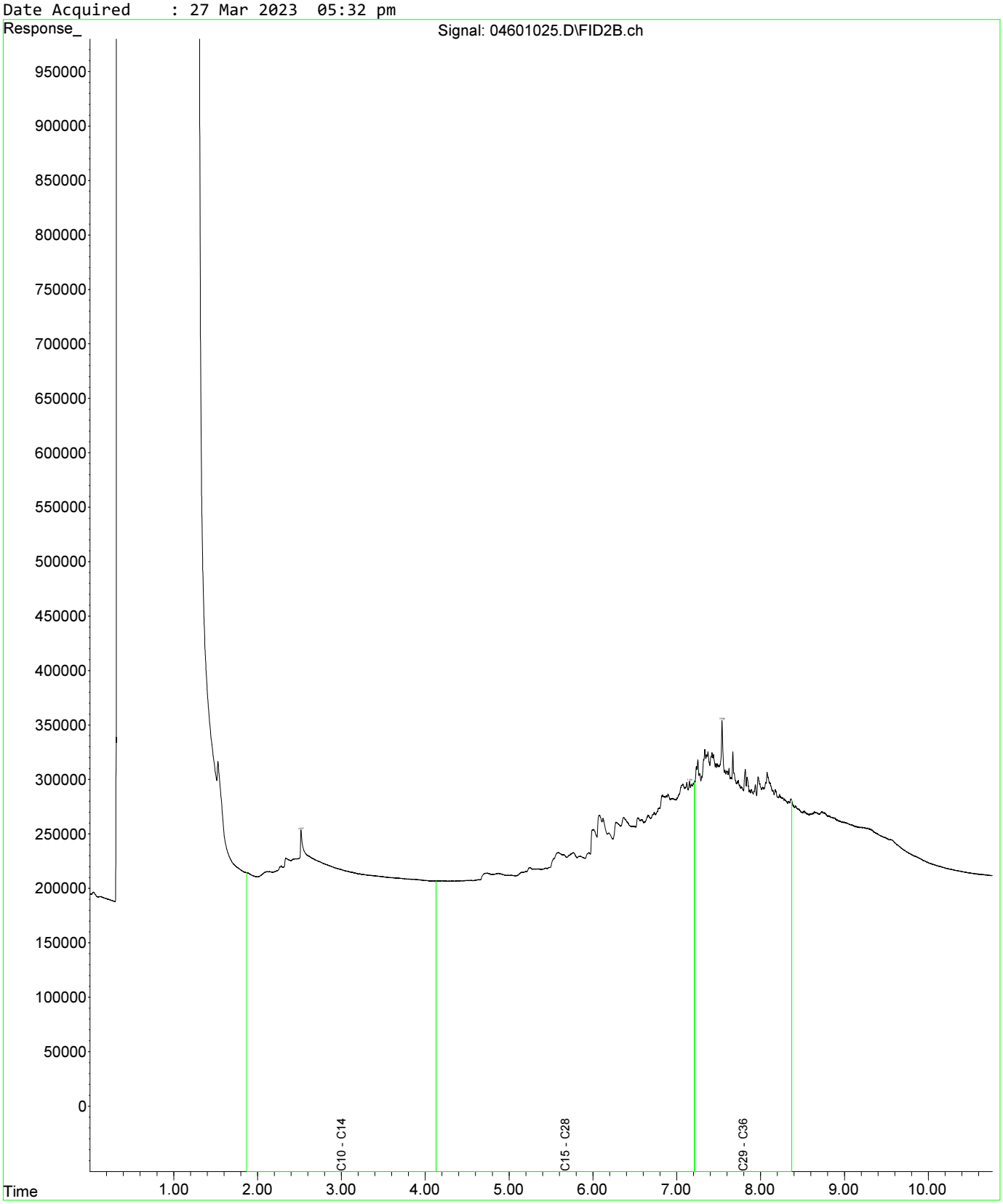

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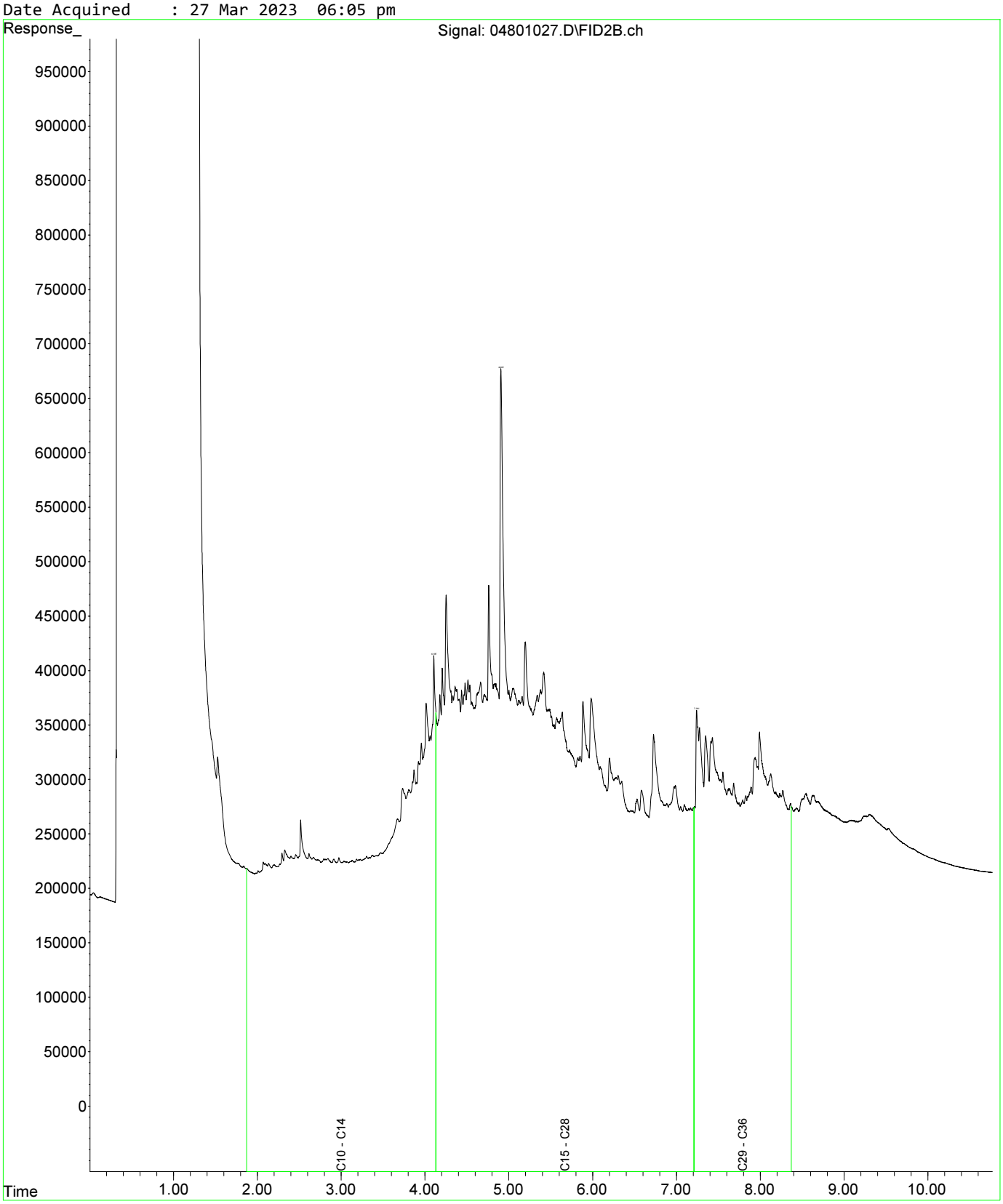

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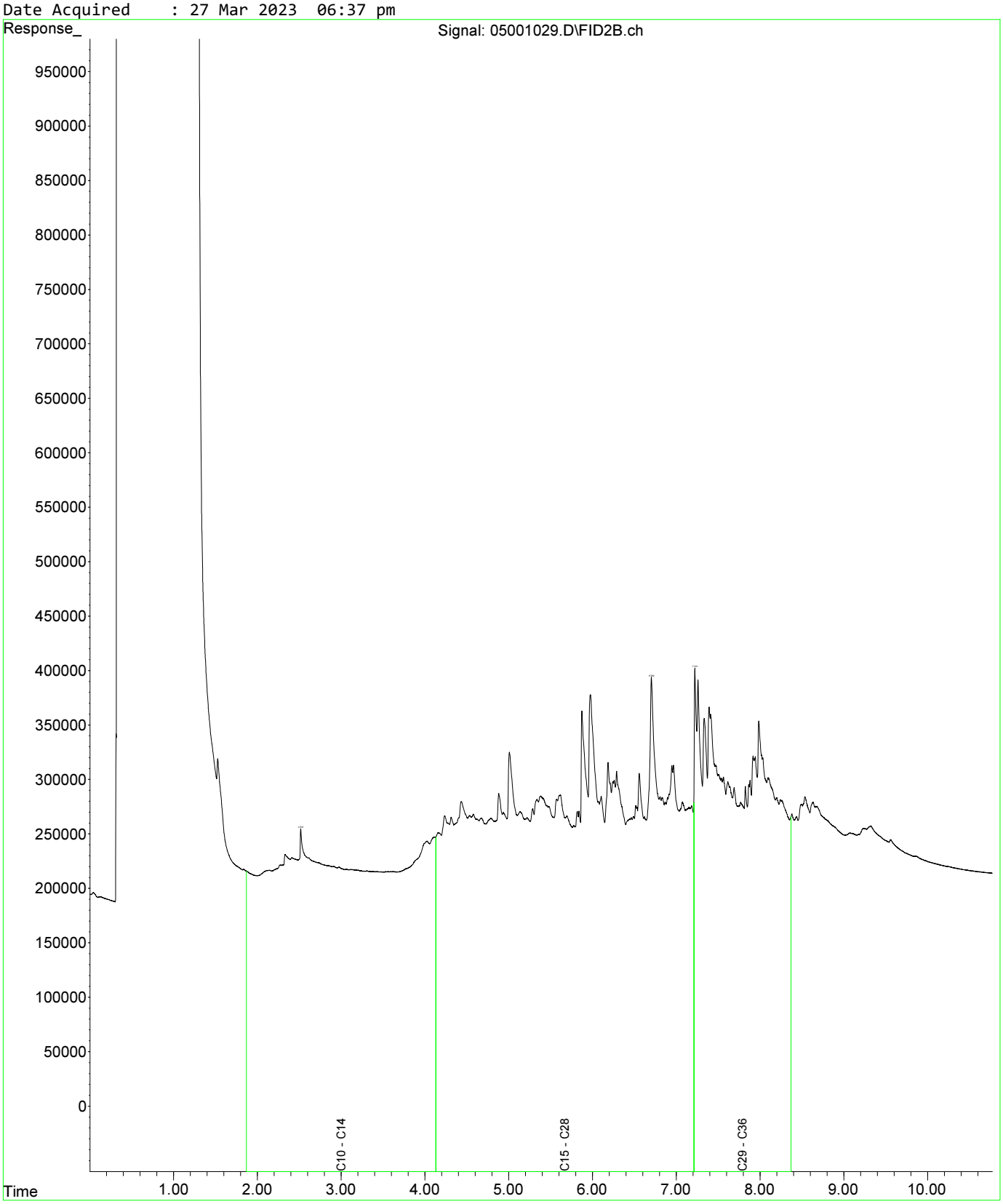

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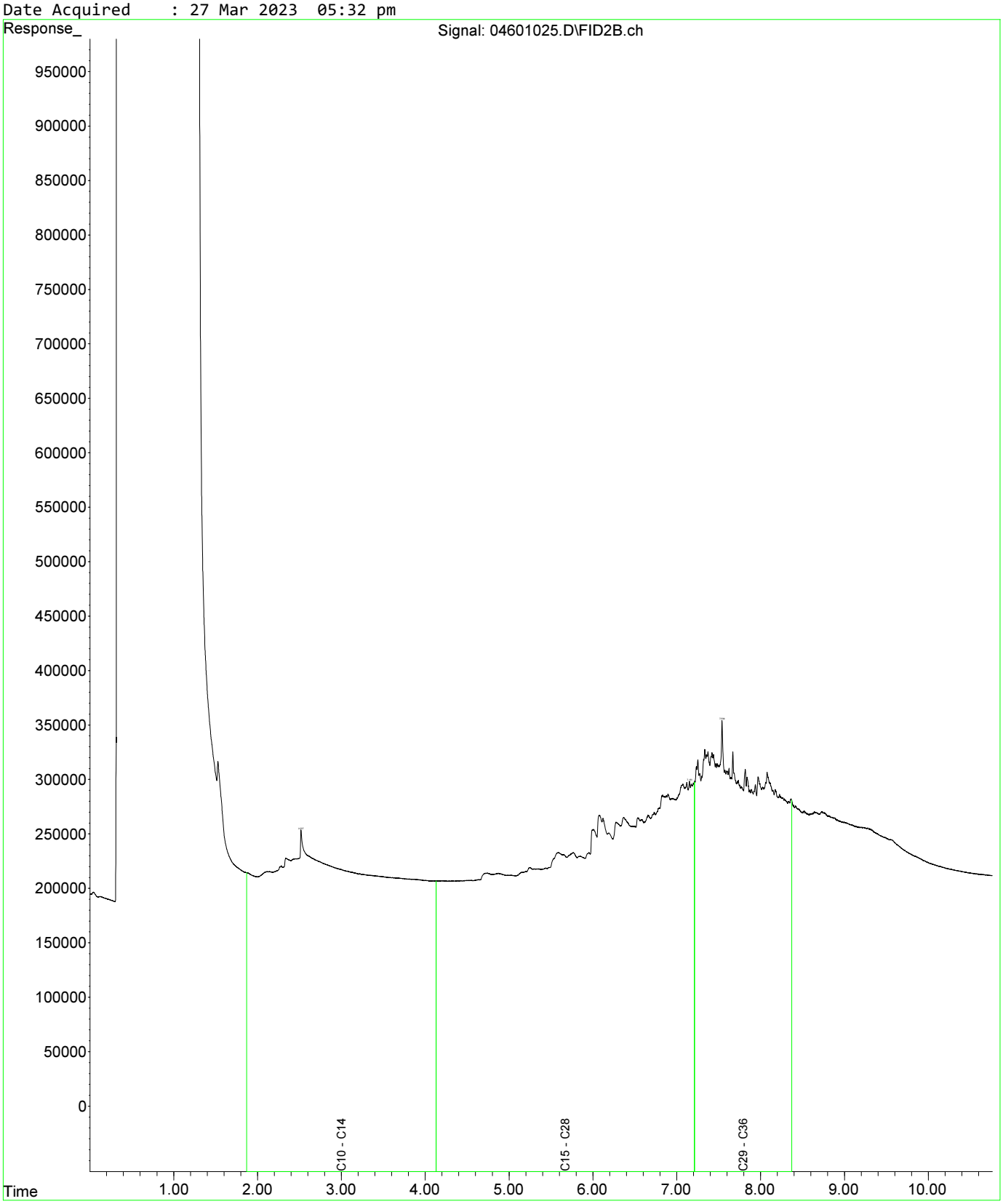

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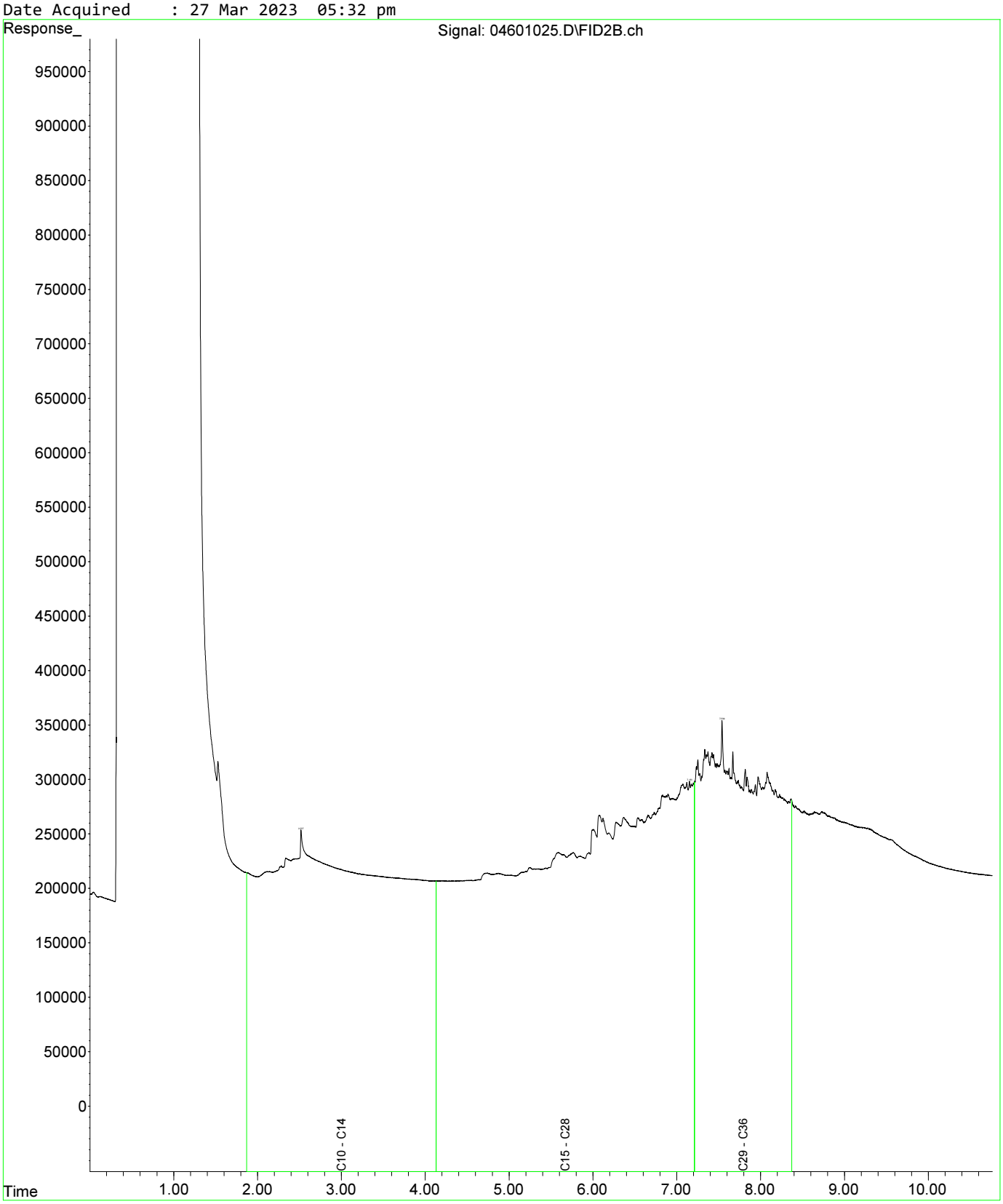

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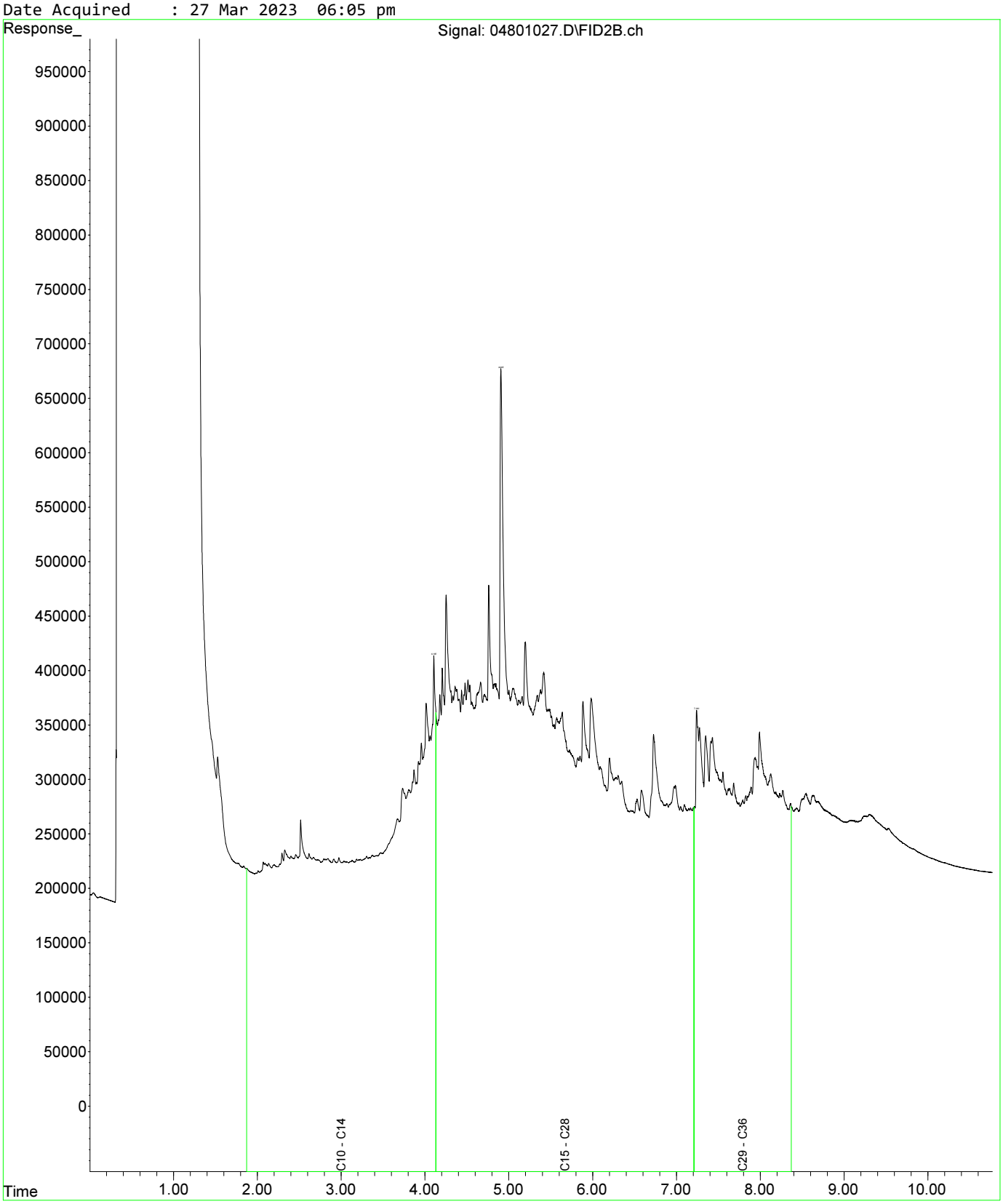

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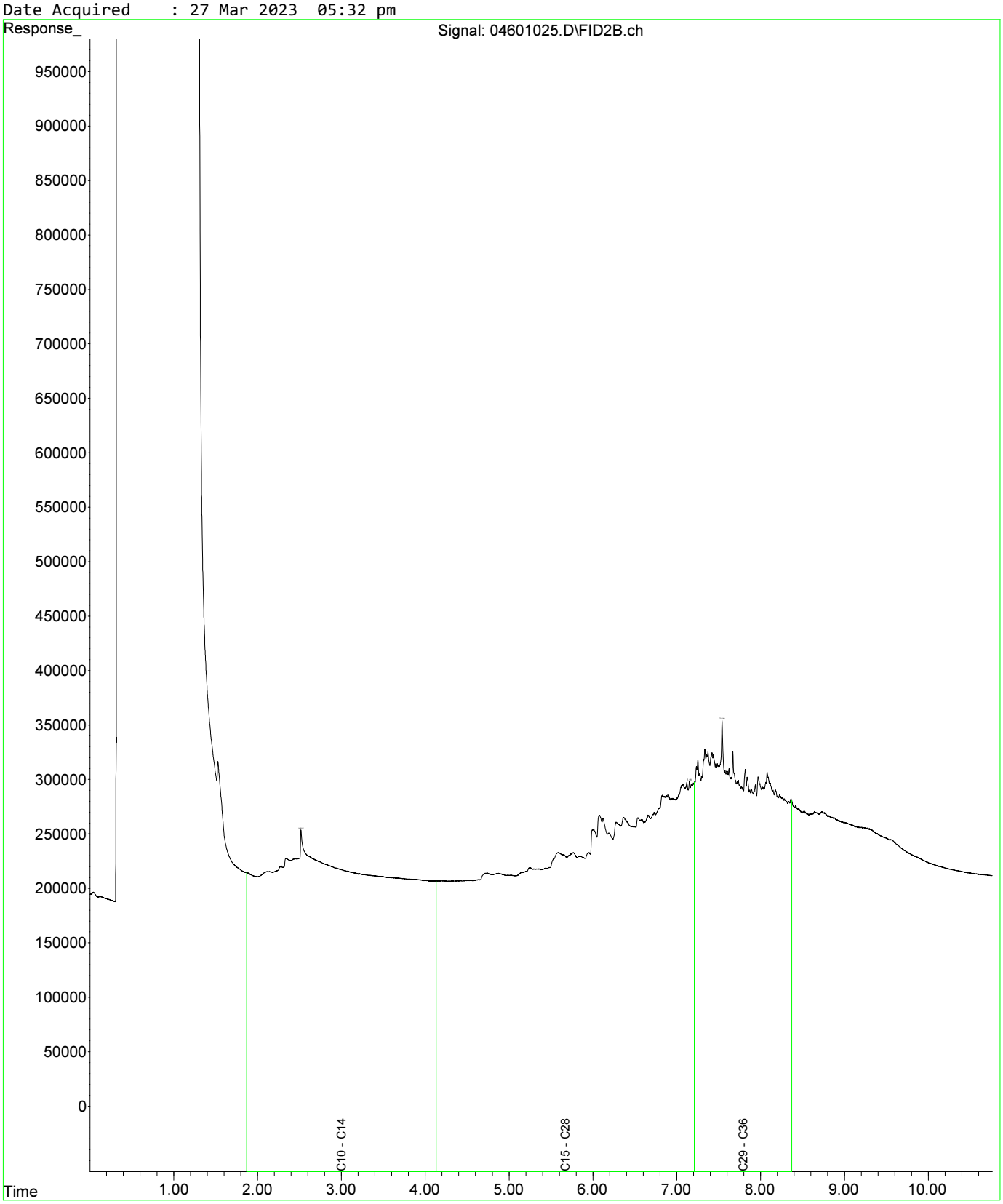
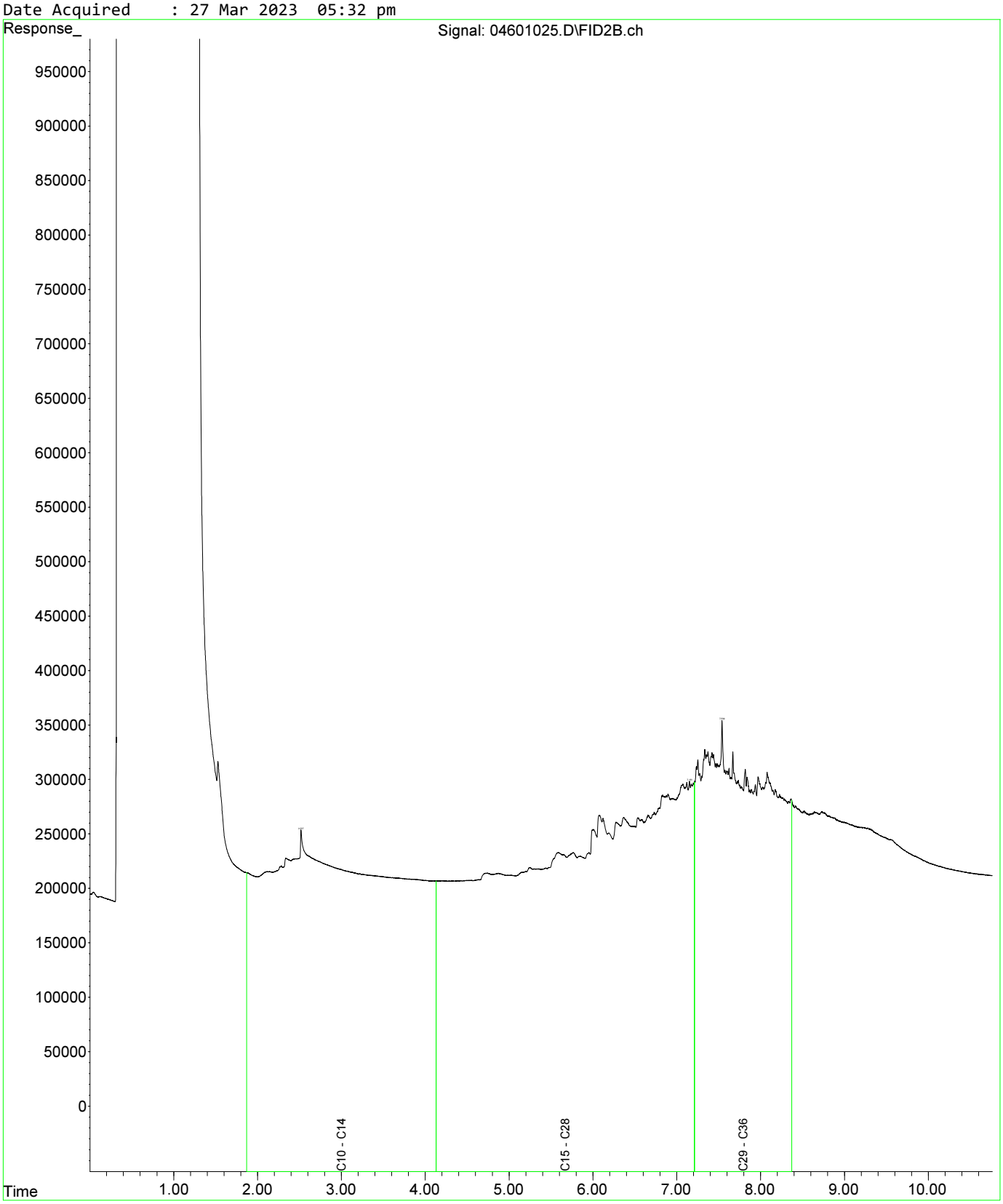
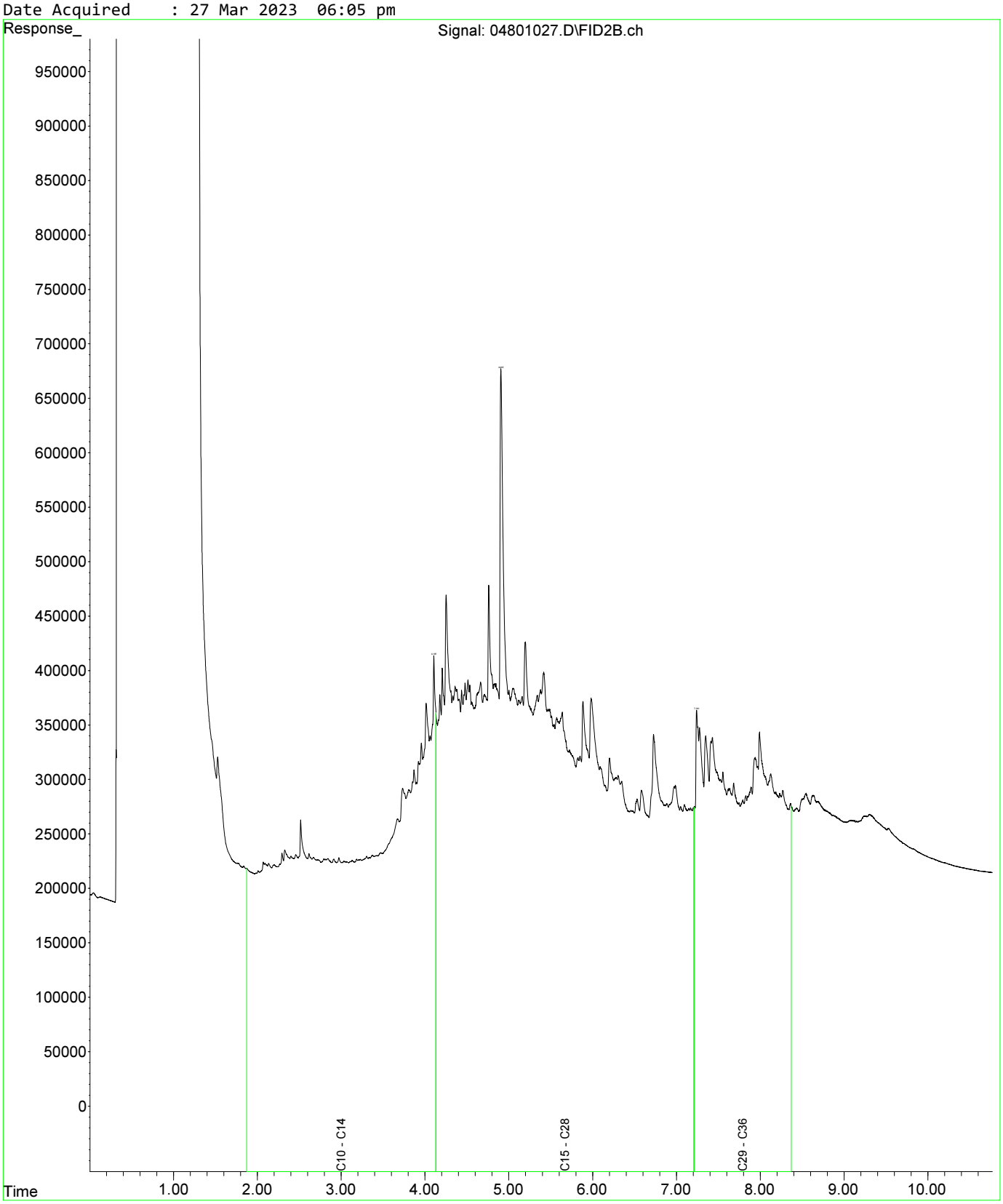
Date Acquired : 27 Mar 2023 05:32 pm



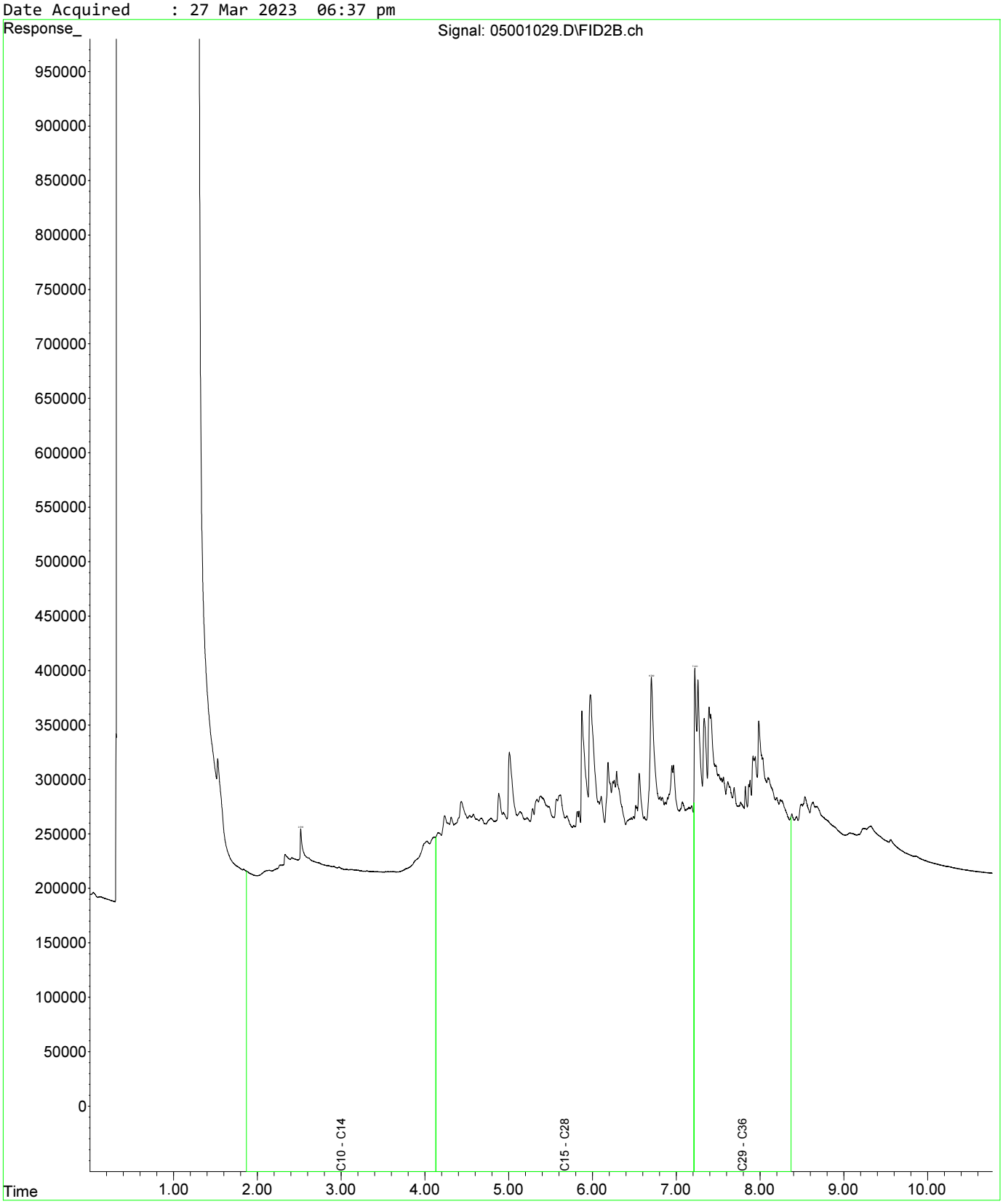
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



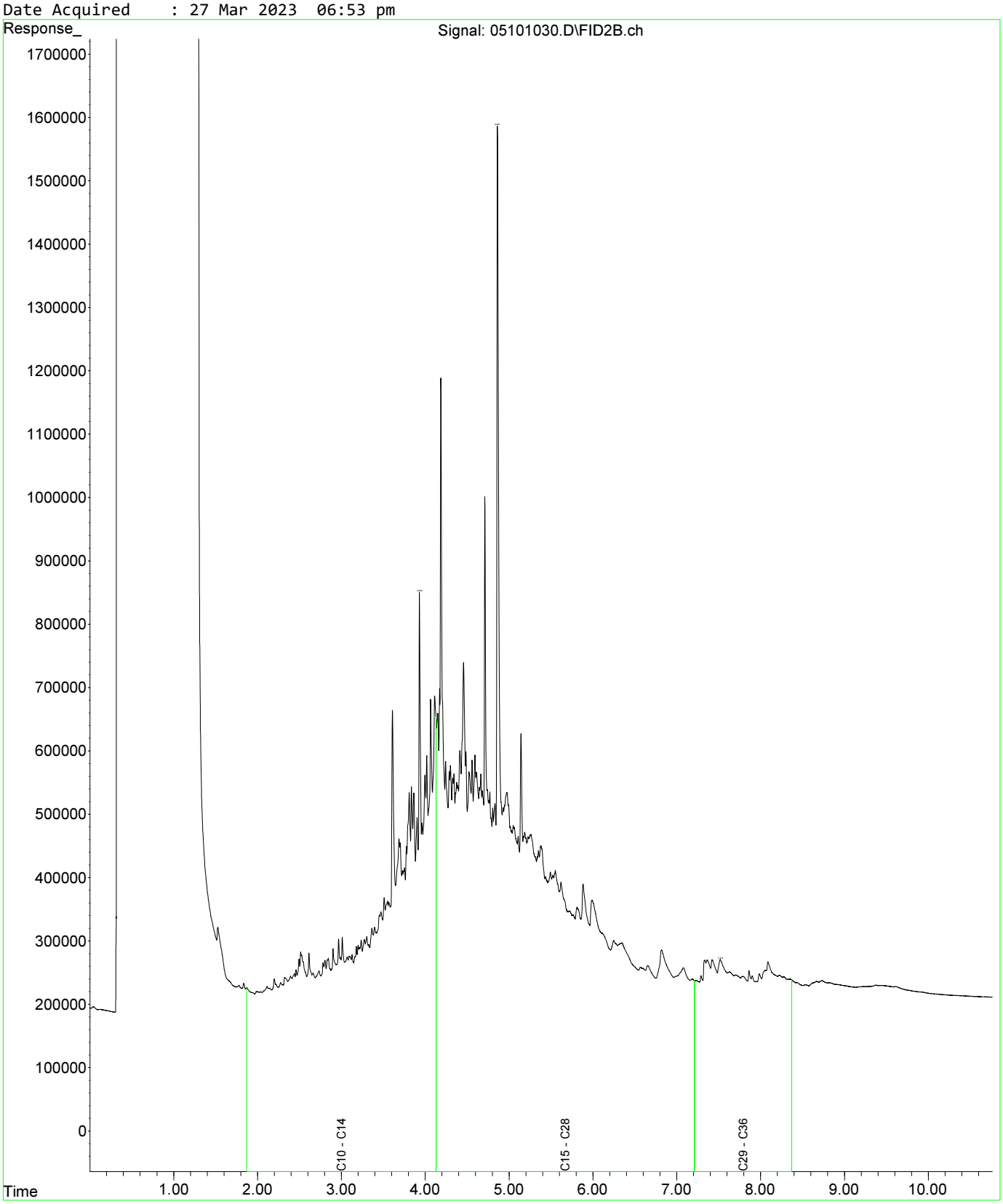
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



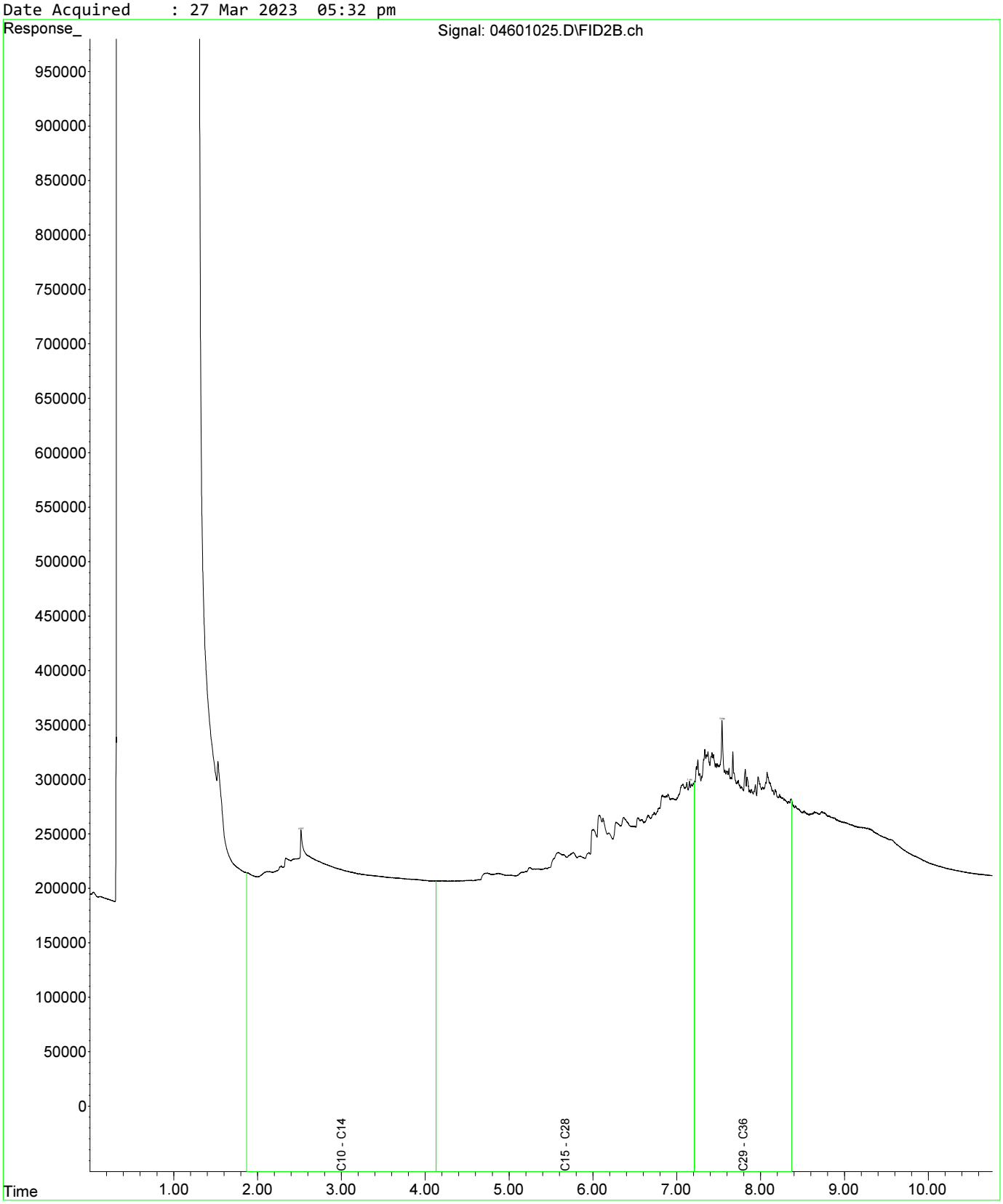
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



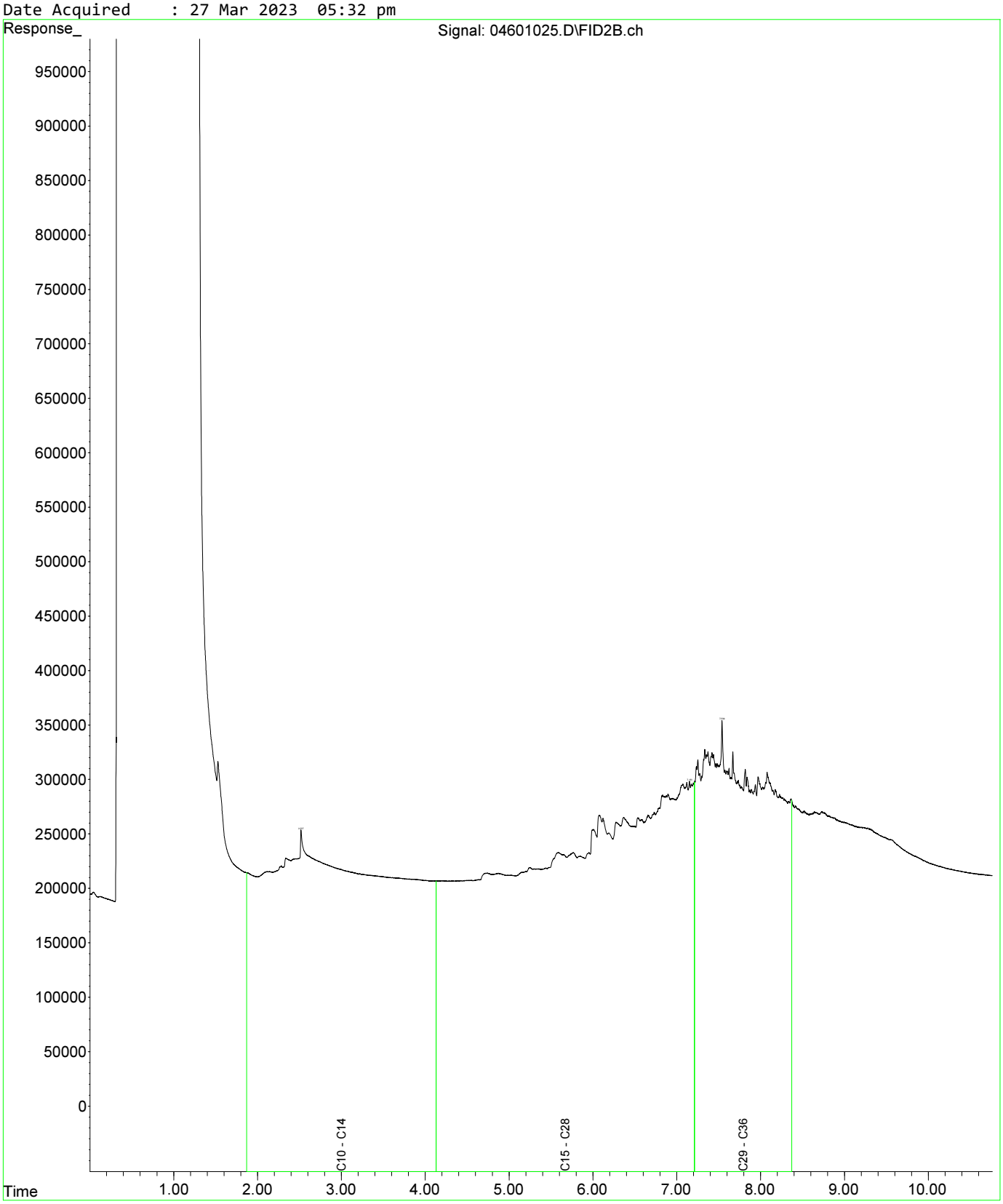
Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



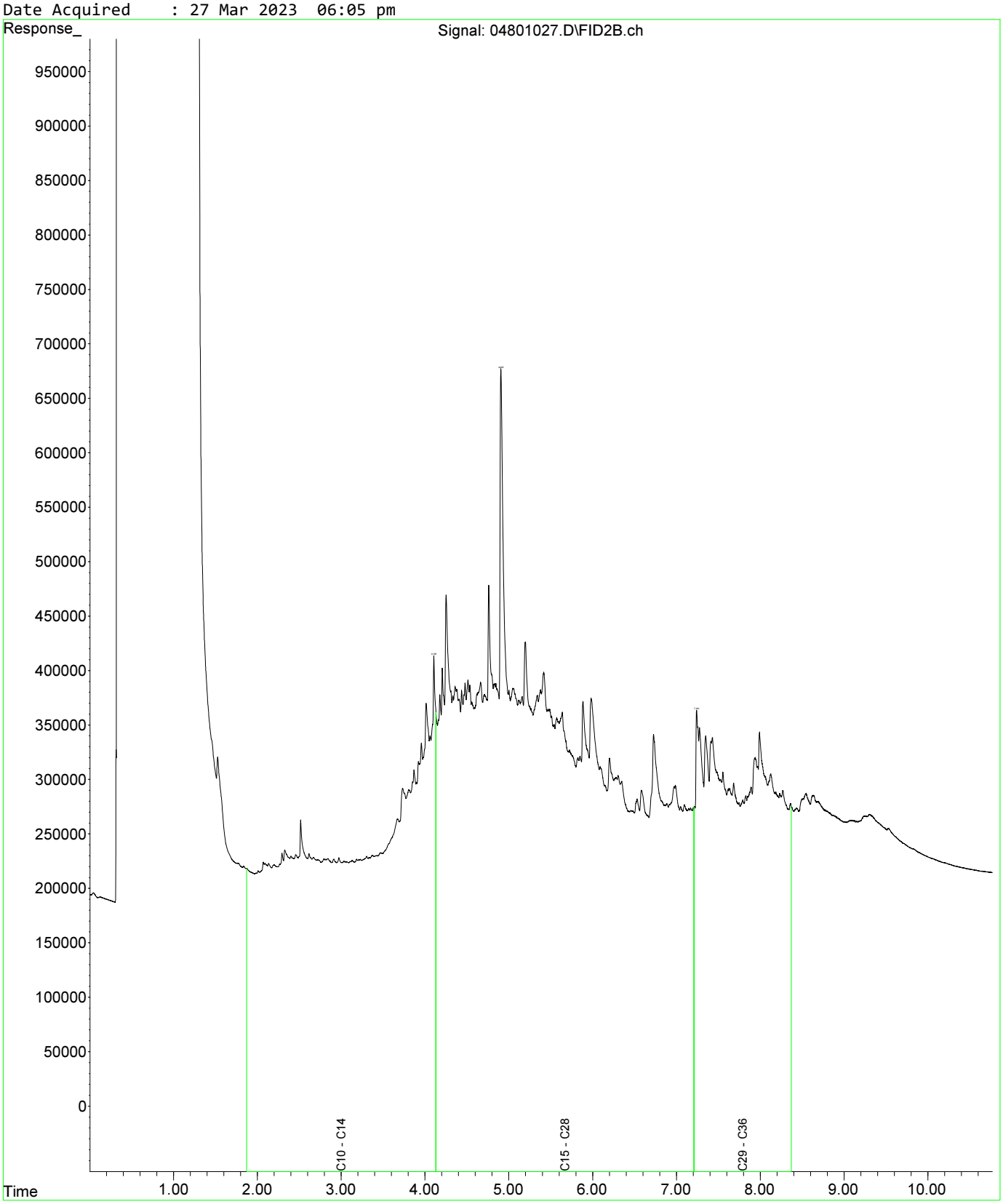
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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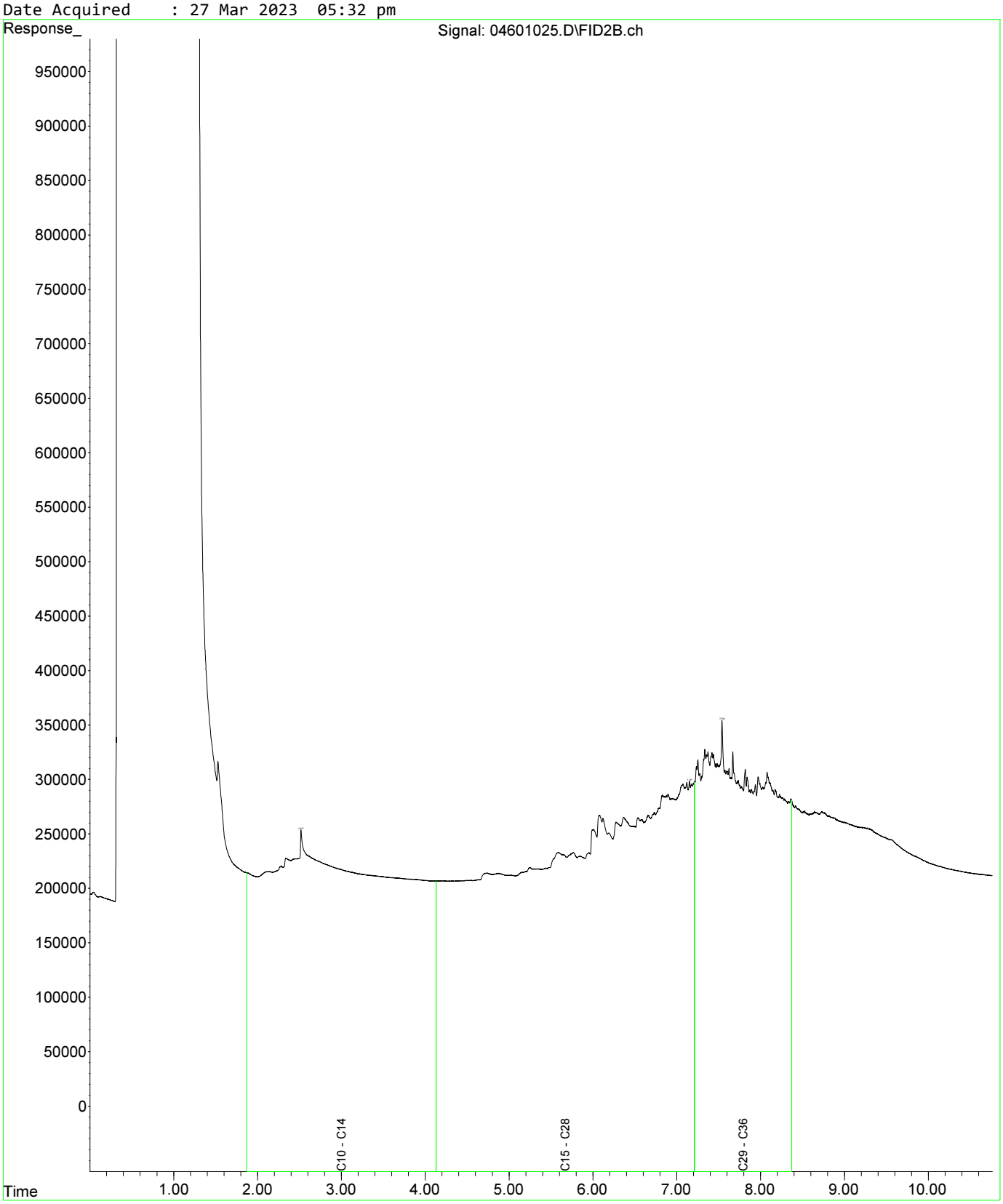
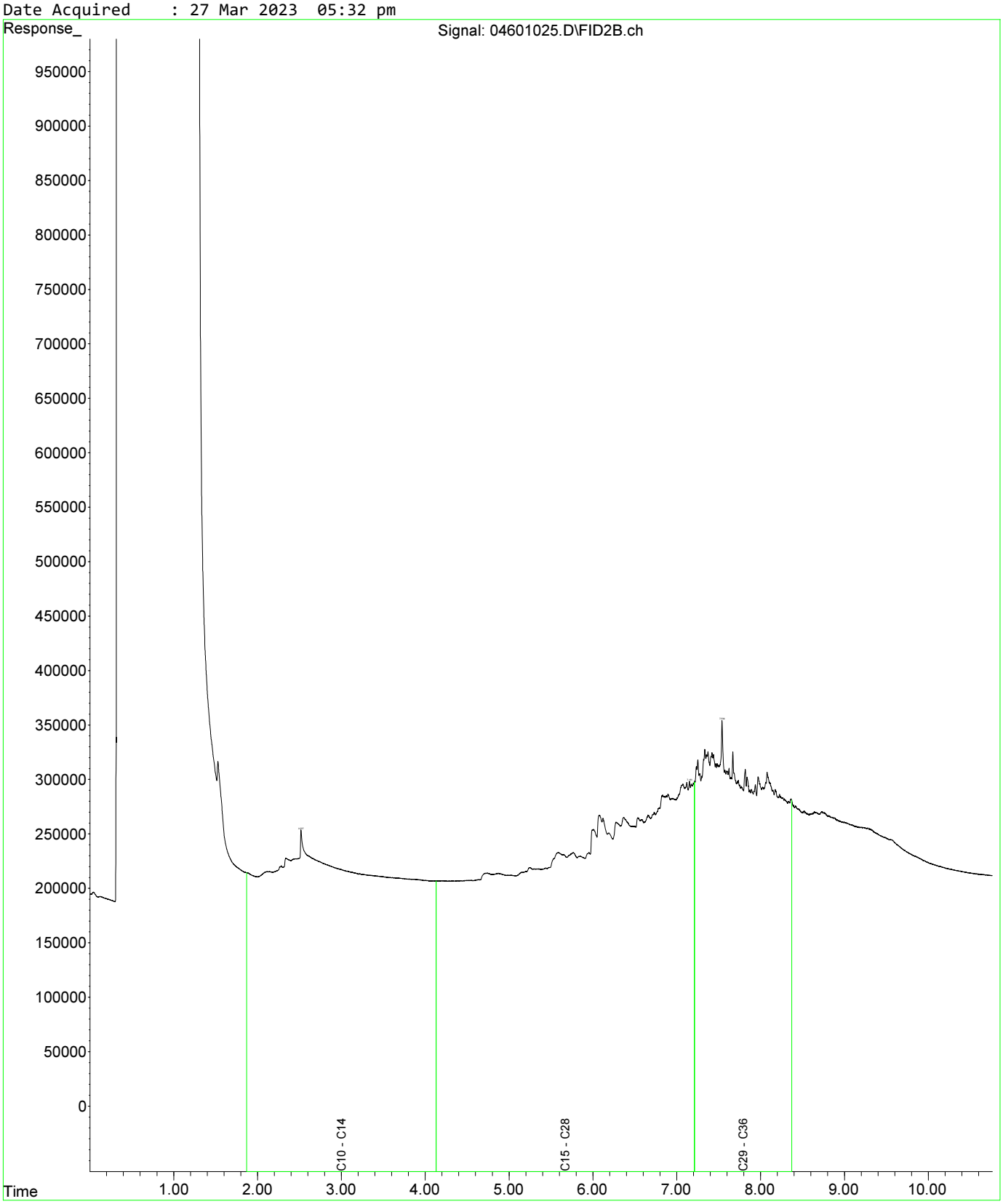
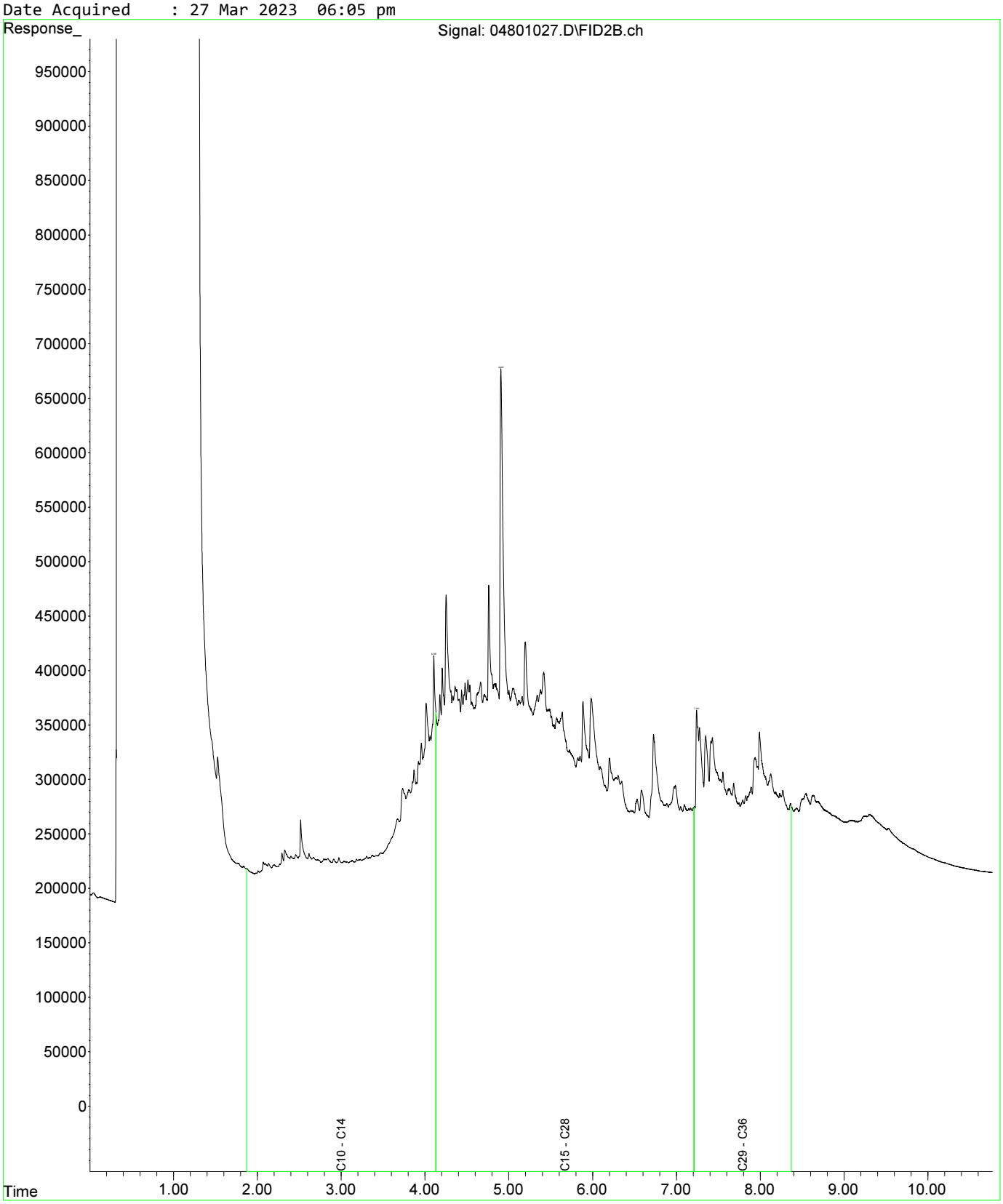
Date Acquired : 27 Mar 2023 05:32 pm



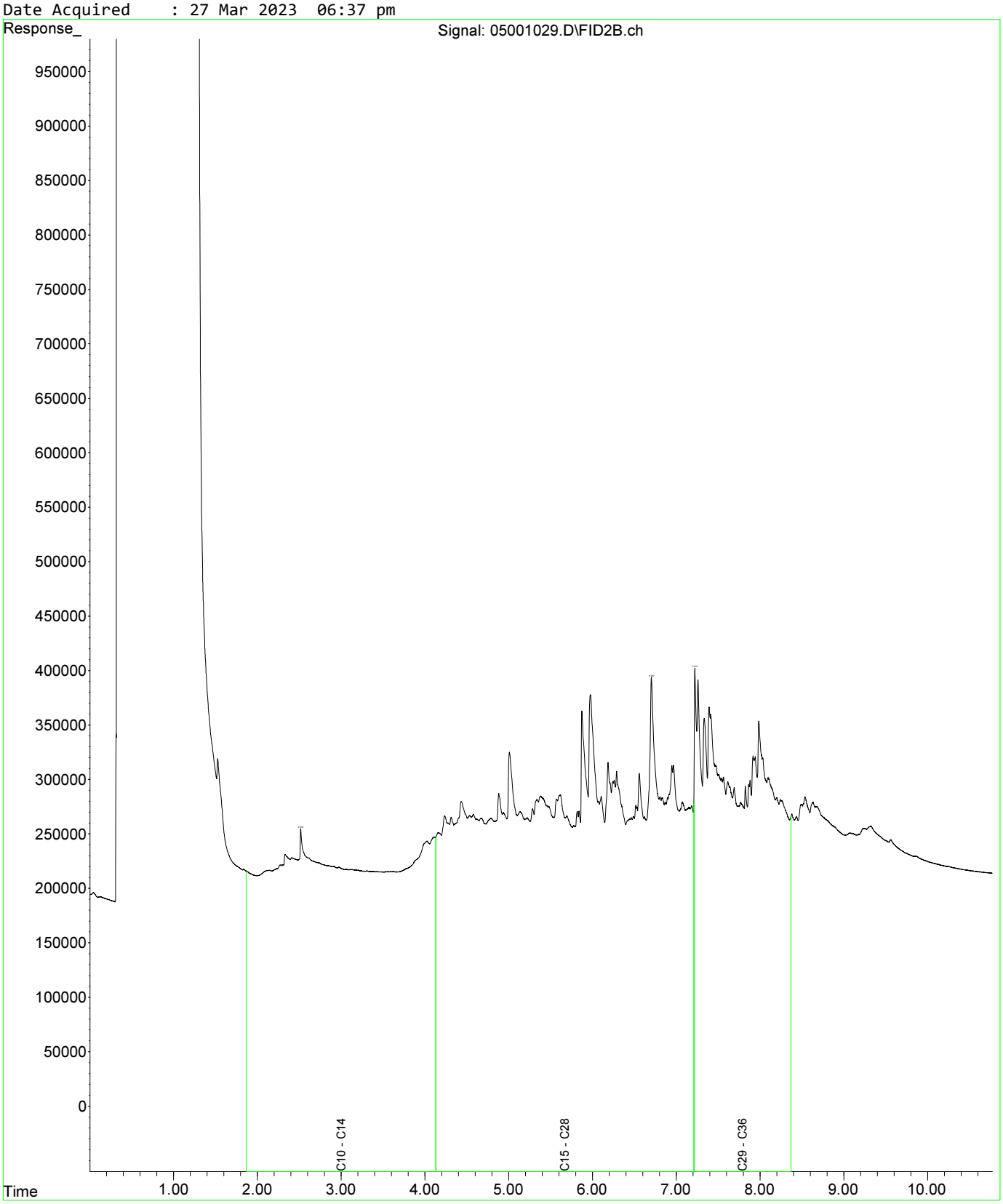
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



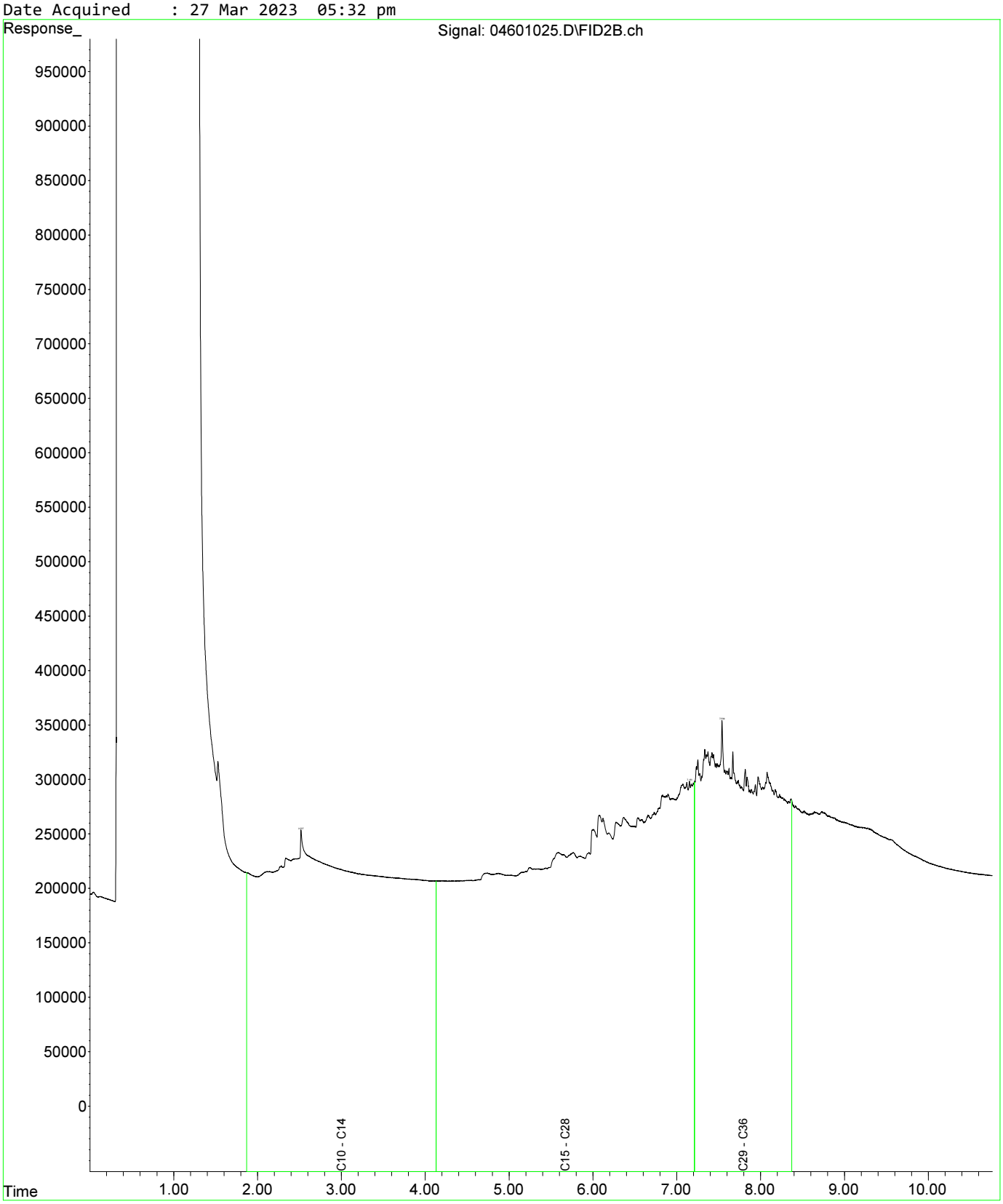
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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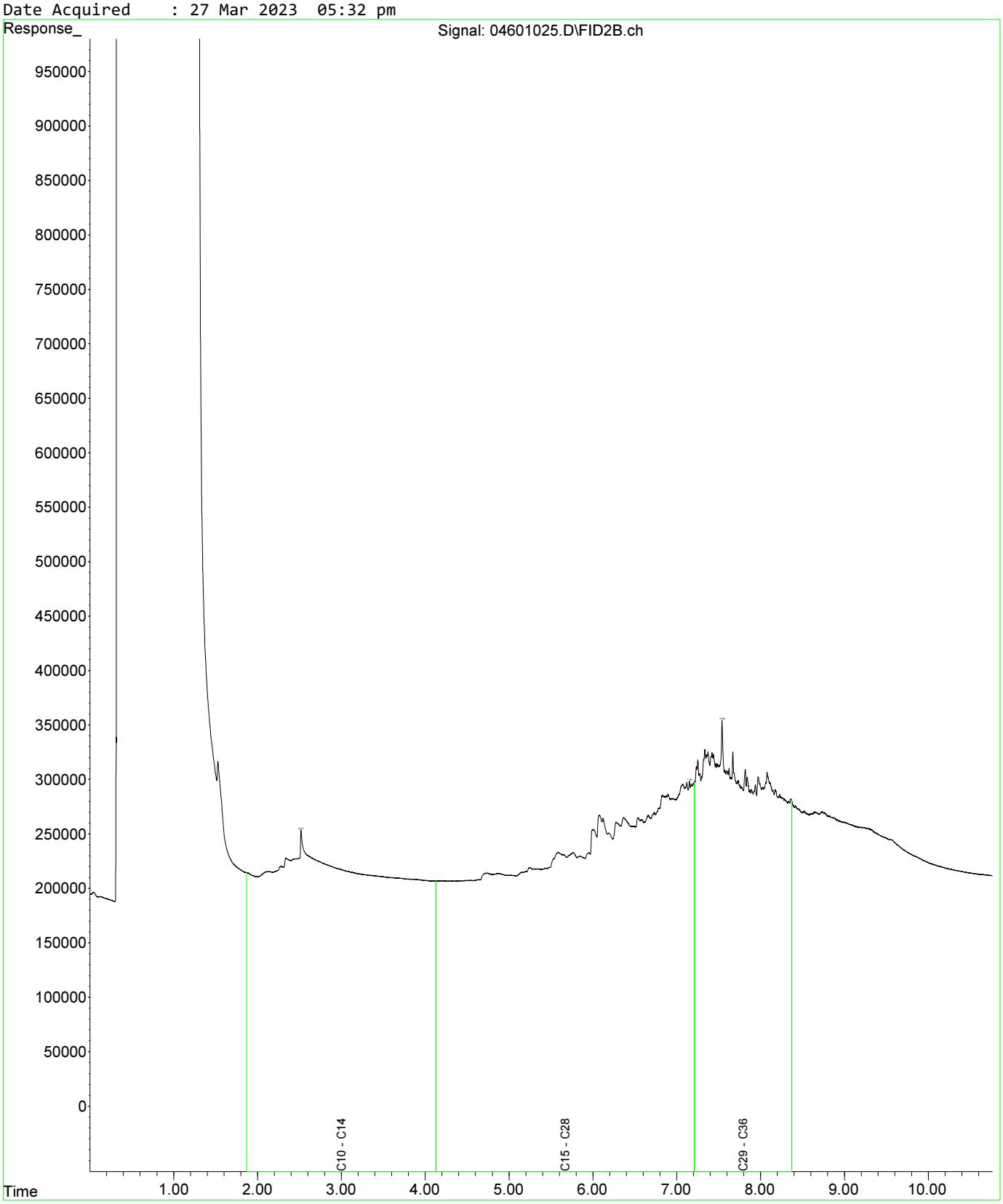
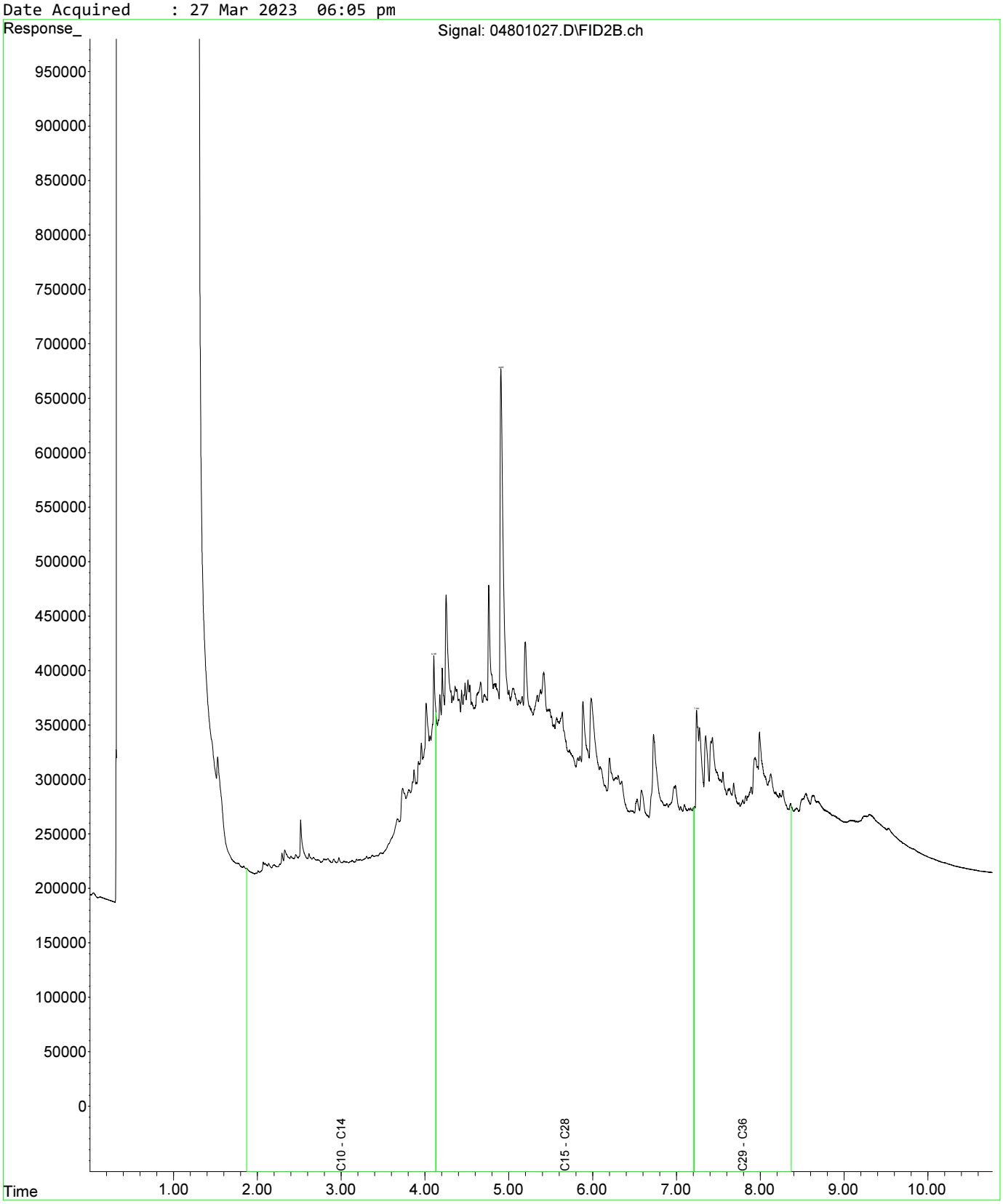
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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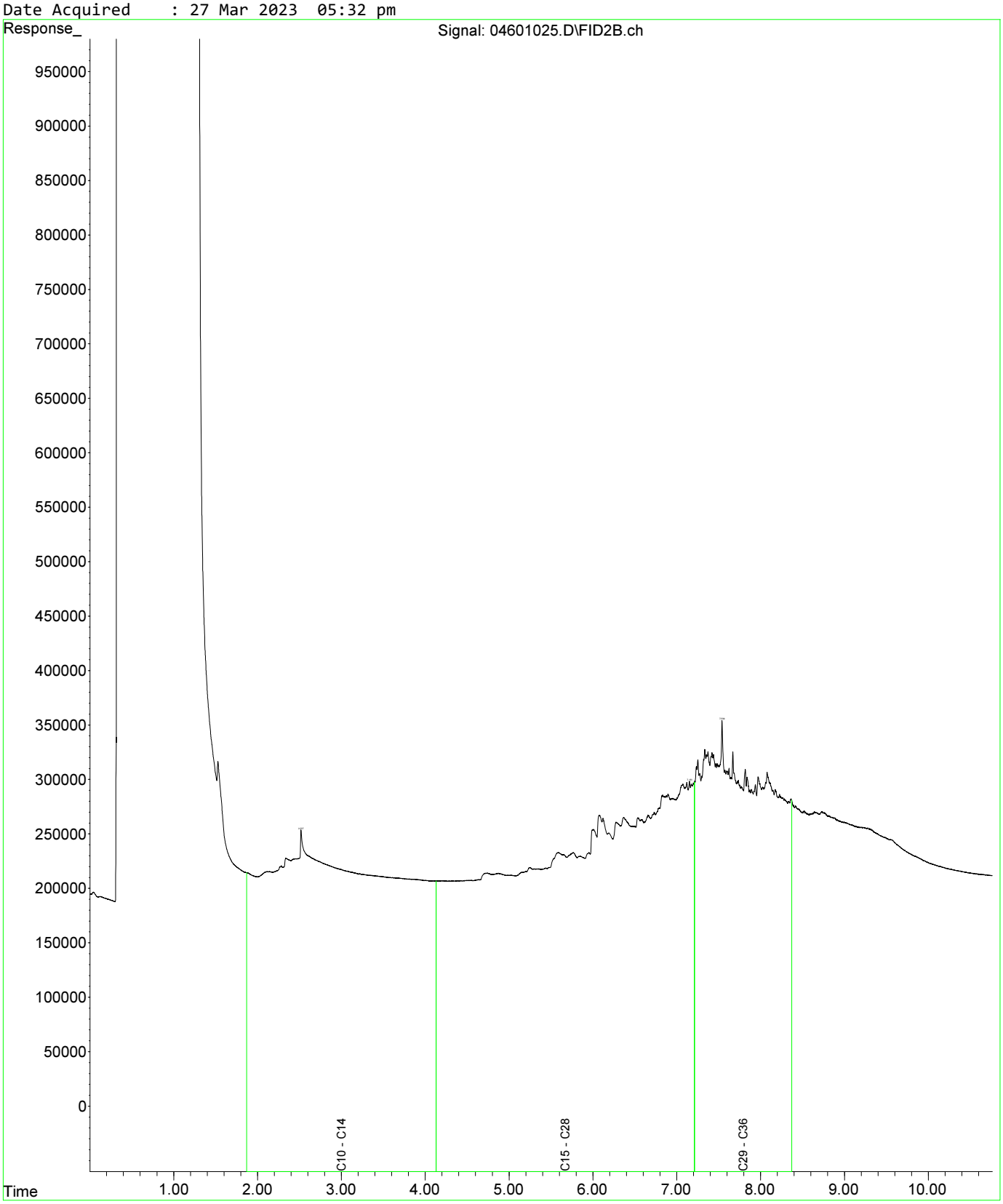
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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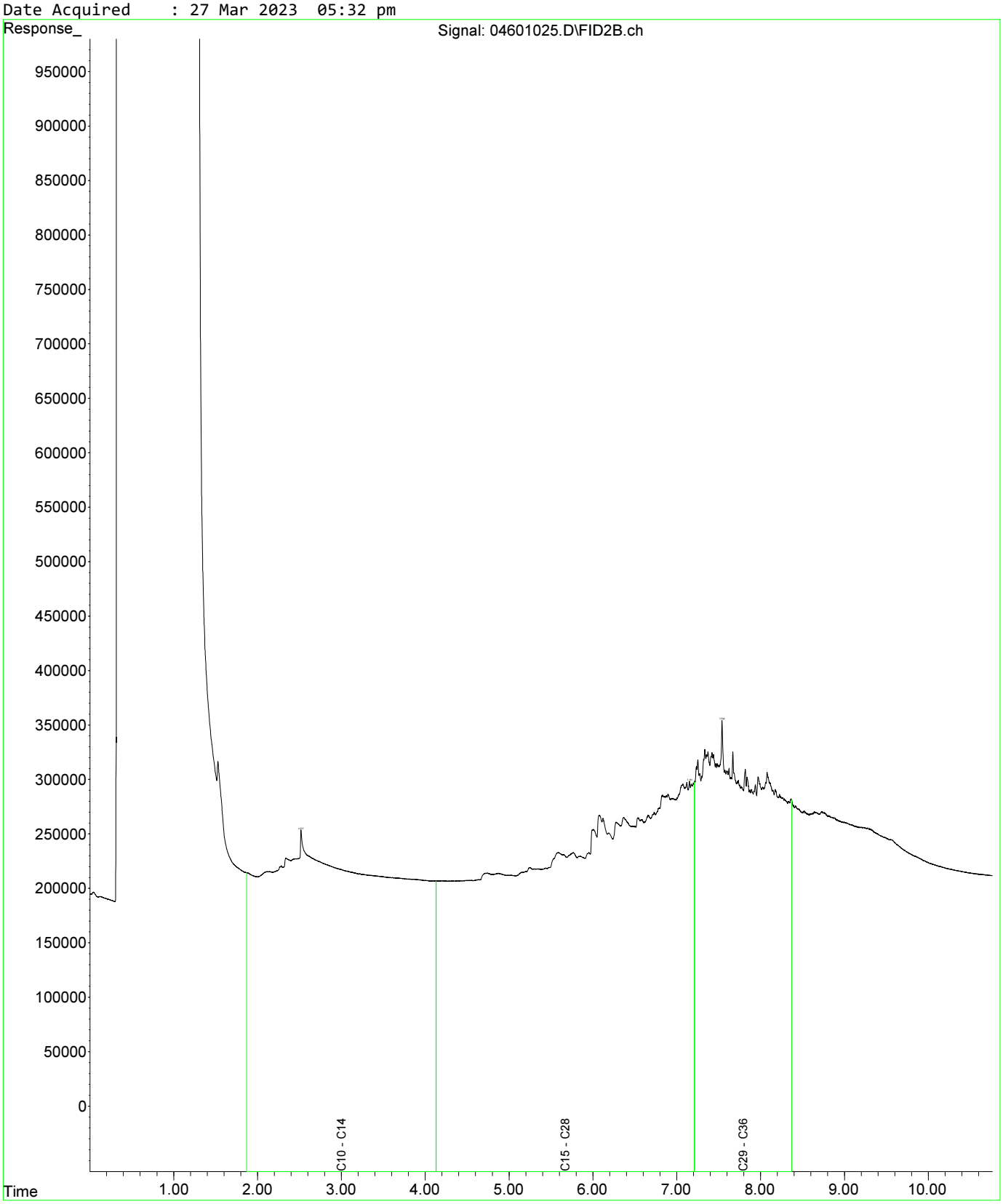
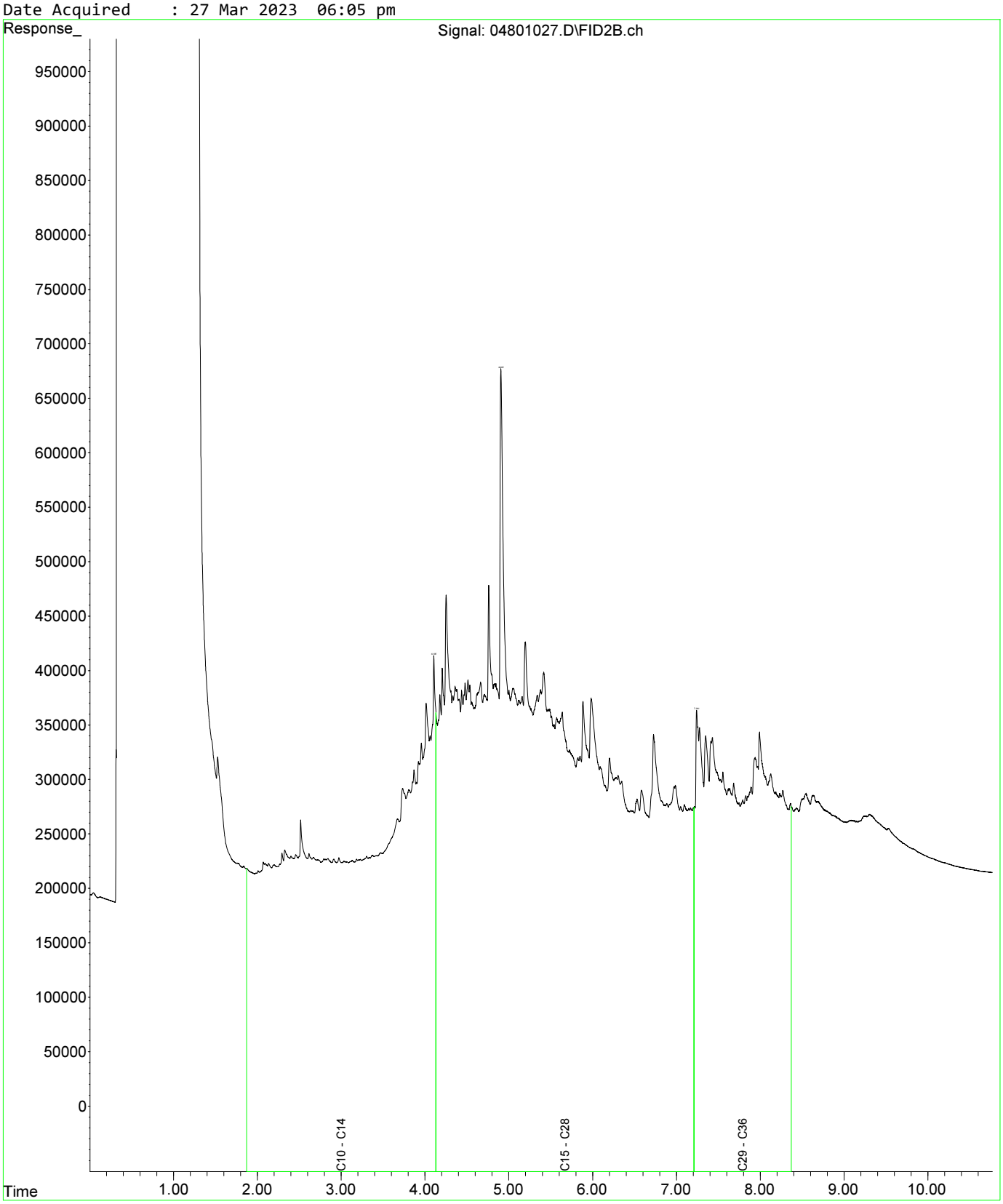
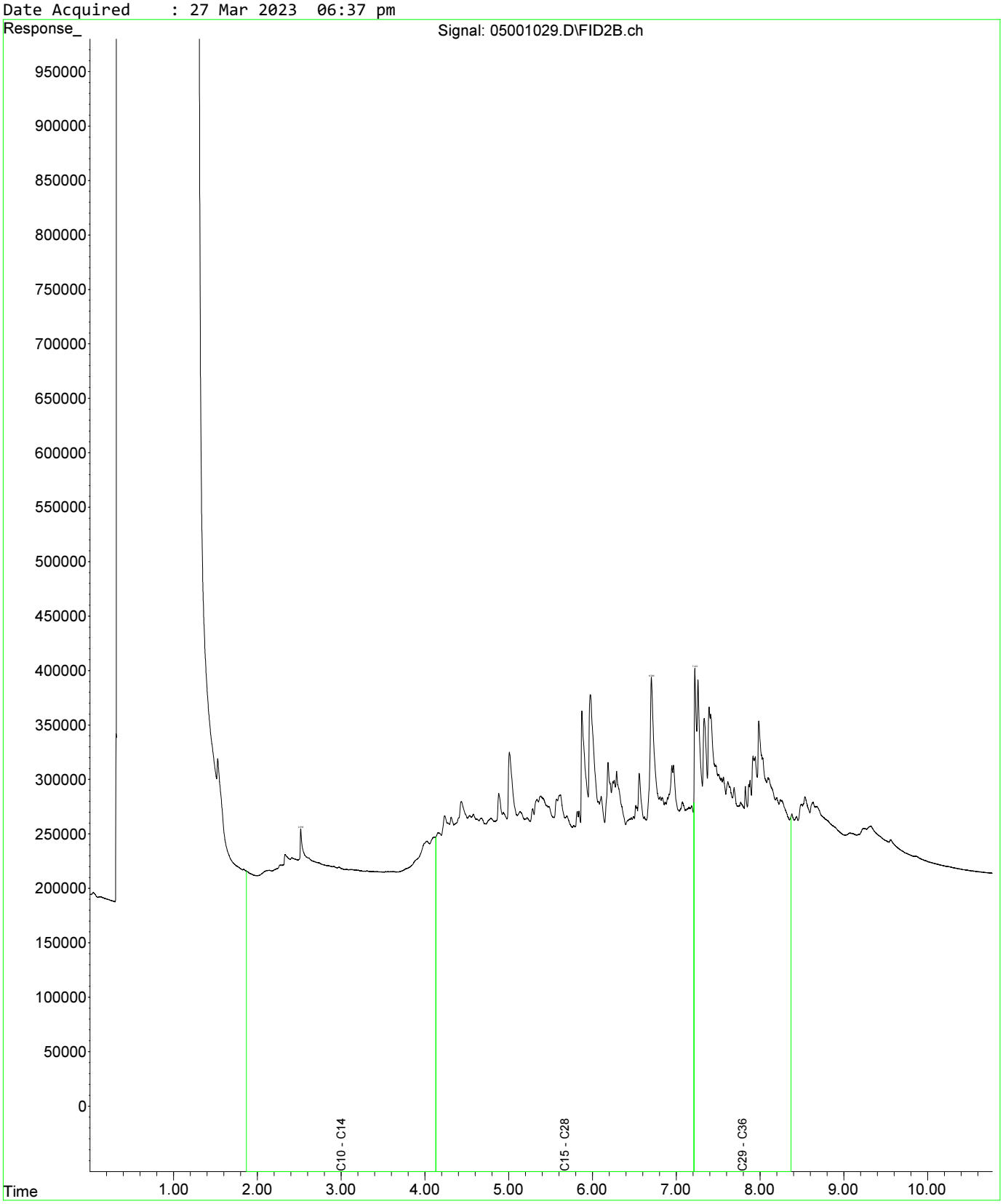


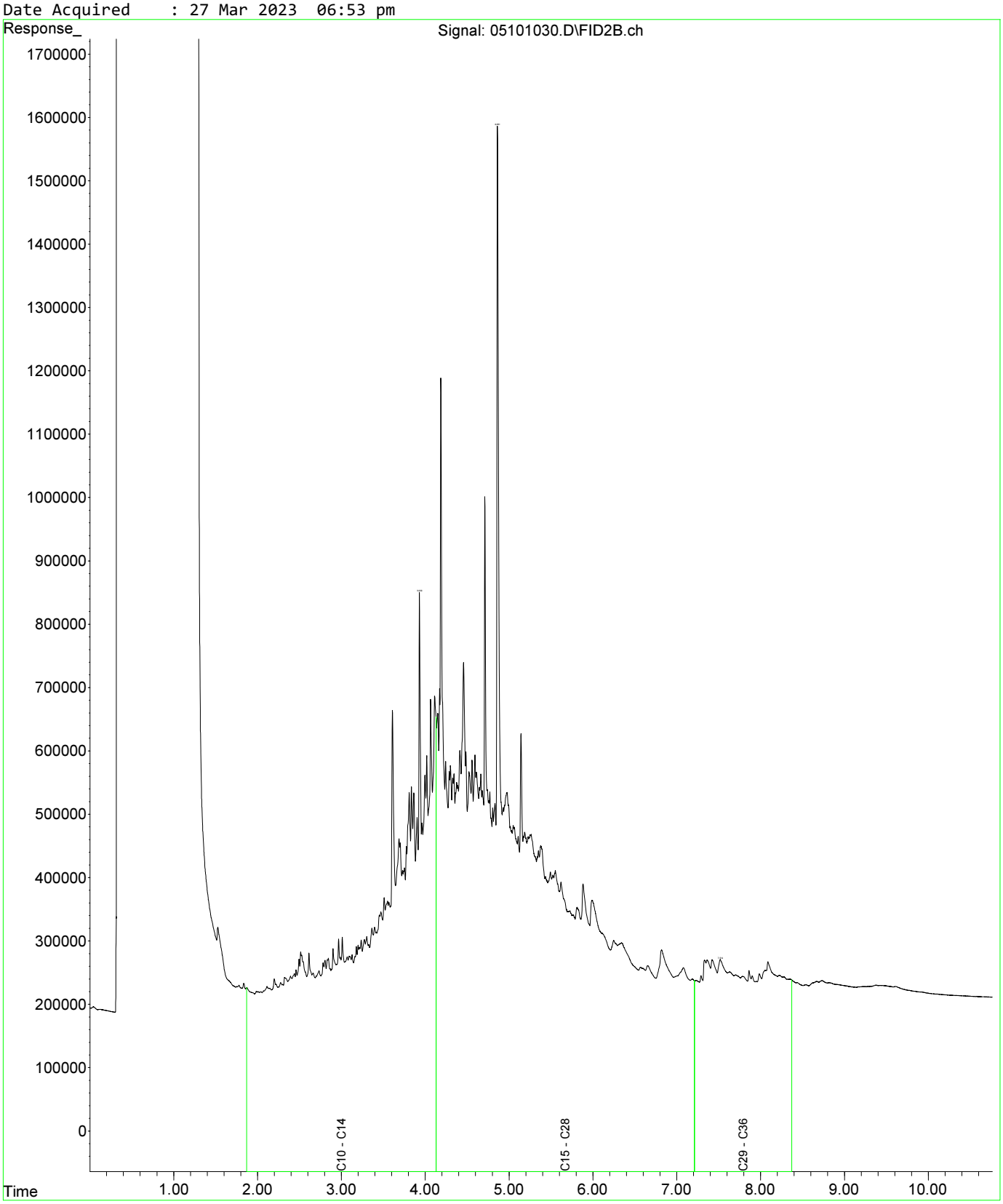
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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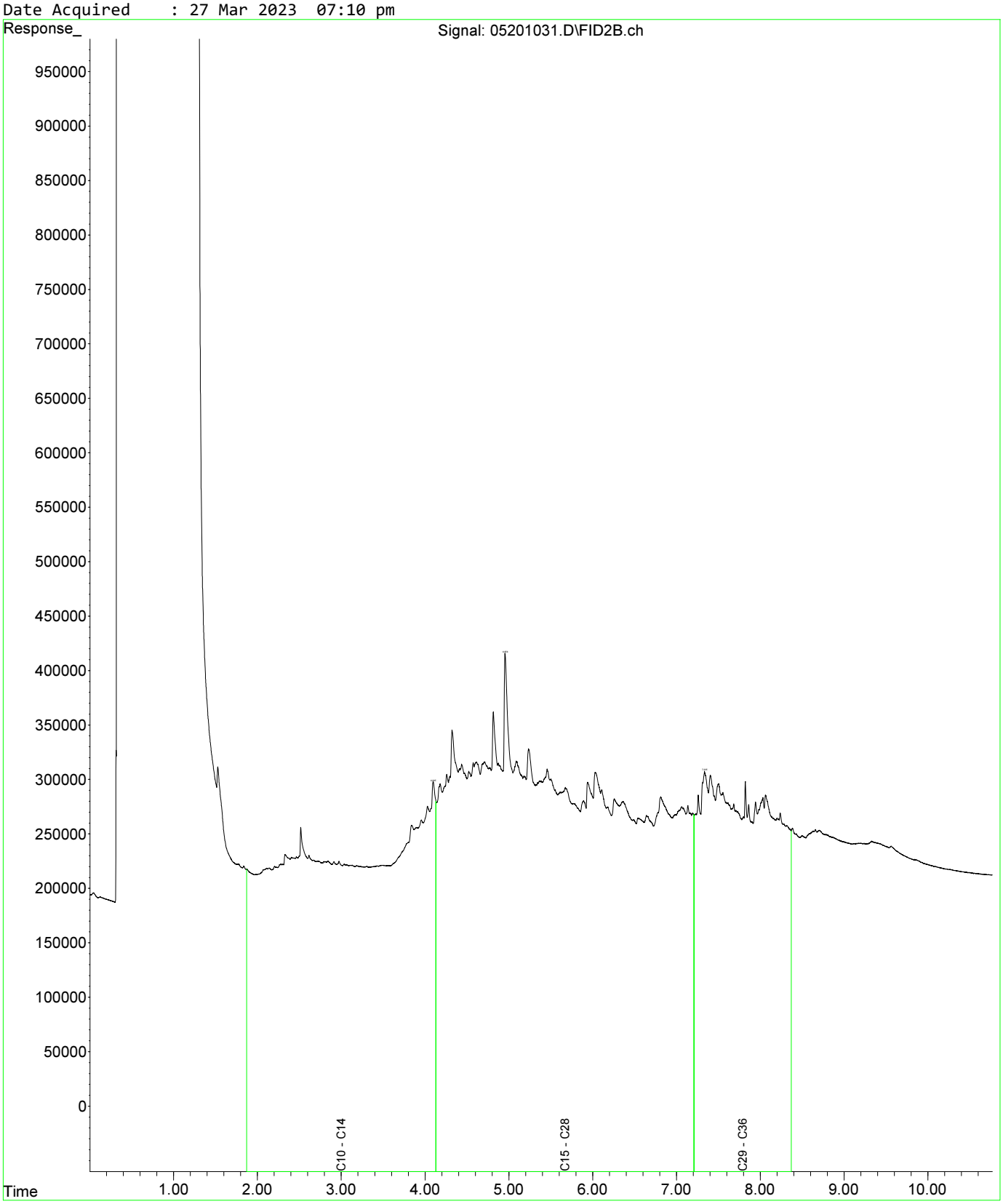
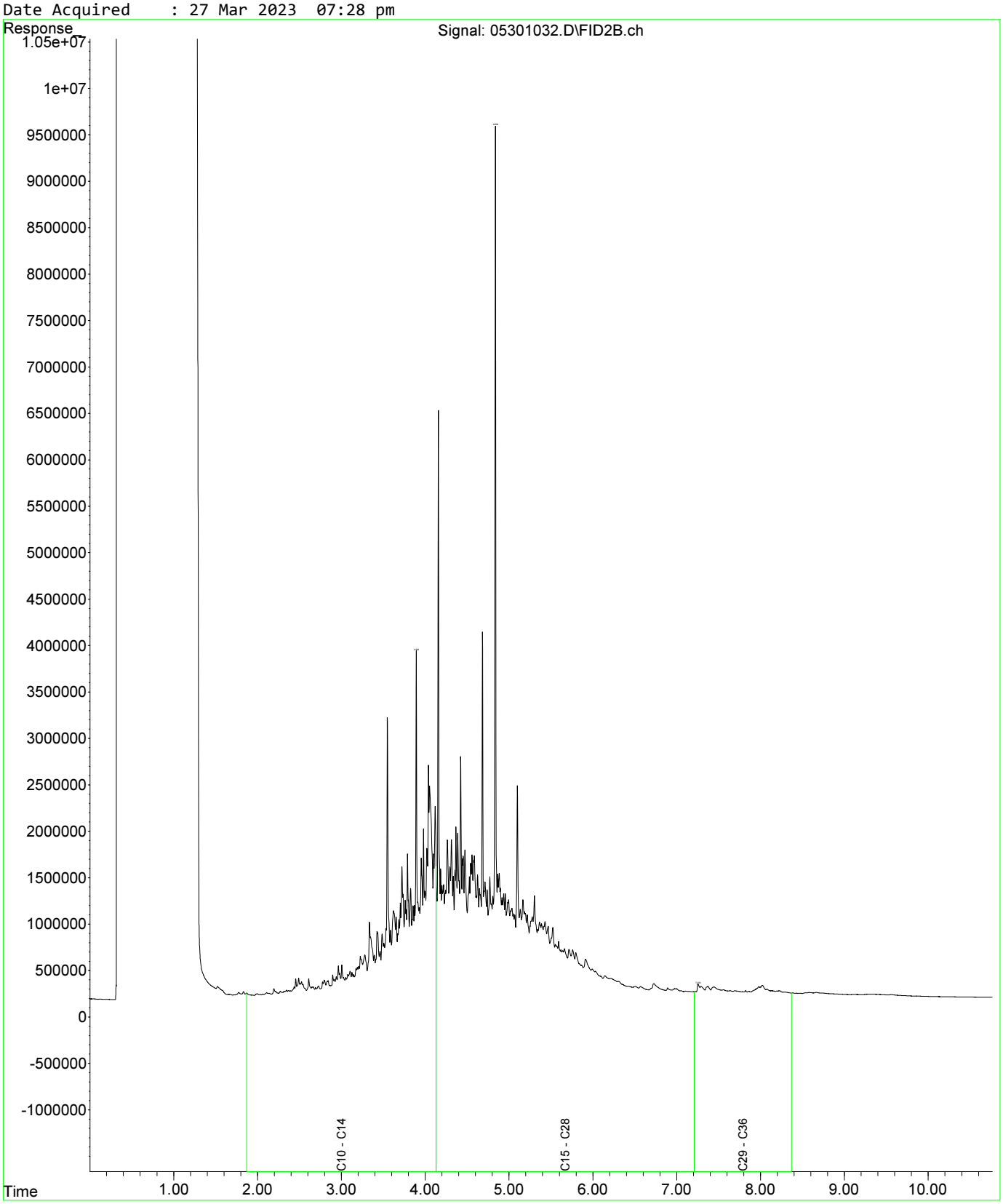
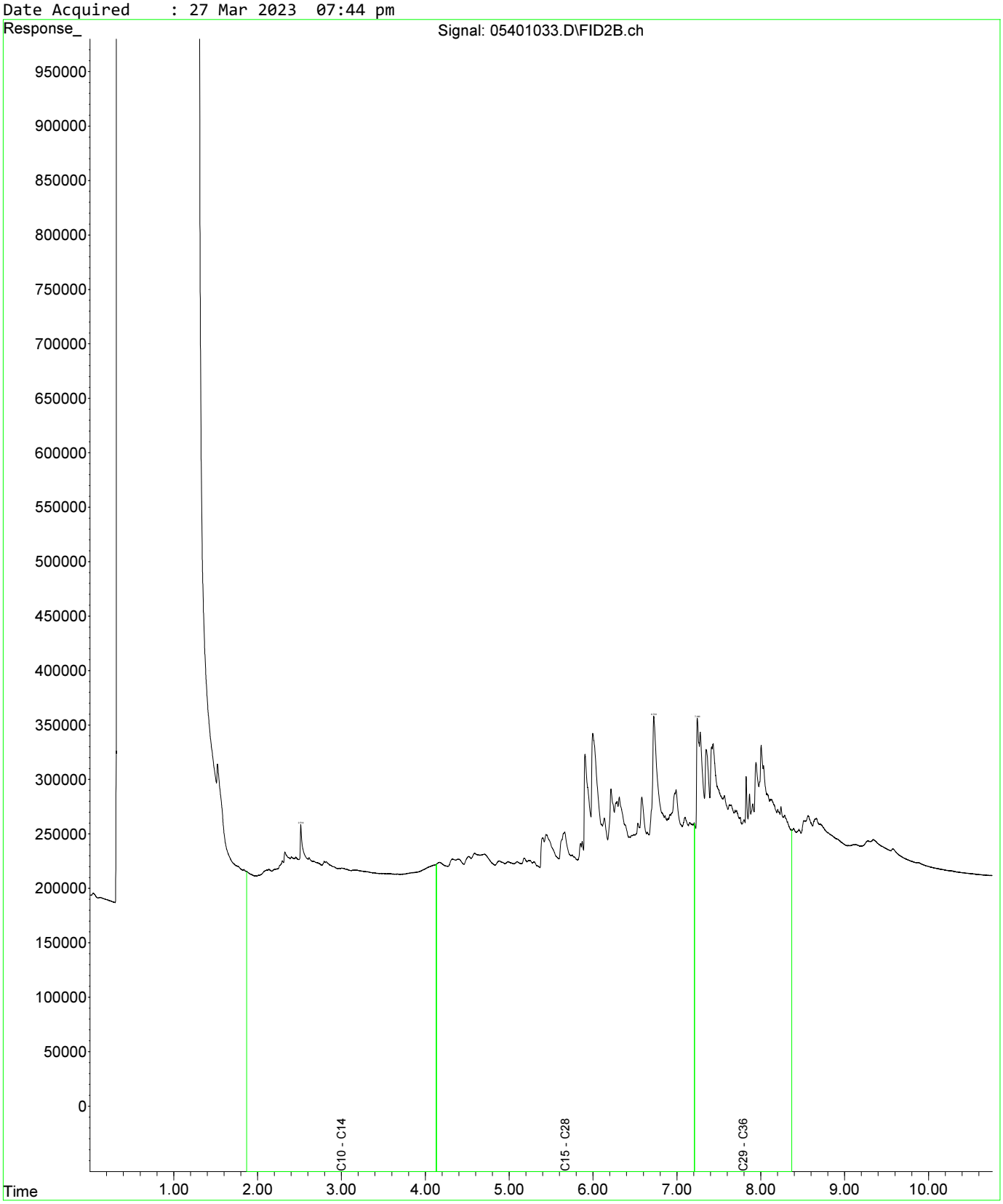
Data File : 05201031.D
Laboratory Number: EM2305209-027
Sample ID : UST_SP_EXT_03
Date Acquired : 27 Mar 2023 07:10 pm



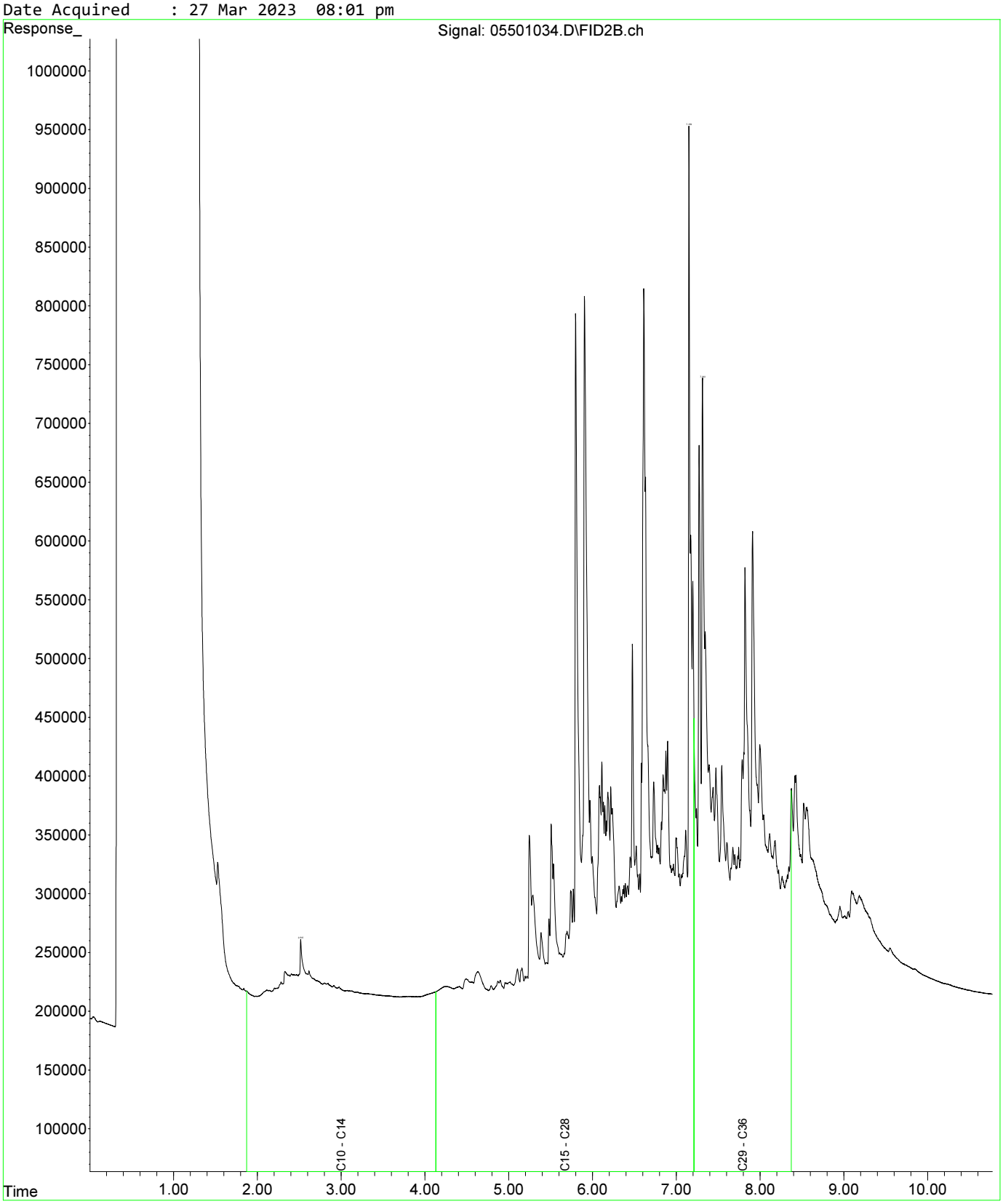
Fraction Scheme : Standard
Data File : 05301032.D
Laboratory Number: EM2305209-031
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



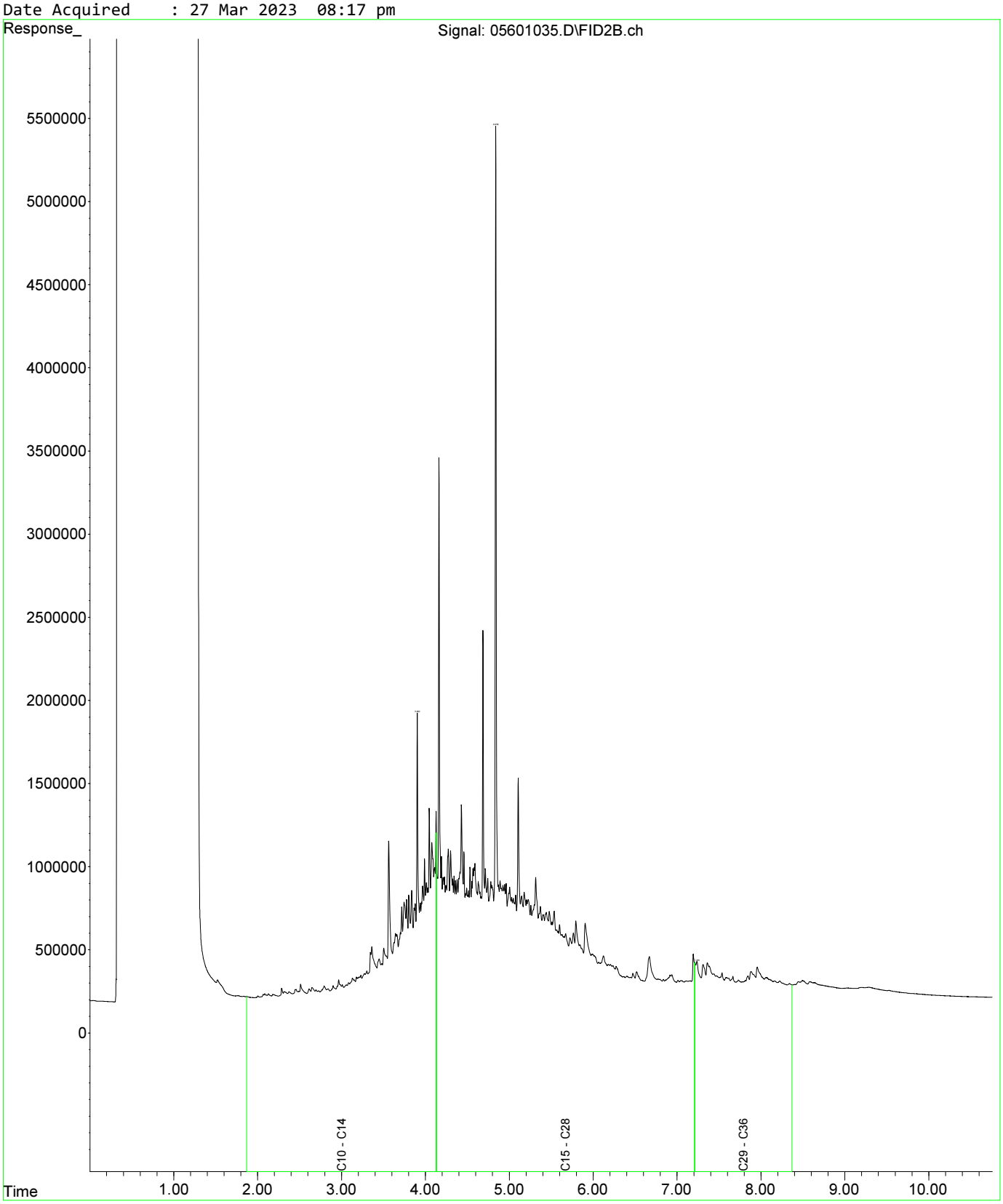
Fraction Scheme : Standard
Data File : 05401033.D
Laboratory Number: EM2305209-032
Sample ID : UST_SP_EXT_08
Date Acquired : 27 Mar 2023 07:44 pm



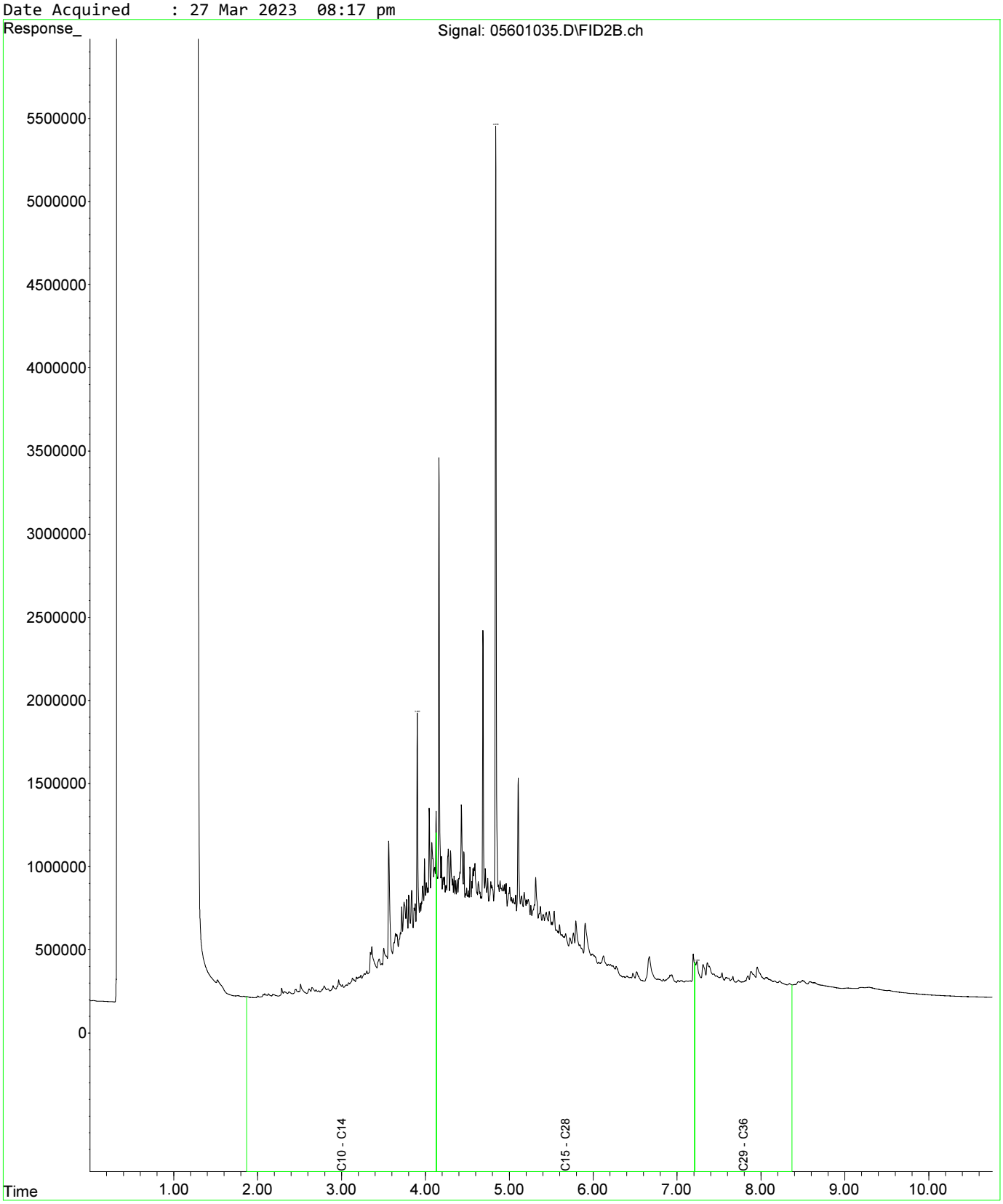
Fraction Scheme : Standard
Data File : 05501034.D
Laboratory Number: EM2305209-033
Sample ID : UST_SP_ch77-80_01
Date Acquired : 27 Mar 2023 08:01 pm



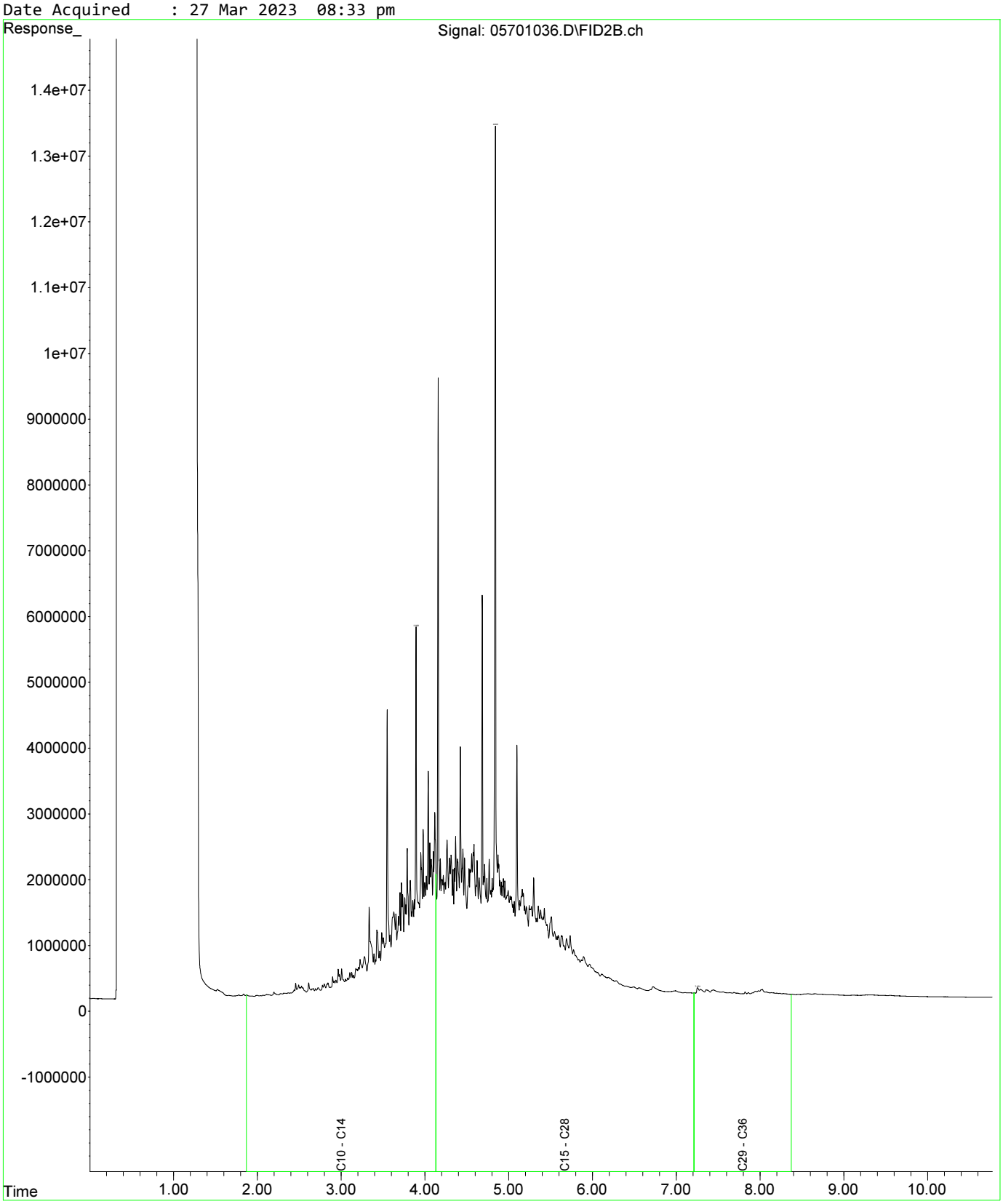
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



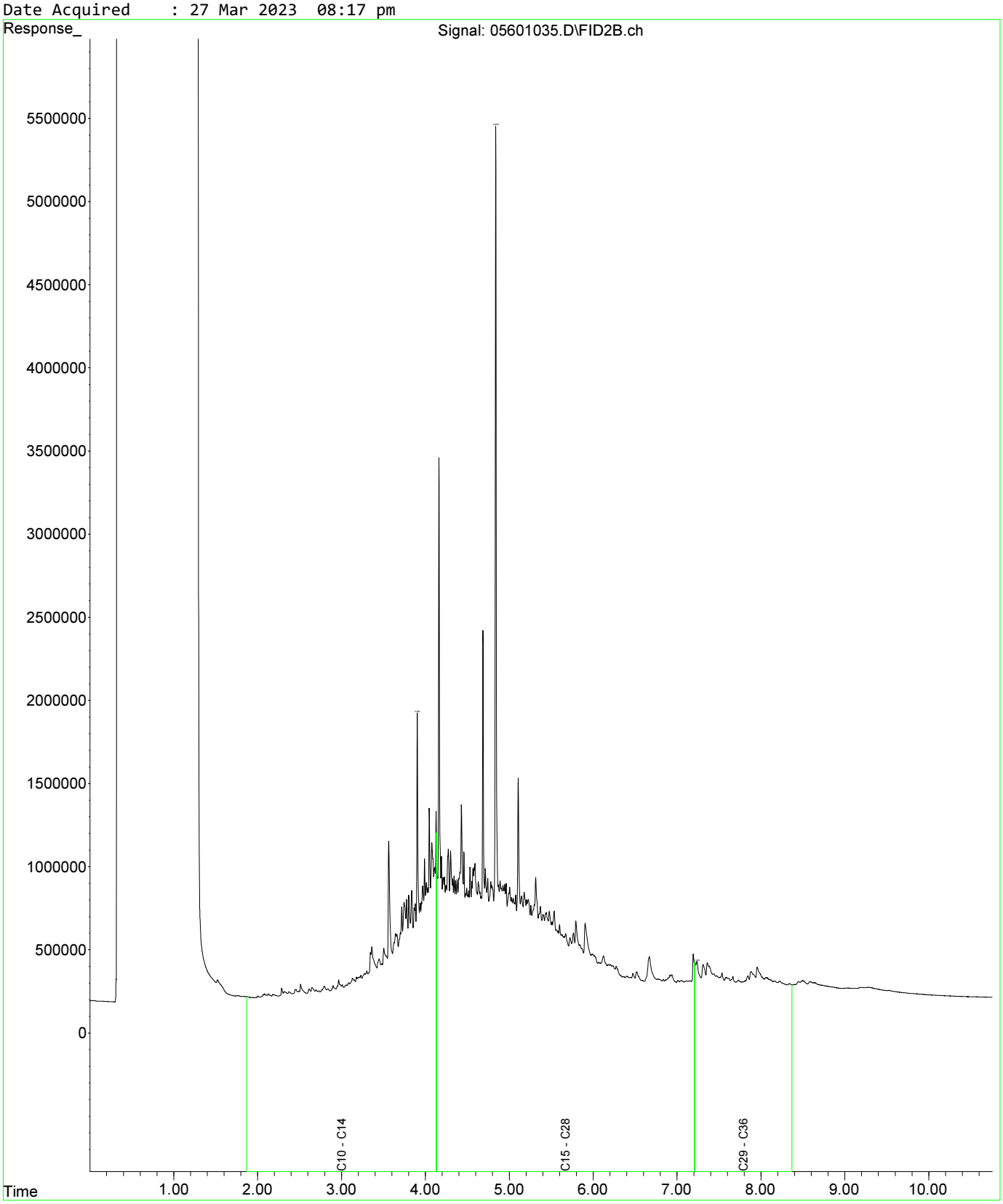
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



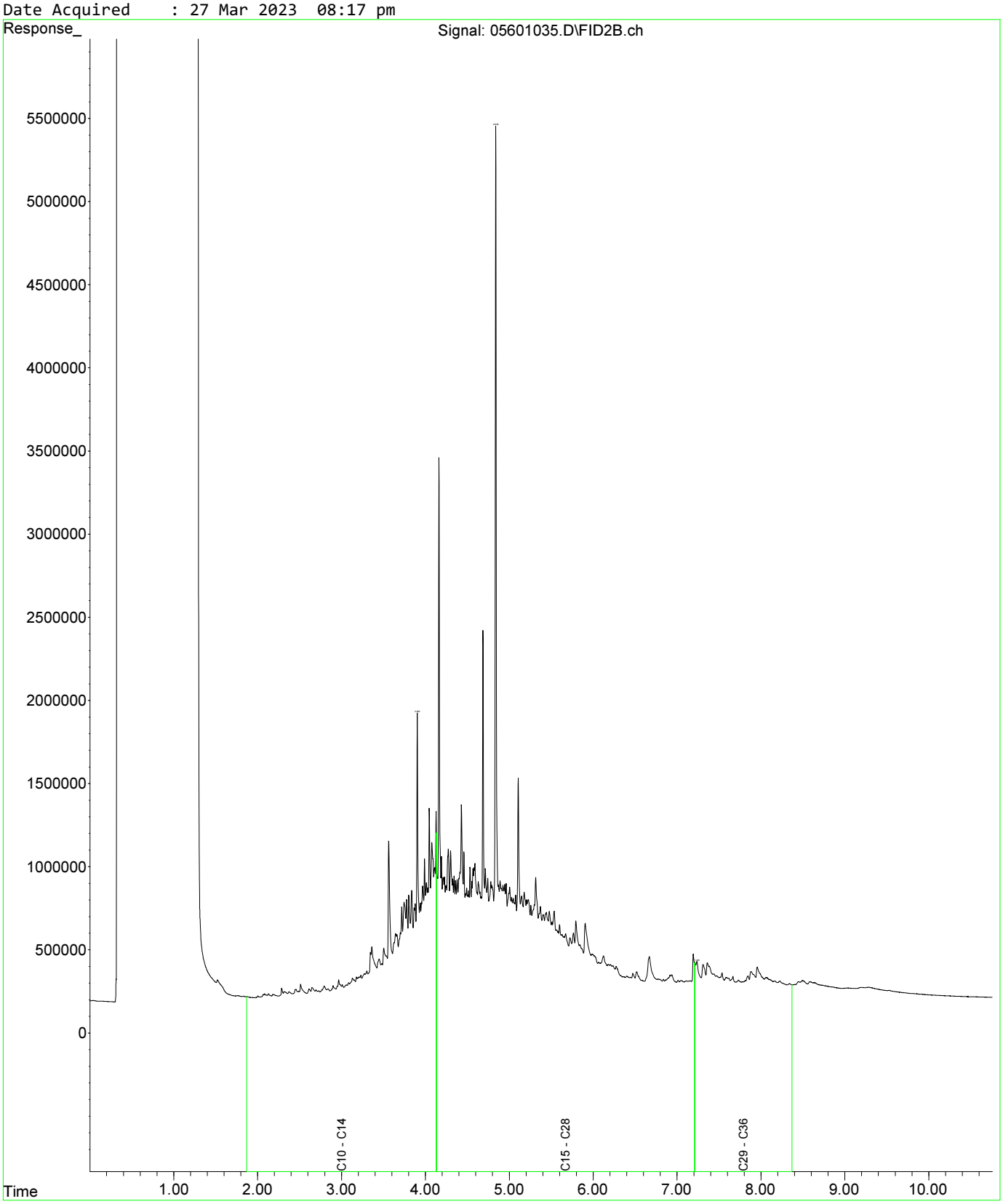
Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



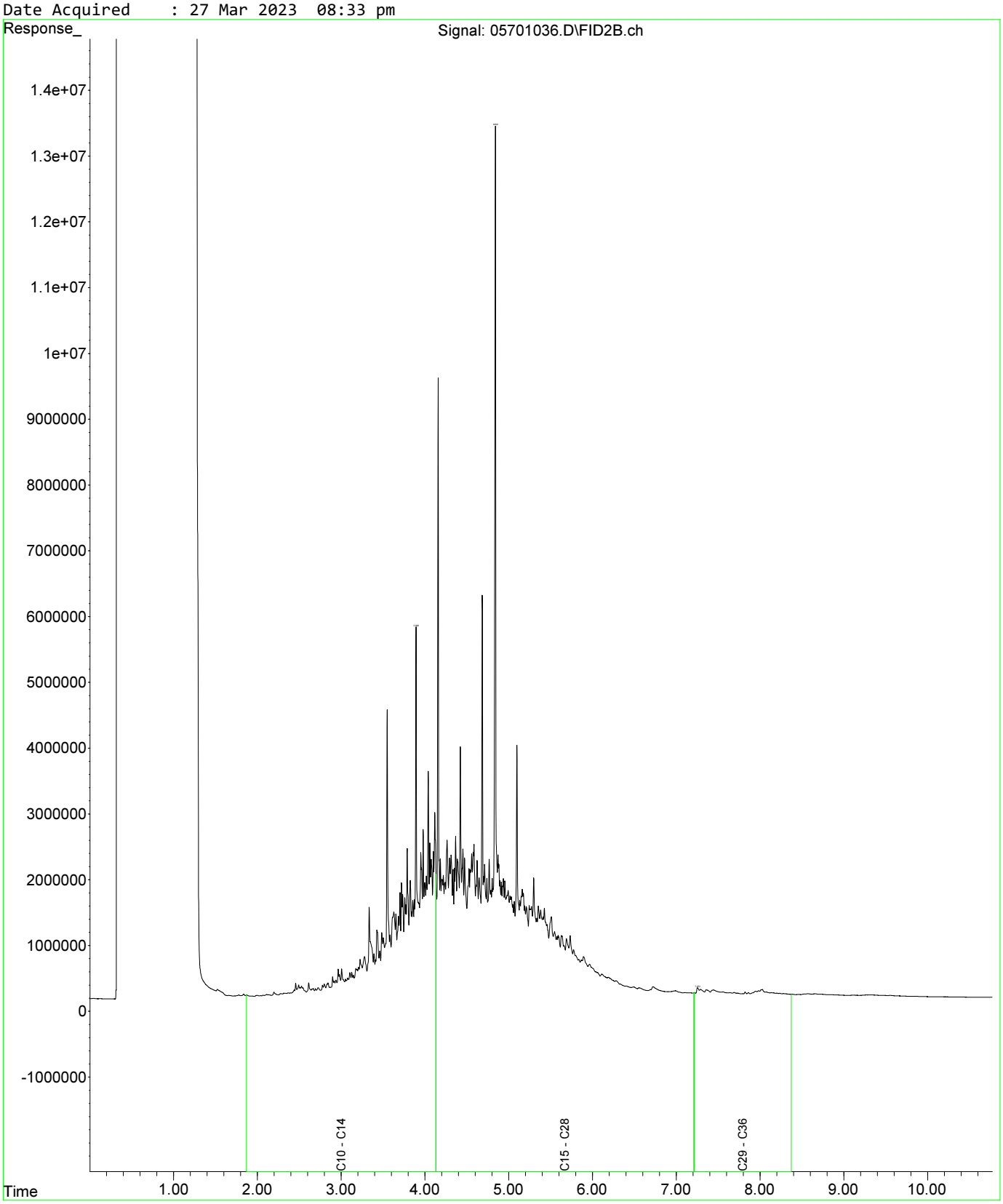
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



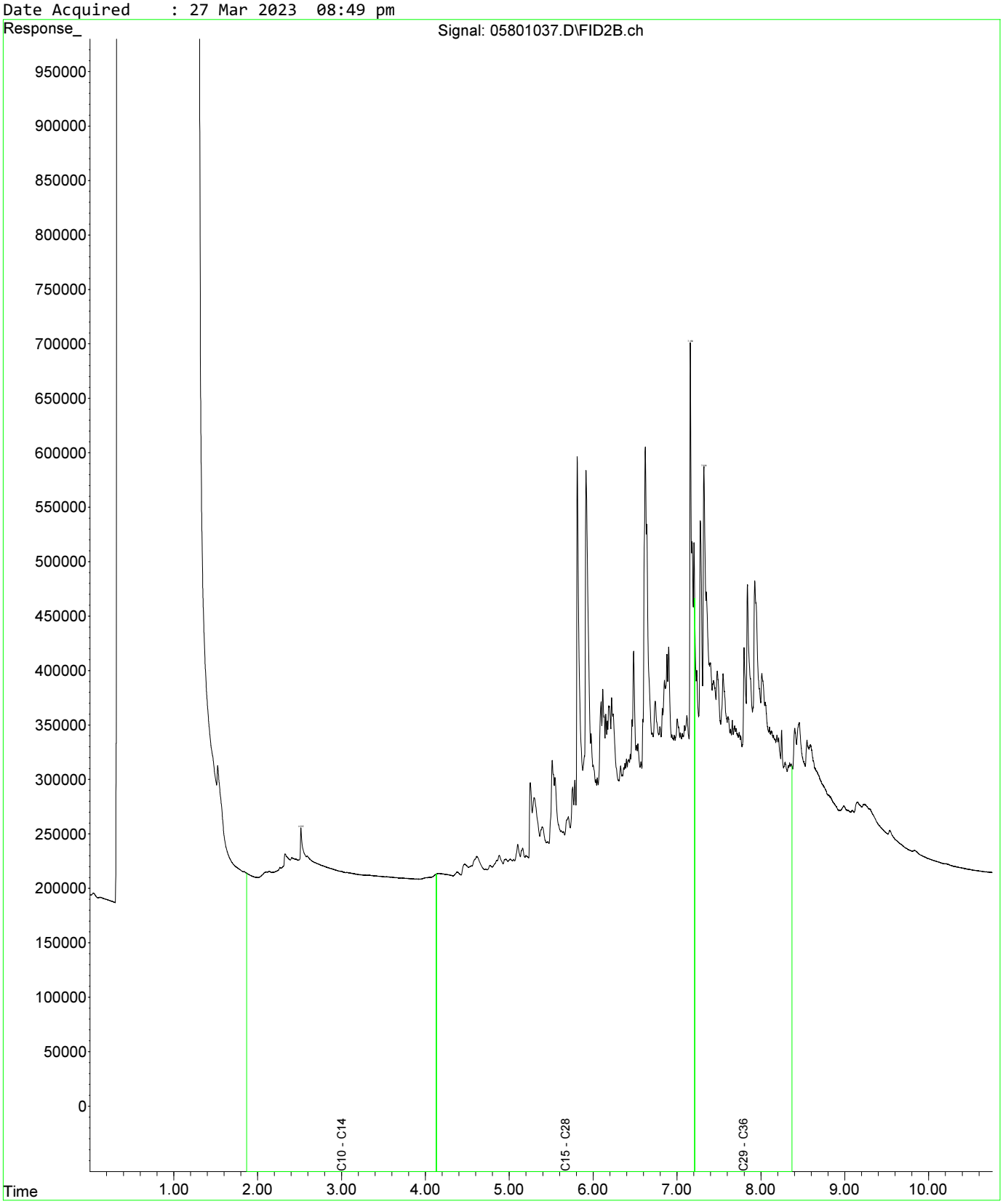
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



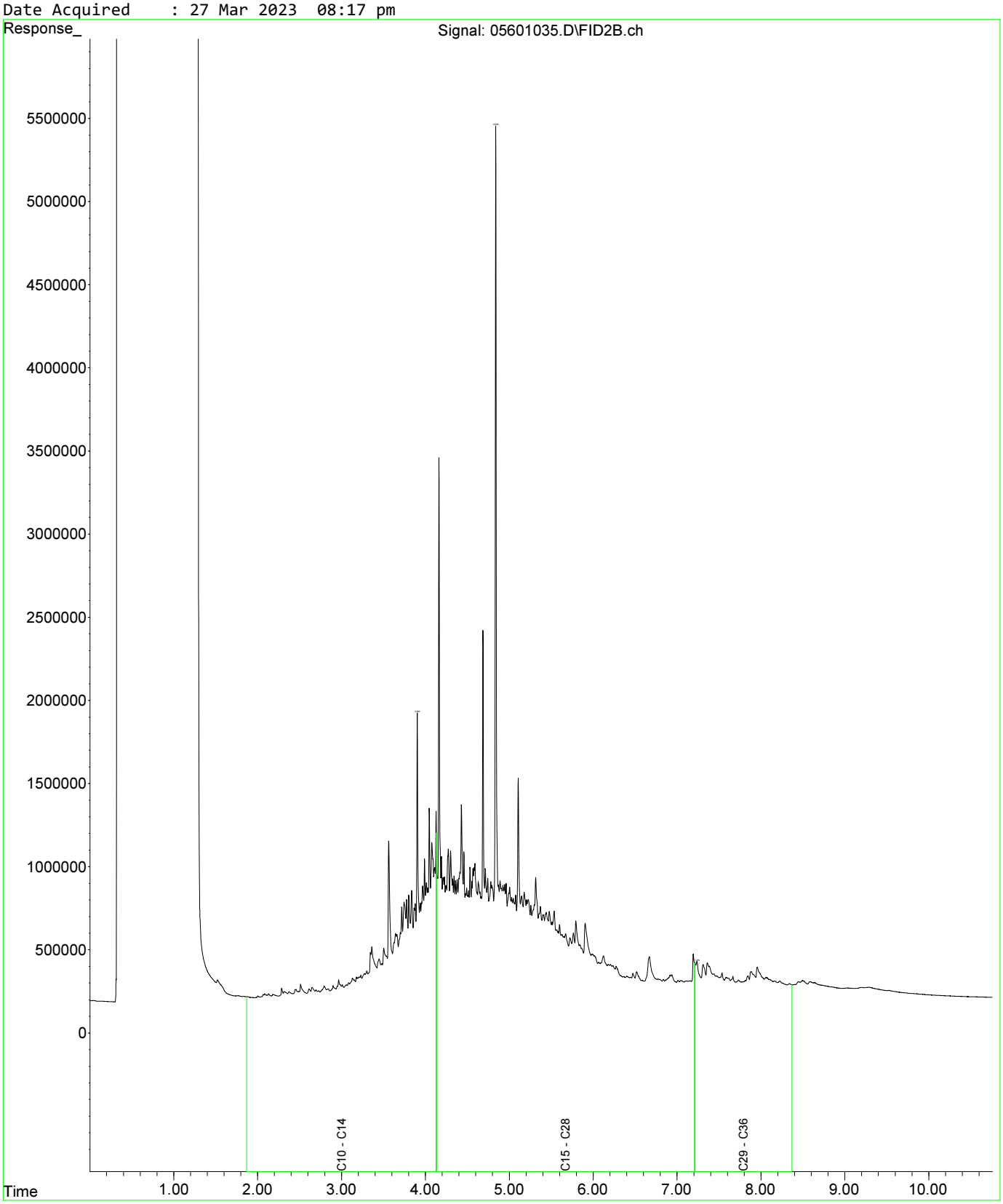
Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



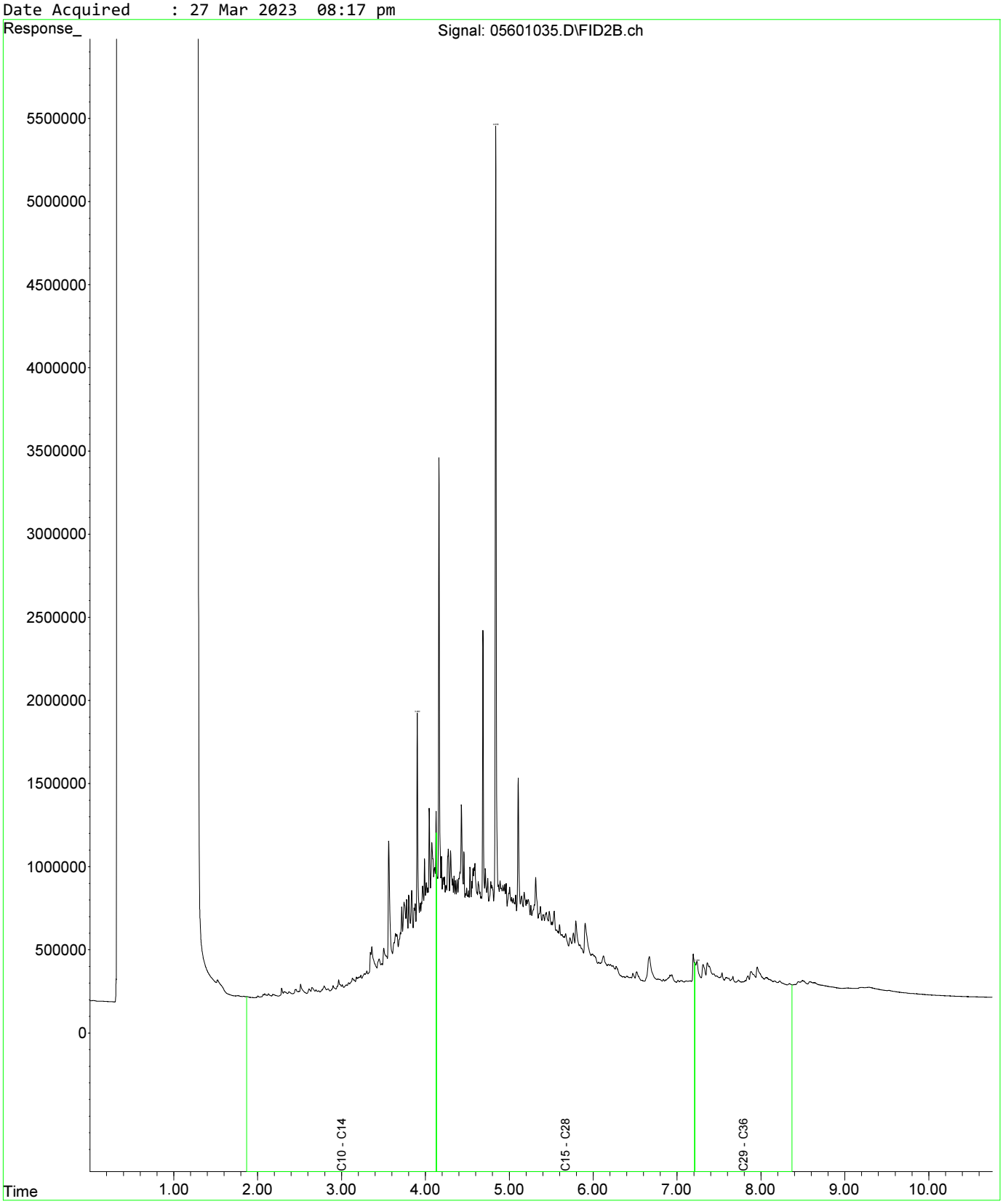
Fraction Scheme : Standard
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



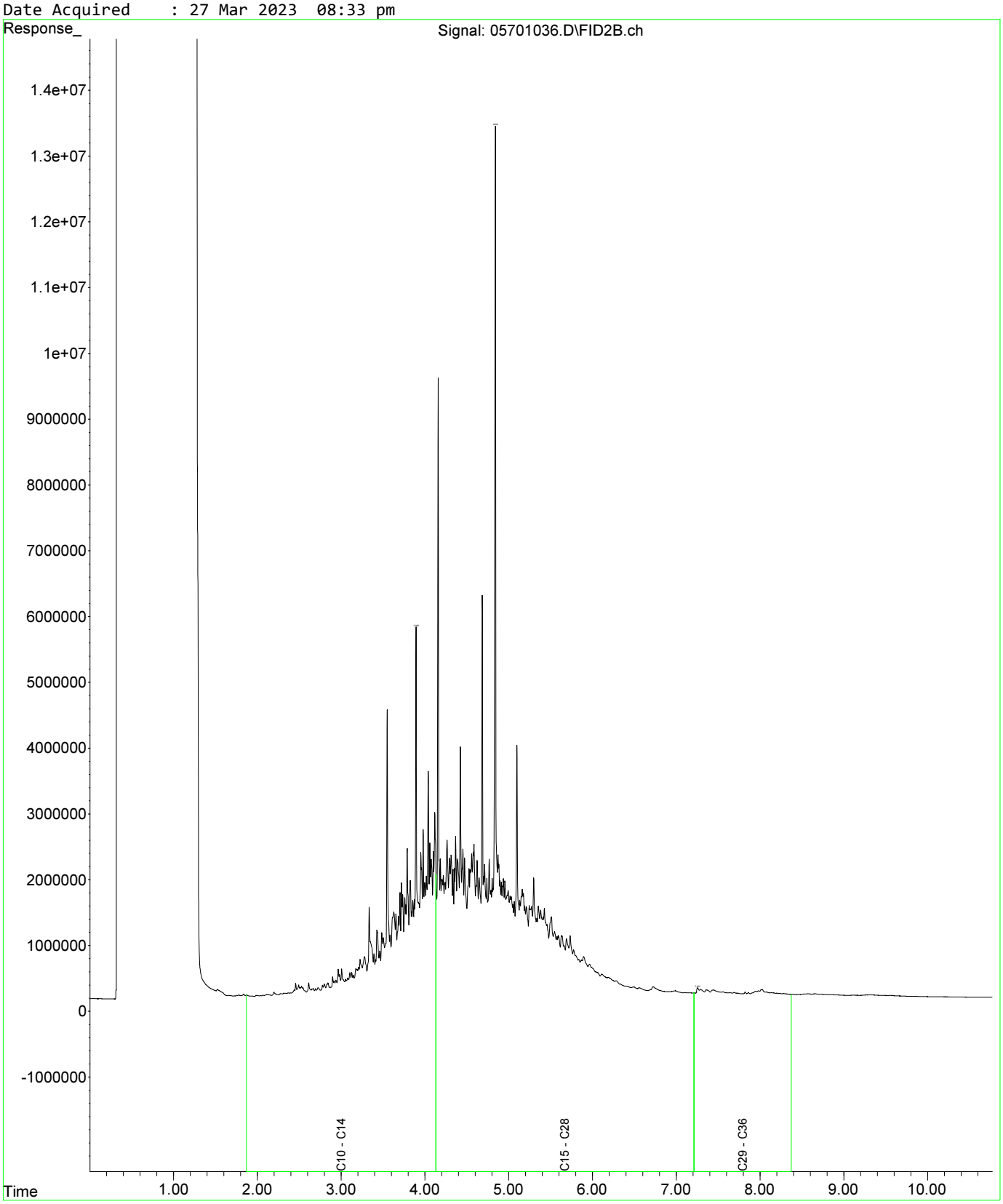
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



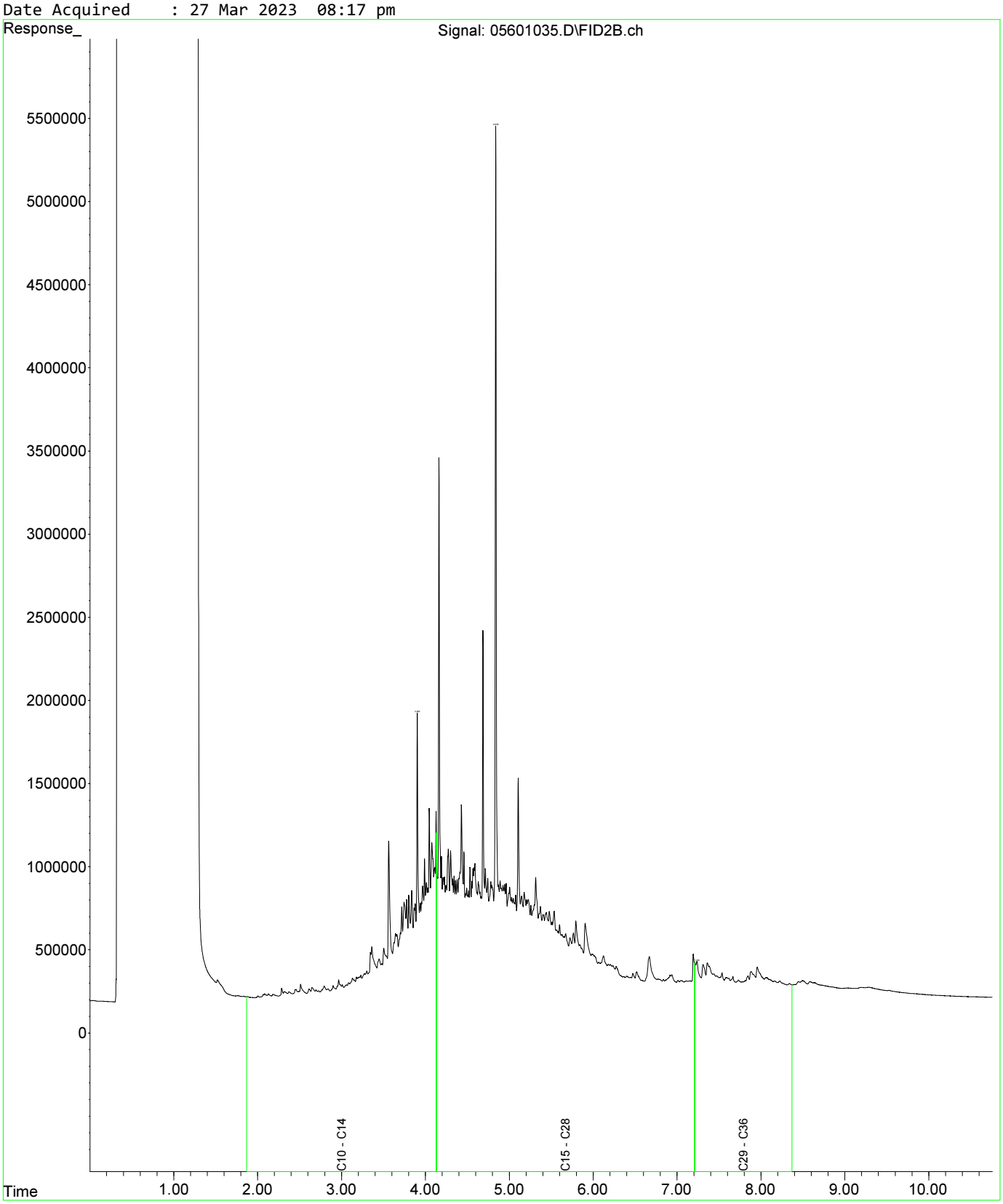
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



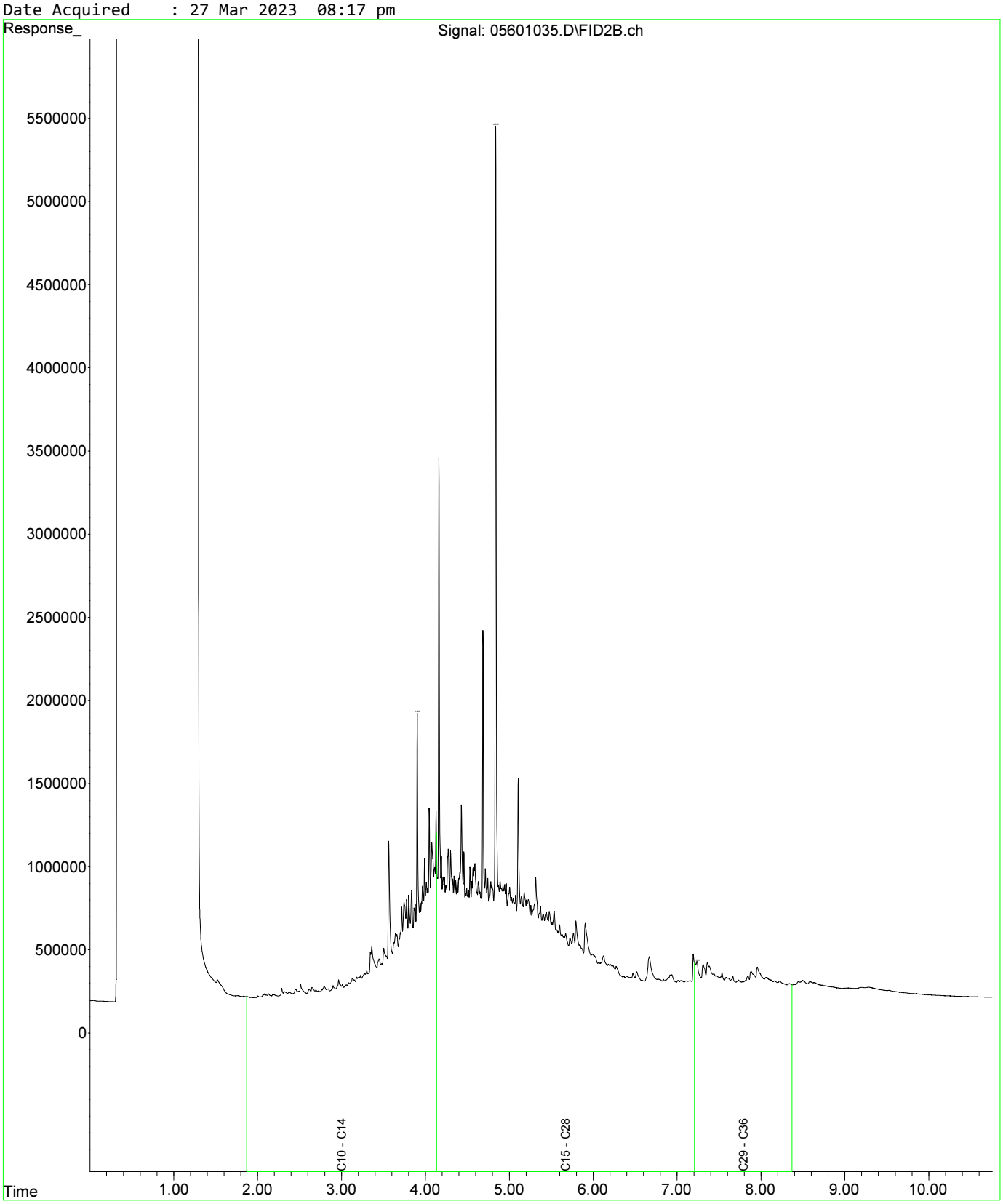
Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



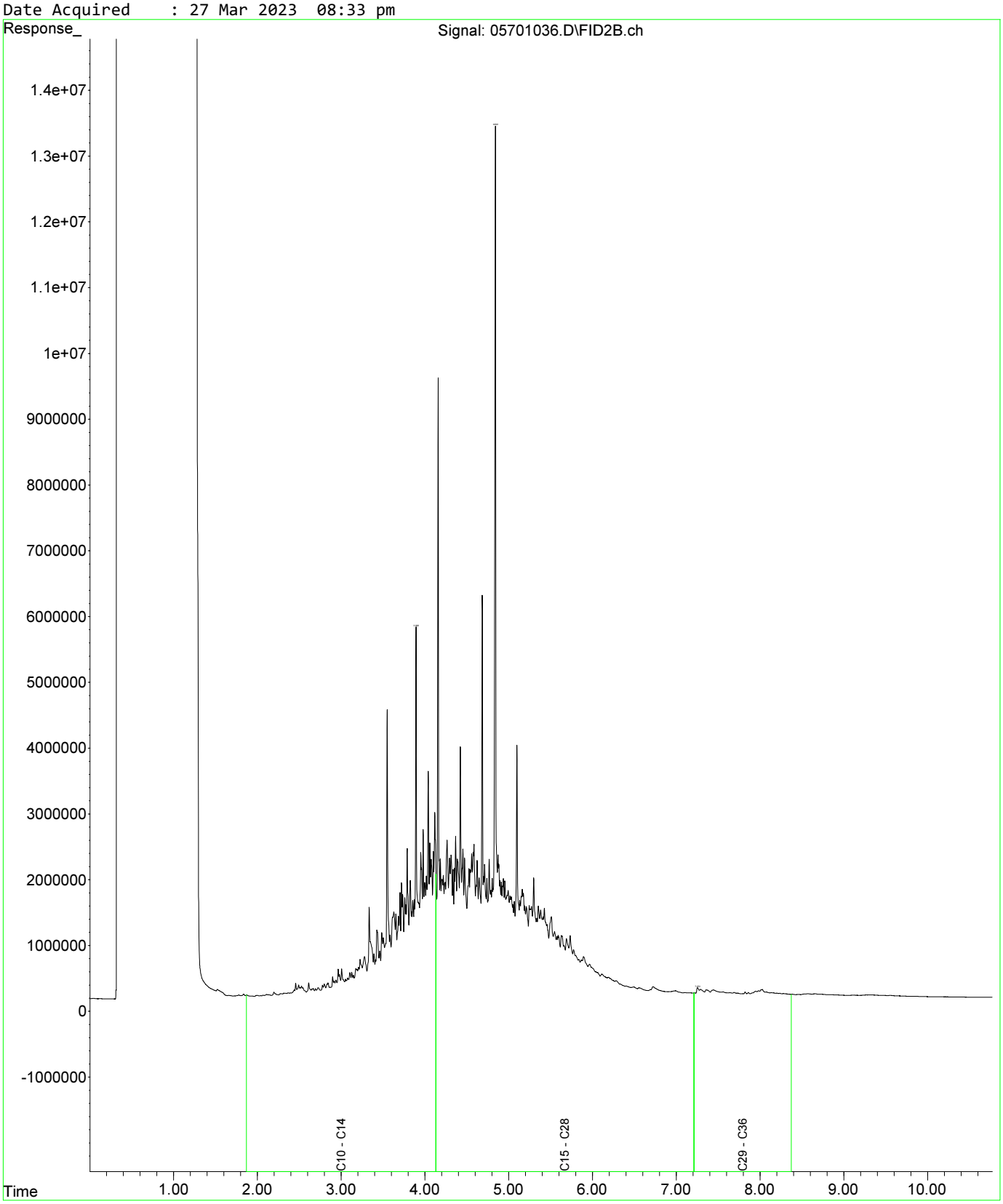
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



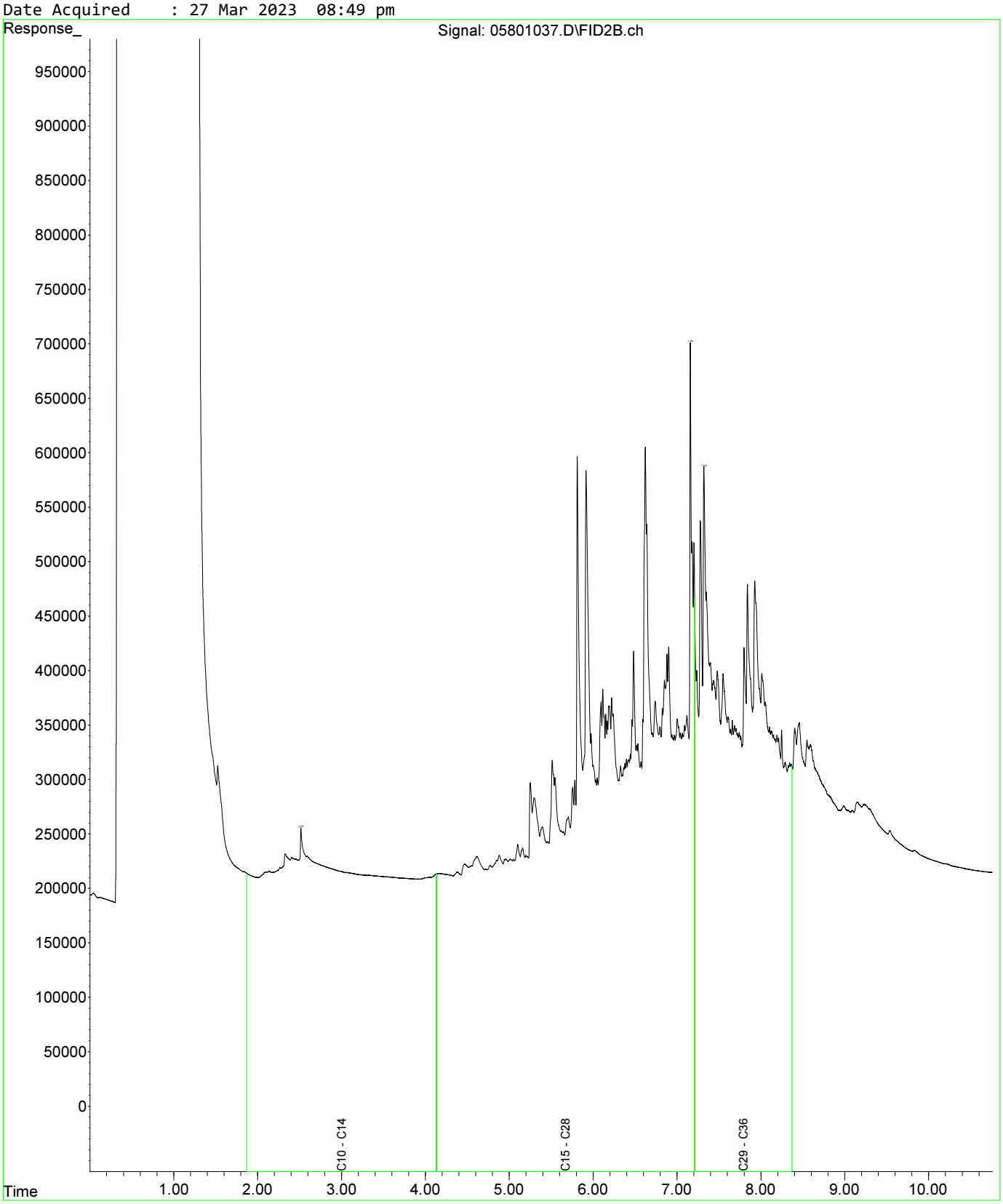
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : Standard
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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Laboratory Number: EM2305209-037
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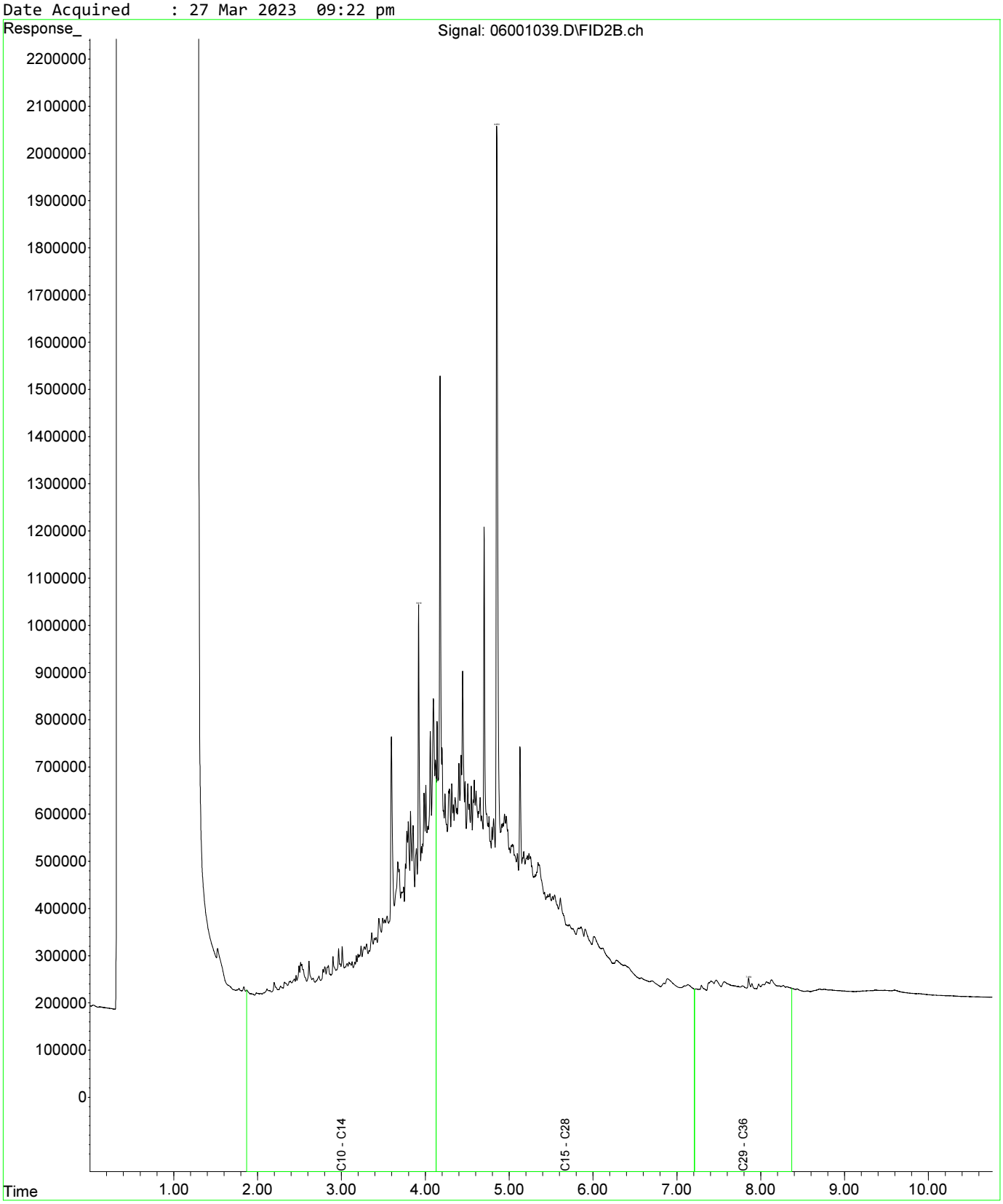
Date Acquired : 27 Mar 2023 09:22 pm



Fraction Scheme : Standard
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Laboratory Number: EM2305209-034
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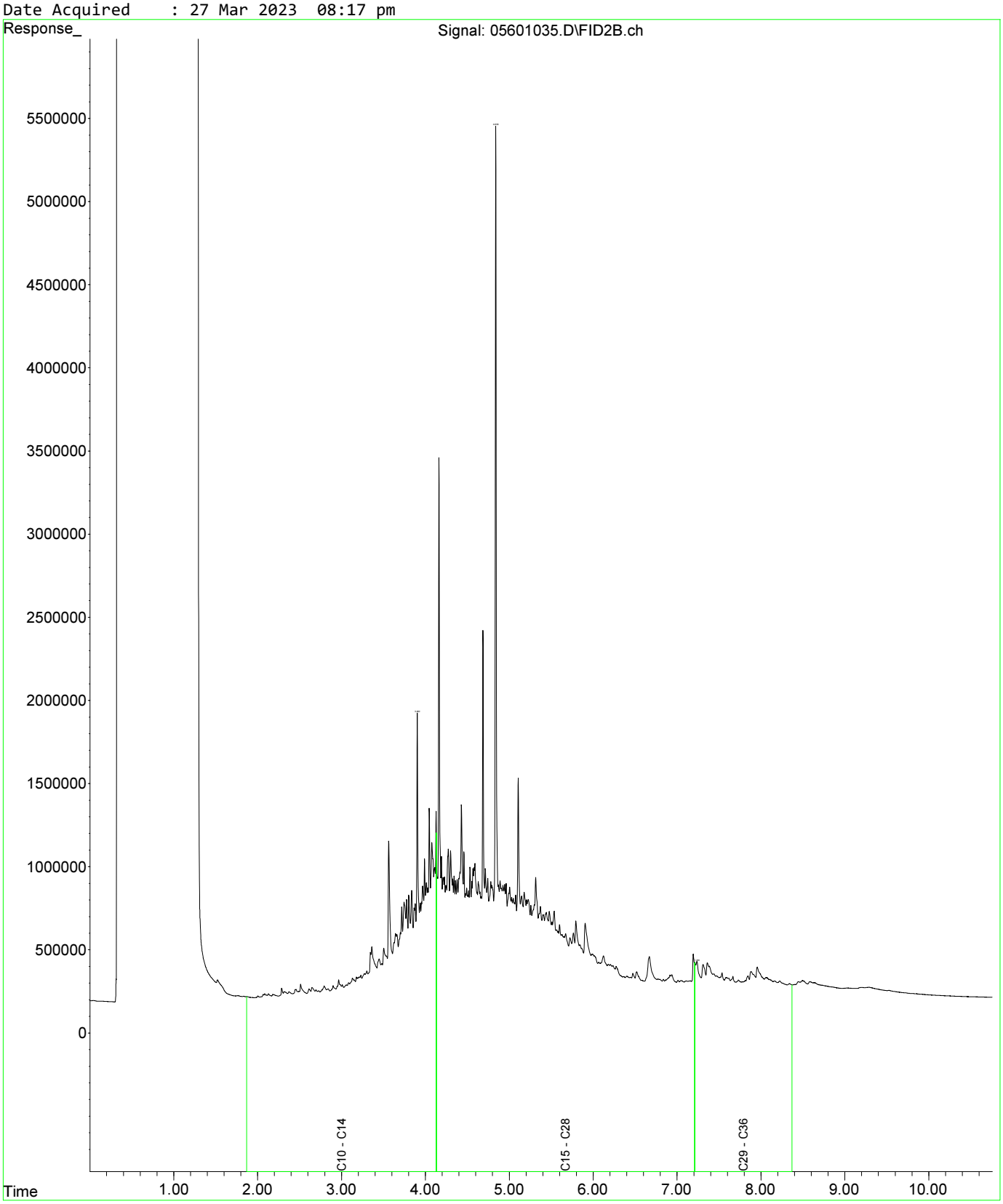
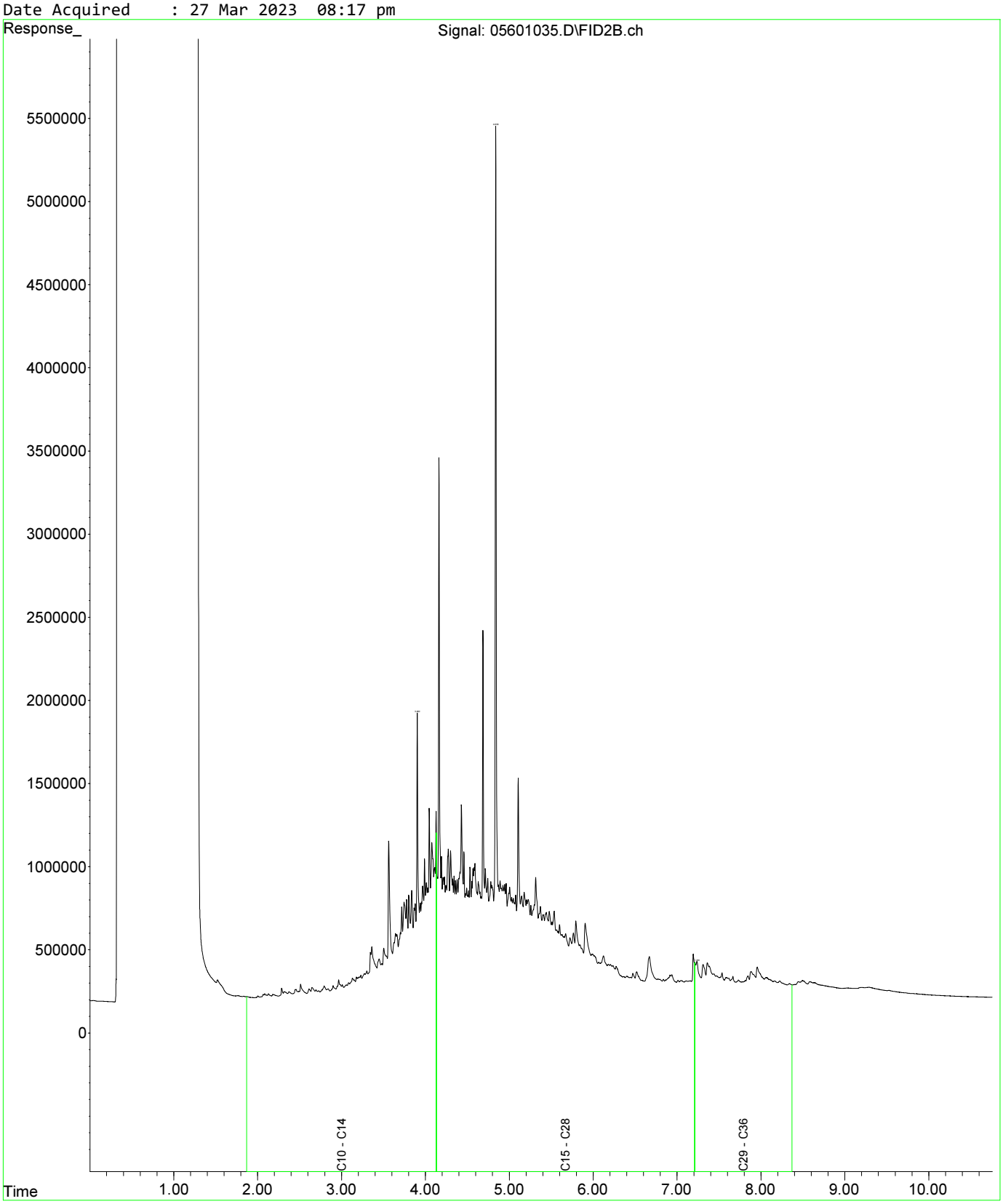
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
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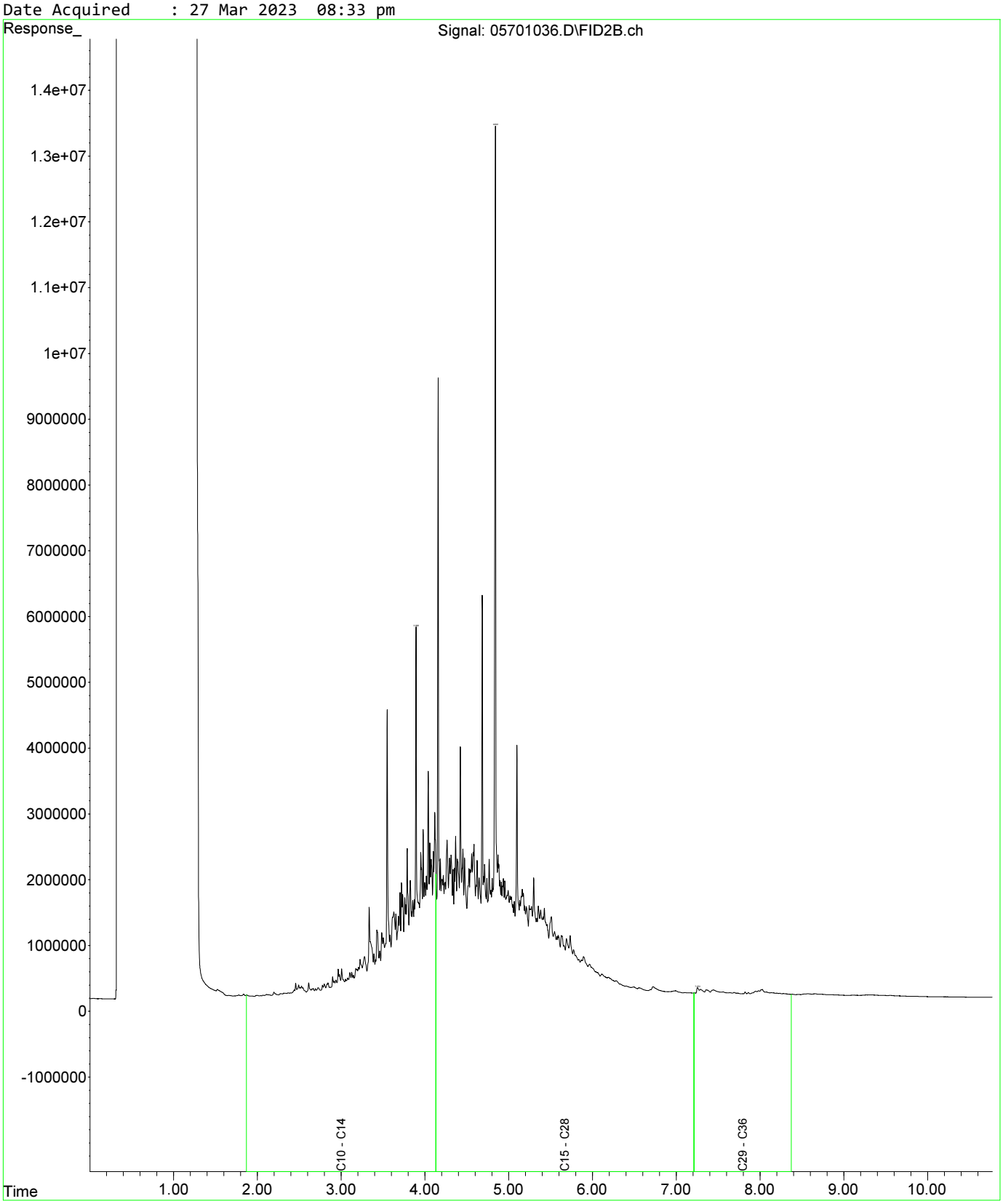
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



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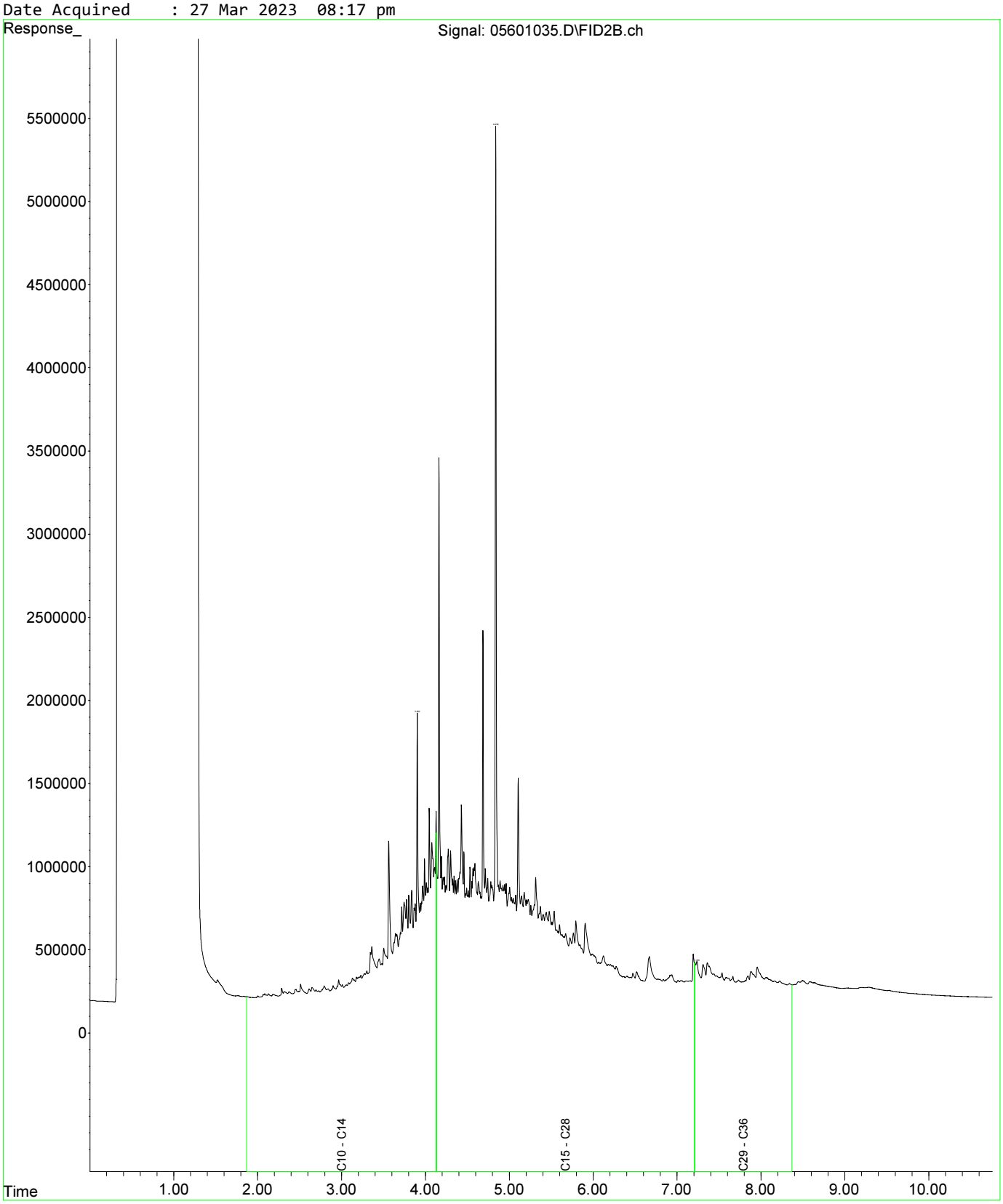
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



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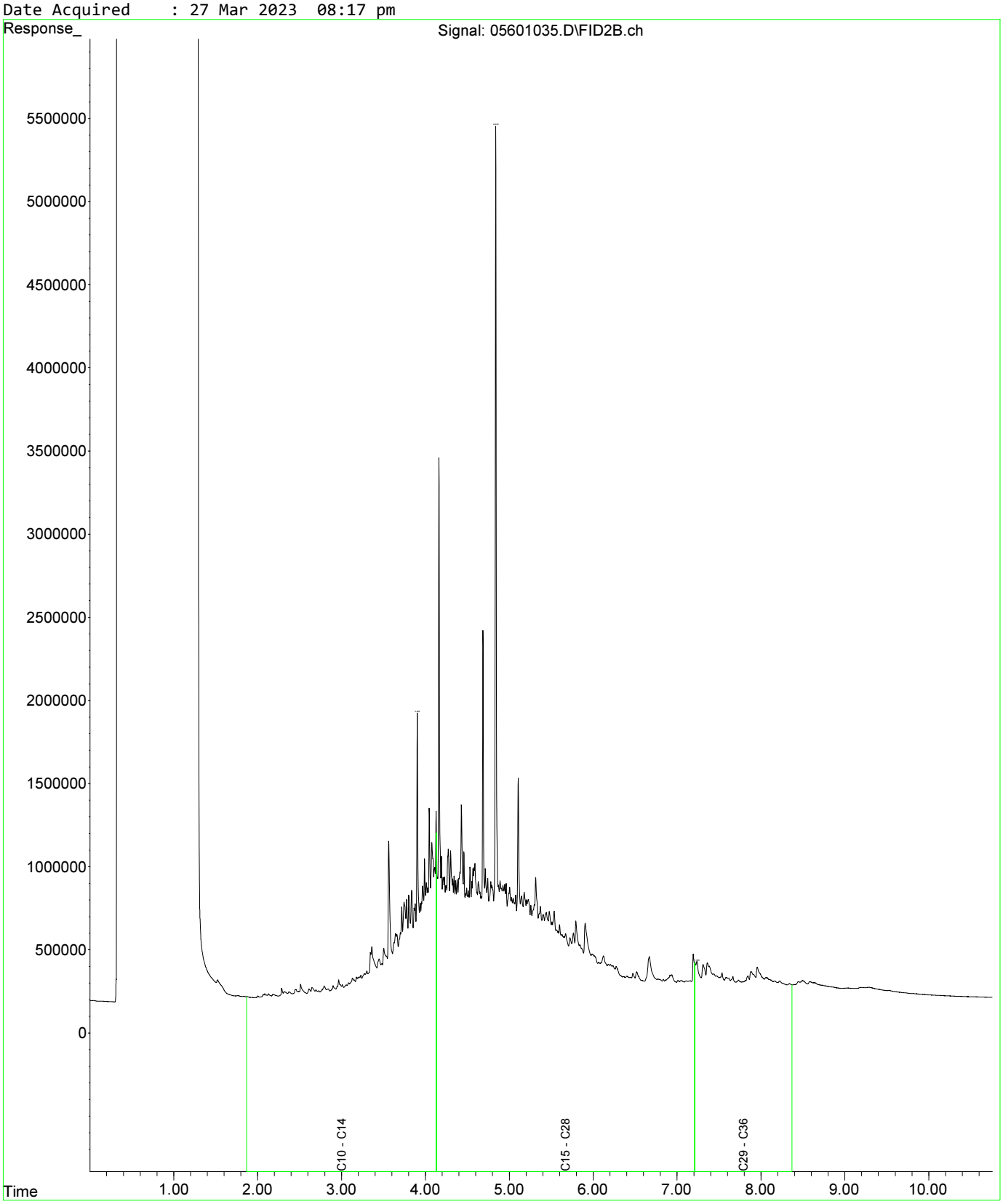

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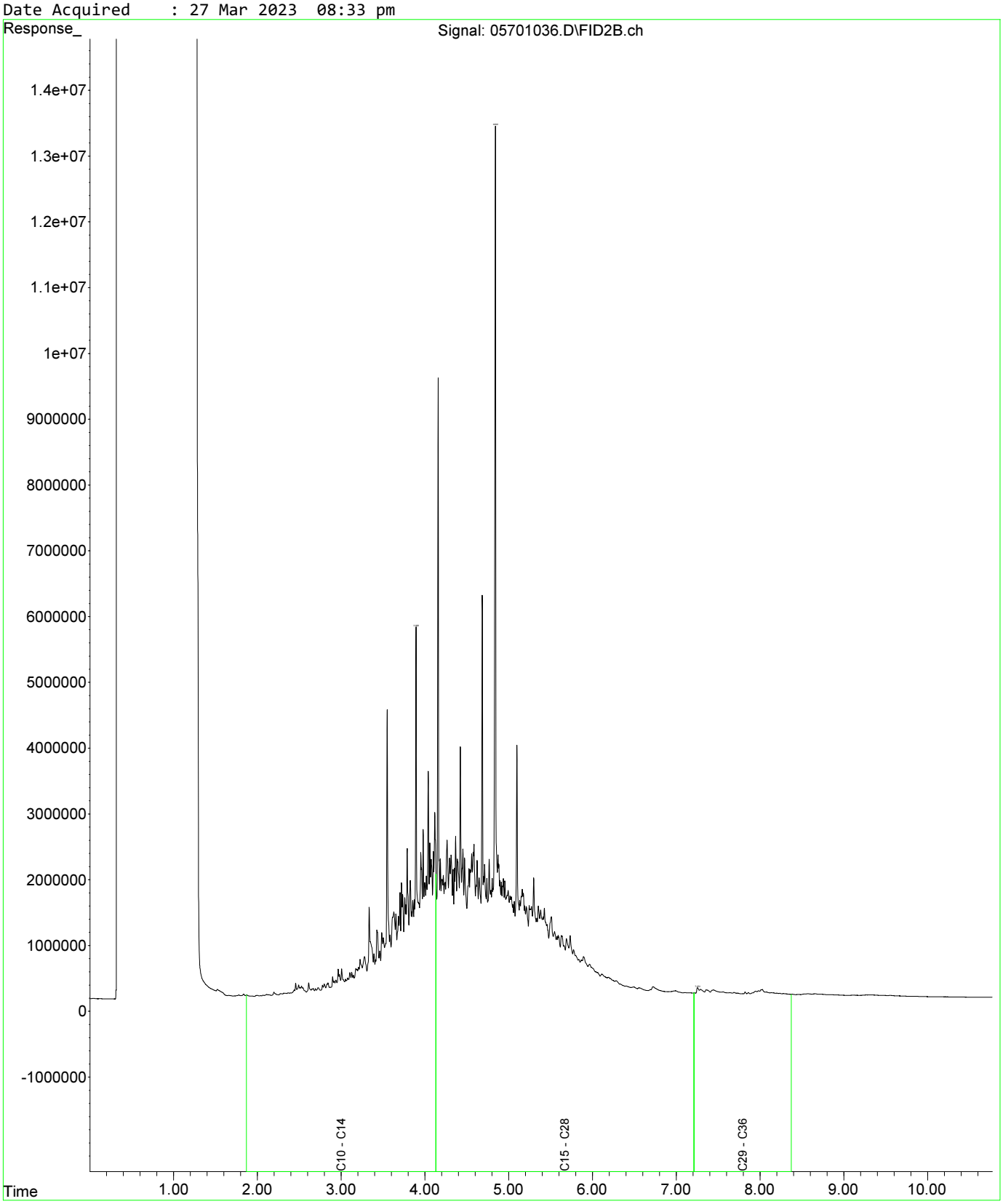

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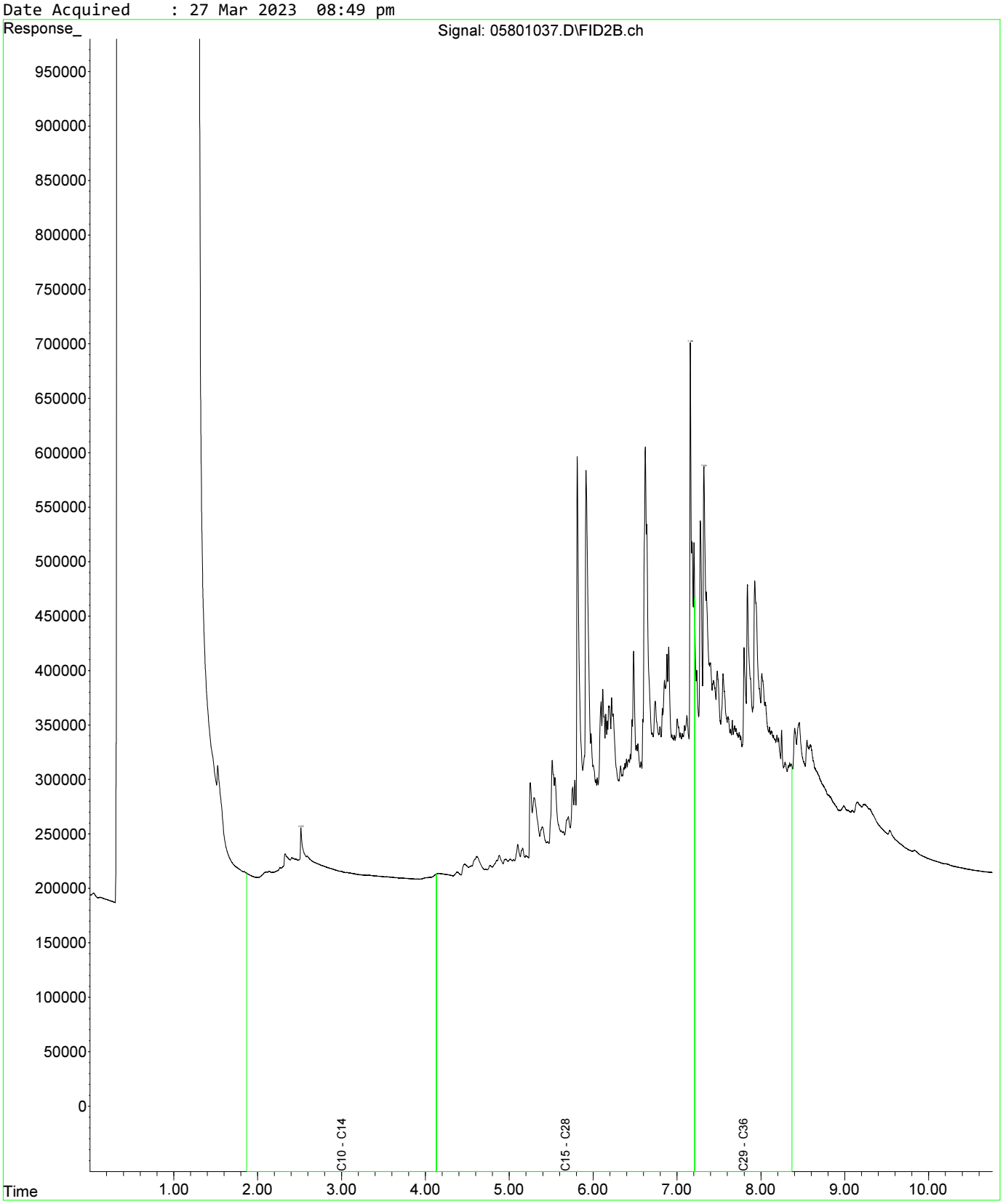
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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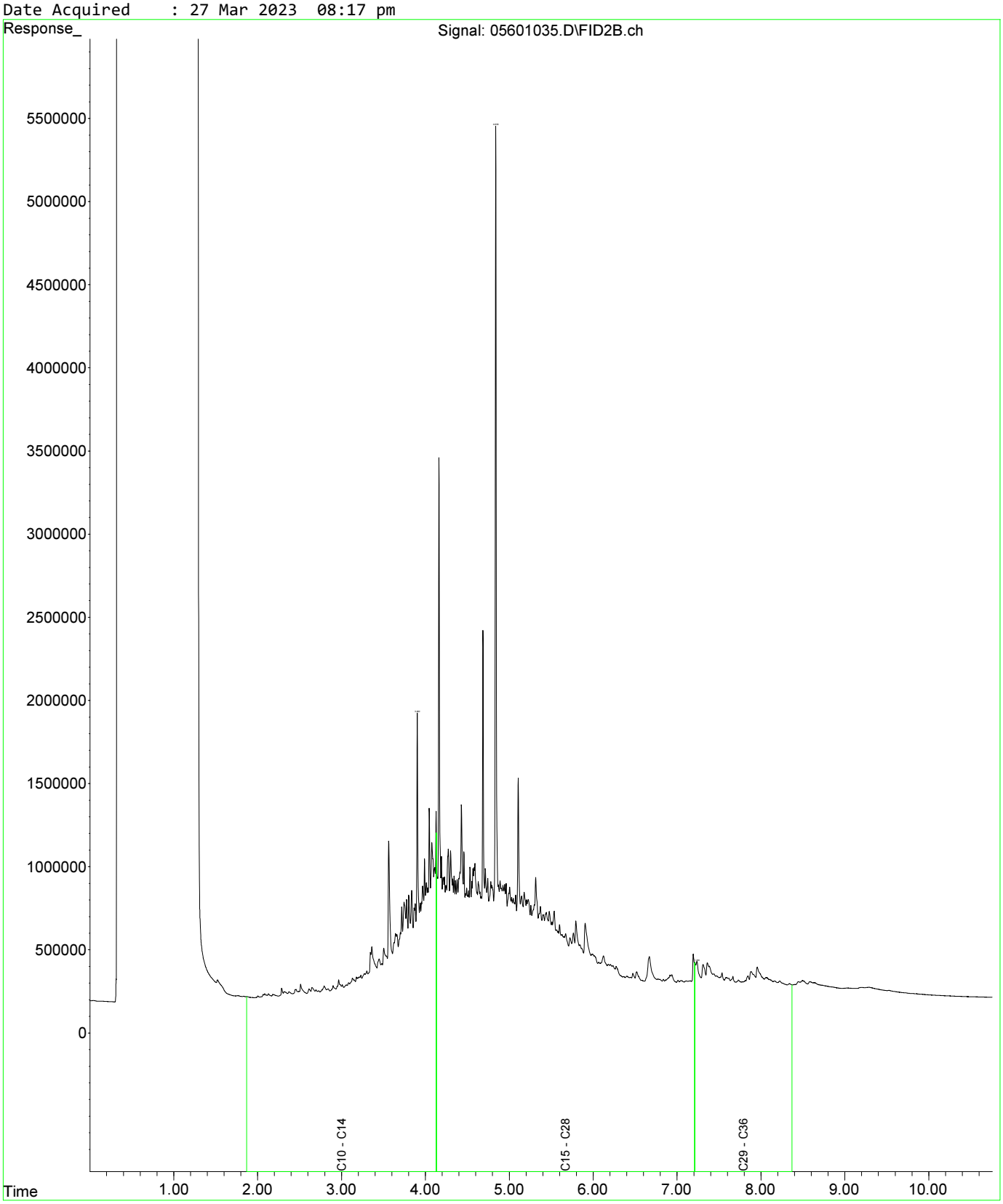

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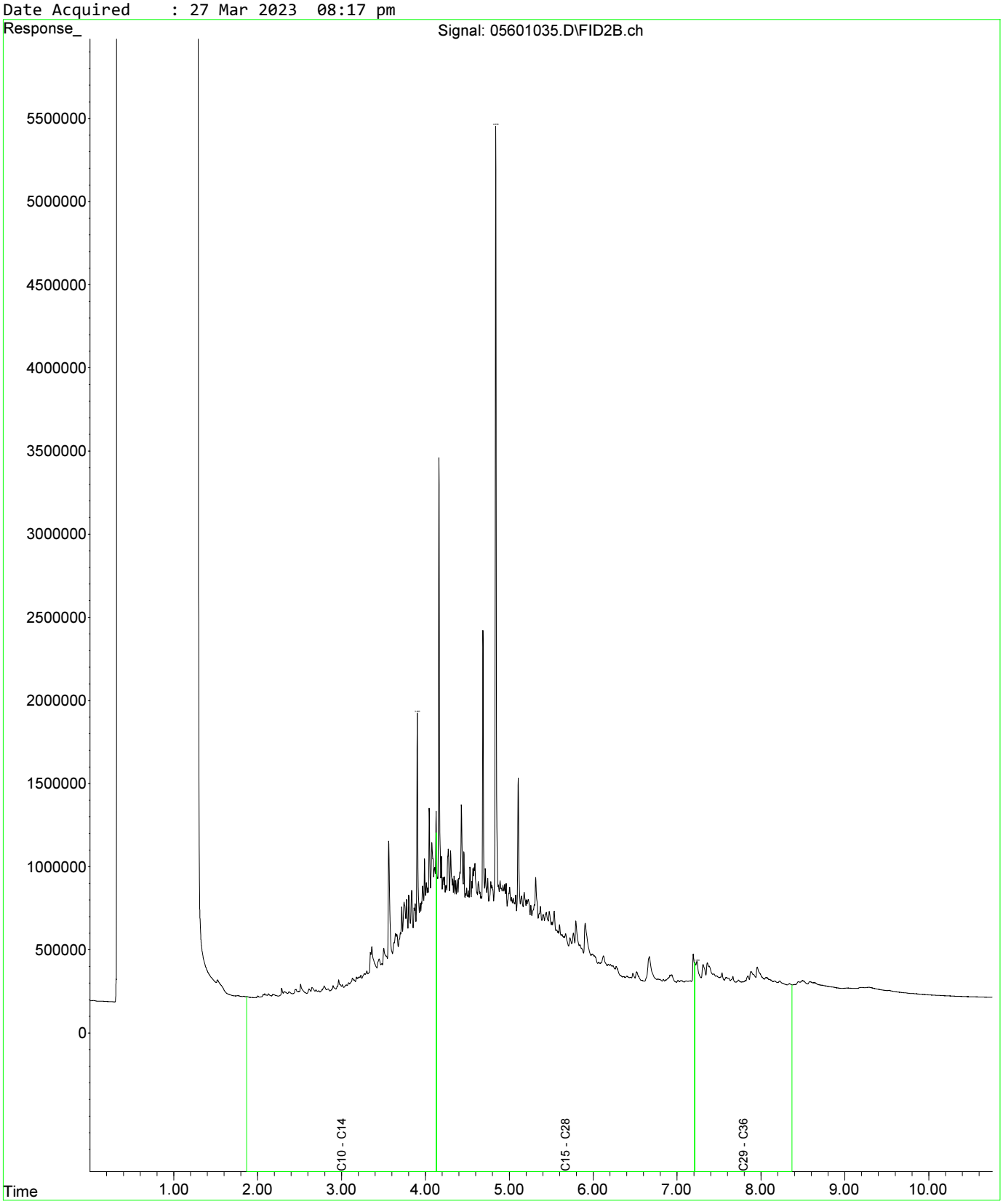

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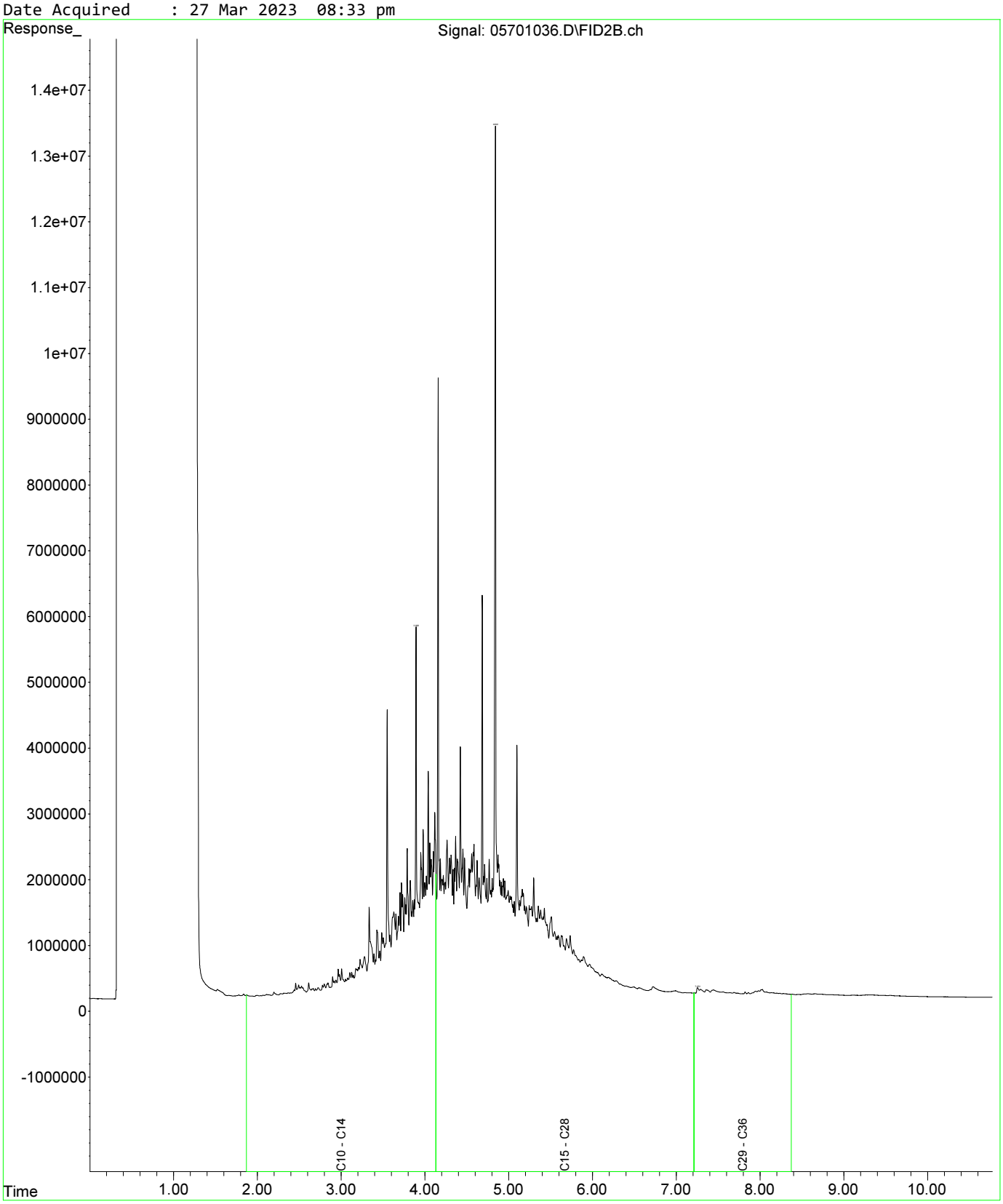

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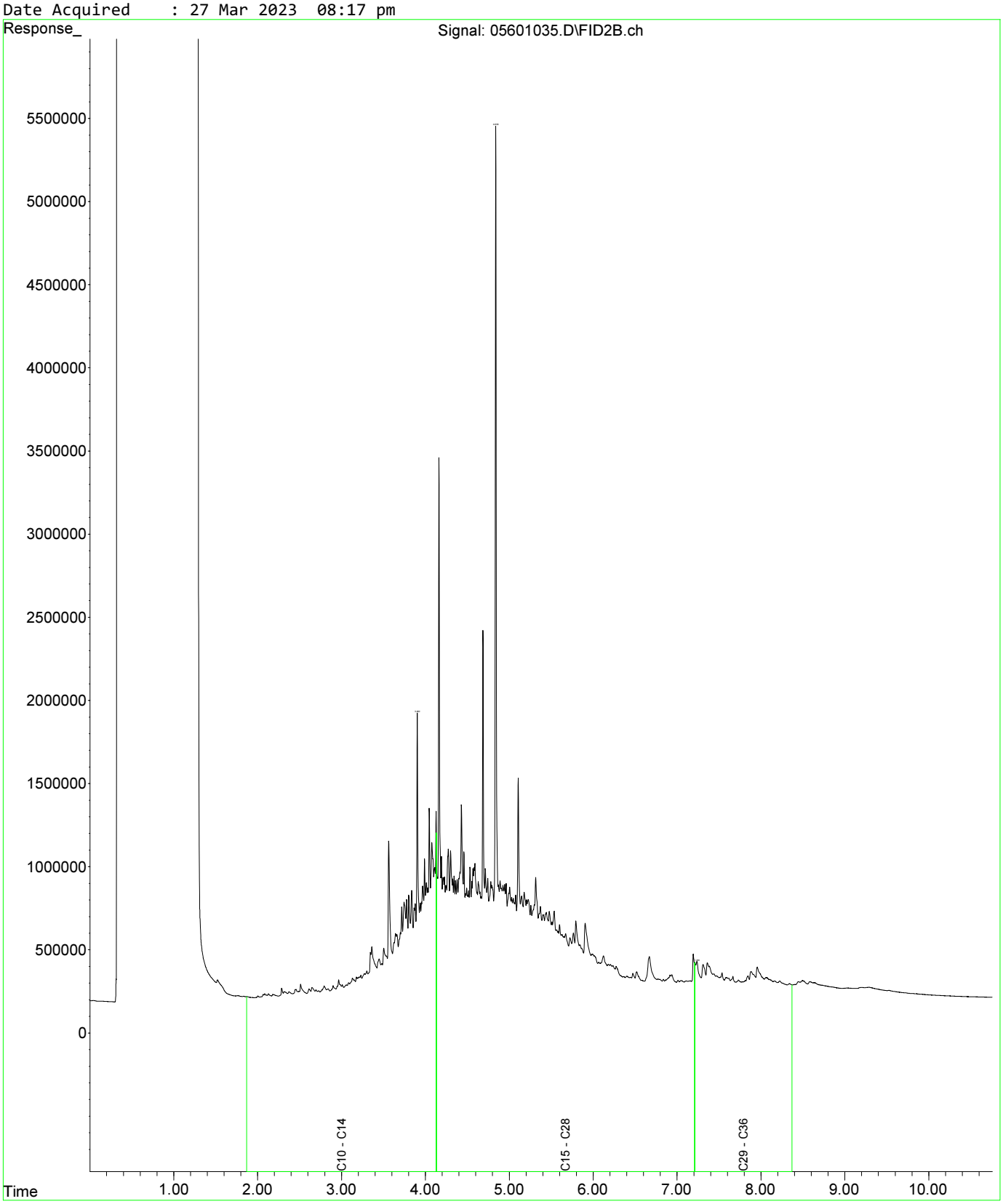

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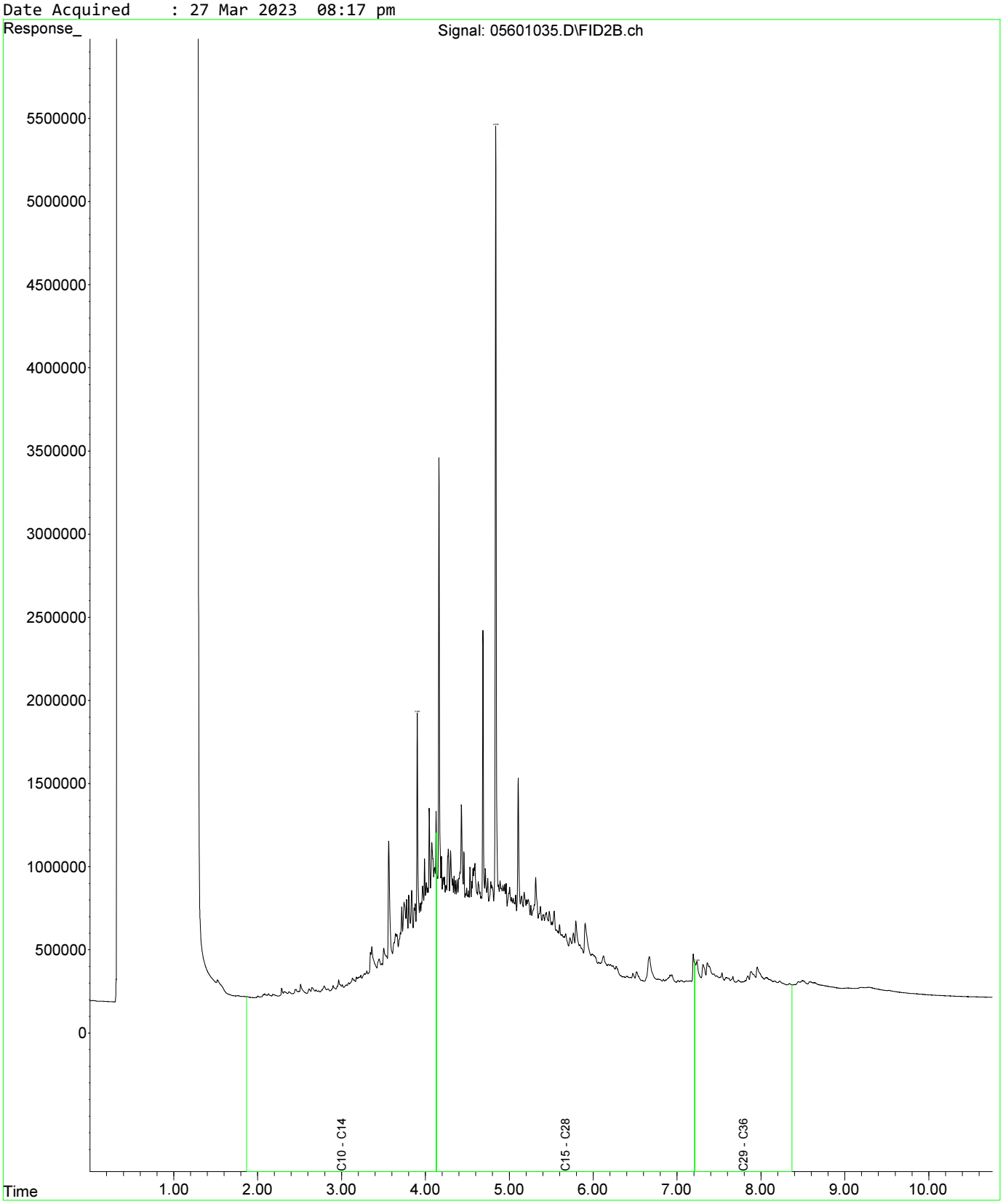

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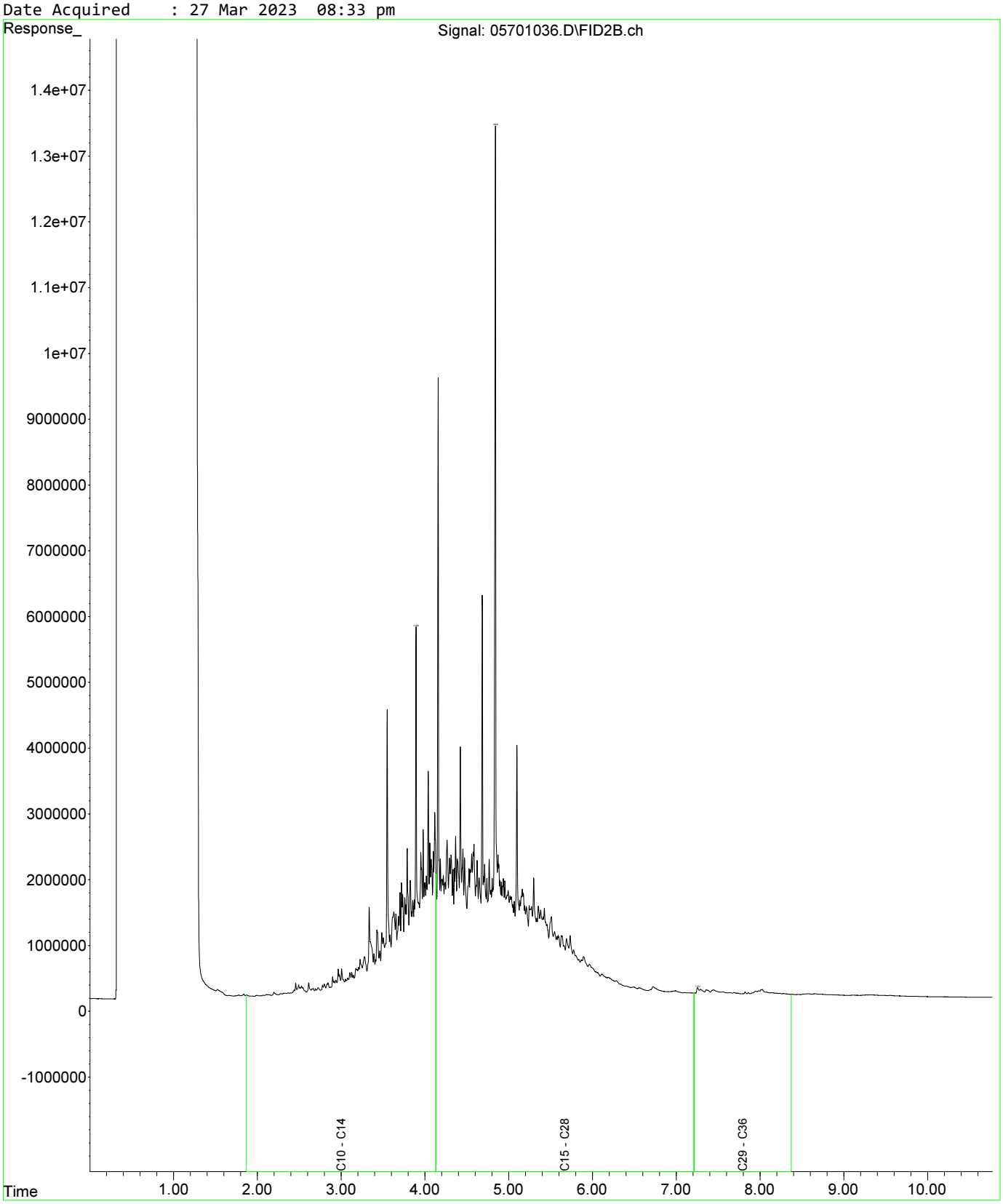

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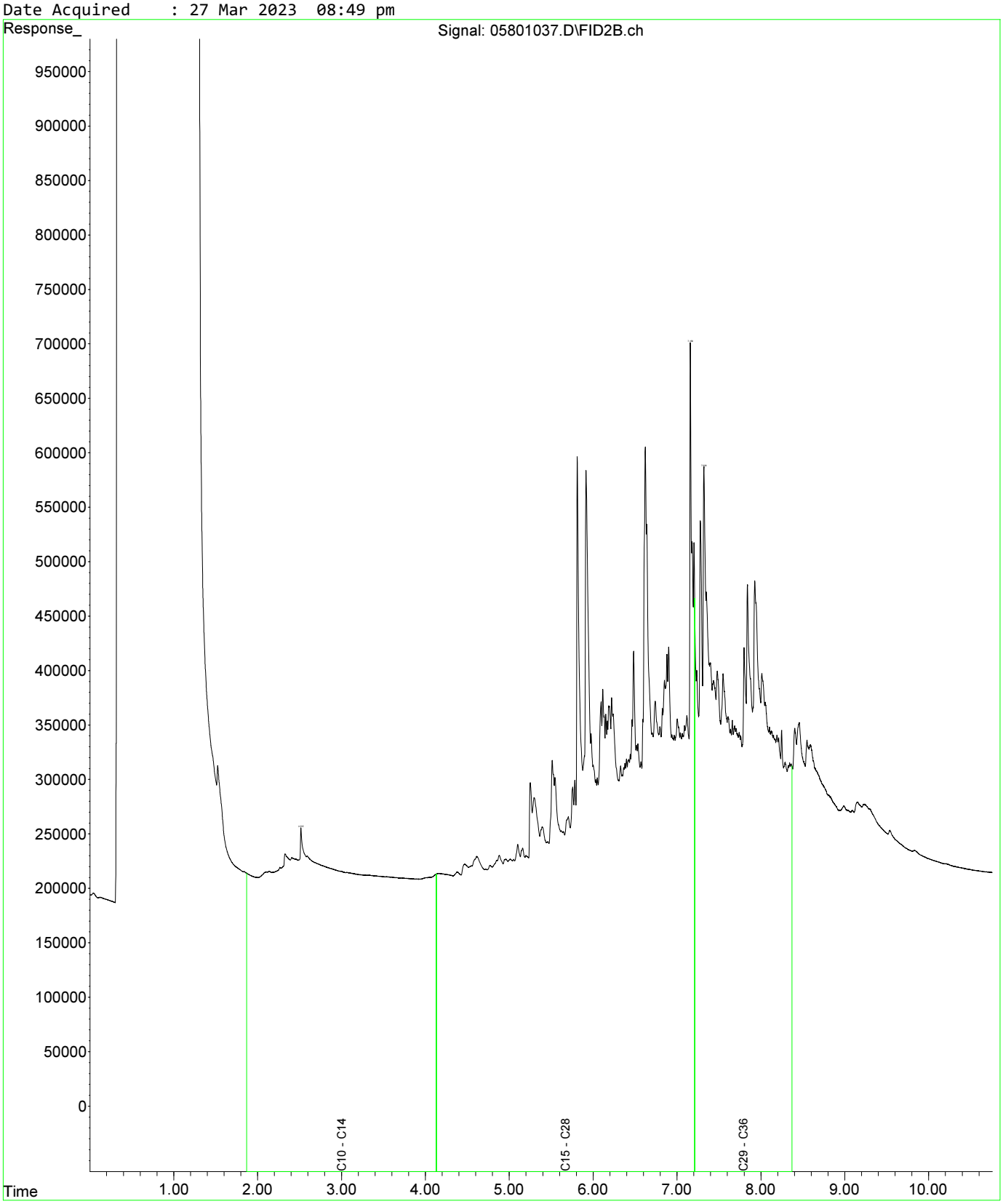
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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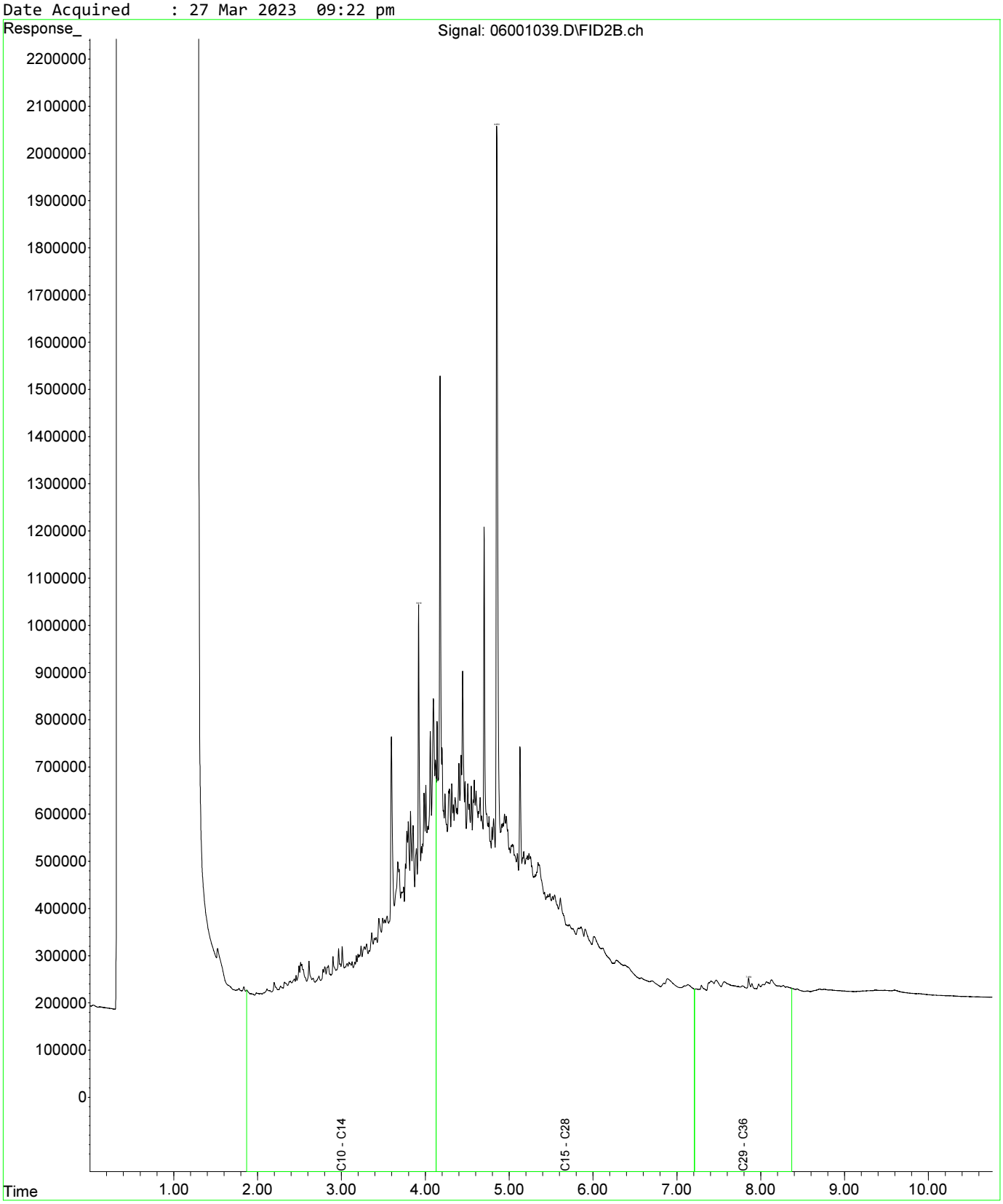

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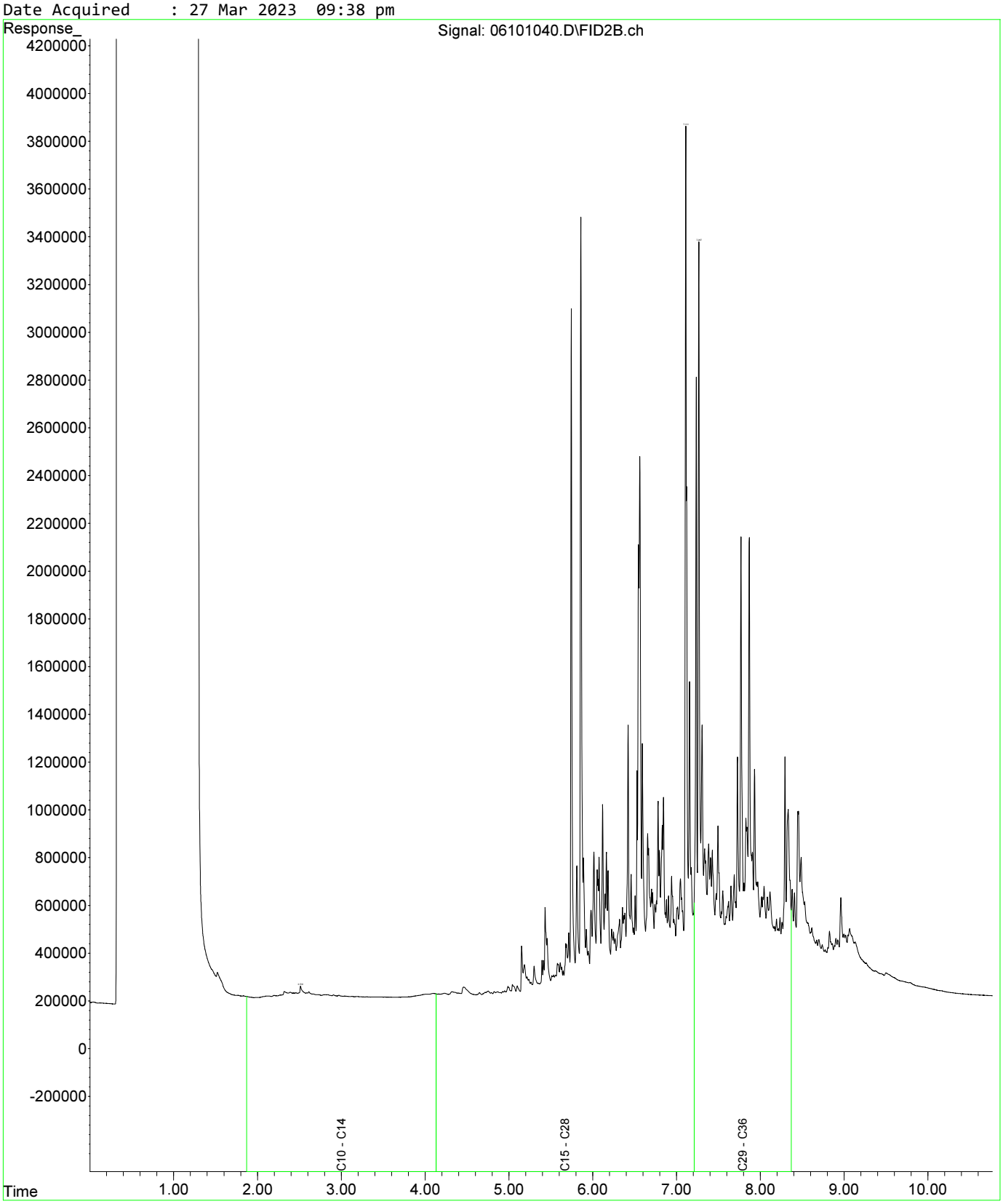

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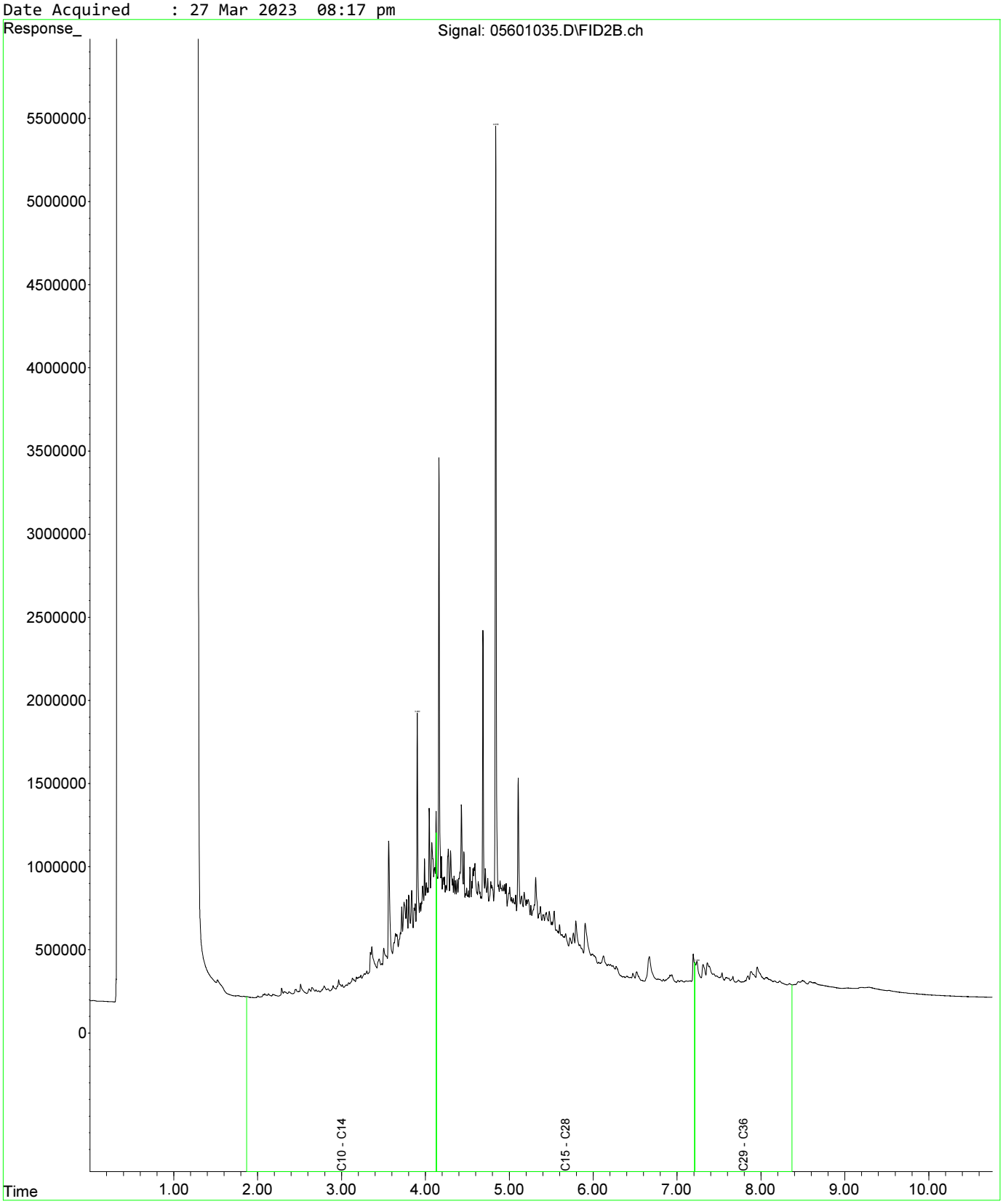

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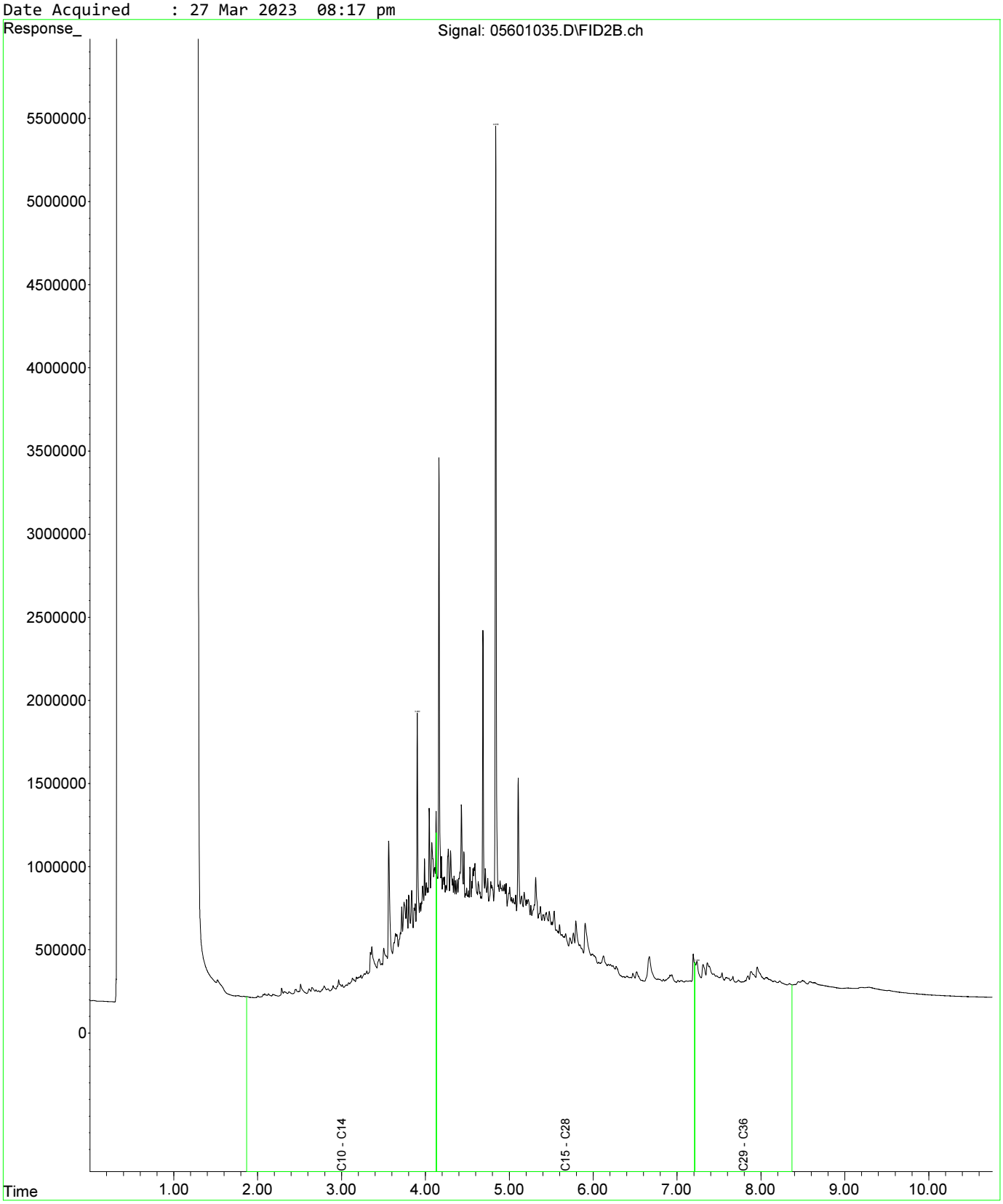

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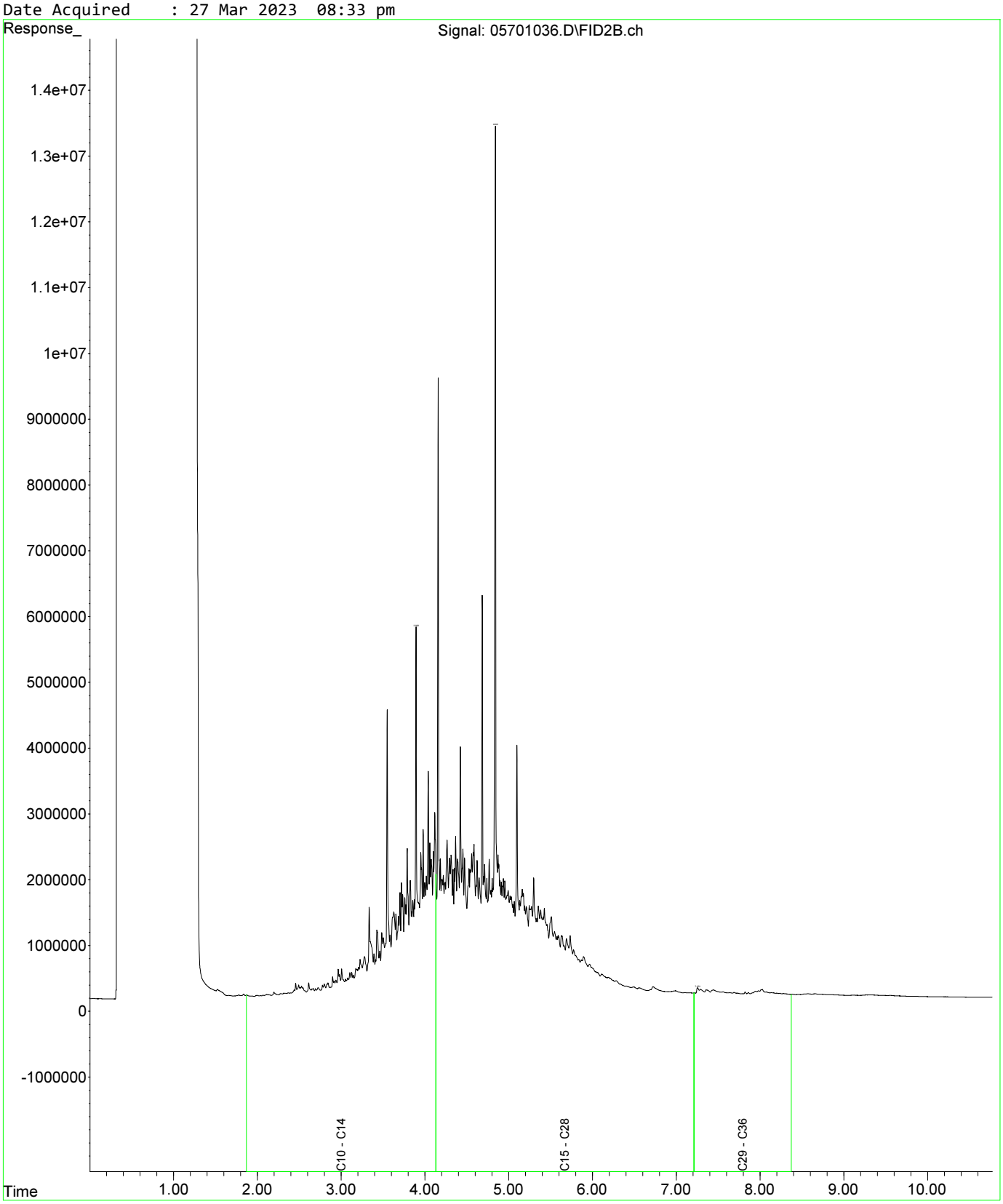

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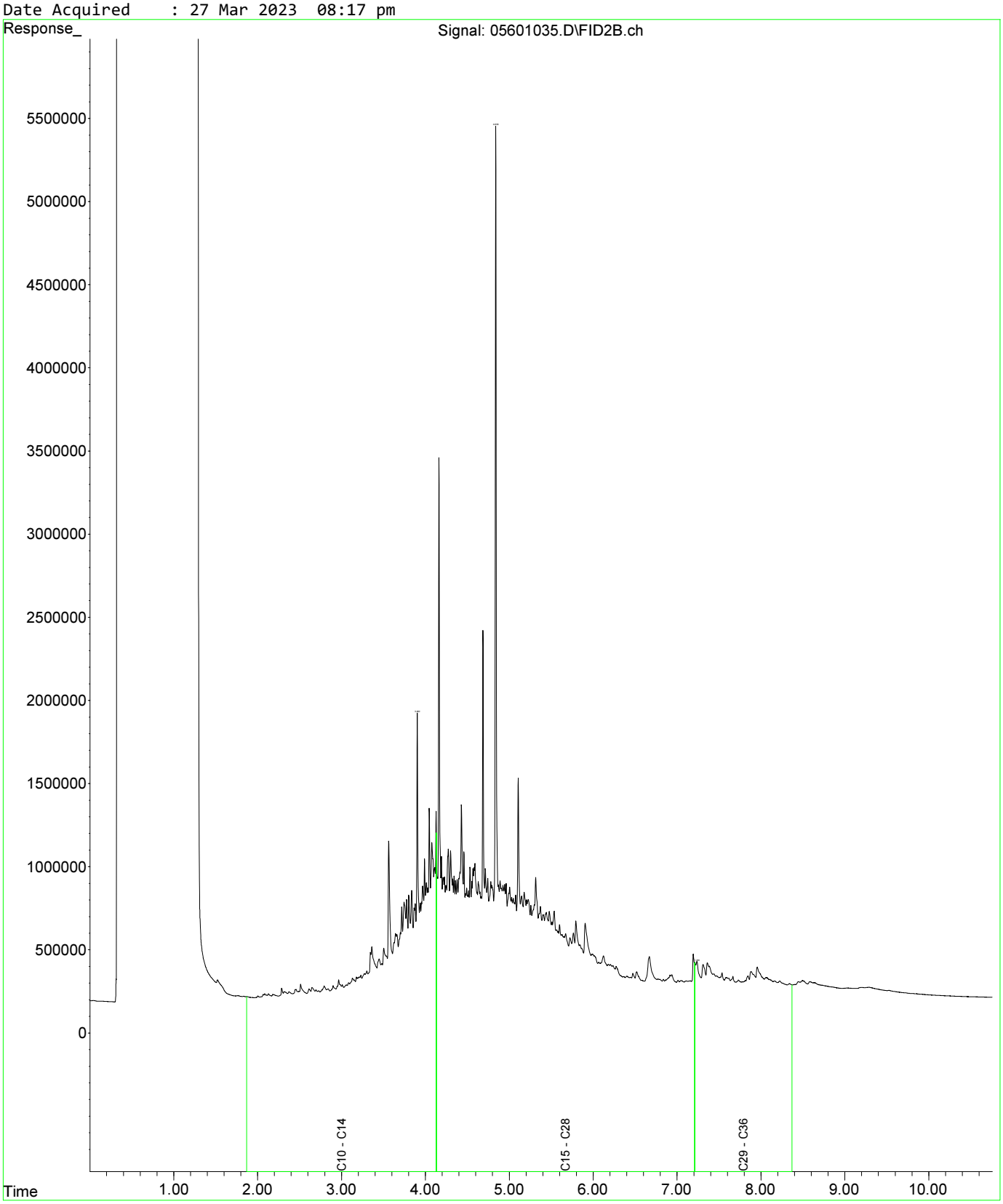

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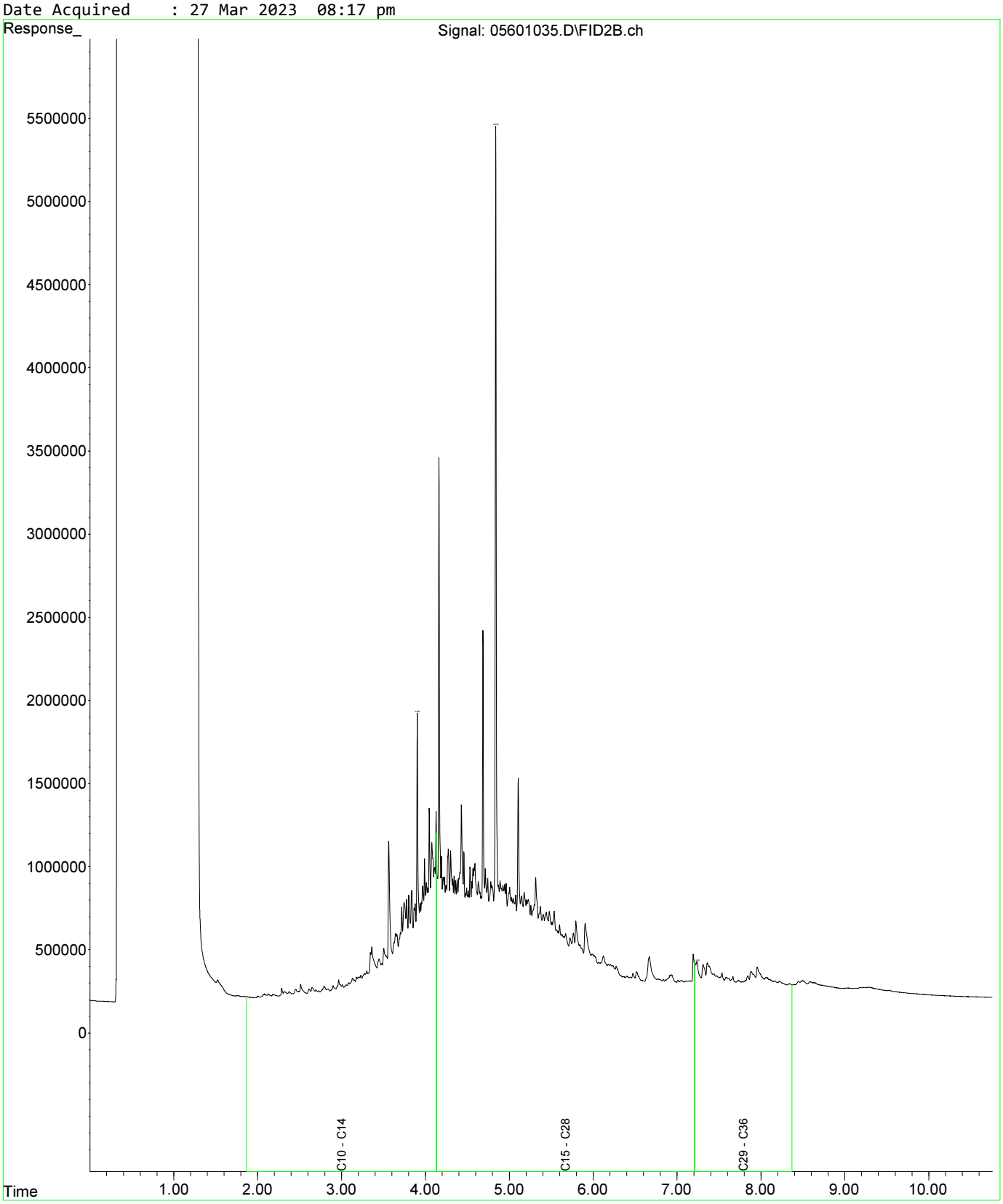

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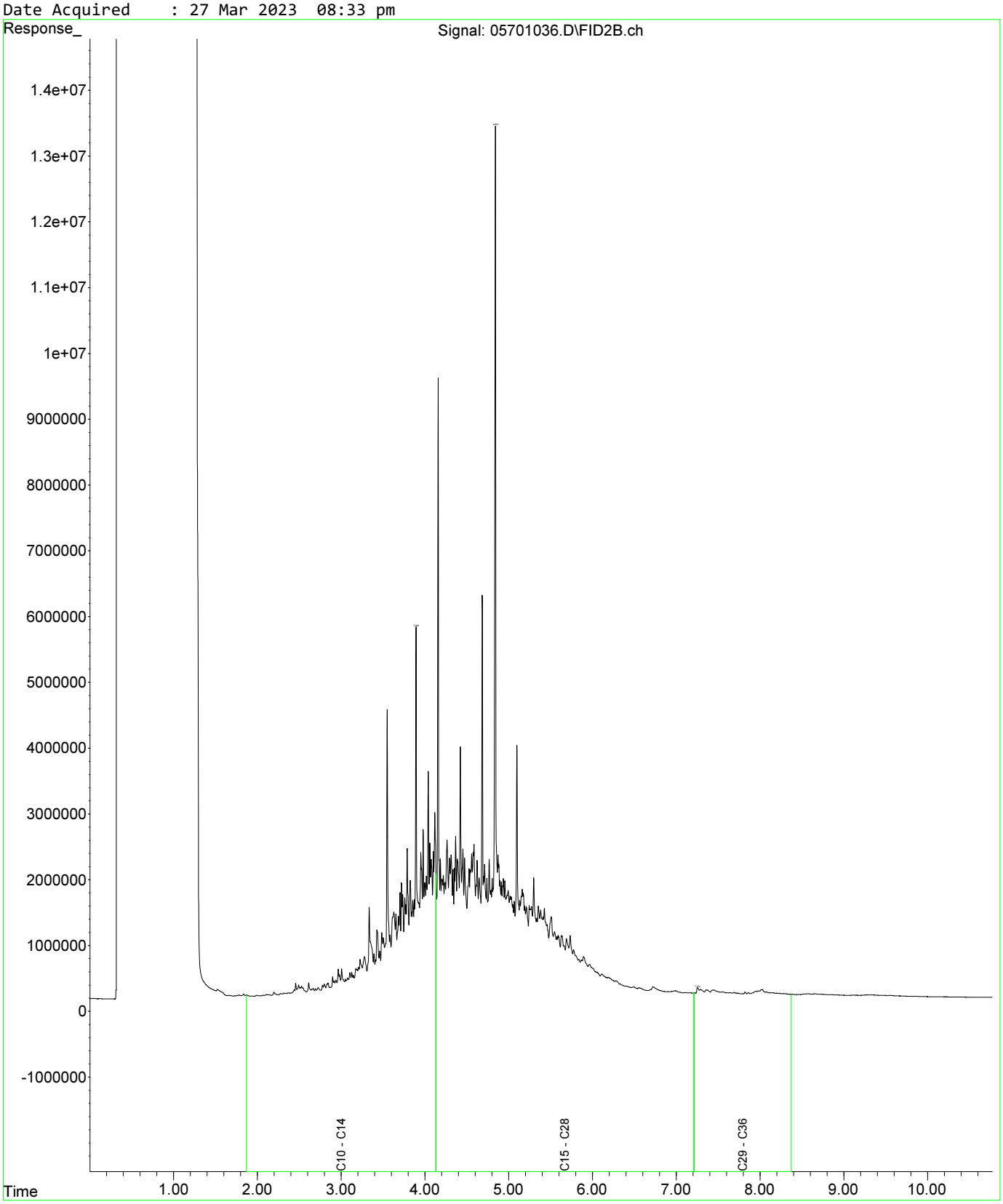

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Data File : 05801037.D
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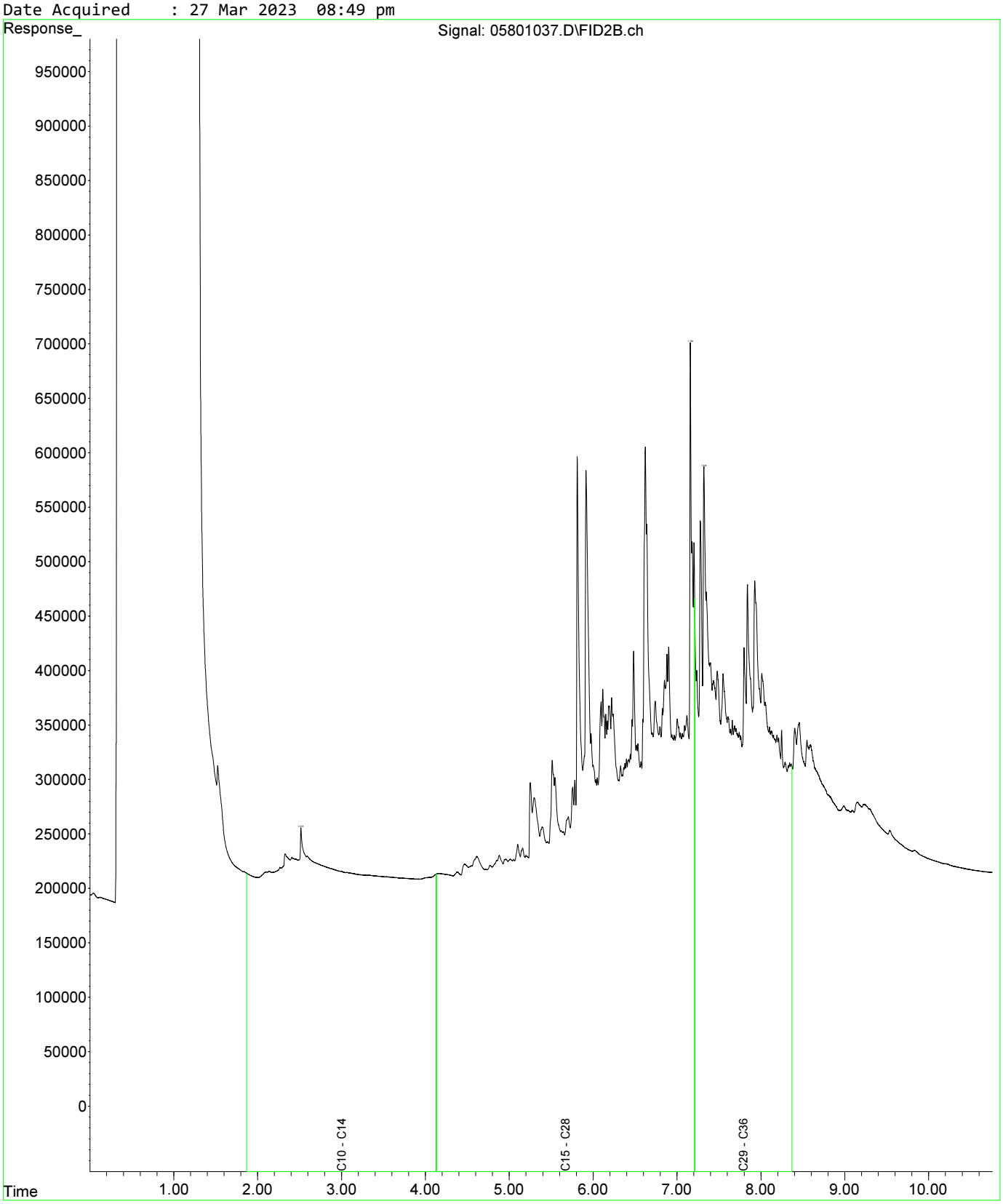

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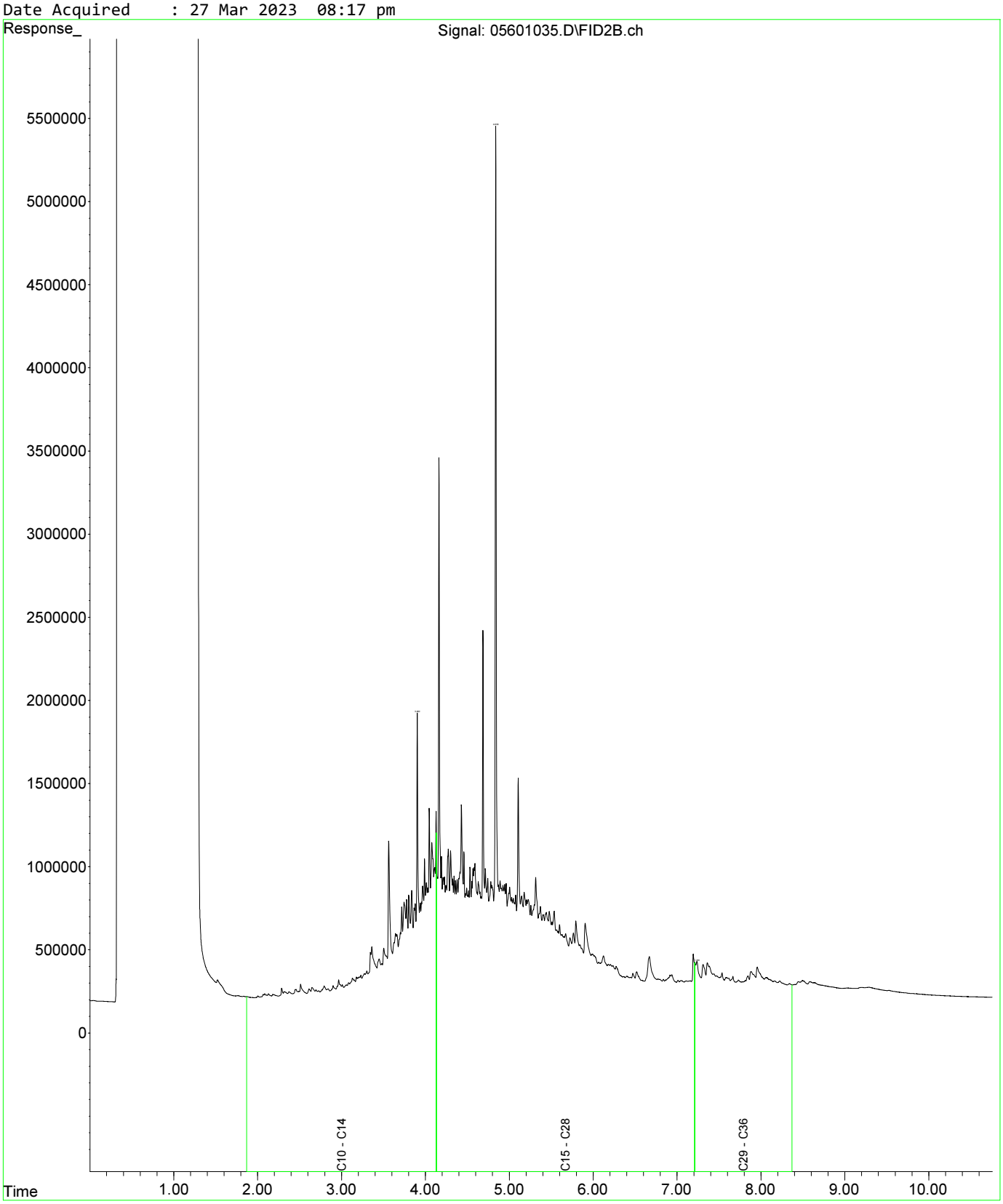

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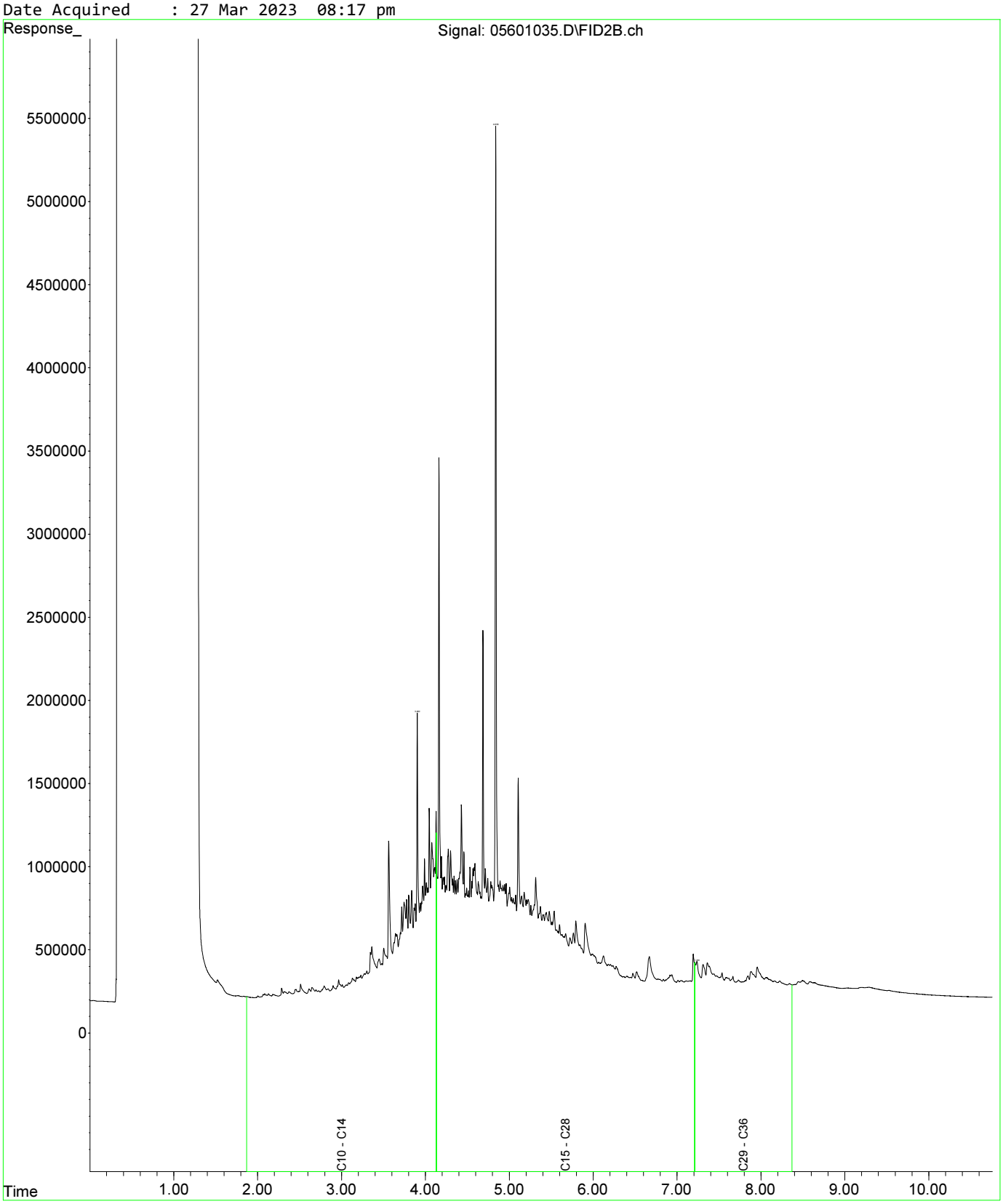

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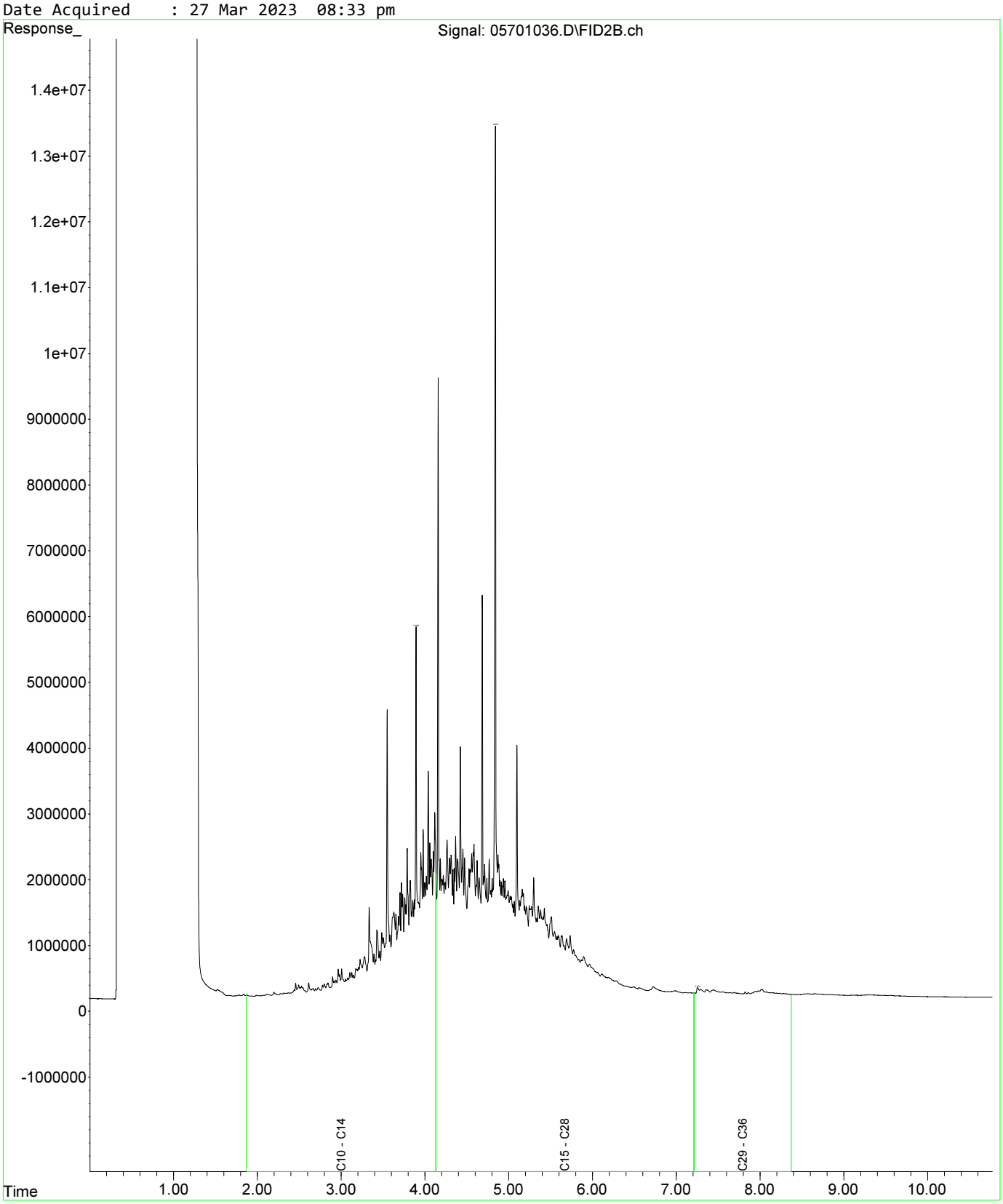

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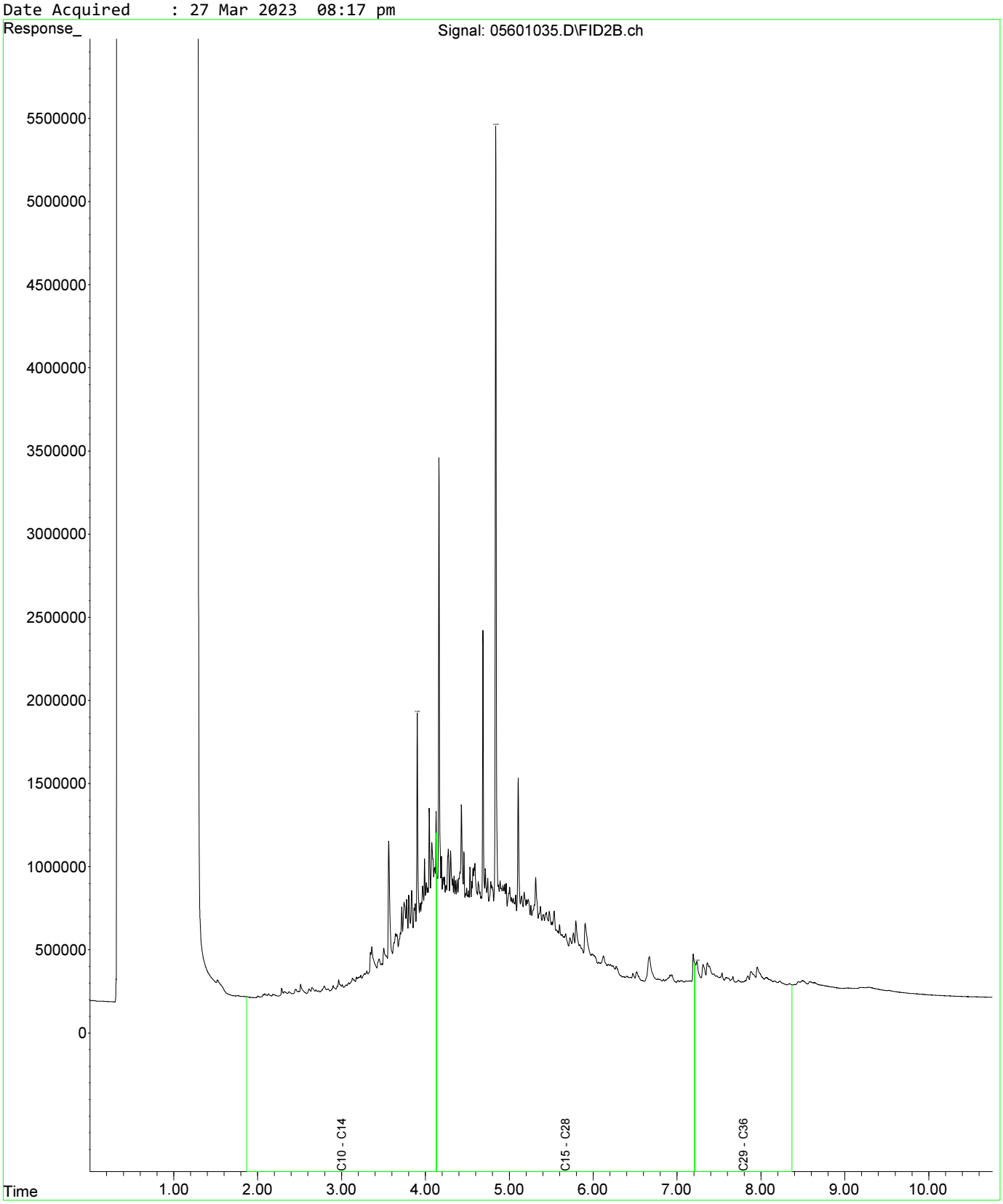

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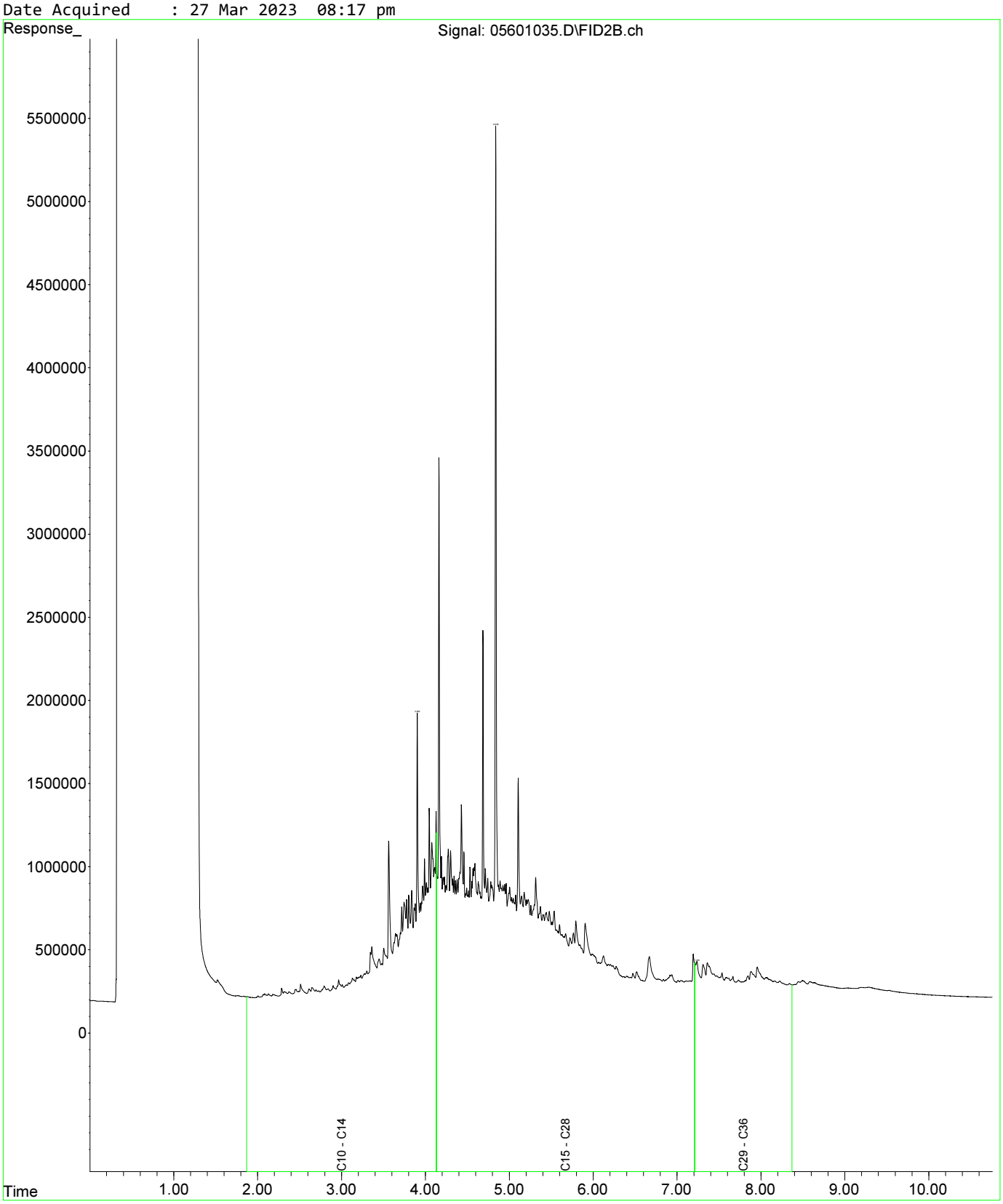

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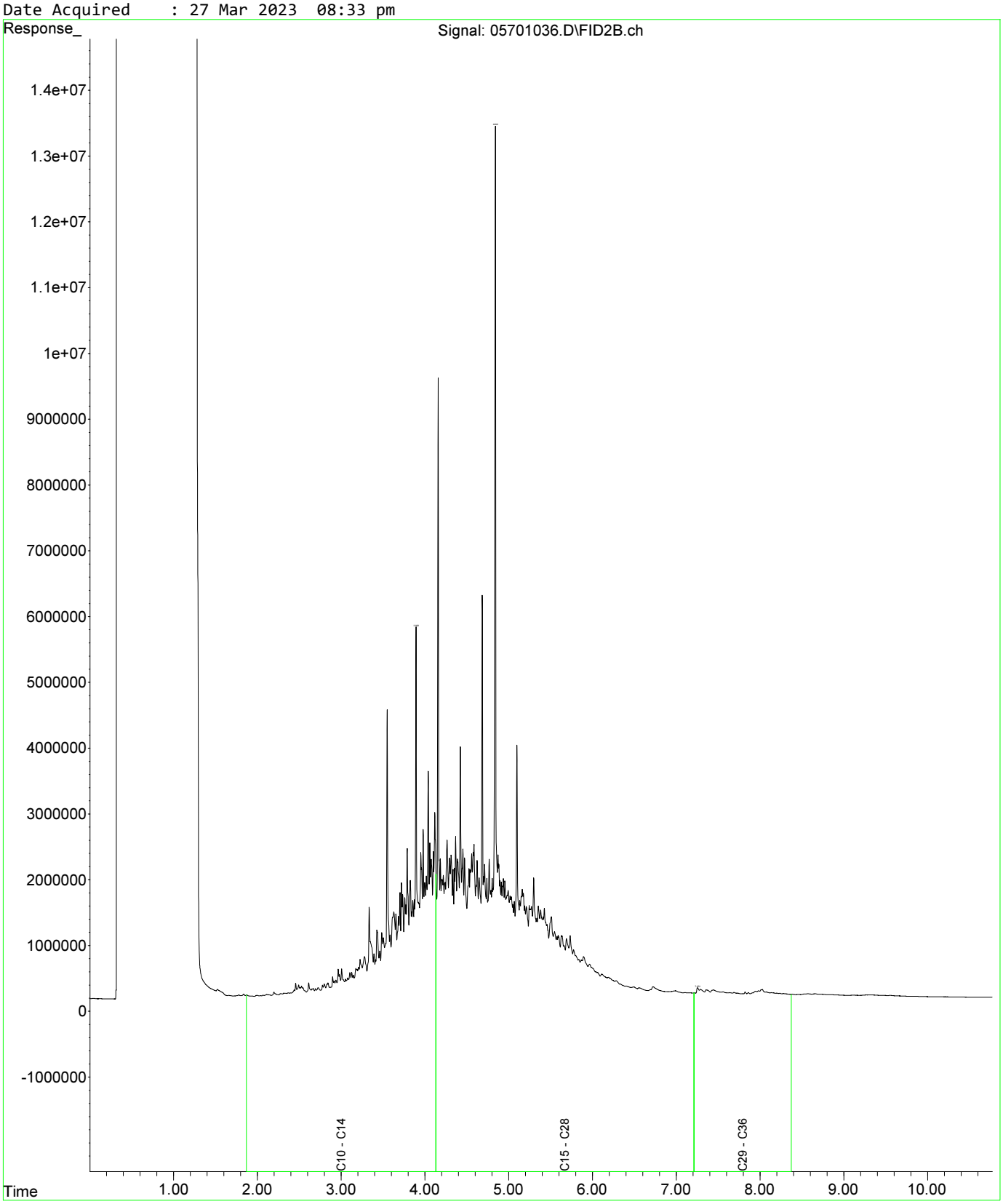

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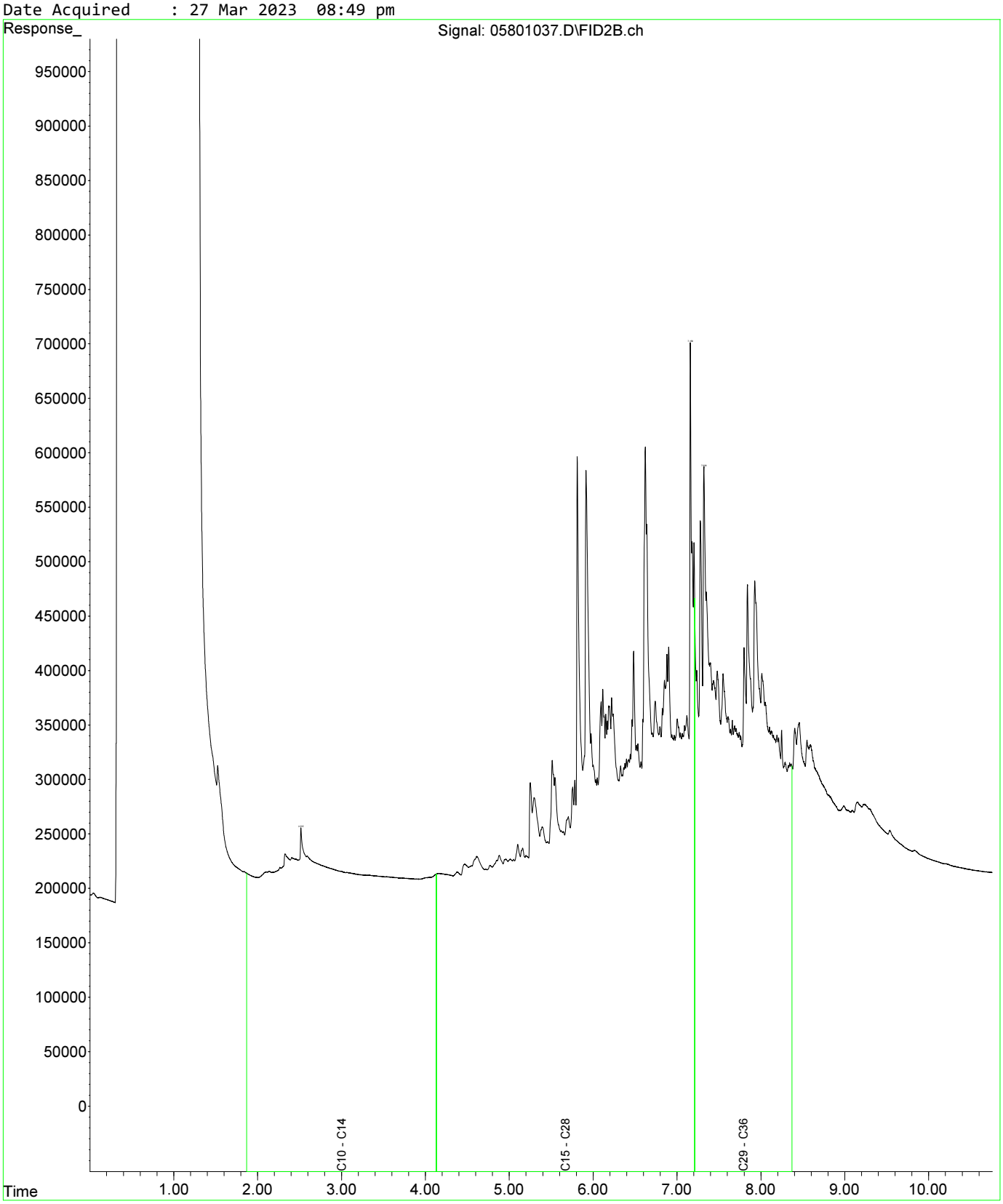

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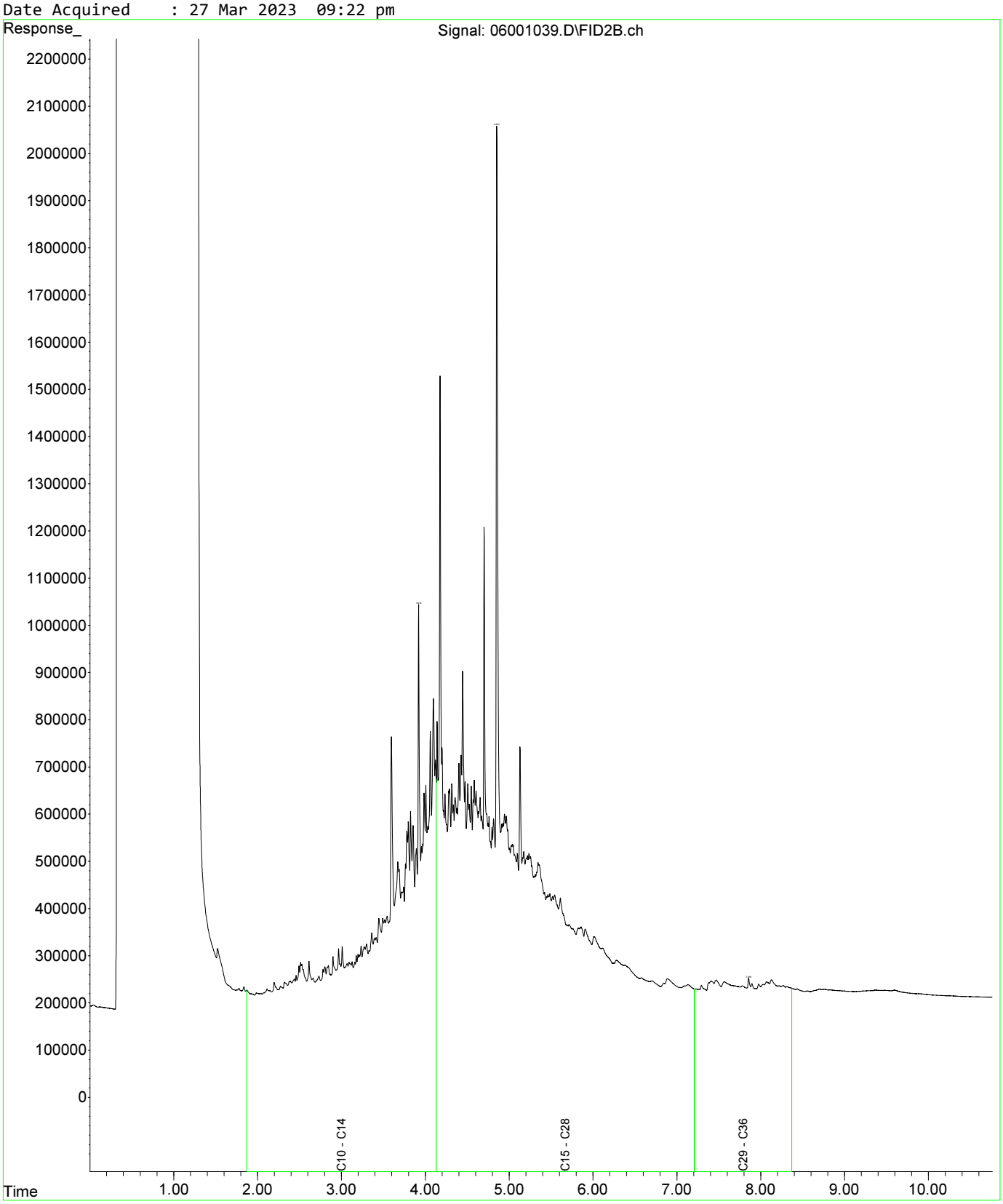

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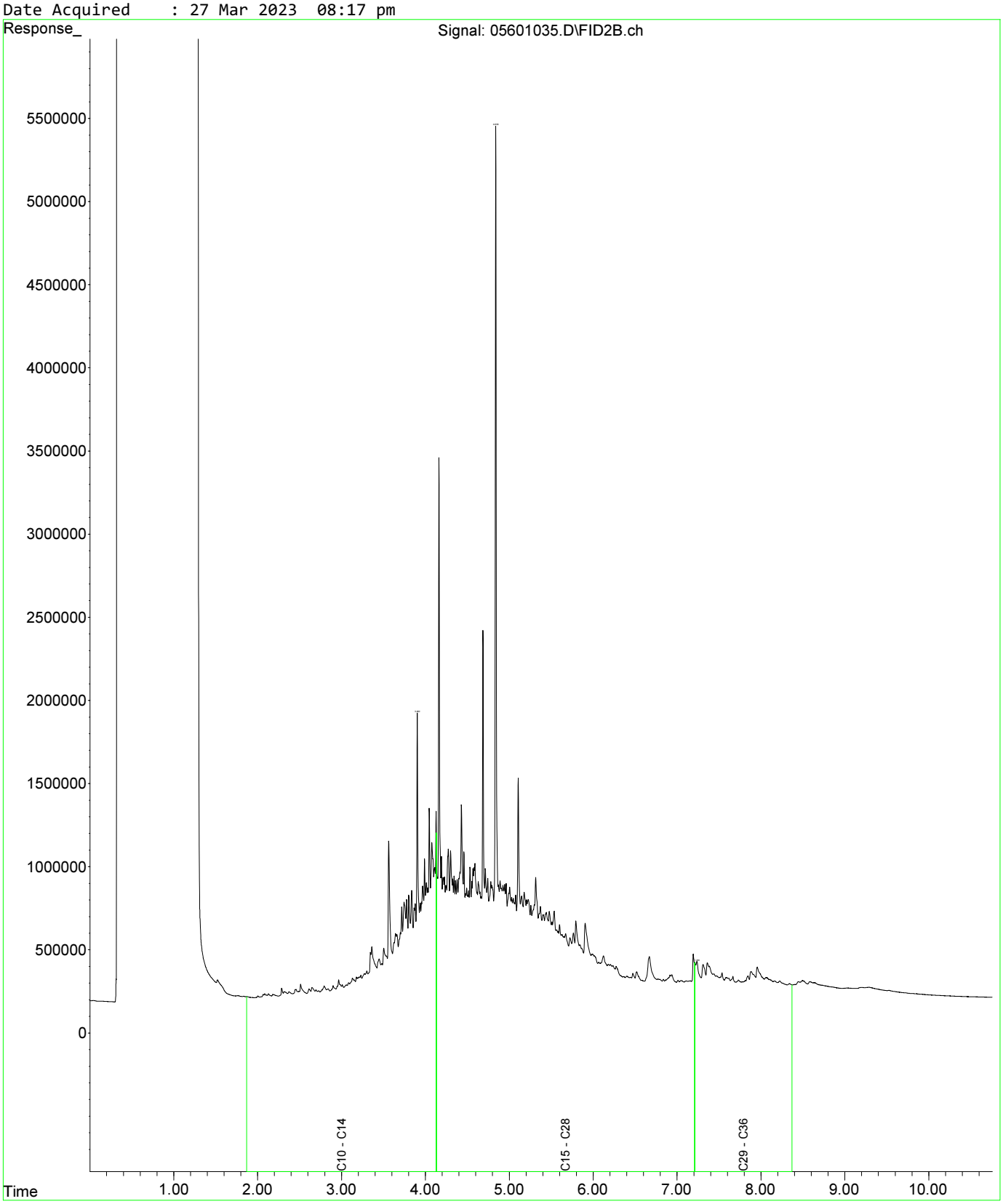

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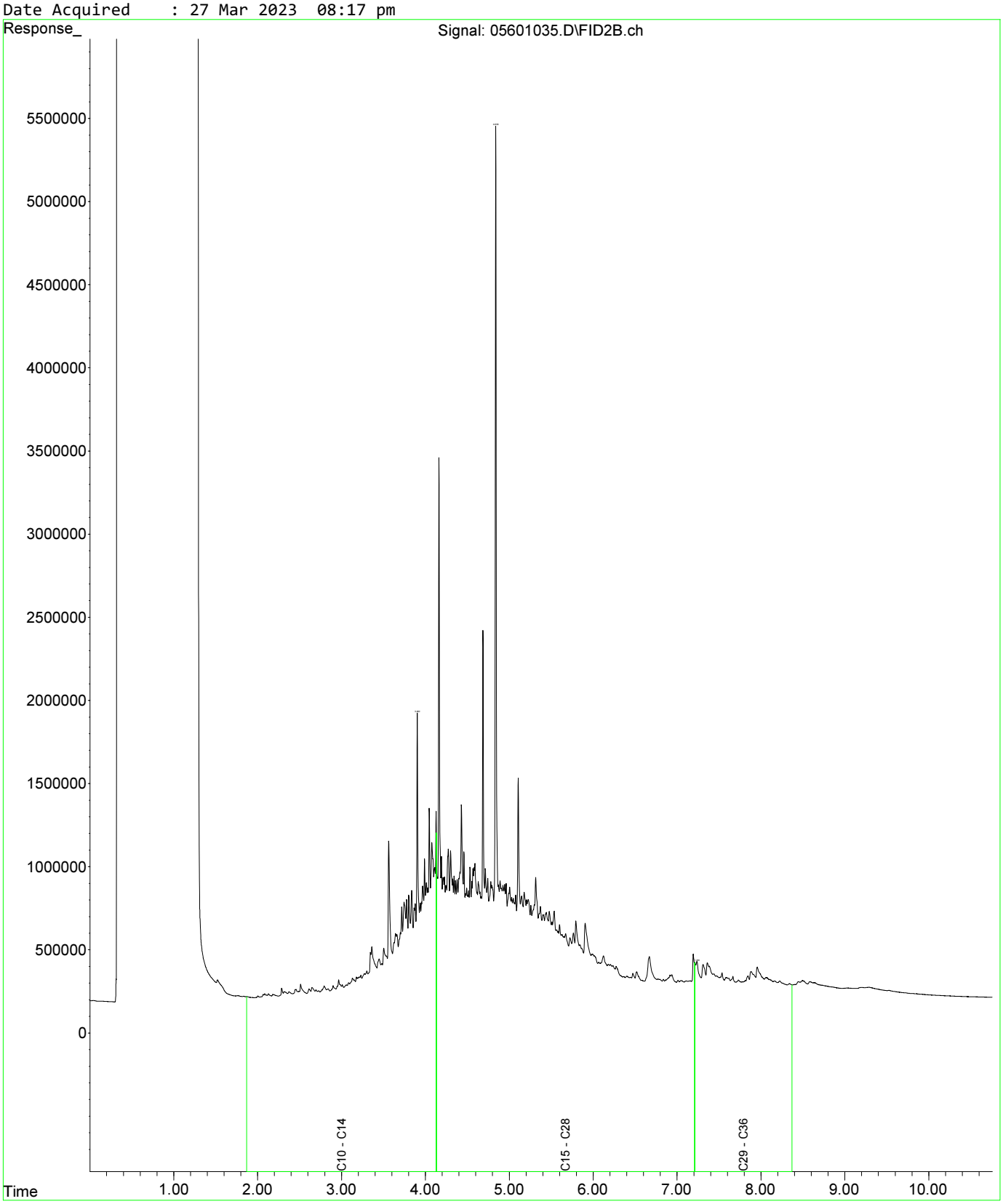

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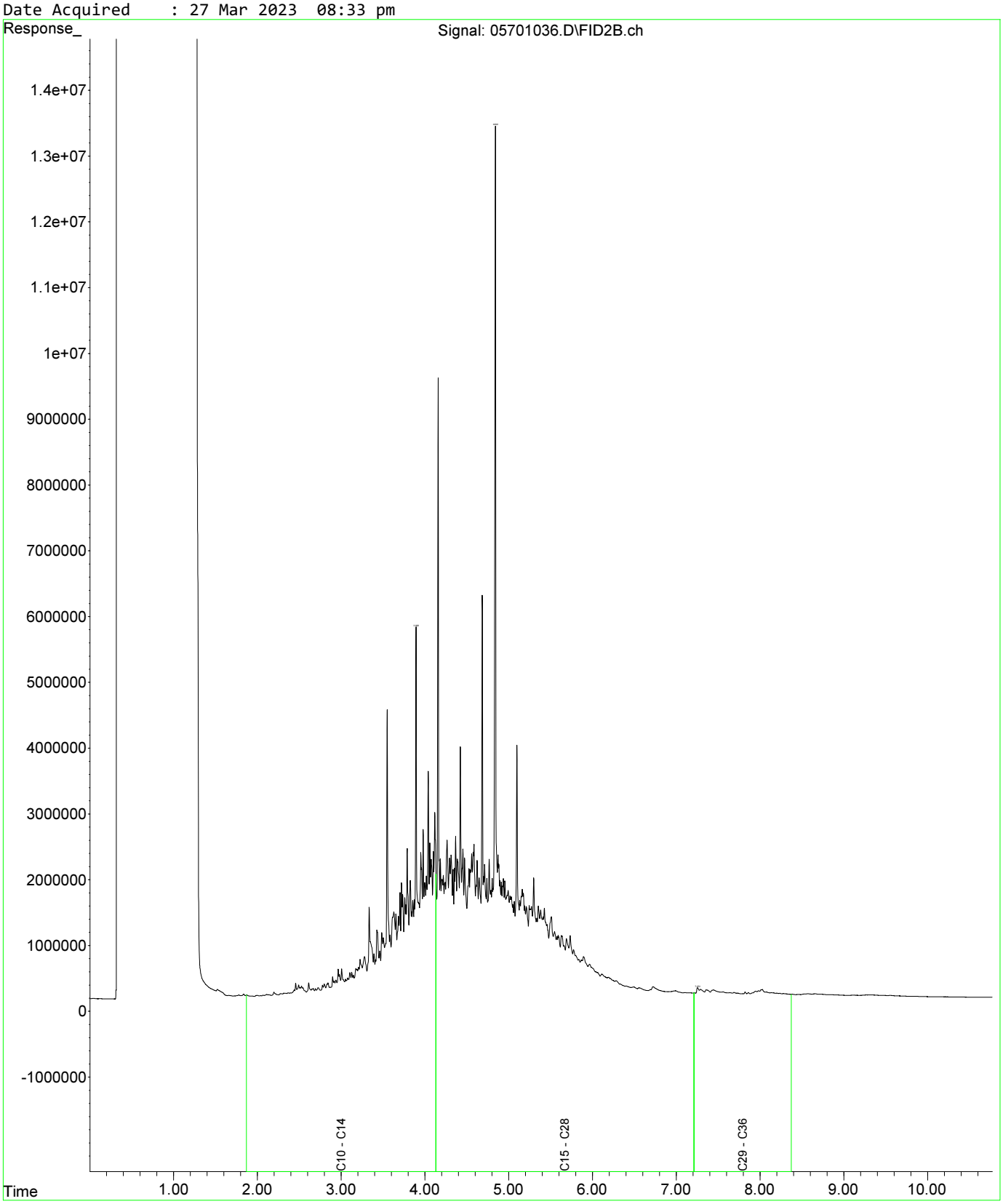

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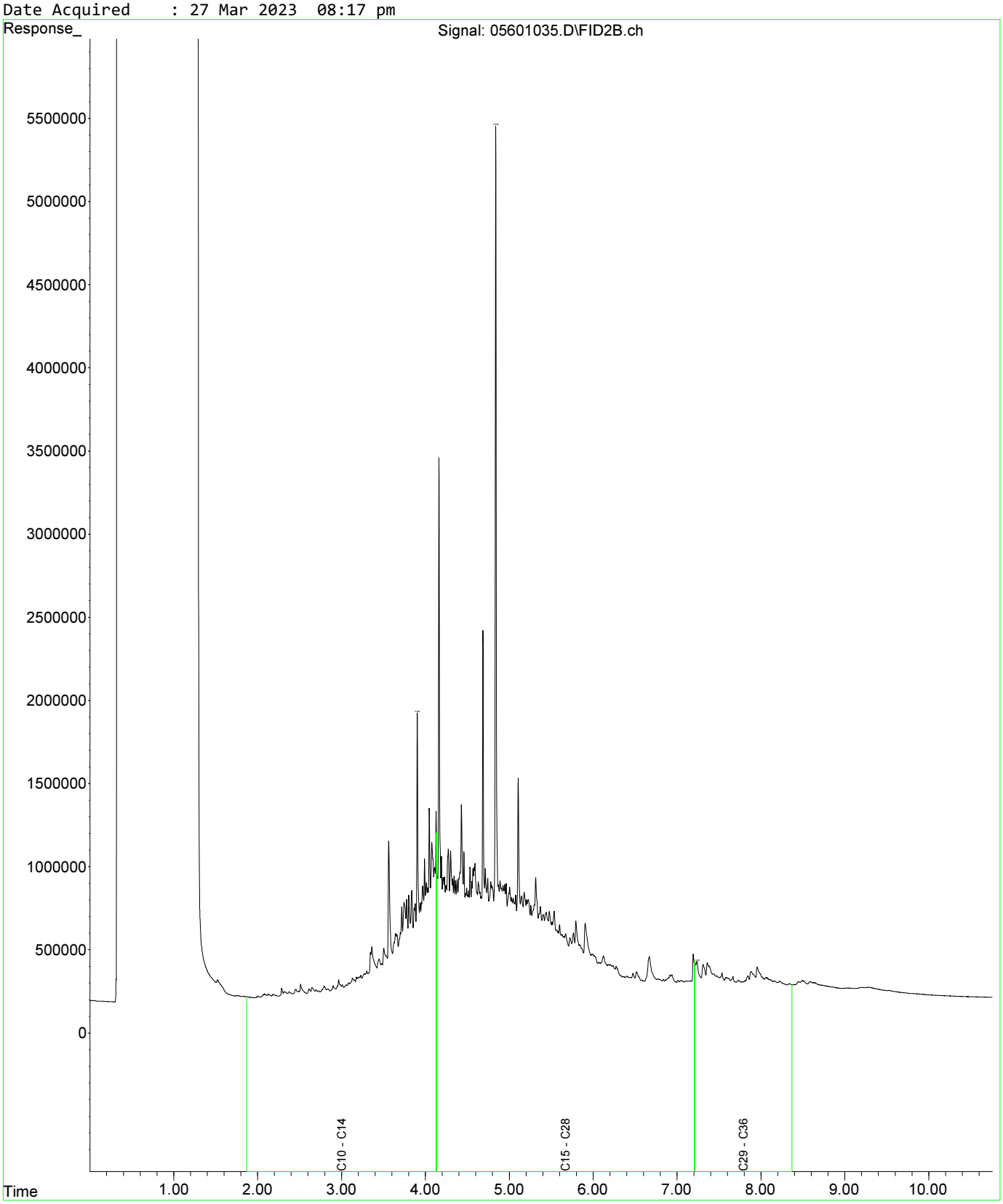

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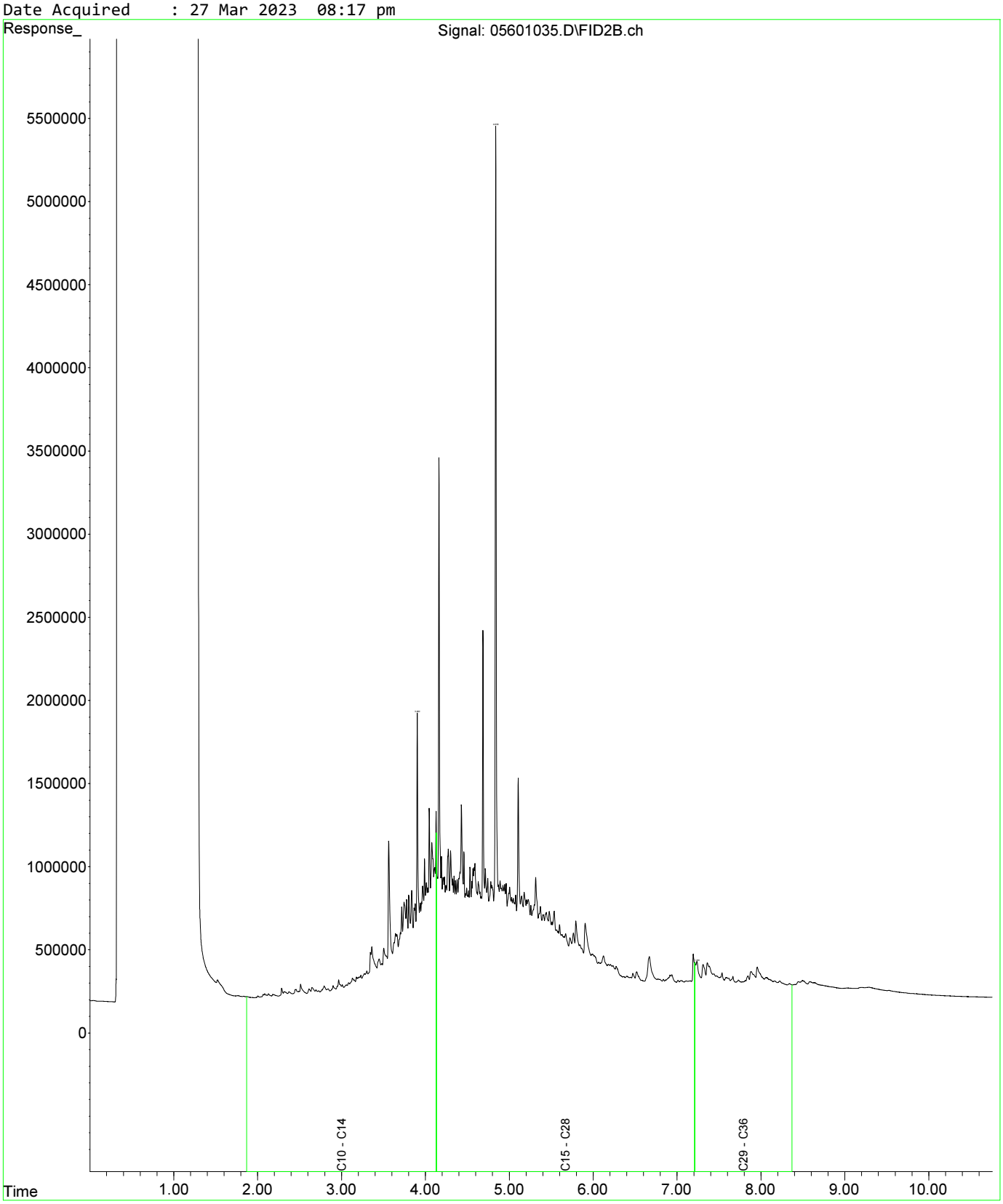

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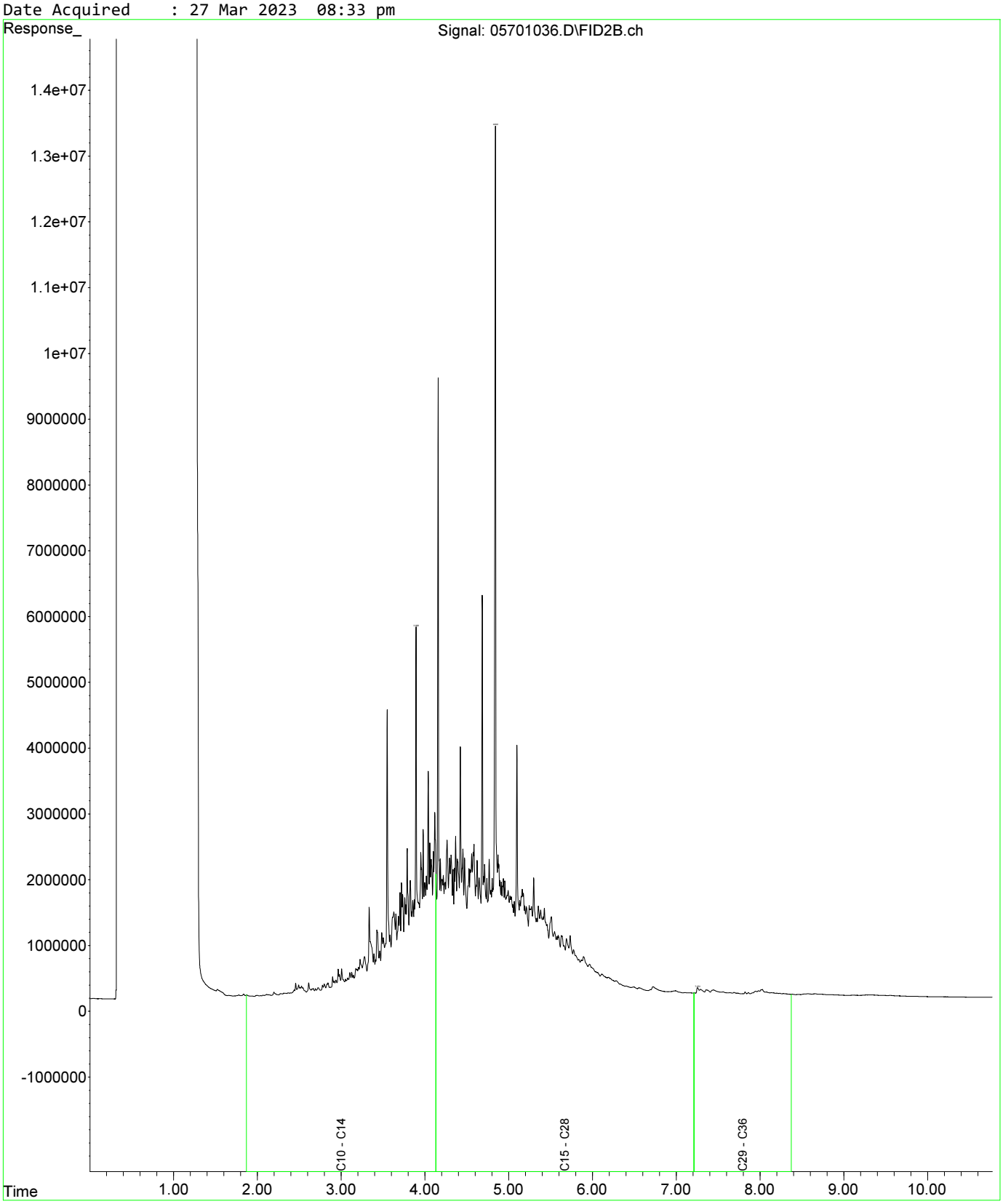

Fraction Scheme : Standard
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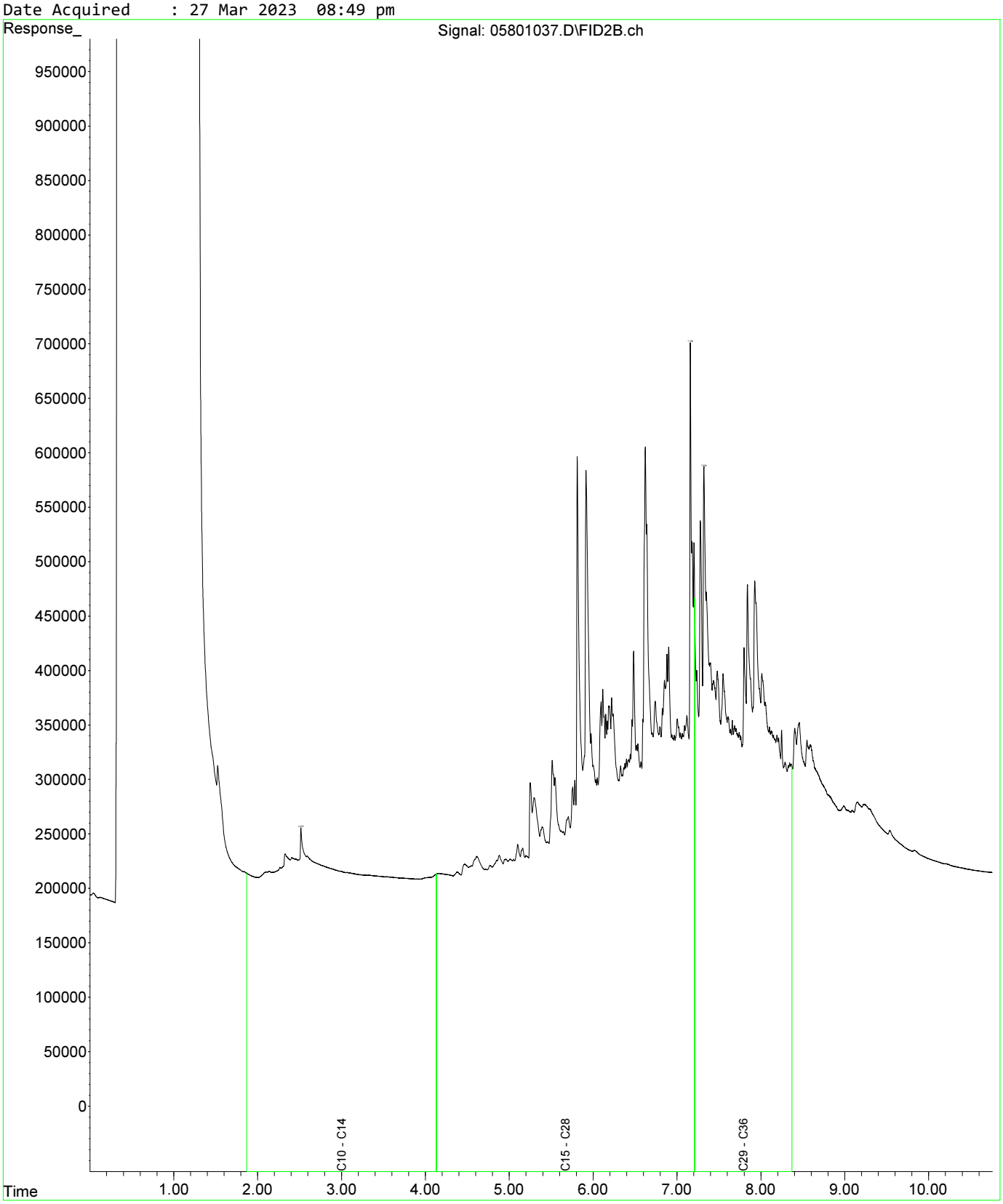

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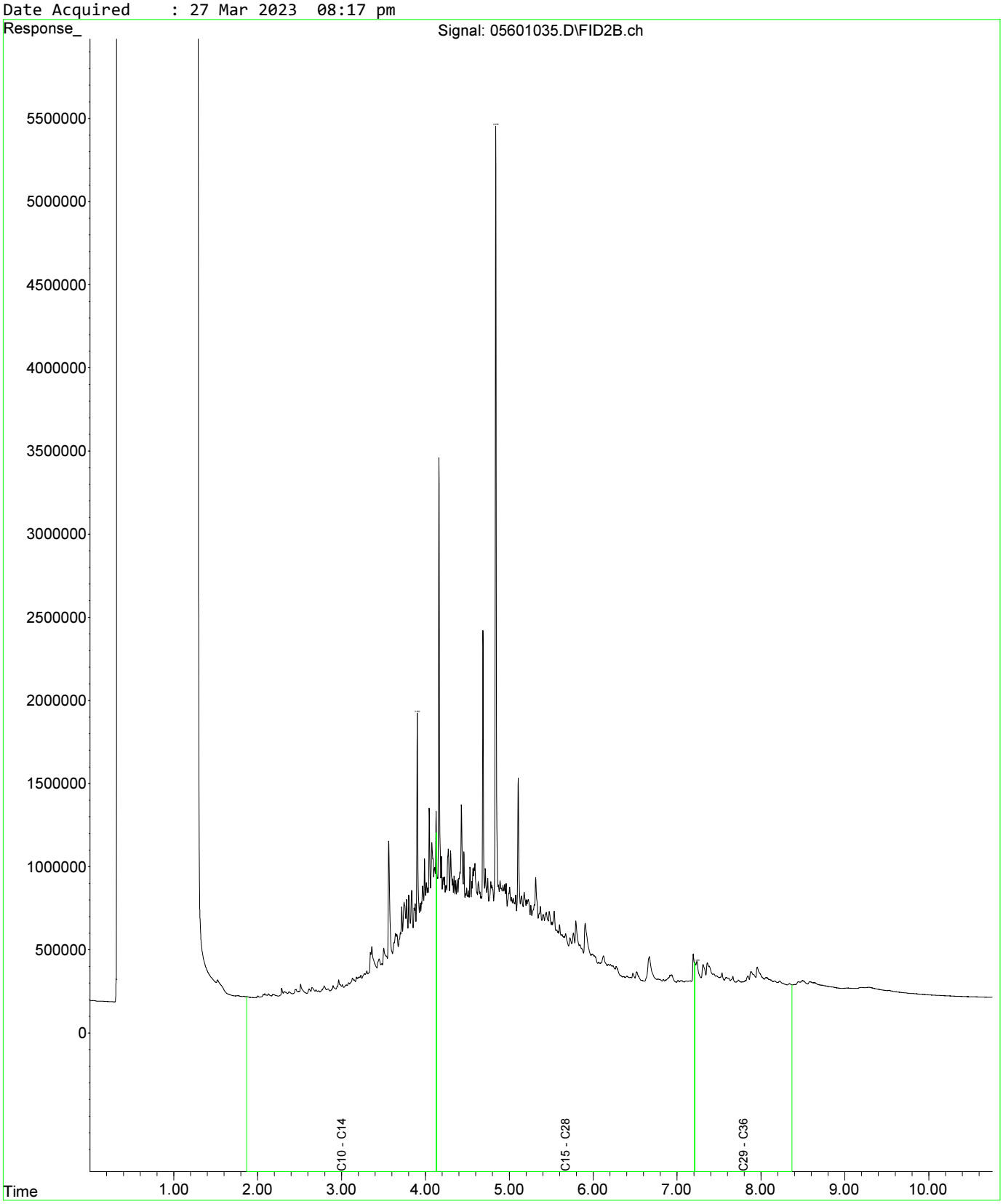

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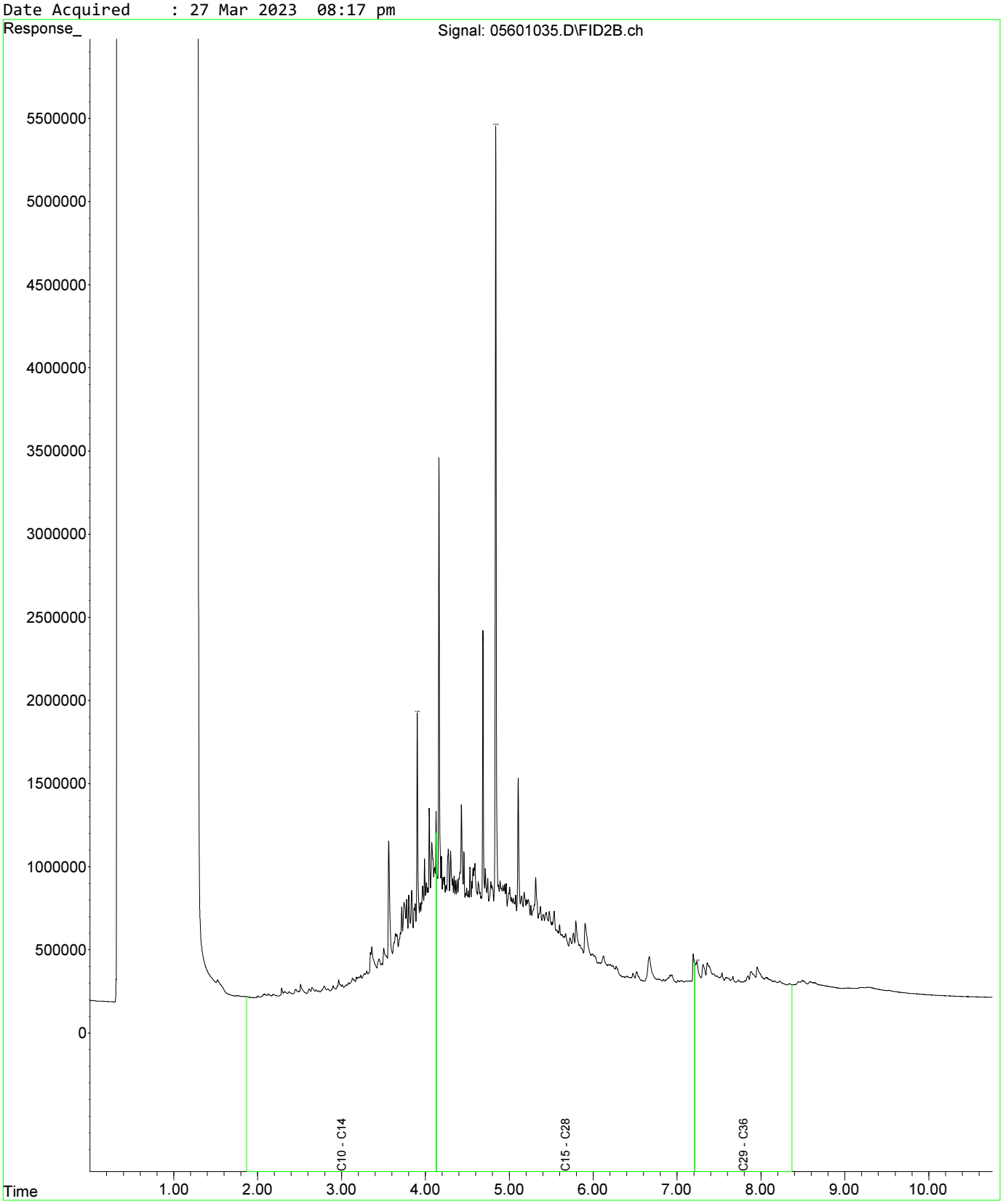

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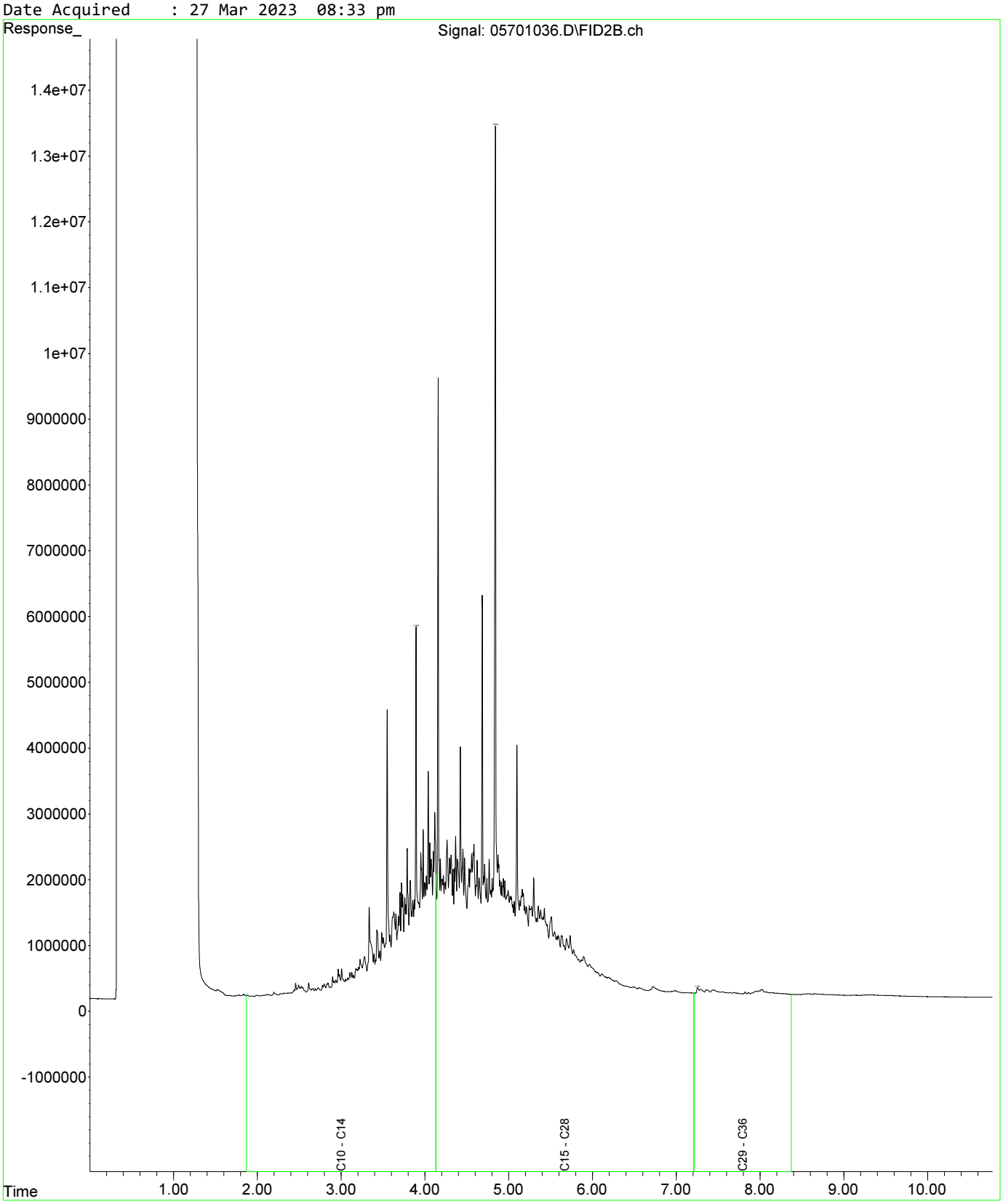

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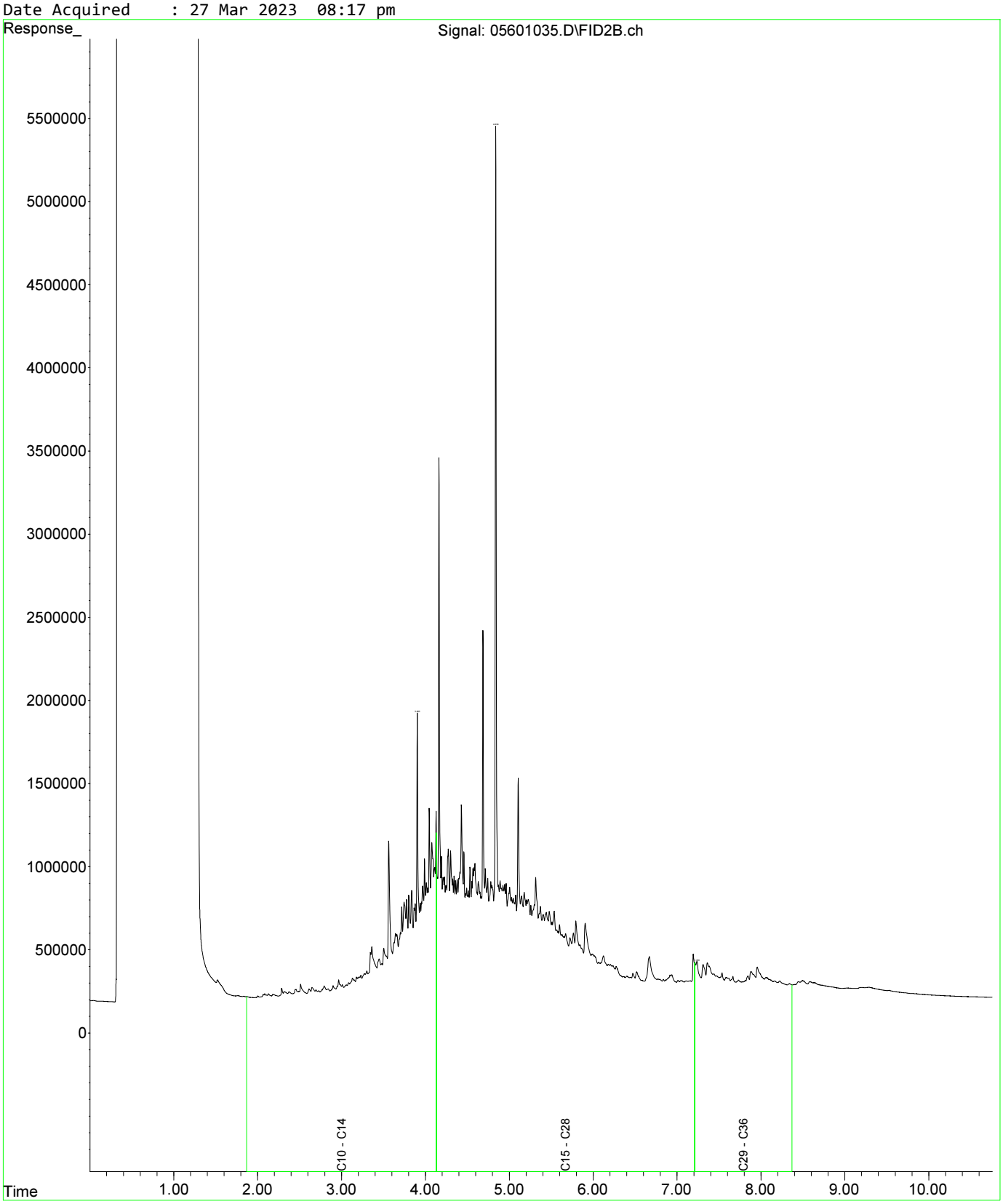

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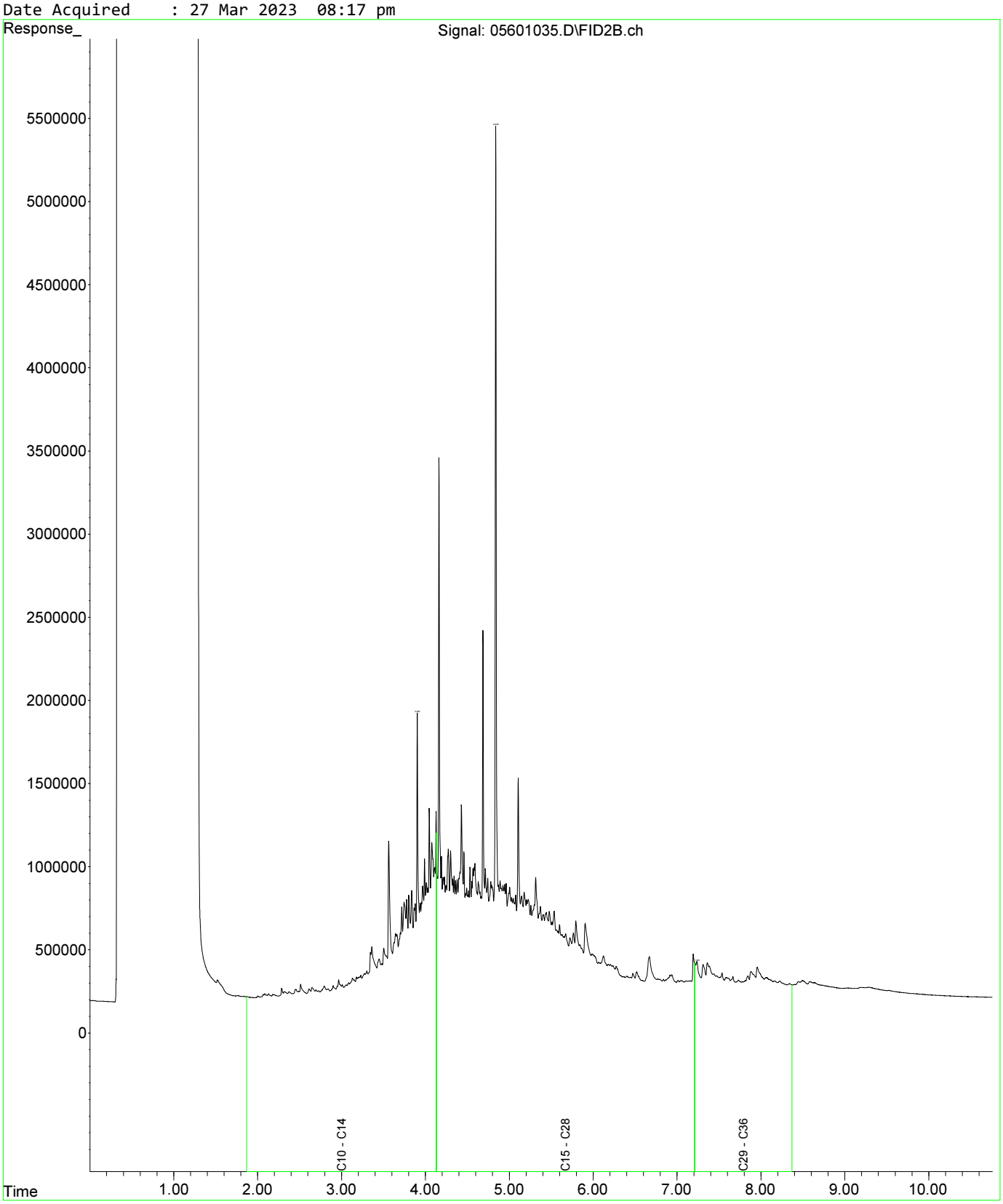

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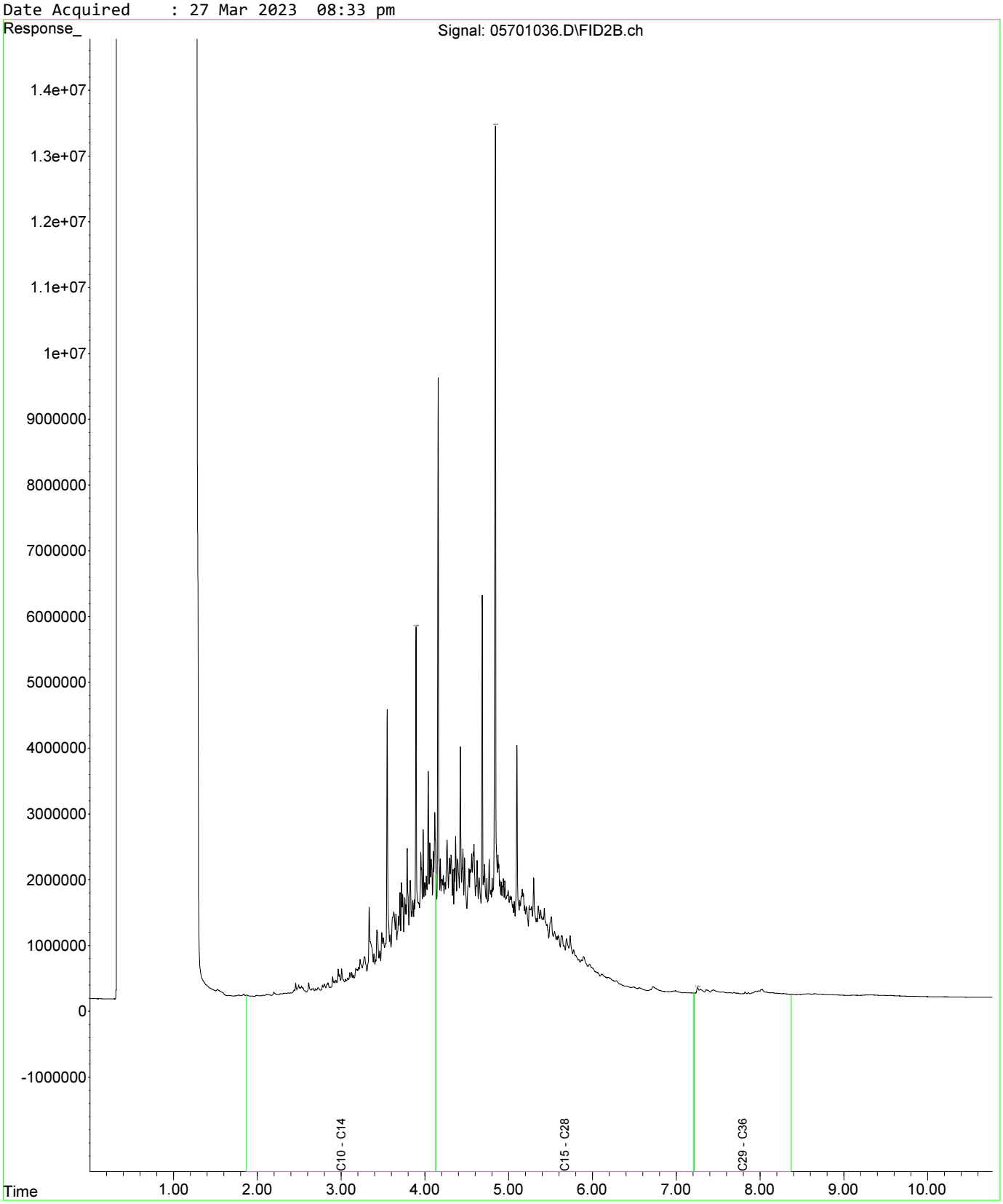
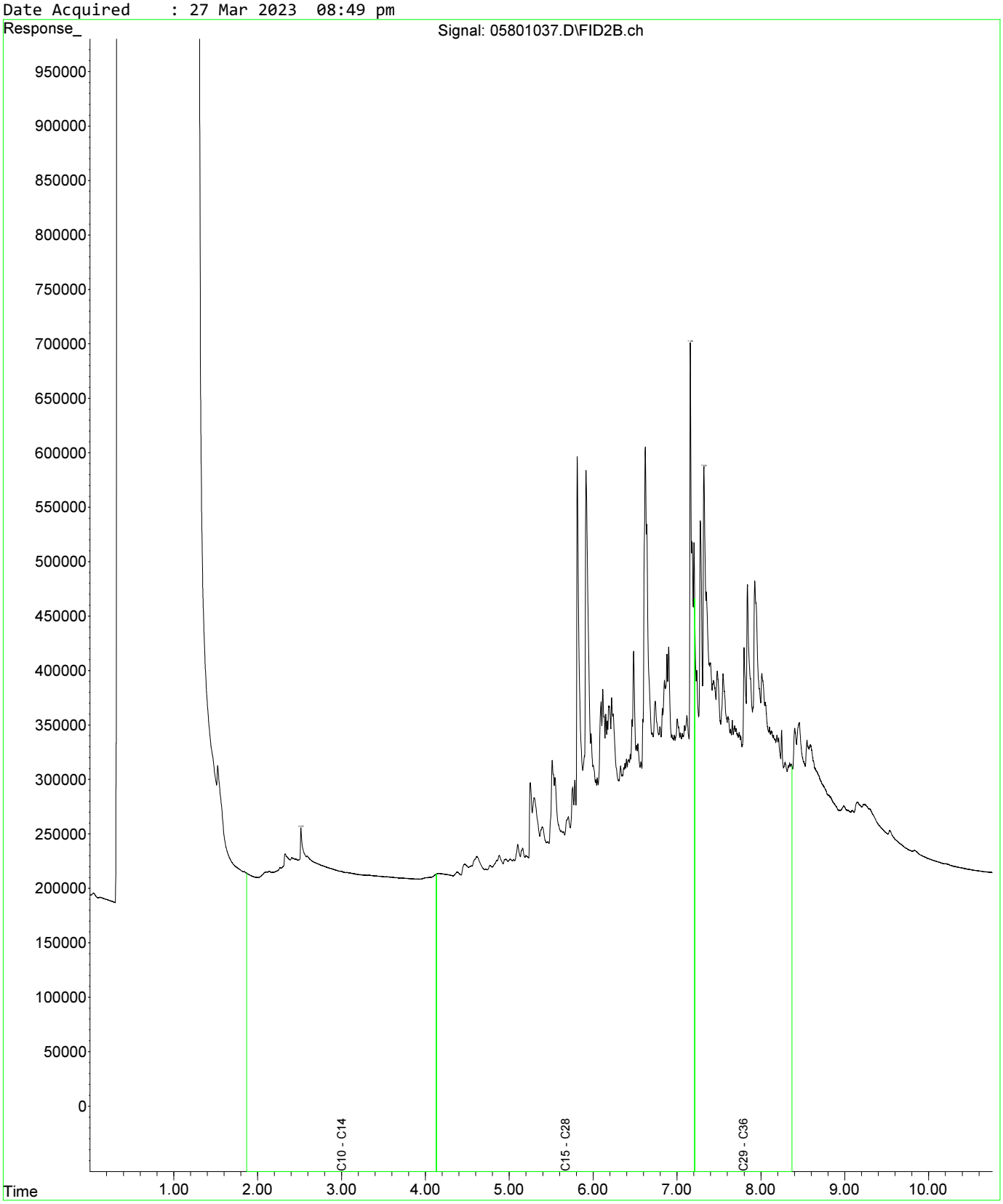
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : Standard
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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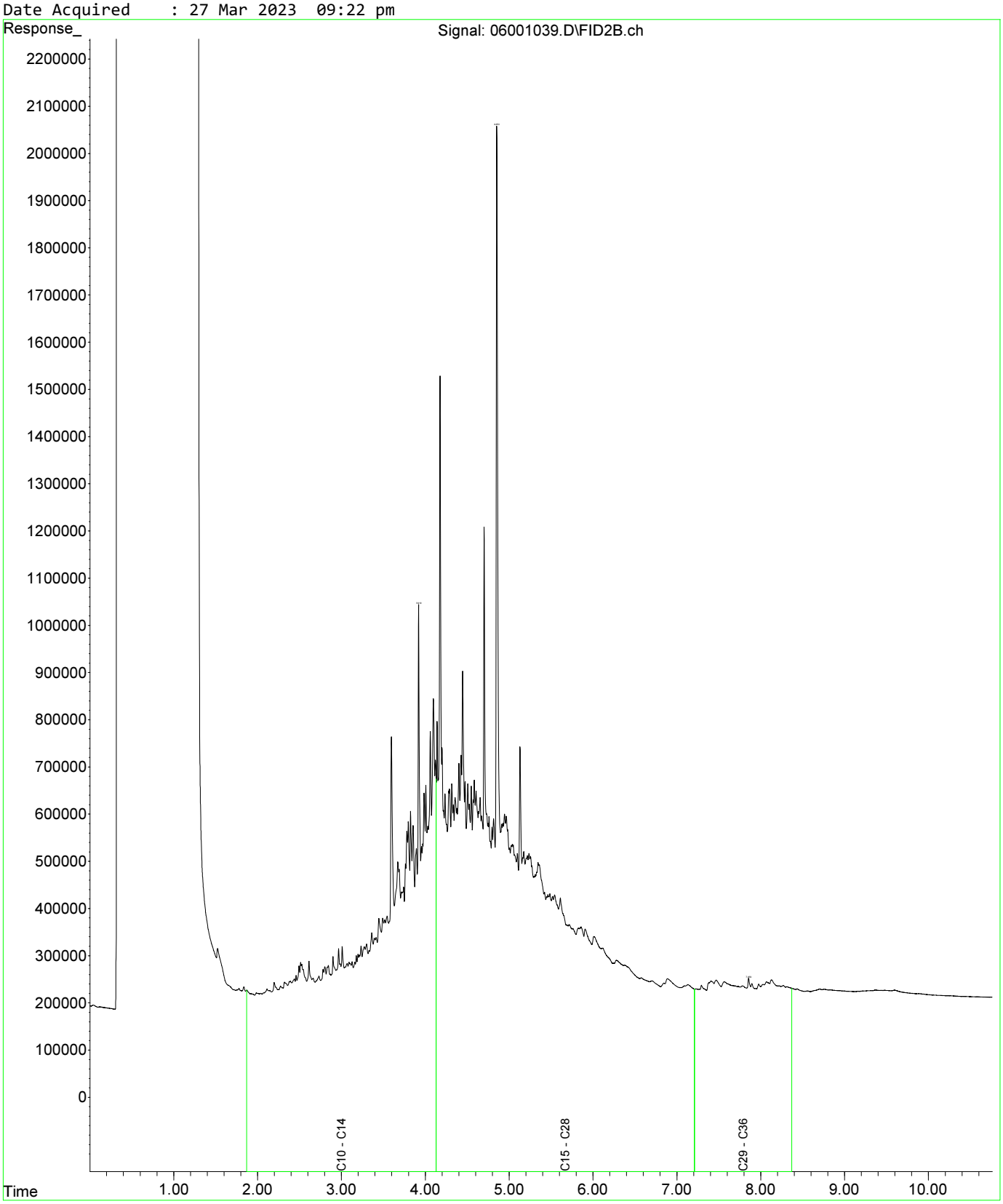
Data File : 06001039.D
Laboratory Number: EM2305209-037
Sample ID : UST_QC109
Date Acquired : 27 Mar 2023 09:22 pm



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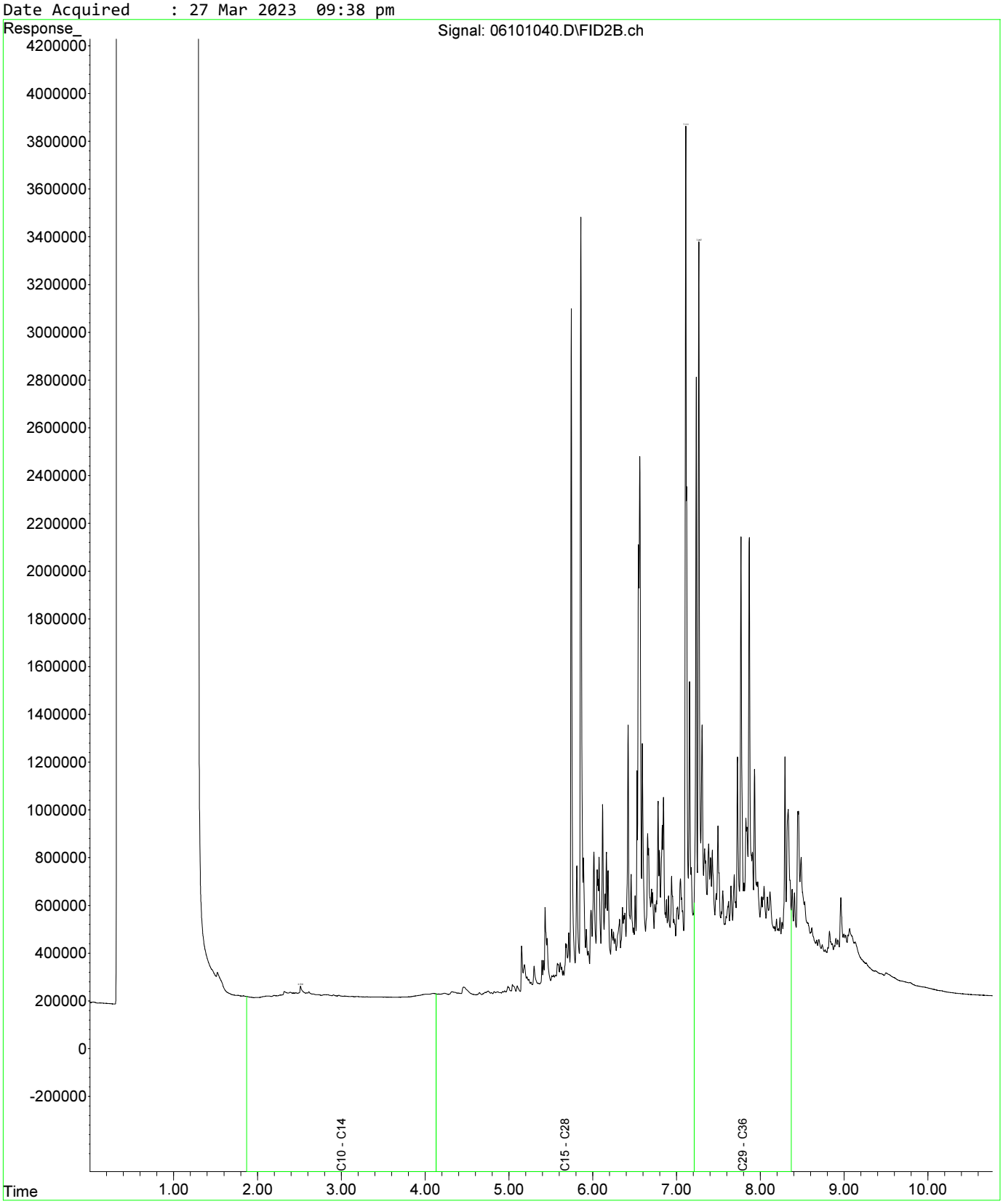
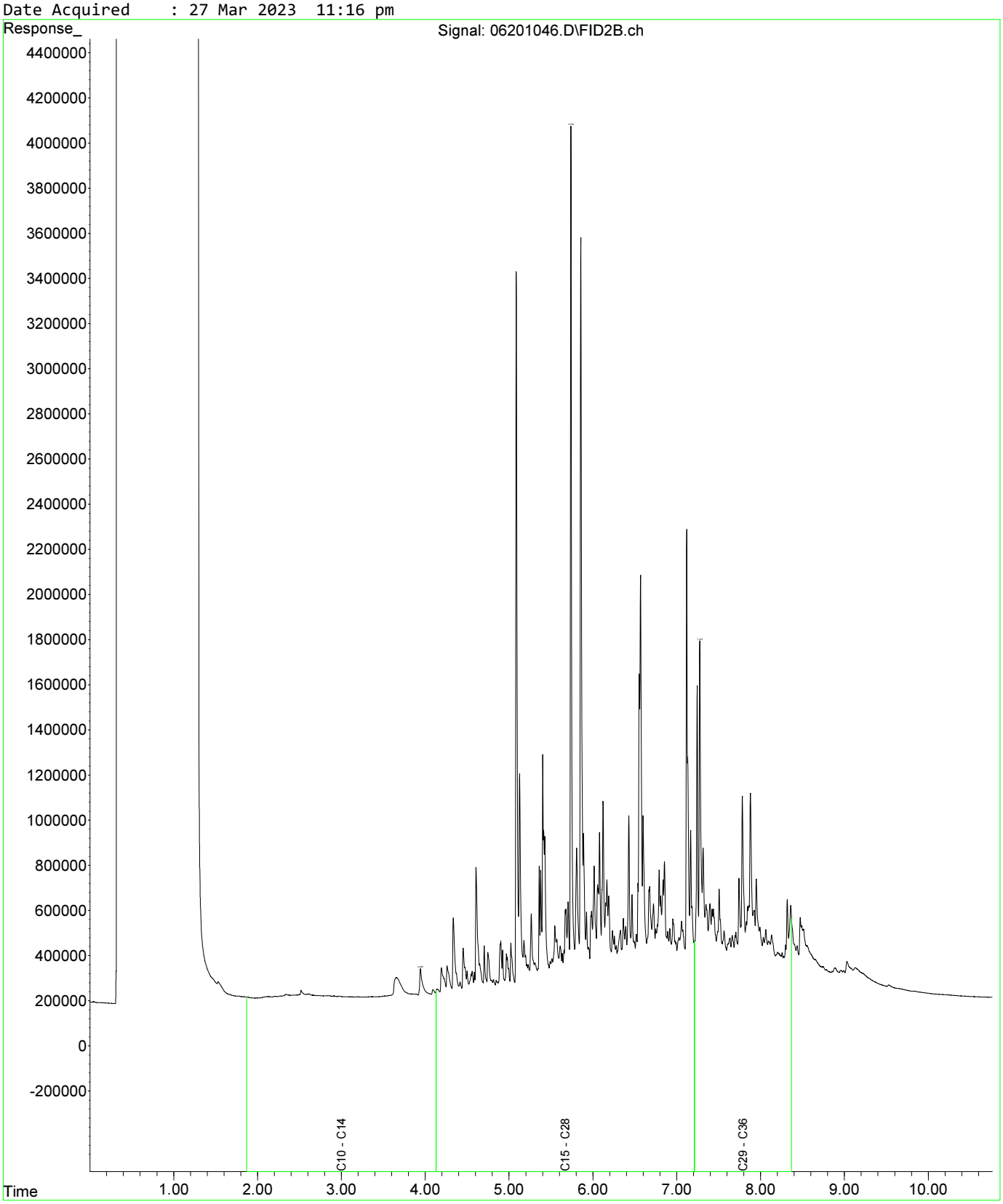
Data File : 06101040.D
Laboratory Number: EM2305209-038
Sample ID : UST_QC110
Date Acquired : 27 Mar 2023 09:38 pm



Fraction Scheme : Standard
Data File : 06201046.D
Laboratory Number: EM2305209-042
Sample ID : UST_QC107
Date Acquired : 27 Mar 2023 11:16 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2305896**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 04-Apr-2023
C-O-C number	: 50529	Issue Date	: 11-Apr-2023 16:08
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP075(SIM): EM2305896_002 Poor matrix spike recovery for pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_400_0.8	OL_EX_400_1.6	OL_EX_401_0.8	OL_EX_401_1.6	OL_EX_402_0.8
			Sampling date / time	03-Apr-2023 17:17	03-Apr-2023 17:18	03-Apr-2023 17:18	03-Apr-2023 17:18	03-Apr-2023 17:19
Compound	CAS Number	LOR	Unit	EM2305896-001	EM2305896-002	EM2305896-003	EM2305896-004	EM2305896-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**14.8**	**19.0**	**26.0**	**22.6**	**20.9**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**608**	**115**	**565**	**42**	**423**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.6**	<0.5	**0.6**	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**1.4**	<0.5	**1.1**	<0.5	**0.6**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**5.3**	**0.6**	**4.6**	<0.5	**1.6**
Anthracene	120-12-7	0.5	mg/kg	**1.2**	<0.5	**1.8**	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**11.1**	**1.8**	**10.1**	**1.0**	**3.0**
Pyrene	129-00-0	0.5	mg/kg	**11.1**	**1.9**	**10.6**	**1.0**	**3.2**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**6.4**	**1.2**	**7.7**	**0.7**	**2.4**
Chrysene	218-01-9	0.5	mg/kg	**6.9**	**1.1**	**8.4**	**0.7**	**2.7**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**5.7**	**1.2**	**8.2**	**0.6**	**3.1**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**4.4**	**0.6**	**4.9**	<0.5	**1.5**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**7.0**	**1.1**	**9.2**	**0.7**	**2.8**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**5.1**	**0.6**	**7.5**	<0.5	**2.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.1**	<0.5	**2.3**	<0.5	**0.7**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**6.1**	**0.7**	**9.0**	**0.6**	**3.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**73.4**	**10.8**	**86.0**	**5.3**	**27.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_400_0.8	OL_EX_400_1.6	OL_EX_401_0.8	OL_EX_401_1.6	OL_EX_402_0.8
				Sampling date / time	03-Apr-2023 17:17	03-Apr-2023 17:18	03-Apr-2023 17:18	03-Apr-2023 17:18	03-Apr-2023 17:19
Compound	CAS Number	LOR	Unit		EM2305896-001	EM2305896-002	EM2305896-003	EM2305896-004	EM2305896-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**10.4**	**1.5**	**14.5**	**0.8**	**4.5**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**10.4**	**1.7**	**14.5**	**1.1**	**4.5**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**10.4**	**2.0**	**14.5**	**1.4**	**4.5**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**790**	**130**	**1760**	<100	**760**
C29 - C36 Fraction	----	100	mg/kg		**820**	**100**	**2030**	<100	**930**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1610**	**230**	**3790**	<50	**1690**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**1420**	**220**	**3400**	<100	**1490**
>C34 - C40 Fraction	----	100	mg/kg		**390**	<100	**710**	<100	**360**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**1810**	**220**	**4110**	<50	**1850**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.2**	**97.6**	**99.4**	**102**	**103**
2-Chlorophenol-D4	93951-73-6	0.5	%		**109**	**104**	**116**	**119**	**115**
2.4.6-Tribromophenol	118-79-6	0.5	%		**86.6**	**96.0**	**94.5**	**91.9**	**98.9**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**102**	**99.7**	**101**	**103**	**104**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_400_0.8	OL_EX_400_1.6	OL_EX_401_0.8	OL_EX_401_1.6	OL_EX_402_0.8
			Sampling date / time	03-Apr-2023 17:17	03-Apr-2023 17:18	03-Apr-2023 17:18	03-Apr-2023 17:18	03-Apr-2023 17:19
Compound	CAS Number	LOR	Unit	EM2305896-001	EM2305896-002	EM2305896-003	EM2305896-004	EM2305896-005
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**99.9**	**95.3**	**96.6**	**100**	**98.9**
4-Terphenyl-d14	1718-51-0	0.5	%	**102**	**92.1**	**98.0**	**104**	**103**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**88.5**	**81.6**	**72.9**	**76.8**	**77.7**
Toluene-D8	2037-26-5	0.2	%	**77.4**	**80.7**	**72.5**	**74.1**	**74.0**
4-Bromofluorobenzene	460-00-4	0.2	%	**84.0**	**91.6**	**84.4**	**92.2**	**85.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_402_1.6	OL_EX_403_0.8	OL_EX_403_1.6	OL_EX_404_0.8	OL_EX_404_1.6
			Sampling date / time	03-Apr-2023 17:19	03-Apr-2023 17:19	03-Apr-2023 17:20	03-Apr-2023 17:20	03-Apr-2023 17:20
Compound	CAS Number	LOR	Unit	EM2305896-006	EM2305896-007	EM2305896-008	EM2305896-009	EM2305896-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**23.7**	**13.1**	**19.0**	**21.5**	**30.1**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**1110**	**699**	**847**	**99**	**2780**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	**2.2**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	**1.1**	<0.5	**4.0**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	**5.5**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	**1.5**	<0.5	**43.8**	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	**0.6**	<0.5	**5.0**	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**5.9**	<0.5	**40.4**	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	**6.5**	<0.5	**43.8**	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**5.6**	<0.5	**26.9**	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	**6.1**	<0.5	**28.9**	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	**5.7**	<0.5	**23.9**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	**2.4**	<0.5	**12.1**	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**6.0**	<0.5	**20.0**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	**3.7**	<0.5	**15.6**	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	**0.9**	<0.5	**4.3**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	**4.3**	**0.6**	**17.1**	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	**50.3**	**0.6**	**294**	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_402_1.6	OL_EX_403_0.8	OL_EX_403_1.6	OL_EX_404_0.8	OL_EX_404_1.6
				Sampling date / time	03-Apr-2023 17:19	03-Apr-2023 17:19	03-Apr-2023 17:20	03-Apr-2023 17:20	03-Apr-2023 17:20
Compound	CAS Number	LOR	Unit		EM2305896-006	EM2305896-007	EM2305896-008	EM2305896-009	EM2305896-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**8.7**	<0.5	**32.6**	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**8.7**	**0.6**	**32.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**8.7**	**1.2**	**32.6**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	**210**	<50
C15 - C28 Fraction	----	100	mg/kg		<100	**360**	<100	**820**	<100
C29 - C36 Fraction	----	100	mg/kg		<100	**320**	<100	**310**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**680**	<50	**1340**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	**240**	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**610**	<100	**1000**	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	**120**	<100	**110**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**730**	<50	**1350**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	**240**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.6**	**101**	**98.8**	**97.8**	**94.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**116**	**108**	**118**	**105**	**113**
2.4.6-Tribromophenol	118-79-6	0.5	%		**96.8**	**92.9**	**92.0**	**103**	**91.6**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**104**	**102**	**102**	**102**	**102**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_402_1.6	OL_EX_403_0.8	OL_EX_403_1.6	OL_EX_404_0.8	OL_EX_404_1.6
				Sampling date / time	03-Apr-2023 17:19	03-Apr-2023 17:19	03-Apr-2023 17:20	03-Apr-2023 17:20	03-Apr-2023 17:20
Compound	CAS Number	LOR	Unit		EM2305896-006	EM2305896-007	EM2305896-008	EM2305896-009	EM2305896-010
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**101**	**94.6**	**100**	**95.2**	**98.9**
4-Terphenyl-d14	1718-51-0	0.5	%		**106**	**102**	**104**	**99.2**	**103**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**78.8**	**77.9**	**79.2**	**72.7**	**67.2**
Toluene-D8	2037-26-5	0.2	%		**75.4**	**76.5**	**79.6**	**73.7**	**58.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**94.0**	**85.5**	**94.4**	**87.9**	**76.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_QC112	----	----	----	----
			Sampling date / time	03-Apr-2023 17:21	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305896-011	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.2**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**2650**	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**1.0**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**1.1**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.1**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**1.2**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**1.6**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**0.7**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.5**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**0.9**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.1**	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**10.2**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC112	----	----	----	----
				Sampling date / time	03-Apr-2023 17:21	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305896-011	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**2.0**	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**2.2**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**2.4**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**86.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**106**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**97.3**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**103**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC112	----	----	----	----
				Sampling date / time	03-Apr-2023 17:21	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305896-011	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**96.9**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**96.2**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**76.9**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**74.0**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**91.1**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2305896**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023
Order number	: 60693007-2	Date Analysis Commenced	: 04-Apr-2023
C-O-C number	: 50529	Issue Date	: 11-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4972751)									
EM2305896-001	OL_EX_400_0.8	EG005T: Lead	7439-92-1	5	mg/kg	608	611	0.6	0% - 20%
EM2305896-010	OL_EX_404_1.6	EG005T: Lead	7439-92-1	5	mg/kg	2780	2770	0.2	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4973207)									
EM2305776-001	Anonymous	EA055: Moisture Content	----	0.1	%	5.3	5.6	6.5	0% - 20%
EM2305896-009	OL_EX_404_0.8	EA055: Moisture Content	----	0.1	%	21.5	21.7	1.2	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4972712)									
EM2305896-011	OL_EX_QC112	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305896-001	OL_EX_400_0.8	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4972712) - continued									
EM2305896-001	OL_EX_400_0.8	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4972712)									
EM2305896-011	OL_EX_QC112	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	1.0	<0.5	66.6	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1.1	<0.5	73.2	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	<0.5	76.4	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.2	<0.5	82.4	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.6	0.7	83.4	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.7	<0.5	37.6	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.5	0.7	75.2	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.9	<0.5	58.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.1	0.6	63.3	No Limit
EM2305896-001	OL_EX_400_0.8	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.6	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.4	1.2	14.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	5.3	5.2	2.6	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.2	1.1	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	11.1	11.0	1.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	11.1	11.0	1.4	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	6.4	6.3	0.0	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	6.9	6.7	2.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.7	5.6	1.8	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.4	3.0	37.3	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.0	6.5	8.1	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.1	4.4	14.3	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	0.9	13.9	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4972712) - continued									
EM2305896-001	OL_EX_400_0.8	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.1	5.2	15.0	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4972691)									
EM2305896-001	OL_EX_400_0.8	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305896-011	OL_EX_QC112	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4972713)									
EM2305896-001	OL_EX_400_0.8	EP071: C15 - C28 Fraction	----	100	mg/kg	790	620	24.1	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	820	580	35.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305896-011	OL_EX_QC112	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4972691)									
EM2305896-001	OL_EX_400_0.8	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305896-011	OL_EX_QC112	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4972713)									
EM2305896-001	OL_EX_400_0.8	EP071: >C16 - C34 Fraction	----	100	mg/kg	1420	1060	29.2	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	390	290	30.3	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305896-011	OL_EX_QC112	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4972691)									
EM2305896-001	OL_EX_400_0.8	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305896-011	OL_EX_QC112	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972751)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	92.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4972712)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	100	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	111	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	114	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	112	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	87.2	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	106	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	106	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	106	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.3	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	95.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	37.0	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972712)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	115	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	104	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	115	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	110	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	120	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	120	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	111	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	116	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	114	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	111	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	83.0	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	85.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	79.2	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	114	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	112	65.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972712) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	116	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972691)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	90.3	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972713)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	109	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	98.1	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	107	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972691)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	96.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972713)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	88.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	104	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	93.4	73.3	137
EP080: BTEXN (QCLot: 4972691)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	90.7	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	95.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	94.3	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	98.2	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	96.4	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	96.4	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972751)							
EM2305896-002	OL_EX_400_1.6	EG005T: Lead	7439-92-1	250 mg/kg	115	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4972712)							
EM2305896-002	OL_EX_400_1.6	EP075(SIM): Phenol	108-95-2	3 mg/kg	93.9	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	97.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	92.2	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	96.2	61.5	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075(SIM)A: Phenolic Compounds (QCLot: 4972712) - continued							
EM2305896-002	OL_EX_400_1.6	EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	70.4	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972712)							
EM2305896-002	OL_EX_400_1.6	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	104	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972691)							
EM2305896-002	OL_EX_400_1.6	EP080: C6 - C9 Fraction	----	28 mg/kg	46.2	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972713)							
EM2305896-003	OL_EX_401_0.8	EP071: C10 - C14 Fraction	----	770 mg/kg	114	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	99.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	97.0	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972691)							
EM2305896-002	OL_EX_400_1.6	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	50.9	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972713)							
EM2305896-003	OL_EX_401_0.8	EP071: >C10 - C16 Fraction	----	1170 mg/kg	92.3	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	101	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	69.6	66.8	138
EP080: BTEXN (QCLot: 4972691)							
EM2305896-002	OL_EX_400_1.6	EP080: Benzene	71-43-2	2 mg/kg	58.8	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	72.0	57.1	131

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305896**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 11-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 11
Order number	: 60693007-2	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**----**	----	----	**04-Apr-2023**	17-Apr-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	30-Sep-2023	✓	**04-Apr-2023**	30-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**11-Apr-2023**	17-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**11-Apr-2023**	17-Apr-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_400_0.8, OL_EX_400_1.6, OL_EX_401_0.8, OL_EX_401_1.6, OL_EX_402_0.8, OL_EX_402_1.6, OL_EX_403_0.8, OL_EX_403_1.6, OL_EX_404_0.8, OL_EX_404_1.6, OL_EX_QC112	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**11-Apr-2023**	17-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2305896**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 2
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 50529	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 04-Apr-2023 11:45	Issue Date	: 04-Apr-2023
Client Requested Due Date	: 13-Apr-2023	Scheduled Reporting Date	: **13-Apr-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 4.9°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 11 / 11

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2305896-001	03-Apr-2023 17:17	OL_EX_400_0.8	✓	✓
EM2305896-002	03-Apr-2023 17:18	OL_EX_400_1.6	✓	✓
EM2305896-003	03-Apr-2023 17:18	OL_EX_401_0.8	✓	✓
EM2305896-004	03-Apr-2023 17:18	OL_EX_401_1.6	✓	✓
EM2305896-005	03-Apr-2023 17:19	OL_EX_402_0.8	✓	✓
EM2305896-006	03-Apr-2023 17:19	OL_EX_402_1.6	✓	✓
EM2305896-007	03-Apr-2023 17:19	OL_EX_403_0.8	✓	✓
EM2305896-008	03-Apr-2023 17:20	OL_EX_403_1.6	✓	✓
EM2305896-009	03-Apr-2023 17:20	OL_EX_404_0.8	✓	✓
EM2305896-010	03-Apr-2023 17:20	OL_EX_404_1.6	✓	✓
EM2305896-011	03-Apr-2023 17:21	OL_EX_QC112	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com

CHAIN OF CUSTODY

ALS COC#: **50529** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 4/4 11:45

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_EX_400_0.8			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
002	OL_EX_400_1.6			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
003	OL_EX_401_0.8			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
004	OL_EX_401_1.6			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
005	OL_EX_402_0.8			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
006	OL_EX_402_1.6			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
007	OL_EX_403_0.8			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
008	OL_EX_403_1.6			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
009	OL_EX_404_0.8			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	

Environmental Division
Melbourne
Work Order Reference
EM2305896

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

(ALS) *COC#:* 50529 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_404_1.6			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
011	OL_EX_QC112			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
012	OL_EX_QC212	PLEASE FORWARD TO EUROFINS FOR ANALYSIS		SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	

Total Bottle Count: ALS: 0, Non ALS: 0

CERTIFICATE OF ANALYSIS

Work Order	: **EM2306802**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 20-Apr-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 21-Apr-2023
C-O-C number	: 51237	Issue Date	: 24-Apr-2023 16:39
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: ME/386/22		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_UST	OL_EX_UST_QCA09	----	----	----
				Sampling date / time	19-Apr-2023 15:00	19-Apr-2023 15:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2306802-001	EM2306802-002	--------	--------	--------
					Result	Result	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		**0.001**	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		**13.2**	----	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	----	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		**65.4**	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		**30.4**	----	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	----	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		**5.8**	----	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	----	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	----	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**36.5**	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**36.5**	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_UST	OL_EX_UST_QCA09	----	----	----
				Sampling date / time	19-Apr-2023 15:00	19-Apr-2023 15:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2306802-001	EM2306802-002	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		8880	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		2480	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		1630	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		150	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		4260	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		10600	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		4480	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		1460	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		1380	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		2840	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		1390	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		457	<1	----	----	----
Toluene	108-88-3	2	µg/L		1690	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		459	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		2210	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		1300	<2	----	----	----
^ Total Xylenes	----	2	µg/L		3510	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		6120	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		74	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		20.3	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		41.6	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		61.0	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		47.5	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		63.0	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		63.3	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		113	104	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_UST	OL_EX_UST_QCA09	----	----	----
				Sampling date / time	19-Apr-2023 15:00	19-Apr-2023 15:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2306802-001	EM2306802-002	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**116**	**95.2**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**109**	**105**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

QUALITY CONTROL REPORT

Work Order	: **EM2306802**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 20-Apr-2023
Order number	: 60693007-2	Date Analysis Commenced	: 21-Apr-2023
C-O-C number	: 51237	Issue Date	: 24-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: ME/386/22		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5007724)									
EM2306675-029	Anonymous	EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5006856)									
EM2306802-001	OL_EX_UST	EP075(SIM): Phenol	108-95-2	1	µg/L	13.2	12.0	8.9	0% - 50%
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	65.4	62.9	3.9	0% - 20%
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	5.8	6.0	4.5	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	30.4	25.0	19.2	0% - 50%
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5006856)									
EM2306802-001	OL_EX_UST	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	36.5	33.4	8.8	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5006856) - continued									
EM2306802-001	OL_EX_UST	EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5006509)									
EM2306802-001	OL_EX_UST	EP080: C6 - C9 Fraction	----	20	µg/L	8880	8640	2.8	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5006857)									
EM2306802-001	OL_EX_UST	EP071: C15 - C28 Fraction	----	100	µg/L	1630	1820	10.9	0% - 50%
		EP071: C10 - C14 Fraction	----	50	µg/L	2480	2710	8.8	0% - 20%
		EP071: C29 - C36 Fraction	----	50	µg/L	150	170	11.2	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5006509)									
EM2306802-001	OL_EX_UST	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	10600	10400	2.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5006857)									
EM2306802-001	OL_EX_UST	EP071: >C10 - C16 Fraction	----	100	µg/L	1460	1640	11.8	0% - 50%
		EP071: >C16 - C34 Fraction	----	100	µg/L	1380	1530	10.0	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 5006509)									
EM2306802-001	OL_EX_UST	EP080: Benzene	71-43-2	1	µg/L	457	464	1.5	No Limit
		EP080: Toluene	108-88-3	2	µg/L	1690	1690	0.2	0% - 50%
		EP080: Ethylbenzene	100-41-4	2	µg/L	459	453	1.2	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	2210	2160	2.5	0% - 50%
		EP080: ortho-Xylene	95-47-6	2	µg/L	1300	1310	0.6	0% - 50%
		EP080: Naphthalene	91-20-3	5	µg/L	74	77	3.5	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5006856)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	39.0	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	86.4	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	78.8	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	83.8	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	97.5	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	91.2	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	92.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	99.3	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	89.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	103	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	95.5	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	93.8	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5006856)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	82.7	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	95.8	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	88.2	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	99.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	91.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	87.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	107	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	115	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	103	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	101	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	101	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	94.4	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	94.3	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	99.1	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	101	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	98.1	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5006509)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5006509) - continued								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	116	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5006857)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	76.4	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	78.8	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	79.8	50.4	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5006509)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	114	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5006857)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	80.2	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	76.8	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	78.0	47.2	130
EP080: BTEXN (QCLot: 5006509)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	108	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	117	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	117	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	118	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	119	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	112	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5007724)							
EM2306675-029	Anonymous	EG020A-F: Lead	7439-92-1	0.2 mg/L	95.5	75.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 5006856)							
EM2306802-001	OL_EX_UST	EP075(SIM): Phenol	108-95-2	5 µg/L	19.4	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	47.3	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	53.8	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	61.1	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	146	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5006856)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5006856) - continued							
EM2306802-001	OL_EX_UST	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	51.7	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	62.1	44.0	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5006509)							
EM2306802-002	OL_EX_UST_QCA09	EP080: C6 - C9 Fraction	----	280 µg/L	93.1	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5006857)							
EM2306802-001	OL_EX_UST	EP071: C10 - C14 Fraction	----	4460 µg/L	93.0	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	82.6	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	84.6	50.5	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5006509)							
EM2306802-002	OL_EX_UST_QCA09	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	81.9	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5006857)							
EM2306802-001	OL_EX_UST	EP071: >C10 - C16 Fraction	----	6090 µg/L	80.8	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	80.2	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	82.4	47.4	131
EP080: BTEXN (QCLot: 5006509)							
EM2306802-002	OL_EX_UST_QCA09	EP080: Benzene	71-43-2	20 µg/L	113	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	118	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2306802**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 20-Apr-2023
Site	: Macquarie Point	Issue Date	: 24-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 2
Order number	: 60693007-2	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Control Samples (LCS)					
Dissolved Metals by ICP-MS - Suite A	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)					
Dissolved Metals by ICP-MS - Suite A	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation* Date extracted	Due for extraction	Evaluation	*Analysis* Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F)							
OL_EX_UST	**19-Apr-2023**	**----**	----	----	**24-Apr-2023**	16-Oct-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_UST	**19-Apr-2023**	**22-Apr-2023**	26-Apr-2023	✓	**24-Apr-2023**	01-Jun-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_UST	**19-Apr-2023**	**22-Apr-2023**	26-Apr-2023	✓	**24-Apr-2023**	01-Jun-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_UST	**19-Apr-2023**	**22-Apr-2023**	26-Apr-2023	✓	**24-Apr-2023**	01-Jun-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_UST, OL_EX_UST_QCA09	**19-Apr-2023**	**21-Apr-2023**	03-May-2023	✓	**22-Apr-2023**	03-May-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_UST	**19-Apr-2023**	**22-Apr-2023**	26-Apr-2023	✓	**24-Apr-2023**	01-Jun-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_UST, OL_EX_UST_QCA09	**19-Apr-2023**	**21-Apr-2023**	03-May-2023	✓	**22-Apr-2023**	03-May-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_UST, OL_EX_UST_QCA09	**19-Apr-2023**	**21-Apr-2023**	03-May-2023	✓	**22-Apr-2023**	03-May-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2306802**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 2
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 51237	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 20-Apr-2023 11:45	Issue Date	: 21-Apr-2023
Client Requested Due Date	: 24-Apr-2023	Scheduled Reporting Date	: **24-Apr-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 2.7°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25 TRH/BTEXN/PAH/Phenols/Filtered Pb
EM2306802-001	19-Apr-2023 15:00	OL_EX_UST		✓
EM2306802-002	19-Apr-2023 15:00	OL_EX_UST_QCA09	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS COC#: 51237 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 20/4, 11-45

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 1 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

FREIGHT

URGENT

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_EX_UST-1			WATER	ALS: 0 Non ALS: 0	No	-		
002	OL_EX_UST-2			WATER	ALS: 0 Non ALS: 0	No	-		

Total Bottle Count: ALS: 0, Non ALS: 0

Environmental Division
Melbourne
Work Order Reference
EM2306802

Telephone +61-3 8549 9600

SCANNED

Peter Ravlic

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Friday, 21 April 2023 2:39 PM
To: Peter Ravlic; Crowe, Robert
Subject: [EXTERNAL] - Re: MAC POINT

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, just checking that you got this email from yesterday. We were after fast tat on this one

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com

My regular work days are Monday to Thursday

AECOM
210 Collins Street
Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004
aecom.com

From: Smith, Timothy (Hobart)
Sent: Thursday, April 20, 2023 6:22:43 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: MAC POINT

Something weird is going on with your system there I think Peter. The samples should be labelled OL_EX_UST (TRH BTEXN PAH Phenols Pb) on 24h TAT and OL_EX_UST_QCA09 for TRH C6-C10 only
Thanks mate

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







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Felix Dong

From: COC Melbourne
Sent: Friday, 21 April 2023 7:38 AM
To: ALS Enviro Melbourne; Graeme Jablonskas; Peter Ravlic; Hannah White; Josh Alexander
Cc: COC Melbourne; Ciara Barr; Ranil Weerakkody
Subject: NO COC/ANALYSIS - Date: 20/04/2023

Hi team,

Please find below samples received without a COC/analysis.

WO	CLIENT	PROJECT NUMBER/NAME
EM2306907	MWHAUS	
EM2306894	SENVER	M20375
EM2306940	AECOMAU	606021285
COMPASS 51162	ENVSERDES	
EM2306867	GOLASS	PS133182-101
COMPASS 51237	AECOMAU	Macquarie Point

Thanks,

Kind Regards,

right solutions. right partner.

Felix Dong
Sample Receipt Officer, Environmental
Springvale

felix.dong@alsglobal.com
2-4 Westall Rd
Springvale, VIC 3178

alsglobal.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2307528**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 02-May-2023 11:15
Order number	: 60693007-2	Date Analysis Commenced	: 03-May-2023
C-O-C number	: 51686	Issue Date	: 08-May-2023 18:40
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 17		
No. of samples analysed	: 14		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2307528 #9 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 1320 mg/kg, 2800 mg/kg and 1960 mg/kg.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
			Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit	EM2307528-001	EM2307528-004	EM2307528-005	EM2307528-006	EM2307528-007
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**10.4**	**5.3**	**8.2**	**5.0**	**24.0**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	<5	----	----	----
Barium	7440-39-3	10	mg/kg	----	**40**	----	----	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	**13**	----	----	----
Cobalt	7440-48-4	2	mg/kg	----	**13**	----	----	----
Copper	7440-50-8	5	mg/kg	----	**75**	----	----	----
Lead	7439-92-1	5	mg/kg	**89**	**27**	**14**	**80**	**560**
Manganese	7439-96-5	5	mg/kg	----	**386**	----	----	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	----	----
Nickel	7440-02-0	2	mg/kg	----	**24**	----	----	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	----	----
Silver	7440-22-4	2	mg/kg	----	<2	----	----	----
Tin	7440-31-5	5	mg/kg	----	<5	----	----	----
Zinc	7440-66-6	5	mg/kg	----	**52**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	**0.1**	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	**140**	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
			Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit	EM2307528-001	EM2307528-004	EM2307528-005	EM2307528-006	EM2307528-007
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
				Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit		EM2307528-001	EM2307528-004	EM2307528-005	EM2307528-006	EM2307528-007
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.3**
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	**1.0**	<0.5	**1.0**	**5.0**
Pyrene	129-00-0	0.5	mg/kg		<0.5	**1.1**	<0.5	**1.1**	**5.3**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	**0.9**	<0.5	**0.8**	**3.5**
Chrysene	218-01-9	0.5	mg/kg		<0.5	**0.8**	<0.5	**0.7**	**3.2**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	**1.0**	<0.5	**1.2**	**4.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.6**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	**----**	<0.5	**1.1**	**3.9**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	**0.6**	**2.0**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**0.6**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	**0.5**	<0.5	**0.9**	**2.3**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	**6.3**	<0.5	**7.4**	**33.0**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**1.2**	<0.5	**1.4**	**5.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**1.5**	**0.6**	**1.6**	**5.7**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.8**	**1.2**	**1.9**	**5.7**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**----**	**0.50**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	**170**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	**120**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	**290**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	**130**	**270**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
				Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit		EM2307528-001	EM2307528-004	EM2307528-005	EM2307528-006	EM2307528-007
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**130**	**270**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**79.0**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**74.4**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**71.4**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.8**	**98.1**	**96.2**	**99.6**	**99.0**
2-Chlorophenol-D4	93951-73-6	0.5	%		**91.4**	**96.5**	**96.8**	**93.8**	**90.9**
2.4.6-Tribromophenol	118-79-6	0.5	%		**93.5**	**97.1**	**81.4**	**79.6**	**86.3**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**90.8**	**101**	**91.3**	**82.8**	**89.2**
Anthracene-d10	1719-06-8	0.5	%		**111**	**115**	**103**	**101**	**101**
4-Terphenyl-d14	1718-51-0	0.5	%		**102**	**111**	**111**	**102**	**105**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	**85.7**	----	----	----
Anthracene-d10	1719-06-8	0.025	%		----	**77.6**	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	**78.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**92.7**	**84.9**	**91.3**	**90.6**	**78.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
				Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit		EM2307528-001	EM2307528-004	EM2307528-005	EM2307528-006	EM2307528-007
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**84.1**	**79.2**	**85.0**	**84.5**	**70.9**
4-Bromofluorobenzene	460-00-4	0.2	%		**89.4**	**82.8**	**89.5**	**90.8**	**70.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_110_1.1	OL_EX_409_1.6	OL_EX_410_0.8	OL_EX_410_1.6	OL_EX_411_2.0
			Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit	EM2307528-008	EM2307528-009	EM2307528-010	EM2307528-011	EM2307528-012
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**20.3**	**34.5**	**8.3**	**22.4**	**21.2**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**564**	**1960**	**83**	**2030**	**153**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**0.6**	**0.6**	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**1.5**	**1.4**	<0.5	**0.9**	**1.1**
Anthracene	120-12-7	0.5	mg/kg	**0.6**	**0.6**	<0.5	<0.5	**0.5**
Fluoranthene	206-44-0	0.5	mg/kg	**4.5**	**4.2**	<0.5	**2.7**	**2.2**
Pyrene	129-00-0	0.5	mg/kg	**4.7**	**4.6**	<0.5	**3.0**	**2.1**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**3.7**	**3.5**	<0.5	**2.0**	**1.3**
Chrysene	218-01-9	0.5	mg/kg	**3.4**	**3.2**	<0.5	**2.0**	**1.1**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**5.3**	**5.1**	<0.5	**3.3**	**1.5**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.8**	**1.8**	<0.5	**1.2**	**0.6**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**4.6**	**4.5**	<0.5	**2.8**	**1.3**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**2.6**	**2.6**	<0.5	**1.6**	**0.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.6**	**0.7**	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**3.2**	**3.4**	<0.5	**2.1**	**0.9**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**37.1**	**36.2**	<0.5	**21.6**	**13.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_110_1.1	OL_EX_409_1.6	OL_EX_410_0.8	OL_EX_410_1.6	OL_EX_411_2.0
			Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit	EM2307528-008	EM2307528-009	EM2307528-010	EM2307528-011	EM2307528-012
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**6.6**	**6.6**	<0.5	**3.6**	**1.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**6.6**	**6.6**	**0.6**	**3.9**	**2.0**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**6.6**	**6.6**	**1.2**	**4.2**	**2.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**170**	**170**	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	**170**	**160**	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**340**	**330**	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**310**	**300**	<100	**130**	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**310**	**300**	<50	**130**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**85.0**	**102**	**89.0**	**95.3**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**77.0**	**96.9**	**89.2**	**86.1**	**91.9**
2.4.6-Tribromophenol	118-79-6	0.5	%	**83.2**	**89.0**	**86.4**	**88.8**	**82.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**79.3**	**79.8**	**90.7**	**94.3**	**94.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_110_1.1	OL_EX_409_1.6	OL_EX_410_0.8	OL_EX_410_1.6	OL_EX_411_2.0
			Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	CAS Number	LOR	Unit	EM2307528-008	EM2307528-009	EM2307528-010	EM2307528-011	EM2307528-012
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**97.2**	**100**	**98.0**	**101**	**100**
4-Terphenyl-d14	1718-51-0	0.5	%	**99.8**	**104**	**98.0**	**100**	**100**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**85.2**	**83.1**	**96.6**	**91.1**	**89.2**
Toluene-D8	2037-26-5	0.2	%	**76.4**	**77.5**	**87.7**	**81.3**	**82.5**
4-Bromofluorobenzene	460-00-4	0.2	%	**78.4**	**80.1**	**87.1**	**85.4**	**85.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_QC116	OL_EX_QC117	----	----	----
			Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	----	----	----
Compound	CAS Number	LOR	Unit	EM2307528-013	EM2307528-014	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**23.0**	**27.7**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**1470**	**245**	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	**0.7**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**1.1**	**2.4**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	**0.7**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**3.2**	**7.7**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**3.6**	**7.9**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**2.3**	**4.9**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**2.3**	**4.5**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**3.5**	**6.8**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.1**	**2.5**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**2.9**	**6.2**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.3**	**3.0**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	**0.8**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.6**	**3.6**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**22.9**	**51.7**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC116	OL_EX_QC117	----	----	----
				Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	----	----	----
Compound	CAS Number	LOR	Unit		EM2307528-013	EM2307528-014	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**3.8**	**8.8**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**4.0**	**8.8**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**4.2**	**8.8**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**100**	**230**	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	**200**	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**100**	**430**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**170**	**390**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**170**	**390**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.8**	**83.2**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**83.2**	**90.1**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**88.8**	**78.8**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**95.1**	**91.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC116	OL_EX_QC117	----	----	----
				Sampling date / time	01-May-2023 14:21	01-May-2023 14:21	----	----	----
Compound	CAS Number	LOR	Unit		EM2307528-013	EM2307528-014	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**103**	**109**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**105**	**98.7**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.3**	**81.6**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**79.4**	**73.5**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.5**	**76.0**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	OL_EX_QCB12	----	----	----
				Sampling date / time	01-May-2023 00:00	01-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2307528-015	EM2307528-016	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	OL_EX_QCB12	----	----	----
				Sampling date / time	01-May-2023 00:00	01-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2307528-015	EM2307528-016	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**30.9**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**69.5**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**96.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**79.0**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**85.7**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**88.5**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**120**	**108**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	OL_EX_QCB12	----	----	----
				Sampling date / time	01-May-2023 00:00	01-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2307528-015	EM2307528-016	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**107**	**99.4**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**124**	**103**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2307528**	Page	: 1 of 20
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Date Received	: 02-May-2023 11:15
Order number	: 60693007-2	Date Analysed	: 03-May-2023
C-O-C number	: 51686	Date Issued	: 08-May-2023 18:41
No. of samples received	: 17		
No. of samples analysed	: 14	Quote number	: ME/386/22

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.

This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.

This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.

Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	*ALS Sample ID*	*Compound*	*Method*	*LOR*	*Limits*	*Result*
UST_EXT_59SP_01	**EM2307528-004**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.50 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	Arch_SP_01 01-May-2023 14:21 EM2307528-001 MU	UST_EXT_59SP_01 01-May-2023 14:21 EM2307528-004 MU	UST_EXT_59SP_02 01-May-2023 14:21 EM2307528-005 MU	UST_EXT_59SP_03 01-May-2023 14:21 EM2307528-006 MU	OL_EX_107_1.1 01-May-2023 14:21 EM2307528-007 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	750	----	<5 - -	----	----	----
Barium	EG005T	10	mg/kg		----	30000	----	**40** ± 4	----	----	----
Beryllium	EG005T	1	mg/kg		----	400	----	<1 - -	----	----	----
Cadmium	EG005T	1	mg/kg		----	400	----	<1 - -	----	----	----
Chromium	EG005T	2	mg/kg		----	5000	----	**13** ± 2	----	----	----
Cobalt	EG005T	2	mg/kg		----	1000	----	**13** ± 2	----	----	----
Copper	EG005T	5	mg/kg		----	7500	----	**75** ± 9	----	----	----
Lead	EG005T	5	mg/kg		----	3000	----	**27** ± 3	----	----	----
Manganese	EG005T	5	mg/kg		----	25000	----	**386** ± 38	----	----	----
Molybdenum	EG005T	2	mg/kg		----	4000	----	<2 - -	----	----	----
Nickel	EG005T	2	mg/kg		----	3000	----	**24** ± 2	----	----	----
Selenium	EG005T	5	mg/kg		----	200	----	<5 - -	----	----	----
Silver	EG005T	2	mg/kg		----	720	----	<2 - -	----	----	----
Tin	EG005T	5	mg/kg		----	900	----	<5 - -	----	----	----
Zinc	EG005T	5	mg/kg		----	50000	----	**52** ± 6	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	110	----	**0.1** ± 0.01	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	2000	----	<0.5 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	2500	----	<1 - -	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	10000	----	**140** ± 40	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	50	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	50	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	1000	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	2000	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID*	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
						Sampling date/time	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
							EM2307528-001 MU	EM2307528-004 MU	EM2307528-005 MU	EM2307528-006 MU	EM2307528-007 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	**6.3**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	**0.50**	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	<10	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	<50	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	<0.2	----	----	----
Toluene	EP080	0.5	mg/kg	----	1000		----	<0.5	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	<0.5	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	<0.5	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	Arch_SP_01 01-May-2023 14:21 EM2307528-001	UST_EXT_59SP_01 01-May-2023 14:21 EM2307528-004 MU	UST_EXT_59SP_02 01-May-2023 14:21 EM2307528-005 MU	UST_EXT_59SP_03 01-May-2023 14:21 EM2307528-006 MU	OL_EX_107_1.1 01-May-2023 14:21 EM2307528-007 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	20	----	<5 --	----	----	----
Barium	EG005T	10	mg/kg		----	300	----	**40** ± 4	----	----	----
Beryllium	EG005T	1	mg/kg		----	2	----	<1 --	----	----	----
Cadmium	EG005T	1	mg/kg		----	3	----	<1 --	----	----	----
Chromium	EG005T	2	mg/kg		----	50	----	**13** ± 2	----	----	----
Cobalt	EG005T	2	mg/kg		----	100	----	**13** ± 2	----	----	----
Copper	EG005T	5	mg/kg		----	100	----	**75** ± 9	----	----	----
Lead	EG005T	5	mg/kg		----	300	----	**27** ± 3	----	----	----
Manganese	EG005T	5	mg/kg		----	500	----	**386** ± 38	----	----	----
Molybdenum	EG005T	2	mg/kg		----	10	----	<2 --	----	----	----
Nickel	EG005T	2	mg/kg		----	60	----	**24** ± 2	----	----	----
Selenium	EG005T	5	mg/kg		----	10	----	<5 --	----	----	----
Silver	EG005T	2	mg/kg		----	10	----	<2 --	----	----	----
Tin	EG005T	5	mg/kg		----	50	----	<5 --	----	----	----
Zinc	EG005T	5	mg/kg		----	200	----	**52** ± 6	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	1	----	**0.1** ± 0.01	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	1	----	<0.5 --	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	32	----	<1 --	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	300	----	**140** ± 40	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	2	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	2	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	2	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	25	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	20	----	**6.3**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
				Sampling date/time			01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2307528-001 MU	EM2307528-004 MU	EM2307528-005 MU	EM2307528-006 MU	EM2307528-007 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	0.08	----	**0.50**	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	65	----	<10	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	1000	----	<50	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	1	----	<0.2	----	----	----
Toluene	EP080	0.5	mg/kg		----	1	----	<0.5	----	----	----
Ethylbenzene	EP080	0.5	mg/kg		----	3	----	<0.5	----	----	----
Total Xylenes	EP080	0.5	mg/kg		----	14	----	<0.5	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	Arch_SP_01	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_107_1.1
Sample ID										
Sampling date/time						01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
						EM2307528-001 MU	EM2307528-004 MU	EM2307528-005 MU	EM2307528-006 MU	EM2307528-007 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	<5 - -	----	----	----
Barium	EG005T	10	mg/kg	----	3000	----	**40** ± 4	----	----	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	----	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	----	----
Chromium	EG005T	2	mg/kg	----	500	----	**13** ± 2	----	----	----
Cobalt	EG005T	2	mg/kg	----	200	----	**13** ± 2	----	----	----
Copper	EG005T	5	mg/kg	----	2000	----	**75** ± 9	----	----	----
Lead	EG005T	5	mg/kg	----	1200	----	**27** ± 3	----	----	----
Manganese	EG005T	5	mg/kg	----	5000	----	**386** ± 38	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	----	----
Nickel	EG005T	2	mg/kg	----	600	----	**24** ± 2	----	----	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	----	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	----	----
Tin	EG005T	5	mg/kg	----	500	----	<5 - -	----	----	----
Zinc	EG005T	5	mg/kg	----	14000	----	**52** ± 6	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.1** ± 0.01	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	**140** ± 40	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	----	**6.3**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	**Arch_SP_01**	**UST_EXT_59SP_01**	**UST_EXT_59SP_02**	**UST_EXT_59SP_03**	**OL_EX_107_1.1**
Sample ID										
Sampling date/time						01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
						EM2307528-001 MU	**EM2307528-004** MU	**EM2307528-005** MU	**EM2307528-006** MU	**EM2307528-007** MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**----**	**0.50**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	**----**	<10	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**----**	<50	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	**----**	<0.2	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	100	**----**	<0.5	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	100	**----**	<0.5	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	180	**----**	<0.5	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_110_1.1 01-May-2023 14:21 EM2307528-008 MU	OL_EX_409_1.6 01-May-2023 14:21 EM2307528-009 MU	OL_EX_410_0.8 01-May-2023 14:21 EM2307528-010 MU	OL_EX_410_1.6 01-May-2023 14:21 EM2307528-011 MU	OL_EX_411_2.0 01-May-2023 14:21 EM2307528-012 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg	----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg	----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg	----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg	----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg	----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg	----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg	----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg	----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg	----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg	----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	----	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_110_1.1 01-May-2023 14:21 EM2307528-008 MU	OL_EX_409_1.6 01-May-2023 14:21 EM2307528-009 MU	OL_EX_410_0.8 01-May-2023 14:21 EM2307528-010 MU	OL_EX_410_1.6 01-May-2023 14:21 EM2307528-011 MU	OL_EX_411_2.0 01-May-2023 14:21 EM2307528-012 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----		----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----		----	----	----	----	----
C6 - C9 Fraction	EP080	10	mg/kg	----	----		----	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	----		----	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	----		----	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	----		----	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	----		----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal
Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_110_1.1 01-May-2023 14:21 EM2307528-008 MU	OL_EX_409_1.6 01-May-2023 14:21 EM2307528-009 MU	OL_EX_410_0.8 01-May-2023 14:21 EM2307528-010 MU	OL_EX_410_1.6 01-May-2023 14:21 EM2307528-011 MU	OL_EX_411_2.0 01-May-2023 14:21 EM2307528-012 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg	----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg	----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg	----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg	----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg	----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg	----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg	----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg	----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg	----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg	----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	----	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_110_1.1 01-May-2023 14:21	OL_EX_409_1.6 01-May-2023 14:21	OL_EX_410_0.8 01-May-2023 14:21	OL_EX_410_1.6 01-May-2023 14:21	OL_EX_411_2.0 01-May-2023 14:21
							EM2307528-008 MU	EM2307528-009 MU	EM2307528-010 MU	EM2307528-011 MU	EM2307528-012 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----		----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----		----	----	----	----	----
C6 - C9 Fraction	EP080	10	mg/kg	----	----		----	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	----		----	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	----		----	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	----		----	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	----		----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_110_1.1	OL_EX_409_1.6	OL_EX_410_0.8	OL_EX_410_1.6	OL_EX_411_2.0
Sample ID										
Sampling date/time						01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
						EM2307528-008 MU	EM2307528-009 MU	EM2307528-010 MU	EM2307528-011 MU	EM2307528-012 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg	----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg	----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg	----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg	----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg	----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg	----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg	----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg	----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg	----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg	----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	----	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_110_1.1	OL_EX_409_1.6	OL_EX_410_0.8	OL_EX_410_1.6	OL_EX_411_2.0
Sample ID										
Sampling date/time						01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21	01-May-2023 14:21
						EM2307528-008 MU	EM2307528-009 MU	EM2307528-010 MU	EM2307528-011 MU	EM2307528-012 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----	----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons										
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----	----	----	----	----	----
C6 - C9 Fraction	EP080	10	mg/kg	----	----	----	----	----	----	----
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	----	----	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	----	----	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	----	----	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	OL_EX_QC116	OL_EX_QC117	----	----	----
				Sampling date/time			01-May-2023 14:21	01-May-2023 14:21	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2307528-013 MU	EM2307528-014 MU			
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg	----	----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg	----	----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg	----	----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg	----	----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg	----	----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID						
				Sampling date/time	Guideline	Guideline	**OL_EX_QC116**	**OL_EX_QC117**	**----**	**----**	**----**
							01-May-2023 14:21	01-May-2023 14:21	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2307528-013** MU	**EM2307528-014** MU			
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal
Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**OL_EX_QC116**	**OL_EX_QC117**	----	----	----
				Sampling date/time			01-May-2023 14:21	01-May-2023 14:21	----	----	----
							EM2307528-013 MU	**EM2307528-014** MU			
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**OL_EX_QC116**	**OL_EX_QC117**	**----**	**----**	**----**
				Sampling date/time			01-May-2023 14:21	01-May-2023 14:21	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2307528-013** MU	**EM2307528-014** MU			
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**OL_EX_QC116**	**OL_EX_QC117**	----	----	----
				Sampling date/time			01-May-2023 14:21	01-May-2023 14:21	----	----	----
							EM2307528-013 MU	**EM2307528-014** MU			
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**OL_EX_QC116**	**OL_EX_QC117**	**----**	**----**	**----**
				Sampling date/time			01-May-2023 14:21	01-May-2023 14:21	----	----	----
							EM2307528-013 MU	**EM2307528-014** MU			
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EM2307528**	Page	: 1 of 17
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 02-May-2023
Order number	: 60693007-2	Date Analysis Commenced	: 03-May-2023
C-O-C number	: 51686	Issue Date	: 08-May-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 17		
No. of samples analysed	: 14		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5026000)									
EM2307528-012	OL_EX_411_2.0	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	50	50	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	5	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	5	5	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	9	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	35	34	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	153	150	1.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	118	116	1.7	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	31	30	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	198	195	1.6	0% - 20%
EM2307528-004	UST_EXT_59SP_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	13	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	25	5.7	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5026000) - continued									
EM2307528-004	UST_EXT_59SP_01	EG005T: Copper	7440-50-8	5	mg/kg	75	68	10.3	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	27	26	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	386	347	10.8	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	52	52	0.0	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5025919)									
EM2307528-001	Arch_SP_01	EA055: Moisture Content	----	0.1	%	10.4	9.4	9.7	0% - 50%
EM2307528-013	OL_EX_QC116	EA055: Moisture Content	----	0.1	%	23.0	24.2	5.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5026001)									
EM2307528-004	UST_EXT_59SP_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 5028226)									
EM2307528-004	UST_EXT_59SP_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5027820)									
EM2307087-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EM2307172-003	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 5028744)									
EM2307528-004	UST_EXT_59SP_01	EK040T: Fluoride	16984-48-8	40	mg/kg	140	190	29.3	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5026630)									
EM2307528-004	UST_EXT_59SP_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5026629)									
EM2307528-004	UST_EXT_59SP_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5026629) - continued									
EM2307528-004	UST_EXT_59SP_01	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5025923)									
EM2307528-014	OL_EX_QC117	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2307528-001	Arch_SP_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5026631)									
EM2307528-004	UST_EXT_59SP_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5026631) - continued									
EM2307528-004	UST_EXT_59SP_01	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5025923)									
EM2307528-014	OL_EX_QC117	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.7	0.6	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.4	2.6	9.5	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.7	1.0	33.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	7.7	7.6	1.7	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	7.9	7.9	0.0	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.9	5.6	13.0	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.5	4.6	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.8	7.1	4.1	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.5	2.6	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.2	6.5	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.0	3.2	6.3	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.8	0.9	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.6	3.8	6.4	No Limit
EM2307528-001	Arch_SP_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5026631)									
EM2307528-004	UST_EXT_59SP_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5026631) - continued									
EM2307528-004	UST_EXT_59SP_01	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	1.0	0.9	17.6	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1.1	0.9	23.2	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.9	0.7	27.3	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.8	0.5	41.1	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.0	0.7	36.4	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.0	0.7	39.4	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5026635)									
EM2307528-004	UST_EXT_59SP_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	0.50	0.35	33.4	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5025920)									
EM2307528-001	Arch_SP_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2307528-013	OL_EX_QC116	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5025924)									
EM2307528-001	Arch_SP_01	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2307528-014	OL_EX_QC117	EP071: C15 - C28 Fraction	----	100	mg/kg	230	240	4.6	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	200	190	8.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5026632)									
EM2307528-004	UST_EXT_59SP_01	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5025920)									
EM2307528-001	Arch_SP_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2307528-013	OL_EX_QC116	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5025924)									
EM2307528-001	Arch_SP_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2307528-014	OL_EX_QC117	EP071: >C16 - C34 Fraction	----	100	mg/kg	390	390	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5025924) - continued									
EM2307528-014	OL_EX_QC117	EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5026632)									
EM2307528-004	UST_EXT_59SP_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5025920)									
EM2307528-001	Arch_SP_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2307528-013	OL_EX_QC116	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 5029677)									
EM2307511-015	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.003	0.003	0.0	No Limit
EM2307633-002	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5026606)									
EM2307528-016	OL_EX_QCB12	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2307658-009	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5026696)									
EM2307528-015	OL_EX_QCA10	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2307706-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5026606)									
EM2307528-016	OL_EX_QCB12	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2307658-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5026696)									
EM2307528-015	OL_EX_QCA10	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2307706-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5026606)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 5026606) - continued									
EM2307528-016	OL_EX_QCB12	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2307658-009	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 5026696)									
EM2307528-015	OL_EX_QCA10	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2307706-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5026000)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	102	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	90.4	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	95.4	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	61.4	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	102	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	91.5	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	93.8	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	92.2	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	91.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	72.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	99.5	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	80.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	91.4	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	73.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5026001)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	96.1	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5028226)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	75.2	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5027820)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	98.7	70.0	130
EK040T: Fluoride Total (QCLot: 5028744)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	106	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5026630)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	94.6	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 5026629)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	69.1	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5026629) - continued								
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.7	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	78.2	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.5	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	76.8	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 5025923)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	85.0	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	88.6	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	88.3	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	89.3	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	83.6	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	85.8	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	82.3	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	86.8	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	83.5	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	85.7	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	84.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	63.3	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5026631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	94.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	98.5	81.6	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5026631) - continued								
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	98.1	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	90.5	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	102	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	105	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	107	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	102	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.0	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	74.1	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5025923)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	87.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	89.6	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	88.7	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	85.6	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	87.1	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	86.4	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	84.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	83.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	84.8	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	84.6	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	87.8	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	81.8	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	80.0	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	79.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	79.7	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	81.5	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5026631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	100	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	92.8	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	91.2	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	95.3	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	106	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.7	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5026631) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	98.5	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	97.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	109	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	110	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	110	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	101	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	106	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	102	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	96.1	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5026635)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	82.7	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5025920)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	77.2	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5025924)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	108	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	102	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	100	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	115	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	102	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	104	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5025920)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5025924)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	94.6	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	102	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	93.0	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	98.9	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	104	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	112	73.3	137
EP080: BTEXN (QCLot: 5025920)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5025920) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	81.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	83.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.6	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	84.2	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	85.9	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5029677)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 5026618)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	40.0	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	86.9	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	78.8	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	74.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	95.3	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	84.7	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	92.8	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	95.6	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	96.1	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	103	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	103	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	92.6	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5026618)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	87.7	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	88.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	89.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	97.2	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	99.2	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	98.9	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	103	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	107	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	106	49.4	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5026618) - continued								
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	103	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	102	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	98.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	89.8	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	99.6	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	100	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	100.0	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	89.5	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026619)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	56.3	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	84.7	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	82.0	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026696)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	98.9	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	91.2	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026619)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	65.7	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	82.6	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	83.2	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026696)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	98.7	66.2	132
EP080: BTEXN (QCLot: 5026606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	89.1	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	96.0	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	100	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	98.0	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	97.2	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	125	68.3	131
EP080: BTEXN (QCLot: 5026696)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	87.7	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	99.8	72.9	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5026696) - continued								
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	106	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	111	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	129	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5026000)							
EM2307528-004	UST_EXT_59SP_01	EG005T: Arsenic	7440-38-2	50 mg/kg	105	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.9	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	97.2	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	103	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	96.3	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	92.3	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	91.4	80.0	120
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5028226)							
EM2307767-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	60.8	58.0	114
EM2307767-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	80.4	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5027820)							
EM2307087-003	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	87.3	70.0	130
EK040T: Fluoride Total (QCLot: 5028744)							
EM2307622-009	Anonymous	EK040T: Fluoride	16984-48-8	400 mg/kg	80.8	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5025923)							
EM2307528-005	UST_EXT_59SP_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	91.5	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	90.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	80.7	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	83.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	56.6	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5026631)							
EM2307718-003	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	116	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	117	78.9	123

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5026631) - continued							
EM2307718-003	Anonymous	EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	102	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	113	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	76.1	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5025923)							
EM2307528-005	UST_EXT_59SP_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	95.6	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	90.5	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5026631)							
EM2307718-003	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	111	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	107	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5025920)							
EM2307528-004	UST_EXT_59SP_01	EP080: C6 - C9 Fraction	----	28 mg/kg	74.3	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5025924)							
EM2307528-006	UST_EXT_59SP_03	EP071: C10 - C14 Fraction	----	770 mg/kg	109	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026632)							
EM2307718-003	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	120	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	107	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	109	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5025920)							
EM2307528-004	UST_EXT_59SP_01	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5025924)							
EM2307528-006	UST_EXT_59SP_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	96.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	104	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	97.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026632)							
EM2307718-003	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	103	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	109	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	118	66.8	138
EP080: BTEXN (QCLot: 5025920)							
EM2307528-004	UST_EXT_59SP_01	EP080: Benzene	71-43-2	2 mg/kg	91.8	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	91.3	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5029677)							
EM2307511-015	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	83.0	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026606)							
EM2307606-053	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	87.7	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5026696)							
EM2307606-055	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.2	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026606)							
EM2307606-053	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	74.8	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5026696)							
EM2307606-055	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	84.7	34.0	122
EP080: BTEXN (QCLot: 5026606)							
EM2307606-053	Anonymous	EP080: Benzene	71-43-2	20 µg/L	104	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	109	60.4	132
EP080: BTEXN (QCLot: 5026696)							
EM2307606-055	Anonymous	EP080: Benzene	71-43-2	20 µg/L	102	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	107	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2307528**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 02-May-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 08-May-2023
Sampler	: TIM SMITH02	No. of samples received	: 17
Order number	: 60693007-2	No. of samples analysed	: 14

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Matrix Spikes (MS)					
Pesticides by GCMS	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	20	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	20	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**----**	----	----	**03-May-2023**	15-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**04-May-2023**	28-Oct-2023	✓	**04-May-2023**	28-Oct-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	29-May-2023	✓	**05-May-2023**	29-May-2023	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	29-May-2023	✓	**05-May-2023**	11-May-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**08-May-2023**	18-May-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	29-May-2023	✓	**08-May-2023**	29-May-2023	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**05-May-2023**	13-Jun-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	13-Jun-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	13-Jun-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	13-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
UST_EXT_59SP_01	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	13-Jun-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**03-May-2023**	15-May-2023	✓	**04-May-2023**	15-May-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	13-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**03-May-2023**	15-May-2023	✓	**04-May-2023**	15-May-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	13-Jun-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
Arch_SP_01, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_107_1.1, OL_EX_110_1.1, OL_EX_409_1.6, OL_EX_410_0.8, OL_EX_410_1.6, OL_EX_411_2.0, OL_EX_QC116, OL_EX_QC117	**01-May-2023**	**03-May-2023**	15-May-2023	✓	**04-May-2023**	15-May-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QCB12	**01-May-2023**	**05-May-2023**	28-Oct-2023	✓	**05-May-2023**	28-Oct-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB12	**01-May-2023**	**04-May-2023**	08-May-2023	✓	**05-May-2023**	13-Jun-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB12	**01-May-2023**	**04-May-2023**	08-May-2023	✓	**05-May-2023**	13-Jun-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB12	**01-May-2023**	**04-May-2023**	08-May-2023	✓	**08-May-2023**	13-Jun-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, OL_EX_QCB12	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	15-May-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB12	**01-May-2023**	**04-May-2023**	08-May-2023	✓	**08-May-2023**	13-Jun-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, OL_EX_QCB12	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	15-May-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, OL_EX_QCB12	**01-May-2023**	**04-May-2023**	15-May-2023	✓	**04-May-2023**	15-May-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	13	**23.08**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	13	**23.08**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	13	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	13	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	13	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	13	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	13	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	13	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	20	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	33	**12.12**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	20	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2307528**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 51686	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 02-May-2023 11:15	Issue Date	: 03-May-2023
Client Requested Due Date	: 10-May-2023	Scheduled Reporting Date	: **10-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 3.0 °C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 17 / 14

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2307528-001	01-May-2023 14:21	Arch_SP_01		✓		✓
EM2307528-002	01-May-2023 14:21	Arch_SP_02	✓			
EM2307528-003	01-May-2023 14:21	Arch_SP_03	✓			
EM2307528-004	01-May-2023 14:21	UST_EXT_59SP_01		✓	✓	
EM2307528-005	01-May-2023 14:21	UST_EXT_59SP_02		✓		✓
EM2307528-006	01-May-2023 14:21	UST_EXT_59SP_03		✓		✓
EM2307528-007	01-May-2023 14:21	OL_EX_107_1.1		✓		✓
EM2307528-008	01-May-2023 14:21	OL_EX_110_1.1		✓		✓
EM2307528-009	01-May-2023 14:21	OL_EX_409_1.6		✓		✓
EM2307528-010	01-May-2023 14:21	OL_EX_410_0.8		✓		✓
EM2307528-011	01-May-2023 14:21	OL_EX_410_1.6		✓		✓
EM2307528-012	01-May-2023 14:21	OL_EX_411_2.0		✓		✓
EM2307528-013	01-May-2023 14:21	OL_EX_QC116		✓		✓
EM2307528-014	01-May-2023 14:21	OL_EX_QC117		✓		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2307528-015	01-May-2023 00:00	OL_EX_QCA10		✓	
EM2307528-016	01-May-2023 00:00	OL_EX_QCB12			✓
EM2307528-017	01-May-2023 00:00	OL_EX_QCC07	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS COC#: **51686** *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 2/5, 11-05

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

FREIGHT

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_SP_0.5-1.0_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
002	UST_SP_0.5-1.0_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
003	UST_SP_0.5-1.0_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
004	UST_SP_0.5-1.0_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
005	UST_SP_1.0-1.5_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
006	UST_SP_1.0-1.5_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
007	UST_SP_1.0-1.5_03			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
008	Rail timber_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
009	UST_SP_1.5-2.0_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

Environmental Division
Melbourne
Work Order Reference
EM2307528

Telephone : 61-3-8549 9600

CHAIN OF CUSTODY

(ALS) *COC#:* **51686** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 2/5

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_SP_1.5-2.0_02			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
011	UST_SP_1.5-2.0_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
012	UST_SP_1.5-2.0_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
013	UST_SP_1.5-2.0_05			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
014	UST_SP_Ext_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
015	UST_SP_Ext_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
016	UST_SP_Ext_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
017	UST_QCA06			WATER	ALS: 0 Non ALS: 0	No		X		
018	UST_QCB08			WATER	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

CHAIN OF CUSTODY

(ALS) *COC#:* 51686 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: Monday 1/5 11:15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_QCC03			WATER	ALS: 0 Non ALS: 0	Yes	-			

Total Bottle Count: ALS: 0, Non ALS: 0

CHAIN OF CUSTODY

ALS COC#: 51686 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 2/5, 11-15

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	

Other comments:

FREIGHT

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_SP_0.5-1.0_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
002	UST_SP_0.5-1.0_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
003	UST_SP_0.5-1.0_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
004	UST_SP_0.5-1.0_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
005	UST_SP_1.0-1.5_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
006	UST_SP_1.0-1.5_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
007	UST_SP_1.0-1.5_03			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
008	Rail timber_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
009	UST_SP_1.5-2.0_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

Environmental Division
Melbourne
Work Order Reference
EM2307528

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: **51686** *ALS Laboratory*: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 2/5 11:05

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_SP_1.5-2.0_02			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
011	UST_SP_1.5-2.0_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
012	UST_SP_1.5-2.0_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
013	UST_SP_1.5-2.0_05			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
014	UST_SP_Ext_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
015	UST_SP_Ext_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
016	UST_SP_Ext_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
017	UST_QCA06			WATER	ALS: 0 Non ALS: 0	No		X		
018	UST_QCB08			WATER	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

CHAIN OF CUSTODY

(ALS) COC#: 51686 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_QCC03			WATER	ALS: 0 Non ALS: 0	Yes	-			

Total Bottle Count: ALS: 0, Non ALS: 0

Beka Liu

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 3 May 2023 11:32 AM
To: Celline Tamin; Crowe, Robert
Cc: ALS Enviro Melbourne; Peter Ravlic
Subject: [EXTERNAL] - RE: EM2307528 compass COC 51686: Samples confirmation

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Celline, in the compass app I am using the duplicate COC from previous function and then editing to the actual sample nomenclature. For whatever reason the app at your end is not updating the edits. The correct COC

	Matrix	Sample ID	Date	Container	Analysis
1	Soil	Arch_SP_01	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
2	Soil	Arch_SP_02	1/05/2023	1x250ml Soil jar	Hold
3	Soil	Arch_SP_03	1/05/2023	1x250ml Soil jar	Hold
4	Soil	UST_EXT_59SP_01	1/05/2023	1x250ml Soil jar	EPA Tasmania IB105 suite minus TBT
5	Soil	UST_EXT_59SP_02	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
6	Soil	UST_EXT_59SP_03	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
7	Soil	OL_EX_107_1.1	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
8	Soil	OL_EX_110_1.1	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
9	Soil	OL_EX_409_1.6	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
10	Soil	OL_EX_410_0.8	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
11	Soil	OL_EX_410_1.6	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
12	Soil	OL_EX_411_2.0	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
13	Soil	OL_EX_QC116	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
14	Soil	OL_EX_QC117	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
~~15~~	Soil	OL_EX_QC216	1/05/2023	1x250ml Soil jar	Please forward to EUROFINS for TRH BTEXN PAH Phenols Pb analysis
~~16~~	Soil	OL_EX_QC217	1/05/2023	1x250ml Soil jar	Please forward to EUROFINS for TRH BTEXN PAH Phenols Pb analysis
15 ~~17~~	Water	OL_EX_QCA10	1/05/2023	2xVOC	TRH C6-C10 BTEXN only
16 ~~18~~	Water	OL_EX_QCB12	1/05/2023	1x100ml Amber + 1x60ml Red/Green + 2xVOC	TRH BTEXN PAH Phenols Pb
17 ~~19~~	Water	OL_EX_QCC07	1/05/2023	1x100ml Amber + 1x60ml Red/Green + 2xVOC	Hold

ALSCompass SAMPLING Intelligence

ALS

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2307637

Telephone : +61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: 60693007 Client: AECOM Project Manager: TIM
Phone: (0428420962)

ALS Compass COC Reference: 51576 # Samples: Sampler:
Phone: ( )

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time: 28/4/23 11:15	Date / Time:	Date / Time:

Ranil Weerakkody

From: Peter Ravlic
Sent: Monday, 1 May 2023 6:05 PM
To: COC Melbourne
Cc: Felix Dong
Subject: AECOM- Macquarie Point RE: COMPASS# 51576 - AECOMAU - 60693007

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: COC for WO on hold

Hi Team

Please see below analysis confirmation for AECOM hold batch rec'd 28/4

Thanks

Kind Regards

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Monday, 1 May 2023 5:53 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point RE: COMPASS# 51576 - AECOMAU - 60693007

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, can we update the compass reference for this one as follows without going through the app?

UST excavation hotspot – likely highly impacted

UST_EXT_59S_1.6	PID 25	TRH BTEXN, PAH, Phenols, Pb +Aliphatic/aromatic speciation
UST_EXT_59E_1.6	PID 357	TRH BTEXN, PAH, Phenols, Pb +Aliphatic/aromatic speciation
UST_EXT_59N_1.6	PID 278	TRH BTEXN, PAH, Phenols, Pb +Aliphatic/aromatic speciation

Lead area

OL_EX_405_0.8	TRH BTEXN, PAH, Phenols, Pb
OL_EX_405_1.6	TRH BTEXN, PAH, Phenols, Pb

OL_EX_406_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_406_1.6	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_QC115	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_QC215	please forward to Eurofins for analysis TRH BTEXN, PAH, Phenols, Pb	
OL_EX_407_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_407_1.6	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_408_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_408_1.6	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_409_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_QCA09	trip blank	TRH C6-C10 BTEXN only
OL_EX_QCB11	rinsate blank	TRH BTEXN, PAH, Phenols, Pb
OL_EX_QCC06	hold	

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







aecom.com
Delivering a better world
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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 1 May 2023 11:45 AM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: COMPASS# 51576 - AECOMAU - 60693007

Hi Tim/Robert

Can you please finalise and approve the COC for the samples rec'd on Friday

Thanks

Kind Regards

Oliver Mullaney

From: Peter Ravlic
Sent: Tuesday, 2 May 2023 5:24 PM
To: Oliver Mullaney
Cc: Samples Melbourne
Subject: RE: Compass ID: 51576, Project: Macquarie Point, Site: Macquarie Point Oil and Diesel Line removal

Follow Up Flag: Follow up
Flag Status: Completed

Hi Oliver

If you can identify all the samples, then just create a new batch

Thanks

Kind Regards

right solutions. right partner.

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Oliver Mullaney <oliver.mullaney@ALSGlobal.com>
Sent: Tuesday, 2 May 2023 5:07 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Samples Melbourne <Samples.Melbourne@alsglobal.com>
Subject: Compass ID: 51576, Project: Macquarie Point, Site: Macquarie Point Oil and Diesel Line removal

Hi Peter,

This compass job is still under ongoing sampling events, could you please advise client and get them to finalise it.

Thanks,

CERTIFICATE OF ANALYSIS

Work Order	: **EM2307637**	Page	: 1 of 15
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: Timothy Smith	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 28-Apr-2023 11:15
Order number	: 60693007	Date Analysis Commenced	: 03-May-2023
C-O-C number	: 51576	Issue Date	: 11-May-2023 13:07
Sampler	: ----		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP070-CWG: EM2307637_002 and EM2307637_003 Unable to determine surrogate recovery due to sample matrix.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP071: EM2307637-011 Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP070-CWG: EM2307637_002 Higher than expected matrix spike recovery due to matrix effects.
- EP075(SIM): EM2307637_005 Higher than expected matrix spike recovery for pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- Amendment (09/05/2023): This report has been amended to add missed analysis EP070-CWG for sample #1, #2 and #3. All analysis results are as per the report.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_EXT_59S_1.6 PID 25	UST_EXT_59E_1.6 PID 357	UST_EXT_59N_1.6 PID 278	OL_EX_405_0.8	OL_EX_405_1.6
			Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307637-001	EM2307637-002	EM2307637-003	EM2307637-004	EM2307637-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	23.4	22.2	20.7	16.8	17.5
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	65	125	346	208	408
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	2.1	1.3	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5	1.4	1.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	7.3	1.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	11.6	2.4	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.6	30.4	8.4	3.7	1.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	9.1	3.3	1.4	0.6
Fluoranthene	206-44-0	0.5	mg/kg	2.6	24.0	13.8	9.8	5.9
Pyrene	129-00-0	0.5	mg/kg	2.8	22.3	14.1	9.7	6.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.6	9.3	8.2	7.0	3.7
Chrysene	218-01-9	0.5	mg/kg	2.2	7.4	6.9	6.8	3.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.9	6.7	8.6	9.2	4.3
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.1	3.1	3.4	3.5	1.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.4	6.6	8.0	7.7	4.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	3.1	3.9	5.2	1.9
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.9	1.1	1.4	0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.3	3.7	4.8	6.6	2.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	19.6	149	91.1	73.5	36.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_EXT_59S_1.6 PID 25	UST_EXT_59E_1.6 PID 357	UST_EXT_59N_1.6 PID 278	OL_EX_405_0.8	OL_EX_405_1.6
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307637-001	EM2307637-002	EM2307637-003	EM2307637-004	EM2307637-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		3.2	9.8	11.6	11.7	5.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.4	9.8	11.6	11.7	5.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		3.7	9.8	11.6	11.7	5.8
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ Aliphatic >C5-C6	----	5	mg/kg		<5	<5	<5	----	----
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		<5	133	32	----	----
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		7	386	179	----	----
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		<50	335	232	----	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		<50	1380	913	----	----
Aliphatic >C16-C21	----	50	mg/kg		<50	1240	671	----	----
Aliphatic >C21-C35	----	50	mg/kg		<50	486	306	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		<1.0	7.3	<1.0	----	----
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		<50	64	59	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		<50	747	522	----	----
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		<50	1200	666	----	----
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		<50	898	580	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	479	178	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	2190	1810	<50	<50
C15 - C28 Fraction	----	100	mg/kg		190	6470	4610	240	190
C29 - C36 Fraction	----	100	mg/kg		180	720	670	150	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg		370	9380	7090	390	310
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		11	639	269	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		11	639	269	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	3750	2940	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		340	5330	3870	360	280
>C34 - C40 Fraction	----	100	mg/kg		<100	240	200	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		340	9320	7010	360	280

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_EXT_59S_1.6 PID 25	UST_EXT_59E_1.6 PID 357	UST_EXT_59N_1.6 PID 278	OL_EX_405_0.8	OL_EX_405_1.6
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307637-001	EM2307637-002	EM2307637-003	EM2307637-004	EM2307637-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**3750**	**2940**	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**83.2**	**91.5**	**81.8**	**82.6**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**85.1**	**91.4**	**84.6**	**87.1**	**108**
2.4.6-Tribromophenol	118-79-6	0.5	%		**81.9**	**85.3**	**81.6**	**76.0**	**94.9**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.9**	**96.5**	**90.6**	**98.1**	**101**
Anthracene-d10	1719-06-8	0.5	%		**92.6**	**92.7**	**87.9**	**91.2**	**115**
4-Terphenyl-d14	1718-51-0	0.5	%		**84.0**	**92.8**	**83.0**	**84.5**	**113**
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**97.1**	**Not Determined**	**Not Determined**	**----**	**----**
2-Fluorobiphenyl	321-60-8	1	%		**87.6**	**Not Determined**	**Not Determined**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**70.9**	**83.2**	**69.9**	**84.2**	**80.1**
Toluene-D8	2037-26-5	0.2	%		**75.6**	**80.3**	**83.3**	**86.2**	**83.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.3**	**83.2**	**82.2**	**96.9**	**90.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_406_0.8	OL_EX_406_1.6	OL_EX_QC115	OL_EX_407_0.8	OL_EX_407_1.6
			Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307637-006	EM2307637-007	EM2307637-008	EM2307637-009	EM2307637-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**31.6**	**17.0**	**30.7**	**30.3**	**26.4**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**2740**	**81**	**368**	**4500**	**208**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**0.7**	**3.3**	**1.7**	**1.9**	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	**0.8**	**0.6**	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**1.2**	**7.3**	**3.6**	**2.2**	<0.5
Pyrene	129-00-0	0.5	mg/kg	**1.1**	**7.3**	**4.3**	**1.7**	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.0**	**4.9**	**4.2**	**1.0**	<0.5
Chrysene	218-01-9	0.5	mg/kg	**1.0**	**5.7**	**3.6**	**1.2**	**0.5**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**2.3**	**9.0**	**5.9**	**2.2**	**1.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**0.7**	**3.1**	**2.1**	**0.7**	**0.5**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.7**	**4.9**	**5.9**	**1.4**	**0.9**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.4**	**4.9**	**3.7**	**1.3**	**1.0**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	**1.4**	**1.0**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.8**	**6.0**	**4.8**	**1.6**	**1.4**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**12.9**	**59.5**	**41.4**	**15.2**	**5.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_406_0.8	OL_EX_406_1.6	OL_EX_QC115	OL_EX_407_0.8	OL_EX_407_1.6
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307637-006	EM2307637-007	EM2307637-008	EM2307637-009	EM2307637-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**2.3**	**8.6**	**8.6**	**1.9**	**1.2**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**2.5**	**8.6**	**8.6**	**2.2**	**1.5**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**2.8**	**8.6**	**8.6**	**2.4**	**1.7**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**730**	<50	**230**	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**1050**	**200**	**450**	**250**	<100
C29 - C36 Fraction	----	100	mg/kg		**920**	**150**	**360**	**130**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**2700**	**350**	**1040**	**380**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		**16**	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		**16**	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**860**	<50	**270**	**60**	<50
>C16 - C34 Fraction	----	100	mg/kg		**1640**	**310**	**700**	**330**	<100
>C34 - C40 Fraction	----	100	mg/kg		**430**	<100	**150**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2930**	**310**	**1120**	**390**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**860**	<50	**270**	**60**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.2**	**86.5**	**82.3**	**88.6**	**94.1**
2-Chlorophenol-D4	93951-73-6	0.5	%		**87.0**	**89.6**	**85.4**	**88.5**	**94.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		**77.6**	**76.7**	**69.1**	**77.4**	**83.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.6**	**88.9**	**88.7**	**89.4**	**90.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_406_0.8	OL_EX_406_1.6	OL_EX_QC115	OL_EX_407_0.8	OL_EX_407_1.6
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307637-006	EM2307637-007	EM2307637-008	EM2307637-009	EM2307637-010
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**89.1**	**91.6**	**91.3**	**90.0**	**99.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**90.2**	**97.0**	**93.5**	**88.0**	**84.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**68.2**	**68.6**	**70.6**	**66.9**	**67.3**
Toluene-D8	2037-26-5	0.2	%		**74.0**	**72.2**	**73.3**	**67.9**	**69.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**77.7**	**76.9**	**74.6**	**70.8**	**76.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_408_0.8	OL_EX_408_1.6	OL_EX_409_0.8	----	----
			Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2307637-011	EM2307637-012	EM2307637-013	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**16.5**	**20.0**	**30.1**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**483**	**184**	**698**	**----**	**----**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	**----**	**----**
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	**1.0**	**----**	**----**
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	**2.3**	**----**	**----**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	**3.8**	**----**	**----**
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	**4.4**	**----**	**----**
Phenanthrene	85-01-8	0.5	mg/kg	**1.1**	<0.5	**35.0**	**----**	**----**
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	**10.5**	**----**	**----**
Fluoranthene	206-44-0	0.5	mg/kg	**2.6**	<0.5	**37.3**	**----**	**----**
Pyrene	129-00-0	0.5	mg/kg	**2.6**	<0.5	**34.3**	**----**	**----**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.7**	<0.5	**16.0**	**----**	**----**
Chrysene	218-01-9	0.5	mg/kg	**1.7**	<0.5	**13.9**	**----**	**----**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**2.4**	<0.5	**19.7**	**----**	**----**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**0.9**	<0.5	**6.7**	**----**	**----**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.8**	<0.5	**15.5**	**----**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.0**	<0.5	**9.6**	**----**	**----**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	**2.5**	**----**	**----**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.5**	<0.5	**11.8**	**----**	**----**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**17.3**	<0.5	**224**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_408_0.8	OL_EX_408_1.6	OL_EX_409_0.8	----	----
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2307637-011	EM2307637-012	EM2307637-013	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**2.4**	<0.5	**23.4**	**----**	**----**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**2.7**	**0.6**	**23.4**	**----**	**----**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**2.9**	**1.2**	**23.4**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	**----**	**----**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	**220**	**----**	**----**
C15 - C28 Fraction	----	100	mg/kg		**670**	<100	**1490**	**----**	**----**
C29 - C36 Fraction	----	100	mg/kg		**1190**	<100	**1100**	**----**	**----**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1860**	<50	**2810**	**----**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	**----**	**----**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	**----**	**----**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**260**	**----**	**----**
>C16 - C34 Fraction	----	100	mg/kg		**1580**	<100	**2300**	**----**	**----**
>C34 - C40 Fraction	----	100	mg/kg		**1010**	<100	**400**	**----**	**----**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2590**	<50	**2960**	**----**	**----**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	**260**	**----**	**----**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	**----**	**----**
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	**----**	**----**
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	**----**	**----**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	**----**	**----**
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	**----**	**----**
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	**----**	**----**
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	**----**	**----**
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.4**	**89.5**	**95.5**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**88.5**	**91.9**	**94.1**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**90.5**	**76.8**	**85.5**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**94.4**	**86.0**	**96.8**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_408_0.8	OL_EX_408_1.6	OL_EX_409_0.8	----	----
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	27-Apr-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2307637-011	EM2307637-012	EM2307637-013	--------	--------
					Result	Result	Result	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**99.4**	**92.0**	**100**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**107**	**82.8**	**97.4**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**70.6**	**72.0**	**67.7**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**73.0**	**75.5**	**68.1**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**77.5**	**79.2**	**73.8**	**----**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA09	OL_EX_QCB11	----	----	----
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2307637-014	EM2307637-015	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA09	OL_EX_QCB11	----	----	----
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2307637-014	EM2307637-015	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**19.5**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**35.9**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**65.8**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**48.2**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**76.8**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**80.3**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**106**	**101**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA09	OL_EX_QCB11	----	----	----
				Sampling date / time	27-Apr-2023 00:00	27-Apr-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2307637-014	EM2307637-015	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**107**	**100.0**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**106**	**103**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

QUALITY CONTROL REPORT

Work Order	: **EM2307637**	Page	: 1 of 14
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: Timothy Smith	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 28-Apr-2023
Order number	: 60693007	Date Analysis Commenced	: 03-May-2023
C-O-C number	: 51576	Issue Date	: 11-May-2023
Sampler	: ----		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
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General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5025408)									
EM2307637-004	OL_EX_405_0.8	EG005T: Lead	7439-92-1	5	mg/kg	208	226	8.5	0% - 20%
EM2307637-010	OL_EX_407_1.6	EG005T: Lead	7439-92-1	5	mg/kg	208	182	13.1	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5024349)									
EM2307529-001	Anonymous	EA055: Moisture Content	----	0.1	%	5.4	5.6	2.9	No Limit
EM2307637-009	OL_EX_407_0.8	EA055: Moisture Content	----	0.1	%	30.3	25.9	15.8	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 5023508)									
EM2307637-004	OL_EX_405_0.8	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2307637-011	OL_EX_408_0.8	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5023508) - continued									
EM2307637-011	OL_EX_408_0.8	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5023508)									
EM2307637-004	OL_EX_405_0.8	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.5	1.4	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	3.7	2.3	47.4	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.4	0.7	63.6	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.8	7.9	21.2	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	9.7	7.8	20.9	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	7.0	6.2	11.3	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	6.8	5.7	18.1	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	9.2	8.2	11.6	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.5	3.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.7	6.9	11.6	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.2	4.9	5.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.4	1.3	8.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.6	6.4	3.3	0% - 50%
EM2307637-011	OL_EX_408_0.8	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.1	0.6	49.9	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.6	1.4	59.2	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.6	1.4	60.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.7	1.1	45.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.0	51.6	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	1.6	41.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.5	53.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.8	1.1	44.2	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.0	0.8	28.8	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5023508) - continued									
EM2307637-011	OL_EX_408_0.8	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.5	1.1	29.3	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 5023507)									
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	7	<5	38.3	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 5038915)									
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	<50	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 5023507)									
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	1	mg/kg	<1.0	<1.0	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 5038915)									
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5023506)									
EM2307637-011	OL_EX_408_0.8	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5023509)									
EM2307637-011	OL_EX_408_0.8	EP071: C15 - C28 Fraction	----	100	mg/kg	670	890	27.5	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	1190	1550	26.3	0% - 50%
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2307637-004	OL_EX_405_0.8	EP071: C15 - C28 Fraction	----	100	mg/kg	240	180	26.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	130	14.1	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5023506)									
EM2307637-011	OL_EX_408_0.8	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	11	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5023509)									
EM2307637-011	OL_EX_408_0.8	EP071: >C16 - C34 Fraction	----	100	mg/kg	1580	# 2070	27.1	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	1010	1270	23.0	0% - 50%
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2307637-004	OL_EX_405_0.8	EP071: >C16 - C34 Fraction	----	100	mg/kg	360	280	23.5	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5023509) - continued									
EM2307637-004	OL_EX_405_0.8	EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5023506)									
EM2307637-011	OL_EX_408_0.8	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2307637-001	UST_EXT_59S_1.6 PID 25	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 5029677)									
EM2307511-015	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.003	0.003	0.0	No Limit
EM2307633-002	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5023576)									
EM2307573-002	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5023576)									
EM2307573-002	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5023576) - continued									
EM2307573-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5023547)									
EM2307633-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2307336-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5023572)									
EM2307633-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EM2307573-002	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	70	35.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5023547)									
EM2307633-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2307336-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5023572)									
EM2307633-001	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2307573-002	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	110	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 5023547)									
EM2307633-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 5023547) - continued									
EM2307633-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2307336-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5025408)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.4	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5023508)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	94.1	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	91.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	86.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	83.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	85.2	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	81.2	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	91.3	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	84.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	81.4	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	89.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	78.7	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5023508)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	91.0	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	90.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	90.3	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	87.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.7	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.1	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	93.6	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	87.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	86.6	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	86.0	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	91.2	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	91.5	65.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5023508) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	90.6	65.8	127
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5023507)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	71.4	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	76.8	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	77.3	55.0	124
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5038915)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	108	72.4	142
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	102	78.8	138
EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	3163 mg/kg	114	56.4	154
EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	763 mg/kg	100	63.0	139
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5023507)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	85.0	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	87.4	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	83.5	72.2	107
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5038915)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	95.4	44.7	157
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	90.5	55.2	142
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	mg/kg	<50	963 mg/kg	93.6	59.7	129
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	mg/kg	<50	202 mg/kg	92.3	57.0	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023506)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	92.1	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023509)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	111	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	99.7	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	100	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023506)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	90.4	59.3	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023509)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	97.1	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	100	73.3	137
EP080: BTEXN (QCLot: 5023506)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	90.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	91.2	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	86.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	90.0	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	92.0	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5029677)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 5023576)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	21.8	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	53.2	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	42.3	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	41.7	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	51.7	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	47.2	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	51.3	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	52.5	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	54.5	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	58.0	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	57.8	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	50.9	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5023576)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	50.6	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	48.9	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	52.0	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	56.1	49.5	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5023576) - continued								
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	72.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	74.3	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	85.5	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	81.2	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	78.6	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	80.1	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	75.1	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	75.5	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.1	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	78.6	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	78.1	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	78.3	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023547)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	120	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023572)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	61.7	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	74.4	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	78.6	50.4	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023547)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	113	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023572)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	74.4	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	72.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	80.0	47.2	130
EP080: BTEXN (QCLot: 5023547)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	117	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	115	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	115	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	118	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	116	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	104	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5025408)							
EM2307637-005	OL_EX_405_1.6	EG005T: Lead	7439-92-1	250 mg/kg	103	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 5023508)							
EM2307637-005	OL_EX_405_1.6	EP075(SIM): Phenol	108-95-2	3 mg/kg	94.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	102	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	97.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	87.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	77.4	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5023508)							
EM2307637-005	OL_EX_405_1.6	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	107	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 145	65.5	136
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5023507)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP079-CWG: Aliphatic >C5-C6	----	7 mg/kg	105	43.0	123
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	12 mg/kg	# Not Determined	46.0	134
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5038915)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	1129 mg/kg	117	72.4	147
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	3884 mg/kg	110	78.8	138
		EP070-CWG: Aliphatic >C16-C21	----	3163 mg/kg	121	56.4	154
		EP070-CWG: Aliphatic >C21-C35	----	763 mg/kg	110	63.0	139
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5023507)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP079-CWG: Aromatic >C5-C7	----	2 mg/kg	102	39.0	133
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	2 mg/kg	116	44.0	136
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5038915)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	341 mg/kg	120	44.7	157
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	1365 mg/kg	118	55.2	142
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	963 mg/kg	# 134	59.7	129
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	202 mg/kg	# 164	57.0	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023506)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023509)							
EM2307637-006	OL_EX_406_0.8	EP071: C10 - C14 Fraction	----	770 mg/kg	95.2	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	94.0	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	90.4	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023506)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023509)							
EM2307637-006	OL_EX_406_0.8	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.4	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	93.9	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	86.3	66.8	138
EP080: BTEXN (QCLot: 5023506)							
EM2307637-002	UST_EXT_59E_1.6 PID 357	EP080: Benzene	71-43-2	2 mg/kg	77.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	84.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5029677)							
EM2307511-015	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	83.0	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023547)							
EM2307336-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	109	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5023572)							
EM2307636-003	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	54.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	76.2	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	84.2	50.5	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023547)							
EM2307336-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	108	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5023572)							
EM2307636-003	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	66.3	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	74.8	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	86.8	47.4	131
EP080: BTEXN (QCLot: 5023547)							
EM2307336-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	120	56.3	133

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 5023547) - continued							
EM2307336-002	Anonymous	EP080: Toluene	108-88-3	20 µg/L	120	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2307637**	Page	: 1 of 10
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: Timothy Smith	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 28-Apr-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 11-May-2023
Sampler	: ----	No. of samples received	: 16
Order number	: 60693007	No. of samples analysed	: 15

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2307637--011	OL_EX_408_0.8	**>C16 - C34 Fraction**	----	27.1 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2307637--005	OL_EX_405_1.6	**Pyrene**	129-00-0	145 %	65.5-136%	**Recovery greater than upper data quality objective**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions	EM2307637--002	UST_EXT_59E_1.6 PID 357	**Aliphatic >C6-C8**	TPHCWG-ALV2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP079/070: TPH CWG Aromatic Hydrocarbon Fraction	EM2307637--002	UST_EXT_59E_1.6 PID 357	**Aromatic >C16-C21**	TPHCWG-ARE3	134 %	59.7-129%	**Recovery greater than upper data quality objective**
EP079/070: TPH CWG Aromatic Hydrocarbon Fraction	EM2307637--002	UST_EXT_59E_1.6 PID 357	**Aromatic >C21-C35**	TPHCWG-ARE4	164 %	57.0-136%	**Recovery greater than upper data quality objective**
EP080/071: Total Petroleum Hydrocarbons	EM2307637--002	UST_EXT_59E_1.6 PID 357	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2307637--002	UST_EXT_59E_1.6 PID 357	**C6 - C10 Fraction**	C6_C10	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59N_1.6 - PID 278, OL_EX_405_1.6, OL_EX_406_1.6, OL_EX_407_0.8, OL_EX_408_0.8, OL_EX_409_0.8, UST_EXT_59E_1.6 - PID 357, OL_EX_405_0.8, OL_EX_406_0.8, OL_EX_QC115, OL_EX_407_1.6, OL_EX_408_1.6,	**27-Apr-2023**	**----**	----	**----**	**03-May-2023**	11-May-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59N_1.6 - PID 278, OL_EX_405_1.6, OL_EX_406_1.6, OL_EX_407_0.8, OL_EX_408_0.8, OL_EX_409_0.8, UST_EXT_59E_1.6 - PID 357, OL_EX_405_0.8, OL_EX_406_0.8, OL_EX_QC115, OL_EX_407_1.6, OL_EX_408_1.6,	**27-Apr-2023**	**03-May-2023**	24-Oct-2023	✓	**04-May-2023**	24-Oct-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59N_1.6 - PID 278, OL_EX_405_1.6, OL_EX_406_1.6, OL_EX_407_0.8, OL_EX_408_1.6, UST_EXT_59E_1.6 - PID 357, OL_EX_405_0.8, OL_EX_406_0.8, OL_EX_QC115, OL_EX_407_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**03-May-2023**	12-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_408_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	12-Jun-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59N_1.6 - PID 278, OL_EX_405_1.6, OL_EX_406_1.6, OL_EX_407_0.8, OL_EX_408_1.6, UST_EXT_59E_1.6 - PID 357, OL_EX_405_0.8, OL_EX_406_0.8, OL_EX_QC115, OL_EX_407_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**03-May-2023**	12-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_408_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	12-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG) UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG) UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278	**27-Apr-2023**	**10-May-2023**	11-May-2023	✓	**11-May-2023**	19-Jun-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG) UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG) UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278	**27-Apr-2023**	**10-May-2023**	11-May-2023	✓	**11-May-2023**	19-Jun-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278, OL_EX_405_0.8, OL_EX_405_1.6, OL_EX_406_0.8, OL_EX_406_1.6, OL_EX_QC115, OL_EX_407_0.8, OL_EX_407_1.6, OL_EX_408_0.8, OL_EX_408_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**03-May-2023**	12-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278, OL_EX_405_0.8, OL_EX_405_1.6, OL_EX_406_0.8, OL_EX_406_1.6, OL_EX_QC115, OL_EX_407_0.8, OL_EX_407_1.6, OL_EX_408_0.8, OL_EX_408_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071)							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278, OL_EX_405_0.8, OL_EX_405_1.6, OL_EX_406_0.8, OL_EX_406_1.6, OL_EX_QC115, OL_EX_407_0.8, OL_EX_407_1.6, OL_EX_408_0.8, OL_EX_408_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**03-May-2023**	12-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278, OL_EX_405_0.8, OL_EX_405_1.6, OL_EX_406_0.8, OL_EX_406_1.6, OL_EX_QC115, OL_EX_407_0.8, OL_EX_407_1.6, OL_EX_408_0.8, OL_EX_408_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
UST_EXT_59S_1.6 - PID 25, UST_EXT_59E_1.6 - PID 357, UST_EXT_59N_1.6 - PID 278, OL_EX_405_0.8, OL_EX_405_1.6, OL_EX_406_0.8, OL_EX_406_1.6, OL_EX_QC115, OL_EX_407_0.8, OL_EX_407_1.6, OL_EX_408_0.8, OL_EX_408_1.6, OL_EX_409_0.8	**27-Apr-2023**	**03-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QCB11	**27-Apr-2023**	**05-May-2023**	24-Oct-2023	✓	**05-May-2023**	24-Oct-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB11	**27-Apr-2023**	**03-May-2023**	04-May-2023	✓	**04-May-2023**	12-Jun-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB11	**27-Apr-2023**	**03-May-2023**	04-May-2023	✓	**04-May-2023**	12-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB11	**27-Apr-2023**	**03-May-2023**	04-May-2023	✓	**04-May-2023**	12-Jun-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA09, OL_EX_QCB11	**27-Apr-2023**	**04-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB11	**27-Apr-2023**	**03-May-2023**	04-May-2023	✓	**04-May-2023**	12-Jun-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA09, OL_EX_QCB11	**27-Apr-2023**	**04-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA09, OL_EX_QCB11	**27-Apr-2023**	**04-May-2023**	11-May-2023	✓	**04-May-2023**	11-May-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromatic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2307637**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: Timothy Smith	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: tim.smith02@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: ----	Telephone	: +6138549 9645
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 3
Order number	: 60693007	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: 51576	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	:		

Dates

Date Samples Received	: 28-Apr-2023 11:15	Issue Date	: 09-May-2023
Client Requested Due Date	: 12-May-2023	Scheduled Reporting Date	: **12-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 3.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 16 / 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Amendment (09/05/2023): This report has been amended to add missed analysis EP070-CWG for sample #1, #2 and #3. All analysis results are as per the report.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2307637-001 : [27-Apr-2023] : UST_EXT_59S_1.6 - PID 25
EM2307637-002 : [27-Apr-2023] : UST_EXT_59E_1.6 - PID 357
EM2307637-003 : [27-Apr-2023] : UST_EXT_59N_1.6 - PID 278

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP070-CWG TRH Semivolatile Aliphatic/Aromatic Speciation	SOIL - EP079-CWG TRH Volatile Aliphatic/Aromatic Speciation (CWG	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2307637-001	27-Apr-2023 00:00	UST_EXT_59S_1.6 PID...	✓	✓	✓	✓
EM2307637-002	27-Apr-2023 00:00	UST_EXT_59E_1.6 PID...	✓	✓	✓	✓
EM2307637-003	27-Apr-2023 00:00	UST_EXT_59N_1.6 PID...	✓	✓	✓	✓
EM2307637-004	27-Apr-2023 00:00	OL_EX_405_0.8	✓			✓
EM2307637-005	27-Apr-2023 00:00	OL_EX_405_1.6	✓			✓
EM2307637-006	27-Apr-2023 00:00	OL_EX_406_0.8	✓			✓
EM2307637-007	27-Apr-2023 00:00	OL_EX_406_1.6	✓			✓
EM2307637-008	27-Apr-2023 00:00	OL_EX_QC115	✓			✓
EM2307637-009	27-Apr-2023 00:00	OL_EX_407_0.8	✓			✓
EM2307637-010	27-Apr-2023 00:00	OL_EX_407_1.6	✓			✓
EM2307637-011	27-Apr-2023 00:00	OL_EX_408_0.8	✓			✓
EM2307637-012	27-Apr-2023 00:00	OL_EX_408_1.6	✓			✓
EM2307637-013	27-Apr-2023 00:00	OL_EX_409_0.8	✓			✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2307637-014	27-Apr-2023 00:00	OL_EX_QCA09		✓	
EM2307637-015	27-Apr-2023 00:00	OL_EX_QCB11			✓
EM2307637-016	27-Apr-2023 00:00	OL_EX_QCC06	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Timothy Smith

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- A4 - AU Tax Invoice (INV)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- Chromatogram (CHROM)	Email	tim.smith02@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	tim.smith02@aecom.com

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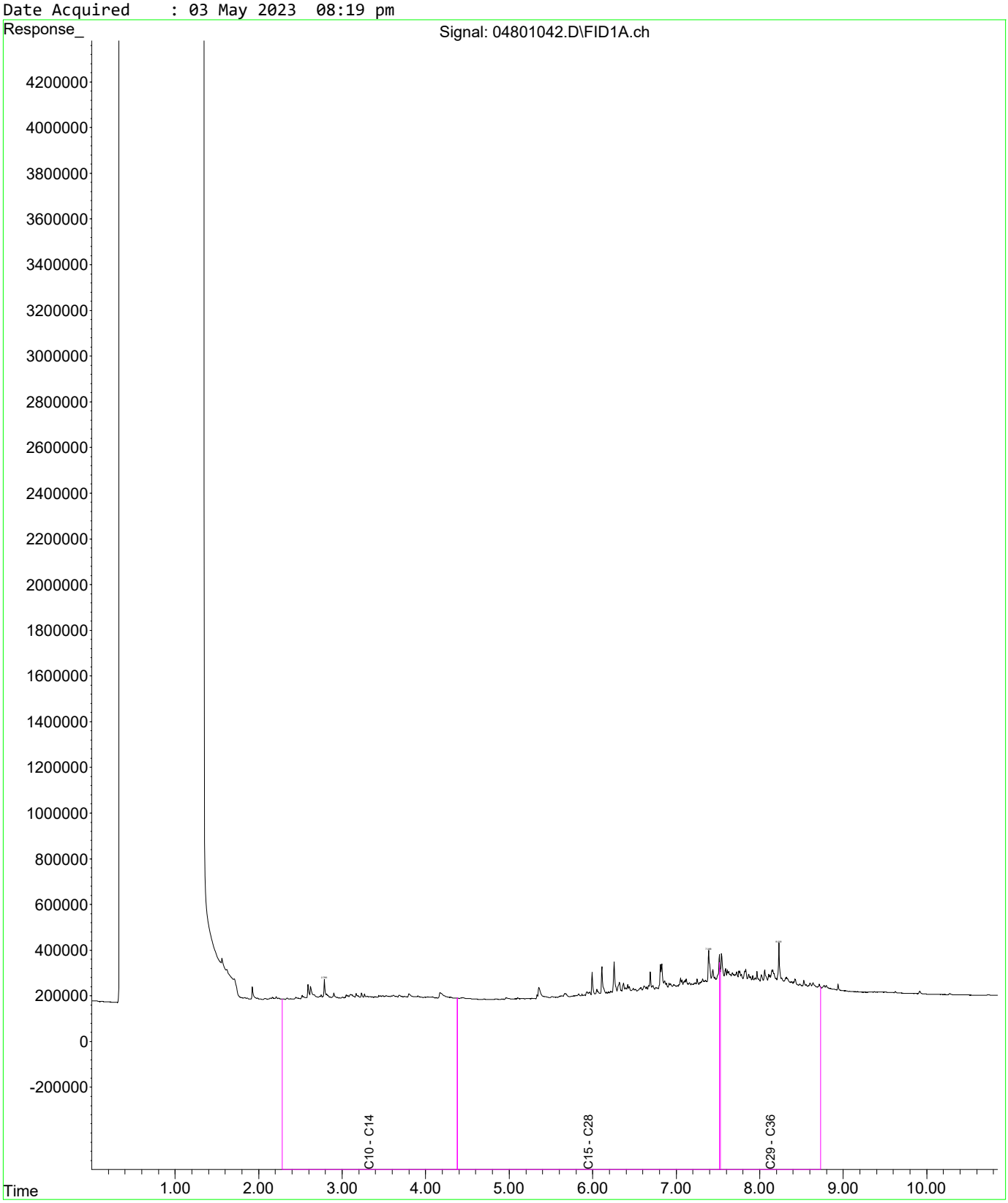

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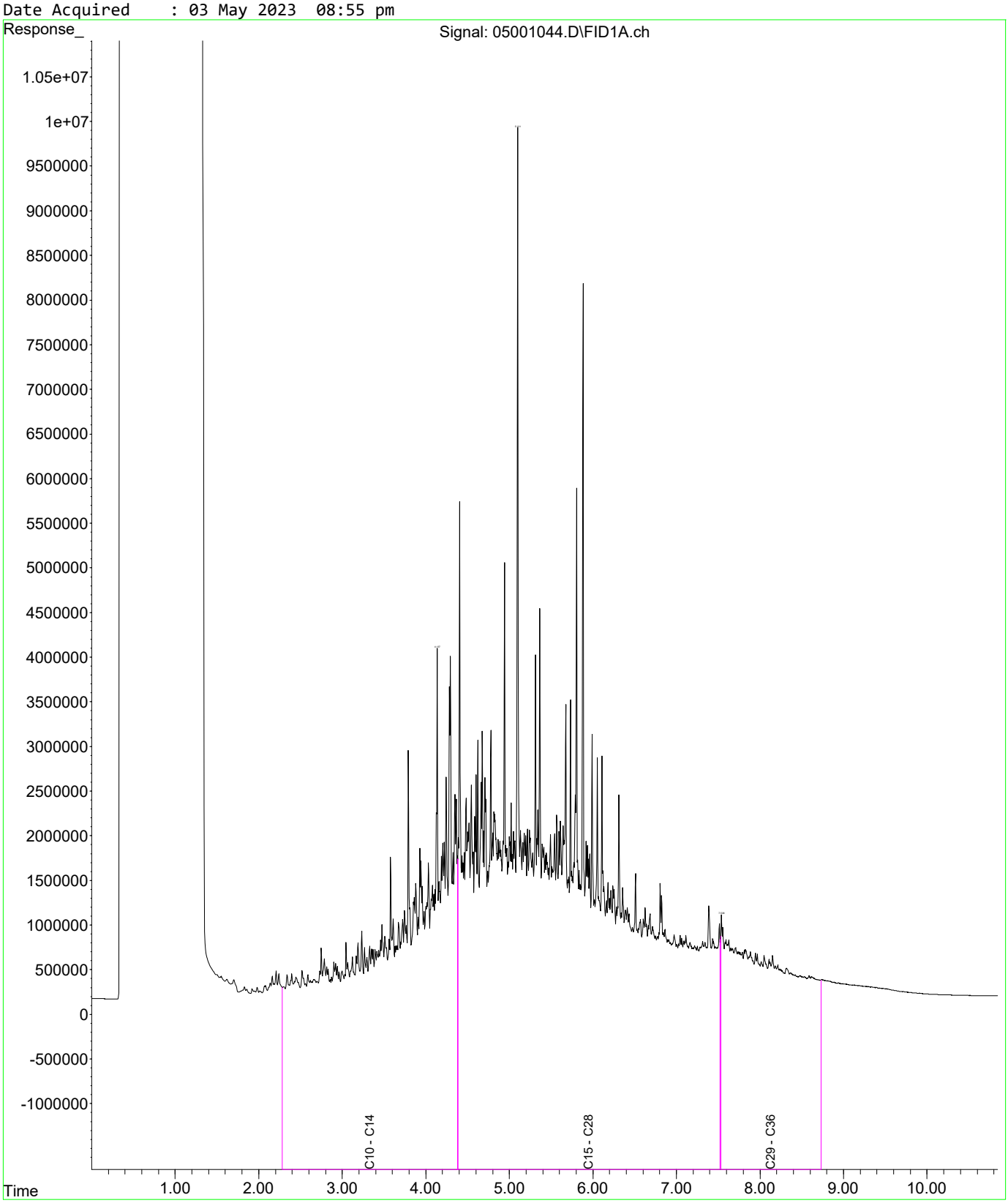

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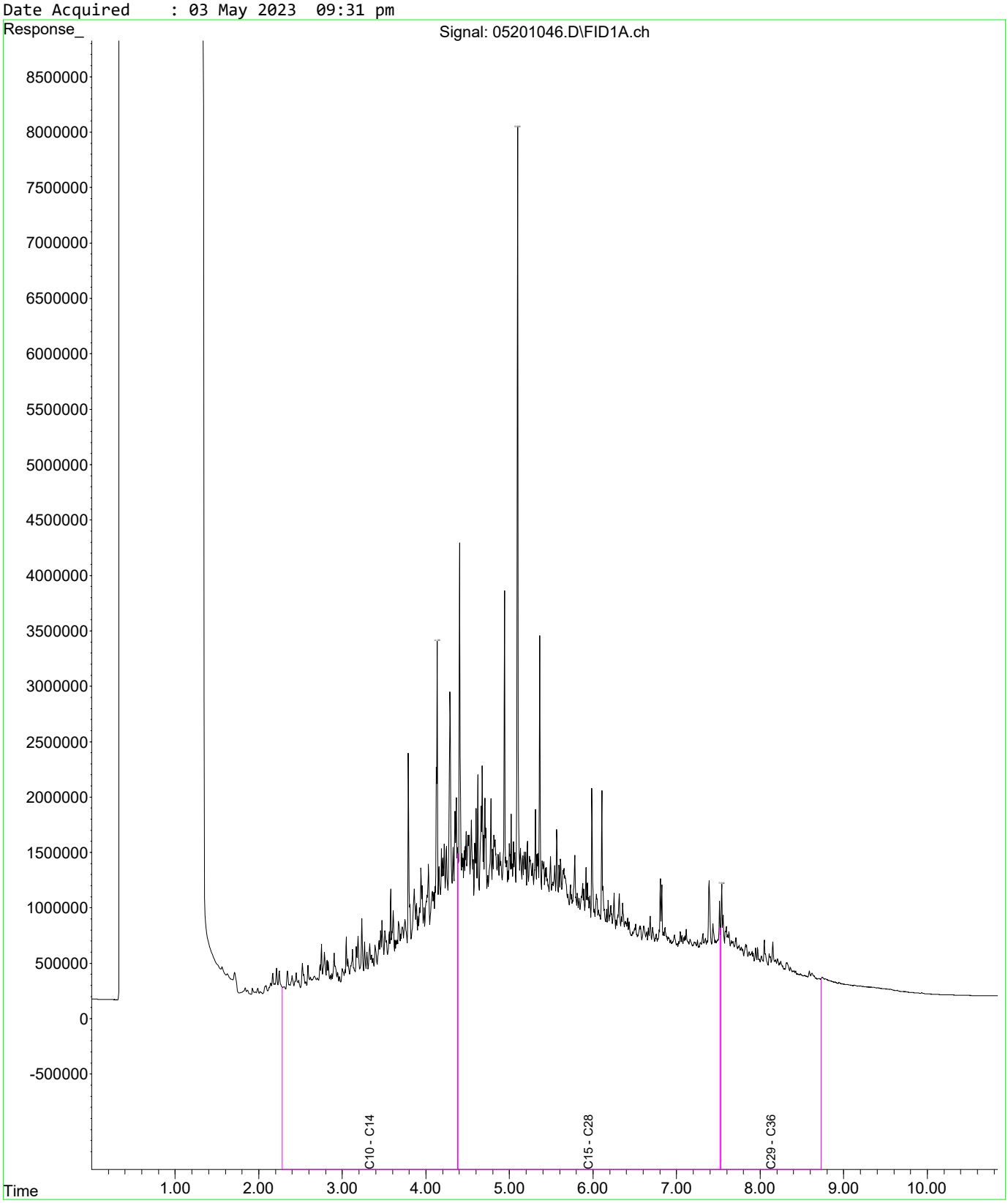

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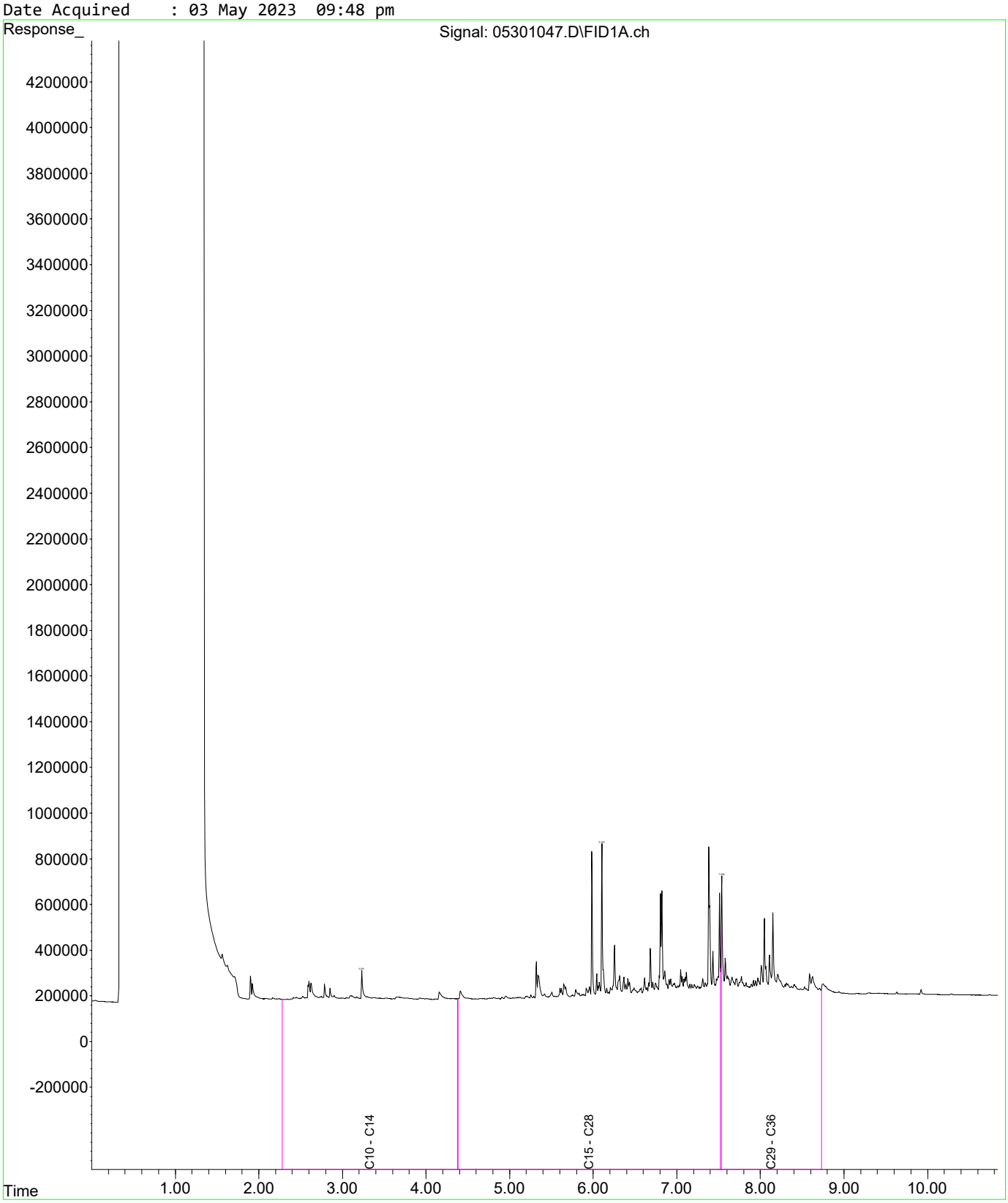

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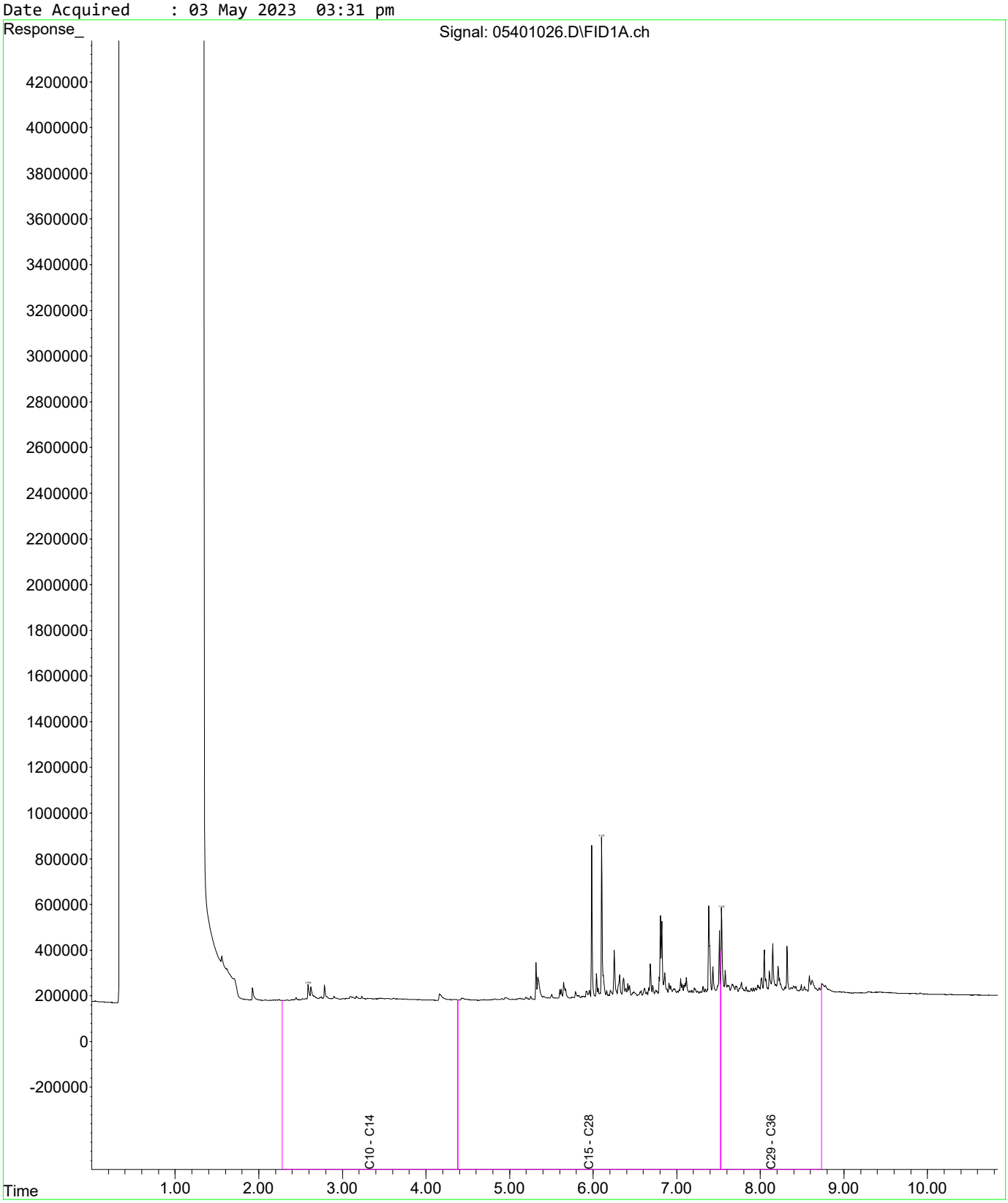

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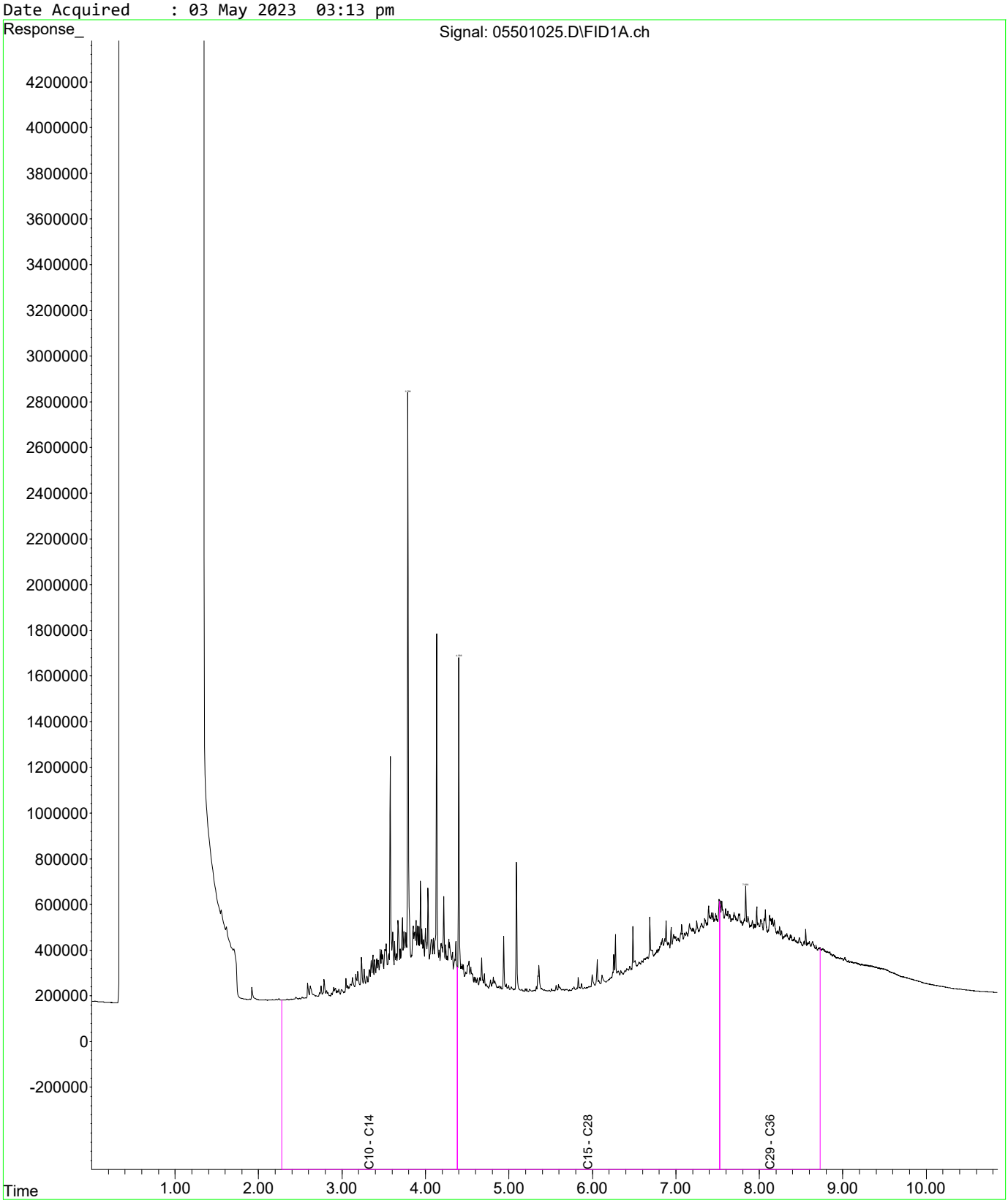

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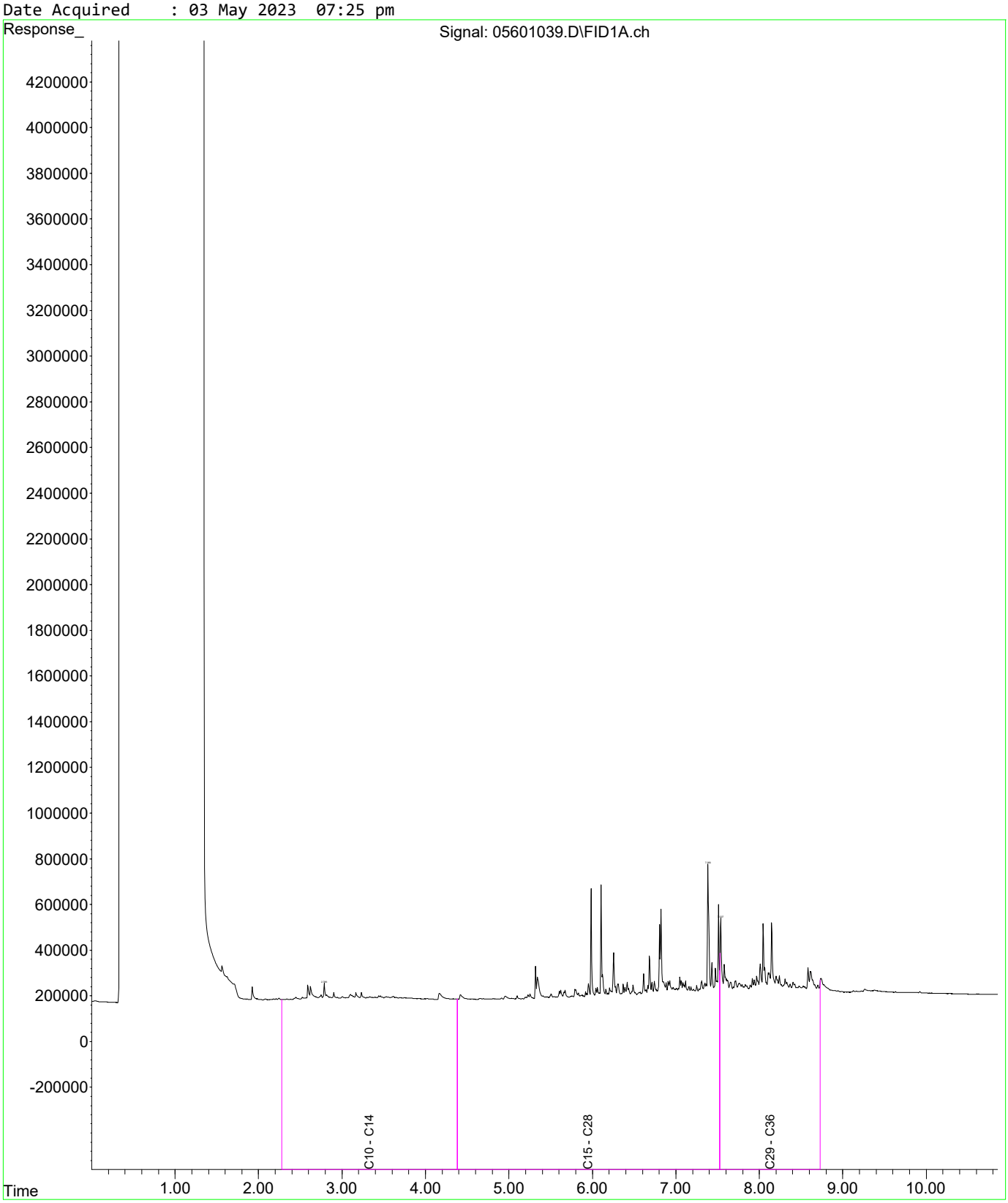

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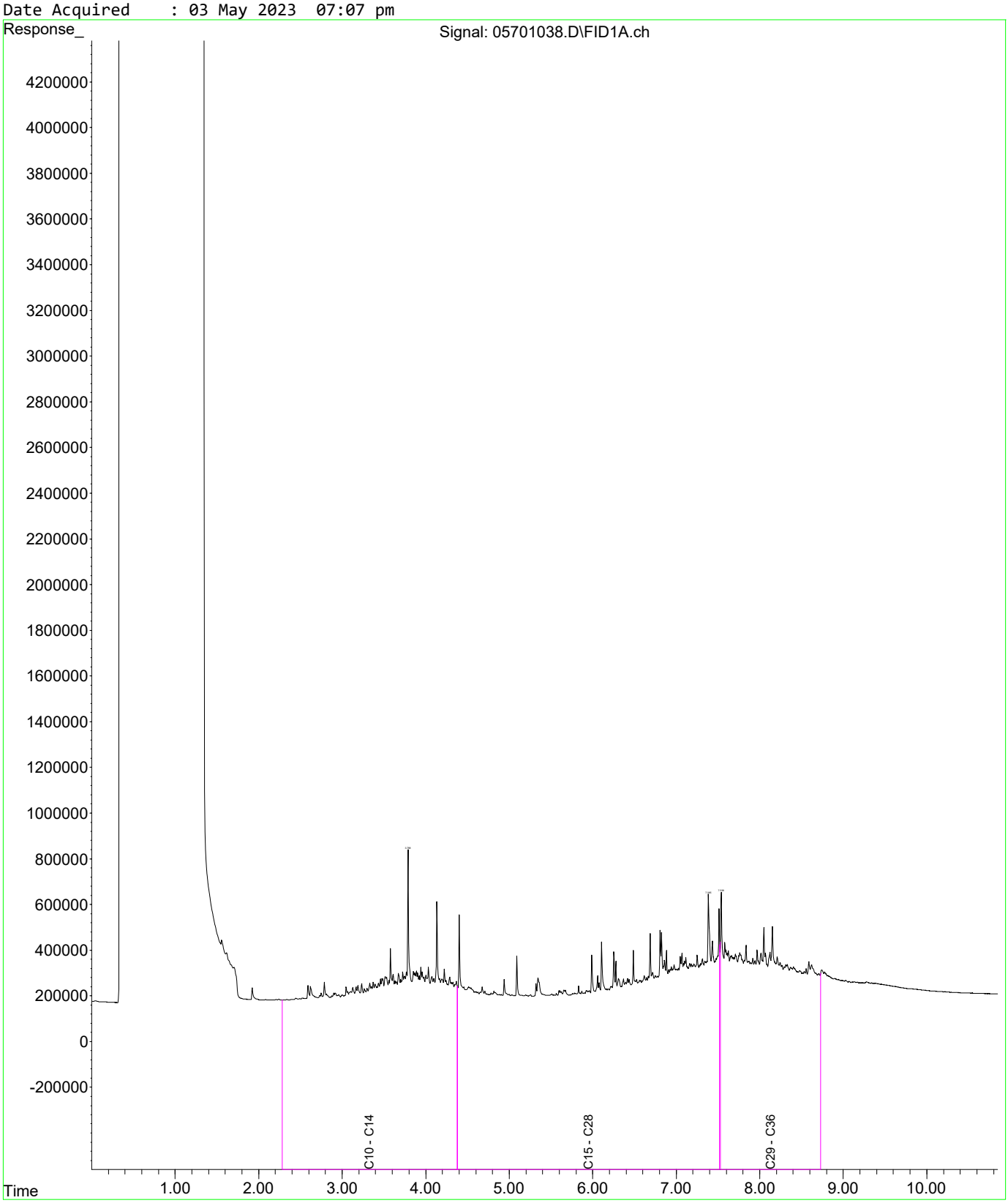

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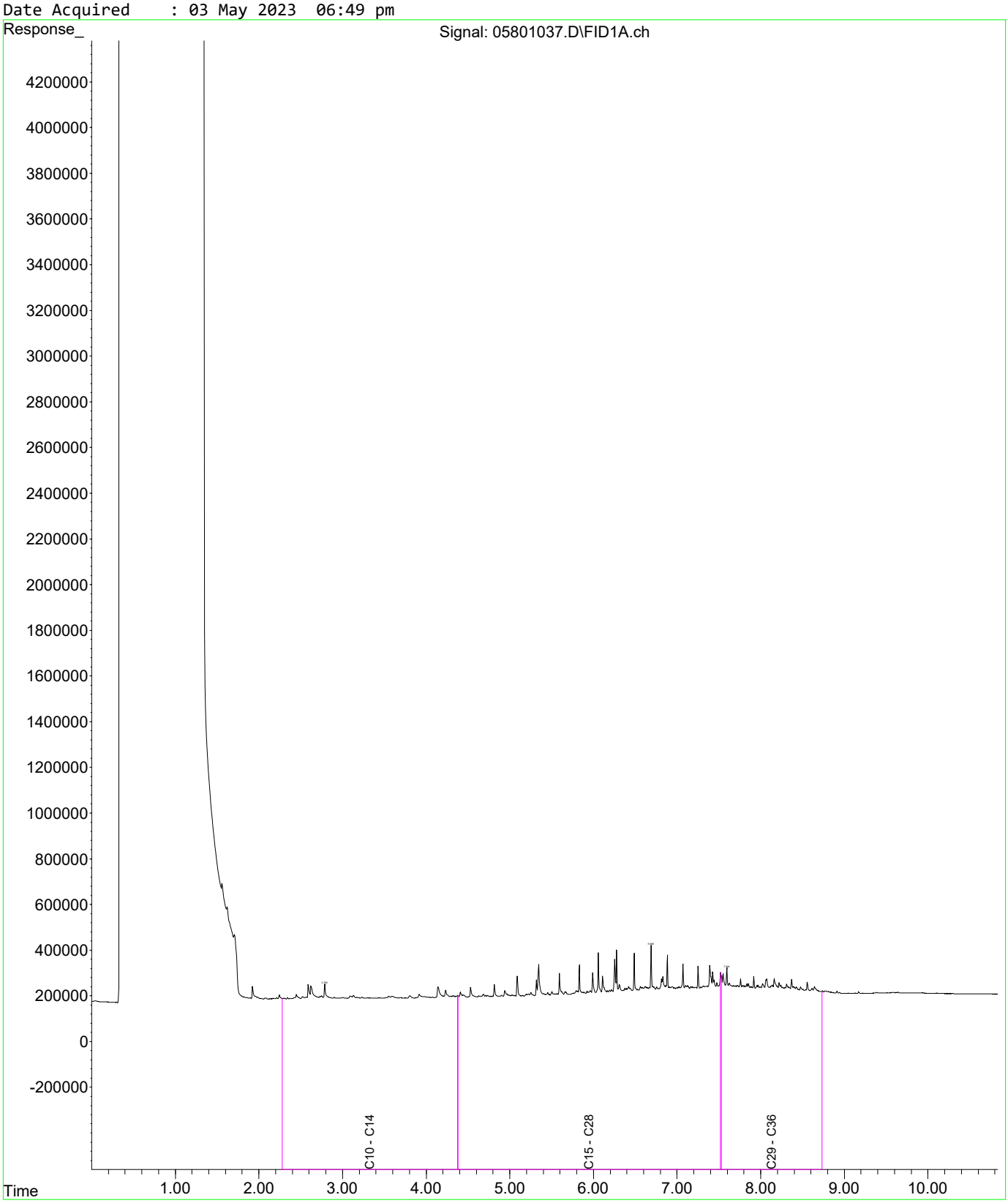

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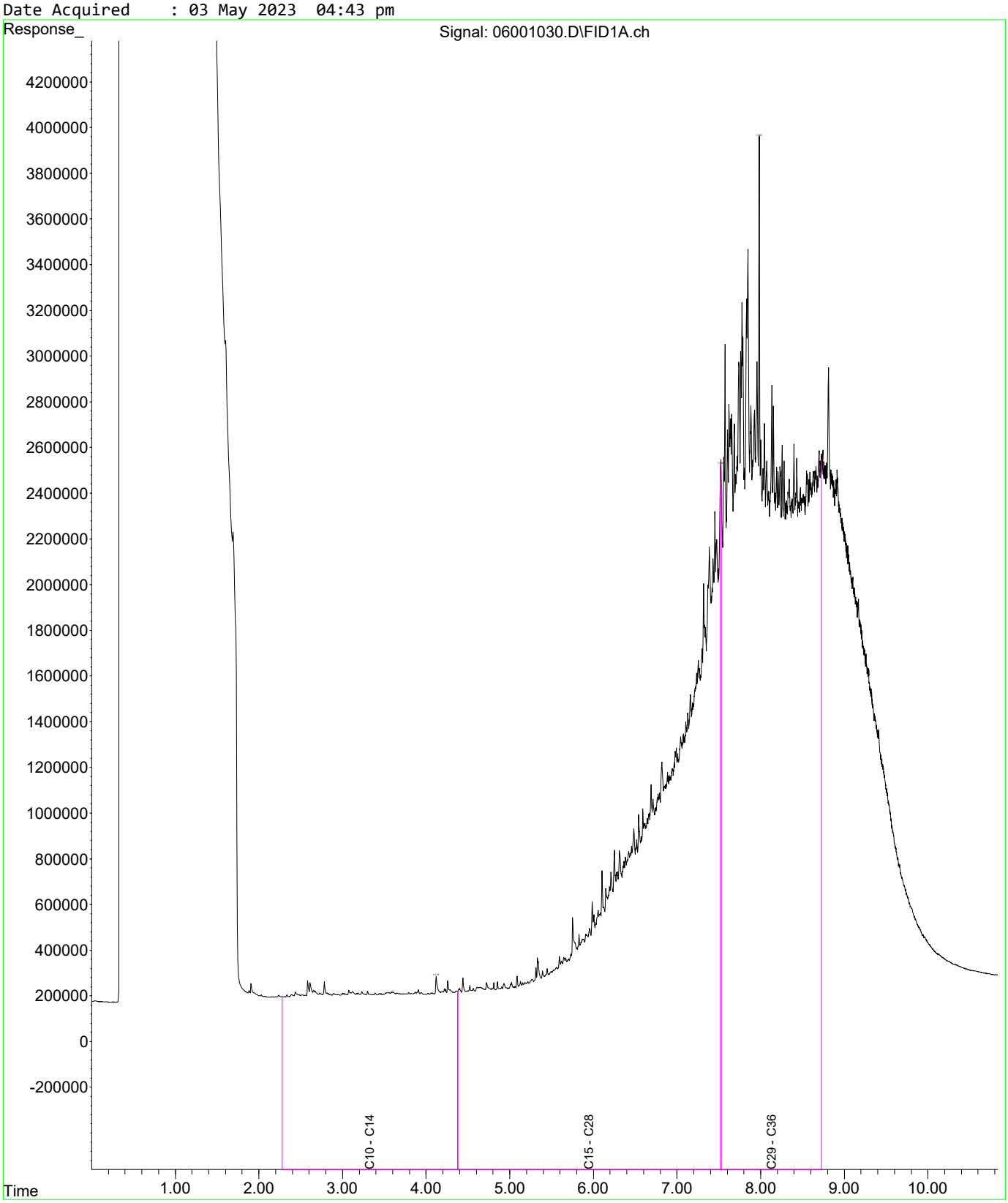

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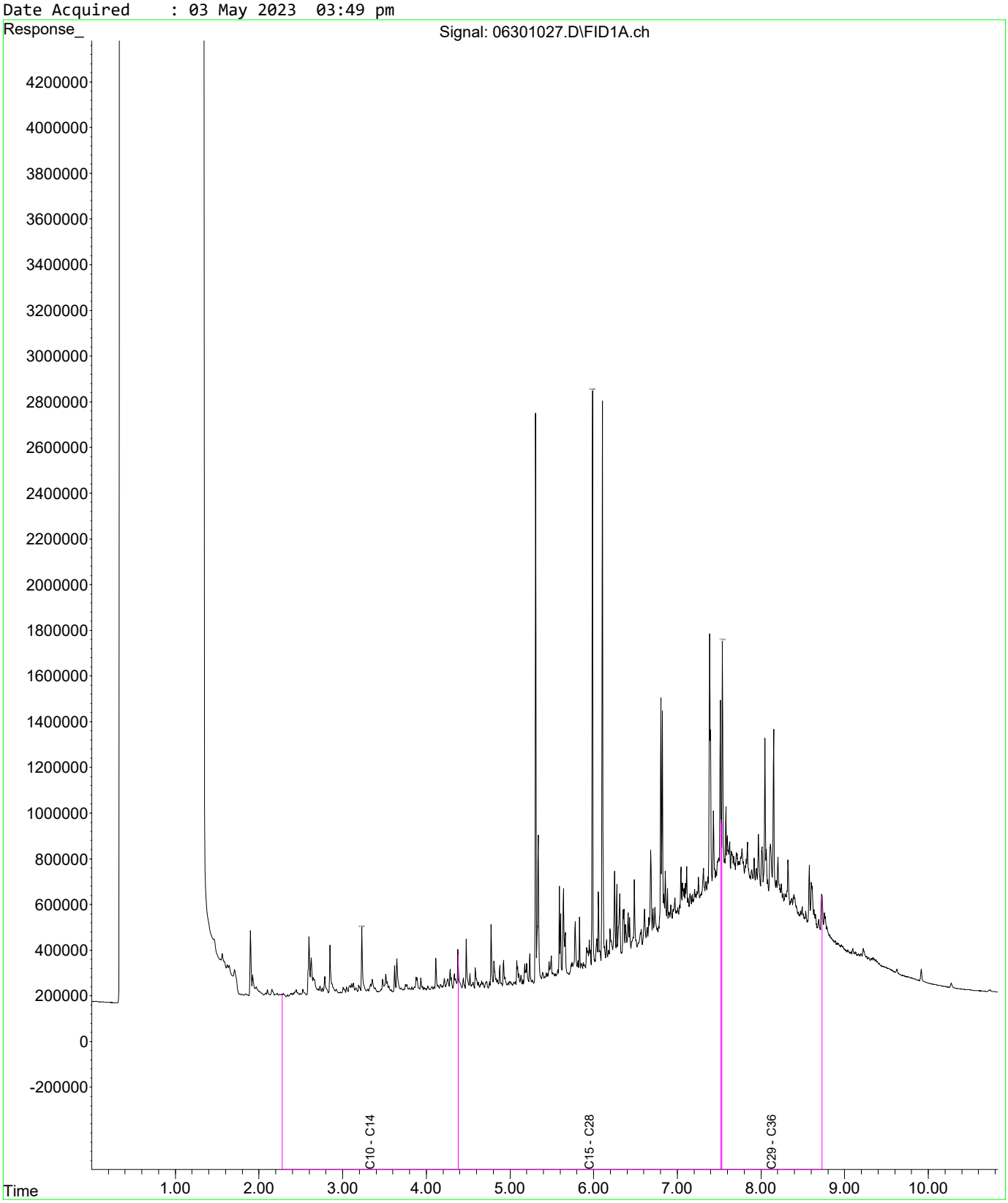

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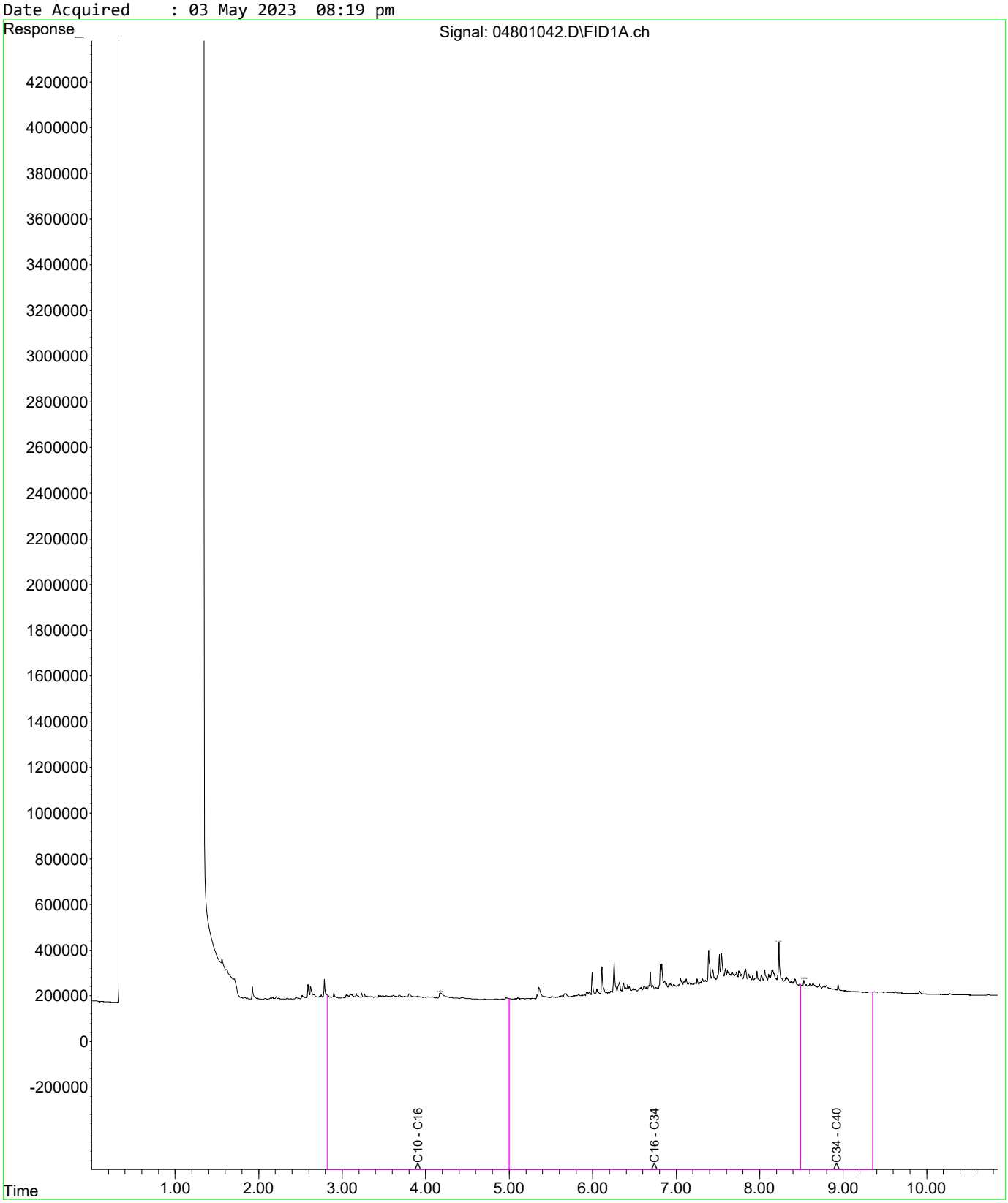

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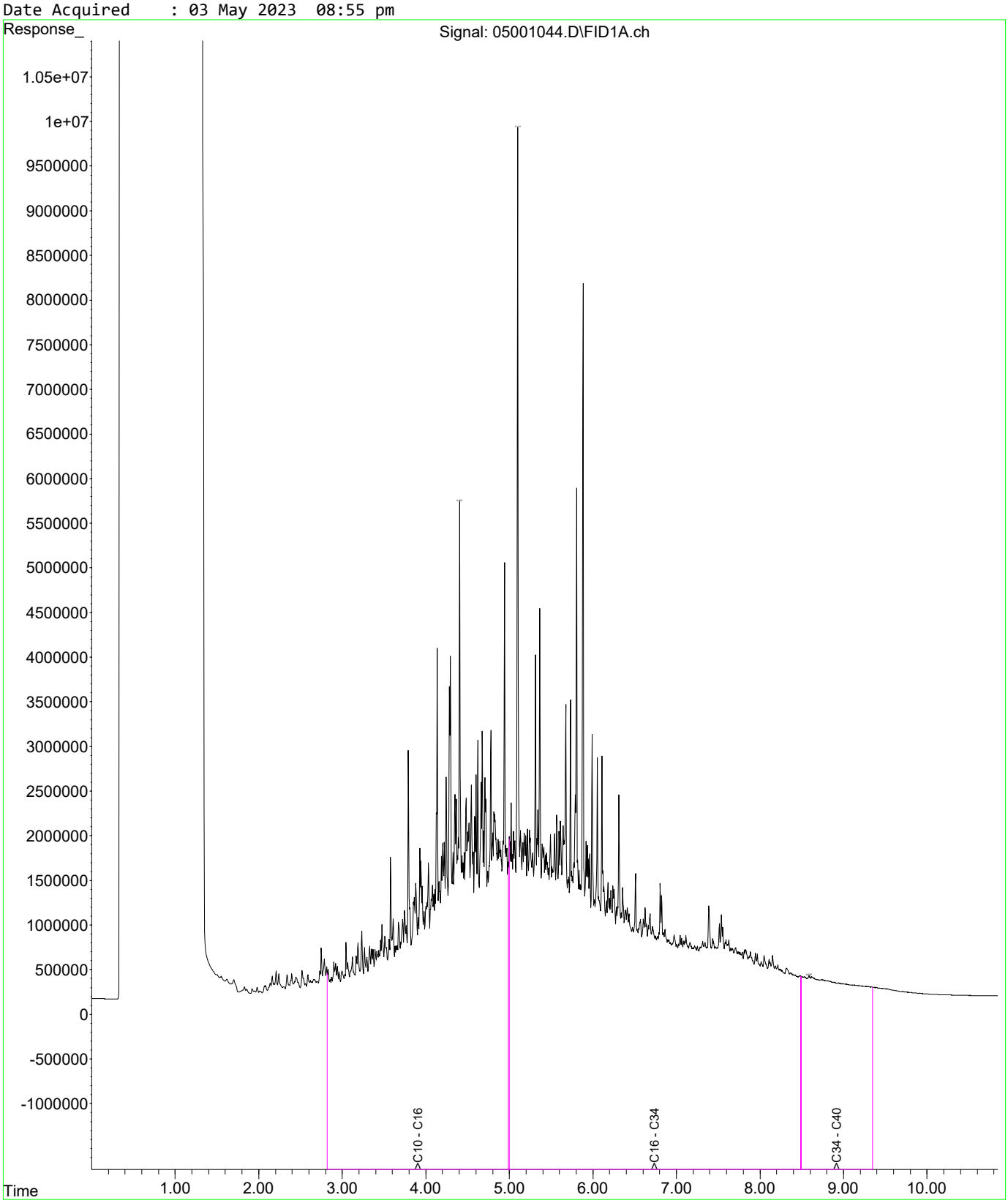

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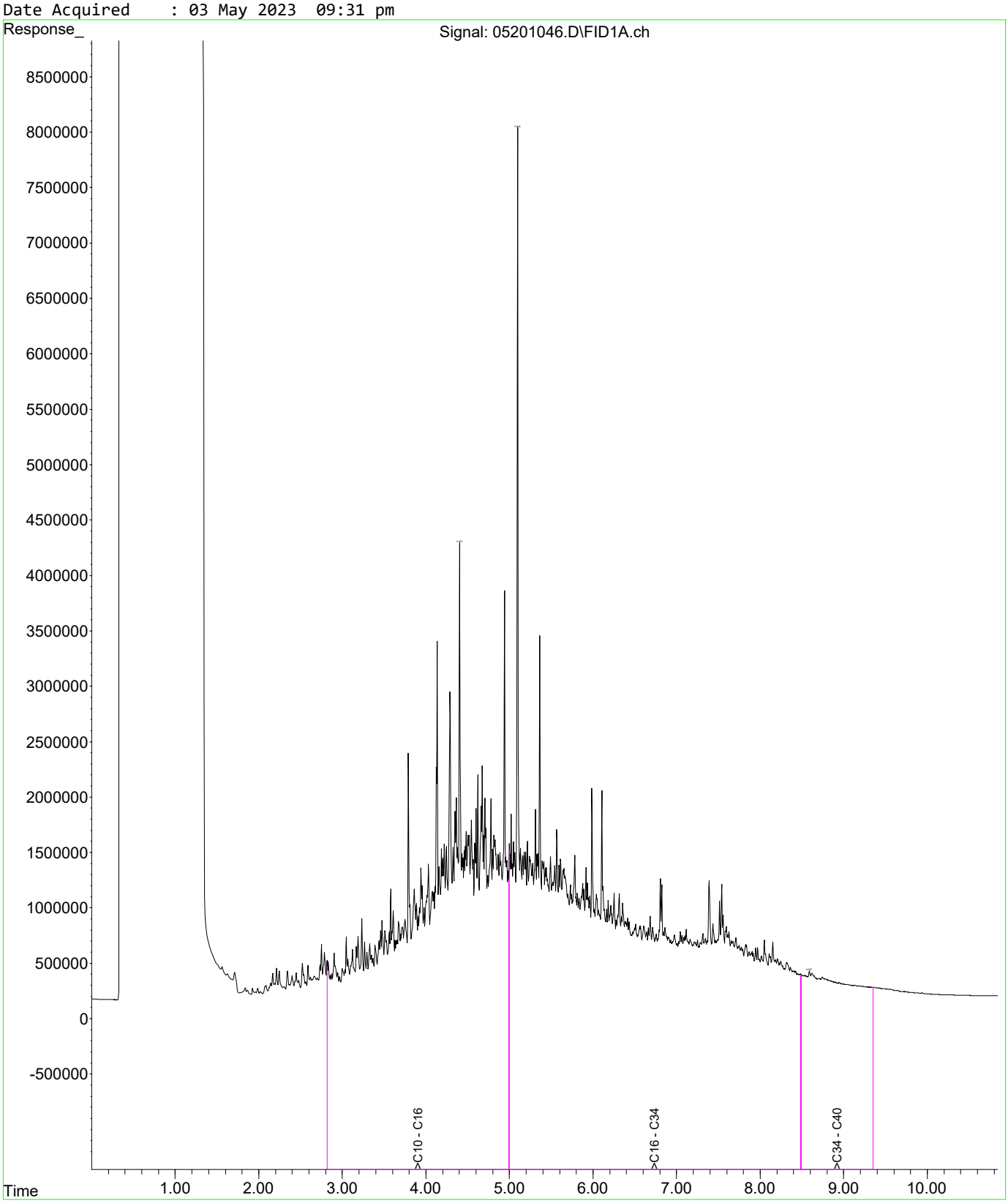

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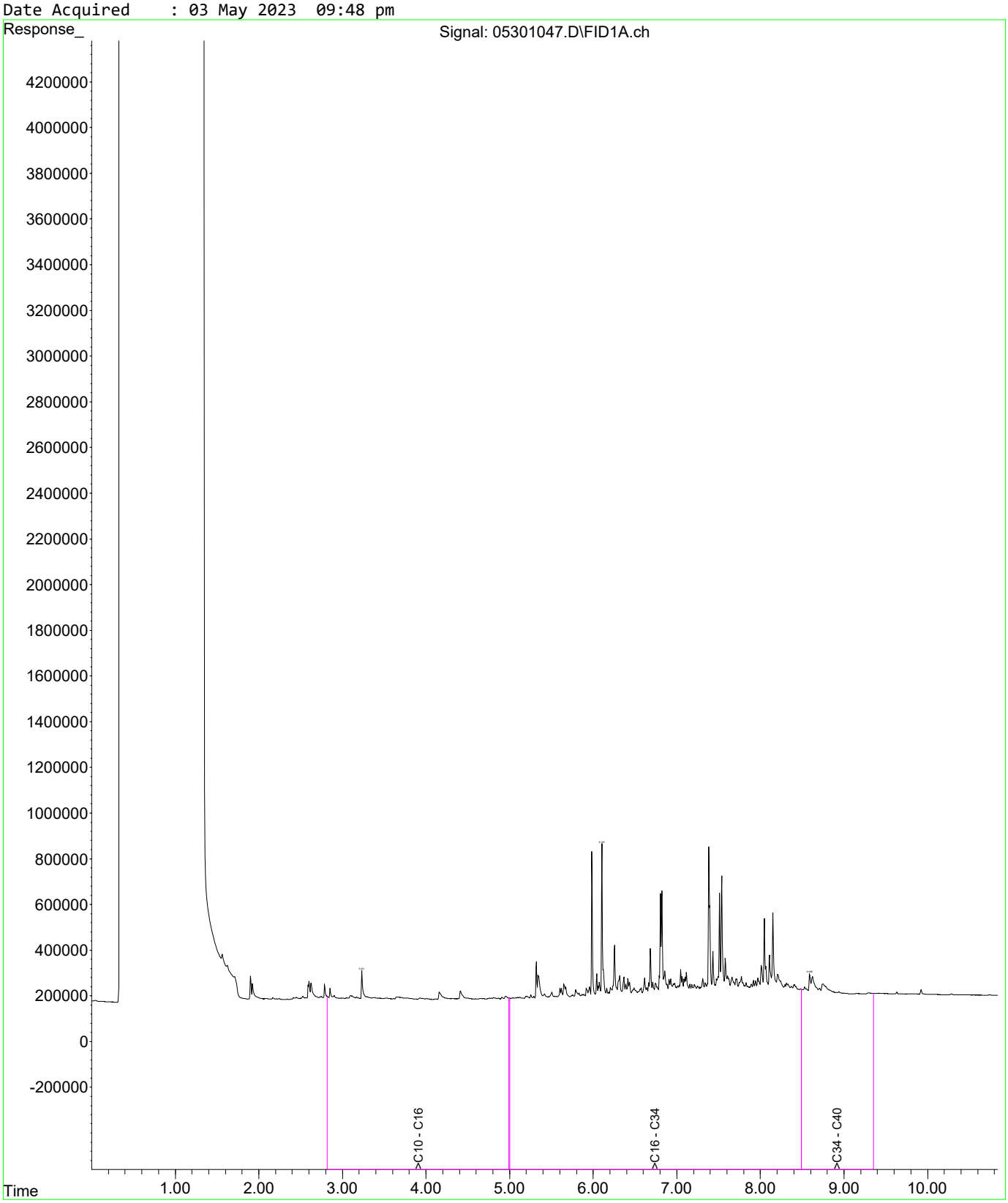

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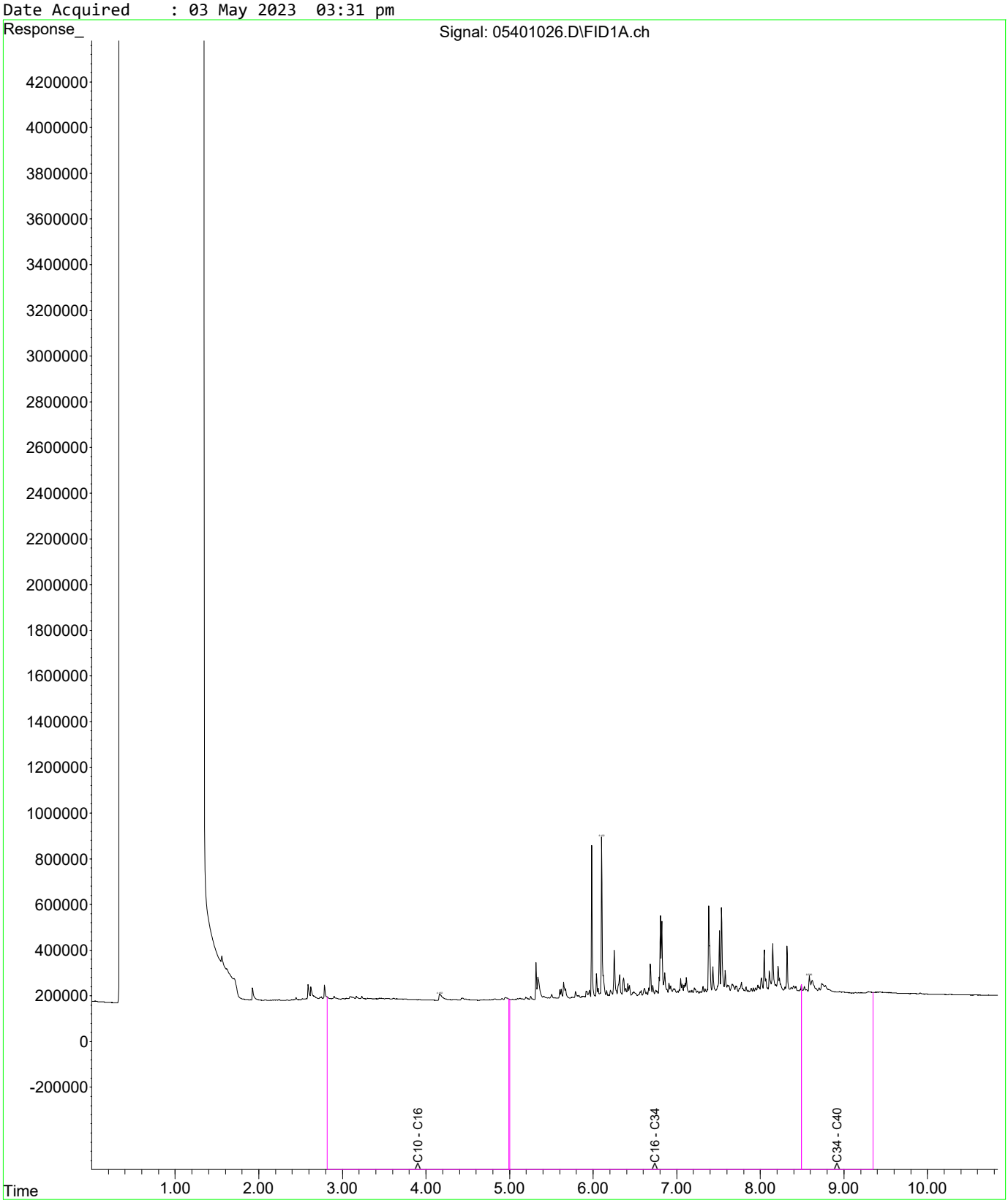

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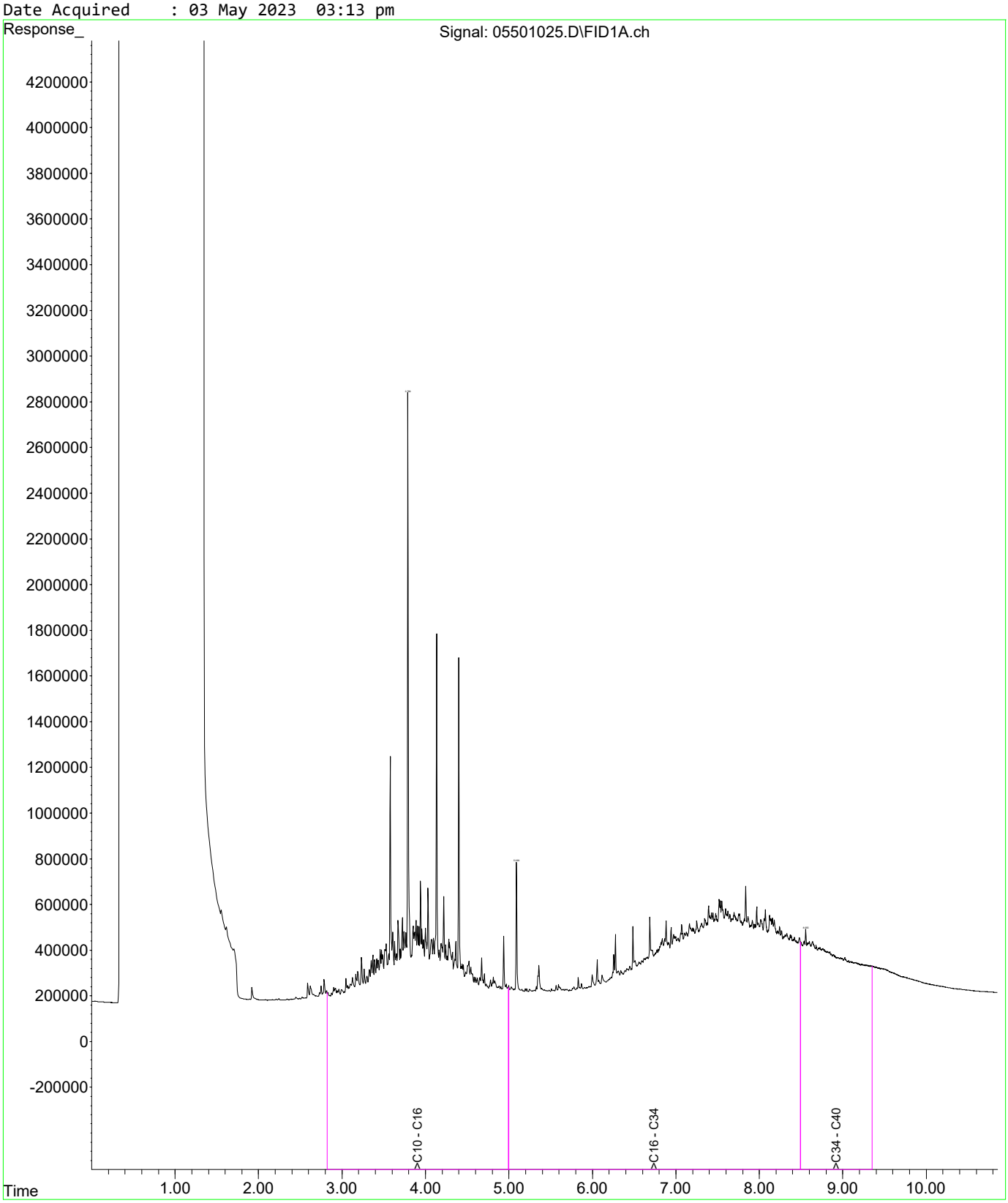

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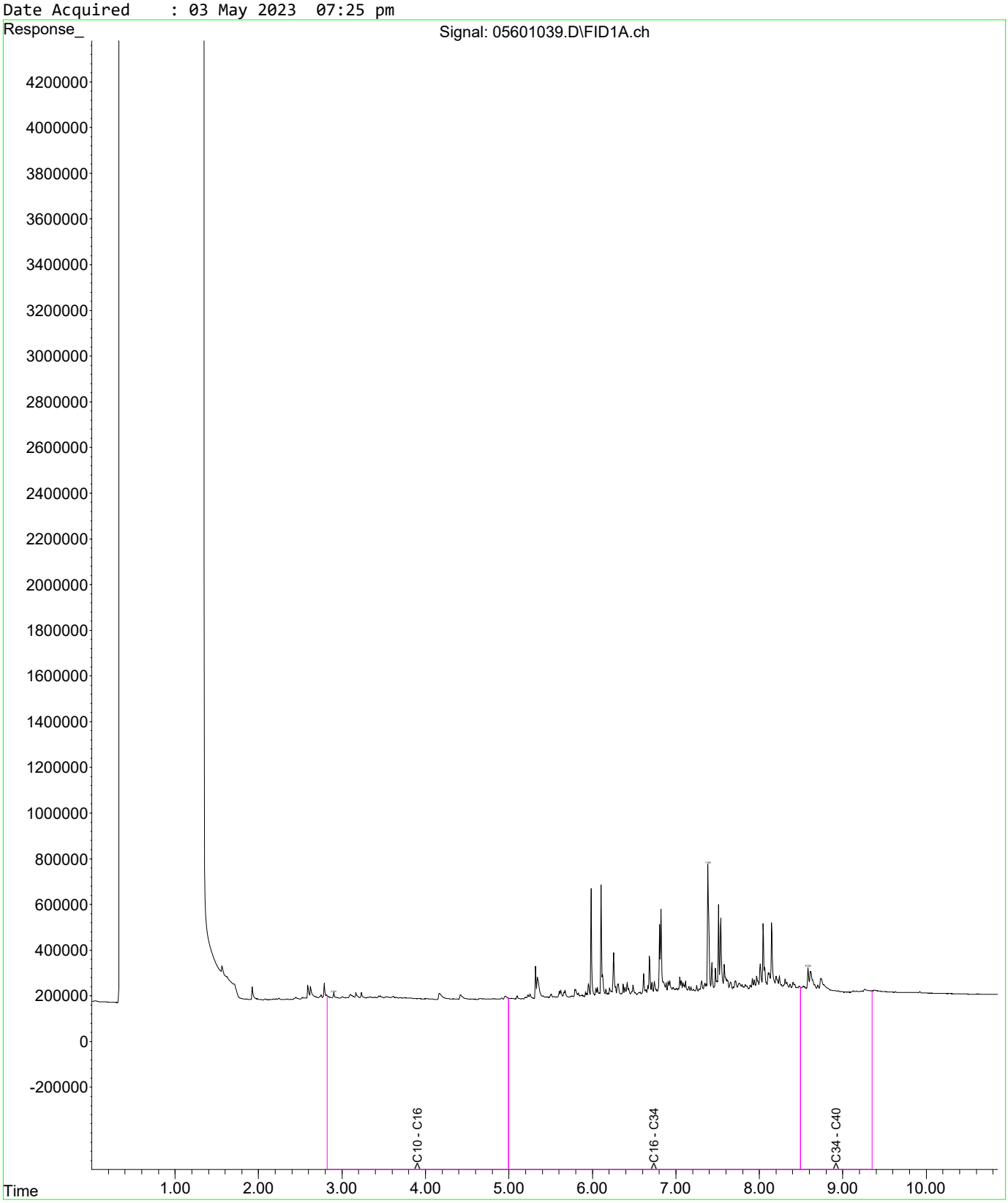

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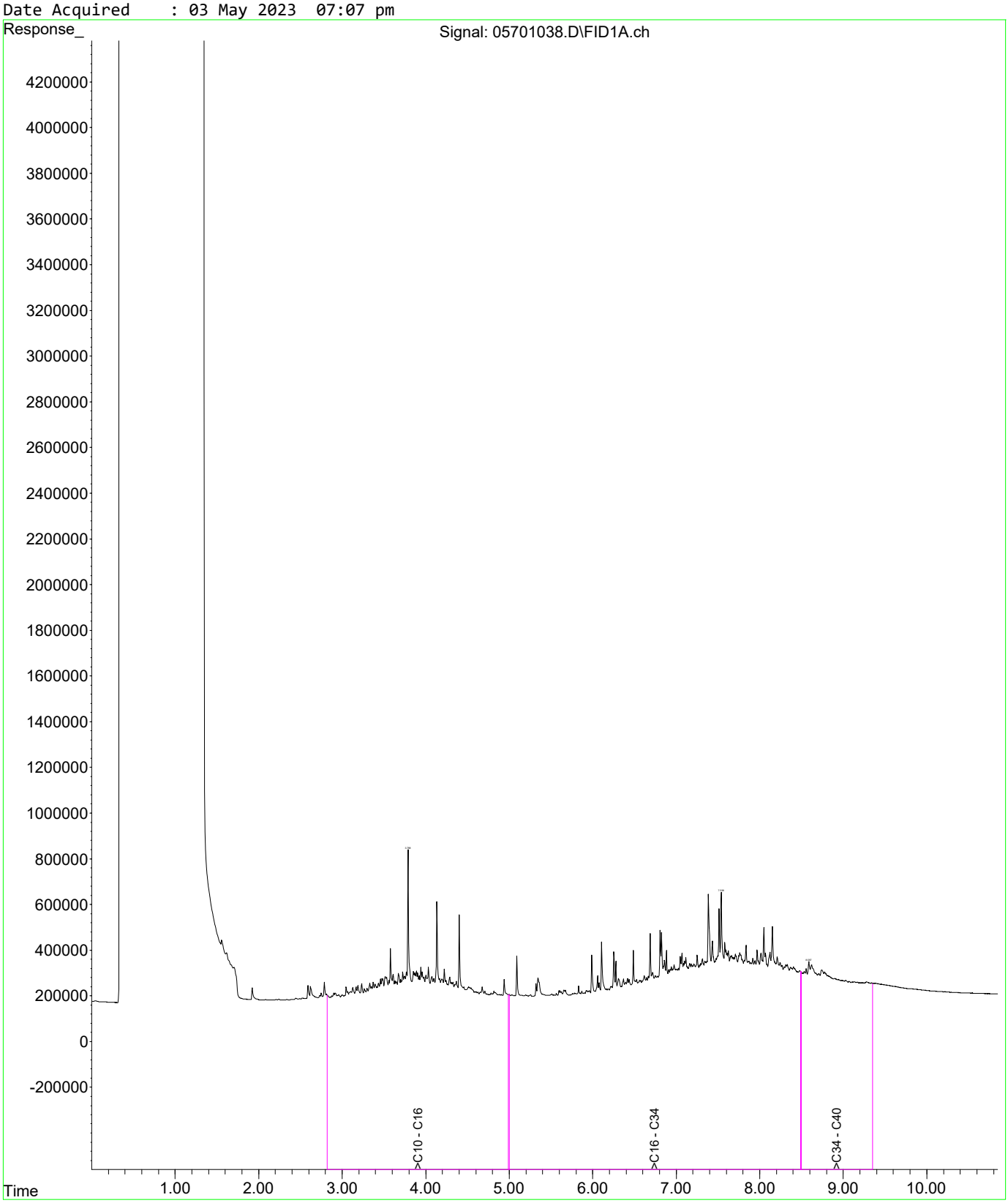

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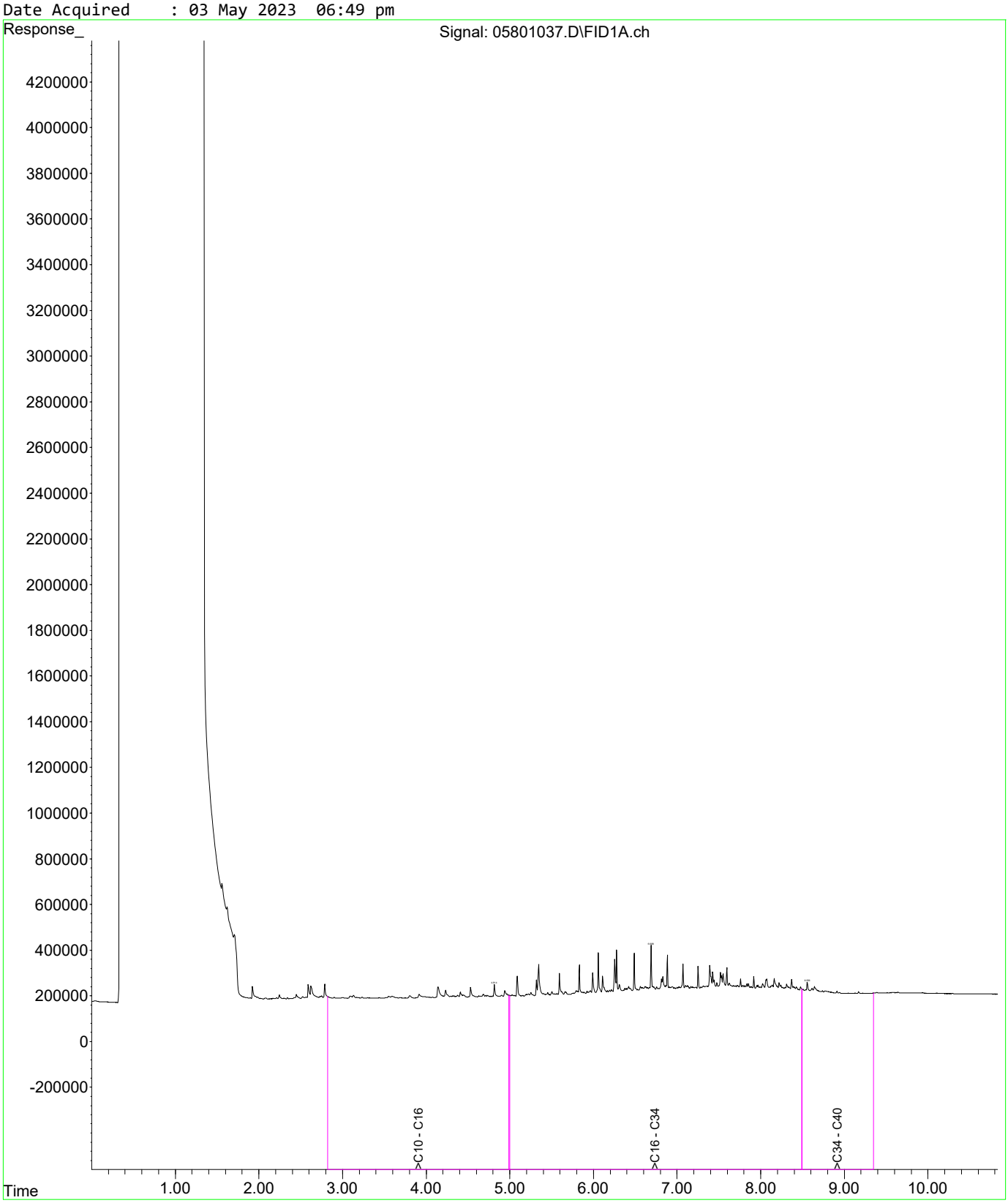
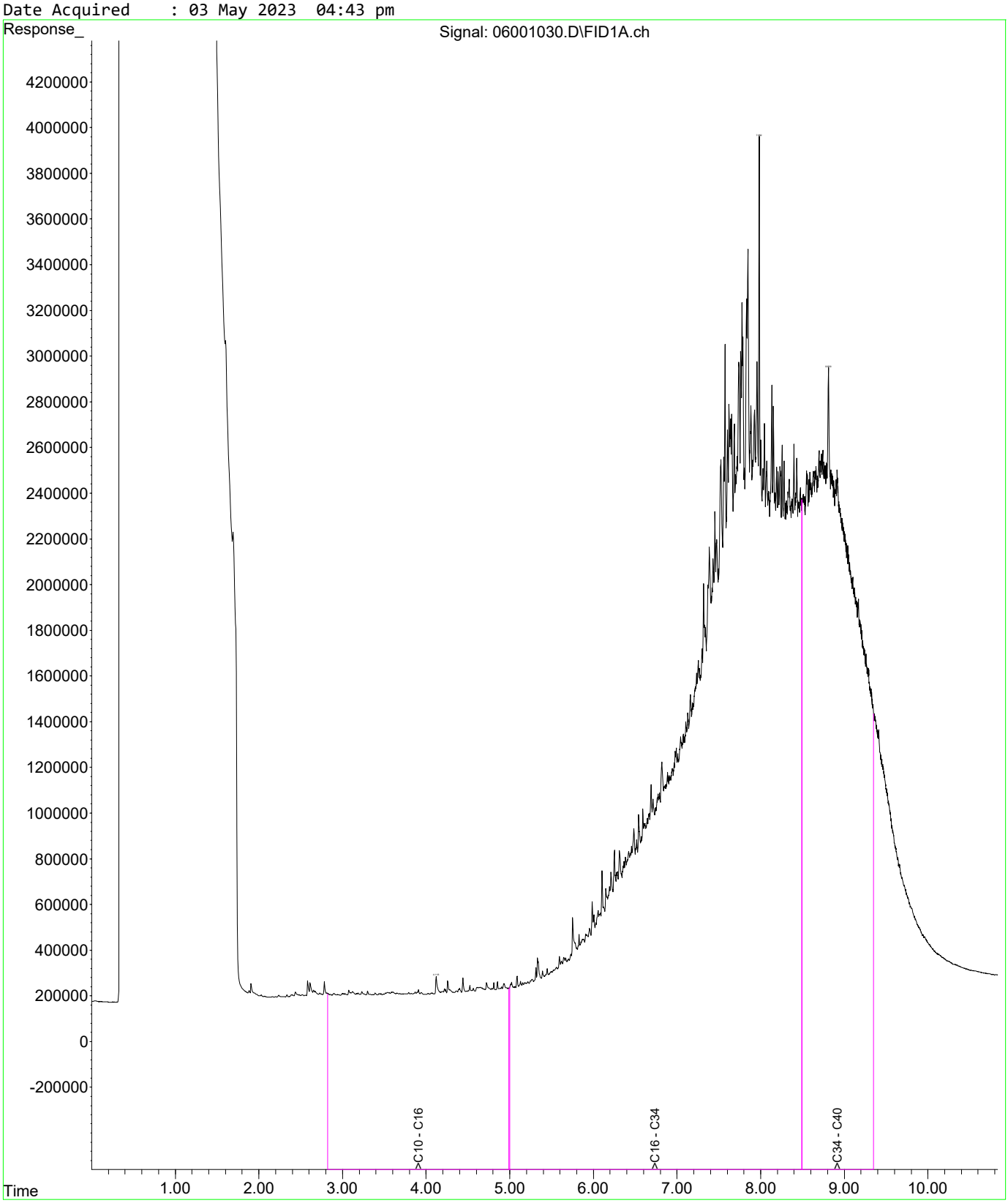
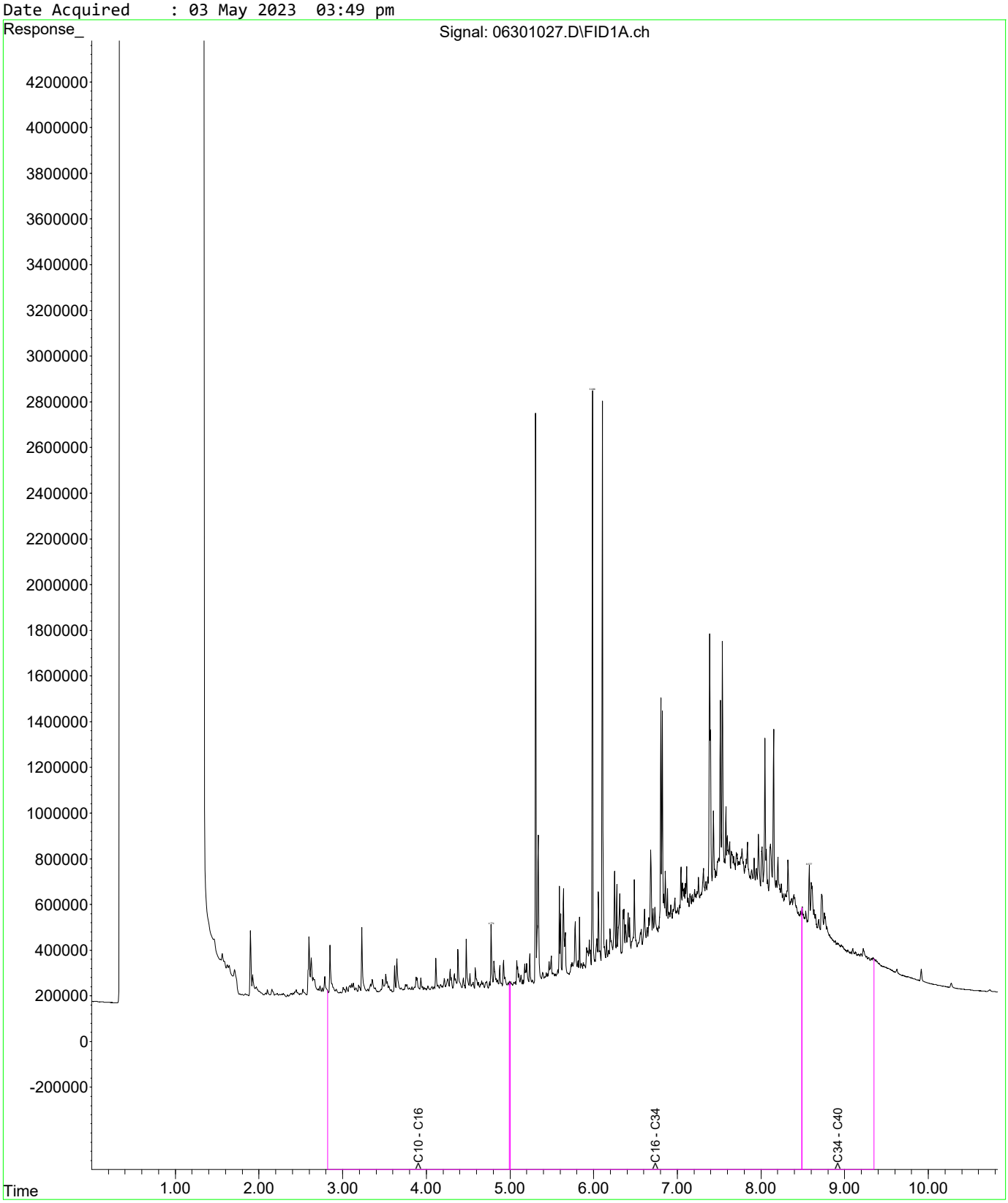
Laboratory Number: EM2307637-009
Sample ID : OL_EX_407_0.8
Date Acquired : 03 May 2023 06:49 pm



Fraction Scheme : NEPM Fractions
Data File : 06001030.D
Laboratory Number: EM2307637-011
Sample ID : OL_EX_408_0.8
Date Acquired : 03 May 2023 04:43 pm



Fraction Scheme : NEPM Fractions
Data File : 06301027.D
Laboratory Number: EM2307637-013
Sample ID : OL_EX_409_0.8
Date Acquired : 03 May 2023 03:49 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2309340**	Page	: 1 of 15
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023 12:35
Order number	: Macquarie Point	Date Analysis Commenced	: 25-May-2023
C-O-C number	: ----	Issue Date	: 29-May-2023 16:08
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 19		
No. of samples analysed	: 17		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2309340 #2 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2309340 #12 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2309340 #2 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 867mg/kg, 681 mg/kg, and 277 mg/kg.
- EG005-T : EM2309340 #4 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 1460 mg/kg, 894 mg/kg, and 974 mg/kg.
- EG005-T : EM2309340 #12 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 565 mg/kg, 210 mg/kg, and 411 mg/kg, 416 mg/kg, 307 mg/kg, and 190 mg/kg.
- EG005-T : EM2309340 #13 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 871 mg/kg, 502 mg/kg, and 448 mg/kg.
- EG005-T : EM2309340 #18 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 930 mg/kg, 770 mg/kg, and 1040 mg/kg.
- EP075(SIM): EM2309340_001 Poor duplicate precision due to sample heterogeneity. Confirmed by visual inspection.
- EP075(SIM): EM2309340_002 Poor matrix spike recovery for pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_412_0.5	OL_EX_412_1.5	OL_EX_413_0.5	OL_EX_413_1.5	OL_EX_414_0.5
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309340-001	EM2309340-002	EM2309340-003	EM2309340-004	EM2309340-006
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	15.5	18.5	7.7	22.6	10.2
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	317	277	2580	974	115
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	0.9	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	1.7	0.9	1.4	2.4	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	7.9	1.8	4.8	1.3	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	0.8	<0.5	<0.5	2.4	<0.5
Fluorene	86-73-7	0.5	mg/kg	3.7	<0.5	1.5	2.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	45.5	3.7	21.8	14.8	1.5
Anthracene	120-12-7	0.5	mg/kg	12.4	1.5	5.2	4.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	61.8	16.6	32.3	16.4	2.7
Pyrene	129-00-0	0.5	mg/kg	61.6	13.8	30.8	15.7	2.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	41.2	9.6	15.0	8.0	1.4
Chrysene	218-01-9	0.5	mg/kg	34.7	7.4	14.2	6.6	1.3
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	35.4	10.7	20.7	9.0	1.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	16.4	3.9	7.4	3.3	0.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	34.5	8.5	18.1	7.7	1.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	15.6	3.8	10.8	3.7	0.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	5.1	0.9	2.7	1.0	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	18.6	4.2	13.9	4.4	1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	397	87.3	201	104	15.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_412_0.5	OL_EX_412_1.5	OL_EX_413_0.5	OL_EX_413_1.5	OL_EX_414_0.5
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309340-001	EM2309340-002	EM2309340-003	EM2309340-004	EM2309340-006
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**51.0**	**12.3**	**26.5**	**11.2**	**2.0**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**51.0**	**12.3**	**26.5**	**11.2**	**2.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**51.0**	**12.3**	**26.5**	**11.2**	**2.5**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	**26**	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**1460**	**730**	**730**	**430**	**100**
C29 - C36 Fraction	----	100	mg/kg		**950**	**510**	**450**	**230**	**130**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**2410**	**1240**	**1180**	**660**	**230**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	**31**	**11**	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	**31**	**11**	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**60**	<50	**50**	**60**	<50
>C16 - C34 Fraction	----	100	mg/kg		**2150**	**1110**	**1030**	**560**	**200**
>C34 - C40 Fraction	----	100	mg/kg		**380**	**200**	**230**	**100**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2590**	**1310**	**1310**	**720**	**200**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**60**	<50	**50**	**60**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.8**	**96.0**	**92.6**	**92.8**	**97.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**97.8**	**96.0**	**90.0**	**91.2**	**95.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**96.1**	**95.4**	**90.7**	**90.3**	**96.1**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**97.0**	**97.1**	**97.3**	**98.5**	**101**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_412_0.5	OL_EX_412_1.5	OL_EX_413_0.5	OL_EX_413_1.5	OL_EX_414_0.5
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309340-001	EM2309340-002	EM2309340-003	EM2309340-004	EM2309340-006
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**102**	**109**	**108**	**108**	**128**
4-Terphenyl-d14	1718-51-0	0.5	%	**115**	**104**	**105**	**100**	**102**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**80.5**	**79.0**	**83.9**	**75.6**	**90.2**
Toluene-D8	2037-26-5	0.2	%	**74.1**	**68.8**	**82.3**	**69.2**	**87.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**89.1**	**72.8**	**90.6**	**73.4**	**98.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_414_1.5	OL_EX_415_0.5	OL_EX_415_1.5	OL_EX_416_0.5	OL_EX_416_1.5
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309340-007	EM2309340-009	EM2309340-010	EM2309340-011	EM2309340-012
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**18.6**	**13.7**	**15.6**	**11.3**	**19.7**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**502**	**125**	**118**	**312**	**411**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**1.0**	<0.5	<0.5	<0.5	**1.4**
Acenaphthylene	208-96-8	0.5	mg/kg	**4.0**	**0.7**	<0.5	**1.0**	**7.6**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.8**
Fluorene	86-73-7	0.5	mg/kg	**0.5**	<0.5	<0.5	<0.5	**5.1**
Phenanthrene	85-01-8	0.5	mg/kg	**7.4**	**1.2**	<0.5	**2.8**	**40.4**
Anthracene	120-12-7	0.5	mg/kg	**3.0**	**0.6**	<0.5	**1.2**	**13.8**
Fluoranthene	206-44-0	0.5	mg/kg	**20.2**	**4.0**	**0.6**	**7.6**	**59.1**
Pyrene	129-00-0	0.5	mg/kg	**21.2**	**4.2**	**0.6**	**8.0**	**52.2**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**15.1**	**3.2**	<0.5	**6.4**	**31.3**
Chrysene	218-01-9	0.5	mg/kg	**14.1**	**2.8**	<0.5	**4.8**	**23.8**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**19.8**	**3.7**	<0.5	**5.5**	**28.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**8.1**	**1.4**	<0.5	**2.3**	**12.4**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**15.1**	**3.6**	<0.5	**5.1**	**27.3**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**9.8**	**1.6**	<0.5	**1.9**	**12.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**2.8**	<0.5	<0.5	**0.7**	**3.1**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**11.6**	**2.0**	<0.5	**2.2**	**15.0**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**154**	**29.0**	**1.2**	**49.5**	**334**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_414_1.5	OL_EX_415_0.5	OL_EX_415_1.5	OL_EX_416_0.5	OL_EX_416_1.5
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309340-007	EM2309340-009	EM2309340-010	EM2309340-011	EM2309340-012
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**23.4**	**4.6**	<0.5	**7.5**	**39.2**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**23.4**	**4.9**	**0.6**	**7.5**	**39.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**23.4**	**5.1**	**1.2**	**7.5**	**39.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**870**	<100	<100	**200**	**1010**
C29 - C36 Fraction	----	100	mg/kg		**720**	<100	<100	**150**	**530**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1590**	<50	<50	**350**	**1540**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**90**	<50	<50	<50	**60**
>C16 - C34 Fraction	----	100	mg/kg		**1400**	**150**	<100	**330**	**1390**
>C34 - C40 Fraction	----	100	mg/kg		**300**	<100	<100	<100	**210**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**1790**	**150**	<50	**330**	**1660**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**90**	<50	<50	<50	**60**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**96.0**	**100.0**	**89.9**	**92.4**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**95.1**	**94.8**	**87.2**	**90.2**	**92.8**
2.4.6-Tribromophenol	118-79-6	0.5	%		**95.8**	**94.7**	**86.8**	**83.1**	**93.0**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**99.0**	**103**	**97.4**	**97.8**	**100.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_414_1.5	OL_EX_415_0.5	OL_EX_415_1.5	OL_EX_416_0.5	OL_EX_416_1.5
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309340-007	EM2309340-009	EM2309340-010	EM2309340-011	EM2309340-012
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**112**	**120**	**129**	**114**	**108**
4-Terphenyl-d14	1718-51-0	0.5	%	**108**	**103**	**99.7**	**106**	**110**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**83.4**	**76.5**	**79.3**	**86.4**	**76.8**
Toluene-D8	2037-26-5	0.2	%	**80.2**	**74.2**	**76.4**	**83.3**	**73.5**
4-Bromofluorobenzene	460-00-4	0.2	%	**91.7**	**88.5**	**90.5**	**94.1**	**86.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_417_0.5	OL_EX_417_1.5	OL_EX_418_0.5	OL_EX_418_1.5	OL_EX_419_0.5
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309340-013	EM2309340-014	EM2309340-015	EM2309340-016	EM2309340-017
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	23.1	19.6	17.5	17.2	36.8
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	448	30	356	212	2960
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.6	0.6	0.6
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	<0.5	3.7	2.3	0.7
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	4.4	2.2	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.1	<0.5	47.3	18.8	2.6
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	14.8	5.2	0.8
Fluoranthene	206-44-0	0.5	mg/kg	3.2	<0.5	56.7	18.8	6.2
Pyrene	129-00-0	0.5	mg/kg	3.4	<0.5	53.8	19.2	6.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.3	<0.5	30.4	10.3	3.9
Chrysene	218-01-9	0.5	mg/kg	2.0	<0.5	25.5	8.2	3.7
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.0	<0.5	25.3	9.4	6.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.0	<0.5	10.7	3.1	1.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.7	<0.5	24.8	8.8	4.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.4	<0.5	10.4	3.6	2.6
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	3.0	1.2	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	<0.5	12.2	4.2	3.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	22.4	<0.5	324	116	44.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_417_0.5	OL_EX_417_1.5	OL_EX_418_0.5	OL_EX_418_1.5	OL_EX_419_0.5
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309340-013	EM2309340-014	EM2309340-015	EM2309340-016	EM2309340-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**3.5**	<0.5	**35.8**	**12.8**	**7.1**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**3.8**	**0.6**	**35.8**	**12.8**	**7.1**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**4.0**	**1.2**	**35.8**	**12.8**	**7.1**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**15**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	**1040**	**260**	**440**
C29 - C36 Fraction	----	100	mg/kg		**110**	<100	**550**	**150**	**340**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**110**	<50	**1590**	**410**	**780**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	**26**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	**26**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**150**	<100	**1450**	**380**	**690**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**200**	<100	**140**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**150**	<50	**1650**	**380**	**830**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.4**	**94.1**	**94.8**	**99.8**	**83.6**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.9**	**94.8**	**97.0**	**97.7**	**81.5**
2.4.6-Tribromophenol	118-79-6	0.5	%		**89.4**	**86.2**	**93.4**	**97.1**	**80.2**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**99.4**	**99.5**	**98.9**	**106**	**92.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_417_0.5	OL_EX_417_1.5	OL_EX_418_0.5	OL_EX_418_1.5	OL_EX_419_0.5
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309340-013	EM2309340-014	EM2309340-015	EM2309340-016	EM2309340-017
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**127**	**122**	**106**	**119**	**108**
4-Terphenyl-d14	1718-51-0	0.5	%	**99.9**	**100**	**109**	**109**	**93.2**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**78.9**	**84.2**	**79.6**	**79.6**	**69.9**
Toluene-D8	2037-26-5	0.2	%	**76.7**	**80.8**	**78.4**	**74.1**	**65.1**
4-Bromofluorobenzene	460-00-4	0.2	%	**84.2**	**96.0**	**86.8**	**84.7**	**68.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_419_1.5	OL_EX_QC119	----	----	----
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2309340-018	EM2309340-019	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.4**	**17.3**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**1040**	**336**	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	**1.1**	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**1.4**	**4.0**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	**0.5**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**5.7**	**7.7**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**1.9**	**3.1**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**11.9**	**18.9**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**12.5**	**19.0**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**7.4**	**13.6**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**7.1**	**12.8**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**9.6**	**19.7**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.8**	**7.9**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**9.3**	**14.8**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**4.9**	**10.6**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.4**	**3.0**	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**6.1**	**12.7**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**82.0**	**149**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_419_1.5	OL_EX_QC119	----	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2309340-018	EM2309340-019	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**13.3**	**23.2**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**13.3**	**23.2**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**13.3**	**23.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	**70**	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**190**	**1040**	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**190**	**890**	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**380**	**2000**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	**110**	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**350**	**1700**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	**360**	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**350**	**2170**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**110**	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.2**	**96.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.3**	**94.3**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**89.2**	**94.4**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**97.6**	**99.3**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_419_1.5	OL_EX_QC119	----	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2309340-018	EM2309340-019	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**116**	**111**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**99.6**	**108**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.6**	**83.8**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**77.6**	**80.9**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**87.8**	**91.6**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2309340**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023
Order number	: Macquarie Point	Date Analysis Commenced	: 25-May-2023
C-O-C number	: ----	Issue Date	: 29-May-2023
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 19		
No. of samples analysed	: 17		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5072527)									
EM2309340-001	OL_EX_412_0.5	EG005T: Lead	7439-92-1	5	mg/kg	317	337	6.1	0% - 20%
EM2309340-012	OL_EX_416_1.5	EG005T: Lead	7439-92-1	5	mg/kg	411	# 190	73.3	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5072529)									
EM2309340-001	OL_EX_412_0.5	EA055: Moisture Content	----	0.1	%	15.5	16.5	6.2	0% - 50%
EM2309340-013	OL_EX_417_0.5	EA055: Moisture Content	----	0.1	%	23.1	21.2	8.5	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 5072368)									
EM2309340-001	OL_EX_412_0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	0.9	0.6	29.4	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2309340-013	OL_EX_417_0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5072368) - continued									
EM2309340-013	OL_EX_417_0.5	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5072368)									
EM2309340-001	OL_EX_412_0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.7	2.1	19.7	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	7.9	5.3	39.1	0% - 50%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.8	0.8	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.3	12.3	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	45.5	39.6	13.9	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	12.4	# 9.1	29.9	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	61.8	# 50.3	20.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	61.6	# 50.4	20.1	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	41.2	35.1	16.0	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	34.7	29.5	16.1	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	35.4	32.0	9.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	16.4	14.2	14.3	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	34.5	30.7	11.6	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	15.6	14.0	10.7	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	5.1	4.4	12.7	0% - 50%
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	18.6	16.7	10.7	0% - 20%
EM2309340-013	OL_EX_417_0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.1	1.6	38.9	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	0.6	26.7	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.2	4.2	27.9	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	4.4	26.4	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.3	2.7	15.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.0	2.4	20.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.0	3.2	6.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.7	2.9	8.6	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.4	1.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5072368) - continued									
EM2309340-013	OL_EX_417_0.5	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	1.9	6.2	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5072367)									
EM2309340-001	OL_EX_412_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2309340-013	OL_EX_417_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5072369)									
EM2309340-001	OL_EX_412_0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	1460	1400	4.3	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	950	970	2.8	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2309340-013	OL_EX_417_0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	110	110	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5072367)									
EM2309340-001	OL_EX_412_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2309340-013	OL_EX_417_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5072369)									
EM2309340-001	OL_EX_412_0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	2150	2120	1.8	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	380	400	4.5	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	60	60	0.0	No Limit
EM2309340-013	OL_EX_417_0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	150	180	16.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5072367)									
EM2309340-001	OL_EX_412_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2309340-013	OL_EX_417_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5072527)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	98.8	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5072368)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	100	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	102	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	98.3	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.1	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.4	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	94.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	89.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	91.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	99.3	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	93.0	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	91.5	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	83.4	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5072368)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	106	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	104	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.3	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	102	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	98.6	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	105	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	108	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	107	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	112	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	101	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	99.9	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	104	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	103	65.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5072368) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	103	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5072367)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	92.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5072369)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	116	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5072367)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	88.7	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5072369)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	104	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	89.8	73.3	137
EP080: BTEXN (QCLot: 5072367)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	88.1	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.2	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.2	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	96.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	74.6	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5072527)							
EM2309340-002	OL_EX_412_1.5	EG005T: Lead	7439-92-1	250 mg/kg	# 131	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 5072368)							
EM2309340-002	OL_EX_412_1.5	EP075(SIM): Phenol	108-95-2	3 mg/kg	91.7	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	91.7	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	95.9	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	97.5	61.5	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075(SIM)A: Phenolic Compounds (QCLot: 5072368) - continued							
EM2309340-002	OL_EX_412_1.5	EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	67.2	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5072368)							
EM2309340-002	OL_EX_412_1.5	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	88.7	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5072367)							
EM2309340-002	OL_EX_412_1.5	EP080: C6 - C9 Fraction	----	28 mg/kg	108	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5072369)							
EM2309340-003	OL_EX_413_0.5	EP071: C10 - C14 Fraction	----	770 mg/kg	116	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	106	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5072367)							
EM2309340-002	OL_EX_412_1.5	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	106	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5072369)							
EM2309340-003	OL_EX_413_0.5	EP071: >C10 - C16 Fraction	----	1170 mg/kg	95.4	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	106	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	109	66.8	138
EP080: BTEXN (QCLot: 5072367)							
EM2309340-002	OL_EX_412_1.5	EP080: Benzene	71-43-2	2 mg/kg	84.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	84.6	57.1	131

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2309340**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023
Site	: ----	Issue Date	: 29-May-2023
Sampler	: ----	No. of samples received	: 19
Order number	: Macquarie Point	No. of samples analysed	: 17

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2309340--012	OL_EX_416_1.5	**Lead**	7439-92-1	73.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2309340--001	OL_EX_412_0.5	**Anthracene**	120-12-7	29.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2309340--001	OL_EX_412_0.5	**Fluoranthene**	206-44-0	20.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2309340--001	OL_EX_412_0.5	**Pyrene**	129-00-0	20.1 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2309340--002	OL_EX_412_1.5	**Lead**	7439-92-1	131 %	80.0-120%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_412_0.5,	OL_EX_412_1.5,	**23-May-2023**	**----**	----	**----**	**25-May-2023**	06-Jun-2023	✓
OL_EX_413_0.5,	OL_EX_413_1.5,							
OL_EX_414_0.5,	OL_EX_414_1.5,							
OL_EX_415_0.5,	OL_EX_415_1.5,							
OL_EX_416_0.5,	OL_EX_416_1.5,							
OL_EX_417_0.5,	OL_EX_417_1.5,							
OL_EX_418_0.5,	OL_EX_418_1.5,							
OL_EX_419_0.5,	OL_EX_419_1.5,							
OL_EX_QC119								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
OL_EX_412_0.5,	OL_EX_412_1.5,	**23-May-2023**	**25-May-2023**	19-Nov-2023	✓	**25-May-2023**	19-Nov-2023	✓
OL_EX_413_0.5,	OL_EX_413_1.5,							
OL_EX_414_0.5,	OL_EX_414_1.5,							
OL_EX_415_0.5,	OL_EX_415_1.5,							
OL_EX_416_0.5,	OL_EX_416_1.5,							
OL_EX_417_0.5,	OL_EX_417_1.5,							
OL_EX_418_0.5,	OL_EX_418_1.5,							
OL_EX_419_0.5,	OL_EX_419_1.5,							
OL_EX_QC119								
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
OL_EX_413_0.5		**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**25-May-2023**	04-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))								
OL_EX_412_0.5,	OL_EX_412_1.5,	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**26-May-2023**	04-Jul-2023	✓
OL_EX_413_1.5,	OL_EX_414_0.5,							
OL_EX_414_1.5,	OL_EX_415_0.5,							
OL_EX_415_1.5,	OL_EX_416_0.5,							
OL_EX_416_1.5,	OL_EX_417_0.5,							
OL_EX_417_1.5,	OL_EX_418_0.5,							
OL_EX_418_1.5,	OL_EX_419_0.5,							
OL_EX_419_1.5,	OL_EX_QC119							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
OL_EX_413_0.5		**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**25-May-2023**	04-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))								
OL_EX_412_0.5,	OL_EX_412_1.5,	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**26-May-2023**	04-Jul-2023	✓
OL_EX_413_1.5,	OL_EX_414_0.5,							
OL_EX_414_1.5,	OL_EX_415_0.5,							
OL_EX_415_1.5,	OL_EX_416_0.5,							
OL_EX_416_1.5,	OL_EX_417_0.5,							
OL_EX_417_1.5,	OL_EX_418_0.5,							
OL_EX_418_1.5,	OL_EX_419_0.5,							
OL_EX_419_1.5,	OL_EX_QC119							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) OL_EX_414_1.5, OL_EX_415_0.5, OL_EX_418_1.5, OL_EX_419_0.5	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**25-May-2023**	04-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071) OL_EX_412_0.5, OL_EX_412_1.5, OL_EX_413_0.5, OL_EX_413_1.5, OL_EX_414_0.5, OL_EX_415_1.5, OL_EX_416_0.5, OL_EX_416_1.5, OL_EX_417_0.5, OL_EX_417_1.5, OL_EX_418_0.5, OL_EX_419_1.5, OL_EX_QC119	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**26-May-2023**	04-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080) OL_EX_412_0.5, OL_EX_412_1.5, OL_EX_413_0.5, OL_EX_413_1.5, OL_EX_414_0.5, OL_EX_414_1.5, OL_EX_415_0.5, OL_EX_415_1.5, OL_EX_416_0.5, OL_EX_416_1.5, OL_EX_417_0.5, OL_EX_417_1.5, OL_EX_418_0.5, OL_EX_418_1.5, OL_EX_419_0.5, OL_EX_419_1.5, OL_EX_QC119	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_414_1.5, OL_EX_415_0.5, OL_EX_418_1.5, OL_EX_419_0.5	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**25-May-2023**	04-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_412_0.5, OL_EX_412_1.5, OL_EX_413_0.5, OL_EX_413_1.5, OL_EX_414_0.5, OL_EX_415_1.5, OL_EX_416_0.5, OL_EX_416_1.5, OL_EX_417_0.5, OL_EX_417_1.5, OL_EX_418_0.5, OL_EX_419_1.5, OL_EX_QC119	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**26-May-2023**	04-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_412_0.5, OL_EX_412_1.5, OL_EX_413_0.5, OL_EX_413_1.5, OL_EX_414_0.5, OL_EX_414_1.5, OL_EX_415_0.5, OL_EX_415_1.5, OL_EX_416_0.5, OL_EX_416_1.5, OL_EX_417_0.5, OL_EX_417_1.5, OL_EX_418_0.5, OL_EX_418_1.5, OL_EX_419_0.5, OL_EX_419_1.5, OL_EX_QC119	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_412_0.5, OL_EX_412_1.5, OL_EX_413_0.5, OL_EX_413_1.5, OL_EX_414_0.5, OL_EX_414_1.5, OL_EX_415_0.5, OL_EX_415_1.5, OL_EX_416_0.5, OL_EX_416_1.5, OL_EX_417_0.5, OL_EX_417_1.5, OL_EX_418_0.5, OL_EX_418_1.5, OL_EX_419_0.5, OL_EX_419_1.5, OL_EX_QC119	**23-May-2023**	**25-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2309340**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: tim.smith02@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Facsimile	: 02 8934 0001	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: ----	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 24-May-2023 12:35	Issue Date	: 25-May-2023
Client Requested Due Date	: 29-May-2023	Scheduled Reporting Date	: **29-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.7°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 19 / 17

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2309340-001	23-May-2023 00:00	OL_EX_412_0.5		✓	✓
EM2309340-002	23-May-2023 00:00	OL_EX_412_1.5		✓	✓
EM2309340-003	23-May-2023 00:00	OL_EX_413_0.5		✓	✓
EM2309340-004	23-May-2023 00:00	OL_EX_413_1.5		✓	✓
EM2309340-005	23-May-2023 00:00	OL_EX_413_1.5B	✓		
EM2309340-006	23-May-2023 00:00	OL_EX_414_0.5		✓	✓
EM2309340-007	23-May-2023 00:00	OL_EX_414_1.5		✓	✓
EM2309340-008	23-May-2023 00:00	OL_EX_414_1.5B	✓		
EM2309340-009	23-May-2023 00:00	OL_EX_415_0.5		✓	✓
EM2309340-010	23-May-2023 00:00	OL_EX_415_1.5		✓	✓
EM2309340-011	23-May-2023 00:00	OL_EX_416_0.5		✓	✓
EM2309340-012	23-May-2023 00:00	OL_EX_416_1.5		✓	✓
EM2309340-013	23-May-2023 00:00	OL_EX_417_0.5		✓	✓
EM2309340-014	23-May-2023 00:00	OL_EX_417_1.5		✓	✓
EM2309340-015	23-May-2023 00:00	OL_EX_418_0.5		✓	✓
EM2309340-016	23-May-2023 00:00	OL_EX_418_1.5		✓	✓
EM2309340-017	23-May-2023 00:00	OL_EX_419_0.5		✓	✓
EM2309340-018	23-May-2023 00:00	OL_EX_419_1.5		✓	✓
EM2309340-019	23-May-2023 00:00	OL_EX_QC119		✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- A4 - AU Tax Invoice (INV)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	tim.smith02@aecom.com

ALSCompass SAMPLING Intelligence

URGENT
FREIGHT
URGENT

Environmental Division
Melbourne
Work Order Reference
EM2309340

Telephone : +61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: MACQUARIE POINT Client: ABLOM

Project Manager:

Phone: ( )

ALS Compass COC Reference: 52713 # Samples:

Sampler:

Phone: ( )

Turnaround Requirements: Standard Urgent

Forwarded to Secondary Lab
Initials SH Date 25/5

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time: 24/5 12-30	Date / Time:	Date / Time:

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 24 May 2023 4:28 PM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, here are samples arriving today that I flagged as a compass COC 52713 but have not had the chance to fill it out. Please note that we are hunting 24h TAT for half the batch so you may want to split.

			sample date	TRH BTEXN PAH Phenols Pb	Cyanide	ACM presence/absence in soil	ACM fragment ID	HOLD	TRH C6-C10 BTEN	TRH BTEXN PAH Phenols Pb cyanide
1	OL_EX_412_0.5	24h TAT	23-May	1						
2	OL_EX_412_1.5	24h TAT	23-May	1						
3	OL_EX_413_0.5	24h TAT	23-May	1						
4	OL_EX_413_1.5	24h TAT	23-May	1						
5	OL_EX_413_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
6	OL_EX_414_0.5	24h TAT	23-May	1						
7	OL_EX_414_1.5	24h TAT	23-May	1						
8	OL_EX_414_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
9	OL_EX_415_0.5	24h TAT	23-May	1						
10	OL_EX_415_1.5	24h TAT	23-May	1						
11	OL_EX_416_0.5	24h TAT	23-May	1						
12	OL_EX_416_1.5	24h TAT	23-May	1						

13	OL_EX_417_0.5	24h TAT	23-May	1							
14	OL_EX_417_1.5	24h TAT	23-May	1							
15	OL_EX_418_0.5	24h TAT	23-May	1							
16	OL_EX_418_1.5	24h TAT	23-May	1							
17	OL_EX_419_0.5	24h TAT	23-May	1							
18	OL_EX_419_1.5	24h TAT	23-May	1							
19	OL_EX_QC119	24h TAT	23-May	1							
	OL_EX_SP2_01	5 day TAT	23-May	1							
	OL_EX_SP2_02	5 day TAT	23-May	1							
	OL_EX_SP2_03	5 day TAT	23-May	1							
	OL_EX_SP2_04	5 day TAT	23-May	1							
	OL_EX_SP3_01	5 day TAT	23-May	1							
	OL_EX_SP3_02	5 day TAT	23-May	1							
	OL_EX_SP3_03	5 day TAT	23-May	1							
	OL_EX_SP4_01	5 day TAT	23-May	1		1	1	1			
	OL_EX_SP4_02	5 day TAT	23-May	1		1		1			
	OL_EX_SP4_03	5 day TAT	23-May	1		1		1			
	OL_EX_SP5_01	5 day TAT	23-May	1				1			
	OL_EX_SP5_02	5 day TAT	23-May	1				1			
	OL_EX_SP5_03	5 day TAT	23-May	1				1			

OL_EX_SP6_01	5 day TAT	**23-May**	1							
OL_EX_SP6_02	5 day TAT	**23-May**	1							
OL_EX_SP6_03	5 day TAT	**23-May**	1							
UST_EXT_59SP_01	5 day TAT	**23-May**	1							
UST_EXT_59SP_02	5 day TAT	**23-May**	1							
UST_EXT_59SP_03	5 day TAT	**23-May**	1							
OL_EX_QC118	5 day TAT	**23-May**	1							
OL_EX_QC120	5 day TAT	**23-May**	1							
UST_EXT_QC121	5 day TAT	**23-May**	1							
OL_EX_QC218	5 day TAT	**23-May**	1							
OL_EX_QC219	5 day TAT	**23-May**	1							
OL_EX_QC220	5 day TAT	**23-May**	1							
UST_EXT_QC221	5 day TAT	**23-May**	1							
OL_EX_QCA10	5 day TAT	**23-May**							1	
UST_EXT_QCA11	5 day TAT	**23-May**							1	
OL_EX_QCB12	5 day TAT	**23-May**								1
OL_EX_QCC07	HOLD	**23-May**	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

CERTIFICATE OF ANALYSIS

Work Order	: **EM2310229**	Page	: 1 of 24
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 09-Jun-2023
C-O-C number	: 53213	Issue Date	: 15-Jun-2023 17:36
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 29		
No. of samples analysed	: 28		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG005T: EM2310229 #4, the LOR has been raised for cadmium due to sample matrix interferences.
- EG005T: EM2310229 #7, sample heterogeneity has been observed for Zinc, with the following results obtained: 1230 mg/kg, 2790 mg/kg and 3600 mg/kg.
- EG005T: EM2310229 #7, sample heterogeneity has been observed for Lead, with the following results obtained: 380 mg/kg, 502 mg/kg and 932 mg/kg.
- EG005T: EM2310229 #31, sample heterogeneity has been observed for Zinc, with the following results obtained: 1590 mg/kg, 758 mg/kg and 691 mg/kg.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP075(SIM): EM2310229_001 Poor duplicate precision due to sample heterogeneity. Confirmed via visual inspection.
- EG035T: EM2310229#24 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		----	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		----	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	<0.0001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**31.0**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		**----**	**89.0**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%		**----**	**78.9**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**----**	**77.2**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**----**	**70.3**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**----**	**74.3**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**109**	**109**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%		**95.8**	**97.1**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**107**	**106**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.0	22.3	16.2	32.5	14.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	12	7	49	68	15
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<5	<1
Chromium	7440-47-3	2	mg/kg	14	44	78	21	15
Copper	7440-50-8	5	mg/kg	122	214	151	213	115
Lead	7439-92-1	5	mg/kg	199	181	331	291	254
Nickel	7440-02-0	2	mg/kg	15	28	23	58	16
Zinc	7440-66-6	5	mg/kg	441	551	393	443	295
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.6	0.8	1.8	0.5	1.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.7
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.6	2.0	0.7	1.3
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.7	5.2	0.5	8.0
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.6	1.6	<0.5	1.8
Fluoranthene	206-44-0	0.5	mg/kg	2.9	3.9	15.2	2.5	12.2
Pyrene	129-00-0	0.5	mg/kg	3.1	4.1	16.0	2.7	12.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	2.6	9.8	2.7	8.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	1.7	2.4	9.4	2.8	7.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	3.4	12.0	4.3	10.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.5	5.0	1.8	3.7
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	3.0	11.6	3.9	10.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	1.7	6.2	2.2	5.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	1.7	0.6	1.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	2.0	7.4	2.8	7.4
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	19.7	27.5	103	27.5	91.1
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	3.0	4.0	16.8	5.6	14.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	3.2	4.2	16.8	5.6	14.5
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	3.5	4.5	16.8	5.6	14.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	130	150	310	<100	290
C29 - C36 Fraction	----	100	mg/kg	150	150	250	110	230
^ C10 - C36 Fraction (sum)	----	50	mg/kg	280	300	560	110	520
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	250	260	500	170	470
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	250	260	600	170	470
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	85.6	99.6	89.2	94.4	86.3
2-Chlorophenol-D4	93951-73-6	0.5	%	79.2	90.7	83.5	88.7	80.8
2.4.6-Tribromophenol	118-79-6	0.5	%	88.1	94.4	98.9	103	74.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	93.1	107	92.6	104	96.8
Anthracene-d10	1719-06-8	0.5	%	106	126	111	124	116
4-Terphenyl-d14	1718-51-0	0.5	%	90.6	117	95.9	104	112
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	88.3	105	104	91.9	96.2
Toluene-D8	2037-26-5	0.2	%	79.9	94.5	91.3	82.7	89.5
4-Bromofluorobenzene	460-00-4	0.2	%	84.3	102	98.4	89.4	95.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
			Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit	EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	26.9	19.8	22.3	32.8	14.2
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	22	18	<5	14	28
Cadmium	7440-43-9	1	mg/kg	<1	2	<1	<1	1
Chromium	7440-47-3	2	mg/kg	18	13	10	17	14
Copper	7440-50-8	5	mg/kg	235	124	73	281	63
Lead	7439-92-1	5	mg/kg	623	932	419	2220	179
Nickel	7440-02-0	2	mg/kg	38	14	11	36	32
Zinc	7440-66-6	5	mg/kg	716	3600	210	1030	276
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	2.3	0.6	0.4	2.4	0.3
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	22.6	2.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.0	0.6	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.3	4.7	1.3	1.6	2.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	1.2	0.8	<0.5	0.5
Fluoranthene	206-44-0	0.5	mg/kg	3.3	7.3	4.9	3.4	3.5
Pyrene	129-00-0	0.5	mg/kg	3.3	6.9	4.9	3.3	3.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.5	4.2	3.5	2.4	1.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
				Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit		EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		2.3	4.0	3.3	2.2	1.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		3.2	6.2	4.1	3.3	2.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.4	2.8	1.9	1.4	0.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		3.1	5.8	4.2	3.0	2.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.6	3.4	2.1	1.6	1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.8	0.6	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.9	4.1	2.5	2.0	1.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		23.9	75.6	37.2	24.2	19.9
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		4.0	8.3	6.0	3.9	2.6
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		4.3	8.3	6.0	4.2	2.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.5	8.3	6.0	4.4	3.1
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	74	39	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	4390	2340	<50	<50
C15 - C28 Fraction	----	100	mg/kg		100	330	240	110	130
C29 - C36 Fraction	----	100	mg/kg		100	260	240	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		200	4980	2820	110	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	287	127	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	286	127	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	3610	2070	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		180	480	400	180	160
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		180	4090	2470	180	160
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	3600	2070	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	0.6	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	0.6	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
			Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit	EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	**0.6**	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	**12**	**2**	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.8**	**102**	**89.6**	**95.4**	**96.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**83.6**	**90.9**	**95.3**	**88.1**	**87.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**85.2**	**86.8**	**97.9**	**87.7**	**95.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**102**	**103**	**102**	**104**	**99.8**
Anthracene-d10	1719-06-8	0.5	%	**118**	**105**	**124**	**120**	**122**
4-Terphenyl-d14	1718-51-0	0.5	%	**107**	**107**	**104**	**111**	**104**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**94.6**	**92.8**	**95.8**	**91.3**	**91.5**
Toluene-D8	2037-26-5	0.2	%	**81.1**	**89.3**	**88.9**	**79.4**	**81.6**
4-Bromofluorobenzene	460-00-4	0.2	%	**87.6**	**91.2**	**85.9**	**86.5**	**88.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.2	17.4	17.8	22.3	17.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	16	18	10	24
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	17	14	14	14	16
Copper	7440-50-8	5	mg/kg	79	94	84	61	122
Lead	7439-92-1	5	mg/kg	387	533	328	523	385
Nickel	7440-02-0	2	mg/kg	38	20	22	37	30
Zinc	7440-66-6	5	mg/kg	196	251	322	257	286
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.3	2.0	0.9	1.4	0.6
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.6	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.3	5.2	1.4	3.3	2.5
Anthracene	120-12-7	0.5	mg/kg	0.7	1.4	0.6	1.3	0.9
Fluoranthene	206-44-0	0.5	mg/kg	4.6	7.7	3.1	8.0	5.5
Pyrene	129-00-0	0.5	mg/kg	4.8	7.5	3.2	8.4	5.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	3.9	1.9	4.9	3.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	2.5	3.4	1.7	4.4	3.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	4.7	2.6	5.5	4.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.9	1.0	2.4	2.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	4.5	2.4	5.6	4.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.5	2.4	1.3	2.6	2.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.6	<0.5	0.7	0.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	3.0	1.5	3.0	2.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	29.0	46.8	20.7	50.7	40.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	4.2	6.4	3.1	7.9	6.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	4.4	6.4	3.4	7.9	6.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	4.6	6.4	3.6	7.9	6.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	250	280	200	290	250
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	130	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg	250	280	200	420	370
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	60	80	60	60	60
>C16 - C34 Fraction	----	100	mg/kg	270	320	220	360	310
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	330	400	280	420	370
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	60	80	60	60	60
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	92.4	98.0	99.8	102	96.2
2-Chlorophenol-D4	93951-73-6	0.5	%	84.9	90.1	92.0	92.6	88.8
2.4.6-Tribromophenol	118-79-6	0.5	%	85.8	84.6	88.4	101	96.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	104	110	111	107	103
Anthracene-d10	1719-06-8	0.5	%	119	123	127	123	120
4-Terphenyl-d14	1718-51-0	0.5	%	108	120	117	108	103
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	96.6	102	92.5	95.0	92.6
Toluene-D8	2037-26-5	0.2	%	92.3	93.7	83.5	84.8	80.4
4-Bromofluorobenzene	460-00-4	0.2	%	101	102	92.5	92.0	91.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
			Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit	EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.3	23.0	21.6	22.2	23.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	31	6	<5	10	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	9	13	11	14	14
Copper	7440-50-8	5	mg/kg	53	59	47	54	43
Lead	7439-92-1	5	mg/kg	142	426	203	245	190
Nickel	7440-02-0	2	mg/kg	18	16	14	17	18
Zinc	7440-66-6	5	mg/kg	218	245	117	217	144
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	1.5	0.8	1.1	1.2
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	2.4	2.2	0.7	1.0
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.8	1.6	<0.5	0.8
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.7	1.2	<0.5	0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	1.3	2.9	0.7	0.8
Phenanthrene	85-01-8	0.5	mg/kg	2.2	7.9	23.4	2.8	4.7
Anthracene	120-12-7	0.5	mg/kg	0.5	3.4	8.6	1.0	1.9
Fluoranthene	206-44-0	0.5	mg/kg	4.1	10.8	34.5	5.4	8.8
Pyrene	129-00-0	0.5	mg/kg	4.1	11.3	34.7	6.2	9.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.3	6.0	20.1	3.1	5.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		2.0	5.0	16.7	2.7	4.9
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		2.9	6.7	19.8	3.9	6.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.2	2.5	7.7	1.2	2.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		2.7	6.3	19.6	3.6	6.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.4	2.7	8.4	1.5	2.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.8	2.4	<0.5	0.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.7	3.1	10.0	1.8	3.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		25.1	71.7	214	34.6	60.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		3.5	9.0	27.9	4.6	8.7
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.8	9.0	27.9	4.9	8.7
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.0	9.0	27.9	5.1	8.7
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	100	240	180	130
C15 - C28 Fraction	----	100	mg/kg		540	670	1480	800	760
C29 - C36 Fraction	----	100	mg/kg		120	180	400	140	180
^ C10 - C36 Fraction (sum)	----	50	mg/kg		660	950	2120	1120	1070
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	110	120	130	120
>C16 - C34 Fraction	----	100	mg/kg		620	700	1580	740	770
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	130	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		620	910	2170	1090	1040
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	110	120	130	120
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		95.0	100	91.9	104	101
2-Chlorophenol-D4	93951-73-6	0.5	%		86.9	92.3	86.0	95.8	92.2
2.4.6-Tribromophenol	118-79-6	0.5	%		93.4	101	92.8	109	99.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		104	108	99.8	107	102
Anthracene-d10	1719-06-8	0.5	%		118	122	126	129	123
4-Terphenyl-d14	1718-51-0	0.5	%		108	117	115	115	113
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		93.4	99.9	95.0	93.2	93.3
Toluene-D8	2037-26-5	0.2	%		82.1	85.9	86.4	83.8	83.4
4-Bromofluorobenzene	460-00-4	0.2	%		90.5	94.1	93.2	90.1	89.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.7	15.9	15.9	16.1	17.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	7	6	7	54
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	12	15	12	34
Copper	7440-50-8	5	mg/kg	109	122	159	144	173
Lead	7439-92-1	5	mg/kg	126	141	144	532	814
Nickel	7440-02-0	2	mg/kg	17	20	24	17	22
Zinc	7440-66-6	5	mg/kg	324	475	382	639	562
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	0.3	0.4	1.0	0.8
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.8	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.8	1.0	1.1	1.0	0.9
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.0	5.2	4.1	2.4	2.9
Anthracene	120-12-7	0.5	mg/kg	0.6	1.5	1.3	0.9	0.9
Fluoranthene	206-44-0	0.5	mg/kg	4.4	9.9	9.0	7.2	7.4
Pyrene	129-00-0	0.5	mg/kg	4.8	10.3	9.4	7.1	7.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	5.9	5.4	4.8	4.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	2.6	5.6	4.8	4.2	4.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	8.0	6.8	6.7	6.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	2.5	2.2	2.8	2.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	6.9	6.0	6.3	5.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	3.8	3.1	3.6	3.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	1.1	0.9	1.0	0.9
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.1	4.3	3.5	4.2	3.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	31.4	66.0	57.6	54.0	51.8
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	10	<10	<10	16	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	710	<50
C15 - C28 Fraction	----	100	mg/kg	230	230	320	260	260
C29 - C36 Fraction	----	100	mg/kg	240	200	290	210	250
^ C10 - C36 Fraction (sum)	----	50	mg/kg	470	430	610	1180	510
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	12	11	<10	58	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	12	11	<10	58	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	680	<50
>C16 - C34 Fraction	----	100	mg/kg	400	380	530	400	450
>C34 - C40 Fraction	----	100	mg/kg	130	110	150	100	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	530	490	680	1180	560
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	680	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	2	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	94.7	105	102	96.2	100.0
2-Chlorophenol-D4	93951-73-6	0.5	%	89.0	95.2	96.4	95.3	97.4
2.4.6-Tribromophenol	118-79-6	0.5	%	90.5	94.8	96.5	98.7	96.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	115	113	115	118	117
Anthracene-d10	1719-06-8	0.5	%	119	119	119	120	114
4-Terphenyl-d14	1718-51-0	0.5	%	121	123	122	120	120
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	91.2	90.2	79.6	85.9	73.2
Toluene-D8	2037-26-5	0.2	%	89.6	88.1	76.4	83.9	71.5
4-Bromofluorobenzene	460-00-4	0.2	%	102	102	89.4	104	78.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**26.5**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**15**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**177**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**185**	----	----	----	----
Lead	7439-92-1	5	mg/kg		**585**	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**20**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**691**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**1.9**	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**0.9**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**2.2**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		**0.5**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**7.0**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**3.0**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**20.7**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**21.2**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**13.8**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		**13.0**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**19.4**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**6.0**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**16.4**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**8.9**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**2.5**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**9.9**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**145**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**23.9**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**23.9**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**23.9**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**420**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**380**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**800**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**710**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**160**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**870**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	**----**	**----**	**----**	**----**
Naphthalene	91-20-3	1	mg/kg		<1	**----**	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.3**	**----**	**----**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**90.0**	**----**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**102**	**----**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**115**	**----**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	0.5	%		**118**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**123**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.9**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**78.2**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**89.0**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2310229**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Order number	: 60693007-2	Date Analysis Commenced	: 09-Jun-2023
C-O-C number	: 53213	Issue Date	: 15-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 29		
No. of samples analysed	: 28		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5103608)									
EM2310229-001	OL_EX_420_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	15	9.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	19	24.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	13	9.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	122	132	8.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	199	178	11.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	441	458	3.8	0% - 20%
EM2310229-011	UST_SP_01	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	16	14.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	32	29	10.7	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	28	31	7.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	63	68	8.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	179	162	9.6	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	276	276	0.0	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5103610)									
EM2310229-023	OL_EX_SP7_01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	12	13.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	17	18	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	109	95	13.5	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	126	128	2.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	324	301	7.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104491)									
EM2310229-001	OL_EX_420_0.5	EA055: Moisture Content	----	0.1	%	18.0	18.3	2.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104491) - continued									
EM2310229-012	UST_SP_02	EA055: Moisture Content	----	0.1	%	18.2	18.4	1.2	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104492)									
EM2310229-023	OL_EX_SP7_01	EA055: Moisture Content	----	0.1	%	11.7	9.5	21.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103609)									
EM2310229-001	OL_EX_420_0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.4	37.1	No Limit
EM2310229-011	UST_SP_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.3	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103611)									
EM2310229-023	OL_EX_SP7_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103528)									
EM2310229-001	OL_EX_420_0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2310229-012	UST_SP_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103538)									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103538) - continued									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103528)									
EM2310229-001	OL_EX_420_0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.8	42.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	3.1	76.1	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.0	68.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.9	# 5.7	64.9	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.1	# 6.0	63.5	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	3.3	54.5	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	3.1	59.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	3.8	45.5	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.9	66.8	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	3.9	52.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	2.0	53.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	2.3	48.0	No Limit
EM2310229-012	UST_SP_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.0	69.9	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.3	2.9	22.2	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.7	0.9	24.1	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.6	5.7	21.6	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	5.9	21.1	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	3.4	19.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.5	3.0	17.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	3.9	17.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.8	21.7	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	4.0	19.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.5	1.8	15.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103528) - continued									
EM2310229-012	UST_SP_02	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	2.1	13.9	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103538)									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.0	2.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.4	4.1	8.7	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	4.4	8.4	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	2.6	8.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.6	2.3	9.5	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	3.1	25.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	1.3	9.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	2.8	20.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	1.4	24.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.5	24.2	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.1	1.7	22.6	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: C6 - C9 Fraction	----	10	mg/kg	10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103529)									
EM2310229-001	OL_EX_420_0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	130	200	43.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	200	30.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2310229-012	UST_SP_02	EP071: C15 - C28 Fraction	----	100	mg/kg	250	310	22.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103539)									
EM2310229-023	OL_EX_SP7_01	EP071: C15 - C28 Fraction	----	100	mg/kg	230	200	14.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	240	200	14.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	12	11	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103529)									
EM2310229-001	OL_EX_420_0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	250	360	37.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2310229-012	UST_SP_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	330	19.4	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	60	90	35.3	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103539)									
EM2310229-023	OL_EX_SP7_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	400	340	15.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	130	120	12.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5104590)									
EM2309997-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5104590) - continued									
EM2309997-003	Anonymous	EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.125	0.127	1.4	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.120	0.124	2.8	0% - 20%
EM2310262-004	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.947	0.971	2.6	0% - 20%
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	1.09	1.10	0.9	0% - 20%
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.121	0.127	4.2	0% - 20%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	12.8	12.8	0.2	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	134	137	2.7	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.455	0.451	0.9	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	377	385	2.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103274)									
EM2310229-026	OL_EX_QC14	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2310250-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5101667)									
EM2310352-007	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EM2310341-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5101667) - continued									
EM2310341-001	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5101667)									
EM2310352-007	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2310341-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101668)									
EM2310352-007	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	200	66.6	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101668) - continued									
EM2310341-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	20	20	0.0	No Limit
EM2310271-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5101668)									
EM2310352-007	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	170	54.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2310341-001	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	20	20	0.0	No Limit
EM2310271-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	6	6	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2310271-007	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103608)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	67.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.7	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	99.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	102	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	78.3	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	100	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	66.9	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	101	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	103	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103609)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103611)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.8	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	94.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	98.4	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	97.1	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	95.8	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.2	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	92.9	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	91.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	91.4	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.4	67.8	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528) - continued								
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	92.4	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	76.0	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5103538)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	107	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	109	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	97.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	94.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	111	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	106	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	95.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	91.0	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103528)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	96.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	100	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	95.7	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.9	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.0	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	95.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.0	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	96.8	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	97.3	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	93.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.6	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	95.4	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	90.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	91.7	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.0	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	117	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	119	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	116	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	112	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	119	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	116	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	118	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	119	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	117	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	116	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	116	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	117	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	108	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	106	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	113	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	115	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103488)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	70.2	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103489)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	96.1	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103529)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	103	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	97.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	107	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103539)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	95.0	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	94.3	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	99.1	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103488)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	74.6	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103489)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	94.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	86.9	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	84.8	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103539)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	83.1	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	97.9	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	84.9	73.3	137
EP080: BTEXN (QCLot: 5103488)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	75.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	78.3	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	79.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	80.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	82.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.0	61.8	123
EP080: BTEXN (QCLot: 5103489)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	95.2	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	98.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	95.3	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	100	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	100	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	108	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5104590)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	101	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	110	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.3	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.5	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	105	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.4	86.7	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274) - continued								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	92.1	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	34.4	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	79.5	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	71.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	66.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	85.0	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	77.8	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	84.7	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	85.4	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	86.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	87.4	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	85.5	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	73.2	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101667)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.2	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.4	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	81.7	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	87.3	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	87.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	85.8	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	90.2	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	90.9	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	91.8	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	90.8	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	88.4	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	92.5	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.5	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	89.6	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	89.5	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	90.7	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	73.1	47.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	73.8	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	77.8	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101853)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	91.9	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101668)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	69.6	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	74.7	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	78.4	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101853)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	97.1	66.2	132
EP080: BTEXN (QCLot: 5101853)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	96.3	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	101	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	104	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	107	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103608)							
EM2310229-002	OL_EX_421_0.5	EG005T: Copper	7440-50-8	250 mg/kg	119	80.0	120
EM2310229-002	OL_EX_421_0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	99.9	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.4	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	121	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	102	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	111	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	92.0	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610)							
EM2310229-024	OL_EX_SP7_02	EG005T: Zinc	7440-66-6	250 mg/kg	107	80.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610) - continued							
EM2310229-024	OL_EX_SP7_02	EG005T: Arsenic	7440-38-2	50 mg/kg	108	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	102	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	111	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	120	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.7	78.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103609)							
EM2310229-002	OL_EX_421_0.5	EG035T: Mercury	7439-97-6	0.5 mg/kg	115	76.0	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103611)							
EM2310229-024	OL_EX_SP7_02	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 132	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528)							
EM2310229-002	OL_EX_421_0.5	EP075(SIM): Phenol	108-95-2	3 mg/kg	98.4	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	102	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	94.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	67.9	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5103538)							
EM2310229-024	OL_EX_SP7_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	102	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	109	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	99.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	79.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103528)							
EM2310229-002	OL_EX_421_0.5	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	99.4	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538)							
EM2310229-024	OL_EX_SP7_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	107	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	68.0	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: C6 - C9 Fraction	----	28 mg/kg	67.3	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: C6 - C9 Fraction	----	28 mg/kg	73.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103529)							
EM2310229-003	OL_EX_422_0.5	EP071: C10 - C14 Fraction	----	770 mg/kg	99.6	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	94.9	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	106	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103539)							
EM2310229-028	OL_EX_SP7_03	EP071: C10 - C14 Fraction	----	770 mg/kg	96.8	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	92.4	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	98.6	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	65.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	67.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529)							
EM2310229-003	OL_EX_422_0.5	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.9	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	101	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	83.5	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103539)							
EM2310229-028	OL_EX_SP7_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.7	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	96.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	84.6	66.8	138
EP080: BTEXN (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: Benzene	71-43-2	2 mg/kg	67.5	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.6	57.1	131
EP080: BTEXN (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: Benzene	71-43-2	2 mg/kg	75.3	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	82.8	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5104590)							
EM2309997-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.1	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	102	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	89.1	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	90.2	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	93.9	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	89.6	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	90.1	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274)							
EM2310246-005	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	102	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667)							
EM2310352-001	Anonymous						

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667) - continued							
EM2310352-001	Anonymous	EP075(SIM): Phenol	108-95-2	5 µg/L	36.2	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	78.9	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	86.4	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	88.0	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	26.1	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101667)							
EM2310352-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	81.0	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	88.5	44.0	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668)							
EM2310352-003	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	77.7	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	88.0	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	97.5	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	74.9	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101668)							
EM2310352-003	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	73.4	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	90.2	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	97.6	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	74.0	34.0	122
EP080: BTEXN (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: Benzene	71-43-2	20 µg/L	89.9	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	94.4	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310229**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 15-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 29
Order number	: 60693007-2	No. of samples analysed	: 28

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2310229--001	OL_EX_420_0.5	**Fluoranthene**	206-44-0	64.9 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2310229--001	OL_EX_420_0.5	**Pyrene**	129-00-0	63.5 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG035T: Total Recoverable Mercury by FIMS	EM2310229--024	OL_EX_SP7_02	**Mercury**	7439-97-6	132 %	76.0-116%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**----**	----	----	**10-Jun-2023**	21-Jun-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**13-Jun-2023**	04-Dec-2023	✓	**13-Jun-2023**	04-Dec-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**13-Jun-2023**	05-Jul-2023	✓	**13-Jun-2023**	05-Jul-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**10-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_02, OL_EX_SP7_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_SP_03, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, OL_EX_SP7_01, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**10-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_02, OL_EX_SP7_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_SP_03, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, OL_EX_SP7_01, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	07-Jun-2023	10-Jun-2023	21-Jun-2023	✓	10-Jun-2023	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	07-Jun-2023	10-Jun-2023	21-Jun-2023	✓	14-Jun-2023	21-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QC14	07-Jun-2023	10-Jun-2023	04-Dec-2023	✓	13-Jun-2023	04-Dec-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T)							
OL_EX_QC14	07-Jun-2023	----	----	----	13-Jun-2023	05-Jul-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	07-Jun-2023	09-Jun-2023	21-Jun-2023	✓	09-Jun-2023	21-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	07-Jun-2023	09-Jun-2023	21-Jun-2023	✓	09-Jun-2023	21-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	**07-Jun-2023**	**09-Jun-2023**	21-Jun-2023	✓	**09-Jun-2023**	21-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	26	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2310229**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 53213	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH		

Dates

Date Samples Received	: 07-Jun-2023 11:45	Issue Date	: 08-Jun-2023
Client Requested Due Date	: 15-Jun-2023	Scheduled Reporting Date	: **15-Jun-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 5.6°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 29 / 28

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EA055-103 Moisture Content	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2310229-001	07-Jun-2023 09:58	OL_EX_420_0.5	✓	✓
EM2310229-002	07-Jun-2023 09:59	OL_EX_421_0.5	✓	✓
EM2310229-003	07-Jun-2023 09:59	OL_EX_422_0.5	✓	✓
EM2310229-004	07-Jun-2023 10:01	OL_EX_422_1.5	✓	✓
EM2310229-005	07-Jun-2023 10:02	OL_EX_423_0.5	✓	✓
EM2310229-006	07-Jun-2023 10:02	OL_EX_423_1.5	✓	✓
EM2310229-007	07-Jun-2023 10:03	OL_EX_424_0.5	✓	✓
EM2310229-008	07-Jun-2023 10:04	OL_EX_424_1.5	✓	✓
EM2310229-009	07-Jun-2023 10:06	OL_EX_QC125	✓	✓
EM2310229-011	07-Jun-2023 10:07	UST_SP_01	✓	✓
EM2310229-012	07-Jun-2023 10:08	UST_SP_02	✓	✓
EM2310229-013	07-Jun-2023 10:08	UST_SP_03	✓	✓
EM2310229-014	07-Jun-2023 10:09	UST_SP_04	✓	✓
EM2310229-015	07-Jun-2023 10:09	UST_SP_05	✓	✓
EM2310229-016	07-Jun-2023 10:10	UST_SP_06	✓	✓
EM2310229-017	07-Jun-2023 10:10	UST_SP_QC126	✓	✓
EM2310229-019	07-Jun-2023 10:12	UST_SP_Ext_59SP_04	✓	✓
EM2310229-020	07-Jun-2023 10:16	UST_SP_Ext_59SP_05	✓	✓
EM2310229-021	07-Jun-2023 10:16	UST_SP_Ext_59SP_06	✓	✓
EM2310229-022	07-Jun-2023 10:16	UST_SP_Ext_59SP_07	✓	✓
EM2310229-023	07-Jun-2023 10:22	OL_EX_SP7_01	✓	✓
EM2310229-024	07-Jun-2023 10:22	OL_EX_SP7_02	✓	✓
EM2310229-028	07-Jun-2023 10:23	OL_EX_SP7_03	✓	✓
EM2310229-029	07-Jun-2023 10:25	OL_EX_SP8_01	✓	✓
EM2310229-030	07-Jun-2023 10:25	OL_EX_SP8_02	✓	✓
EM2310229-031	07-Jun-2023 10:25	OL_EX_SP8_03	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2310229-025	07-Jun-2023 10:23	OL_EX_QCA14		✓	
EM2310229-026	07-Jun-2023 10:24	OL_EX_QC14			✓
EM2310229-027	07-Jun-2023 10:24	OL_EX_QCC09	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

COC#: 53213 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 7/6/23 11.45	DATE TIME:	DATE TIME:

FREIGHT

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_EX_420_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
002	OL_EX_421_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
003	OL_EX_422_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
004	OL_EX_422_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
005	OL_EX_423_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
006	OL_EX_423_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
007	OL_EX_424_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
008	OL_EX_424_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
009	OL_EX_QC125			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

Environmental Division
Melbourne
Work Order Reference
EM2310229

Telephone - 61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_QC225	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
011	UST_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
012	UST_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
013	UST_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
014	UST_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
015	UST_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
016	UST_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
017	UST_SP_QC126			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
018	UST_SP_QC226	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_SP_Ext_59SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
020	UST_SP_Ext_59SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
021	UST_SP_Ext_59SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
022	UST_SP_Ext_59SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
023	OL_EX_SP7_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
024	OL_EX_SP7_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
025	OL_EX_QCA14			WATER	ALS: 0 Non ALS: 0	No				X		
026	OL_EX_QC14			WATER	ALS: 0 Non ALS: 0	No			Partial 1/2		Lead only from metals suite	
027	OL_EX_QCC09			WATER	ALS: 0 Non ALS: 0	Yes	-					

CHAIN OF CUSTODY

COC#: **53213** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	OL_EX_SP7_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
029	OL_EX_SP8_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
030	OL_EX_SP8_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
031	OL_EX_SP8_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_EX_420_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_EX_421_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_EX_422_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
004	OL_EX_422_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_EX_423_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_EX_423_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_EX_424_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_EX_424_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_EX_QC125	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_EX_QC225	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	UST_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	UST_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	UST_SP_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	UST_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	UST_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 53213 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

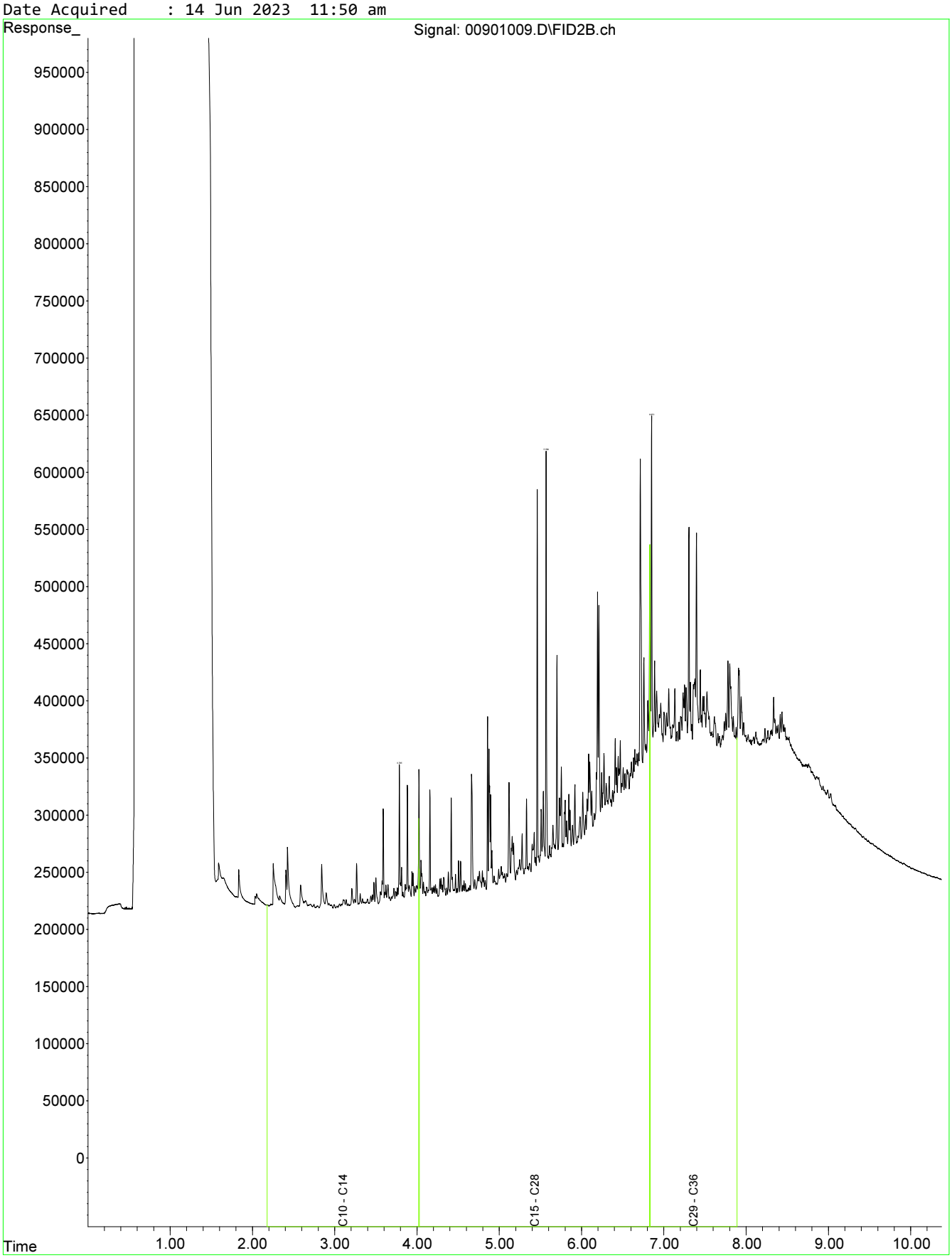
Random Sample Temperature on Receipt: °C

Other comments:

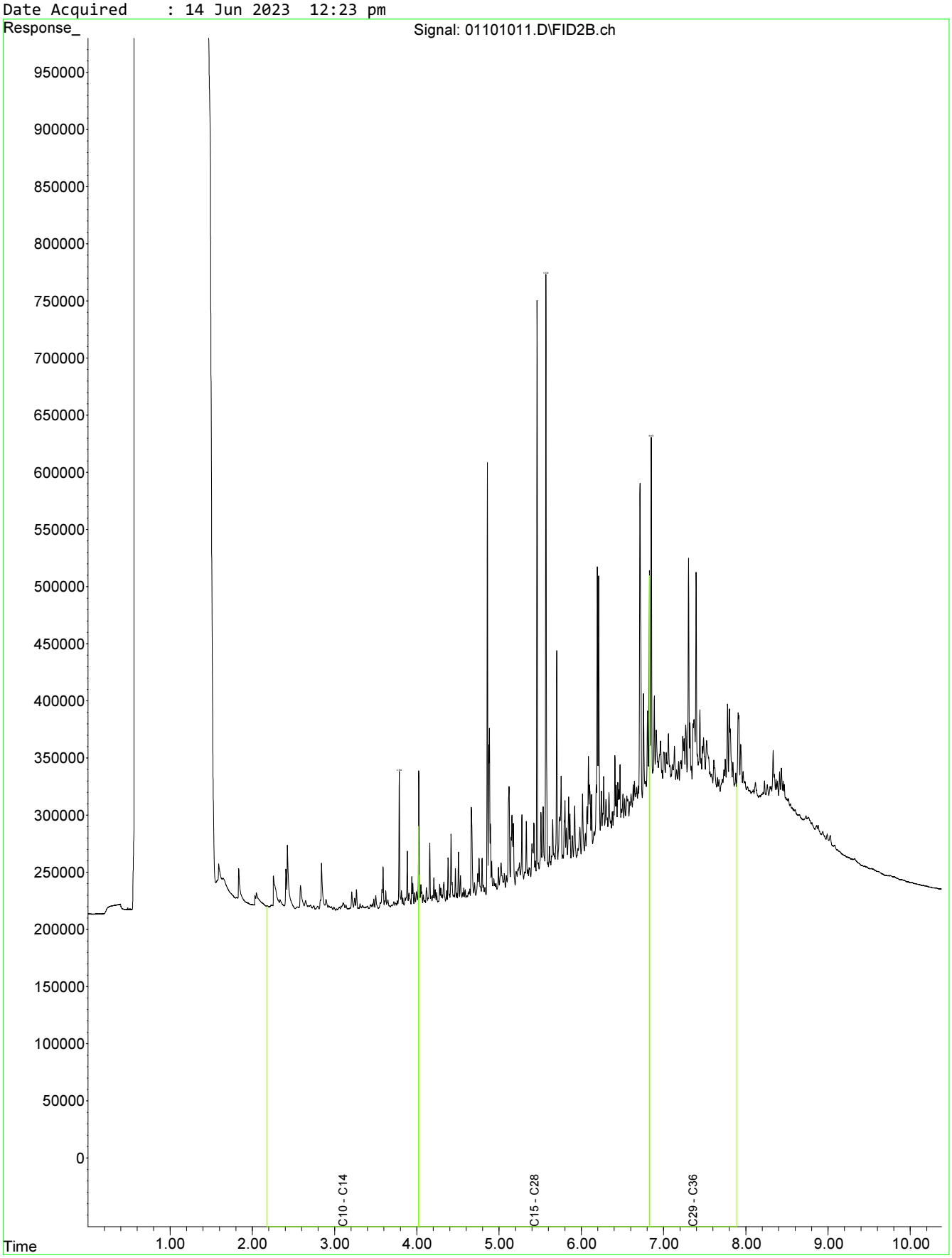
016	UST_SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	UST_SP_QC126	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	UST_SP_QC226	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	UST_SP_Ext_59SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	UST_SP_Ext_59SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
021	UST_SP_Ext_59SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	UST_SP_Ext_59SP_07	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
023	OL_EX_SP7_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
024	OL_EX_SP7_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
026	OL_EX_QC14	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
028	OL_EX_SP7_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
029	OL_EX_SP8_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
030	OL_EX_SP8_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
031	OL_EX_SP8_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

Total Bottle Count: ALS: 0, Non ALS: 0

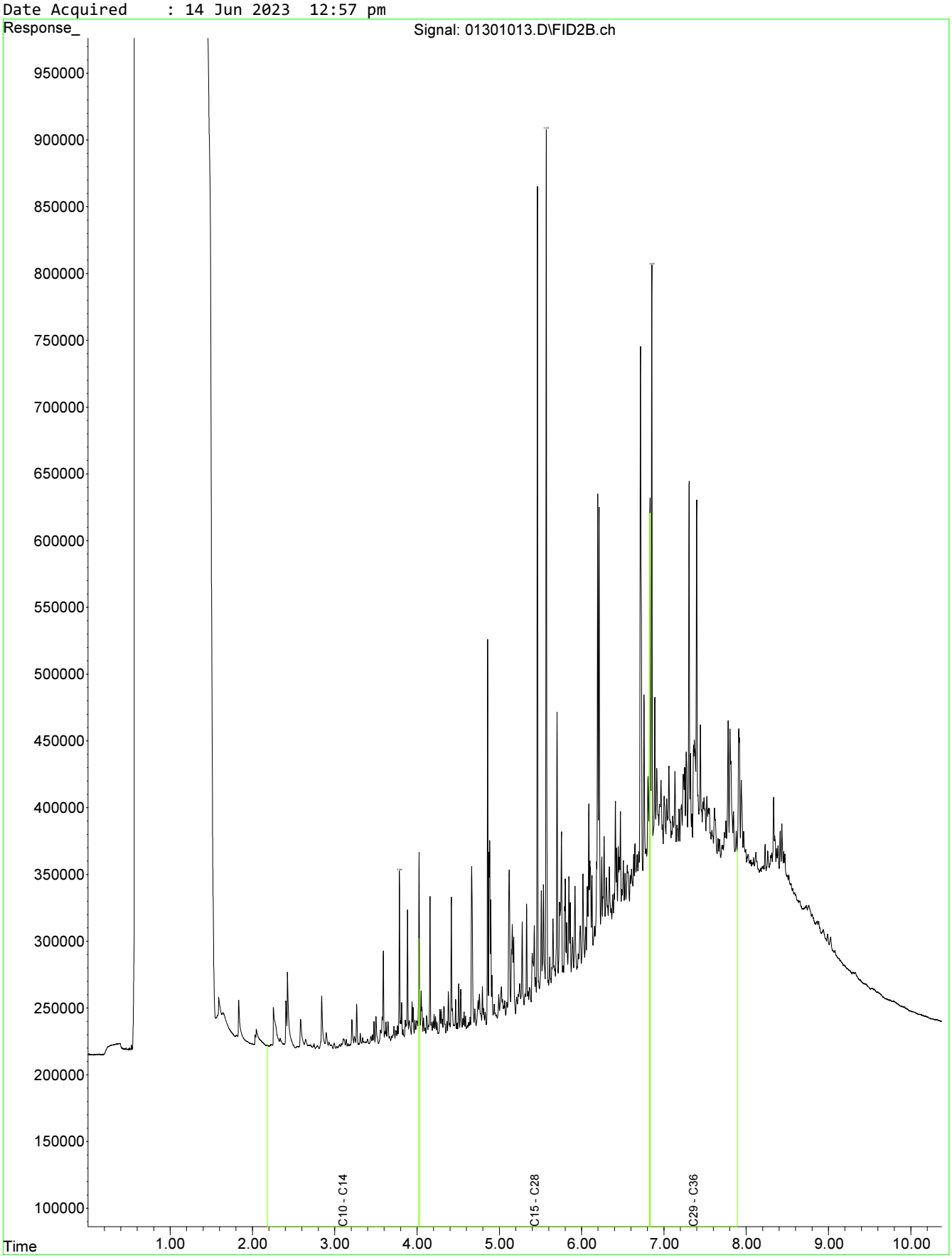
Fraction Scheme : Legacy Fractions
Data File : 00901009.D
Laboratory Number: EM2310229-023
Sample ID : OL_EX_SP7_01
Date Acquired : 14 Jun 2023 11:50 am



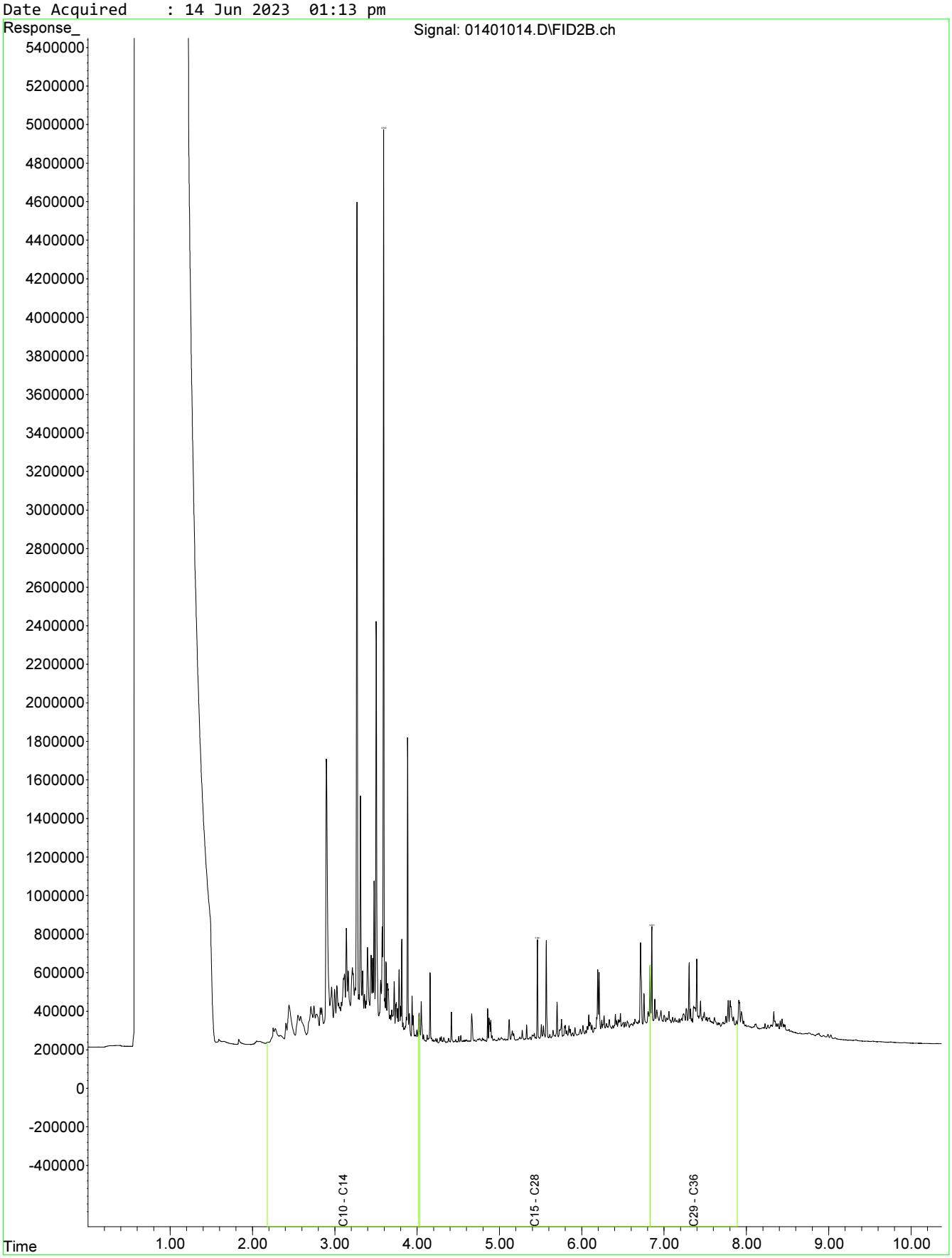
Fraction Scheme : Legacy Fractions
Data File : 01101011.D
Laboratory Number: EM2310229-024
Sample ID : OL_EX_SP7_02
Date Acquired : 14 Jun 2023 12:23 pm



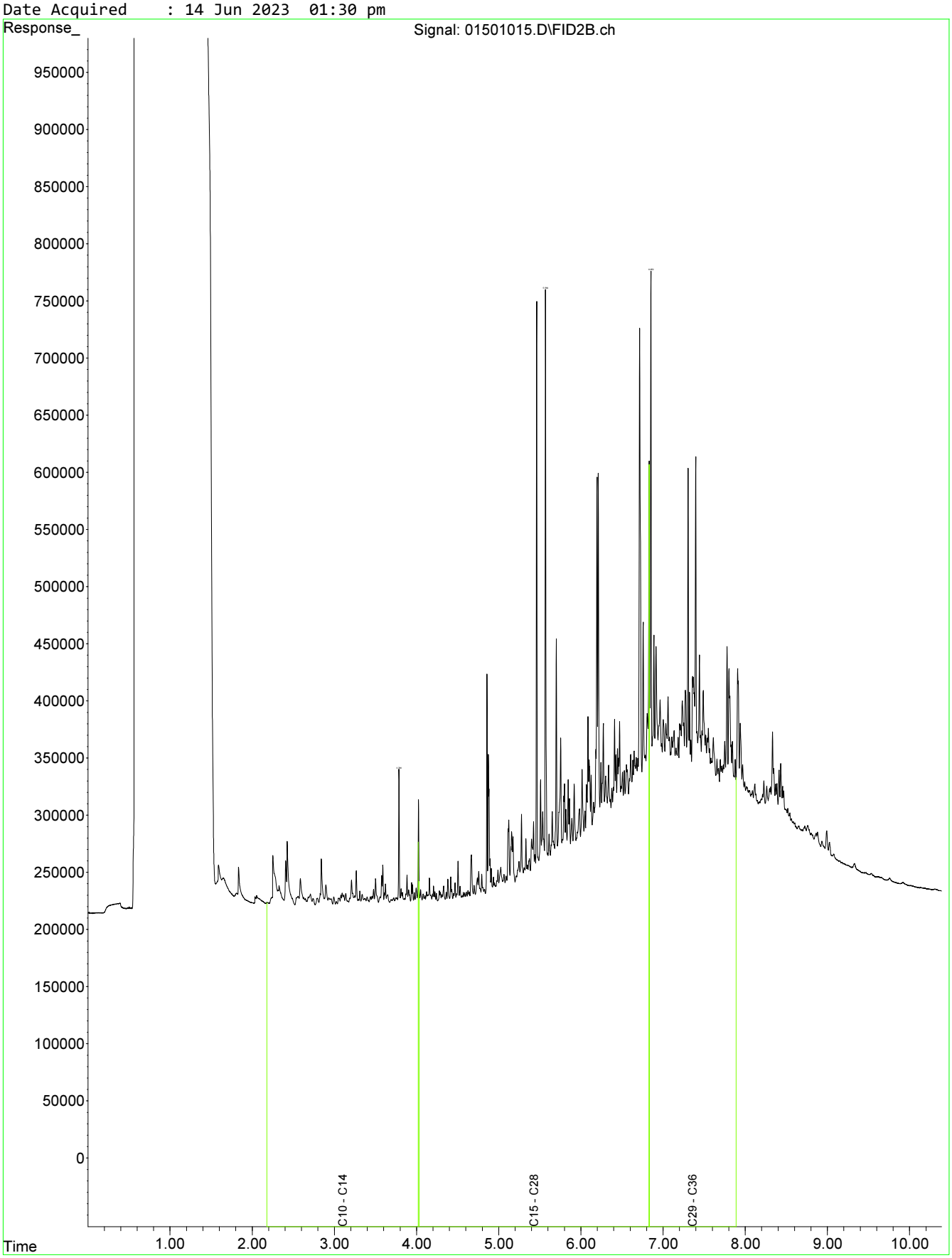
Fraction Scheme : Legacy Fractions
Data File : 01301013.D
Laboratory Number: EM2310229-028
Sample ID : OL_EX_SP7_03
Date Acquired : 14 Jun 2023 12:57 pm



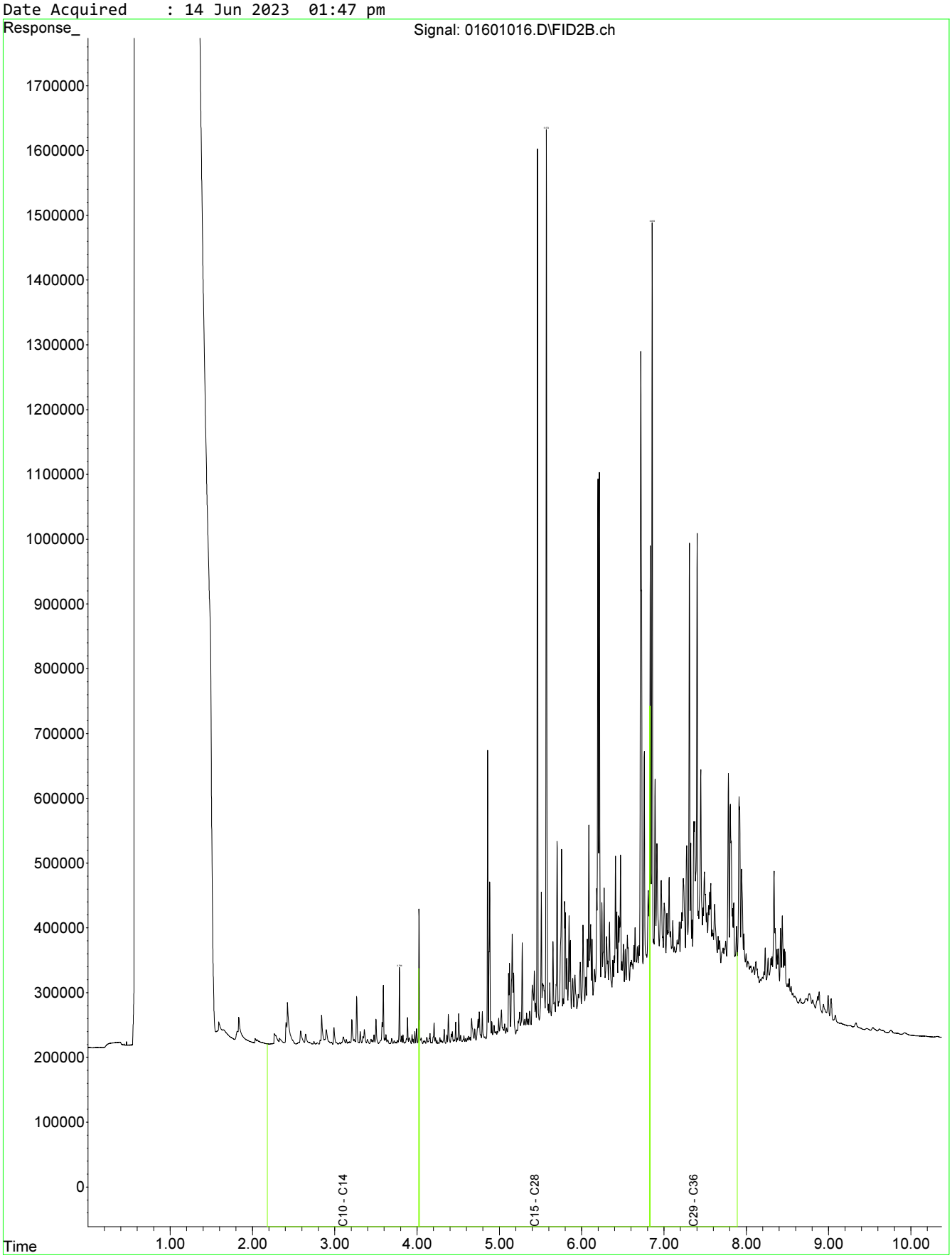
Fraction Scheme : Legacy Fractions
Data File : 01401014.D
Laboratory Number: EM2310229-029
Sample ID : OL_EX_SP8_01
Date Acquired : 14 Jun 2023 01:13 pm



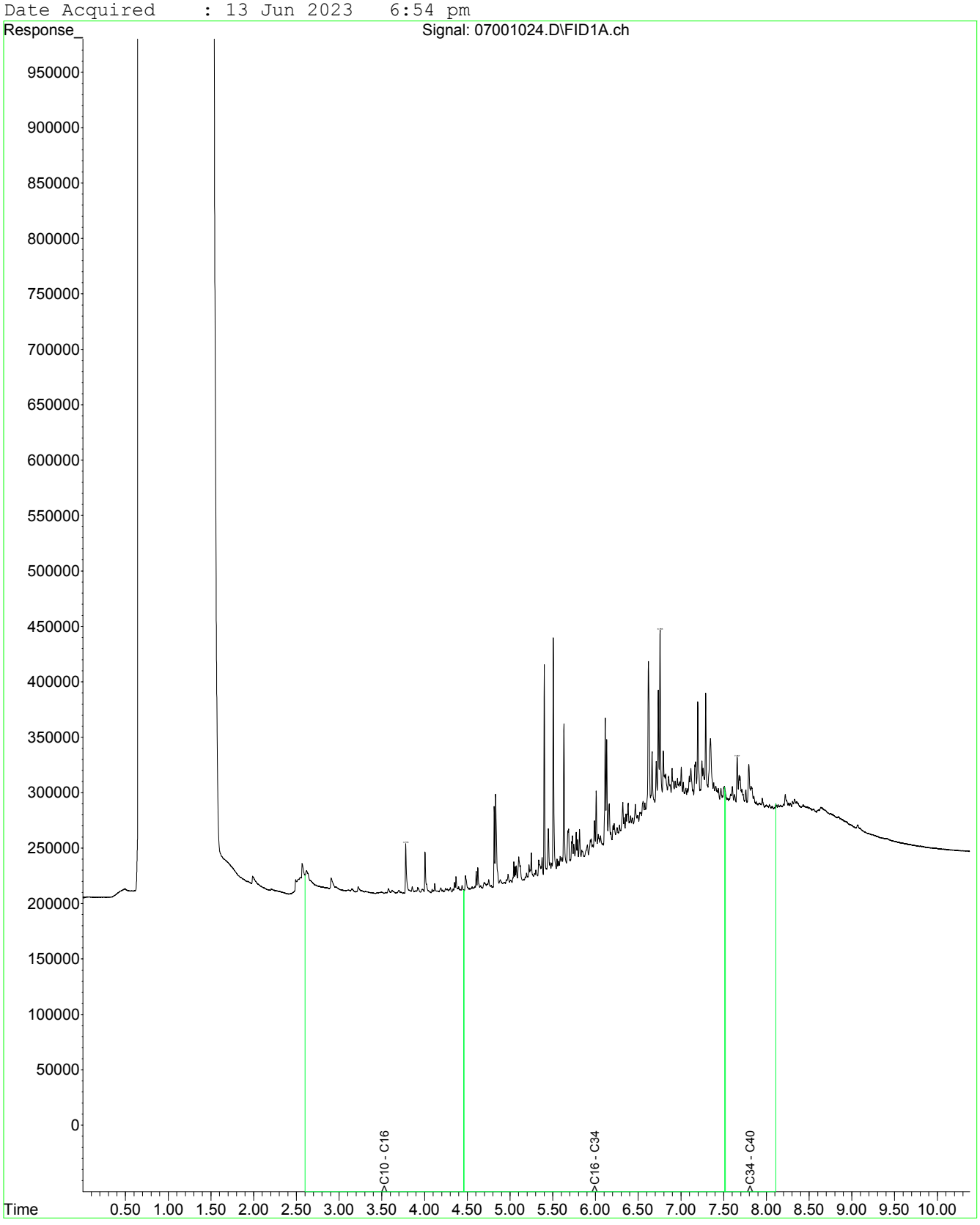
Fraction Scheme : Legacy Fractions
Data File : 01501015.D
Laboratory Number: EM2310229-030
Sample ID : OL_EX_SP8_02
Date Acquired : 14 Jun 2023 01:30 pm



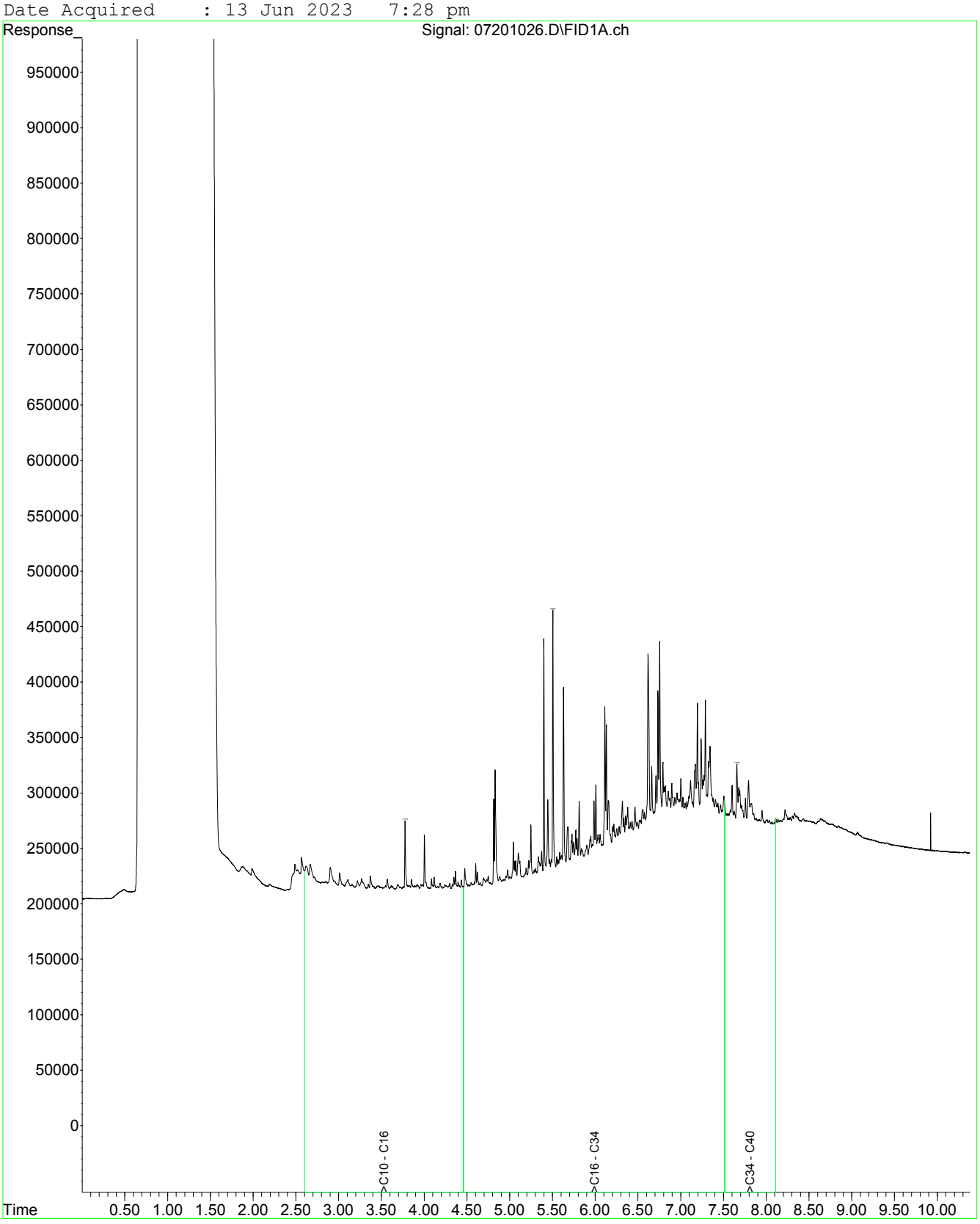
Fraction Scheme : Legacy Fractions
Data File : 01601016.D
Laboratory Number: EM2310229-031
Sample ID : OL_EX_SP8_03
Date Acquired : 14 Jun 2023 01:47 pm



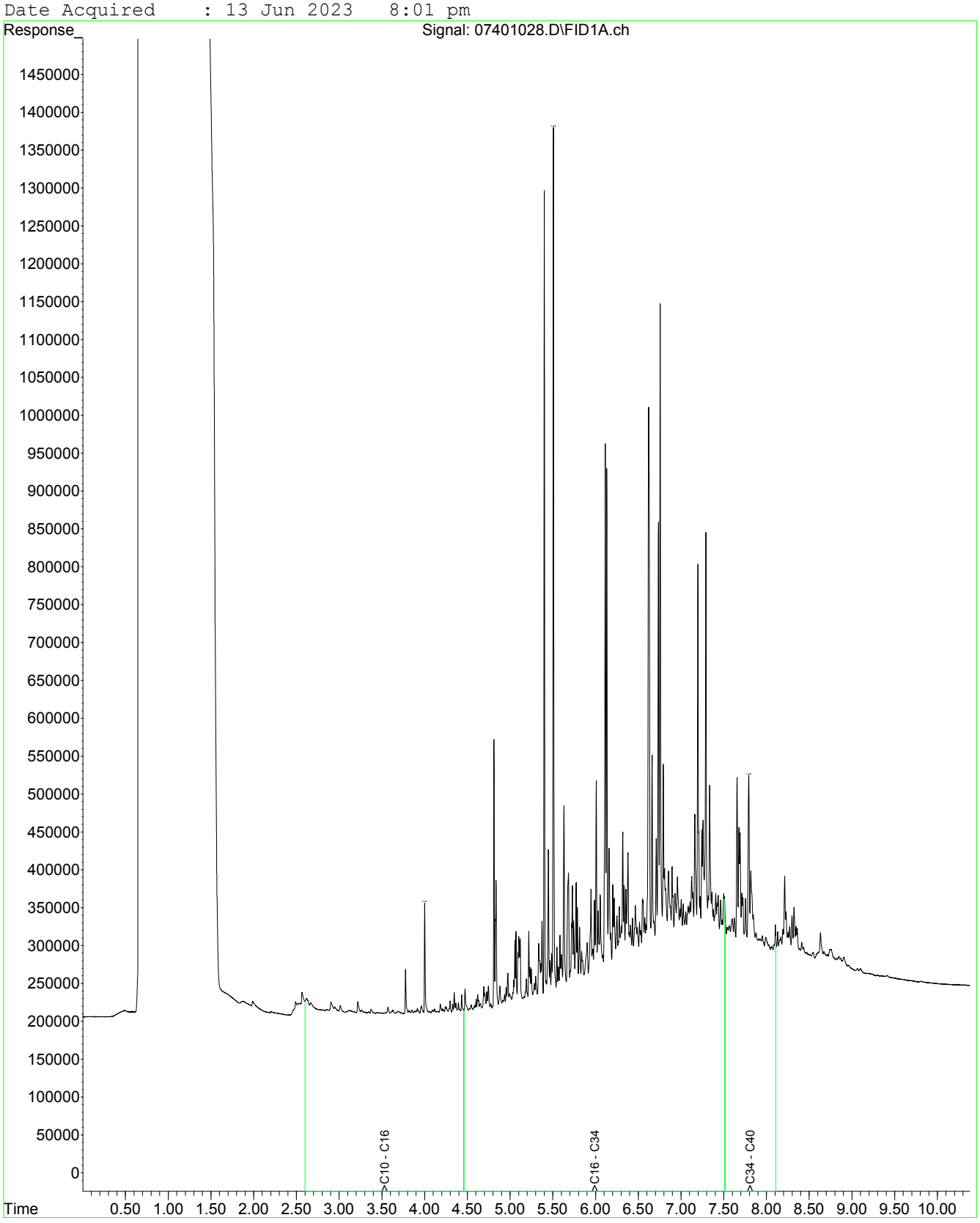
Fraction Scheme : NEPM Draft HIL
Data File : 07001024.D
Laboratory Number: EM2310229-001
Sample ID : OL_EX_420_0.5
Date Acquired : 13 Jun 2023 6:54 pm



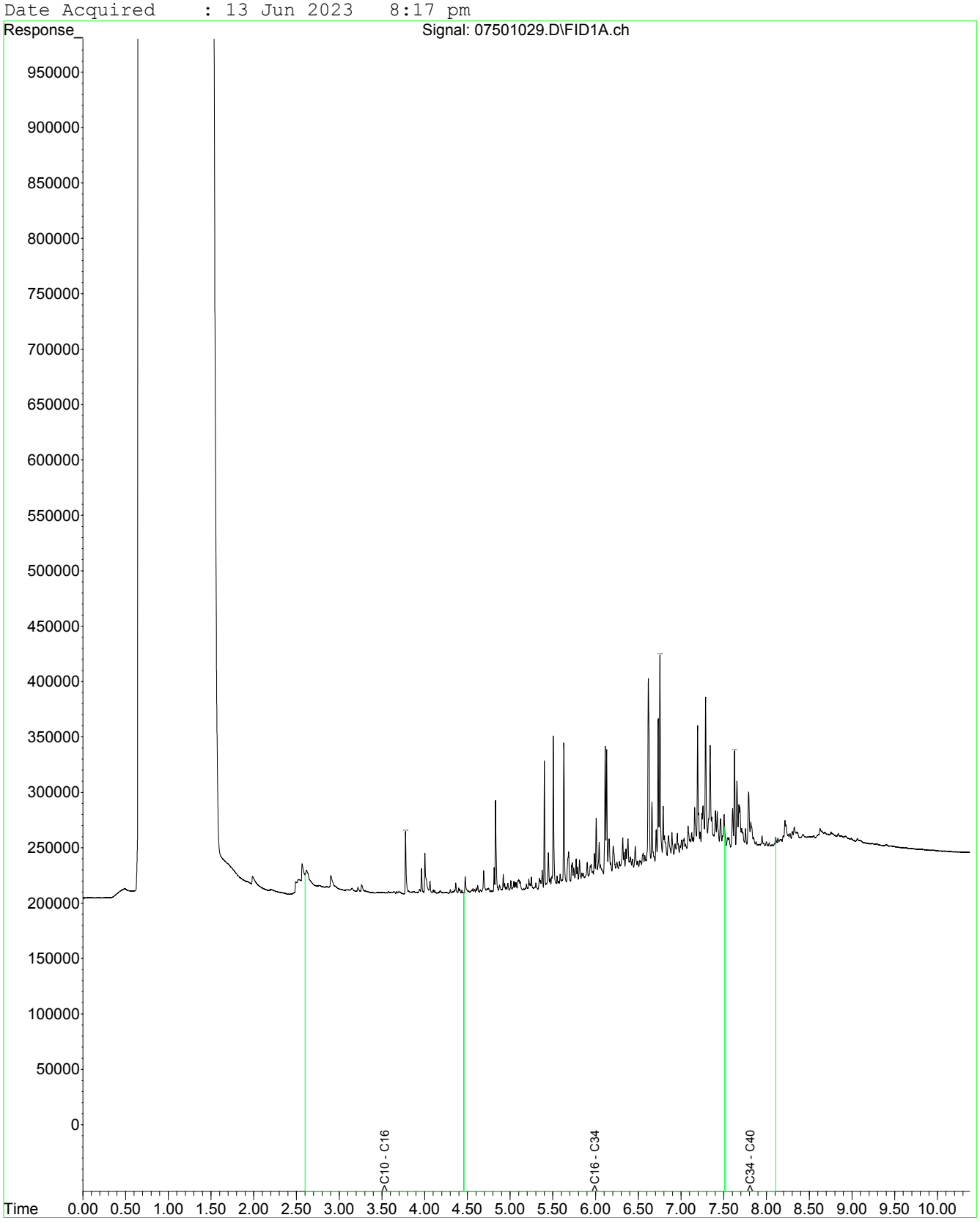
Fraction Scheme : NEPM Draft HIL
Data File : 07201026.D
Laboratory Number: EM2310229-002
Sample ID : OL_EX_421_0.5
Date Acquired : 13 Jun 2023 7:28 pm



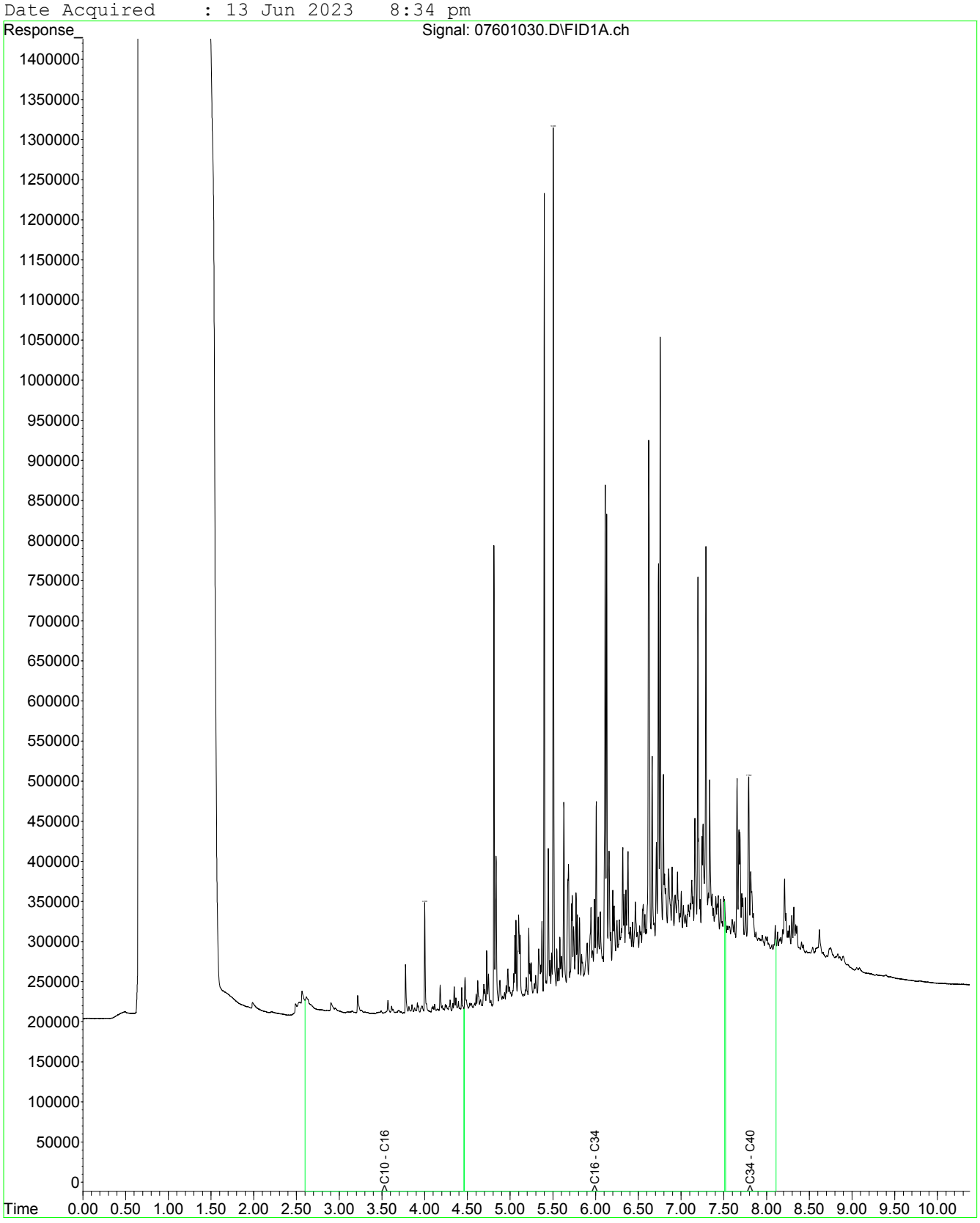
Fraction Scheme : NEPM Draft HIL
Data File : 07401028.D
Laboratory Number: EM2310229-003
Sample ID : OL_EX_422_0.5
Date Acquired : 13 Jun 2023 8:01 pm



Fraction Scheme : NEPM Draft HIL
Data File : 07501029.D
Laboratory Number: EM2310229-004
Sample ID : OL_EX_422_1.5
Date Acquired : 13 Jun 2023 8:17 pm



Fraction Scheme : NEPM Draft HIL
Data File : 07601030.D
Laboratory Number: EM2310229-005
Sample ID : OL_EX_423_0.5
Date Acquired : 13 Jun 2023 8:34 pm



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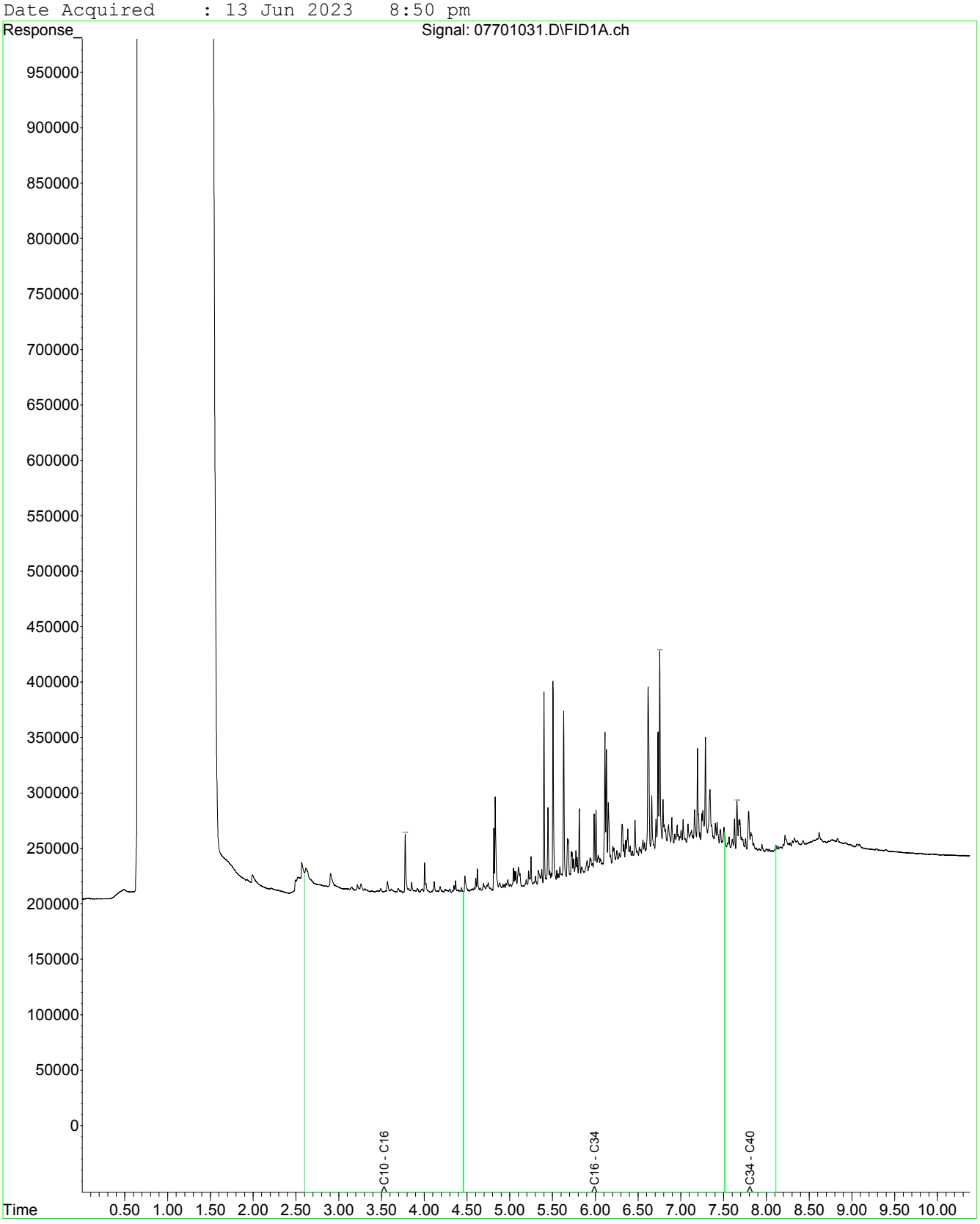
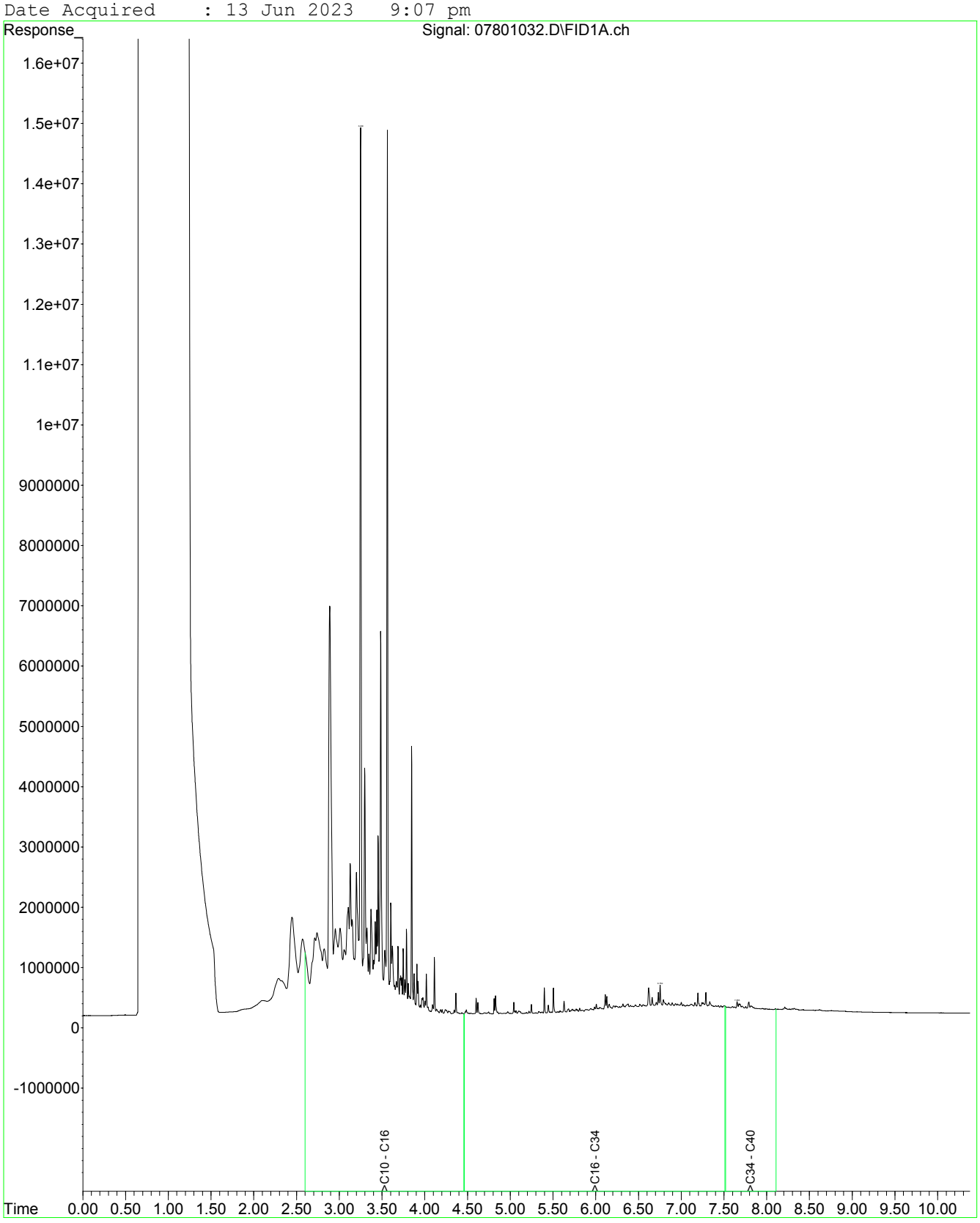
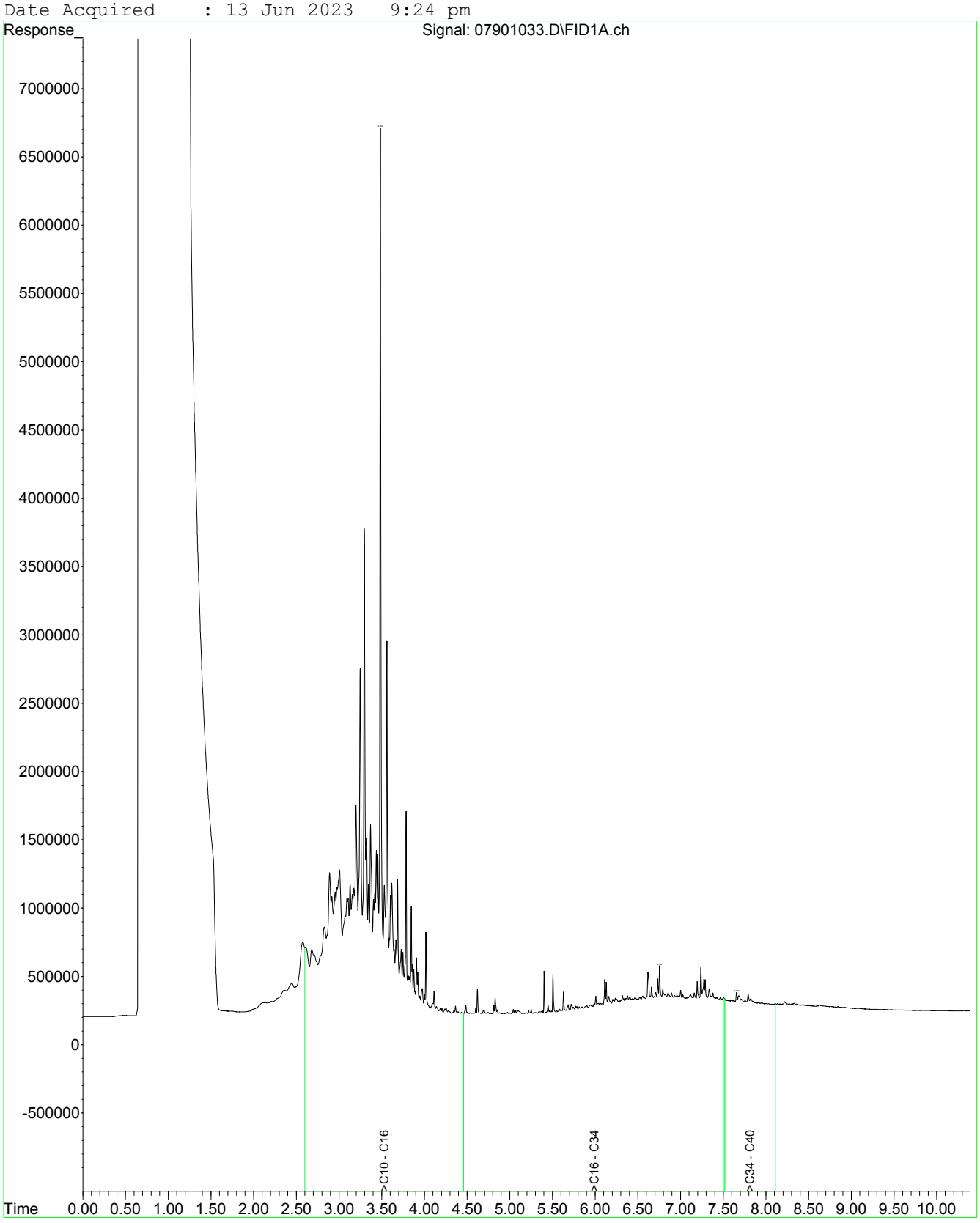
Data File : 07701031.D
Laboratory Number: EM2310229-006
Sample ID : OL_EX_423_1.5
Date Acquired : 13 Jun 2023 8:50 pm



Fraction Scheme : NEPM Draft HIL
Data File : 07801032.D
Laboratory Number: EM2310229-007
Sample ID : OL_EX_424_0.5
Date Acquired : 13 Jun 2023 9:07 pm



Fraction Scheme : NEPM Draft HIL
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



Fraction Scheme : NEPM Draft HIL
Data File : 07901033.D
Laboratory Number: EM2310229-008
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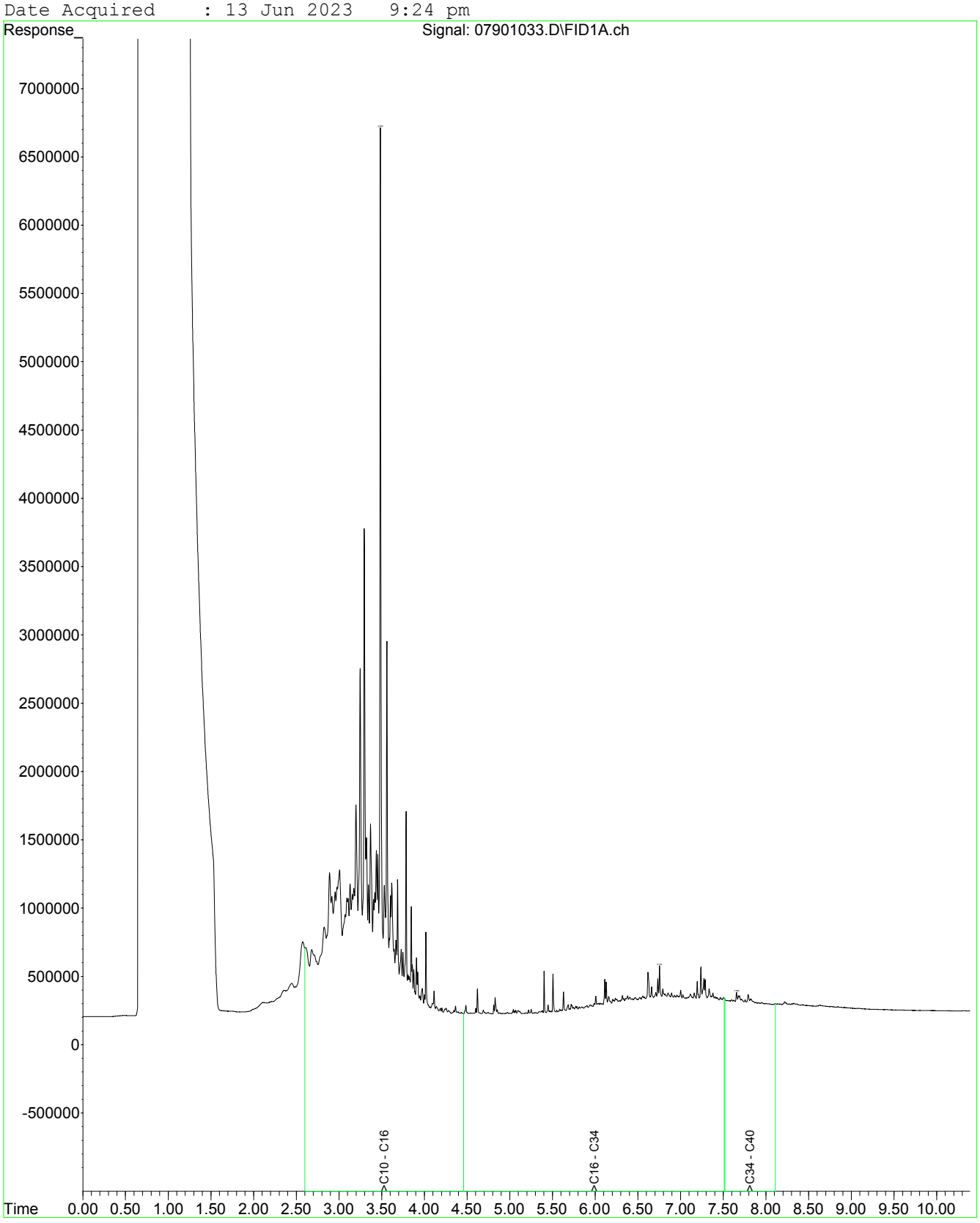
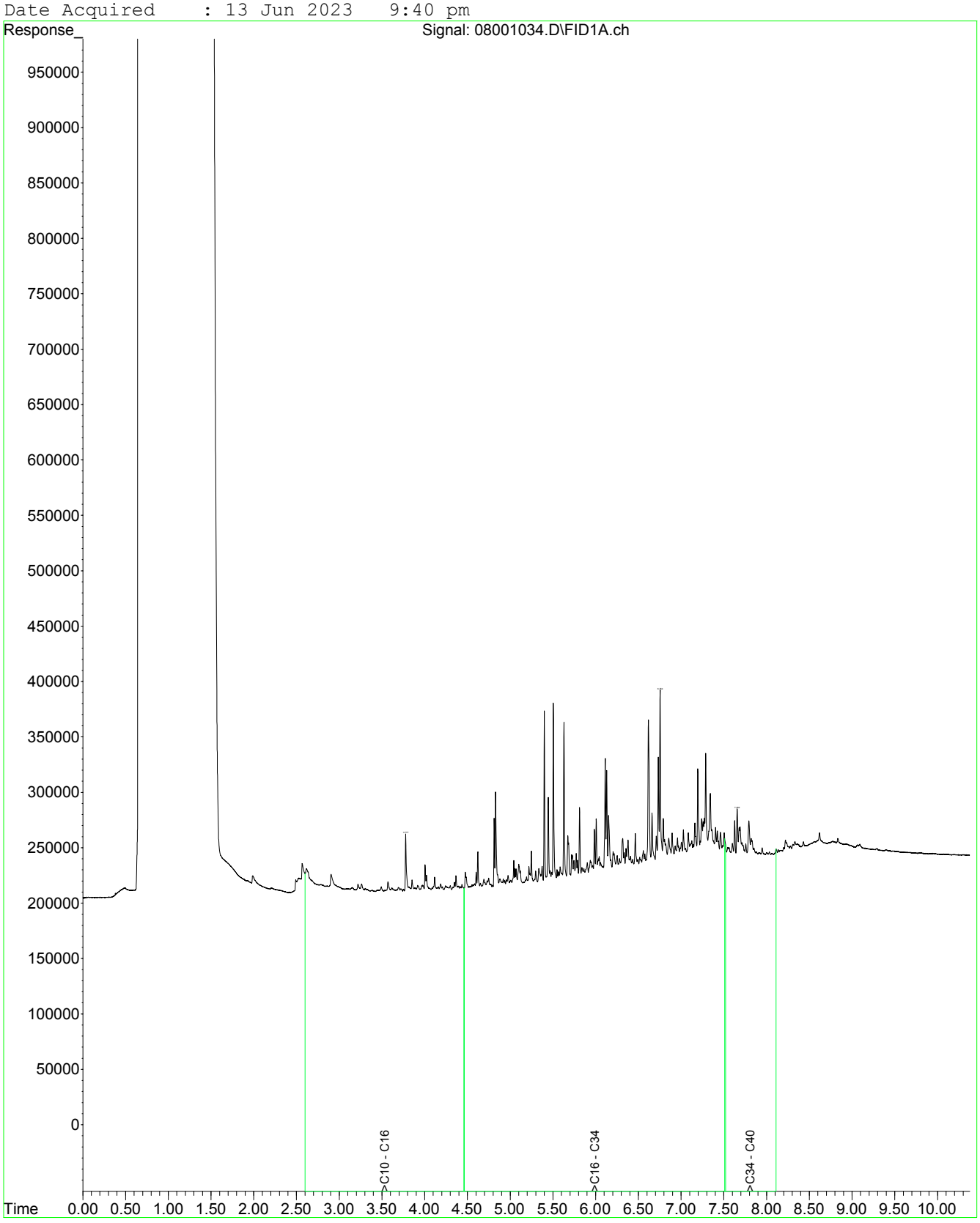
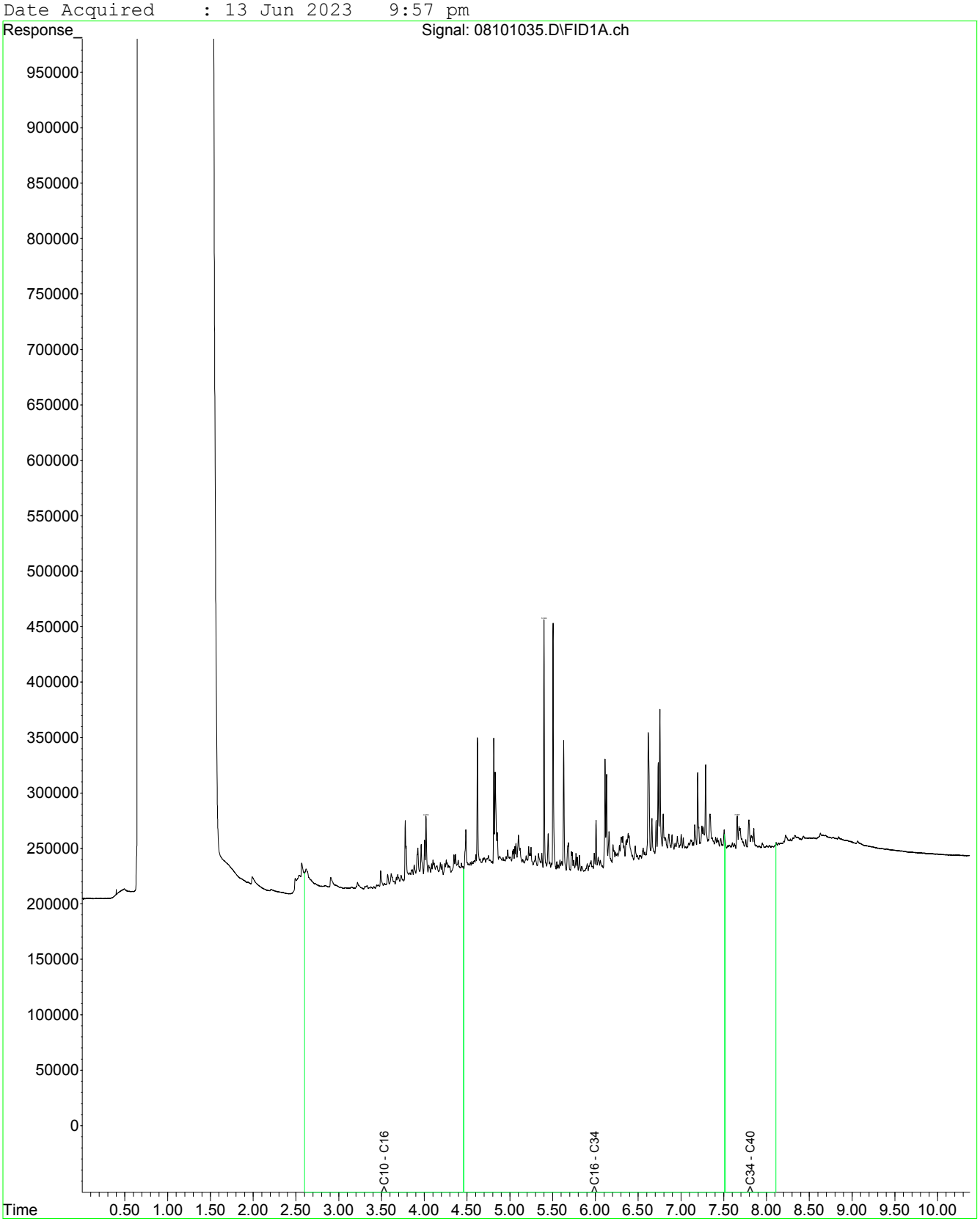
Date Acquired : 13 Jun 2023 9:24 pm



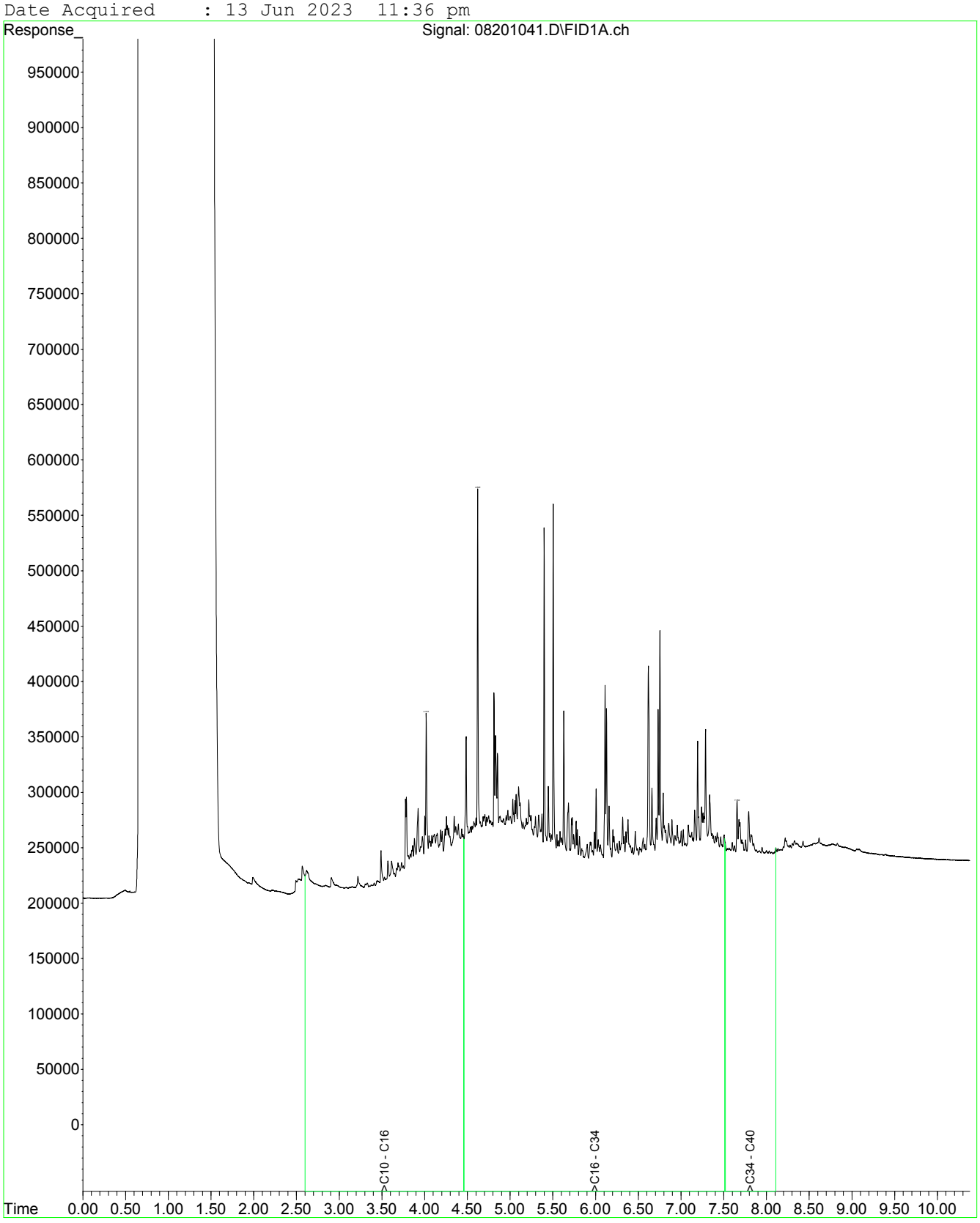
Fraction Scheme : NEPM Draft HIL
Data File : 08001034.D
Laboratory Number: EM2310229-009
Sample ID : OL_EX_QC125
Date Acquired : 13 Jun 2023 9:40 pm



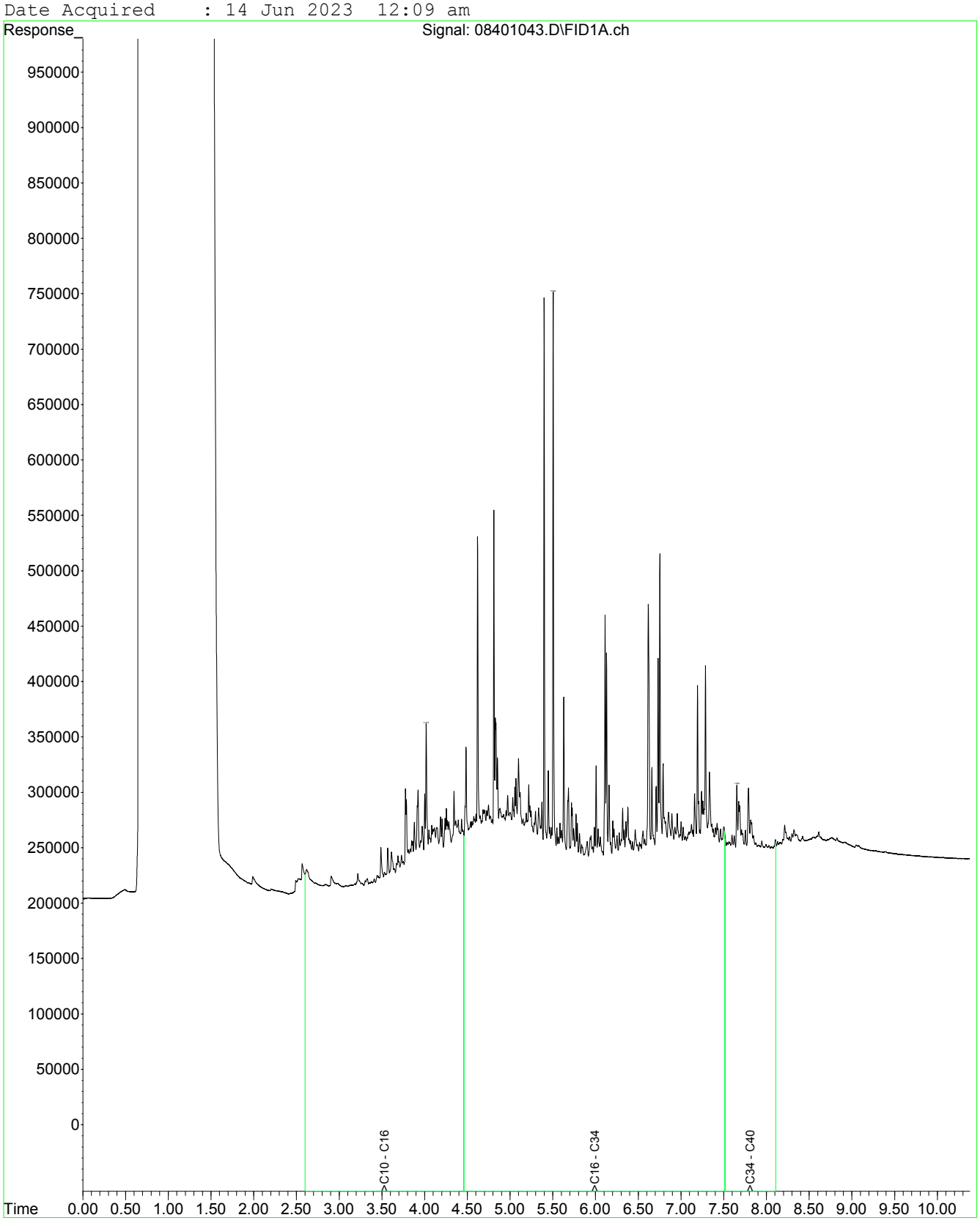
Fraction Scheme : NEPM Draft HIL
Data File : 08101035.D
Laboratory Number: EM2310229-011
Sample ID : UST_SP_01
Date Acquired : 13 Jun 2023 9:57 pm



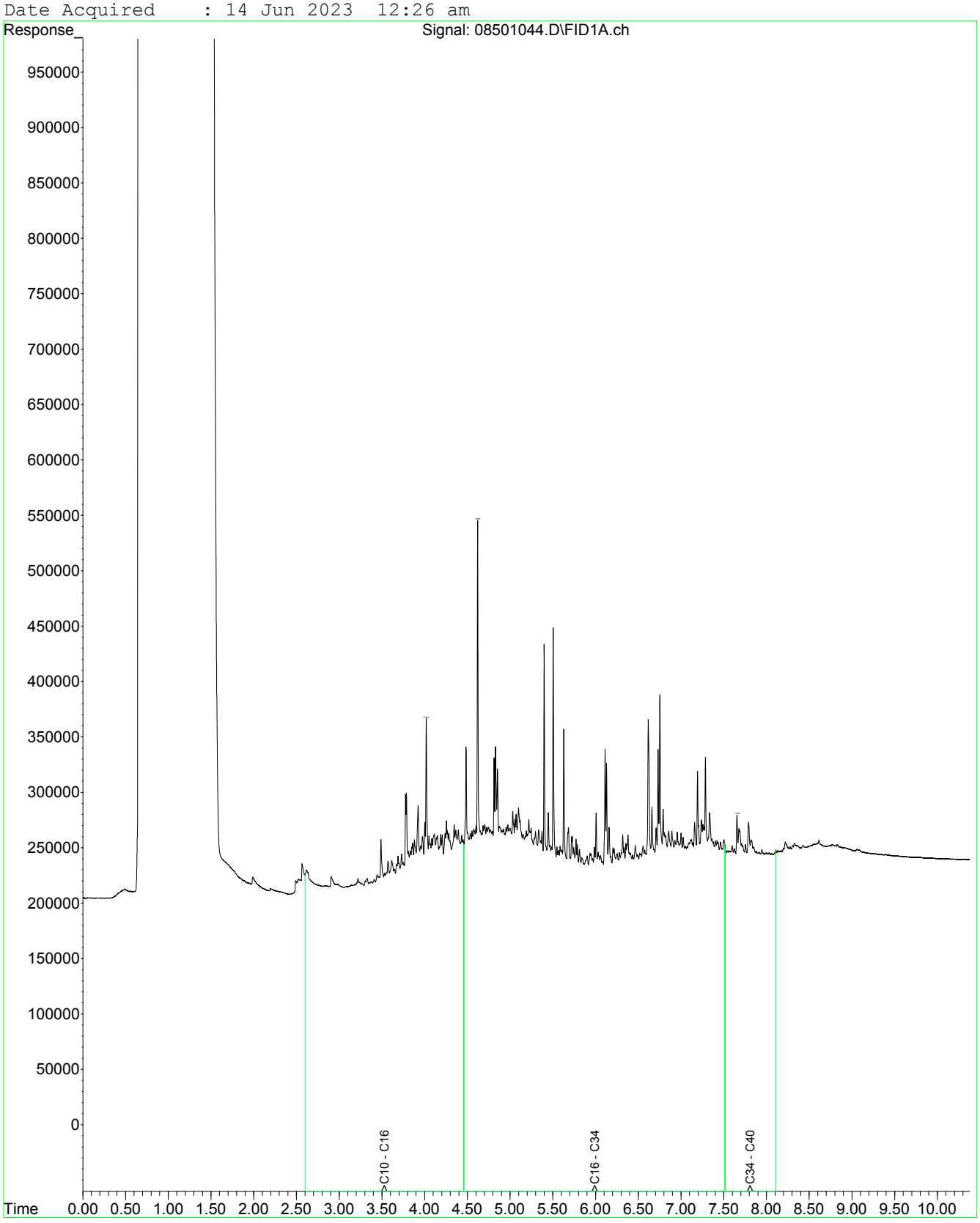
Fraction Scheme : NEPM Draft HIL
Data File : 08201041.D
Laboratory Number: EM2310229-012
Sample ID : UST_SP_02
Date Acquired : 13 Jun 2023 11:36 pm



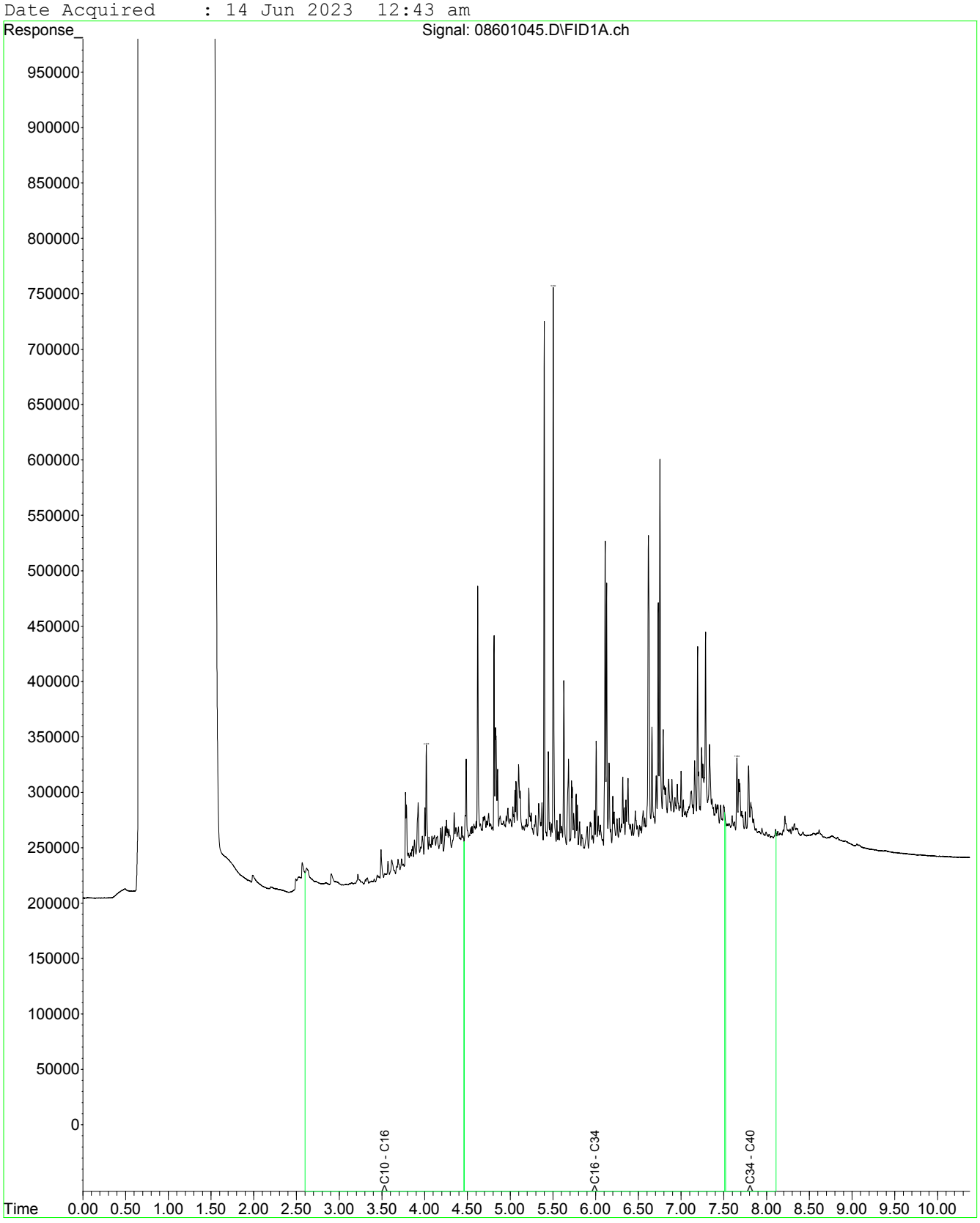
Fraction Scheme : NEPM Draft HIL
Data File : 08401043.D
Laboratory Number: EM2310229-013
Sample ID : UST_SP_03
Date Acquired : 14 Jun 2023 12:09 am



Fraction Scheme : NEPM Draft HIL
Data File : 08501044.D
Laboratory Number: EM2310229-014
Sample ID : UST_SP_04
Date Acquired : 14 Jun 2023 12:26 am



Fraction Scheme : NEPM Draft HIL
Data File : 08601045.D
Laboratory Number: EM2310229-015
Sample ID : UST_SP_05
Date Acquired : 14 Jun 2023 12:43 am



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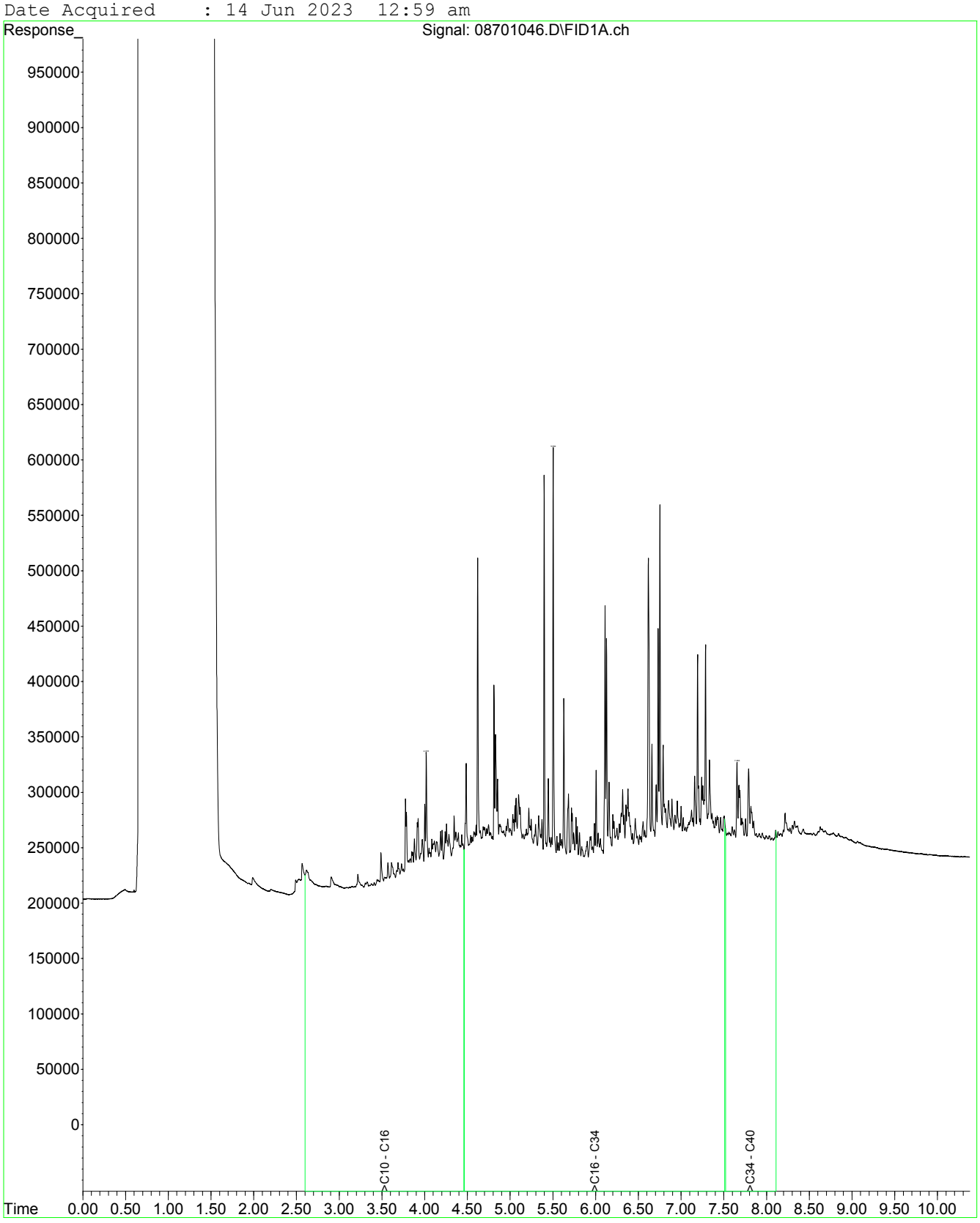
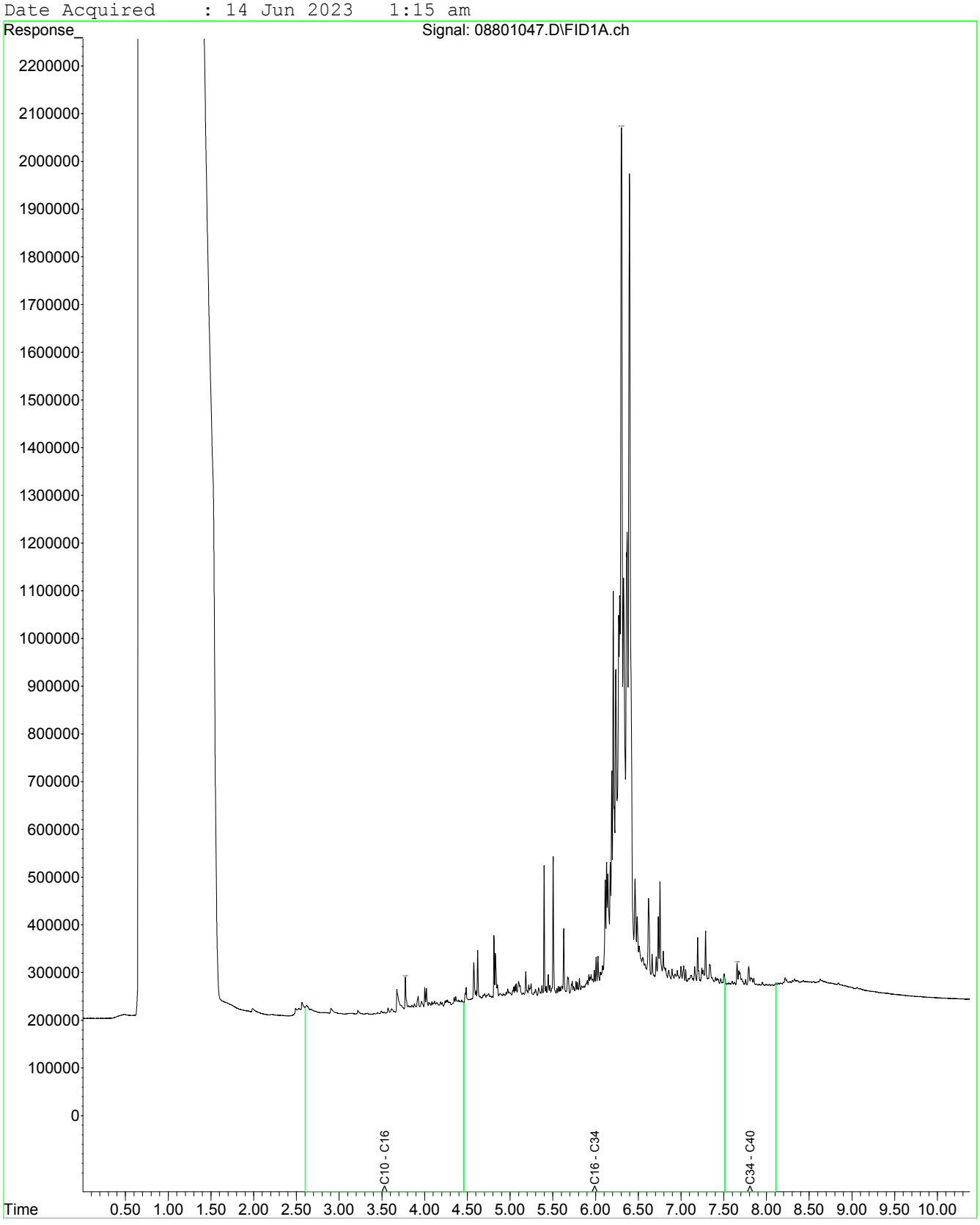
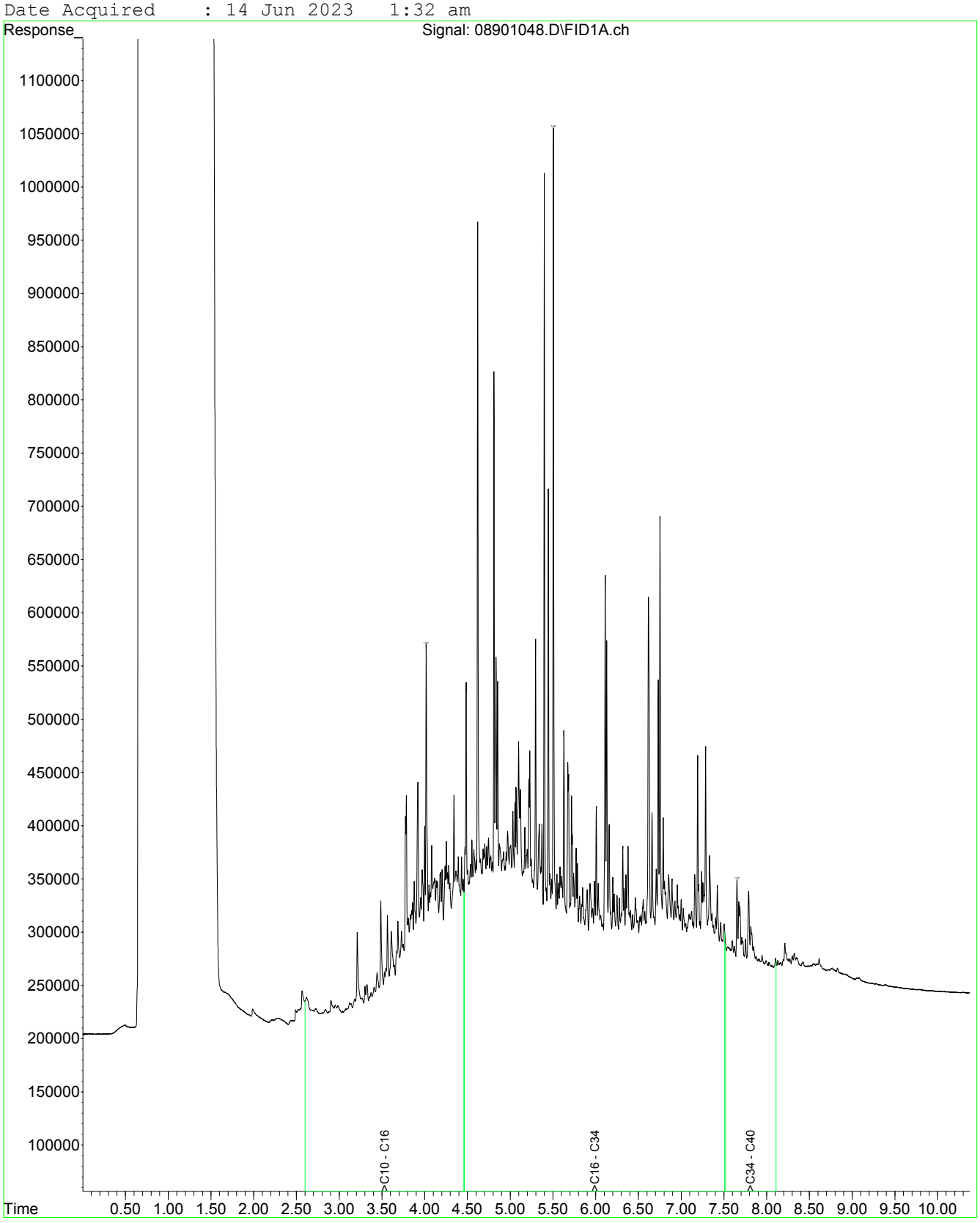
Laboratory Number: EM2310229-016
Sample ID : UST_SP_06
Date Acquired : 14 Jun 2023 12:59 am



Fraction Scheme : NEPM Draft HIL
Data File : 08801047.D
Laboratory Number: EM2310229-017
Sample ID : UST_SP_QC126
Date Acquired : 14 Jun 2023 1:15 am



Fraction Scheme : NEPM Draft HIL
Data File : 08901048.D
Laboratory Number: EM2310229-019
Sample ID : UST_SP_Ext_59SP_04
Date Acquired : 14 Jun 2023 1:32 am



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Data File : 09001049.D
Laboratory Number: EM2310229-020
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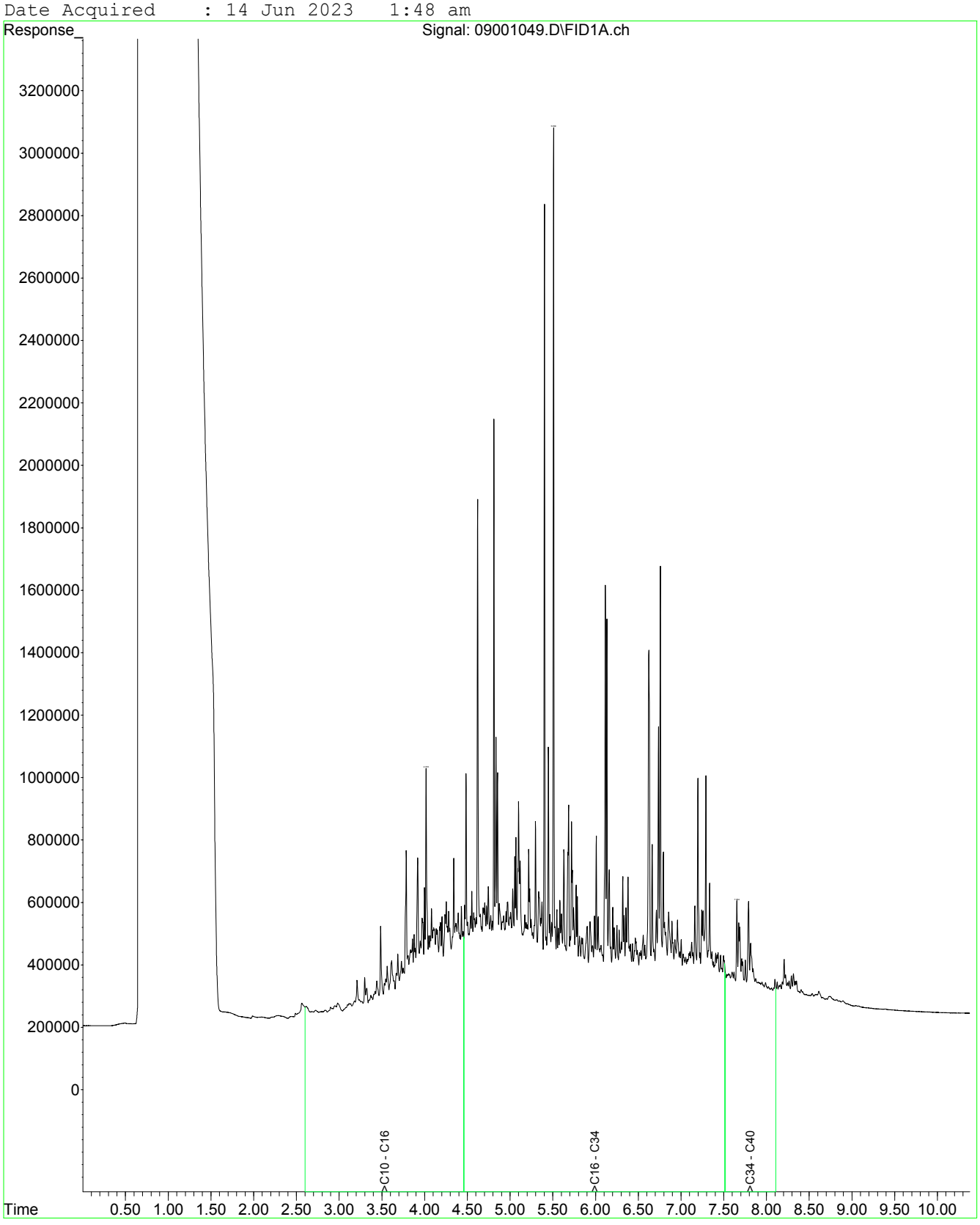
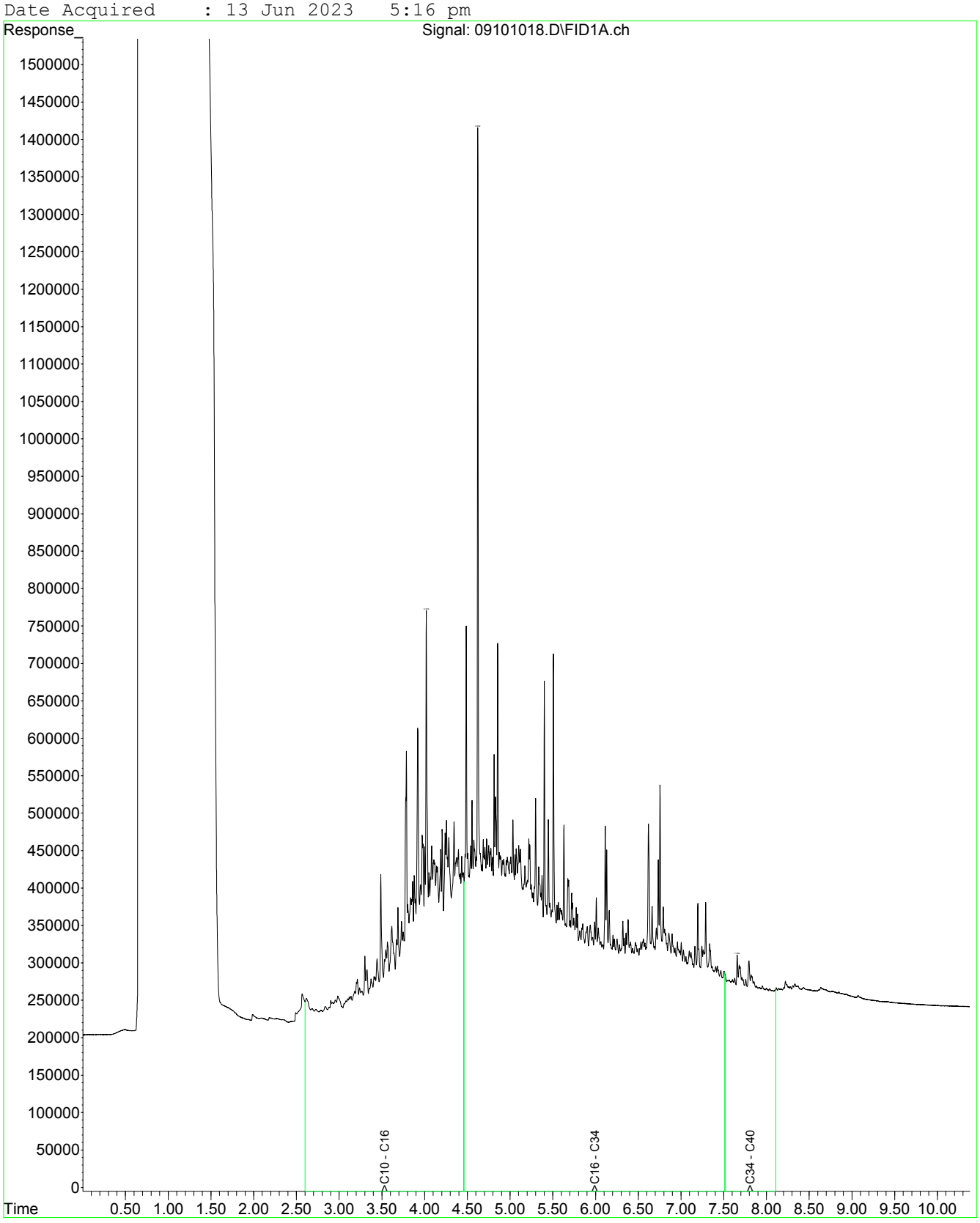
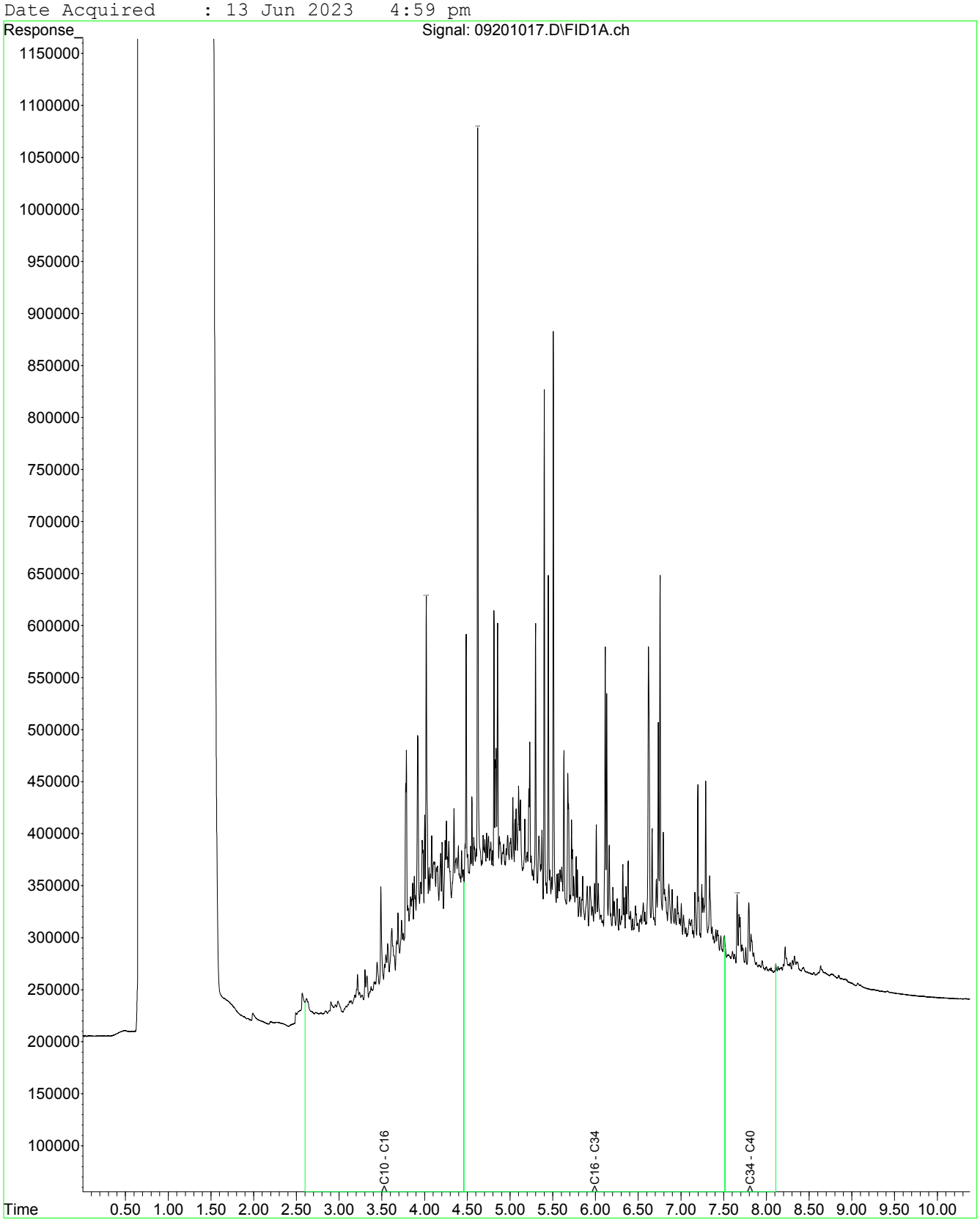
Date Acquired : 14 Jun 2023 1:48 am



Fraction Scheme : NEPM Draft HIL
Data File : 09101018.D
Laboratory Number: EM2310229-021
Sample ID : UST_SP_Ext_59SP_06
Date Acquired : 13 Jun 2023 5:16 pm



Fraction Scheme : NEPM Draft HIL
Data File : 09201017.D
Laboratory Number: EM2310229-022
Sample ID : UST_SP_Ext_59SP_07
Date Acquired : 13 Jun 2023 4:59 pm



Fraction Scheme : NEPM Fractions
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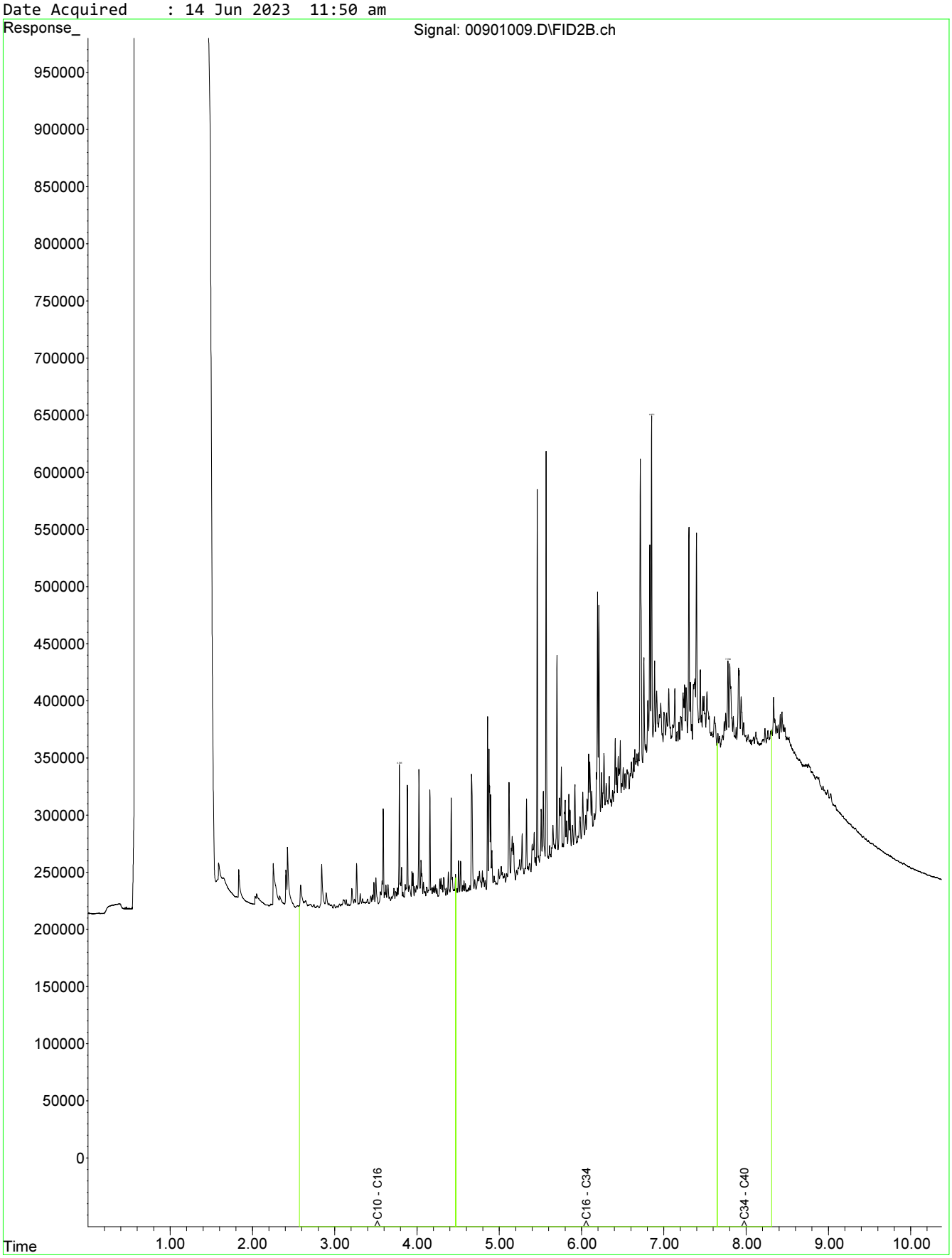
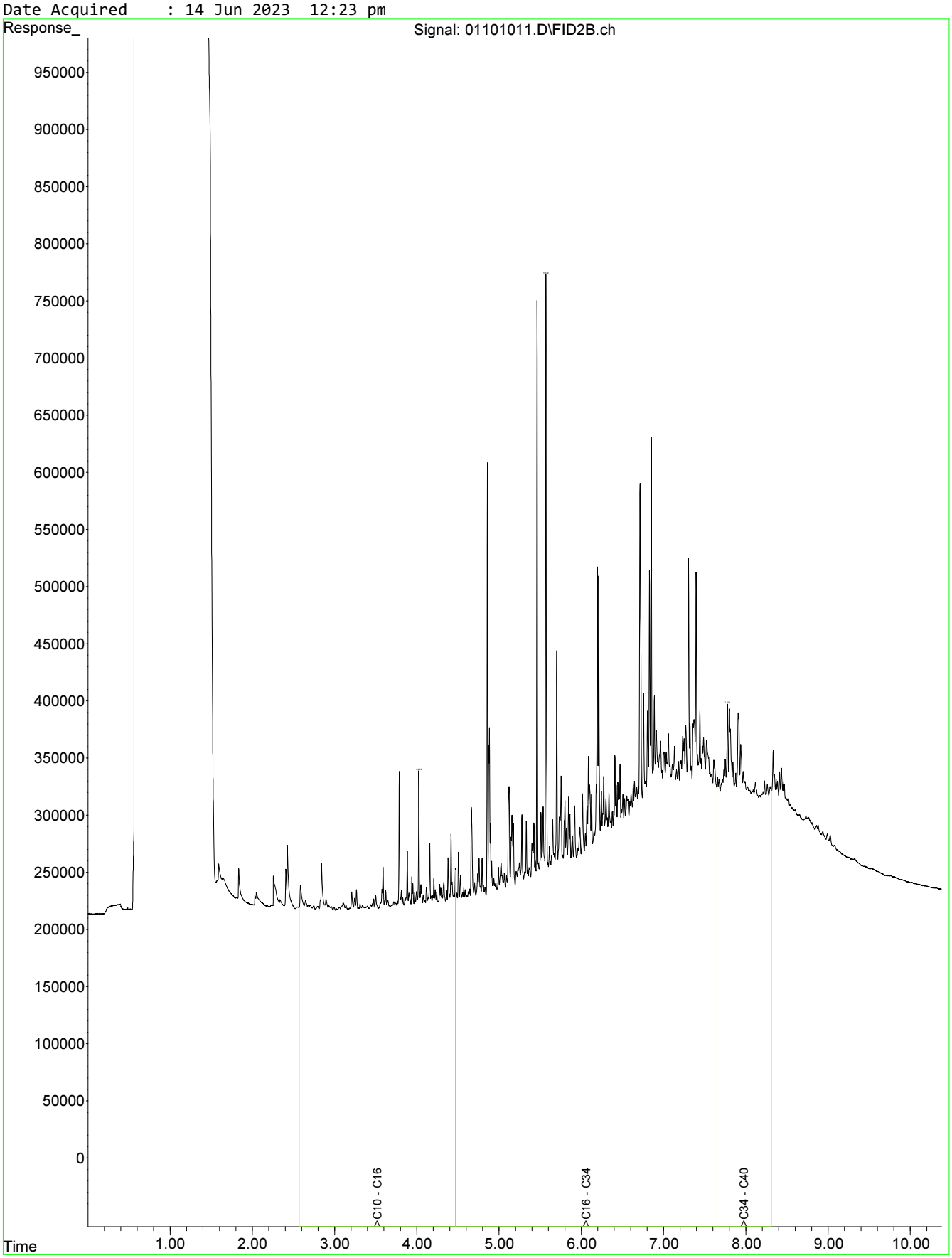
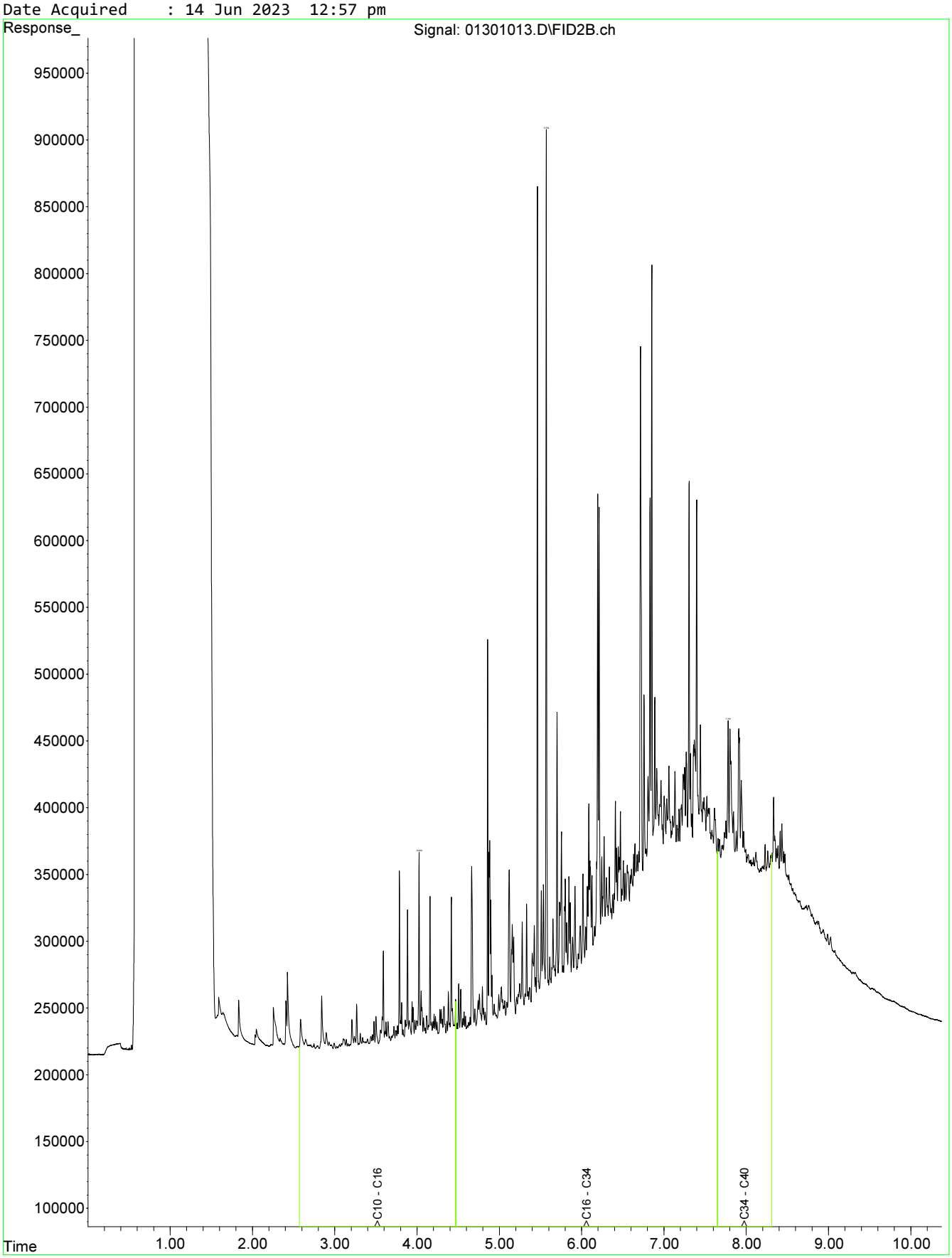
Laboratory Number: EM2310229-023
Sample ID : OL_EX_SP7_01
Date Acquired : 14 Jun 2023 11:50 am



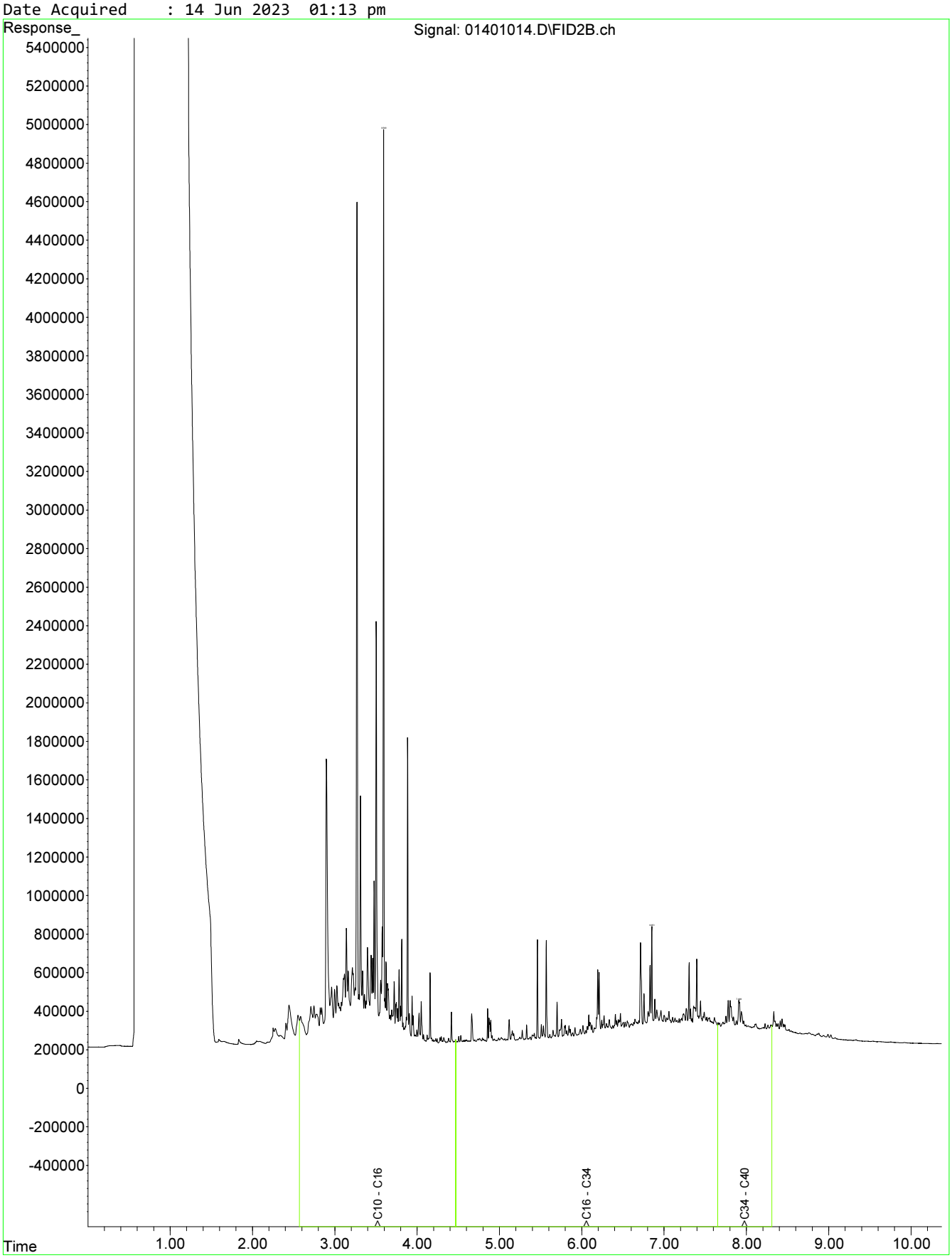
Fraction Scheme : NEPM Fractions
Data File : 01101011.D
Laboratory Number: EM2310229-024
Sample ID : OL_EX_SP7_02
Date Acquired : 14 Jun 2023 12:23 pm



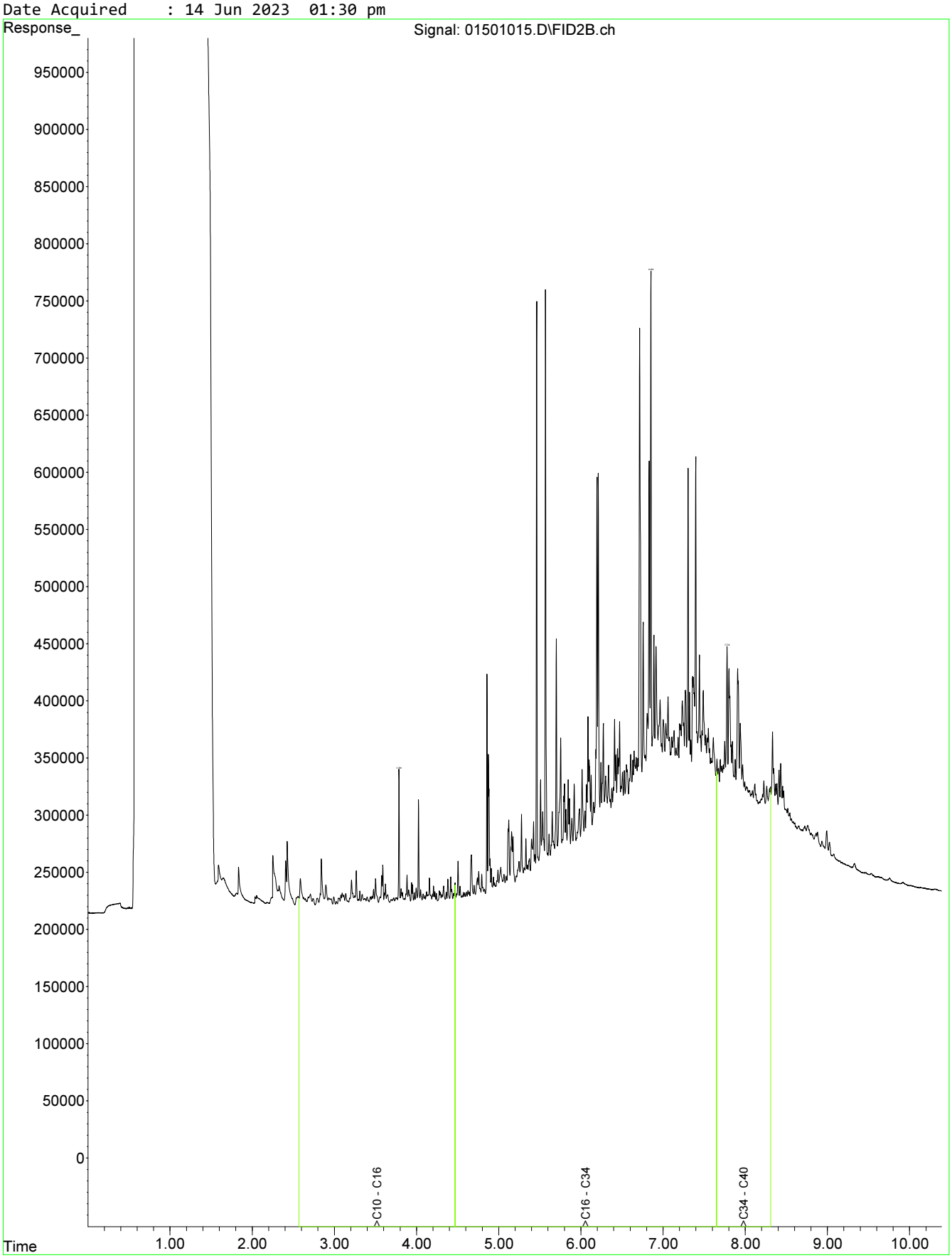
Fraction Scheme : NEPM Fractions
Data File : 01301013.D
Laboratory Number: EM2310229-028
Sample ID : OL_EX_SP7_03
Date Acquired : 14 Jun 2023 12:57 pm



Fraction Scheme : NEPM Fractions
Data File : 01401014.D
Laboratory Number: EM2310229-029
Sample ID : OL_EX_SP8_01
Date Acquired : 14 Jun 2023 01:13 pm



Fraction Scheme : NEPM Fractions
Data File : 01501015.D
Laboratory Number: EM2310229-030
Sample ID : OL_EX_SP8_02
Date Acquired : 14 Jun 2023 01:30 pm



Fraction Scheme : NEPM Fractions
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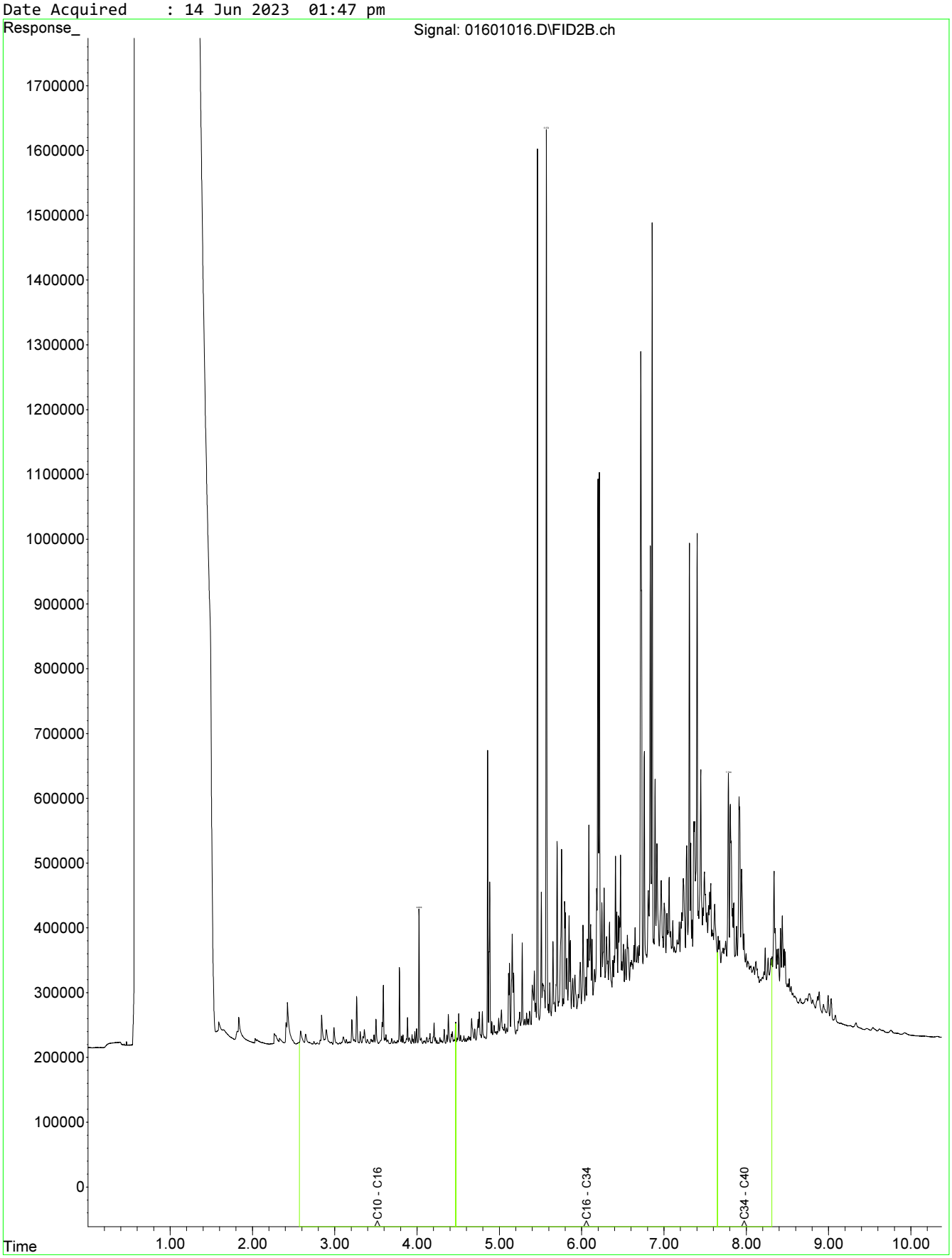
Laboratory Number: EM2310229-031
Sample ID : OL_EX_SP8_03
Date Acquired : 14 Jun 2023 01:47 pm



Fraction Scheme : Standard
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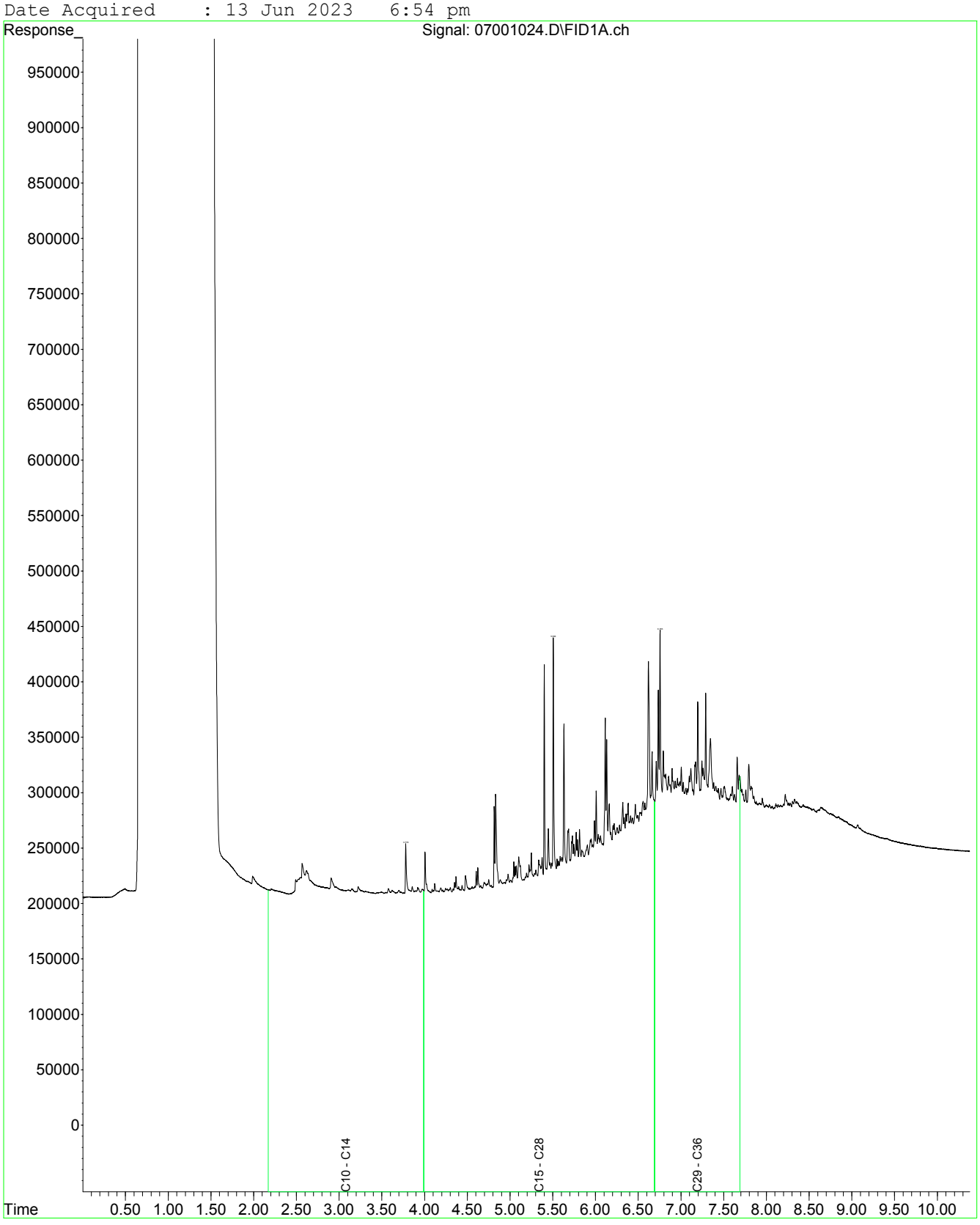
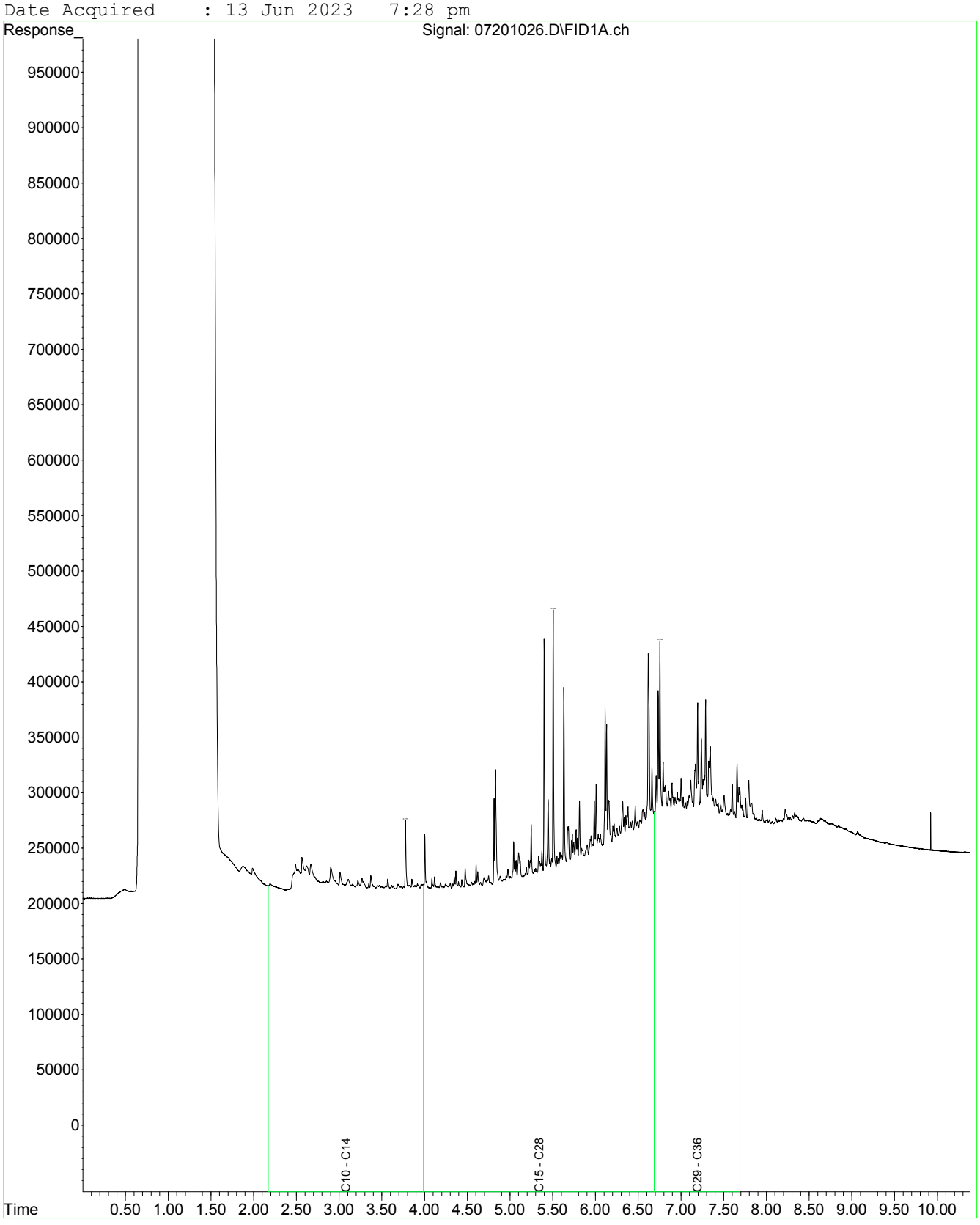
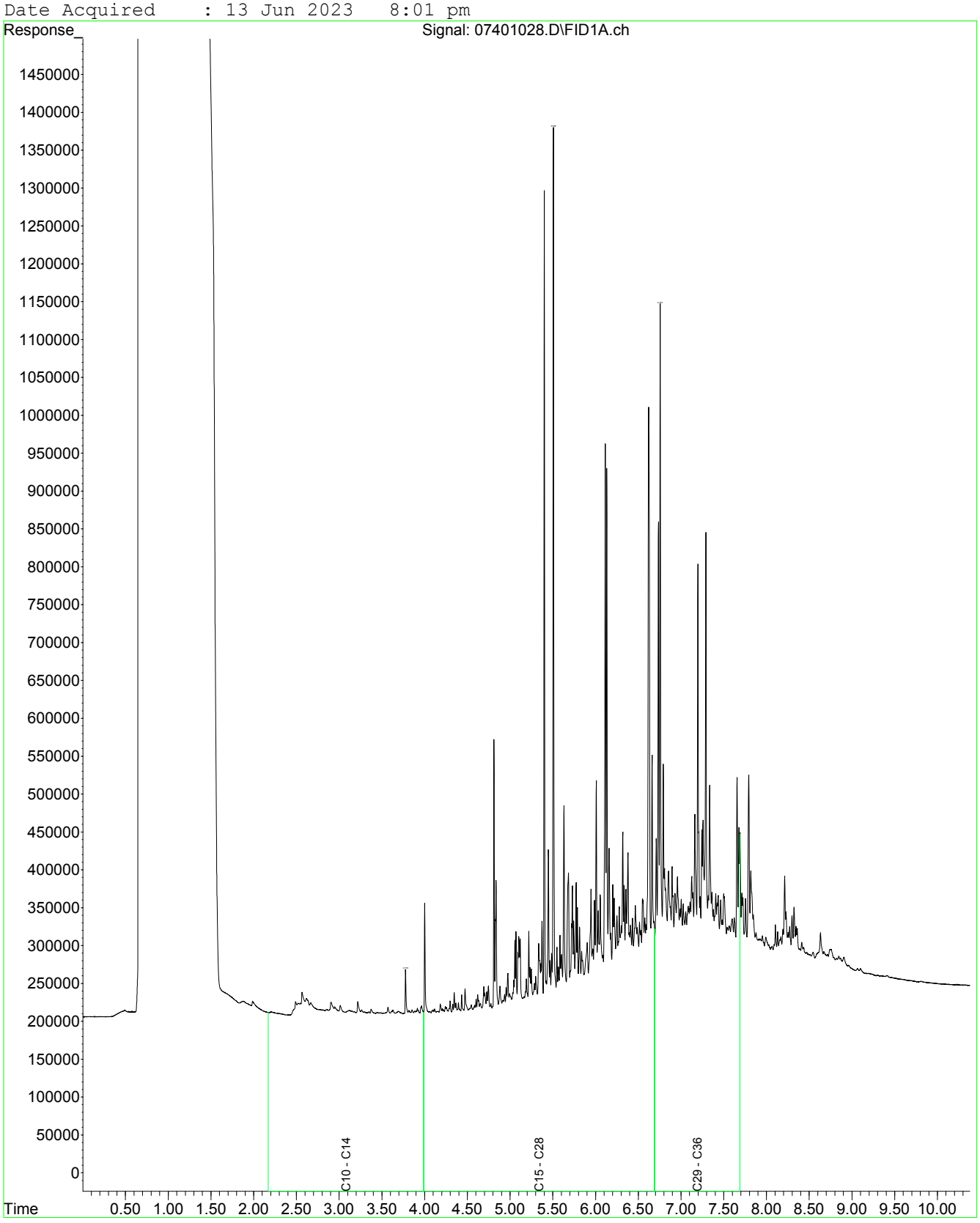
Laboratory Number: EM2310229-001
Sample ID : OL_EX_420_0.5
Date Acquired : 13 Jun 2023 6:54 pm



Fraction Scheme : Standard
Data File : 07201026.D
Laboratory Number: EM2310229-002
Sample ID : OL_EX_421_0.5
Date Acquired : 13 Jun 2023 7:28 pm



Fraction Scheme : Standard
Data File : 07401028.D
Laboratory Number: EM2310229-003
Sample ID : OL_EX_422_0.5
Date Acquired : 13 Jun 2023 8:01 pm



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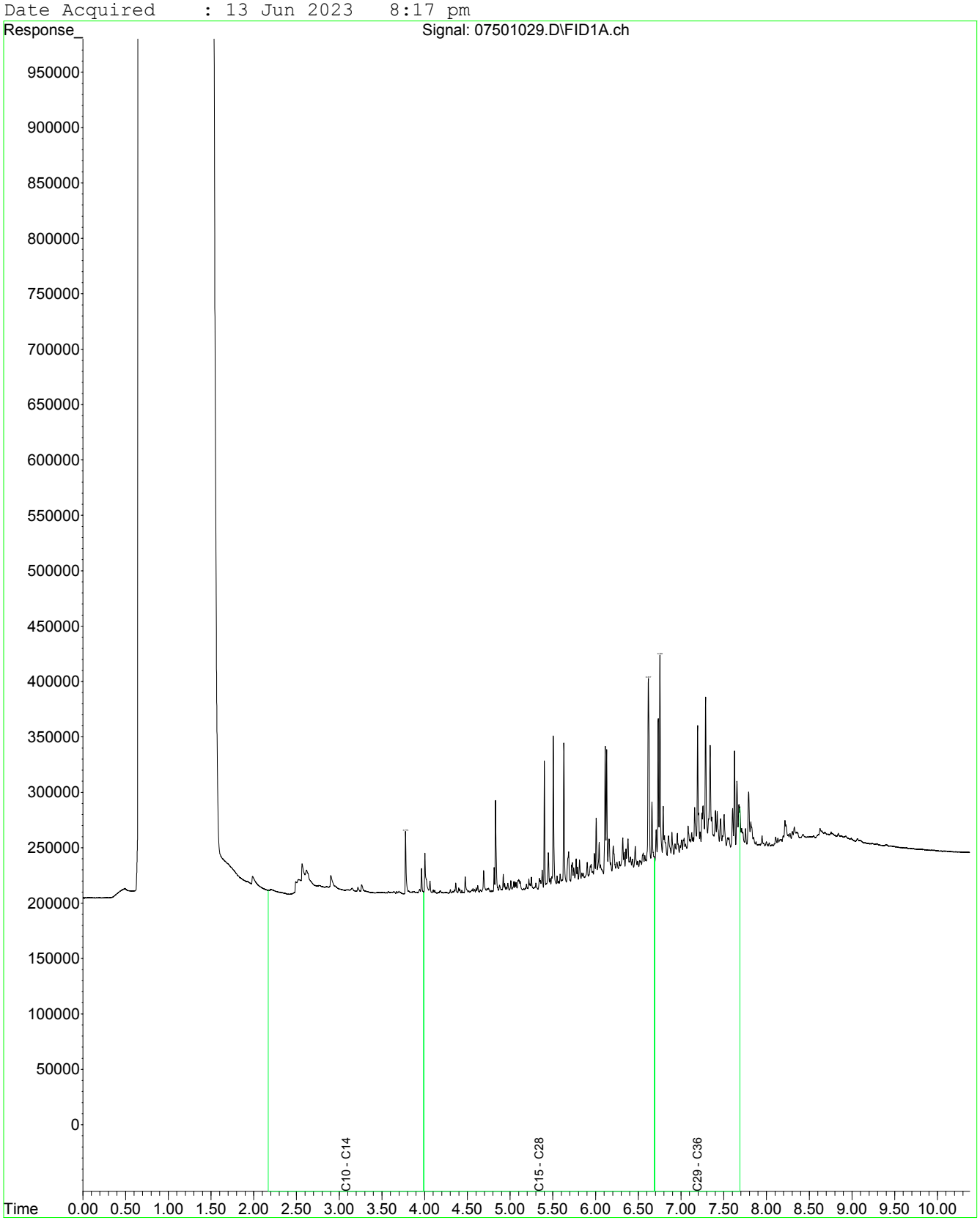
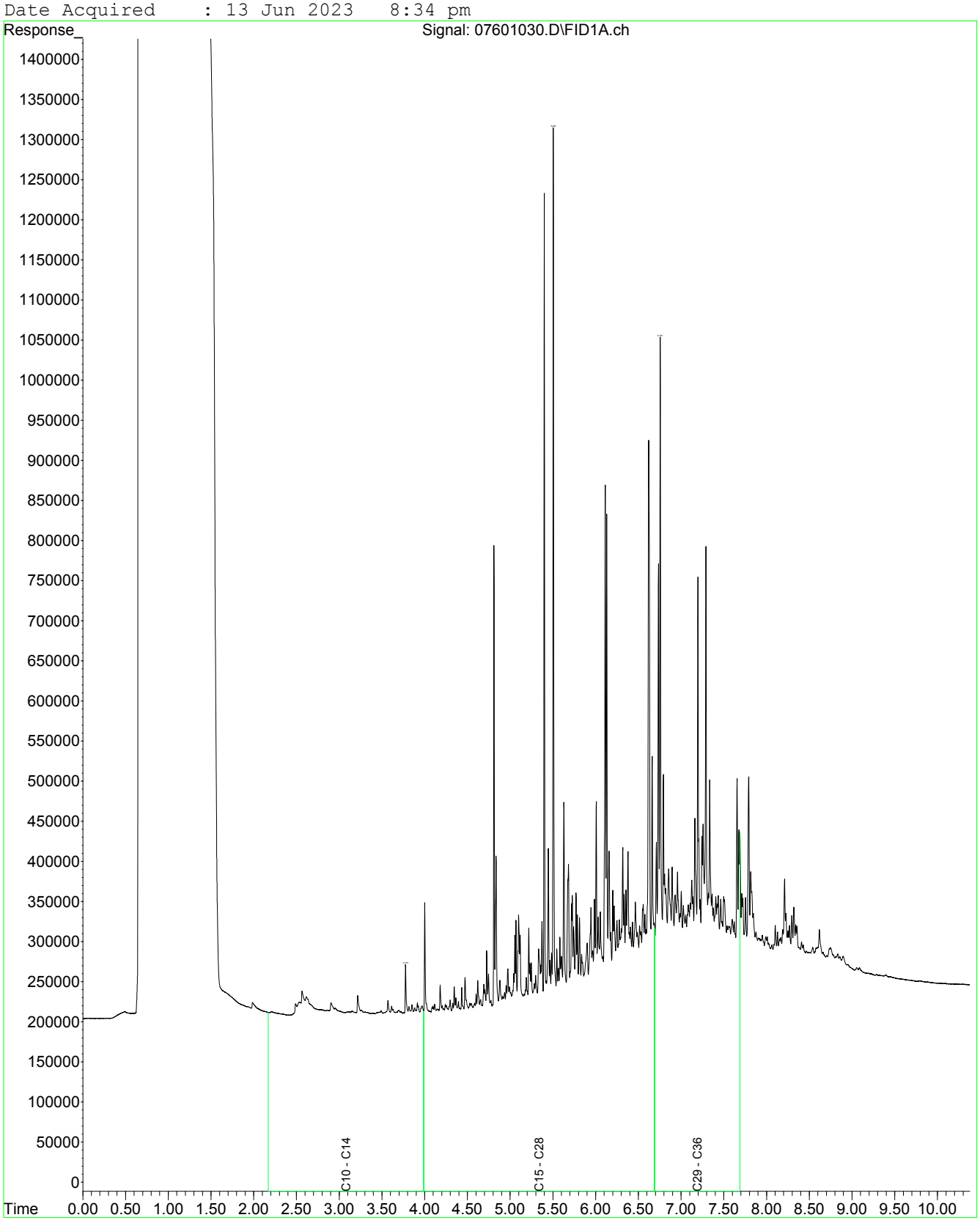
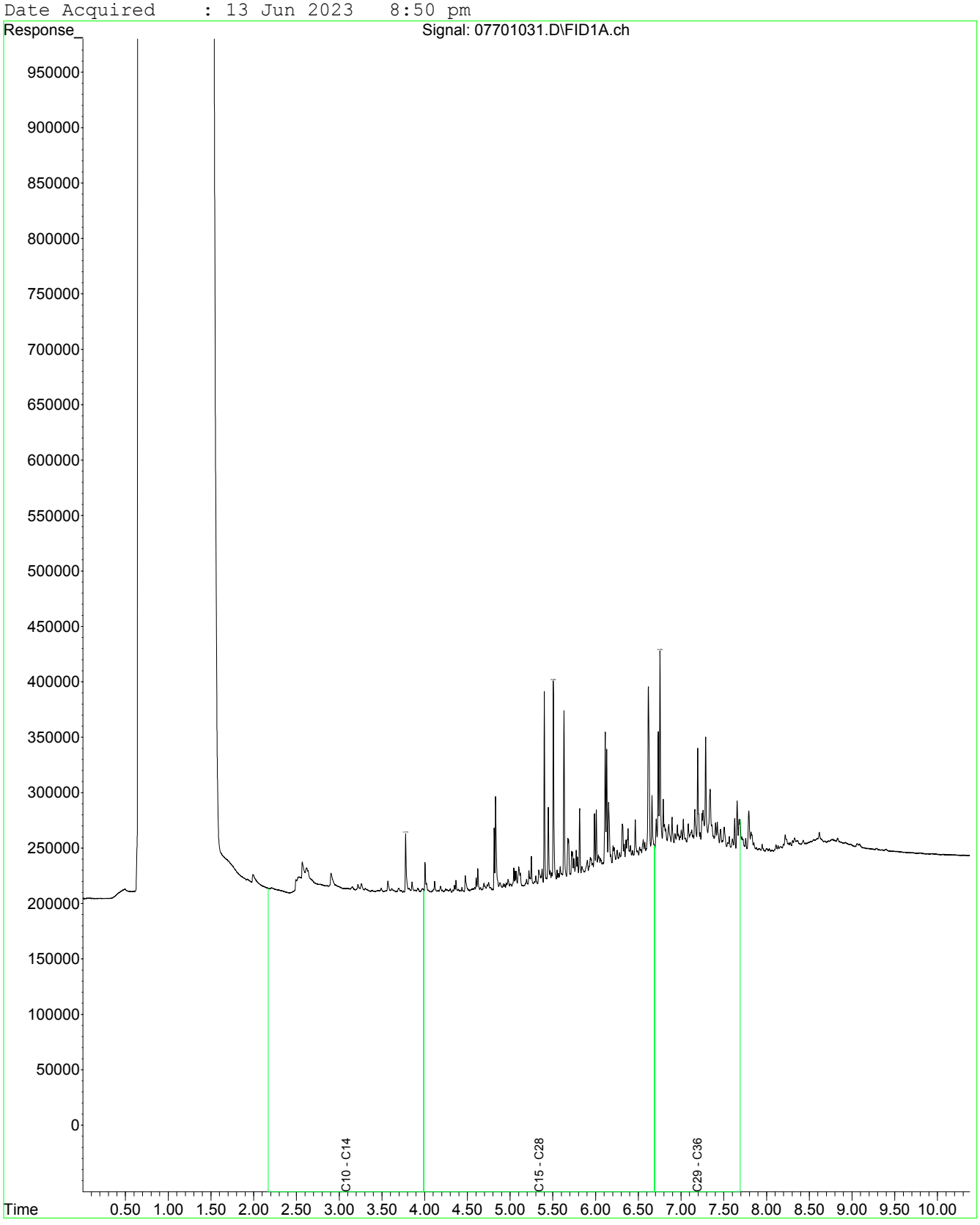
Data File : 07501029.D
Laboratory Number: EM2310229-004
Sample ID : OL_EX_422_1.5
Date Acquired : 13 Jun 2023 8:17 pm



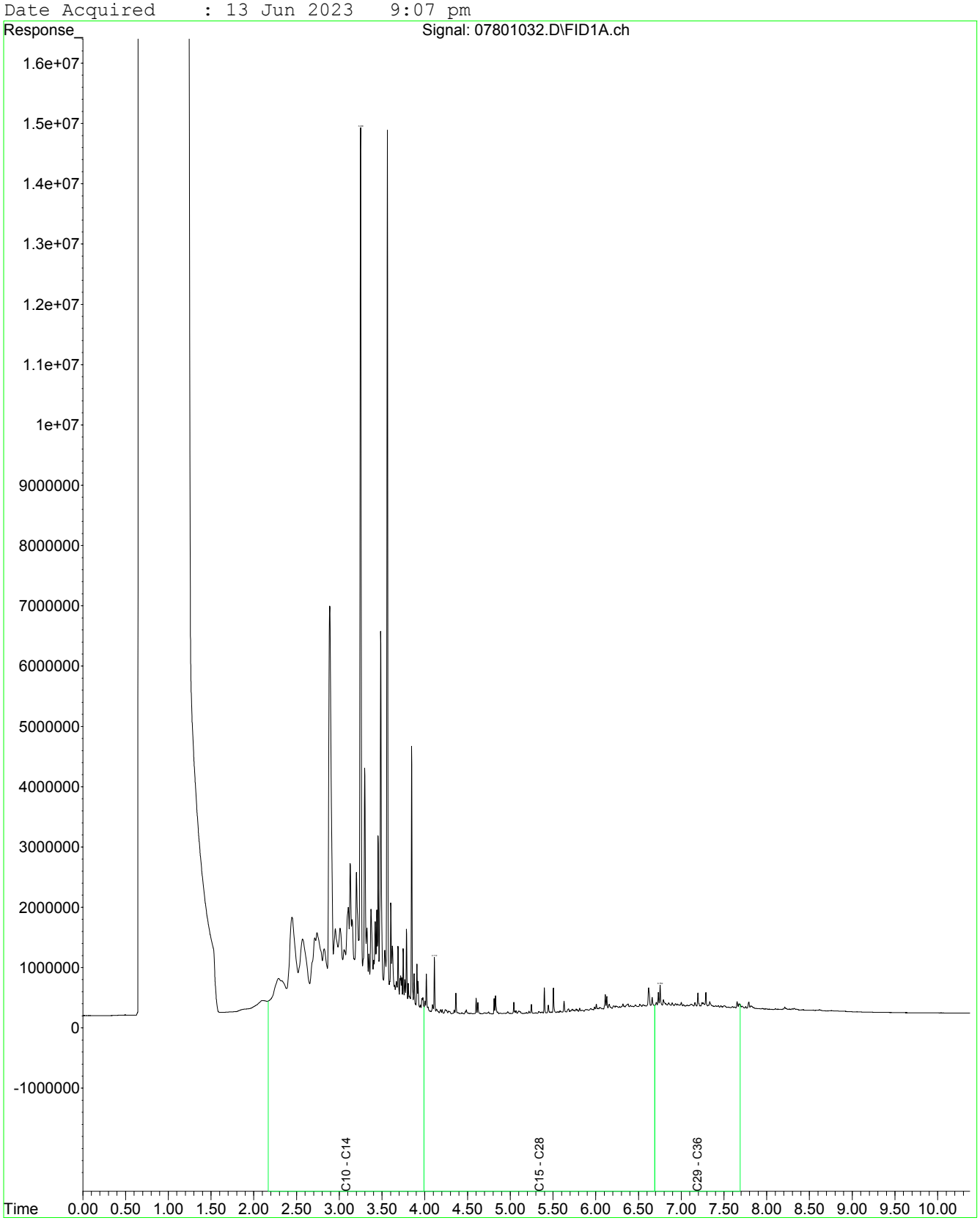
Fraction Scheme : Standard
Data File : 07601030.D
Laboratory Number: EM2310229-005
Sample ID : OL_EX_423_0.5
Date Acquired : 13 Jun 2023 8:34 pm



Fraction Scheme : Standard
Data File : 07701031.D
Laboratory Number: EM2310229-006
Sample ID : OL_EX_423_1.5
Date Acquired : 13 Jun 2023 8:50 pm



Fraction Scheme : Standard
Data File : 07801032.D
Laboratory Number: EM2310229-007
Sample ID : OL_EX_424_0.5
Date Acquired : 13 Jun 2023 9:07 pm



Fraction Scheme : Standard
Data File : 07901033.D
Laboratory Number: EM2310229-008
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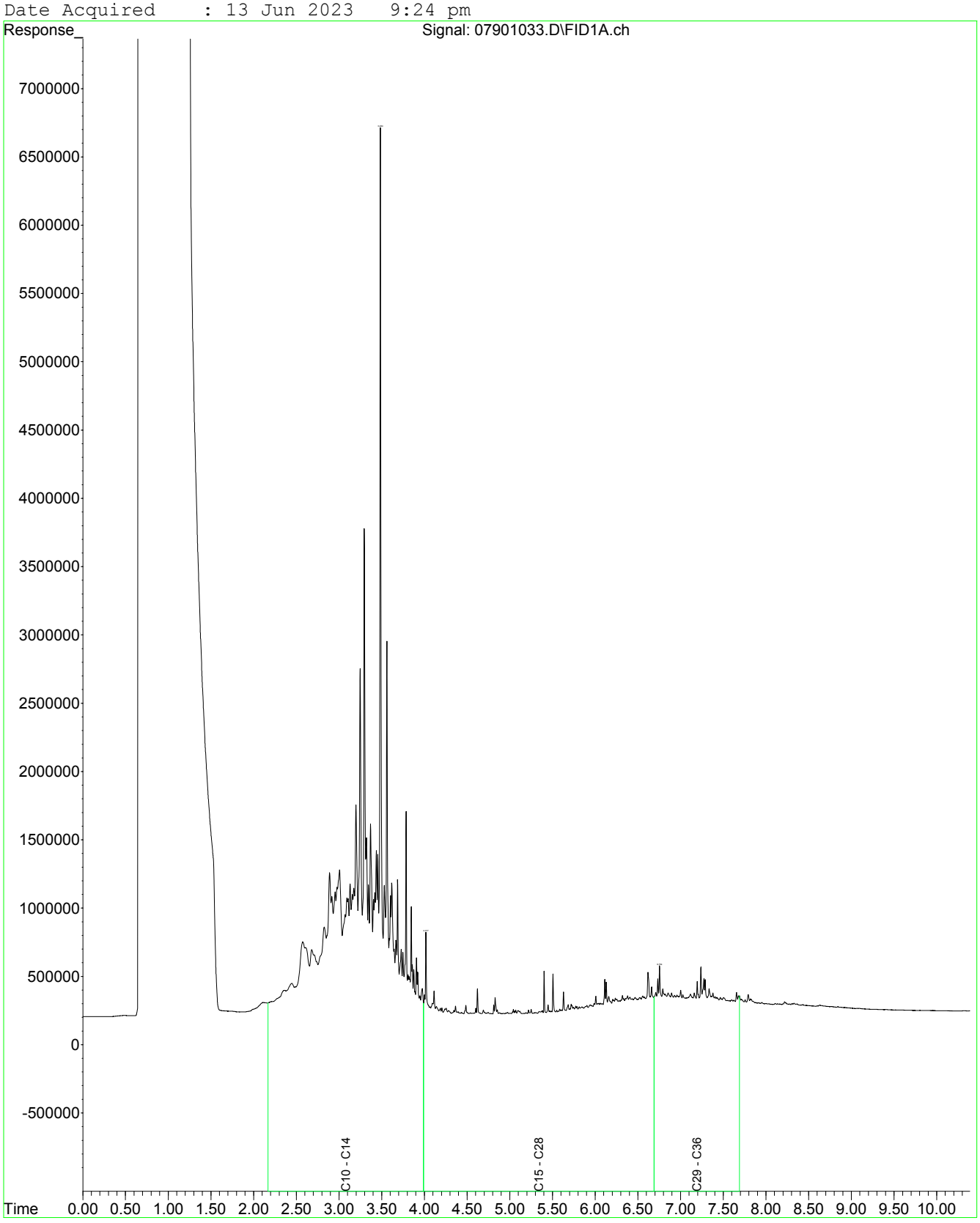
Date Acquired : 13 Jun 2023 9:24 pm



Fraction Scheme : Standard
Data File : 07901033.D
Laboratory Number: EM2310229-008
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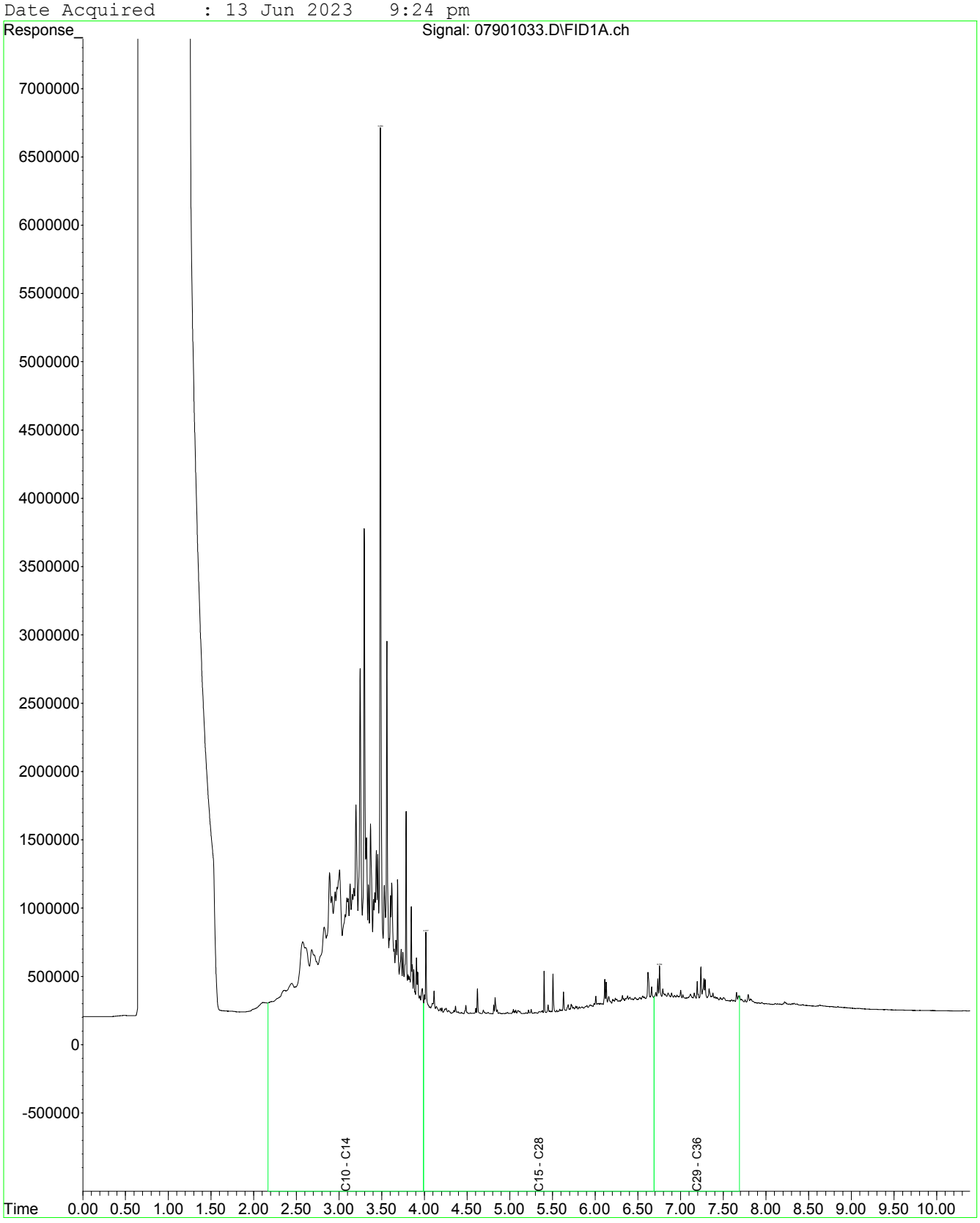
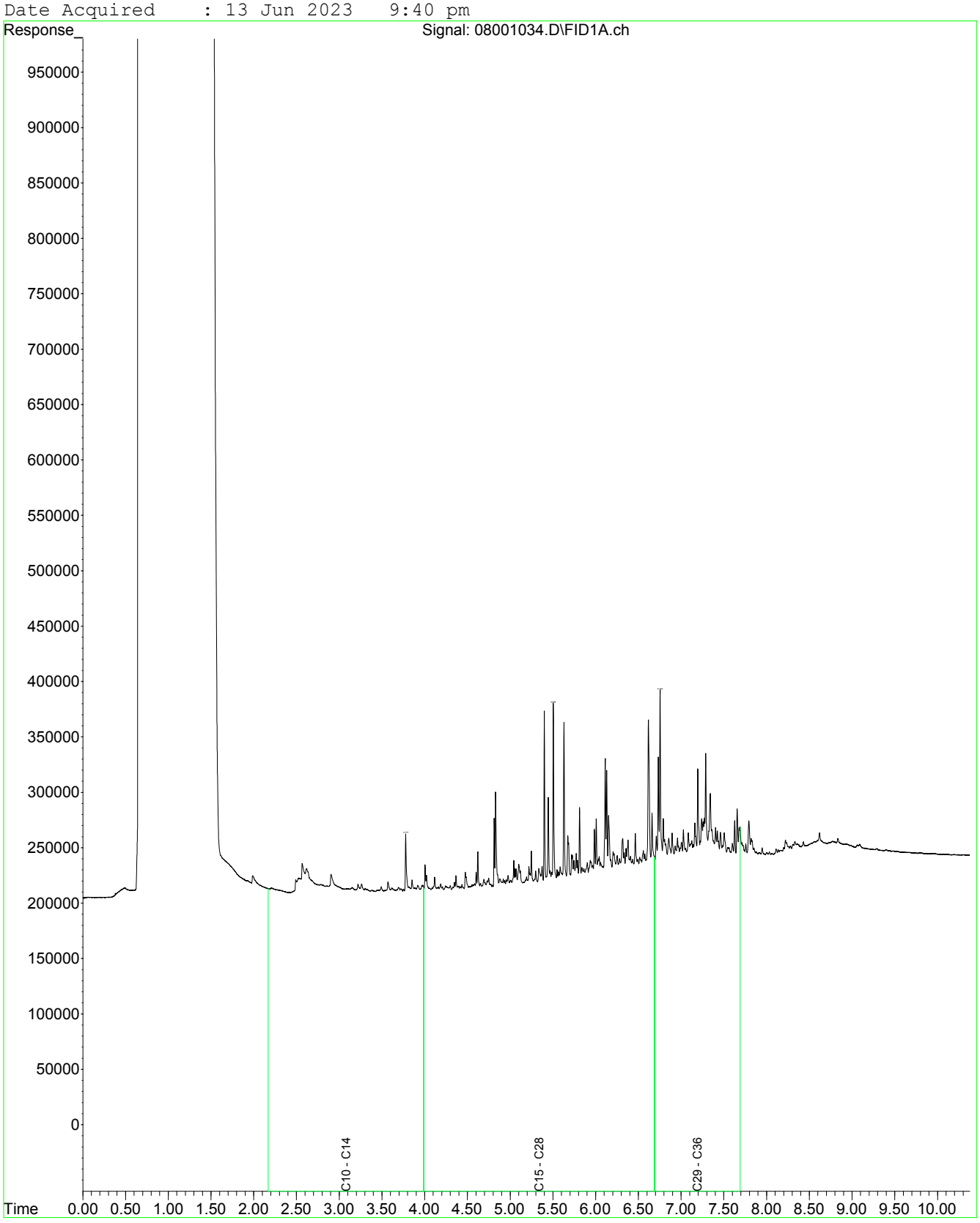
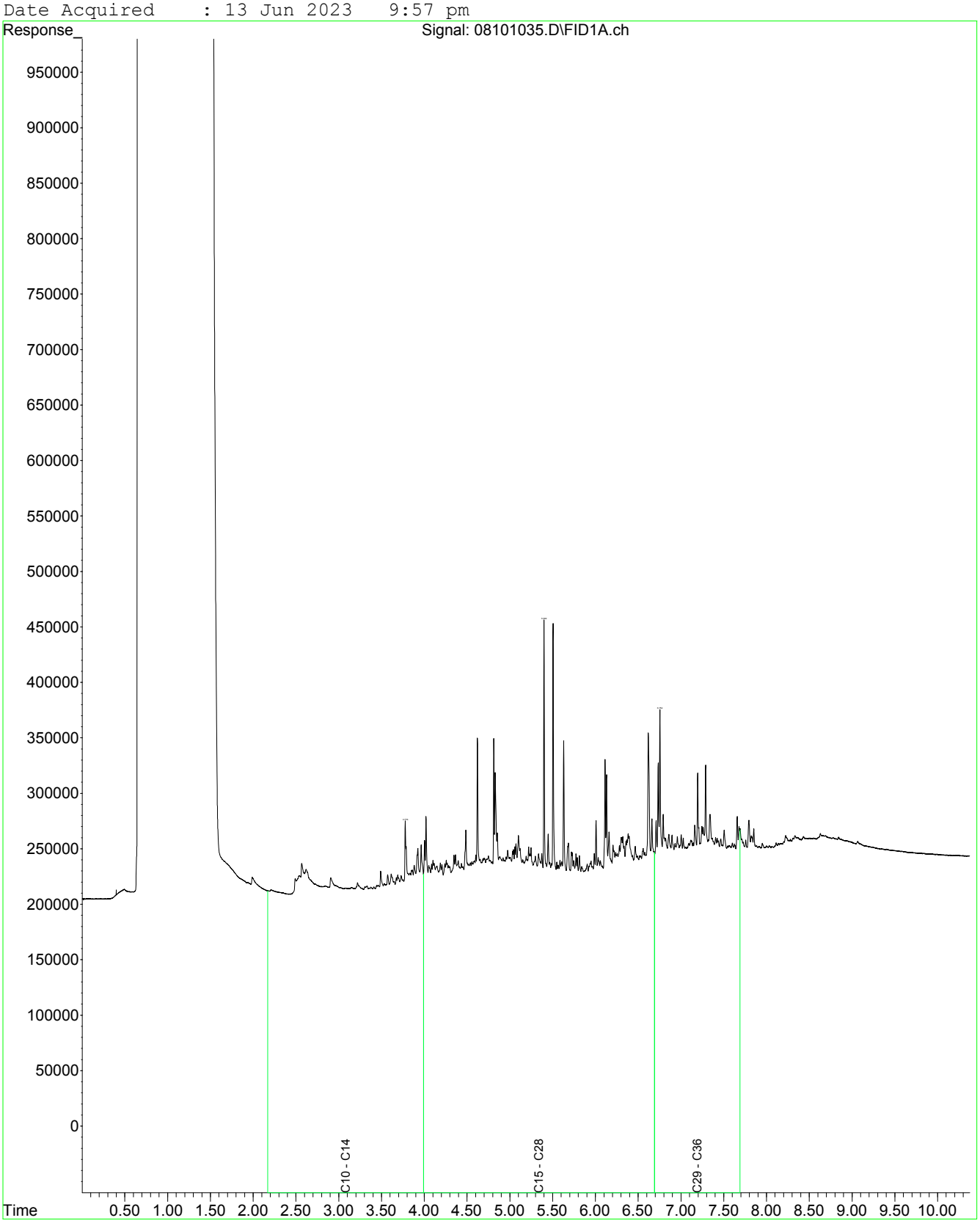
Date Acquired : 13 Jun 2023 9:24 pm



Fraction Scheme : Standard
Data File : 08001034.D
Laboratory Number: EM2310229-009
Sample ID : OL_EX_QC125
Date Acquired : 13 Jun 2023 9:40 pm



Fraction Scheme : Standard
Data File : 08101035.D
Laboratory Number: EM2310229-011
Sample ID : UST_SP_01
Date Acquired : 13 Jun 2023 9:57 pm



Fraction Scheme : Standard
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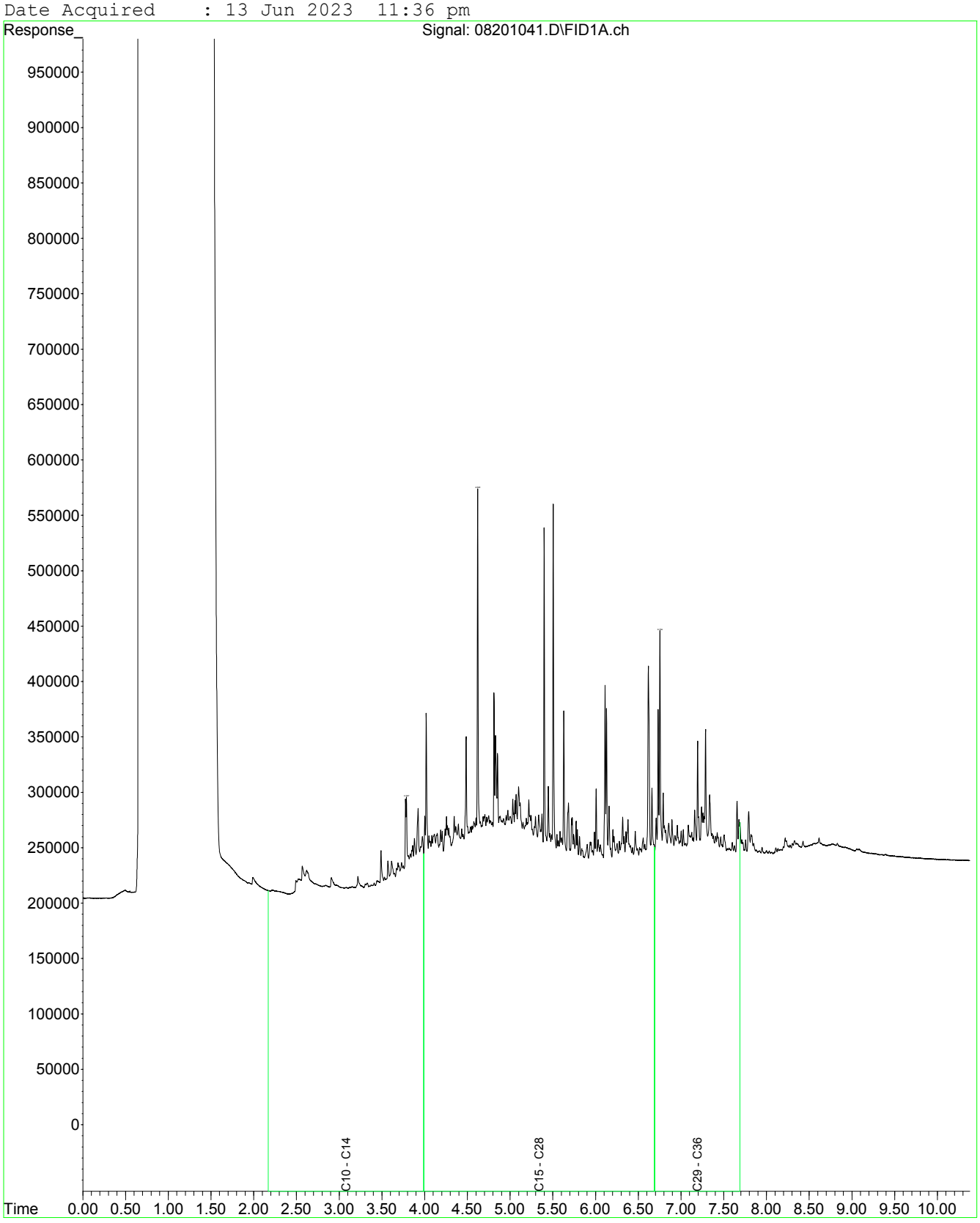
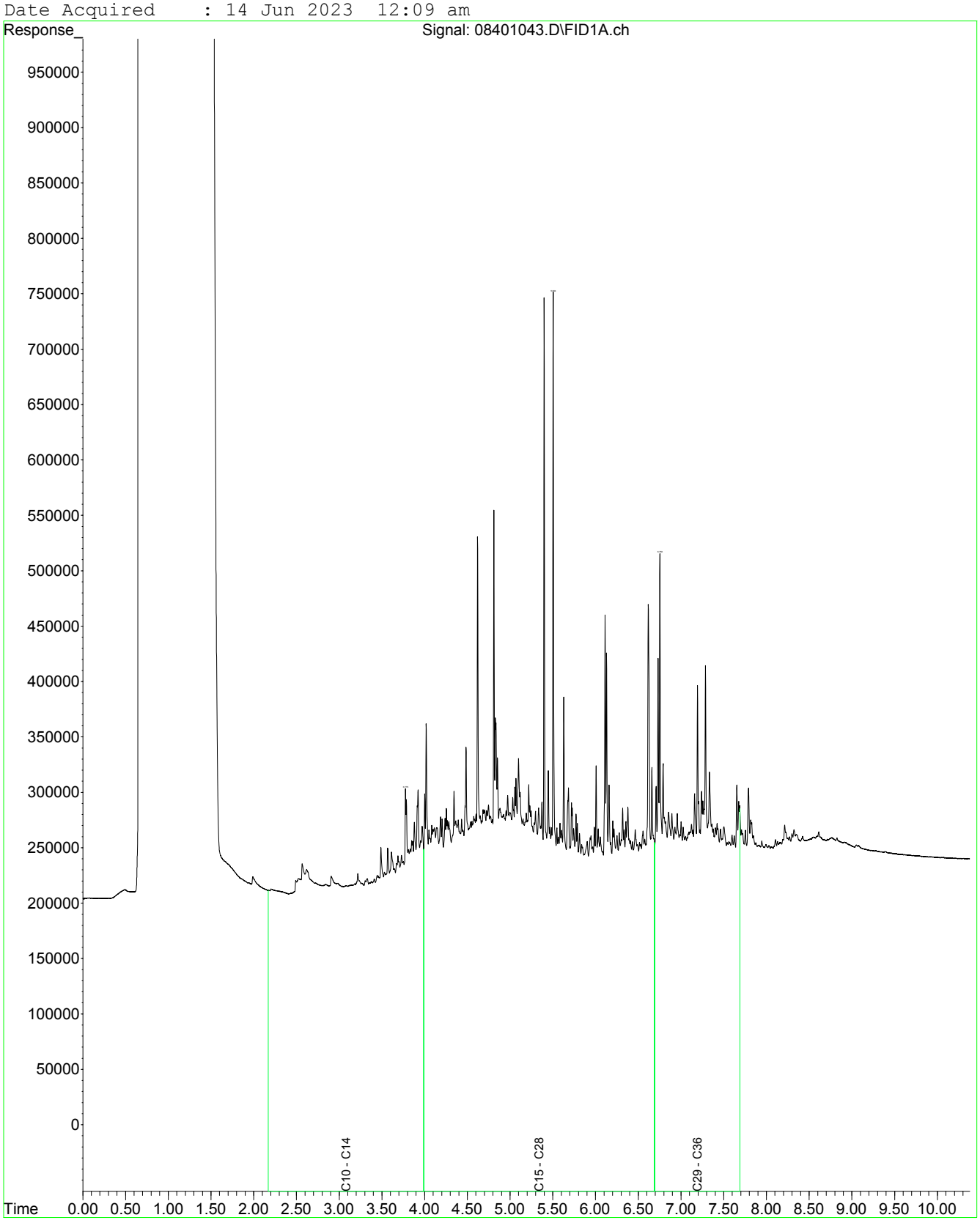
Laboratory Number: EM2310229-012
Sample ID : UST_SP_02
Date Acquired : 13 Jun 2023 11:36 pm



Fraction Scheme : Standard
Data File : 08401043.D
Laboratory Number: EM2310229-013
Sample ID : UST_SP_03
Date Acquired : 14 Jun 2023 12:09 am



Fraction Scheme : Standard
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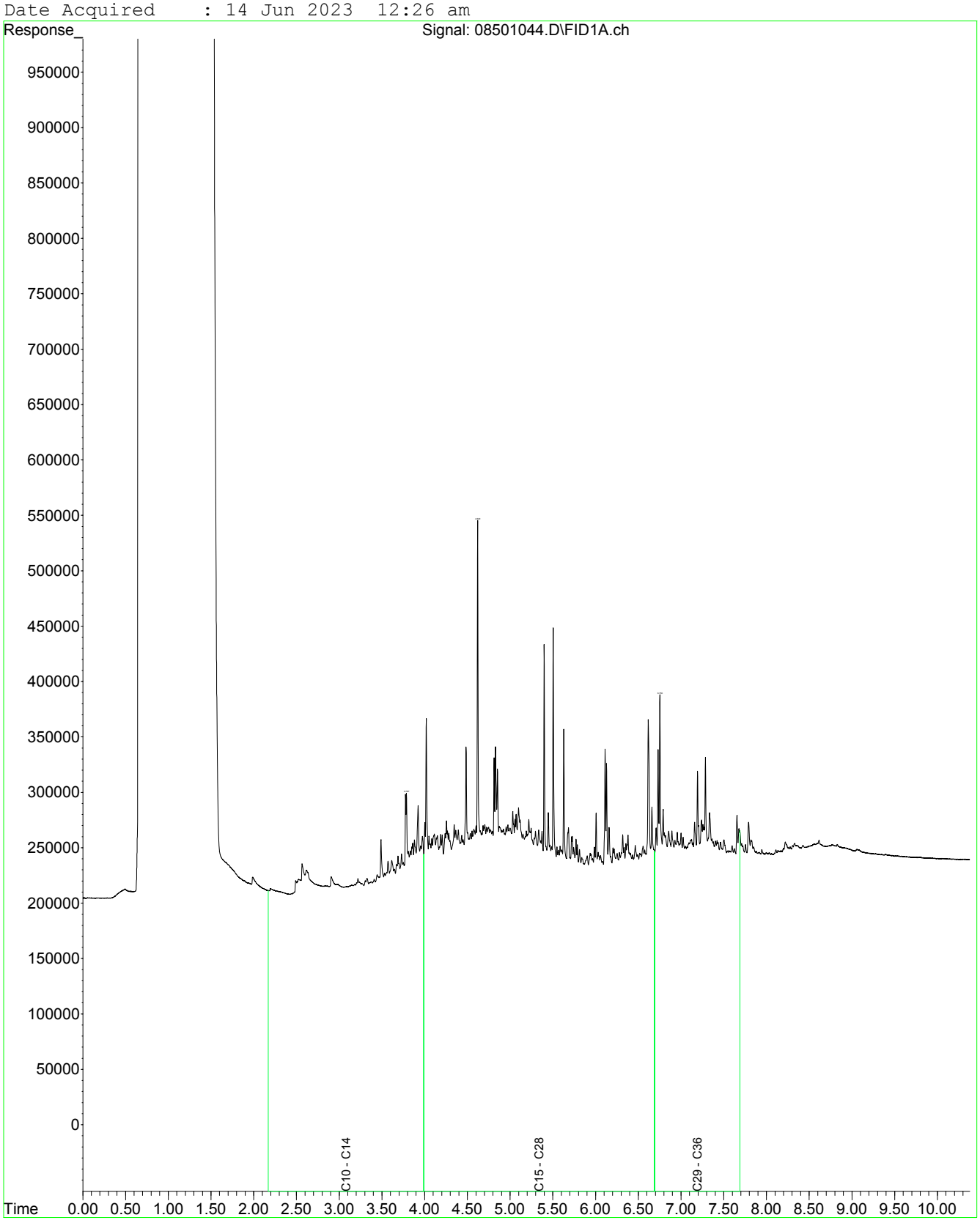
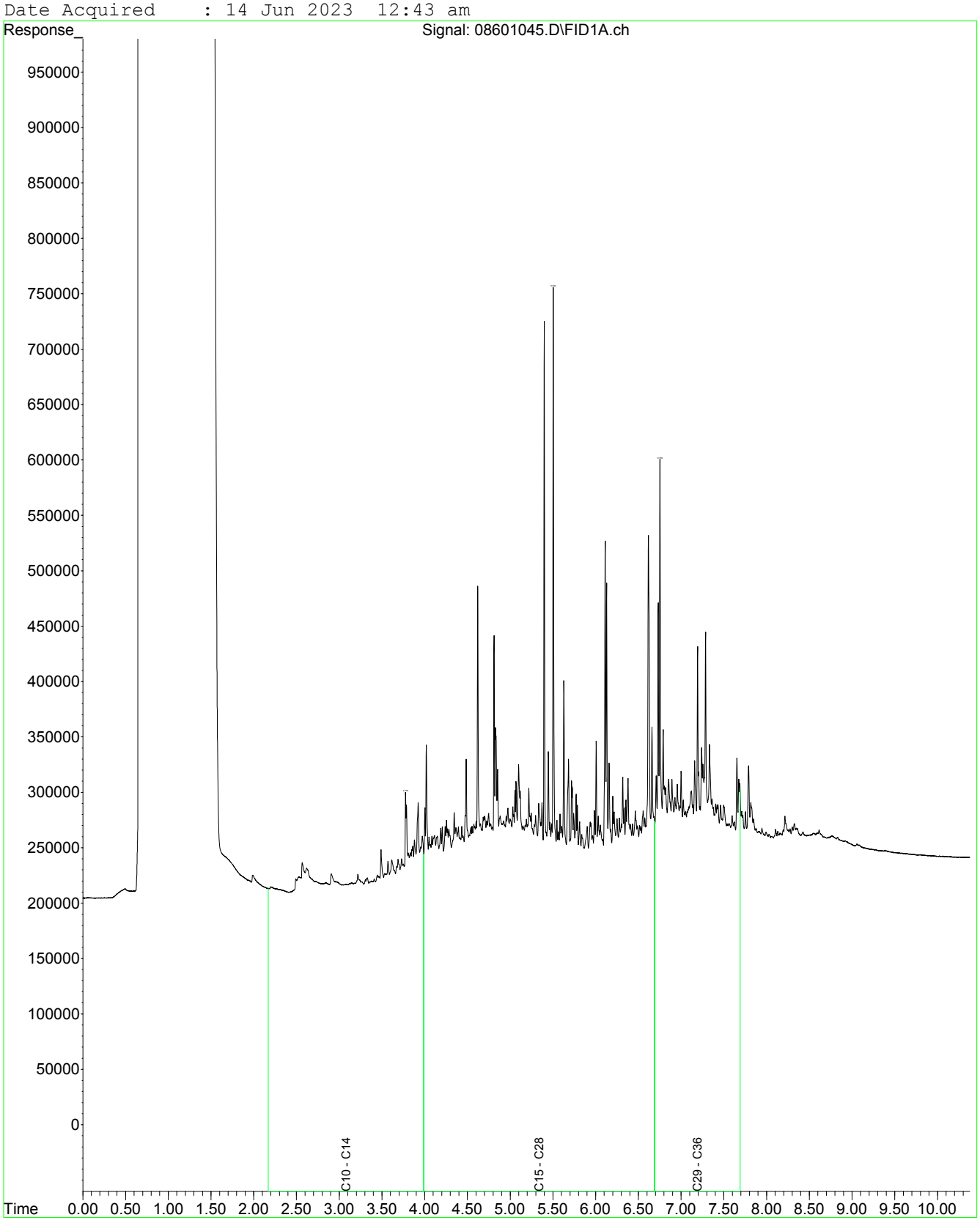
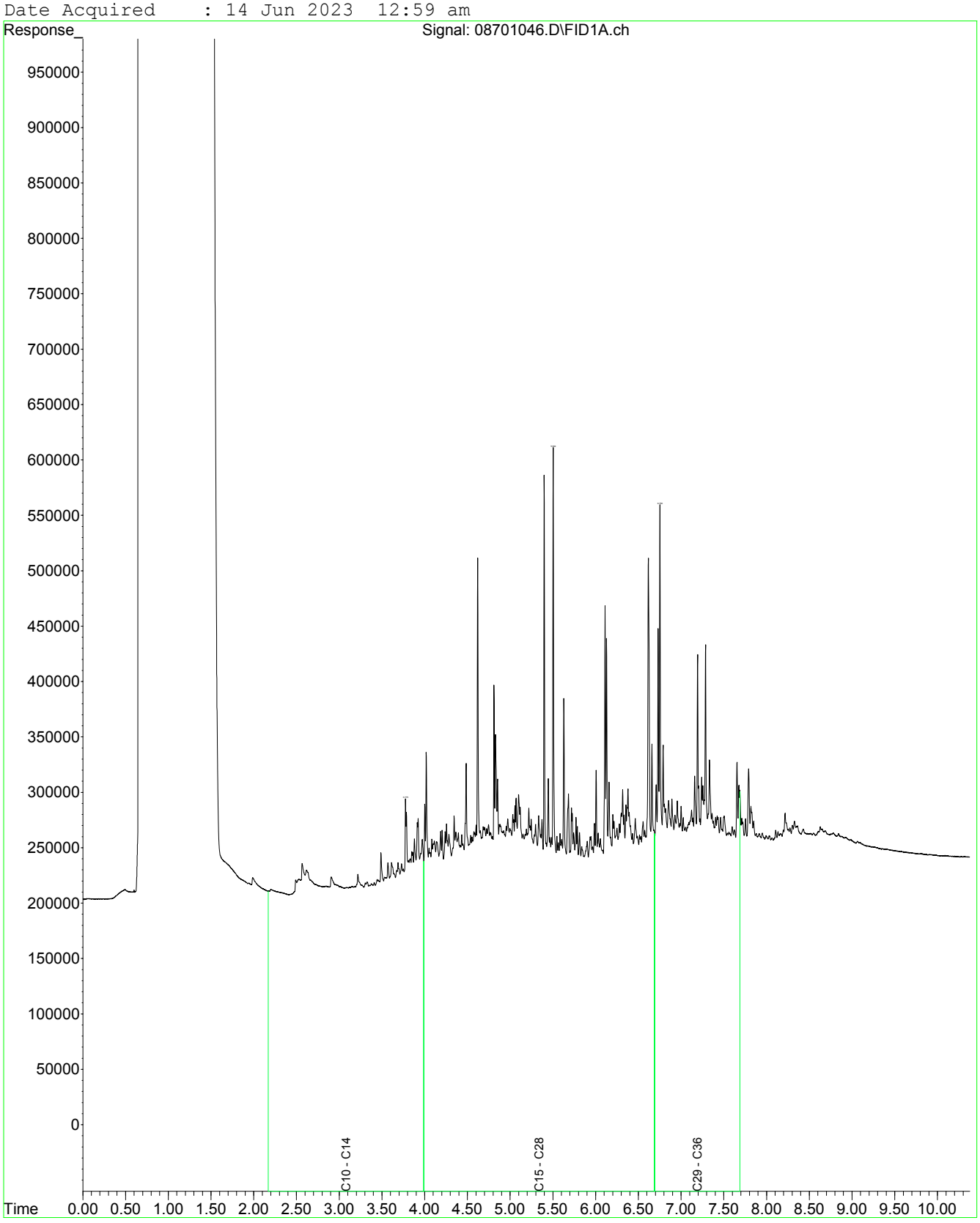
Laboratory Number: EM2310229-014
Sample ID : UST_SP_04
Date Acquired : 14 Jun 2023 12:26 am



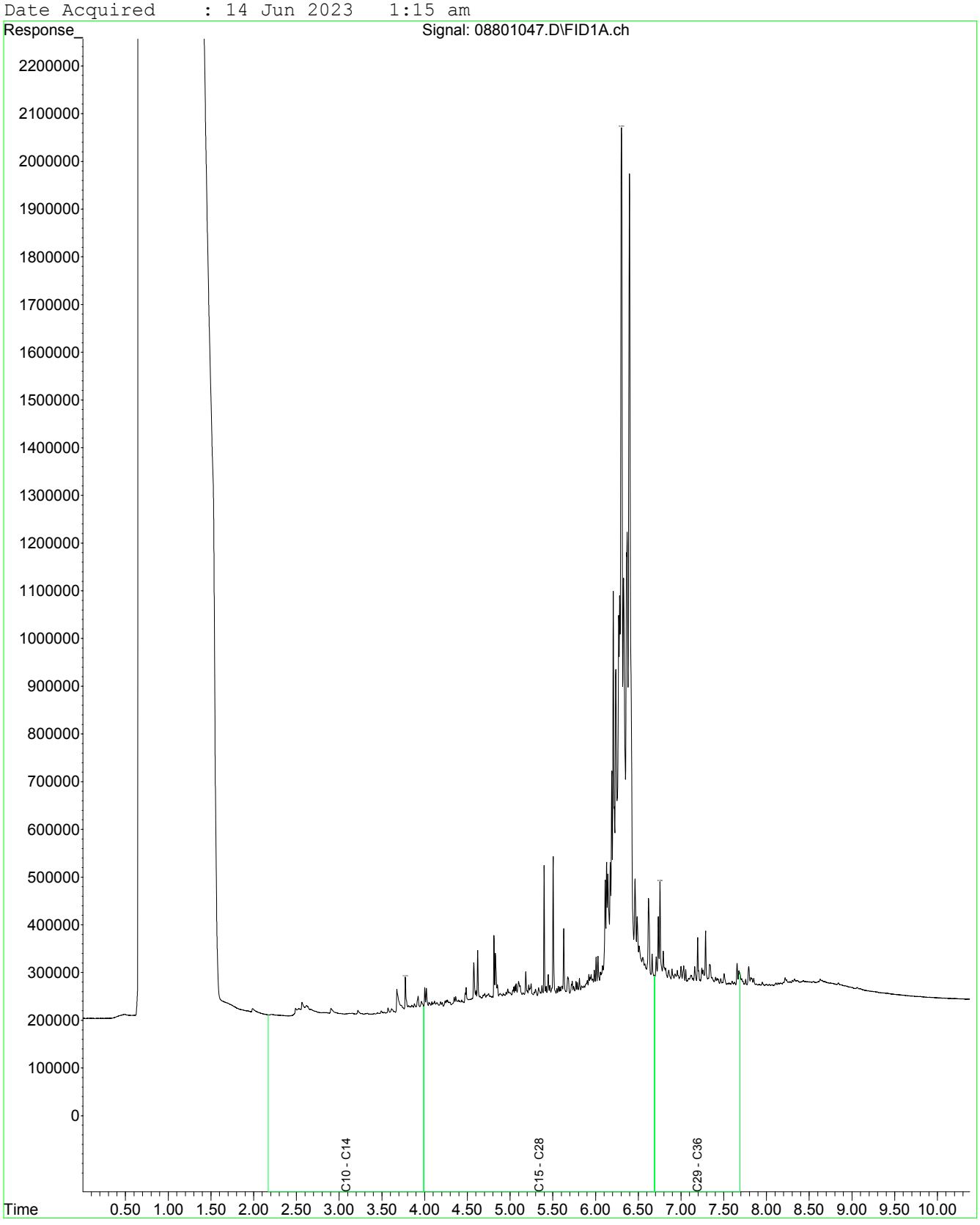
Fraction Scheme : Standard
Data File : 08601045.D
Laboratory Number: EM2310229-015
Sample ID : UST_SP_05
Date Acquired : 14 Jun 2023 12:43 am



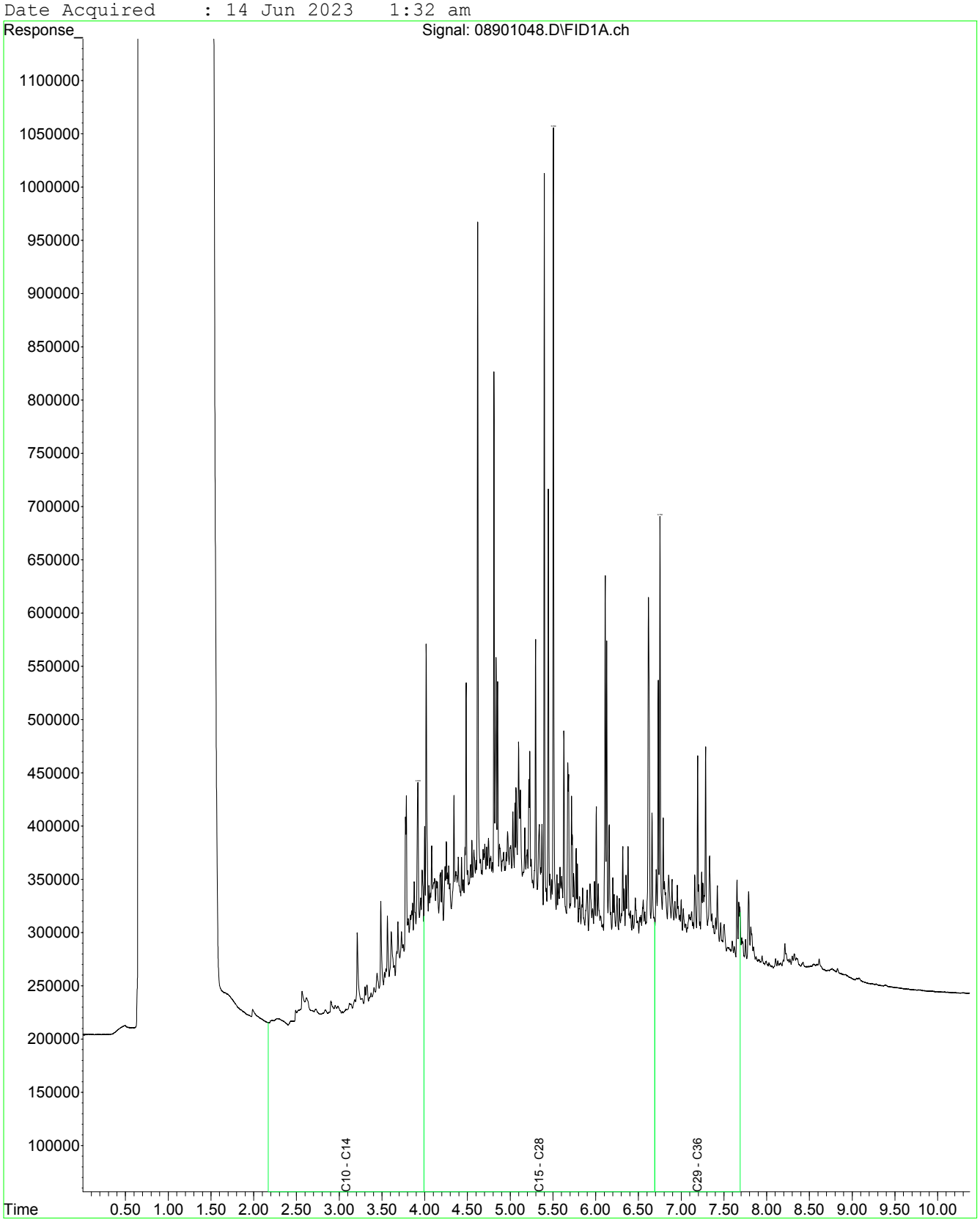
Fraction Scheme : Standard
Data File : 08701046.D
Laboratory Number: EM2310229-016
Sample ID : UST_SP_06
Date Acquired : 14 Jun 2023 12:59 am



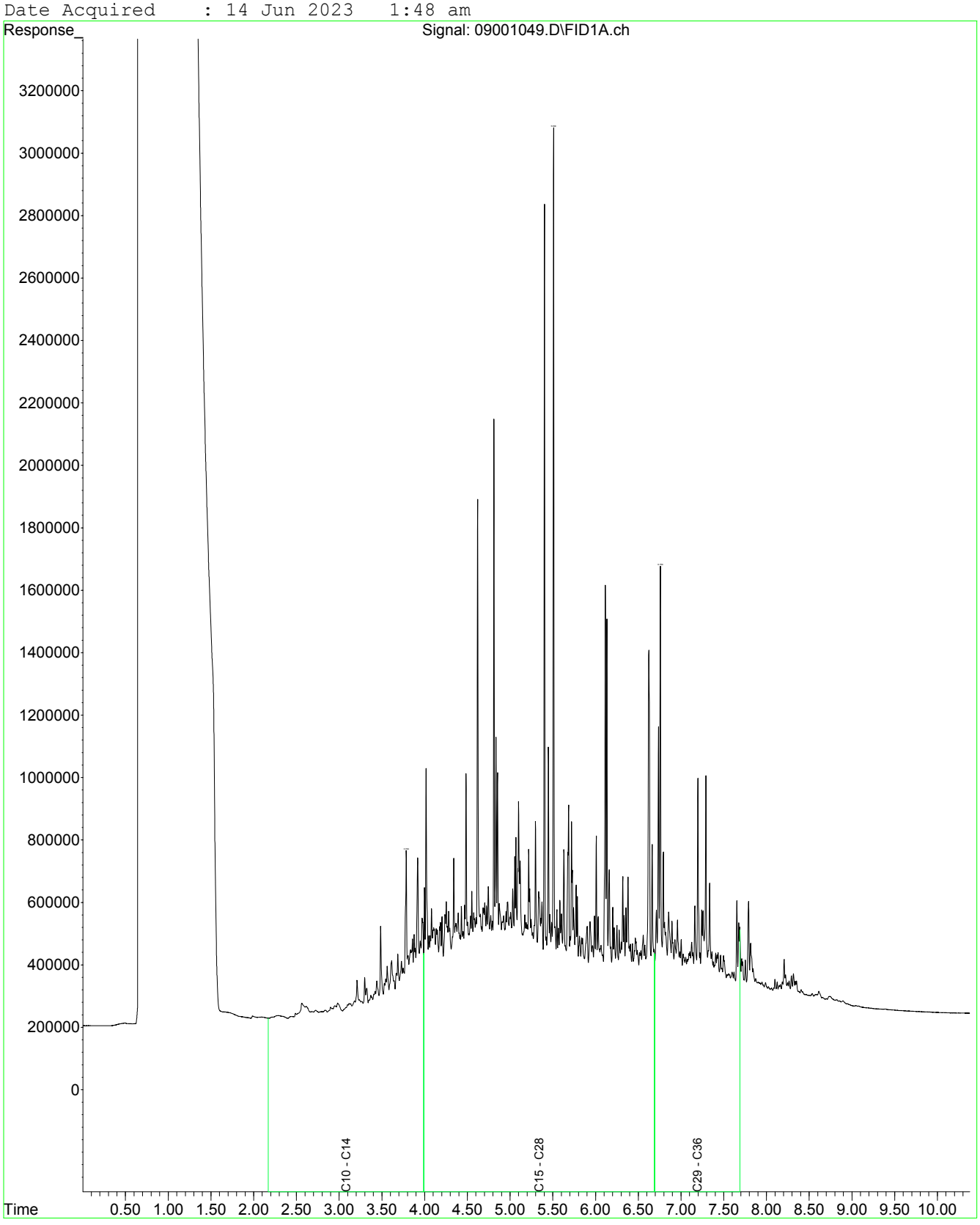
Fraction Scheme : Standard
Data File : 08801047.D
Laboratory Number: EM2310229-017
Sample ID : UST_SP_QC126
Date Acquired : 14 Jun 2023 1:15 am



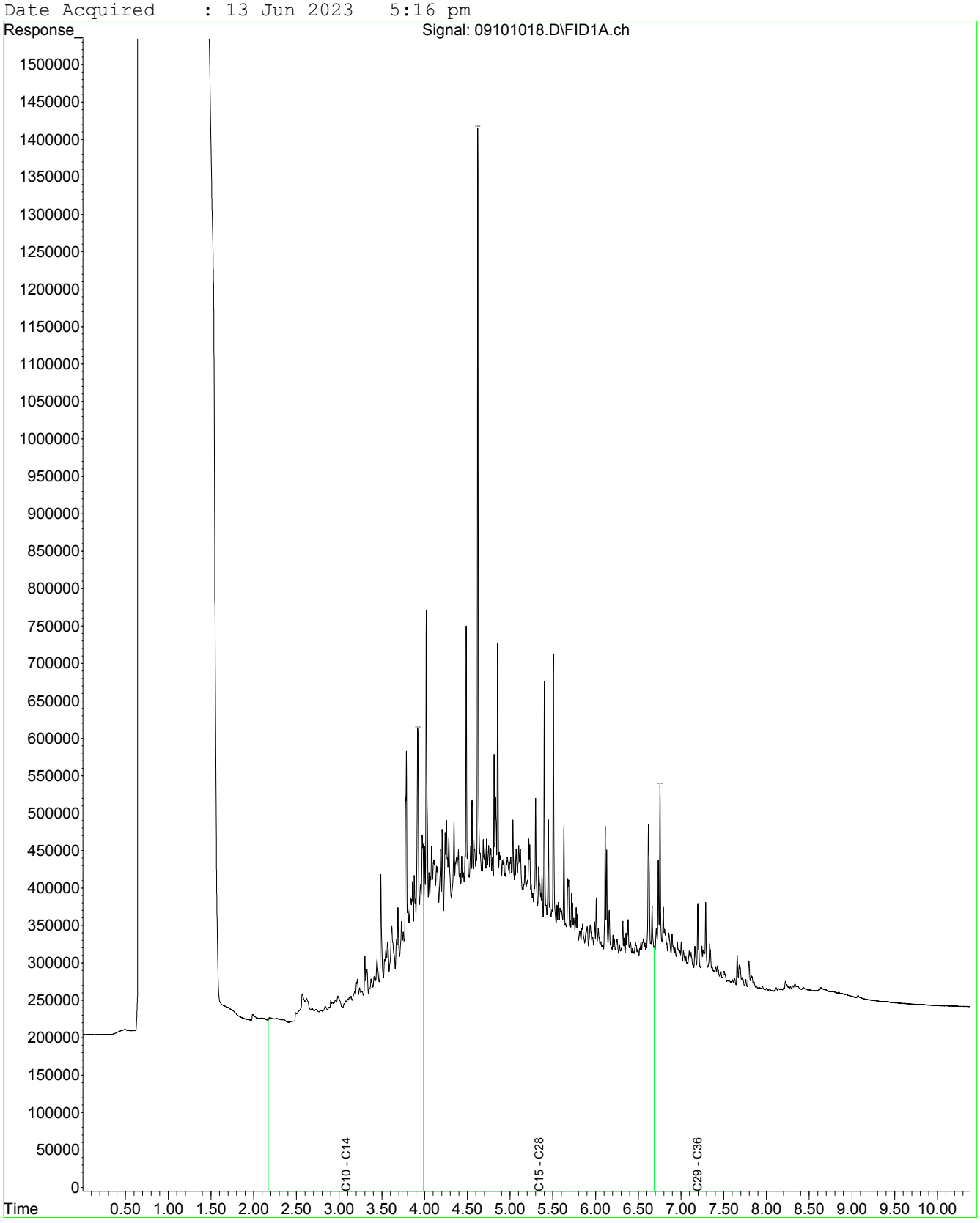
Fraction Scheme : Standard
Data File : 08901048.D
Laboratory Number: EM2310229-019
Sample ID : UST_SP_Ext_59SP_04
Date Acquired : 14 Jun 2023 1:32 am



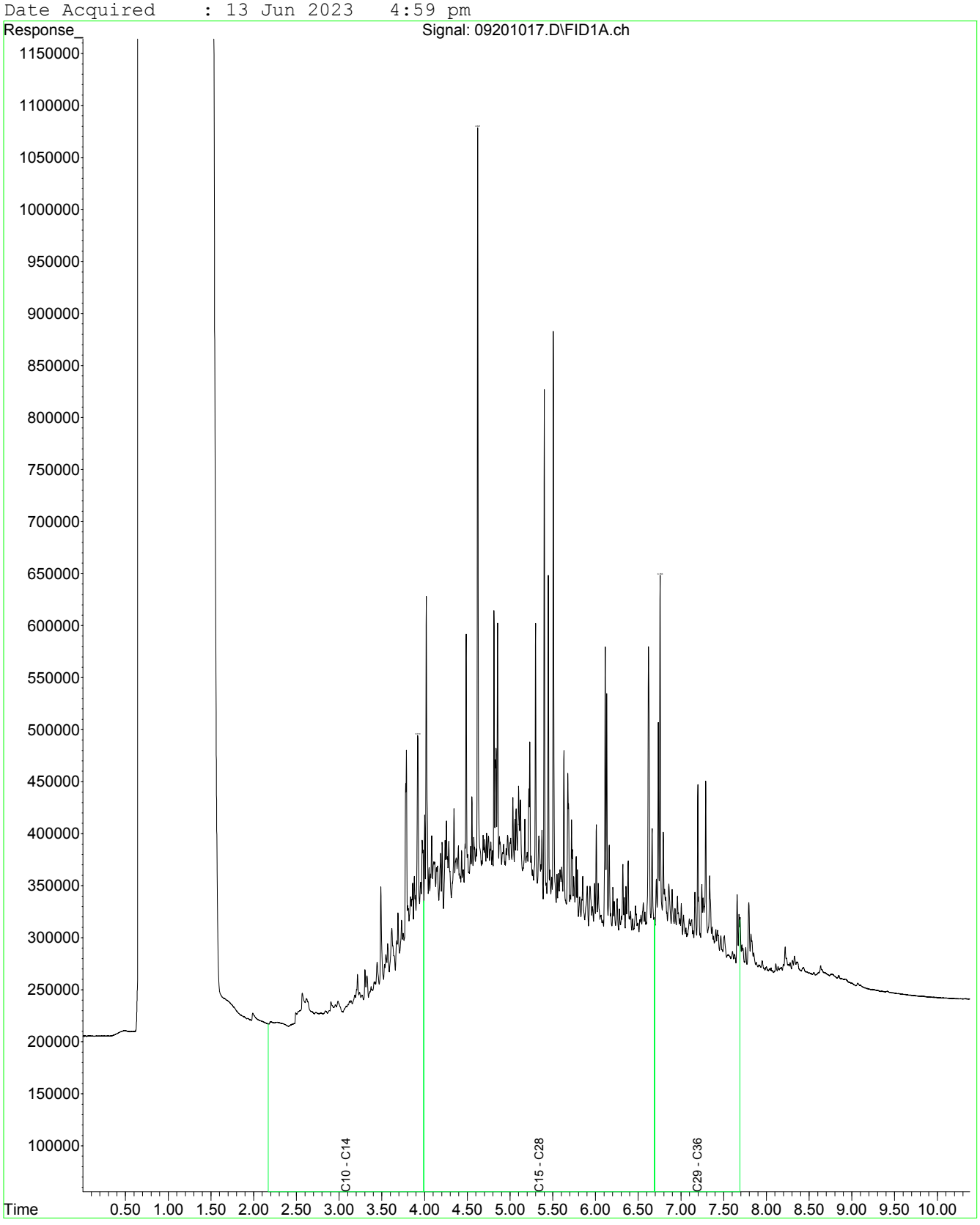
Fraction Scheme : Standard
Data File : 09001049.D
Laboratory Number: EM2310229-020
Sample ID : UST_SP_Ext_59SP_05
Date Acquired : 14 Jun 2023 1:48 am



Fraction Scheme : Standard
Data File : 09101018.D
Laboratory Number: EM2310229-021
Sample ID : UST_SP_Ext_59SP_06
Date Acquired : 13 Jun 2023 5:16 pm



Fraction Scheme : Standard
Data File : 09201017.D
Laboratory Number: EM2310229-022
Sample ID : UST_SP_Ext_59SP_07
Date Acquired : 13 Jun 2023 4:59 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2310878**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 10-Jun-2023
C-O-C number	: 53213	Issue Date	: 22-Jun-2023 16:48
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 18		
No. of samples analysed	: 18		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- This is a rebatch of EM2310229.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_424_0.5	OL_EX_424_1.5	UST_SP_01	UST_SP_02	UST_SP_03
			Sampling date / time	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:07	07-Jun-2023 10:08	07-Jun-2023 10:08
Compound	CAS Number	LOR	Unit	EM2310878-001	EM2310878-002	EM2310878-003	EM2310878-004	EM2310878-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.8**	**22.3**	**----**	**----**	**----**
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**----**	**----**	**9.3**	**9.3**	**9.5**
After HCl pH	----	0.1	pH Unit	**----**	**----**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**----**	**----**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**----**	**----**	**5.5**	**5.7**	**5.8**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions								
^ Aliphatic >C5-C6	----	5	mg/kg	<5	<5	**----**	**----**	**----**
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	**----**	**----**	**----**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	**216**	**106**	**----**	**----**	**----**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	**1500**	**1020**	**----**	**----**	**----**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	**721**	**613**	**----**	**----**	**----**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions								
Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	**----**	**----**	**----**
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg	<0.5	<0.5	**----**	**----**	**----**
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg	**128**	**31.7**	**----**	**----**	**----**
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	**938**	**222**	**----**	**----**	**----**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	**532**	**201**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_04	UST_SP_05	UST_SP_06	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05
			Sampling date / time	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit	EM2310878-006	EM2310878-007	EM2310878-008	EM2310878-009	EM2310878-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.5**	**9.8**	**9.7**	**9.8**	**9.7**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.6**	**5.7**	**5.6**	**6.3**	**6.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03
			Sampling date / time	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23
Compound	CAS Number	LOR	Unit	EM2310878-011	EM2310878-012	EM2310878-013	EM2310878-014	EM2310878-015
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	**9.9**	**9.7**	**9.8**	**9.9**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.3**	**6.2**	**5.9**	**5.9**	**5.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP8_01	OL_EX_SP8_02	OL_EX_SP8_03	----	----
			Sampling date / time	07-Jun-2023 10:25	07-Jun-2023 10:25	07-Jun-2023 10:25	----	----
Compound	CAS Number	LOR	Unit	EM2310878-016	EM2310878-017	EM2310878-018	--------	--------
				Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**10.0**	**9.8**	**9.2**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**----**	**----**
Final pH	----	0.1	pH Unit	**6.3**	**5.6**	**5.4**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	UST_SP_01	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05
			Sampling date / time	07-Jun-2023 10:07	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09
Compound	CAS Number	LOR	Unit	EM2310878-003	EM2310878-004	EM2310878-005	EM2310878-006	EM2310878-007
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**80.3**	**71.2**	**66.0**	**95.6**	**81.8**
Anthracene-d10	1719-06-8	1.0	%	**84.2**	**80.0**	**78.5**	**89.0**	**90.6**
4-Terphenyl-d14	1718-51-0	1.0	%	**90.2**	**86.4**	**83.9**	**94.6**	**97.3**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_06	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310878-008	EM2310878-009	EM2310878-010	EM2310878-011	EM2310878-012
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	**1.5**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	**1.3**	**2.5**	**1.3**	**1.2**
Fluorene	86-73-7	1.0	µg/L		<1.0	**1.3**	**2.6**	**1.4**	**1.2**
Phenanthrene	85-01-8	1.0	µg/L		**1.7**	**2.3**	**3.5**	**2.3**	**1.9**
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	**1.0**	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	**1.3**	**1.0**	**1.1**
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	**1.8**	**1.2**	**1.5**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**1.7**	**4.9**	**14.2**	**7.2**	**6.9**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.7**	**80.7**	**88.5**	**86.0**	**89.6**
Anthracene-d10	1719-06-8	1.0	%		**85.8**	**83.8**	**77.4**	**83.5**	**84.5**
4-Terphenyl-d14	1718-51-0	1.0	%		**91.0**	**90.2**	**83.2**	**88.4**	**90.4**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
				Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit		EM2310878-013	EM2310878-014	EM2310878-015	EM2310878-016	EM2310878-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	**1.8**	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	**1.8**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**92.0**	**103**	**95.9**	**89.0**	**105**
Anthracene-d10	1719-06-8	1.0	%		**85.7**	**94.0**	**88.9**	**86.2**	**98.2**
4-Terphenyl-d14	1718-51-0	1.0	%		**90.9**	**98.2**	**93.1**	**88.8**	**102**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310878-018	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**96.6**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**91.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**95.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2310878**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Order number	: 60693007-2	Date Analysis Commenced	: 10-Jun-2023
C-O-C number	: 53213	Issue Date	: 22-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 18		
No. of samples analysed	: 18		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5121409)									
EM2310878-003	UST_SP_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2310878-012	UST_SP_Ext_59SP_07	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	1.2	<1.0	15.2	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	1.2	<1.0	14.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	1.9	1.4	27.7	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5121409) - continued									
EM2310878-012	UST_SP_Ext_59SP_07	EP075(SIM): Fluoranthene	206-44-0	1	µg/L	1.1	<1.0	10.1	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	1.5	1.1	26.7	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5124015)									
EM2310878-013	OL_EX_SP7_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5121029)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	138	72.4	142
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	138	78.8	138
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5122335)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	78.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	93.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	71.1	55.0	124
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5121029)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	110	44.7	157
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	106	55.2	142
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5122335)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	83.8	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	87.6	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	87.5	72.2	107

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5121409)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.9	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	81.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	86.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	86.2	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	84.9	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	84.8	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.4	50.0	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5121409) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	89.0	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	85.9	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	86.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	87.2	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.0	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	83.8	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	83.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	84.1	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5124015)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	105	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	99.2	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	105	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	105	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	112	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	113	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	114	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	110	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	110	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	125	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	108	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	104	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	100	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	105	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	106	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	112	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310878**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 22-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 18
Order number	: 60693007-2	No. of samples analysed	: 18

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
TPH Speciation (TPH CWG & RIVM fractions)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	17	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**----**	----	**----**	**10-Jun-2023**	21-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**19-Jun-2023**	04-Dec-2023	✓	**----**	----	----
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**20-Jun-2023**	04-Dec-2023	✓	**----**	----	----
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
UST_SP_Ext_59SP_05	**07-Jun-2023**	**21-Jun-2023**	04-Dec-2023	✓	**----**	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_1.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_0.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**21-Jun-2023**	23-Jul-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_1.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_0.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**21-Jun-2023**	23-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**19-Jun-2023**	**20-Jun-2023**	26-Jun-2023	✓	**21-Jun-2023**	30-Jul-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**20-Jun-2023**	**21-Jun-2023**	27-Jun-2023	✓	**21-Jun-2023**	31-Jul-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05	**21-Jun-2023**	**20-Jun-2023**	28-Jun-2023	✓	**21-Jun-2023**	30-Jul-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	3	17	**17.65**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromatic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2310878**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 2
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 53213	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH		

Dates

Date Samples Received	: 07-Jun-2023 11:45	Issue Date	: 16-Jun-2023
Client Requested Due Date	: 23-Jun-2023	Scheduled Reporting Date	: **23-Jun-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 18 / 18

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2310229.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP070-CWG TRH Semivolatile Aliphatic/Aromatic Speciation	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP079-CWG TRH Volatile Aliphatic/Aromatic Speciation (CWG
EM2310878-001	07-Jun-2023 10:03	OL_EX_424_0.5	✓		✓		✓
EM2310878-002	07-Jun-2023 10:04	OL_EX_424_1.5	✓		✓		✓
EM2310878-003	07-Jun-2023 10:07	UST_SP_01		✓		✓	
EM2310878-004	07-Jun-2023 10:08	UST_SP_02		✓		✓	
EM2310878-005	07-Jun-2023 10:08	UST_SP_03		✓		✓	
EM2310878-006	07-Jun-2023 10:09	UST_SP_04		✓		✓	
EM2310878-007	07-Jun-2023 10:09	UST_SP_05		✓		✓	
EM2310878-008	07-Jun-2023 10:10	UST_SP_06		✓		✓	
EM2310878-009	07-Jun-2023 10:12	UST_SP_Ext_59SP_04		✓		✓	
EM2310878-010	07-Jun-2023 10:16	UST_SP_Ext_59SP_05		✓		✓	
EM2310878-011	07-Jun-2023 10:16	UST_SP_Ext_59SP_06		✓		✓	
EM2310878-012	07-Jun-2023 10:16	UST_SP_Ext_59SP_07		✓		✓	
EM2310878-013	07-Jun-2023 10:22	OL_EX_SP7_01		✓		✓	
EM2310878-014	07-Jun-2023 10:22	OL_EX_SP7_02		✓		✓	
EM2310878-015	07-Jun-2023 10:23	OL_EX_SP7_03		✓		✓	
EM2310878-016	07-Jun-2023 10:25	OL_EX_SP8_01		✓		✓	
EM2310878-017	07-Jun-2023 10:25	OL_EX_SP8_02		✓		✓	
EM2310878-018	07-Jun-2023 10:25	OL_EX_SP8_03		✓		✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Rebatch

Client / Client code: AECOM
Project: McQUARIE Point
Project Manger: Robert Crowe
Date /time sample rec: 7/06/2023 23:45
Date/time Instructions rec: 16/06/2023 13:18:00 PM
Due date: Friday, 23 June 2023
Due date surcharge: STANDARD

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

Environmental Division
Melbourne
Work Order Reference
EM2310878

Telephone : +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis											Shortest Holding time expiry
								Standard					Leach						
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container		Aliphatic/Aromatic Speciation TRH C10-C16	Aliphatic/Aromatic Speciation TRH C6-C10				TCLP Leachate (PAHs)						
1	OL_EX_424_0.5	7/06/2023 10:03	EM2310229	7	PREVIOUS EXTRAXCT	EXTRCT VIAL	1	X	X										21-Jun-23
2	OL_EX_424_1.5	7/06/2023 10:04	EM2310229	8	PREVIOUS EXTRAXCT	EXTRCT VIAL	1	X	X										21-Jun-23
3	UST_SP_01	7/06/2023 10:07	EM2310229	11	MS: 4322-4324	SOIL JAR	1						X						21-Jun-23
4	UST_SP_02	7/06/2023 10:08	EM2310229	12	MS: 4322-4325	SOIL JAR	1						X						21-Jun-23
5	UST_SP_03	7/06/2023 10:08	EM2310229	13	MS: 4322-4326	SOIL JAR	1						X						21-Jun-23
6	UST_SP_04	7/06/2023 10:09	EM2310229	14	MS: 4322-4327	SOIL JAR	1						X						21-Jun-23
7	UST_SP_05	7/06/2023 10:09	EM2310229	15	MS: 4322-4328	SOIL JAR	1						X						21-Jun-23
8	UST_SP_06	7/06/2023 10:10	EM2310229	16	MS: 4322-4329	SOIL JAR	1						X						21-Jun-23
9	UST_SP_Ext_59SP_04	7/06/2023 10:12	EM2310229	19	MS: 4322-4330	SOIL JAR	1						X						21-Jun-23
10	UST_SP_Ext_59SP_05	7/06/2023 10:16	EM2310229	20	MS: 4322-4331	SOIL JAR	1						X						21-Jun-23
11	UST_SP_Ext_59SP_06	7/06/2023 10:16	EM2310229	21	MS: 4322-4332	SOIL JAR	1						X						21-Jun-23
12	UST_SP_Ext_59SP_07	7/06/2023 10:16	EM2310229	22	MS: 4322-4333	SOIL JAR	1						X						21-Jun-23
13	OL_EX_SP7_01	7/06/2023 10:22	EM2310229	23	MS: 4322-4334	SOIL JAR	1						X						21-Jun-23
14	OL_EX_SP7_02	7/06/2023 10:22	EM2310229	24	MS: 4322-4335	SOIL JAR	1						X						21-Jun-23
15	OL_EX_SP7_03	7/06/2023 10:23	EM2310229	28	MS: 4322-4336	SOIL JAR	1						X						21-Jun-23
16	OL_EX_SP8_01	7/06/2023 10:25	EM2310229	29	MS: 4322-4337	SOIL JAR	1						X						21-Jun-23
17	OL_EX_SP8_02	7/06/2023 10:25	EM2310229	30	MS: 4322-4338	SOIL JAR	1						X						21-Jun-23
18	OL_EX_SP8_03	7/06/2023 10:25	EM2310229	31	MS: 4322-4339	SOIL JAR	1						X						21-Jun-23
						TOTAL	18												

Bryn Walker

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Friday, 16 June 2023 1:18 PM
To: Peter Ravlic
Subject: [EXTERNAL] - FW: RESULTS & EDD & INVOICE for ALS Workorder : EM2310094 | Overall Description: Macquarie Point - This is a rebatch of EM2309607.
Attachments: Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV; Macquarie Point.ESDAT_EM2310094_0.Header.XML; Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV; EM2310094_0_QC.pdf; EM2310094_COC.pdf; EM2310094_0_COA.pdf; EM2310094_0_QCI.pdf; EM2310094a.Macquarie Point.AECOM.zip; 1151728282_INV.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

Can I request the following additional analysis on this batch? Would you also be able to give me a quick call if any issues – unfortunately just moved house and having some fun IT teething issues at the moment.

Cheers, and hope you have a good weekend ahead,

Rob

Lab ID	Field ID	Additional Analysis		
		Aliphatic/Aromatic Speciation TRH C6-C10	Aliphatic/Aromatic Speciation TRH C10-C16	TCLP Leachate (PAHs)
EM2310229007	OL_EX_424_0.5	X	X	
EM2310229008	OL_EX_424_1.5	X	X	
EM2310229011	UST_SP_01			x
EM2310229012	UST_SP_02			x
EM2310229013	UST_SP_03			x
EM2310229014	UST_SP_04			x
EM2310229015	UST_SP_05			x
EM2310229016	UST_SP_06			x
EM2310229019	UST_SP_Ext_59SP_04			x
EM2310229020	UST_SP_Ext_59SP_05			x
EM2310229021	UST_SP_Ext_59SP_06			x
EM2310229022	UST_SP_Ext_59SP_07			x
EM2310229023	OL_EX_SP7_01			x
EM2310229024	OL_EX_SP7_02			x
EM2310229028	OL_EX_SP7_03			x
EM2310229029	OL_EX_SP8_01			x
EM2310229030	OL_EX_SP8_02			x
EM2310229031	OL_EX_SP8_03			x

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
robert.crowe@aecom.com

AECOM

Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, VIC, 3008, Australia
T +61 3 9653 1234
aecom.com

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From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Tuesday, 13 June 2023 5:06 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RESULTS & EDD & INVOICE for ALS Workorder : EM2310094 | Overall Description: Macquarie Point - This is a rebatch of EM2309607.

Deliverables for ALS Workorder EM2310094

Project: Macquarie Point

Overall Description: Macquarie Point - This is a rebatch of EM2309607.

Dear ROBERT CROWE,

Please find enclosed the following deliverables for **EM2310094**:

- Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV
- Macquarie Point.ESDAT_EM2310094_0.Header.XML
- Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV
- EM2310094_0_QC.pdf
- EM2310094_0_QCI.pdf
- EM2310094_0_COA.pdf
- EM2310094a.Macquarie Point.AECOM.zip
- 1151728282_INV.pdf
- EM2310094_COC.pdf

Report Recipients

- ROBERT CROWE
  - Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV
  - Macquarie Point.ESDAT_EM2310094_0.Header.XML
  - Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV
  - EM2310094_0_QC.pdf (Email)

- EM2310094_0_QCI.pdf (Email)
- EM2310094_0_COA.pdf (Email)
- EM2310094a.Macquarie Point.AECOM.zip
- 1151728282_INV.pdf (Email)
- EM2310094_COC.pdf (Email)

- ACCOUNTS PAYABLE
  - 1151728282_INV
  - EM2310094_COC

12

CHAIN OF CUSTODY

ALS COC#: 49082 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
ELP (ALS)			Marvin
DATE TIME: 1.3.23 1750	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_53_0.6W		27/02/2023 09:19 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
011	OL_65_1.0		27/02/2023 09:20 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
012	OL_65_0.6E		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
013	OL_77_1.0		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
014	OL_77_0.6W		27/02/2023 09:22 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
015	OL_QC101		27/02/2023 09:23 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
016	OL_QC201		27/02/2023 09:24 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_100_1.0		28/02/2023 09:26 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
018	DL_100_0.6N		28/02/2023 09:27 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

2/3 9am
Courier Iced
3° Tw

#968470
2/3

Tuesday, February 28, 2023 10:34:44 PM

Trip Blank V-TRH /BTEXN

SU 1/3 (ALS)

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521
Phone: +61 3 8564 5000
e.mail: EnviroRemittances@eurofins.com

Tax Invoice

AECOM Aust Pty Ltd Melbourne
Accounts Payable P O BOX 1307
Fortitude Valley
QLD 4006

Purchase Order #:	60693007-2
Invoice #:	756980
Date:	Mar 09, 2023
Report #:	968430
Project Name:	MACQUARIE POINT
Project ID:	60693007-2
Contact:	Robert Crowe

Description	Quantity	Price	Total	Notes
Solid Samples				
BTEX and Naphthalene	1	$17.60	$17.60	
BTEXN and Volatile TRH	1	$17.60	$17.60	
Metals - Premier Customer Price List				
Pb	1	$7.15	$7.15	
Phenols (Speciated)	1	$27.30	$27.30	
Polycyclic Aromatic Hydrocarbons	1	$27.30	$27.30	
Total Recoverable Hydrocarbons	1	$20.50	$20.50	

Nett Total	$117.45
GST	$11.75
Total Inc GST	$129.20

This invoice is subject to Eurofins General Terms of Sales. Copies available on request or at http://environment.eurofins.com.au

Please detach and return with payment to:
Postal:
Eurofins Environment Testing
6 Monterey Road
Dandenong South
Victoria, 3175

Please EFT Payments to:
Eurofins Environment Testing
BSB 063-498
Acct No: 10057019
e.mail Remittances:
EnviroRemittances@eurofins.com

Invoice Number : 756980
Amount Inc GST : $129.20

TERMS STRICTLY 30 DAYS

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www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	60693007-2
Turnaround time:	5 Day
Date/Time received	Mar 2, 2023 9:00 AM
Eurofins reference	968430

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 968430
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 2, 2023 9:00 AM
Due: Mar 9, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_QC201	Feb 27, 2023	9:24AM	Soil	M23-Ma0005089	X	X	X	X	X	X	
2	TRIP BLANK	Mar 01, 2023		Soil	M23-Ma0005090							X
Test Counts						1	1	1	1	1	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **968430-S**
Project name MACQUARIE POINT
Project ID 60693007-2
Received Date Mar 02, 2023

Client Sample ID			**OL_QC201**	**TRIP BLANK**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M23-Ma0005089**	**M23-Ma0005090**
Date Sampled			**Feb 27, 2023**	**Mar 01, 2023**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	2200	-
TRH C15-C28	50	mg/kg	5300	-
TRH C29-C36	50	mg/kg	390	-
TRH C10-C36 (Total)	50	mg/kg	7890	-
TRH C6-C10	20	mg/kg	33	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	33	< 20
TRH >C10-C16	50	mg/kg	4000	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	3998	-
TRH >C16-C34	100	mg/kg	3500	-
TRH >C34-C40	100	mg/kg	210	-
TRH >C10-C40 (total)*	100	mg/kg	7710	-
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	0.3	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	135	139
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	2.0	-
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.7	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	7.7	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.7	-
Acenaphthene	0.5	mg/kg	0.7	-
Acenaphthylene	0.5	mg/kg	1.5	-
Anthracene	0.5	mg/kg	6.3	-
Benz(a)anthracene	0.5	mg/kg	3.4	-
Benzo(a)pyrene	0.5	mg/kg	3.6	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	6.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	4.4	-
Benzo(k)fluoranthene	0.5	mg/kg	7.3	-
Chrysene	0.5	mg/kg	14	-

Client Sample ID			OL_QC201	TRIP BLANK
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0005089	M23-Ma0005090
Date Sampled			Feb 27, 2023	Mar 01, 2023
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a.h)anthracene	0.5	mg/kg	1.8	-
Fluoranthene	0.5	mg/kg	16	-
Fluorene	0.5	mg/kg	7.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.8	-
Naphthalene	0.5	mg/kg	5.2	-
Phenanthrene	0.5	mg/kg	14	-
Pyrene	0.5	mg/kg	19	-
Total PAH*	0.5	mg/kg	120	-
2-Fluorobiphenyl (surr.)	1	%	56	-
p-Terphenyl-d14 (surr.)	1	%	62	-
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-
Dinoseb	20	mg/kg	< 20	-
Phenol	0.5	mg/kg	< 0.5	-
Phenol-d6 (surr.)	1	%	90	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-
Heavy Metals				
Lead	5	mg/kg	190	-
Sample Properties				
% Moisture	1	%	16	-
Volatile Organics				
Naphthalene[N02]	0.5	mg/kg	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Mar 03, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	Mar 02, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 968430
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 2, 2023 9:00 AM
Due: Mar 9, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_QC201	Feb 27, 2023	9:24AM	Soil	M23-Ma0005089	X	X	X	X	X	X	
2	TRIP BLANK	Mar 01, 2023		Soil	M23-Ma0005090							X
Test Counts						1	1	1	1	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	79			70-130	Pass	
TRH C10-C14	%	117			70-130	Pass	
TRH C6-C10	%	82			70-130	Pass	
TRH >C10-C16	%	110			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	79			70-130	Pass	
Toluene	%	79			70-130	Pass	
Ethylbenzene	%	71			70-130	Pass	
m&p-Xylenes	%	72			70-130	Pass	
Xylenes - Total*	%	73			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	89			70-130	Pass	
Acenaphthylene	%	71			70-130	Pass	
Anthracene	%	113			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	87			70-130	Pass	
Benzo(g.h.i)perylene	%	73			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	90			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	85			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Naphthalene	%	125			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	91			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	97			25-140	Pass	
2.4-Dichlorophenol	%	44			25-140	Pass	
2.4.5-Trichlorophenol	%	101			25-140	Pass	
2.4.6-Trichlorophenol	%	107			25-140	Pass	
2.6-Dichlorophenol	%	39			25-140	Pass	
4-Chloro-3-methylphenol	%	43			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	38			25-140	Pass	
Tetrachlorophenols - Total	%	59			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	129			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	58			25-140	Pass	
2-Nitrophenol	%	68			25-140	Pass	
2.4-Dimethylphenol	%	124			25-140	Pass	
2.4-Dinitrophenol	%	104			25-140	Pass	
2-Methylphenol (o-Cresol)	%	64			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	41			25-140	Pass	
4-Nitrophenol	%	35			25-140	Pass	
Dinoseb	%	75			25-140	Pass	
Phenol	%	81			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	104			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ma0014715	NCP	%	90			70-130	Pass	
TRH C10-C14	M23-Ma0009918	NCP	%	112			70-130	Pass	
TRH C6-C10	M23-Ma0014715	NCP	%	92			70-130	Pass	
TRH >C10-C16	M23-Ma0009918	NCP	%	117			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ma0014715	NCP	%	71			70-130	Pass	
Toluene	M23-Ma0014715	NCP	%	82			70-130	Pass	
Ethylbenzene	M23-Ma0014715	NCP	%	81			70-130	Pass	
m&p-Xylenes	M23-Ma0014715	NCP	%	84			70-130	Pass	
o-Xylene	M23-Ma0014715	NCP	%	84			70-130	Pass	
Xylenes - Total*	M23-Ma0014715	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ma0014715	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-Fe0063044	NCP	%	83			30-130	Pass	
2.4-Dichlorophenol	M23-Fe0063044	NCP	%	123			30-130	Pass	
2.4.5-Trichlorophenol	M23-Fe0063044	NCP	%	82			30-130	Pass	
2.6-Dichlorophenol	M23-Fe0063044	NCP	%	120			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Fe0063044	NCP	%	104			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-Fe0063029	NCP	%	58			30-130	Pass	
2-Nitrophenol	M23-Fe0063044	NCP	%	39			30-130	Pass	
2.4-Dinitrophenol	M23-Fe0063029	NCP	%	104			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-Fe0063044	NCP	%	60			30-130	Pass	
4-Nitrophenol	M23-Fe0058944	NCP	%	60			30-130	Pass	
Dinoseb	M23-Fe0063029	NCP	%	41			30-130	Pass	
Phenol	M23-Fe0063044	NCP	%	69			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Ma0010004	NCP	%	93			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M23-Fe0064979	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-Fe0064979	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-Fe0064979	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M23-Fe0064979	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-Fe0064979	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-Fe0064979	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ma0002851	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ma0002851	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ma0002851	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ma0002851	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ma0002851	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0002851	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0002851	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ma0002851	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ma0002851	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0002851	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0002851	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-Ma0002851	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ma0002851	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ma0002851	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Ma0010004	NCP	mg/kg	8.1	8.1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ma0005036	NCP	%	13	14	2.5	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0005090	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M23-Ma0005090	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0005090	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0005090	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0005090	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0005090	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0005090	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0005090	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0005090	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Sample Properties
Scott Beddoes	Senior Analyst-Metal



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

(ALS) COC#: 49100 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Caitlin (ALS) DATE TIME: 3/3/23 11:50	SR (ALS) DATE TIME: 08/03/23	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	DL_71_1.0		01/03/2023 07:05 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
002	DL_71_0.6E		01/03/2023 07:05 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
003	DL_59_1.0		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/4				
004	DL_59_0.6W		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
005	DL_47_1.0		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
006	DL_47_0.6E		01/03/2023 07:04 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
007	DL_35_1.0		02/03/2023 07:05 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
008	DL_35_0.6W		02/03/2023 07:06 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
009	DL_23_1.0		02/03/2023 07:07 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					

#64

Environmental Division
Melbourne
Work Order Reference
EM2303927

Telephone : +61-3-8549 9600

DATE: 8/3 9am
TIME:
COURIER:
TEMPERATURE 9.3
ATTEMP TO CHILL: YES NO

969949
Jake
TW

CHAIN OF CUSTODY

ALS COC#: 49100 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	Caitlin (ALS) DATE TIME: 3/3/23 11:50	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

#64

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_23_0.6E		02/03/2023 07:07 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
011	DL_11_1.0		02/03/2023 07:08 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
012	DL_11_0.6W		02/03/2023 07:08 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
013	DL_00_1.0		02/03/2023 07:09 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
014	DL_00_0.6E		02/03/2023 07:09 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
015	DL_QC102		01/03/2023 07:10 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
016	DL_QC202		01/03/2023 07:11 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_80_1.0		02/03/2023 07:11 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					
018	DL_80_0.6W		02/03/2023 07:12 AM	SOIL	ALS: 0 Non ALS: 0	No	Partial 1/2					

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521
Phone: +61 3 8564 5000
e.mail: EnviroRemittances@eurofins.com

Tax Invoice

AECOM Aust Pty Ltd Melbourne
Accounts Payable P O BOX 1307
Fortitude Valley
QLD 4006

Purchase Order #:	60693007-2
Invoice #:	758410
Date:	Mar 16, 2023
Report #:	969949
Project Name:	MACQUARIE POINT
Project ID:	60693007/2
Contact:	Robert Crowe

Description	Quantity	Price	Total	Notes
Solid Samples				
BTEX and Naphthalene	1	$17.60	$17.60	
Metals - Premier Customer Price List				
Pb	1	$7.15	$7.15	
Phenols (Speciated)	1	$27.30	$27.30	
Polycyclic Aromatic Hydrocarbons	1	$27.30	$27.30	
Total Recoverable Hydrocarbons	1	$20.50	$20.50	

Nett Total	$99.85
GST	$9.99
Total Inc GST	$109.84

This invoice is subject to Eurofins General Terms of Sales. Copies available on request or at http://environment.eurofins.com.au

Please detach and return with payment to:
Postal:
Eurofins Environment Testing
6 Monterey Road
Dandenong South
Victoria, 3175

Please EFT Payments to:
Eurofins Environment Testing
BSB 063-498
Acct No: 10057019
e.mail Remittances:
EnviroRemittances@eurofins.com

Invoice Number : 758410
Amount Inc GST : $109.84

TERMS STRICTLY 30 DAYS

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Eurofins Environment Testing Australia Pty Ltd

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Newcastle
1/2 Frost Drive
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NATA# 1261
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Eurofins ARL Pty Ltd

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Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	60693007-2
Turnaround time:	5 Day
Date/Time received	Mar 8, 2023 9:00 AM
Eurofins reference	969949

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 9.3 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Received extra TRIP BLANK sample.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 969949
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 8, 2023 9:00 AM
Due: Mar 16, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	DL_QC202	Mar 01, 2023	7:11AM	Soil	M23-Ma0018503		X	X	X	X	X	X
2	TRIP BLANK	Mar 01, 2023	7:11AM	Soil	M23-Ma0018504	X						
Test Counts						1	1	1	1	1	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **969949-S**
Project name MACQUARIE POINT
Project ID 60693007/2
Received Date Mar 08, 2023

Client Sample ID			**DL_QC202**
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-Ma0018503**
Date Sampled			**Mar 01, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	250
TRH C29-C36	50	mg/kg	220
TRH C10-C36 (Total)	50	mg/kg	470
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	430
TRH >C34-C40	100	mg/kg	100
TRH >C10-C40 (total)*	100	mg/kg	530
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	9.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	9.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	9.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	0.9
Anthracene	0.5	mg/kg	1.6
Benz(a)anthracene	0.5	mg/kg	5.9
Benzo(a)pyrene	0.5	mg/kg	6.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	5.1
Benzo(g.h.i)perylene	0.5	mg/kg	2.2
Benzo(k)fluoranthene	0.5	mg/kg	3.7
Chrysene	0.5	mg/kg	5.6

Client Sample ID			DL_QC202
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-Ma0018503**
Date Sampled			**Mar 01, 2023**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	0.5	mg/kg	0.8
Fluoranthene	0.5	mg/kg	17
Fluorene	0.5	mg/kg	0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.5
Naphthalene	0.5	mg/kg	1.2
Phenanthrene	0.5	mg/kg	4.1
Pyrene	0.5	mg/kg	17
Total PAH*	0.5	mg/kg	76
2-Fluorobiphenyl (surr.)	1	%	97
p-Terphenyl-d14 (surr.)	1	%	68
Phenols (Halogenated)			
2-Chlorophenol	0.5	mg/kg	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1
Pentachlorophenol	1	mg/kg	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10
Total Halogenated Phenol*	1	mg/kg	< 1
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5
2-Nitrophenol	1.0	mg/kg	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4
Total cresols*	0.5	mg/kg	< 0.5
4-Nitrophenol	5	mg/kg	< 5
Dinoseb	20	mg/kg	< 20
Phenol	0.5	mg/kg	< 0.5
Phenol-d6 (surr.)	1	%	73
Total Non-Halogenated Phenol*	20	mg/kg	< 20
Heavy Metals			
Lead	5	mg/kg	1100
Sample Properties			
% Moisture	1	%	17

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX and Naphthalene			
BTEX	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Mar 09, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	Mar 08, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 969949
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 8, 2023 9:00 AM
Due: Mar 16, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	DL_QC202	Mar 01, 2023	7:11AM	Soil	M23-Ma0018503		X	X	X	X	X	X
2	TRIP BLANK	Mar 01, 2023	7:11AM	Soil	M23-Ma0018504	X						
Test Counts						1	1	1	1	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	108			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
TRH C6-C10	%	105			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	102			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	117			70-130	Pass	
Acenaphthylene	%	116			70-130	Pass	
Anthracene	%	115			70-130	Pass	
Benz(a)anthracene	%	92			70-130	Pass	
Benzo(a)pyrene	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	%	74			70-130	Pass	
Benzo(g.h.i)perylene	%	97			70-130	Pass	
Benzo(k)fluoranthene	%	87			70-130	Pass	
Chrysene	%	126			70-130	Pass	
Dibenz(a.h)anthracene	%	79			70-130	Pass	
Fluoranthene	%	125			70-130	Pass	
Fluorene	%	128			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	107			70-130	Pass	
Phenanthrene	%	129			70-130	Pass	
Pyrene	%	101			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	97			25-140	Pass	
2.4-Dichlorophenol	%	120			25-140	Pass	
2.4.5-Trichlorophenol	%	114			25-140	Pass	
2.4.6-Trichlorophenol	%	81			25-140	Pass	
2.6-Dichlorophenol	%	106			25-140	Pass	
4-Chloro-3-methylphenol	%	120			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	89			25-140	Pass	
Tetrachlorophenols - Total	%	64			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	80			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	52			25-140	Pass	
2-Nitrophenol	%	97			25-140	Pass	
2.4-Dimethylphenol	%	96			25-140	Pass	
2.4-Dinitrophenol	%	68			25-140	Pass	
2-Methylphenol (o-Cresol)	%	94			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	87			25-140	Pass	
4-Nitrophenol	%	105			25-140	Pass	
Dinoseb	%	66			25-140	Pass	
Phenol	%	104			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	112			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ma0023068	NCP	%	75			70-130	Pass	
TRH C10-C14	M23-Ma0018686	NCP	%	119			70-130	Pass	
TRH C6-C10	M23-Ma0023068	NCP	%	78			70-130	Pass	
TRH >C10-C16	M23-Ma0018686	NCP	%	123			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ma0023068	NCP	%	71			70-130	Pass	
Toluene	M23-Ma0023068	NCP	%	92			70-130	Pass	
Ethylbenzene	M23-Ma0023068	NCP	%	98			70-130	Pass	
m&p-Xylenes	M23-Ma0023068	NCP	%	94			70-130	Pass	
o-Xylene	M23-Ma0023068	NCP	%	95			70-130	Pass	
Xylenes - Total*	M23-Ma0023068	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ma0023068	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Ma0026775	NCP	%	74			70-130	Pass	
Acenaphthylene	M23-Ma0026775	NCP	%	70			70-130	Pass	
Anthracene	M23-Ma0026775	NCP	%	82			70-130	Pass	
Benz(a)anthracene	M23-Ma0026775	NCP	%	103			70-130	Pass	
Benzo(a)pyrene	M23-Ma0026775	NCP	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Ma0026775	NCP	%	89			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ma0026775	NCP	%	89			70-130	Pass	
Benzo(k)fluoranthene	M23-Ma0026775	NCP	%	97			70-130	Pass	
Chrysene	M23-Ma0026775	NCP	%	77			70-130	Pass	
Dibenz(a.h)anthracene	M23-Ma0026775	NCP	%	93			70-130	Pass	
Fluoranthene	M23-Ma0026775	NCP	%	74			70-130	Pass	
Fluorene	M23-Ma0026775	NCP	%	76			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0026775	NCP	%	84			70-130	Pass	
Naphthalene	M23-Ma0026775	NCP	%	86			70-130	Pass	
Phenanthrene	M23-Ma0026775	NCP	%	71			70-130	Pass	
Pyrene	M23-Ma0026775	NCP	%	79			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals				Result 1					
Lead	M23-Ma0019998	NCP	%	93			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0019708	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ma0016444	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-Ma0016444	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-Ma0016444	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M23-Ma0019708	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ma0016444	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-Ma0016444	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-Ma0016444	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0019708	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0019708	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0019708	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0019708	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0019708	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0019708	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0019708	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Ma0026368	NCP	mg/kg	0.5	0.6	3.0	30%	Pass	
Dibenz(a.h)anthracene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Ma0026368	NCP	mg/kg	0.9	0.9	3.9	30%	Pass	
Fluorene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Ma0026368	NCP	mg/kg	0.9	0.9	3.1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ma0026368	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ma0026368	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ma0026368	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ma0026368	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ma0026368	NCP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0026368	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0026368	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ma0026368	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ma0026368	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0026368	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0026368	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-Ma0026368	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ma0026368	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ma0026368	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Ma0016310	NCP	mg/kg	12	13	2.2	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ma0018488	NCP	%	< 1	< 1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: 22/3/23, 1145	DATE/TIME: 27/3	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		#915786
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			27/3
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
				TOTAL	22	4	2	0	0	0	1	1	1	

DATE: 27/3
TIME: 4.20pm
COURIER: yes
TEMPERATURE 6.9 + 1.3 8.2
ATTEMP TO CHILL : YES NO
Jess 3

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

291

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	Scott (ALS)		
DATE/TIME:	DATE/TIME: 22/3/23, 1145	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			#975186
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	27/3
46	UST _ QC106	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC206	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
	Trip Blank													Forward to Eurofins
				TOTAL	18	4	0	0	0	0	1	1	1	

DATE: 27/3
TIME: 4:20pm
COURIER: YES
TEMPERATURE 5.2
ATTEMP TO CHILL: YES NO

Jess-s

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Approved Date: 12/10/2022

Eurofins Environment Testing Australia Pty Ltd
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e.mail: EnviroRemittances@eurofins.com

Tax Invoice

AECOM Aust Pty Ltd Melbourne
Accounts Payable P O BOX 1307
Fortitude Valley
QLD 4006

Purchase Order #:	60693007-3
Invoice #:	762715
Date:	Apr 05, 2023
Report #:	975786
Project Name:	MACQUARIE POINT
Project ID:	60693007
Contact:	Robert Crowe

Description	Quantity	Price	Total	Notes
Solid Samples				
BTEX and Naphthalene	5	$17.60	$88.00	
Metals - Premier Customer Price List				
Pb	4	$7.15	$28.60	
Phenols (Speciated)	4	$27.30	$109.20	
Polycyclic Aromatic Hydrocarbons	4	$27.30	$109.20	
TAS EPA - Contaminated Soil Classification - Excluding TBT	1	$196.70	$196.70	
Total Recoverable Hydrocarbons	4	$20.50	$82.00	
TRH C6-C10	1	$17.60	$17.60	

Nett Total	$631.30
GST	$63.13
Total Inc GST	$694.43

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Victoria, 3175

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Acct No: 10057019
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Invoice Number : 762715
Amount Inc GST : $694.43

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Christchurch 7675
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IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	60693007
Turnaround time:	5 Day
Date/Time received	Mar 27, 2023 4:20 PM
Eurofins reference	975786

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 8.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007

Order No.: 60693007-3
Report #: 975786
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 27, 2023 4:20 PM
Due: Apr 3, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	UST - QC208	Mar 21, 2023		Soil	M23-Ma0064241	X		X	X	X	X	X	
2	UST - QC210	Mar 21, 2023		Soil	M23-Ma0064242	X		X	X	X	X	X	
3	UST - QC207	Mar 20, 2023		Soil	M23-Ma0064243	X		X	X	X	X	X	
4	UST - QC206	Mar 20, 2023		Soil	M23-Ma0064244	X		X	X	X	X	X	
5	TRIP BLANK	Not Provided		Soil	M23-Ma0064245		X			X	X		
6	UST - QC209	Mar 21, 2023		Soil	M23-Ma0064246						X		X
Test Counts						4	1	4	4	5	6	4	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **975786-S**
Project name MACQUARIE POINT
Project ID 60693007
Received Date Mar 27, 2023

Client Sample ID			**UST - QC208**	**UST - QC210**	**UST - QC207**	**UST - QC206**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-Ma0064241**	**M23-Ma0064242**	**M23-Ma0064243**	**M23-Ma0064244**
Date Sampled			**Mar 21, 2023**	**Mar 21, 2023**	**Mar 20, 2023**	**Mar 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	21	42	490
TRH C15-C28	50	mg/kg	480	600	1300	1500
TRH C29-C36	50	mg/kg	260	270	470	90
TRH C10-C36 (Total)	50	mg/kg	740	891	1812	2080
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	40
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	39
TRH >C10-C16	50	mg/kg	< 50	60	160	960
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	60	158.2	953.8
TRH >C16-C34	100	mg/kg	730	880	1700	1100
TRH >C34-C40	100	mg/kg	< 100	< 100	120	< 100
TRH >C10-C40 (total)*	100	mg/kg	730	940	1980	2060
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	0.5
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.5
4-Bromofluorobenzene (surr.)	1	%	97	141	101	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	1.8	6.2
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	14	25	42	3.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	14	25	42	3.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	14	25	42	3.9
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	16	< 0.5
Acenaphthylene	0.5	mg/kg	1.1	1.4	2.6	0.5
Anthracene	0.5	mg/kg	1.9	4.1	18	< 0.5
Benz(a)anthracene	0.5	mg/kg	9.8	19	31	1.8
Benzo(a)pyrene	0.5	mg/kg	9.6	17	28	2.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	6.0	12	23	2.3
Benzo(g.h.i)perylene	0.5	mg/kg	3.7	8.0	15	2.0
Benzo(k)fluoranthene	0.5	mg/kg	7.4	14	22	2.1
Chrysene	0.5	mg/kg	11	20	30	2.1

Client Sample ID			UST - QC208	UST - QC210	UST - QC207	UST - QC206
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ma0064241	M23-Ma0064242	M23-Ma0064243	M23-Ma0064244
Date Sampled			Mar 21, 2023	Mar 21, 2023	Mar 20, 2023	Mar 20, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	2.5	4.5	< 0.5
Fluoranthene	0.5	mg/kg	18	30	82	5.6
Fluorene	0.5	mg/kg	0.6	0.9	18	0.8
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.7	9.3	16	2.1
Naphthalene	0.5	mg/kg	0.7	0.7	13	1.1
Phenanthrene	0.5	mg/kg	5.3	12	78	2.6
Pyrene	0.5	mg/kg	18	34	83	7.0
Total PAH*	0.5	mg/kg	98	180	480	33
2-Fluorobiphenyl (surr.)	1	%	91	99	83	106
p-Terphenyl-d14 (surr.)	1	%	67	79	81	105
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 1	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 1	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 1	< 0.5
Phenol-d6 (surr.)	1	%	69	71	81	92
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Lead	5	mg/kg	520	270	2600	200
Sample Properties						
% Moisture	1	%	19	14	22	21

Client Sample ID			TRIP BLANK	UST - QC209
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0064245	M23-Ma0064246
Date Sampled			Not Provided[I12]	Mar 21, 2023
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	-	< 20
TRH C10-C14	20	mg/kg	-	320
TRH C15-C28	50	mg/kg	-	1000
TRH C29-C36	50	mg/kg	-	56
TRH C10-C36 (Total)	50	mg/kg	-	1376
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20
TRH >C10-C16	50	mg/kg	-	620
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	620
TRH >C16-C34	100	mg/kg	-	770
TRH >C34-C40	100	mg/kg	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	1390
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	-	< 0.5
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	3.1
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	3.4
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	3.6
Acenaphthene	0.5	mg/kg	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5
Anthracene	0.5	mg/kg	-	1.6
Benz(a)anthracene	0.5	mg/kg	-	2.4
Benzo(a)pyrene	0.5	mg/kg	-	2.4
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	1.3
Benzo(g.h.i)perylene	0.5	mg/kg	-	1.1
Benzo(k)fluoranthene	0.5	mg/kg	-	2.2
Chrysene	0.5	mg/kg	-	2.1
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5
Fluoranthene	0.5	mg/kg	-	8.0
Fluorene	0.5	mg/kg	-	1.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	1.2
Naphthalene	0.5	mg/kg	-	< 0.5
Phenanthrene	0.5	mg/kg	-	4.3
Pyrene	0.5	mg/kg	-	9.4
Total PAH*	0.5	mg/kg	-	38
2-Fluorobiphenyl (surr.)	1	%	-	116
p-Terphenyl-d14 (surr.)	1	%	-	105

Client Sample ID			TRIP BLANK	UST - QC209
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0064245	M23-Ma0064246
Date Sampled			Not Provided[I12]	Mar 21, 2023
Test/Reference	LOR	Unit		
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5
Dinoseb	20	mg/kg	-	< 20
Phenol	0.5	mg/kg	-	< 0.5
Phenol-d6 (surr.)	1	%	-	93
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20
Heavy Metals				
Arsenic	2	mg/kg	-	3.3
Barium	10	mg/kg	-	230
Beryllium	2	mg/kg	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4
Chromium	5	mg/kg	-	24
Cobalt	5	mg/kg	-	19
Copper	5	mg/kg	-	63
Lead	5	mg/kg	-	110
Manganese	5	mg/kg	-	230
Mercury	0.1	mg/kg	-	0.8
Molybdenum	5	mg/kg	-	< 5
Nickel	5	mg/kg	-	23
Selenium	2	mg/kg	-	< 2
Silver	2	mg/kg	-	< 2
Tin	10	mg/kg	-	18
Zinc	5	mg/kg	-	180
Sample Properties				
% Moisture	1	%	< 1	23
Volatile Organics				
Naphthalene[N02]	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.8
Chromium (hexavalent)	1	mg/kg	-	< 1
Cyanide (total)	5	mg/kg	-	< 5
Fluoride	100	mg/kg	-	< 100

Client Sample ID			TRIP BLANK	UST - QC209
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0064245	M23-Ma0064246
Date Sampled			Not Provided[I12]	Mar 21, 2023
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	96
Tetrachloro-m-xylene (surr.)	1	%	-	116
Polychlorinated Biphenyls				
Aroclor-1016	0.1	mg/kg	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	96
Tetrachloro-m-xylene (surr.)	1	%	-	116

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Mar 30, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Benzo(a)pyrene - low level	Melbourne	Mar 28, 2023	0 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Chromium (hexavalent)	Melbourne	Mar 28, 2023	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Mar 28, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Mar 29, 2023	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
Organochlorine Pesticides	Melbourne	Mar 28, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Mar 28, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Total Recoverable Hydrocarbons	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Mar 28, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: MACQUARIE POINT
Project ID: 60693007

Order No.: 60693007-3
Report #: 975786
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Received: Mar 27, 2023 4:20 PM
Due: Apr 3, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	UST - QC208	Mar 21, 2023		Soil	M23-Ma0064241	X		X	X	X	X	X	
2	UST - QC210	Mar 21, 2023		Soil	M23-Ma0064242	X		X	X	X	X	X	
3	UST - QC207	Mar 20, 2023		Soil	M23-Ma0064243	X		X	X	X	X	X	
4	UST - QC206	Mar 20, 2023		Soil	M23-Ma0064244	X		X	X	X	X	X	
5	TRIP BLANK	Not Provided		Soil	M23-Ma0064245		X			X	X		
6	UST - QC209	Mar 21, 2023		Soil	M23-Ma0064246						X		X
Test Counts						4	1	4	4	5	6	4	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	92			70-130	Pass	
TRH C10-C14	%	104			70-130	Pass	
TRH C6-C10	%	90			70-130	Pass	
TRH >C10-C16	%	116			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	107			70-130	Pass	
Anthracene	%	109			70-130	Pass	
Benz(a)anthracene	%	104			70-130	Pass	
Benzo(a)pyrene	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	%	112			70-130	Pass	
Benzo(g.h.i)perylene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	115			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	78			70-130	Pass	
Fluoranthene	%	106			70-130	Pass	
Fluorene	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	111			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	111			25-140	Pass	
2.4-Dichlorophenol	%	101			25-140	Pass	
2.4.5-Trichlorophenol	%	73			25-140	Pass	
2.4.6-Trichlorophenol	%	59			25-140	Pass	
2.6-Dichlorophenol	%	80			25-140	Pass	
4-Chloro-3-methylphenol	%	79			25-140	Pass	
Pentachlorophenol	%	66			25-140	Pass	
Tetrachlorophenols - Total	%	86			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	60			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	46			25-140	Pass	
2-Nitrophenol	%	97			25-140	Pass	
2.4-Dimethylphenol	%	65			25-140	Pass	
2.4-Dinitrophenol	%	96			25-140	Pass	
2-Methylphenol (o-Cresol)	%	94			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	92			25-140	Pass	
4-Nitrophenol	%	106			25-140	Pass	
Dinoseb	%	60			25-140	Pass	
Phenol	%	110			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Barium	%	113			80-120	Pass	
Beryllium	%	113			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	112			80-120	Pass	
Cobalt	%	110			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	93			80-120	Pass	
Manganese	%	113			80-120	Pass	
Mercury	%	93			80-120	Pass	
Molybdenum	%	109			80-120	Pass	
Nickel	%	111			80-120	Pass	
Selenium	%	109			80-120	Pass	
Silver	%	106			80-120	Pass	
Tin	%	113			80-120	Pass	
Zinc	%	111			80-120	Pass	
LCS - % Recovery							
Benzo(a)pyrene - low level	%	109			70-130	Pass	
Cyanide (total)	%	75			70-130	Pass	
Fluoride	%	99			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	83			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	90			70-130	Pass	
4.4'-DDT	%	88			70-130	Pass	
a-HCH	%	78			70-130	Pass	
Aldrin	%	90			70-130	Pass	
b-HCH	%	81			70-130	Pass	
d-HCH	%	81			70-130	Pass	
Dieldrin	%	112			70-130	Pass	
Endosulfan I	%	82			70-130	Pass	
Endosulfan II	%	80			70-130	Pass	
Endosulfan sulphate	%	88			70-130	Pass	
Endrin	%	94			70-130	Pass	
Endrin aldehyde	%	71			70-130	Pass	
Endrin ketone	%	78			70-130	Pass	
g-HCH (Lindane)	%	75			70-130	Pass	
Heptachlor	%	85			70-130	Pass	
Heptachlor epoxide	%	79			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene			%	82			70-130	Pass	
Methoxychlor			%	86			70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls									
Aroclor-1260			%	100			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Ma0069256	NCP	%	115			70-130	Pass	
Acenaphthylene	M23-Ma0069256	NCP	%	100			70-130	Pass	
Anthracene	M23-Ma0069256	NCP	%	122			70-130	Pass	
Benz(a)anthracene	M23-Ma0069256	NCP	%	100			70-130	Pass	
Benzo(a)pyrene	M23-Ma0069256	NCP	%	103			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Ma0069256	NCP	%	103			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ma0069256	NCP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M23-Ma0069256	NCP	%	107			70-130	Pass	
Chrysene	M23-Ma0069256	NCP	%	91			70-130	Pass	
Dibenz(a.h)anthracene	M23-Ma0069256	NCP	%	91			70-130	Pass	
Fluoranthene	M23-Ma0069256	NCP	%	112			70-130	Pass	
Fluorene	M23-Ma0069256	NCP	%	118			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0069256	NCP	%	99			70-130	Pass	
Naphthalene	M23-Ma0069256	NCP	%	96			70-130	Pass	
Phenanthrene	M23-Ma0069256	NCP	%	110			70-130	Pass	
Pyrene	M23-Ma0069256	NCP	%	122			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-Ma0069256	NCP	%	105			30-130	Pass	
2.4-Dichlorophenol	M23-Ma0069256	NCP	%	41			30-130	Pass	
2.4.5-Trichlorophenol	M23-Ma0069256	NCP	%	41			30-130	Pass	
2.4.6-Trichlorophenol	M23-Ma0069256	NCP	%	51			30-130	Pass	
2.6-Dichlorophenol	M23-Ma0069256	NCP	%	34			30-130	Pass	
4-Chloro-3-methylphenol	M23-Ma0069256	NCP	%	90			30-130	Pass	
Pentachlorophenol	M23-Ma0069256	NCP	%	40			30-130	Pass	
Tetrachlorophenols - Total	M23-Ma0069256	NCP	%	41			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0069256	NCP	%	47			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0069256	NCP	%	46			30-130	Pass	
2-Nitrophenol	M23-Ma0069256	NCP	%	53			30-130	Pass	
2.4-Dimethylphenol	M23-Ma0069256	NCP	%	82			30-130	Pass	
2.4-Dinitrophenol	M23-Ma0027634	NCP	%	118			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0069256	NCP	%	108			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0069256	NCP	%	106			30-130	Pass	
4-Nitrophenol	M23-Ma0069256	NCP	%	114			30-130	Pass	
Dinoseb	M23-Ma0069256	NCP	%	65			30-130	Pass	
Phenol	M23-Ma0069256	NCP	%	106			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ma0064241	CP	%	108			75-125	Pass	
Beryllium	M23-Ma0064241	CP	%	120			75-125	Pass	
Cadmium	M23-Ma0064241	CP	%	102			75-125	Pass	
Chromium	M23-Ma0064241	CP	%	112			75-125	Pass	
Cobalt	M23-Ma0064241	CP	%	112			75-125	Pass	
Lead	M23-Ma0076276	NCP	%	97			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Molybdenum	M23-Ma0064241	CP	%	112			75-125	Pass	
Nickel	M23-Ma0064241	CP	%	111			75-125	Pass	
Selenium	M23-Ma0064241	CP	%	108			75-125	Pass	
Silver	M23-Ma0064241	CP	%	103			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M23-Ma0064242	CP	%	102			70-130	Pass	
TRH >C10-C16	M23-Ma0064242	CP	%	110			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ma0064246	CP	%	101			70-130	Pass	
TRH C6-C10	M23-Ma0064246	CP	%	115			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ma0064246	CP	%	72			70-130	Pass	
Toluene	M23-Ma0064246	CP	%	74			70-130	Pass	
Ethylbenzene	M23-Ma0064246	CP	%	78			70-130	Pass	
m&p-Xylenes	M23-Ma0064246	CP	%	80			70-130	Pass	
o-Xylene	M23-Ma0064246	CP	%	82			70-130	Pass	
Xylenes - Total*	M23-Ma0064246	CP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ma0064246	CP	%	104			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ma0076276	NCP	%	113			75-125	Pass	
Barium	M23-Ma0076276	NCP	%	117			75-125	Pass	
Beryllium	M23-Ma0076276	NCP	%	124			75-125	Pass	
Cadmium	M23-Ma0076276	NCP	%	109			75-125	Pass	
Chromium	M23-Ma0076276	NCP	%	119			75-125	Pass	
Cobalt	M23-Ma0076276	NCP	%	118			75-125	Pass	
Copper	M23-Ma0076276	NCP	%	119			75-125	Pass	
Manganese	M23-Ma0076276	NCP	%	81			75-125	Pass	
Mercury	M23-Ma0076276	NCP	%	107			75-125	Pass	
Molybdenum	M23-Ma0076276	NCP	%	125			75-125	Pass	
Nickel	M23-Ma0076276	NCP	%	118			75-125	Pass	
Selenium	M23-Ma0076276	NCP	%	115			75-125	Pass	
Silver	M23-Ma0076276	NCP	%	130			75-125	Fail	Q08
Tin	M23-Ma0076276	NCP	%	109			75-125	Pass	
Zinc	M23-Ma0076276	NCP	%	122			75-125	Pass	
Spike - % Recovery									
				Result 1					
Benzo(a)pyrene - low level	M23-Ma0069256	NCP	%	103			70-130	Pass	
Fluoride	M23-Ma0070578	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M23-Ma0067982	NCP	%	83			70-130	Pass	
4.4'-DDD	M23-Ma0067982	NCP	%	80			70-130	Pass	
4.4'-DDE	M23-Ma0067982	NCP	%	82			70-130	Pass	
4.4'-DDT	M23-Ma0067982	NCP	%	74			70-130	Pass	
a-HCH	M23-Ma0067982	NCP	%	77			70-130	Pass	
Aldrin	M23-Ma0067982	NCP	%	80			70-130	Pass	
b-HCH	M23-Ma0067982	NCP	%	71			70-130	Pass	
d-HCH	M23-Ma0067982	NCP	%	86			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	M23-Ma0067982	NCP	%	94			70-130	Pass	
Endosulfan I	M23-Ma0067982	NCP	%	92			70-130	Pass	
Endosulfan II	M23-Ma0067982	NCP	%	75			70-130	Pass	
Endosulfan sulphate	M23-Ma0067982	NCP	%	75			70-130	Pass	
Endrin	M23-Ma0067982	NCP	%	79			70-130	Pass	
Endrin aldehyde	M23-Ma0067982	NCP	%	79			70-130	Pass	
Endrin ketone	M23-Ma0067982	NCP	%	78			70-130	Pass	
g-HCH (Lindane)	M23-Ma0067982	NCP	%	92			70-130	Pass	
Heptachlor	M23-Ma0067982	NCP	%	82			70-130	Pass	
Heptachlor epoxide	M23-Ma0067982	NCP	%	72			70-130	Pass	
Hexachlorobenzene	M23-Ma0067982	NCP	%	73			70-130	Pass	
Methoxychlor	M23-Ma0067982	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M23-Ma0068169	NCP	%	82			70-130	Pass	
Aroclor-1260	M23-Ma0068169	NCP	%	80			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ma0069252	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0069252	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0069252	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ma0069252	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0069252	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0069252	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
4-Nitrophenol	M23-Ma0069252	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ma0069252	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Ma0064241	CP	mg/kg	9.6	10	6.0	30%	Pass	
Barium	M23-Ma0064241	CP	mg/kg	140	140	3.6	30%	Pass	
Beryllium	M23-Ma0064241	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M23-Ma0064241	CP	mg/kg	0.4	0.4	<1	30%	Pass	
Chromium	M23-Ma0064241	CP	mg/kg	13	13	3.3	30%	Pass	
Cobalt	M23-Ma0064241	CP	mg/kg	9.5	10	7.2	30%	Pass	
Copper	M23-Ma0064241	CP	mg/kg	110	120	4.8	30%	Pass	
Lead	M23-Ma0064241	CP	mg/kg	520	530	2.2	30%	Pass	
Manganese	M23-Ma0064241	CP	mg/kg	200	210	4.7	30%	Pass	
Mercury	M23-Ma0064241	CP	mg/kg	9.1	9.6	5.4	30%	Pass	
Molybdenum	M23-Ma0064241	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M23-Ma0064241	CP	mg/kg	12	13	5.2	30%	Pass	
Selenium	M23-Ma0064241	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M23-Ma0064241	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M23-Ma0064241	CP	mg/kg	95	98	2.6	30%	Pass	
Zinc	M23-Ma0064241	CP	mg/kg	280	300	5.7	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0064242	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ma0064242	CP	mg/kg	21	< 20	14	30%	Pass	
TRH C15-C28	M23-Ma0064242	CP	mg/kg	600	560	7.6	30%	Pass	
TRH C29-C36	M23-Ma0064242	CP	mg/kg	270	240	12	30%	Pass	
TRH C6-C10	M23-Ma0064242	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ma0064242	CP	mg/kg	60	60	<1	30%	Pass	
TRH >C16-C34	M23-Ma0064242	CP	mg/kg	880	810	8.4	30%	Pass	
TRH >C34-C40	M23-Ma0064242	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0064242	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0064242	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0064242	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ma0064245	CP	%	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	M23-Ma0064168	NCP	mg/kg	0.1	0.1	1.8	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M23-Ma0060309	NCP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chromium (hexavalent)	B23-Ma0055912	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Fluoride	M23-Ma0064246	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M23-Ma0060309	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Michael Morrison	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties
Caitlin Breeze	Senior Analyst-Metal
Harry Bacalis	Senior Analyst-Volatile
Carroll Lee	Senior Analyst-Organic



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

ALS COC#: 50529 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 4/4/23, 1145.

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_404_1.6			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
011	OL_EX_QC112			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
012	OL_EX_QC212	PLEASE FORWARD TO EUROFINS FOR ANALYSIS		SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	

Trip Blank

V-TRH/BTEXN

Total Bottle Count: ALS: 0, Non ALS: 0

DATE: 5/4
TIME: 9:19
COURIER:
TEMPERATURE 9.7
ATTEMP TO CHILL: YES NO
Sealed

J.D

#978711
l
05/04/23

Monday, April 3, 2023 7:23:36 AM

RELINQUISHED BY SR(ALS), 05/04/23

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521
Phone: +61 3 8564 5000
e.mail: EnviroRemittances@eurofins.com

Tax Invoice

AECOM Aust Pty Ltd Melbourne
Accounts Payable P O BOX 1307
Fortitude Valley
QLD 4006

Purchase Order #: 60693007-2
Invoice #: 765038
Date: Apr 13, 2023
Report #: 978711
Project Name: MACQUARIE POINT
Contact: Robert Crowe

Description	Quantity	Price	Total	Notes
Solid Samples				
BTEX and Naphthalene	1	$17.60	$17.60	
BTEXN and Volatile TRH	1	$17.60	$17.60	
Metals - Premier Customer Price List				
Pb	1	$7.15	$7.15	
Phenols (Speciated)	1	$27.30	$27.30	
Polycyclic Aromatic Hydrocarbons	1	$27.30	$27.30	
Total Recoverable Hydrocarbons	1	$20.50	$20.50	

Nett Total	$117.45
GST	$11.75
Total Inc GST	$129.20

This invoice is subject to Eurofins General Terms of Sales. Copies available on request or at http://environment.eurofins.com.au

Please detach and return with payment to:
Postal:
Eurofins Environment Testing
6 Monterey Road
Dandenong South
Victoria, 3175

Please EFT Payments to:
Eurofins Environment Testing
BSB 063-498
Acct No: 10057019
e.mail Remittances:
EnviroRemittances@eurofins.com

Invoice Number : 765038
Amount Inc GST : $129.20

TERMS STRICTLY 30 DAYS

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www.eurofins.com.au EnviroSales@eurofins.com

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Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Apr 5, 2023 9:10 AM
Eurofins reference	978711

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 9.7 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✗ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- ✓ Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT

Order No.: 60693007-2
Report #: 978711
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Apr 5, 2023 9:10 AM
Due: Apr 14, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC212	Not Provided		Soil	M23-Ap0010919	X	X	X	X	X	X	
2	TRIP BLANK	Not Provided		Soil	M23-Ap0010920					X		X
Test Counts						1	1	1	1	2	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **978711-S**
Project name MACQUARIE POINT
Received Date Apr 05, 2023

Client Sample ID			**OL_EX_QC212**	**TRIP BLANK**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M23-Ap0010919**	**M23-Ap0010920**
Date Sampled			**Not Provided**[I12]	**Not Provided**[I12]
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-
TRH C15-C28	50	mg/kg	< 50	-
TRH C29-C36	50	mg/kg	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-
TRH >C16-C34	100	mg/kg	< 100	-
TRH >C34-C40	100	mg/kg	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63	102
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	-
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.9	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.2	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.5	-
Acenaphthene	0.5	mg/kg	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	1.1	-
Benzo(a)pyrene	0.5	mg/kg	0.6	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	0.9	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	0.9	-
Chrysene	0.5	mg/kg	1.0	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-

Client Sample ID			OL_EX_QC212	TRIP BLANK
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ap0010919	M23-Ap0010920
Date Sampled			Not Provided[I12]	Not Provided[I12]
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	0.5	mg/kg	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-
Total PAH*	0.5	mg/kg	4.5	-
2-Fluorobiphenyl (surr.)	1	%	67	-
p-Terphenyl-d14 (surr.)	1	%	60	-
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-
Dinoseb	20	mg/kg	< 20	-
Phenol	0.5	mg/kg	< 0.5	-
Phenol-d6 (surr.)	1	%	70	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-
Heavy Metals				
Lead	5	mg/kg	1000	-
Sample Properties				
% Moisture	1	%	19	< 1
Volatile Organics				
Naphthalene[N02]	0.5	mg/kg	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Apr 06, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	Apr 05, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: MACQUARIE POINT

Order No.: 60693007-2
Report #: 978711
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Apr 5, 2023 9:10 AM
Due: Apr 14, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC212	Not Provided		Soil	M23-Ap0010919	X	X	X	X	X	X	
2	TRIP BLANK	Not Provided		Soil	M23-Ap0010920					X		X
Test Counts						1	1	1	1	2	1	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	93			70-130	Pass	
TRH C10-C14	%	78			70-130	Pass	
TRH C6-C10	%	95			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	101			70-130	Pass	
Toluene	%	104			70-130	Pass	
Ethylbenzene	%	106			70-130	Pass	
m&p-Xylenes	%	92			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	104			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	106			70-130	Pass	
Benz(a)anthracene	%	73			70-130	Pass	
Benzo(a)pyrene	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	%	101			70-130	Pass	
Benzo(g.h.i)perylene	%	96			70-130	Pass	
Benzo(k)fluoranthene	%	92			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	110			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	89			70-130	Pass	
Phenanthrene	%	75			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	65			25-140	Pass	
2.4-Dichlorophenol	%	78			25-140	Pass	
2.4.5-Trichlorophenol	%	48			25-140	Pass	
2.4.6-Trichlorophenol	%	57			25-140	Pass	
2.6-Dichlorophenol	%	32			25-140	Pass	
4-Chloro-3-methylphenol	%	39			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	55			25-140	Pass	
Tetrachlorophenols - Total	%	37			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	45			25-140	Pass	
2.4-Dimethylphenol	%	81			25-140	Pass	
2-Methylphenol (o-Cresol)	%	50			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	78			25-140	Pass	
4-Nitrophenol	%	58			25-140	Pass	
Dinoseb	%	89			25-140	Pass	
Phenol	%	68			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	104			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ap0014542	NCP	%	95			70-130	Pass	
TRH C10-C14	M23-Ap0007964	NCP	%	90			70-130	Pass	
TRH C6-C10	M23-Ap0014542	NCP	%	96			70-130	Pass	
TRH >C10-C16	M23-Ap0007964	NCP	%	90			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ap0014542	NCP	%	77			70-130	Pass	
Toluene	M23-Ap0014542	NCP	%	84			70-130	Pass	
Ethylbenzene	M23-Ap0014542	NCP	%	86			70-130	Pass	
m&p-Xylenes	M23-Ap0014542	NCP	%	74			70-130	Pass	
o-Xylene	M23-Ap0014542	NCP	%	91			70-130	Pass	
Xylenes - Total*	M23-Ap0014542	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ap0014542	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Ap0003863	NCP	%	85			70-130	Pass	
Acenaphthylene	M23-Ap0003863	NCP	%	86			70-130	Pass	
Anthracene	M23-Ap0003863	NCP	%	101			70-130	Pass	
Benz(a)anthracene	M23-Ap0003863	NCP	%	89			70-130	Pass	
Benzo(a)pyrene	M23-Ap0003863	NCP	%	70			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Ap0003863	NCP	%	89			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ap0003863	NCP	%	104			70-130	Pass	
Benzo(k)fluoranthene	M23-Ap0003863	NCP	%	96			70-130	Pass	
Chrysene	M23-Ap0003863	NCP	%	102			70-130	Pass	
Dibenz(a.h)anthracene	M23-Ap0003863	NCP	%	92			70-130	Pass	
Fluoranthene	M23-Ap0003863	NCP	%	90			70-130	Pass	
Fluorene	M23-Ap0003863	NCP	%	110			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ap0003863	NCP	%	90			70-130	Pass	
Naphthalene	M23-Ap0003863	NCP	%	80			70-130	Pass	
Phenanthrene	M23-Ap0003863	NCP	%	86			70-130	Pass	
Pyrene	M23-Ap0003863	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-Ap0010948	NCP	%	79			30-130	Pass	
2.4-Dichlorophenol	M23-Ap0010948	NCP	%	91			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4.5-Trichlorophenol	M23-Ap0003863	NCP	%	62			30-130	Pass	
2.4.6-Trichlorophenol	M23-Ap0003863	NCP	%	35			30-130	Pass	
2.6-Dichlorophenol	M23-Ap0010948	NCP	%	31			30-130	Pass	
4-Chloro-3-methylphenol	M23-Ap0010948	NCP	%	50			30-130	Pass	
Pentachlorophenol	M23-Ap0003863	NCP	%	59			30-130	Pass	
Tetrachlorophenols - Total	M23-Ap0010948	NCP	%	43			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Ap0010948	NCP	%	121			30-130	Pass	
2-Nitrophenol	M23-Ap0010948	NCP	%	49			30-130	Pass	
2.4-Dimethylphenol	M23-Ap0010948	NCP	%	56			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-Ap0010948	NCP	%	40			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ap0010948	NCP	%	53			30-130	Pass	
Dinoseb	M23-Ap0010948	NCP	%	101			30-130	Pass	
Phenol	M23-Ap0010948	NCP	%	78			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Ap0022314	NCP	%	98			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0070669	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ap0006603	NCP	mg/kg	350	150	81	30%	Fail	Q15
TRH C15-C28	M23-Ap0006603	NCP	mg/kg	950	360	89	30%	Fail	Q15
TRH C29-C36	M23-Ap0006603	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M23-Ma0070669	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ap0006603	NCP	mg/kg	660	270	83	30%	Fail	Q15
TRH >C16-C34	M23-Ap0006603	NCP	mg/kg	610	240	87	30%	Fail	Q15
TRH >C34-C40	M23-Ap0006603	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0070669	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0070669	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0070669	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Indeno(1.2.3-cd)pyrene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ap0005316	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ap0005316	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ap0005316	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ap0005316	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ap0005316	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ap0005316	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ap0005316	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ap0005316	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ap0005316	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ap0005316	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ap0005316	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-Ap0005316	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ap0005316	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ap0005316	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Ap0022314	NCP	mg/kg	12	12	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ap0010787	NCP	%	7.3	7.6	4.3	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	Yes
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Michael Morrison	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

ALS COC#: 51686 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Vicky (ALS)			
DATE TIME: 04/05 1000	DATE TIME:	DATE TIME:	DATE TIME: 2/5, 11-[illegible]

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

FREIGHT 61

#98648

04/05/23

Environmental Division
Melbourne
Work Order Reference
EM2307528

Telephone : +61-3-8549 9600

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_SP_0.5-1.0_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
002	UST_SP_0.5-1.0_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
003	UST_SP_0.5-1.0_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
004	UST_SP_0.5-1.0_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
005	UST_SP_1.0-1.5_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
006	UST_SP_1.0-1.5_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
007	UST_SP_1.0-1.5_03			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
008	Rail timber_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
009	UST_SP_1.5-2.0_01			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

DATE: 4/5/23
TIME: 11 am
COURIER:
TEMPERATURE 5.7 °C
ATTEMP TO CHILL : YES

NO

SS

CHAIN OF CUSTODY

ALS COC#: 51686 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 2/5

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

61

#986486

4/05/23

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SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_SP_1.5-2.0_02			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
011	UST_SP_1.5-2.0_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
012	UST_SP_1.5-2.0_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
013	UST_SP_1.5-2.0_05			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
014	UST_SP_Ext_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
015	UST_SP_Ext_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
016	UST_SP_Ext_03			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
017	UST_QCA06			WATER	ALS: 0 Non ALS: 0	No		X		
018	UST_QCB08			WATER	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

CHAIN OF CUSTODY

ALS COC#: 51686 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

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SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_QCC03			WATER	ALS: 0 Non ALS: 0	Yes	-			

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Total Bottle Count: ALS: 0, Non ALS: 0

#986486

04/05/23

Beka Liu

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 3 May 2023 11:32 AM
To: Celline Tamin; Crowe, Robert
Cc: ALS Enviro Melbourne; Peter Ravlic
Subject: [EXTERNAL] - RE: EM2307528 compass COC 51686: Samples confirmation

#986486
04/05/23

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CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Celline, in the compass app I am using the duplicate COC from previous function and then editing to the actual sample nomenclature. For whatever reason the app at your end is not updating the edits. The correct COC

	Matrix	Sample ID	Date	Container	Analysis
1	Soil	Arch_SP_01	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
2	Soil	Arch_SP_02	1/05/2023	1x250ml Soil jar	Hold
3	Soil	Arch_SP_03	1/05/2023	1x250ml Soil jar	Hold
4	Soil	UST_EXT_59SP_01	1/05/2023	1x250ml Soil jar	EPA Tasmania IB105 suite minus TBT
5	Soil	UST_EXT_59SP_02	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
6	Soil	UST_EXT_59SP_03	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
7	Soil	OL_EX_107_1.1	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
8	Soil	OL_EX_110_1.1	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
9	Soil	OL_EX_409_1.6	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
10	Soil	OL_EX_410_0.8	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
11	Soil	OL_EX_410_1.6	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
12	Soil	OL_EX_411_2.0	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
13	Soil	OL_EX_QC116	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
14	Soil	OL_EX_QC117	1/05/2023	1x250ml Soil jar	TRH BTEXN PAH Phenols Pb
~~15~~	Soil	OL_EX_QC216	1/05/2023	1x250ml Soil jar	Please forward to EUROFINS for TRH BTEXN PAH Phenols Pb analysis
~~16~~	Soil	OL_EX_QC217	1/05/2023	1x250ml Soil jar	Please forward to EUROFINS for TRH BTEXN PAH Phenols Pb analysis
15 ~~17~~	Water	OL_EX_QCA10	1/05/2023	2xVOC	TRH C6-C10 BTEXN only
16 ~~18~~	Water	OL_EX_QCB12	1/05/2023	1x100ml Amber + 1x60ml Red/Green + 2xVOC	TRH BTEXN PAH Phenols Pb
17 ~~19~~	Water	OL_EX_QCC07	1/05/2023	1x100ml Amber + 1x60ml Red/Green + 2xVOC	Hold

4/4

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521
Phone: +61 3 8564 5000
e.mail: EnviroRemittances@eurofins.com

Tax Invoice

AECOM Aust Pty Ltd Melbourne
Accounts Payable P O BOX 1307
Fortitude Valley
QLD 4006

Purchase Order #:	60693007-2
Invoice #:	772172
Date:	May 9, 2023
Report #:	986486
Project Name:	MACQUARIE POINT
Project ID:	60693007-2
Contact:	Robert Crowe

Description	Quantity	Price	Total	Notes
Solid Samples				
BTEX and Naphthalene	2	$17.60	$35.20	
Metals - Premier Customer Price List				
Pb	2	$7.15	$14.30	
Phenols (Speciated)	2	$27.30	$54.60	
Polycyclic Aromatic Hydrocarbons	2	$27.30	$54.60	
Total Recoverable Hydrocarbons	2	$20.50	$41.00	

Nett Total	$199.70
GST	$19.97
Total Inc GST	$219.67

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Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	May 4, 2023 11:00 AM
Eurofins reference	986486

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT

Order No.: 60693007-2
Report #: 986486
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 4, 2023 11:00 AM
Due: May 11, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	OL_EX_QC216	May 01, 2023		Soil	M23-My0011428	X	X	X	X	X	X
2	OL_EX_QC217	May 01, 2023		Soil	M23-My0011429	X	X	X	X	X	X
Test Counts						2	2	2	2	2	2

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **986486-S**
Project name MACQUARIE POINT
Project ID 60693007-2
Received Date May 04, 2023

Client Sample ID			**OL_EX_QC216**	**OL_EX_QC217**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M23-My0011428**	**M23-My0011429**
Date Sampled			**May 01, 2023**	**May 01, 2023**
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	73	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	120	250
TRH C29-C36	50	mg/kg	87	230
TRH C10-C36 (Total)	50	mg/kg	207	480
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	200	430
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	200	430
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	3.7	6.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	3.9	6.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	4.2	7.0
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	1.1
Anthracene	0.5	mg/kg	< 0.5	0.9
Benz(a)anthracene	0.5	mg/kg	2.4	3.9
Benzo(a)pyrene	0.5	mg/kg	2.8	5.0
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.0	3.7
Benzo(g.h.i)perylene	0.5	mg/kg	1.5	2.7
Benzo(k)fluoranthene	0.5	mg/kg	2.3	3.6
Chrysene	0.5	mg/kg	2.7	4.1

Client Sample ID			OL_EX_QC216	OL_EX_QC217
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-My0011428	M23-My0011429
Date Sampled			May 01, 2023	May 01, 2023
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	3.2	9.9
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.5	3.1
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	0.8	2.4
Pyrene	0.5	mg/kg	3.7	9.0
Total PAH*	0.5	mg/kg	23	49
2-Fluorobiphenyl (surr.)	1	%	79	77
p-Terphenyl-d14 (surr.)	1	%	61	68
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	57	78
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20
Heavy Metals				
Lead	5	mg/kg	3300	270
Sample Properties				
% Moisture	1	%	24	20

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
BTEX and Naphthalene			
BTEX	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	May 05, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	May 04, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT

Order No.: 60693007-2
Report #: 986486
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 4, 2023 11:00 AM
Due: May 11, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	OL_EX_QC216	May 01, 2023		Soil	M23-My0011428	X	X	X	X	X	X
2	OL_EX_QC217	May 01, 2023		Soil	M23-My0011429	X	X	X	X	X	X
Test Counts						2	2	2	2	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	107			70-130	Pass	
Toluene	%	106			70-130	Pass	
Ethylbenzene	%	105			70-130	Pass	
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C10-C14	%	104			70-130	Pass	
TRH C6-C10	%	103			70-130	Pass	
TRH >C10-C16	%	114			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	117			70-130	Pass	
Acenaphthylene	%	123			70-130	Pass	
Anthracene	%	102			70-130	Pass	
Benz(a)anthracene	%	117			70-130	Pass	
Benzo(a)pyrene	%	105			70-130	Pass	
Benzo(b&j)fluoranthene	%	98			70-130	Pass	
Benzo(g.h.i)perylene	%	103			70-130	Pass	
Benzo(k)fluoranthene	%	91			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	106			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	103			70-130	Pass	
Naphthalene	%	109			70-130	Pass	
Phenanthrene	%	111			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	113			25-140	Pass	
2.4-Dichlorophenol	%	109			25-140	Pass	
2.4.5-Trichlorophenol	%	83			25-140	Pass	
2.4.6-Trichlorophenol	%	72			25-140	Pass	
2.6-Dichlorophenol	%	100			25-140	Pass	
4-Chloro-3-methylphenol	%	95			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	34			25-140	Pass	
Tetrachlorophenols - Total	%	52			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	83			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	72			25-140	Pass	
2-Nitrophenol	%	102			25-140	Pass	
2.4-Dimethylphenol	%	119			25-140	Pass	
2.4-Dinitrophenol	%	45			25-140	Pass	
2-Methylphenol (o-Cresol)	%	97			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	108			25-140	Pass	
4-Nitrophenol	%	54			25-140	Pass	
Dinoseb	%	33			25-140	Pass	
Phenol	%	113			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	97			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-My0011572	NCP	%	85			70-130	Pass	
Toluene	M23-My0011572	NCP	%	86			70-130	Pass	
Ethylbenzene	M23-My0011572	NCP	%	86			70-130	Pass	
m&p-Xylenes	M23-My0011572	NCP	%	82			70-130	Pass	
o-Xylene	M23-My0011572	NCP	%	90			70-130	Pass	
Xylenes - Total*	M23-My0011572	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-My0011572	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-My0011572	NCP	%	84			70-130	Pass	
TRH C10-C14	M23-My0012420	NCP	%	112			70-130	Pass	
TRH C6-C10	M23-My0011572	NCP	%	86			70-130	Pass	
TRH >C10-C16	M23-My0012420	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-My0008060	NCP	%	100			70-130	Pass	
Acenaphthylene	M23-My0008060	NCP	%	103			70-130	Pass	
Anthracene	M23-My0008060	NCP	%	77			70-130	Pass	
Benz(a)anthracene	M23-My0008060	NCP	%	106			70-130	Pass	
Benzo(a)pyrene	M23-My0008060	NCP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	M23-My0008060	NCP	%	84			70-130	Pass	
Benzo(g.h.i)perylene	M23-My0008060	NCP	%	82			70-130	Pass	
Benzo(k)fluoranthene	M23-My0008060	NCP	%	84			70-130	Pass	
Chrysene	M23-My0008060	NCP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	M23-My0008060	NCP	%	85			70-130	Pass	
Fluoranthene	M23-My0008060	NCP	%	102			70-130	Pass	
Fluorene	M23-My0008060	NCP	%	102			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0008060	NCP	%	82			70-130	Pass	
Naphthalene	M23-My0008060	NCP	%	109			70-130	Pass	
Phenanthrene	M23-My0008060	NCP	%	98			70-130	Pass	
Pyrene	M23-My0008060	NCP	%	105			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-My0008060	NCP	%	96			30-130	Pass	
2.4-Dichlorophenol	M23-My0008060	NCP	%	91			30-130	Pass	
2.4.5-Trichlorophenol	M23-My0008060	NCP	%	89			30-130	Pass	
2.4.6-Trichlorophenol	M23-My0008060	NCP	%	65			30-130	Pass	
2.6-Dichlorophenol	M23-My0008060	NCP	%	94			30-130	Pass	
4-Chloro-3-methylphenol	M23-My0008060	NCP	%	94			30-130	Pass	
Pentachlorophenol	M23-My0008060	NCP	%	39			30-130	Pass	
Tetrachlorophenols - Total	M23-My0008060	NCP	%	38			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-My0008060	NCP	%	52			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0008060	NCP	%	47			30-130	Pass	
2-Nitrophenol	M23-My0008060	NCP	%	90			30-130	Pass	
2.4-Dimethylphenol	M23-My0008060	NCP	%	109			30-130	Pass	
2.4-Dinitrophenol	M23-My0008060	NCP	%	38			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-My0008060	NCP	%	87			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0008060	NCP	%	95			30-130	Pass	
4-Nitrophenol	M23-My0008060	NCP	%	70			30-130	Pass	
Dinoseb	M23-My0008060	NCP	%	69			30-130	Pass	
Phenol	M23-My0008060	NCP	%	94			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-My0010731	NCP	%	82			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-My0011252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-My0011252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-My0011252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-My0011252	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-My0011252	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-My0011252	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-My0011252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-My0011252	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	B23-My0010035	NCP	mg/kg	670	850	24	30%	Pass	
TRH C15-C28	B23-My0010035	NCP	mg/kg	4500	5100	14	30%	Pass	
TRH C29-C36	B23-My0010035	NCP	mg/kg	2600	3100	17	30%	Pass	
TRH C6-C10	M23-My0011252	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	B23-My0010035	NCP	mg/kg	1300	1600	23	30%	Pass	
TRH >C16-C34	B23-My0010035	NCP	mg/kg	6000	6800	14	30%	Pass	
TRH >C34-C40	B23-My0010035	NCP	mg/kg	1600	2000	19	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(g.h.i)perylene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-My0004927	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-My0004927	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-My0004927	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-My0004927	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-My0004927	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-My0004927	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0004927	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-My0004927	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-My0004927	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-My0004927	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0004927	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-My0004927	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-My0004927	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-My0004927	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-My0011252	NCP	mg/kg	21	25	16	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-My0011410	NCP	%	20	20	1.8	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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OL_EX_406_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_406_1.6	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_QC115	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_QC215	please forward to Eurofins for analysis TRH BTEXN, PAH, Phenols, Pb	
OL_EX_407_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_407_1.6	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_408_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_408_1.6	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_409_0.8	TRH BTEXN, PAH, Phenols, Pb	
OL_EX_QCA09	trip blank	TRH C6-C10 BTEXN only
OL_EX_QCB11	rinsate blank	TRH BTEXN, PAH, Phenols, Pb
OL_EX_QCC06	hold	

Tim Smith
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My regular work days are Monday to Thursday

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Farjad Sadiq 980517
9/5 4/05/23







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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 1 May 2023 11:45 AM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: COMPASS# 51576 - AECOMAU - 60693007

Hi Tim/Robert

Can you please finalise and approve the COC for the samples rec'd on Friday

Thanks

Kind Regards

45 1/2

DATE: 4/05/23
TIME: 11am
COURIER:
TEMPERATURE - 5.7°C
ATTEMP TO CHILL : YES NO

S.S

no COC

Ranil Weerakkody

From: Peter Ravlic
Sent: Monday, 1 May 2023 6:05 PM
To: COC Melbourne
Cc: Felix Dong
Subject: AECOM- Macquarie Point RE: COMPASS# 51576 - AECOMAU - 60693007

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: COC for WO on hold

Faejad Sadiq 9865/7

Hi Team

Please see below analysis confirmation for AECOM hold batch rec'd 28/4

Thanks

4/05/23

Kind Regards

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Monday, 1 May 2023 5:53 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point RE: COMPASS# 51576 - AECOMAU - 60693007

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, can we update the compass reference for this one as follows without going through the app?

UST excavation hotspot – likely highly impacted

UST_EXT_59S_1.6	PID 25	TRH BTEXN, PAH, Phenols, Pb +Aliphatic/aromatic speciation
UST_EXT_59E_1.6	PID 357	TRH BTEXN, PAH, Phenols, Pb +Aliphatic/aromatic speciation
UST_EXT_59N_1.6	PID 278	TRH BTEXN, PAH, Phenols, Pb +Aliphatic/aromatic speciation

Lead area

OL_EX_405_0.8	TRH BTEXN, PAH, Phenols, Pb
OL_EX_405_1.6	TRH BTEXN, PAH, Phenols, Pb

DATE: 4/05/23
TIME: 11am
COURIER:
TEMPERATURE 5.7
ATTEMP TO CHILL: YES NO

SS Shivan

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

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Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	60693007-2
Turnaround time:	5 Day
Date/Time received	May 4, 2023 11:00 AM
Eurofins reference	986517

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✗	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✗	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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ABN: 50 005 085 521

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 986517
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 4, 2023 11:00 AM
Due: May 11, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC215	Not Provided		Soil	M23-My0011632	X		X	X	X	X	X
2	OL_EX_QCA09 TRIP BLANK	Not Provided		Water	M23-My0011633		X			X		
Test Counts						1	1	1	1	2	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **986517-S**
Project name MACQUARIE POINT
Project ID 60693007-2
Received Date May 04, 2023

Client Sample ID			**OL_EX_QC215**
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-My0011632**
Date Sampled			**Not Provided**[I12]
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	80
TRH C15-C28	50	mg/kg	85
TRH C29-C36	50	mg/kg	97
TRH C10-C36 (Total)	50	mg/kg	262
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	92
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	92
TRH >C16-C34	100	mg/kg	150
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	242
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	59
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5

Client Sample ID			OL_EX_QC215
Sample Matrix			Soil
Eurofins Sample No.			M23-My0011632
Date Sampled			Not Provided[I12]
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	64
p-Terphenyl-d14 (surr.)	1	%	61
Phenols (Halogenated)			
2-Chlorophenol	0.5	mg/kg	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1
Pentachlorophenol	1	mg/kg	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10
Total Halogenated Phenol*	1	mg/kg	< 1
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5
2-Nitrophenol	1.0	mg/kg	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4
Total cresols*	0.5	mg/kg	< 0.5
4-Nitrophenol	5	mg/kg	< 5
Dinoseb	20	mg/kg	< 20
Phenol	0.5	mg/kg	< 0.5
Phenol-d6 (surr.)	1	%	47
Total Non-Halogenated Phenol*	20	mg/kg	< 20
Heavy Metals			
Lead	5	mg/kg	910
Sample Properties			
% Moisture	1	%	29

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX and Naphthalene			
BTEX	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	May 05, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	May 04, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 986517
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 4, 2023 11:00 AM
Due: May 11, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC215	Not Provided		Soil	M23-My0011632	X		X	X	X	X	X
2	OL_EX_QCA09 TRIP BLANK	Not Provided		Water	M23-My0011633		X			X		
Test Counts						1	1	1	1	2	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C10-C14	%	97			70-130	Pass	
TRH C6-C10	%	88			70-130	Pass	
TRH >C10-C16	%	107			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	76			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	105			70-130	Pass	
Acenaphthylene	%	77			70-130	Pass	
Anthracene	%	79			70-130	Pass	
Benz(a)anthracene	%	75			70-130	Pass	
Benzo(a)pyrene	%	72			70-130	Pass	
Benzo(b&j)fluoranthene	%	94			70-130	Pass	
Benzo(g.h.i)perylene	%	83			70-130	Pass	
Benzo(k)fluoranthene	%	93			70-130	Pass	
Chrysene	%	90			70-130	Pass	
Dibenz(a.h)anthracene	%	70			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	74			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	76			70-130	Pass	
Pyrene	%	92			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	96			25-140	Pass	
2.4-Dichlorophenol	%	74			25-140	Pass	
2.4.5-Trichlorophenol	%	65			25-140	Pass	
2.4.6-Trichlorophenol	%	73			25-140	Pass	
2.6-Dichlorophenol	%	54			25-140	Pass	
4-Chloro-3-methylphenol	%	78			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	42			25-140	Pass	
Tetrachlorophenols - Total	%	67			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	115			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	40			25-140	Pass	
2-Nitrophenol	%	86			25-140	Pass	
2.4-Dimethylphenol	%	107			25-140	Pass	
2.4-Dinitrophenol	%	40			25-140	Pass	
2-Methylphenol (o-Cresol)	%	71			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	83			25-140	Pass	
4-Nitrophenol	%	77			25-140	Pass	
Dinoseb	%	35			25-140	Pass	
Phenol	%	120			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	112			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-My0016225	NCP	%	80			70-130	Pass	
TRH C10-C14	M23-My0006669	NCP	%	105			70-130	Pass	
TRH C6-C10	M23-My0016225	NCP	%	72			70-130	Pass	
TRH >C10-C16	M23-My0006669	NCP	%	105			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-My0016225	NCP	%	76			70-130	Pass	
Toluene	M23-My0016225	NCP	%	83			70-130	Pass	
Ethylbenzene	M23-My0016225	NCP	%	72			70-130	Pass	
m&p-Xylenes	M23-My0016225	NCP	%	75			70-130	Pass	
o-Xylene	M23-My0016225	NCP	%	77			70-130	Pass	
Xylenes - Total*	M23-My0016225	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-My0016225	NCP	%	75			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-My0006339	NCP	%	104			70-130	Pass	
Acenaphthylene	M23-My0006339	NCP	%	123			70-130	Pass	
Anthracene	M23-My0006339	NCP	%	128			70-130	Pass	
Benz(a)anthracene	M23-My0006339	NCP	%	93			70-130	Pass	
Benzo(a)pyrene	M23-My0006339	NCP	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	M23-My0006339	NCP	%	122			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ap0060489	NCP	%	85			70-130	Pass	
Benzo(k)fluoranthene	M23-My0006339	NCP	%	113			70-130	Pass	
Chrysene	M23-My0006339	NCP	%	93			70-130	Pass	
Dibenz(a.h)anthracene	M23-Ap0060489	NCP	%	86			70-130	Pass	
Fluoranthene	M23-My0006339	NCP	%	102			70-130	Pass	
Fluorene	M23-My0006339	NCP	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ap0060489	NCP	%	74			70-130	Pass	
Naphthalene	M23-My0006339	NCP	%	110			70-130	Pass	
Phenanthrene	M23-My0006339	NCP	%	77			70-130	Pass	
Pyrene	M23-My0006339	NCP	%	122			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-My0006339	NCP	%	104			30-130	Pass	
2.4-Dichlorophenol	M23-My0006339	NCP	%	69			30-130	Pass	
2.4.5-Trichlorophenol	M23-My0006339	NCP	%	68			30-130	Pass	
2.4.6-Trichlorophenol	M23-My0006339	NCP	%	54			30-130	Pass	
2.6-Dichlorophenol	M23-Ap0060489	NCP	%	48			30-130	Pass	
4-Chloro-3-methylphenol	M23-Ap0060489	NCP	%	69			30-130	Pass	
Pentachlorophenol	B23-Ap0043079	NCP	%	43			30-130	Pass	
Tetrachlorophenols - Total	B23-Ap0043079	NCP	%	88			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Ap0060489	NCP	%	61			30-130	Pass	
2-Methyl-4.6-dinitrophenol	B23-Ap0043079	NCP	%	42			30-130	Pass	
2-Nitrophenol	M23-My0006339	NCP	%	104			30-130	Pass	
2.4-Dimethylphenol	M23-My0006339	NCP	%	100			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-My0006339	NCP	%	74			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0006339	NCP	%	47			30-130	Pass	
4-Nitrophenol	B23-Ap0043079	NCP	%	34			30-130	Pass	
Dinoseb	M23-Ap0060489	NCP	%	37			30-130	Pass	
Phenol	M23-My0006339	NCP	%	106			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-My0012528	NCP	%	105			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-My0012526	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-My0008870	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-My0008870	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-My0008870	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M23-My0012526	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-My0008870	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-My0008870	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-My0008870	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-My0012526	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-My0012526	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-My0012526	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-My0012526	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-My0012526	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-My0012526	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-My0012526	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-My0011581	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-My0011581	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-My0011581	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-My0011581	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-My0011581	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-My0011581	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0011581	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-My0011581	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-My0011581	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-My0011581	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0011581	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-My0011581	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-My0011581	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-My0011581	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-My0012549	NCP	mg/kg	1100	1100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-My0011595	NCP	%	5.0	5.1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Catherine Wilson	Analytical Services Manager
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
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Attention: **Robert Crowe**

Report **986517-W**
Project name MACQUARIE POINT
Project ID 60693007-2
Received Date May 04, 2023

Client Sample ID			**OL_EX_QCA09 TRIP BLANK**
Sample Matrix			**Water**
Eurofins Sample No.			**M23-My0011633**
Date Sampled			**Not Provided**[I12]
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	99
Volatile Organics			
Naphthalene[N02]	0.01	mg/L	< 0.01
Total Recoverable Hydrocarbons			
TRH C6-C10	0.02	mg/L	< 0.02

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
BTEX and Naphthalene			
BTEX	Melbourne	May 05, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons	Melbourne	May 05, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

eurofins

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Project Name: MACQUARIE POINT
Project ID: 60693007-2

Order No.: 60693007-2
Report #: 986517
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 4, 2023 11:00 AM
Due: May 11, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC215	Not Provided		Soil	M23-My0011632	X		X	X	X	X	X
2	OL_EX_QCA09 TRIP BLANK	Not Provided		Water	M23-My0011633		X			X		
Test Counts						1	1	1	1	2	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Volatile Organics							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	88			70-130	Pass	
Toluene	%	90			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
Xylenes - Total*	%	90			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
Naphthalene	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C10	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-My0012333	NCP	%	85			70-130	Pass	
Toluene	M23-My0012333	NCP	%	85			70-130	Pass	
Ethylbenzene	M23-My0012333	NCP	%	88			70-130	Pass	
m&p-Xylenes	M23-My0012333	NCP	%	89			70-130	Pass	
o-Xylene	M23-My0012333	NCP	%	89			70-130	Pass	
Xylenes - Total*	M23-My0012333	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
Naphthalene	M23-My0012333	NCP	%	75			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C10	M23-My0012333	NCP	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-My0009210	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M23-My0009210	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M23-My0009210	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M23-My0009210	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M23-My0009210	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M23-My0009210	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Naphthalene	M23-My0009210	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M23-My0009210	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

Authorised by:

Catherine Wilson	Analytical Services Manager
Joseph Edouard	Senior Analyst-Volatile

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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M2

Scott Huett

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Thursday, 25 May 2023 8:51 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - Re: - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

I did make a mistake. Can these samples be forwarded to eurofins

OL_EX_QC218	5 day TAT	**23-May**	1					
OL_EX_QC219	5 day TAT	**23-May**	1					
OL_EX_QC220	5 day TAT	**23-May**	1					
UST_EXT_QC221	5 day TAT	**23-May**	1					

TRH/BTEXN/ PAH/Phenols/ Pb

Trip Blank V-TRH/BTEXN

SH 25/5 (ALS)

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com

My regular work days are Monday to Thursday

AECOM
210 Collins Street
Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004
aecom.com

From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Wednesday, May 24, 2023 5:48:56 PM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: - Macquarie Point samples arriving today - Compass COC 52713

Received by Scott (ALS) 24/5/23, 1235

Hi Tim

Due to lab workload at the moment, we are unable to provide results this week

We can report by Monday 29/5

Thanks

#993445

Kind Regards

26/05/23

RELINQUISHED BY RK (ALS) 2575

DATE: 26/5/23
TIME: 9:00
COURIER:
TEMPERATURE: 6.5
ATTEMP TO CHILL: ~~YES~~ NO

Sealed

S.D

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

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IANZ# 1327

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Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Tim Smith
Project name:	Not provided
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	May 26, 2023 4:00 PM
Eurofins reference	993445

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 6.5 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Tim Smith - tim.smith02@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name:

Order No.:
Report #: 993445
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 26, 2023 4:00 PM
Due: Jun 2, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC218	May 23, 2023		Soil	M23-My0068559	X		X	X	X	X	X
2	OL_EX_QC219	May 23, 2023		Soil	M23-My0068560	X		X	X	X	X	X
3	OL_EX_QC220	May 23, 2023		Soil	M23-My0068561	X		X	X	X	X	X
4	UST_EXT_QC221	May 23, 2023		Soil	M23-My0068562	X		X	X	X	X	X
5	TRIP BLANK	May 23, 2023		Soil	M23-My0068563		X			X	X	
Test Counts						4	1	4	4	5	5	4

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Smith**

Report **993445-S**
Project name
Received Date May 26, 2023

Client Sample ID			**OL_EX_QC218**	**OL_EX_QC219**	**OL_EX_QC220**	**UST_EXT_QC221**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-My0068559**	**M23-My0068560**	**M23-My0068561**	**M23-My0068562**
Date Sampled			**May 23, 2023**	**May 23, 2023**	**May 23, 2023**	**May 23, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	48	40	130
TRH C15-C28	50	mg/kg	210	620	250	1200
TRH C29-C36	50	mg/kg	120	340	180	250
TRH C10-C36 (Total)	50	mg/kg	330	1008	470	1580
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	84	60	310
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	84	60	310
TRH >C16-C34	100	mg/kg	310	910	400	1200
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	310	994	460	1510
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	82	75	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.0	11	5.7	10
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	7.0	11	5.9	10
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.0	11	6.2	10
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	1.4	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.7	1.6	0.6	1.2
Benz(a)anthracene	0.5	mg/kg	2.9	6.0	1.7	3.5
Benzo(a)pyrene	0.5	mg/kg	4.3	6.7	4.5	7.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	4.2	6.1	3.7	4.6
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	3.8	1.0	1.9
Benzo(k)fluoranthene	0.5	mg/kg	5.0	8.6	4.6	5.9
Chrysene	0.5	mg/kg	3.5	7.7	1.7	3.1

Client Sample ID			OL_EX_QC218	OL_EX_QC219	OL_EX_QC220	UST_EXT_QC221
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-My0068559	M23-My0068560	M23-My0068561	M23-My0068562
Date Sampled			May 23, 2023	May 23, 2023	May 23, 2023	May 23, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	1.4	< 0.5	0.9
Fluoranthene	0.5	mg/kg	5.3	10	3.0	5.9
Fluorene	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.4	5.0	1.5	2.3
Naphthalene	0.5	mg/kg	< 0.5	1.1	< 0.5	0.6
Phenanthrene	0.5	mg/kg	1.6	4.1	1.4	2.8
Pyrene	0.5	mg/kg	5.0	11	3.2	7.0
Total PAH*	0.5	mg/kg	39	75	27	47
2-Fluorobiphenyl (surr.)	1	%	80	86	87	85
p-Terphenyl-d14 (surr.)	1	%	96	88	60	55
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	96	57	92	81
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Lead	5	mg/kg	850	430	2100	180
Sample Properties						
% Moisture	1	%	20	18	20	17

Client Sample ID			TRIP BLANK
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-My0068563**
Date Sampled			**May 23, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C10	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93
Sample Properties			
% Moisture	1	%	1.0
Volatile Organics			
Naphthalene[N02]	0.5	mg/kg	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	May 30, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
BTEX and Naphthalene			
BTEX	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	May 26, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name:

Order No.:
Report #: 993445
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 26, 2023 4:00 PM
Due: Jun 2, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC218	May 23, 2023		Soil	M23-My0068559	X		X	X	X	X	X
2	OL_EX_QC219	May 23, 2023		Soil	M23-My0068560	X		X	X	X	X	X
3	OL_EX_QC220	May 23, 2023		Soil	M23-My0068561	X		X	X	X	X	X
4	UST_EXT_QC221	May 23, 2023		Soil	M23-My0068562	X		X	X	X	X	X
5	TRIP BLANK	May 23, 2023		Soil	M23-My0068563		X			X	X	
Test Counts						4	1	4	4	5	5	4

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	113			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
TRH C6-C10	%	103			70-130	Pass	
TRH >C10-C16	%	88			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	79			70-130	Pass	
Xylenes - Total*	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	82			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	89			70-130	Pass	
Benz(a)anthracene	%	89			70-130	Pass	
Benzo(a)pyrene	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	119			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	120			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	82			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
Phenanthrene	%	72			70-130	Pass	
Pyrene	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	82			25-140	Pass	
2.4-Dichlorophenol	%	82			25-140	Pass	
2.4.5-Trichlorophenol	%	34			25-140	Pass	
2.4.6-Trichlorophenol	%	35			25-140	Pass	
2.6-Dichlorophenol	%	60			25-140	Pass	
4-Chloro-3-methylphenol	%	70			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	39			25-140	Pass	
Tetrachlorophenols - Total	%	59			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	64			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	73			25-140	Pass	
2-Nitrophenol	%	40			25-140	Pass	
2.4-Dimethylphenol	%	64			25-140	Pass	
2-Methylphenol (o-Cresol)	%	65			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	83			25-140	Pass	
4-Nitrophenol	%	43			25-140	Pass	
Dinoseb	%	84			25-140	Pass	
Phenol	%	86			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	115			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-My0063737	NCP	%	102			70-130	Pass	
TRH C10-C14	M23-My0077509	NCP	%	80			70-130	Pass	
TRH C6-C10	M23-My0063737	NCP	%	93			70-130	Pass	
TRH >C10-C16	M23-My0077509	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-My0063737	NCP	%	77			70-130	Pass	
Toluene	M23-My0063737	NCP	%	79			70-130	Pass	
Ethylbenzene	M23-My0063737	NCP	%	79			70-130	Pass	
m&p-Xylenes	M23-My0063737	NCP	%	75			70-130	Pass	
o-Xylene	M23-My0063737	NCP	%	80			70-130	Pass	
Xylenes - Total*	M23-My0063737	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-My0063737	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-My0051205	NCP	%	120			70-130	Pass	
Acenaphthylene	M23-My0051205	NCP	%	122			70-130	Pass	
Anthracene	M23-My0051205	NCP	%	101			70-130	Pass	
Benz(a)anthracene	M23-My0051205	NCP	%	125			70-130	Pass	
Benzo(a)pyrene	M23-My0051205	NCP	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	M23-My0051205	NCP	%	118			70-130	Pass	
Benzo(g.h.i)perylene	M23-My0051205	NCP	%	110			70-130	Pass	
Benzo(k)fluoranthene	M23-My0051205	NCP	%	118			70-130	Pass	
Chrysene	M23-My0051205	NCP	%	110			70-130	Pass	
Dibenz(a.h)anthracene	M23-My0051205	NCP	%	113			70-130	Pass	
Fluoranthene	M23-My0051205	NCP	%	114			70-130	Pass	
Fluorene	M23-My0051205	NCP	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0051205	NCP	%	121			70-130	Pass	
Naphthalene	M23-My0051205	NCP	%	125			70-130	Pass	
Phenanthrene	M23-My0051205	NCP	%	102			70-130	Pass	
Pyrene	M23-My0051205	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Chlorophenol	M23-My0051205	NCP	%	60			30-130	Pass	
2.4-Dichlorophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2.4.5-Trichlorophenol	M23-My0051205	NCP	%	33			30-130	Pass	
2.4.6-Trichlorophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2.6-Dichlorophenol	M23-My0051205	NCP	%	50			30-130	Pass	
4-Chloro-3-methylphenol	M23-My0051205	NCP	%	49			30-130	Pass	
Pentachlorophenol	M23-My0051205	NCP	%	108			30-130	Pass	
Tetrachlorophenols - Total	M23-My0051205	NCP	%	106			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-My0051205	NCP	%	43			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2-Nitrophenol	M23-My0051205	NCP	%	50			30-130	Pass	
2.4-Dimethylphenol	M23-My0051205	NCP	%	44			30-130	Pass	
2.4-Dinitrophenol	M23-My0051205	NCP	%	55			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-My0051205	NCP	%	52			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0051205	NCP	%	57			30-130	Pass	
4-Nitrophenol	M23-My0051205	NCP	%	59			30-130	Pass	
Dinoseb	M23-My0051205	NCP	%	37			30-130	Pass	
Phenol	M23-My0051205	NCP	%	67			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-My0065642	NCP	%	84			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M23-My0074862	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-My0074862	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-My0074862	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-My0076021	NCP	mg/kg	< 0.5	2.4	130	30%	Fail	Q15
Fluorene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-My0076021	NCP	mg/kg	< 0.5	1.8	130	30%	Fail	Q15
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-My0076021	NCP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-My0076021	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-My0076021	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0076021	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-My0076021	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-My0065642	NCP	mg/kg	7.3	7.3	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-My0068523	NCP	%	5.4	5.8	7.5	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-My0068563	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M23-My0068563	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-My0068563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-My0068563	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-My0068563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

(ALS) COC#: 53213 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Vicky (ALS)			
DATE TIME: 09/06 1500	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_QC225	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
011	UST_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
012	UST_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
013	UST_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
014	UST_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
015	UST_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
016	UST_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
017	UST_SP_QC126			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
018	UST_SP_QC226	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

#997185

9/6

DATE: 9/6

TIME: 3:54

COURIER

TEMPERATURE 4.8 + 1.3 6.2

ATTEMPTO COOL: YES NO

Emily

Wednesday, June 7, 2023 12:28:13 AM

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www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Jun 9, 2023 3:54 PM
Eurofins reference	997785

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 6.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Please confirm soil suite analysis

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT OIL AND DIESEL LINE REMOVAL

Order No.: 60693007-2
Report #: 997785
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Jun 9, 2023 3:54 PM
Due: Jun 19, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	OL_EX_QC225	Jun 06, 2023		Soil	M23-Jn0024176	X	X
2	UST_SP_QC226	Jun 06, 2023		Soil	M23-Jn0024177	X	X
Test Counts						2	2

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Certificate of Analysis

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **997785-S**
Project name MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID 60693007-2
Received Date Jun 09, 2023

Client Sample ID			**OL_EX_QC225**	**UST_SP_QC226**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M23-Jn0024176**	**M23-Jn0024177**
Date Sampled			**Jun 06, 2023**	**Jun 06, 2023**
Test/Reference	LOR	Unit		
Heavy Metals				
Lead	5	mg/kg	700	410
Sample Properties				
% Moisture	1	%	32	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Melbourne	Jun 10, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 09, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Sample Detail						Lead	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	OL_EX_QC225	Jun 06, 2023		Soil	M23-Jn0024176	X	X
2	UST_SP_QC226	Jun 06, 2023		Soil	M23-Jn0024177	X	X
Test Counts						2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**µg/L:** micrograms per litre
ppm: parts per million	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/kg	< 5			5	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	106			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Jn0024372	NCP	%	106			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Jn0023791	NCP	mg/kg	13	20	41	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Jn0024157	NCP	%	26	23	12	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Michael Morrison	Analytical Services Manager
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix D

Data Validation

Data Validation

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 3.2** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

ALS Laboratories (ALS) Melbourne was selected as the primary laboratory and Eurofins was selected as the secondary laboratory for the majority of the investigations. Both laboratories were accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The sampling events and relevant laboratory reports pertaining to the stockpiles considered in this report are summarised in below **Table 1**.

Table 1 Stockpile Data Considered

Date	Sampling Area(s)	Sampling Personnel	Lab Report Numbers
27 February 2023	Oil Line Excavation	AECOM – Timothy Smith	EM2303516 EM2304091 968430*
28 February 2023	Diesel Line Excavation		EM2303516
1-2 March 2023	Diesel Line Excavation		EM2303927 969949*
16 March 2023	Former UST Area		EM2304628 EM2305209 975786*
21 March 2023	Buried Railway		EM2305209
3 April 2023	Northern Excavation Area		EM2305896
27 April 2023	Northern Excavation Area & Former UST Area		EM2307637 986517*
1 May 2023	Northern Excavation Area		EM2307528 986486*
23 May 2023	Northern Excavation Area		EM2309340 993445*
7 June 2023	Northern Excavation Area		EM2310229 EM2310878 997785*

*Note: * – Laboratory reports from the secondary laboratory.*

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix C**. It is noted that results for other analytical samples not discussed in this report are included in the laboratory documentation which relate to other site assessment works conducted.

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples from stockpiles were collected by AECOM field personal with environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 5.4** of the report text. Samples were collected in laboratory supplied sample containers and placed in eskies prior to transportation to the selected laboratories.

1.2 Intra- and Inter-Laboratory Duplicate Samples

A total of ten intra-laboratory duplicate and ten inter-laboratory duplicate sample pairs were collected and analysed against 110 primary samples assessed in this report, at a rate of approximately one intra-laboratory sample per 11 primary samples, and one inter-laboratory sample per 11 primary samples, which exceeds the rate specified in the sample methodology (one duplicate per 20 primary samples). The rate of collection of duplicate samples is considered satisfactory.

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e., concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e., concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e., concentrations 1 – 10 x LOR)

Of a total of 905 RPD values, 86 RPD values (~9.5%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were predominantly associated with concentrations of PAHs and metals. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

As approximately 90.5% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

1.3 Trip Blanks

One trip blank was submitted for each cooler box transported to the laboratory. A total of ten trip blanks, consisting of either laboratory supplied deionised water or clean inert sand, were analysed as part of the work orders relevant to this report.

Trip blanks were analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. All trip blank samples had concentrations of target compounds reported below the LOR, indicating that cross contamination of samples occurring in transit is unlikely to have occurred. Trip blank results are reported on **Table B2a** and **Table B2b** attached.

1.4 Rinsate Blanks

A total of ten rinsate blanks were analysed as part of the work orders relevant to this report. Rinsate blanks were prepared by pouring laboratory supplied rinsate water over non-dedicated sampling equipment following decontamination procedures to assess the potential for cross-contamination. At least one rinsate blank was collected for each day of sampling which occurred.

All rinsate blank results were reported below the laboratory LOR, with the exception of DL_QCB04, collected during sampling of the Diesel Line excavation on 2 March 2023, which reported detections of copper, lead and zinc above LOR. This detection is not considered to affect the outcomes of assessment as no exceedances of criteria for these CoPC were detected during the sampling on that date, and if cross-contamination occurred resulting in higher detections of metals in validation samples, additional excavation may have occurred.

No exceedances of LOR were reported in any other rinsate blanks, indicating that field decontamination procedures were appropriately adopted and that the risk of cross contamination of samples through field equipment is acceptably low. Rinsate results are reported on **Table B2a** and **B2b** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil, leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.9** below.

Soil samples were analysed for a combination of analytes including metals (including lead), cyanide, TPH/TRH, BTEX, PAH, MAH, phenols, PCBs and pesticides. As these analytes include the CoPC identified in **Section 2.3** (in the main report) for the areas in which the stockpiles were generated, based on available Site history and uses, and previous investigations conducted, soil analytical program is considered appropriate for the purposes of this report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Ice or attempts to chill was noted as present in coolers in the Sample Receipt Notification (SRN) documentation by ALS and Eurofins on receipt of the sample batches.

All samples were received by the primary laboratory ALS at or below 6ºC. Exceedances of the target sample receipt temperature were reported for the follow sample batches received by the secondary laboratory, Eurofins:

- 975786 – 8.2ºC (inter-laboratory duplicates from sample locations UST_66_E_1.6 and UST_80_1.2_S on 16 March 2023).
- 978711 – 9.7ºC (interlaboratory duplicate from OL_EX_403_1.6 on 3 April 2023)
- 993445 – 6.5ºC (interlaboratory duplicate from OL_EX_414_1.5 on 23 May 2023)
- 997785 – 6.2ºC (interlaboratory duplicate from OL_EX_423_0.5 on 7 June 2023)

The sample receipt temperature exceedances are not considered to affect the results of interpretation as:

- Sample results for CoPC which are considered more sensitive to temperature (such as volatile and semi-volatile hydrocarbons or PAHs) were generally higher in primary samples which were received within acceptable temperature ranges and were relied on for interpretation of results.
- Five inter-laboratory samples were reported received by the secondary laboratory within acceptable temperature ranges. If results from all inter-laboratory samples received above 6ºC were discounted, the rate of intra-laboratory sampled would be one per 22 primary samples, which is close to the required rate and would be considered suitable for interpretation.

2.2 Sample Holding Times

All samples were received by the laboratories within the holding times for sample extraction and/or analysis.

Proactive holding time assessments completed by the analytical laboratory are provided in the SRN reports in **Appendix A**.

2.3 Limits of Reporting

All laboratory LORs were either lower than or equal to the screening criteria applied to the samples analysed, to adequate assessment.

2.4 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix A**.

Matrix spike recoveries were noted to be within the data quality objective range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 2** below.

Table 2 Matrix Spike Outliers

Work Order	Sample ID	Analyte	Matrix Spike	Limits
EM2303927	DL_71_1.0	Lead	57.4%	80.0-120%
		Mercury	72.4	76.0-116%
		Pyrene	ND	-
EM2305209	UST_59_E_1.6	Pyrene	ND	-
		Aliphatic >C6-C8	ND	-
		Aromatic >C21-C36	ND	-
		C10-C14 Fraction	ND	-
		C6-C9 Fraction	ND	-
		>C10-C16 Fraction	ND	-
		C6-C10 Fraction	ND	-
EM2307637	OL_EX_405_1.6	Pyrene	145%	65.5-136%
	UST_EXT_59E_1.6	Aliphatic >C6-C8	ND	-
		Aromatic >C16-C21	134%	59.7-129%
		Aromatic >C21-C35	164%	57.0-136%
		C6-C9 Fraction	ND	-
		C6-C10 Fraction	ND	-
EM2309340	OL_EX_412_1.5	Lead	131%	80.0-120%

Note: [1]MS recovery not determined, background levels greater than or equal to 4x spike level; ND – Not Determined; NA – Not Applicable

Matrix spike recovery outliers, either lower than or higher than the acceptable limits, are likely attributed to the heterogeneity of the soil samples submitted to the laboratory, or due to matrix interference with samples. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. Moreover, a significant number of the outliers are associated with samples not relevant to the stockpiles considered in this report, including anonymous samples, or samples from other stockpiles that were included in the above laboratory batches.

Overall, these outliers are not considered to impact interpretation of the results.

2.5 Laboratory Method Blanks

All soil laboratory method blanks were reported within the acceptable range, i.e., below the laboratory LORs.

2.6 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix A**. All surrogate spike recoveries for

regular sample matrices were within the surrogate control limits adopted for the methods used, and no outliers were reported.

2.7 Laboratory Control Spikes

Laboratory control spikes, presented in **Appendix A**, were within the laboratory-derived control limits for the methods used, and no outliers were reported.

2.8 Frequency of Quality Control Spike

Frequency of quality control spikes, presented in **Appendix A**, were at the rate expected by applicable QC specifications, with the exceptions of the outliers listed in **Table 3** below.

Table 3 Frequency of Quality Control Samples

Work Order	Type	Analyte	Rate (%)		Quality Control Specification
			Actual	Expected	
EM2303927	Laboratory Duplicates	TRH Volatiles / BETX	5.88	10.0	NEPM 2013 B3 & ALS QC Standard
EM2304091	Laboratory Duplicates	TPH Speciation	0.0	10.0	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	TPH Speciation	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
EM2304468	Laboratory Duplicates	TPH Speciation	0.0	10.0	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	TPH Speciation	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
EM2304628	Laboratory Duplicates	Total Mercury by FIMS	5.88	10.0	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	PAH/Phenols	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
		TRH - Semi volatile Fraction	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
EM2306902	Laboratory Duplicates	Dissolved Metals by ICP-MS	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
	Method Spikes	Dissolved Metals by ICP-MS	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
EM2310878	Laboratory Duplicates	TPH Speciation	0.0	10.0	NEPM 2013 B3 & ALS QC Standard
		Volatile Hydrocarbon Speciation	0.0	10.0	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	TPH Speciation	0.0	5.0	NEPM 2013 B3 & ALS QC Standard
		Volatile Hydrocarbon Speciation	0.0	5.0	NEPM 2013 B3 & ALS QC Standard

It is noted that analytes for which the actual rate of control spikes were below the expected frequency, there were not sufficient samples assessed for that analytical suite to complete quality control spike sampling. These outliers are not considered to impact interpretation of the results. Frequency of control spikes for water samples (i.e., rinsate and trip blanks) are not listed due to the low numbers of these samples analysed.

2.9 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding laboratory duplicates were within acceptable limits, with the exception of the duplicate outliers listed below in **Table 4**.

Table 4 Laboratory Duplicate RPD Exceedances

Work Order	Sample ID	Analyte	RPD	Limits
EM2303516	OL_05_001	Zinc	25.4%	0% - 20%
	OL_65_0.6E	Pyrene	80	0% - 20%
		Benzo(g.h.i)perylene	53	0% - 50%
		Benzo(b+j)fluoranthene	71	0% - 20%
		Fluoranthene	85	0% - 20%
		Chrysene	78	0% - 20%
		Benzo(a)pyrene	61	0% - 20%
		Benz(a)anthracene	70	0% - 20%
		Phenanthrene	107	0% - 20%
		Naphthalene (Ex SVOC)	100	0% - 50%
EM2303927	DL_71_1.0	Pyrene	115	0% - 20%
		Benzo(g.h.i)perylene	90	0% - 50%
		Indeno(1.2.3.cd)pyrene	95	0% - 50%
		Benzo(b+j)fluoranthene	103	0% - 20%
		Fluoranthene	113	0% - 20%
		Benzo(k)fluoranthene	122	0% - 50%
		Chrysene	120	0% - 20%
		Benzo(a)pyrene	111	0% - 20%
		Benz(a)anthracene	126	0% - 20%
		Phenanthrene	90	0% - 20%
EM2304628	UST_73_1.6_W	Anthracene	107	0% - 20%
		Pyrene	47	0% - 20%
		Benzo(g.h.i)perylene	27	0% - 20%
		Indeno(1.2.3.cd)pyrene	24	0% - 20%
		Fluoranthene	50	0% - 20%
		Benzo(k)fluoranthene	23	0% - 20%
		Chrysene	38	0% - 20%
		Benzo(a)pyrene	26	0% - 20%

Work Order	Sample ID	Analyte	RPD	Limits
		Benz(a)anthracene	38	0% - 20%
		Phenanthrene	99	0% - 20%
		Lead	43	0% - 20%
EM2305209	UST_80_1.2_S	Fluoranthene	21.3	0% - 20%
		Pyrene	21.6	0% - 20%
EM2307637	OL_EX_408_0.8	>C16-C34 Fraction	27.1%	0% - 20%
EM2309340	OL_EX_416_1.5	Lead	73.3%	0% - 20%
	OL_EX_412_0.5	Anthracene	29.9%	0% - 20%
		Fluoranthene	20.4%	0% - 20%
		Pyrene	20.1%	0% - 20%
EM2310229	OL_EX_420_0.5	Fluoranthene	64.9%	0% - 50%
		Pyrene	63.5%	0% - 50%

RPD exceedances are attributed to the heterogeneity of the soil samples submitted to the laboratory. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. These exceedances are not considered to impact interpretation of the results.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Of a total of 905 RPD values, 86 RPD values (~9.5%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were predominantly associated with concentrations of PAHs and metals. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As approximately 90.5% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

- Detectable concentrations of copper, lead and zinc were present in rinsate blank DL_QCB04, collected during sampling of the Diesel Line excavation on 2 March 2023. The detected concentrations are not considered to affect the outcomes of interpretation of this data.

- Three secondary laboratory sample batches (975786, 978711, 993445, and 997784) were received between 6.2 and 9.7°C, greater than the recommended temperature of 6°C. The higher than recommended receipt temperatures are not expected to affect interpretation as primary samples reported higher concentrations of CoPC considered sensitive to temperature degradation and were used for interpretation. In addition, if inter-laboratory samples received outside the recommended temperature range are excluded, intra-laboratory sample analysis was conducted at

a rate of one sample per 22 primary samples, which is close to the require rate and would be considered suitable for interpretation.

- Other laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals.

These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of remediation.

Table B1
Relative Percentage Differences
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

			Lab Report Number	EM2303516	EM2303516		EM2303927	EM2303927		EM2305209-AA	EM2305209-AA		EM2305209-AA	EM2305209-AA		EM2305896	EM2305896		EM2307528	EM2307528		EM2307528	EM2307528		EM2307637
			Field ID	OL_77_1.0	OL_QC101	**RPD**	DL_59_1.0	DL_QC102	**RPD**	UST_66_E_1.6	UST_QC107	**RPD**	UST_80_1.2_S	UST_QC106	**RPD**	OL_EX_403_1.6	OL_EX_QC112	**RPD**	OL_EX_410_1.6	OL_EX_QC116	**RPD**	OL_EX_110_1.1	OL_EX_QC117	**RPD**	OL_EX_406_1.6
			Sampled Date/Time	27/02/2023 9:21	27/02/2023 9:21		1/03/2023 7:04	1/03/2023 7:04		16/03/2023 15:00	16/03/2023 15:00		16/03/2023 15:00	16/03/2023 15:00		3/04/2023 17:20	3/04/2023 17:20		1/05/2023 14:21	1/05/2023 14:21		1/05/2023 14:21	1/05/2023 14:21		27/04/2023 15:00
Chem_Group	**ChemName**	**Units**	**EQL**																						
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	87	64	30	<10	<10	0	<10	<10	0	19	17	11	<10	<10	0	<10	<10	0	<10	<10	0	<10
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	87	64	30	<10	<10	0	<10	<10	0	19	17	11	<10	<10	0	<10	<10	0	<10	<10	0	<10
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	8110	7710	5	<50	<50	0	120	180	40	2540	2600	2	<50	<50	0	<50	<50	0	<50	<50	0	<50
	>C10-C16 fraction	mg/kg	50	8110	7720	5	<50	<50	0	120	180	40	2540	2600	2	<50	<50	0	<50	<50	0	<50	<50	0	<50
	>C16-C34 fraction	mg/kg	100	5540	5880	6	**290**	**1030**	**112**	**1070**	**1890**	**55**	2290	2020	13	<100	<100	0	130	170	27	310	390	23	310
	>C34-C40 fraction	mg/kg	100	240	300	22	<100	160	46	140	290	70	120	180	40	<100	<100	0	<100	<100	0	<100	<100	0	<100
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	13900	13900	0	**290**	**1190**	**122**	**1330**	**2360**	**56**	4950	4800	3	<50	<50	0	130	170	27	310	390	23	**310**
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	1	6	143	<1	<1	0	<1	<1	0	4	1	120	<1	<1	0	<1	<1	0	<1	<1	0	<1
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2
Metals	Arsenic	mg/kg	5 : 2 (Interlab)	64	60	6	**530**	**92**	**141**																
	Barium	mg/kg	10																						
	Beryllium	mg/kg	1 : 2 (Interlab)																						
	Cadmium	mg/kg	1 : 0.4 (Interlab)	<1	1	0	<1	<1	0																
	Chromium	mg/kg	2 : 5 (Interlab)	13	9	36	14	15	7																
	Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)																						
	Cobalt	mg/kg	2 : 5 (Interlab)																						
	Copper	mg/kg	5	**49**	**102**	**70**	69	61	12																
	Lead	mg/kg	5	146	178	20	**258**	**371**	**36**	621	596	4	289	286	1	**847**	**2650**	**103**	**2030**	**1470**	**32**	**564**	**245**	**79**	**81**
	Manganese	mg/kg	5																						
	Mercury	mg/kg	0.1				1	1	0																
	Molybdenum	mg/kg	2 : 5 (Interlab)																						
	Nickel	mg/kg	2 : 5 (Interlab)	10	12	18	19	17	11																
	Selenium	mg/kg	5 : 2 (Interlab)																						
	Silver	mg/kg	2																						
	Tin	mg/kg	5 : 10 (Interlab)																						
	Zinc	mg/kg	5	**228**	**396**	**54**	430	499	15																
Polynuclear Aromatic Hydrocarbons	Naphthalene	mg/kg	0.5	**4.2**	**13.2**	**103**				8	10.1	23	14.9	17.5	16	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Acenaphthylene	mg/kg	0.5	3.4	4.3	23				**1.8**	**5.8**	**105**	2.3	2	14	<0.5	<0.5	0	<0.5	<0.5	0	0.6	0.7	15	0.9
	Acenaphthene	mg/kg	0.5	**3.1**	**7.6**	**84**				**11.1**	**16**	**36**	1.5	1.9	24	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Anthracene	mg/kg	0.5	**6.7**	**15.1**	**77**				**10.9**	**25.9**	**82**	1.8	2.5	33	<0.5	<0.5	0	<0.5	<0.5	0	0.6	0.7	15	0.8
	Fluorene	mg/kg	0.5	**11**	**15.1**	**31**				**11**	**20.2**	**59**	3.7	4.6	22	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Phenanthrene	mg/kg	0.5	**31.3**	**64.8**	**70**				**44.9**	**88.6**	**65**	9.9	12	19	<0.5	<0.5	0	0.9	1.1	20	1.5	2.4	46	3.3
	Fluoranthene	mg/kg	0.5	**30.6**	**54.2**	**56**				**37**	**85.9**	**80**	14.1	14	1	<0.5	1	67	2.7	3.2	17	**4.5**	**7.7**	**52**	**7.3**
	Benz(a)anthracene	mg/kg	0.5	**16.3**	**28**	**53**				**19.3**	**40**	**70**	5.7	5.3	7	<0.5	1.1	75	2	2.3	14	3.7	4.9	28	4.9
	Benzo(k)fluoranthene	mg/kg	0.5	**6**	**10.5**	**55**				**7.5**	**14.7**	**65**	3.6	2.9	22	<0.5	0.7	33	1.2	1.1	9	1.8	2.5	33	3.1
	Benzo(b&j)fluoranthene	mg/kg	0.5	18.8	25.1	29				**19.1**	**36.7**	**63**	8.4	8.3	1	<0.5	1.6	105	3.3	3.5	6	5.3	6.8	25	9
	Benzo(a)pyrene	mg/kg	0.5	**17.4**	**27.3**	**44**				**19.3**	**37.8**	**65**	7.5	7.1	5	<0.5	1.5	100	2.8	2.9	4	4.6	6.2	30	4.9
	Benzo(a)pyrene	mg/kg	0.05 : 0.5 (Interlab)																						
	Chrysene	mg/kg	0.5	**14**	**23**	**49**				**15.4**	**30.9**	**67**	5.6	5.5	2	<0.5	1.2	82	2	2.3	14	3.4	4.5	28	5.7
	Pyrene	mg/kg	0.5	**32.7**	**56.6**	**54**				**34.3**	**79.1**	**79**	14.2	13.5	5	<0.5	1.1	75	3	3.6	18	**4.7**	**7.9**	**51**	**7.3**
	Benzo(g,h,i)perylene	mg/kg	0.5	**9.2**	**15.7**	**52**				**8.4**	**15.9**	**62**	5.4	5.9	9	0.6	1.1	59	2.1	1.6	27	3.2	3.6	12	6
	Dibenz(a,h)anthracene	mg/kg	0.5	2.1	3.6	53				2.2	3.8	53	1	1	0	<0.5	<0.5	0	<0.5	<0.5	0	0.6	0.8	29	1.4
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	**7.7**	**12.1**	**44**				**7.2**	**14.9**	**70**	4.5	4.7	4	<0.5	0.9	57	1.6	1.3	21	2.6	3	14	4.9
	Sum of PAHs	mg/kg	0.5	**214**	**376**	**55**				**257**	**526**	**69**	104	109	5	**0.6**	**10.2**	**178**	21.6	22.9	6	**37.1**	**51.7**	**33**	**59.5**
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	55	41	29	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10
	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	4400	4170	5	60	<50	18	70	<50	33	1540	1470	5	<50	<50	0	<50	<50	0	<50	<50	0	<50
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	8890	8910	0	200	730	114	**860**	**1530**	**56**	3080	2920	5	<100	<100	0	<100	100	0	170	230	30	200
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	580	760	27	130	410	104	360	620	53	300	380	24	<100	<100	0	<100	<100	0	170	200	16	150
	C10-C36 fraction (sum)	mg/kg	50	13900	13800	1	**390**	**1140**	**98**	**1290**	**2150**	**50**	4920	4770	3	<50	<50	0	<50	100	67	340	430	23	**350**
Major Ions	Fluoride	mg/kg	40 : 100 (Interlab)																						
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1	<1	2	67				<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1
	Phenol	mg/kg	0.5	<0.5	1.1	75				<0.5	0.7	33	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2-Methylphenol (o-Cresol)	mg/kg	0.5 : 0.2 (Interlab)	<0.5	0.8	46				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2-Nitrophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	3.1	144				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	4-Chloro-3-methylphenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2,4,6-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	2,4,5-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Pentachlorophenol	mg/kg	2 : 1 (Interlab)	<2	<2	0				<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2
	Sum of Phenols	mg/kg	0.5																						
Physico-Chemical Parameters	Moisture Content	%	1	13.4	19.8	39				23.8	27.9	16	23.7	21.9	8	19	19.2	1	22.4	23	3	**20.3**	**27.7**	**31**	**17**

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x
***Interlab Duplicates are matched on a per compound basis as methods vary between

Table B1
Relative Percentage Differences
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

			Lab Report Number	EM2307637		EM2309340	EM2309340		EM2310229	EM2310229		EM2305896	978711		EM2310229	997785		EM2303516	968430		EM2303927	969949		EM2305209-AA	975786
			Field ID	OL_EX_QC115	**RPD**	OL_EX_414_1.5	OL_EX_QC119	**RPD**	OL_EX_423_0.5	OL_EX_QC125	**RPD**	OL_EX_403_1.6	OL_EX_QC212	**RPD**	OL_EX_423_0.5	OL_EX_QC225	**RPD**	OL_77_1.0	OL_QC201	**RPD**	DL_59_1.0	DL_QC202	**RPD**	UST_66_E_1.6	UST - QC207
			Sampled Date/Time	27/04/2023 15:00		23/05/2023 15:00	23/05/2023 15:00		7/06/2023 10:02	7/06/2023 10:02		3/04/2023 17:20	3/04/2023 17:20		7/06/2023 10:02	7/06/2023 10:02		27/02/2023 9:21	27/02/2023 9:21		1/03/2023 7:04	1/03/2023 7:04		16/03/2023 15:00	16/03/2023 15:00
Chem_Group	**ChemName**	**Units**	**EQL**																							
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	<10	0	<10	<10	0	<10	<10	0	<10	<20	0	<10			87	33	90	<10	<20	0	<10	<20
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	<10	0	<10	<10	0	<10	<10	0	<10	<20	0	<10			87	33	90	<10	<20	0	<10	<20
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	270	138	90	110	20	<50	<50	0	<50	<50	0	<50			**8110**	**3998**	**68**	<50	<50	0	120	158.2
	>C10-C16 fraction	mg/kg	50	270	138	90	110	20	<50	<50	0	<50	<50	0	<50			**8110**	**4000**	**68**	<50	<50	0	120	160
	>C16-C34 fraction	mg/kg	100	700	77	1400	1700	19	470	180	89	<100	<100	0	470			**5540**	**3500**	**45**	290	430	39	1070	1700
	>C34-C40 fraction	mg/kg	100	150	40	300	360	18	<100	<100	0	<100	<100	0	<100			240	210	13	<100	100	0	140	120
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	**1120**	**113**	1790	2170	19	470	180	89	<50	<100	0	470			**13900**	**7710**	**57**	290	530	59	**1330**	**1980**
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0	<1			1	2	67	<1	<0.5	0	<1	1.8
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.1	0	<0.2			<0.2	<0.1	0	<0.2	<0.1	0	<0.2	<0.1
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5			<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5			<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	0.3	0	<0.5	<0.2	0	<0.5	<0.2
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5			<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.3	0	<0.5			<0.5	0.3	0	<0.5	<0.3	0	<0.5	<0.3
	Total BTEX	mg/kg	0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2			<0.2			<0.2			<0.2			<0.2	
Metals	Arsenic	mg/kg	5 : 2 (Interlab)						15	14	7				15			64			530				
	Barium	mg/kg	10																						
	Beryllium	mg/kg	1 : 2 (Interlab)																						
	Cadmium	mg/kg	1 : 0.4 (Interlab)						<1	<1	0				<1			<1			<1				
	Chromium	mg/kg	2 : 5 (Interlab)						15	17	13				15			13			14				
	Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)																						
	Cobalt	mg/kg	2 : 5 (Interlab)																						
	Copper	mg/kg	5						**115**	**281**	**84**				115			49			69				
	Lead	mg/kg	5	**368**	**128**	**502**	**336**	**40**	**254**	**2220**	**159**	847	1000	17	**254**	**700**	**94**	146	190	26	**258**	**1100**	**124**	**621**	**2600**
	Manganese	mg/kg	5																						
	Mercury	mg/kg	0.1						**1.1**	**2.4**	**74**				1.1						1				
	Molybdenum	mg/kg	2 : 5 (Interlab)																						
	Nickel	mg/kg	2 : 5 (Interlab)						**16**	**36**	**77**				16			10			19				
	Selenium	mg/kg	5 : 2 (Interlab)																						
	Silver	mg/kg	2																						
	Tin	mg/kg	5 : 10 (Interlab)																						
	Zinc	mg/kg	5						**295**	**1030**	**111**				295			228			430				
Polynuclear Aromatic Hydrocarbons	Naphthalene	mg/kg	0.5	<0.5	0	1	1.1	10	0.7	<0.5	33	<0.5	<0.5	0	0.7			4.2	5.2	21				**8**	**13**
	Acenaphthylene	mg/kg	0.5	<0.5	57	4	4	0	1.3	<0.5	89	<0.5	<0.5	0	1.3			3.4	1.5	78				1.8	2.6
	Acenaphthene	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			3.1	0.7	126				**11.1**	**16**
	Anthracene	mg/kg	0.5	0.6	29	3	3.1	3	1.8	<0.5	113	<0.5	<0.5	0	1.8			6.7	6.3	6				**10.9**	**18**
	Fluorene	mg/kg	0.5	<0.5	0	0.5	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			**11**	**7.5**	**38**				**11**	**18**
	Phenanthrene	mg/kg	0.5	1.7	64	7.4	7.7	4	**8**	**1.6**	**133**	<0.5	<0.5	0	8			**31.3**	**14**	**76**				**44.9**	**78**
	Fluoranthene	mg/kg	0.5	**3.6**	**68**	20.2	18.9	7	**12.2**	**3.4**	**113**	<0.5	<0.5	0	12.2			**30.6**	**16**	**63**				**37**	**82**
	Benz(a)anthracene	mg/kg	0.5	4.2	15	15.1	13.6	10	**8.3**	**2.4**	**110**	<0.5	1.1	75	8.3			**16.3**	**3.4**	**131**				**19.3**	**31**
	Benzo(k)fluoranthene	mg/kg	0.5	2.1	38	8.1	7.9	2	3.7	1.4	90	<0.5	0.9	57	3.7			6	7.3	20				**7.5**	**22**
	Benzo(b&j)fluoranthene	mg/kg	0.5	5.9	42	19.8	19.7	1	**10.4**	**3.3**	**104**	<0.5	0.9	57	10.4			**18.8**	**6.5**	**97**				19.1	23
	Benzo(a)pyrene	mg/kg	0.5	5.9	19	15.1	14.8	2	**10**	**3**	**108**	<0.5	0.6	18	10			**17.4**	**3.6**	**131**				**19.3**	**28**
	Benzo(a)pyrene	mg/kg	0.05 : 0.5 (Interlab)																						
	Chrysene	mg/kg	0.5	3.6	45	14.1	12.8	10	**7.6**	**2.2**	**110**	<0.5	1	67	7.6			14	14	0				**15.4**	**30**
	Pyrene	mg/kg	0.5	**4.3**	**52**	21.2	19	11	**12.5**	**3.3**	**116**	<0.5	<0.5	0	12.5			**32.7**	**19**	**53**				**34.3**	**83**
	Benzo(g,h,i)perylene	mg/kg	0.5	4.8	22	11.6	12.7	9	**7.4**	**2**	**115**	0.6	<0.5	18	7.4			**9.2**	**4.4**	**71**				**8.4**	**15**
	Dibenz(a,h)anthracene	mg/kg	0.5	1	33	2.8	3	7	1.5	<0.5	100	<0.5	<0.5	0	1.5			2.1	1.8	15				2.2	4.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	3.7	28	9.8	10.6	8	**5.7**	**1.6**	**112**	<0.5	<0.5	0	5.7			**7.7**	**3.8**	**68**				**7.2**	**16**
	Sum of PAHs	mg/kg	0.5	**41.4**	**36**	154	149	3	**91.1**	**24.2**	**116**	0.6	4.5	153	91.1			**214**	**120**	**56**				**257**	**480**
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	<10	0	<10	<10	0	<10	<10	0	<10	<20	0	<10			55	<20	93	<10	<20	0	<10	<20
	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	230	129	<50	70	33	<50	<50	0	<50	<20	0	<50			**4400**	**2200**	**67**	60	<20	100	70	42
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	450	77	870	1040	18	290	110	90	<100	<50	0	290			**8890**	**5300**	**51**	200	250	22	**860**	**1300**
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	360	82	720	890	21	230	<100	79	<100	<50	0	230			580	390	39	130	220	51	360	470
	C10-C36 fraction (sum)	mg/kg	50	**1040**	**99**	1590	2000	23	**520**	**110**	**130**	<50	<50	0	520			**13900**	**7890**	**55**	390	470	19	**1290**	**1812**
Major Ions	Fluoride	mg/kg	40 : 100 (Interlab)																						
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1	<1	0	<1	<1	0	<1	<1	0	<1			<1			<1						<1	
	Phenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5	<0.5	0				<0.5	<1
	2-Chlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5	<0.5	0				<0.5	<0.5
	2-Methylphenol (o-Cresol)	mg/kg	0.5 : 0.2 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5			<0.5	<0.2	0				<0.5	<0.2
	2-Nitrophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5			<0.5	<1	0				<0.5	<1
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5	<0.5	0				<0.5	<0.5
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5	<0.5	0				<0.5	<0.5
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5	<0.5	0				<0.5	<0.5
	4-Chloro-3-methylphenol	mg/kg	0.5 : 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5			<0.5	<1	0				<0.5	<1
	2,4,6-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5			<0.5	<1	0				<0.5	<1
	2,4,5-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5			<0.5	<1	0				<0.5	<1
	Pentachlorophenol	mg/kg	2 : 1 (Interlab)	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2			<2	<1	0				<2	<1
	Sum of Phenols	mg/kg	0.5																						
Physico-Chemical Parameters	Moisture Content	%	1	**30.7**	**57**	18.6	17.3	7	**14.1**	**32.8**	**80**	19			14.1			13.4						23.8	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x
***Interlab Duplicates are matched on a per compound basis as methods vary between

Table B1
Relative Percentage Differences
The Precinct South - Remediation Validation Report
Macquarie Point Development Project

AECOM

			Lab Report Number		EM2305209-AA	975786		EM2307528	986486		EM2307528	986486		EM2307637	986517		EM2309340	993445	
			Field ID	**RPD**	UST_80_1.2_S	UST - QC206	**RPD**	OL_EX_410_1.6	OL_EX_QC216	**RPD**	OL_EX_110_1.1	OL_EX_QC217	**RPD**	OL_EX_406_1.6	OL_EX_QC215	**RPD**	OL_EX_414_1.5	OL_EX_QC219	**RPD**
			Sampled Date/Time		16/03/2023 15:00	16/03/2023 15:00		1/05/2023 14:21	1/05/2023 14:21		1/05/2023 14:21	1/05/2023 14:21		27/04/2023 15:00	27/04/2023 15:00		23/05/2023 15:00	23/05/2023 15:00	
Chem_Group	**ChemName**	**Units**	**EQL**																	
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	0	19	40	71	<10	<20	0	<10	<20	0	<10	<20	0	<10	<20	0
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	0	19	39	69	<10	<20	0	<10	<20	0	<10	<20	0	<10	<20	0
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	27	**2540**	**953.8**	**91**	<50	<50	0	<50	<50	0	<50	92	59	90	84	7
	>C10-C16 fraction	mg/kg	50	29	**2540**	**960**	**90**	<50	<50	0	<50	<50	0	<50	92	59	90	84	7
	>C16-C34 fraction	mg/kg	100	45	**2290**	**1100**	**70**	130	200	42	310	430	32	310	150	70	1400	910	42
	>C34-C40 fraction	mg/kg	100	15	120	<100	18	<100	<100	0	<100	<100	0	<100	<100	0	300	<100	100
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	**39**	**4950**	**2060**	**82**	130	200	42	310	430	32	310	242	25	**1790**	**994**	**57**
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	57	4	6.2	43	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	0	<0.2	<0.1	0	<0.2	<0.1	0	<0.2	<0.1	0	<0.2	<0.1	0	<0.2	<0.1	0
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	0	<0.5	0.2	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	0	<0.5	0.5	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	0	<0.5	0.5	0	<0.5	<0.3	0	<0.5	<0.3	0	<0.5	<0.3	0	<0.5	<0.3	0
	Total BTEX	mg/kg	0.2		<0.2			<0.2			<0.2			<0.2			<0.2		
Metals	Arsenic	mg/kg	5 : 2 (Interlab)																
	Barium	mg/kg	10																
	Beryllium	mg/kg	1 : 2 (Interlab)																
	Cadmium	mg/kg	1 : 0.4 (Interlab)																
	Chromium	mg/kg	2 : 5 (Interlab)																
	Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)																
	Cobalt	mg/kg	2 : 5 (Interlab)																
	Copper	mg/kg	5																
	Lead	mg/kg	5	**123**	**289**	**200**	**36**	**2030**	**3300**	**48**	**564**	**270**	**71**	**81**	**910**	**167**	502	430	15
	Manganese	mg/kg	5																
	Mercury	mg/kg	0.1																
	Molybdenum	mg/kg	2 : 5 (Interlab)																
	Nickel	mg/kg	2 : 5 (Interlab)																
	Selenium	mg/kg	5 : 2 (Interlab)																
	Silver	mg/kg	2																
	Tin	mg/kg	5 : 10 (Interlab)																
	Zinc	mg/kg	5																
Polynuclear Aromatic Hydrocarbons	Naphthalene	mg/kg	0.5	**48**	**14.9**	**1.1**	**173**	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	1	1.1	10
	Acenaphthylene	mg/kg	0.5	36	2.3	0.5	129	<0.5	<0.5	0	0.6	1.1	59	0.9	<0.5	57	4	1.4	96
	Acenaphthene	mg/kg	0.5	**36**	1.5	<0.5	100	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	**49**	1.8	<0.5	113	<0.5	<0.5	0	0.6	0.9	40	0.8	<0.5	46	3	1.6	61
	Fluorene	mg/kg	0.5	**48**	3.7	0.8	129	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	0.5	0.5	0
	Phenanthrene	mg/kg	0.5	**54**	**9.9**	**2.6**	**117**	0.9	0.8	12	1.5	2.4	46	3.3	<0.5	147	**7.4**	**4.1**	**57**
	Fluoranthene	mg/kg	0.5	**76**	**14.1**	**5.6**	**86**	2.7	3.2	17	**4.5**	**9.9**	**75**	**7.3**	**<0.5**	**174**	**20.2**	**10**	**68**
	Benz(a)anthracene	mg/kg	0.5	**47**	**5.7**	**1.8**	**104**	2	2.4	18	3.7	3.9	5	4.9	<0.5	163	**15.1**	**6**	**86**
	Benzo(k)fluoranthene	mg/kg	0.5	**98**	3.6	2.1	53	1.2	2.3	63	1.8	3.6	67	3.1	<0.5	144	8.1	8.6	6
	Benzo(b&j)fluoranthene	mg/kg	0.5	19	**8.4**	**2.3**	**114**	3.3	2	49	5.3	3.7	36	**9**	**<0.5**	**179**	**19.8**	**6.1**	**106**
	Benzo(a)pyrene	mg/kg	0.5	**37**	**7.5**	**2.5**	**100**	2.8	2.8	0	4.6	5	8	4.9	<0.5	163	**15.1**	**6.7**	**77**
	Benzo(a)pyrene	mg/kg	0.05 : 0.5 (Interlab)																
	Chrysene	mg/kg	0.5	**64**	**5.6**	**2.1**	**91**	2	2.7	30	3.4	4.1	19	**5.7**	**<0.5**	**168**	**14.1**	**7.7**	**59**
	Pyrene	mg/kg	0.5	**83**	**14.2**	**7**	**68**	3	3.7	21	**4.7**	**9**	**63**	**7.3**	**<0.5**	**174**	**21.2**	**11**	**63**
	Benzo(g,h,i)perylene	mg/kg	0.5	**56**	**5.4**	**2**	**92**	2.1	1.5	33	3.2	2.7	17	**6**	**<0.5**	**169**	**11.6**	**3.8**	**101**
	Dibenz(a,h)anthracene	mg/kg	0.5	69	1	<0.5	67	<0.5	<0.5	0	0.6	<0.5	18	1.4	<0.5	95	2.8	1.4	67
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	**76**	4.5	2.1	73	1.6	1.5	6	2.6	3.1	18	4.9	<0.5	163	**9.8**	**5**	**65**
	Sum of PAHs	mg/kg	0.5	**61**	**104**	**33**	**104**	21.6	23	6	37.1	49	28	**59.5**	**<0.5**	**197**	**154**	**75**	**69**
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	0	<10	<20	0	<10	<20	0	<10	<20	0	<10	<20	0	<10	<20	0
	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	50	**1540**	**490**	**103**	<50	<20	0	<50	<20	0	<50	80	46	<50	48	0
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	**41**	**3080**	**1500**	**69**	<100	120	18	170	250	38	200	85	81	870	620	34
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	27	300	90	108	<100	87	0	170	230	30	150	97	43	720	340	72
	C10-C36 fraction (sum)	mg/kg	50	**34**	**4920**	**2080**	**81**	<50	207	122	340	480	34	350	262	29	**1590**	**1008**	**45**
Major Ions	Fluoride	mg/kg	40 : 100 (Interlab)																
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1		<1			<1			<1			<1			<1		
	Phenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Methylphenol (o-Cresol)	mg/kg	0.5 : 0.2 (Interlab)	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0
	2-Nitrophenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	2,4-Dichlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dimethylphenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-Dichlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chloro-3-methylphenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	2,4,6-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	2,4,5-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	Pentachlorophenol	mg/kg	2 : 1 (Interlab)	0	<2	<1	0	<2	<1	0	<2	<1	0	<2	<1	0	<2	<1	0
	Sum of Phenols	mg/kg	0.5																
Physico-Chemical Parameters	Moisture Content	%	1		23.7			22.4			20.3			17			18.6		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x
***Interlab Duplicates are matched on a per compound basis as methods vary between

Table B1
Relative Percentage Differences
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AECOM

Field_ID				DL_QCA02	DL_QCB03	DL_QCB04	OL_EX_QCA09	OL_EX_QCA09	OL_EX_QCA10	OL_EX_QCA14	OL_EX_QCB11	OL_EX_QCB12	OL_EX_QCB14	OL_EX_UST_QCA09	OL_QCA01	OL_QCB01	OL_QCB02	UST_QCA04	UST_QCA05	UST_QCA06	UST_QCB06	UST_QCB07	UST_QCB08
Sampled_Date_Time				1/03/2023	1/03/2023	2/03/2023	27/04/2023		1/05/2023	7/06/2023	27/04/2023	1/05/2023	7/06/2023	19/04/2023	27/02/2023	27/02/2023	28/02/2023	16/03/2023	16/03/2023	21/03/2023	16/03/2023	16/03/2023	21/03/2023
Lab_Report_Number				EM2303927	EM2303927	EM2303927	EM2307637	986517	EM2307528	EM2310229	EM2307637	EM2307528	EM2310229	EM2306802	EM2303516	EM2303516	EM2303516	EM2304628	EM2305209-AA	EM2305209-AB	EM2304628	EM2305209-AA	EM2305209-AB
Sample_Type				Trip_B	Rinsate	Rinsate	Trip_B	Trip_B	Trip_B	Trip_B	Rinsate	Rinsate	Rinsate	Trip_B	Trip_B	Rinsate	Rinsate	Trip_B	Trip_B	Trip_B	Rinsate	Rinsate	Rinsate
Chem_Group	**ChemName**	**output unit**	**EQL**																				
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100	-	<100	<100	-	-	-	-	<100	<100	<100	-	-	<100	<100	-	-	-	<100	<100	<100
	>C10-C16 fraction	µg/L	100	-	<100	<100	-	-	-	-	<100	<100	<100	-	-	<100	<100	-	-	-	<100	<100	<100
	>C16-C34 fraction	µg/L	100	-	<100	<100	-	-	-	-	<100	<100	<100	-	-	<100	<100	-	-	-	<100	<100	<100
	>C34-C40 fraction	µg/L	100	-	<100	<100	-	-	-	-	<100	<100	<100	-	-	<100	<100	-	-	-	<100	<100	<100
	>C10-C40 fraction (sum)	µg/L	100	-	<100	<100	-	-	-	-	<100	<100	<100	-	-	<100	<100	-	-	-	<100	<100	<100
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	µg/L	5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	1	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	1	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	m&p-Xylene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	µg/L	1	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total Xylenes	µg/L	2	<2	<2	<2	<2	<3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total BTEX	µg/L	1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals	Arsenic	mg/L	0.001	-	<0.001	<0.001	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	<0.001	-	-
	Cadmium	mg/L	0.0001	-	<0.0001	<0.0001	-	-	-	-	-	-	<0.0001	-	-	-	-	-	-	-	<0.0001	-	-
	Chromium	mg/L	0.001	-	<0.001	<0.001	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	<0.001	-	-
	Copper	mg/L	0.001	-	<0.001	0.001	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	<0.001	-	-
	Lead	mg/L	0.001	-	<0.001	0.003	-	-	-	-	<0.001	<0.001	<0.001	-	-	<0.001	<0.001	-	-	-	<0.001	<0.001	<0.001
	Mercury	mg/L	0.0001	-	<0.0001	<0.0001	-	-	-	-	-	-	<0.0001	-	-	-	-	-	-	-	<0.0001	-	-
	Nickel	mg/L	0.001	-	<0.001	<0.001	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	<0.001	-	-
	Zinc	mg/L	0.005	-	<0.005	0.008	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	<0.005	-	-
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5
	Naphthalene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Acenaphthylene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Acenaphthene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Anthracene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Fluorene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Phenanthrene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Fluoranthene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Benz(a)anthracene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Benzo(k)fluoranthene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Benzo(b&j)fluoranthene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Benzo(a)pyrene	µg/L	0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5
	Chrysene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Pyrene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Benzo(g,h,i)perylene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Indeno(1,2,3-cd)pyrene	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Sum of PAHs	µg/L	0.5	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10-C14 fraction	µg/L	50	-	<50	<50	-	-	-	-	<50	<50	<50	-	-	<50	<50	-	-	-	<50	<50	<50
	C15-C28 fraction	µg/L	100	-	<100	<100	-	-	-	-	<100	<100	<100	-	-	<100	<100	-	-	-	<100	<100	<100
	C29-C36 fraction	µg/L	50	-	<50	<50	-	-	-	-	<50	<50	<50	-	-	<50	<50	-	-	-	<50	<50	<50
	C10-C36 fraction (sum)	µg/L	50	-	<50	<50	-	-	-	-	<50	<50	<50	-	-	<50	<50	-	-	-	<50	<50	<50
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	2	-	<2	<2	-	-	-	-	<2	<2	<2	-	-	<2	<2	-	-	-	<2	<2	<2
	Phenol	µg/L	1	-	<1	<2.5	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2-Chlorophenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2-Methylphenol (o-Cresol)	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2-Nitrophenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2,4-Dichlorophenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2,4-Dimethylphenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2,6-Dichlorophenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	4-Chloro-3-methylphenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2,4,6-Trichlorophenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	2,4,5-Trichlorophenol	µg/L	1	-	<1	<1	-	-	-	-	<1	<1	<1	-	-	<1	<1	-	-	-	<1	<1	<1
	Pentachlorophenol	µg/L	2	-	<2	<2	-	-	-	-	<2	<2	<2	-	-	<2	<2	-	-	-	<2	<2	<2

Env Stds Comments

Table B1
Relative Percentage Differences
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Field_ID	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Lab_Report_Number	975786	978711	968430	993445
Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B

Chem_Group	ChemName	output unit	EQL				
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	20	<20	<20	<20	<20
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	20	-	<20	<20	-
Monocyclic Aromatic Hydrocarbons	Naphthalene (used F2 calc)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
	Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
	m&p-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	o-Xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
	Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	20	-	<20	<20	-
Physico-Chemical Parameters	Moisture Content (dried @ 103°C)	%	1	<1	<1	-	1

Env Stds Comments

Appendix E

Field Records

27/2	PID		
OL_05_1.0	0.0		
OL_05_0.6W	0.0		
OL_17_1.0	0.0		
OL_17_0.6E	0.0		
OL_29_1.0	0.0		
OL_29_0.6W	0.0		
OL_41_1.0	0.0		
OL_41_0.5E	0.0		
OL_53_1.0	0.0		
OL_53_0.6W	0.0		
OL_65_1.0	0.0		
OL_65_0.6E	0.0		
OL_77_1.0	2.0	QC101	QC201
OL_77_0.6W	5.0		
28/2			
DL_100_1.0	1.0		
DL_100_0.6_N	0.0		
DL_90_1.0	0.0		
DL_90_0.6S	0.0		
DL_71_1.0	32.		
DL_71_0.6E	0.0		
DL_59_1.0	0.0	QC102	QC202
DL_59_0.6W	0.0		
DL_47_1.0	0.0		
DL_47_0.6E	0.0		

27/2

28/2

1/3

27/2

Oil Line excavation (OL)

Chainage ≈ 0 - 90m terminating adjacent water meter.

Eastern side of trench building slab. ≥ 0.45 - 0.5m deep underlain by ≥ 100 - 150mm bleeding sand over sandy claystone / clayey sandstone boulder + cobble fill to 1m

Western side of trench asphalt + roadbase underlain by cobble + sandy clay fill.

below ≥ 0.5 - 0.6 darker layer with wood ash underlain by sandy clayey gravel / cobble fill, f-c sand, m-h plastic fines f-c gravel cobbles to 200mm ϕ also glass, ceramics, bones, ash + metal fragments

slight odour in particular towards southern portion of line - hydrocarbon with slight phenolic odour - 20 PID or LEL

QC101	OL_77_1.0		27/2
QC201	OL_77_1.0		27/2
QCA01	TB		27/2
QCB01	RB	under glove	27/2
QCB02	RB	trowell	28/2
QC102	DL_59_1.0		1/3
QC202	DL_59_1.0		1/3
QC303	RB	trowel	1/3
QCB04	RB	trowell	2/3
QCA02	TB		1/3
DL_80_1.0		0.0	2/3
DL_80_0.6W		0.0	
DL_35_1.0		0.0	
DL_35_0.6W		0.0	
DL_23_1.0		0.0	
DL_23_0.6E		0.0	
DL_11_1.0		0.0	
DL_11_0.6W		0.0	
DL_0_1.0		0.0	
DL_0_0.6E		0.0	

28/2 Diesel line @ S end red shed.

Diesel line ‖ to oil line then turn to W @ end of red shed terminated @ end of red shed filled (partly) by water running clear with no odour when cut. other 'Navy diesel line' exists site to SE under Evans St then turns W to continue alignment of terminated line. When tapped Blacking reported elevated PID + LEL > Alarms.

PID >100 ? head high alarm
LEL >10 ? when talking or phone

dissipated with time. Pipe filled with water + degraded diesel foam on water surface with agitation + mixing with soils.

0-0.5 sandy clayey gravel/cobble
0.5-1 crushed rock sub base, dolerite cobble + boulders with clayey sand infilling.

no odour or staining.

Diesel Line 1/3

diesel line removal to Evans St end + junction removal in front of Red Shed →

Validated section chainage 47 to 71 in trench + 90 + 108 in trench section in front of Red Shed

2/3

Completion of diesel line validation where spoil pushed back from trench edge

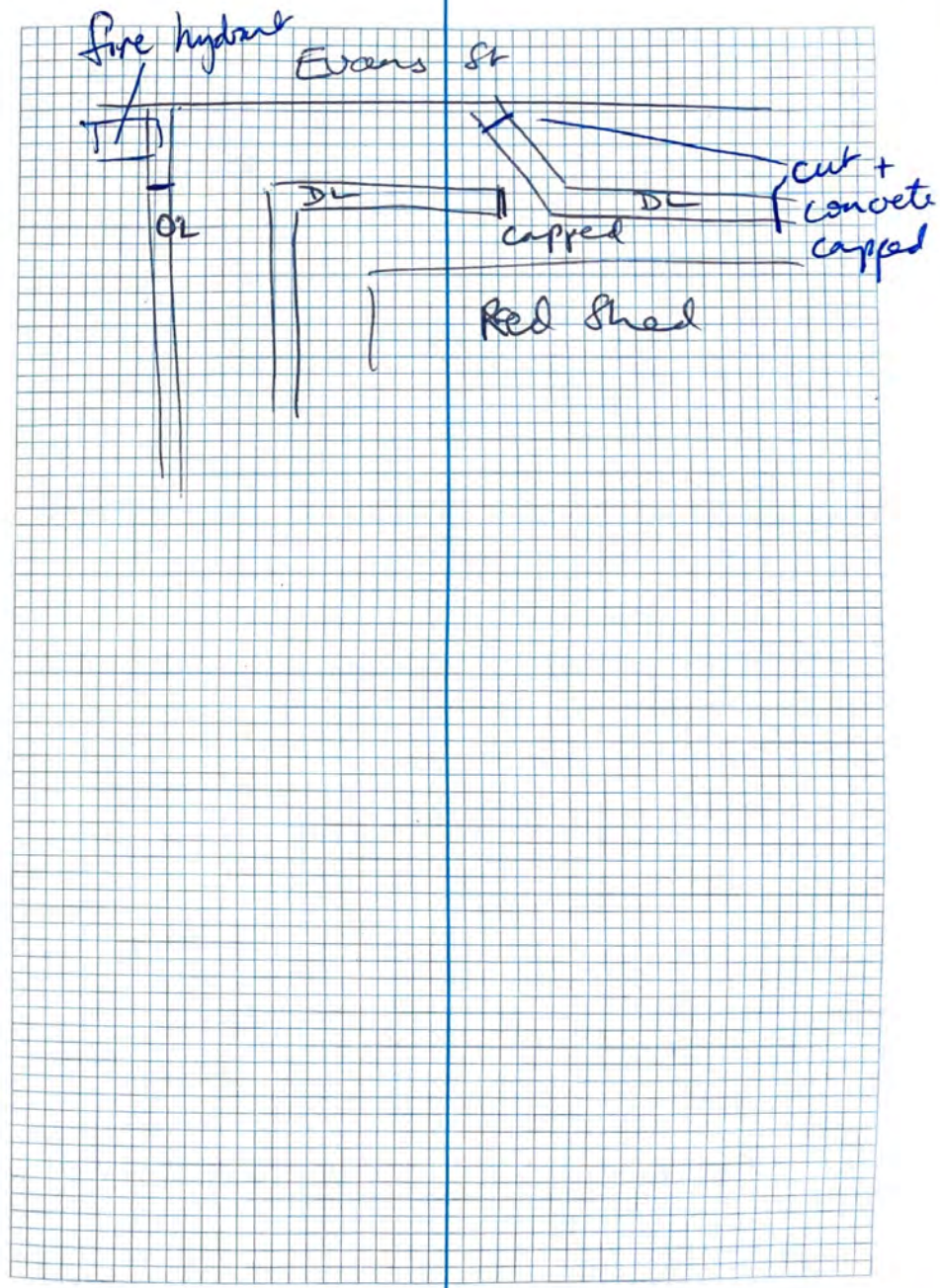
As per Oil line - contemporary fill consisting

0-0.5 Crushed rock roadbase with asphalt seal 0.05-0.07

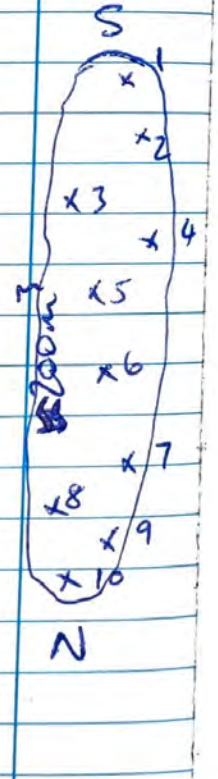
0.5-1.0 Silt with fill - mixed gravelly sandy CLAY / gravelly clays and f-c sand, m-h pla, low f-c gravel + cobbles, brick + stone fragments, glass, metal, wood ash and cinder, slag, ceramics metal + bones.

no odour or staining (generally)

slight HC odour near former UST



			PID ppm	
QCA03	TB			6/3
QCB05	RB			↓
RH_SP_01			0	6/3
02			0	
03			0	
04			0	
39 05			0	
QCB06				7/3
DL_SP_01	QC103	QC203	0	
02			0	
03			0	
04			0	
05			0	
06			0	
07			0	
08			0	
09			0	
9 10	QC104	QC204	0	
DL_QC103	DL_SP_01			
DL_QC203	↓			
DL_QC104	DL_SP_10			
L_QC204	↓			



Analysis includes 1B1ϕ5 + Asbestos presence absence in soil

6/3

Roundhouse stockpile resample mixed fill from stabilisation trial

7/3

~~Diesel~~ Diesel line stockpile sampling + some mixed with oil line

≈ 200 m³ bulked.

mixed RH gravelly clayey sand/ gravelly sandy clay. f-c sand, m-h plas fines moist / ≤PL, f-c gravel, cobbles + trace boulders. bricks, glass, ceramics, leather metal - iron, silver, copper, bones slag, wood/organic ash + cinders coal; occasional fragments of pipe lagging (ACM), bitumen

- note approximate locations of samples along ≈65m long windrow. approximately equally spaced, 0.5m³ cut into stockpile + sample from spoil - 2x jars each.

14/3

Excavation of former UST area

- top 0.5m FCR trimmed + stockpiled
- 0.5-0.9 excavated + stockpiled site fill - gravelly CLAY - sandy plas, <PL, variable grey brown, dark grey, pale yellow orange brown f-c gravel, cobbles, general refuse bricks, glass, ceramics, wooden + leather items, wood ash shells, bones, coal ash + slag, metal, marine sands (grey)

0.9-1.3 excavated + stockpiled similar material to 0.5-0.9 no apparent odour, occasional phenolic type odour where layers of burnt organic material and some coal fragments encountered

1.3-2.0 excavated + stockpiled similar material to above. some larger boulders, slight to moderate degraded HC ~~excavation~~ odour when initially disturbed. Dissipates after 3min negligible PID in stockpile when bagged + screened (0-2ppm)

14/3

base of excavation at top of CW. shows evidence of degraded LNAPL seam when material excavated + mixed - seen generally central eastern half of excavation, not seen on top of CW in western portion.

Odour when exposed initially slight degraded HC odour. Excavated spoil screened from bagged material at several locations - PID range 10-30ppm

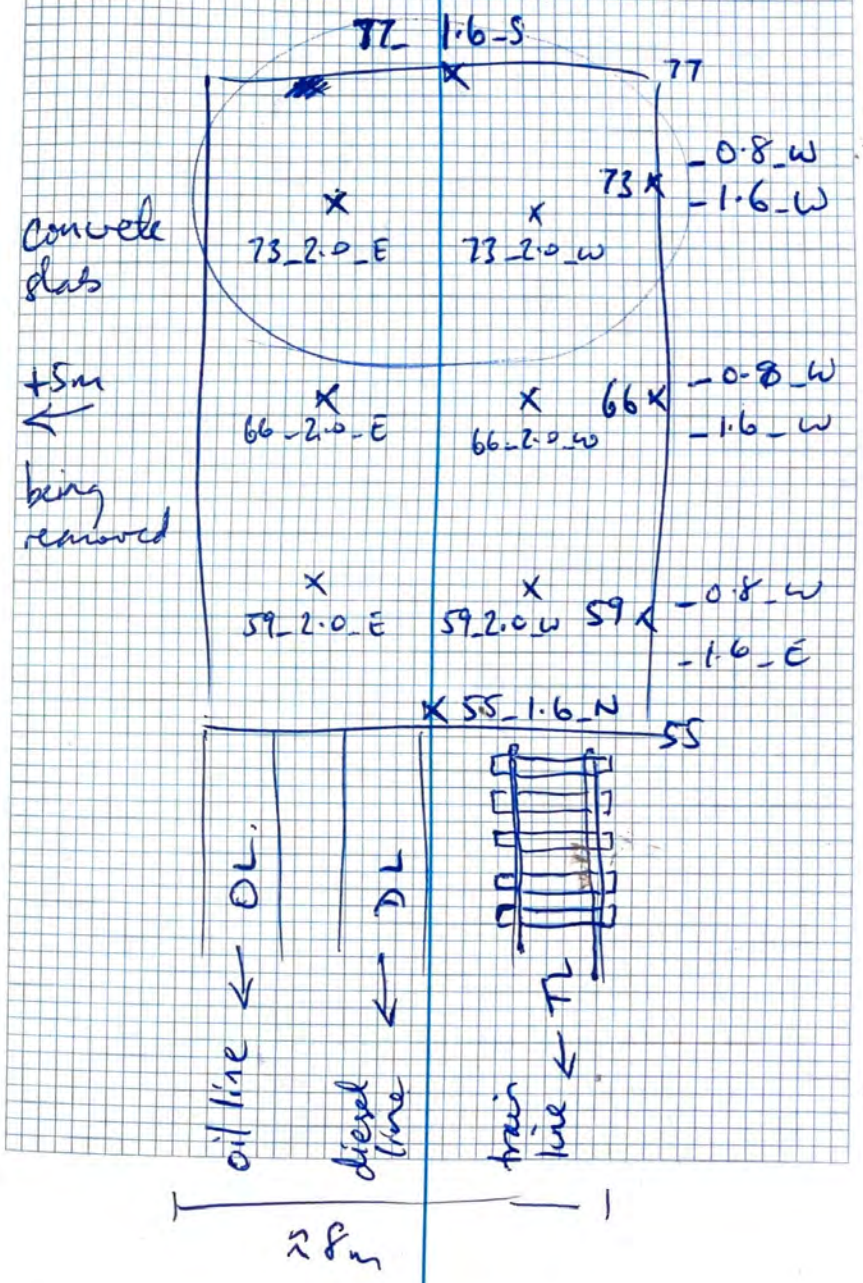
15/3

continuation of excavation. Concrete cutting to expose area ≈ 20m x 5m east of UST excavation.

		PID			
UST_77_1.6_S		61		QC105	QC205
UST_73	0.8 W	1			
UST 73	1.6 W	1			
UST 73	2.0 E	28			
73	2.0 W	11			
66	2.0 E	12			
66	2.0 W	1			
66	0.8 W	0			
66	1.6 W	0			
59	2.0 E	0			
59	2.0 W	0			
59	0.8 W	0			
59	1.6 W	0			
55	1.6 N	0			
UST_QC105					
UST_QC205					
UST_QCA04		TB			
UST_QCB06		RB			
UST_QCC01		FB			

0.5 FCR
1.0 FILL - black/dk grey ash + shells etc
1.3 FILL - mix sand + clay + cobbles
1.6 FILL - bricks (w ½) sand + clay cobbles
2.0 FILL - mix clay + cobbles

Naphthalene + degraded HC odour in southern / south western portion



		PID			
UST_80_1.2_S		20	20/3	QC106	QC206
UST_OL_DL_BF		0	20/3	backfill - quarry.	
UST_77_SE_0.8		0	21/3		
UST_77_SE_1.6		107			
UST_74_E_0.8		0			
UST_74_E_1.6		9			
UST_66_E_0.8		0			
UST_66_E_1.6		0		QC107	QC207
UST_59_E_0.8		1			
UST_59_E_1.6		245			
UST_55_E_0.8		0			
UST_55_E_1.6		10			
[illegible]					
UST_QCA05			20/3		
UST_QCB07					
UST_QCC02					
UST_QCB08			21/3		
UST_QCC03					
UST_QCA06					

16/3/23

Breaking concrete - no excavation

20/3/23

Southern extension of excavation from ch 77 to ~80 x 2m deep sample from S wall + quarry material backfill

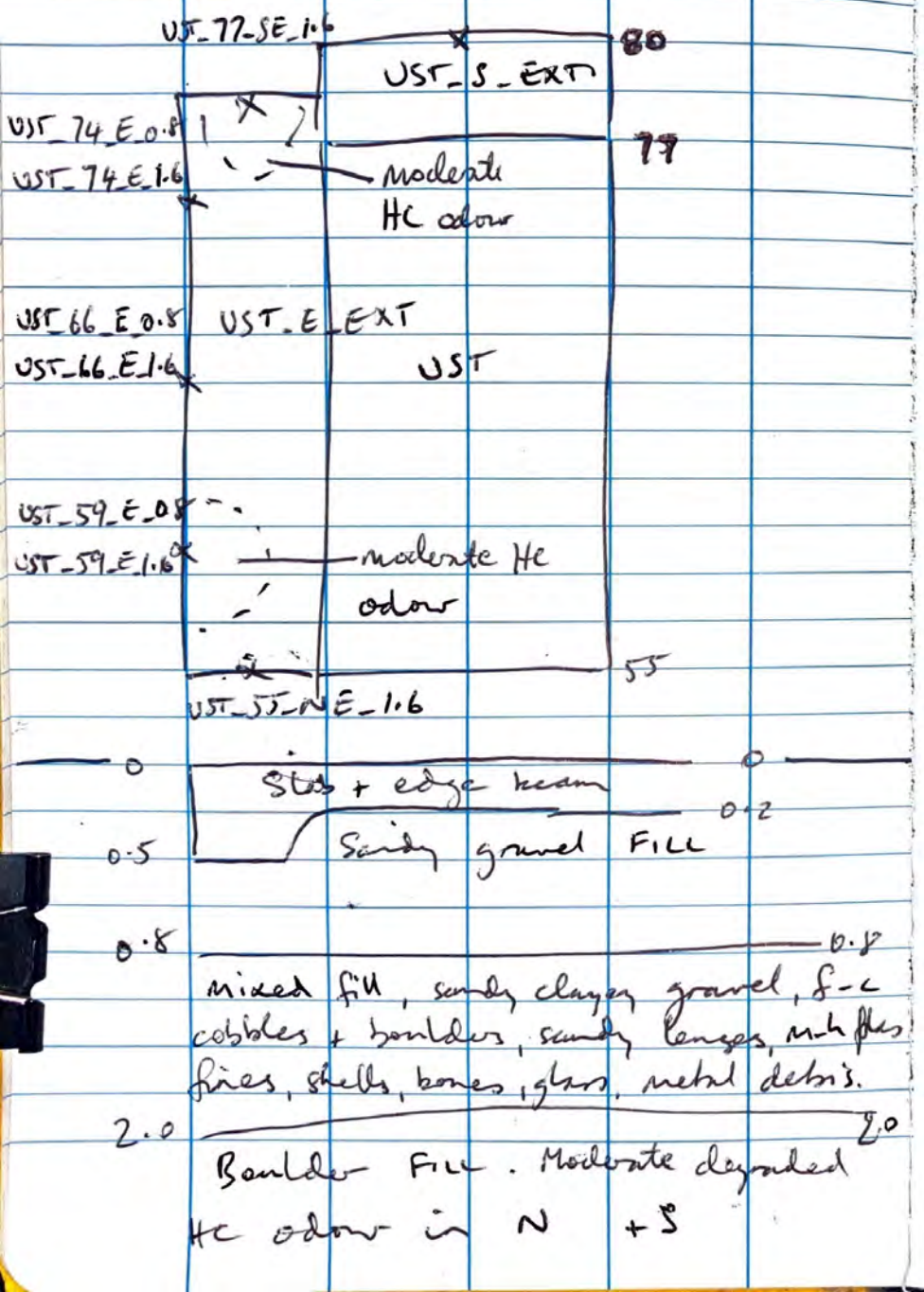
21/3/23

Excavation of material beneath slab extension. Moderate degraded HC odour in fill material beneath slab

Stockpiles - volume estimates in '10 yard' tipper loads ≈ 10T ≈ 7m³

0.5m - 1.0	12 x	84 m³	4
1m - 1.5	9 x	63 m³	3
1.5m - 2.0	18 x	126 m³	5
OL_53_1.0 Pb	1 x	7 m³	-
Slab extension		180 m³	8
ch 75 - ch 78	4 x	28 m³	3

16/3



Rinsate + sampling method.

Samples collected from walls of excavations prepared with trowel to loosen clods of soil + cobbles. Loose soil is then collected in jars by hand (double gloved) or by directly scooping with jar. Trowel not in direct contact with soil samples

Rinsates

Collected from under glove as upper glove changed between sample locations.

Rinsate also run direct off mixed trowel (potable water) free of visible soil to emulate excavator bucket.

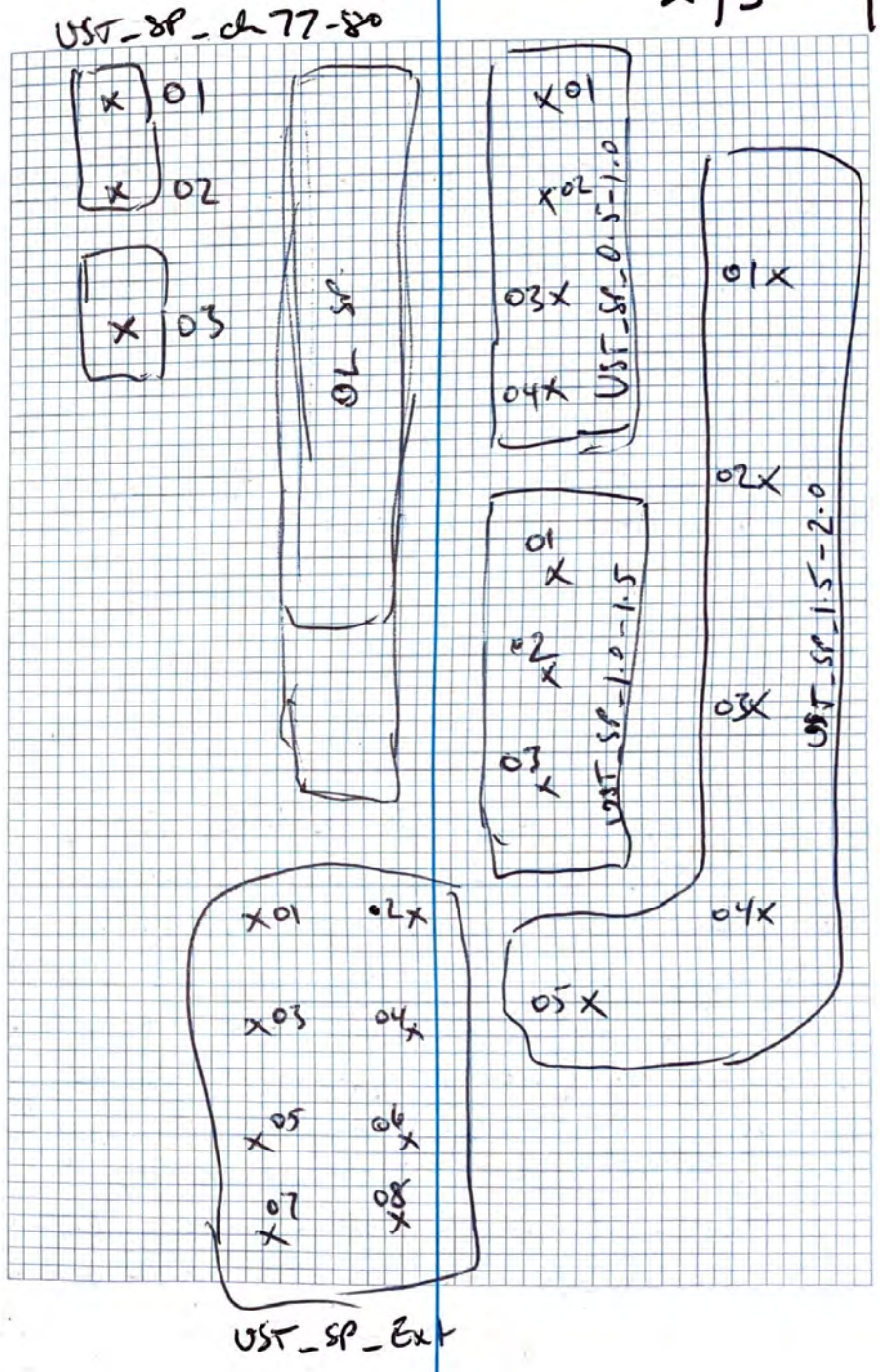
Samples from stockpiles collected by digging a 1m x 1m x 0.5m pad into side or top of stockpile. Sample the collected direct into jar with double glove or scooping with jar

~~EM2504979~~

21/3 44

		PID		
UST_SP_0.5-1.0_ ≈84m³	01 2/3	0		
	02	0		
	03	0		
	04	0		
UST_SP_1.0-1.5_ ≈63m³	01	0		
	02	0		
	03	3.		
UST_SP_1.5-2.0_ ≈126m³	01	0	QC108	QC208
	02	0		
	03	33		
	04	52		
	05	50		
UST_SP_Ext_ ≈180m³	01	15	QC109	QC209
	02	26		
	03	50		
	04	20		
	05	14		
	06	3		
	07	93		
	08	5		
UST_SP_ch77-80_ ≈28m³	01 shallow	0	QC110	QC210
	02 ↓ deep	5		
	03	49		
Rail Timber_	01	—		
OL_90_1.0		0		
OL_90_0.6_E		0		

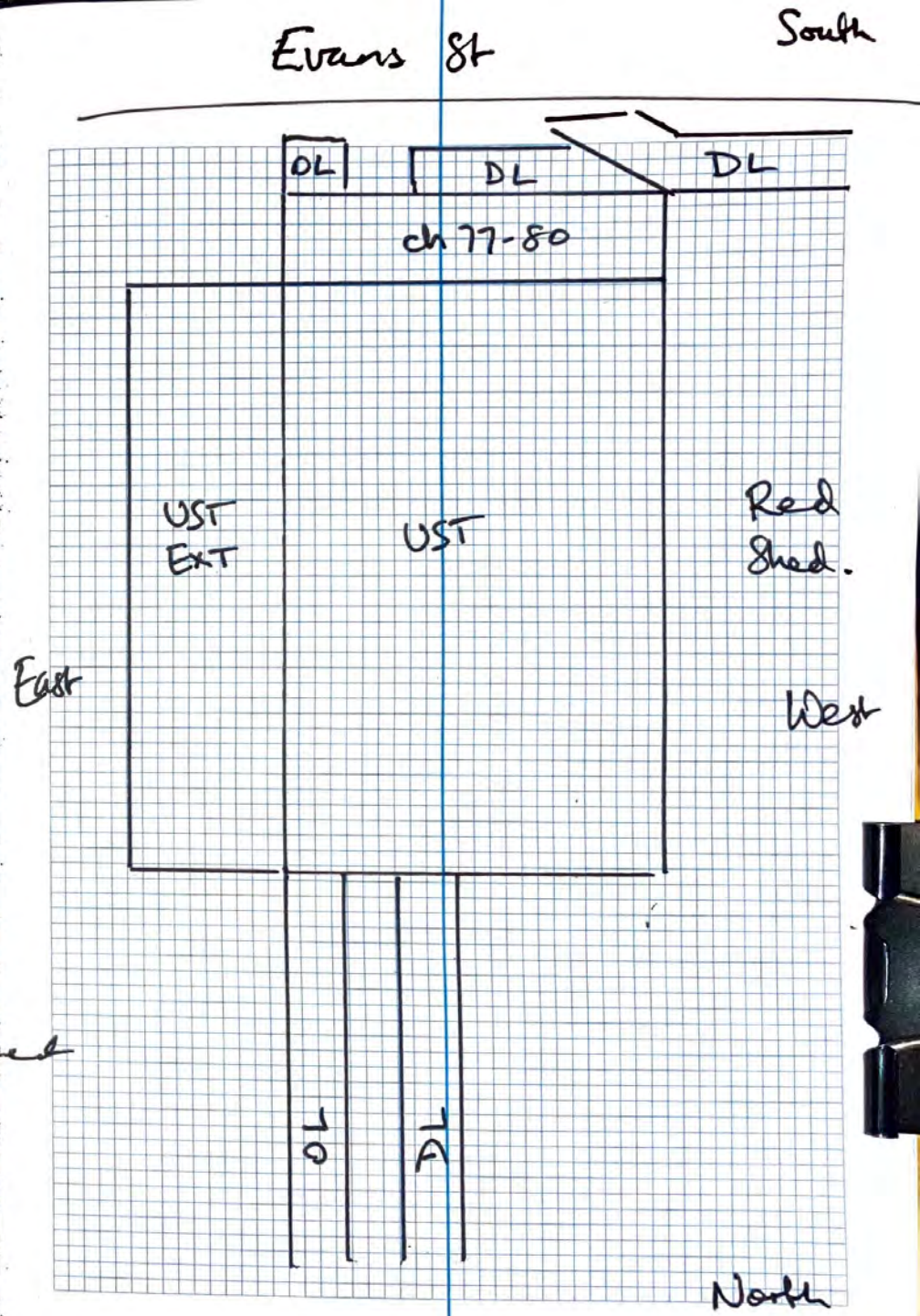
21/3



24/3

consolidation of
UST_SP_0.5-1.0, 1.0-1.5, 1.5-2.0, ch77-80
OL_SP
OL 77 + OL65 naphthalene kept on edge of combined UST SP
UST extension (under slab) kept separate
DL+OL mix added to ACM pile (DL_SP).
small fragment of what appears to be lead or lead alloy observed in UST fill - ≈ 25mm x 15mm x 1mm - photo - ~~put down then lost~~

UST area excavated in ≈0.5m lifts. upper 0.5m consisted of crushed rock roadbase which was stripped and stockpiled for reuse as roadbase following excavation for road reinstatement. Lifts 0.5-1.0, 1.0-1.5, 1.5-2.0 were stockpiled separately to reduce potential volumes requiring treatment.
UST ext - extension area was excavated and stockpiled as one bulk area due to space constraints. Field obs. suggest greater impact in this area.

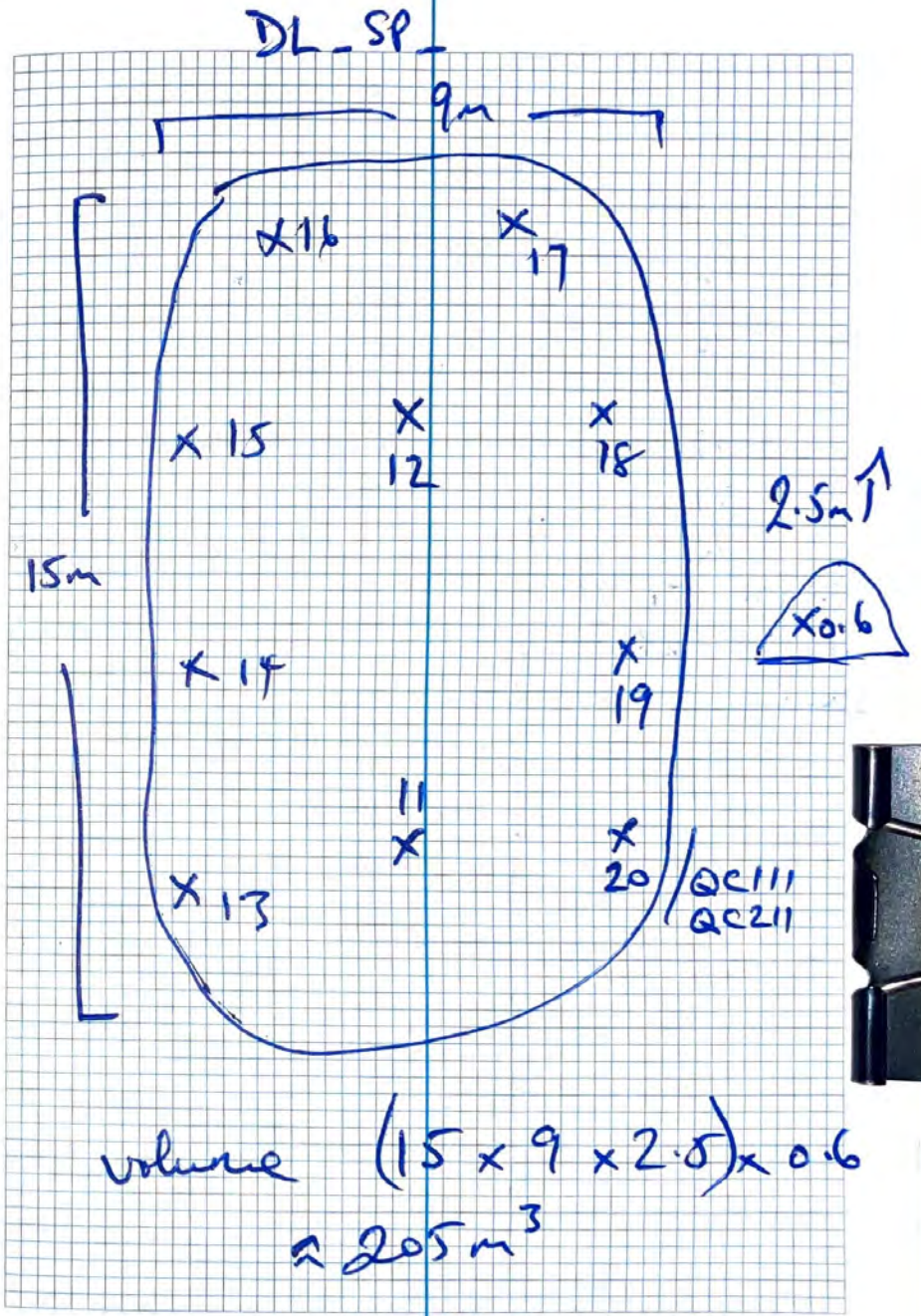


28/3

Stockpile contained UST 0.5 - 2.0 + ch 77-80

Stockpile DL + some OL mix + Pb + ACM
≈ 9 x 15 x 2.5 = 135 x 2.5 = 270 + 67.5 = 340 m³
340 x 0.6 = 205 m³

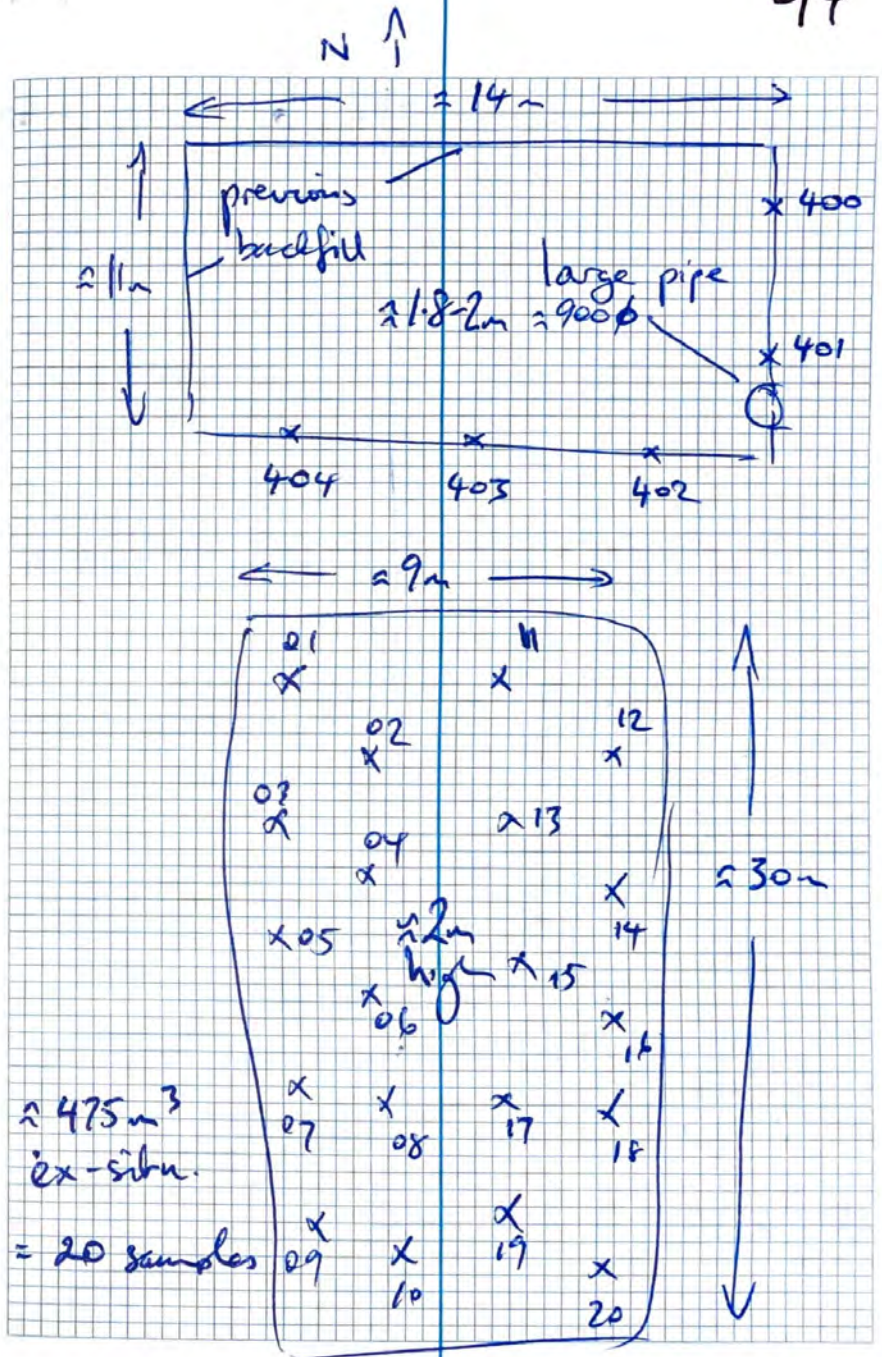
Stockpile relocated from windrow beside DL trench. Mixing of some OL material with DL meant that material has all been combined into a single stockpile. ACM fragments (bonded bitumen pipe wrap) observed on surface of stockpile. IPM to assess AECOM resample for [redacted] Pb. due to mixing of very high sample from OL_53



			PID	
DL_SP_	11	28/3	0	
	12		0	
	13		0	
	14		0	
	15		0	
	16		0	
	17		0	
	18		0	
	19		0	
	20		0	DL_QC111 DL_QC211
DL_QCA07	TB			
DL_QCB09	RB			under glove
DL_QCC04	FB			

Compass 50529

OL_EX_400_0.8		3/4	0	
	1.6		0	
401	0.8		0	
	1.6		0	
402	0.8		0	
	1.6		0	
403	0.8		0	
	1.6		0	OL_EX_QC112/OL_EX_QC02
404	0.8		0	
	1.6		0	



≈475m³ ex-situ.
= 20 samples

approximate dimensions + locations

3/4

compass 50528 24h TAT

	PID
OL_EX_SP1_01	0
02	0
03	0
04	0
05	0
06	0
07	0
08	0
09	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
OL_EX_QCA08	
OL_EX_QCB10	
OL_EX_QCC05	

3/4 OL_EX_SP1_QC113/QC213

OL_EX_SP1_QC114/QC214

3/4

Lead area excavation extension

0.0-0.5 m asphalt underlain by cobble gravel roabase.

0.5-2.0 mixed layers of fill variable + consisting: sandy gravelly cobbly CLAY. dark brown + orange brown f-c sand, f-c gravel, cobbles to boulders. M-h plas fines

General wastes mixed in fill: bricks, glass, ceramics metal objects, leather, bones coal + slag / coal ash, barley work (beer waste)

one piece of lead pipe found on stockpile

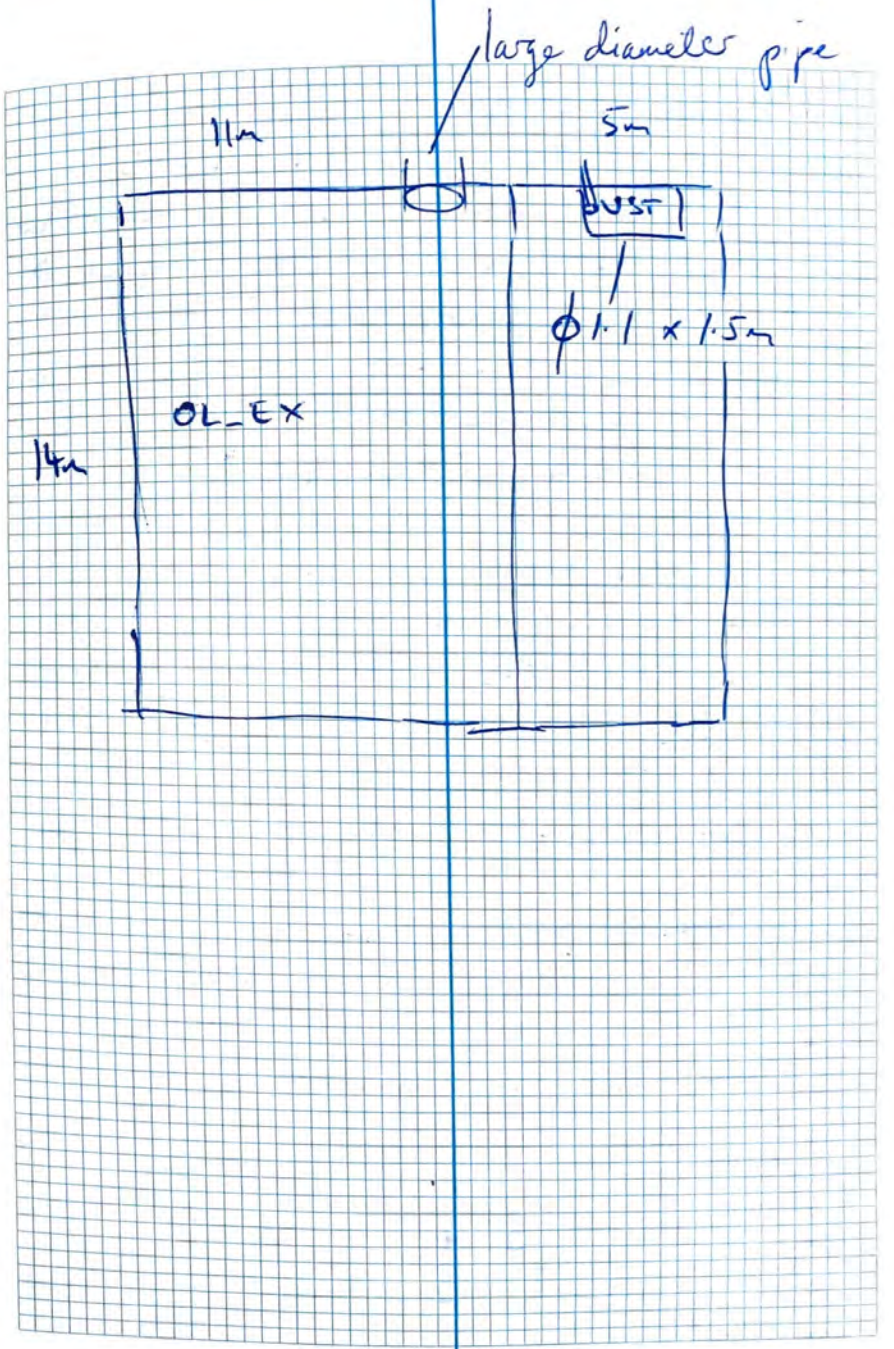
two pieces ACM (bonded) ≈ 5cm x 4cm found on stockpile

no odour or staining.

UST exposed in SE wall of OL_EX excavation - lead chase out. Filled with water - no apparent odour or sheen. Single skin UST ≈ 1.1m ϕ x 1.5m. Fill or delivery pipe on northern end heading east. backfill sands appear clean - ie no staining or odour

Sample taken from UST with foot valve through breach in side of UST - filled to top, clear no odour or sheen.

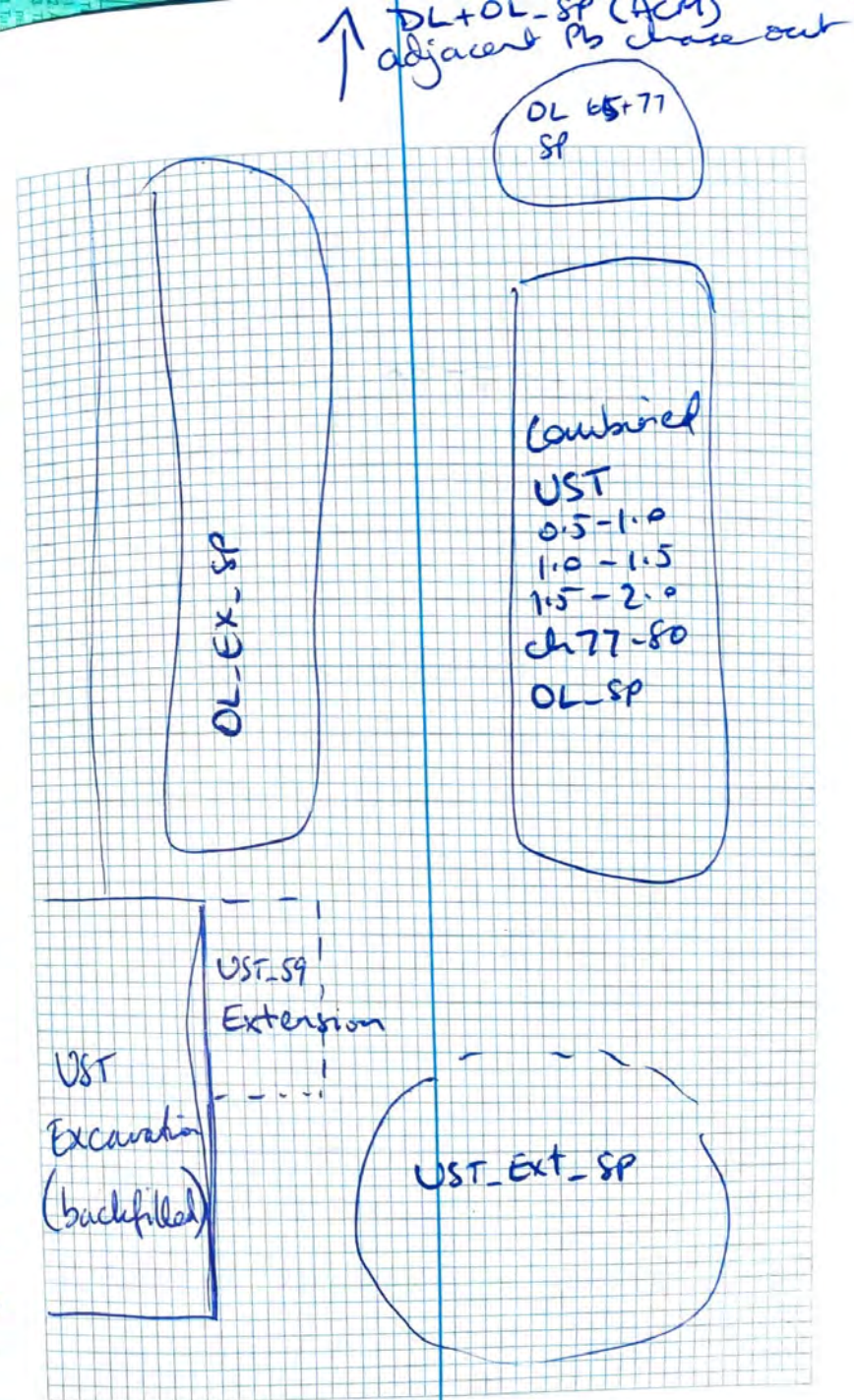
OL_EX_UST -water sample
4x vial 4x amber 1x metals
PID 2 in top of UST



Current Status
stockpile tracking? → limited - photos + day sheets + labels
Instructions
what from where + where now?
instruction on SP movement →
oily water disposal - pump out
UST distruction - squash + recycle
boiler distruction - no
- sketch area - exc. +
survey extent of excavation
NO ↳ UST area
↳ Lead area
↳ test pits + trench hotspot
backfill tracking - source BORAL
↳ volume TBA combined c. civil
hold on validation sampling

* additional sampling of VENM + source letter, location of source

* rail sleeper - number + volume
↳ to tip - tonnage? SOHO.
* Dark MoFo handover - SP? in grass
↳ samples 3 + QA/QC
* Sonic waste? Spectron



26/4

Current Status of Stockpiles.

4 large stockpiles:
- UST_Ext
- UST 0.5-2.0, ch77-80, OL_SP combined
- OL_Ex_lead area SP
- DL+OL SP (ACM)

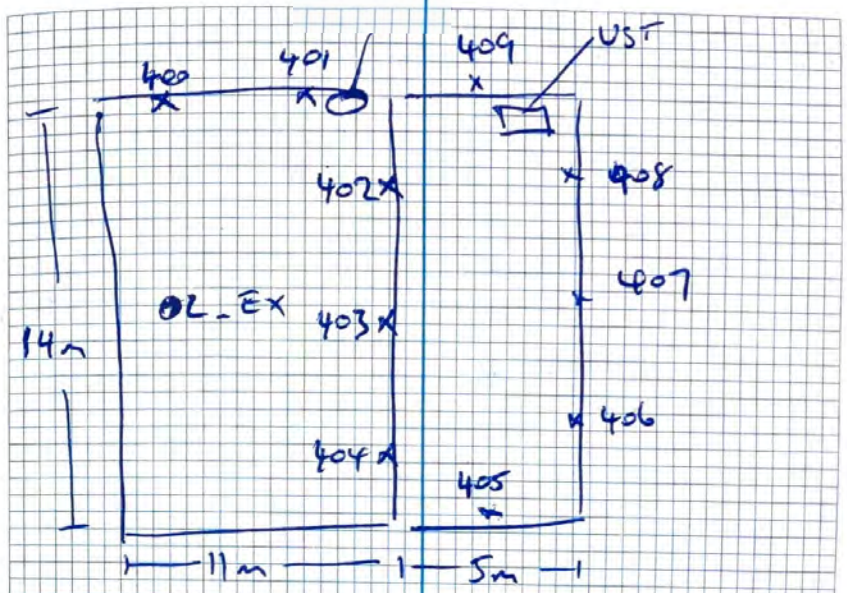
1 small stockpile
- OL-65 + OL-77 Naphthalene

27/4

OL_Ex lead chase out validation sampling.

OL_Ex_405	0.8	0	27/4
	1.6	0	
406	0.8	0	
	1.6	0	QC115 QC215
407	0.8	0	
	1.6	0	
408	0.8	0	
	1.6	0	
409	0.8	0	
	1.6		

27/4



OL_Ex lead area excavation.

Small fragment of "Prussian blue" in fill - layer also contained some slag / coal ash, bottles, ceramics, shells, bones, potential

Fragments of ACM in fill @ 407 ≥1m depth potential

27/4

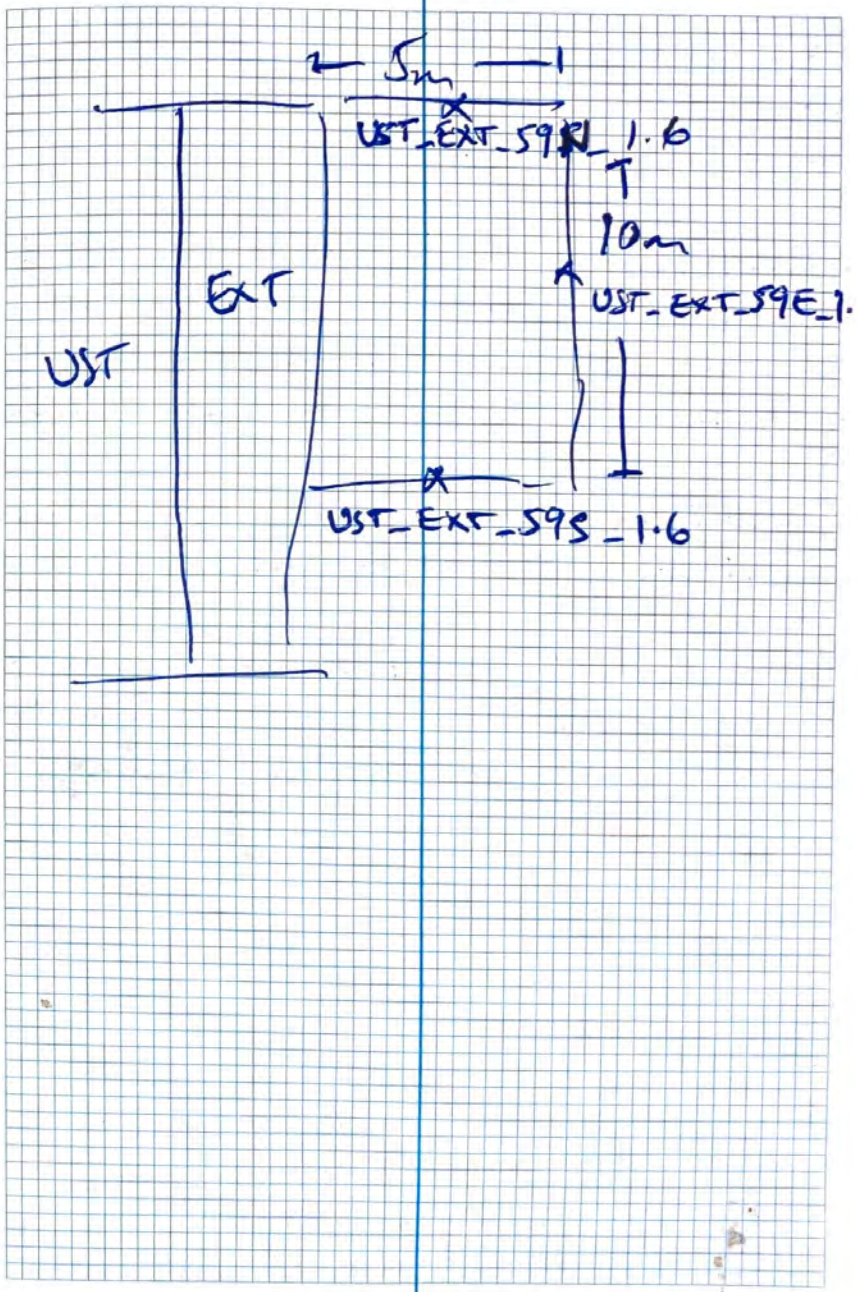
UST excavation extension
UST_59_E hot spot.

UST_EXT_59	S_1.6	25	27/4	1.6m
59	E_1.6	357	↓	
59	N_1.6	278		

0-0.3 Slab.
0.3-1.0 FILL. Clayey GRAVEL / COBBLE / BOULDER - dolerite quarry material to 300mm
1.0-2.0 FILL Mixed sandy clayey GRAVEL + COBBLES. Strong HC odour sheen on GW at base of excavation

no sample taken of boulder rubble fill in-situ. Characterisation samples taken from excavated + stockpiled material. Clear differentiation between impacted fill at depth + imported quarry fill underneath slab.

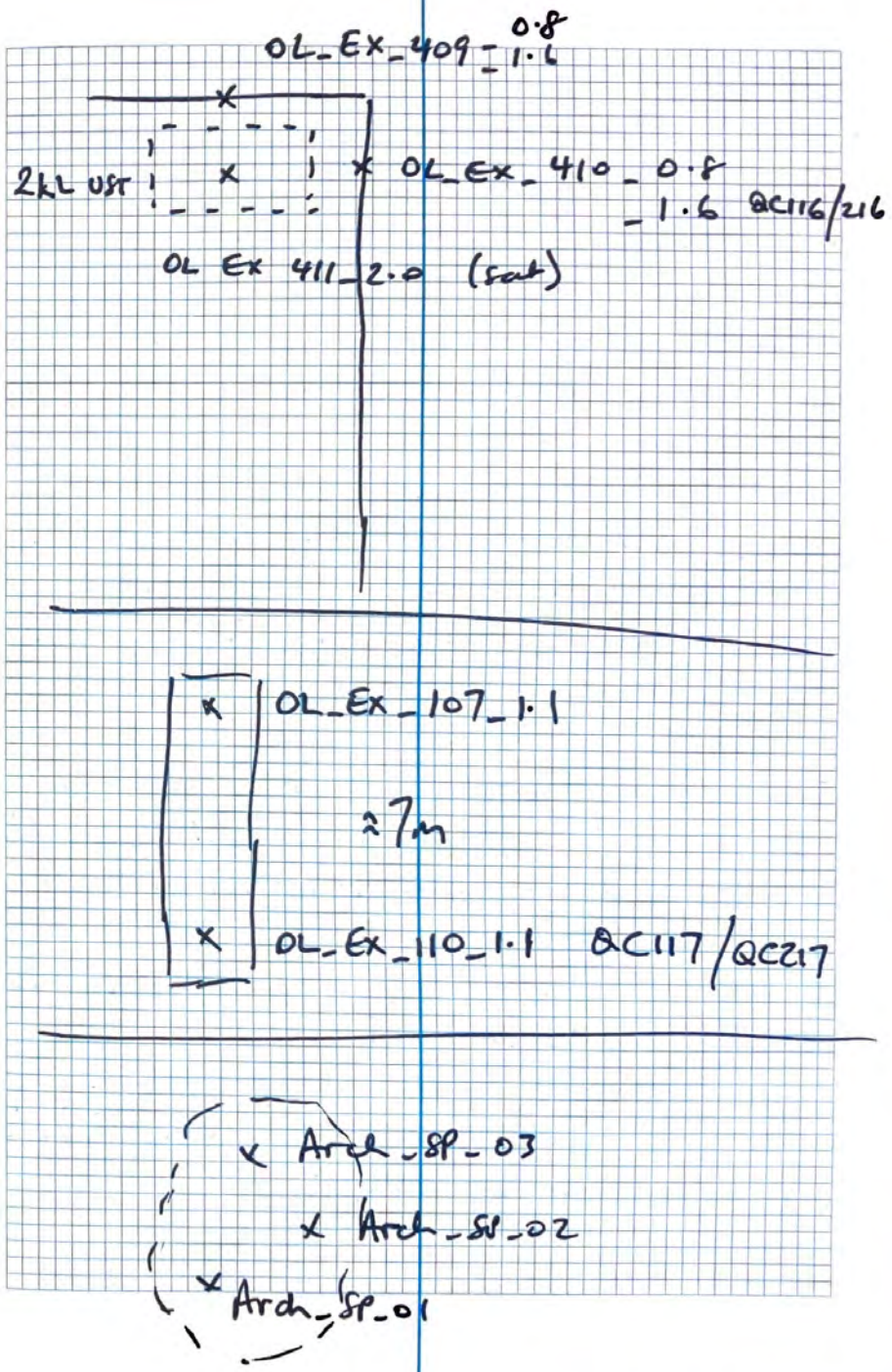
27/4



1/5

	PID		
Arch_SP_01	0		COPC
Arch_SP_02	0		h
Arch_SP_03	0		h
OL_Ex_409_1.6	0		UST E wall
OL_Ex_410_0.8	0		UST S wall
OL_Ex_410_1.6	0	OL Ex QC116 / QC216	↓
OL_Ex_411_2.0	0	(saturated)	UST base
OL_Ex_107_1.1	0		OL Ex trend
OL_Ex_110_1.1	0	OL_Ex_QC117 / QC217	validation
UST_EXT_SP_01	0	imported boulder +	
_02	0	cobble quarry material	
_03	0	subbase to 1m	

1/5



Collected samples from sandy spoil material next to archaeological dig area. Very small stockpile ≈ 0.3m high by 2m × 2m mostly sand with shell fragments some bitumen from stripping at time of Arch works

---

Disposed of sonic core material from Gateway works stored in skipping container into IBC with other sonic drilling waste i roundhouse area

---

sampling from E + S walls + base in OL_EX unknown UST footprint - OL_EX 409 - 411 (prev. page)

Trench connecting OL_Ex_107 + 110 to depth ≈ 1.1m.
no aparent odour or staining.
other test pit proposed OL_EX BH 65 in location of OL_Ex_403

Stockpiles to sample when backfill in OL_Ex_ PB excavation removed + base validated include
- material from extension of OL_Ex lead west
- additional material from UST area / searoads shed slabs - 59 extension
- additional photos of SP locations

OL_Ex_107 + 110 trench undertaken @ edge of previous excavation identifiable by crushed rock backfill in western wall.
0-0.3 asphalt spray seal over roadbase
0.3-1.1 Mixed gravelly sandy clay m-h plas, < PL, grey-brown f-c sand + gravel, cobbles, debris - glass, ceramics, metal, brick, timber, ash / cinder @ base.
no aparent odour or staining

17/5

Chat with Ashley onsite + 2 site staff

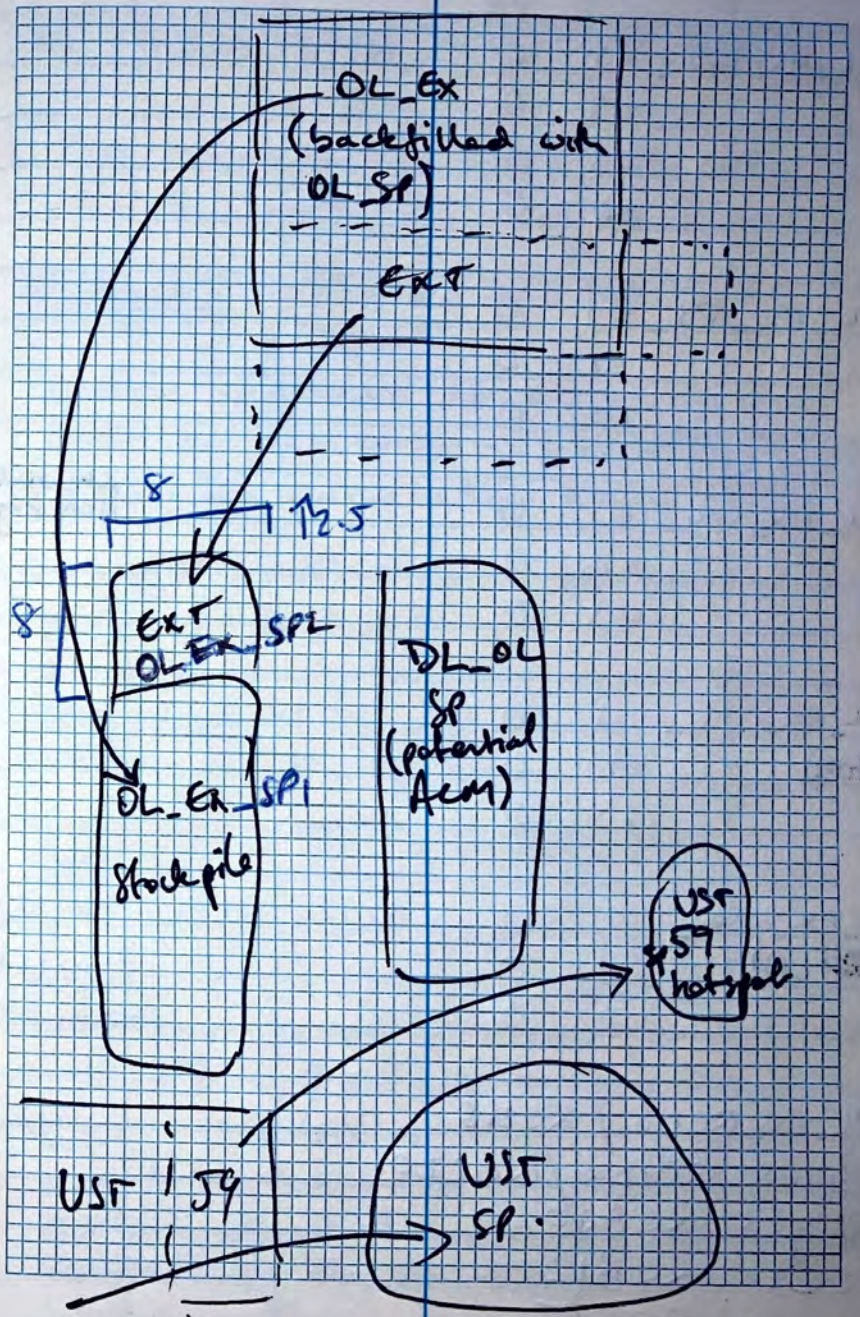
Identified location of potential ACM + potential As gasworks related waste. Site staff have significant experience with ACM + comfortable with identification + controls. Material to be stockpiled separately.

Currently OL Ex area backfilled with concrete crush at base with quarry road stone base material over top then all former oil line stockpile material (remnant of this SP was moved to OL_Ex recently due to lack of room.

DL_OL potential ACM stockpile moved to SeaRoad sites SP management area due to MacH rental of OL_Ex area.

return to site Mon to inspect + sample stockpiles + excavations.

17/5



23/5

		PID			
OL_EX_SP2_	01	0	QC118 / QC218		
	02	0			
	03	0			
	04	0			
OL_EX_SP3_	01	0			
	02	0			
	03	0			
OL_EX_SP4_	01	0			potential ACM fragment
	02	0			
	03	0			
OL_EX_SP5_	01	0			
(ACM)	02	0			
	03	0			
OL_EX_SP6_	01	0	QC120 / QC220		very slight degraded HC phenolic odours
(NW CN)	02	0			
	03	0			

QL_EX_QC118 / QC218
OL_EX_QC120 / QC220
OL_EX_QCA16
OL_EX_QCB12
OL_EX_QCC07

27/5

OL_EX_SP2 ≈ 8 x 5 x 2.5 = 160 x 0.6
≈ 96 m³
First extension of OL EX Pb area ≈5m to south, 14m length of wall

OL_EX_SP3 ≈ 6 x 6 x 2.5 = 960 x 0.6
≈ 58 m³
eastern extension of OL EX Pb area east of unknown UST + OL_EX_409
5 x 5 x 2m excavation around UST.

OL_EX_SP4 ≈ 10 x 4 x 2 = 80 x 0.6
(EAST) ≈ 48 m³
second extension south of OL EX Pb area eastern third of wall excavation area south of OL EX 410 + 408

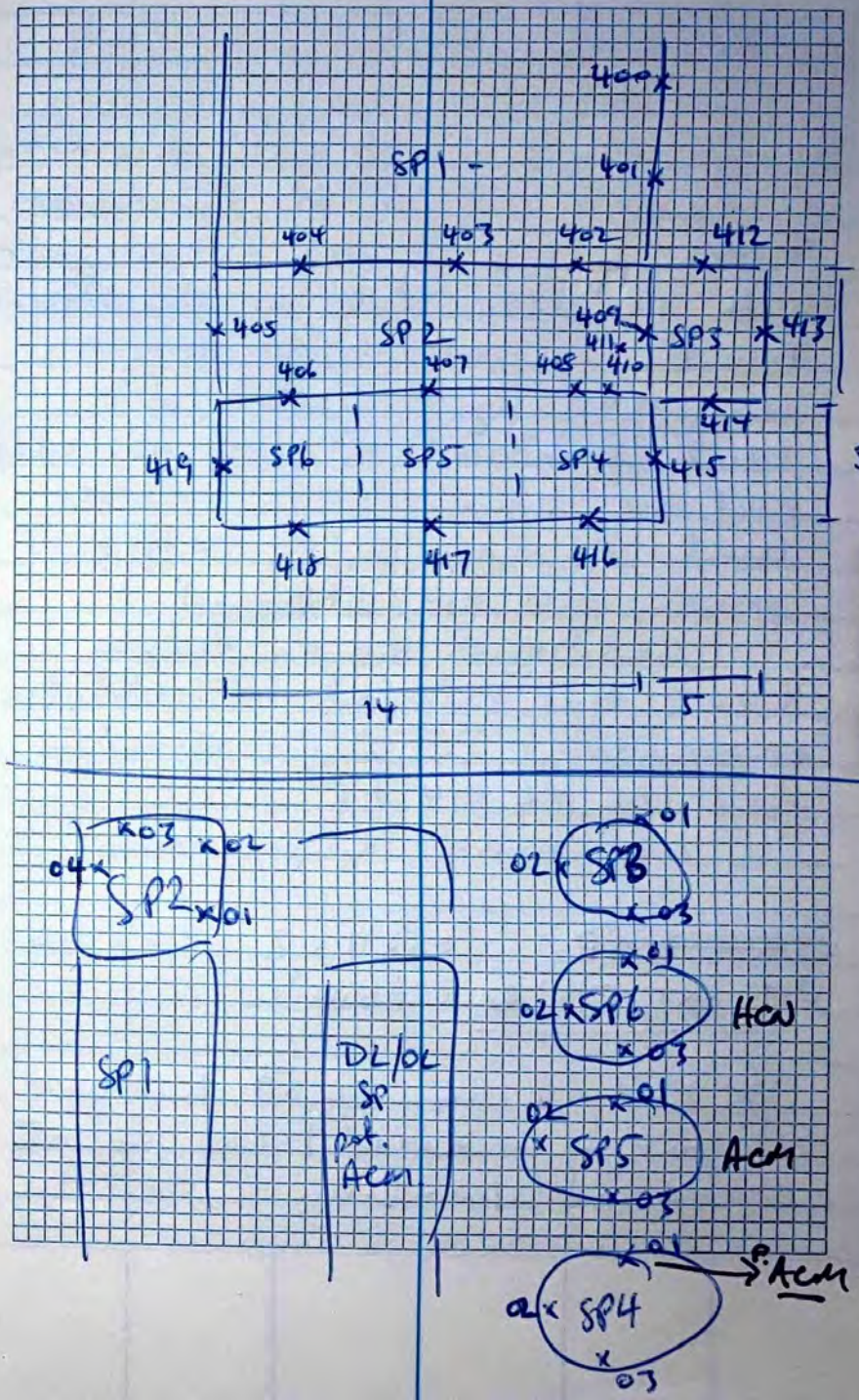
OL EX SP5 ≈ 8 x 4 x 2 = 64 x 0.6
(CENTRE) ≈ 38 m³
second extension of OL EX Pb area middle third of wall extension area south of OL EX 407 and potential ACM

OL EX SP6 ≈ 7 x 4 x 2 = 56 x 0.6
(WEST) ≈ 62 m³
second extension of OL EX Pb area western third of wall excavation area south of OL_EX_406 and potential "Prussian blue"

23/5

			PID		
OL_EX_412	0.5		0		SP3
	1.5		6		
OL_EX_413	0.5		0		
	1.5		0		
OL_EX_414	0.5		0		
	1.5		0		
OL_EX_415	0.5		0		SP4
	1.5		0		
OL_EX_416	0.5		0		
	1.5		0		
OL_EX_417	0.5		0		SP5
	1.5		0		
OL_EX_418	0.5		0		SP6
	1.5		0		
OL_EX_419	0.5		0		
	1.5		0		16
OL_EX_QC119 / QC219					
UST_EXT_59	SP_01		2		
		02	6		
		03	14	QC121 / QC221	
UST_EXT_QC121 / QC221					
UST_EXT_QCA11					

23/5



23/5

OL Ex Pb excavation

Apparent wharf or sea wall foundations in eastern extent of excavation. Timber pylons or foundation posts with concrete slabs + fill beneath. Possible alignment of former sea wall.
small fragment of potential solidified coal tar encountered beneath level of slab @ OL_EX_413_1.5 possibly coal ash (vitreous)
additional sample taken
Peacock type coloured material also encountered in layer @ ≈ 1.5m near OL_EX_414_1.5.
additional sample taken

~~UST_EXT_59~~ ≈ 5 x 11 x 2 = 110 x 0.6
UST_EXT_59SP ≈ 66 m³

UST stockpile from ch 59 hot spot dig out. - material below deleterious crush fill 1.0 - 2.0m

Field screening of UST Ext stockpile x5 locations
8, 16, 2, 23, 28

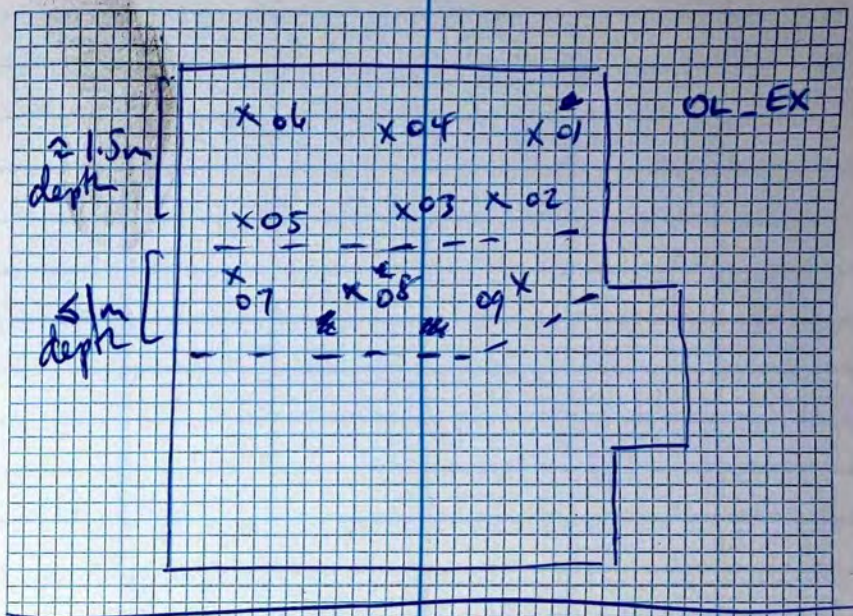
3x Sample pairs treated / untreated
2% SSP0
3% MgO.
5% moisture
Metals + Leachate

24hr TAT

25/5

OL_EX_BF_01_0.5	0			
1.0	1	QC122	QC222	
1.5				
02_0.5				
1.0				
1.5				
03_0.5				
1.0				
1.5				
04_0.5				
1.0		QC123	QC223	
1.5				
05_0.5				
1.0				
1.5				
06_0.5				
1.0				
07_0.5				
1.0				
08_0.5				
1.0				
09_0.5				
1.0				
OL EX	QC122	QC222		
OL EX	QC123	QC223		

25/5



Bench trial prep

N ↓ Bench 01 A — 3% H_2O
01 B treated — 2% SSP
11/12 02 A — 5% H_2O
02 B treated
5 15/19 03 A
03 B treated

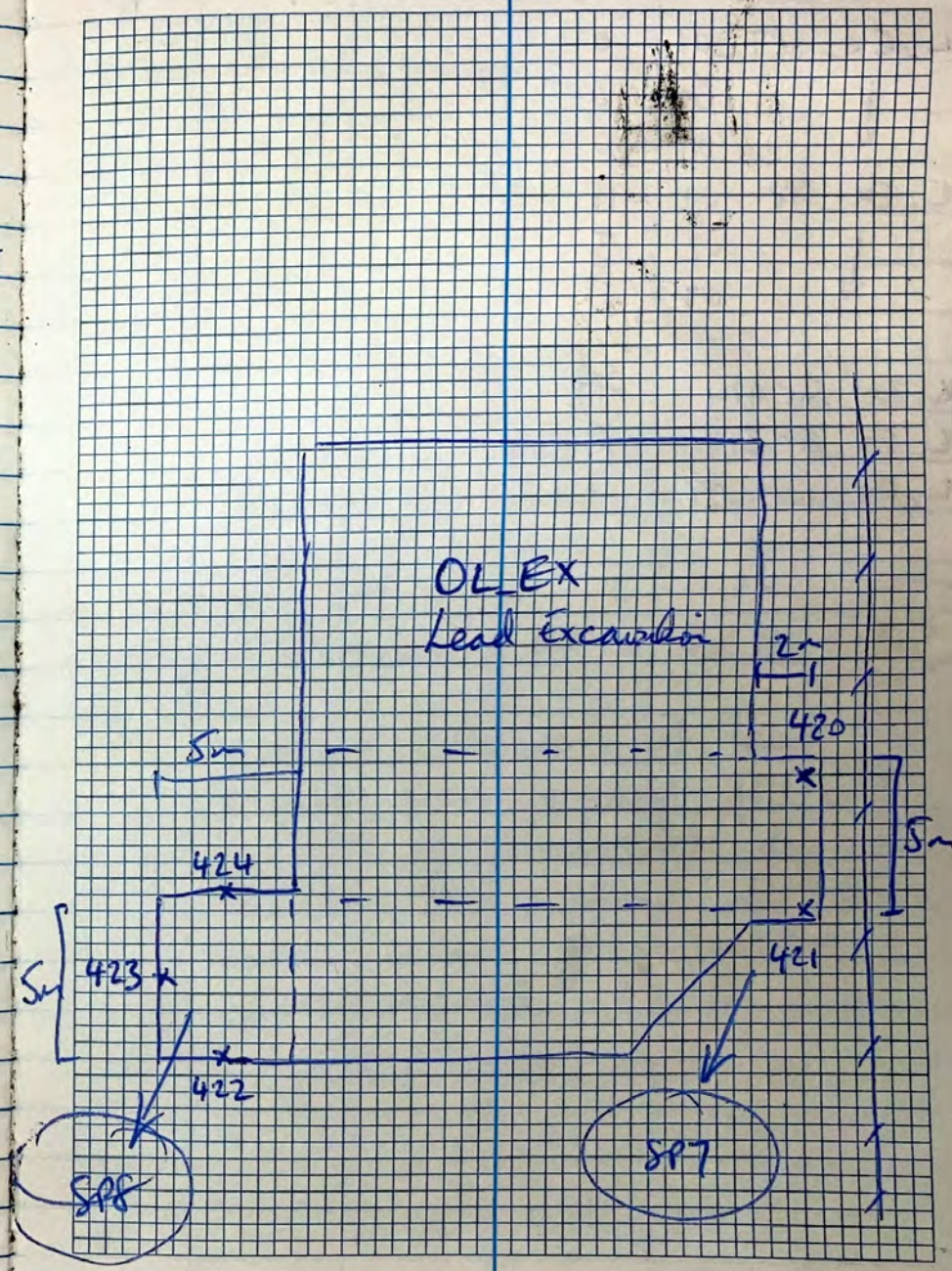
1kg soil + 5% water 50g
↓ sample A
1kg soil + 3% H_2O 30g
2% SSP 20g.
5% H_2O 50g.
Sample S.

	PID	
OL_EX_420_0.5	0	
OL_EX_421_0.5	0	
OL_EX_422_0.5	0	
↓ ↓ _1.5	8	
OL_EX_423_0.5	0	QC125/QC225
↓ ↓ _1.5	2	
OL_EX_424_0.5	2	
↓ _1.5	76	

Treated hydrocarbon stockpiles - UST area

UST_SP_01	0	QC126/QC226
02	0	
03	1	
04	0	
05	1	
06	0	
UST_EXT_598P_04	0	
UST_EXT_598P_05	0	
↓ 06	0	
↓ 07	0	

6/6



		PID			6/6
OL_EX_	SP7_01	0			
↓	02	0			
	03	0			
OL_EX_	SP8 01	11			
↓	02	3			
	03	3			
OL_EX_QCA14		TB			
OL_EX_QCB14		Rinsate			
OL_EX_QCC09		field			

6/6

UST_SP ≈ 6 × 15 = 90 × 2 = 180 × 0.6 ≈ 108 m³

UST EXT SP8 ≈ 66 m³

approximate volumes of HC stockpiles turned + treated

SP7 - eastern extension towards fence of lead chase area. Cobble + boulder fill over concrete slab. 0-0.8m
≈ 5m × 2m × 0.8 = 8 × 1.6 = 13m³

SP8 western extension of lead chase area, mixed fill with slight to moderate degraded hydrocarbon odour towards base where groundwater encountered (≈ 1.8m)
≈ 5 × 5 × 2 = 50 × 1.6 ≈ 78 m³

SP1 8 × 36 × 2 = 576 × 0.6 ≈ 345 m³ &

SP1 + SP2 ≈ 450 m³ Pb treatment volume.

Appendix F

Stockpile Assessment Records

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12 July 2023

Sean McArdle
Project Manager - Capital Works
Macquarie Point Development Corporation
GPO Box 51
Hobart, Tasmania, 7001

Dear Sean,

Macquarie Point - Precinct South Lead Excavation Backfill Assessment

1.0 Introduction and Background

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site). The Site location is shown on **Figure F1**.

The Site has historically been used for mixture of commercial and industrial purposes. As part of the remediation works currently undertaken at the Site, remediation works within the area of the Site referred to as the Precinct South are currently being undertaken by BlackCap Group Pty Ltd (BlackCap).

The scope of remediation works undertaken includes:

- Excavation and removal of remnant fuel lines and capping at the Site boundary.
- Excavation of hydrocarbon impacted soil believed sourced from a former UST previously beneath a Site roadway (the Former UST Area) to the west of a slab from the former SeaRoad Shed in the Precinct South.
- Excavation of lead impacted soil to the north of the SeaRoad Shed slab.

AECOM has been engaged in the role of Environmental Consultant for these works to provide technical advice and oversight, and to collect field samples of excavations and stockpiles in order to validate extent of remediation and advise on disposal of excavated soil. The scope and methodology of remediation in the Precinct South is detailed in the *Precinct South Remediation Work Plan* (the RWP) (AECOM, 2023a) and the *Precinct South Technical Specification* (the Tech Spec) (AECOM, 2023b).

On 2 May 2023, during a project catch up meeting, representatives from BlackCap informed AECOM that soil from three stockpiles (UST_SP_0.5-1.0, UST_SP_1.0-1.5, and OL_SP) had been used as backfill in the Lead Excavation Area.

AECOM staff had indicated that these stockpiles were likely to be suitable for reuse based on preliminary results and field investigation, but approval from the Site Environmental Auditor would be required before this could occur. This was misinterpreted to mean that use of this material as backfill was approved.

This letter report has been prepared to assess the material before use and *in situ* at the point of backfill and assess if the soil represents any unacceptable risks to current or future Site uses and re-excavation is required, or if the soil is assessed as suitable to remain *in situ* as backfill.

1.1 Objectives

The objectives of this letter report are to assess:

- The status of stockpiles UST_SP_0.5-1.0, UST_SP_1.0-1.5, and OL_SP prior to use as backfill.
- The status of backfilled material following collection of *in situ* samples.
- The suitability of the material to remain *in situ* or recommend if re-excavation of soil is required.

It is intended that this document can act as a Waste Management Plan for the reuse of the stockpiled material in accordance with Section 3 and Section 5 of *Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal* (IB105) (EPA, 2018).

1.2 Scope of Work

Excavation and backfilling of soil, sampling of potentially asbestos containing cladding, and advancement of test pits as part of the assessment of *in situ* status, was undertaken by BlackCap with AECOM staff on site.

The following scope of work has been undertaken by AECOM:

- Collection of soil samples from stockpiles UST_SP_0.5-1.0 and UST_SP_1.0-1.5, and from the Oil Line excavation from which OL_SP was generated.
- Collection of *in situ* soil samples from the area of backfill.
- Review and screening of soil sample results against the criteria presented in **Section 2.0**.
- Preparation of this letter report to assess results and provide recommendations for future actions.

1.3 Background

The Site, and surrounding area, largely located on reclaimed land within the Hobart port, has a history of mixed industrial use including the former Hobart Gasworks, rail freight and bulk fuel storage. Former industrial activities have been ceased at the Site. The Site is currently undergoing an Environmental Audit by Mr David Lam of Coffey under the *Macquarie Point Development Act 2012*.

The Precinct South area of the Site has had various uses, including land reclamation, bulk fuel terminal usage, freight handling, and fuel and oil transfer. As part of previous investigations, an area of elevated hydrocarbon impact to soil was identified adjacent to former fuel lines beneath a Site road adjacent between site buildings the Red Shed (to the west) and the SeaRoad Shed (to the east). The SeaRoad Shed was demolished in late 2022 and a large slab remains in its place. A removed Underground Storage Tank (UST) previously beneath the Site road is believed to be source of impacts to soil.

The Precinct South - Remediation Work Plan (the RWP) (AECOM, 2023a) and *The Precinct South – Technical Specification* (the Technical Specification) (AECOM, 2023b) were prepared to provide a framework and methodology for remediation of the Precinct South. BlackCap was engaged by the Corporation to undertake remediation of this area in accordance with the RWP and Technical Specification in early 2023.

1.4 Chemicals of Potential Concern

Based on available Site history and uses, and previous investigations conducted, the Chemicals of Potential Concern (CoPC) summarised in **Table 1** below have been identified for the areas in which the stockpiles were generated.

Table 1 Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Contaminant of Potential Concern	Potentially Impacted Media
Land Reclamation	Heavy metals[1], TRH, PAH, BTEXN, phenolic compounds, SVOC, VOC, OCPs	• Soil • Groundwater • Soil Vapour
Freight Handling	Heavy metals[1], TRH, PAH, BTEXN, phenolic compounds, SVOC, VOC, pH	
Fuel Storage	Lead, TRH, PAH, BTEX, ACM	

Notes: TPH – Total Petroleum Hydrocarbons; TRH – Total Recoverable Hydrocarbons; PAH - Polycyclic aromatic Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene; SVOC – Semi-Volatile Organic Compounds; Volatile Organic Compounds; OCP – Organochlorine Pesticides; 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel, and zinc

1.5 Stockpile Descriptions

The soil from the following stockpiles were used as backfill in the Lead Excavation Area:

Table 2 Stockpiles

Stockpile ID	Estimated Volume	Source
UST_SP_0.5-1.0	85 m^3	Former UST Excavation Area, 0.5-1.0 m below ground level (m bgl)
UST_SP_1.0-1.5	65 m^3	Former UST Excavation Area, 1.0-1.5 m bgl
OL_SP	120 m^3	Soil surrounding remnant Oil Line, north of the former
TOTAL	270 m^3	

UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were generated by the excavation of an area of reported Total Recoverable Hydrocarbon (TRH) impact beneath the Site road to the west of the SeaRoad Shed.

OL_SP consisted of soil surrounding a remnant Oil Line from chainage 0 to 77 (from the northern end of the section of fuel line removed) which was excavated during removal of the fuel line. A section of the surrounding soil between chainage 77 to 80 was separated based on staining and field PID readings as a separate stockpile (UST_SP_ch77-82), with the remaining material consolidated in the OL_SP due to Site access and space constraints.

Field staff verbally reported no visual indications of asbestos containing material (ACM) within the stockpiles. ACM has been reported in the cladding of a second pipeline removed as part of these works (the Diesel Line), but the soil surrounding this stockpile was separately stockpiled to segregate any fragments of ACM cladding which may be present. The source areas of soil stockpiles are shown on **Figure F2**.

Photographs of UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were not taken by field staff during sampling. Photographs of the source areas for these stockpiles, and of OL_SP, are provided below.



Plate 1 **UST Excavation - 0.5 to 1 m bgl, 14 March 2023**



Plate 2 **UST_SP_0.5-1, close up of soil, 14 March 2023**



Plate 3 UST Excavation - 1 to 1.5 m bgl, 14 March 2023



Plate 4 OL_SP, 17 March 2023

1.6 Area of Backfill

The area where soil stockpiles were used as backfill is located to the north of the former SeaRoad Shed as shown on **Figure F2**.

The area of soil reuse is approximately 11 m by 16 m wide. Soil was excavated to a depth of approximately 2.0 m bgl, where groundwater was encountered, and initially backfilled with between 0.5 to 1 m of imported clean fill to prevent water from pooling in the excavation. **Plate 5** below shows the imported clean fill prior to placement within the excavation.

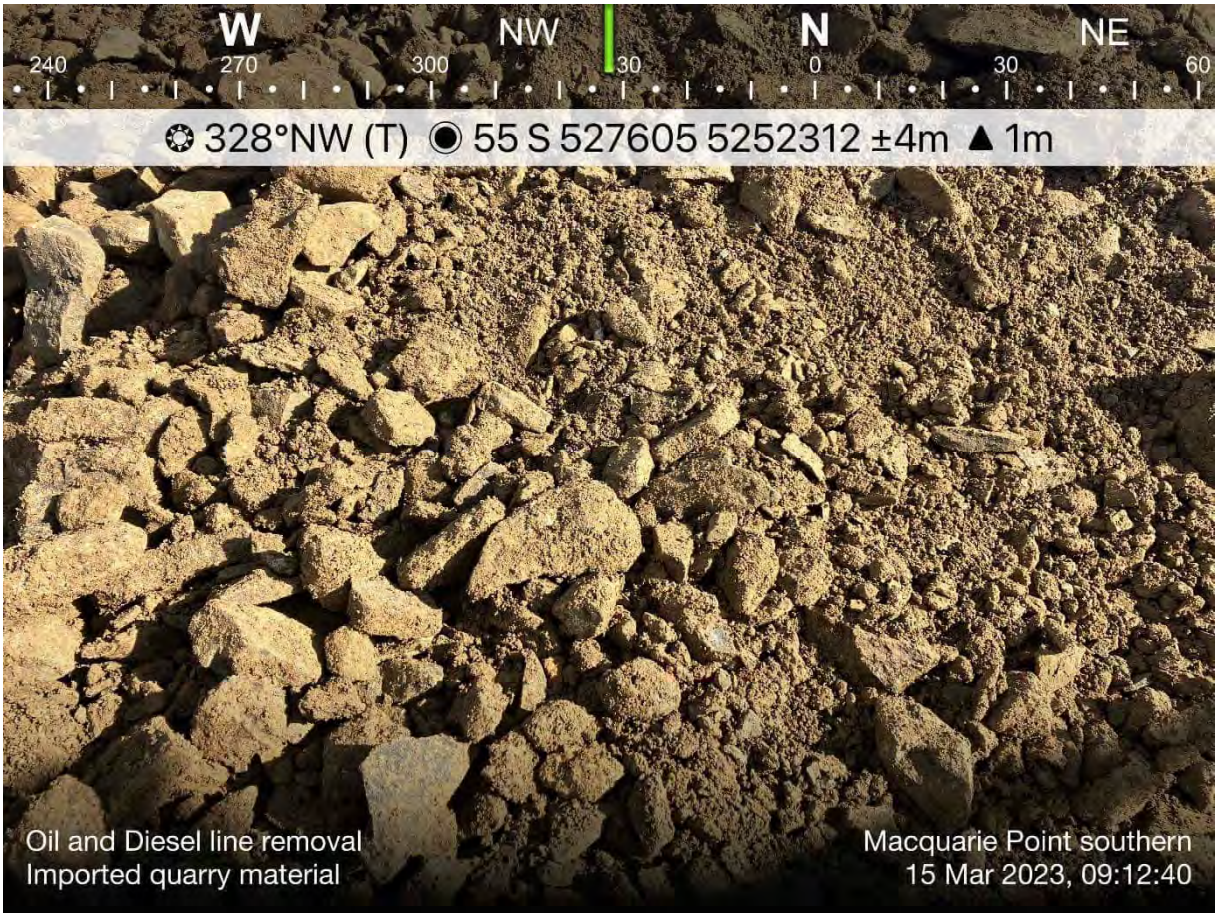

Plate 5 Imported Clean Fill used to prevent groundwater pooling in base of excavation, 15 March 2023

This area was backfilled to surface with material from UST_SP_0.5-1.0, UST_SP_1.0-1.5, and OL_SP in late April 2023.

The proposed future uses of this area considered in this assessment include:

- Commercial / Light Industrial Use
- Intrusive Maintenance Workers
- Open Space

2.0 Assessment Criteria

2.1 Soil Categorisation (IB105 Guideline Values)

To assess and categorise the soil within the stockpiles and excavation, soil analytical results were screened against the criteria in Table 2 of TAS EPA IB105, which uses four categories to classify contaminated soil as:

- Level 1 (Fill Material)
- Level 2 (Low Level Contaminated Soil)
- Level 3 (Contaminated Soil)
- Level 4 (Contaminant Soil for Remediation).

Excavated materials are required to be classified as Level 1 or Level 2 soils in accordance with IB105 to be considered for reuse.

2.2 Site Specific Remediation Criteria

AECOM has prepared Site Derived Remediation Criteria (RC) for soil and groundwater to inform potential remediation/ management works required at the Site for the protection of human health (*Derivation of Remediation Criteria, Macquarie Point Development Project*, AECOM, 2016). The following scenarios have been considered based on the potential future land uses:

- Recreational Open Space Users
- Residents:
  - Slab-on-grade unknown construction or multi-storey building
  - Low rise slab-on grade
  - Building with basement car park.
- Commercial:
  - Slab-on-grade unknown construction or multi-storey building.
- Commercial/ Light Industrial Workers:
  - Working within a basement car park
  - Low rise slab-on-grade.
- Maintenance Workers (including excavation to depths of up to 1 m bgl).

The RC is based on generic assumptions regarding future land use including:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Intrusive Maintenance Workers [IMW]) to have direct contact with soils. Agreement with the Site Contaminated Land Auditor will likely be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
  - Paved surfaces (e.g., concrete, asphalt, etc.)
  - Building footings
  - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g., 0.5 – 1.0 m topsoil)
  - Other suitable materials: e.g., geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternative to a thicker earthen layer.
- A Site Environment Management Plan (SEMP) will be in place in the future to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground breaking activities, including Intrusive Maintenance Workers.

- Adjacent off-Site land uses include open space, commercial/industrial and residential areas. As these potential land uses have been considered on Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g., via groundwater migration beyond the Site boundary).

For current and proposed future uses of the proposed area of reuse (the Precinct South) residential use is not planned or considered likely to occur due to the planned future uses of the Site, and zoning controls and limitations for this area due to proximity to port facilities.

The Site has recently been announced as a preferred location for development of a future sports stadium. While no details of stadium design have been provided and specific RC for this use have not been developed, exceedances of the RC with respect to future Commercial/Light Industrial and Intrusive Maintenance Worker use of this area are considered as the most appropriate for a sporting/culture area.

It is noted that if and when further details of the stadium design are determined, a review of the remediation and approved future Site uses may be required to determine if there is potential for unacceptable risks associated with uses that have not been subject to direct consideration in assessment/auditing to date. This may require reconsideration of necessary remediation or management measures required to manage residual risks following the completion of practicable remediation.

2.3 Environmental Approval No. 10512/2

On 14 September 2022, Environmental Approval No. 10512/2 (attached as **Appendix C**) was issued by the Environment Protection Authority (EPA) Tasmania detailing the requirements under which beneficial reuse of waste material (excavated soil) which had been produced from on the Site was allowable. EA 10512/2 was issued to renew previous EA 10512/1, which was issued on 7 October 2020 for a two year period.

EA 10512/2 states (among other requirements):

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; 'Derivation of Remediation Criteria, Macquarie Point Redevelopment Project', prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.
2. The site environmental auditor, as accredited by Section 39F(3) of the Macquarie Point Development Corporation Act 2012, must endorse the reuse of each soil stockpile prior to the reuse occurring.
3. The reuse must be undertaken in accordance with the document titled 'Site Environment Management Plan, Macquarie Point Development Project', prepared by AECOM and dated 14 November 2018.

Reuse of soil under EA10512/2 must meet these requirements.

2.4 The Precinct South Remediation Work Plan

Section 4.4.5 of the RWP (AECOM, 2023a) included consideration of use of soil surrounding the Oil Line as backfill material if the following conditions were met:

- Validation samples have been collected and analysed from the excavation area in accordance with the methodology discussed in the Technical Specification.
- No signs of material organic impact have been detected by field screening, including visual and olfactory assessment, and measurement of potential hydrocarbon vapours as part of field screening.
- Sampling has confirmed that the Oil Line does not have any ACM in its cladding.

2.5 Data Quality Indicators

The laboratory data, including copies of the chain of custody (CoC) documentation, sample receipt notification (SRN) reports, quality control (QC) reports, and certificates of analysis are attached in **Appendix A**.

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the laboratory and field data include:

- Assessment of field duplicate sampling rates and reproducibility of the data by calculation of the relative percentage difference (RPD) for laboratory and field duplicate samples (both intra- and inter-laboratory) to provide an indication of the precision of the data.
- Assessment of the analytical results for laboratory quality control samples to provide an indication of the accuracy of the data.
- Assessment of a range of QC and quality assurance (QA) measures generated from both the field sampling and laboratory analytical programs.

Assessment criteria for DQIs for soil samples are listed below in **Table 3**. Assessment against DQIs is provided in **Section 4.4**, and in **Appendix B**.

Table 3 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate, Field and Trip blanks	Less than the laboratory Limit of Reporting (LOR)
Intra and inter laboratory field duplicates (1) (3)	RPD less than ± 30%
Laboratory duplicates (2) (3)	RPDs Less than: • 30% for high level laboratory duplicates (i.e., >20 x LOR) • 50% for medium level laboratory duplicates (i.e., 10 to 20 x LOR) • 200% for low level laboratory duplicates (i.e., 1 to 10 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%.
Surrogate spikes	Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for tests but are within the criteria described in USEPA Method SW846.

Notes:

1. *Potential exceptions to these criteria may occur where the results are close to the LOR. This typical RPD range is obtained Schedule B3 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM Schedule B3).*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous, and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*

3.0 Field Methodology and Data

3.1 Field Activities

The following field activities associated with these stockpiles have been conducted by BlackCap and AECOM:

Table 4 Field Activities

Date	Activity
22-24 February 2023	Initial excavation of former Oil Line and surrounding soil by BlackCap.
27 February 2023	Collection of excavation validation soil samples from the Oil Line excavation by AECOM. No indicators of impact (discolouration/staining/odours) were noted with the exception of between chainage 77 and 80. Collection of Oil Line cladding samples by BlackCap.
13-14 March 2023	Initial excavation of soil from former UST Area by BlackCap.
21 March 2023	Initial excavation validation sampling and stockpile classification of UST_SP_0.5-1.0 and UST_SP_ SP_1.0-1.5.
Week ending 31 March 2023	Excavation of Lead Excavation Area and initially backfilling of base with imported clean fill.
Week ending 28 April 2023	Backfilling of Lead Excavation Area with material from UST_SP_0.5-1.0, UST_SP_1.0-1.5, and UST_SP
25 May 2023	Test pitting and sampling of *in situ* backfill material

A description of each activity carried out is provided below.

3.2 Soil Excavation and Handling

Stockpiles were excavated by BlackCap and moved using a mechanical excavator and stored on existing hardstand (the concrete slab remaining from the SeaRoad Shed [demolished in late 2022]) when moved away from the point of excavation to prevent mixing with surface soils.

Soil excavated from surrounding the Remnant Oil Line was initially placed on the edge of the slab adjacent to the fuel line at the point of excavation. Following AECOM field inspection on 28 February 2023, a section of the stockpile from chainage 77 to 80 was separated based on discolouration and field recorded PID measurements to a stockpile UST_SP_ch77-80. The remaining material was consolidated as OL_SP.

Material from the UST Excavation Area was removed in approximate 0.5 m thick layers and stockpiled separately.

AECOM field staff inspected excavations and assessed extent of excavation based on indicators of potential fuel impact including staining, odours, and measurement of vapour using a hand-held Photo-Ionisation Detector (PID). If indicators of fuel impact were present, further excavation was recommended and conducted by BlackCap.

BlackCap have reported that backfilling was conducted using an excavator and compacting soil with the excavator bucket in layers.

3.3 *In Situ* Test Pitting

To assess the status of *in situ* soil, nine test pits were advanced in a grid within the area of backfill. Test pits were advanced using an excavator bucket until imported clean fill (shown on **Plate 5**) was encountered at between 1 and 1.5 m bgl.

Samples of soil were collected from undisturbed clods within the excavator bucket.

3.4 Soil Sample Collection

Validation and categorisation sampling of individual stockpiles or from test pits was undertaken by AECOM field staff following the procedures in the *Precinct South Remediation Work Plan* (AECOM, 2023a) prepared for works. The general sampling methodology is summarised below:

- Nitrile gloves were used for the collection of each soil sample, and a new pair donned between each sample location.
- Samples were collected at a minimum rate of 1 per 25 m^3 of soil as per IB105. Field estimates of stockpile volumes were collected by AECOM. No survey data was collected.
- Sample locations were uniformly distributed throughout the excavated material.
- Soil samples were collected manually using a hand auger/trowel or similar from a depth of >0.2 m below the stockpile surface.
- Soil samples were stored in laboratory supplied 150 mL decontaminated glass jars with Teflon™ lined lids, and immediately placed in an 'esky' cooler with ice during sample storage and transport to the selected analytical laboratory under chain of custody procedures.

3.5 Oil Line Cladding Sampling

The Oil Line excavated and removed by BlackCap is a remnant steel fuel line approximately 200 mm in diameter with a black bituminous cladding. This cladding was sampled during removal of a separate section of this pipeline to the north in 2020 (AECOM, 2021), which identified that Asbestos Containing Material (ACM) was present. However, sampling of the cladding was undertaken to confirm that there had not been a change in material in the southern section removed as part of works, as the cladding may have broken over time or when disturbed to remove the pipeline, and if ACM is present fragments of cladding may represent an unacceptable risk to Site users.

No photos of the Oil Line within the Precinct South were collected during removal or sampling of cladding. **Plate 6** below shows a section of the Oil Line removed in 2020, which field staff have reported appears identical to the section removed from the Precinct South.



Plate 6 A section of the Oil Line during previous remediation works (April 2020)

Two fragments of cladding were cut from the Oil Line at chainage 30 m and 60 m (from the northern end of the pipeline) by BlackCap under AECOM supervision and submitted for asbestos presence/absence assessment.

4.0 Assessment of Results

4.1 Sample Density

4.1.1 Stockpiles

The number of samples analysed, i.e., sample density, is assessed against the estimated stockpile volume as summarised in **Table 5** below.

Table 5 Sample Density Assessment

Date	Stockpile ID	Volume (m^3)	Number of Primary Samples	Sample Density
21 March 2023	UST_SP_0.5-1.5	85	4	1 primary sample per 21.3 m^3
21 March 2023	UST_SP_1.-1.5	65	3	1 primary sample per 21.7 m^3

Samples were collected at greater frequency than one primary sample per 25 m^3, the rate recommended in IB105, and sample frequency is considered suitable for assessment of stockpiles.

4.1.2 Oil Line Excavation

No samples were collected from OL_SP. As the Oil Pipeline did not pass through a suspected contaminated area, with the exception of a section which passed through the former UST Area, the RWP (AECOM, 2023a) provided a methodology for reuse of soil surrounding the pipeline based on the validation samples collected from Oil Line excavation, as described in **Section 2.4**.

Validation samples were collected from the base and walls of the Oil Line excavation at a rate of one wall sample (alternating sides) and one base sample every 12m approximately, with a total of 7 wall samples and 7 base samples collected along the 80m length of the excavation. As the Oil Line excavation was approximately 1 m deep and 1 m wide along its length, this sampling frequency is approximately:

- One primary wall validation sample per 23 m^2 of excavation wall.
- One primary base sample per 11.5 m^2 of excavation base.

This sampling density is greater than the required sampling density within the Technical Specification (AECOM, 2023b), which provided a sampling frequency of 1 primary sample per 25 m^2 of excavation wall or base for validation, and sample frequency is considered suitable for assessment of results.

Samples were collected from at least 200mm below the surface of excavation walls or base and would represent soil immediately adjacent to that removed to form OL_SP. The twelve remediation validation samples collected (excluding the samples collected at chainage 77, which represent soil segregated into a separate stockpile) would represent as sample density of approximately 1 primary sample per 10 m^3 of soil in OL_SP, which is greater than the IB105 recommended rate.

4.1.3 *In Situ* Sampling

The area of the Lead Excavation Area which was backfilled to a depth of 1 to 1.5 m bgl with soil from UST_SP_0.5-1.0, UST_SP_1.0-1.5, and OL_SP measured approximately 11 by 16 m. The volume of the backfill was estimated to be between 180 to 265 m^3. It is noted that the volume of the three stockpiles considered was estimated to be a total of 270 m^3, although this was based on field estimates and compaction using an excavator bucket was conducted during backfilling.

In situ assessment samples were collected from a grid of nine test pits with a spacing of approximately 5 m, shown on **Plate 7** below. It is noted that an extension of the Lead Excavation Area to the south, which was not backfilled with soil from these stockpiles, is shown on this sketch.

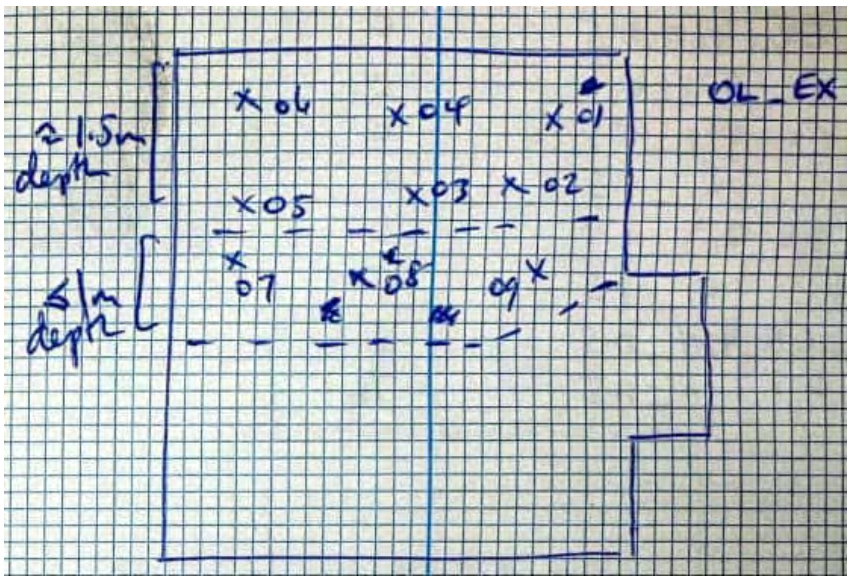

Plate 7 In Situ Sample Collection Locations, 25 May 2023

A total of 23 primary samples were collected at 0.5 m intervals from test pits within backfilled material. This gives a sample density of 1 primary sample per 8 to 11.5 m^3 of backfill material, greater than one primary sample per 25 m^3, the rate recommended in IB105, and sample frequency is considered suitable for assessment of stockpiles.

4.1.4 Asbestos Identification

Two fragments of cladding were cut from the Oil Line at chainage 30 m and 60 m (from the northern end of the pipeline) by BlackCap under AECOM supervision and submitted for asbestos presence/absence assessment.

BlackCap reported that the cladding was uniform along the length of the Oil Line, and intact and in good condition with no fragments or breakage reported.

The collection of two samples for asbestos identification, in conjunction with previous assessment of the Oil Line cladding (AECOM, 2021) is considered suitable for assessment of the cladding for presence/absence of ACM.

4.2 Laboratory Analysis

The laboratory certificates of sample analysis and QC reports, as well as copies of the CoC and SRN documentation are attached in **Appendix A**. It is noted that these lab reports contain sample results for other assessment conducted as part of works which is not discussed in this report.

The laboratory analytical results for soil samples are presented on **Table T1** and **Table T2**.

Asbestos identification analysis is attached as **Appendix E**.

4.2.1 Stockpiles

Initial soil characterisation samples from soil stockpiles UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were submitted to analytical laboratories for the following analytical suites:

- 30% of primary samples - EPA Tasmania IB105 analytical suite [excluding tributyltin (TBT)]
- Remaining primary samples - TPH/TRH, BTEXN, PAHs, phenols, and metals (lead)

Toxicity Characteristic Leaching Procedure (TCLP) analysis was conducted for targeted samples as discussed in **Section 4.3.1** below.

4.2.2 Oil Line Excavation

Excavation validation samples collected from the Oil Line Excavation were submitted for the following analytical suites:

- Metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc)
- TRH C_6 – C_{40} fractions
- BTEXN
- PAHs and phenols.

In addition, samples of the cladding of the Oil Line were collected by BlackCap and submitted for asbestos identification.

4.2.3 *In Situ* Soil Sampling

In situ soil samples were submitted to analytical laboratories for the following analytical suites:

- Metals (lead)
- TRH C_6 – C_{40} fractions
- BTEXN
- PAHs and phenols.

Aliphatic/aromatic TRH speciation assessment was conducted for targeted samples as discussed in **Section 4.3.2**.

4.2.4 Asbestos Identification.

Oil Line cladding samples were analysed for asbestos identification in accordance with AS 4964-2004 *Method for the qualitative identification of asbestos in bulk samples*, and HSR Consulting Pty Ltd (a NATA-accredited laboratory) in-house method M036 *Asbestos Fibre Identification by Polarised Light Microscopy including Dispersion Staining.*

No asbestos was identified in classing samples as discussed in **Section 4.3.4**.

4.3 Soil Assessment

The soil analytical data collected, including Total Contaminant Concentration (TCC) and Leachable Contaminant Concentration (LCC), compared to the guideline values presented in Table 2 of IB105 for categorisation, are presented on **Table T1** to **Table T2**, attached. Laboratory certificates of sample analysis and QC reports, as well as copies of the CoC and SRN documentation are attached in **Appendix A**

Soil sample results, compared to the identified assessment criteria in **Section 2.0**, are discussed below.

4.3.1 Soil Categorisation (IB105)

Exceedances of IB105 criteria for Level 2 – Low Level Contaminated Soil were reported for Total Petroleum Hydrocarbons (TPH), benzo(a)pyrene, and sum of polycyclic aromatic hydrocarbons (PAHs) and are discussed below.

No other exceedances of IB105 Level 2 criteria were reported for assessment material (either before or following use as backfill) and, based on the available data, the backfill material is considered suitable to categorise as **Level 2 – Low Level Contaminated Material**.

TPH

Exceedances of the IB105 Level 2 and Level 3 TCC criteria for the following CoPC were reported at the locations listed below:

- TPH C10-C36 fraction (sum) – OL_77_0.6W and OL_77_1.0

For these exceedances:

- Samples OL_77_0.6W and OL_77_1.0 were collected from the west wall and base of the Oil Line excavation respectively. The soil removed from this area was stockpiled on the former SeaRoad Shed slab adjacent to the point of excavation and was separated into a separate stockpile OL_SP_ch77-80 based on field assessment of stockpile colouration and PID readings. This stockpile was not used as backfill in the Lead Excavation Area and exceedances are not considered applicable for assessment of soil used as backfill.

No exceedances of IB105 criteria for TPH were detected at any other location, including all samples collected from *in situ* material. Soil stockpiles had between one and two months in open air prior to use as backfill, during which it is expected volatilisation and oxidation of TPH would occur due to available oxygen from the surrounding atmosphere.

On this basis, TPH concentrations within the soil are not considered to preclude the material from being categorised as Level 2 – Low Level Contaminated Soil.

Benzo(a)pyrene and PAHs

Both pre- and post-remediation, exceedances of the IB015 Level 2 TCC criteria were reported for benzo(a)pyrene and Sum of PAHs for multiple samples collected from stockpiles, excavation validation samples, and *in situ* material.

Toxicity Characterisation Leaching Procedure (TCLP) assessment was conducted on all samples collected from UST_SP_0.5-1.0 and UST_SP_1.0-1.5 with exceedances of IB105 Level 2 TCC criteria, with all analysed samples reported a leachate contaminant concentration for benzo(a)pyrene and for benzo(a)pyrene Toxicity Equivalence Quotient (TEQ) below the IB105 Level 2 LCC.

TCLP leachate assessment was not conducted for excavation validation samples or *in situ* soil samples, which did report exceedances of IB105 Level 2 and Level 3 IB105 TCC criteria for these CoPC. However, it is considered unlikely that leachable concentrations in excess of the IB105 Level 2 LCC criteria are present as:

- All leachable concentrations of PAHs were below LOR in the samples collected from UST_SP_0.5-1.0 and UST_SP_1.0-1.5, as noted above. The volume in these stockpiles corresponds to approximately 55% of the soil used as backfill based on the estimated field volumes listed on **Table 2**.
- Leachate assessment was not conducted on excavation validation samples used to assess OL_SP or on *in* situ samples collected. However:
    - The source area of this soil is close and in contact with the area UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were excavated from, and it is considered likely to PAH leaching in these soils will be similar.
    - The source of PAHs within soil at the Precinct South, including all soil used as backfill, is inferred to be due to a combination of land reclamation, freight handing, and fuel storage. These activities have been conducted across the majority of the Macquarie Point site, and to date no leachable concentrations of PAHs, or leachable concentrations below the IB105 criteria have been detected in approximately 13,000 m^3 of soil excavated and analysed from the Precinct South and the broader Site as part of remediation works since 2019. Most recently, no leachable PAHs were reported in 16 soil samples assessed from the Precinct South and reported in *Soil Categorisation and Waste Management Plan – Precinct South Remediation – Former UST Area Excavation Stockpiles* (AECOM, 2023c).

Section 2.2.4 of IB105 states that "*Where a leachable concentration is proscribed in Table 2, generally that value will take precedence over the total concentration value and will be used as the sole determinant of final classification for disposal*".

Based on the samples assessed from UST_SP_0.5-1.0 and UST__SP_1.0-1.5, and recent and historic sampling from the Precinct South and the broader Macquarie Point Site, the exceedances of IB105 Level 2 TCC criteria for benzo(a)pyrene and Sum of PAHs reported are not considered to preclude the stockpiles from being categorised as Level 2 – Low Level Contaminated Soil.

4.3.2 Site Specific Remediation Criteria

As noted in **Section 1.6**, the planned future uses of this area considered are:

- Commercial / Light Industrial Use
- Intrusive Maintenance Workers
- Open Space

Exceedances of Site Specific RC were reported for Commercial / Industrial Use and Intrusive Maintenance Workers and are discussed below. Detected exceedances are not considered to represent an unacceptable risk to future Site uses based on this assessment.

No other exceedances of Site Specific RC were detected in the assessed material (either before or following use as backfill) and, based on the available data, the backfill material is not considered to represent an unacceptable risk to future Site users.

Commercial / Light Industrial Use

Exceedances of Commercial / Industrial Use (Unknown Construction or Multi-Storey Building) Site Specific RC were reported for the follow CoPC and locations:

Pre-backfill

- TRH C6-C10 fraction (minus BTEX) (F1) - OL_77_0.6W, OL_77_1.0.
- TRH >C10-C16 (minus naphthalene) (F2) – OL_17_0.6E, OL_77_0.6W, OL_17_0.6E, UST_SP_1.0-1.5_03.

In Situ

- TRH >C10-C16 (minus naphthalene) (F2) – OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_06_1.0, OL_EX_BF_08_0.5

In addition, OL_77_0.6W and OL_77_1.0 also reported exceedance of the Commercial / Industrial Use (Working Within a Basement) Site Specific RC for TRH >C10-C16 (minus naphthalene).

These reported exceedances are not considered to represent an unacceptable risk to future Site Commercial / Light Industrial users as:

Pre-backfill

- As discussed in **Section 4.3.1** above, soil from the locations OL_77_0.6W and OL_77_1.0 were collected from was stockpiled separately and was not used as backfill material.
- While not actively remediation or reassessed prior to backfilling, the overall concentration of TRH >C10-C16 reported in UST_SP_1.0-1.5 was below concentrations reported in *in situ* samples (discussed below) which are not considered to represent an unacceptable risk to future Site uses, and as this material was sourced from the same location it is considered likely that the composition of TRH within this soil was similar.

  In addition, the remaining samples from stockpile UST_SP_1.0-1.5 were below LOR for this CoPC, and as the stockpile was exposed to atmosphere for approximately two months prior to backfilling, it is considered likely that the concentration at this sample point would have reduced due to volatilisation/oxidation of TRH.
- The Site Specific RC for TRH >C10-C16 conservatively assumes that detected concentrations consist of the highest risk subset of TRH in this range, namely aromatic TRH >C10-C12. However, additional assessment to speciate TRH concentrations can allow assessment of the components of the CoPC and more accurate assessment of potential risks associated with reported impacts.

  The soil sample collected at OL_17_0.6E was analysed to speciate TRH >C10-C16 results to aliphatic and aromatic components and reported concentrations below the RC for the specific analytes reported.

In Situ

- Exceedances of the Site Specific RC for TRH >C10-C16 were detected in six samples from five locations in *in situ* material. Similar to OL_17_0.6E (collected before backfilling and discussed above), aliphatic/aromatic speciation was conducted on these samples and all samples reported below Site Specific RC for speciated TRH within this range, with results showing that reported concentrations consisted primarily of TRH >C12-C16 aliphatic hydrocarbons, with lower concentrations of TRH >C12-C16 aromatic hydrocarbons reported in some samples. No exceedances of RC for speciated TRH ranges were detected.

On the basis of the above, reported exceedances of the Specific RC Commercial / Light Industrial users are not considered to represent an unacceptable risk to future Site users.

Intrusive Maintenance Workers

An exceedance of the Intrusive Maintenance Worker RC for lead was reported in one sample (UST_SP_1.0-1.5_03) collected from UST_SP_1.0-1.5 before backfilling occurred.

The reported exceedance in UST_SP_1.0-1.5_03 is not considered to represent an unacceptable risk to future intrusive maintenance workers as:

- No exceedances of this criteria were detected in *in situ* material or in any other samples analysed as part of this assessment, and lead above criteria is not considered likely to be present in volumes which may represent a risk to future Intrusive Maintenance Workers within the *in situ* soil.
- The remaining samples from UST_SP_1.0-1.5 were both below criteria (at 250 mg/kg) and, while the stockpile was not sampled at sufficient density to undertake 95% Upper Confidence Limit analysis, the mean and median for this stockpile were 432 mg/kg and 250 mg/kg respectively, below the criteria, and is considered unlikely that lead impacts were widespread in this stockpile.

4.3.3 Environmental Approval 10512/2

The backfilled soil is assessed to meet the first requirement of EA10512/2 (**Section 2.3**), namely:

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; 'Derivation of Remediation Criteria, Macquarie Point Redevelopment Project', prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.

In order to fulfil the remaining requirements, it is recommended:

- Auditor approval for the reuse be sought. It is noted that EA10512/2 requires Auditor approval prior to backfill. However, EPA provided advice via telephone on 18 May 2023 that, to avoid unnecessary disturbance of soil, post-backfill Auditor approval would be acceptable in this case.
- The soil be managed under the conditions of the SEMP.

4.3.4 Precinct South Remediation Work Plan

Section 4.4.5 of the RWP (AECOM, 2023a) included consideration of use of soil surrounding the Oil Line as backfill material if the following conditions were met:

- Validation samples have been collected and analysed from the excavation area in accordance with the methodology discussed in the Technical Specification.
- No signs of material organic impact have been detected by field screening, including visual and olfactory assessment, and measurement of potential hydrocarbon vapours as part of field screening.
- Sampling has confirmed that the Oil Line does not have any ACM in its cladding.

As part of works:

- Validation samples have been collected and analysed from the excavation surrounding the Oil Line. Where exceedances of the Site Specific RC have been reported, they have either:
  - Been further assessed and determined not to represent an unacceptable risk to future Site users (as discussed in **Section 4.3.2**).
  - Been segregated based on field screening and assessment and are not included in the soil considered for backfill.
- Assessment of the cladding of the Oil Line was undertaken by BlackCap with AECOM supervision on 28 February 2023, with results of asbestos identification assessment attached as **Appendix E**. No asbestos was detected in two samples collected from the Oil Line cladding, and field staff

have verbally reported that they did not identify any potential ACM fragments during sampling or inspection of the excavation or stockpile OL_SP.

This result is consistent with assessment of the Oil Line cladding conducted as part of previous remediation works (AECOM, 2021), and it is considered unlikely that ACM is present within the Oil Line cladding.

On this basis, use of the material surrounding the Oil Line as backfill is considered consistent with the RWP. It is noted that the Technical Specification did note that backfilling should be conducted as close to the point of excavation as possible. To allow access and vehicle movements, the Oil Line excavation was backfilled with clean imported natural material to allow reconstruction of the Site road. However, use of the material within the Lead Excavation Area is not considered to introduce any new risks or change the risk profile of reuse as the location of reuse:

- Is close (between 60-130 m) to the point of excavation.
- Consists of the same general soil type (imported fill used for land reclamation)
- Is at a similar depth (within the top 1.5 m of soil) and is not in contact with groundwater
- Has the same intended uses (Commercial / Light Industrial) and management practices.

4.4 Quality Assurance / Quality Control (QA/QC) Data Validation

The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. QA/QC assessment of the analytical data and sampling methodology has been conducted by AECOM following data collection by AECOM field staff. Samples were assessed against the DQIs discussed in **Section 2.5**. The detailed data validation report is presented in **Appendix B** and results are summarised below.

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Five intra-laboratory and two inter-laboratory field duplicate sample pairs were collected from the 28 primary samples collected from stockpiles.

  Intra-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

- Of a total of 635 Relative Percentage Difference (RPD) values calculated for intra- and interlaboratory duplicate samples analysed, 45 RPD values (<~7%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, TRH and PAHs. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As 93% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

- Trip blank and rinsate blank analytical results were reported below the laboratory LORs.

- All samples were received by the primary analytical laboratory between 0 and 6°C. While secondary laboratory samples were received at 6.2 – 6.5^{o}C, up to 0.5^{o}C above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only. Receipt at higher than recommended temperatures may contribute to discrepancies in calculated RPDs noted above.

- For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 3 and Level 4

soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

- Laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, surrogate spike recoveries, laboratory control spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

5.0 Conclusions and Recommendations

An estimated volume of 270 m^3 of soil excavated as part of remediation works, including removal of a remnant Oil Line and excavation of soil impacted by a former underground storage tank (UST) was used as backfill in an open excavation created by the removal of lead impacted soil referred to as the Lead Excavation Area.

The available data for these stockpiles collected prior to backfill and from an *in situ* investigation of the backfill area has been considered and the following conclusions have been reached:

- Soil used as backfill was sourced from the following stockpiles:
    - UST_SP_0.5-1.0, approximately 85 m^3 sourced from between 0.5 to 1 m bgl in the former UST Area
    - UST_SP_1.0-1.5, approximately 65 m^3 sourced from between 1 to 1.5 m bgl in the former UST Area
    - OL_SP, approximately 120 m^3 sourced from soil surrounding a remnant Oil Line. A section of soil at the end of the Oil Line excavation, from chainage 77 to 80, was segregated and stockpiled separately based discolouration, odours, and PID readings noted by field staff.
- Sample density for the stockpile UST_SP_0.5-1.0 and UST_SP_1.0-1.5, and for *in situ* material, exceeded the minimum recommended rate in IB105 of 1 primary sample per 25 m^3 of soil to be assessed. Contamination within OL_SP was assessed via remediation validation samples from the walls and base of the excavation from which soil was removed. The number of remediation validation samples, when collected from soil immediately adjacent to the material which was placed in OL_SP, represent a sample density of greater than the rate recommended by IB105.
- Exceedances of the following IB105 criteria were reported:
    - TPH C10-C36 fraction (sum) – OL_77_0.6W and OL_77_1.0. These samples were taken from the Oil Line excavation and represent soil which was segregated based on field inspection and was not added to OL_SP.
    - Concentrations of benzo(a)pyrene and Sum of PAHs in excess of the IB105 Level 1, Level 2, and Level 3 TCC criteria were reported soil from before backfilling and within *in situ* samples. Soil samples from UST_SP_0.5-1.0 and UST_SP_1.0-1.5, representing approximately 55% of the estimate volume of material used as backfill, were assessed for PAH leachate and reported all leachable concentrations as below LOR. In accordance with Section 2.2.4 of IB105, LCC values take precedence over TCC and are the sole determinant in final classification of material.

      While TCLP leachate assessment was not conducted on excavation validation samples or *in situ* backfilled material, the material in OL_SP was excavated from the same area and the source of PAHs in this soil is considered to be similar to the PAH sources for the Precinct South and the overall Macquarie Point site. Approximately 13,000 m^3 of PAH impacted soil has been excavated from the Site since 2019 as part of remediation works and no exceedance of the IB105 LCC for PAHs or benzo(a)pyrene have been reported in this soil, the majority of which has been removed from the Site as Level 2 – Low Level Contaminated Soil.

      Based on the above, it is considered of low probability that PAH or benzo(a)pyrene leachate from soil exceeds the IB105 criteria.

    On the basis of the above, the soil used as backfill has been categorised as Level 2 – Low Level Contaminated Soil.
- Exceedances of the following Site Specific Remediation Criteria were reported:
    - Commercial / Light Industrial
        - Pre-backfill - TRH C6-C10 (minus BTEX) (, TRH >C10-C16 (minus naphthalene) (F2)
        - *In Situ* - TRH >C10-C16 (minus naphthalene) (F2)

Exceedances of the Commercial / Light Industrial RC reported pre-backfill were either:

- From excavation validation samples collected adjacent to the source of soil segregated into a separate stockpile (UST_EX_ch77-80) and not used as backfill
- From one sample of soil in UST_SP_1.0-1.5. The remaining soil samples from this stockpile were below LOR for TRH >C10-C16, and the stockpile was exposed to atmosphere for approximately 2 months prior to use as backfill, during which oxidation and volatilisation of TRH is expected to have occurred which would reduce the reported concentration.
- When subject to aromatic/aliphatic speciation to assess the TRH subranges and quantify risk more accurately, reported no exceedance of criteria.

The *in situ* exceedances of TRH >C10-C16 were also analysed by aliphatic/aromatic speciation and reported no exceedances of Site Specific RC for the TRH subranges reported.

As detected exceedances of this criteria were either not used as backfill, have been assessed as not representing an unacceptable risk to future Site uses following further analysis and assessment, or appear likely to be limited in scope and had long periods of atmospheric exposure during which volatilisation and oxidation of TRH is expected to have occurred to reduce the reported concentrations, no unacceptable risk to future Commercial / Light Industrial use is considered to be presented by the backfill material.

- Intrusive Maintenance Workers
  - Pre-backfill – Lead

  Exceedance of the Intrusive Maintenance Worker RC for lead was reported in one sample (UST_SP_1.0-1.5_03) assessed prior to backfilling. The following was considered in assessing potential risks associated with this detection:

  - No other exceedance of this criteria was reported in any *in situ* samples, or in any other samples collected pre-backfilling.
  - The other two samples collected from UST_SP_1.0-1.5, where the exceedance of the lead criteria was detected, were below criteria, and although this stockpile was not sampled in sufficient numbers to conduct a robust statistical assessment, the mean and median lead concentrations based on available samples were below criteria.

  Based on the above consideration, lead concentrations above the adopted criteria are not considered likely to be widespread or characteristic of the material used as backfill, and it is not considered that the reported detection represents an unacceptable risk to Site Intrusive Maintenance Workers.

- Use of the material as backfill meets two of the three identified conditions for reuse under EA10512/2:
  - The soil has been categorised as Level 2 – Low Level Contaminated Soil.
  - The material has been managed under the conditions of the SEMP.

  Site Environmental Auditor approval is still required for reuse of material as backfill under EA10512/2. It is noted that EA10512/2 requires Auditor approval prior to use as fill, however EPA Tasmania has indicated that, if all other requirements are met, they would accept this material at this time.

- Reuse of the material in OL_SP meets the requirements included in the RWP for use of soil around the Oil Line as backfill as:
  - Validation samples of the Oil Line excavation have been collected and analysed, and no exceedances of RC which represent unacceptable risks to current or future Site users have been identified from locations adjacent to soil used as backfill.
  - No signs of material organic impact have been detected by field screening of soil used as backfill.

- The cladding of the Oil Line has been assessed and confirmed to not consist of ACM.

  The Technical Specification does note that the location of soil reuse should be as close to the point of excavation as possible. Although backfill of OL_SP did not occur within the Oil Line excavation, excavated soil was used as backfill within 60-130 m of the point of excavation in an area and depth of the same lithology (imported fill used for land reclamation), does not have contact with groundwater at either the point of excavation or backfill, and has been used in an area with the same intended uses (Commercial / Light Industrial) and management practises.

- No irregularities in DQIs were reported which may render results unsuitable for interpretation

Based on the above, the soil used as backfill in the Lead Excavation Area sourced from UST_SP_0.5-1.0, UST_SP_1.0-1.5, and OL_SP is considered Level 2 – Low Level Contaminated Soil which does to present any unacceptable risks to future Commercial / Light Industrial, Open Space, or Future Maintenance Worker use at the location of backfill.

It is recommended that:

- Site Environmental Auditor approval of this reuse be sought in order to meet the requirements of EA10512/2 for soil reuse.
- The soil and surrounding areas continue to be managed in accordance with the requirements of the SEMP.
- The location of reuse and the source of material be recorded for future reference for any works in this area.

In the event that an alternative disposal methodology be proposed, or further treatment undertaken, this waste management plan should be updated, or a new plan be prepared, by a suitably experienced environmental professional.

Yours faithfully



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6.0 References

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Figures

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DOMAIN HWY
TASMAN HWY BDGE
DOMAIN HWY ON RAMP
TASMAN HWY
QUEENS DOMAIN
RIVER DERWENT
BURNETT ST
BROOKER AV
GLEBE
ARGYLE ST
LIVERPOOL ST
HOBART
HARRINGTON ST
MACQUARIE ST
GOULBURN ST
SULLIVAN'S COVE
DAVEY ST
MOLLE ST
BATTERY POINT
SANDY BAY RD
BYRON ST
ANTILL ST
DIGNEY ST
REGENT ST
TASMANIA
SITE

PROJECT ID 60321835 CREATED BY DJB LAST MODIFIED DJB 11 NOV 2015 AECOM www.aecom.com	**LEGEND** Site Boundary	**SITE LOCATION PLAN** **Macquarie Point Development Corporation** *The Precinct South - Assessment of Lead Area Backfill* Macquarie Point, Hobart, TAS **Figure** F1
N DATUM GDA 1994, PROJECTION MGA ZONE 55 0 100 200 400 metres 1:10,000 (when printed at A3)		

Map Document: (P:\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2015\11\SEMP\60321835_FigF1_Site_Location_20151111.mxd)

A3 size

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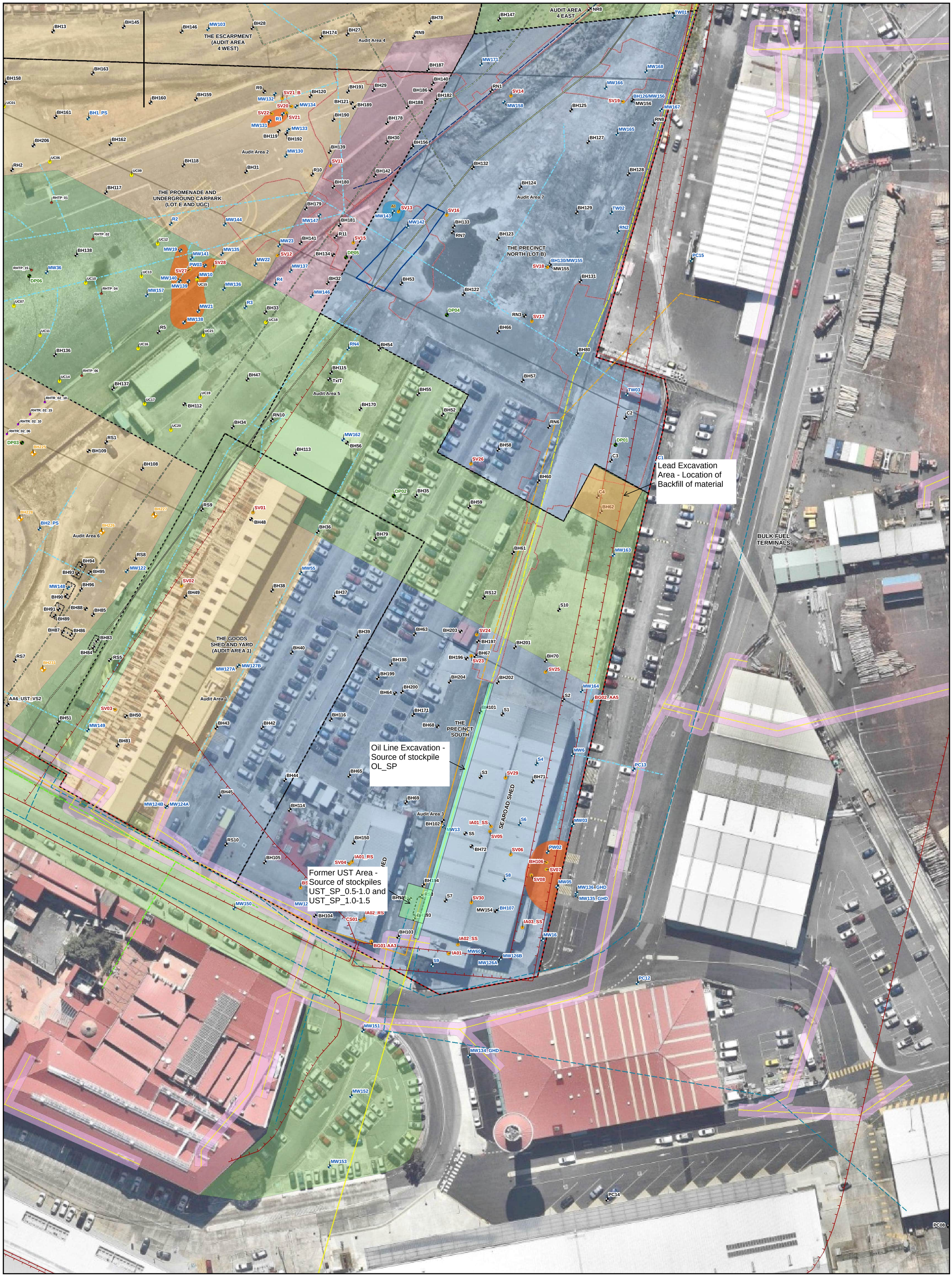

PROJECT ID 60321835
CREATED BY JB
LAST MODIFIED PRACHI.KULKARNI1 09 Nov 2022

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 5 10 20
metres
1:500 (when printed at A3)

Legend

- Assessment Area
- Sea Wall
- Stormwater pipeline
- Sewer (Main Hobart Pipeline)
- Former Sewer pipeline
- TasGas pipeline
- Naval oil pipeline
- Water pipeline
- Diesel Pipeline (Remaining)
- Diesel Pipeline (Removed)
- Oil Line (Remaining)
- Oil Line (Removed)
- Fuel Line (Removed)
- Telecommunication Cables
- Previous UST Location
- Inferred Extent of LNAPL Plume
- Sewer Exclusion Zone
- Telecommunications Exclusion Zone
- Remediation Excavation Extent
- Site Boundary
- Former Audit Areas
- Test Pit (Underground Carpark)
- Test Pit (Roundhouse Investigation)
- Trench (Roundhouse Investigation)
- Soil Investigation Location
- Groundwater Well
- Soil Vapour Bore

Proposed Future Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

SITE LAYOUT

Macquarie Point Development Corporation

The Precinct South - Assessment of Lead Area Backfill

Macquarie Point, Hobart, TAS

Figure
F2

Map Document: (L:\Legacy\Projects\603X\603218\5\4. Tech work area\4.99 GIS\02_Maps\2022\11\PrecinctSouth_RemediationWorkPlan\F2_Site_Layout.mxd)

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Tables

Table T1
Analytical Results - Soil - Total Contaminant Concentrations
Precinct South - Lead Excavation Backfill Assessment
Macquarie Point Development Project

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						Benzo(a)pyrene - Waste Classification (TAS requirem	Hexavalent Chromium by Alkaline Digestion and DA E	Moisture Content	PAH/Phenols (SIM)																																											
						Benzo(a)pyrene	Chromium (hexavalent)	Moisture Content	3/4-Methylphenol (m/p-cresol)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(e)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	Sum of Phenols
						mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.05	0.5	0.1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5						
IB105 Waste Classification Contaminated Soil Level 3						20	2000																20					200																						
IB105 Waste Classification Guidelines - Fill Material Level 1						*0.08*	*1*																*0.08*					*20*																						
IB105 Waste Classification Low Level Contaminated Soil Level 2						2	200																2					40																						
Potential Future Comm (unknown construction or multi-storey bldg)													12																																					
Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)													160																																					
Potential Future Comm/Light Ind Workers (working within a basement)													97																																					
Potential Future Maintenance Workers						110							38000										110																											
Potential Future Recreational Open Space Users																																																	
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**	**Sample_Depth_Avg**																																												
Pre-Backfilling Samples																																																	
OL_05_0.6W	OL_05_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	11.3	<1	1.2	1	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.6	<0.5	0.8	*0.8*	0.6	0.9	0.5	<0.5	<0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_05_1.0	OL_05_1.0	27/02/2023	EM2303516	Normal	1	-	-	6.8	<1	1.2	1	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.6	<0.5	0.8	*0.8*	0.6	0.9	0.5	<0.5	<0.5	5.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_17_0.6E	OL_17_0.6E	27/02/2023	EM2303516	Normal	0.6	-	-	6.1	<2	54.9	54.9	54.9	9.3	4.6	4.8	13.5	5.8	63.5	77	38.7	14.7	37.4	***39***	36	84.2	21.5	4.6	16.4	***471***	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<2	-
OL_17_0.6E	OL_17_0.6E	27/02/2023	EM2304091	Normal	0.6	-	-	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_17_1.0	OL_17_1.0	27/02/2023	EM2303516	Normal	1	-	-	15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_29_0.6W	OL_29_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	18.4	<1	28.5	28.5	28.5	0.8	3	<0.5	2.6	<0.5	9.3	27.2	16.7	8	19.1	***20.2***	14.3	27.3	12.1	2.7	10	***173***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_29_1.0	OL_29_1.0	27/02/2023	EM2303516	Normal	1	-	-	18.7	<1	11.2	11.2	11.2	<0.5	1.2	<0.5	1.2	<0.5	3	8.7	6.8	3.2	7.8	*7.8*	6.1	9.8	4.1	1.1	3.7	***64.5***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_41_0.5E	OL_41_0.5E	27/02/2023	EM2303516	Normal	0.5	-	-	9.9	<1	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_41_1.0	OL_41_1.0	27/02/2023	EM2303516	Normal	1	-	-	10.8	<1	28.7	28.7	28.7	0.7	2.9	<0.5	2.8	0.5	7.7	28	17.4	7.8	19.8	***20.4***	14.5	26.4	11.4	2.6	9.7	***173***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_53_0.6W	OL_53_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	28.6	<1	46.4	46.4	46.4	3	5.8	<0.5	11.2	1.8	38.5	66.6	34.5	11.9	32.4	***32.5***	27.4	62	17.3	4.1	14.7	***364***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_53_1.0	OL_53_1.0	27/02/2023	EM2303516	Normal	1	-	-	49.6	<1	15.2	15.2	15.2	2.2	2.7	<0.5	1	<0.5	9	7.8	5.2	3.1	10.1	*11.2*	5.5	11.6	7.3	1.5	5.8	***78***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_65_0.6E	OL_65_0.6E	27/02/2023	EM2303516	Normal	0.6	-	-	10	<2	32.2	32.2	32.2	18	2.4	4.9	10.8	6.4	53.6	49.6	22.2	7.4	26.3	***22.9***	22.4	51.9	12	2.5	8.9	***322***	1.8	<1.1	1.4	<1.1	<1.1	1.4	<1.1	<1.1	<1.1	<1.1	<2	-
OL_65_1.0	OL_65_1.0	27/02/2023	EM2303516	Normal	1	-	-	18.9	<1	9.8	9.8	9.8	<0.5	1.1	<0.5	1	<0.5	3.4	9.8	5.6	2.8	6.5	*7*	4.8	9.6	4.2	0.9	3.5	***60.2***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_77_0.6W	OL_77_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	21.2	<1	18.6	18.6	18.6	3.8	3	1.7	4.8	4.5	19.9	29.3	13.2	4.8	12.9	*13.1*	10.2	30.1	7.9	1.6	6.5	***167***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<2	-
OL_77_1.0	OL_77_1.0	27/02/2023	EM2303516	Normal	1	-	-	13.4	<1	24.6	24.6	24.6	4.2	3.4	3.1	6.7	11	31.3	30.6	16.3	6	18.8	*17.4*	14	32.7	9.2	2.1	7.7	***214***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2305209-AB	Normal		*2.15*	<0.5	15.6	<1	3	2.7	3.2	<0.5	0.5	<0.5	<0.5	<0.5	1.7	3.6	1.8	0.8	2.3	-	1.7	3.5	1.4	<0.5	1.1	20.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2305209-AB	Normal		-	-	18.5	<1	3.2	3	3.5	1.3	<0.5	<0.5	<0.5	<0.5	1.4	3.3	1.9	0.9	2.6	*2.3*	1.8	3.4	1.4	<0.5	1.1	*21.4*	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2305209-AB	Normal		-	-	10.9	<1	2.3	2.1	2.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	2.1	1.2	0.7	1.7	*1.6*	1.2	2.2	1	<0.5	0.8	13.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2305209-AB	Normal		-	-	10	<1	3.2	3	3.4	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	3.1	1.8	0.9	2.4	*2.3*	1.7	3.3	1.4	<0.5	1.1	19.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2305209-AB	Normal		-	-	15.4	<1	19.8	19.8	19.8	<0.5	1.7	<0.5	2.2	0.6	8.1	20.2	11.6	5.8	13.4	*14.2*	10.5	19.3	7.2	1.7	6.1	***123***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2305209-AB	Normal		-	-	13.7	<1	10.9	10.9	10.9	<0.5	0.9	<0.5	1.1	<0.5	3.4	9.4	6.2	3	7.8	*7.9*	5.5	9.5	4.1	0.9	3.4	***63.1***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2305209-AB	Normal		*16.2*	<0.5	11.8	<1	7.1	7.1	7.1	0.9	0.9	<0.5	0.8	<0.5	2.6	6.1	3.9	1.6	5.1	-	3.5	6.5	2.9	0.7	2.4	***42.9***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
***In Situ* (post-backfilling) Samples**																																																
OL_EX_BF_01_0.5	OL_EX_BF_01_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	16	<1	7.6	7.6	7.6	0.7	1	<0.5	1.3	<0.5	2.9	9	4.8	2.4	5.5	*5.3*	4.5	9.5	3.3	0.7	2.8	***53.7***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_01_1.0	OL_EX_BF_01_1.0	25/05/2023	EM2309607	Normal	1	-	-	20.9	<1	6	6	6	<0.5	0.8	<0.5	1	<0.5	2.2	6.9	3.6	1.8	4.4	*4.2*	3.3	7.2	2.6	0.5	2.2	***40.7***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_01_1.5	OL_EX_BF_01_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	14.2	1	34.3	34.3	34.3	1.7	3.5	<0.5	6	1.8	28.1	48.4	24.9	11.2	25.6	***23.1***	23.2	48.4	13.3	3.5	11.6	***274***	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_01_1.5	OL_EX_BF_01_1.5	25/05/2023	EM2310094	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_0.5	OL_EX_BF_02_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	21	<1	5.7	5.7	5.7	0.6	0.6	<0.5	1	<0.5	2	5.1	3.2	2.1	3.8	*4*	2.8	5.2	2.4	0.5	2	***35.3***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_02_0.5	OL_EX_BF_02_0.5	25/05/2023	EM2310094	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_1.0	OL_EX_BF_02_1.0	25/05/2023	EM2309607	Normal	1	-	-	18.2	<1	6.4	6.4	6.4	0.6	0.6	<0.5	1	<0.5	2	6.1	3.5	2.2	4.4	*4.5*	3.2	6.6	2.8	0.6	2.4	***40.5***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_02_1.5	OL_EX_BF_02_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	12.7	<1	7.3	7.3	7.3	0.6	0.7	<0.5	1.1	<0.5	2.7	7.1	4.2	1.8	5.5	*5.1*	3.6	7.6	3.2	0.7	2.7	***46.6***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_03_0.5	OL_EX_BF_03_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	16.1	<1	8.3	8.3	8.3	0.5	0.8	<0.5	1.5	<0.5	3.8	9.2	5.1	3	5.6	*5.8*	4.4	9.3	3.6	0.8	2.9	***56.3***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_03_1.0	OL_EX_BF_03_1.0	25/05/2023	EM2309607	Normal	1	-	-	15.3	<1	8.4	8.4	8.4	0.6	0.8	<0.5	1.2	<0.5	2.9	8.2	5	3	5.6	*5.9*	4.3	8.6	3.6	0.8	3	***53.5***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_03_1.5	OL_EX_BF_03_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	10.8	<1	8.2	8.2	8.2	1.3	0.9	<0.5	1.6	<0.5	4	8.6	4.9	2.3	6	*5.7*	4.3	9	3.6	0.8	2.9	***55.9***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_04_0.5	OL_EX_BF_04_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	13.5	<1	7.3	7.3	7.3	0.7	0.9	<0.5	1.7	<0.5	4.1	8.2	4.6	2.5	5	*5.1*	4	8.2	3	0.7	2.5	***51.2***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_04_1.0	OL_EX_BF_04_1.0	25/05/2023	EM2309607	Normal	1	-	-	17.9	<1	7.5	7.5	7.5	0.7	0.8	<0.5	1.8	<0.5	4.3	9.1	4.7	2.5	5.1	*5.2*	4.3	9.5	3.2	0.7	2.7	***54.6***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_04_1.0	OL_EX_BF_04_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_1.5	OL_EX_BF_04_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	17.6	<1	6.9	6.9	6.9	0.7	0.7	<0.5	1	<0.5	2.5	6.6	3.9	2.1	5.1	*4.9*	3.7	7.1	3	0.6	2.6	***44.5***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_04_1.5	OL_EX_BF_04_1.5	25/05/2023	EM2310094	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_05_0.5	OL_EX_BF_05_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	13.3	<1	5.6	5.6	5.6	0.6	0.6	<0.5	0.8	<0.5	1.8	5.1	3	1.6	4	*3.9*	2.9	5.4	2.6	0.6	2.2	***35.1***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_05_1.0	OL_EX_BF_05_1.0	25/05/2023	EM2309607	Normal	1	-	-	14.3	<1	7	7	7	1.3	1.1	<0.5	1.7	0.5	4.4	8.7	4.5	2	5.2	*4.9*	4	8.6	2.9	0.6	2.4	***52.8***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_05_1.5	OL_EX_BF_05_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	16.2	<1	10	10	10	1.5	1.9	<0.5	3.1	1.4	8	13.5	6.7	3.1	7.2	*7*	5.8	13.8	4	0.9	3.4	***81.3***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_06_0.5	OL_EX_BF_06_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	14.3	<1	6.4	6.4	6.4	0.7	0.7	<0.5	1.1	<0.5	2.7	6.5	3.6	2.1	4.6	*4.5*	3.2	6.7	2.9	0.6	2.4	***42.3***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_06_1.0	OL_EX_BF_06_1.0	25/05/2023	EM2309607	Normal	1	-	-	13.8	<1	9.6	9.6	9.6	0.8	1.2	<0.5	1.2	<0.5	3	7.4	4.8	3.1	6.7	*6.8*	4.6	8.7	4.1	0.9	3.4	***56.7***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_06_1.0	OL_EX_BF_06_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_07_0.5	OL_EX_BF_07_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	10.4	<1	4.1	3.9	4.4	<0.5	<0.5	<0.5	0.7	<0.5	1.8	4.2	2.4	1.5	2.9	*3*	2.2	4.4	1.9	<0.5	1.6	***26.6***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_07_1.0	OL_EX_BF_07_1.0	25/05/2023	EM2309607	Normal	1	-	-	10.1	<1	3	2.7	3.2	<0.5	<0.5	<0.5	0.5	<0.5	1.4	3.3	1.7	1.1	2	*2.1*	1.6	3.2	1.5	<0.5	1.2	19.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_08_0.5	OL_EX_BF_08_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	16.5	<1	31.7	31.7	31.7	7.8	1.2	23.2	29.6	18.4	90.4	56.4	26.2	6.7	22.6	***22.2***	24.6	66.9	12	2.7	9.2	***427***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_08_0.5	OL_EX_BF_08_0.5	25/05/2023	EM2310094	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_08_1.0	OL_EX_BF_08_1.0	25/05/2023	EM2309607	Normal	1	-	-	15	<1	5.1	4.8	5.3	0.9	1	<0.5	1.5	0.8	4.4	7	3.4	1.8	3.7	*3.7*	3	7.6	2.2	<0.5	1.8	***42.8***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_09_0.5	OL_EX_BF_09_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	15.6	<1	5.8	5.8	5.8	<0.5	<0.5	<0.5	0.9	<0.5	2.2	6.6	3.8	2	4	*3.9*	3.4	6.8	2.7	0.6	2.2	***39.1***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_09_1.0	OL_EX_BF_09_1.0	25/05/2023	EM2309607	Normal	1	-	-	17.9	<1	10.8	10.8	10.8	1.6	1.1	<0.5	2.7	0.8	10	12.8	6.8	4	7.7	*7.5*	6.3	12.8	4.5	1	4	***83.6***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
OL_EX_BF_09_1.0	OL_EX_BF_09_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1
Analytical Results - Soil - Total Contaminant Concentrations
Precinct South - Lead Excavation Backfill Assessment
Macquarie Point Development Project

AECOM

						Pesticides by GCMS																							Polychlorinated Biphenyls (PCB)	TCLP for Non & Semivolatile Analytes - Glass Leach			Total Cyanide by Segmented Flow Analyser	Total Fluoride	Total Mercury by FIMS		
						Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Polychlorinated Biphenyls	pH (Final)	pH (Initial)	pH (after HCL)	Cyanide Total	Fluoride	Mercury	Arsenic	Barium
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1	0.1	0.1	0.1	1	40	0.1	5	10
IB105 Waste Classification Contaminated Soil Level 3								50											1000												50				2500	10000	110	750	30000
IB105 Waste Classification Guidelines - Fill Material Level 1								*2*											*2*												*2*				*32*	*300*	*1*	*20*	*300*
IB105 Waste Classification Low Level Contaminated Soil Level 2								20											200												20				1000	3000	30	200	3000
Potential Future Comm (unknown construction or multi-storey bldg)																																						
Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																																						
Potential Future Comm/Light Ind Workers (working within a basement)																																						
Potential Future Maintenance Workers																																						
Potential Future Recreational Open Space Users																																						
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**	**Sample_Depth_Avg**																																	
Pre-Backfilling Samples																																						
OL_05_0.6W	OL_05_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*31*	-
OL_05_1.0	OL_05_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*20*	-
OL_17_0.6E	OL_17_0.6E	27/02/2023	EM2303516	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-
OL_17_0.6E	OL_17_0.6E	27/02/2023	EM2304091	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_17_1.0	OL_17_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
OL_29_0.6W	OL_29_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-
OL_29_1.0	OL_29_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-
OL_41_0.5E	OL_41_0.5E	27/02/2023	EM2303516	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-
OL_41_1.0	OL_41_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-
OL_53_0.6W	OL_53_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*174*	-
OL_53_1.0	OL_53_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*148*	-
OL_65_0.6E	OL_65_0.6E	27/02/2023	EM2303516	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-
OL_65_1.0	OL_65_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
OL_77_0.6W	OL_77_0.6W	27/02/2023	EM2303516	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*130*	-
OL_77_1.0	OL_77_1.0	27/02/2023	EM2303516	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*64*	-
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2305209-AB	Normal		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	1	130	0.3	*150*	100
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	8.6	1.5	-	-	-	-	-
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.5	1.6	-	-	-	-	-
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	9.8	1.6	-	-	-	-	-
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	9.9	1.6	-	-	-	-	-
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.5	1.6	-	-	-	-	-
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	9.6	1.5	-	-	-	-	-
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2305209-AB	Normal		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	120	0.6	*32*	80
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	9.9	1.5	-	-	-	-	-
***In Situ* (post-backfilling) Samples**																																						
OL_EX_BF_01_0.5	OL_EX_BF_01_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_01_1.0	OL_EX_BF_01_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_01_1.5	OL_EX_BF_01_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_01_1.5	OL_EX_BF_01_1.5	25/05/2023	EM2310094	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_0.5	OL_EX_BF_02_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_0.5	OL_EX_BF_02_0.5	25/05/2023	EM2310094	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_1.0	OL_EX_BF_02_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_1.5	OL_EX_BF_02_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_03_0.5	OL_EX_BF_03_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_03_1.0	OL_EX_BF_03_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_03_1.5	OL_EX_BF_03_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_0.5	OL_EX_BF_04_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_1.0	OL_EX_BF_04_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_1.0	OL_EX_BF_04_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_1.5	OL_EX_BF_04_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_1.5	OL_EX_BF_04_1.5	25/05/2023	EM2310094	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_05_0.5	OL_EX_BF_05_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_05_1.0	OL_EX_BF_05_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_05_1.5	OL_EX_BF_05_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_06_0.5	OL_EX_BF_06_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_06_1.0	OL_EX_BF_06_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_06_1.0	OL_EX_BF_06_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_07_0.5	OL_EX_BF_07_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_07_1.0	OL_EX_BF_07_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_08_0.5	OL_EX_BF_08_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_08_0.5	OL_EX_BF_08_0.5	25/05/2023	EM2310094	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_08_1.0	OL_EX_BF_08_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_09_0.5	OL_EX_BF_09_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_09_1.0	OL_EX_BF_09_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_09_1.0	OL_EX_BF_09_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1
Analytical Results - Soil - Total Contaminant Concentrations
Precinct South - Lead Excavation Backfill Assessment
Macquarie Point Development Project

AECOM

	Total Metals by ICP-AES													TPH Speciation (TPH CWG & RIVM fractions)				TPH - Semivolatile Fraction				TRH - Semivolatile Fraction					TPH/TRH Volatiles/BTEX									
	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	>C12 - C16 Aliphatic	>C10 - C12 Aliphatic	>C12 - C16 Aromatic	>C10 - C12 Aromatic	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	1	1	2	2	5	5	5	2	2	5	2	5	5	50	50	50	50	50	100	100	50	50	50	100	100	50	1	10	10	10	0.2	0.5	0.5	0.5	0.5	0.5	0.2
IB105 Waste Classification Contaminated Soil Level 3	400	400	5000	1000	7500	3000	25000	4000	3000	200	720	900	50000								10000							1000			50	1000	1080			1800	
IB105 Waste Classification Guidelines - Fill Material Level 1	*2*	*3*	*50*	*100*	*100*	*300*	*500*	*10*	*60*	*10*	*10*	*50*	*200*								*1000*							*65*			*1*	*1*	*3*			*14*	
IB105 Waste Classification Low Level Contaminated Soil Level 2	40	40	500	200	2000	1200	5000	1000	600	50	180	500	14000								5000							650			5	100	100			180	
Potential Future Comm (unknown construction or multi-storey bldg)														1700	300	510	140					140								67	3	950	340			240	
Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																														340	3	2500	340			830	
Potential Future Comm/Light Ind Workers (working within a basement)																						770								130	2	1400	110			320	
Potential Future Maintenance Workers						620								270000	270000	110000	110000					110000								110000	170	660000	290000			530000	
Potential Future Recreational Open Space Users																															360						

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type	Sample_Depth_Avg																																	
Pre-Backfilling Samples																																						
OL_05_0.6W	OL_05_0.6W	27/02/2023	EM2303516	Normal	0.6	-	1	25	-	58	76	-	-	*102*	-	-	-	*238*	-	-	-	-	<50	<100	<100	<50	<50	<50	<100	<100	<50	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_05_1.0	OL_05_1.0	27/02/2023	EM2303516	Normal	1	-	*3*	14	-	84	154	-	-	21	-	-	-	*561*	-	-	-	-	<50	190	170	360	<50	<50	310	<100	310	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_17_0.6E	OL_17_0.6E	27/02/2023	EM2303516	Normal	0.6	-	<1	<2	-	<5	<5	-	-	<2	-	-	-	16	-	-	-	-	<50	2460	1300	*3760*	140	140	3400	530	4070	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_17_0.6E	OL_17_0.6E	27/02/2023	EM2304091	Normal	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	100	<50	57	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_17_1.0	OL_17_1.0	27/02/2023	EM2303516	Normal	1	-	<1	5	-	*122*	*457*	-	-	14	-	-	-	*226*	-	-	-	-	<50	310	290	600	<50	<50	530	150	680	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_29_0.6W	OL_29_0.6W	27/02/2023	EM2303516	Normal	0.6	-	<1	12	-	*249*	*551*	-	-	21	-	-	-	*352*	-	-	-	-	<50	470	320	790	<50	<50	720	140	860	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_29_1.0	OL_29_1.0	27/02/2023	EM2303516	Normal	1	-	<1	9	-	96	233	-	-	16	-	-	-	*375*	-	-	-	-	<50	260	180	440	<50	<50	390	<100	390	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_41_0.5E	OL_41_0.5E	27/02/2023	EM2303516	Normal	0.5	-	<1	4	-	<5	5	-	-	<2	-	-	-	62	-	-	-	-	<50	<100	<100	<50	<50	<50	<100	<100	<50	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_41_1.0	OL_41_1.0	27/02/2023	EM2303516	Normal	1	-	<1	6	-	82	168	-	-	13	-	-	-	*818*	-	-	-	-	<50	480	320	800	<50	<50	730	130	860	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_53_0.6W	OL_53_0.6W	27/02/2023	EM2303516	Normal	0.6	-	<1	9	-	64	*354*	-	-	13	-	-	-	*270*	-	-	-	-	<50	1020	510	*1530*	70	70	1380	200	1650	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_53_1.0	OL_53_1.0	27/02/2023	EM2303516	Normal	1	-	<1	4	-	*195*	*585*	-	-	12	-	-	-	*553*	-	-	-	-	<50	390	250	640	<50	<50	550	110	660	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_65_0.6E	OL_65_0.6E	27/02/2023	EM2303516	Normal	0.6	-	*4*	6	-	37	37	-	-	11	-	-	-	*412*	-	-	-	-	<50	200	170	370	<50	<50	340	<100	340	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_65_1.0	OL_65_1.0	27/02/2023	EM2303516	Normal	1	-	<1	7	-	41	115	-	-	12	-	-	-	96	-	-	-	-	<50	140	120	260	<50	<50	230	<100	230	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_77_0.6W	OL_77_0.6W	27/02/2023	EM2303516	Normal	0.6	-	2	10	-	*118*	178	-	-	16	-	-	-	*458*	-	-	-	-	2640	5990	420	*9050*	5000	5000	3900	170	9070	1	50	84	82	<0.2	<0.5	<0.5	1.7	<0.5	1.7	1.7
OL_77_1.0	OL_77_1.0	27/02/2023	EM2303516	Normal	1	-	<1	13	-	49	146	-	-	10	-	-	-	*228*	-	-	-	-	4400	8890	580	***13,900***	8110	8110	5540	240	13,900	1	55	87	87	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2305209-AB	Normal		<1	2	14	11	83	235	223	<2	24	<5	<2	24	*403*	-	-	-	-	<50	150	150	300	<50	<50	270	<100	270	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	277	-	-	-	-	-	-	-	-	-	-	-	<50	110	<100	110	<50	<50	170	<100	170	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	*386*	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<50	<50	130	<100	130	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-	<50	150	<100	150	<50	<50	190	<100	190	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	<50	390	230	620	<50	<50	550	<100	550	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2305209-AB	Normal		-	-	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	<50	270	150	420	<50	<50	360	<100	360	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2305209-AB	Normal		<1	<1	14	12	71	*796*	236	<2	31	<5	<2	39	*266*	-	-	-	-	80	540	150	770	*260*	260	480	<100	740	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2307275	Normal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
***In Situ* (post-backfilling) Samples**																																						
OL_EX_BF_01_0.5	OL_EX_BF_01_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	285	-	-	-	-	-	-	-	-	-	-	-	50	300	120	470	80	80	360	<100	440	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_01_1.0	OL_EX_BF_01_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	218	-	-	-	-	-	-	-	-	-	-	-	<50	220	130	350	<50	<50	290	<100	290	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_01_1.5	OL_EX_BF_01_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	236	-	-	-	-	-	-	-	-	-	-	-	150	710	200	*1060*	380	380	640	130	1150	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_01_1.5	OL_EX_BF_01_1.5	25/05/2023	EM2310094	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	263	<50	75	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_0.5	OL_EX_BF_02_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	*405*	-	-	-	-	-	-	-	-	-	-	-	<50	400	100	500	140	140	350	<100	490	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_02_0.5	OL_EX_BF_02_0.5	25/05/2023	EM2310094	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	105	<50	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_02_1.0	OL_EX_BF_02_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	208	-	-	-	-	-	-	-	-	-	-	-	<50	230	120	350	<50	<50	280	<100	280	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_02_1.5	OL_EX_BF_02_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	254	-	-	-	-	-	-	-	-	-	-	-	<50	360	140	500	100	100	370	<100	470	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_03_0.5	OL_EX_BF_03_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	228	-	-	-	-	-	-	-	-	-	-	-	<50	200	140	340	<50	<50	290	<100	290	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_03_1.0	OL_EX_BF_03_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	247	-	-	-	-	-	-	-	-	-	-	-	<50	220	140	360	<50	<50	300	<100	300	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_03_1.5	OL_EX_BF_03_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	251	-	-	-	-	-	-	-	-	-	-	-	<50	400	160	560	120	120	440	<100	560	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_04_0.5	OL_EX_BF_04_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	240	-	-	-	-	-	-	-	-	-	-	-	<50	400	170	570	110	110	460	<100	570	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_04_1.0	OL_EX_BF_04_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	243	-	-	-	-	-	-	-	-	-	-	-	70	410	140	620	190	190	410	<100	600	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_04_1.0	OL_EX_BF_04_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	79	<50	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_04_1.5	OL_EX_BF_04_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	282	-	-	-	-	-	-	-	-	-	-	-	80	500	150	730	230	230	480	<100	710	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_04_1.5	OL_EX_BF_04_1.5	25/05/2023	EM2310094	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	124	<50	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_05_0.5	OL_EX_BF_05_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	*324*	-	-	-	-	-	-	-	-	-	-	-	<50	240	130	370	<50	<50	310	<100	310	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_05_1.0	OL_EX_BF_05_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	132	-	-	-	-	-	-	-	-	-	-	-	<50	370	150	520	130	130	410	<100	540	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_05_1.5	OL_EX_BF_05_1.5	25/05/2023	EM2309607	Normal	1.5	-	-	-	-	-	78	-	-	-	-	-	-	-	-	-	-	-	<50	300	190	490	<50	<50	410	130	540	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_06_0.5	OL_EX_BF_06_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	*597*	-	-	-	-	-	-	-	-	-	-	-	<50	300	170	470	70	70	380	<100	450	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_06_1.0	OL_EX_BF_06_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	235	-	-	-	-	-	-	-	-	-	-	-	200	890	180	*1270*	530	530	720	<100	1250	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_06_1.0	OL_EX_BF_06_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	296	<50	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_07_0.5	OL_EX_BF_07_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	183	-	-	-	-	-	-	-	-	-	-	-	<50	190	120	310	<50	<50	250	<100	250	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_07_1.0	OL_EX_BF_07_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	127	-	-	-	-	-	-	-	-	-	-	-	<50	160	120	280	<50	<50	240	120	360	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_08_0.5	OL_EX_BF_08_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	*343*	-	-	-	-	-	-	-	-	-	-	-	210	1940	540	*2690*	600	600	2000	280	2880	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_08_0.5	OL_EX_BF_08_0.5	25/05/2023	EM2310094	Normal	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	156	<50	187	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_BF_08_1.0	OL_EX_BF_08_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	111	-	-	-	-	-	-	-	-	-	-	-	70	320	<100	390	130	130	340	<100	470	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_09_0.5	OL_EX_BF_09_0.5	25/05/2023	EM2309607	Normal	0.5	-	-	-	-	-	*392*	-	-	-	-	-	-	-	-	-	-	-	<50	200	140	340	<50	<50	300	<100	300	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_09_1.0	OL_EX_BF_09_1.0	25/05/2023	EM2309607	Normal	1	-	-	-	-	-	*600*	-	-	-	-	-	-	-	-	-	-	-	110	480	180	770	190	190	540	<100	730	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_BF_09_1.0	OL_EX_BF_09_1.0	25/05/2023	EM2310094	Normal	1	-	-	-	-	-	-	-	-	-	-	-	-	-	86	<50	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T2
Analytical Results - Soil - Leachable Contaminant Concentrations
Precinct South - Lead Excavation Backfill Assessment
Macquarie Point Development Project

						PAH/Phenols (GC/MS - SIM)																
						Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.5	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	0.5
TAS Waste Classification Contaminated Soil Level 3 TCLP						5											5					
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP						0.5											0.5					
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																		
UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_01	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_02	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_03	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_0.5-1.0_04	UST_SP_0.5-1.0_04	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_1.0-1.5_01	UST_SP_1.0-1.5_01	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_02	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_1.0-1.5_03	UST_SP_1.0-1.5_03	21/03/2023	EM2307275	Normal		<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5

AECOM

Appendix A

Laboratory Reports

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2303516**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023 11:20
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 07-Mar-2023 18:54
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 22		
No. of samples analysed	: 22		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP075(SIM): Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.
- EG005T: EM2303516 #1, Poor duplicate precision for zinc due to sample heterogeneity. Confirmed by re-extraction and re-analysis. The following results were observed: 441 mg/kg, 434 mg/kg, 561 mg/kg and 318 mg/kg.
- EP075(SIM): Poor duplicate precision for EM2303516_012 due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_QCA01	OL_QCB01	OL_QCB02	----	----
				Sampling date / time	27-Feb-2023 09:30	27-Feb-2023 09:31	28-Feb-2023 09:32	----	----
Compound	CAS Number	LOR	Unit		EM2303516-021	EM2303516-022	EM2303516-023	--------	--------
					Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	<0.001	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	<1.0	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_QCA01	OL_QCB01	OL_QCB02	----	----
				Sampling date / time	27-Feb-2023 09:30	27-Feb-2023 09:31	28-Feb-2023 09:32	----	----
Compound	CAS Number	LOR	Unit		EM2303516-021	EM2303516-022	EM2303516-023	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	<100	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	<100	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**23.4**	**16.8**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**54.1**	**38.9**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**91.3**	**71.4**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**60.3**	**38.2**	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**86.6**	**65.7**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**89.2**	**66.0**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**94.4**	**94.8**	**99.3**	----	----

Analytical Results

Sub-Matrix: **RINSATE** (Matrix: **WATER**)				Sample ID	OL_QCA01	OL_QCB01	OL_QCB02	----	----
				Sampling date / time	27-Feb-2023 09:30	27-Feb-2023 09:31	28-Feb-2023 09:32	----	----
Compound	CAS Number	LOR	Unit		EM2303516-021	EM2303516-022	EM2303516-023	--------	--------
					Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**99.1**	**99.0**	**107**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**104**	**101**	**112**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_05_1.0	OL_05_0.6W	OL_17_1.0	OL_17_0.6E	OL_29_1.0
			Sampling date / time	27-Feb-2023 09:07	27-Feb-2023 09:08	27-Feb-2023 09:09	27-Feb-2023 09:10	27-Feb-2023 09:10
Compound	CAS Number	LOR	Unit	EM2303516-001	EM2303516-002	EM2303516-003	EM2303516-004	EM2303516-005
				Result	Result	Result	Result	Result
EA055: Moisture Content								
Moisture Content	----	1.0	%	----	----	15.7	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	6.8	11.3	----	6.1	18.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	20	31	6	<5	11
Cadmium	7440-43-9	1	mg/kg	3	1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	25	5	<2	9
Copper	7440-50-8	5	mg/kg	84	58	122	<5	96
Lead	7439-92-1	5	mg/kg	154	76	457	<5	233
Nickel	7440-02-0	2	mg/kg	21	102	14	<2	16
Zinc	7440-66-6	5	mg/kg	561	238	226	16	375
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	<2	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	<1.1	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	9.3	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	4.6	1.2
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	4.8	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	5.8	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	63.5	3.0
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	13.5	1.2
Fluoranthene	206-44-0	0.5	mg/kg	0.9	0.8	----	77.0	8.7
Pyrene	129-00-0	0.5	mg/kg	0.9	0.9	----	84.2	9.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	0.6	----	38.7	6.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_05_1.0	OL_05_0.6W	OL_17_1.0	OL_17_0.6E	OL_29_1.0
			Sampling date / time	27-Feb-2023 09:07	27-Feb-2023 09:08	27-Feb-2023 09:09	27-Feb-2023 09:10	27-Feb-2023 09:10
Compound	CAS Number	LOR	Unit	EM2303516-001	EM2303516-002	EM2303516-003	EM2303516-004	EM2303516-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	**0.6**	**0.6**	----	**36.0**	**6.1**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**0.8**	**0.8**	----	**37.4**	**7.8**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	**14.7**	**3.2**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**0.8**	**0.8**	----	**39.0**	**7.8**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	**16.4**	**3.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	**4.6**	**1.1**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.5**	**0.5**	----	**21.5**	**4.1**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**5.1**	**5.0**	----	**471**	**64.5**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**1.0**	**1.0**	----	**54.9**	**11.2**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	**54.9**	**11.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.6**	**1.6**	----	**54.9**	**11.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**190**	<100	**310**	**2460**	**260**
C29 - C36 Fraction	----	100	mg/kg	**170**	<100	**290**	**1300**	**180**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**360**	<50	**600**	**3760**	**440**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	**140**	<50
>C16 - C34 Fraction	----	100	mg/kg	**310**	<100	**530**	**3400**	**390**
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	**150**	**530**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**310**	<50	**680**	**4070**	**390**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	**140**	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_05_1.0	OL_05_0.6W	OL_17_1.0	OL_17_0.6E	OL_29_1.0
			Sampling date / time	27-Feb-2023 09:07	27-Feb-2023 09:08	27-Feb-2023 09:09	27-Feb-2023 09:10	27-Feb-2023 09:10
Compound	CAS Number	LOR	Unit	EM2303516-001	EM2303516-002	EM2303516-003	EM2303516-004	EM2303516-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**93.4**	**96.1**	**----**	**84.0**	**96.8**
2-Chlorophenol-D4	93951-73-6	0.5	%	**96.8**	**101**	**----**	**88.9**	**101**
2.4.6-Tribromophenol	118-79-6	0.5	%	**88.0**	**89.7**	**----**	**84.8**	**93.6**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**101**	**106**	**----**	**94.9**	**105**
Anthracene-d10	1719-06-8	0.5	%	**112**	**119**	**----**	**129**	**114**
4-Terphenyl-d14	1718-51-0	0.5	%	**105**	**107**	**----**	**97.5**	**108**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**74.8**	**69.3**	**104**	**74.5**	**66.4**
Toluene-D8	2037-26-5	0.2	%	**76.0**	**72.8**	**102**	**76.5**	**69.6**
4-Bromofluorobenzene	460-00-4	0.2	%	**78.1**	**78.6**	**105**	**82.9**	**73.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_29_0.6W	OL_41_1.0	OL_41_0.5E	OL_53_1.0	OL_53_0.6W
			Sampling date / time	27-Feb-2023 09:11	27-Feb-2023 09:13	27-Feb-2023 09:15	27-Feb-2023 09:18	27-Feb-2023 09:19
Compound	CAS Number	LOR	Unit	EM2303516-006	EM2303516-007	EM2303516-008	EM2303516-009	EM2303516-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.4	10.8	9.9	49.6	28.6
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	15	5	15	148	174
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	6	4	4	9
Copper	7440-50-8	5	mg/kg	249	82	<5	195	64
Lead	7439-92-1	5	mg/kg	551	168	5	585	354
Nickel	7440-02-0	2	mg/kg	21	13	<2	12	13
Zinc	7440-66-6	5	mg/kg	352	818	62	553	270
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.8	0.7	<0.5	2.2	3.0
Acenaphthylene	208-96-8	0.5	mg/kg	3.0	2.9	<0.5	2.7	5.8
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	1.8
Phenanthrene	85-01-8	0.5	mg/kg	9.3	7.7	<0.5	3.0	38.5
Anthracene	120-12-7	0.5	mg/kg	2.6	2.8	<0.5	1.0	11.2
Fluoranthene	206-44-0	0.5	mg/kg	27.2	28.0	<0.5	7.8	66.6
Pyrene	129-00-0	0.5	mg/kg	27.3	26.4	<0.5	11.6	62.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	16.7	17.4	<0.5	5.2	34.5
Chrysene	218-01-9	0.5	mg/kg	14.3	14.5	<0.5	5.5	27.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	19.1	19.8	<0.5	10.1	32.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_29_0.6W	OL_41_1.0	OL_41_0.5E	OL_53_1.0	OL_53_0.6W
				Sampling date / time	27-Feb-2023 09:11	27-Feb-2023 09:13	27-Feb-2023 09:15	27-Feb-2023 09:18	27-Feb-2023 09:19
Compound	CAS Number	LOR	Unit		EM2303516-006	EM2303516-007	EM2303516-008	EM2303516-009	EM2303516-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		8.0	7.8	<0.5	3.1	11.9
Benzo(a)pyrene	50-32-8	0.5	mg/kg		20.2	20.4	<0.5	11.2	32.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		10.0	9.7	<0.5	5.8	14.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		2.7	2.6	<0.5	1.5	4.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		12.1	11.4	<0.5	7.3	17.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		173	173	<0.5	78.0	364
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		28.5	28.7	<0.5	15.2	46.4
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		28.5	28.7	0.6	15.2	46.4
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		28.5	28.7	1.2	15.2	46.4
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		470	480	<100	390	1020
C29 - C36 Fraction	----	100	mg/kg		320	320	<100	250	510
^ C10 - C36 Fraction (sum)	----	50	mg/kg		790	800	<50	640	1530
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	70
>C16 - C34 Fraction	----	100	mg/kg		720	730	<100	550	1380
>C34 - C40 Fraction	----	100	mg/kg		140	130	<100	110	200
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		860	860	<50	660	1650
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	70
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_29_0.6W	OL_41_1.0	OL_41_0.5E	OL_53_1.0	OL_53_0.6W
				Sampling date / time	27-Feb-2023 09:11	27-Feb-2023 09:13	27-Feb-2023 09:15	27-Feb-2023 09:18	27-Feb-2023 09:19
Compound	CAS Number	LOR	Unit		EM2303516-006	EM2303516-007	EM2303516-008	EM2303516-009	EM2303516-010
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		98.1	87.4	98.0	92.7	86.8
2-Chlorophenol-D4	93951-73-6	0.5	%		104	94.4	104	96.3	91.8
2.4.6-Tribromophenol	118-79-6	0.5	%		96.7	85.9	90.1	88.7	82.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		107	95.4	104	102	95.4
Anthracene-d10	1719-06-8	0.5	%		114	115	123	112	108
4-Terphenyl-d14	1718-51-0	0.5	%		108	96.3	103	104	96.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		78.8	79.2	83.3	70.3	73.8
Toluene-D8	2037-26-5	0.2	%		79.2	81.6	83.2	65.6	77.0
4-Bromofluorobenzene	460-00-4	0.2	%		78.3	83.0	86.6	60.9	75.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_65_1.0	OL_65_0.6E	OL_77_1.0	OL_77_0.6W	OL_QC101
				Sampling date / time	27-Feb-2023 09:20	27-Feb-2023 09:21	27-Feb-2023 09:21	27-Feb-2023 09:22	27-Feb-2023 09:23
Compound	CAS Number	LOR	Unit		EM2303516-011	EM2303516-012	EM2303516-013	EM2303516-014	EM2303516-015
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		18.9	10.0	13.4	21.2	19.8
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		6	10	64	130	60
Cadmium	7440-43-9	1	mg/kg		<1	4	<1	2	1
Chromium	7440-47-3	2	mg/kg		7	6	13	10	9
Copper	7440-50-8	5	mg/kg		41	37	49	118	102
Lead	7439-92-1	5	mg/kg		115	37	146	178	178
Nickel	7440-02-0	2	mg/kg		12	11	10	16	12
Zinc	7440-66-6	5	mg/kg		96	412	228	458	396
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	1.8	<0.5	<0.5	1.1
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	1.4	<0.5	<0.5	0.8
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<2	<1	<1	2
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	1.4	<0.5	<1.0	3.1
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<1.1	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	18.0	4.2	3.8	13.2
Acenaphthylene	208-96-8	0.5	mg/kg		1.1	2.4	3.4	3.0	4.3
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	4.9	3.1	1.7	7.6
Fluorene	86-73-7	0.5	mg/kg		<0.5	6.4	11.0	4.5	15.1
Phenanthrene	85-01-8	0.5	mg/kg		3.4	53.6	31.3	19.9	64.8
Anthracene	120-12-7	0.5	mg/kg		1.0	10.8	6.7	4.8	15.1
Fluoranthene	206-44-0	0.5	mg/kg		9.8	49.6	30.6	29.3	54.2
Pyrene	129-00-0	0.5	mg/kg		9.6	51.9	32.7	30.1	56.6
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.6	22.2	16.3	13.2	28.0
Chrysene	218-01-9	0.5	mg/kg		4.8	22.4	14.0	10.2	23.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.5	26.3	18.8	12.9	25.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_65_1.0	OL_65_0.6E	OL_77_1.0	OL_77_0.6W	OL_QC101
			Sampling date / time	27-Feb-2023 09:20	27-Feb-2023 09:21	27-Feb-2023 09:21	27-Feb-2023 09:22	27-Feb-2023 09:23
Compound	CAS Number	LOR	Unit	EM2303516-011	EM2303516-012	EM2303516-013	EM2303516-014	EM2303516-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.8	7.4	6.0	4.8	10.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.0	22.9	17.4	13.1	27.3
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.5	8.9	7.7	6.5	12.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.9	2.5	2.1	1.6	3.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.2	12.0	9.2	7.9	15.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	60.2	322	214	167	376
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	9.8	32.2	24.6	18.6	38.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	9.8	32.2	24.6	18.6	38.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	9.8	32.2	24.6	18.6	38.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	55	50	41
C10 - C14 Fraction	----	50	mg/kg	<50	<50	4400	2640	4170
C15 - C28 Fraction	----	100	mg/kg	140	200	8890	5990	8910
C29 - C36 Fraction	----	100	mg/kg	120	170	580	420	760
^ C10 - C36 Fraction (sum)	----	50	mg/kg	260	370	13900	9050	13800
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	87	84	64
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	87	82	64
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	8110	5000	7720
>C16 - C34 Fraction	----	100	mg/kg	230	340	5540	3900	5880
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	240	170	300
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	230	340	13900	9070	13900
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	8110	5000	7710
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.7	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	1.7	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	1.7	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	1	1	6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_65_1.0	OL_65_0.6E	OL_77_1.0	OL_77_0.6W	OL_QC101
				Sampling date / time	27-Feb-2023 09:20	27-Feb-2023 09:21	27-Feb-2023 09:21	27-Feb-2023 09:22	27-Feb-2023 09:23
Compound	CAS Number	LOR	Unit		EM2303516-011	EM2303516-012	EM2303516-013	EM2303516-014	EM2303516-015
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**95.2**	**87.5**	**94.3**	**99.0**	**103**
2-Chlorophenol-D4	93951-73-6	0.5	%		**99.7**	**89.4**	**97.2**	**103**	**106**
2.4.6-Tribromophenol	118-79-6	0.5	%		**91.6**	**84.0**	**104**	**100**	**108**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**102**	**95.7**	**96.4**	**96.9**	**101**
Anthracene-d10	1719-06-8	0.5	%		**112**	**112**	**124**	**105**	**109**
4-Terphenyl-d14	1718-51-0	0.5	%		**102**	**105**	**101**	**99.9**	**109**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**76.5**	**77.2**	**81.0**	**78.4**	**69.0**
Toluene-D8	2037-26-5	0.2	%		**79.1**	**76.2**	**88.5**	**83.7**	**58.3**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.5**	**80.3**	**85.7**	**82.2**	**65.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_100_1.0	DL_100_0.6N	DL_90_1.0	DL_90_0.6S	----
			Sampling date / time	28-Feb-2023 09:26	28-Feb-2023 09:27	28-Feb-2023 09:28	28-Feb-2023 09:29	----
Compound	CAS Number	LOR	Unit	EM2303516-017	EM2303516-018	EM2303516-019	EM2303516-020	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.2**	**15.8**	**18.3**	**17.5**	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**6**	**6**	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	**9**	**17**	**11**	**10**	----
Copper	7440-50-8	5	mg/kg	**112**	**96**	**54**	**93**	----
Lead	7439-92-1	5	mg/kg	**189**	**380**	**84**	**103**	----
Nickel	7440-02-0	2	mg/kg	**24**	**17**	**9**	**12**	----
Zinc	7440-66-6	5	mg/kg	**350**	**628**	**94**	**71**	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**2.8**	**0.5**	<0.5	**1.1**	----
Acenaphthylene	208-96-8	0.5	mg/kg	**1.7**	**2.5**	**0.9**	**4.7**	----
Acenaphthene	83-32-9	0.5	mg/kg	**3.0**	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	**2.3**	**1.0**	<0.5	**1.7**	----
Phenanthrene	85-01-8	0.5	mg/kg	**16.4**	**14.8**	**4.8**	**23.9**	----
Anthracene	120-12-7	0.5	mg/kg	**4.3**	**2.8**	**1.1**	**4.6**	----
Fluoranthene	206-44-0	0.5	mg/kg	**19.2**	**25.7**	**7.9**	**25.1**	----
Pyrene	129-00-0	0.5	mg/kg	**20.8**	**23.5**	**7.2**	**25.2**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**9.9**	**9.8**	**3.5**	**12.9**	----
Chrysene	218-01-9	0.5	mg/kg	**8.2**	**8.5**	**3.0**	**10.1**	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**10.4**	**11.5**	**4.0**	**11.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_100_1.0	DL_100_0.6N	DL_90_1.0	DL_90_0.6S	----
				Sampling date / time	28-Feb-2023 09:26	28-Feb-2023 09:27	28-Feb-2023 09:28	28-Feb-2023 09:29	----
Compound	CAS Number	LOR	Unit		EM2303516-017	EM2303516-018	EM2303516-019	EM2303516-020	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		3.9	4.1	1.6	4.7	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		11.4	11.8	4.1	12.2	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		5.5	6.5	2.3	5.3	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		1.5	1.4	0.5	1.7	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		7.1	7.8	2.7	6.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		128	132	43.6	151	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		16.0	16.6	5.8	17.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		16.0	16.6	5.8	17.5	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		16.0	16.6	5.8	17.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		450	400	100	460	----
C29 - C36 Fraction	----	100	mg/kg		280	310	<100	210	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		730	710	100	670	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg		50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg		630	620	160	600	----
>C34 - C40 Fraction	----	100	mg/kg		140	190	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		820	810	160	600	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		50	<50	<50	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_100_1.0	DL_100_0.6N	DL_90_1.0	DL_90_0.6S	----
				Sampling date / time	28-Feb-2023 09:26	28-Feb-2023 09:27	28-Feb-2023 09:28	28-Feb-2023 09:29	----
Compound	CAS Number	LOR	Unit		EM2303516-017	EM2303516-018	EM2303516-019	EM2303516-020	--------
					Result	Result	Result	Result	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**99.6**	**92.2**	**100**	**88.0**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**102**	**98.2**	**104**	**92.0**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**96.6**	**92.0**	**96.6**	**84.2**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**100**	**99.6**	**102**	**90.9**	**----**
Anthracene-d10	1719-06-8	0.5	%		**109**	**109**	**119**	**98.9**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**99.4**	**97.5**	**103**	**90.0**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.8**	**80.1**	**80.0**	**111**	**----**
Toluene-D8	2037-26-5	0.2	%		**81.4**	**81.2**	**83.5**	**111**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**81.2**	**84.0**	**86.2**	**113**	**----**

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2303516**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 07-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 22		
No. of samples analysed	: 22		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4903234)									
EM2303516-001	OL_05_1.0	EG005T: Copper	7440-50-8	5	mg/kg	84	86	1.6	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	154	128	18.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	561	# 434	25.4	0% - 20%
EM2303516-010	OL_53_0.6W	EG005T: Lead	7439-92-1	5	mg/kg	354	315	11.7	0% - 20%
EM2303516-001	OL_05_1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	3	6	57.9	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	16	15.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	25	16.3	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	20	32	45.1	No Limit
EM2303516-010	OL_53_0.6W	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	9	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	13	14	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	374	418	11.2	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	64	64	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	270	225	18.3	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4903299)									
EM2303516-001	OL_05_1.0	EA055: Moisture Content	----	0.1	%	6.8	5.2	25.6	No Limit
EM2303516-011	OL_65_1.0	EA055: Moisture Content	----	0.1	%	18.9	15.4	20.2	0% - 50%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4903221)									
EM2303516-012	OL_65_0.6E	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	1.8	<1.1	49.2	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	1.4	<1.1	27.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	1.4	<1.1	27.5	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<1.1	<1.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4903221) - continued									
EM2303516-012	OL_65_0.6E	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<1.1	<1.1	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<2	<2	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2303516-001	OL_05_1.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4903221)									
EM2303516-012	OL_65_0.6E	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	18.0	# 6.0	99.9	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.4	1.9	25.2	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	4.9	1.4	111	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	6.4	2.0	106	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	53.6	# 16.2	107	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	10.8	4.5	81.6	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	49.6	# 19.8	85.9	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	51.9	# 22.0	80.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	22.2	# 10.6	71.0	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	22.4	# 9.8	77.7	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	26.3	# 12.4	71.6	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	7.4	4.4	51.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	22.9	# 12.1	61.6	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.9	5.2	51.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.5	1.4	54.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.0	# 6.9	54.5	0% - 50%
EM2303516-001	OL_05_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4903221) - continued									
EM2303516-001	OL_05_1.0	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	0.9	1.2	25.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	0.9	1.2	30.4	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	0.9	33.2	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.6	0.8	33.2	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	0.8	1.1	34.1	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.8	1.1	37.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.5	0.7	35.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4903219)									
EM2303516-001	OL_05_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2303516-011	OL_65_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4903222)									
EM2303516-012	OL_65_0.6E	EP071: C15 - C28 Fraction	----	100	mg/kg	200	280	31.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	170	230	26.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2303516-001	OL_05_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	190	180	5.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	170	190	9.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4903219)									
EM2303516-001	OL_05_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2303516-011	OL_65_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4903222)									
EM2303516-012	OL_65_0.6E	EP071: >C16 - C34 Fraction	----	100	mg/kg	340	450	30.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	110	12.8	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2303516-001	OL_05_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	310	320	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	110	12.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4903219)									
EM2303516-001	OL_05_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4903219) - continued									
EM2303516-001	OL_05_1.0	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2303516-011	OL_65_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4903563)									
EM2303478-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.040	0.039	0.0	0% - 20%
EM2303526-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.014	0.014	0.0	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4904257)									
EM2303560-005	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4905052)									
EM2303515-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4904257)									
EM2303560-005	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4905052)									
EM2303515-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4905052)									
EM2303515-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4903234)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	112	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	90.1	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.3	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	88.5	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	90.3	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	74.7	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4903221)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	117	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	116	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	113	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	108	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	105	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	106	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	102	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	112	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	97.9	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4903221)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	118	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	118	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	117	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	120	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	121	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	118	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	119	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	117	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	119	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	124	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	112	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	123	80.4	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4903221) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	113	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	115	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	114	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	116	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903219)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.9	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903222)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	111	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	103	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	102	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903219)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.0	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903222)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	109	73.3	137
EP080: BTEXN (QCLot: 4903219)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.8	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	86.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	81.2	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	85.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	83.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	106	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4903563)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	104	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4904256)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	39.9	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	94.9	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	81.9	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	75.9	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	101	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	100	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	92.8	45.3	115

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4904256) - continued								
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	85.8	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	95.1	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	93.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	84.4	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	80.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4904256)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	83.2	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	95.7	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	88.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	89.9	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	94.5	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	99.8	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	108	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	118	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	112	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	105	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	104	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	101	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	101	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	101	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	99.9	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	95.2	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4904257)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	58.1	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	65.7	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	66.4	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4905052)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	91.5	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4904257)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	59.6	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	64.0	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	63.6	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4905052)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	98.5	66.2	132
EP080: BTEXN (QCLot: 4905052)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	81.5	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	97.3	72.9	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4905052) - continued								
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	90.1	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	94.7	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	99.1	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4903234)							
EM2303516-002	OL_05_0.6W	EG005T: Arsenic	7440-38-2	50 mg/kg	110	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.2	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	121	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.8	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	104	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	89.6	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4903221)							
EM2303516-002	OL_05_0.6W	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	100	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	79.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	76.6	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	74.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4903221)							
EM2303516-002	OL_05_0.6W	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	110	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903219)							
EM2303516-002	OL_05_0.6W	EP080: C6 - C9 Fraction	----	28 mg/kg	58.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4903222)							
EM2303516-003	OL_17_1.0	EP071: C10 - C14 Fraction	----	770 mg/kg	113	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	99.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903219)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903219) - continued							
EM2303516-002	OL_05_0.6W	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	52.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4903222)							
EM2303516-003	OL_17_1.0	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	97.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	117	66.8	138
EP080: BTEXN (QCLot: 4903219)							
EM2303516-002	OL_05_0.6W	EP080: Benzene	71-43-2	2 mg/kg	70.4	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.2	57.1	131

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 4903563)							
EM2303478-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	91.2	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4905052)							
EM2303515-005	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	76.3	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4905052)							
EM2303515-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	77.5	34.0	122
EP080: BTEXN (QCLot: 4905052)							
EM2303515-005	Anonymous	EP080: Benzene	71-43-2	20 µg/L	80.7	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	102	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2303516**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 07-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 22
Order number	: 60693007-2	No. of samples analysed	: 22

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2303516--001	OL_05_1.0	**Zinc**	7440-66-6	25.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Naphthalene**	91-20-3	99.9 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Phenanthrene**	85-01-8	107 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Fluoranthene**	206-44-0	85.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Pyrene**	129-00-0	80.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benz(a)anthracene**	56-55-3	71.0 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Chrysene**	218-01-9	77.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benzo(b+j)fluoranthene**	205-99-2 205-82-3	71.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benzo(a)pyrene**	50-32-8	61.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2303516--012	OL_65_0.6E	**Benzo(g.h.i)perylene**	191-24-2	54.5 %	0% - 50%	**RPD exceeds LOR based limits**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	1	20	5.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	20	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055)							
OL_17_1.0	**27-Feb-2023**	**----**	----	----	**01-Mar-2023**	13-Mar-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_05_1.0,	OL_05_0.6W,	**27-Feb-2023**	**----**	----	----	**01-Mar-2023**	13-Mar-2023	✓
OL_17_0.6E,	OL_29_1.0,							
OL_29_0.6W,	OL_41_1.0,							
OL_41_0.5E,	OL_53_1.0,							
OL_53_0.6W,	OL_65_1.0,							
OL_65_0.6E,	OL_77_1.0,							
OL_77_0.6W,	OL_QC101							
Soil Glass Jar - Unpreserved (EA055)								
DL_100_1.0,	DL_100_0.6N,	**28-Feb-2023**	**----**	----	----	**01-Mar-2023**	14-Mar-2023	✓
DL_90_1.0,	DL_90_0.6S							
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
OL_05_1.0,	OL_05_0.6W,	**27-Feb-2023**	**01-Mar-2023**	26-Aug-2023	✓	**02-Mar-2023**	26-Aug-2023	✓
OL_17_1.0,	OL_17_0.6E,							
OL_29_1.0,	OL_29_0.6W,							
OL_41_1.0,	OL_41_0.5E,							
OL_53_1.0,	OL_53_0.6W,							
OL_65_1.0,	OL_65_0.6E,							
OL_77_1.0,	OL_77_0.6W,							
OL_QC101								
Soil Glass Jar - Unpreserved (EG005T)								
DL_100_1.0,	DL_100_0.6N,	**28-Feb-2023**	**01-Mar-2023**	27-Aug-2023	✓	**02-Mar-2023**	27-Aug-2023	✓
DL_90_1.0,	DL_90_0.6S							
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
OL_05_1.0,	OL_05_0.6W,	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
OL_17_0.6E,	OL_29_1.0,							
OL_29_0.6W,	OL_41_1.0,							
OL_41_0.5E,	OL_53_1.0,							
OL_53_0.6W,	OL_65_1.0,							
OL_65_0.6E,	OL_77_1.0,							
OL_77_0.6W,	OL_QC101							
Soil Glass Jar - Unpreserved (EP075(SIM))								
DL_100_1.0,	DL_100_0.6N,	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
DL_90_1.0,	DL_90_0.6S							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_05_1.0, OL_05_0.6W, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	10-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_05_1.0, OL_05_0.6W, OL_17_1.0, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_05_1.0, OL_05_0.6W, OL_17_1.0, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_05_1.0, OL_05_0.6W, OL_17_1.0, OL_17_0.6E, OL_29_1.0, OL_29_0.6W, OL_41_1.0, OL_41_0.5E, OL_53_1.0, OL_53_0.6W, OL_65_1.0, OL_65_0.6E, OL_77_1.0, OL_77_0.6W, OL_QC101	**27-Feb-2023**	**01-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_100_1.0, DL_100_0.6N, DL_90_1.0, DL_90_0.6S	**28-Feb-2023**	**01-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	26-Aug-2023	✓	**02-Mar-2023**	26-Aug-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	27-Aug-2023	✓	**02-Mar-2023**	27-Aug-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071)							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_QCA01, OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	06-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	07-Mar-2023	✓	**04-Mar-2023**	11-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCA01, OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCA01, OL_QCB01	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**02-Mar-2023**	13-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) OL_QCB02	**28-Feb-2023**	**02-Mar-2023**	14-Mar-2023	✓	**02-Mar-2023**	14-Mar-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	19	21.05	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	20	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2303516**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49082	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 01-Mar-2023 11:20	Issue Date	: 02-Mar-2023
Client Requested Due Date	: 08-Mar-2023	Scheduled Reporting Date	: **08-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 3.4°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 22 / 22

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-06 TRH/BTEXN/Pb	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2303516-001	27-Feb-2023 09:07	OL_05_1.0	✓		✓
EM2303516-002	27-Feb-2023 09:08	OL_05_0.6W	✓		✓
EM2303516-003	27-Feb-2023 09:09	OL_17_1.0	✓	✓	
EM2303516-004	27-Feb-2023 09:10	OL_17_0.6E	✓		✓
EM2303516-005	27-Feb-2023 09:10	OL_29_1.0	✓		✓
EM2303516-006	27-Feb-2023 09:11	OL_29_0.6W	✓		✓
EM2303516-007	27-Feb-2023 09:13	OL_41_1.0	✓		✓
EM2303516-008	27-Feb-2023 09:15	OL_41_0.5E	✓		✓
EM2303516-009	27-Feb-2023 09:18	OL_53_1.0	✓		✓
EM2303516-010	27-Feb-2023 09:19	OL_53_0.6W	✓		✓
EM2303516-011	27-Feb-2023 09:20	OL_65_1.0	✓		✓
EM2303516-012	27-Feb-2023 09:21	OL_65_0.6E	✓		✓
EM2303516-013	27-Feb-2023 09:21	OL_77_1.0	✓		✓
EM2303516-014	27-Feb-2023 09:22	OL_77_0.6W	✓		✓
EM2303516-015	27-Feb-2023 09:23	OL_QC101	✓		✓
EM2303516-017	28-Feb-2023 09:26	DL_100_1.0	✓		✓
EM2303516-018	28-Feb-2023 09:27	DL_100_0.6N	✓		✓
EM2303516-019	28-Feb-2023 09:28	DL_90_1.0	✓		✓
EM2303516-020	28-Feb-2023 09:29	DL_90_0.6S	✓		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2303516-021	27-Feb-2023 09:30	OL_QCA01	✓	
EM2303516-022	27-Feb-2023 09:31	OL_QCB01		✓
EM2303516-023	28-Feb-2023 09:32	OL_QCB02		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS COC#: 49082 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	FREIGHT DATE TIME:	DATE TIME:	DATE TIME: 13 11-20

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_05_1.0		27/02/2023 09:07 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
002	OL_05_0.6W		27/02/2023 09:08 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
003	OL_17_1.0		27/02/2023 09:09 AM	SOIL	ALS: 0 Non ALS: 2	No		Partial 1/4				
004	OL_17_0.6E		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
005	OL_29_1.0		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
006	OL_29_0.6W		27/02/2023 09:11 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
007	OL_41_1.0		27/02/2023 09:13 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
008	OL_41_0.5E		27/02/2023 09:15 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
009	OL_53_1.0		27/02/2023 09:18 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

Environmental Division Melbourne

Work Order Reference

EM2303516

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_53_0.6W		27/02/2023 09:19 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
011	OL_65_1.0		27/02/2023 09:20 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
012	OL_65_0.6E		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
013	OL_77_1.0		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
014	OL_77_0.6W		27/02/2023 09:22 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
015	OL_QC101		27/02/2023 09:23 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
016	OL_QC201		27/02/2023 09:24 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_100_1.0		28/02/2023 09:26 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
018	DL_100_0.6N		28/02/2023 09:27 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	DL_90_1.0		28/02/2023 09:28 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
020	DL_90_0.6S		28/02/2023 09:29 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
021	OL_QCA01		27/02/2023 09:30 AM	WATER	ALS: 0 Non ALS: 2	No				X		
022	OL_QCB01		27/02/2023 09:31 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			
023	OL_QCB02		28/02/2023 09:32 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_05_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_05_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_17_1.0	Soil Suite 2 SOIL	SOIL	- S-05 TRH/BTEXN/8 Metals
004	OL_17_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_29_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_29_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_41_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_41_0.5E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_53_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_53_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	OL_65_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	OL_65_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	OL_77_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	OL_77_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	OL_QC101	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

016	OL_QC201	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	DL_100_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	DL_100_0.6N	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	DL_90_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	DL_90_0.6S	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	OL_QCB01	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
023	OL_QCB02	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals

Total Bottle Count: ALS: 0, Non ALS: 50

CHAIN OF CUSTODY

COC#: 49082 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	FREIGHT DATE TIME:	DATE TIME:	DATE TIME: 1/3 11-20

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_05_1.0		27/02/2023 09:07 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
002	OL_05_0.6W		27/02/2023 09:08 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
003	OL_17_1.0		27/02/2023 09:09 AM	SOIL	ALS: 0 Non ALS: 2	No		Partial 1/4				
004	OL_17_0.6E		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
005	OL_29_1.0		27/02/2023 09:10 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
006	OL_29_0.6W		27/02/2023 09:11 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
007	OL_41_1.0		27/02/2023 09:13 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
008	OL_41_0.5E		27/02/2023 09:15 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
009	OL_53_1.0		27/02/2023 09:18 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

Forwarded to Sydney Lab
Initials SH Date 1/3

Environmental Division
Melbourne
Work Order Reference
EM2303516



Telephone : +61-3-8549 9600

SH 1/3

CHAIN OF CUSTODY

ALS COC#: 49082 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_53_0.6W		27/02/2023 09:19 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
011	OL_65_1.0		27/02/2023 09:20 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
012	OL_65_0.6E		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
013	OL_77_1.0		27/02/2023 09:21 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
014	OL_77_0.6W		27/02/2023 09:22 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
015	OL_QC101		27/02/2023 09:23 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
016	OL_QC201		27/02/2023 09:24 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_100_1.0		28/02/2023 09:26 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
018	DL_100_0.6N		28/02/2023 09:27 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					

CHAIN OF CUSTODY

ALS COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	DL_90_1.0		28/02/2023 09:28 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
020	DL_90_0.6S		28/02/2023 09:29 AM	SOIL	ALS: 0 Non ALS: 2	No	Partial 1/2					
021	OL_QCA01		27/02/2023 09:30 AM	WATER	ALS: 0 Non ALS: 2	No				X		
022	OL_QCB01		27/02/2023 09:31 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			
023	OL_QCB02		28/02/2023 09:32 AM	WATER	ALS: 0 Non ALS: 4	No			Partial 1/2			

CHAIN OF CUSTODY

(ALS) COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_05_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_05_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_17_1.0	Soil Suite 2 SOIL	SOIL	- S-05 TRH/BTEXN/8 Metals
004	OL_17_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_29_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_29_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_41_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_41_0.5E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_53_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_53_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	OL_65_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	OL_65_0.6E	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	OL_77_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	OL_77_0.6W	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	OL_QC101	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

(ALS) COC#: 49082 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

016	OL_QC201	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	DL_100_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	DL_100_0.6N	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	DL_90_1.0	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	DL_90_0.6S	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	OL_QCB01	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
023	OL_QCB02	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals

Total Bottle Count: ALS: 0, Non ALS: 50

Scott Huett

From: COC Melbourne
Subject: RE: AECOM - Macquarie Point 60693007-2 samples received 1/3

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Thursday, 2 March 2023 12:30 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - Macquarie Point 60693007-2 samples received 1/3

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, I sent some samples Tuesday and in compass the analysis selected included the 8 metals suite. Can we change this to be just lead for all soil and rinsate samples.
Thanks in advance

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com

My regular work days are Monday to Thursday

AECOM
210 Collins Street
Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004
aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304091**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023 11:20
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 14-Mar-2023 15:06
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP070-CWG: EM2304091_001 Unable to determine surrogate recovery due to matrix interferences.
- Rebatch of EM2303516

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)				Sample ID	**OL_17_0.6E**	----	----	----	----
				Sampling date / time	27-Feb-2023 00:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**EM2304091-001**	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**6.1**	----	----	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		<50	----	----	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		<50	----	----	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		**57**	----	----	----	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**Not Determined**	----	----	----	----
2-Fluorobiphenyl	321-60-8	1	%		**Not Determined**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304091**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 01-Mar-2023
C-O-C number	: 49082	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4921118)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	115	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4921118)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	97.9	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	94.2	70.0	130

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304091**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 01-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 1
Order number	: 60693007-2	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
TPH Speciation (TPH CWG & RIVM fractions)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_17_0.6E	**27-Feb-2023**	**----**	----	----	**01-Mar-2023**	13-Mar-2023	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_17_0.6E	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**10-Mar-2023**	11-Apr-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_17_0.6E	**27-Feb-2023**	**02-Mar-2023**	13-Mar-2023	✓	**10-Mar-2023**	11-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Rebatch

Client / Client code: AECOMAU
Project: Macquarie Point
Project Manger: Robert Crowe
Date /time sample rec: 1/03/2023 11:20
Date/time Instructions rec: 8/03/2023 13:56
Due date: Wednesday, 15 March 2023
Due date surcharge: **STANDARD**

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order

Environmental Division
Melbourne
Work Order Reference
EM2304091

Telephone : + 61-3-8549 9600

New Lab ID	Sample information							Analysis									Shortest Holding time expiry
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of Containers	Standard: AROMATIC AND ALIPHATIC SPECIATION FOR TRH > C10-C16 Please use previous extract									
OL_17_0.6E		27/02/2023 9:10	EM2303516	4	MS: 1574-1576	JAR	2	X									13-Mar-23
						TOTAL	2										

Bryn Walker

From: Ru Jayasinghe
Sent: Wednesday, 8 March 2023 3:05 PM
To: Rebatches Melbourne
Cc: Peter Ravlic
Subject: AECOMAU-MACQUARIE POINT-REBATCH OF EM2303516
Attachments: AECOMAU-Macquarie Point -Rebatch of EM2303516-amended.xlsm

Hi Team,

Please see attached re-batch request on standard TAT.

Kind regards,

right solutions. right partner.

Ru Jayasinghe
Invoicing, Environmental
Springvale

D: +61 3 8549 9634
ru.jayasinghe@alsglobal.com
2-4 Westall Rd
Springvale, VIC 3178

alsglobal.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AA**	Page	: 1 of 15
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023 10:25
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_010 has LOR raised for 2.4-Dimethylphenol due to sample matrix interferences.
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	23.7	13.2	19.5	15.5	13.7
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	289	<5	166	94	141
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	14.9	<0.5	0.6	0.6	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	2.3	<0.5	1.6	3.0	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	1.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	3.7	<0.5	0.7	1.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	9.9	<0.5	10.8	14.7	1.2
Anthracene	120-12-7	0.5	mg/kg	1.8	<0.5	4.0	4.2	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	14.1	<0.5	22.2	32.7	3.5
Pyrene	129-00-0	0.5	mg/kg	14.2	<0.5	20.9	33.5	3.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	<0.5	12.8	20.1	2.1
Chrysene	218-01-9	0.5	mg/kg	5.6	<0.5	11.2	17.2	2.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	<0.5	14.6	23.9	2.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	<0.5	5.2	6.6	1.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	<0.5	14.4	23.8	2.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	<0.5	6.5	10.7	1.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	<0.5	1.8	2.7	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	<0.5	7.8	12.5	1.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	104	<0.5	135	208	21.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**10.8**	<0.5	**20.3**	**32.9**	**3.6**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**10.8**	**0.6**	**20.3**	**32.9**	**3.8**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**10.8**	**1.2**	**20.3**	**32.9**	**4.0**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ Aliphatic >C5-C6	----	5	mg/kg		----	----	----	<5	----
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	<5	----
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	**36**	----
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	<50	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	**178**	----
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	**138**	----
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	<50	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	<0.2	----
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	<0.5	----
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	<1.0	----
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	<50	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	**204**	----
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	**240**	----
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	**484**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	**23**	<10
C10 - C14 Fraction	----	50	mg/kg		**1540**	<50	<50	**290**	<50
C15 - C28 Fraction	----	100	mg/kg		**3080**	<100	**500**	**1120**	<100
C29 - C36 Fraction	----	100	mg/kg		**300**	<100	**310**	**390**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**4920**	<50	**810**	**1800**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		**19**	<10	<10	**44**	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		**19**	<10	<10	**44**	<10
>C10 - C16 Fraction	----	50	mg/kg		**2540**	<50	<50	**570**	<50
>C16 - C34 Fraction	----	100	mg/kg		**2290**	<100	**720**	**1140**	**120**
>C34 - C40 Fraction	----	100	mg/kg		**120**	<100	**130**	**190**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**4950**	<50	**850**	**1900**	**120**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	**2540**	<50	<50	**570**	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	**4**	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**93.7**	**87.8**	**88.9**	**94.4**	**86.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**111**	**87.1**	**88.6**	**92.2**	**89.3**
2.4.6-Tribromophenol	118-79-6	0.5	%	**97.3**	**74.8**	**88.9**	**94.1**	**85.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**100**	**92.4**	**93.8**	**91.2**	**92.9**
Anthracene-d10	1719-06-8	0.5	%	**89.3**	**97.8**	**96.9**	**97.6**	**98.6**
4-Terphenyl-d14	1718-51-0	0.5	%	**100**	**94.7**	**96.4**	**95.8**	**95.8**
EP079/EP070S:TPH Surrogates - semivolatile speciation								
2-Bromonaphthalene	580-13-2	1	%	**----**	**----**	**----**	**103**	**----**
2-Fluorobiphenyl	321-60-8	1	%	**----**	**----**	**----**	**91.0**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**78.6**	**85.1**	**81.4**	**86.0**	**91.3**
Toluene-D8	2037-26-5	0.2	%	**71.4**	**74.7**	**69.4**	**89.2**	**80.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**74.6**	**85.1**	**77.9**	**111**	**87.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.4	22.3	23.8	15.4	24.3
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	227	152	621	131	142
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<2.0
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	8.0	0.6	4.2
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.7	1.8	1.8	4.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	11.1	<0.5	13.6
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	11.0	<0.5	19.8
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3.0	44.9	6.5	73.8
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.9	10.9	2.6	19.4
Fluoranthene	206-44-0	0.5	mg/kg	0.6	8.3	37.0	12.2	67.9
Pyrene	129-00-0	0.5	mg/kg	0.6	8.3	34.3	12.3	66.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	5.2	19.3	7.5	31.6
Chrysene	218-01-9	0.5	mg/kg	<0.5	4.7	15.4	6.8	25.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6.4	19.1	10.9	33.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	2.3	7.5	3.8	10.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.5	6.2	19.3	10.8	31.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2.6	7.2	5.8	12.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.7	2.2	1.5	3.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3.1	8.4	8.0	13.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.7	52.4	257	91.1	430

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**0.5**	**8.6**	**27.0**	**15.2**	**43.3**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.8**	**8.6**	**27.0**	**15.2**	**43.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**8.6**	**27.0**	**15.2**	**43.3**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ Aliphatic >C5-C6	----	5	mg/kg		----	----	----	----	<5
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	----	**67**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	----	**185**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	----	**1100**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	----	**4480**
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	----	**3330**
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	----	**1160**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	----	<0.2
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	----	<0.5
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	----	<1.0
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	----	**139**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	----	**1750**
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	----	**1820**
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	----	**1600**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**207**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	**70**	<50	**6360**
C15 - C28 Fraction	----	100	mg/kg		<100	**210**	**860**	**980**	**13200**
C29 - C36 Fraction	----	100	mg/kg		<100	**120**	**360**	**580**	**1160**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**330**	**1290**	**1560**	**20700**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	**281**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	**281**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**120**	**100**	**11800**
>C16 - C34 Fraction	----	100	mg/kg		<100	**290**	**1070**	**1370**	**8140**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**140**	**240**	**470**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**290**	**1330**	**1710**	**20400**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	**120**	**100**	**11800**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	**2**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**84.5**	**88.6**	**84.0**	**90.5**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**89.2**	**89.0**	**87.3**	**88.9**	**94.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**76.7**	**86.3**	**85.6**	**89.8**	**102**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**94.8**	**93.4**	**92.2**	**90.9**	**97.0**
Anthracene-d10	1719-06-8	0.5	%	**99.2**	**96.8**	**93.3**	**96.0**	**99.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**101**	**96.6**	**97.2**	**96.5**	**102**
EP079/EP070S:TPH Surrogates - semivolatile speciation								
2-Bromonaphthalene	580-13-2	1	%	**----**	**----**	**----**	**----**	**Not Determined**
2-Fluorobiphenyl	321-60-8	1	%	**----**	**----**	**----**	**----**	**Not Determined**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**87.5**	**91.9**	**92.3**	**89.6**	**82.2**
Toluene-D8	2037-26-5	0.2	%	**74.2**	**78.5**	**80.2**	**74.6**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%	**80.4**	**86.6**	**88.5**	**84.0**	**109**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**22.2**	**21.4**	**27.9**	**21.9**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**268**	**371**	**596**	**286**	**----**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	**0.7**	<0.5	**----**
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	**----**
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**----**
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	**10.1**	**17.5**	**----**
Acenaphthylene	208-96-8	0.5	mg/kg	**2.7**	**0.7**	**5.8**	**2.0**	**----**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	**16.0**	**1.9**	**----**
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	**20.2**	**4.6**	**----**
Phenanthrene	85-01-8	0.5	mg/kg	**9.3**	**5.6**	**88.6**	**12.0**	**----**
Anthracene	120-12-7	0.5	mg/kg	**3.1**	**1.8**	**25.9**	**2.5**	**----**
Fluoranthene	206-44-0	0.5	mg/kg	**24.5**	**11.5**	**85.9**	**14.0**	**----**
Pyrene	129-00-0	0.5	mg/kg	**24.5**	**10.3**	**79.1**	**13.5**	**----**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**14.6**	**6.6**	**40.0**	**5.3**	**----**
Chrysene	218-01-9	0.5	mg/kg	**13.0**	**5.2**	**30.9**	**5.5**	**----**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**17.9**	**7.3**	**36.7**	**8.3**	**----**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**6.6**	**2.6**	**14.7**	**2.9**	**----**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**17.8**	**6.8**	**37.8**	**7.1**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**8.1**	**2.8**	**14.9**	**4.7**	**----**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**2.1**	**0.8**	**3.8**	**1.0**	**----**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**9.6**	**3.1**	**15.9**	**5.9**	**----**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**154**	**65.1**	**526**	**109**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**24.8**	**9.6**	**52.7**	**10.3**	**----**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**24.8**	**9.6**	**52.7**	**10.3**	**----**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**24.8**	**9.6**	**52.7**	**10.3**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**----**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	**1470**	**----**
C15 - C28 Fraction	----	100	mg/kg		**500**	**260**	**1530**	**2920**	**----**
C29 - C36 Fraction	----	100	mg/kg		**300**	**130**	**620**	**380**	**----**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**800**	**390**	**2150**	**4770**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	**17**	**----**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	**17**	**----**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**180**	**2600**	**----**
>C16 - C34 Fraction	----	100	mg/kg		**720**	**350**	**1890**	**2020**	**----**
>C34 - C40 Fraction	----	100	mg/kg		**130**	<100	**290**	**180**	**----**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**850**	**350**	**2360**	**4800**	**----**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	**180**	**2600**	**----**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	**----**
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	**----**
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**----**
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	**1**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.7**	**86.1**	**83.6**	**88.5**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**88.3**	**90.2**	**102**	**88.1**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**90.2**	**86.5**	**88.6**	**95.2**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.8**	**91.6**	**87.4**	**97.3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
					Result	Result	Result	Result	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**95.6**	**95.7**	**85.8**	**95.1**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.2**	**94.8**	**90.2**	**91.1**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.7**	**90.4**	**83.9**	**79.9**	**----**
Toluene-D8	2037-26-5	0.2	%		**72.3**	**75.0**	**70.3**	**84.7**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**79.9**	**82.8**	**78.2**	**95.4**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	UST_QCA05	UST_QCB07	----	----	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-043	EM2305209-044	--------	--------	--------
				Result	Result	----	----	----
EG020T: Total Metals by ICP-MS								
Lead	7439-92-1	0.001	mg/L	----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L	----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L	----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L	----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L	----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	UST_QCA05	UST_QCB07	----	----	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-043	EM2305209-044	--------	--------	--------
				Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L	----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	**39.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	----	**71.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	----	**86.1**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	----	**76.3**	----	----	----
Anthracene-d10	1719-06-8	1.0	%	----	**82.8**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	----	**88.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**106**	**112**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**98.6**	**106**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**113**	**118**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023 10:25
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**15.6**	**18.5**	**10.9**	**10.0**	**15.4**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**150**	----	----	----	----
Barium	7440-39-3	10	mg/kg	**100**	----	----	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**2**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**14**	----	----	----	----
Cobalt	7440-48-4	2	mg/kg	**11**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**83**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**235**	**277**	**386**	**95**	**250**
Manganese	7439-96-5	5	mg/kg	**223**	----	----	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**24**	----	----	----	----
Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
Silver	7440-22-4	2	mg/kg	<2	----	----	----	----
Tin	7440-31-5	5	mg/kg	**24**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**403**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.3**	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**1**	----	----	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**130**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	**1.3**	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		**0.5**	<0.5	<0.5	<0.5	**1.7**
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**0.6**
Phenanthrene	85-01-8	0.5	mg/kg		**1.7**	**1.4**	**1.2**	**1.6**	**8.1**
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**2.2**
Fluoranthene	206-44-0	0.5	mg/kg		**3.6**	**3.3**	**2.1**	**3.1**	**20.2**
Pyrene	129-00-0	0.5	mg/kg		**3.5**	**3.4**	**2.2**	**3.3**	**19.3**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**1.8**	**1.9**	**1.2**	**1.8**	**11.6**
Chrysene	218-01-9	0.5	mg/kg		**1.7**	**1.8**	**1.2**	**1.7**	**10.5**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**2.3**	**2.6**	**1.7**	**2.4**	**13.4**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**0.8**	**0.9**	**0.7**	**0.9**	**5.8**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**----**	**2.3**	**1.6**	**2.3**	**14.2**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**1.1**	**1.1**	**0.8**	**1.1**	**6.1**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.7**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**1.4**	**1.4**	**1.0**	**1.4**	**7.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**20.5**	**21.4**	**13.7**	**19.6**	**123**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**2.7**	**3.0**	**2.1**	**3.0**	**19.8**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**3.0**	**3.2**	**2.3**	**3.2**	**19.8**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**3.2**	**3.5**	**2.6**	**3.4**	**19.8**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**2.15**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**150**	**110**	<100	**150**	**390**
C29 - C36 Fraction	----	100	mg/kg		**150**	<100	<100	<100	**230**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**300**	**110**	<50	**150**	**620**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**270**	**170**	**130**	**190**	**550**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**270**	**170**	**130**	**190**	**550**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**86.6**	**----**	**----**	**----**	**----**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**102**	**----**	**----**	**----**	**----**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**104**	**----**	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**95.0**	**87.8**	**88.7**	**81.5**	**89.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.9**	**87.3**	**93.6**	**85.4**	**87.9**
2.4.6-Tribromophenol	118-79-6	0.5	%		**87.7**	**84.2**	**85.6**	**83.6**	**87.6**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.1**	**92.2**	**96.7**	**91.7**	**92.7**
Anthracene-d10	1719-06-8	0.5	%		**95.0**	**97.2**	**102**	**95.3**	**96.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**90.1**	**95.4**	**101**	**92.6**	**94.6**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**72.5**	**----**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	0.025	%		**74.7**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.025	%		**76.6**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.7**	**90.1**	**87.4**	**90.6**	**91.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**77.4**	**73.1**	**72.8**	**79.8**	**75.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.4**	**83.2**	**82.3**	**83.9**	**83.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.7	11.8	19.7	18.9	19.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	32	----	13	----
Barium	7440-39-3	10	mg/kg	----	80	----	130	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	<1	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	----
Chromium	7440-47-3	2	mg/kg	----	14	----	11	----
Cobalt	7440-48-4	2	mg/kg	----	12	----	9	----
Copper	7440-50-8	5	mg/kg	----	71	----	60	----
Lead	7439-92-1	5	mg/kg	250	796	259	213	153
Manganese	7439-96-5	5	mg/kg	----	236	----	191	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	<2	----
Nickel	7440-02-0	2	mg/kg	----	31	----	12	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	<5	----
Silver	7440-22-4	2	mg/kg	----	<2	----	<2	----
Tin	7440-31-5	5	mg/kg	----	39	----	41	----
Zinc	7440-66-6	5	mg/kg	----	266	----	133	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.6	----	4.0	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	1	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	120	----	90	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	<0.2	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	0.9	1.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		0.9	0.9	1.0	0.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		3.4	2.6	5.0	3.7	2.0
Anthracene	120-12-7	0.5	mg/kg		1.1	0.8	2.6	1.4	0.6
Fluoranthene	206-44-0	0.5	mg/kg		9.4	6.1	14.4	8.9	3.0
Pyrene	129-00-0	0.5	mg/kg		9.5	6.5	14.3	9.2	3.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		6.2	3.9	8.9	6.1	1.9
Chrysene	218-01-9	0.5	mg/kg		5.5	3.5	7.9	5.2	1.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		7.8	5.1	10.2	7.0	2.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		3.0	1.6	4.0	2.4	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		7.9	----	10.4	----	2.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		3.4	2.4	4.2	3.0	1.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.9	0.7	1.2	0.9	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		4.1	2.9	4.9	3.6	1.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		63.1	42.9	90.0	59.2	22.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	3.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	3.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	4.0
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	16.2	----	4.53	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	11
C10 - C14 Fraction	----	50	mg/kg		<50	80	<50	<50	470
C15 - C28 Fraction	----	100	mg/kg		270	540	360	310	1190
C29 - C36 Fraction	----	100	mg/kg		150	150	230	160	110
^ C10 - C36 Fraction (sum)	----	50	mg/kg		420	770	590	470	1770
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	25
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	25
>C10 - C16 Fraction	----	50	mg/kg		<50	260	<50	80	1040
>C16 - C34 Fraction	----	100	mg/kg		360	480	530	380	700

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**360**	**740**	**530**	**460**	**1740**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**260**	<50	**80**	**1040**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**89.4**	----	**81.6**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**104**	----	**98.1**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**103**	----	**102**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**82.6**	**97.5**	**89.3**	**90.6**	**84.5**
2-Chlorophenol-D4	93951-73-6	0.5	%		**86.1**	**92.0**	**88.7**	**89.5**	**86.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**83.1**	**91.0**	**83.8**	**81.6**	**90.9**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**88.9**	**90.2**	**91.1**	**91.3**	**87.7**
Anthracene-d10	1719-06-8	0.5	%		**95.9**	**97.8**	**95.7**	**95.6**	**94.4**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.8**	**96.6**	**94.4**	**101**	**98.8**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	**76.5**	----	**81.5**	----
Anthracene-d10	1719-06-8	0.025	%		----	**81.3**	----	**91.9**	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	**88.5**	----	**85.9**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**92.2**	**86.5**	**89.1**	**86.0**	**86.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**72.1**	**71.2**	**74.6**	**72.9**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%		**80.1**	**80.2**	**81.3**	**79.5**	**119**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.1**	**21.9**	**19.5**	**25.1**	**17.7**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**20**	----	<5	----	<5
Barium	7440-39-3	10	mg/kg	**130**	----	**150**	----	**120**
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	**13**	----	**16**	----	**18**
Cobalt	7440-48-4	2	mg/kg	**10**	----	**23**	----	**16**
Copper	7440-50-8	5	mg/kg	**47**	----	**47**	----	**59**
Lead	7439-92-1	5	mg/kg	**306**	**373**	**152**	**181**	**421**
Manganese	7439-96-5	5	mg/kg	**182**	----	**222**	----	**344**
Molybdenum	7439-98-7	2	mg/kg	<2	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	**15**	----	**24**	----	**28**
Selenium	7782-49-2	5	mg/kg	<5	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	**32**	----	**67**	----	**24**
Zinc	7440-66-6	5	mg/kg	**243**	----	**111**	----	**202**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.8**	----	**0.7**	----	**0.8**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**70**	----	**80**	----	**130**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	**2.3**	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	**0.7**	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	**0.5**	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	**1.3**	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		1.2	7.4	1.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		1.0	1.3	0.6	0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	1.0	1.1	0.8	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.9	4.0	2.1	1.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		4.5	4.4	6.3	6.1	1.7
Anthracene	120-12-7	0.5	mg/kg		1.3	1.1	2.3	2.6	0.6
Fluoranthene	206-44-0	0.5	mg/kg		8.4	4.0	9.4	8.7	4.1
Pyrene	129-00-0	0.5	mg/kg		10.0	5.4	8.9	8.1	4.2
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.0	2.0	4.5	4.2	2.6
Chrysene	218-01-9	0.5	mg/kg		4.4	1.8	3.4	3.2	2.3
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.2	3.4	4.0	4.0	3.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.4	3.4	2.1	1.5	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	2.4	----	4.0	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.7	1.2	1.7	1.5	1.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.7	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.1	1.4	2.0	1.8	1.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		58.1	44.2	53.9	48.6	25.8
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		8.7	3.4	5.8	5.2	3.9
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		8.7	3.7	6.0	5.4	4.1
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		8.7	3.9	6.3	5.7	4.4
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		6.37	----	5.04	----	4.14
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	41	<10	11	<10
C10 - C14 Fraction	----	50	mg/kg		1130	4500	340	380	<50
C15 - C28 Fraction	----	100	mg/kg		2350	8550	880	850	370
C29 - C36 Fraction	----	100	mg/kg		160	<100	<100	<100	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg		3640	13000	1220	1230	490
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		19	82	<10	20	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		19	81	<10	20	<10
>C10 - C16 Fraction	----	50	mg/kg		2020	8010	760	620	150
>C16 - C34 Fraction	----	100	mg/kg		1540	4920	510	650	360

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**3560**	**12900**	**1270**	**1270**	**510**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**2020**	**8010**	**760**	**620**	**150**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**1.0**	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	**1.0**	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	**1.0**	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	**3**	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**85.5**	**----**	**86.8**	**----**	**86.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**101**	**----**	**102**	**----**	**98.9**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**104**	**----**	**107**	**----**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.1**	**91.1**	**89.3**	**84.2**	**90.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.6**	**88.9**	**105**	**86.6**	**89.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**93.4**	**98.4**	**84.4**	**84.1**	**83.1**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.6**	**93.0**	**93.1**	**92.8**	**88.3**
Anthracene-d10	1719-06-8	0.5	%		**94.8**	**94.3**	**84.2**	**95.7**	**96.6**
4-Terphenyl-d14	1718-51-0	0.5	%		**92.7**	**91.0**	**92.3**	**94.0**	**101**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**78.5**	**----**	**82.6**	**----**	**82.3**
Anthracene-d10	1719-06-8	0.025	%		**83.7**	**----**	**85.3**	**----**	**91.5**
4-Terphenyl-d14	1718-51-0	0.025	%		**87.2**	**----**	**88.7**	**----**	**86.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**75.7**	**83.2**	**91.6**	**96.0**	**114**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**81.0**	**93.4**	**75.9**	**80.2**	**80.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**94.1**	**116**	**84.3**	**89.9**	**91.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.8**	**19.8**	**12.8**	**21.2**	**21.2**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	----	**15**
Barium	7440-39-3	10	mg/kg	----	----	----	----	**160**
Beryllium	7440-41-7	1	mg/kg	----	----	----	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	----	**13**
Cobalt	7440-48-4	2	mg/kg	----	----	----	----	**12**
Copper	7440-50-8	5	mg/kg	----	----	----	----	**395**
Lead	7439-92-1	5	mg/kg	**260**	**425**	**516**	**393**	**316**
Manganese	7439-96-5	5	mg/kg	----	----	----	----	**204**
Molybdenum	7439-98-7	2	mg/kg	----	----	----	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	----	----	**16**
Selenium	7782-49-2	5	mg/kg	----	----	----	----	<5
Silver	7440-22-4	2	mg/kg	----	----	----	----	<2
Tin	7440-31-5	5	mg/kg	----	----	----	----	**50**
Zinc	7440-66-6	5	mg/kg	----	----	----	----	**301**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	----	**1.3**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	----	----	**80**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	0.6	<0.5	0.9	2.1
Acenaphthylene	208-96-8	0.5	mg/kg		0.7	0.7	0.6	0.9	0.9
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	0.9	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.7	0.7	<0.5	3.2	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		4.0	3.7	2.4	7.0	4.5
Anthracene	120-12-7	0.5	mg/kg		1.7	1.4	0.7	1.6	1.4
Fluoranthene	206-44-0	0.5	mg/kg		8.2	7.6	6.0	7.5	9.9
Pyrene	129-00-0	0.5	mg/kg		8.3	7.9	5.7	7.6	9.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		4.2	4.4	3.8	4.2	6.0
Chrysene	218-01-9	0.5	mg/kg		3.5	3.9	3.4	3.6	5.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		4.2	5.2	4.6	4.8	7.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.1	2.1	1.8	1.5	2.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		4.6	5.3	4.6	4.6	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.0	2.3	2.0	2.1	2.9
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.5	0.6	0.6	0.6	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		2.2	2.7	2.4	2.5	3.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		46.9	49.1	38.6	53.5	62.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	----	----	5.02
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	29	<10
C10 - C14 Fraction	----	50	mg/kg		220	140	<50	1320	<50
C15 - C28 Fraction	----	100	mg/kg		880	530	210	2550	200
C29 - C36 Fraction	----	100	mg/kg		190	140	110	140	140
^ C10 - C36 Fraction (sum)	----	50	mg/kg		1290	810	320	4010	340
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		10	<10	<10	59	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		10	<10	<10	59	<10
>C10 - C16 Fraction	----	50	mg/kg		410	240	<50	2670	<50
>C16 - C34 Fraction	----	100	mg/kg		830	520	280	1260	300

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**1240**	**760**	**280**	**3930**	**300**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**410**	**240**	<50	**2670**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	**86.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	**101**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**81.6**	**83.1**	**85.8**	**96.3**	**90.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**100**	**85.7**	**89.0**	**92.2**	**88.5**
2.4.6-Tribromophenol	118-79-6	0.5	%		**82.9**	**85.8**	**83.1**	**92.3**	**83.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**85.0**	**86.4**	**91.4**	**96.2**	**92.3**
Anthracene-d10	1719-06-8	0.5	%		**84.0**	**89.7**	**97.2**	**95.0**	**95.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**88.8**	**88.2**	**95.0**	**98.6**	**98.9**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	----	----	----	**86.6**
Anthracene-d10	1719-06-8	0.025	%		----	----	----	----	**95.9**
4-Terphenyl-d14	1718-51-0	0.025	%		----	----	----	----	**90.1**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**85.3**	**86.2**	**93.8**	**92.6**	**89.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**72.0**	**70.2**	**77.7**	**80.0**	**73.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**78.4**	**79.2**	**85.8**	**87.2**	**80.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.1	13.0	18.6	20.8	25.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	35	----	6
Barium	7440-39-3	10	mg/kg	----	----	130	----	160
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	11	----	19
Cobalt	7440-48-4	2	mg/kg	----	----	18	----	19
Copper	7440-50-8	5	mg/kg	----	----	181	----	44
Lead	7439-92-1	5	mg/kg	309	182	228	763	153
Manganese	7439-96-5	5	mg/kg	----	----	317	----	271
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	20	----	22
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	17	----	15
Zinc	7440-66-6	5	mg/kg	----	----	374	----	92
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	0.9	----	0.6
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	80	----	80
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	6.1	2.1	0.9	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		2.2	1.0	0.6	1.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	1.3	0.6	<0.5	0.6
Fluorene	86-73-7	0.5	mg/kg		0.5	1.9	1.5	0.8	1.4
Phenanthrene	85-01-8	0.5	mg/kg		10.5	6.3	2.4	7.7	3.4
Anthracene	120-12-7	0.5	mg/kg		2.4	1.8	1.2	3.5	1.0
Fluoranthene	206-44-0	0.5	mg/kg		24.8	8.8	6.3	21.8	3.8
Pyrene	129-00-0	0.5	mg/kg		25.6	10.6	7.2	22.2	3.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		14.9	5.7	4.0	12.5	2.1
Chrysene	218-01-9	0.5	mg/kg		13.0	5.0	3.5	10.4	1.7
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		16.4	7.6	4.8	14.0	2.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		5.4	2.2	1.6	4.6	0.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		16.6	6.9	----	13.9	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		7.6	3.4	2.3	5.8	1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		2.2	0.9	0.6	1.7	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		8.6	4.0	2.8	6.5	1.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		151	73.5	46.0	128	25.4
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.0
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.4
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	3.94	----	2.69
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	30	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	590	1820	<50	410
C15 - C28 Fraction	----	100	mg/kg		410	1710	3930	410	980
C29 - C36 Fraction	----	100	mg/kg		270	200	140	290	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		680	2500	5890	700	1390
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	57	<10	13
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	57	<10	13
>C10 - C16 Fraction	----	50	mg/kg		<50	1380	3900	<50	900
>C16 - C34 Fraction	----	100	mg/kg		620	1070	1910	640	530

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		**150**	**120**	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**770**	**2570**	**5810**	**640**	**1430**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**1380**	**3900**	<50	**900**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	**2**	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**----**	**----**	**87.8**	**----**	**84.4**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**----**	**----**	**103**	**----**	**97.1**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**----**	**----**	**118**	**----**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**97.3**	**91.5**	**93.8**	**90.1**	**89.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**91.7**	**87.4**	**92.1**	**108**	**86.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**89.8**	**87.4**	**88.4**	**85.9**	**77.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.8**	**92.9**	**98.2**	**98.3**	**89.0**
Anthracene-d10	1719-06-8	0.5	%		**95.9**	**95.3**	**98.2**	**99.0**	**94.1**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.4**	**97.6**	**106**	**94.9**	**100**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**----**	**----**	**88.1**	**----**	**74.6**
Anthracene-d10	1719-06-8	0.025	%		**----**	**----**	**89.4**	**----**	**72.8**
4-Terphenyl-d14	1718-51-0	0.025	%		**----**	**----**	**90.1**	**----**	**82.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.8**	**87.1**	**81.5**	**88.1**	**82.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**74.8**	**69.3**	**68.4**	**71.1**	**68.7**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.8**	**79.9**	**76.6**	**80.5**	**79.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_QC110	----	----	----	----
			Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-038	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**12.9**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**266**	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**0.5**	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.9**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**3.4**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**0.7**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**8.5**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**3.9**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**54.0**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**66.7**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**43.7**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**32.7**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**54.2**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**16.7**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**55.8**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**23.6**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**6.9**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**26.0**	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**398**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_QC110	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-038	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**77.1**	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**77.1**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**77.1**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1130**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**850**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1980**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**1800**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**430**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2230**	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**85.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**85.3**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.5**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_QC110	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-038	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**98.9**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**95.8**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.2**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**73.3**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.8**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**94.4**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**95.3**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**102**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**35.1**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**49.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**35.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**75.4**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**81.4**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**85.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**108**	**108**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**100**	**101**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**110**	**111**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)			Sample ID	Rail Timber 01	----	----	----	----
			Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-050	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**34.0**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**78**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**4**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**80**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**26**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**13**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**615**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**7.0**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.5**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.2**	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1070**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**1240**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**2310**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**2080**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**710**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2790**	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**76.1**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**75.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**80.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**78.9**	----	----	----	----

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**81.8**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**79.1**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**71.3**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**75.5**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.8**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)T: PAH Surrogates - Continued			
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: WOOD		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AA**	Page	: 1 of 27
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	UST_80_1.2_S	EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
EM2305209-013	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
EM2305209-030	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	UST_77_SE_1.6	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	UST_80_1.2_S	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	Anonymous	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	Anonymous	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	Anonymous	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	UST_QC106	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617) - continued									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635) - continued									
EM2305209-036	Anonymous	EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305277-008	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	3.0	2.6	16.3	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.6	1.2	27.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	14.7	12.4	17.5	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	4.2	3.6	15.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	32.7	28.1	15.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	33.5	28.6	15.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	20.1	17.6	13.8	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	17.2	14.8	15.0	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	23.9	21.4	11.1	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	5.5	19.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	23.8	20.6	14.8	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	10.7	9.1	16.6	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.7	2.3	16.3	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.5	10.4	18.0	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631) - continued									
EM2305209-014	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-013	Anonymous	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	36	22	47.3	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	178	155	14.0	No Limit
		EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	138	130	5.9	No Limit
		EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	<50	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	1	mg/kg	<1.0	<1.0	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	204	148	31.8	No Limit
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg	240	201	17.6	No Limit
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg	484	406	17.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: C15 - C28 Fraction	----	100	mg/kg	1120	980	13.7	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	390	350	10.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	290	240	17.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632) - continued									
EM2305209-001	UST_80_1.2_S	EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: >C16 - C34 Fraction	----	100	mg/kg	1140	1010	12.0	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	190	170	9.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	570	480	16.9	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632) - continued									
EM2305209-014	Anonymous	EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	UST_77_SE_1.6	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	104	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	105	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	103	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	102	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	99.2	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.5	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	44.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	93.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	92.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	90.8	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	90.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	80.8	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	89.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.5	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	90.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	86.6	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	77.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	87.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	62.5	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	109	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	102	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.9	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	110	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	96.0	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	102	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	101	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.7	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	79.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	87.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	90.7	55.0	124
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616) - continued								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	116	70.0	130
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	107	70.0	130
EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	3163 mg/kg	111	70.0	130
EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	763 mg/kg	105	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	90.3	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	88.8	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	85.4	72.2	107
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	109	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	105	70.0	130
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	mg/kg	<50	963 mg/kg	91.1	70.0	130
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	mg/kg	<50	202 mg/kg	89.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	114	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	104	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636) - continued								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	104	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	104	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	108	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952597) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474) - continued								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Phenol	108-95-2	3 mg/kg	93.1	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	94.6	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	96.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	89.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	73.6	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	86.5	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	91.8	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	92.1	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	88.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	84.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	116	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635) - continued							
EM2305209-025	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aliphatic >C5-C6	----	7 mg/kg	68.4	43.0	123
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	12 mg/kg	# Not Determined	46.0	134
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	1129 mg/kg	116	70.0	130
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	3884 mg/kg	110	70.0	130
		EP070-CWG: Aliphatic >C16-C21	----	3163 mg/kg	129	70.0	130
		EP070-CWG: Aliphatic >C21-C35	----	763 mg/kg	121	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aromatic >C5-C7	----	2 mg/kg	82.1	39.0	133
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	2 mg/kg	95.7	44.0	136
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	341 mg/kg	75.9	70.0	130
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	1365 mg/kg	80.0	70.0	130
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	963 mg/kg	75.0	70.0	130
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	202 mg/kg	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	98.3	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	94.9	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	94.0	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	110	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636) - continued							
EM2305209-027	Anonymous	EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479) - continued							
EM2305219-004	Anonymous	EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AB**	Page	: 1 of 32
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	90	15.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	7	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	18	16	11.3	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	258	248	4.1	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	81	72	12.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	172	178	2.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	23	17	28.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1320	1260	5.2	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Arsenic	7440-38-2	5	mg/kg	150	# 88	51.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	403	# 556	32.1	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	140	27.6	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	11	11	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	23	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	83	81	2.9	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	223	248	10.6	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	24	14	49.7	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	UST_SP_1.5-2.0_02	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	100	19.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	15.1	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	10	29.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	60	50	17.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	191	198	3.5	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	41	42	3.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	133	# 351	90.0	0% - 20%
EM2305209-030	UST_SP_EXT_06	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	12	12.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	12	11.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	19	9.1	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	8	40.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	66	61	7.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	245	222	10.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	26	16	49.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	198	167	16.9	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873)									
EM2305098-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	50	49	2.4	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873) - continued									
EM2305098-001	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	120	120	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	41	2.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	22	8.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	134	133	0.8	0% - 20%
EM2305119-013	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	44	3.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	50	51	2.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	7.8	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	Anonymous	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	Anonymous	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	UST_SP_EXT_02	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	UST_QC108	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	Anonymous	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953724)									
EM2305209-013	UST_SP_0.5-1.0_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953872)									
EM2305098-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2305119-013	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 4952639)									
EM2305209-013	UST_SP_0.5-1.0_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4954561)									
EM2305209-013	UST_SP_0.5-1.0_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 4952640)									
EM2305209-013	UST_SP_0.5-1.0_01	EK040T: Fluoride	16984-48-8	40	mg/kg	130	100	20.5	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952630)									
EM2305209-023	UST_SP_1.5-2.0_04	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952634)									
EM2305209-013	UST_SP_0.5-1.0_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952629)									
EM2305209-023	UST_SP_1.5-2.0_04	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633)									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631) - continued									
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	UST_QC108	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	3.4	96.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	4.2	123	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.6	25.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.9	2.7	102	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.5	# 16.9	116	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	# 6.6	133	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.4	# 26.9	105	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.0	# 27.1	92.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	# 16.2	106	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	# 13.7	102	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.2	# 18.7	101	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	# 8.0	108	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627) - continued									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.3	# 18.2	96.9	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	# 7.7	96.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	2.1	100	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.1	# 8.7	94.2	0% - 50%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-036	UST_QC108	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305209-046	Anonymous	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953231)									
EM2305209-013	UST_SP_0.5-1.0_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	2.15	2.03	5.6	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: C15 - C28 Fraction	----	100	mg/kg	2350	2000	16.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	160	110	38.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1130	970	15.0	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: >C16 - C34 Fraction	----	100	mg/kg	1540	1270	19.5	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2020	1750	14.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864)									
EM2305003-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864) - continued									
EM2305003-003	Anonymous	EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.4	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	98.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.7	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	94.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	93.5	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	97.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	94.3	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	95.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	94.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.5	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	115	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725) - continued								
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.2	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	104	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	91.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.1	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	79.3	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	101	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952630)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	100	68.0	133
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	98.8	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	70.2	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629) - continued								
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	90.8	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.6	55.5	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	96.1	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.5	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	98.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	37.7	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.8	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	101	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	99.8	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	89.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.5	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953231)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	86.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	110	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	108	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	122	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952613) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	85.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	86.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.1	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	82.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	96.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	89.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	101	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	101	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	99.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.2	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	101	54.5	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	100	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	97.2	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	96.1	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	95.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	103	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4953606) - continued								
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 172	80.0	120
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Arsenic	7440-38-2	50 mg/kg	114	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	99.0	78.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	UST_SP_1.5-2.0_03	EG005T: Arsenic	7440-38-2	50 mg/kg	89.2	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	87.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.9	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	93.1	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)							
EM2305098-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.1	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	91.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	95.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	88.2	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)							
EM2305209-019	UST_SP_1.0-1.5_03	EG035T: Mercury	7439-97-6	0.5 mg/kg	105	76.0	116

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)							
EM2305098-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)							
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 46.0	58.0	114
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	60.1	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)							
EM2305209-019	UST_SP_1.0-1.5_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	112	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)							
EM2305209-019	UST_SP_1.0-1.5_03	EK040T: Fluoride	16984-48-8	400 mg/kg	80.0	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)							
EM2305209-021	UST_SP_1.5-2.0_02	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	110	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)							
EM2305209-019	UST_SP_1.0-1.5_03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.0	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	93.7	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	64.8	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	99.1	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	94.1	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	71.2	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	98.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	90.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	81.9	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	70.1	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627) - continued							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 45.6	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	# 72.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	99.4	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851) - continued							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	89.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	101	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305209**	Page	: 1 of 21
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Site	: Macquarie Point	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 49
Order number	: 60693007-3	No. of samples analysed	: 45

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--013	UST_SP_0.5-1.0_01	**Arsenic**	7440-38-2	51.3 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--021	UST_SP_1.5-2.0_02	**Lead**	7439-92-1	38.9 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--030	UST_SP_EXT_06	**Lead**	7439-92-1	31.5 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--021	UST_SP_1.5-2.0_02	**Zinc**	7440-66-6	90.0 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--013	UST_SP_0.5-1.0_01	**Zinc**	7440-66-6	32.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Phenanthrene**	85-01-8	116 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Anthracene**	120-12-7	133 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--001	UST_80_1.2_S	**Fluoranthene**	206-44-0	21.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Fluoranthene**	206-44-0	105 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--001	UST_80_1.2_S	**Pyrene**	129-00-0	21.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Pyrene**	129-00-0	92.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benz(a)anthracene**	56-55-3	106 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Chrysene**	218-01-9	102 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(b+j)fluoranthene**	205-99-2 205-82-3	101 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(k)fluoranthene**	207-08-9	108 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(a)pyrene**	50-32-8	96.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Indeno(1.2.3.cd)pyrene**	193-39-5	96.2 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(g.h.i)perylene**	191-24-2	94.2 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--019	UST_SP_1.0-1.5_03	**Zinc**	7440-66-6	172 %	80.0-120%	**Recovery greater than upper data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2305209--019	UST_SP_1.0-1.5_03	**Hexavalent Chromium**	18540-29-9	46.0 %	58.0-114%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--010	UST_59_E_1.6	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Pyrene**	129-00-0	45.6 %	65.5-136%	**Recovery less than lower data quality objective**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions	EM2305209--010	UST_59_E_1.6	**Aliphatic >C6-C8**	TPHCWG-ALV2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP079/070: TPH CWG Aromatic Hydrocarbon Fraction	EM2305209--010	UST_59_E_1.6	**Aromatic >C21-C35**	TPHCWG-ARE4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--010	UST_59_E_1.6	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP080/071: Total Petroleum Hydrocarbons	EM2305209--024	UST_SP_1.5-2.0_05	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--024	UST_SP_1.5-2.0_05	**C15 - C28 Fraction**	----	72.6 %	75.6-122%	**Recovery less than lower data quality objective**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--010	UST_59_E_1.6	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--010	UST_59_E_1.6	**>C10 - C16 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--024	UST_SP_1.5-2.0_05	**>C10 - C16 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--010	UST_59_E_1.6	**C6 - C10 Fraction**	C6_C10	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**----**	----	----	**24-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
UST_QC106	**20-Mar-2023**	**----**	----	----	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**----**	----	----	**24-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
Rail Timber 01	**21-Mar-2023**	**----**	----	----	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
UST_80_1.2_S,	UST_OL_DL_BF,	**20-Mar-2023**	**27-Mar-2023**	16-Sep-2023	✓	**27-Mar-2023**	16-Sep-2023	✓
UST_77_SE_0.8,	UST_77_SE_1.6,							
UST_74_E_0.8,	UST_74_E_1.6,							
UST_66_E_0.8,	UST_66_E_1.6,							
UST_59_E_0.8,	UST_59_E_1.6,							
UST_55_NE_0.8,	UST_55_NE_1.6,							
UST_QC107,	UST_QC106							
Soil Glass Jar - Unpreserved (EG005T)								
UST_SP_0.5-1.0_01,	UST_SP_0.5-1.0_02,	**21-Mar-2023**	**27-Mar-2023**	17-Sep-2023	✓	**27-Mar-2023**	17-Sep-2023	✓
UST_SP_0.5-1.0_03,	UST_SP_0.5-1.0_04,							
UST_SP_1.0-1.5_01,	UST_SP_1.0-1.5_02,							
UST_SP_1.0-1.5_03,	UST_SP_1.5-2.0_01,							
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_03,							
UST_SP_1.5-2.0_04,	UST_SP_1.5-2.0_05,							
UST_SP_EXT_01,	UST_SP_EXT_02,							
UST_SP_EXT_03,	UST_SP_EXT_04,							
UST_SP_EXT_05,	UST_SP_EXT_06,							
UST_SP_EXT_07,	UST_SP_EXT_08,							
UST_SP_ch77-80_01,	UST_SP_ch77-81_02,							
UST_SP_ch77-82_03,	UST_QC108,							
UST_QC109,	UST_QC110,							
Rail Timber 01								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
UST_SP_0.5-1.0_01,	UST_SP_1.0-1.5_03,	**21-Mar-2023**	**27-Mar-2023**	18-Apr-2023	✓	**27-Mar-2023**	18-Apr-2023	✓
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_04,							
UST_SP_EXT_01,	UST_SP_EXT_03,							
UST_SP_EXT_08,	UST_SP_ch77-82_03,							
UST_QC109,	Rail Timber 01							
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)								
UST_SP_0.5-1.0_01,	UST_SP_1.0-1.5_03,	**21-Mar-2023**	**25-Mar-2023**	18-Apr-2023	✓	**28-Mar-2023**	01-Apr-2023	✓
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_04,							
UST_SP_EXT_01,	UST_SP_EXT_03,							
UST_SP_EXT_08,	UST_SP_ch77-82_03,							
UST_QC109								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**29-Mar-2023**	10-Apr-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	18-Apr-2023	✓	**28-Mar-2023**	18-Apr-2023	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
Rail Timber 01	**21-Mar-2023**	**26-Mar-2023**	04-Apr-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_02, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_02, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	06-May-2023	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued								
UST_SP_0.5-1.0_01,	UST_SP_0.5-1.0_02,	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
UST_SP_0.5-1.0_03,	UST_SP_0.5-1.0_04,							
UST_SP_1.0-1.5_01,	UST_SP_1.0-1.5_02,							
UST_SP_1.0-1.5_03,	UST_SP_1.5-2.0_01,							
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_03,							
UST_SP_1.5-2.0_04,	UST_SP_1.5-2.0_05,							
UST_SP_EXT_01,	UST_SP_EXT_02,							
UST_SP_EXT_03,	UST_SP_EXT_04,							
UST_SP_EXT_05,	UST_SP_EXT_06,							
UST_SP_EXT_07,	UST_SP_EXT_08,							
UST_SP_ch77-80_01,	UST_SP_ch77-81_02,							
UST_SP_ch77-82_03,	UST_QC108,							
UST_QC109,	UST_QC110							
Soil Glass Jar - Unpreserved (EP080)								
Rail Timber 01		**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T) UST_QCB07	**20-Mar-2023**	**26-Mar-2023**	16-Sep-2023	✓	**27-Mar-2023**	16-Sep-2023	✓
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T) UST_QCB08	**21-Mar-2023**	**26-Mar-2023**	17-Sep-2023	✓	**27-Mar-2023**	17-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) Rail Timber 01	**26-Mar-2023**	**27-Mar-2023**	02-Apr-2023	✓	**27-Mar-2023**	06-May-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP071) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP071) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	7	58	**12.07**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	8	52	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	7	60	**11.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	8	54	**14.81**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	6	45	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	60	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Analytical Methods	Method	Matrix	Method Descriptions
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromotic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998,Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Automated Guideline Comparison Report

Work Order	: **EM2305209-AA**	Page	: 1 of 2
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 18-Apr-2023 10:30
No. of samples received	: 16		
No. of samples analysed	: 16	Quote number	: EN/004/21

General Comments

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Analytical Results

Sub-Matrix:				Sample ID	Guideline Lower Limit	Guideline Upper Limit	----	----	----	----	----
				Sampling date/time			----	----	----	----	----
Compound	*Method*	*LOR*	*Unit*				MU	MU	MU	MU	MU
		-	-		----	----	----	----	----	----	----

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
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Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 18-Apr-2023 10:31
No. of samples received	: 29		
No. of samples analysed	: 29	Quote number	: EN/004/21

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 5,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.69 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Arsenic	EG005T	5	*< 20 mg/kg*	**150 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Zinc	EG005T	5	*< 200 mg/kg*	**403 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**20.5 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Arsenic	EG005T	5	*< 20 mg/kg*	**32 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Lead	EG005T	5	*< 300 mg/kg*	**796 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Zinc	EG005T	5	*< 200 mg/kg*	**266 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Mercury	EG035T	0.1	*< 1 mg/kg*	**4.0 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Arsenic	EG005T	5	*< 20 mg/kg*	**20 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Lead	EG005T	5	*< 300 mg/kg*	**306 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Zinc	EG005T	5	*< 200 mg/kg*	**243 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**3640 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Tin	EG005T	5	*< 50 mg/kg*	**67 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1220 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Lead	EG005T	5	*< 300 mg/kg*	**421 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Zinc	EG005T	5	*< 200 mg/kg*	**202 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.8 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Copper	EG005T	5	*< 100 mg/kg*	**395 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Lead	EG005T	5	*< 300 mg/kg*	**316 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Tin	EG005T	5	*< 50 mg/kg*	**50 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Zinc	EG005T	5	*< 200 mg/kg*	**301 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.3 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Arsenic	EG005T	5	*< 20 mg/kg*	**35 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Copper	EG005T	5	*< 100 mg/kg*	**181 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Zinc	EG005T	5	*< 200 mg/kg*	**374 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1390 mg/kg**
UST_QC109	**EM2305209-037**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.4 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.69 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**20.5**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**2.15**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**300**	**----**	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	1000	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	300	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	50	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	100	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	300	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	500	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	60	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	50	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	200	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1		<0.5	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 *Sample ID* / 21-Mar-2023 15:00 *Sampling date/time* / EM2305209-013	MU	UST_SP_0.5-1.0_02 / 21-Mar-2023 15:00 / EM2305209-014	MU	UST_SP_0.5-1.0_03 / 21-Mar-2023 15:00 / EM2305209-015	MU	UST_SP_0.5-1.0_04 / 21-Mar-2023 15:00 / EM2305209-016	MU	UST_SP_1.0-1.5_01 / 21-Mar-2023 15:00 / EM2305209-017	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	200	**150**	± 18	----		----		----		----	
Barium	EG005T	10	mg/kg	----	3000	**100**	± 10	----		----		----		----	
Beryllium	EG005T	1	mg/kg	----	40	<1	- -	----		----		----		----	
Cadmium	EG005T	1	mg/kg	----	40	**2**	± 0.2	----		----		----		----	
Chromium	EG005T	2	mg/kg	----	500	**14**	± 2	----		----		----		----	
Cobalt	EG005T	2	mg/kg	----	200	**11**	± 1	----		----		----		----	
Copper	EG005T	5	mg/kg	----	2000	**83**	± 10	----		----		----		----	
Lead	EG005T	5	mg/kg	----	1200	**235**	± 25	----		----		----		----	
Manganese	EG005T	5	mg/kg	----	5000	**223**	± 22	----		----		----		----	
Molybdenum	EG005T	2	mg/kg	----	1000	<2	- -	----		----		----		----	
Nickel	EG005T	2	mg/kg	----	600	**24**	± 2	----		----		----		----	
Selenium	EG005T	5	mg/kg	----	50	<5	- -	----		----		----		----	
Silver	EG005T	2	mg/kg	----	180	<2	- -	----		----		----		----	
Tin	EG005T	5	mg/kg	----	500	**24**	± 4	----		----		----		----	
Zinc	EG005T	5	mg/kg	----	14000	**403**	± 42	----		----		----		----	
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	30	**0.3**	± 0.03	----		----		----		----	
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5	- -	----		----		----		----	
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	1000	**1**	± 0.1	----		----		----		----	
EK040T: Fluoride Total															
Fluoride	EK040T	40	mg/kg	----	3000	**130**	± 30	----		----		----		----	
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1		----		----		----		----	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05		----		----		----		----	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05		----		----		----		----	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5		----		----		----		----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**20.5**		----		----		----		----	
EP075B: Polynuclear Aromatic Hydrocarbons															

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	30000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	5000	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	1000	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	7500	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	3000	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	25000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	4000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	3000	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	200	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	720	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	900	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	50000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID / Sampling date/time	UST_SP_1.0-1.5_02 21-Mar-2023 15:00 EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	<10	----	<10	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	<0.2	----	<0.2	----
Toluene	EP080	0.5	mg/kg	----	1000		----	<0.5	----	<0.5	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	<0.5	----	<0.5	----
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	<0.5	----	<0.5	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	300	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	2	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	3	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	50	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	100	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	100	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	300	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	500	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	60	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	10	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	50	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	200	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	<10	**----**	<10	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	<0.2	**----**	<0.2	**----**
Toluene	EP080	0.5	mg/kg	----	1	**----**	<0.5	**----**	<0.5	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	<0.5	**----**	<0.5	**----**
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	<0.5	**----**	<0.5	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	3000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	500	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	200	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	2000	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	1200	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	5000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	600	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	500	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	14000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.0-1.5_02 21-Mar-2023 15:00 EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	<10	----	<10	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	<0.2	----	<0.2	----
Toluene	EP080	0.5	mg/kg	----	100		----	<0.5	----	<0.5	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	<0.5	----	<0.5	----
Total Xylenes	EP080	0.5	mg/kg	----	180		----	<0.5	----	<0.5	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	30000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	400	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	7500	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	3000	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	25000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	4000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	200	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	50000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID						
				Sampling date/time	Guideline	Guideline	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
							21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	20	**20** ± 3	----	<5 --	----	<5 --	
Barium	EG005T	10	mg/kg	----	300	**130** ± 10	----	**150** ± 20	----	**120** ± 10	
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	<1 --	----	<1 --	
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	<1 --	----	<1 --	
Chromium	EG005T	2	mg/kg	----	50	**13** ± 2	----	**16** ± 2	----	**18** ± 2	
Cobalt	EG005T	2	mg/kg	----	100	**10** ± 1	----	**23** ± 3	----	**16** ± 2	
Copper	EG005T	5	mg/kg	----	100	**47** ± 6	----	**47** ± 6	----	**59** ± 7	
Lead	EG005T	5	mg/kg	----	300	**306** ± 32	----	**152** ± 16	----	**421** ± 44	
Manganese	EG005T	5	mg/kg	----	500	**182** ± 18	----	**222** ± 22	----	**344** ± 34	
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --	
Nickel	EG005T	2	mg/kg	----	60	**15** ± 1	----	**24** ± 2	----	**28** ± 3	
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	<5 --	----	<5 --	
Silver	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --	
Tin	EG005T	5	mg/kg	----	50	**32** ± 5	----	**67** ± 10	----	**24** ± 4	
Zinc	EG005T	5	mg/kg	----	200	**243** ± 26	----	**111** ± 12	----	**202** ± 21	
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	1	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08	
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	<0.5 --	----	<0.5 --	
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	32	<1 --	----	<1 --	----	<1 --	
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	300	**70** ± 30	----	**80** ± 30	----	**130** ± 30	
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	<0.1	----	<0.1	
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05	
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	<0.5	----	<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
Sample ID										
Sampling date/time										
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	3000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	200	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	2000	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	1200	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	5000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	14000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028	MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029	MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030	MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031	MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	750	----		----		----		----		**15**	± 3
Barium	EG005T	10	mg/kg	----	30000	----		----		----		----		**160**	± 20
Beryllium	EG005T	1	mg/kg	----	400	----		----		----		----		<1	- -
Cadmium	EG005T	1	mg/kg	----	400	----		----		----		----		<1	- -
Chromium	EG005T	2	mg/kg	----	5000	----		----		----		----		**13**	± 2
Cobalt	EG005T	2	mg/kg	----	1000	----		----		----		----		**12**	± 1
Copper	EG005T	5	mg/kg	----	7500	----		----		----		----		**395**	± 47
Lead	EG005T	5	mg/kg	----	3000	----		----		----		----		**316**	± 33
Manganese	EG005T	5	mg/kg	----	25000	----		----		----		----		**204**	± 20
Molybdenum	EG005T	2	mg/kg	----	4000	----		----		----		----		<2	- -
Nickel	EG005T	2	mg/kg	----	3000	----		----		----		----		**16**	± 2
Selenium	EG005T	5	mg/kg	----	200	----		----		----		----		<5	- -
Silver	EG005T	2	mg/kg	----	720	----		----		----		----		<2	- -
Tin	EG005T	5	mg/kg	----	900	----		----		----		----		**50**	± 8
Zinc	EG005T	5	mg/kg	----	50000	----		----		----		----		**301**	± 32
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	110	----		----		----		----		**1.3**	± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----		----		----		----		<0.5	- -
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	2500	----		----		----		----		<1	- -
EK040T: Fluoride Total															
Fluoride	EK040T	40	mg/kg	----	10000	----		----		----		----		**80**	± 30
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----		----		----		----		<0.1	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----		----		----		----		<0.05	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----		----		----		----		<0.05	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----		----		----		----		<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal
Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	300	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	3	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	50	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	100	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	300	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	500	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	60	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	50	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	200	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	----	----	----	**62.2**	
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	----	----	----	----	**5.02**	
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65	----	----	----	----	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	----	----	----	----	**340**	
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1	----	----	----	----	<0.2	--
Toluene	EP080	0.5	mg/kg	----	1	----	----	----	----	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	3	----	----	----	----	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	14	----	----	----	----	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	3000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	500	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	1200	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	5000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	600	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	180	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	500	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	14000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	----	----	----	**340**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	7500	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	3000	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	25000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	50000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
						Sampling date/time	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
							EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	300	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	100	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	300	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	500	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	200	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date/time		21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	3000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	2000	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	1200	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	5000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	14000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date/time		21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	**----**	**----**	**----**	**----**
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
							EM2305209-038 MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	**----**	**----**	**----**	**----**
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AA**	Page	: 1 of 15
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 30-Mar-2023 16:56
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_010 has LOR raised for 2.4-Dimethylphenol due to sample matrix interferences.
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
					EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**23.7**	**13.2**	**19.5**	**15.5**	**13.7**
EG005(ED093)T: Total Metals by ICP-AES									
Lead	7439-92-1	5	mg/kg		**289**	<5	**166**	**94**	**141**
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**14.9**	<0.5	**0.6**	**0.6**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		**2.3**	<0.5	**1.6**	**3.0**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		**1.5**	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		**3.7**	<0.5	**0.7**	**1.6**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		**9.9**	<0.5	**10.8**	**14.7**	**1.2**
Anthracene	120-12-7	0.5	mg/kg		**1.8**	<0.5	**4.0**	**4.2**	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		**14.1**	<0.5	**22.2**	**32.7**	**3.5**
Pyrene	129-00-0	0.5	mg/kg		**14.2**	<0.5	**20.9**	**33.5**	**3.5**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**5.7**	<0.5	**12.8**	**20.1**	**2.1**
Chrysene	218-01-9	0.5	mg/kg		**5.6**	<0.5	**11.2**	**17.2**	**2.0**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**8.4**	<0.5	**14.6**	**23.9**	**2.9**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**3.6**	<0.5	**5.2**	**6.6**	**1.0**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**7.5**	<0.5	**14.4**	**23.8**	**2.8**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**4.5**	<0.5	**6.5**	**10.7**	**1.2**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**1.0**	<0.5	**1.8**	**2.7**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**5.4**	<0.5	**7.8**	**12.5**	**1.5**
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**104**	<0.5	**135**	**208**	**21.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**10.8**	<0.5	**20.3**	**32.9**	**3.6**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**10.8**	**0.6**	**20.3**	**32.9**	**3.8**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**10.8**	**1.2**	**20.3**	**32.9**	**4.0**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ **Aliphatic >C5-C6**	----	5	mg/kg		----	----	----	<5	----
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	<5	----
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	**36**	----
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	<50	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	**178**	----
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	**138**	----
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	<50	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	<0.2	----
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	<0.5	----
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	<1.0	----
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	<50	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	**204**	----
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	**240**	----
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	**484**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	**23**	<10
C10 - C14 Fraction	----	50	mg/kg		**1540**	<50	<50	**290**	<50
C15 - C28 Fraction	----	100	mg/kg		**3080**	<100	**500**	**1120**	<100
C29 - C36 Fraction	----	100	mg/kg		**300**	<100	**310**	**390**	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**4920**	<50	**810**	**1800**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		**19**	<10	<10	**44**	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		**19**	<10	<10	**44**	<10
>C10 - C16 Fraction	----	50	mg/kg		**2540**	<50	<50	**570**	<50
>C16 - C34 Fraction	----	100	mg/kg		**2290**	<100	**720**	**1140**	**120**
>C34 - C40 Fraction	----	100	mg/kg		**120**	<100	**130**	**190**	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**4950**	<50	**850**	**1900**	**120**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_80_1.2_S	UST_OL_DL_BF	UST_77_SE_0.8	UST_77_SE_1.6	UST_74_E_0.8
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-001	EM2305209-002	EM2305209-003	EM2305209-004	EM2305209-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**2540**	<50	<50	**570**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		**4**	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.7**	**87.8**	**88.9**	**94.4**	**86.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**111**	**87.1**	**88.6**	**92.2**	**89.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**97.3**	**74.8**	**88.9**	**94.1**	**85.2**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**100**	**92.4**	**93.8**	**91.2**	**92.9**
Anthracene-d10	1719-06-8	0.5	%		**89.3**	**97.8**	**96.9**	**97.6**	**98.6**
4-Terphenyl-d14	1718-51-0	0.5	%		**100**	**94.7**	**96.4**	**95.8**	**95.8**
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**----**	**----**	**----**	**103**	**----**
2-Fluorobiphenyl	321-60-8	1	%		**----**	**----**	**----**	**91.0**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**78.6**	**85.1**	**81.4**	**86.0**	**91.3**
Toluene-D8	2037-26-5	0.2	%		**71.4**	**74.7**	**69.4**	**89.2**	**80.3**
4-Bromofluorobenzene	460-00-4	0.2	%		**74.6**	**85.1**	**77.9**	**111**	**87.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.4	22.3	23.8	15.4	24.3
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	227	152	621	131	142
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<2.0
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	8.0	0.6	4.2
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.7	1.8	1.8	4.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	11.1	<0.5	13.6
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	11.0	<0.5	19.8
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3.0	44.9	6.5	73.8
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.9	10.9	2.6	19.4
Fluoranthene	206-44-0	0.5	mg/kg	0.6	8.3	37.0	12.2	67.9
Pyrene	129-00-0	0.5	mg/kg	0.6	8.3	34.3	12.3	66.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	5.2	19.3	7.5	31.6
Chrysene	218-01-9	0.5	mg/kg	<0.5	4.7	15.4	6.8	25.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6.4	19.1	10.9	33.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	2.3	7.5	3.8	10.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.5	6.2	19.3	10.8	31.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2.6	7.2	5.8	12.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.7	2.2	1.5	3.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3.1	8.4	8.0	13.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.7	52.4	257	91.1	430

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**0.5**	**8.6**	**27.0**	**15.2**	**43.3**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.8**	**8.6**	**27.0**	**15.2**	**43.3**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**8.6**	**27.0**	**15.2**	**43.3**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
^ **Aliphatic >C5-C6**	----	5	mg/kg		----	----	----	----	<5
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg		----	----	----	----	**67**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg		----	----	----	----	**185**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		----	----	----	----	**1100**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		----	----	----	----	**4480**
Aliphatic >C16-C21	----	50	mg/kg		----	----	----	----	**3330**
Aliphatic >C21-C35	----	50	mg/kg		----	----	----	----	**1160**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C5-C7	----	0.2	mg/kg		----	----	----	----	<0.2
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg		----	----	----	----	<0.5
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg		----	----	----	----	<1.0
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		----	----	----	----	**139**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		----	----	----	----	**1750**
Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg		----	----	----	----	**1820**
Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg		----	----	----	----	**1600**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	**207**
C10 - C14 Fraction	----	50	mg/kg		<50	<50	**70**	<50	**6360**
C15 - C28 Fraction	----	100	mg/kg		<100	**210**	**860**	**980**	**13200**
C29 - C36 Fraction	----	100	mg/kg		<100	**120**	**360**	**580**	**1160**
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	**330**	**1290**	**1560**	**20700**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	**281**
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	**281**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	**120**	**100**	**11800**
>C16 - C34 Fraction	----	100	mg/kg		<100	**290**	**1070**	**1370**	**8140**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**140**	**240**	**470**
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	**290**	**1330**	**1710**	**20400**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_74_E_1.6	UST_66_E_0.8	UST_66_E_1.6	UST_59_E_0.8	UST_59_E_1.6
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-006	EM2305209-007	EM2305209-008	EM2305209-009	EM2305209-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	**120**	**100**	**11800**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	**2**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**84.5**	**88.6**	**84.0**	**90.5**	**95.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**89.2**	**89.0**	**87.3**	**88.9**	**94.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**76.7**	**86.3**	**85.6**	**89.8**	**102**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**94.8**	**93.4**	**92.2**	**90.9**	**97.0**
Anthracene-d10	1719-06-8	0.5	%	**99.2**	**96.8**	**93.3**	**96.0**	**99.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**101**	**96.6**	**97.2**	**96.5**	**102**
EP079/EP070S:TPH Surrogates - semivolatile speciation								
2-Bromonaphthalene	580-13-2	1	%	----	----	----	----	**Not Determined**
2-Fluorobiphenyl	321-60-8	1	%	----	----	----	----	**Not Determined**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**87.5**	**91.9**	**92.3**	**89.6**	**82.2**
Toluene-D8	2037-26-5	0.2	%	**74.2**	**78.5**	**80.2**	**74.6**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%	**80.4**	**86.6**	**88.5**	**84.0**	**109**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.2	21.4	27.9	21.9	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	268	371	596	286	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	10.1	17.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	2.7	0.7	5.8	2.0	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	16.0	1.9	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	20.2	4.6	----
Phenanthrene	85-01-8	0.5	mg/kg	9.3	5.6	88.6	12.0	----
Anthracene	120-12-7	0.5	mg/kg	3.1	1.8	25.9	2.5	----
Fluoranthene	206-44-0	0.5	mg/kg	24.5	11.5	85.9	14.0	----
Pyrene	129-00-0	0.5	mg/kg	24.5	10.3	79.1	13.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	14.6	6.6	40.0	5.3	----
Chrysene	218-01-9	0.5	mg/kg	13.0	5.2	30.9	5.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	17.9	7.3	36.7	8.3	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	2.6	14.7	2.9	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	17.8	6.8	37.8	7.1	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.1	2.8	14.9	4.7	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.1	0.8	3.8	1.0	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	9.6	3.1	15.9	5.9	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	154	65.1	526	109	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
			Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit	EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
				Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**24.8**	**9.6**	**52.7**	**10.3**	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**24.8**	**9.6**	**52.7**	**10.3**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**24.8**	**9.6**	**52.7**	**10.3**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	**1470**	----
C15 - C28 Fraction	----	100	mg/kg	**500**	**260**	**1530**	**2920**	----
C29 - C36 Fraction	----	100	mg/kg	**300**	**130**	**620**	**380**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**800**	**390**	**2150**	**4770**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	**17**	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	**17**	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	**180**	**2600**	----
>C16 - C34 Fraction	----	100	mg/kg	**720**	**350**	**1890**	**2020**	----
>C34 - C40 Fraction	----	100	mg/kg	**130**	<100	**290**	**180**	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**850**	**350**	**2360**	**4800**	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	**180**	**2600**	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	**1**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**85.7**	**86.1**	**83.6**	**88.5**	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**88.3**	**90.2**	**102**	**88.1**	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**90.2**	**86.5**	**88.6**	**95.2**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**91.8**	**91.6**	**87.4**	**97.3**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_55_NE_0.8	UST_55_NE_1.6	UST_QC107	UST_QC106	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	20-Mar-2023 00:00	----
Compound	CAS Number	LOR	Unit		EM2305209-011	EM2305209-012	EM2305209-042	EM2305209-046	--------
					Result	Result	Result	Result	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**95.6**	**95.7**	**85.8**	**95.1**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.2**	**94.8**	**90.2**	**91.1**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.7**	**90.4**	**83.9**	**79.9**	**----**
Toluene-D8	2037-26-5	0.2	%		**72.3**	**75.0**	**70.3**	**84.7**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**79.9**	**82.8**	**78.2**	**95.4**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**39.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**71.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**86.1**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**76.3**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**82.8**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**88.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**106**	**112**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA05	UST_QCB07	----	----	----
				Sampling date / time	20-Mar-2023 00:00	20-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-043	EM2305209-044	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**98.6**	**106**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**113**	**118**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

ALS Environmental

Automated Guideline Comparison Report

Work Order	: **EM2305209-AA**	Page	: 1 of 2
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
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Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 30-Mar-2023 16:59
No. of samples received	: 16		
No. of samples analysed	: 16	Quote number	: EN/004/21

General Comments

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Analytical Results

Sub-Matrix:				Sample ID	Guideline Lower Limit	Guideline Upper Limit	----	----	----	----	----
				Sampling date/time			----	----	----	----	----
Compound	*Method*	*LOR*	*Unit*				MU	MU	MU	MU	MU
		-	-		----	----	----	----	----	----	----

ALS Environmental

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 30-Mar-2023 16:59
No. of samples received	: 29		
No. of samples analysed	: 29	Quote number	: EN/004/21

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 5,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.69 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Arsenic	EG005T	5	*< 20 mg/kg*	**150 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Zinc	EG005T	5	*< 200 mg/kg*	**403 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**20.5 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Arsenic	EG005T	5	*< 20 mg/kg*	**32 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Lead	EG005T	5	*< 300 mg/kg*	**796 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Zinc	EG005T	5	*< 200 mg/kg*	**266 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Mercury	EG035T	0.1	*< 1 mg/kg*	**4.0 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Arsenic	EG005T	5	*< 20 mg/kg*	**20 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Lead	EG005T	5	*< 300 mg/kg*	**306 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Zinc	EG005T	5	*< 200 mg/kg*	**243 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**3640 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	*ALS Sample ID*	*Compound*	*Method*	*LOR*	*Limits*	*Result*
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Tin	EG005T	5	*< 50 mg/kg*	**67 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1220 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Lead	EG005T	5	*< 300 mg/kg*	**421 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Zinc	EG005T	5	*< 200 mg/kg*	**202 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.8 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Copper	EG005T	5	*< 100 mg/kg*	**395 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Lead	EG005T	5	*< 300 mg/kg*	**316 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Tin	EG005T	5	*< 50 mg/kg*	**50 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Zinc	EG005T	5	*< 200 mg/kg*	**301 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.3 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Arsenic	EG005T	5	*< 20 mg/kg*	**35 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Copper	EG005T	5	*< 100 mg/kg*	**181 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Zinc	EG005T	5	*< 200 mg/kg*	**374 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1390 mg/kg**
UST_QC109	**EM2305209-037**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.4 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.69 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**20.5**	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-013 MU	EM2305209-014 MU	EM2305209-015 MU	EM2305209-016 MU	EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**300**	----	----	----	----
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	300	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	50	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	100	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	300	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	500	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	60	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	50	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	200	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-013 MU	EM2305209-014 MU	EM2305209-015 MU	EM2305209-016 MU	EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	3000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	40	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	40	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	500	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	200	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	2000	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	1200	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	5000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	600	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	50	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	180	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	500	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	14000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02 (Sample ID) 21-Mar-2023 15:00 (Sampling date/time) EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	30000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	5000	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	1000	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	7500	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	3000	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	25000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	4000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	3000	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	200	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	720	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	900	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	50000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	**----**	<10 --	**----**	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	**----**	<0.2 --	**----**	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg	----	1000	**----**	<0.5 --	**----**	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	**----**	<0.5 --	**----**	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	**----**	<0.5 --	**----**	<0.5 --	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02 *Sample ID* / 21-Mar-2023 15:00 *Sampling date/time* / EM2305209-018 MU	UST_SP_1.0-1.5_03 / 21-Mar-2023 15:00 / EM2305209-019 MU	UST_SP_1.5-2.0_01 / 21-Mar-2023 15:00 / EM2305209-020 MU	UST_SP_1.5-2.0_02 / 21-Mar-2023 15:00 / EM2305209-021 MU	UST_SP_1.5-2.0_03 / 21-Mar-2023 15:00 / EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	300	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	2	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	3	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	50	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	100	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	100	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	300	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	500	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	60	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	10	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	50	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	200	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.0-1.5_02 21-Mar-2023 15:00	UST_SP_1.0-1.5_03 21-Mar-2023 15:00	UST_SP_1.5-2.0_01 21-Mar-2023 15:00	UST_SP_1.5-2.0_02 21-Mar-2023 15:00	UST_SP_1.5-2.0_03 21-Mar-2023 15:00
							EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		----	<10 --	----	<10 --	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		----	<0.2 --	----	<0.2 --	----
Toluene	EP080	0.5	mg/kg	----	1		----	<0.5 --	----	<0.5 --	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		----	<0.5 --	----	<0.5 --	----
Total Xylenes	EP080	0.5	mg/kg	----	14		----	<0.5 --	----	<0.5 --	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	3000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	500	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	200	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	2000	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	1200	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	5000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	600	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	500	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	14000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date/time			21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	40	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	**----**	<10 --	**----**	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	**----**	<0.2 --	**----**	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg		----	100	**----**	<0.5 --	**----**	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	100	**----**	<0.5 --	**----**	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg		----	180	**----**	<0.5 --	**----**	<0.5 --	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023	MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024	MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025	MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026	MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	750	**20**	± 3	----		<5	--	----		<5	--
Barium	EG005T	10	mg/kg	----	30000	**130**	± 10	----		**150**	± 20	----		**120**	± 10
Beryllium	EG005T	1	mg/kg	----	400	<1	--	----		<1	--	----		<1	--
Cadmium	EG005T	1	mg/kg	----	400	<1	--	----		<1	--	----		<1	--
Chromium	EG005T	2	mg/kg	----	5000	**13**	± 2	----		**16**	± 2	----		**18**	± 2
Cobalt	EG005T	2	mg/kg	----	1000	**10**	± 1	----		**23**	± 3	----		**16**	± 2
Copper	EG005T	5	mg/kg	----	7500	**47**	± 6	----		**47**	± 6	----		**59**	± 7
Lead	EG005T	5	mg/kg	----	3000	**306**	± 32	----		**152**	± 16	----		**421**	± 44
Manganese	EG005T	5	mg/kg	----	25000	**182**	± 18	----		**222**	± 22	----		**344**	± 34
Molybdenum	EG005T	2	mg/kg	----	4000	<2	--	----		<2	--	----		<2	--
Nickel	EG005T	2	mg/kg	----	3000	**15**	± 1	----		**24**	± 2	----		**28**	± 3
Selenium	EG005T	5	mg/kg	----	200	<5	--	----		<5	--	----		<5	--
Silver	EG005T	2	mg/kg	----	720	<2	--	----		<2	--	----		<2	--
Tin	EG005T	5	mg/kg	----	900	**32**	± 5	----		**67**	± 10	----		**24**	± 4
Zinc	EG005T	5	mg/kg	----	50000	**243**	± 26	----		**111**	± 12	----		**202**	± 21
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	110	**0.8**	± 0.08	----		**0.7**	± 0.07	----		**0.8**	± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5	--	----		<0.5	--	----		<0.5	--
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	2500	<1	--	----		<1	--	----		<1	--
EK040T: Fluoride Total															
Fluoride	EK040T	40	mg/kg	----	10000	**70**	± 30	----		**80**	± 30	----		**130**	± 30
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1		----		<0.1		----		<0.1	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05		----		<0.05		----		<0.05	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05		----		<0.05		----		<0.05	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5		----		<0.5		----		<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	300	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	100	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	100	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	300	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	500	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	200	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.5-2.0_04 21-Mar-2023 15:00	UST_SP_1.5-2.0_05 21-Mar-2023 15:00	UST_SP_EXT_01 21-Mar-2023 15:00	UST_SP_EXT_02 21-Mar-2023 15:00	UST_SP_EXT_03 21-Mar-2023 15:00
							EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20		**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	3000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	200	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	2000	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	1200	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	5000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	14000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	30000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	5000	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	3000	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	25000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	3000	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	720	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	900	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	50000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	300	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	3	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	50	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	100	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	300	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	500	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	60	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	50	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	200	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	3000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	500	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	1200	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	5000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	600	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	180	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	500	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	14000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date/time	Guideline	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	7500	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	3000	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	25000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	50000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_ch77-80_01 21-Mar-2023 15:00 EM2305209-033 MU	UST_SP_ch77-81_02 21-Mar-2023 15:00 EM2305209-034 MU	UST_SP_ch77-82_03 21-Mar-2023 15:00 EM2305209-035 MU	UST_QC108 21-Mar-2023 15:00 EM2305209-036 MU	UST_QC109 21-Mar-2023 15:00 EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	300	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	100	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	300	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	500	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	200	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	3000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	2000	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	1200	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	5000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	14000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_ch77-80_01 21-Mar-2023 15:00 EM2305209-033 MU	UST_SP_ch77-81_02 21-Mar-2023 15:00 EM2305209-034 MU	UST_SP_ch77-82_03 21-Mar-2023 15:00 EM2305209-035 MU	UST_QC108 21-Mar-2023 15:00 EM2305209-036 MU	UST_QC109 21-Mar-2023 15:00 EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time* / Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Barium	EG005T	10	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Beryllium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cadmium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Chromium	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cobalt	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Copper	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Lead	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Manganese	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Molybdenum	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Nickel	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Selenium	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Silver	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Tin	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Zinc	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	**----** ----	**----** ----	**----** ----	**----** ----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time* / Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Barium	EG005T	10	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Beryllium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cadmium	EG005T	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Chromium	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Cobalt	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Copper	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Lead	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Manganese	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Molybdenum	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Nickel	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Selenium	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Silver	EG005T	2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Tin	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Zinc	EG005T	5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	**----**	**----**	**----**	**----**
			Sampling date/time			21-Mar-2023 15:00	----	----	----	----
			Sample ID			**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons										
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
							EM2305209-038 MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	**----** ----	**----** ----	**----** ----	**----** ----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AA**	Page	: 1 of 26
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 30-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	UST_80_1.2_S	EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
EM2305209-013	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
EM2305209-030	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	UST_77_SE_1.6	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	UST_80_1.2_S	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	Anonymous	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	Anonymous	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	Anonymous	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	UST_QC106	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952617) - continued									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635) - continued									
EM2305209-036	Anonymous	EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305277-008	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	0.6	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952617)									
EM2305209-004	UST_77_SE_1.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	3.0	2.6	16.3	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.6	1.2	27.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	14.7	12.4	17.5	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	4.2	3.6	15.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	32.7	28.1	15.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	33.5	28.6	15.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	20.1	17.6	13.8	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	17.2	14.8	15.0	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	23.9	21.4	11.1	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	5.5	19.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	23.8	20.6	14.8	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	10.7	9.1	16.6	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.7	2.3	16.3	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.5	10.4	18.0	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	UST_80_1.2_S	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631) - continued									
EM2305209-014	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									
EM2305209-036	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-013	Anonymous	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	UST_QC106	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305277-008	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	0.0	No Limit
		EP079-CWG: Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	36	22	47.3	No Limit
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	178	155	14.0	No Limit
		EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	138	130	5.9	No Limit
		EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	<50	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952614)									
EM2305209-004	UST_77_SE_1.6	EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV 2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP079-CWG: Aromatic >C8-C10	TPHCWG-ARV 3	1	mg/kg	<1.0	<1.0	0.0	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 4952616)									
EM2305209-004	UST_77_SE_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	204	148	31.8	No Limit
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	50	mg/kg	240	201	17.6	No Limit
		EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	50	mg/kg	484	406	17.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: C15 - C28 Fraction	----	100	mg/kg	1120	980	13.7	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	390	350	10.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	290	240	17.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632) - continued									
EM2305209-001	UST_80_1.2_S	EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952618)									
EM2305209-004	UST_77_SE_1.6	EP071: >C16 - C34 Fraction	----	100	mg/kg	1140	1010	12.0	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	190	170	9.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	570	480	16.9	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	UST_80_1.2_S	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	UST_QC106	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	UST_80_1.2_S	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	UST_77_SE_1.6	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952615) - continued									
EM2305209-025	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	UST_QC106	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953590) - continued									
EM2305186-001	Anonymous	EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	104	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	105	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	103	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	102	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	99.2	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.5	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	44.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	93.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	92.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	90.8	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	90.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	80.8	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	89.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.5	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	90.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	86.6	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	77.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	87.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	62.5	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	109	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	102	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	102	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	110	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	96.0	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	102	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	101	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.7	65.8	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	79.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	87.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	90.7	55.0	124
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	116	70.0	130
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	107	70.0	130
EP070-CWG: Aliphatic >C16-C21	----	50	mg/kg	<50	3163 mg/kg	111	70.0	130
EP070-CWG: Aliphatic >C21-C35	----	50	mg/kg	<50	763 mg/kg	105	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	90.3	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	88.8	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	85.4	72.2	107
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	109	70.0	130
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	105	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616) - continued								
EP070-CWG: Aromatic >C16-C21	TPHCWG-AR E3	50	mg/kg	<50	963 mg/kg	91.1	70.0	130
EP070-CWG: Aromatic >C21-C35	TPHCWG-AR E4	50	mg/kg	<50	202 mg/kg	89.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	114	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	104	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	104	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	104	81.5	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618) - continued								
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	108	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952615) - continued								
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4953606) - continued								
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
EP075(SIM)A: Phenolic Compounds (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Phenol	108-95-2	3 mg/kg	93.1	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	94.6	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	96.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	89.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	73.6	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	86.5	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	91.8	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	92.1	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	88.8	61.5	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4953850) - continued							
EM2305245-002	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	84.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952617)							
EM2305209-010	UST_59_E_1.6	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	116	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	UST_OL_DL_BF	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aliphatic >C5-C6	----	7 mg/kg	68.4	43.0	123
		EP079-CWG: Aliphatic >C6-C8	TPHCWG-ALV2	12 mg/kg	# Not Determined	46.0	134
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	1129 mg/kg	116	70.0	130
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	3884 mg/kg	110	70.0	130
		EP070-CWG: Aliphatic >C16-C21	----	3163 mg/kg	129	70.0	130
		EP070-CWG: Aliphatic >C21-C35	----	763 mg/kg	121	70.0	130
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952614)							
EM2305209-010	UST_59_E_1.6	EP079-CWG: Aromatic >C5-C7	----	2 mg/kg	82.1	39.0	133
		EP079-CWG: Aromatic >C7-C8	TPHCWG-ARV2	2 mg/kg	95.7	44.0	136
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616)							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	341 mg/kg	75.9	70.0	130
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	1365 mg/kg	80.0	70.0	130
		EP070-CWG: Aromatic >C16-C21	TPHCWG-ARE3	963 mg/kg	75.0	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 4952616) - continued							
EM2305209-010	UST_59_E_1.6	EP070-CWG: Aromatic >C21-C35	TPHCWG-ARE4	202 mg/kg	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	98.3	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	94.9	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952618)							
EM2305209-010	UST_59_E_1.6	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	94.0	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	110	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	UST_77_SE_0.8	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	UST_OL_DL_BF	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	UST_59_E_1.6	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	UST_QCA05	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AB**	Page	: 1 of 31
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 30-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	90	15.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	7	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	18	16	11.3	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	258	248	4.1	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	81	72	12.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	172	178	2.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	23	17	28.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1320	1260	5.2	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Arsenic	7440-38-2	5	mg/kg	150	# 88	51.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	403	# 556	32.1	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	140	27.6	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	11	11	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	23	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	83	81	2.9	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	223	248	10.6	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	24	14	49.7	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	UST_SP_1.5-2.0_02	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	100	19.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	15.1	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	10	29.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	60	50	17.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	191	198	3.5	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	41	42	3.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	133	# 351	90.0	0% - 20%
EM2305209-030	UST_SP_EXT_06	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	12	12.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	12	11.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	19	9.1	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	8	40.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	66	61	7.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	245	222	10.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	26	16	49.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	198	167	16.9	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873)									
EM2305098-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	50	49	2.4	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873) - continued									
EM2305098-001	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	120	120	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	41	2.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	22	8.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	134	133	0.8	0% - 20%
EM2305119-013	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	44	3.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	50	51	2.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	7.8	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	Anonymous	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	Anonymous	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	UST_SP_EXT_02	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	UST_QC108	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	Anonymous	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953724)									
EM2305209-013	UST_SP_0.5-1.0_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953872)									
EM2305098-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2305119-013	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 4952639)									
EM2305209-013	UST_SP_0.5-1.0_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4954561)									
EM2305209-013	UST_SP_0.5-1.0_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 4952640)									
EM2305209-013	UST_SP_0.5-1.0_01	EK040T: Fluoride	16984-48-8	40	mg/kg	130	100	20.5	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952630)									
EM2305209-023	UST_SP_1.5-2.0_04	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952634)									
EM2305209-013	UST_SP_0.5-1.0_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952629)									
EM2305209-023	UST_SP_1.5-2.0_04	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633)									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631) - continued									
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	UST_QC108	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	3.4	96.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	4.2	123	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.6	25.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.9	2.7	102	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.5	# 16.9	116	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	# 6.6	133	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.4	# 26.9	105	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.0	# 27.1	92.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	# 16.2	106	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	# 13.7	102	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.2	# 18.7	101	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	# 8.0	108	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627) - continued									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.3	# 18.2	96.9	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	# 7.7	96.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	2.1	100	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.1	# 8.7	94.2	0% - 50%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-036	UST_QC108	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305209-046	Anonymous	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953231)									
EM2305209-013	UST_SP_0.5-1.0_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	2.15	2.03	5.6	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: C15 - C28 Fraction	----	100	mg/kg	2350	2000	16.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	160	110	38.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1130	970	15.0	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: >C16 - C34 Fraction	----	100	mg/kg	1540	1270	19.5	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2020	1750	14.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864)									
EM2305003-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864) - continued									
EM2305003-003	Anonymous	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4953606)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953606) - continued									
EM2305209-039	UST_QCA06	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.4	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	98.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.7	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	94.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	93.5	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	97.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	94.3	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	95.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	94.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.5	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	115	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.2	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.6	50.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873) - continued								
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	104	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	91.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.1	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	79.3	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	101	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952630)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	100	68.0	133
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	98.8	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	66.3	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629) - continued								
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	90.8	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.6	55.5	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	96.1	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.5	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	98.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	37.7	10.0	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.8	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	101	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	99.8	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	89.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.5	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953231)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	86.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	110	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636) - continued								
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	108	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	122	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952597) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478) - continued								
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	85.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	86.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.1	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	82.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	96.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	89.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	101	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	101	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	99.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.2	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	101	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	100	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	97.2	55.6	135

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	96.1	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	95.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	103	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 172	80.0	120
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Arsenic	7440-38-2	50 mg/kg	114	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	99.0	78.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	UST_SP_1.5-2.0_03	EG005T: Arsenic	7440-38-2	50 mg/kg	89.2	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	87.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.9	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	93.1	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)							
EM2305098-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.1	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	91.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	95.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	88.2	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)							
EM2305209-019	UST_SP_1.0-1.5_03	EG035T: Mercury	7439-97-6	0.5 mg/kg	105	76.0	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)							
EM2305098-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)							
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 46.0	58.0	114
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	60.1	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)							
EM2305209-019	UST_SP_1.0-1.5_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	112	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)							
EM2305209-019	UST_SP_1.0-1.5_03	EK040T: Fluoride	16984-48-8	400 mg/kg	80.0	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)							
EM2305209-021	UST_SP_1.5-2.0_02	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	110	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)							
EM2305209-019	UST_SP_1.0-1.5_03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.0	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	93.7	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	64.8	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	99.1	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	94.1	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	71.2	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	98.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	90.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	81.9	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	70.1	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 45.6	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	# 72.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	99.4	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	89.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	101	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2305209**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 4
Order number	: 60693007-3	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 22-Mar-2023 11:15	Issue Date	: 30-Mar-2023
Client Requested Due Date	: 29-Mar-2023	Scheduled Reporting Date	: **29-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 4.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 49 / 45

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Extra samples received:**
  UST_QC106 (sample 046)
  UST_QC206 (sample 047)
  OL_90_0.6_E (sample 048)
  OL_90_1.0 (sample 049)
  Rail Timber 01 (sample 050)
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - TRH-CWG Aliphatic/Aromatic CWG/RIVM Bands
EM2305209-001	20-Mar-2023 00:00	UST_80_1.2_S	✓		✓	
EM2305209-002	20-Mar-2023 00:00	UST_OL_DL_BF	✓		✓	
EM2305209-003	20-Mar-2023 00:00	UST_77_SE_0.8	✓		✓	
EM2305209-004	20-Mar-2023 00:00	UST_77_SE_1.6	✓		✓	✓
EM2305209-005	20-Mar-2023 00:00	UST_74_E_0.8	✓		✓	
EM2305209-006	20-Mar-2023 00:00	UST_74_E_1.6	✓		✓	
EM2305209-007	20-Mar-2023 00:00	UST_66_E_0.8	✓		✓	
EM2305209-008	20-Mar-2023 00:00	UST_66_E_1.6	✓		✓	
EM2305209-009	20-Mar-2023 00:00	UST_59_E_0.8	✓		✓	
EM2305209-010	20-Mar-2023 00:00	UST_59_E_1.6	✓		✓	✓
EM2305209-011	20-Mar-2023 00:00	UST_55_NE_0.8	✓		✓	
EM2305209-012	20-Mar-2023 00:00	UST_55_NE_1.6	✓		✓	
EM2305209-013	21-Mar-2023 00:00	UST_SP_0.5-1.0_01	✓	✓		
EM2305209-014	21-Mar-2023 00:00	UST_SP_0.5-1.0_02	✓		✓	
EM2305209-015	21-Mar-2023 00:00	UST_SP_0.5-1.0_03	✓		✓	
EM2305209-016	21-Mar-2023 00:00	UST_SP_0.5-1.0_04	✓		✓	
EM2305209-017	21-Mar-2023 00:00	UST_SP_1.0-1.5_01	✓		✓	
EM2305209-018	21-Mar-2023 00:00	UST_SP_1.0-1.5_02	✓		✓	
EM2305209-019	21-Mar-2023 00:00	UST_SP_1.0-1.5_03	✓	✓		
EM2305209-020	21-Mar-2023 00:00	UST_SP_1.5-2.0_01	✓		✓	
EM2305209-021	21-Mar-2023 00:00	UST_SP_1.5-2.0_02	✓	✓		
EM2305209-022	21-Mar-2023 00:00	UST_SP_1.5-2.0_03	✓		✓	
EM2305209-023	21-Mar-2023 00:00	UST_SP_1.5-2.0_04	✓	✓		
EM2305209-024	21-Mar-2023 00:00	UST_SP_1.5-2.0_05	✓		✓	
EM2305209-025	21-Mar-2023 00:00	UST_SP_EXT_01	✓	✓		
EM2305209-026	21-Mar-2023 00:00	UST_SP_EXT_02	✓		✓	
EM2305209-027	21-Mar-2023 00:00	UST_SP_EXT_03	✓	✓		
EM2305209-028	21-Mar-2023 00:00	UST_SP_EXT_04	✓		✓	
EM2305209-029	21-Mar-2023 00:00	UST_SP_EXT_05	✓		✓	
EM2305209-030	21-Mar-2023 00:00	UST_SP_EXT_06	✓		✓	
EM2305209-031	21-Mar-2023 00:00	UST_SP_EXT_07	✓		✓	
EM2305209-032	21-Mar-2023 00:00	UST_SP_EXT_08	✓	✓		
EM2305209-033	21-Mar-2023 00:00	UST_SP_ch77-80_01	✓		✓	
EM2305209-034	21-Mar-2023 00:00	UST_SP_ch77-81_02	✓		✓	
EM2305209-035	21-Mar-2023 00:00	UST_SP_ch77-82_03	✓	✓		

			SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - TRH-CWG Aliphatic/Aromatic CWG/RIVM Bands
EM2305209-036	21-Mar-2023 00:00	UST_QC108	✓		✓	
EM2305209-037	21-Mar-2023 00:00	UST_QC109	✓	✓		
EM2305209-038	21-Mar-2023 00:00	UST_QC110	✓		✓	
EM2305209-042	20-Mar-2023 00:00	UST_QC107	✓		✓	
EM2305209-046	20-Mar-2023 00:00	UST_QC106	✓		✓	
EM2305209-050	21-Mar-2023 00:00	Rail Timber 01	✓			

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) SOIL No analysis requested	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2305209-048	21-Mar-2023 00:00	OL_90_0.6_E	✓			
EM2305209-049	21-Mar-2023 00:00	OL_90_1.0	✓			
EM2305209-050	21-Mar-2023 00:00	Rail Timber 01		✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2305209-039	21-Mar-2023 00:00	UST_QCA06		✓	
EM2305209-040	21-Mar-2023 00:00	UST_QCB08			✓
EM2305209-041	21-Mar-2023 00:00	UST_QCC03	✓		
EM2305209-043	20-Mar-2023 00:00	UST_QCA05		✓	
EM2305209-044	20-Mar-2023 00:00	UST_QCB07			✓
EM2305209-045	20-Mar-2023 00:00	UST_QCC02	✓		

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- Chromatogram (CHROM)	Email	tim.smith02@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	tim.smith02@aecom.com

291

FREIGHT

SCANNED

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8467 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinstone QLD 4680 Ph: 07 4979 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY 11 [illegible] Ph: 07 4952 9700 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: enquiry.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4968 9600 E: samples.newcastle@alsglobal.com

NOWRA 4/10 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY Unit 6, 27-33 Woodlands Road Stinthfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Kirwan QLD Ph: 07 4775 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/19-21 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY: Scott (ALS)	RELINQUISHED BY:	RECEIVED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME:	DATE/TIME: 22/3/23, 1115	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com				
Email Invoice to (will default to PM if no other addresses are listed):				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Environmental Division
Melbourne
Work Order Reference
EM2305209

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 6/1 Burma Road Pooraka SA 5095 Ph: 08 8107 0180 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 45 Callemondah Drive Gladstone QLD 4680 Ph: 07 4975 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5705 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: soc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/15 Bearry Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rego Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Circuit Kirwan QLD Ph: 07 4779 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG Unit 21 Robert Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point — **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: — **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe — **CONTACT PH:** 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith — **SAMPLER MOBILE:** 0428 420 162	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)	**RELINQUISHED BY:** — **RECEIVED BY:**
COC Emailed to ALS? (YES / NO) — **EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME: 22/3/23, 1115	DATE/TIME: — DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE: 21 Burma Road Pooraka SA 5095 Ph: 08 8107 5130 E: adelaide@alsglobal.com

BRISBANE: 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE: 46 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 9944 E: ALSEnviro.Gladstone@alsglobal.com

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MELBOURNE: 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: ABC.melbourne@alsglobal.com

MUDGEE: 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE: 6/69 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA: 4/13 Geary Place Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH: 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY: 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE: 13 Garden Street Bohle QLD Ph: 07 4713 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG: Unit 2/4 Ralph Black Drive Ph: 02 4225 8125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point **PROJECT NO 60693007**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: **PURCHASE ORDER NO.: 60693007-3**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**		
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	Scott (ALS)		
DATE/TIME:	DATE/TIME: 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
~~36~~														
				TOTAL	22	7	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: **please tick →**

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NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 36 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Bohle QLD Ph: 07 4773 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 7/19-21 Rigali Place Unit Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (**List due date**):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (**List due date**):	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO. 60693007**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.: 60693007-3**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Invoice to (will default to PM if no other addresses are listed):		**RELINQUISHED BY:**	**RECEIVED BY:**
		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8162 9100 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

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NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Kirwan QLD Ph: 07 4796 0600 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/18-21 Rail Bank Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187		Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY: Scott (ALS)
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1									
	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1									please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1			
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1				
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1		
46	UST_QC106	20/3	S	Jar	2										
47	UST_QC206	20/3	S	Jar	2										
48	OL_90_0.6_E	21/3	S	Jar	2										
49	OL_90_1.0	21/3	S	Jar	2										
50	Rail Timber 01	21/3	Soil wood	Jar	2										
				TOTAL	14	2	0	0	0	0	1	1	1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MACKAY Ph: 07 4952 9755 E: ALSEnviro.Mackay@alsglobal.com

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SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 10 Carilon Street Kirwan QLD Ph: 07 4773 6308 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 7/19-21 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

FREIGHT

SCANNED

291

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE: Hobart	
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	Free ice / frozen ice bricks present upon receipt? Yes No N/A
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com	Random Sample Temperature on Receipt: °C
Email Invoice to (will default to PM if no other addresses are listed):	Other comment:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:	RELINQUISHED BY: DATE/TIME: RECEIVED BY: Scott (ALS) DATE/TIME: 22/3/23, 1115 RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1		1						
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								potential high TRH
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1		1						
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								potential high TRH
					2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Environmental Division
Melbourne
Work Order Reference
EM2305209

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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WOLLONGONG 1/19-21 Bligh Place Wollongong Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO 60693007**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.: 60693007-3**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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NEWCASTLE: 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA: 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH: 26 Rigel Way Wangara WA 6065 Ph: 08 9406 1501 E: samples.perth@alsglobal.com

SYDNEY: 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE: 13 Garden Street Kelwin QLD Ph: 07 4723 0600 E: ALSEnviro.Townsville@als

WOLLONGONG: 1/19-21 Neigh Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE:** 0428 420 162		
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: Scott (ALS) 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
~~36~~														
				TOTAL	22	7	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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Ph: 07 4727 9600 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 4/19-21 Robert Black Drive
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		DATE/TIME: 22/3/23, 1115
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	**RELINQUISHED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):			**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 5100 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

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SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 13/5 Carlton Street Rowan QLD Ph: 07 4775 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 4/19-21 Asquith Street Ph: 02 4225 3125 E: Addsamples@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187		Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: Scott (ALS) 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	
46	UST_QC106	20/3	S	Jar	2									
47	UST_QC206	20/3	S	Jar	2									
48	OL_90_0.6_E	21/3	S	Jar	2									
49	OL_90_1.0	21/3	S	Jar	2									
50	Rail Timber 01	21/3	Soil, wood	Jar	2									
				TOTAL	14	2	0	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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WOLLONGONG 1/19-31 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
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Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY:
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8160 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 48 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5796 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: coc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 0735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal

TOWNSVILLE 13 Carlton Street Kirwan QLD Ph: 07 4727 9000 E: ALSEnviro.Townsville@als

WOLLONGONG 1/19-21 Balgh Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.n

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
50	Rail Timber_01	21/03/2023 0:00	Soil	Jar	2			1						
				TOTAL	24	7	4	1	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: **please tick** →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8102 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.enviro@alsglobal.com

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MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5784 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: enc.melbourne@alsglobal.com

MUDGEE 1/30 Sydney Road Mudgee NSW 2850 Ph: 02 8373 6735 E: enviromud.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: alsnowra@alsglobal.com

PERTH 2F Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 13 Garbutt Street Kirwan QLD Ph: 07 4773 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/19-21 Rails Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (**List due date**):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (**List due date**):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
→	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
→	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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Ph: 08 8359 0130 E: adelaide@alsglobal.com

☐BRISBANE 2 Byth Street Stafford QLD 4053
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Ph: 07 4979 9944 E: ALSEnviro.Gladstone@alsglobal.com

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☐NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304
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Ph: 02 4423 2063 E: nowra@alsglobal.com

☐PERTH 26 Rigali Way Wangara WA 6065
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

☐TOWNSVILLE 10 Carlton Street Kirwan QLD
Ph: 07 4779 9000 E: ALSEnviro.Townsville@als

☐WOLLONGONG Unit 9 19-21 Ralph Black Drive,
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE:** 0428 420 162	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	
~~46~~ 46	UST _ QC106	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC206	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
				TOTAL	18	4	0	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Fraction Scheme : Legacy Fractions
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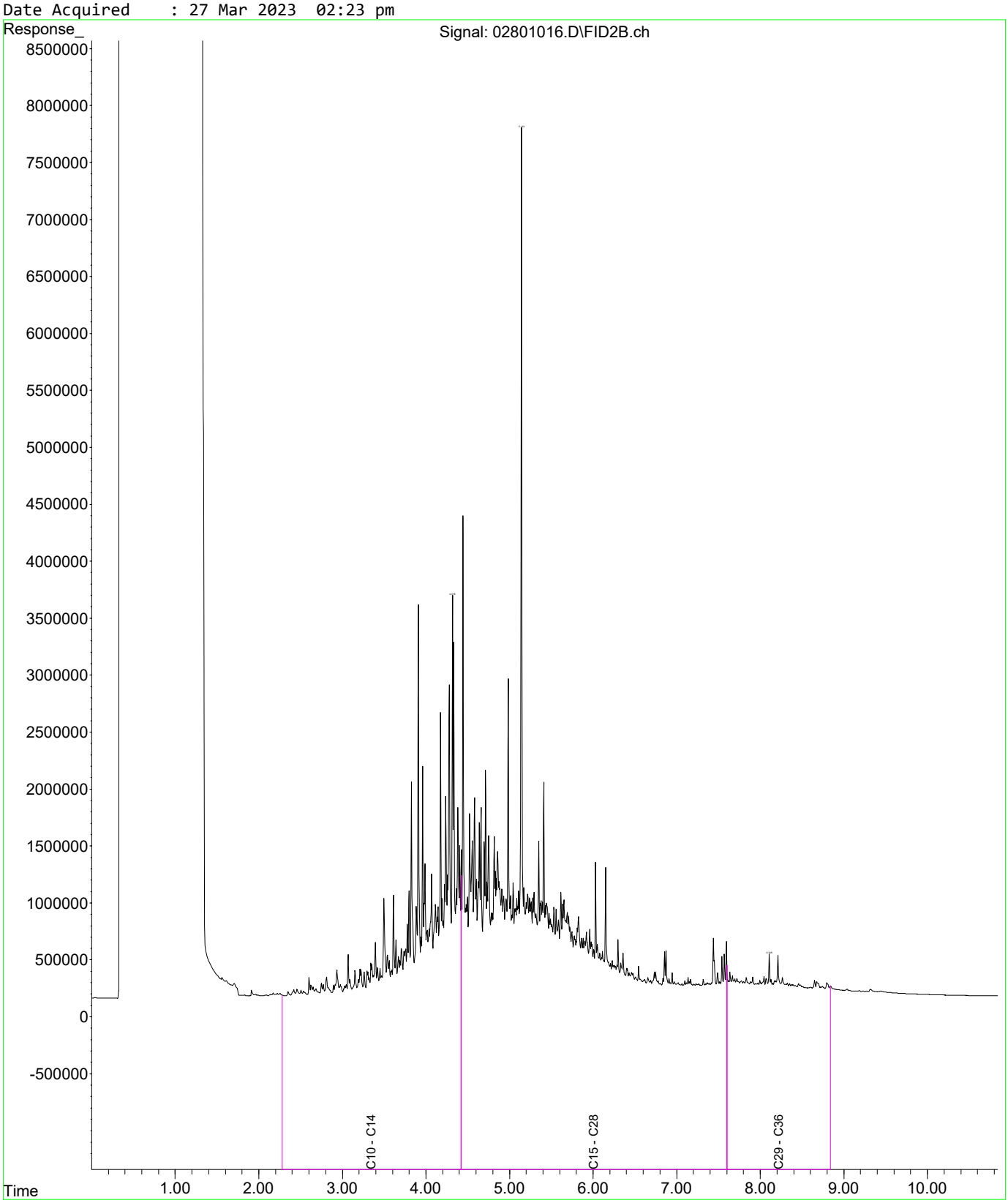
Laboratory Number: EM2305209-001
Sample ID : UST_80_1.2_S
Date Acquired : 27 Mar 2023 02:23 pm



Fraction Scheme : Legacy Fractions
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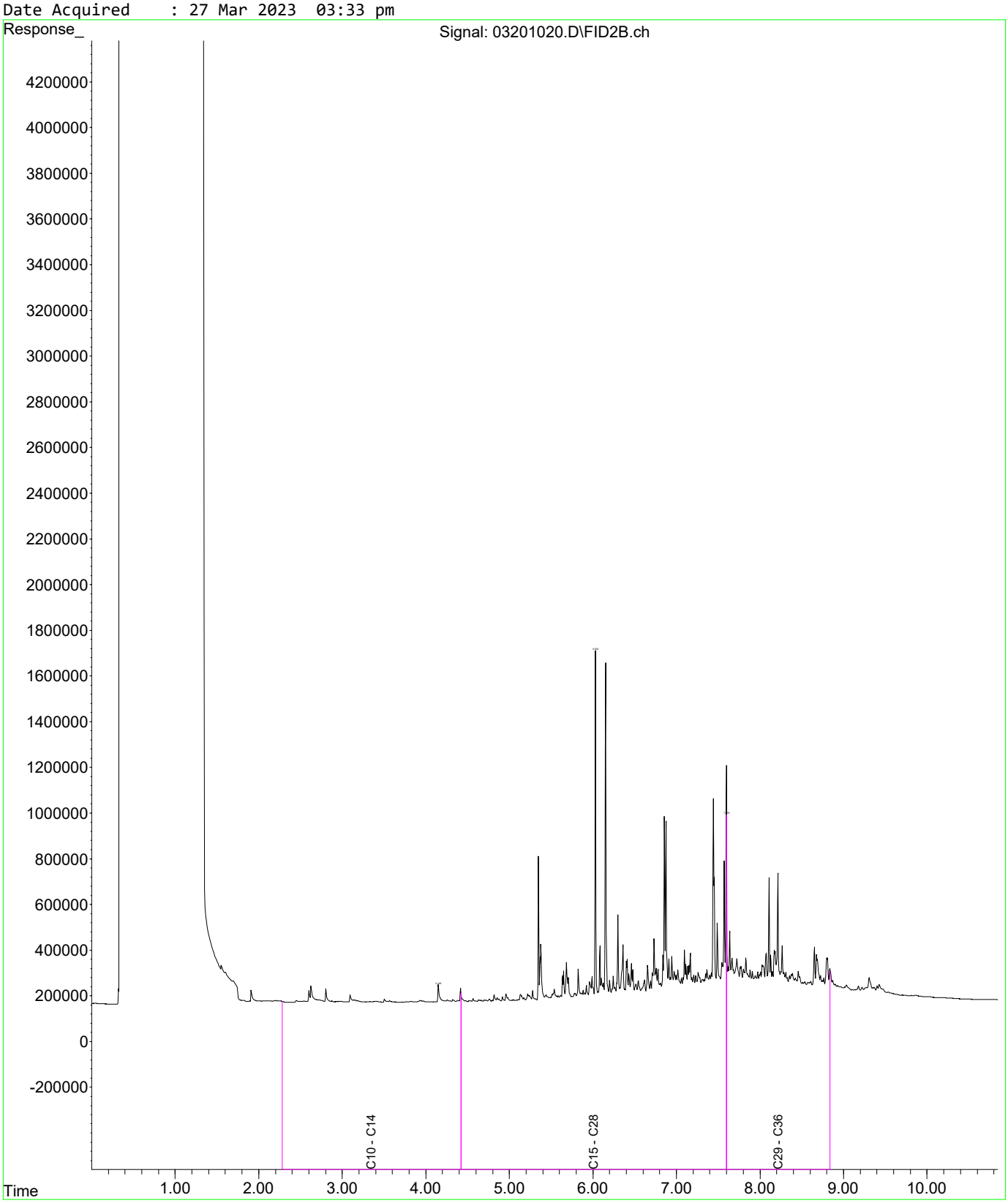
Laboratory Number: EM2305209-003
Sample ID : UST_77_SE_0.8
Date Acquired : 27 Mar 2023 03:33 pm



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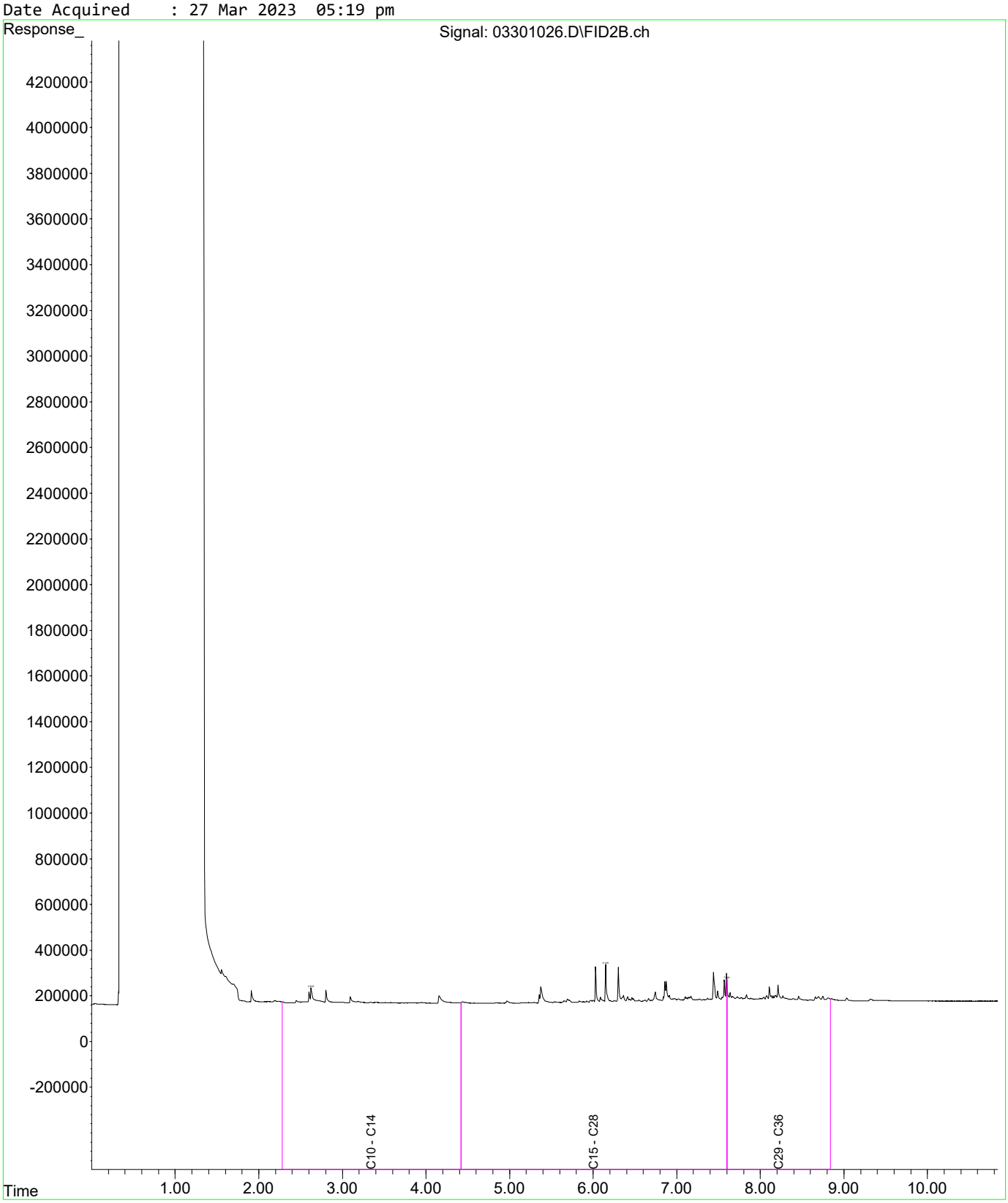
Laboratory Number: EM2305209-005
Sample ID : UST_74_E_0.8
Date Acquired : 27 Mar 2023 05:19 pm



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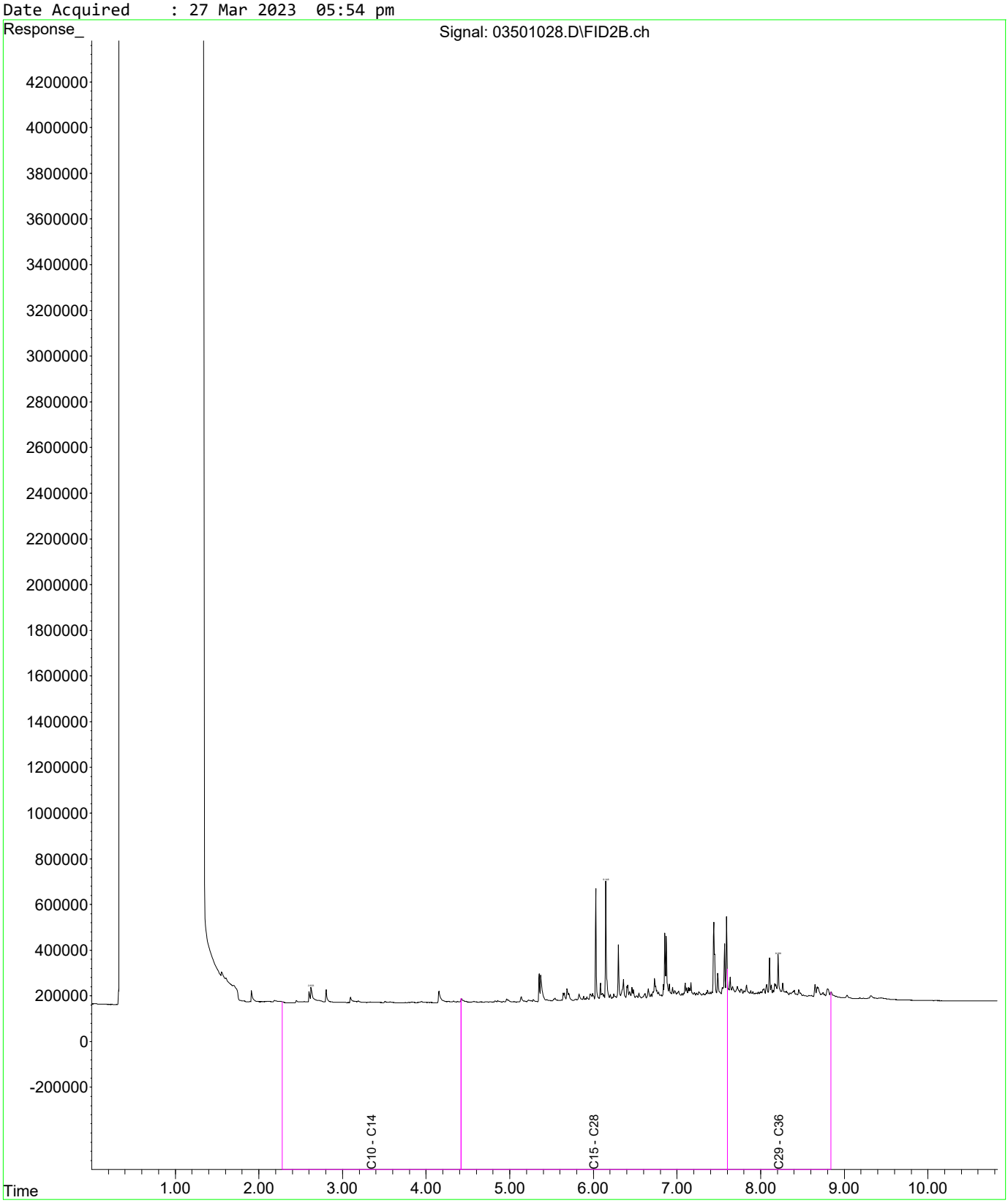
Date Acquired : 27 Mar 2023 05:54 pm



Fraction Scheme : Legacy Fractions
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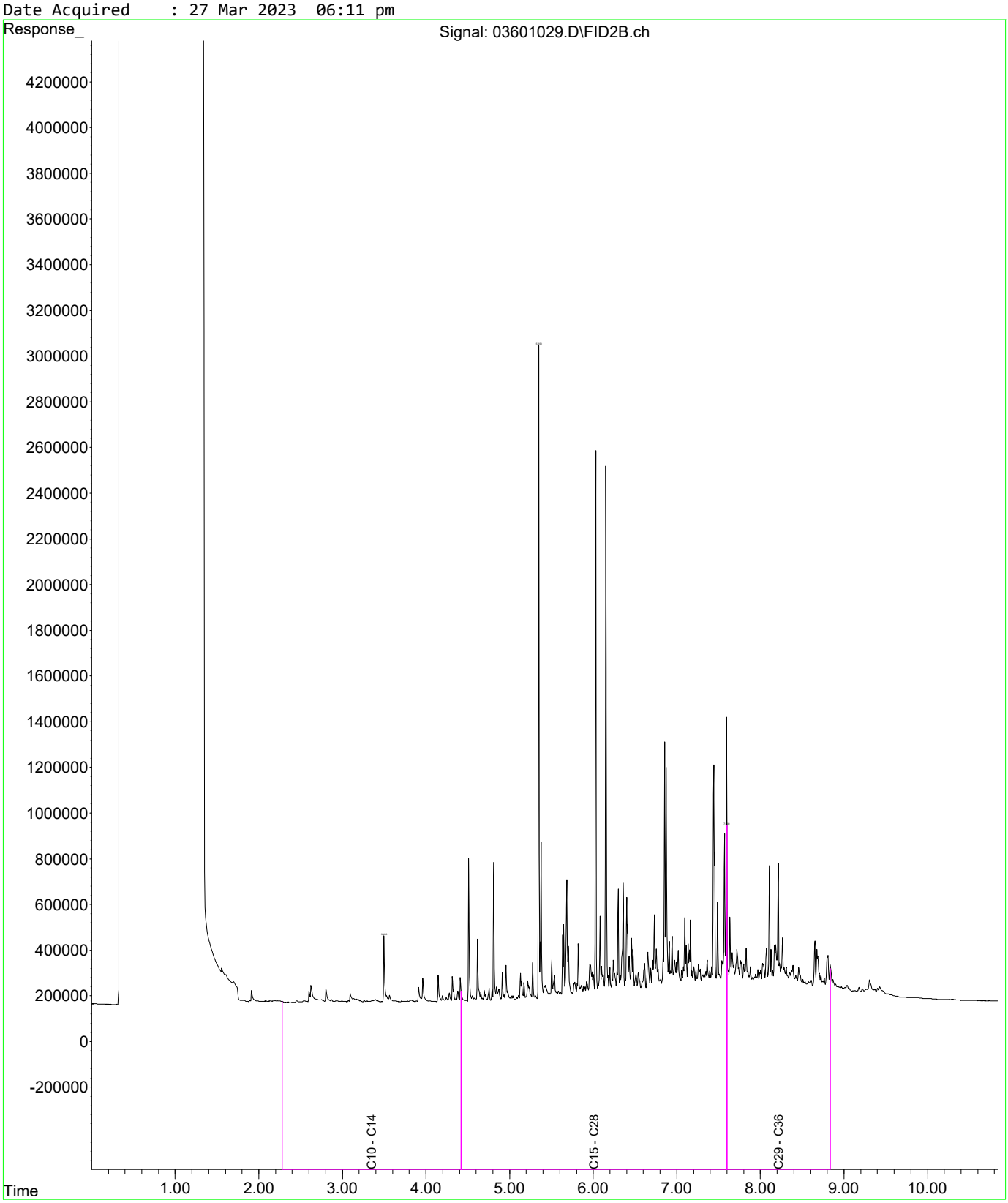
Laboratory Number: EM2305209-008
Sample ID : UST_66_E_1.6
Date Acquired : 27 Mar 2023 06:11 pm



Fraction Scheme : Legacy Fractions
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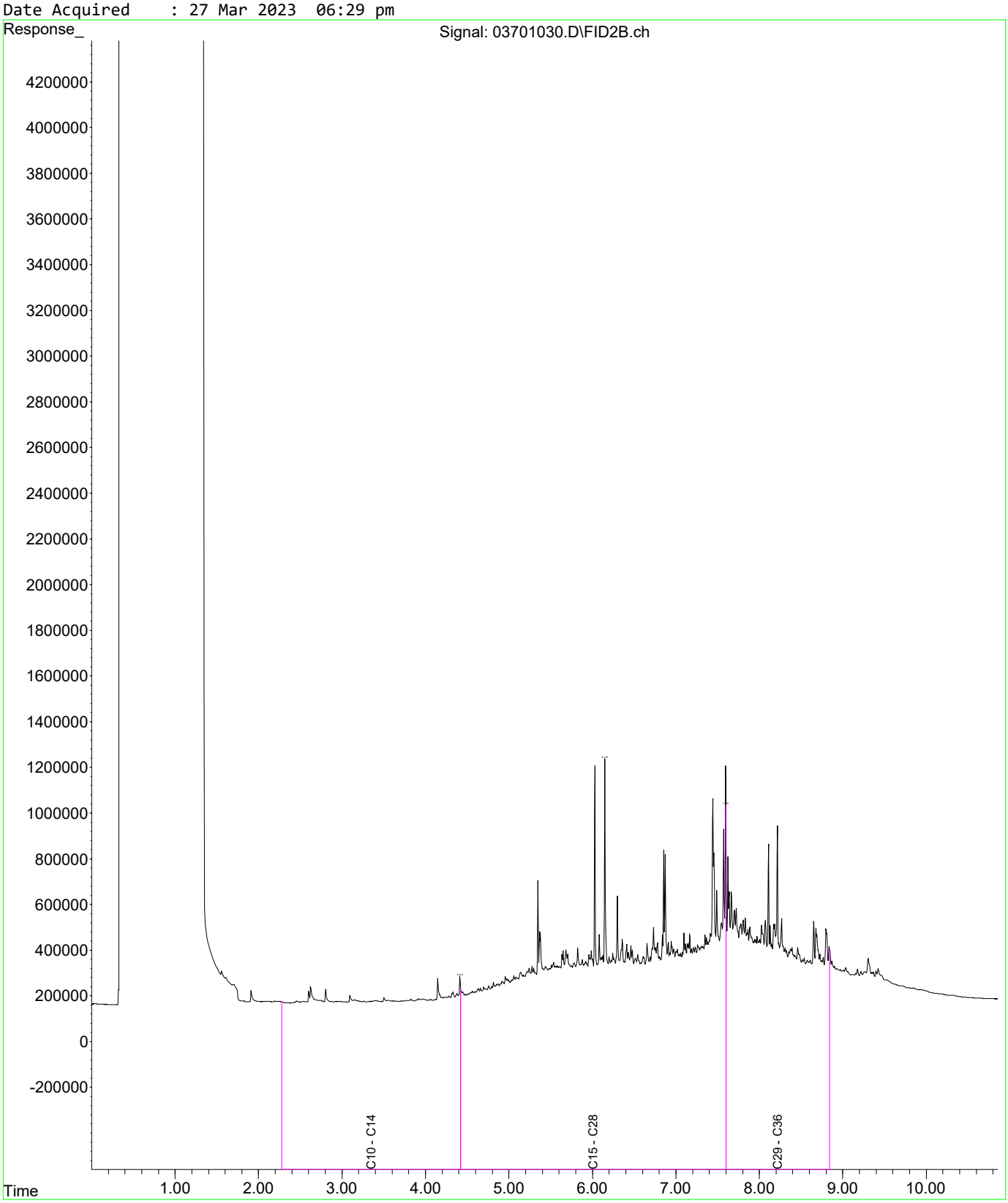
Laboratory Number: EM2305209-009
Sample ID : UST_59_E_0.8
Date Acquired : 27 Mar 2023 06:29 pm



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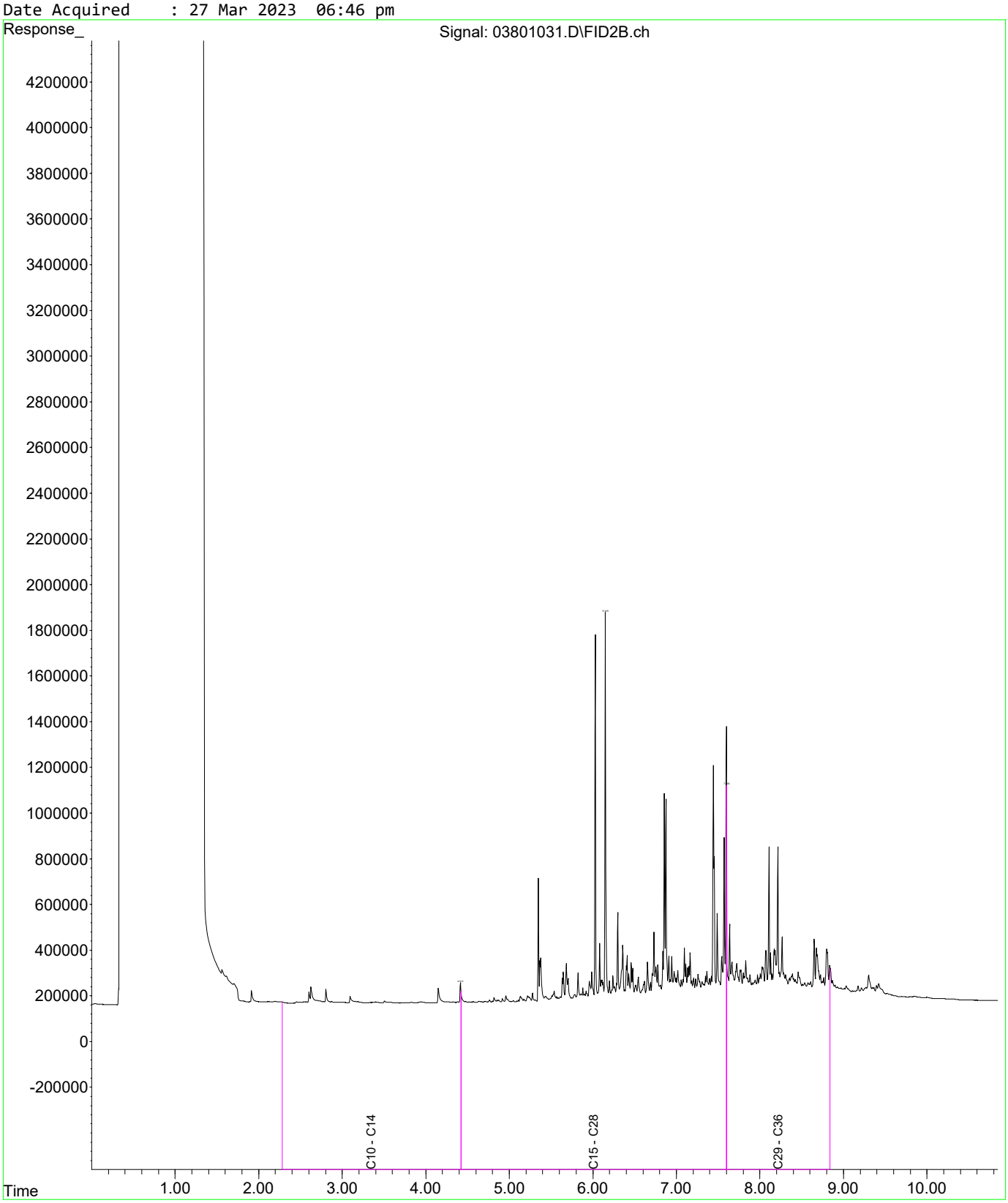
Laboratory Number: EM2305209-011
Sample ID : UST_55_NE_0.8
Date Acquired : 27 Mar 2023 06:46 pm



Fraction Scheme : Legacy Fractions
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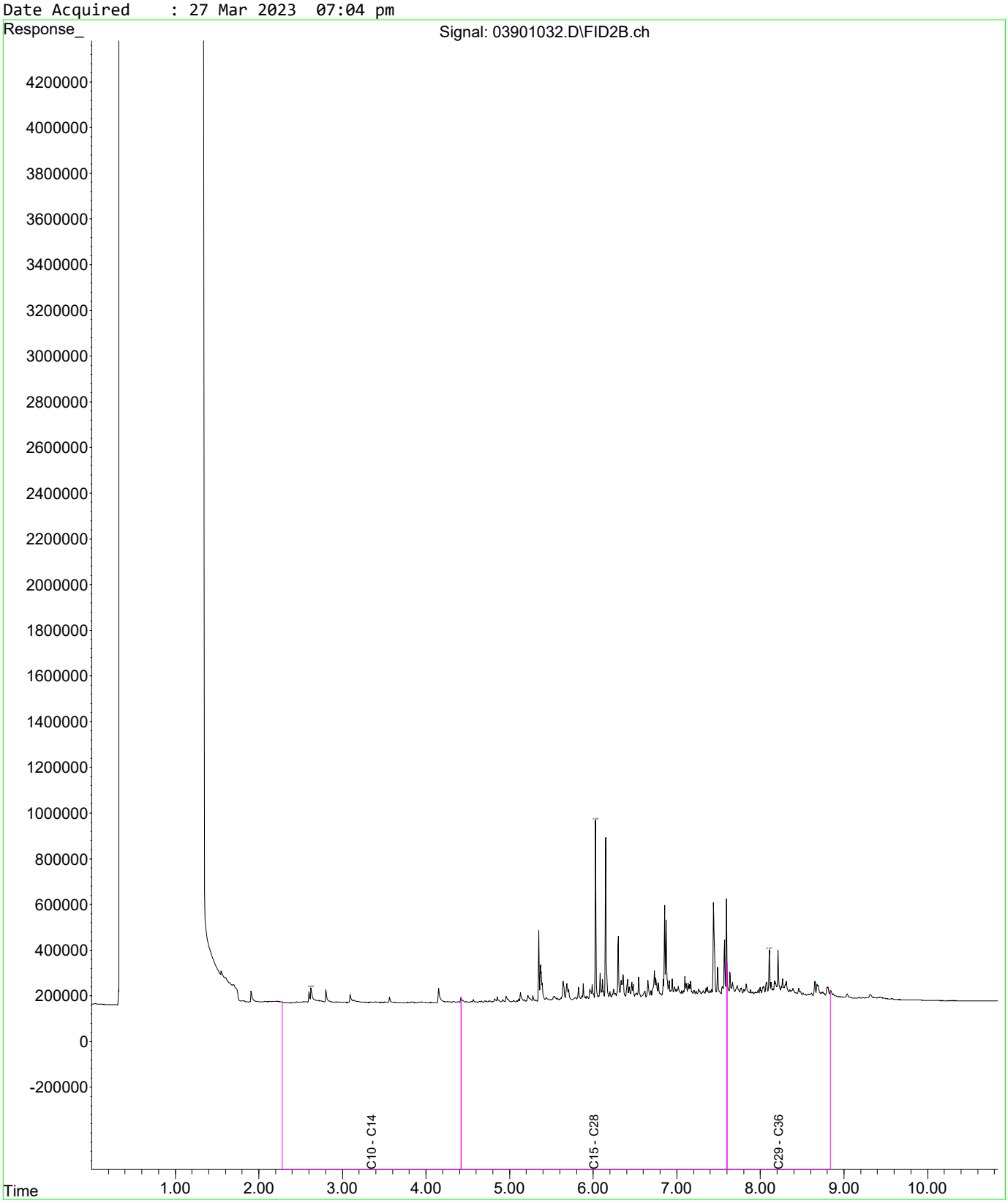
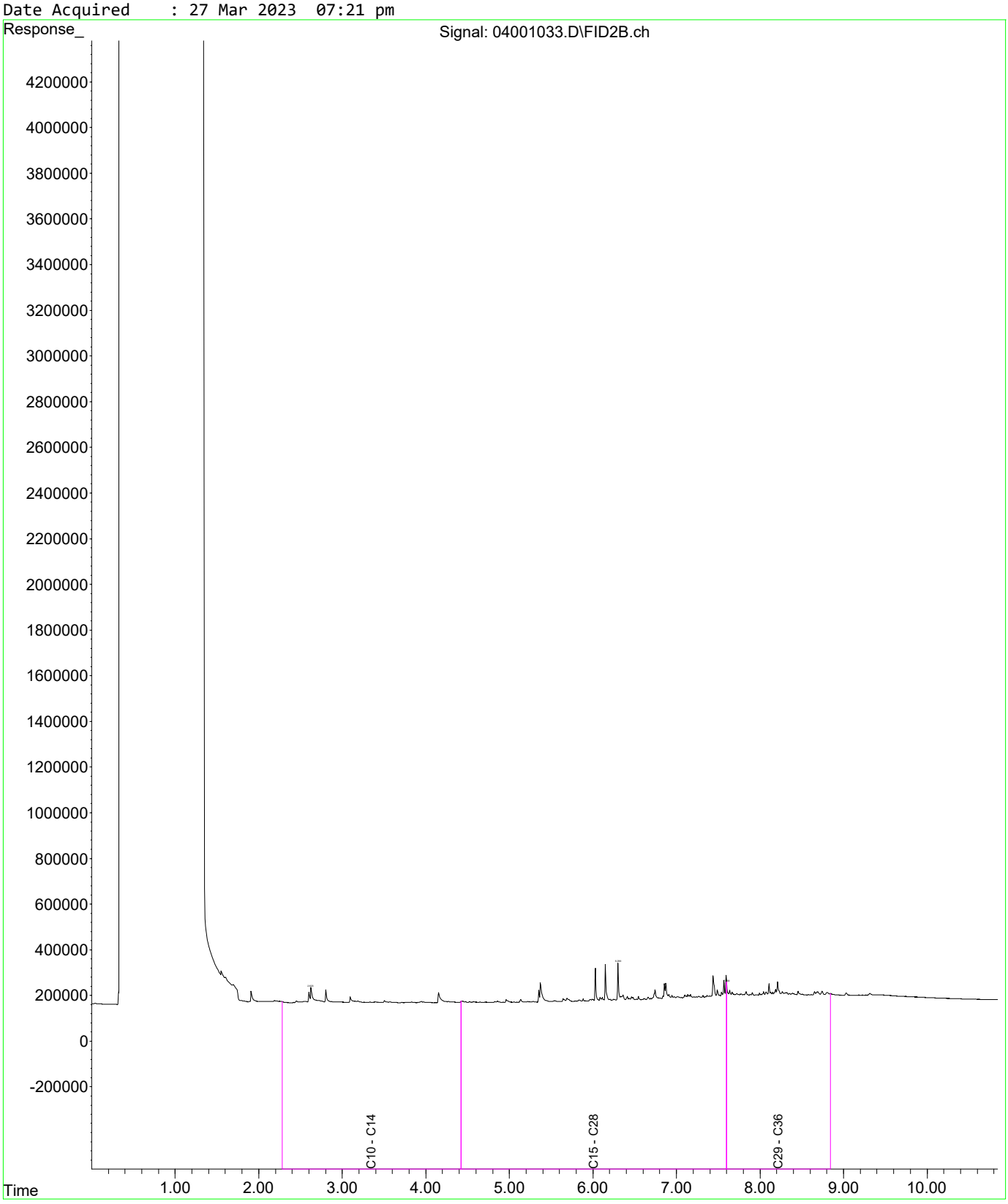
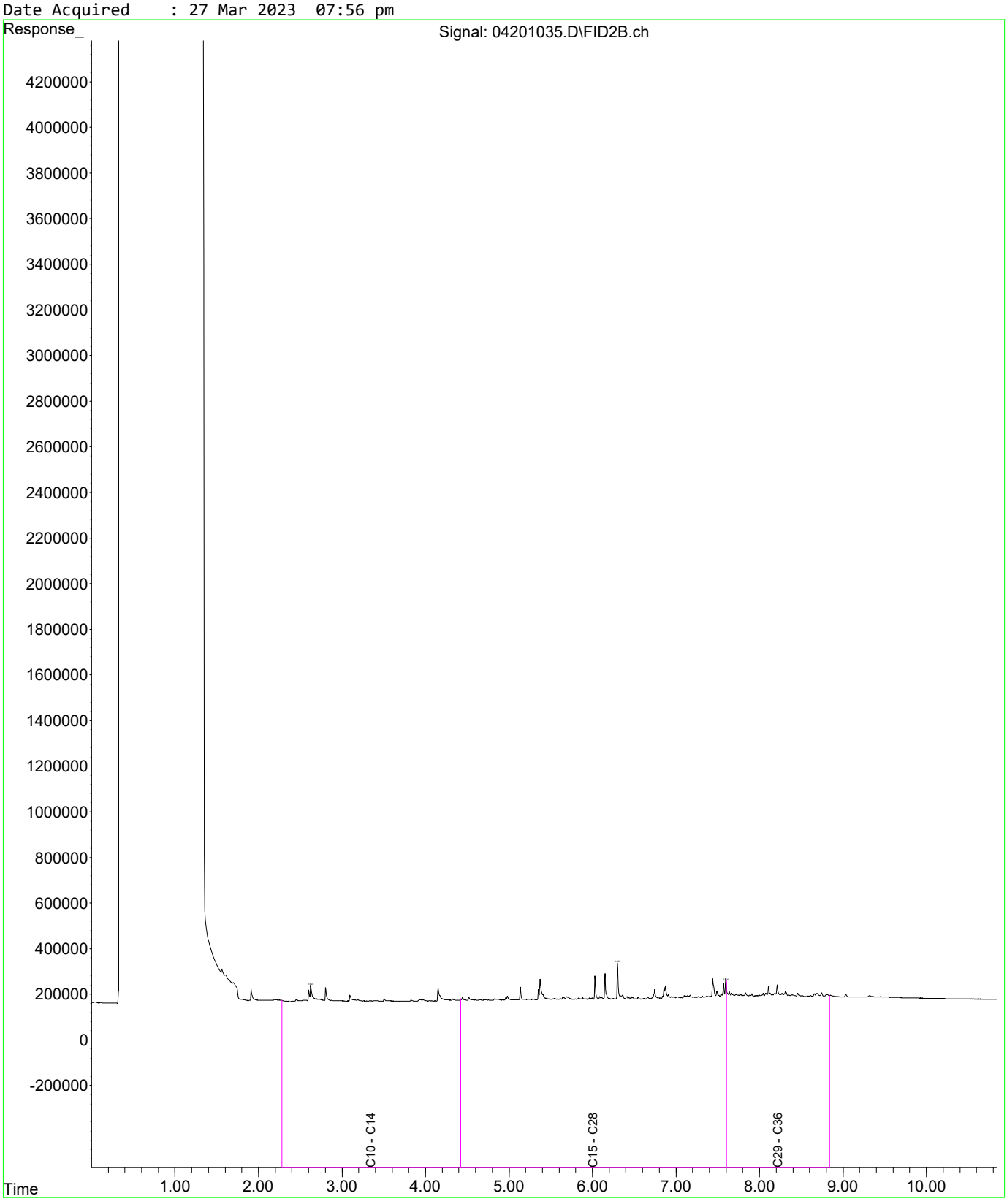
Laboratory Number: EM2305209-012
Sample ID : UST_55_NE_1.6
Date Acquired : 27 Mar 2023 07:04 pm



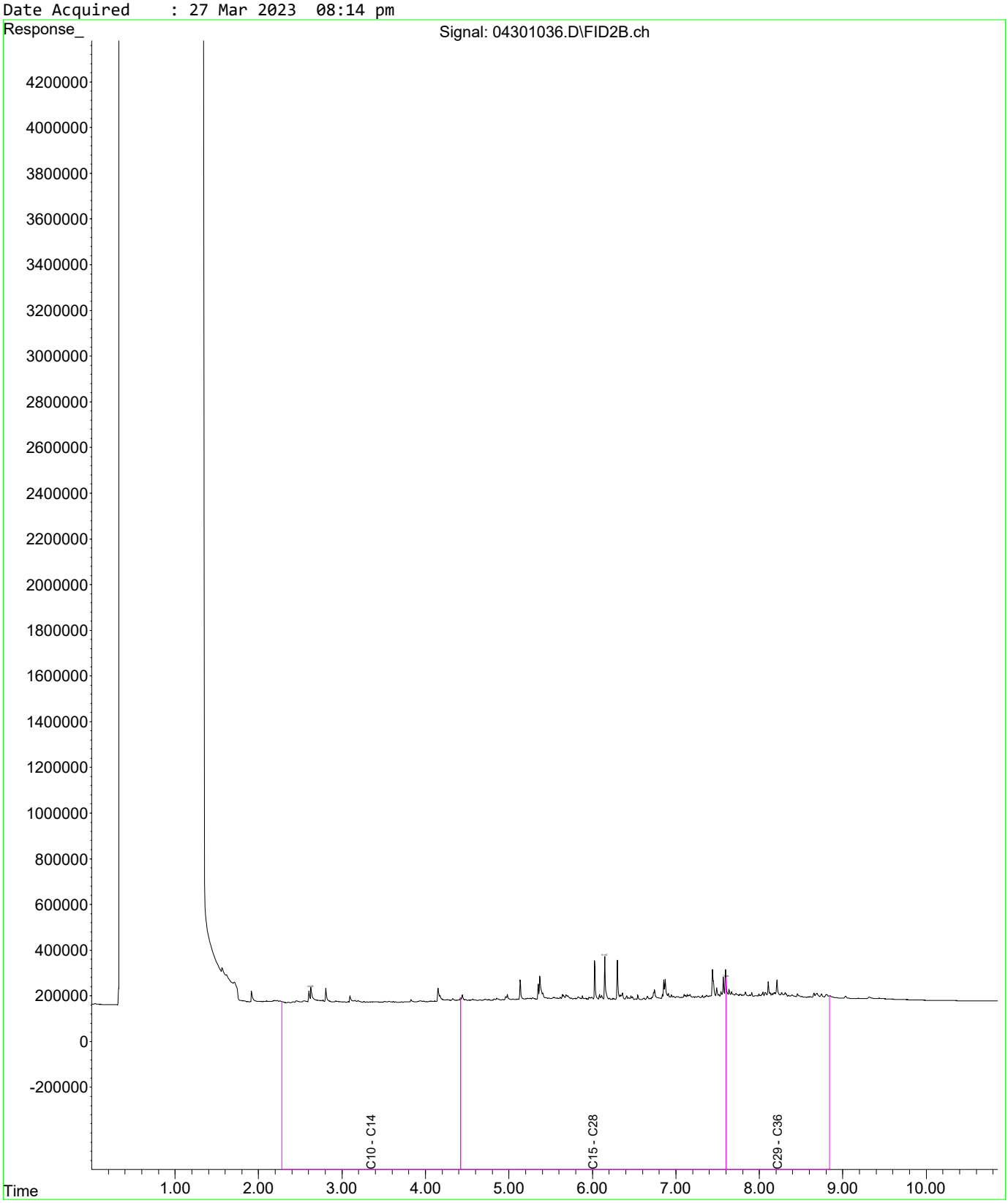
Fraction Scheme : Legacy Fractions
Data File : 04001033.D
Laboratory Number: EM2305209-014
Sample ID : UST_SP_0.5-1.0_02
Date Acquired : 27 Mar 2023 07:21 pm



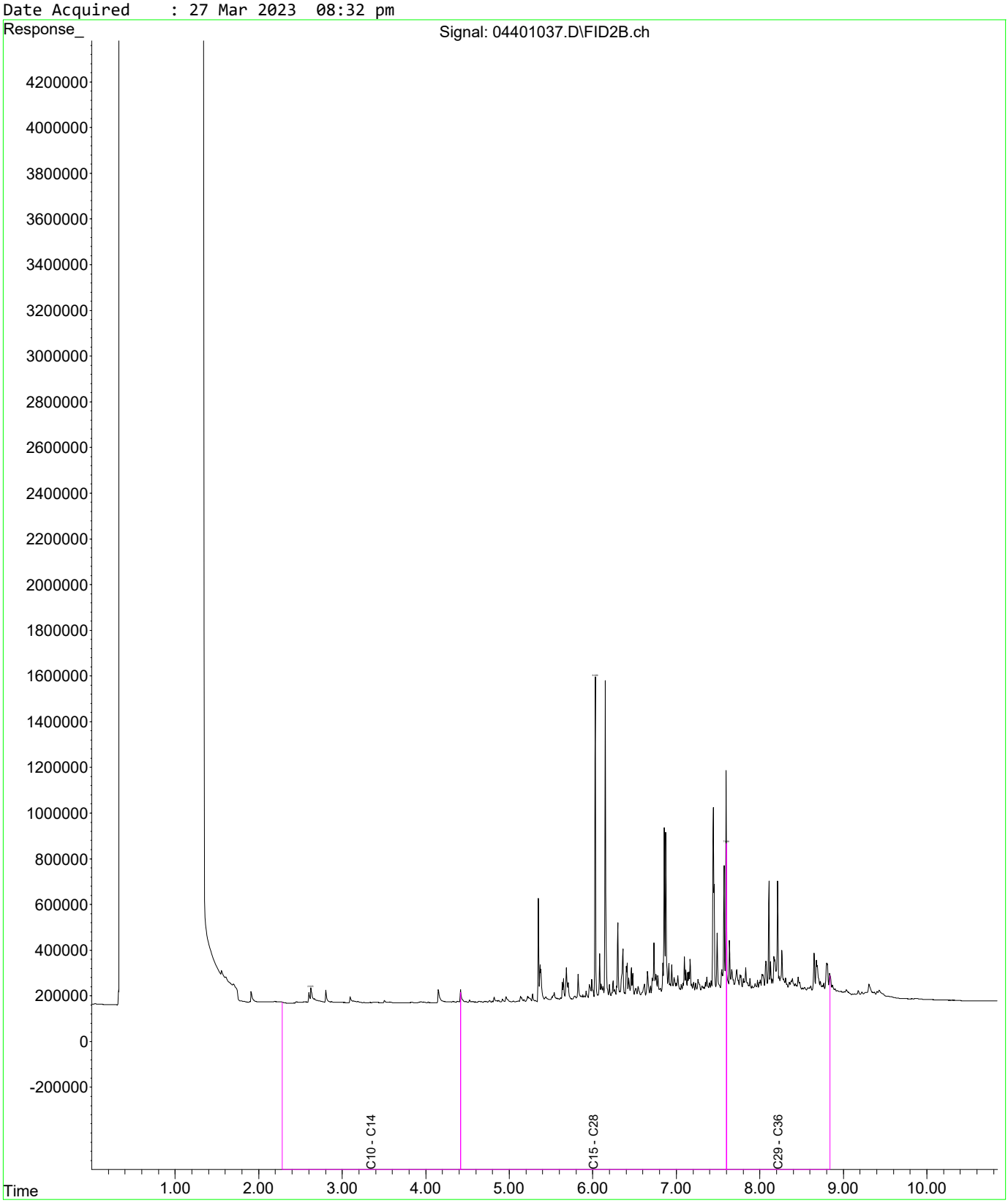
Fraction Scheme : Legacy Fractions
Data File : 04201035.D
Laboratory Number: EM2305209-015
Sample ID : UST_SP_0.5-1.0_03
Date Acquired : 27 Mar 2023 07:56 pm



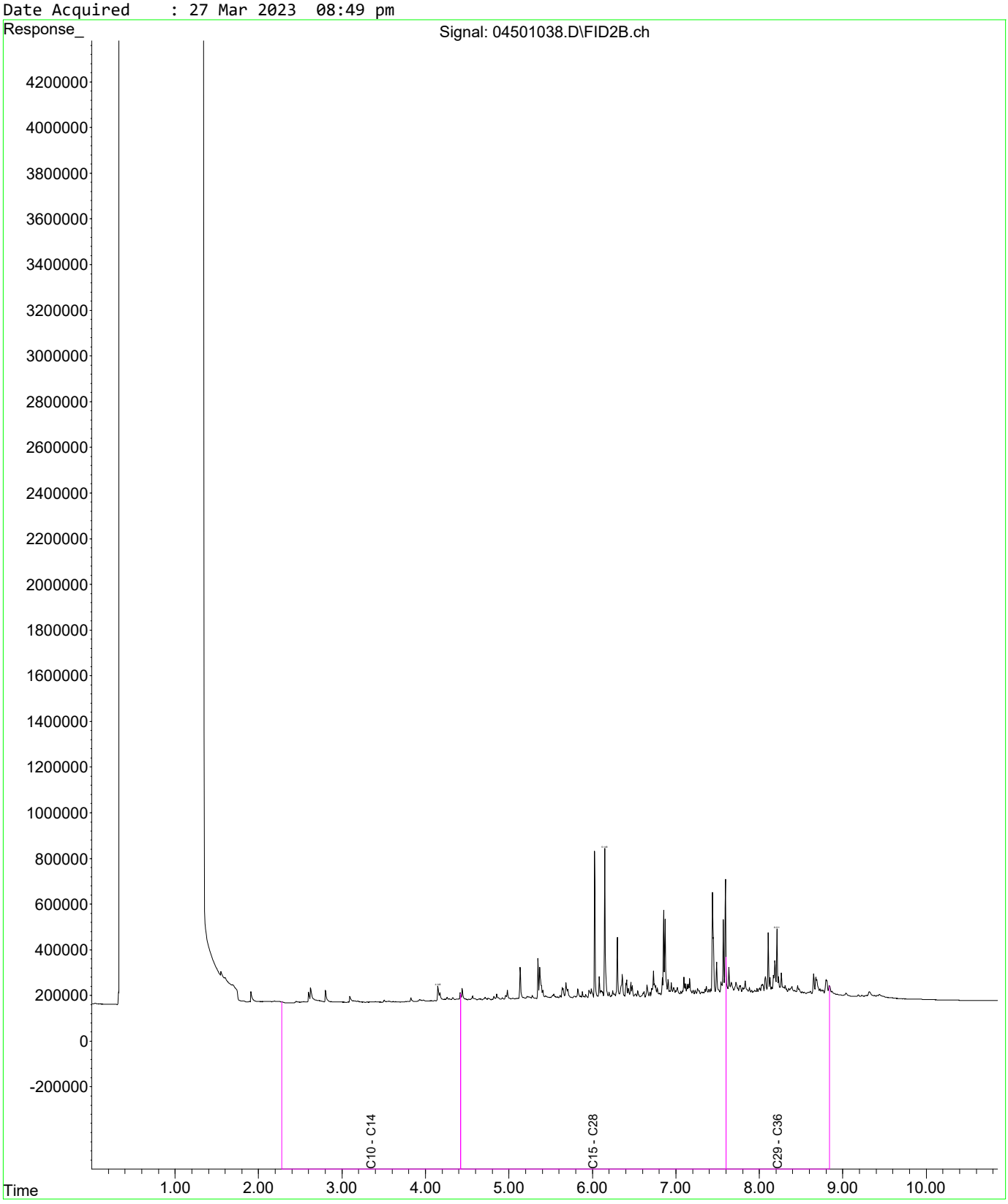
Fraction Scheme : Legacy Fractions
Data File : 04301036.D
Laboratory Number: EM2305209-016
Sample ID : UST_SP_0.5-1.0_04
Date Acquired : 27 Mar 2023 08:14 pm



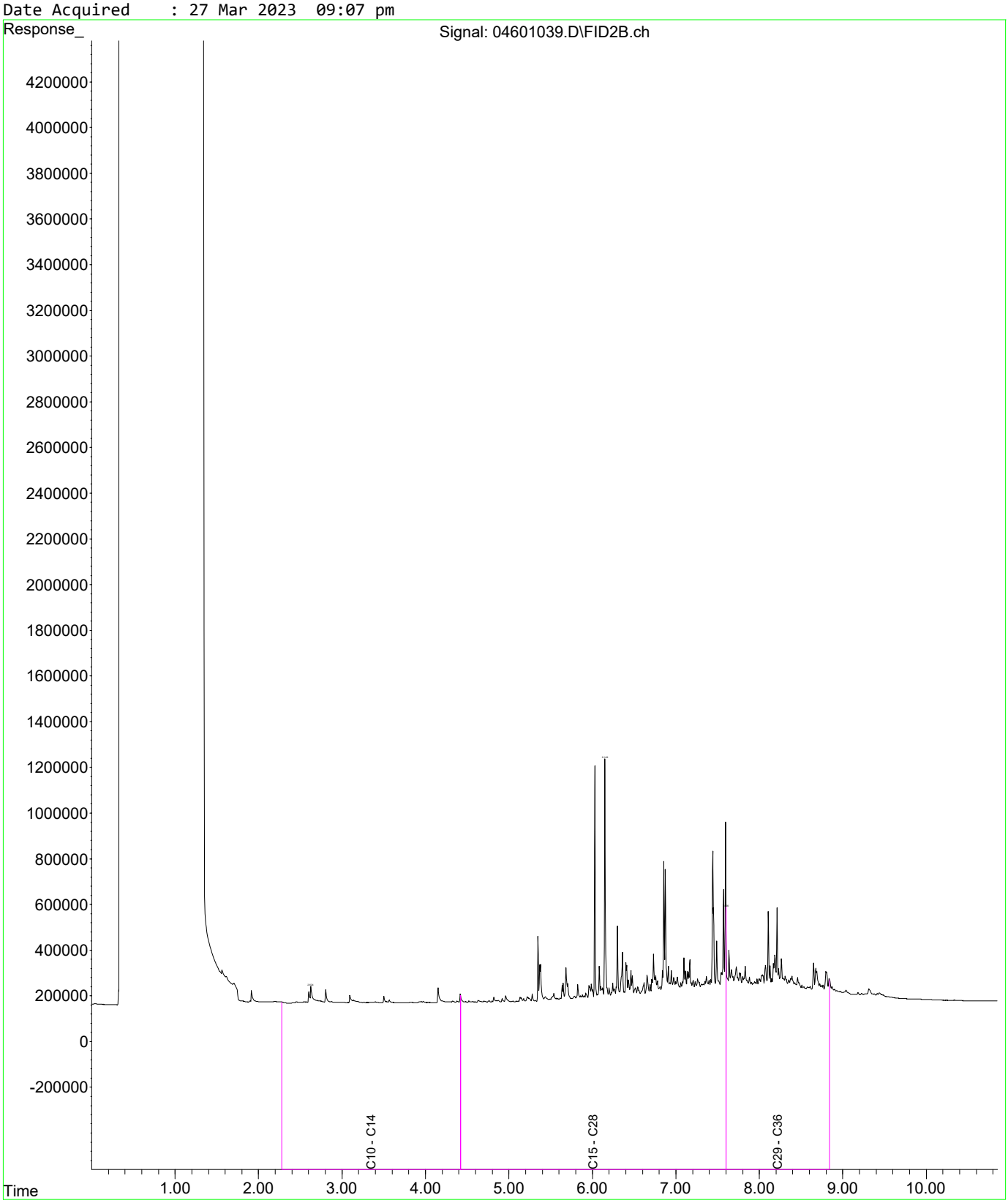
Fraction Scheme : Legacy Fractions
Data File : 04401037.D
Laboratory Number: EM2305209-017
Sample ID : UST_SP_1.0-1.5_01
Date Acquired : 27 Mar 2023 08:32 pm



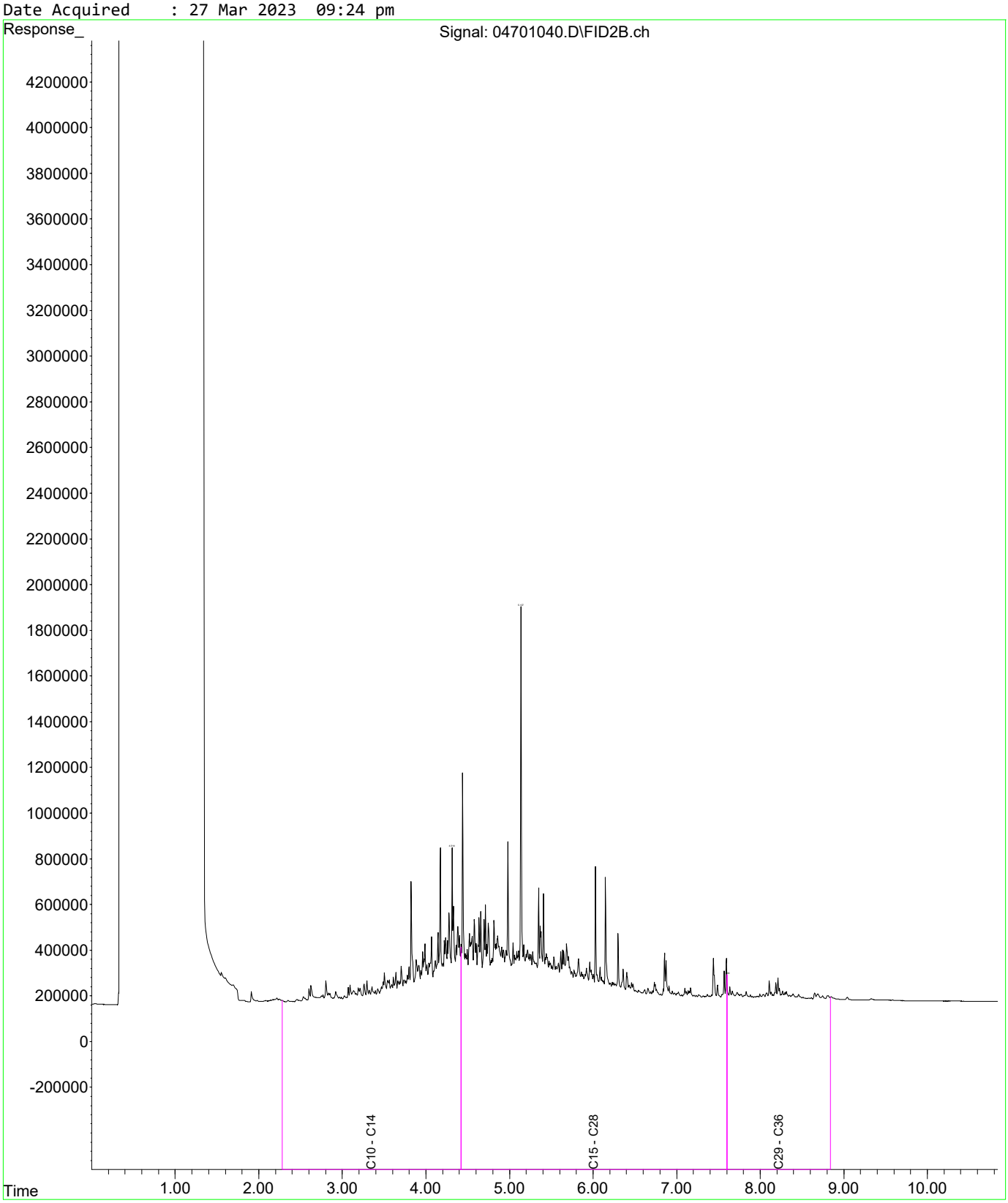
Fraction Scheme : Legacy Fractions
Data File : 04501038.D
Laboratory Number: EM2305209-018
Sample ID : UST_SP_1.0-1.5_02
Date Acquired : 27 Mar 2023 08:49 pm



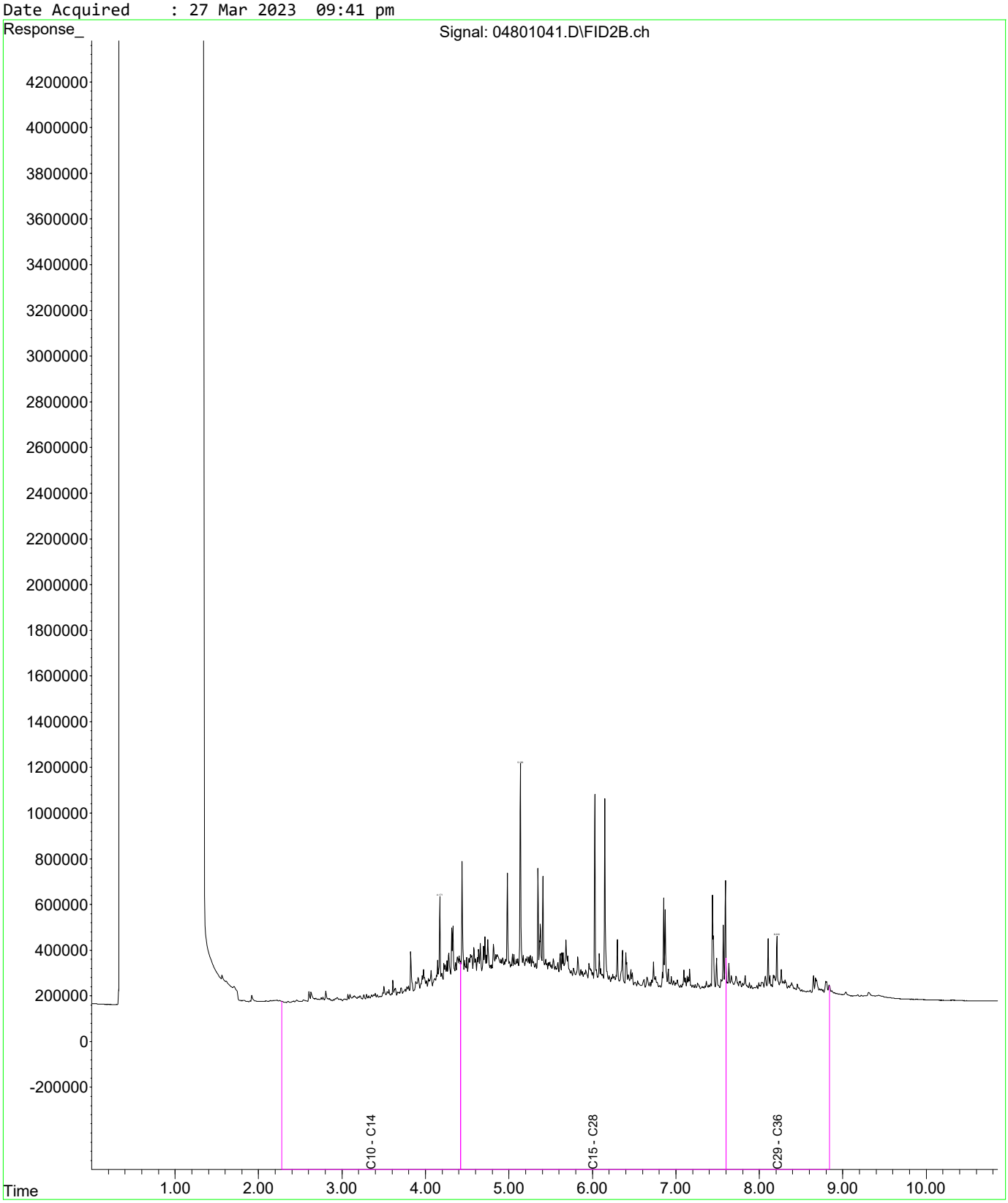
Fraction Scheme : Legacy Fractions
Data File : 04601039.D
Laboratory Number: EM2305209-020
Sample ID : UST_SP_1.5-2.0_01
Date Acquired : 27 Mar 2023 09:07 pm



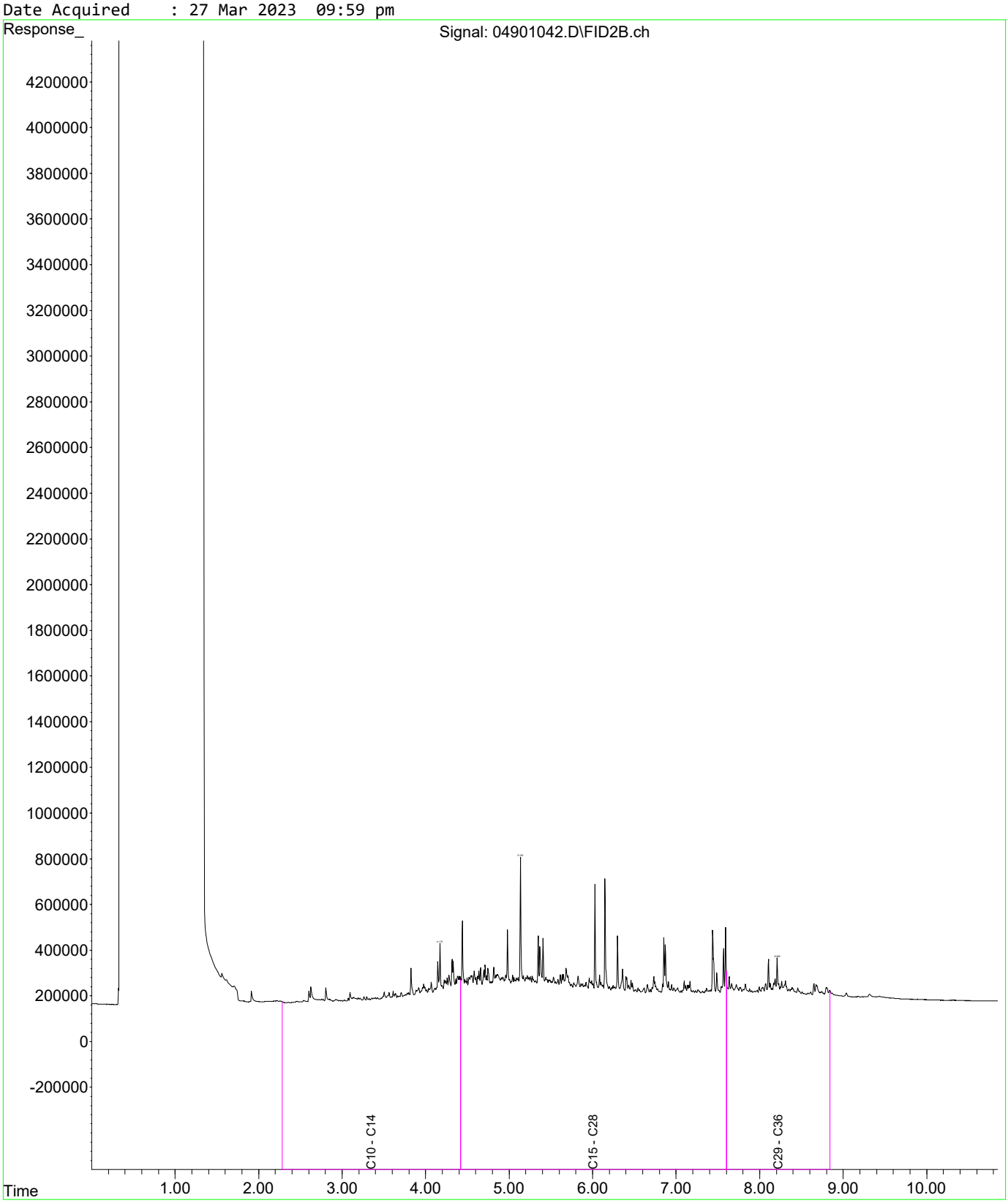
Fraction Scheme : Legacy Fractions
Data File : 04701040.D
Laboratory Number: EM2305209-026
Sample ID : UST_SP_EXT_02
Date Acquired : 27 Mar 2023 09:24 pm



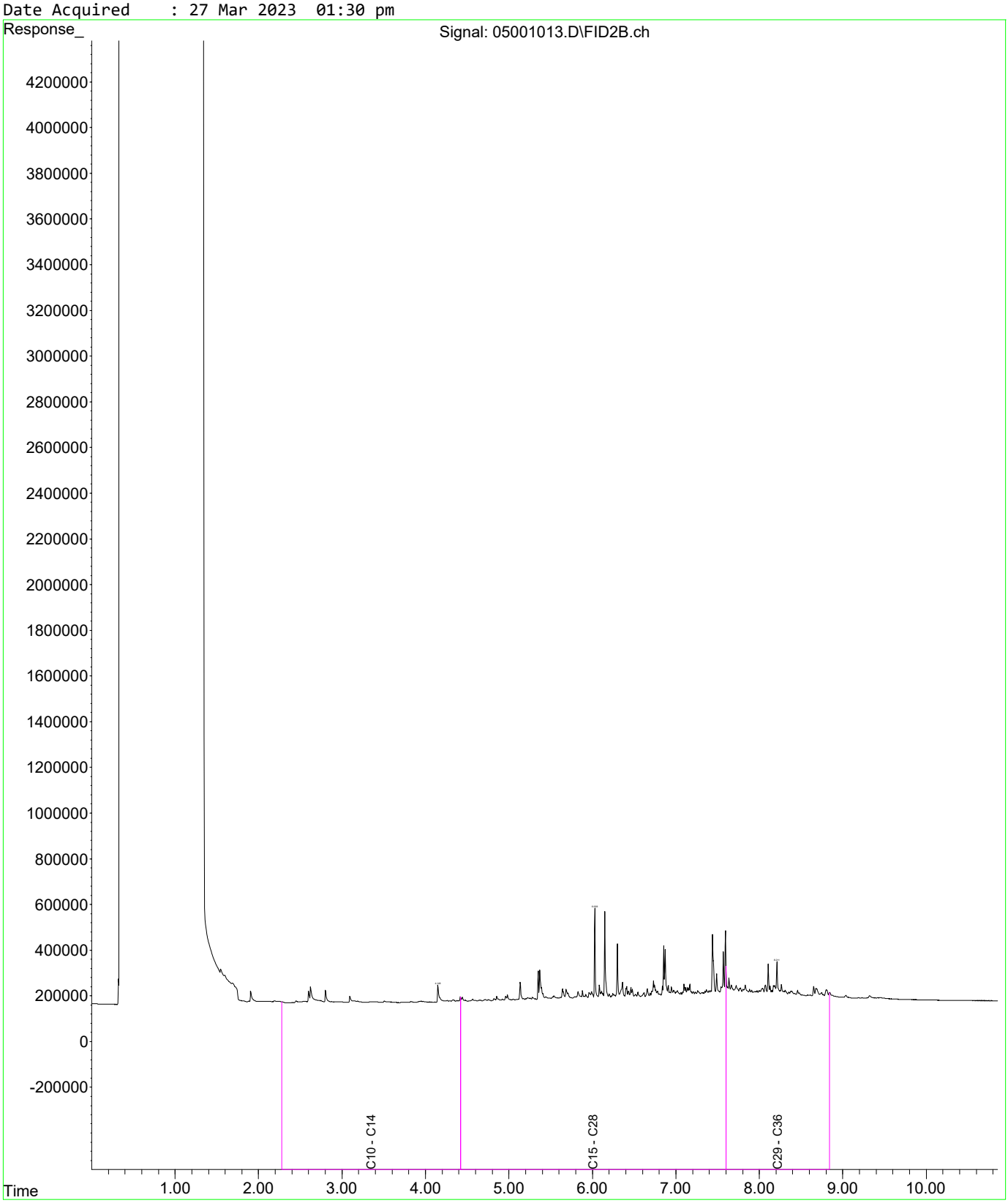
Fraction Scheme : Legacy Fractions
Data File : 04801041.D
Laboratory Number: EM2305209-028
Sample ID : UST_SP_EXT_04
Date Acquired : 27 Mar 2023 09:41 pm



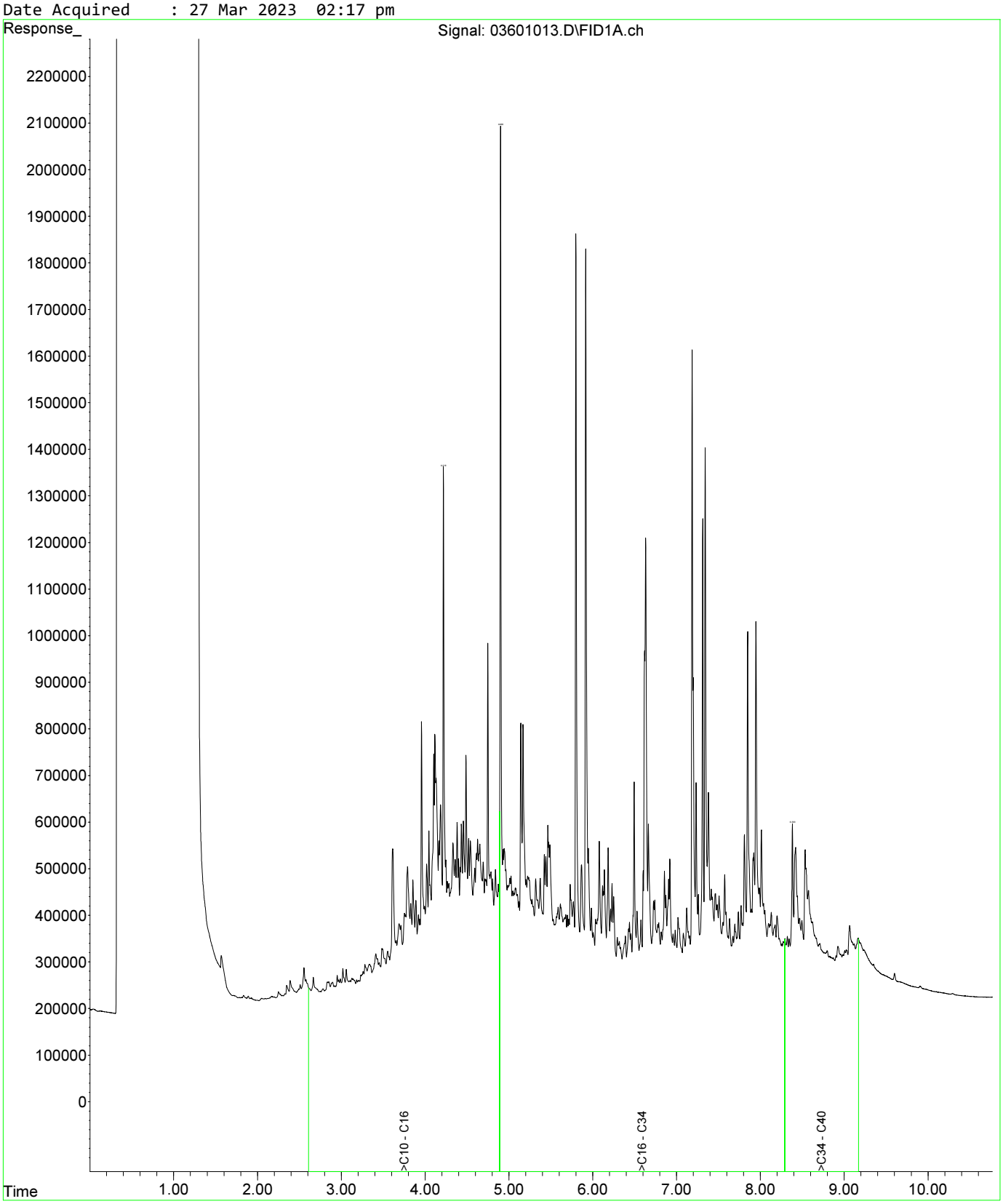
Fraction Scheme : Legacy Fractions
Data File : 04901042.D
Laboratory Number: EM2305209-029
Sample ID : UST_SP_EXT_05
Date Acquired : 27 Mar 2023 09:59 pm



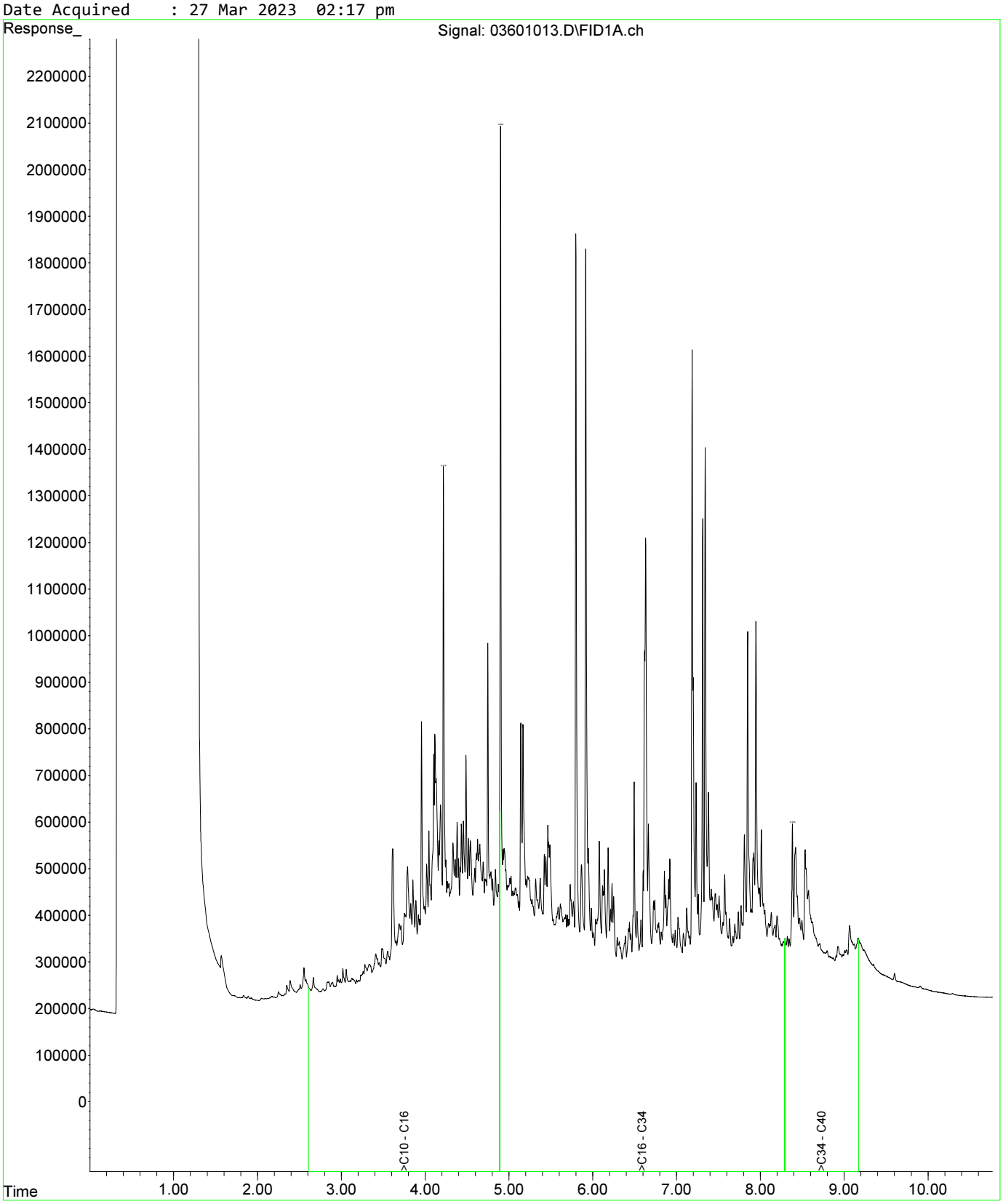
Fraction Scheme : Legacy Fractions
Data File   : 05001013.D
Laboratory Number: EM2305209-030
Sample ID   : UST_SP_EXT_06
Date Acquired   : 27 Mar 2023 01:30 pm



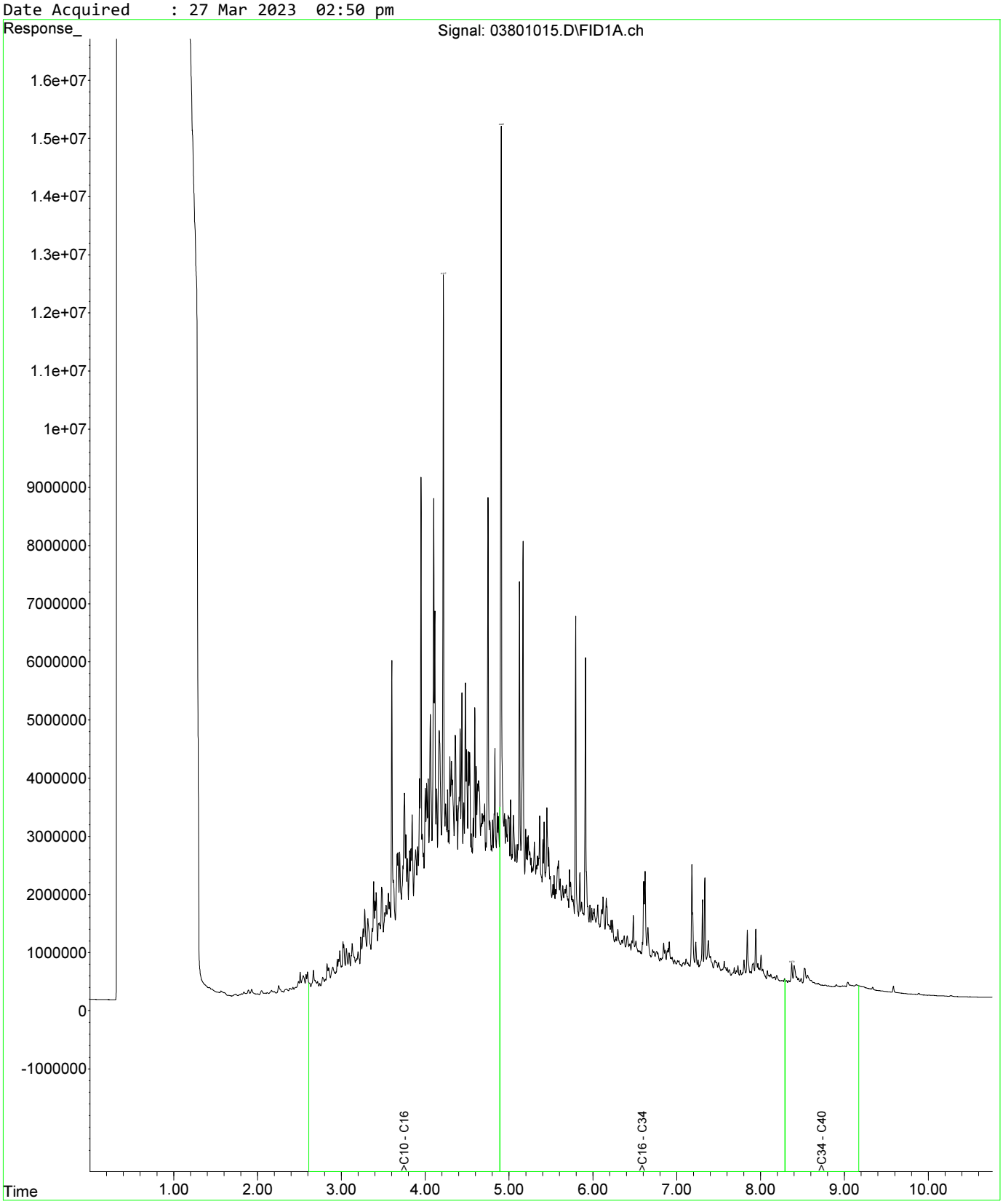
Fraction Scheme : NEPM DRAFT HIL
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



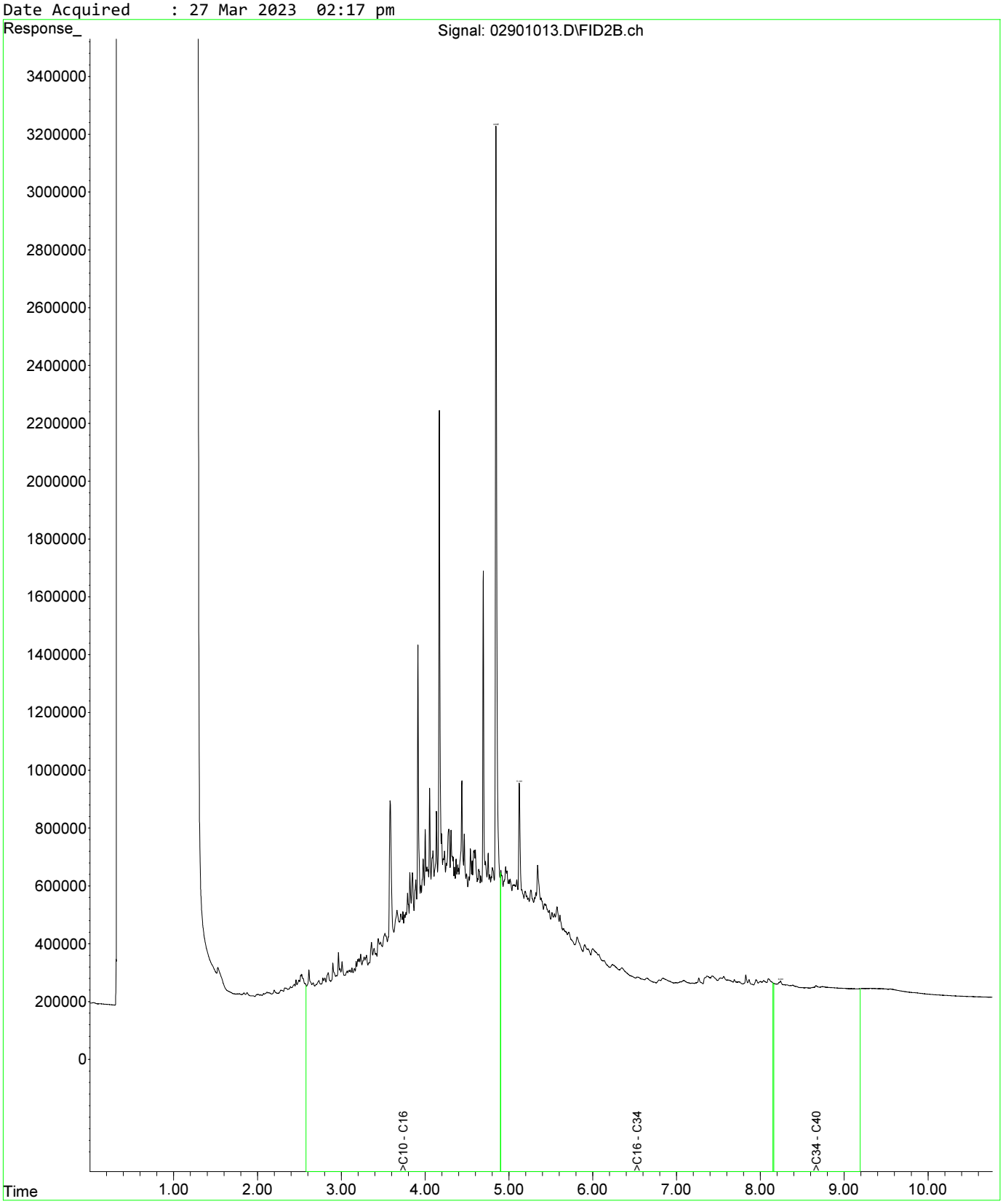
Fraction Scheme : NEPM DRAFT HIL
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



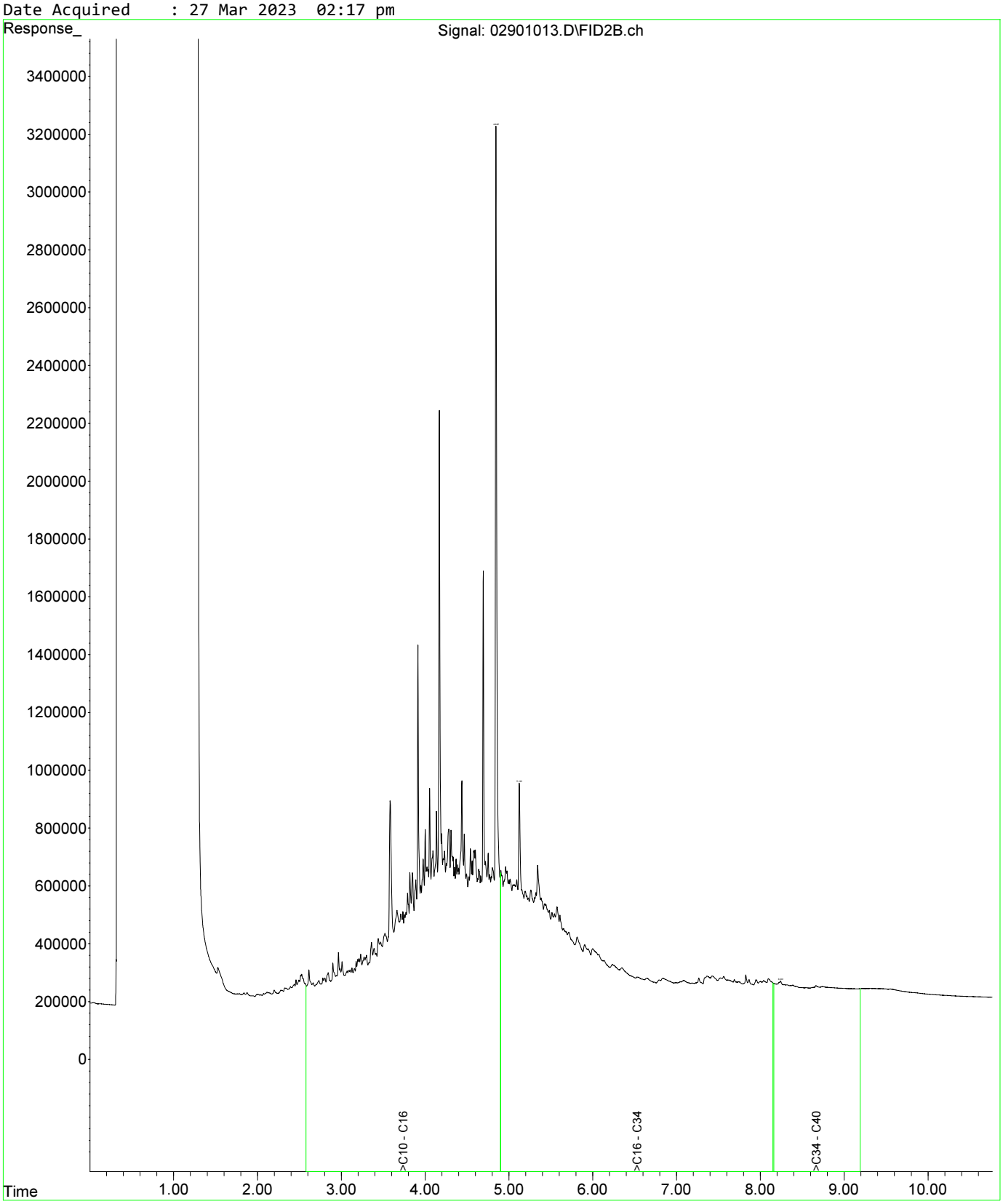
Fraction Scheme : NEPM DRAFT HIL
Data File : 03801015.D
Laboratory Number: EM2305209-010
Sample ID : UST_59_E_1.6
Date Acquired : 27 Mar 2023 02:50 pm



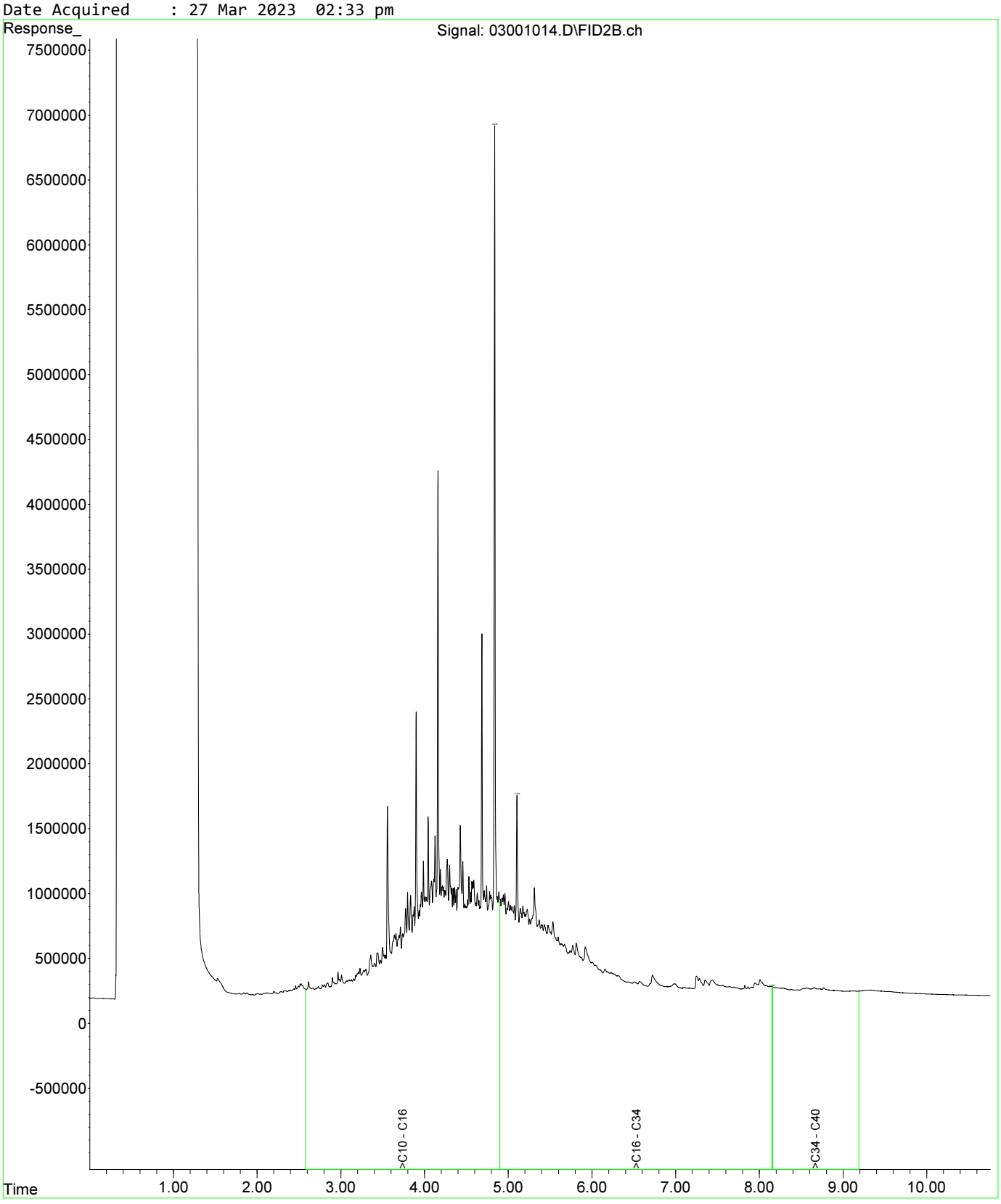
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



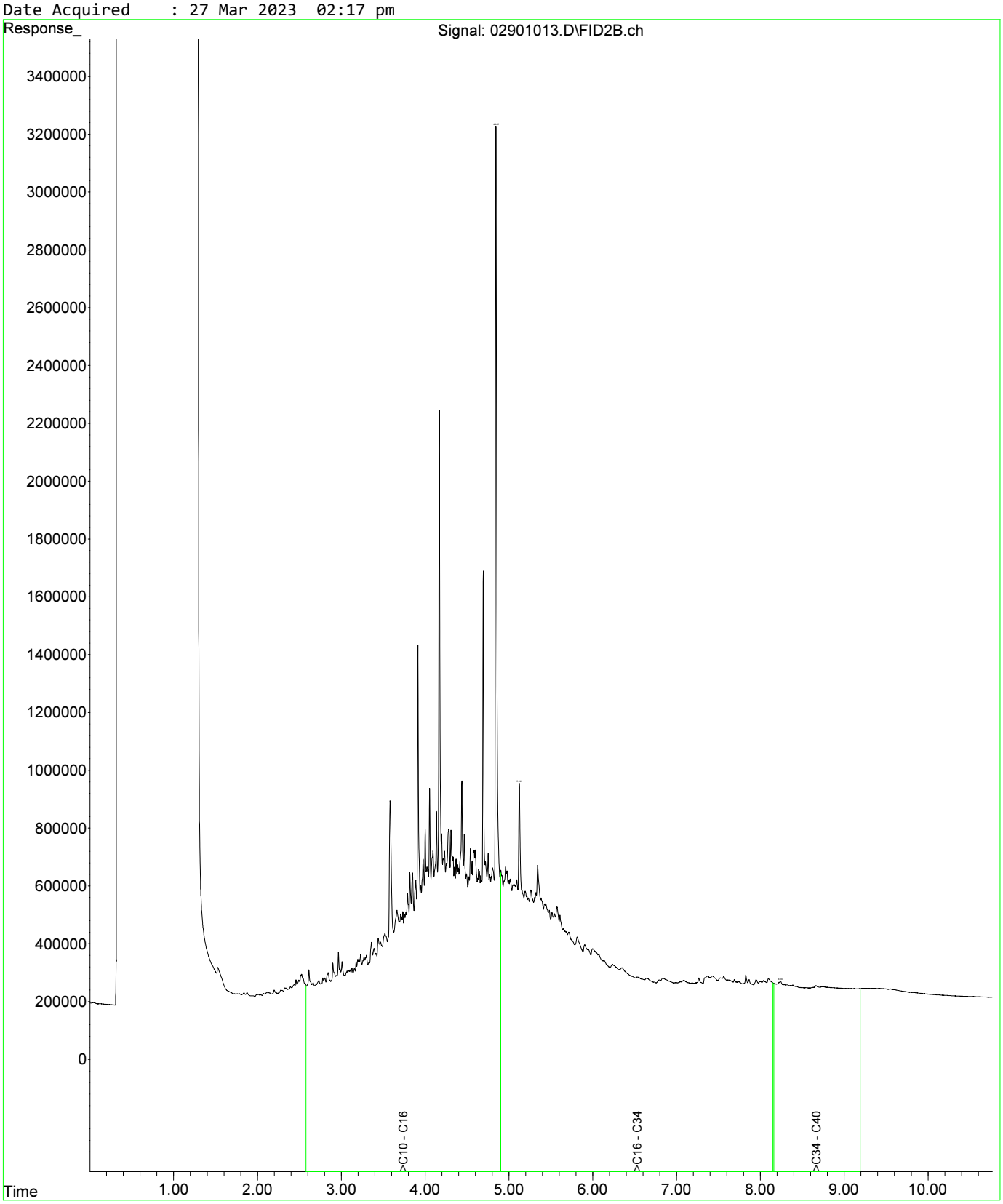
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



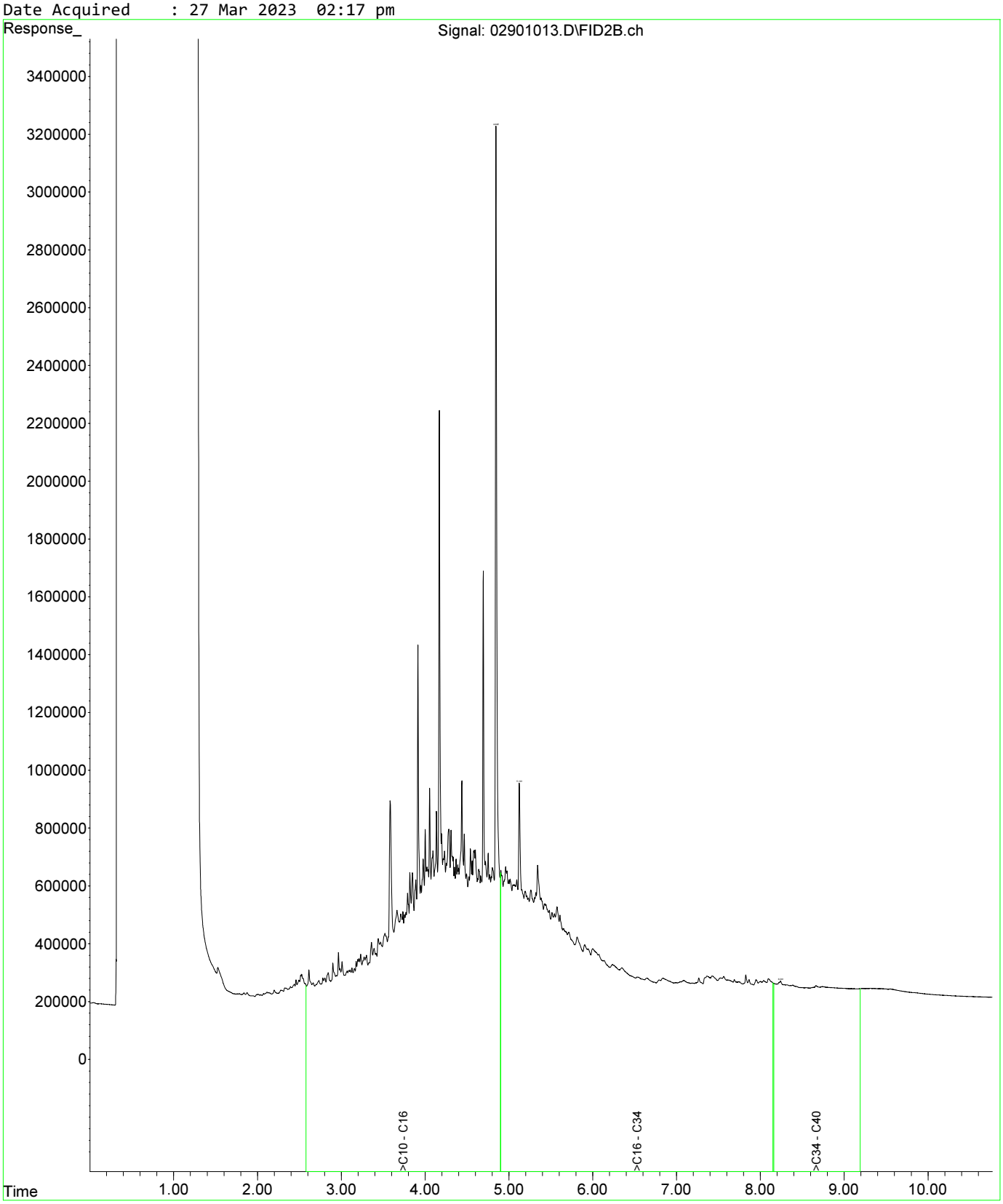
Fraction Scheme : NEPM DRAFT HIL
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



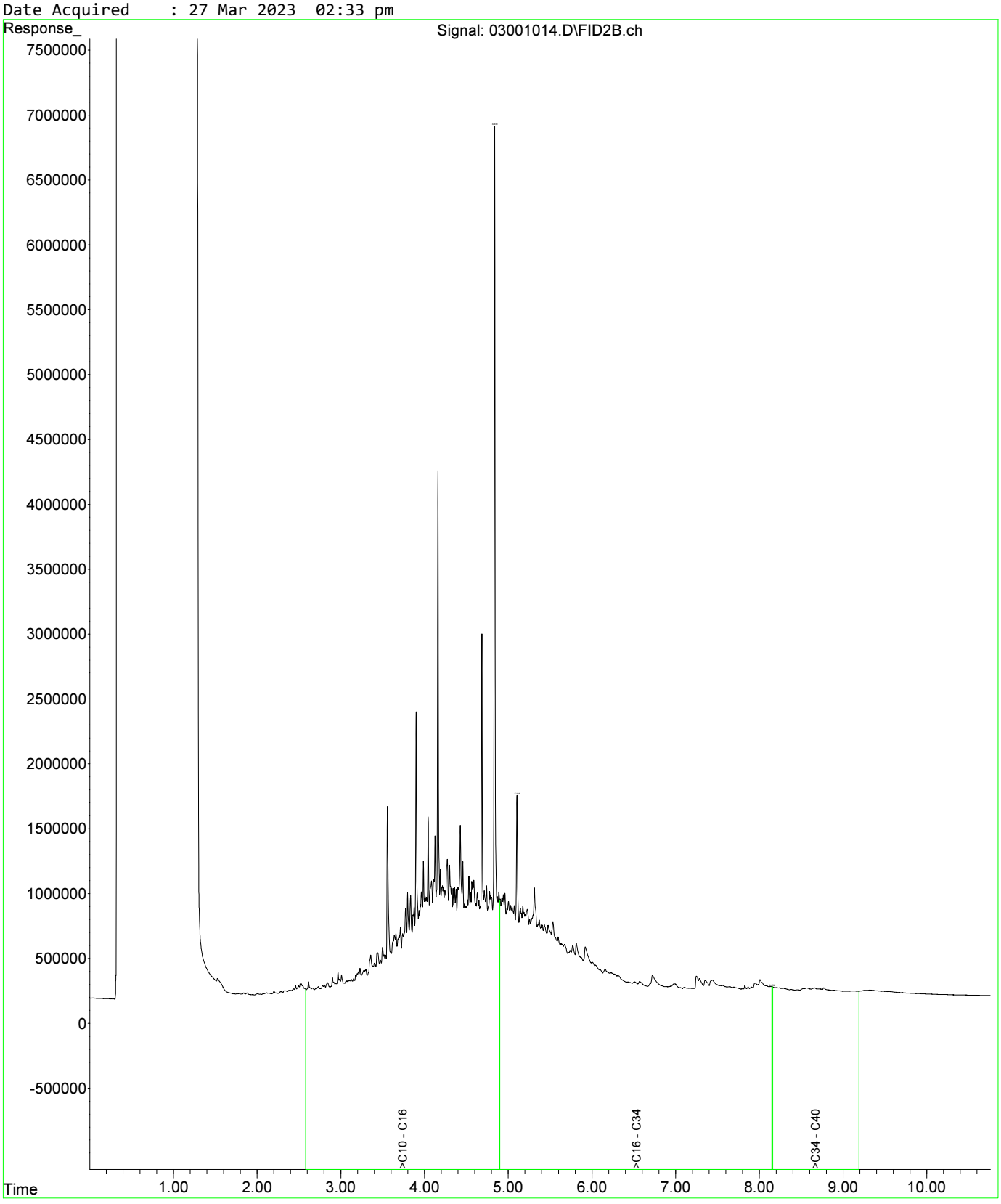
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



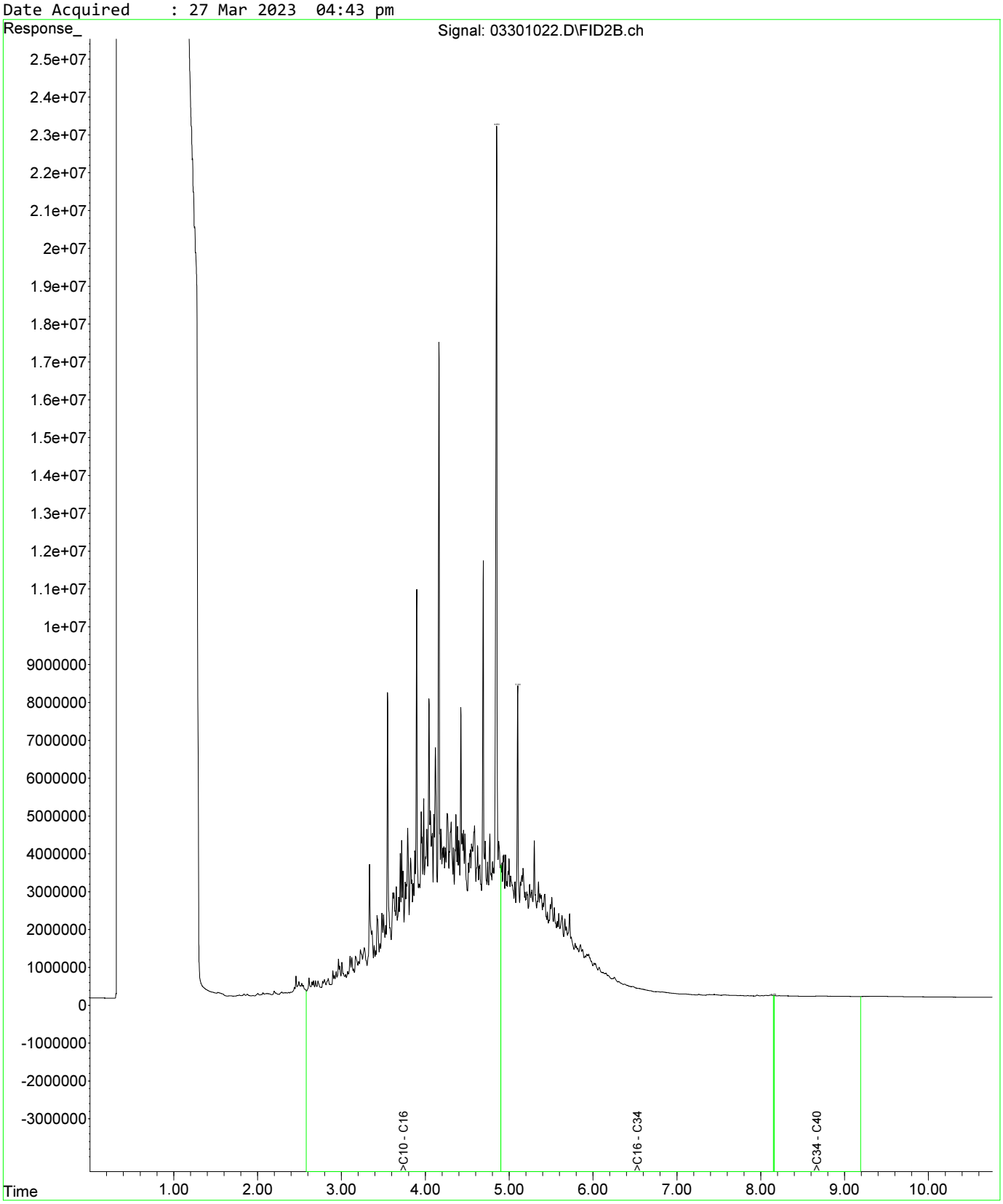
Fraction Scheme : NEPM DRAFT HIL
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



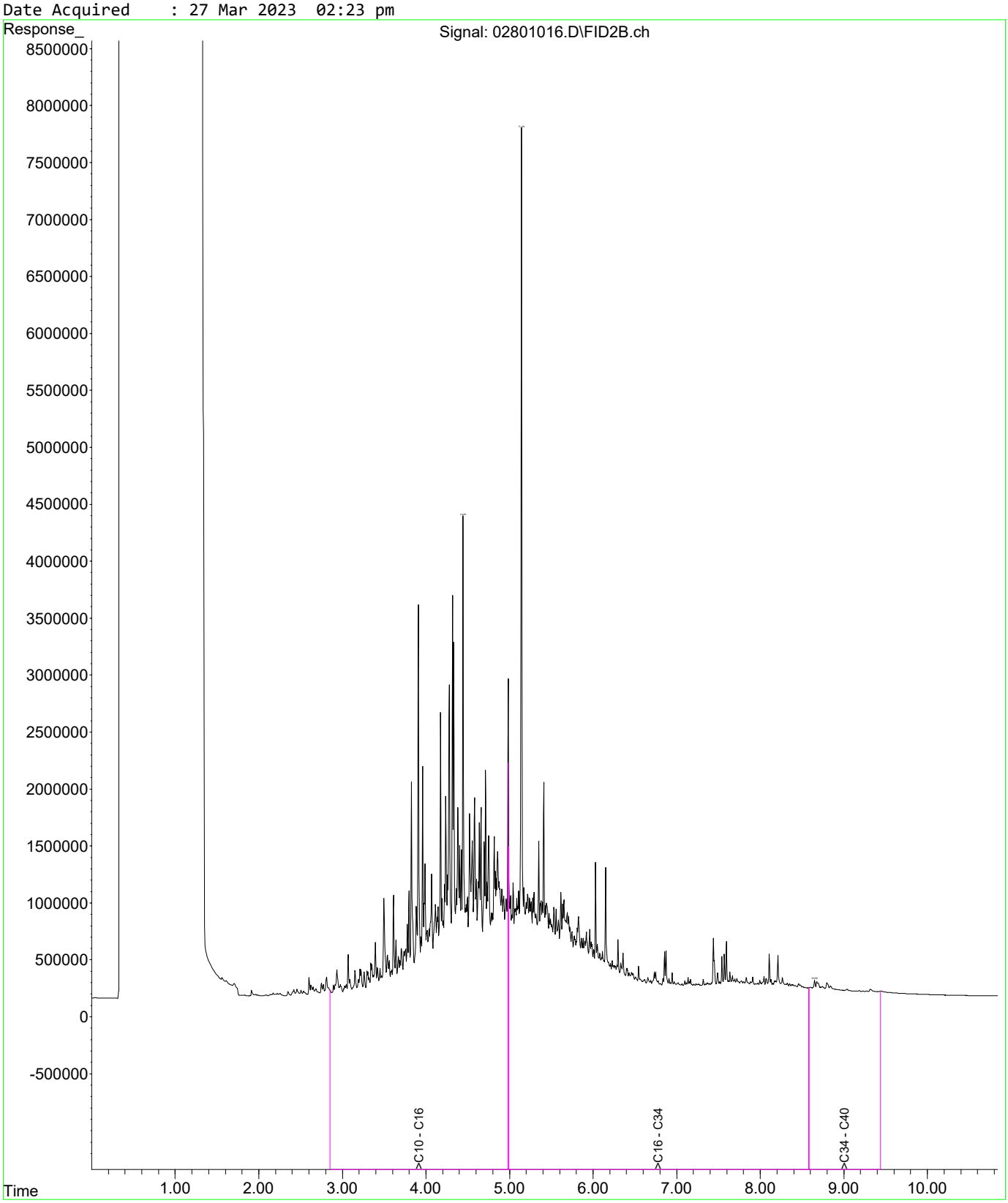
Fraction Scheme : NEPM DRAFT HIL
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



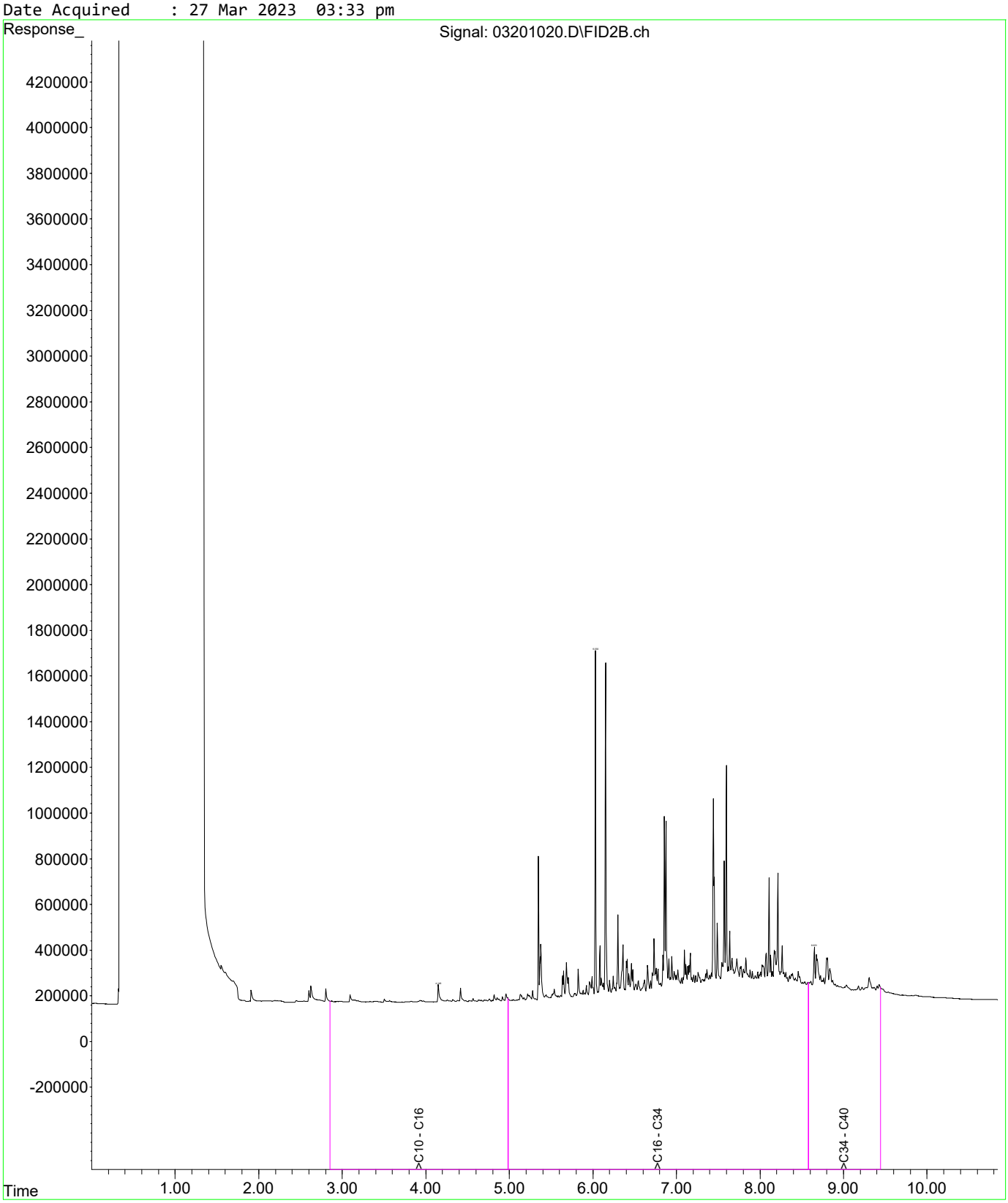
Fraction Scheme : NEPM DRAFT HIL
Data File : 03301022.D
Laboratory Number: EM2305209-024
Sample ID : UST_SP_1.5-2.0_05
Date Acquired : 27 Mar 2023 04:43 pm



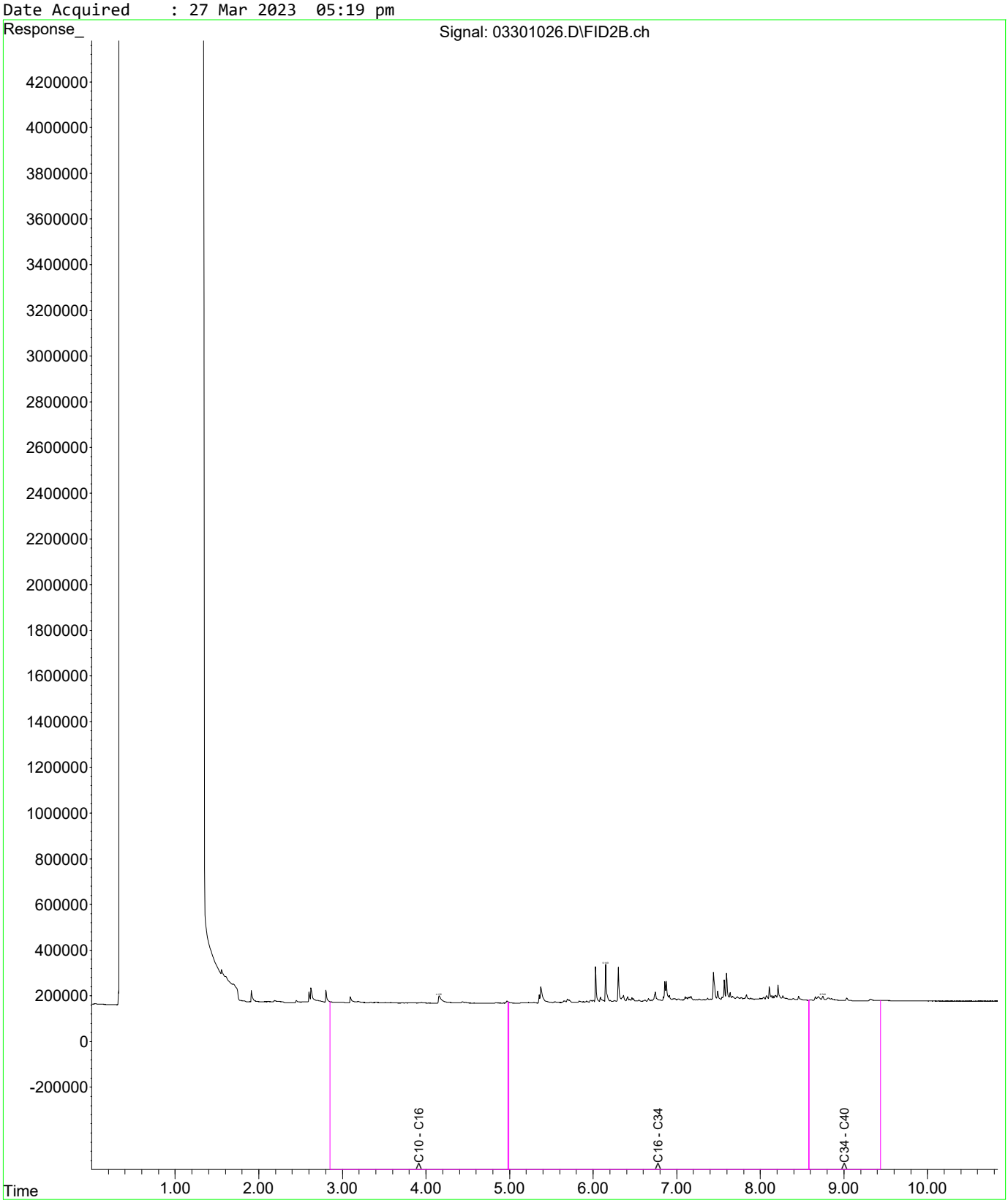
Fraction Scheme : NEPM Fractions
Data File : 02801016.D
Laboratory Number: EM2305209-001
Sample ID : UST_80_1.2_S
Date Acquired : 27 Mar 2023 02:23 pm



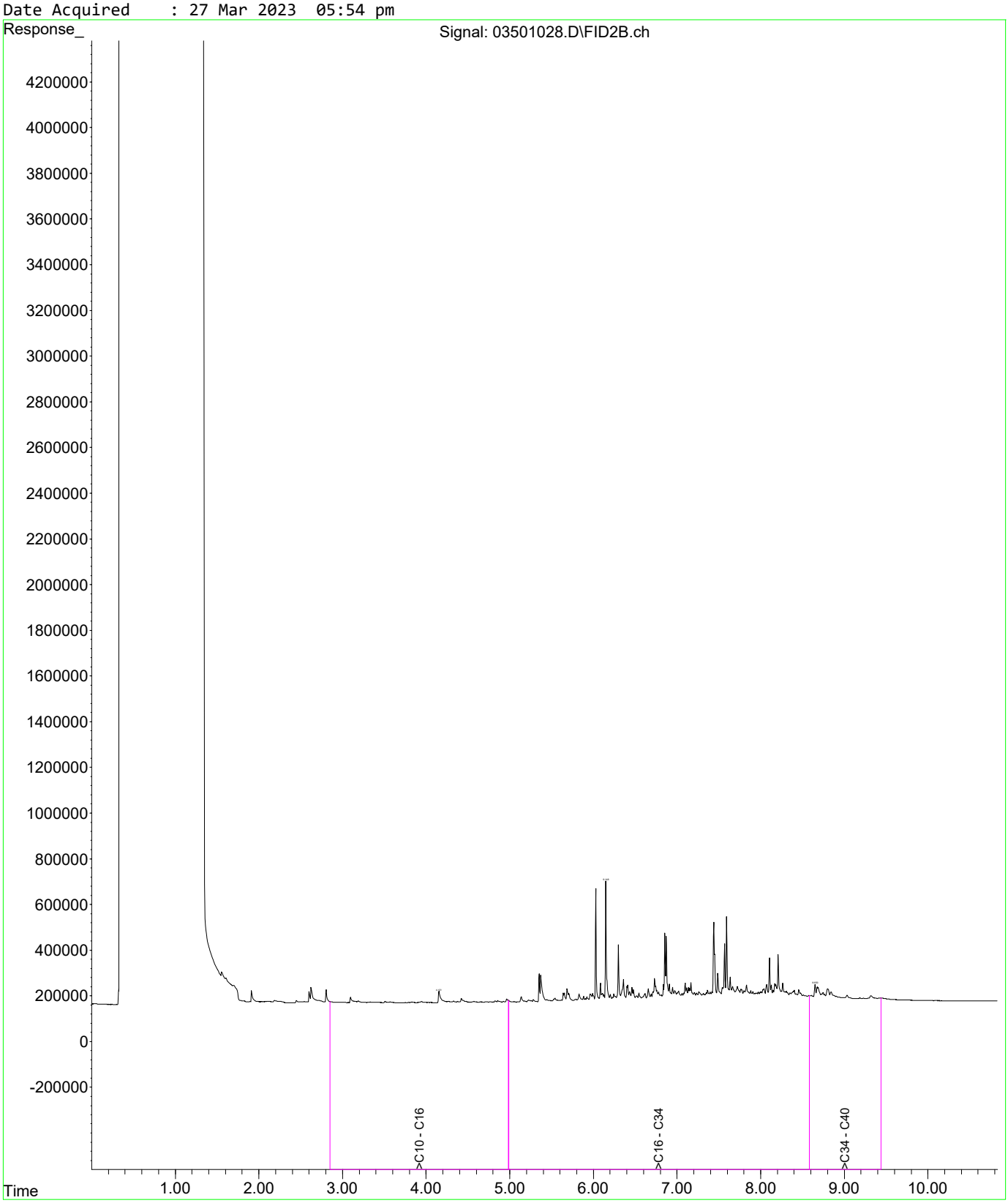
Fraction Scheme : NEPM Fractions
Data File : 03201020.D
Laboratory Number: EM2305209-003
Sample ID : UST_77_SE_0.8
Date Acquired : 27 Mar 2023 03:33 pm



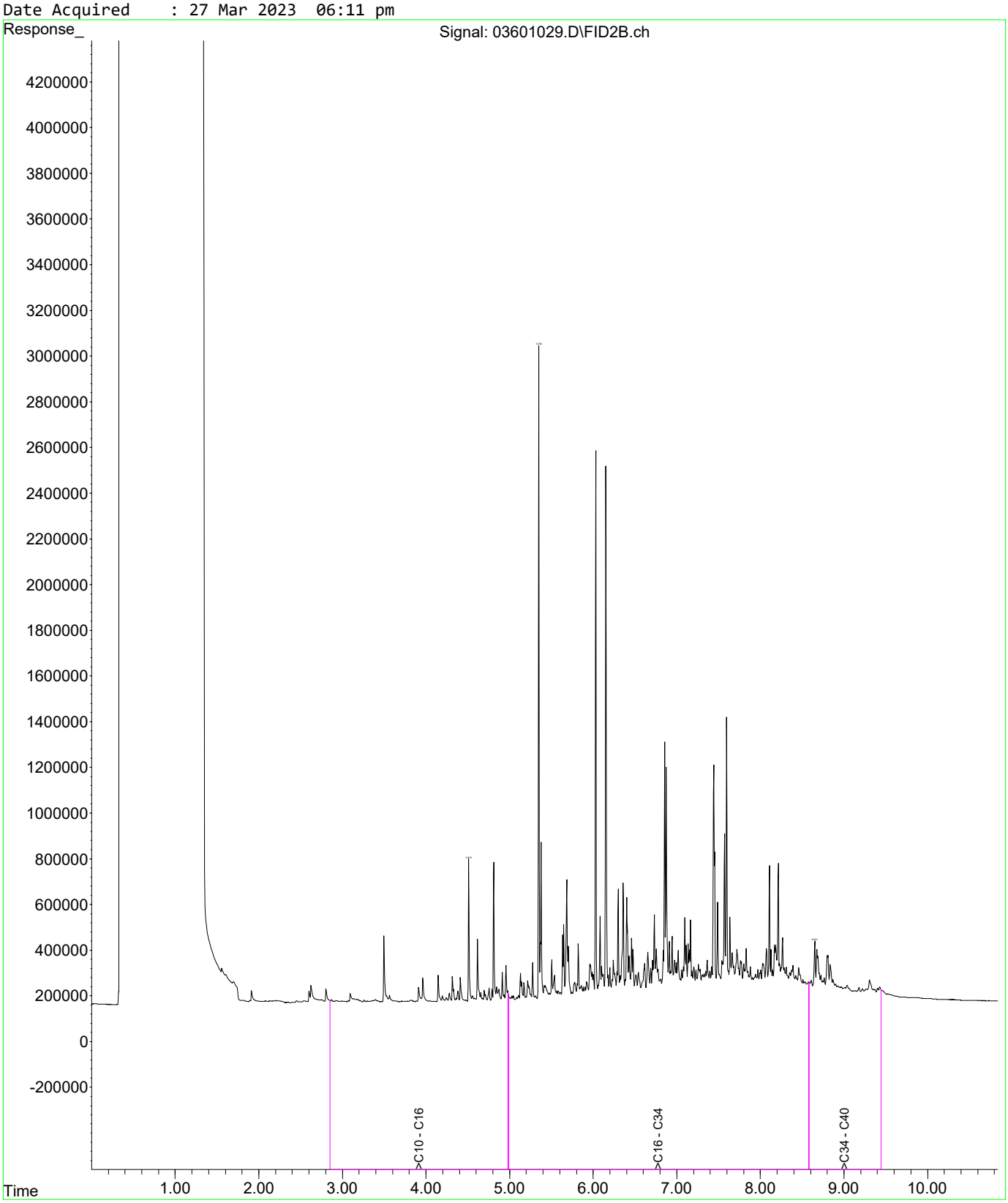
Fraction Scheme : NEPM Fractions
Data File : 03301026.D
Laboratory Number: EM2305209-005
Sample ID : UST_74_E_0.8
Date Acquired : 27 Mar 2023 05:19 pm



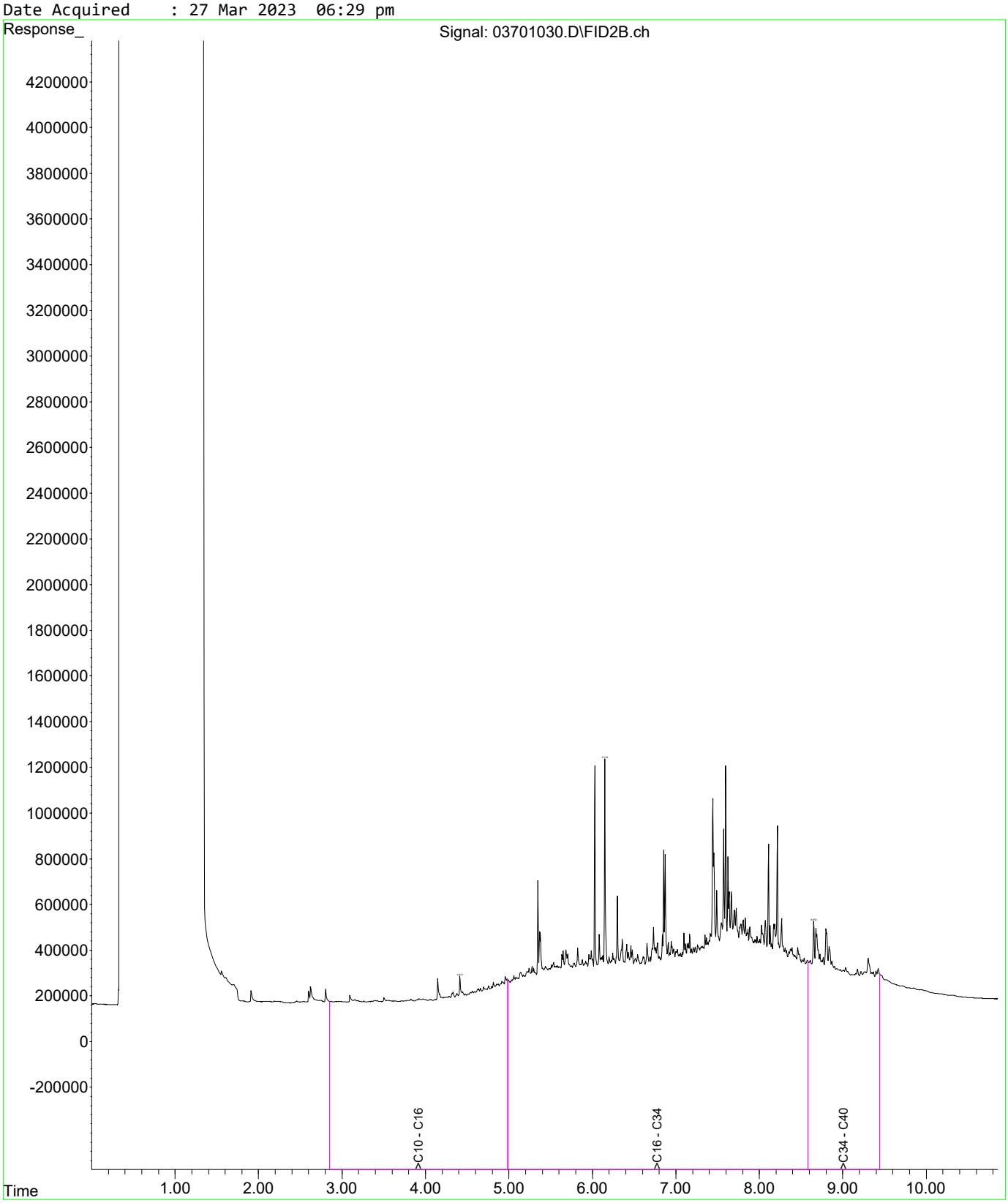
Fraction Scheme : NEPM Fractions
Data File : 03501028.D
Laboratory Number: EM2305209-007
Sample ID : UST_66_E_0.8
Date Acquired : 27 Mar 2023 05:54 pm



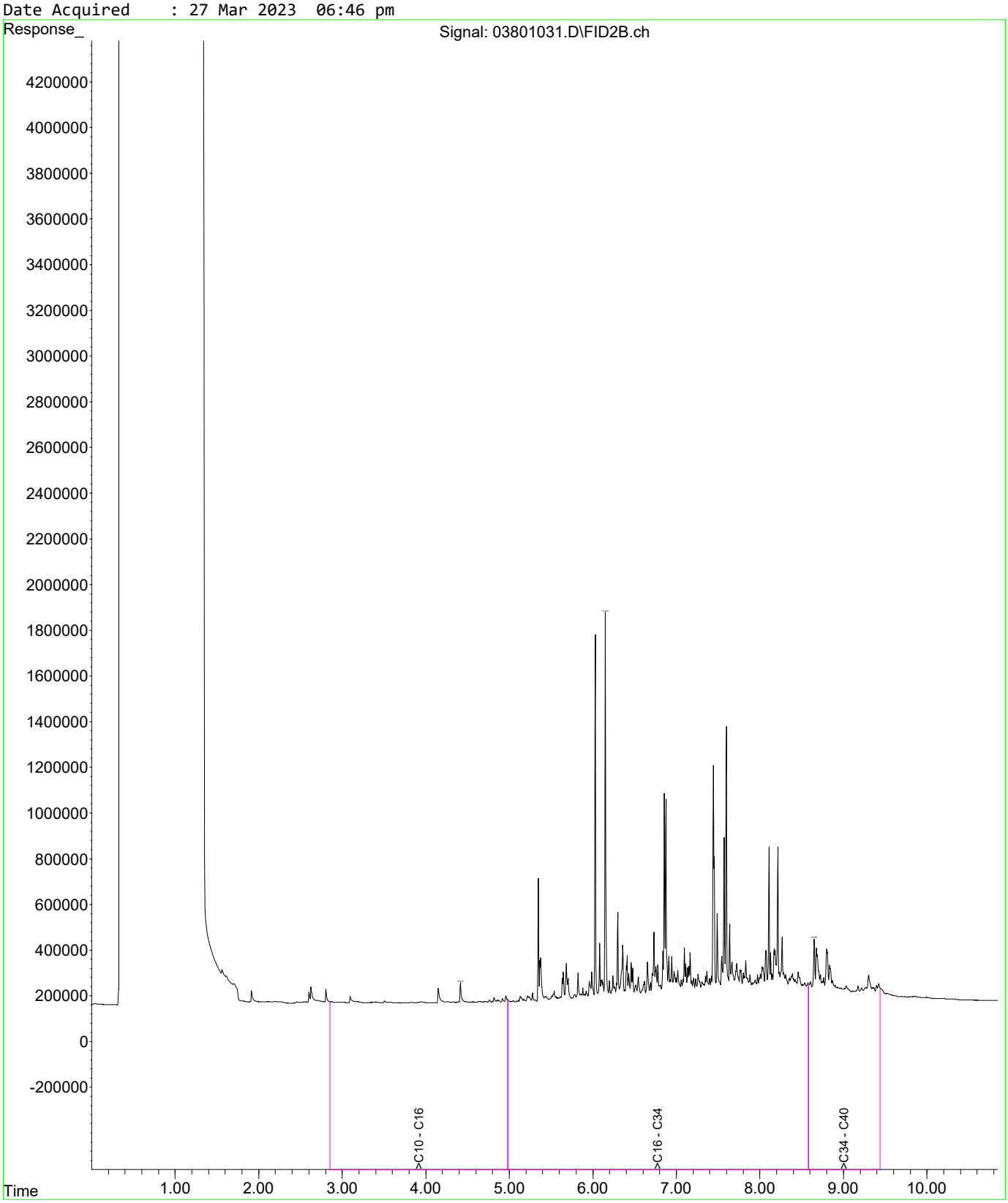
Fraction Scheme : NEPM Fractions
Data File : 03601029.D
Laboratory Number: EM2305209-008
Sample ID : UST_66_E_1.6
Date Acquired : 27 Mar 2023 06:11 pm



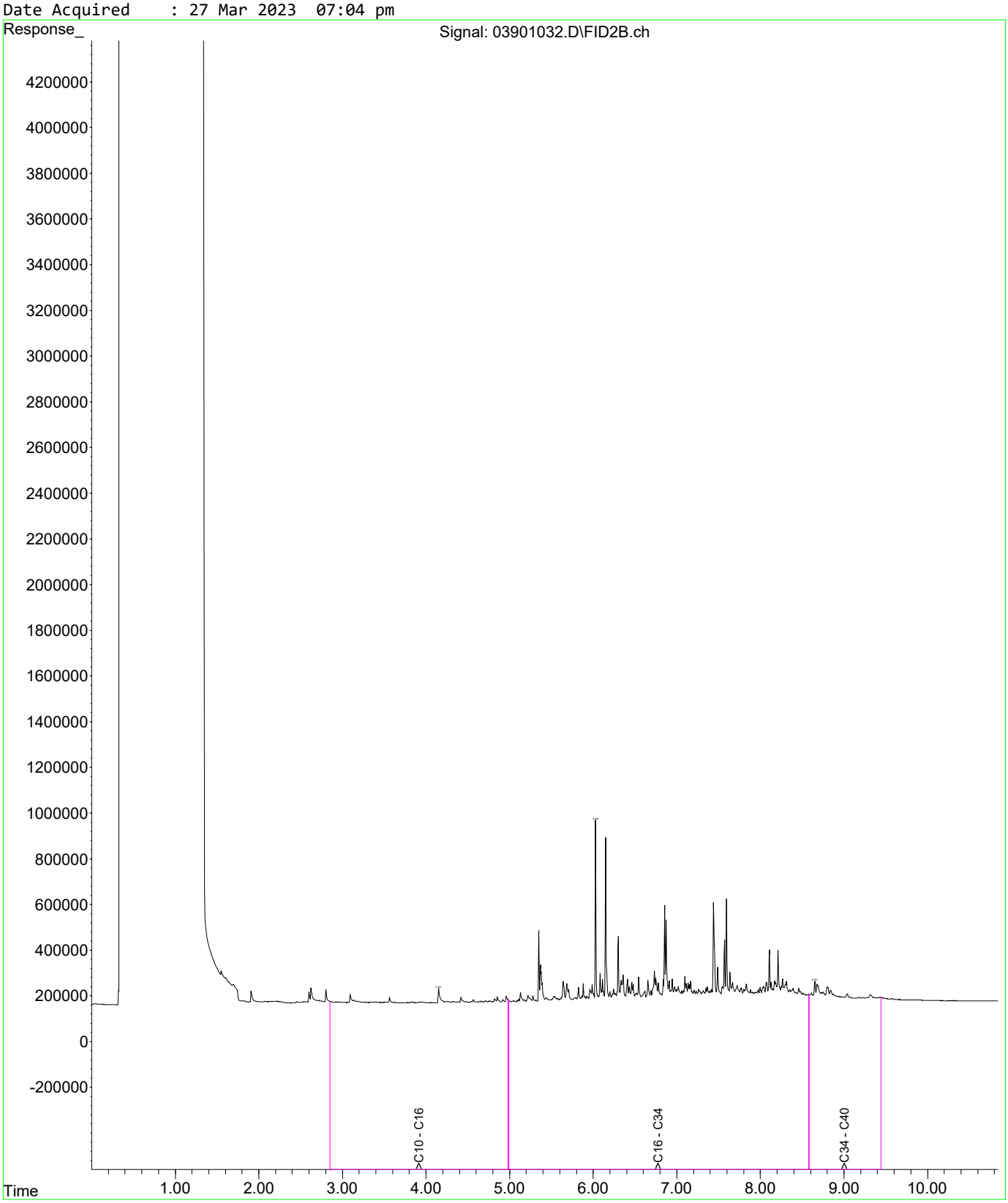
Fraction Scheme : NEPM Fractions
Data File : 03701030.D
Laboratory Number: EM2305209-009
Sample ID : UST_59_E_0.8
Date Acquired : 27 Mar 2023 06:29 pm



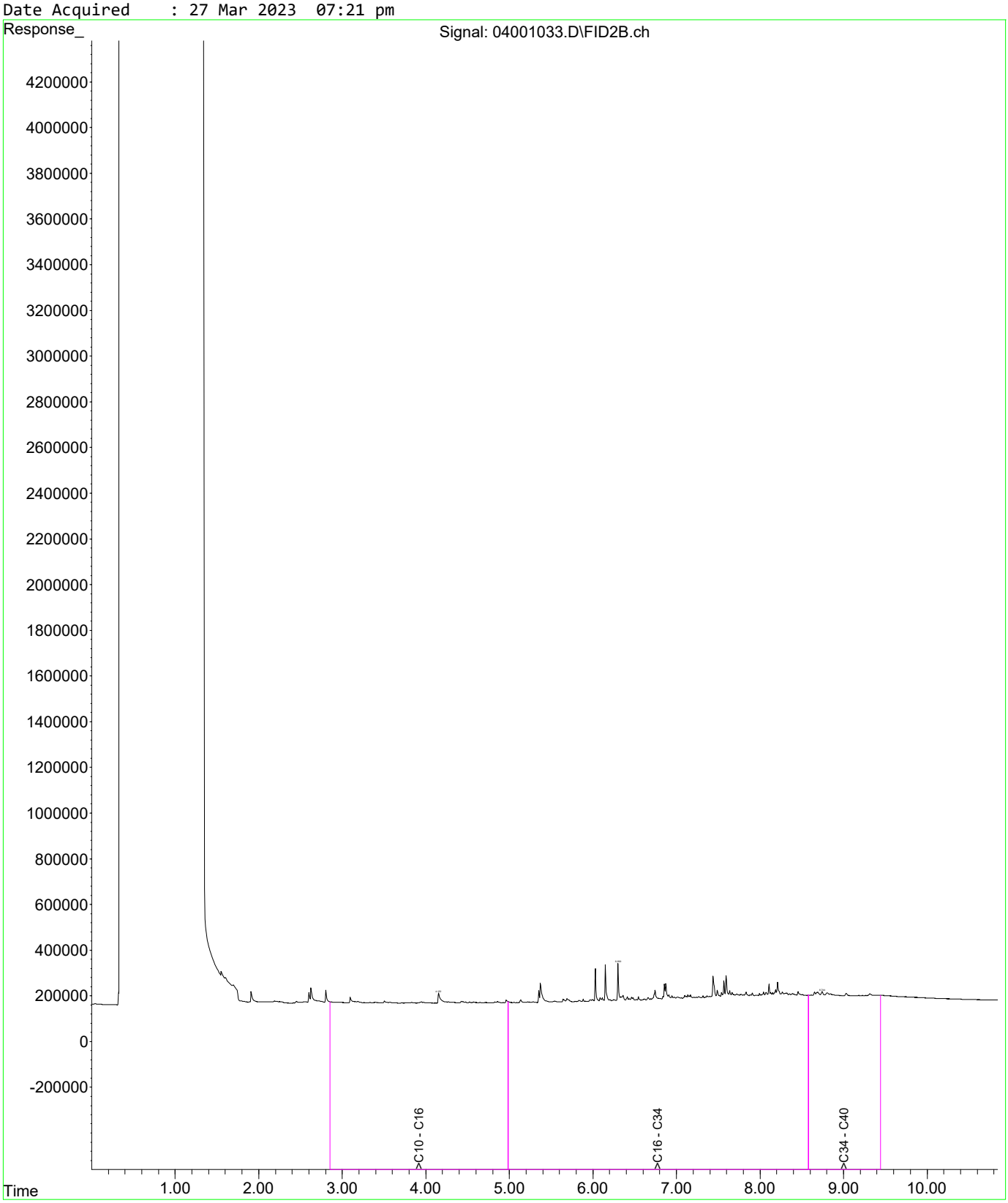
Fraction Scheme : NEPM Fractions
Data File : 03801031.D
Laboratory Number: EM2305209-011
Sample ID : UST_55_NE_0.8
Date Acquired : 27 Mar 2023 06:46 pm



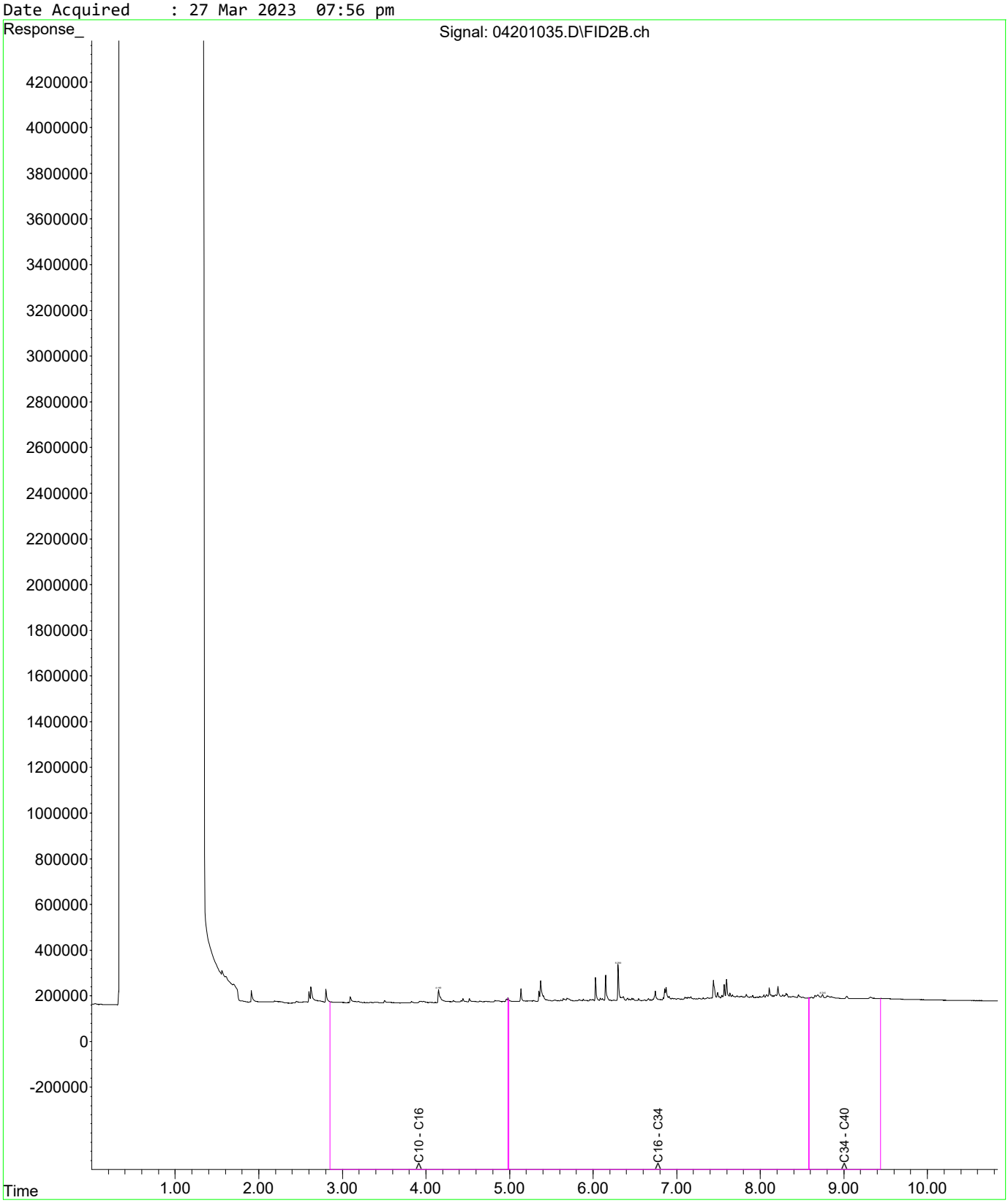
Fraction Scheme : NEPM Fractions
Data File : 03901032.D
Laboratory Number: EM2305209-012
Sample ID : UST_55_NE_1.6
Date Acquired : 27 Mar 2023 07:04 pm



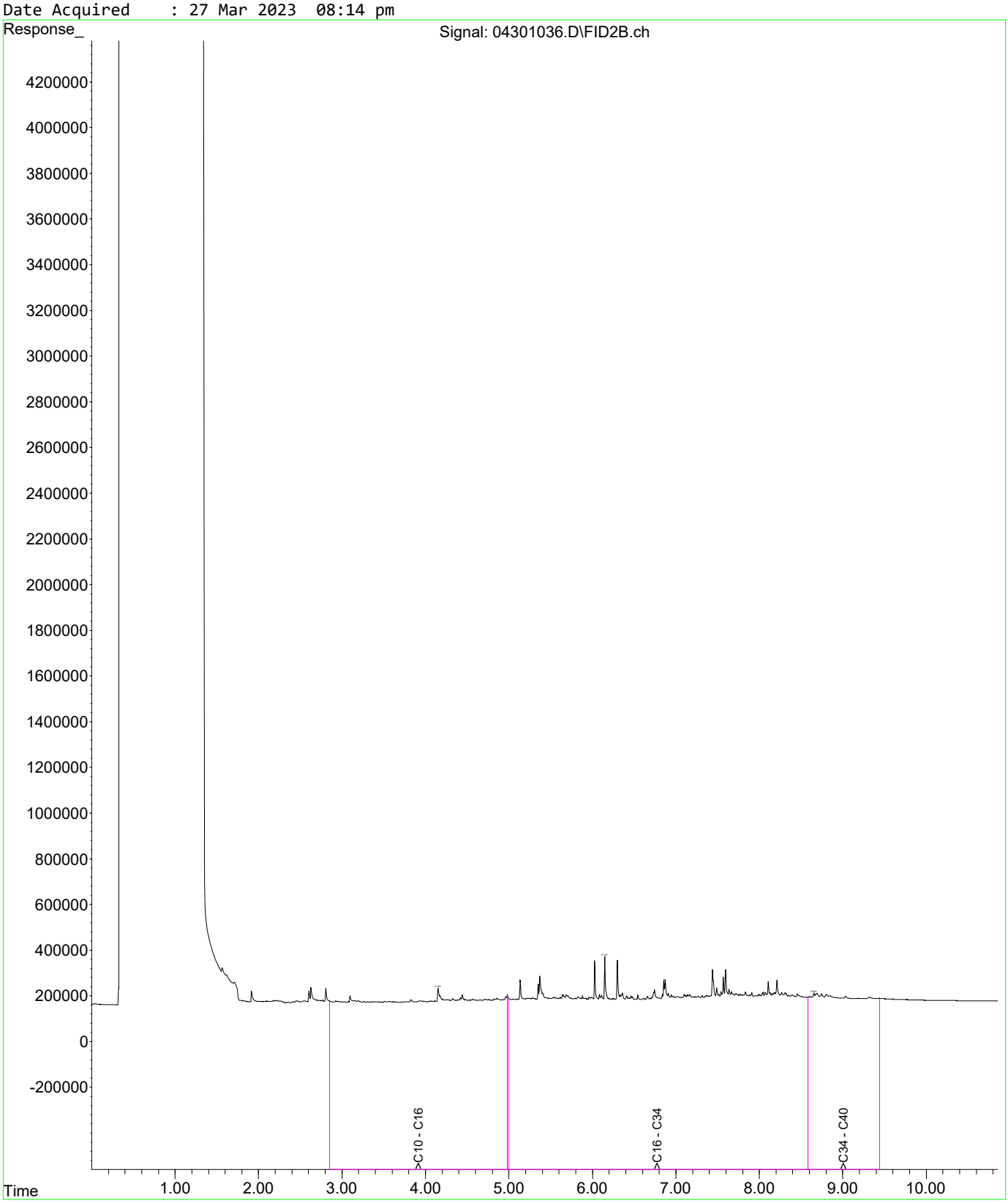
Fraction Scheme : NEPM Fractions
Data File : 04001033.D
Laboratory Number: EM2305209-014
Sample ID : UST_SP_0.5-1.0_02
Date Acquired : 27 Mar 2023 07:21 pm



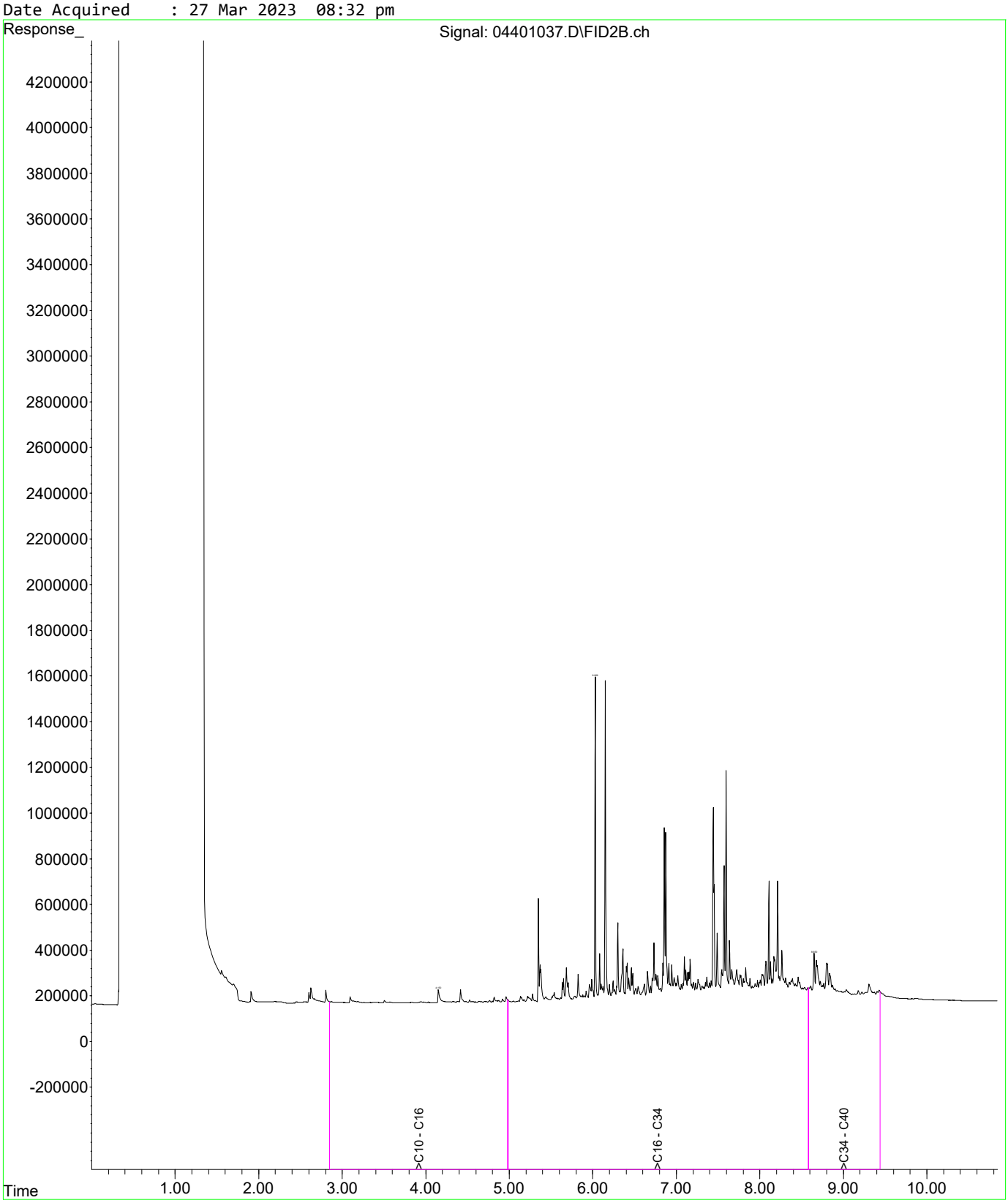
Fraction Scheme : NEPM Fractions
Data File : 04201035.D
Laboratory Number: EM2305209-015
Sample ID : UST_SP_0.5-1.0_03
Date Acquired : 27 Mar 2023 07:56 pm



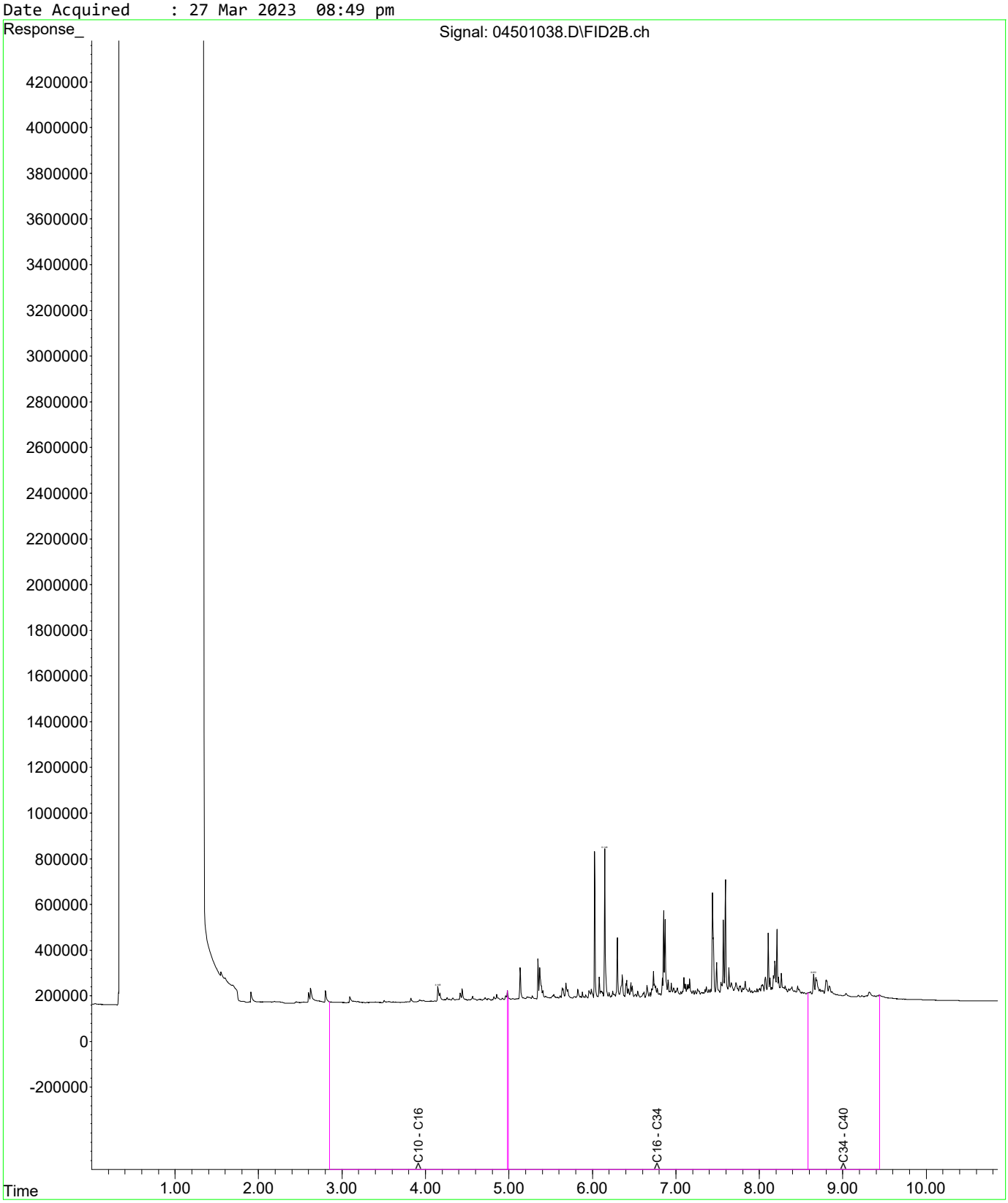
Fraction Scheme : NEPM Fractions
Data File : 04301036.D
Laboratory Number: EM2305209-016
Sample ID : UST_SP_0.5-1.0_04
Date Acquired : 27 Mar 2023 08:14 pm



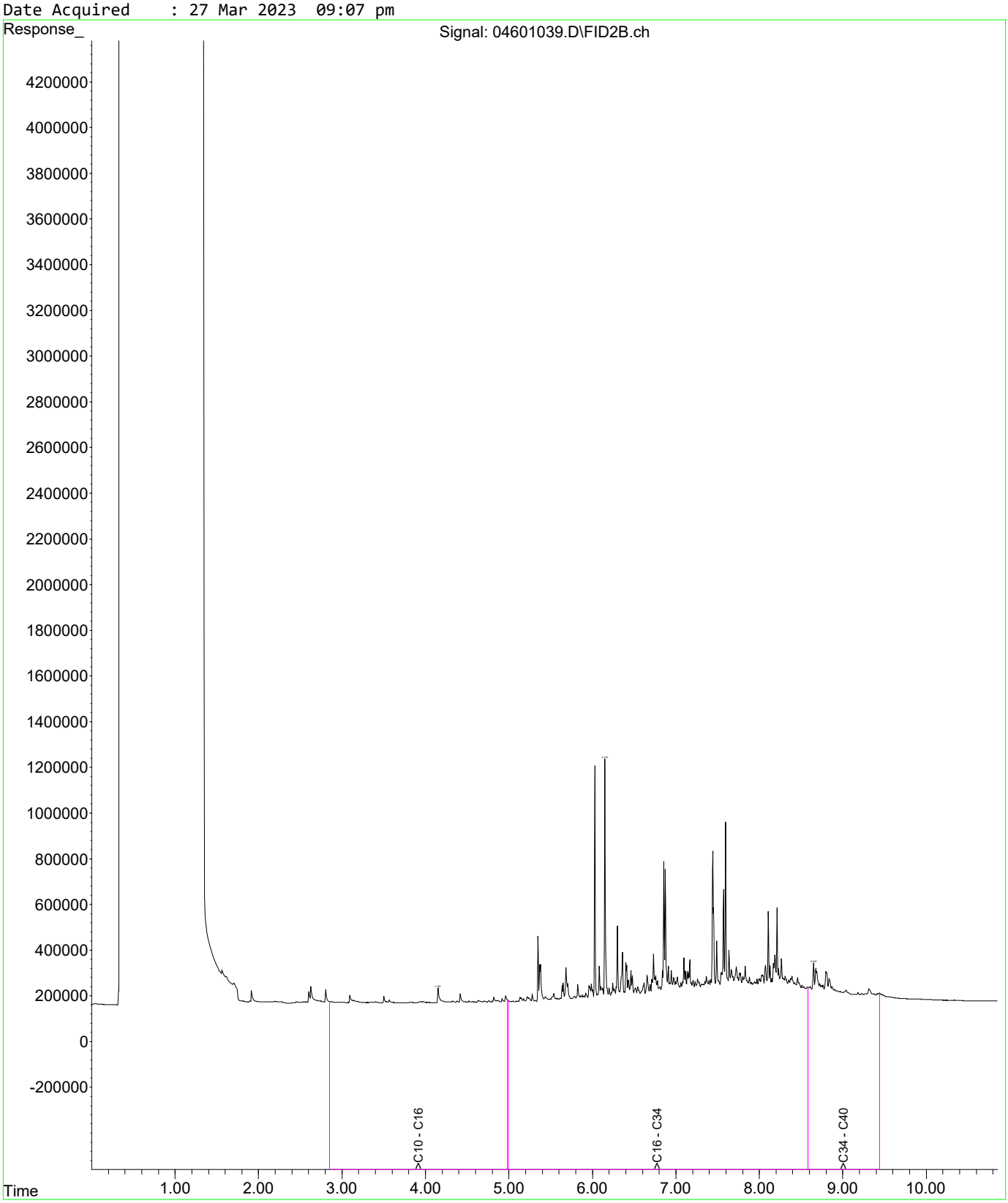
Fraction Scheme : NEPM Fractions
Data File : 04401037.D
Laboratory Number: EM2305209-017
Sample ID : UST_SP_1.0-1.5_01
Date Acquired : 27 Mar 2023 08:32 pm



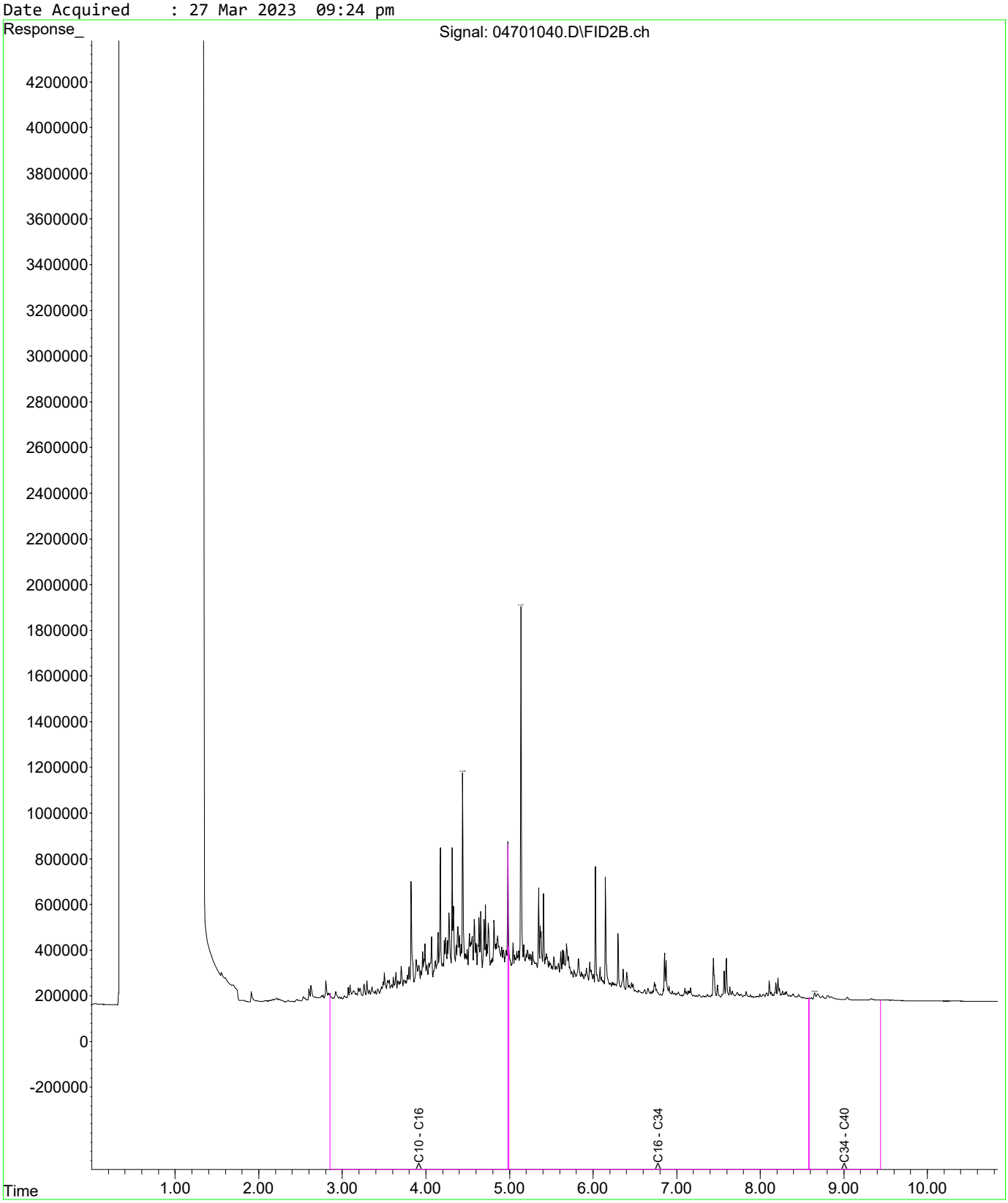
Fraction Scheme : NEPM Fractions
Data File : 04501038.D
Laboratory Number: EM2305209-018
Sample ID : UST_SP_1.0-1.5_02
Date Acquired : 27 Mar 2023 08:49 pm



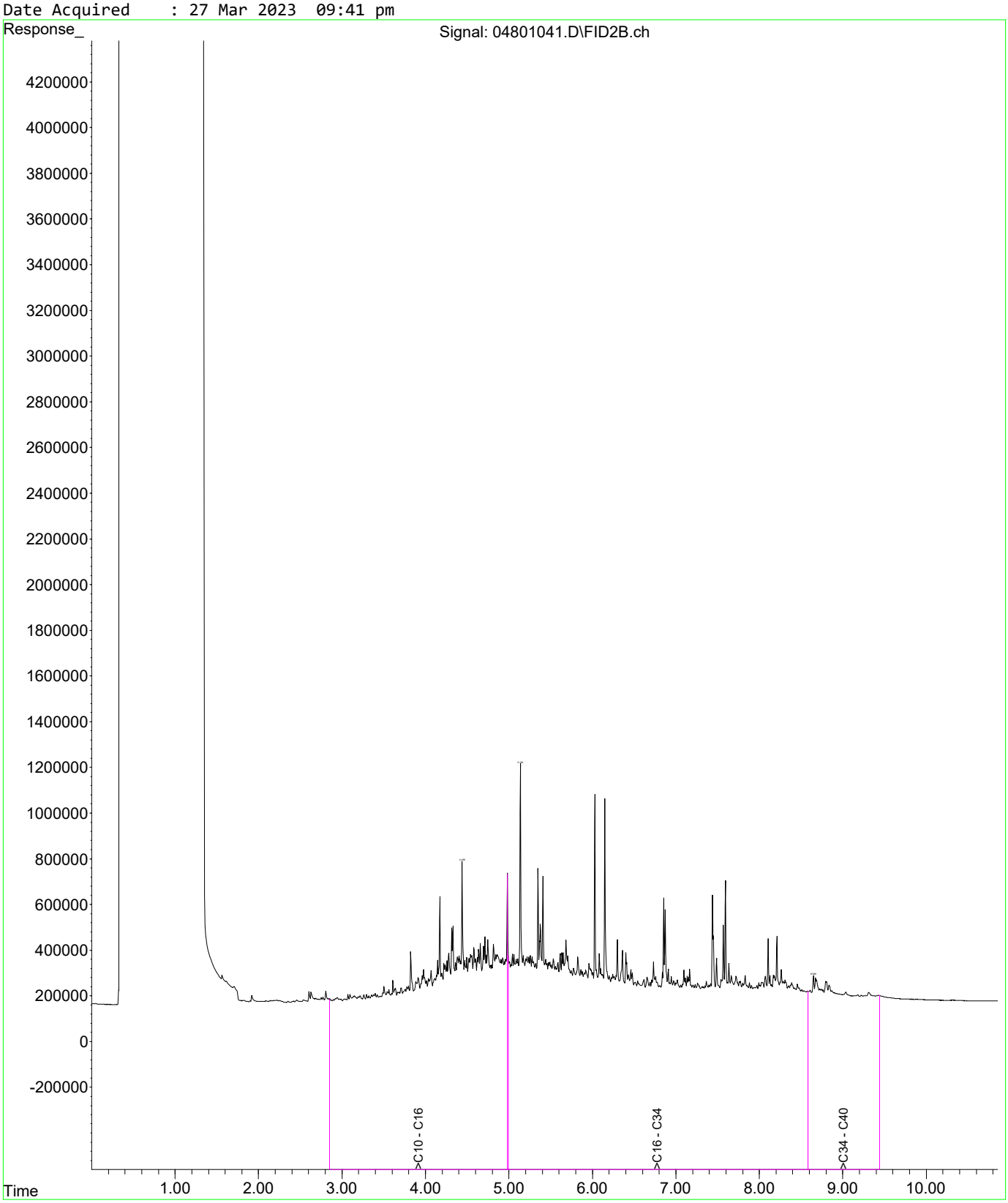
Fraction Scheme : NEPM Fractions
Data File : 04601039.D
Laboratory Number: EM2305209-020
Sample ID : UST_SP_1.5-2.0_01
Date Acquired : 27 Mar 2023 09:07 pm



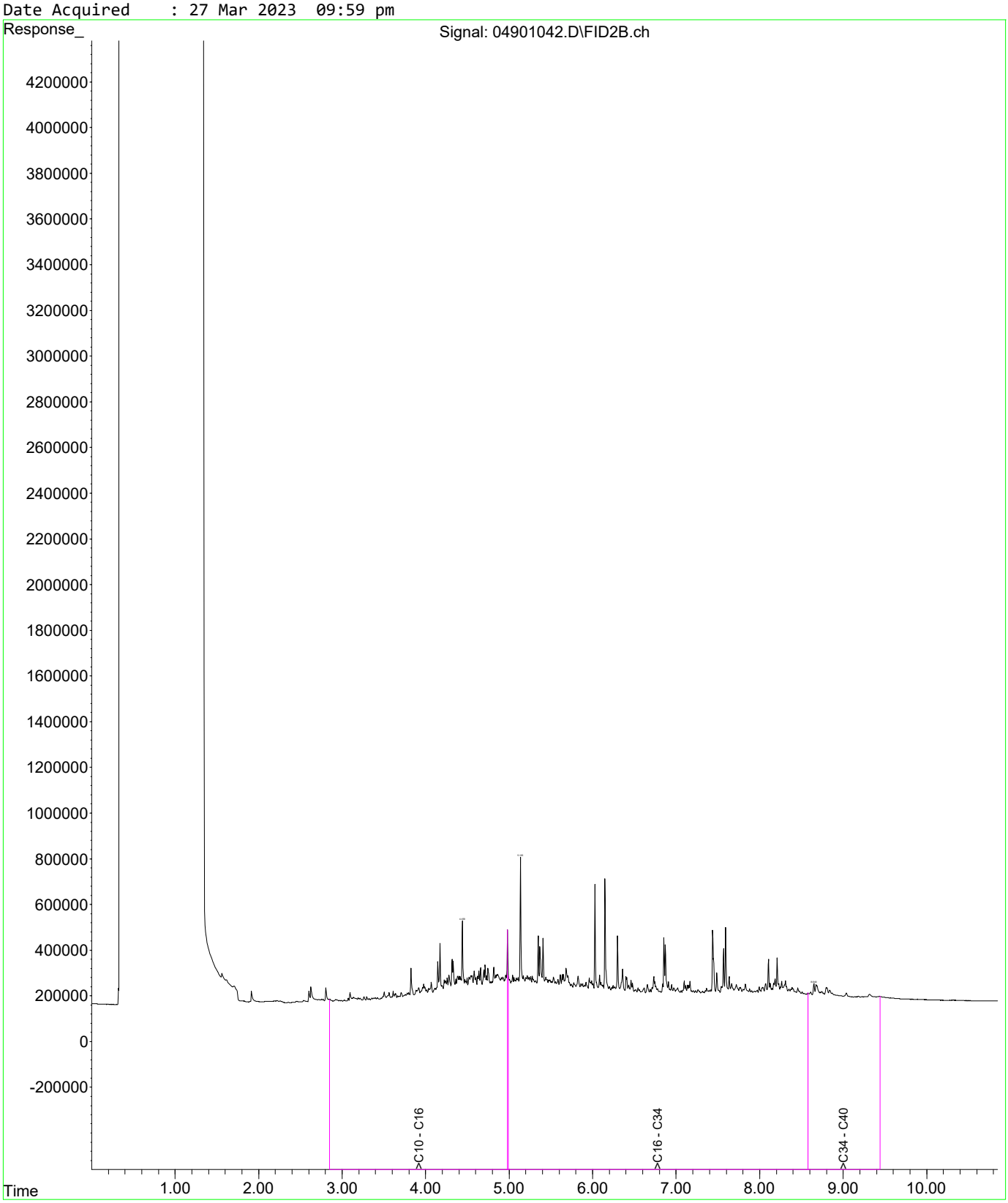
Fraction Scheme : NEPM Fractions
Data File : 04701040.D
Laboratory Number: EM2305209-026
Sample ID : UST_SP_EXT_02
Date Acquired : 27 Mar 2023 09:24 pm



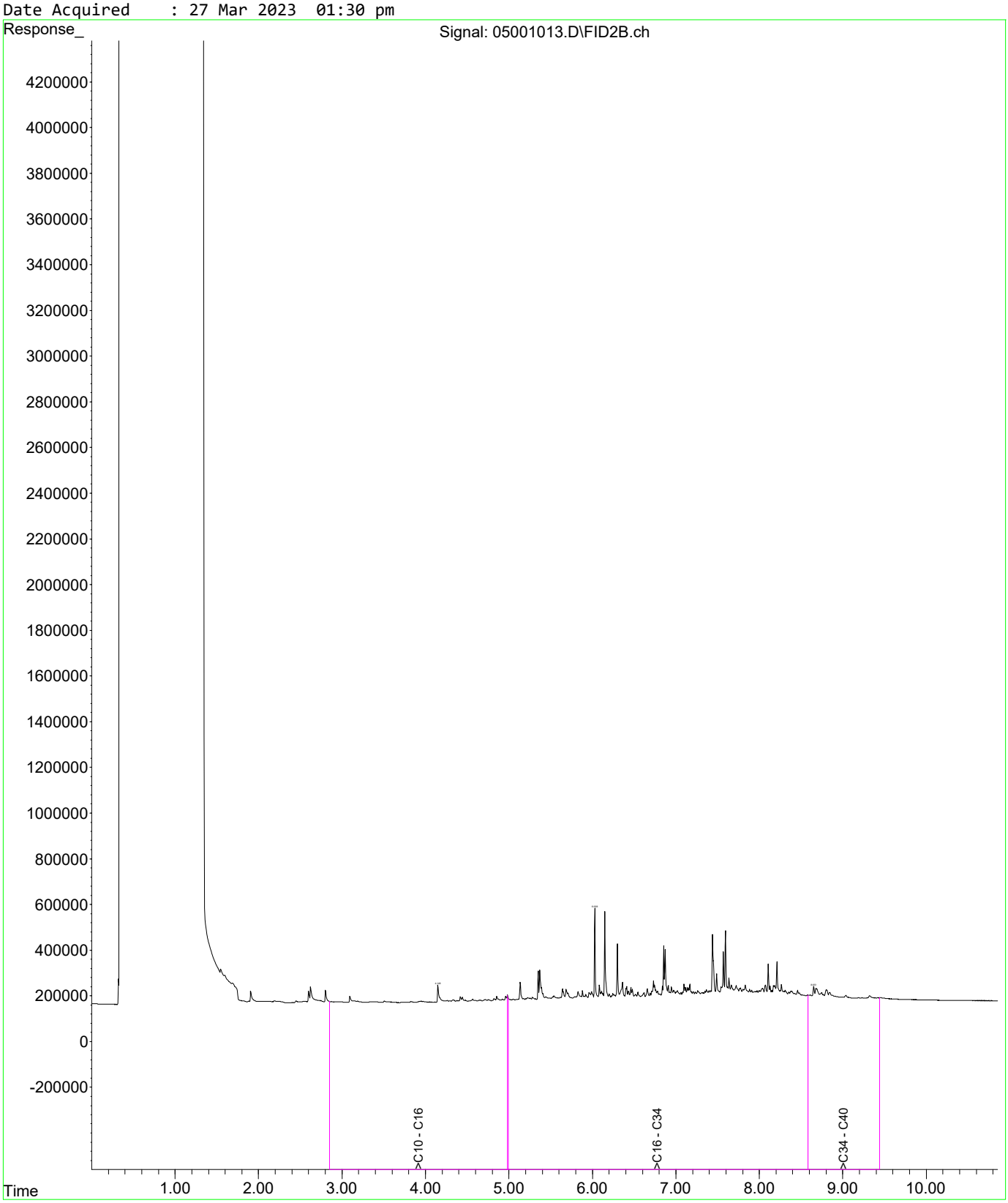
Fraction Scheme : NEPM Fractions
Data File : 04801041.D
Laboratory Number: EM2305209-028
Sample ID : UST_SP_EXT_04
Date Acquired : 27 Mar 2023 09:41 pm



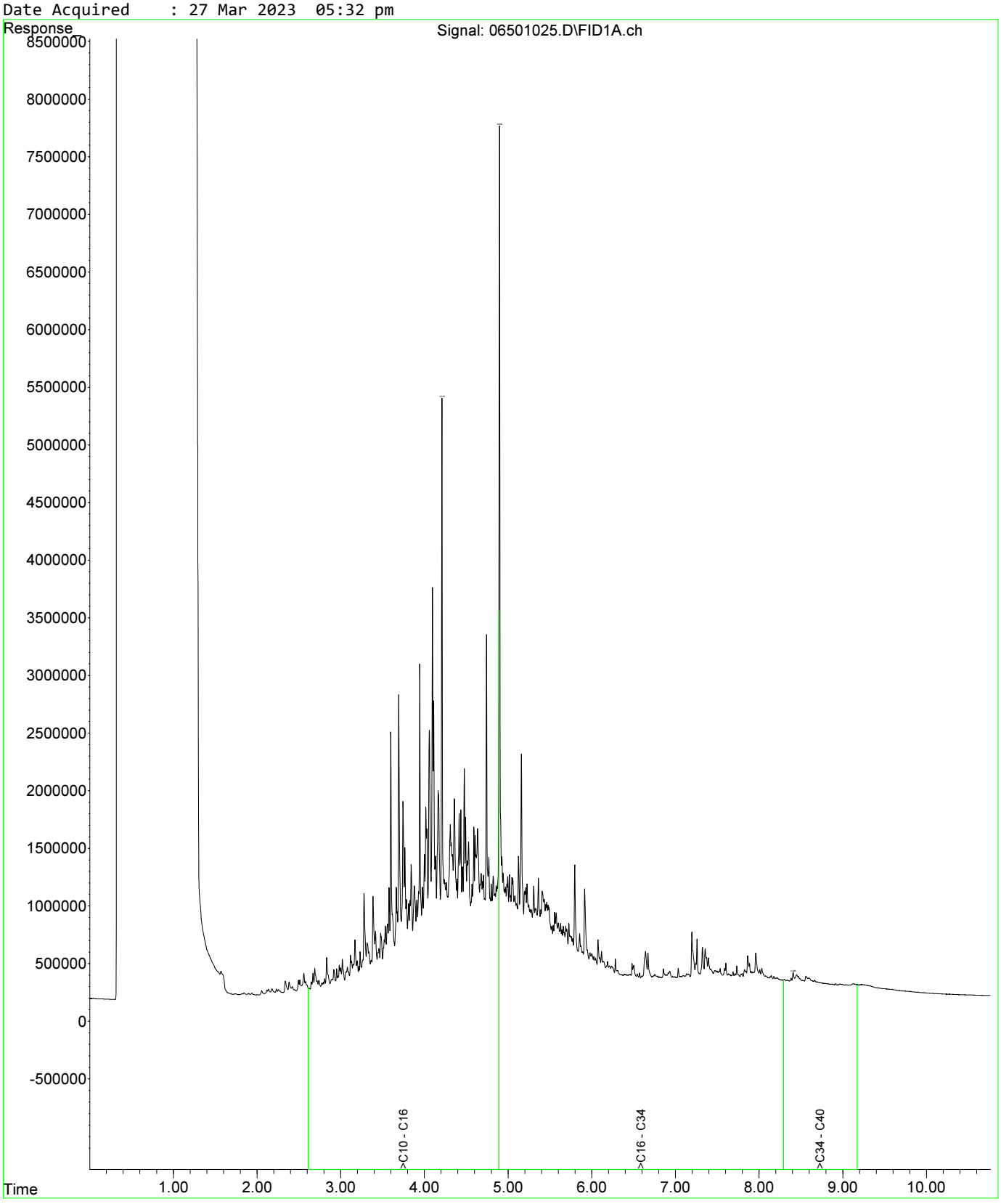
Fraction Scheme : NEPM Fractions
Data File : 04901042.D
Laboratory Number: EM2305209-029
Sample ID : UST_SP_EXT_05
Date Acquired : 27 Mar 2023 09:59 pm



Fraction Scheme : NEPM Fractions
Data File : 05001013.D
Laboratory Number: EM2305209-030
Sample ID : UST_SP_EXT_06
Date Acquired : 27 Mar 2023 01:30 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 06501025.D
Laboratory Number: EM2305209-046
Sample ID : UST_QC106
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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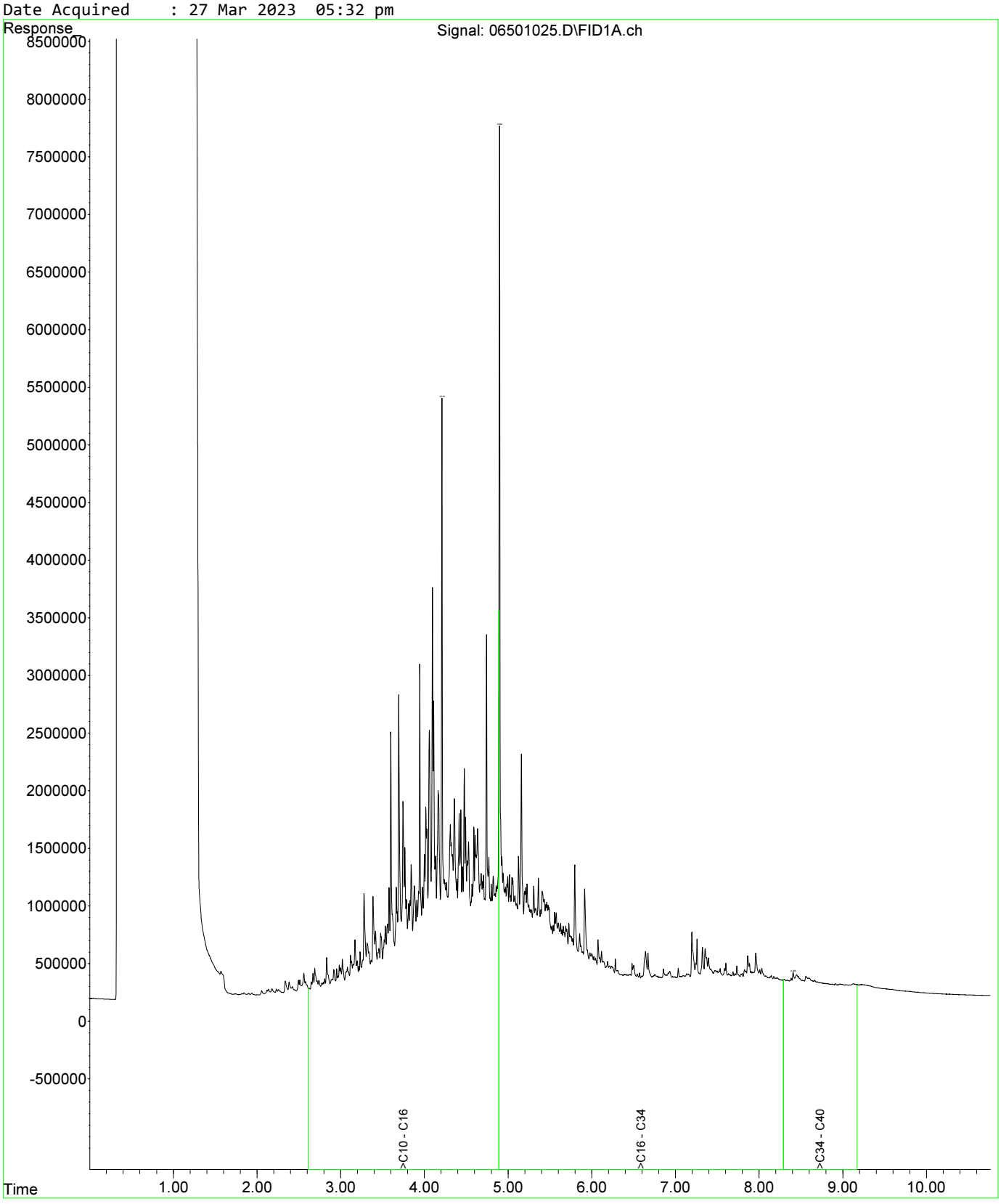
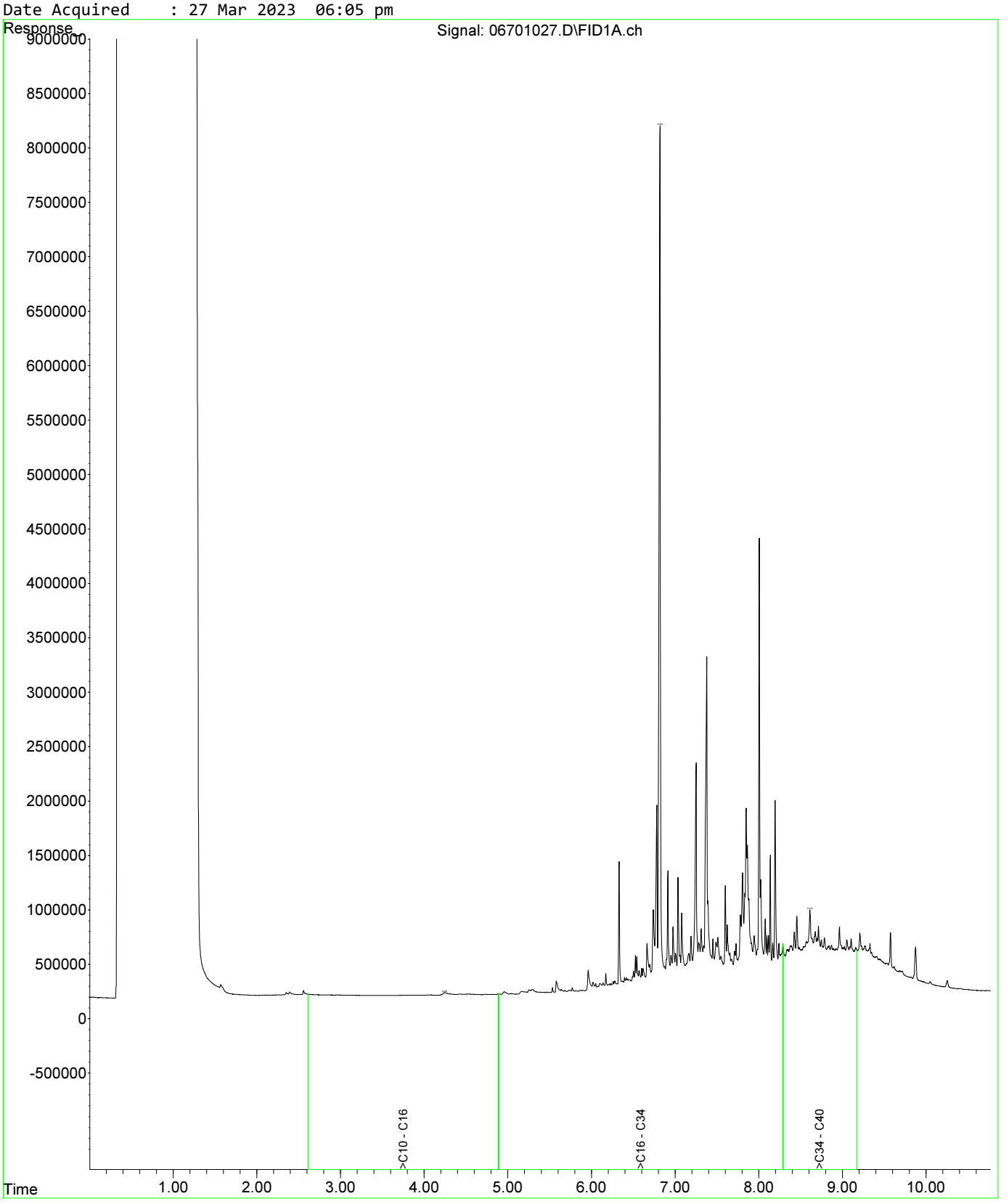
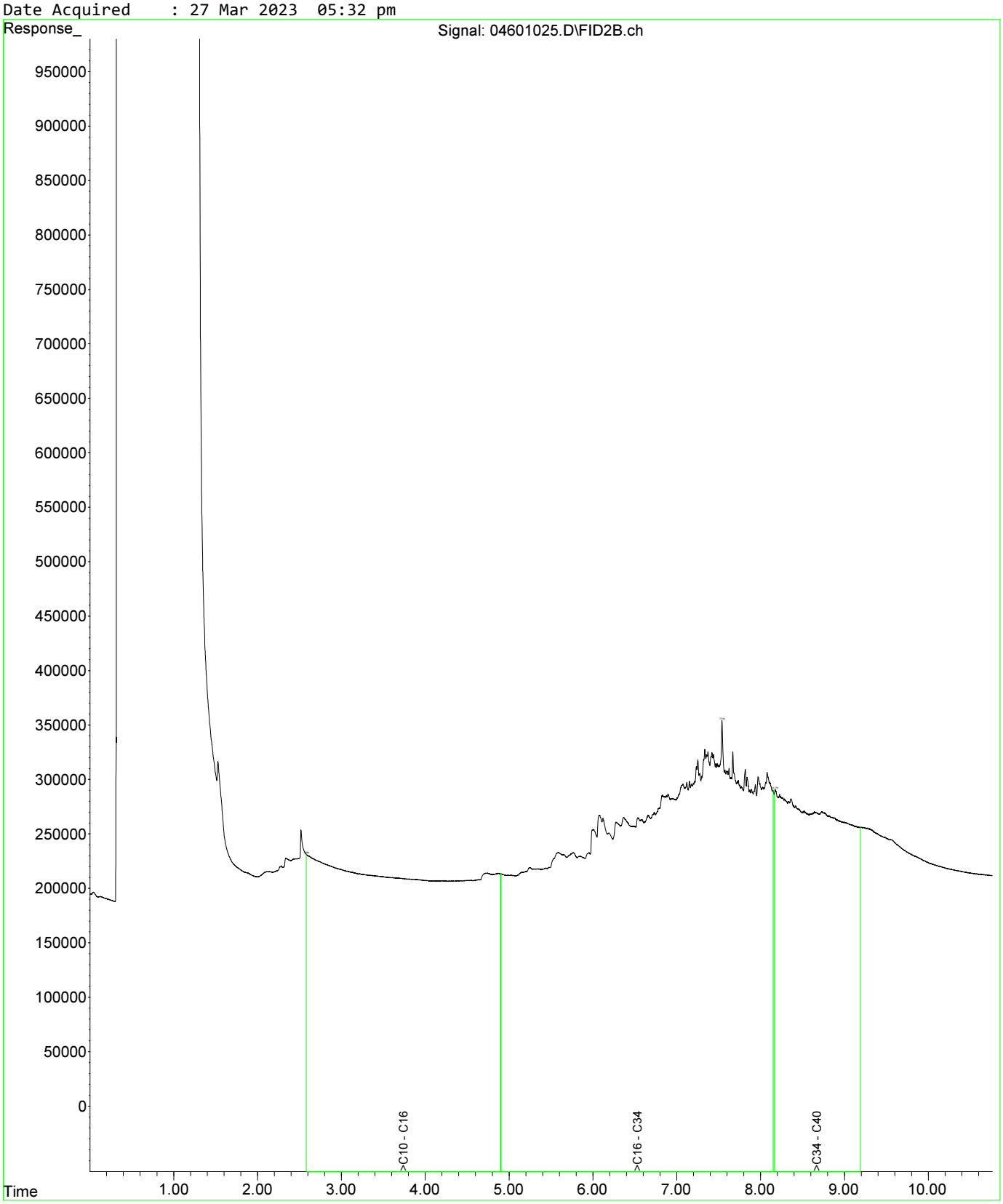


Fraction Scheme : NEPM DRAFT HIL
Data File : 06701027.D
Laboratory Number: EM2305209-050
Sample ID : Rail Timber 01
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
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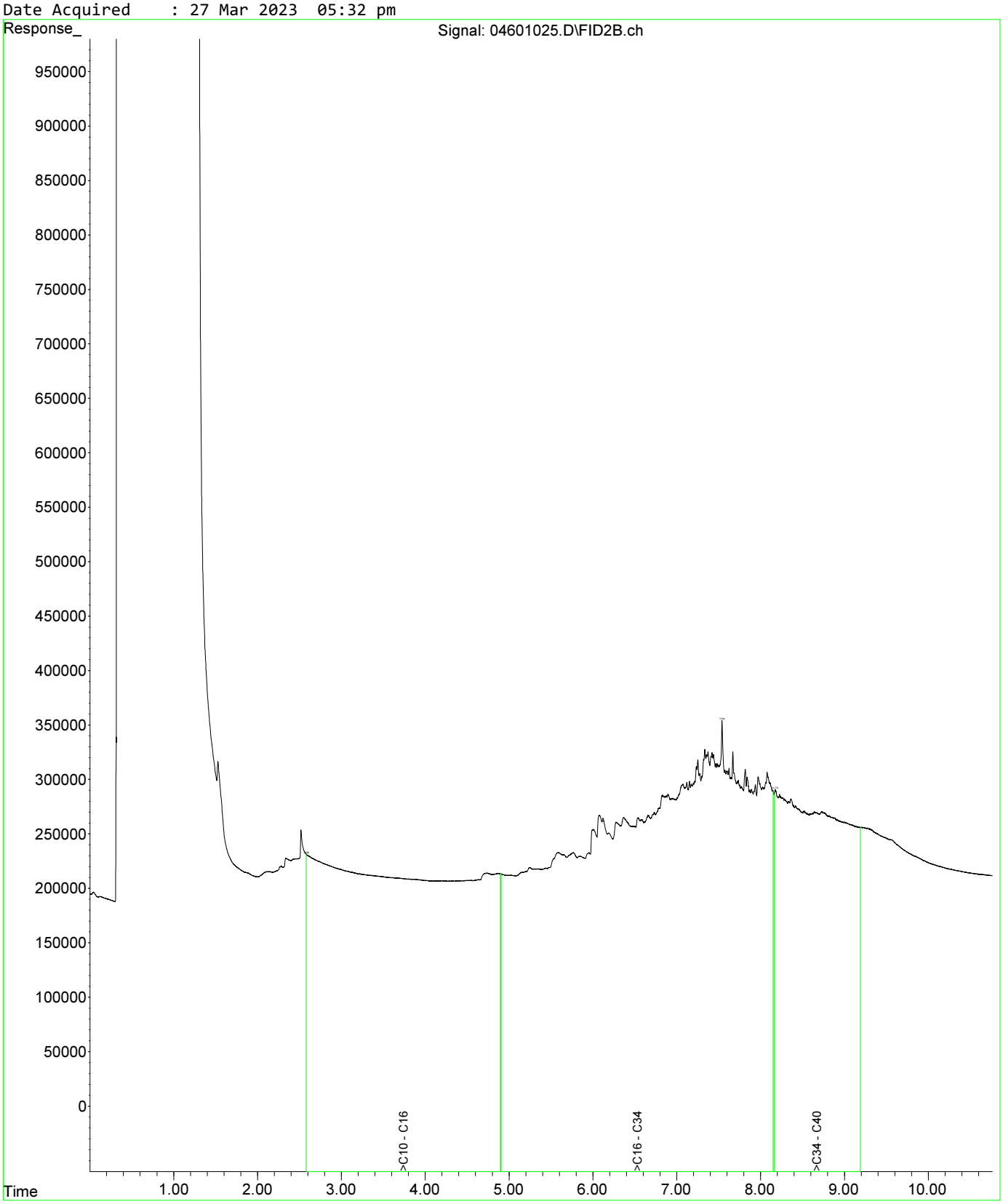
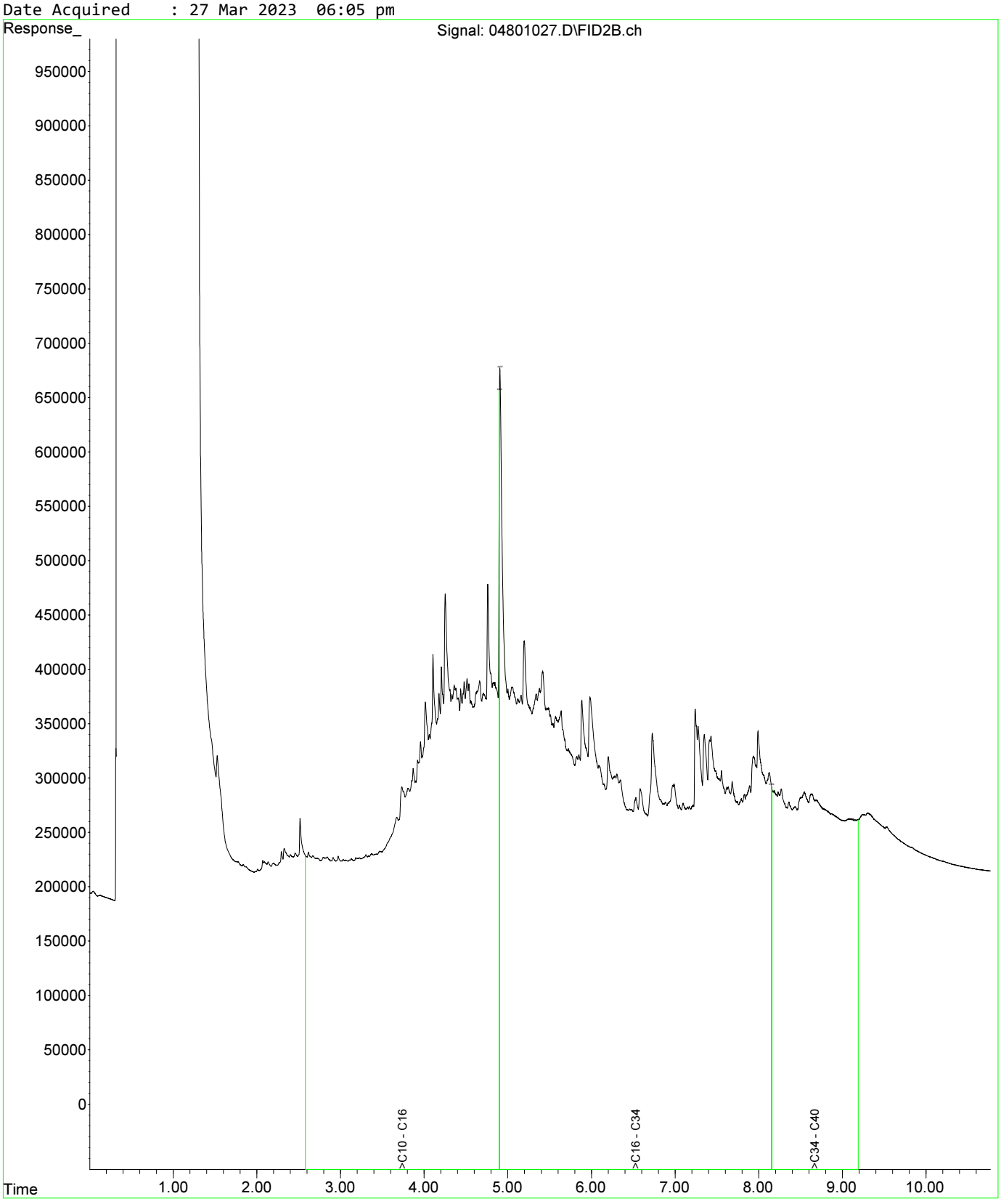
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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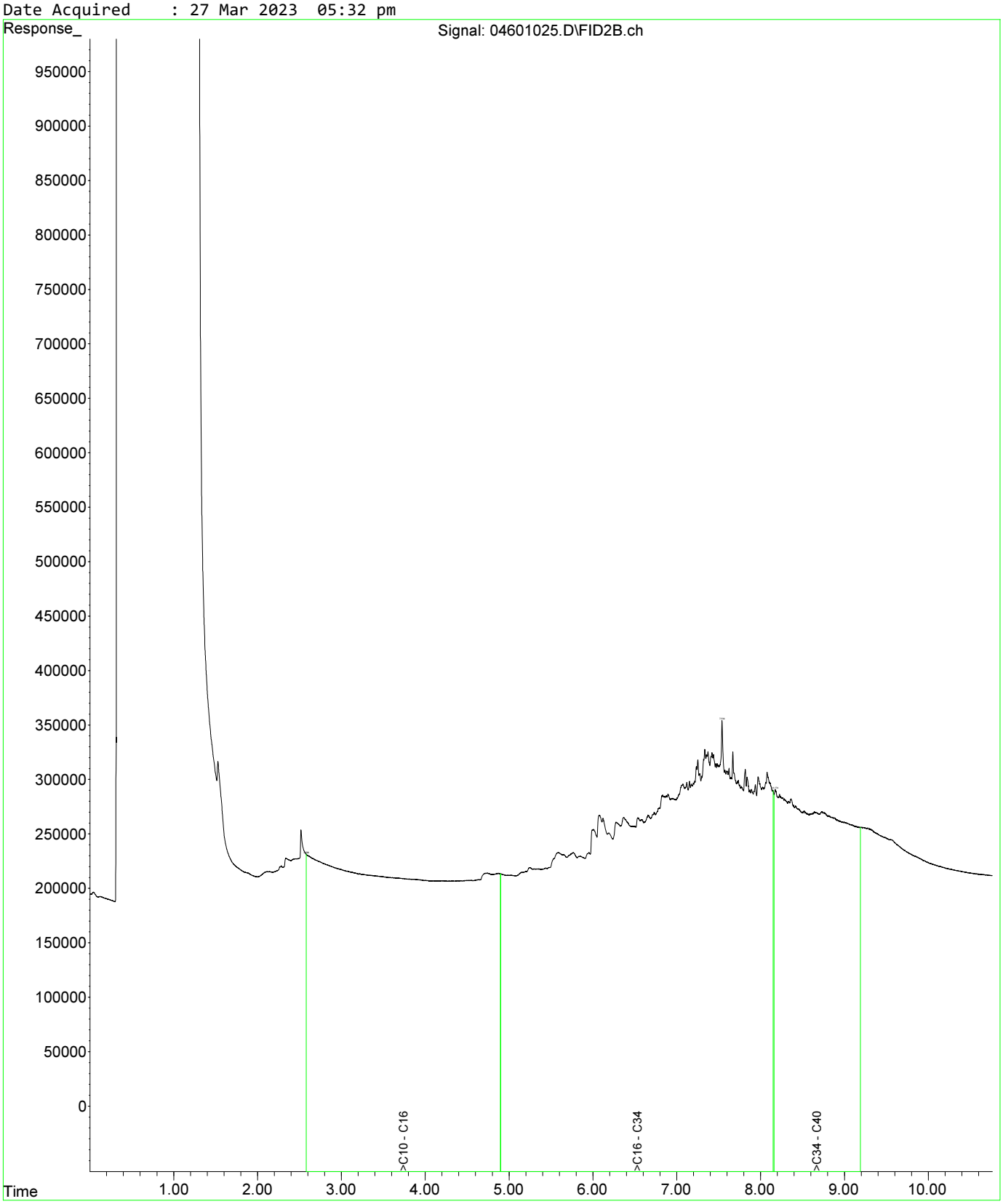

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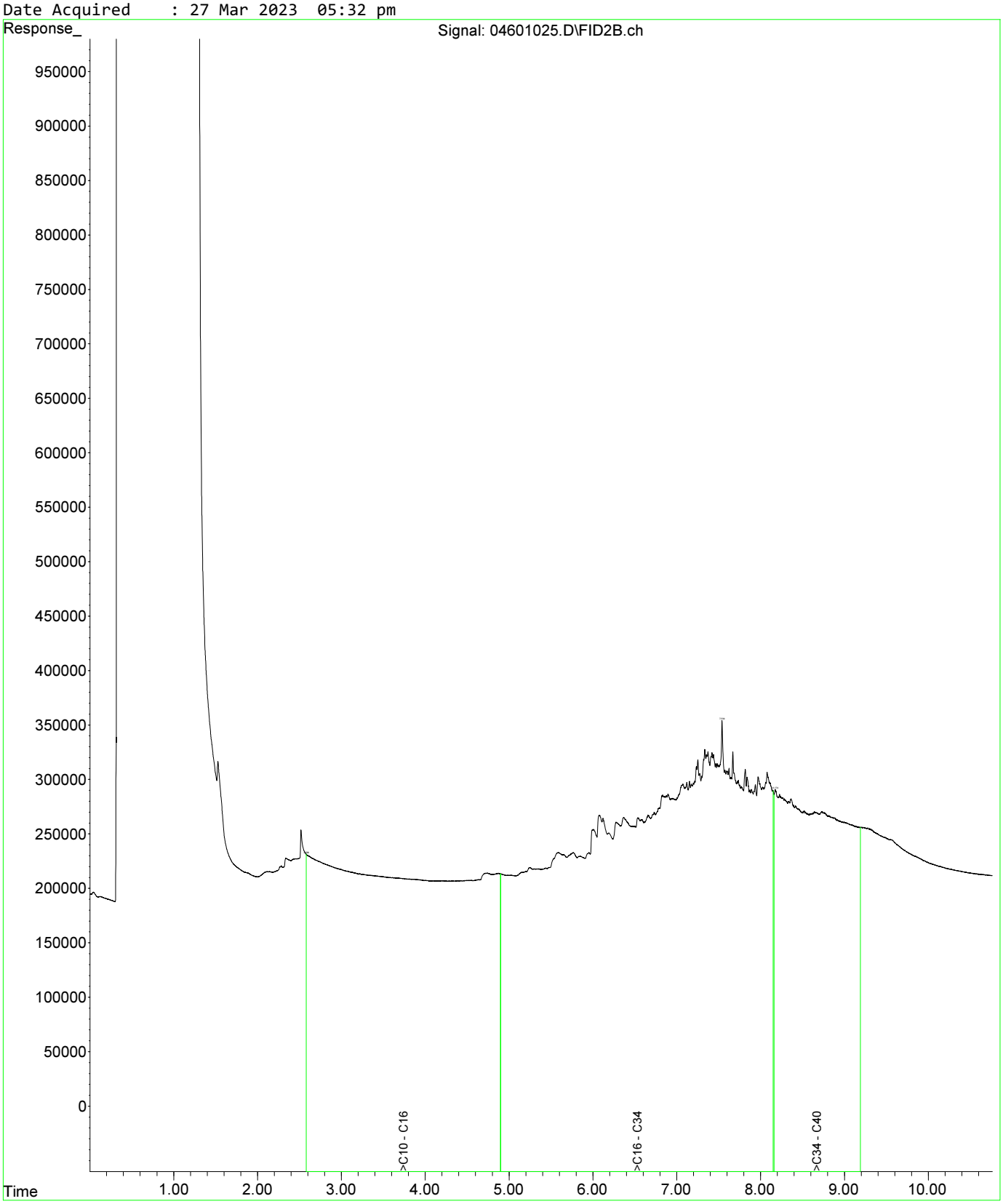

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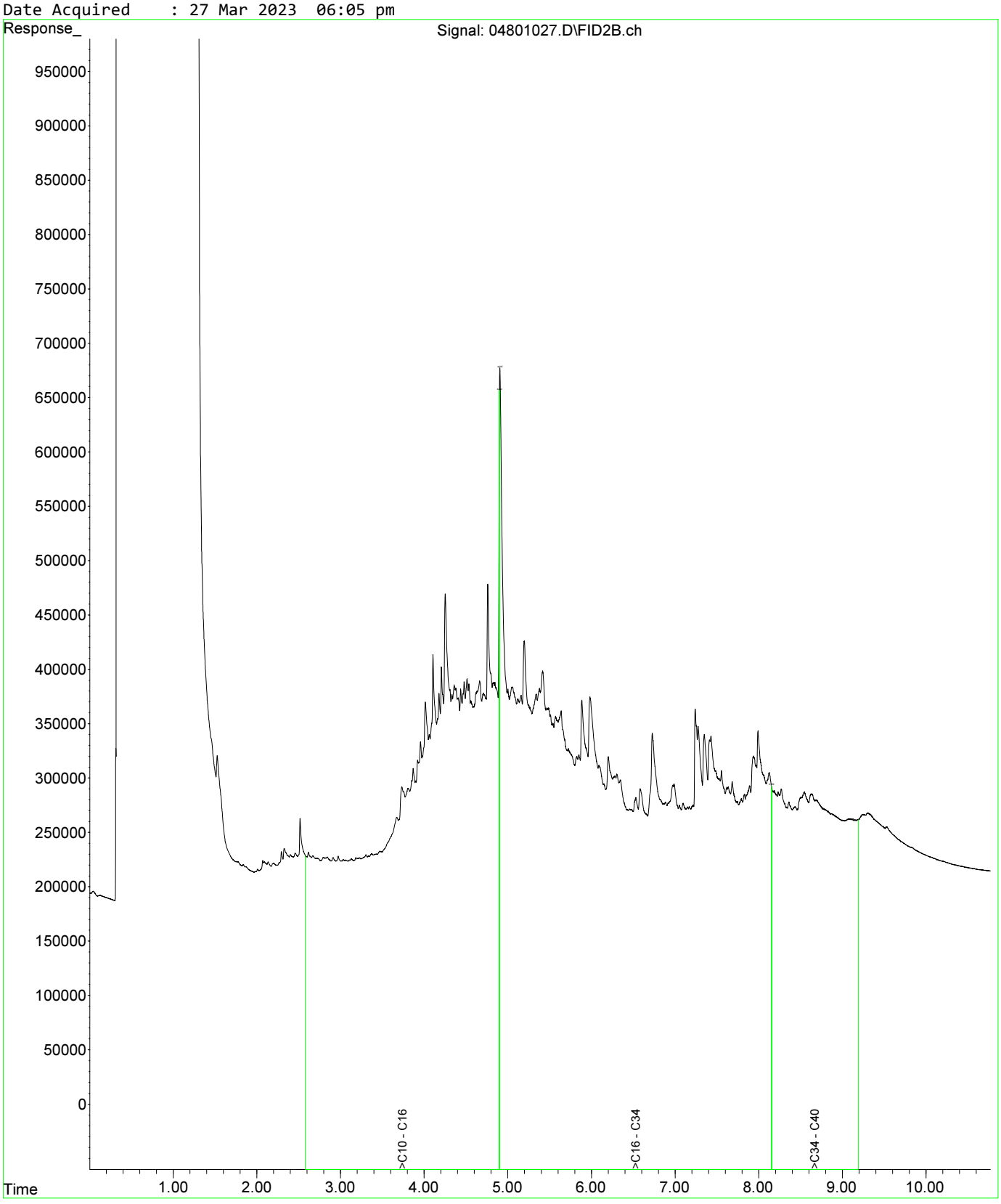

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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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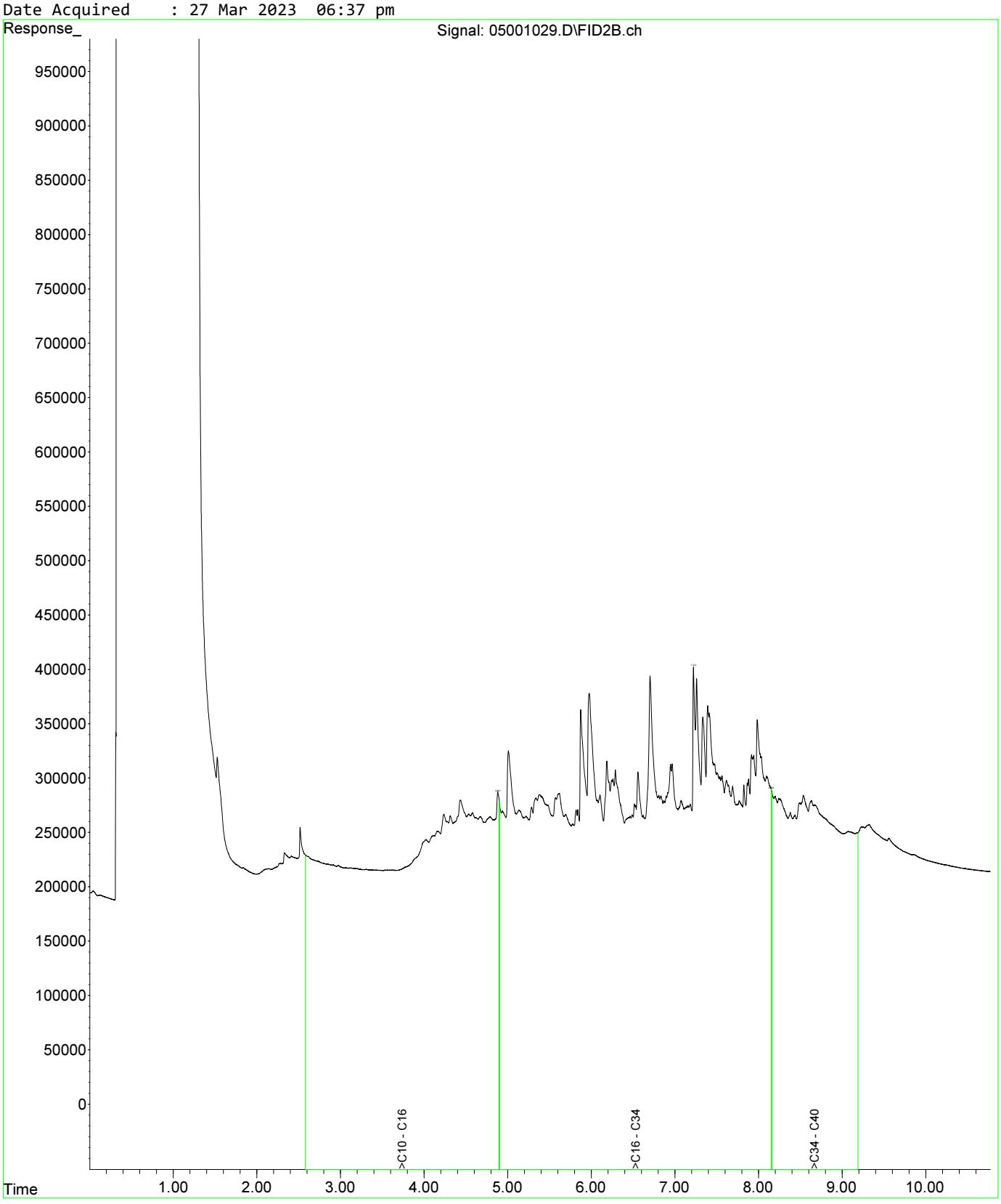

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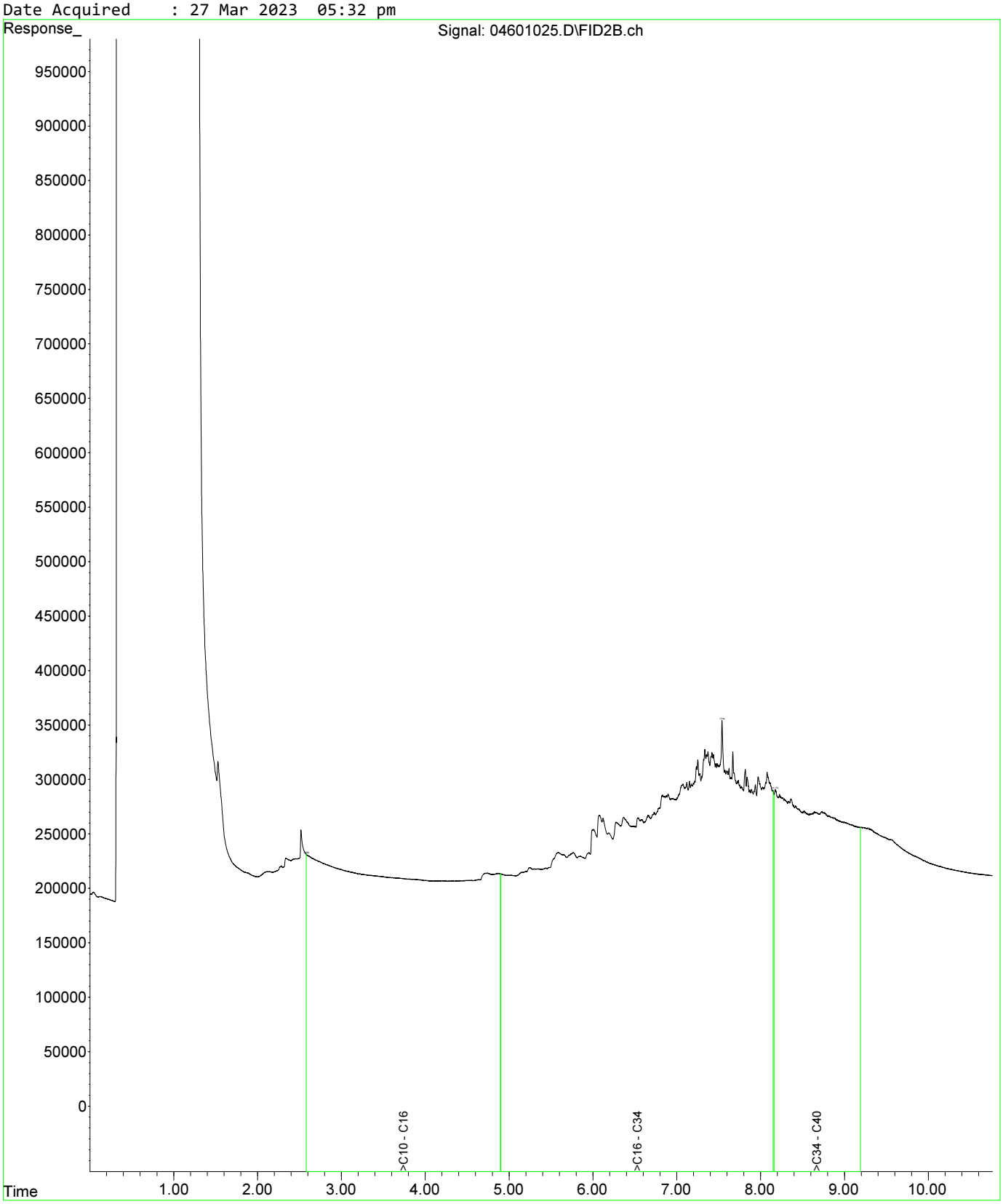

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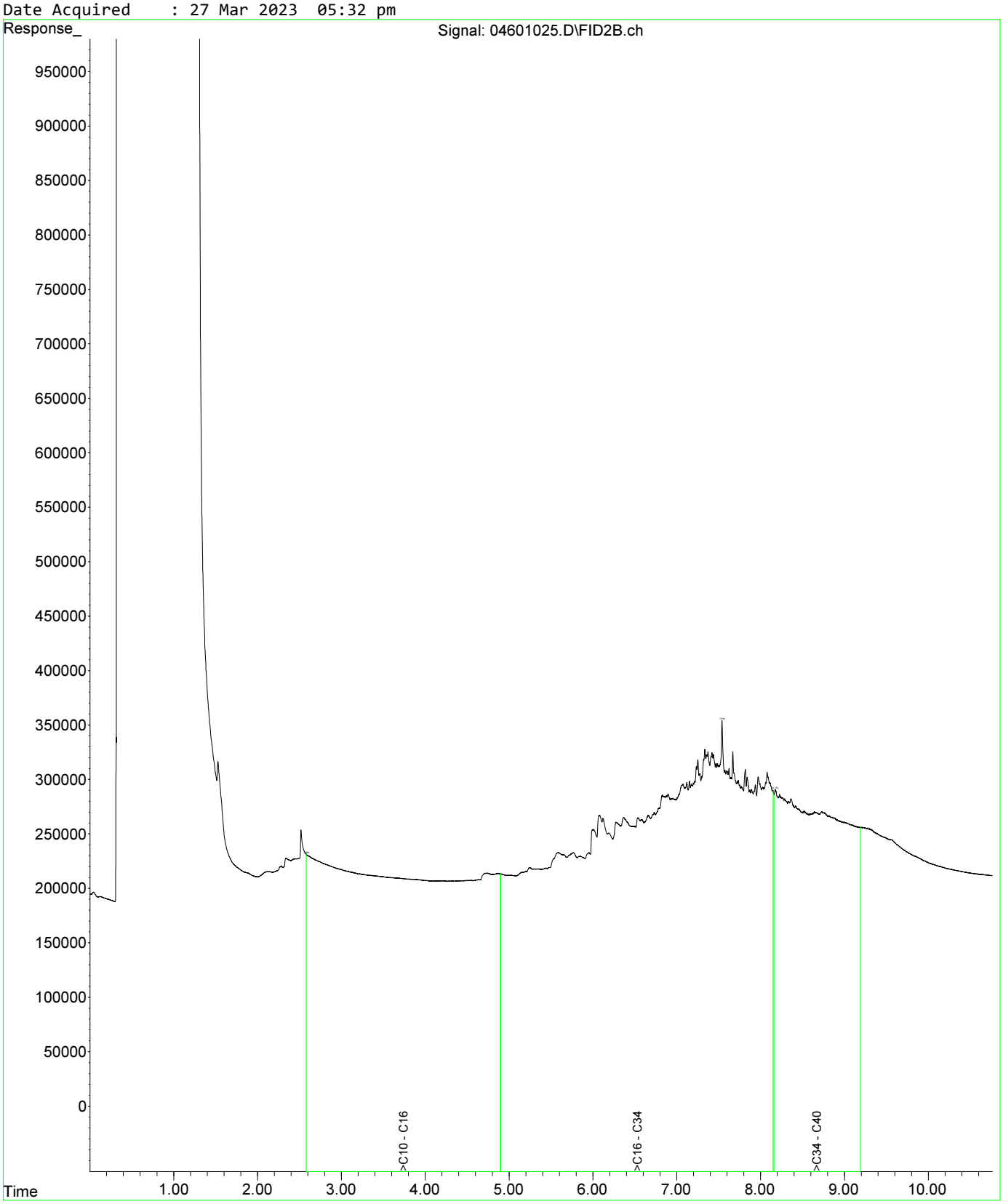

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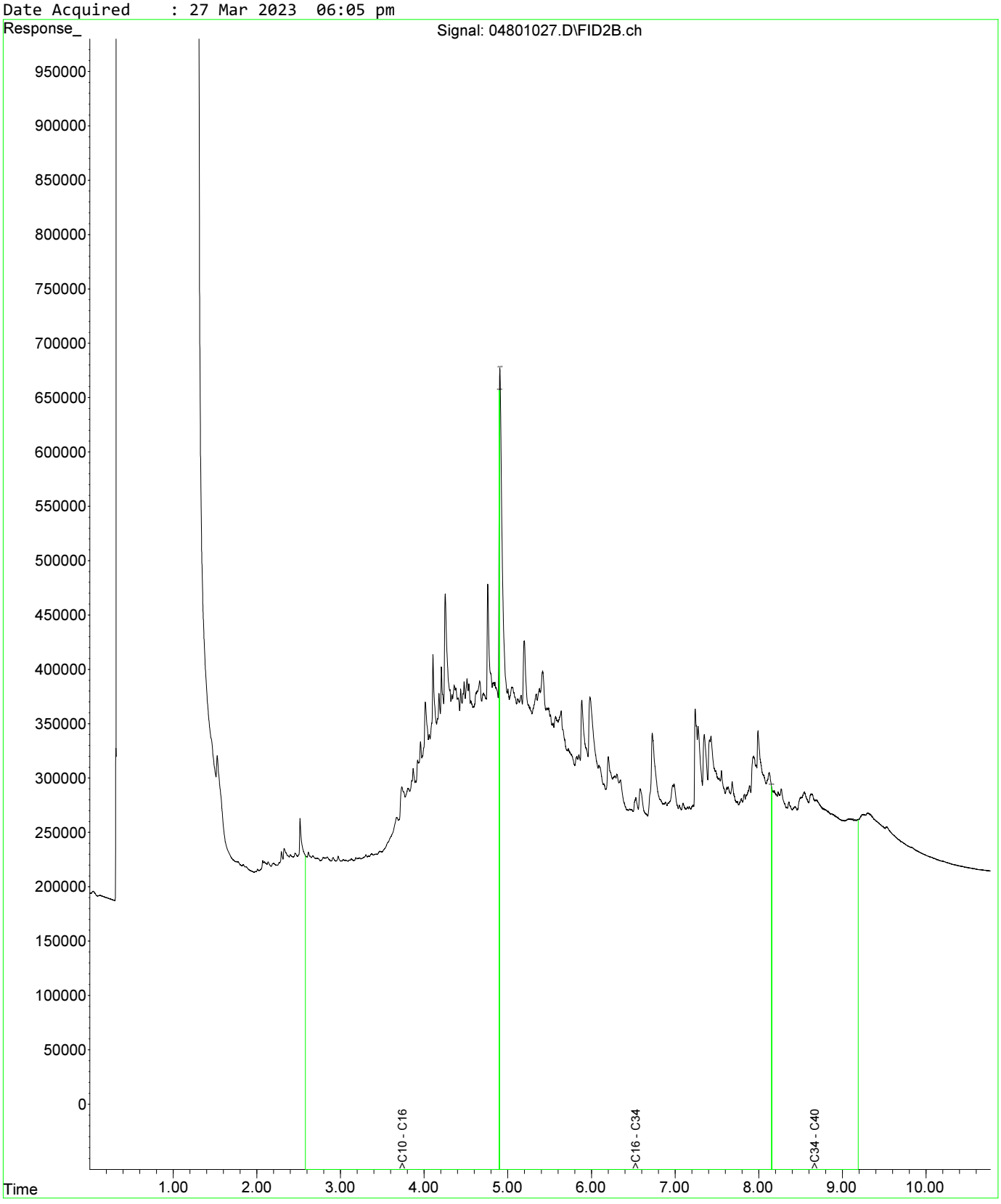

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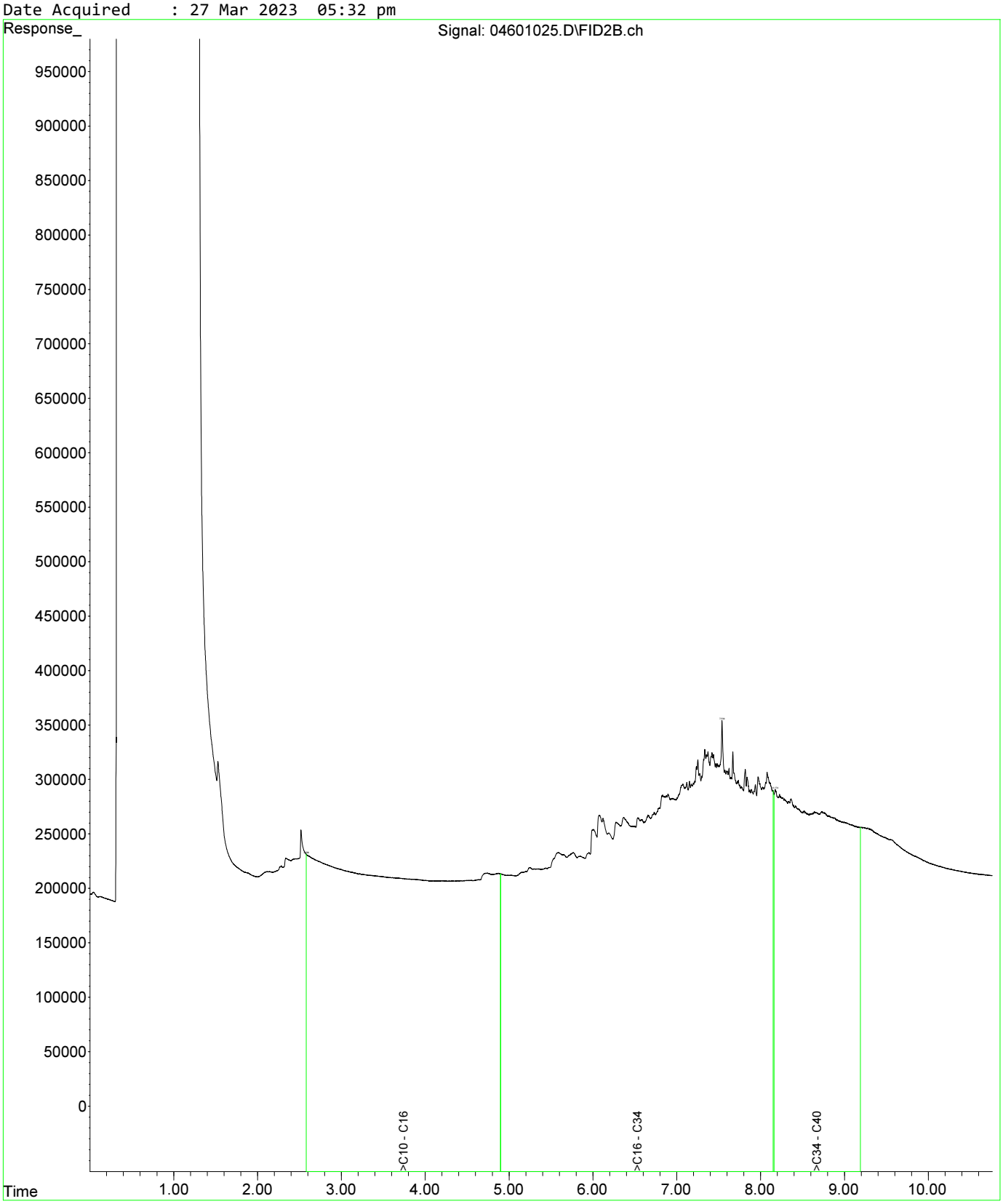

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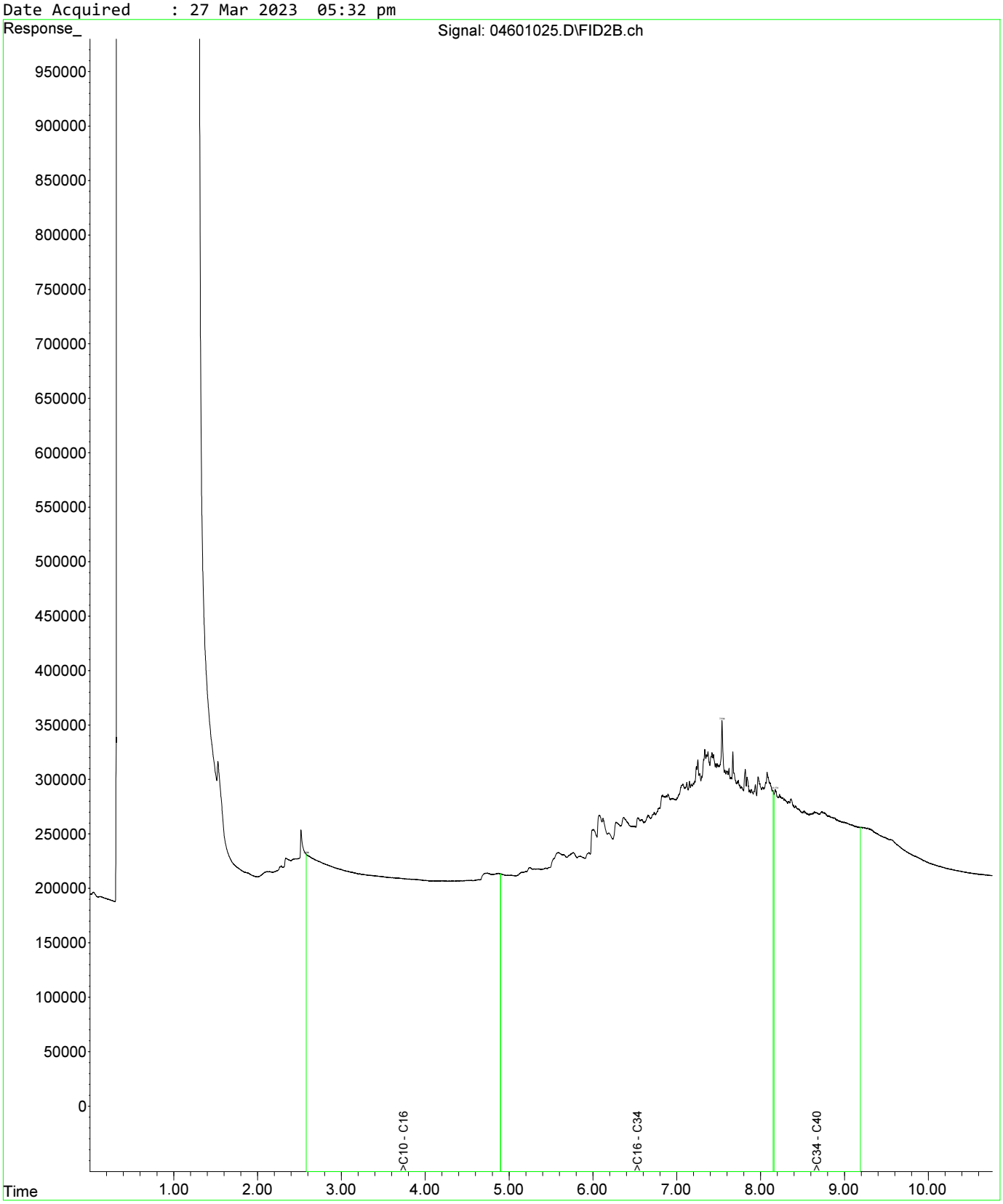

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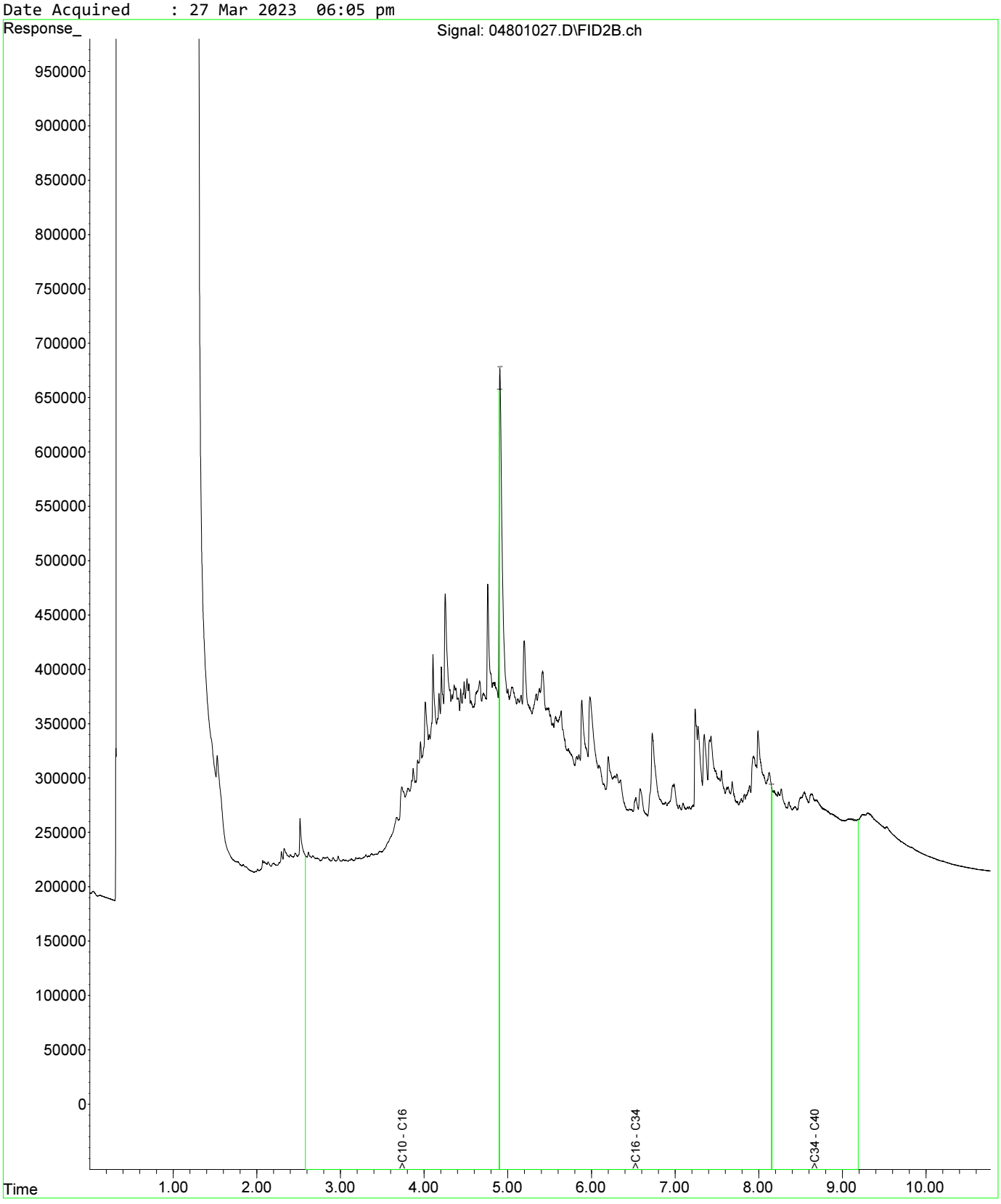

Fraction Scheme : NEPM DRAFT HIL
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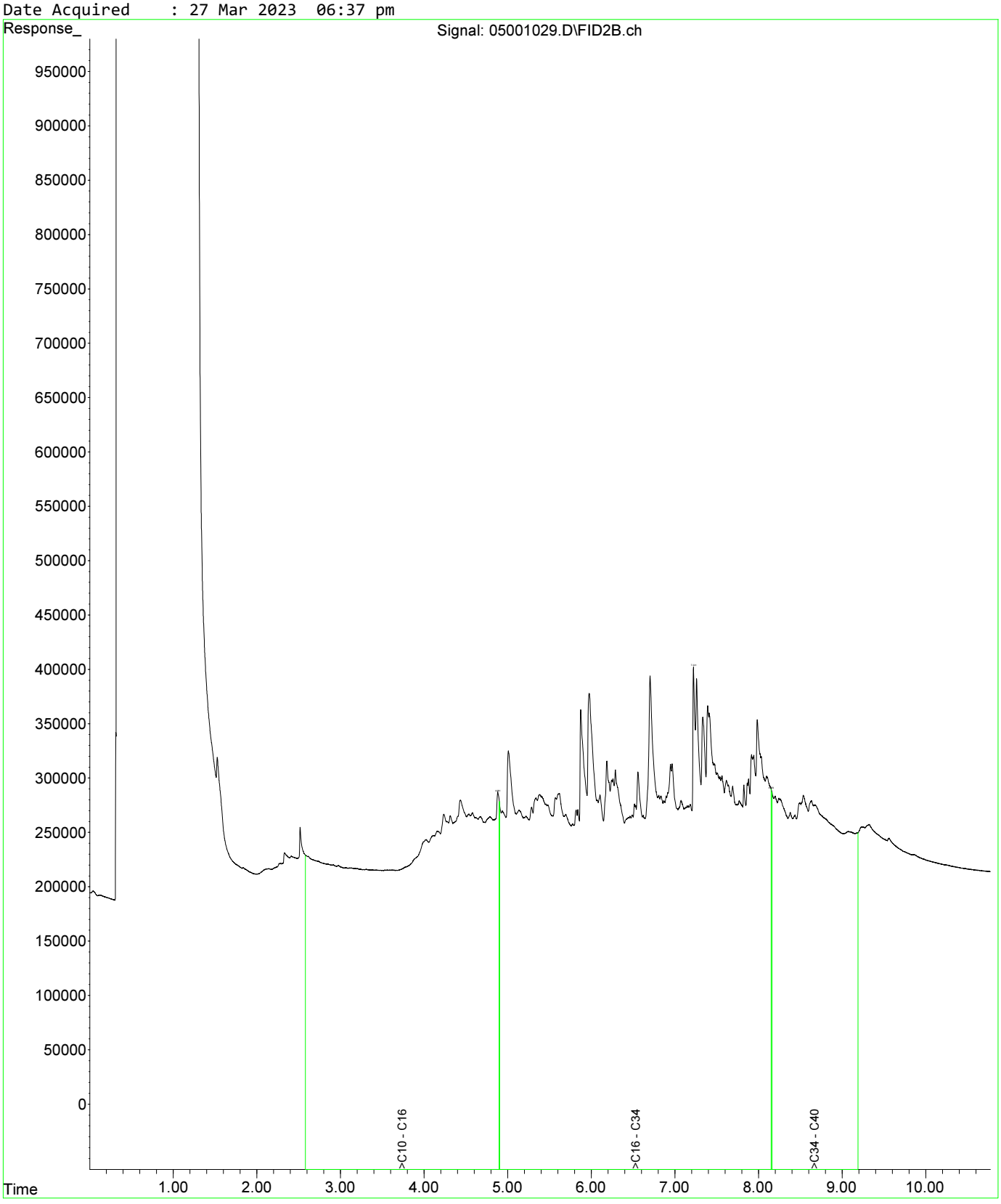

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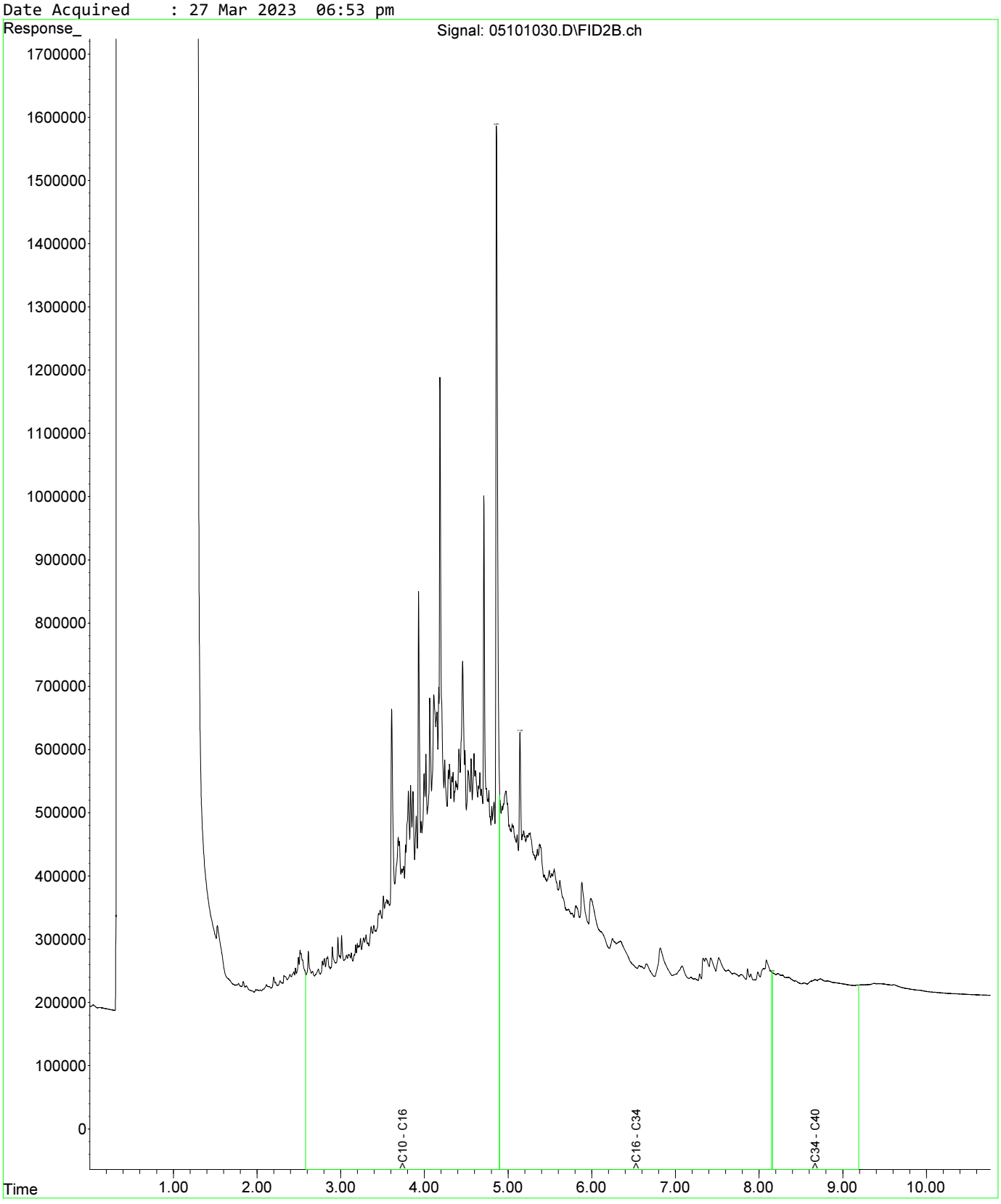

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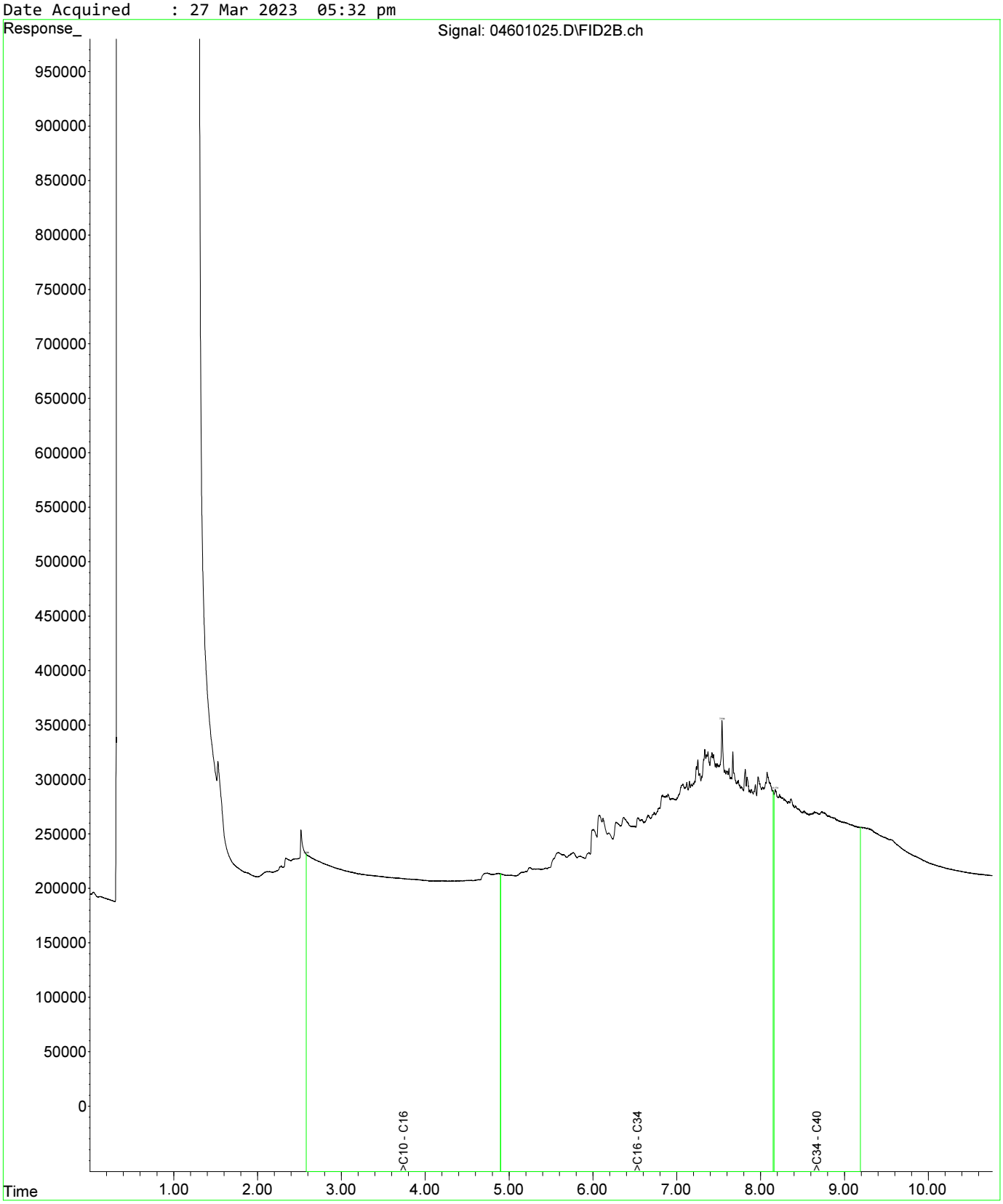

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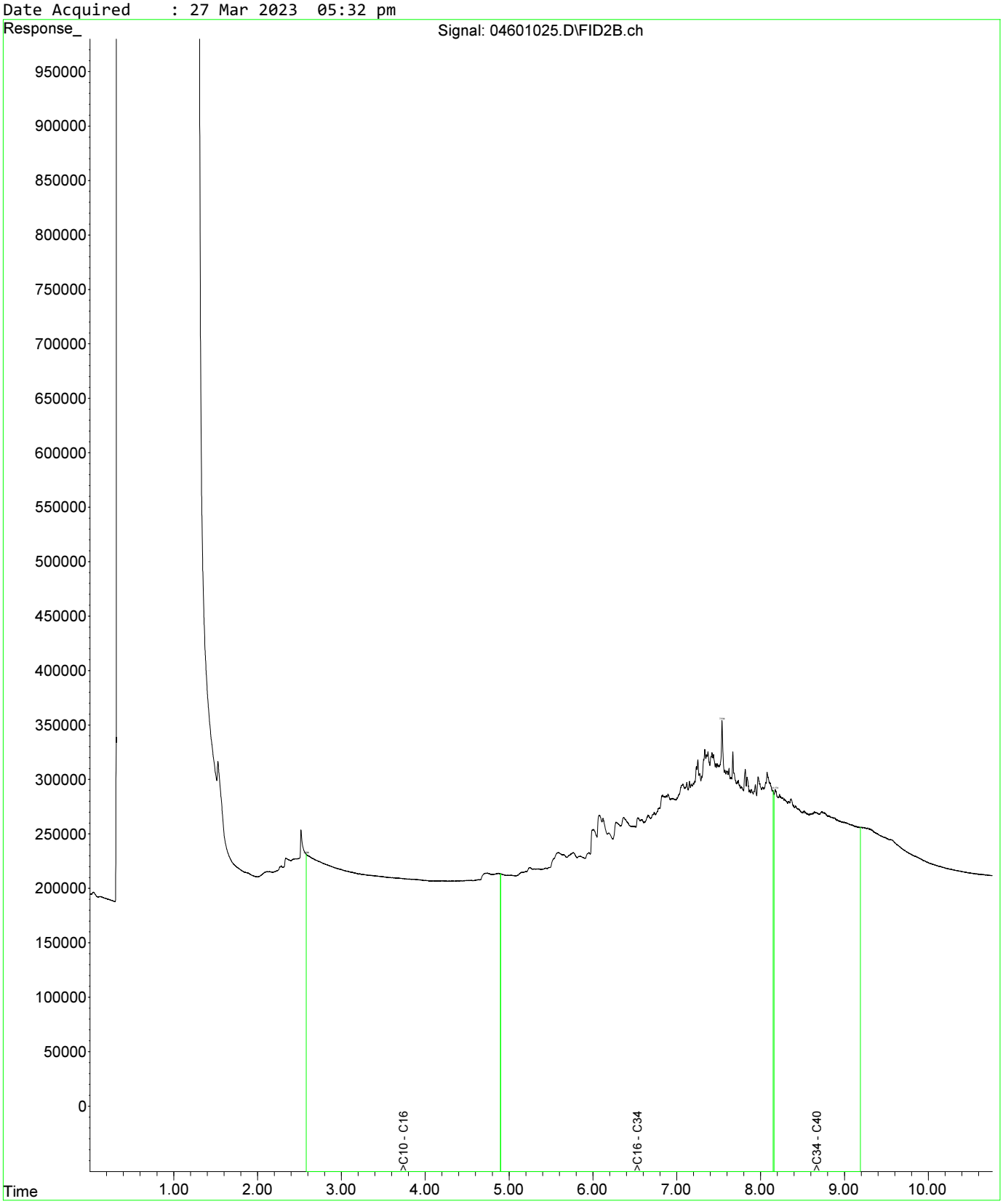

Fraction Scheme : NEPM DRAFT HIL
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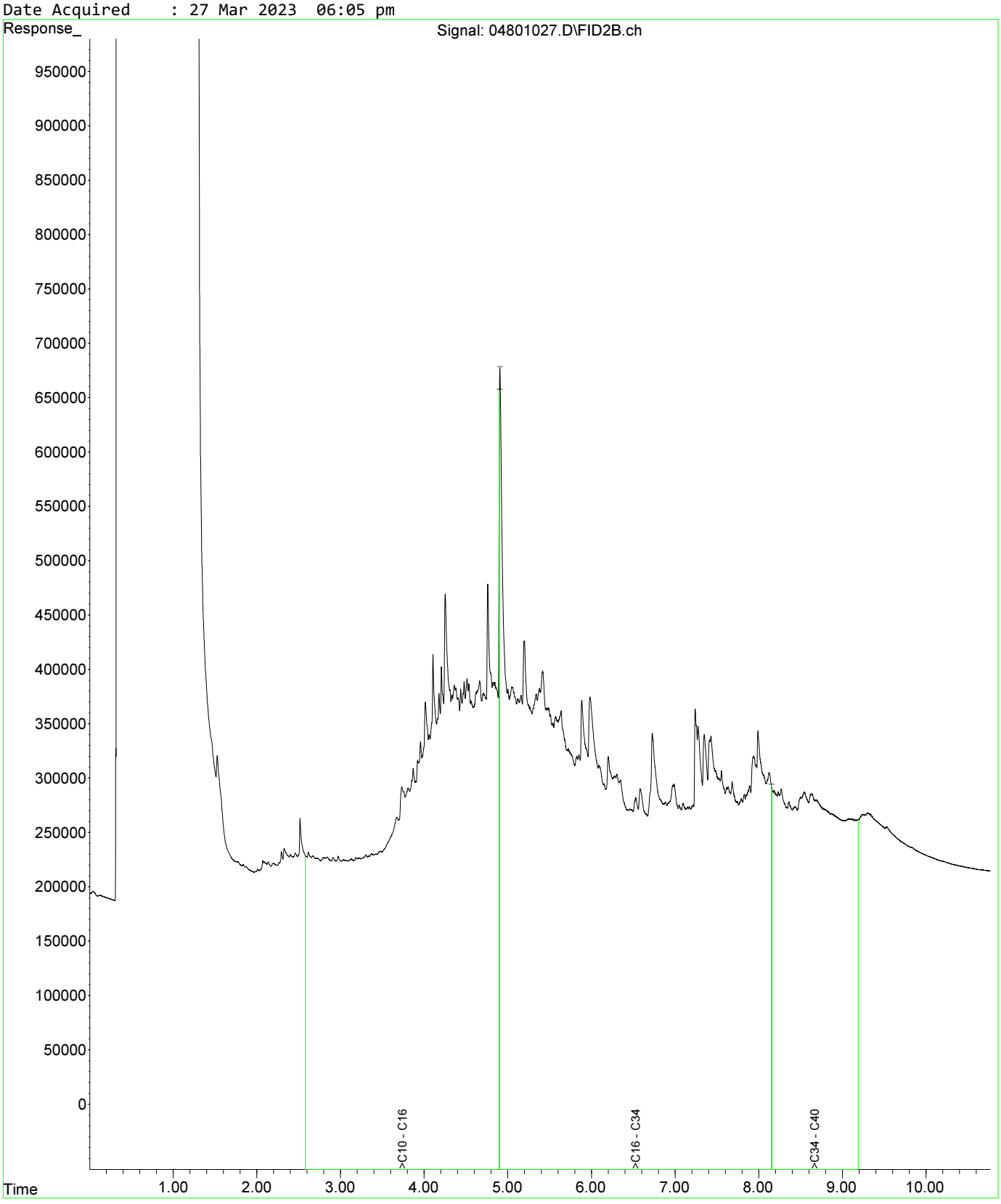

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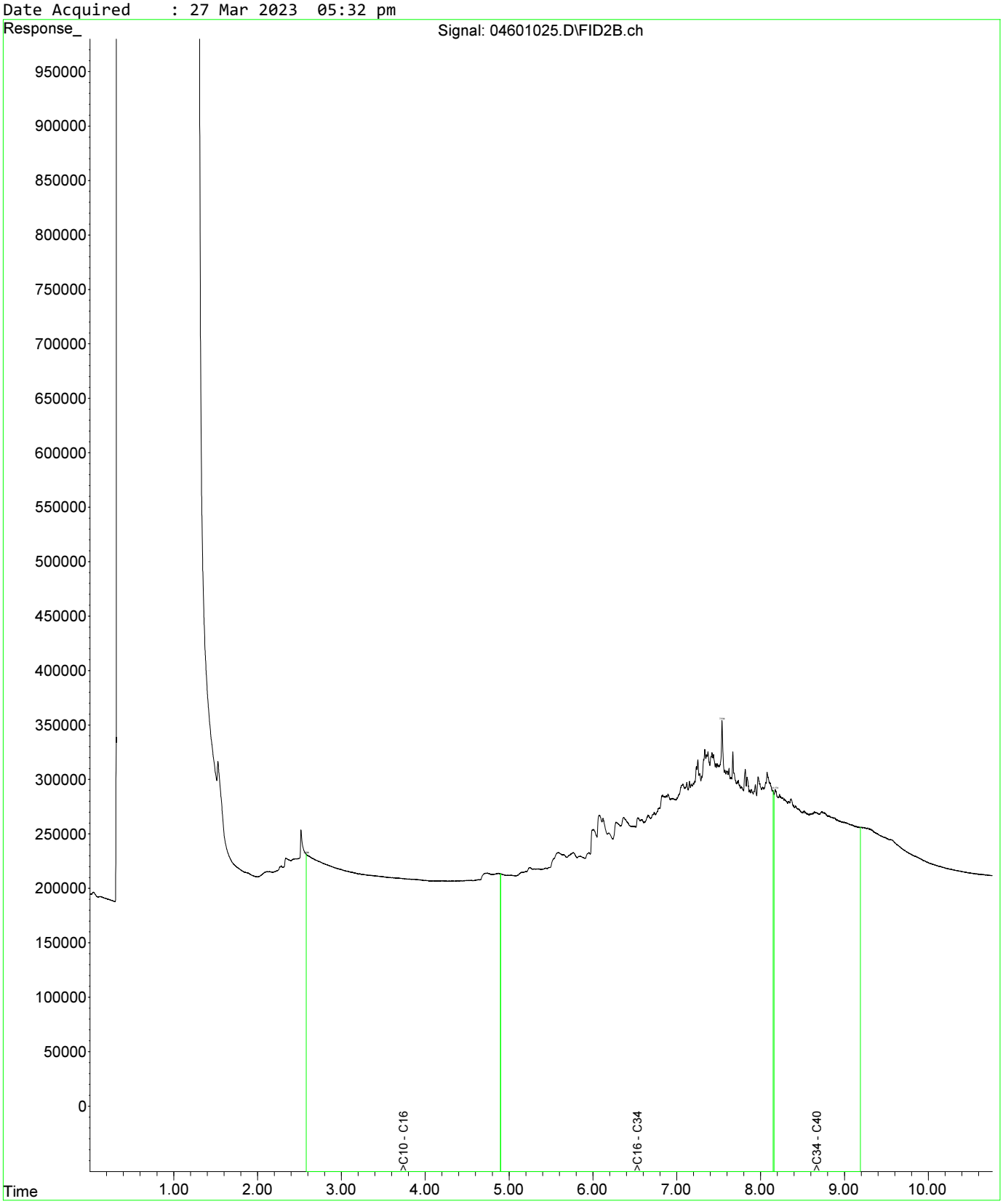

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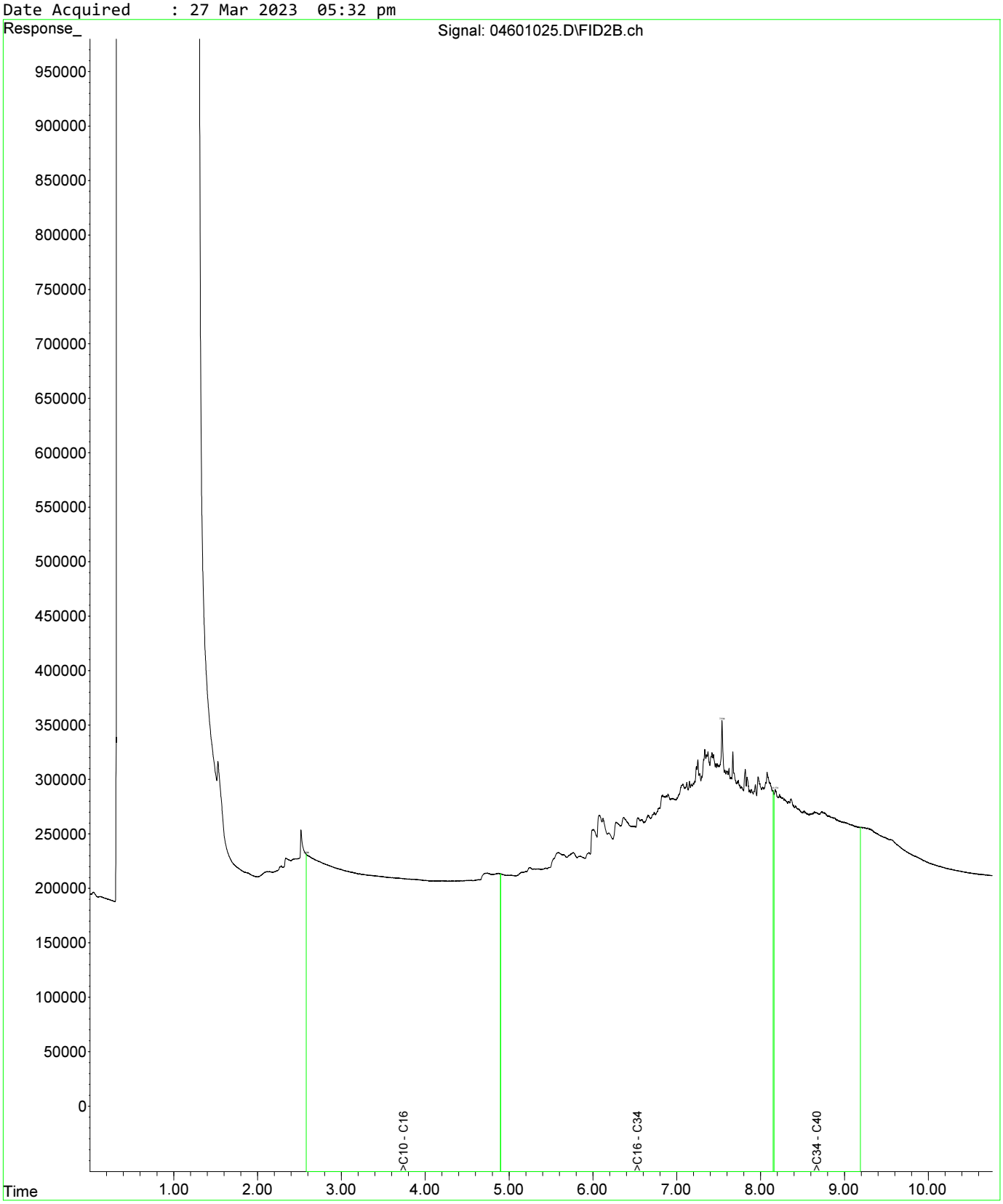

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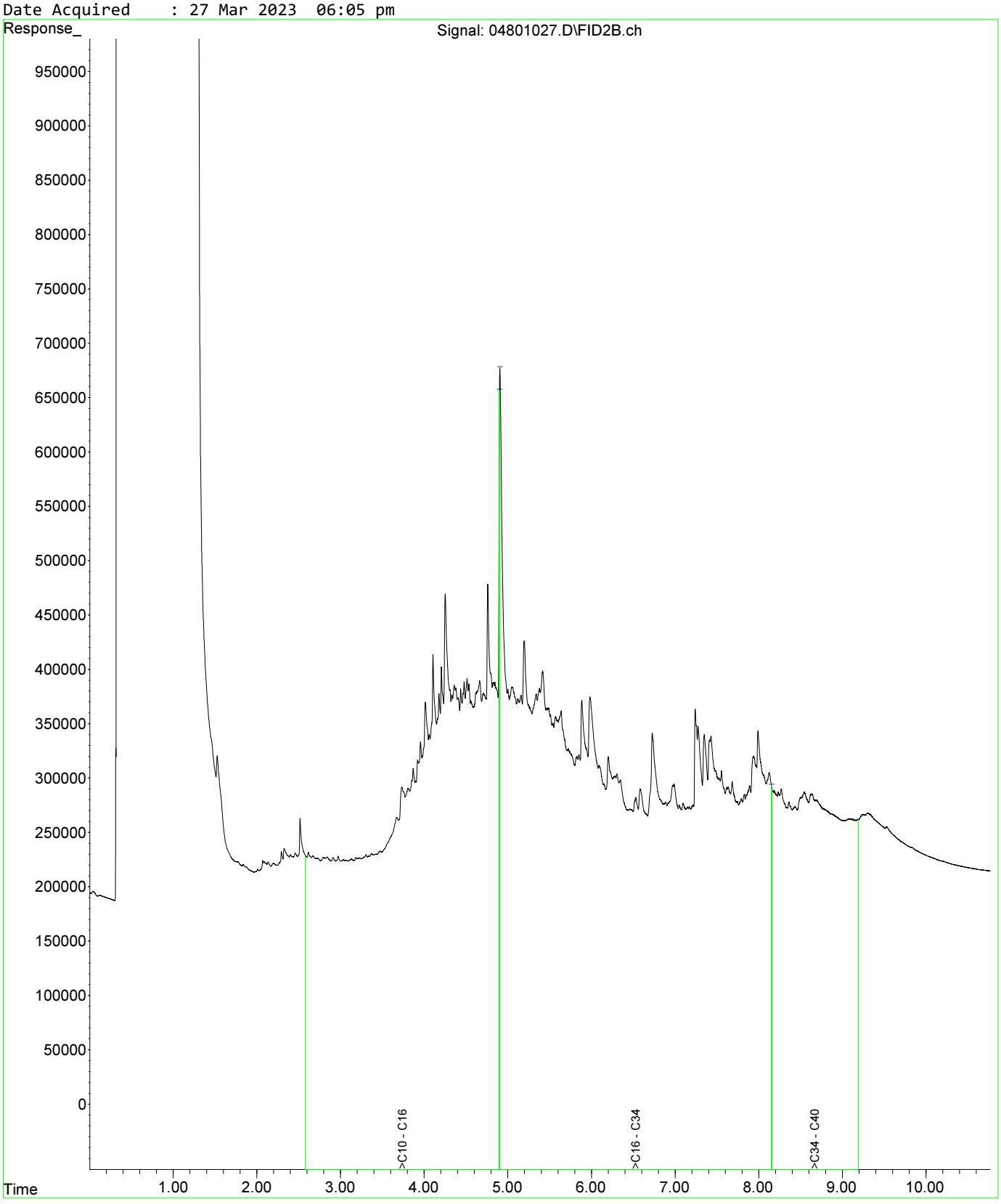

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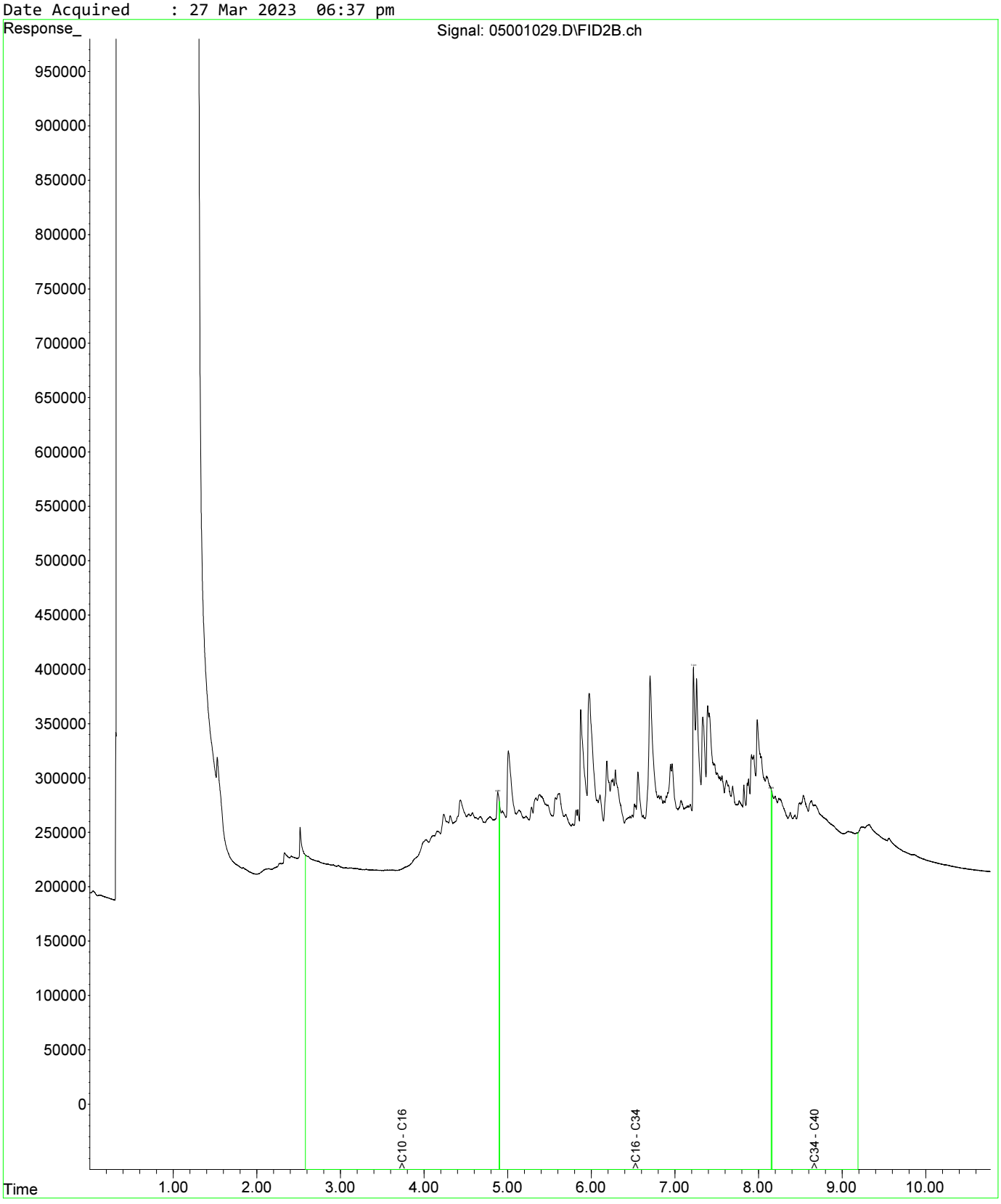

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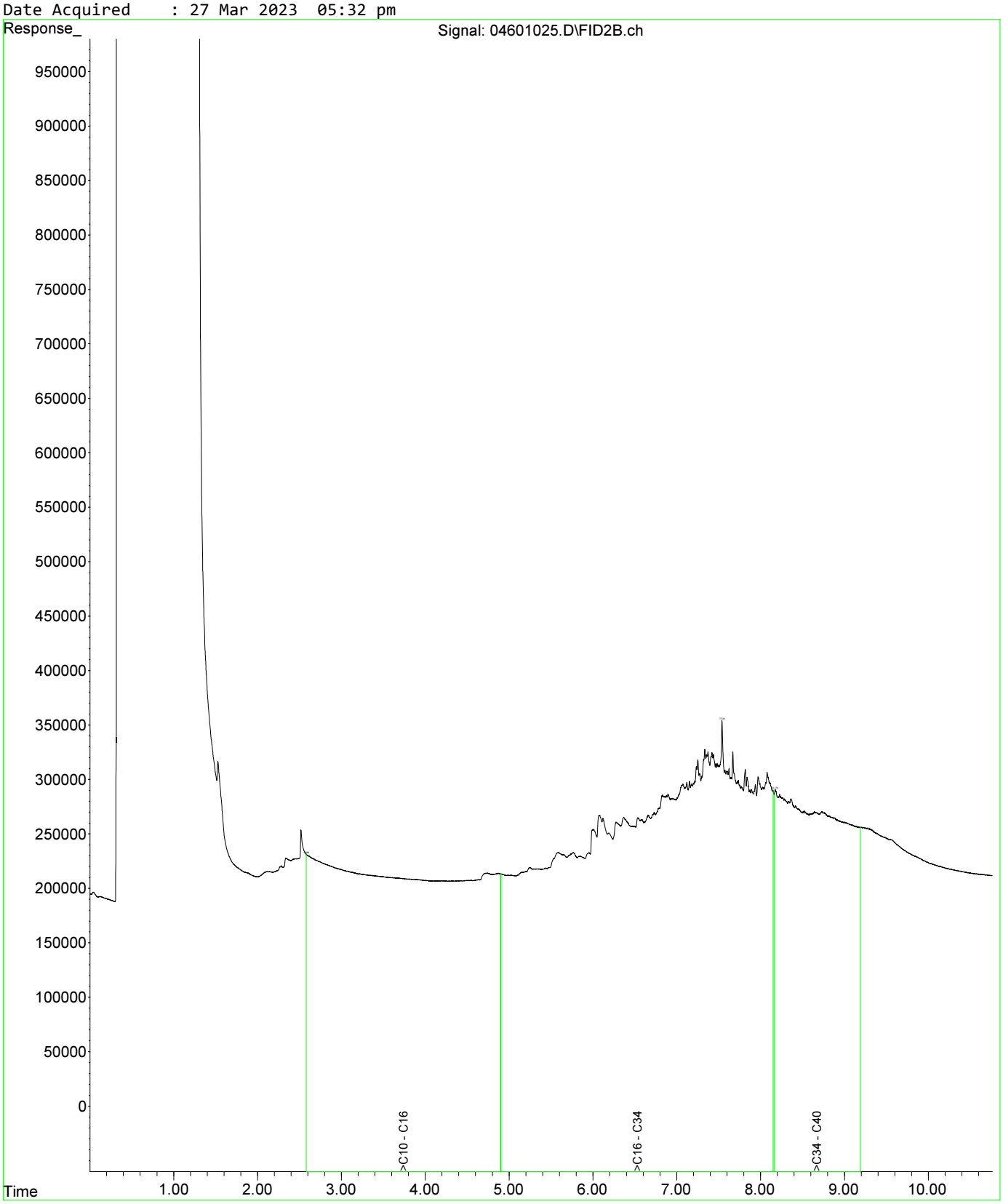

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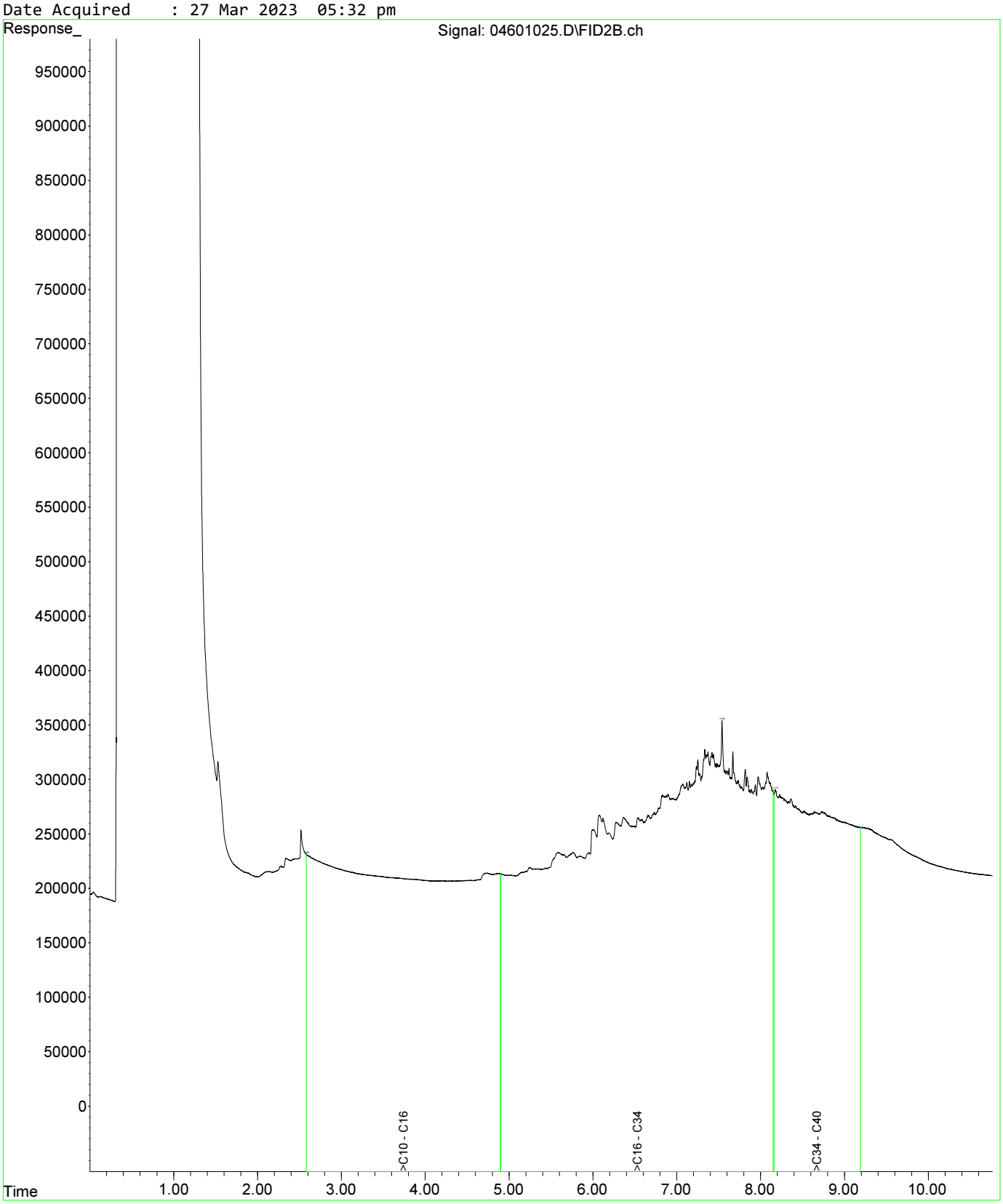

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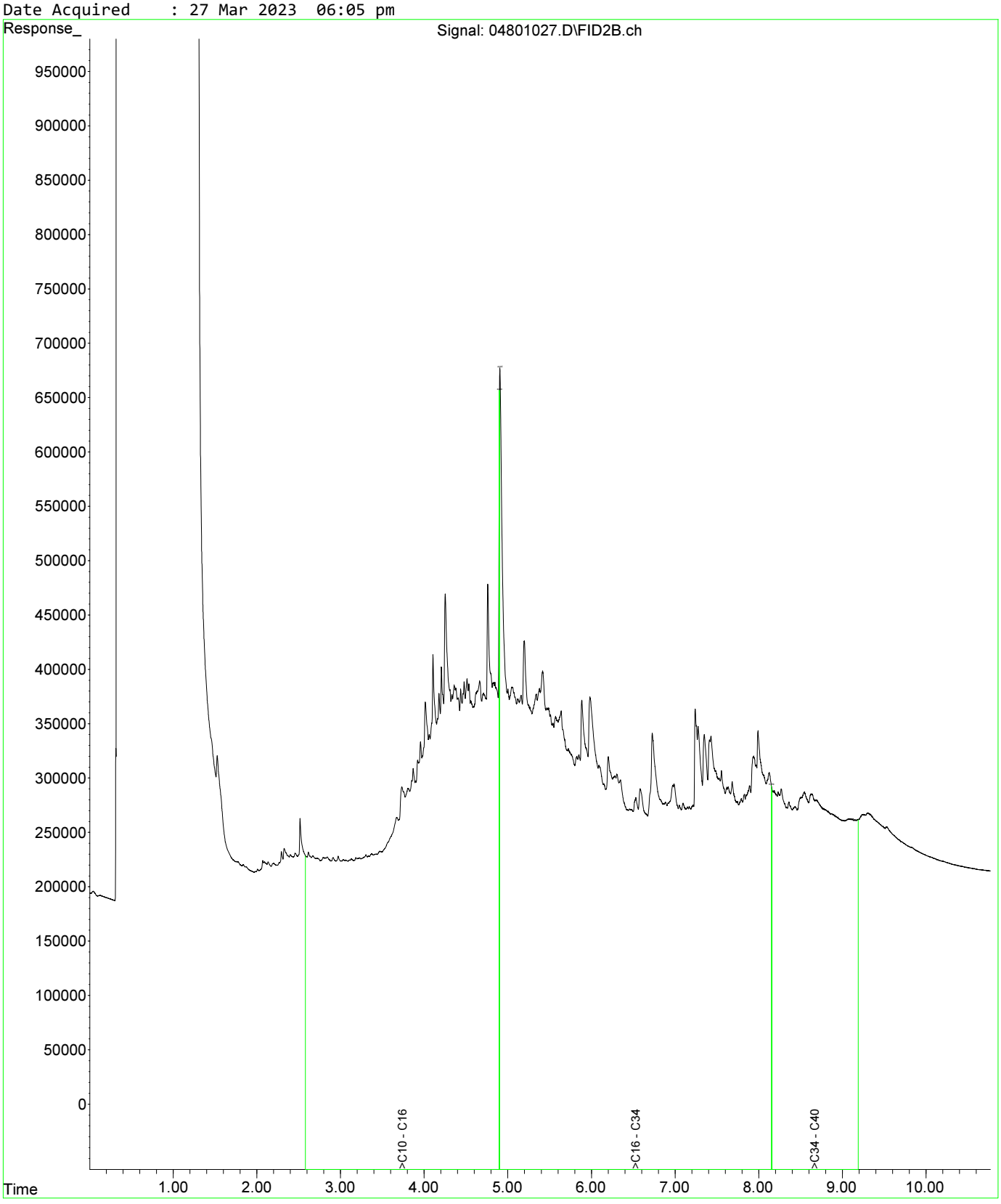

Fraction Scheme : NEPM DRAFT HIL
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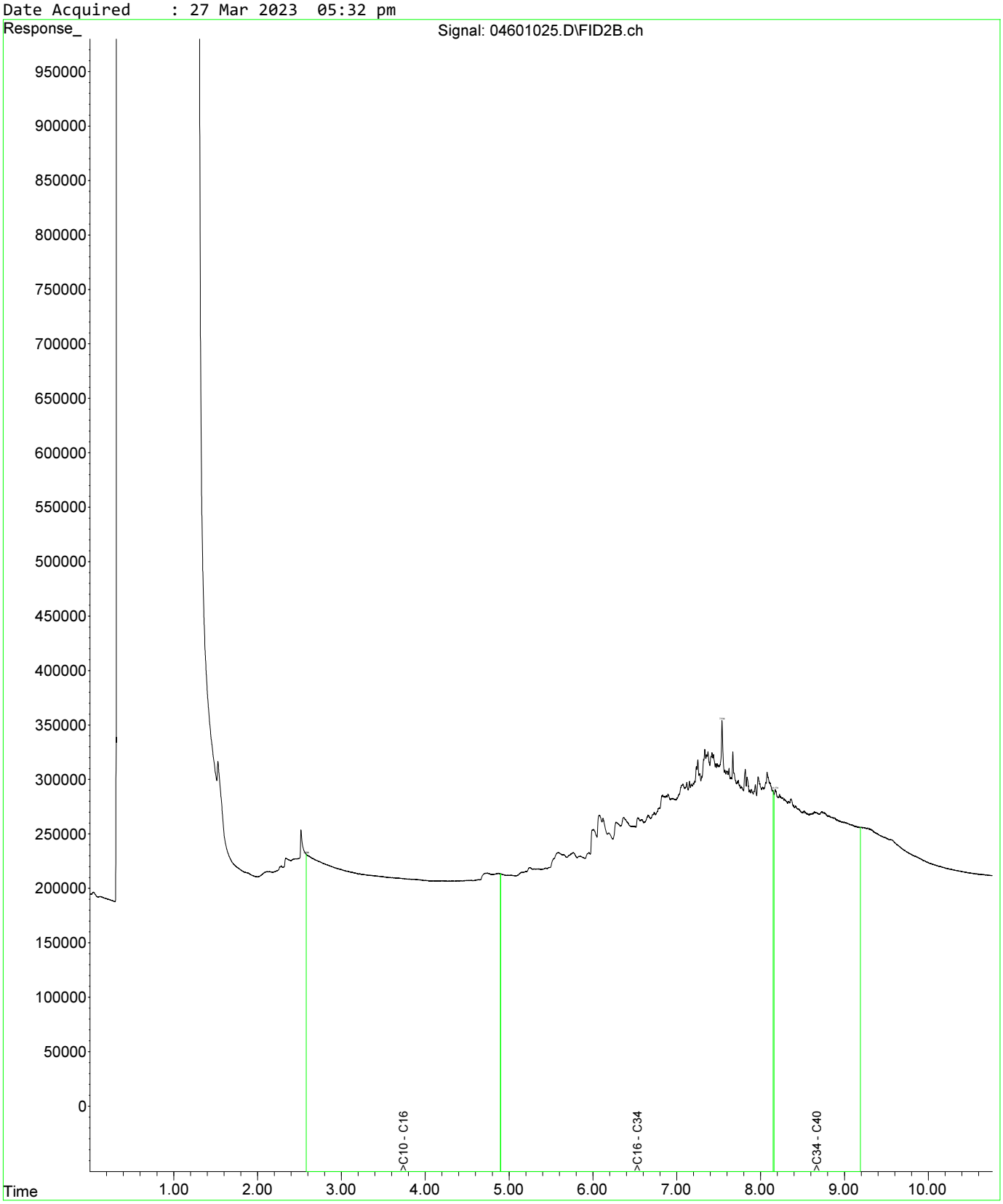

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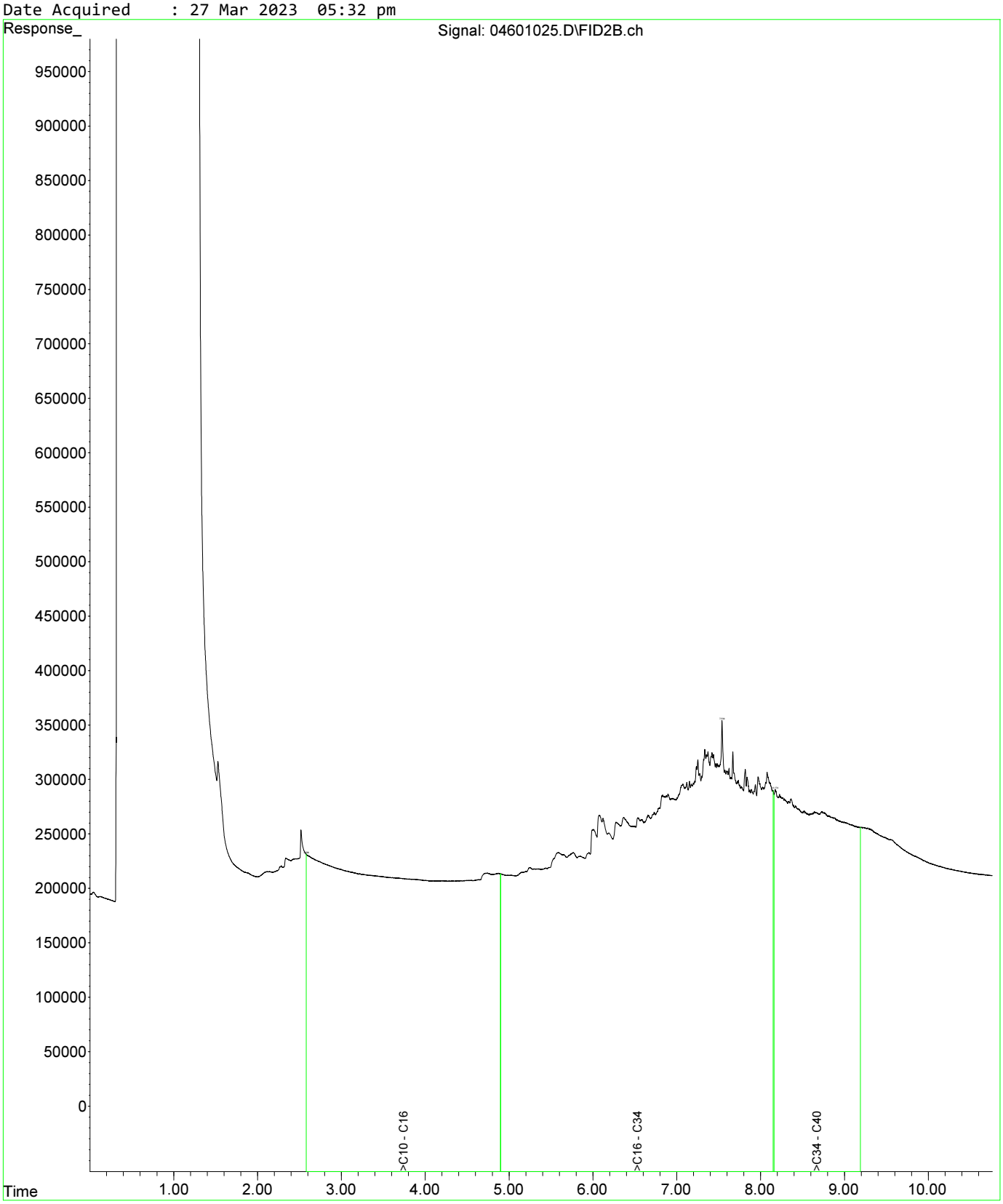

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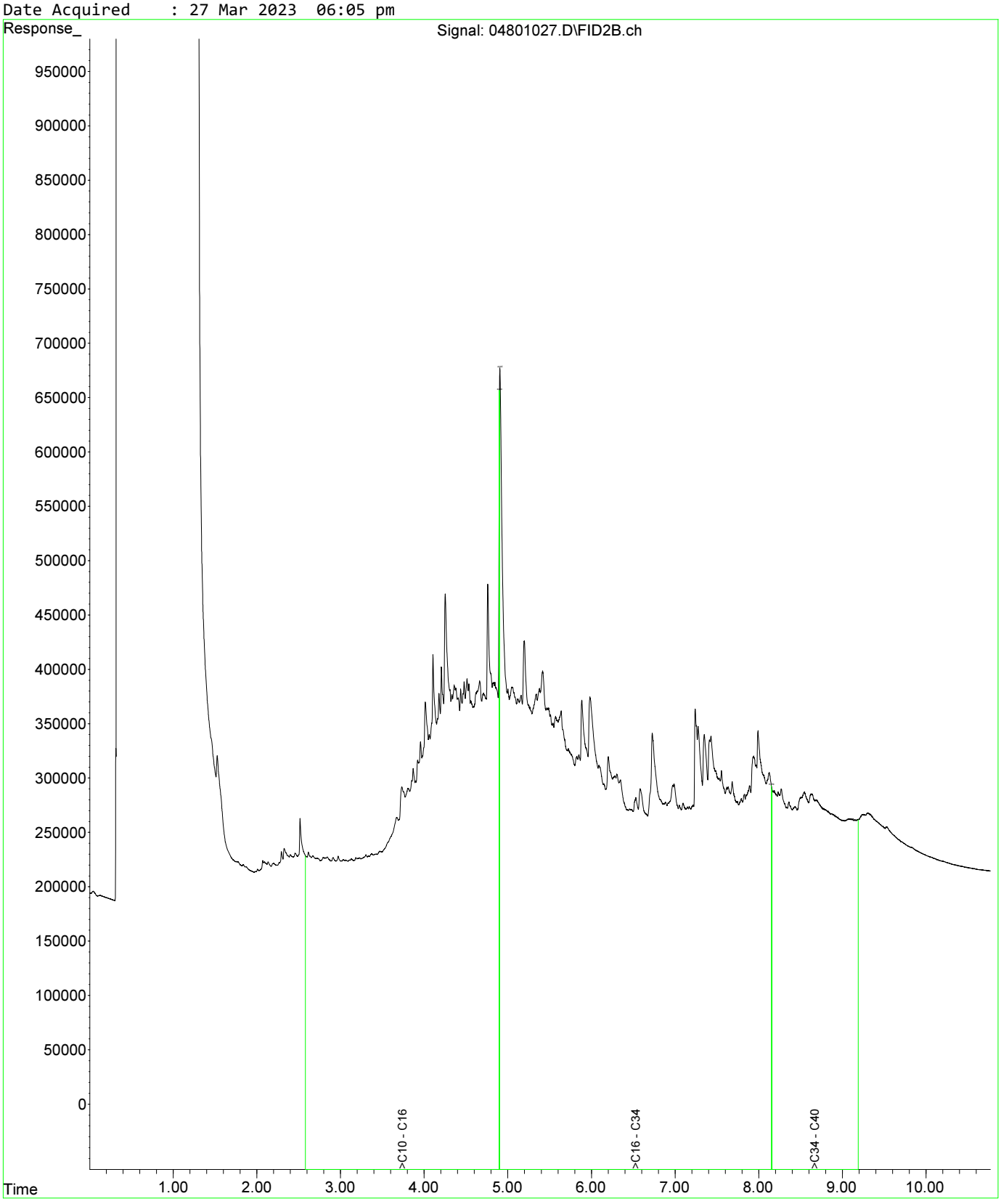

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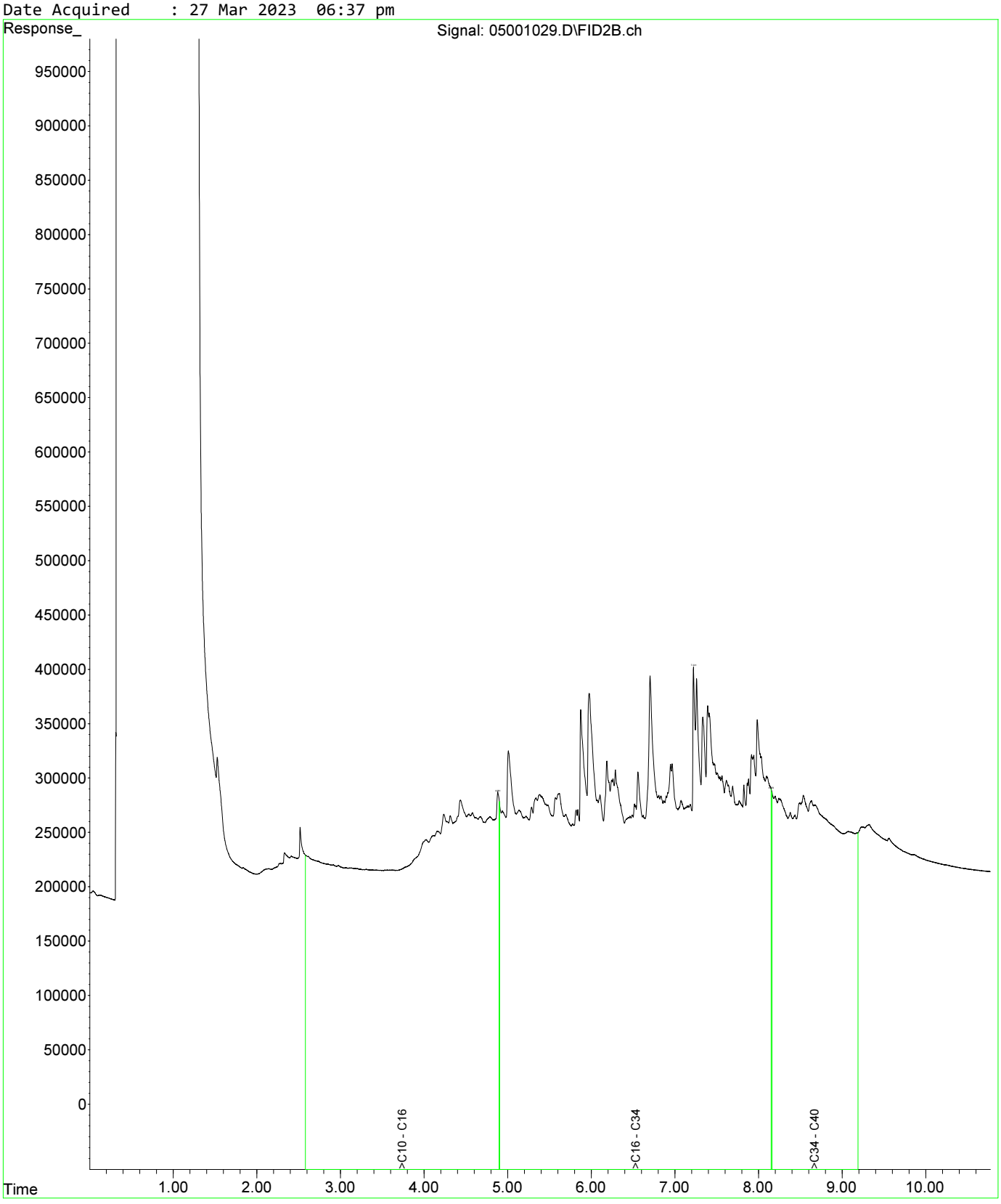

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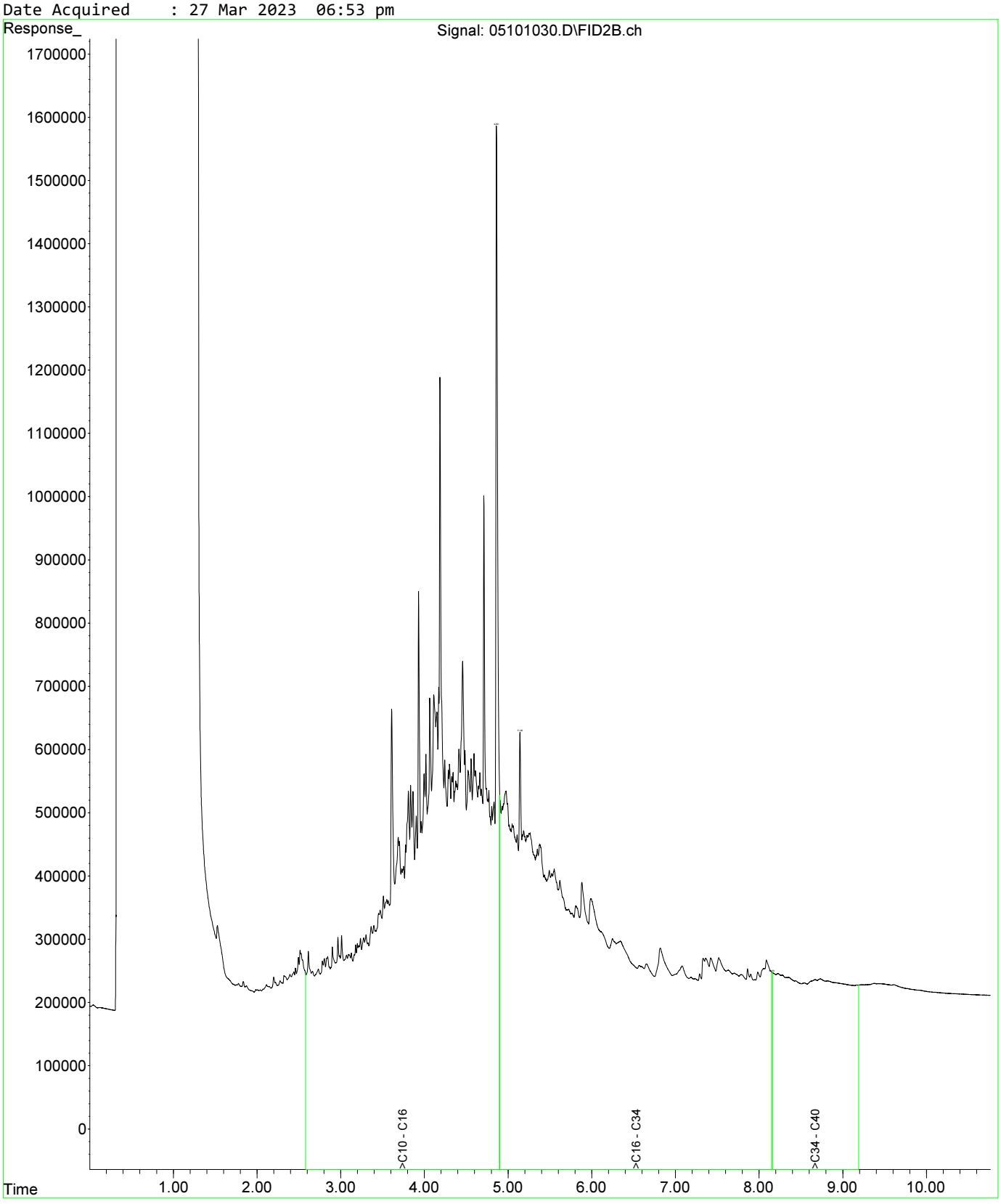

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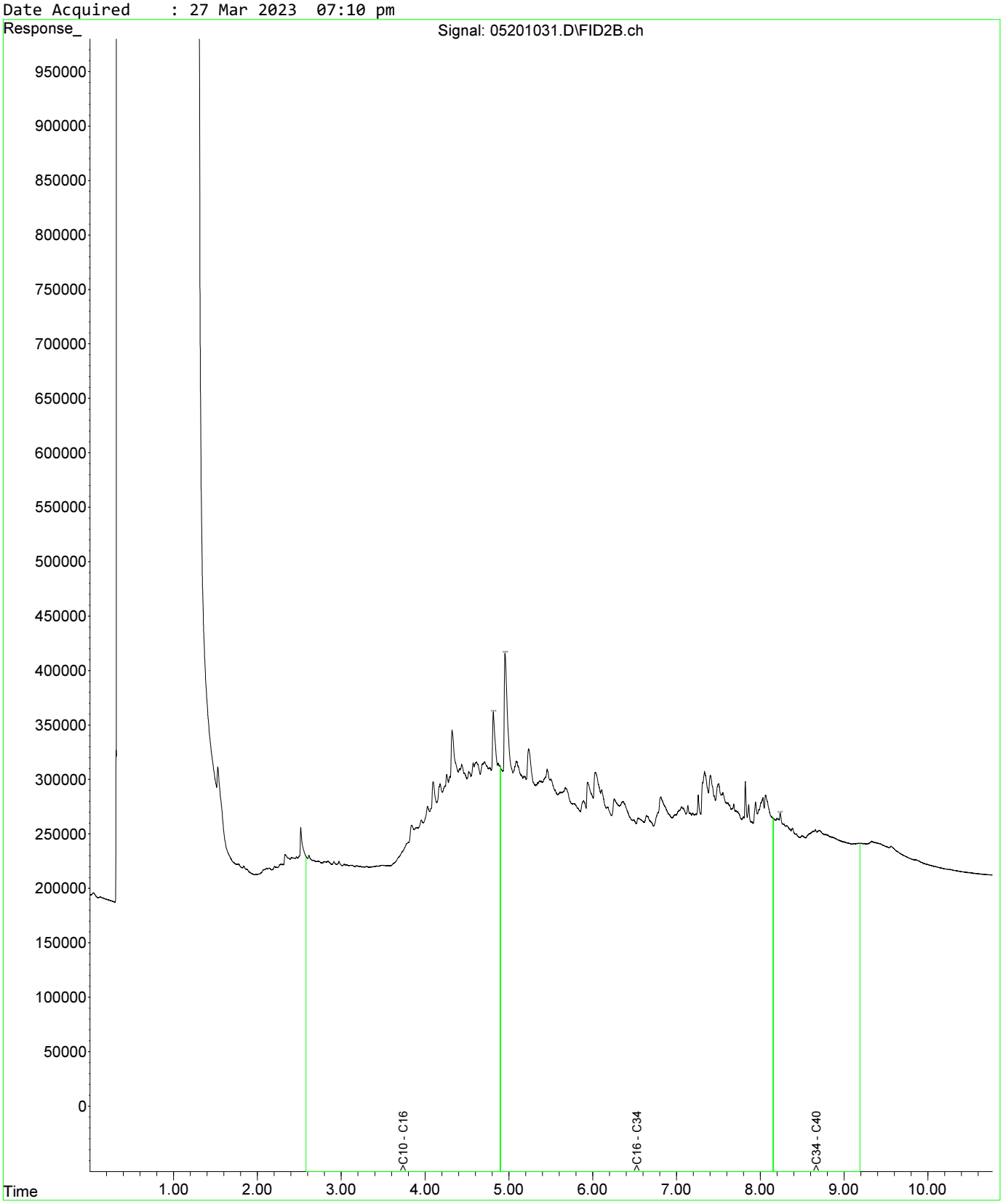

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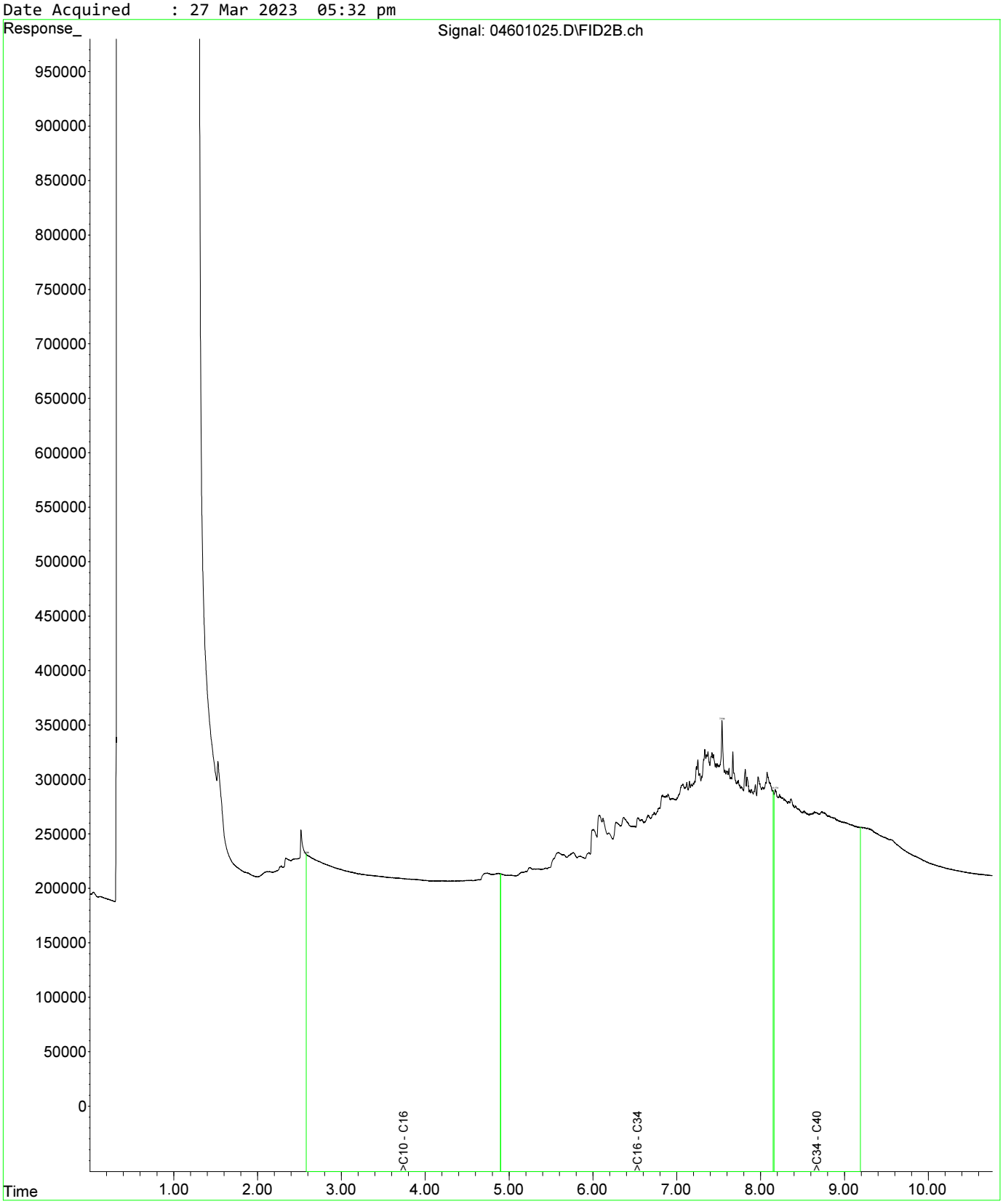

Fraction Scheme : NEPM DRAFT HIL
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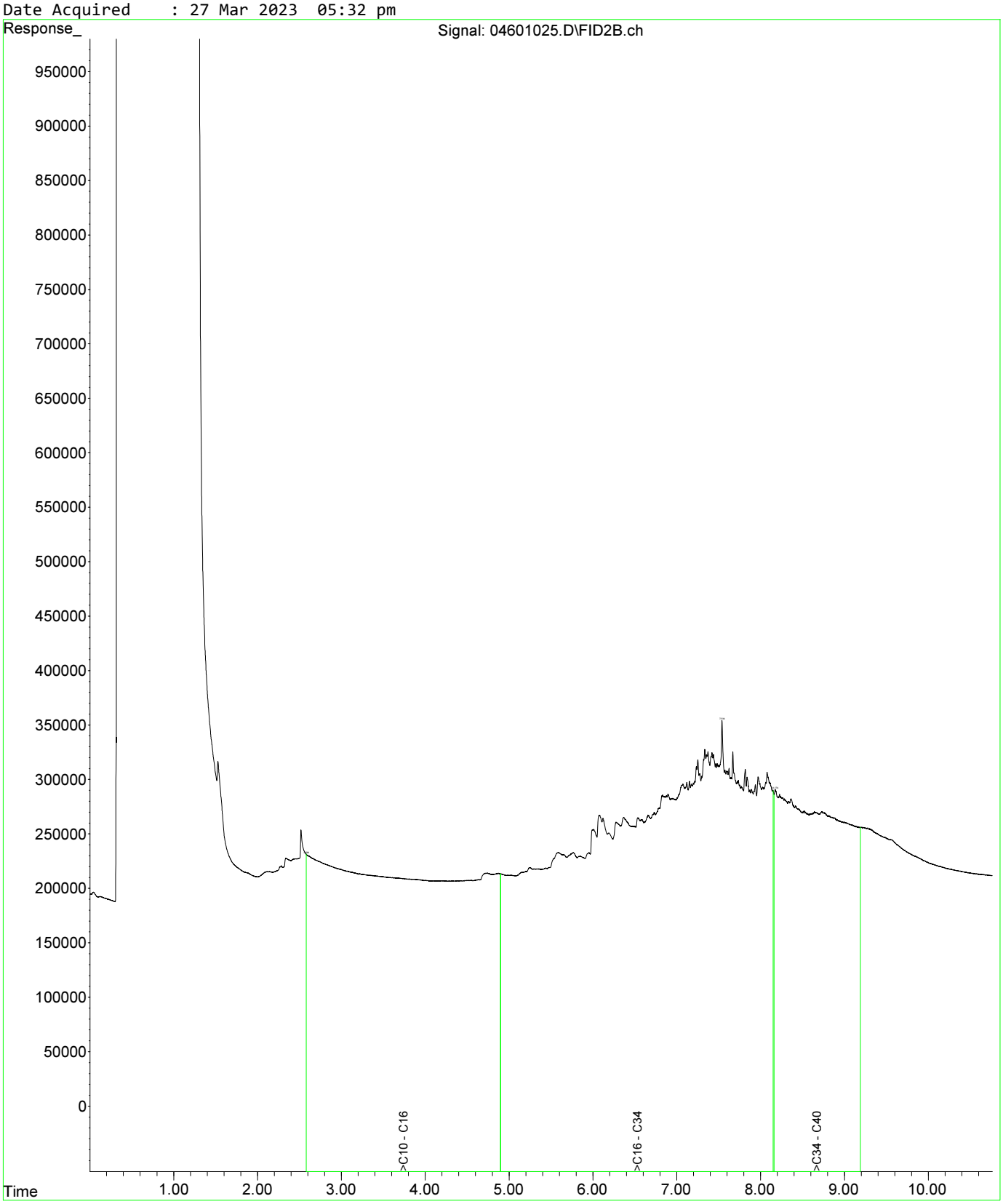

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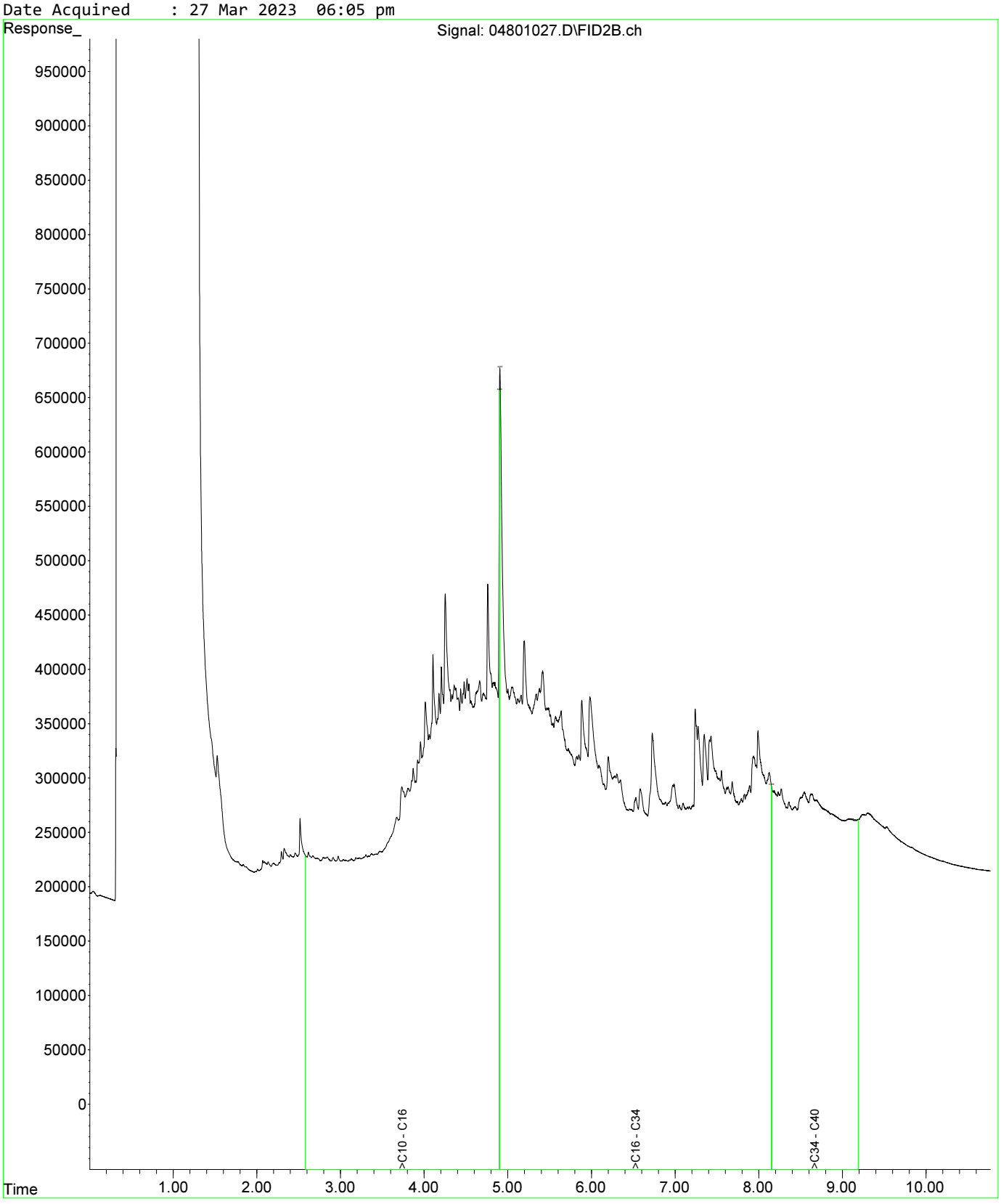

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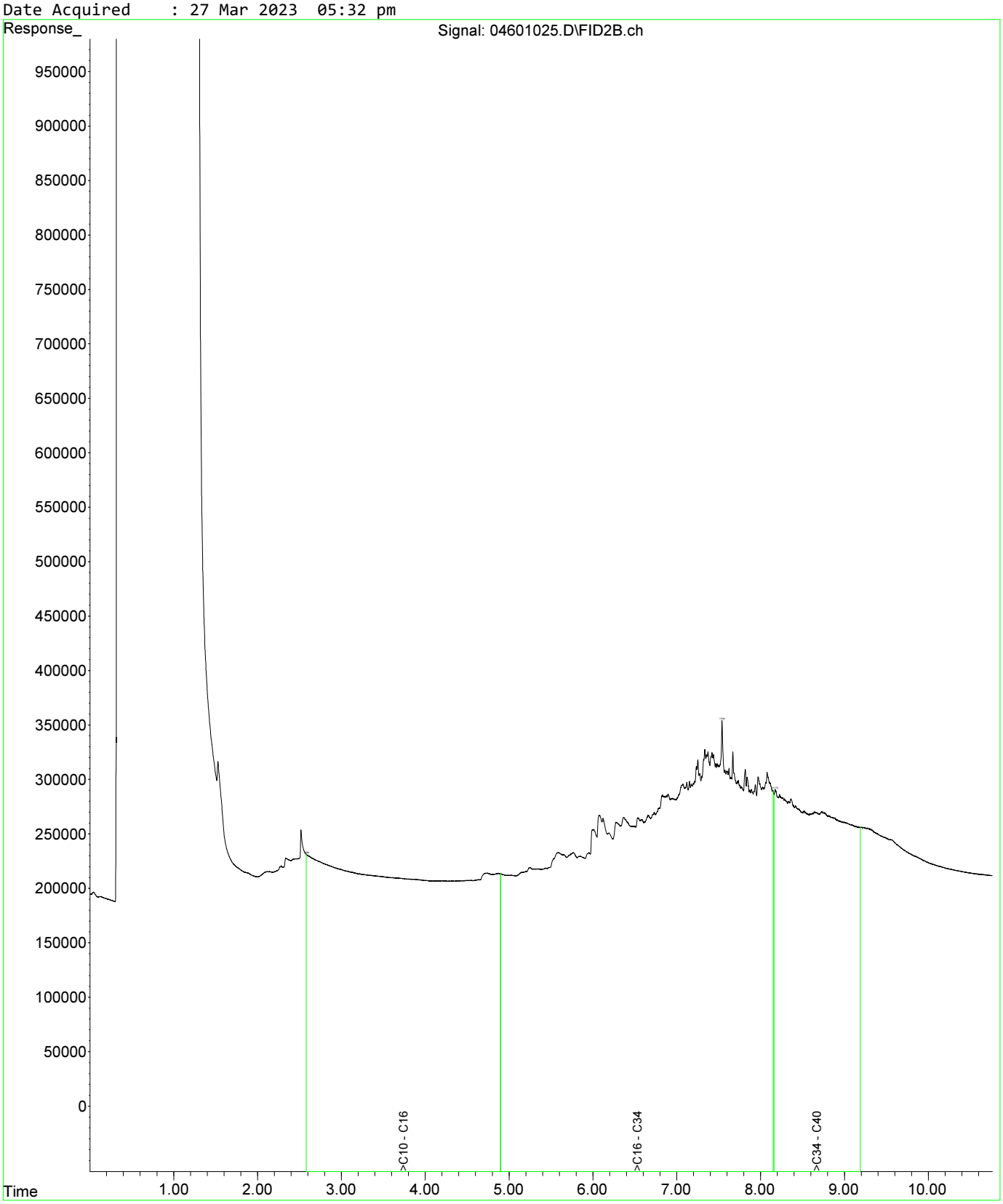

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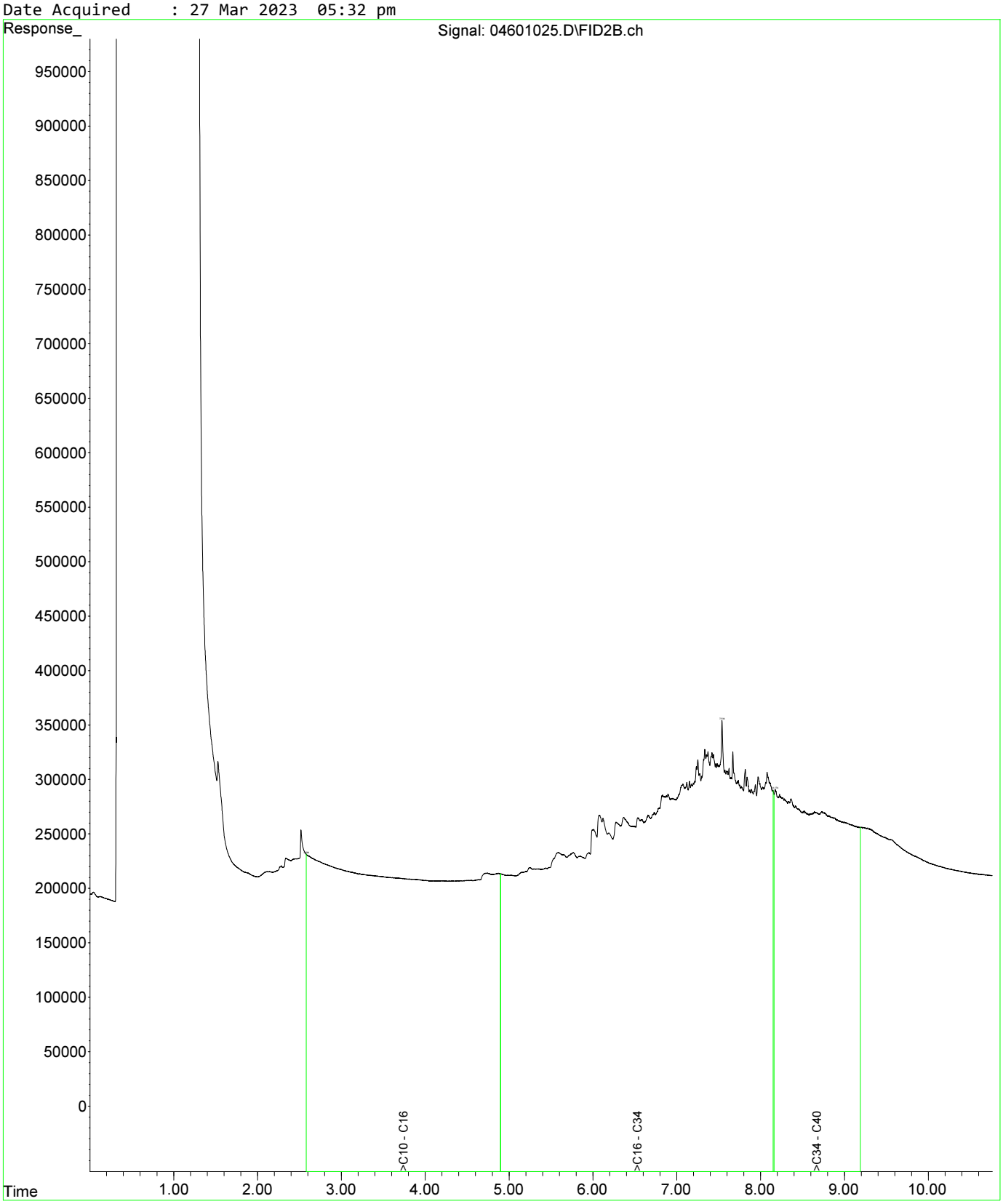

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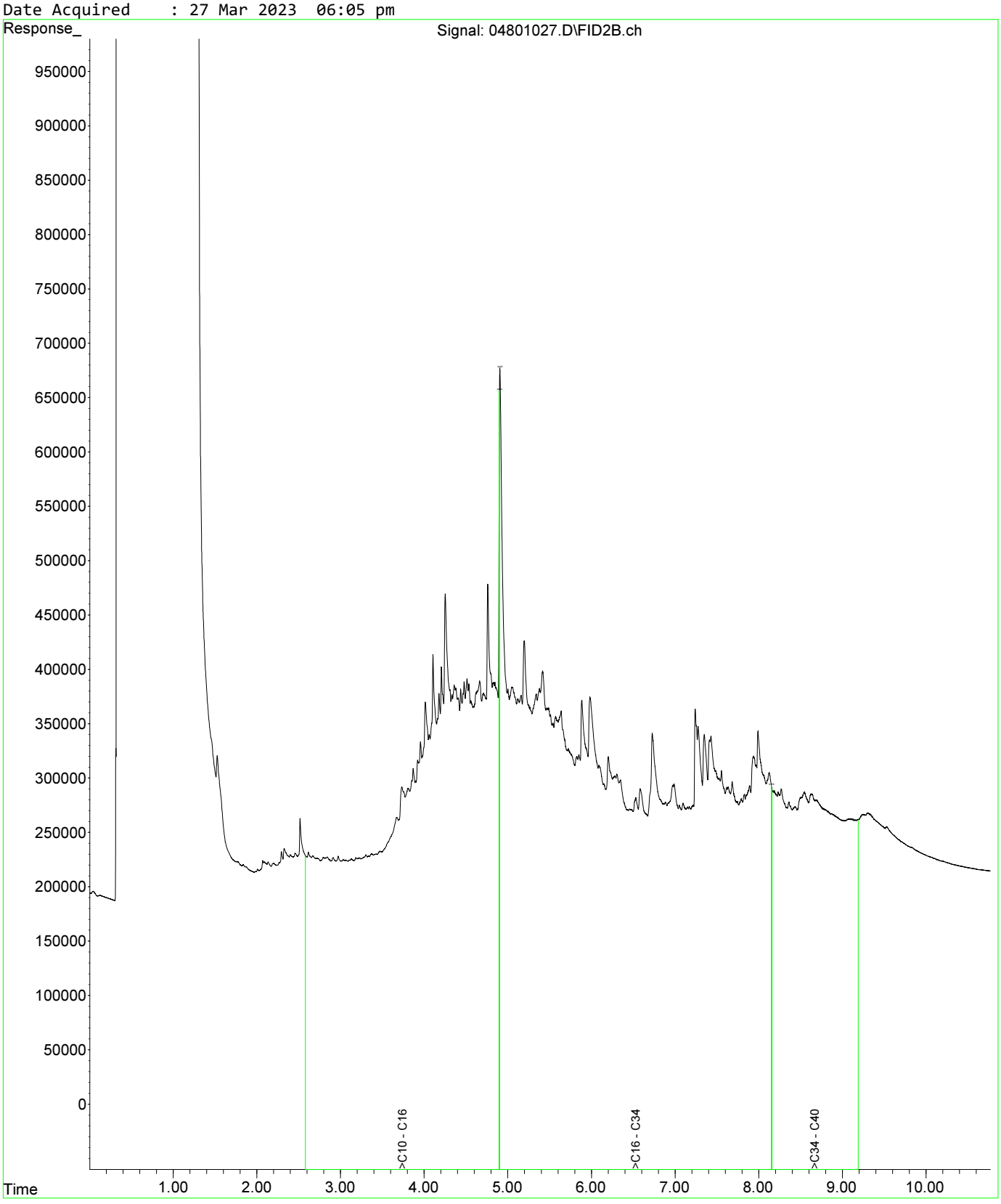

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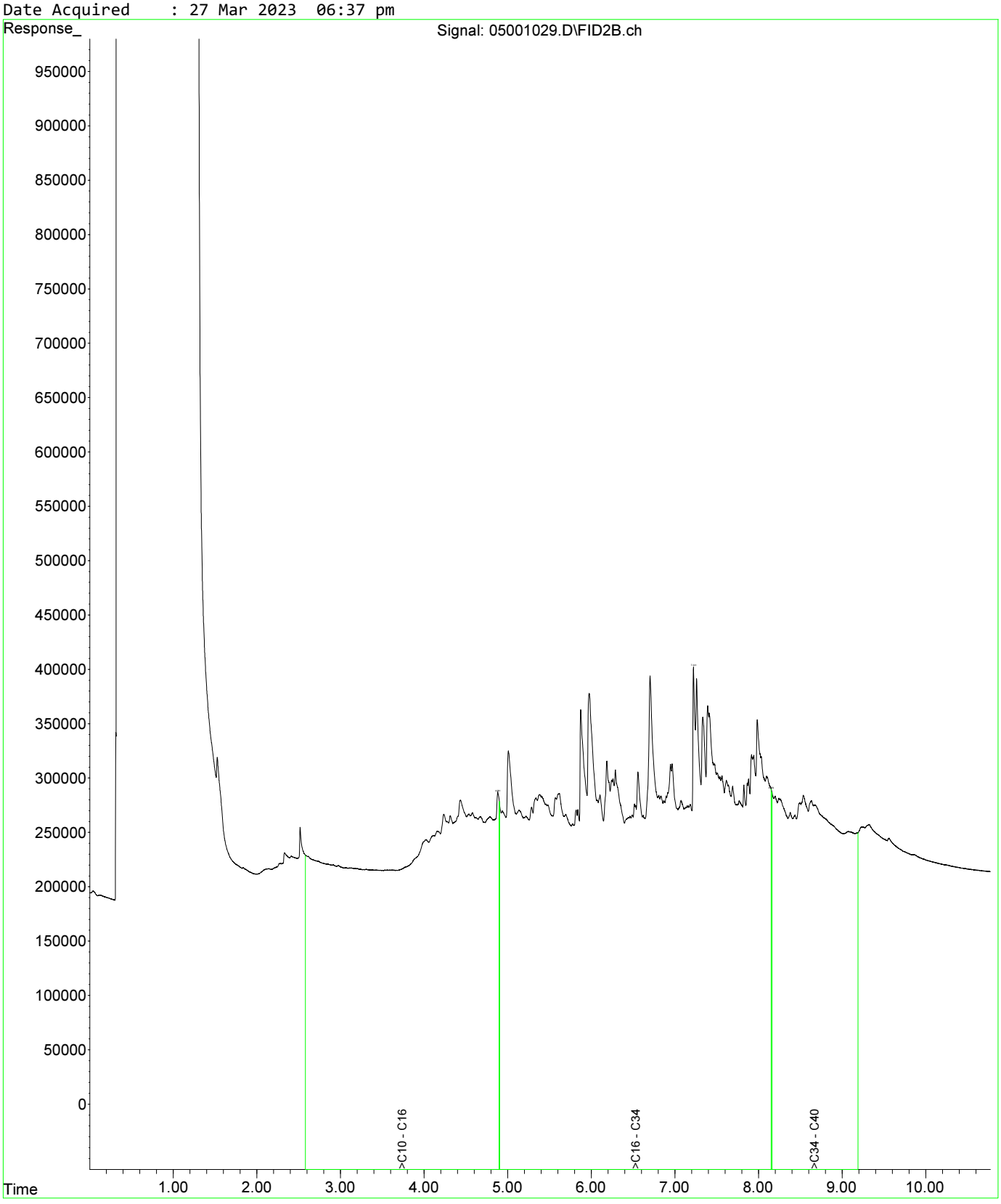

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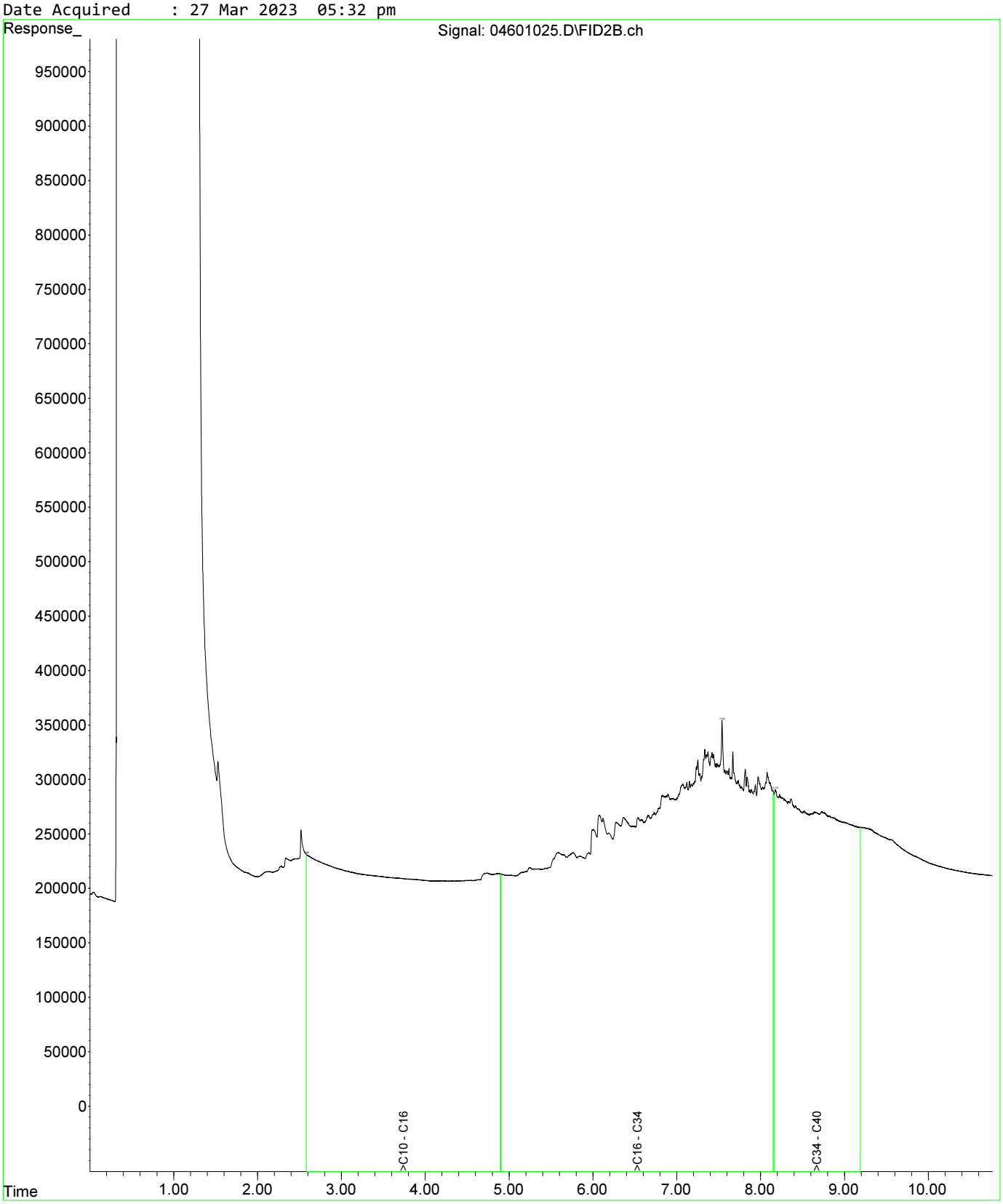

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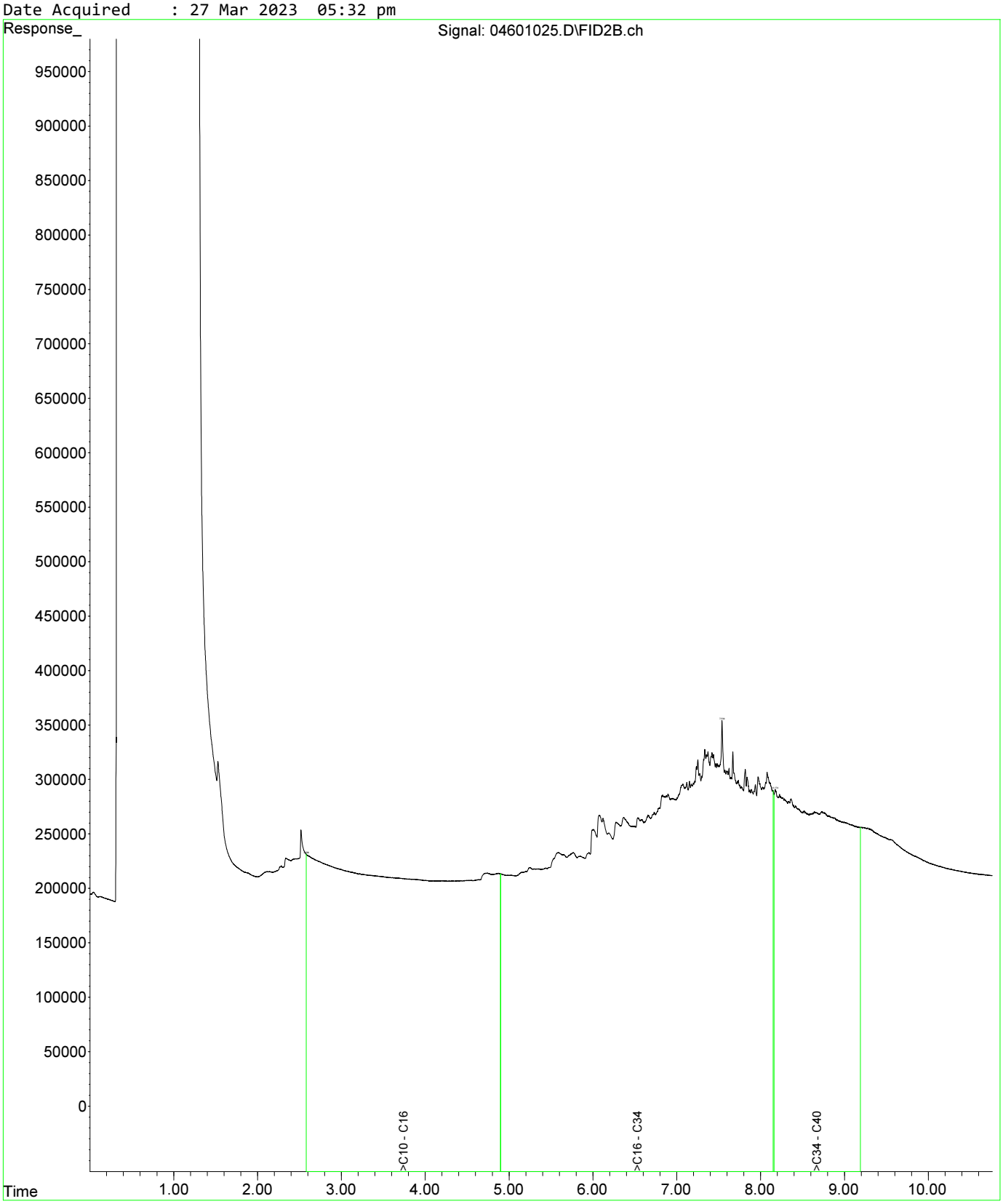

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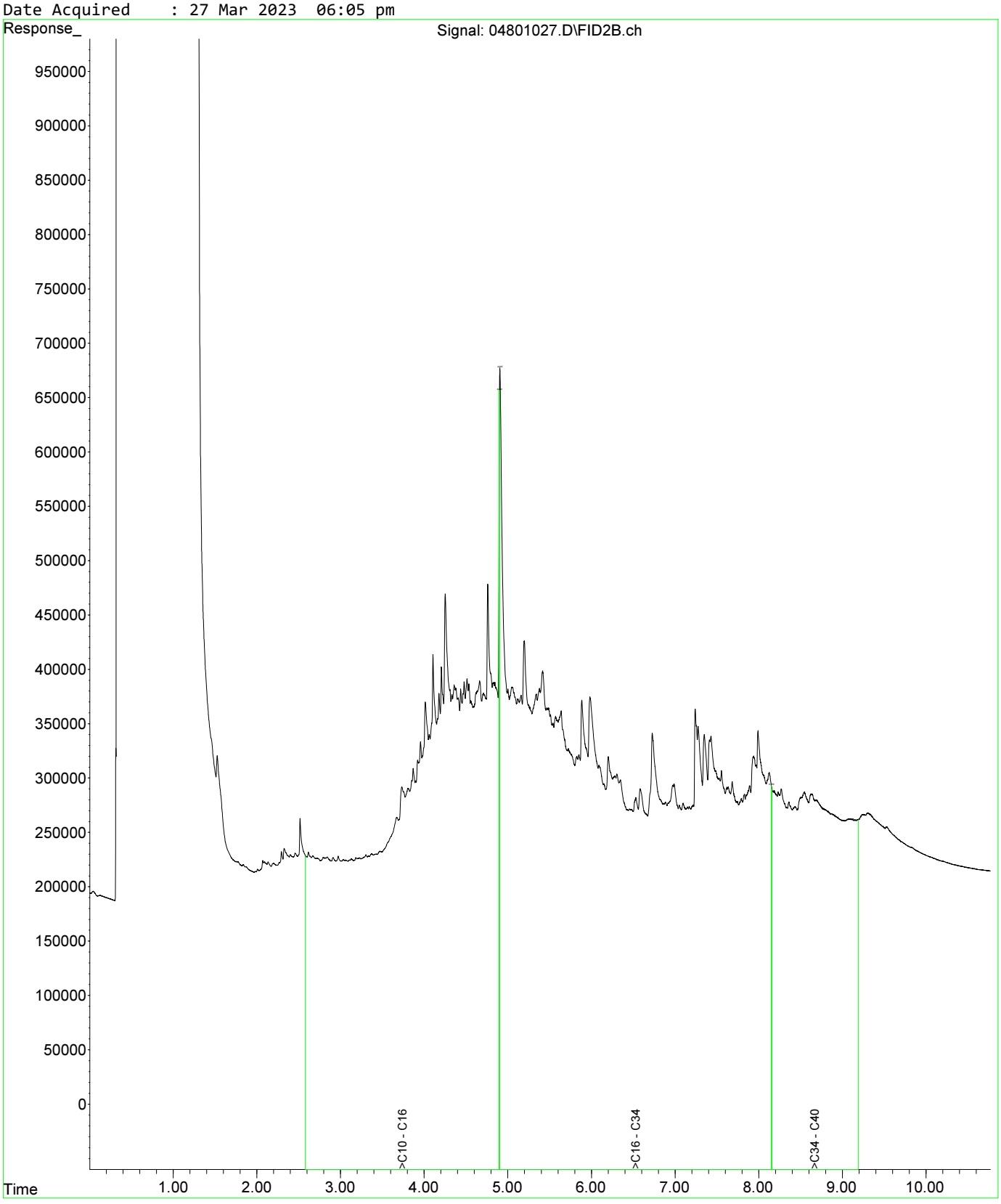
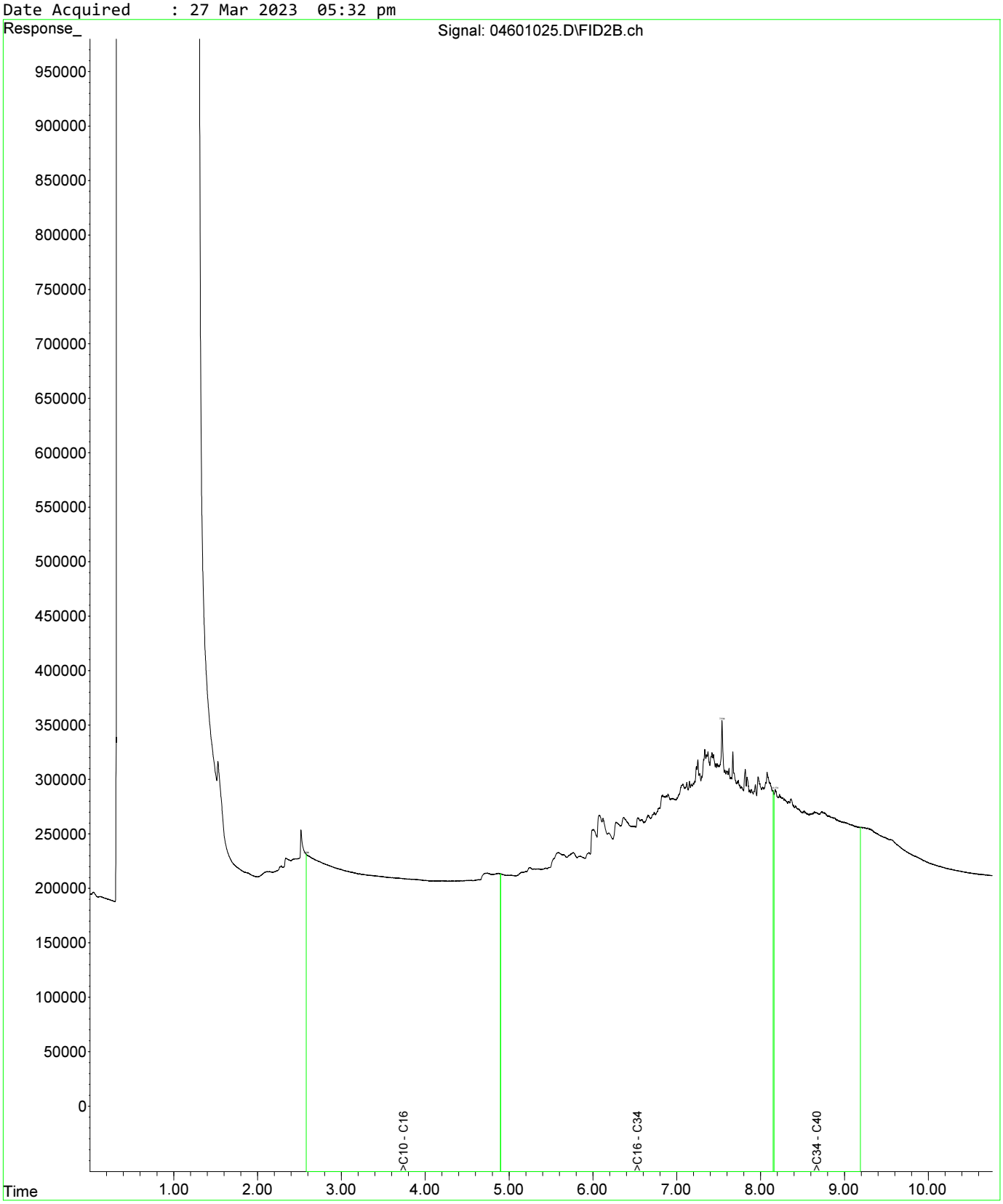


Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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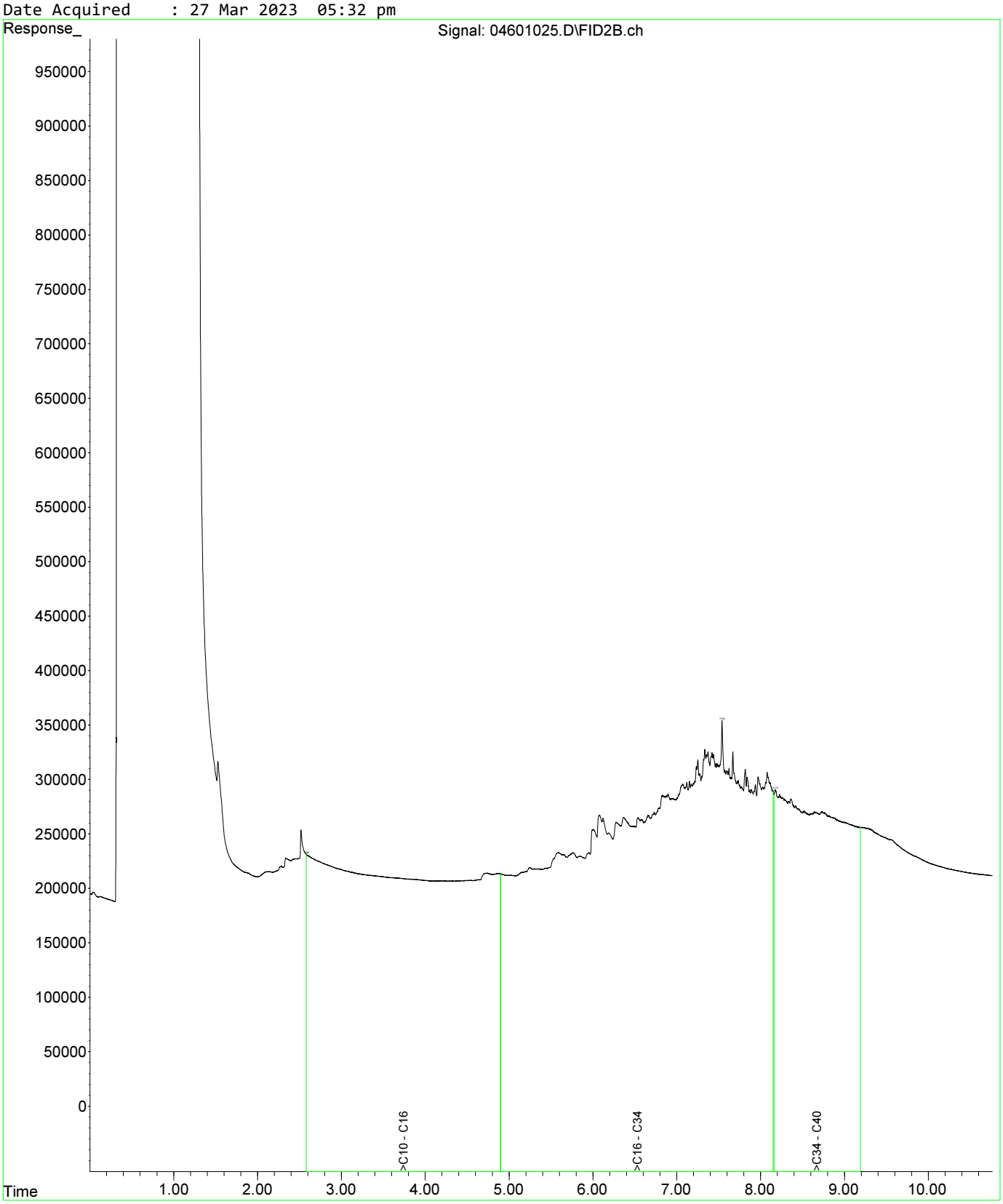

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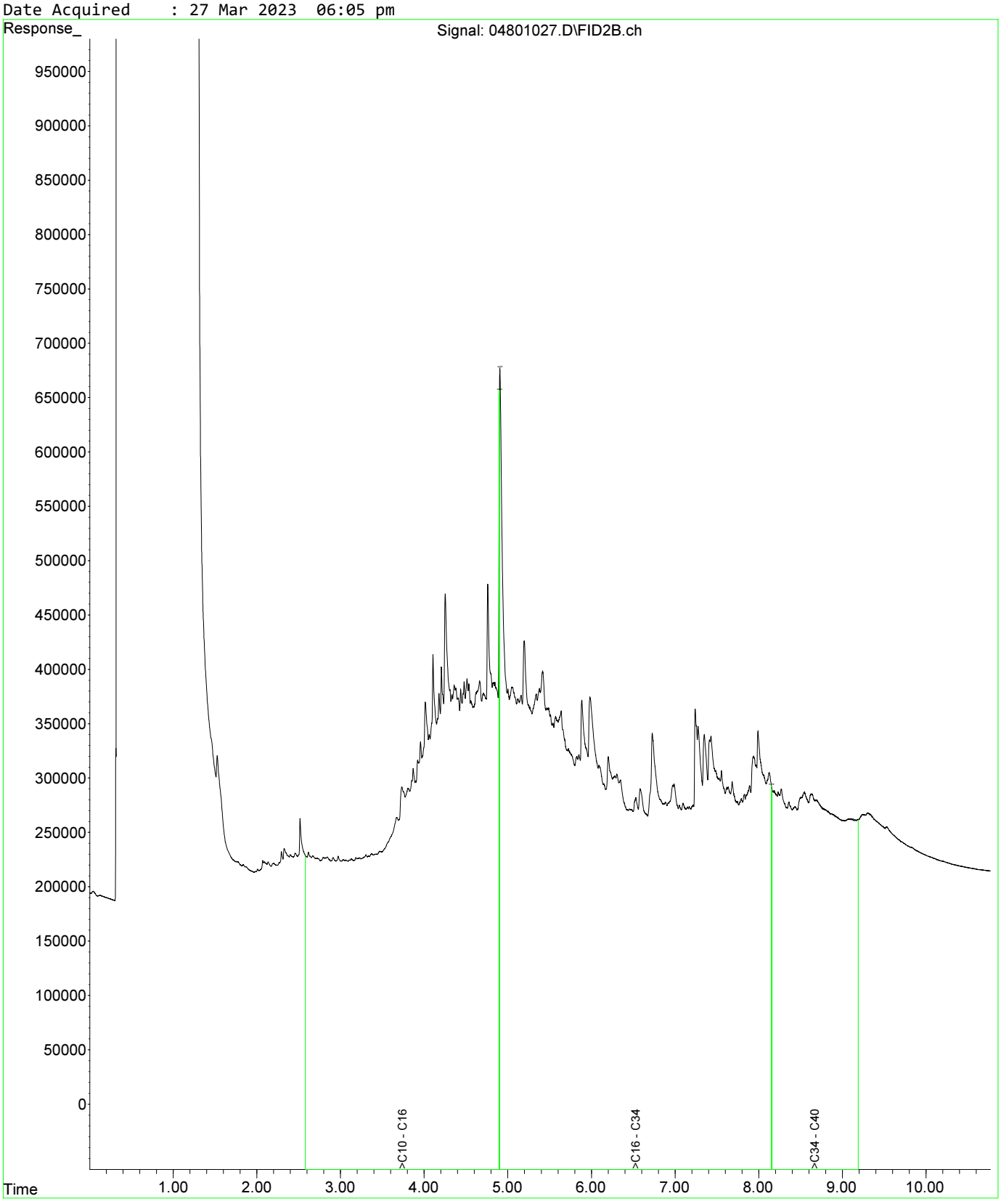

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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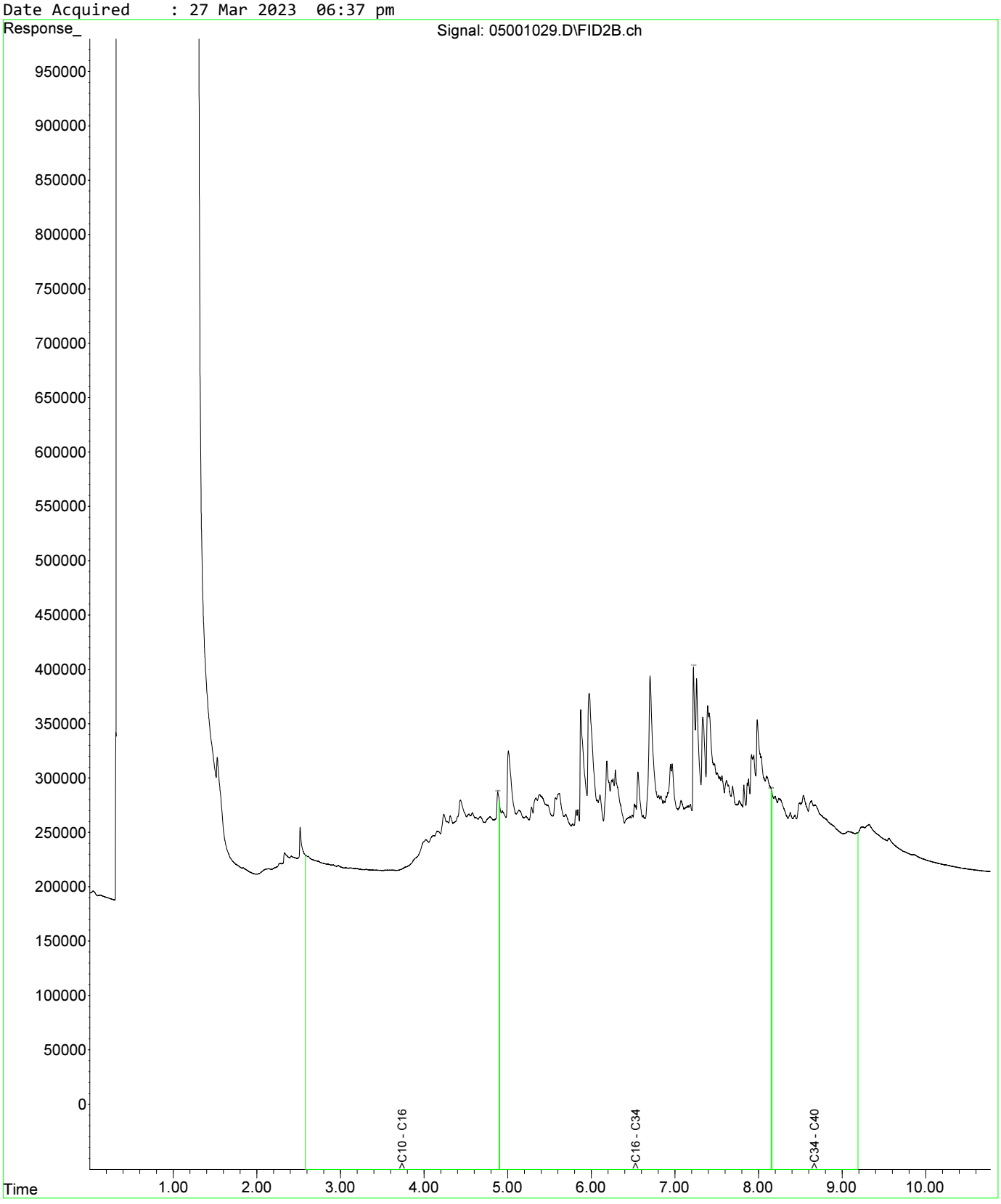

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Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
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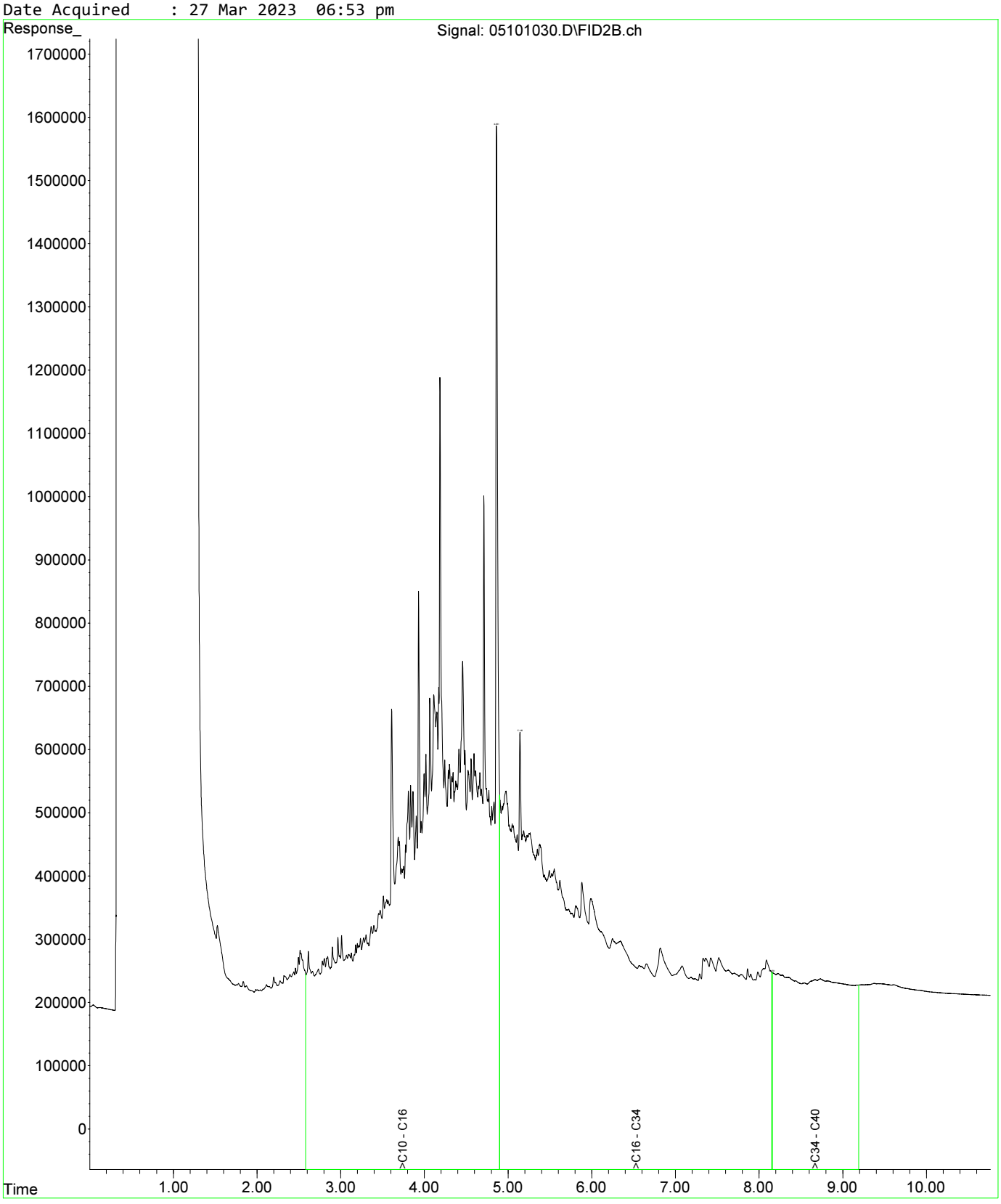

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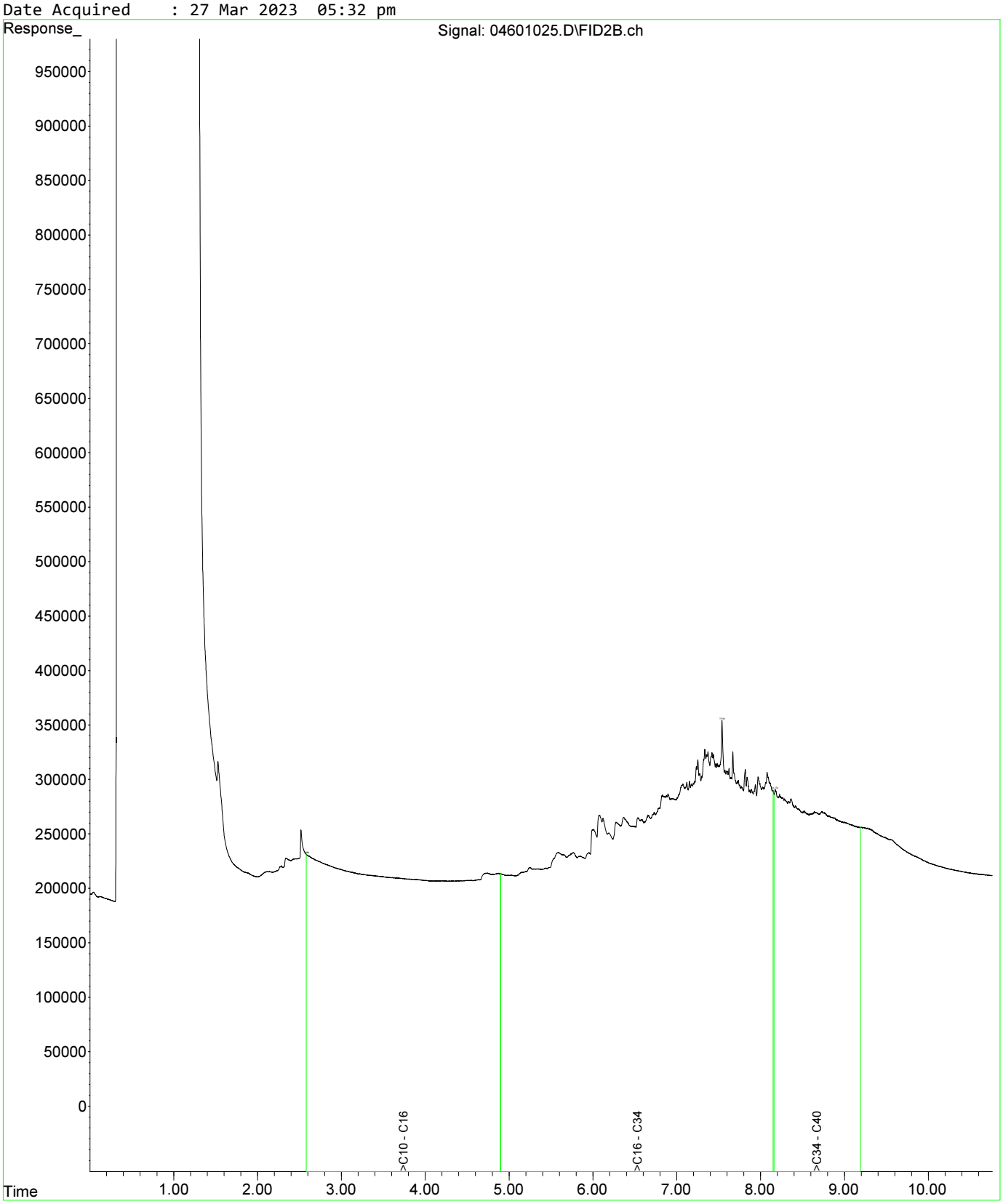

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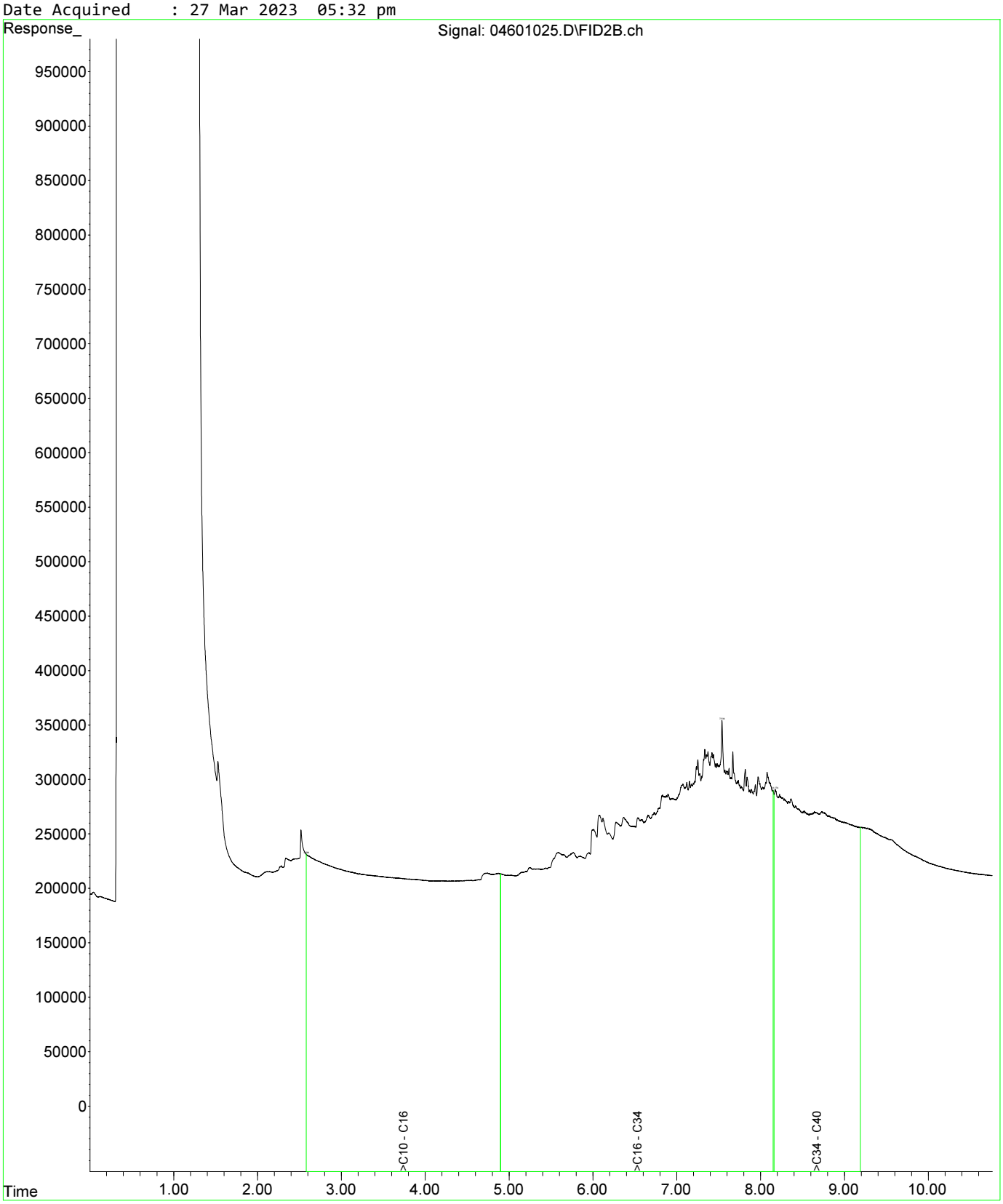

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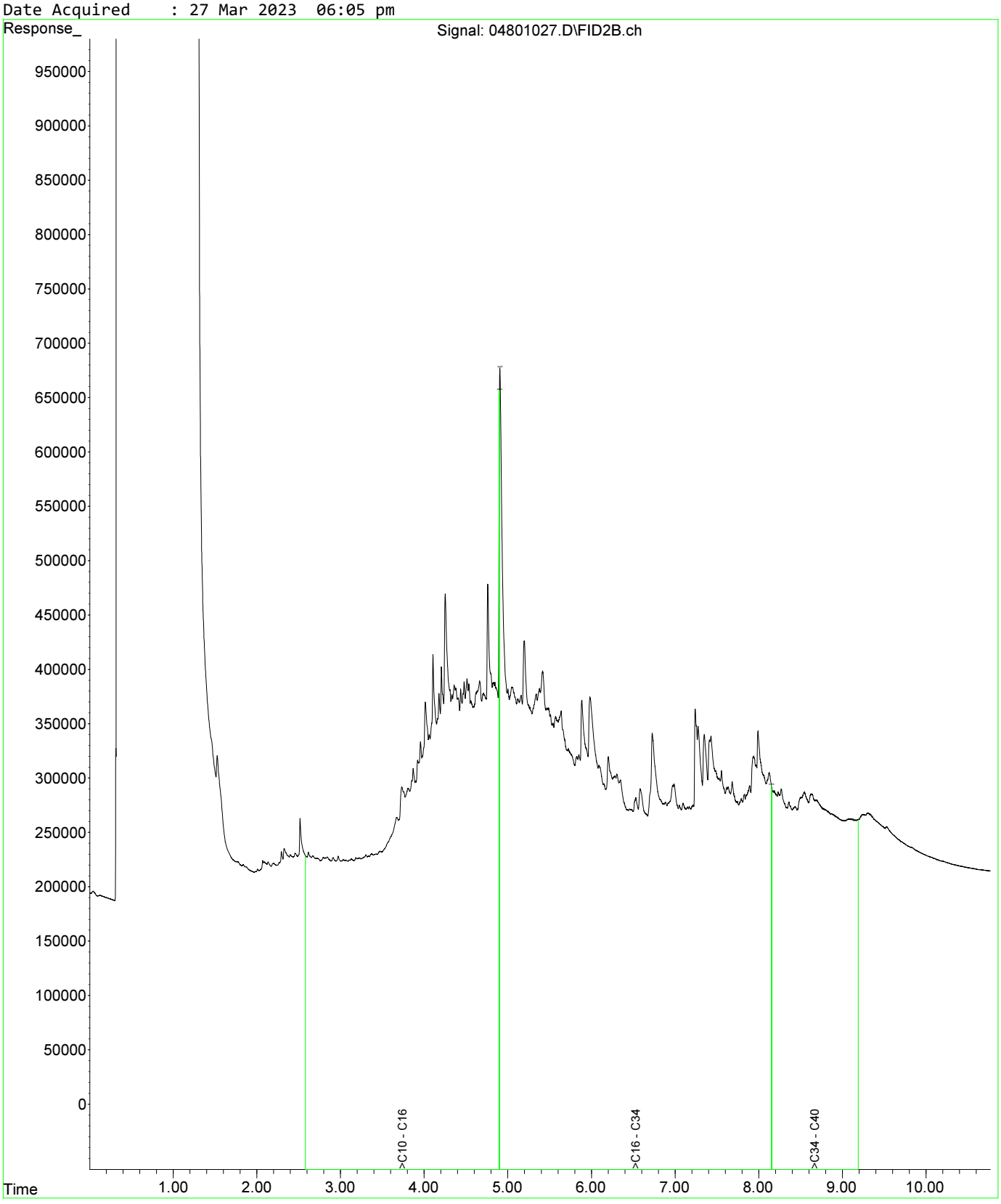

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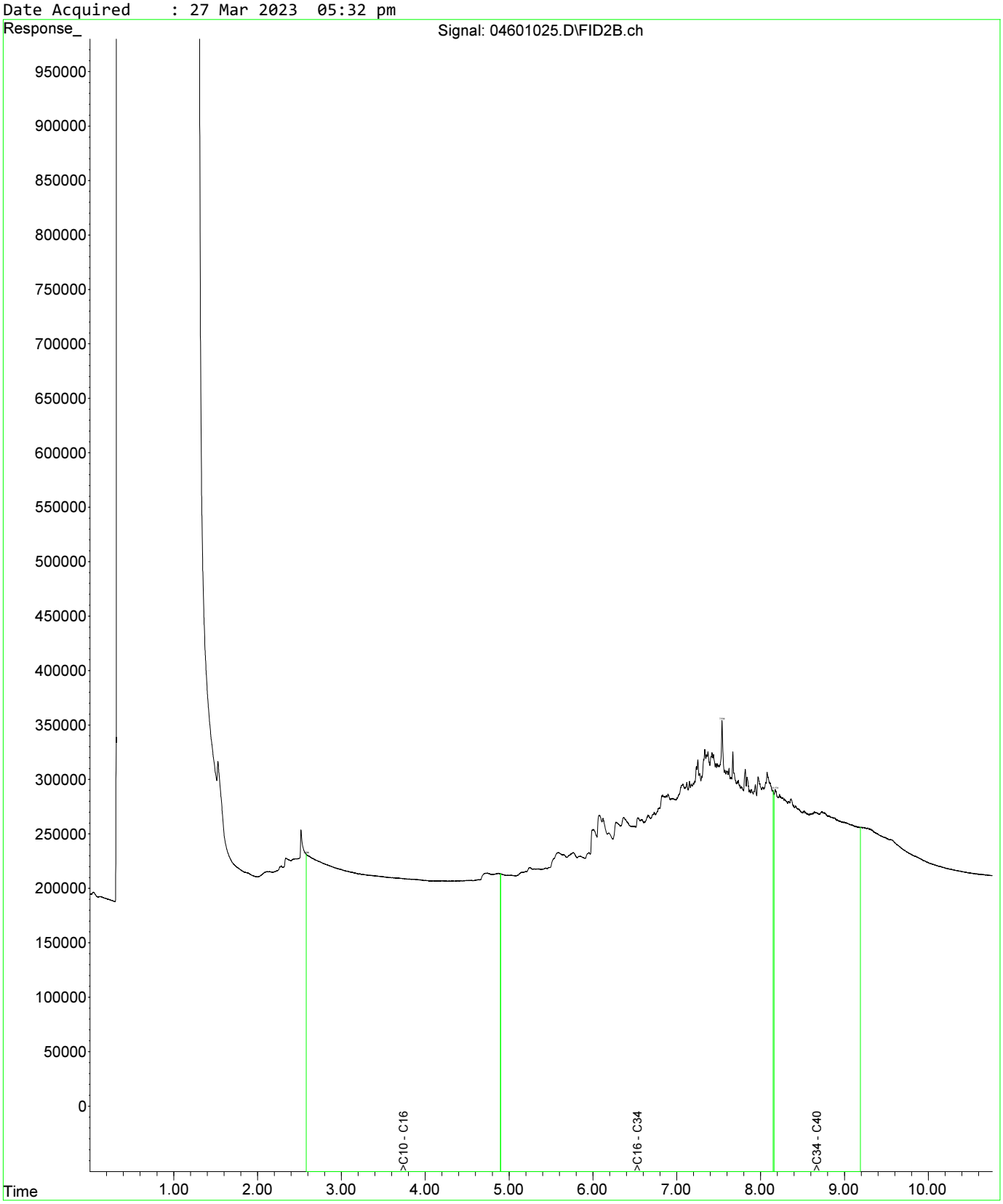

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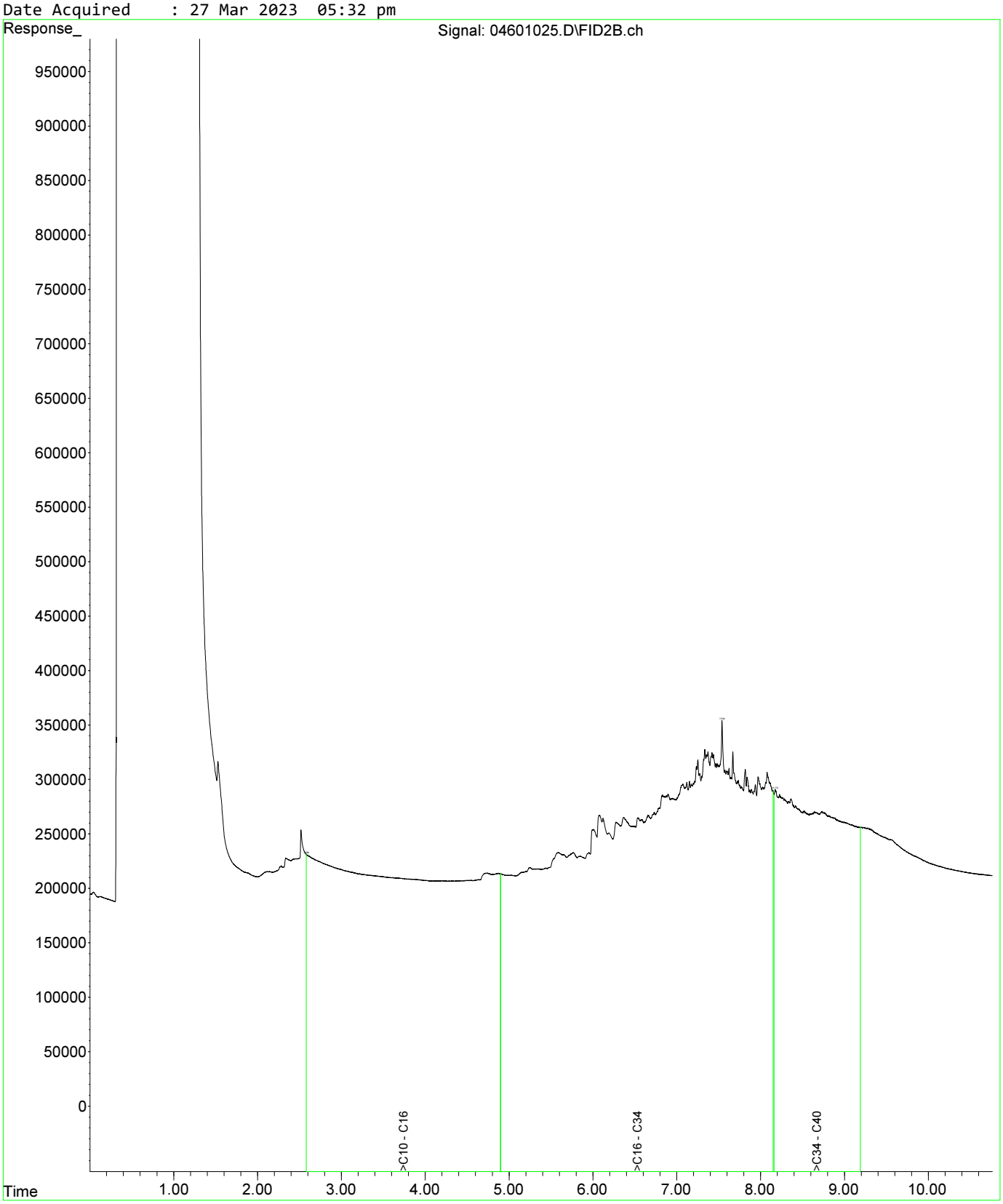

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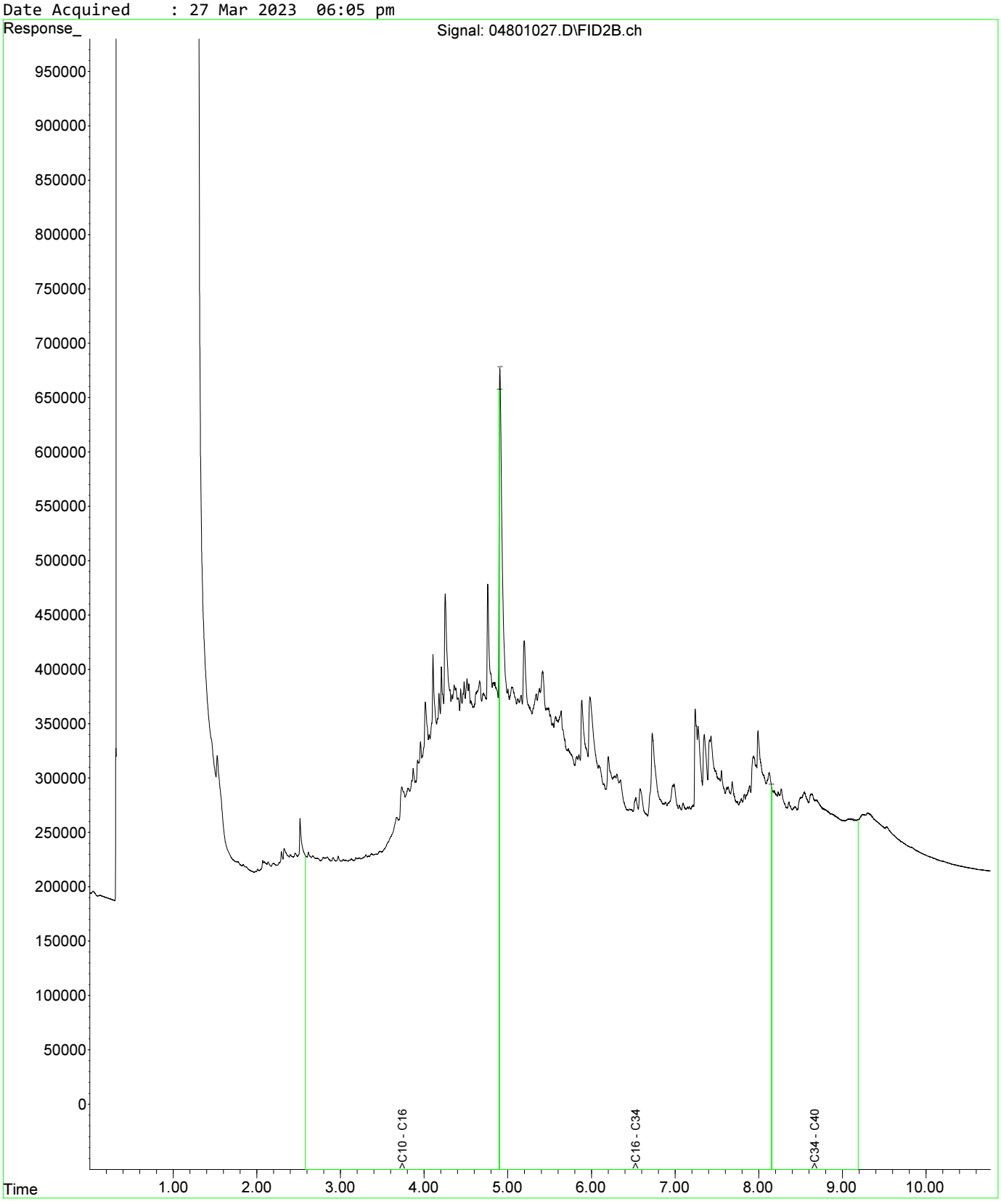

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
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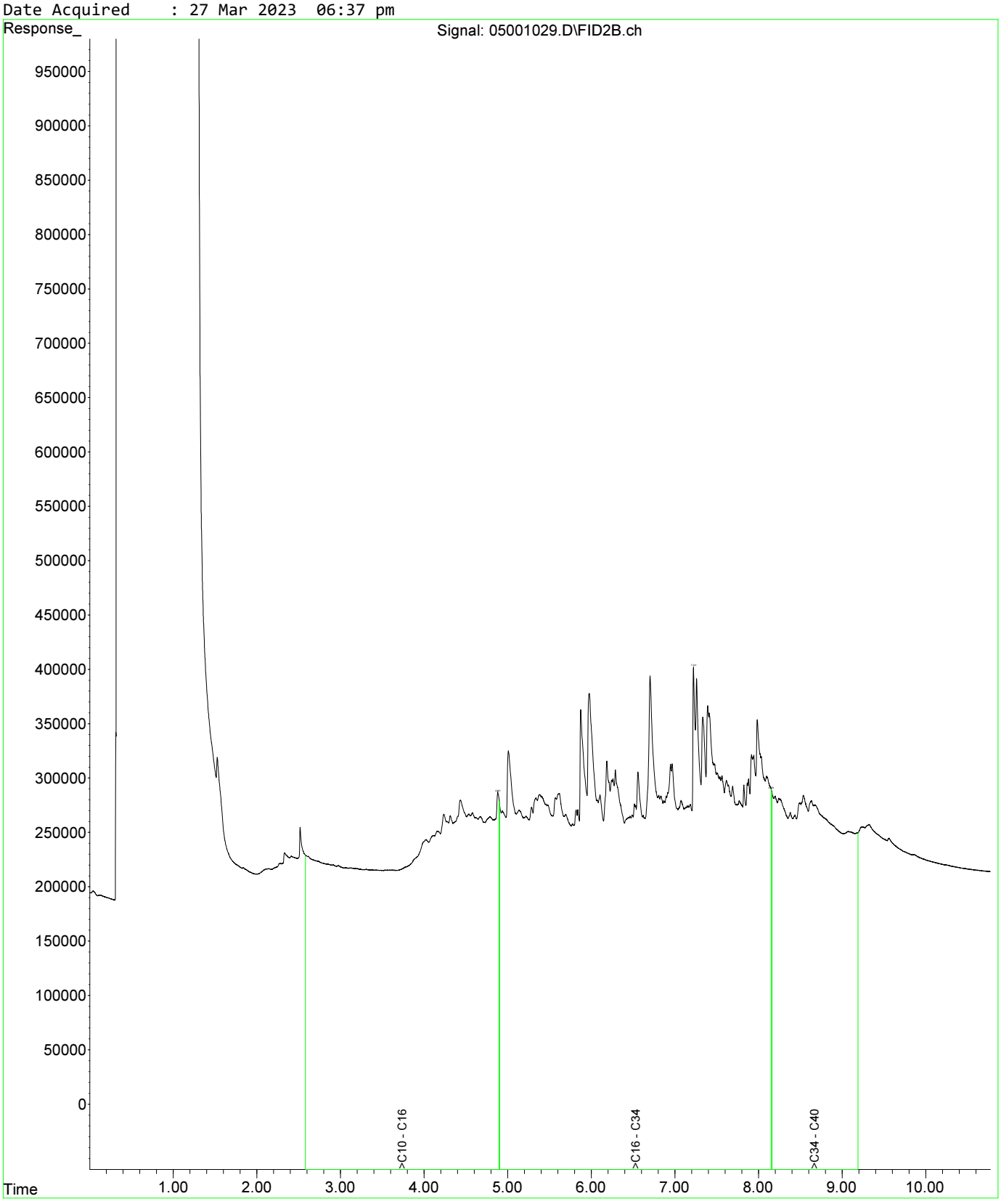

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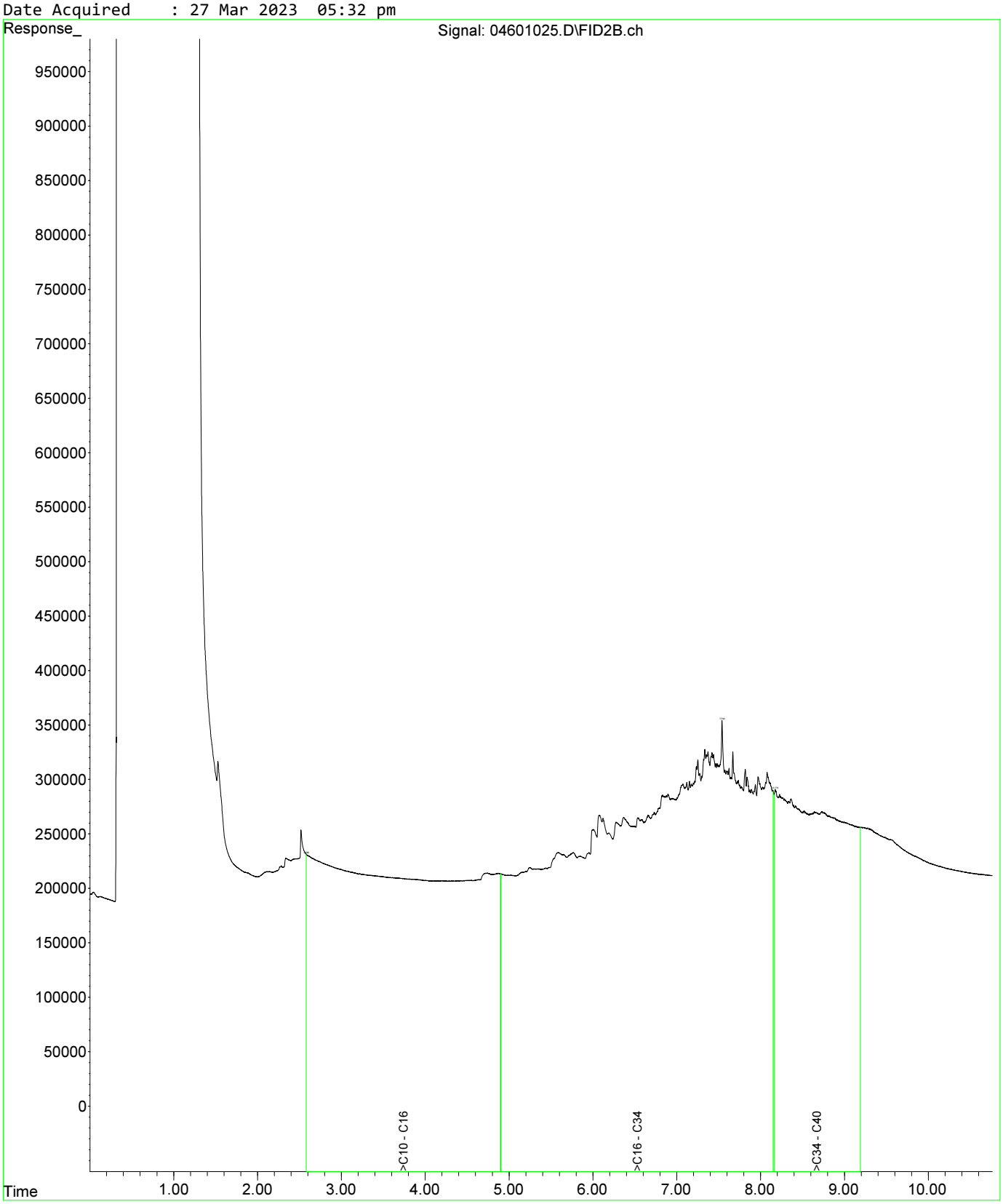

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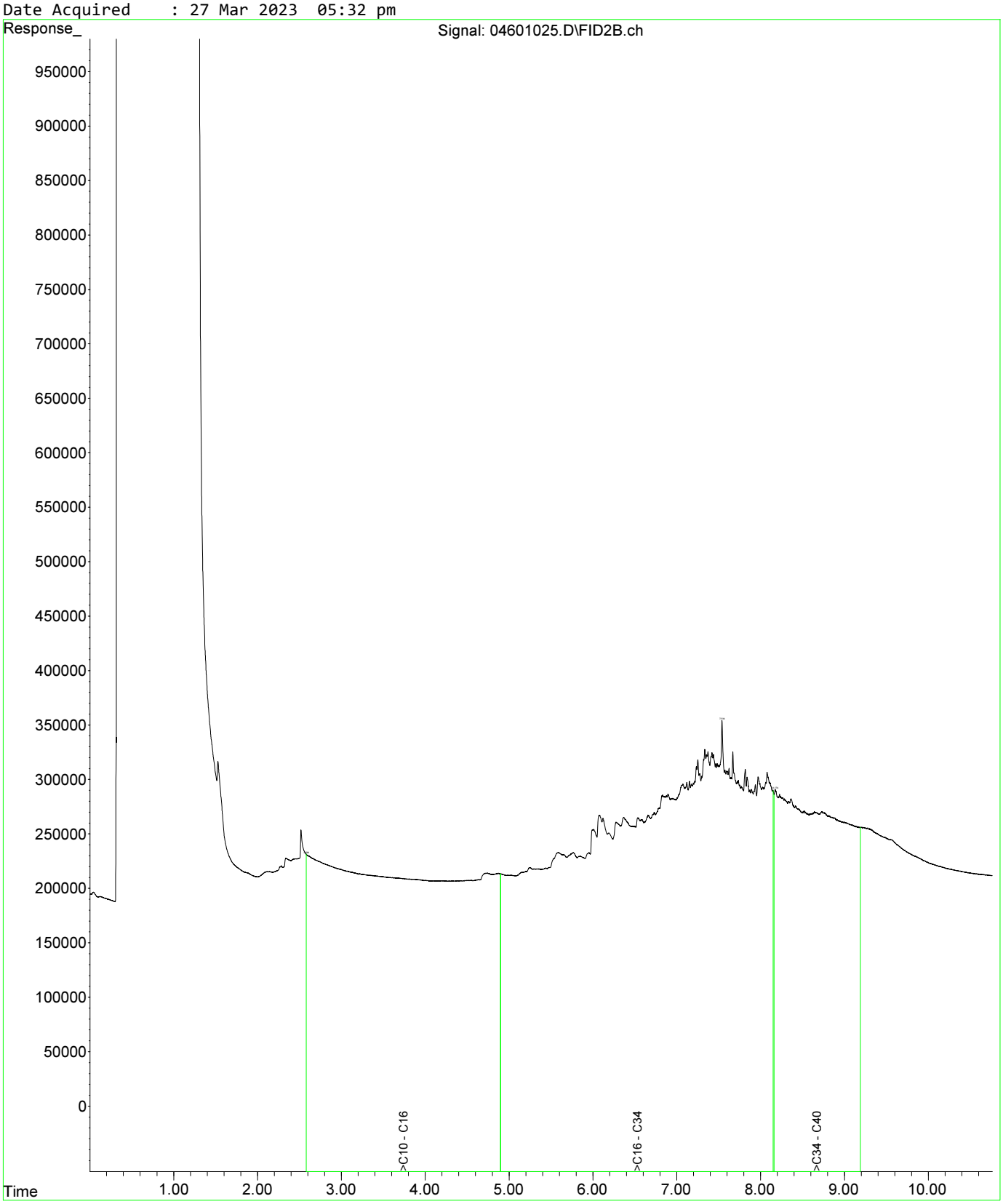

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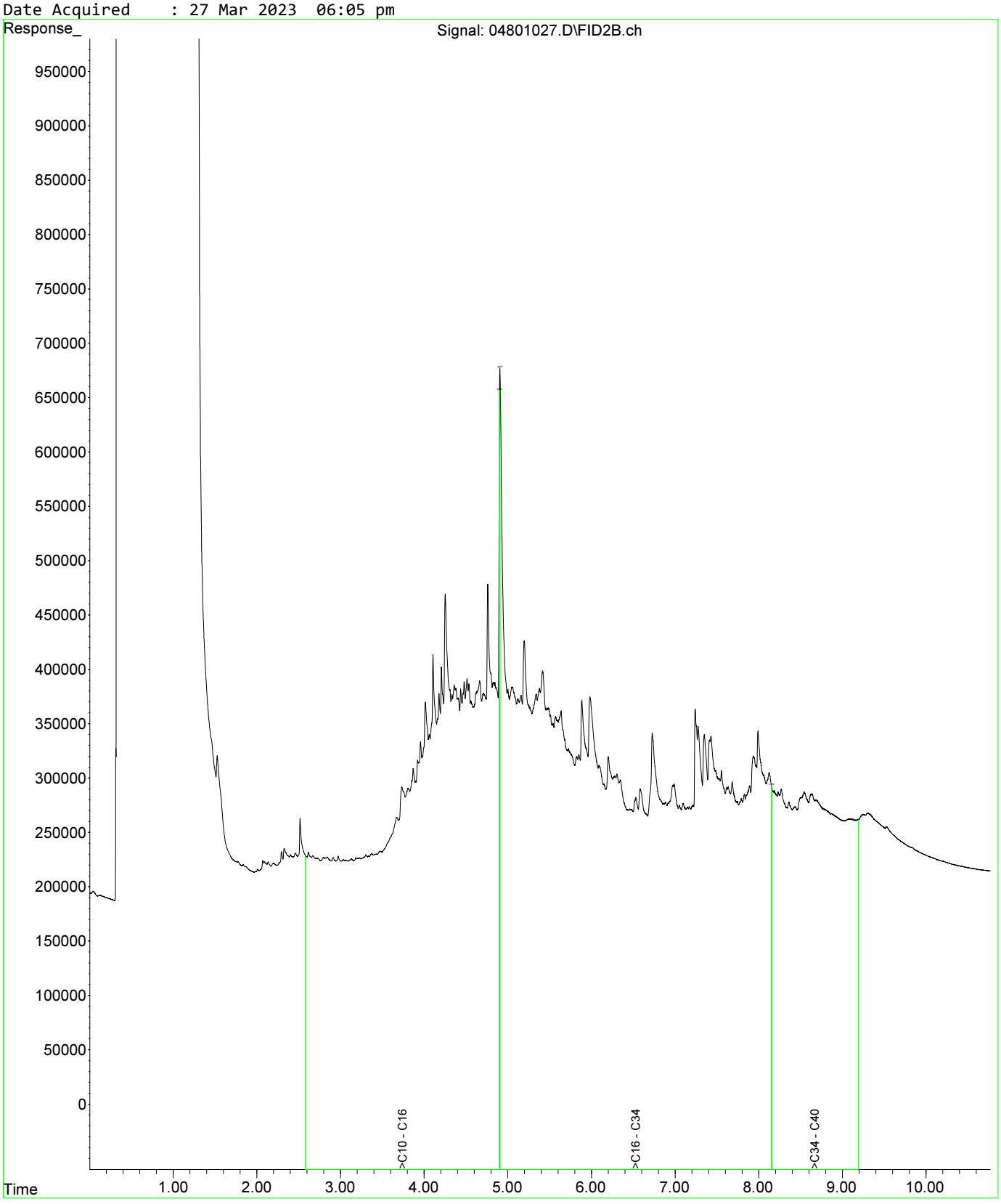

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Laboratory Number: EM2305209-013
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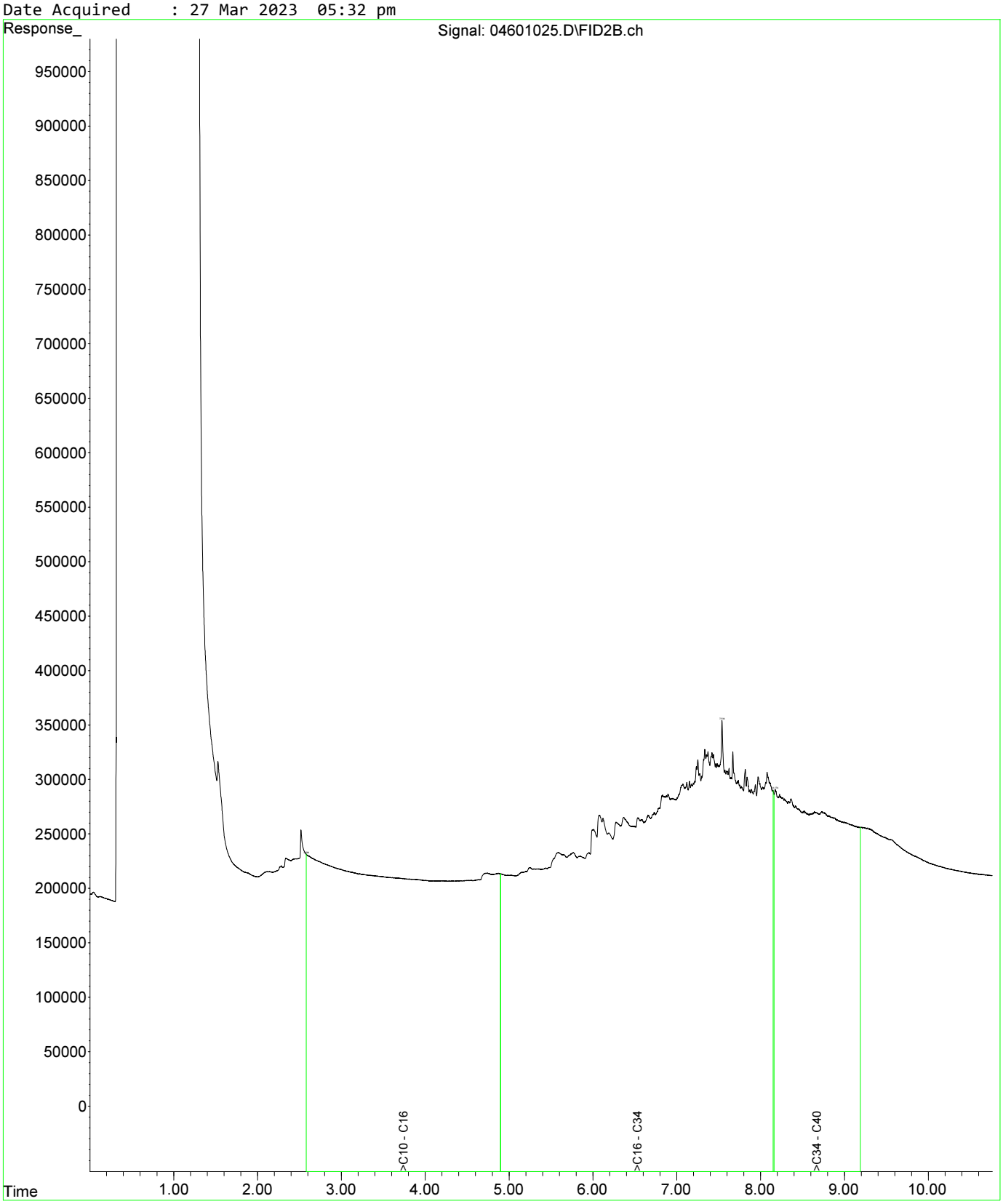

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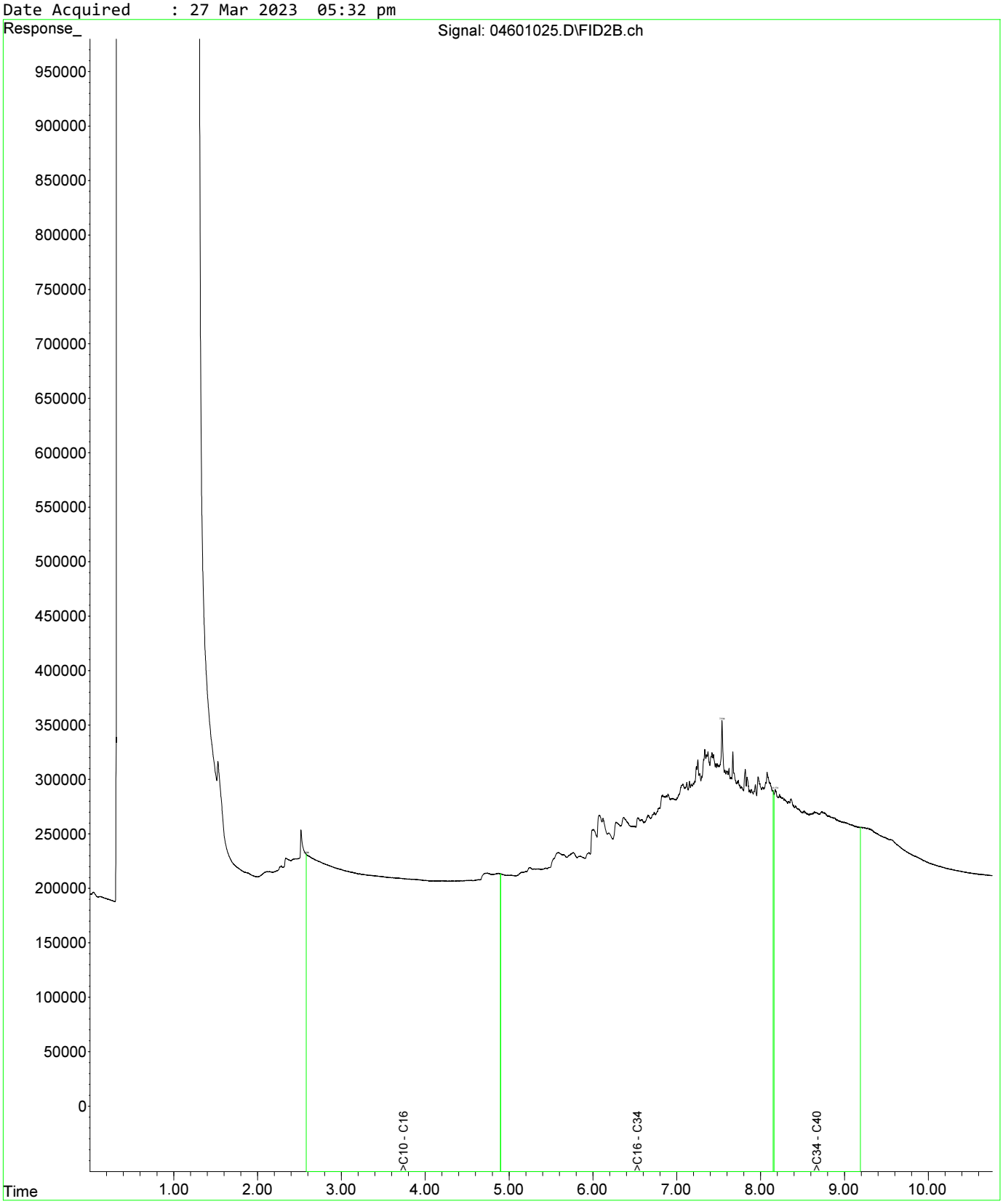

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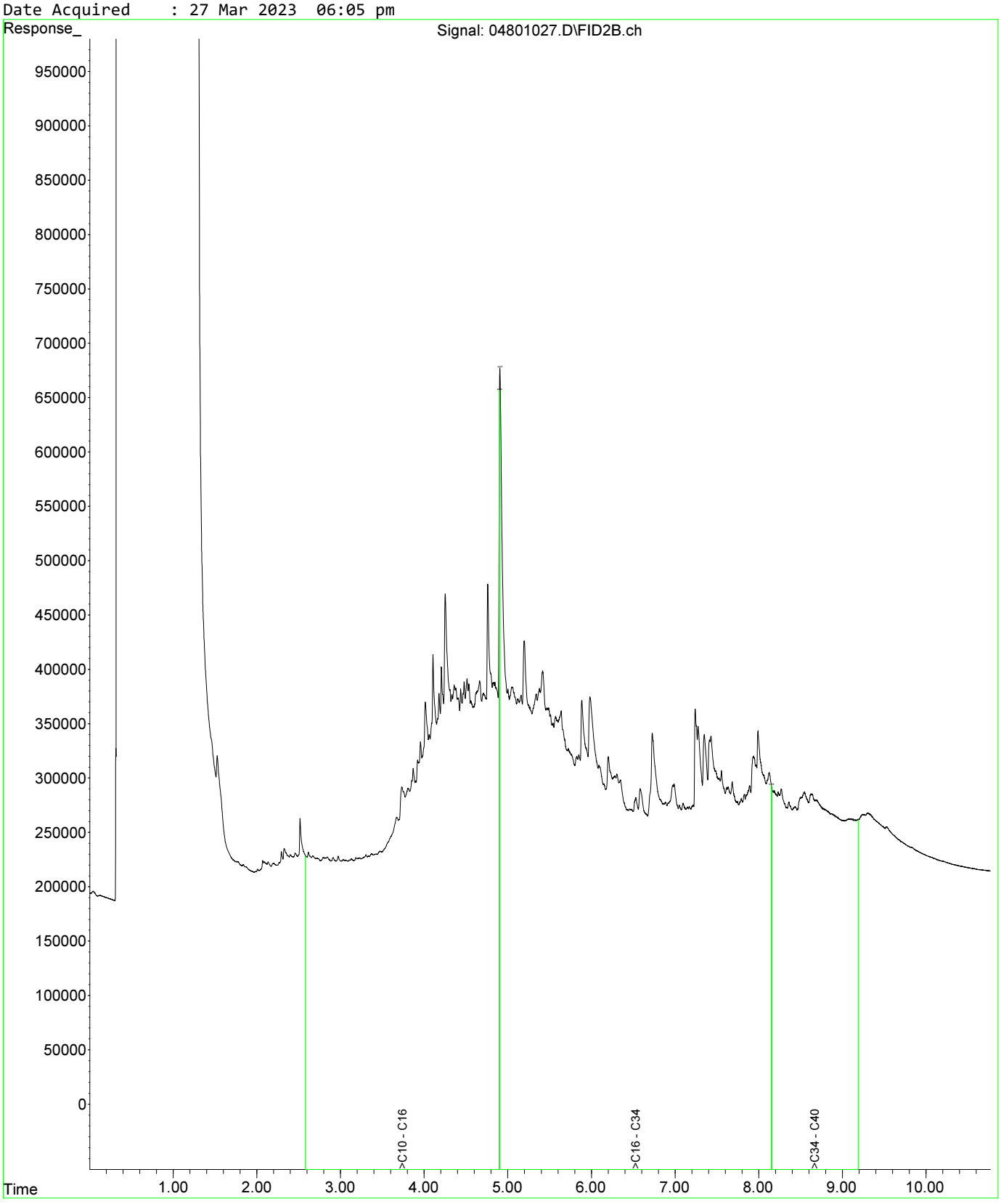

Fraction Scheme : NEPM DRAFT HIL
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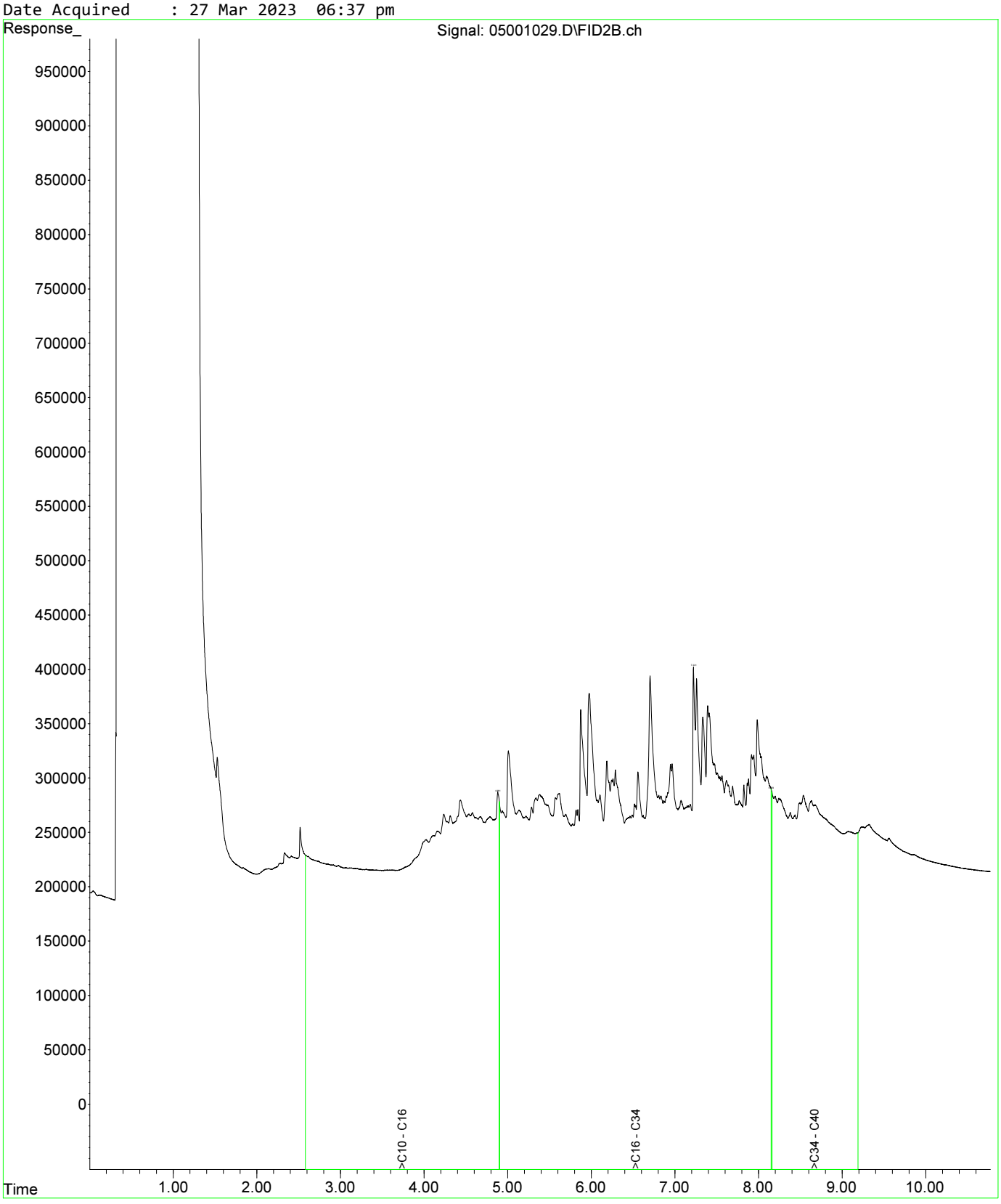
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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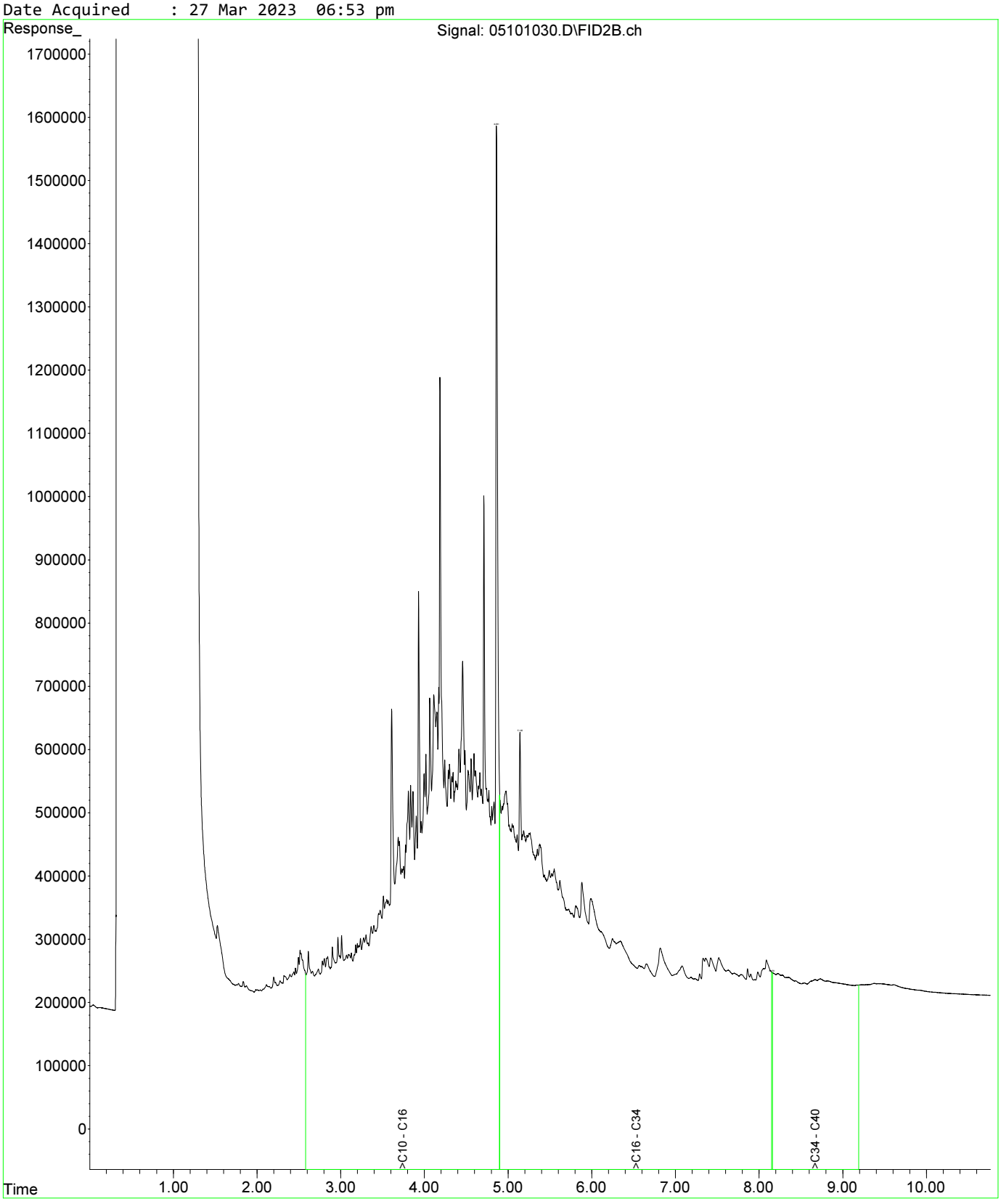

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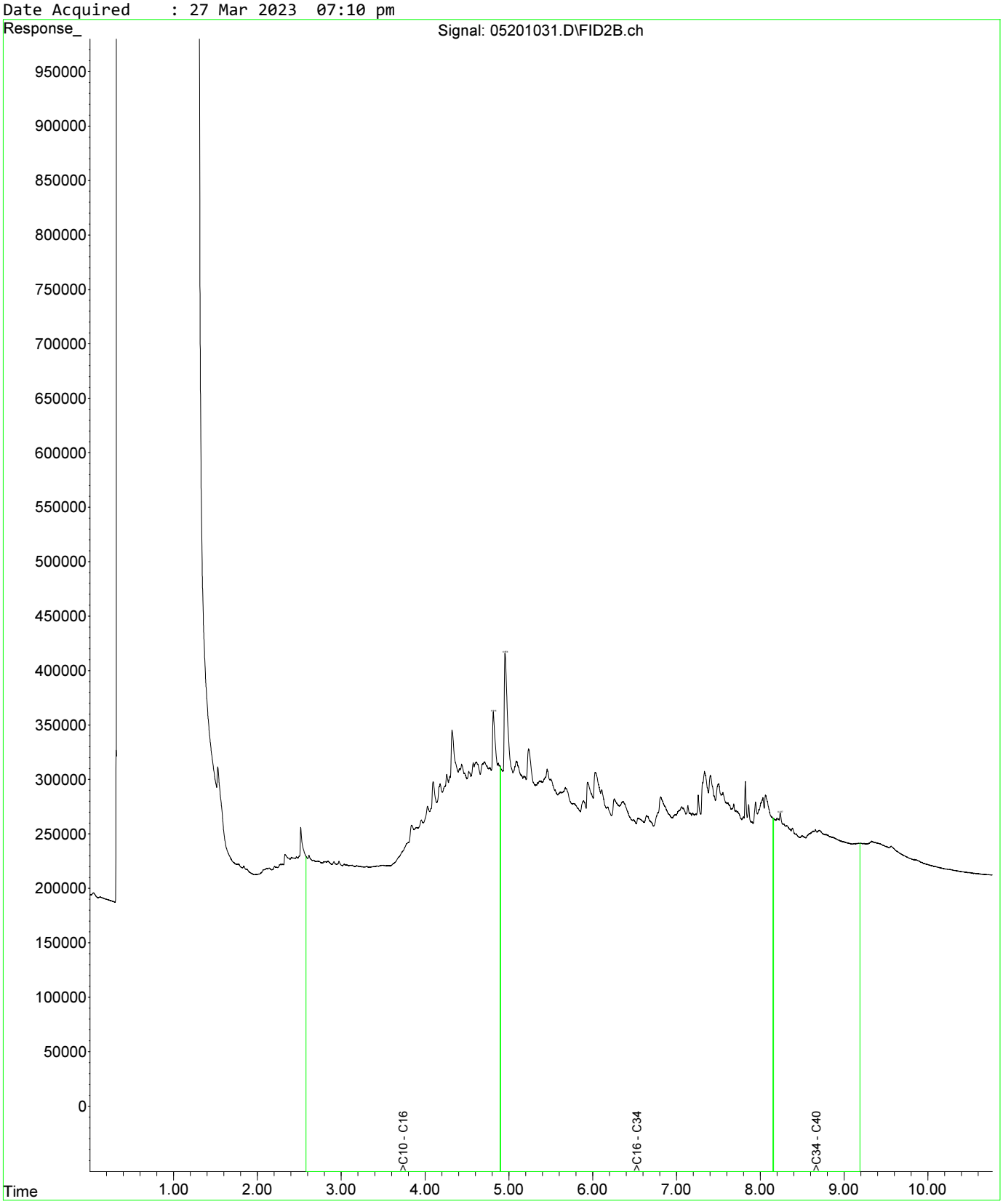

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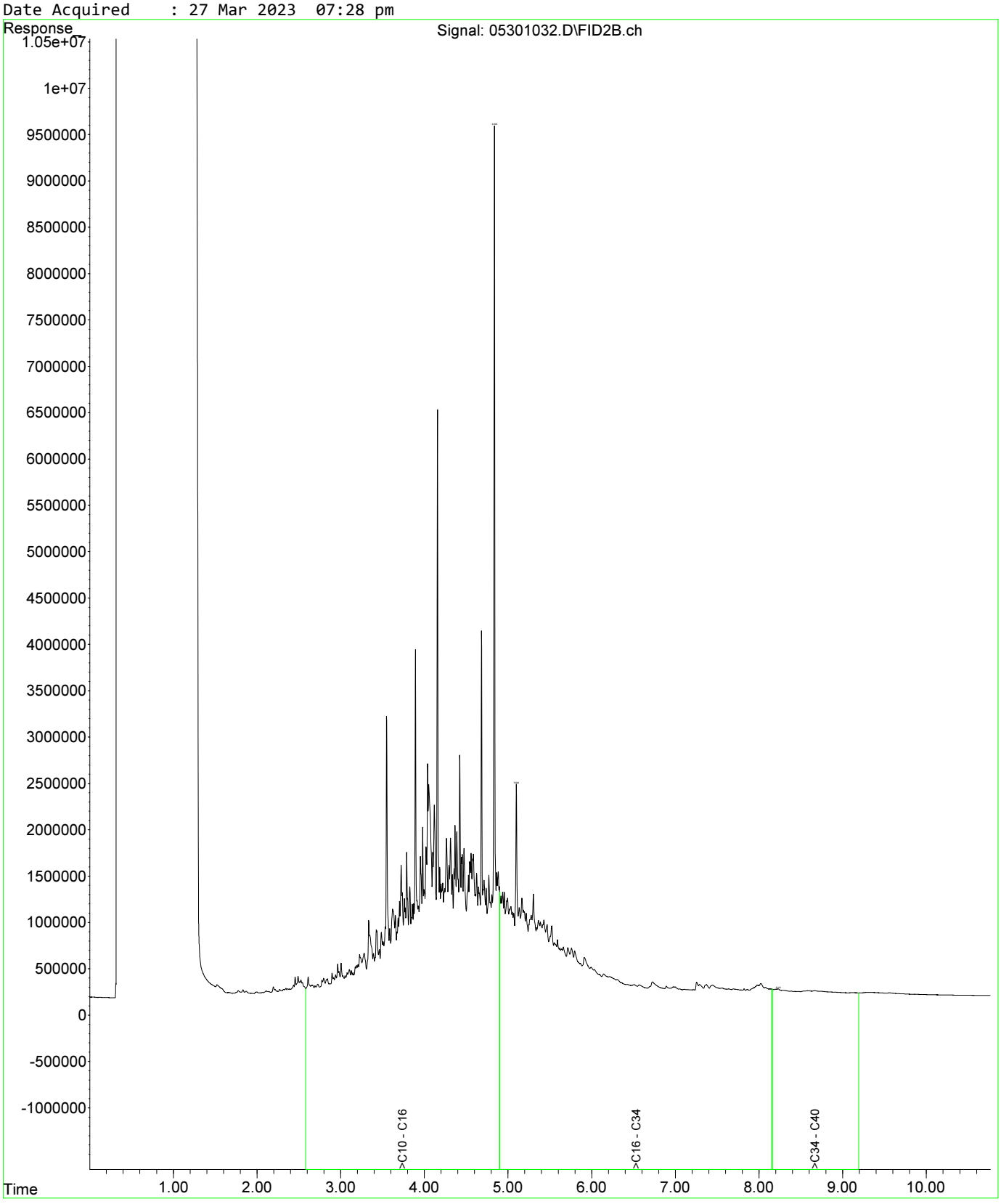

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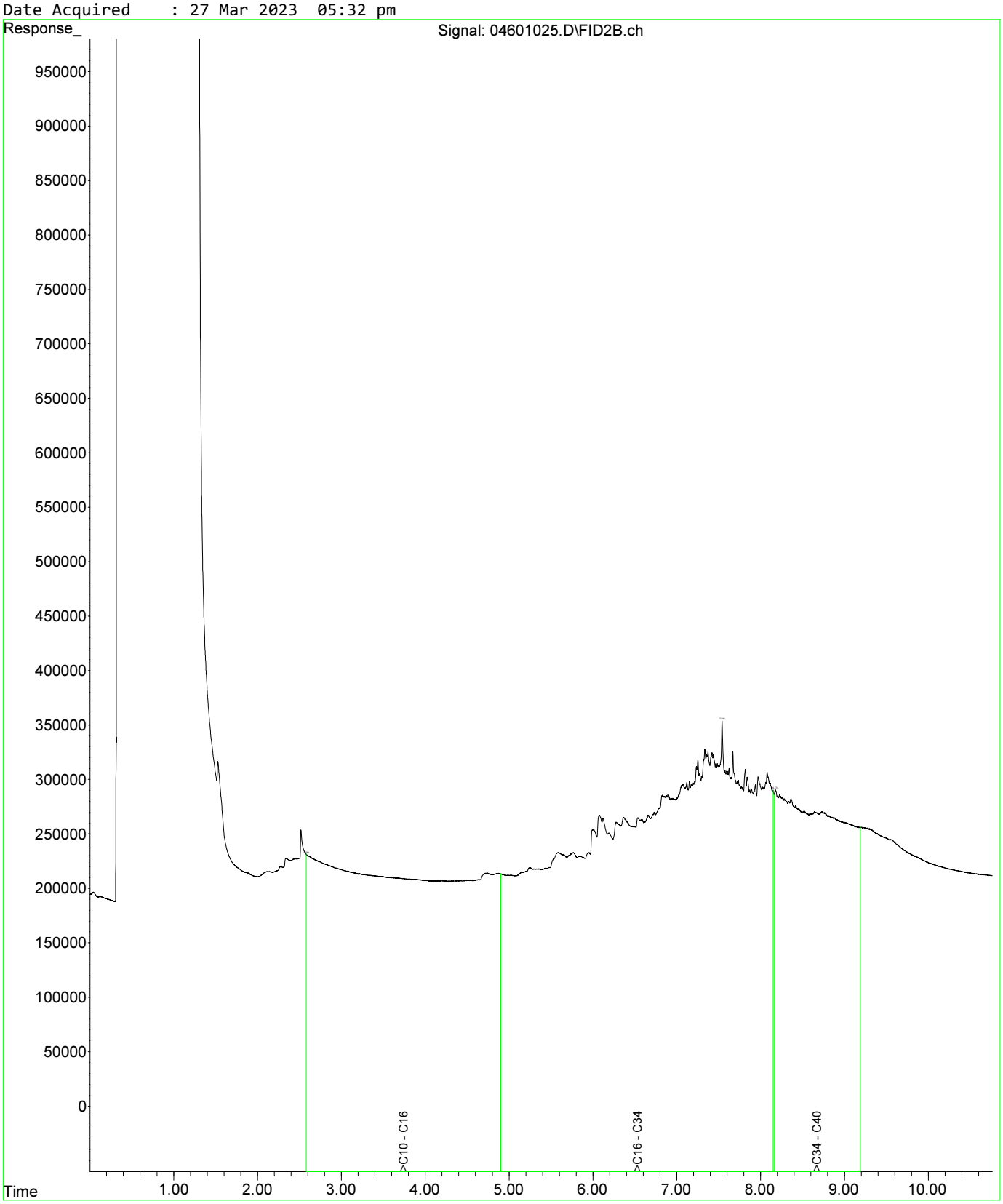

Fraction Scheme : NEPM DRAFT HIL
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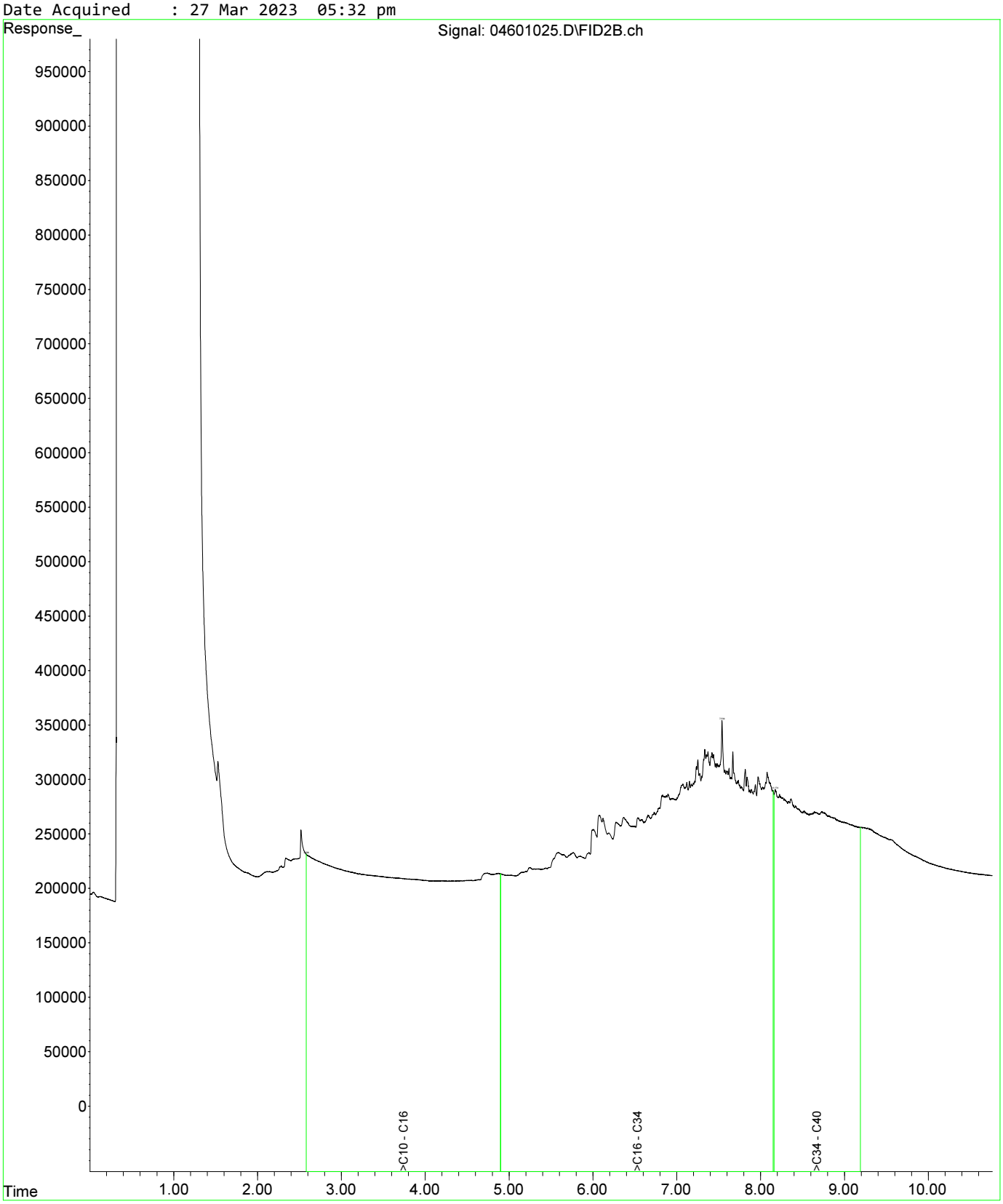

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-019
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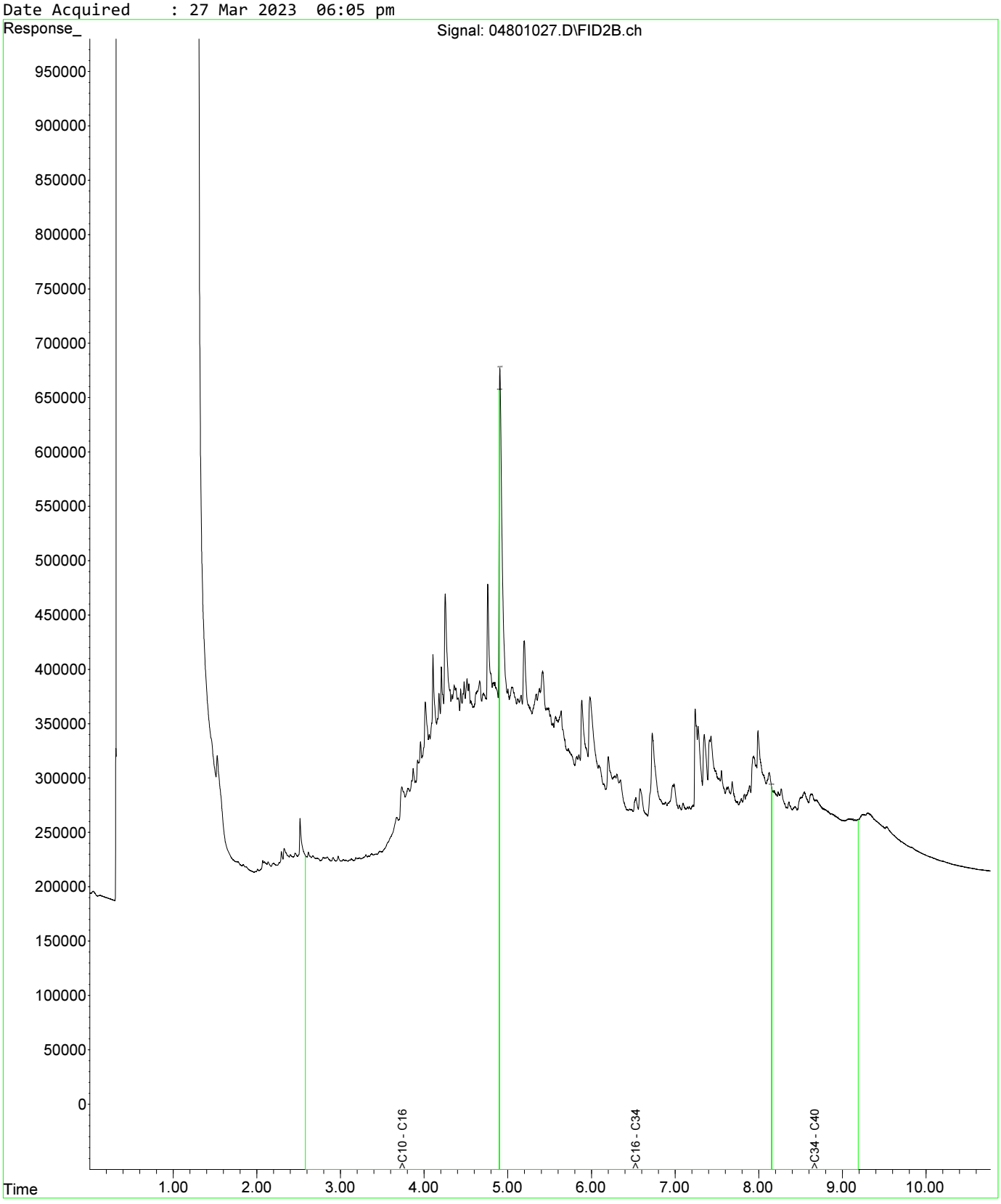

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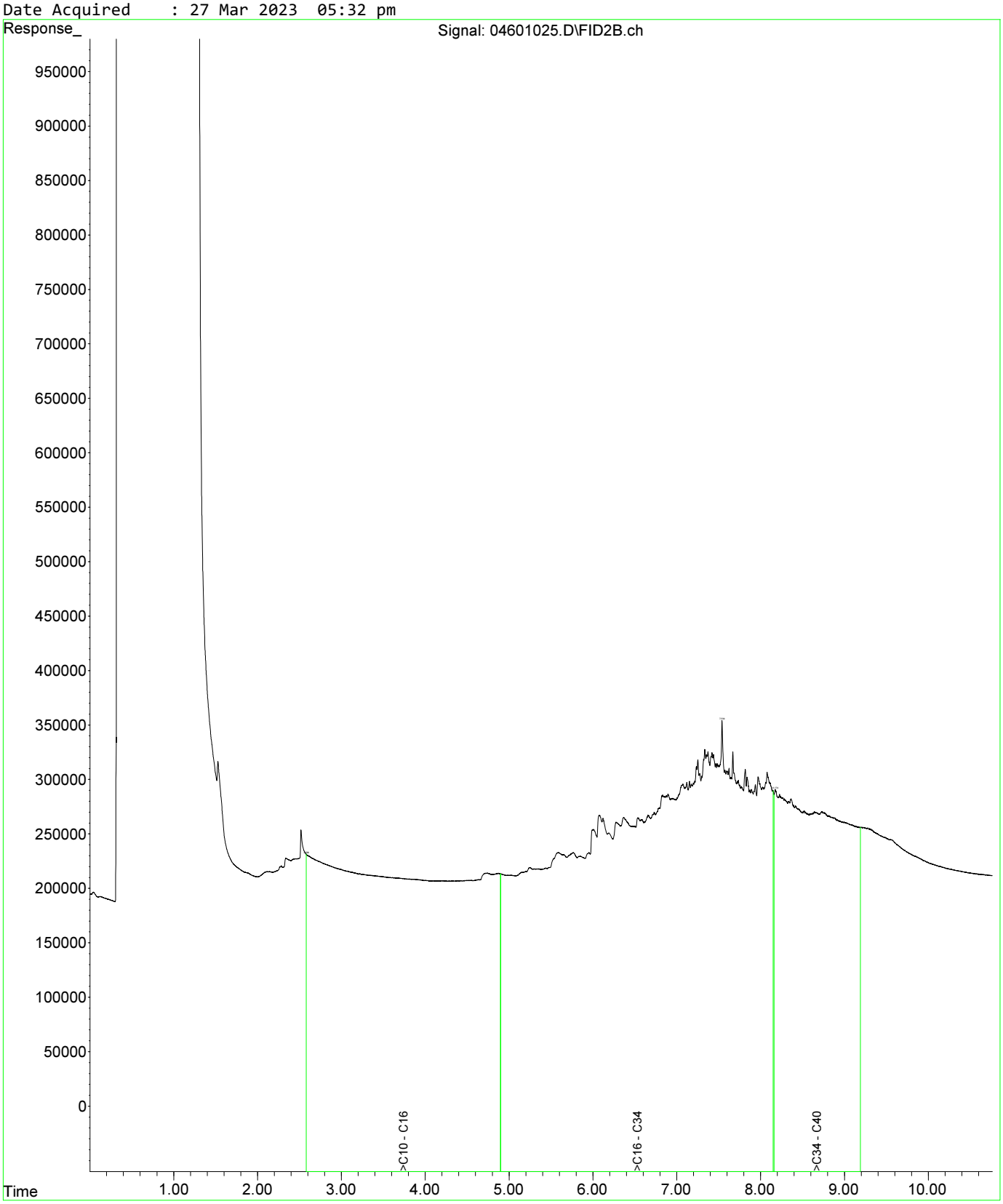

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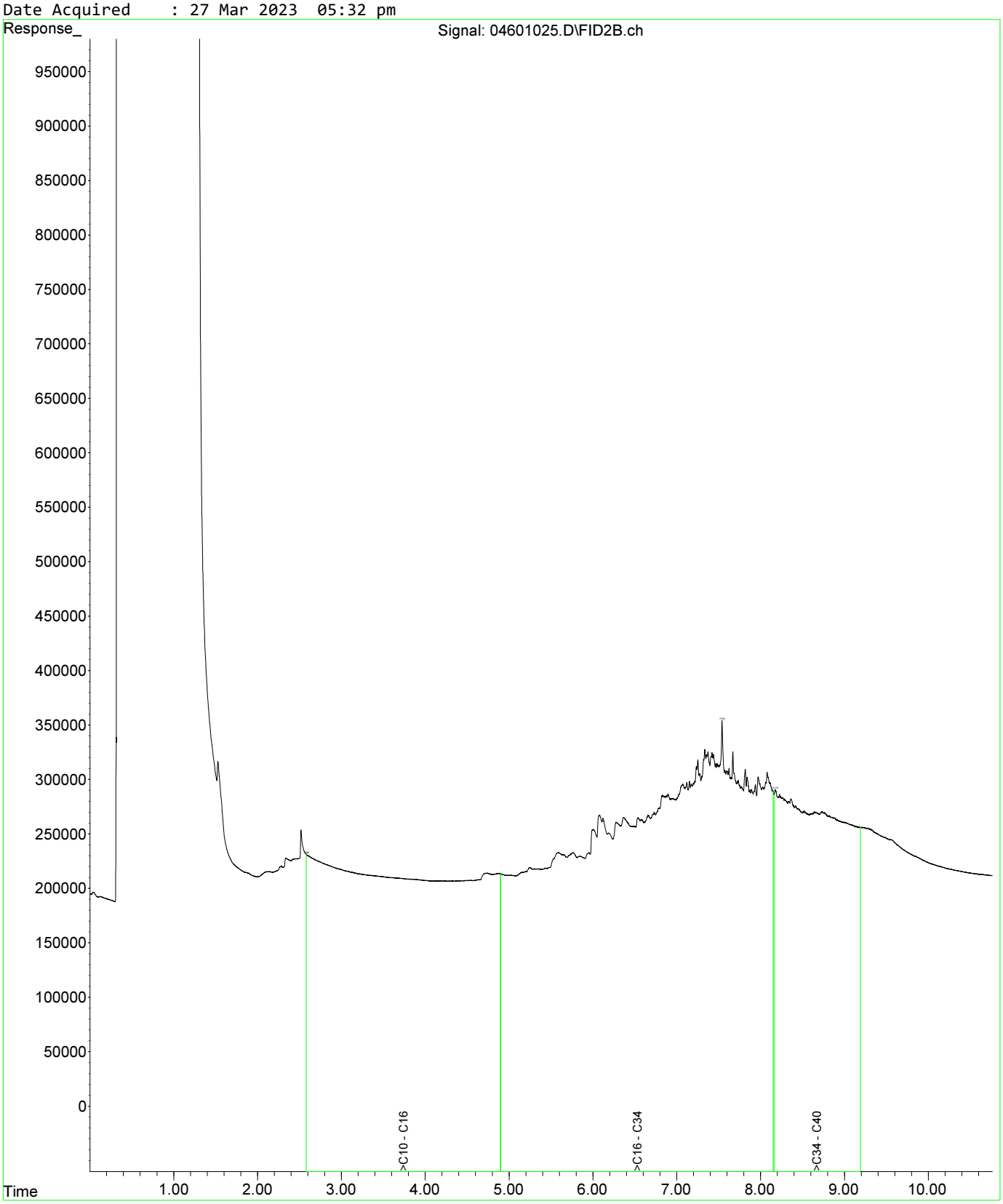

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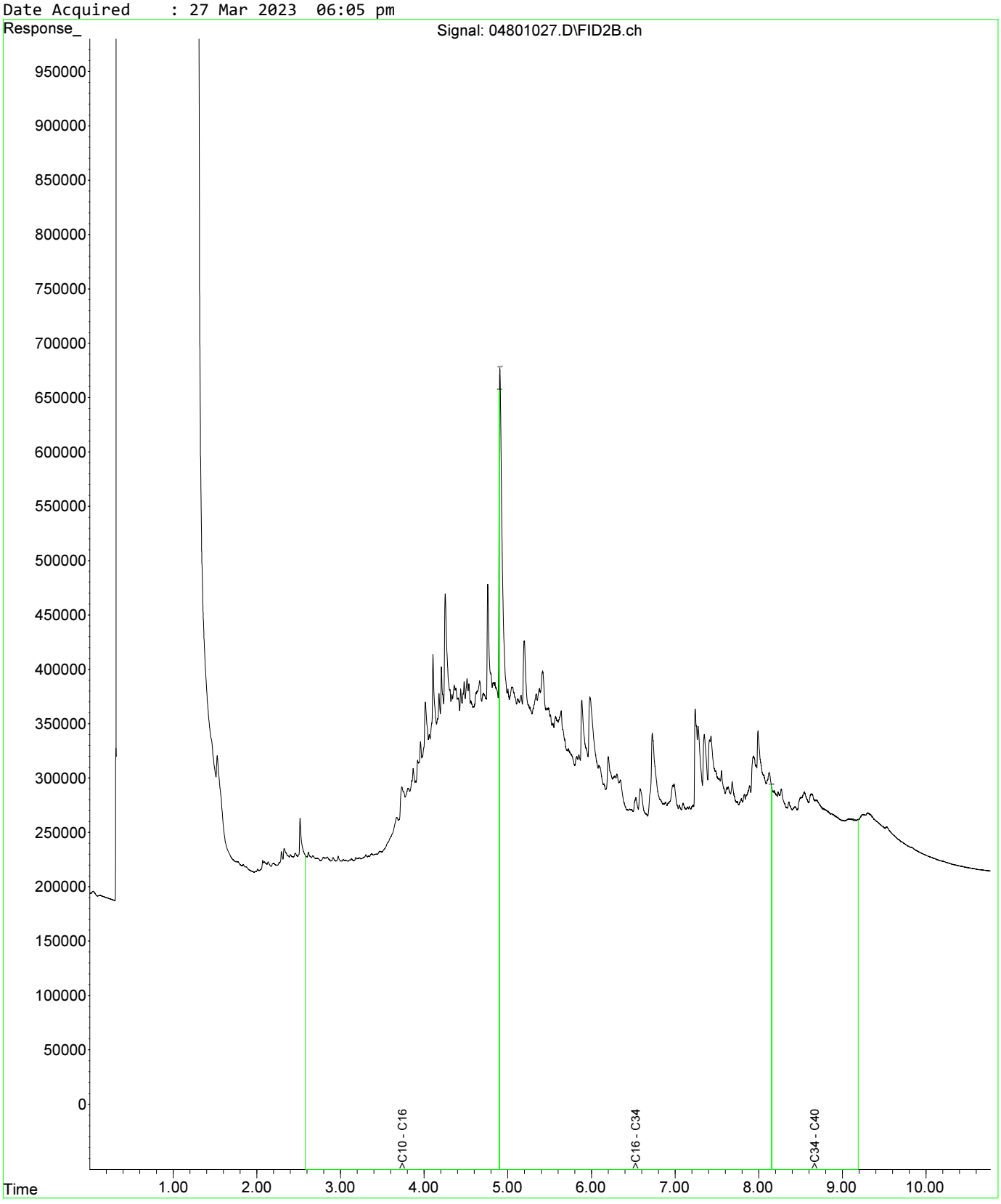

Fraction Scheme : NEPM DRAFT HIL
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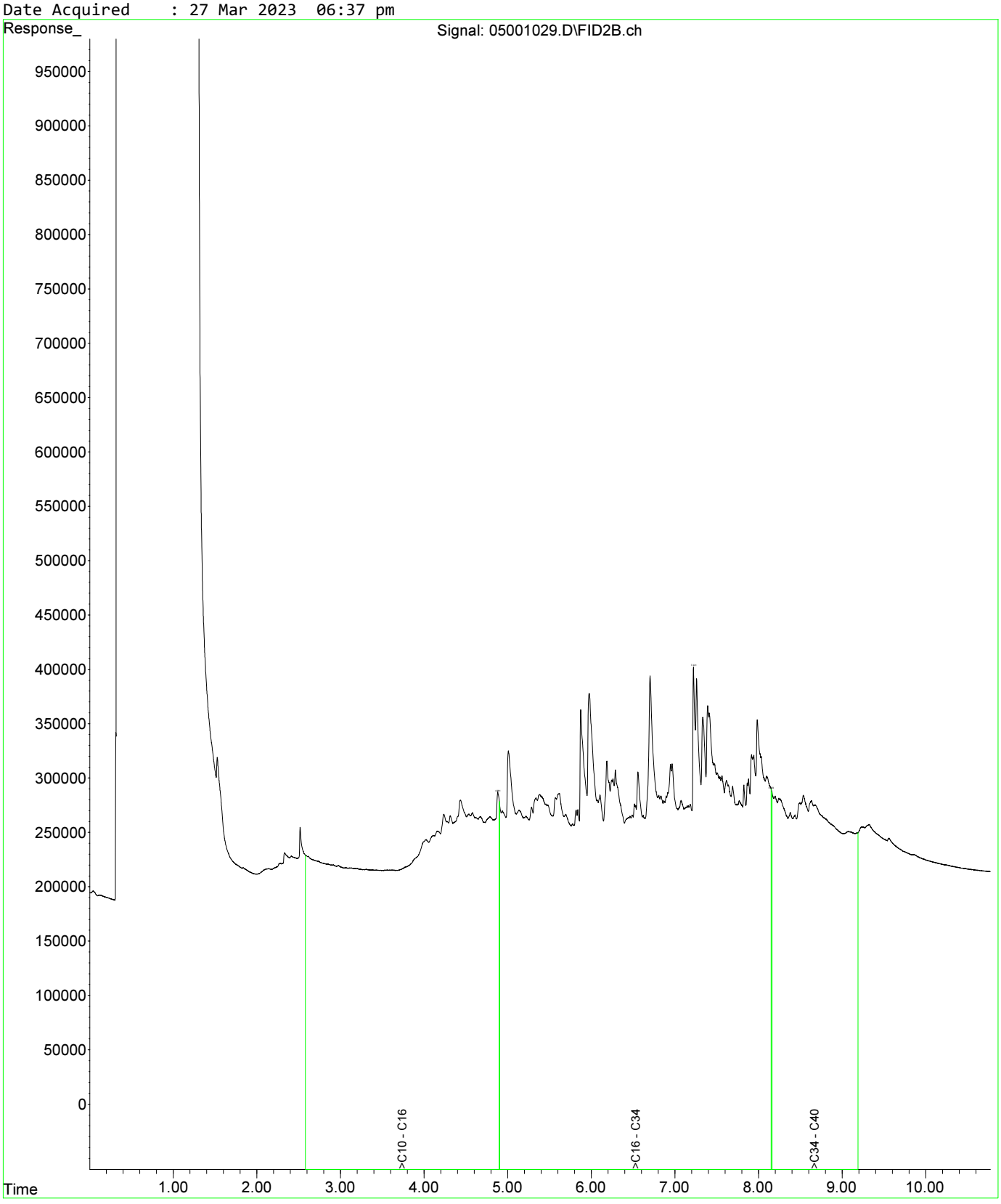

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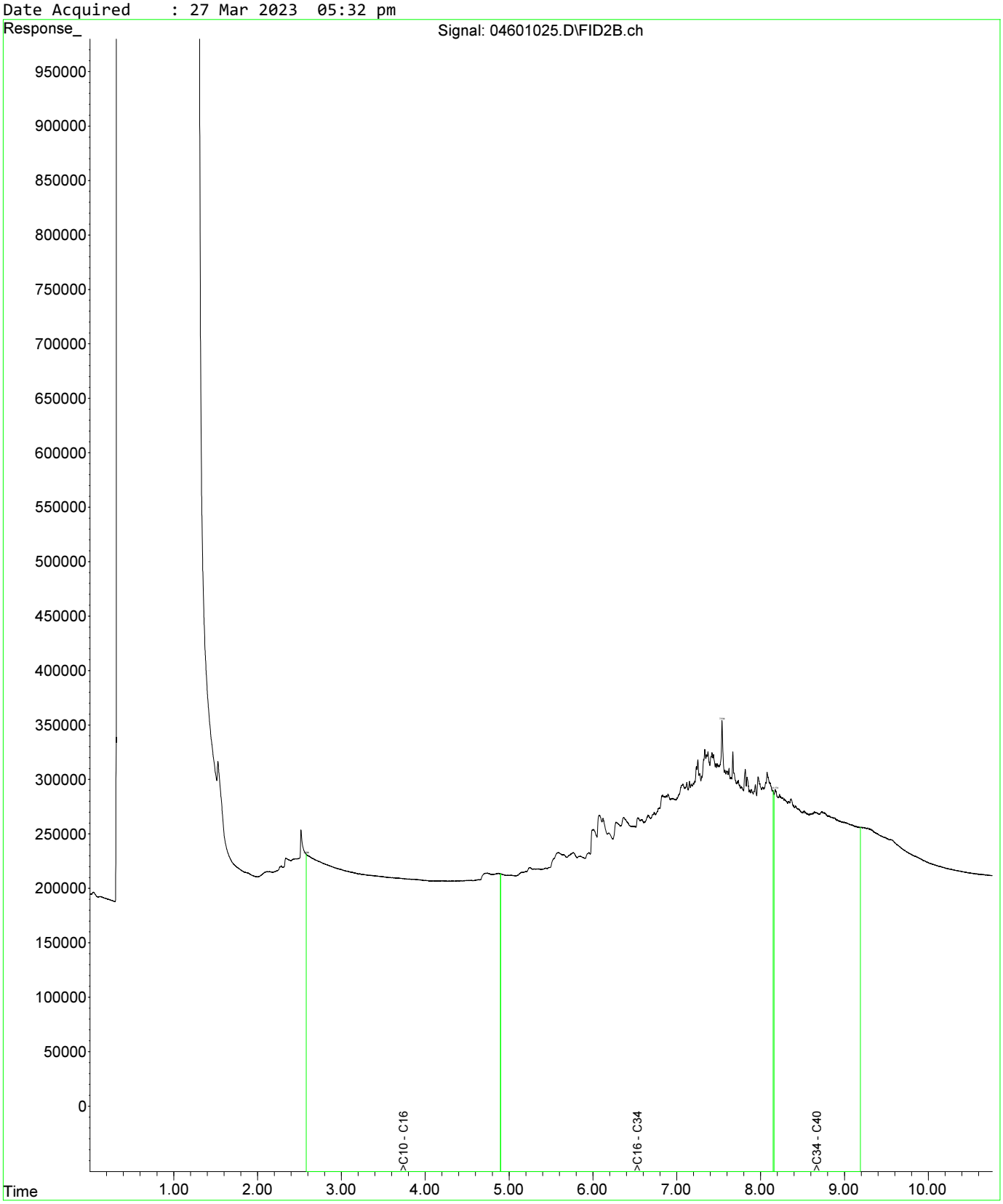

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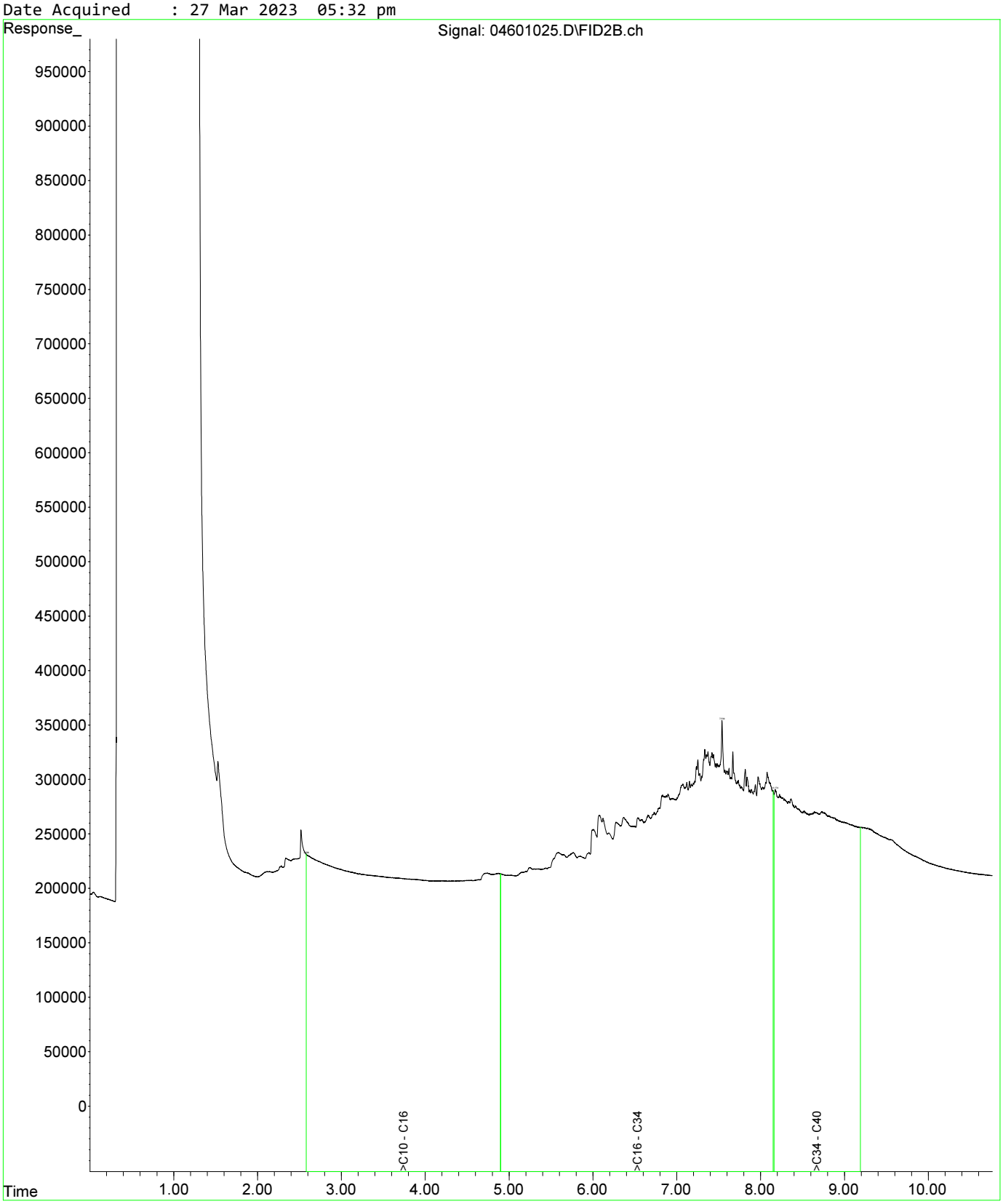

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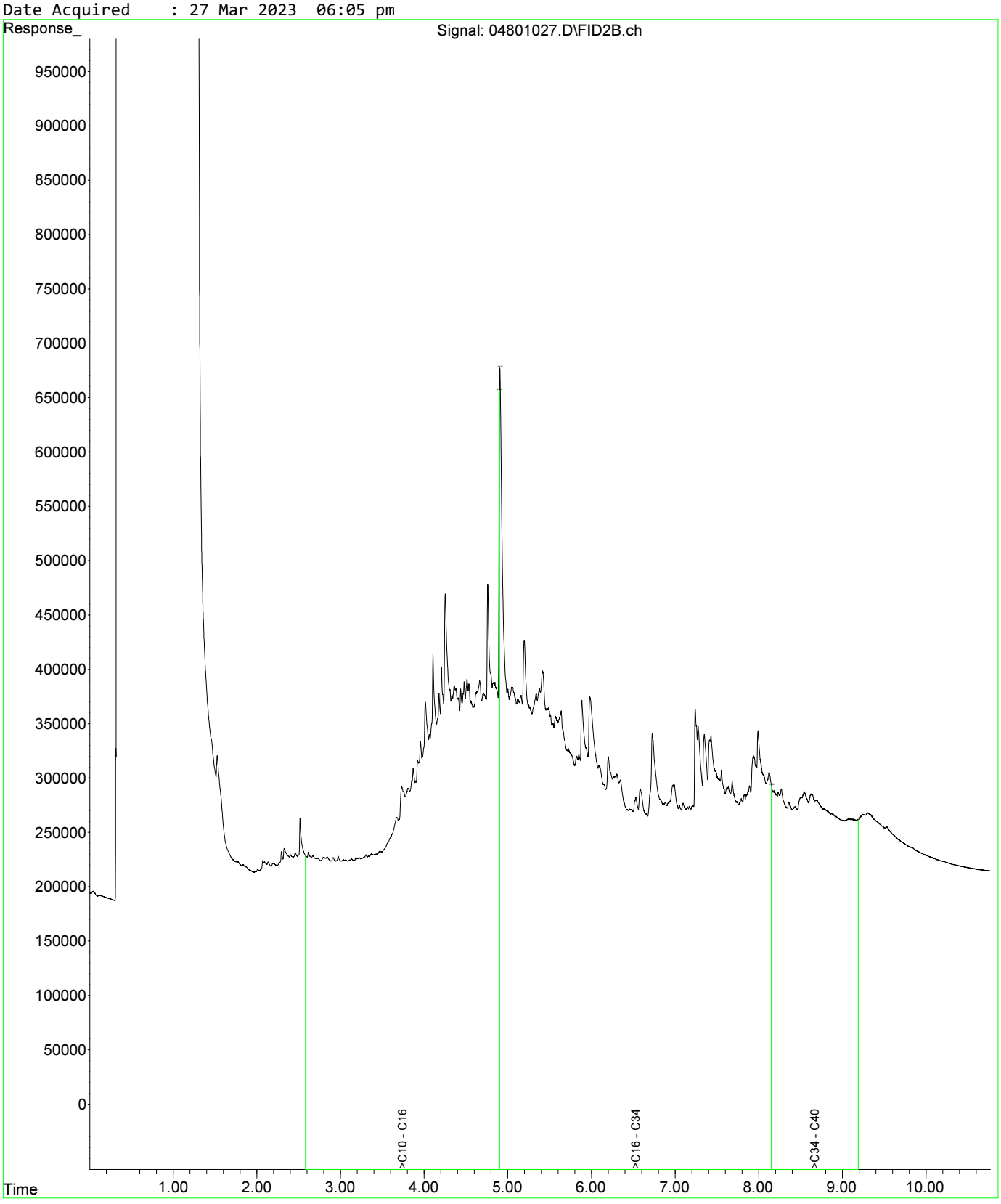

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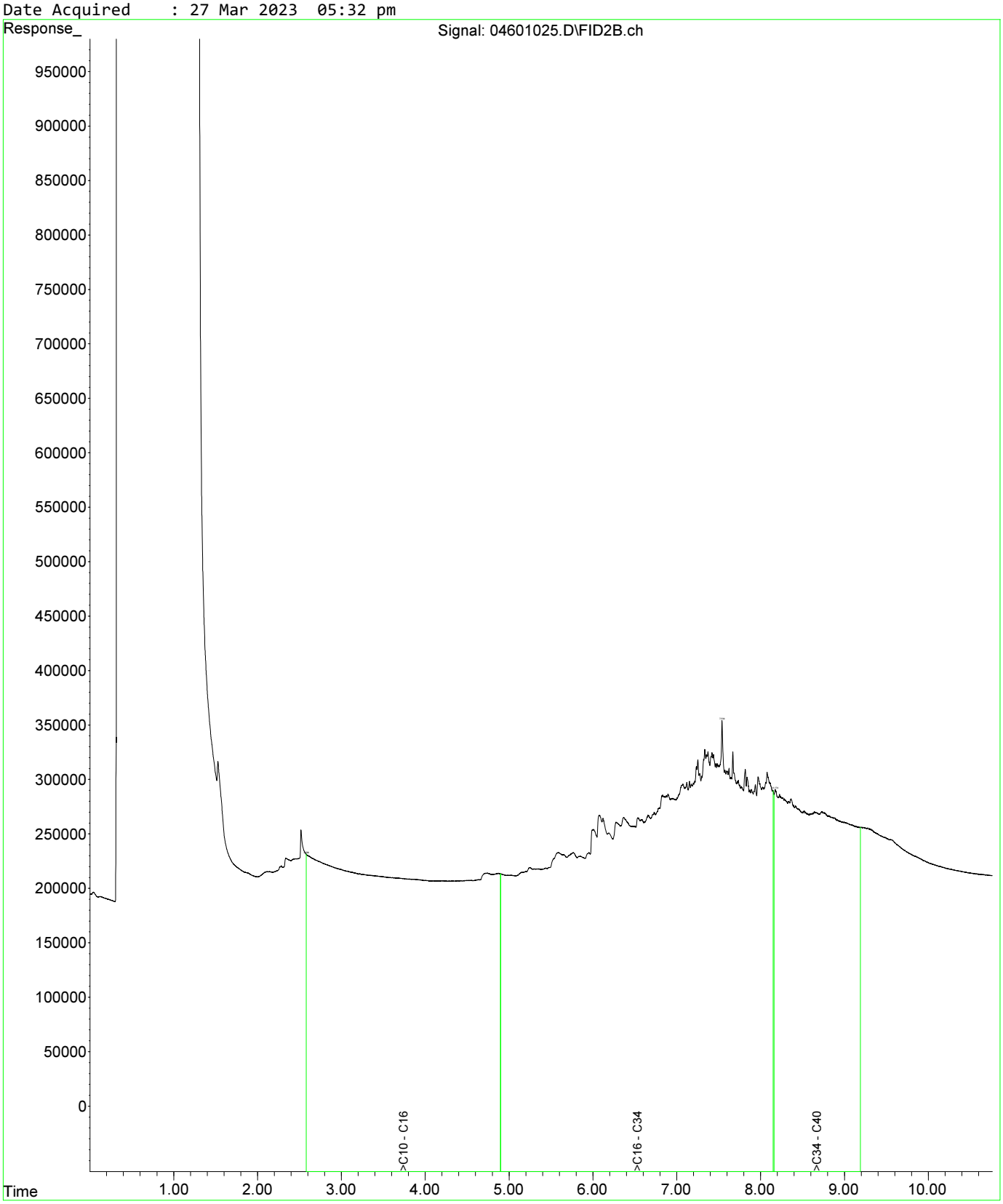

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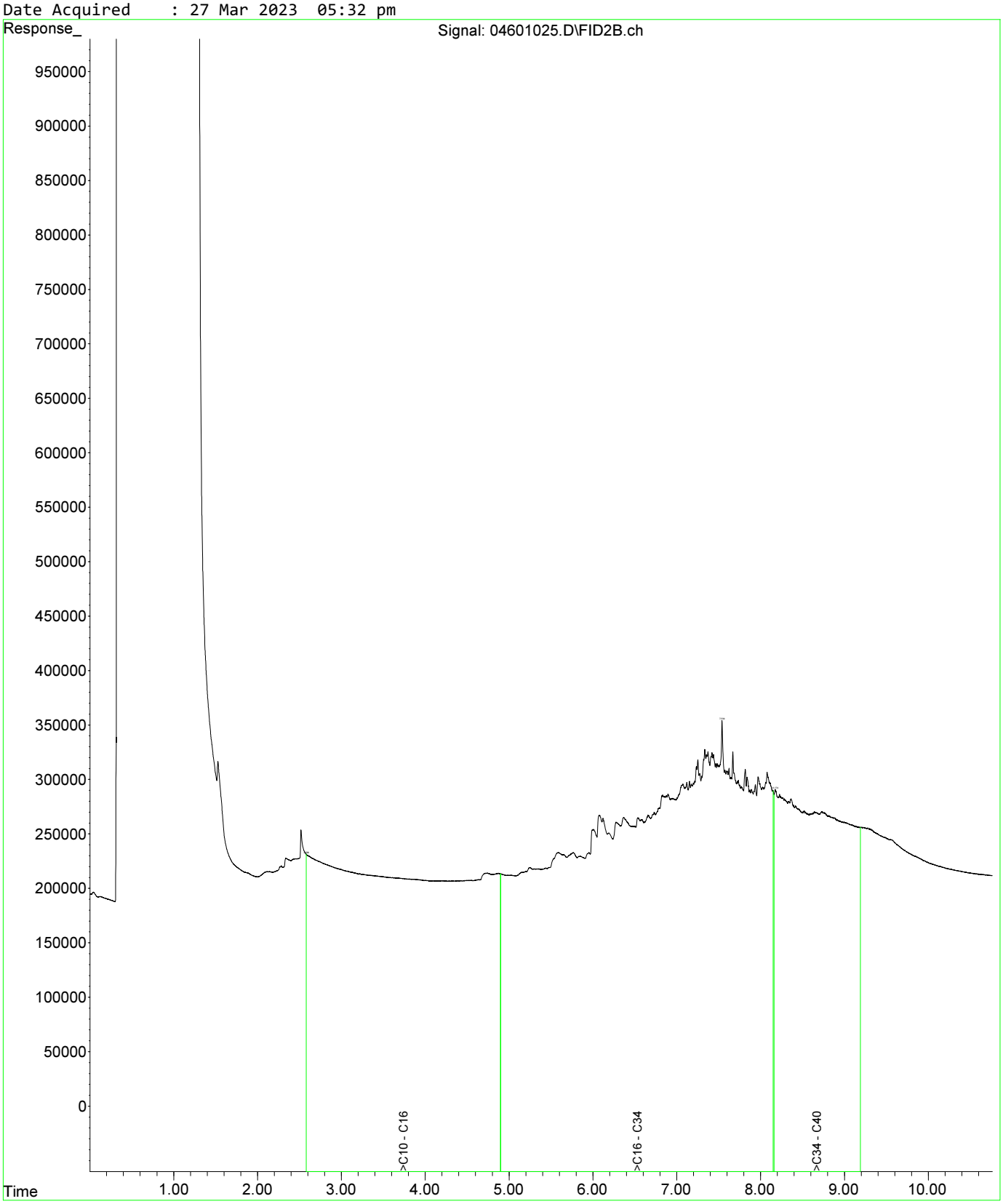

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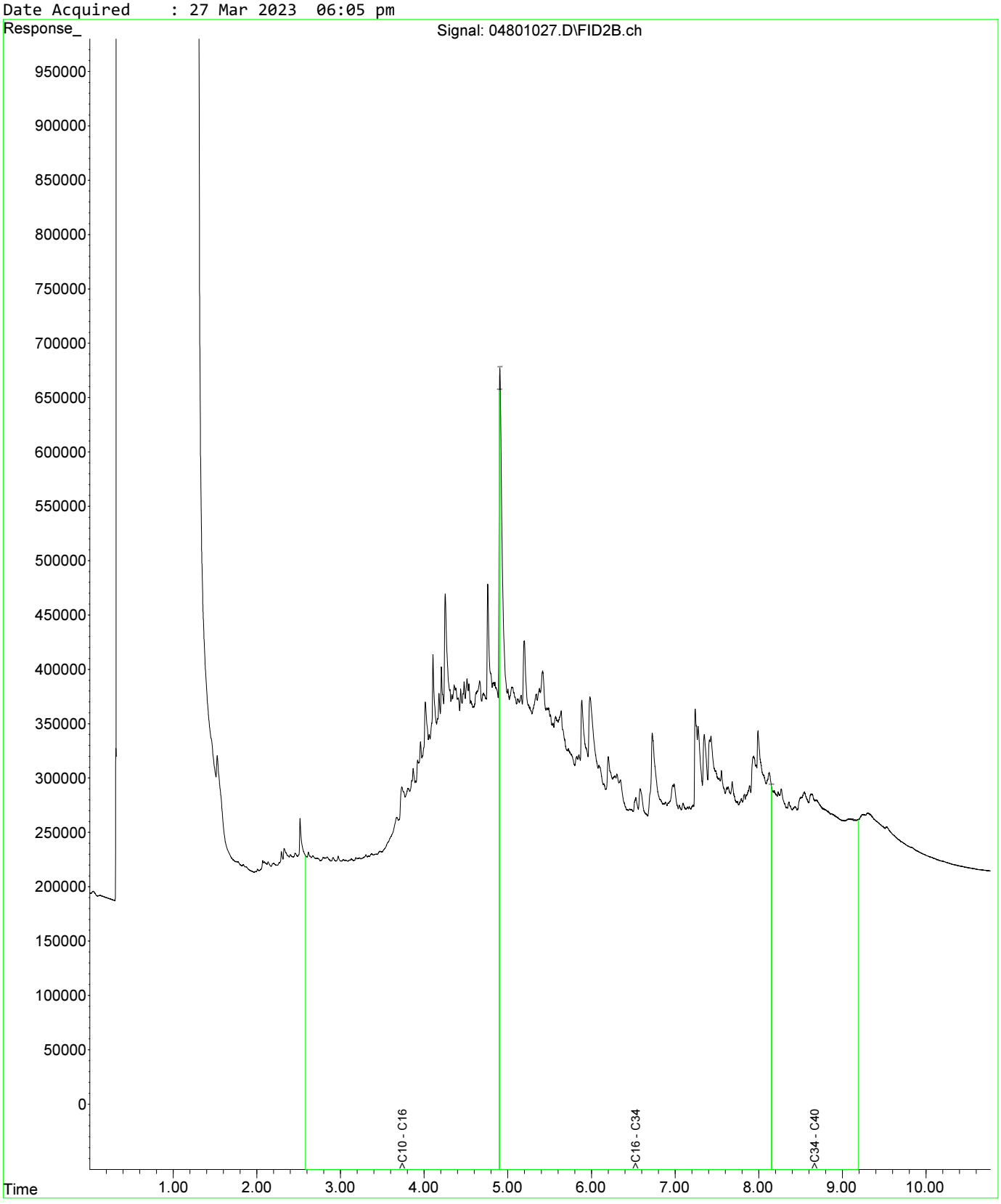

Fraction Scheme : NEPM DRAFT HIL
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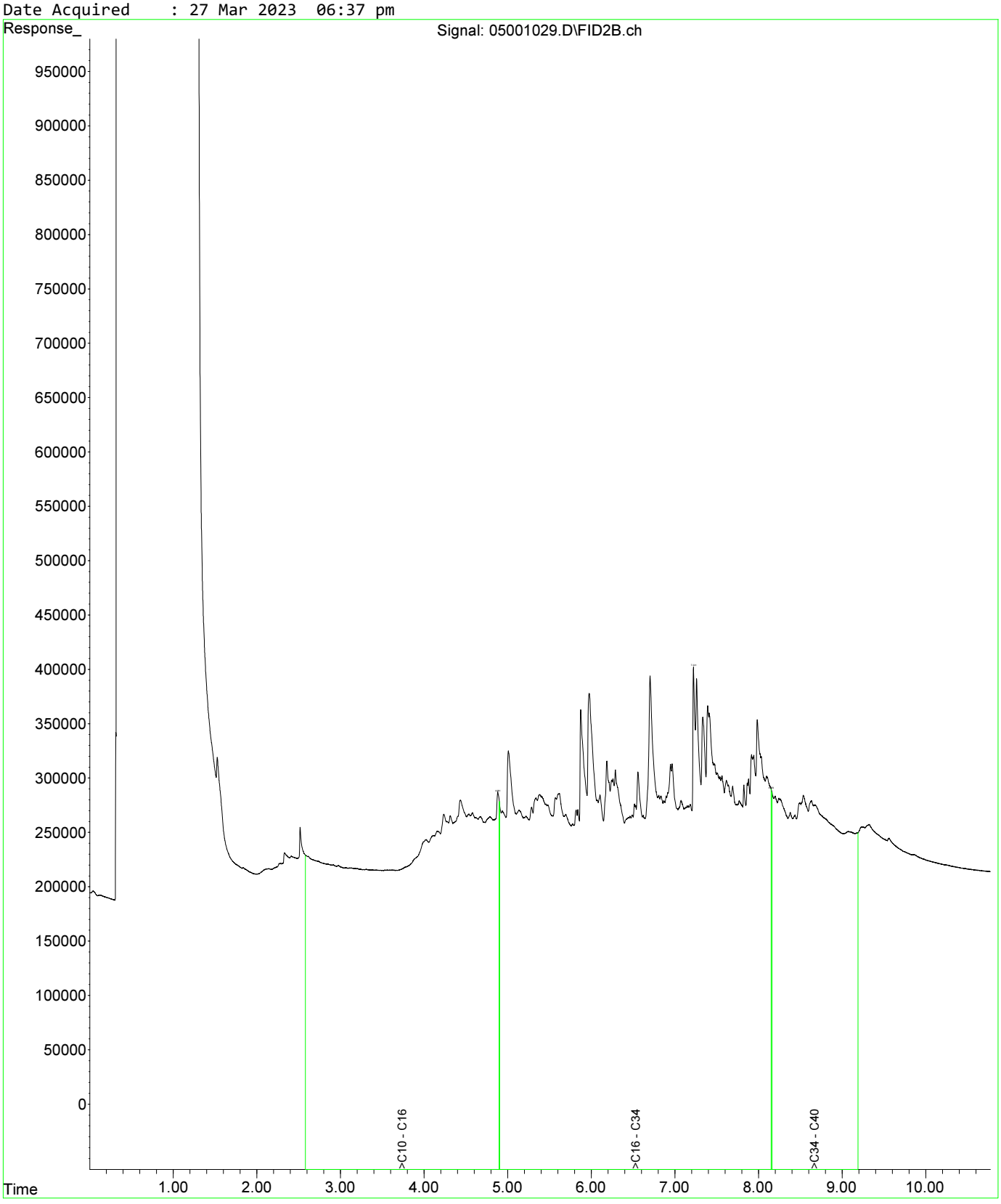

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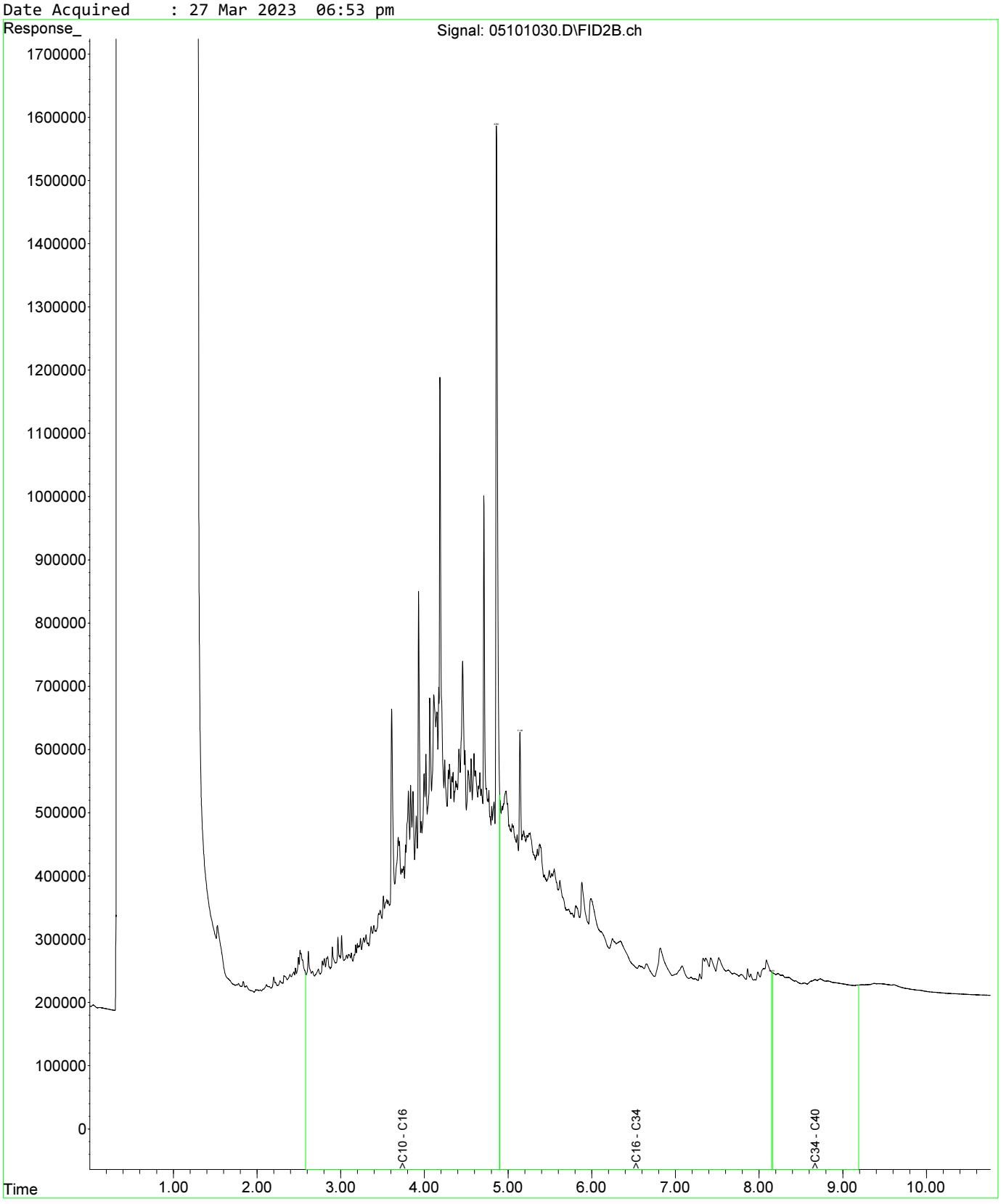

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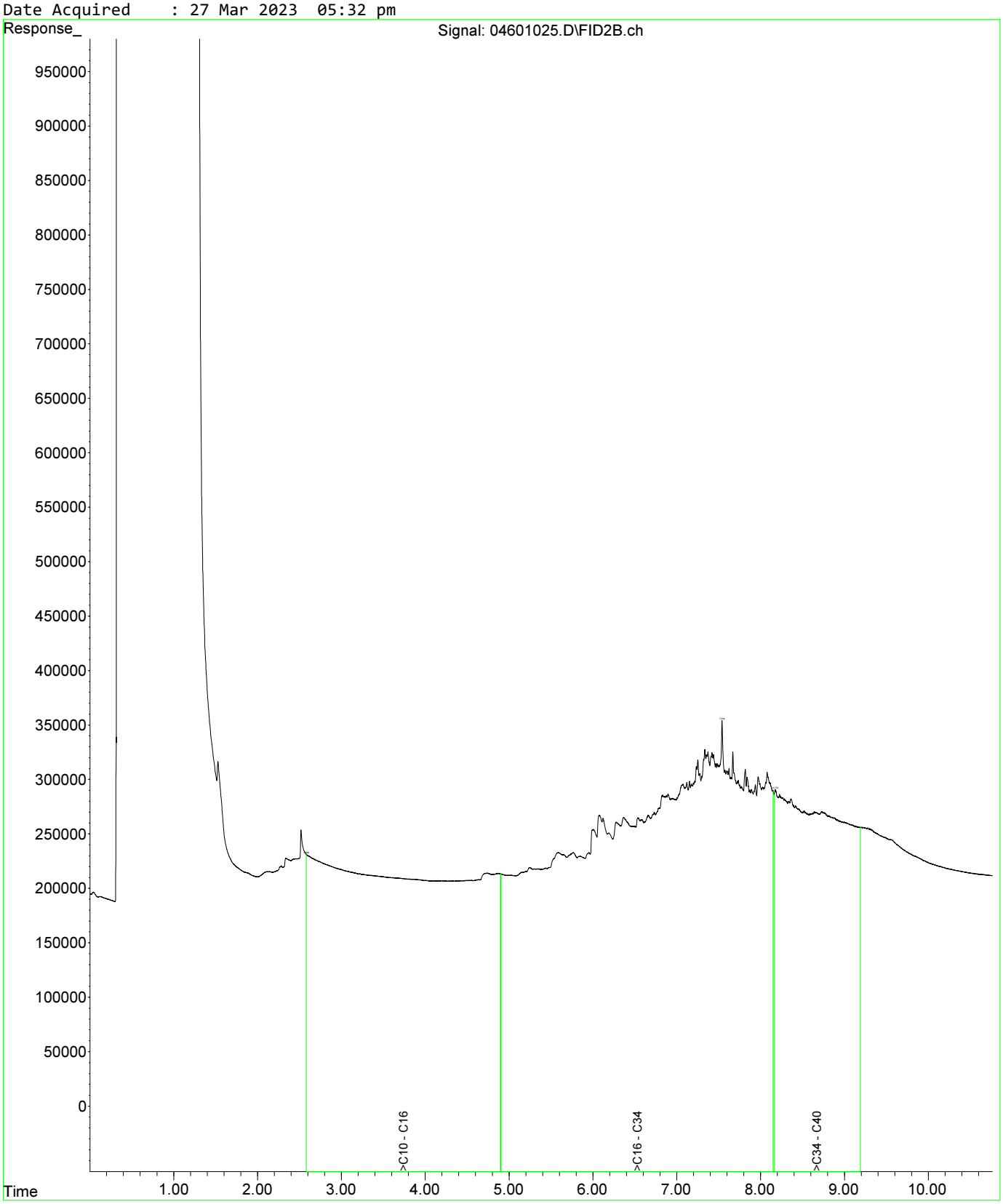

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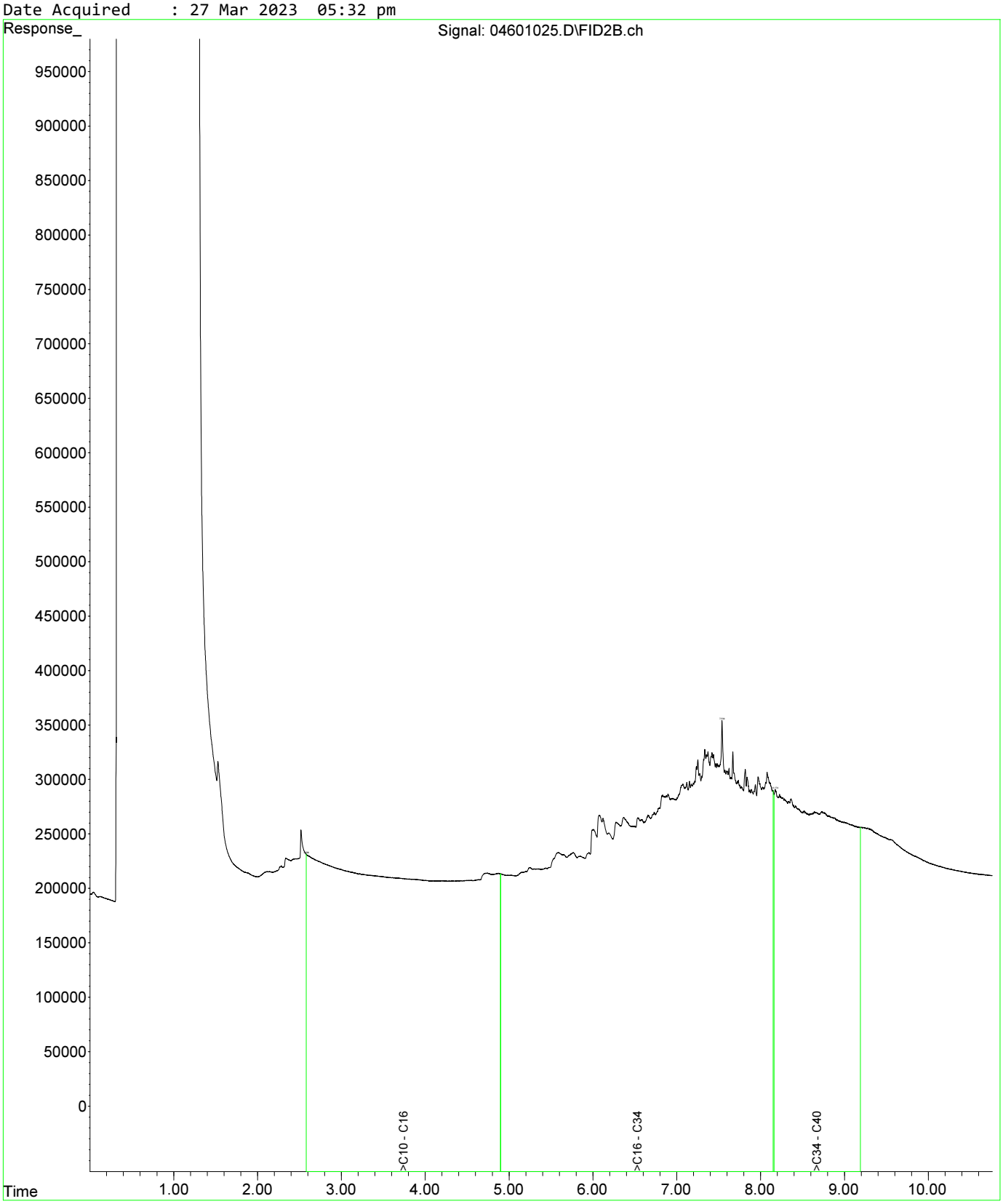
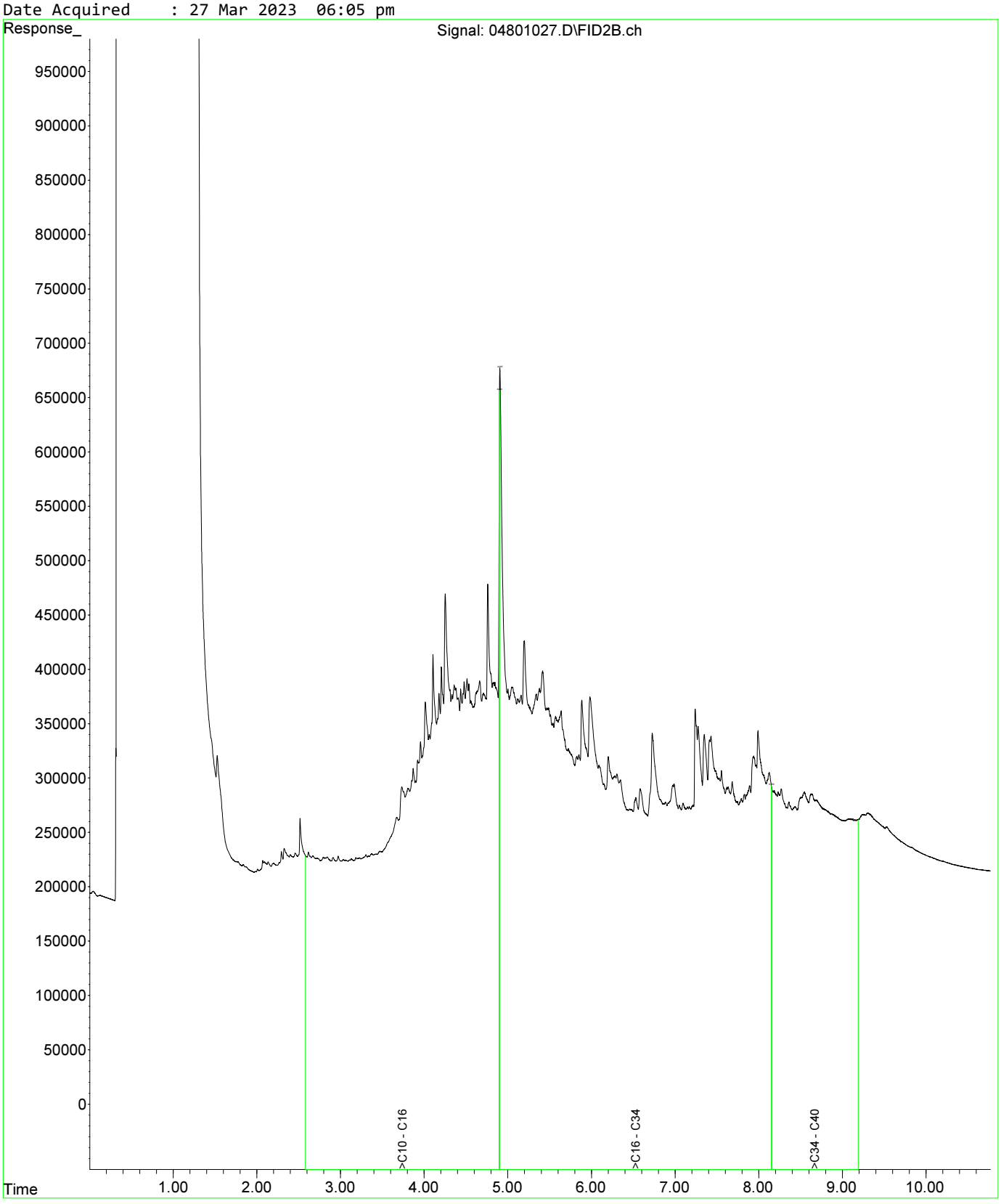


Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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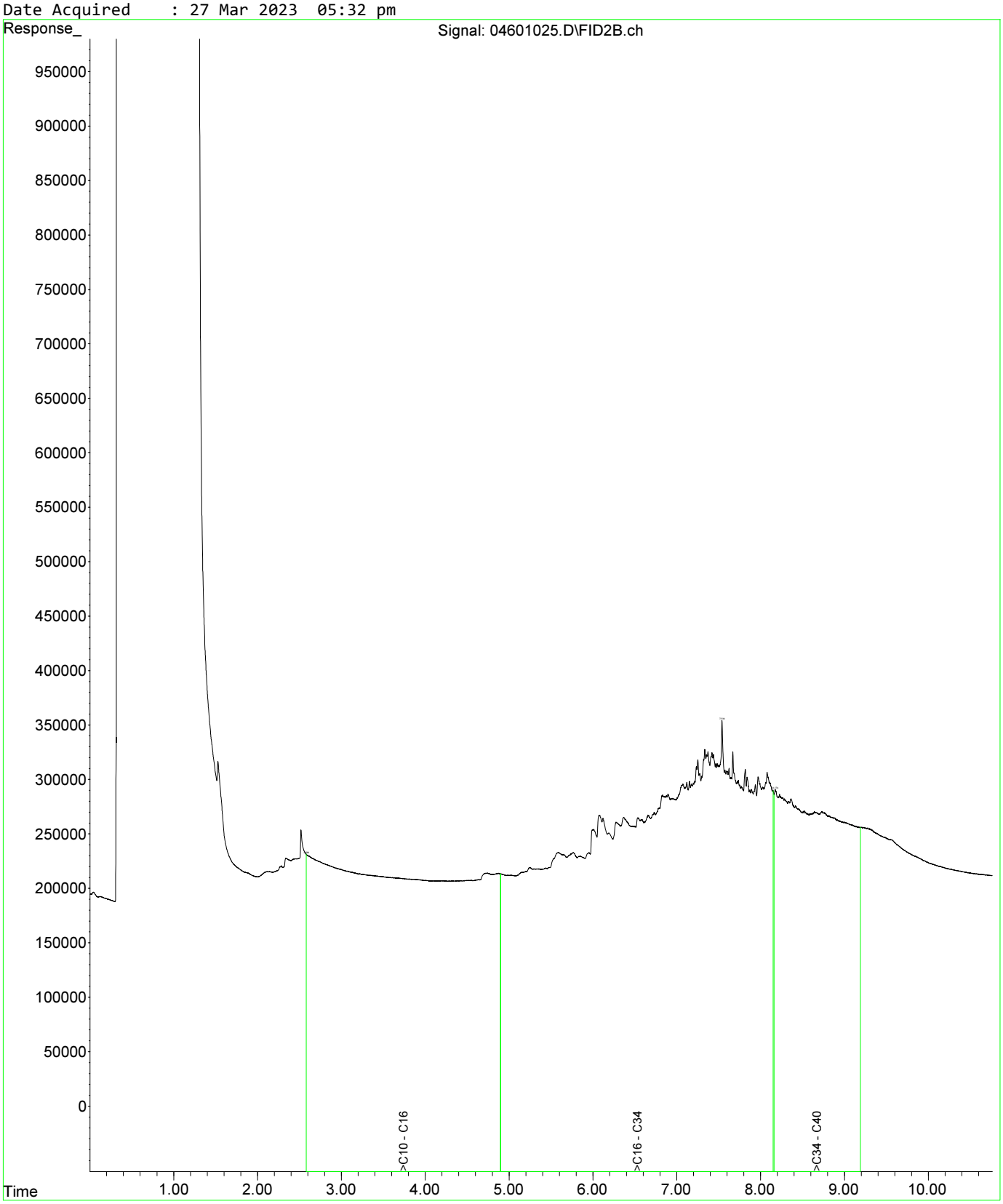

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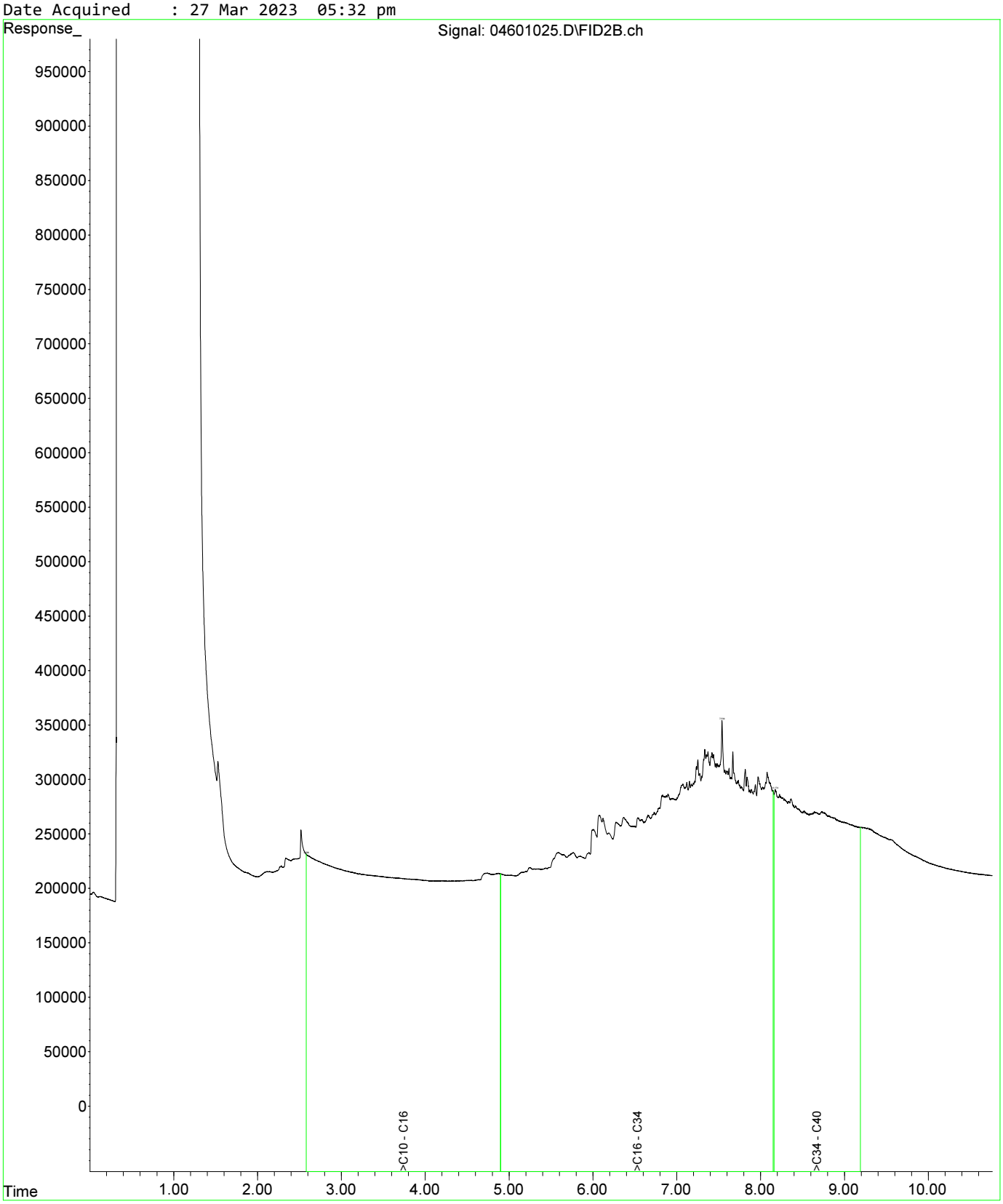

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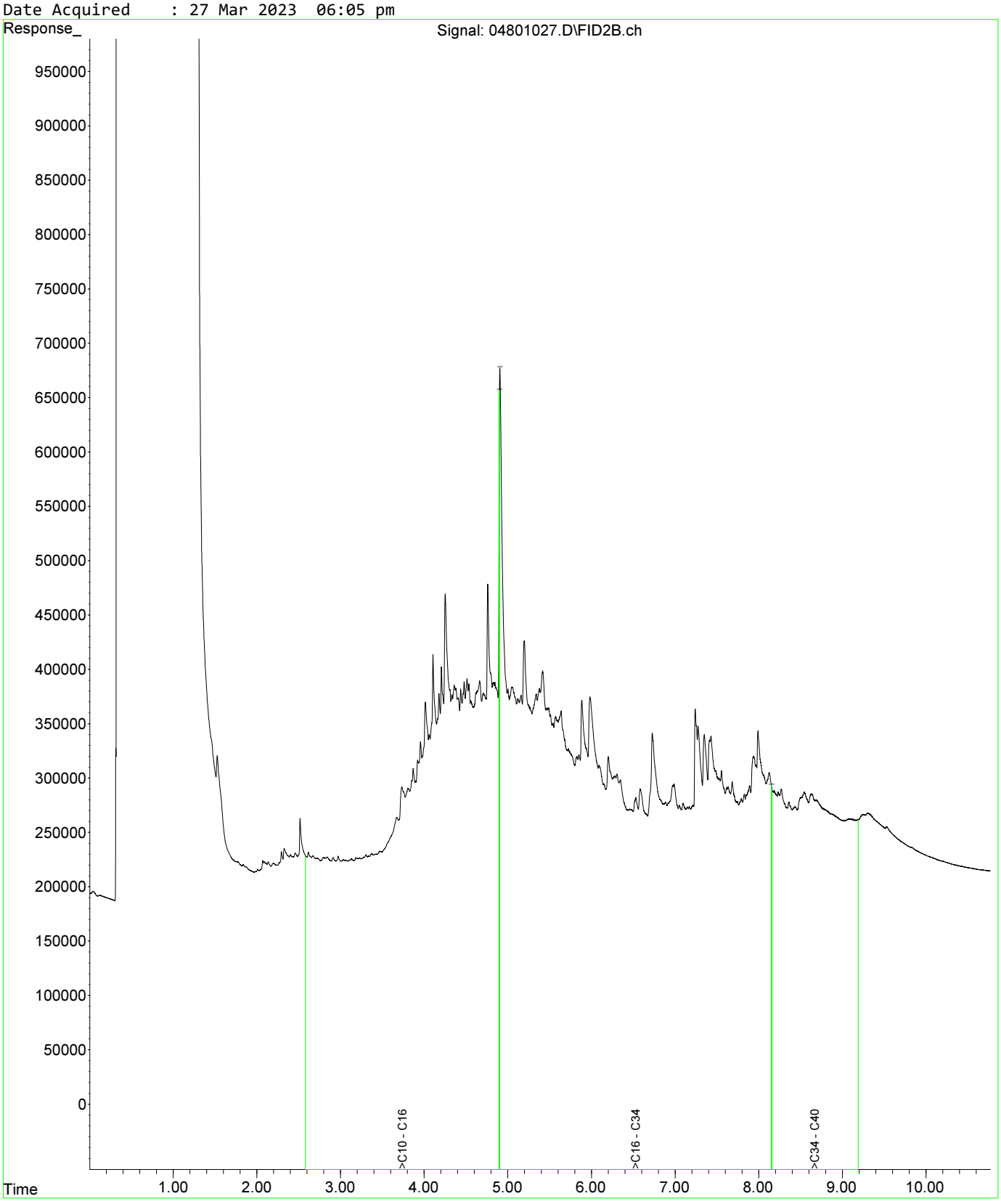

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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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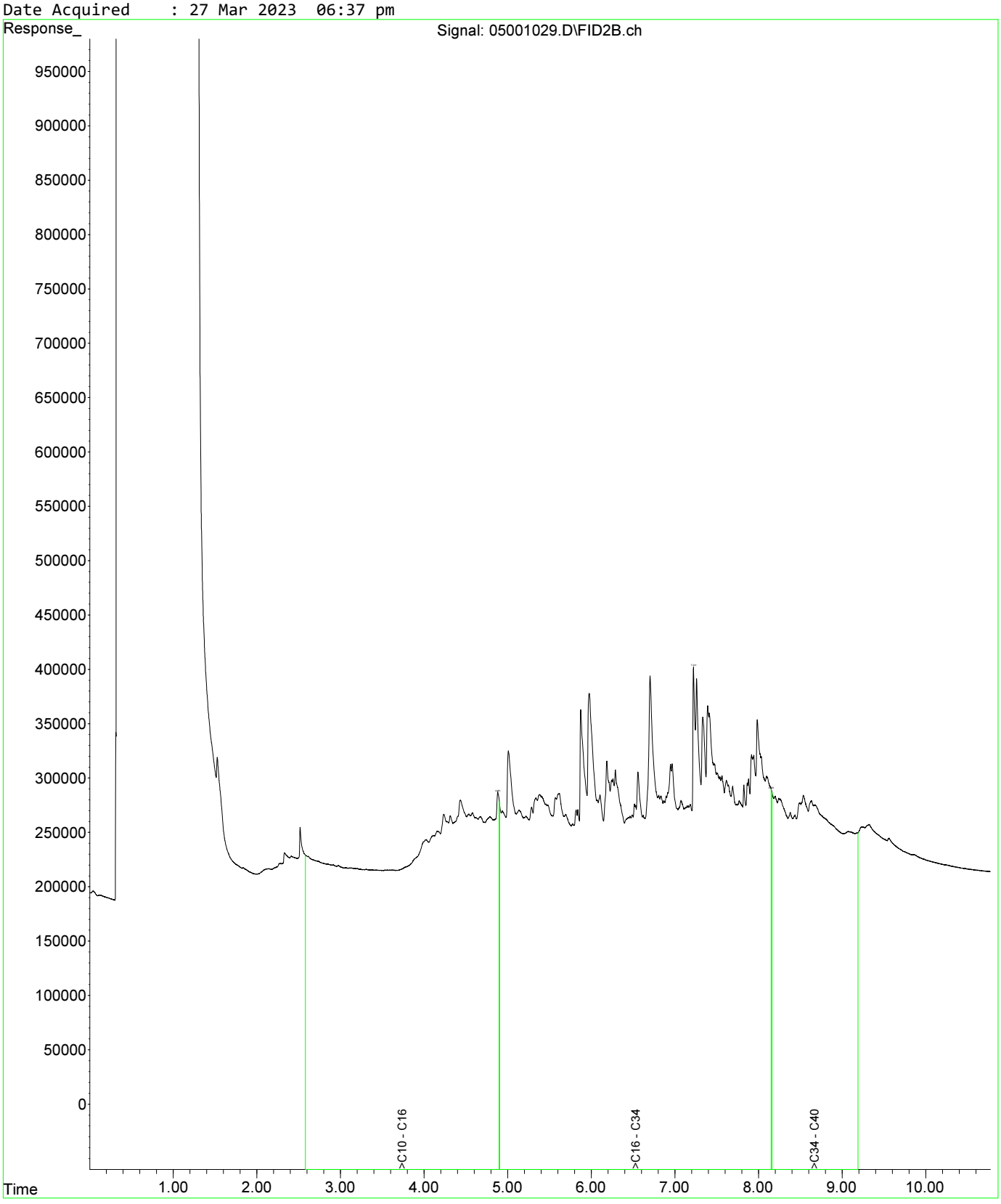

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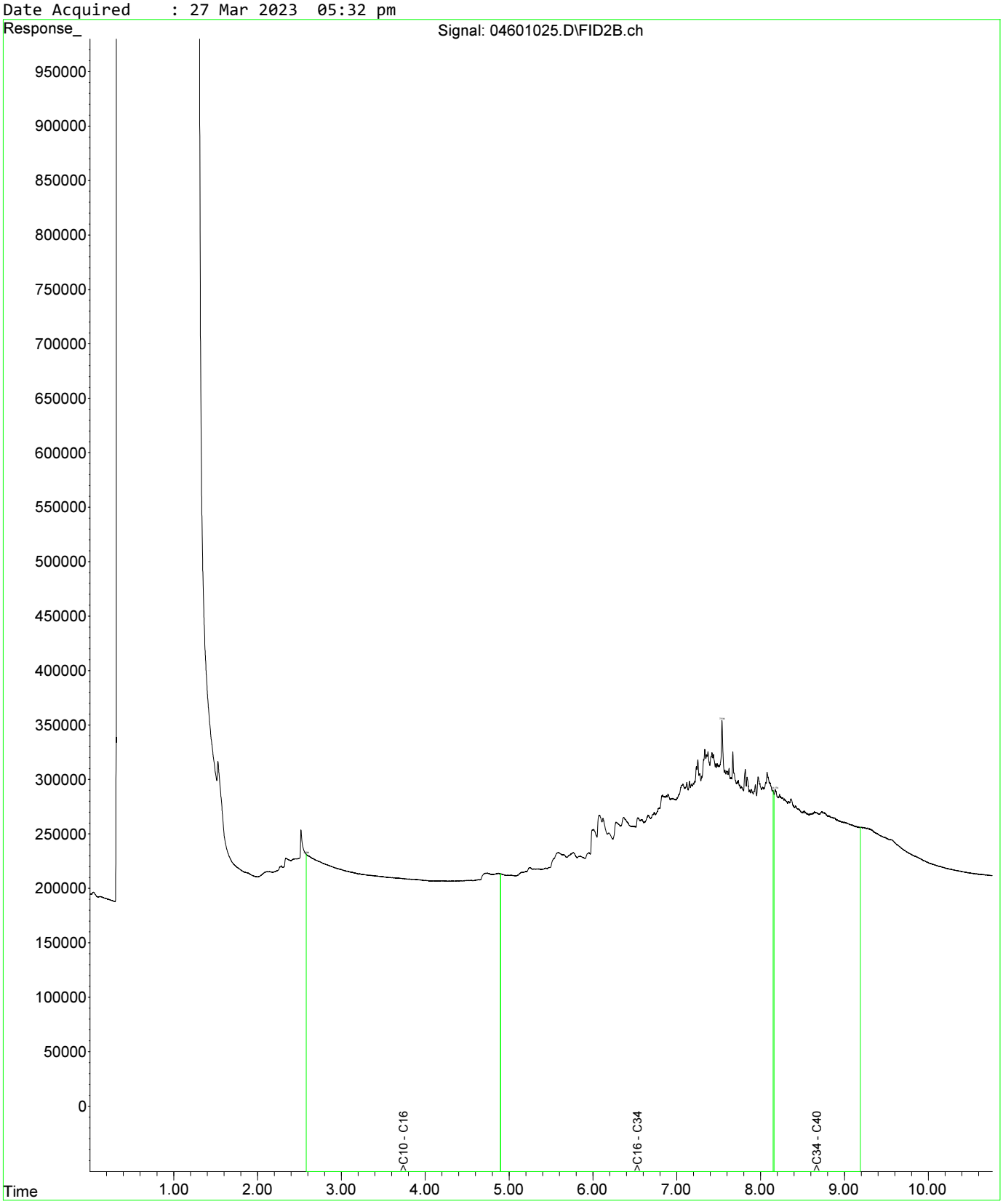

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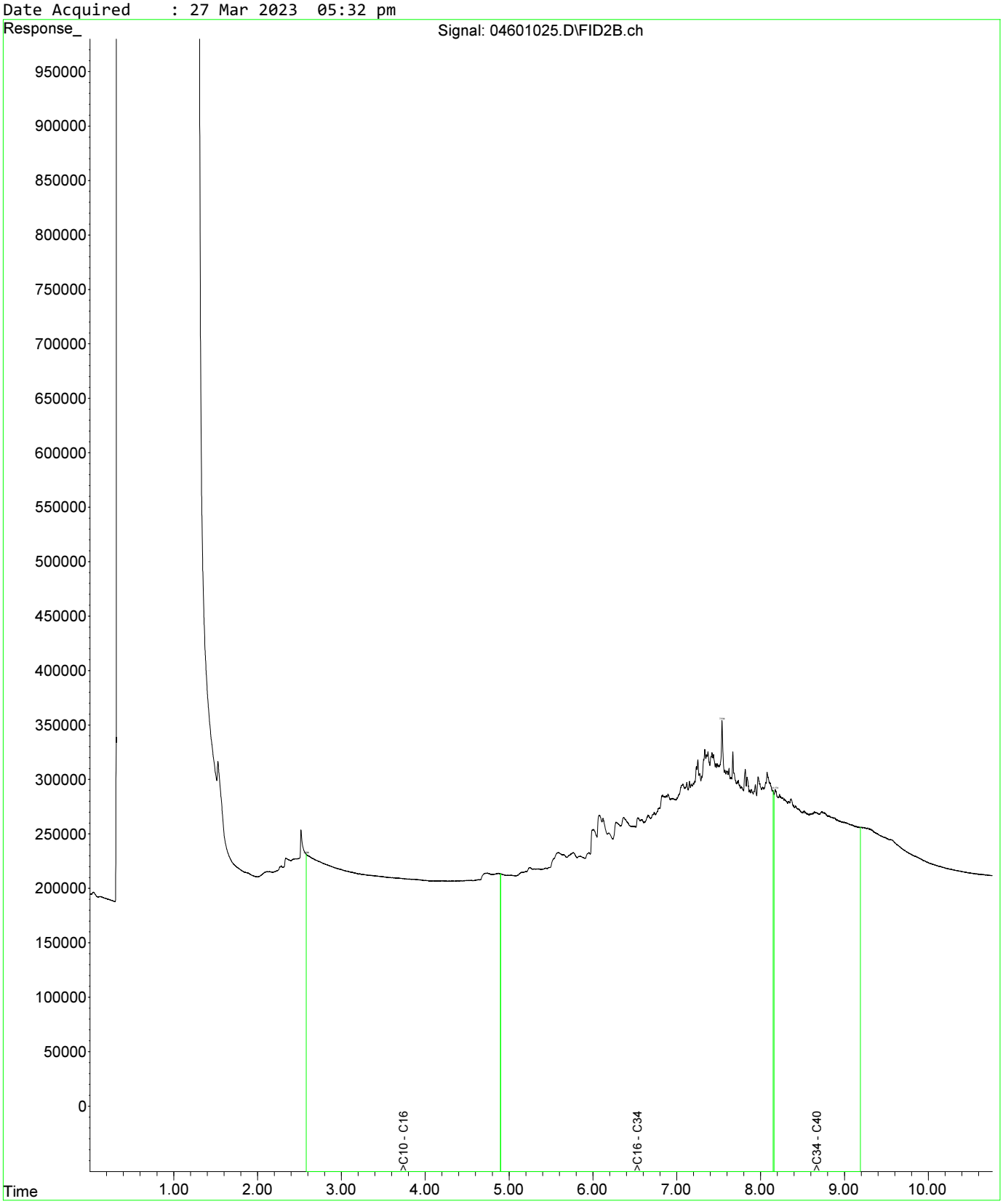

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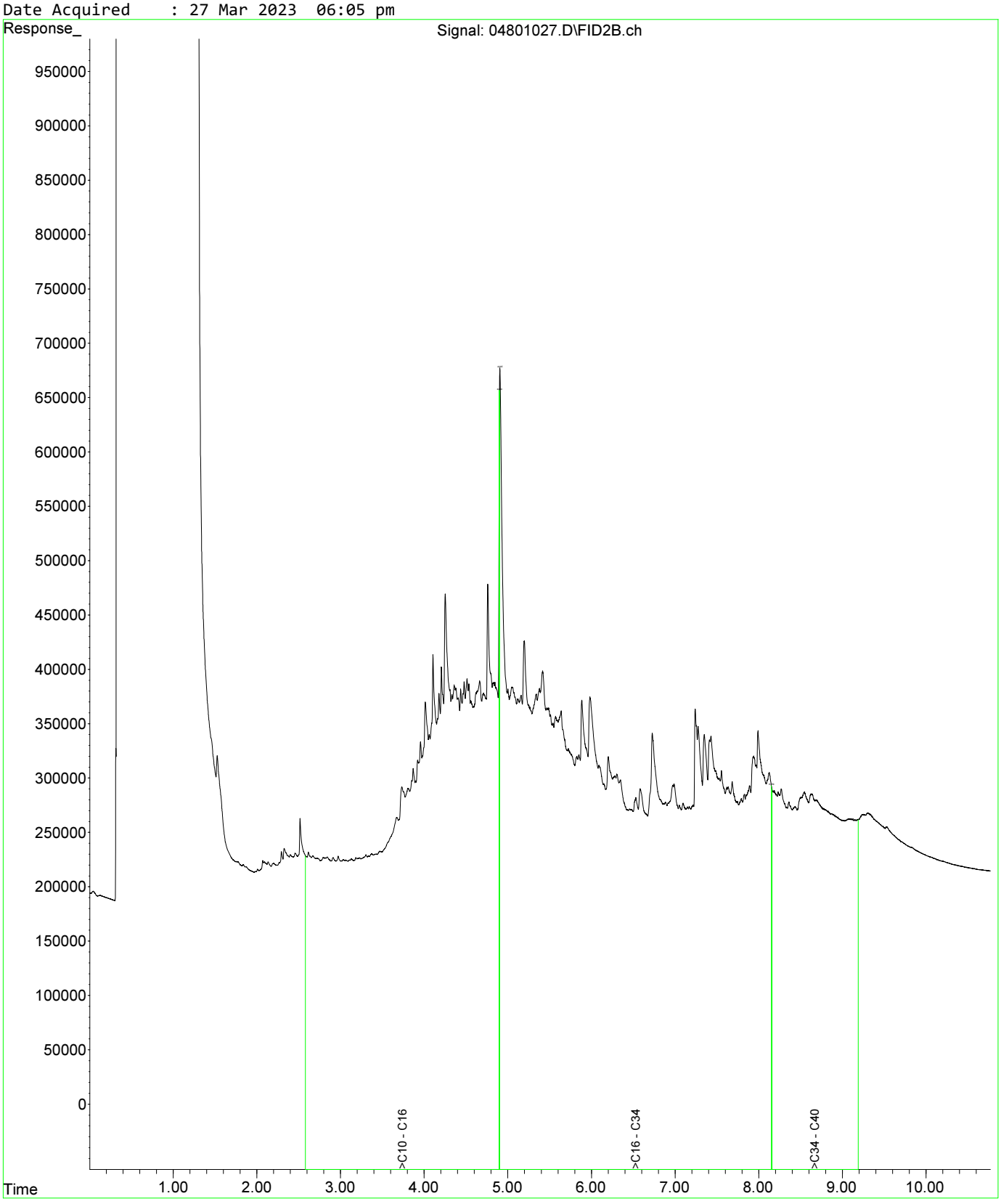

Fraction Scheme : NEPM DRAFT HIL
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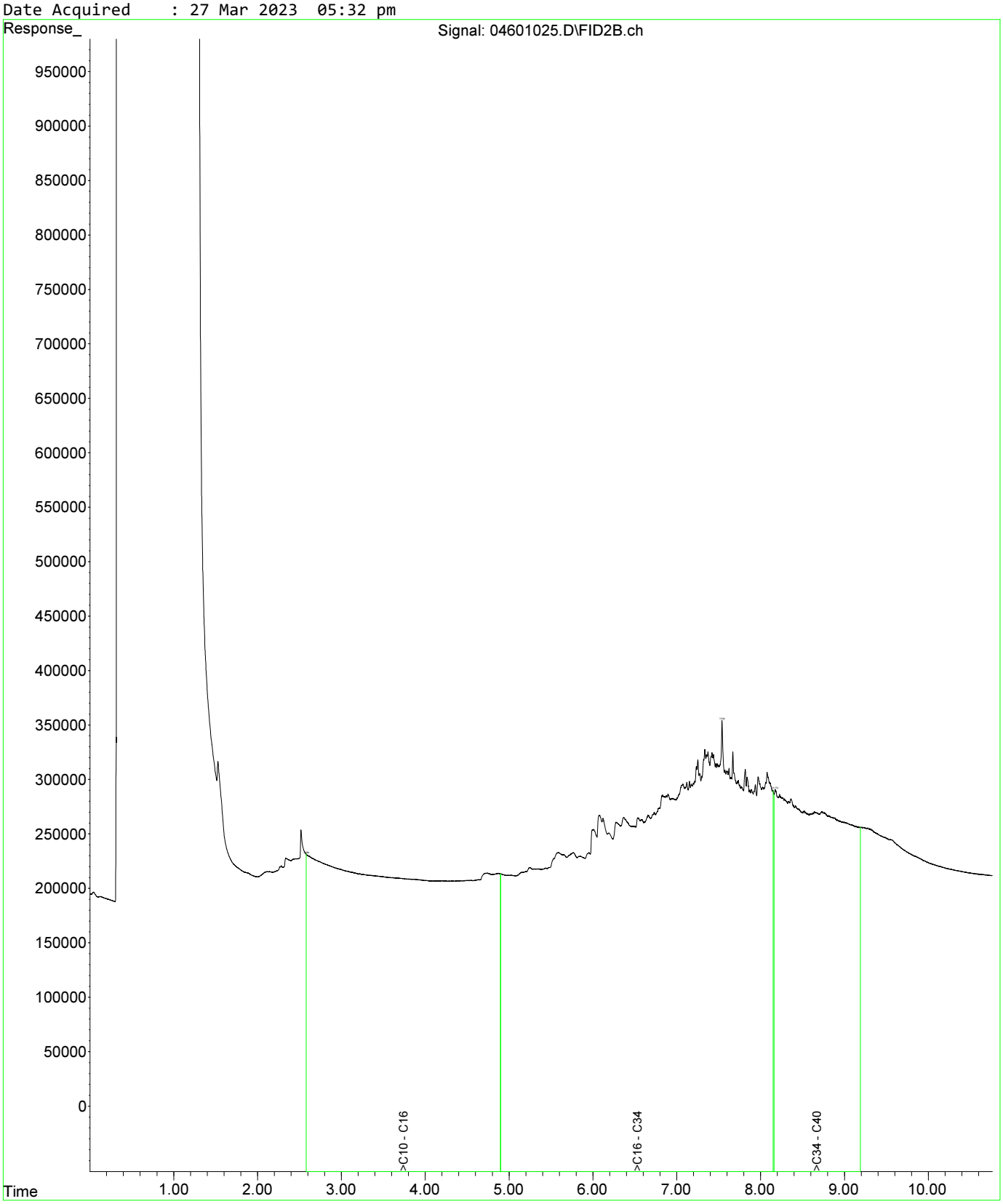

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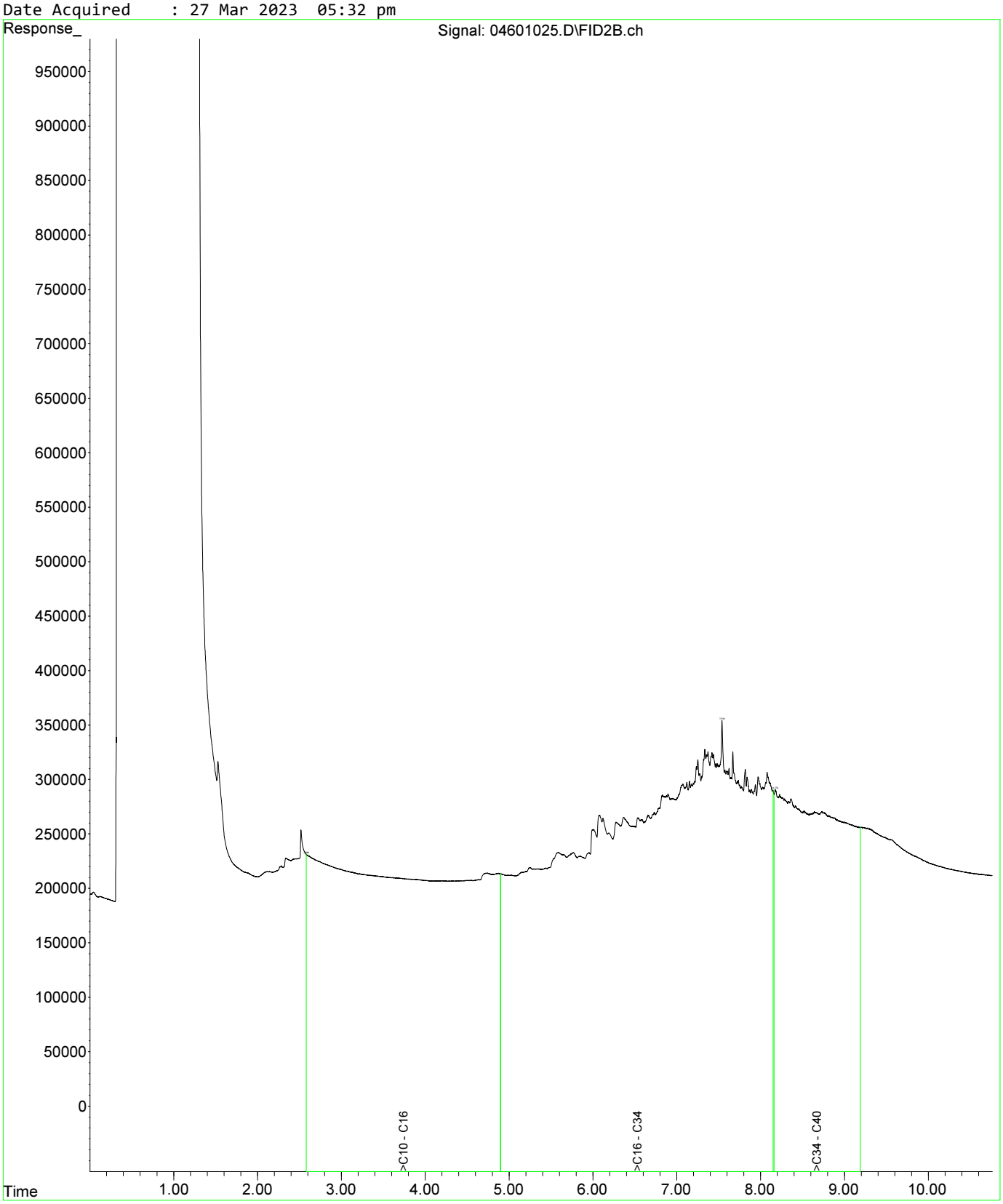

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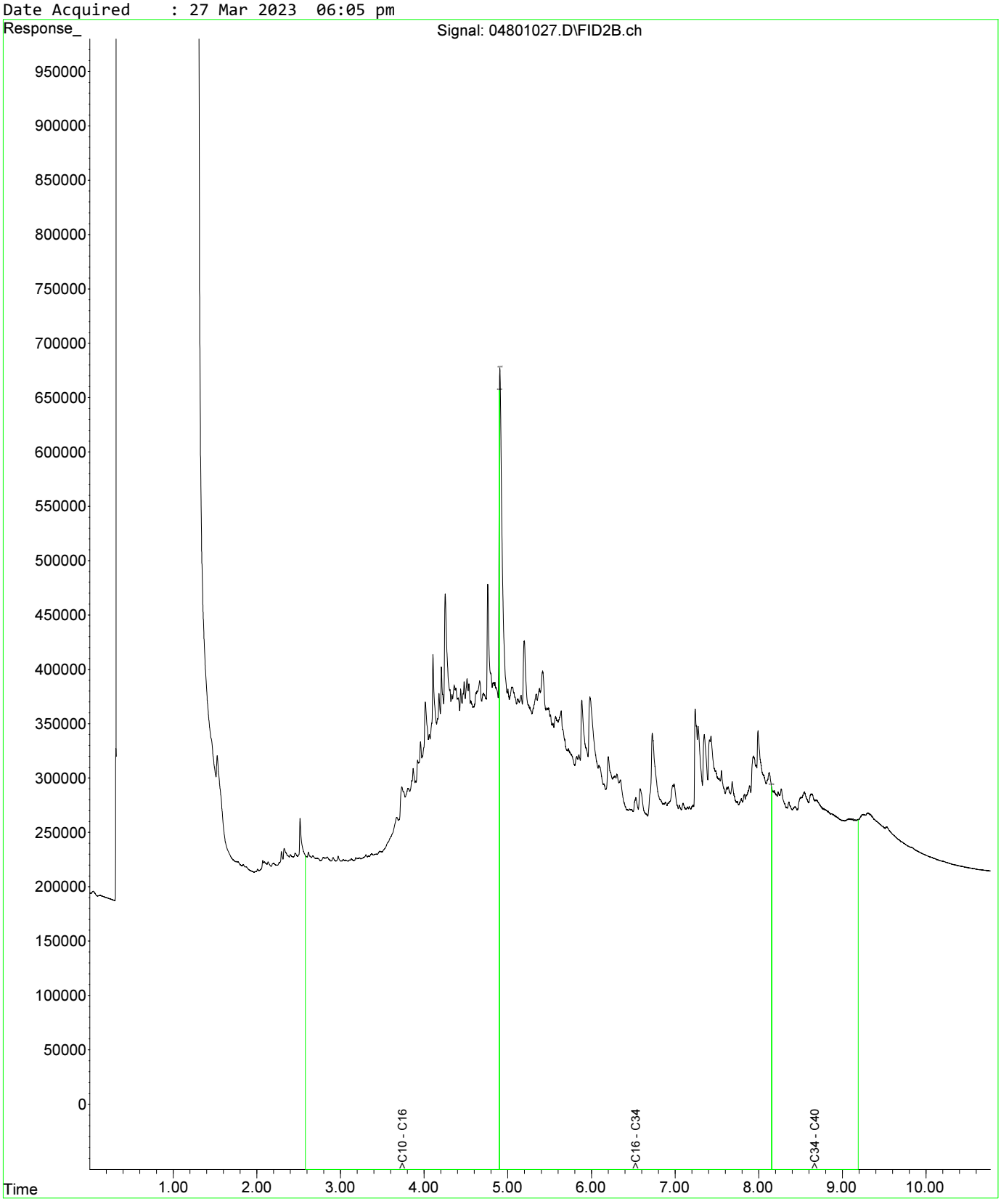

Fraction Scheme : NEPM DRAFT HIL
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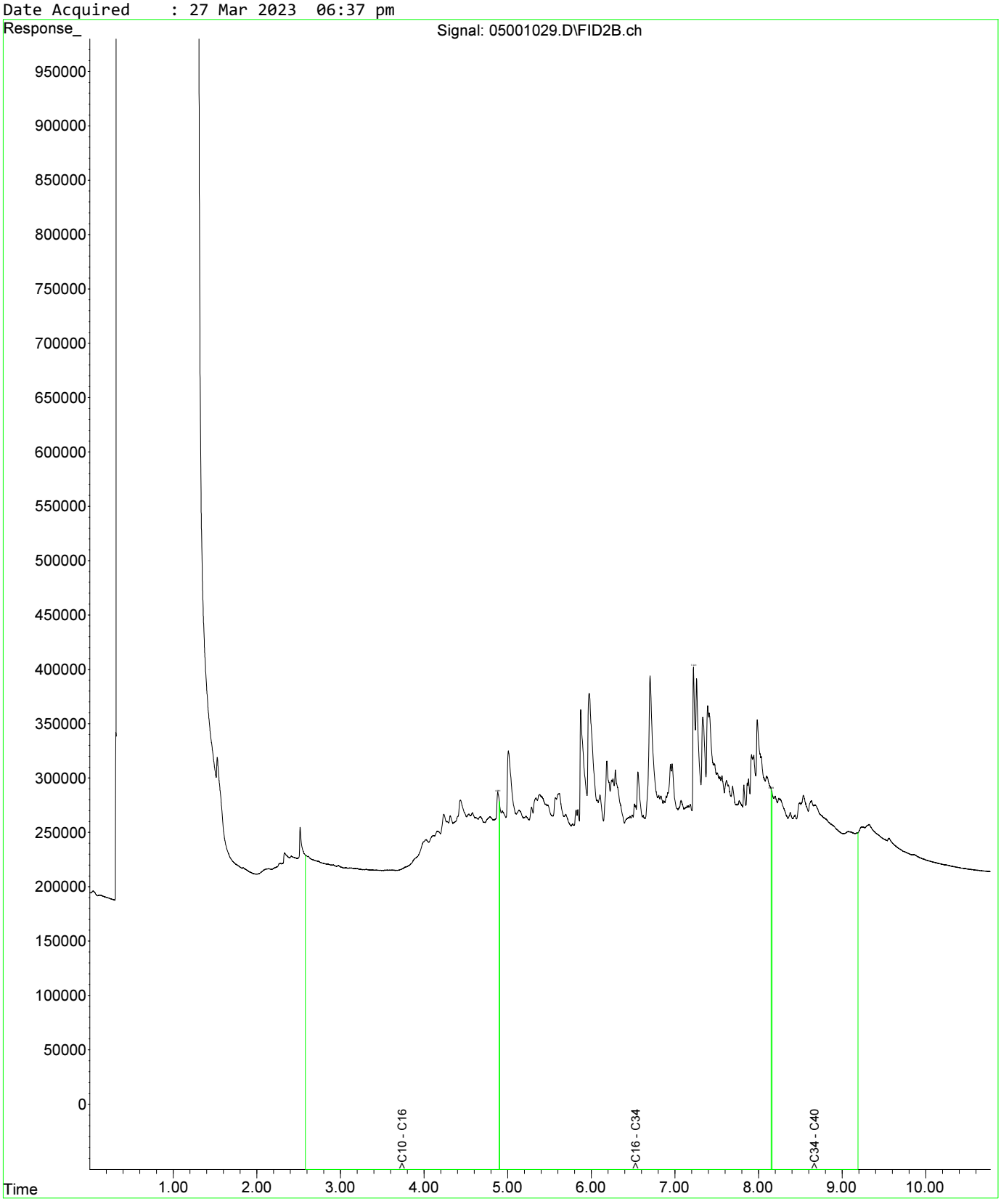

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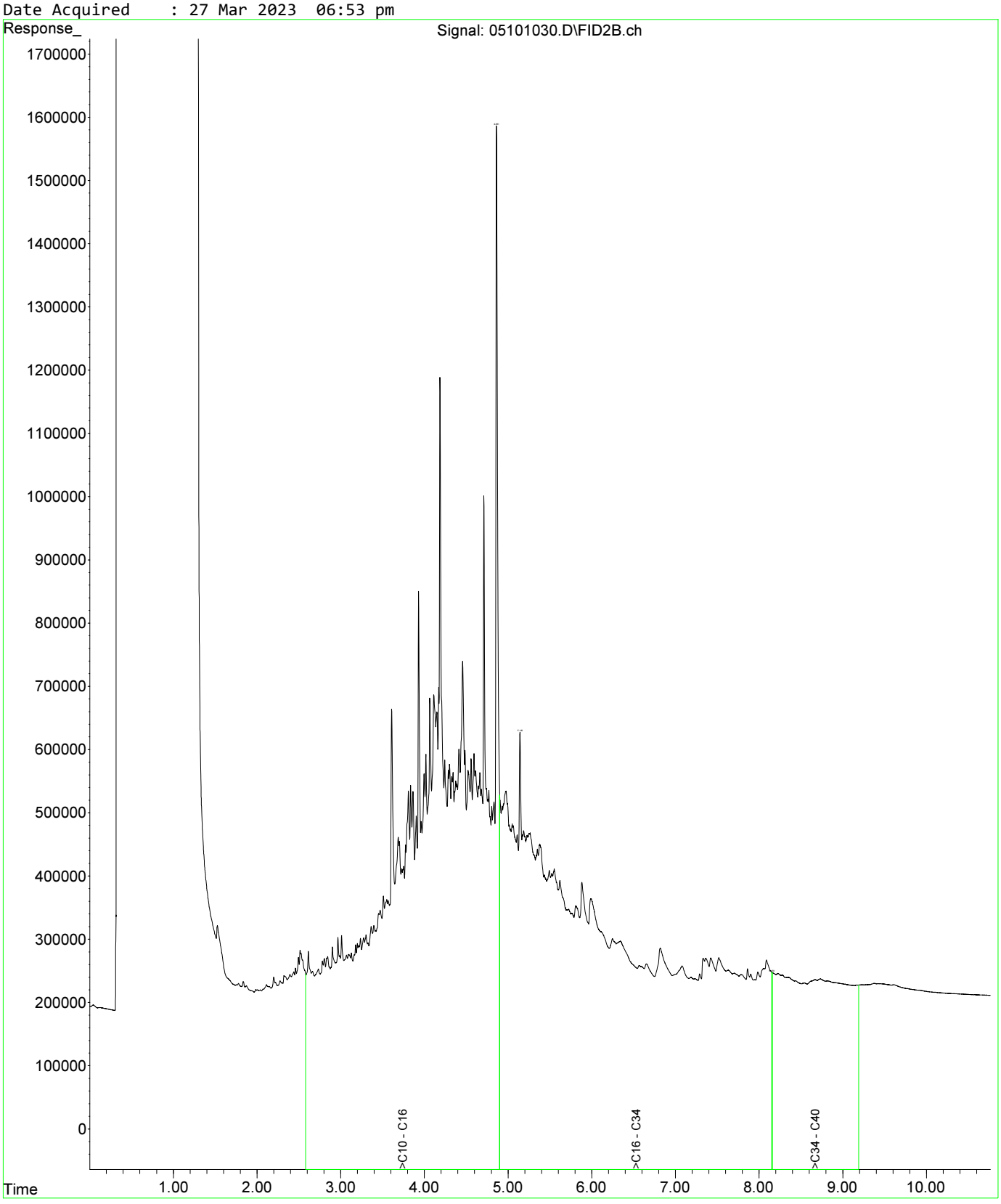

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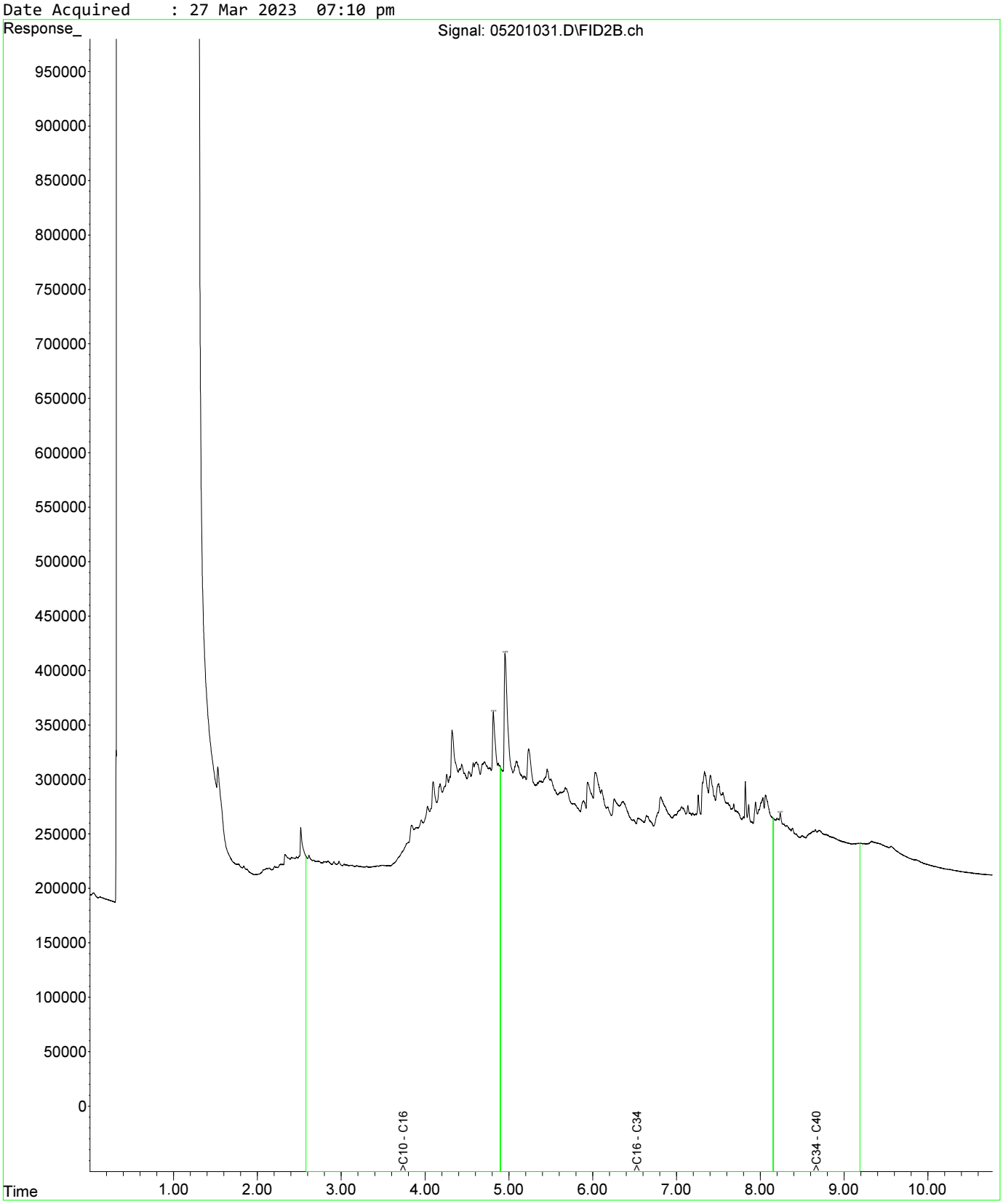

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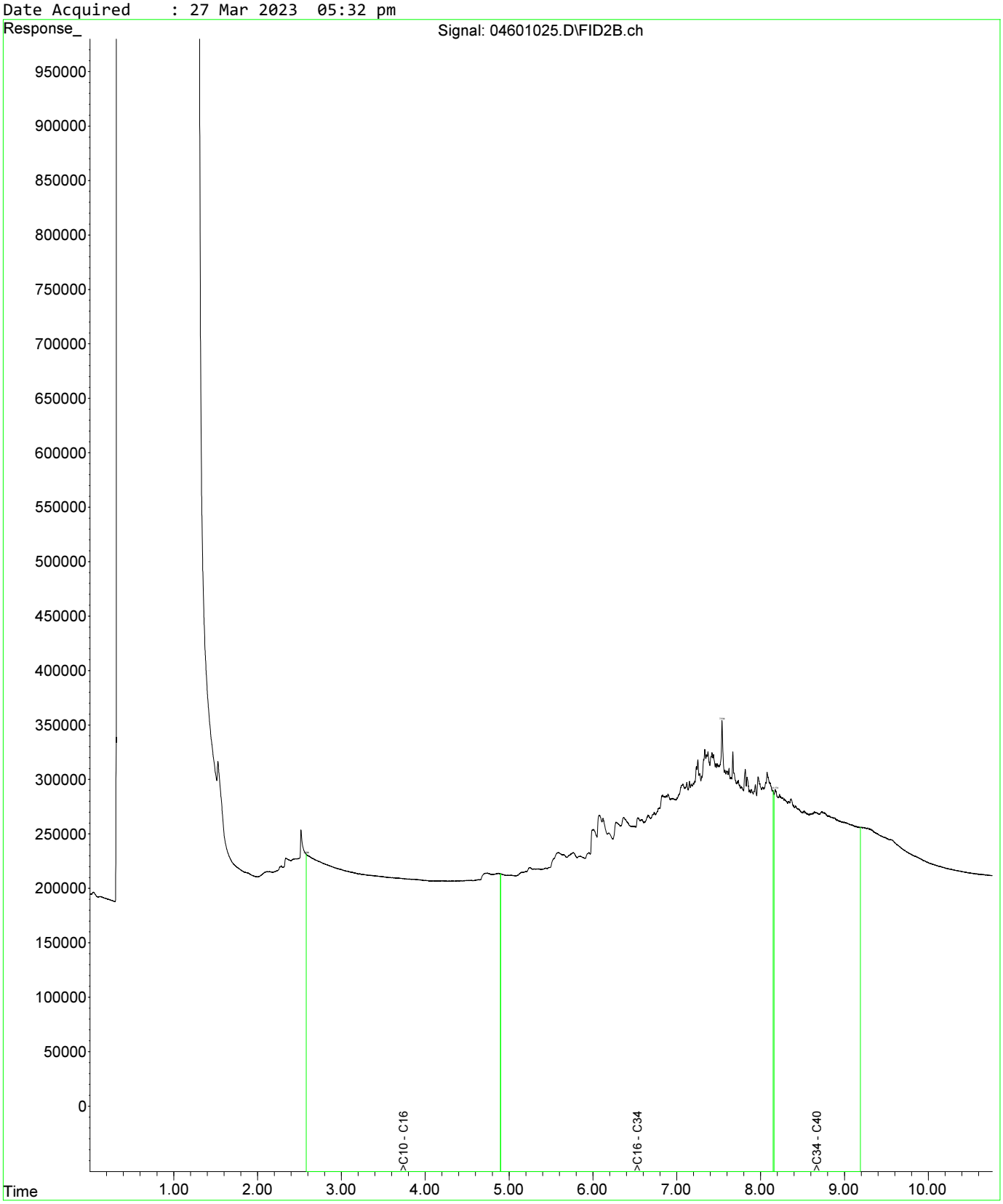

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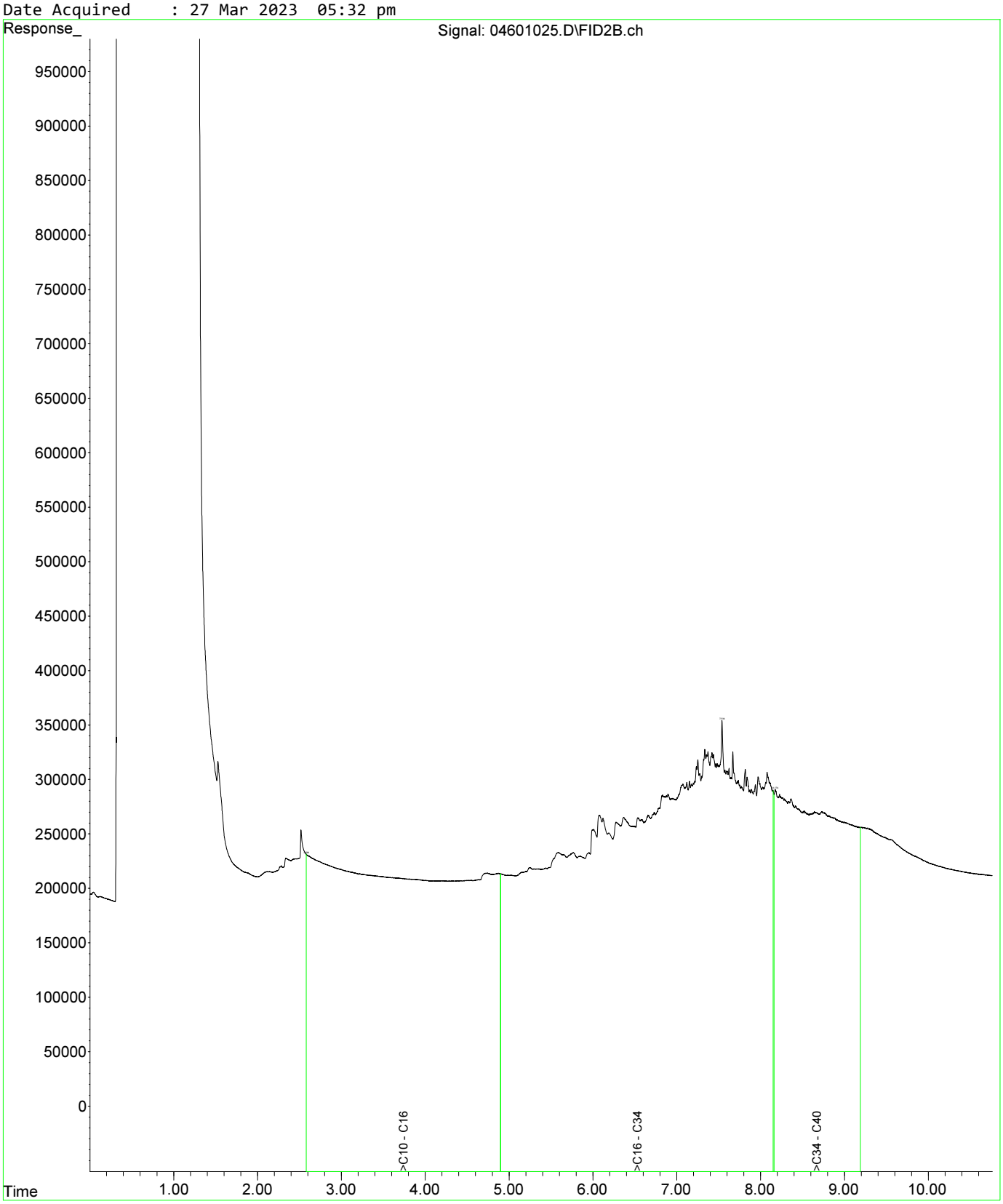

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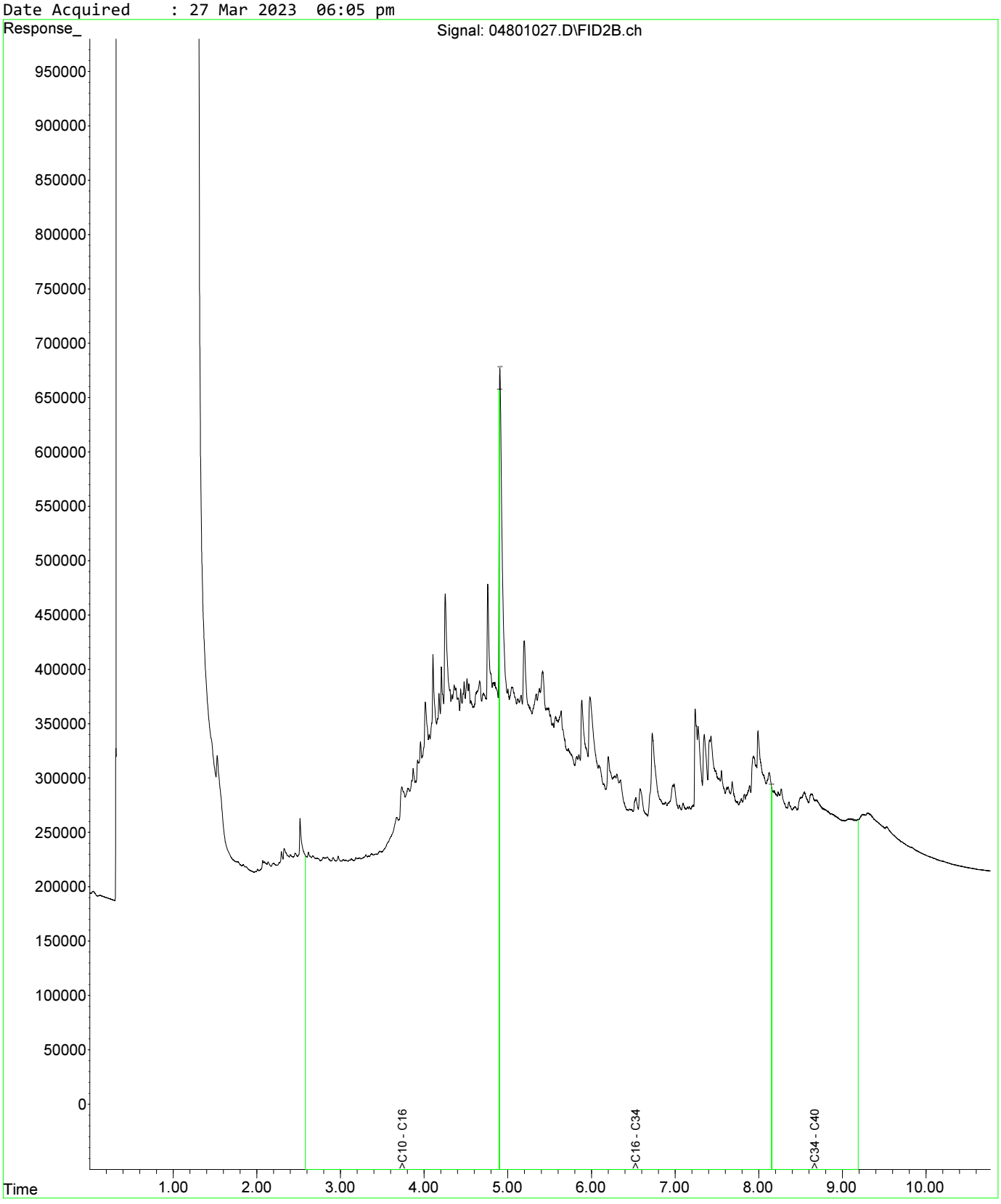

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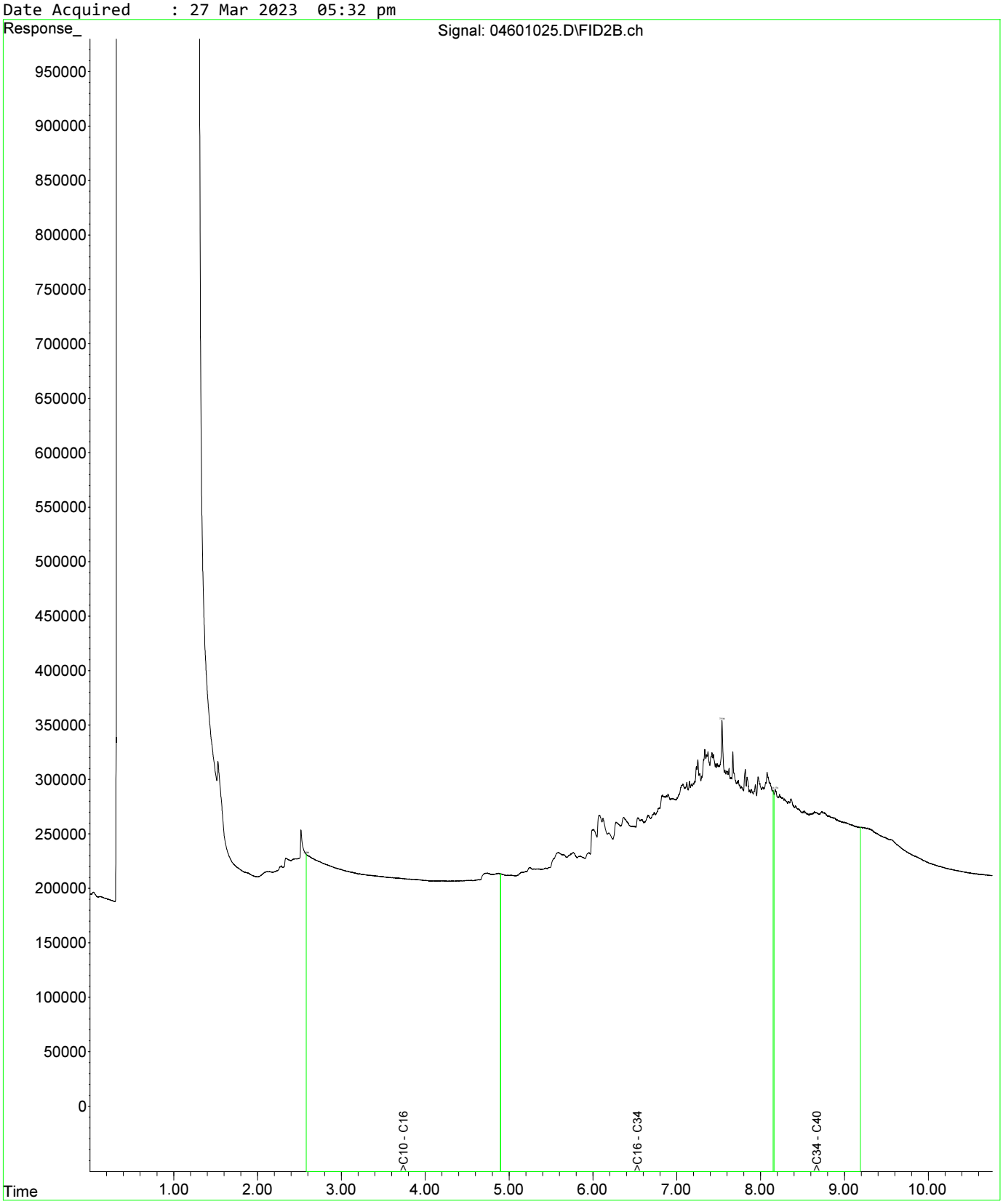

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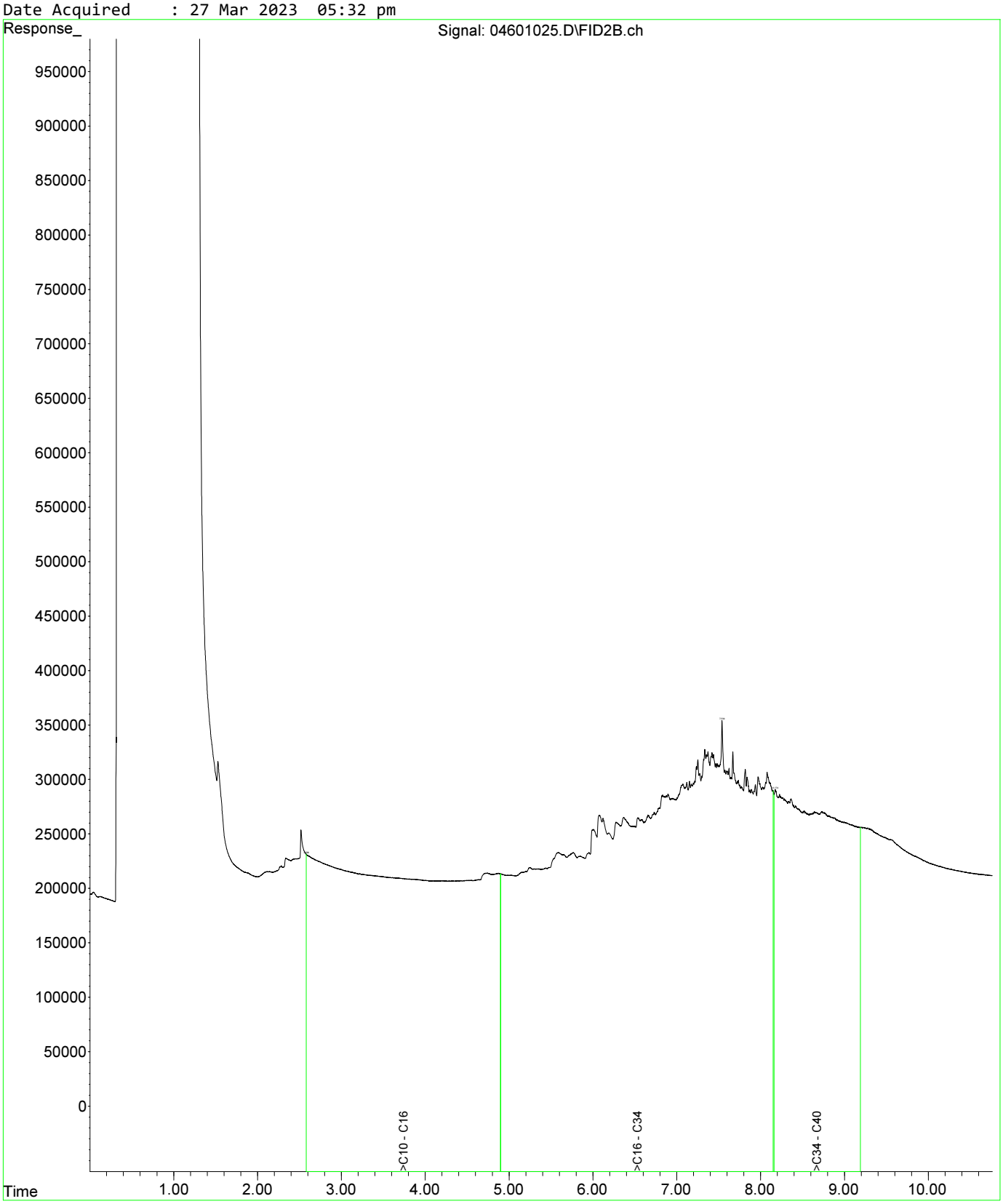

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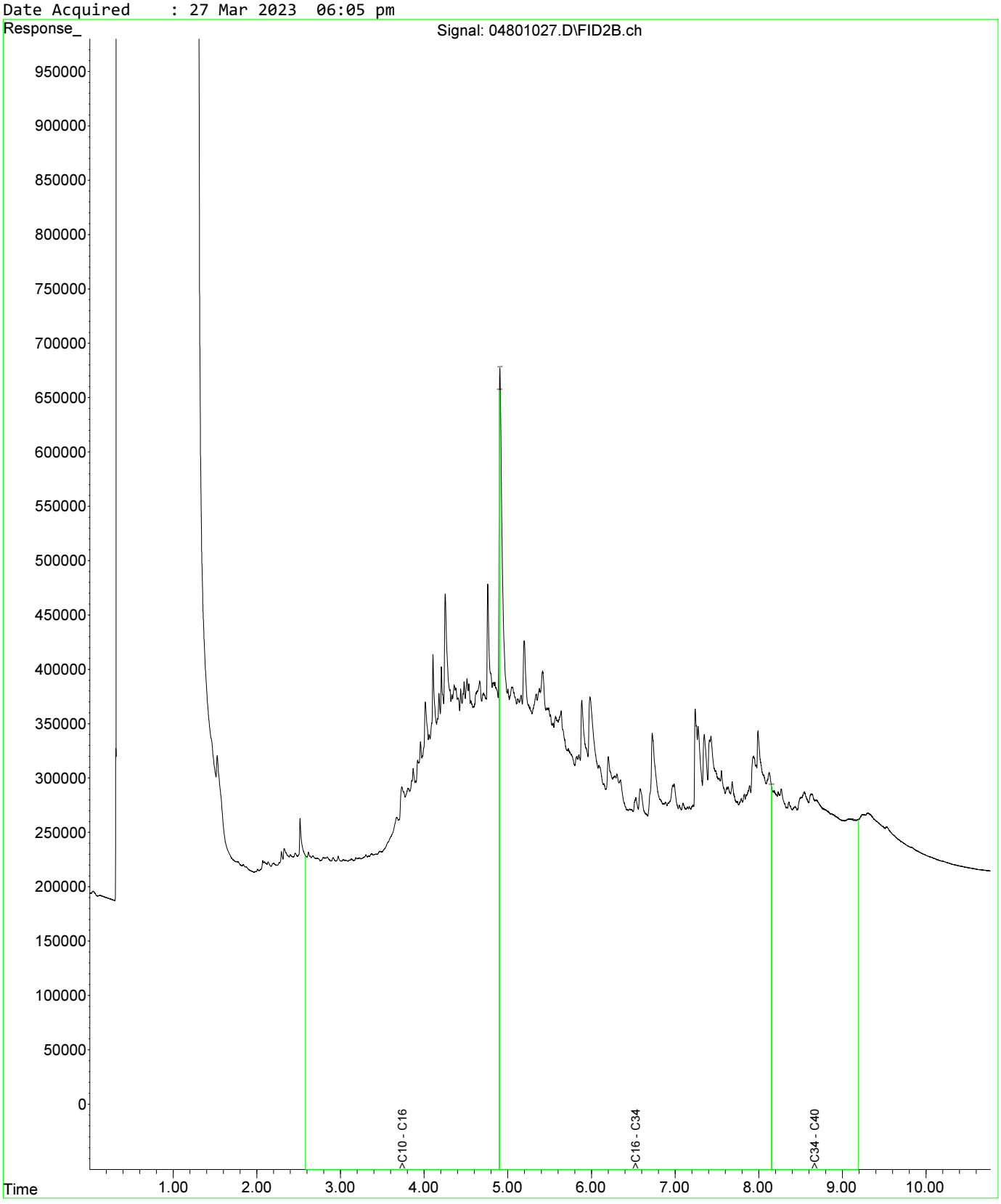

Fraction Scheme : NEPM DRAFT HIL
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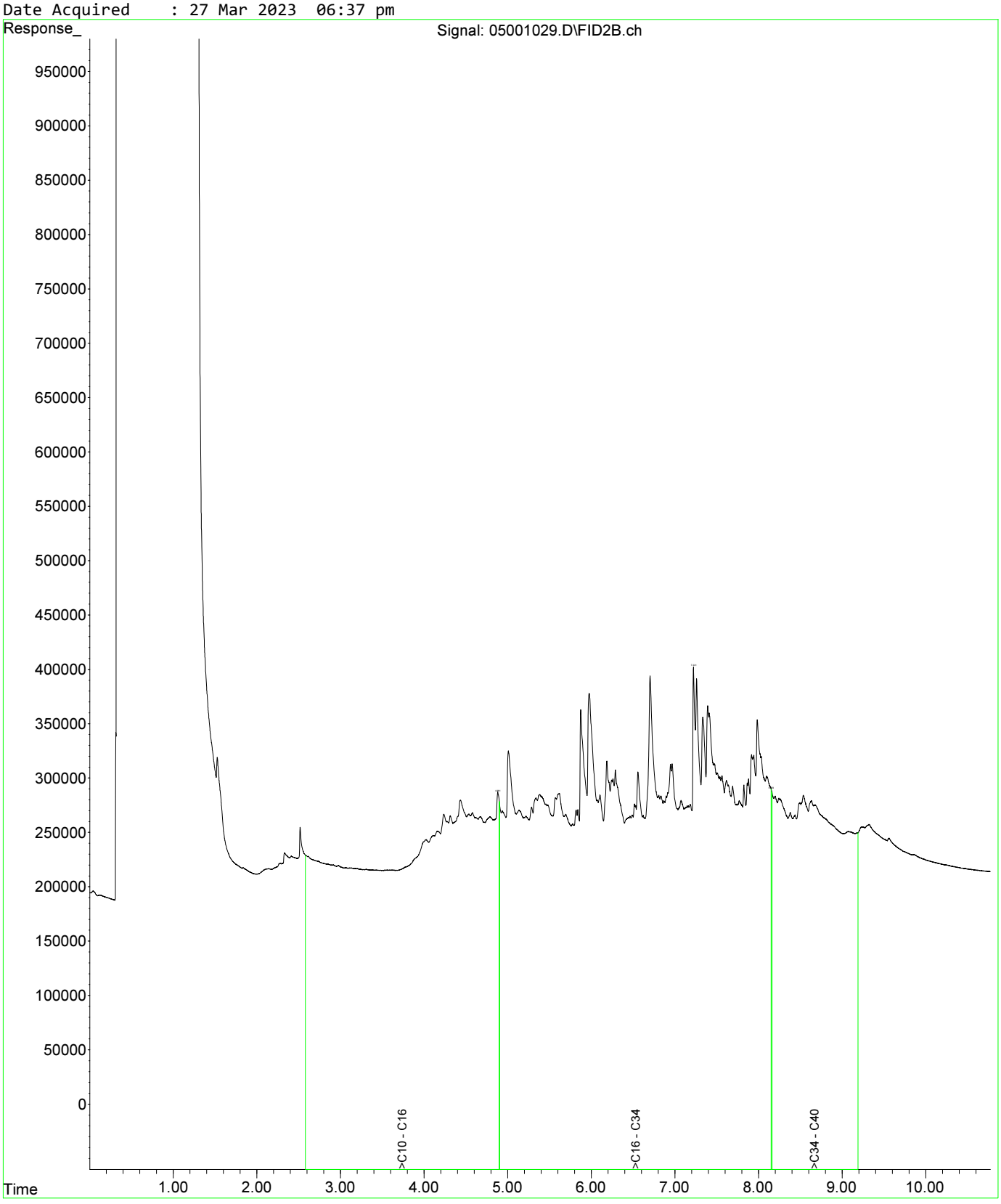

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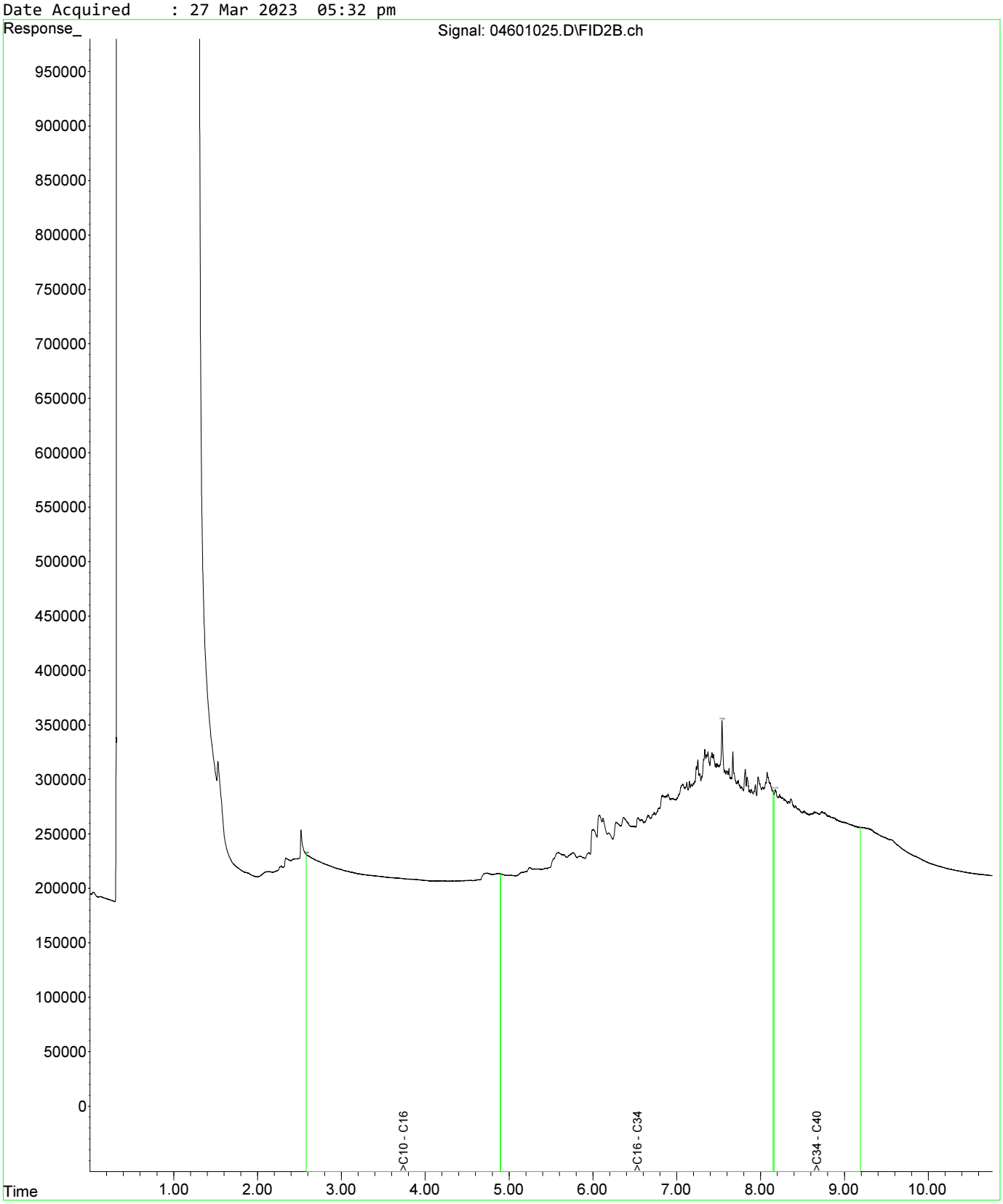

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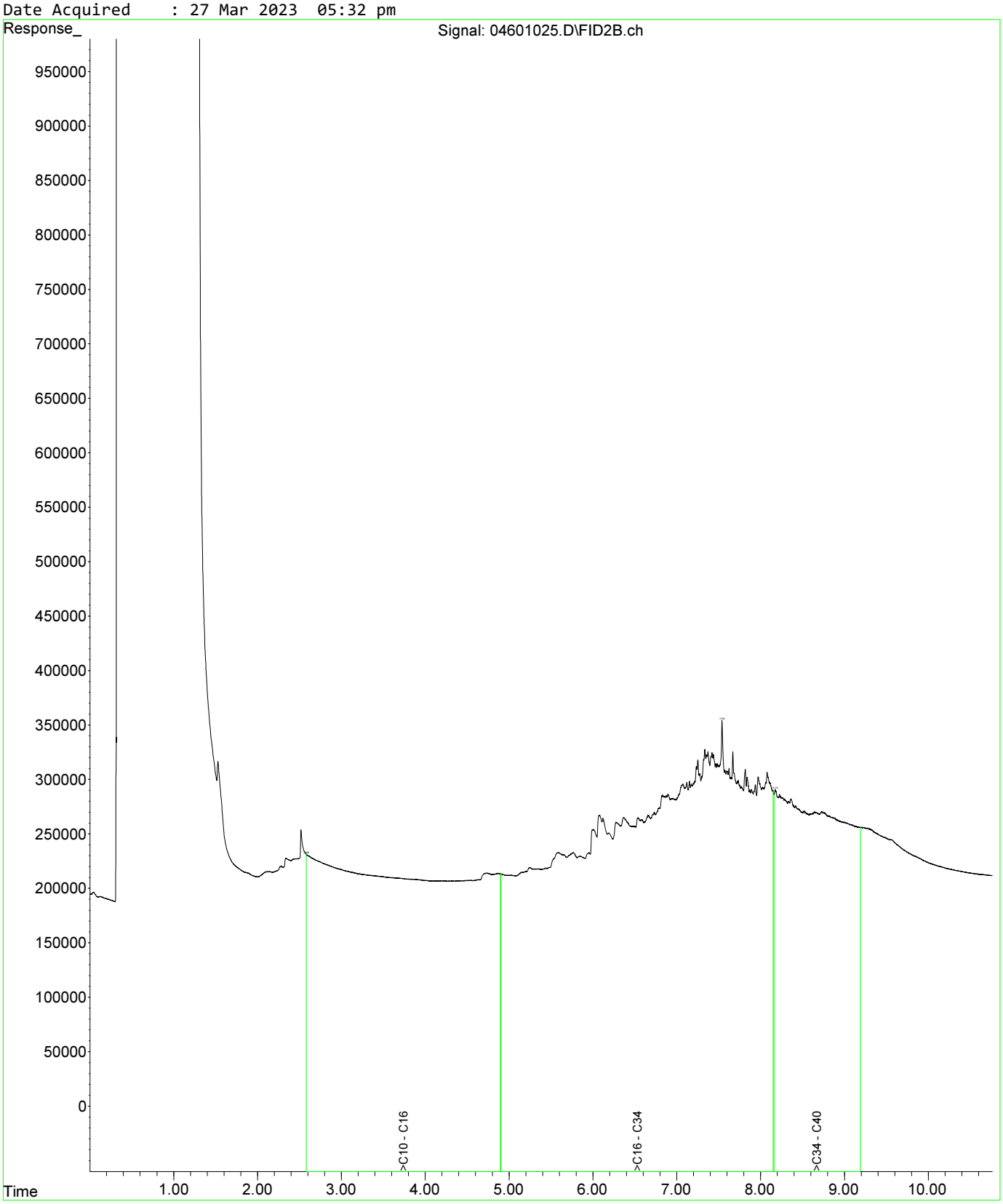

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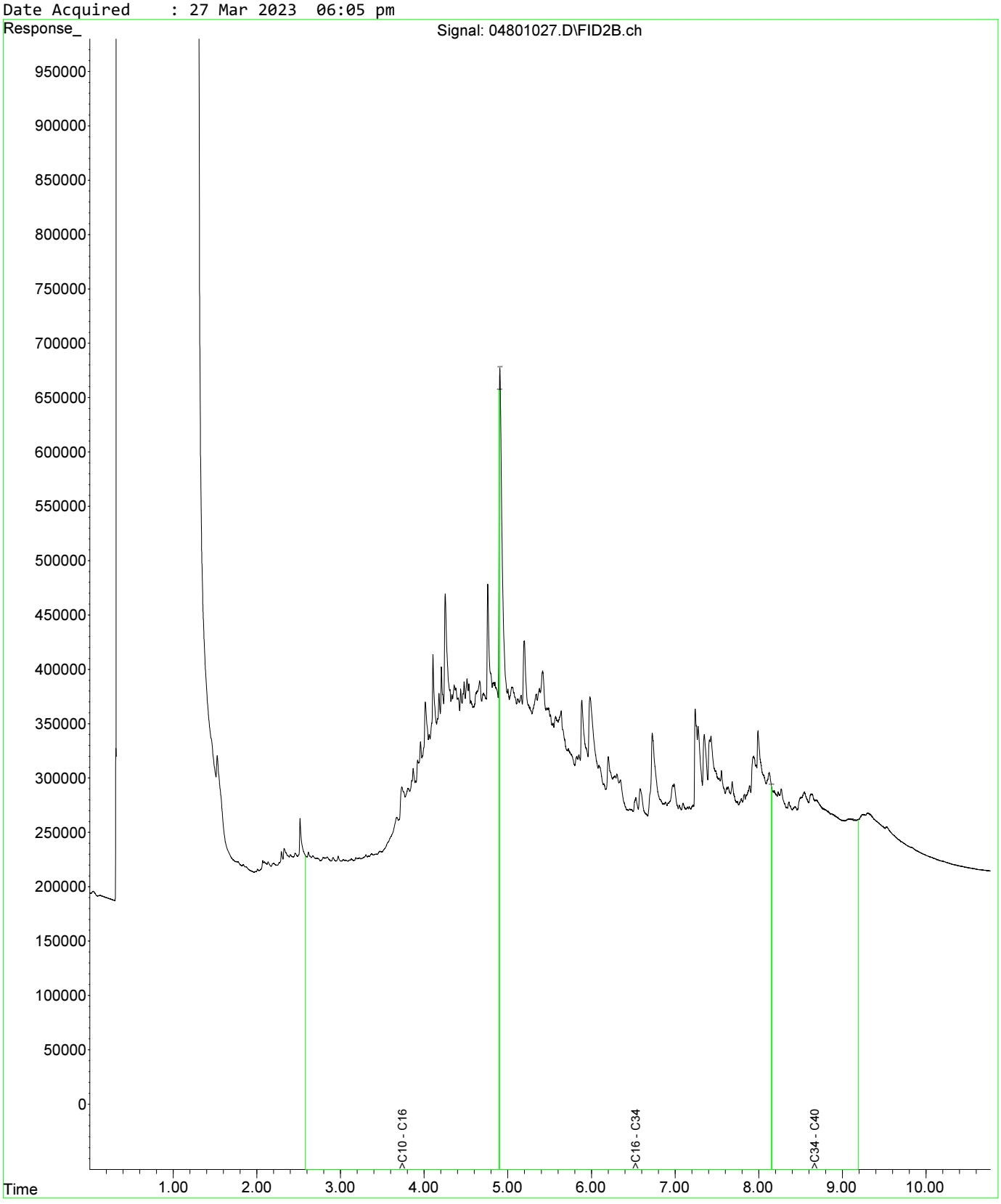

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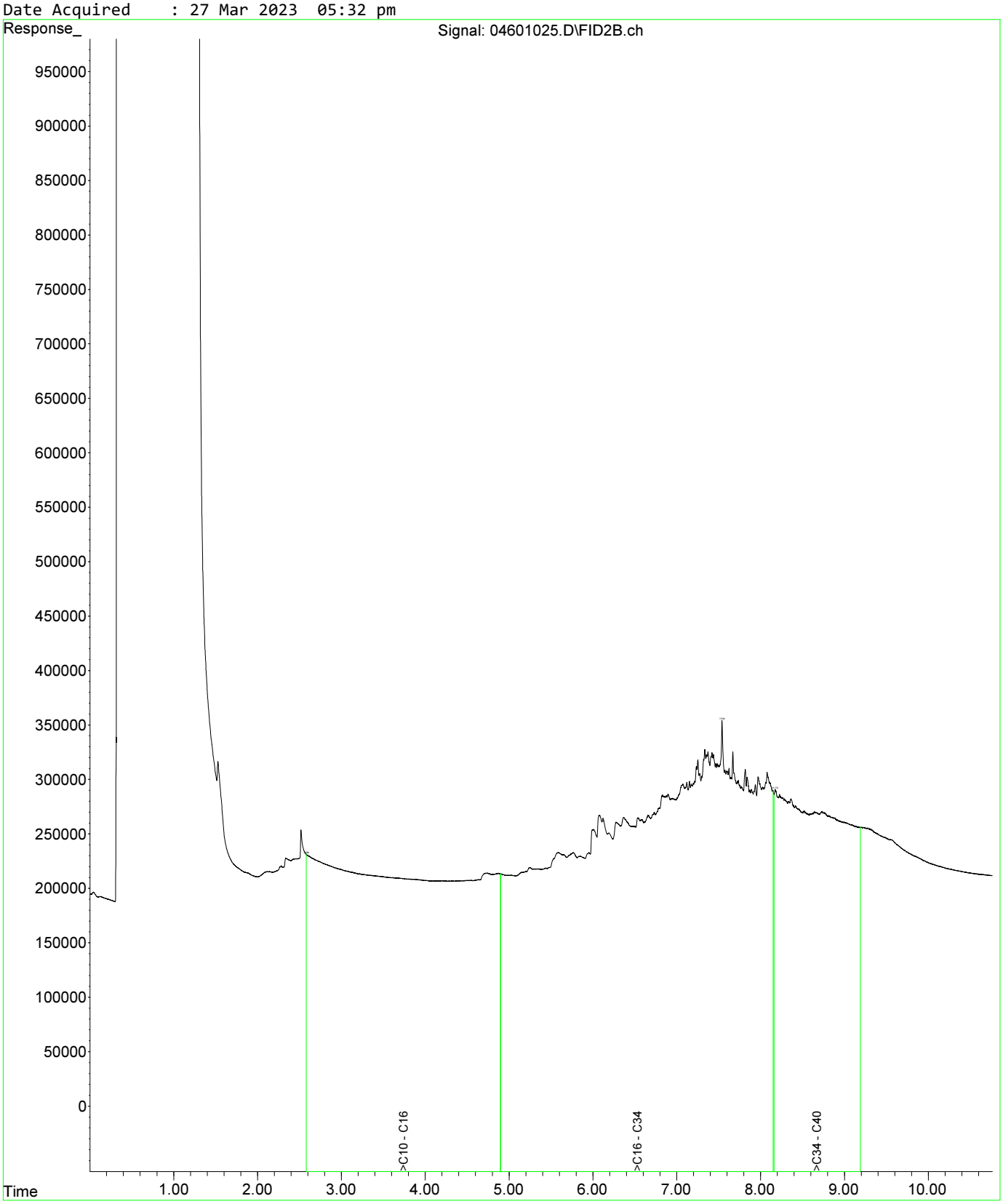

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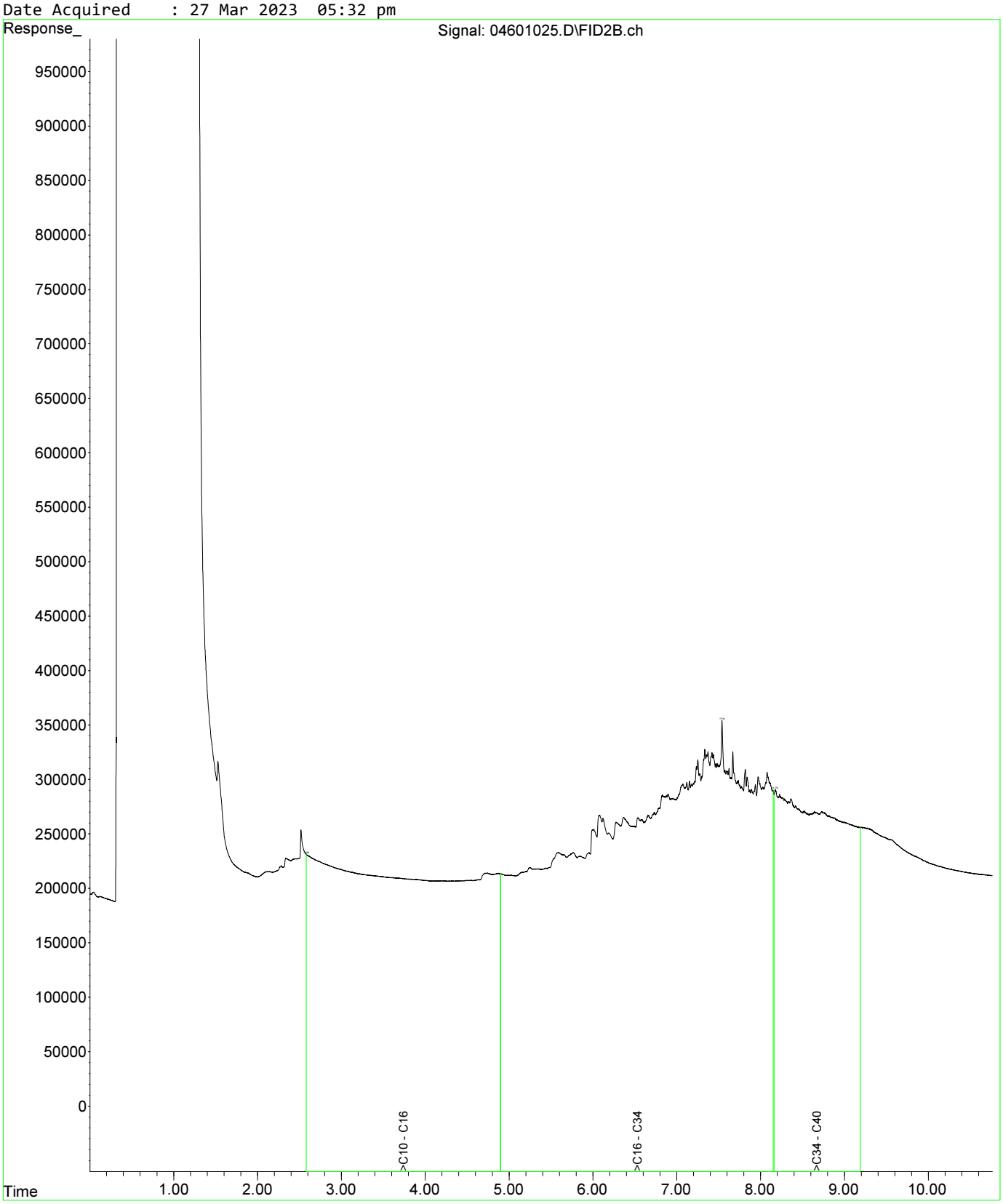

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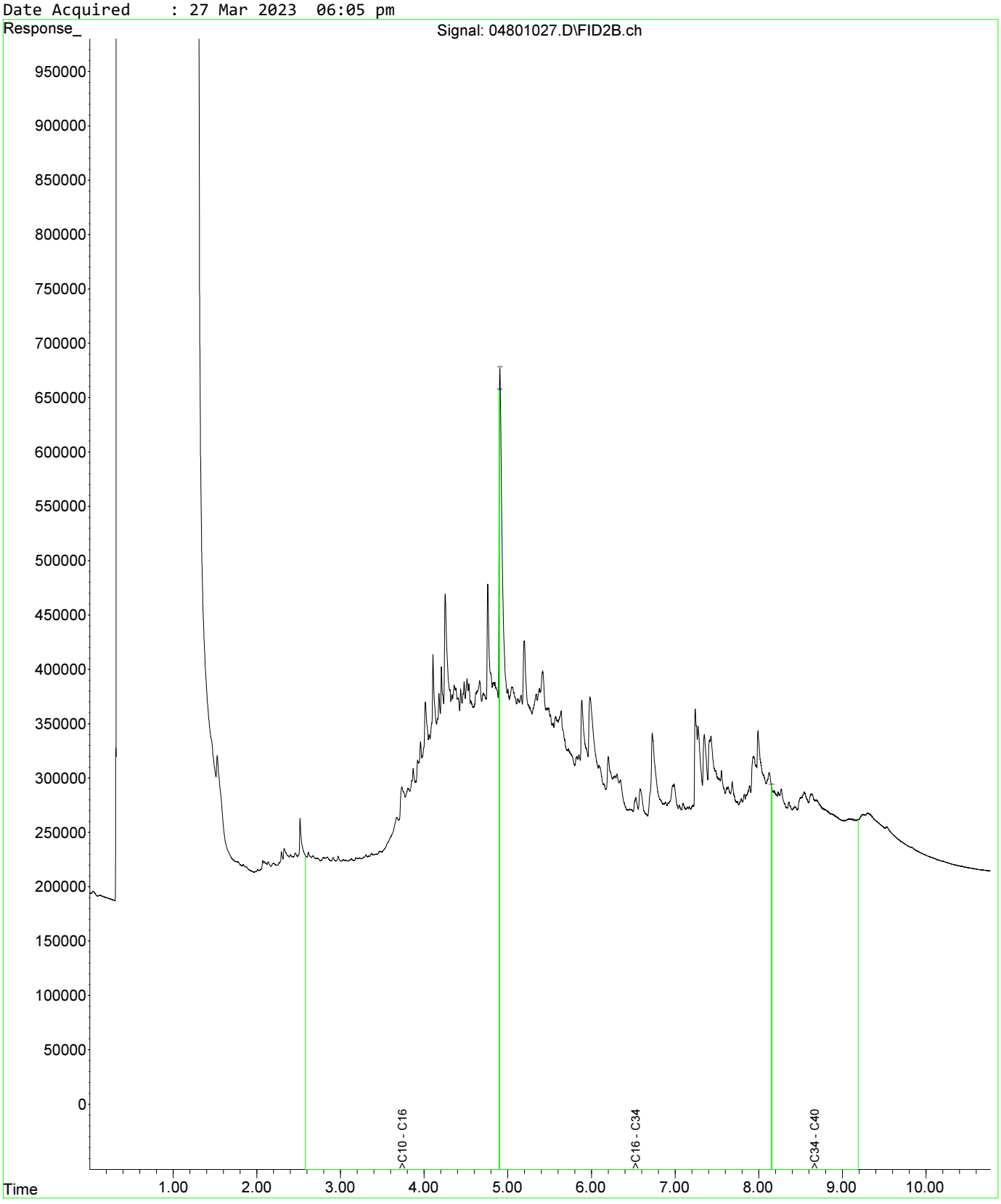

Fraction Scheme : NEPM DRAFT HIL
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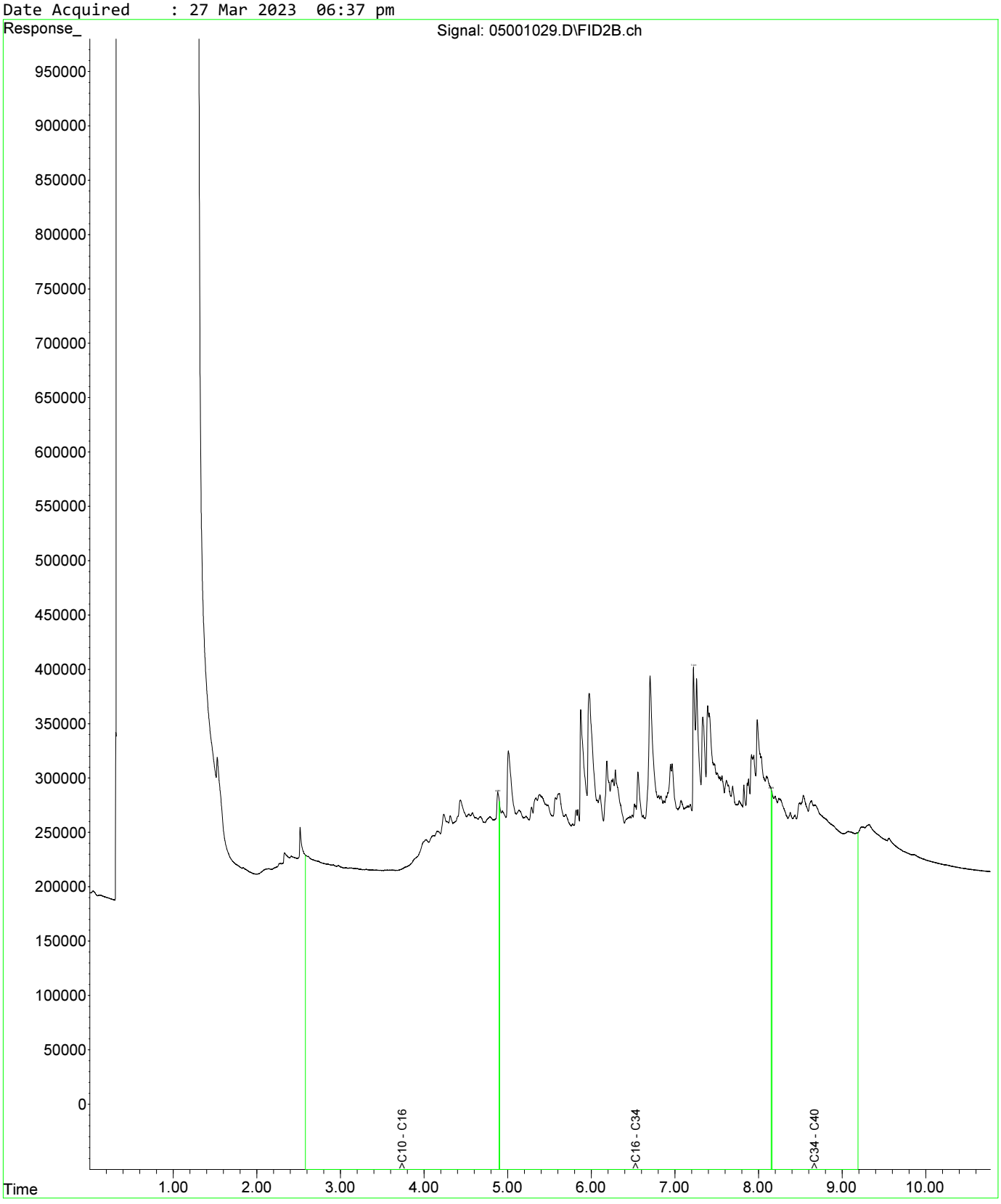

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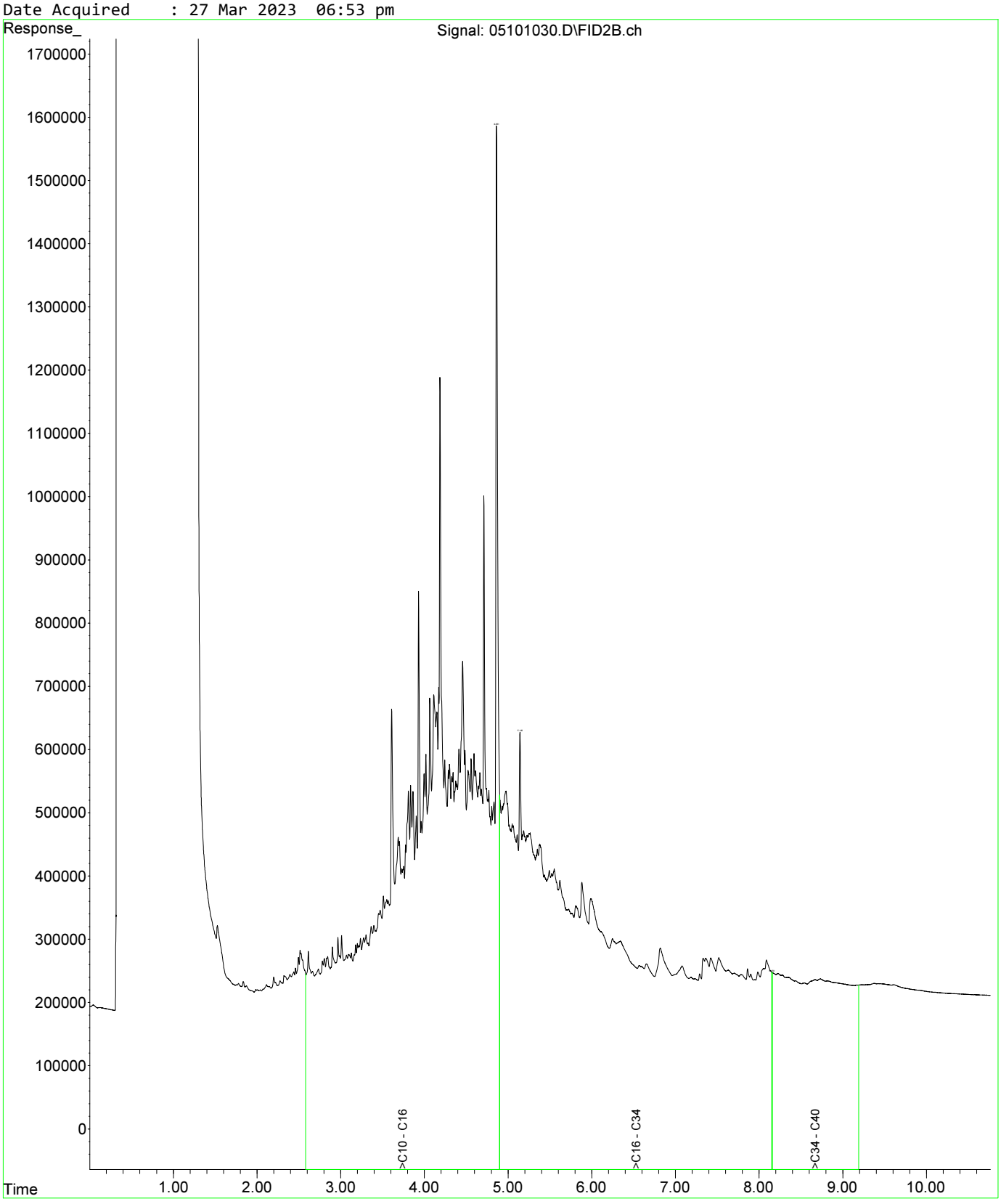

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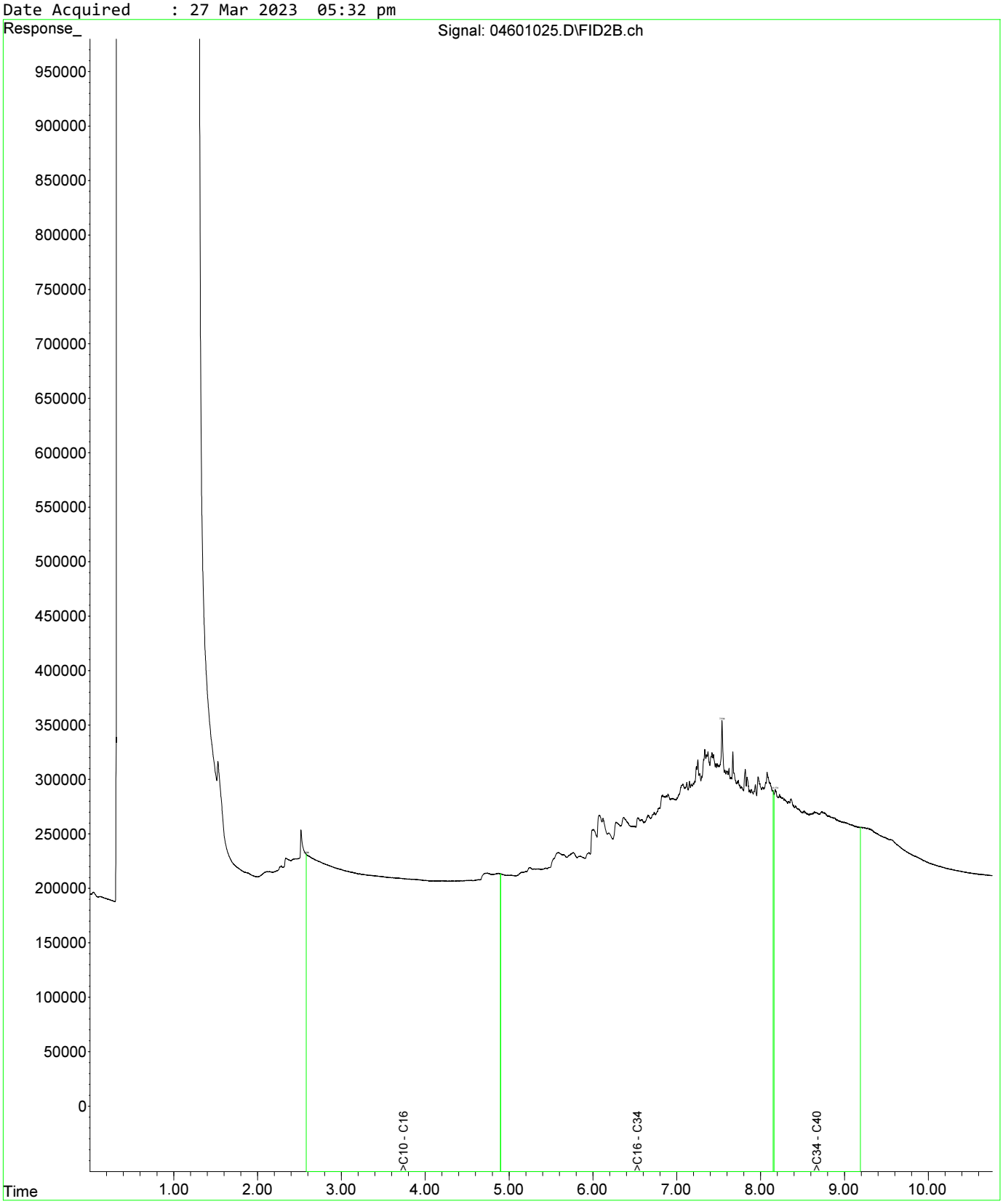

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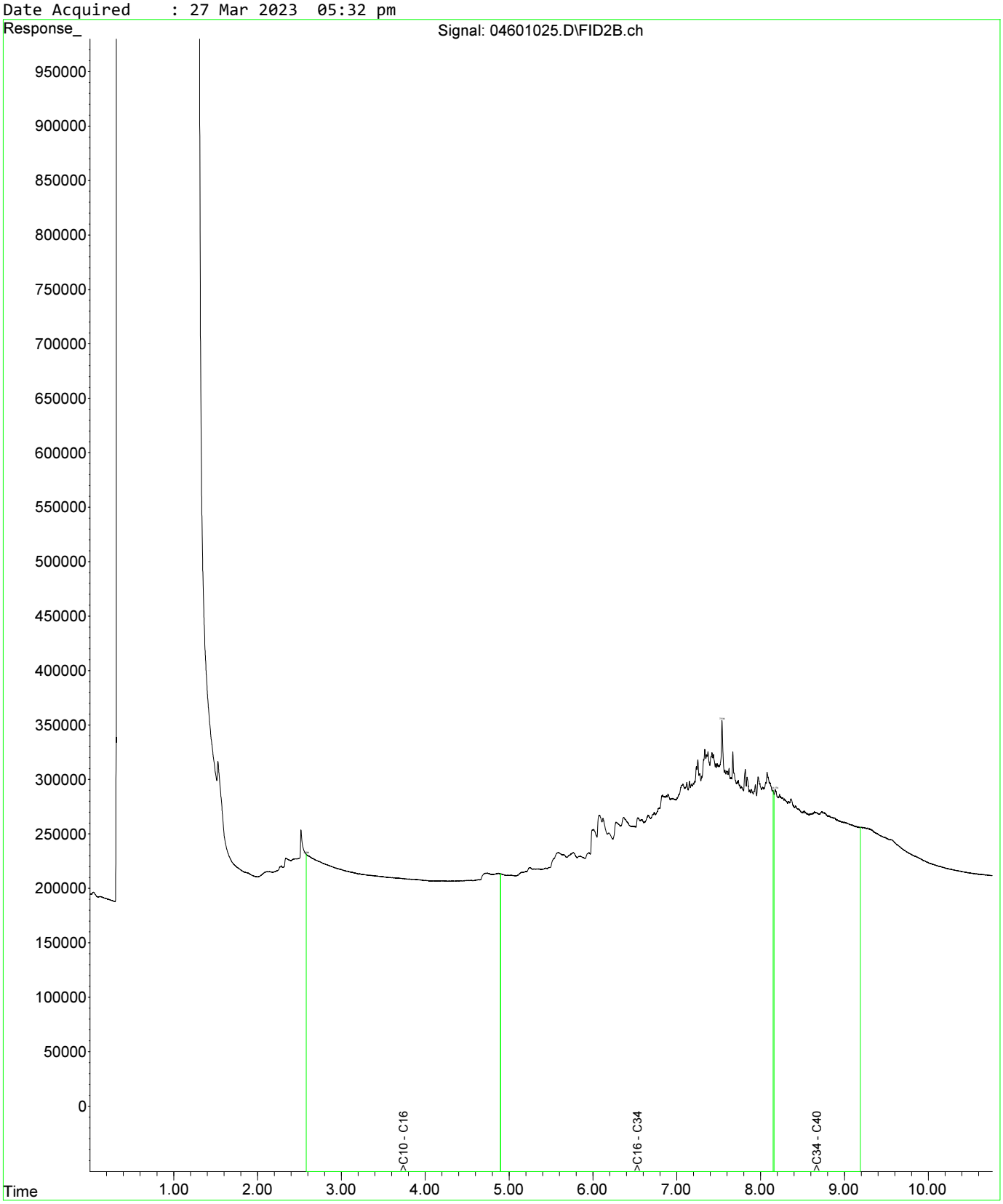

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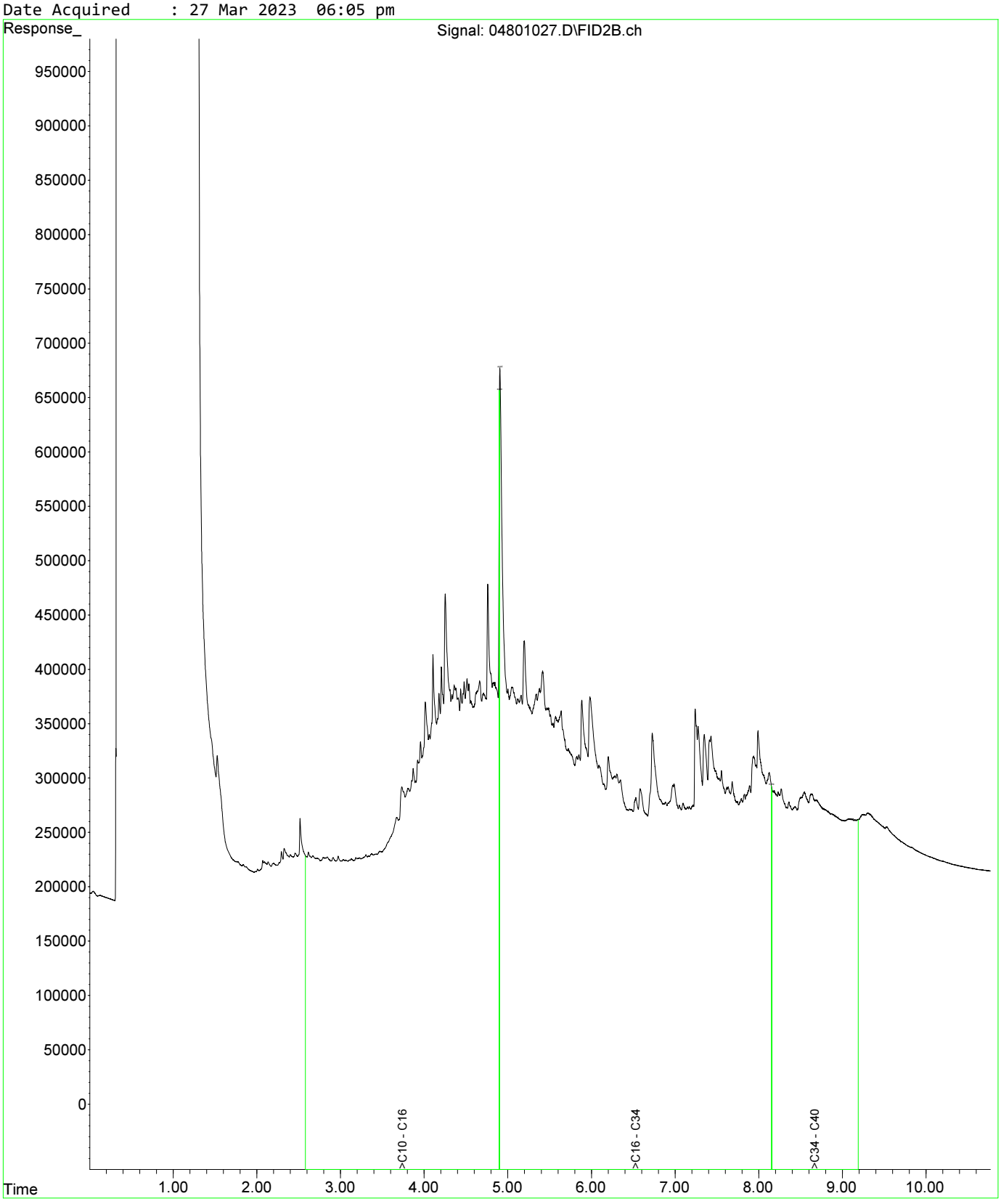

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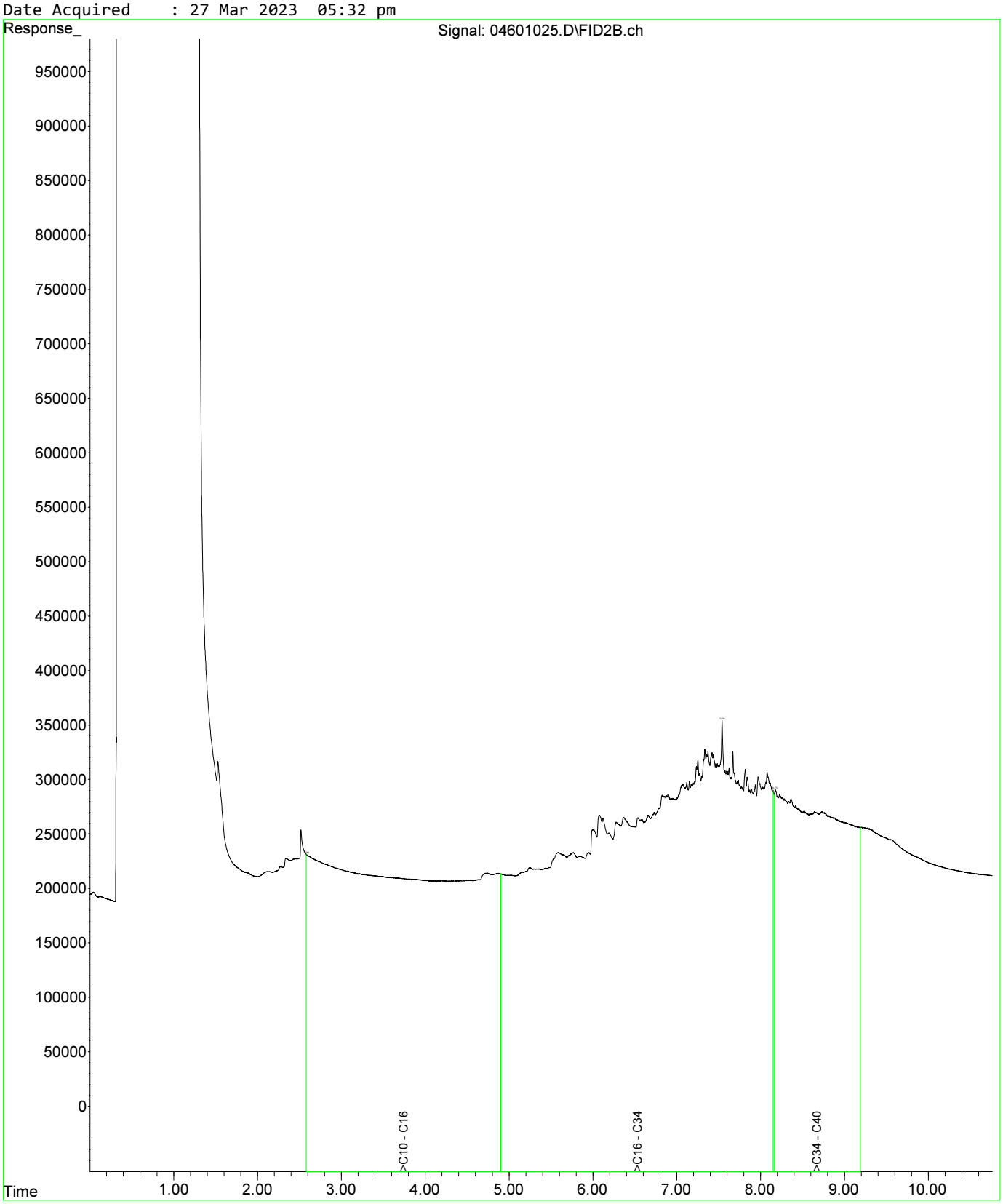

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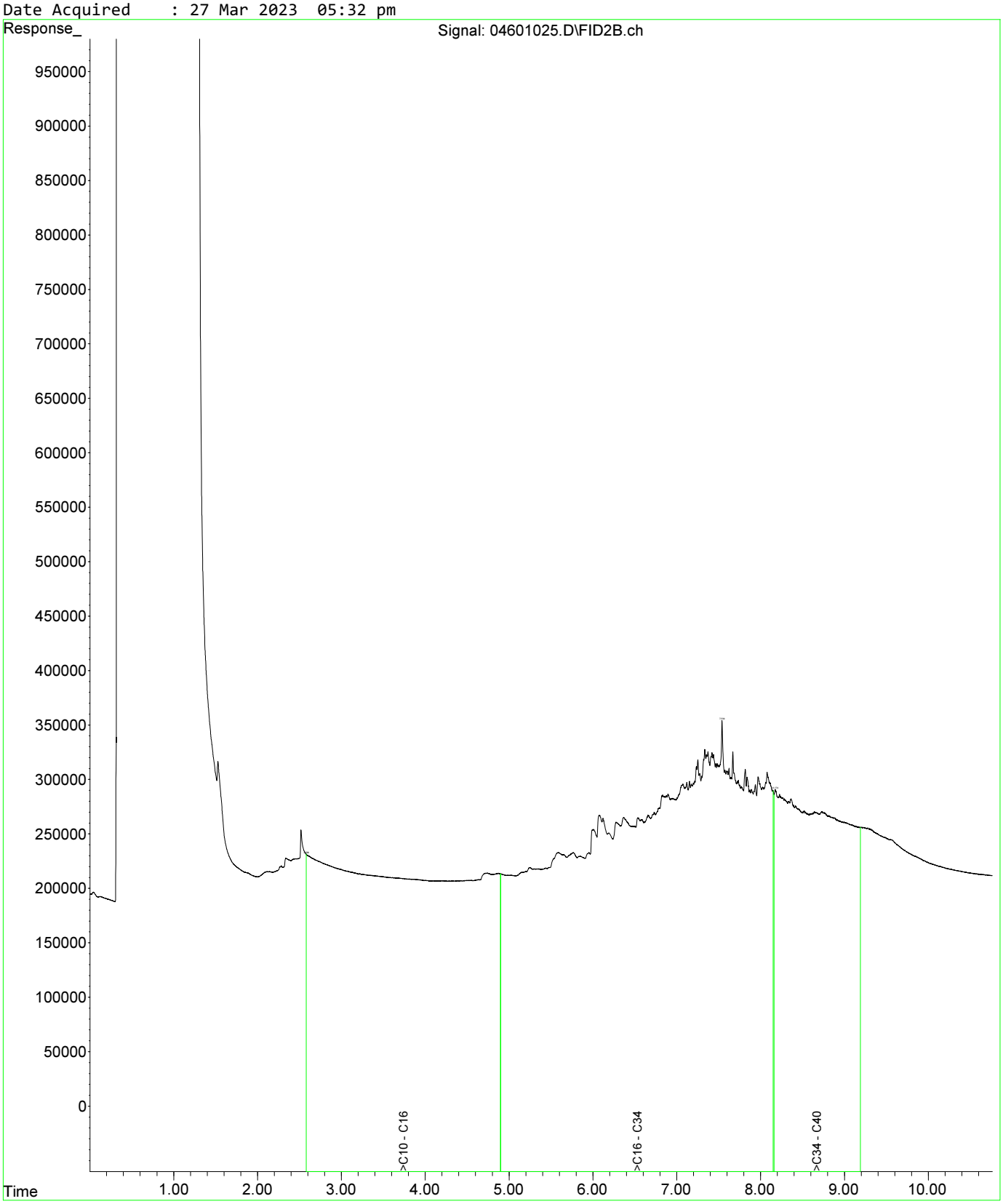

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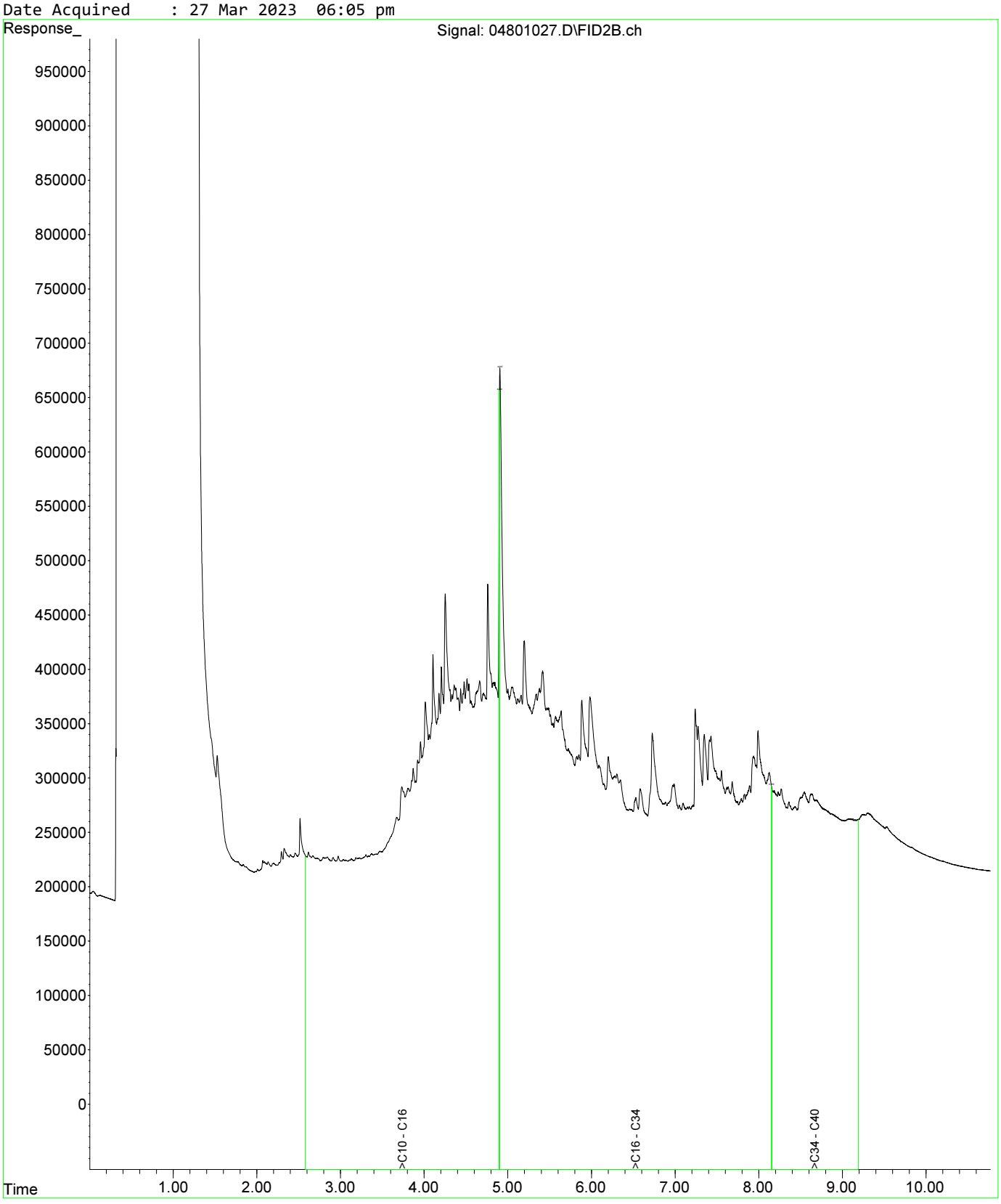

Fraction Scheme : NEPM DRAFT HIL
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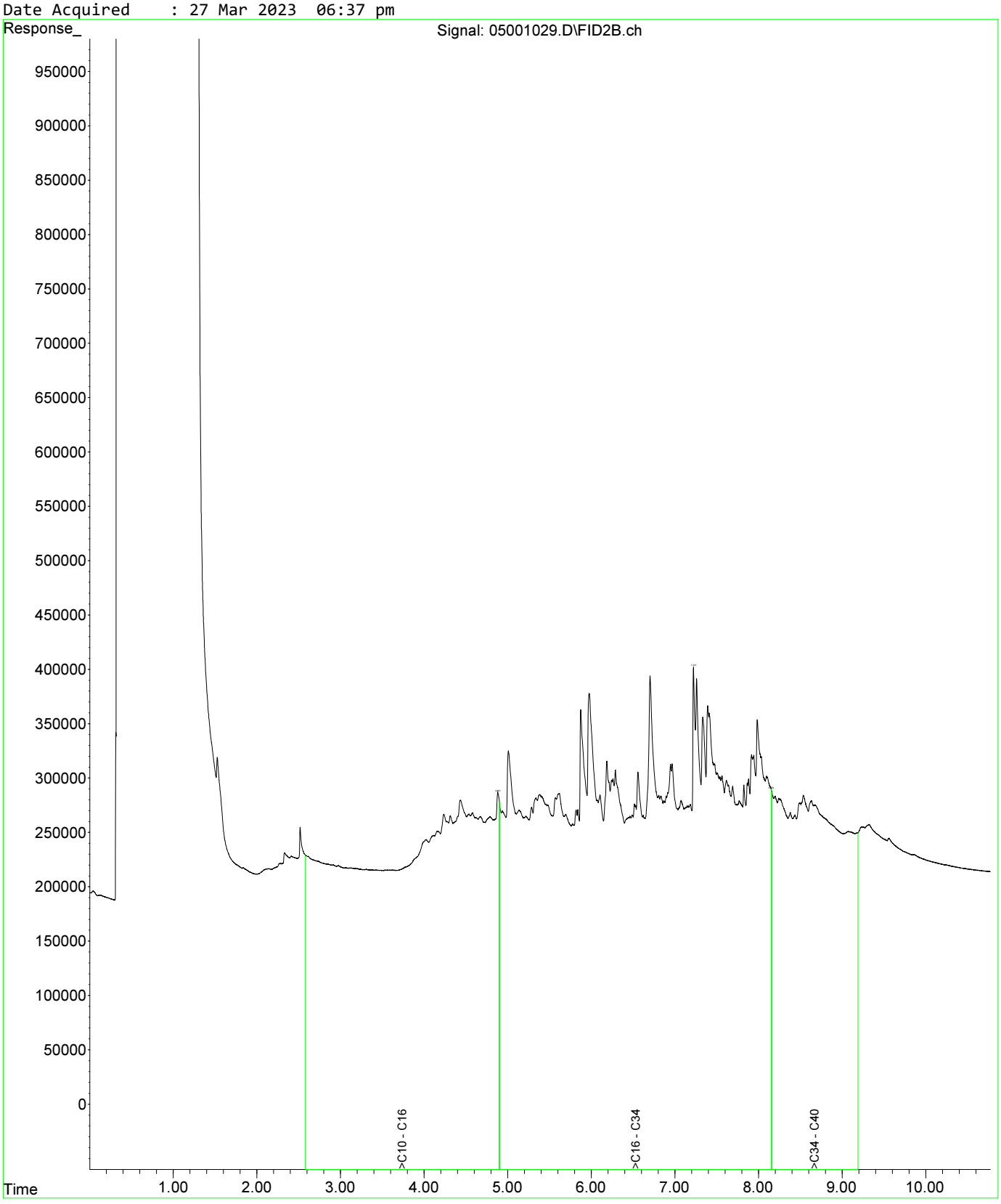

Fraction Scheme : NEPM DRAFT HIL
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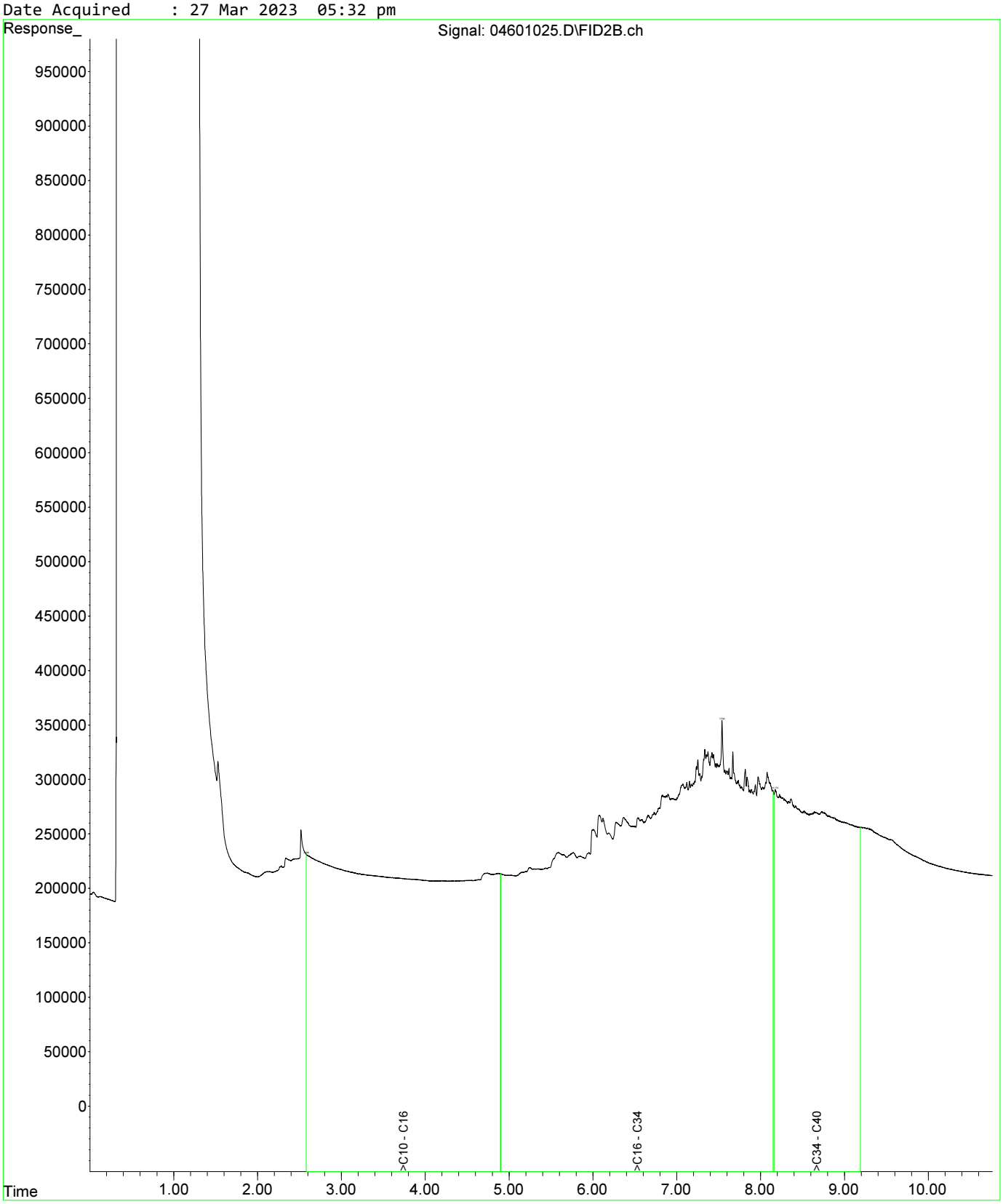

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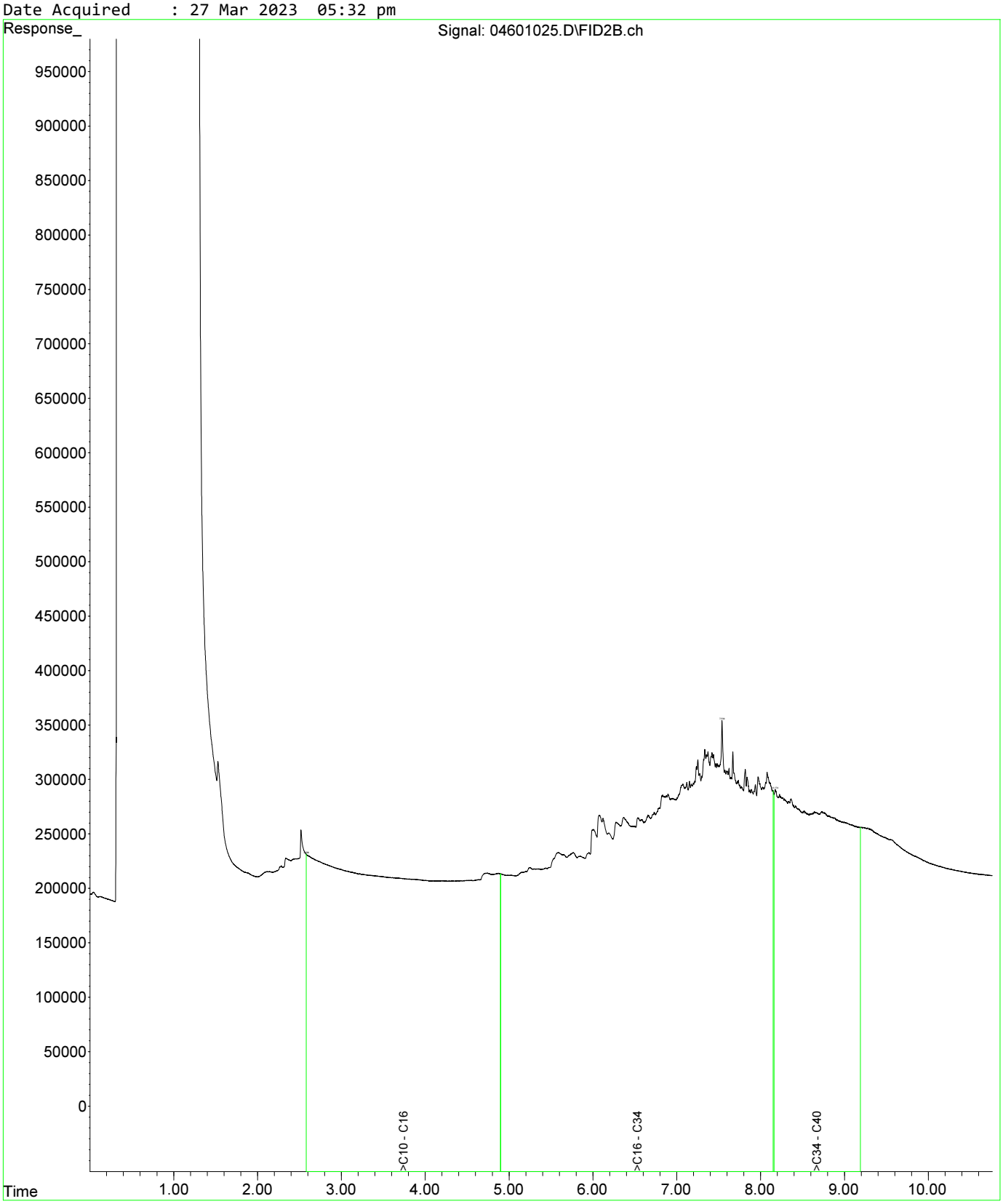

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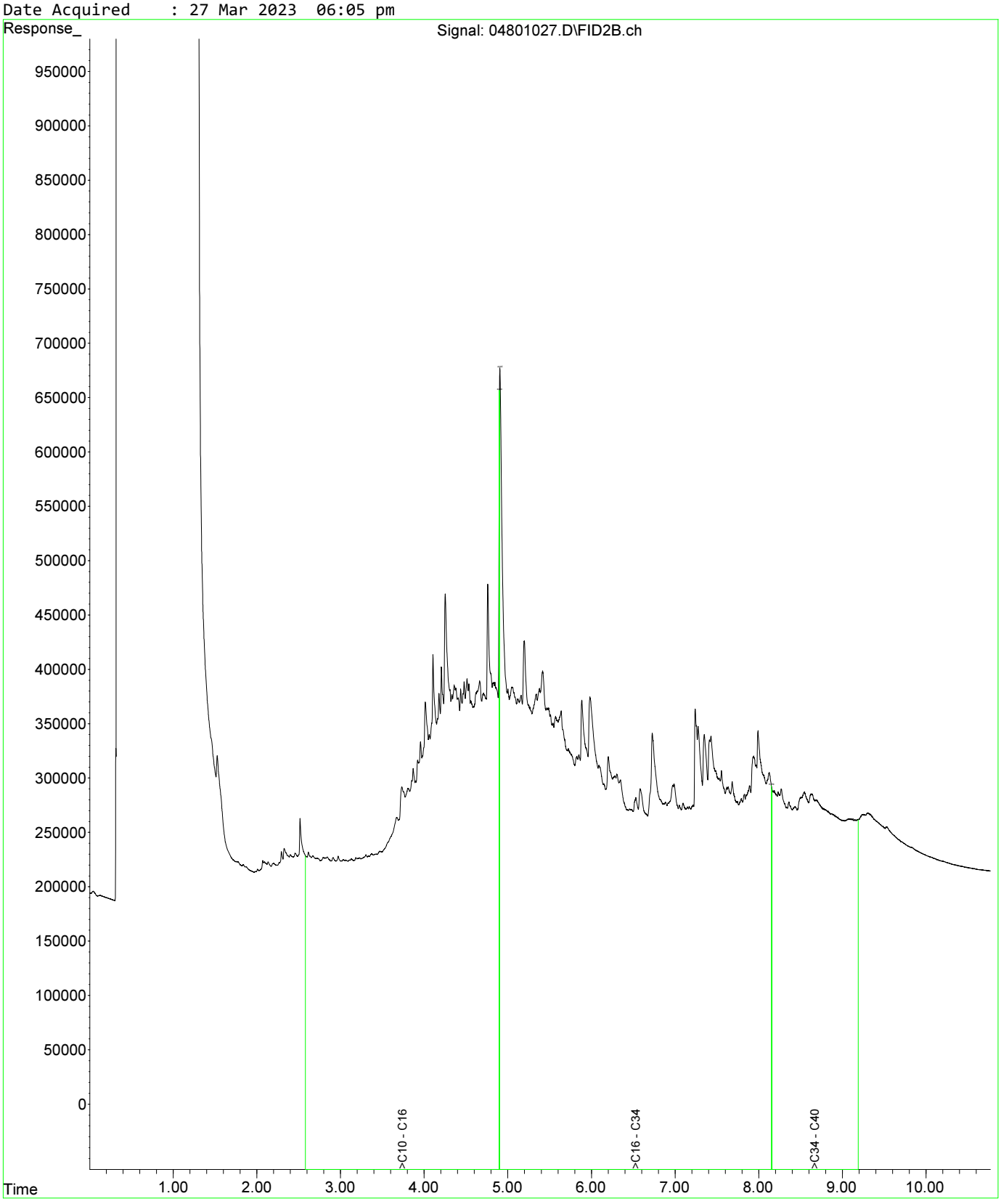
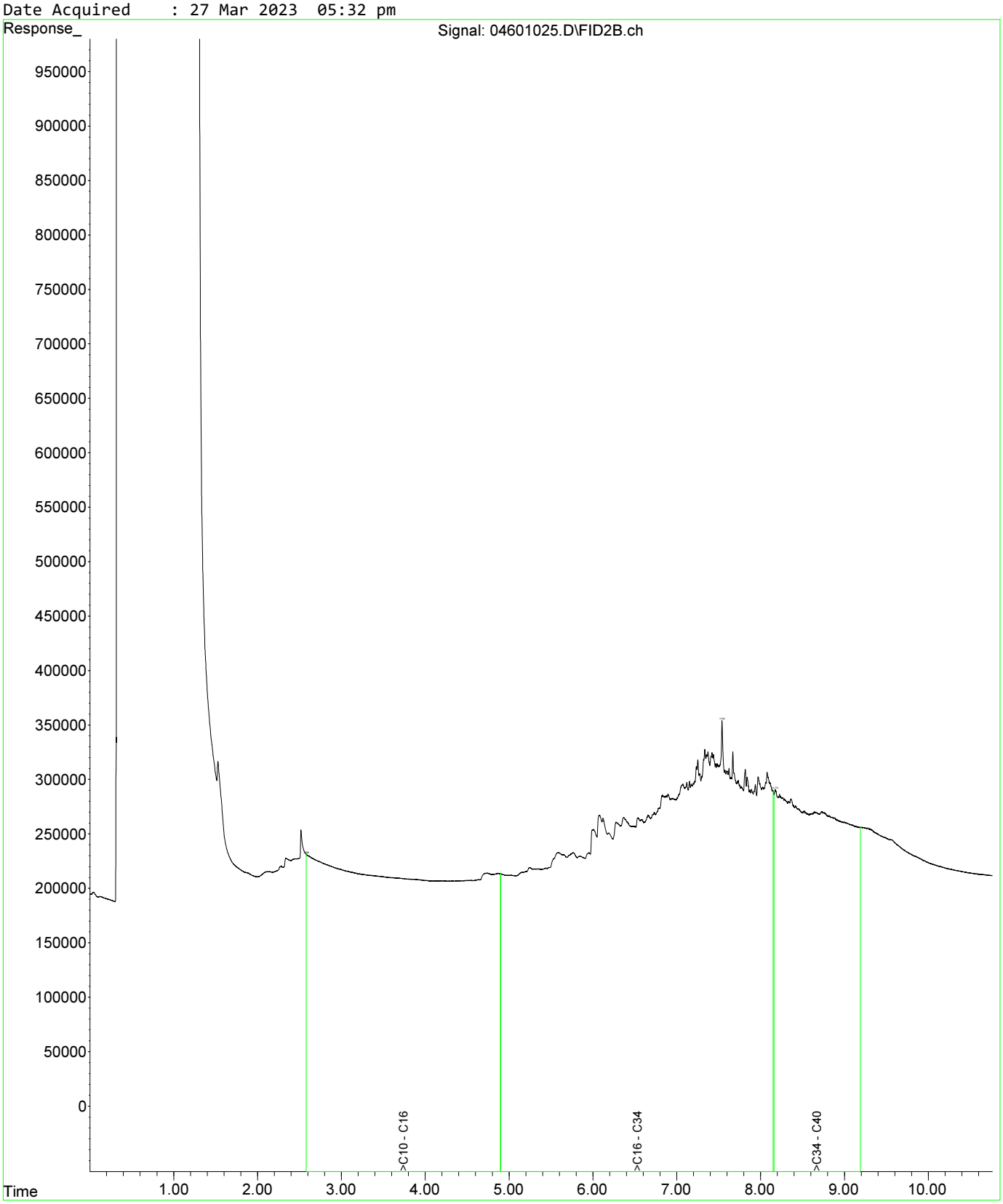
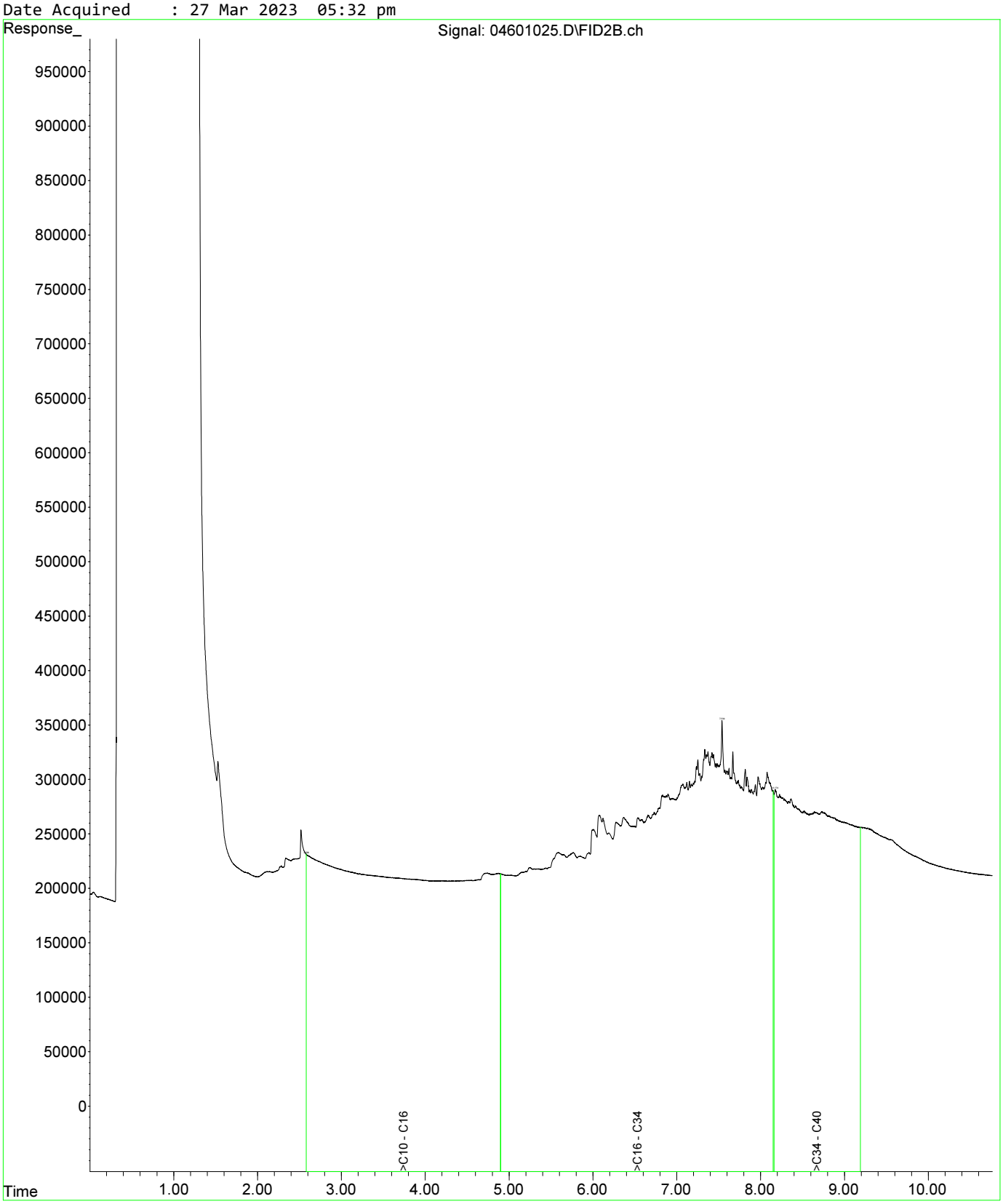


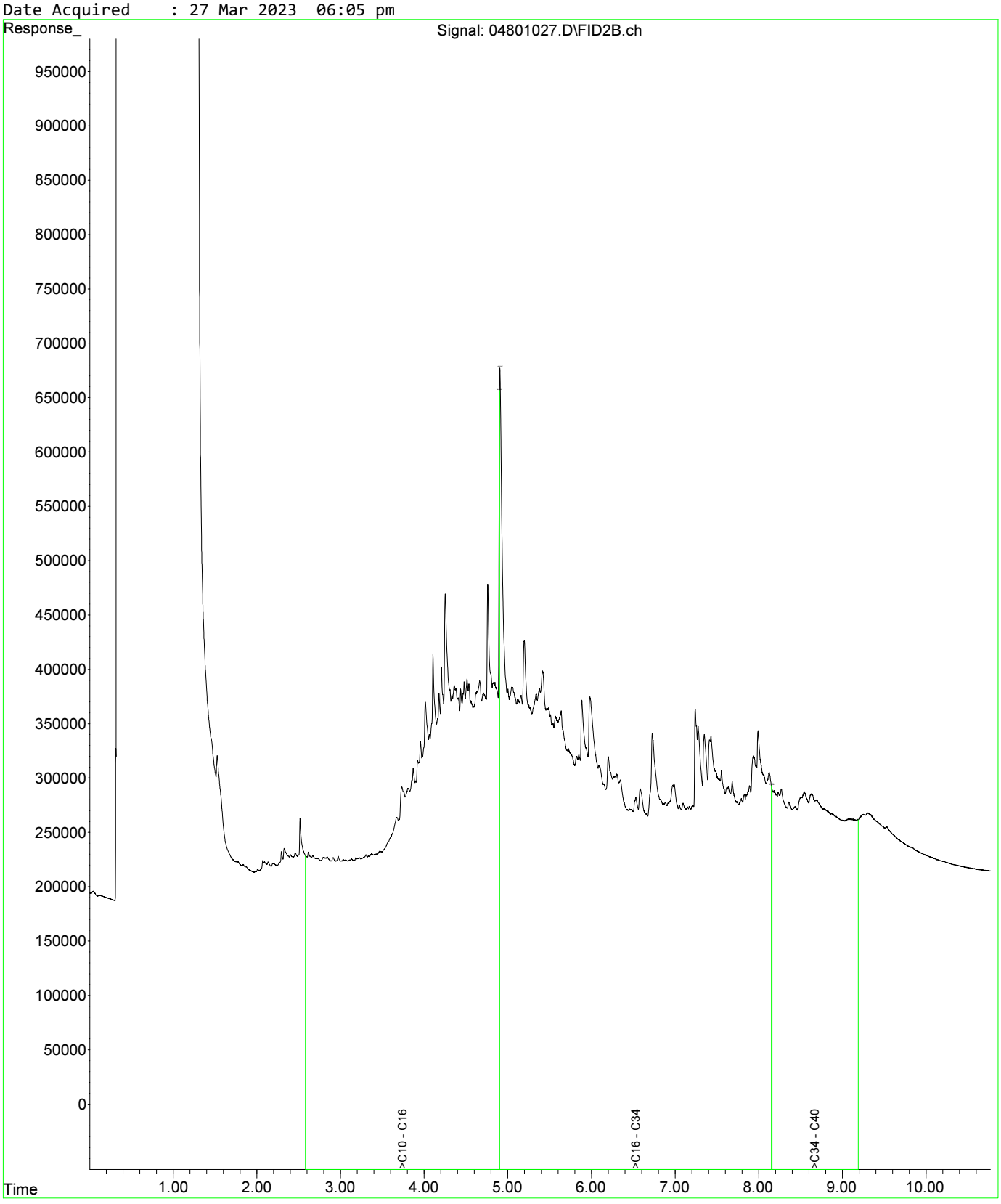
Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



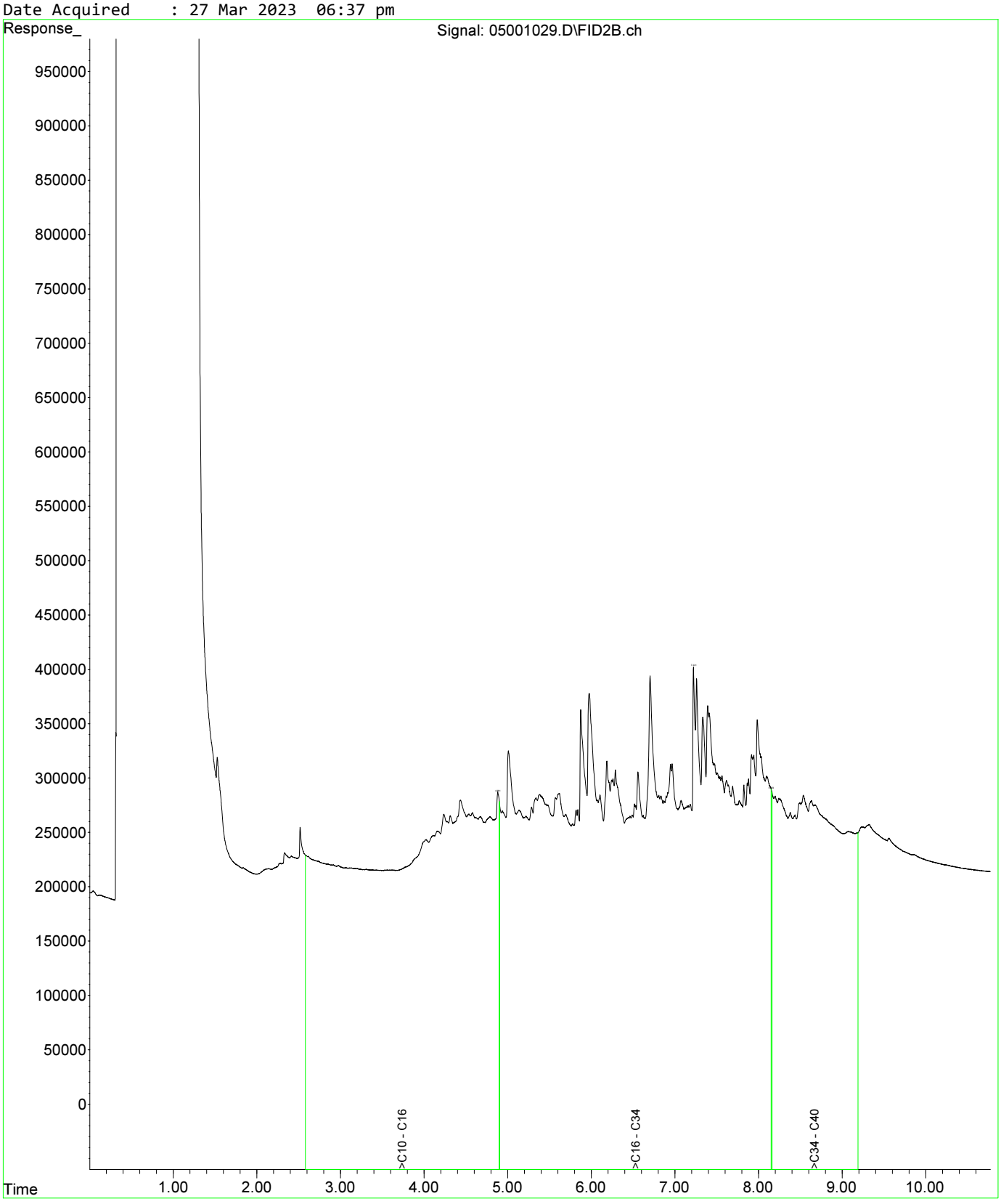
Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



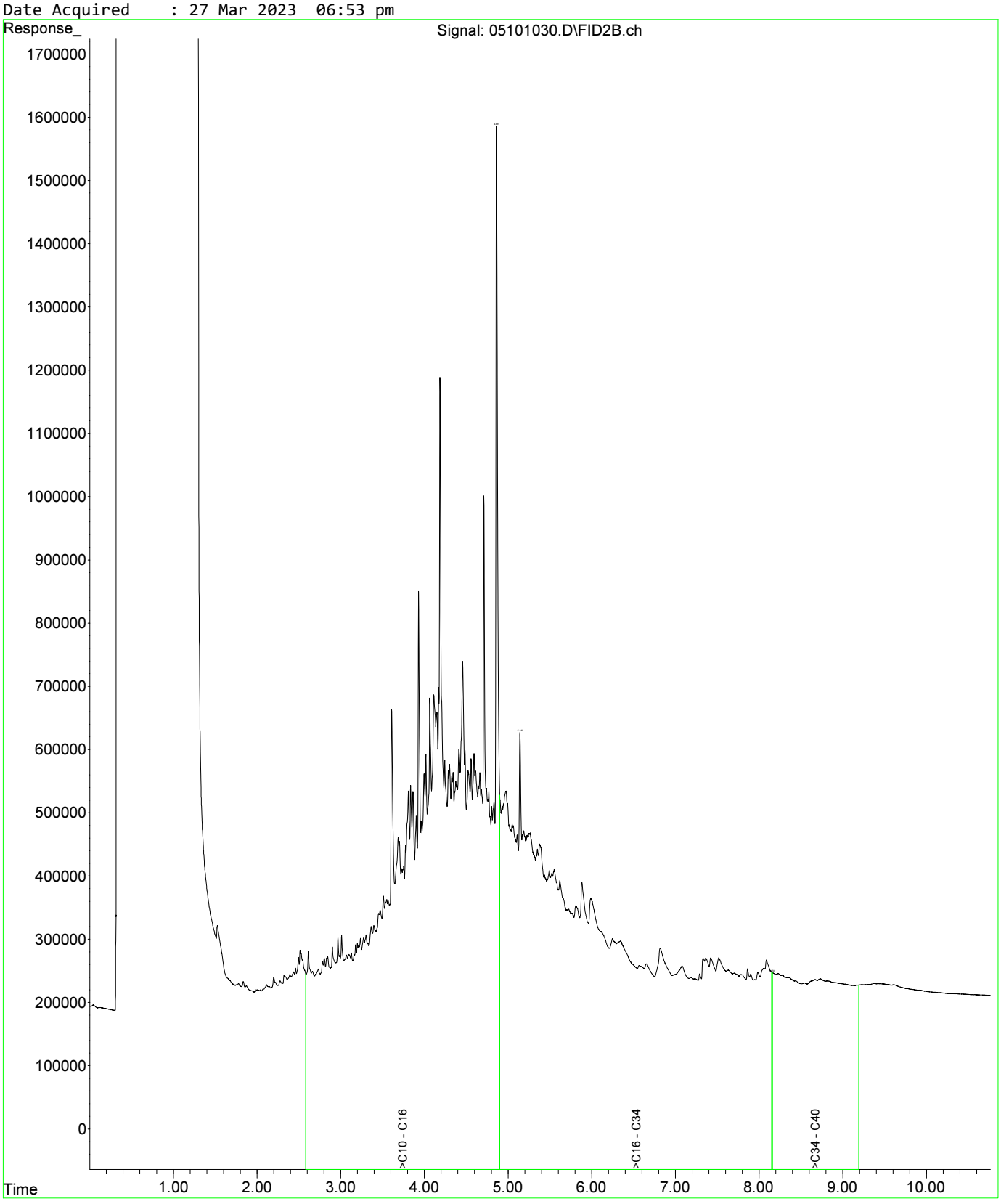
Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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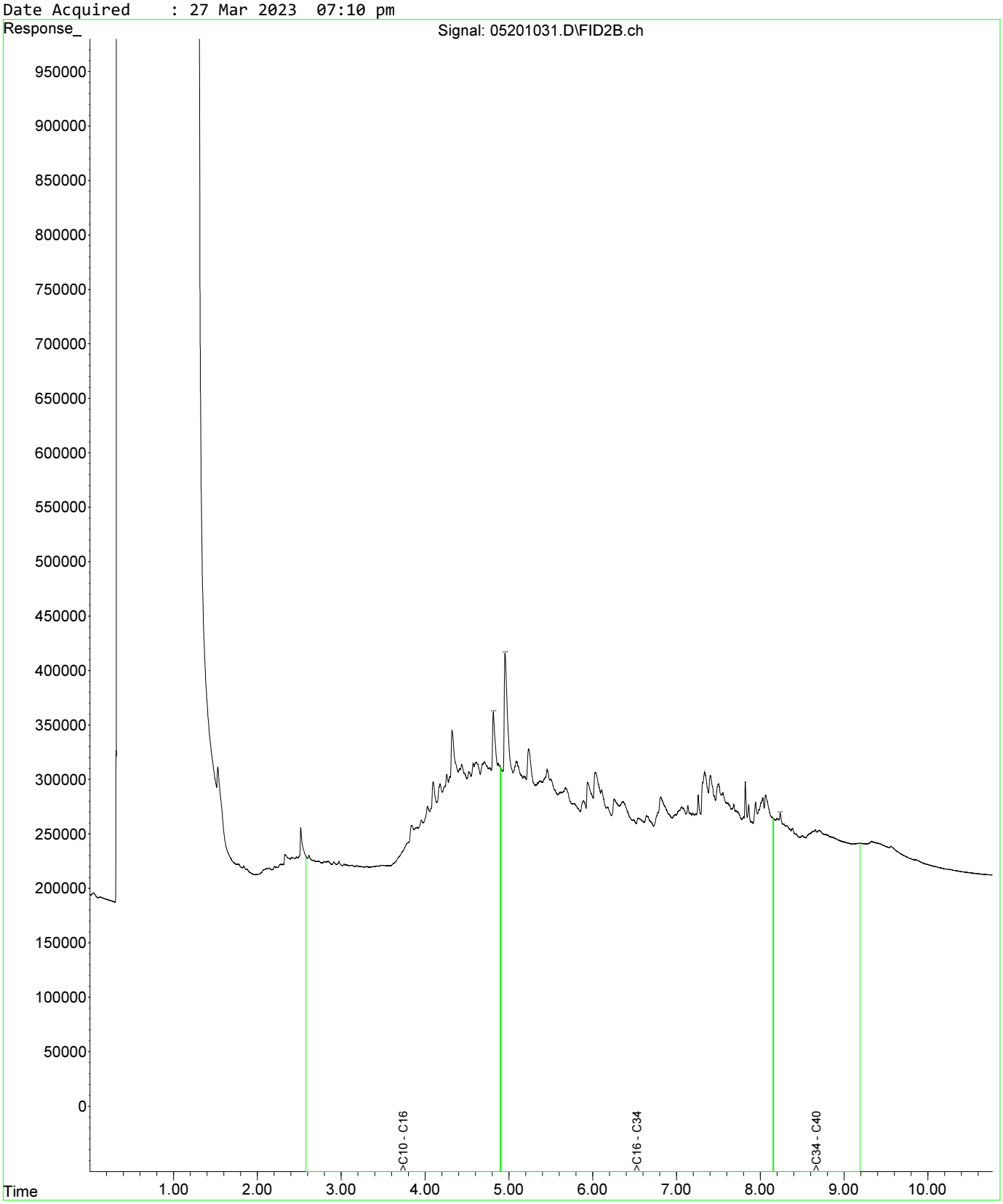
Sample ID : UST_SP_EXT_03
Date Acquired : 27 Mar 2023 07:10 pm



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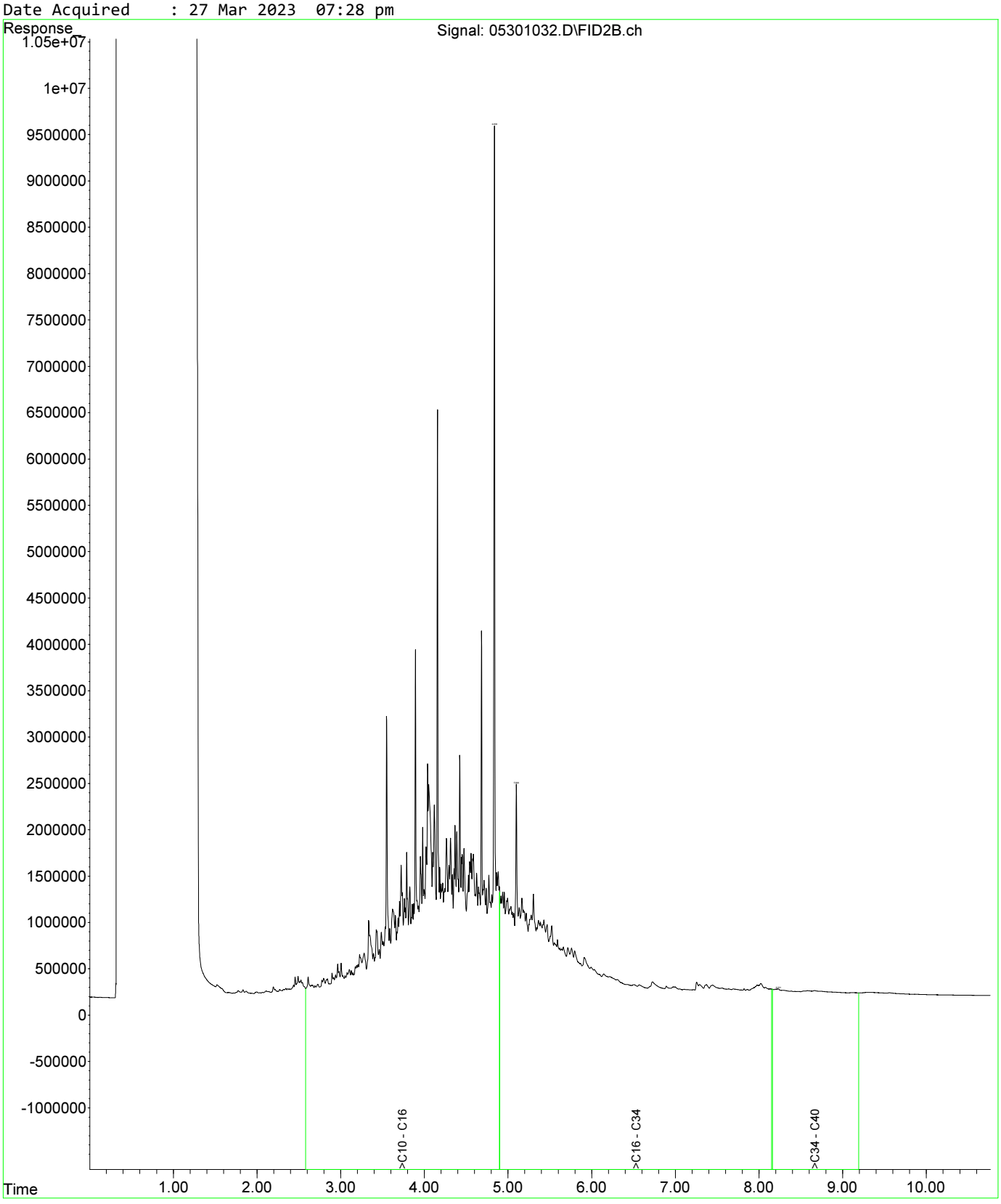
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



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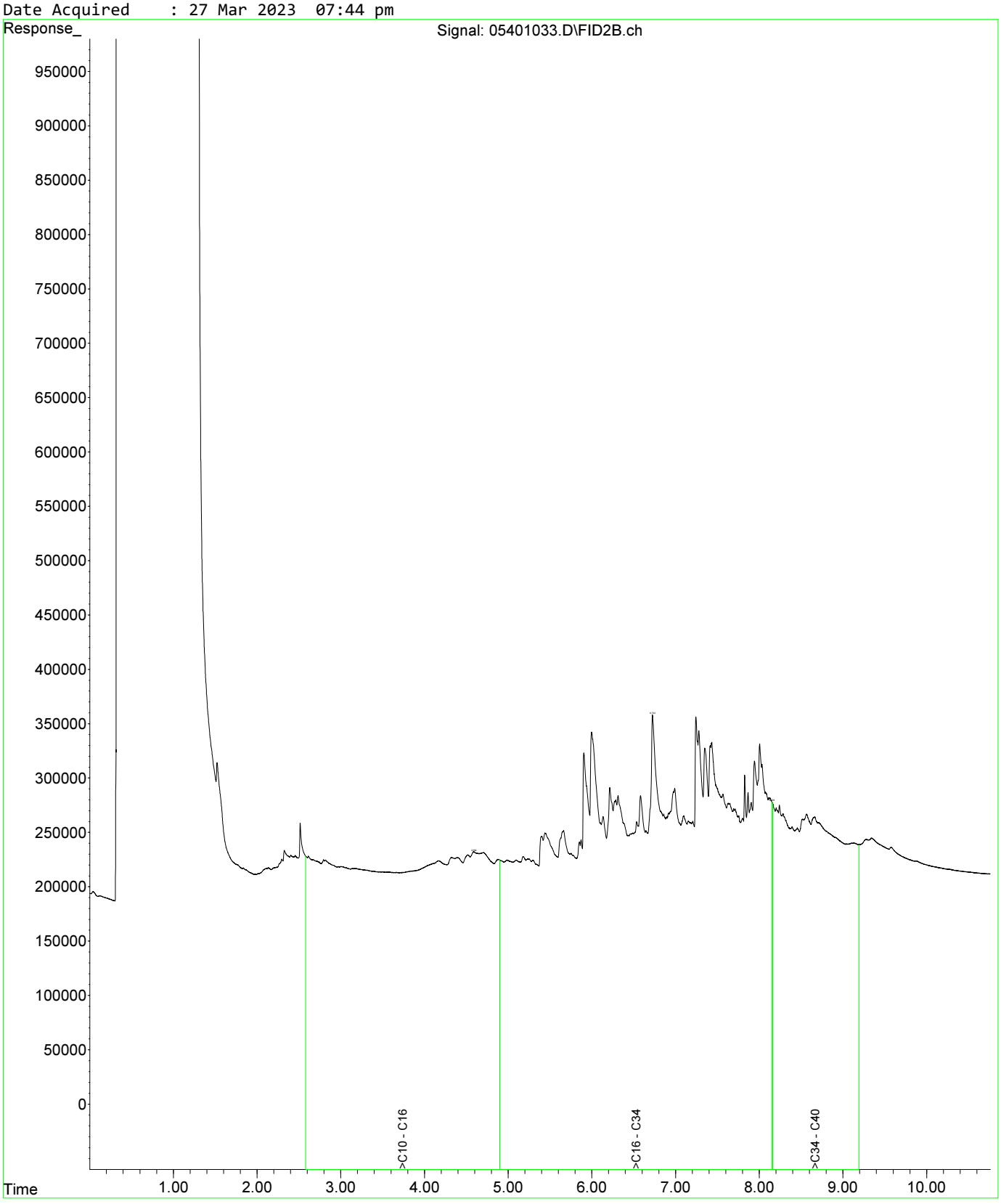

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
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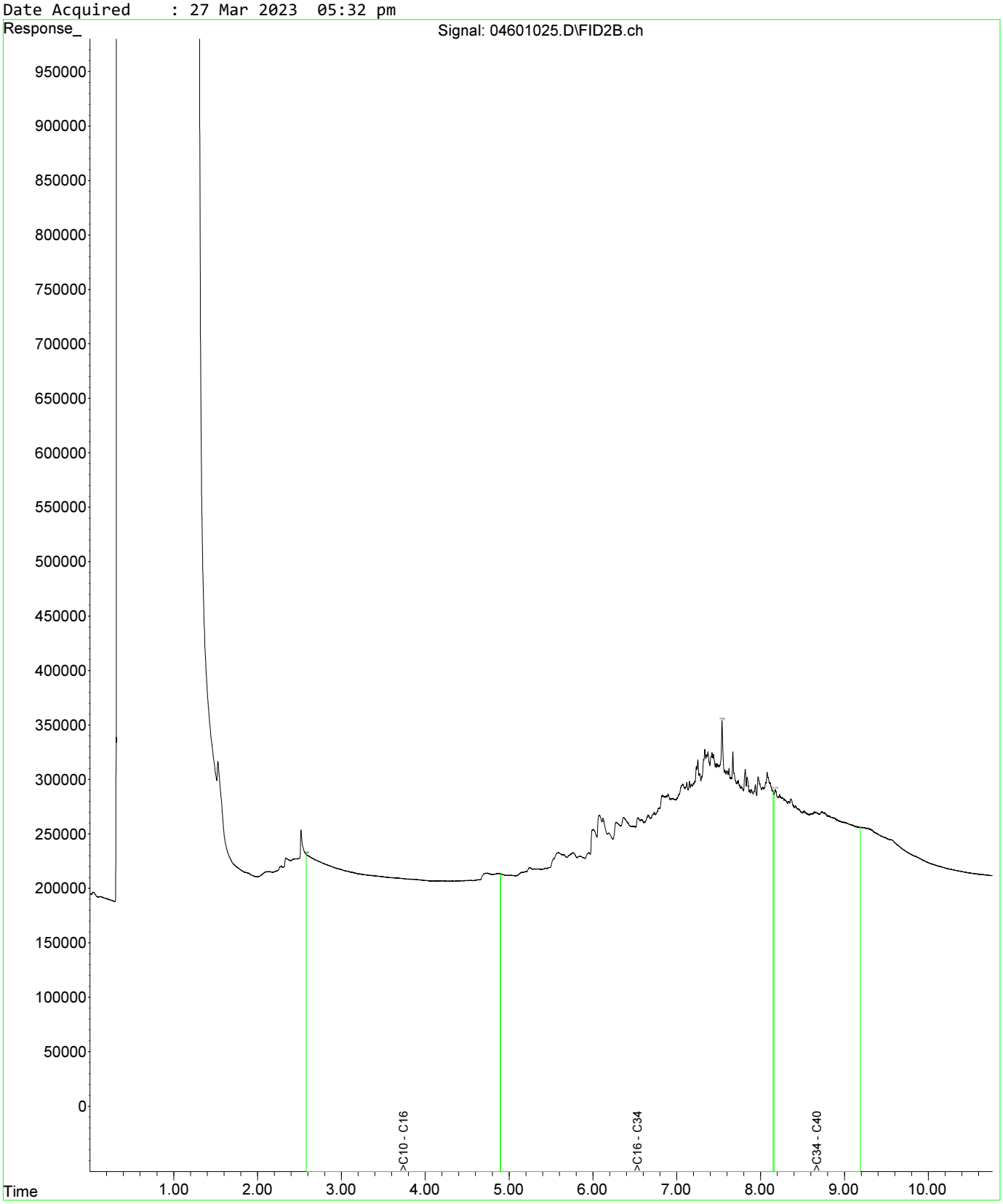
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
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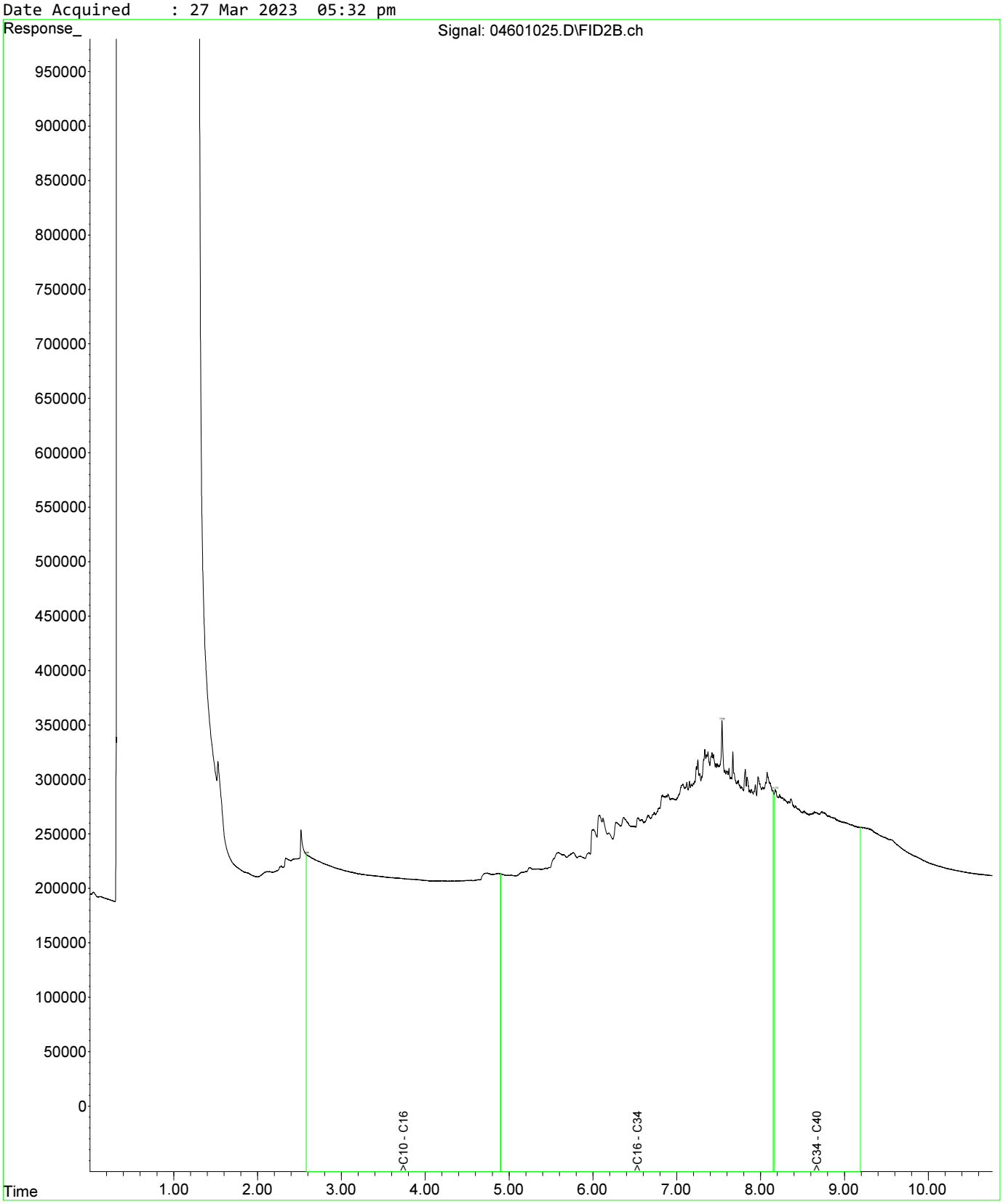
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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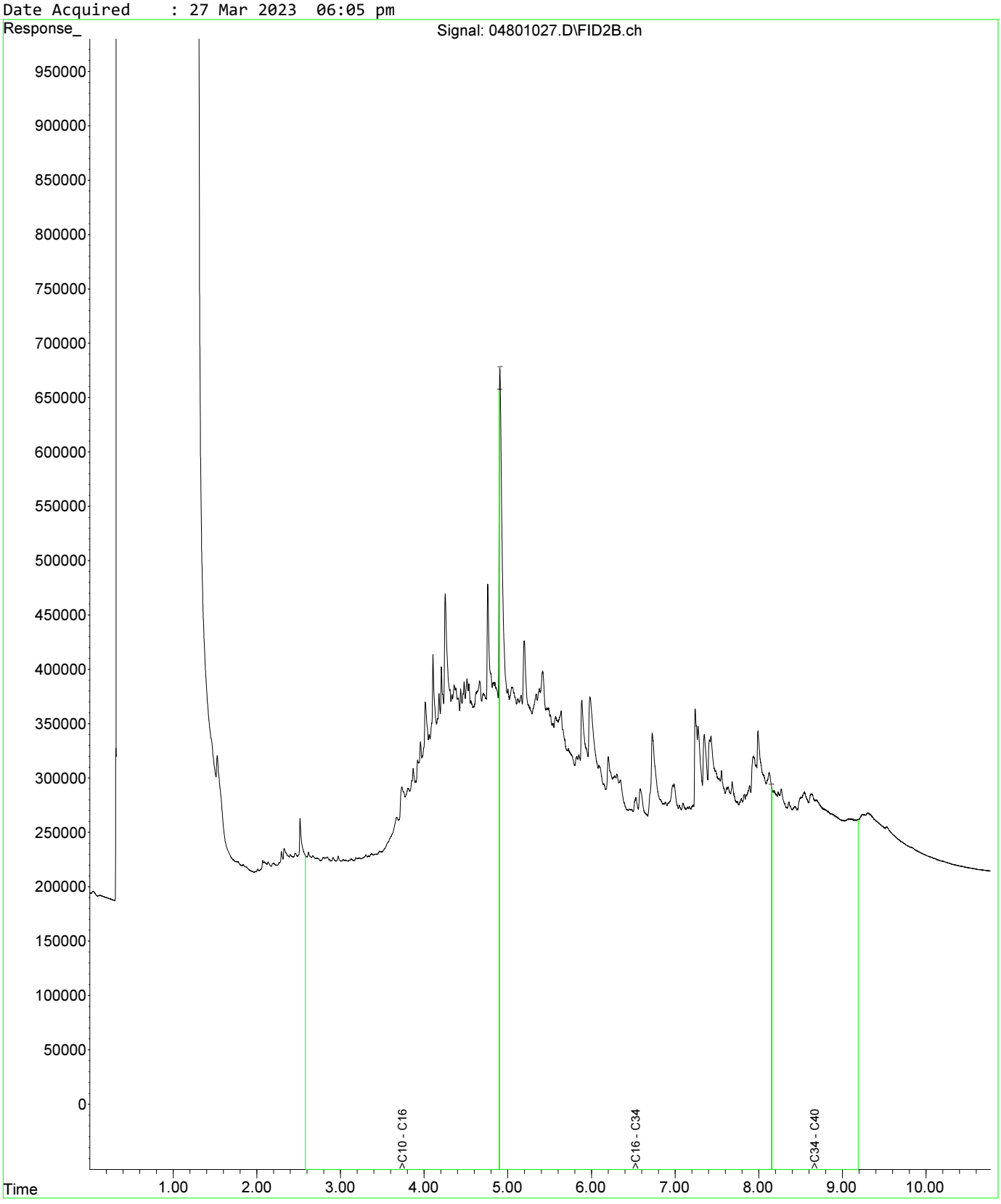
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
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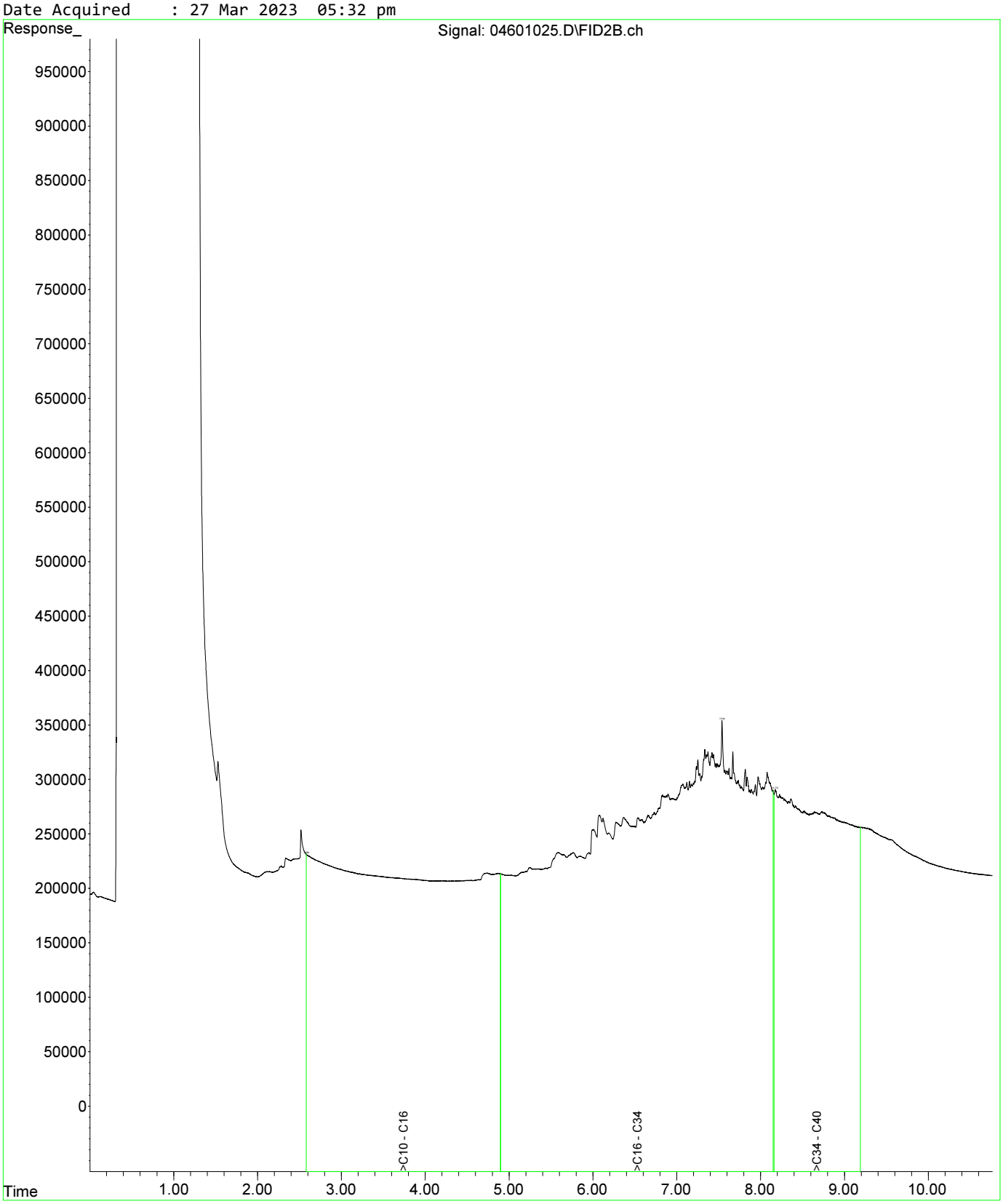

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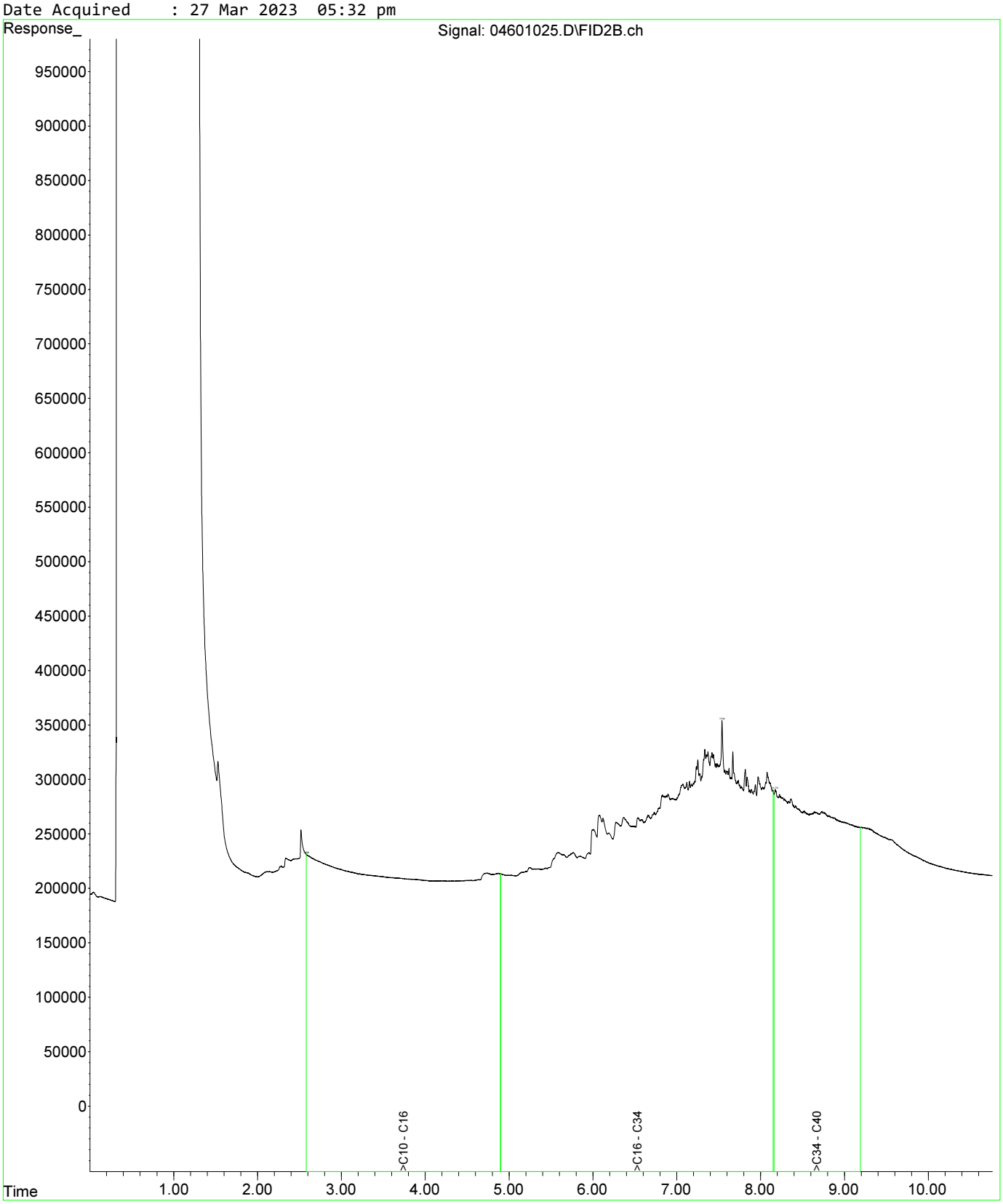

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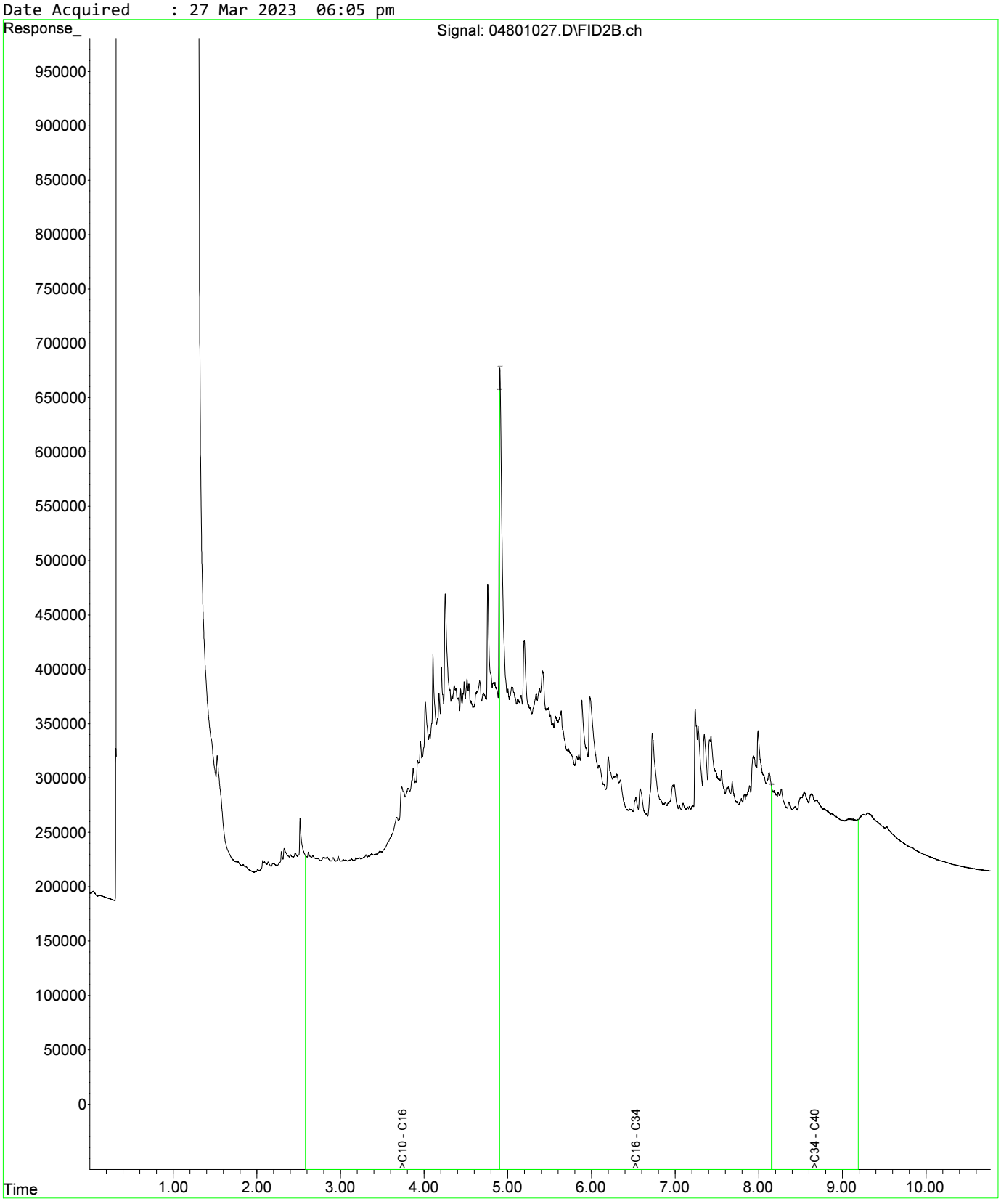

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
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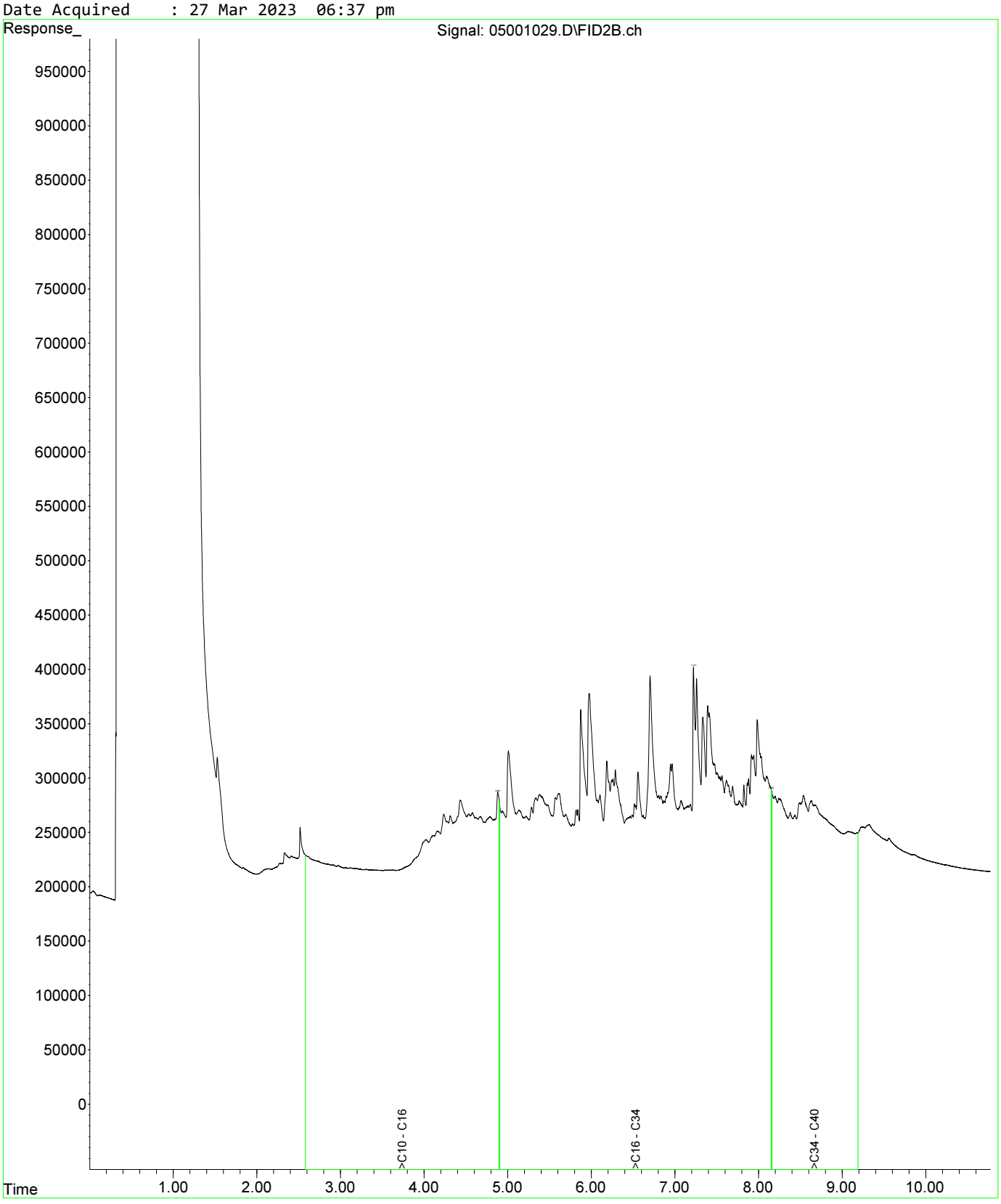

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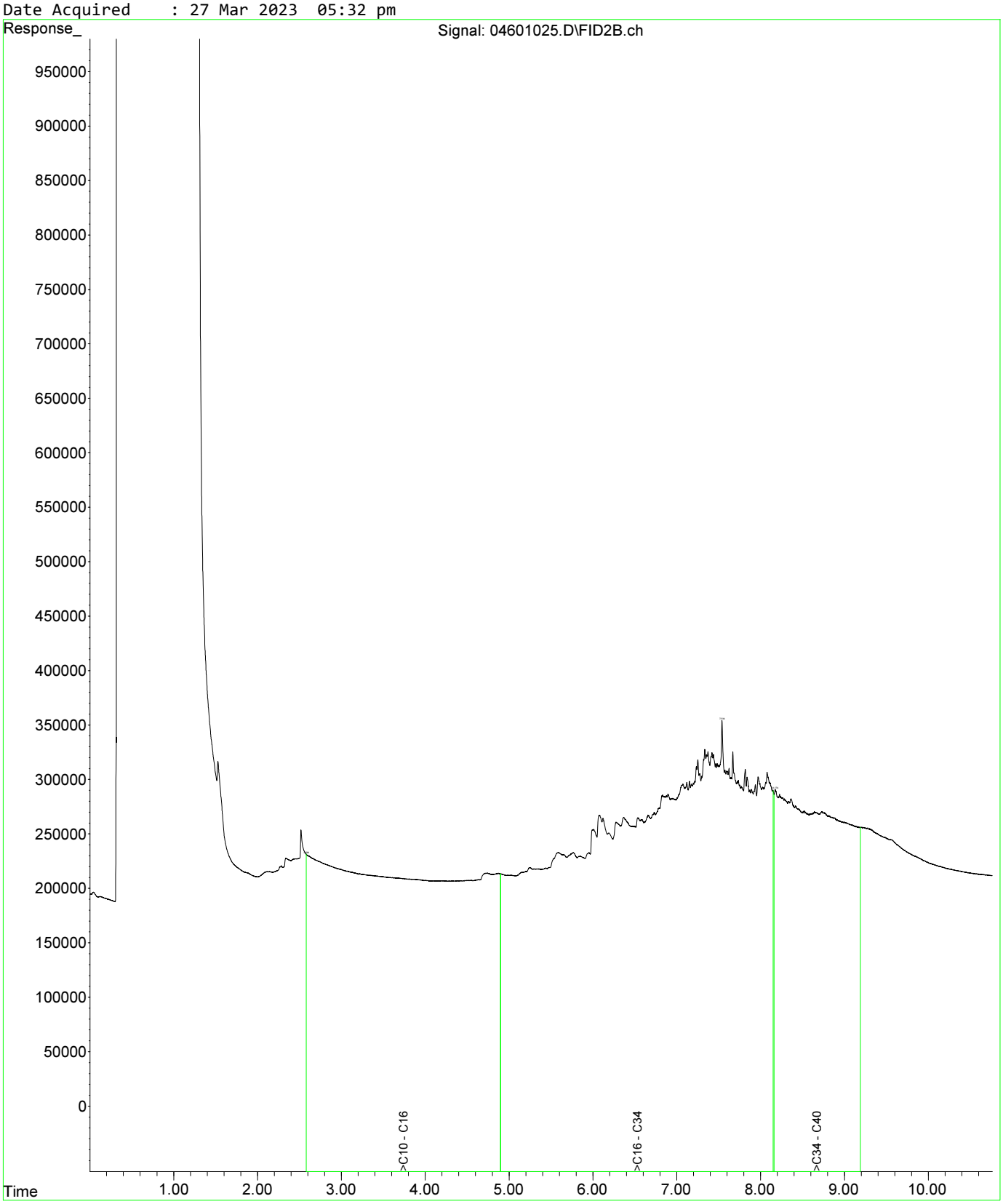

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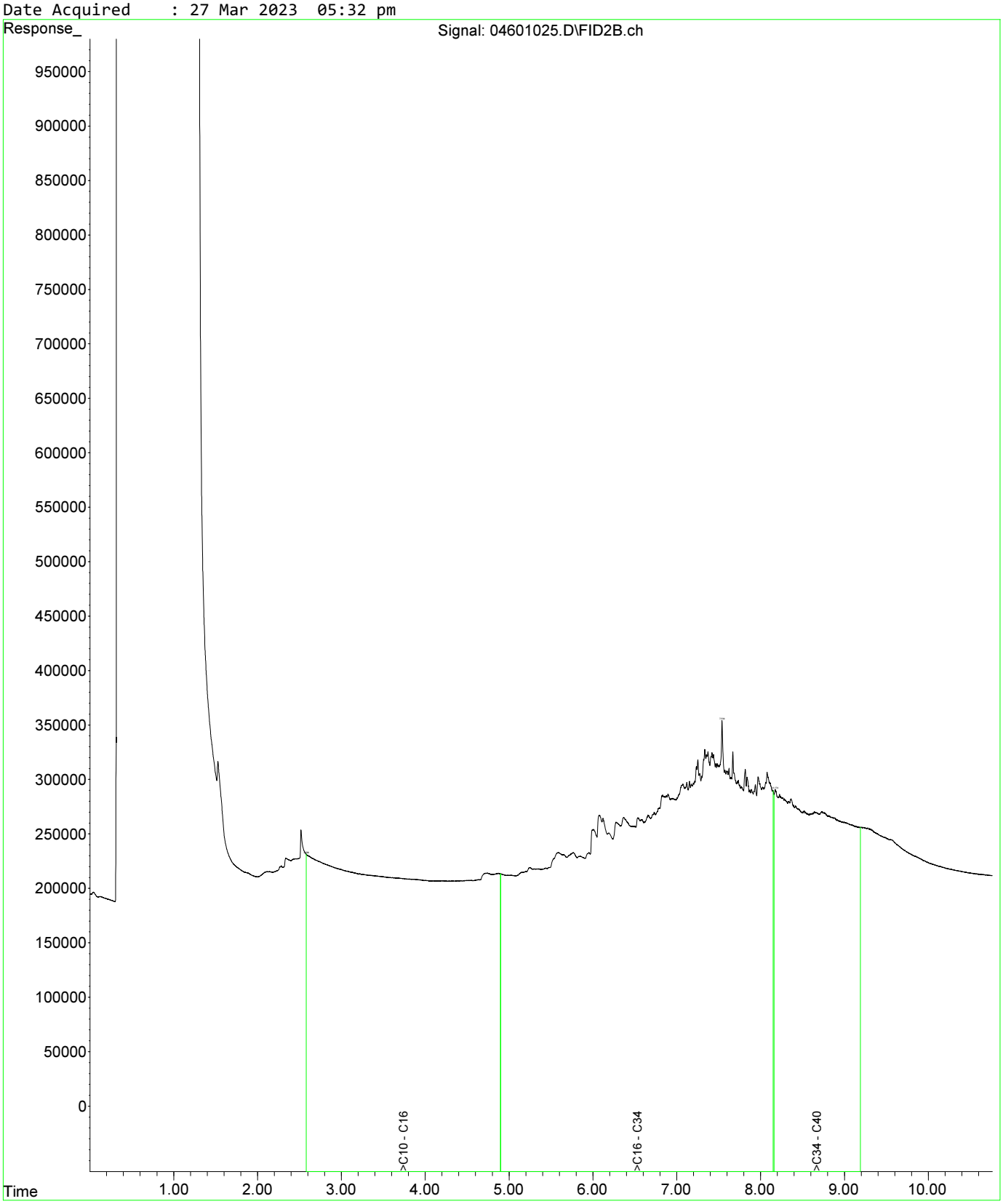

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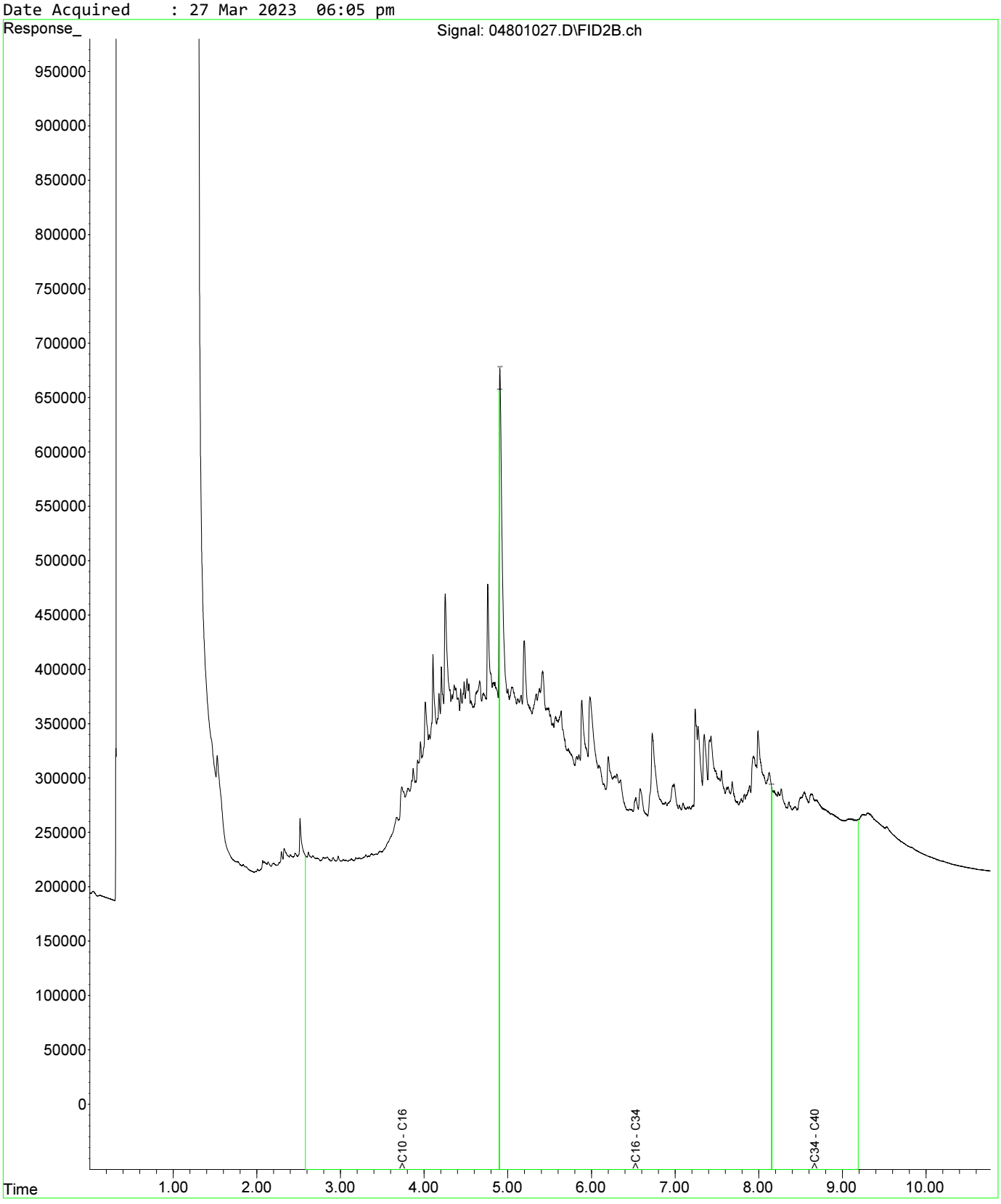

Fraction Scheme : NEPM DRAFT HIL
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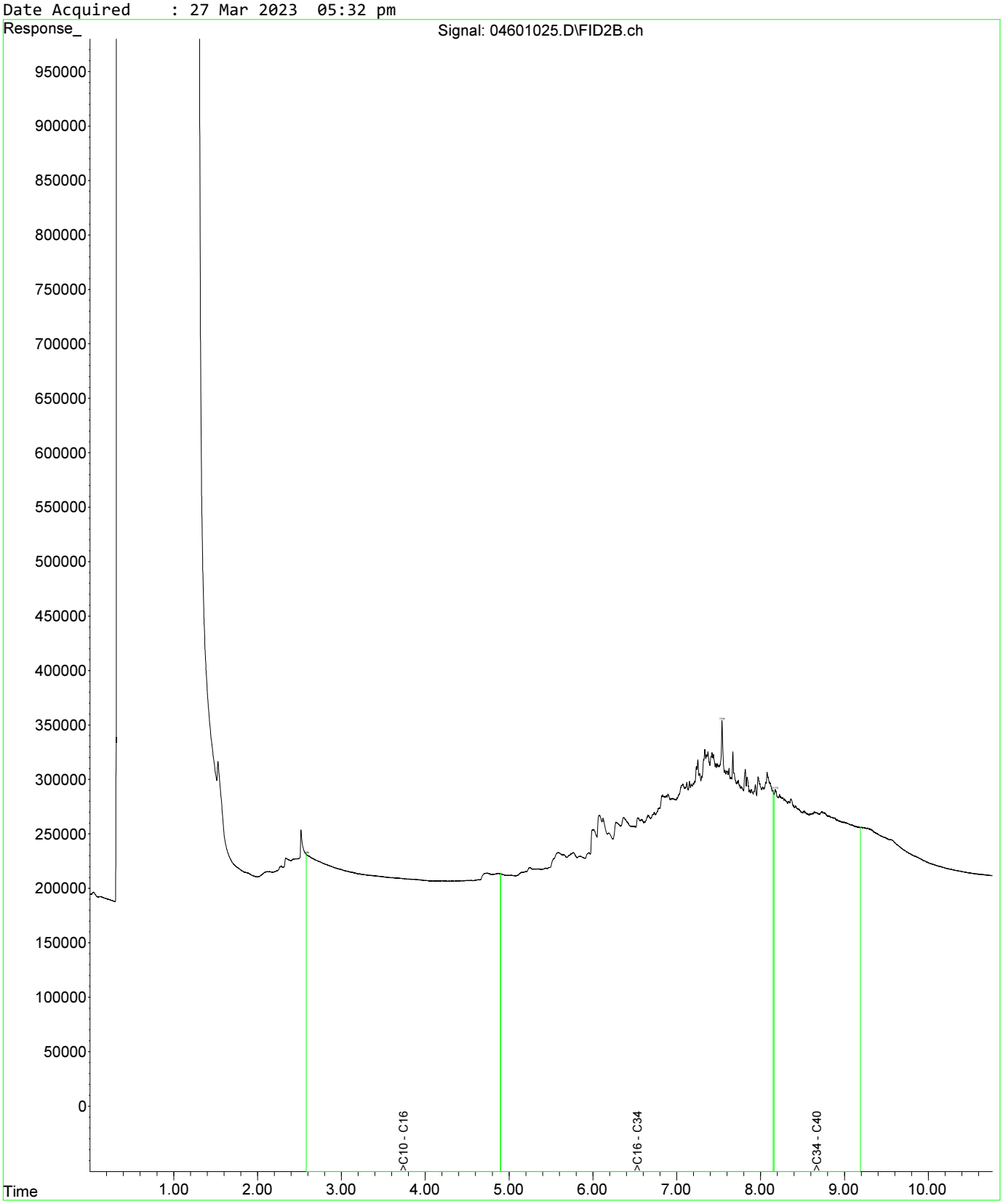

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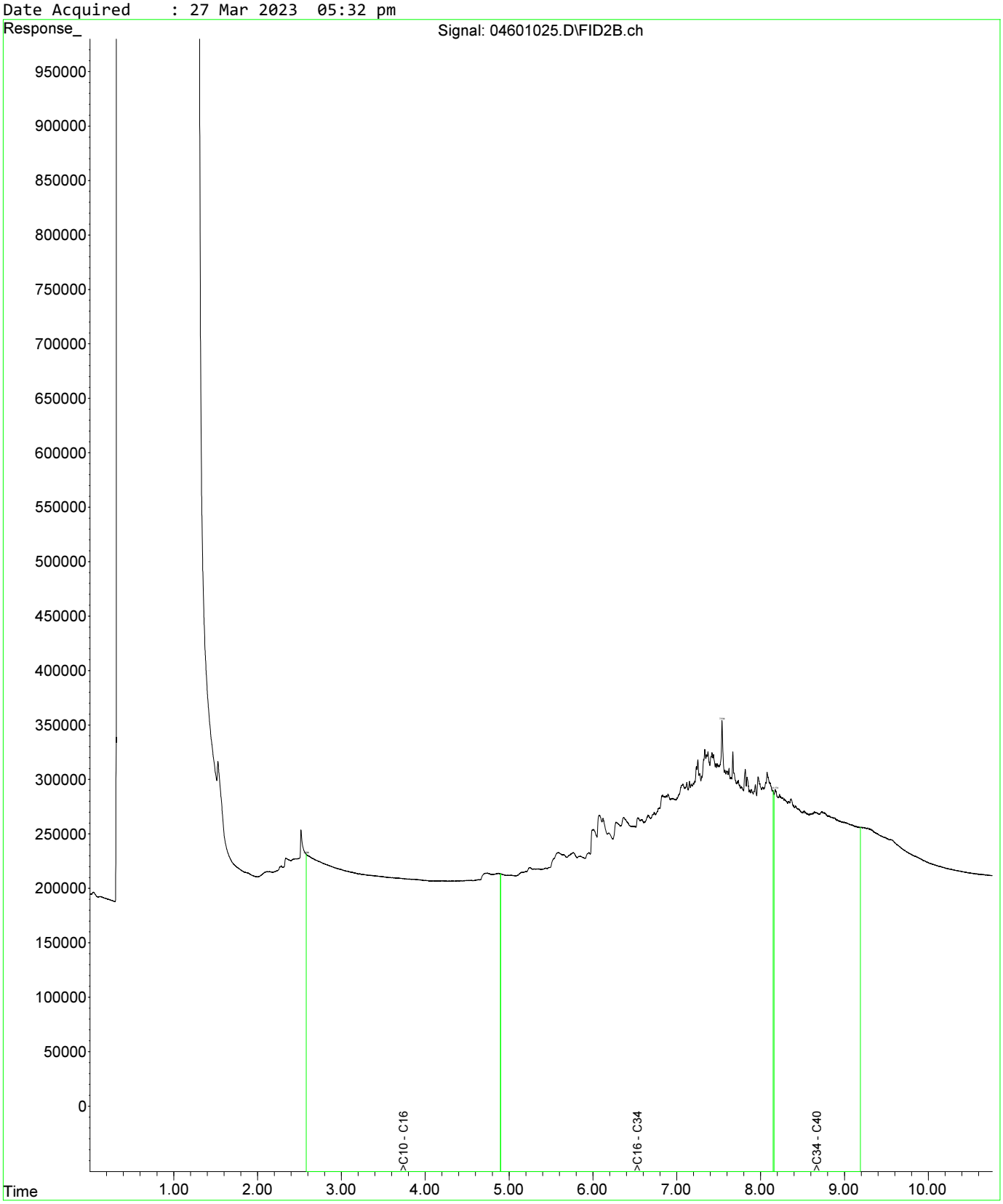

Fraction Scheme : NEPM DRAFT HIL
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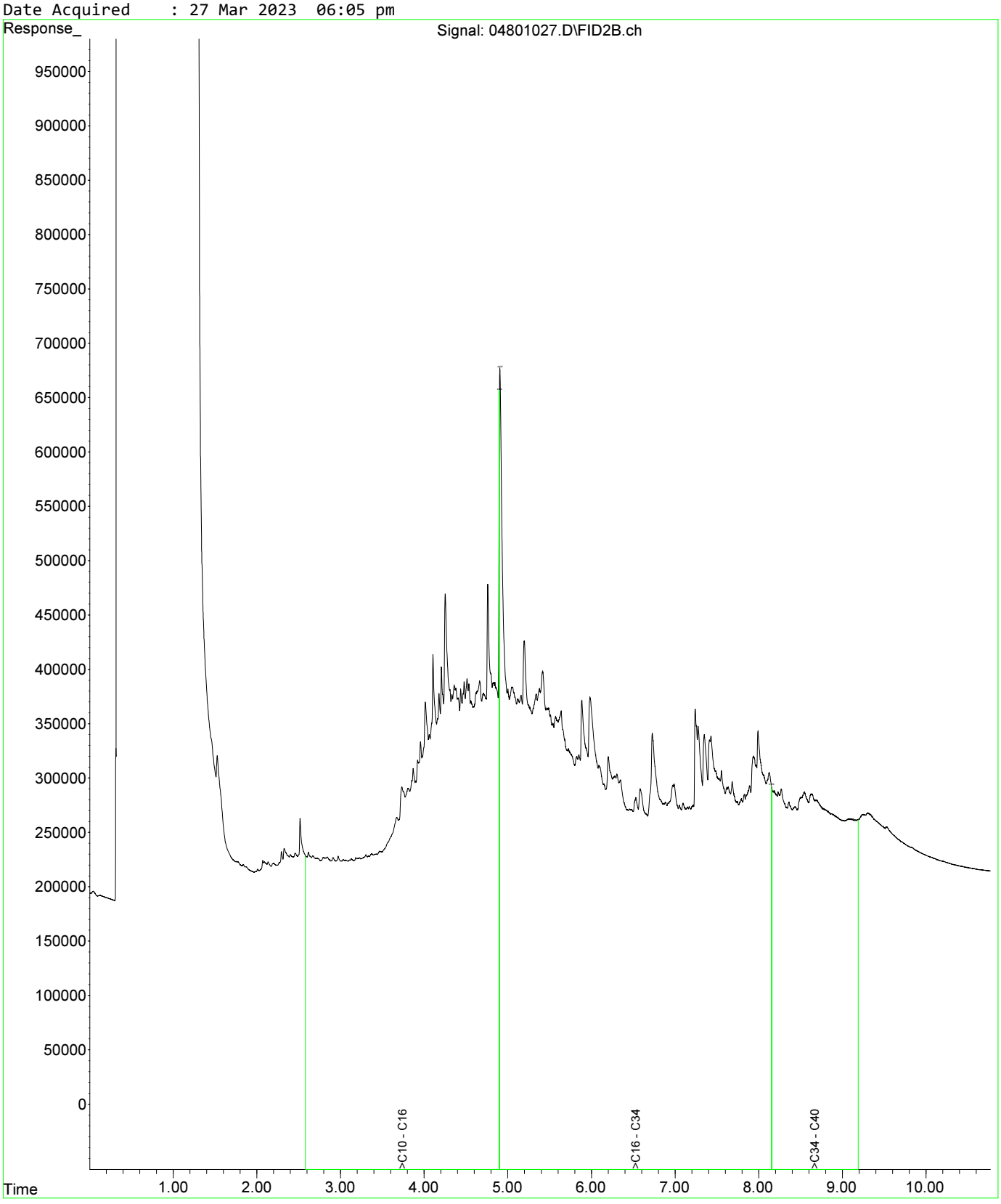
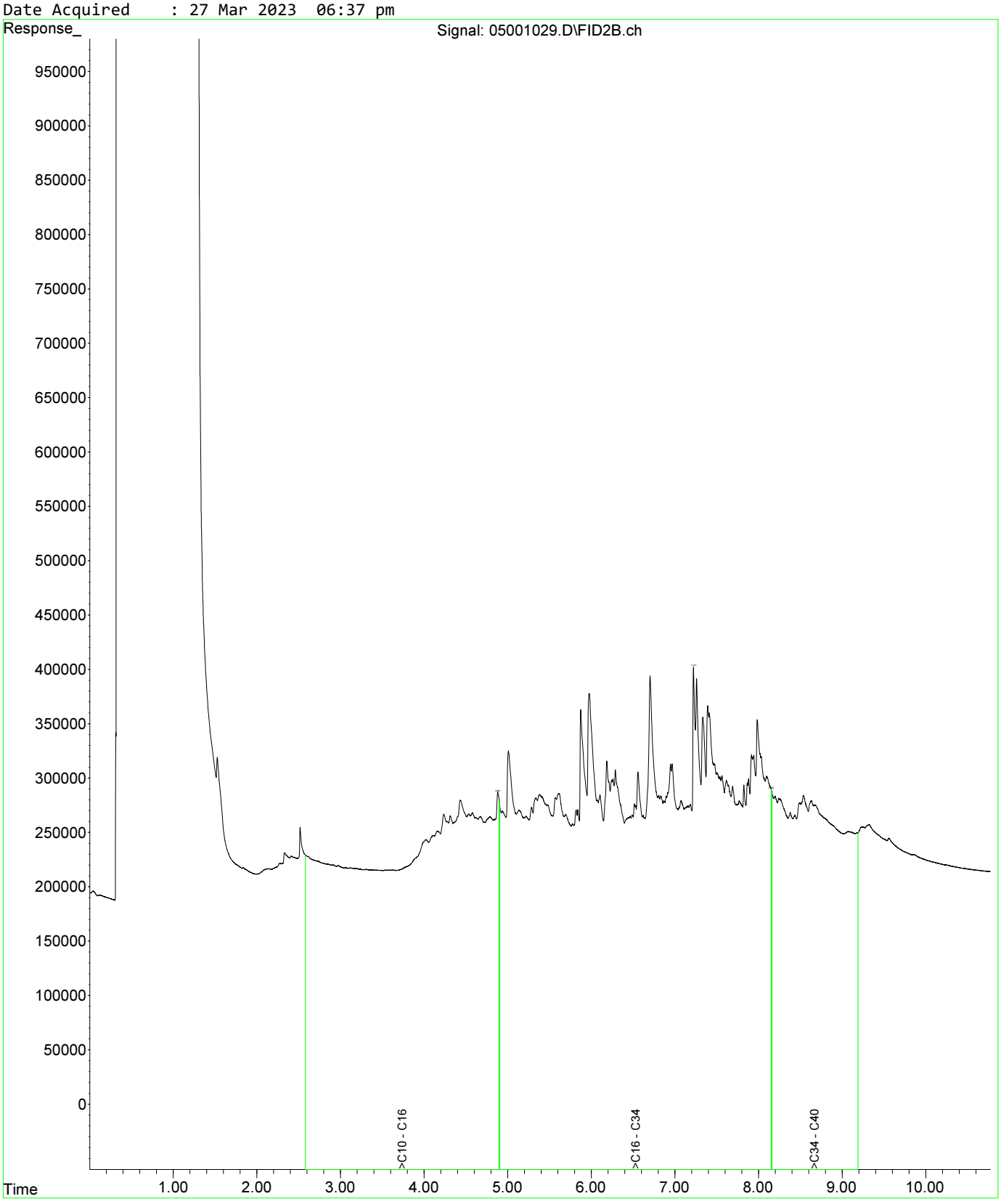


Fraction Scheme : NEPM DRAFT HIL
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Laboratory Number: EM2305209-025
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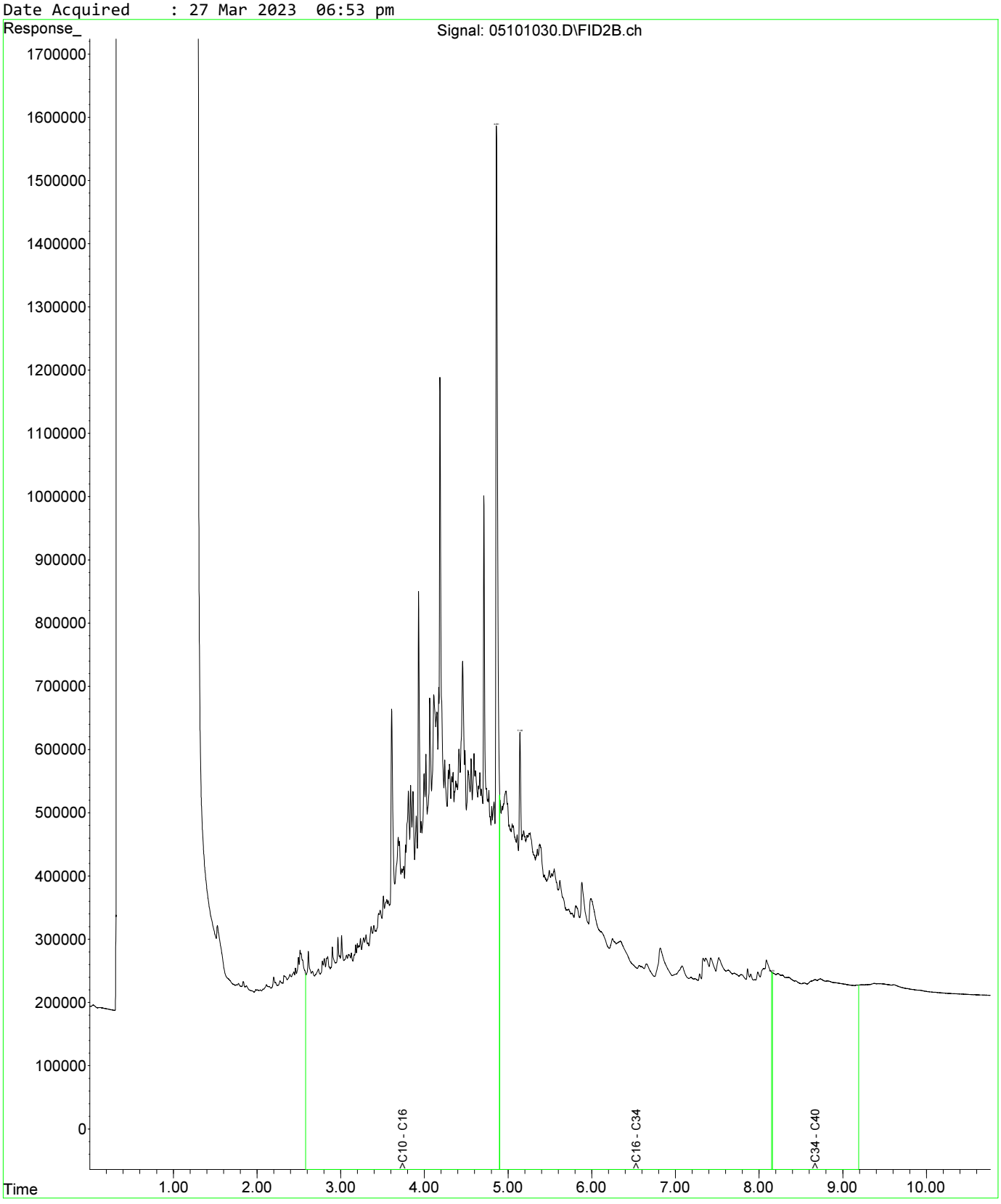
Date Acquired : 27 Mar 2023 06:53 pm



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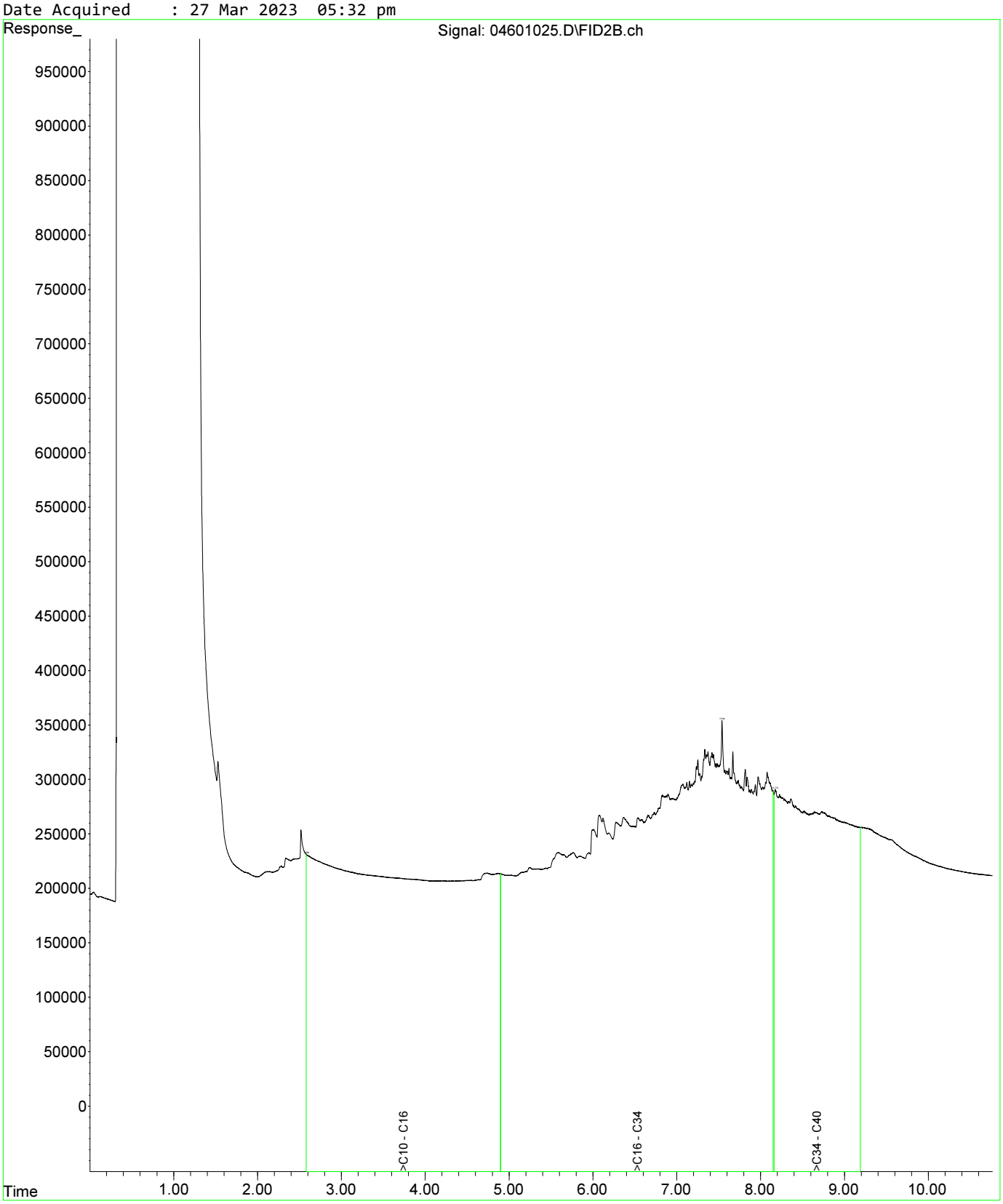

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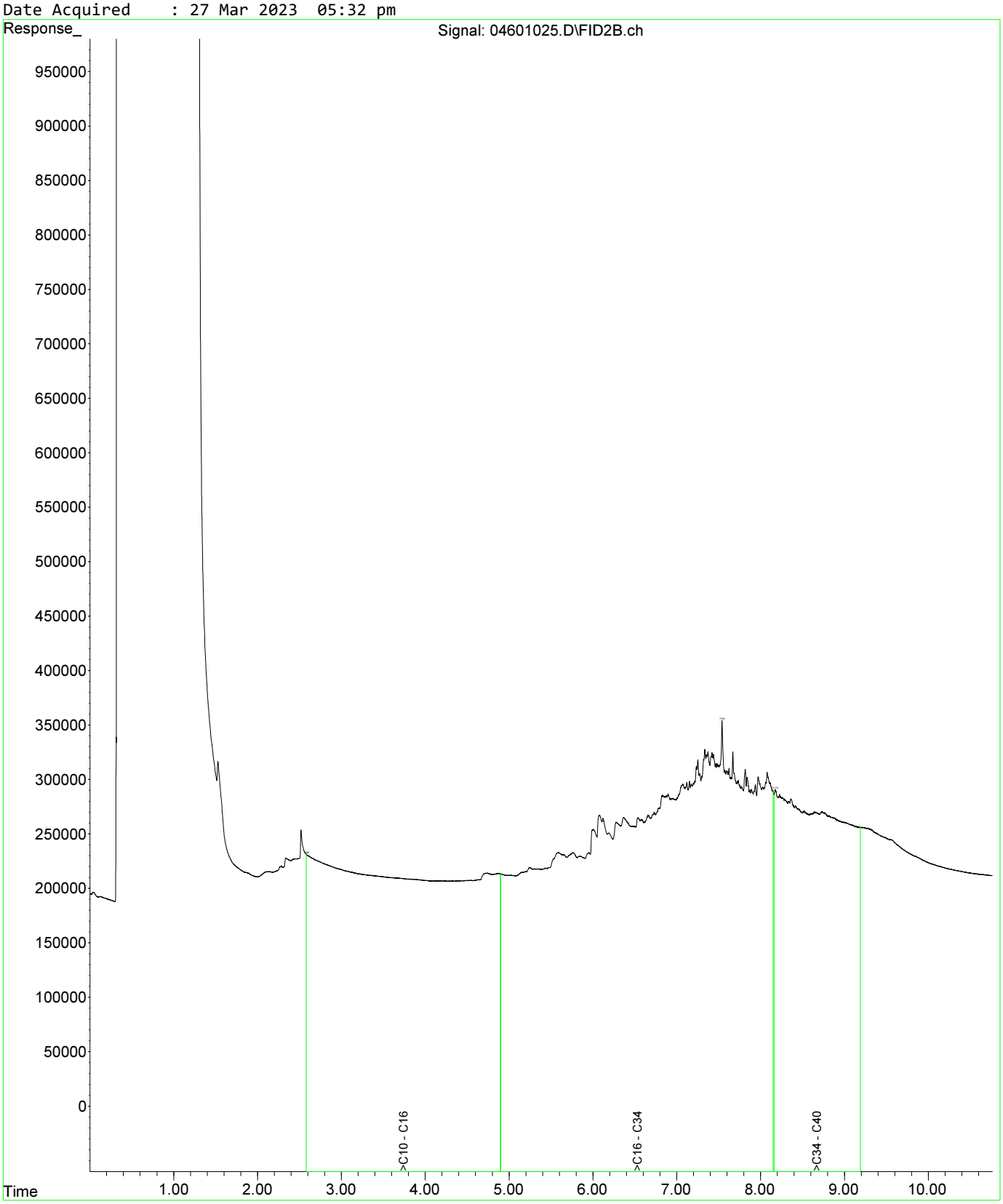

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-019
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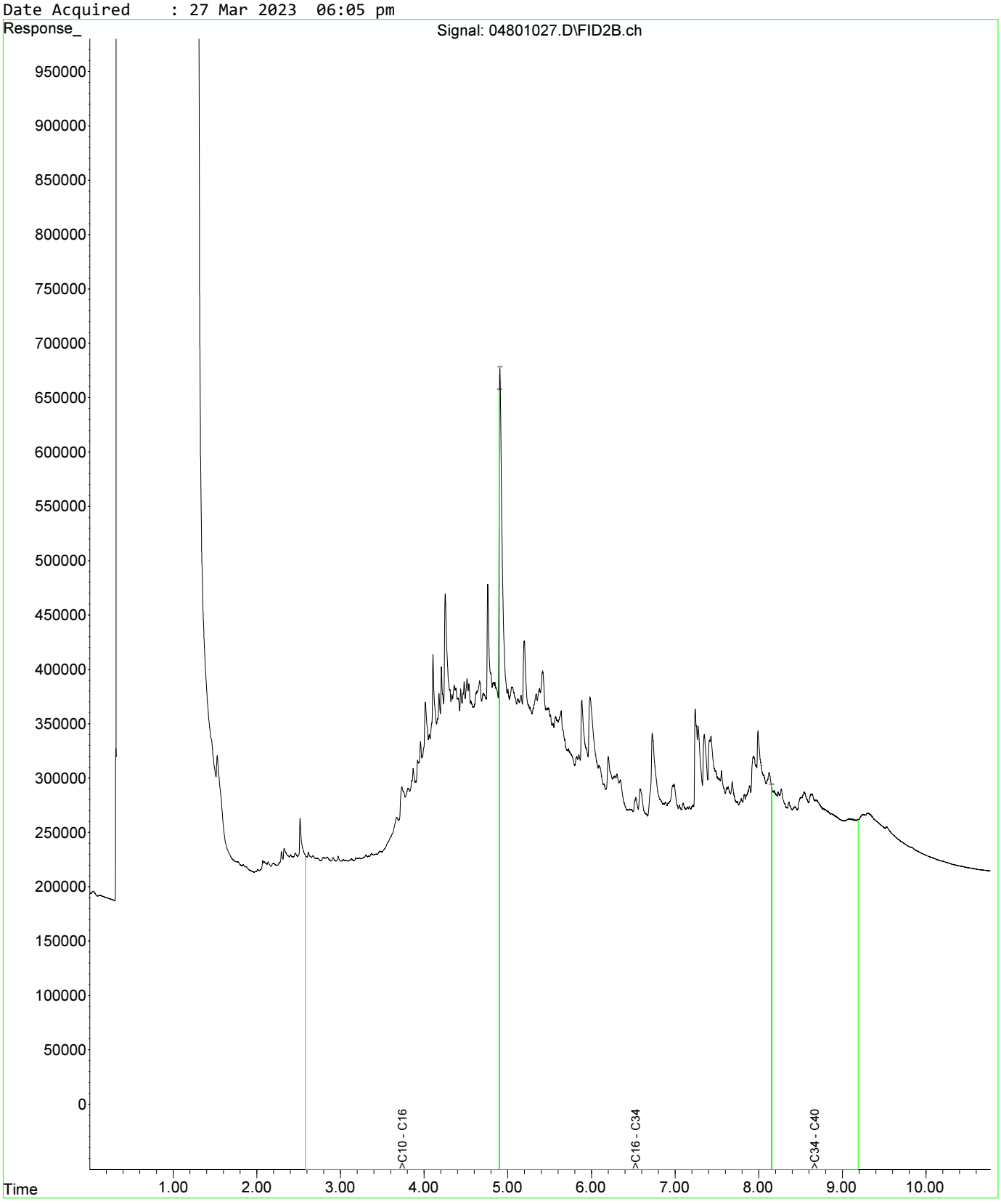

Fraction Scheme : NEPM DRAFT HIL
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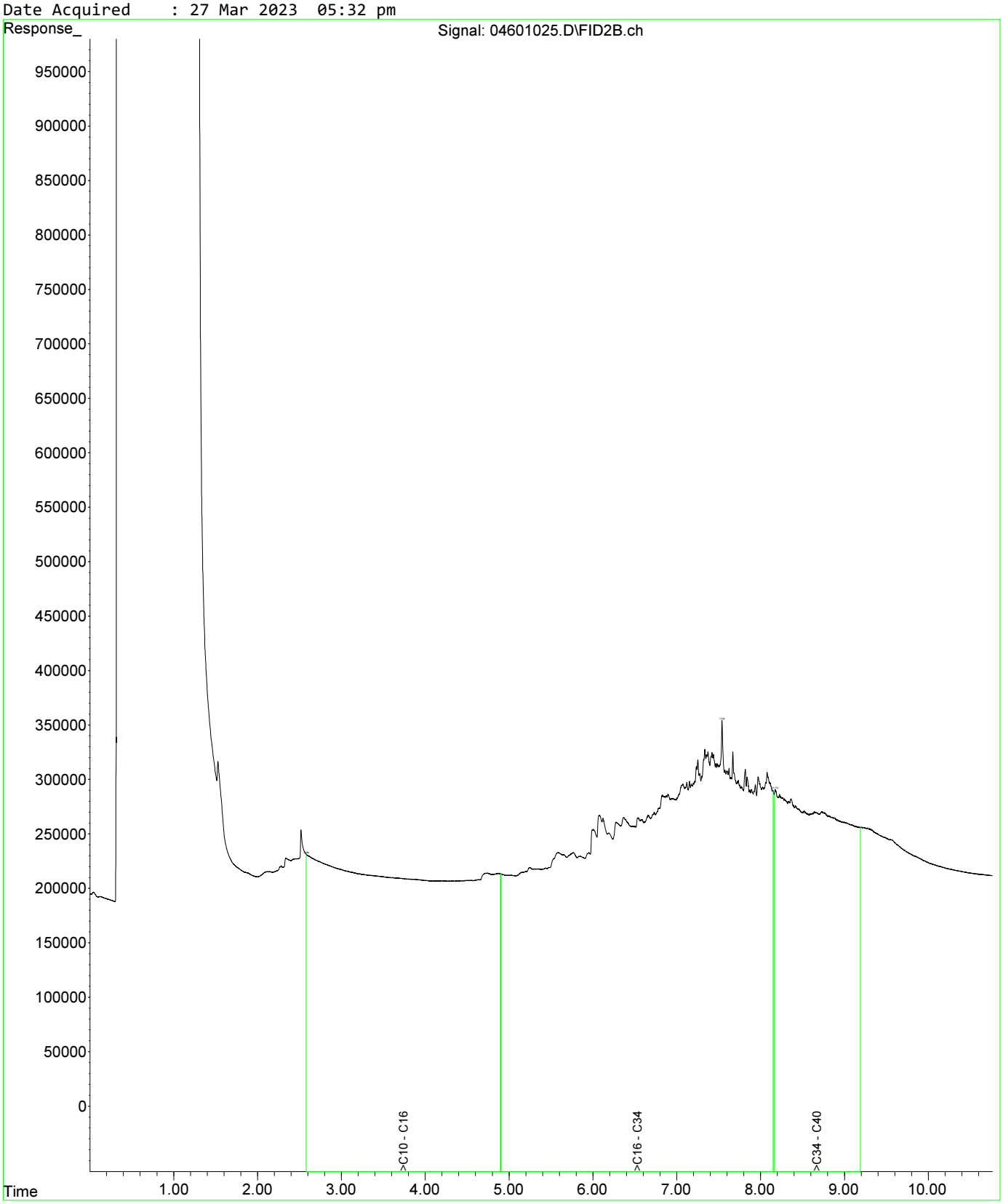

Fraction Scheme : NEPM DRAFT HIL
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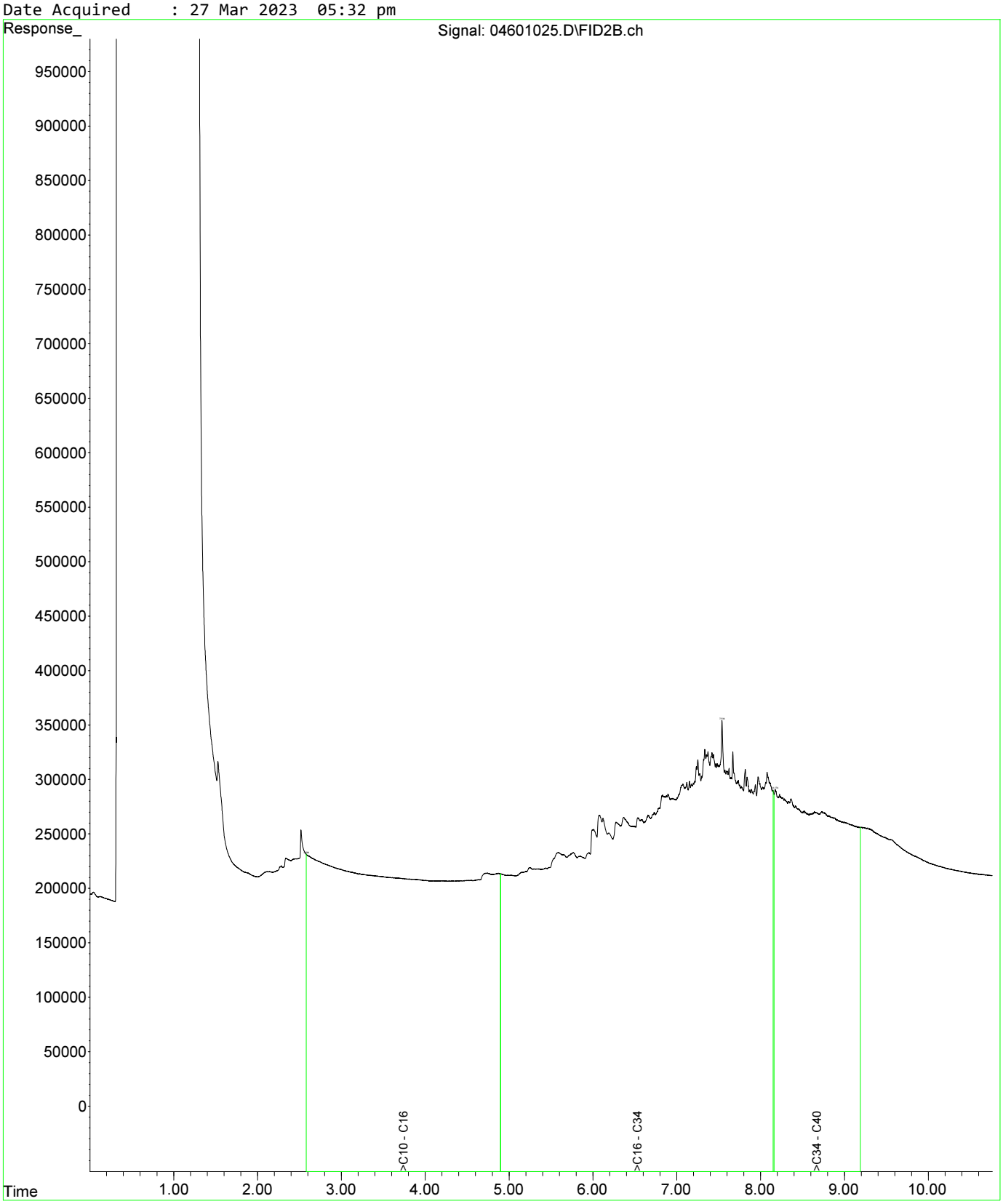

Fraction Scheme : NEPM DRAFT HIL
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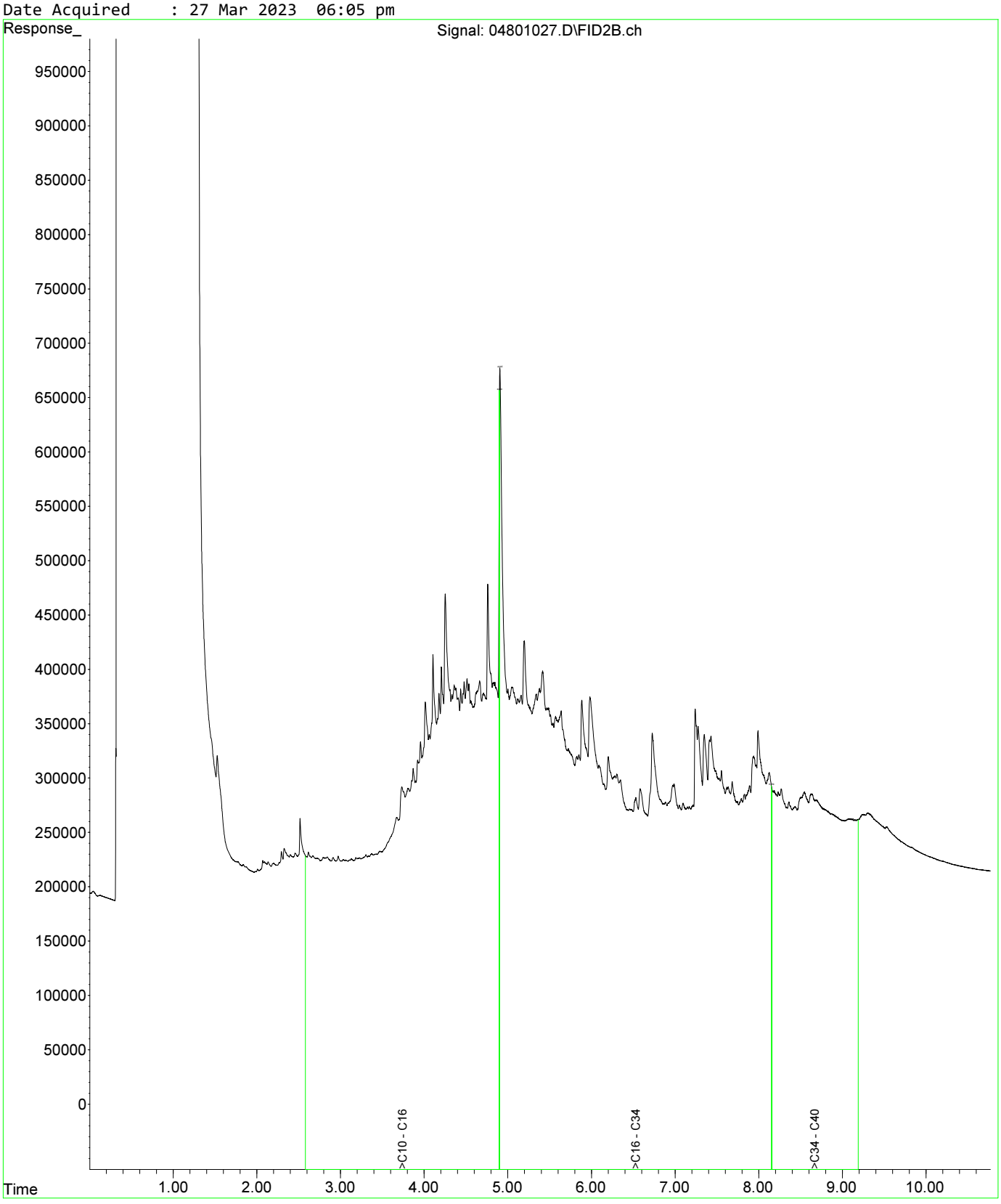

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
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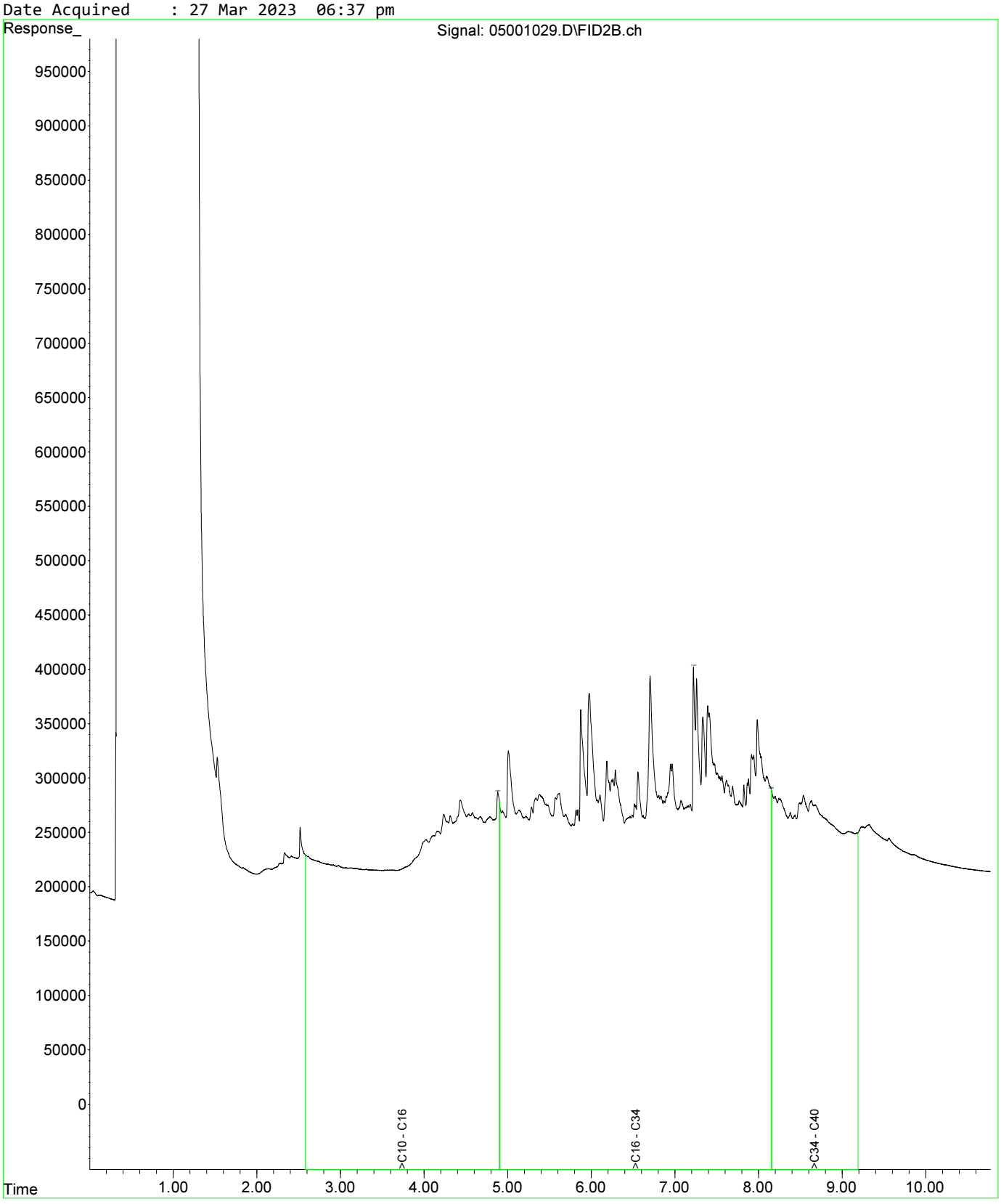
Date Acquired : 27 Mar 2023 06:37 pm



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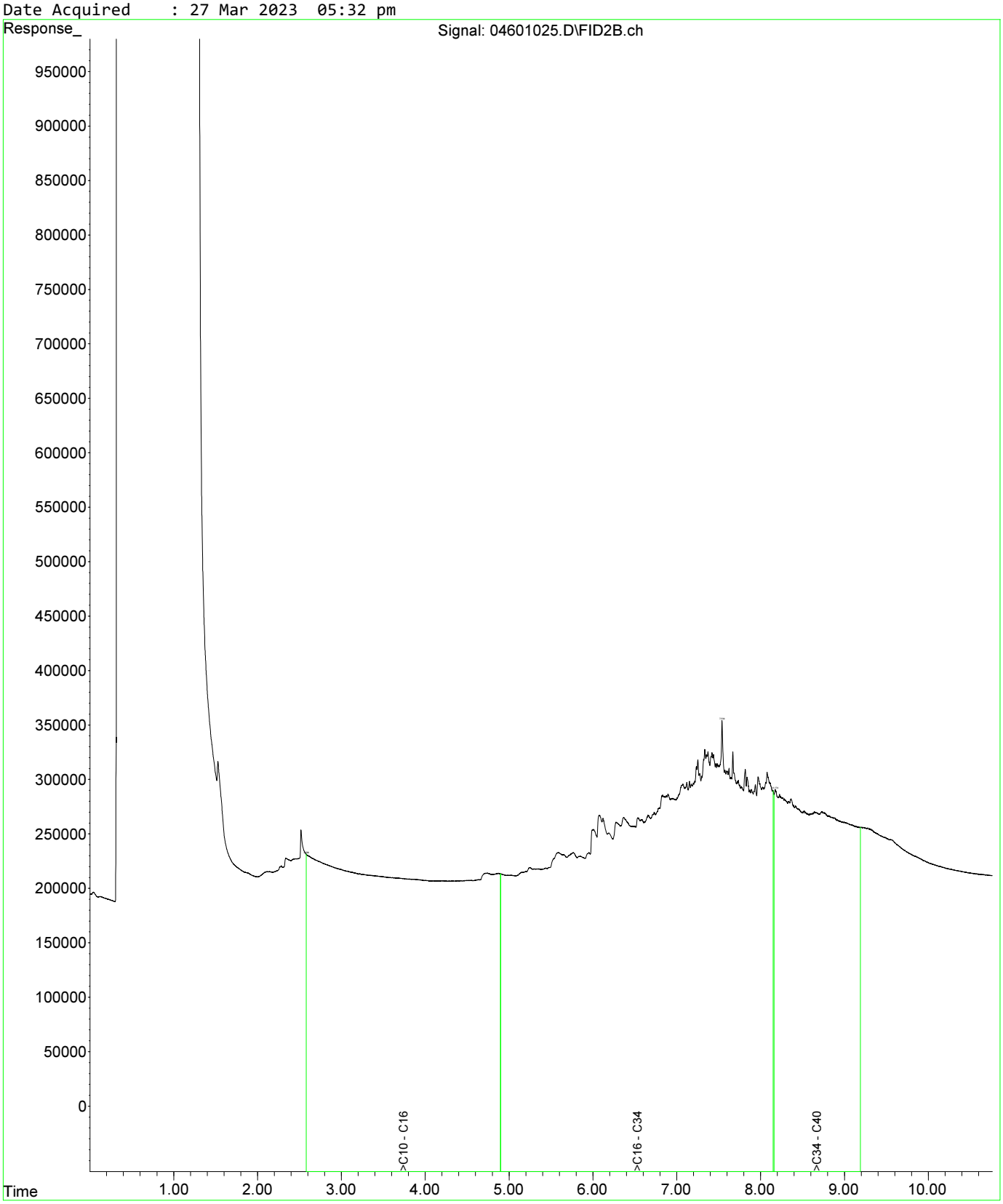

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Laboratory Number: EM2305209-013
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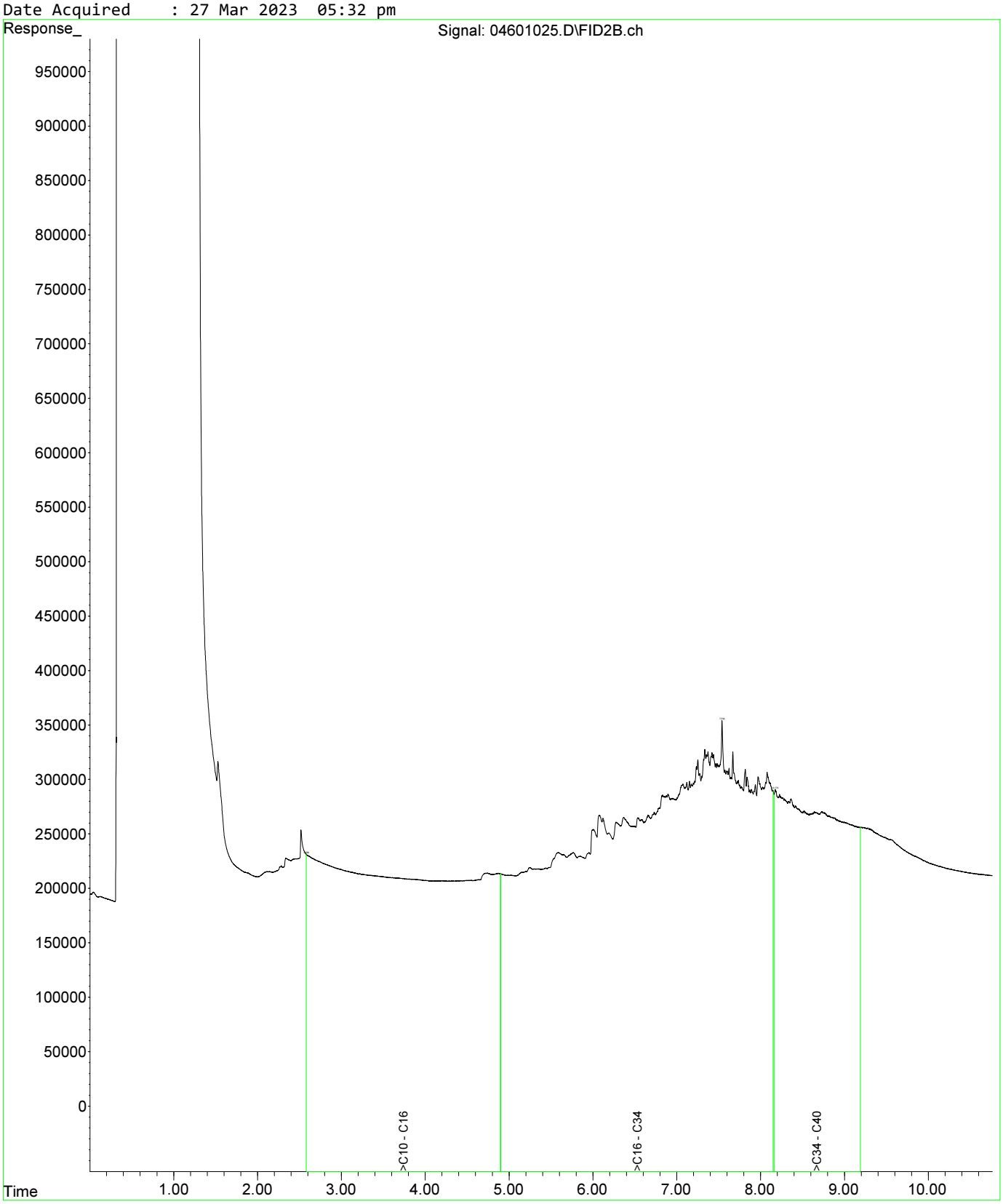

Fraction Scheme : NEPM DRAFT HIL
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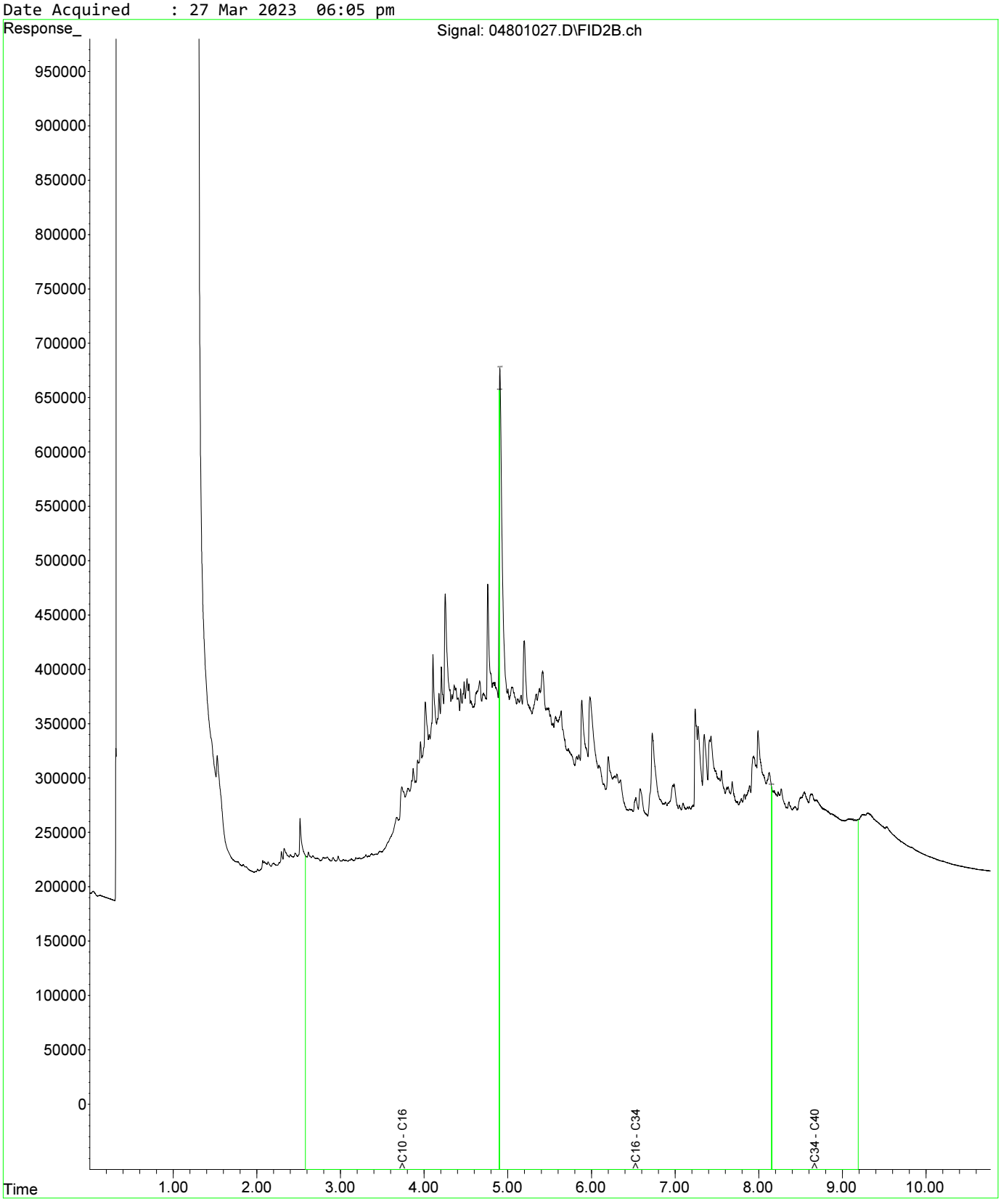

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Data File : 04601025.D
Laboratory Number: EM2305209-013
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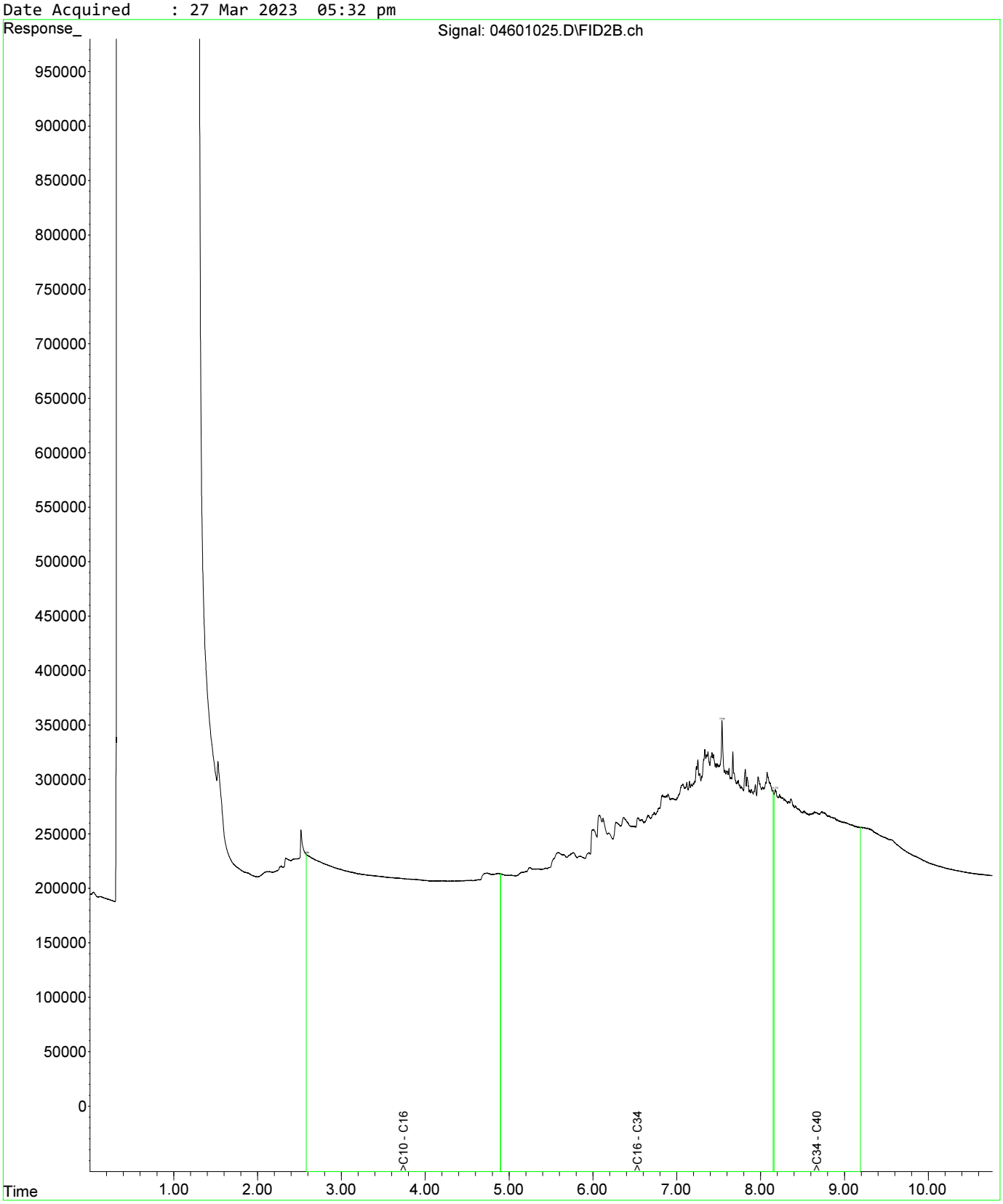

Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
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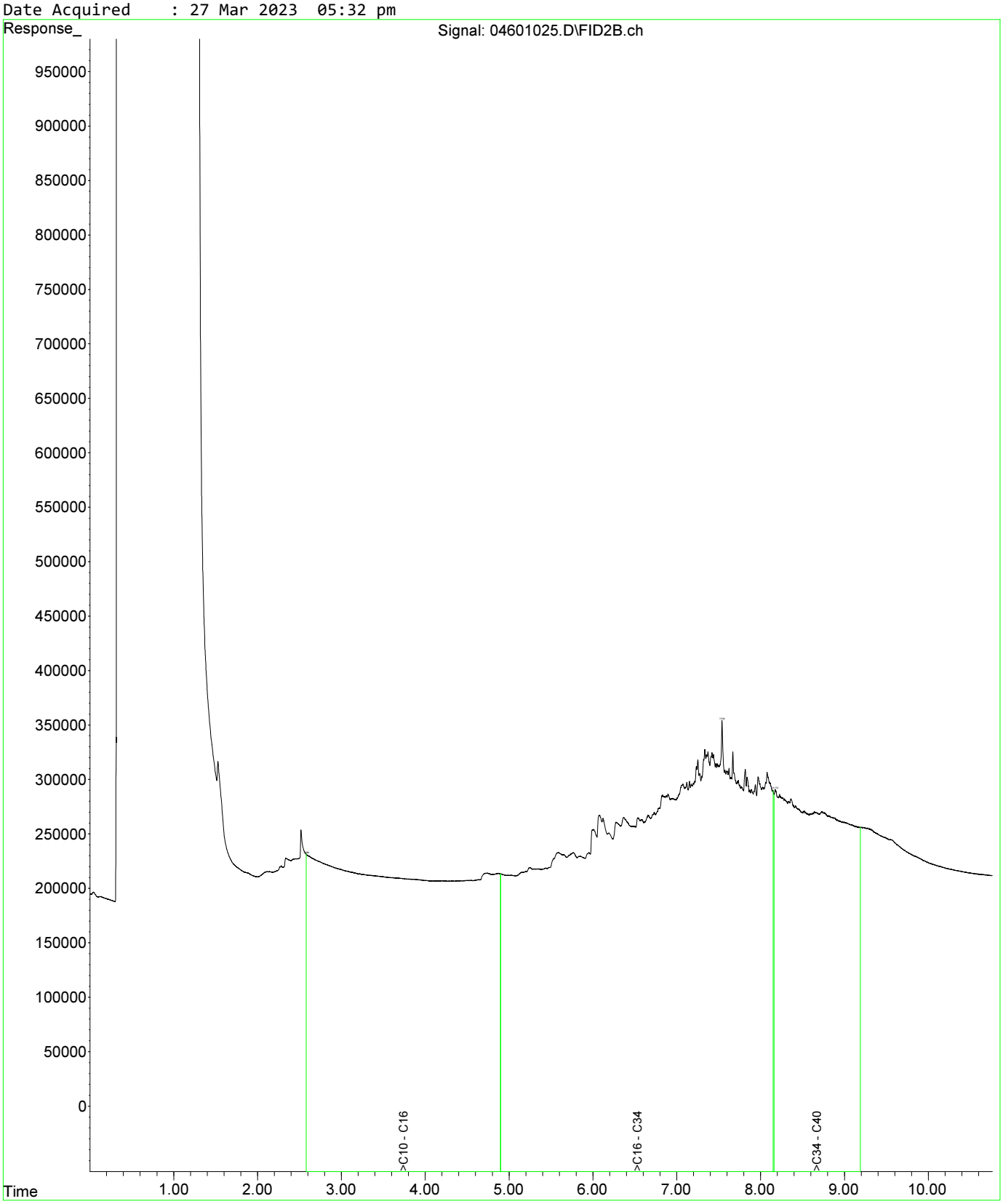

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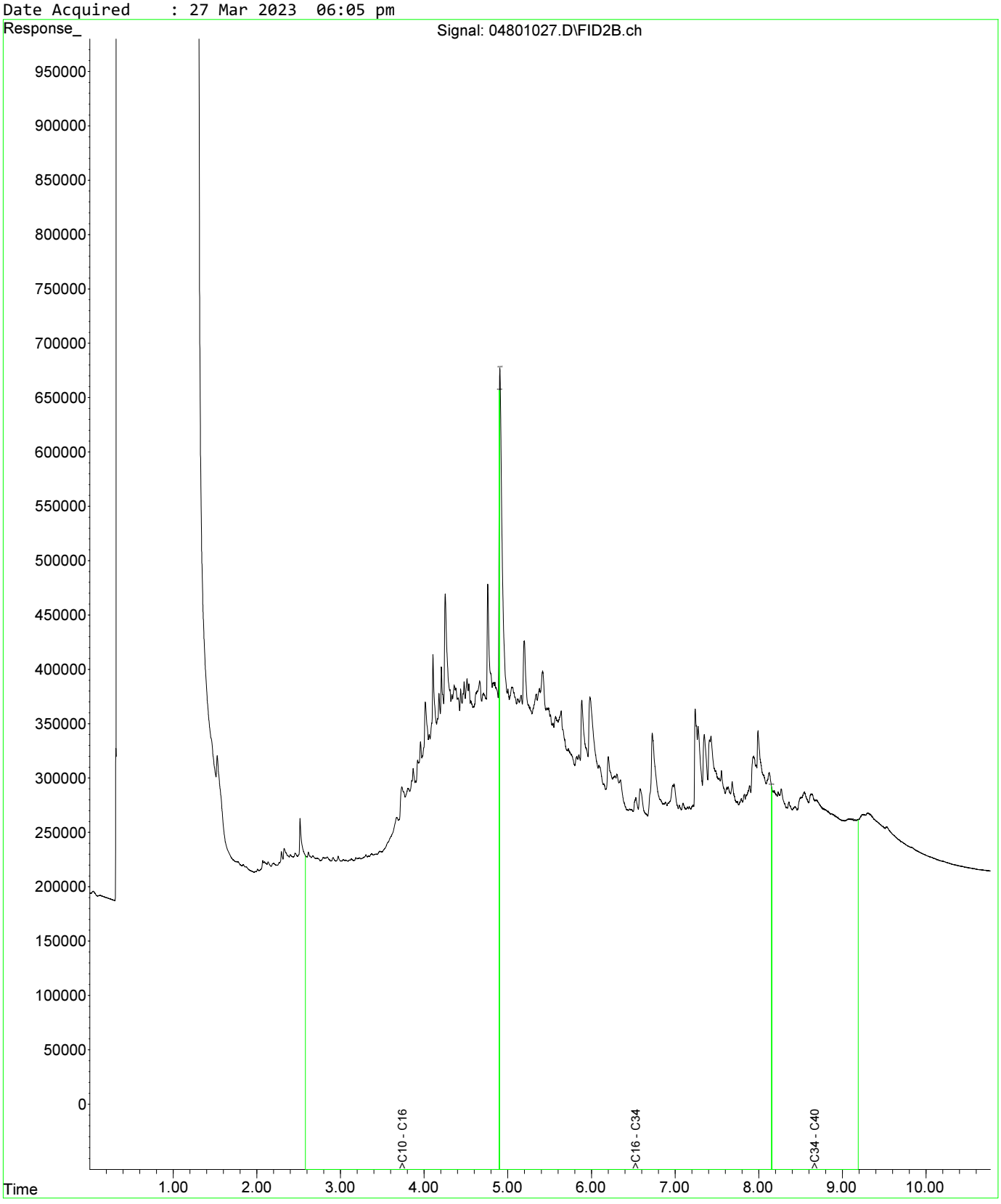

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-021
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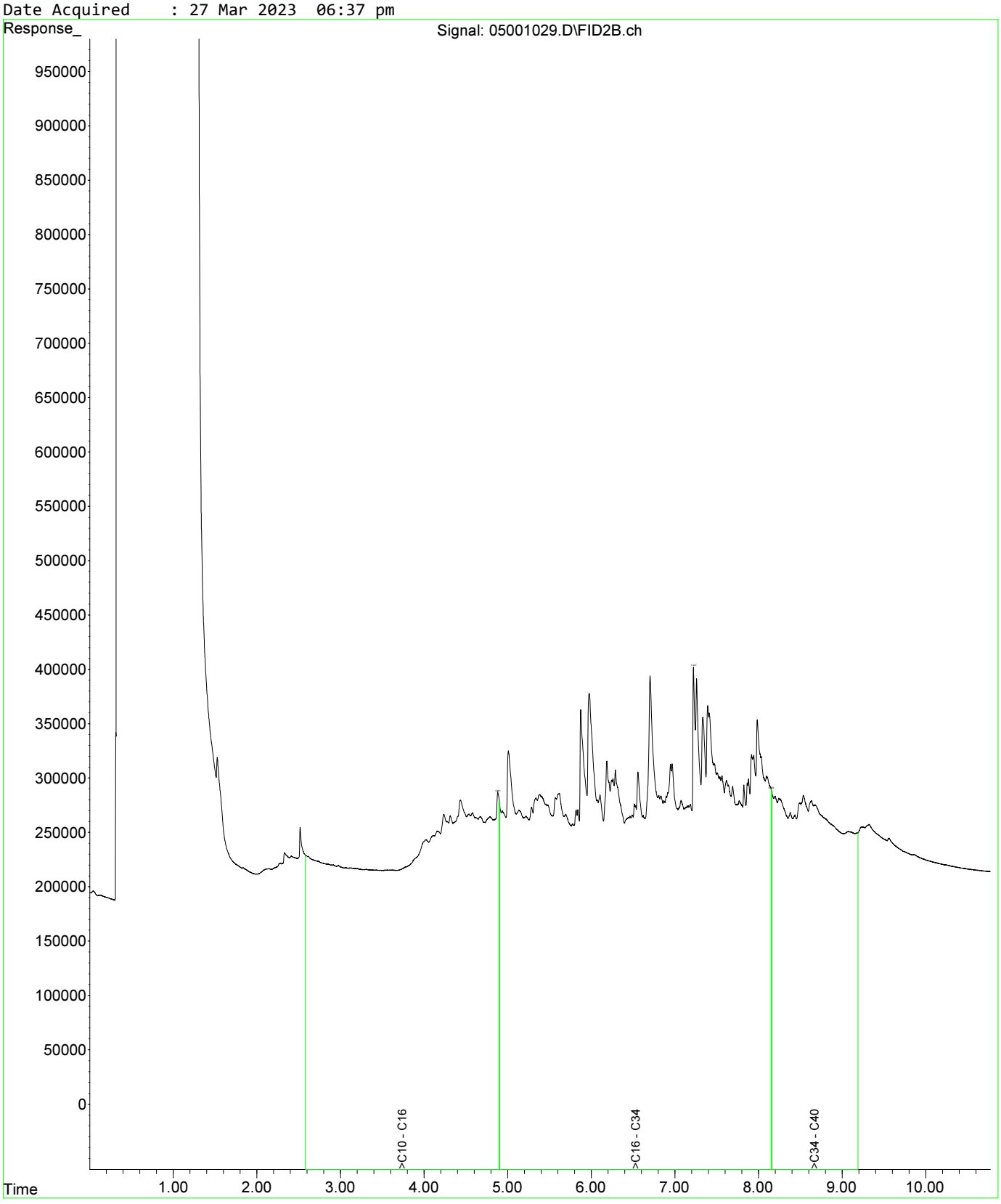
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : NEPM DRAFT HIL
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Sample ID : UST_SP_EXT_01
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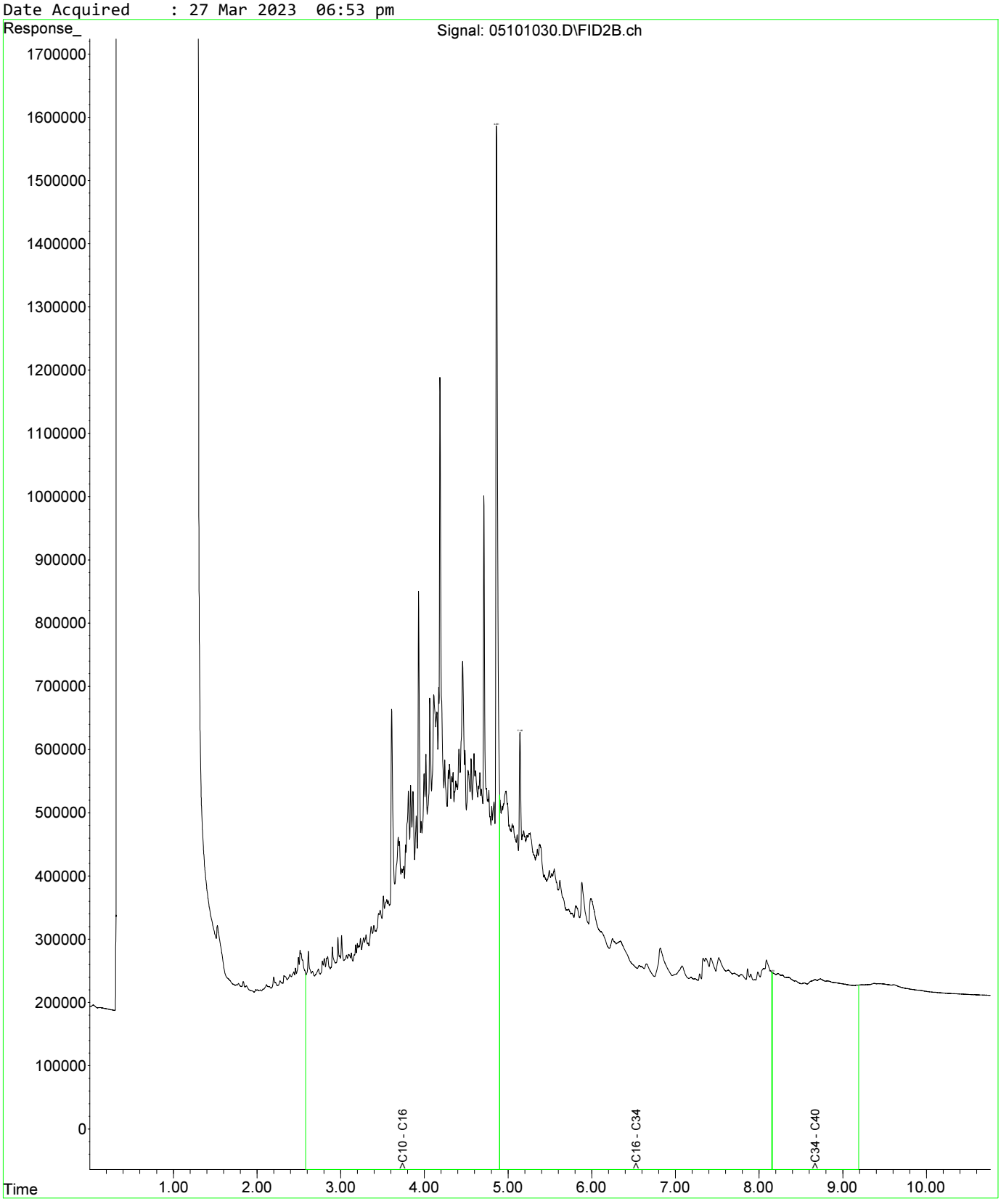

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-027
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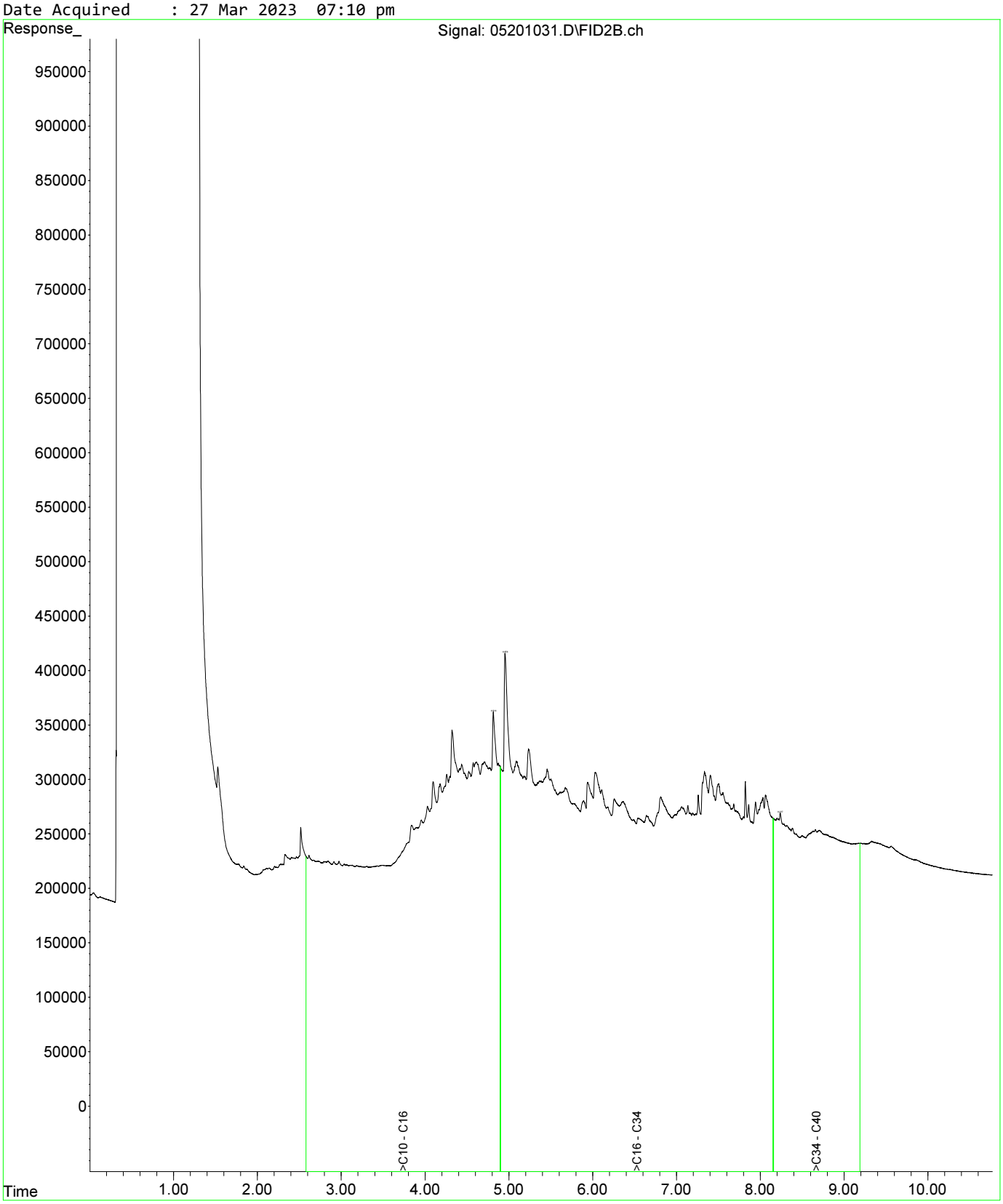

Fraction Scheme : NEPM DRAFT HIL
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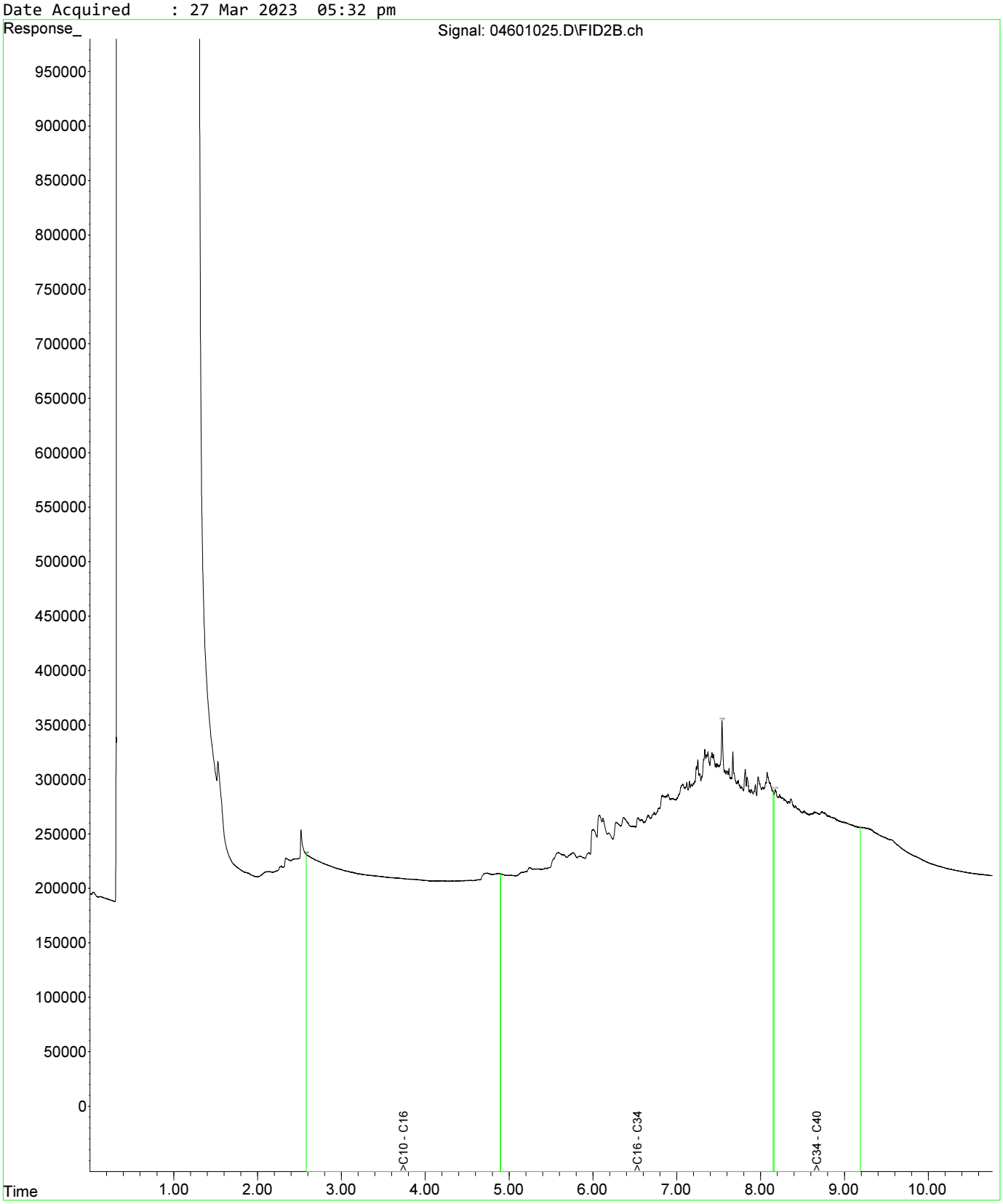
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
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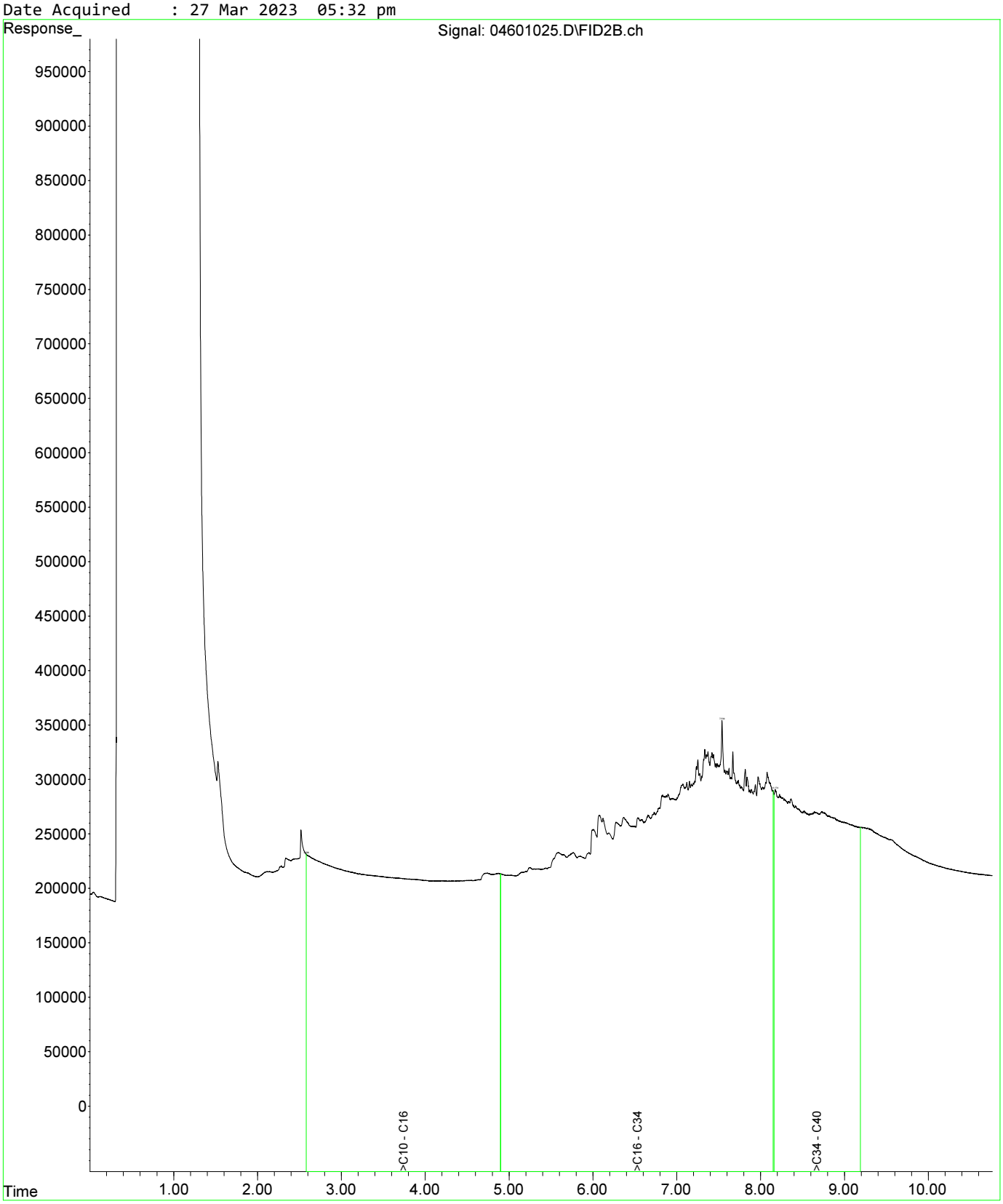

Fraction Scheme : NEPM DRAFT HIL
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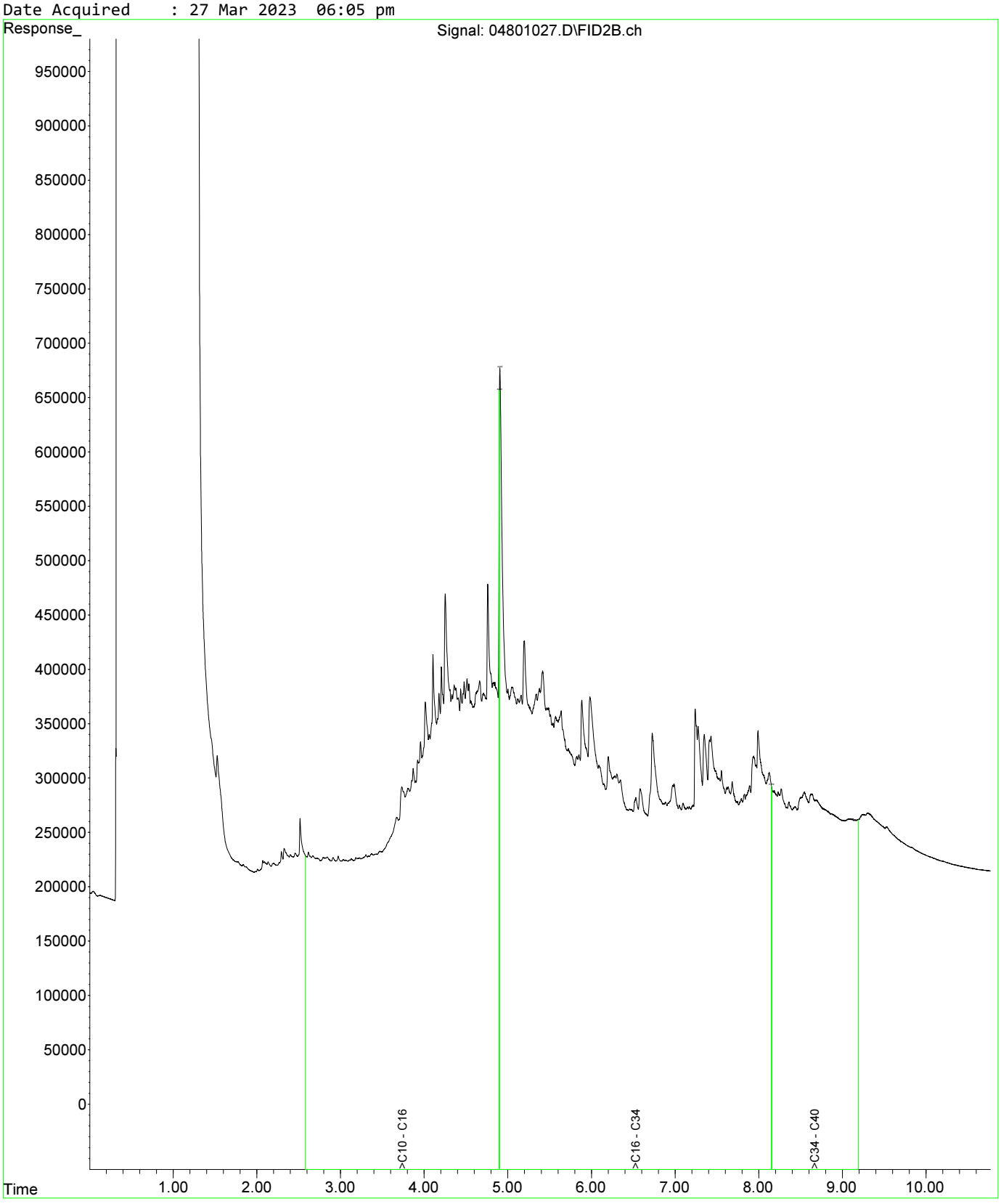
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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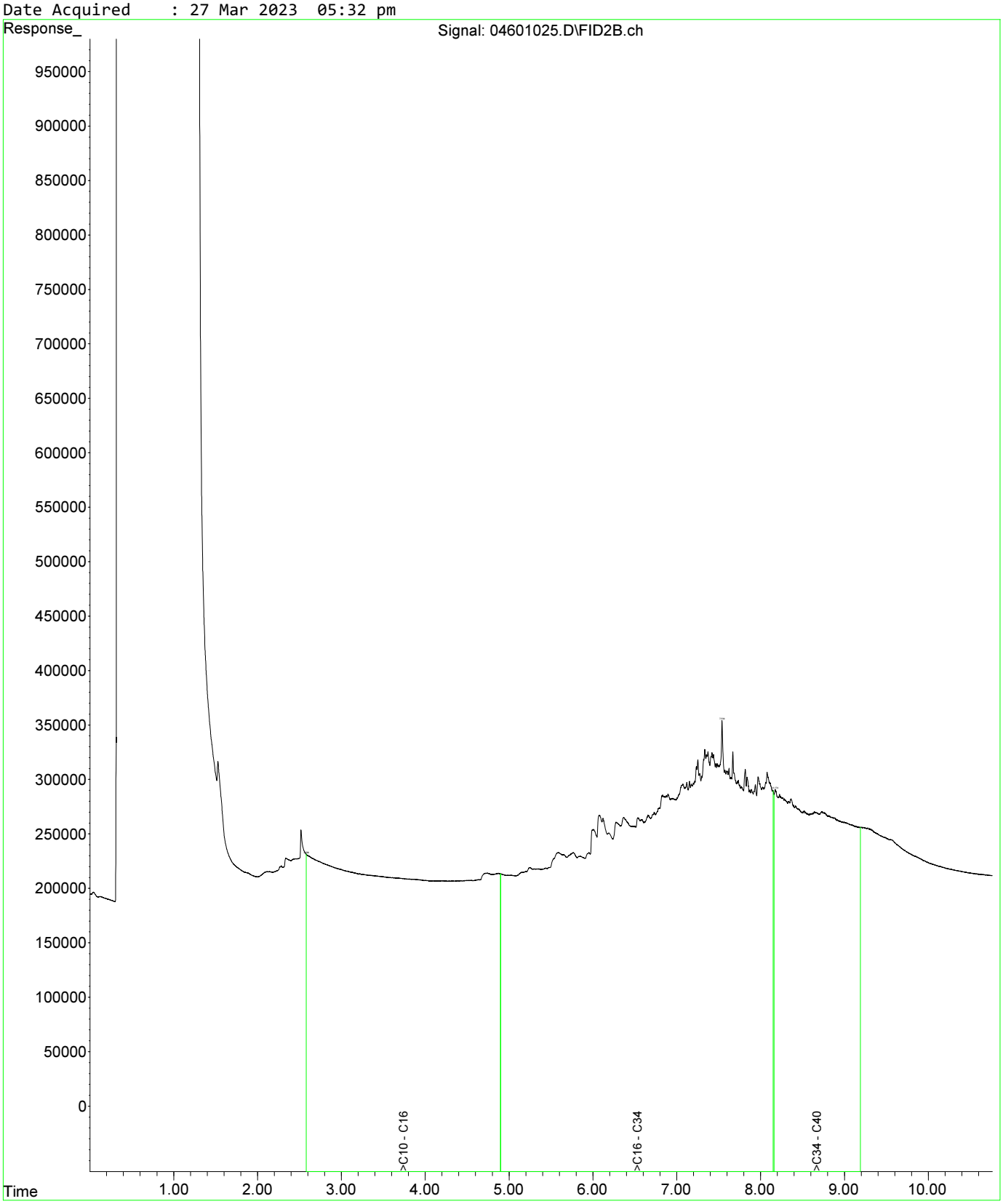

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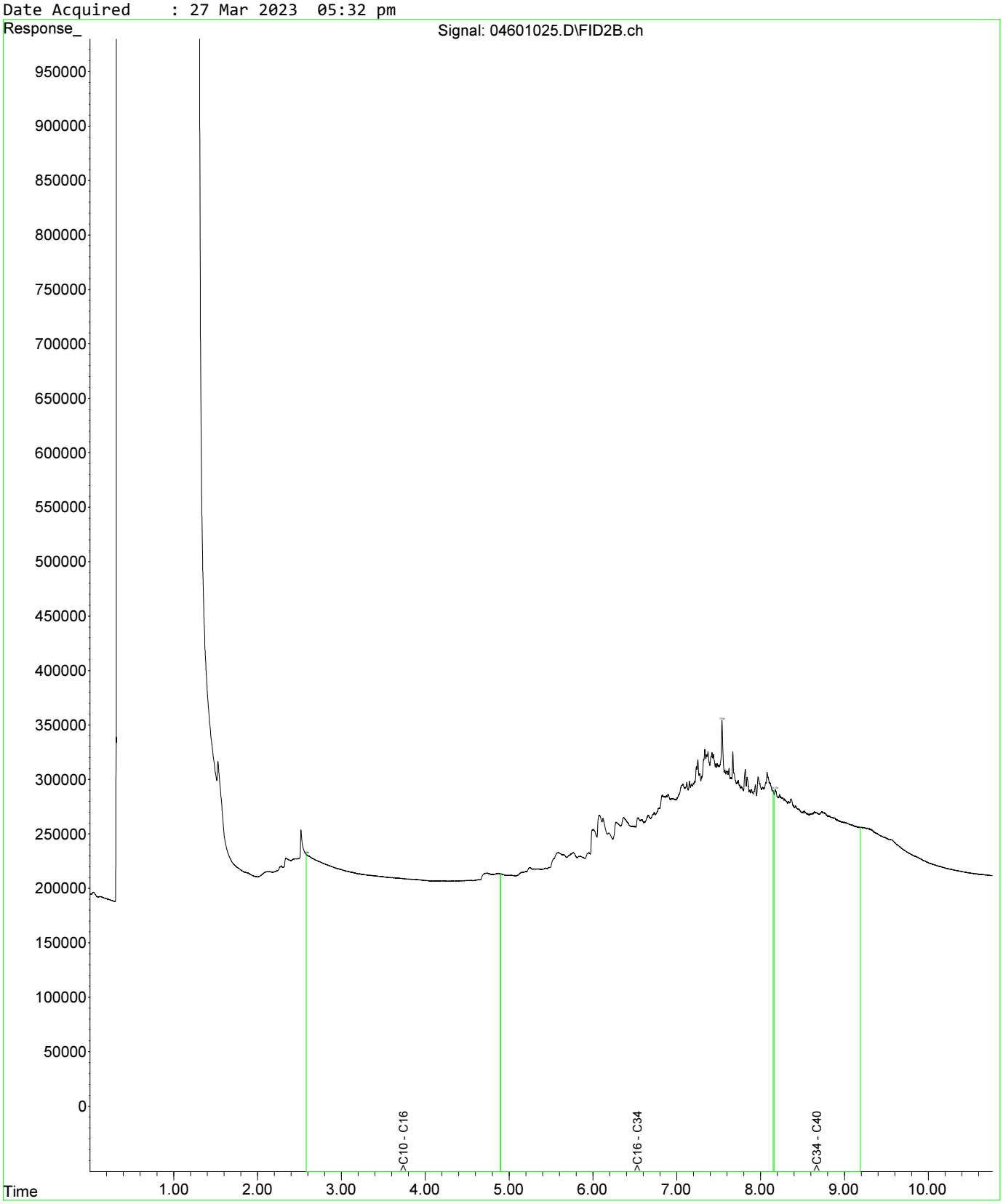

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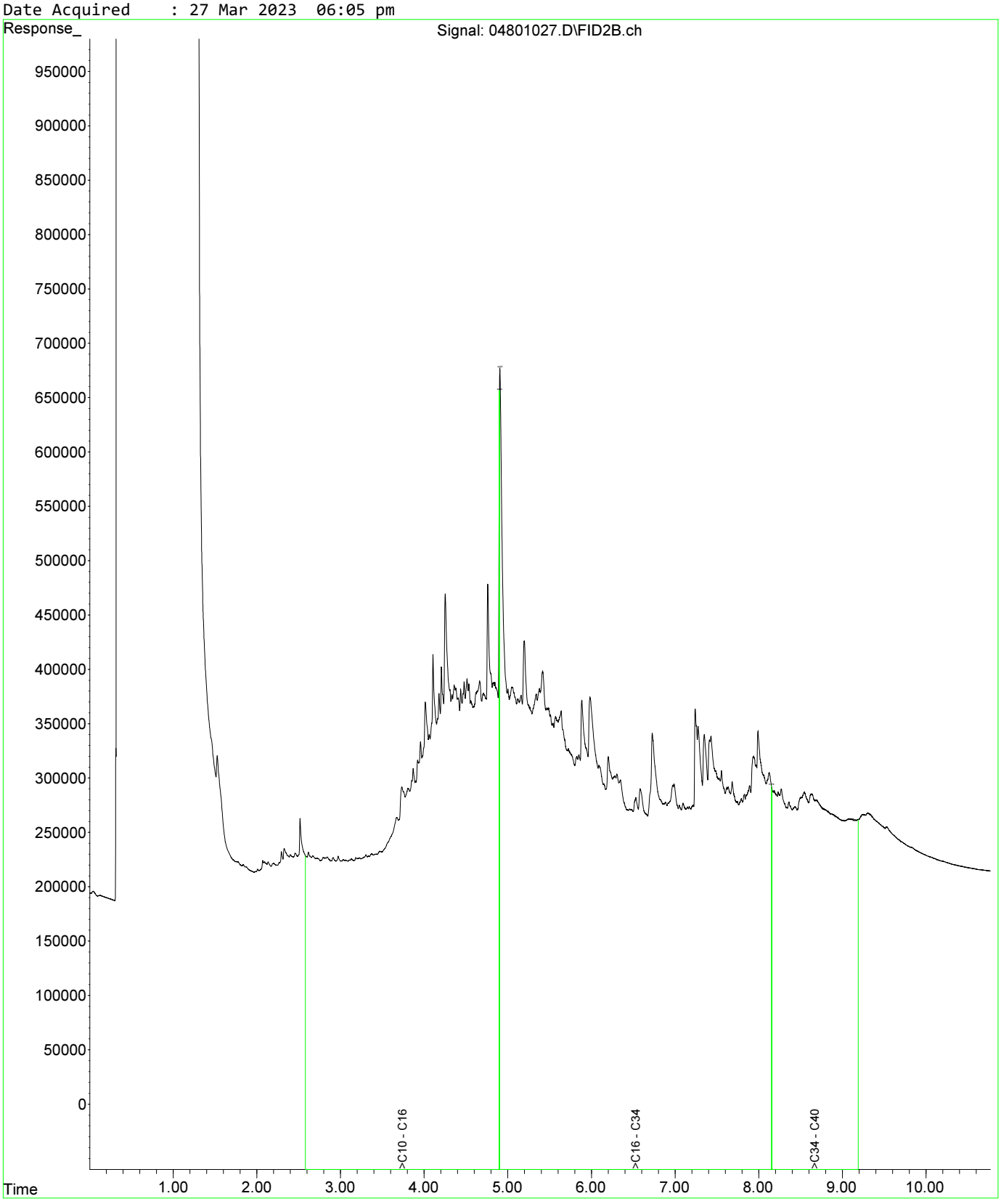

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Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
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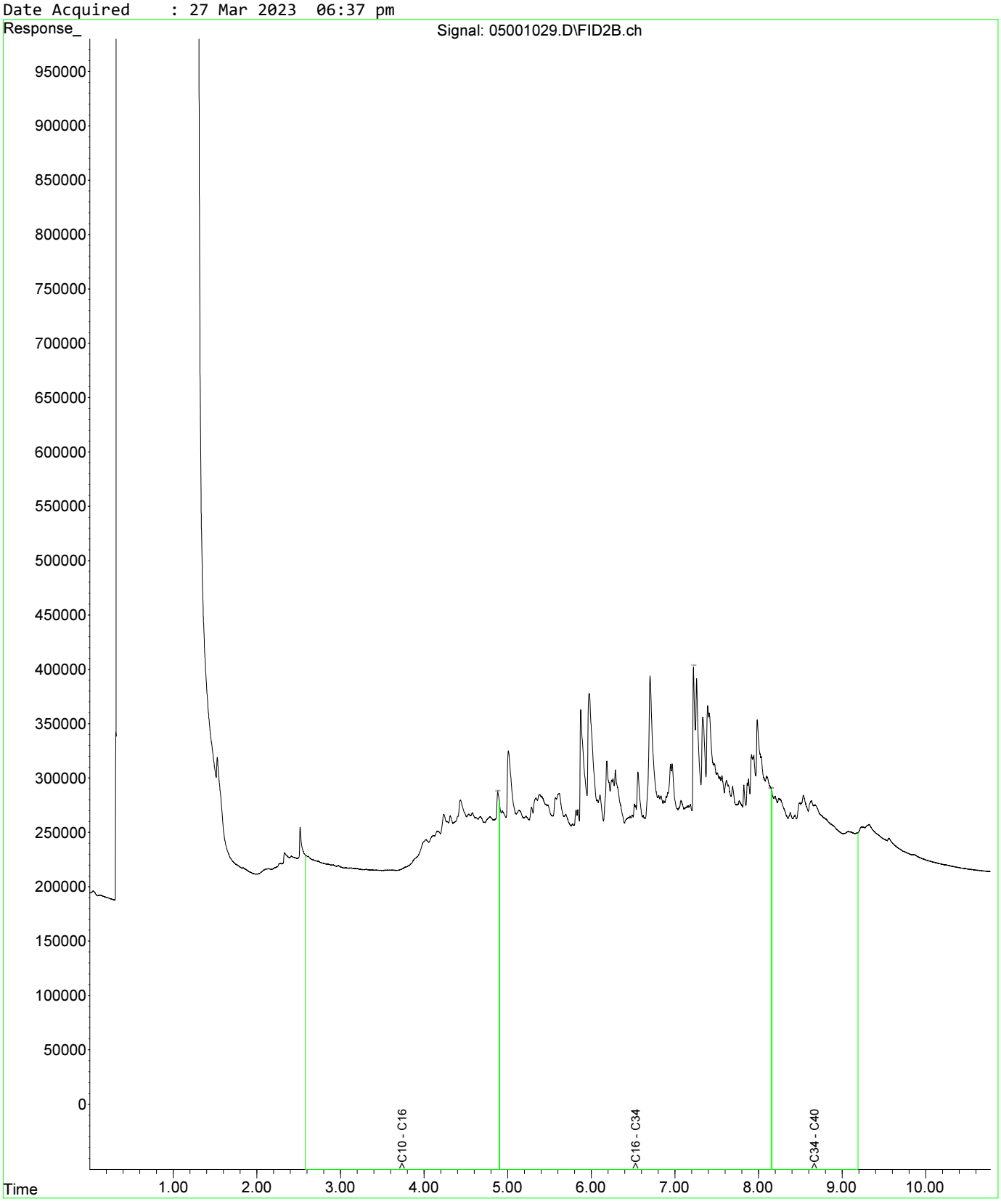

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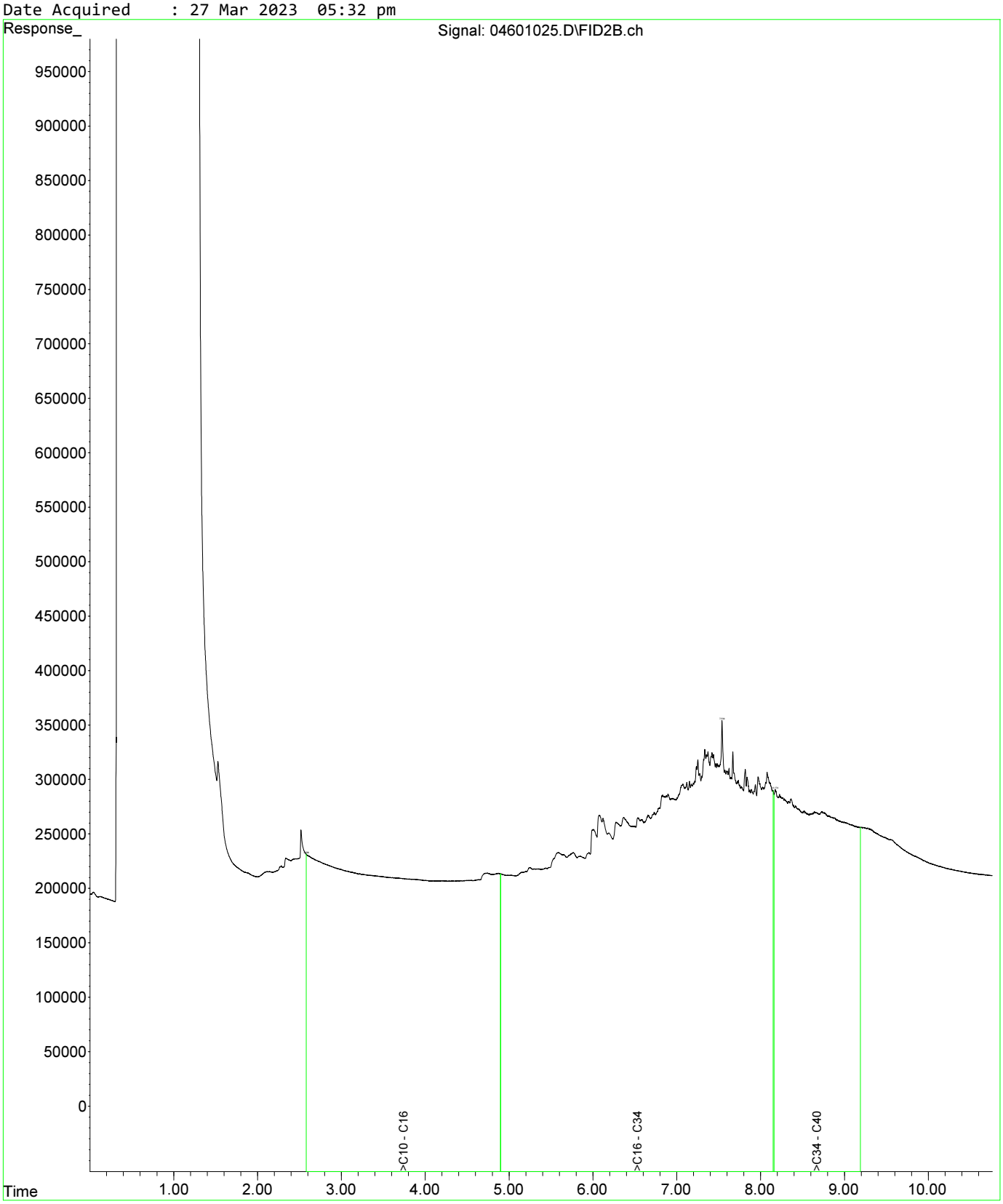

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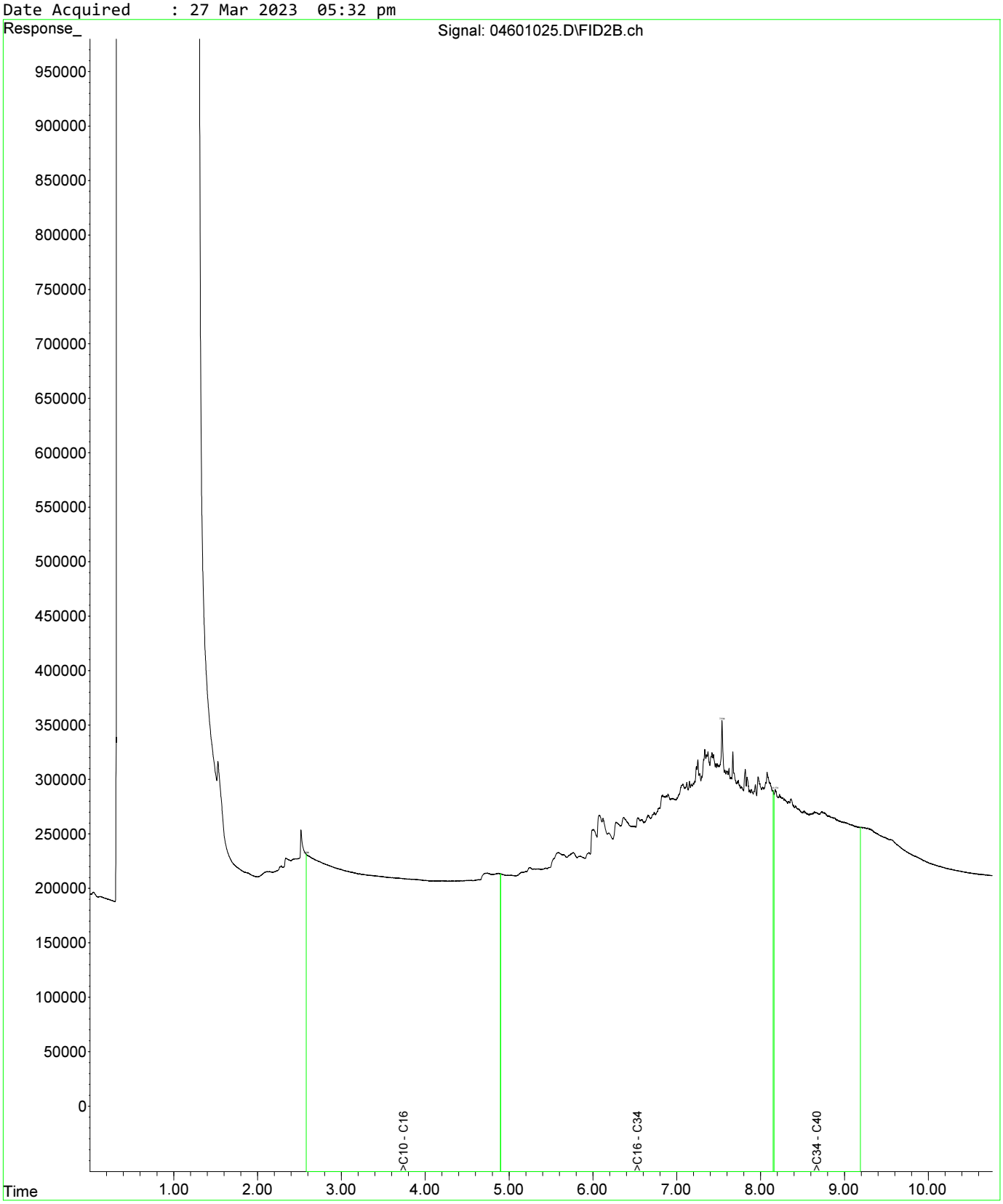

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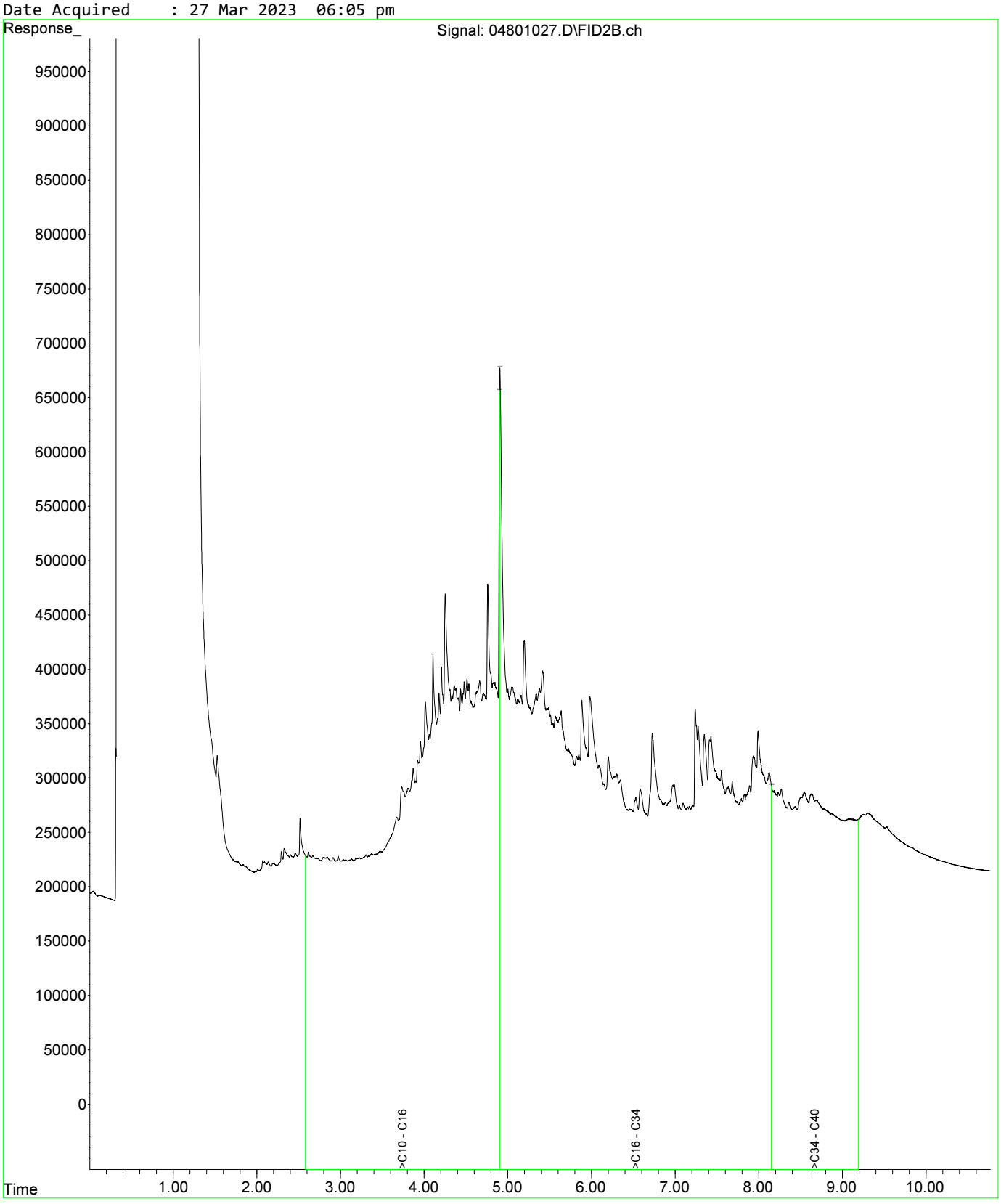

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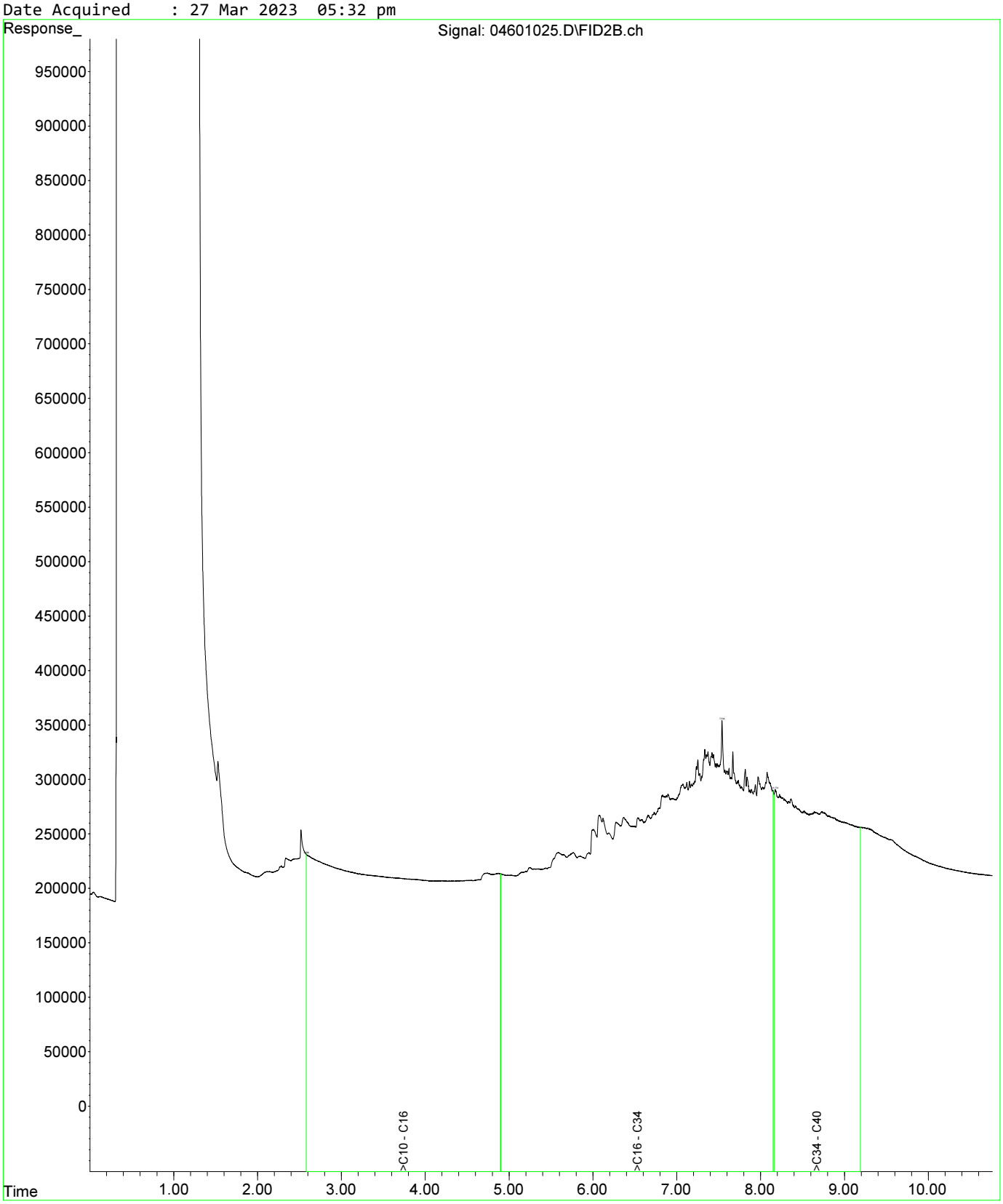

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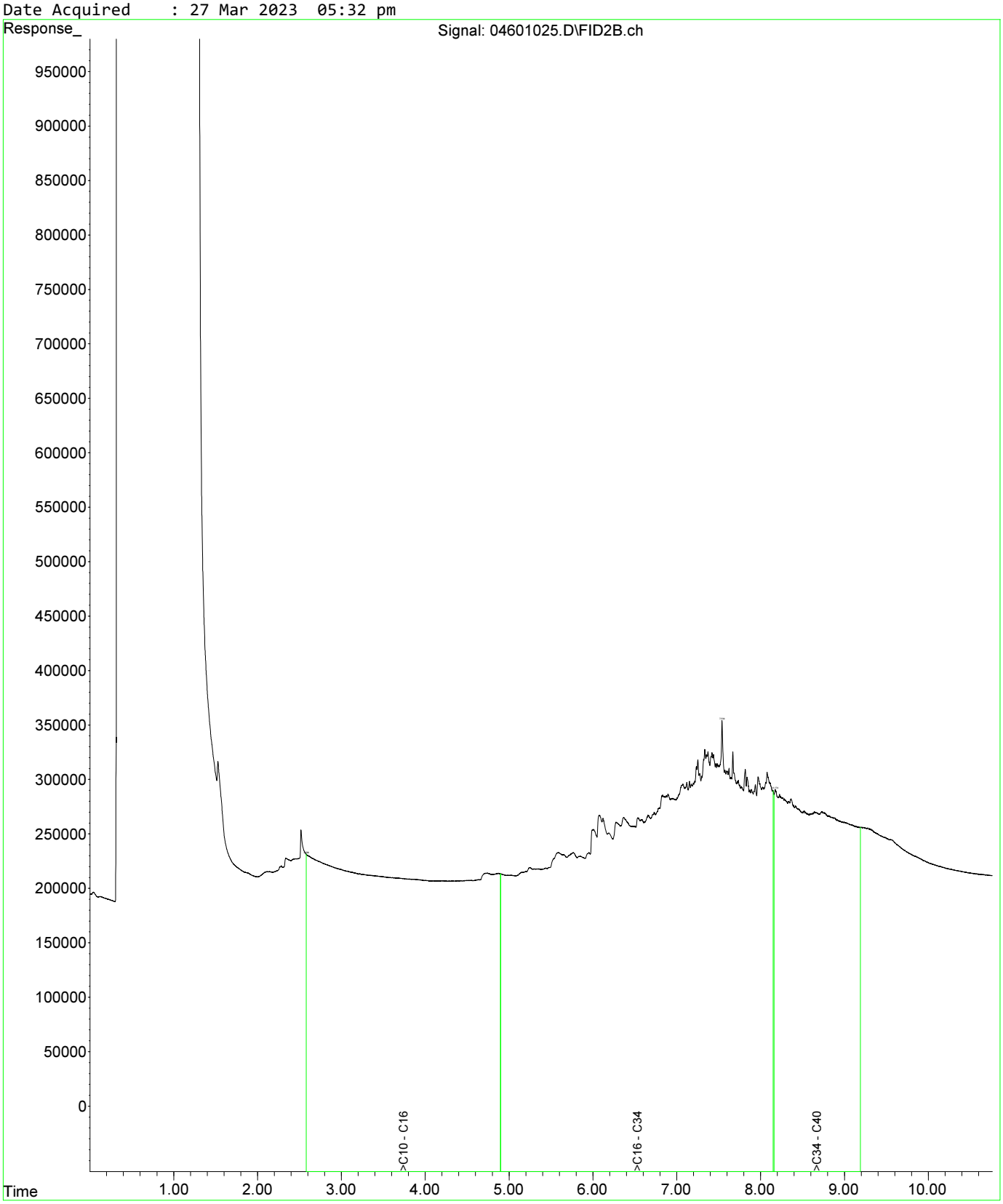

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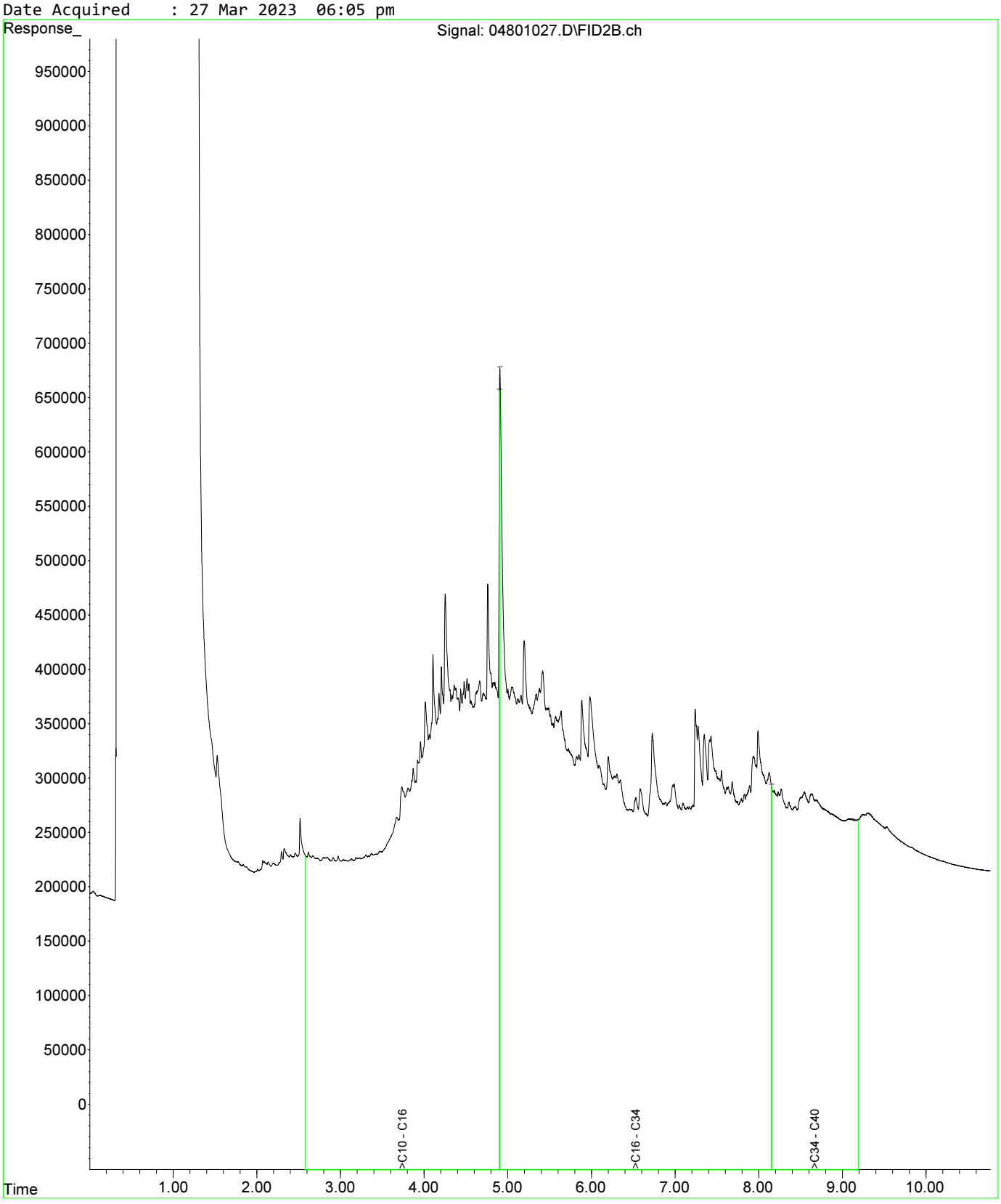

Fraction Scheme : NEPM DRAFT HIL
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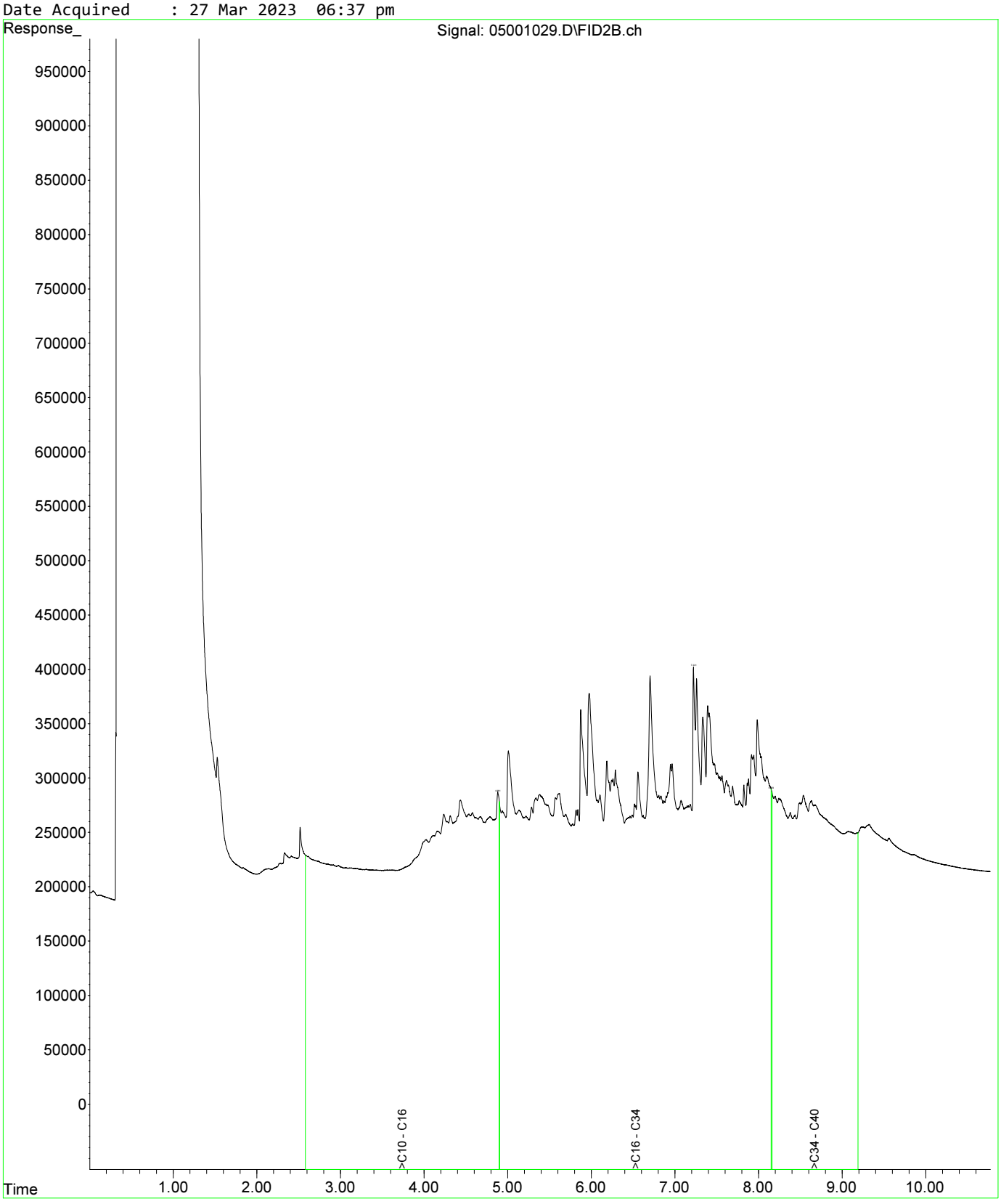

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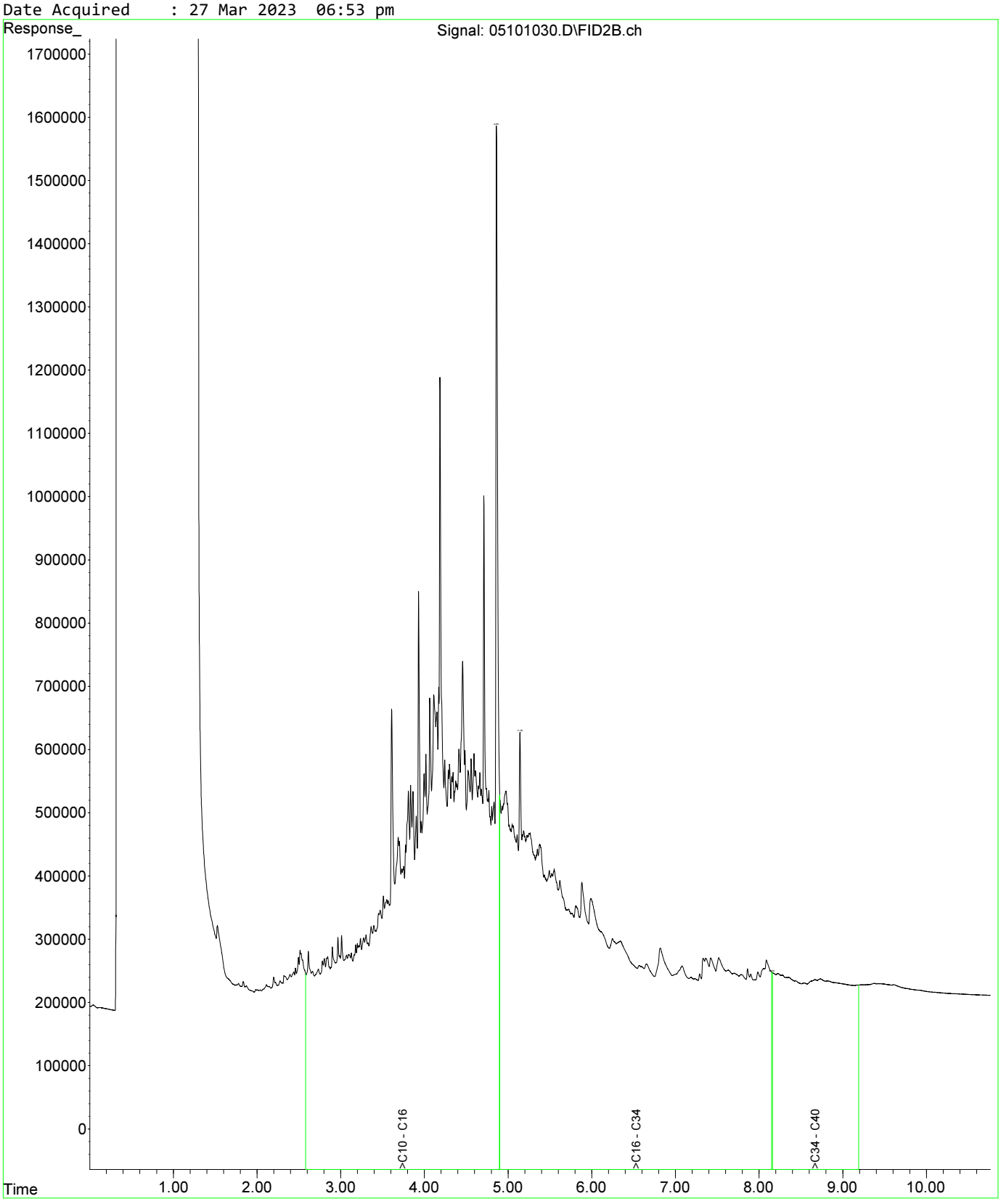

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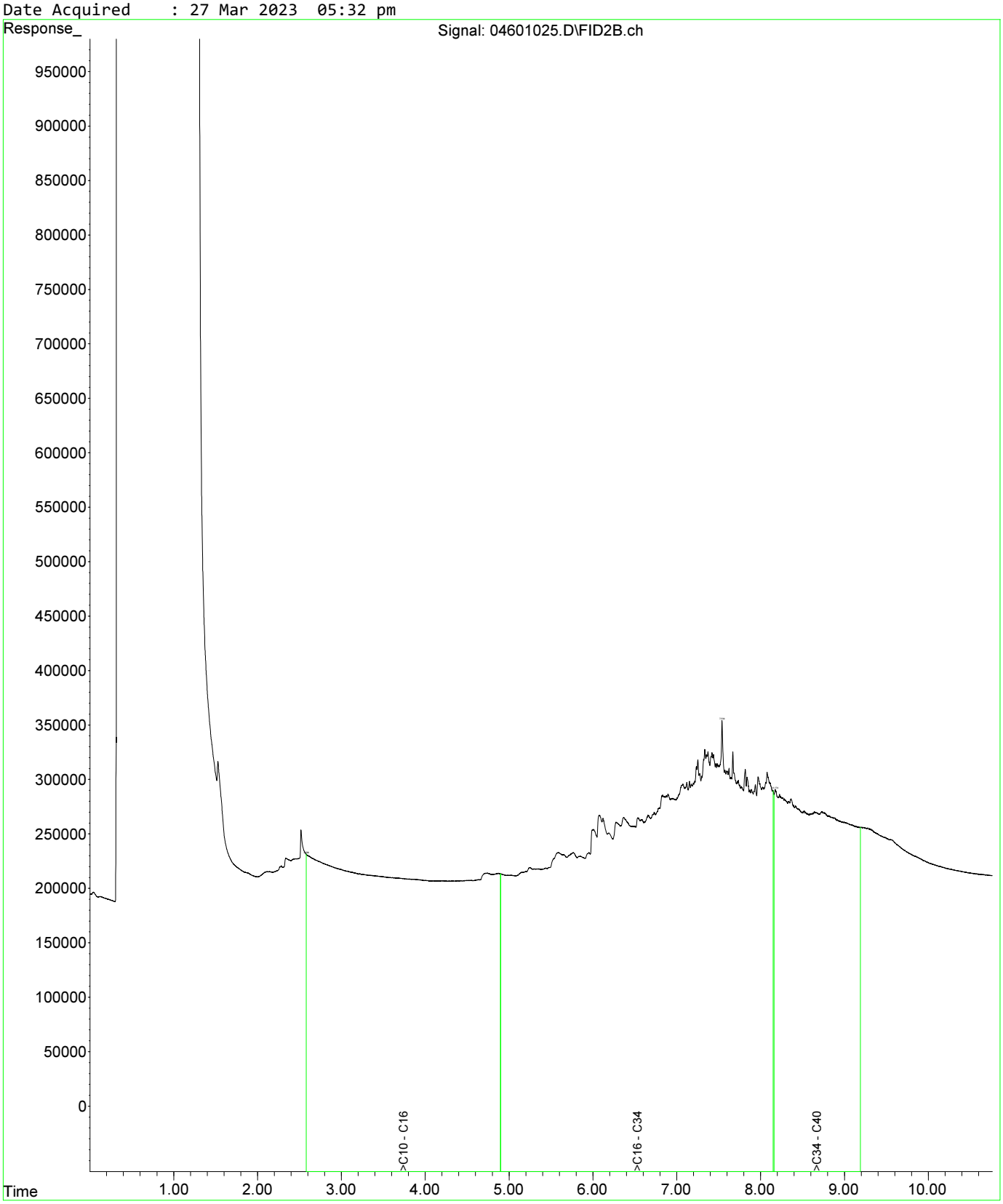

Fraction Scheme : NEPM DRAFT HIL
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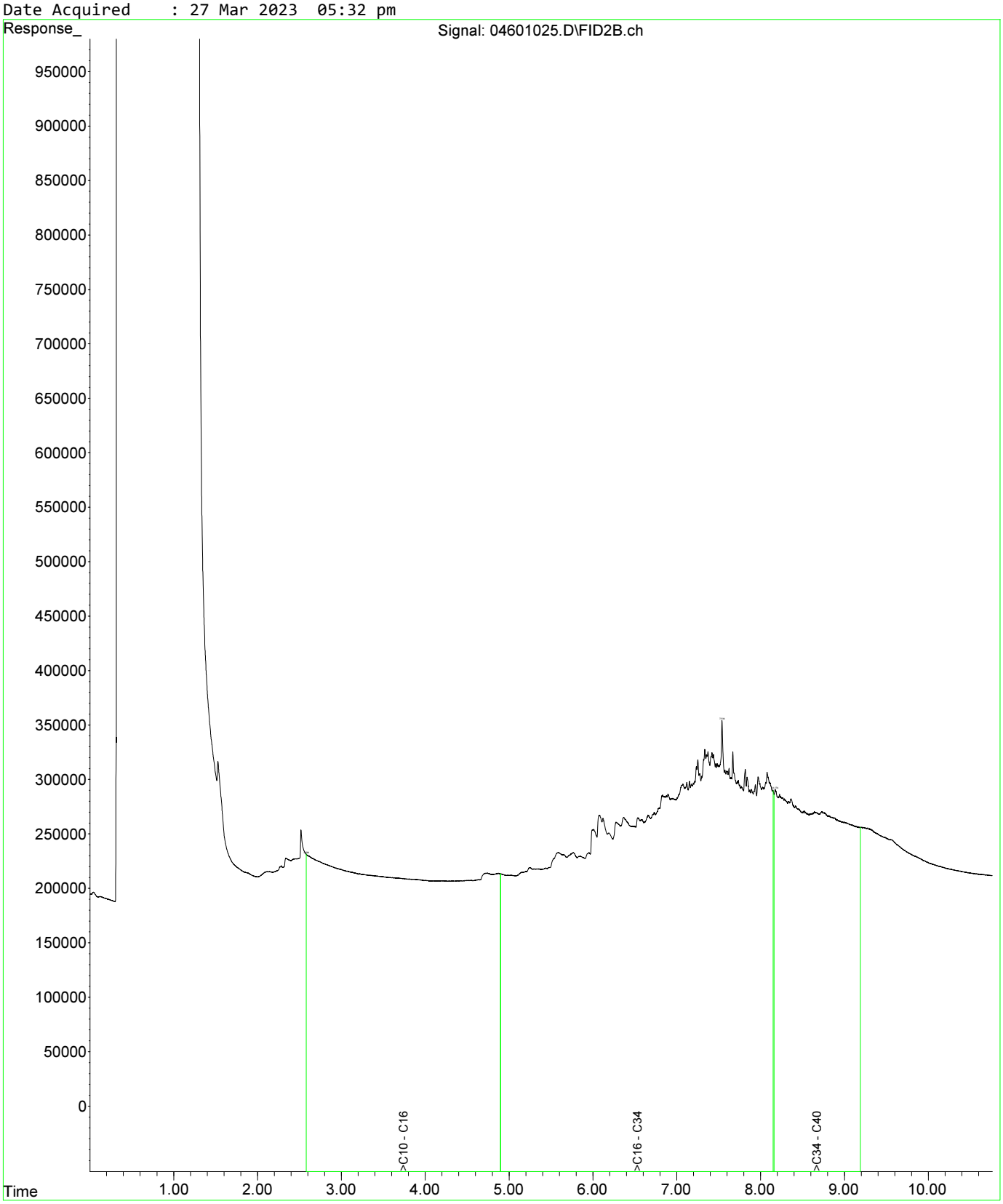

Fraction Scheme : NEPM DRAFT HIL
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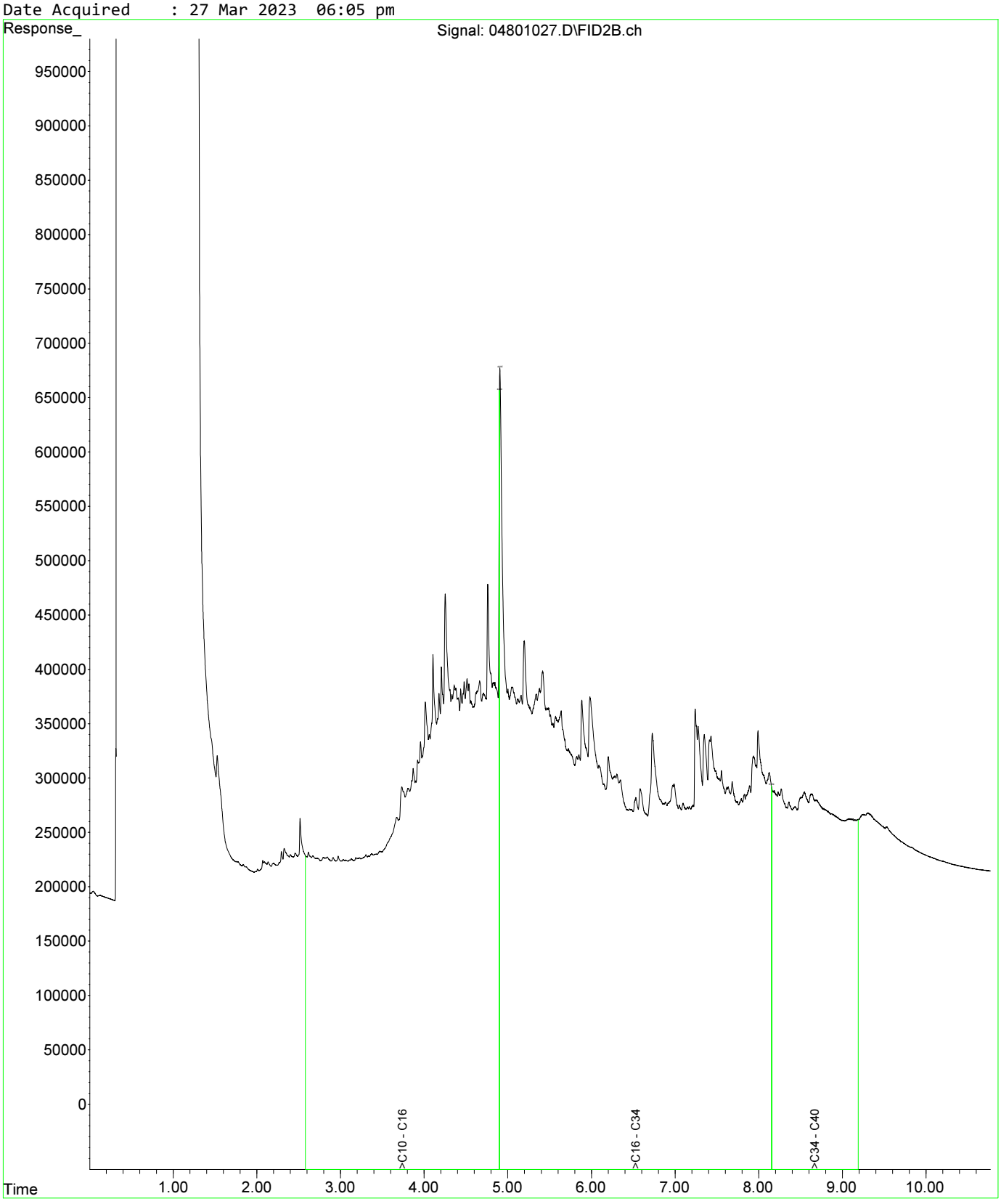

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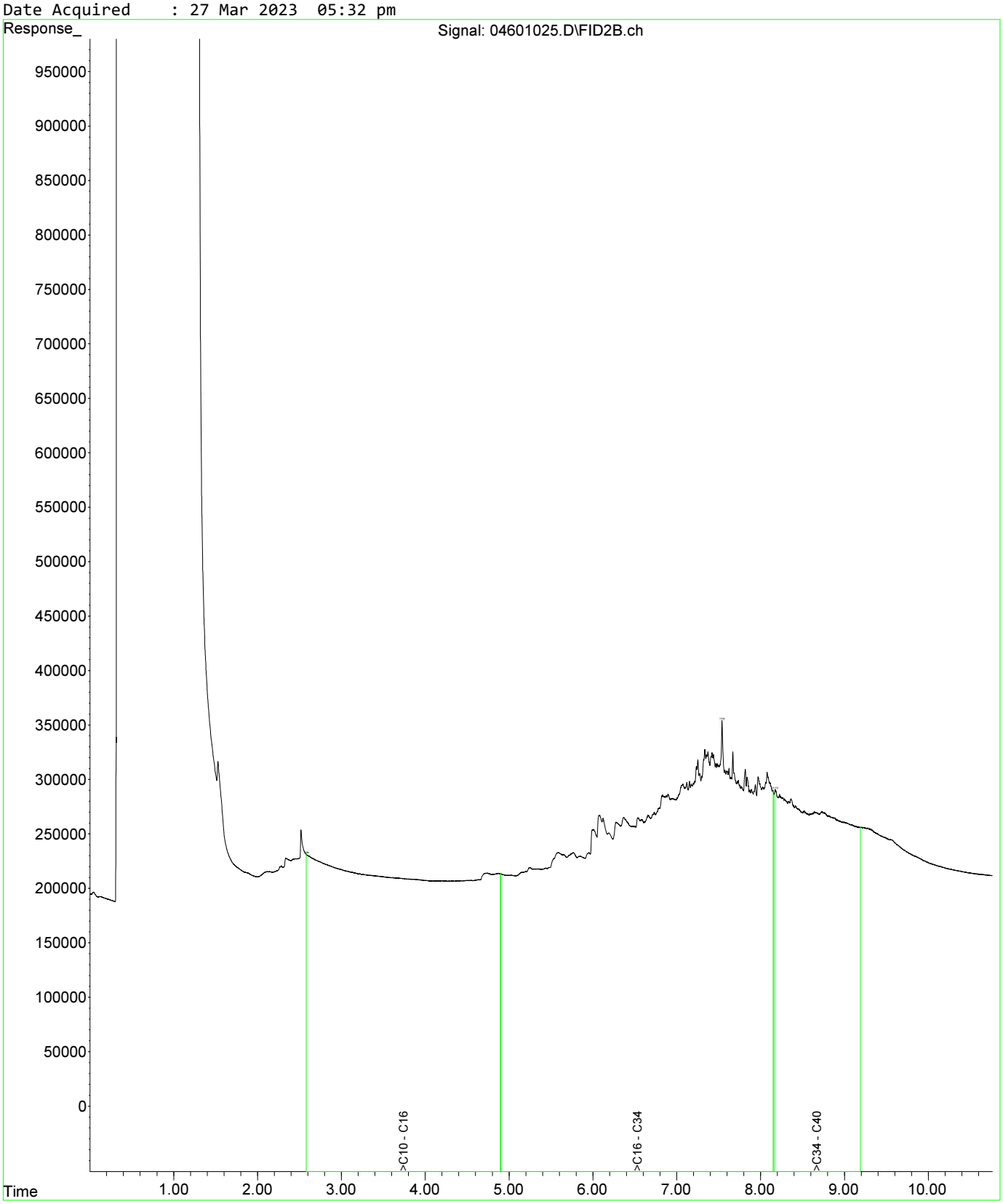

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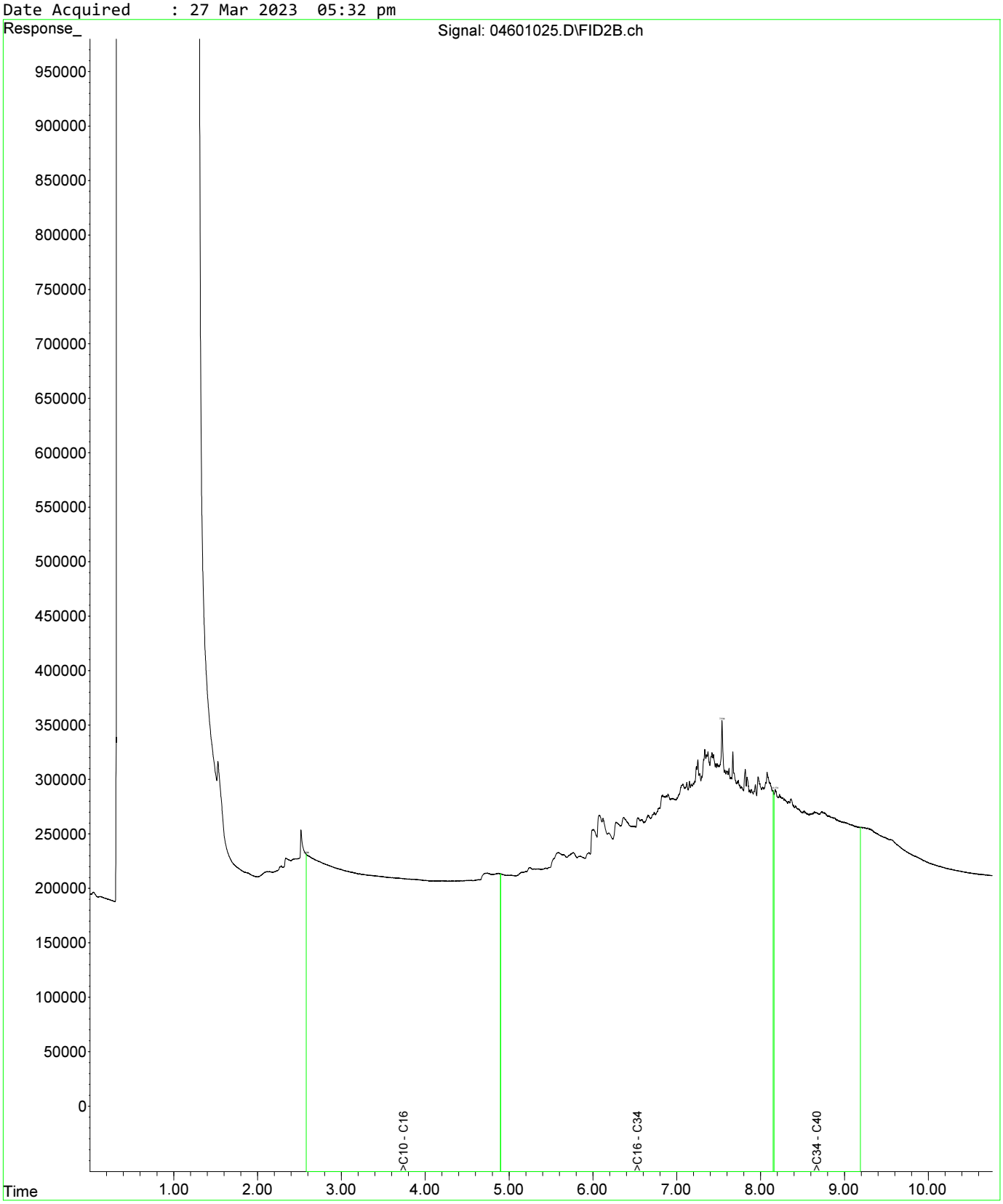

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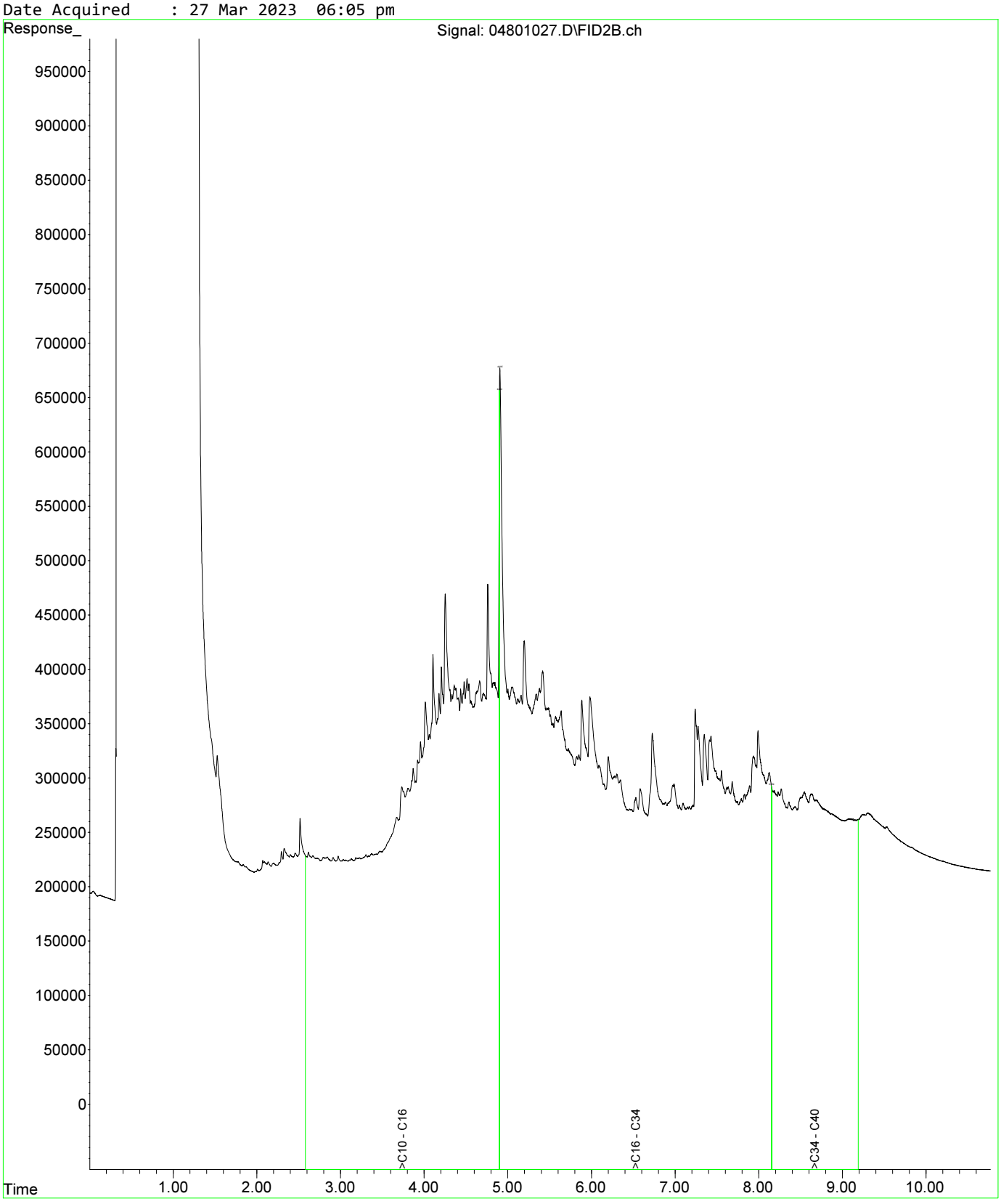

Fraction Scheme : NEPM DRAFT HIL
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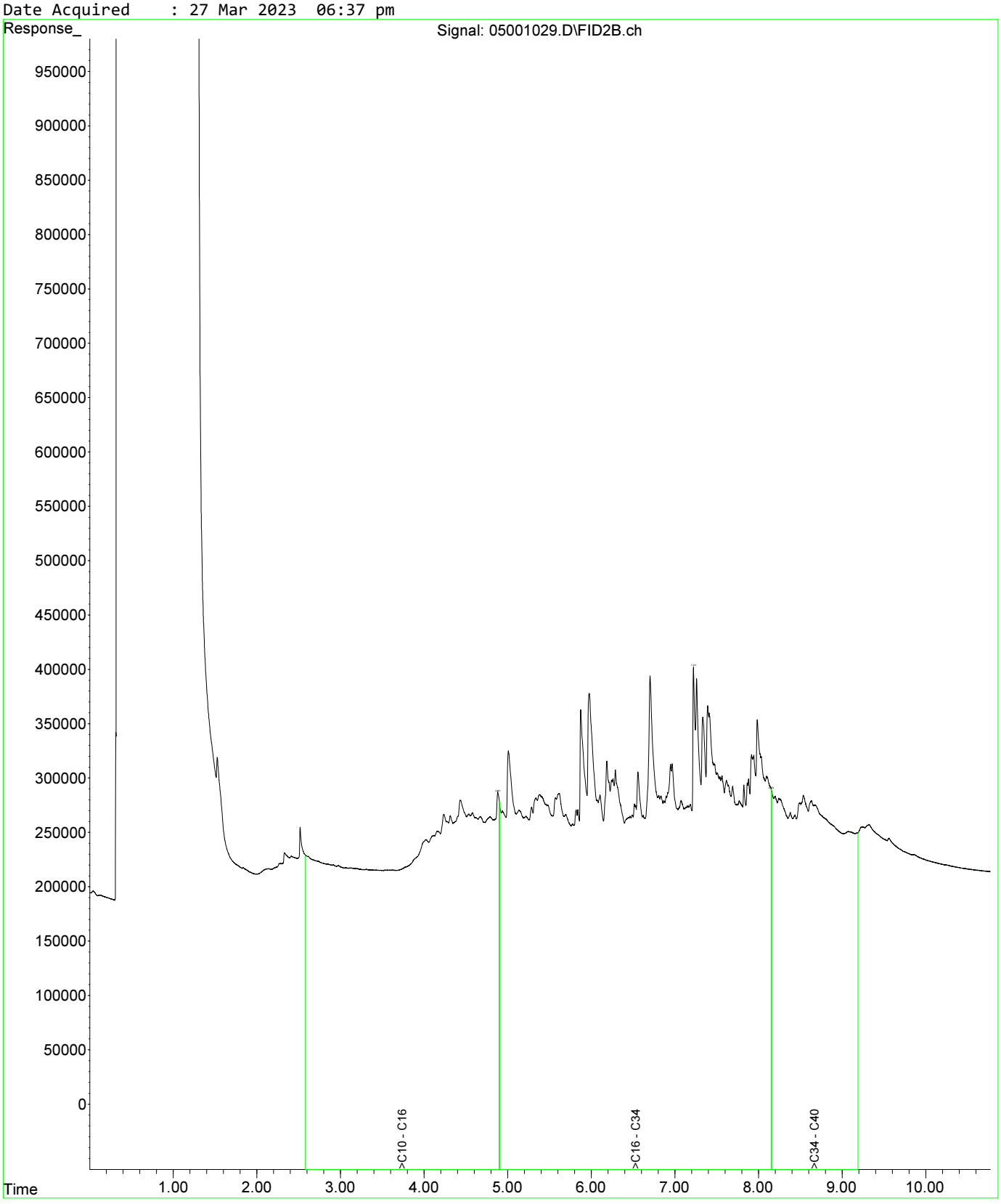
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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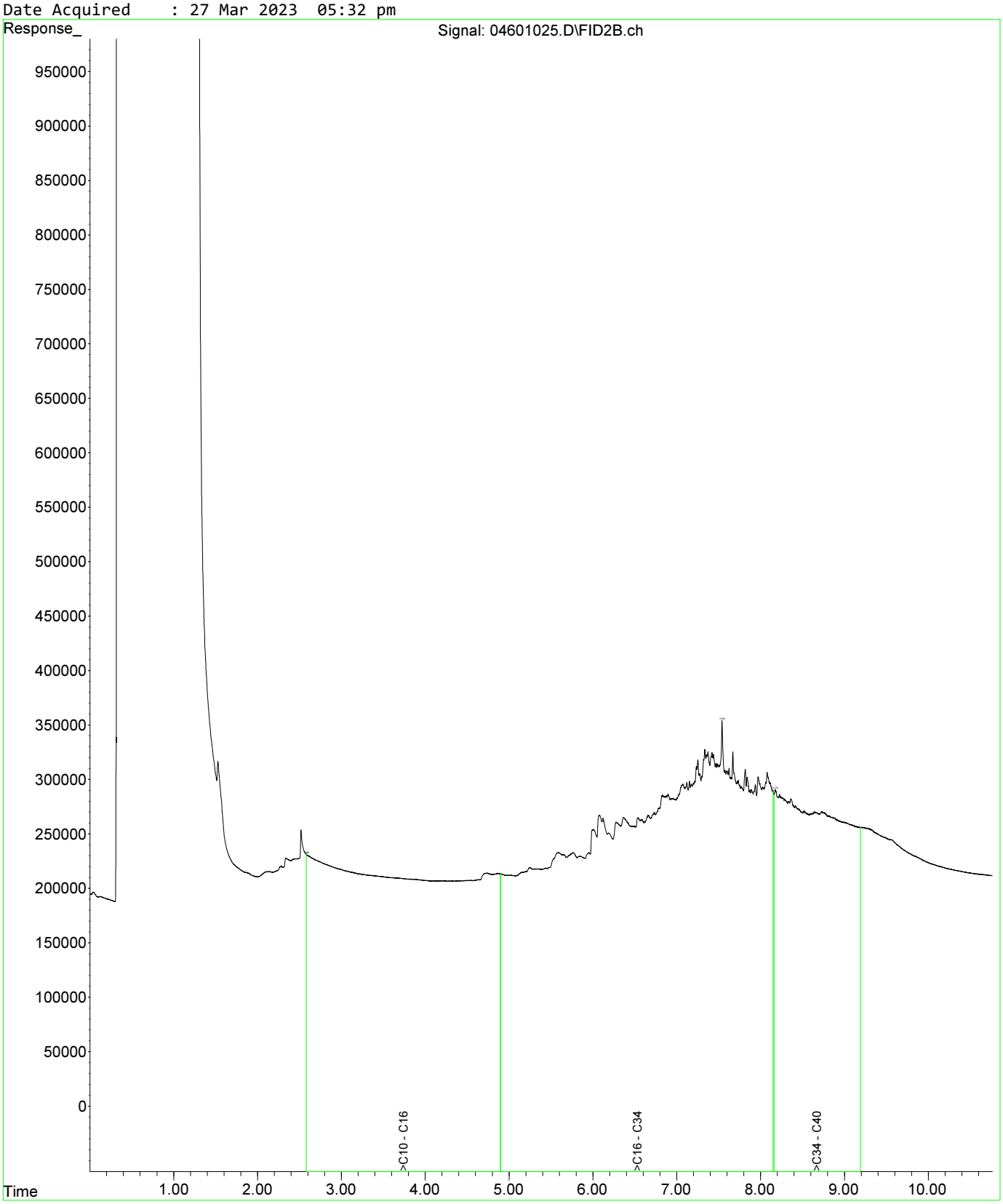

Fraction Scheme : NEPM DRAFT HIL
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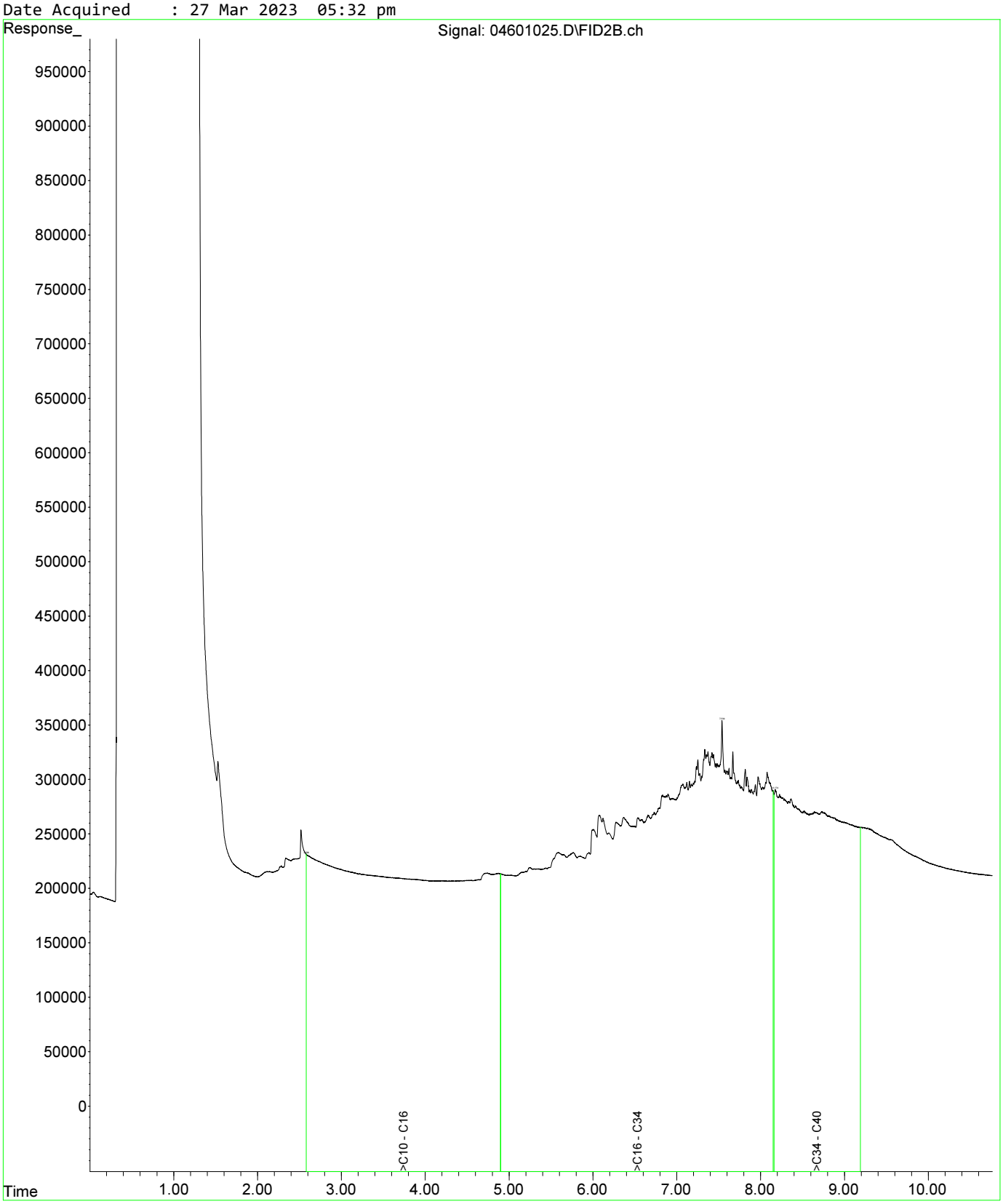

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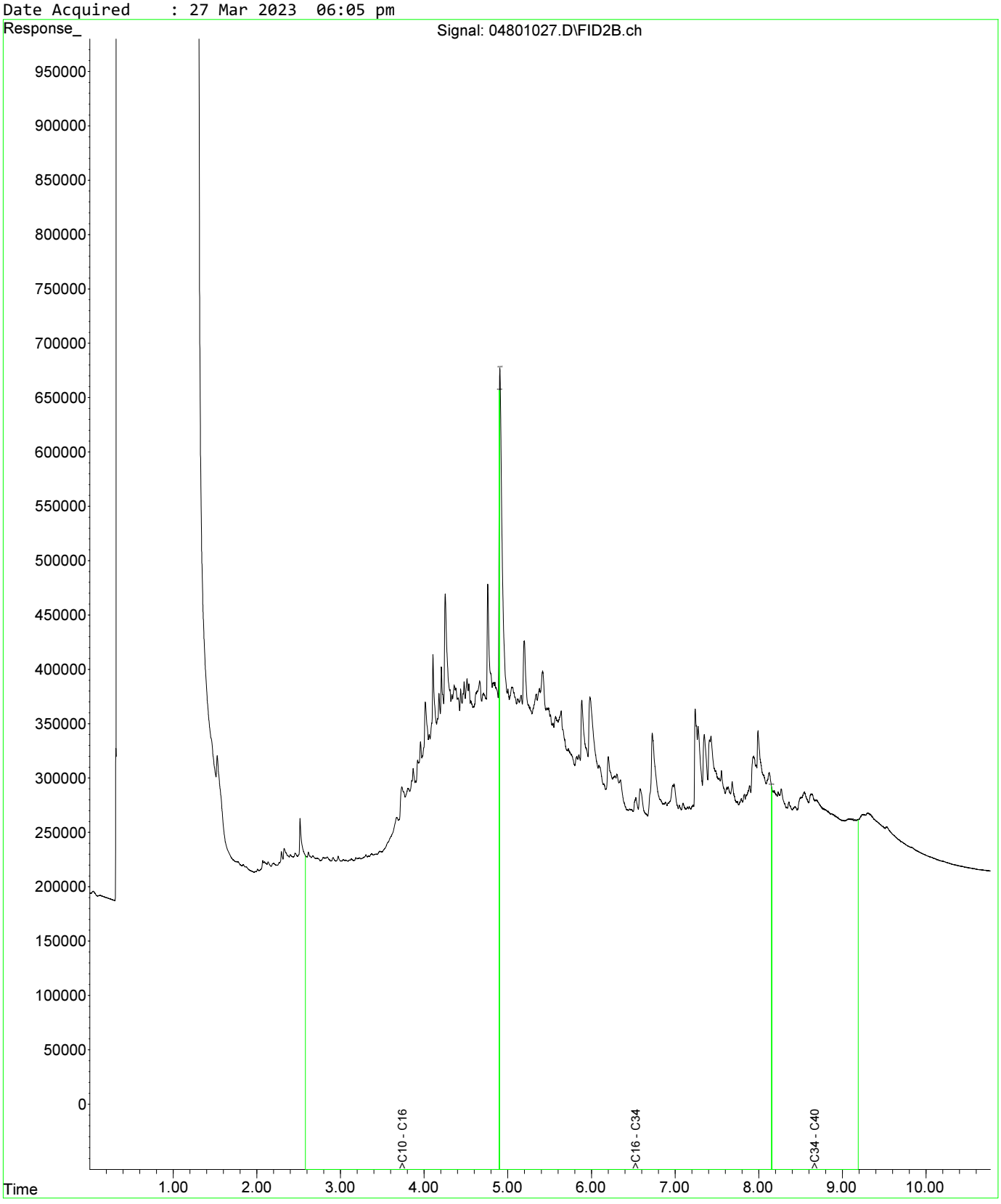

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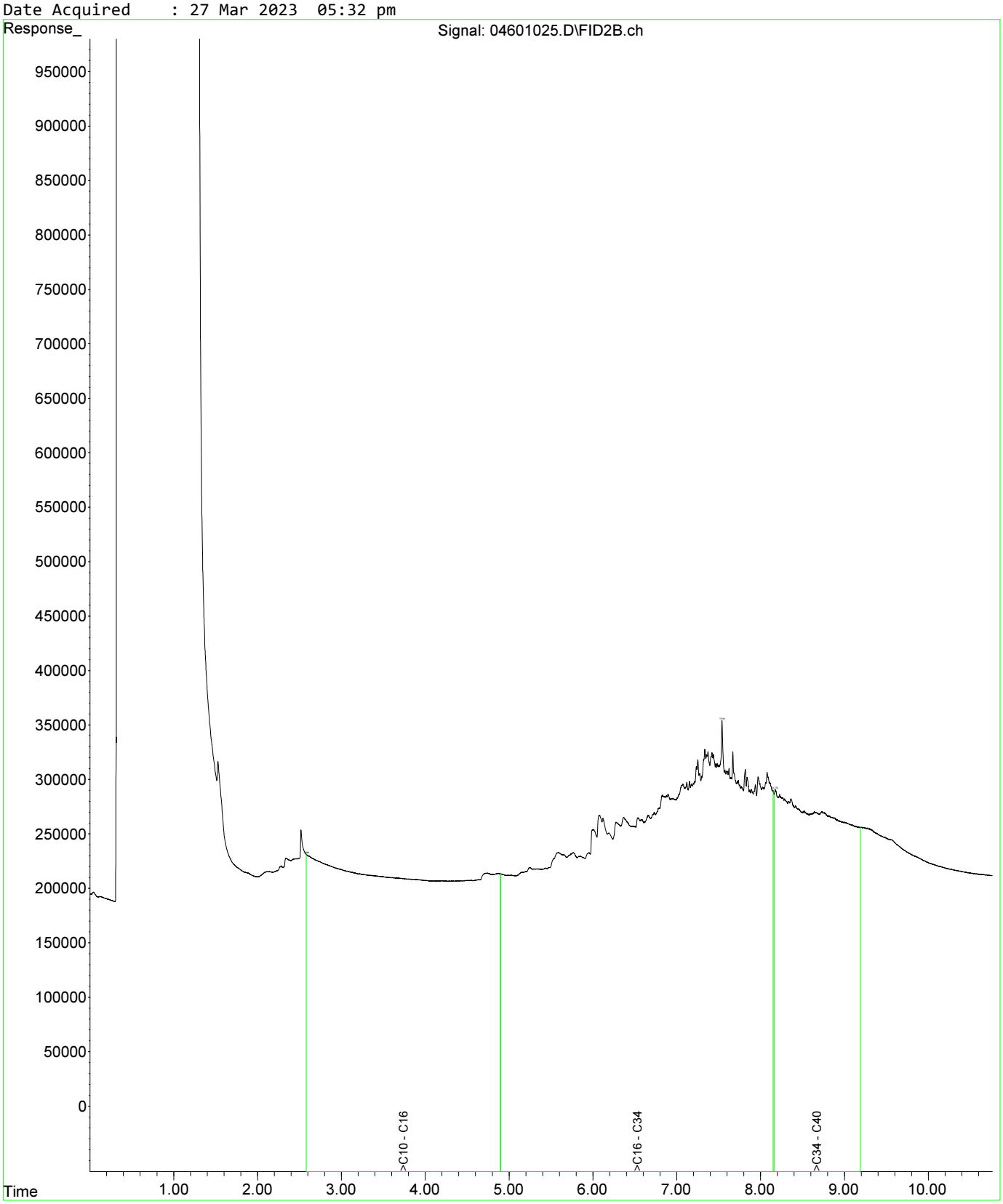

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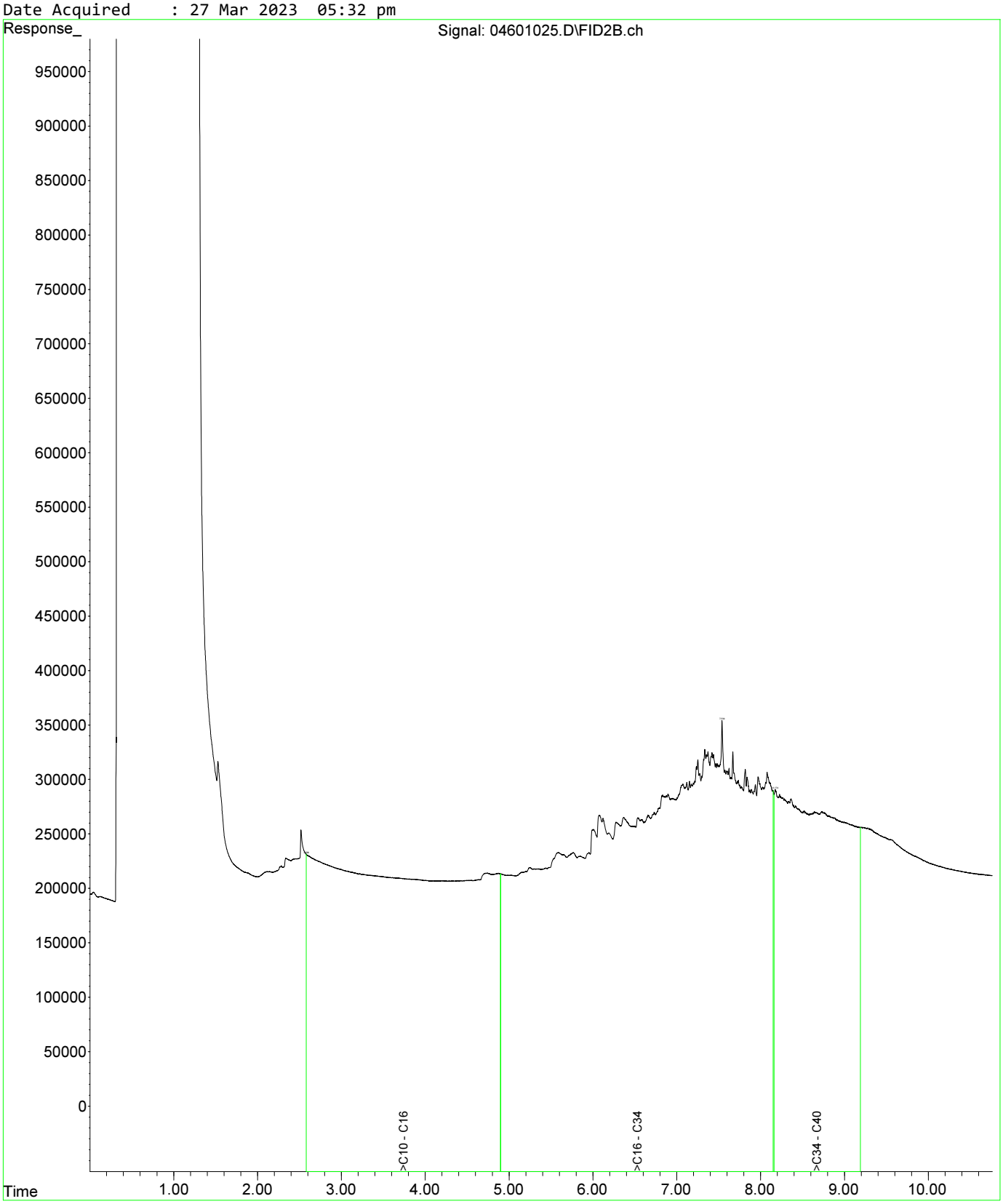

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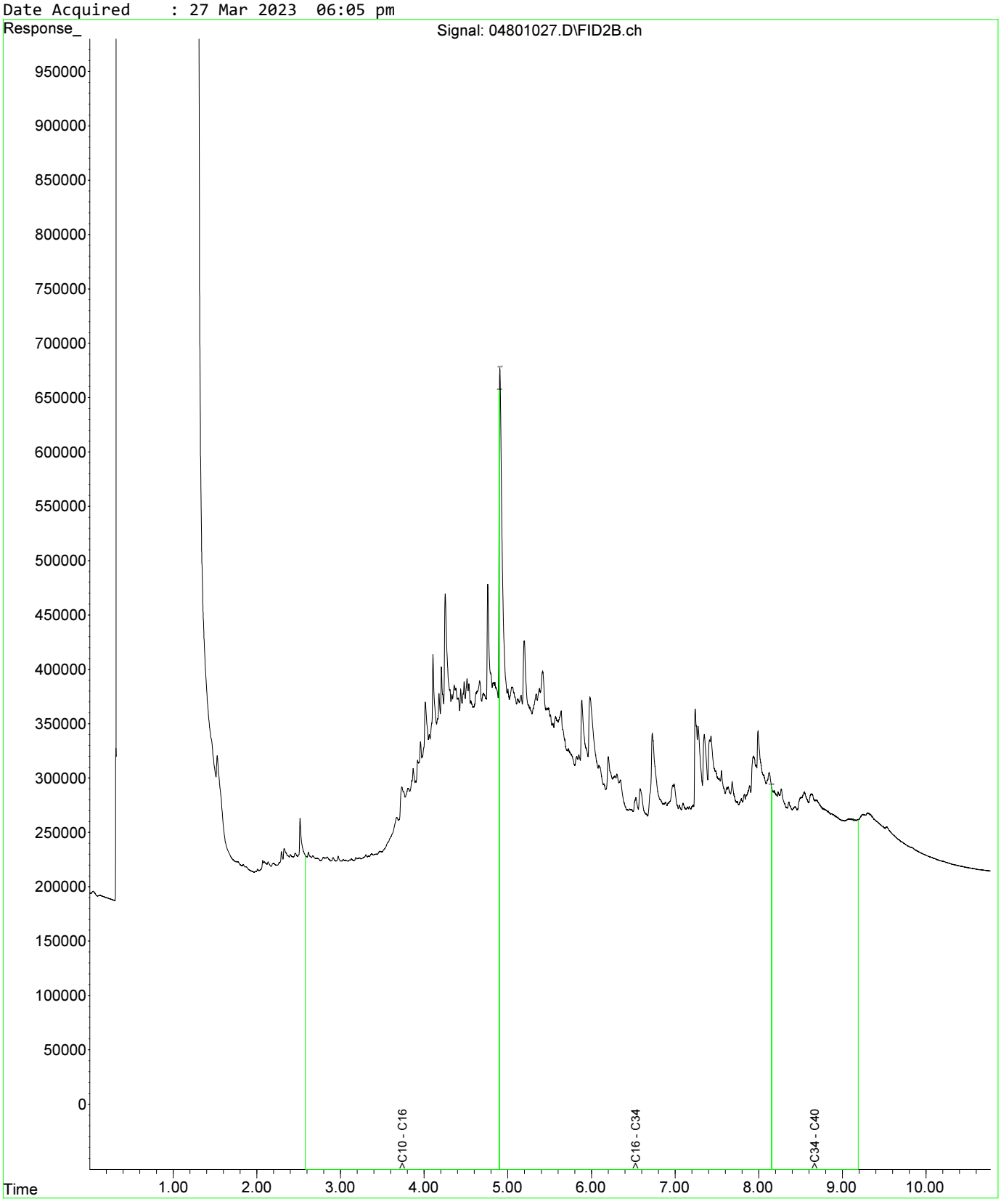

Fraction Scheme : NEPM DRAFT HIL
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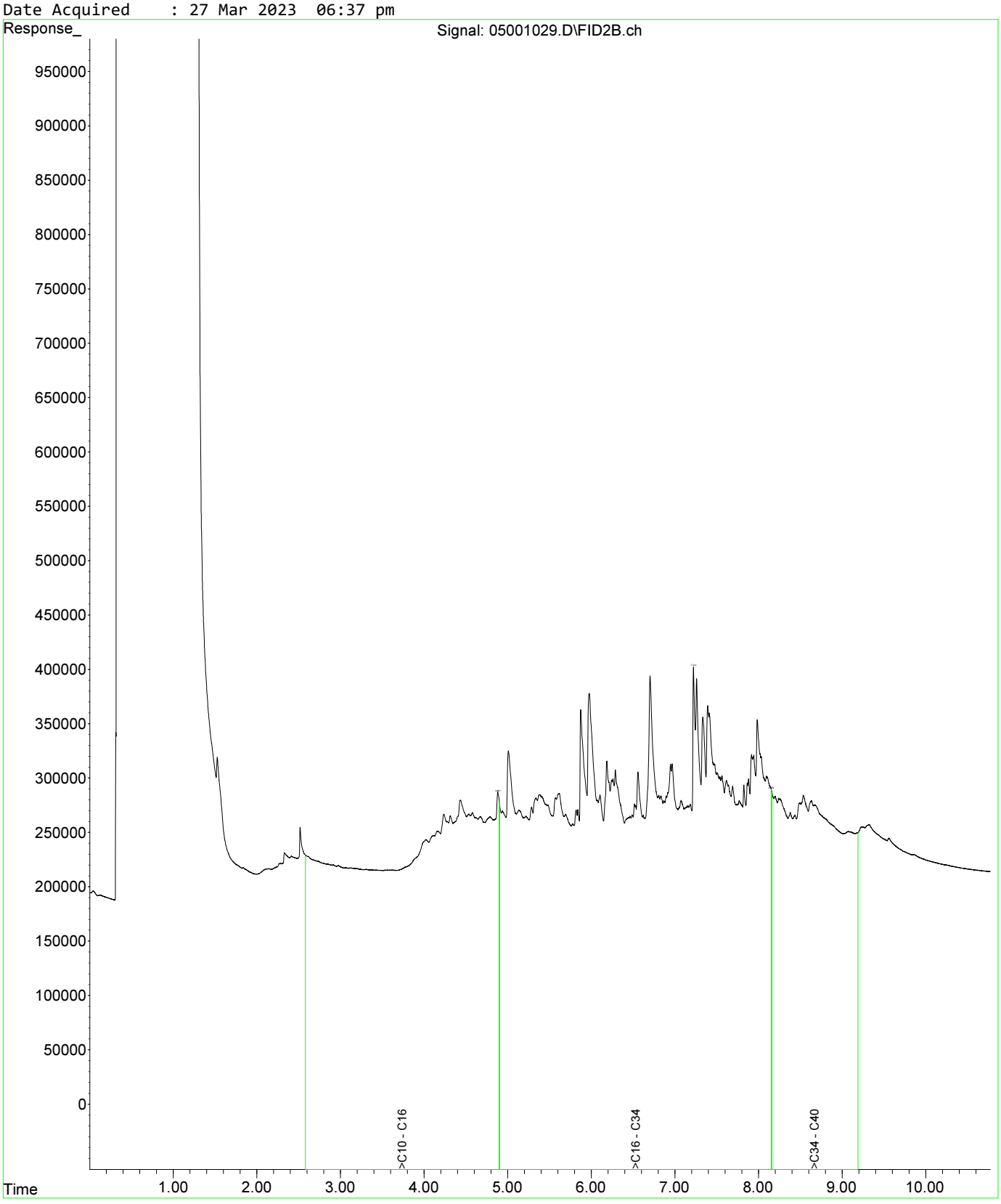
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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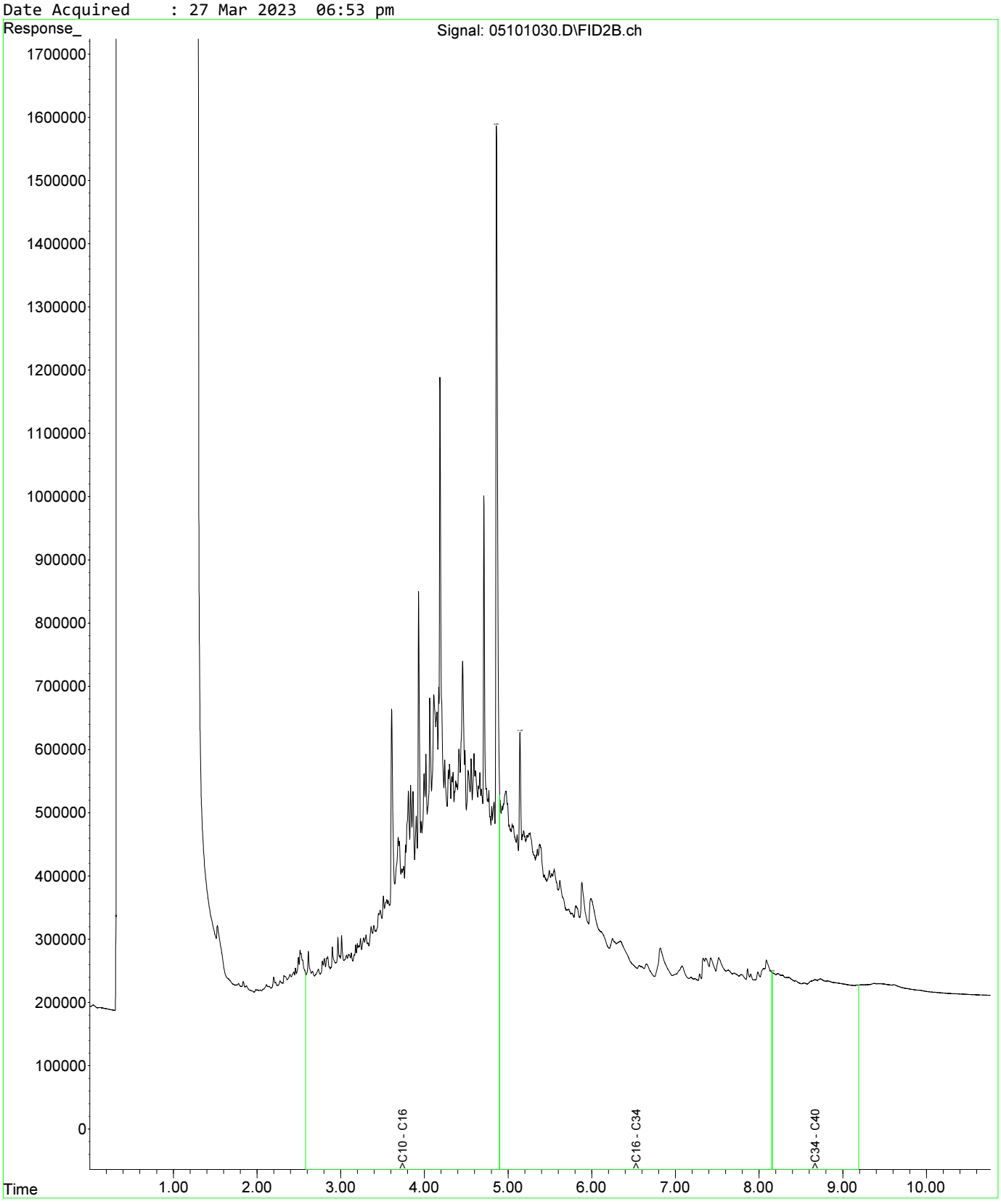

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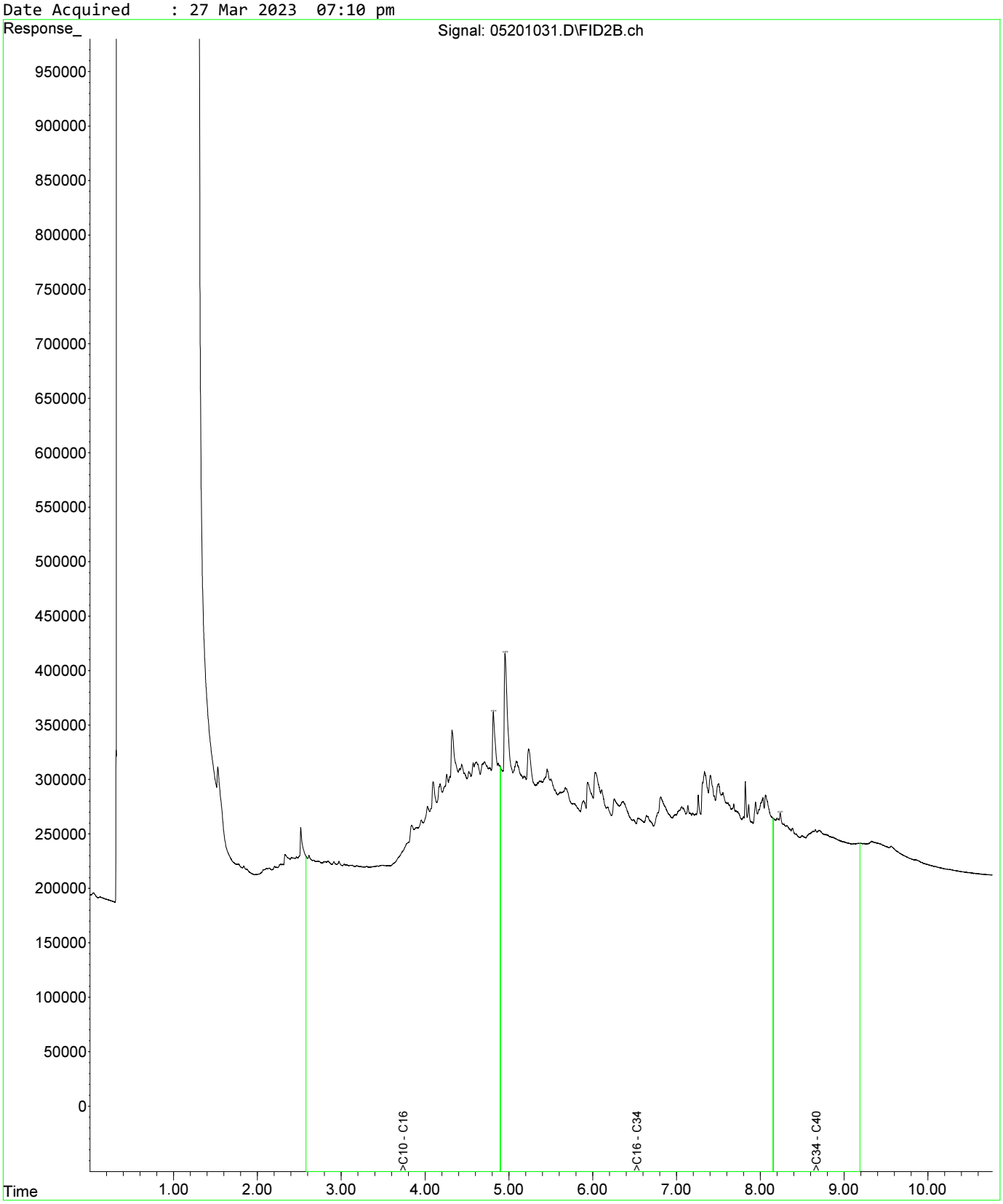

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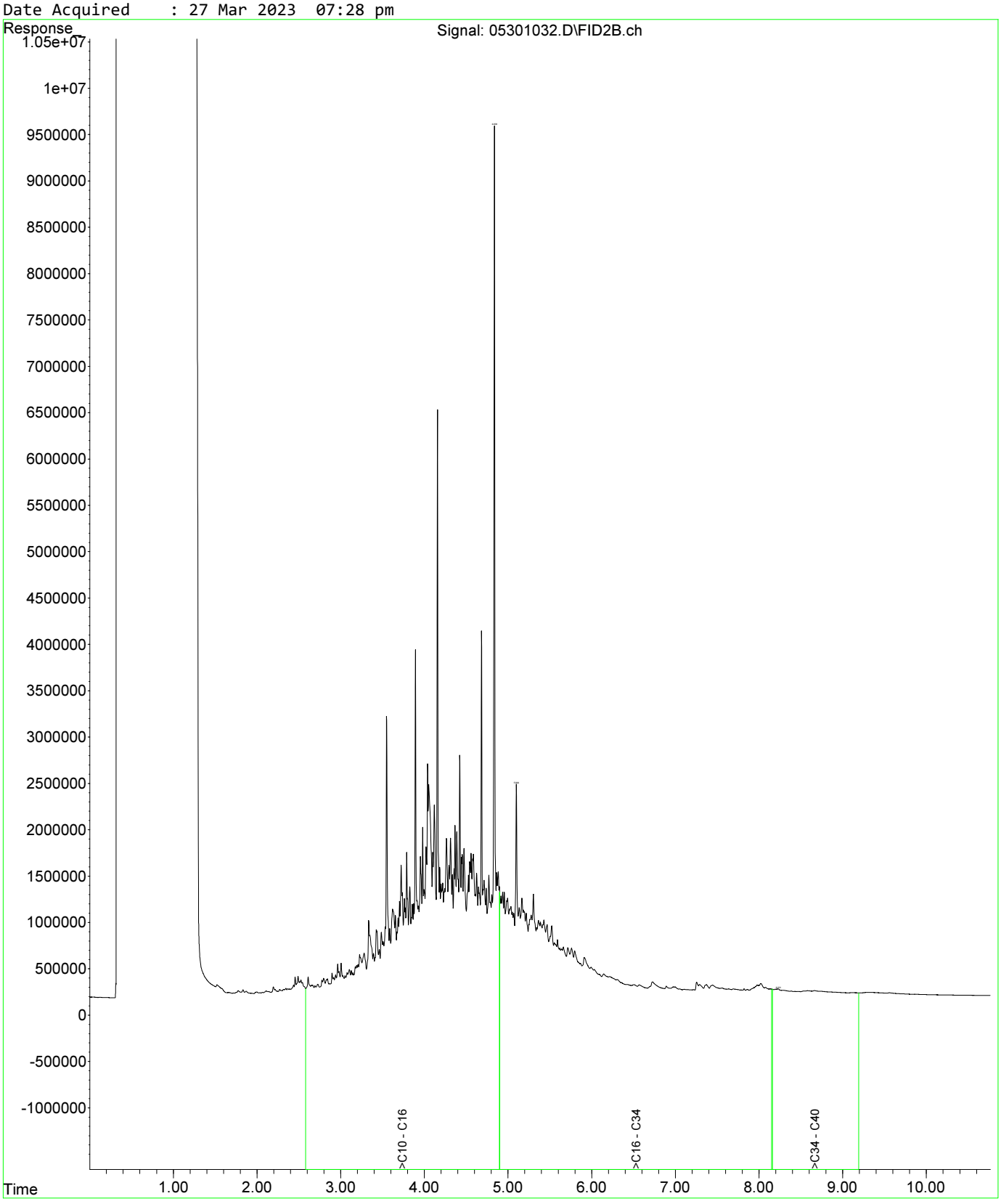

Fraction Scheme : NEPM DRAFT HIL
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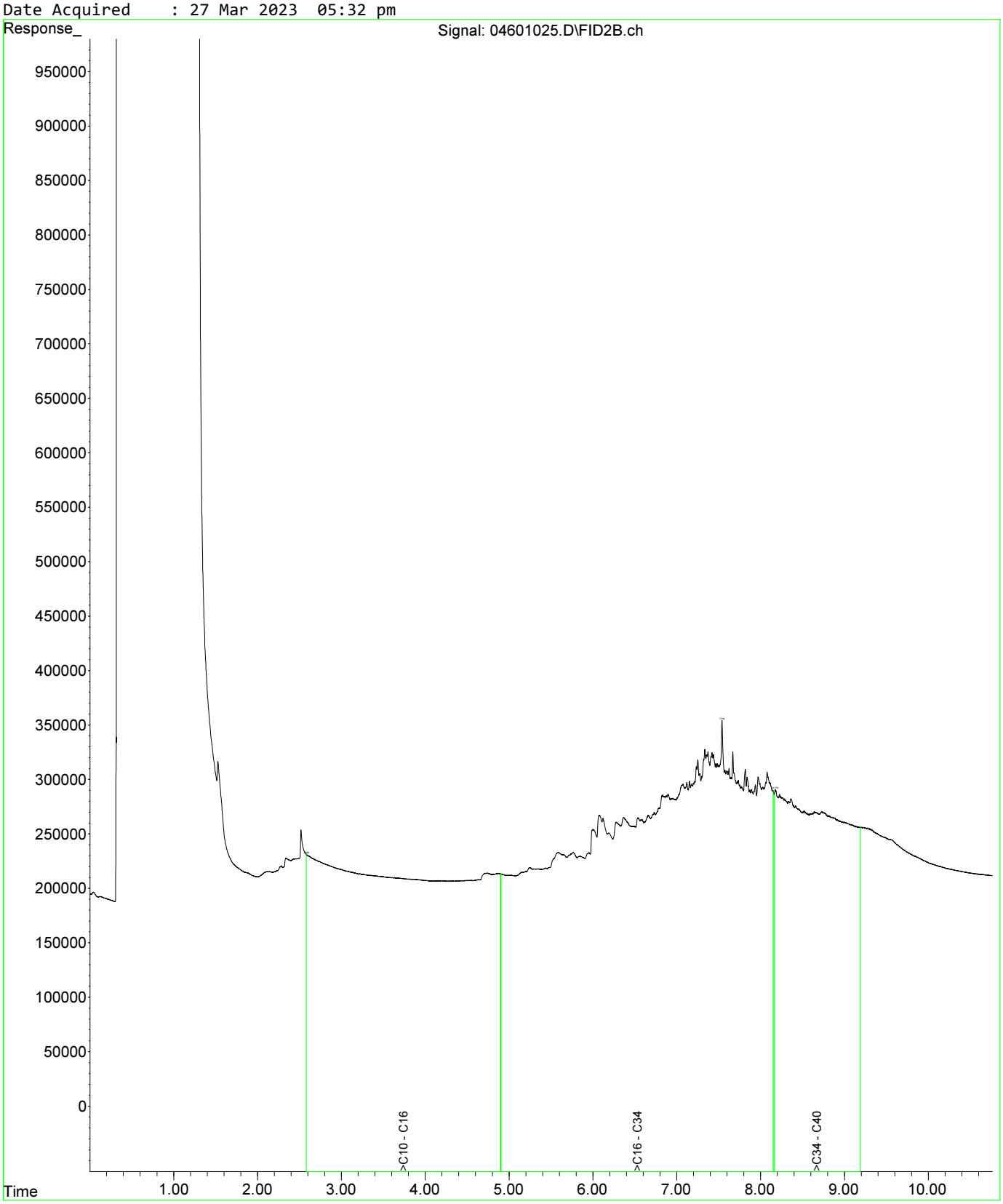

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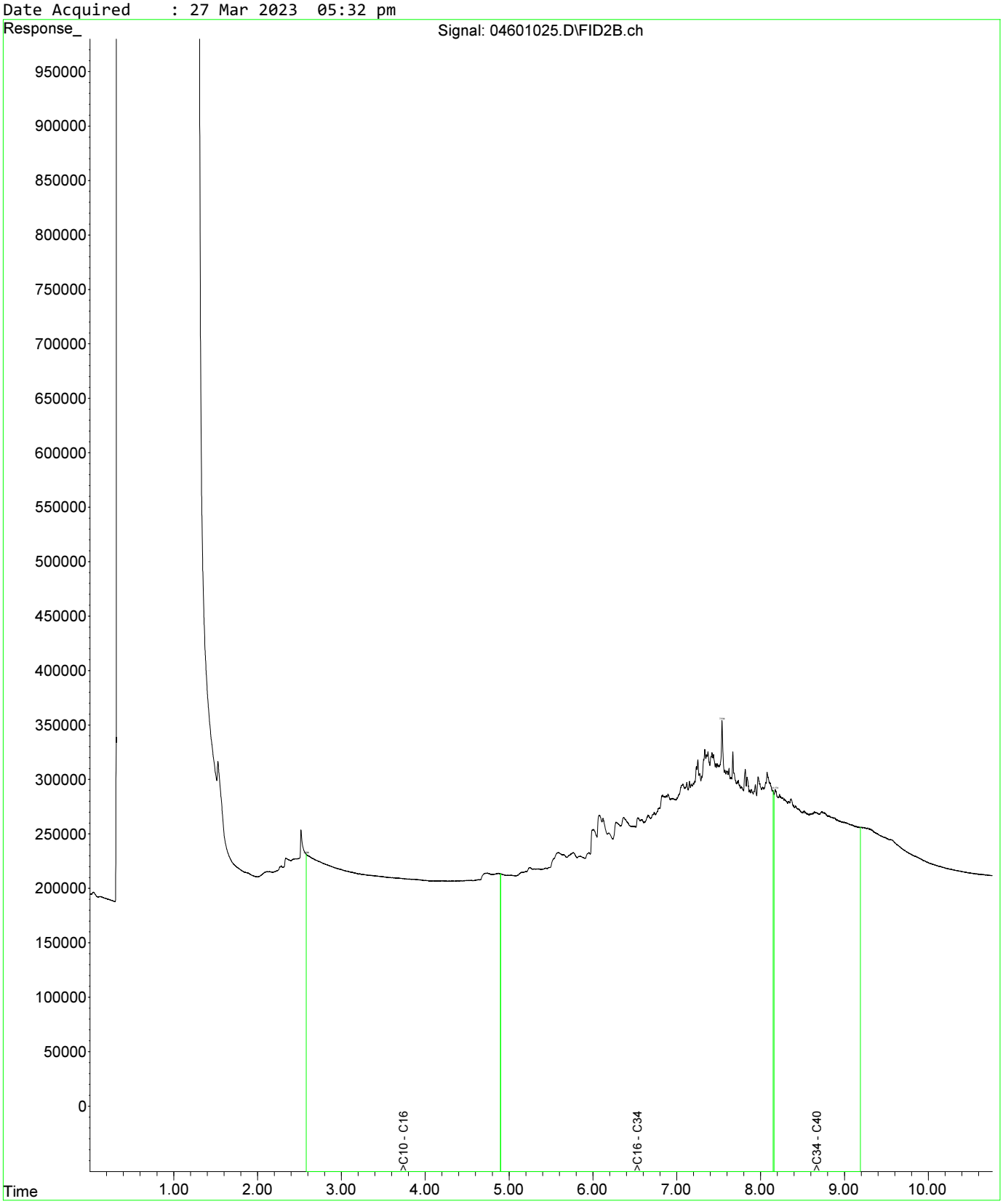

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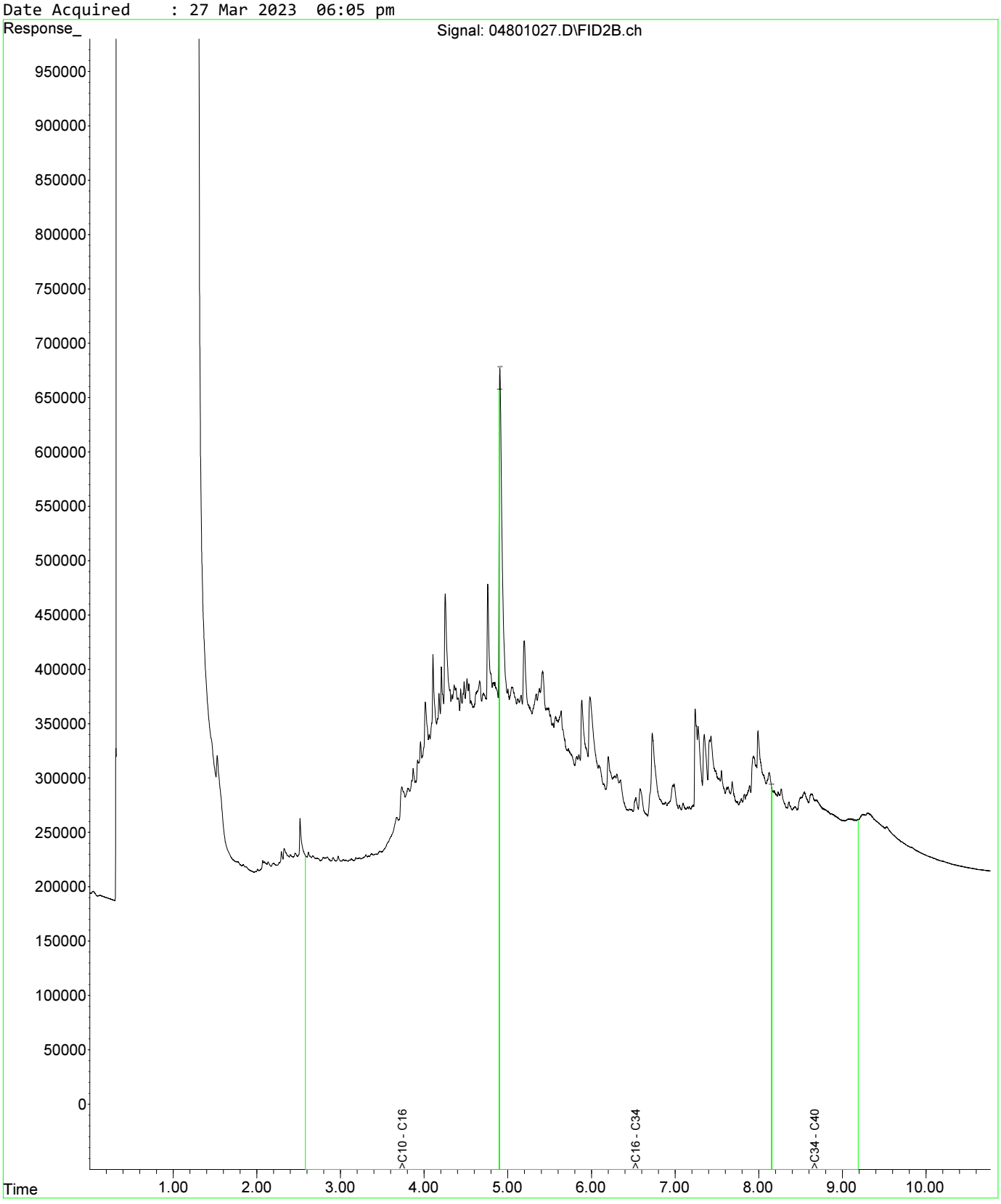

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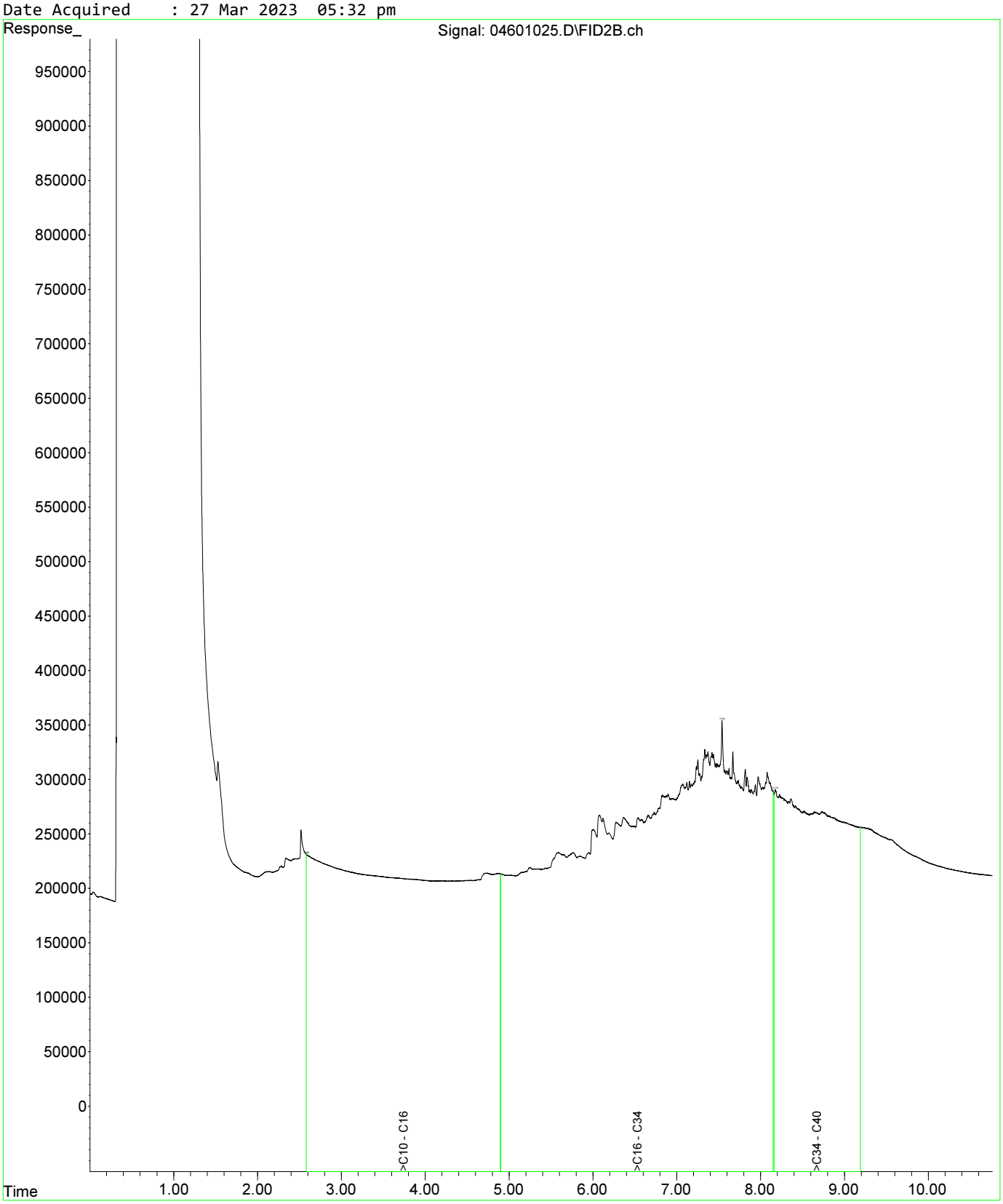

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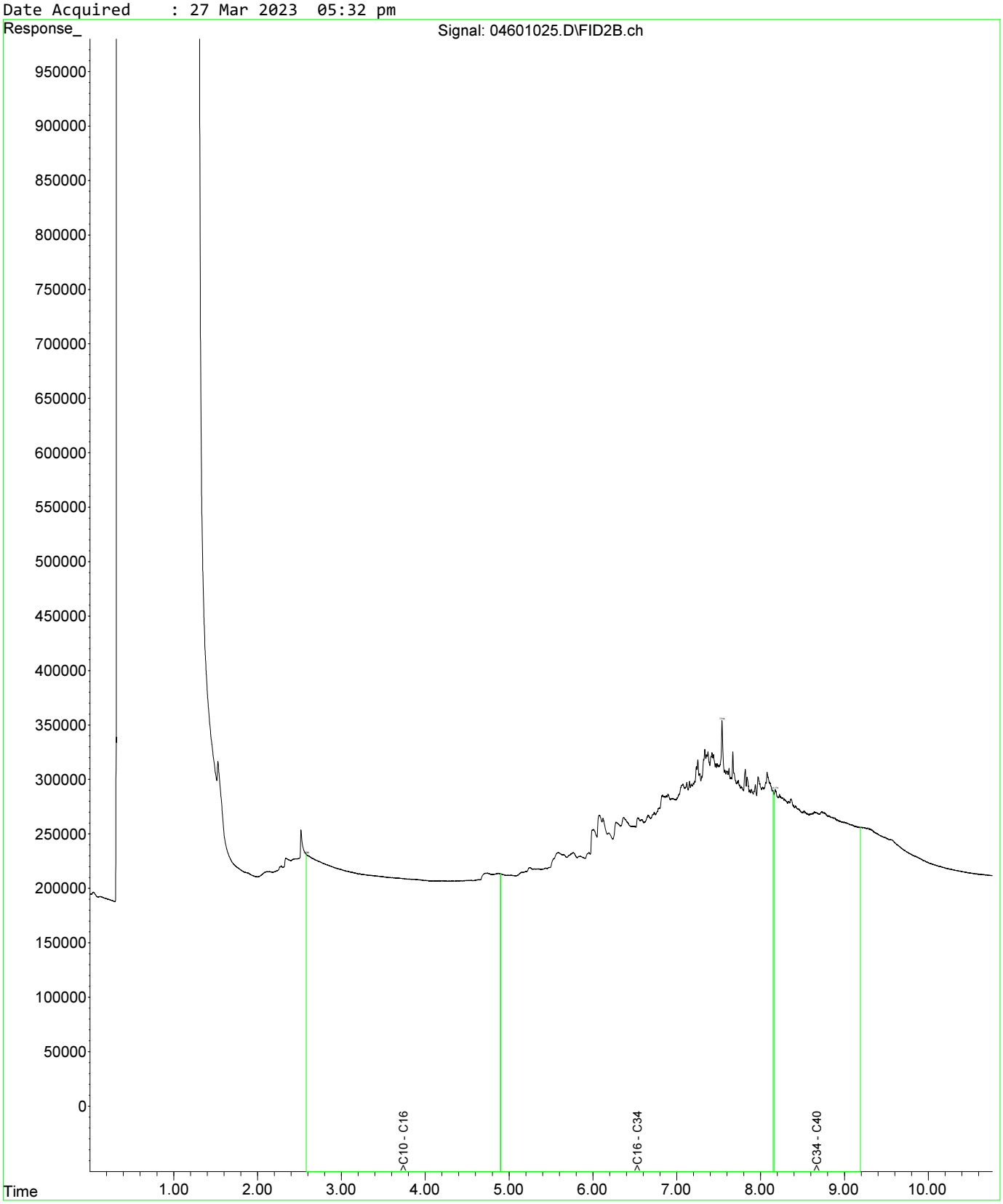

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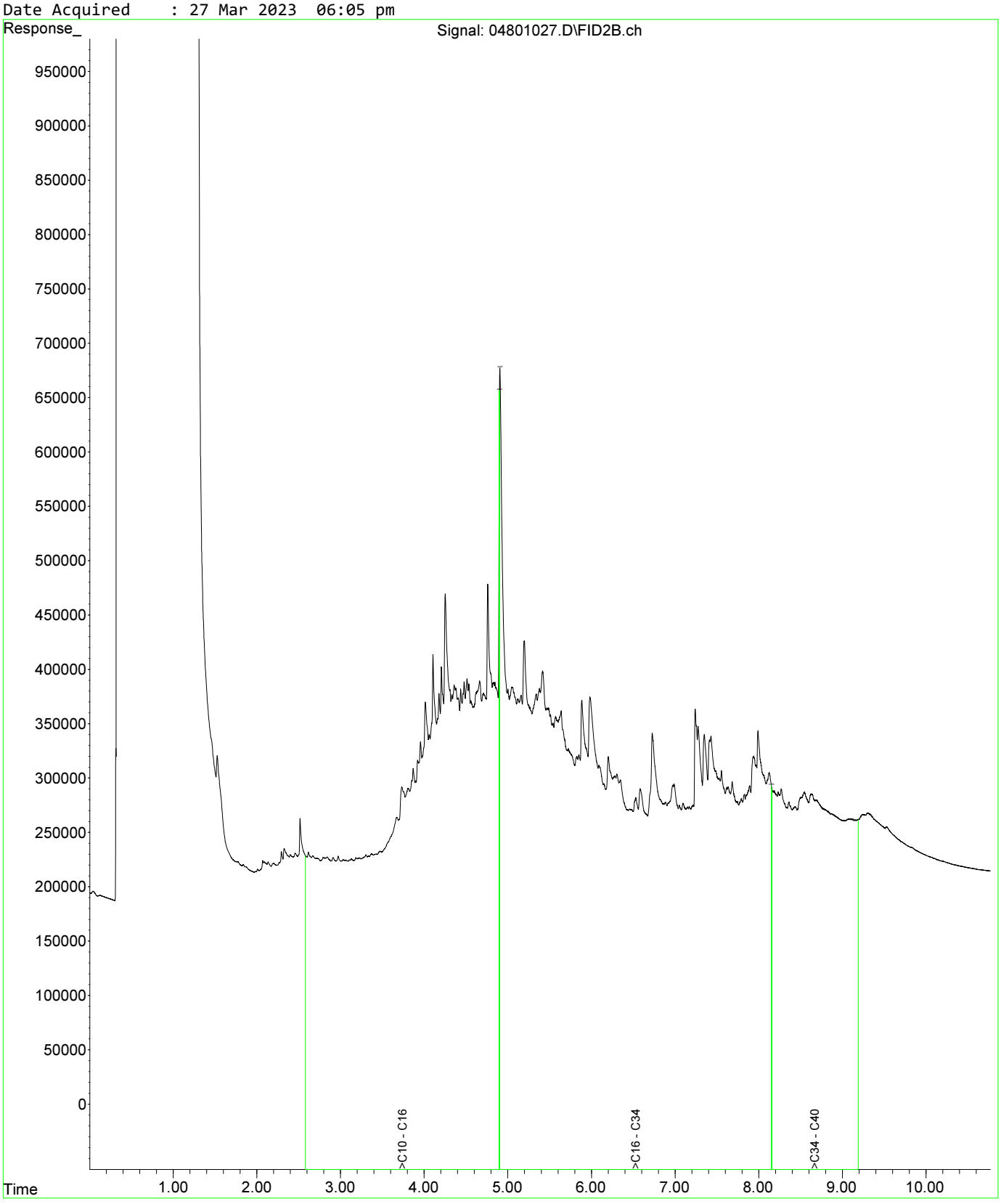

Fraction Scheme : NEPM DRAFT HIL
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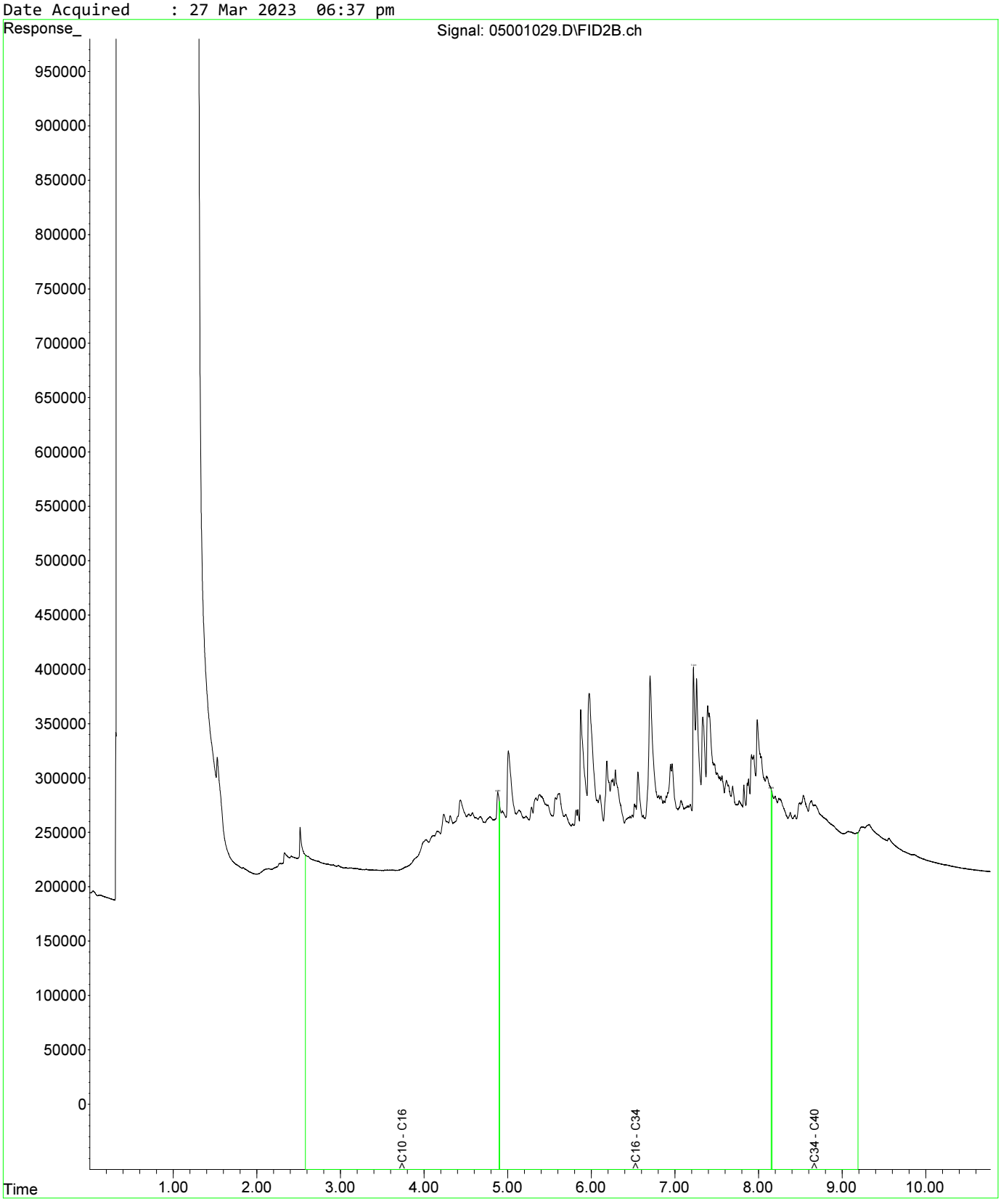

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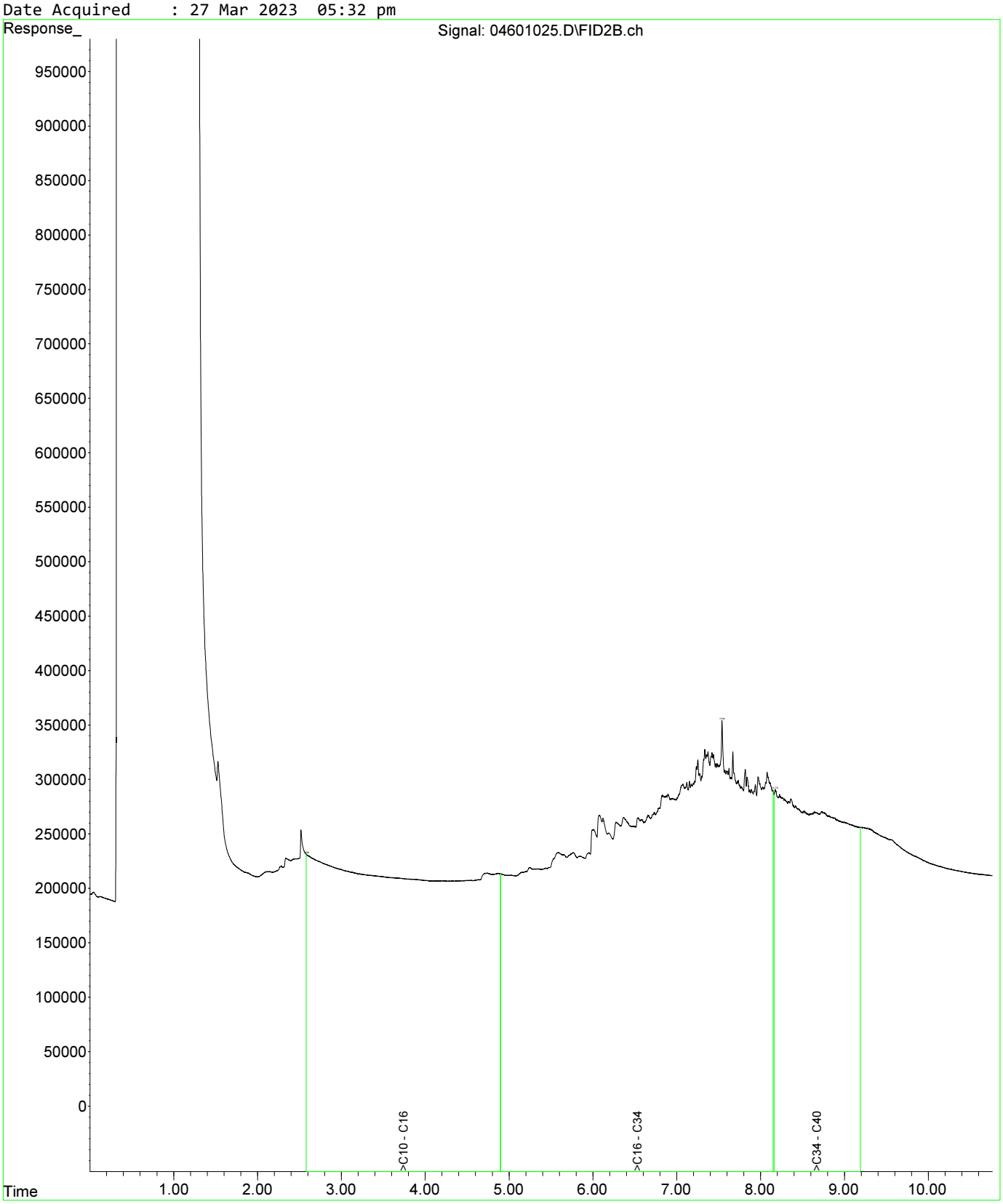

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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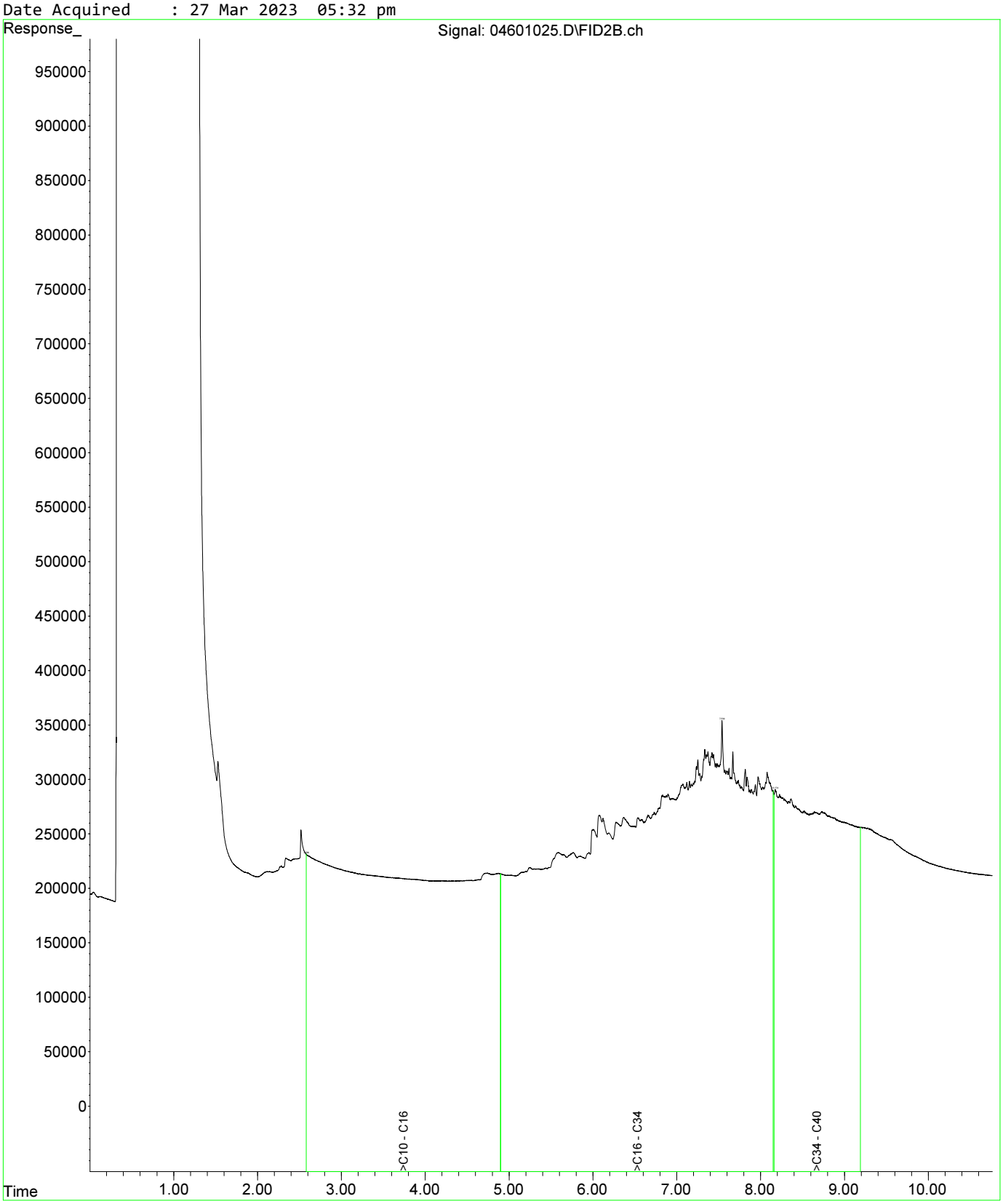

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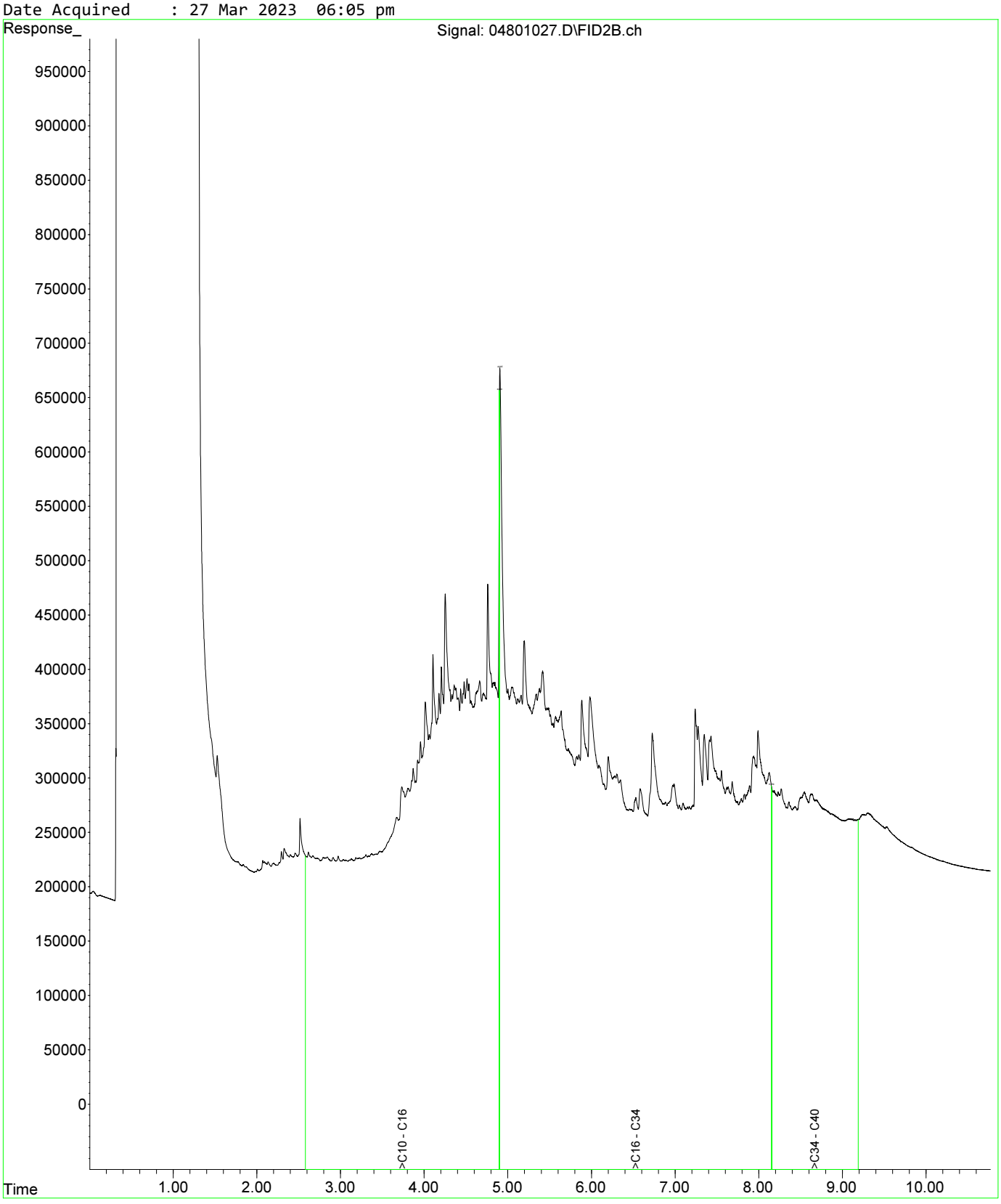
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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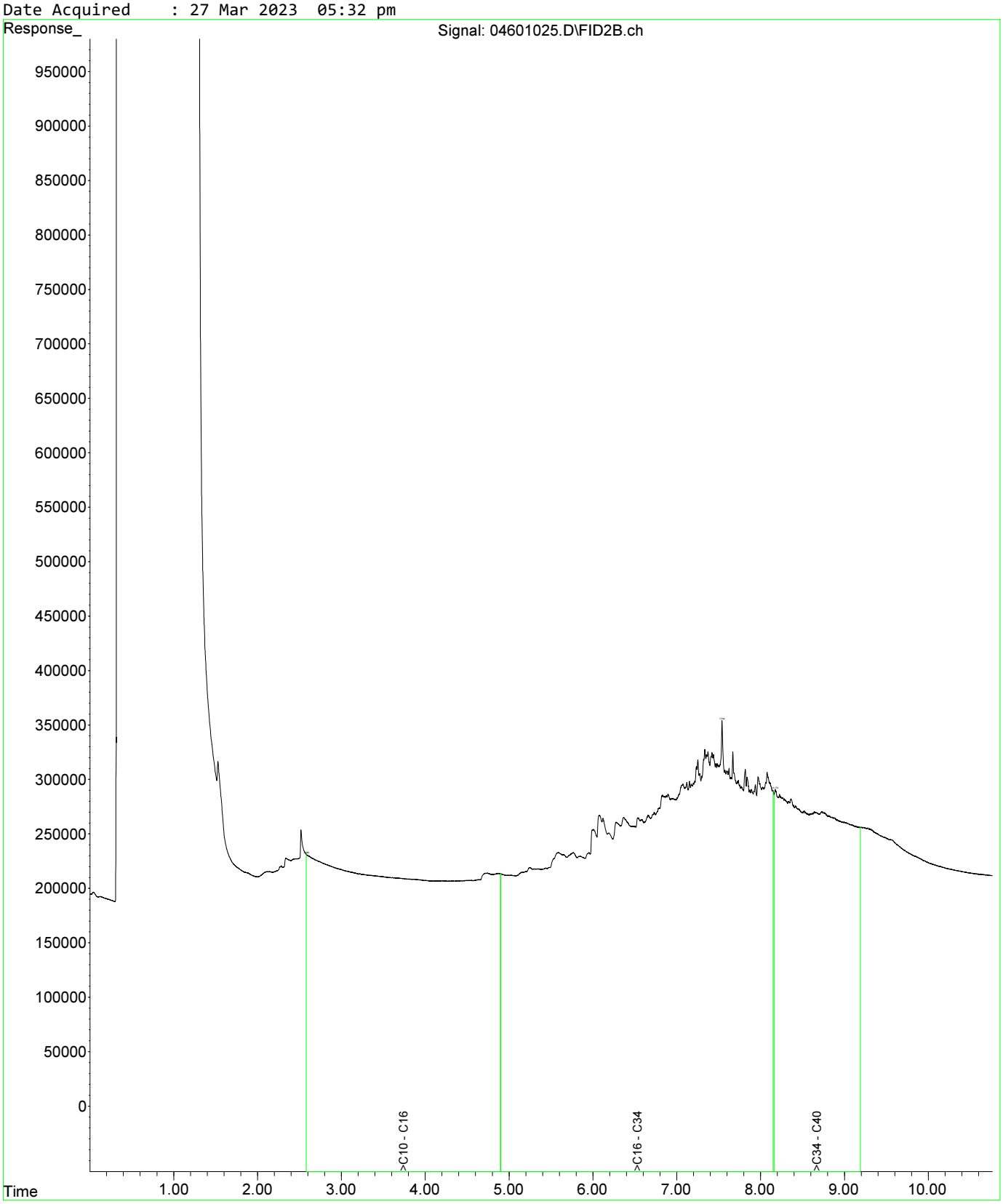

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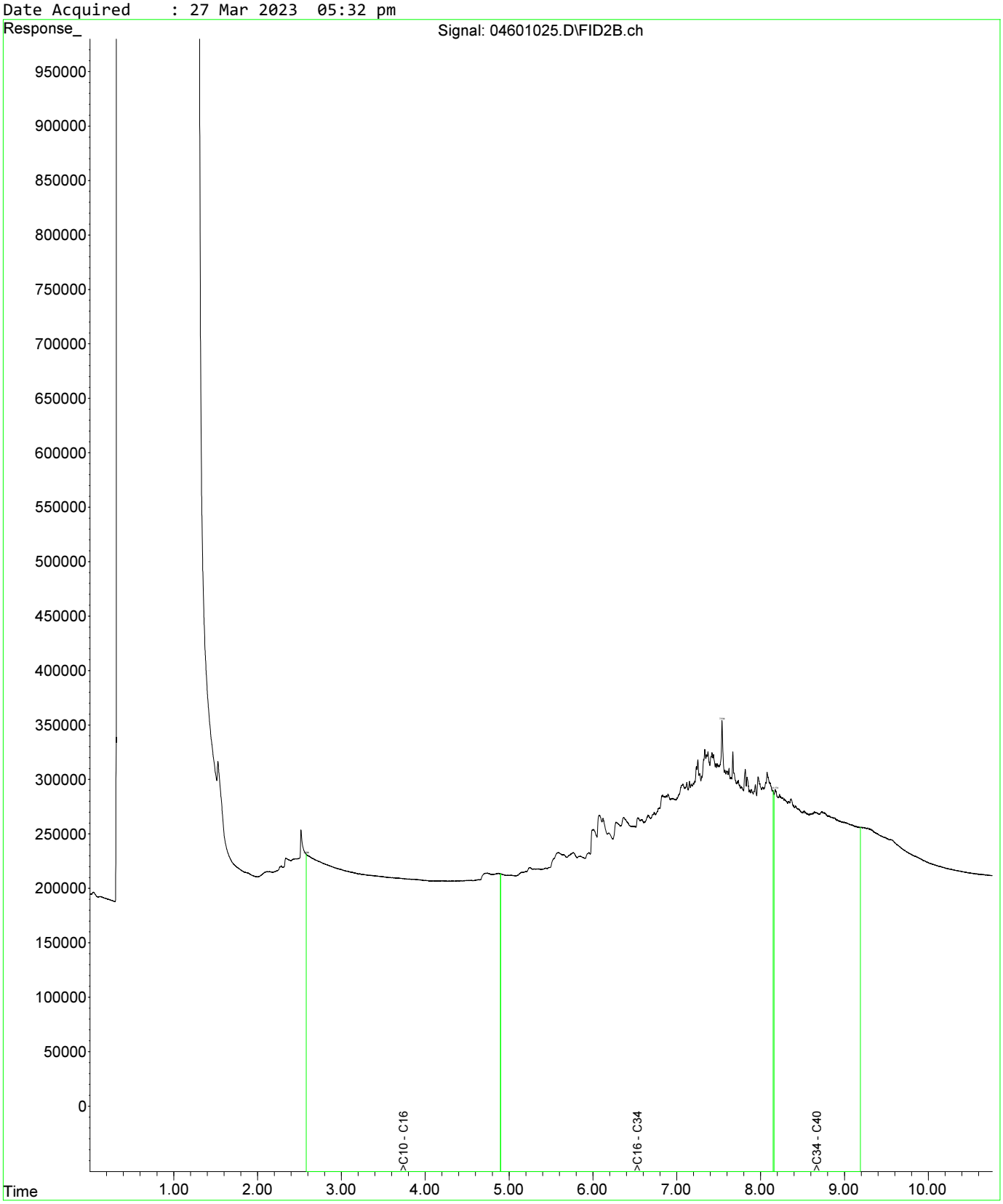

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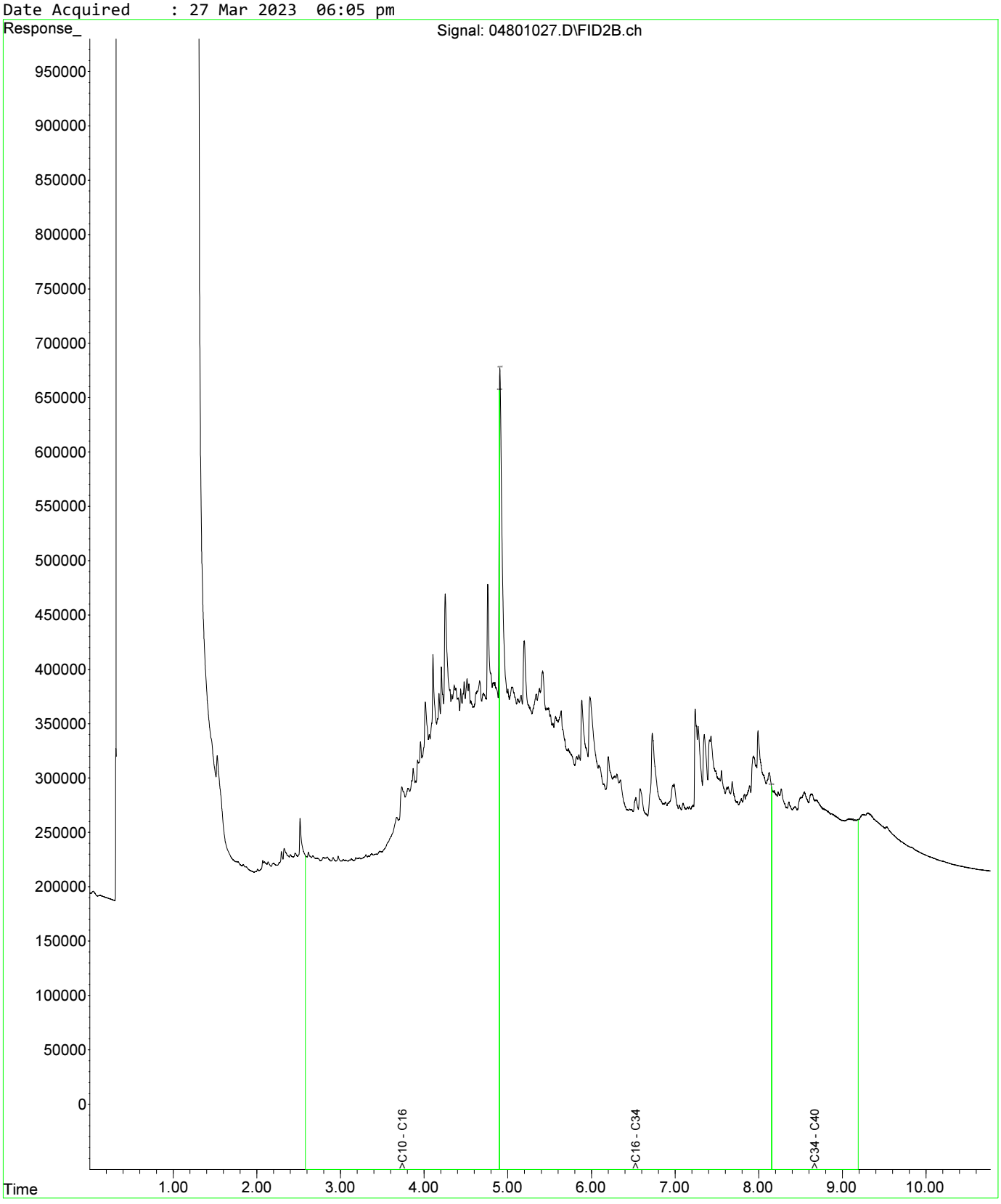

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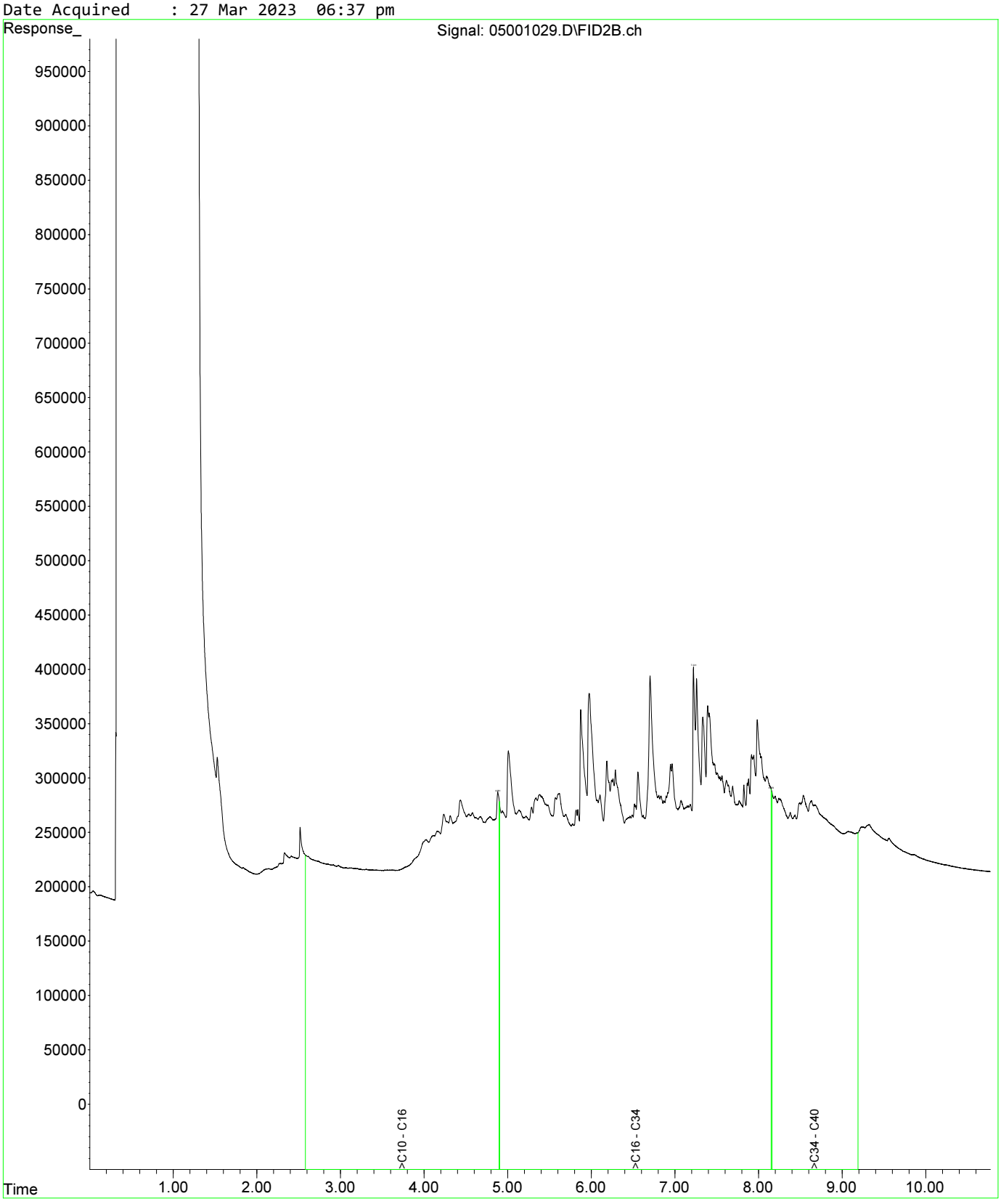

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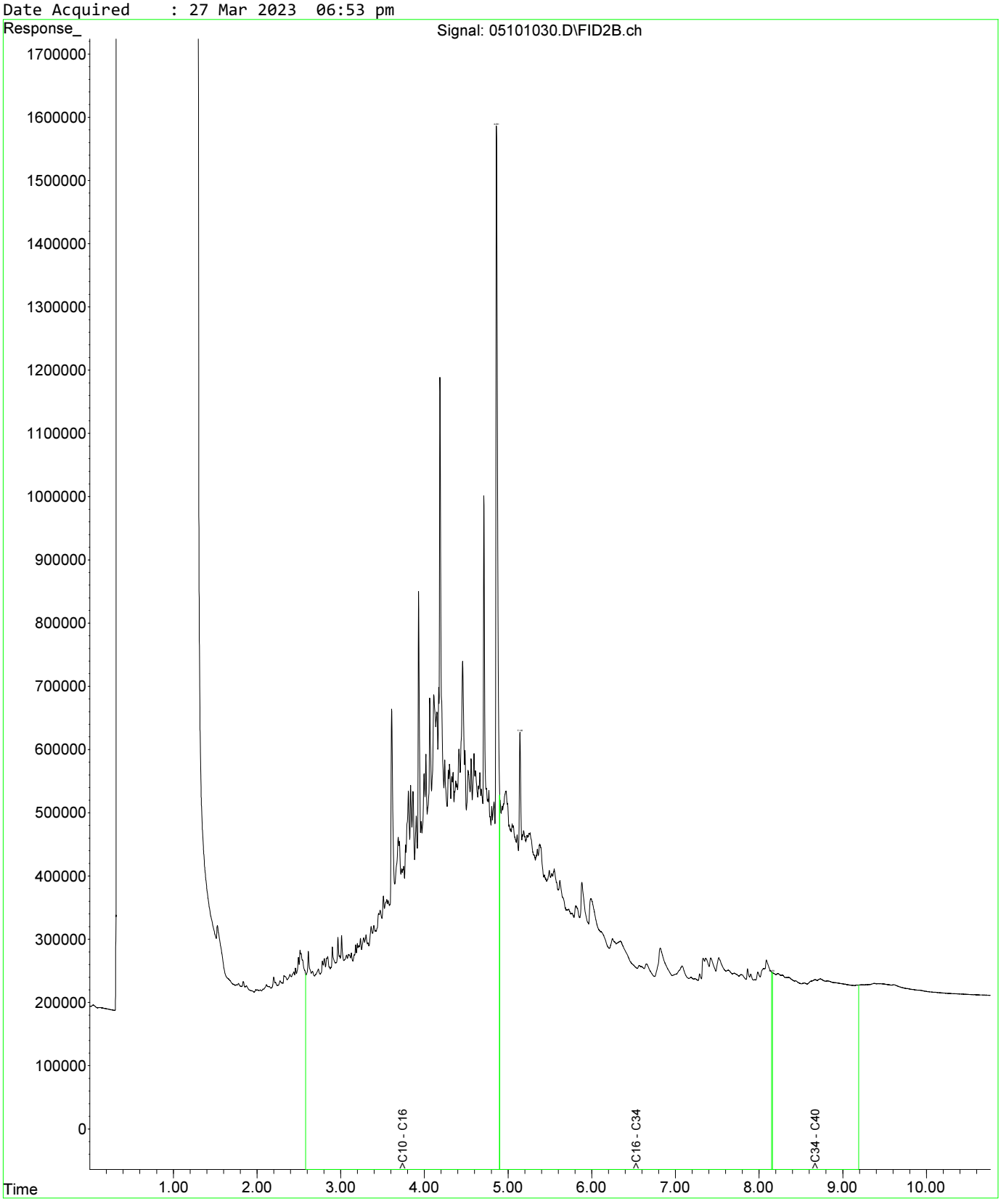

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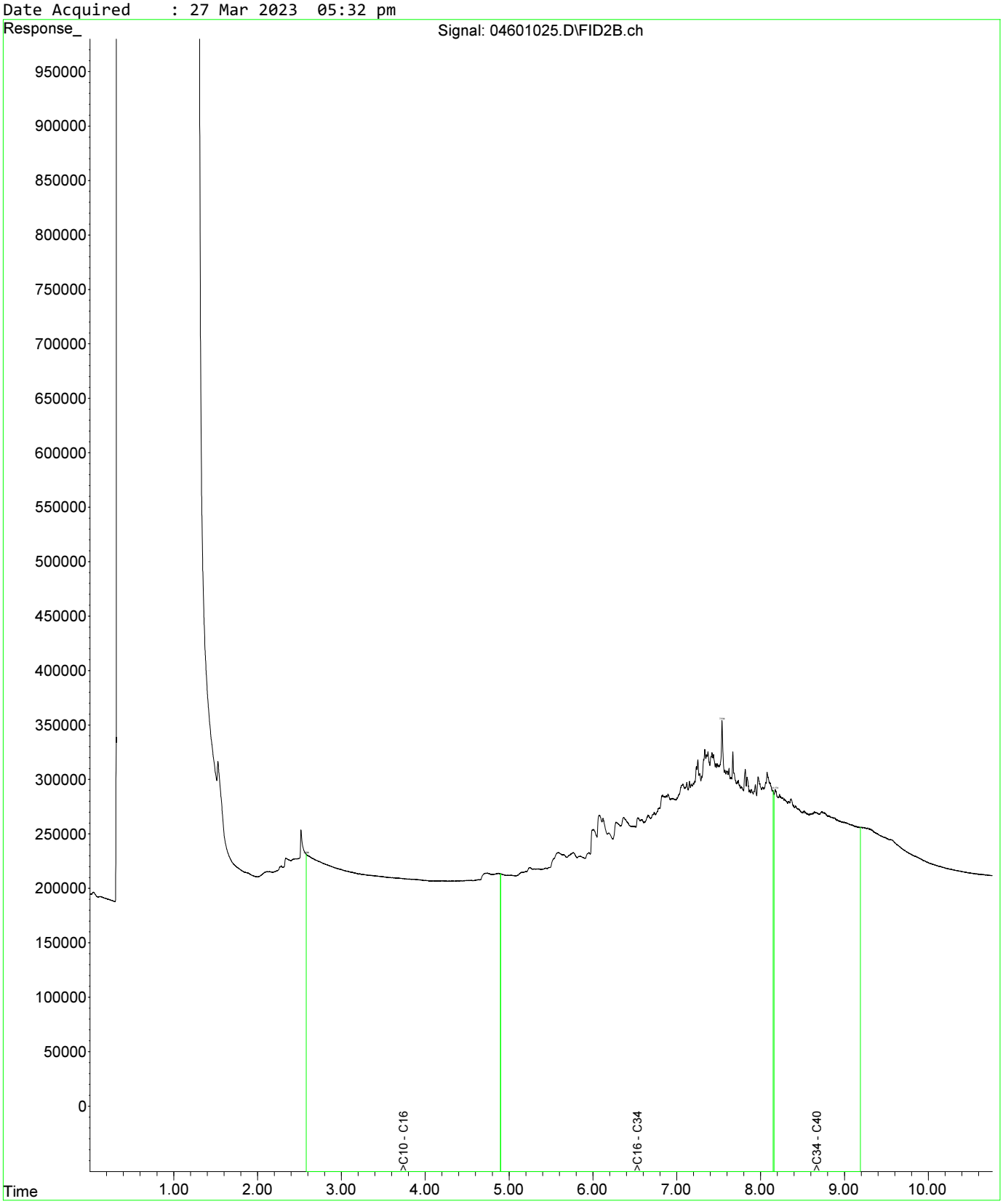

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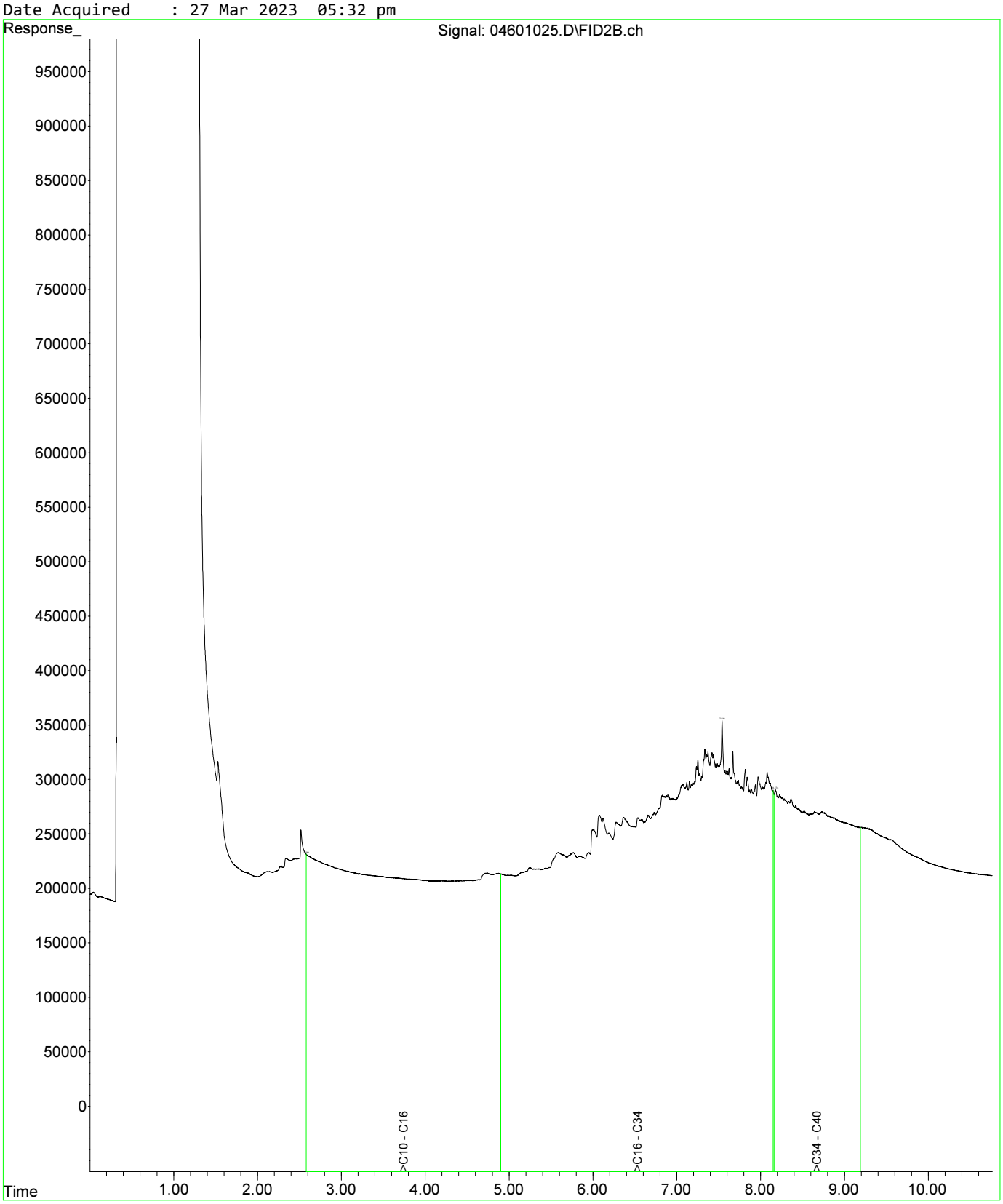

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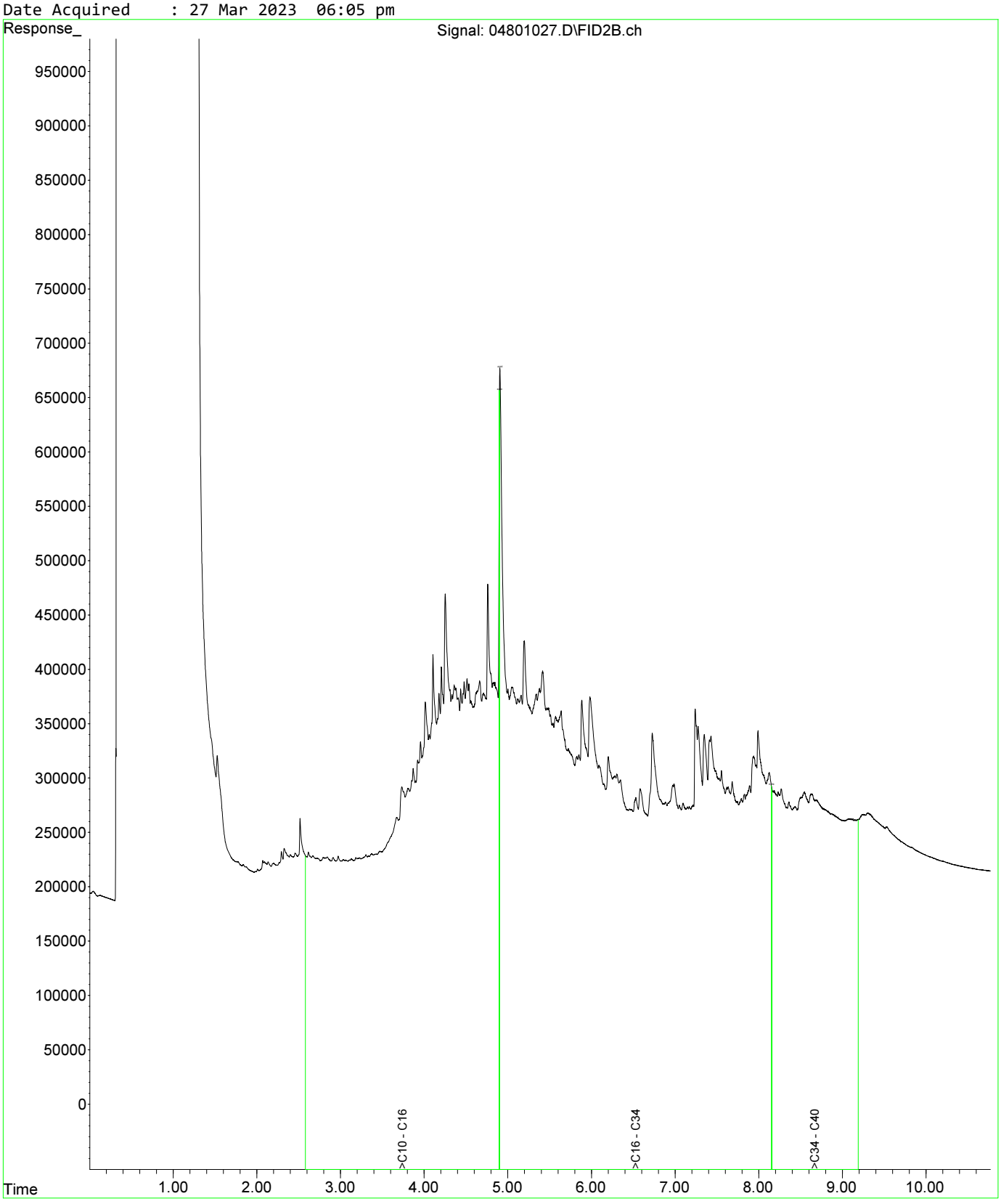

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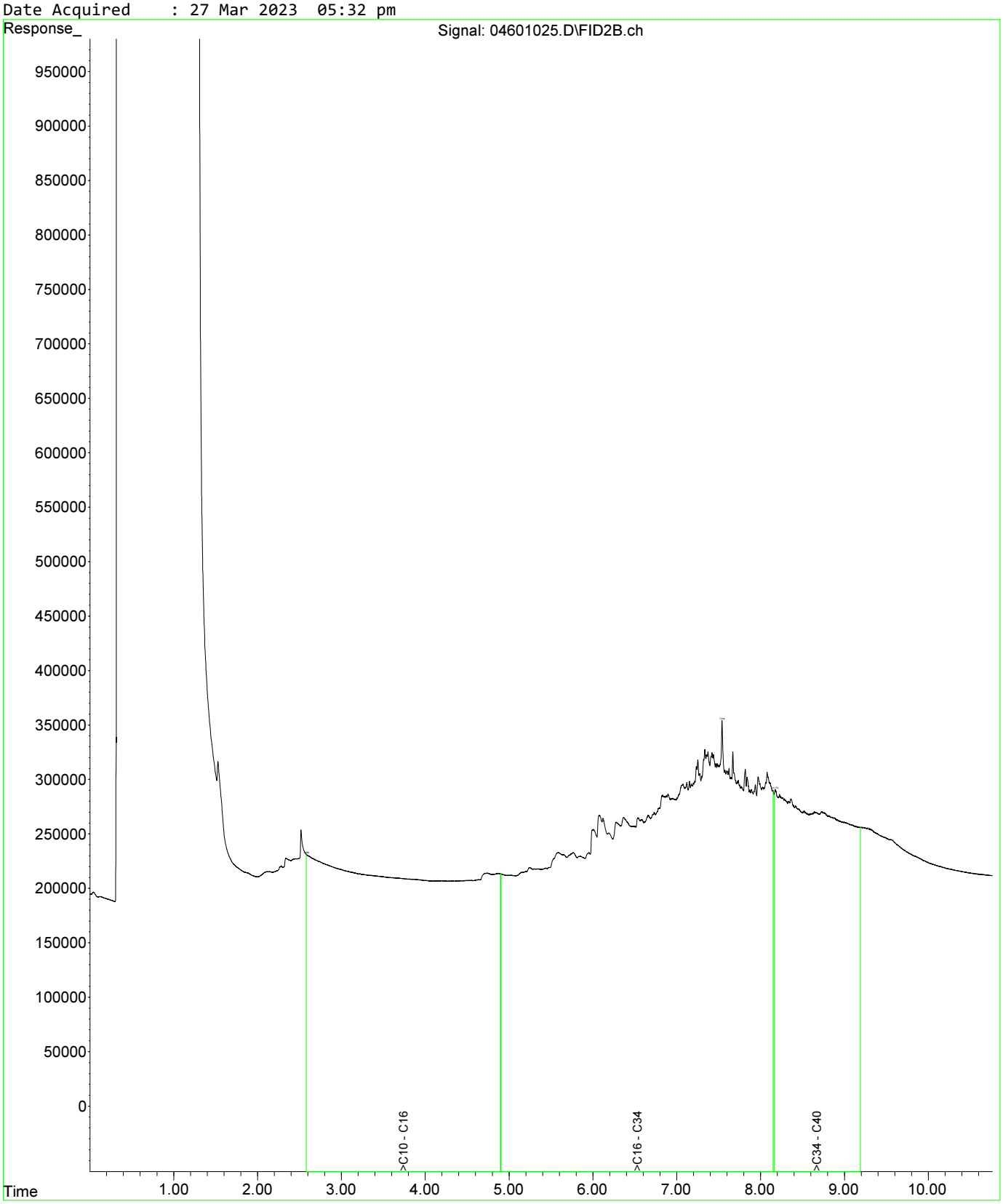

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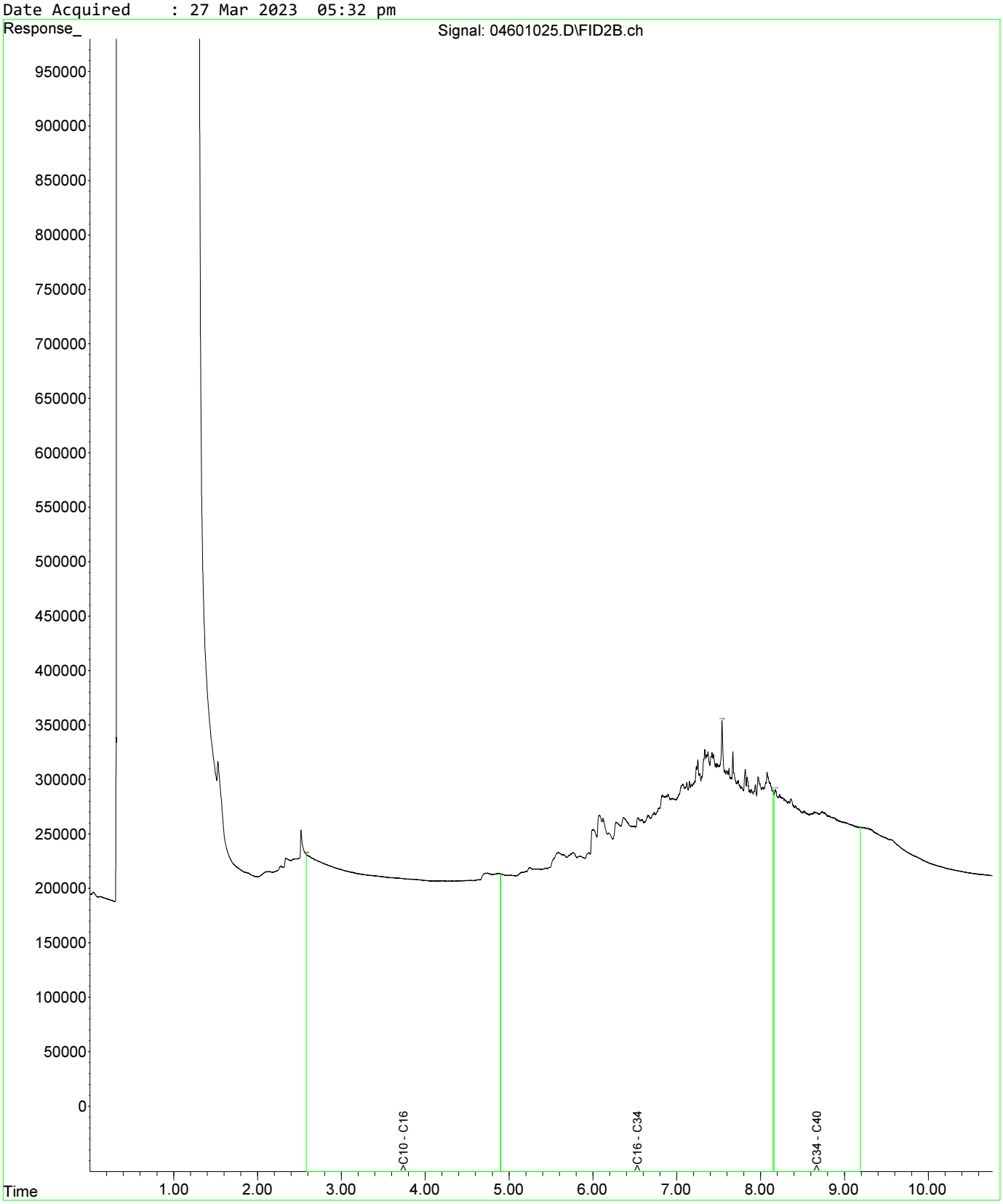

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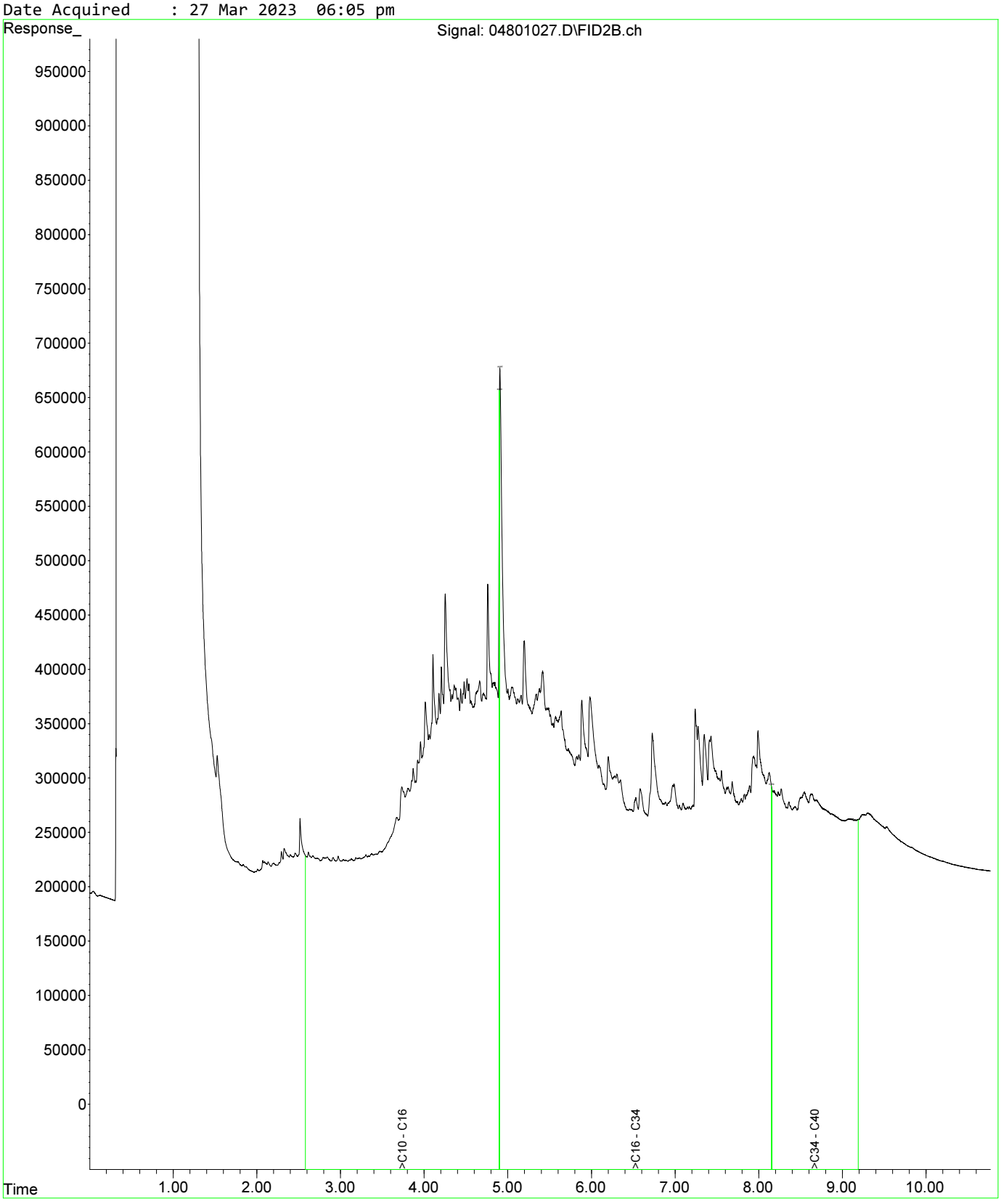

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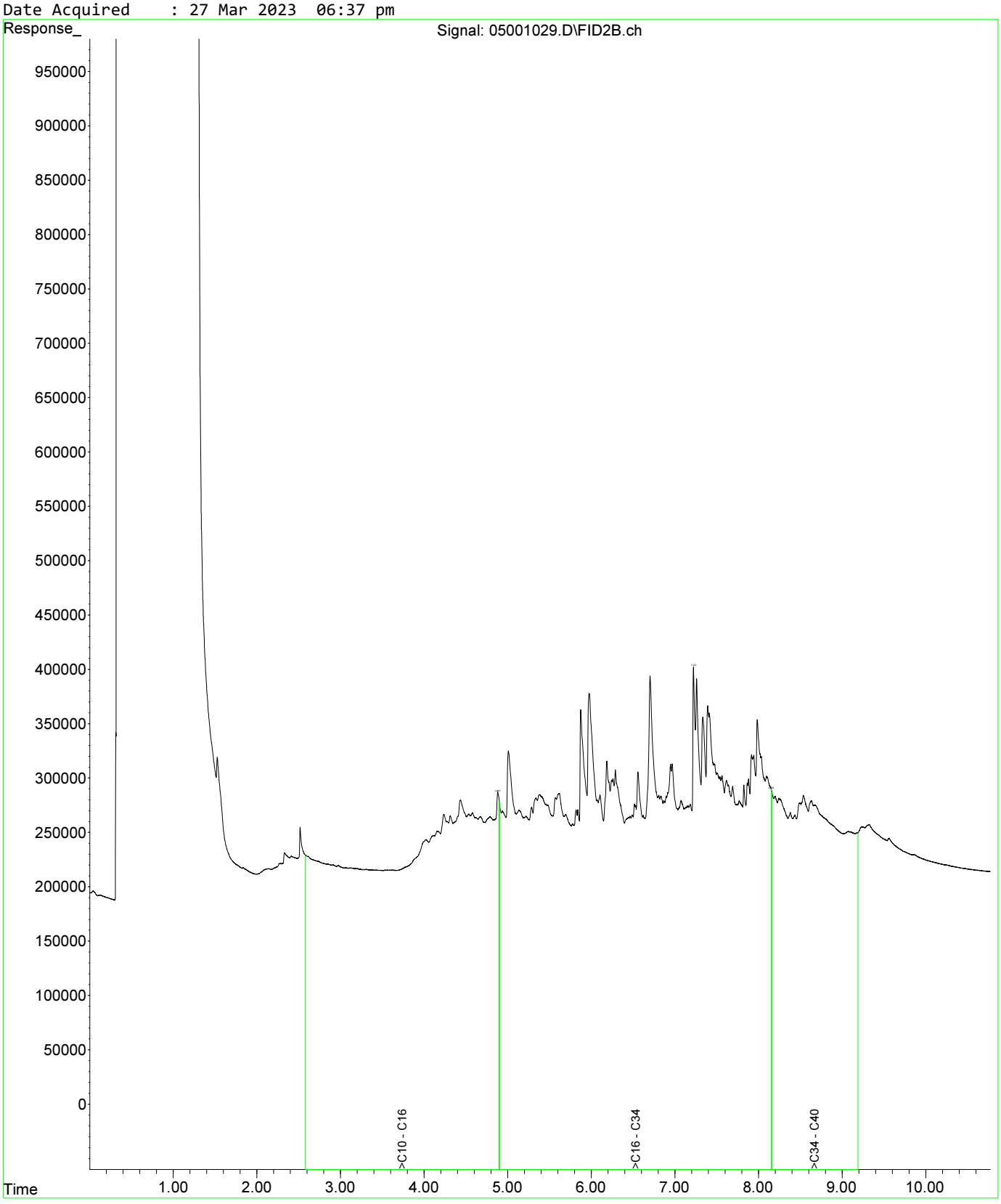

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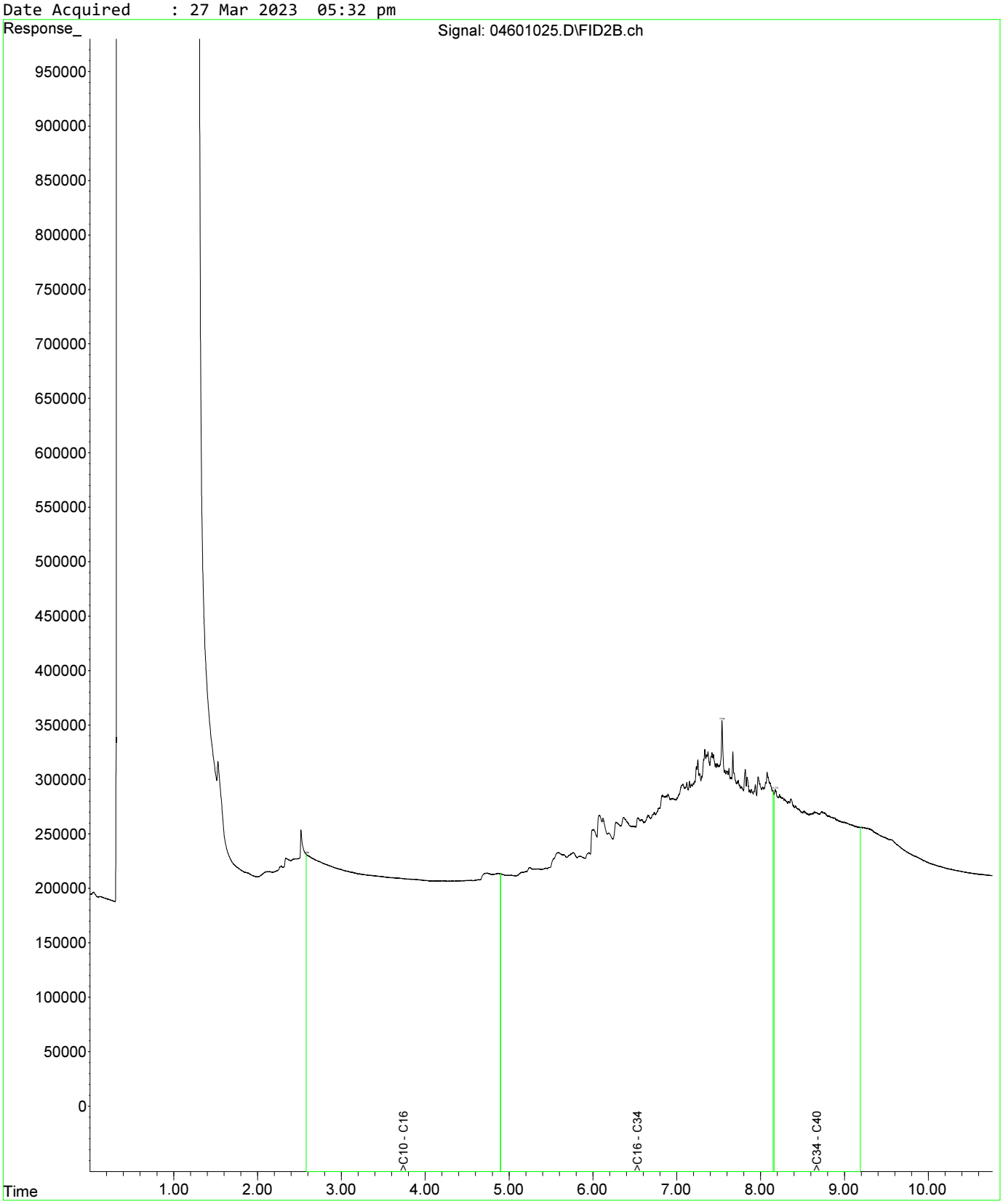

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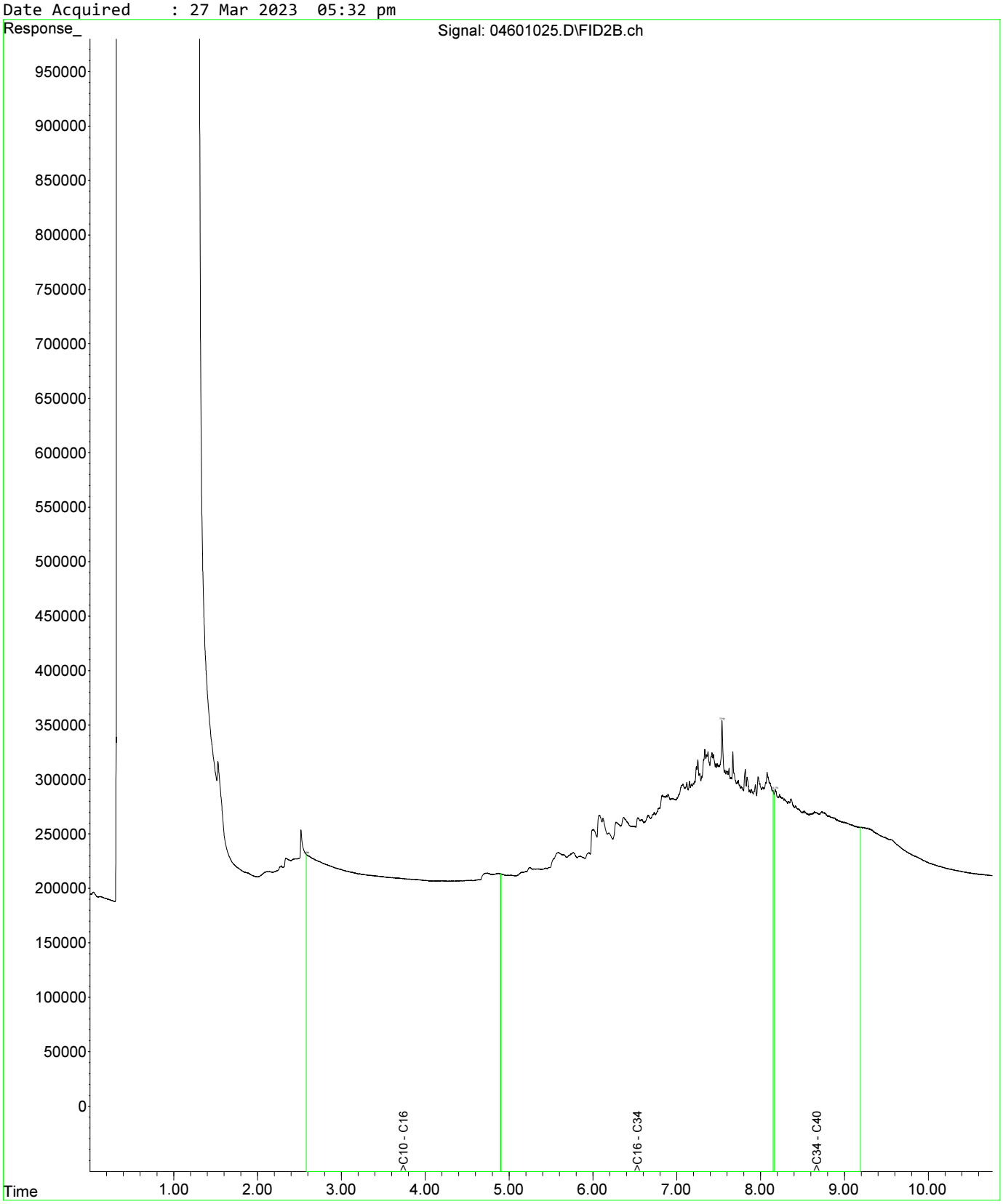

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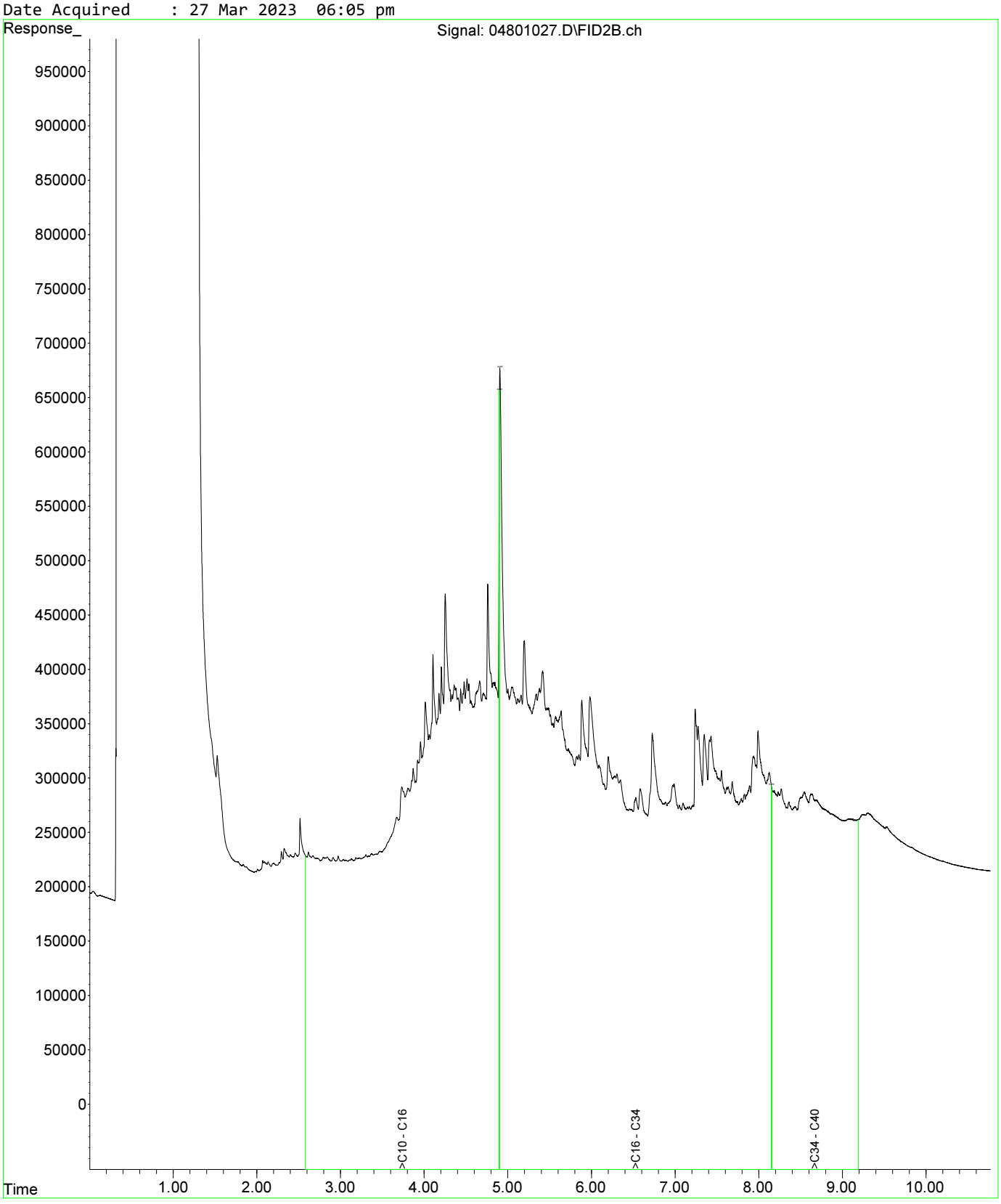

Fraction Scheme : NEPM DRAFT HIL
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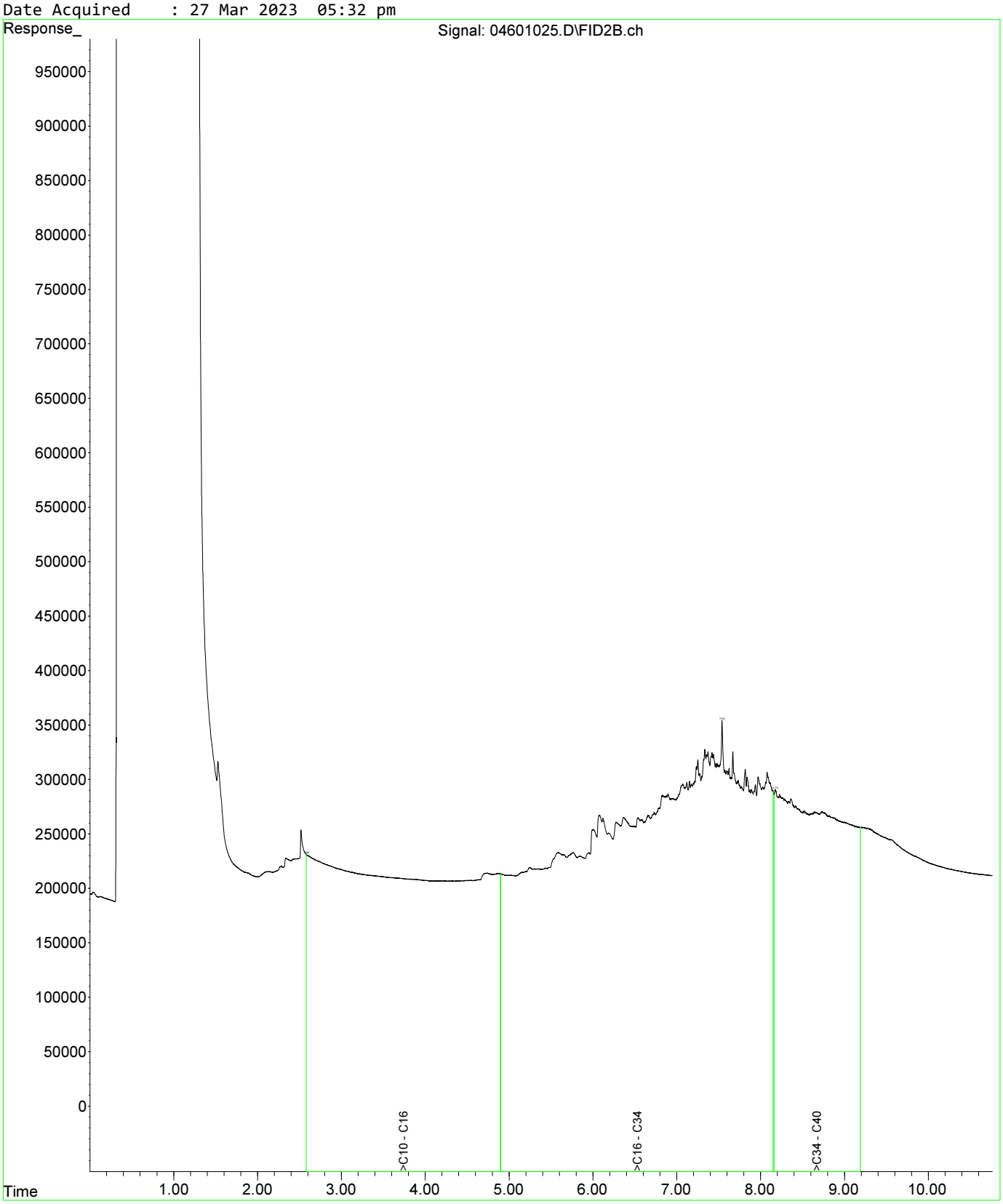

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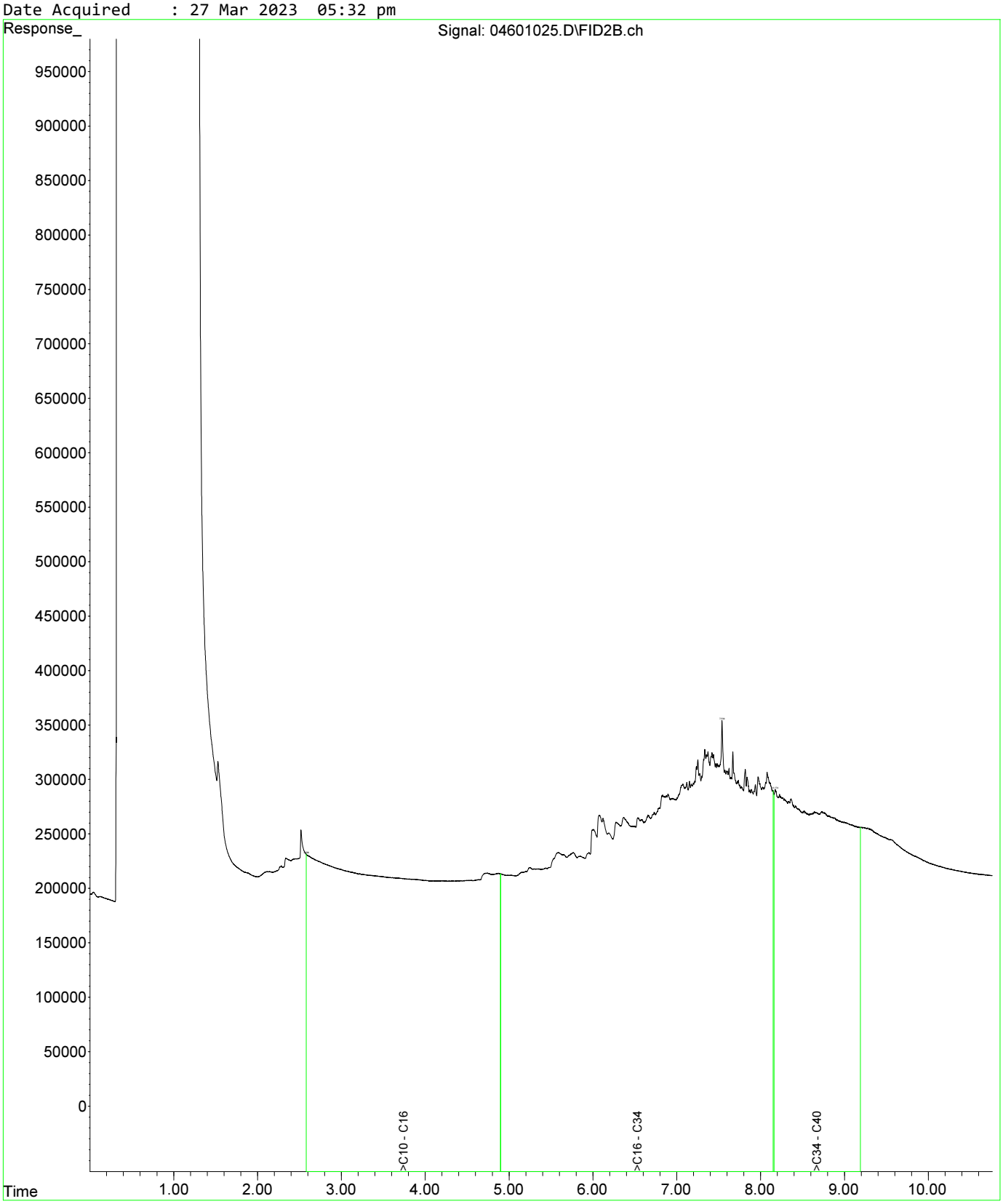

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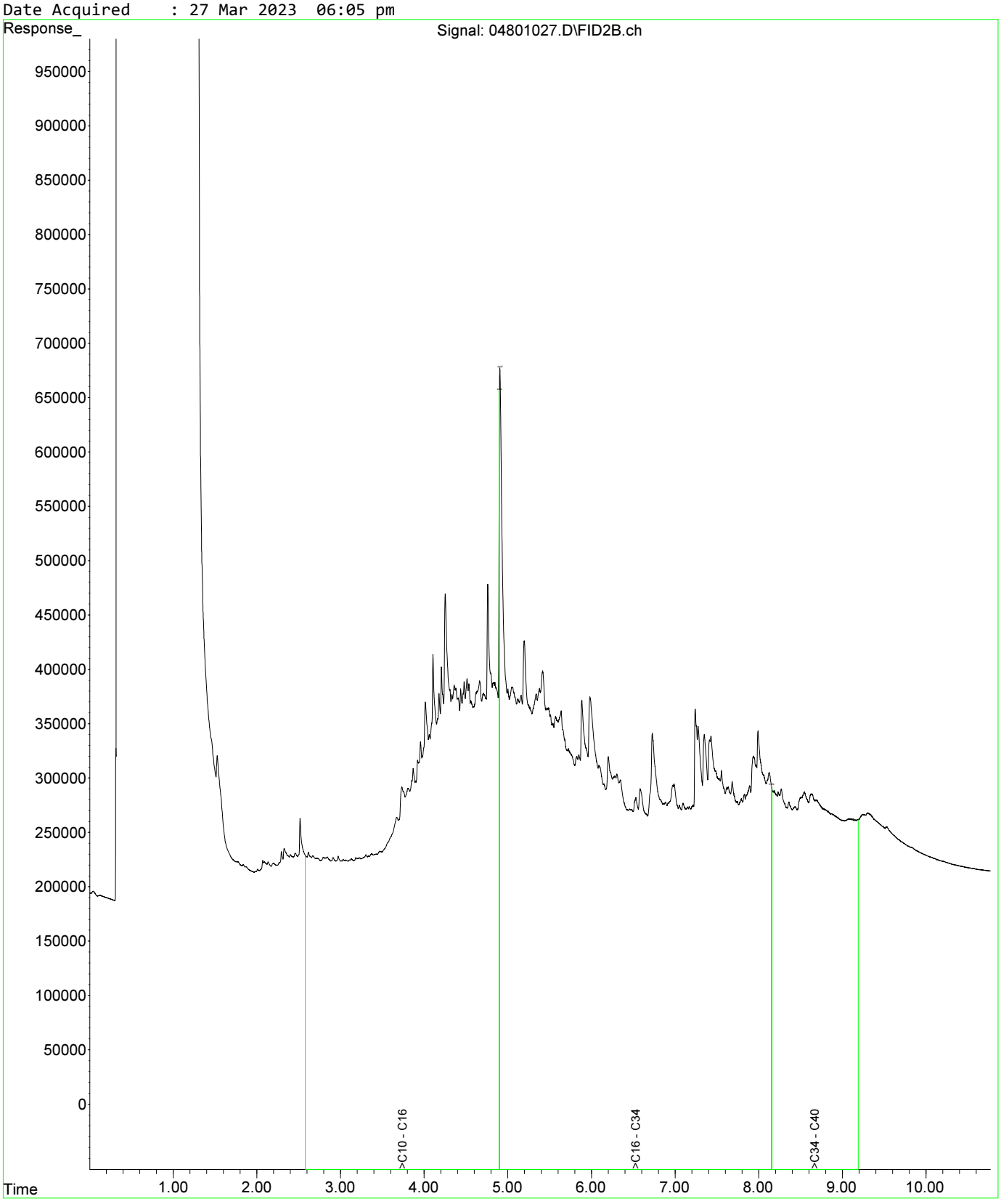

Fraction Scheme : NEPM DRAFT HIL
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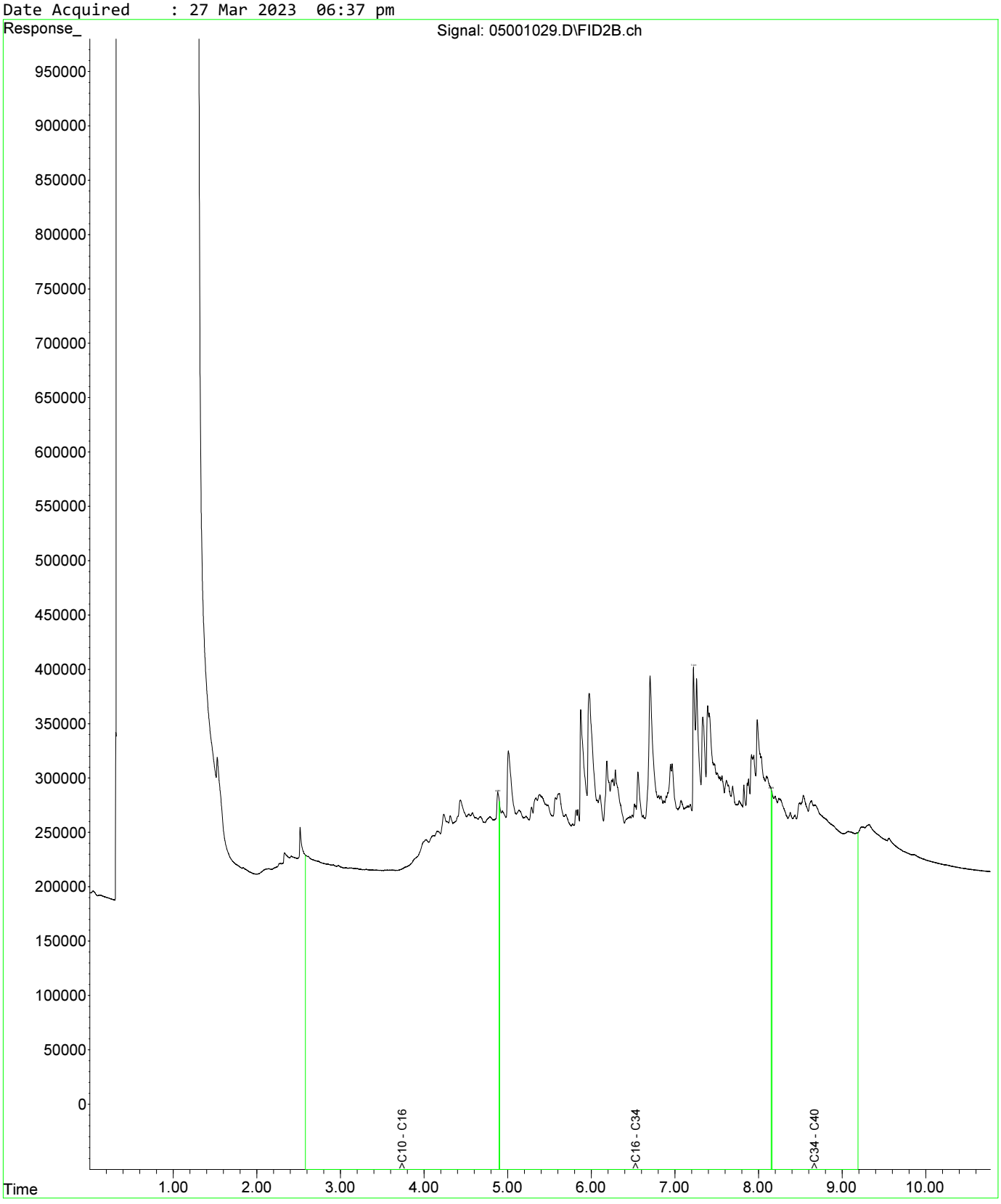
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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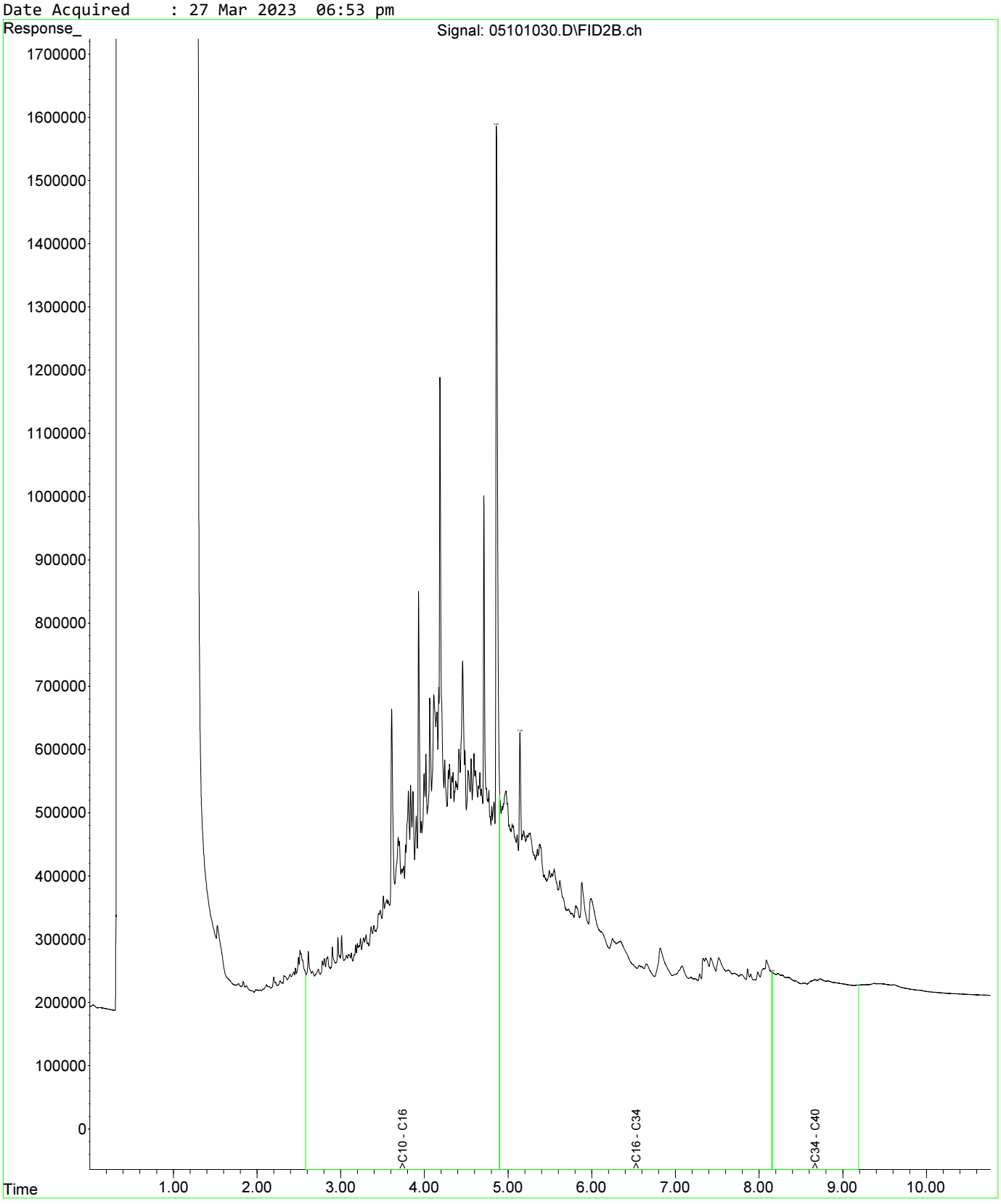

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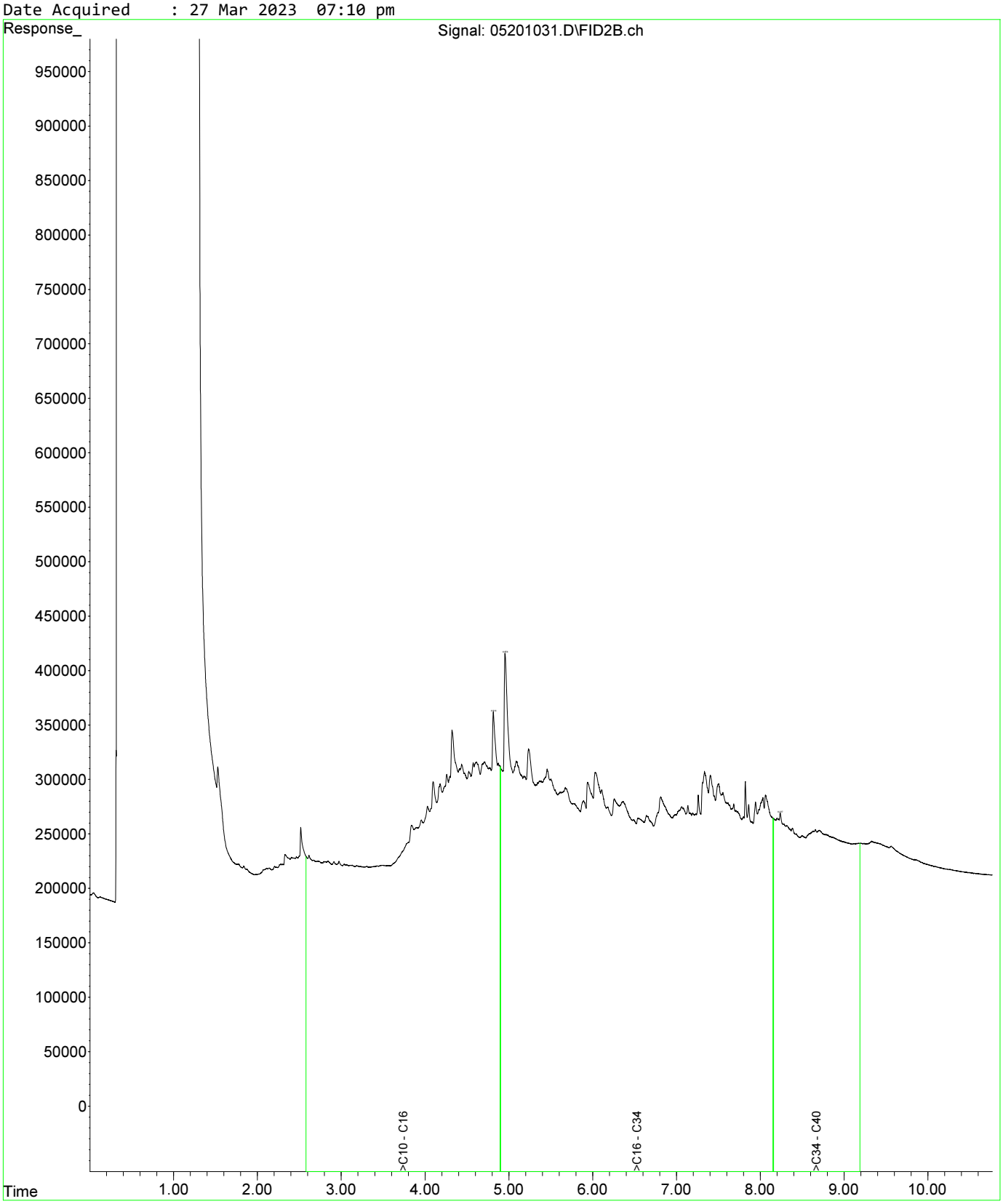

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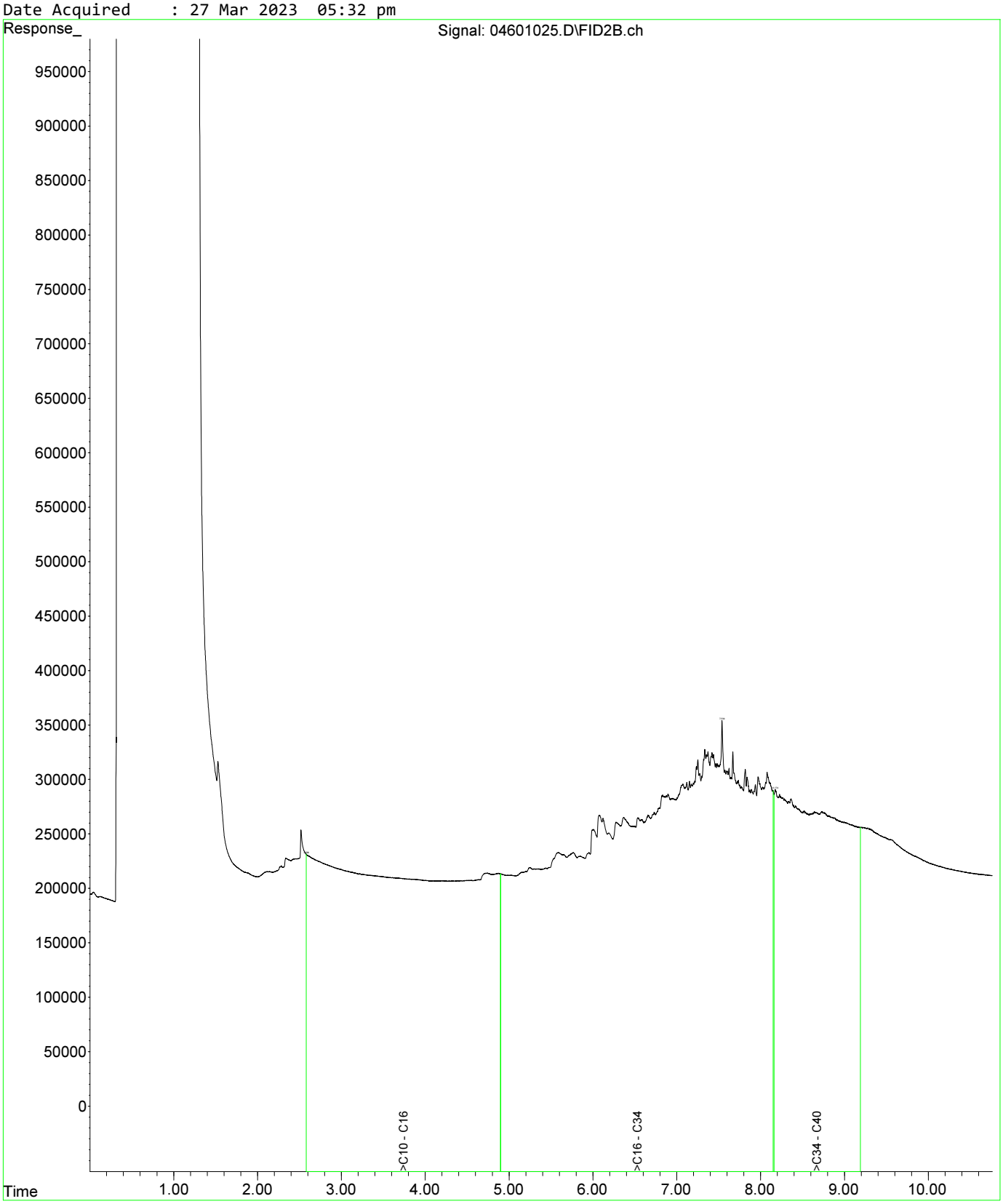

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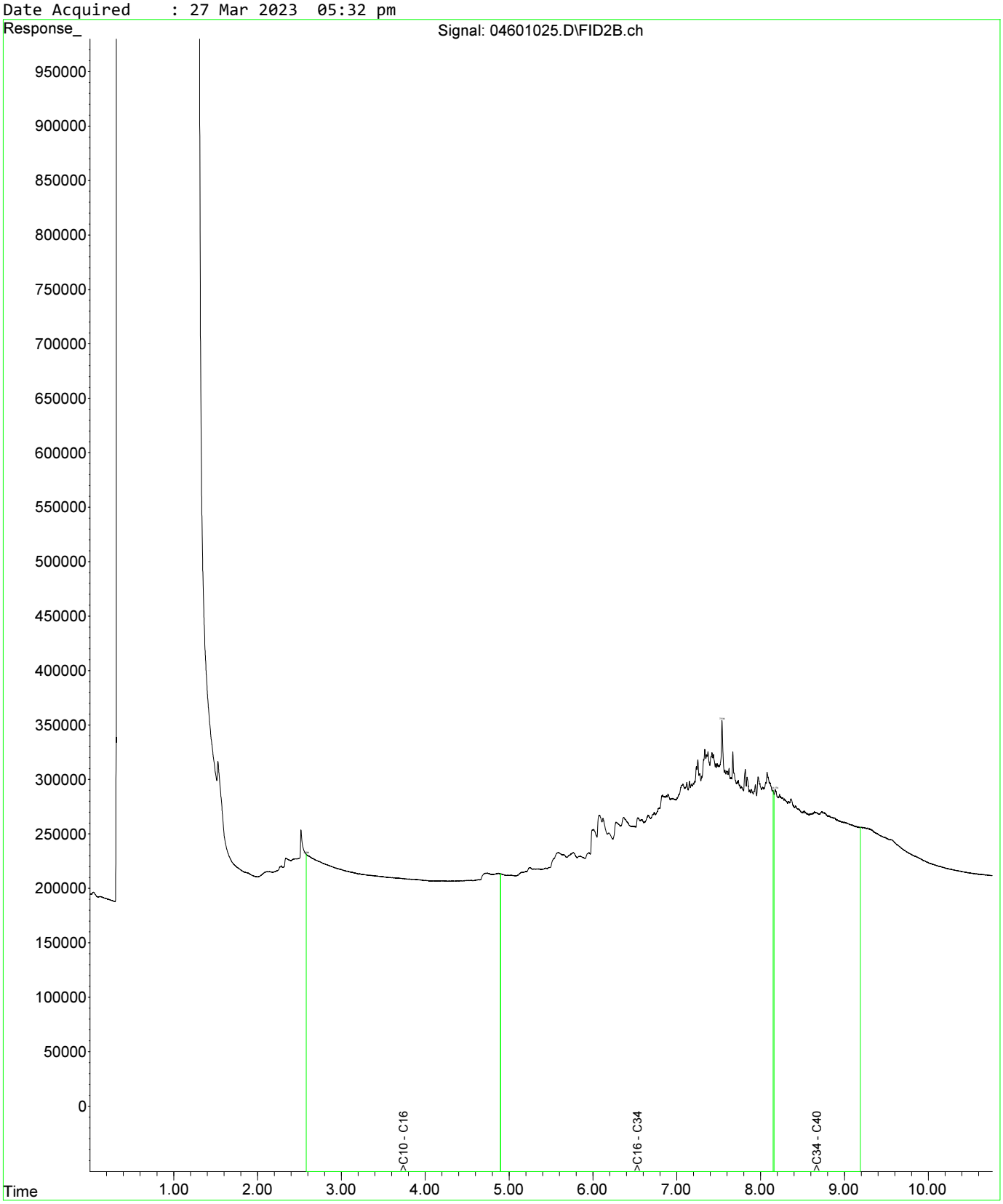

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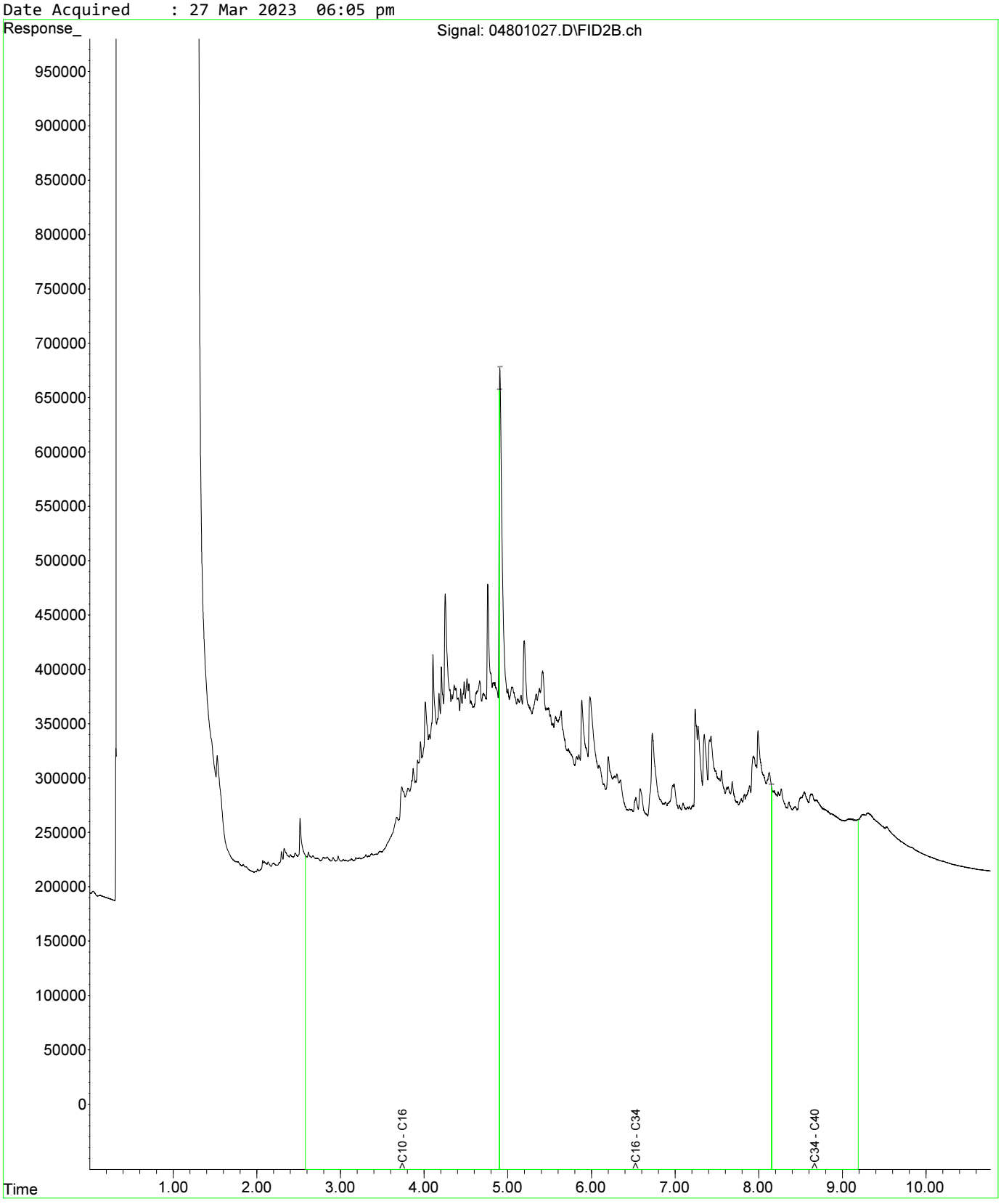

Fraction Scheme : NEPM DRAFT HIL
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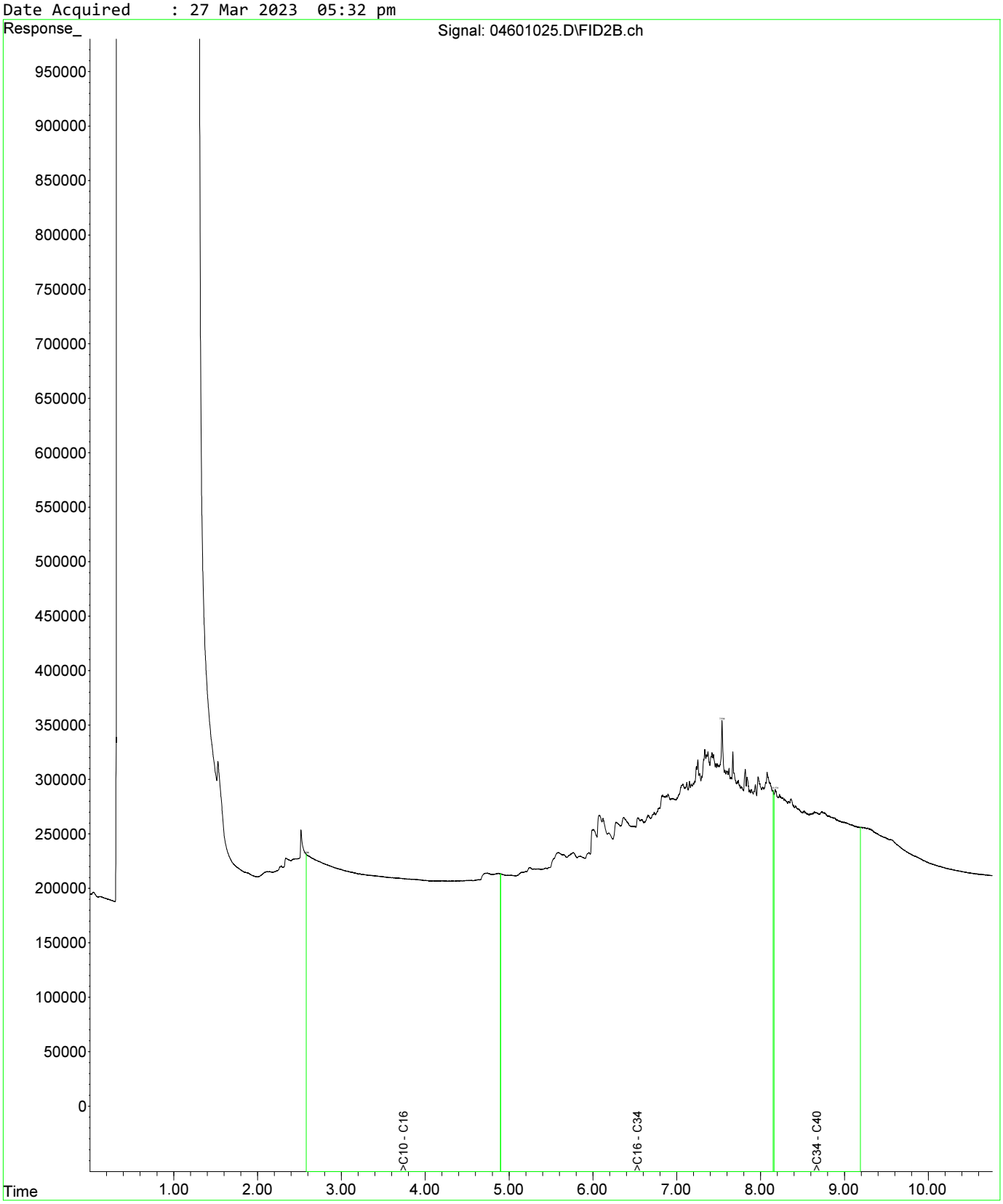

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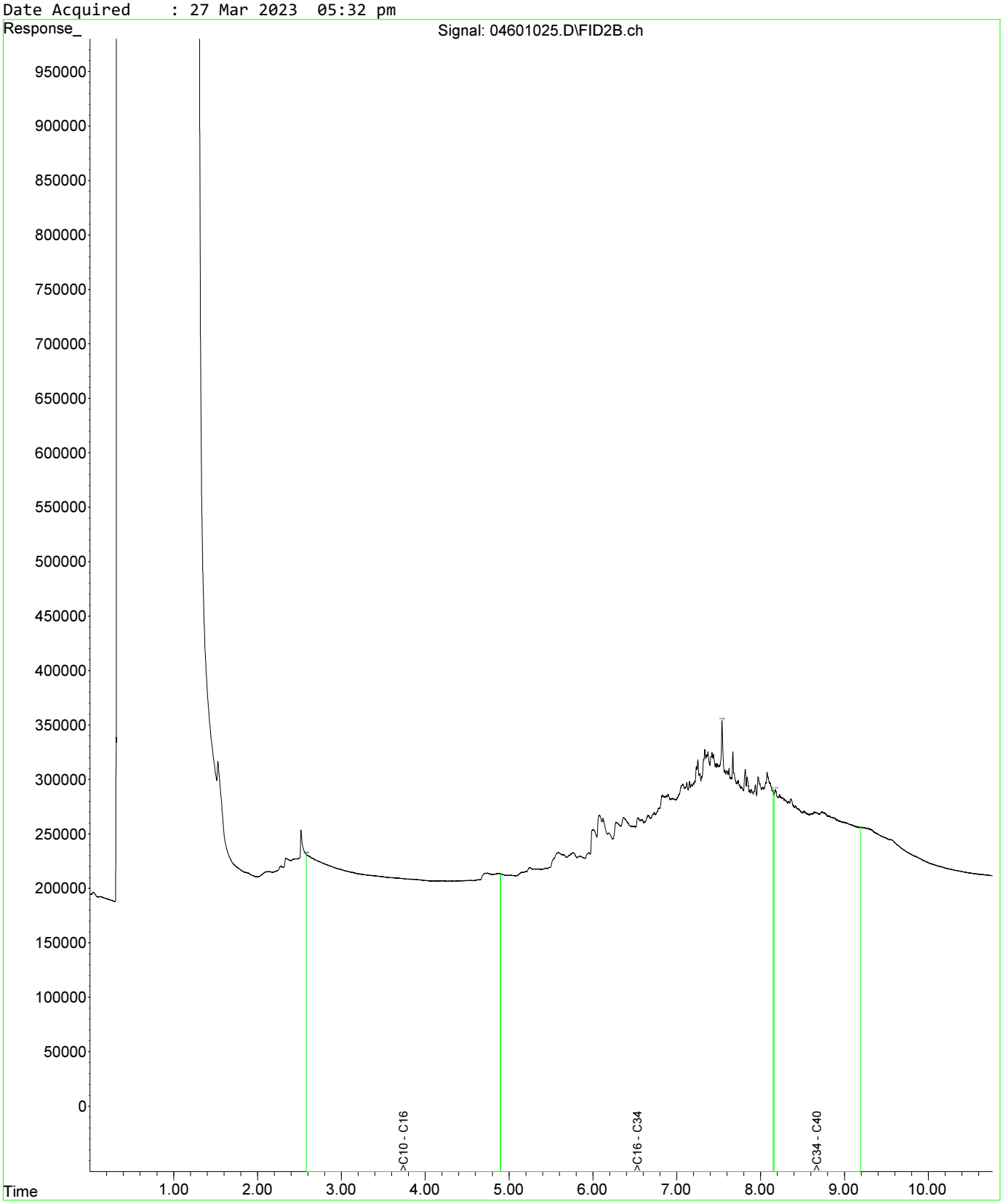

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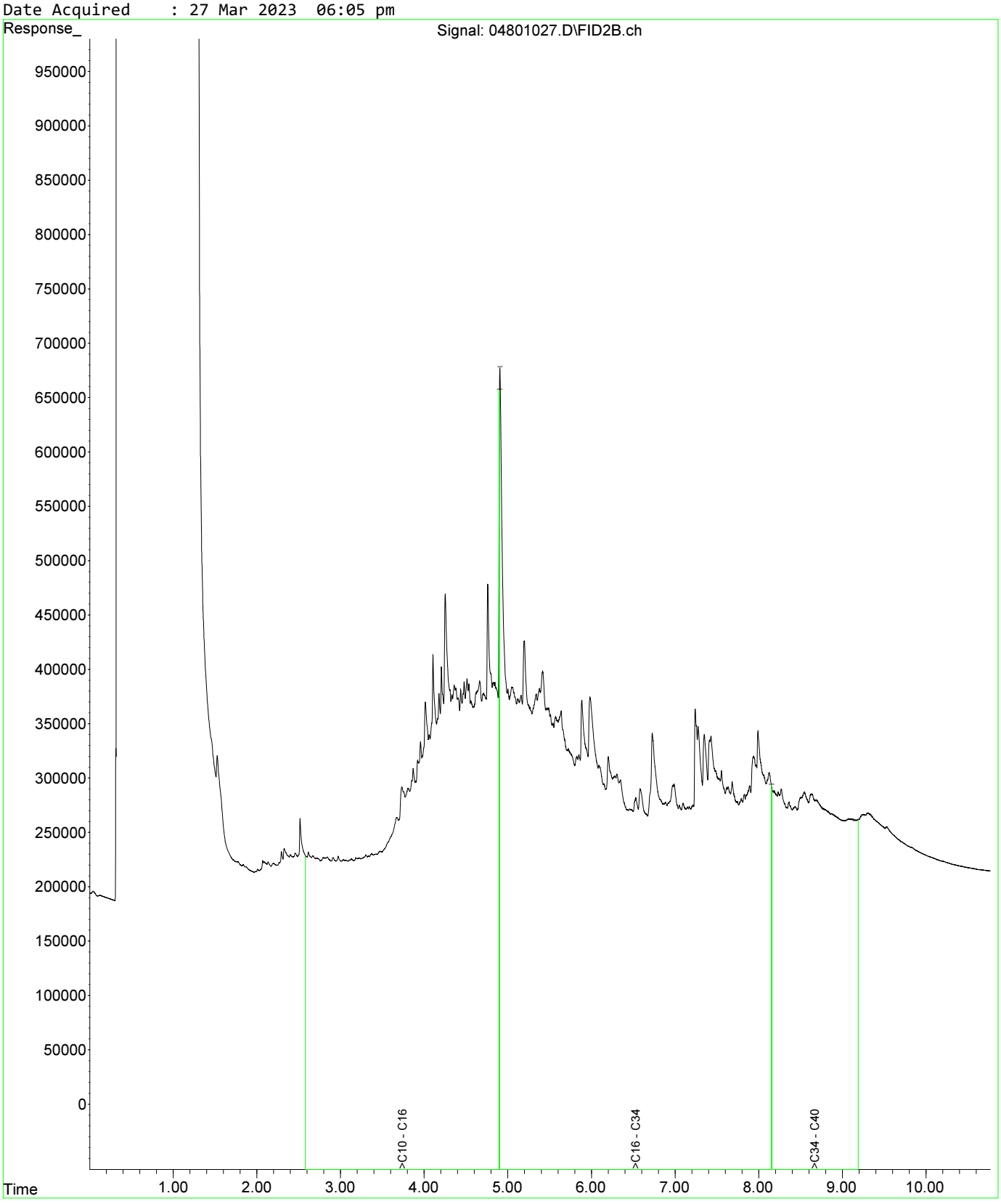

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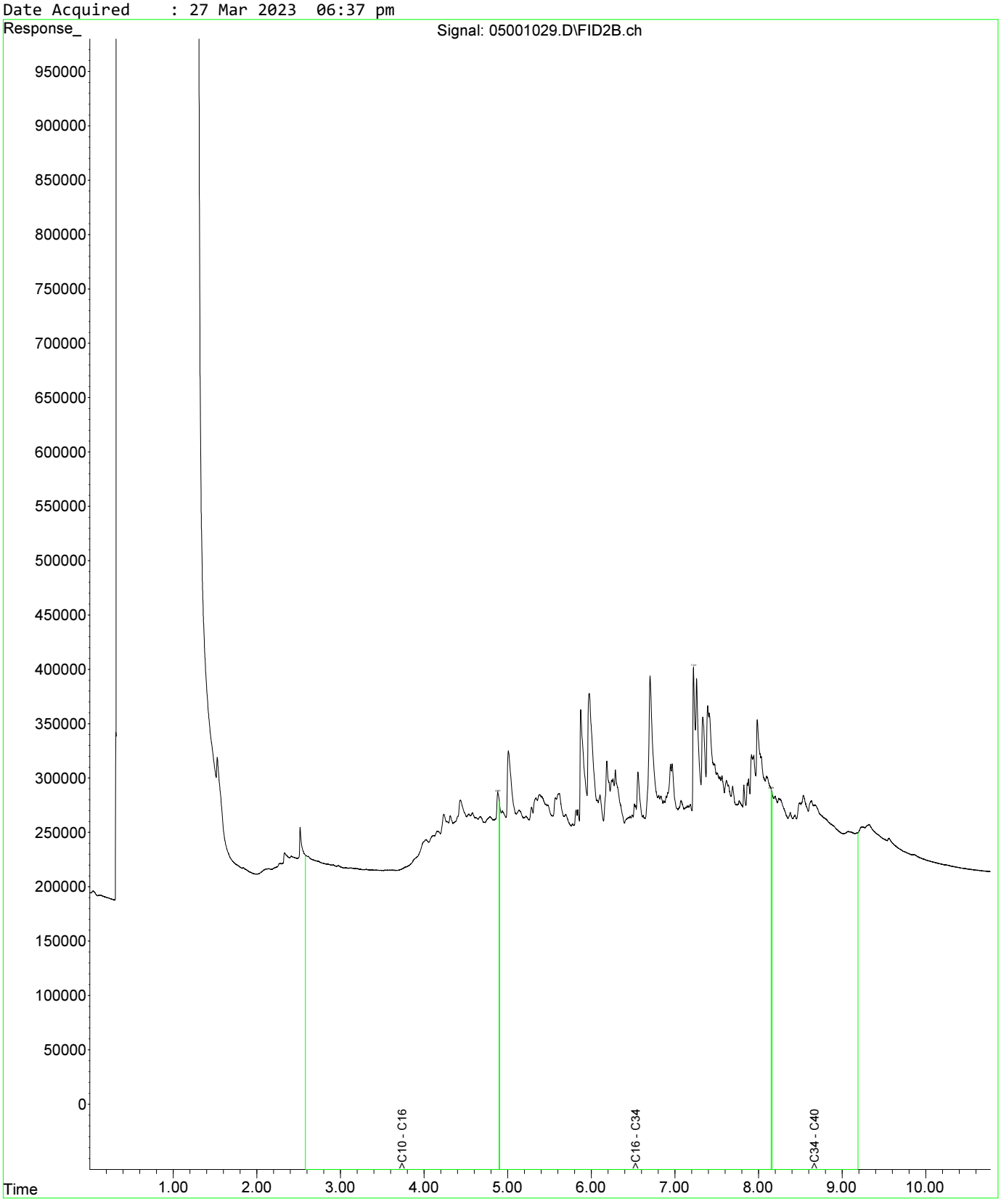

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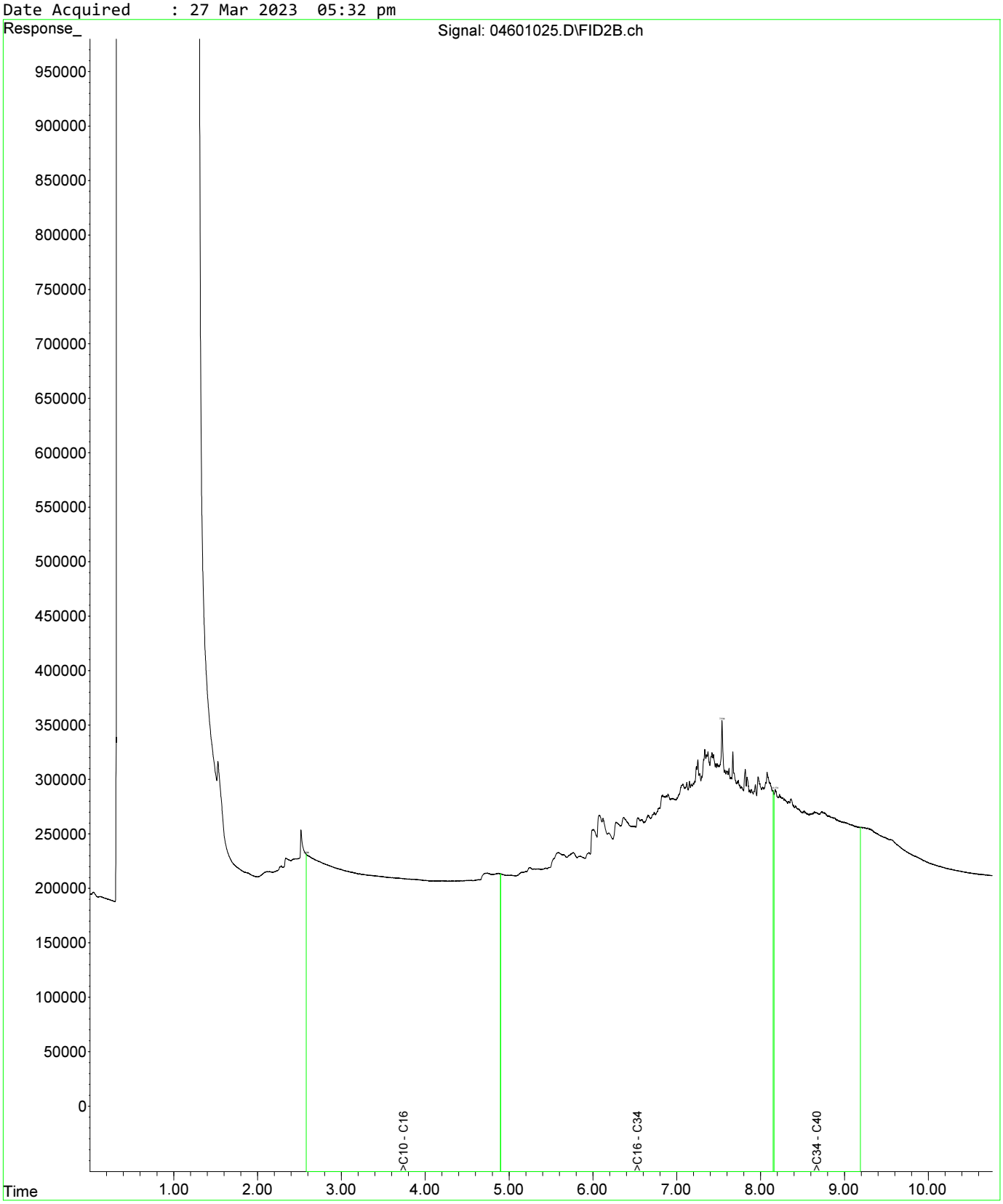

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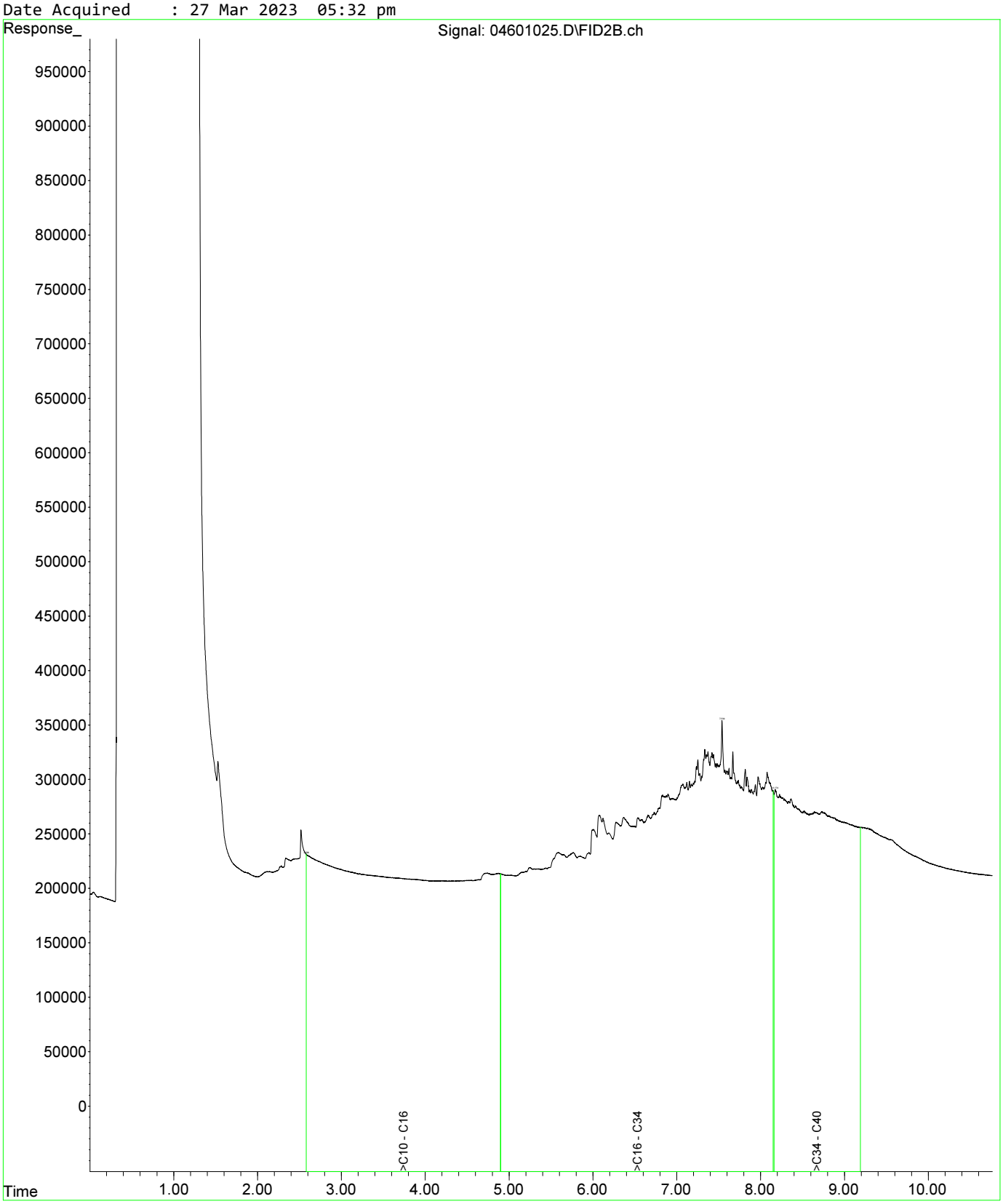

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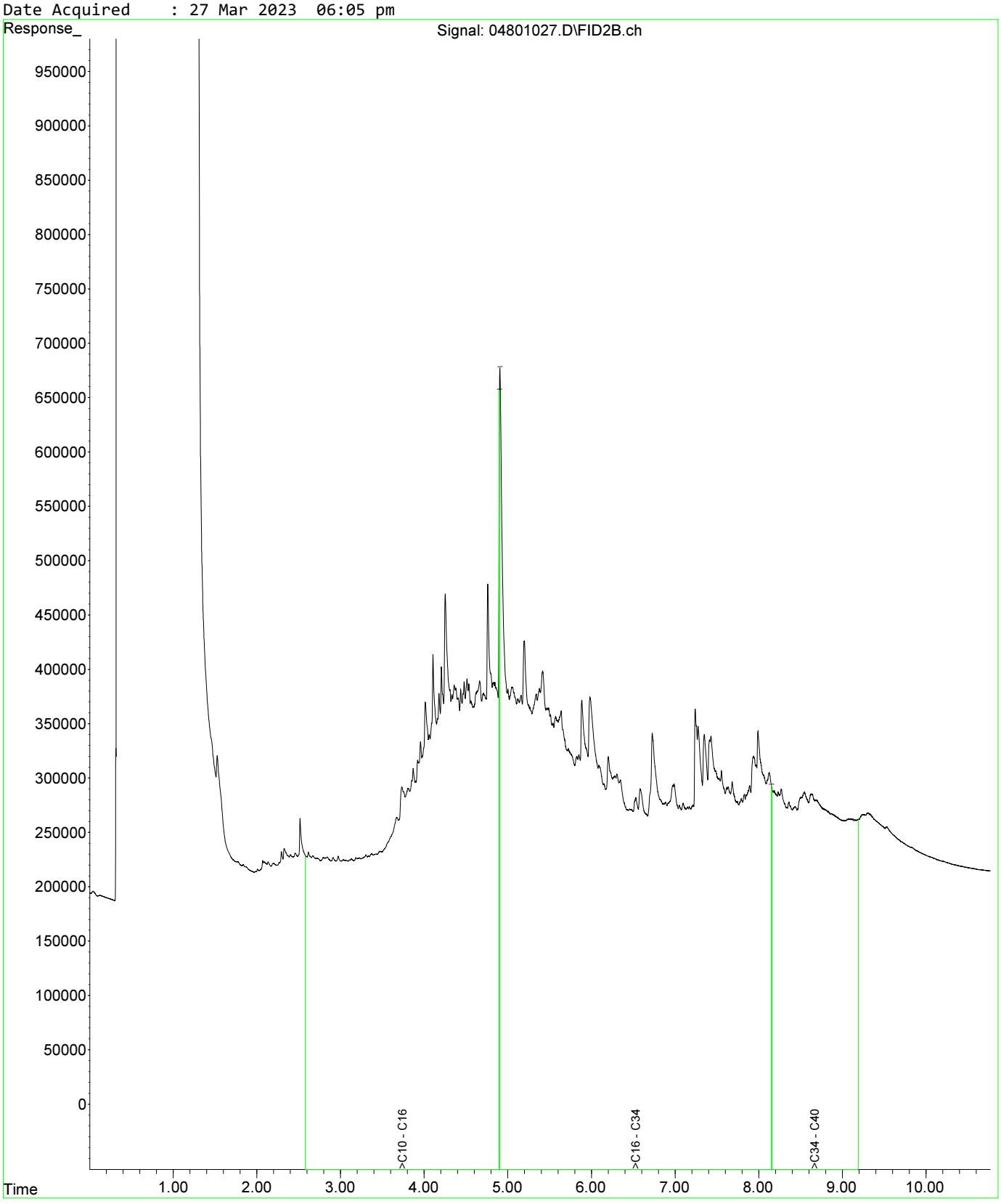

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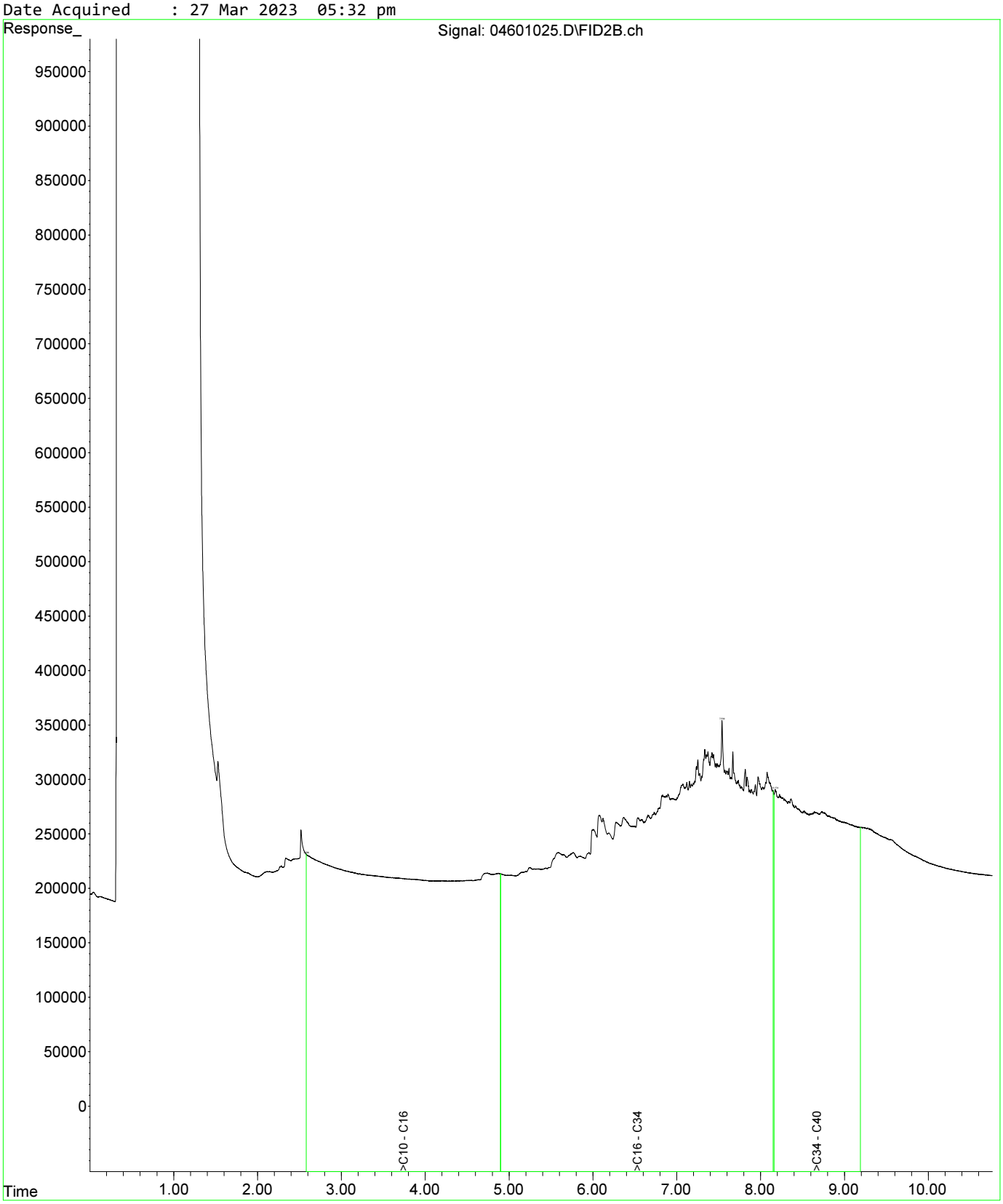

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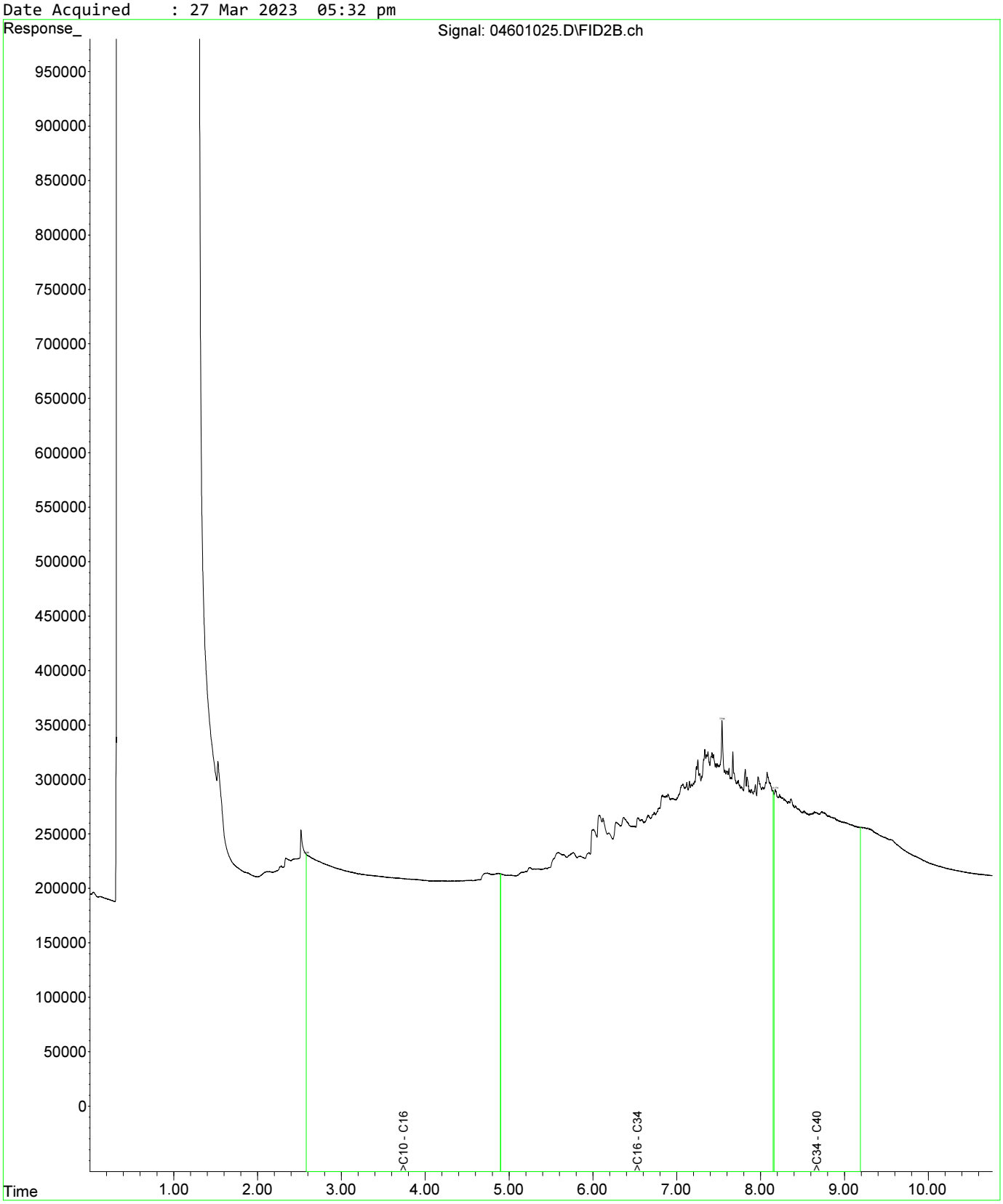

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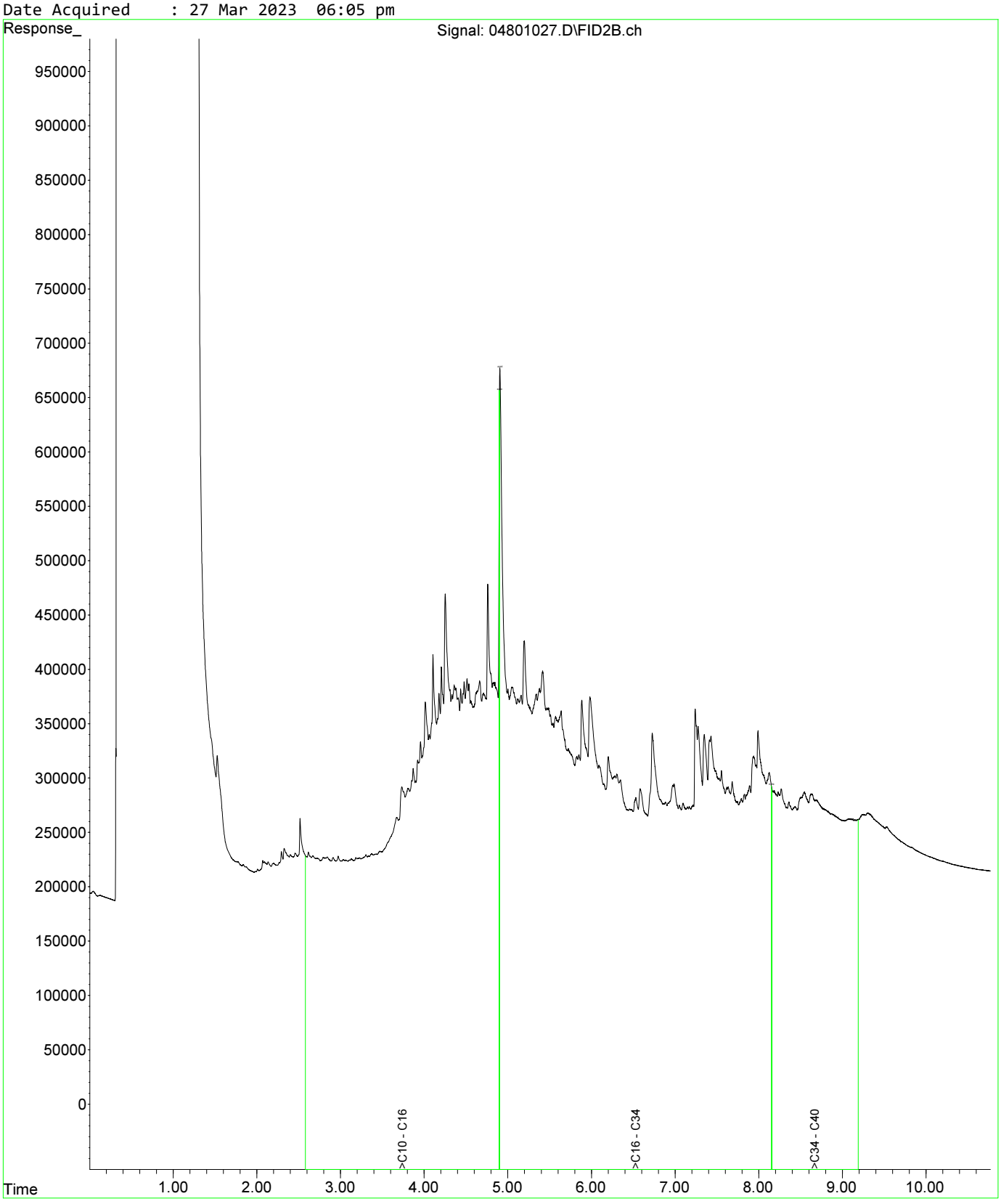

Fraction Scheme : NEPM DRAFT HIL
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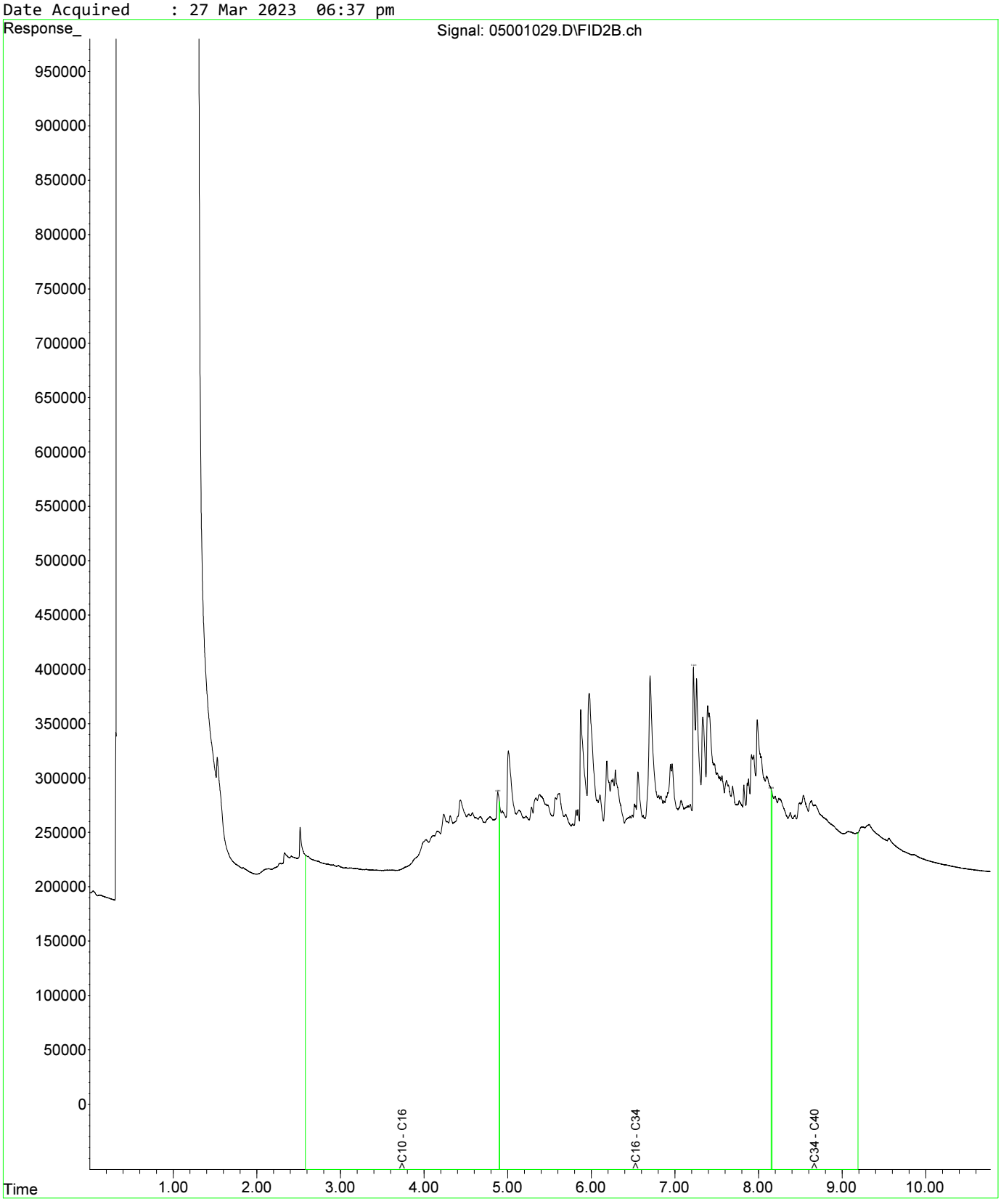

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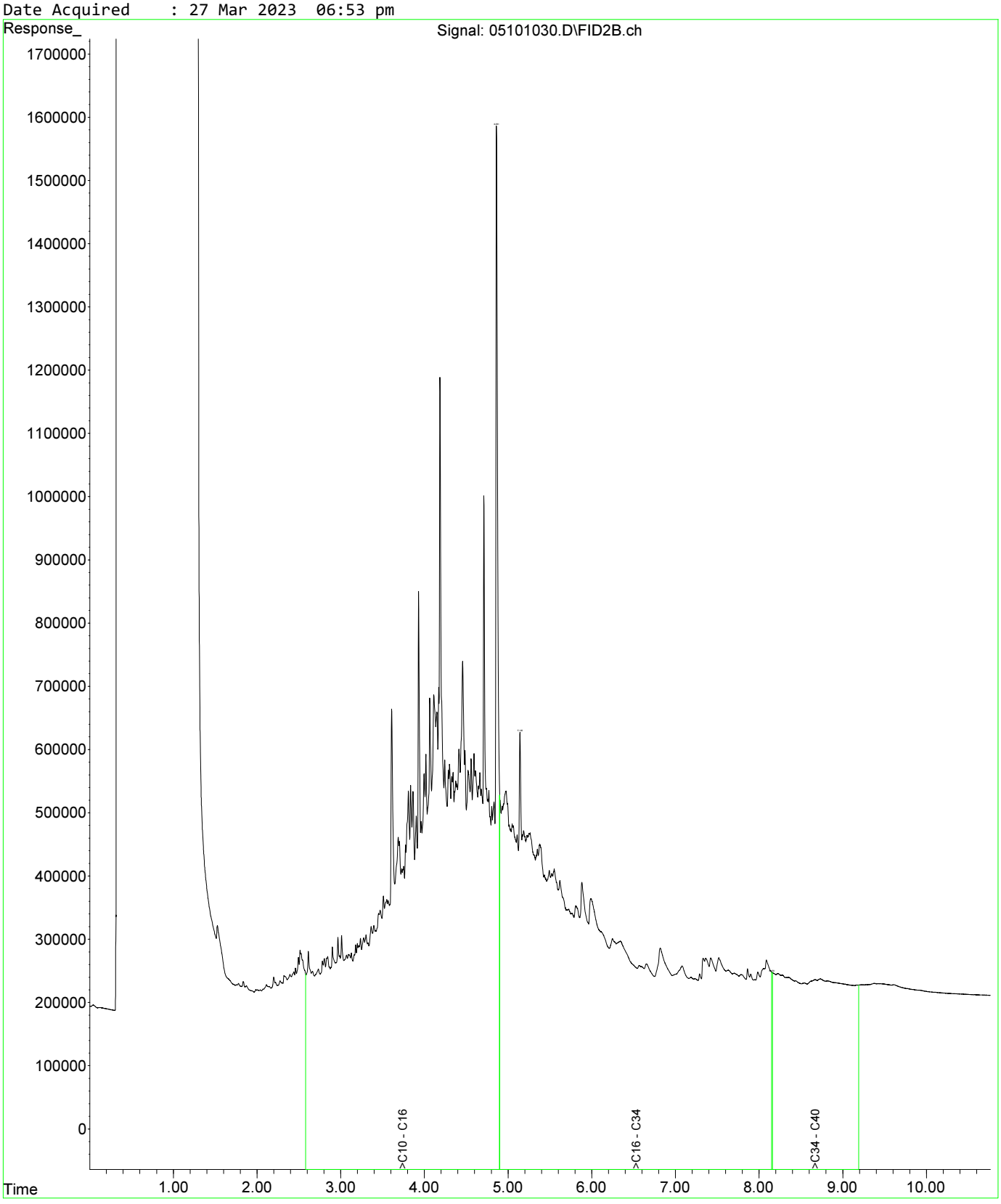

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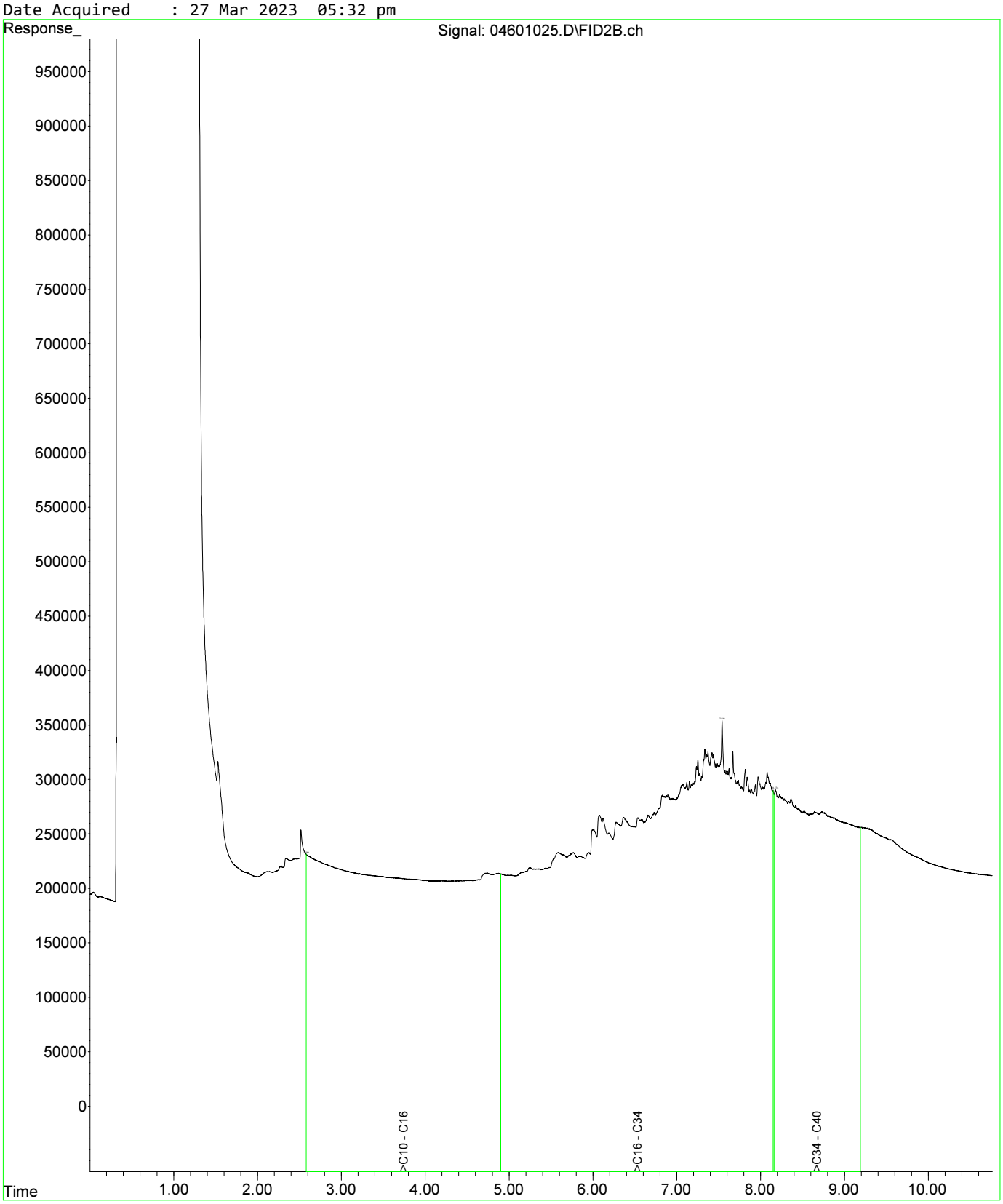
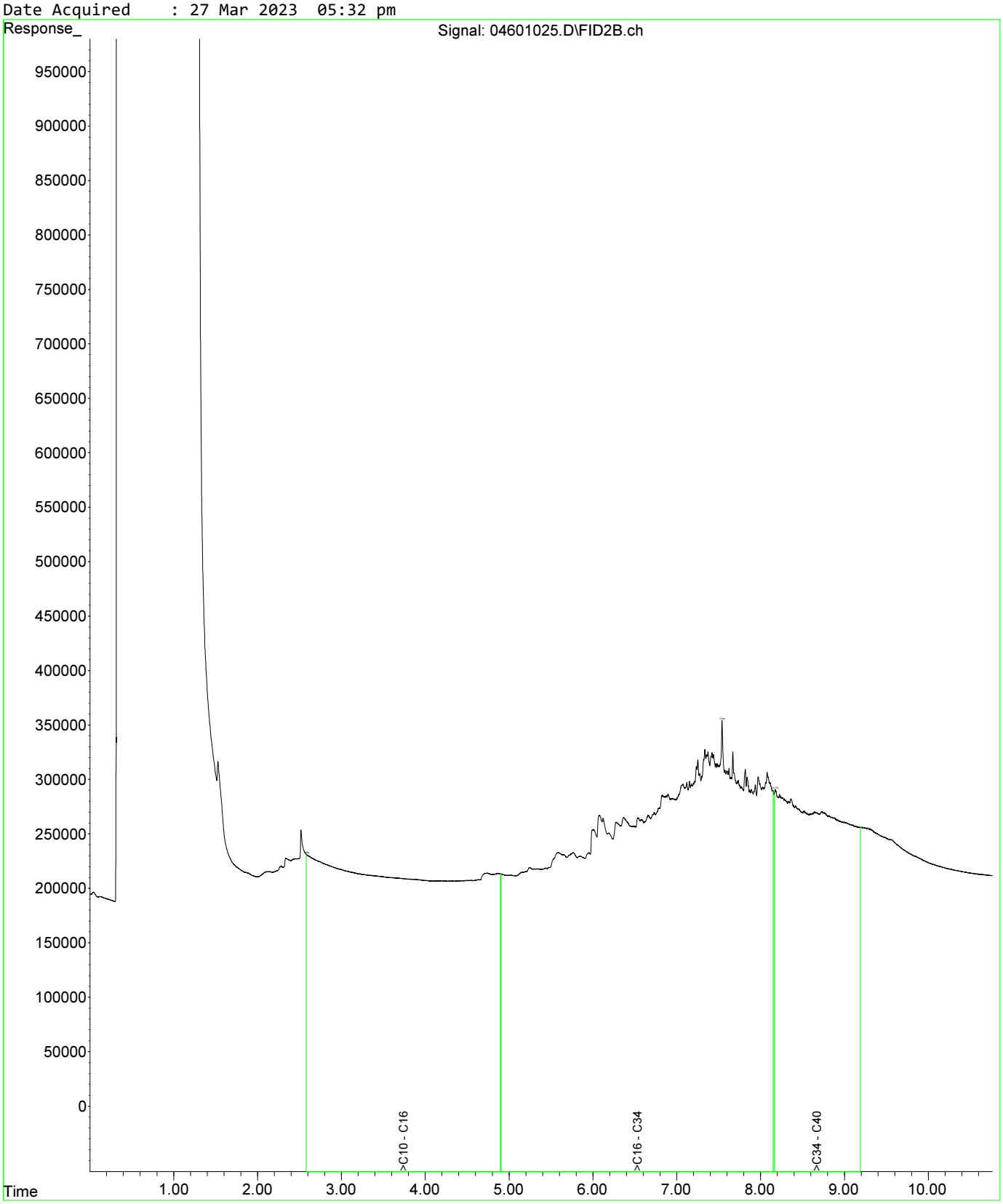
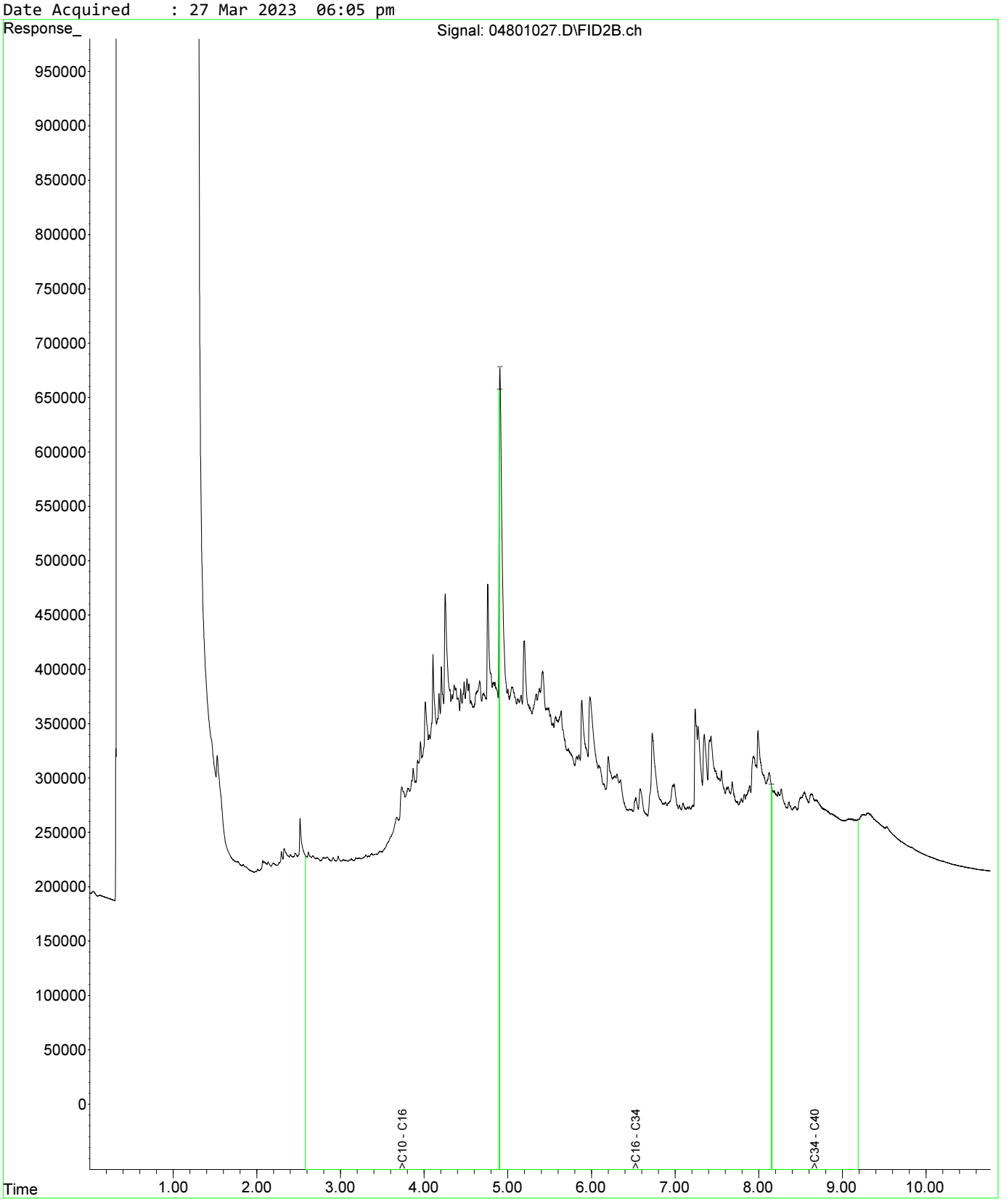
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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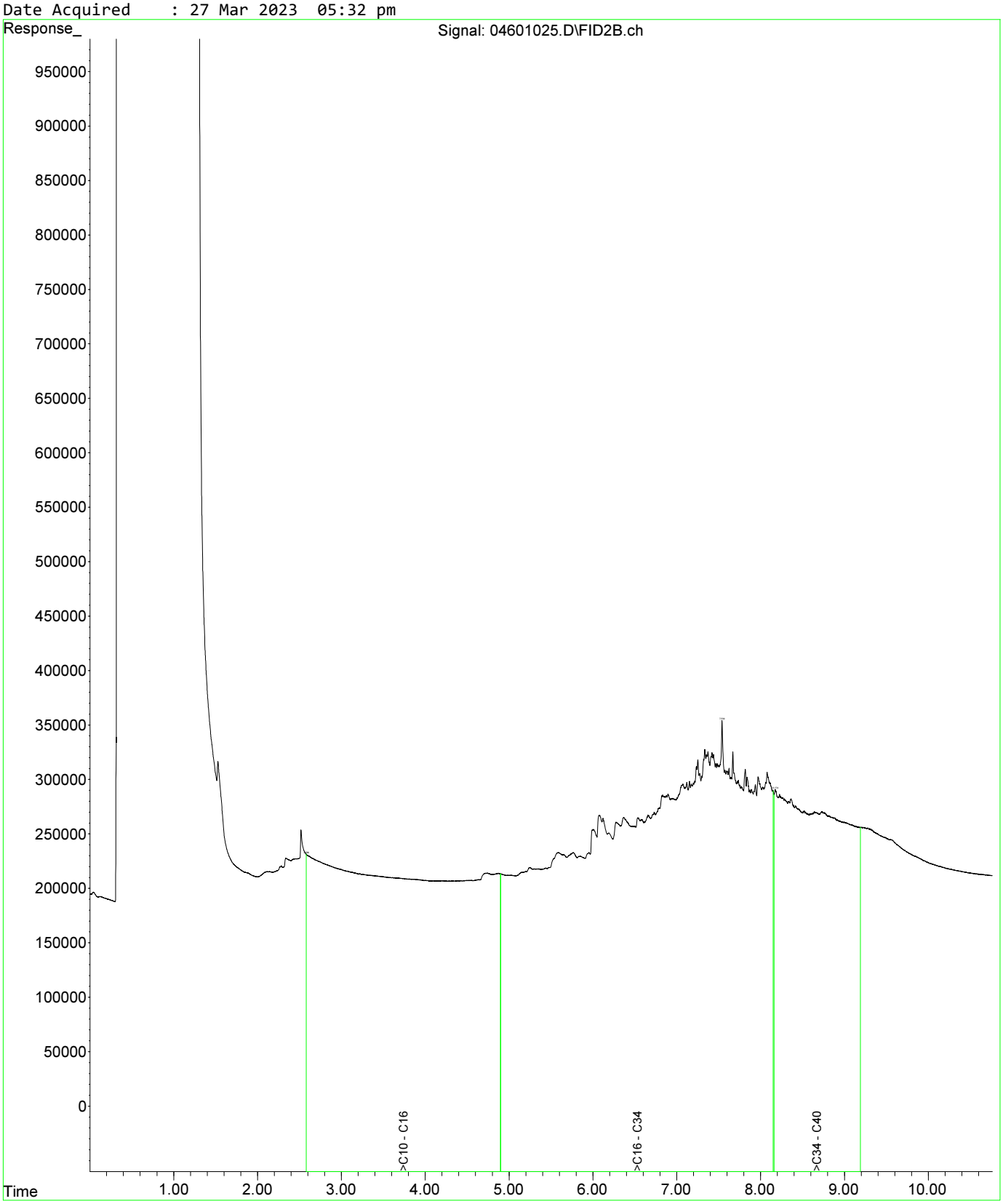

Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
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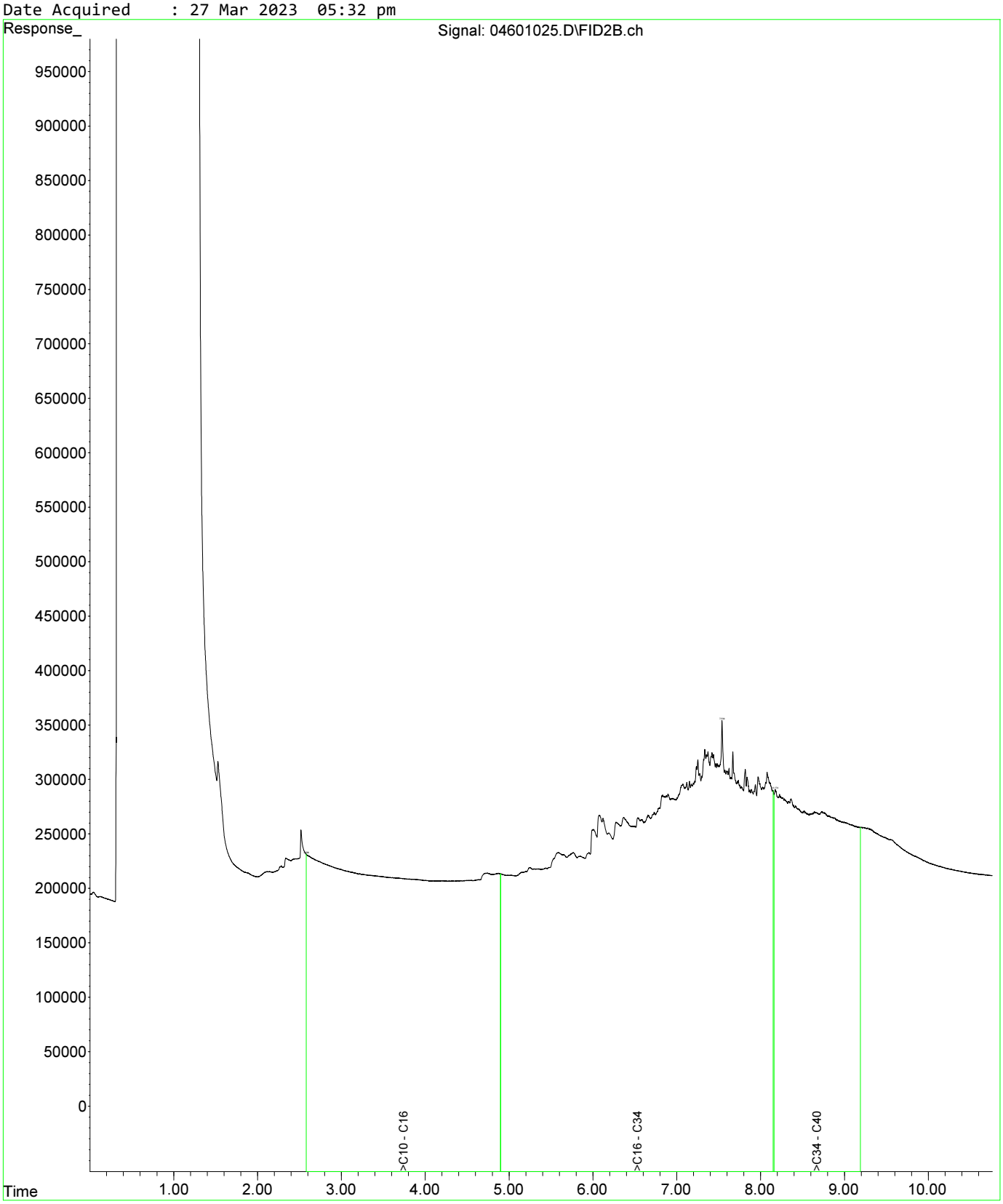

Fraction Scheme : NEPM DRAFT HIL
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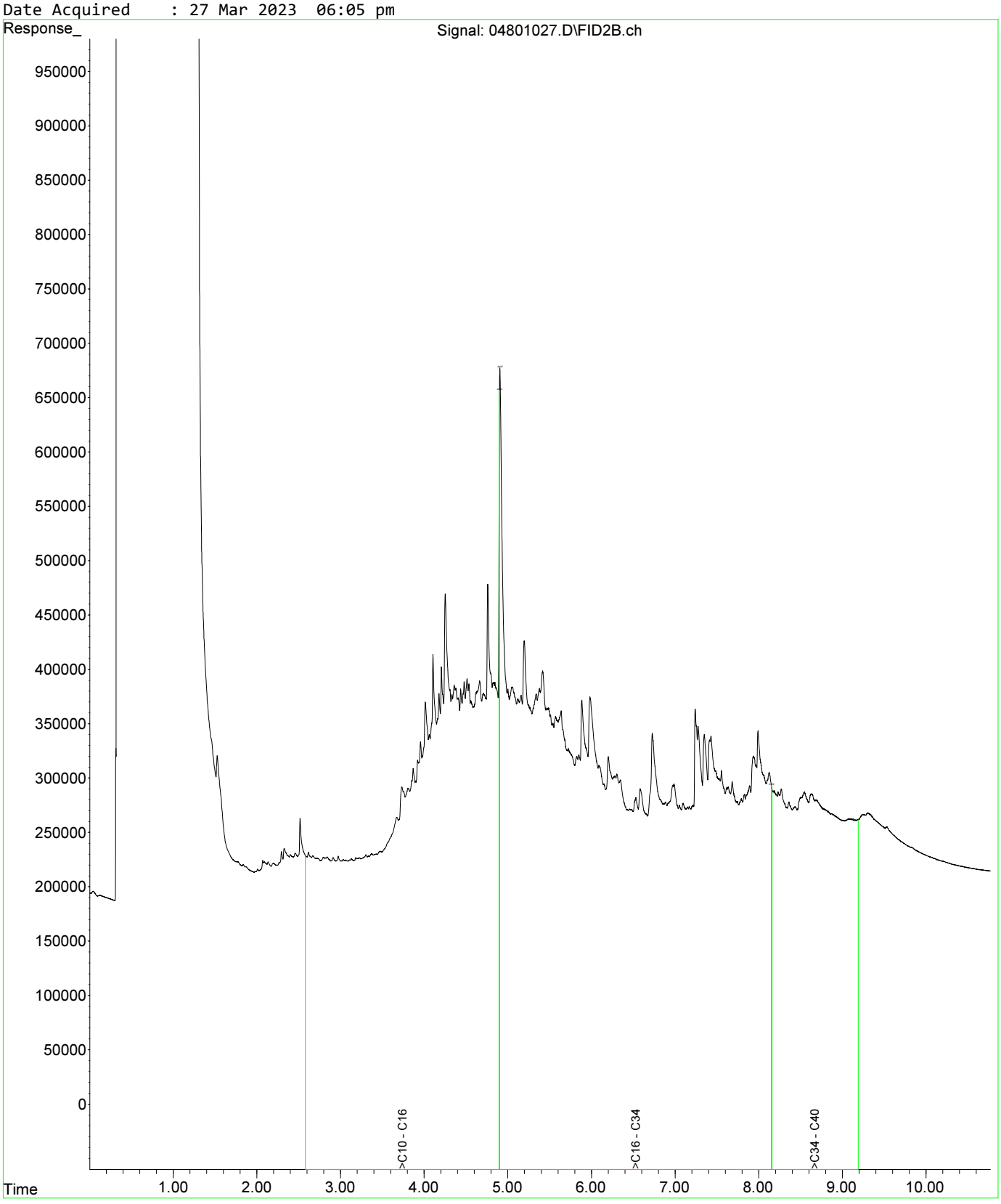
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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Laboratory Number: EM2305209-021
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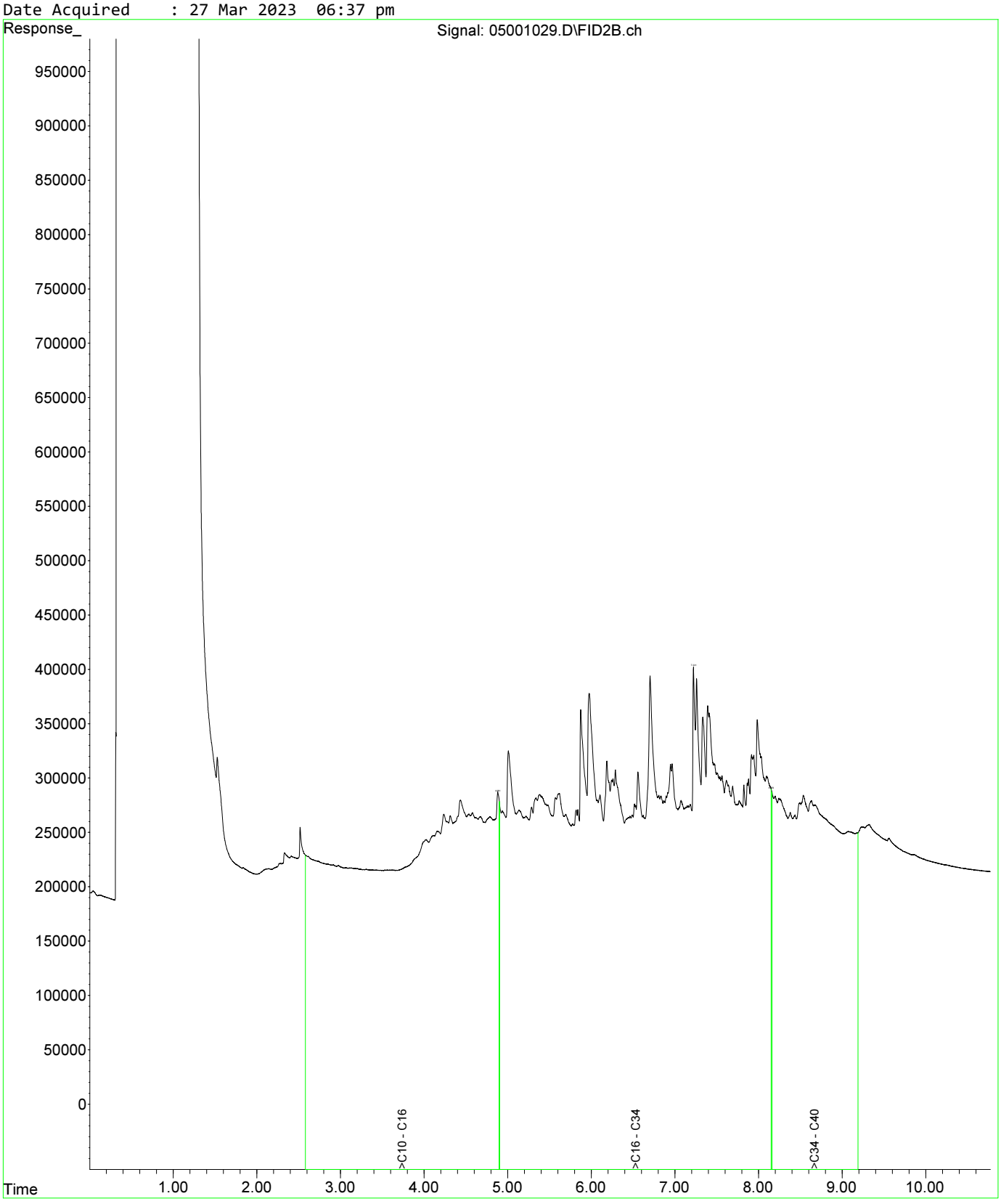
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : NEPM DRAFT HIL
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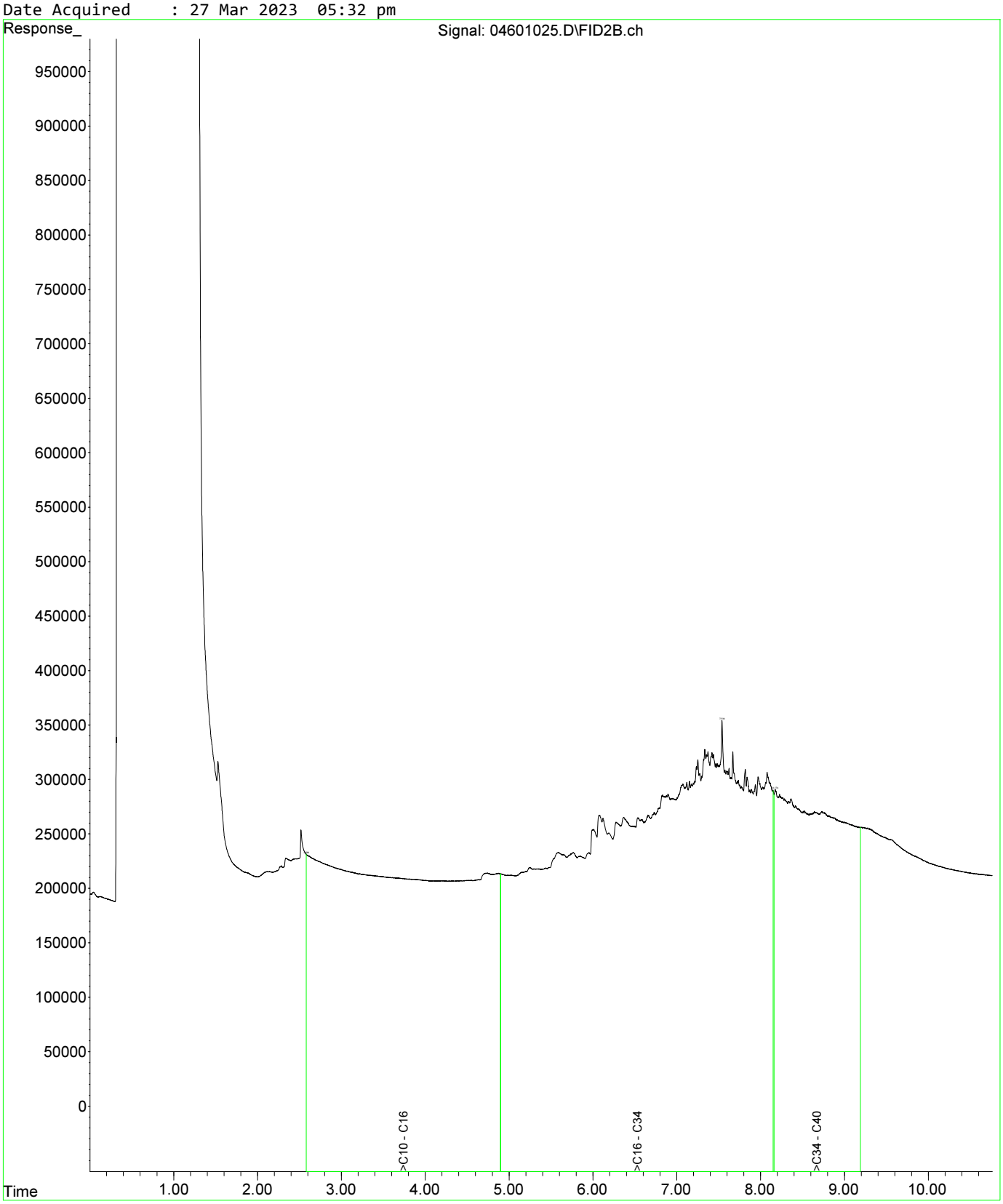

Fraction Scheme : NEPM DRAFT HIL
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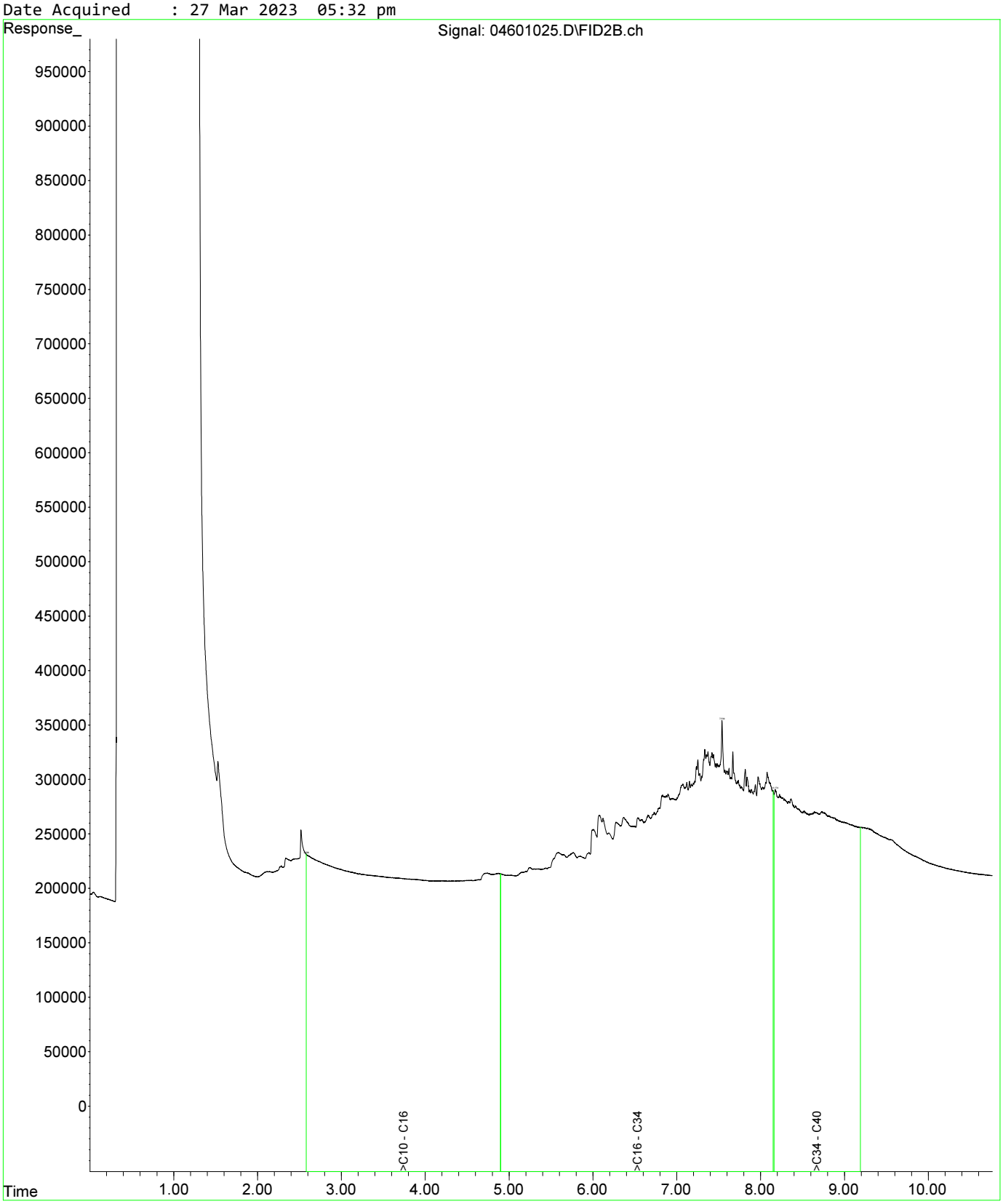
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
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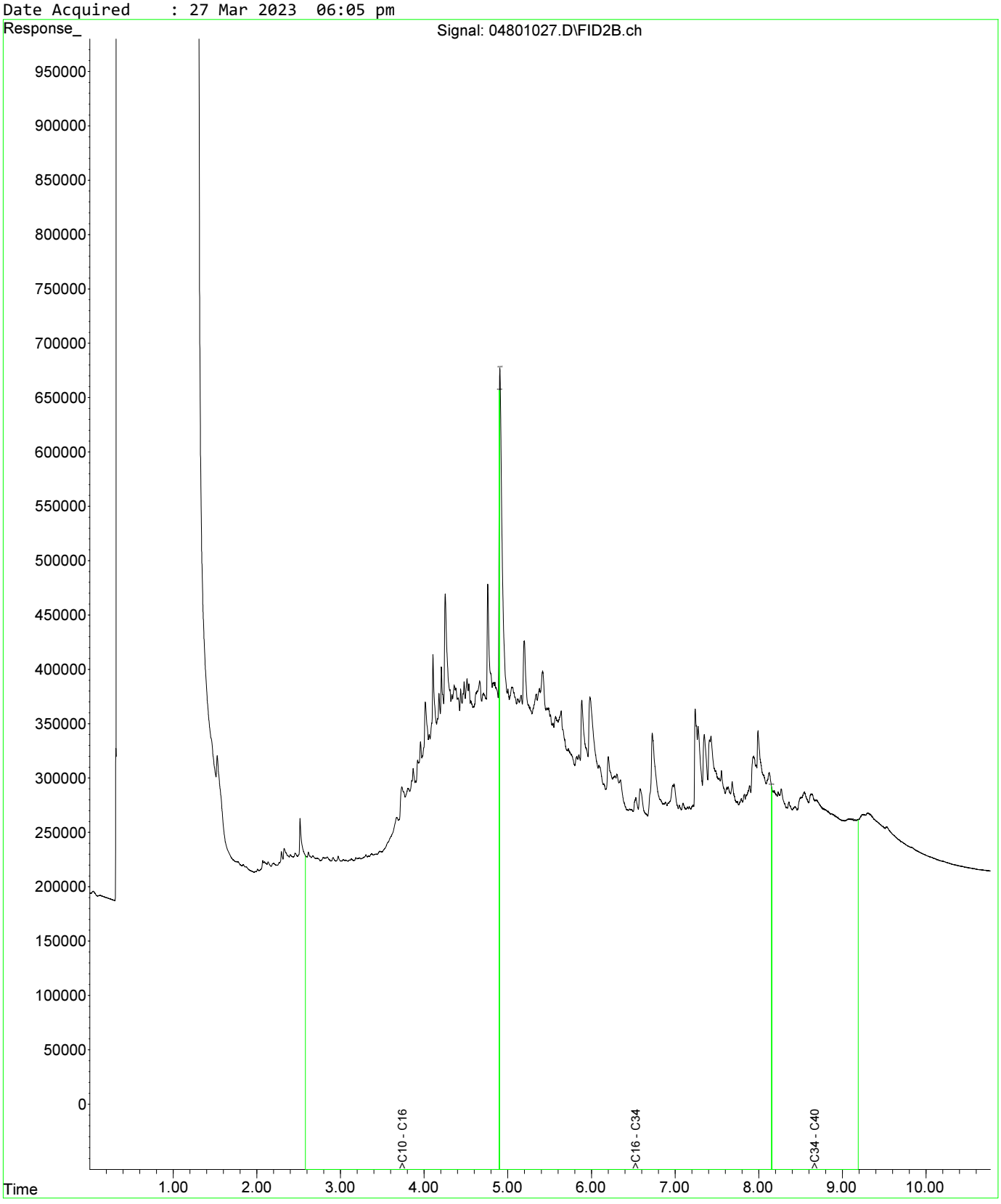
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
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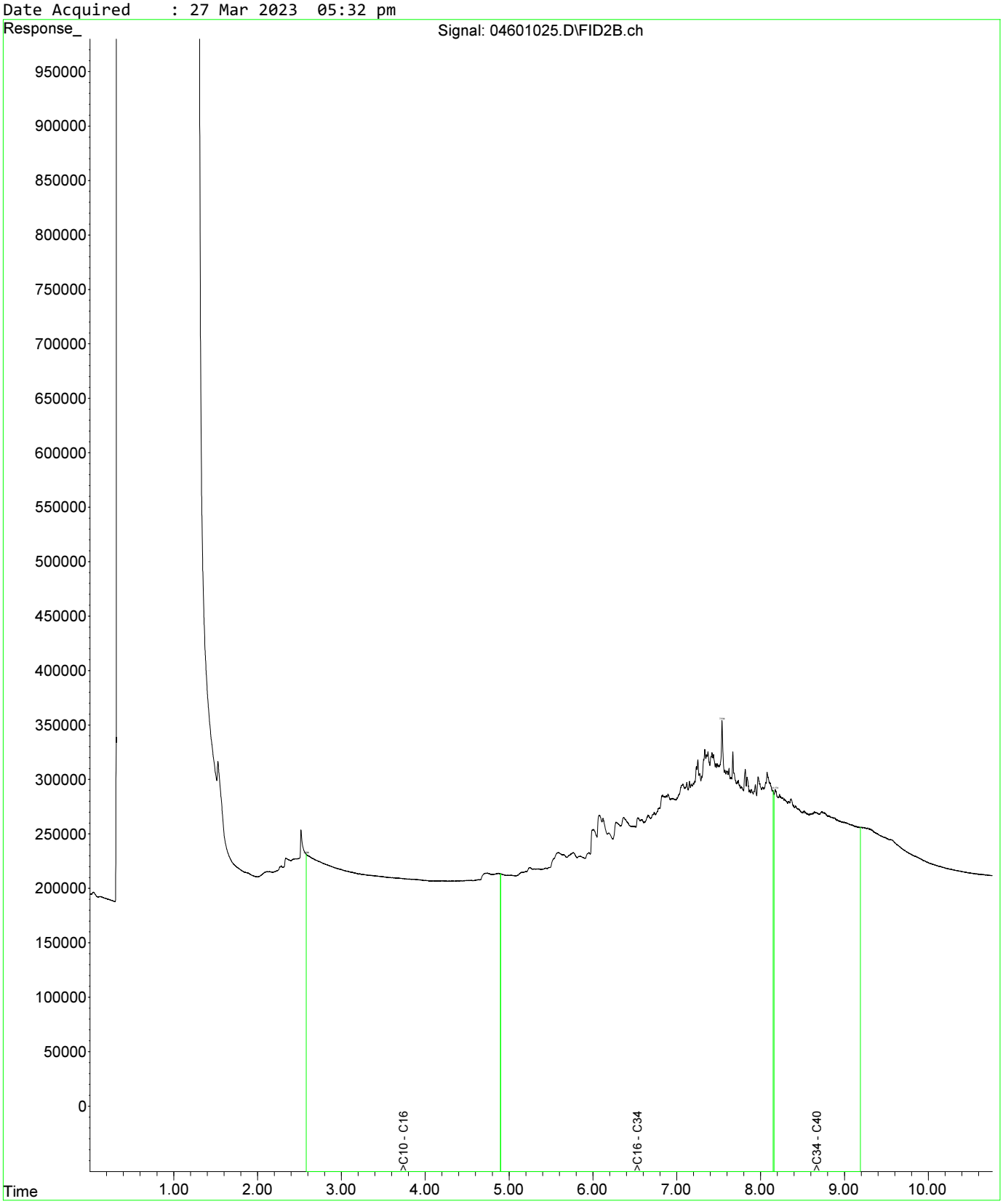
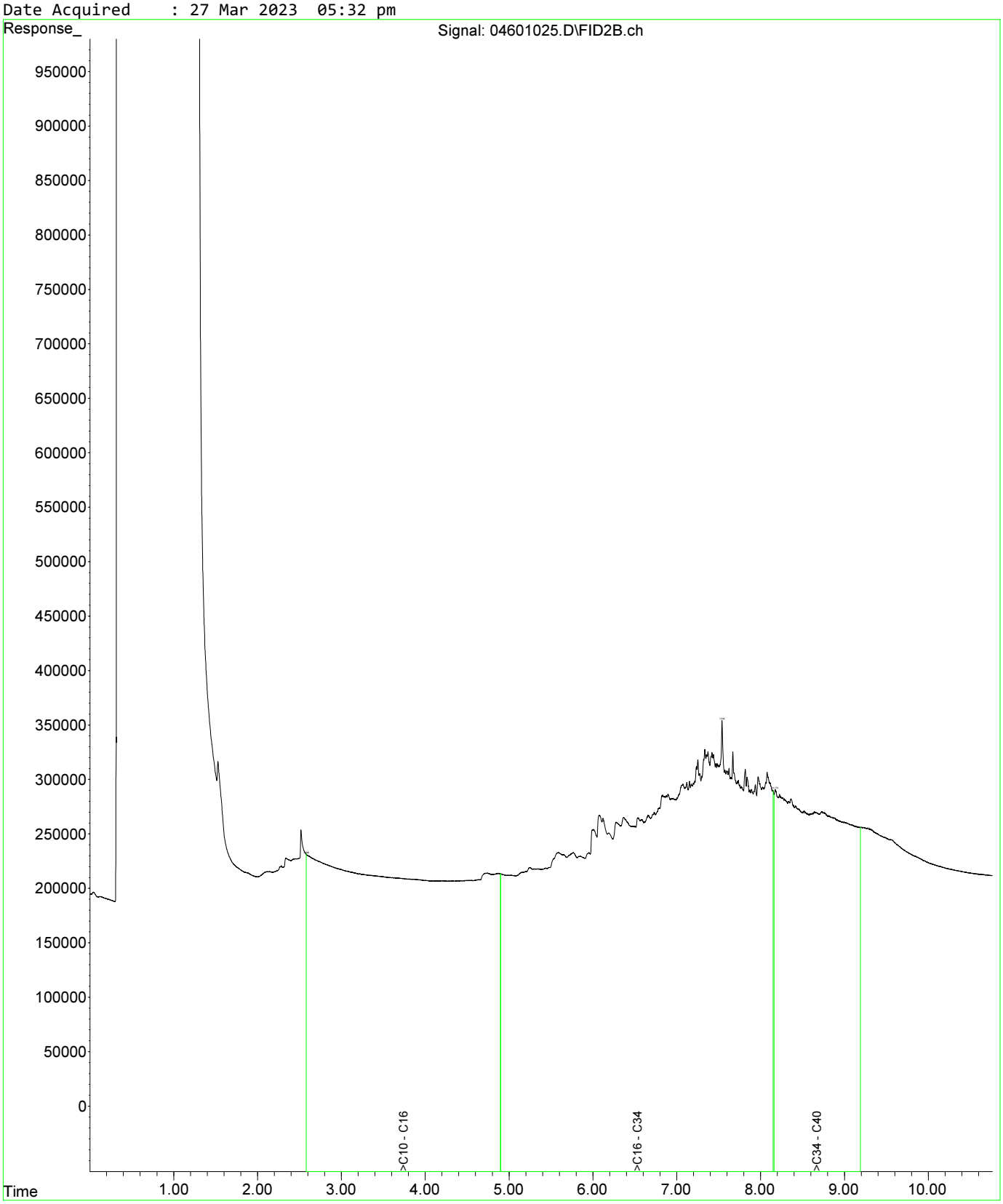
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 04801027.D
Laboratory Number: EM2305209-019
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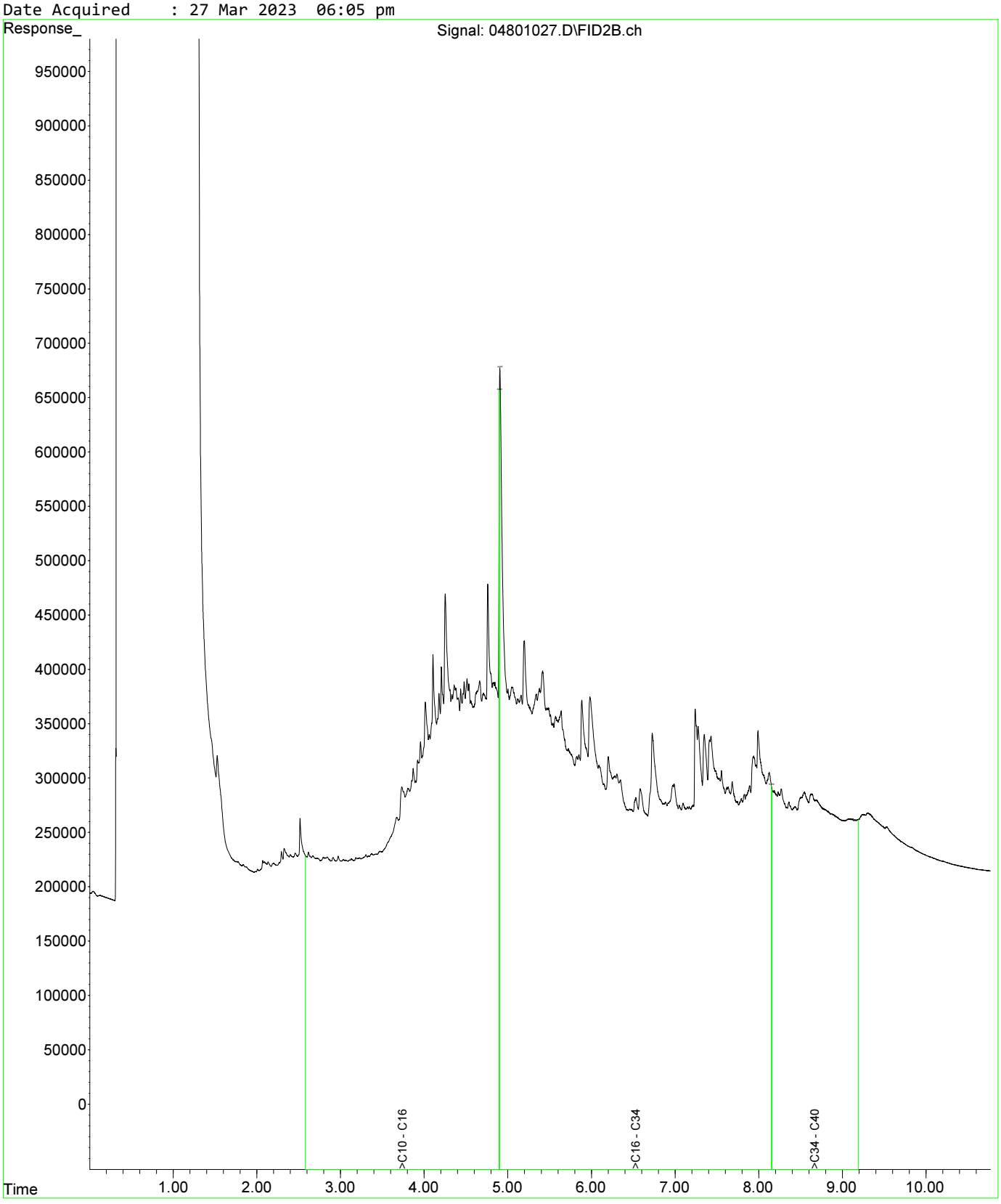

Fraction Scheme : NEPM DRAFT HIL
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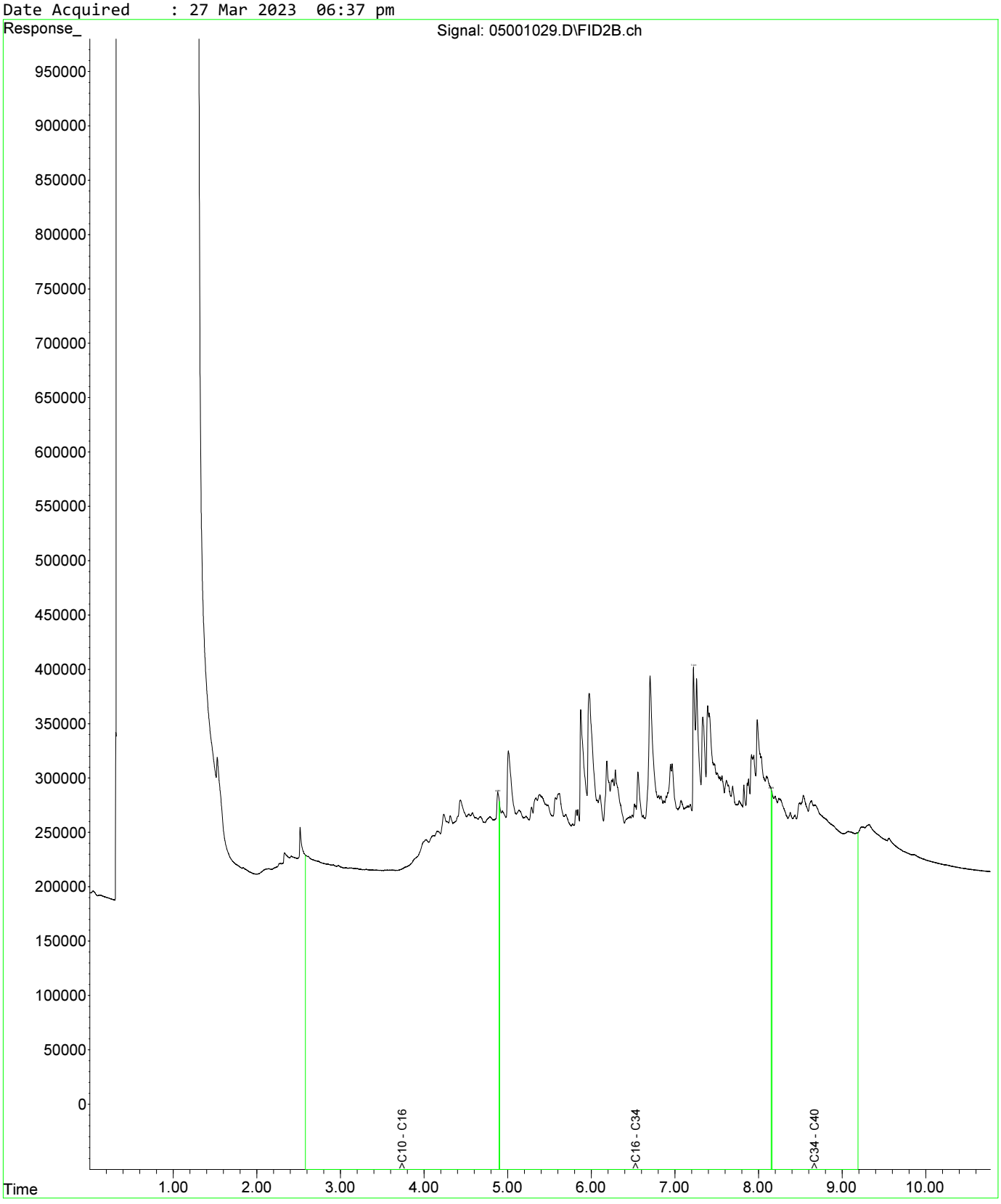
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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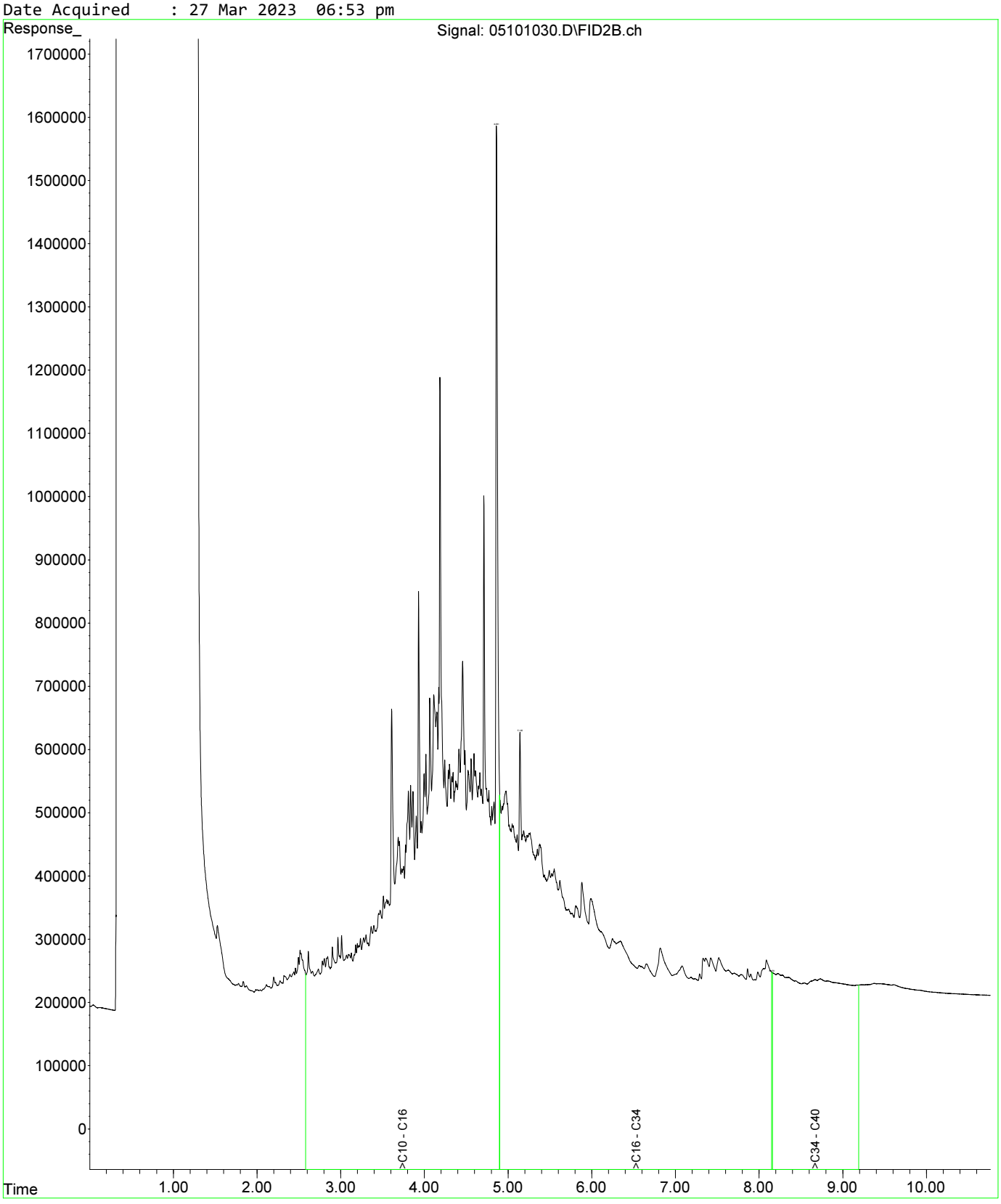

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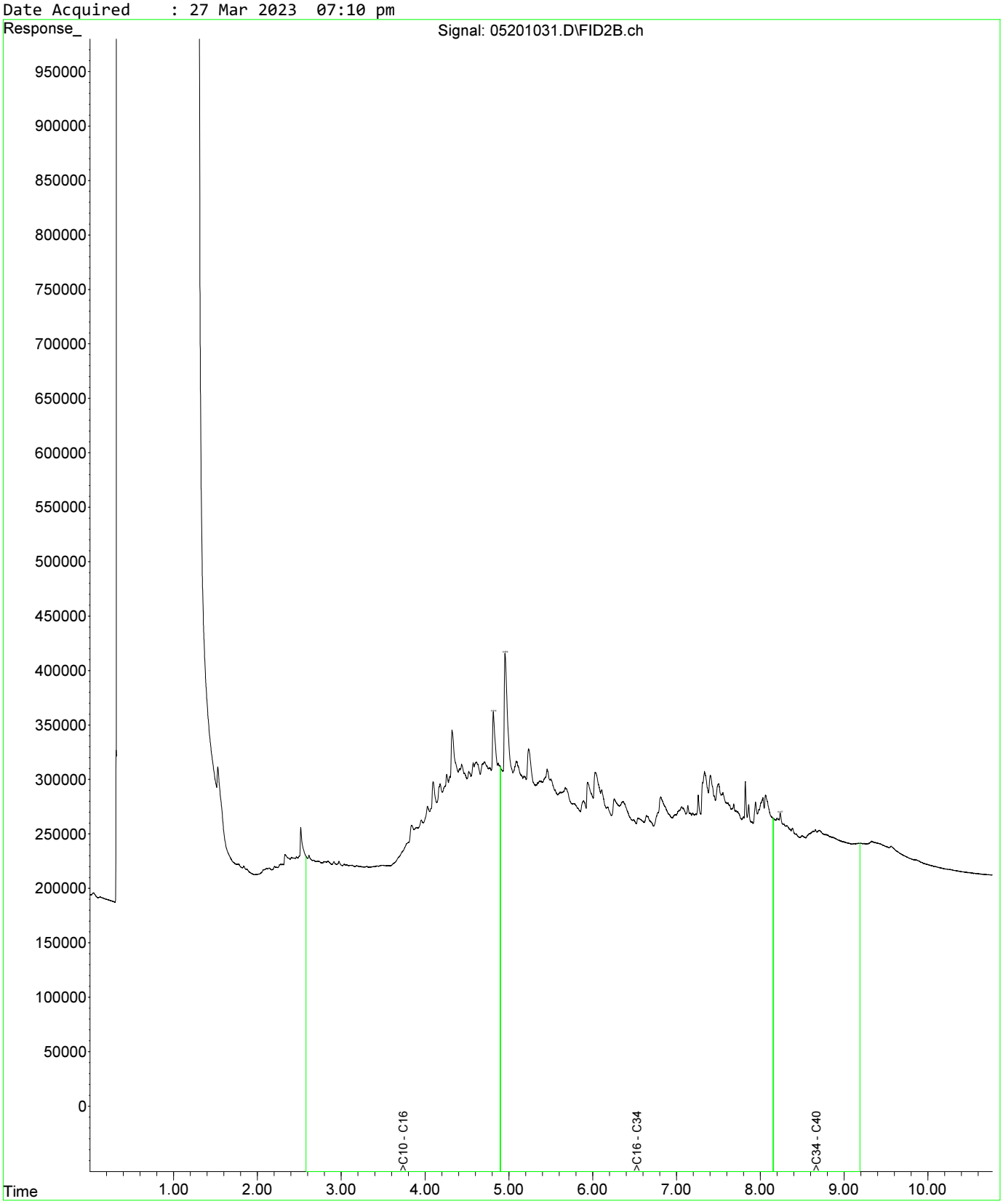

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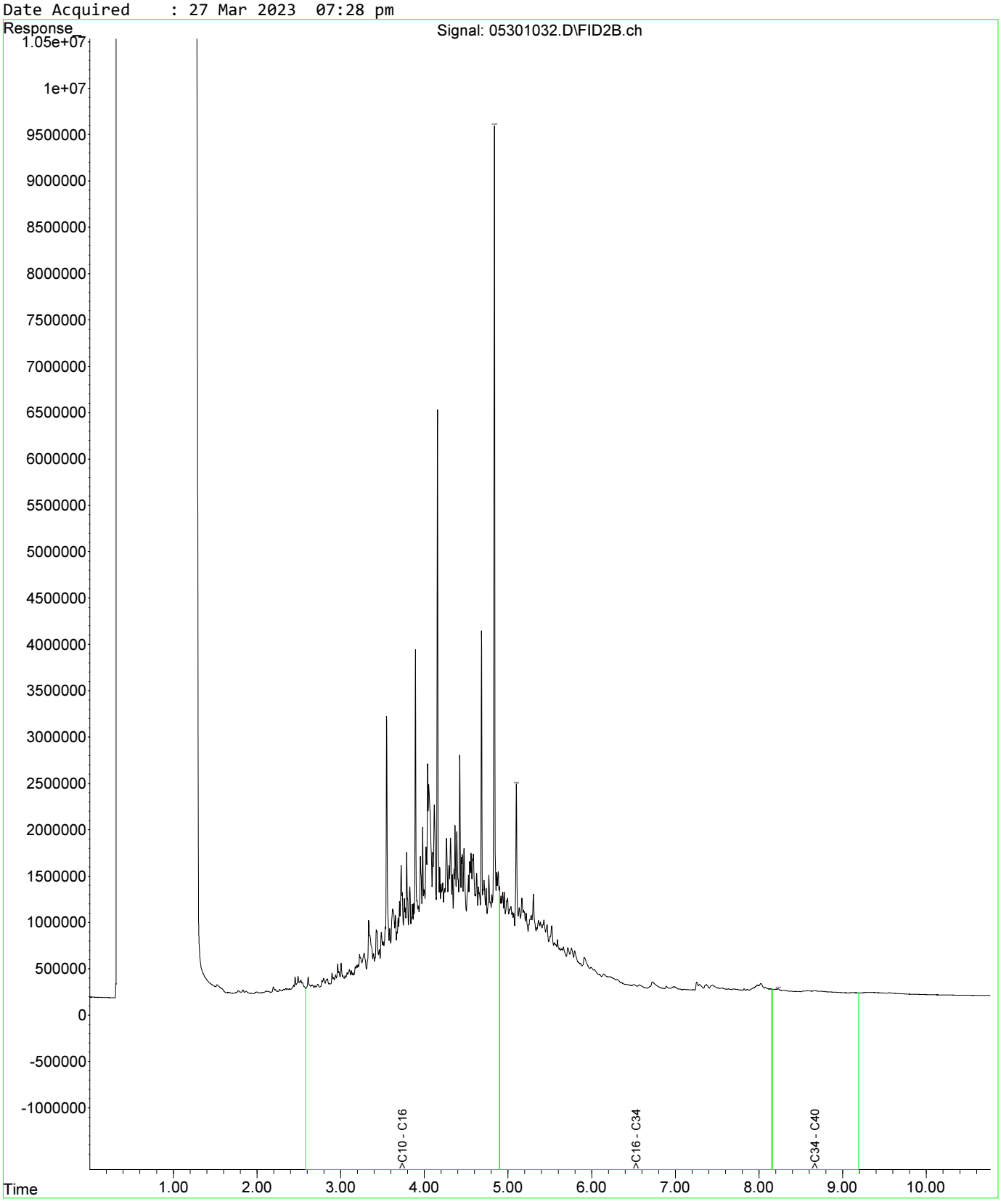
Date Acquired : 27 Mar 2023 07:28 pm



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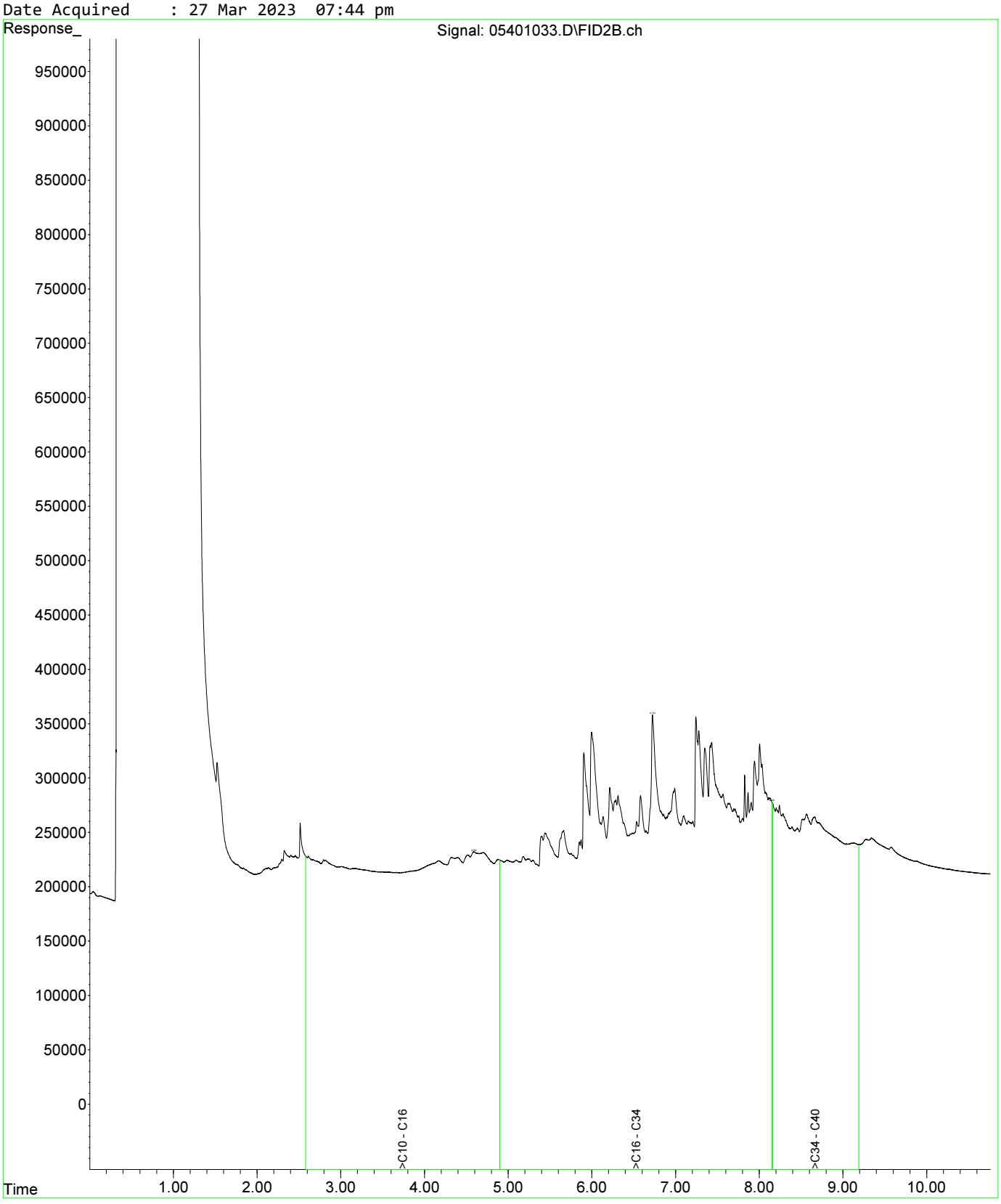

Fraction Scheme : NEPM DRAFT HIL
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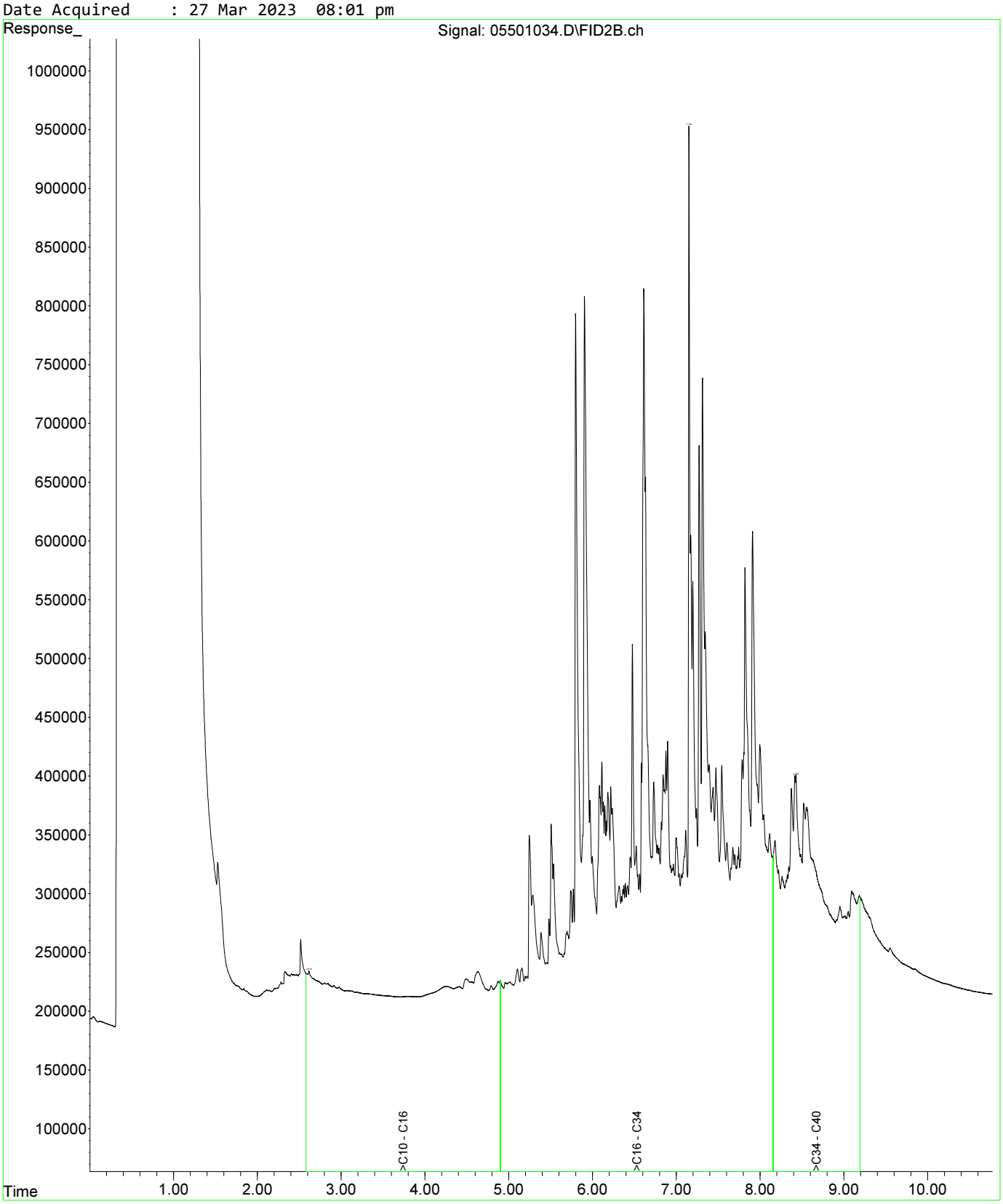
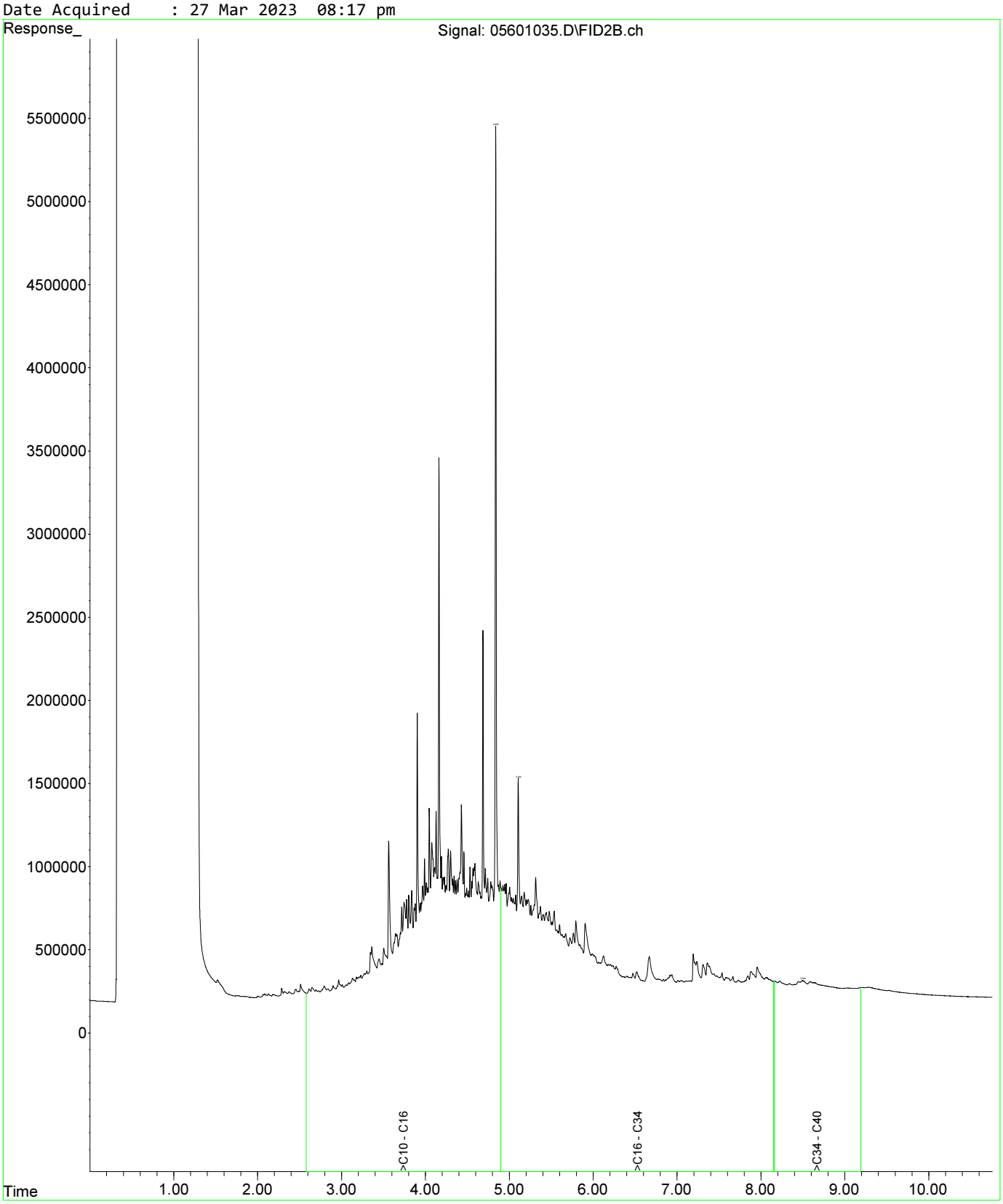
Laboratory Number: EM2305209-033
Sample ID : UST_SP_ch77-80_01
Date Acquired : 27 Mar 2023 08:01 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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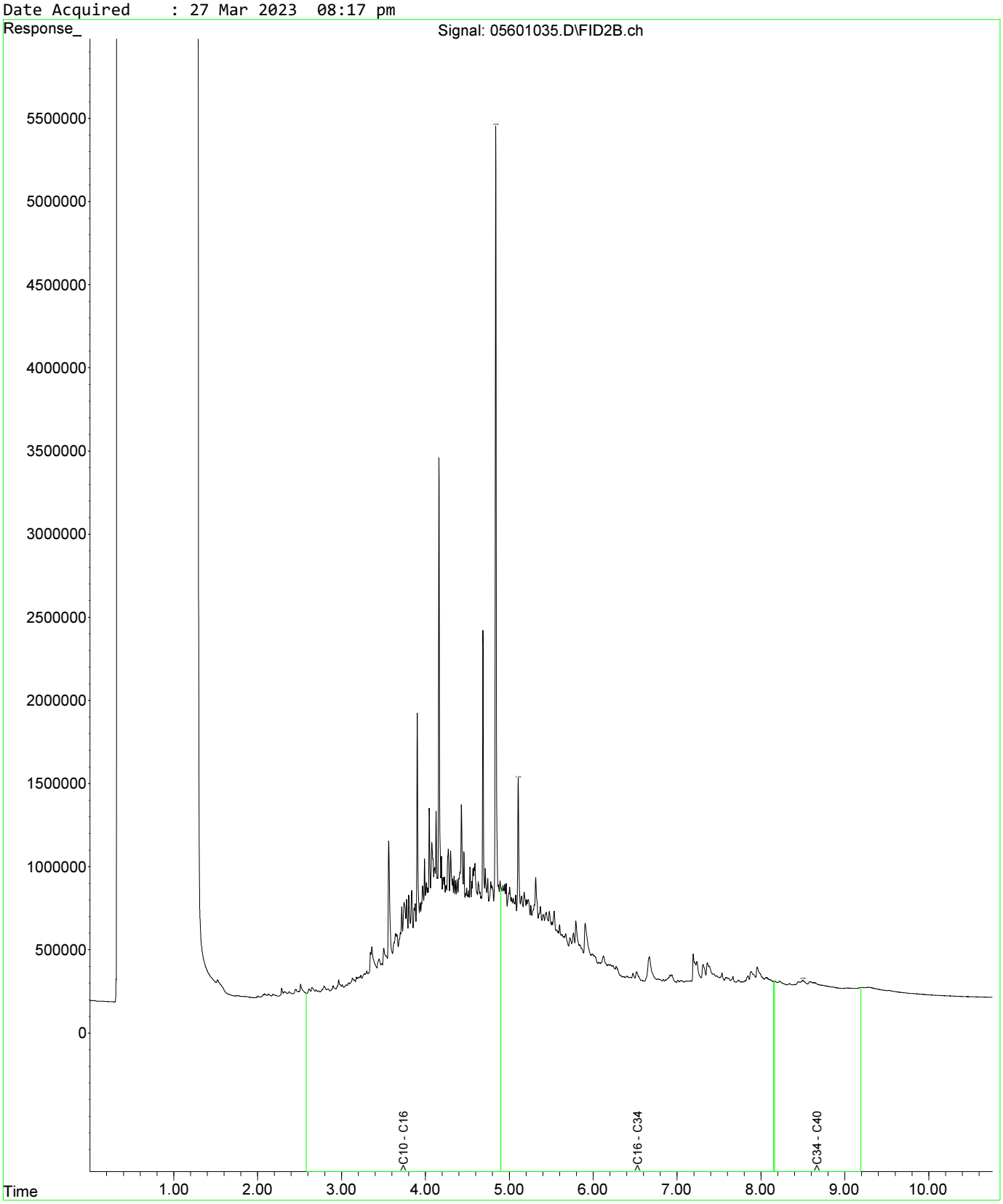
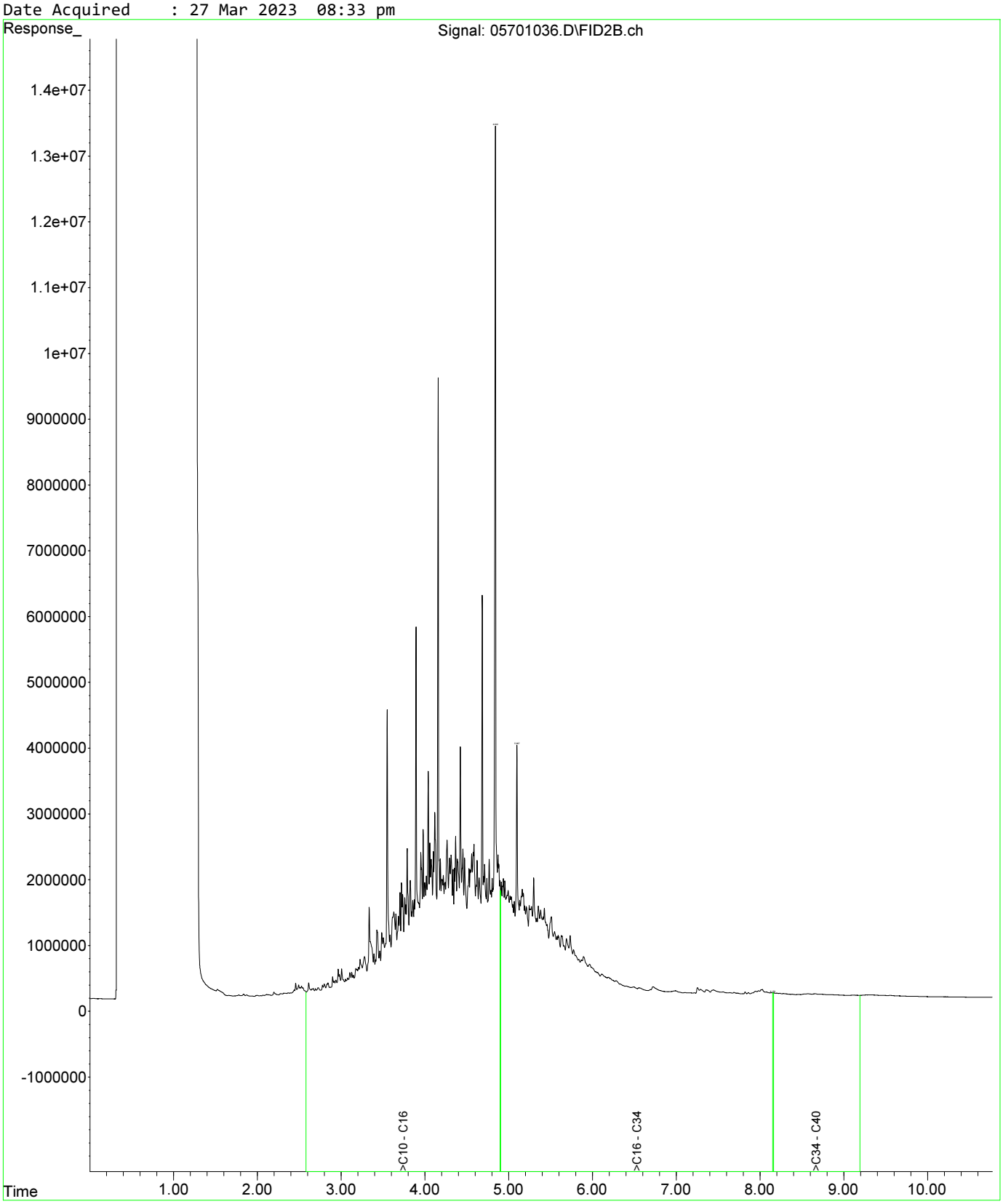
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
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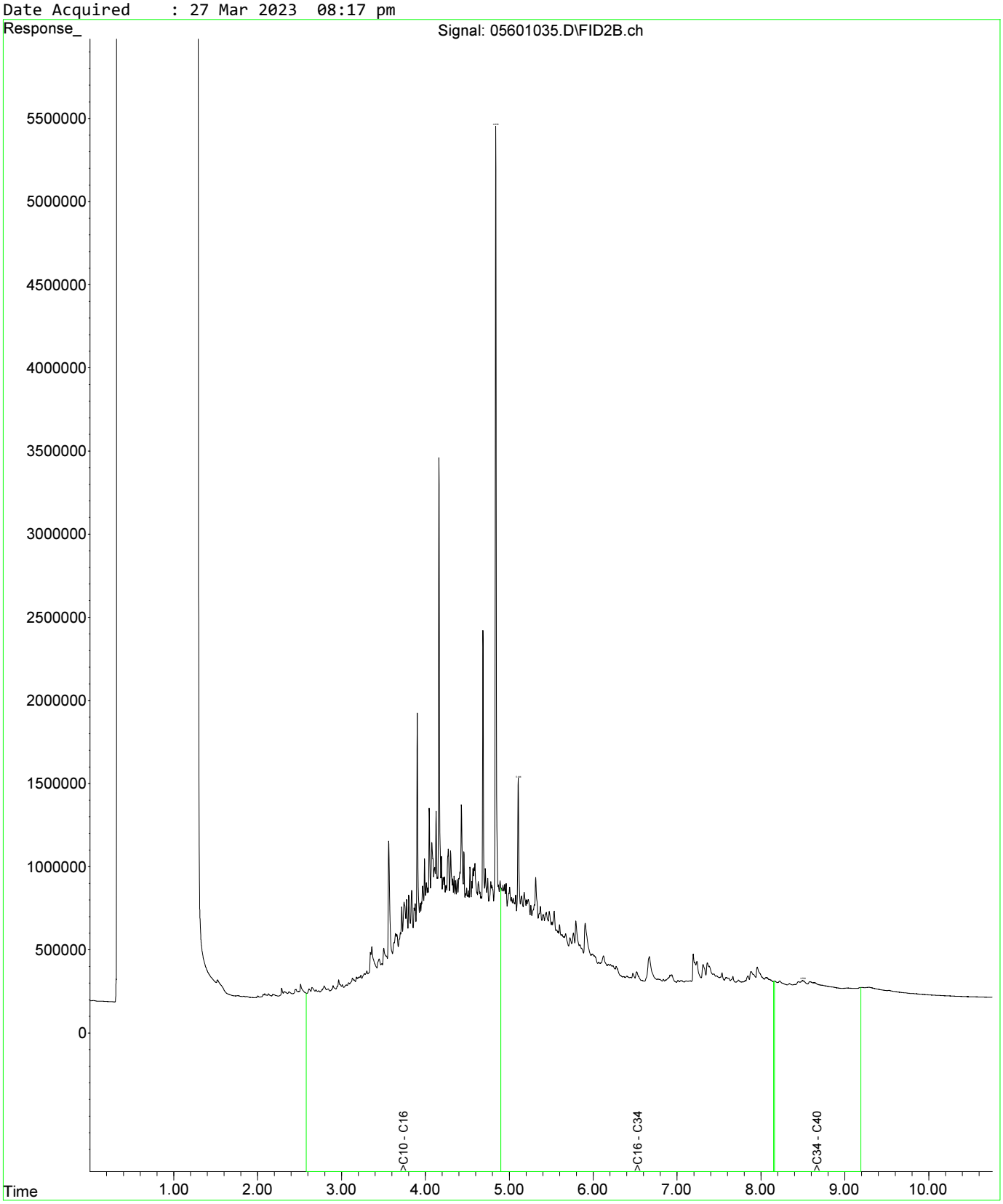

Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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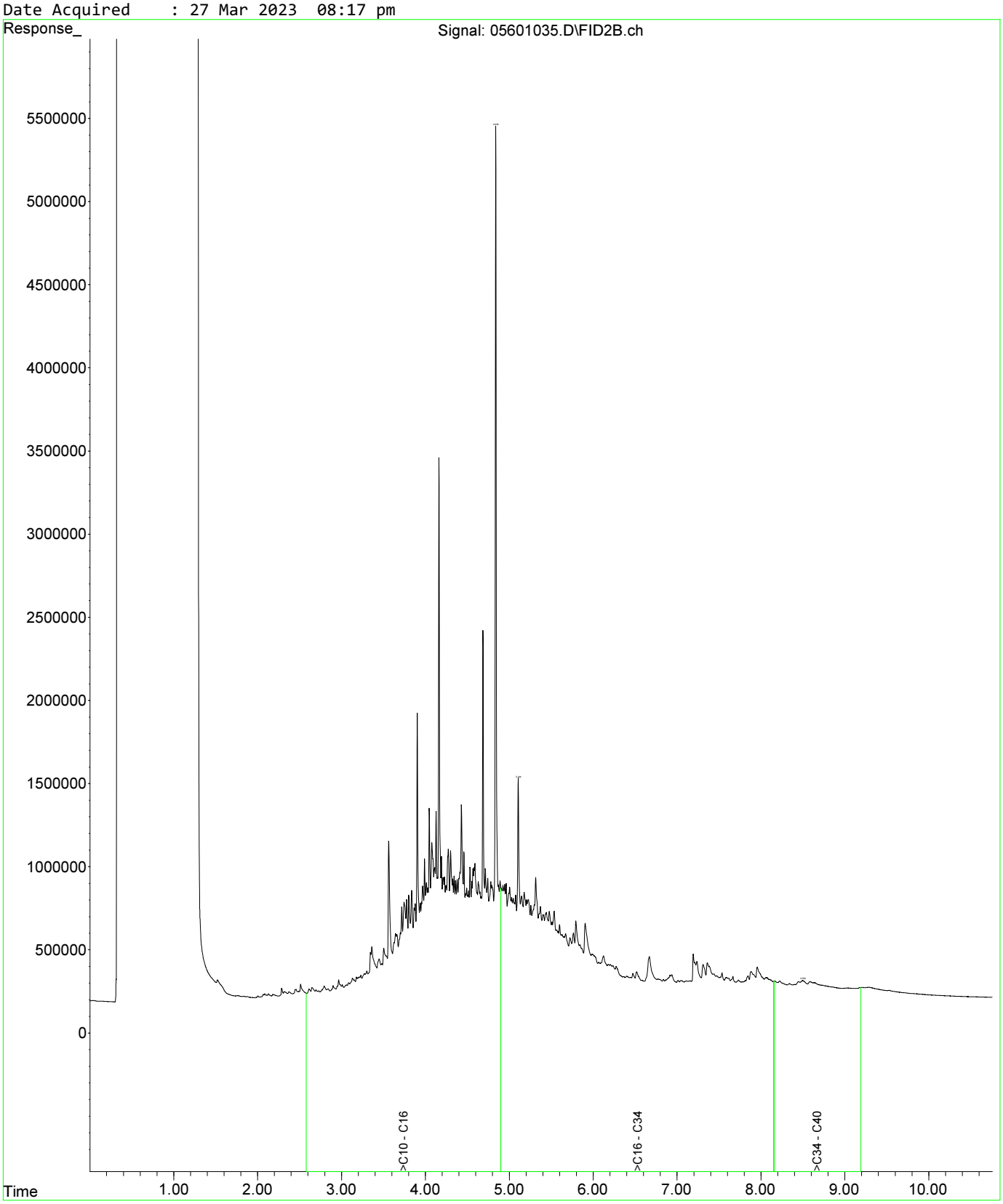

Fraction Scheme : NEPM DRAFT HIL
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Sample ID : UST_SP_ch77-82_03
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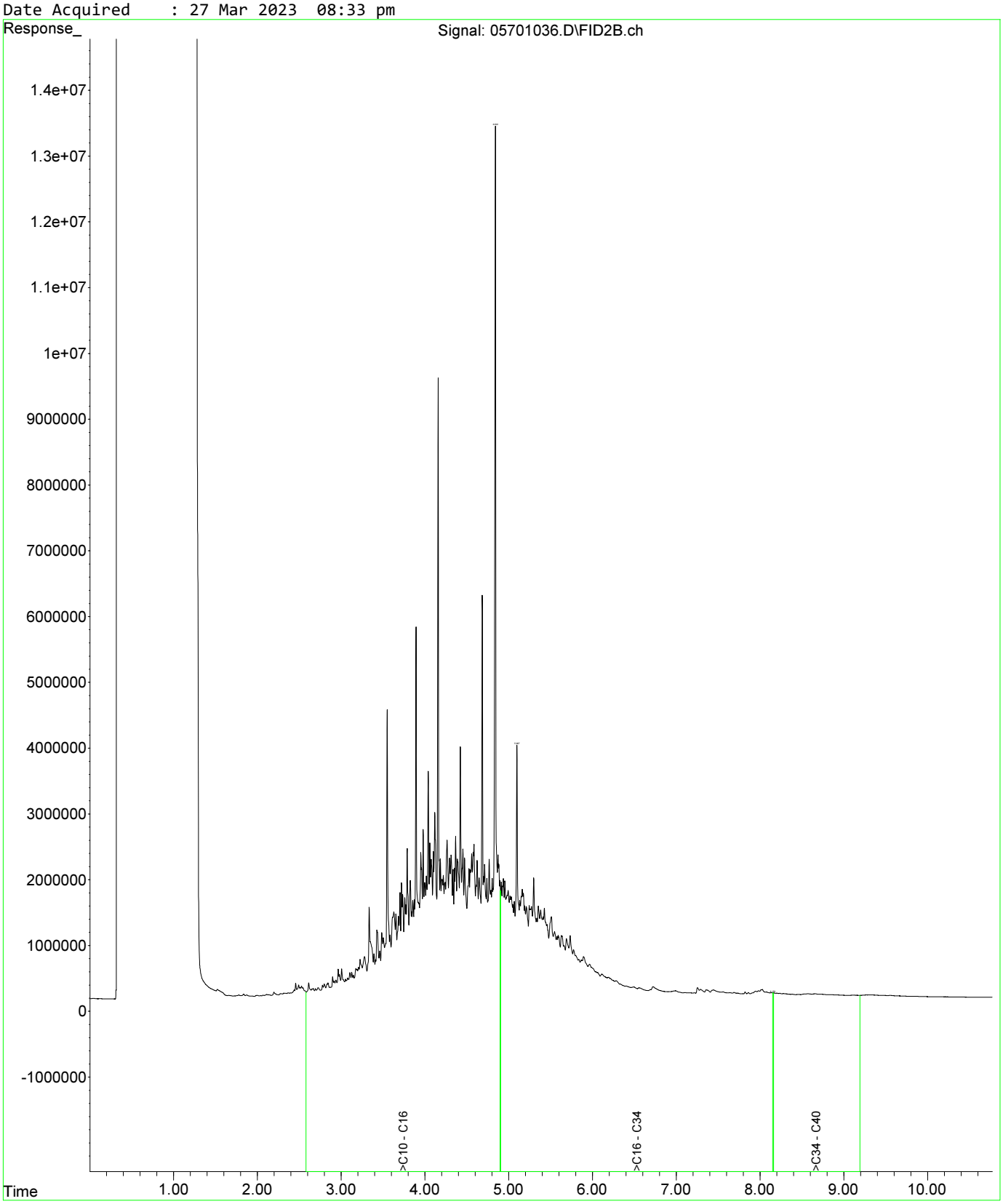
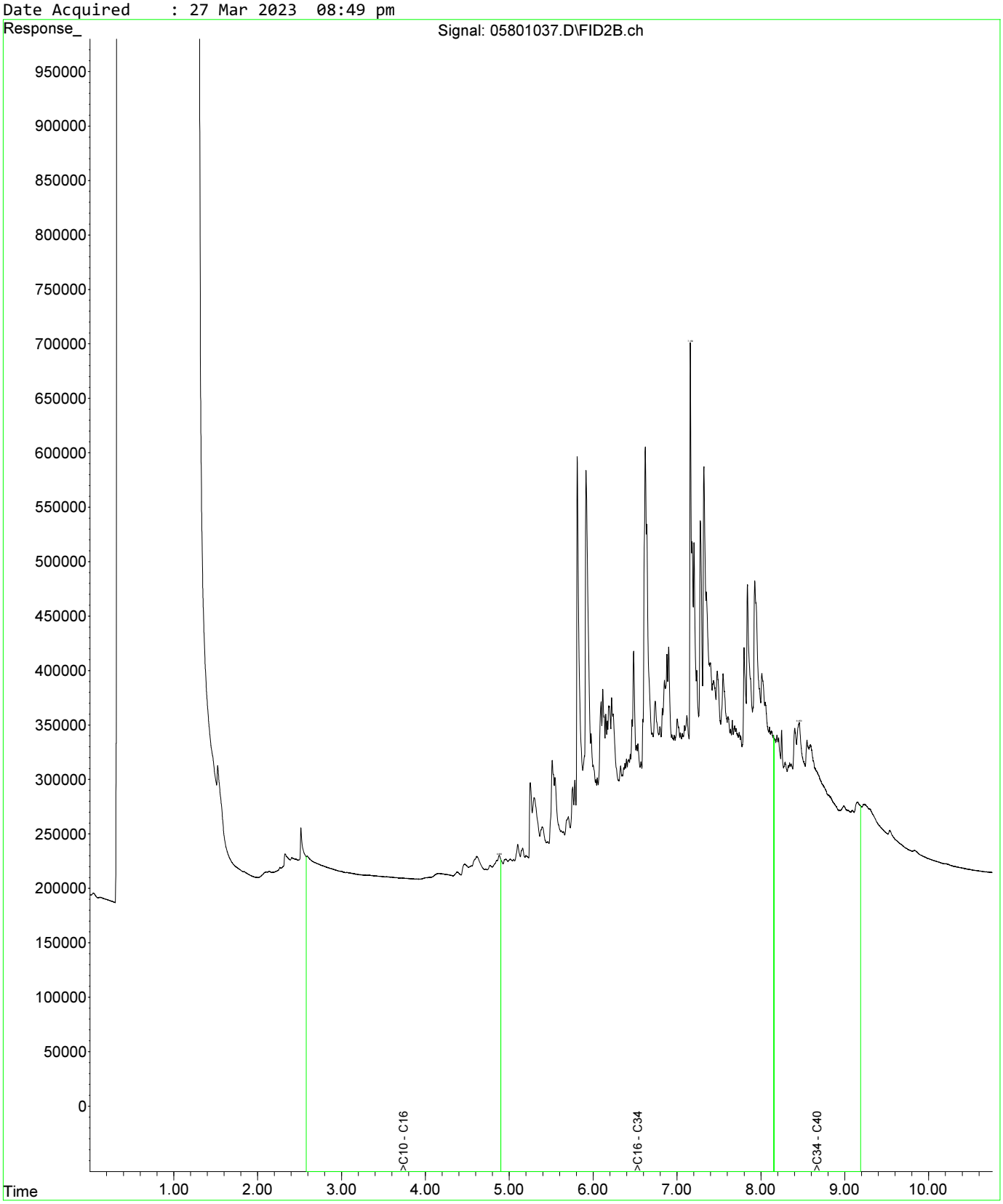


Fraction Scheme : NEPM DRAFT HIL
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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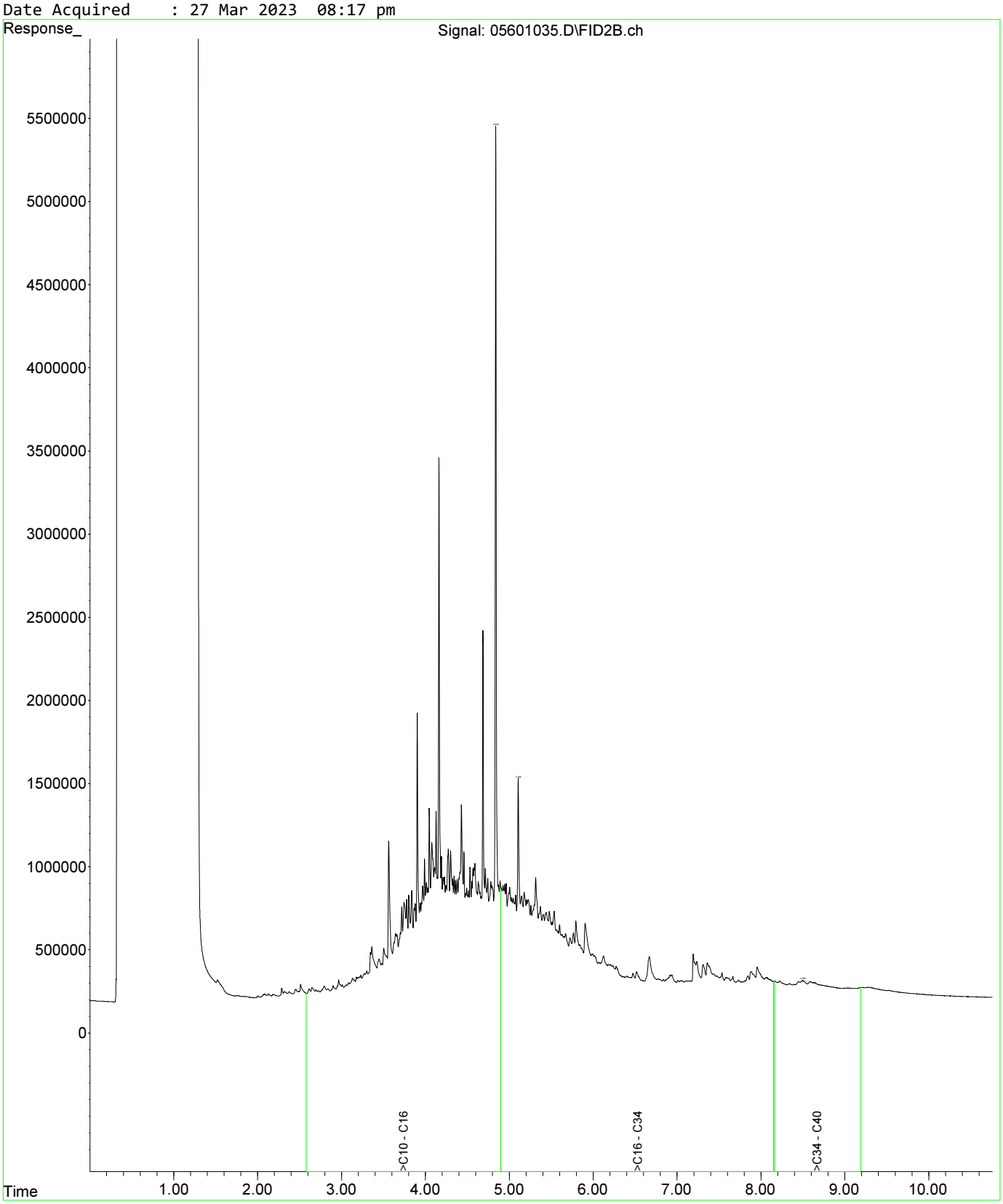
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
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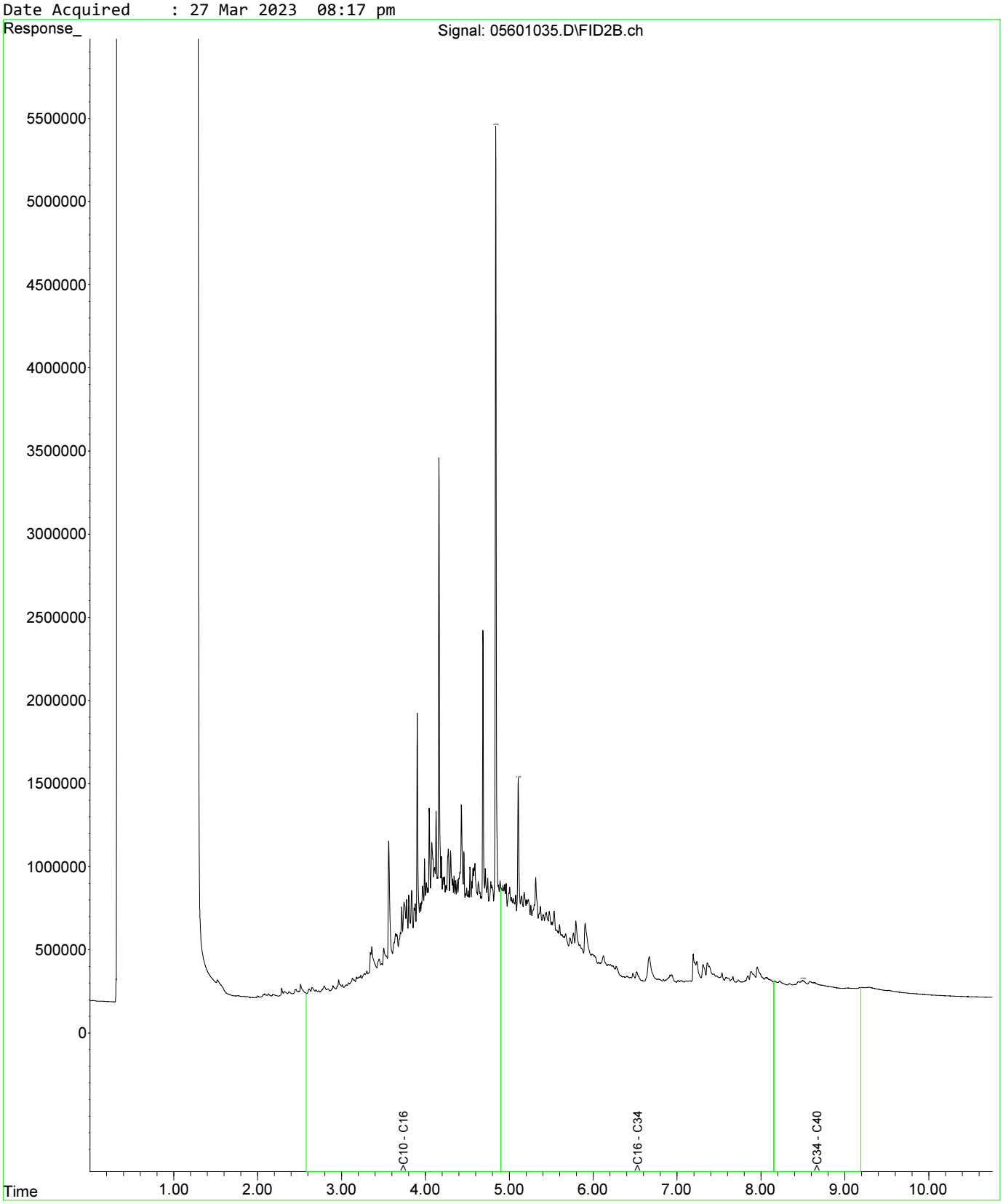
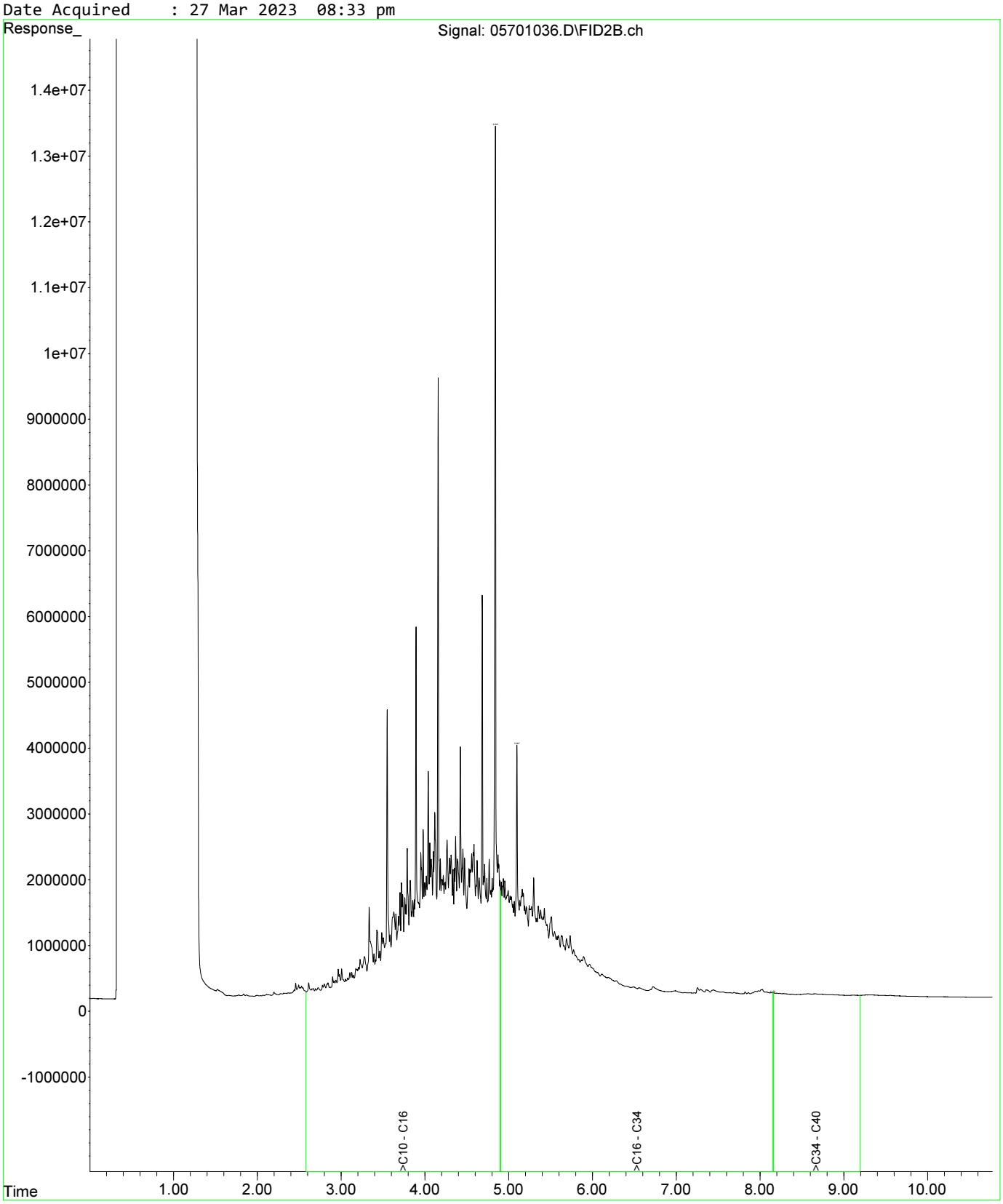
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
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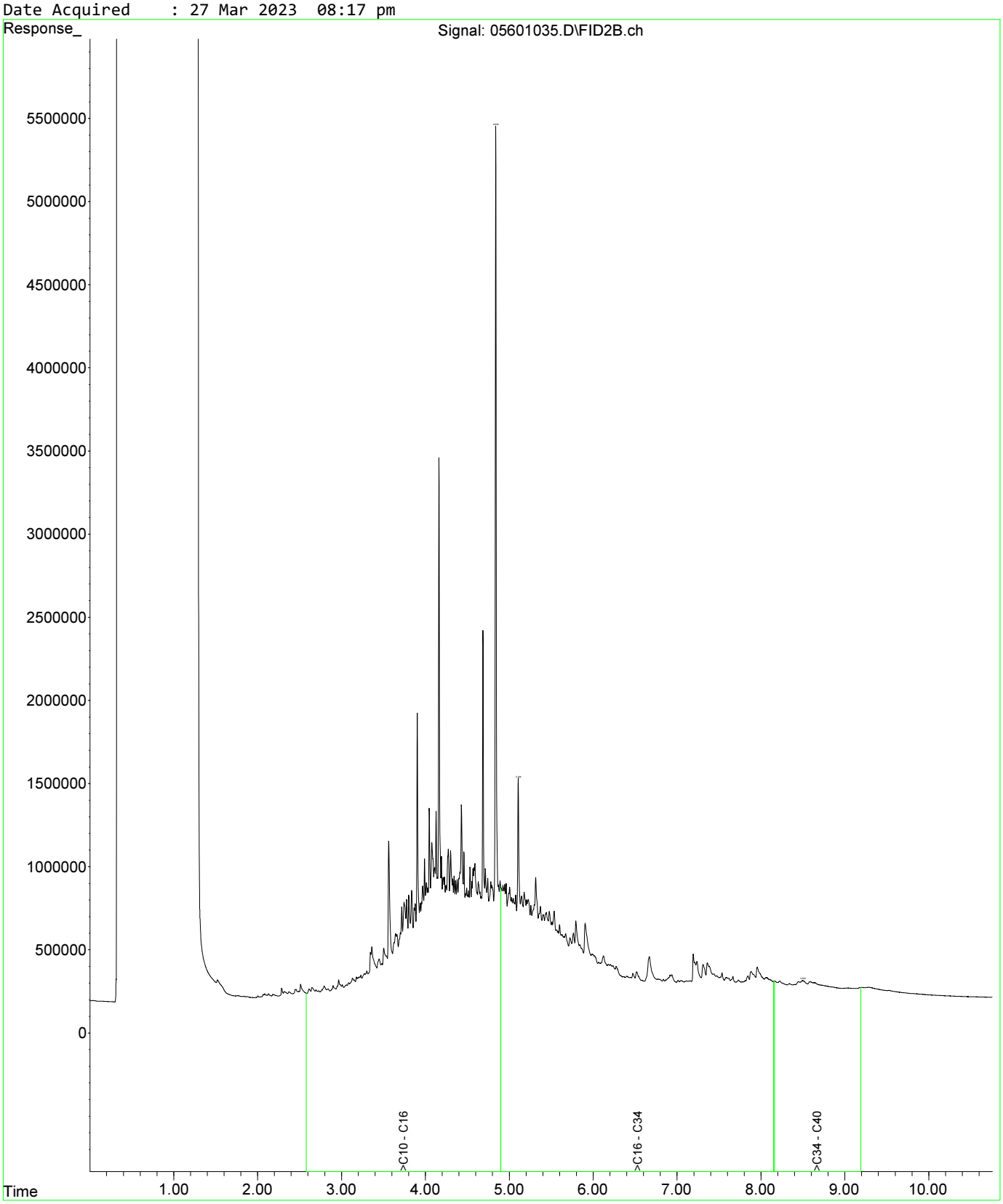
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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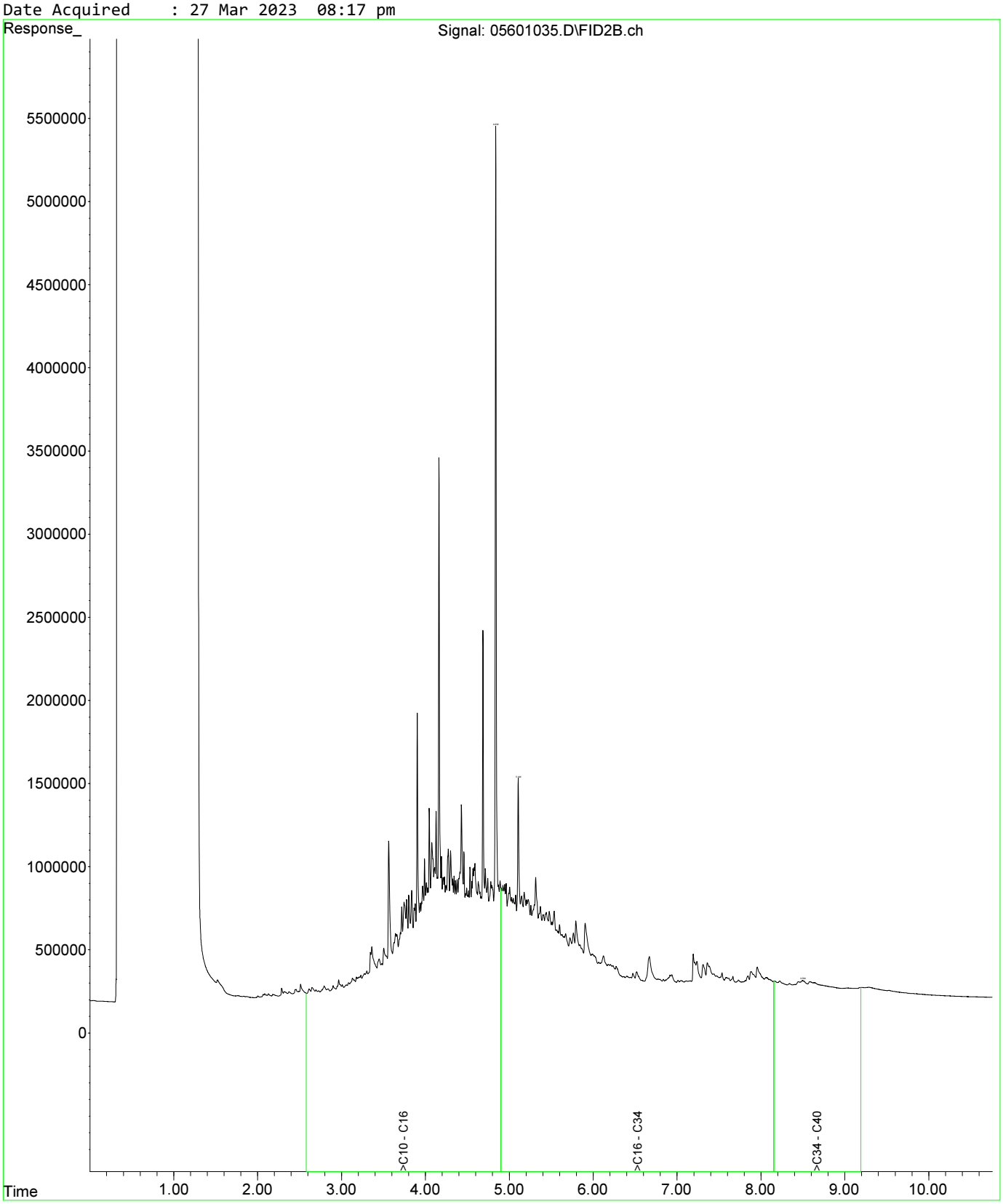

Fraction Scheme : NEPM DRAFT HIL
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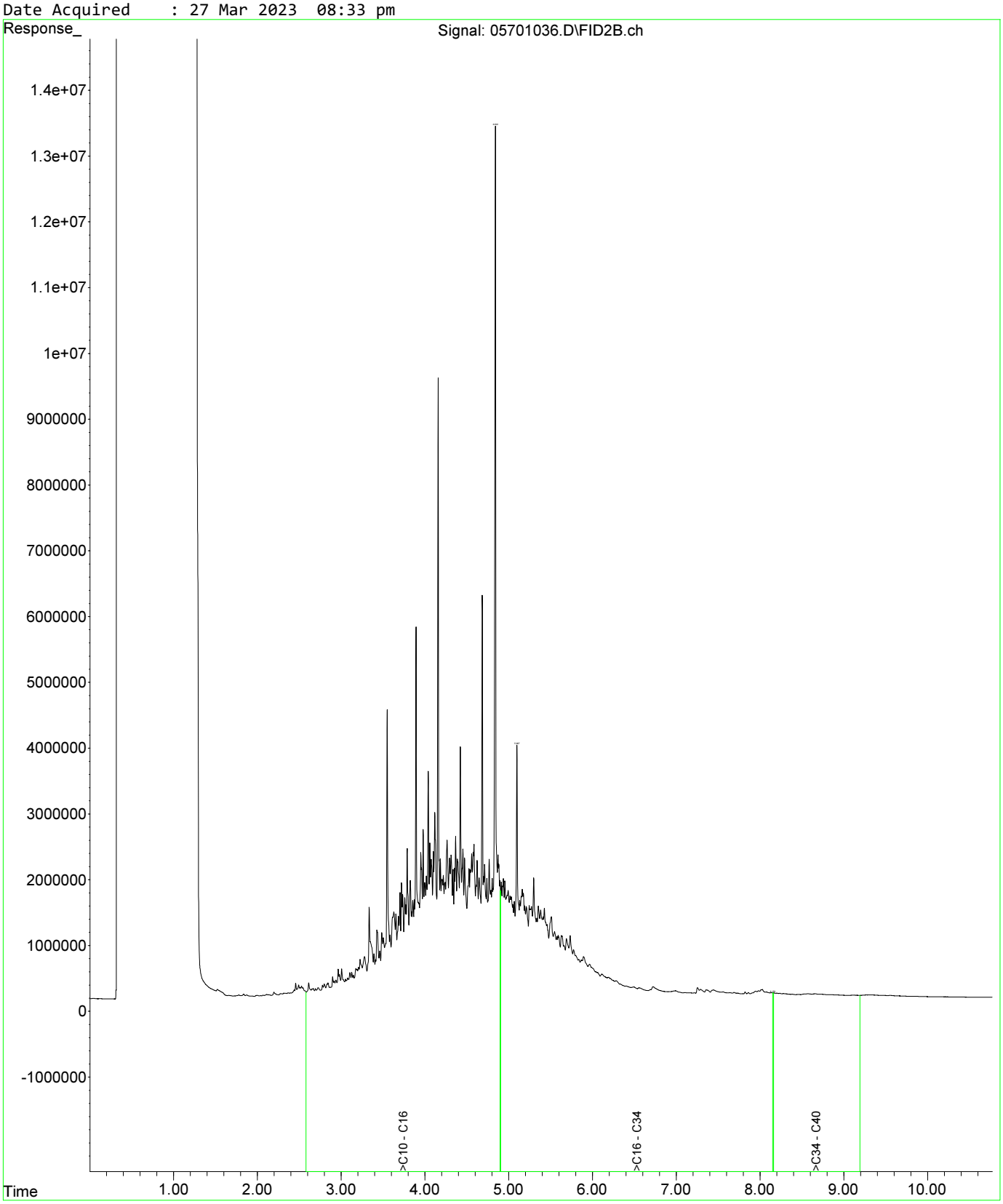
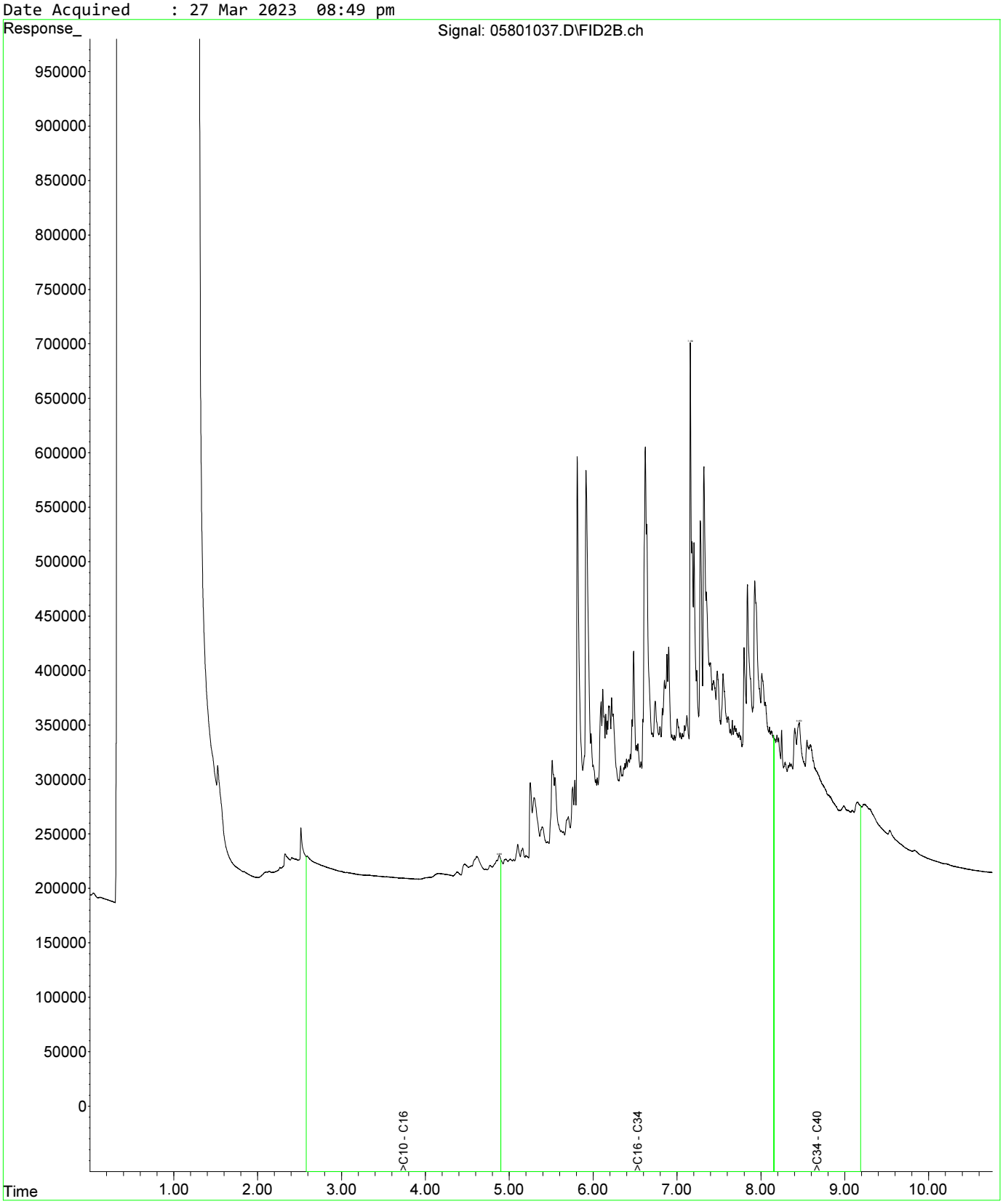


Fraction Scheme : NEPM DRAFT HIL
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



Fraction Scheme : NEPM DRAFT HIL
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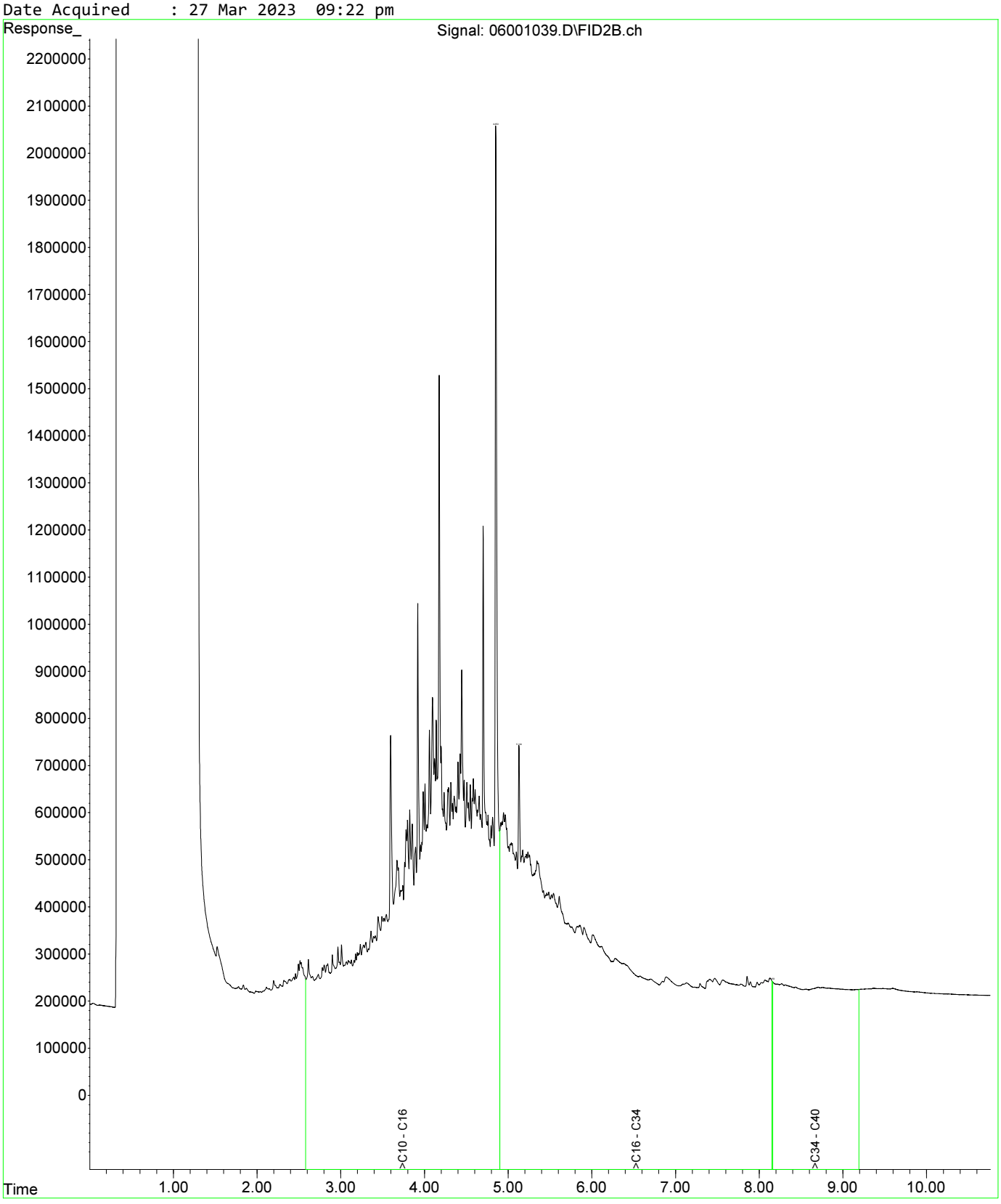
Laboratory Number: EM2305209-037
Sample ID : UST_QC109
Date Acquired : 27 Mar 2023 09:22 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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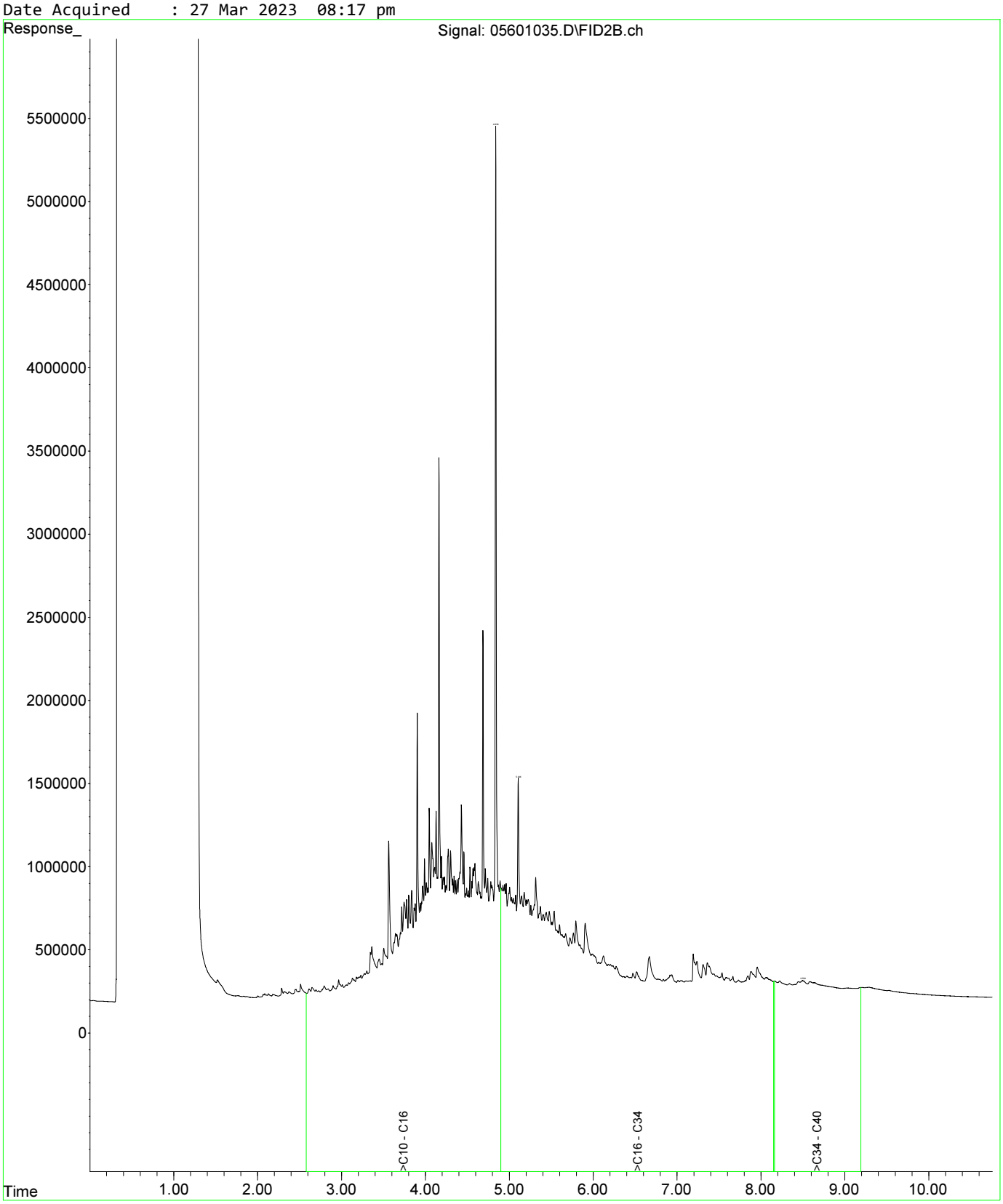

Fraction Scheme : NEPM DRAFT HIL
Data File : 05601035.D
Laboratory Number: EM2305209-034
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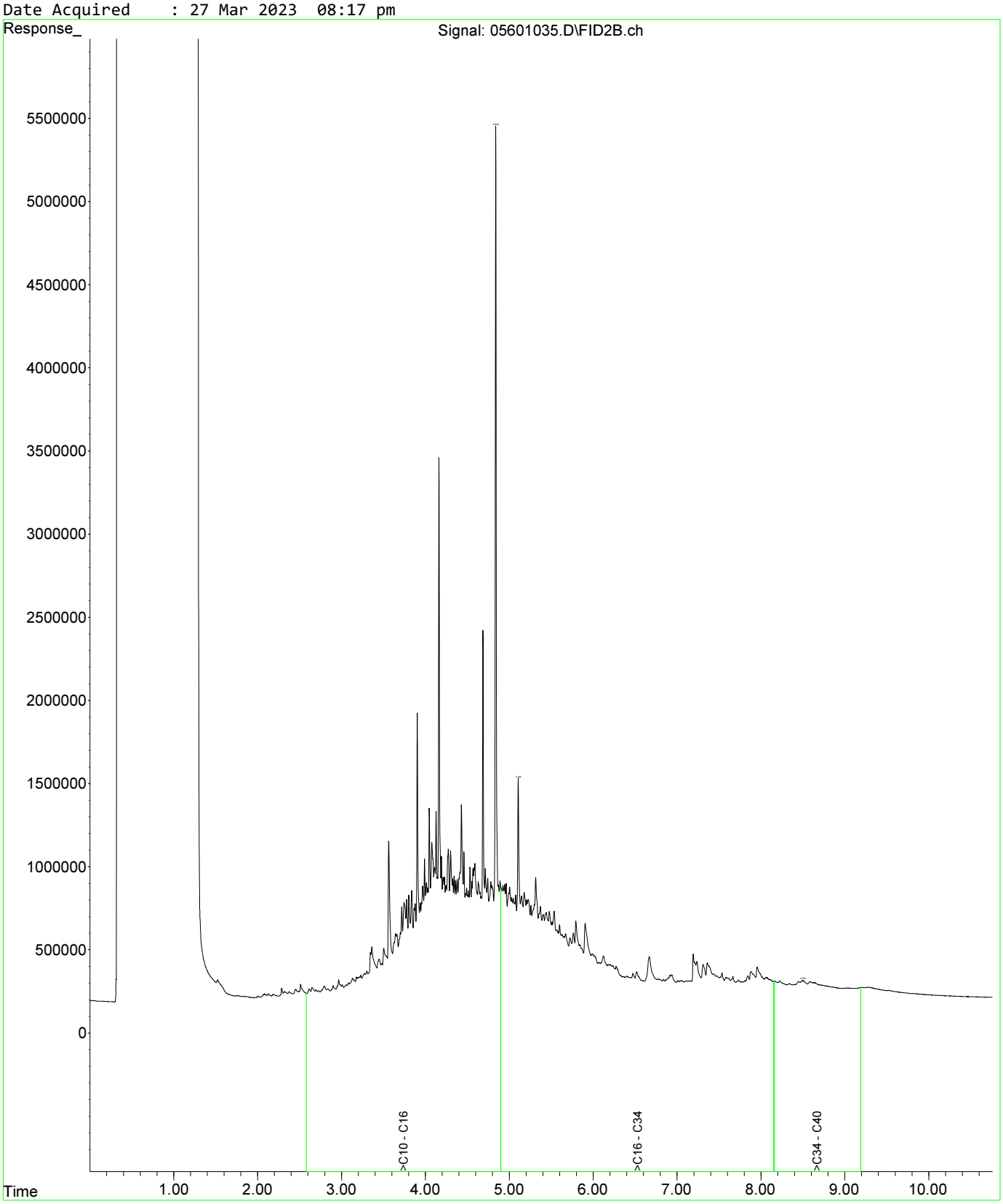
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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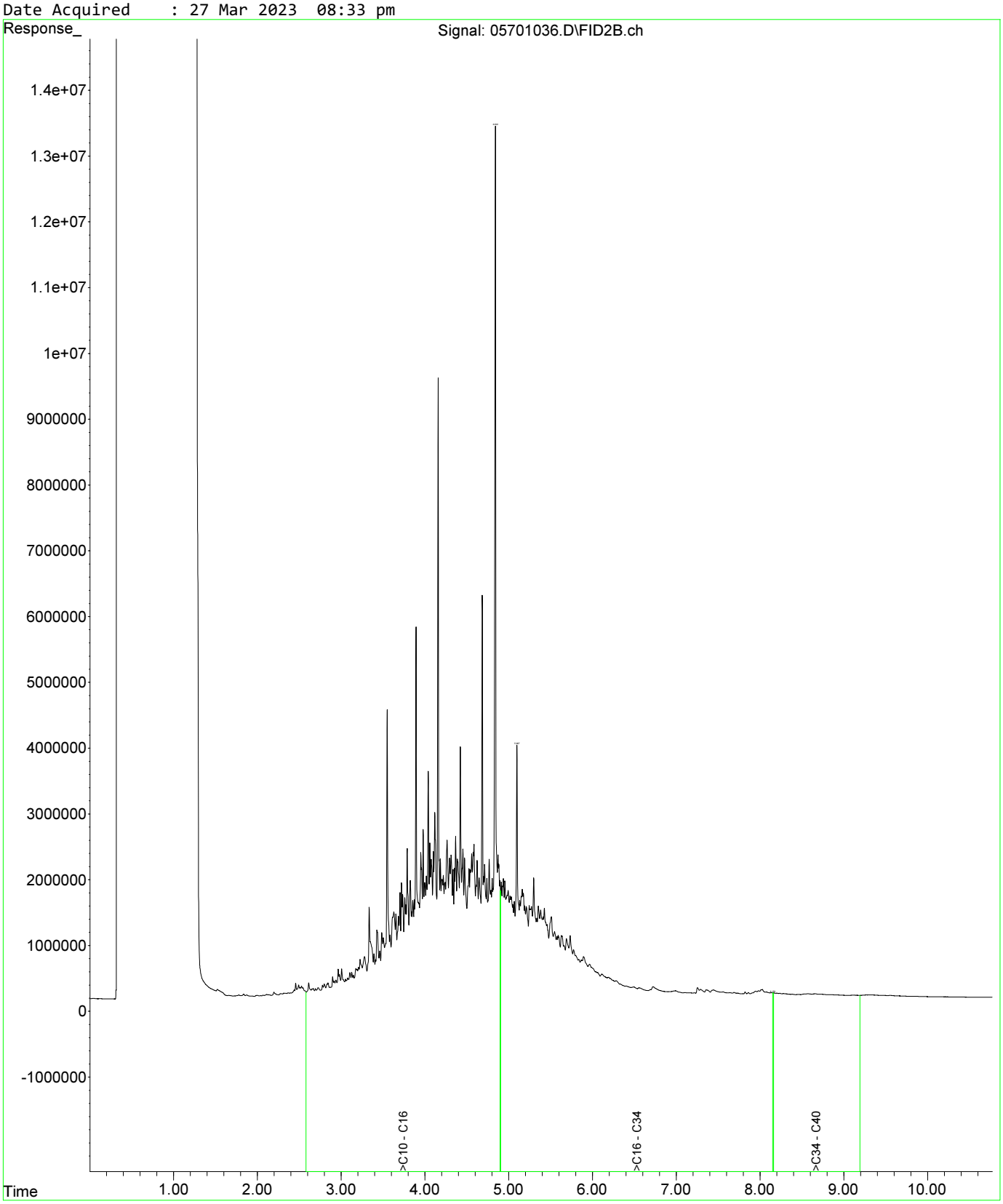
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : NEPM DRAFT HIL
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Laboratory Number: EM2305209-034
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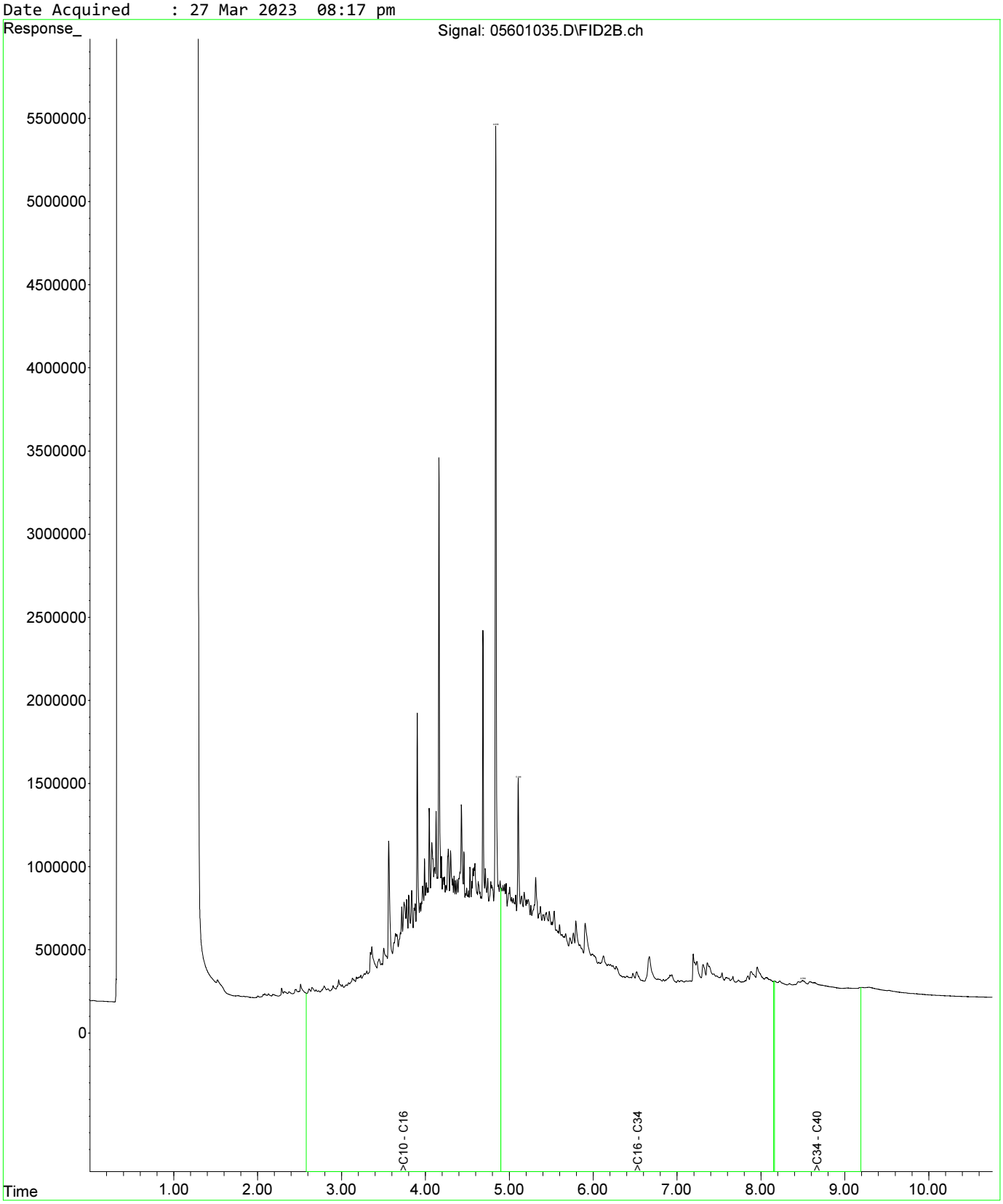

Fraction Scheme : NEPM DRAFT HIL
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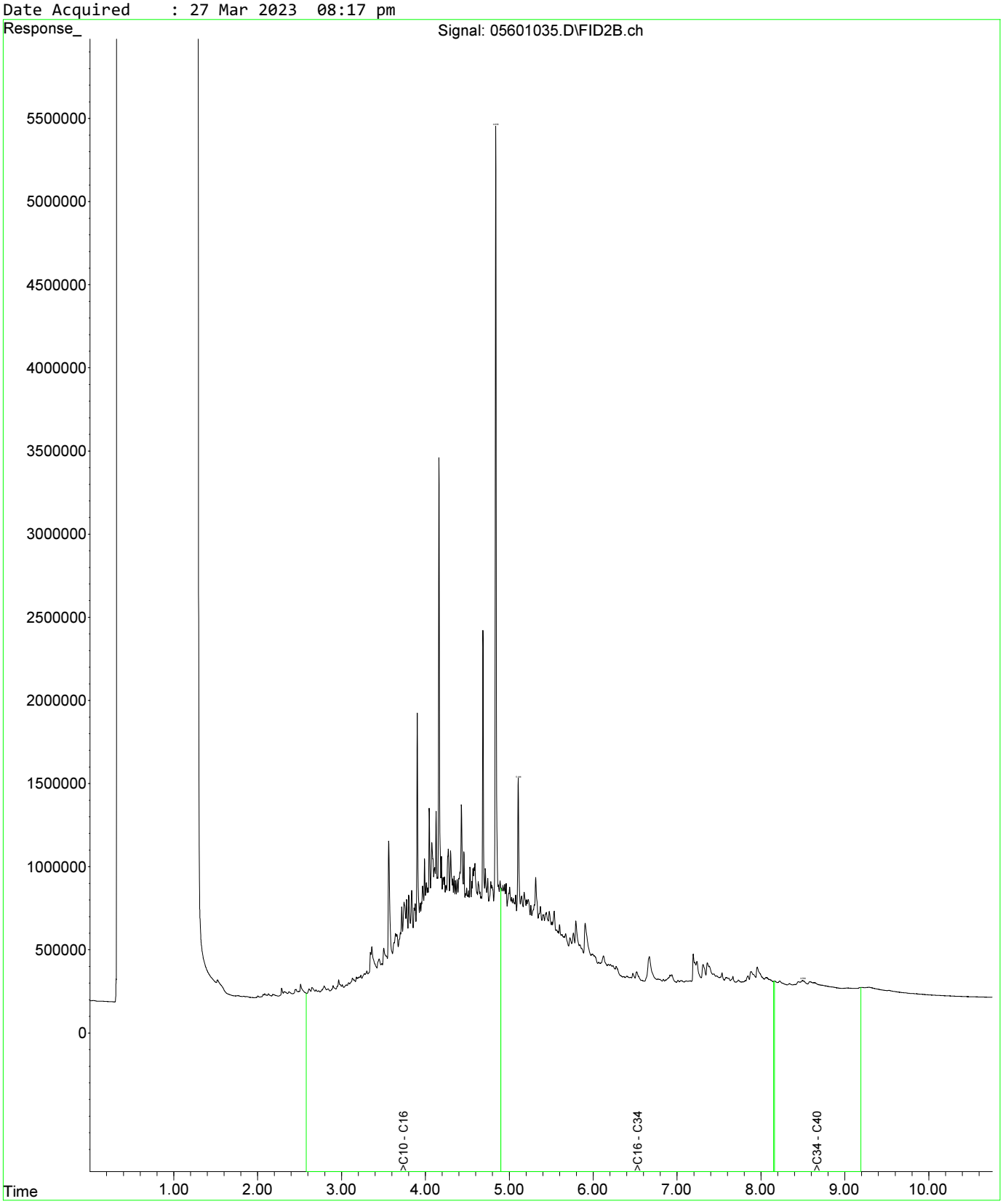
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : NEPM DRAFT HIL
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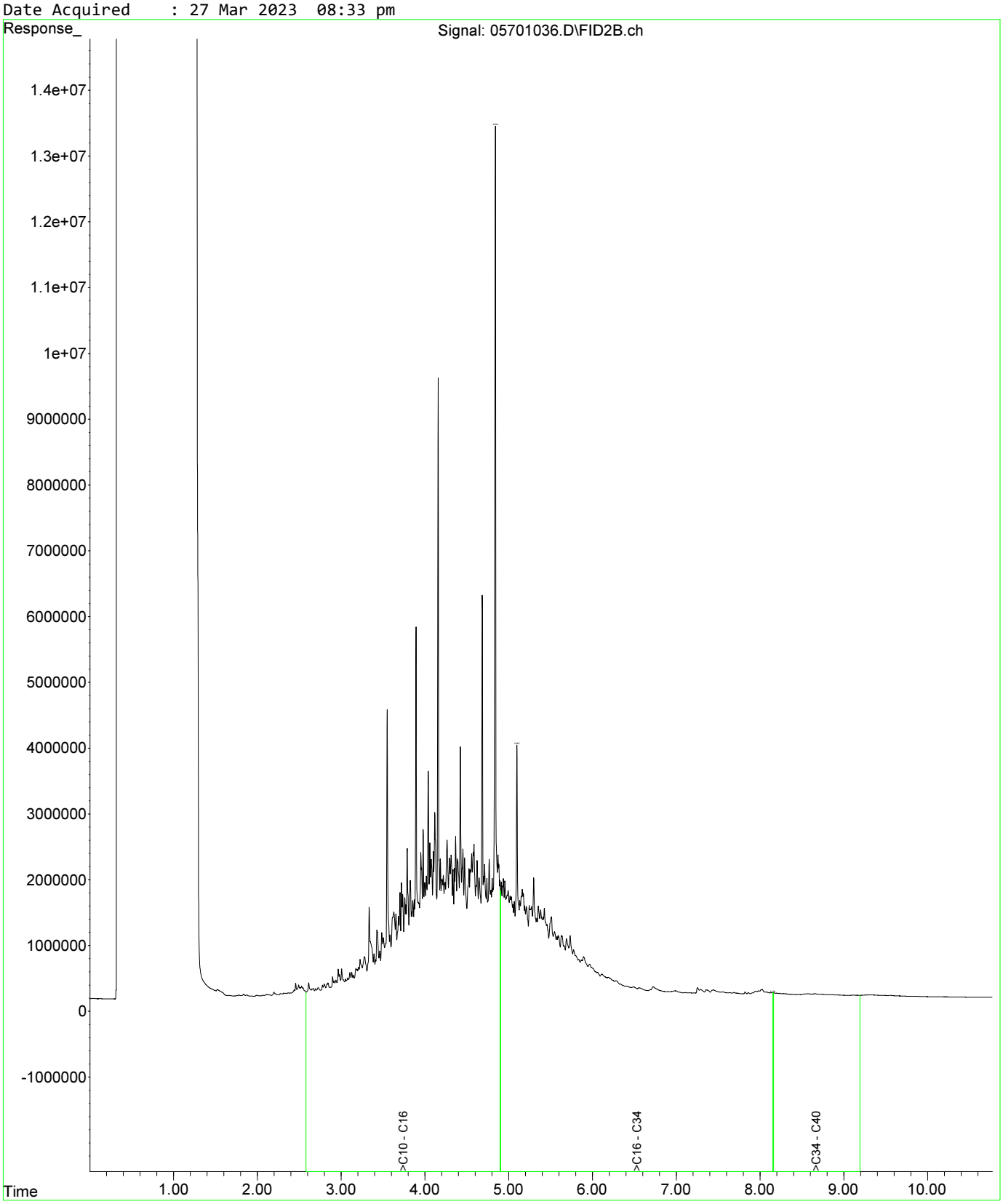

Fraction Scheme : NEPM DRAFT HIL
Data File : 05801037.D
Laboratory Number: EM2305209-036
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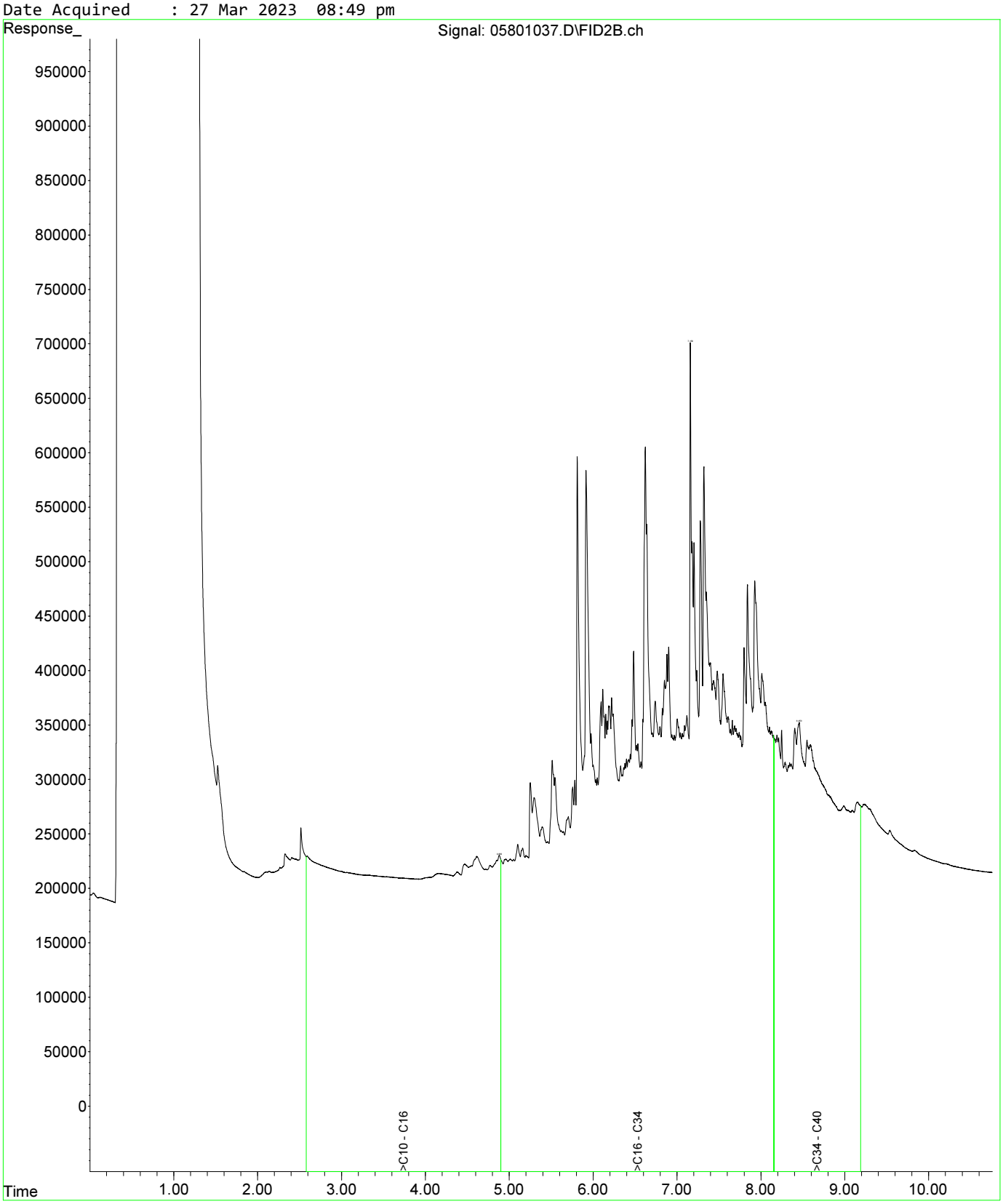
Date Acquired : 27 Mar 2023 08:49 pm



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Sample ID : UST_SP_ch77-81_02
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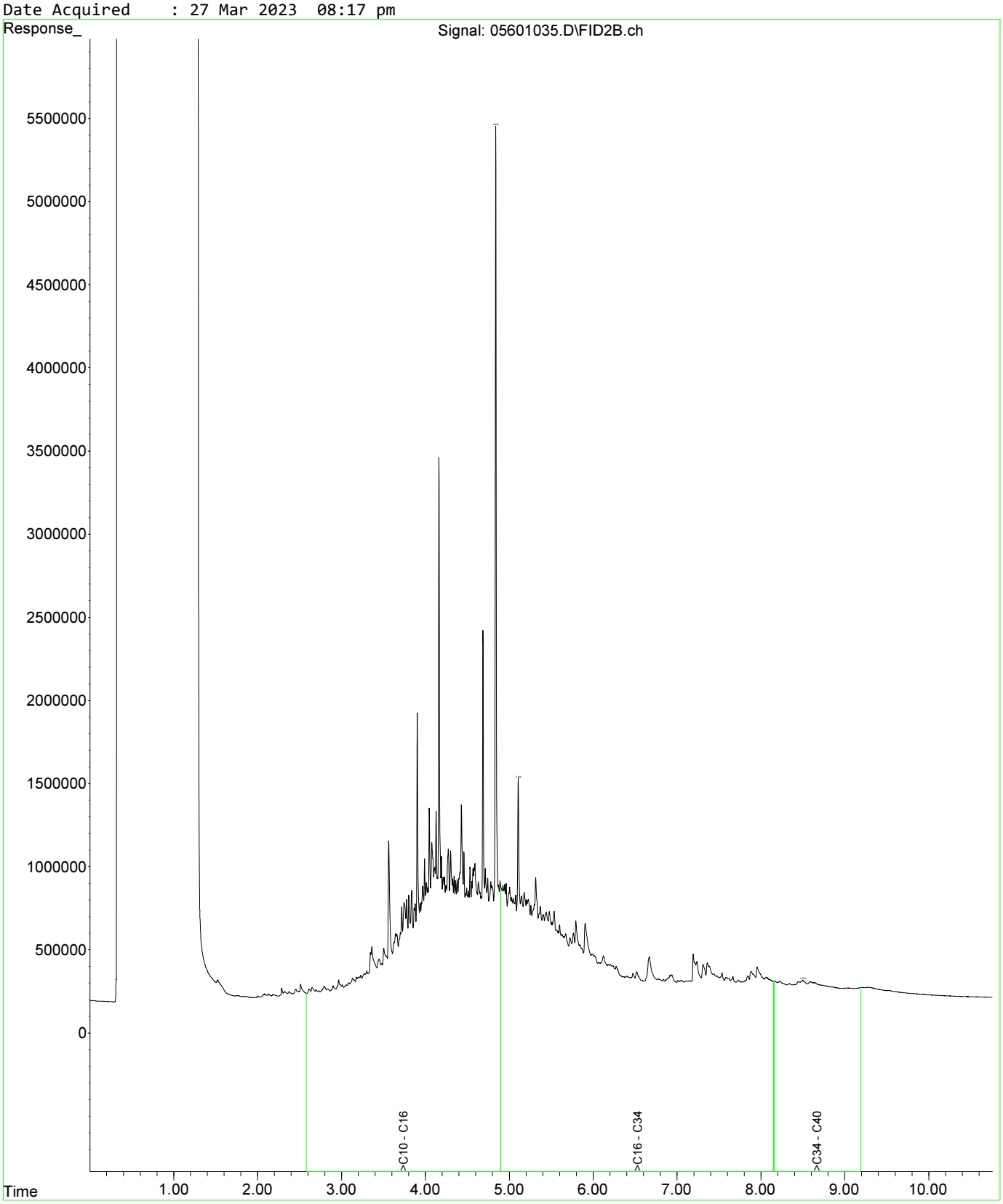

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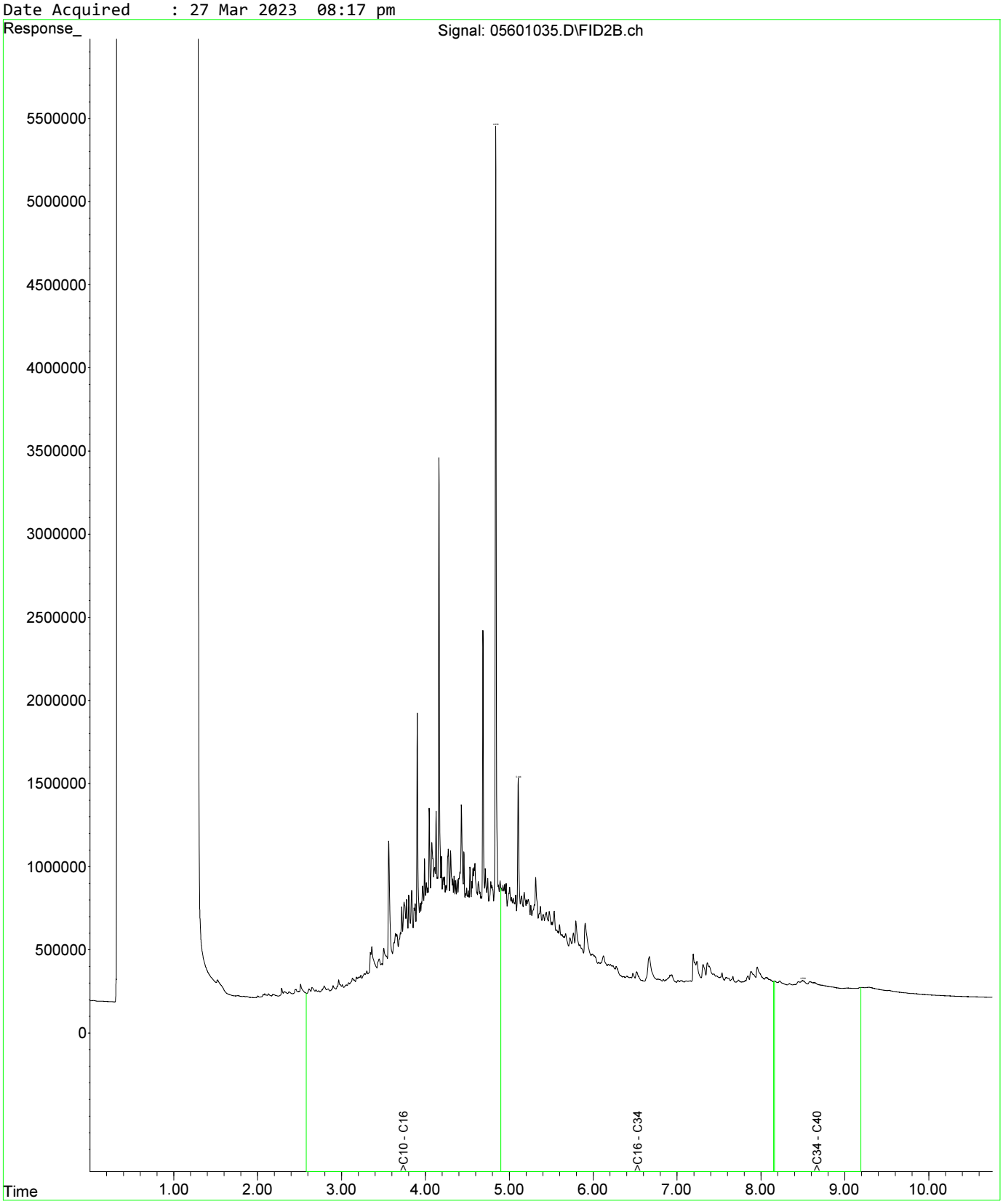

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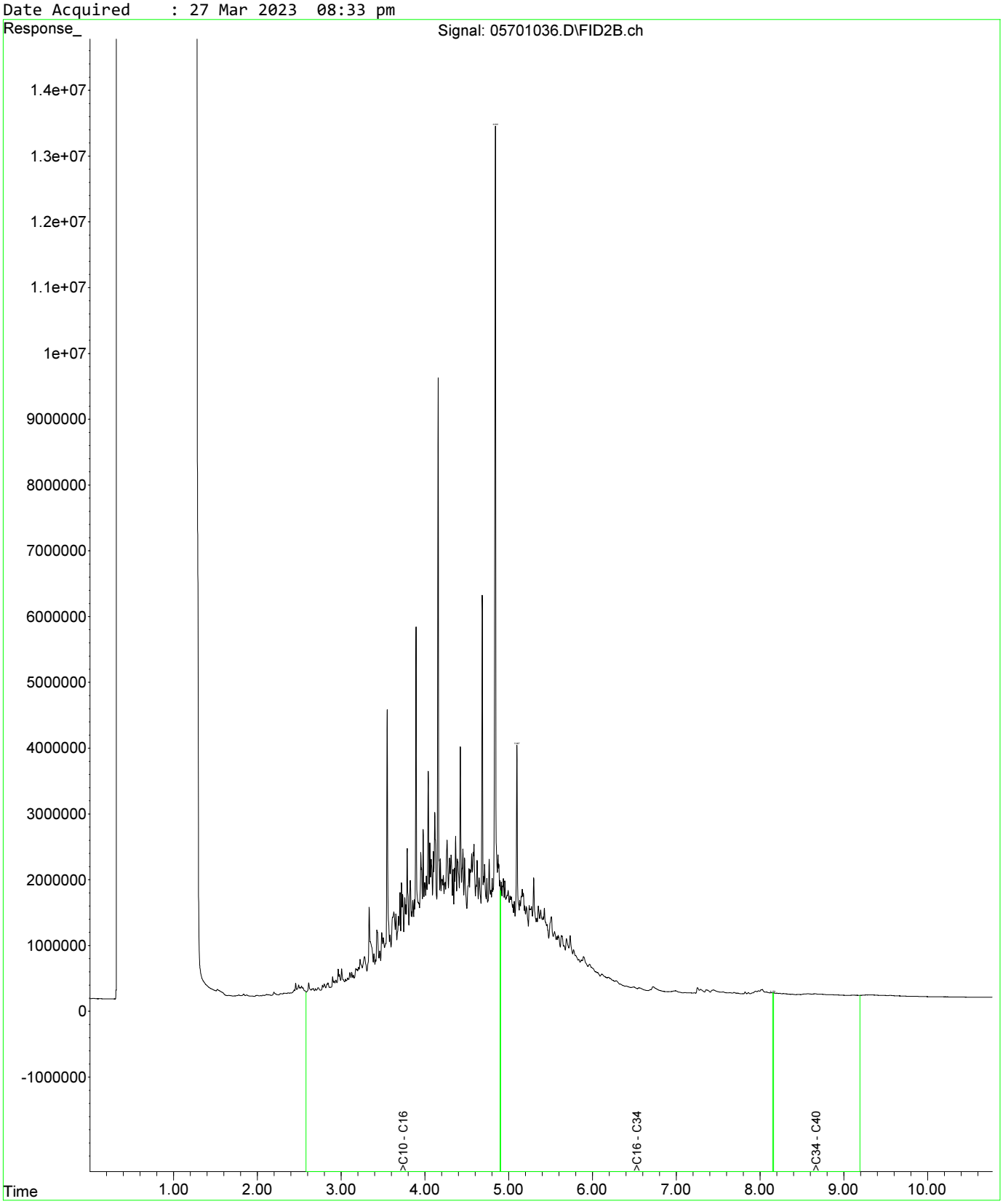

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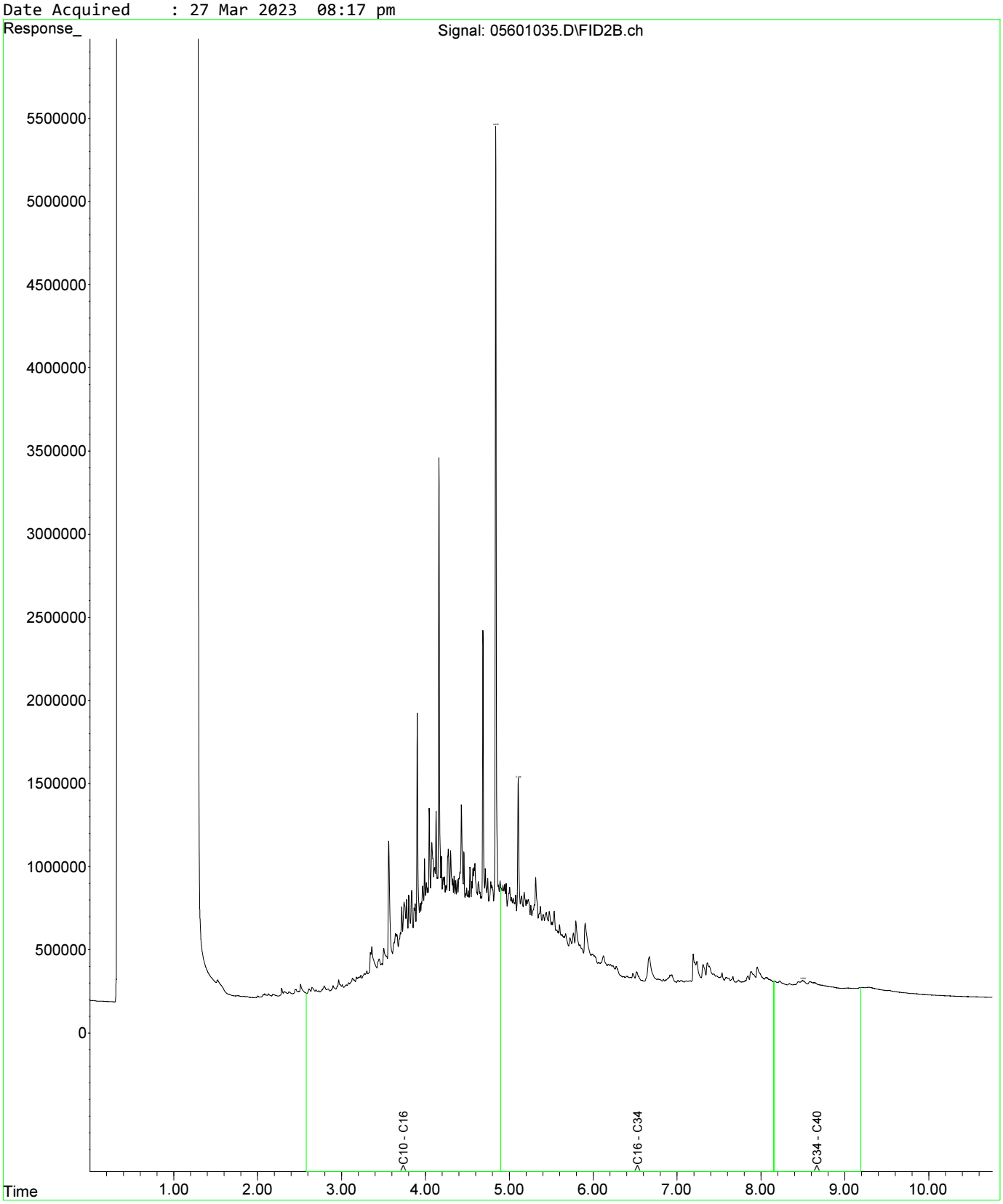

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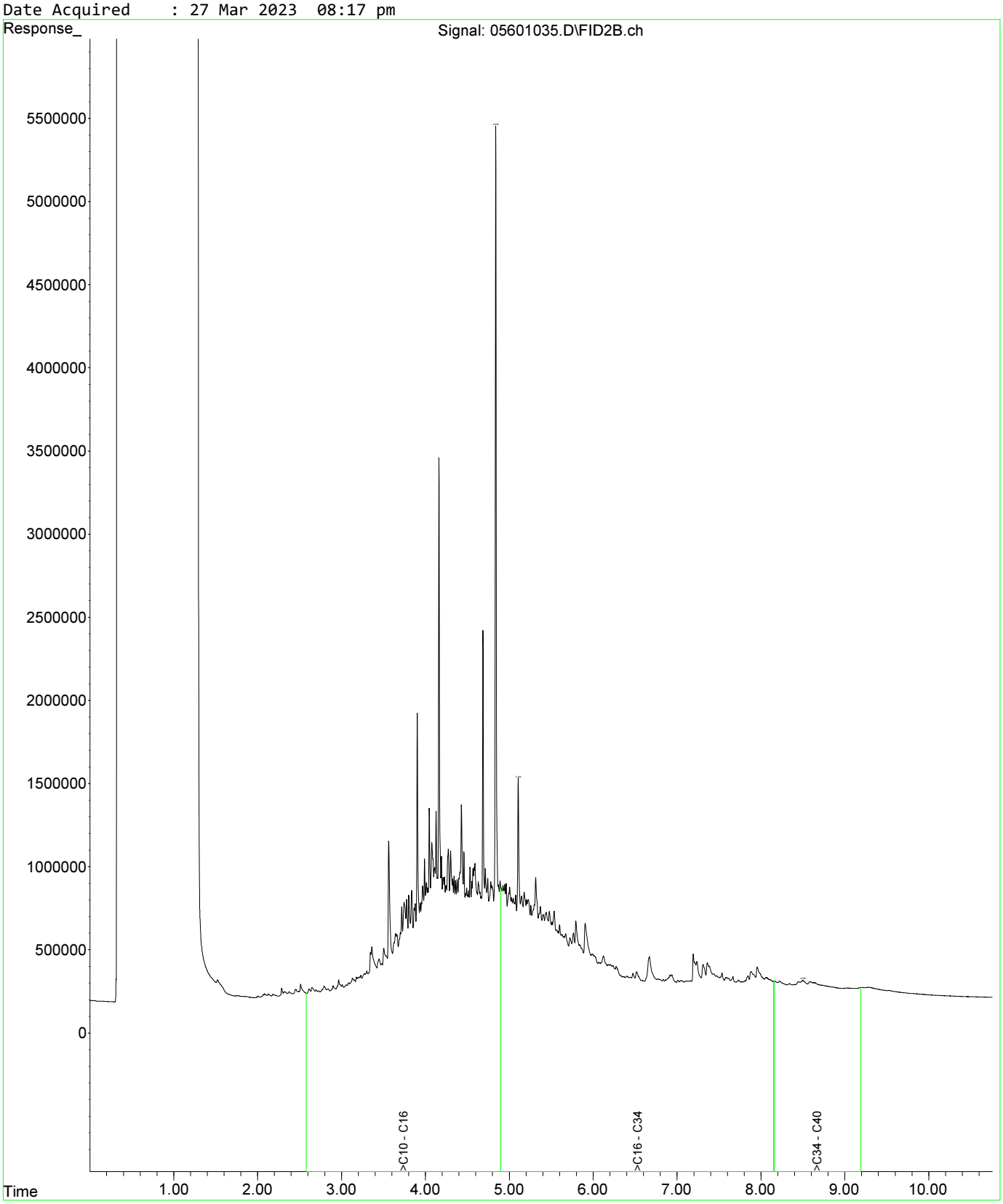

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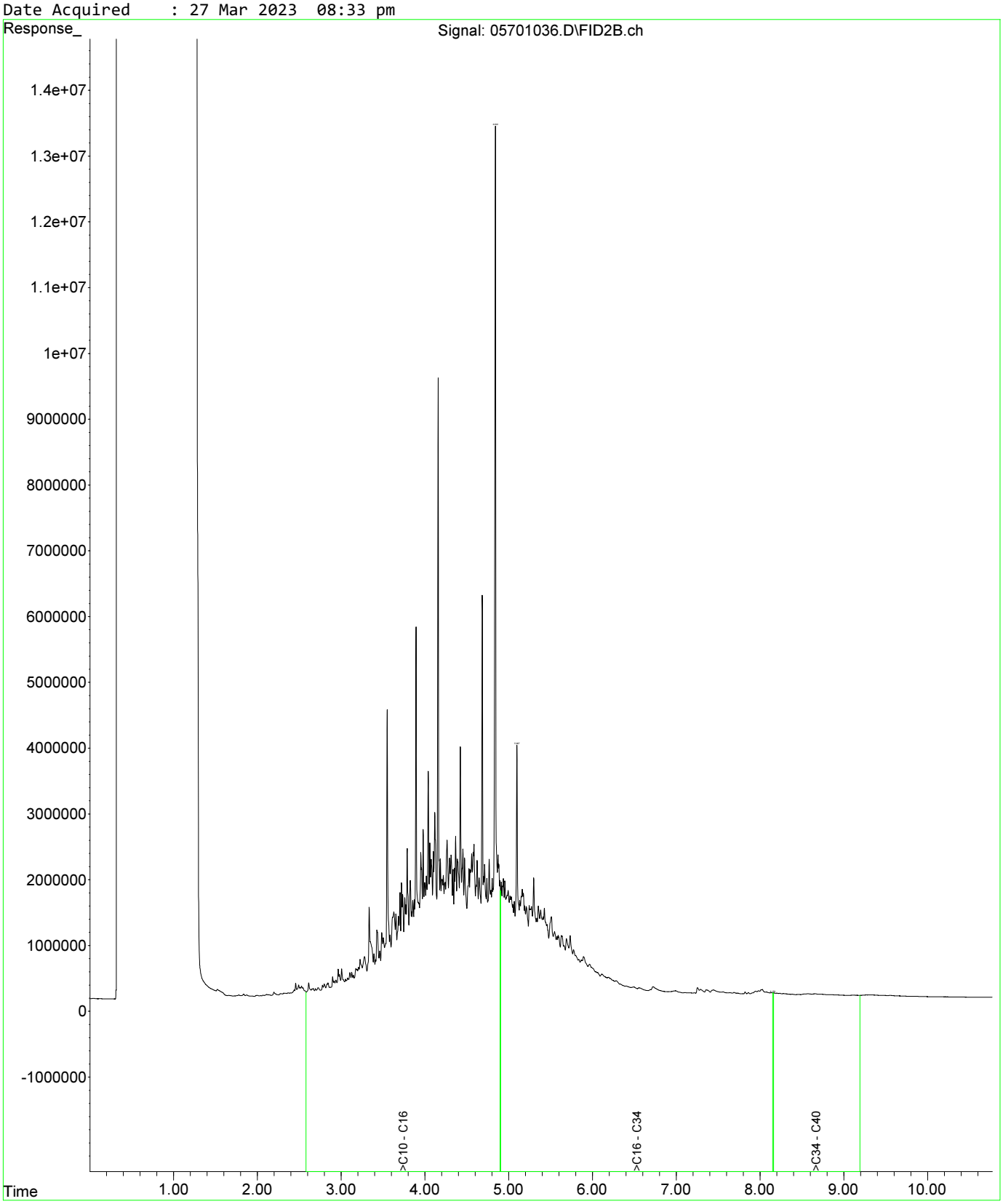

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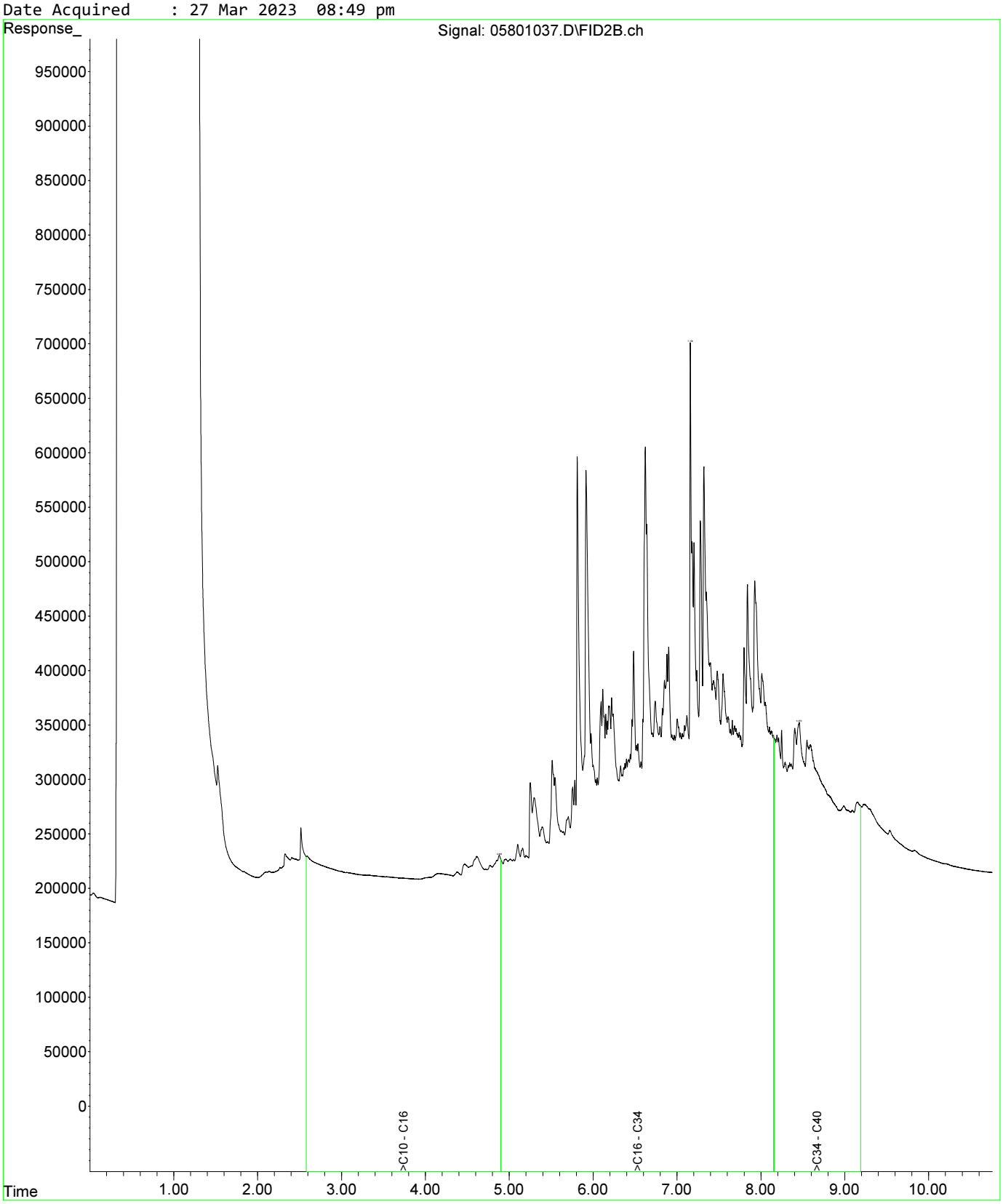

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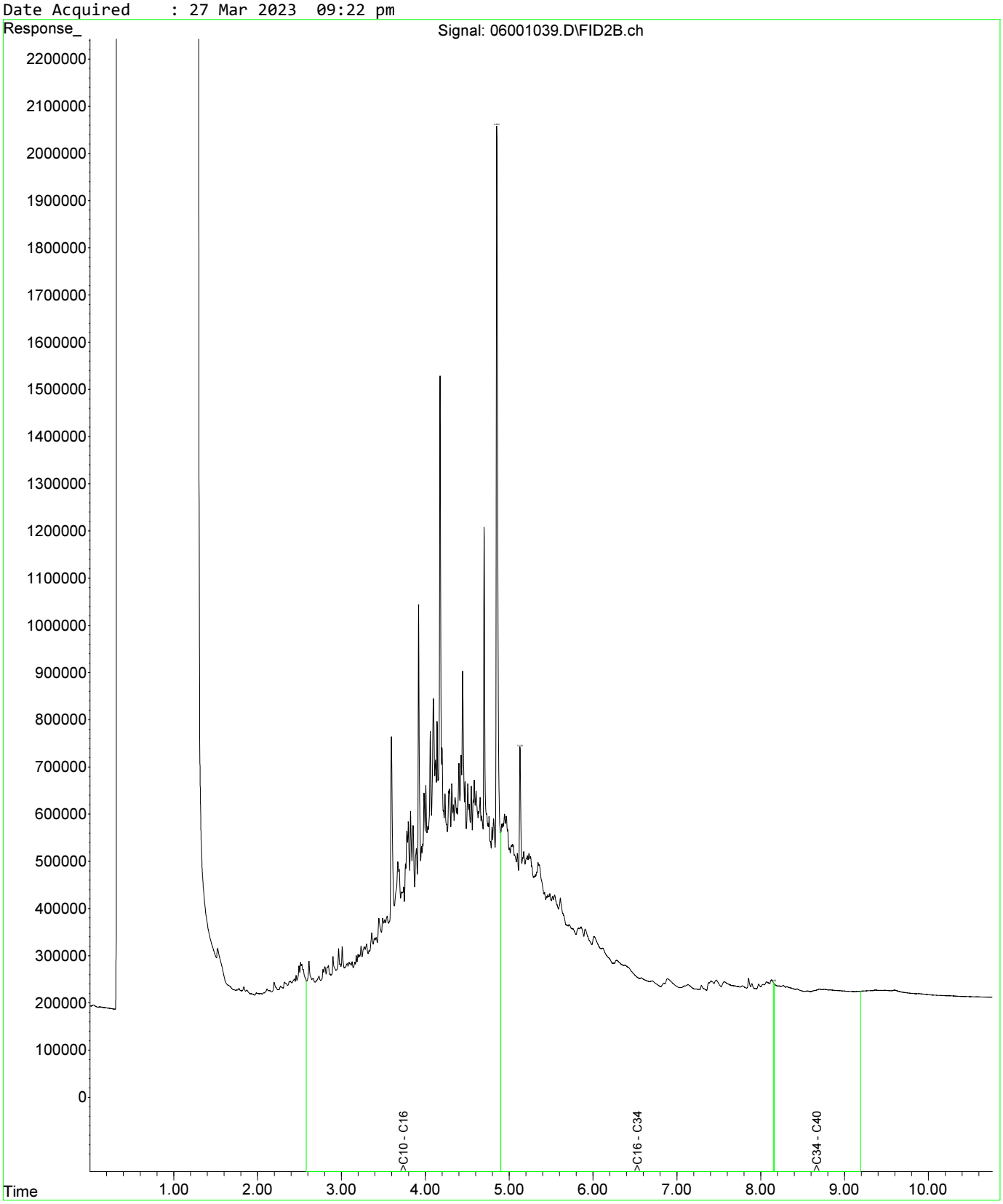

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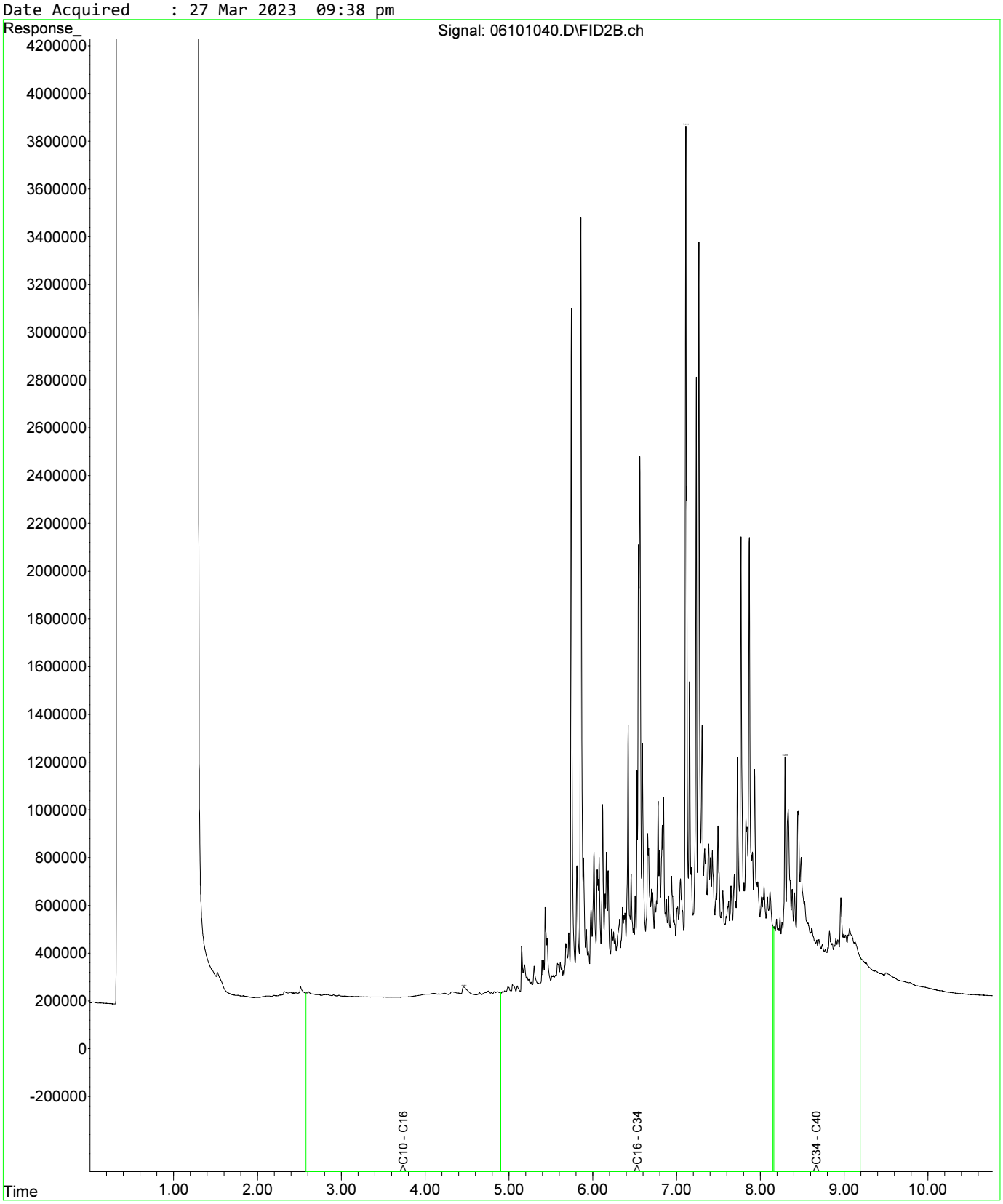

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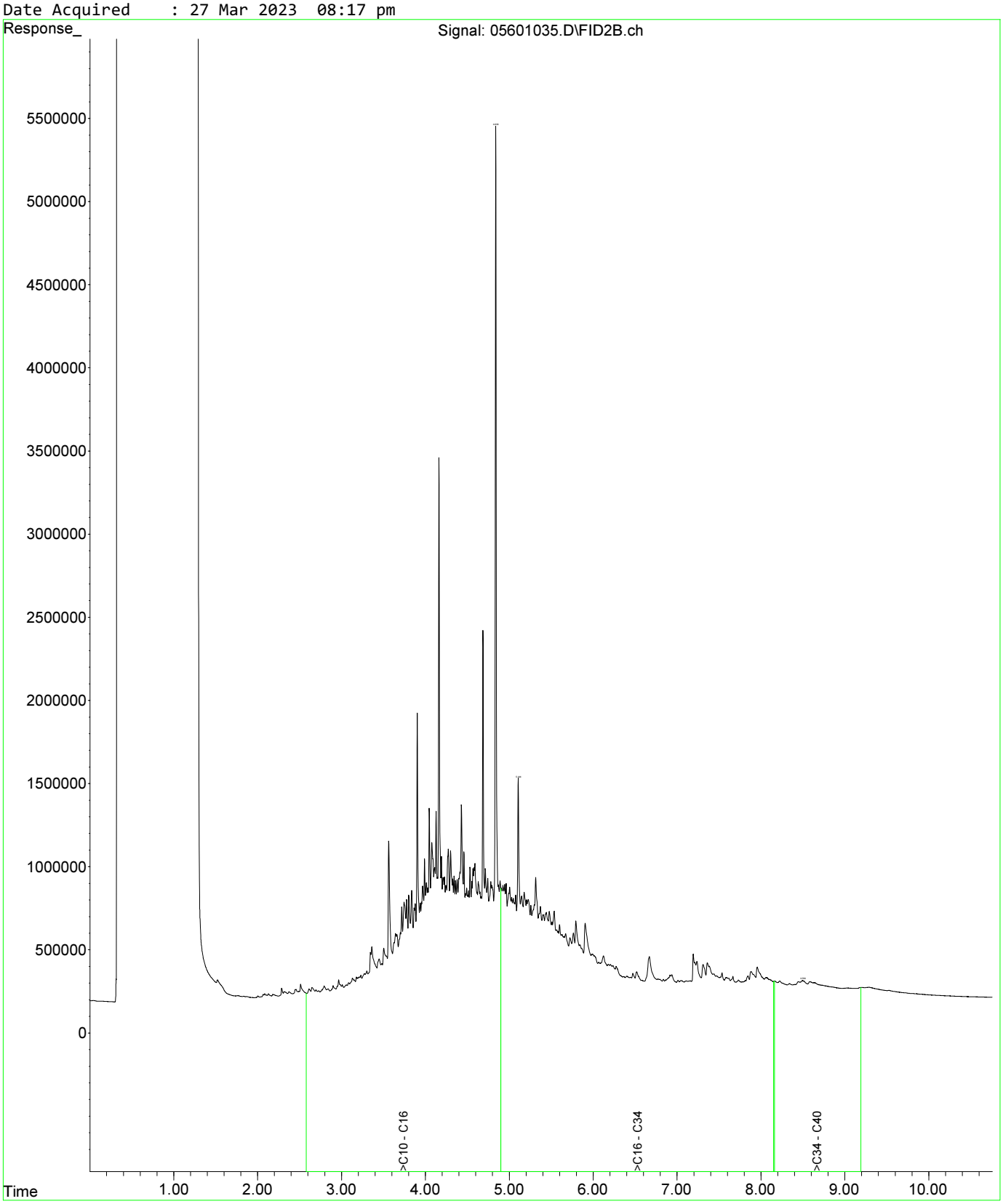

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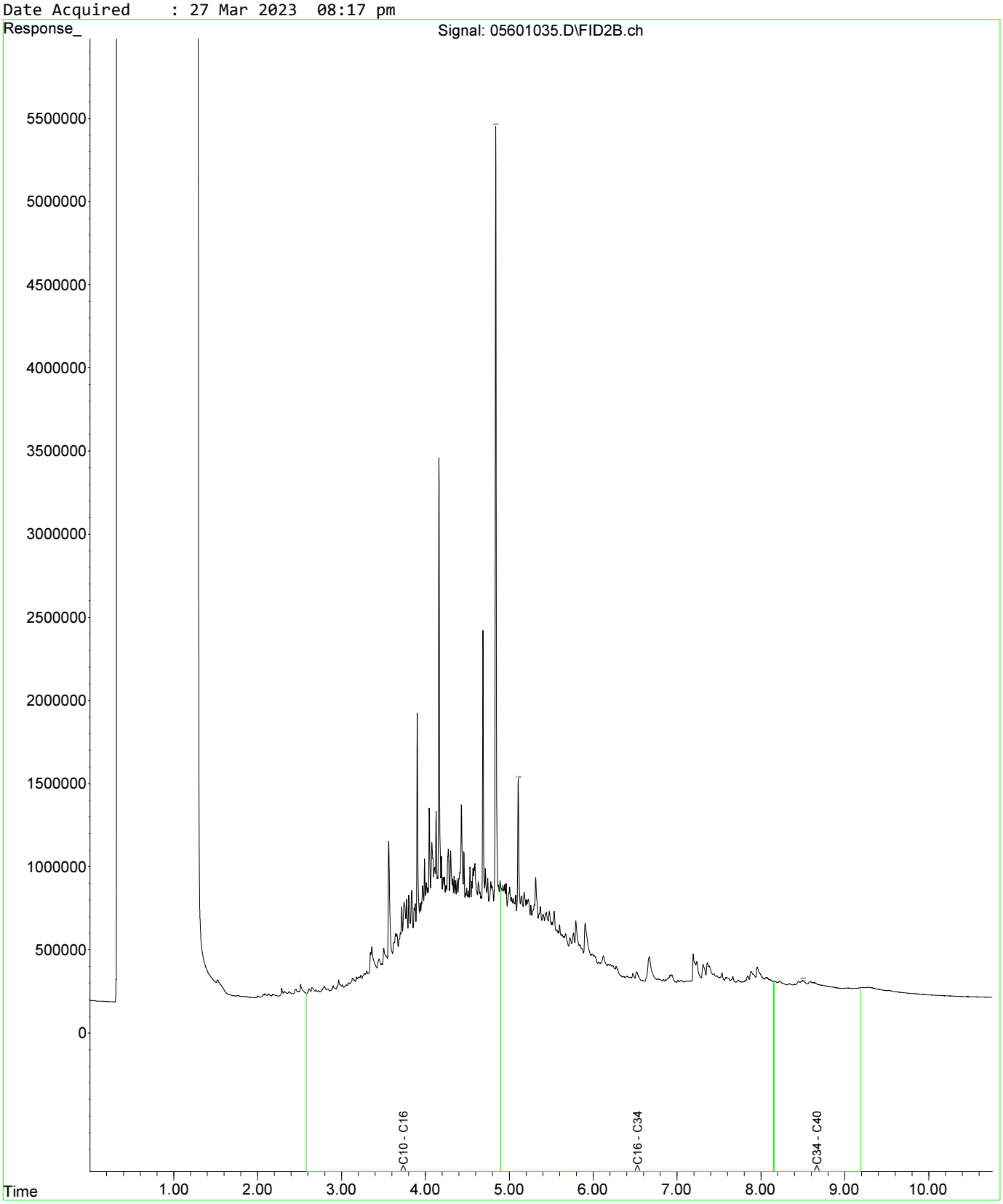

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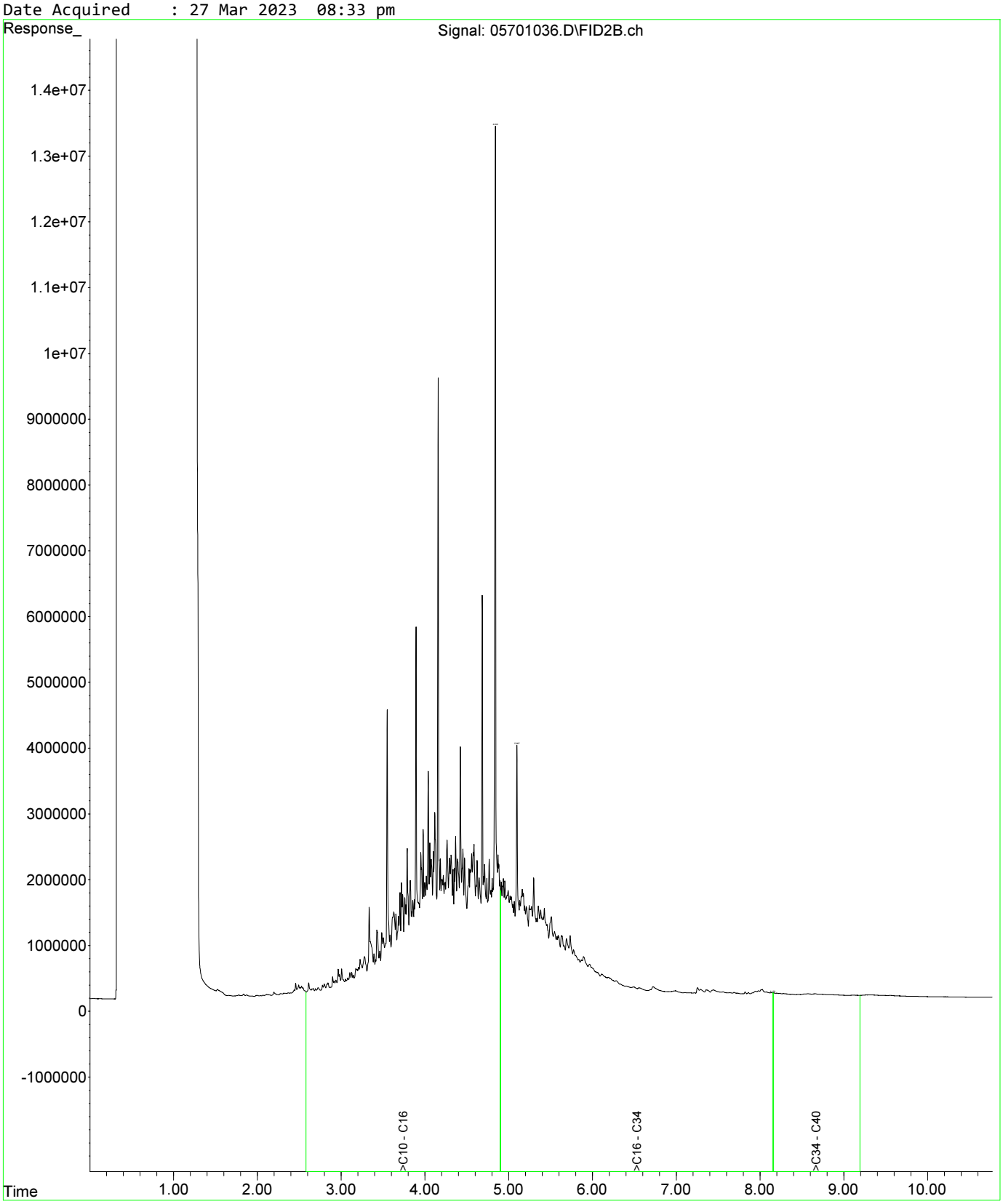

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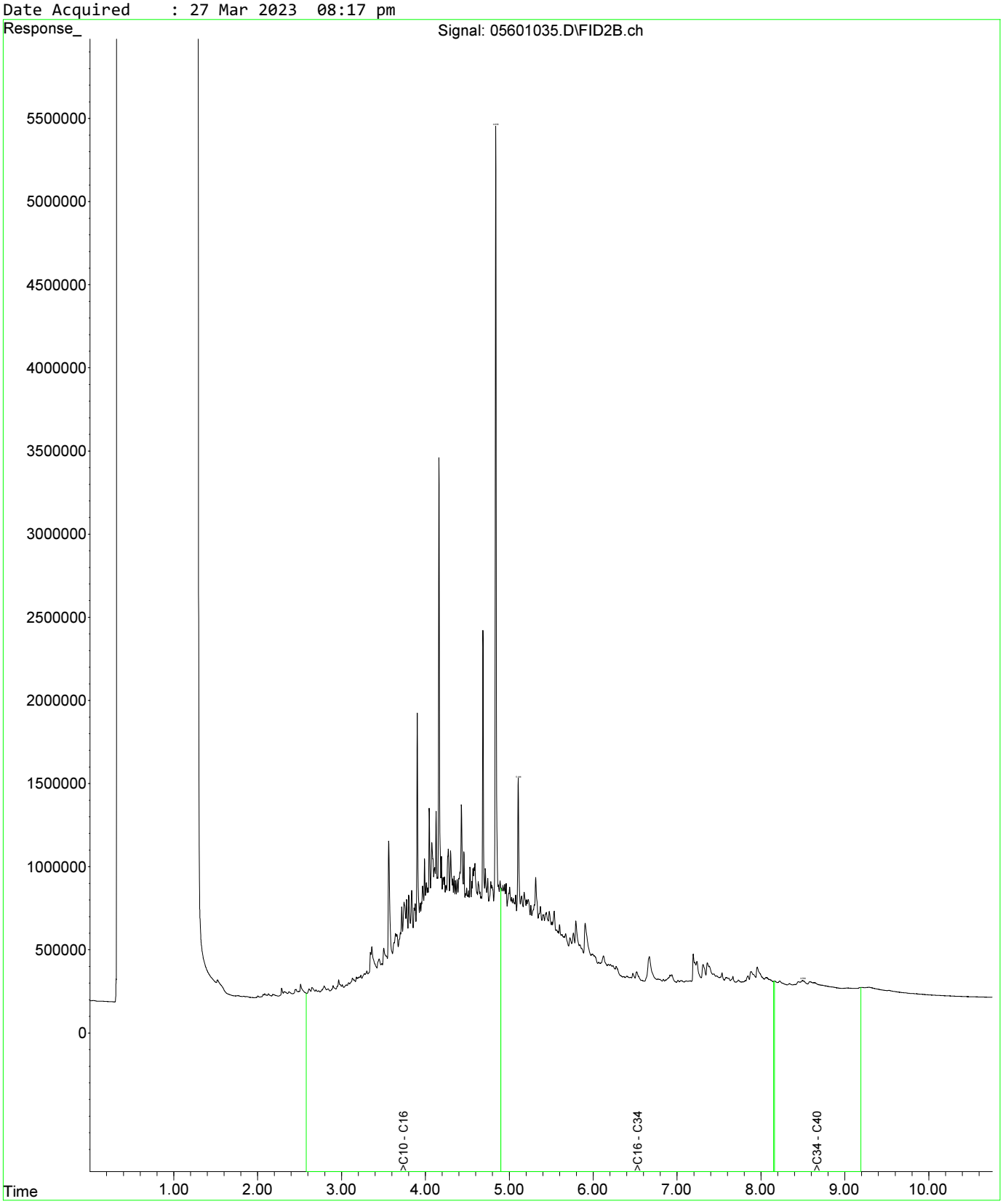

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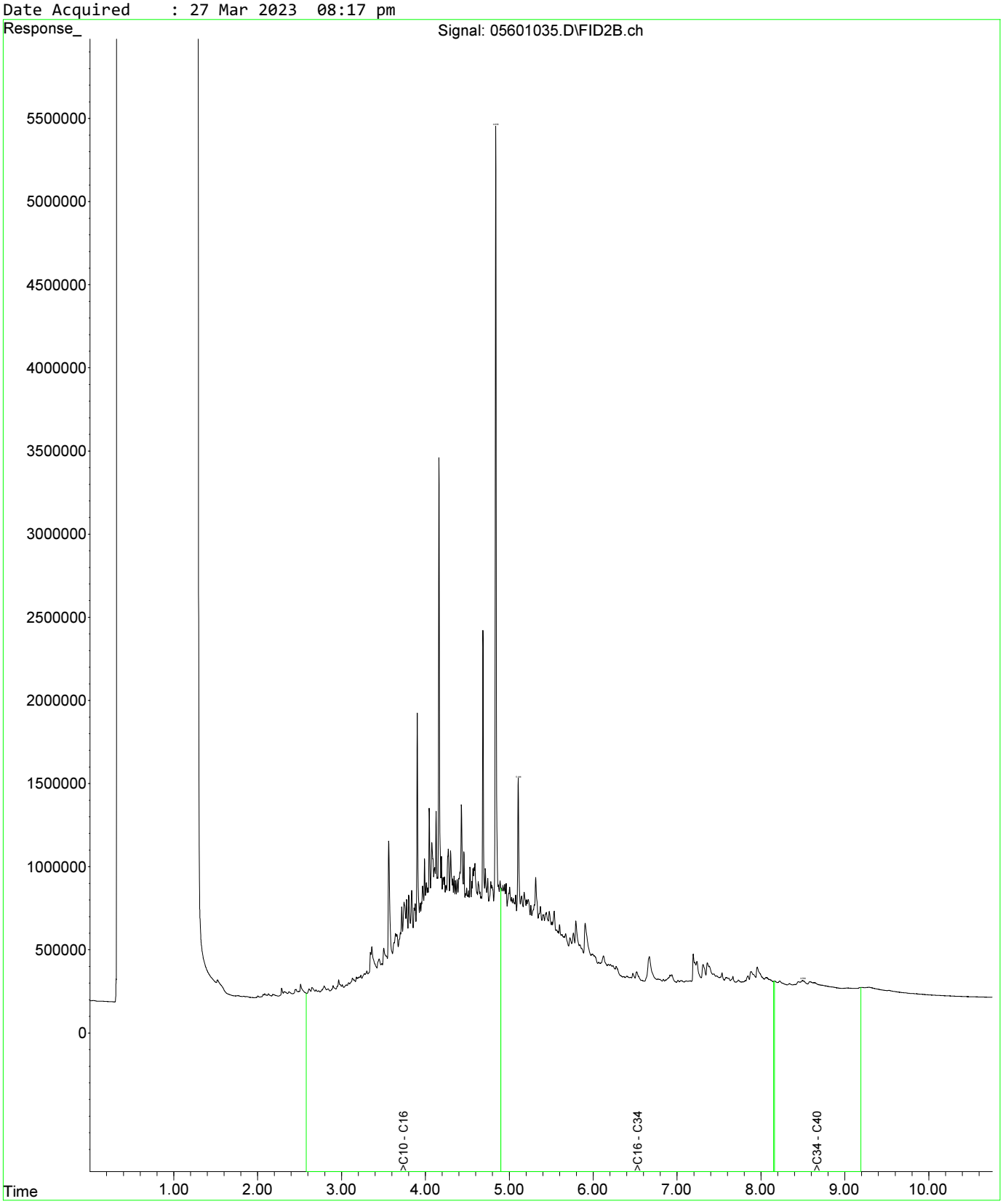

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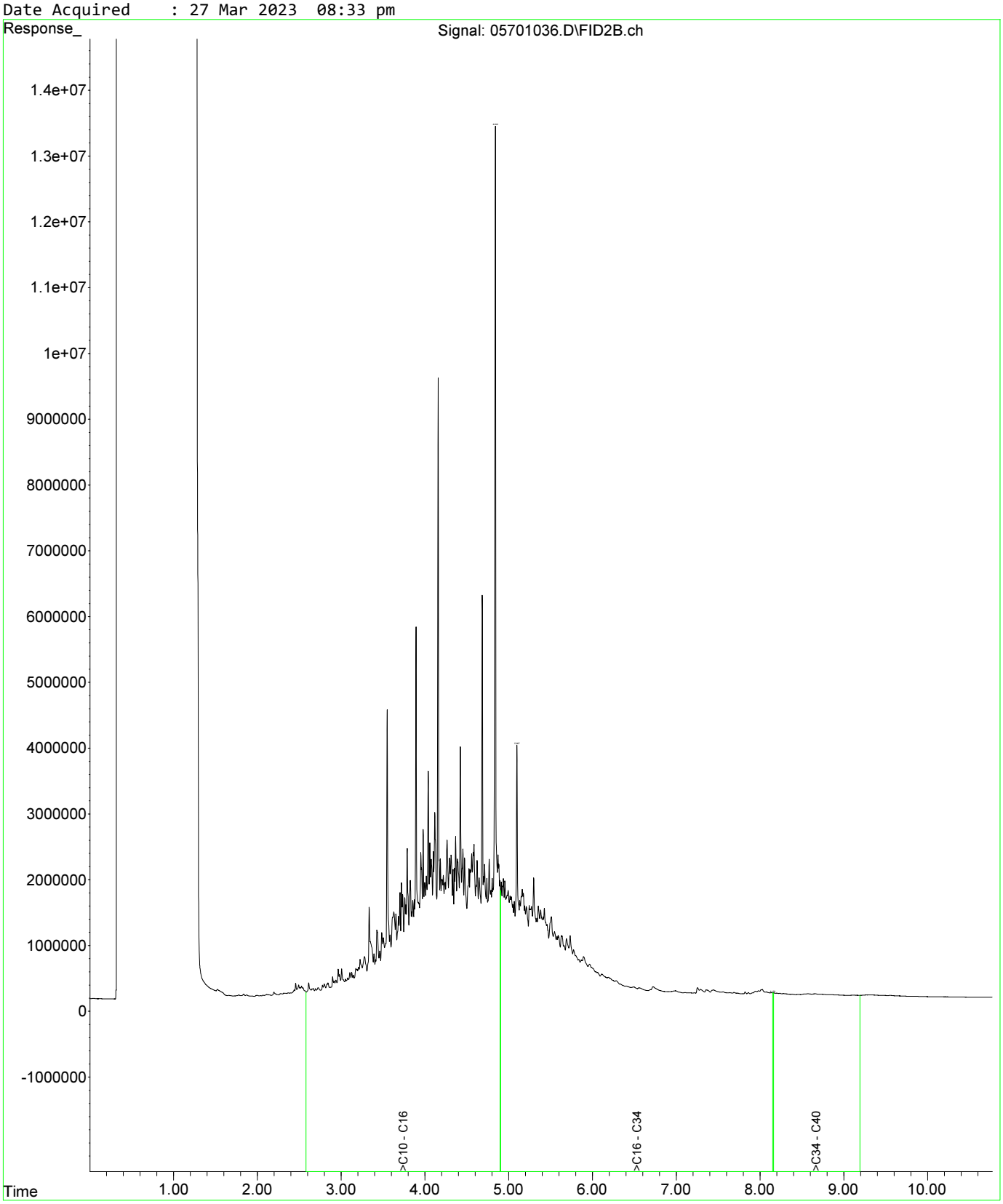

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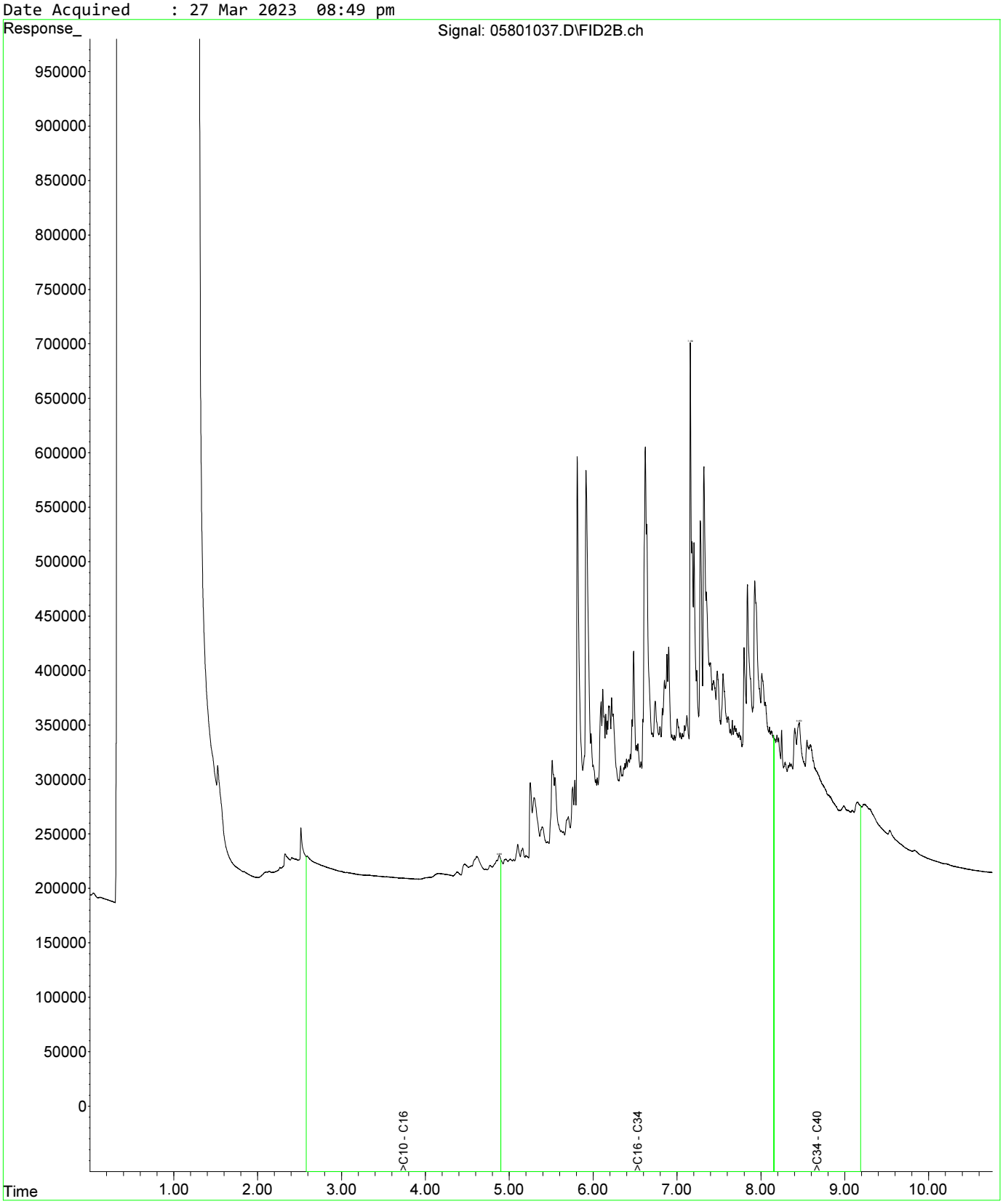

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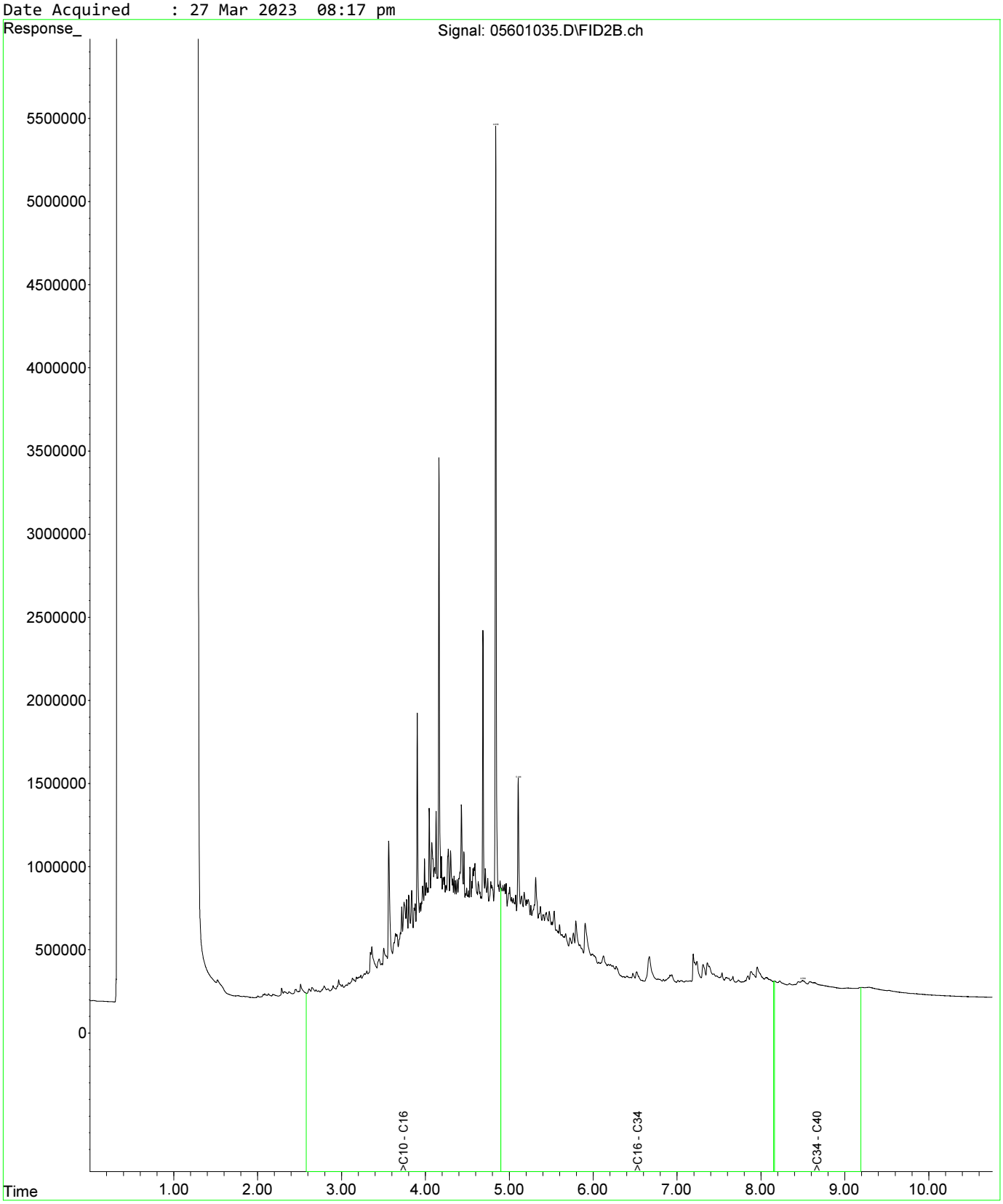

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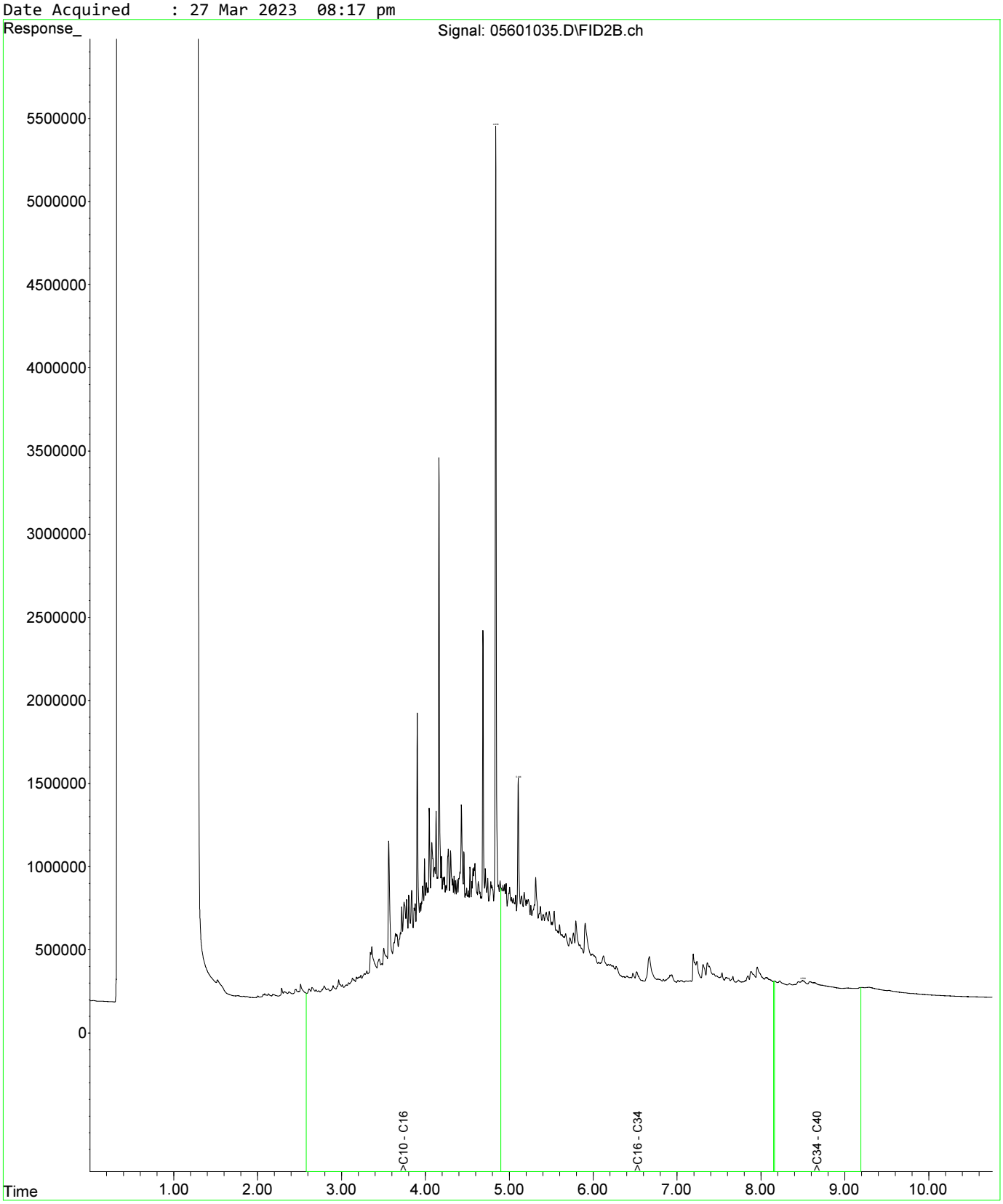

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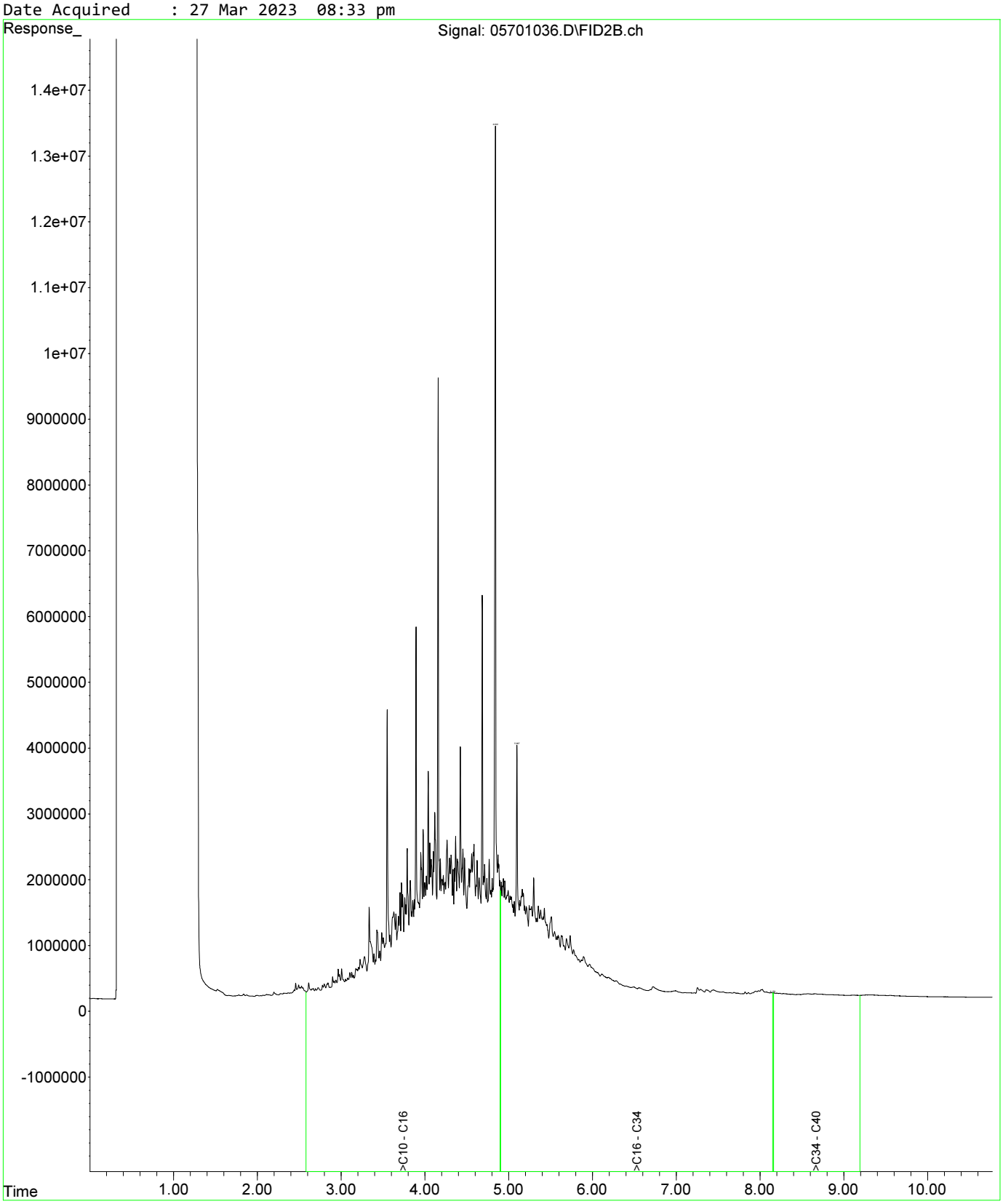

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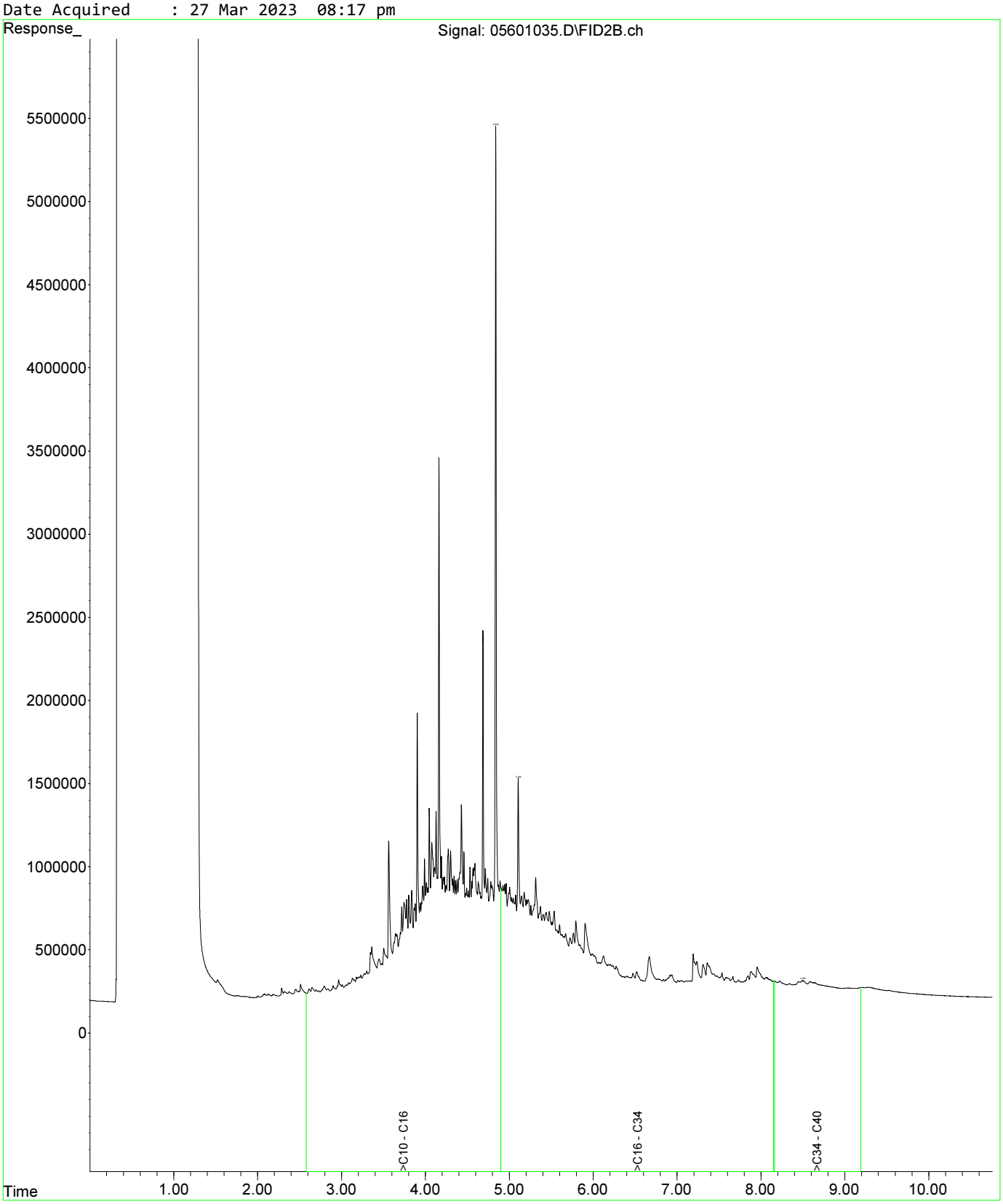

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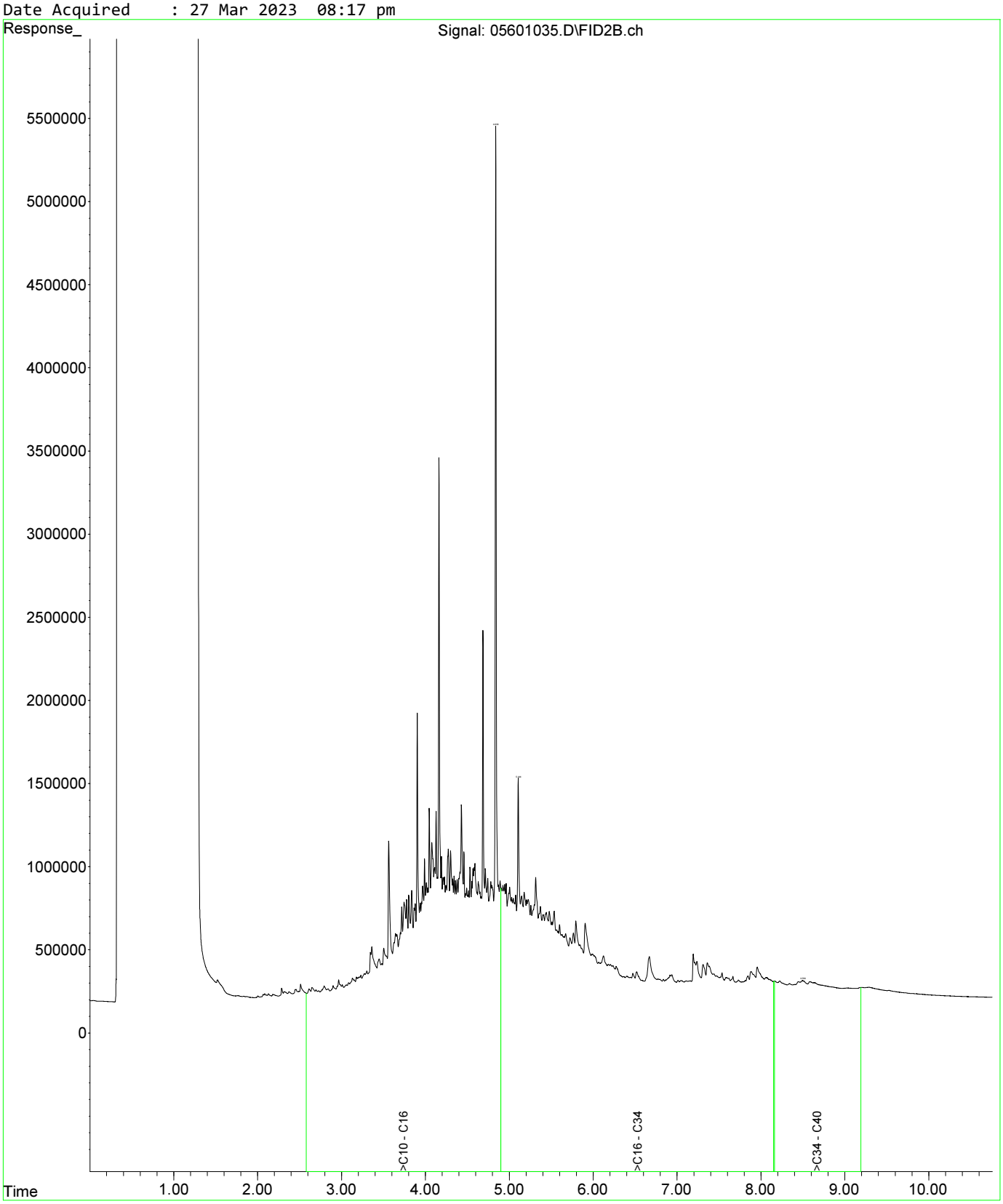

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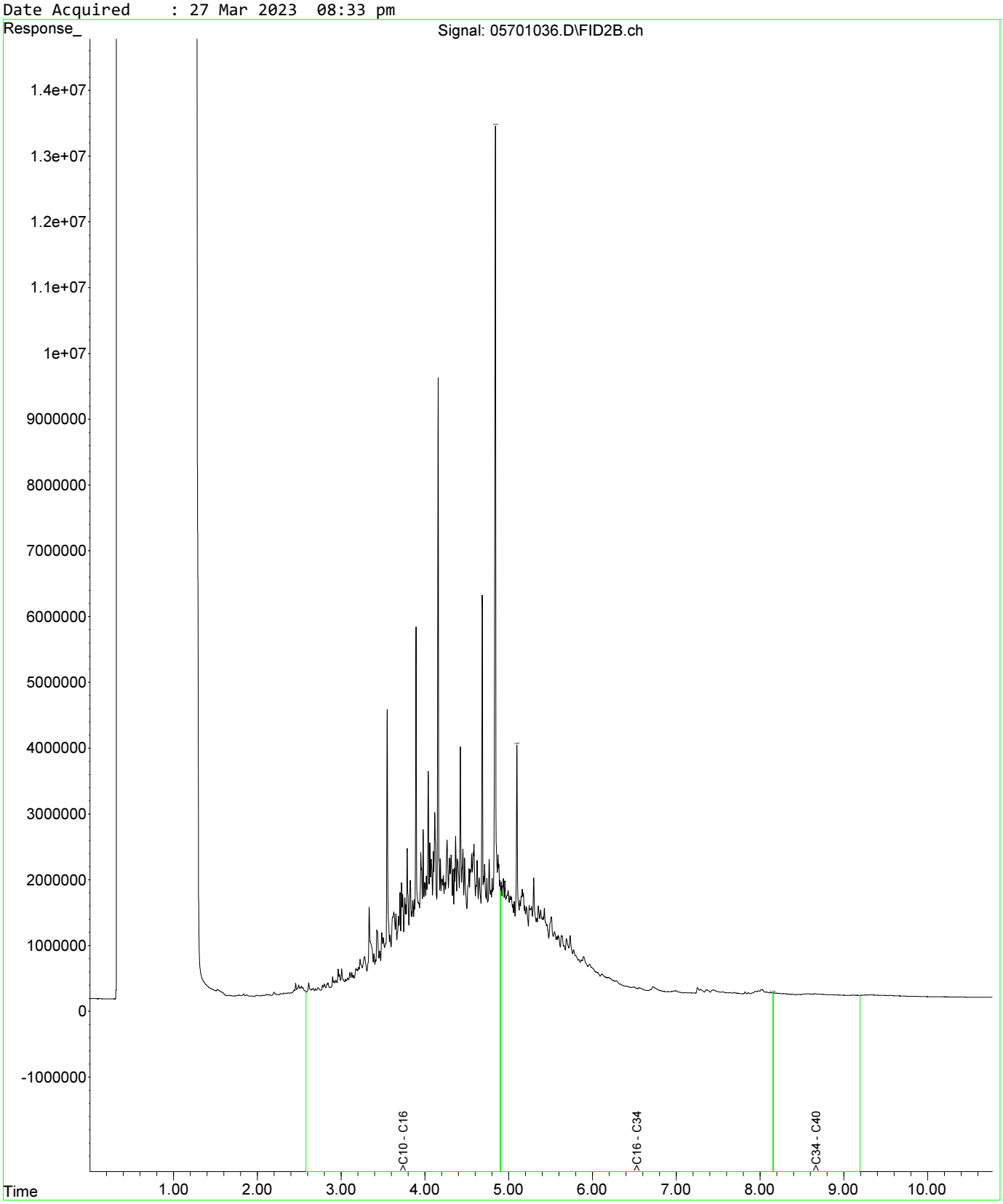

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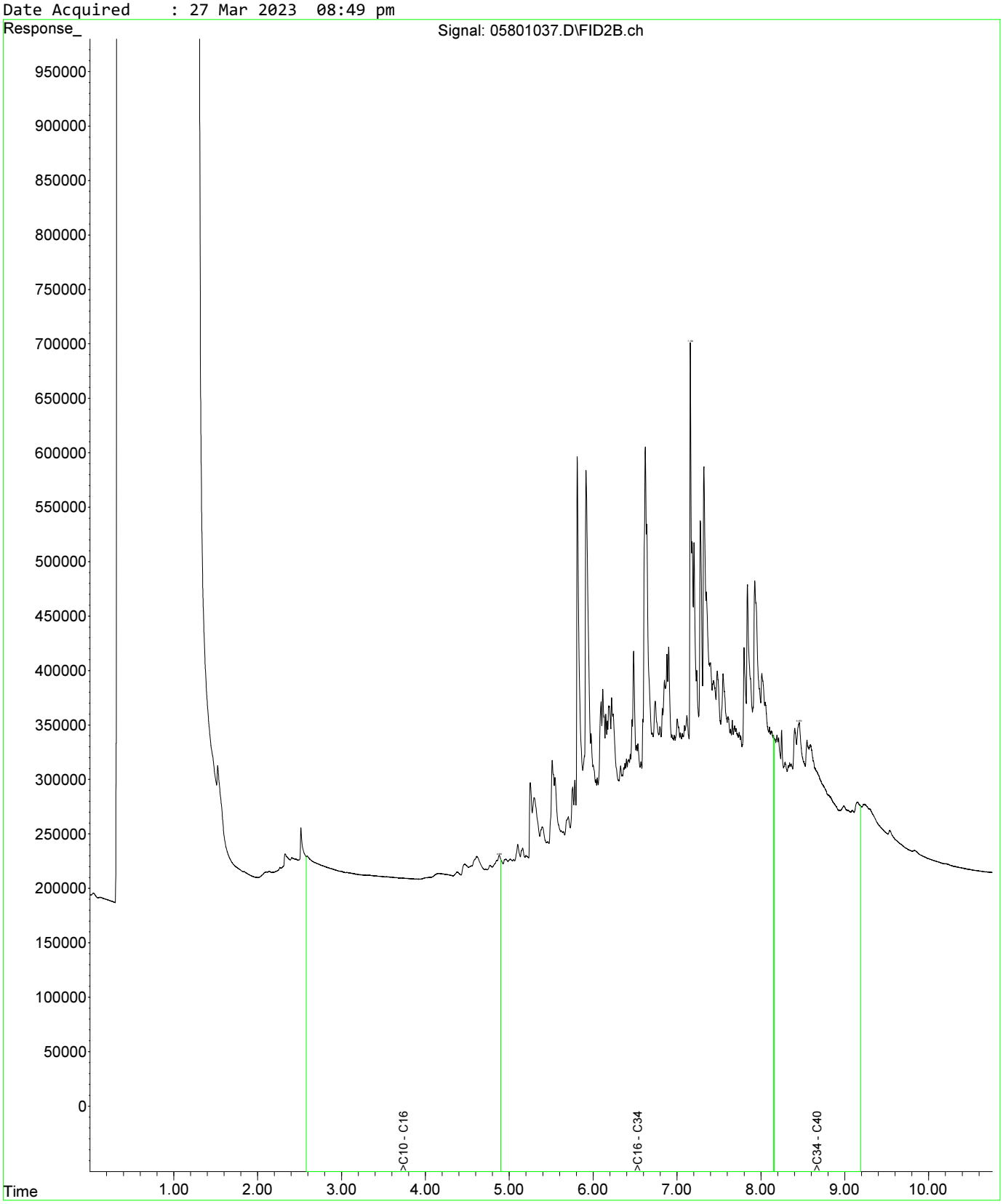

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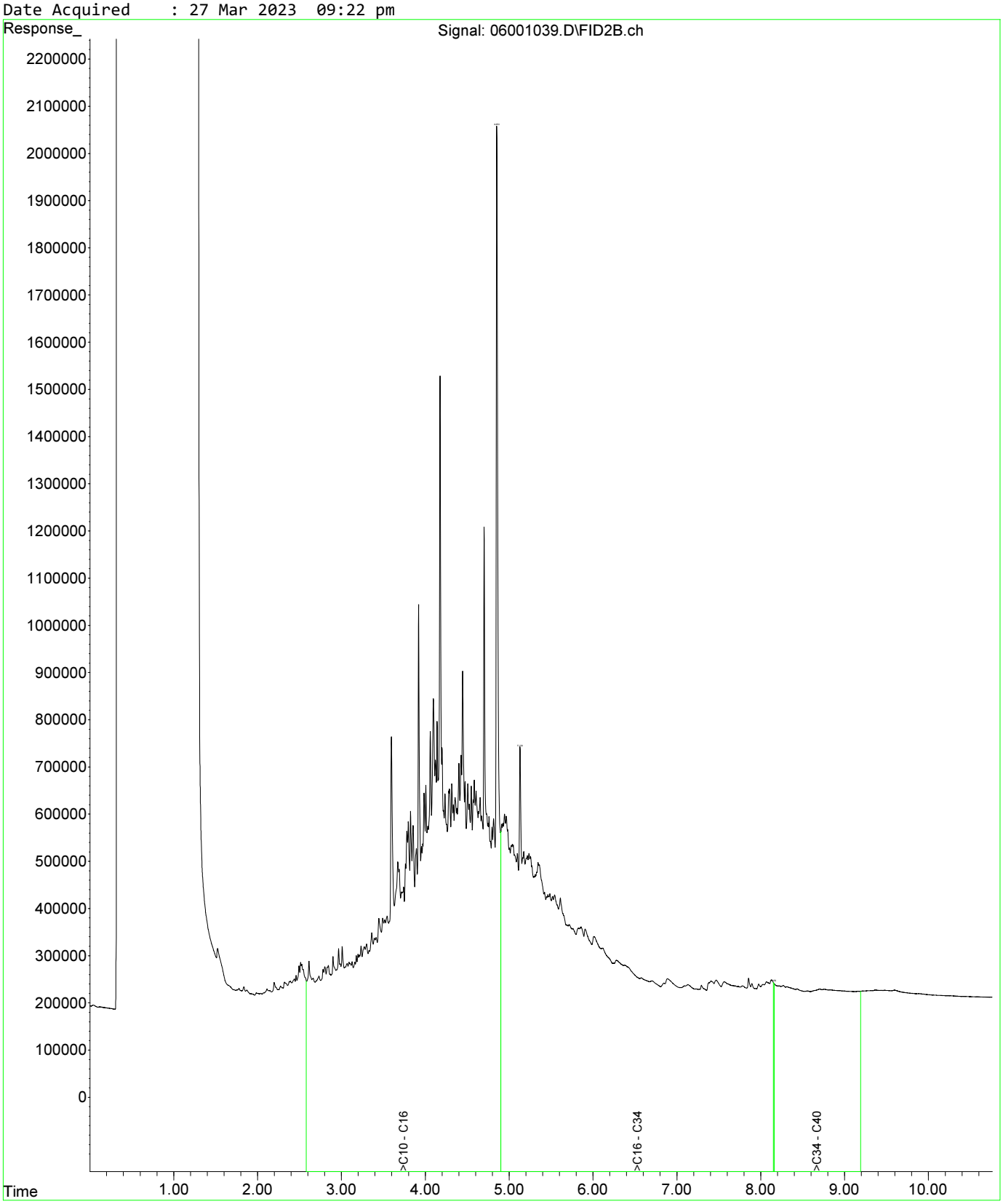

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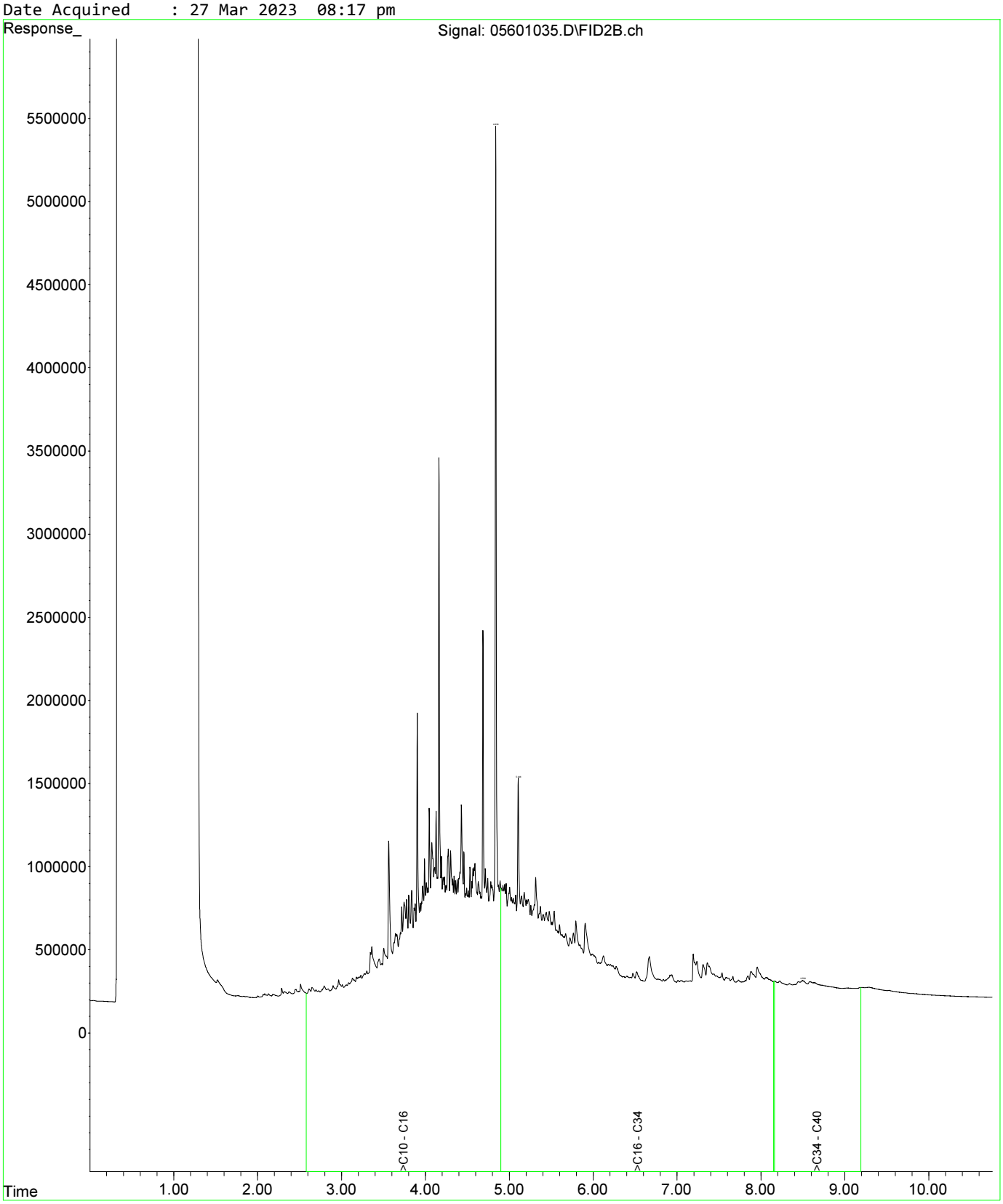

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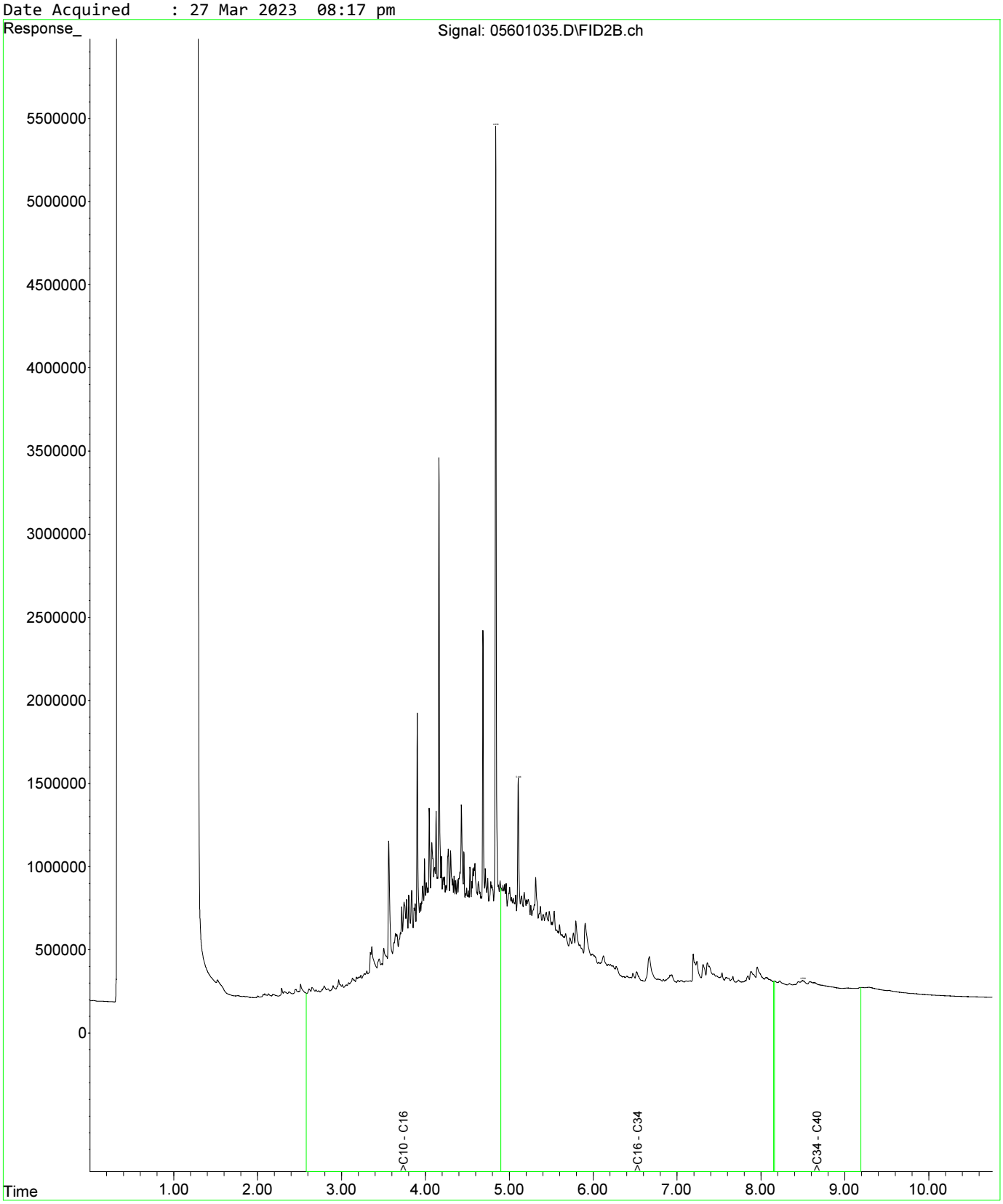

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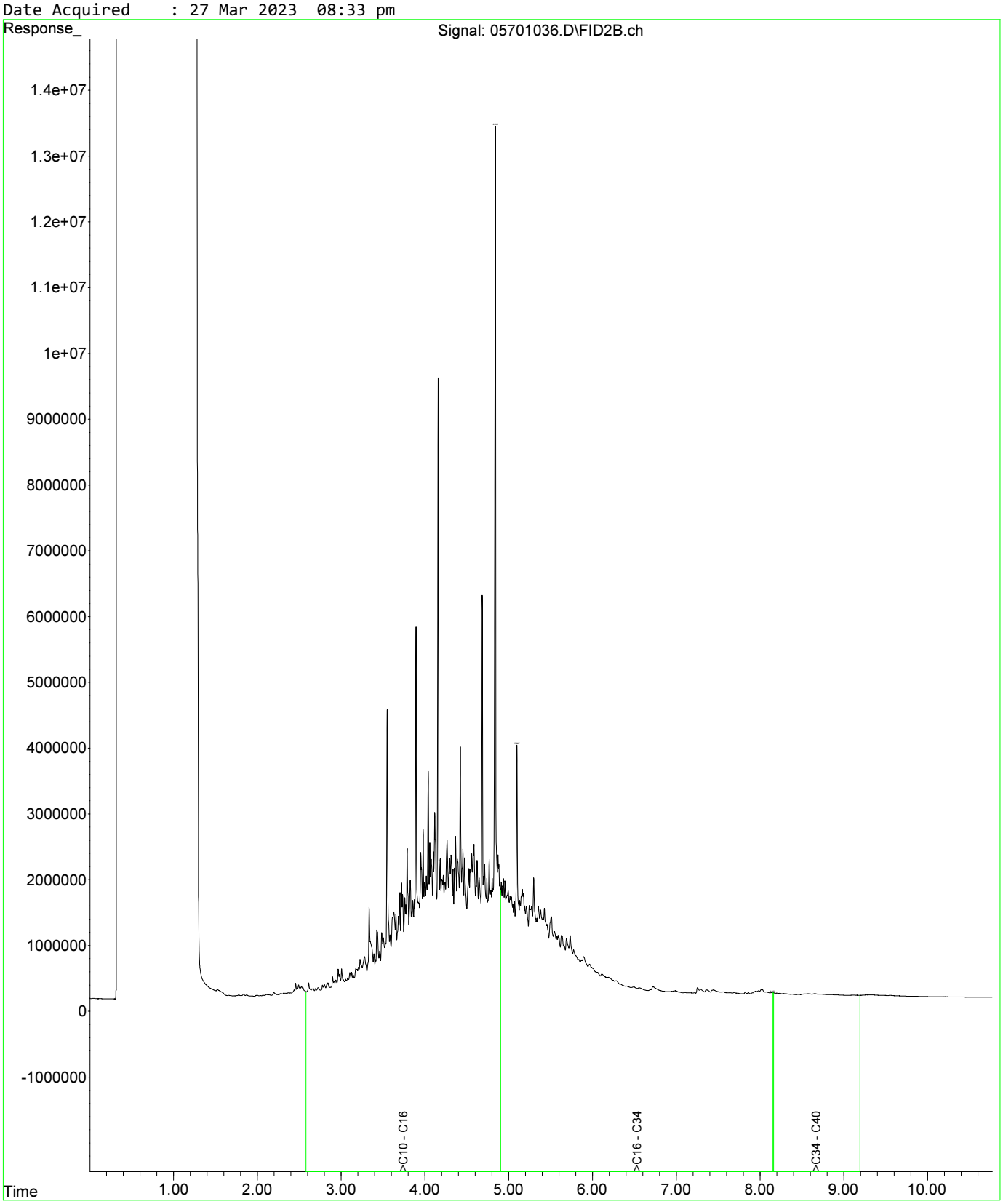

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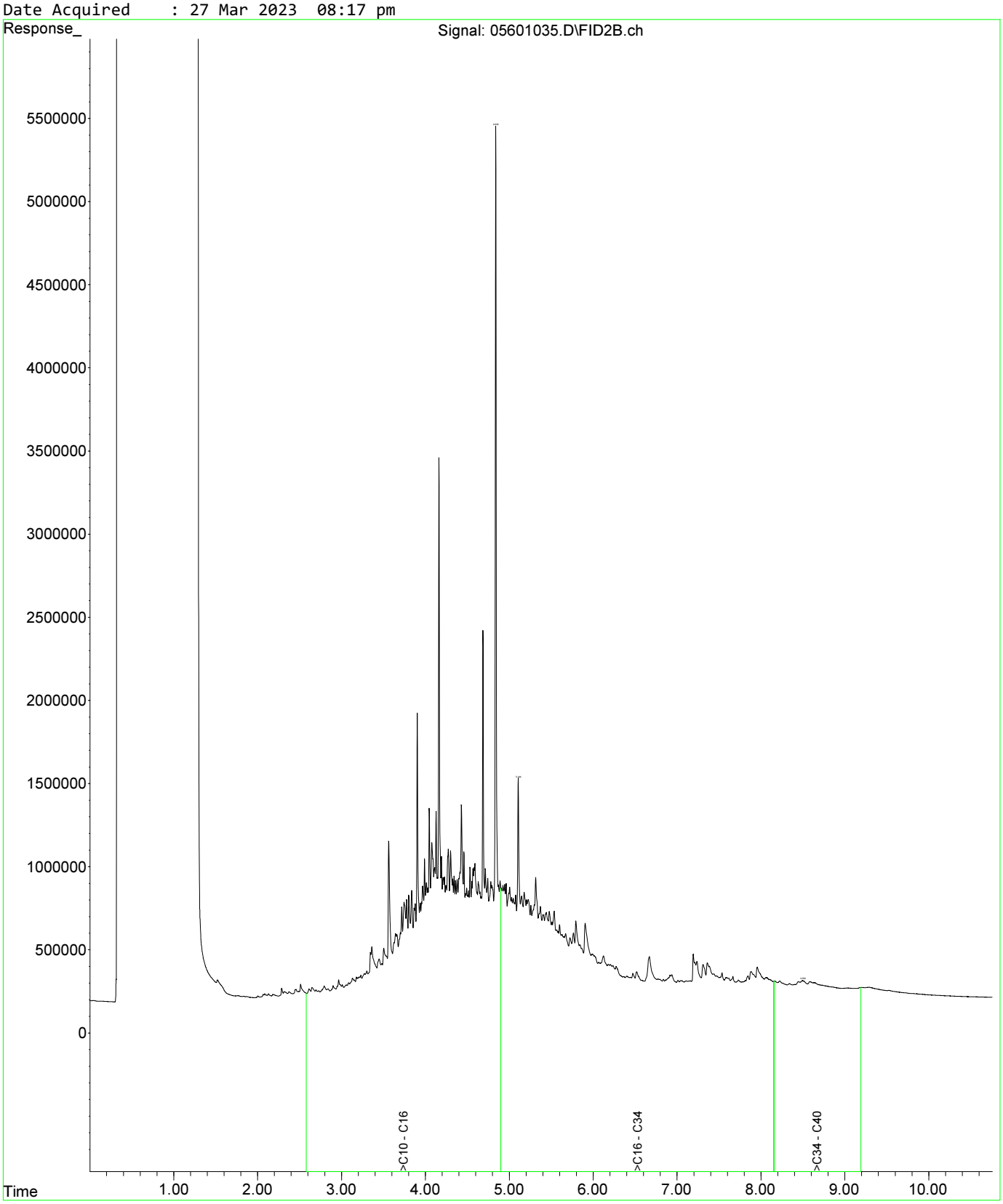

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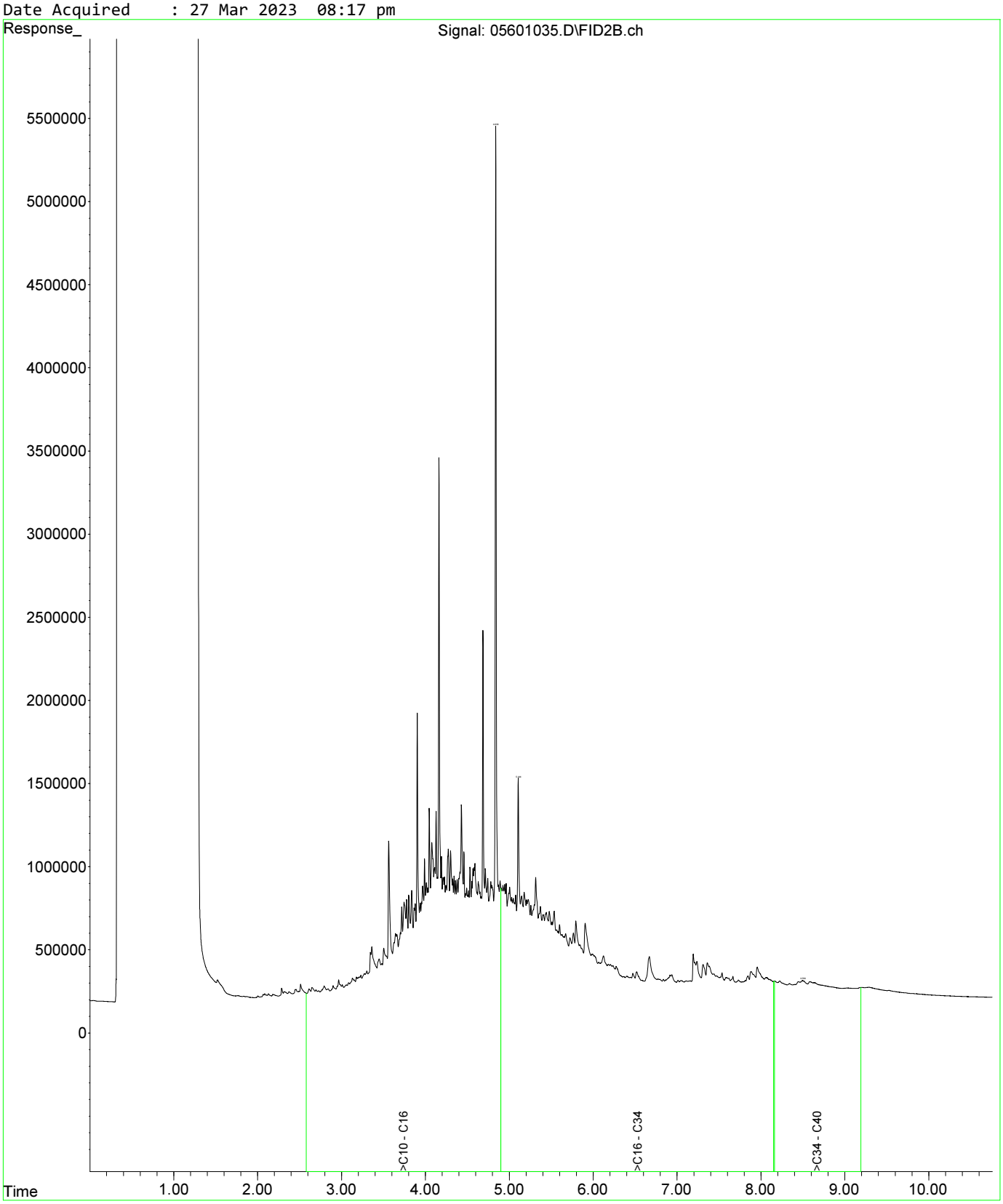

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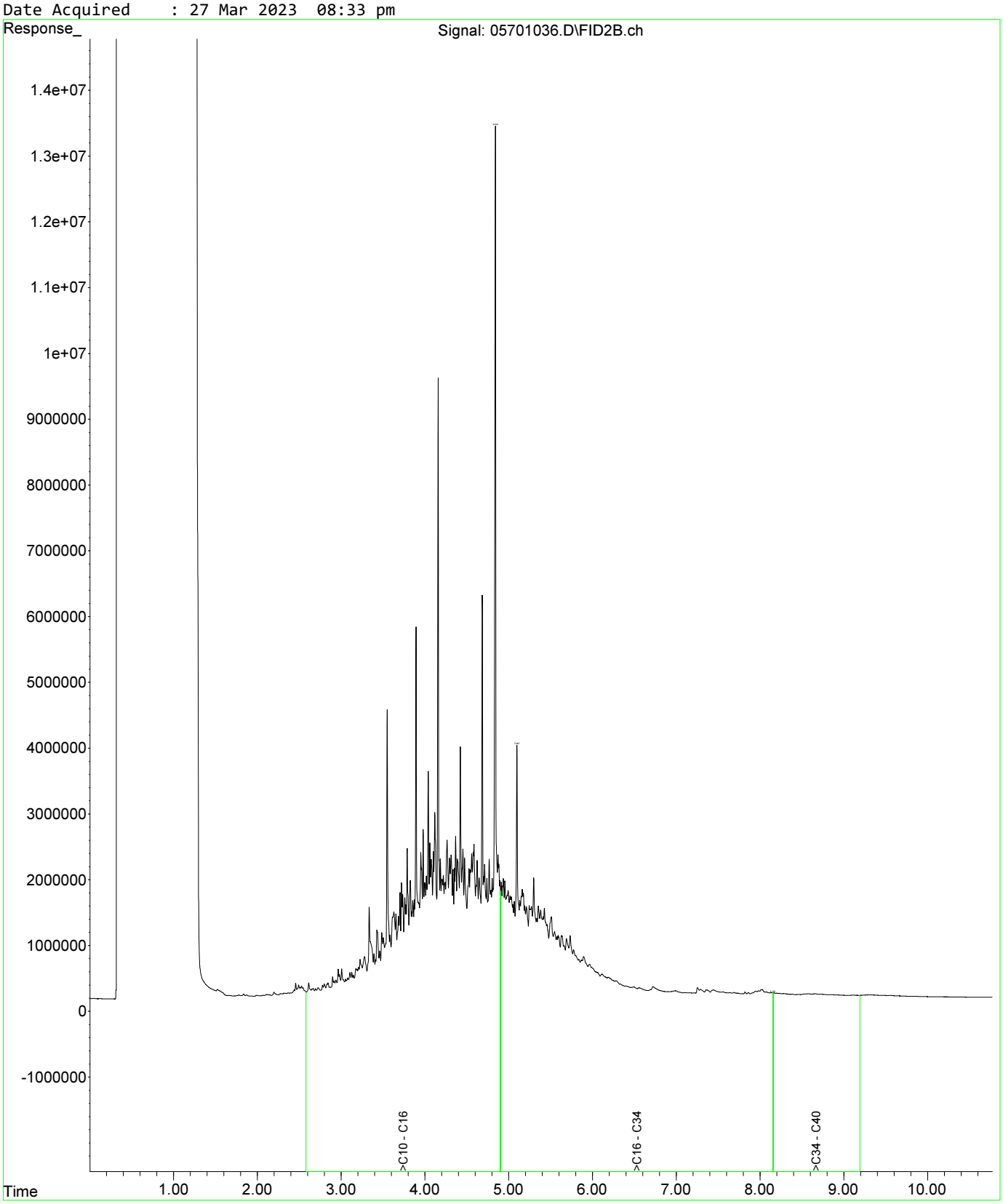

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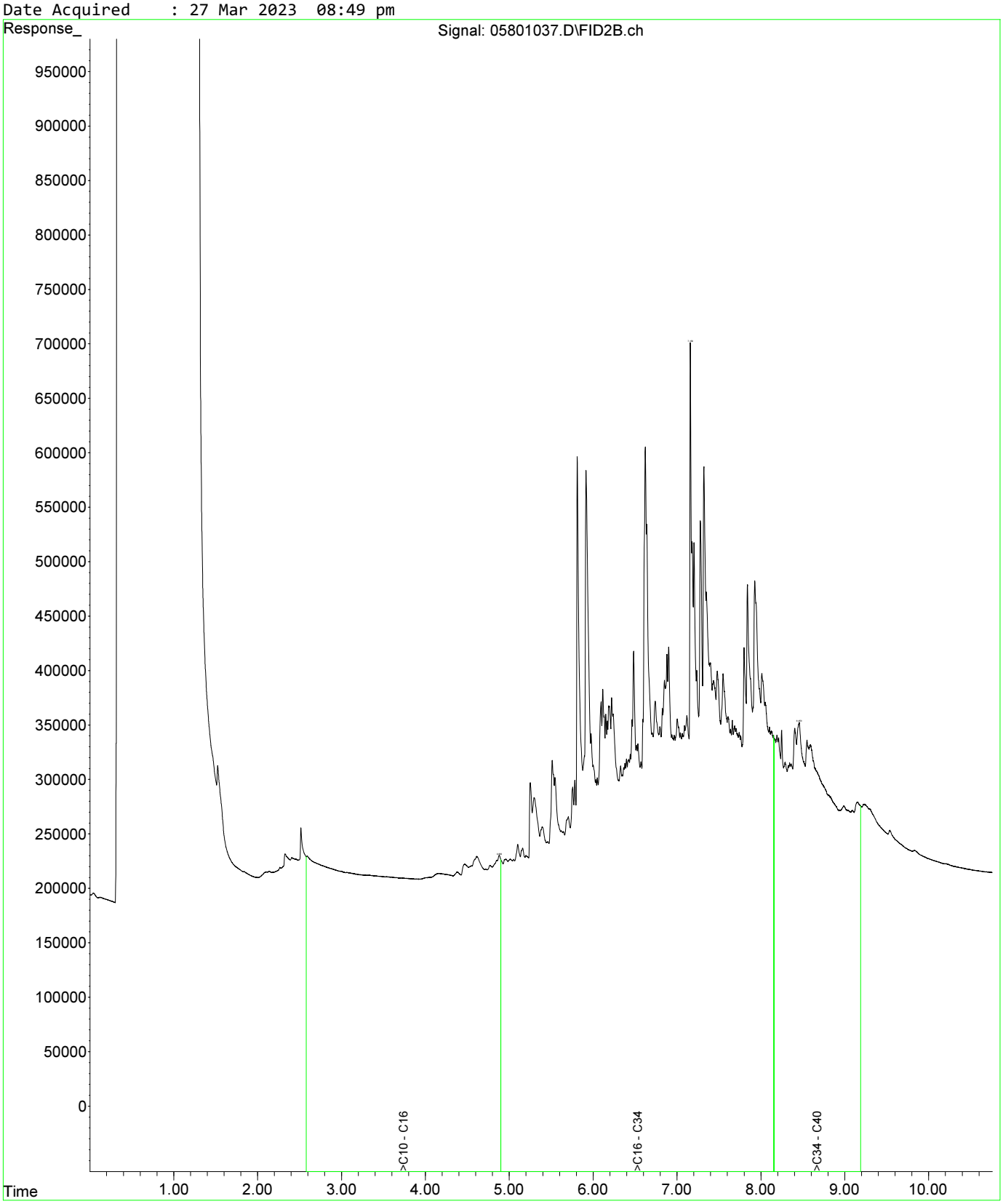

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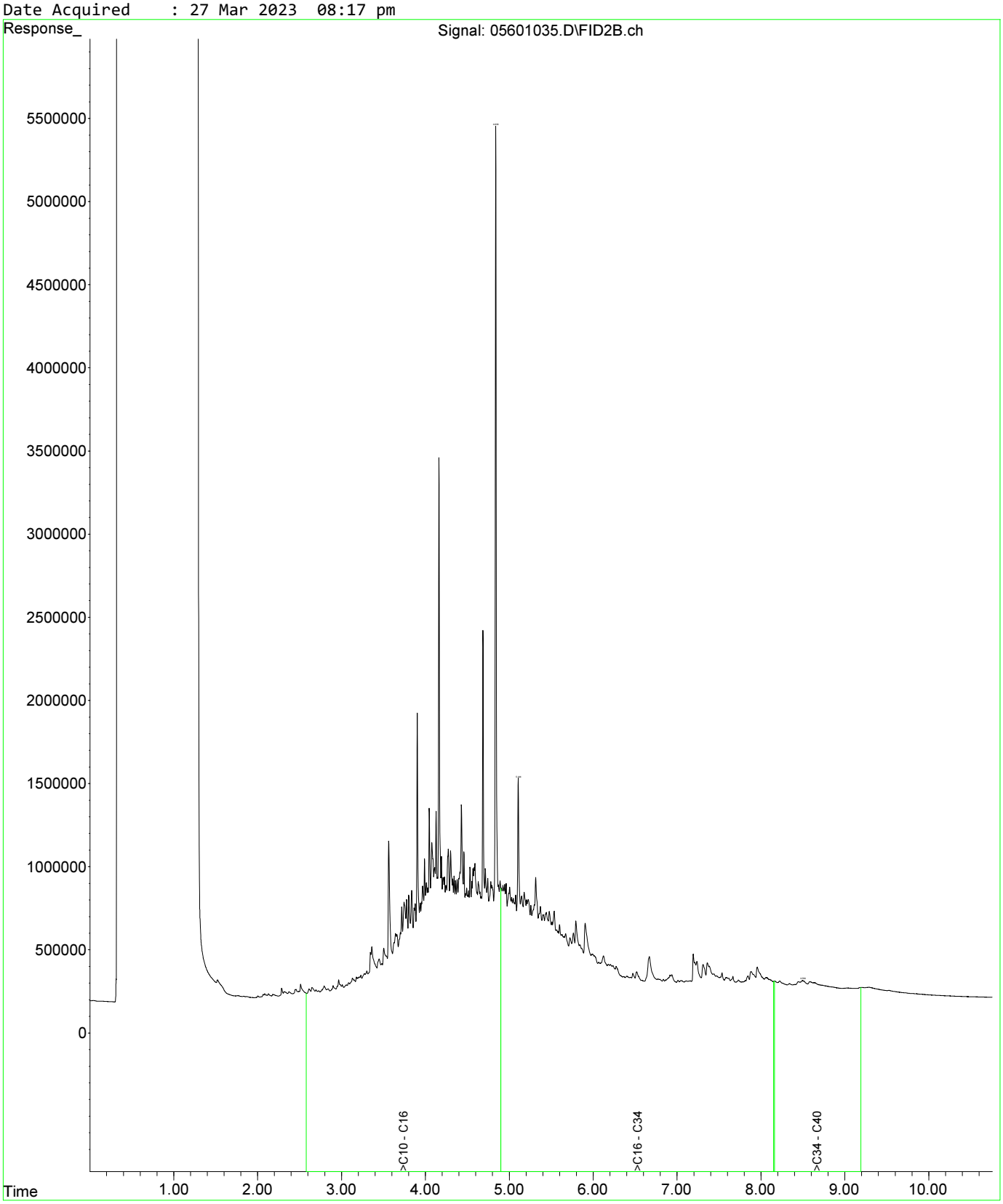

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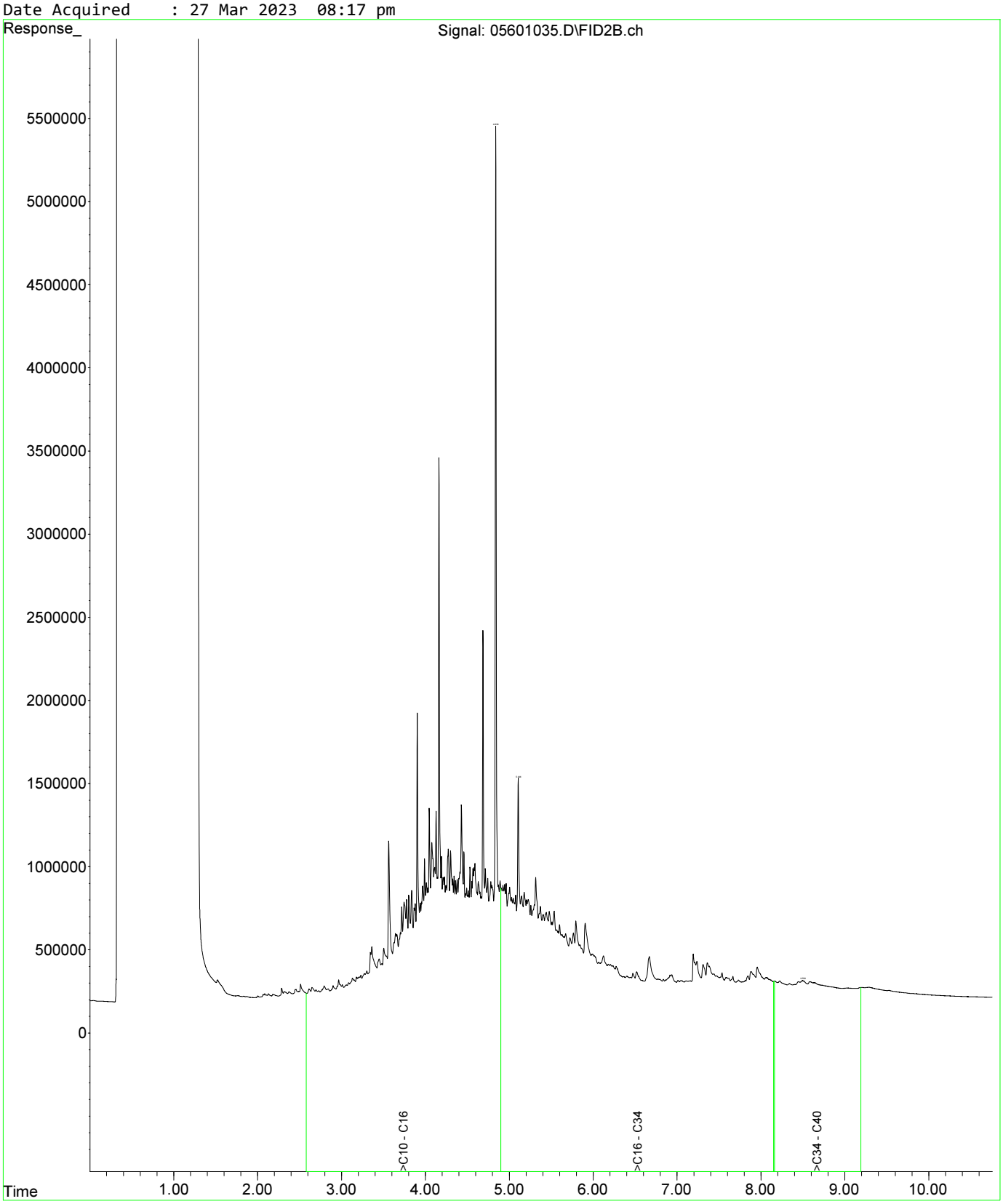

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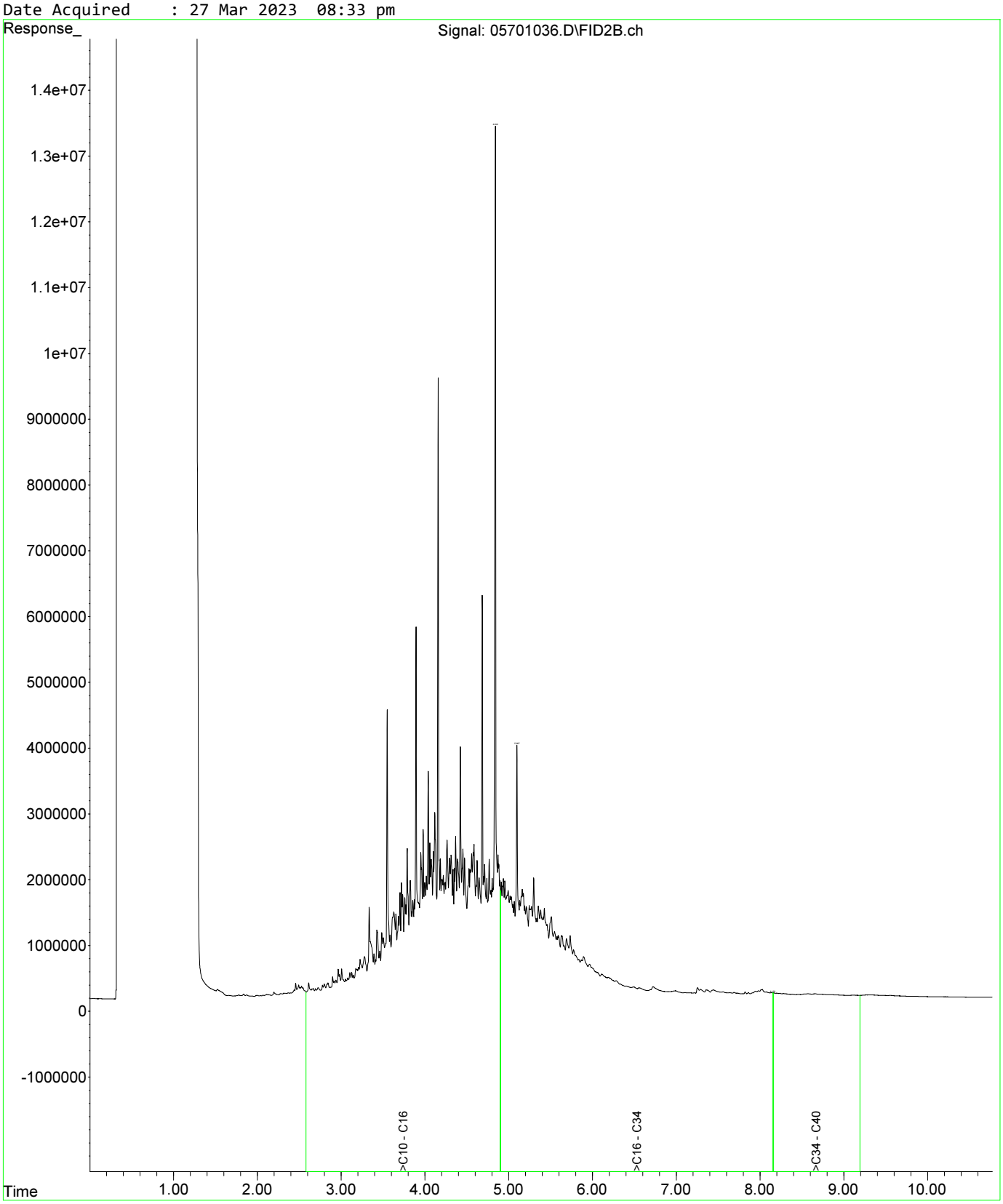

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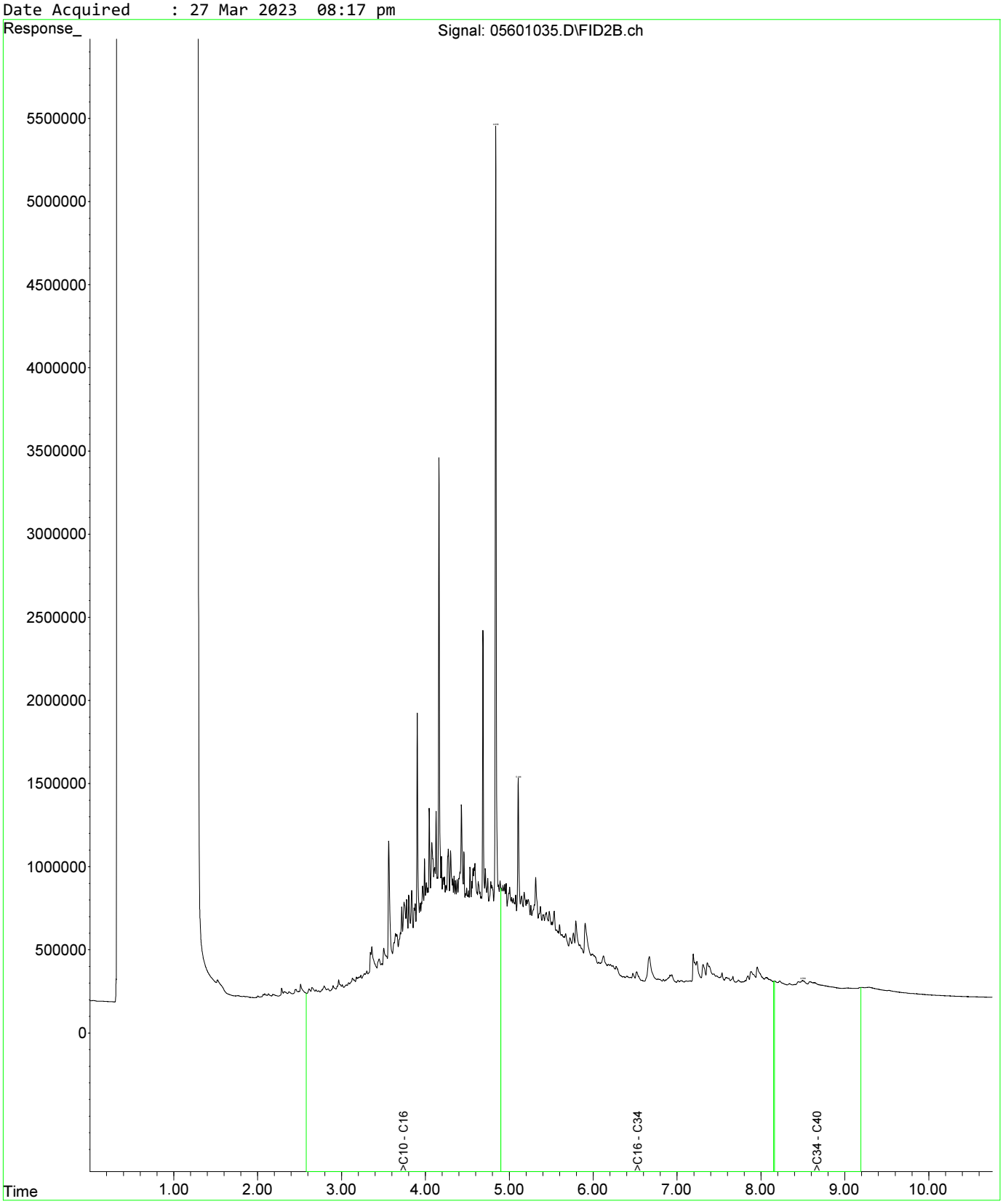

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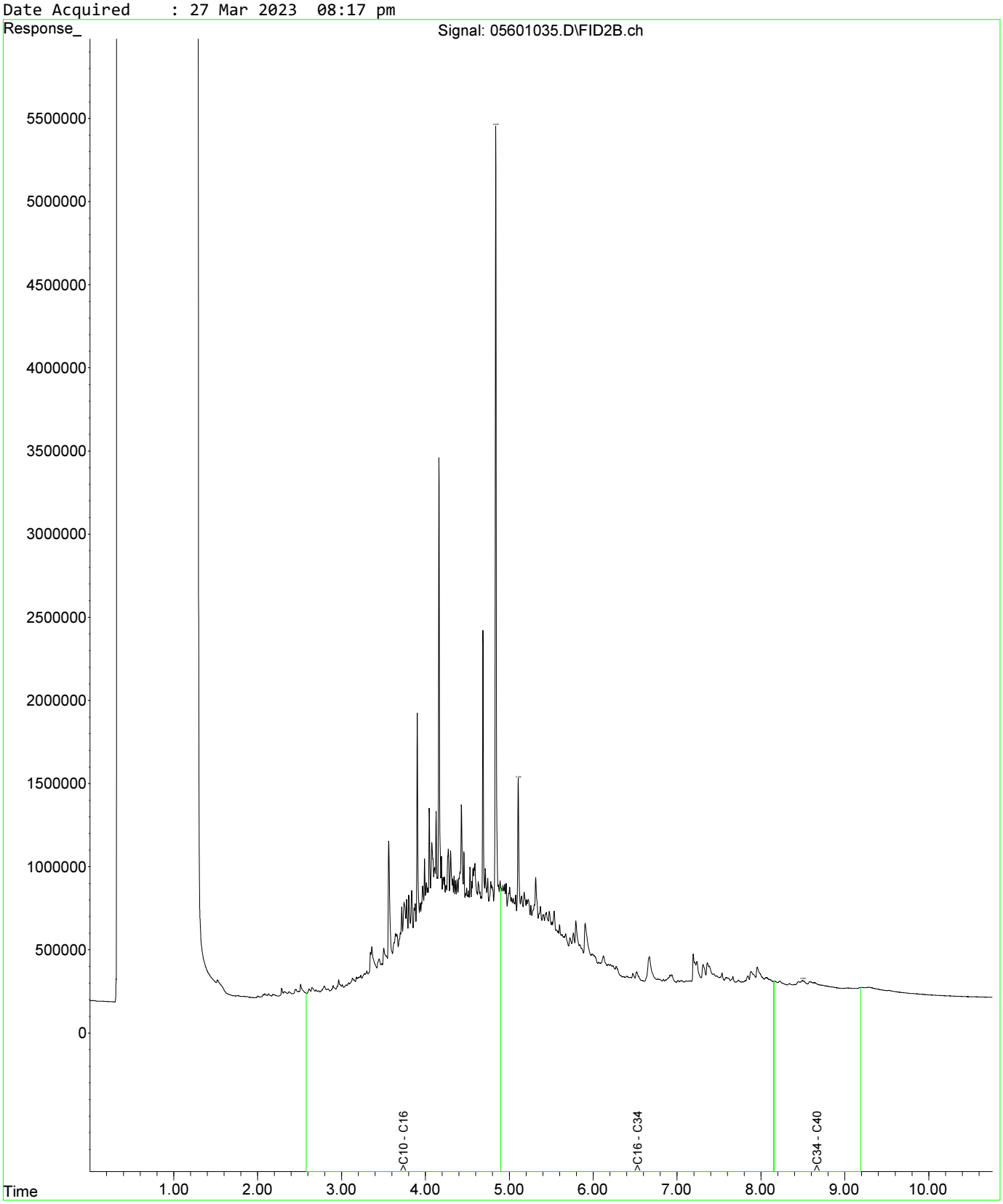

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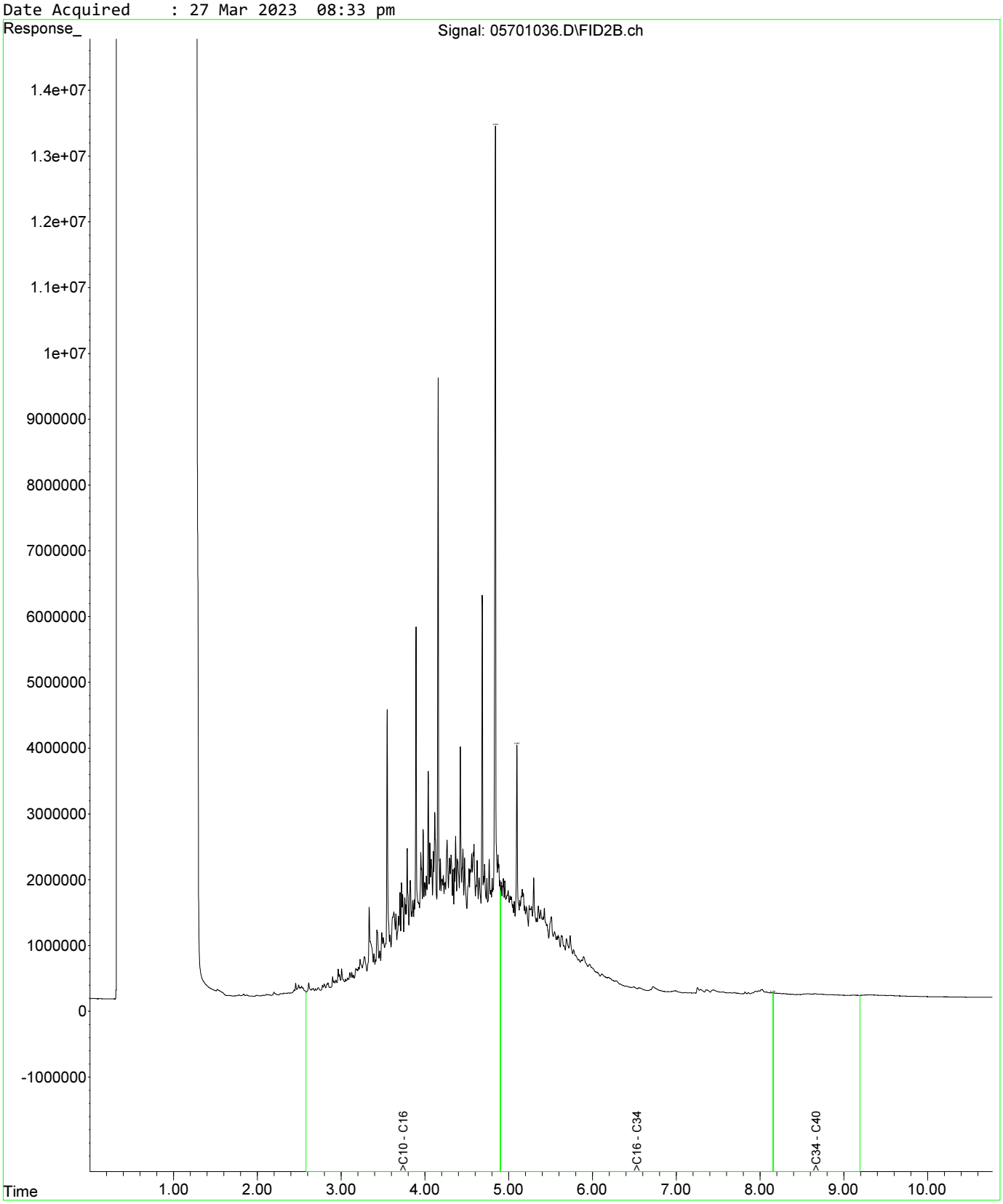

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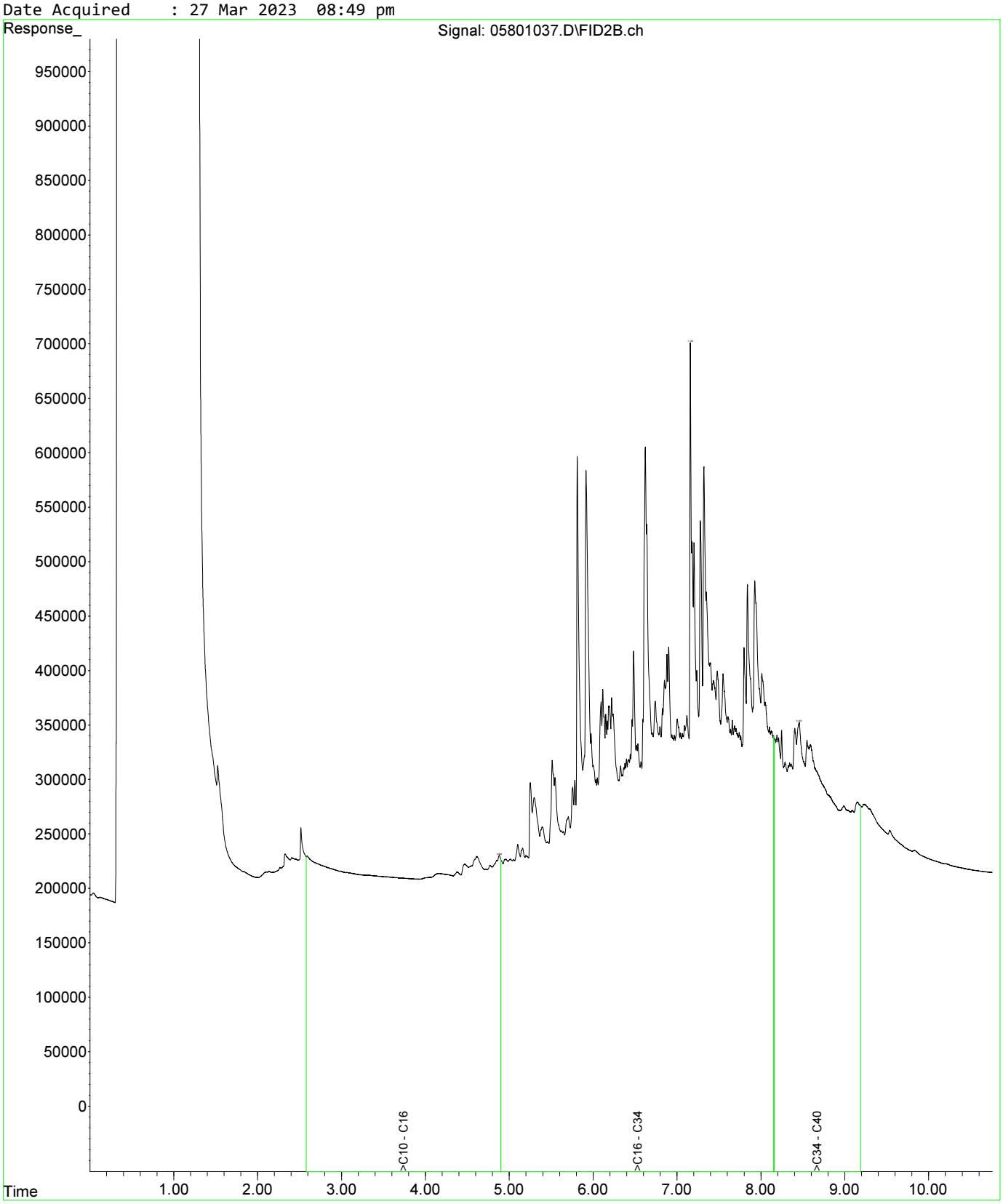

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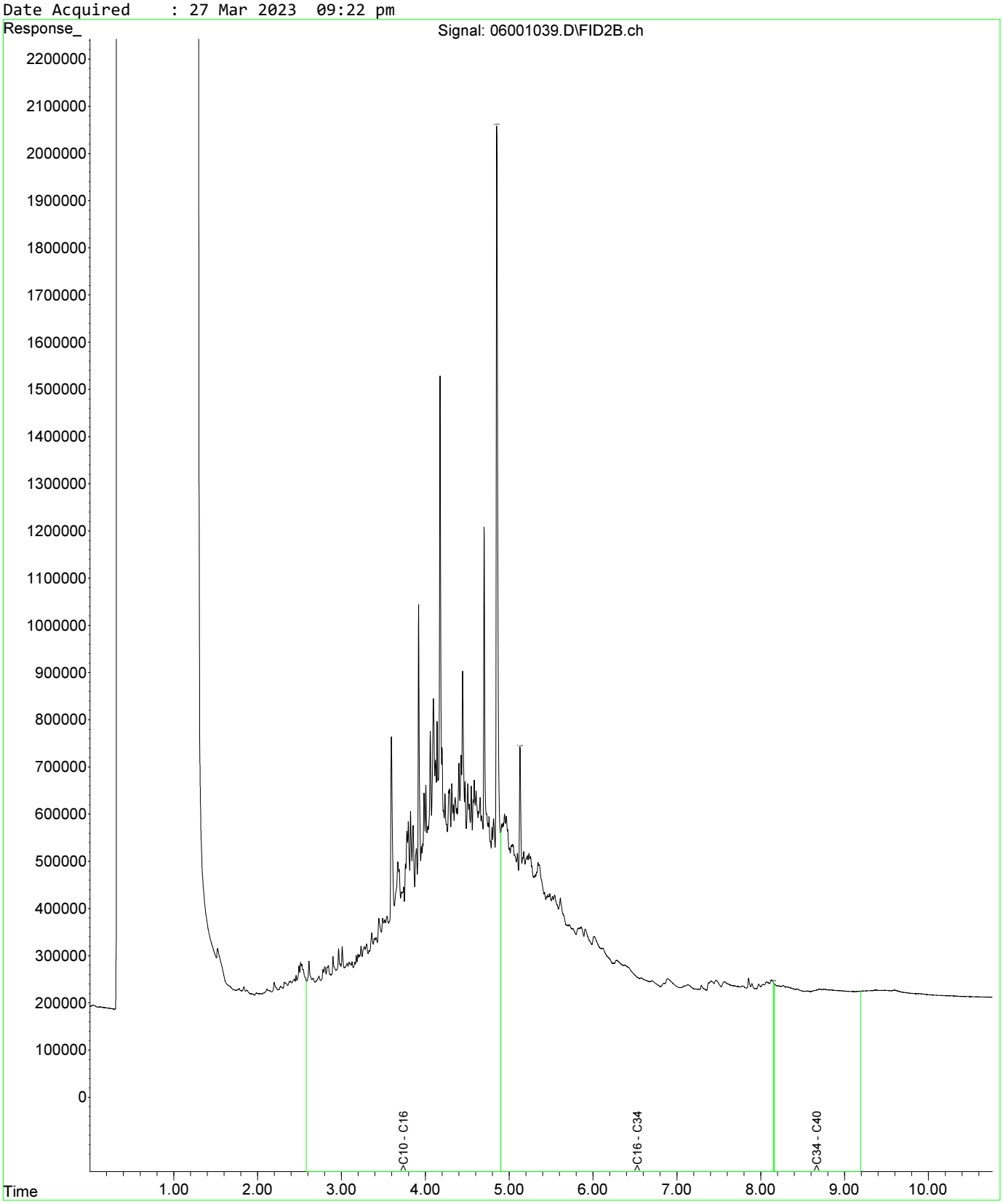

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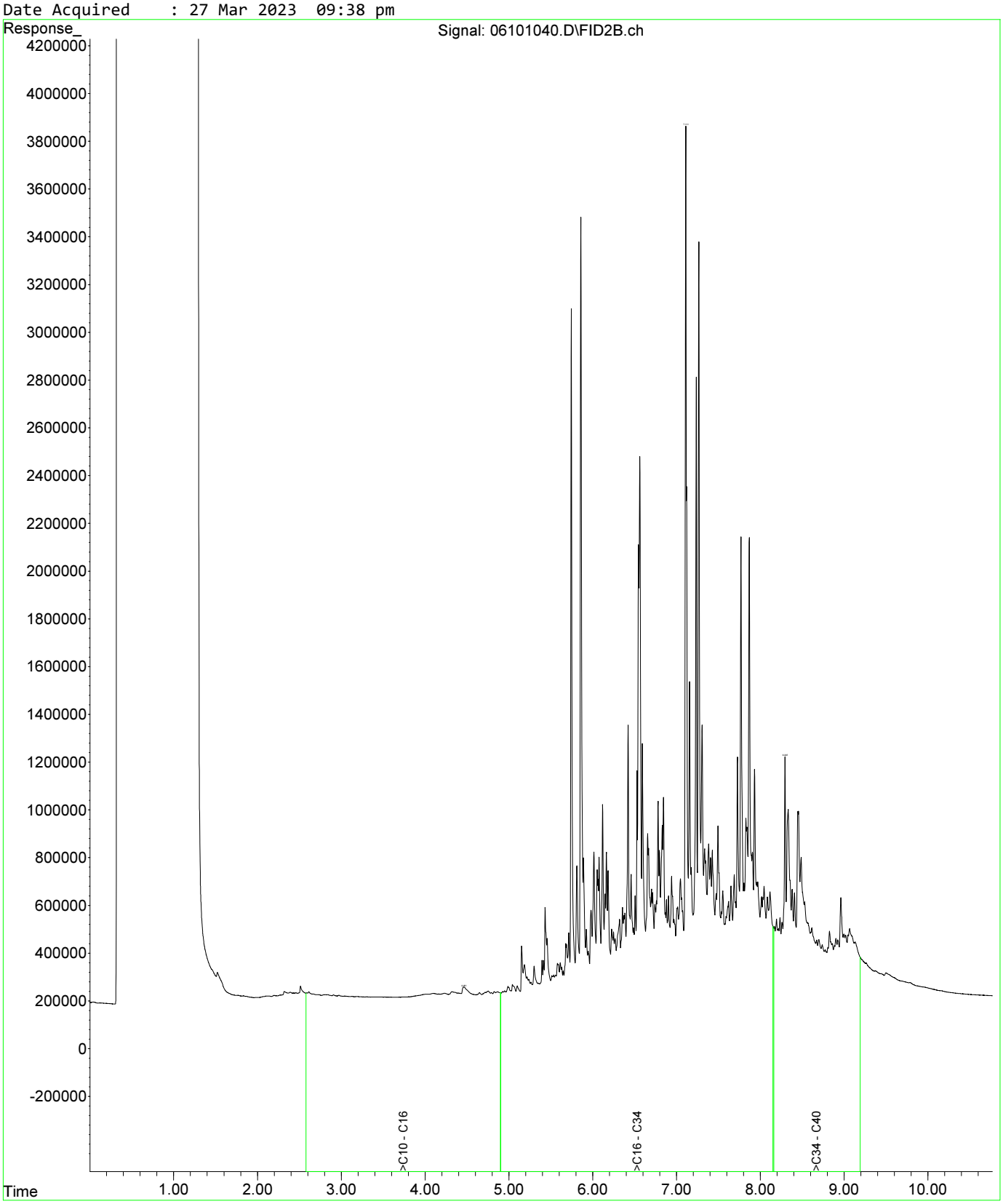
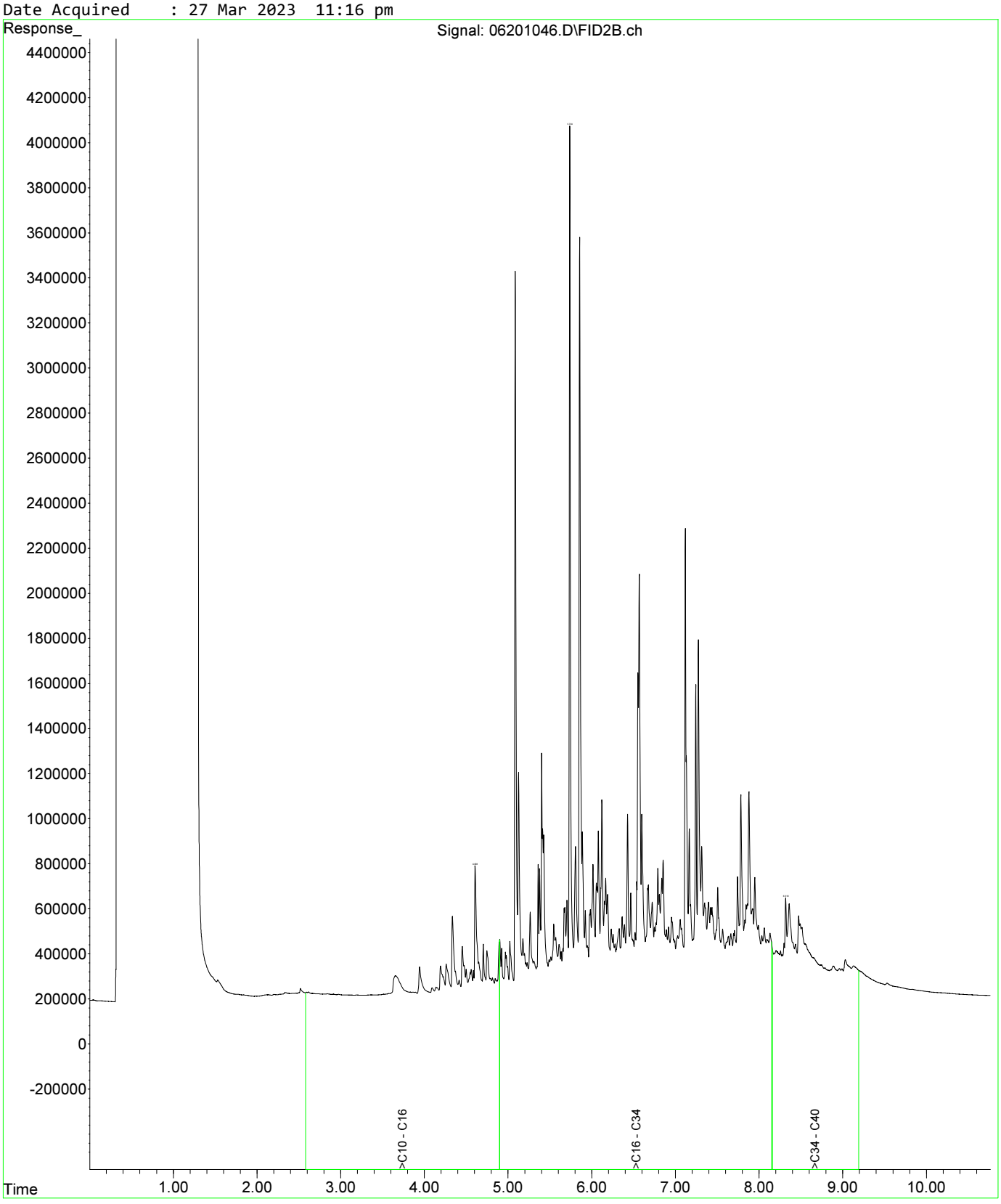
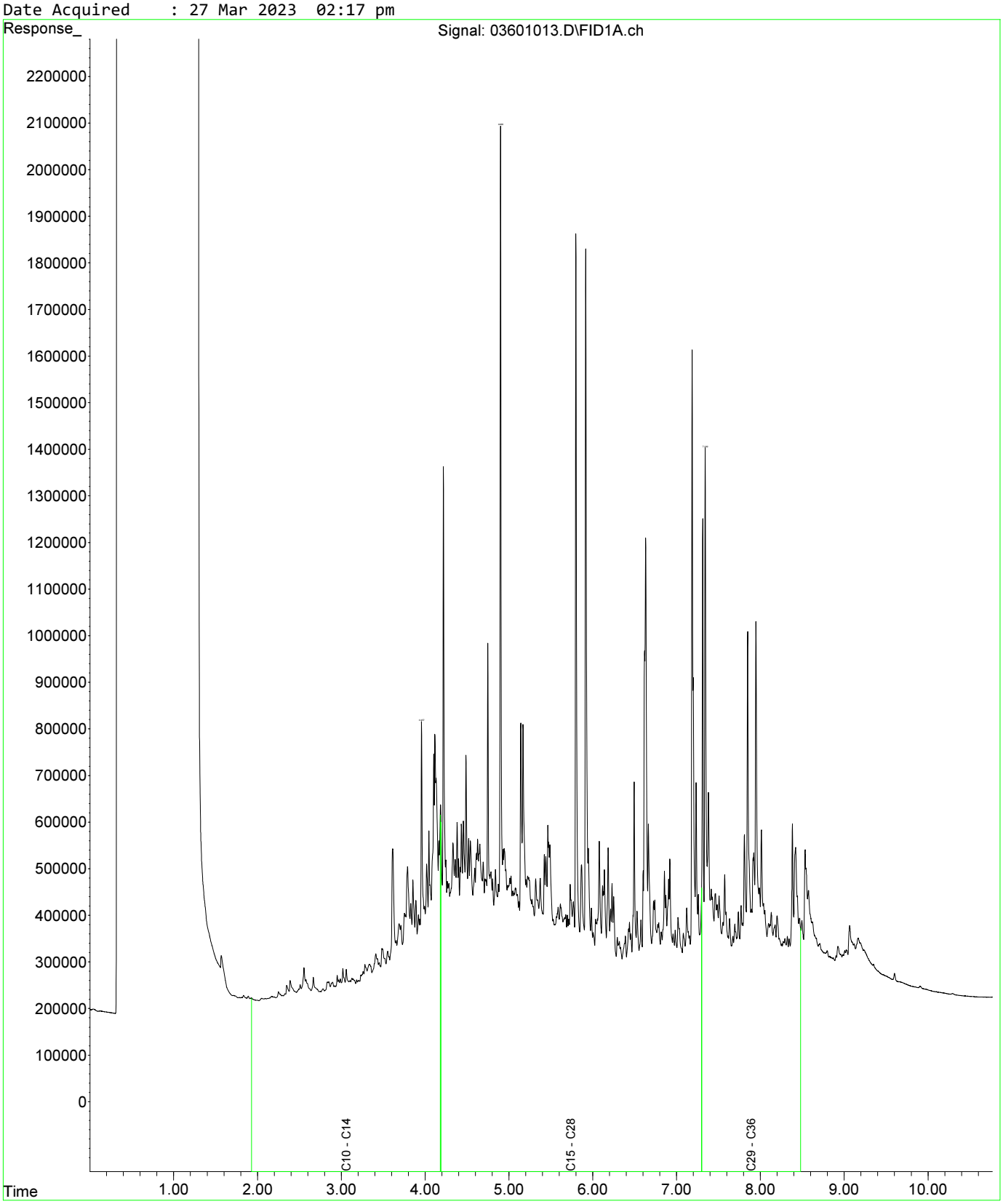
Date Acquired : 27 Mar 2023 09:38 pm



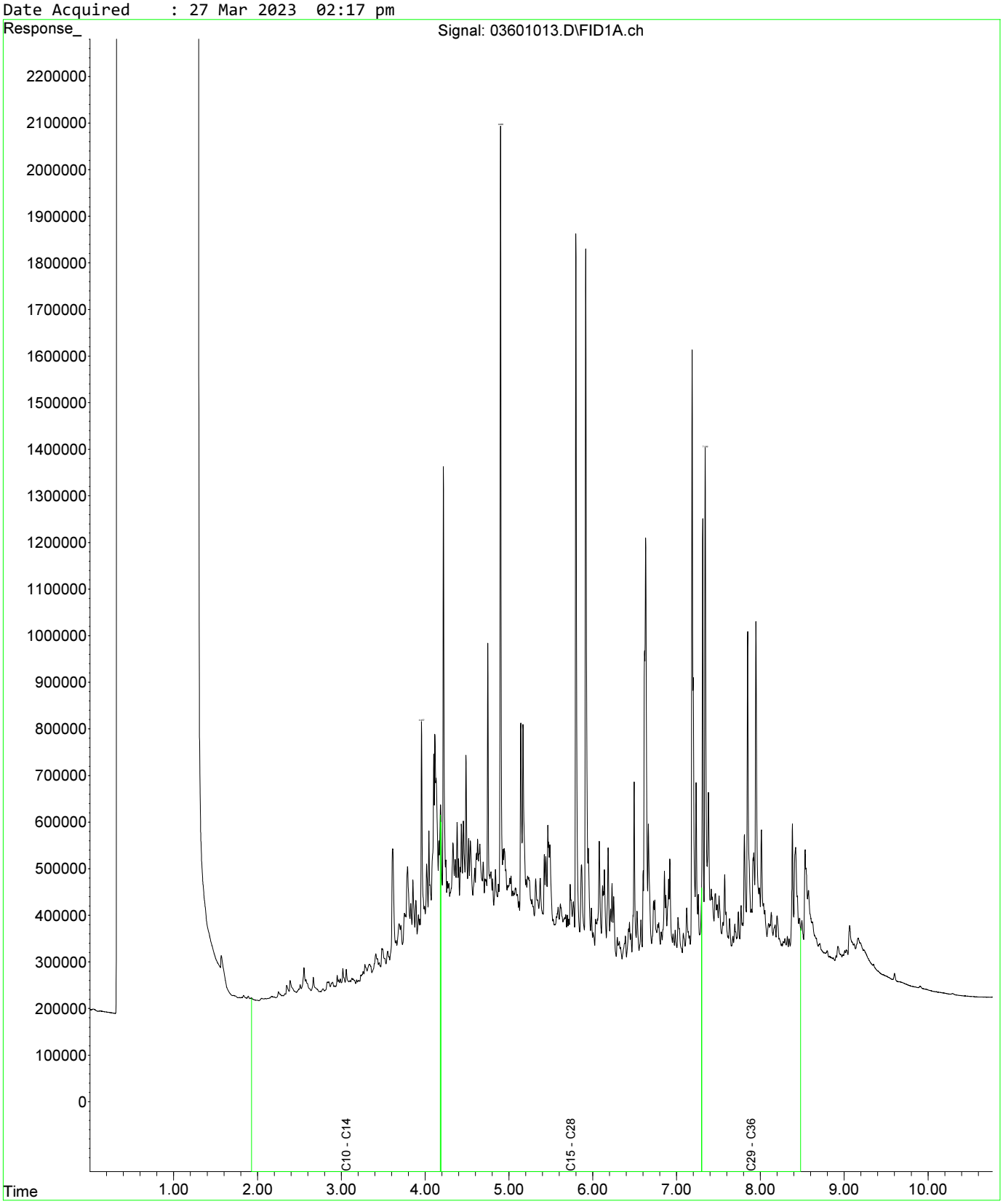
Fraction Scheme : NEPM DRAFT HIL
Data File : 06201046.D
Laboratory Number: EM2305209-042
Sample ID : UST_QC107
Date Acquired : 27 Mar 2023 11:16 pm



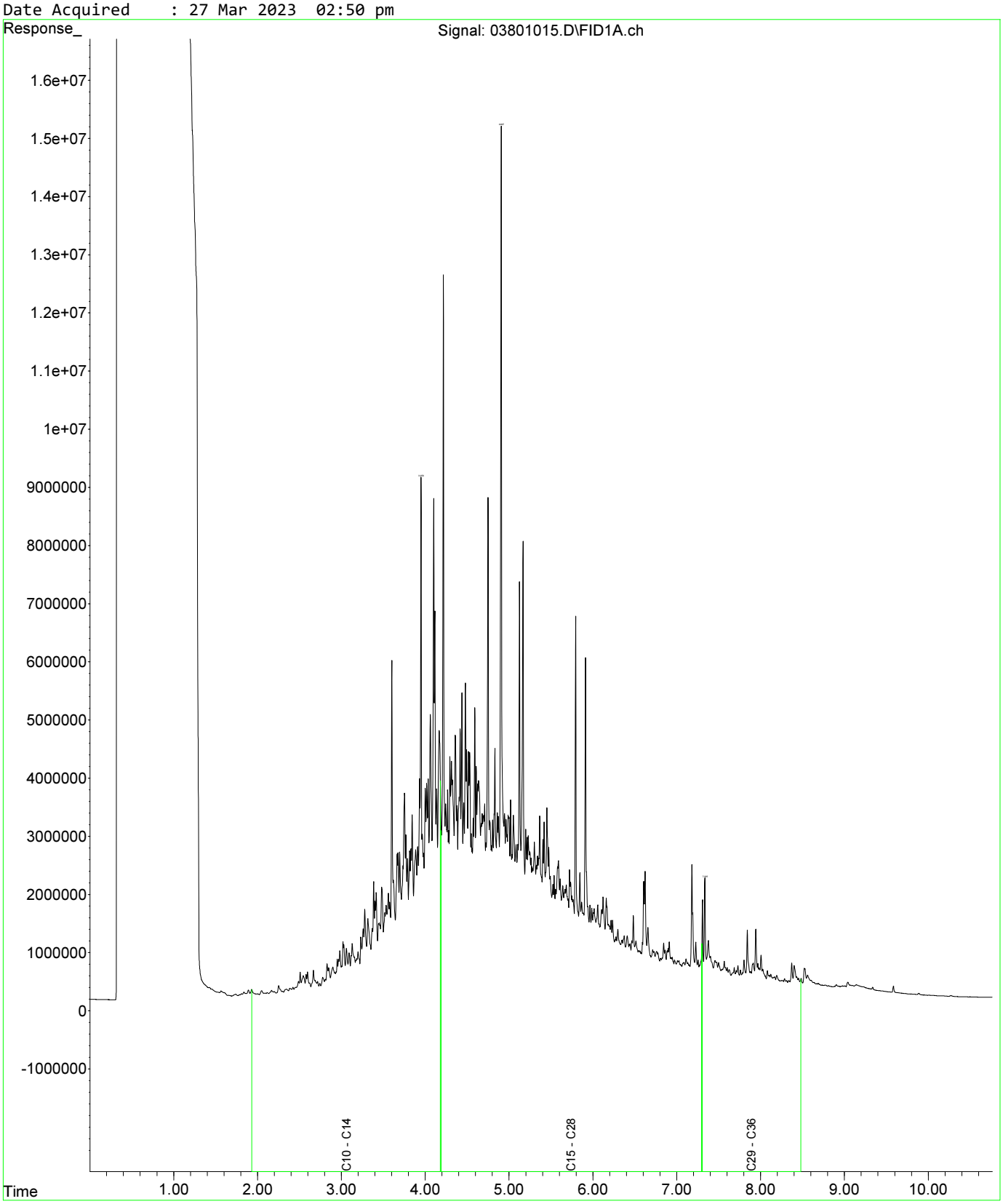
Fraction Scheme : Standard
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



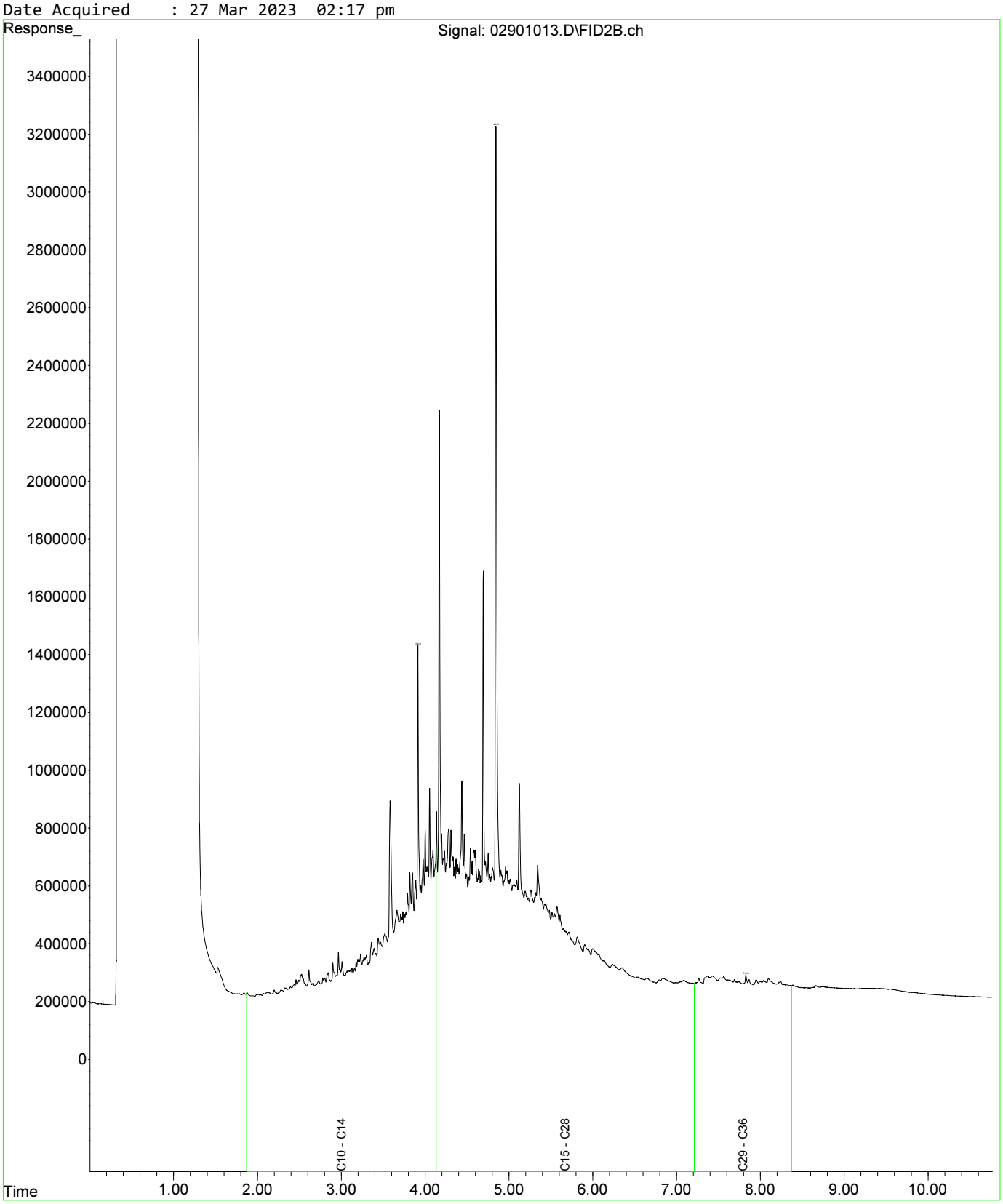
Fraction Scheme : Standard
Data File : 03601013.D
Laboratory Number: EM2305209-004
Sample ID : UST_77_SE_1.6
Date Acquired : 27 Mar 2023 02:17 pm



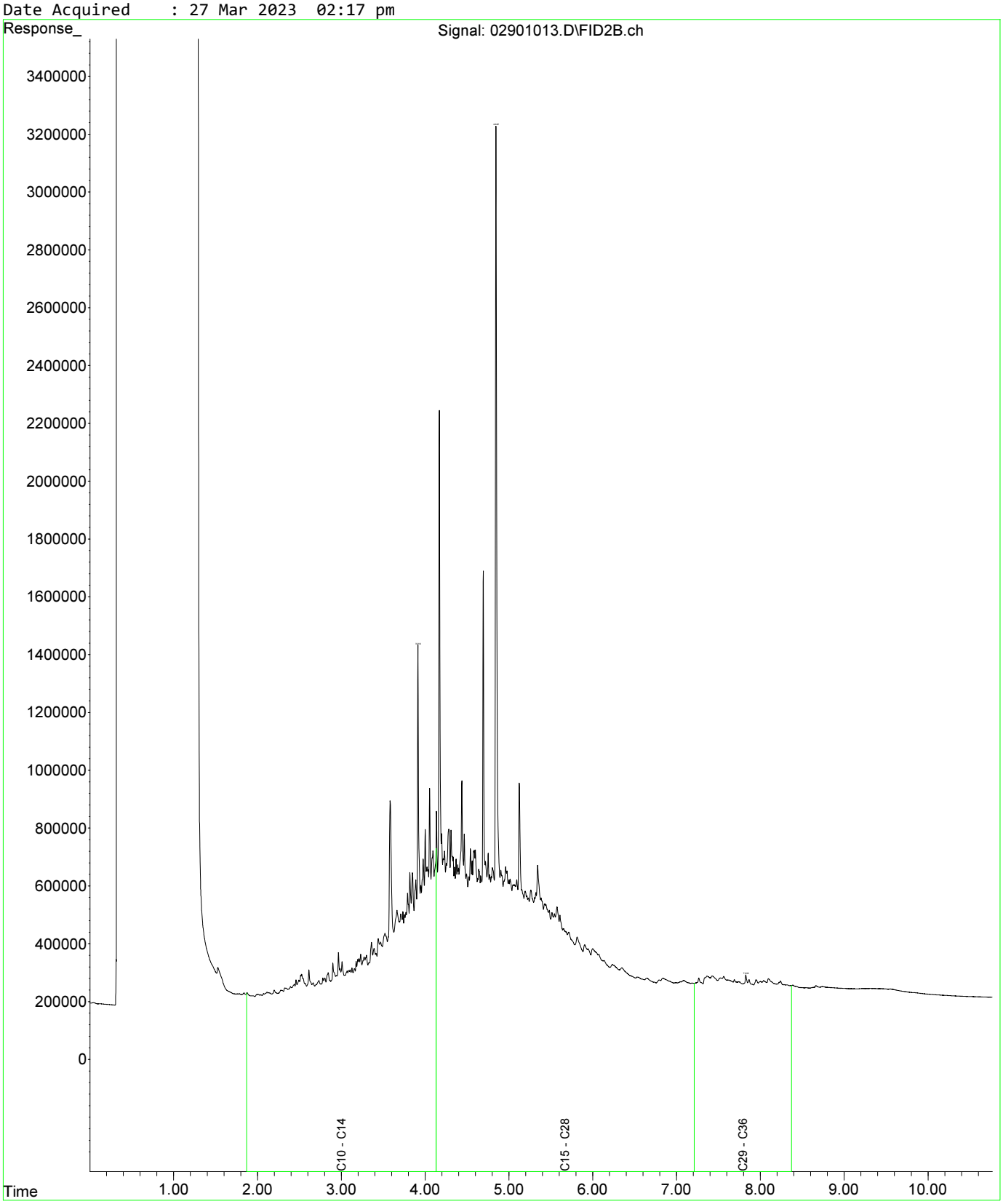
Fraction Scheme : Standard
Data File : 03801015.D
Laboratory Number: EM2305209-010
Sample ID : UST_59_E_1.6
Date Acquired : 27 Mar 2023 02:50 pm



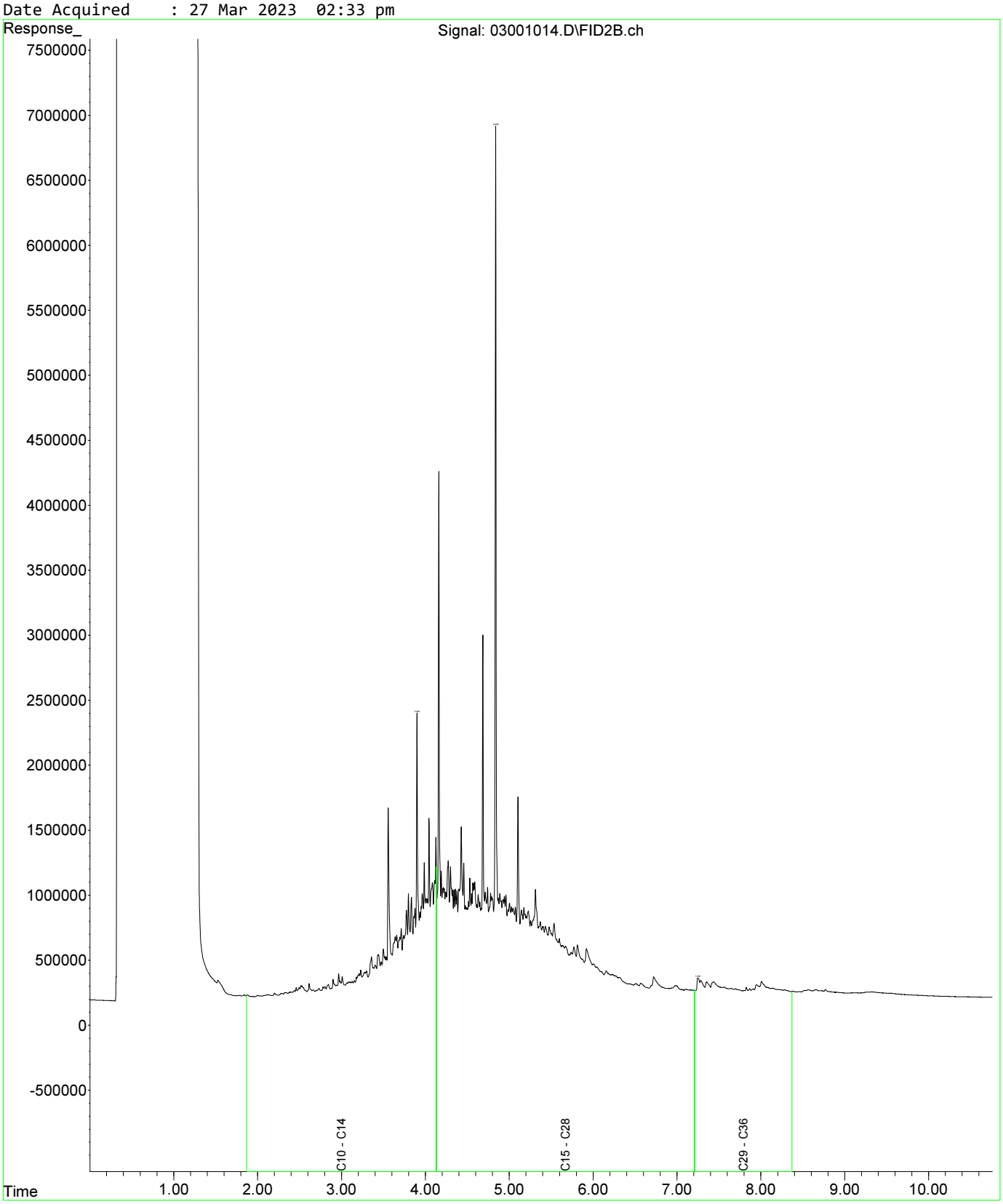
Fraction Scheme : Standard
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



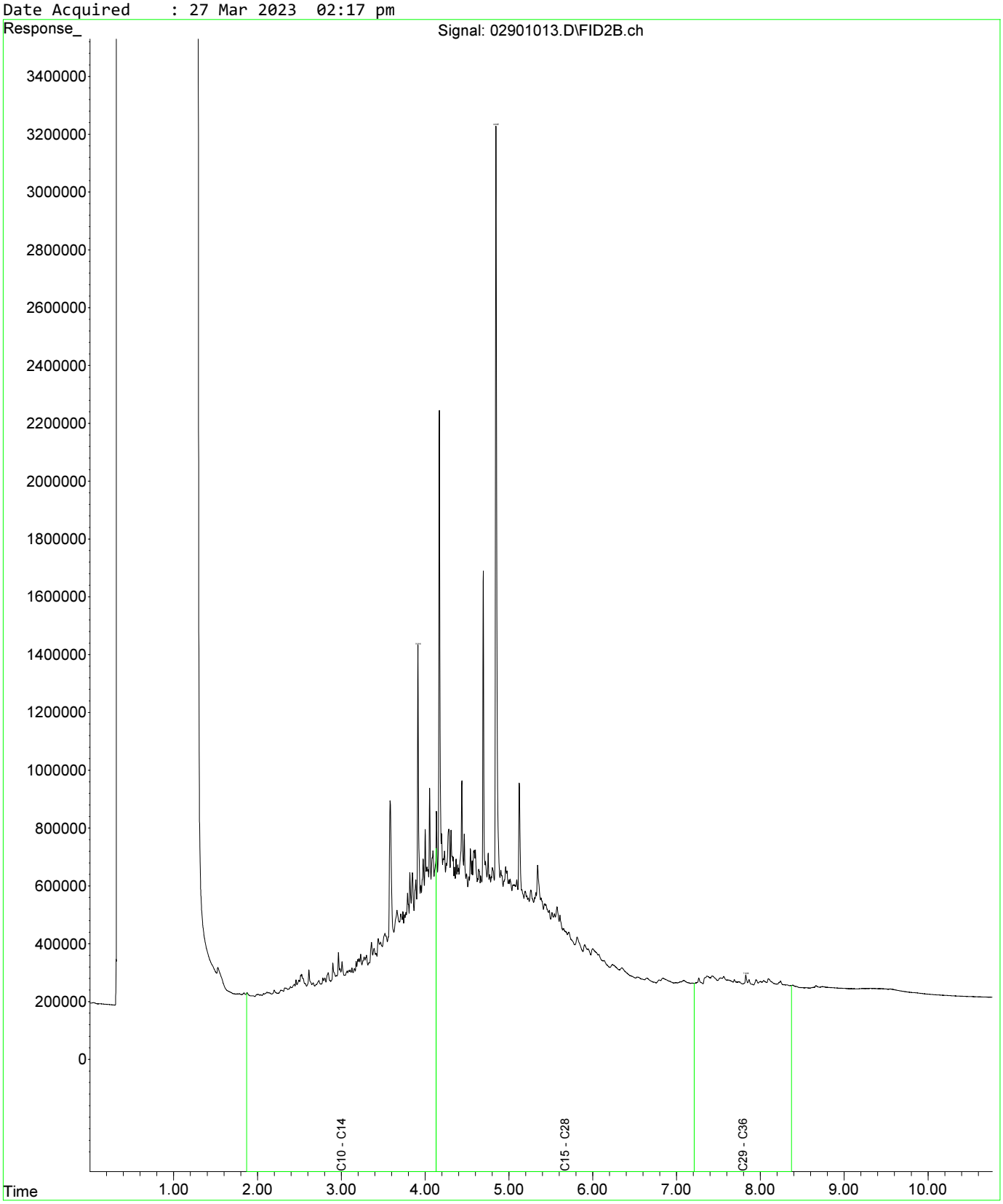
Fraction Scheme : Standard
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



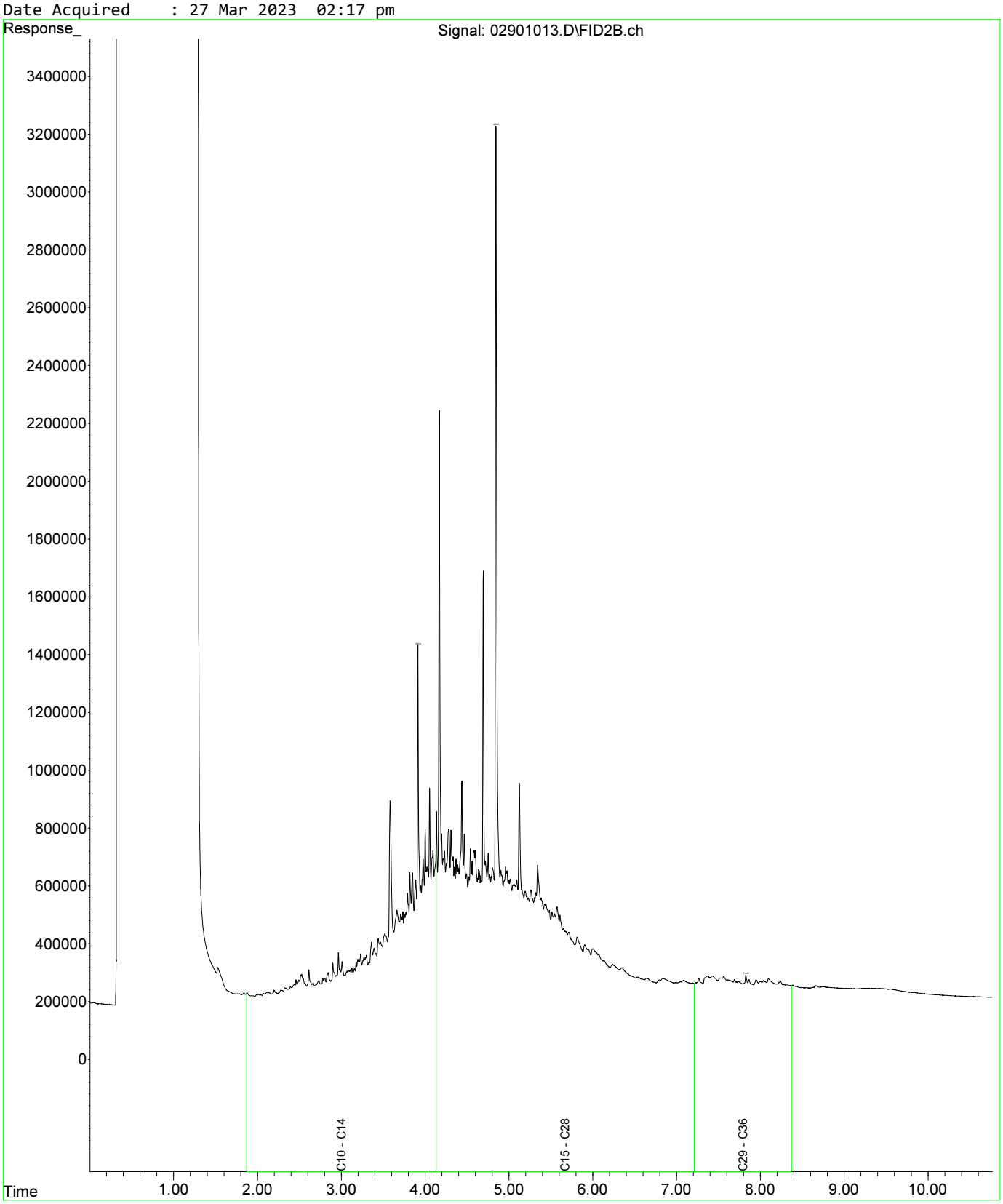
Fraction Scheme : Standard
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



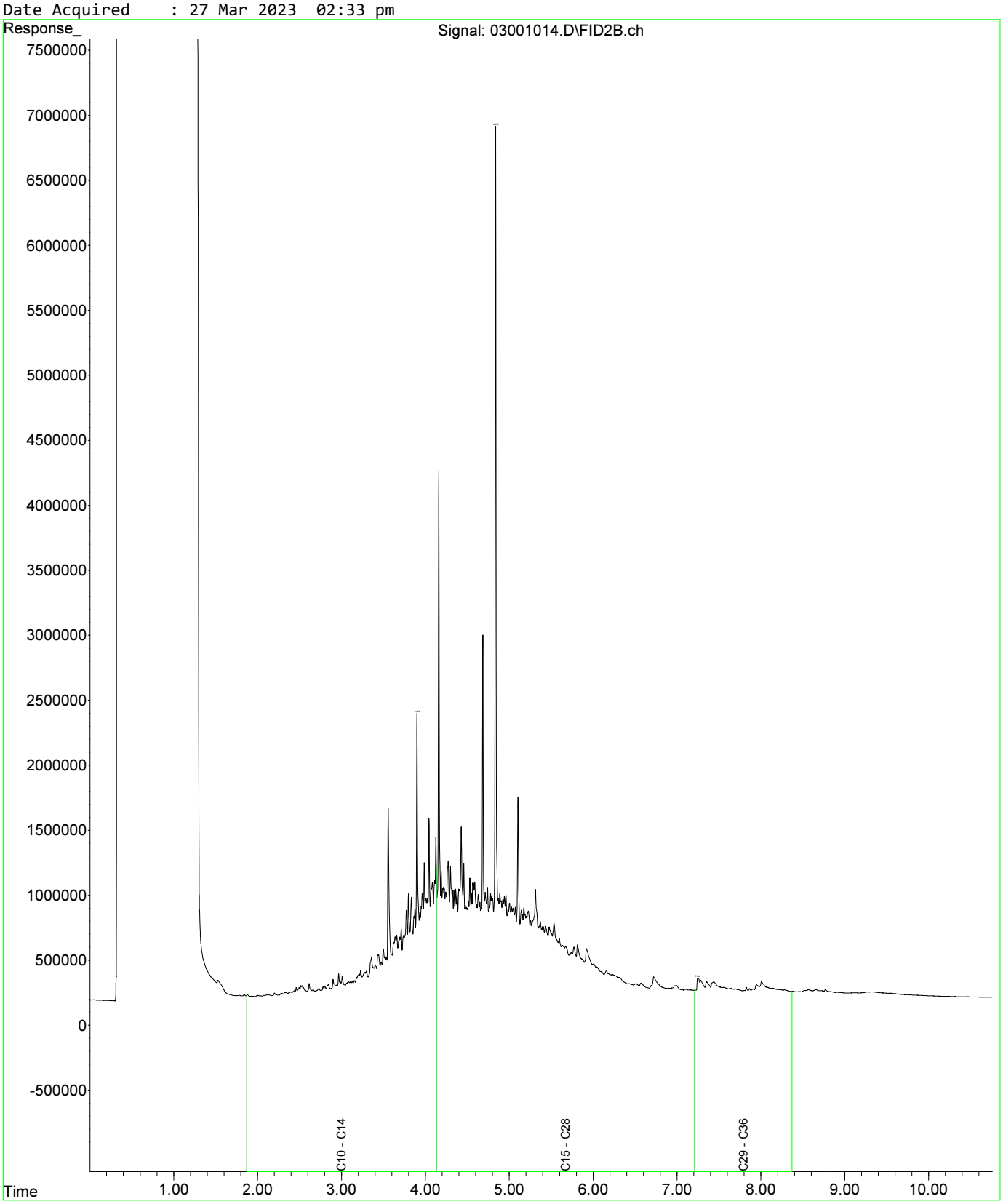
Fraction Scheme : Standard
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



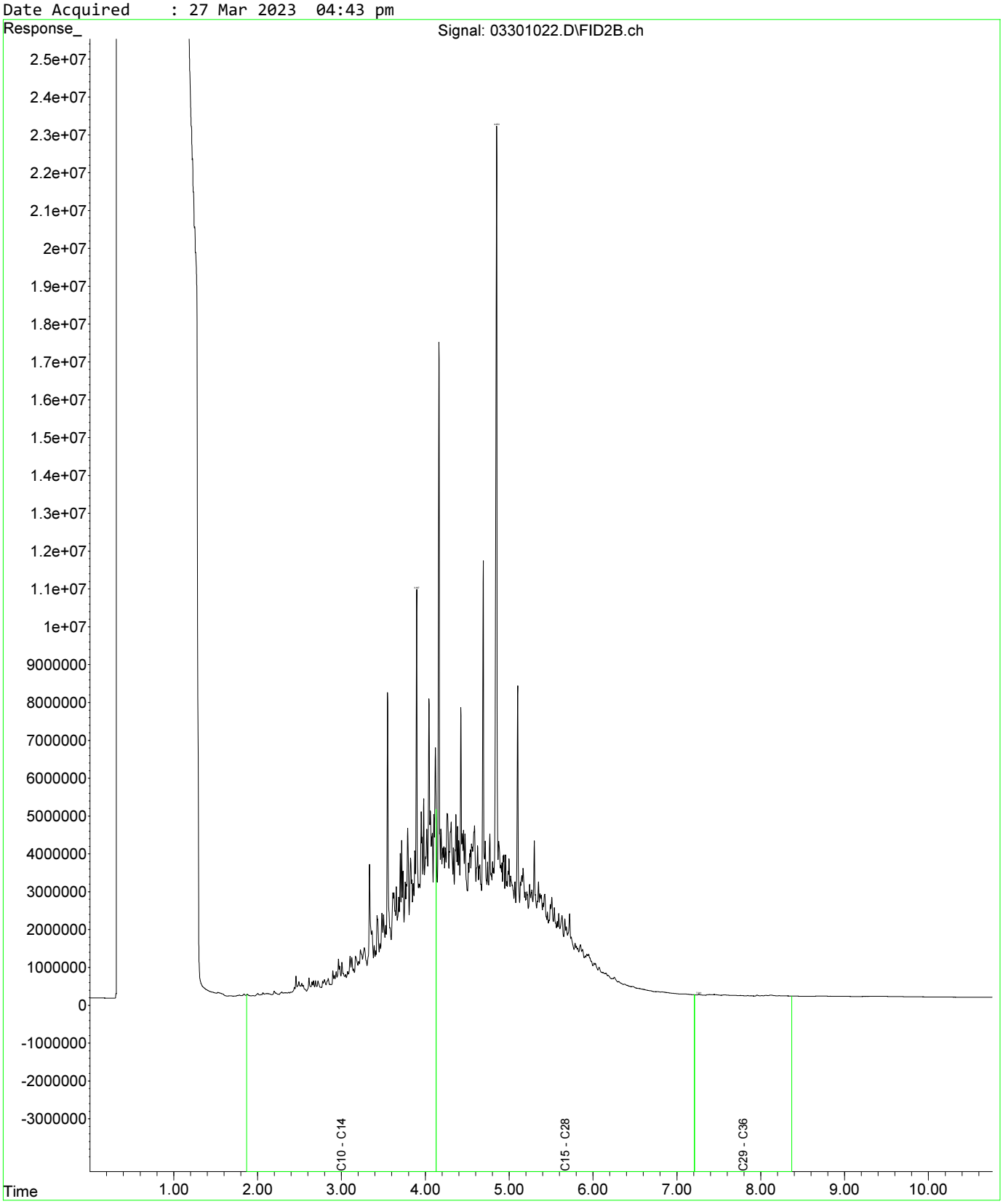
Fraction Scheme : Standard
Data File : 02901013.D
Laboratory Number: EM2305209-022
Sample ID : UST_SP_1.5-2.0_03
Date Acquired : 27 Mar 2023 02:17 pm



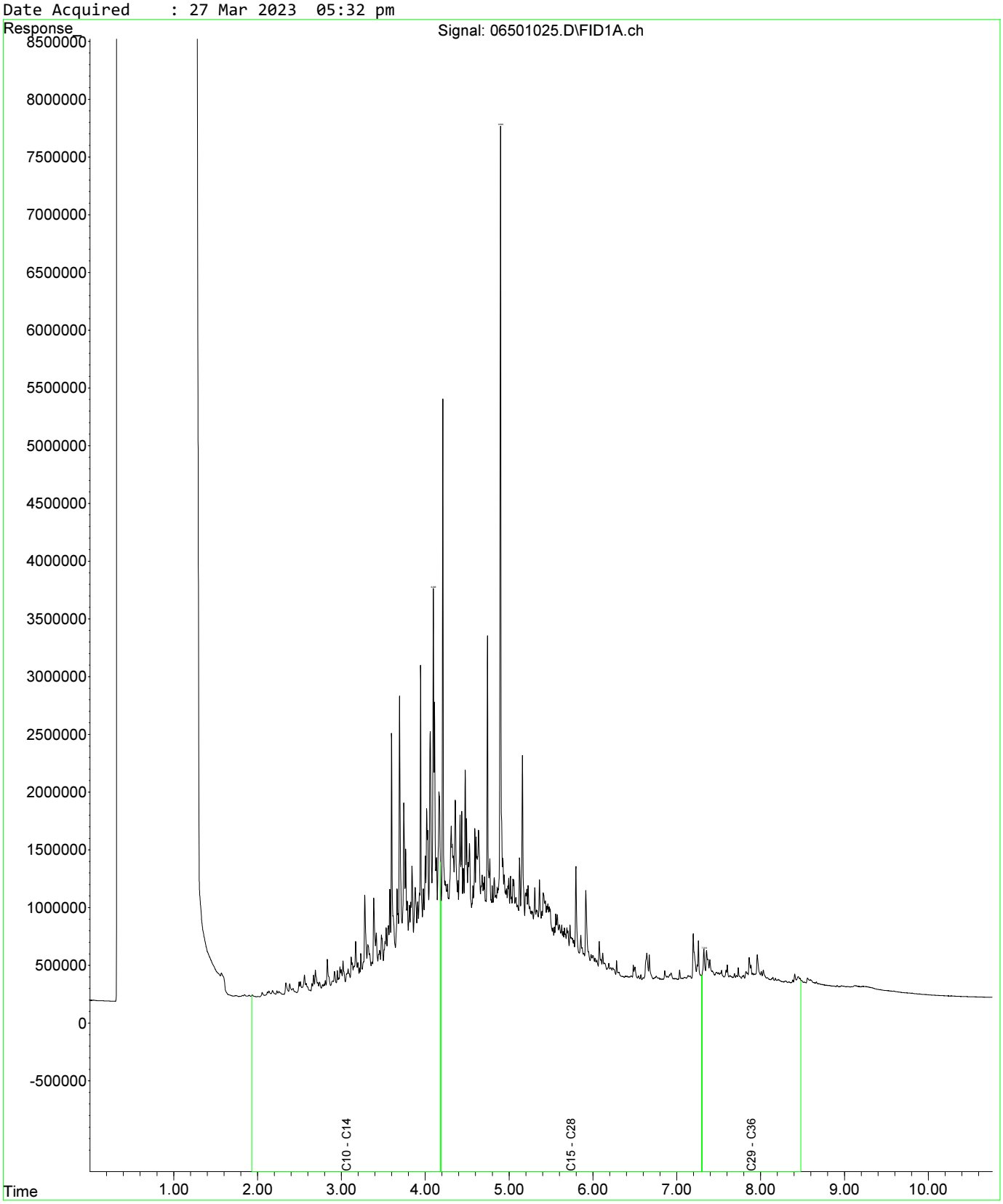
Fraction Scheme : Standard
Data File : 03001014.D
Laboratory Number: EM2305209-023
Sample ID : UST_SP_1.5-2.0_04
Date Acquired : 27 Mar 2023 02:33 pm



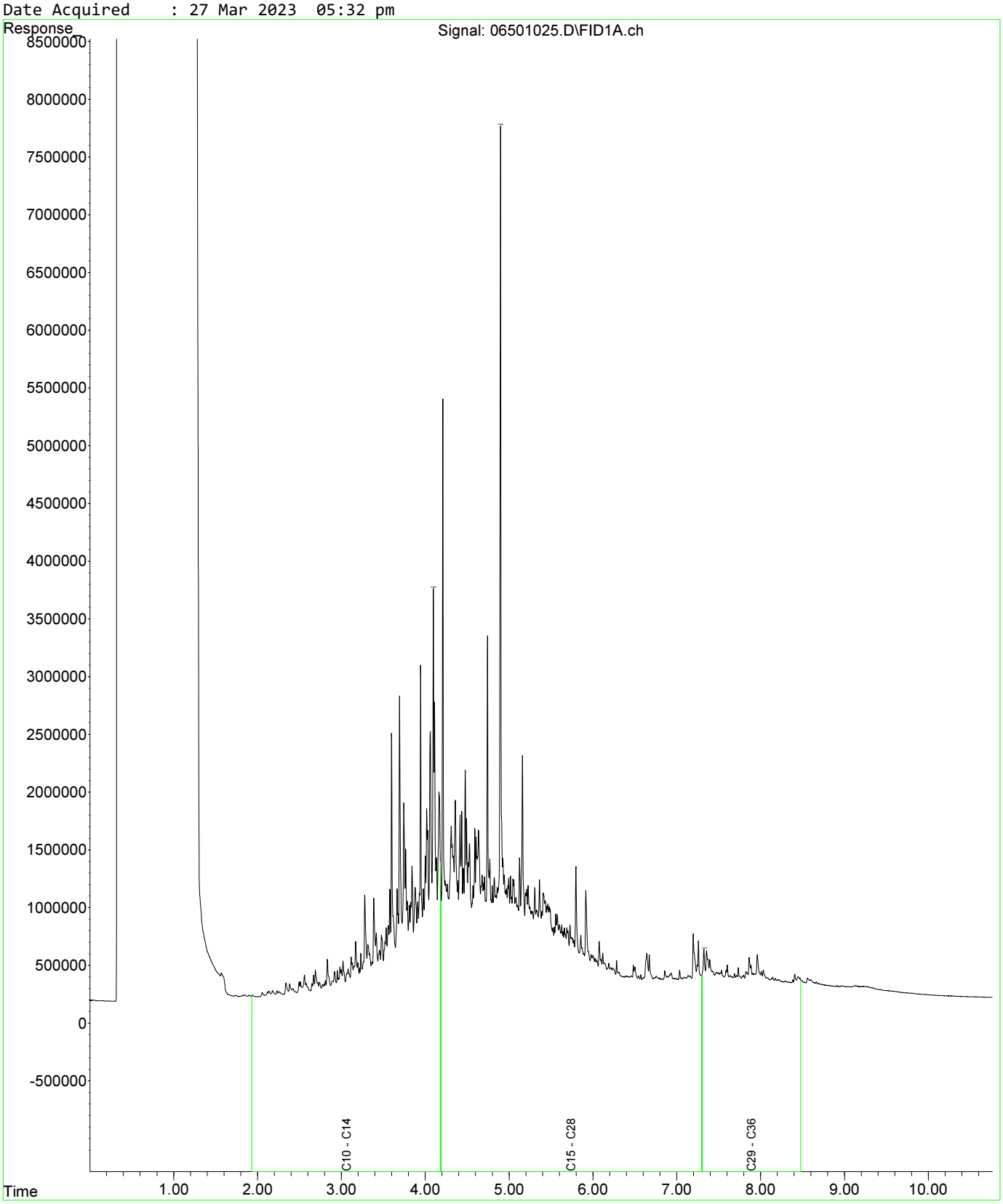
Fraction Scheme : Standard
Data File : 03301022.D
Laboratory Number: EM2305209-024
Sample ID : UST_SP_1.5-2.0_05
Date Acquired : 27 Mar 2023 04:43 pm



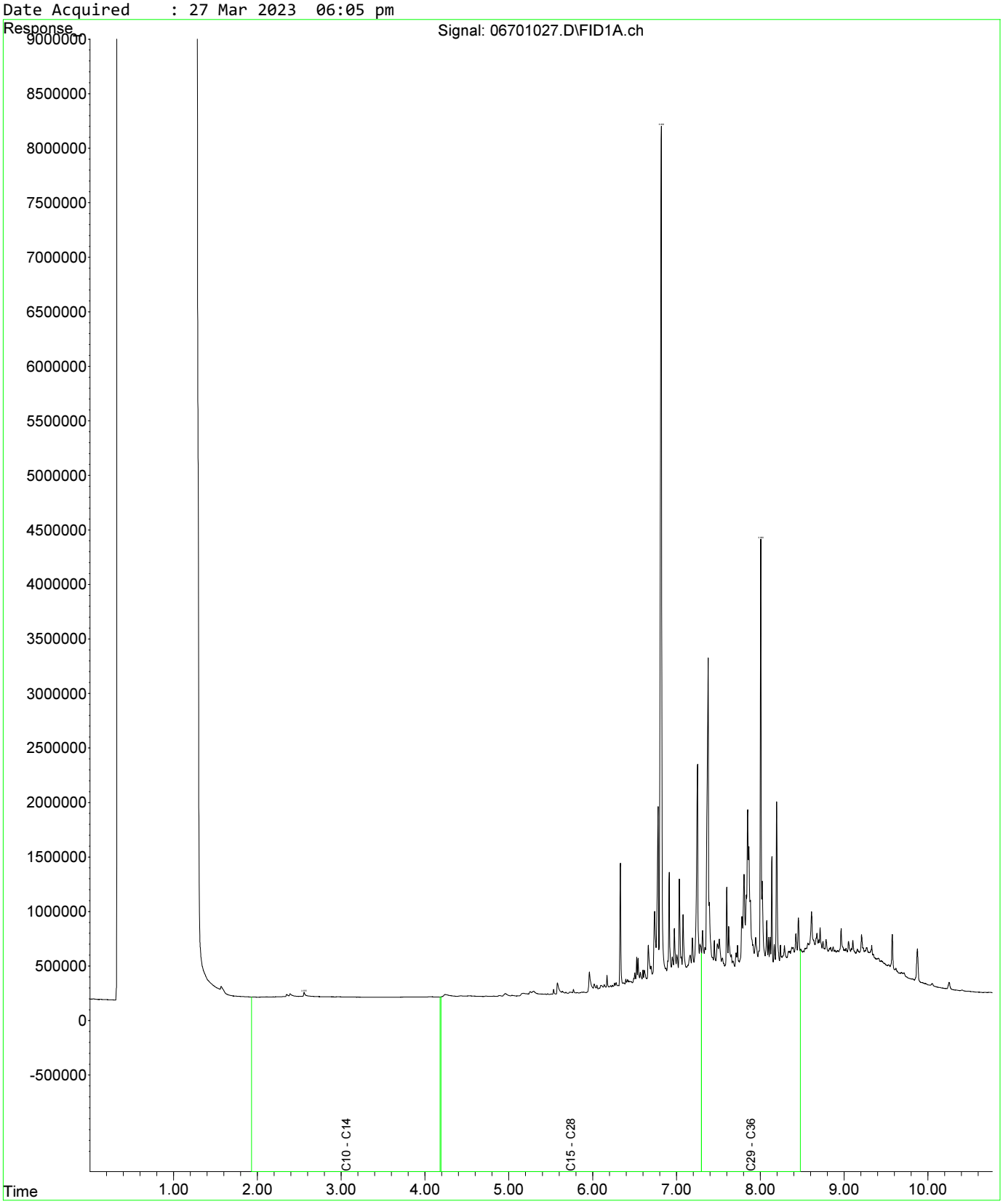
Fraction Scheme : Standard
Data File : 06501025.D
Laboratory Number: EM2305209-046
Sample ID : UST_QC106
Date Acquired : 27 Mar 2023 05:32 pm



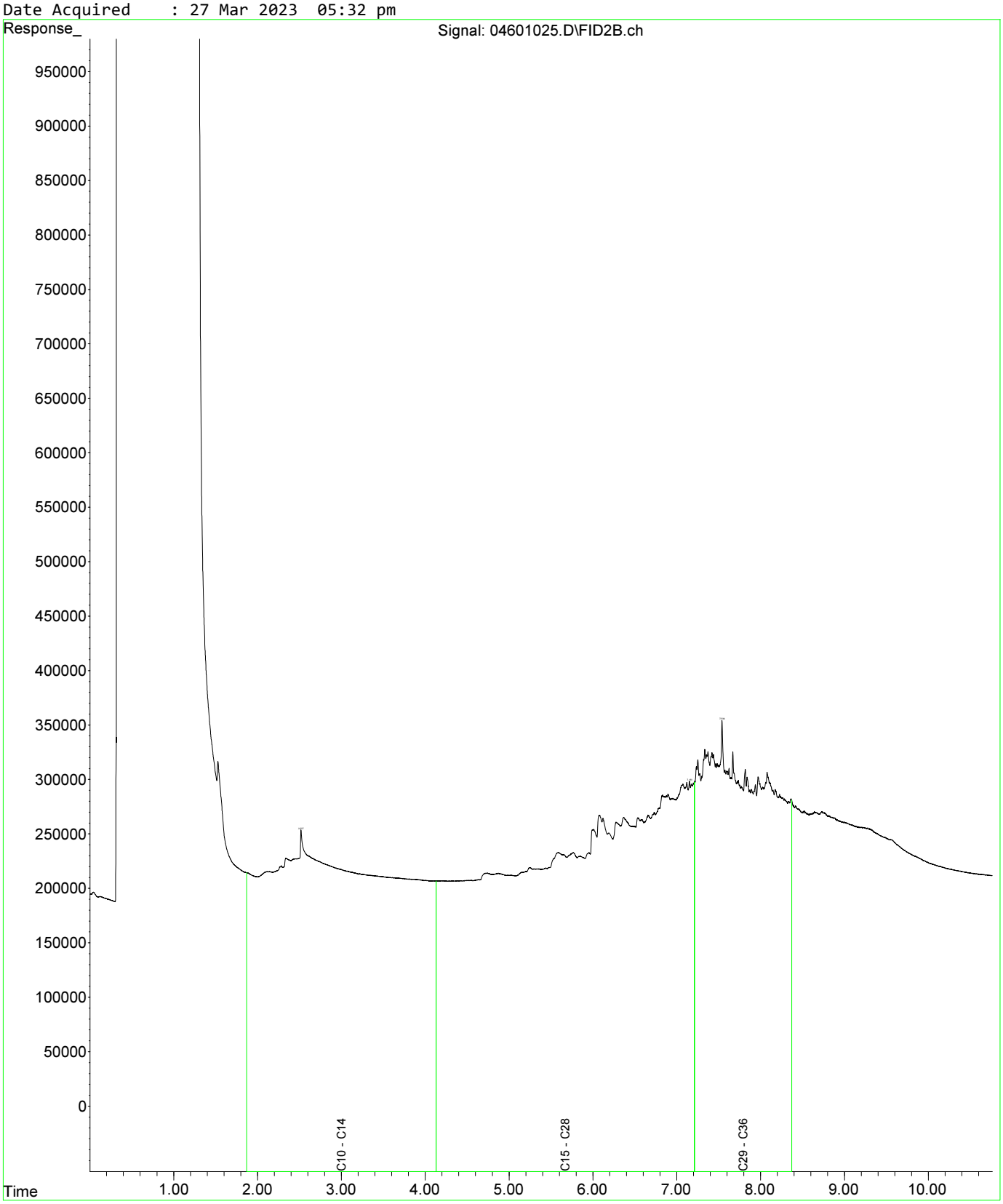
Fraction Scheme : Standard
Data File : 06501025.D
Laboratory Number: EM2305209-046
Sample ID : UST_QC106
Date Acquired : 27 Mar 2023 05:32 pm



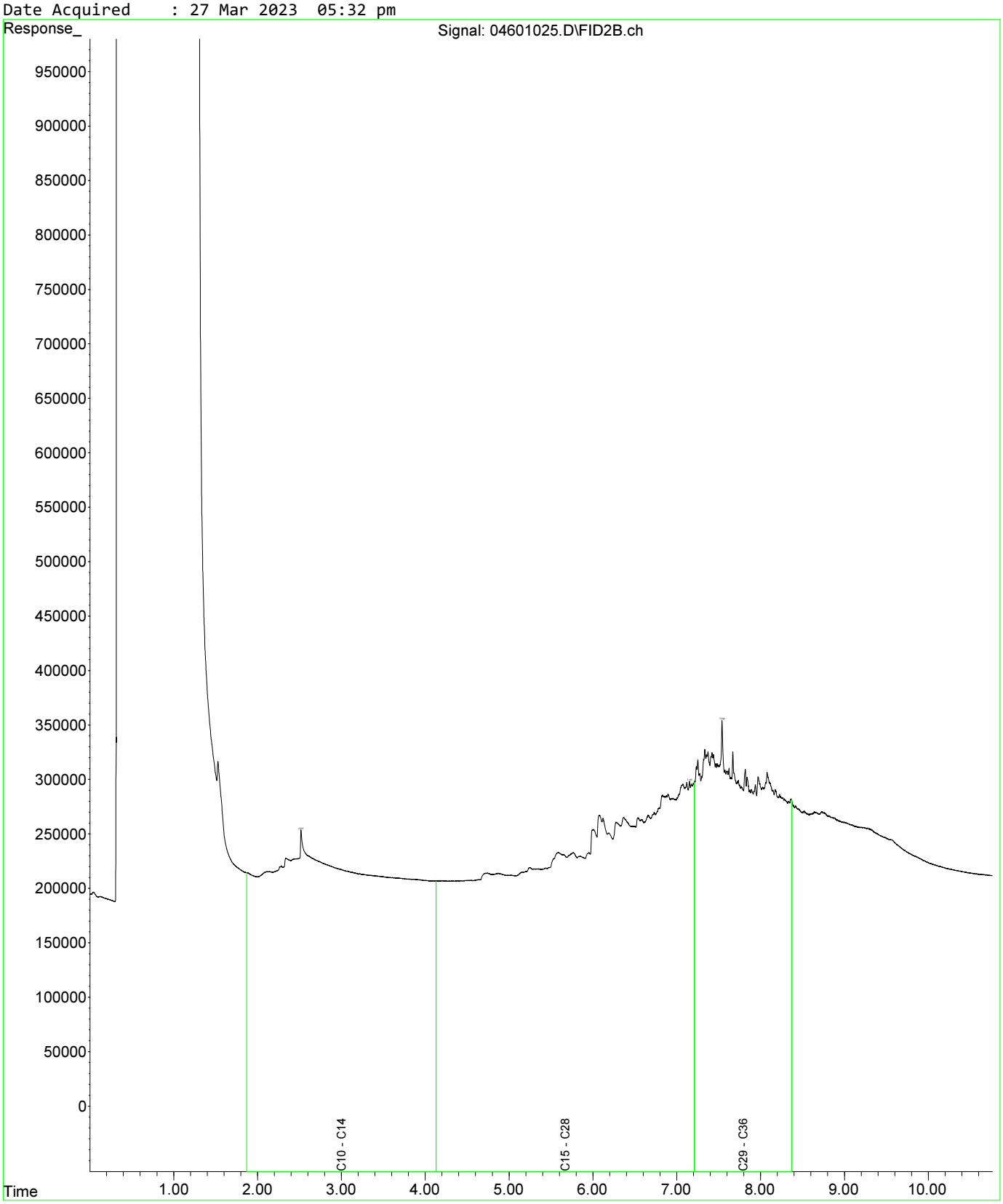
Fraction Scheme : Standard
Data File : 06701027.D
Laboratory Number: EM2305209-050
Sample ID : Rail Timber 01
Date Acquired : 27 Mar 2023 06:05 pm



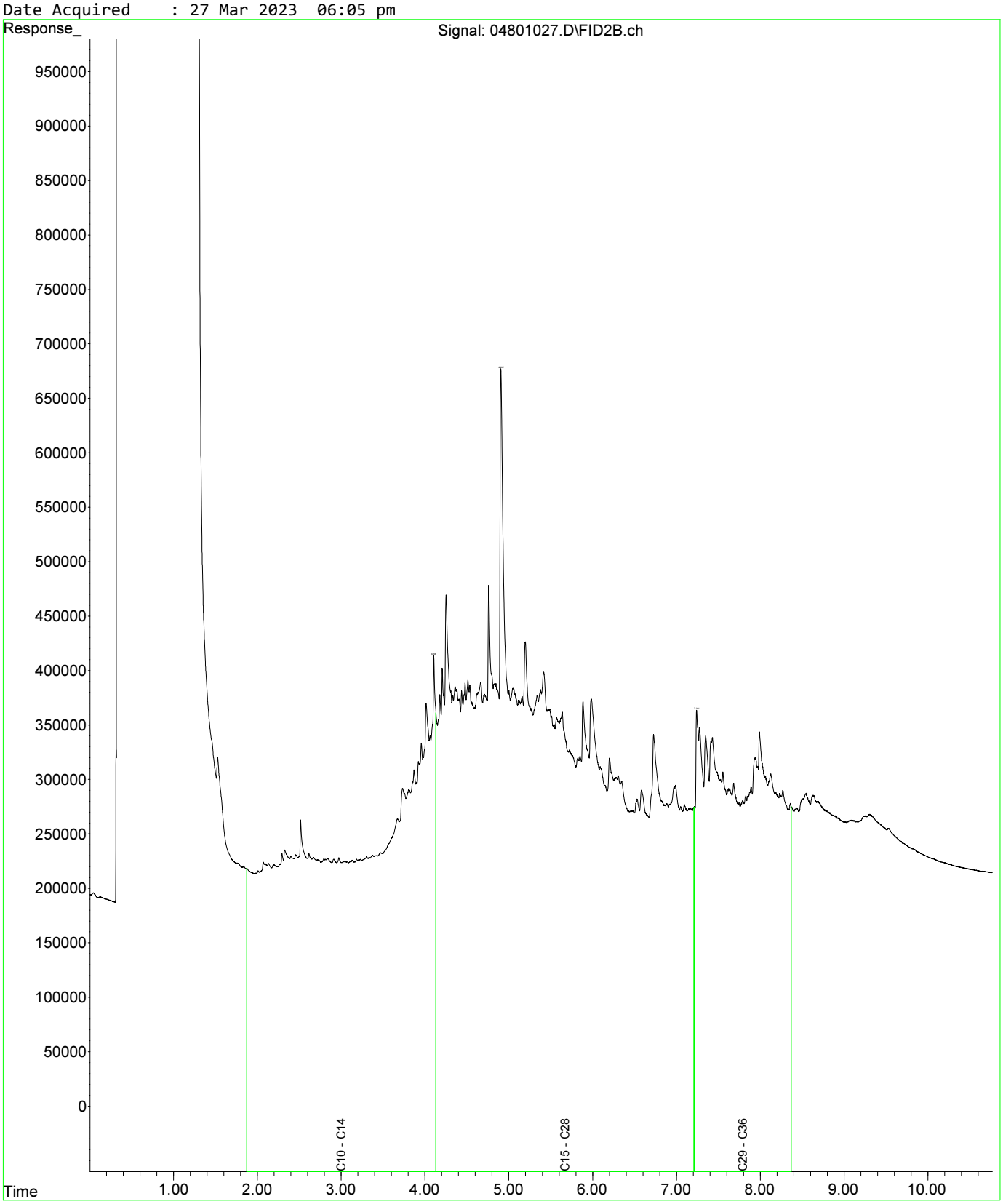
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



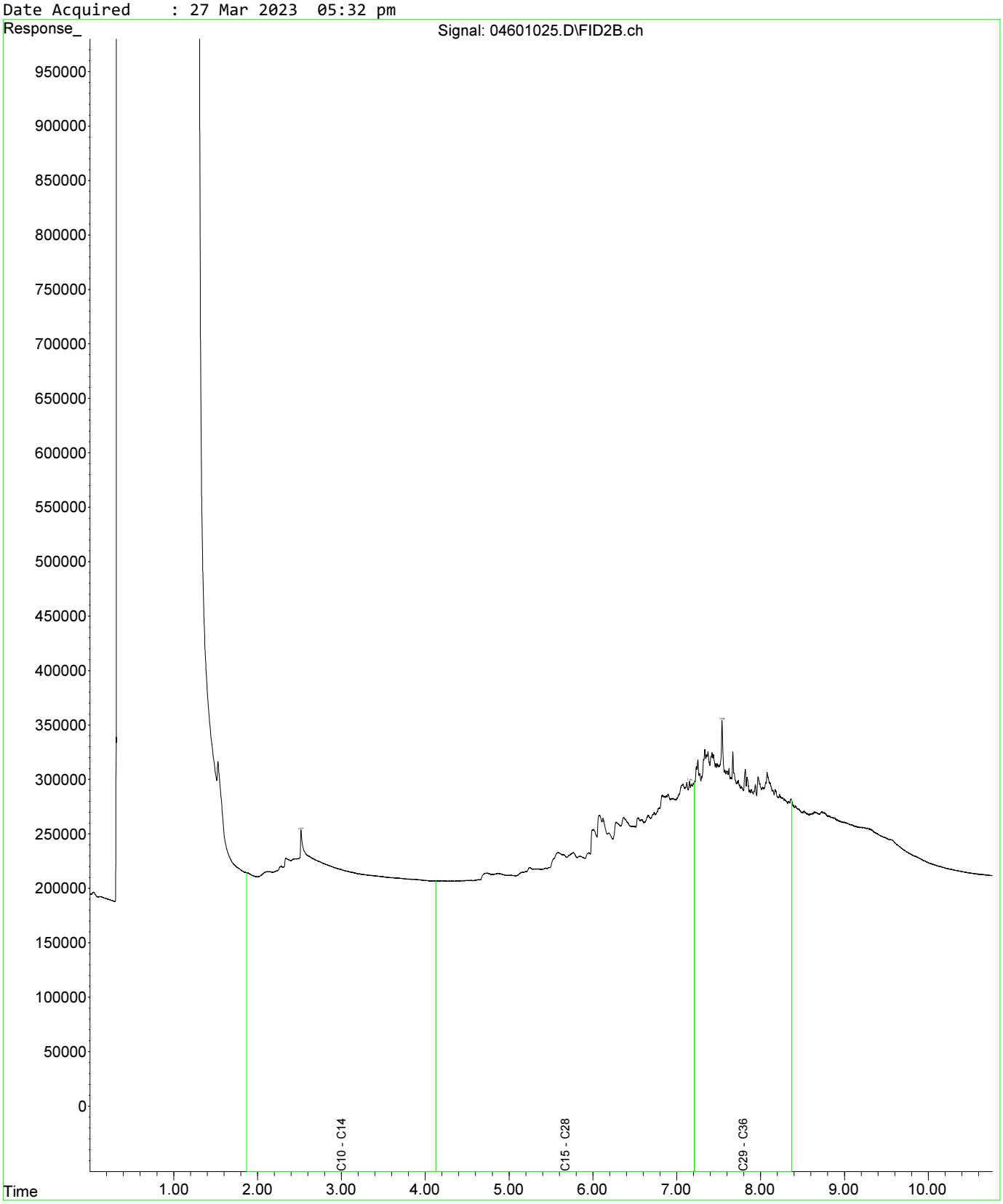
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



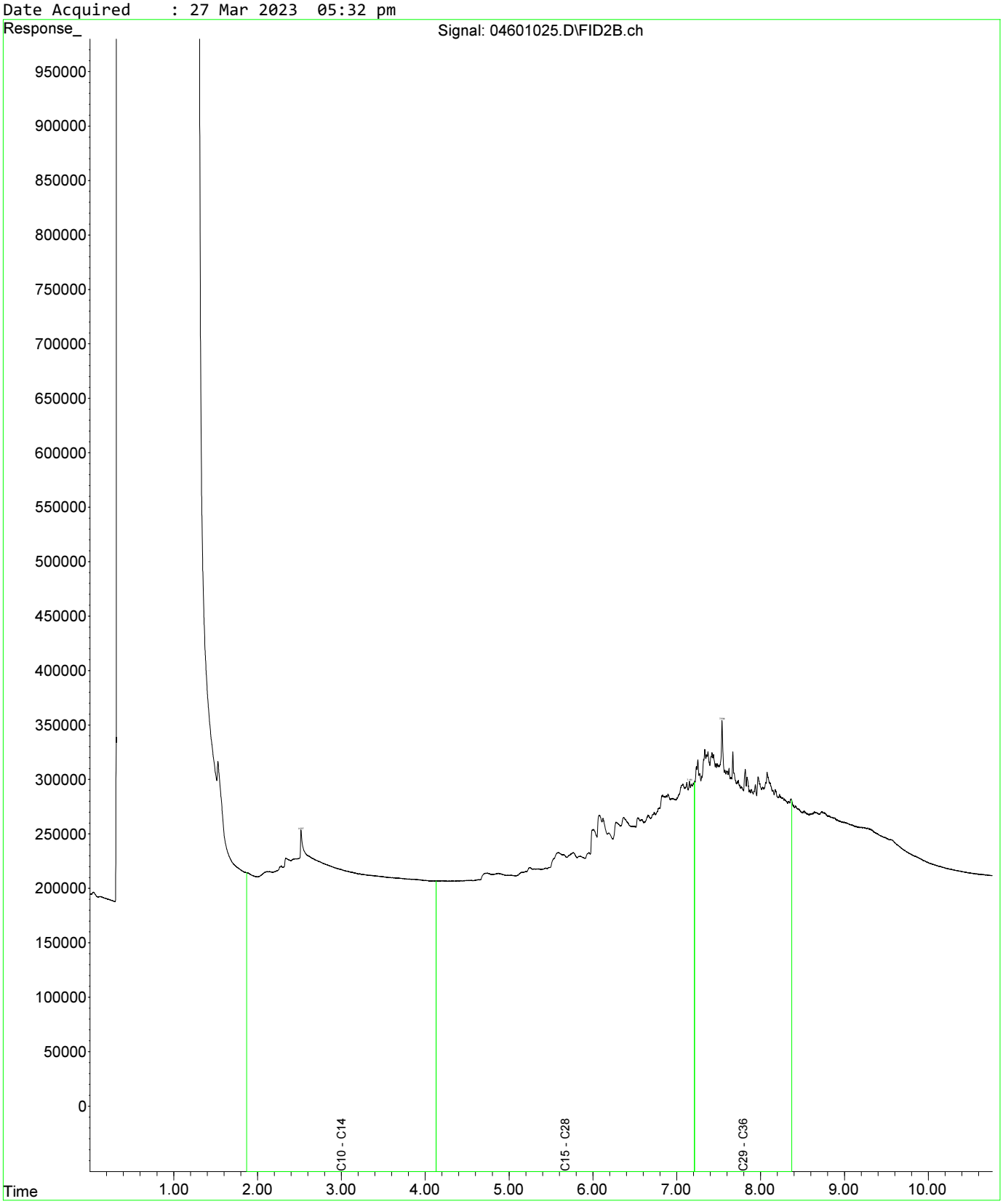
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



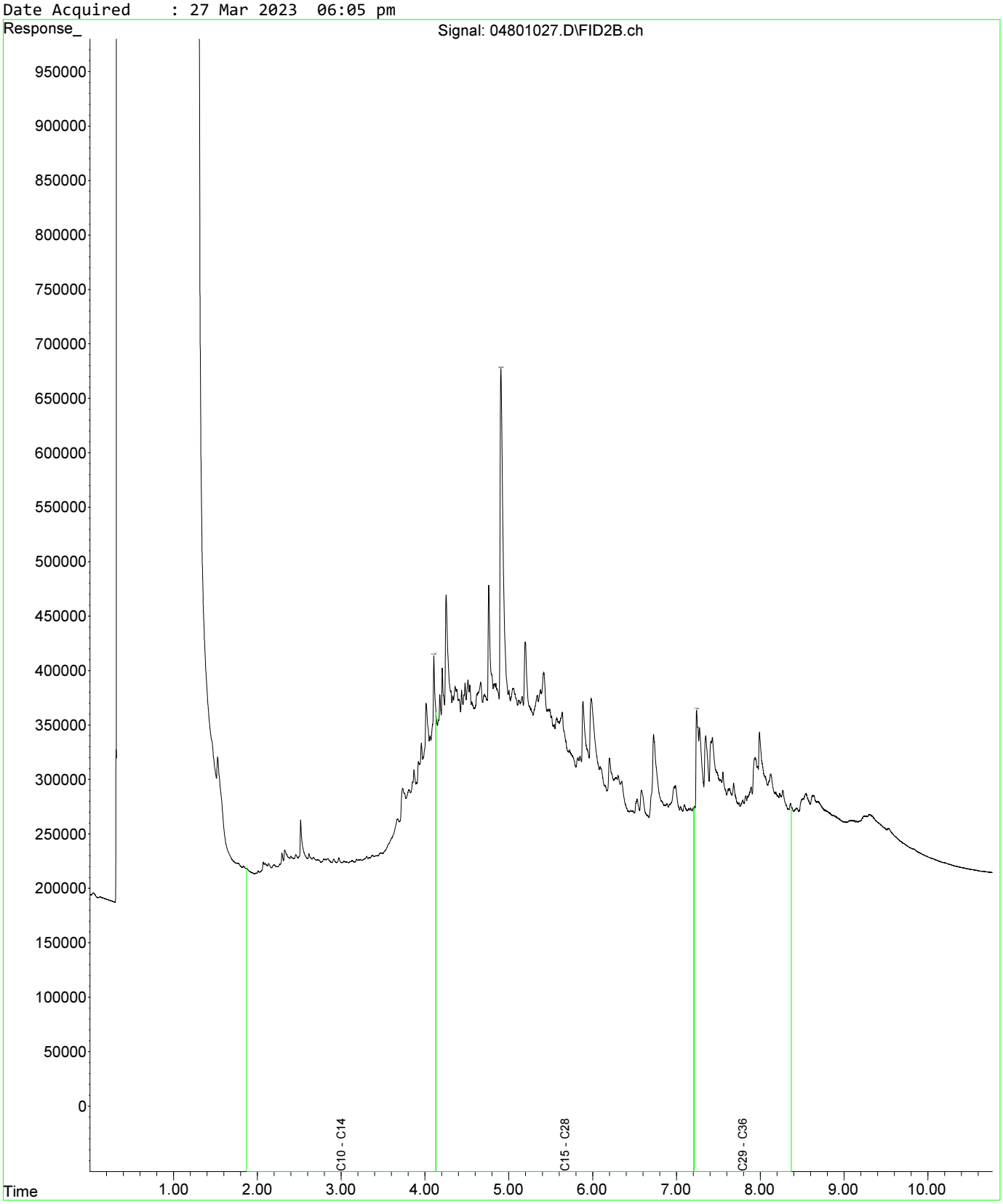
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



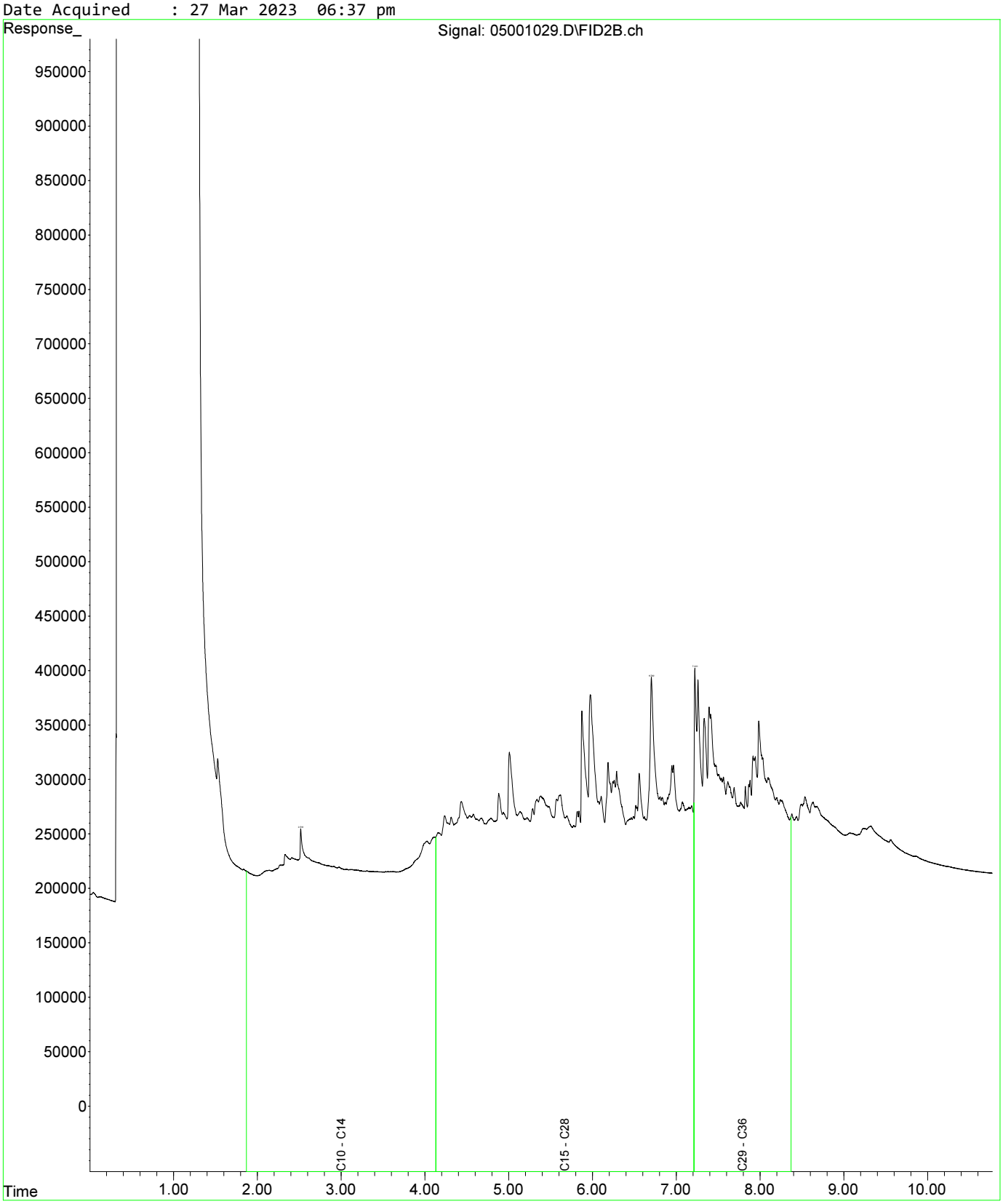
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



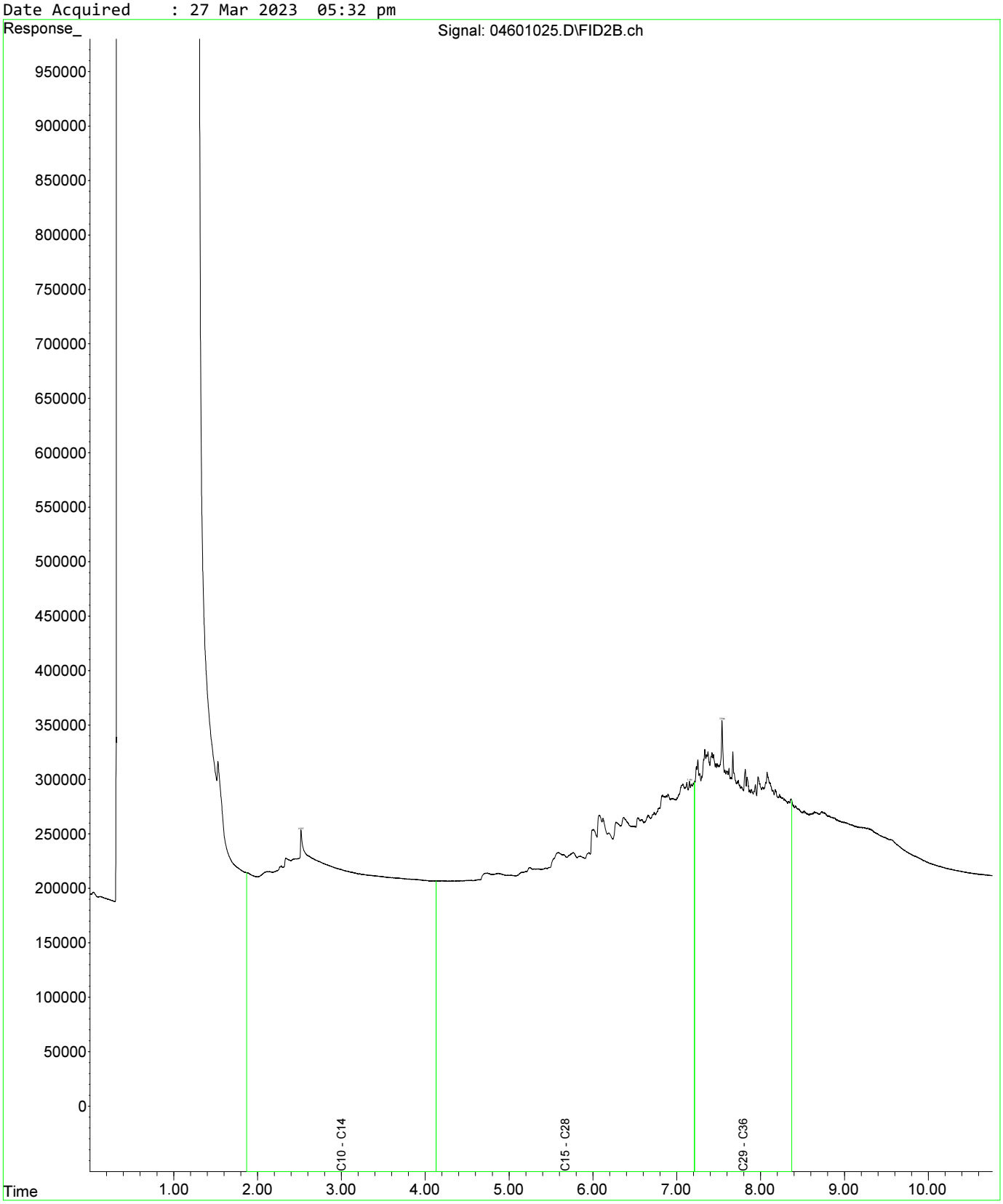
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



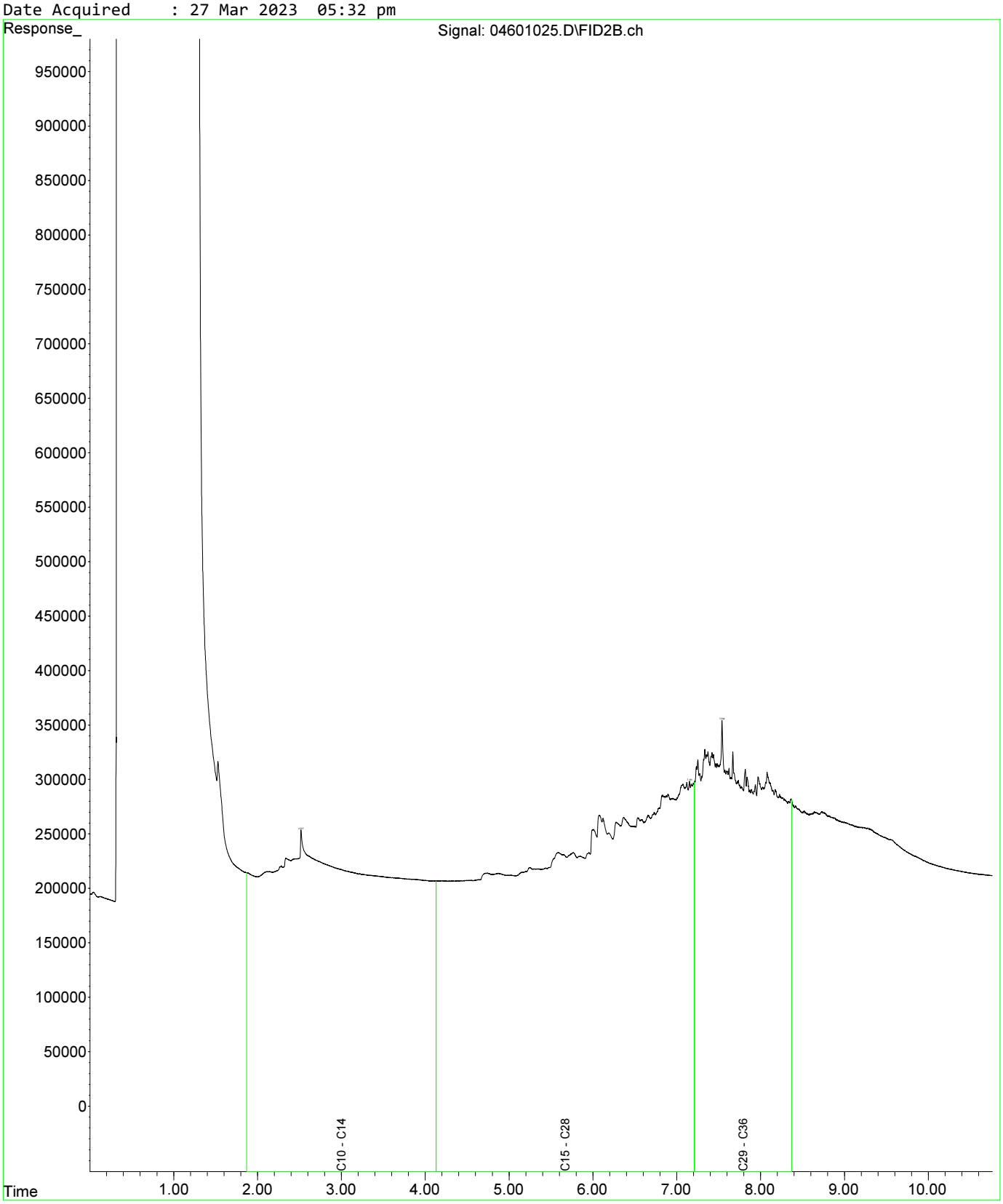
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



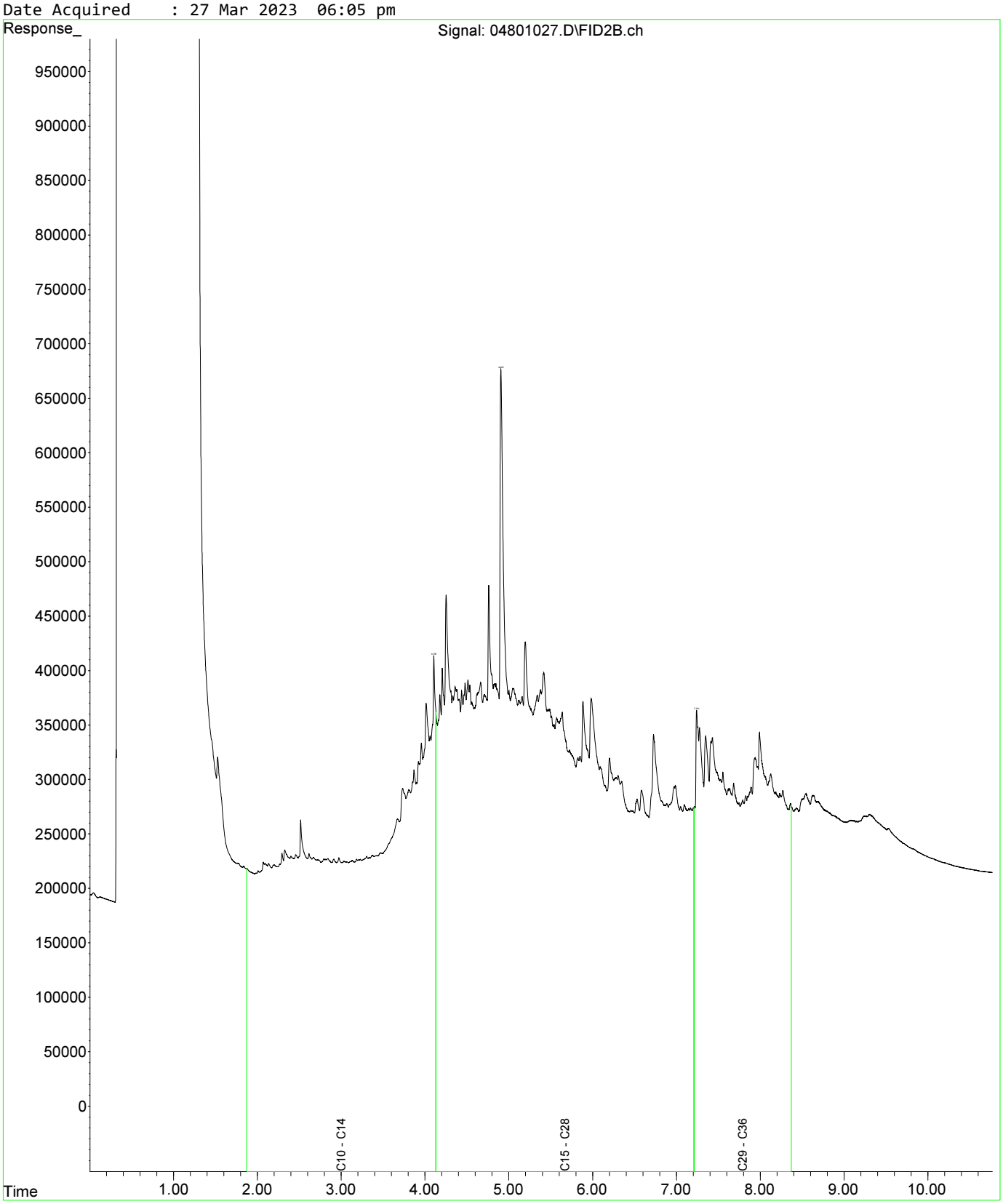
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



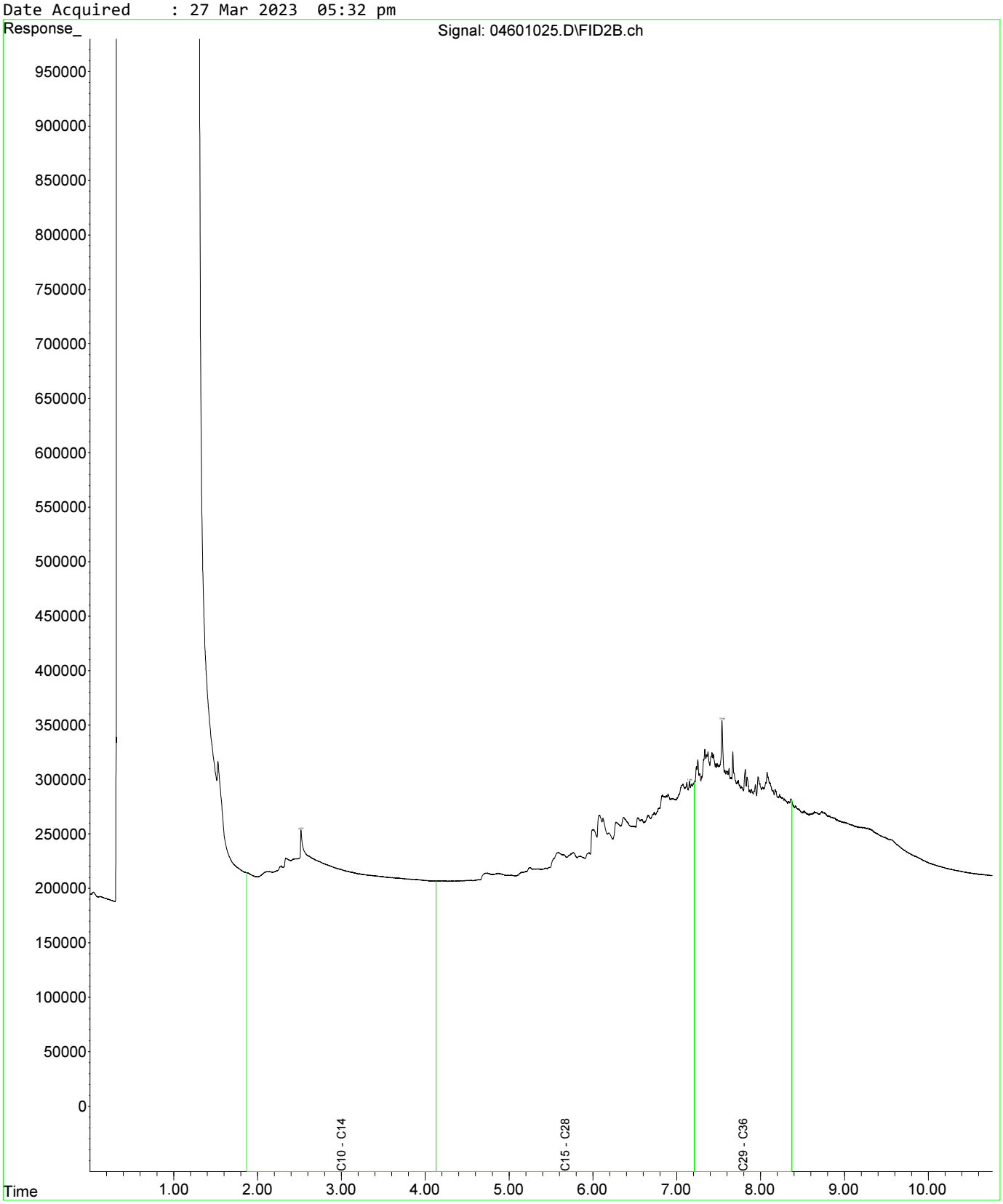
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



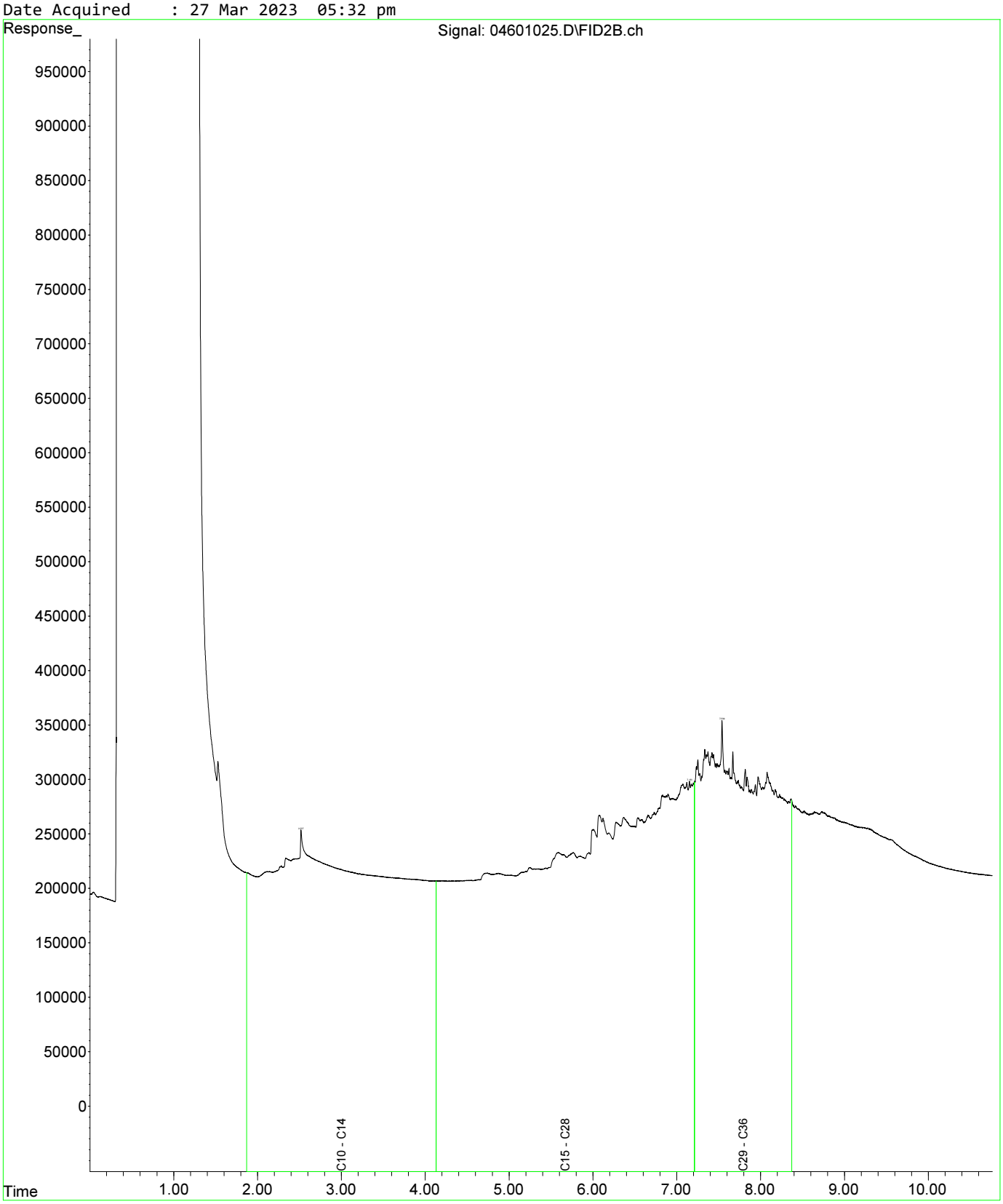
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



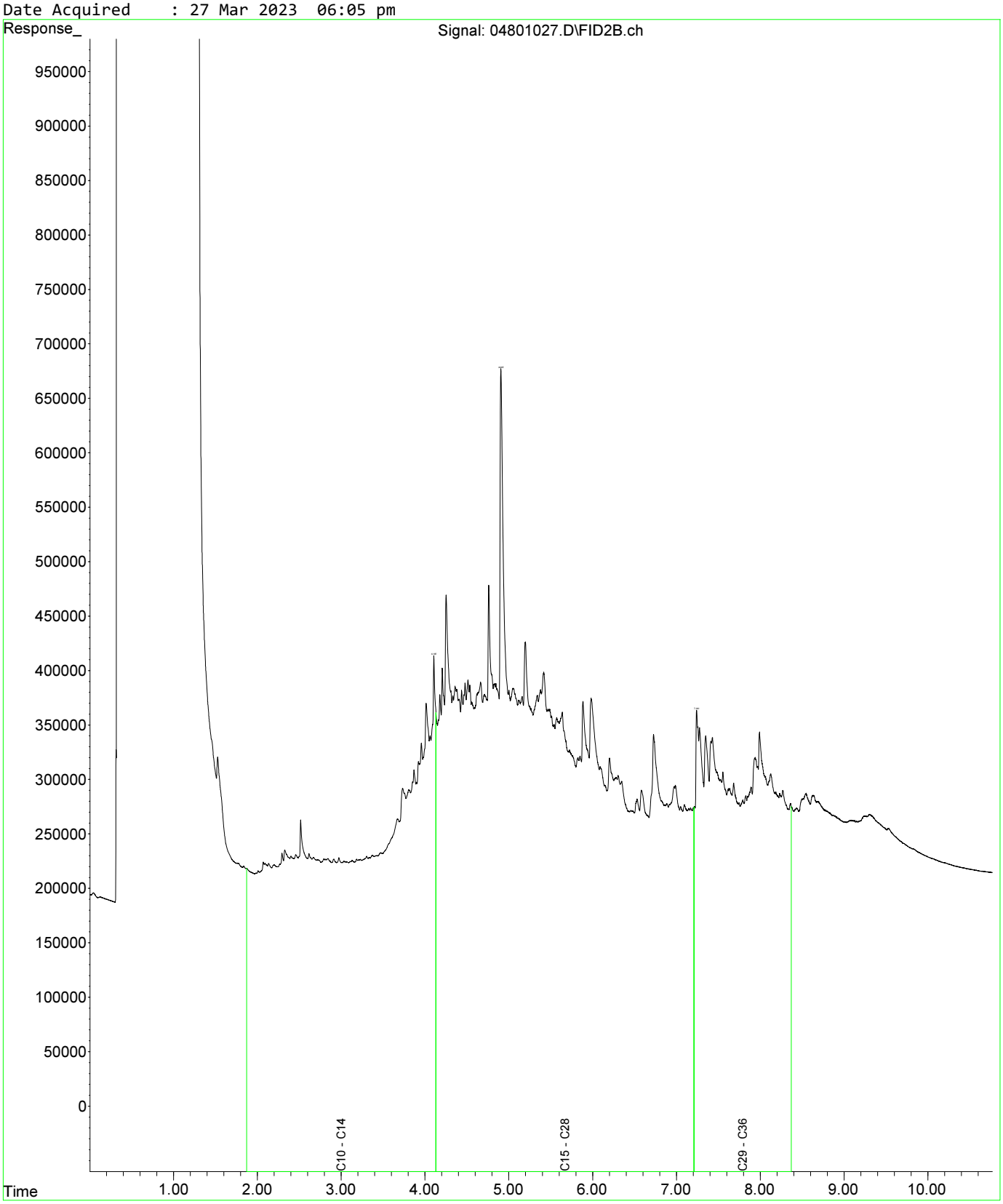
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



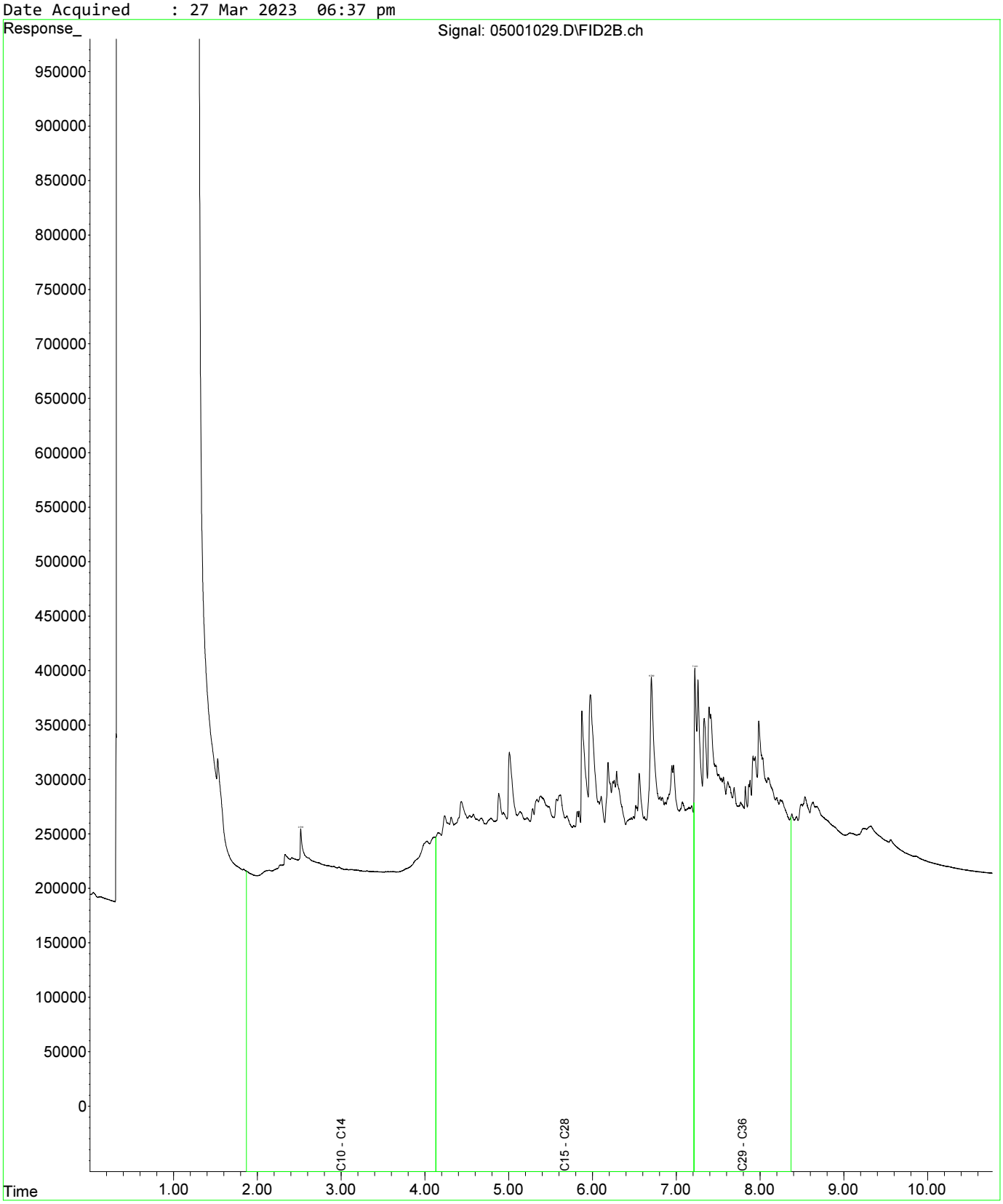
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



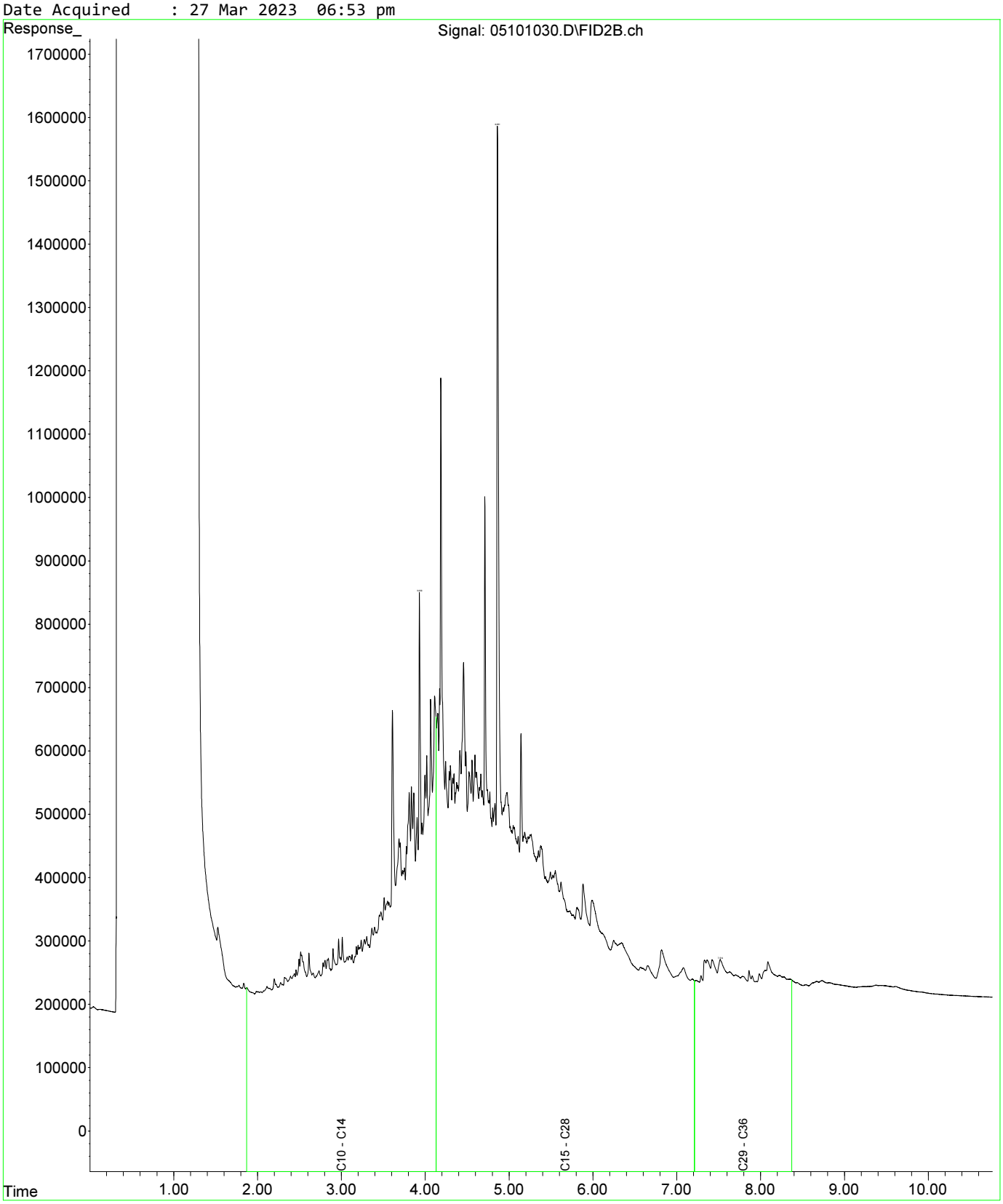
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



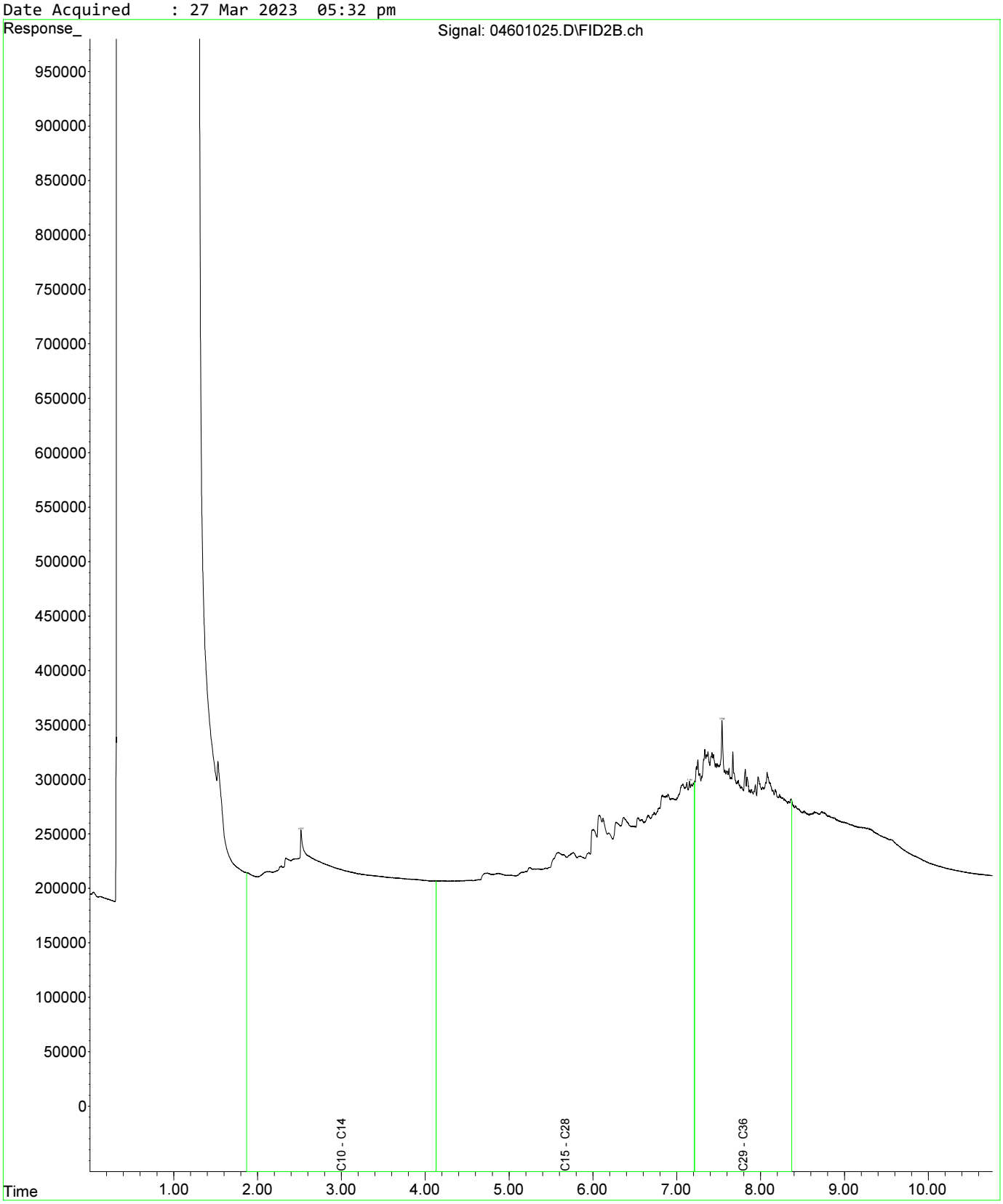
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



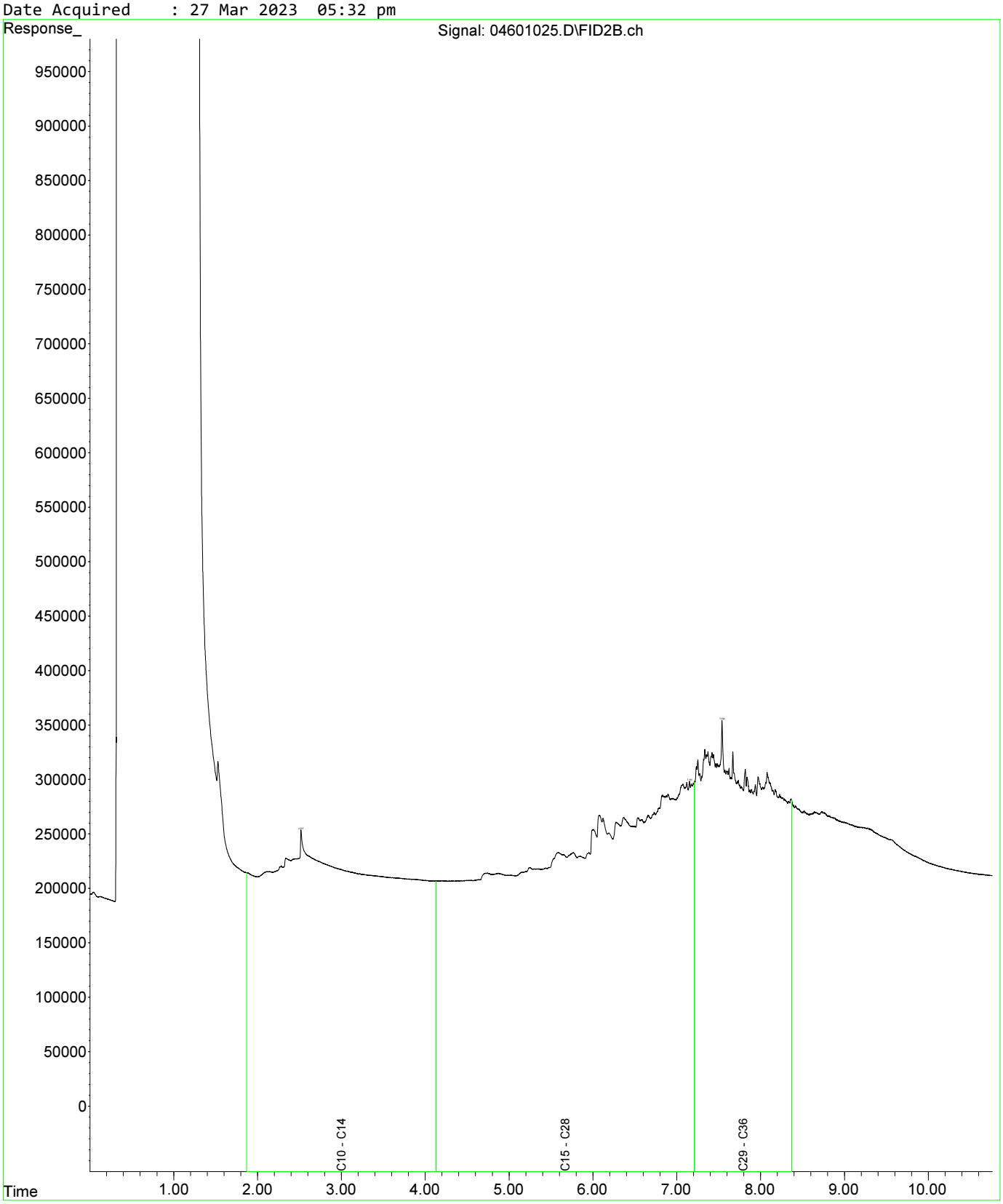
Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



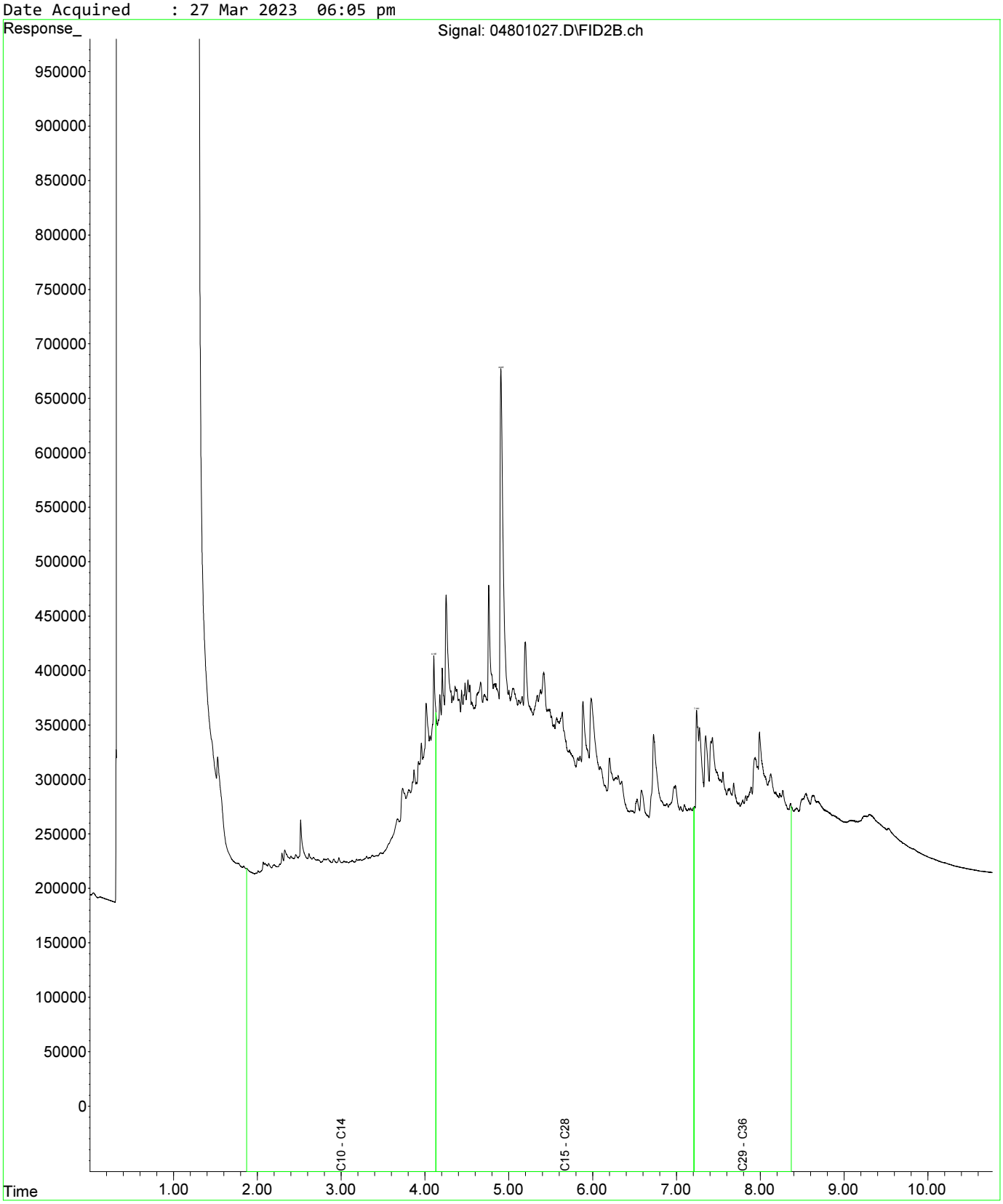
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



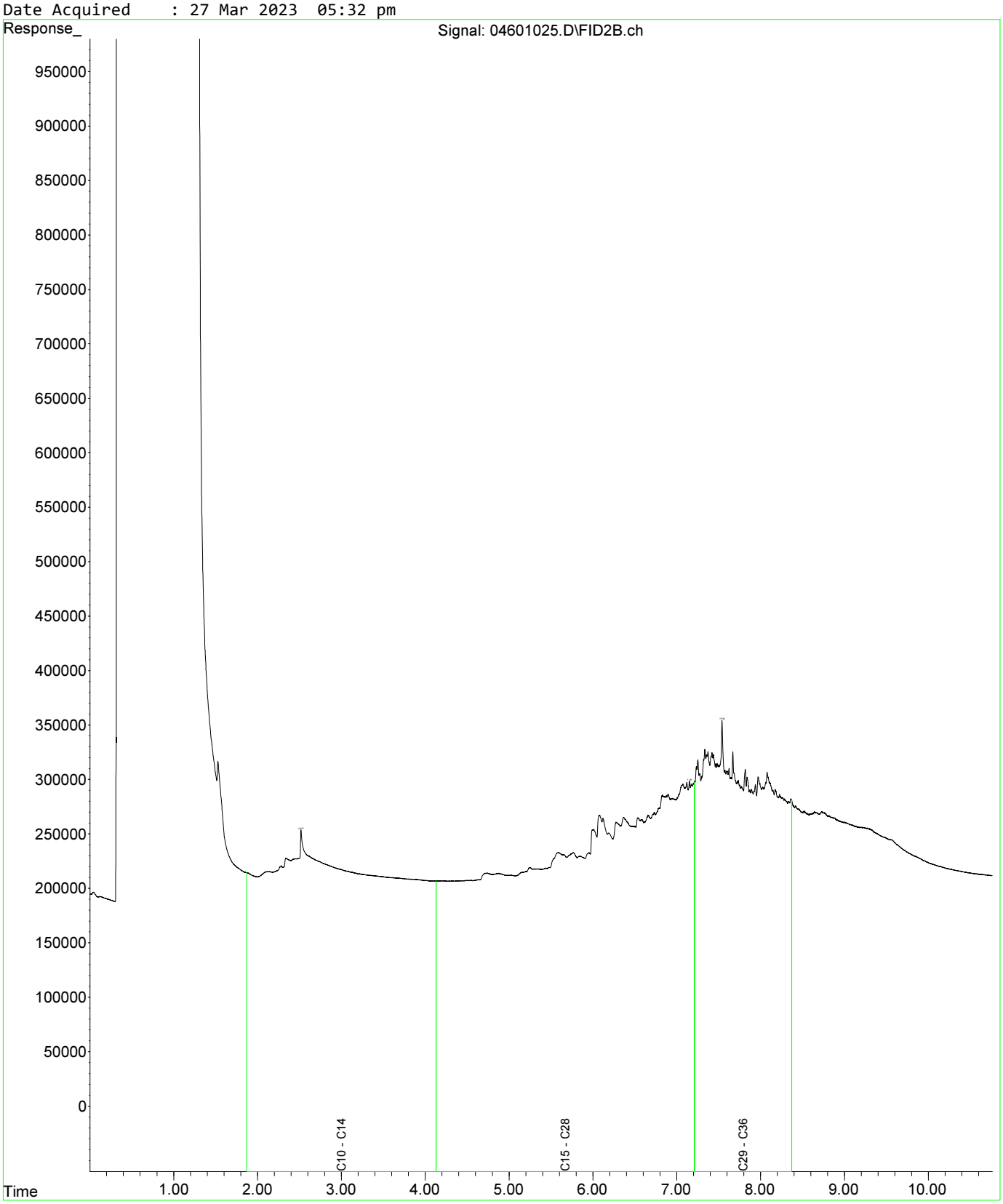
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



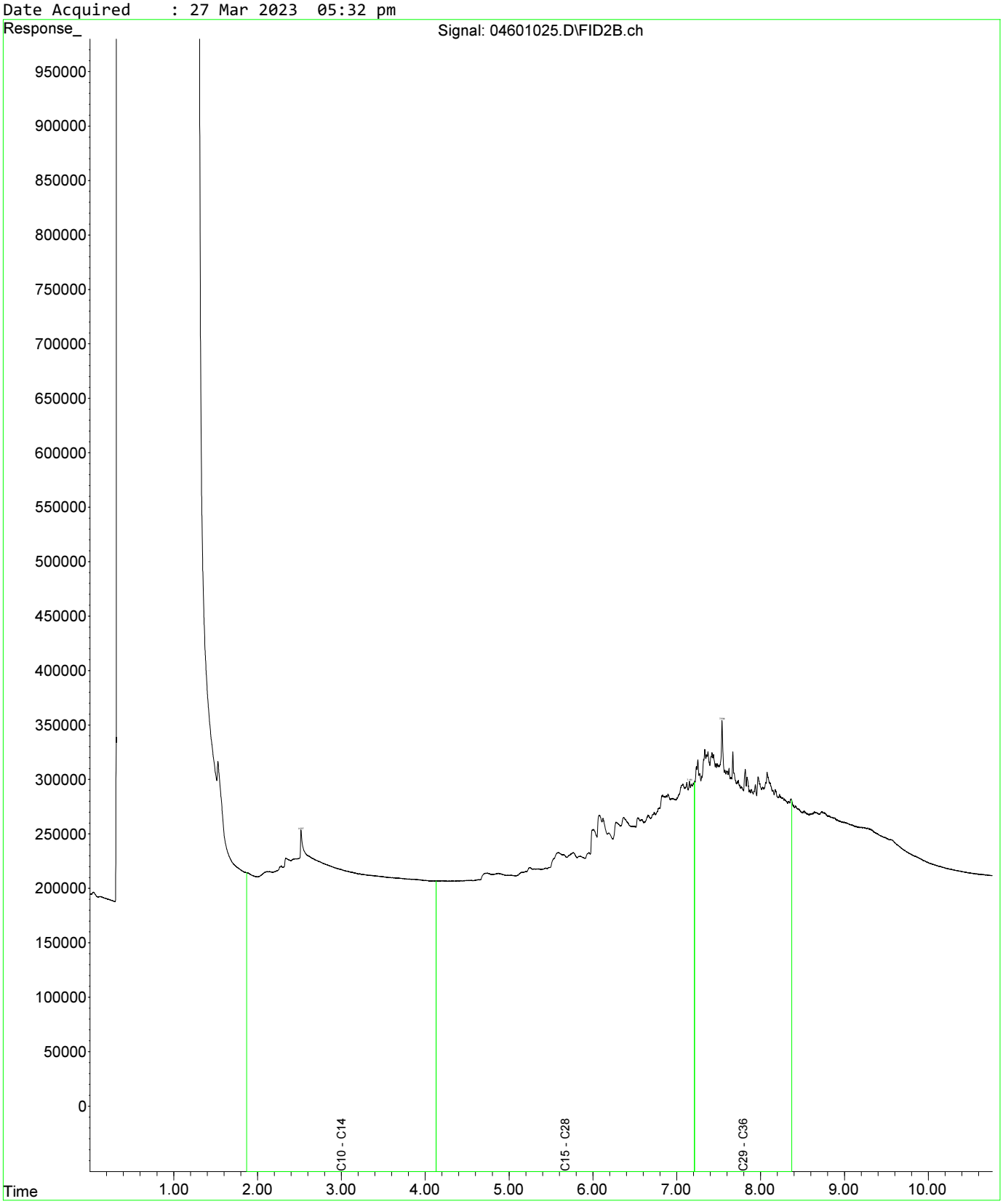
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



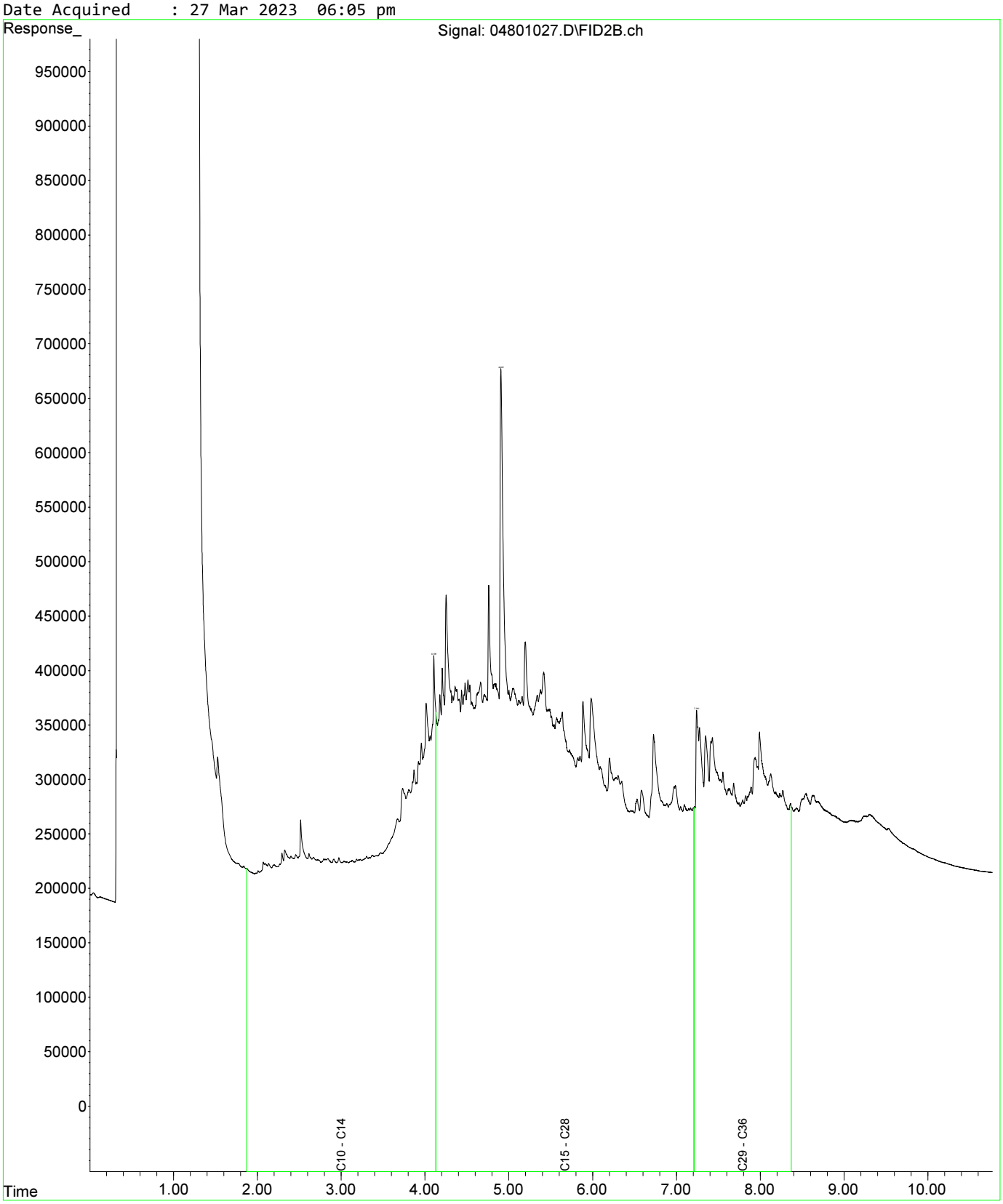
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



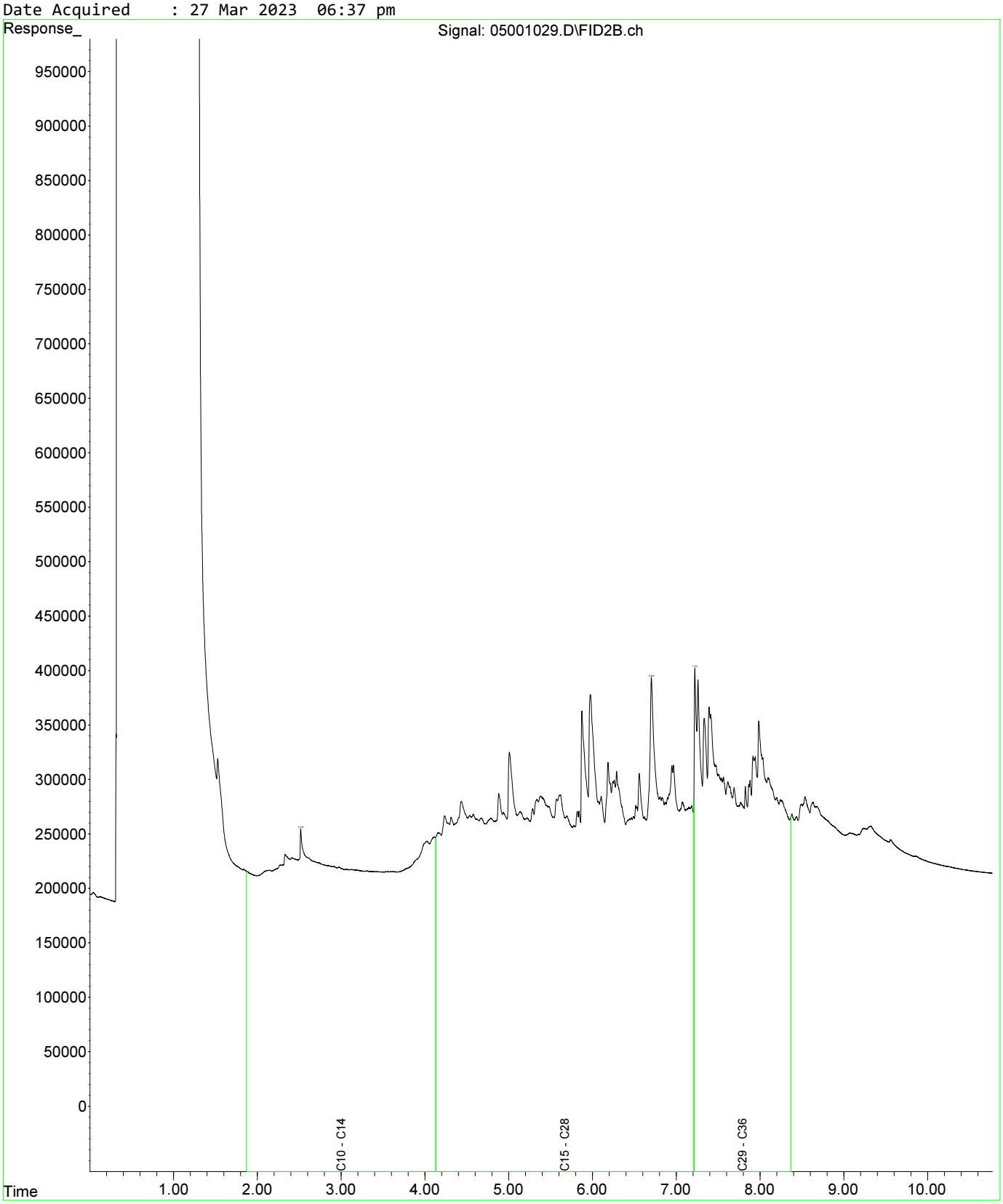
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



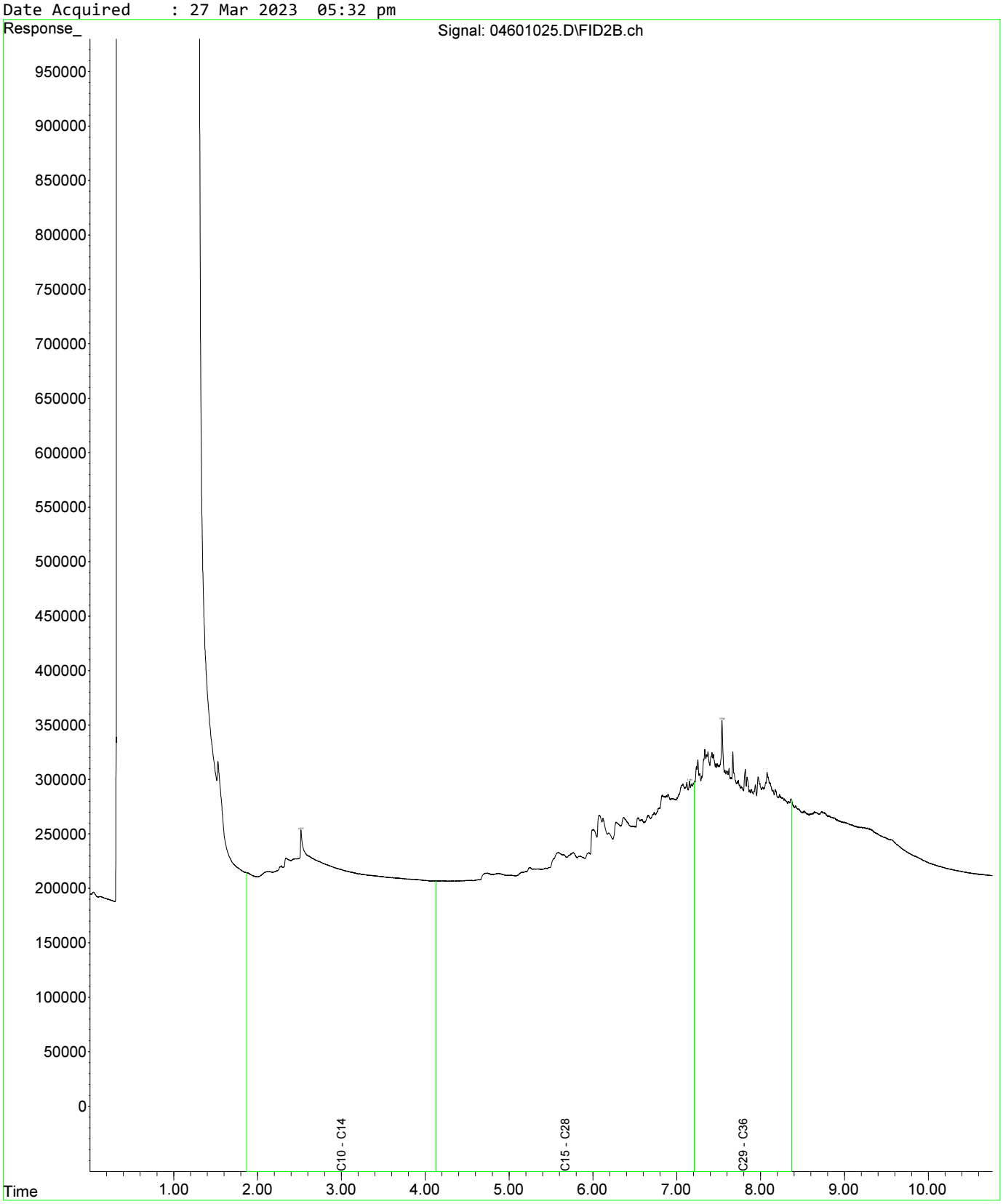
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



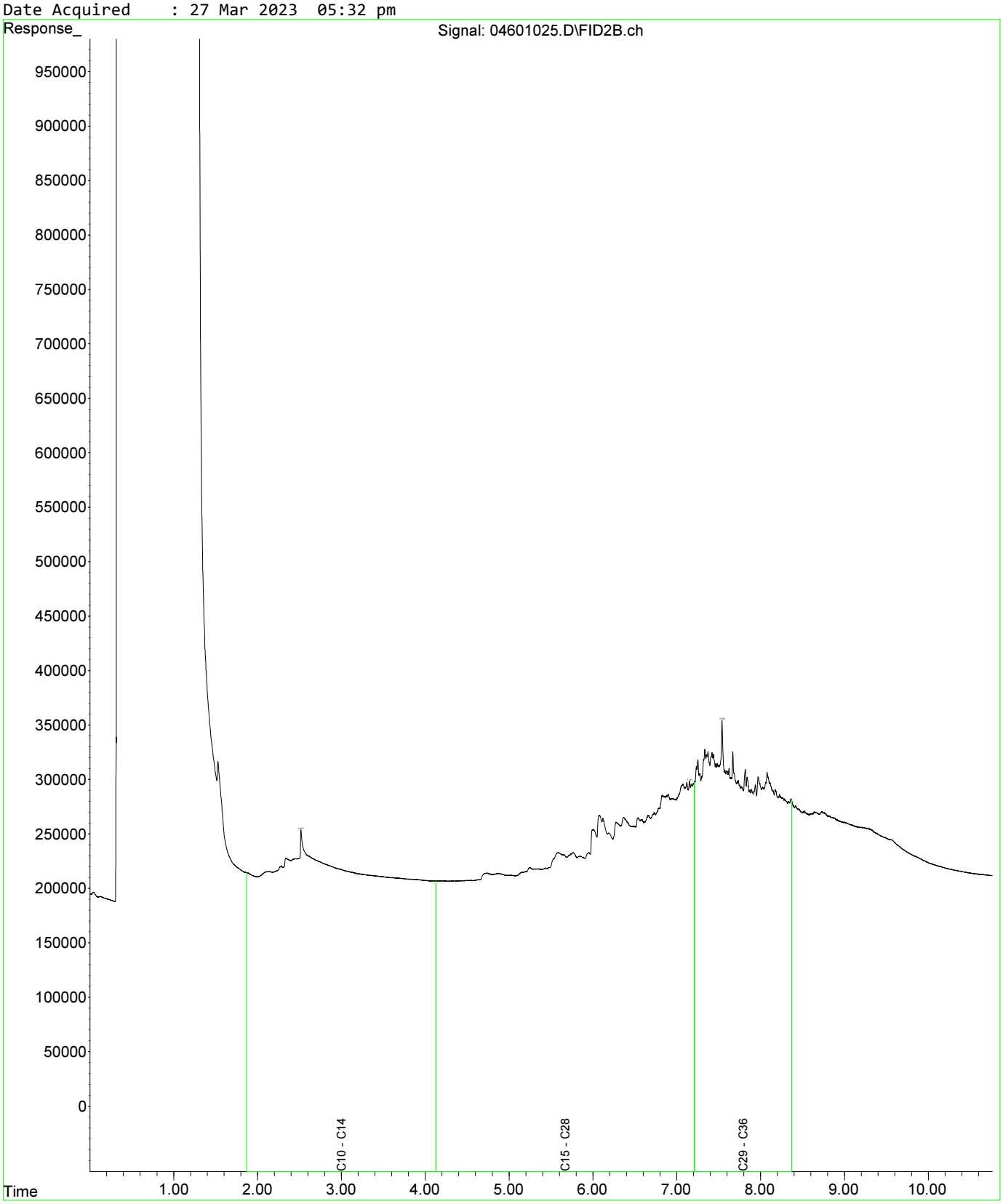
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



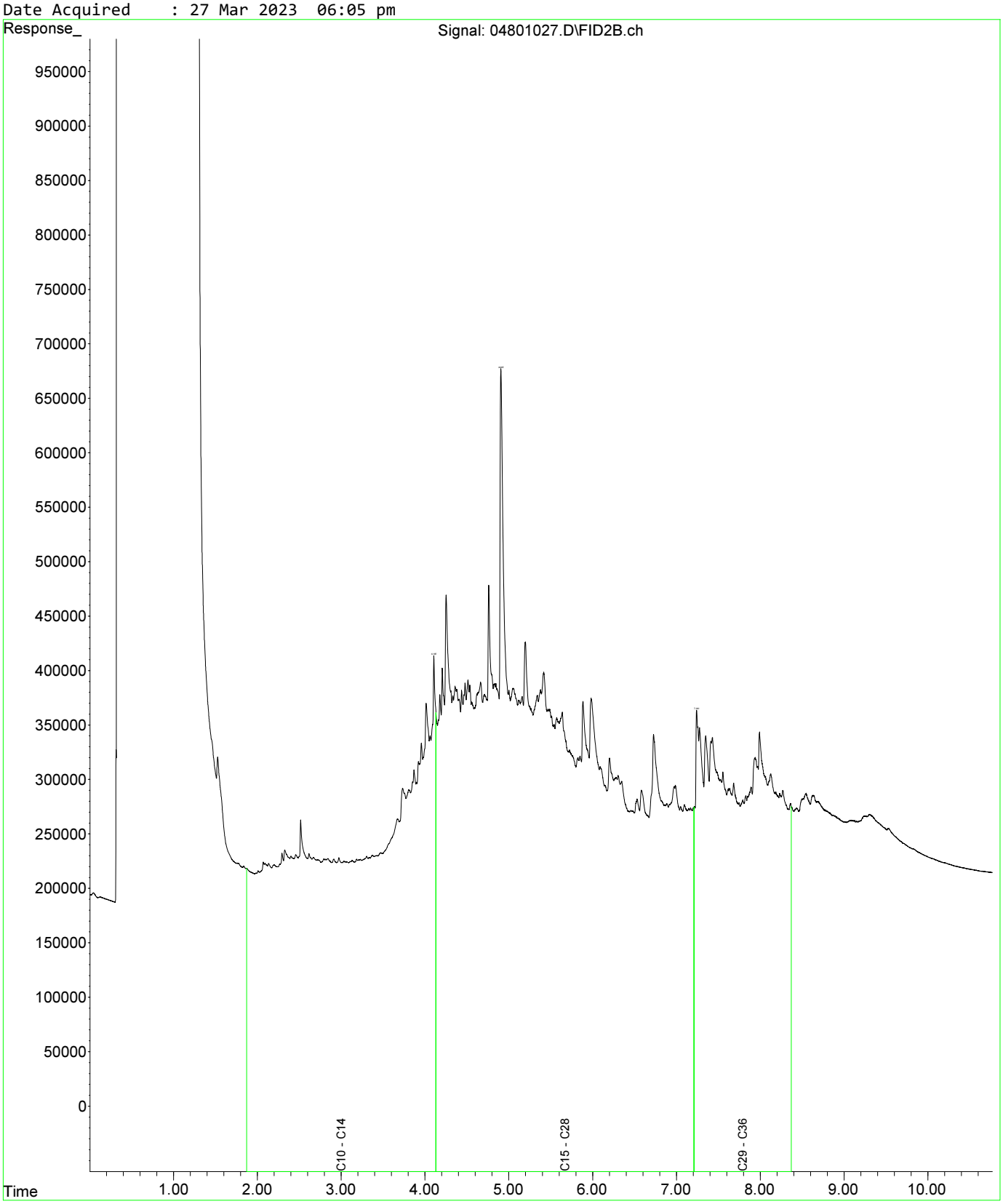
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



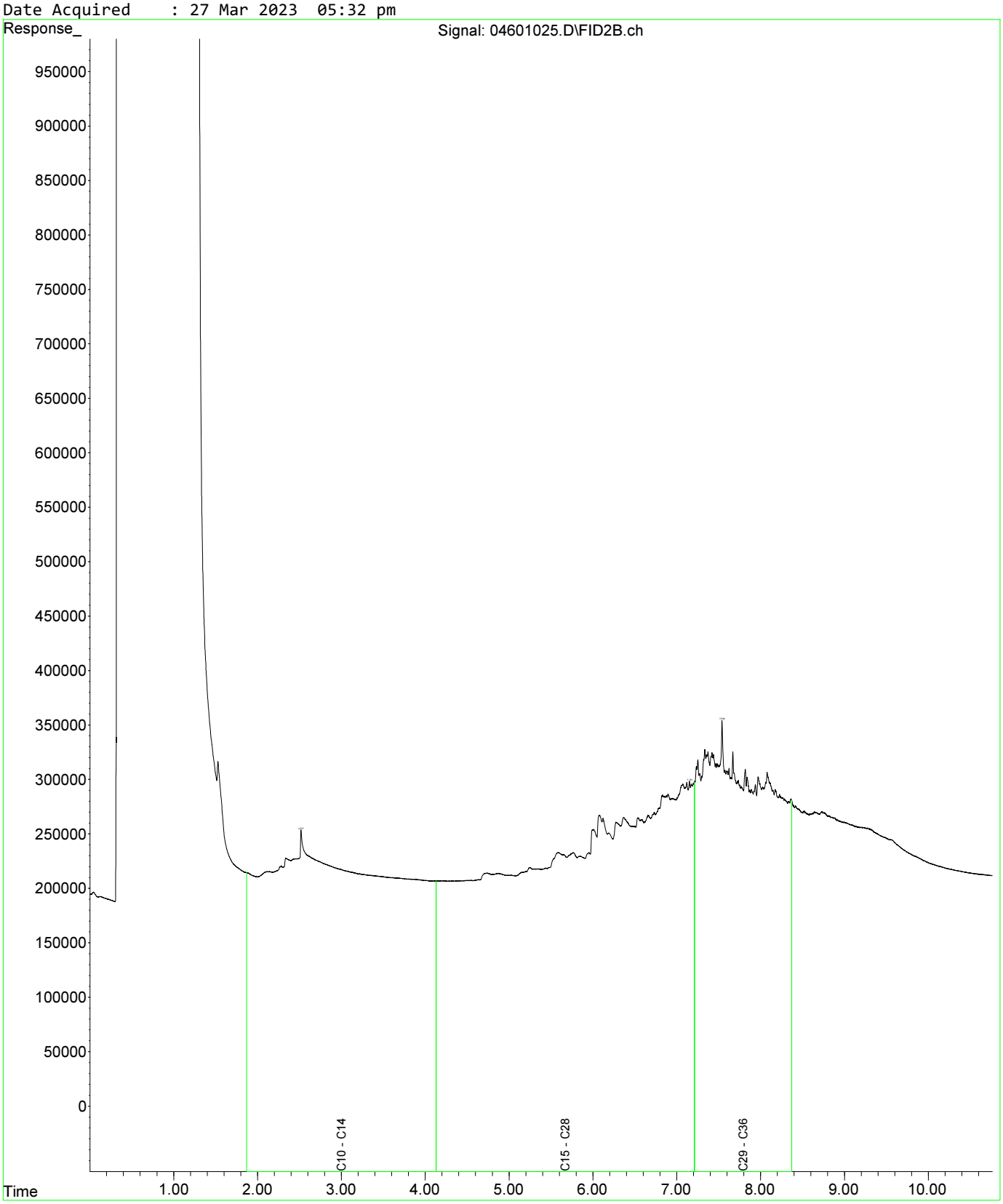
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



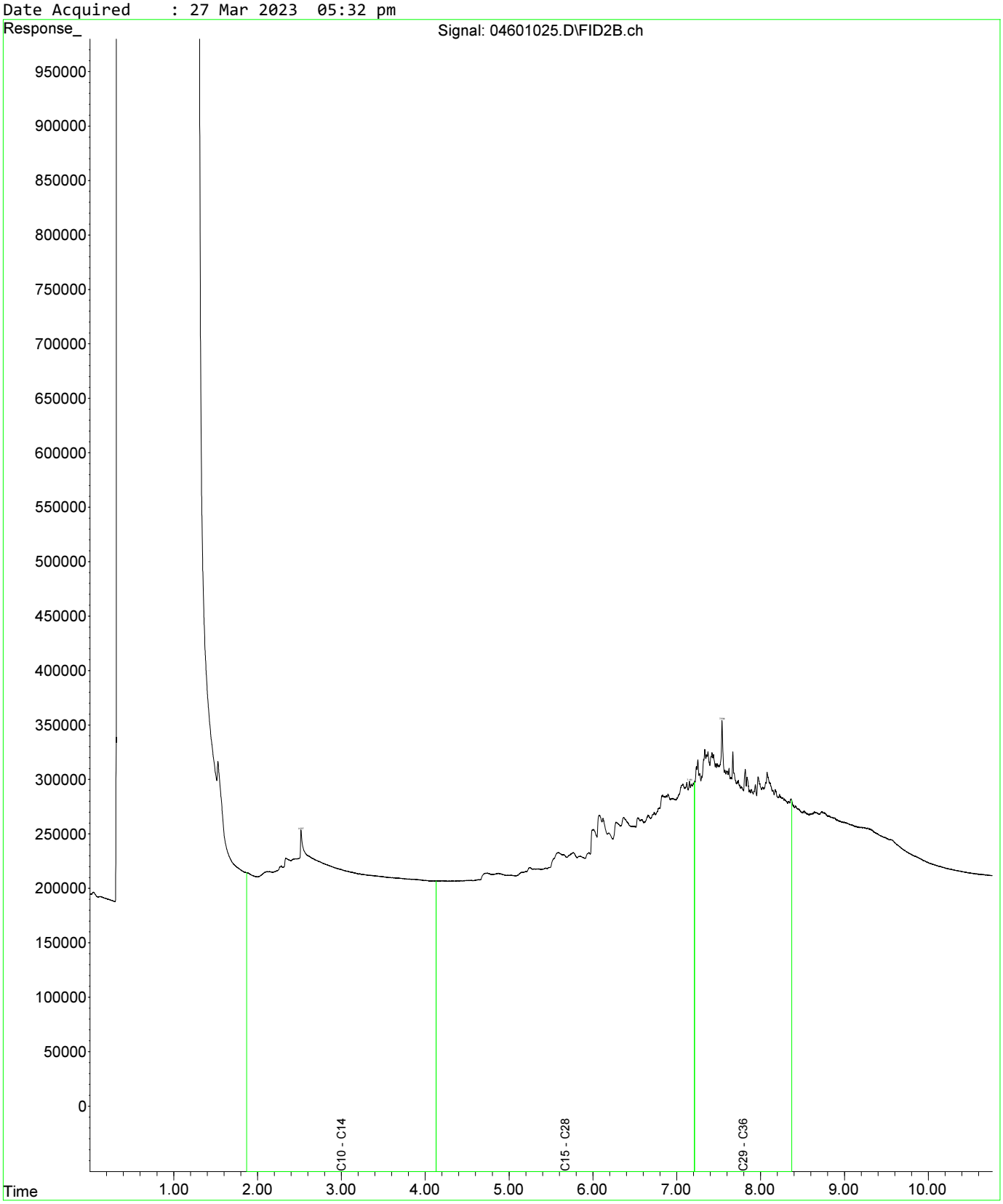
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



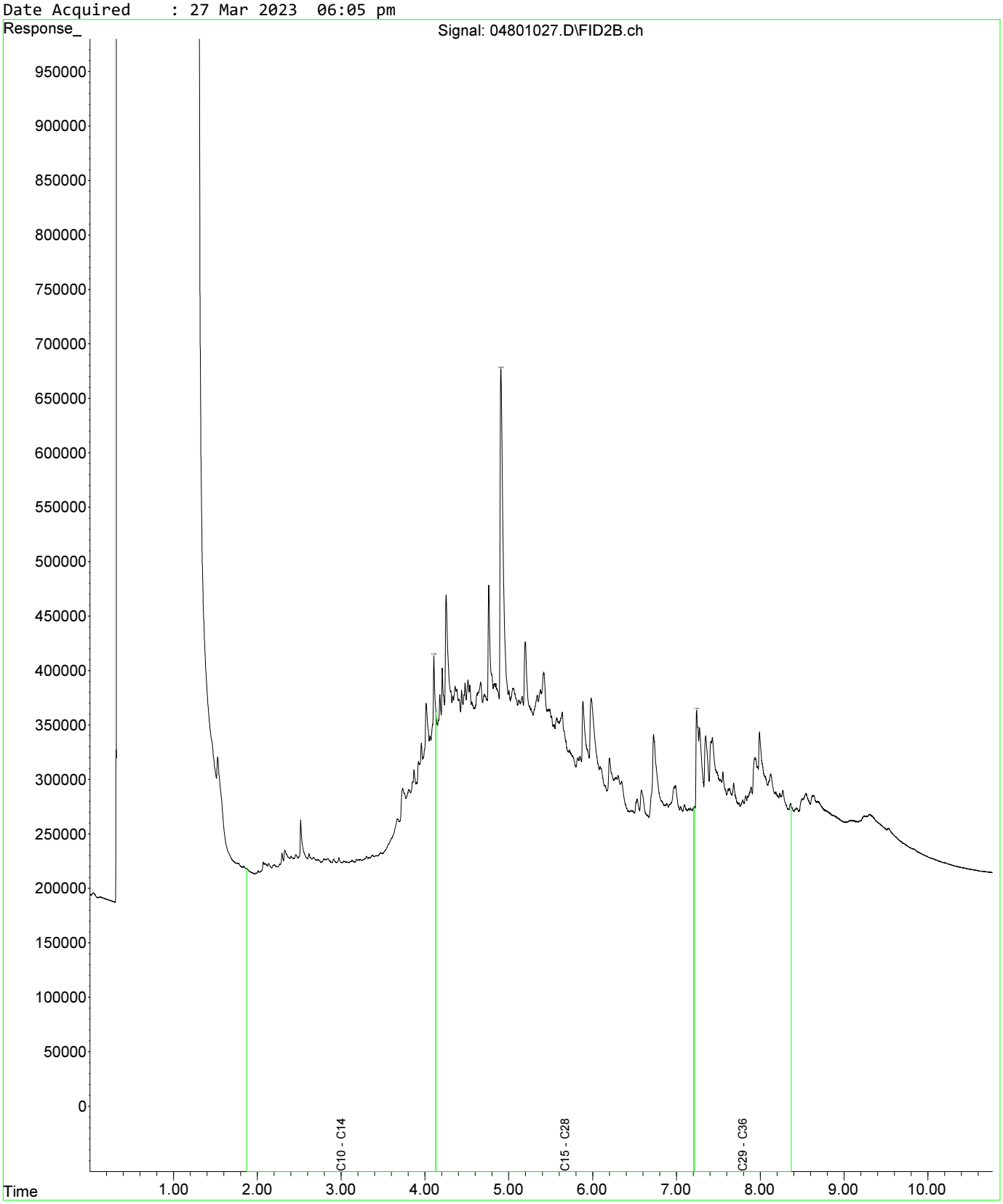
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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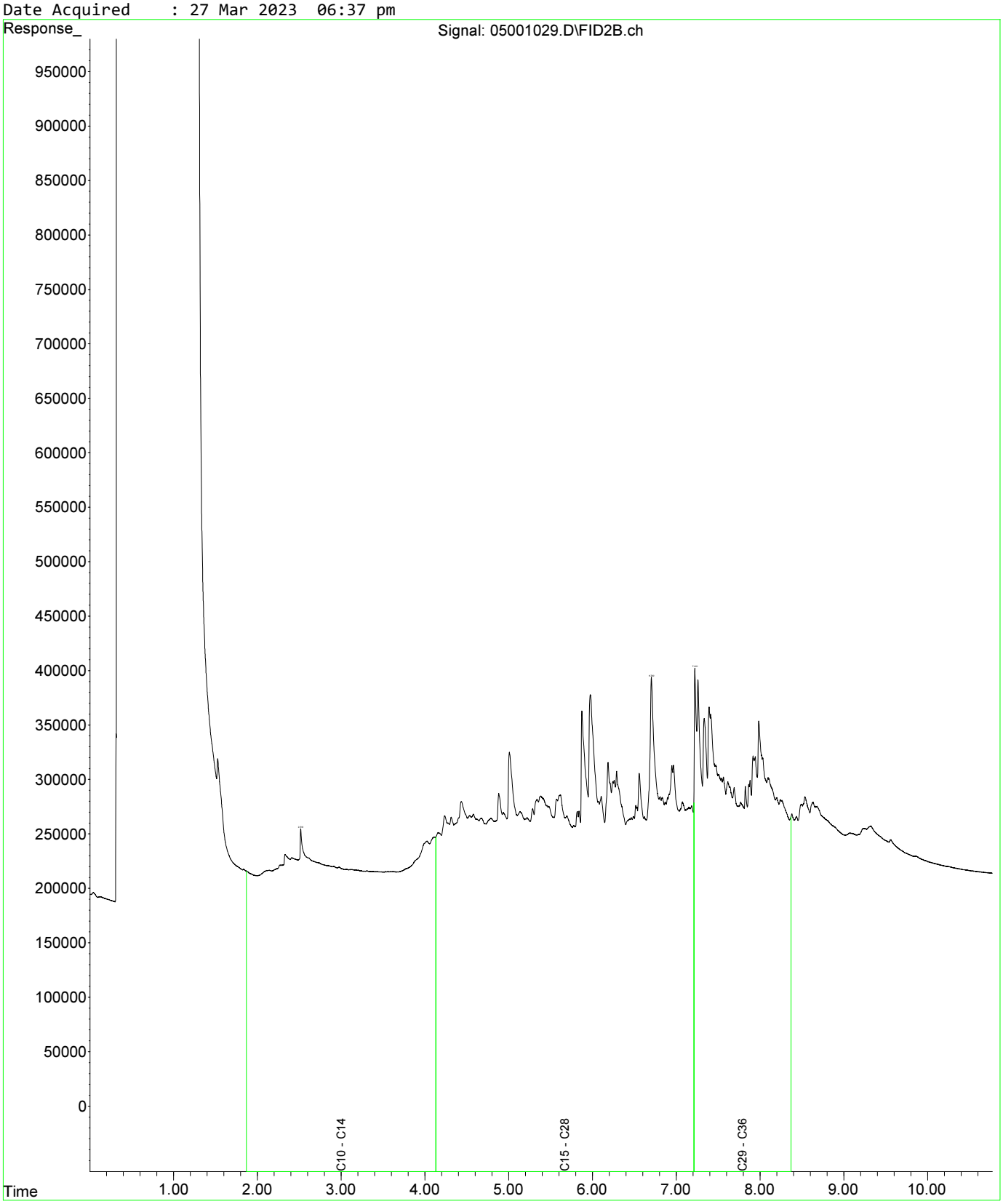
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Laboratory Number: EM2305209-025
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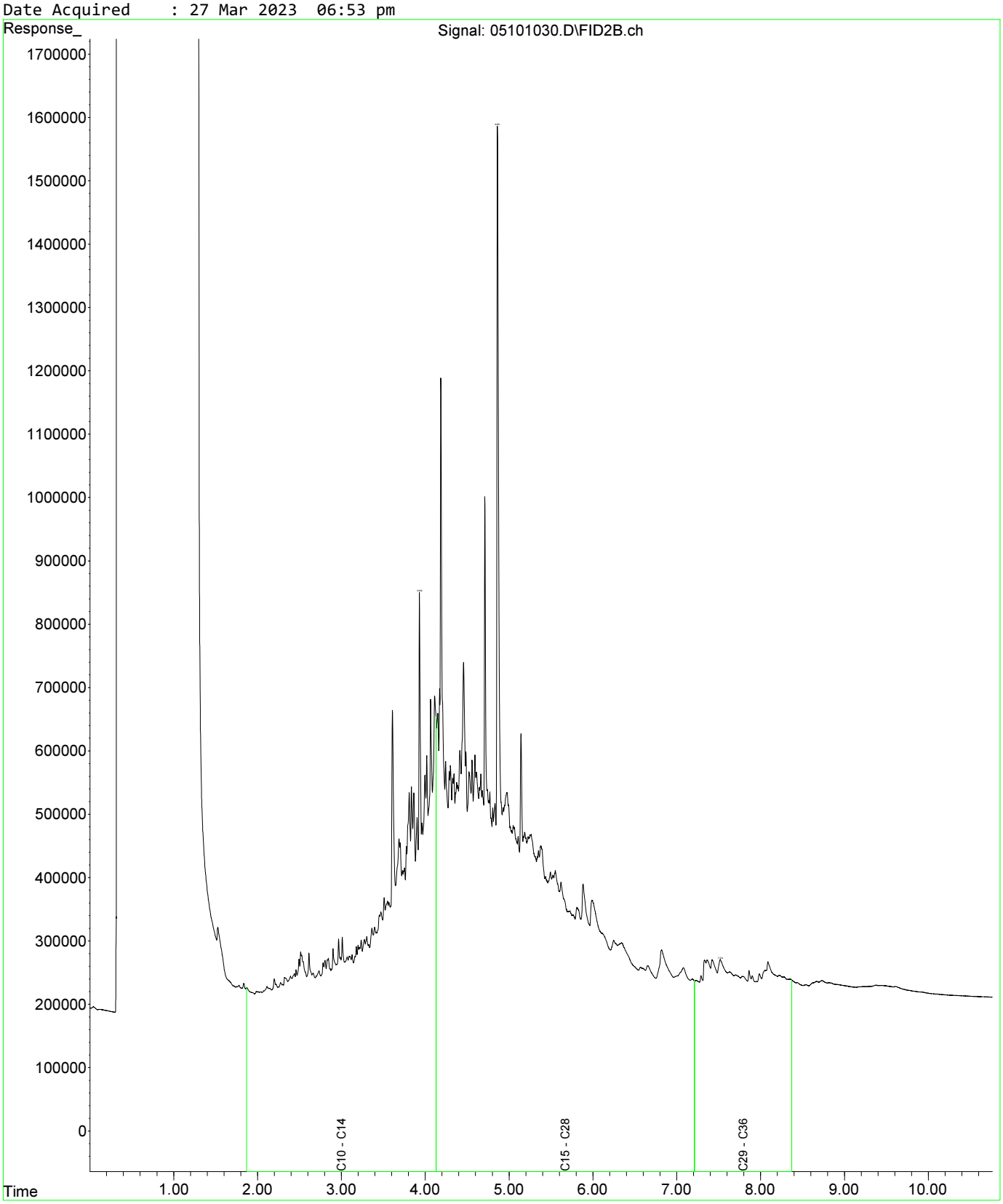

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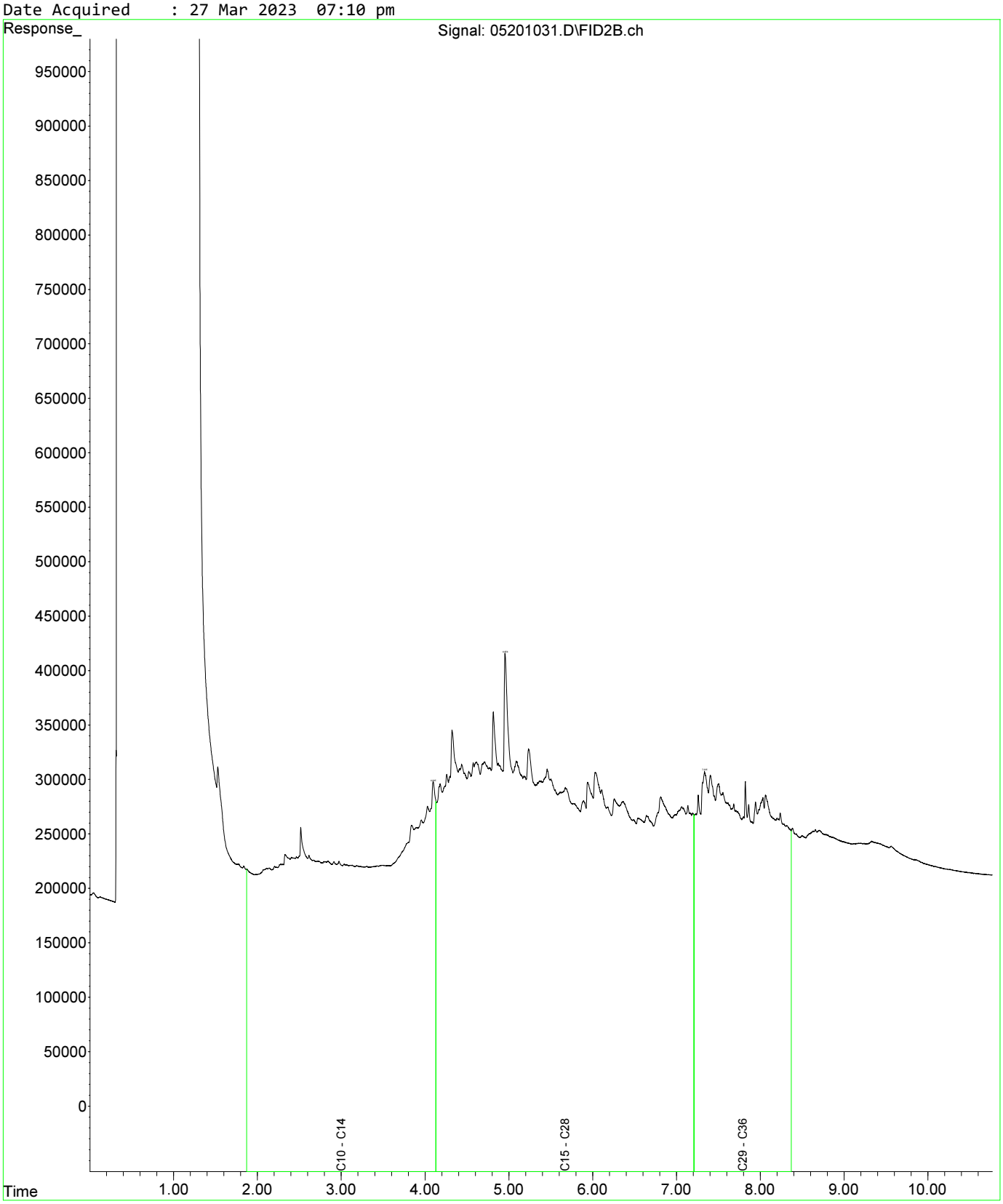

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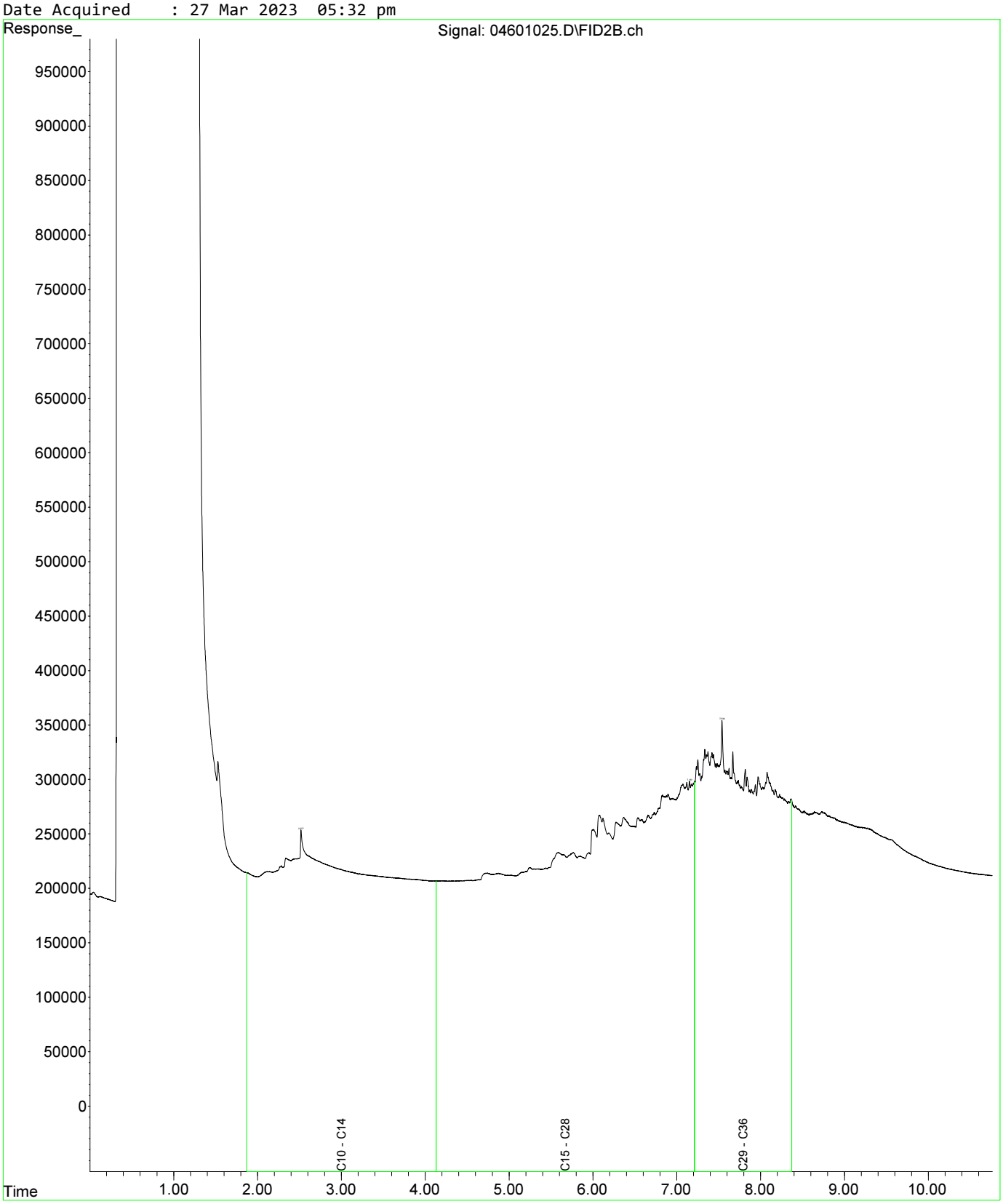

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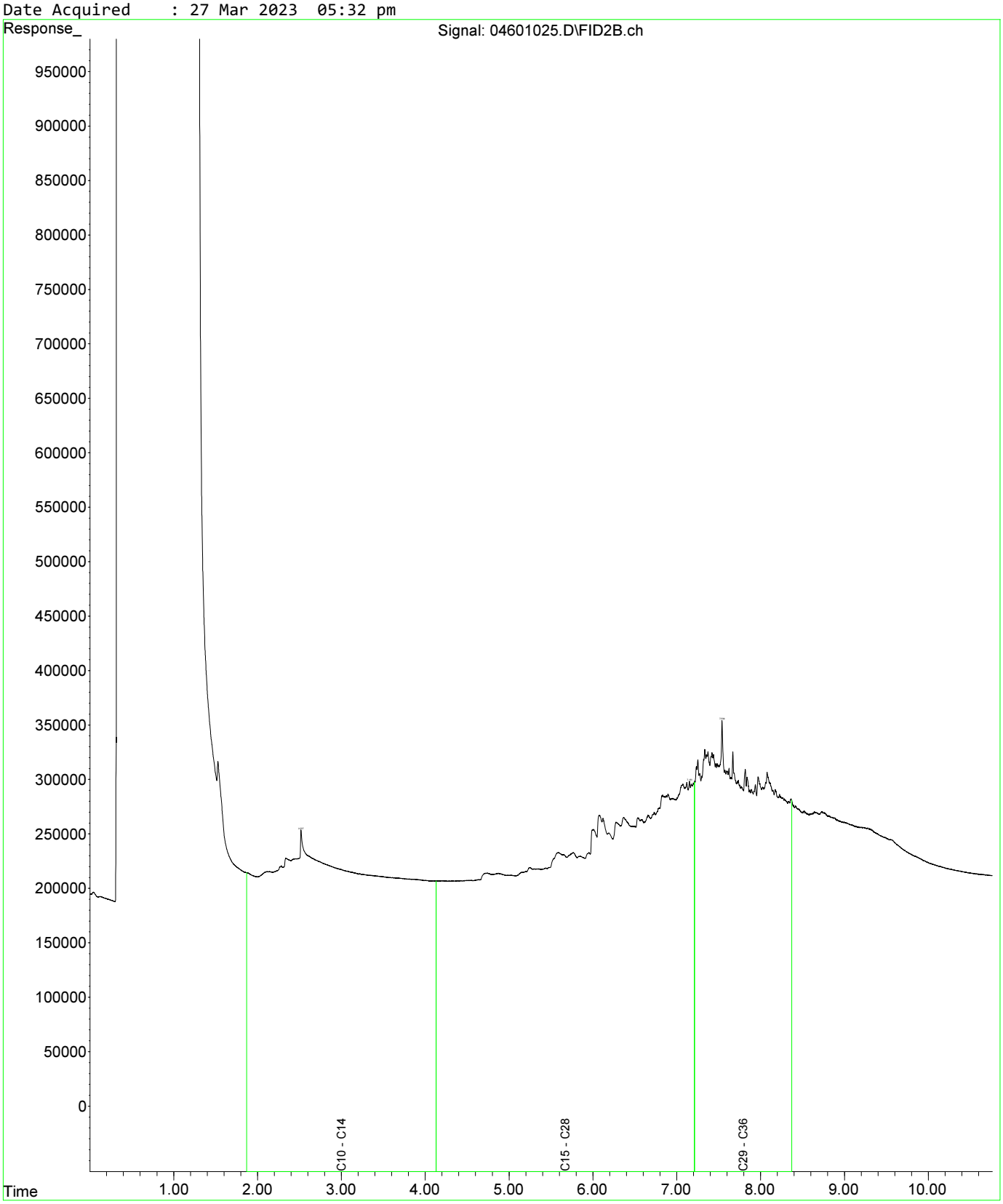

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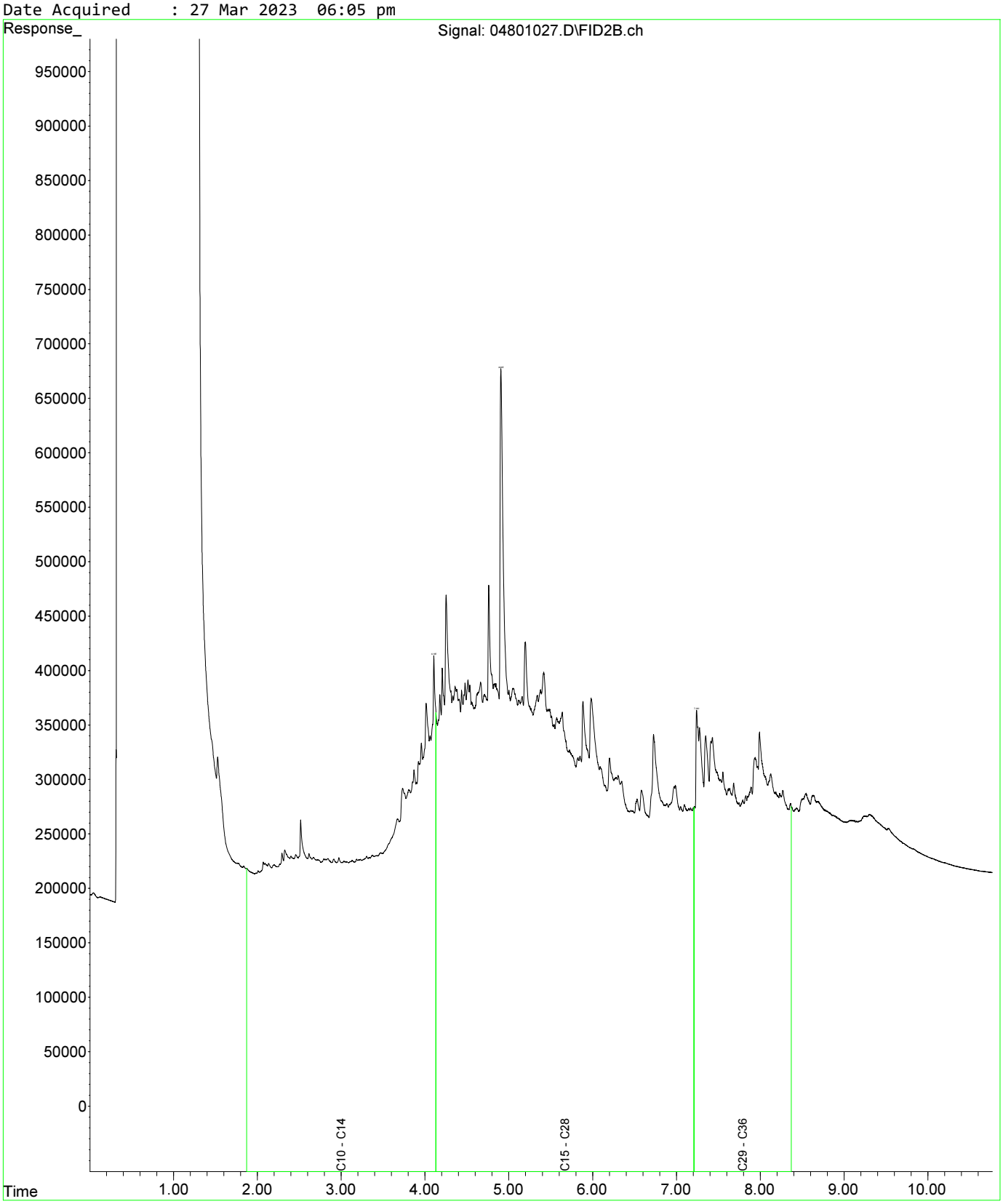

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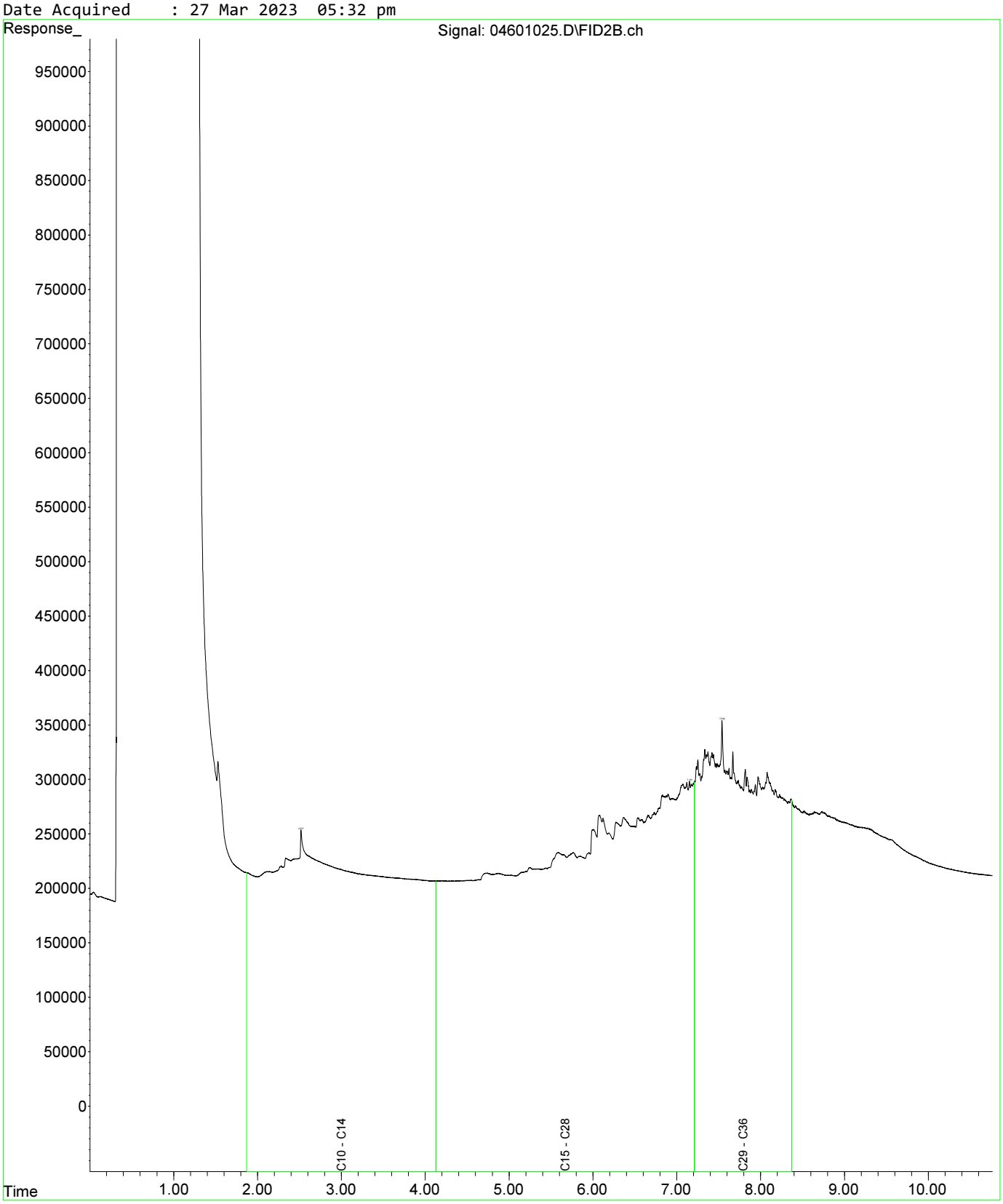

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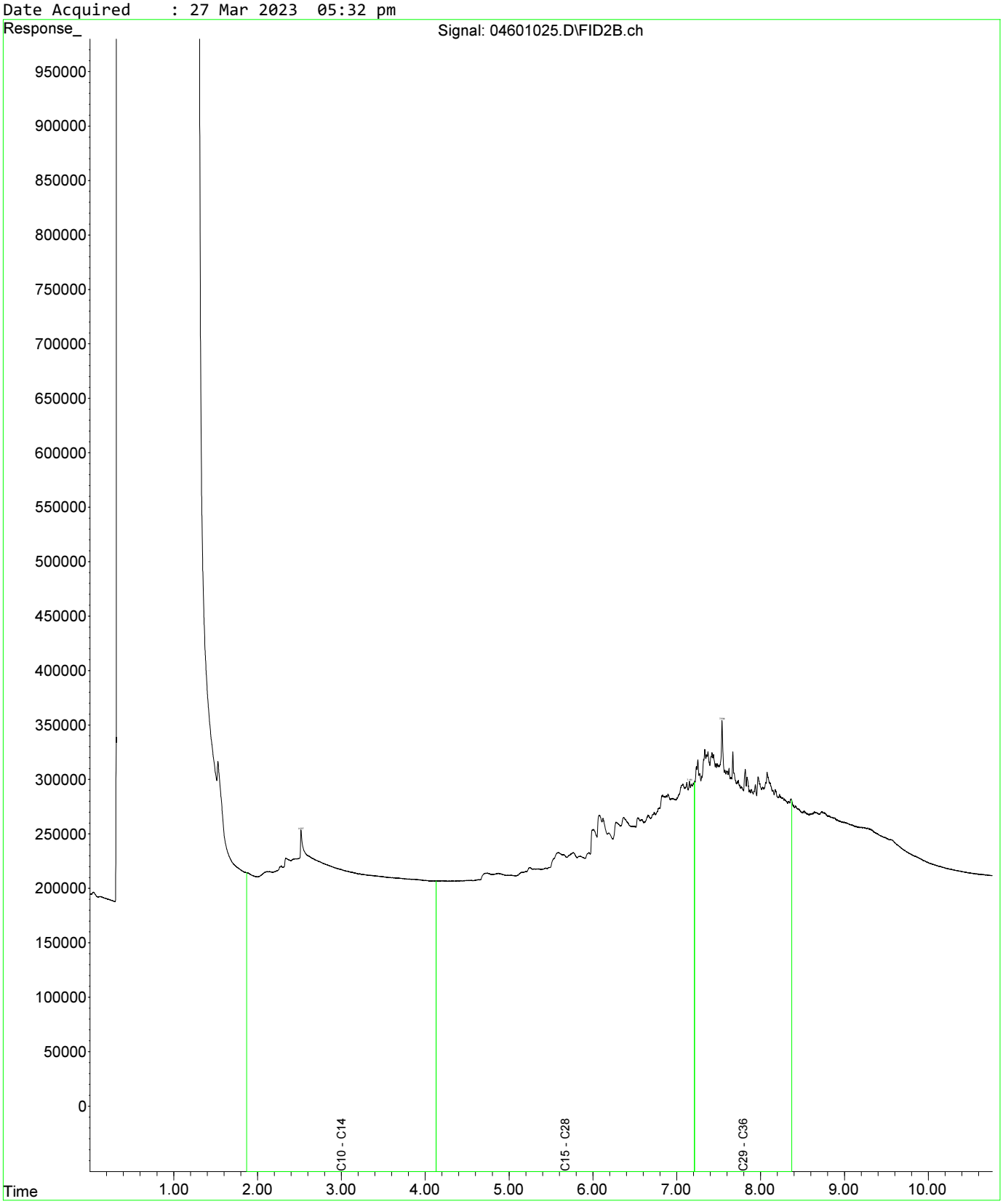

Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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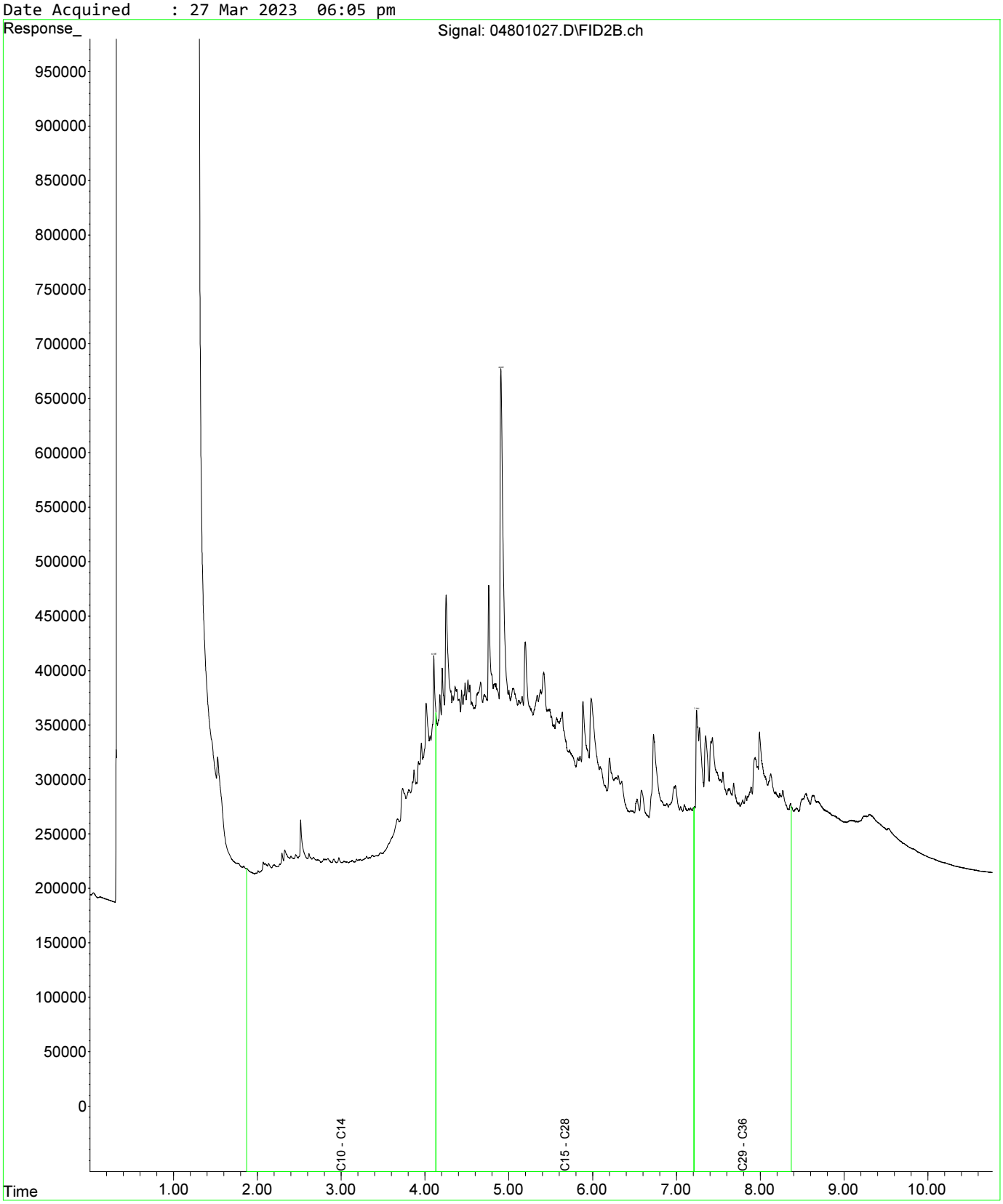
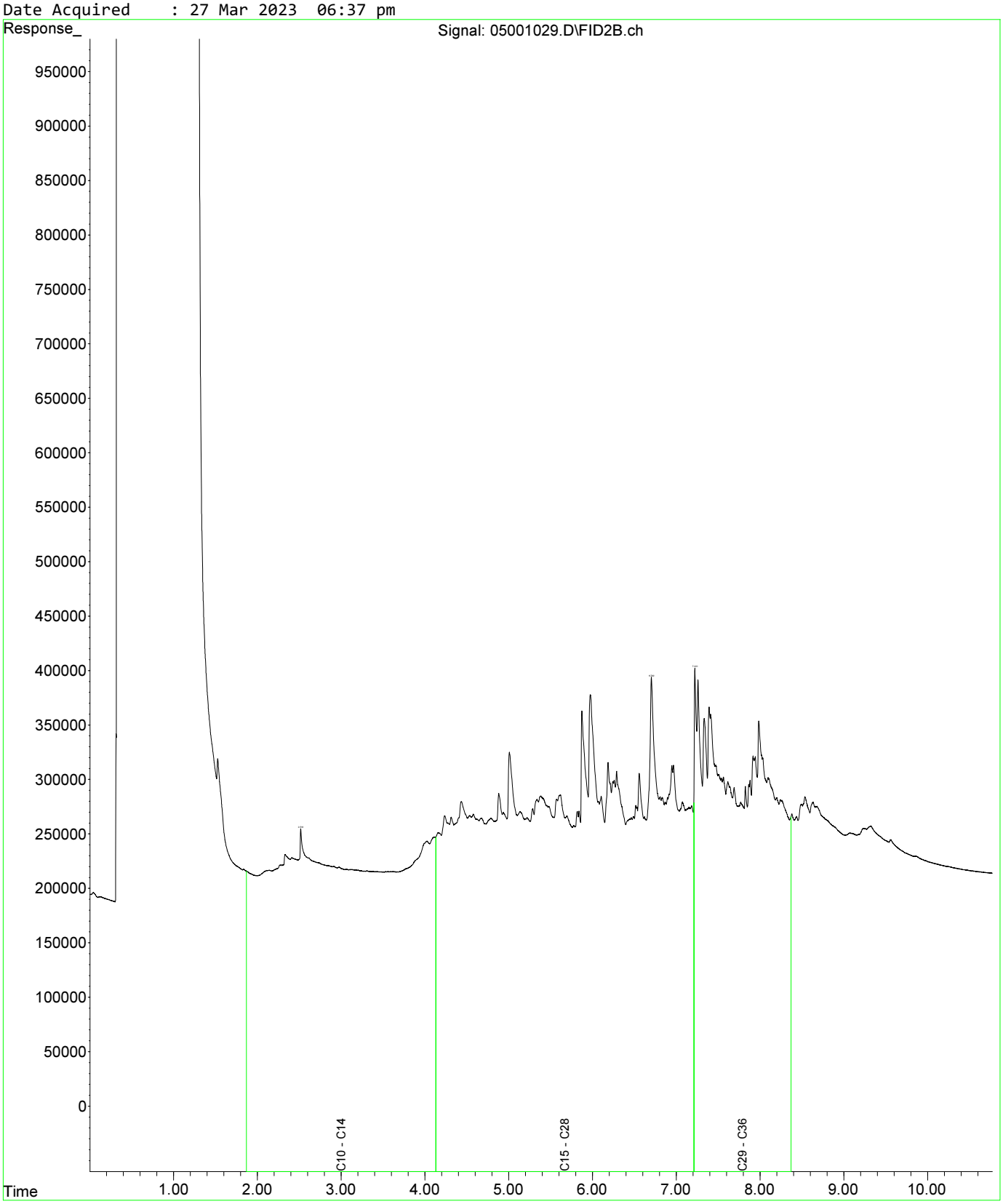


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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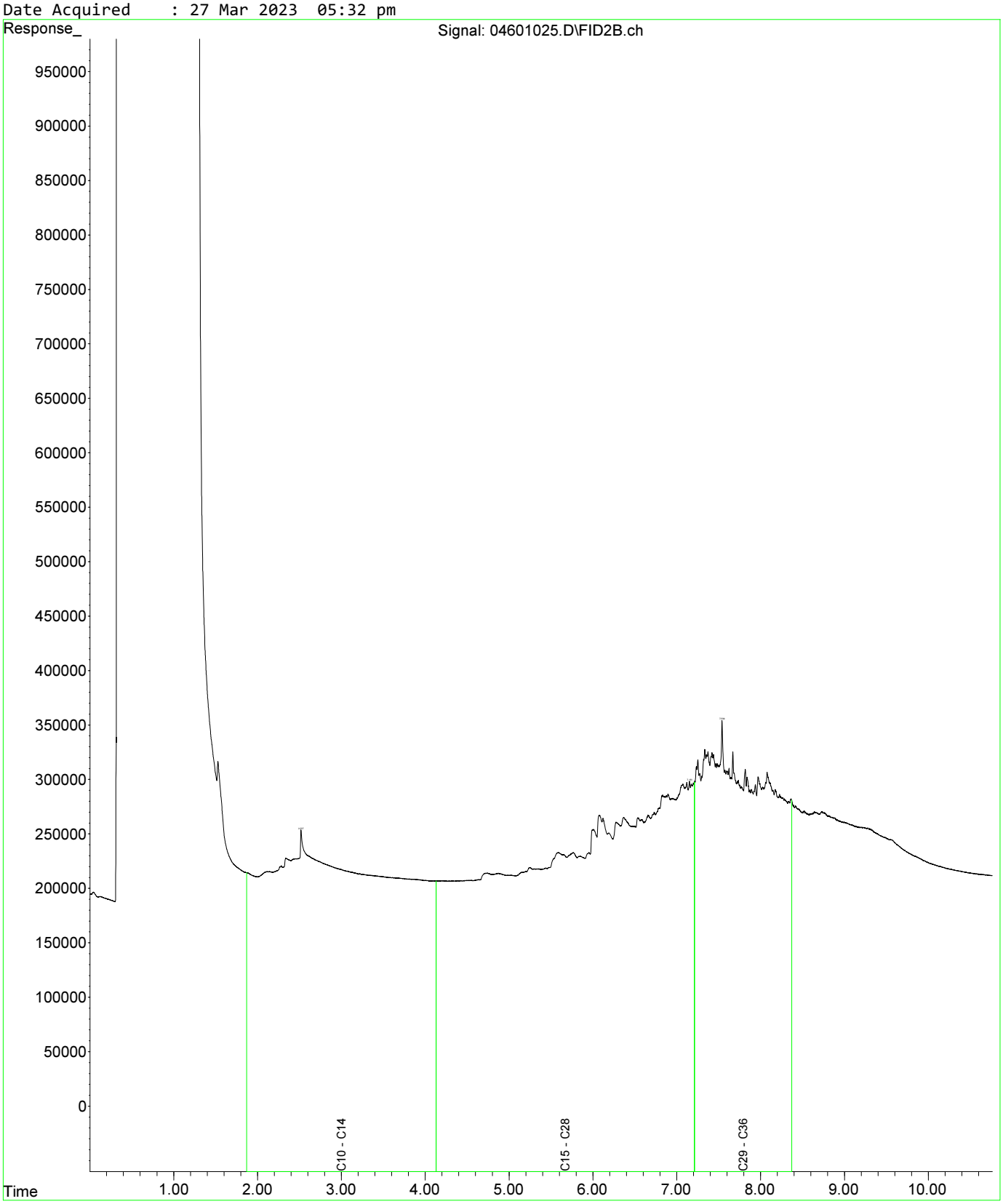

Fraction Scheme : Standard
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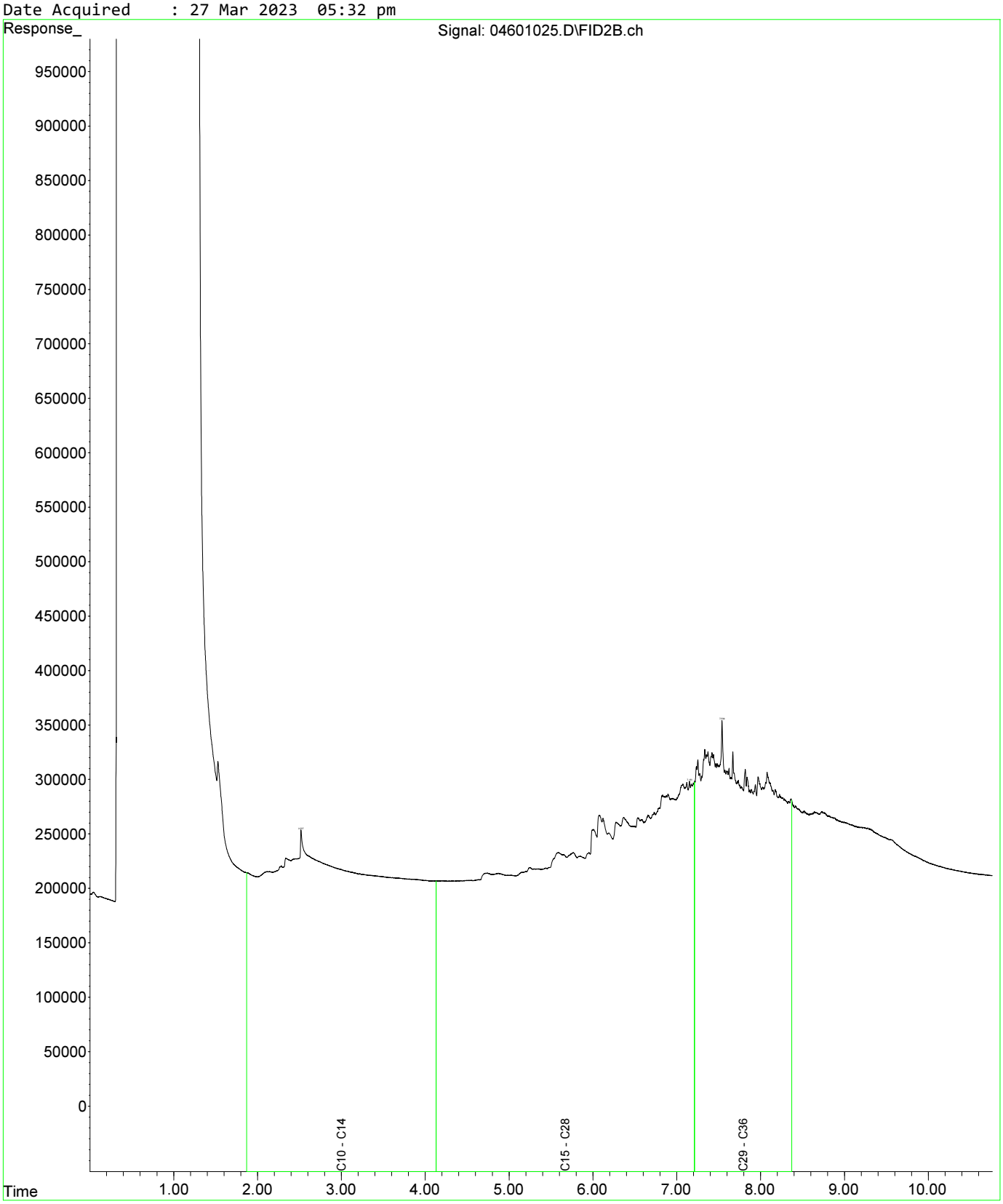

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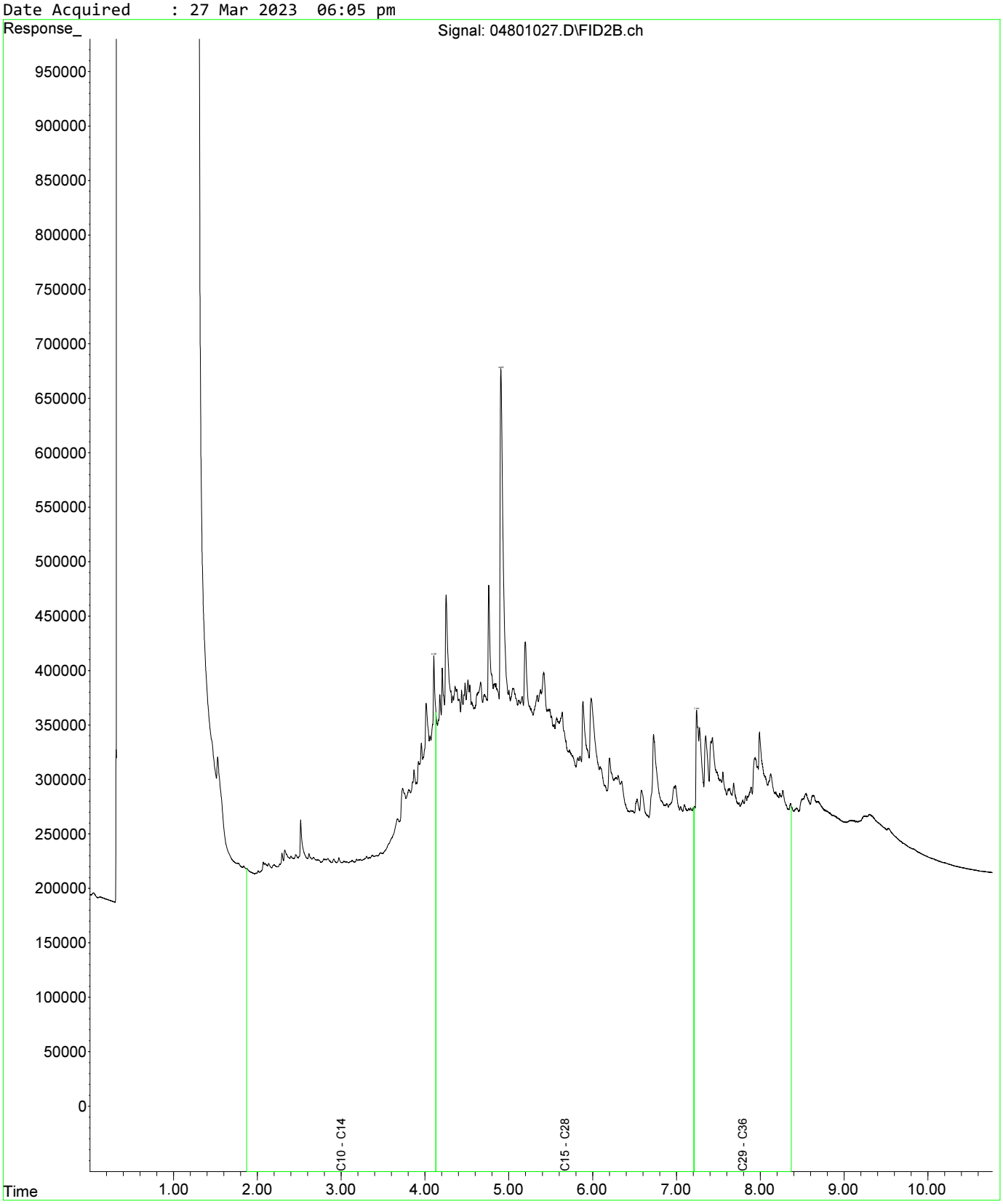

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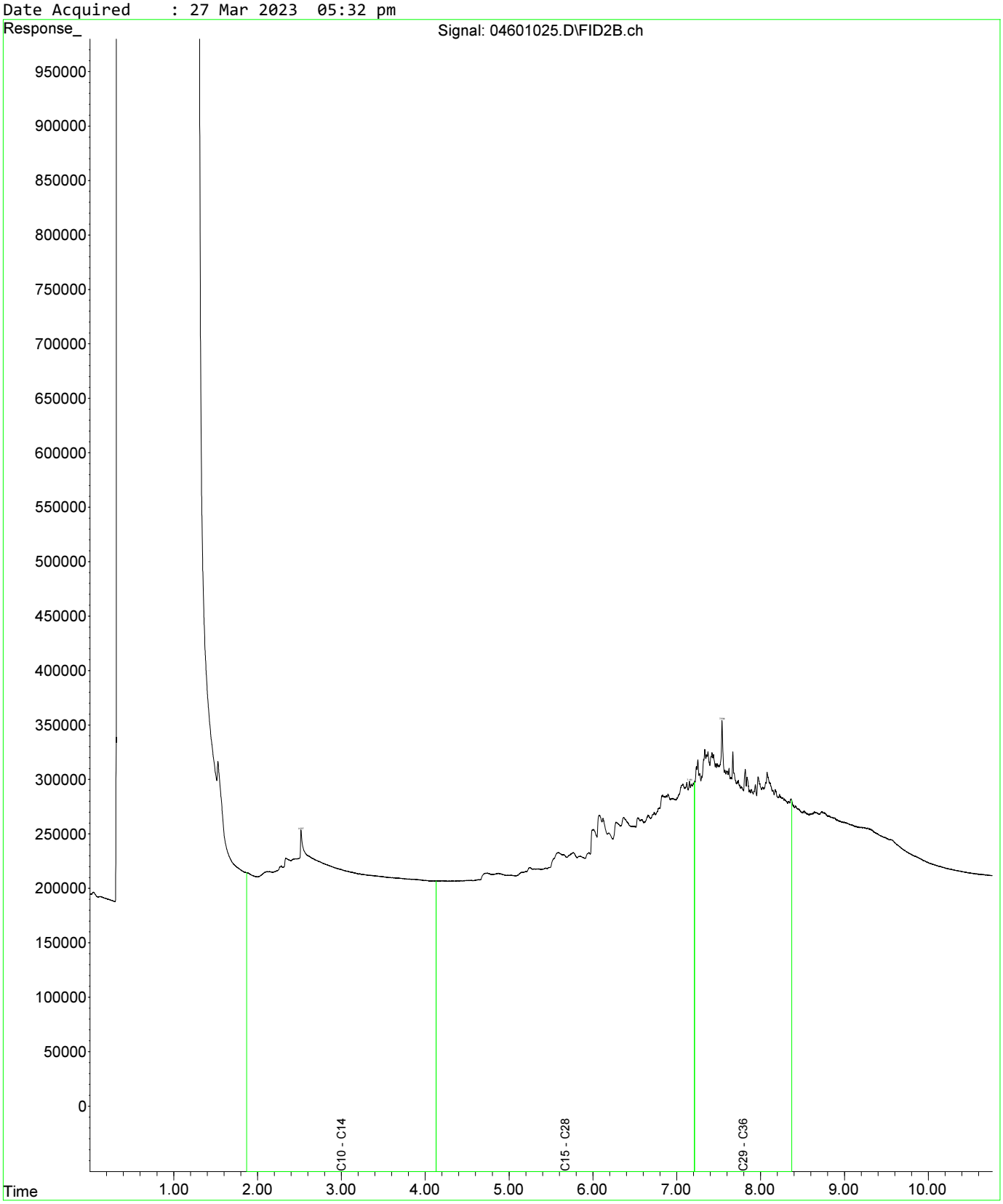

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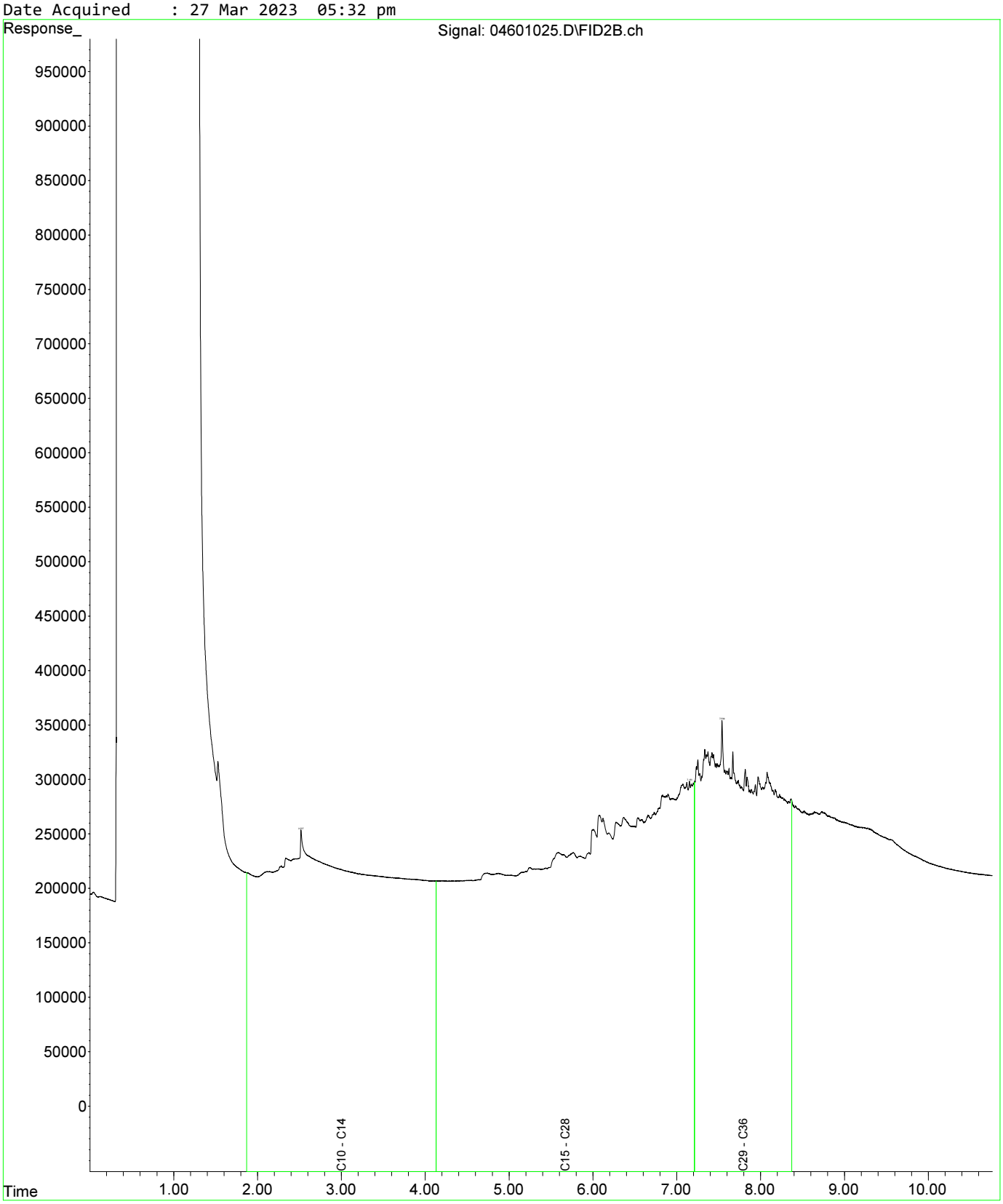

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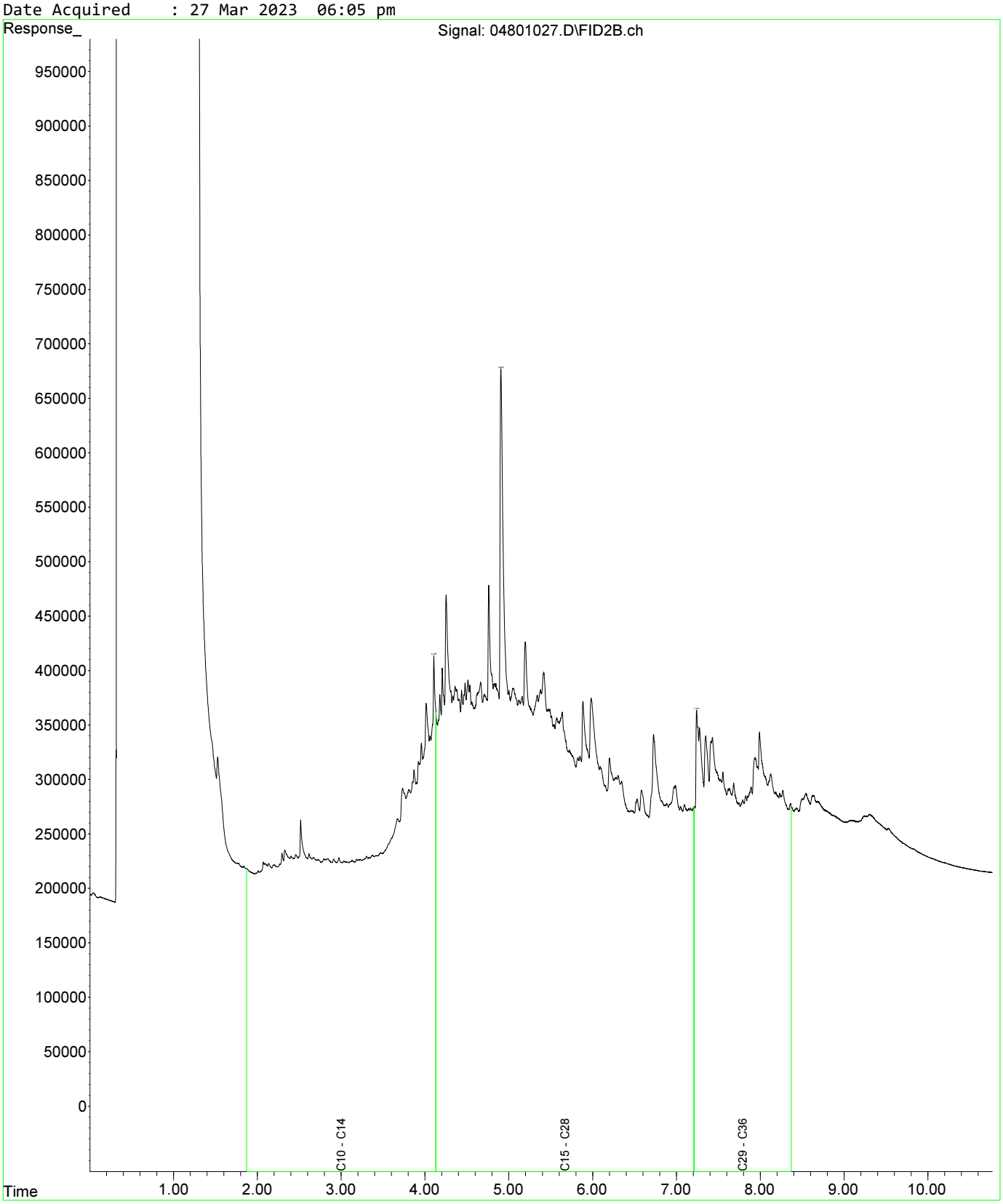

Fraction Scheme : Standard
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Laboratory Number: EM2305209-021
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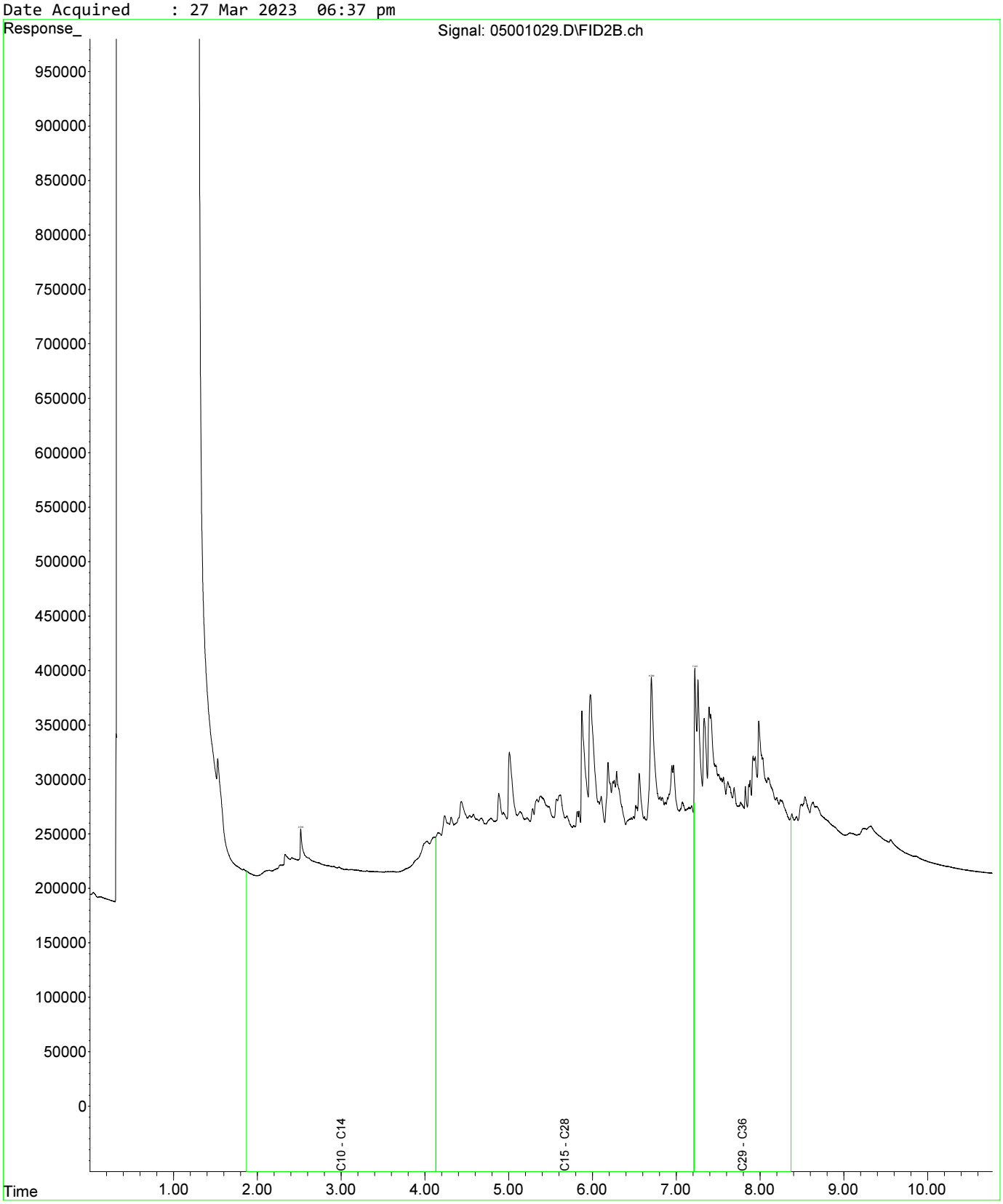
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
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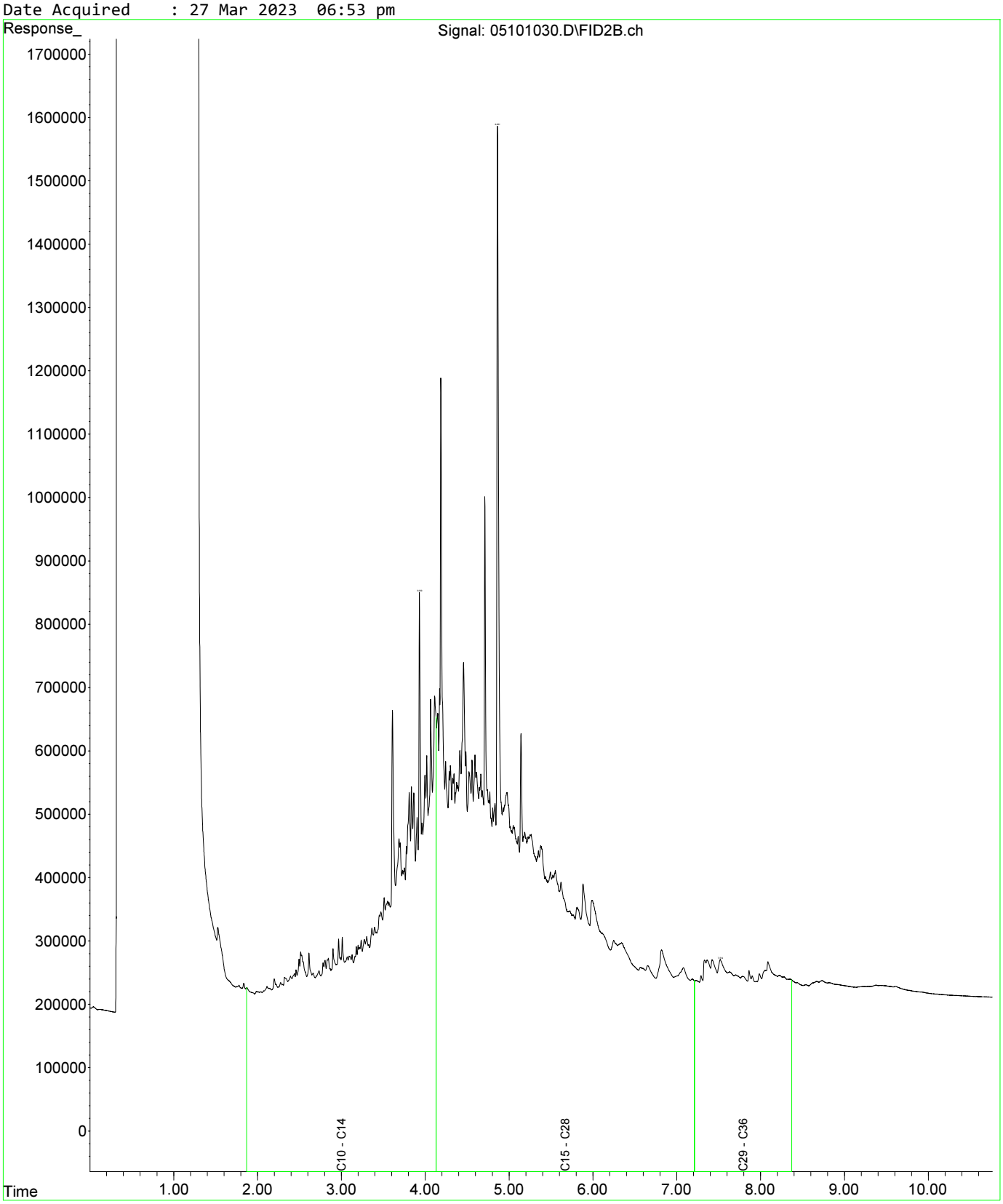
Date Acquired : 27 Mar 2023 06:53 pm



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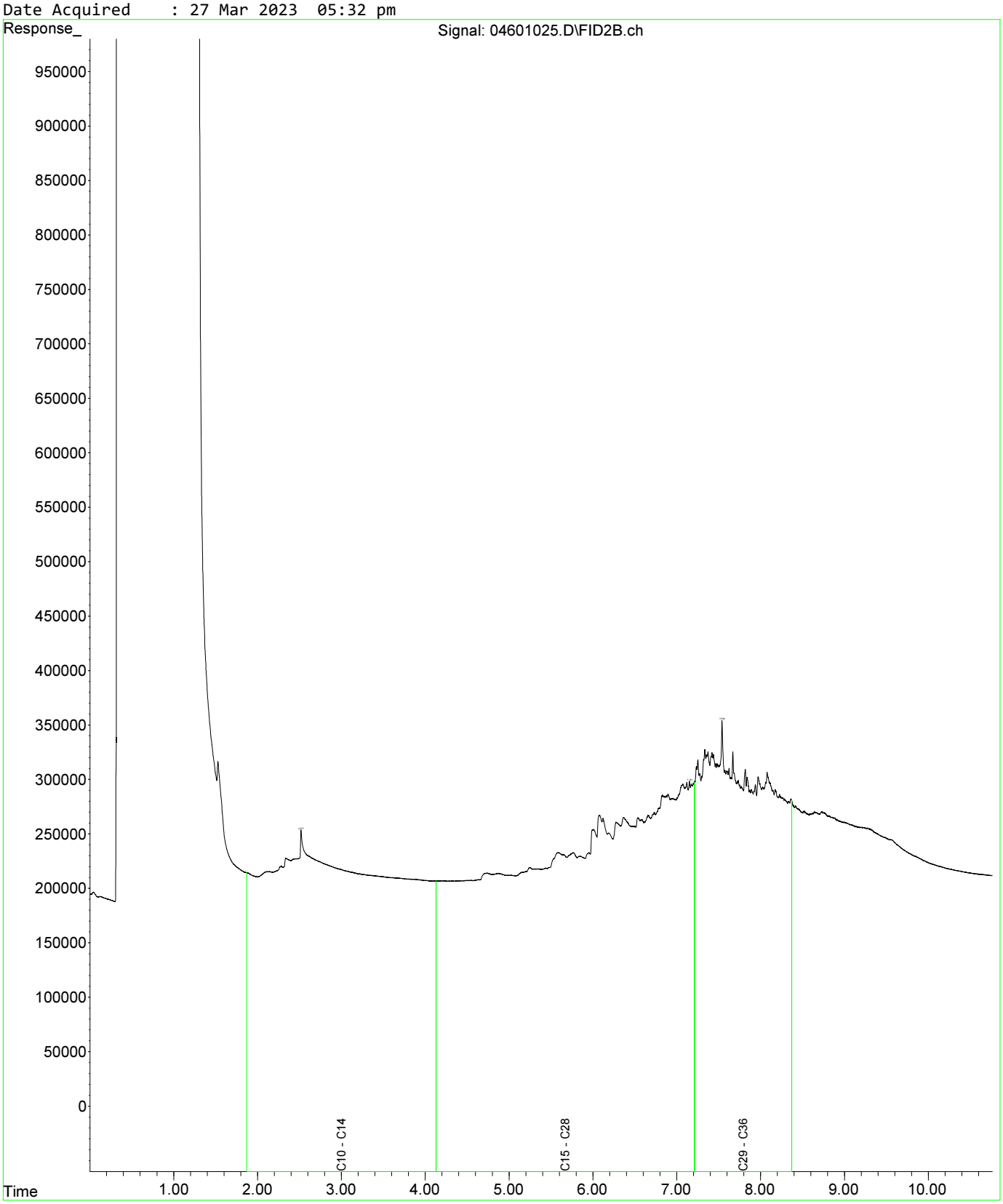

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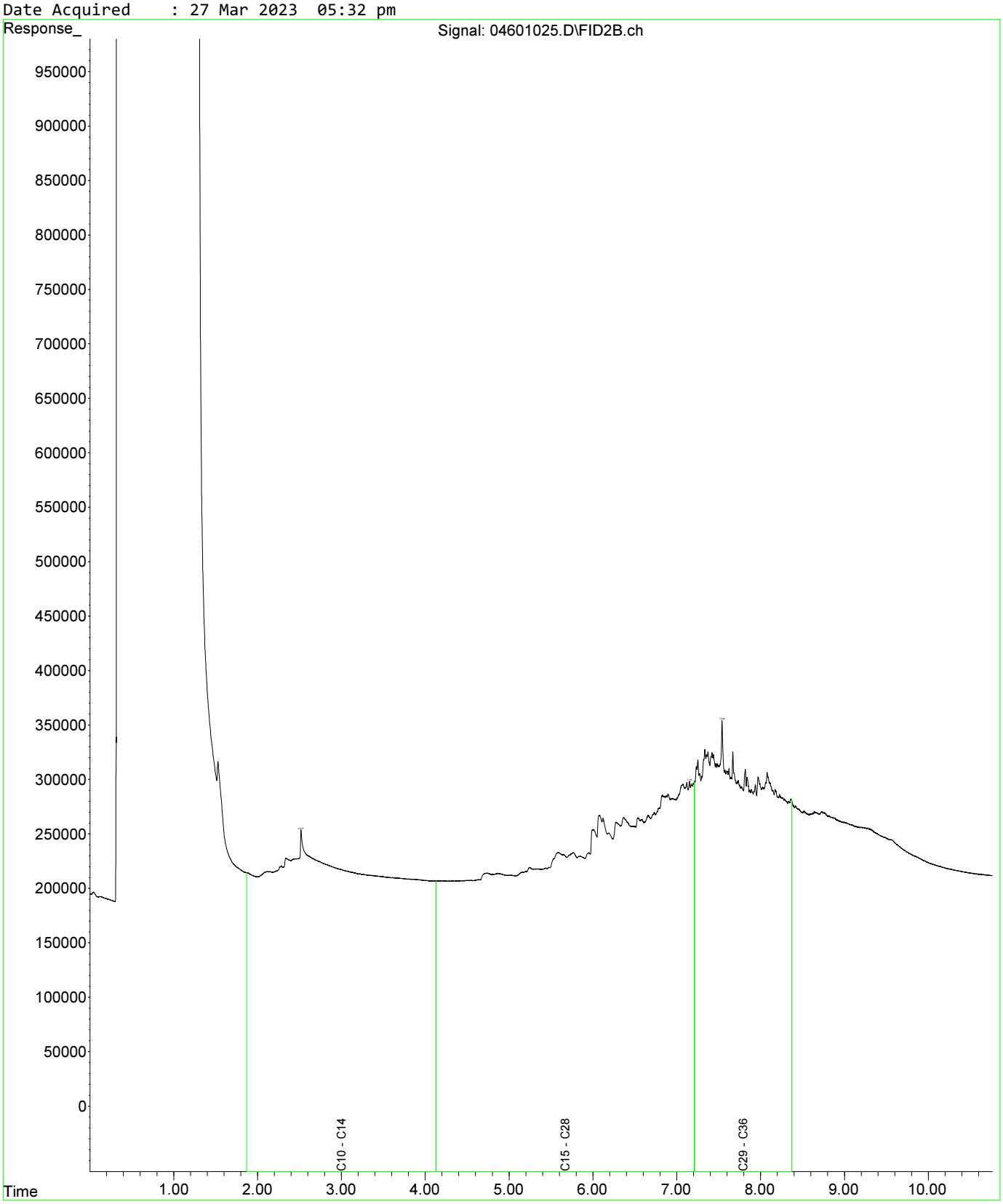

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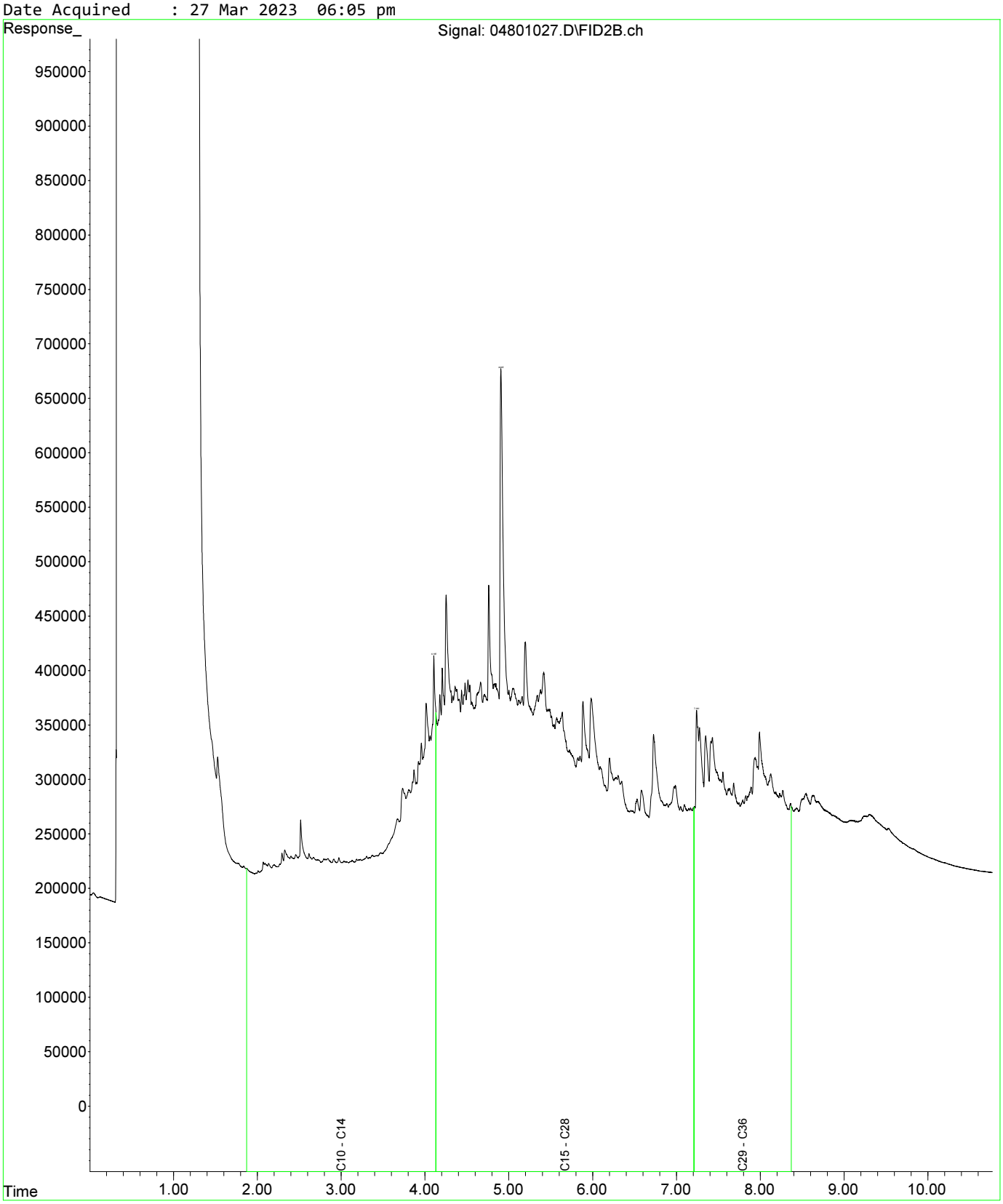

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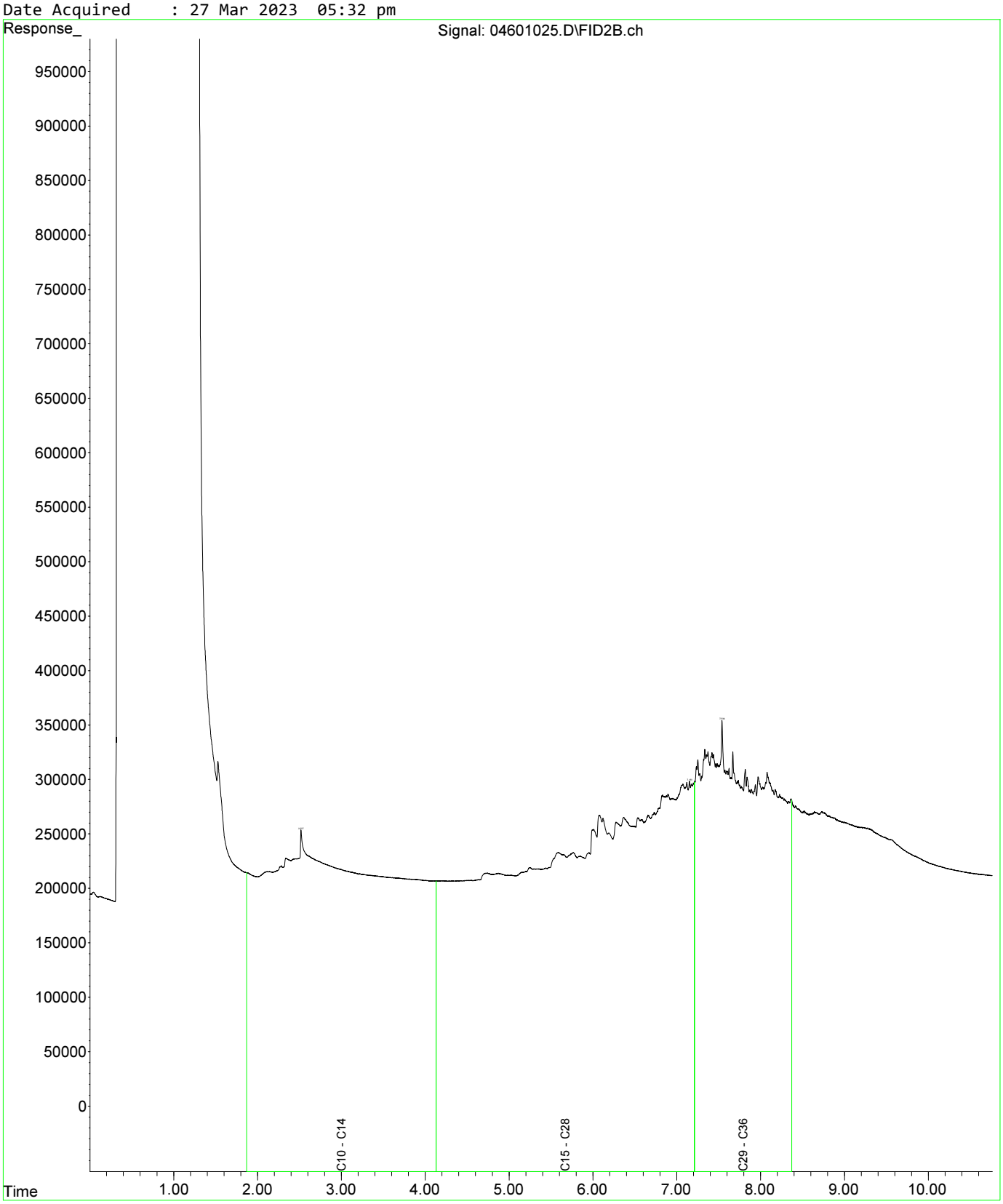

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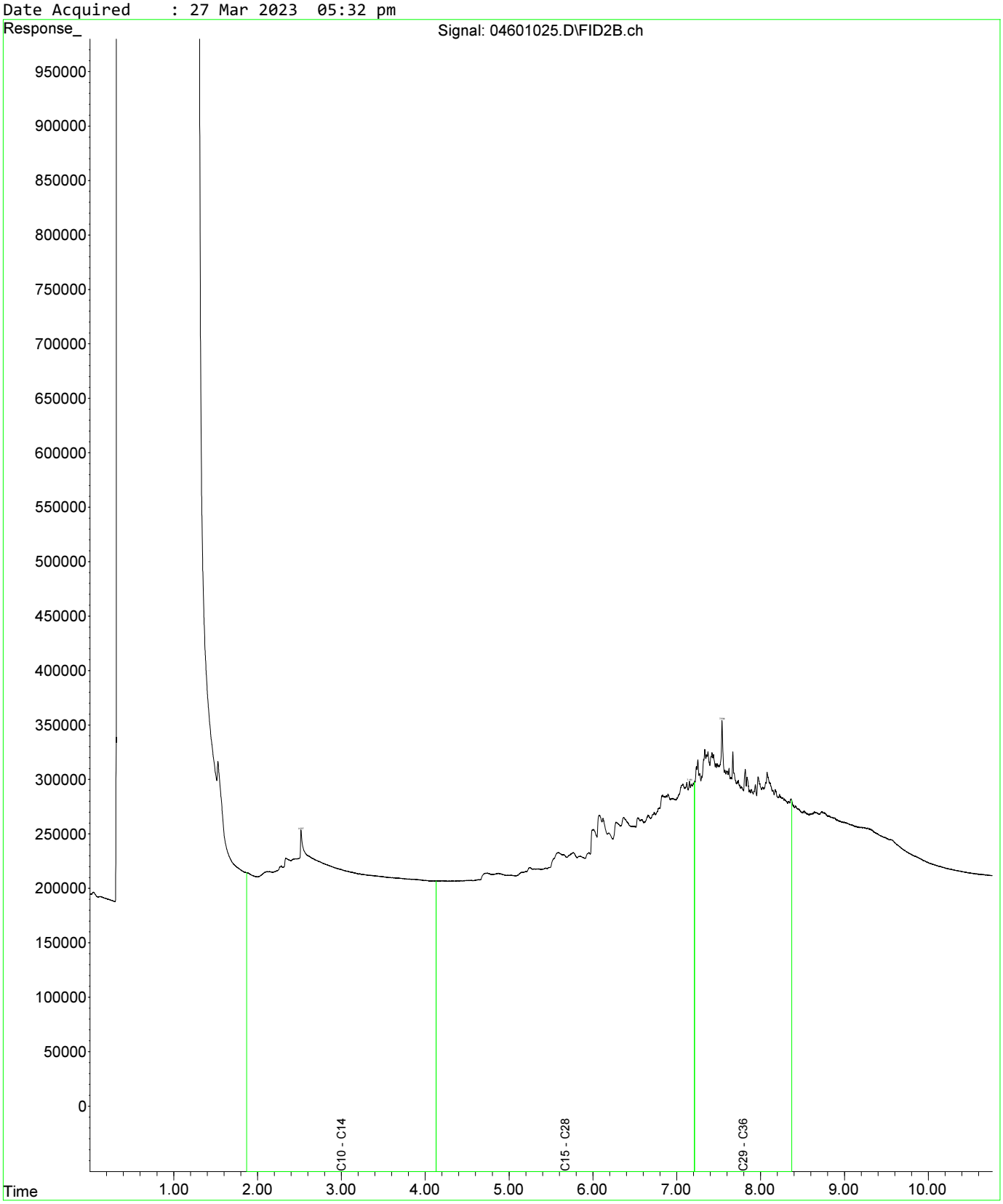

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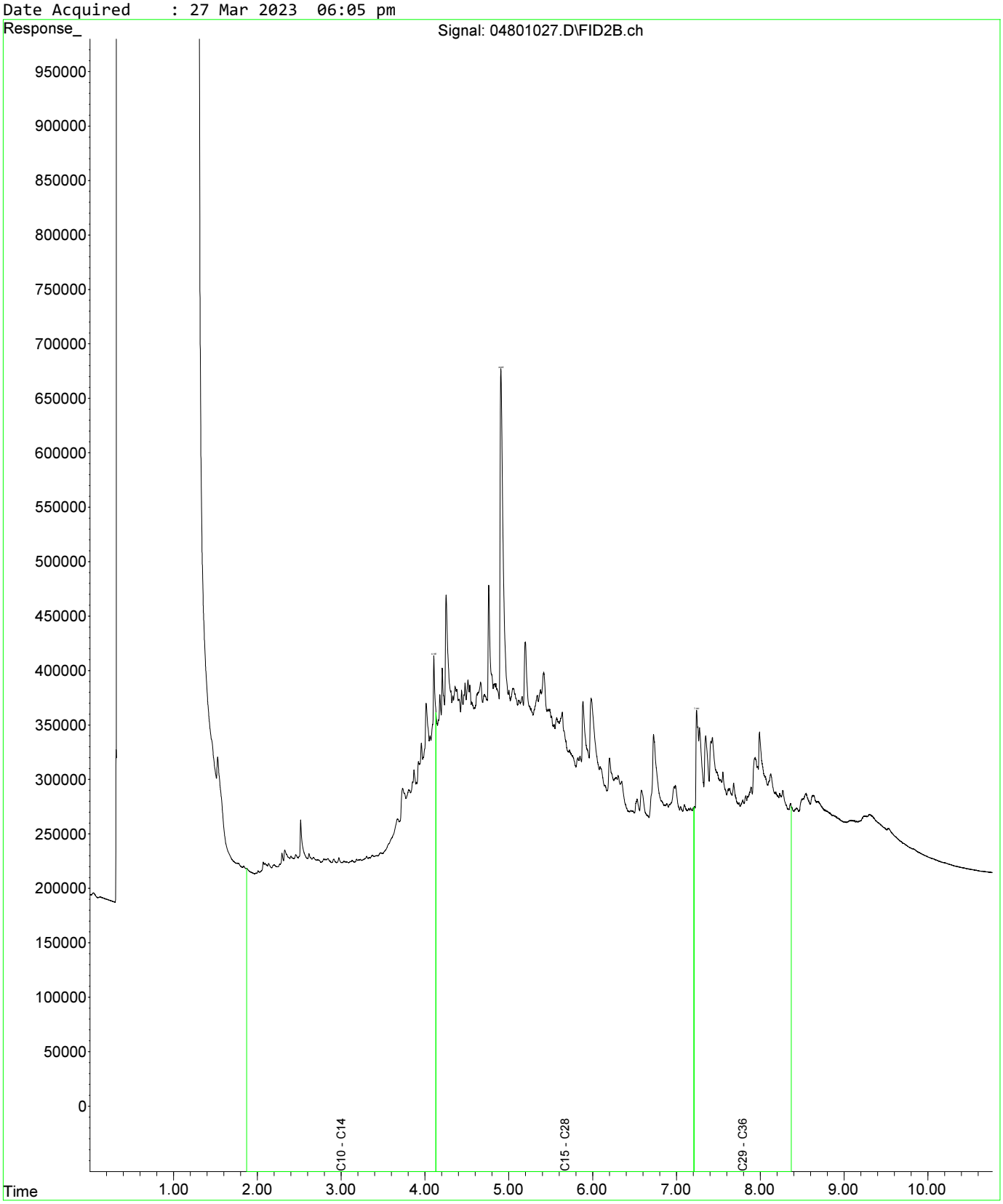

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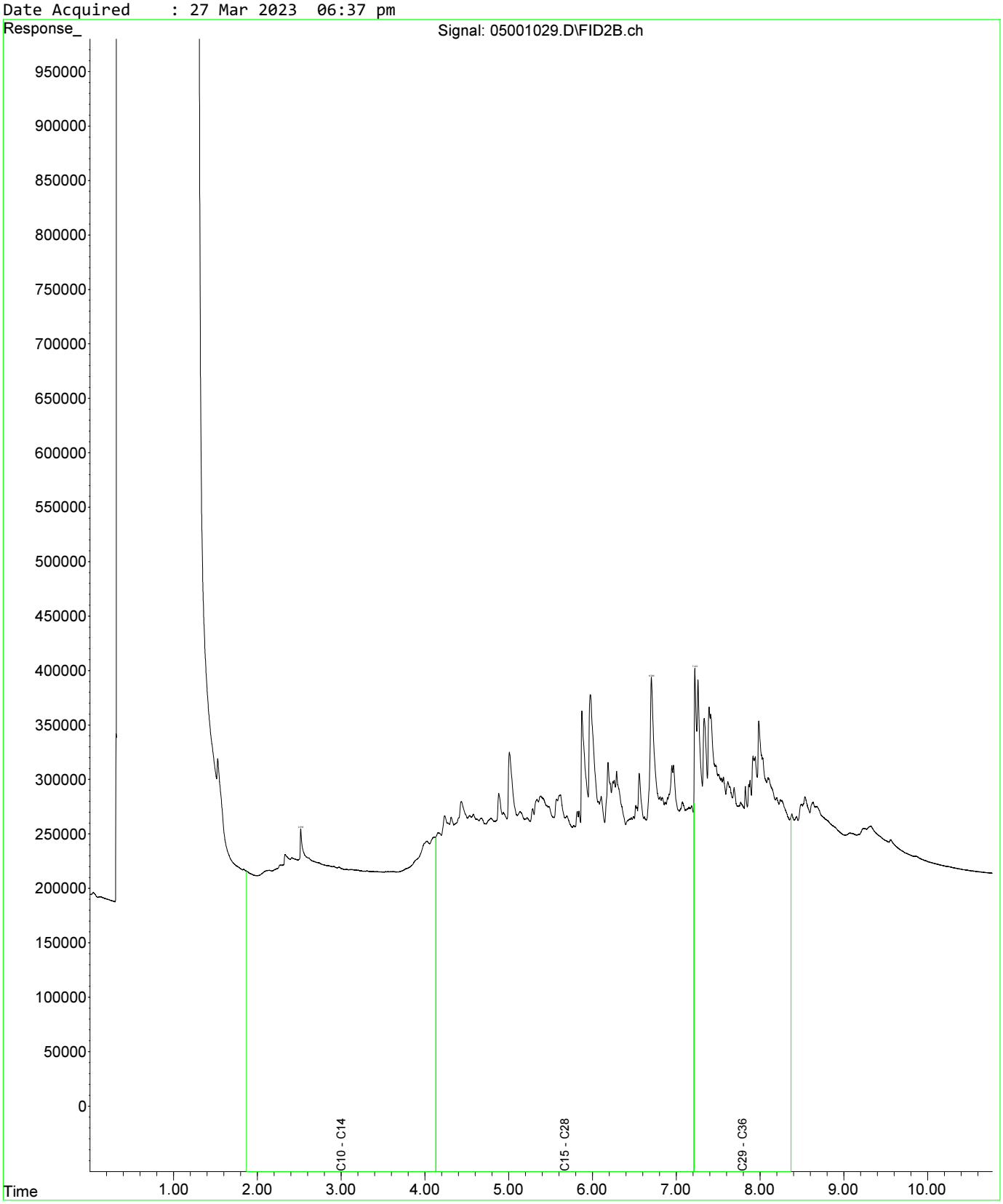
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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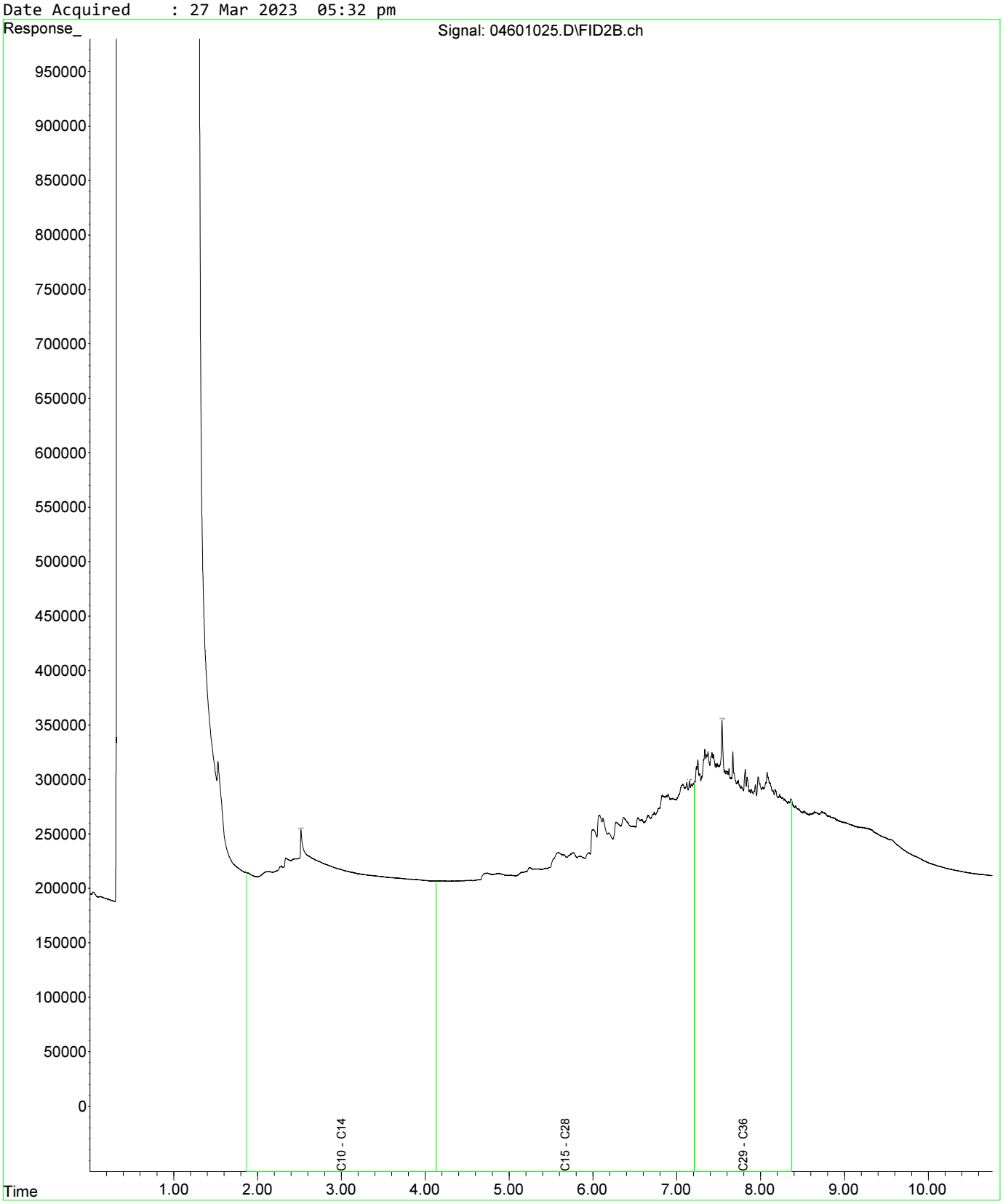

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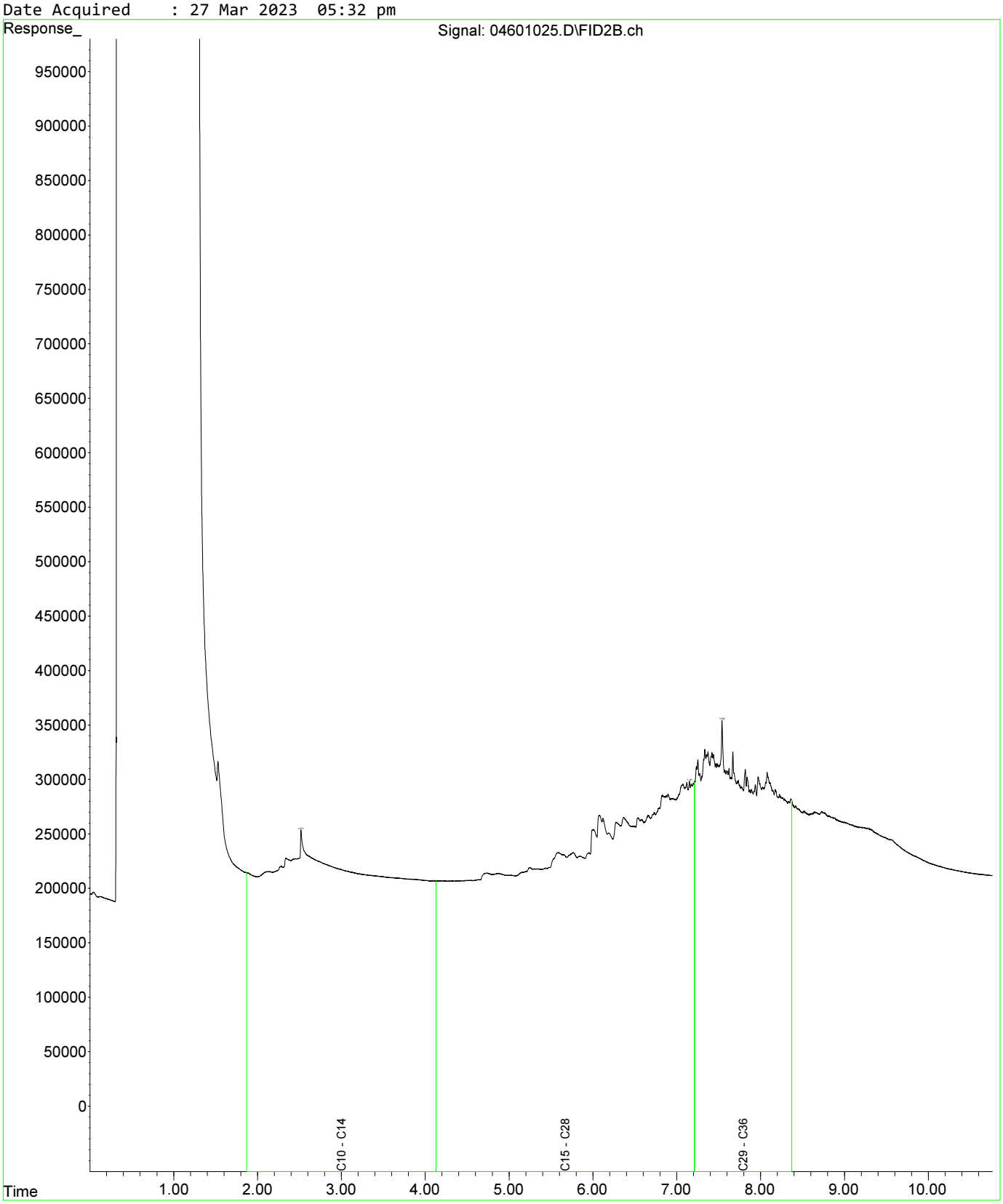

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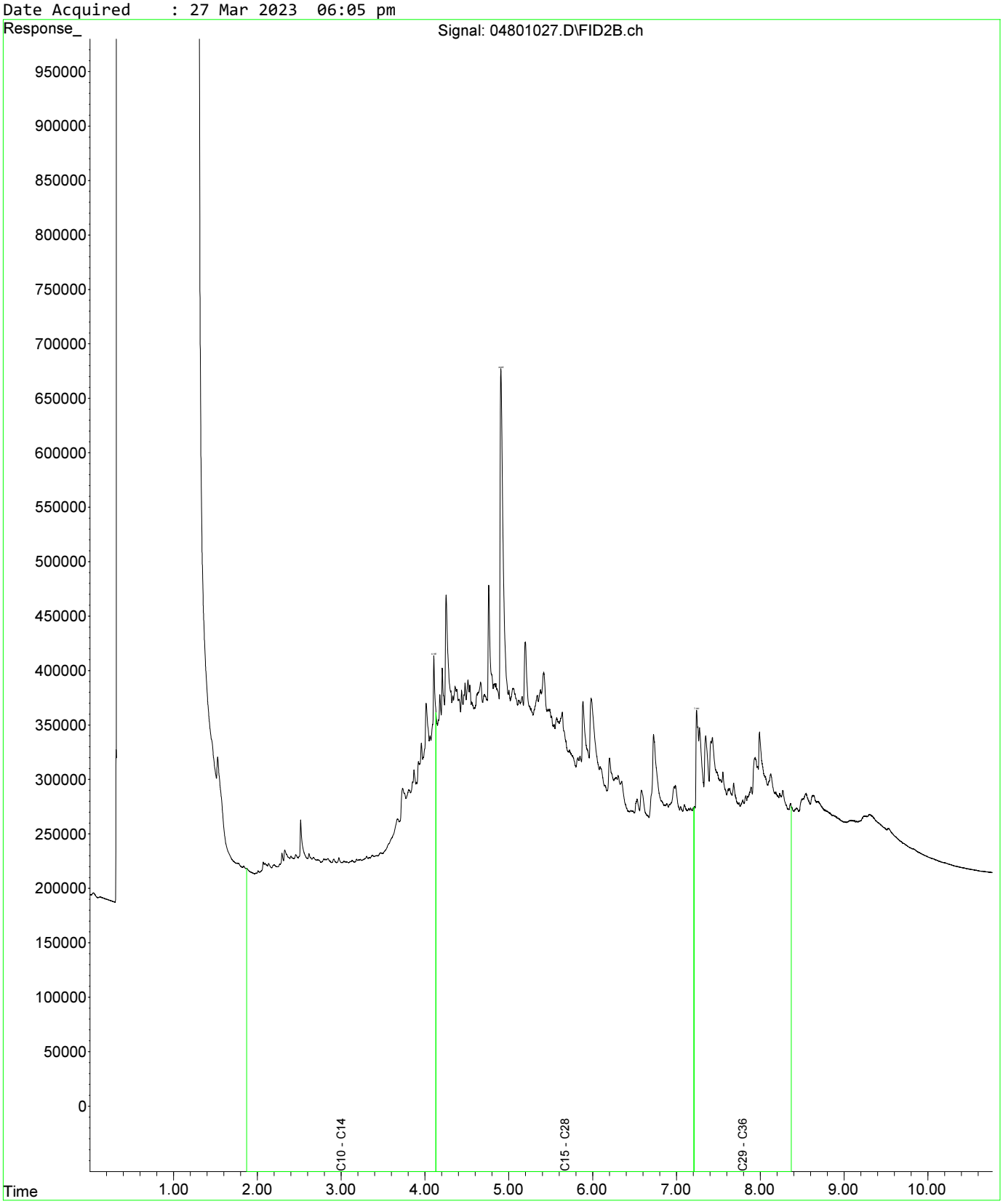

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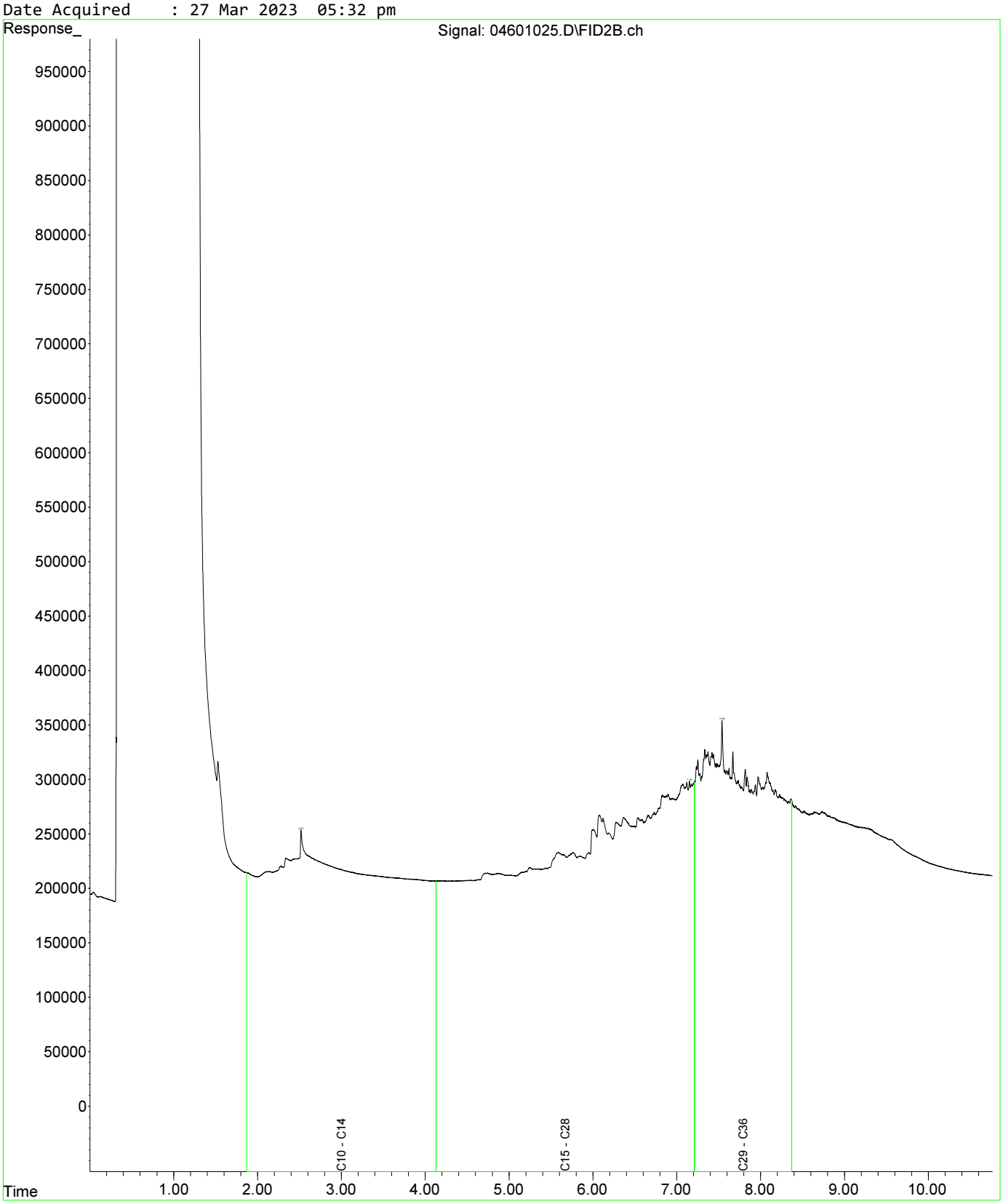

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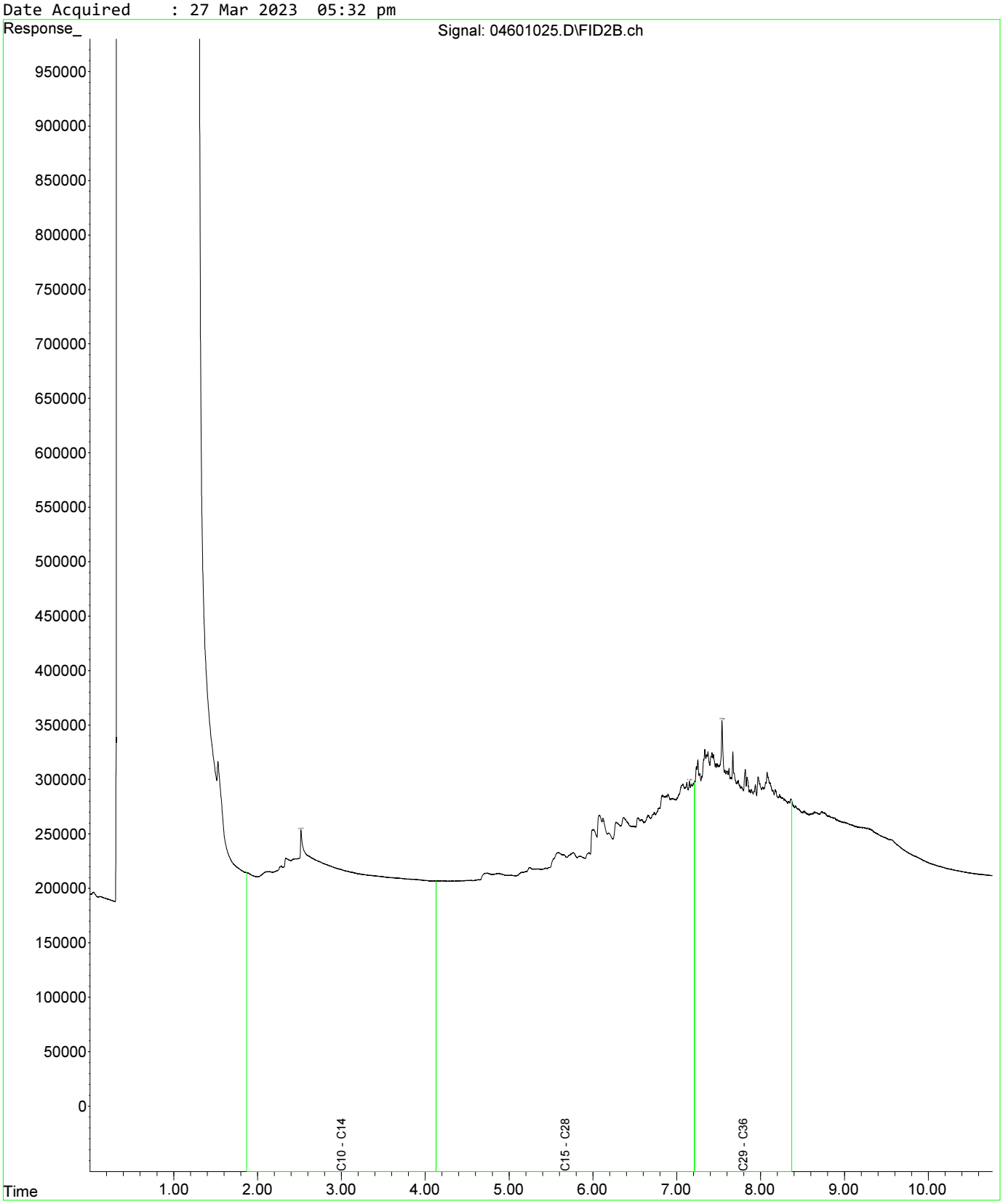

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Laboratory Number: EM2305209-019
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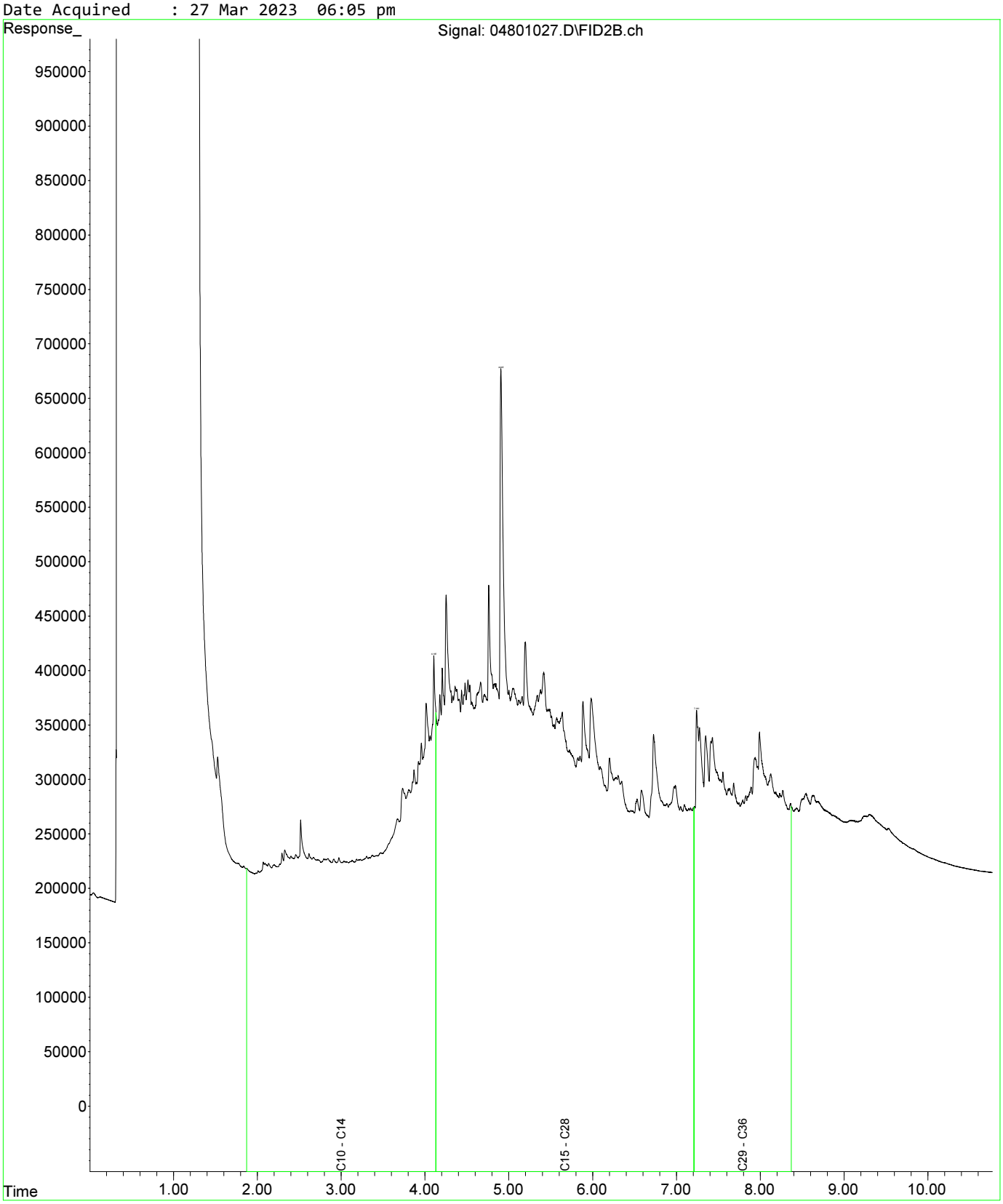

Fraction Scheme : Standard
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Laboratory Number: EM2305209-021
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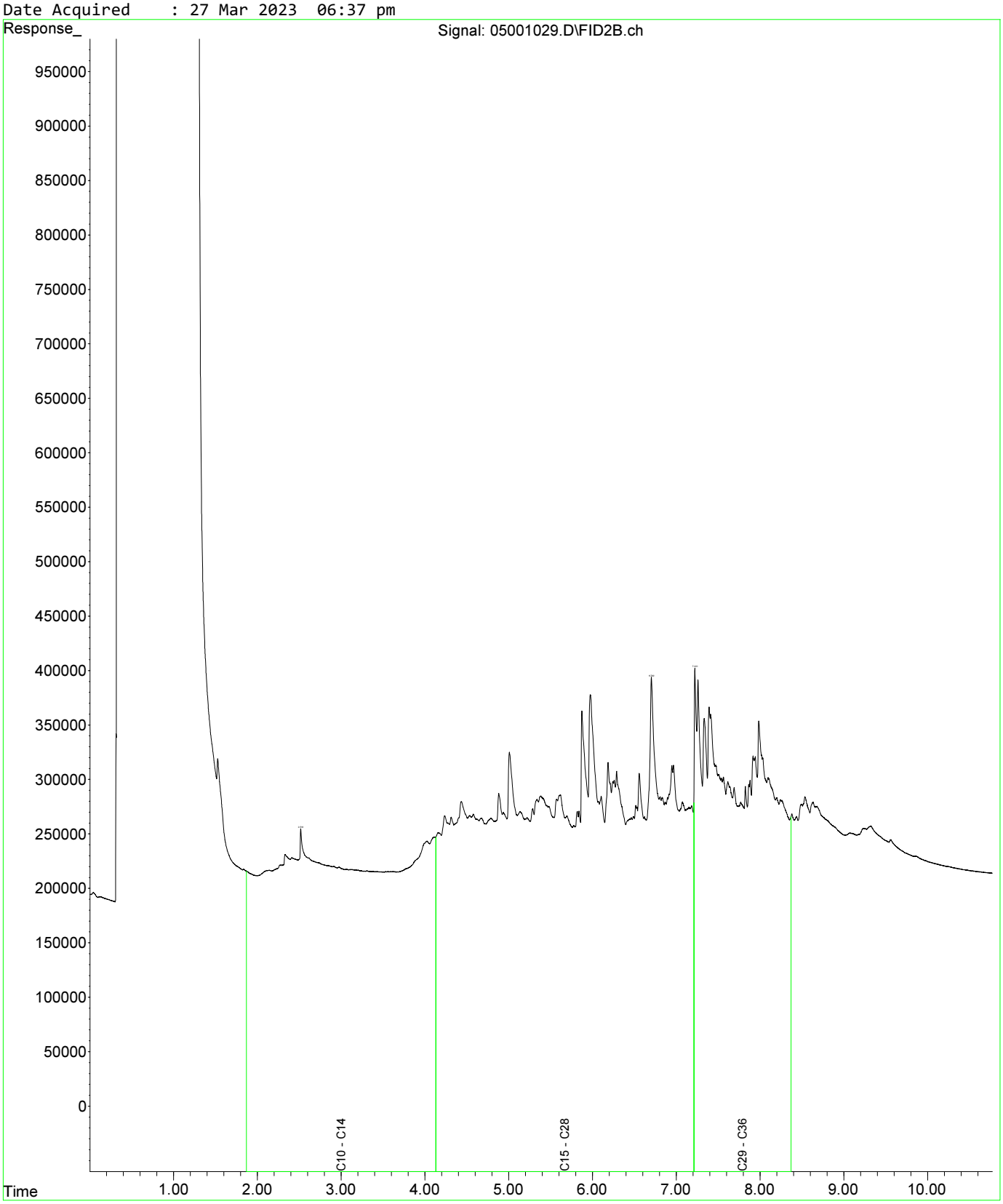

Fraction Scheme : Standard
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Laboratory Number: EM2305209-025
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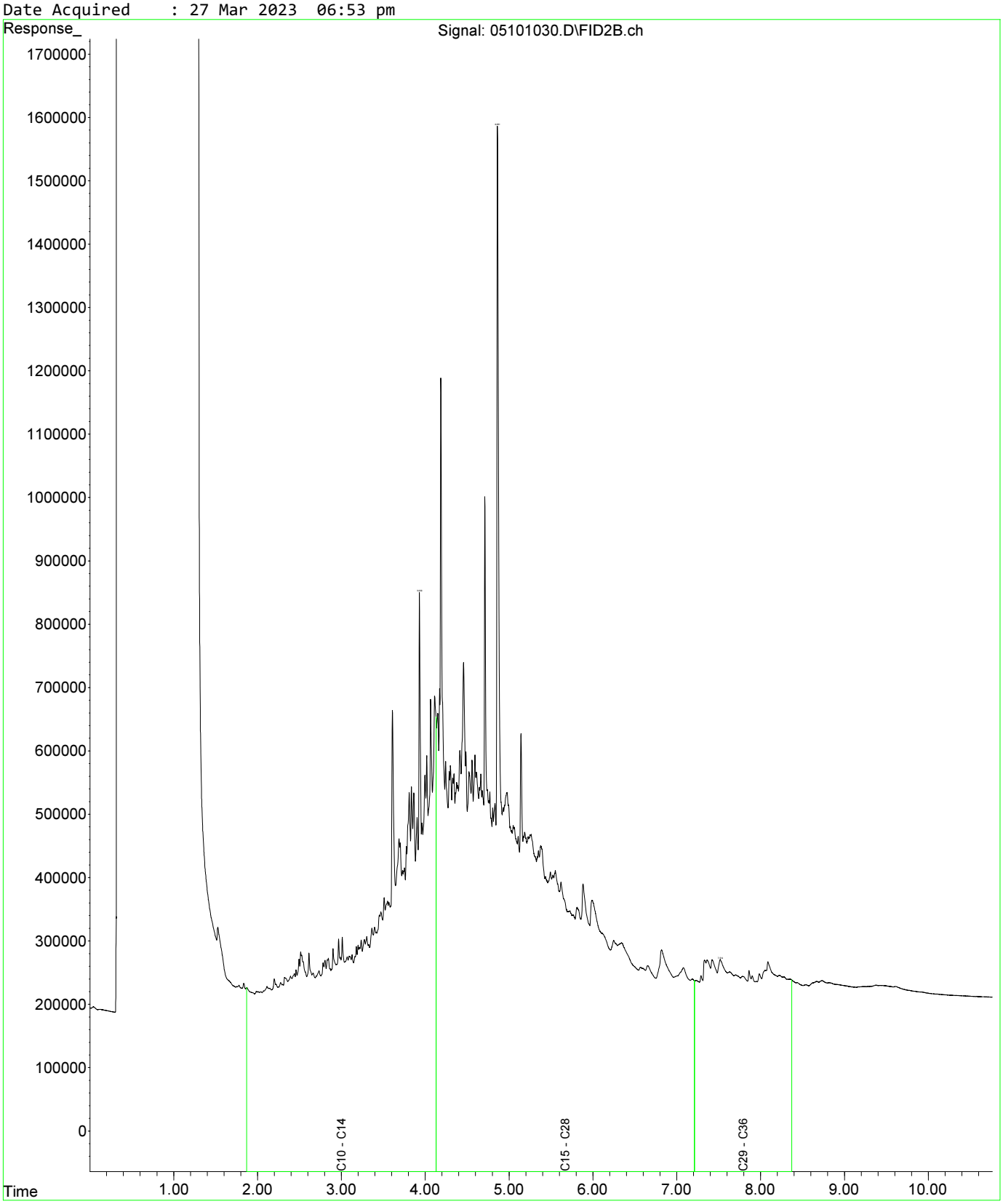
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : Standard
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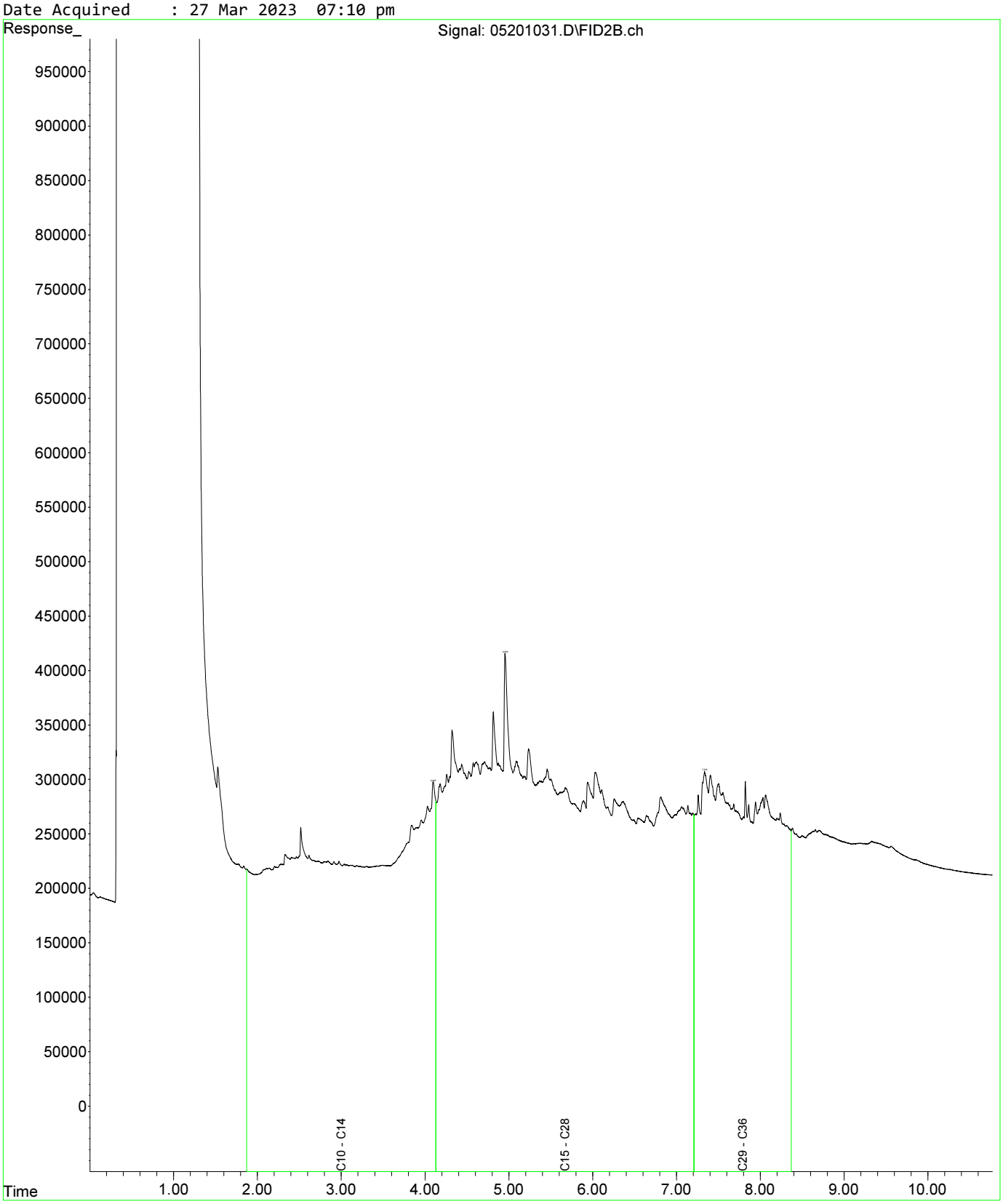
Laboratory Number: EM2305209-027
Sample ID : UST_SP_EXT_03
Date Acquired : 27 Mar 2023 07:10 pm



Fraction Scheme : Standard
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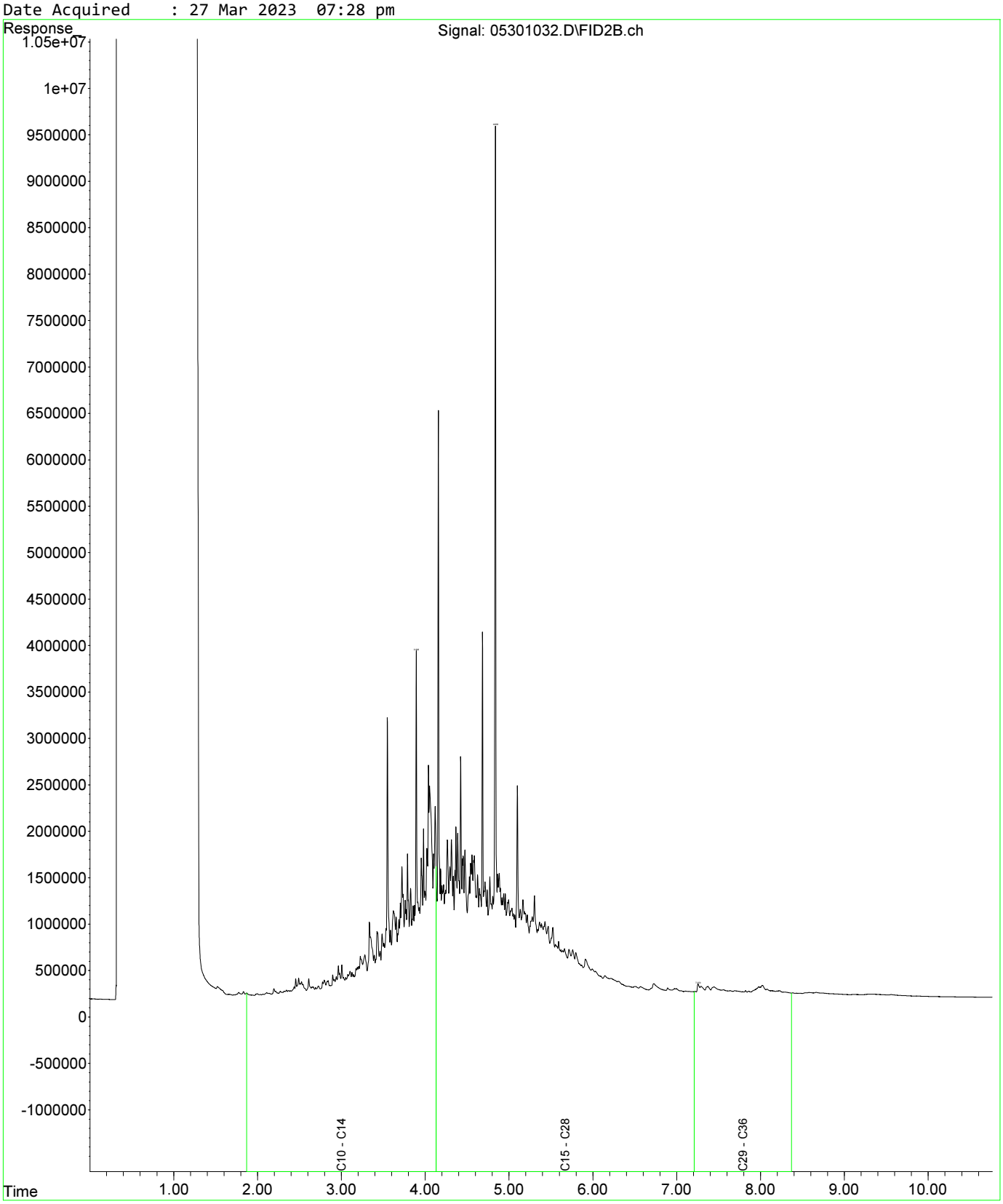
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



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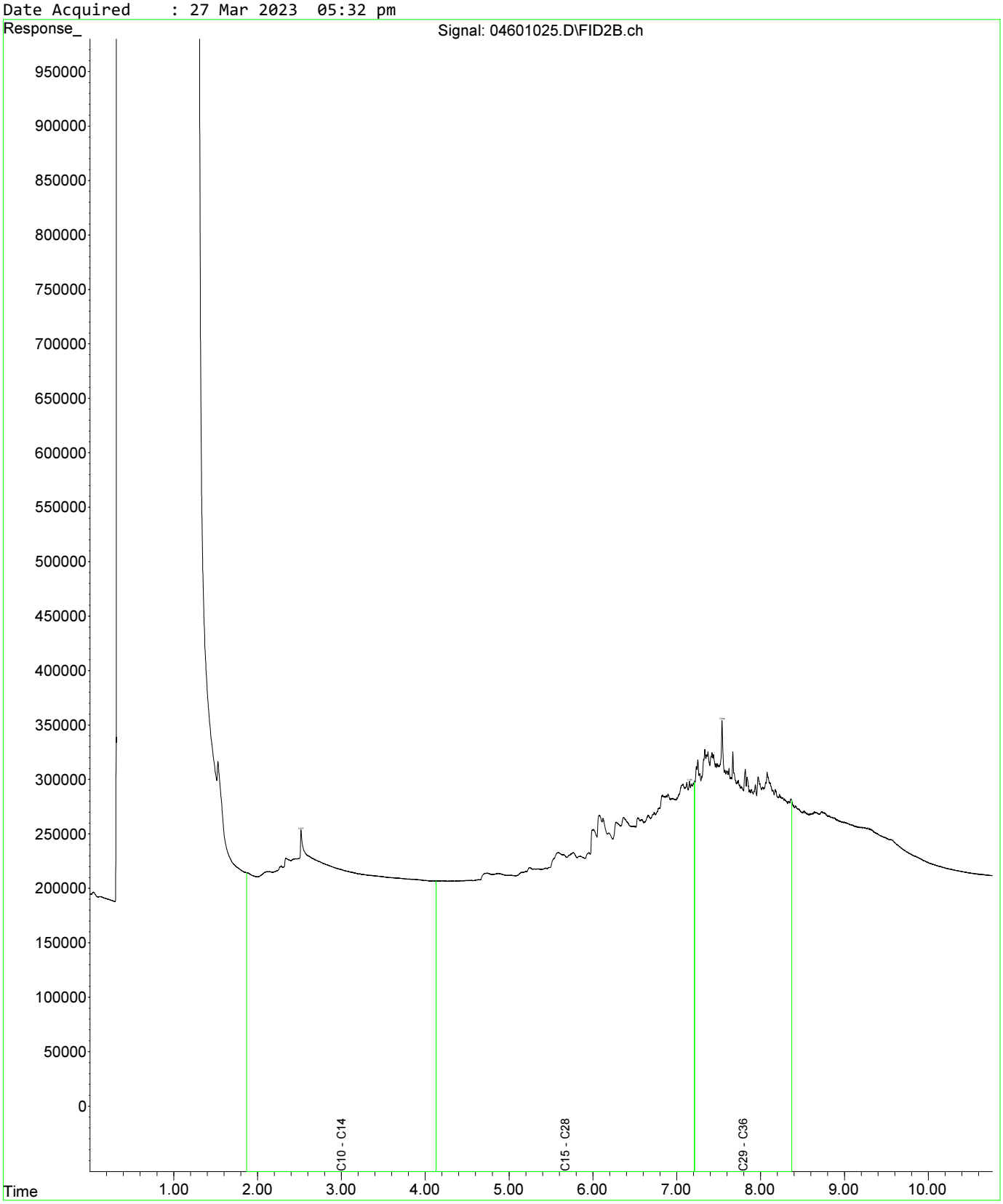

Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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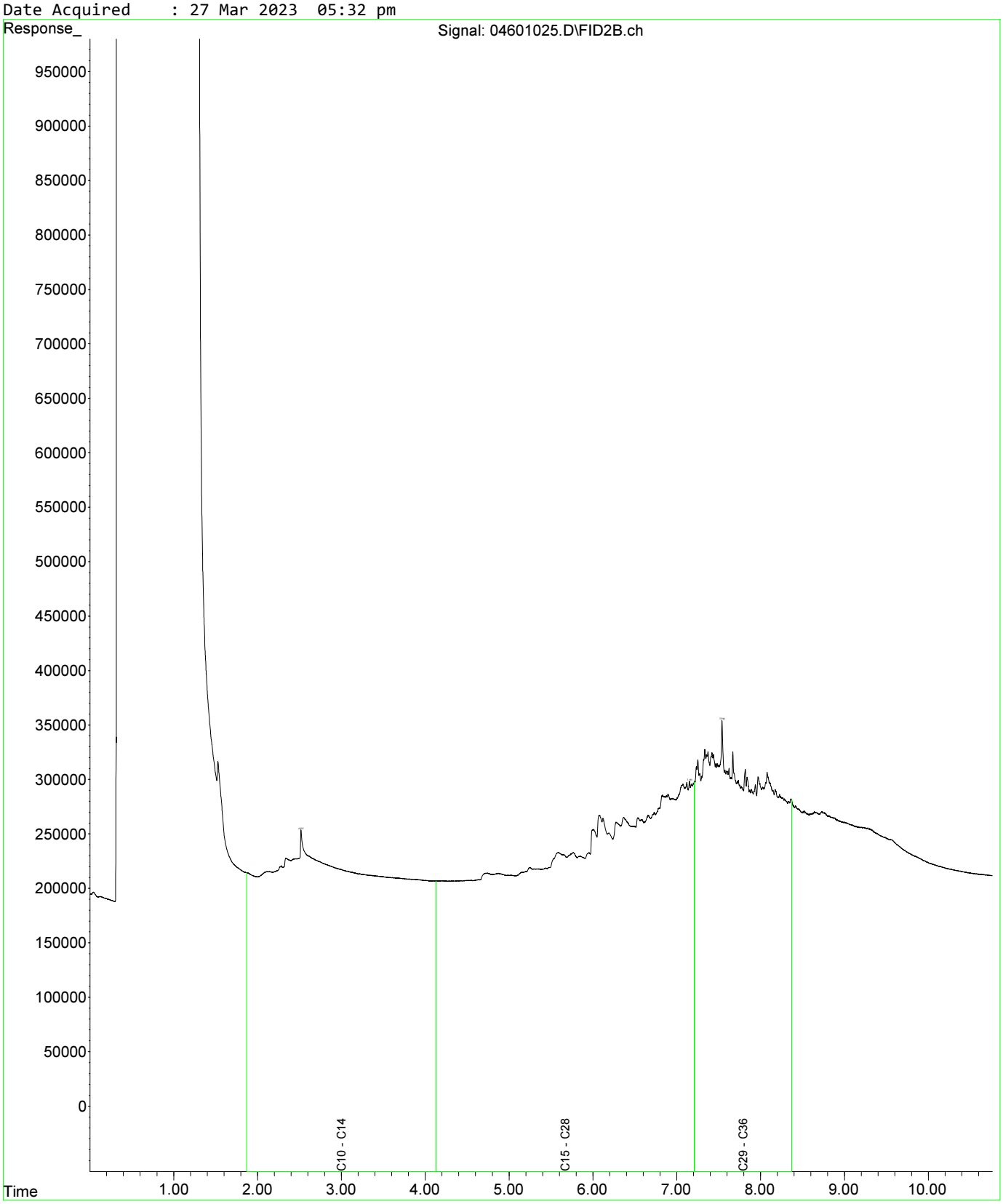
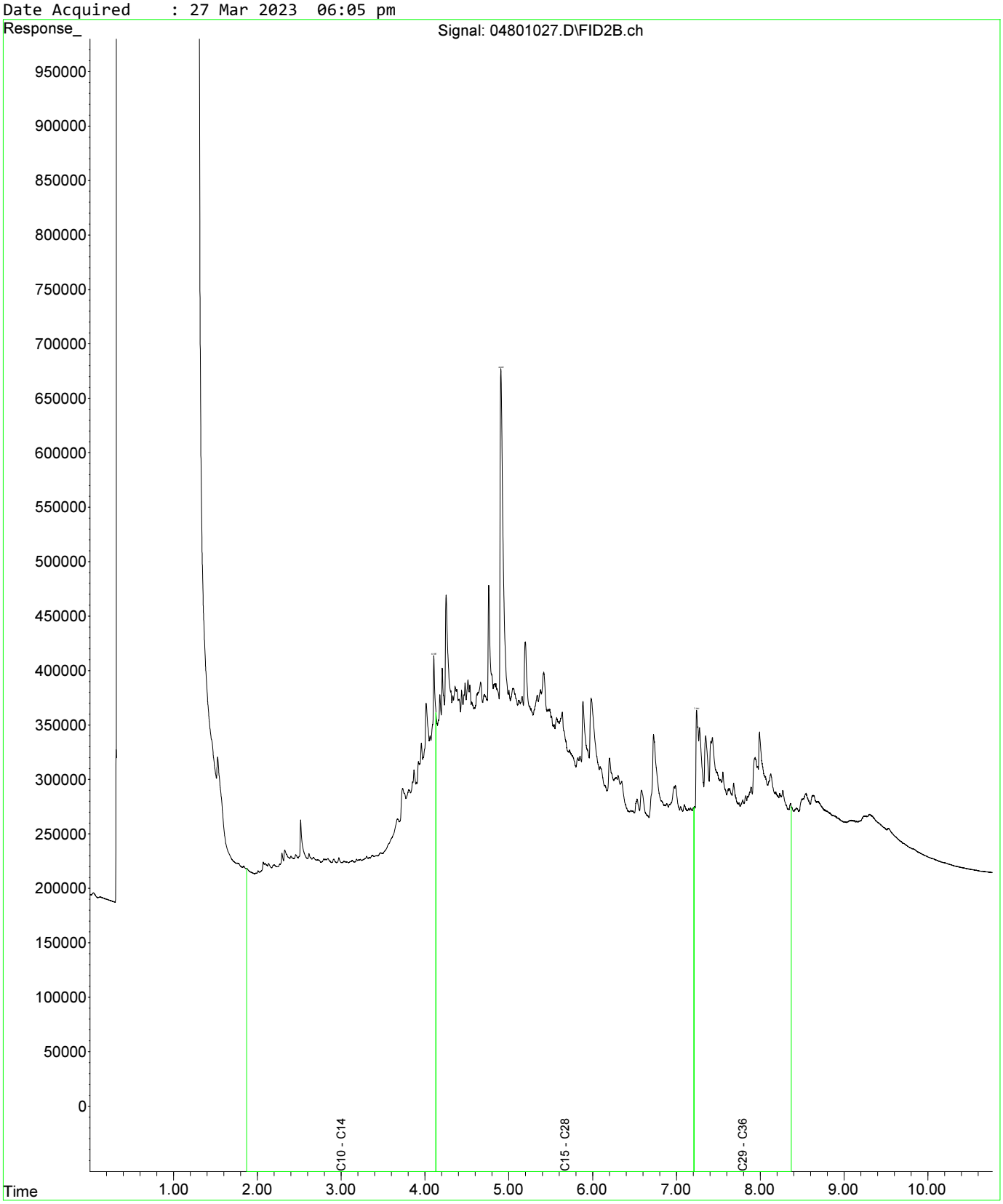
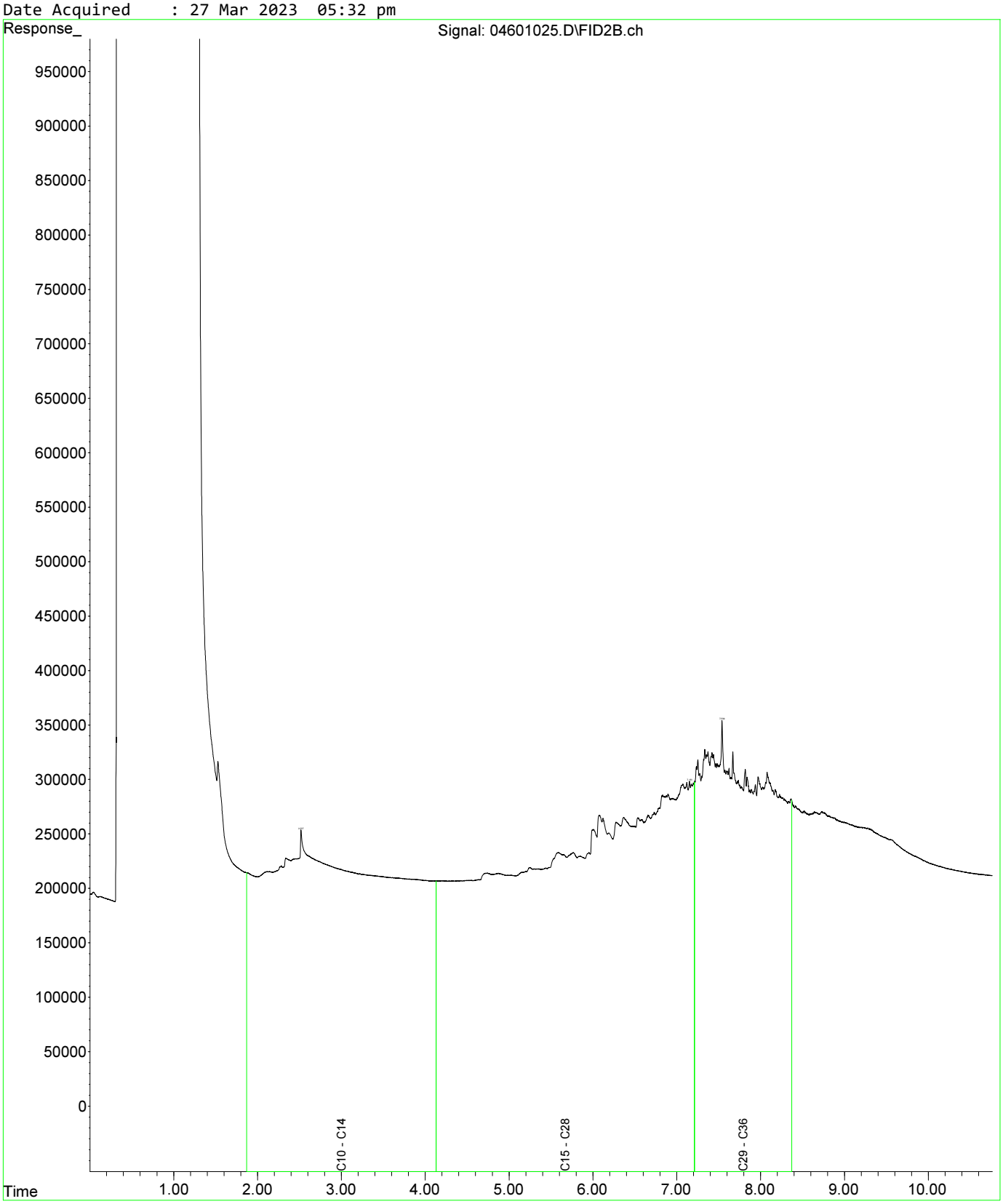
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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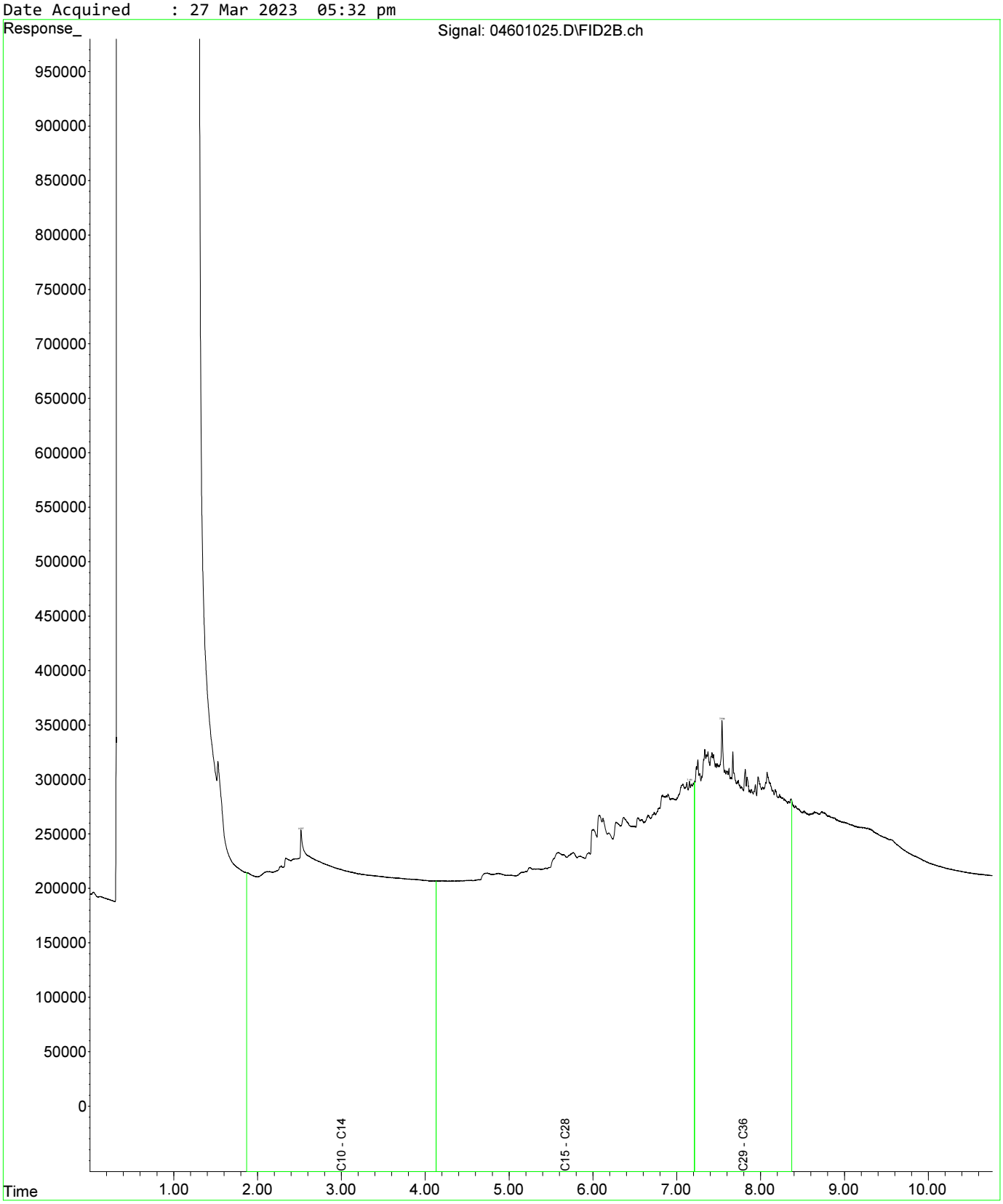

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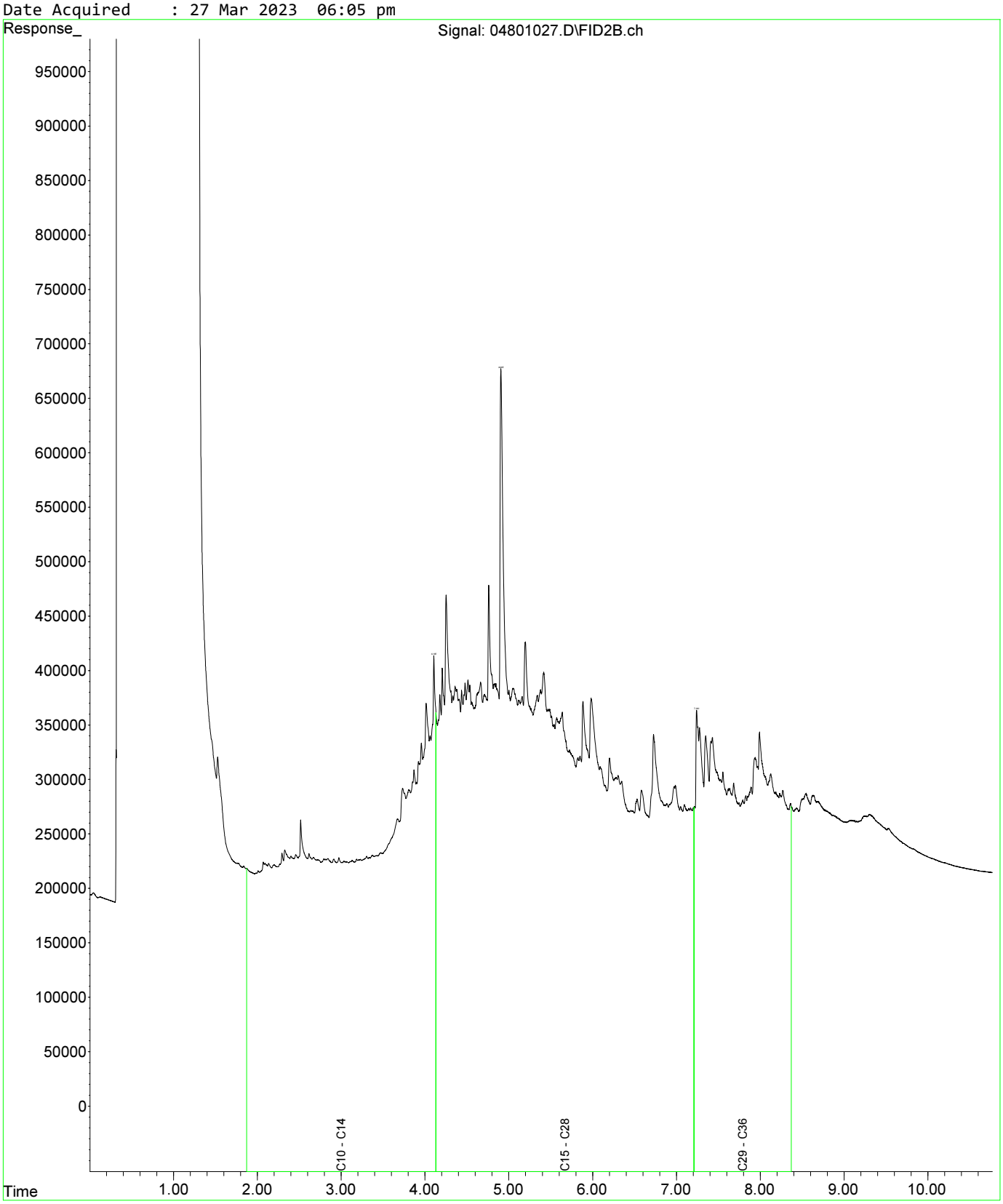

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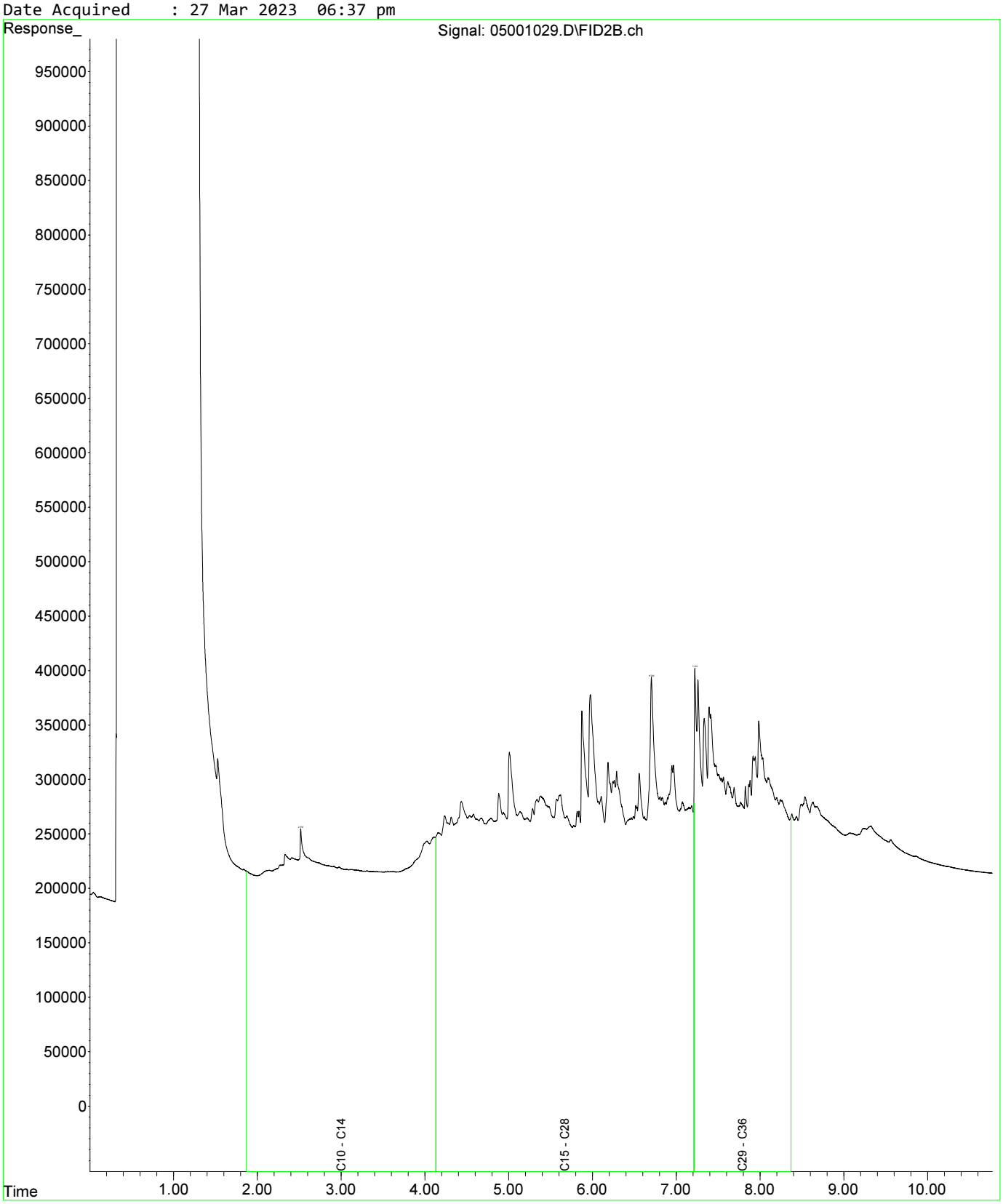
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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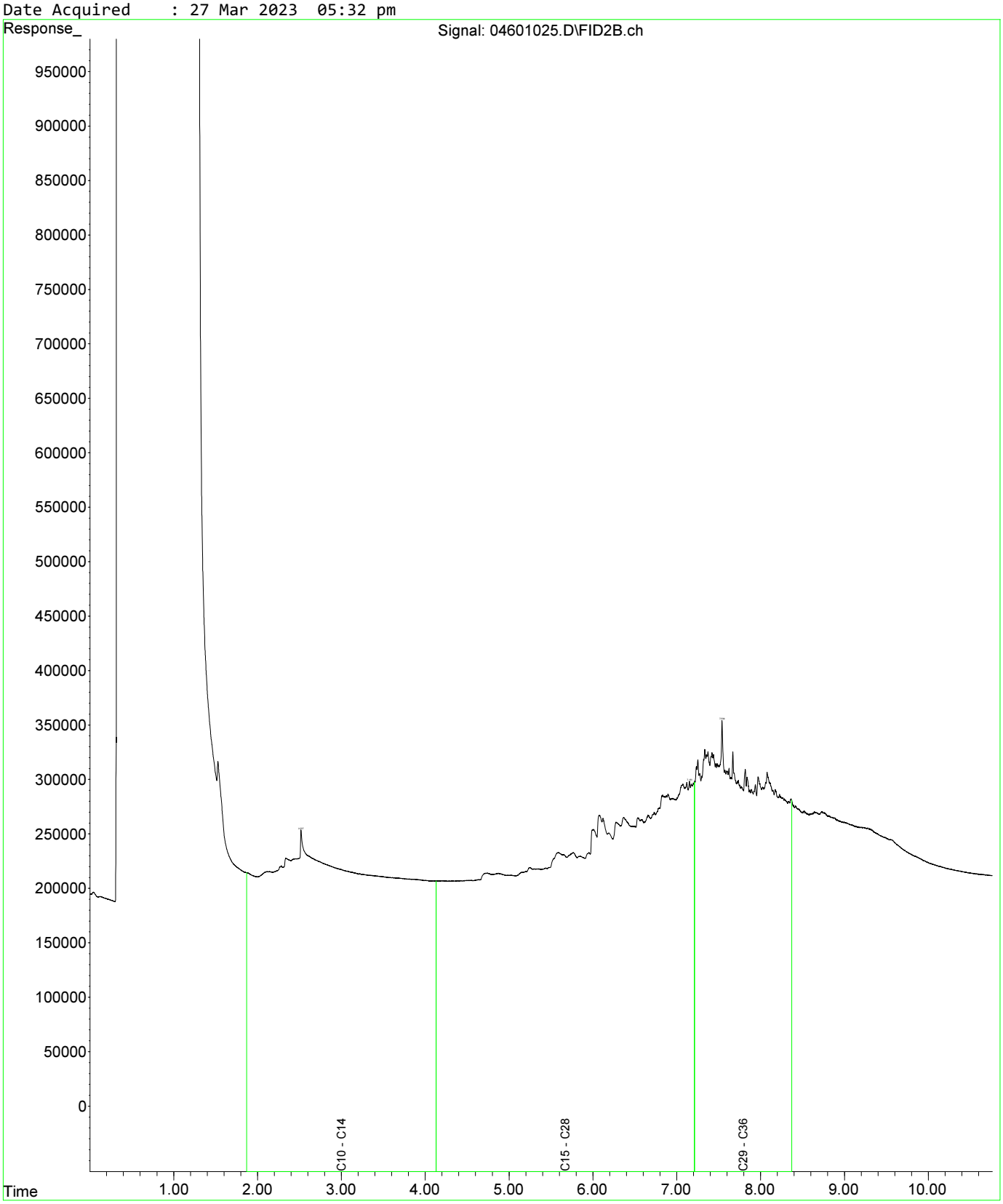

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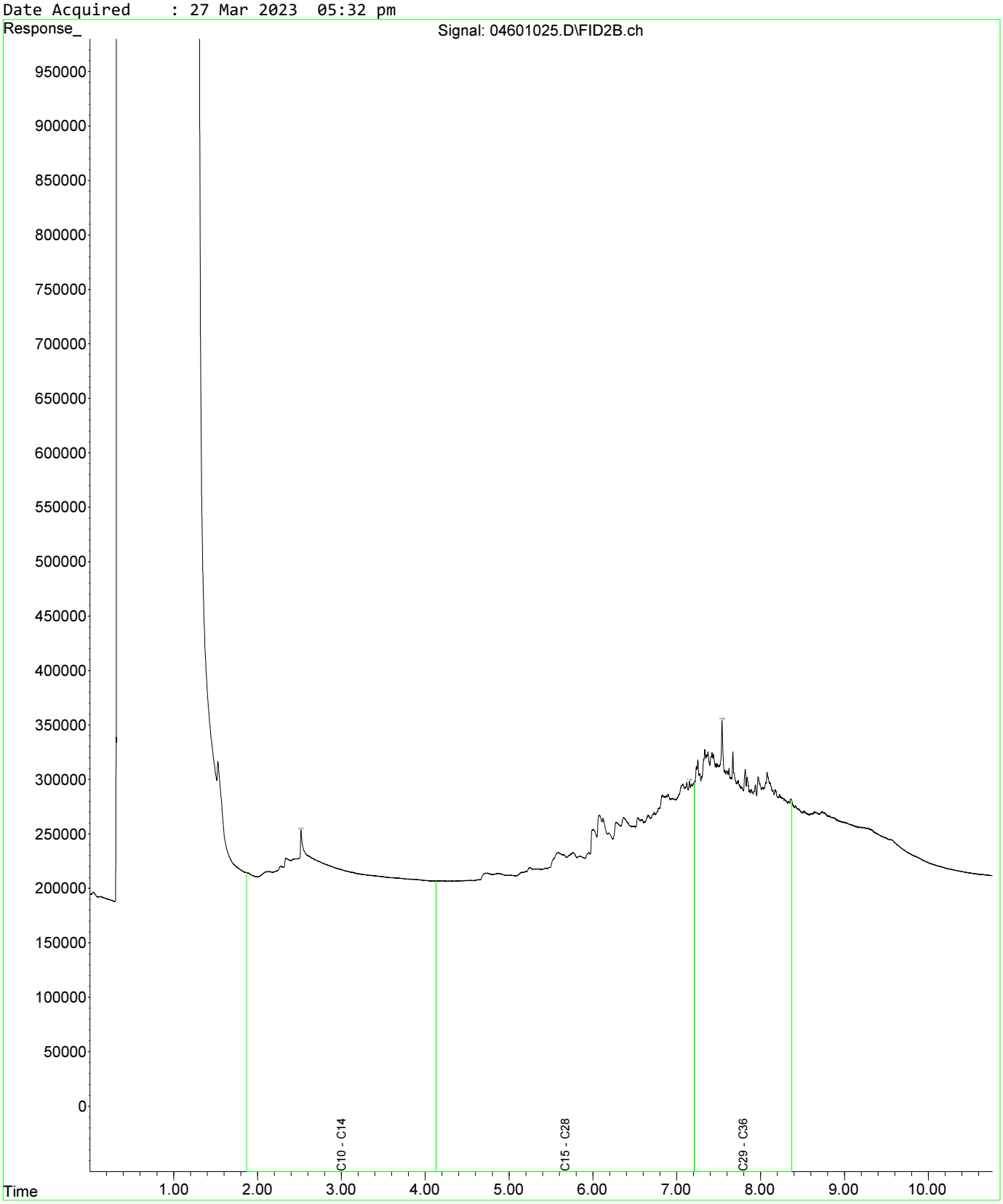

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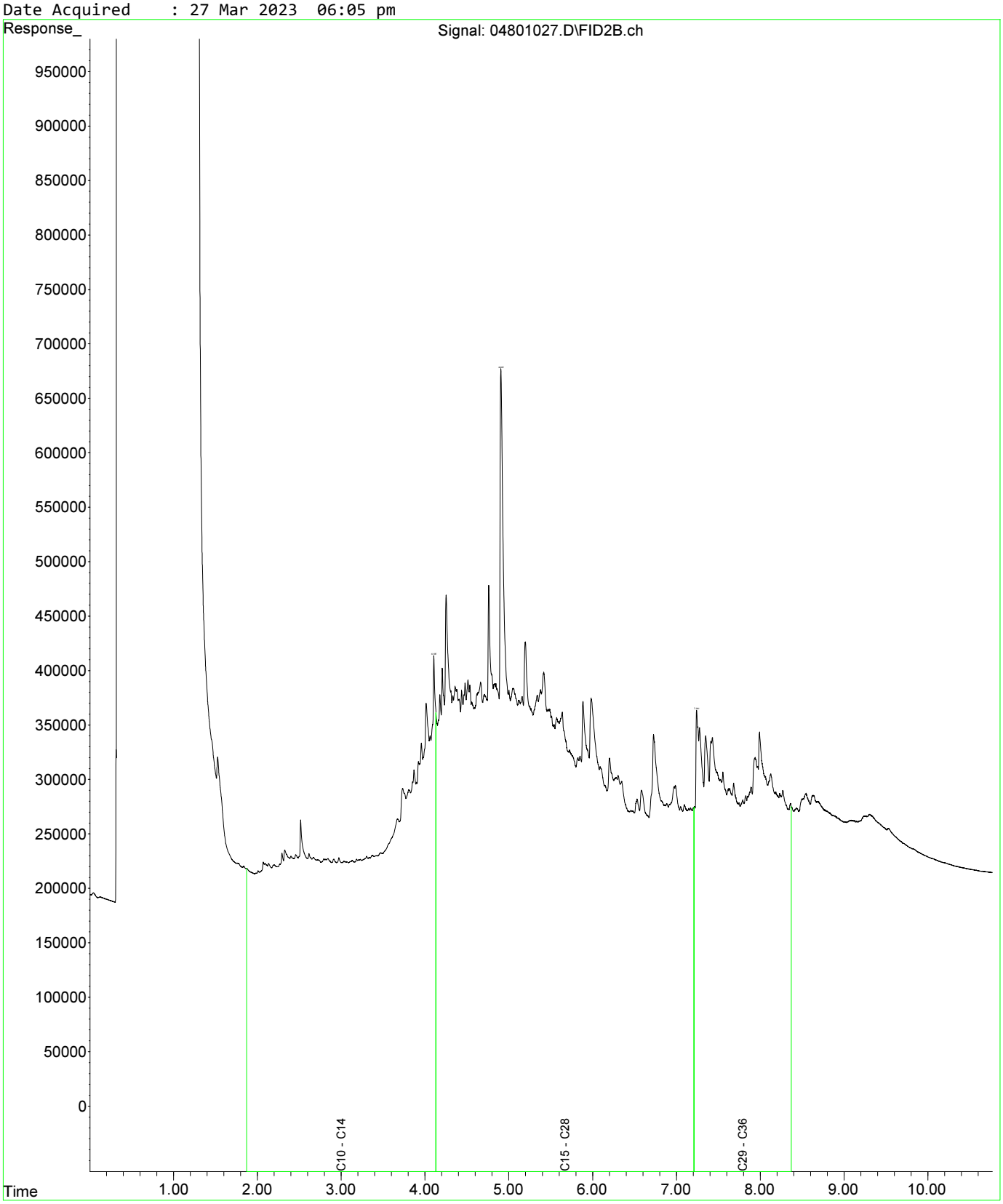

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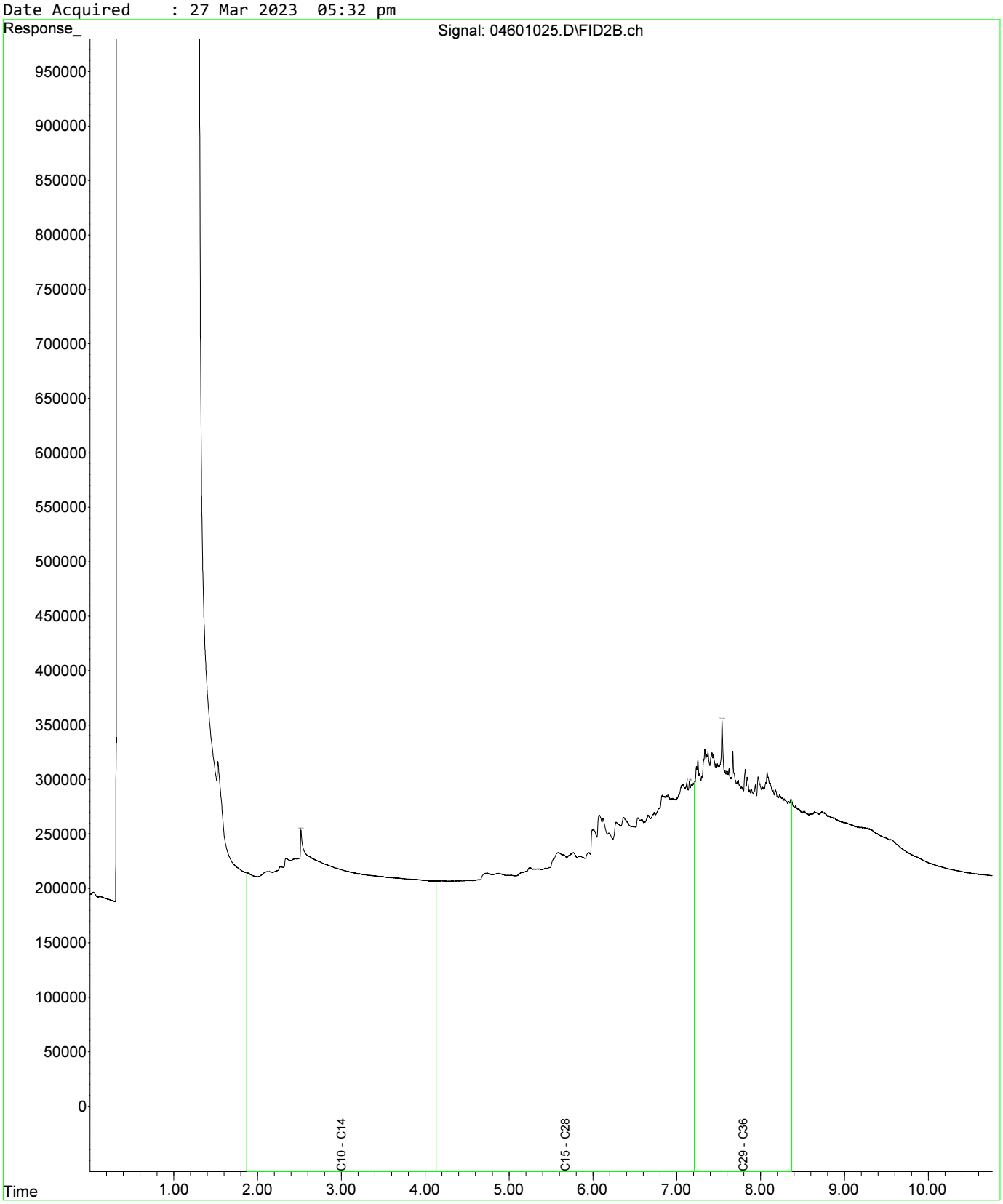

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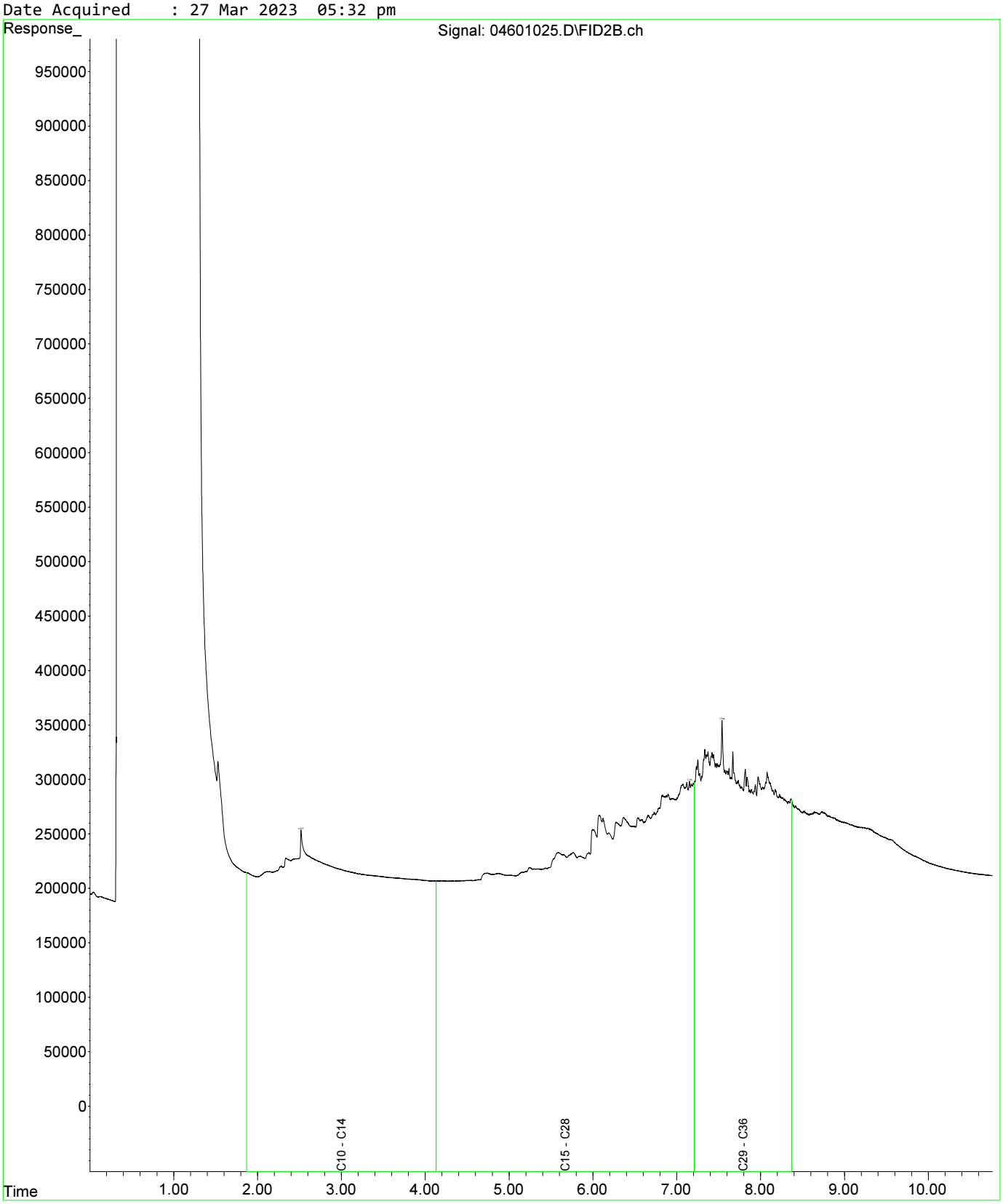

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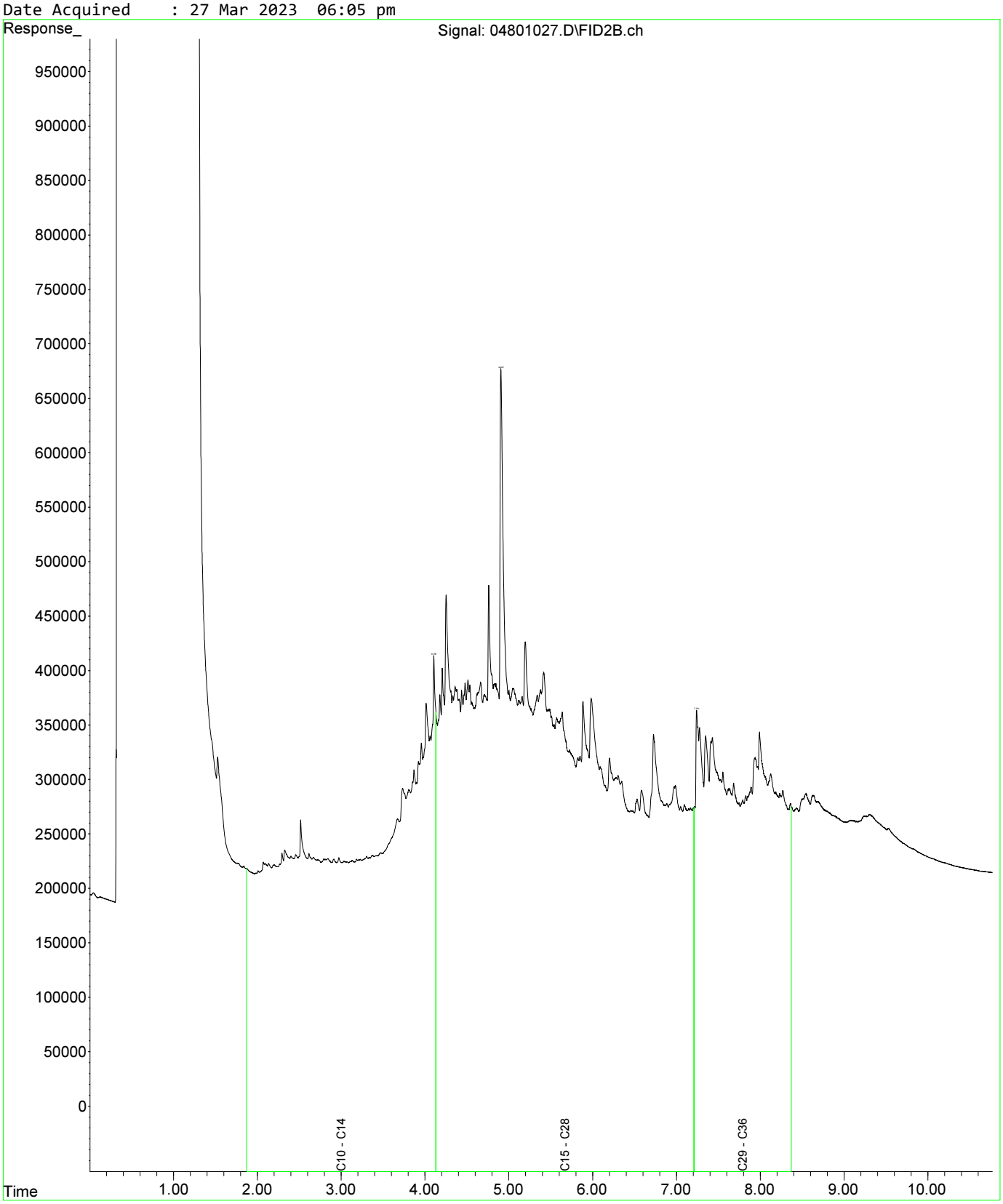

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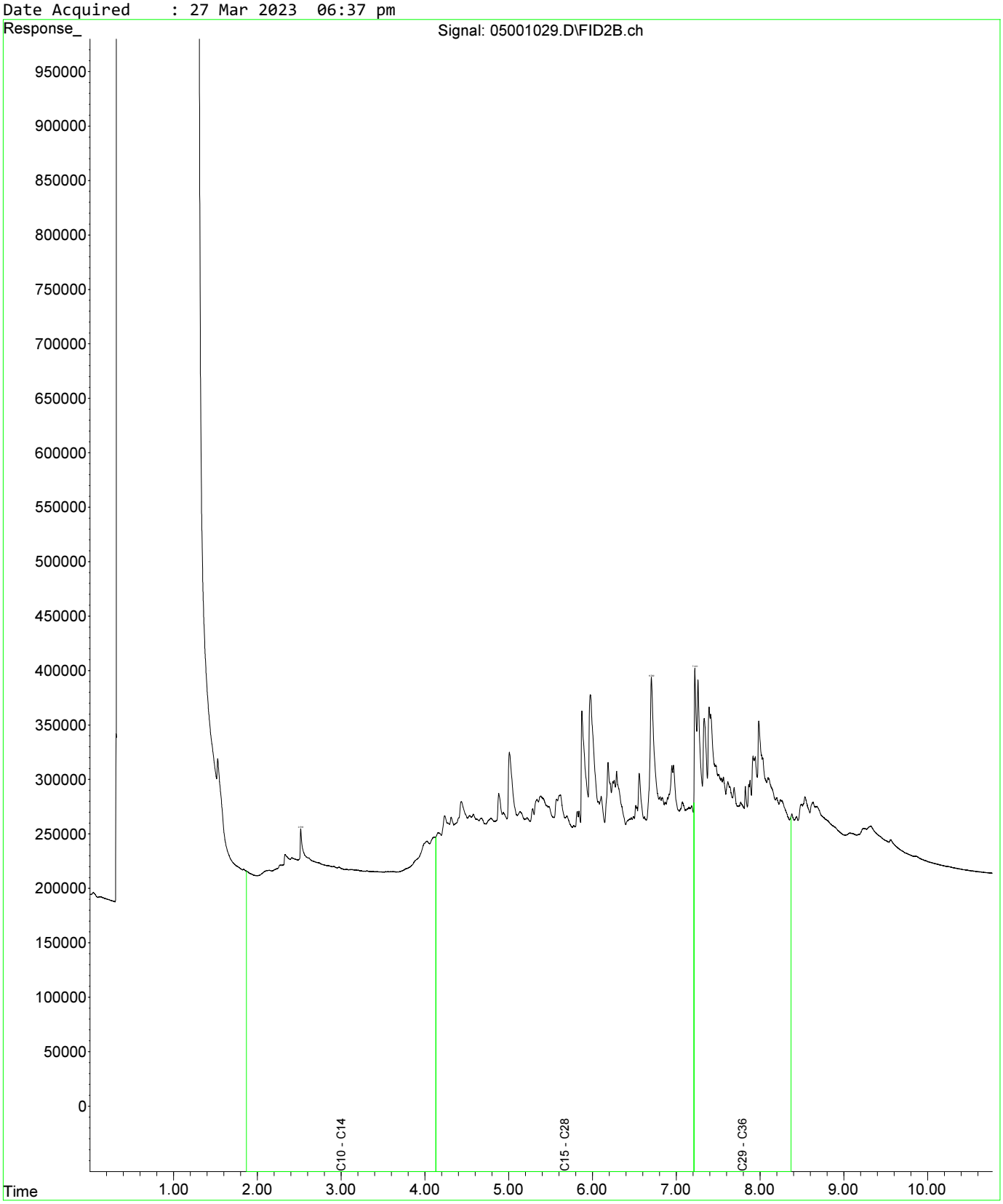
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Laboratory Number: EM2305209-025
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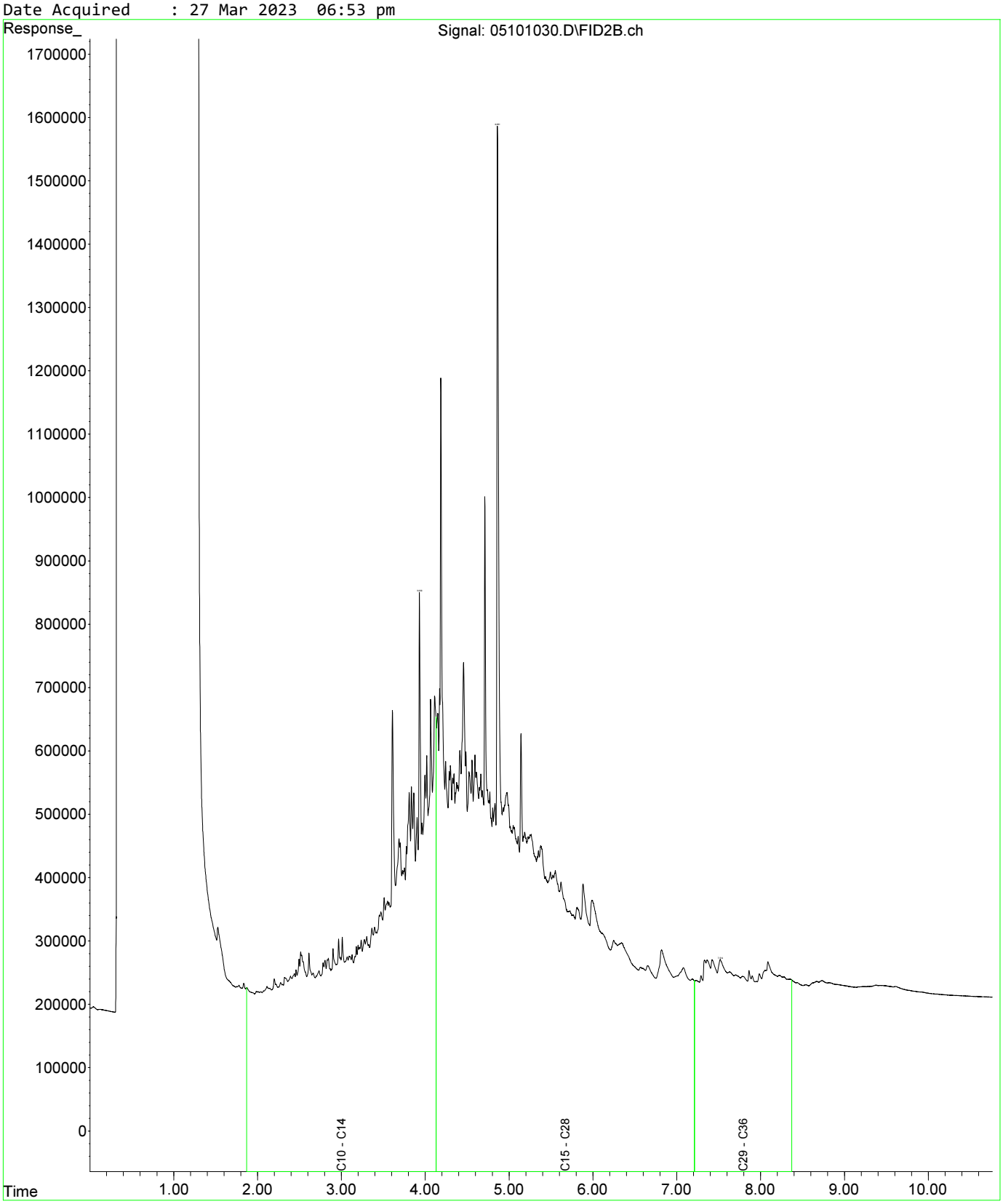
Date Acquired : 27 Mar 2023 06:53 pm



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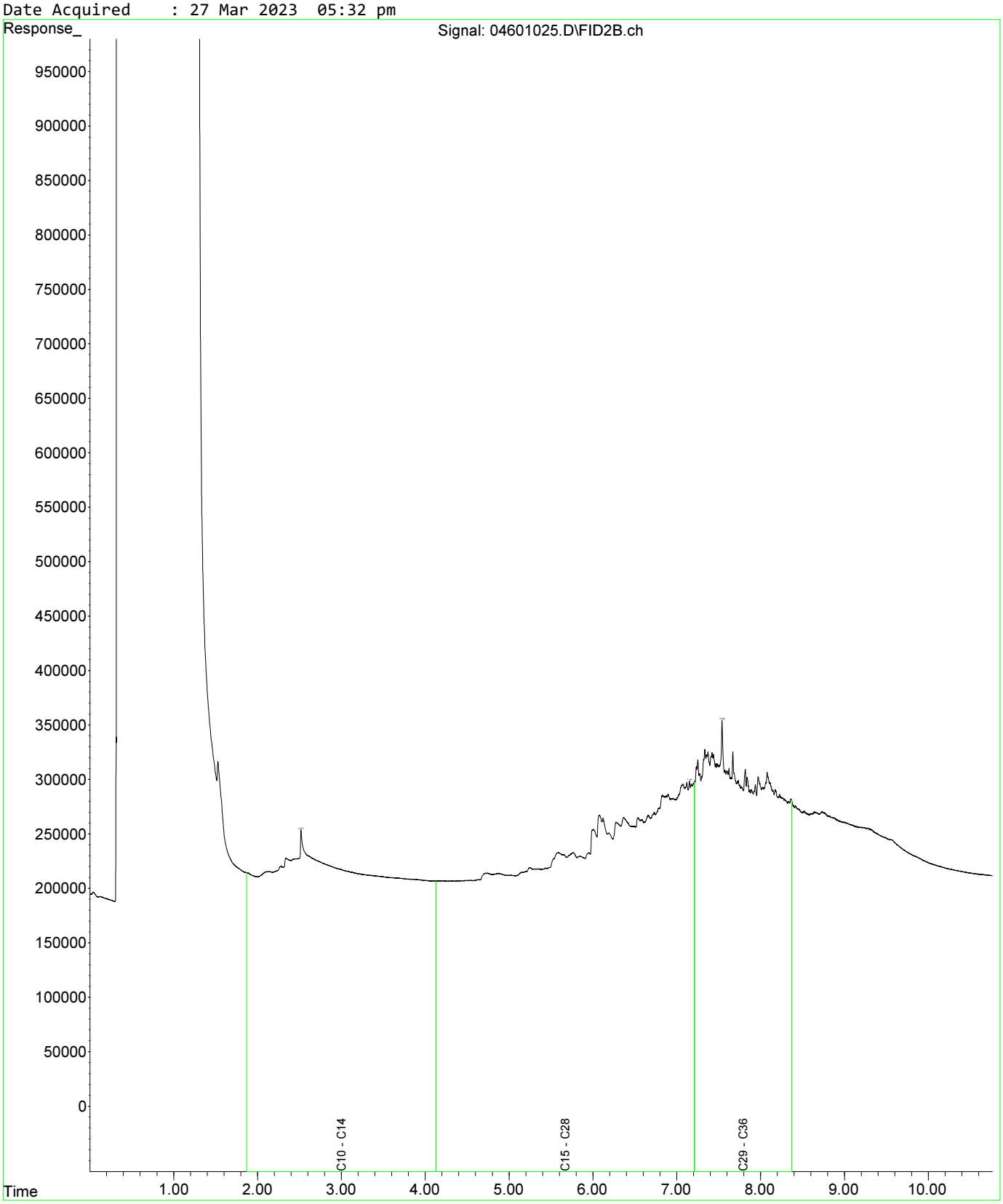

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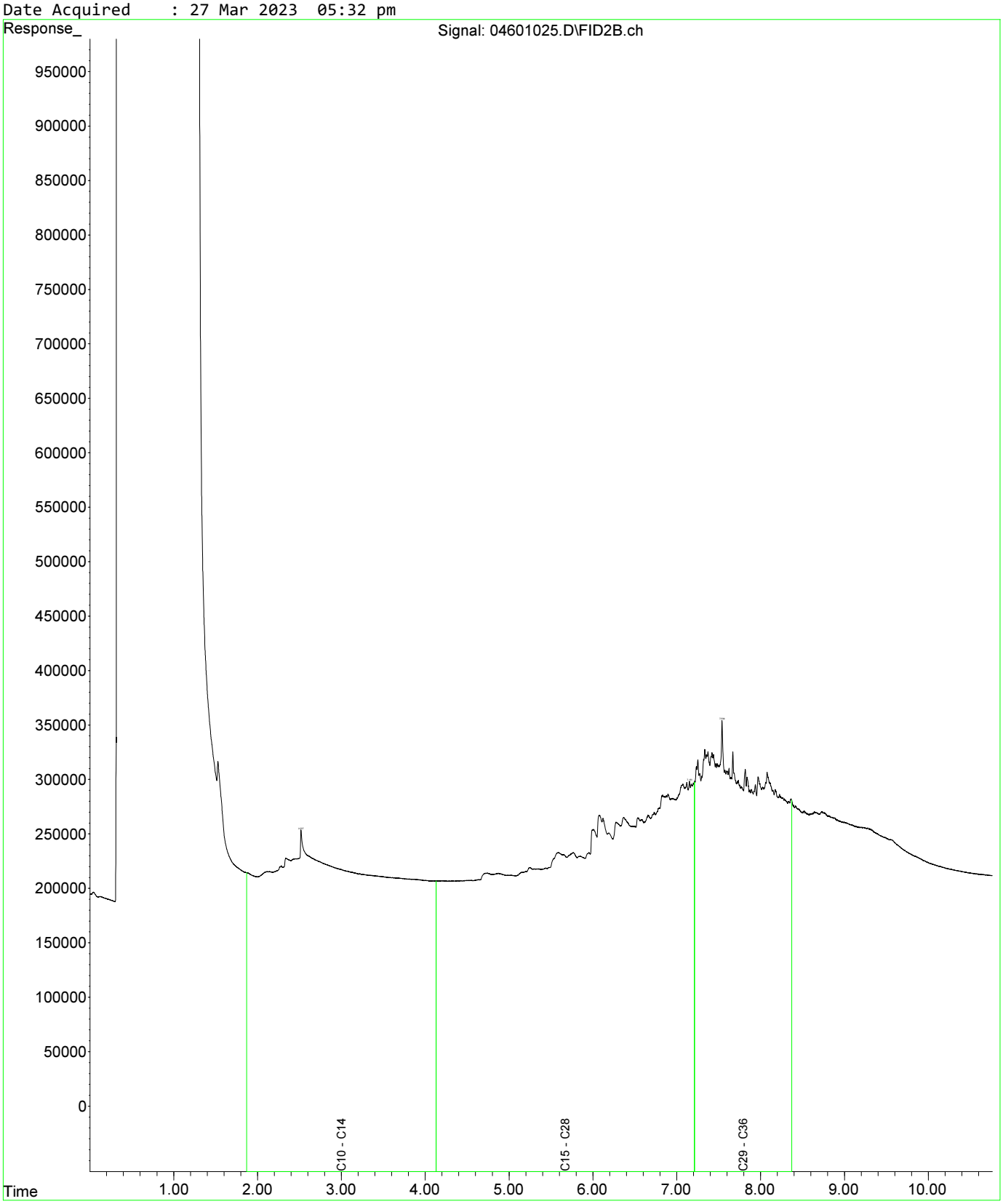

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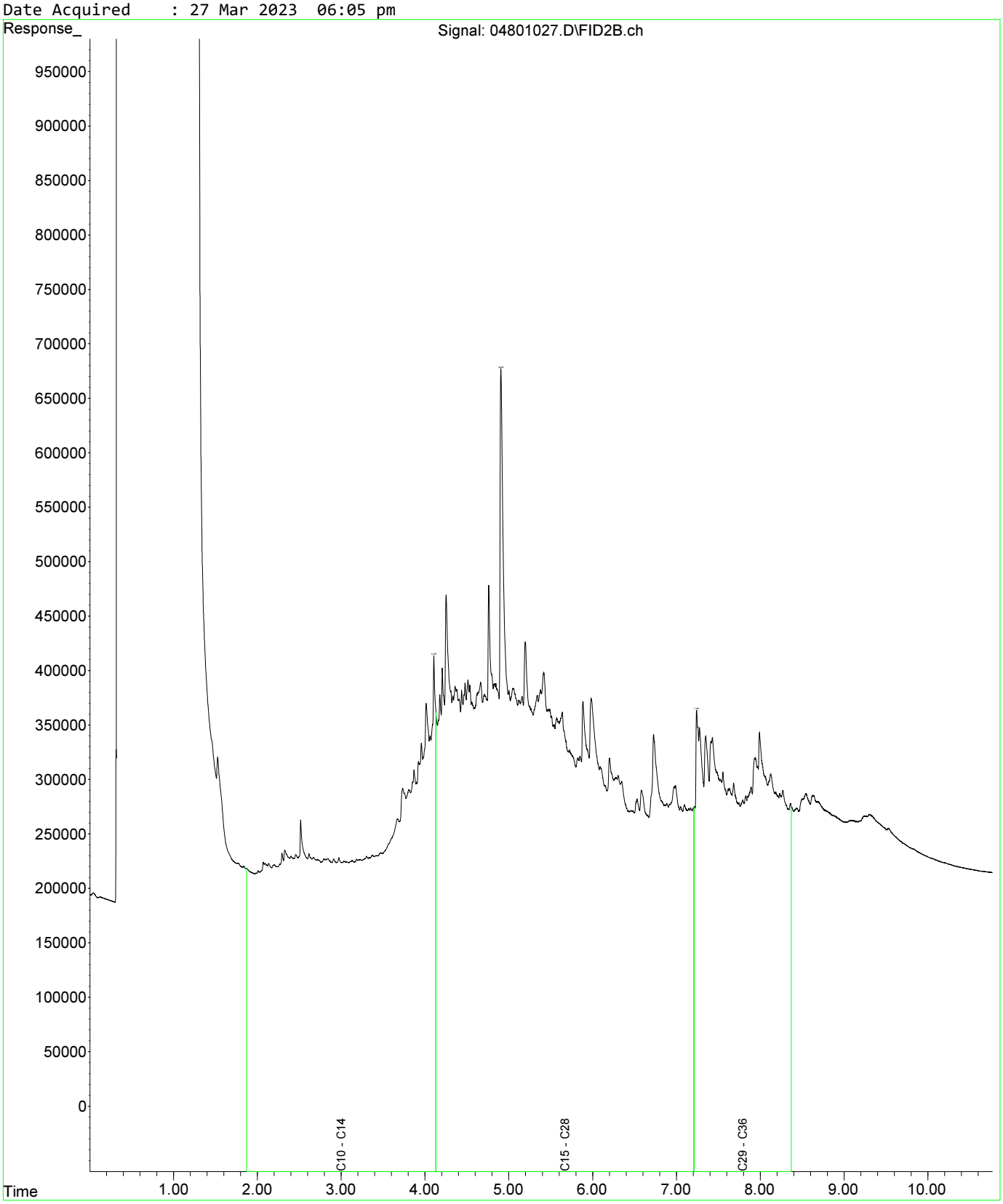

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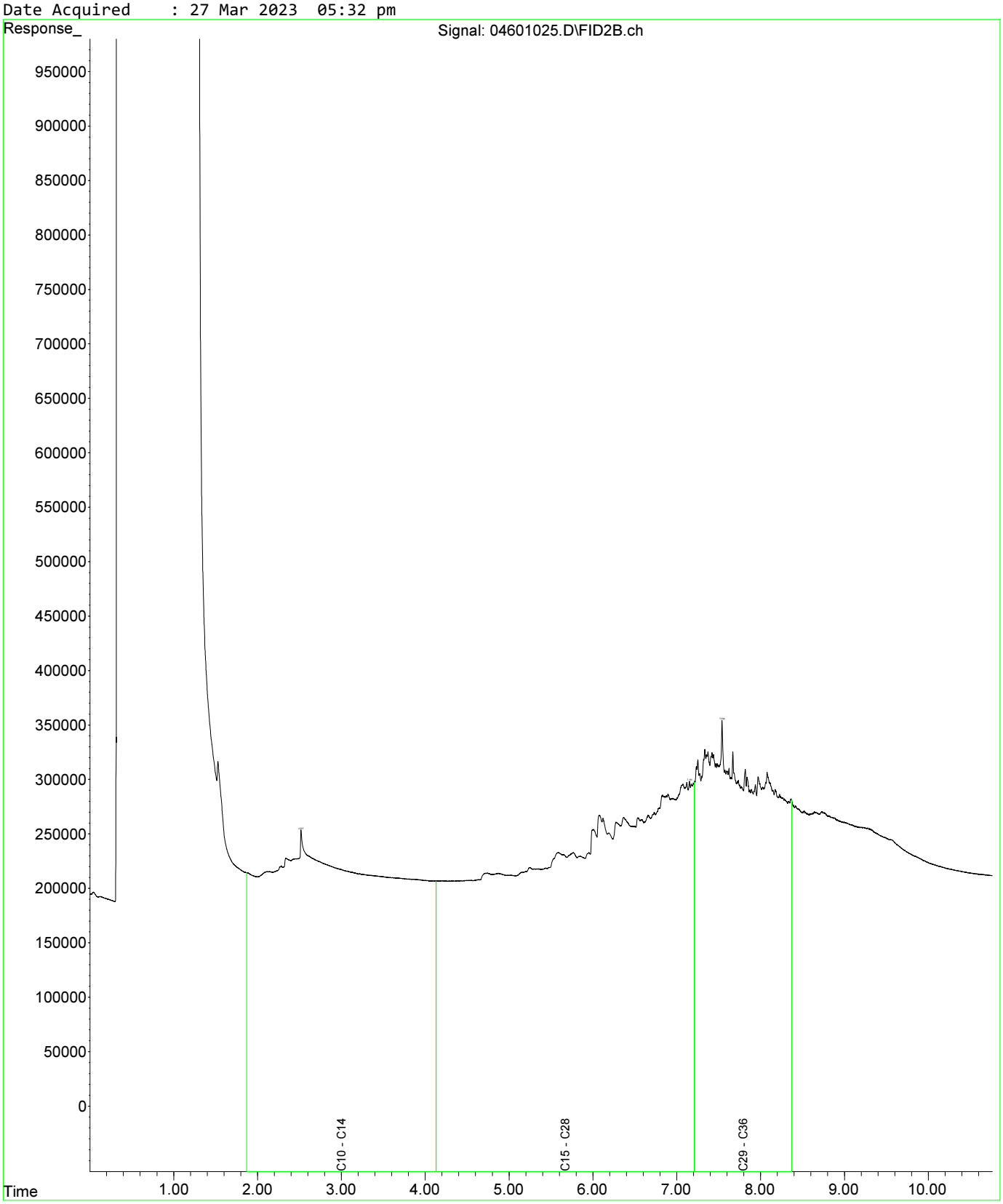

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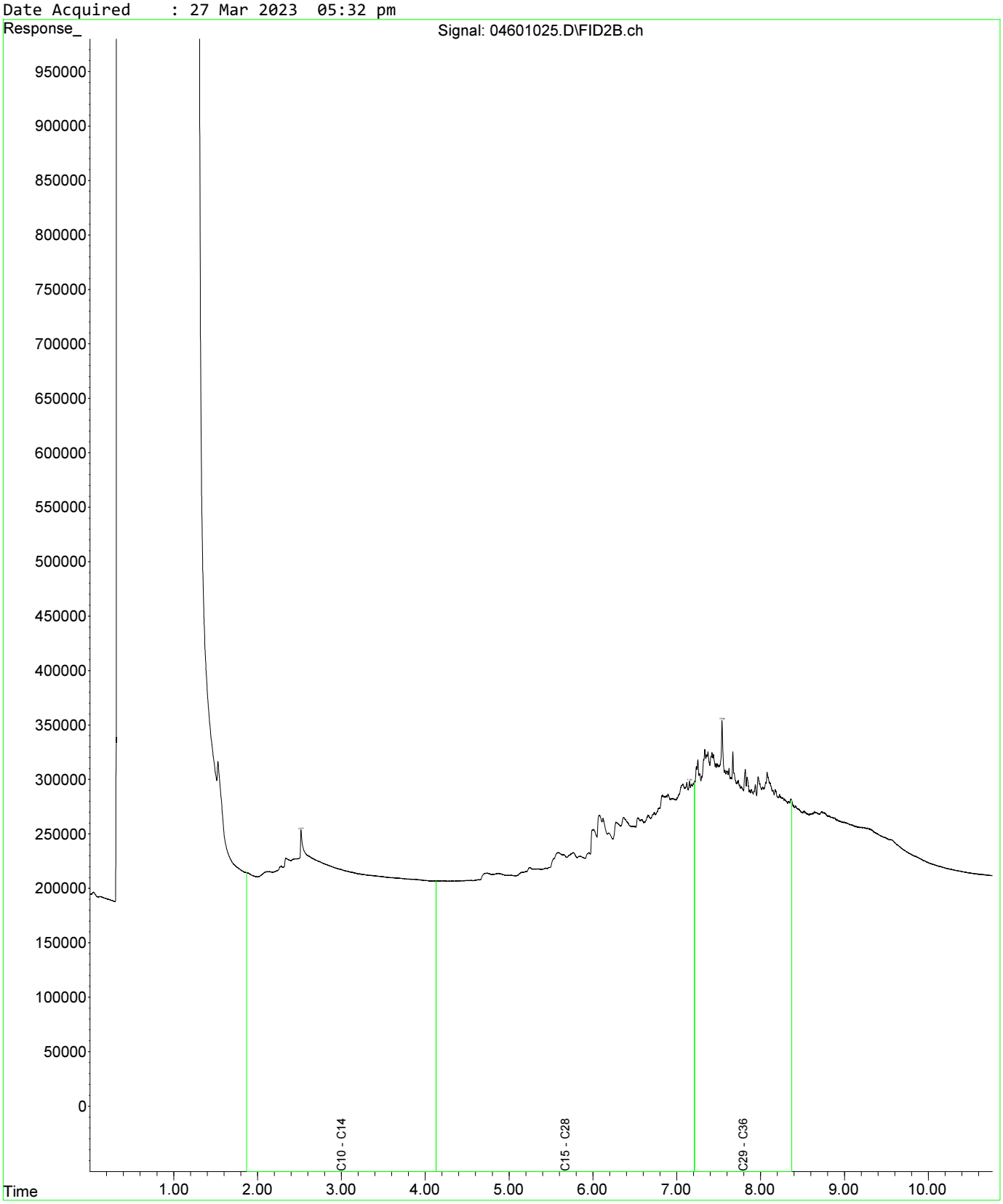

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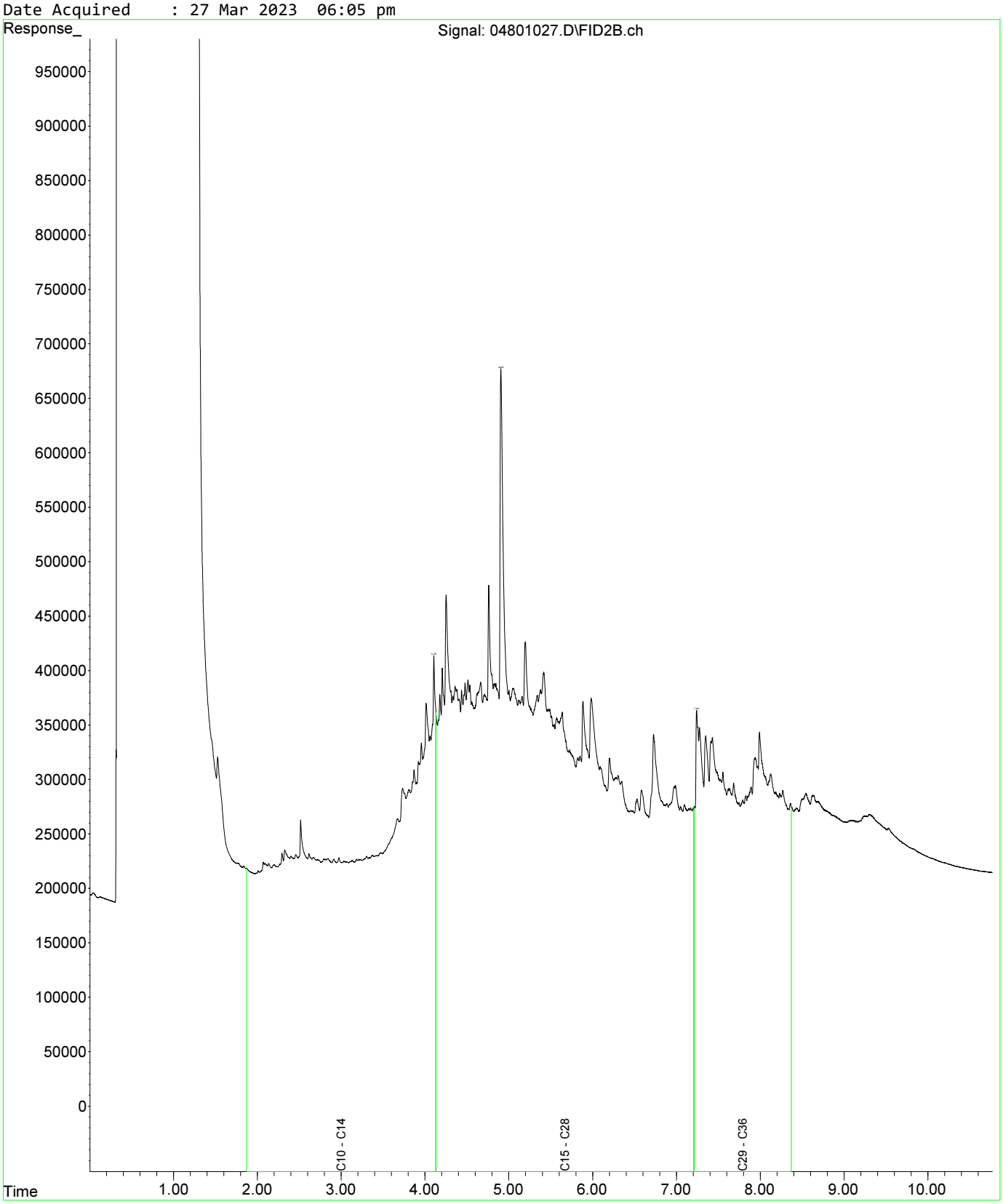

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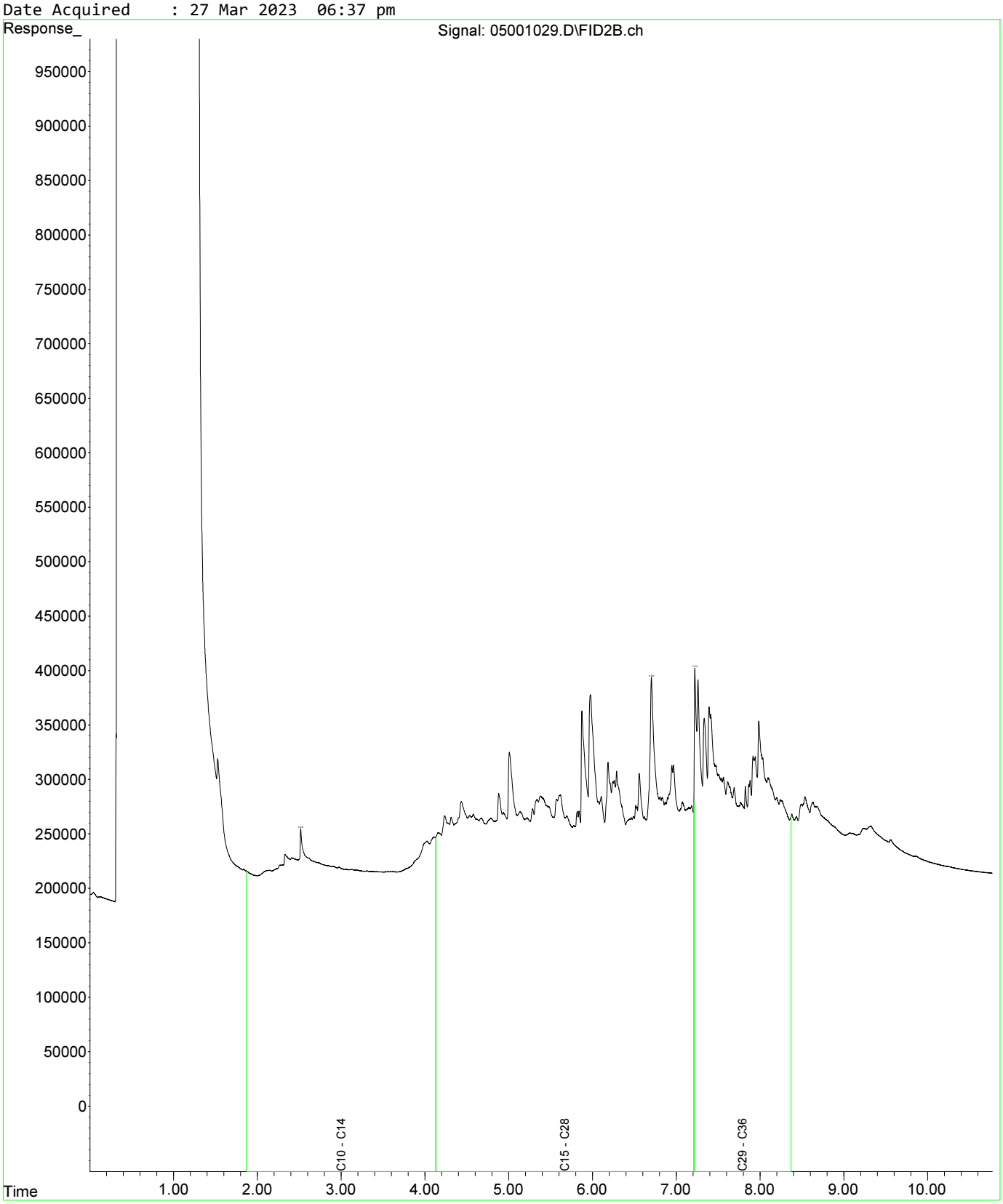

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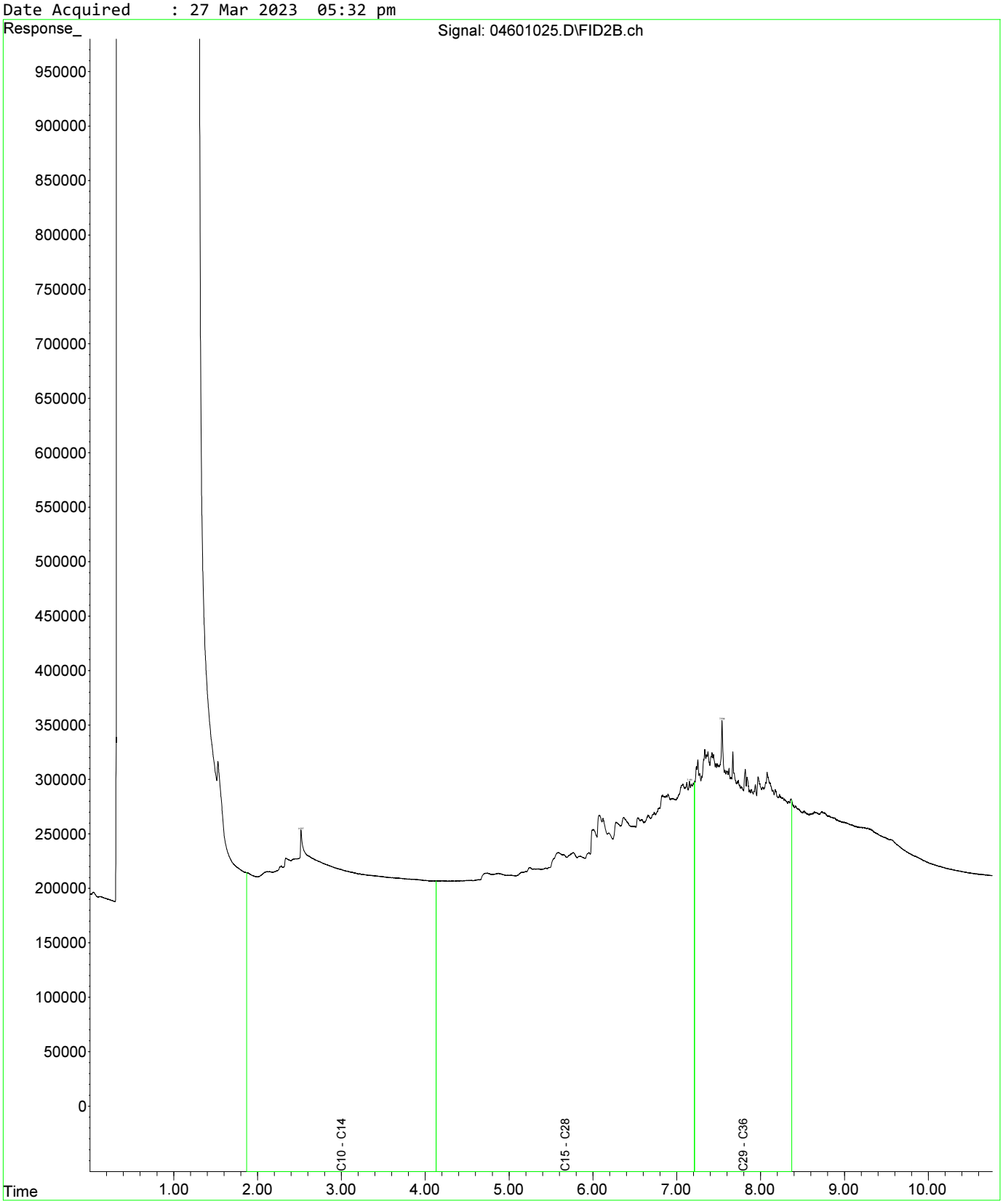

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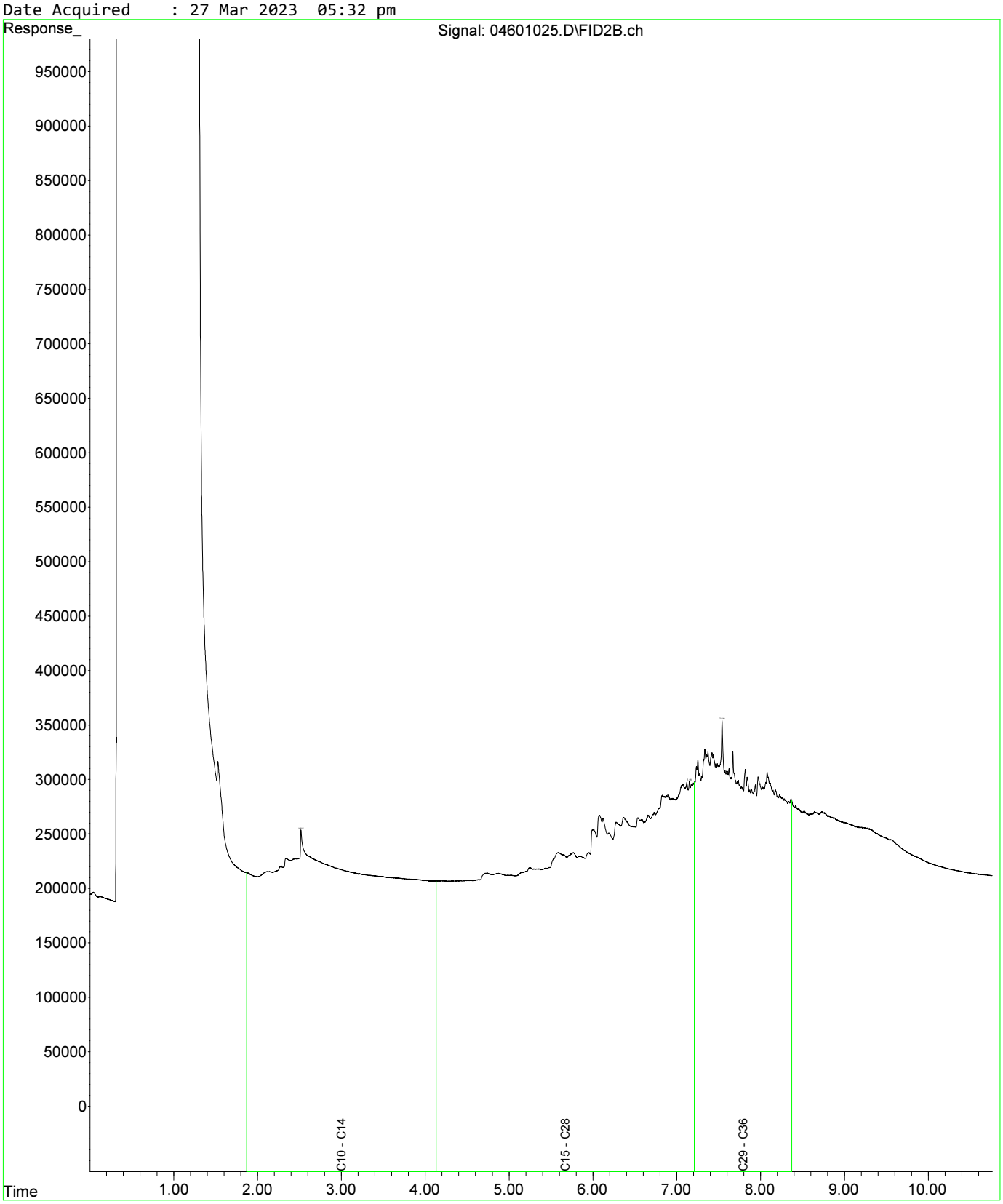

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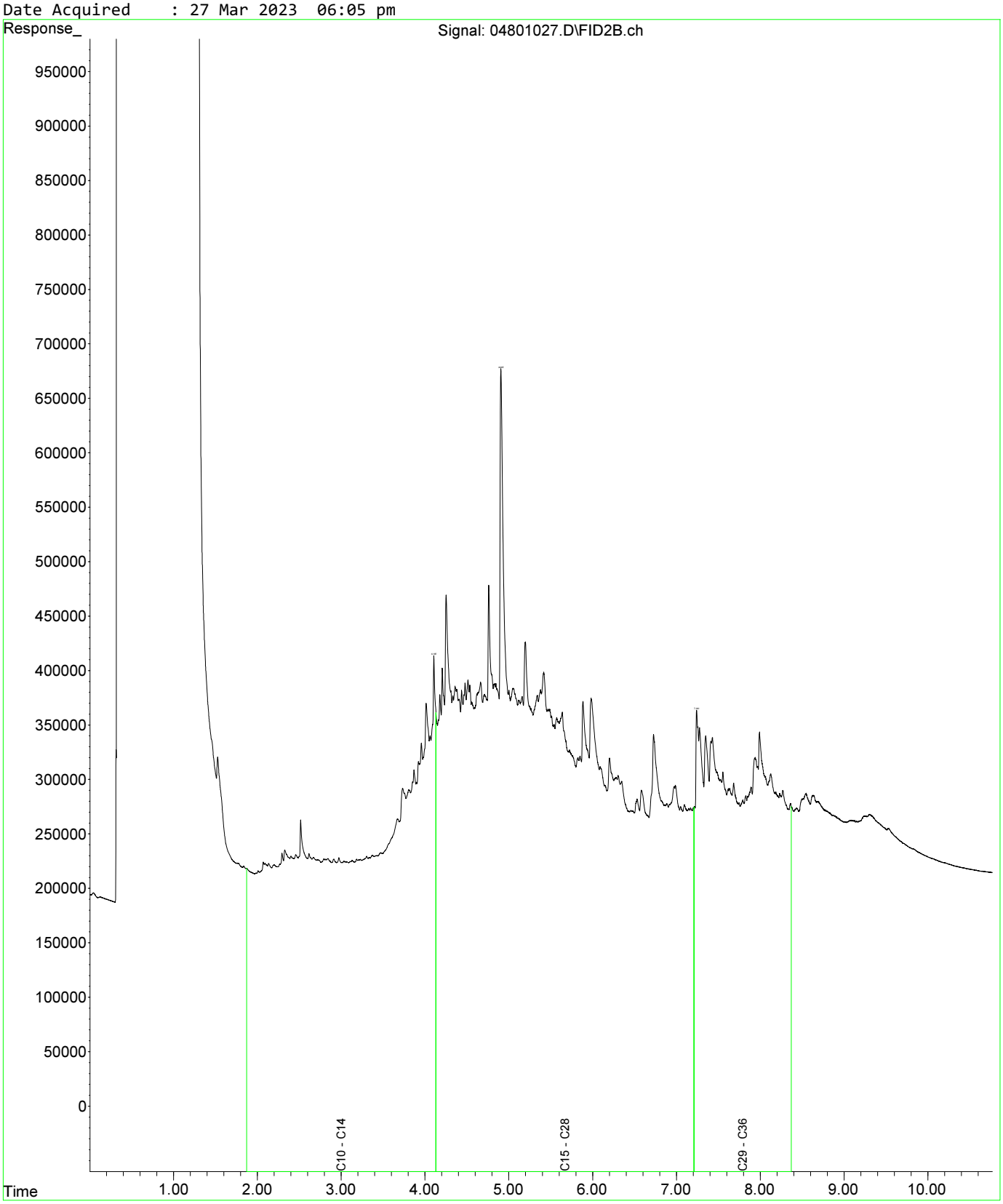

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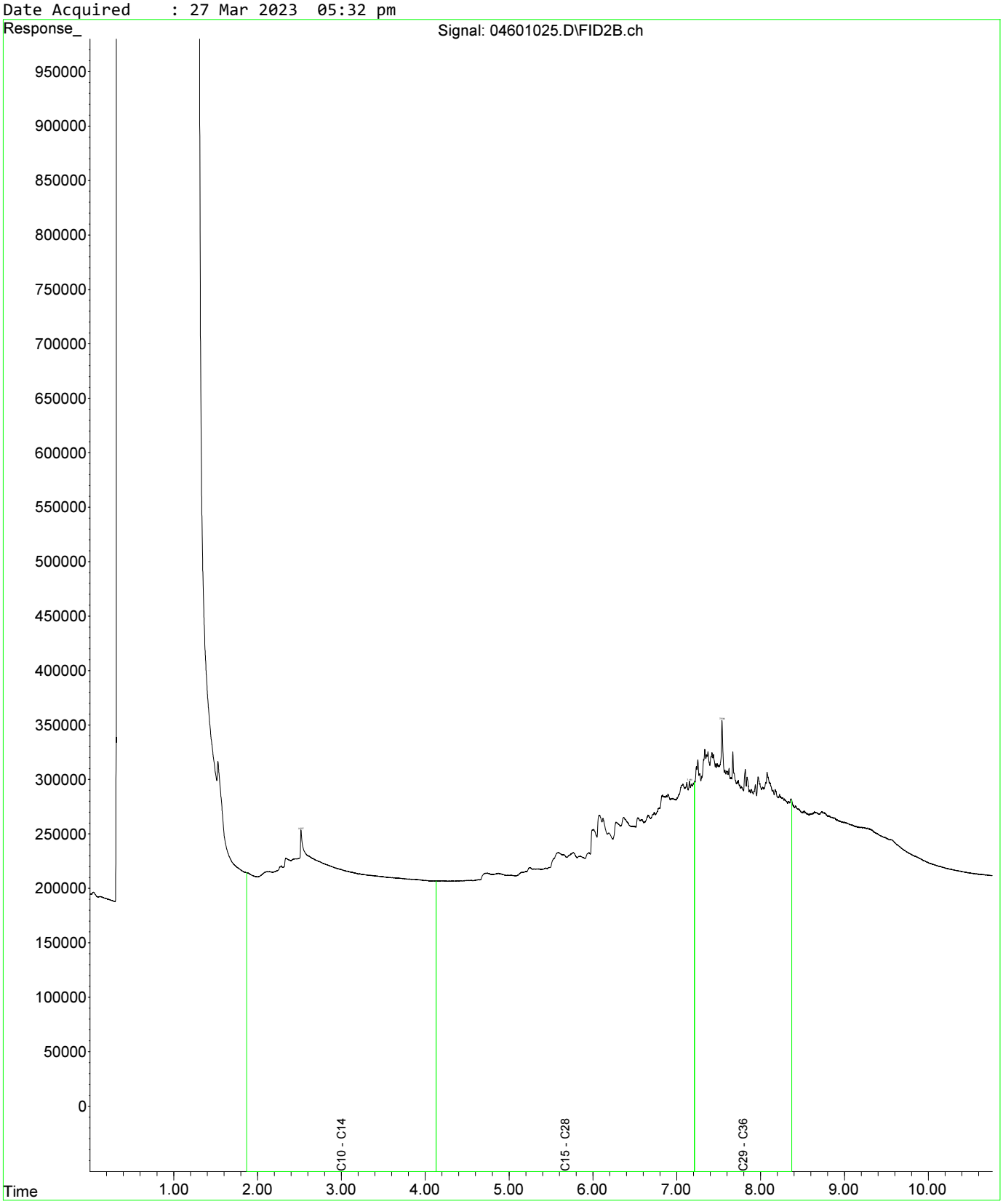
Date Acquired : 27 Mar 2023 05:32 pm



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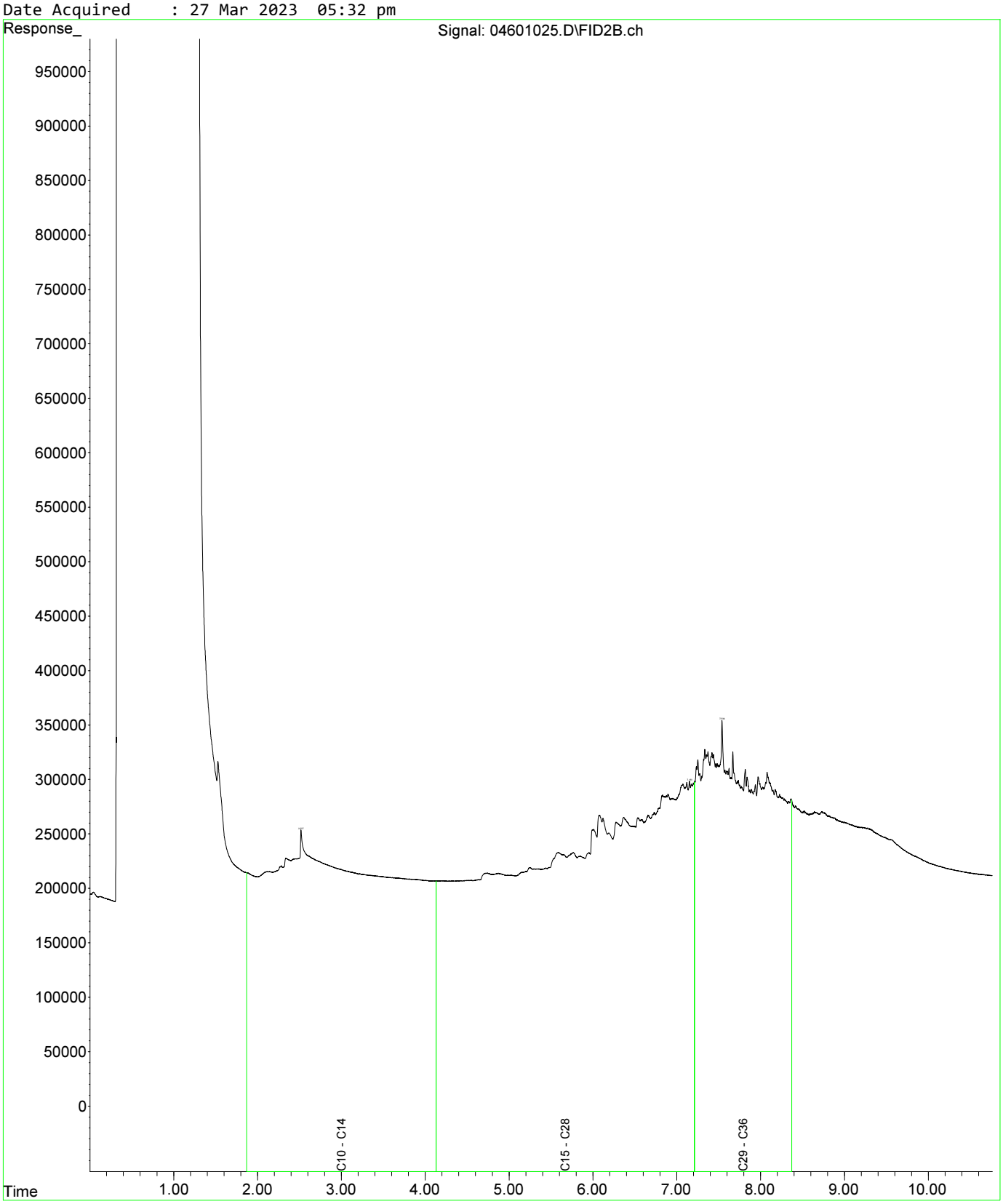

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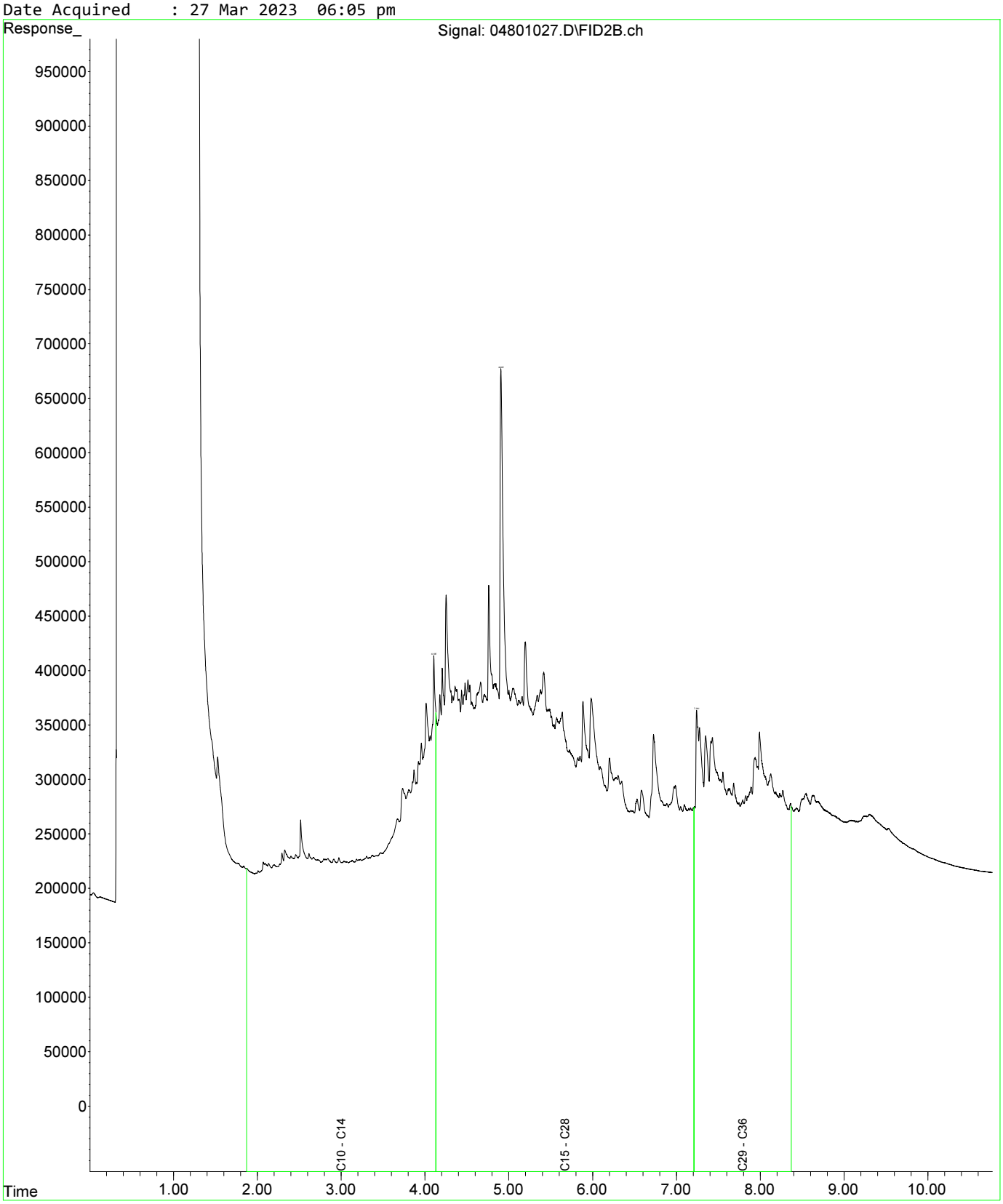

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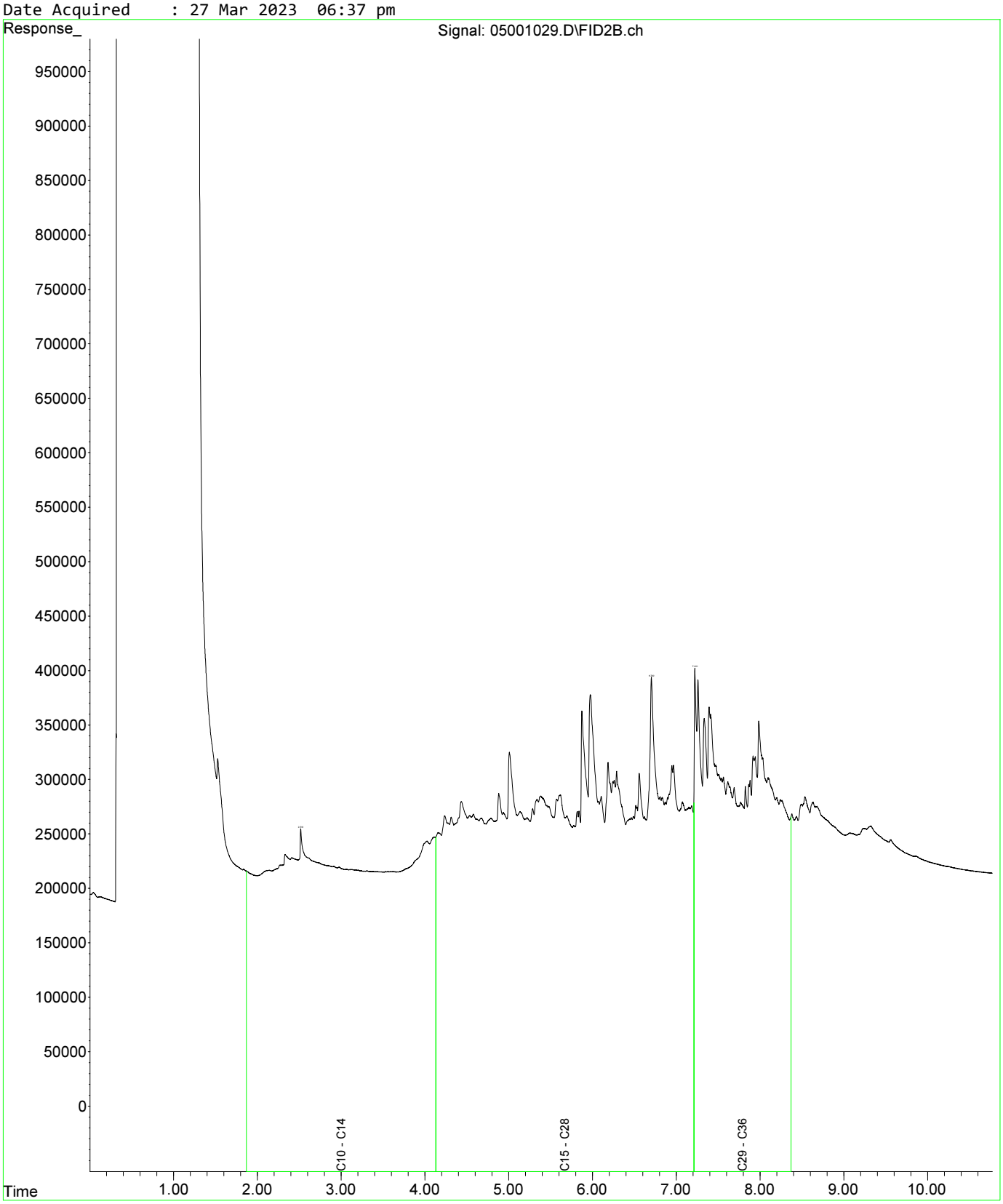

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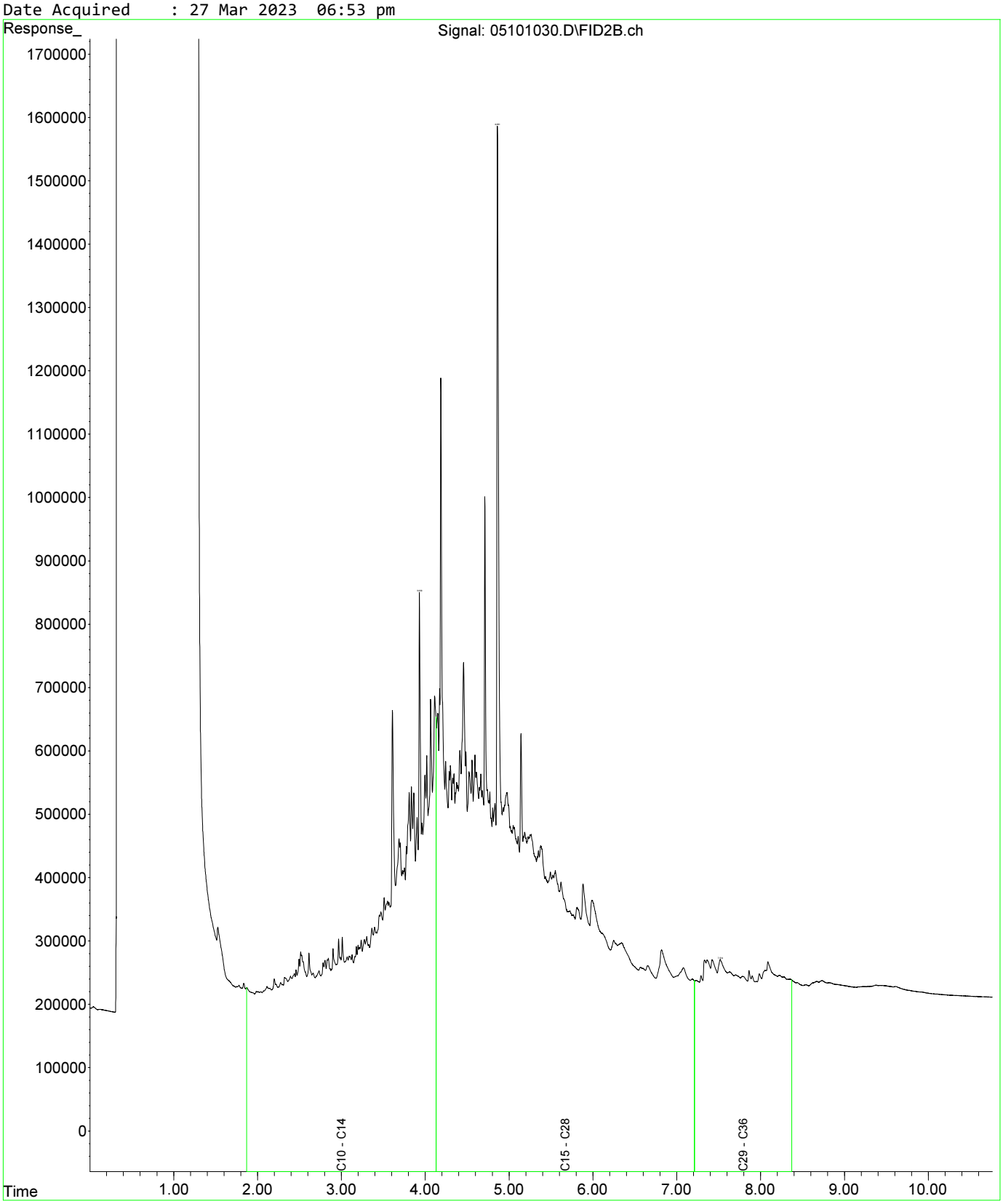

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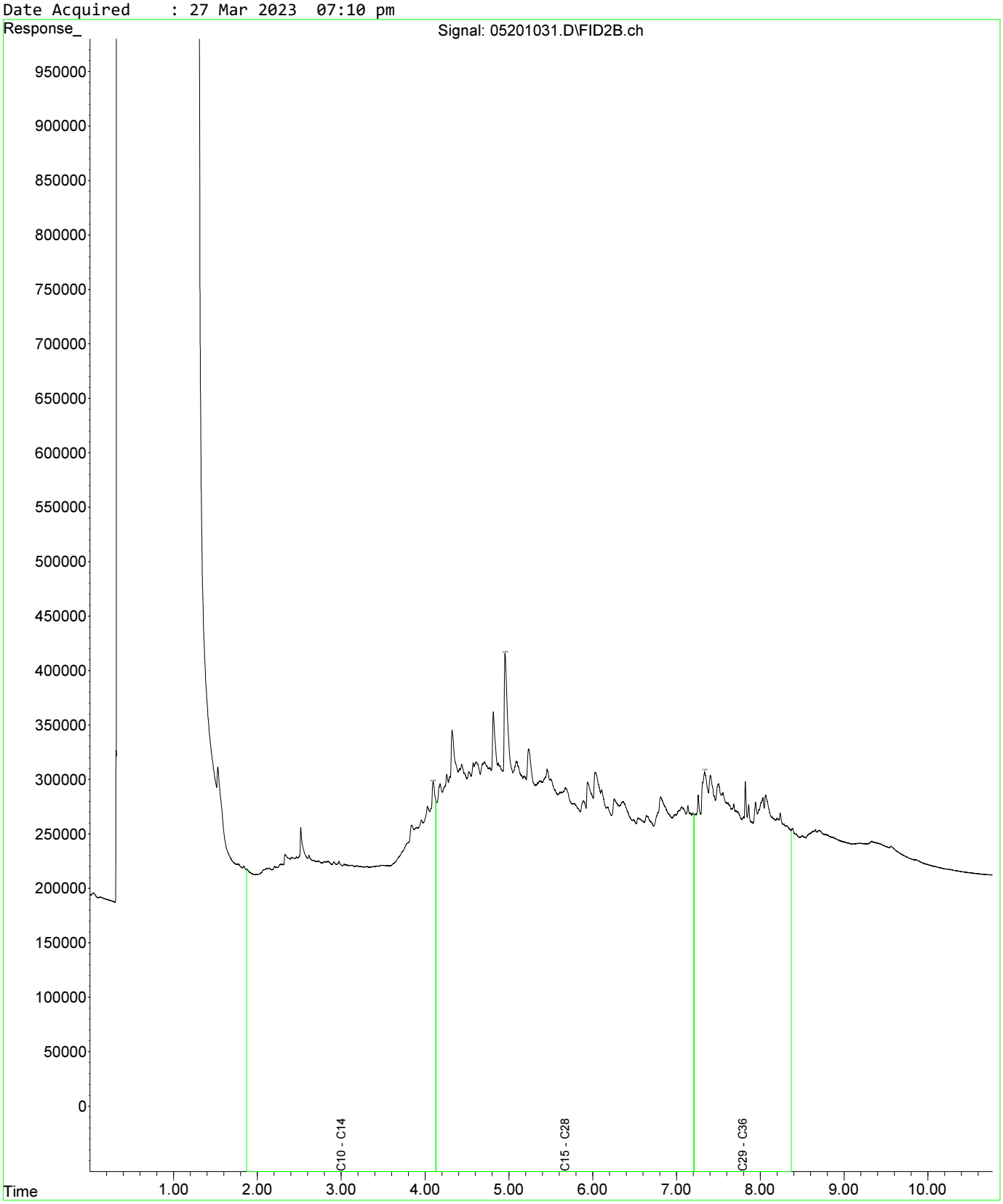

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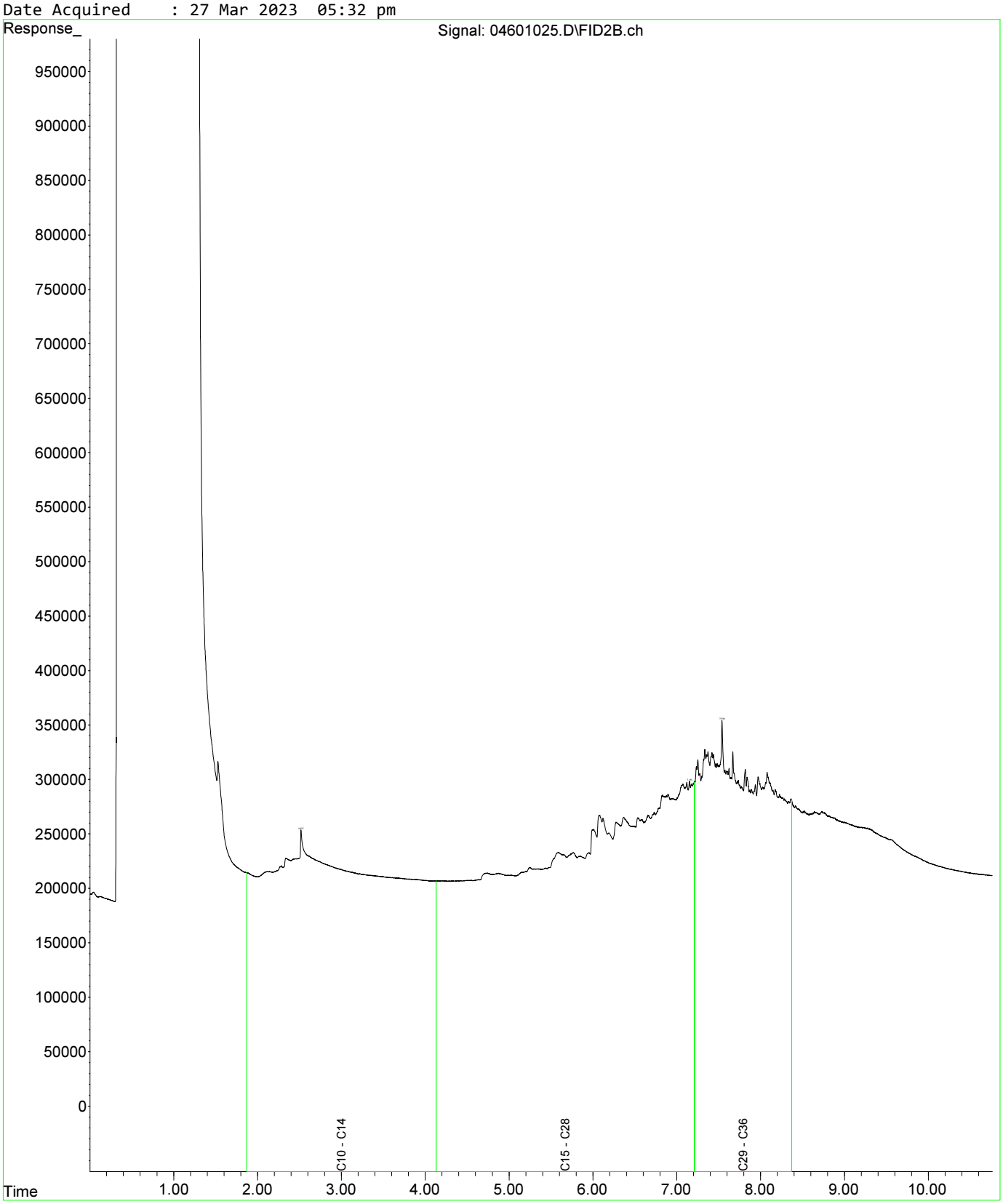

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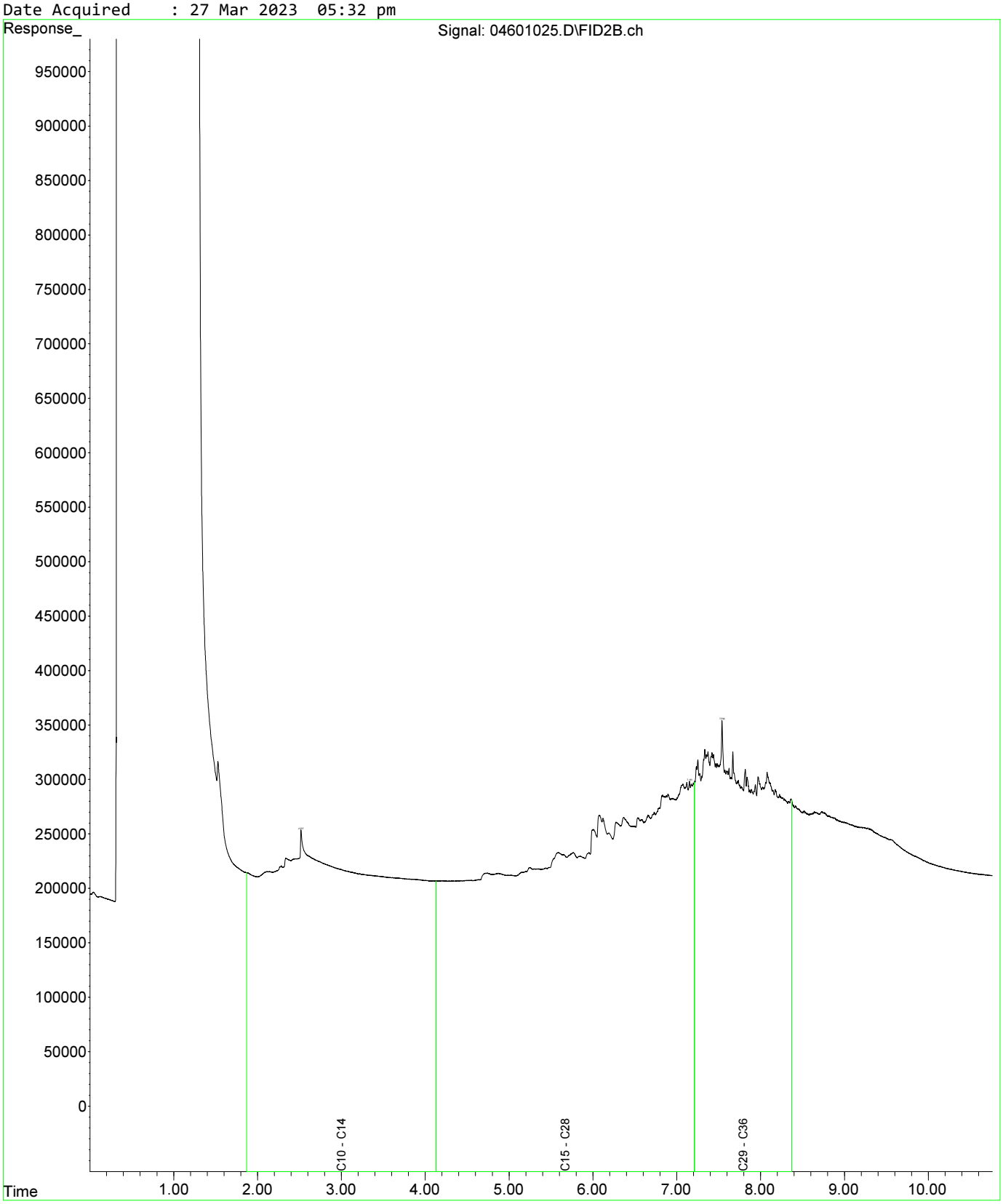

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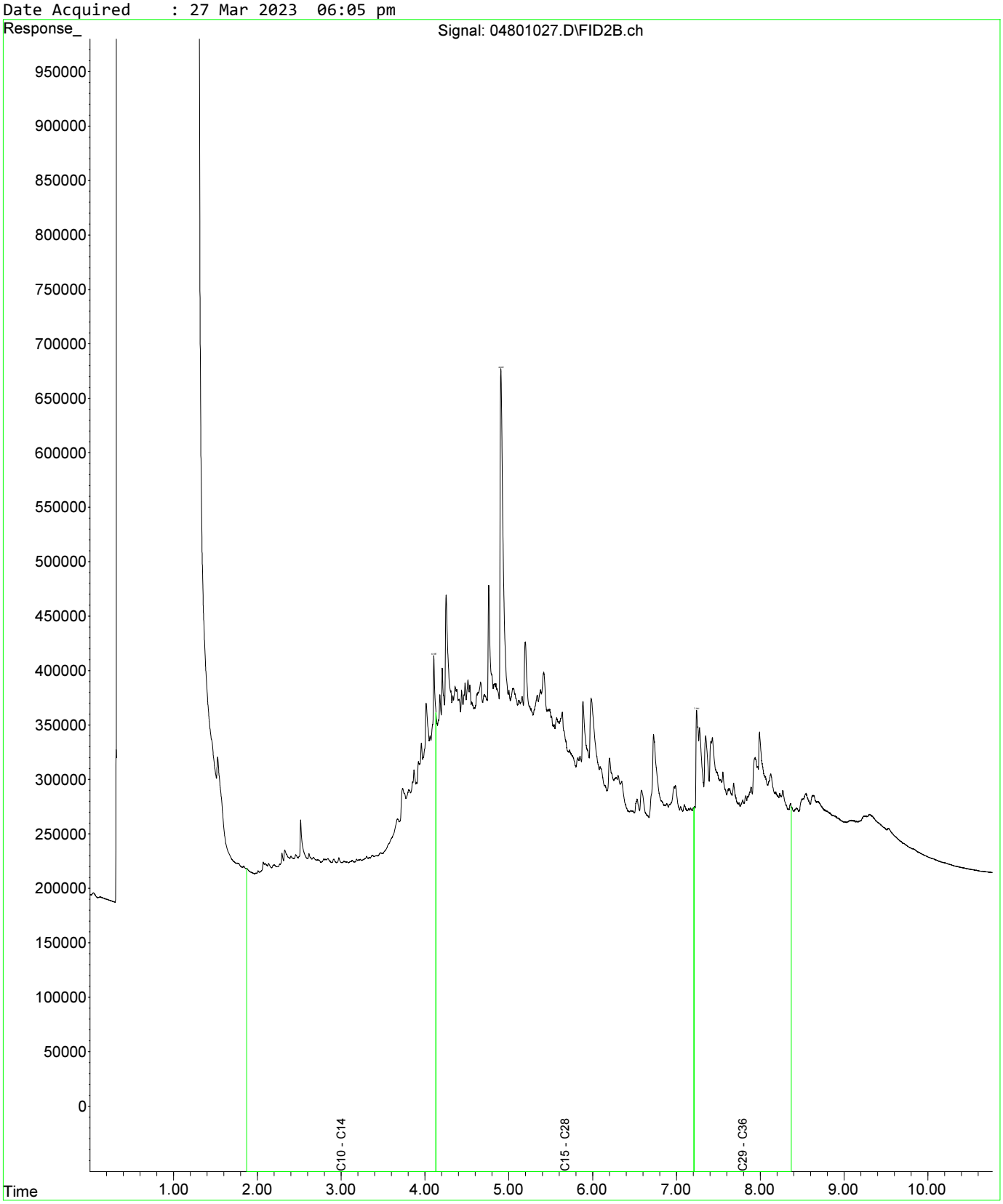

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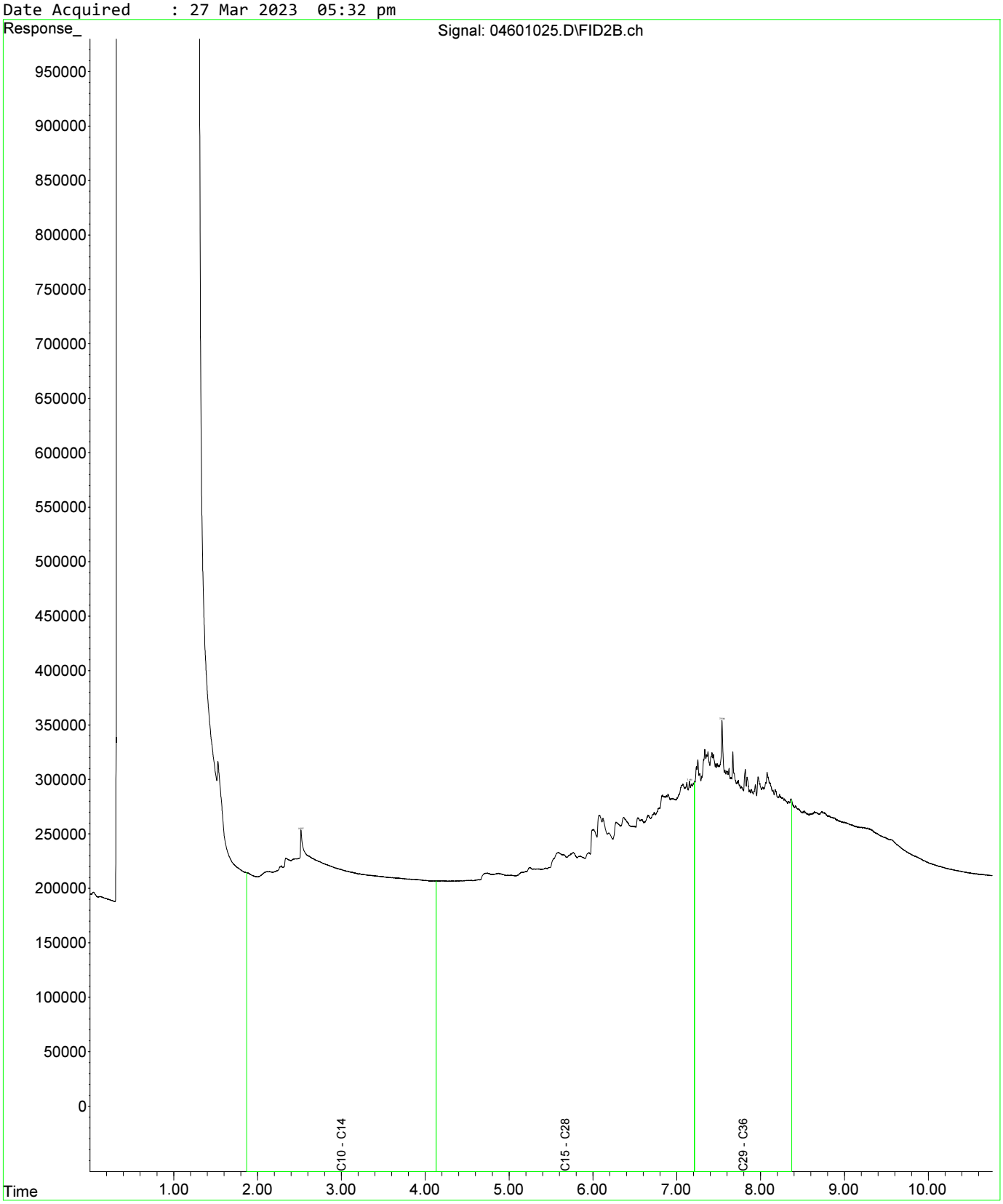

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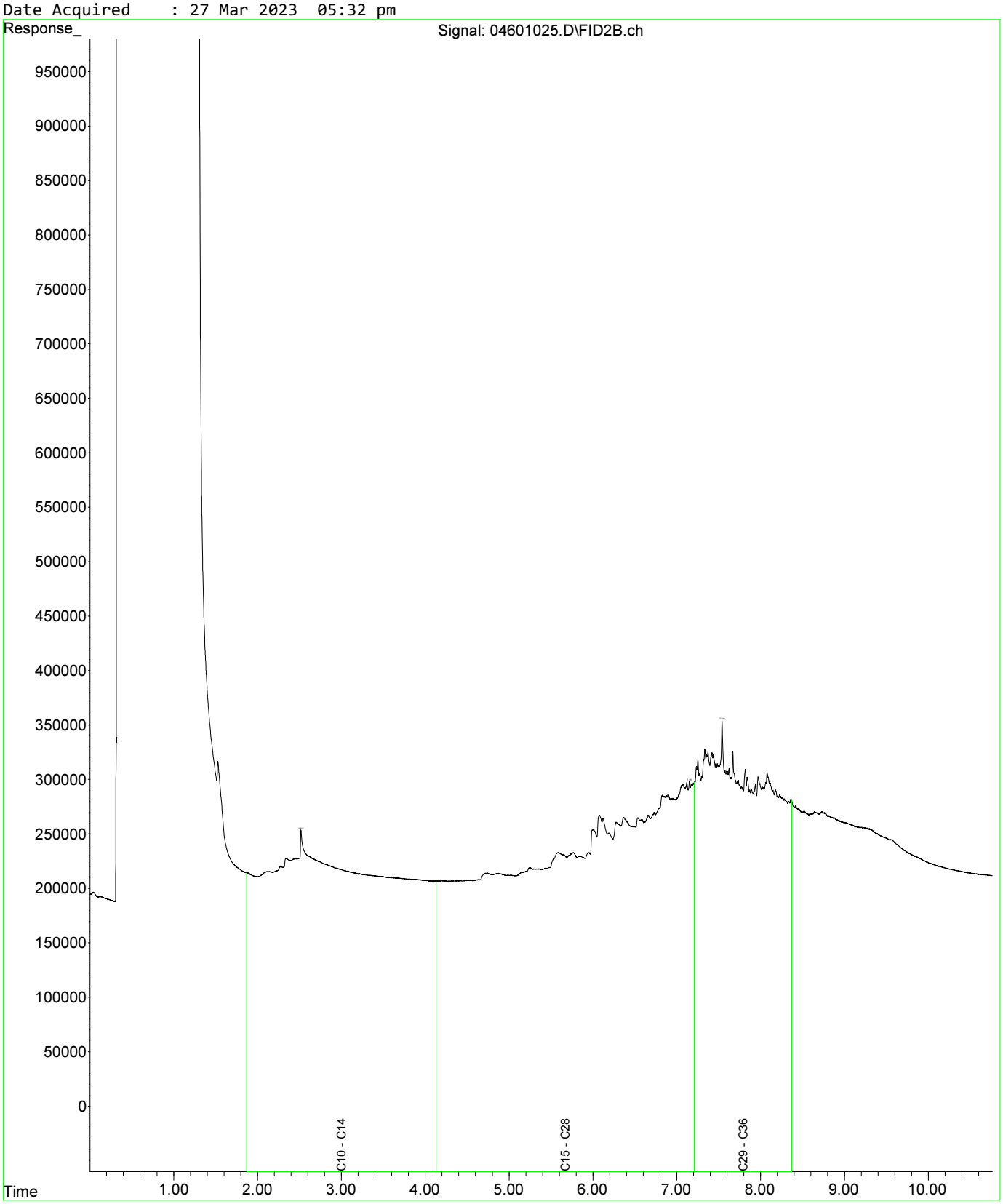

Fraction Scheme : Standard
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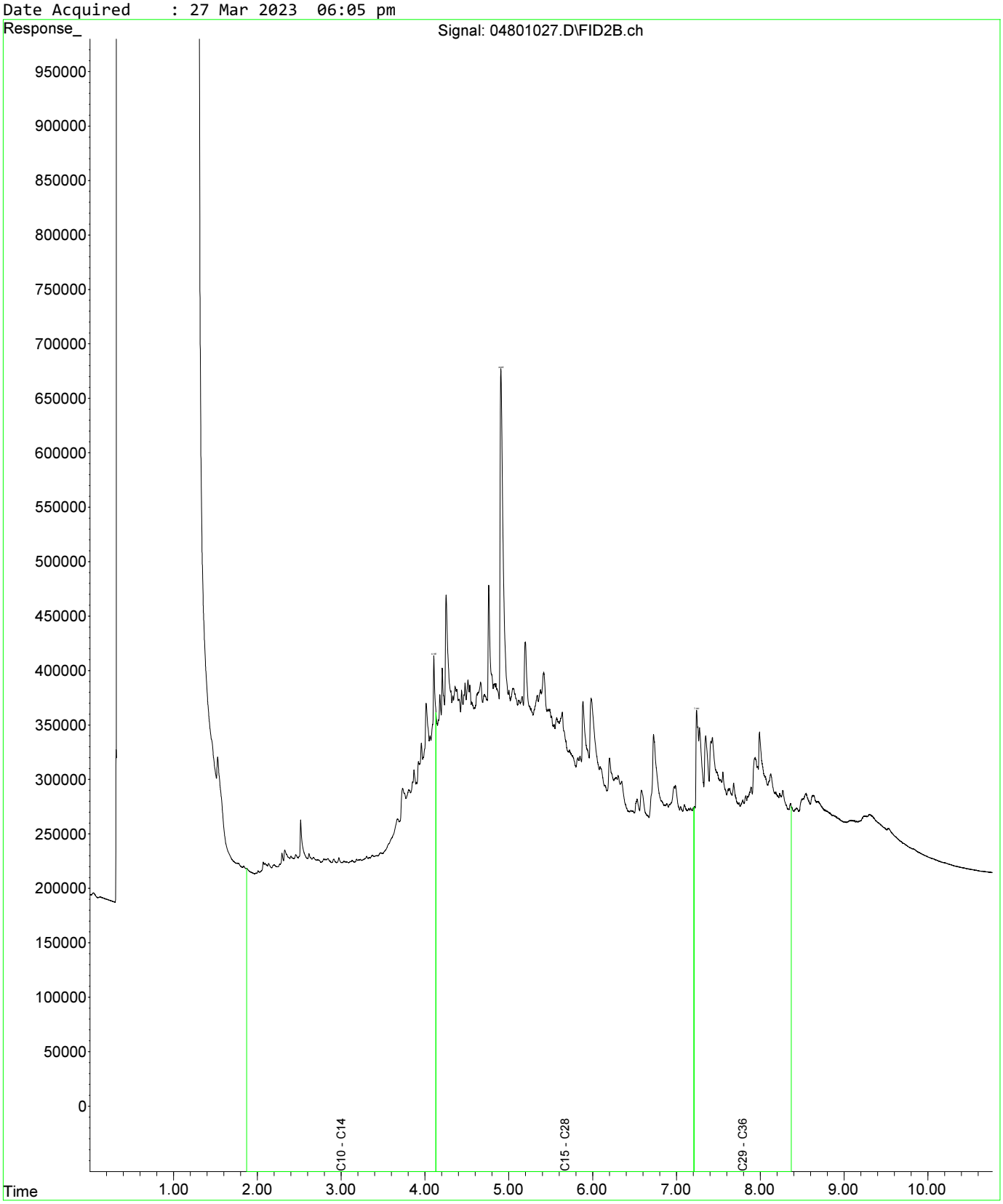

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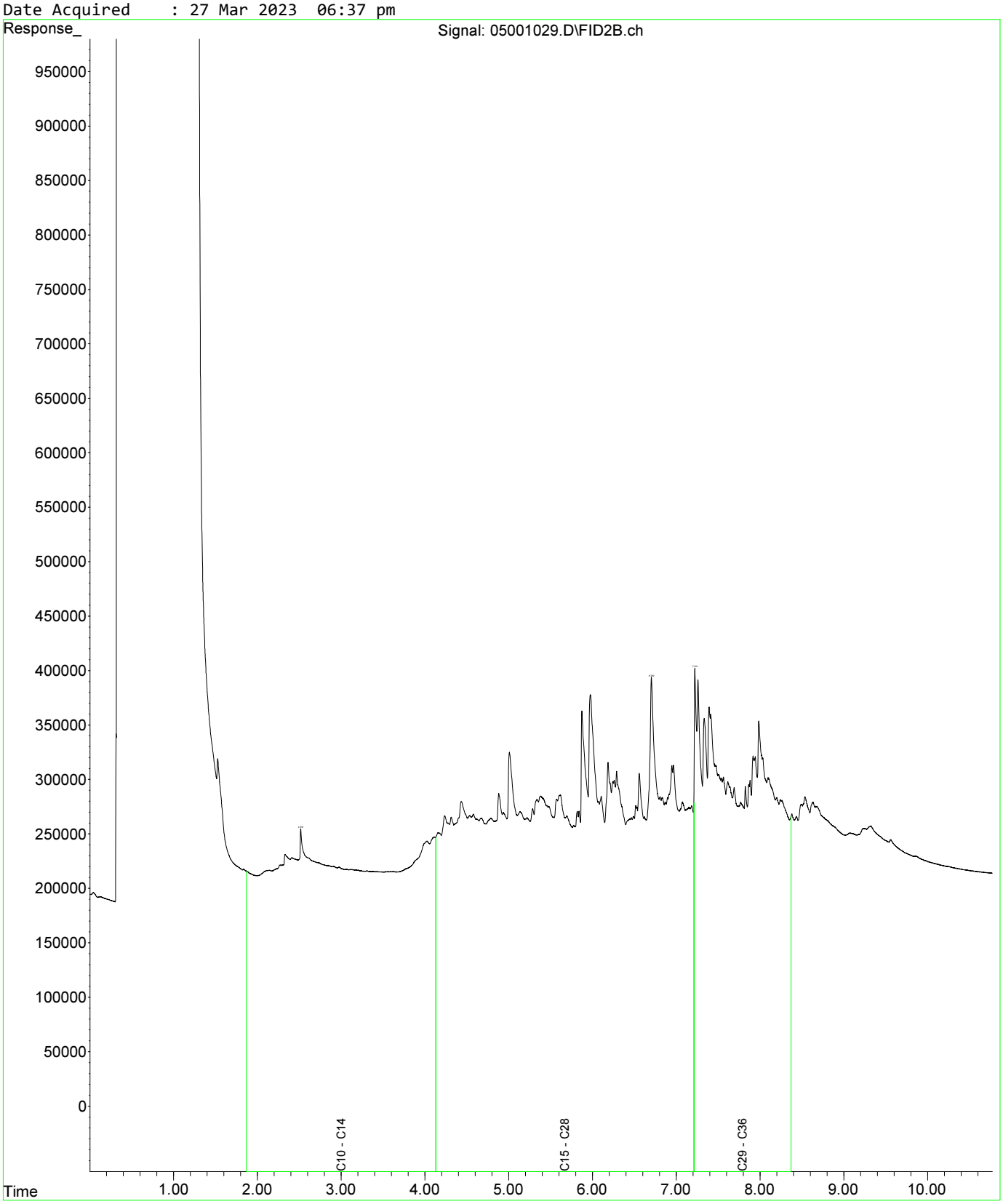

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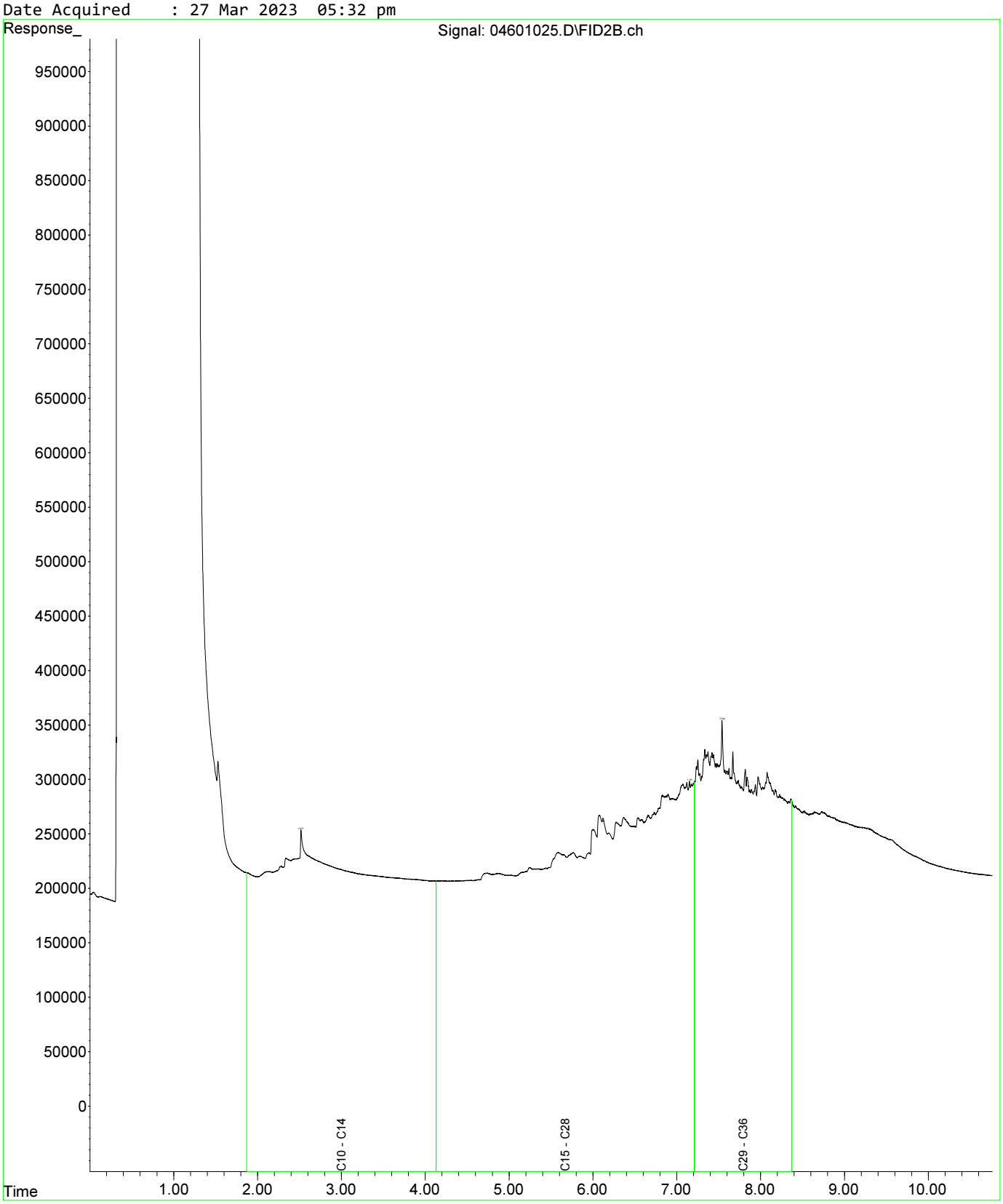

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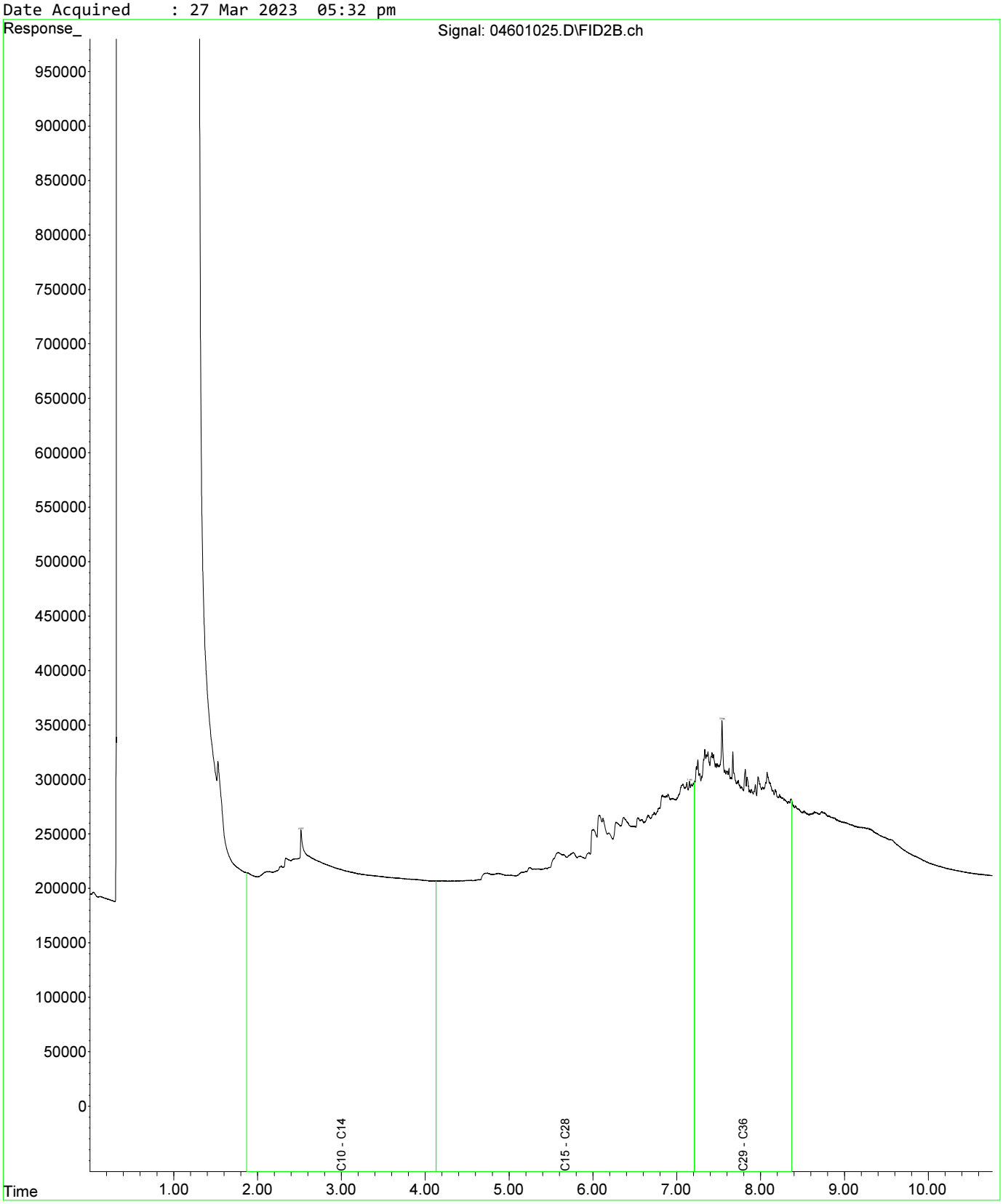

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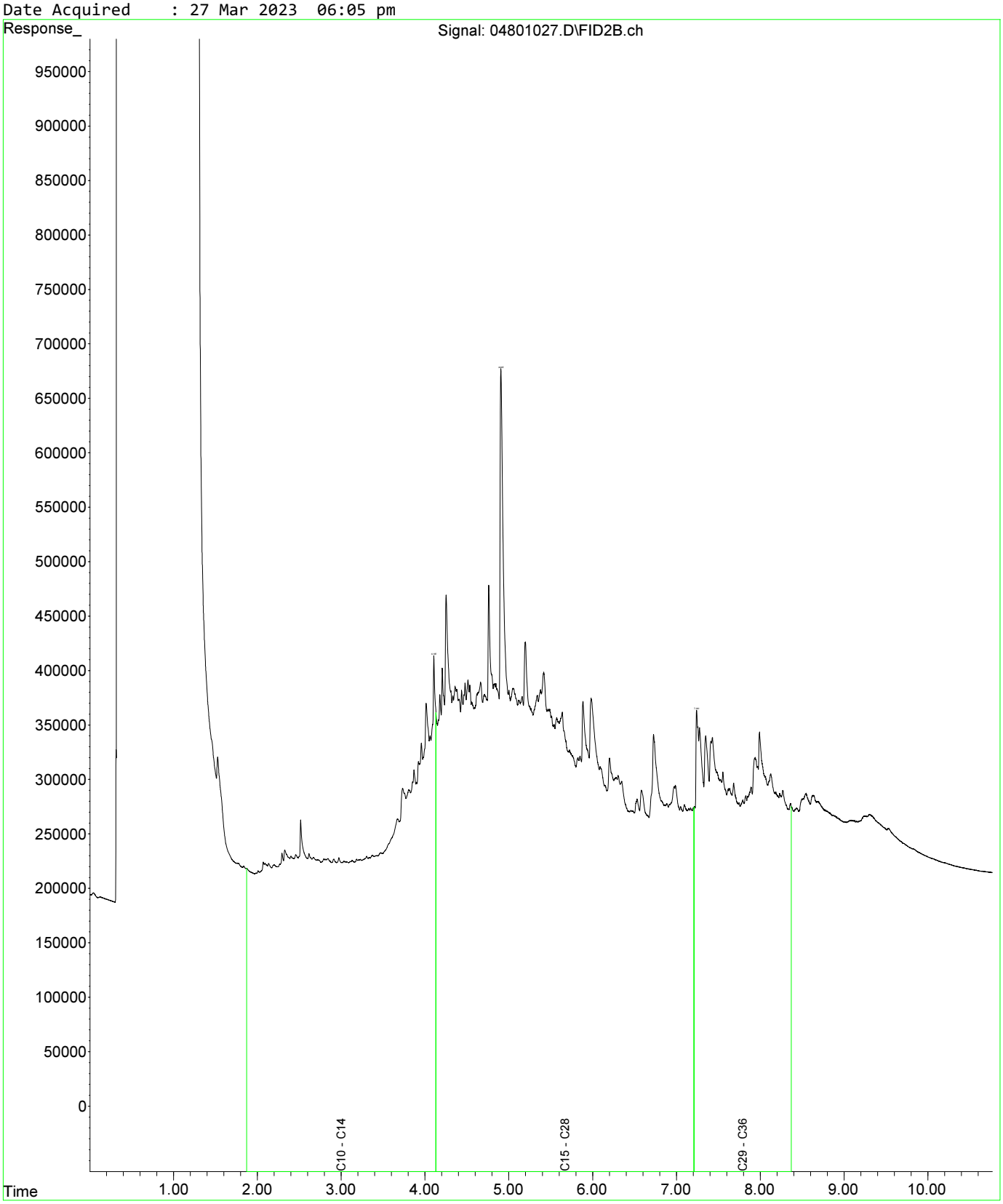

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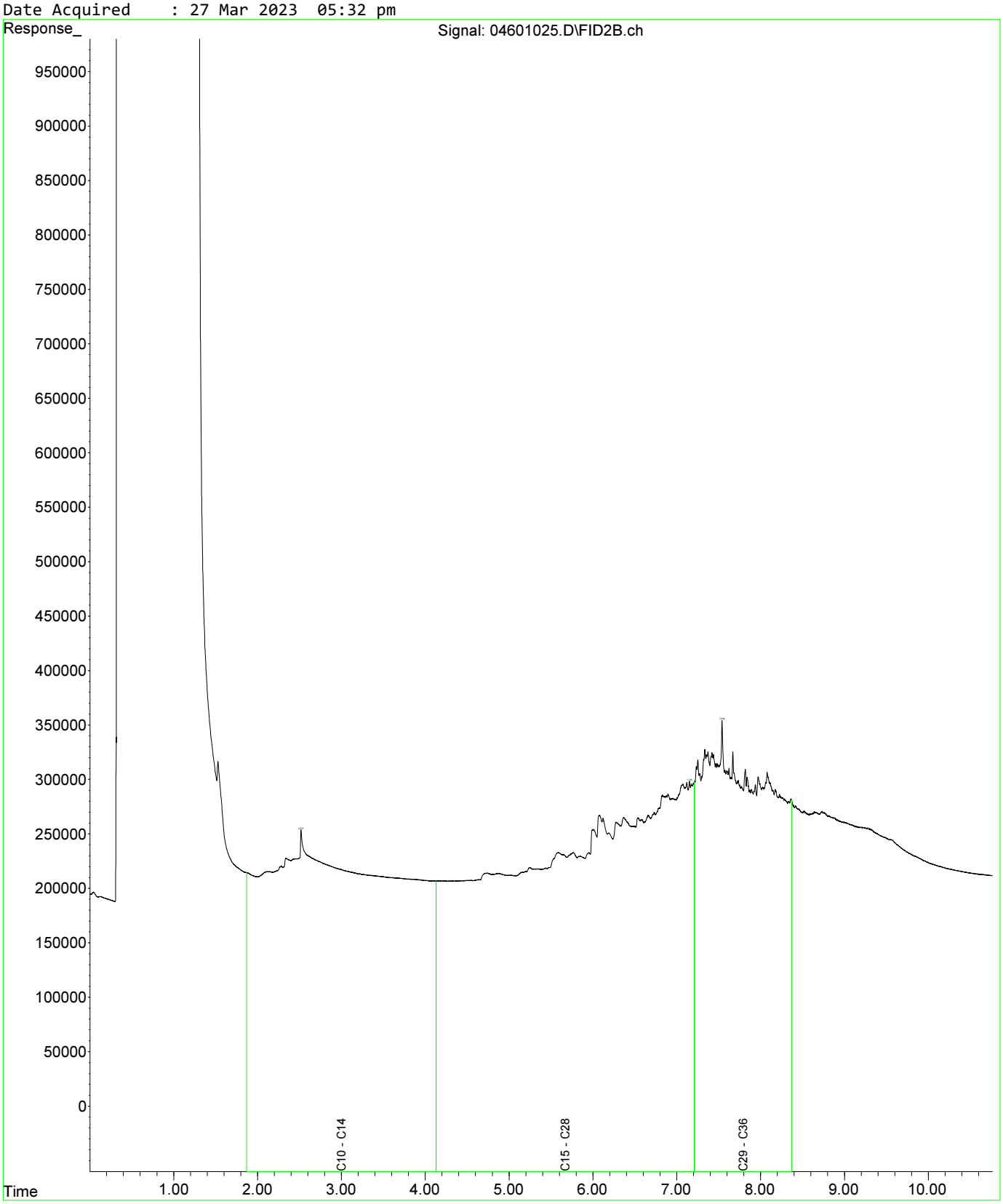

Fraction Scheme : Standard
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Laboratory Number: EM2305209-013
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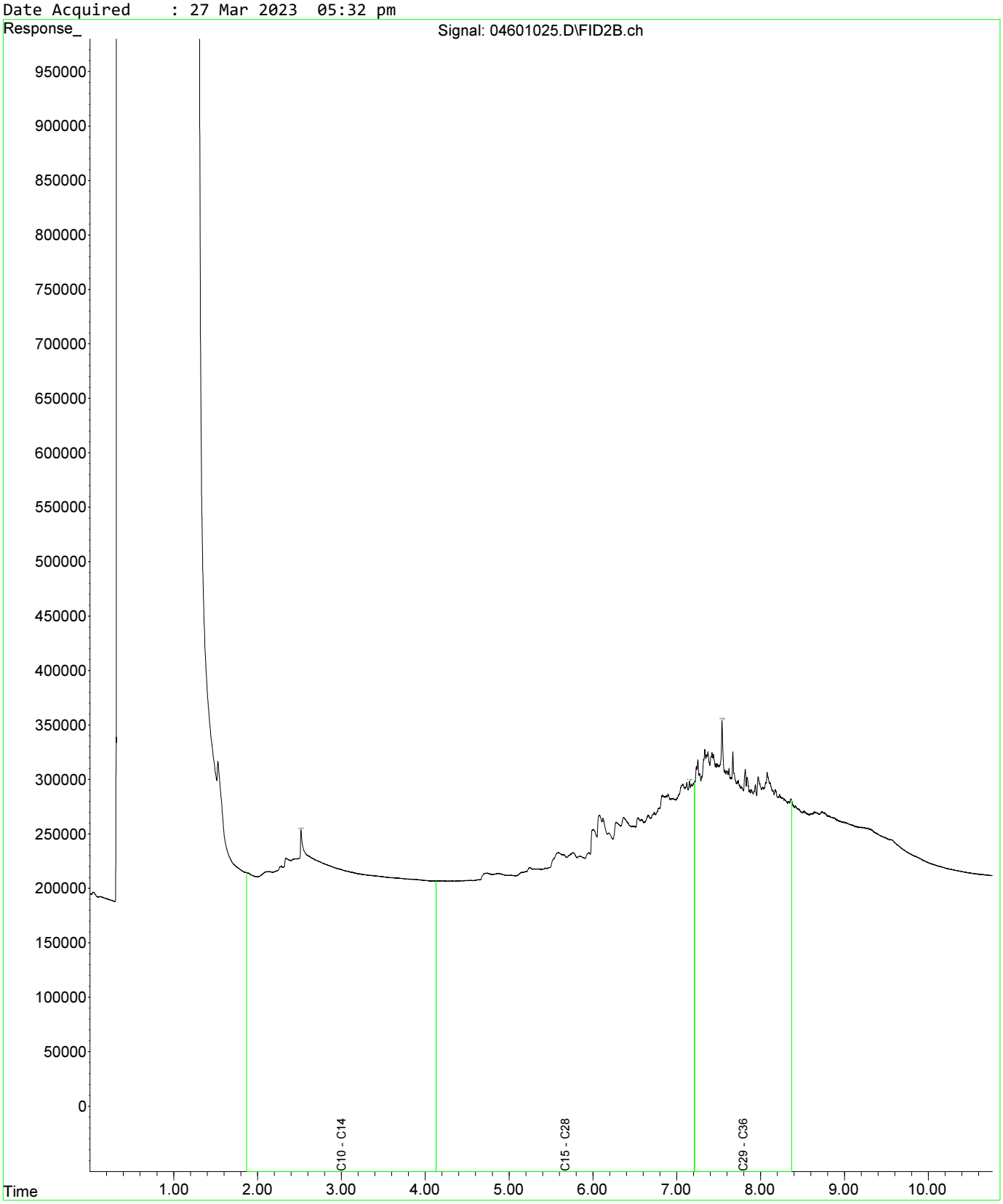
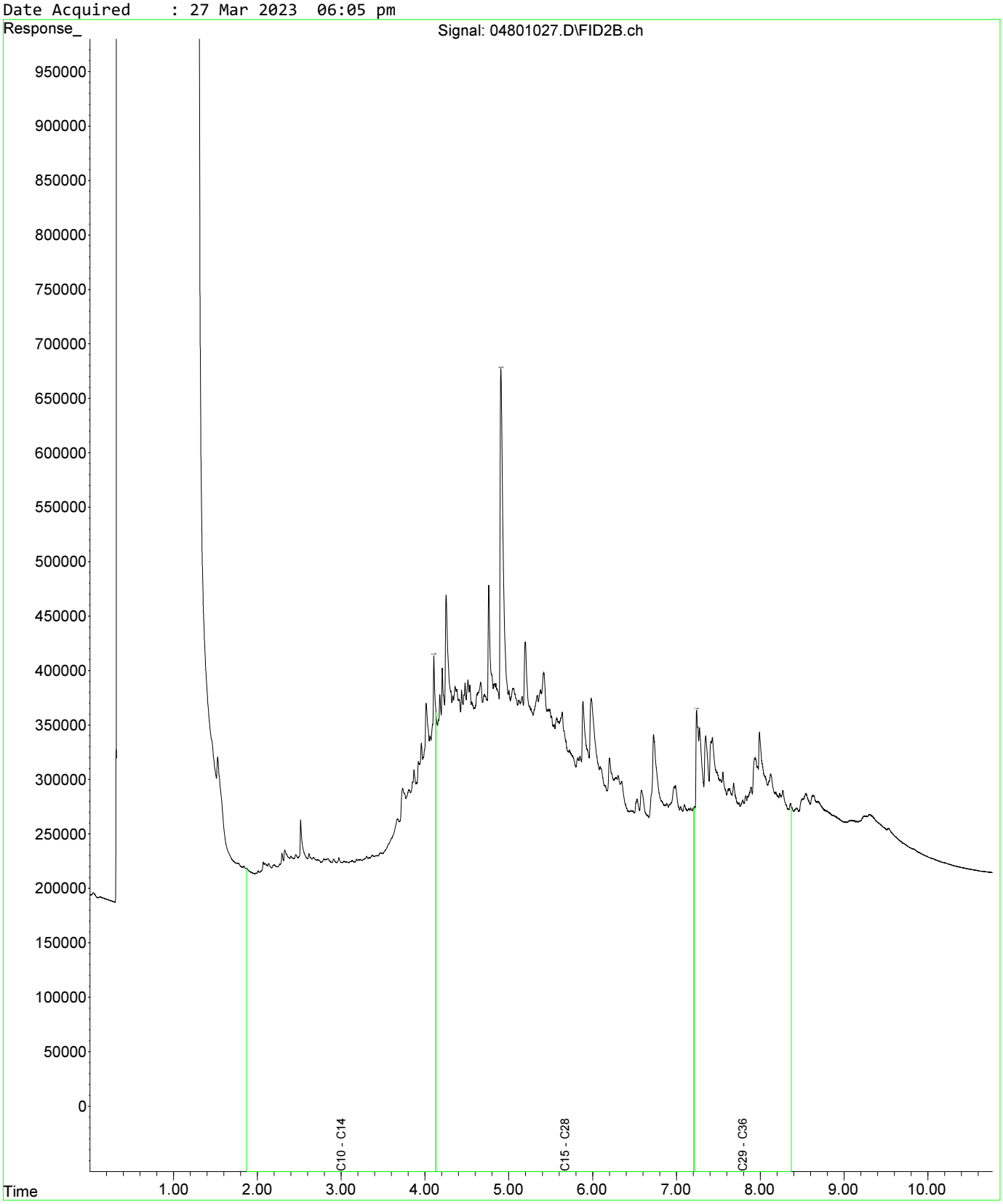
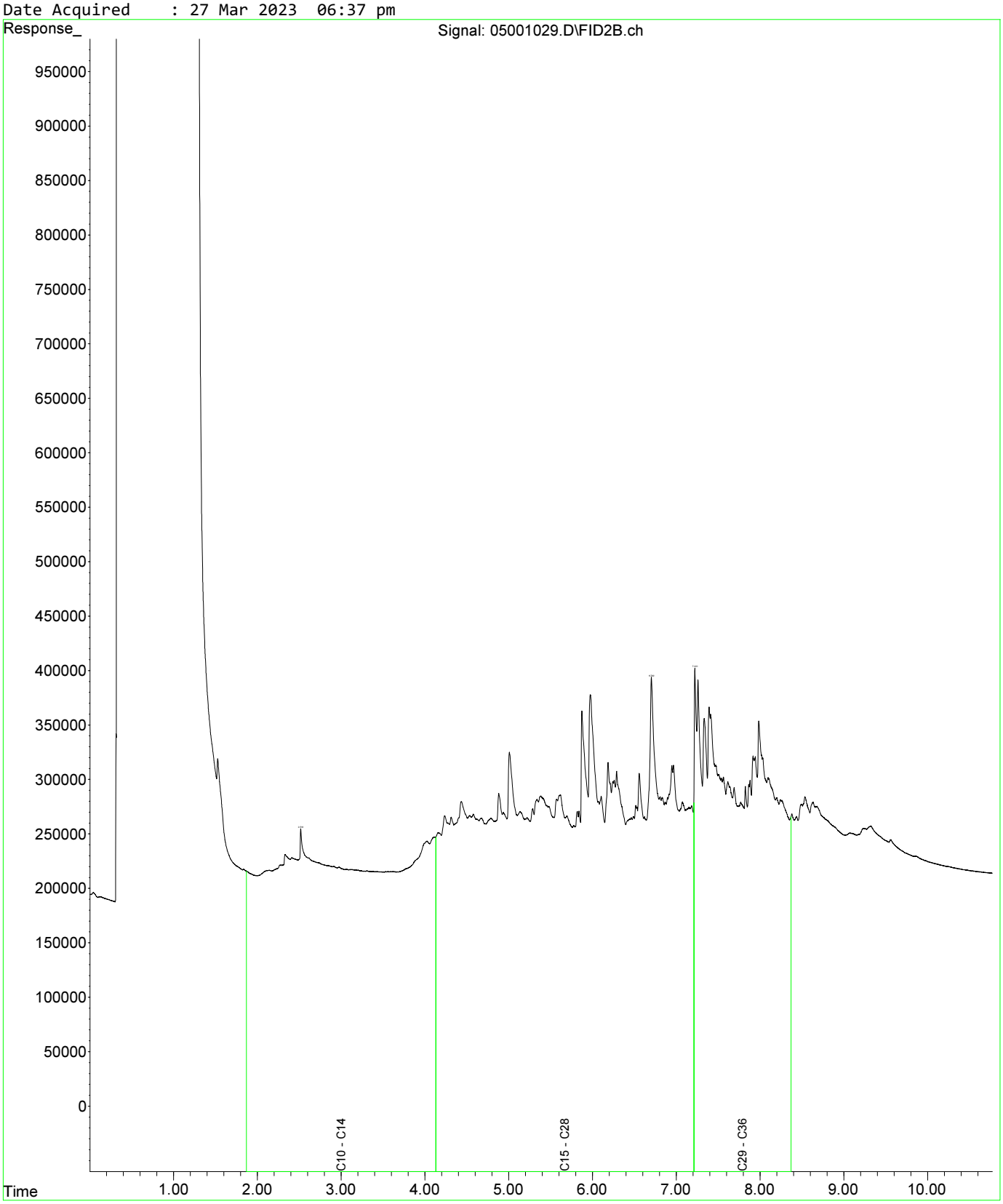
Date Acquired : 27 Mar 2023 05:32 pm



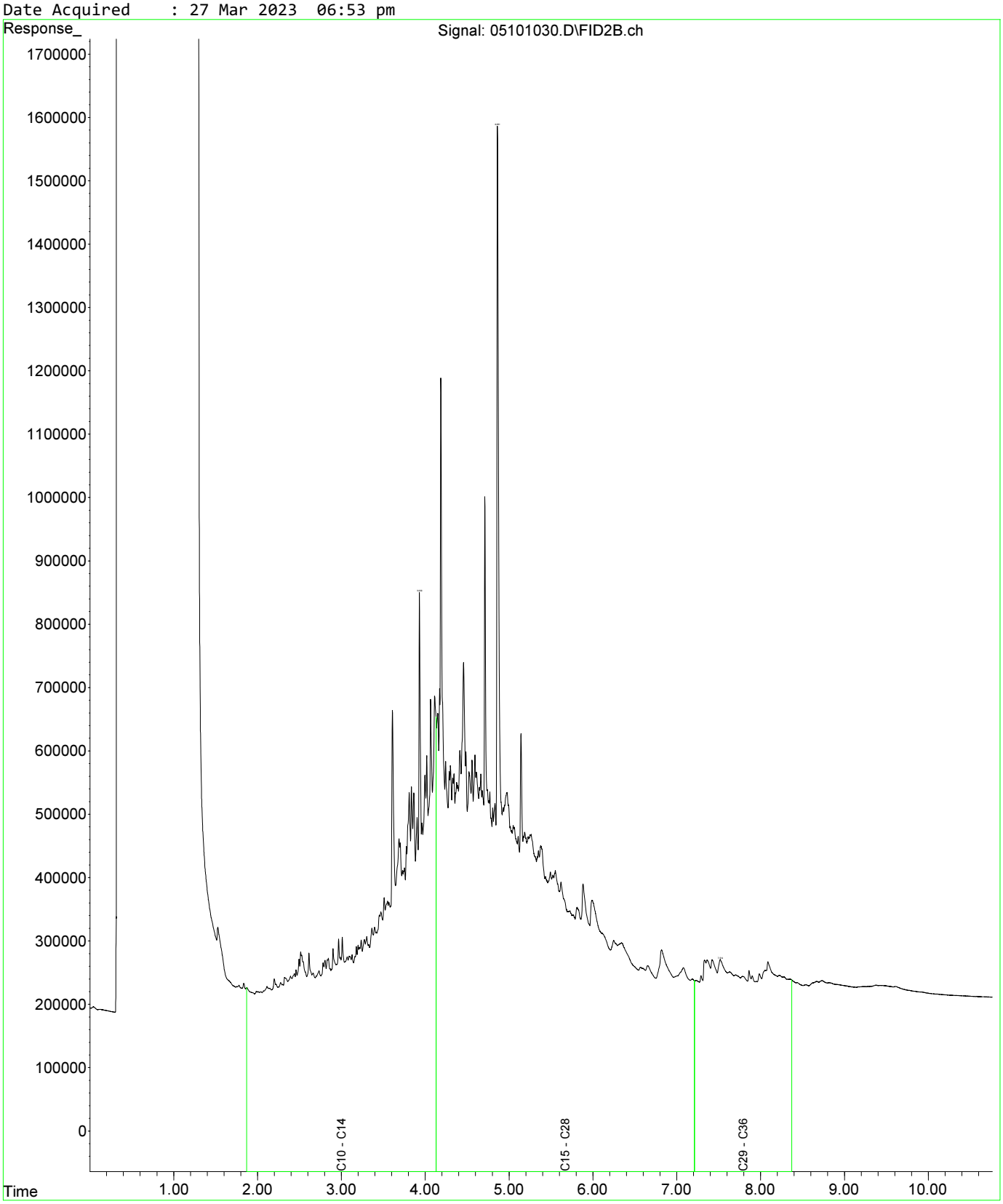
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



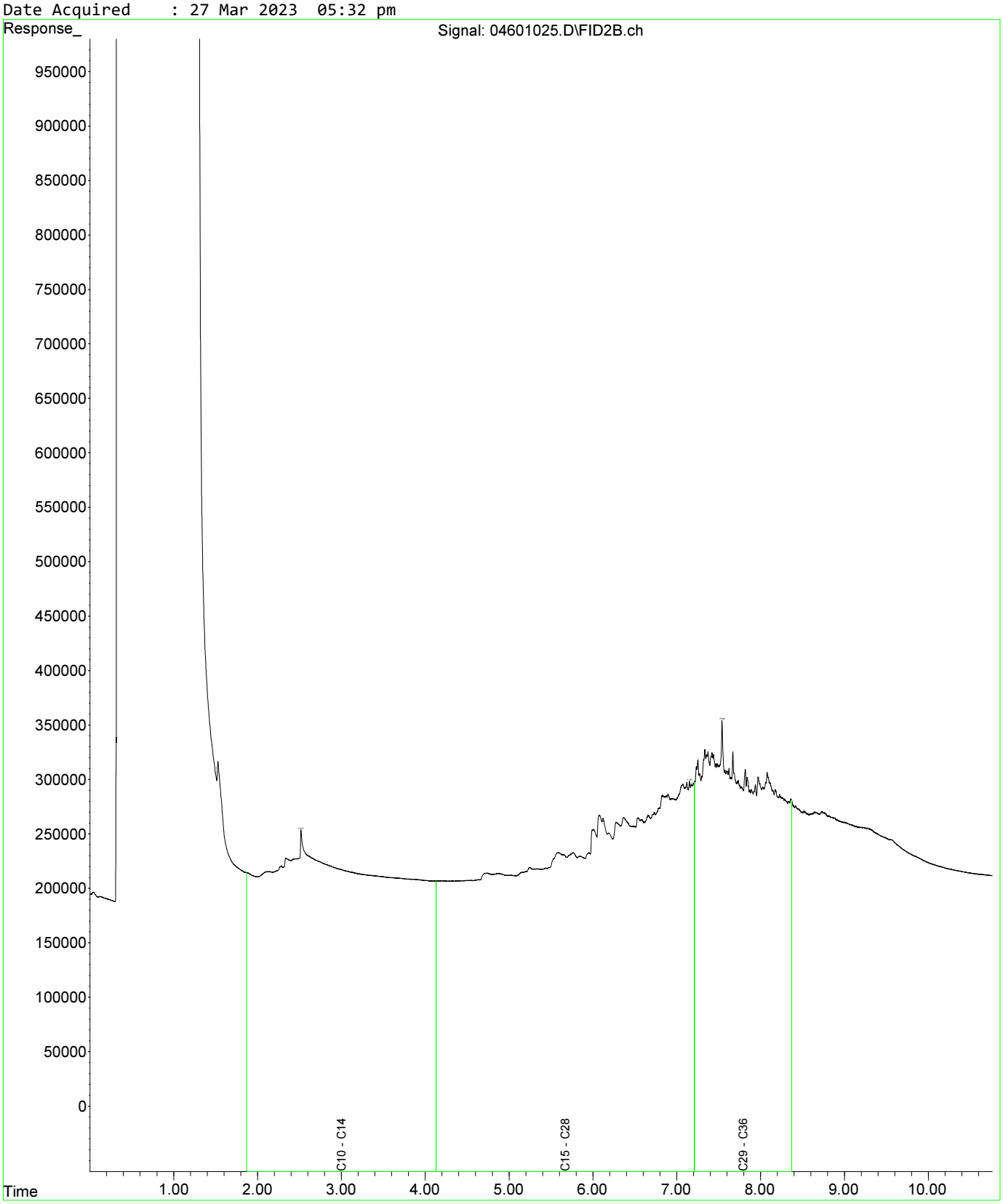
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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Laboratory Number: EM2305209-013
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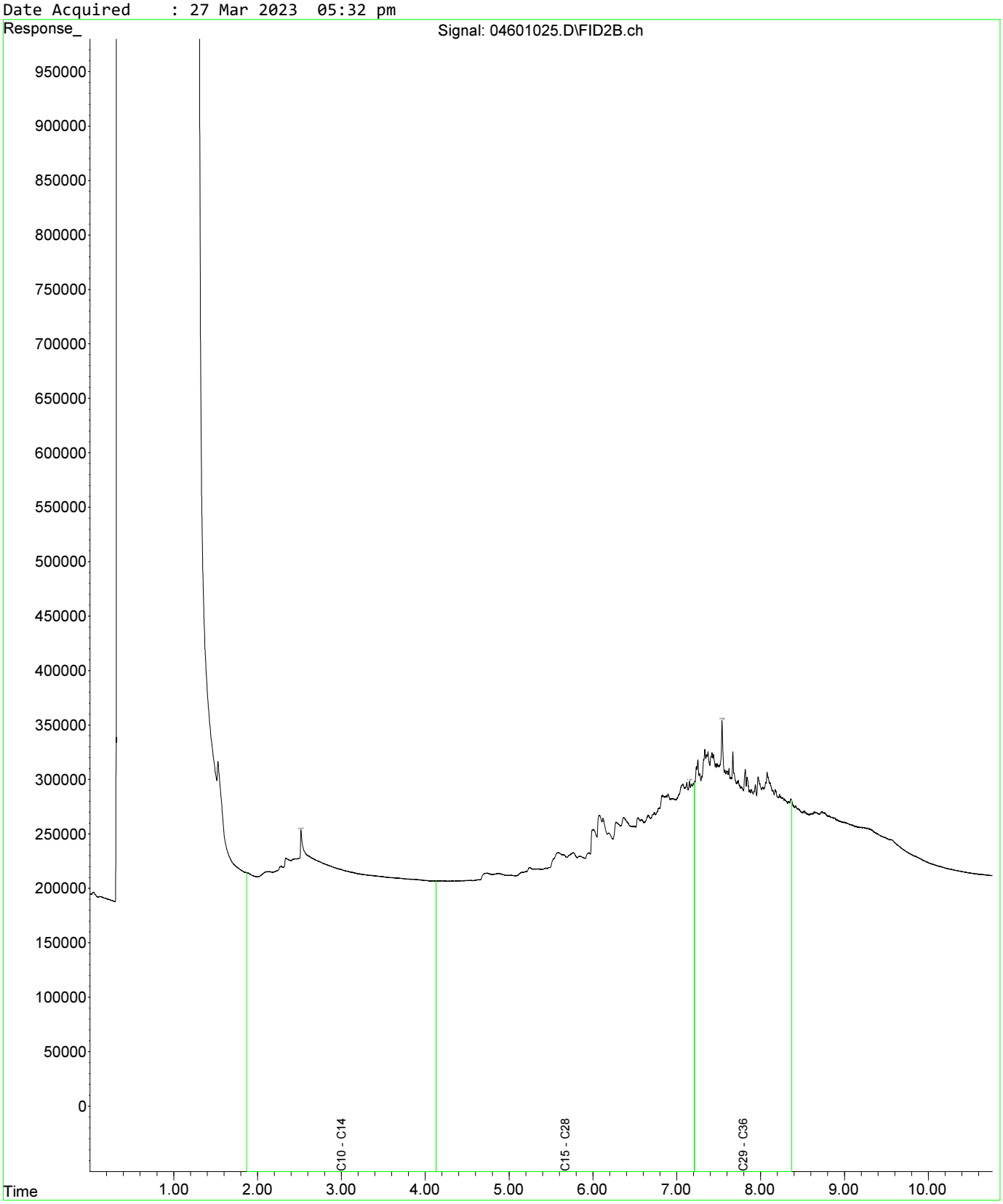

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Data File : 04801027.D
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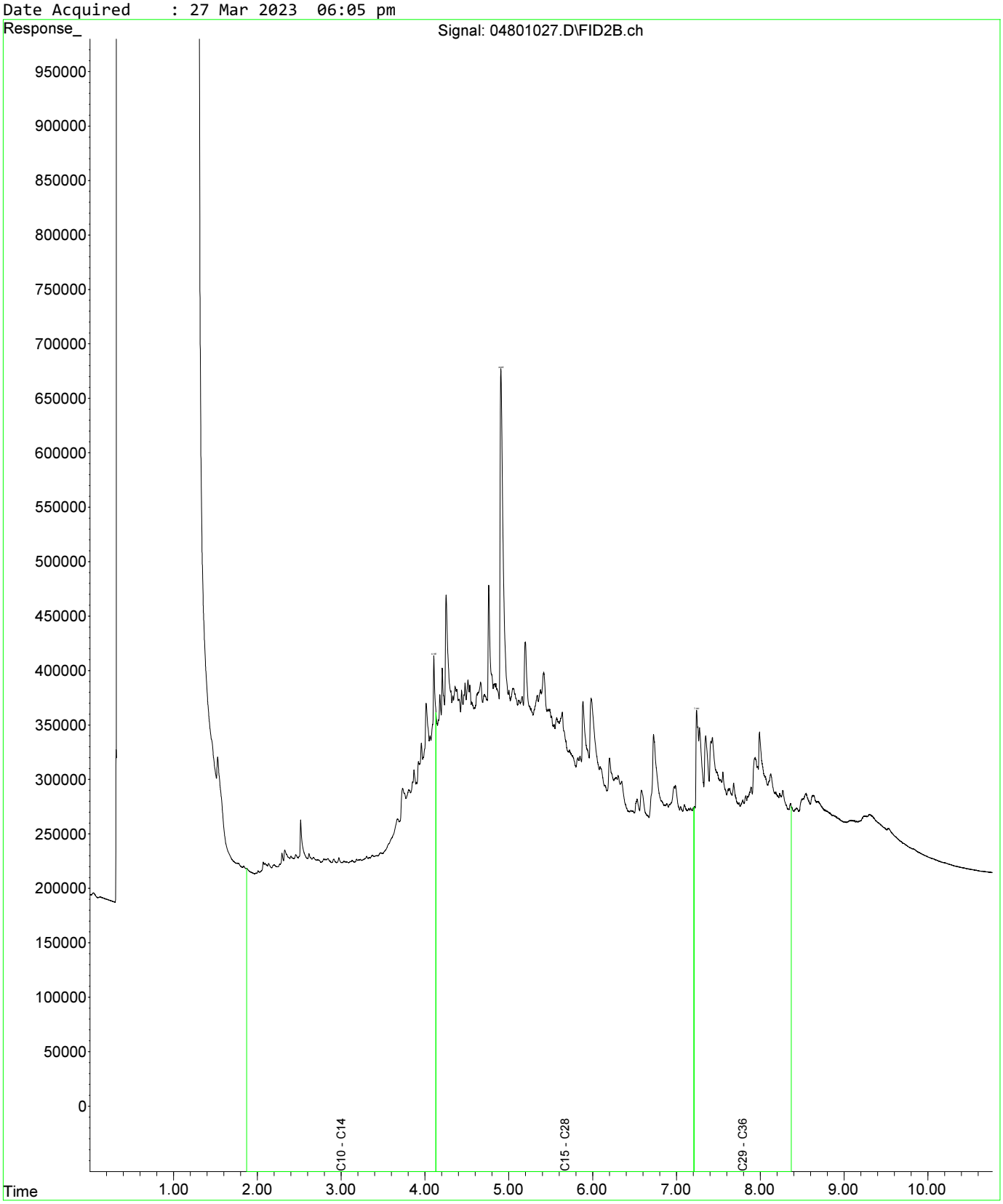

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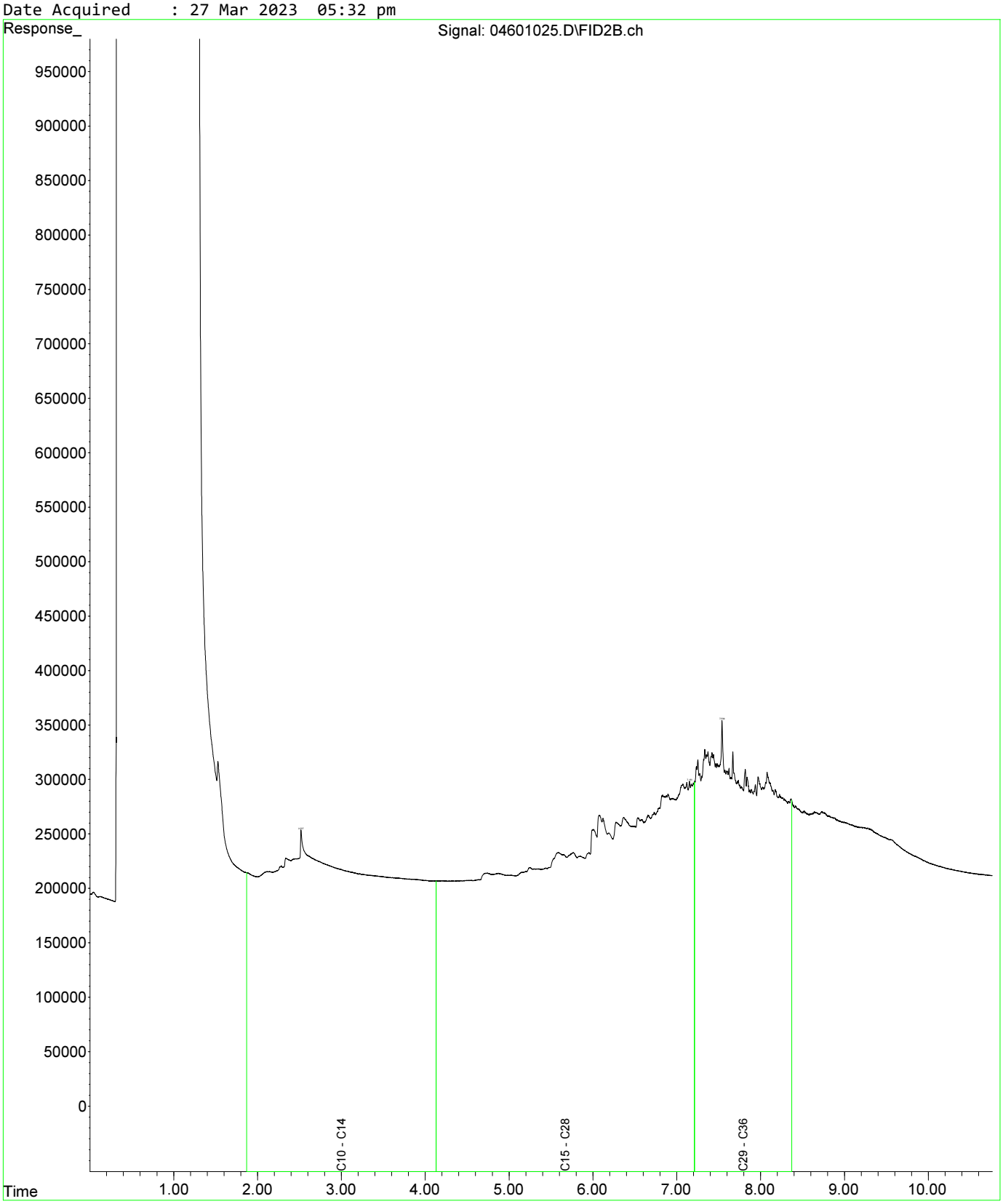

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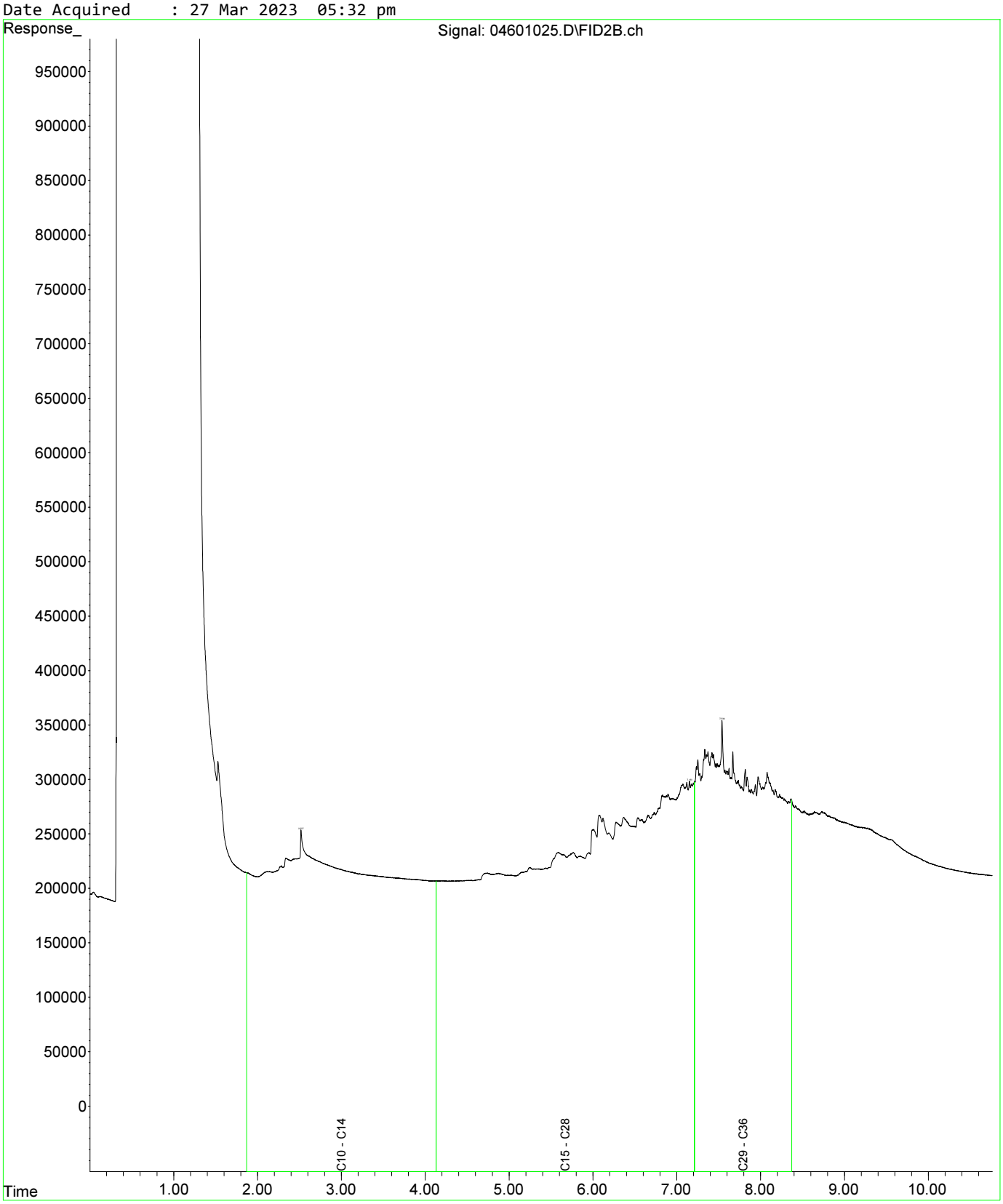

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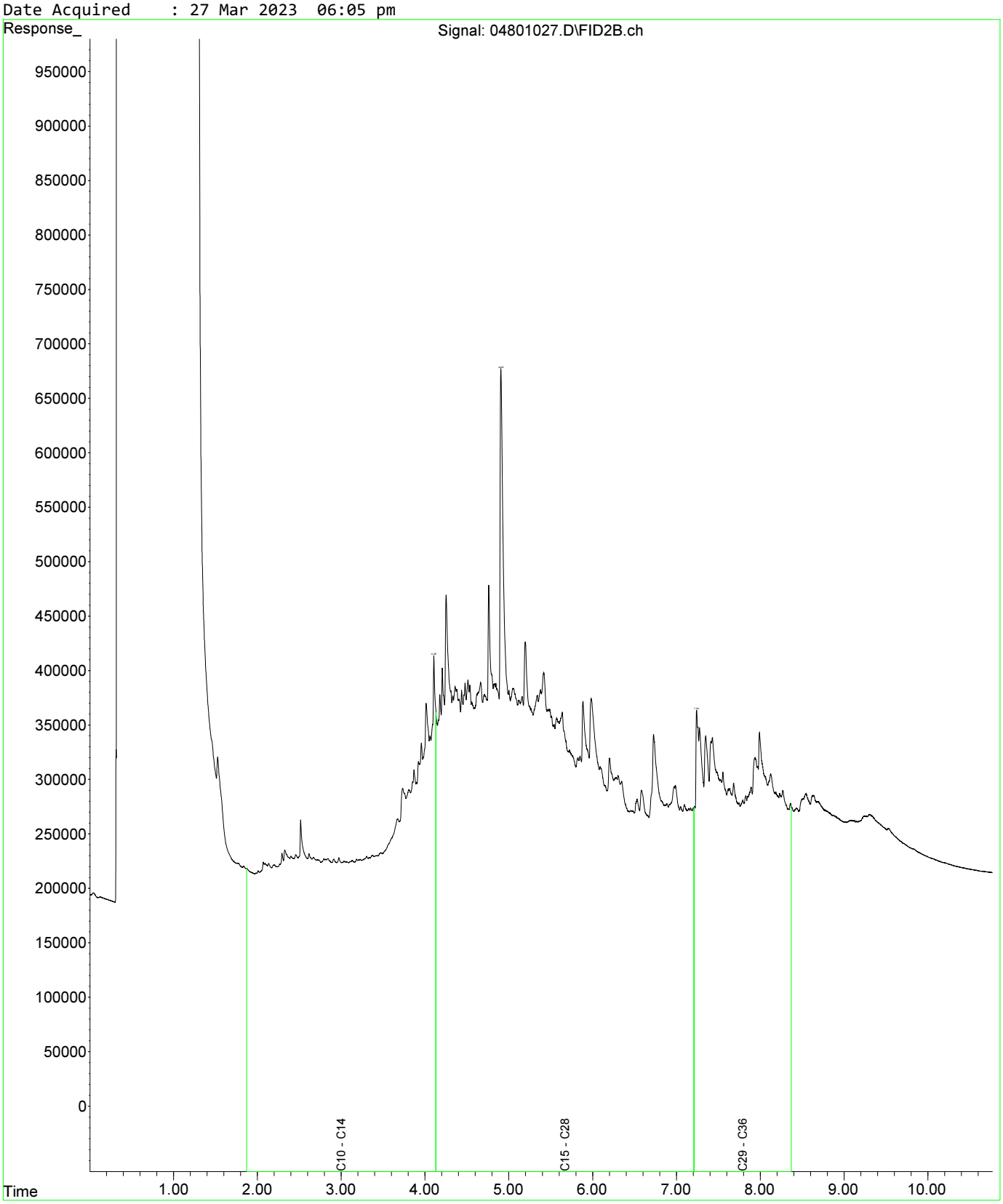
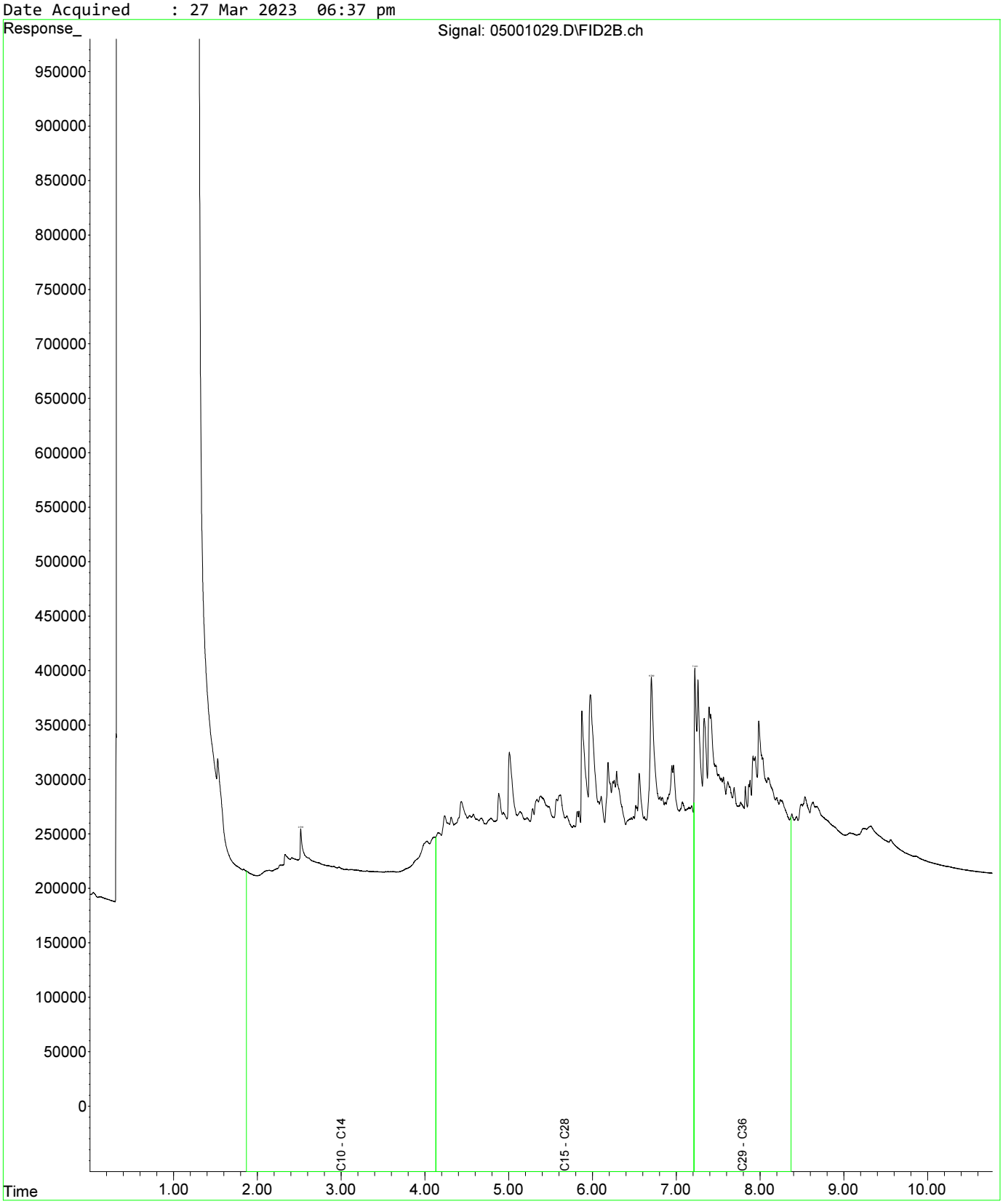


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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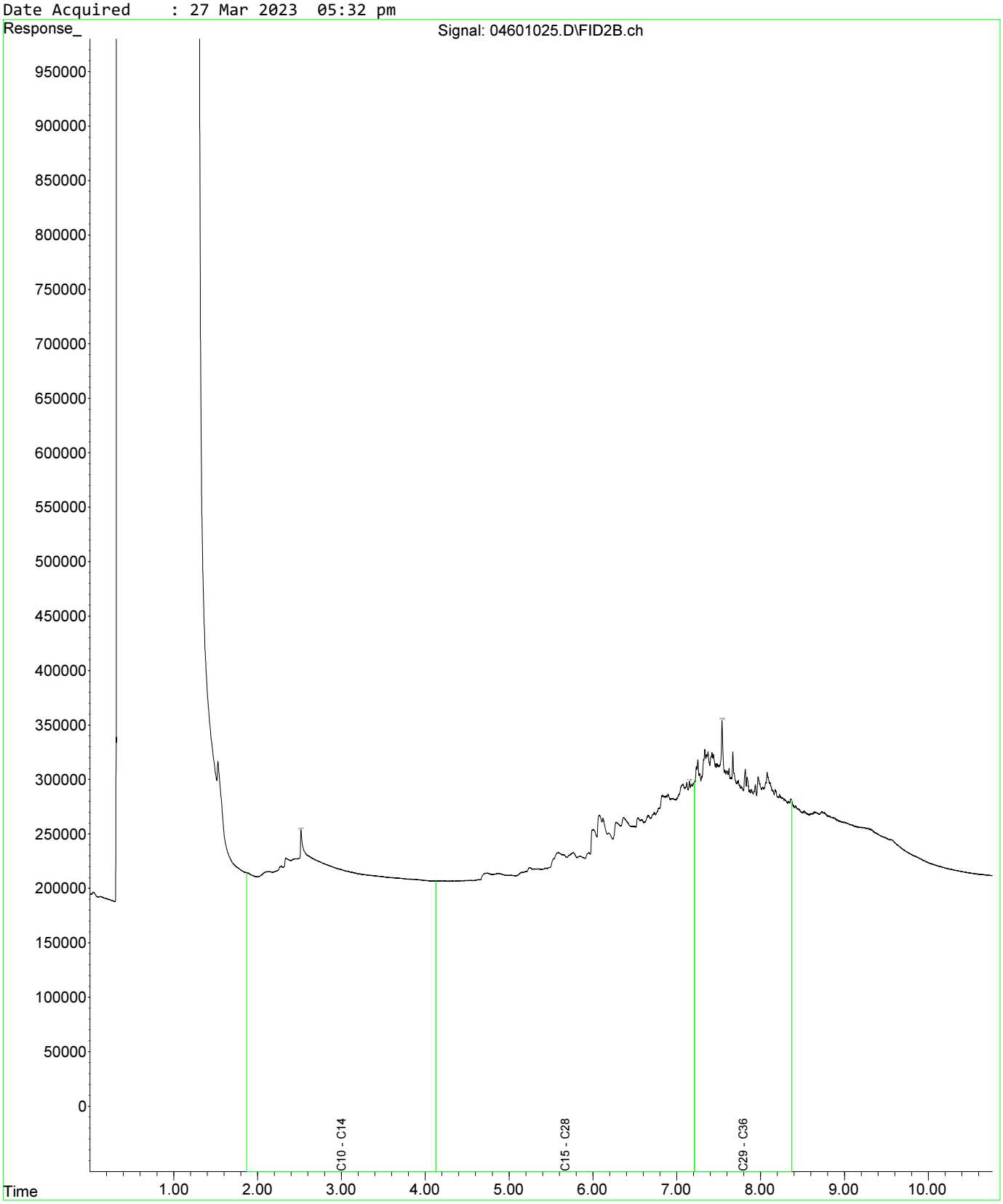

Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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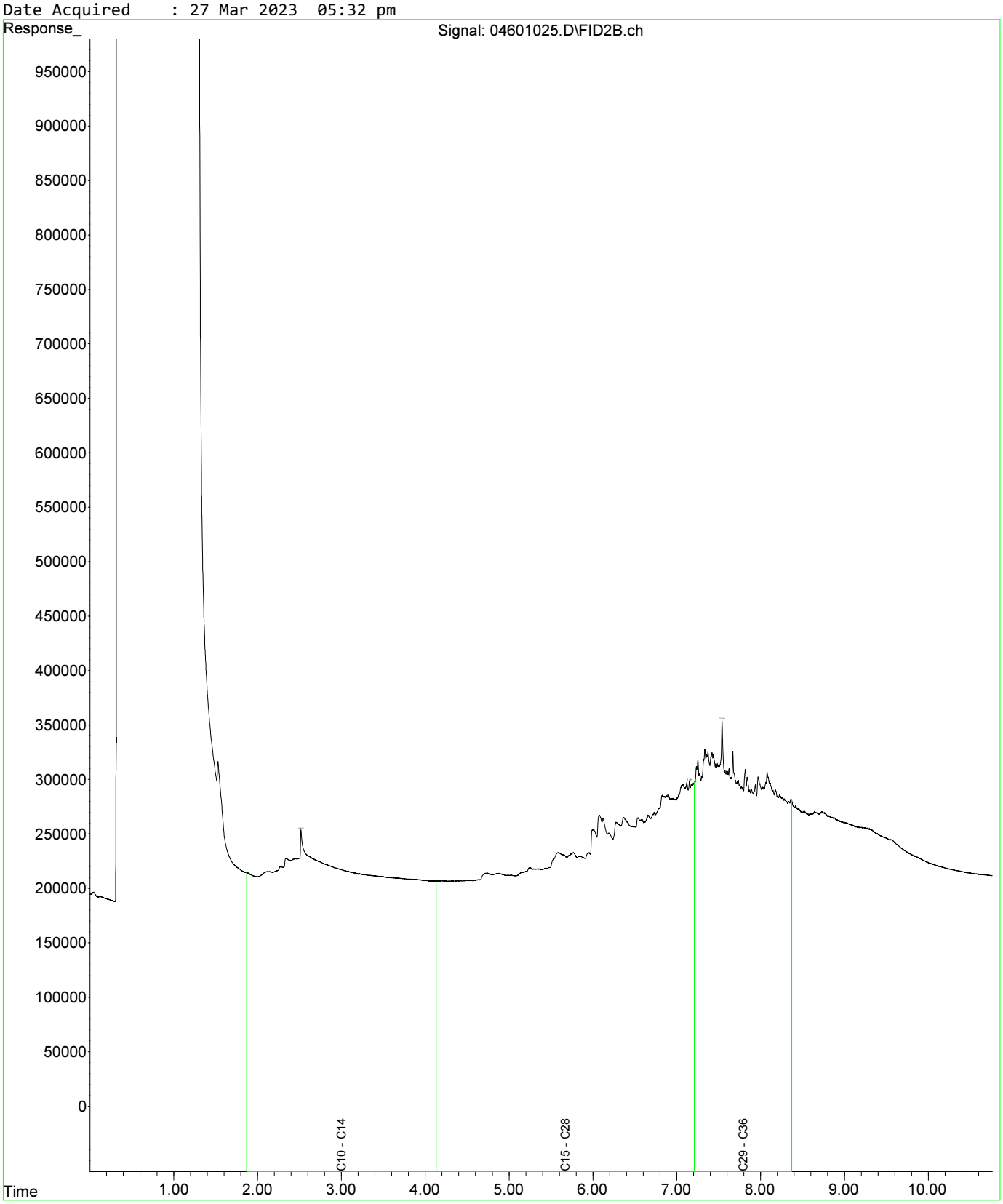

Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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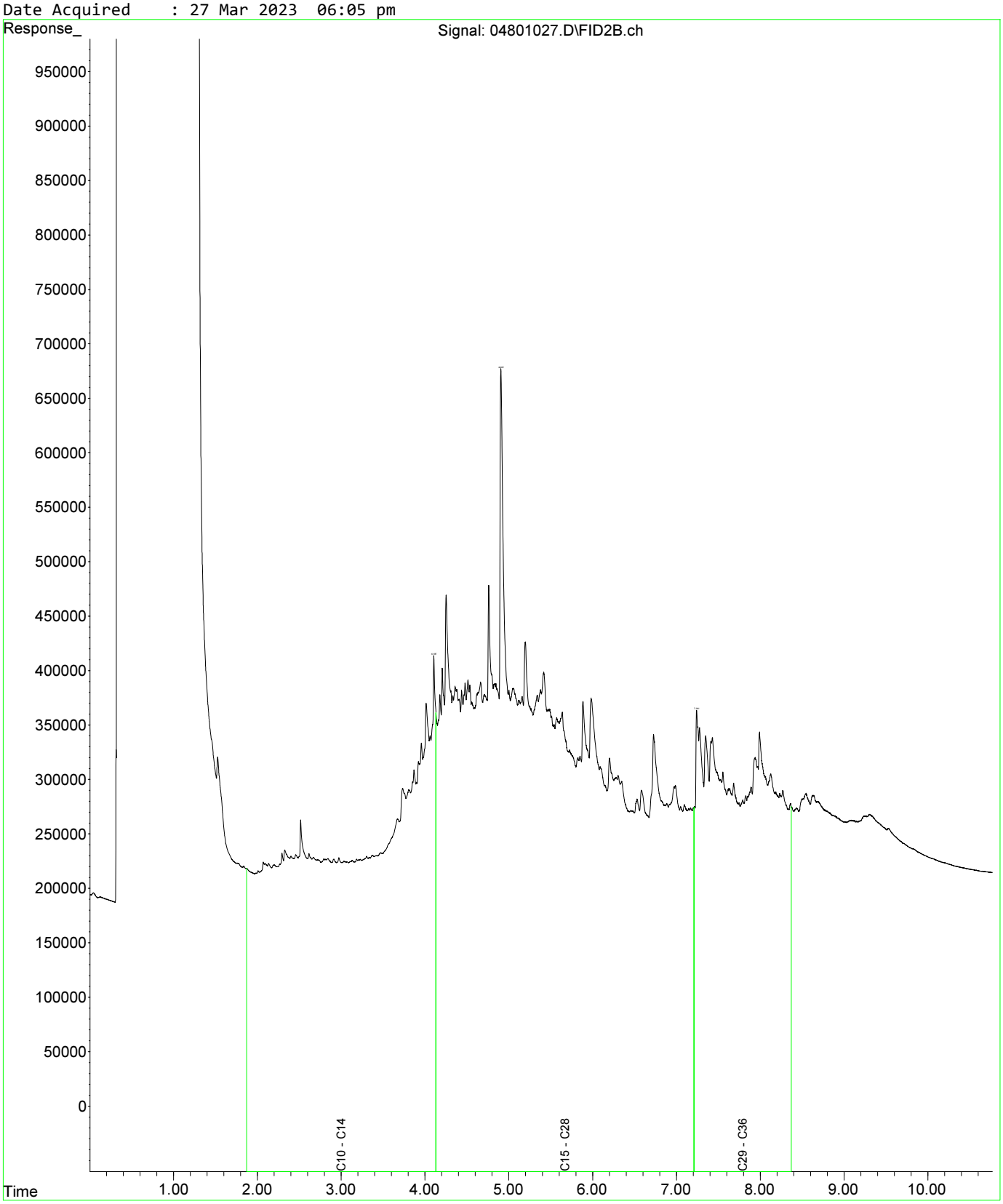
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
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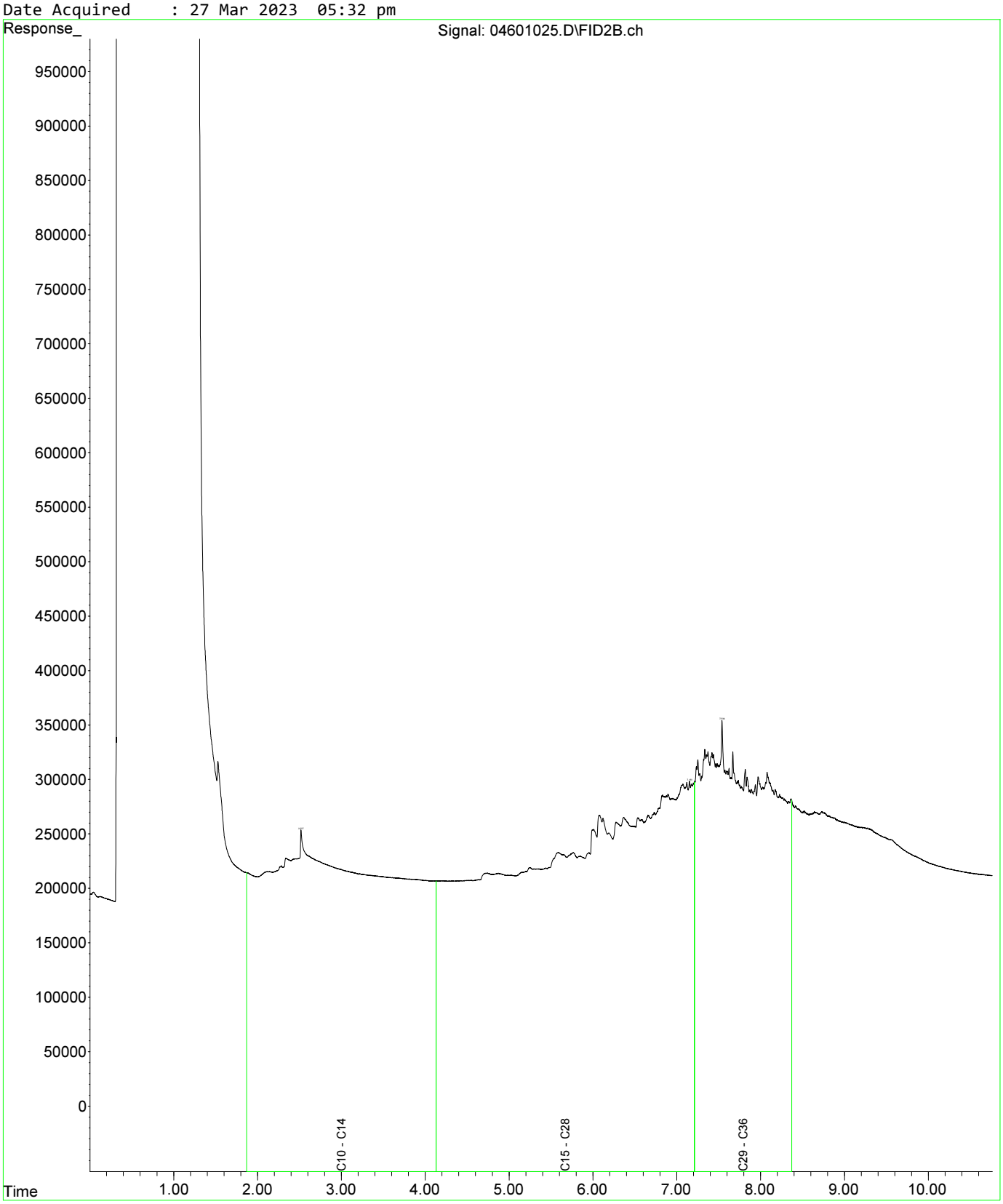

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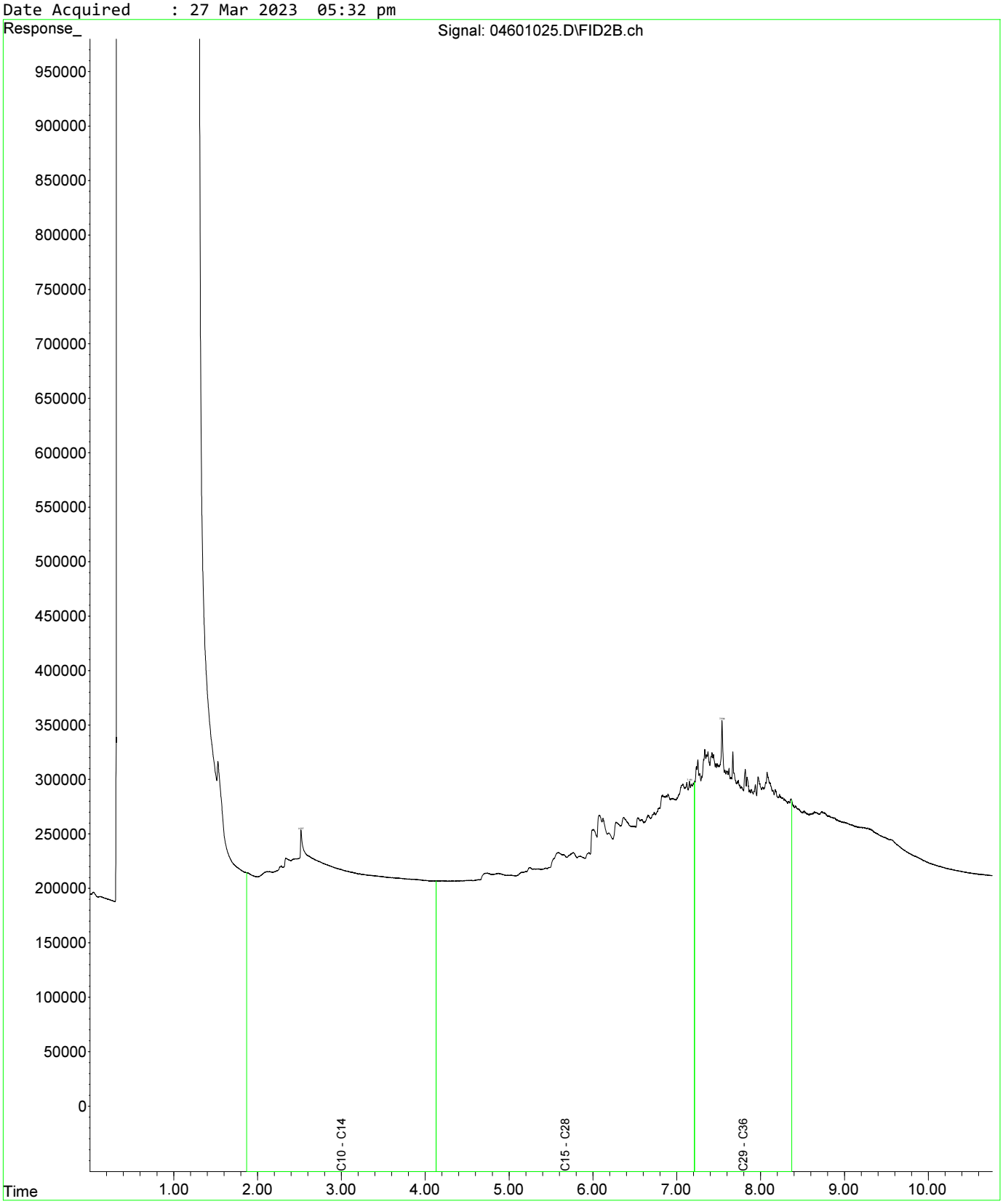

Fraction Scheme : Standard
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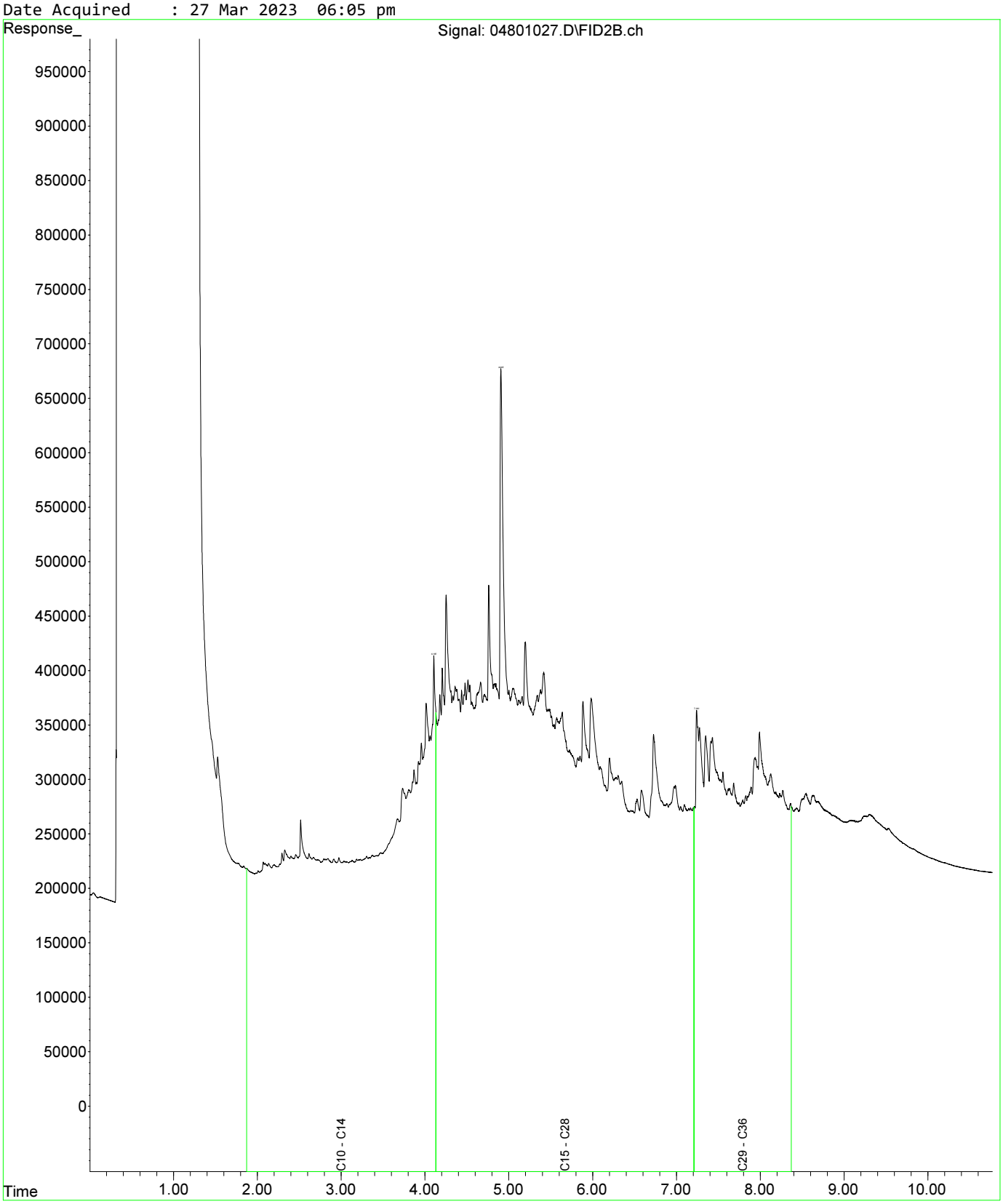
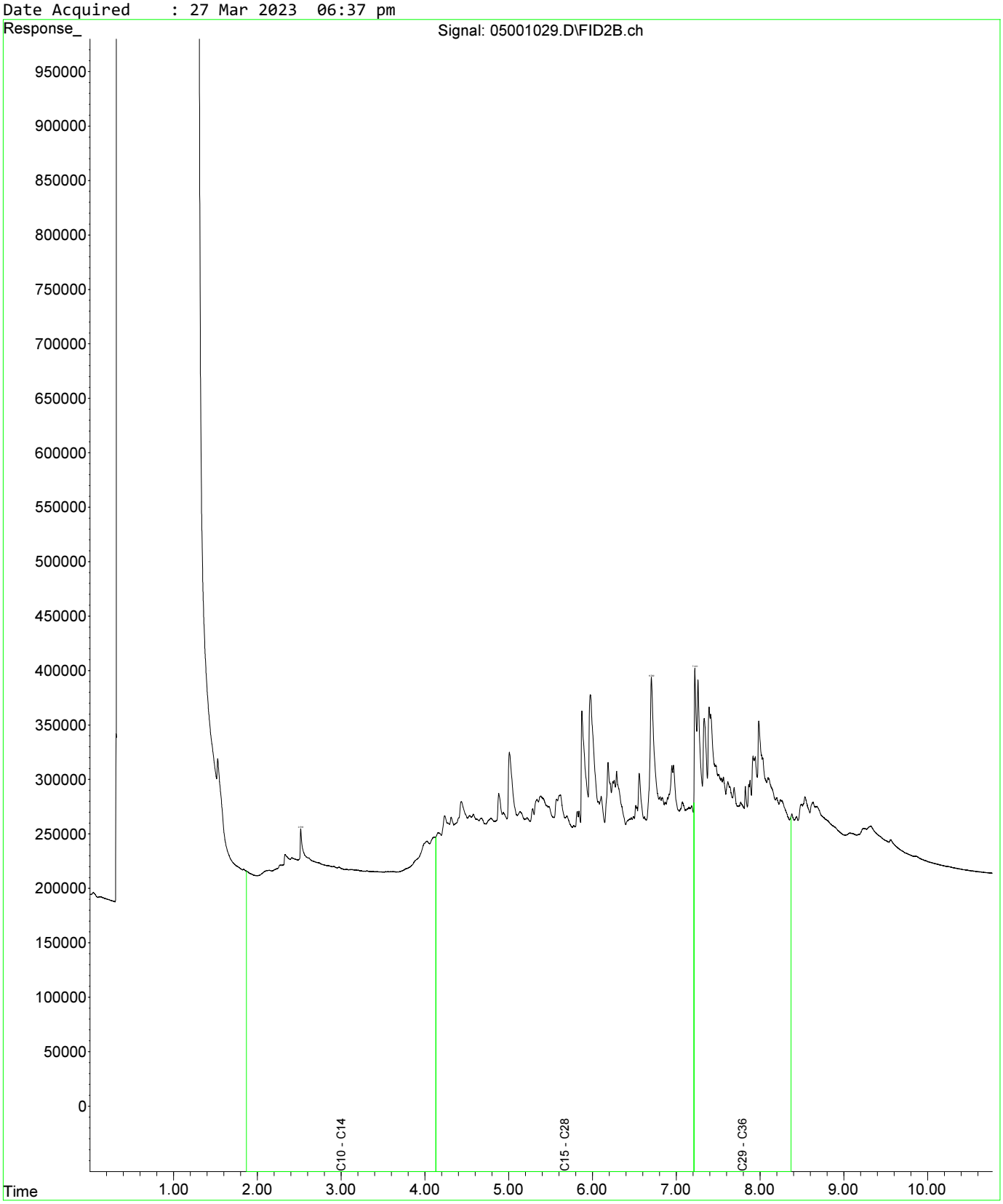


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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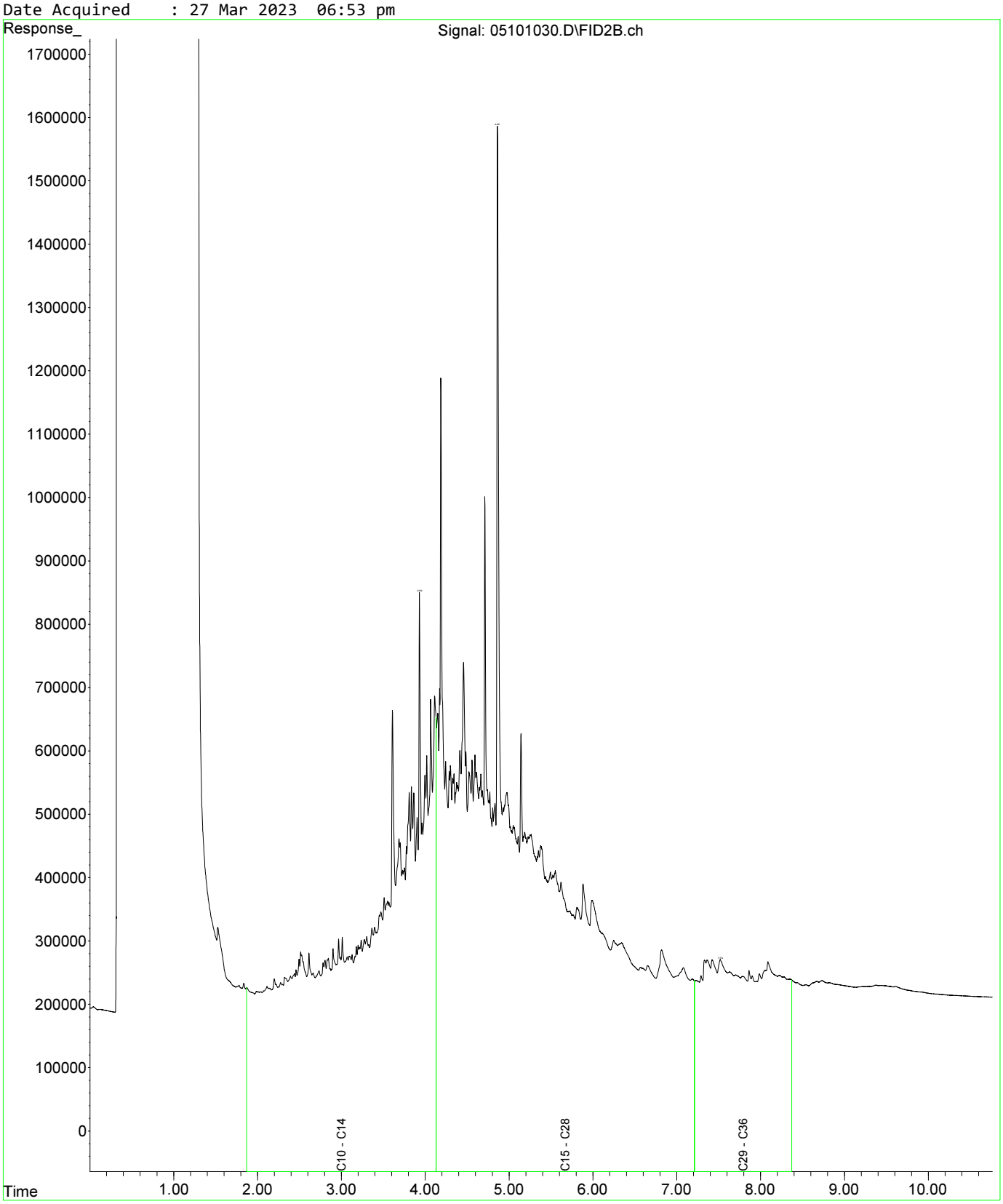
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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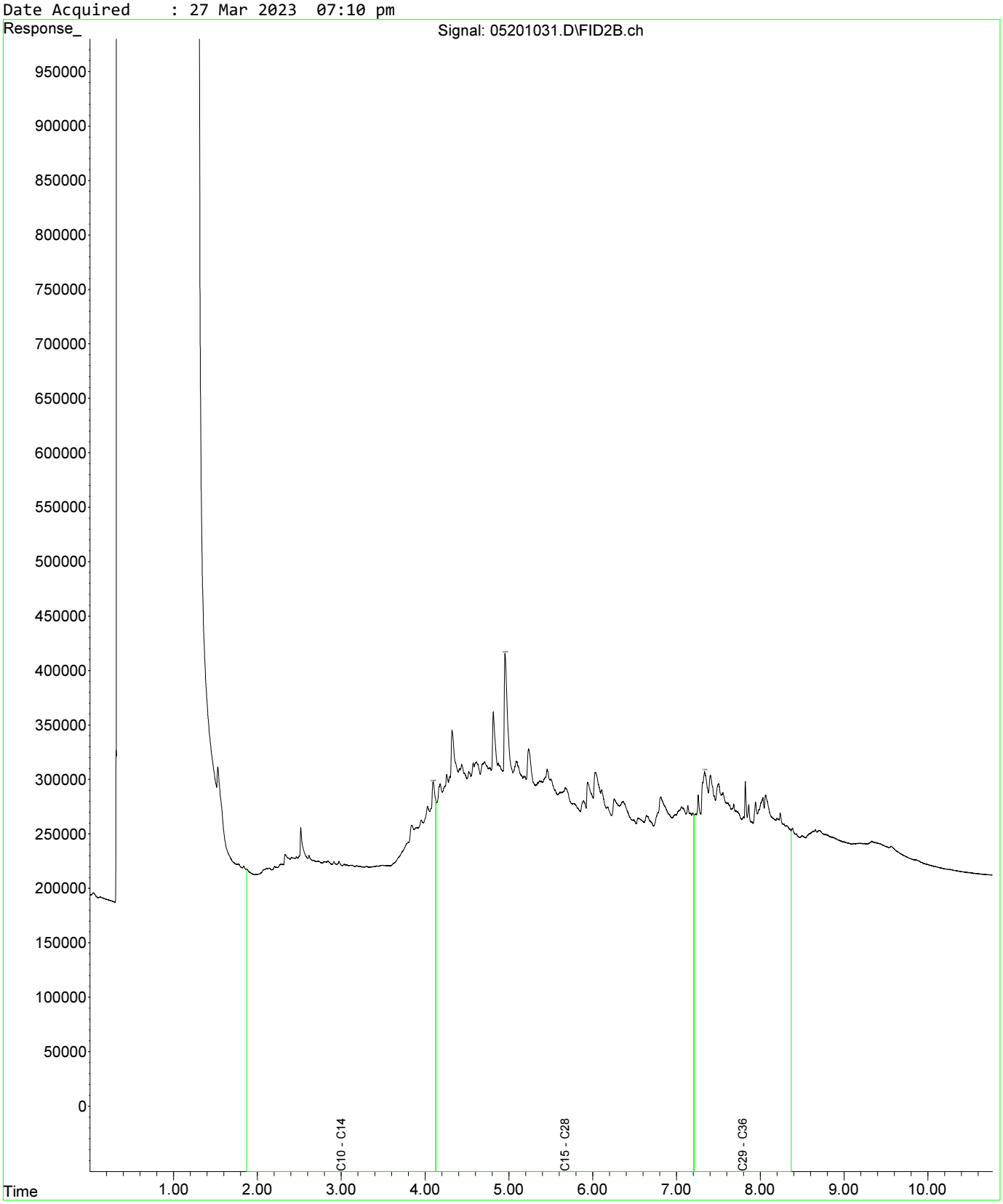

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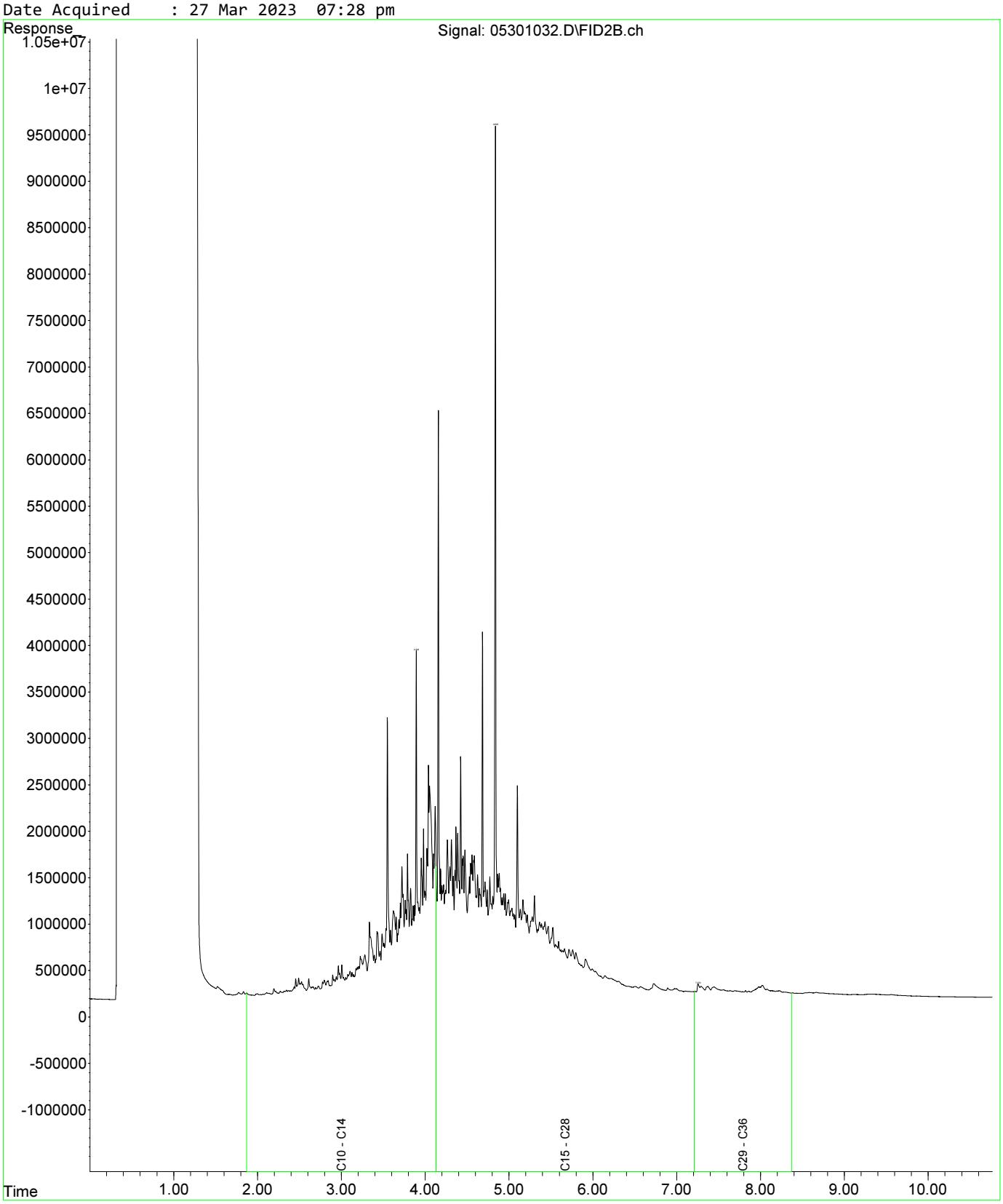
Date Acquired : 27 Mar 2023 07:28 pm



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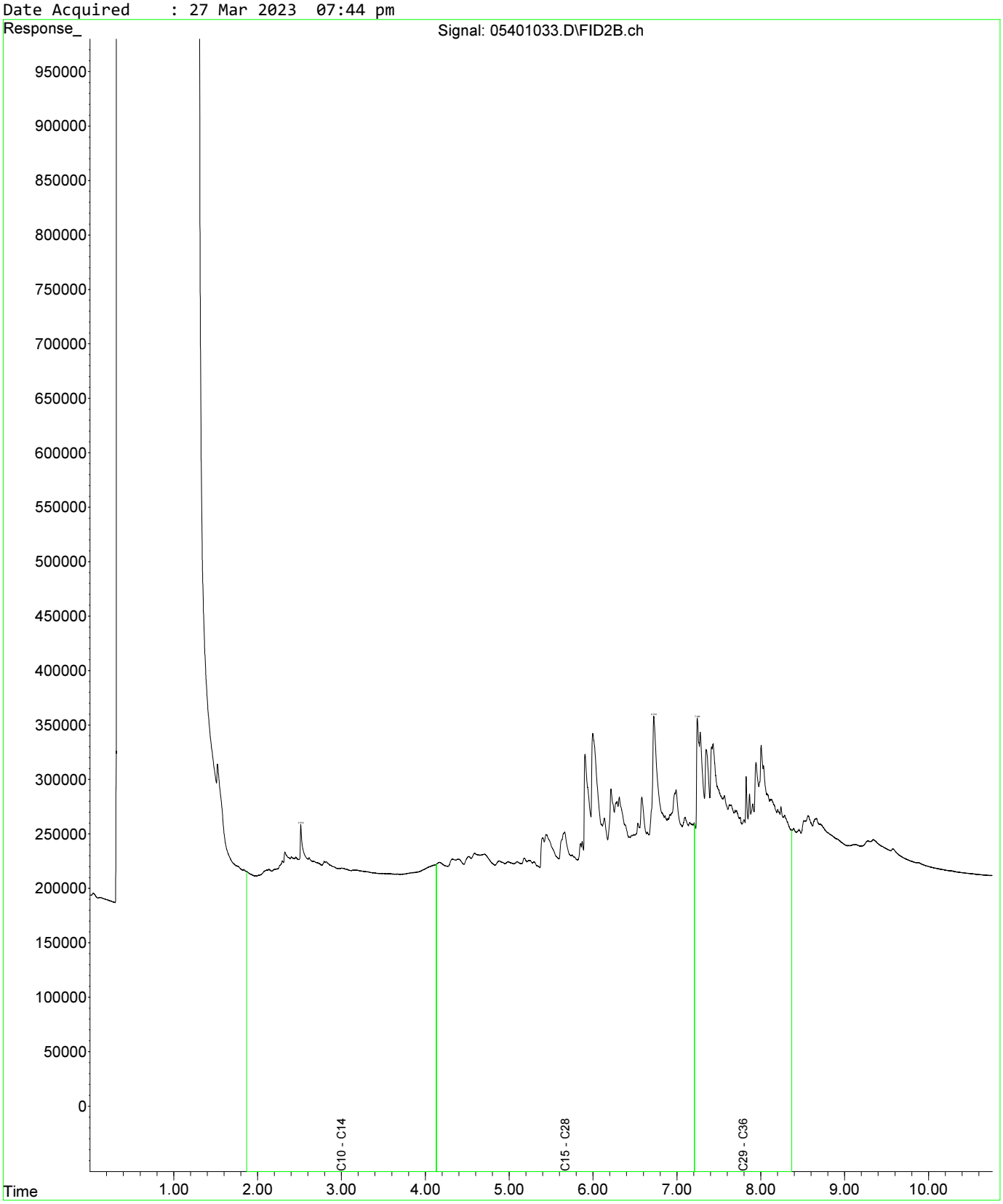
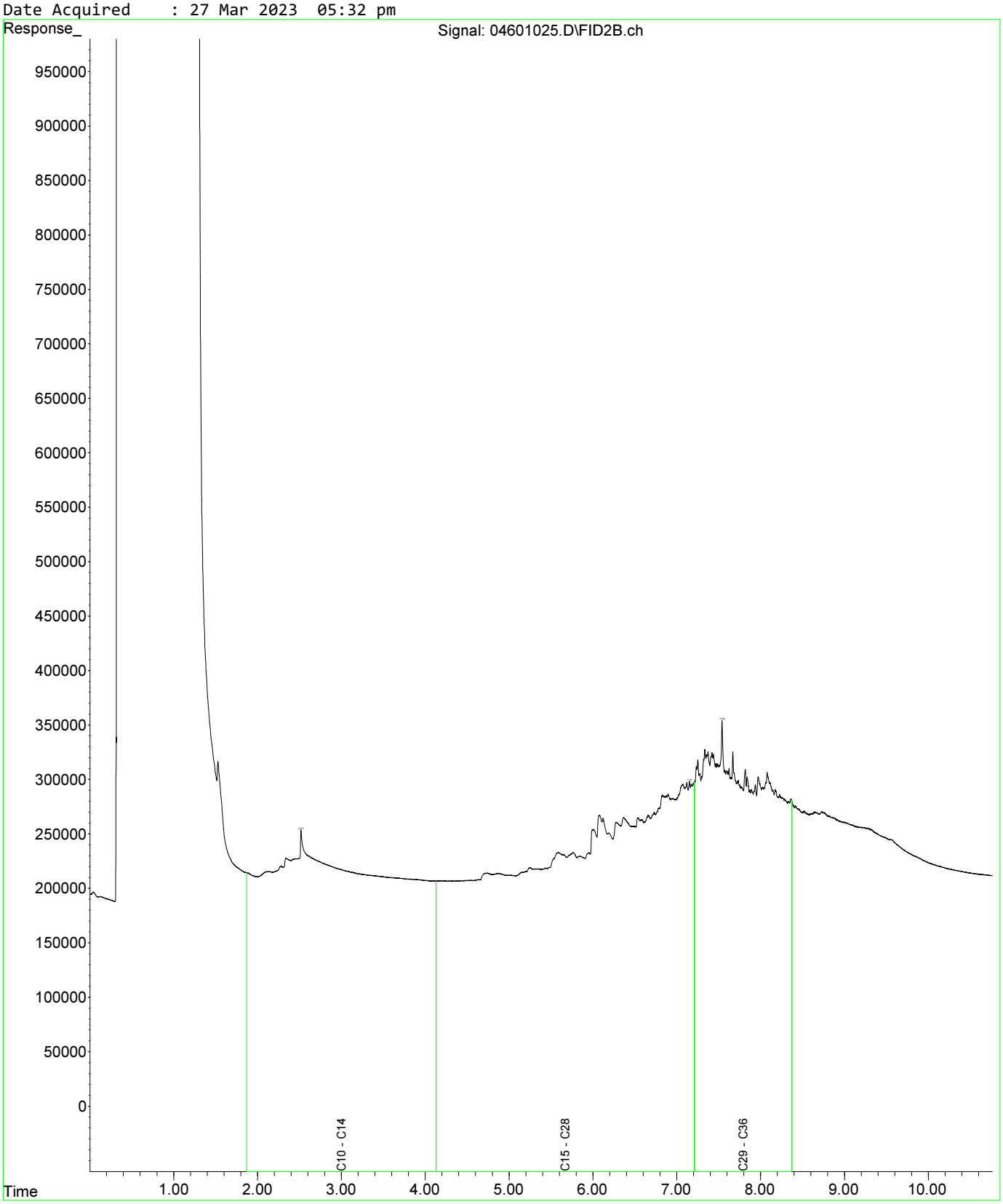


Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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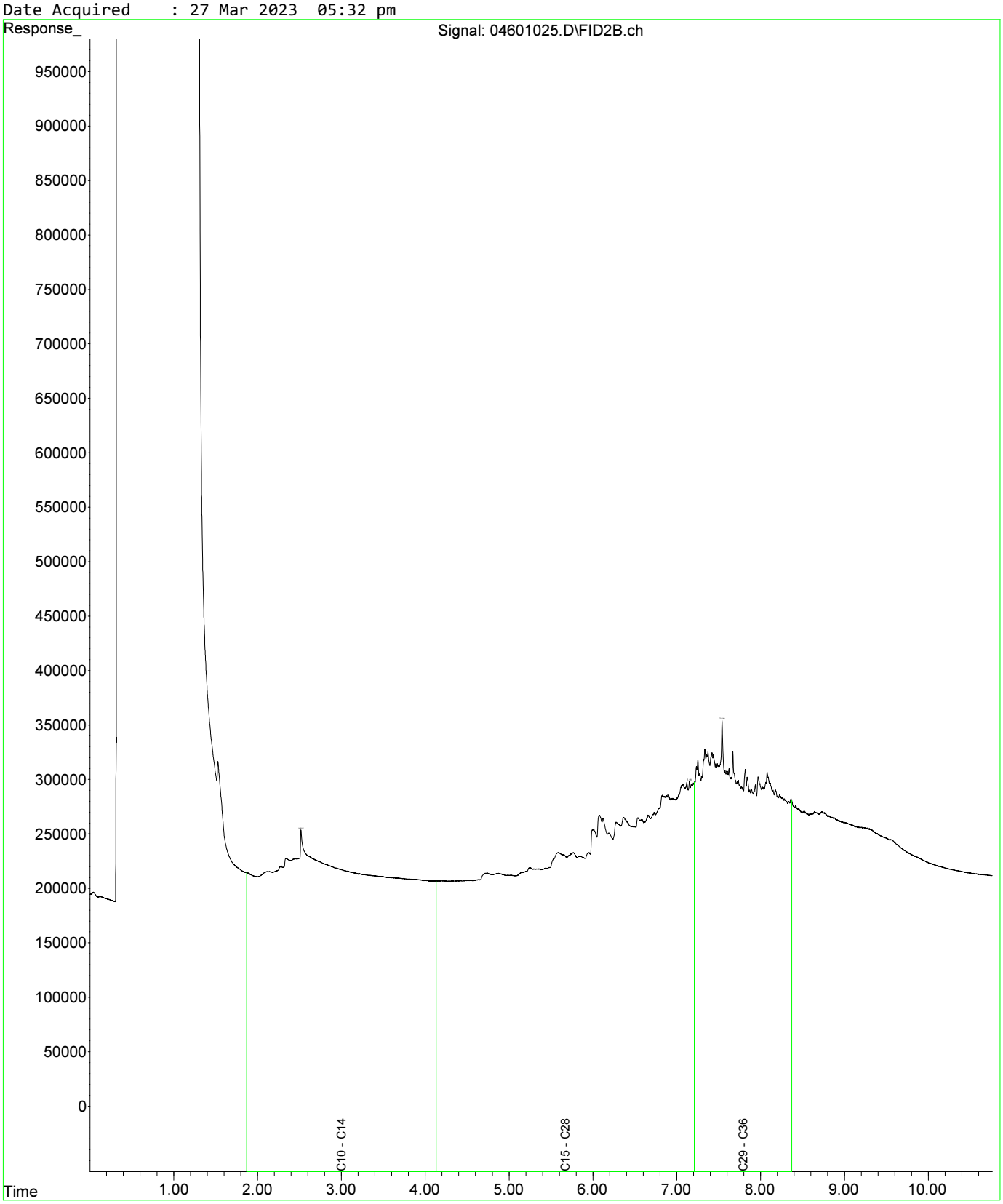
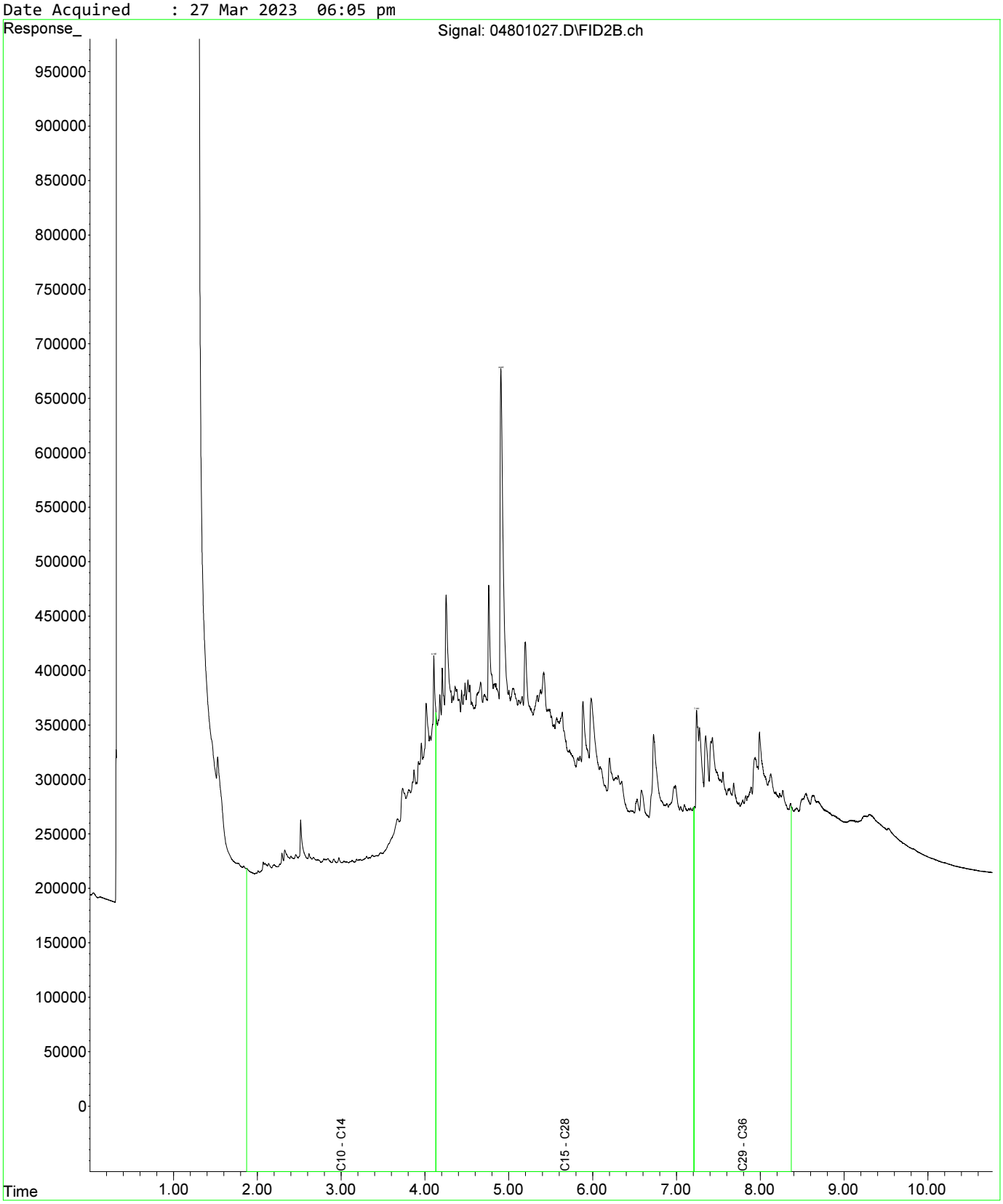


Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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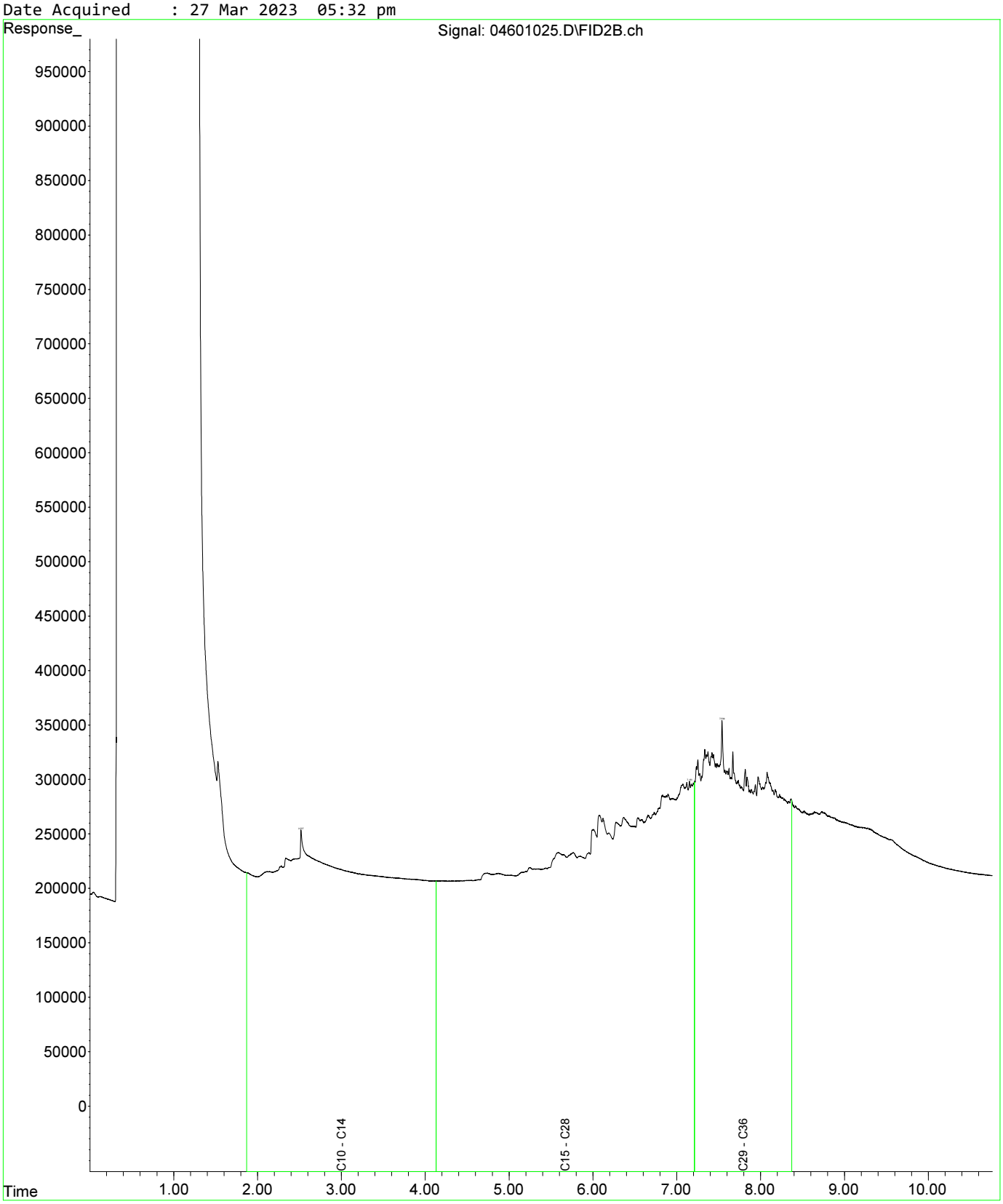
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
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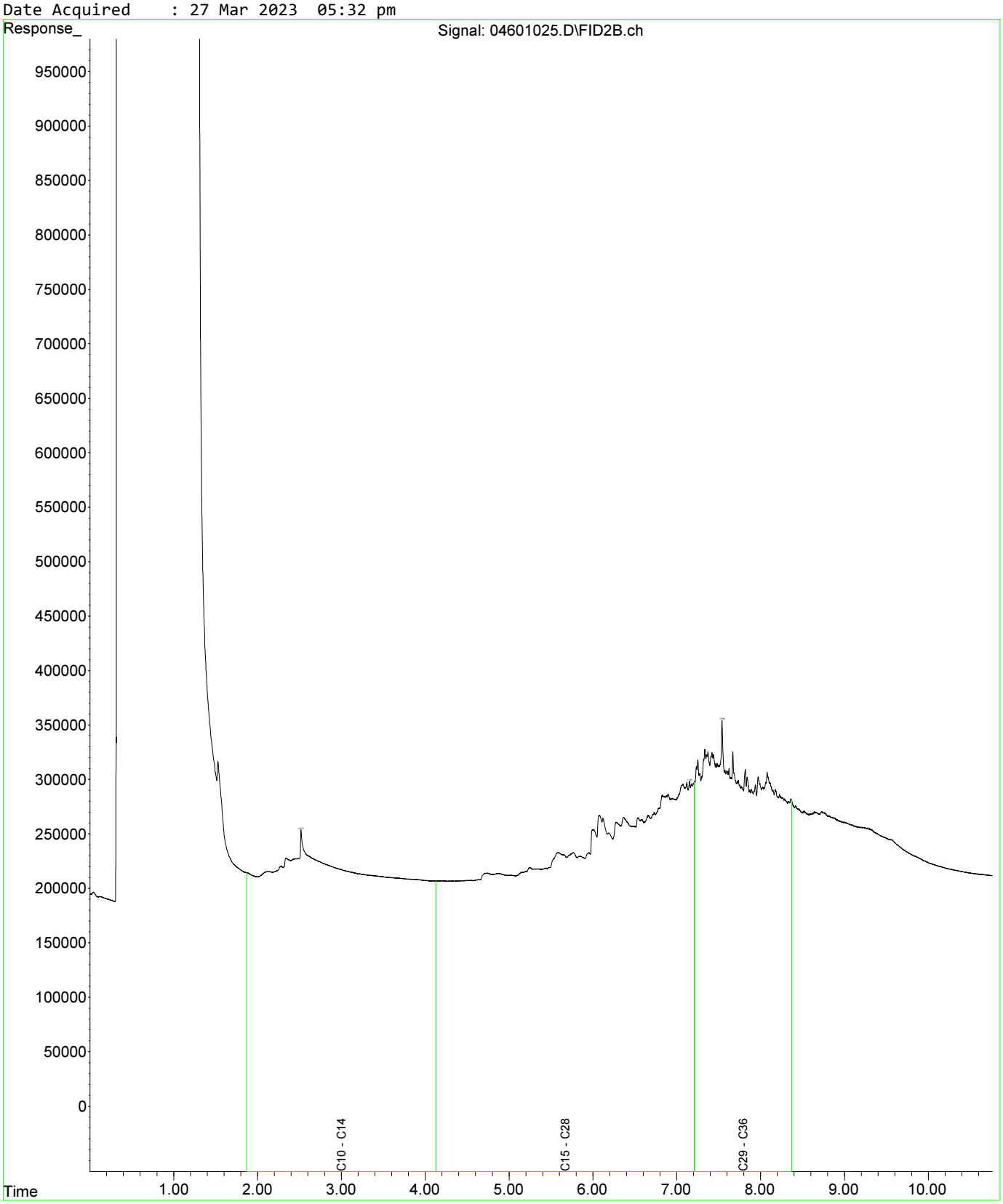

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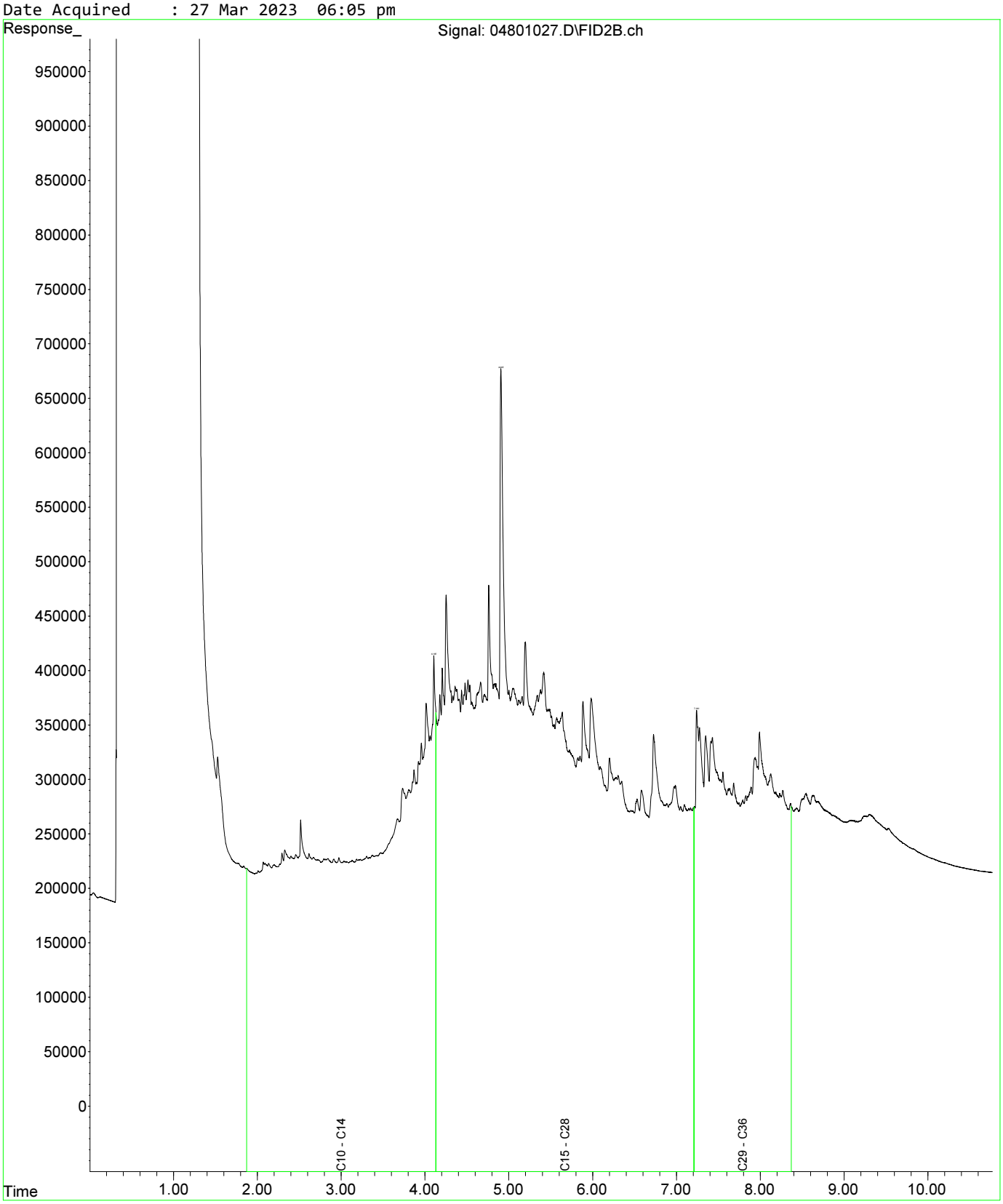

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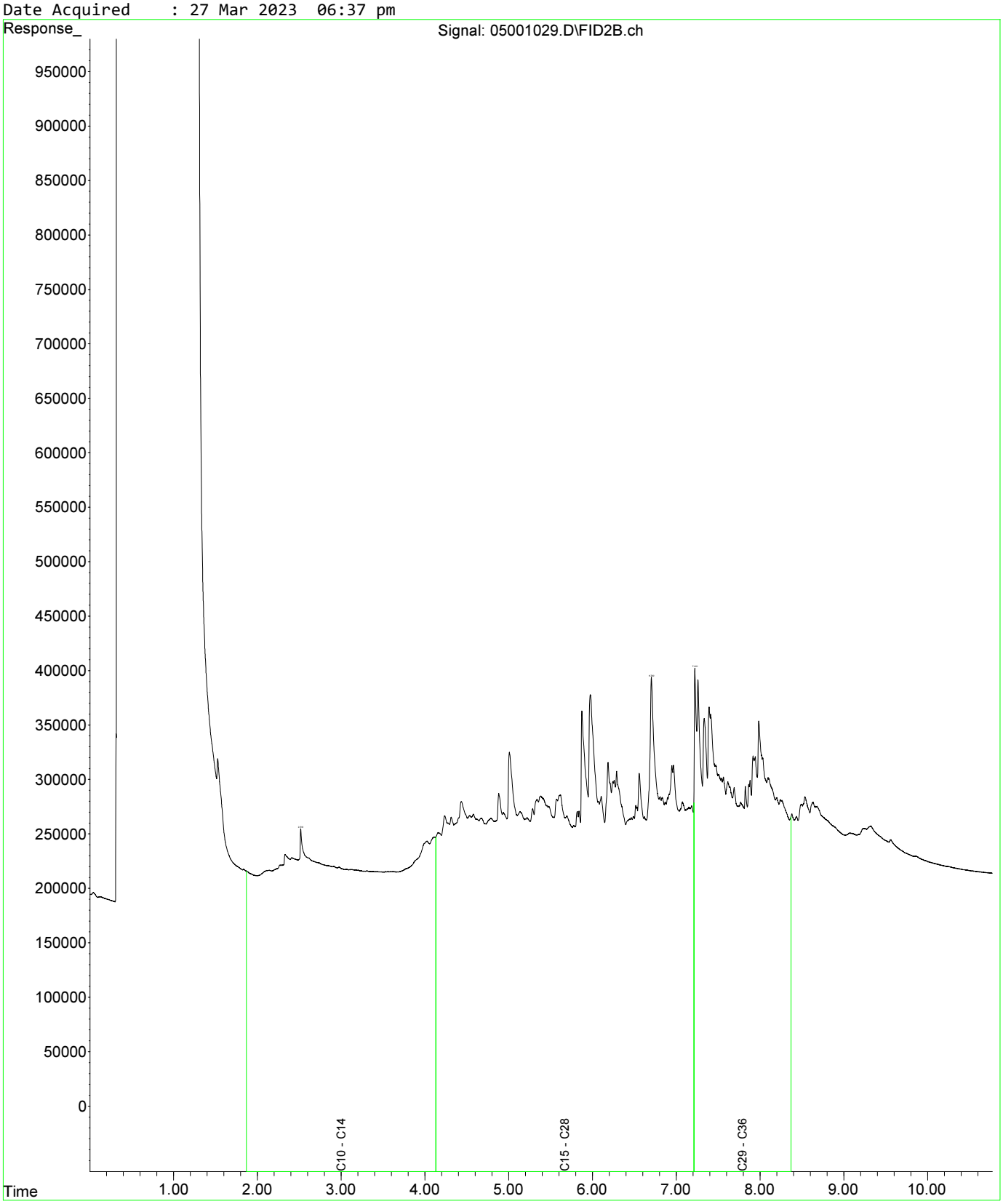
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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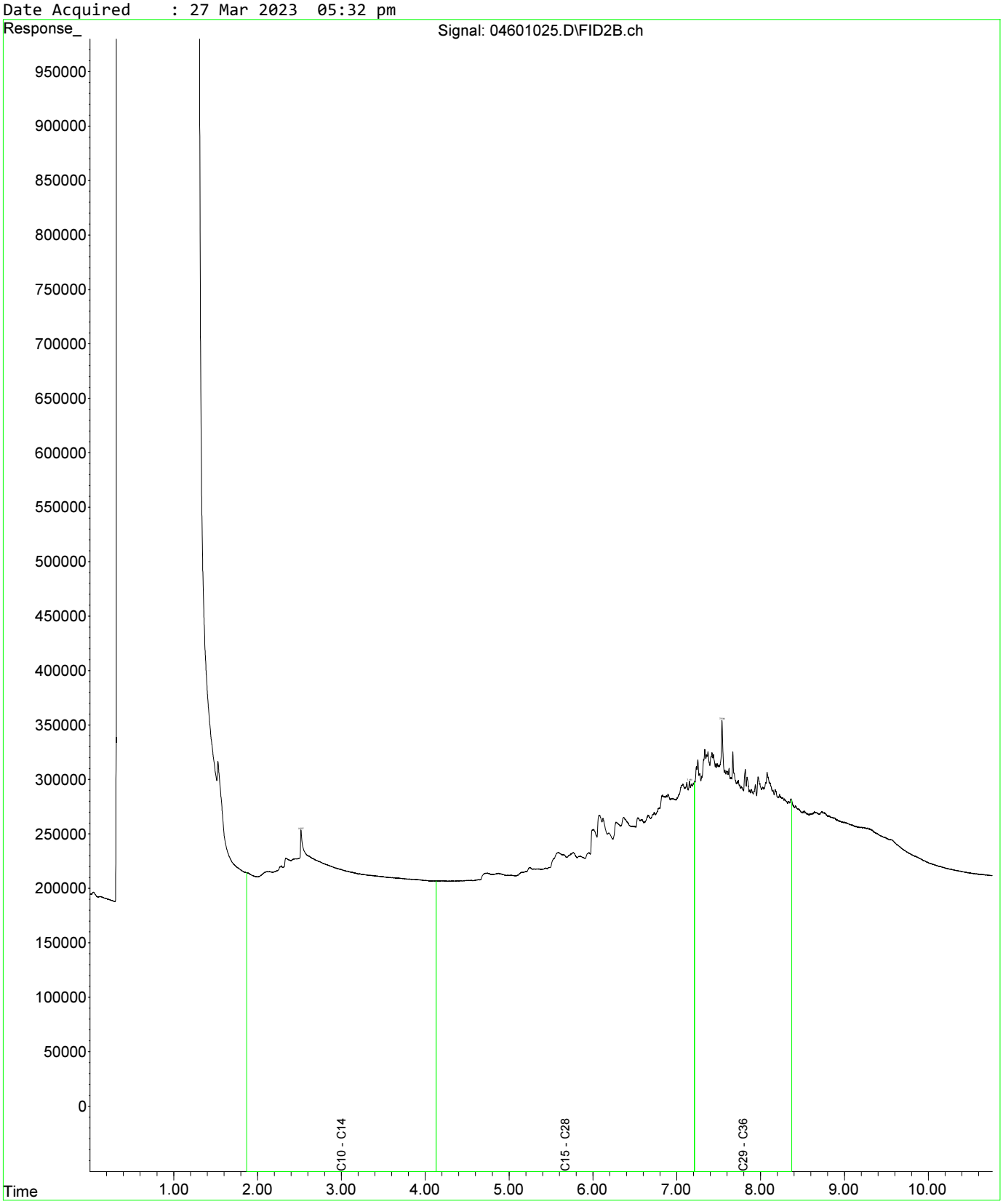

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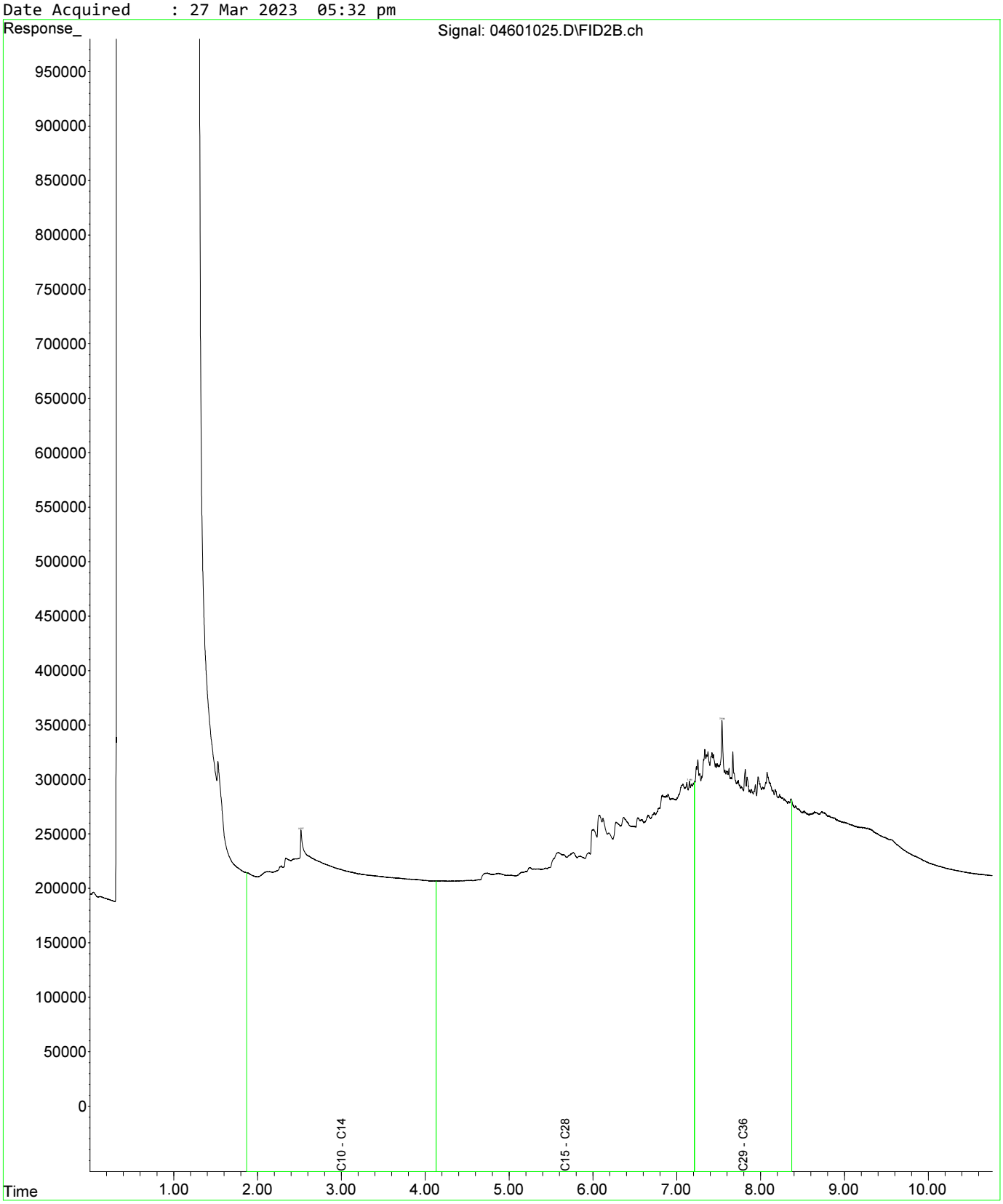

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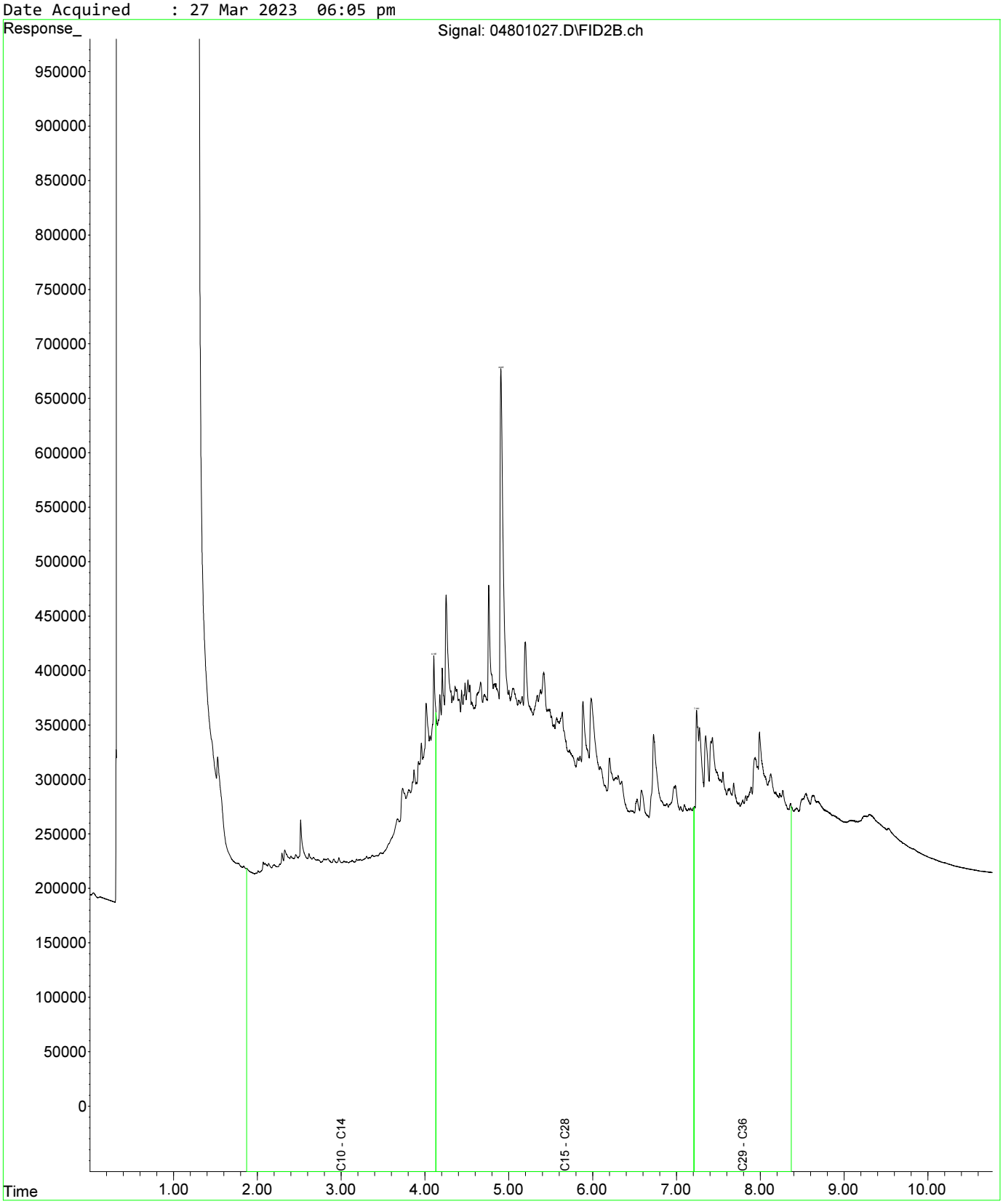

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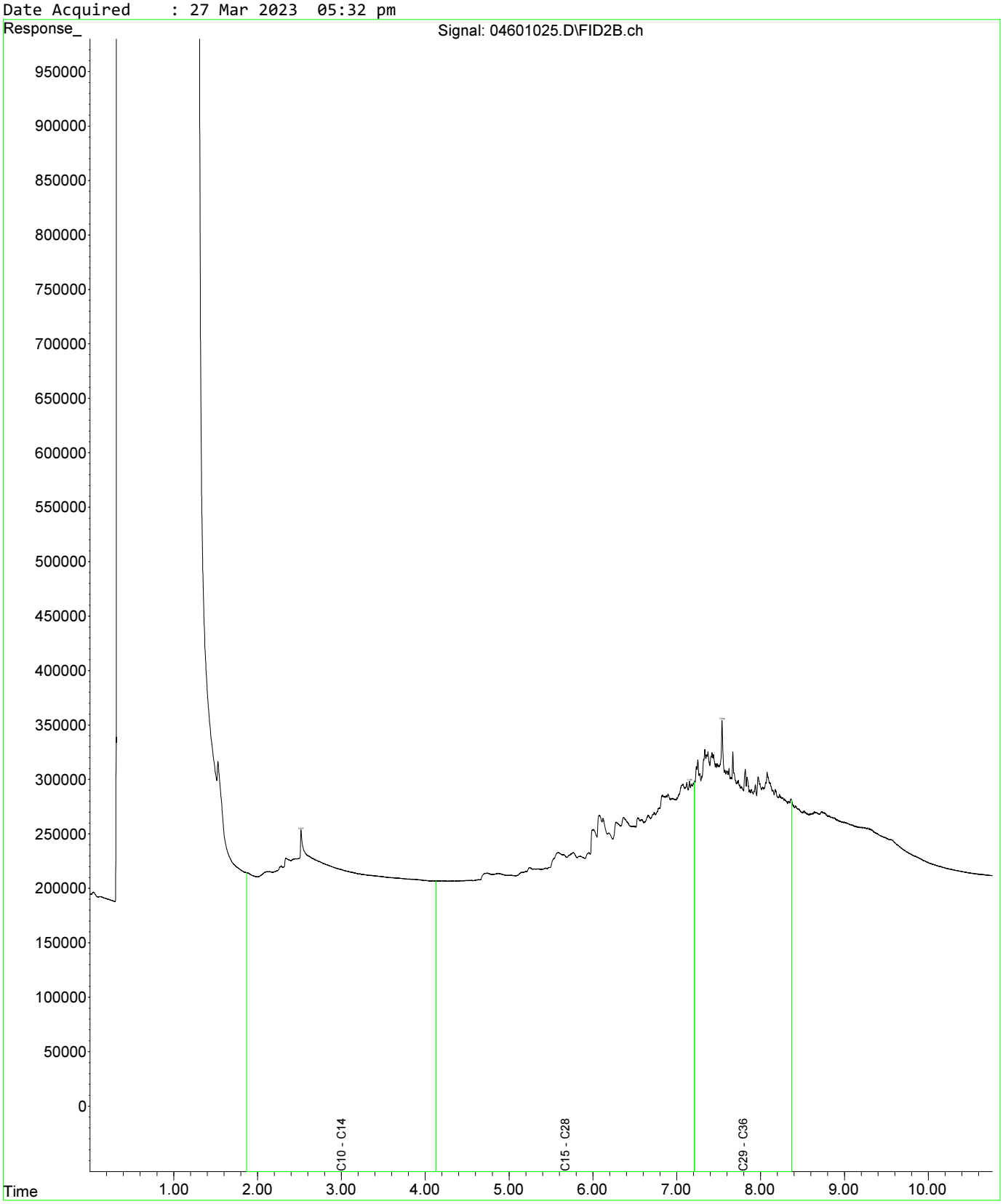

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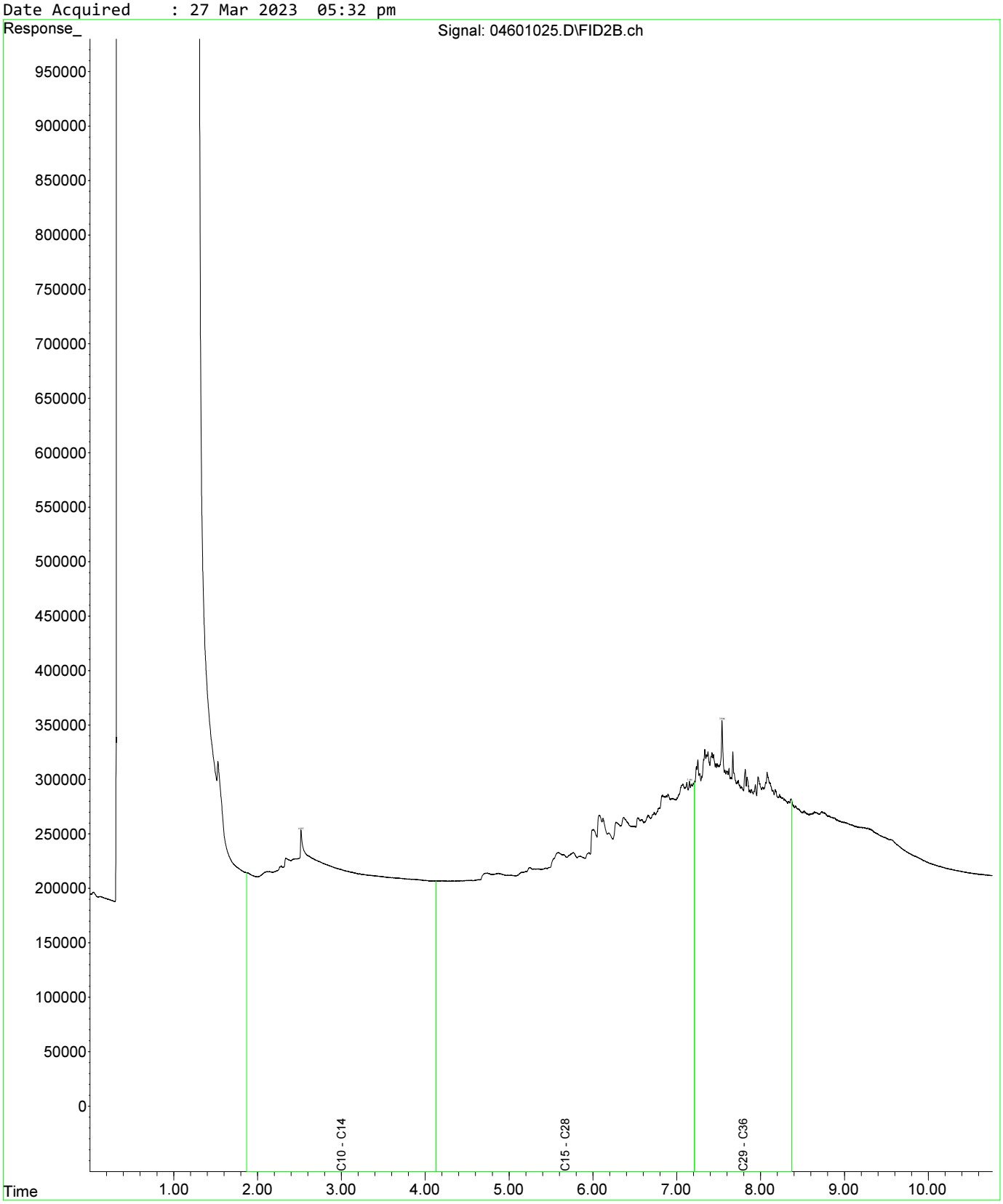

Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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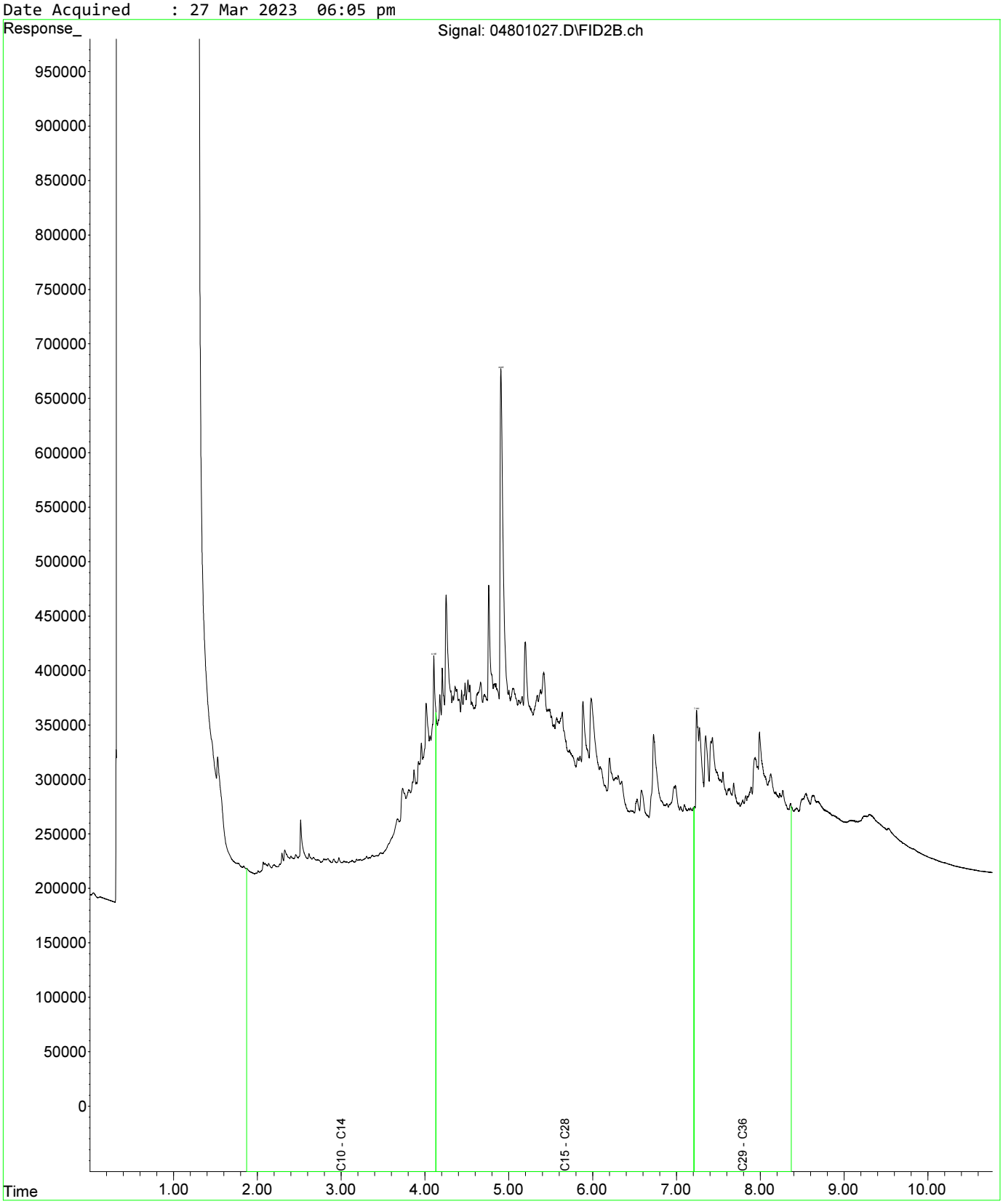
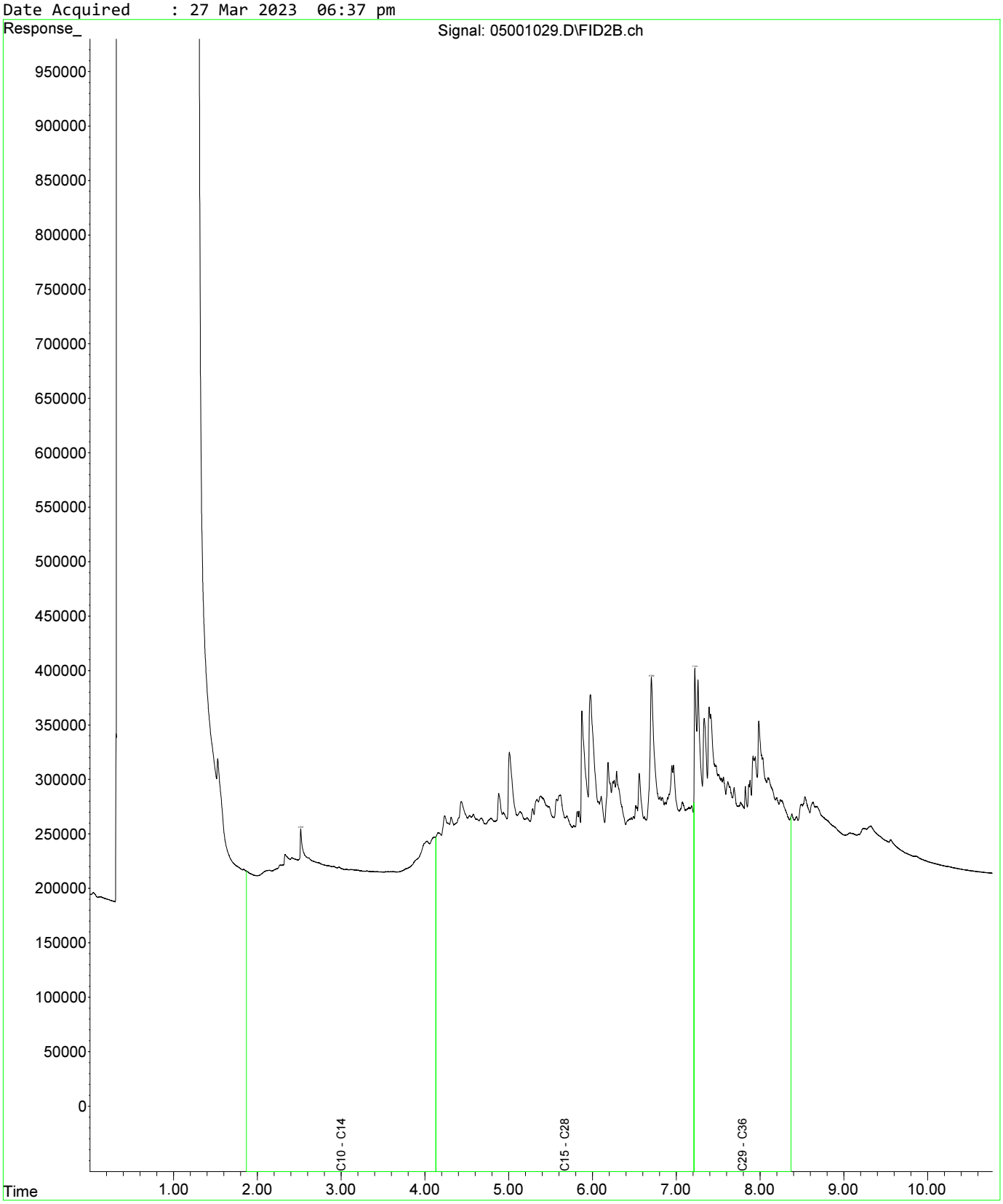
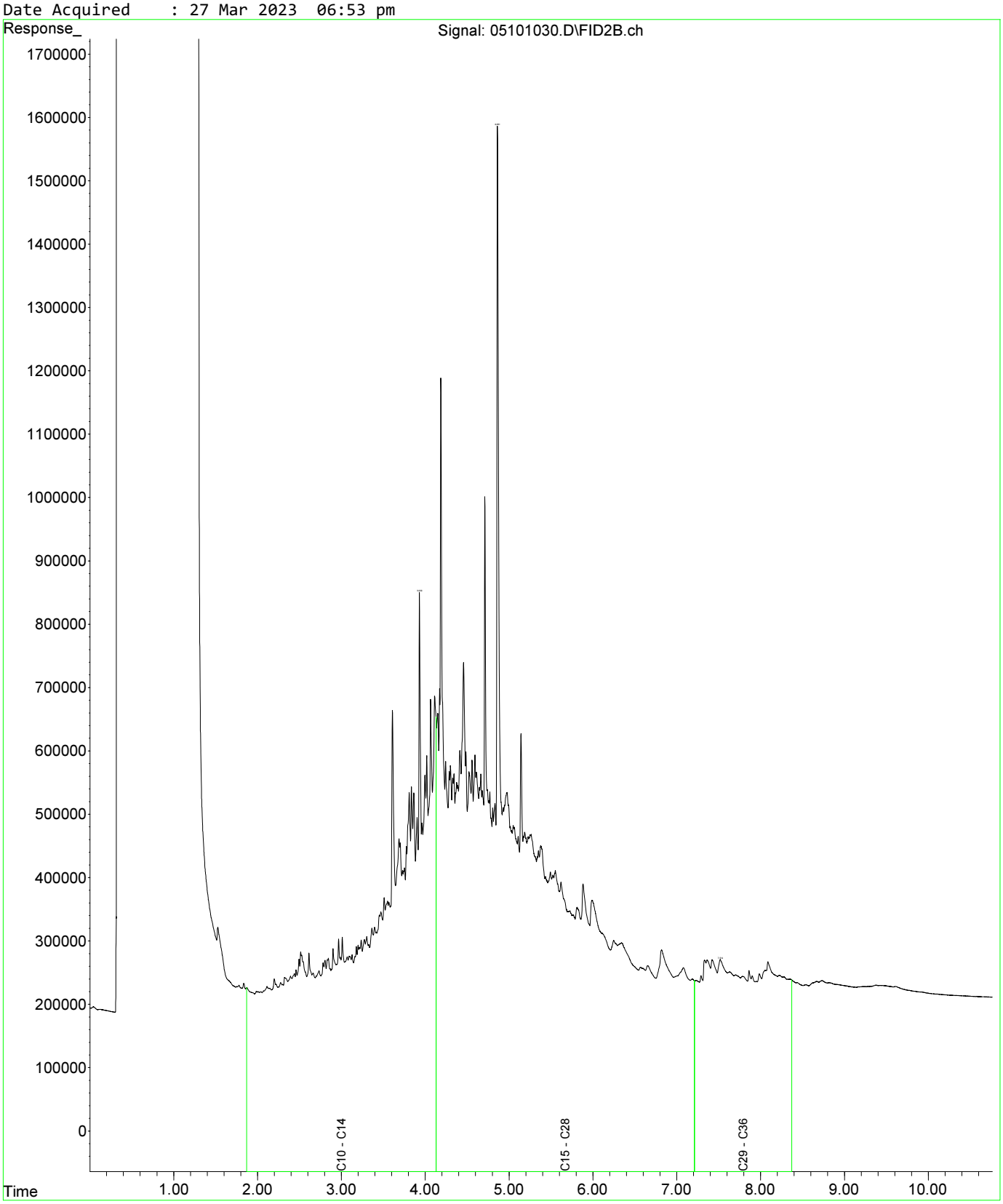


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : Standard
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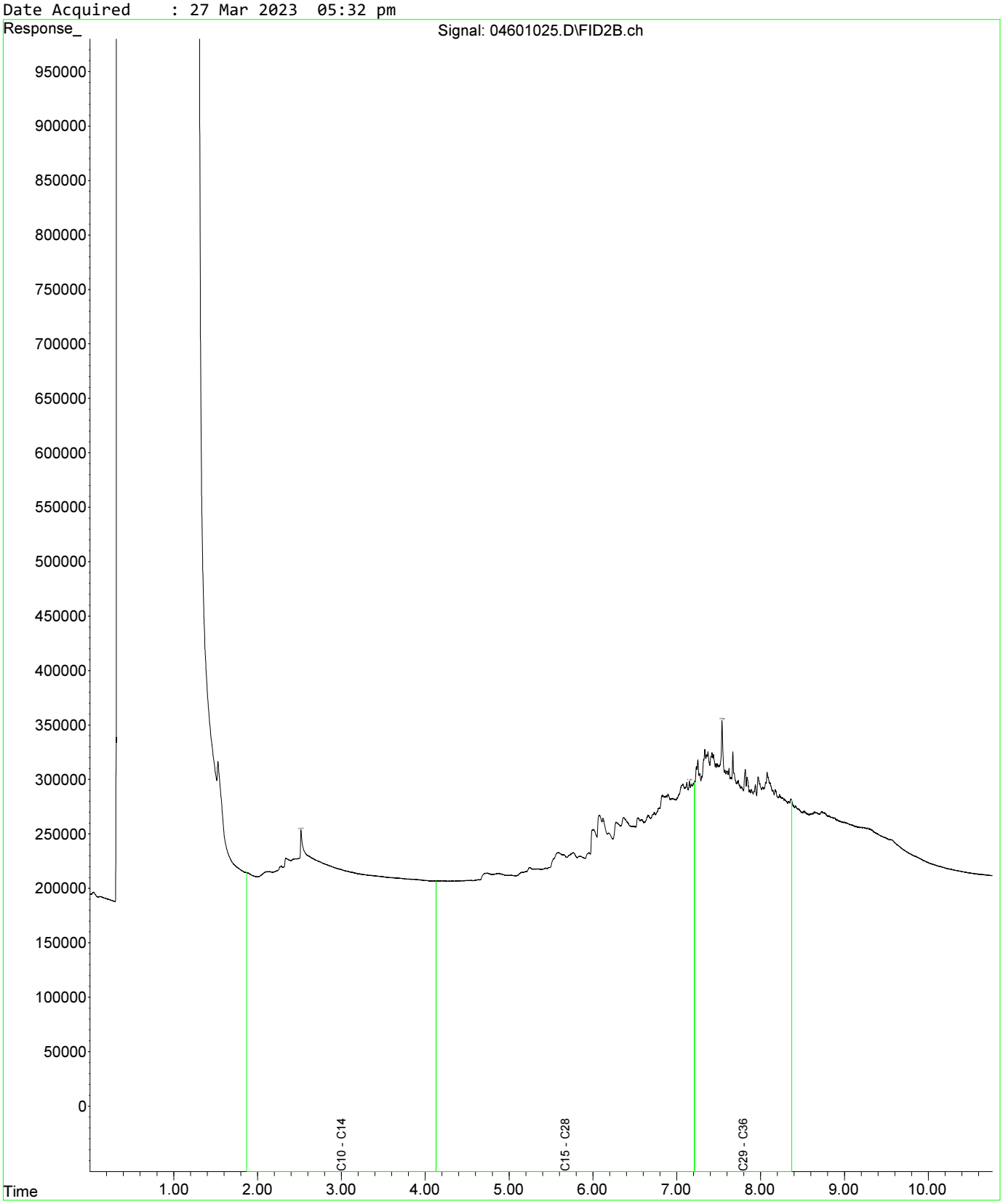

Fraction Scheme : Standard
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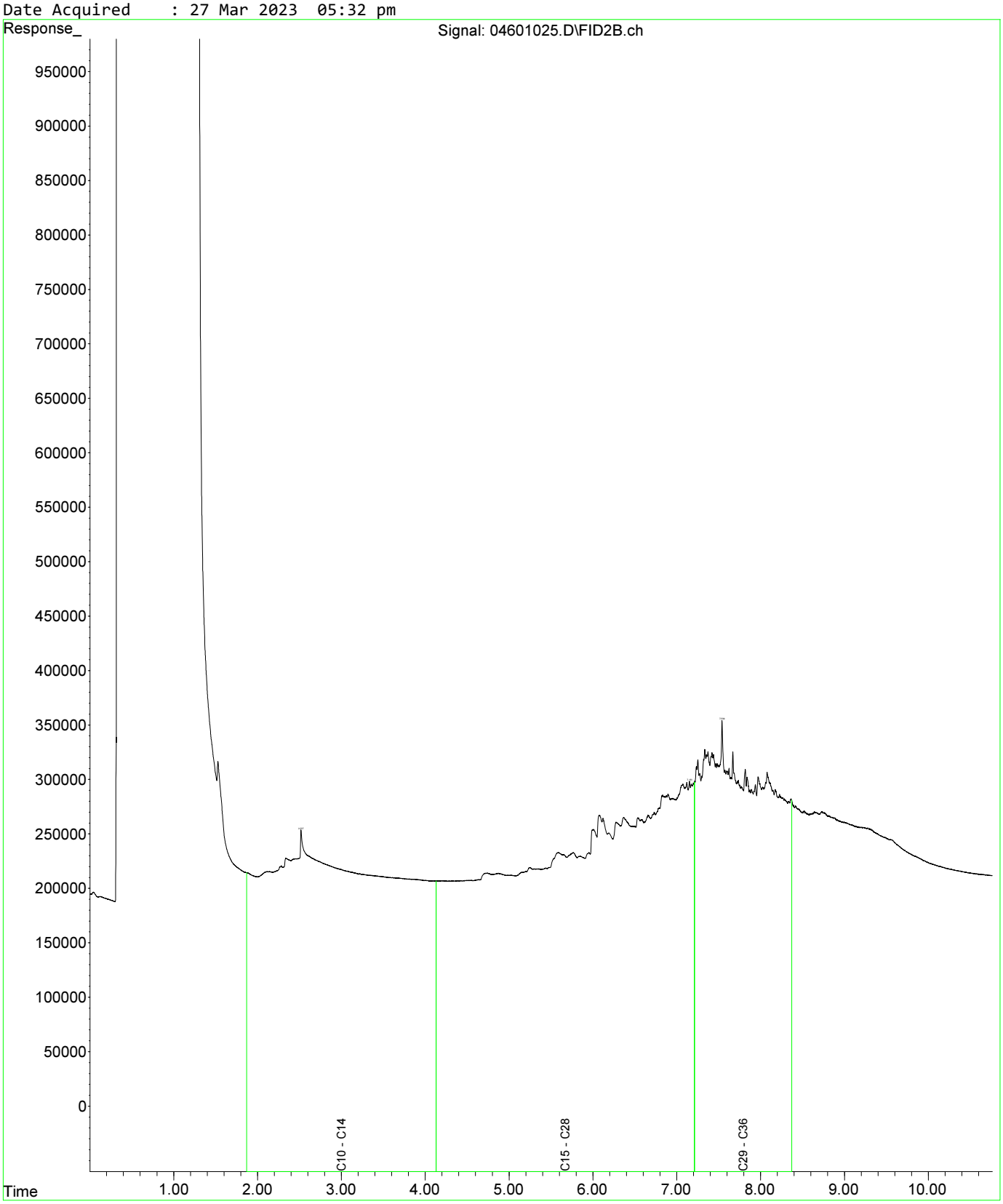

Fraction Scheme : Standard
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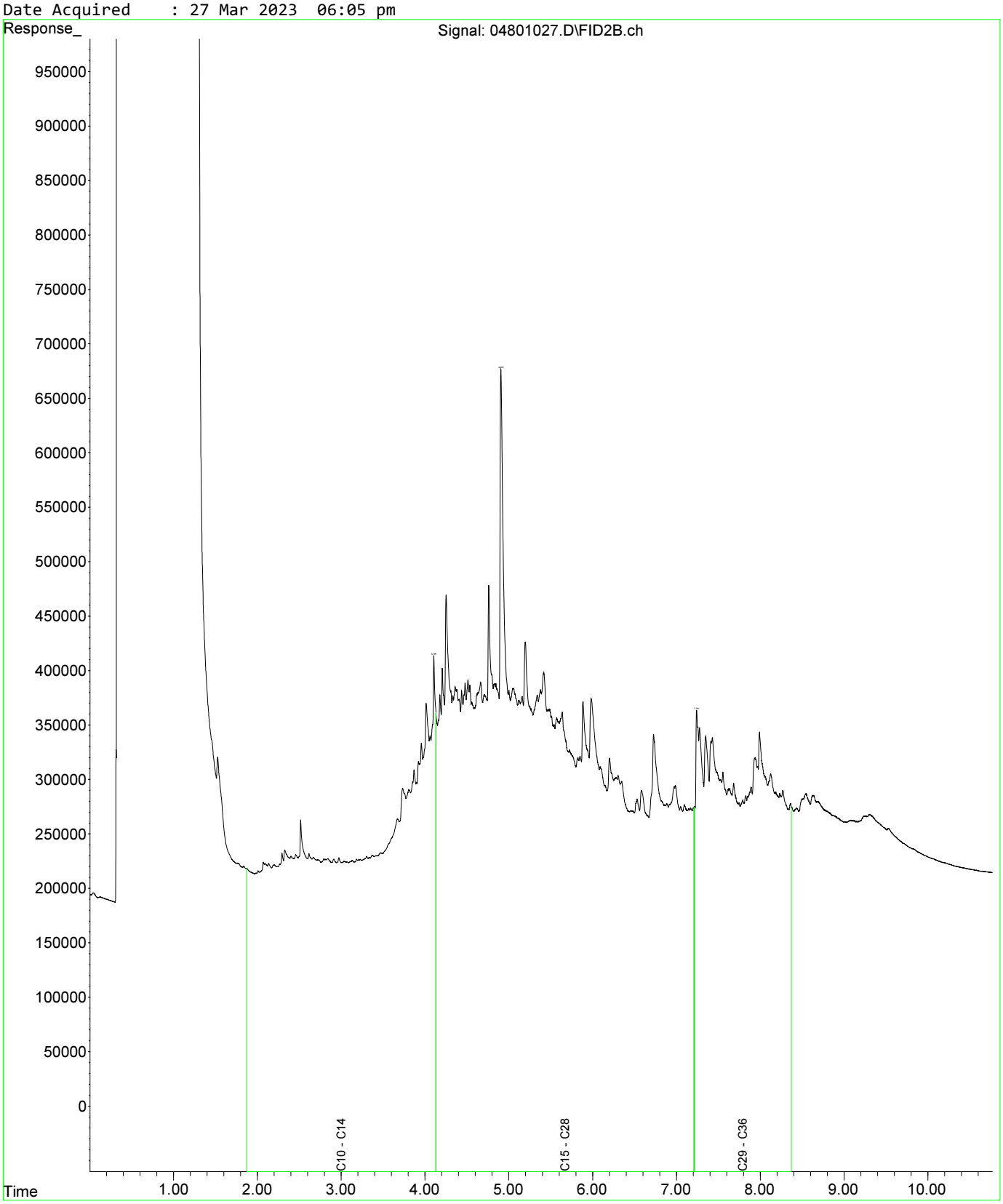

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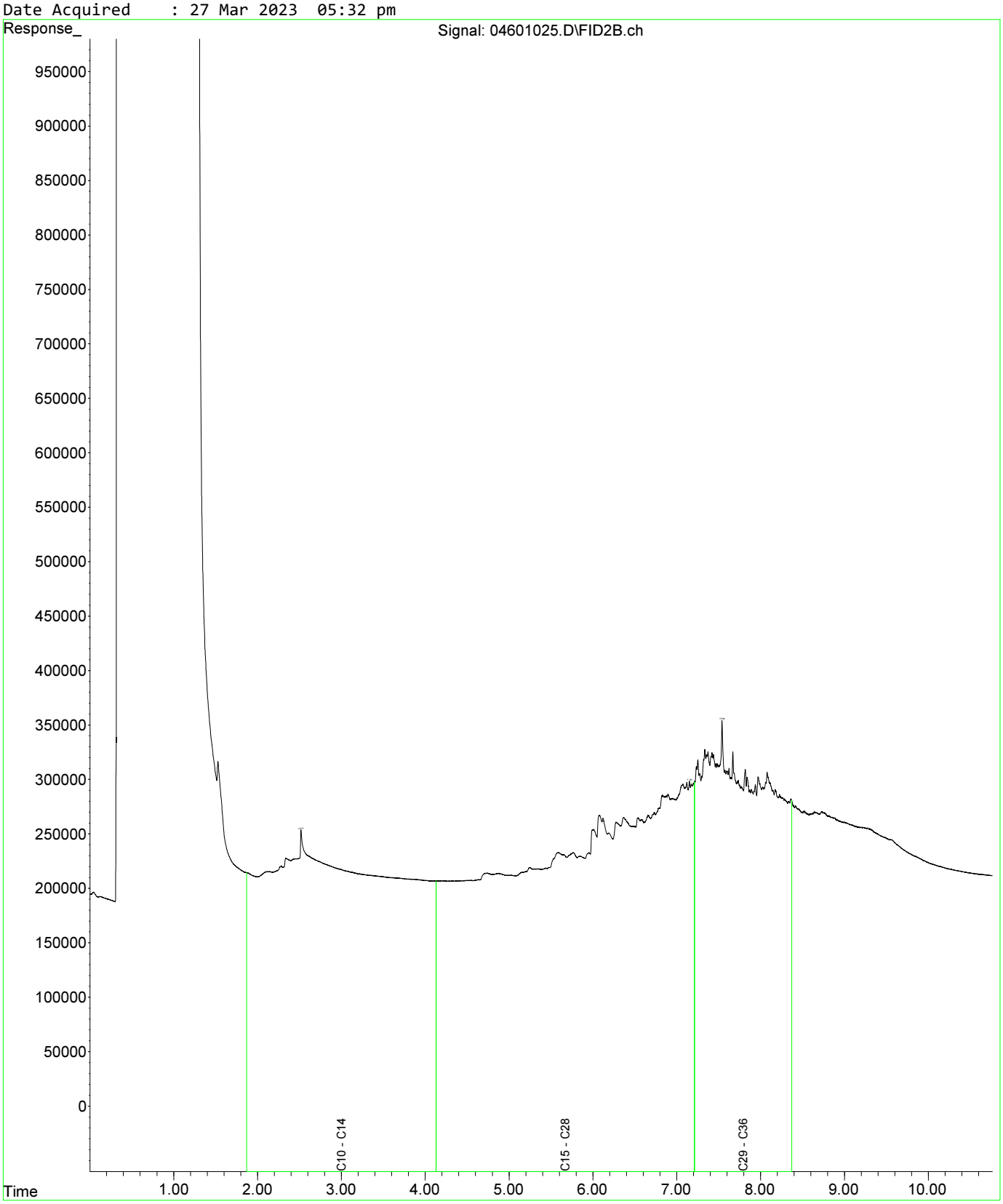
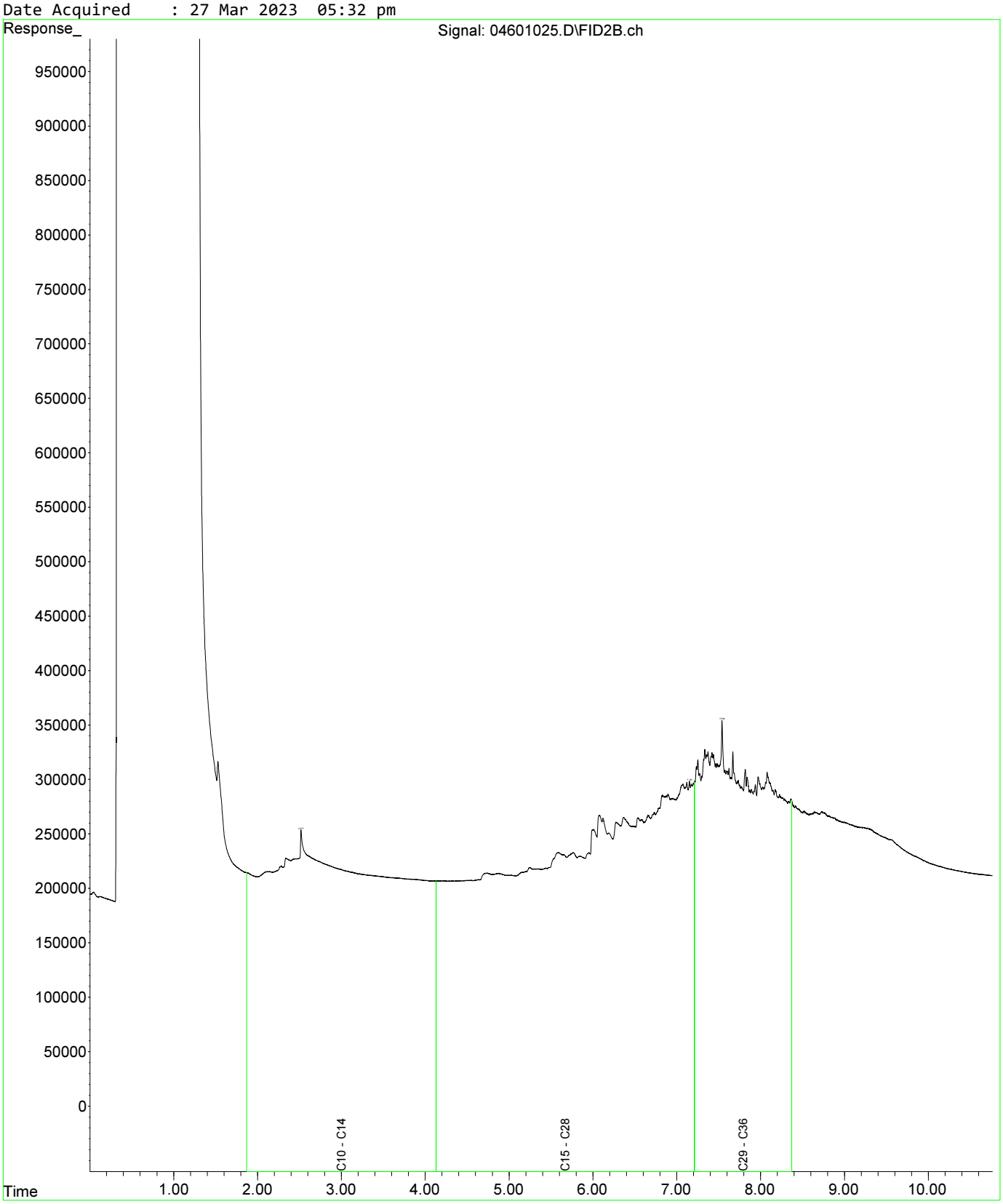
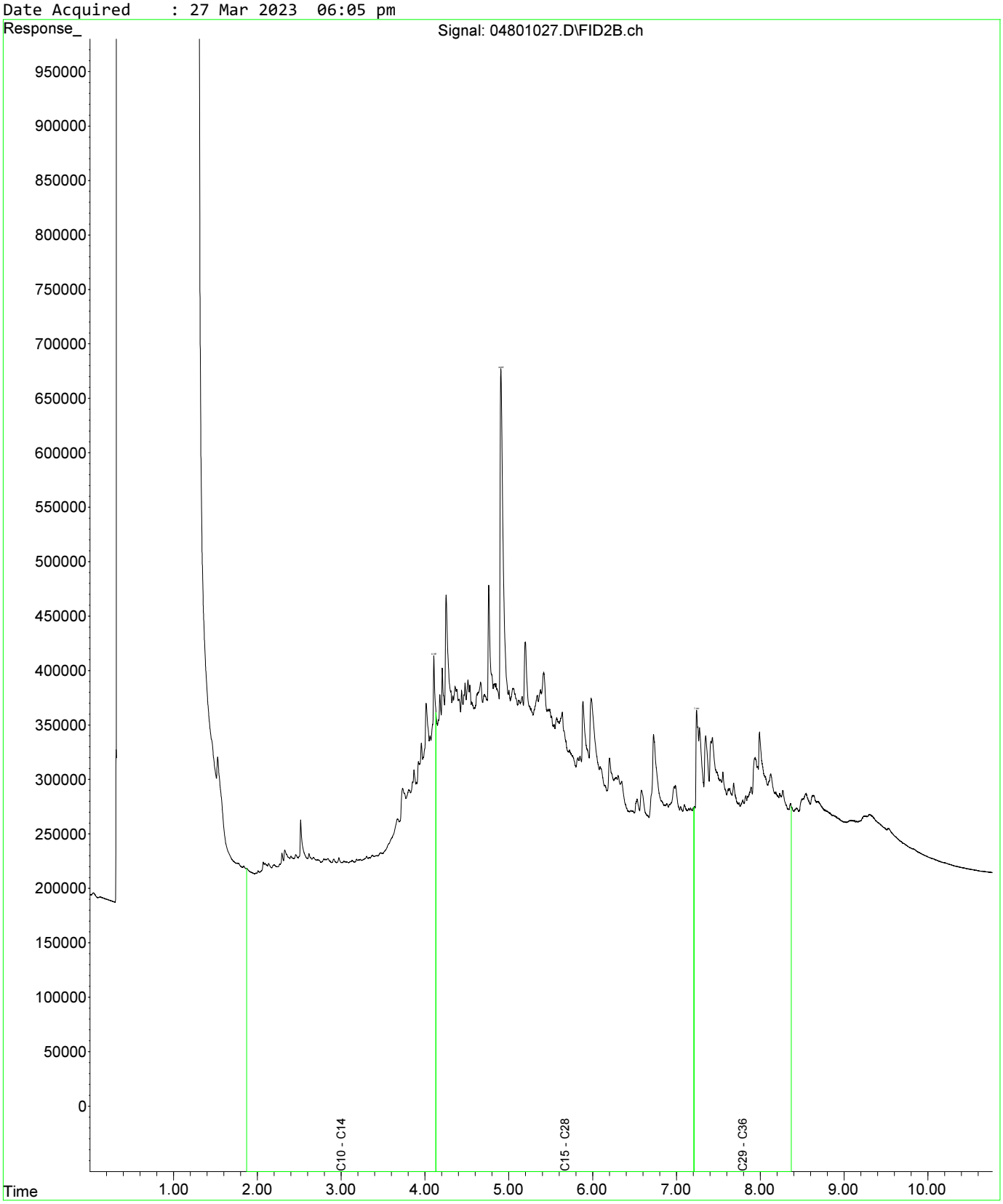
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



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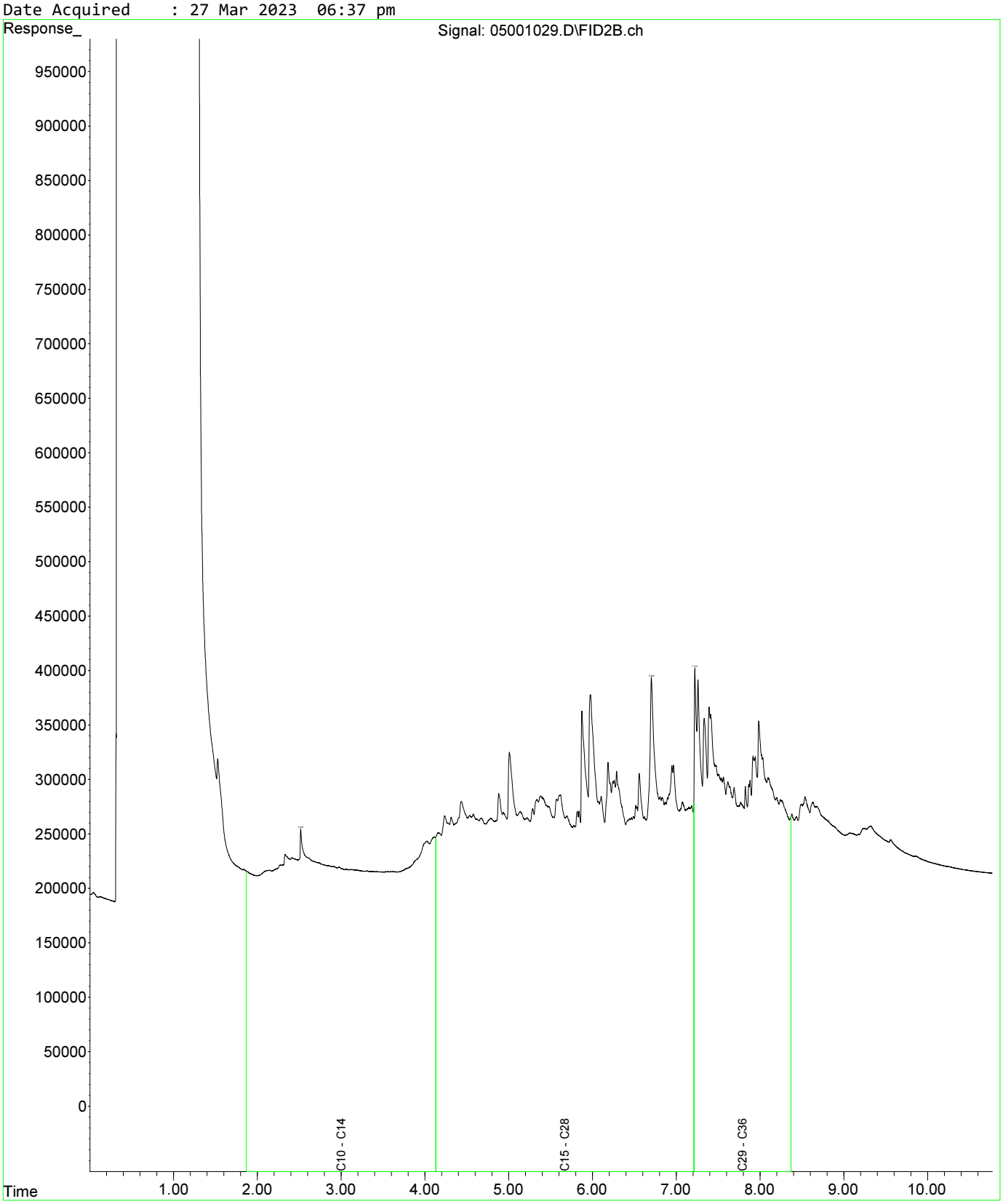
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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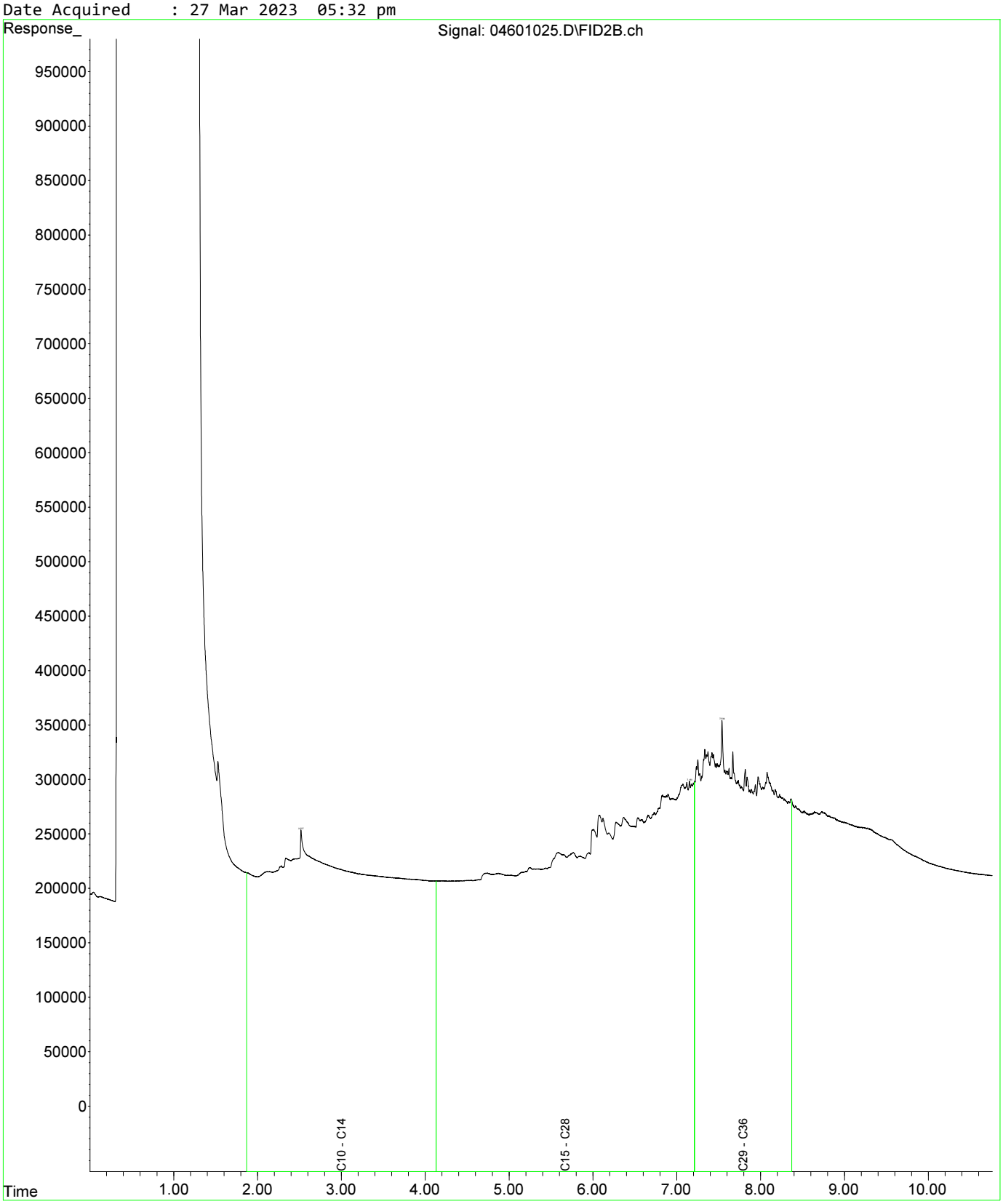

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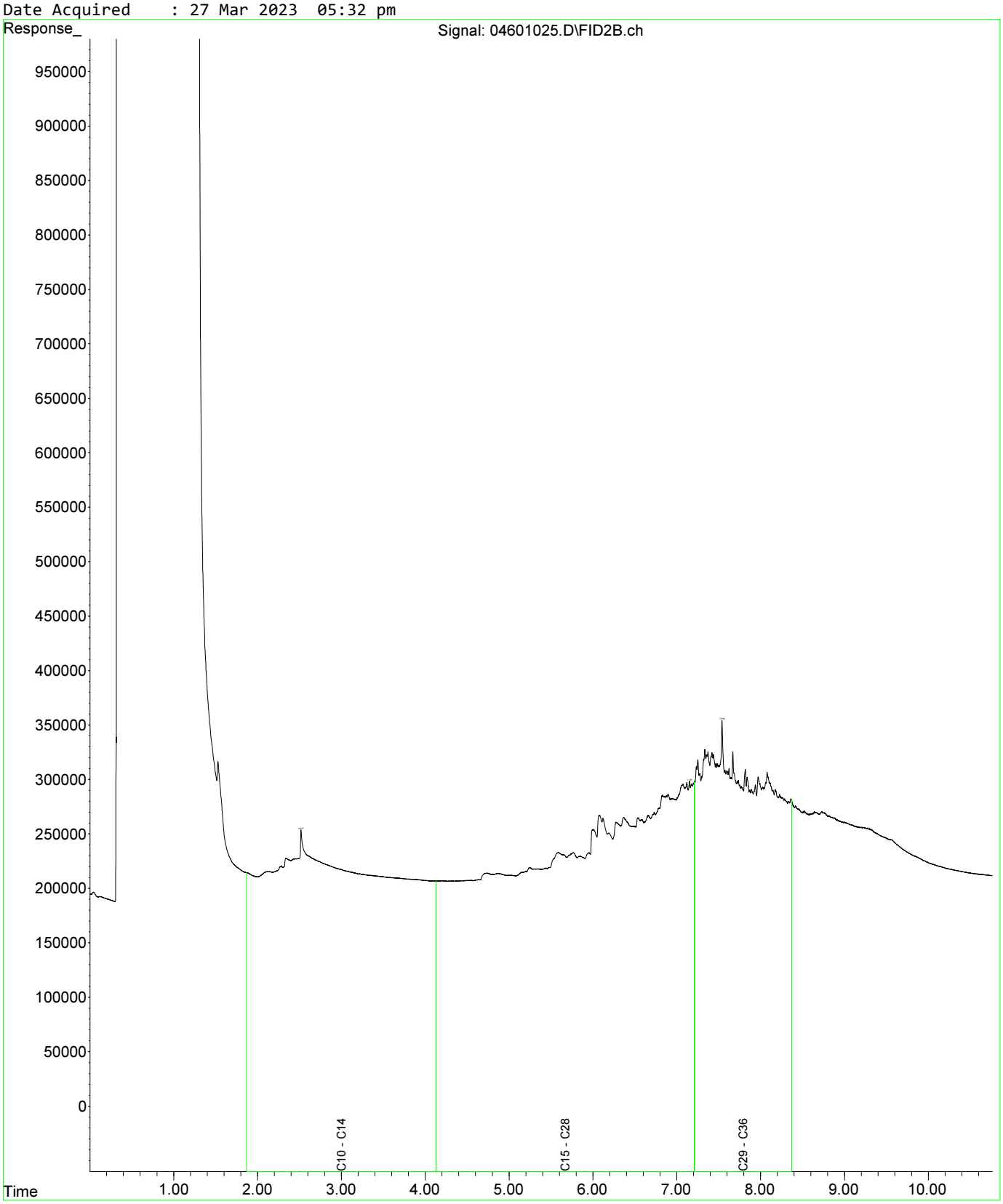

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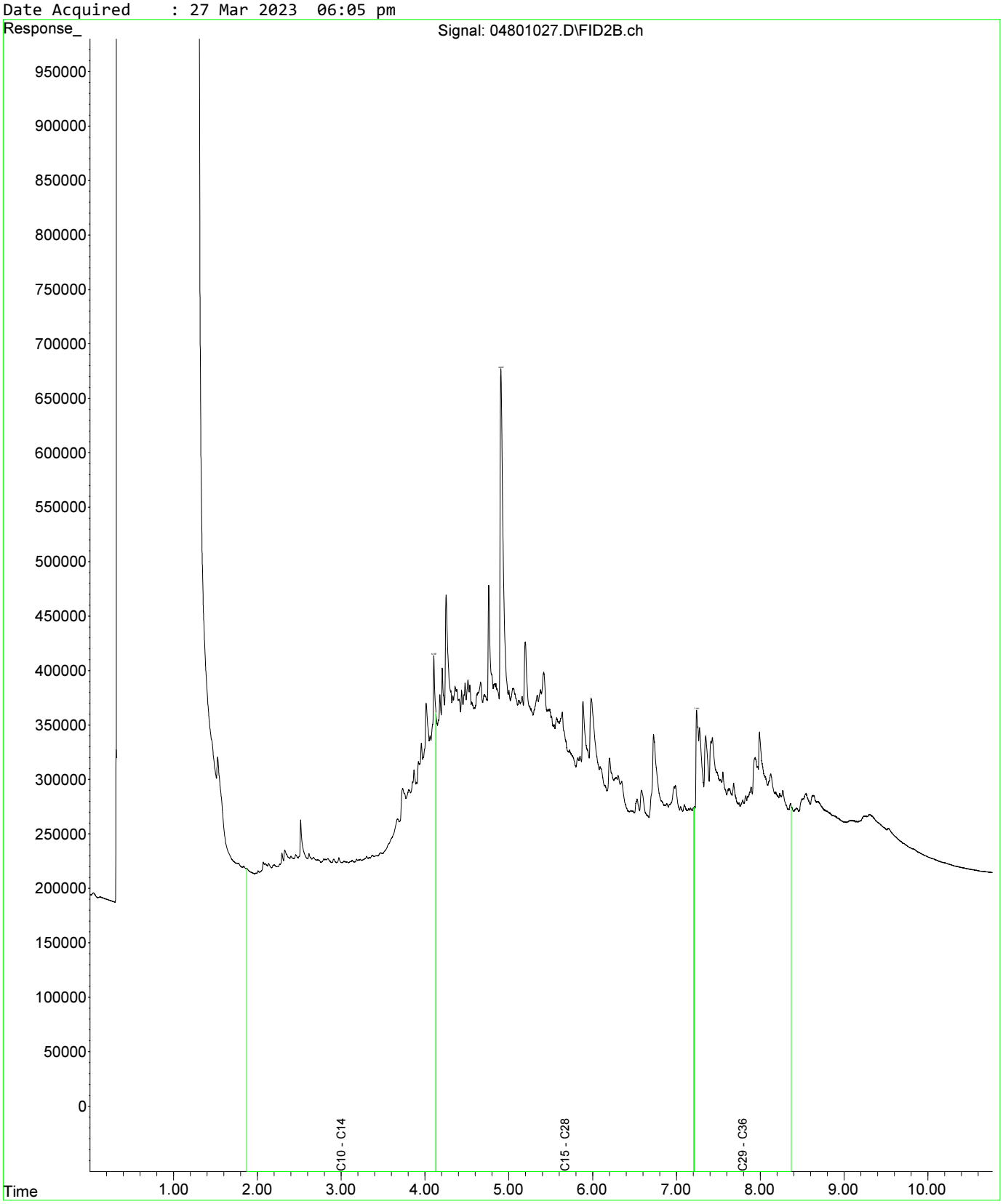

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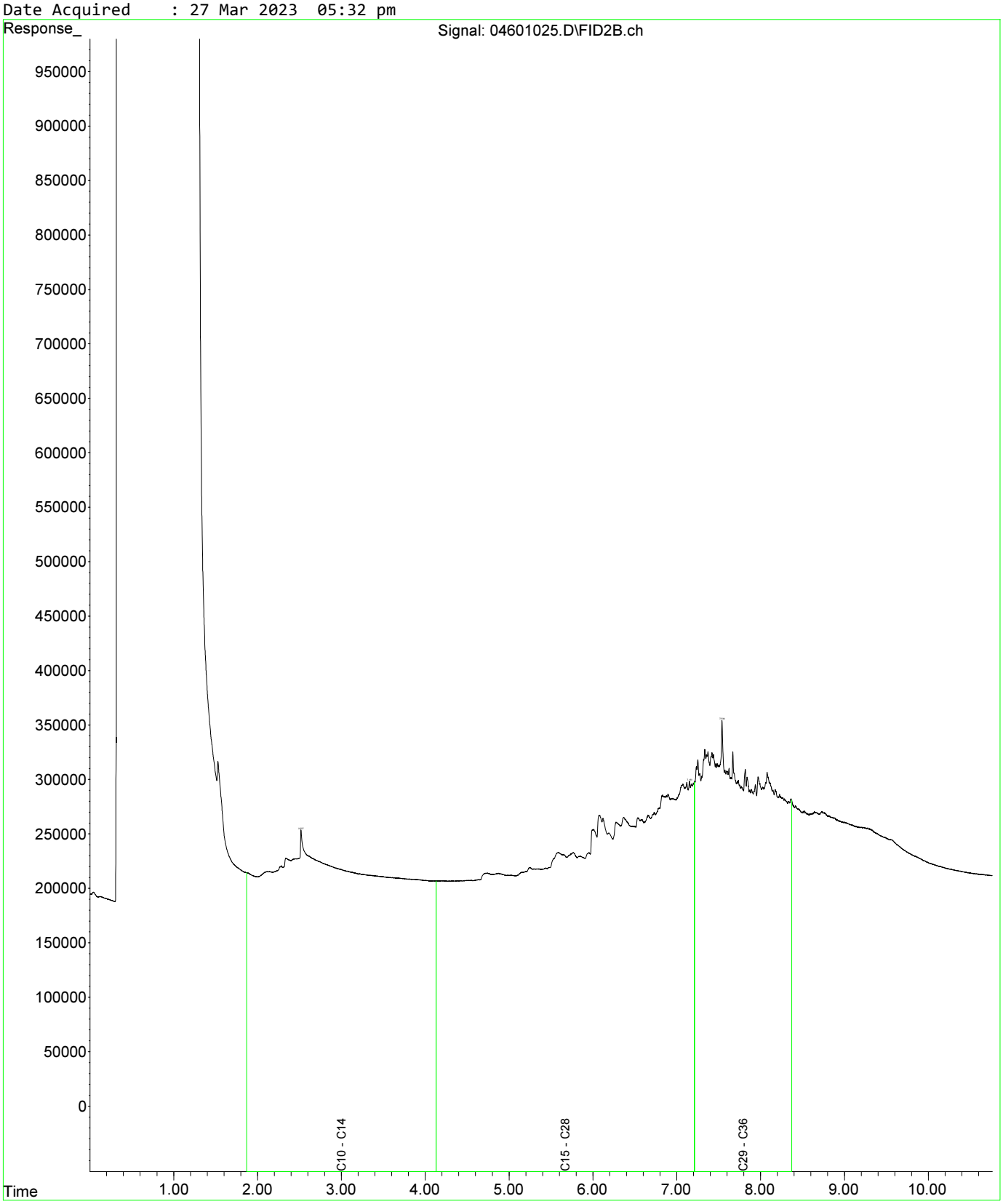

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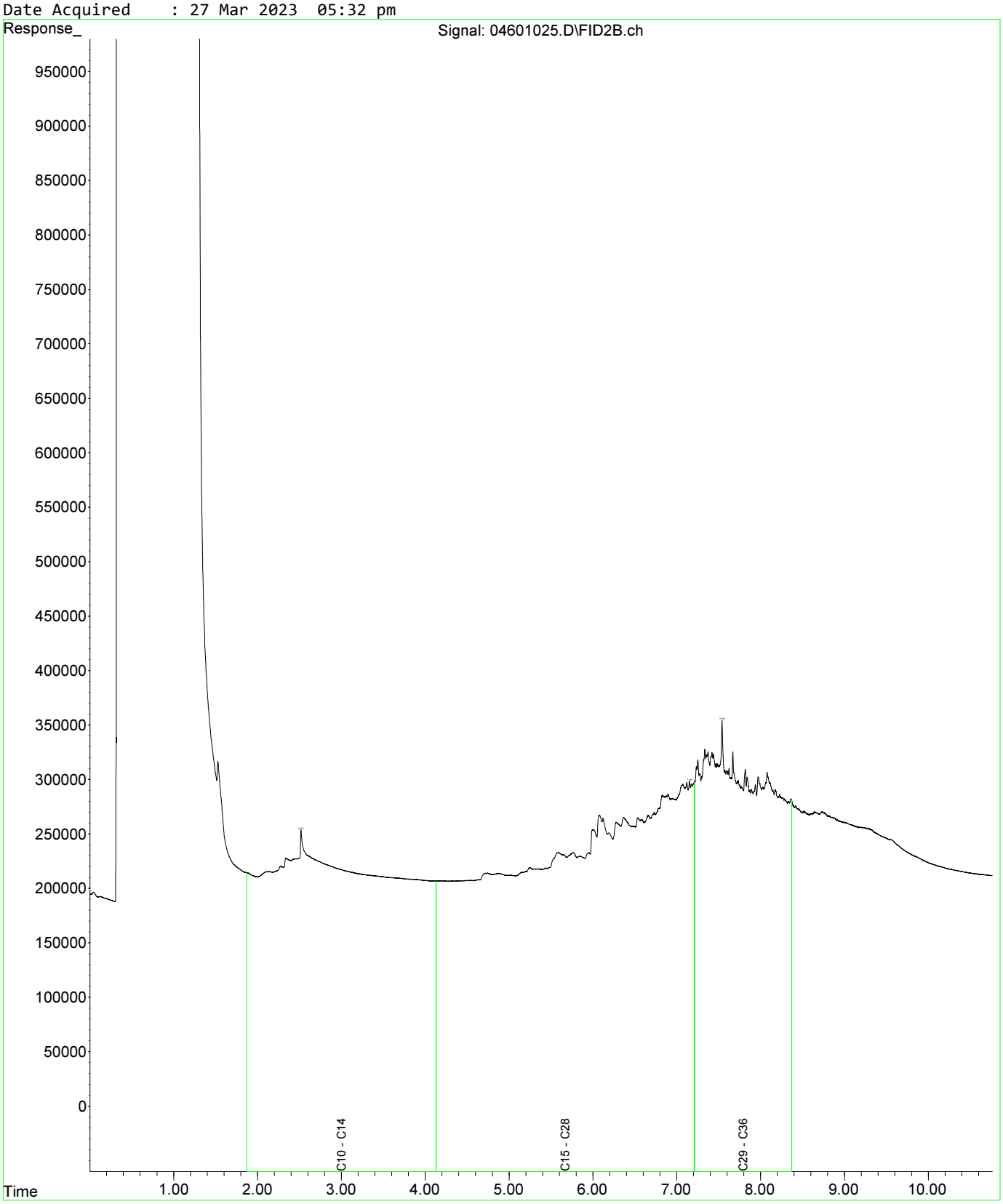

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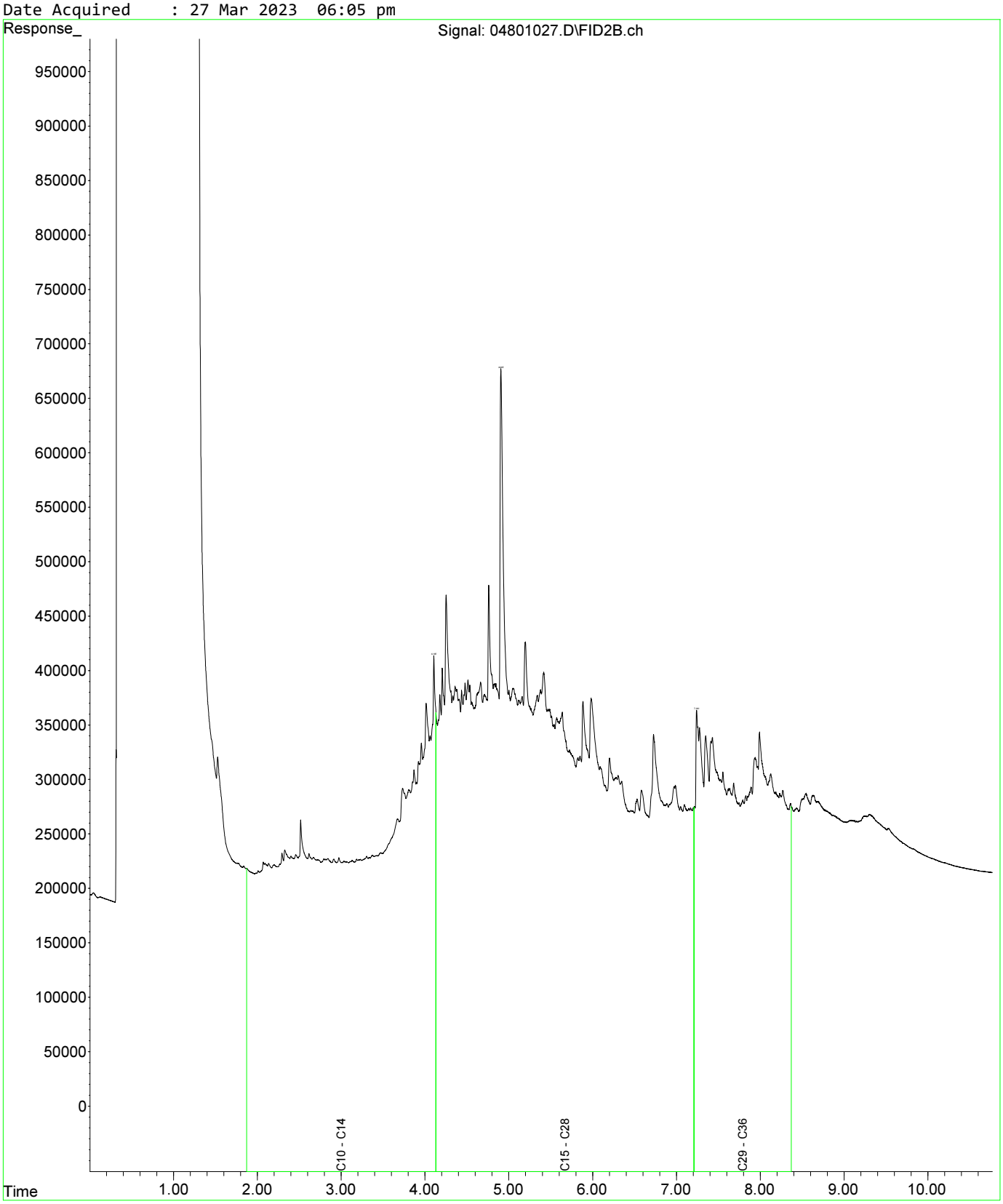

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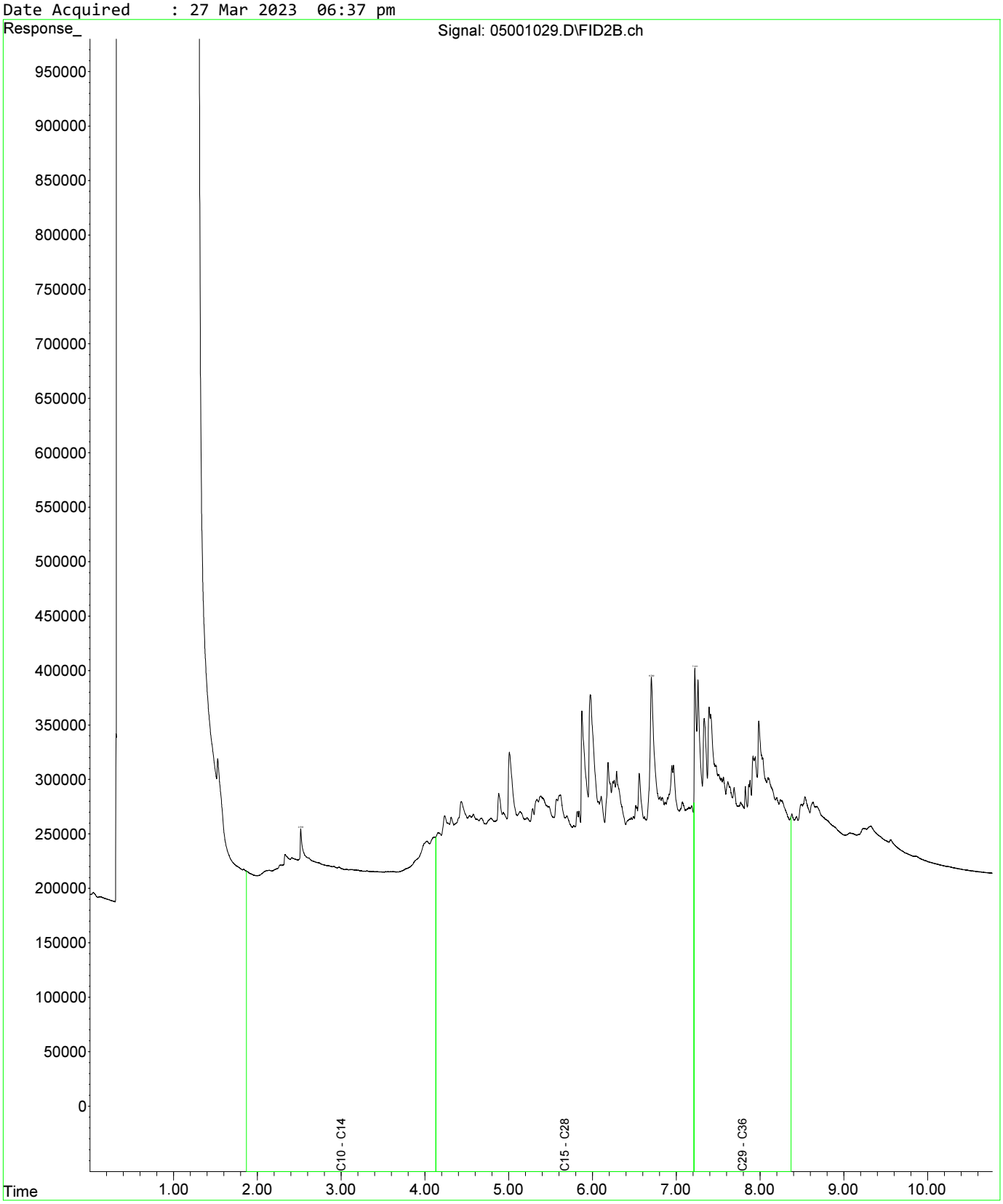
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Laboratory Number: EM2305209-025
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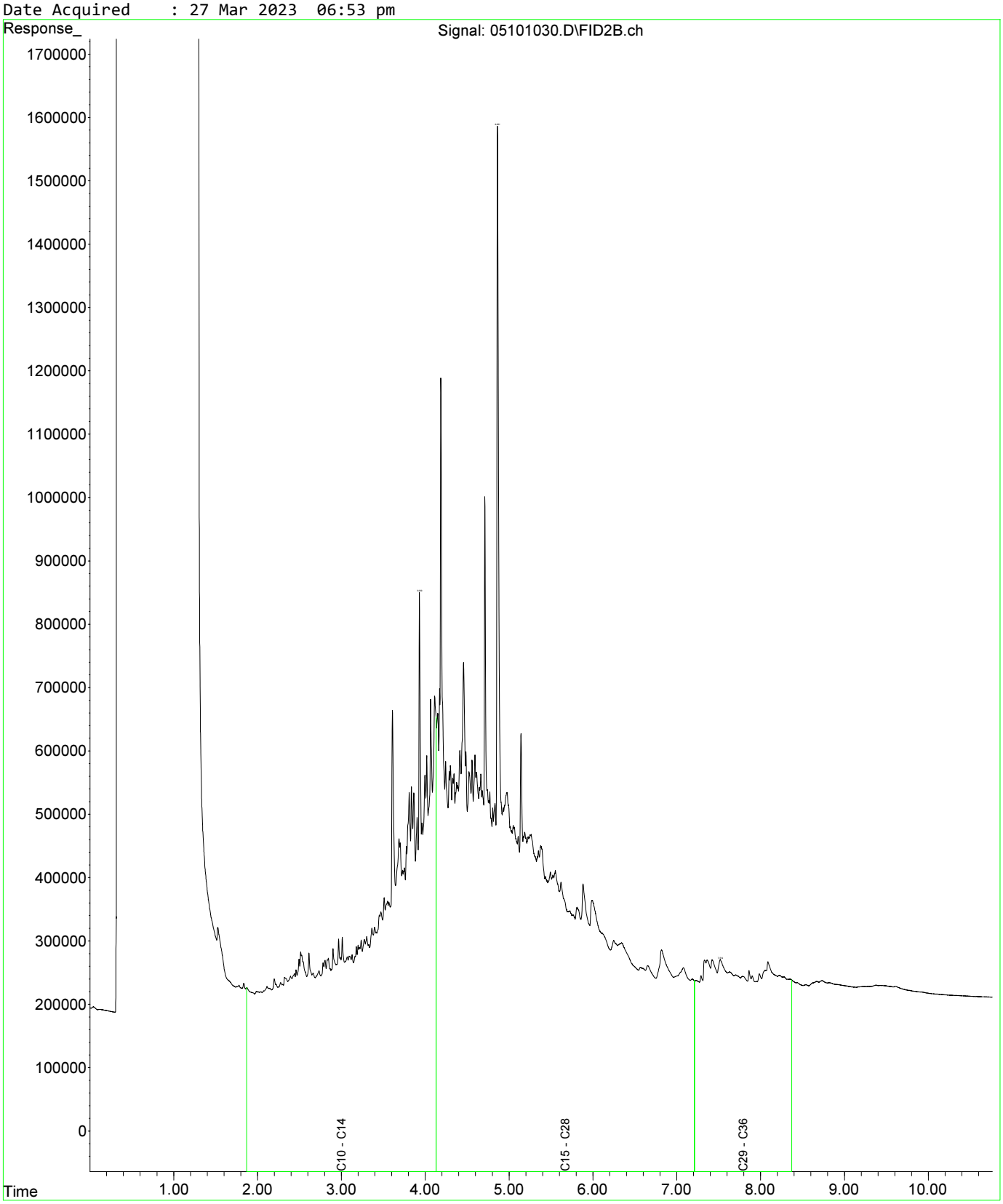
Date Acquired : 27 Mar 2023 06:53 pm



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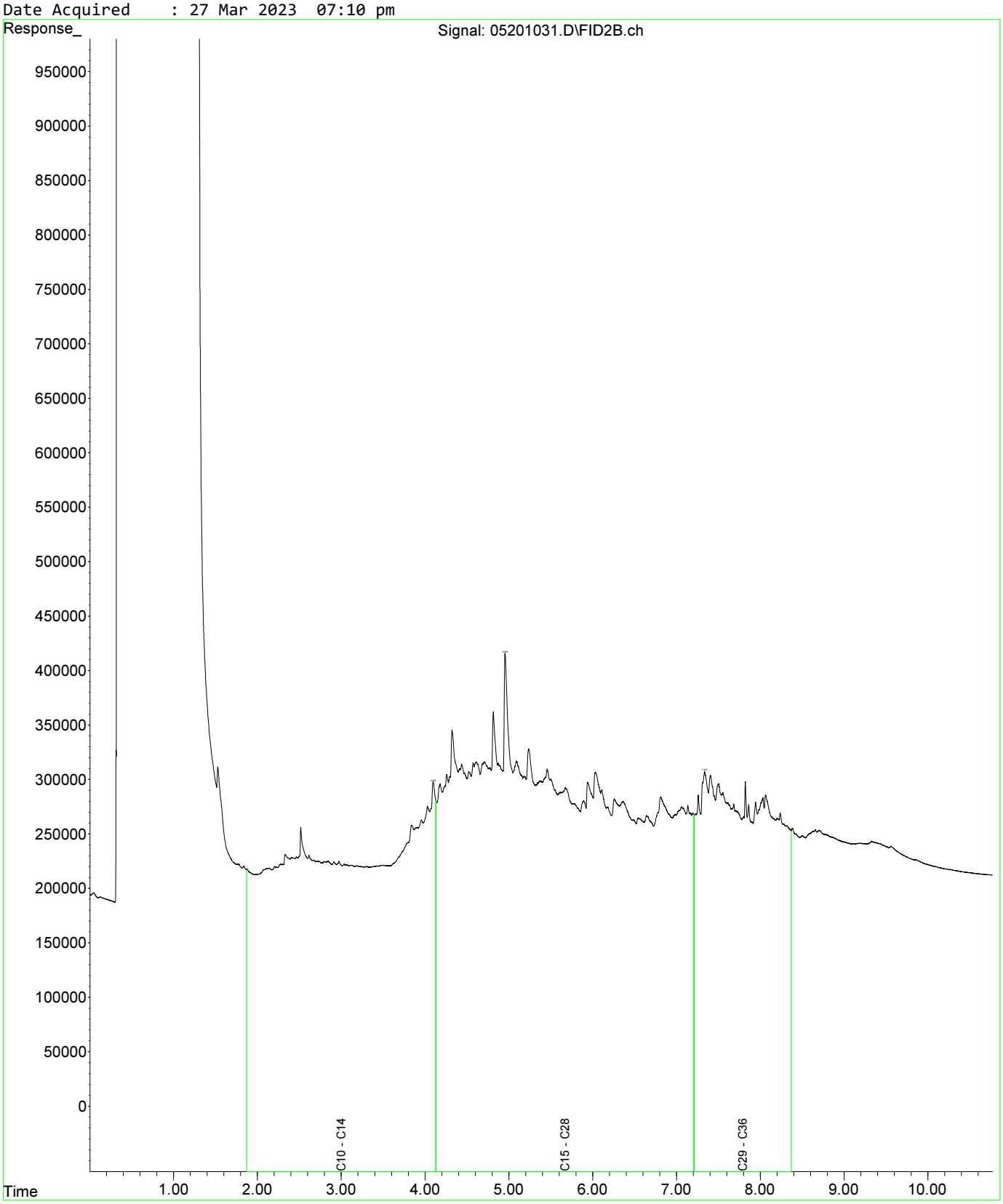
Date Acquired : 27 Mar 2023 07:10 pm



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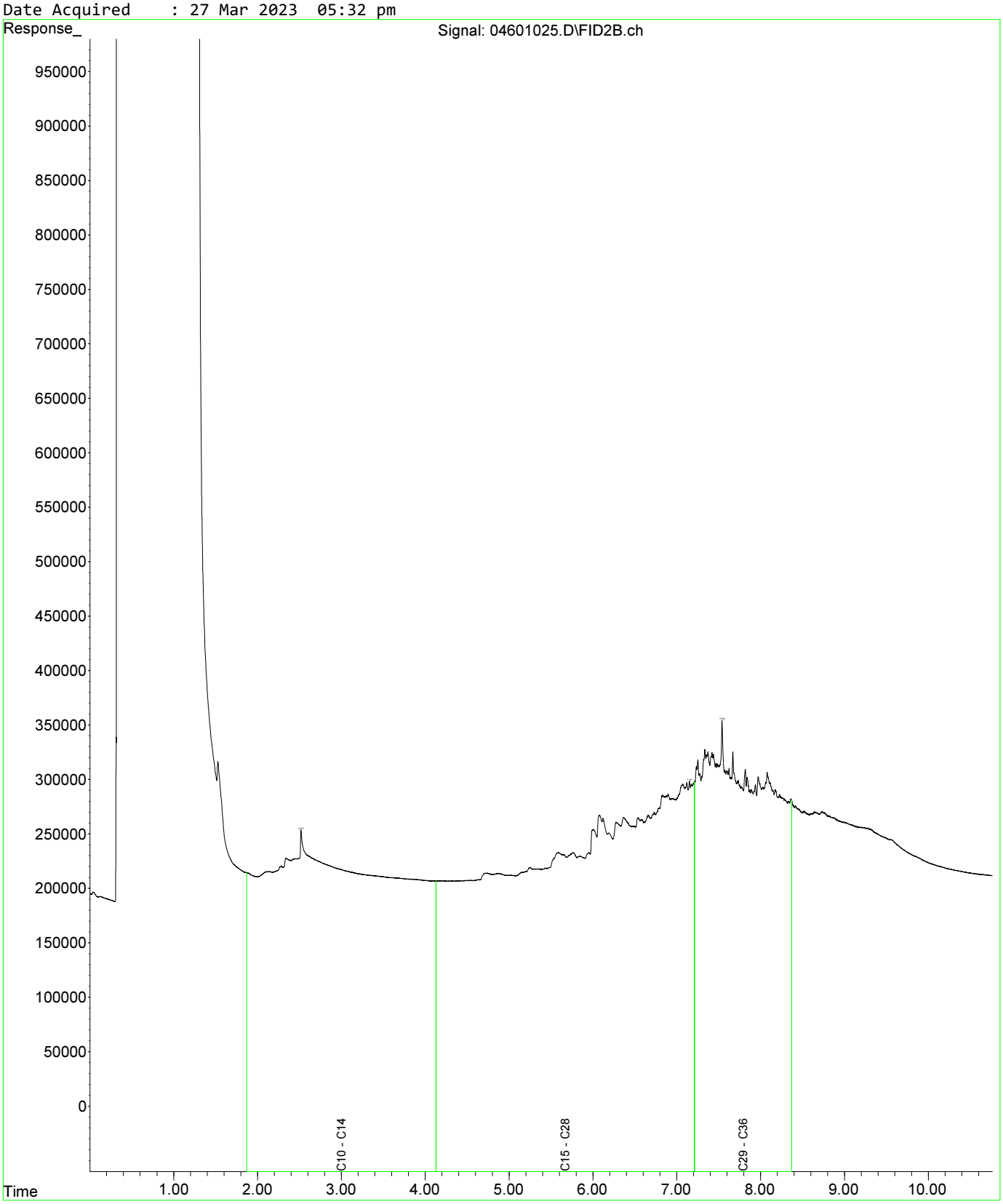

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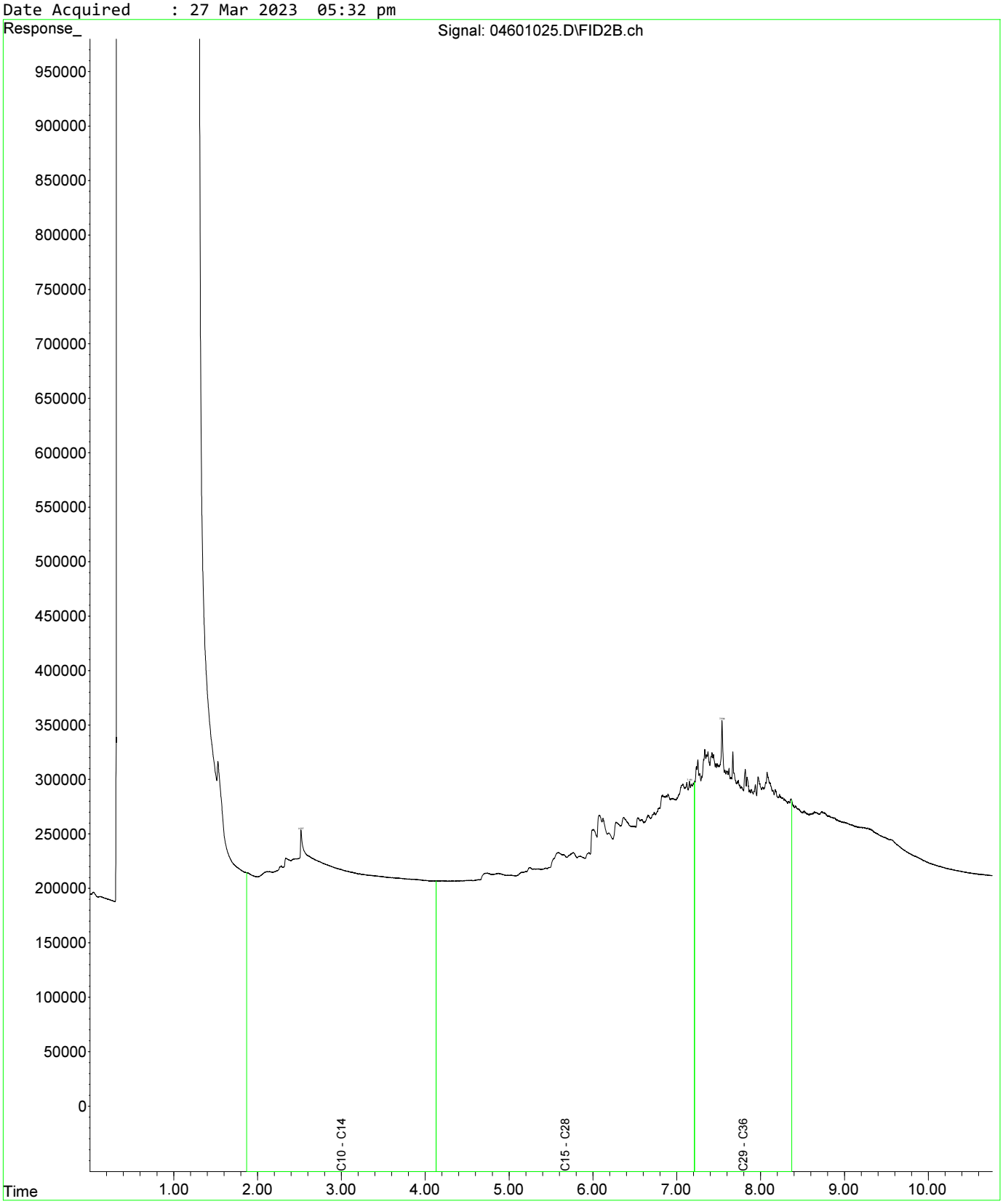

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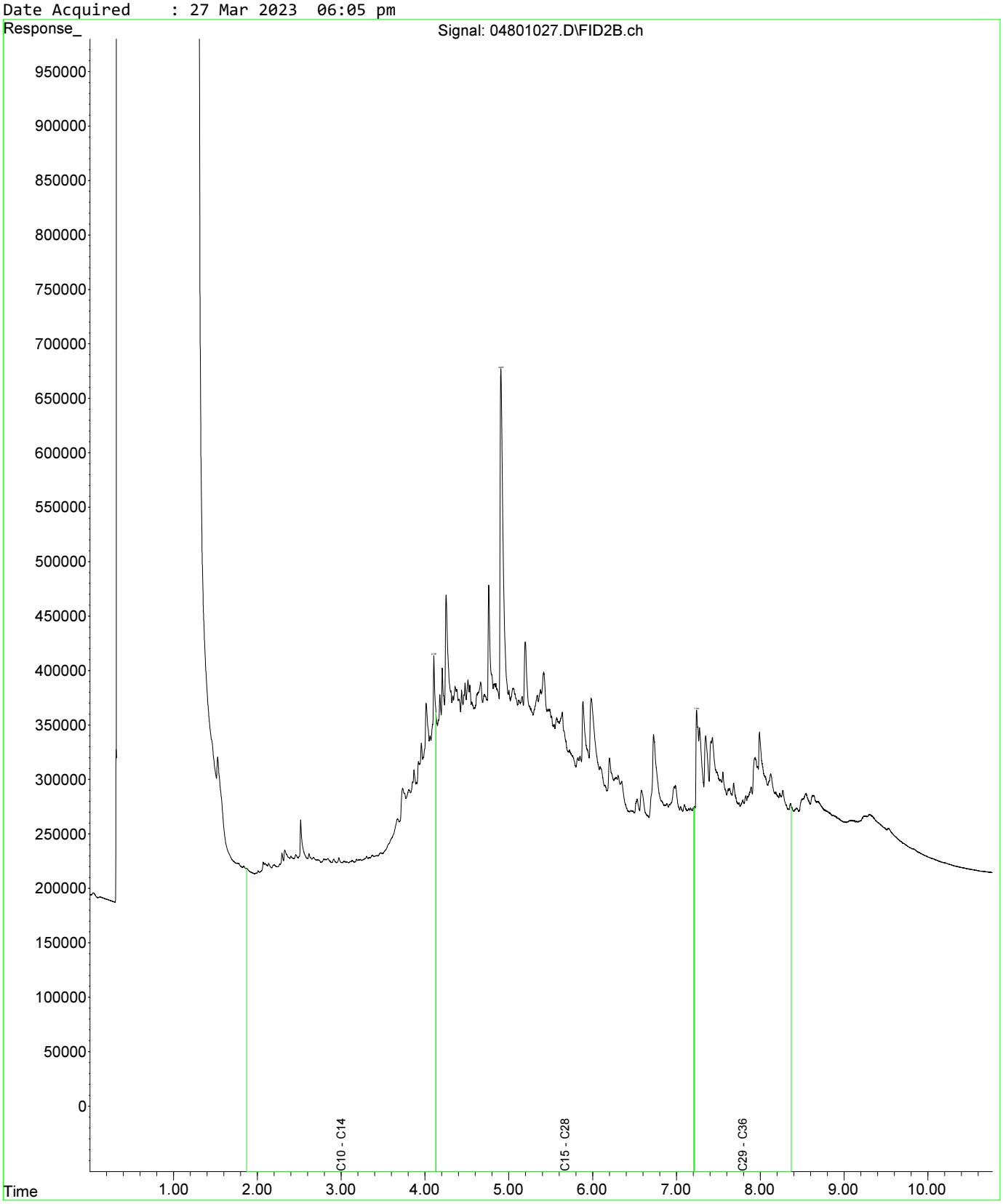

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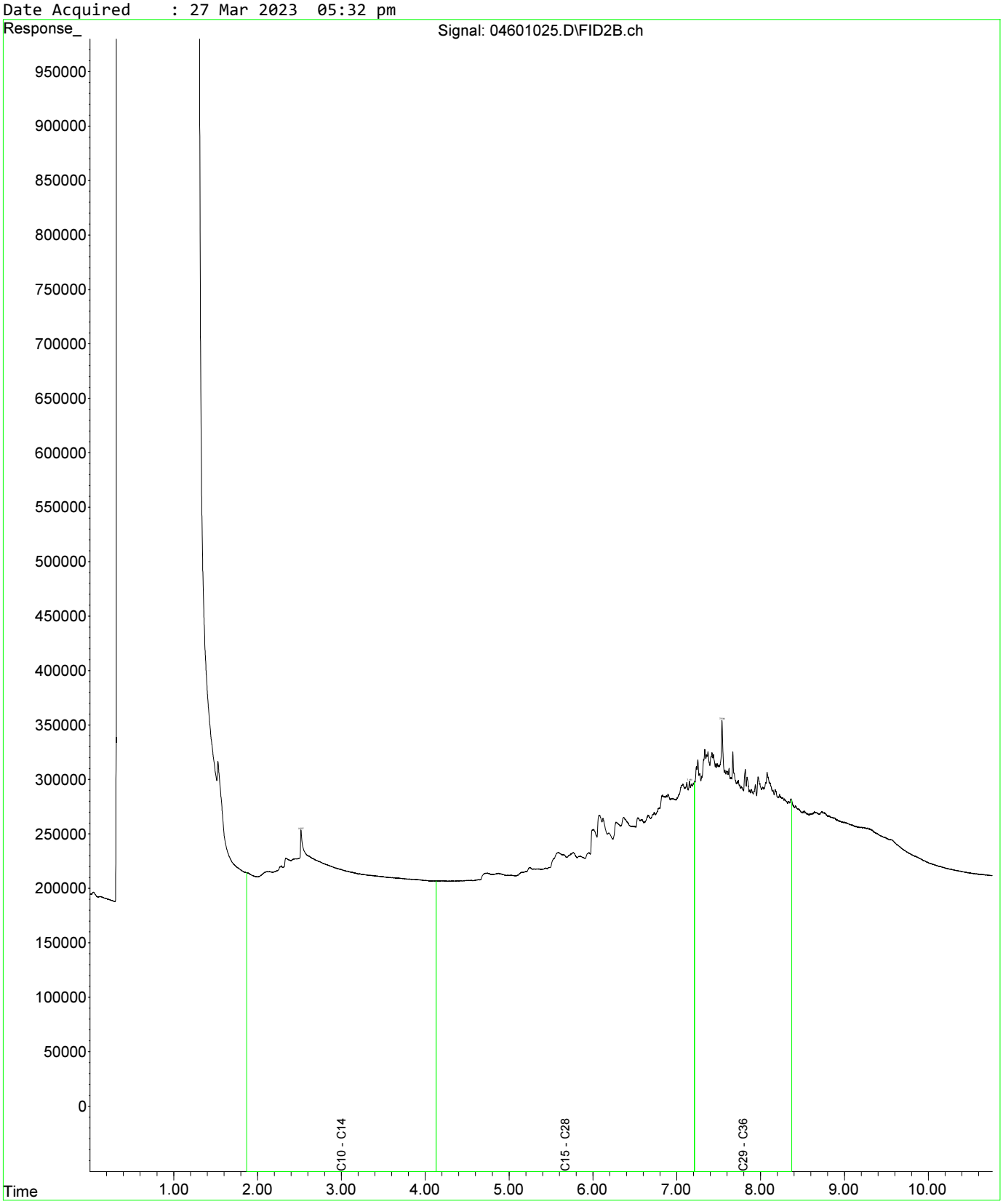

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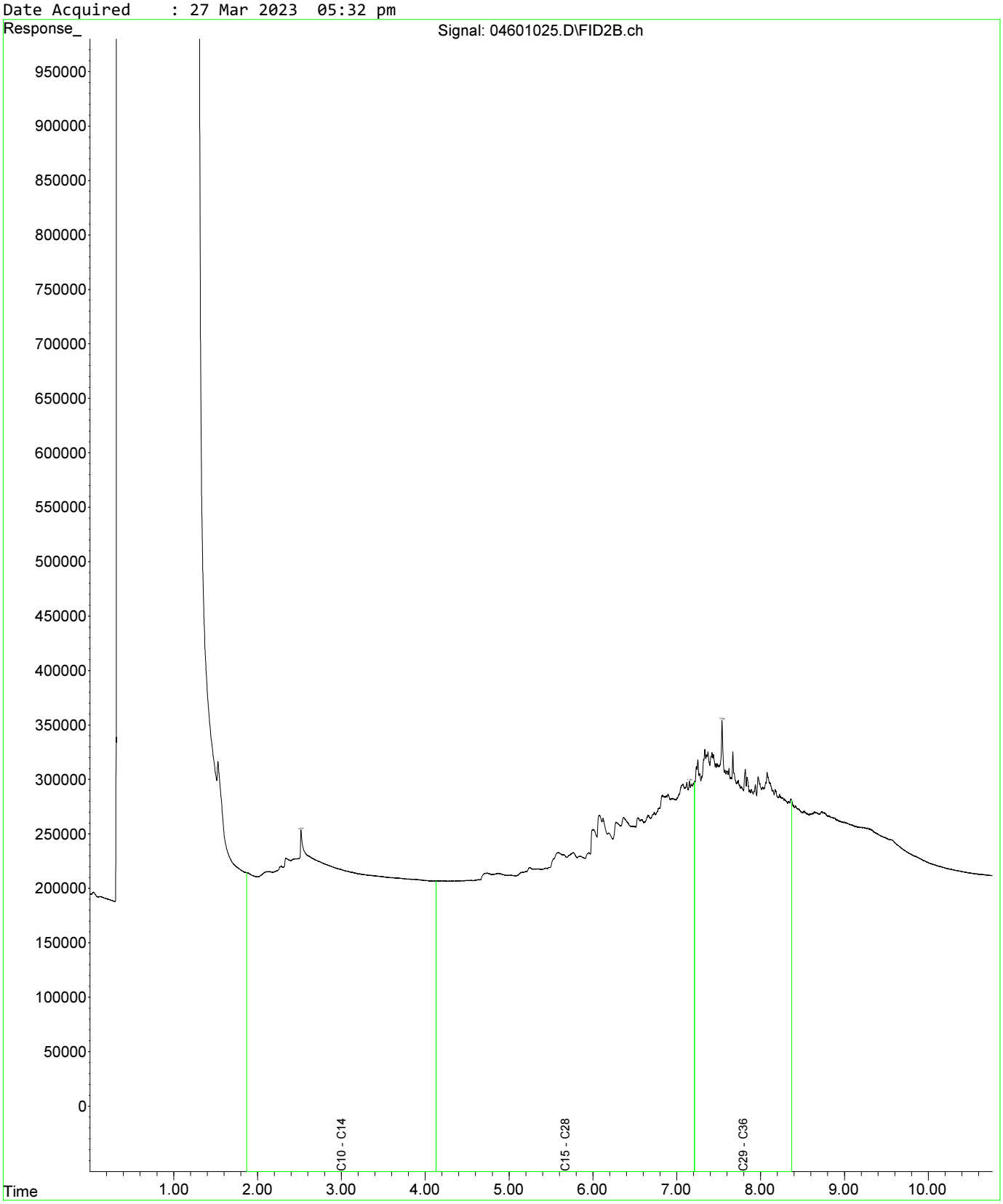

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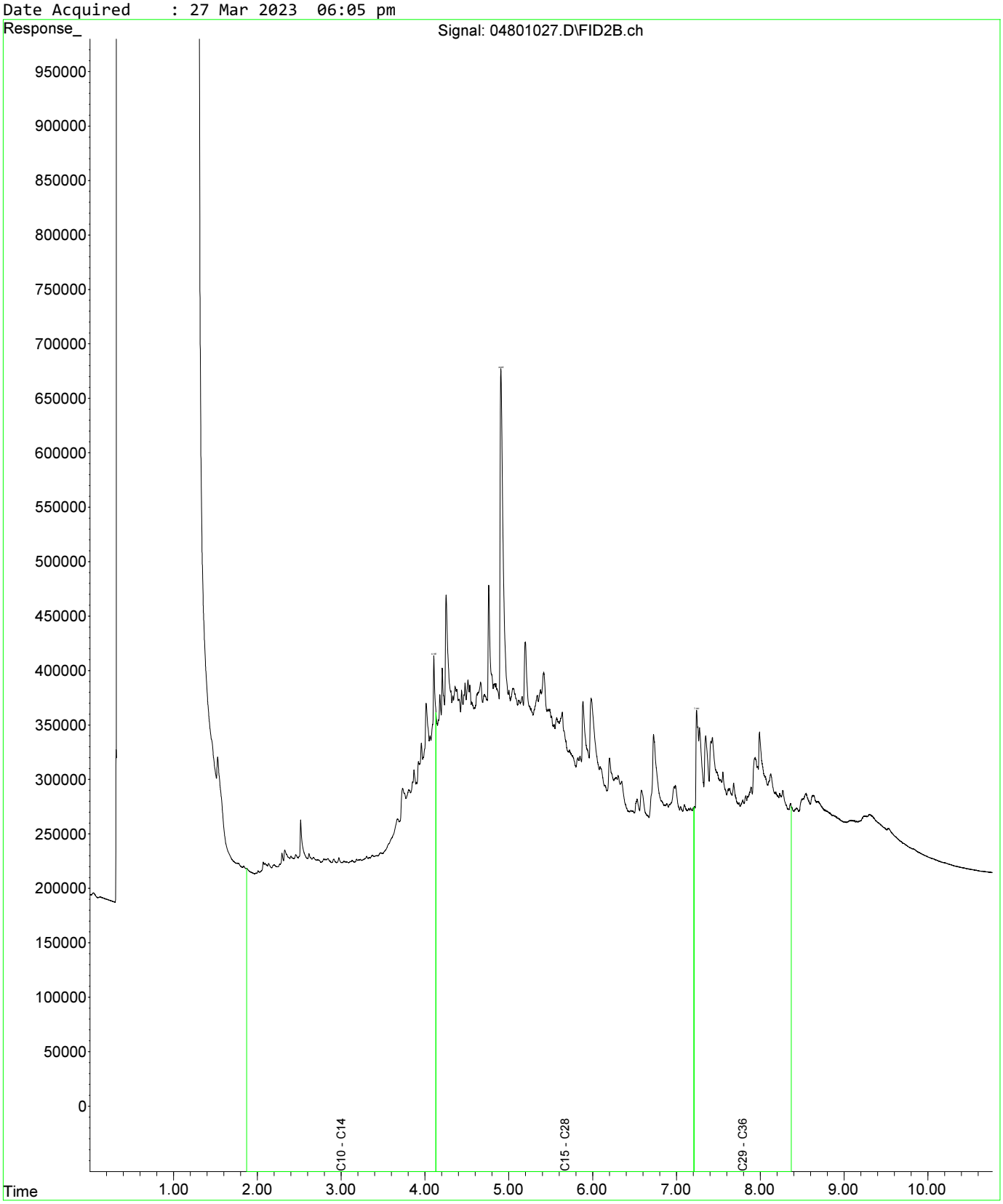

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Data File : 05001029.D
Laboratory Number: EM2305209-021
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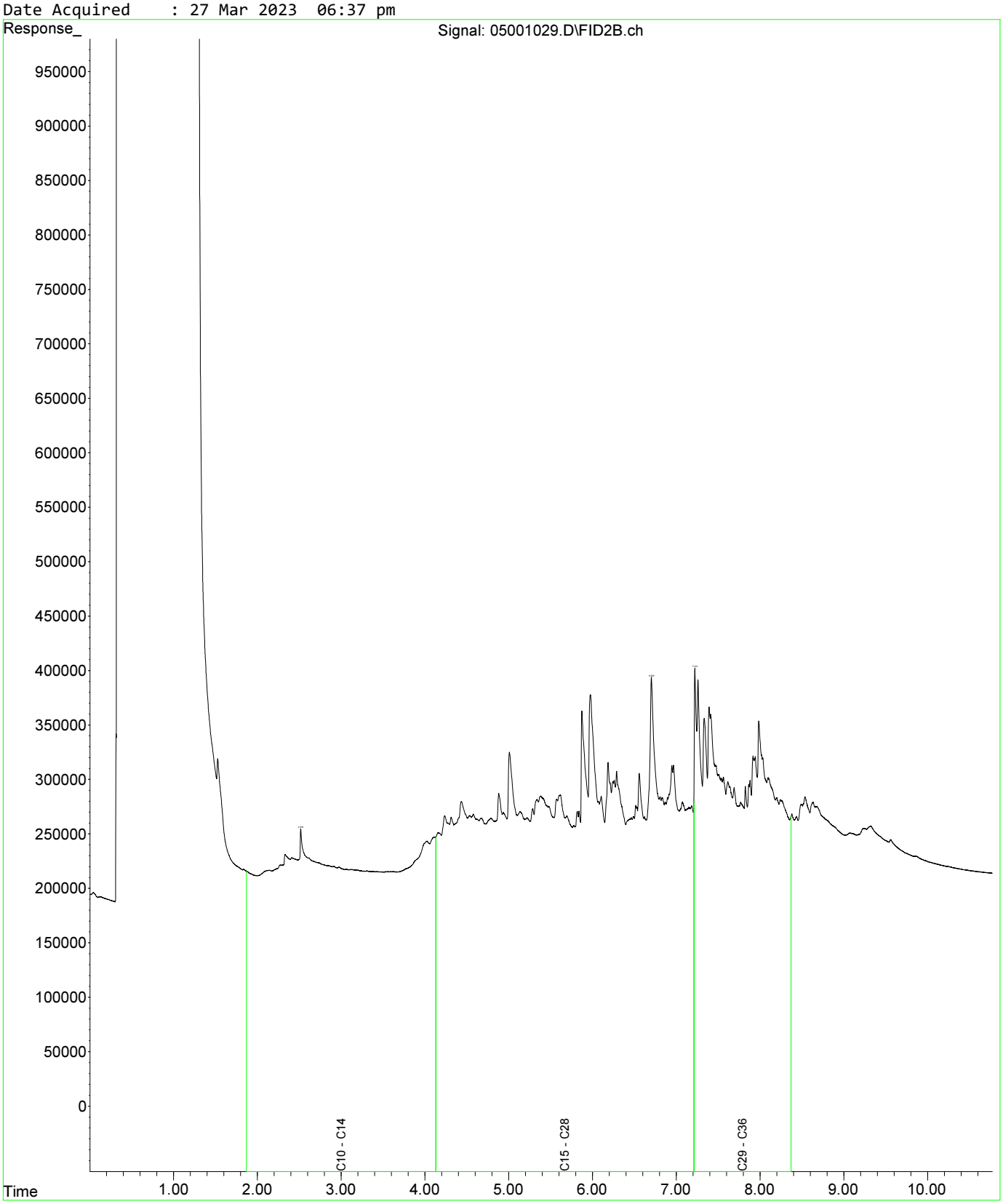
Date Acquired : 27 Mar 2023 06:37 pm



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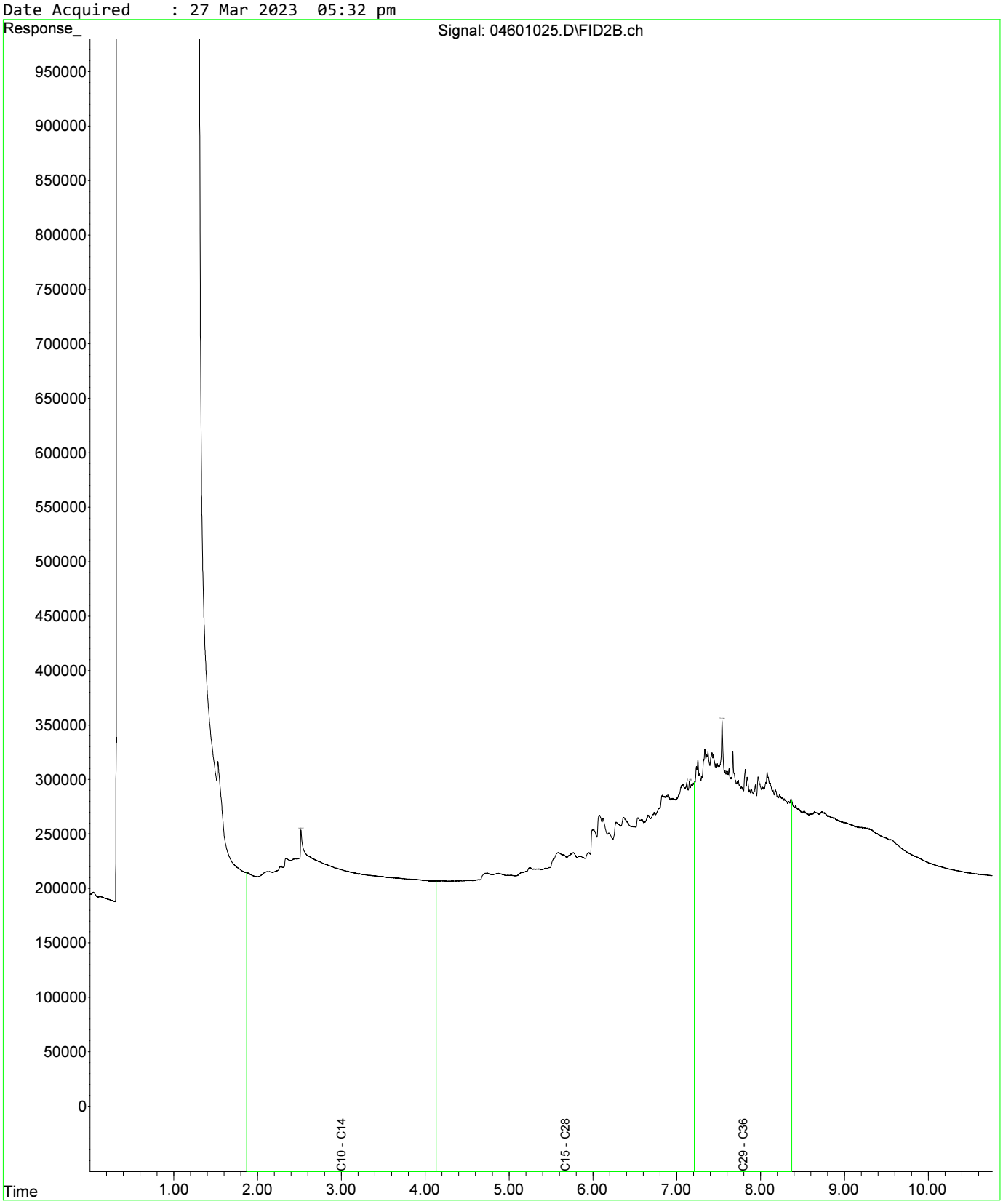

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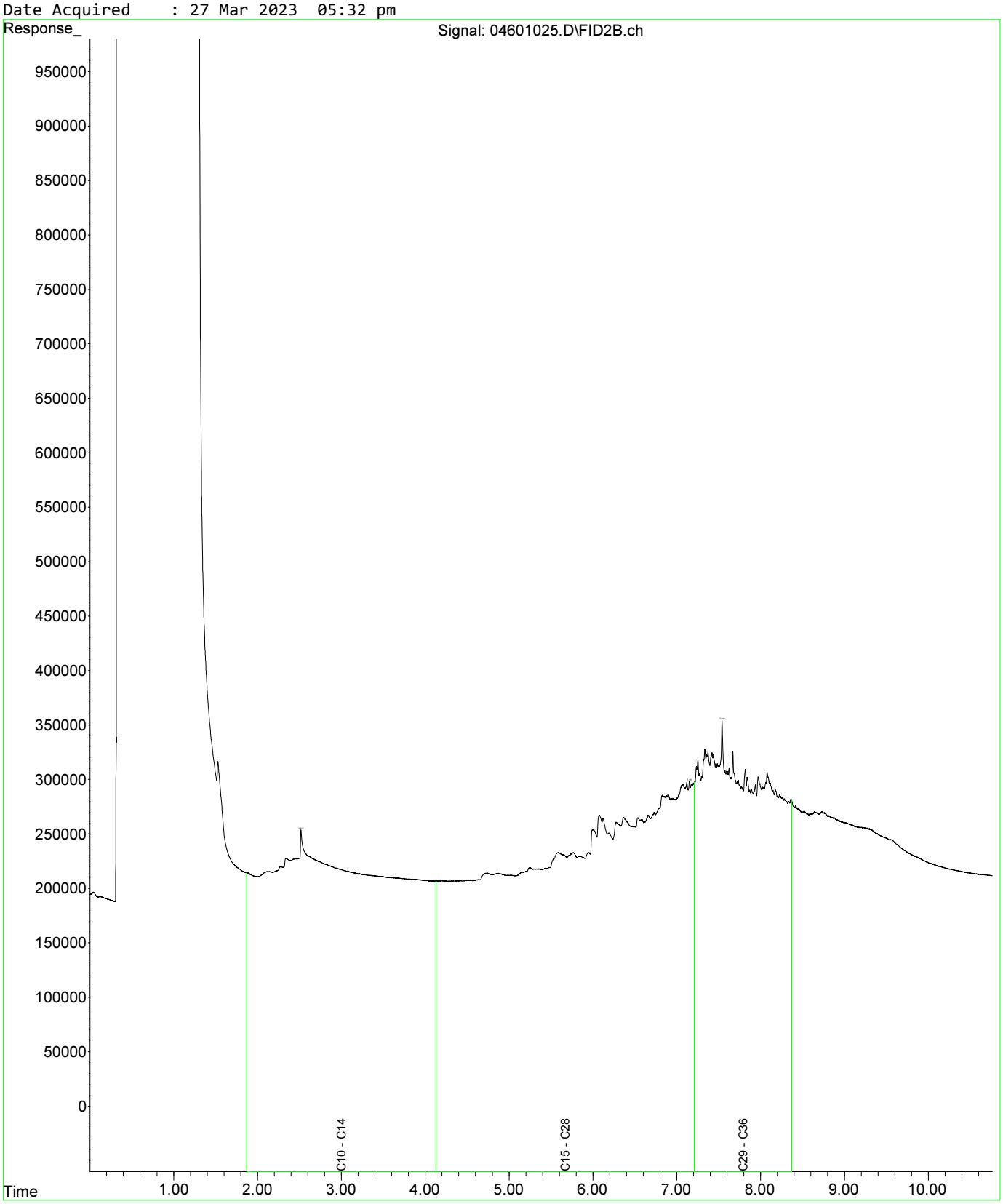

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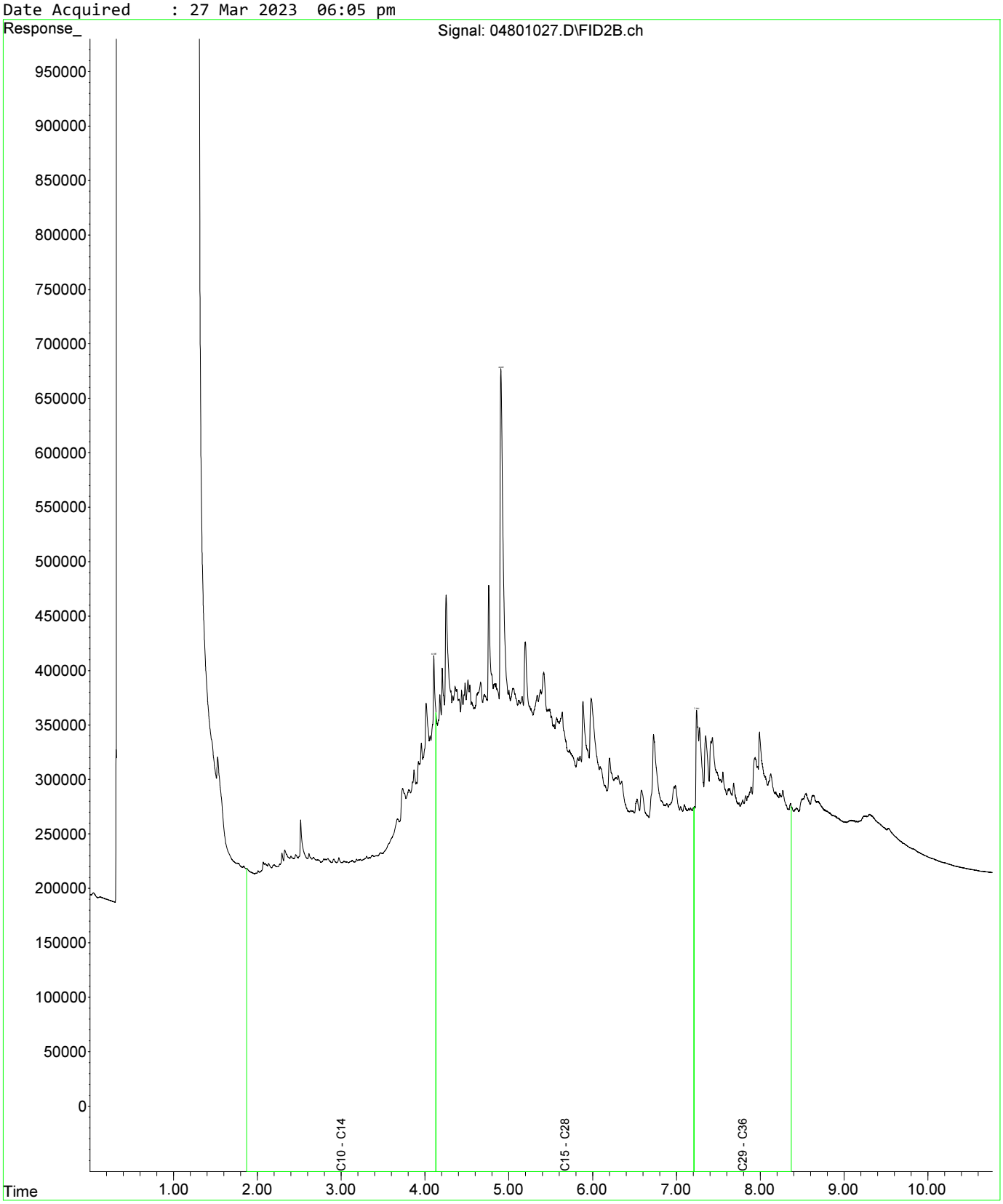

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Laboratory Number: EM2305209-013
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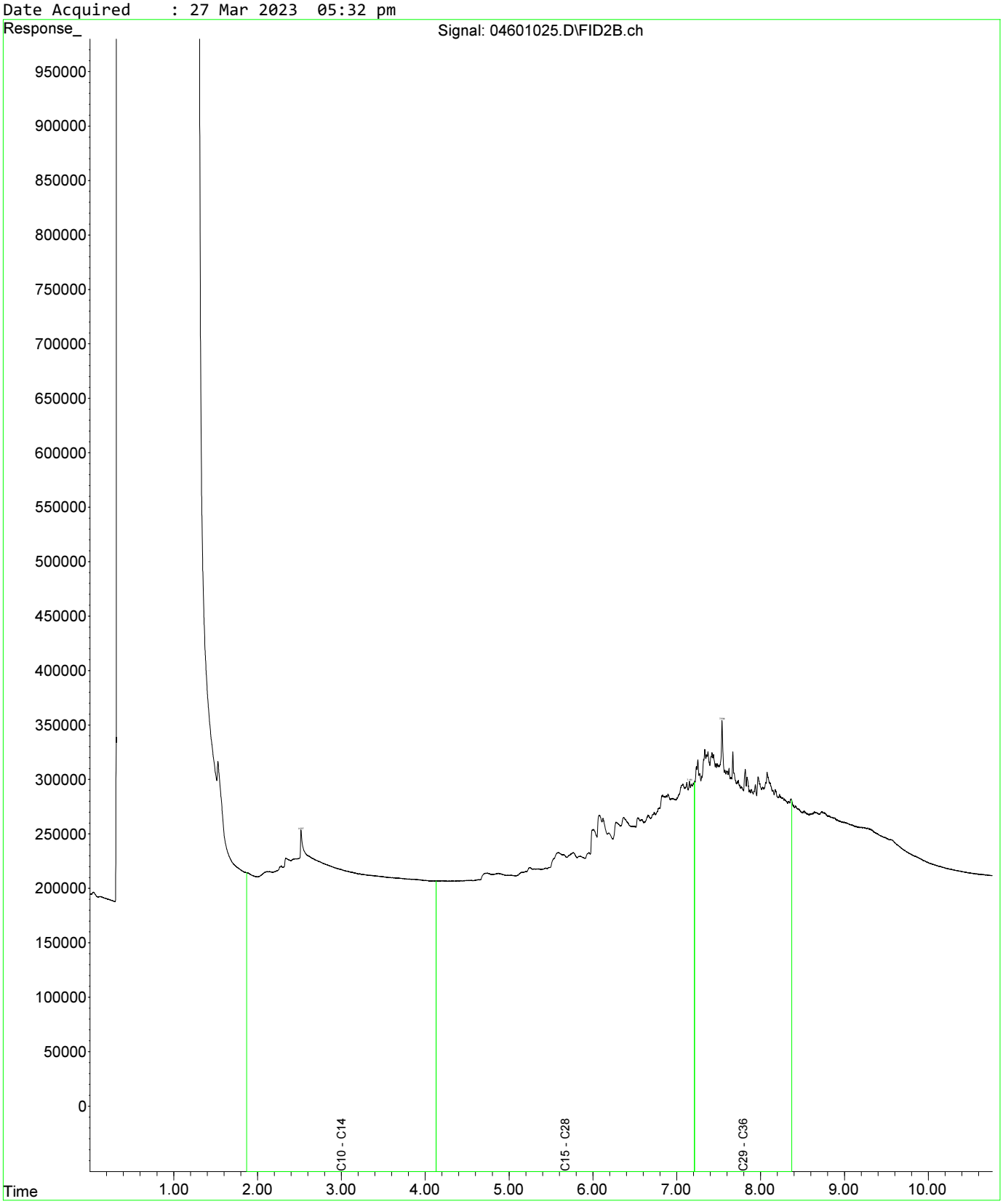

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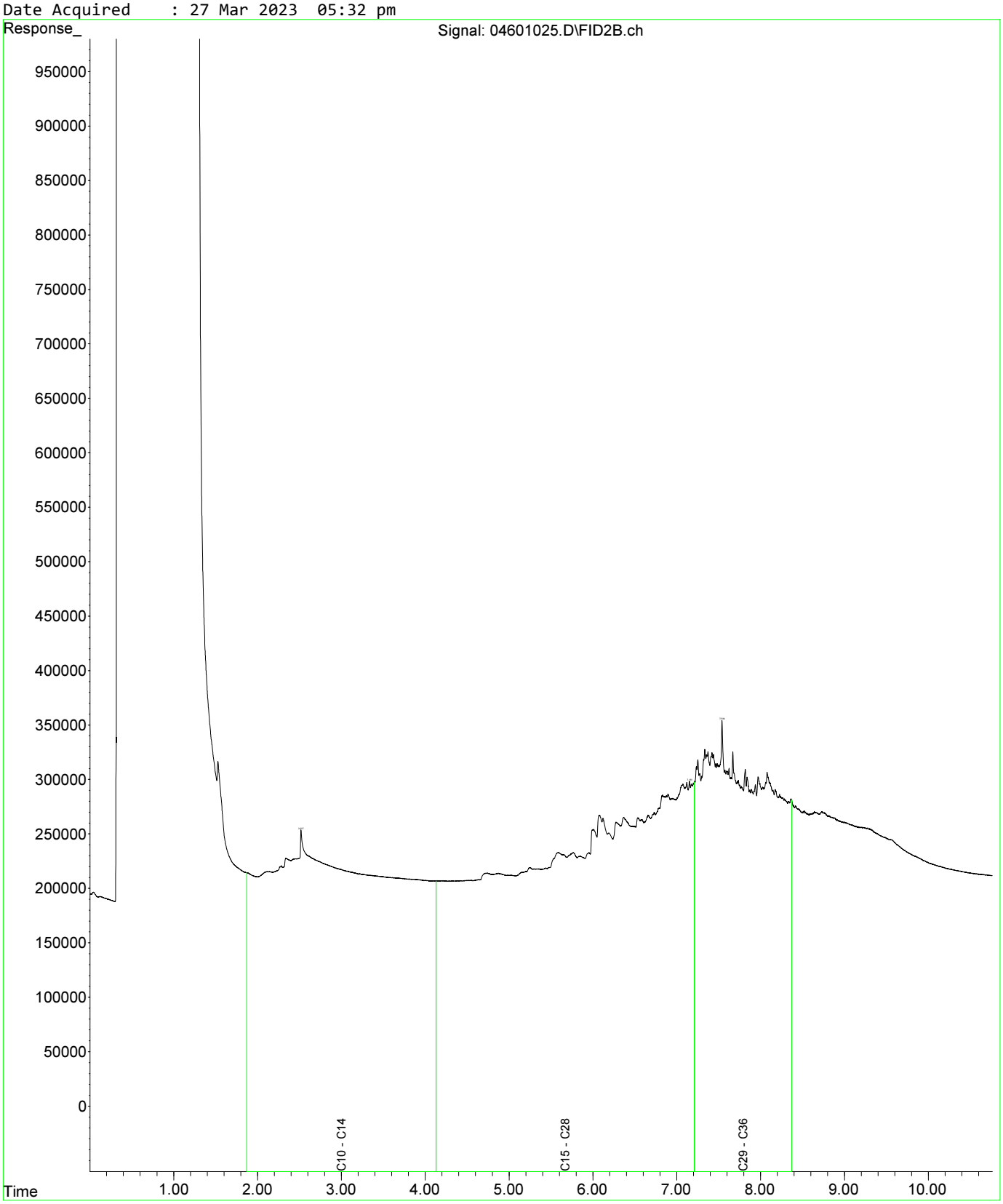

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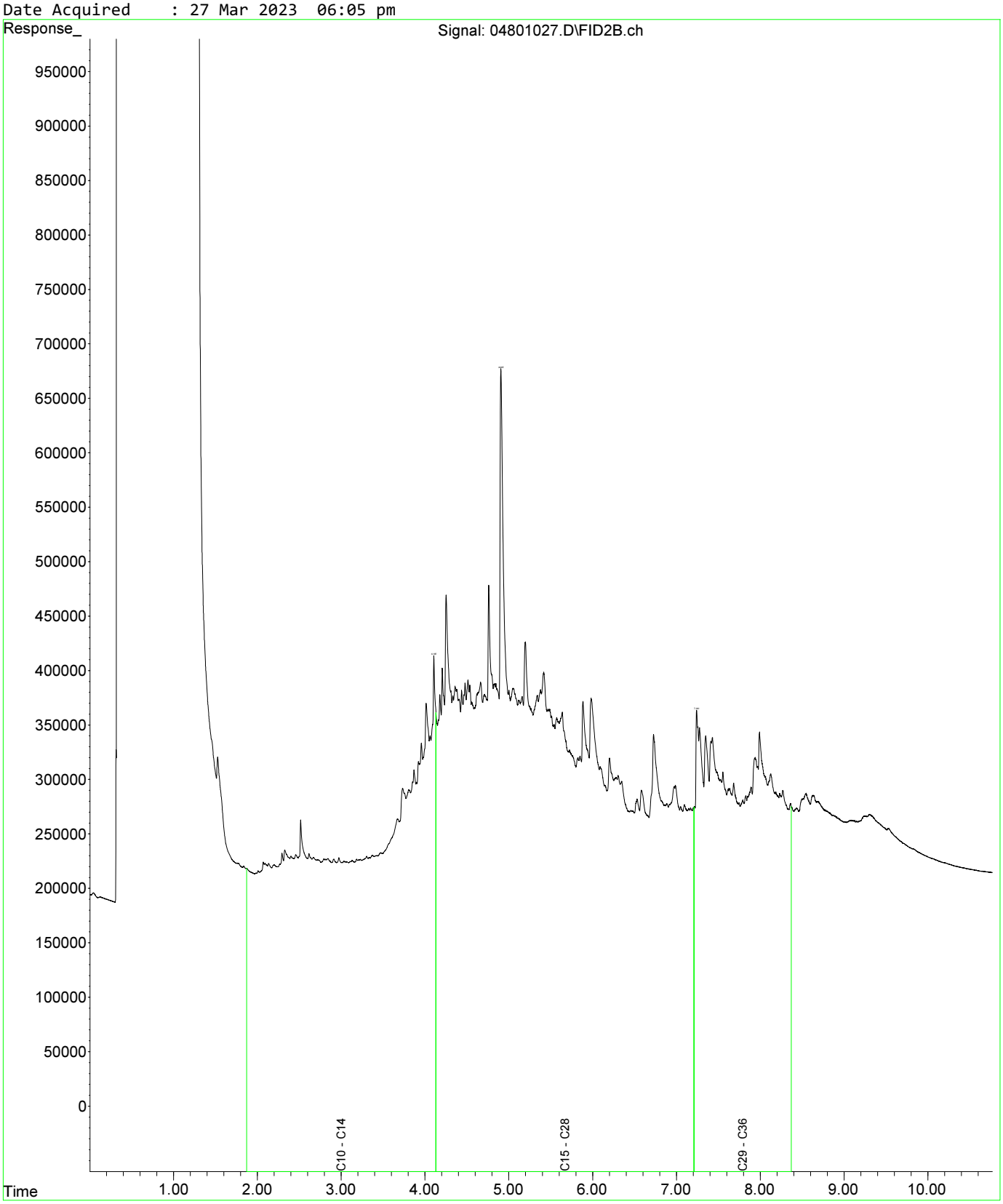

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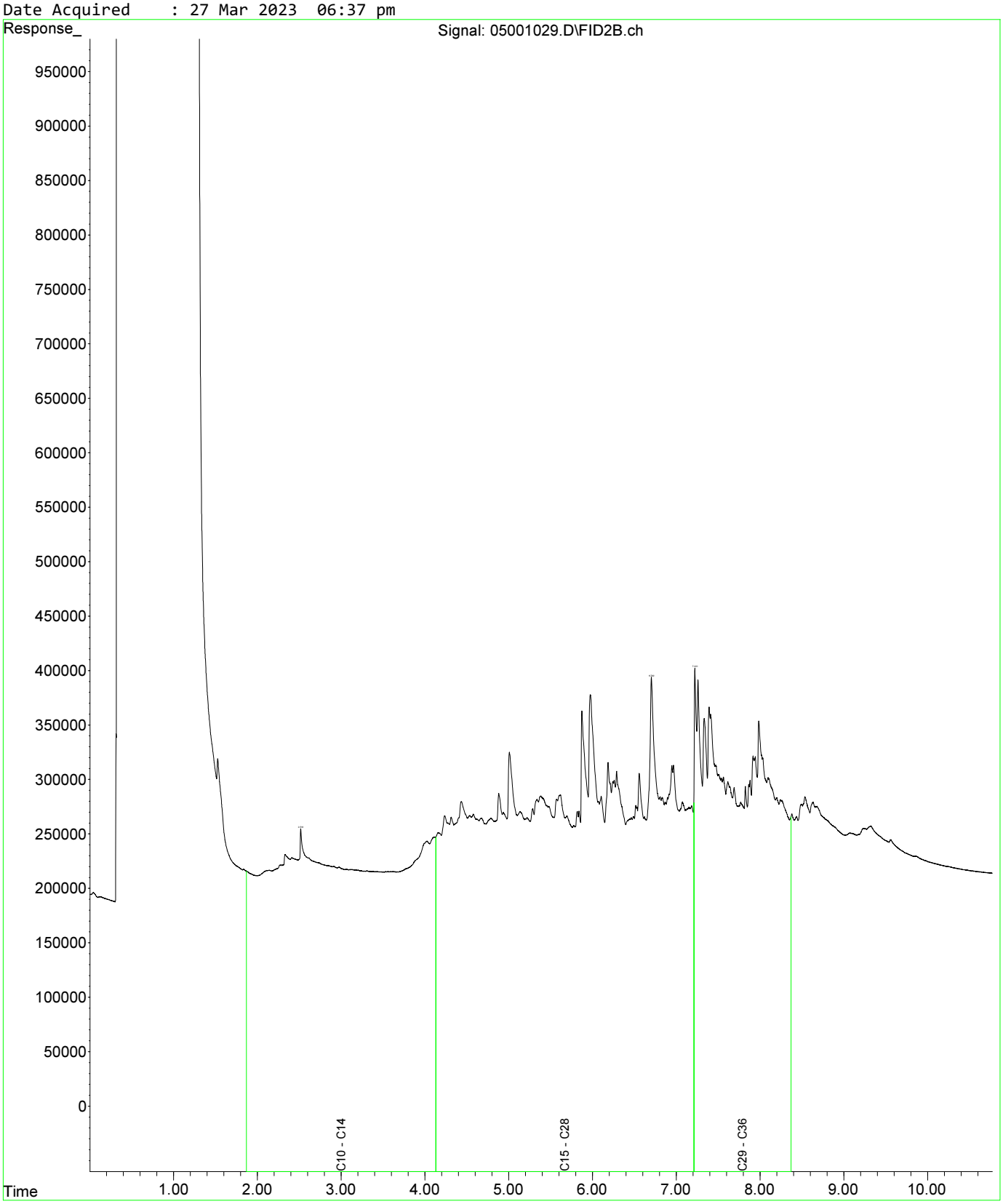
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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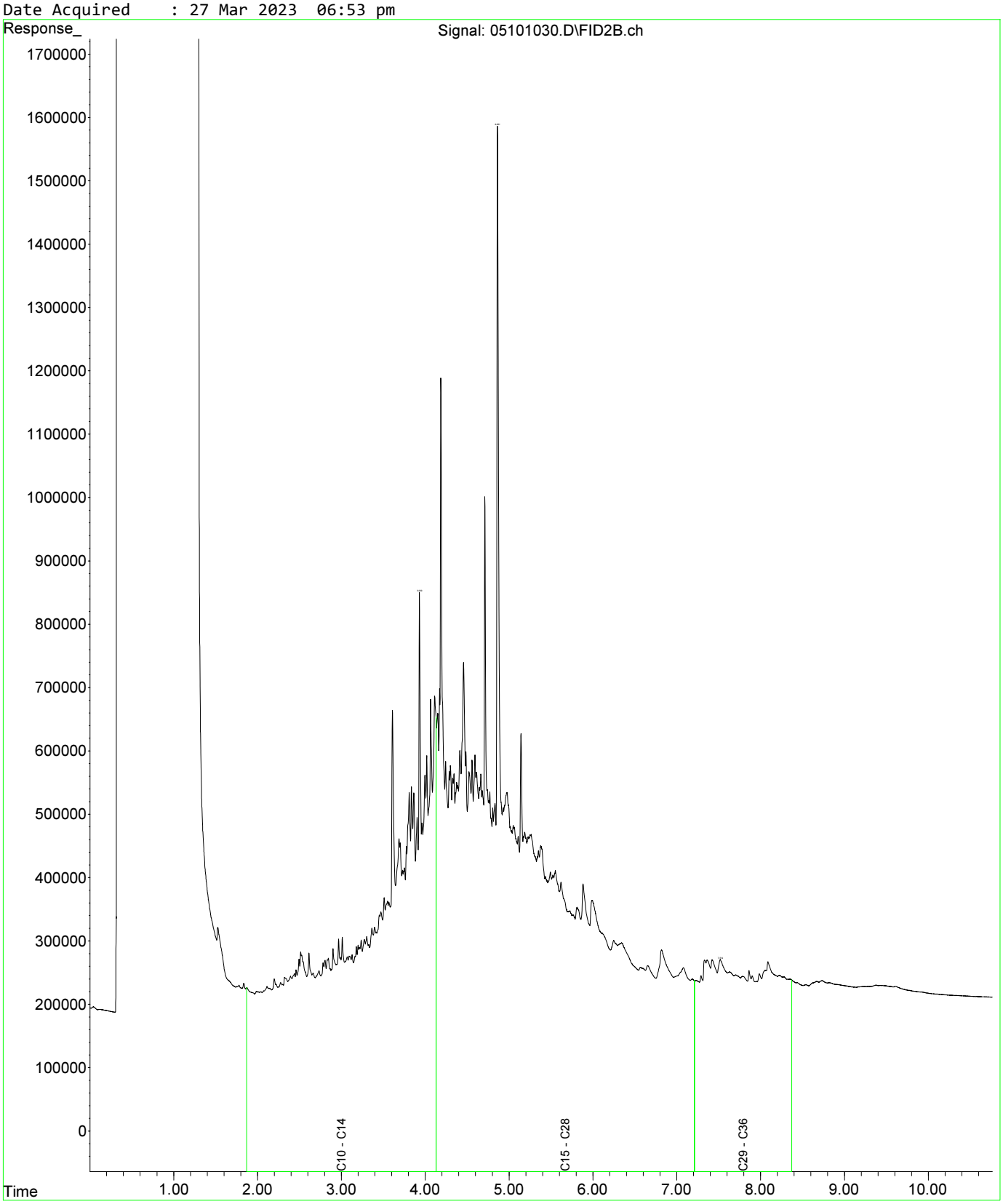

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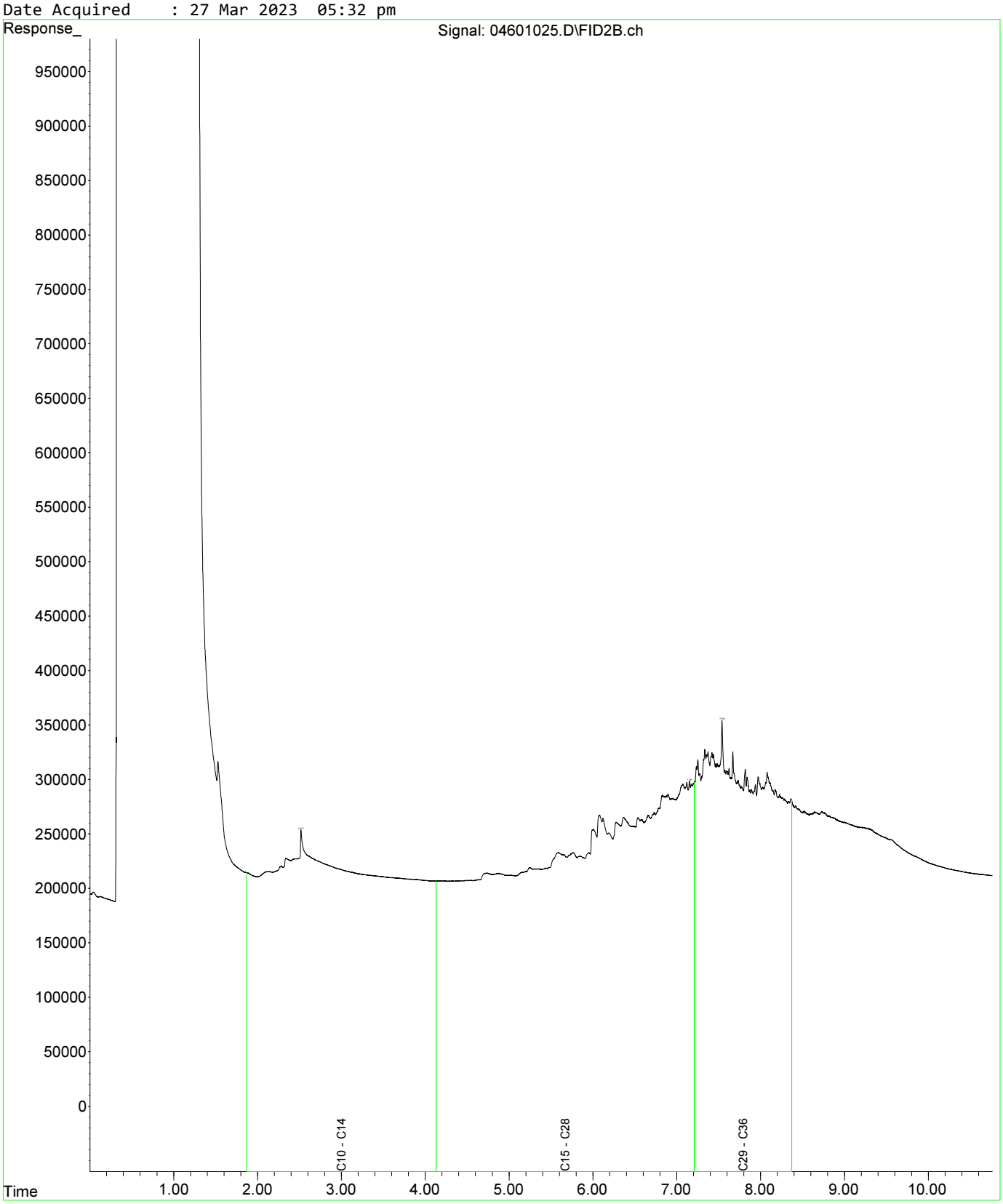

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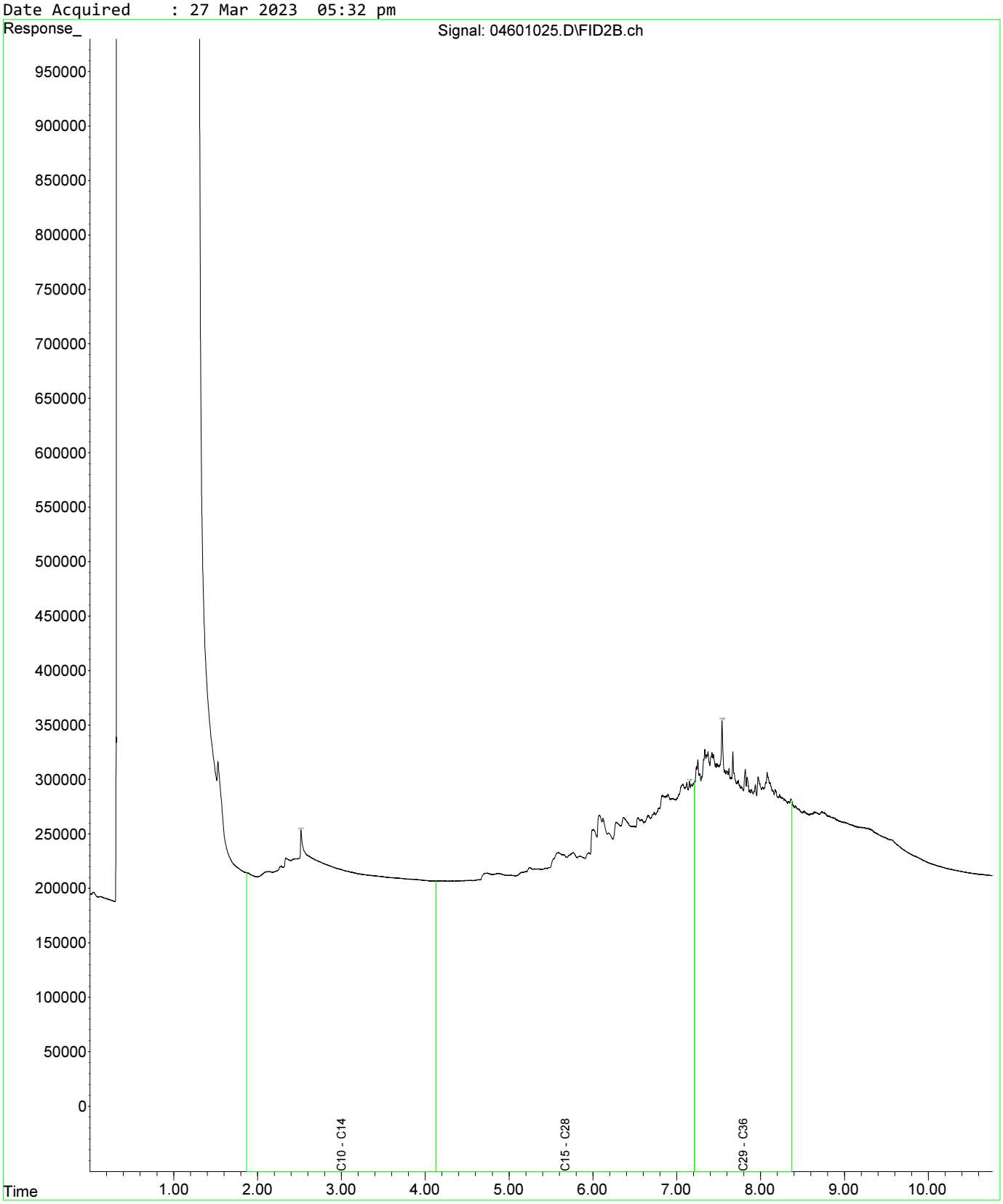

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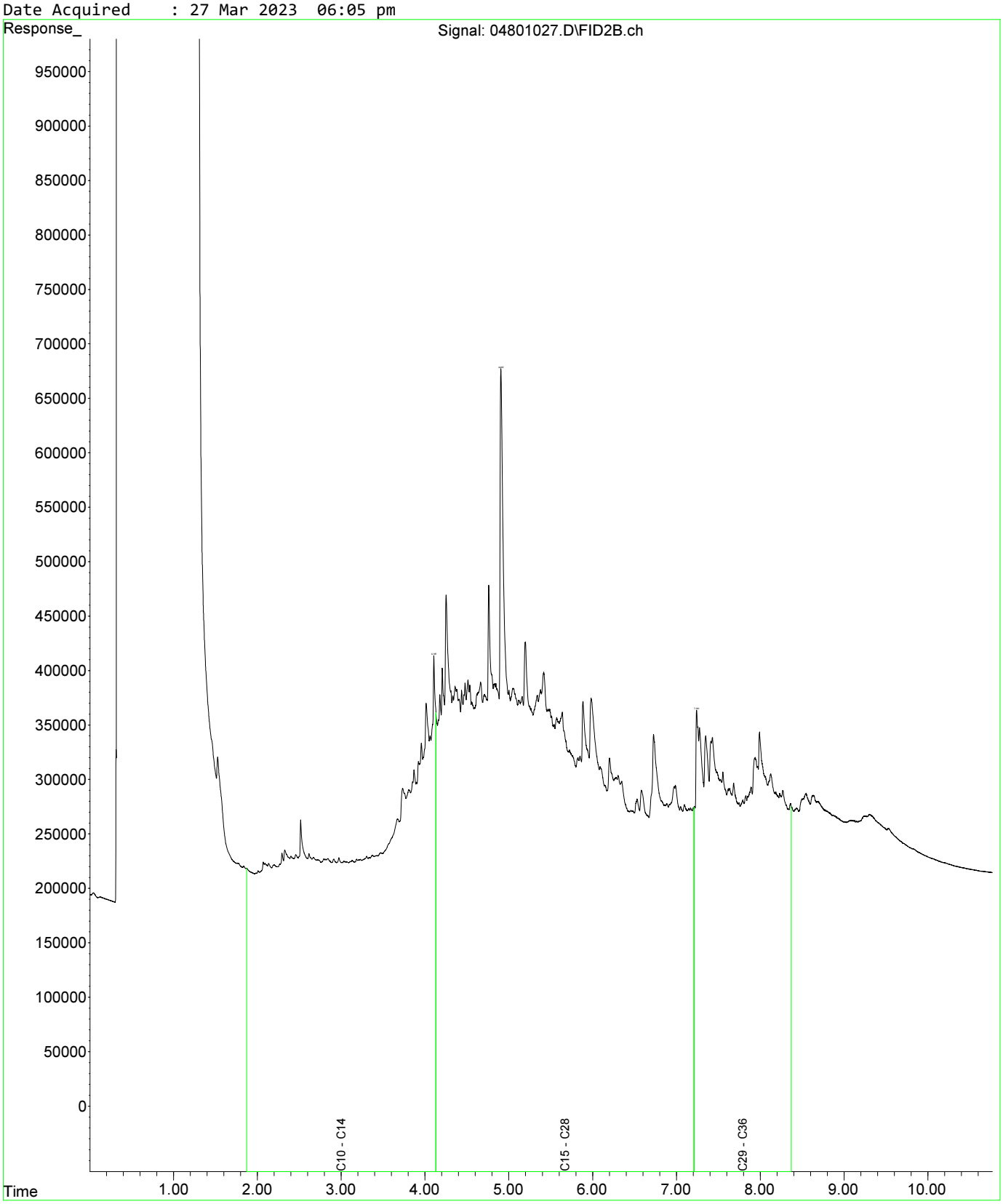

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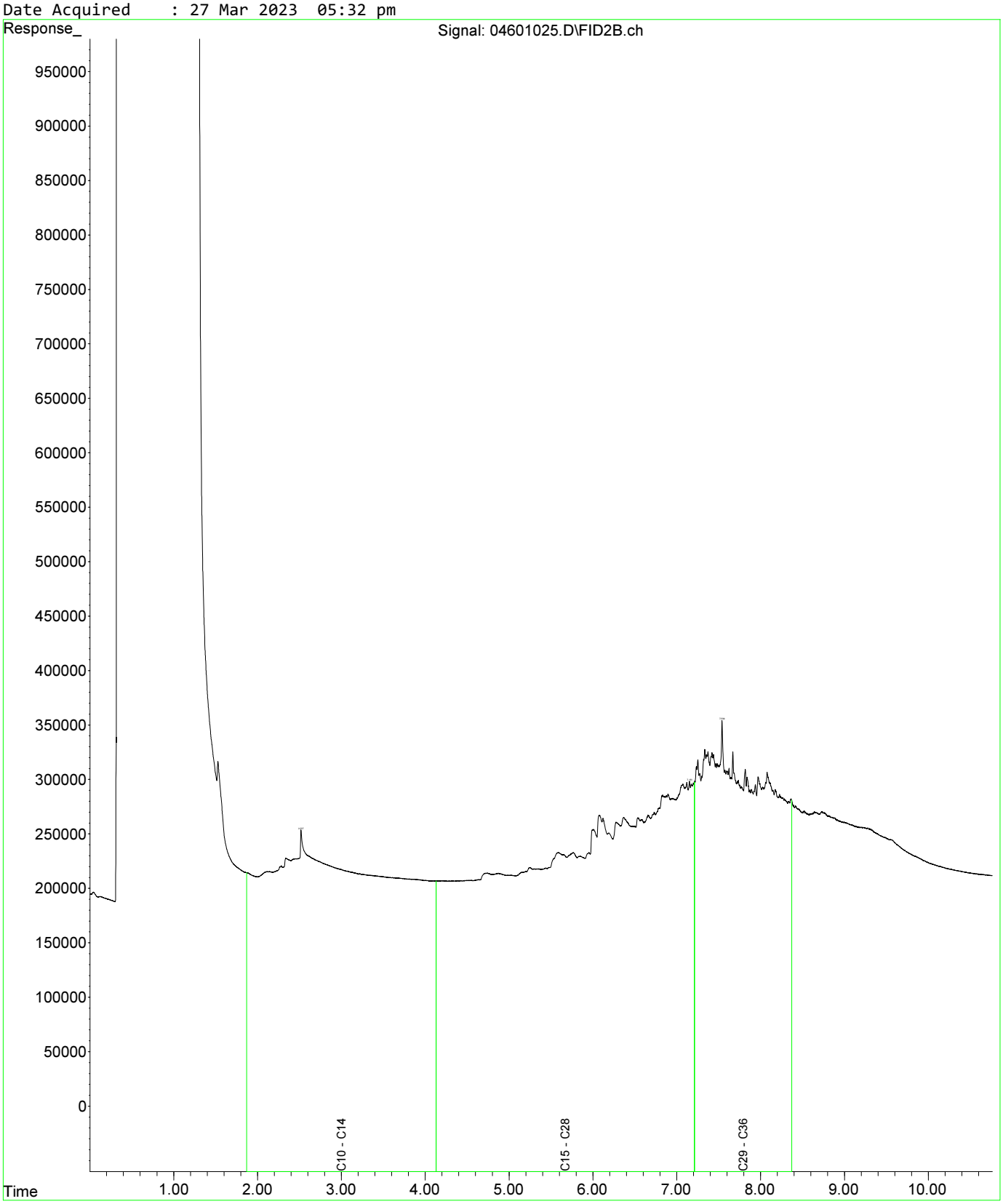

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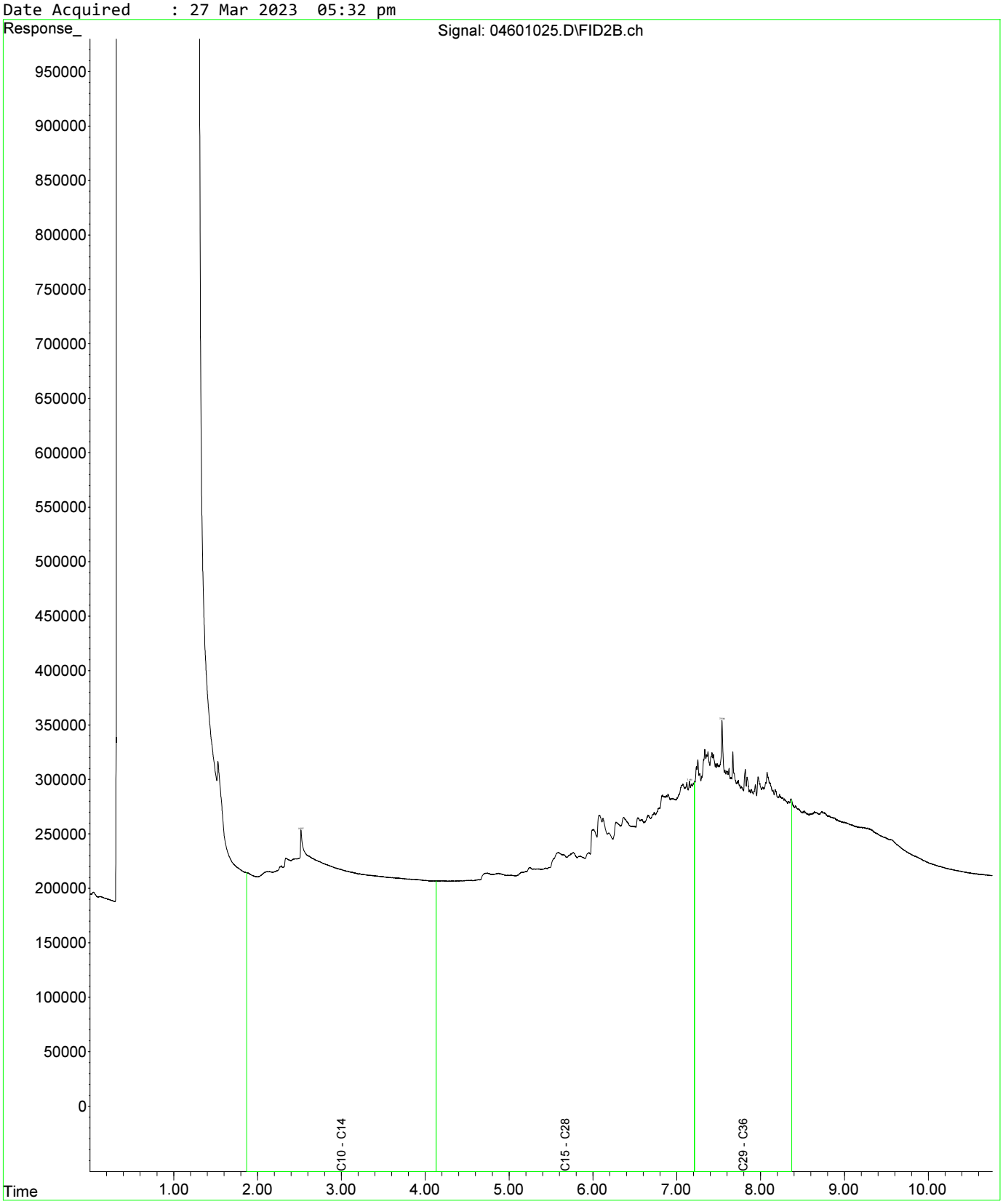

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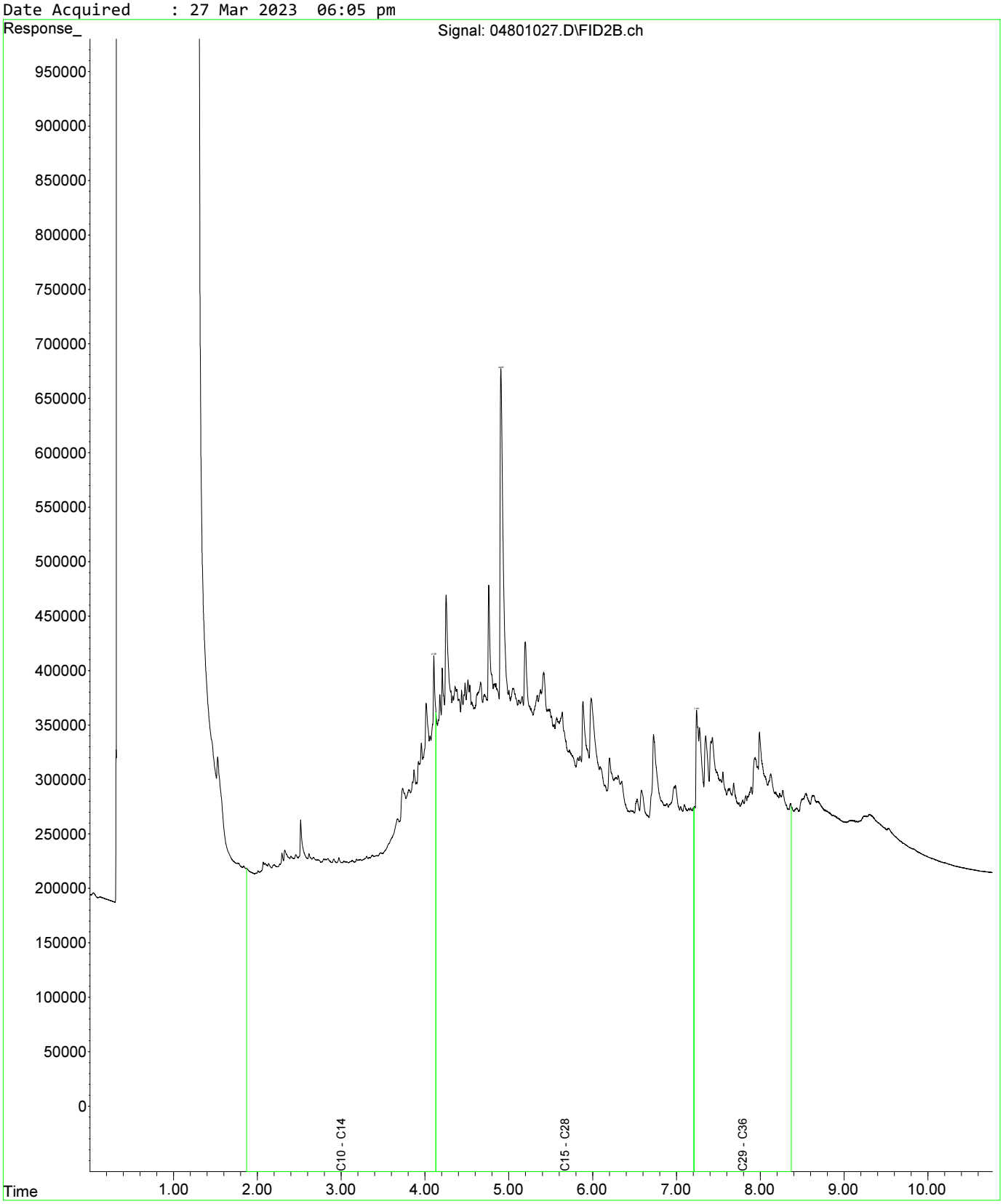

Fraction Scheme : Standard
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Laboratory Number: EM2305209-021
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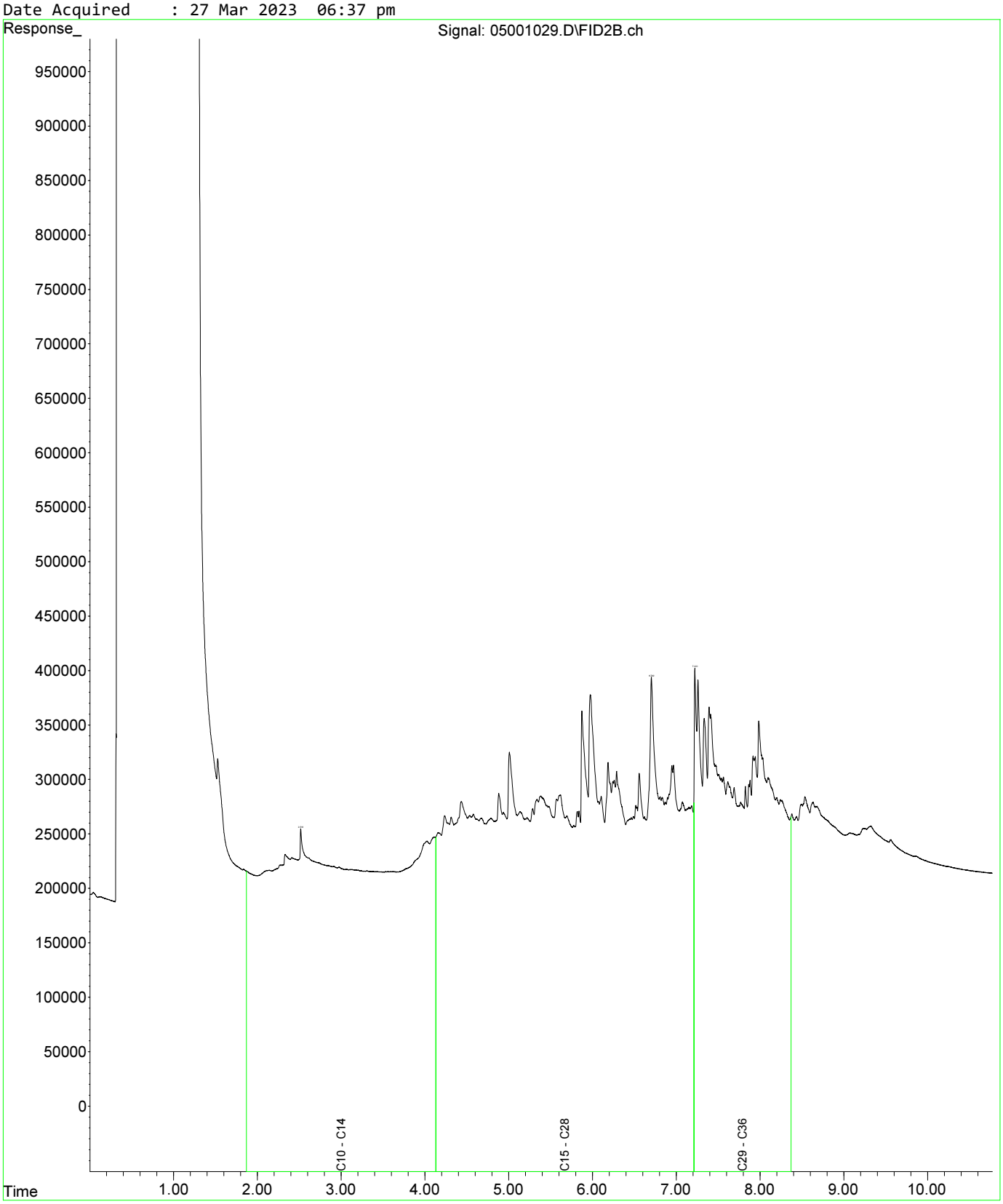

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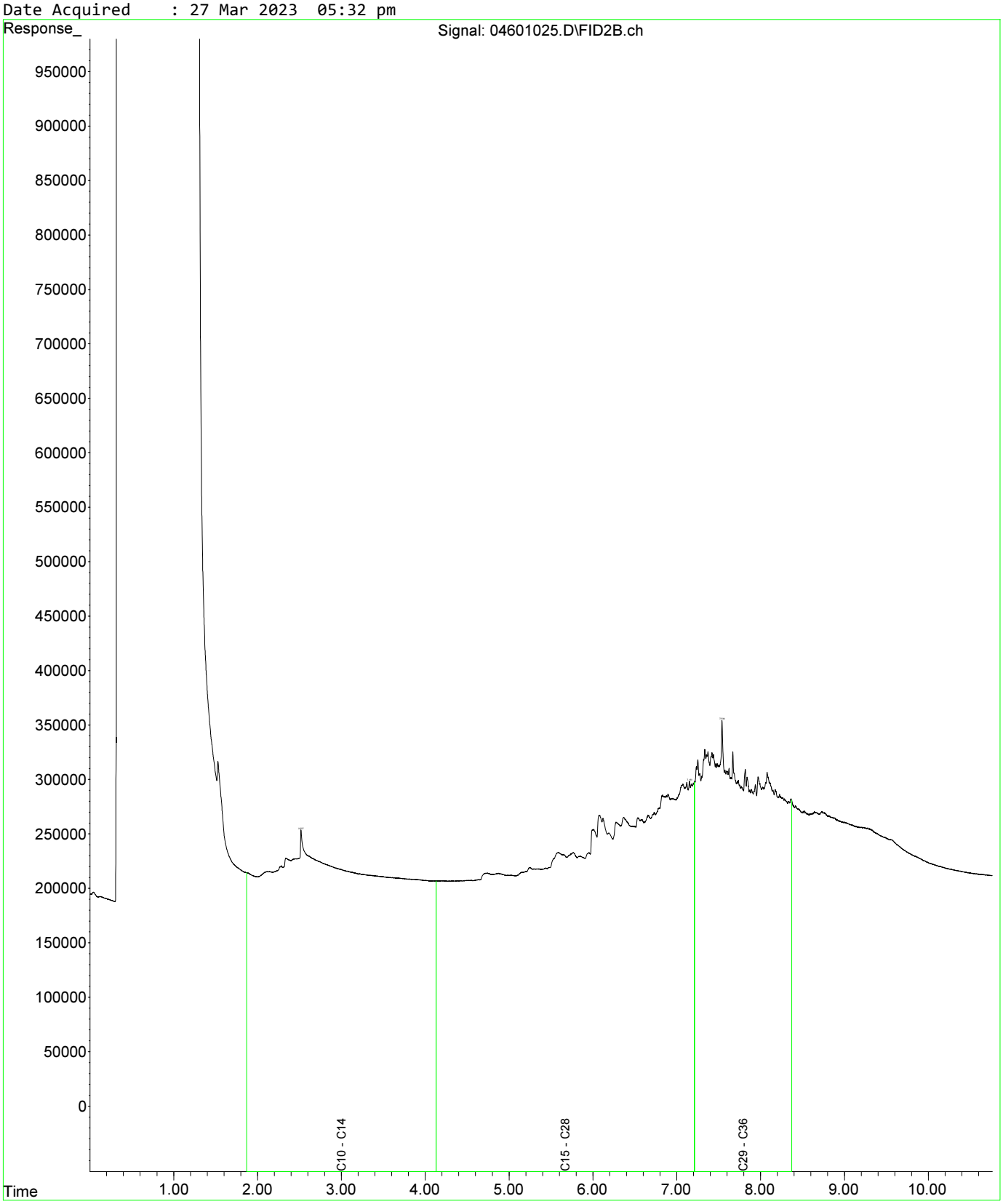

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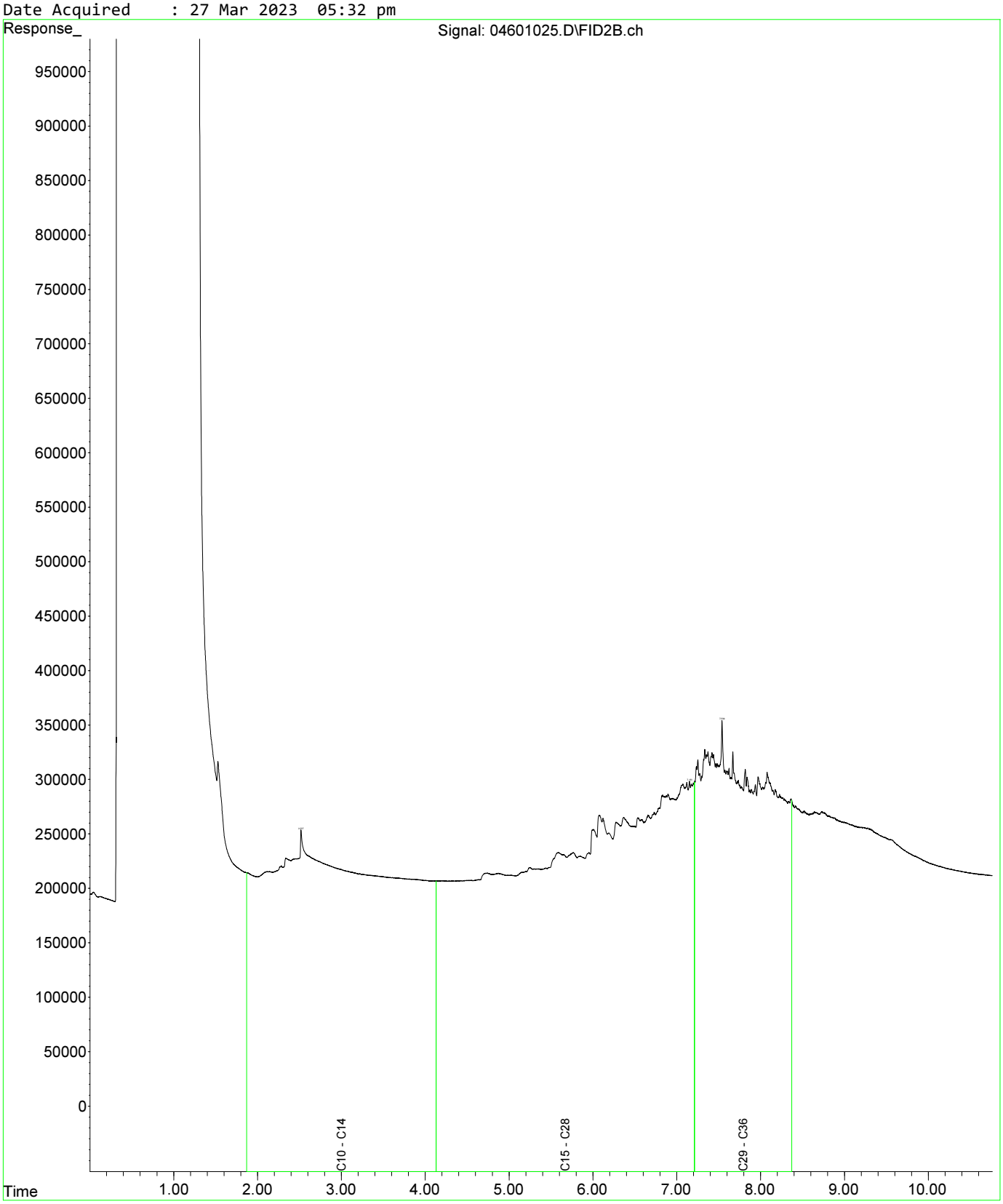

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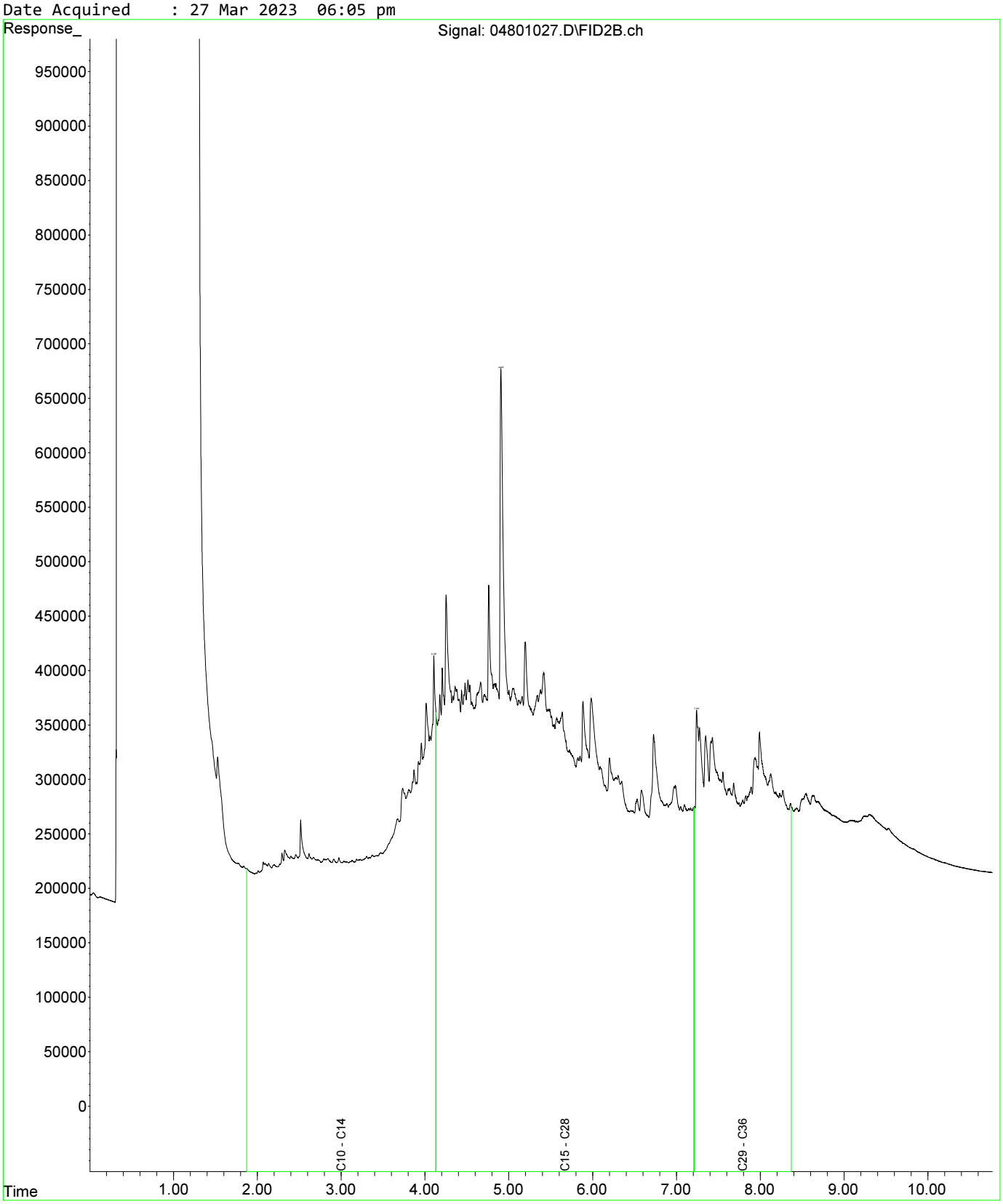

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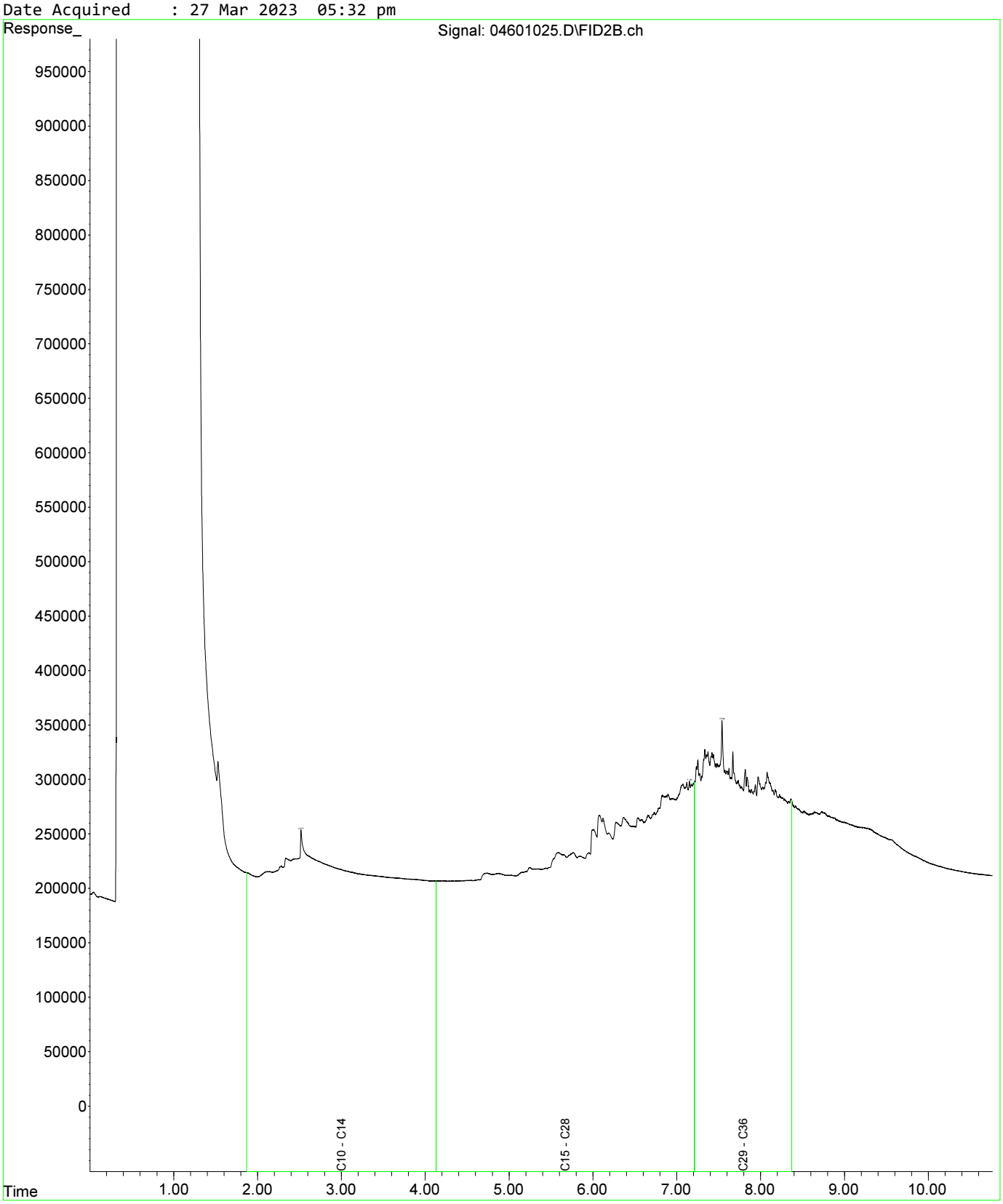

Fraction Scheme : Standard
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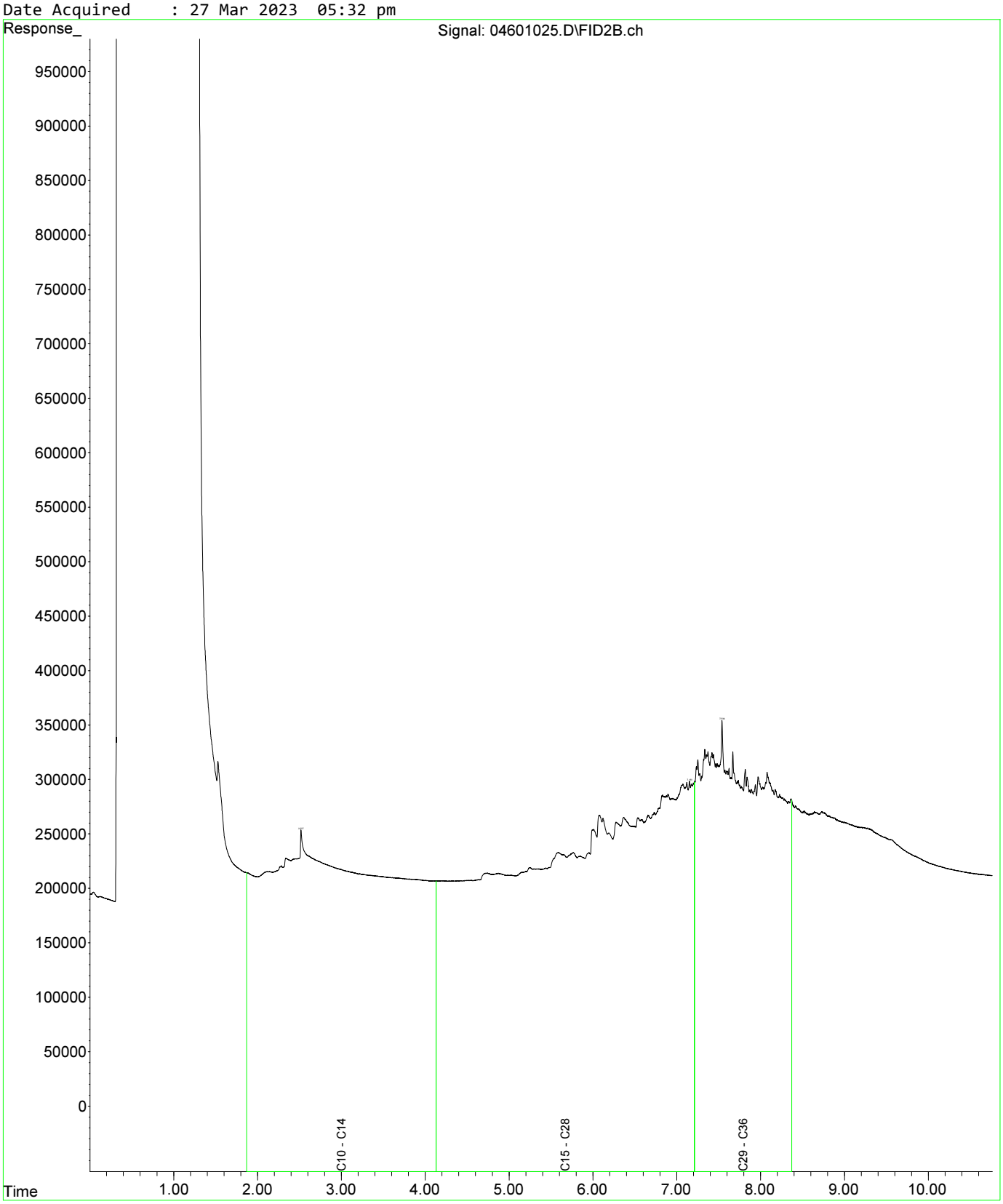

Fraction Scheme : Standard
Data File : 04801027.D
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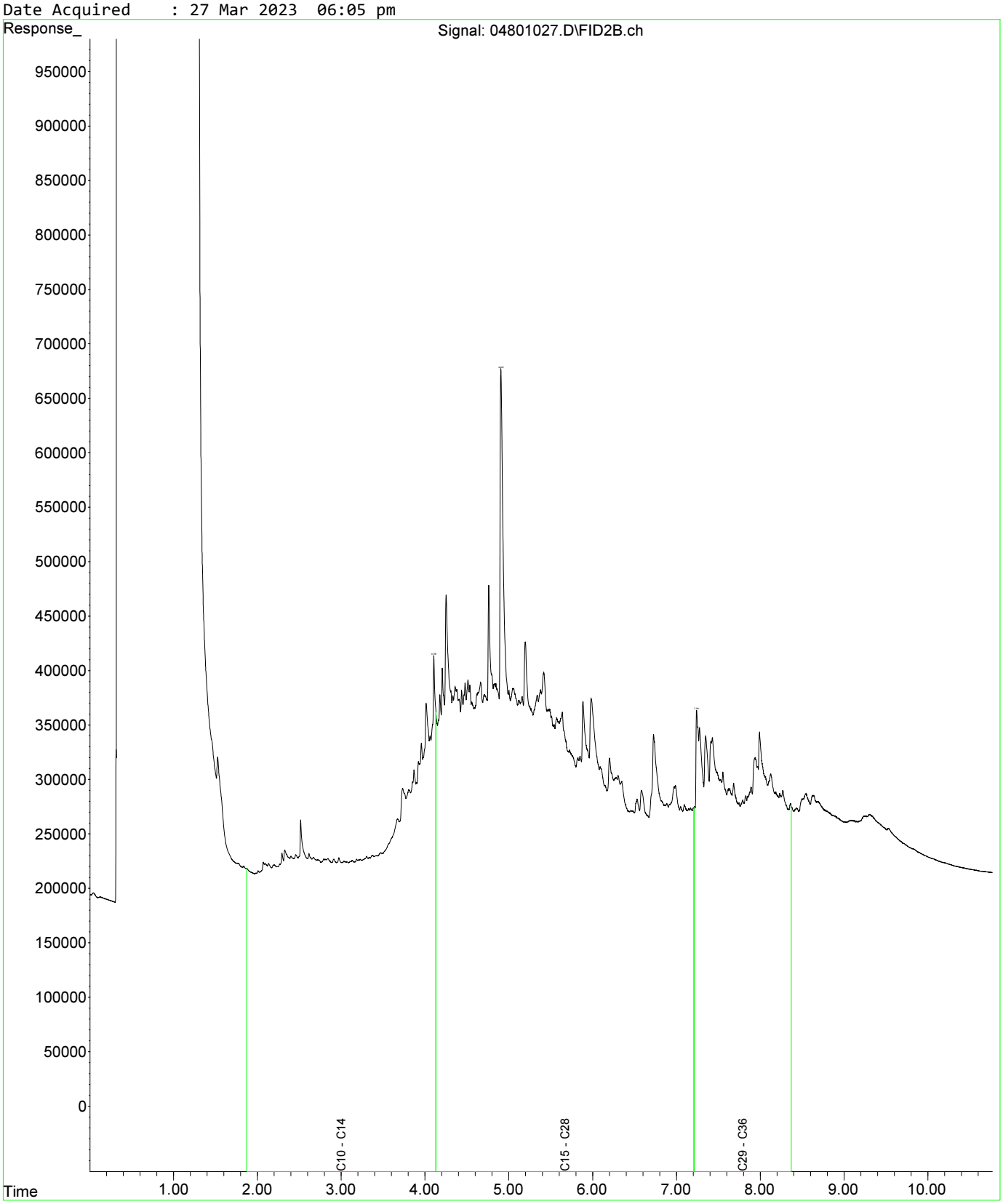
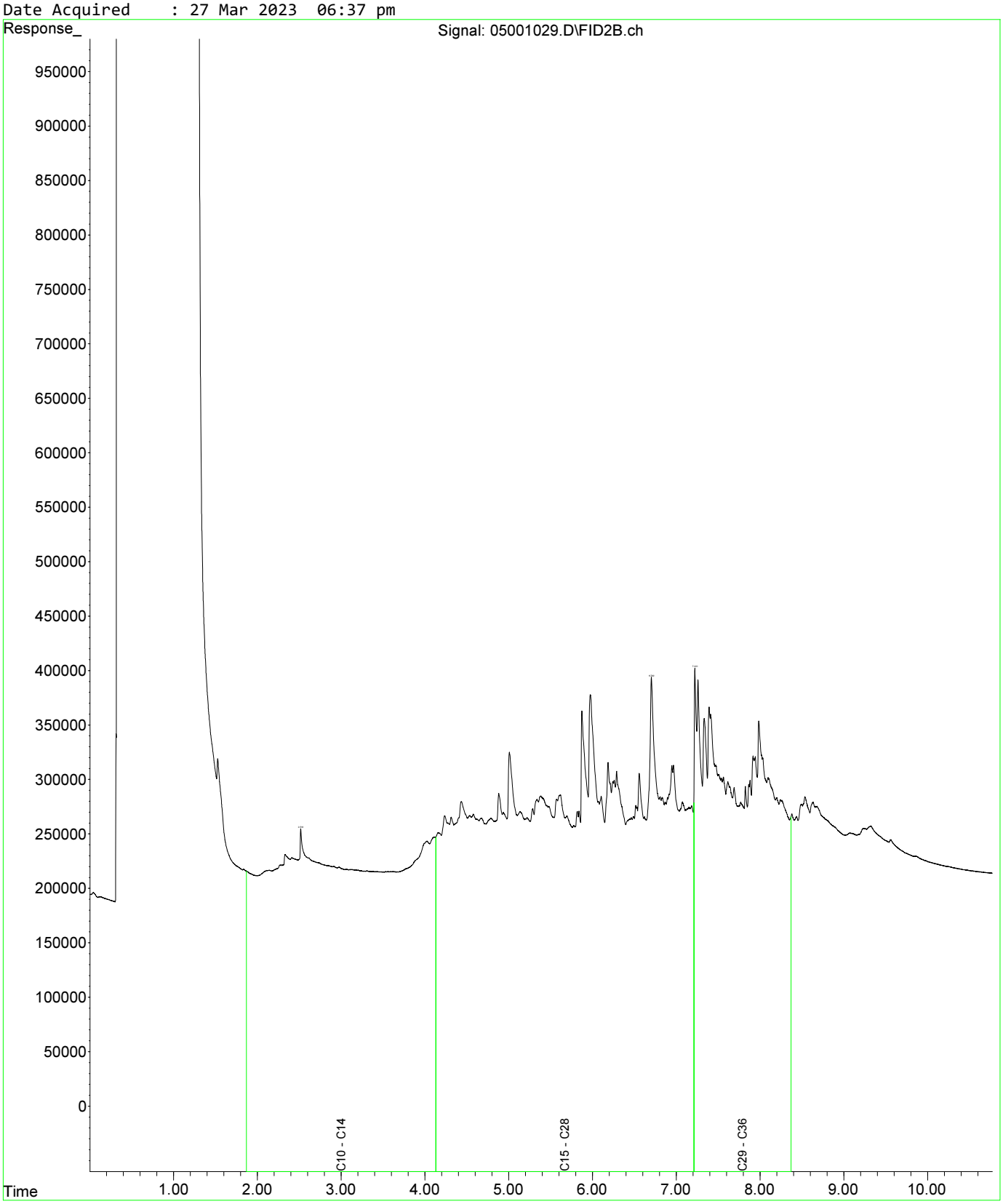
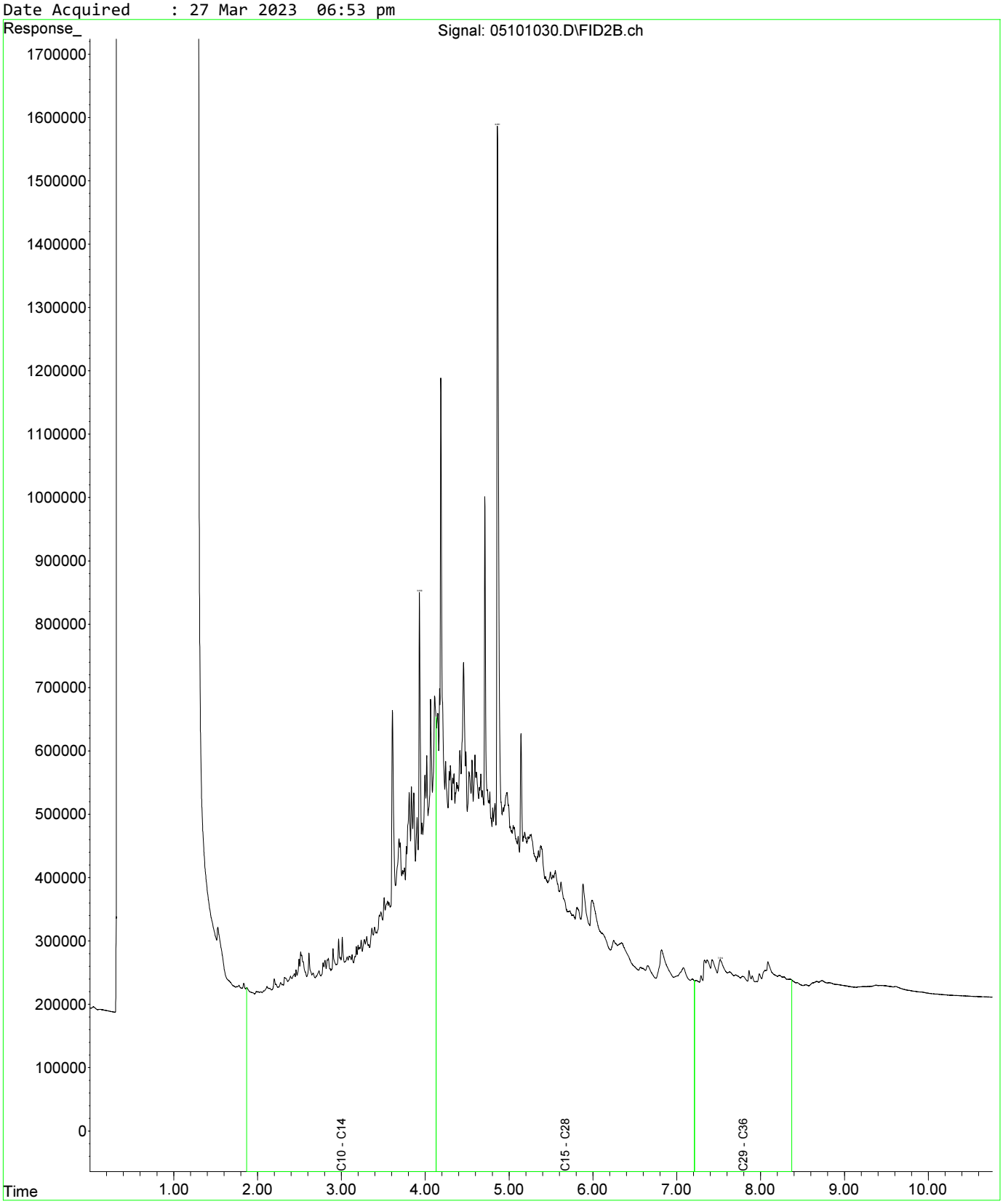
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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Data File : 05201031.D
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Sample ID : UST_SP_EXT_03
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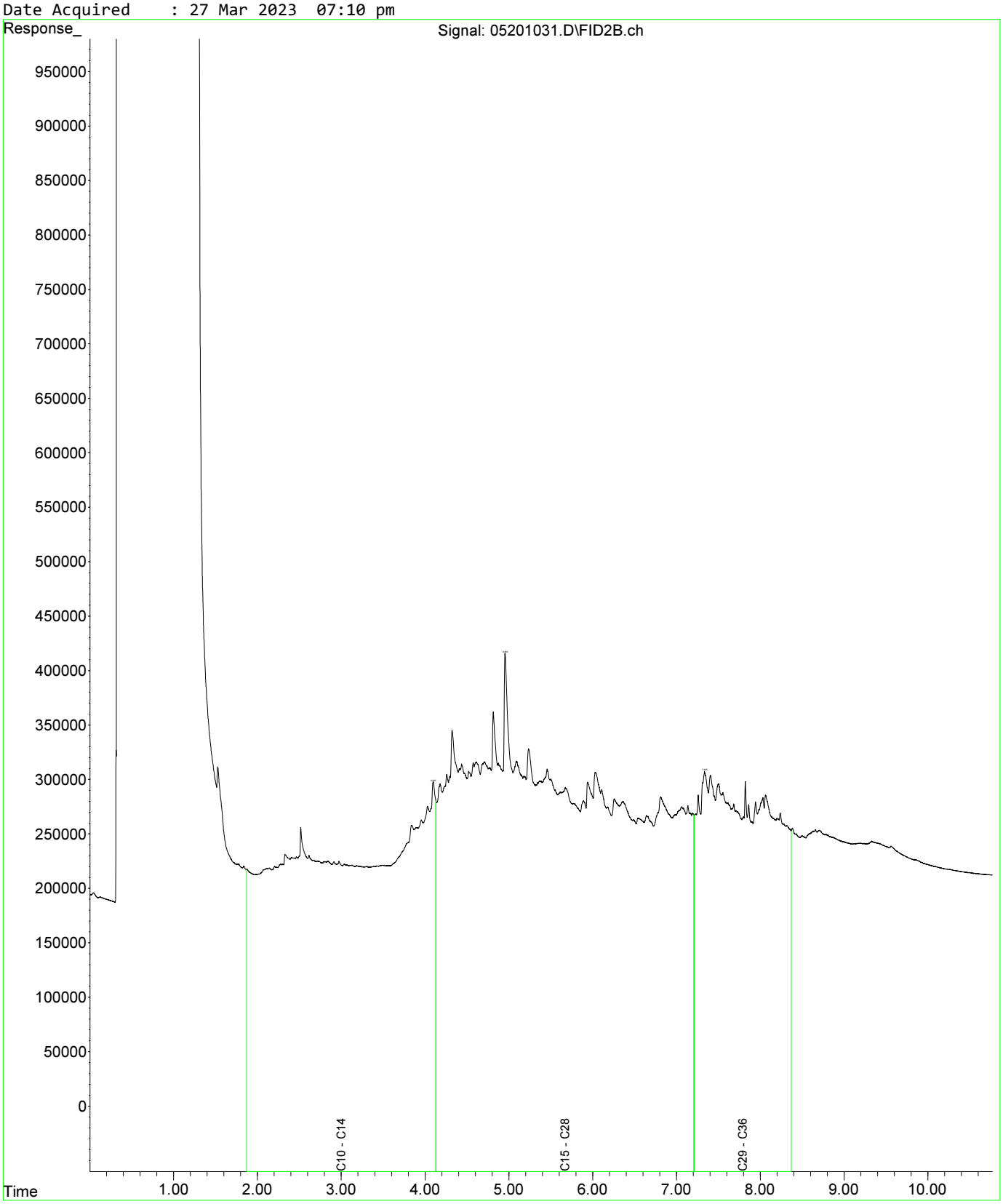

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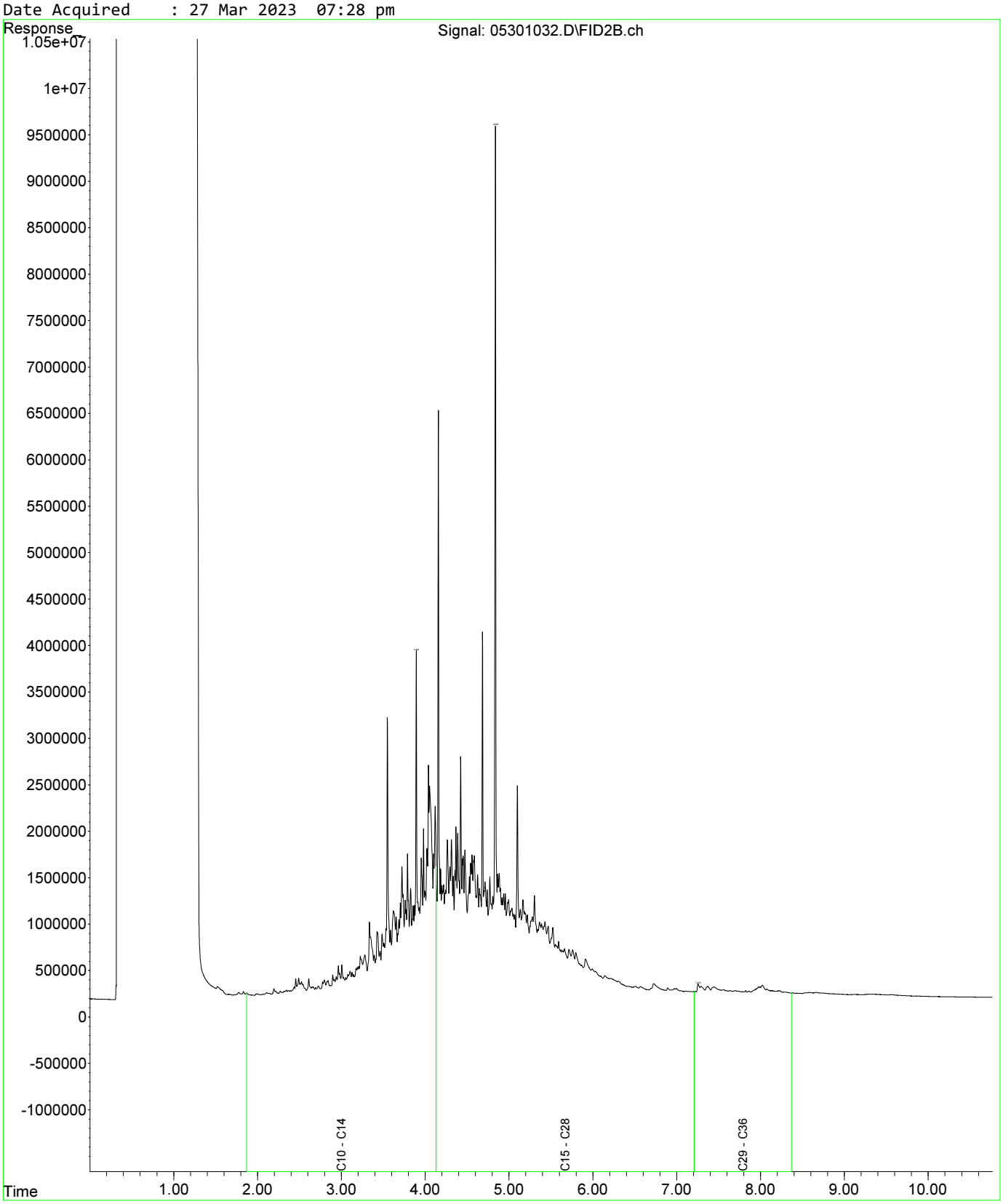
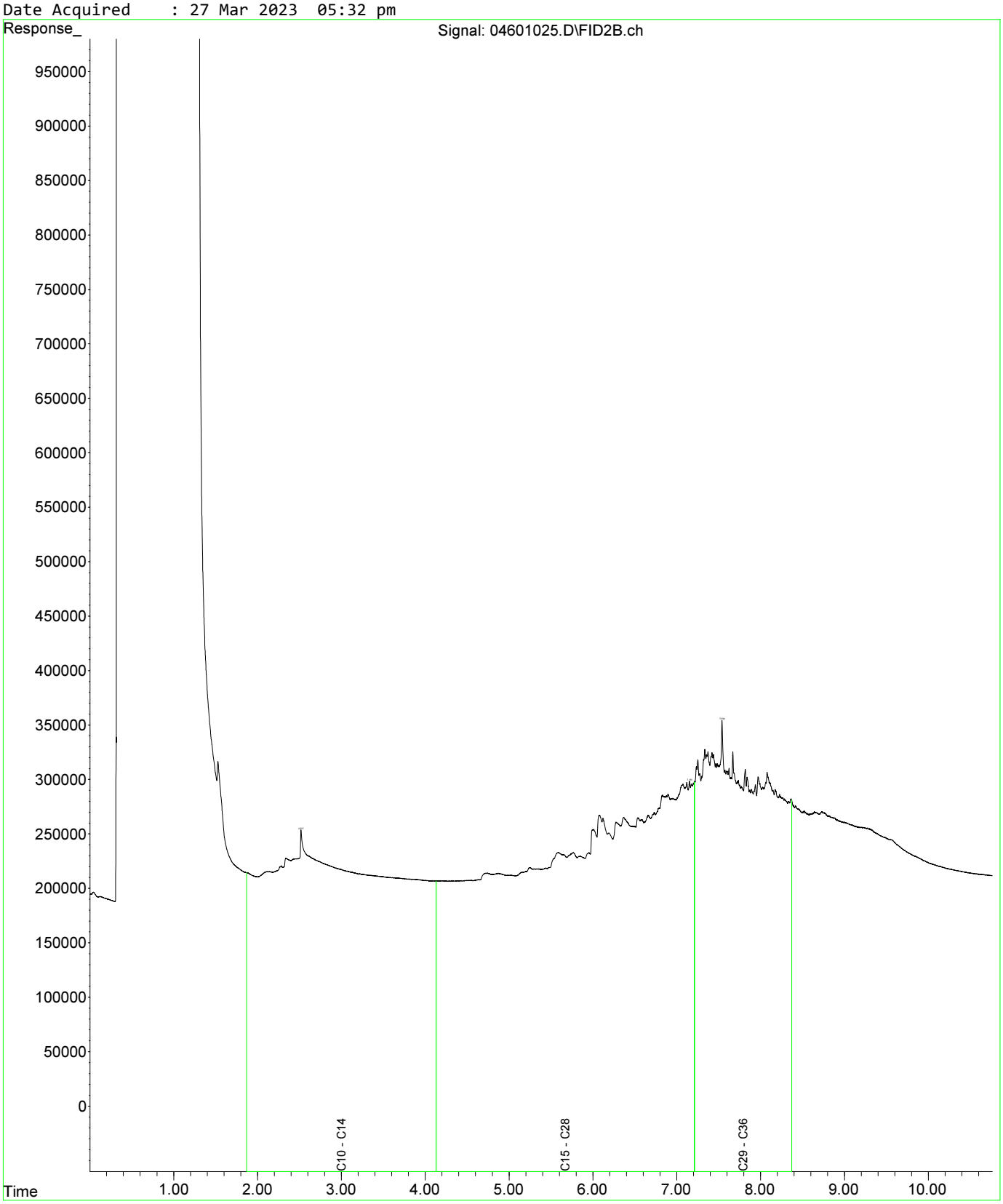
Laboratory Number: EM2305209-031
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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Laboratory Number: EM2305209-013
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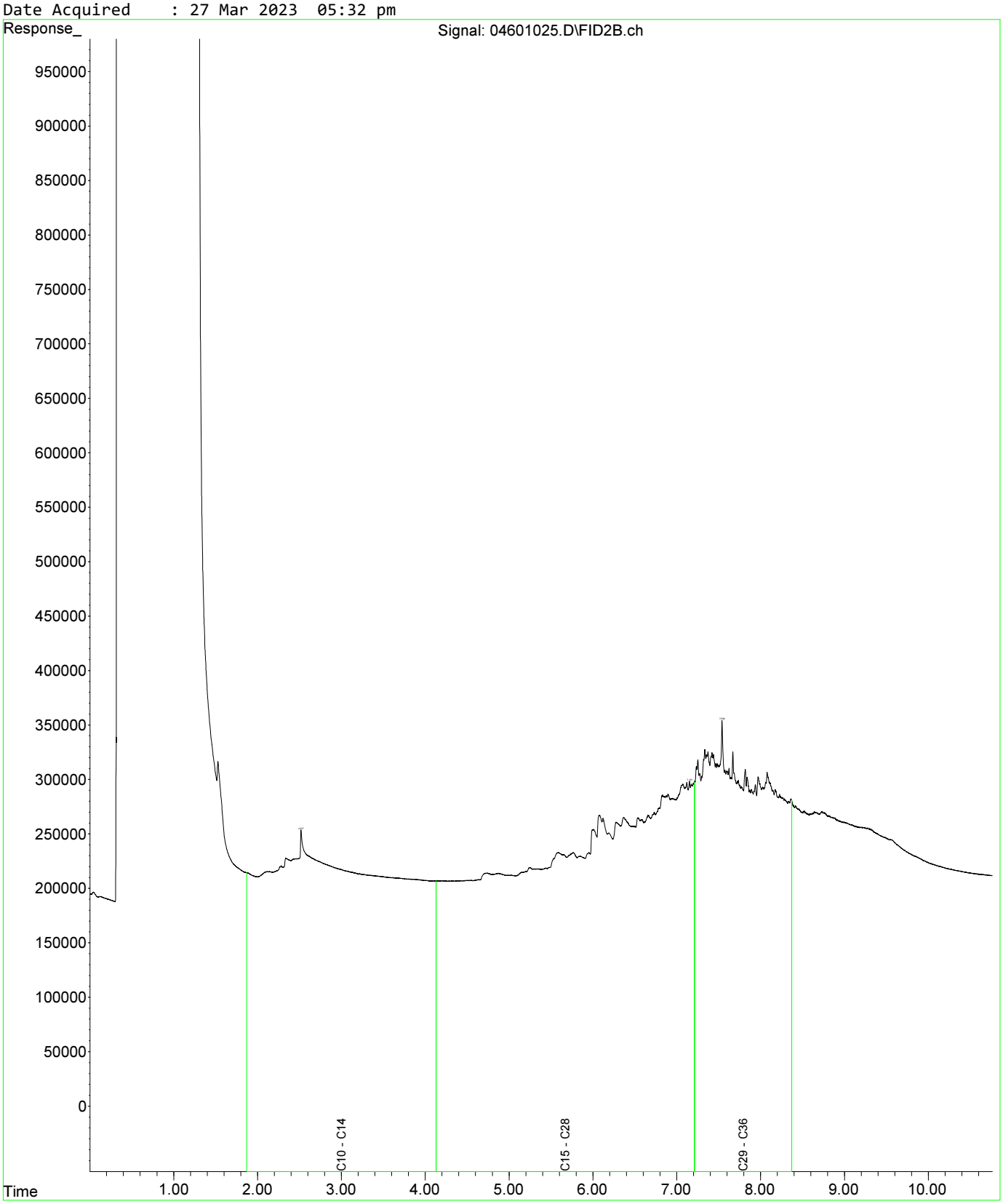

Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
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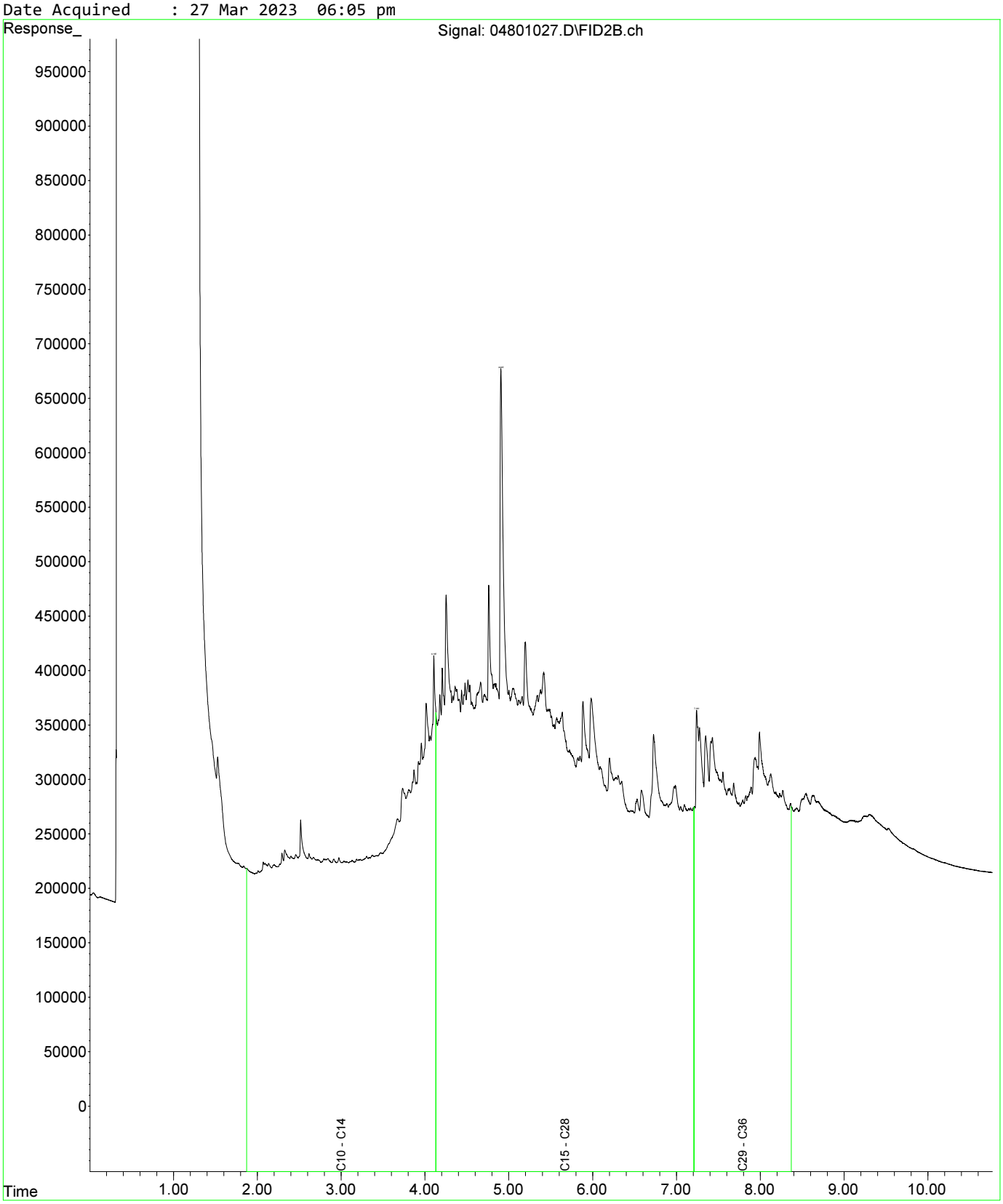
Date Acquired : 27 Mar 2023 06:05 pm



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Laboratory Number: EM2305209-013
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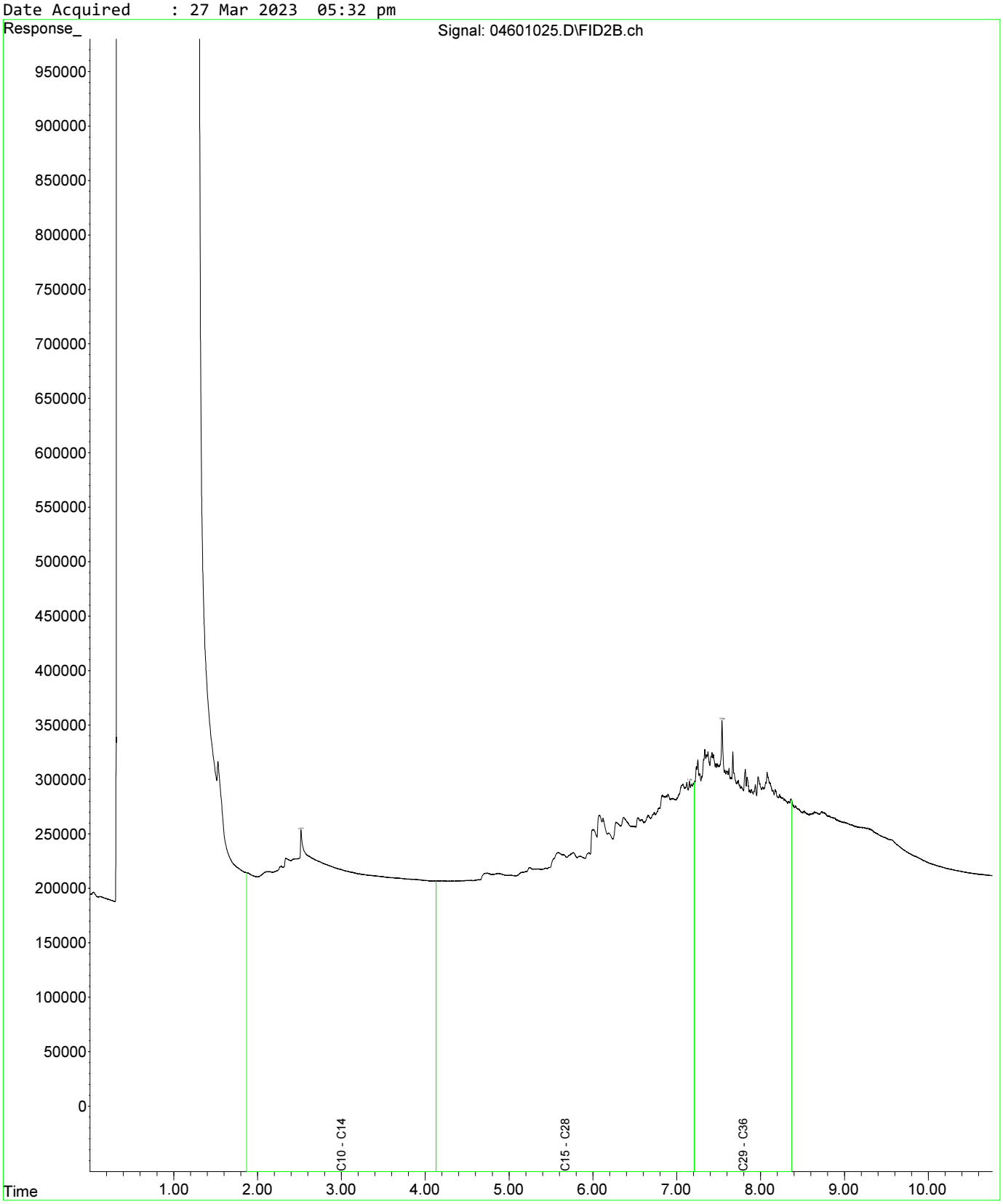

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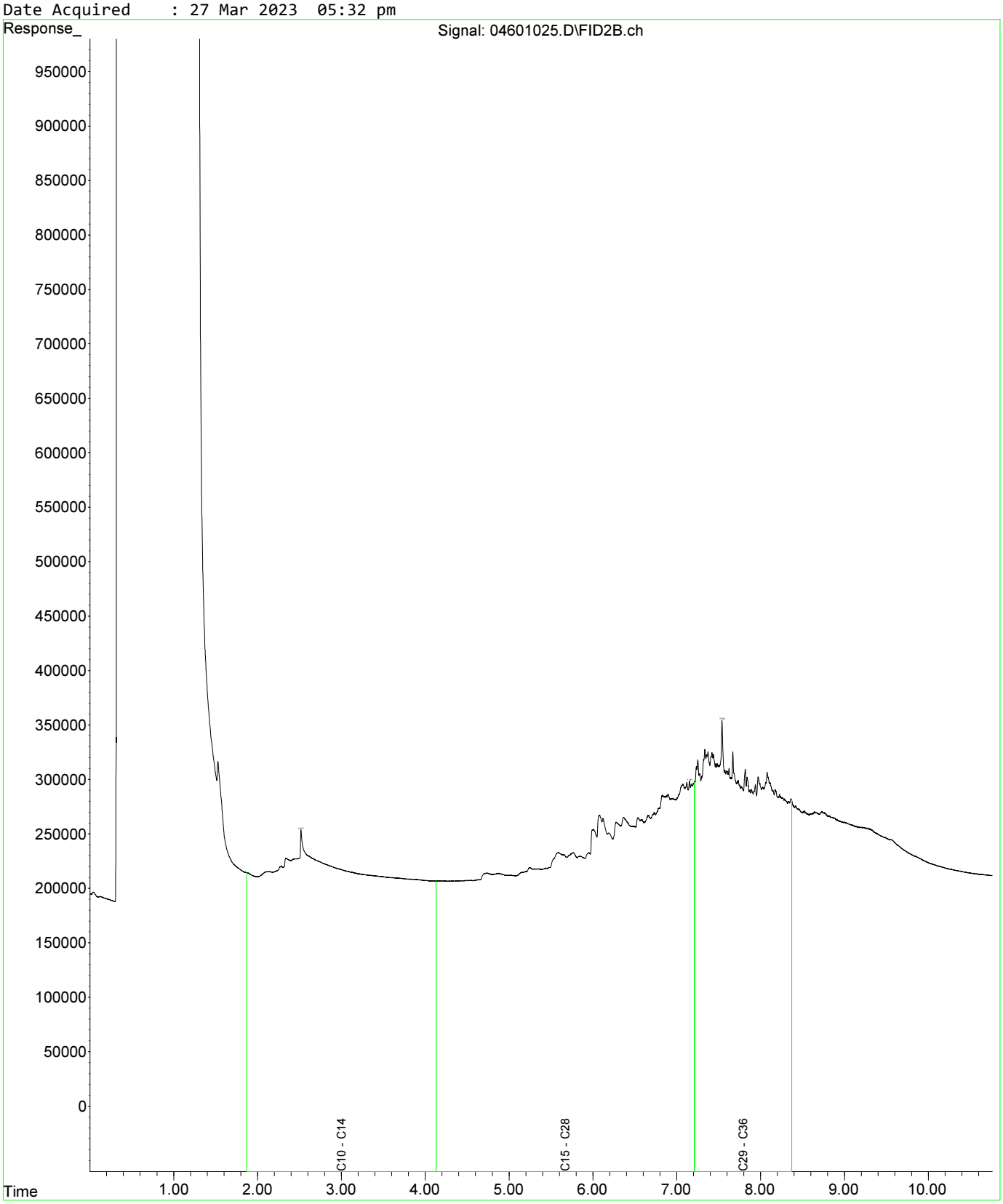

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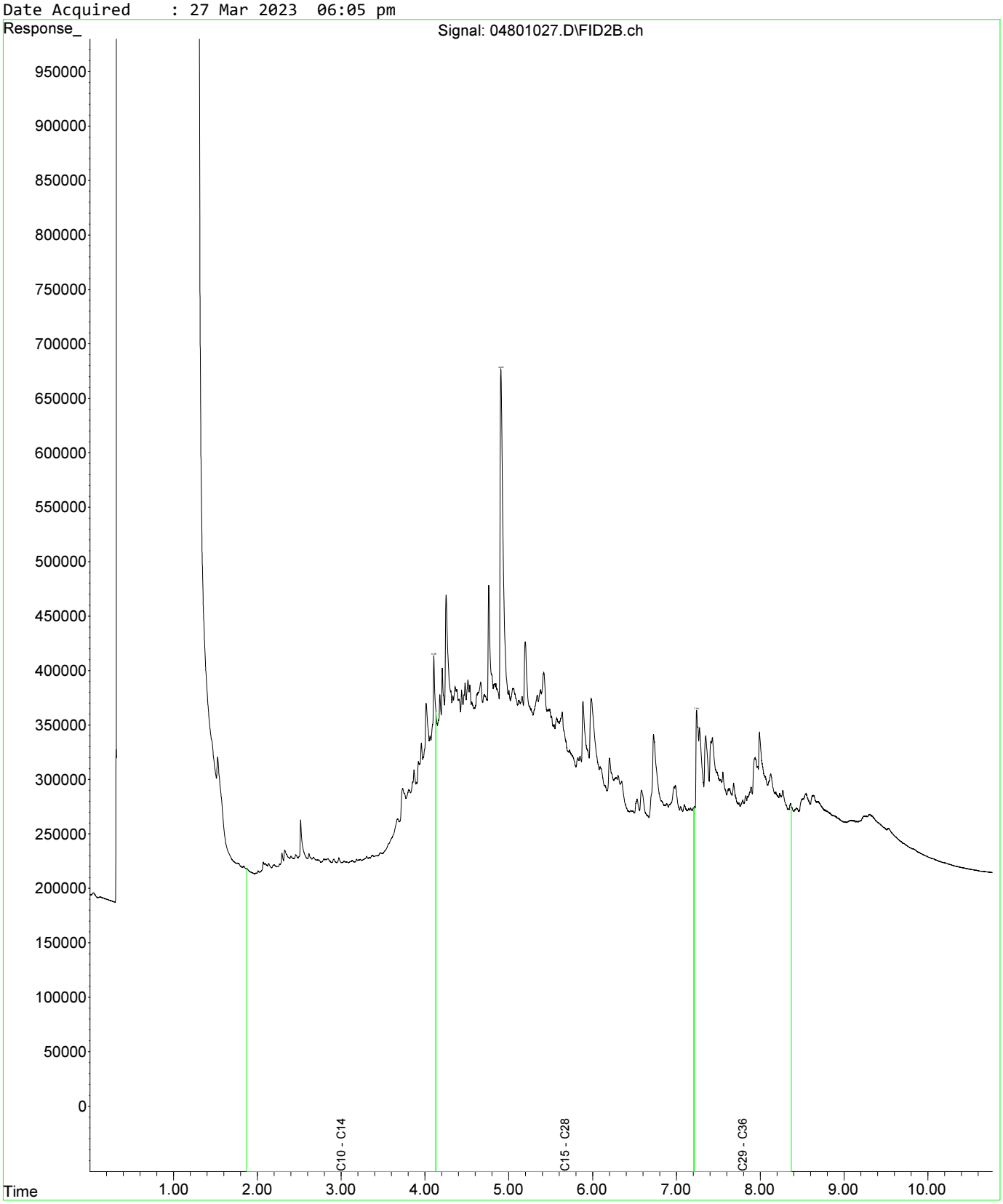
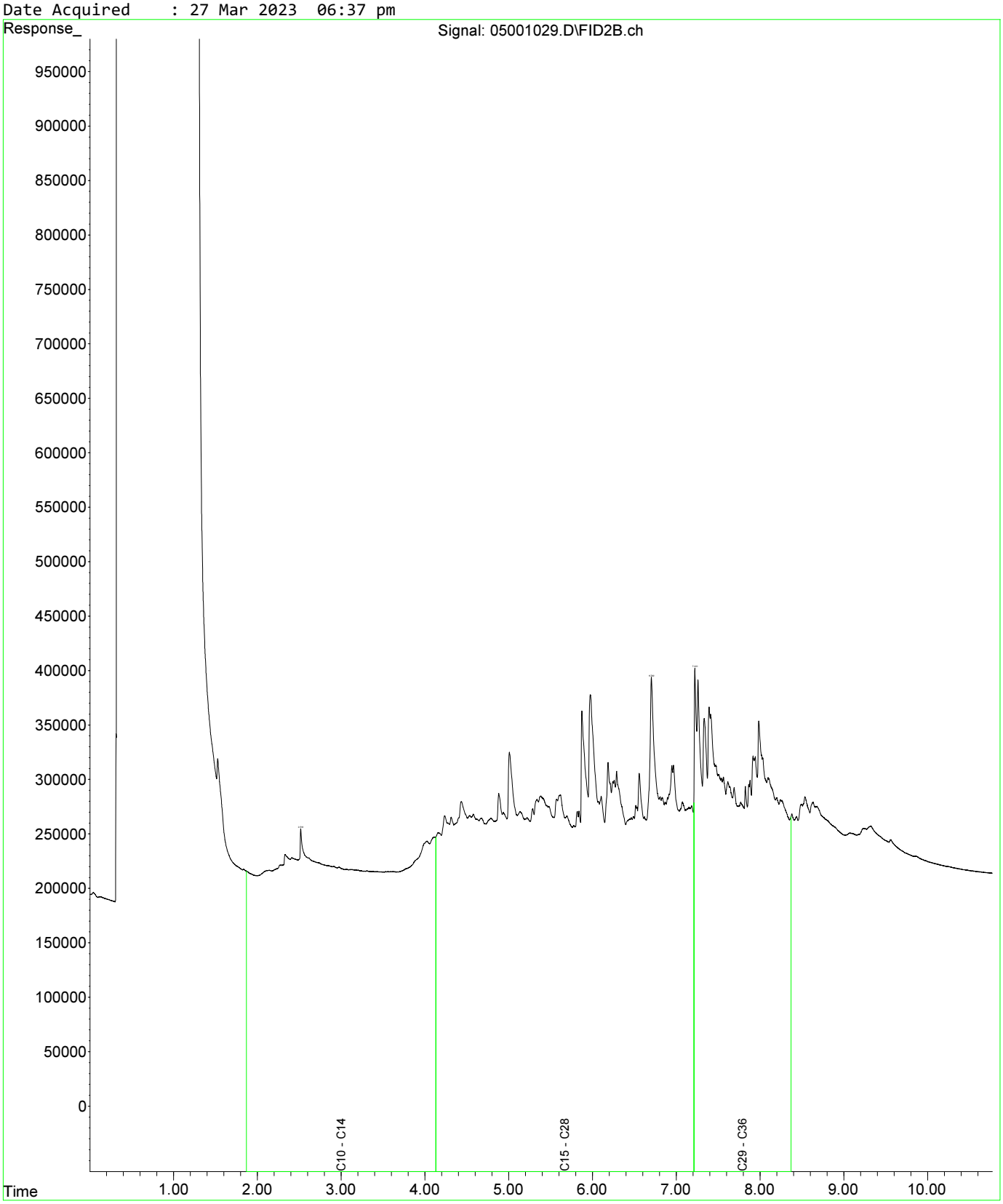


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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Laboratory Number: EM2305209-013
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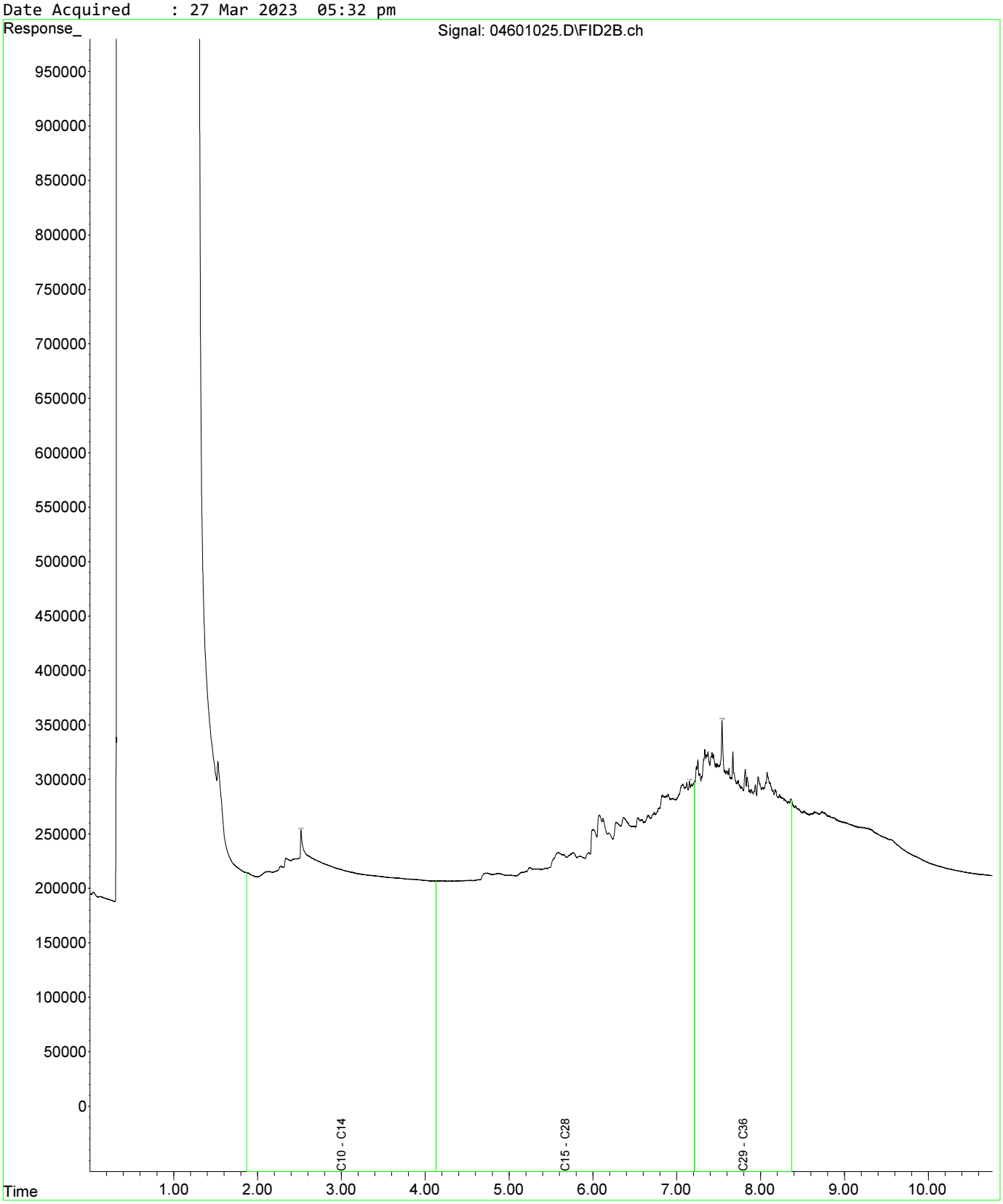

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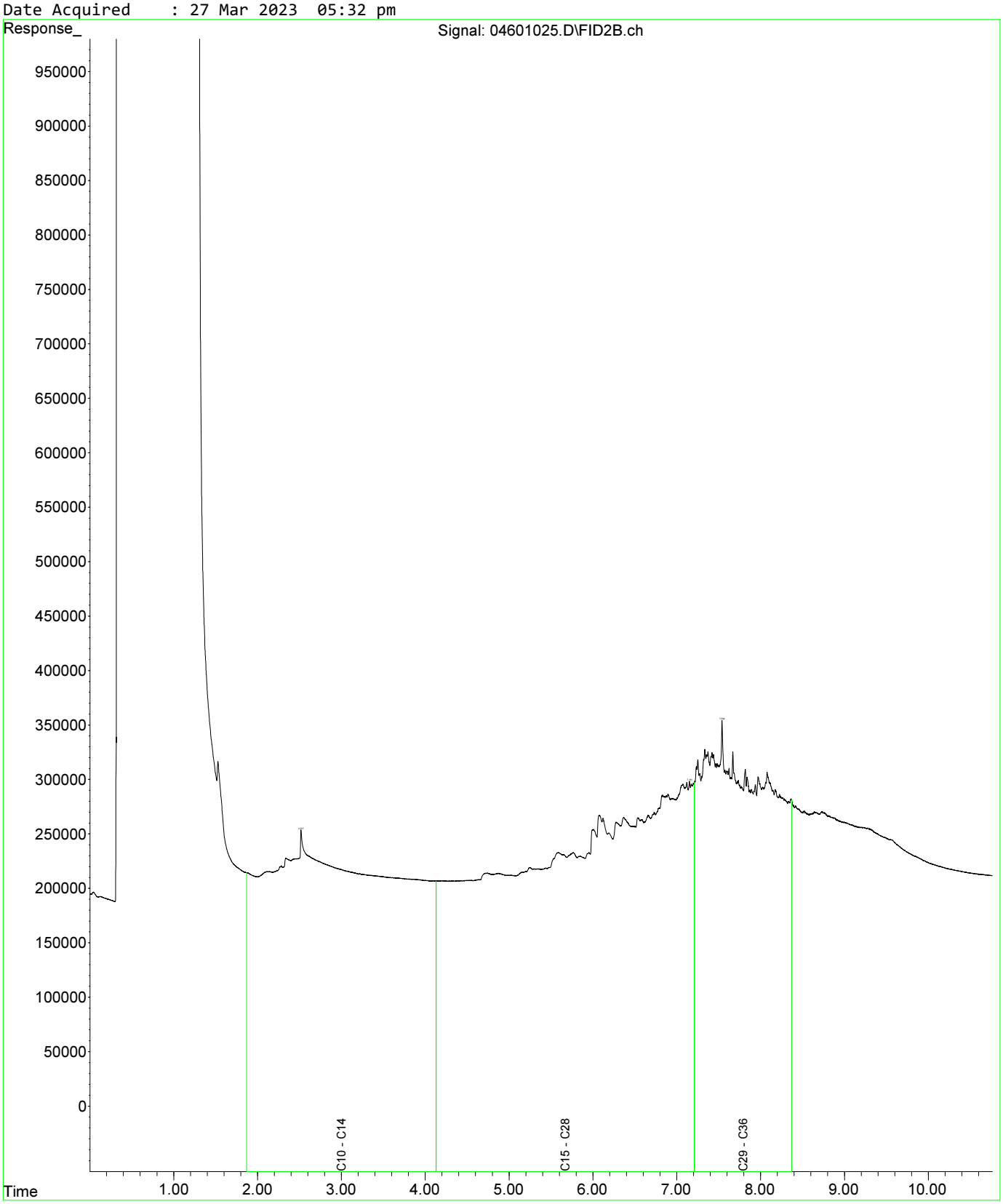

Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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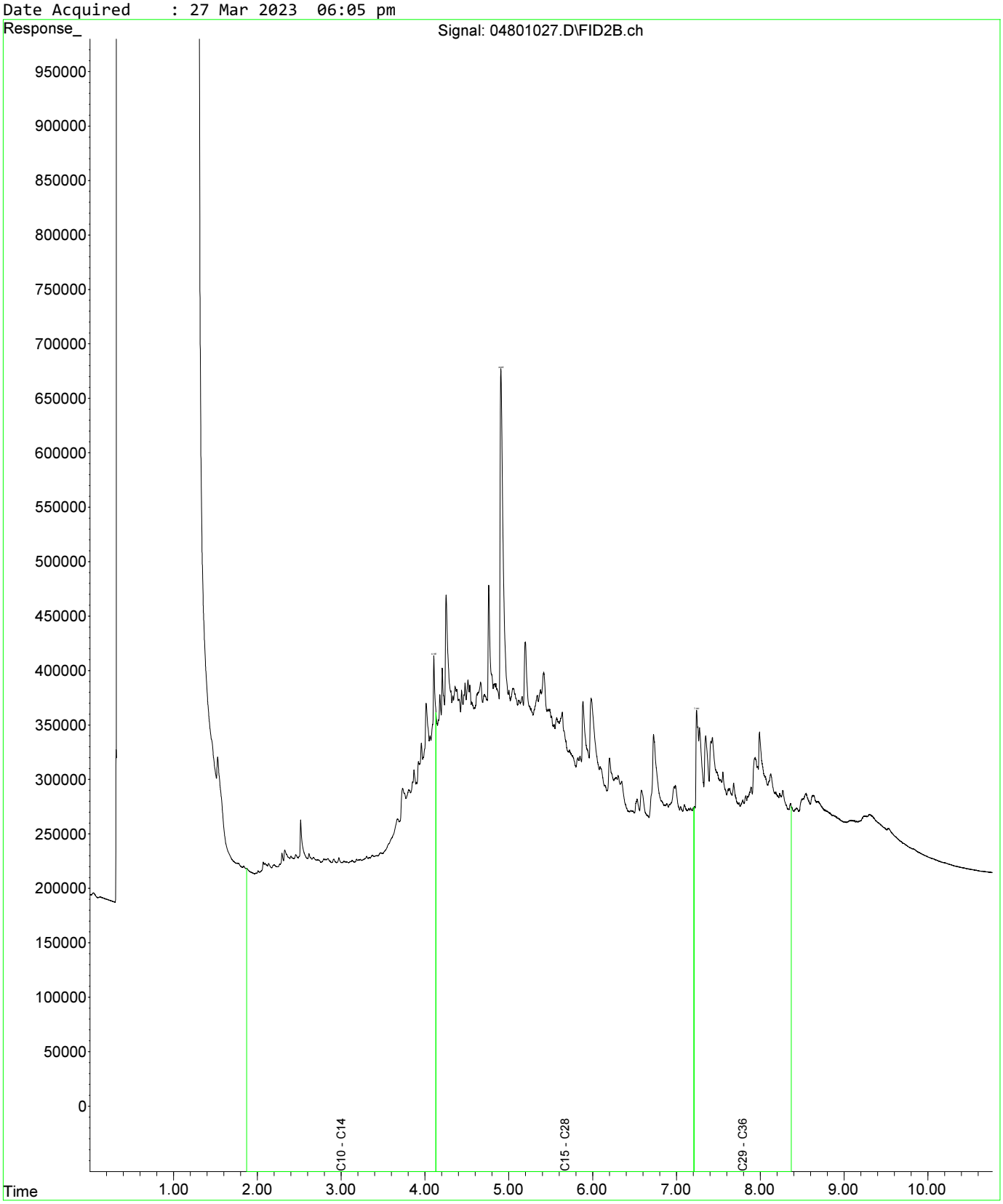

Fraction Scheme : Standard
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Laboratory Number: EM2305209-013
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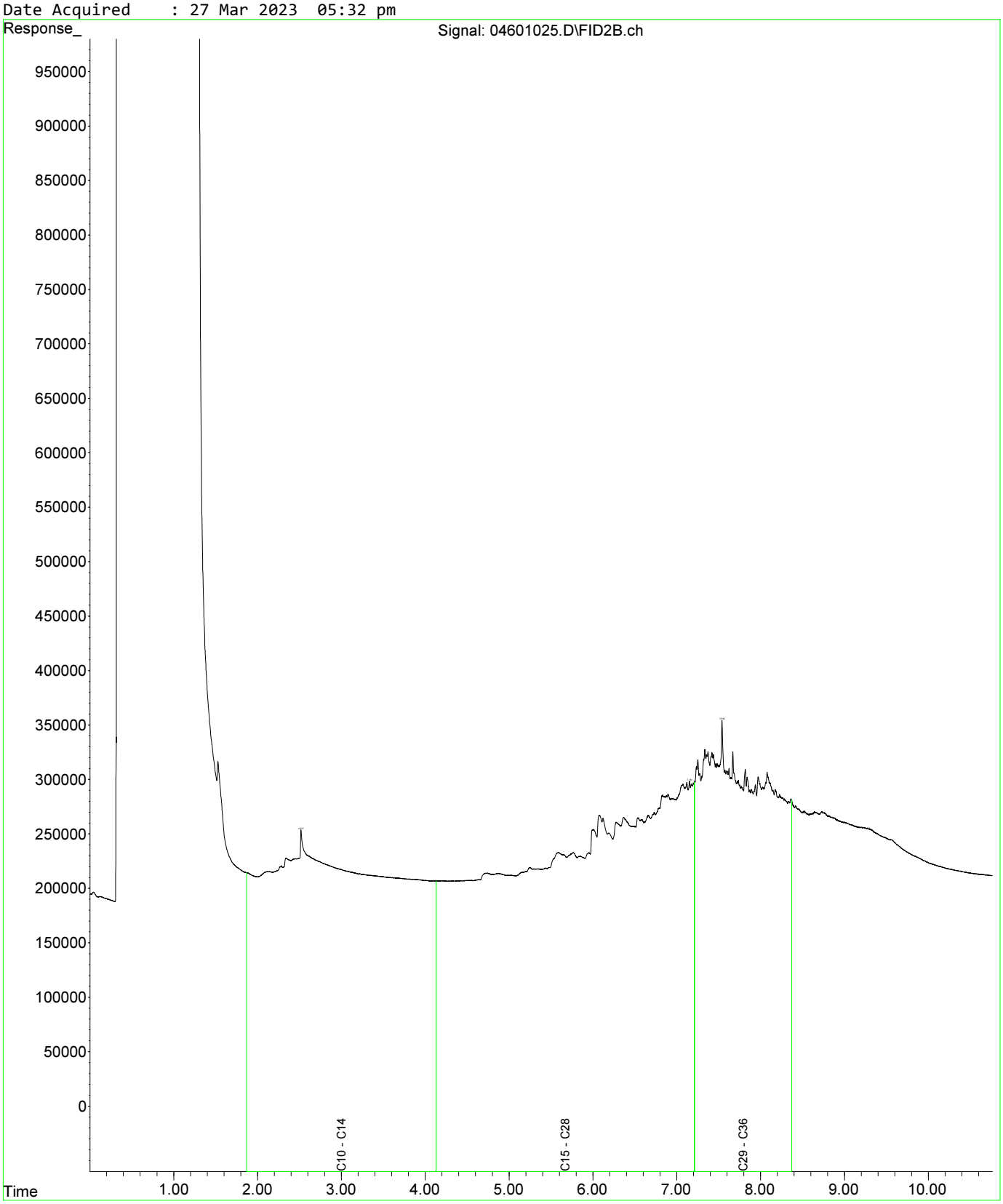

Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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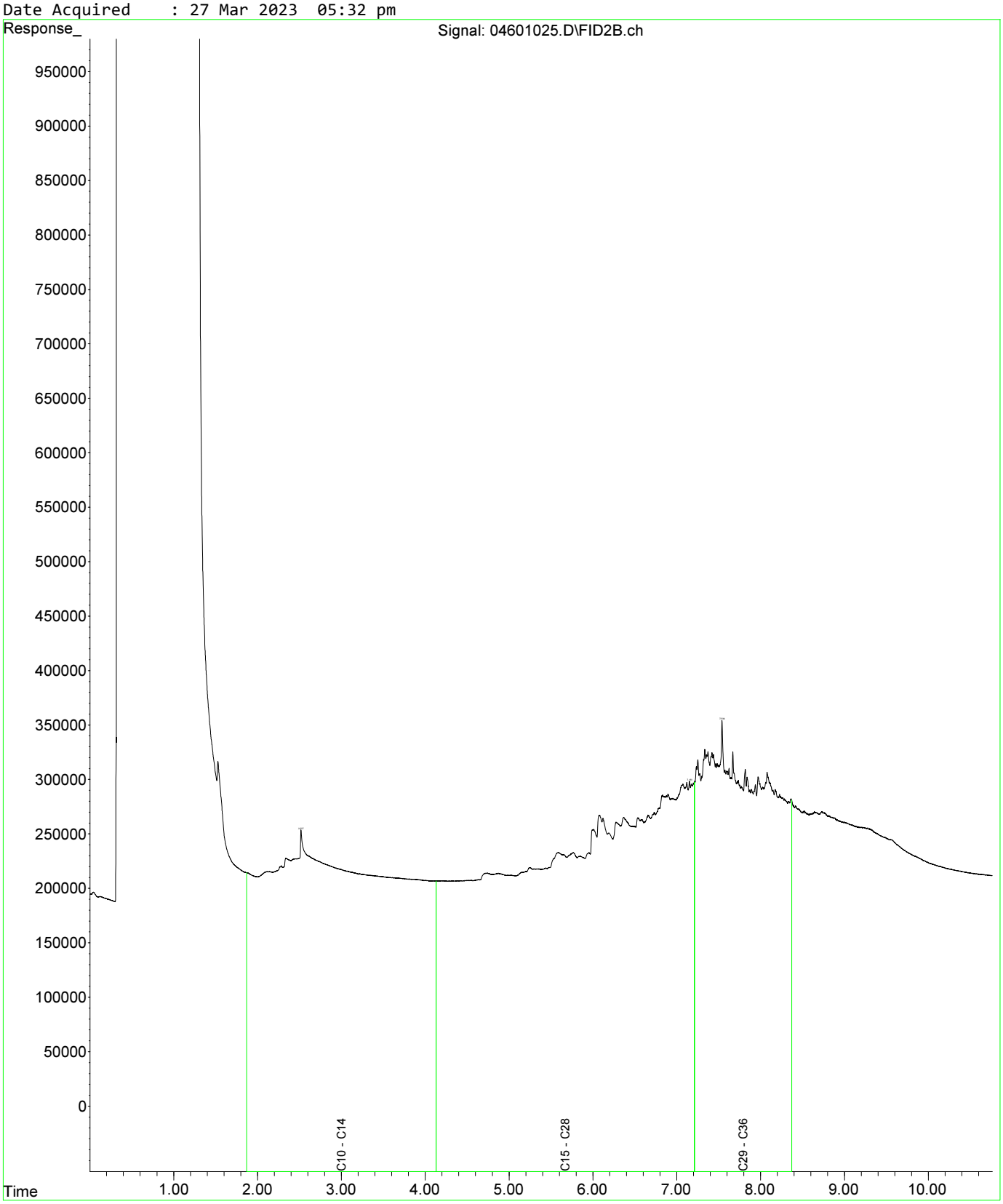

Fraction Scheme : Standard
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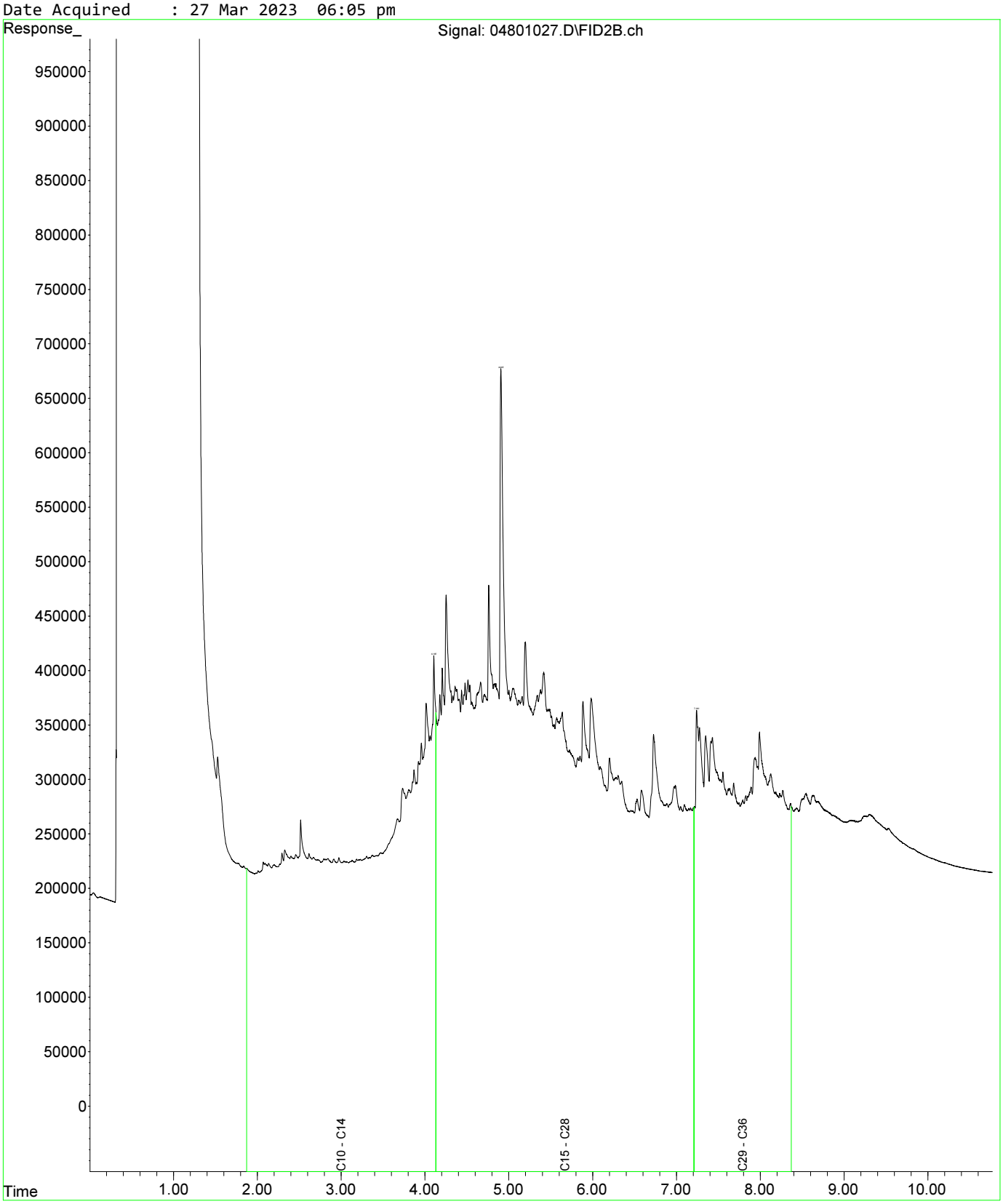

Fraction Scheme : Standard
Data File : 05001029.D
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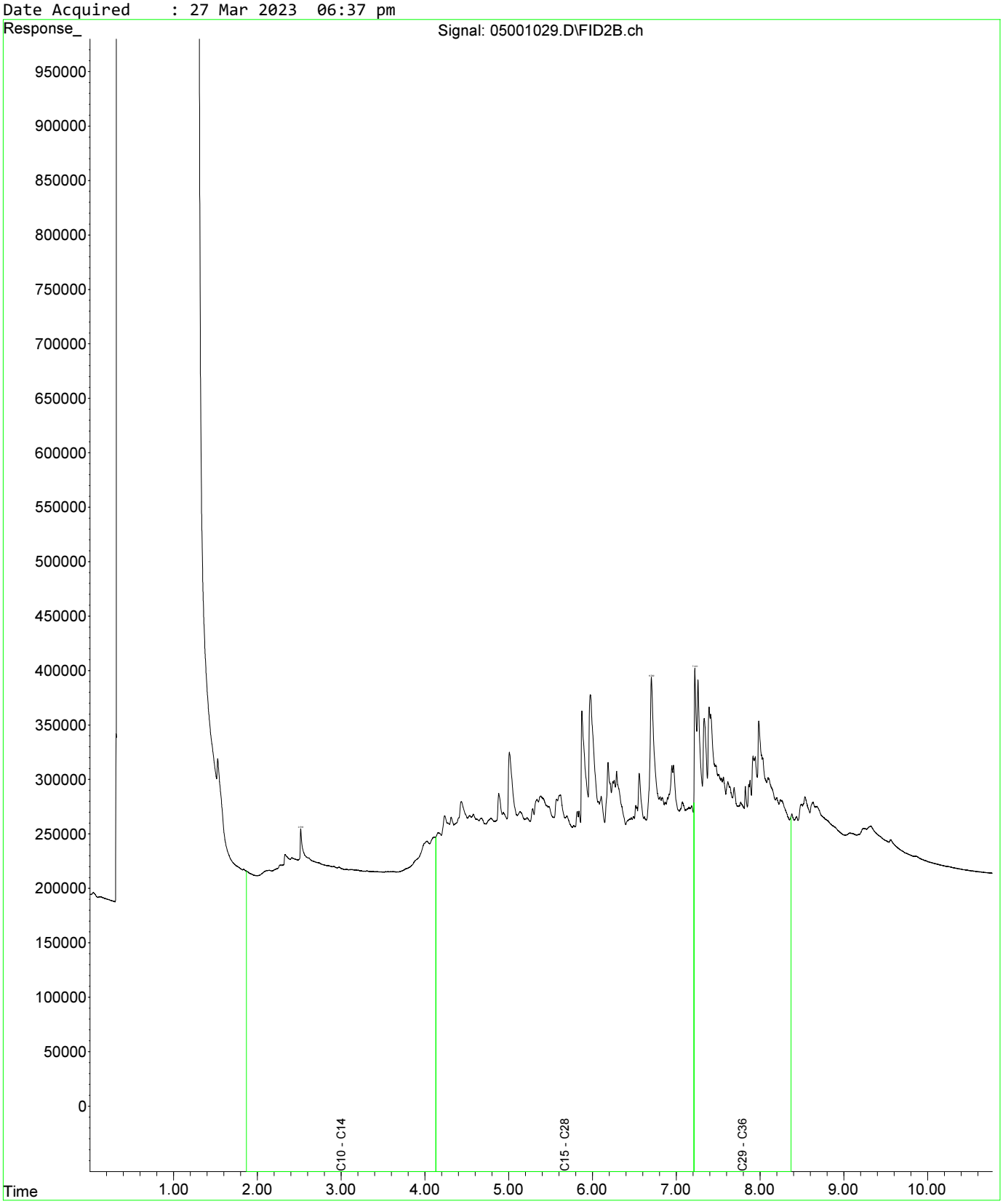
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
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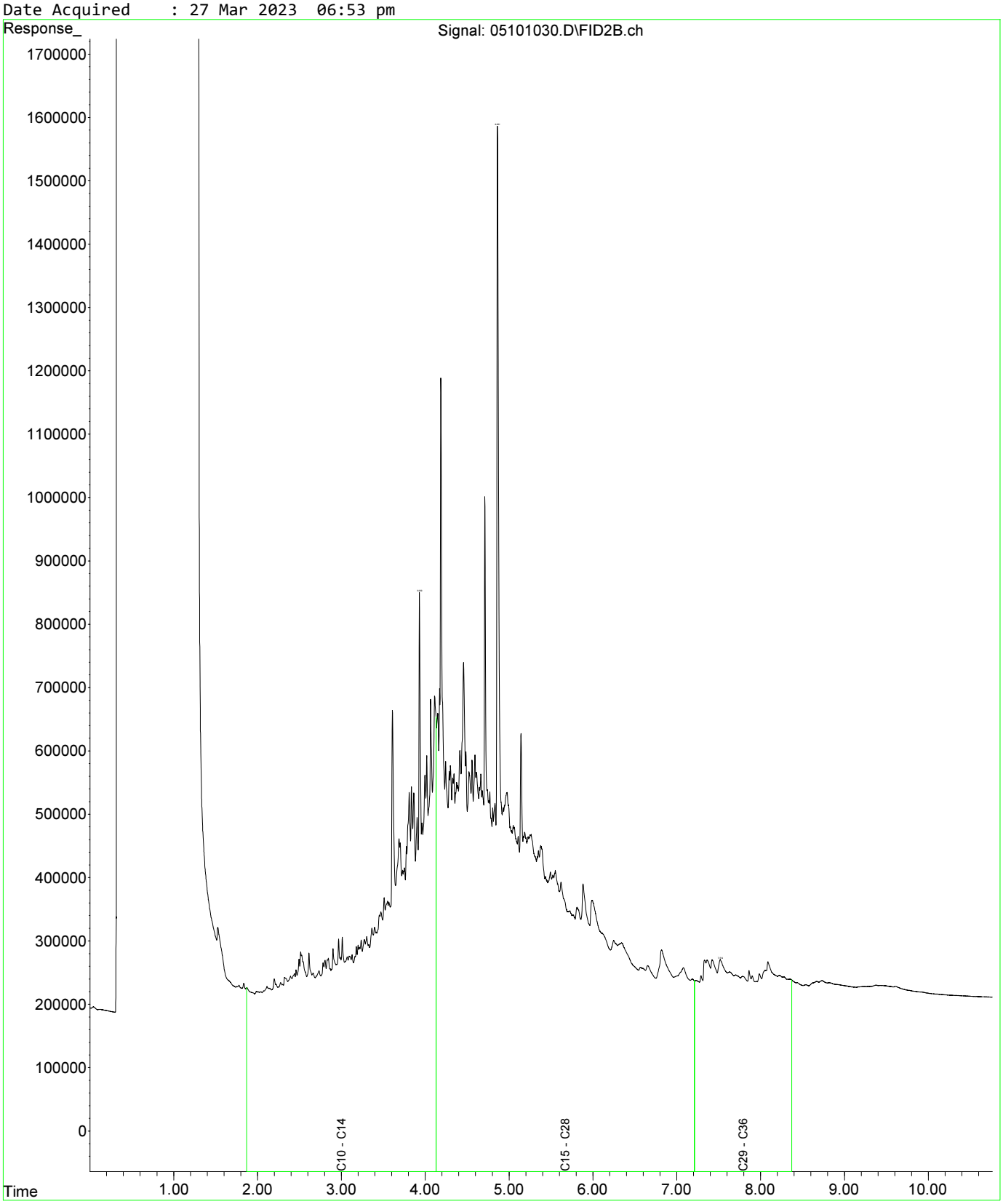

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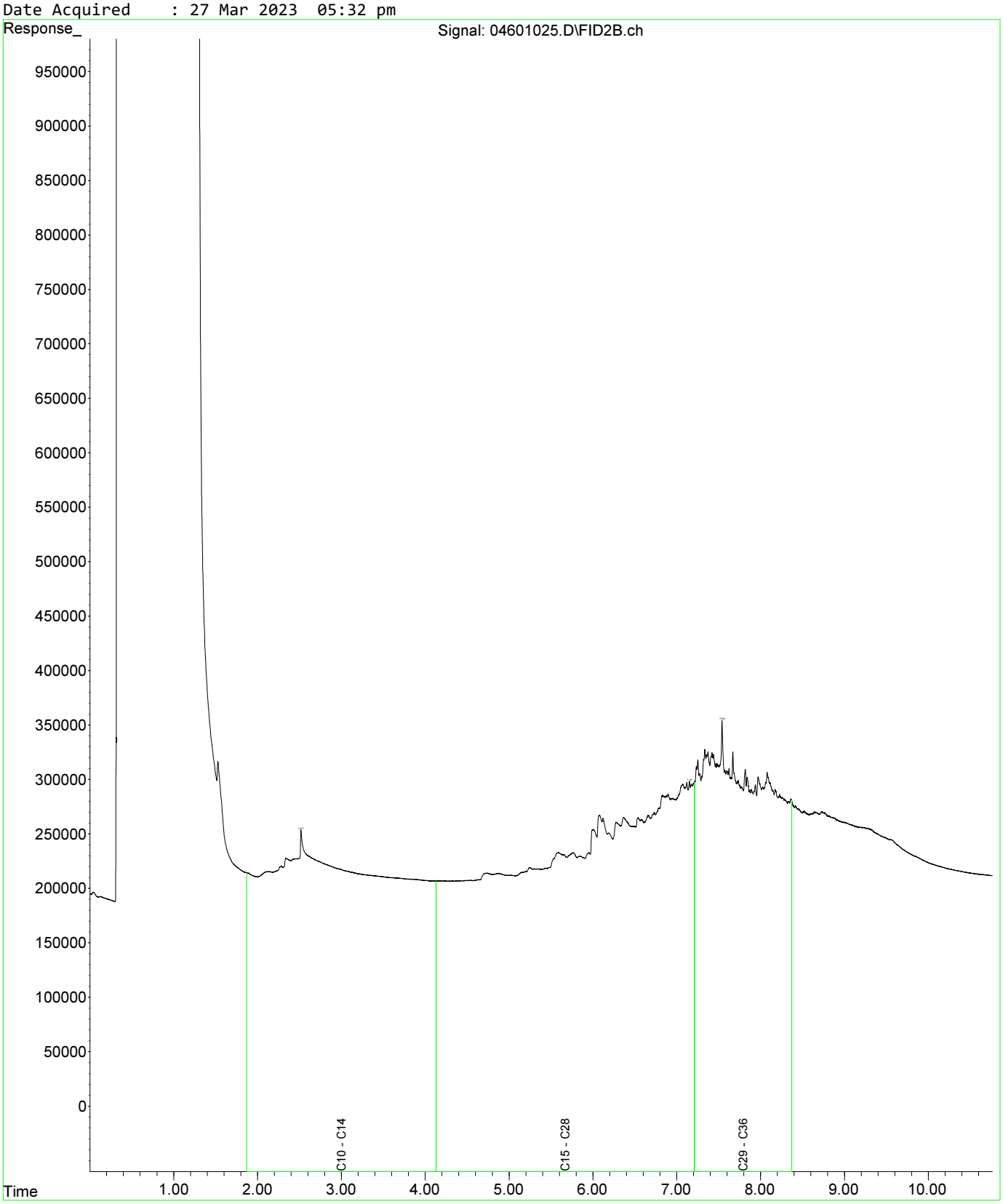

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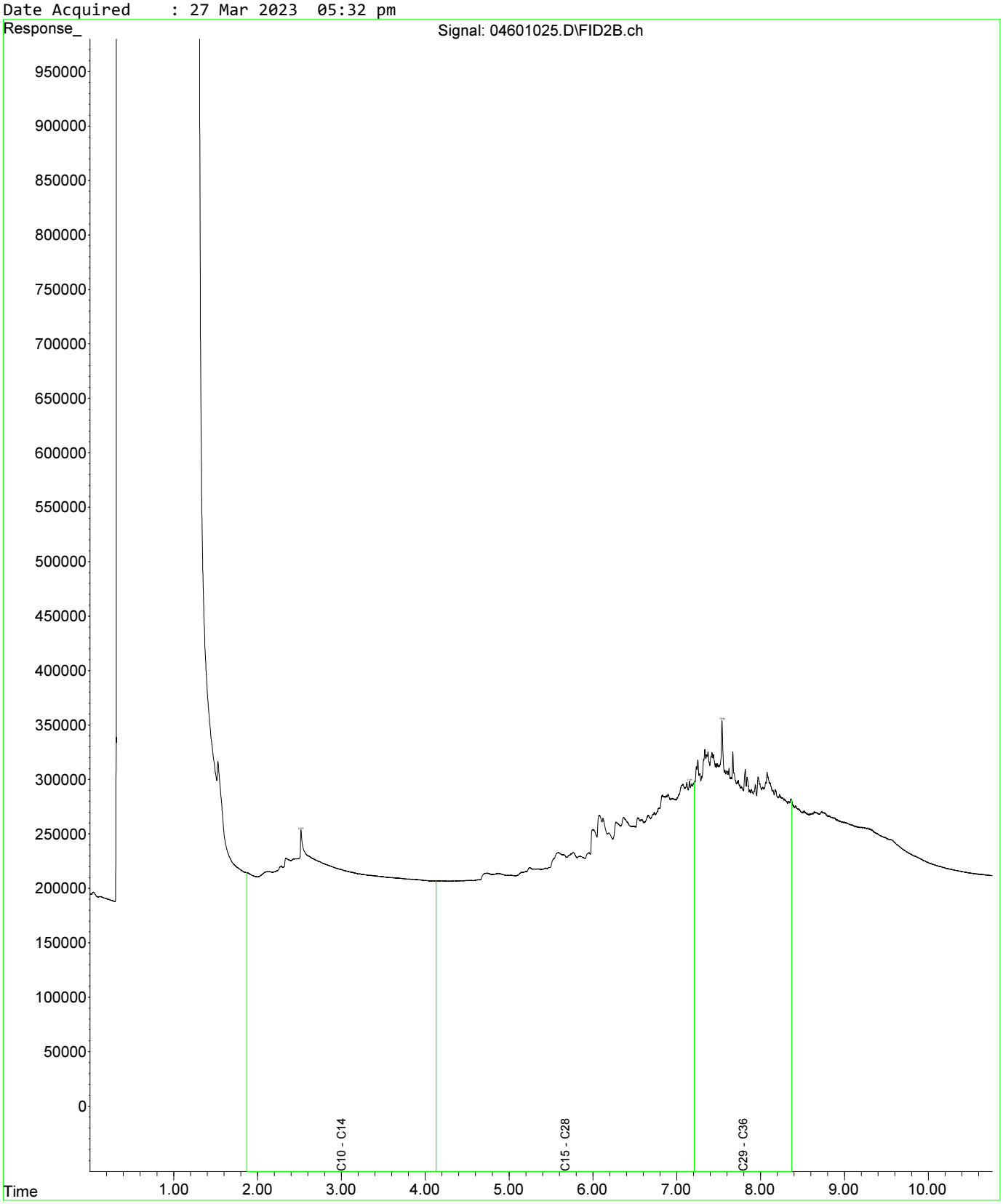

Fraction Scheme : Standard
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Laboratory Number: EM2305209-019
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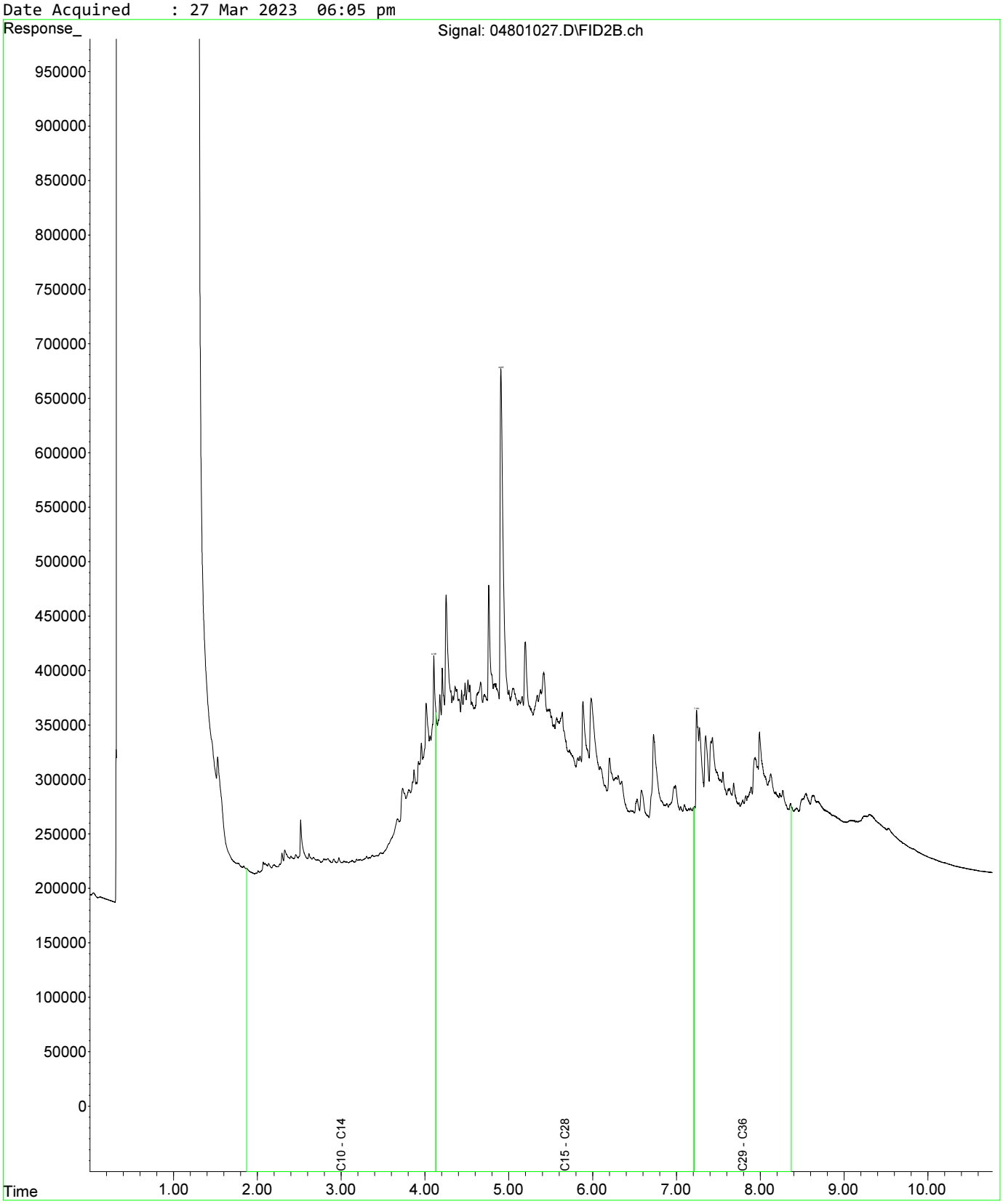

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Laboratory Number: EM2305209-013
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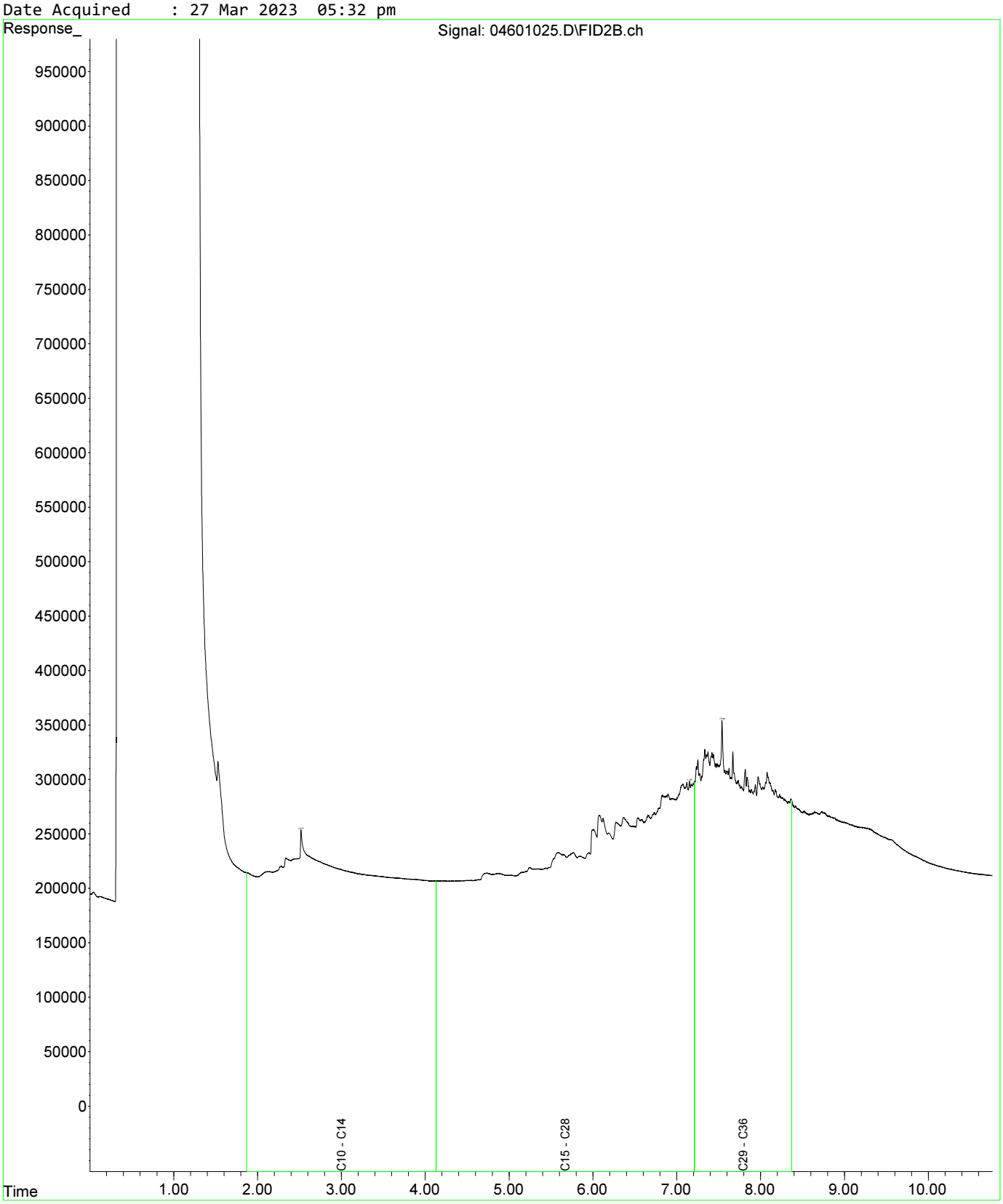

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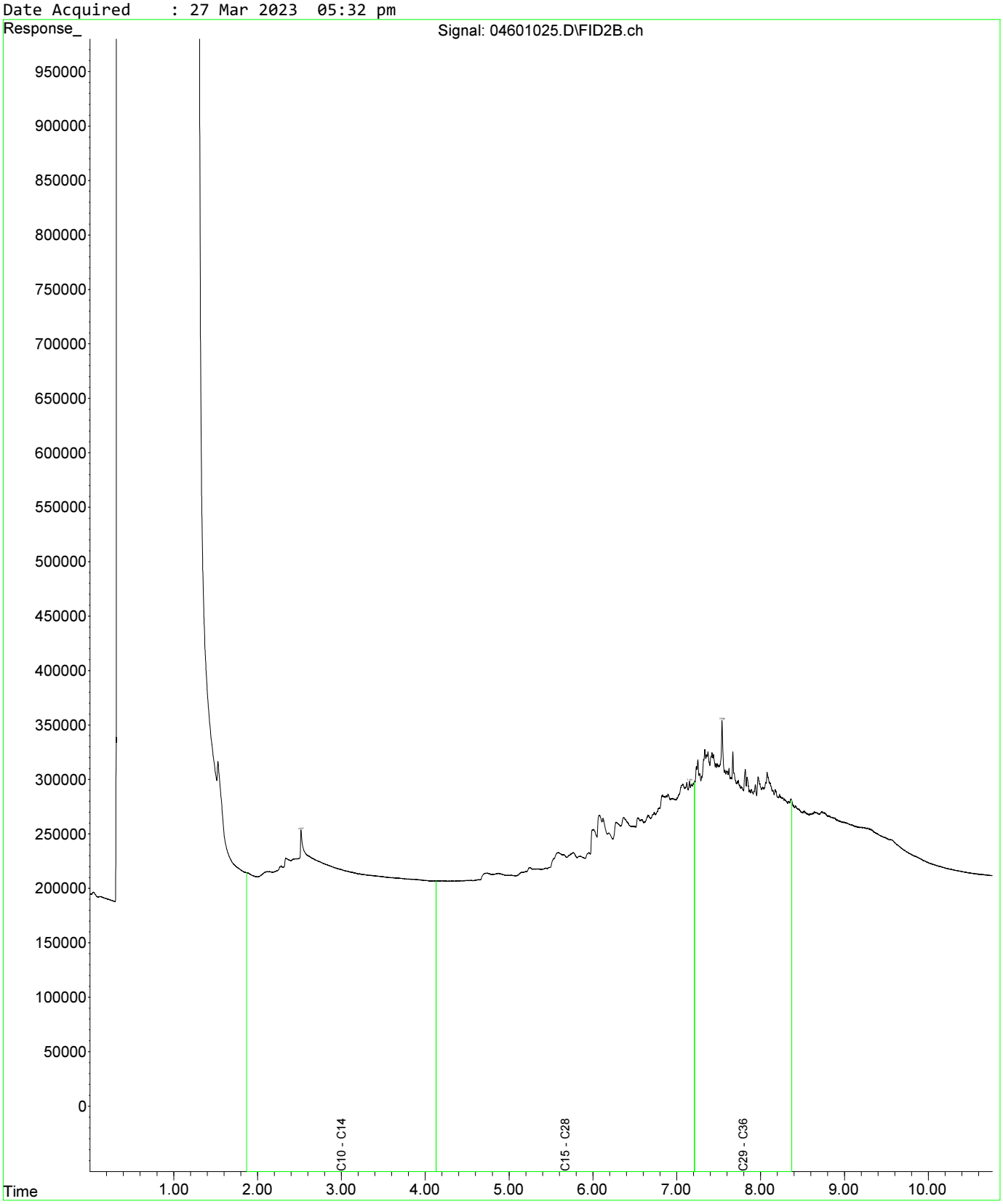

Fraction Scheme : Standard
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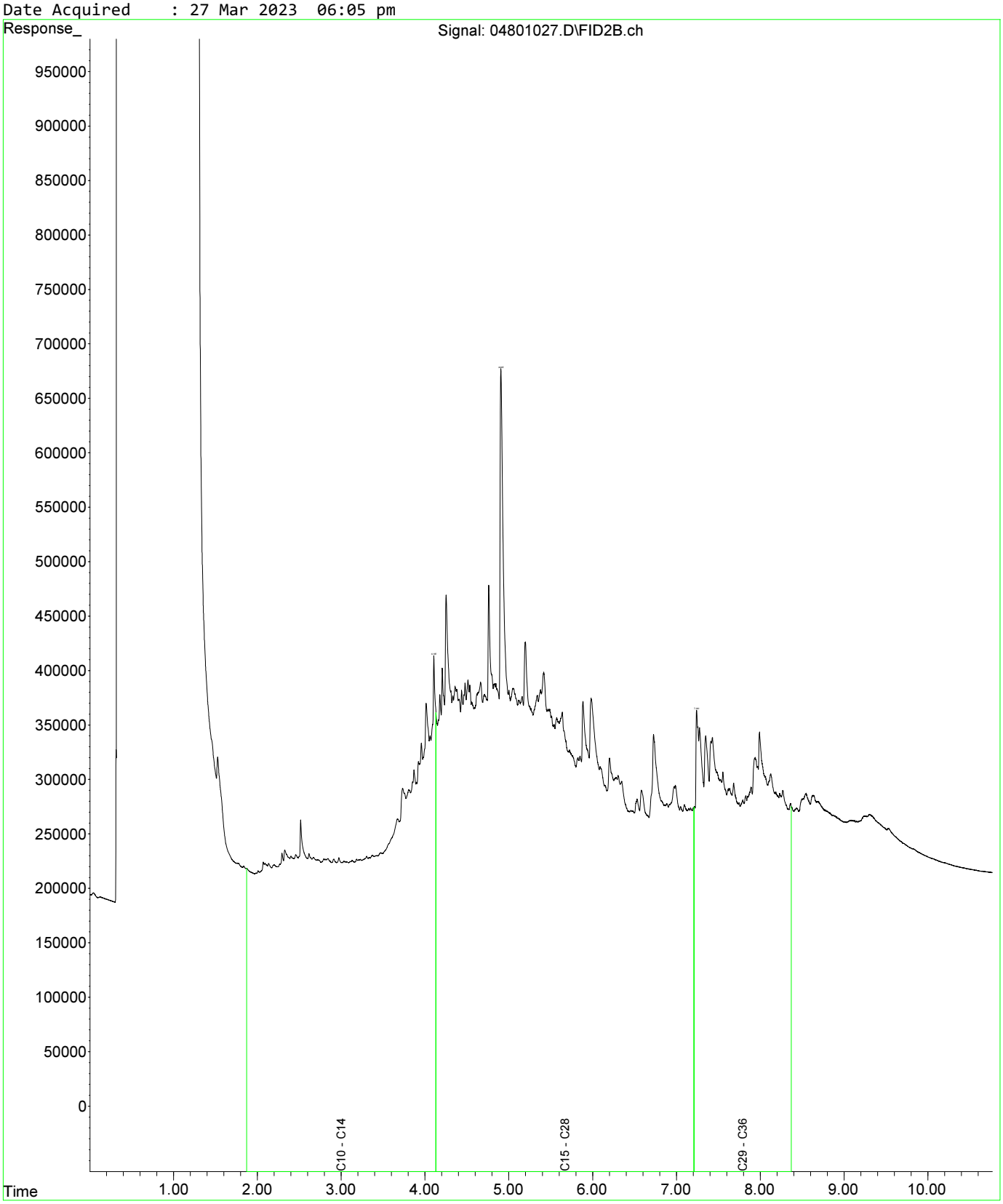

Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
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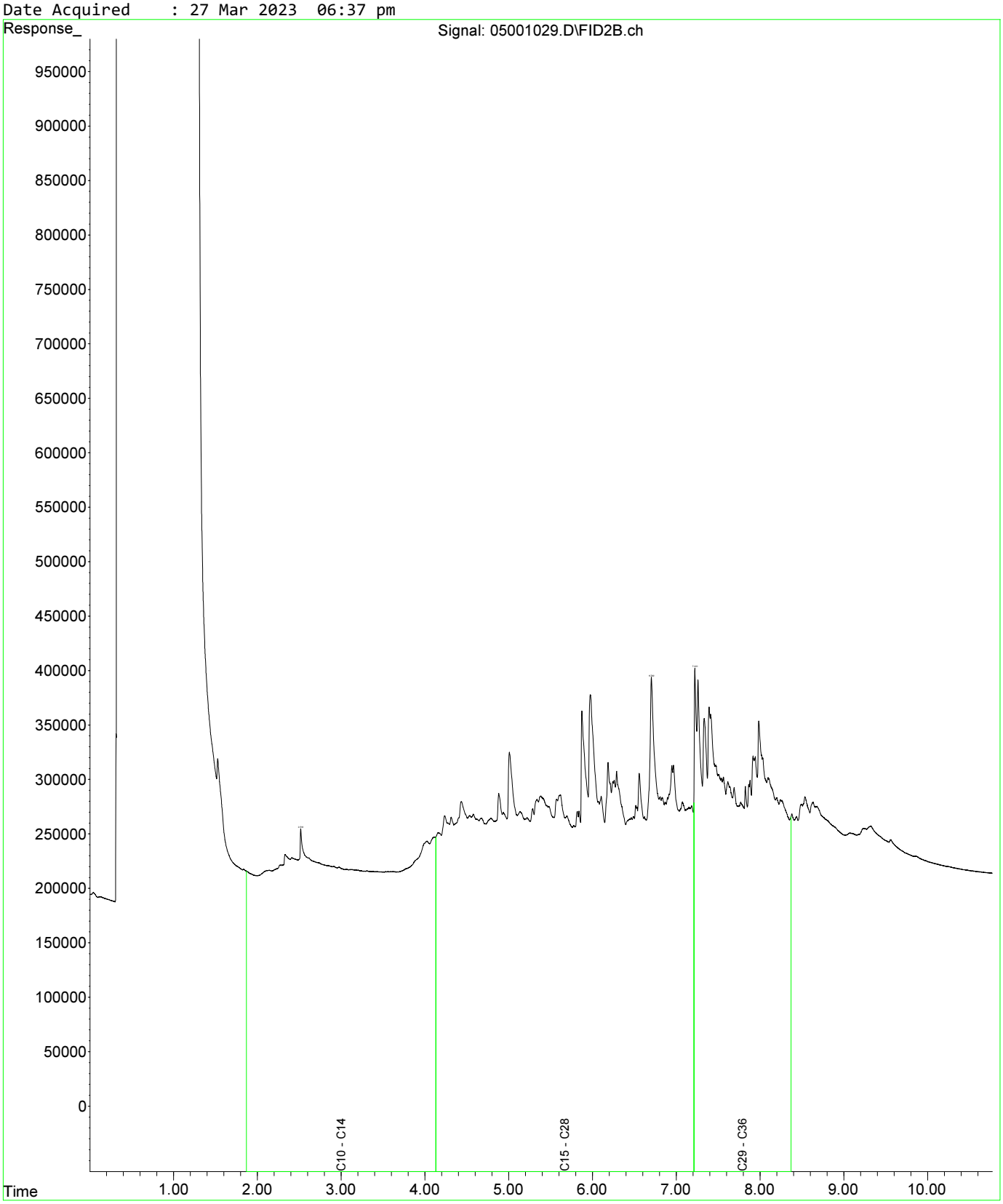

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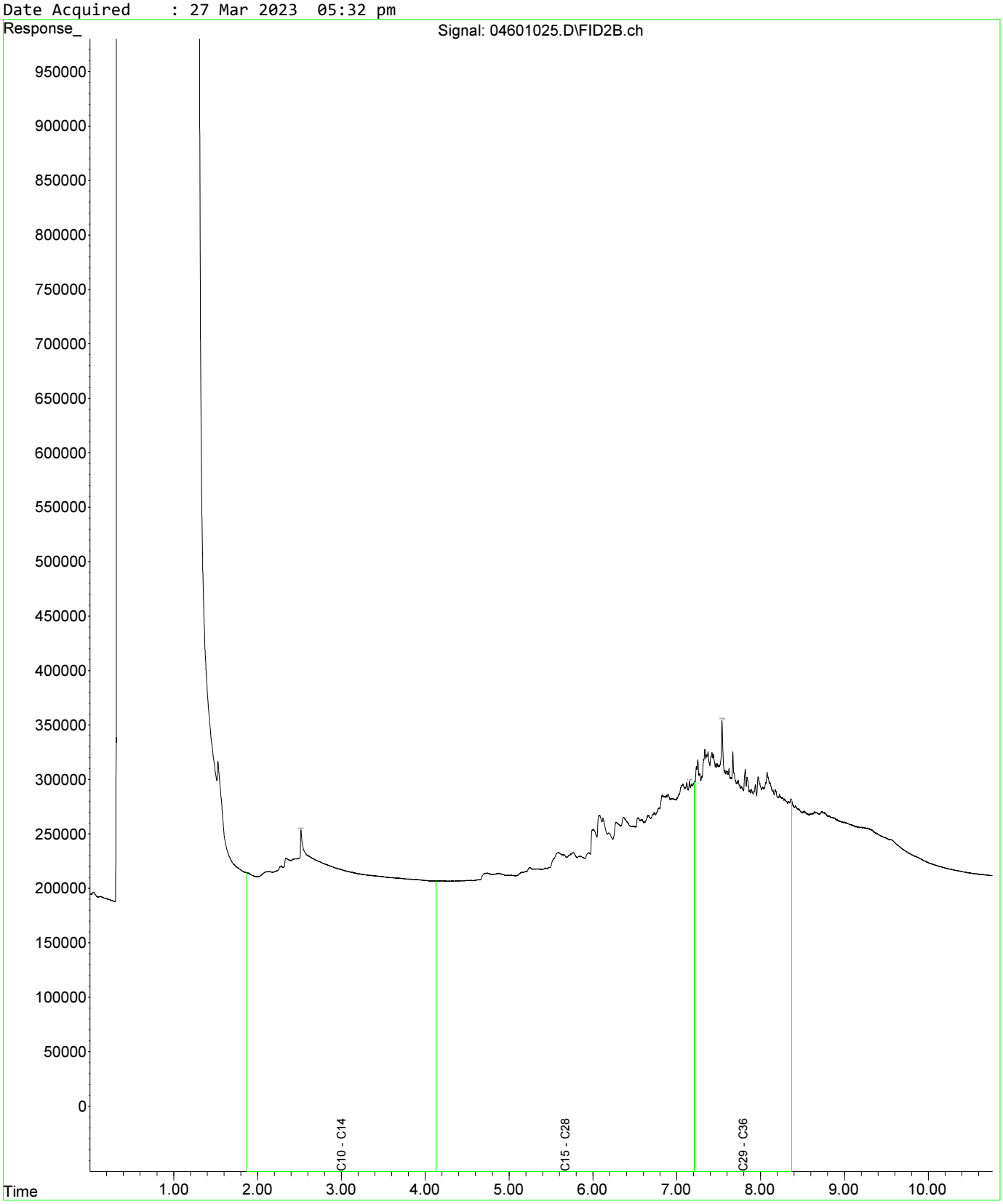

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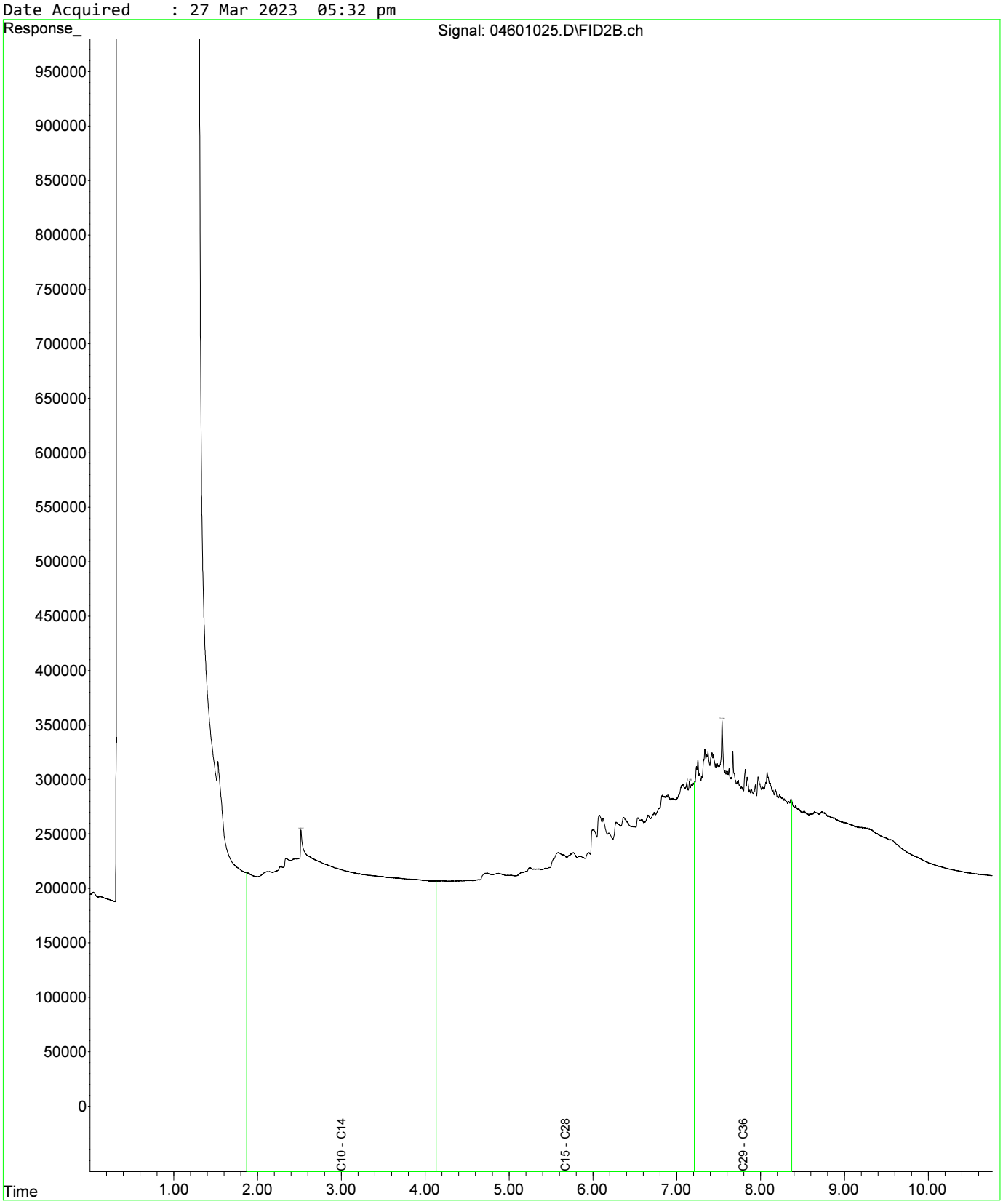

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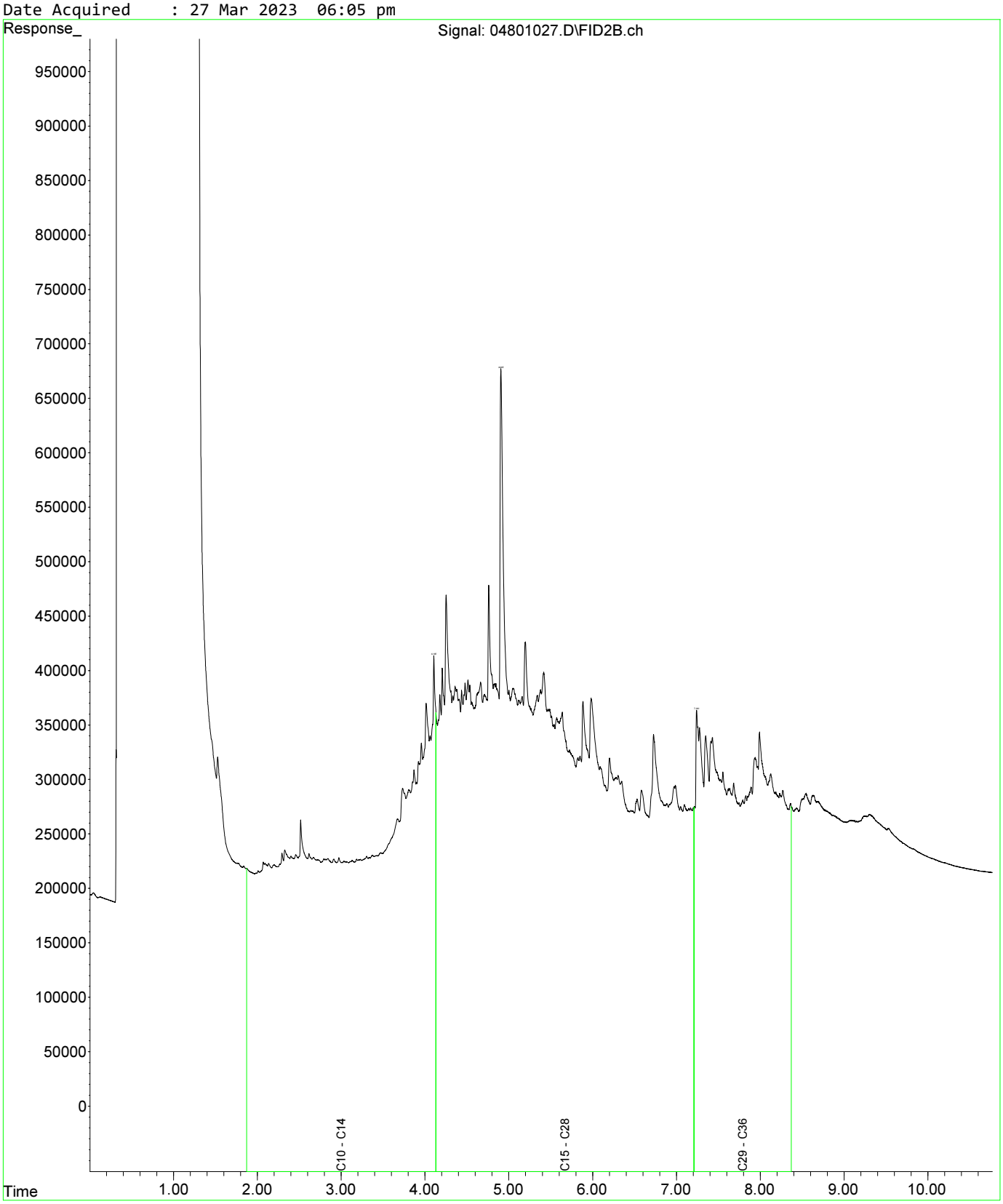

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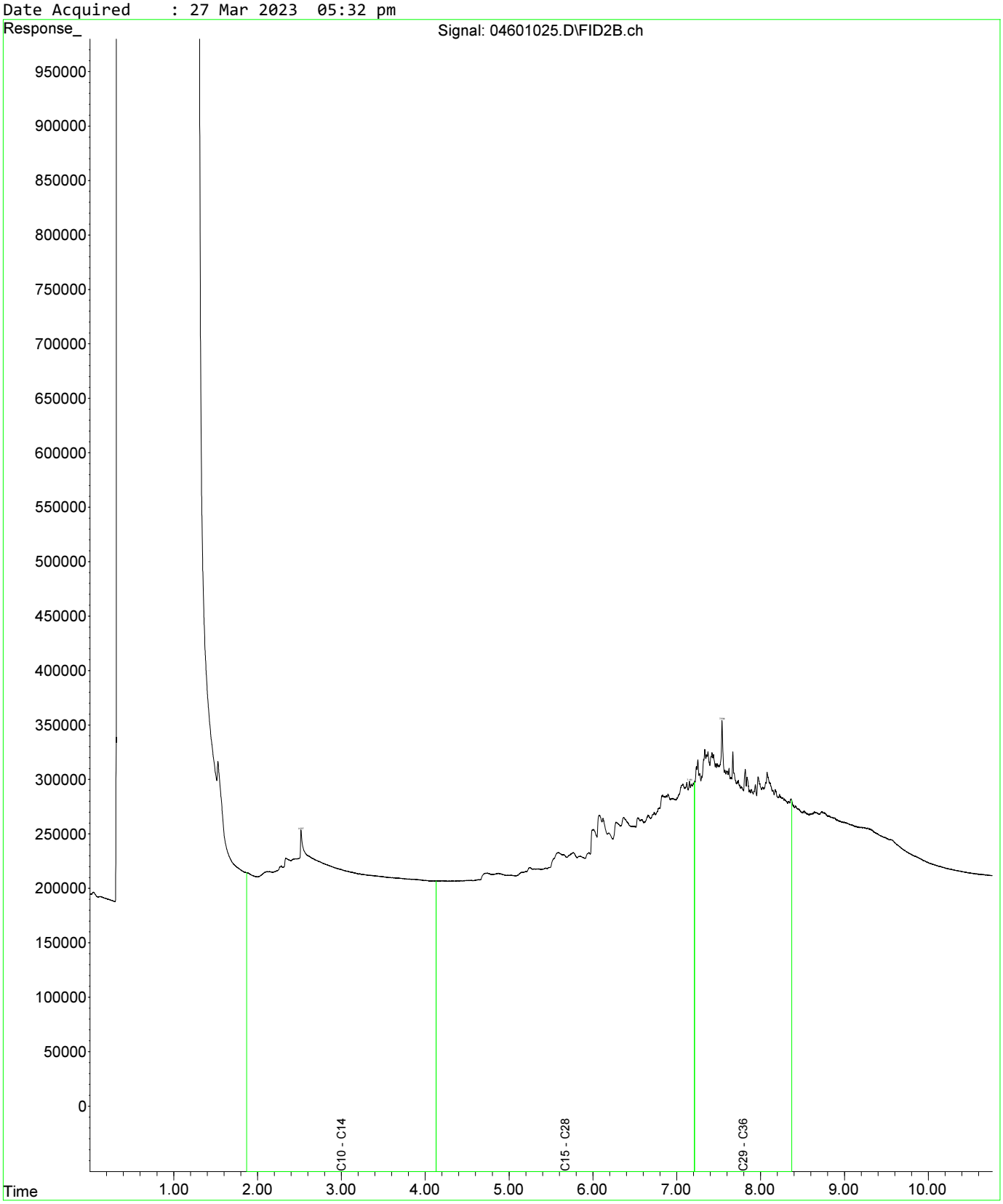

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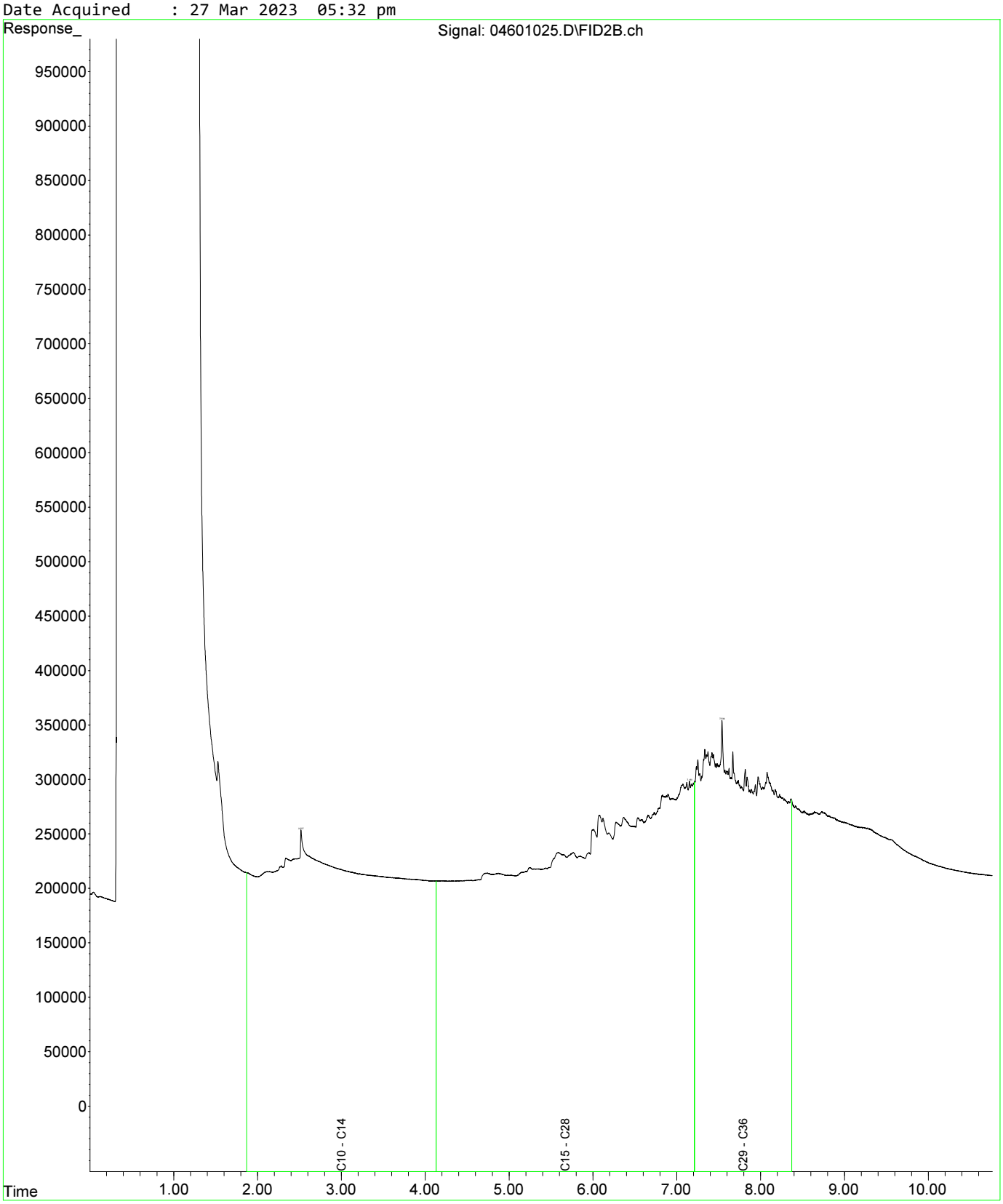

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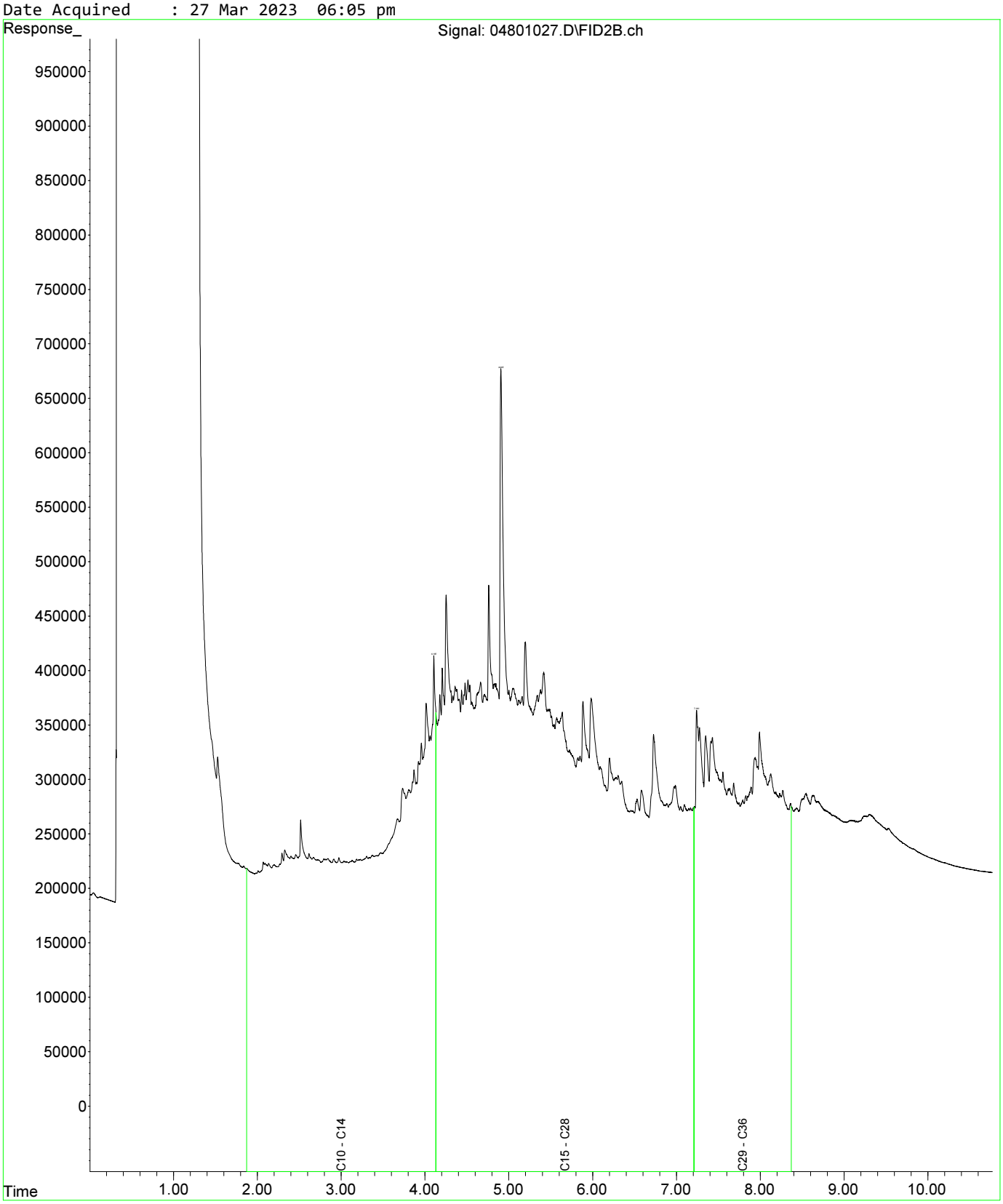

Fraction Scheme : Standard
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Laboratory Number: EM2305209-021
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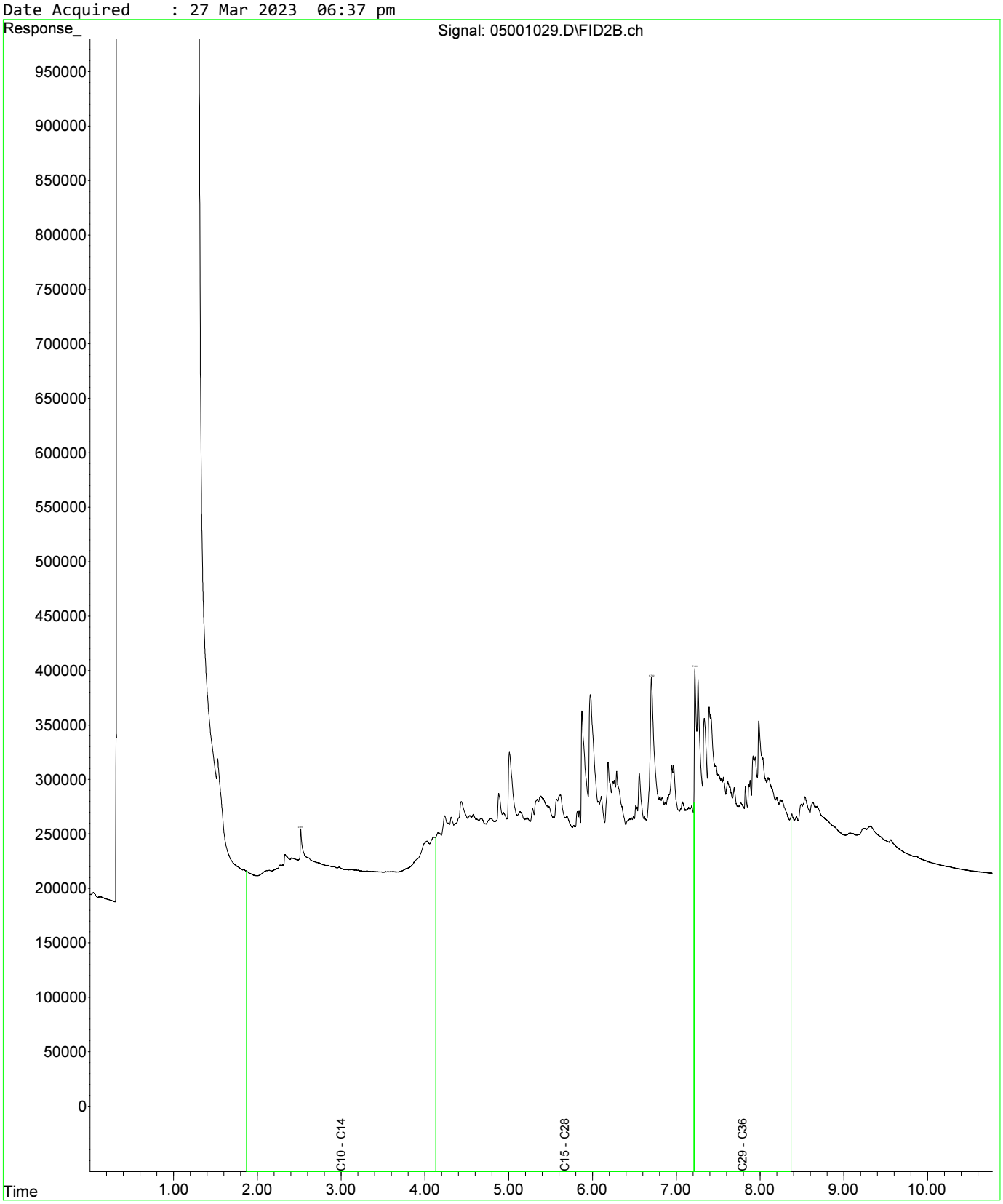
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
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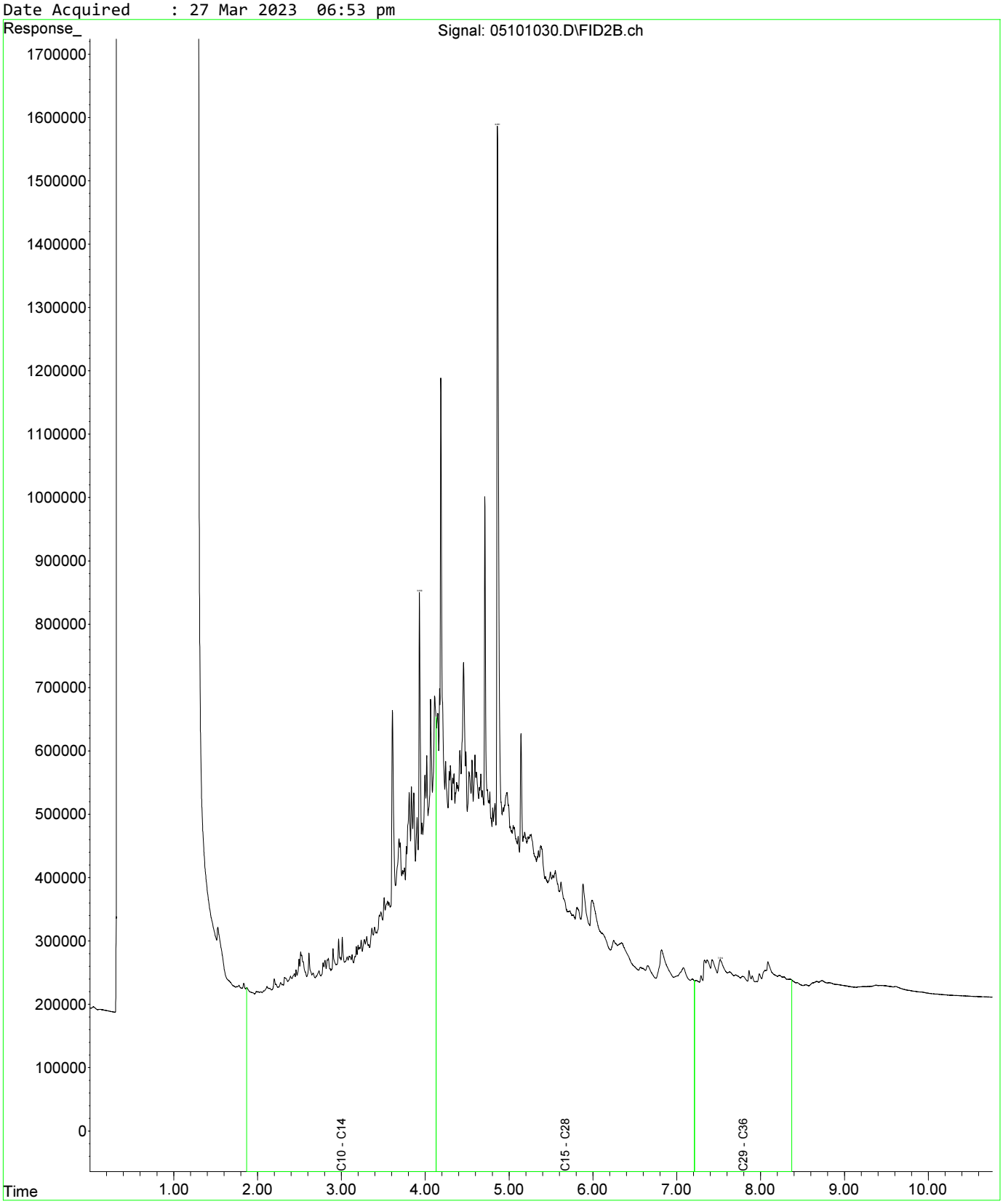
Date Acquired : 27 Mar 2023 06:53 pm



Fraction Scheme : Standard
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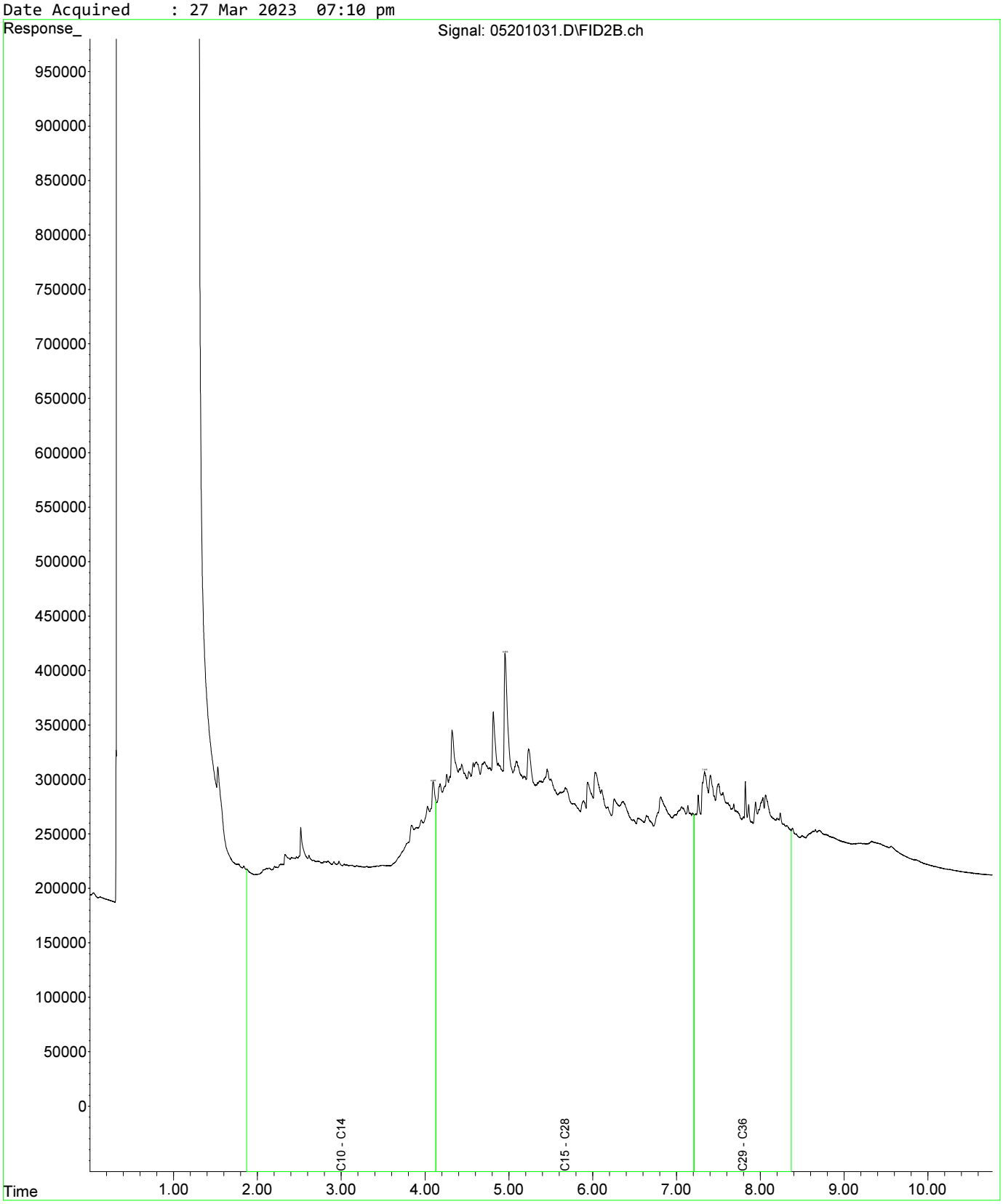
Laboratory Number: EM2305209-027
Sample ID : UST_SP_EXT_03
Date Acquired : 27 Mar 2023 07:10 pm



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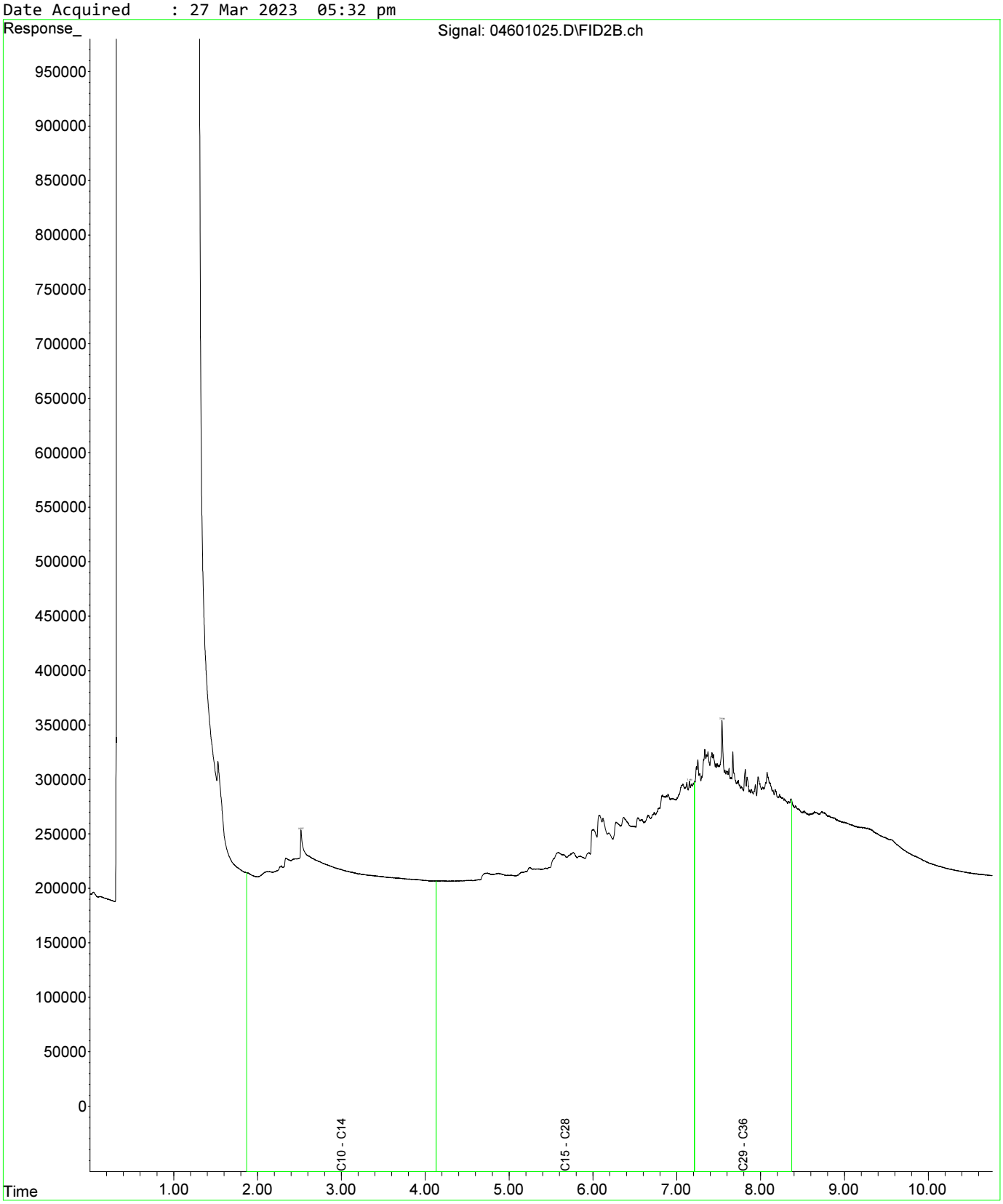

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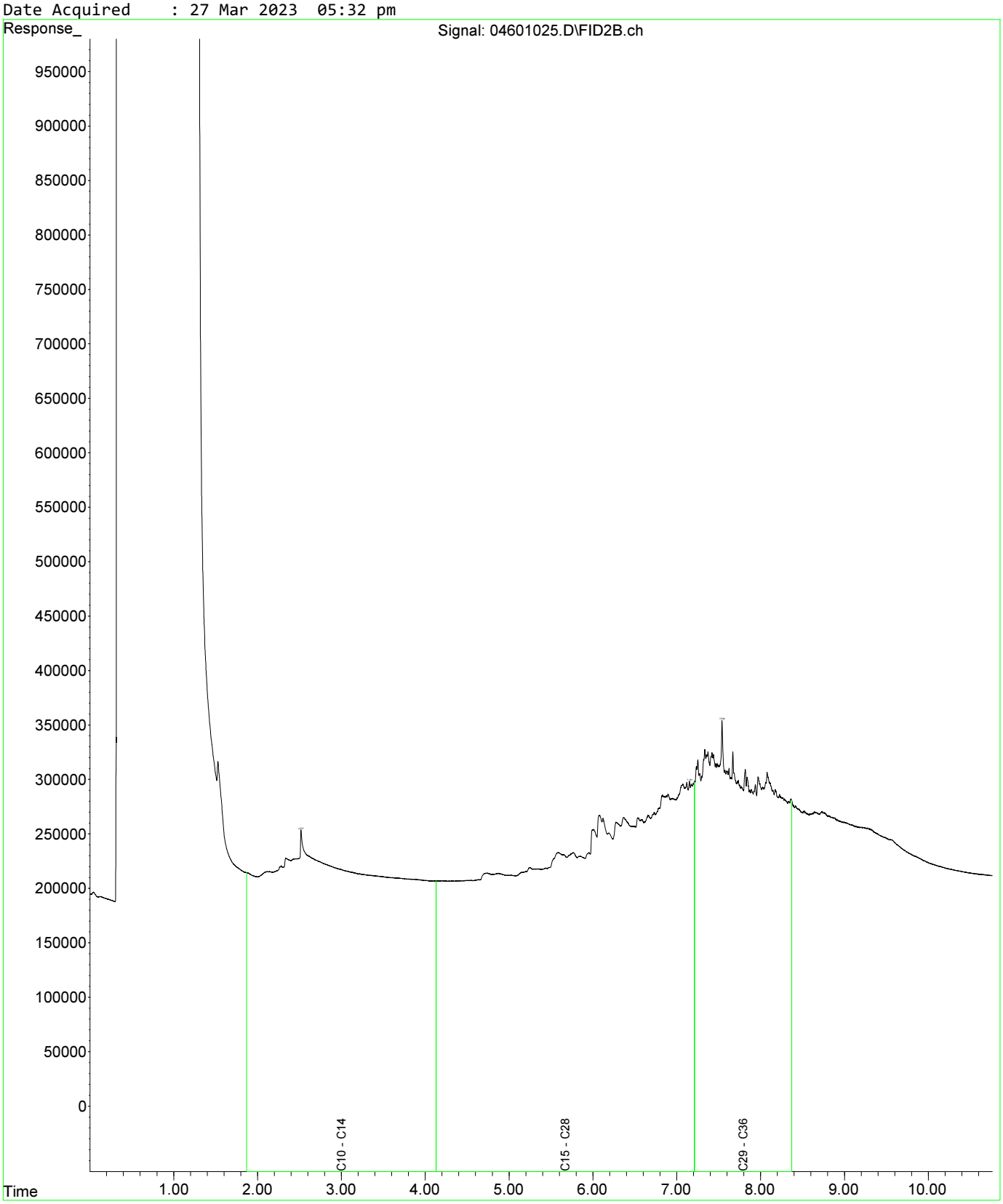

Fraction Scheme : Standard
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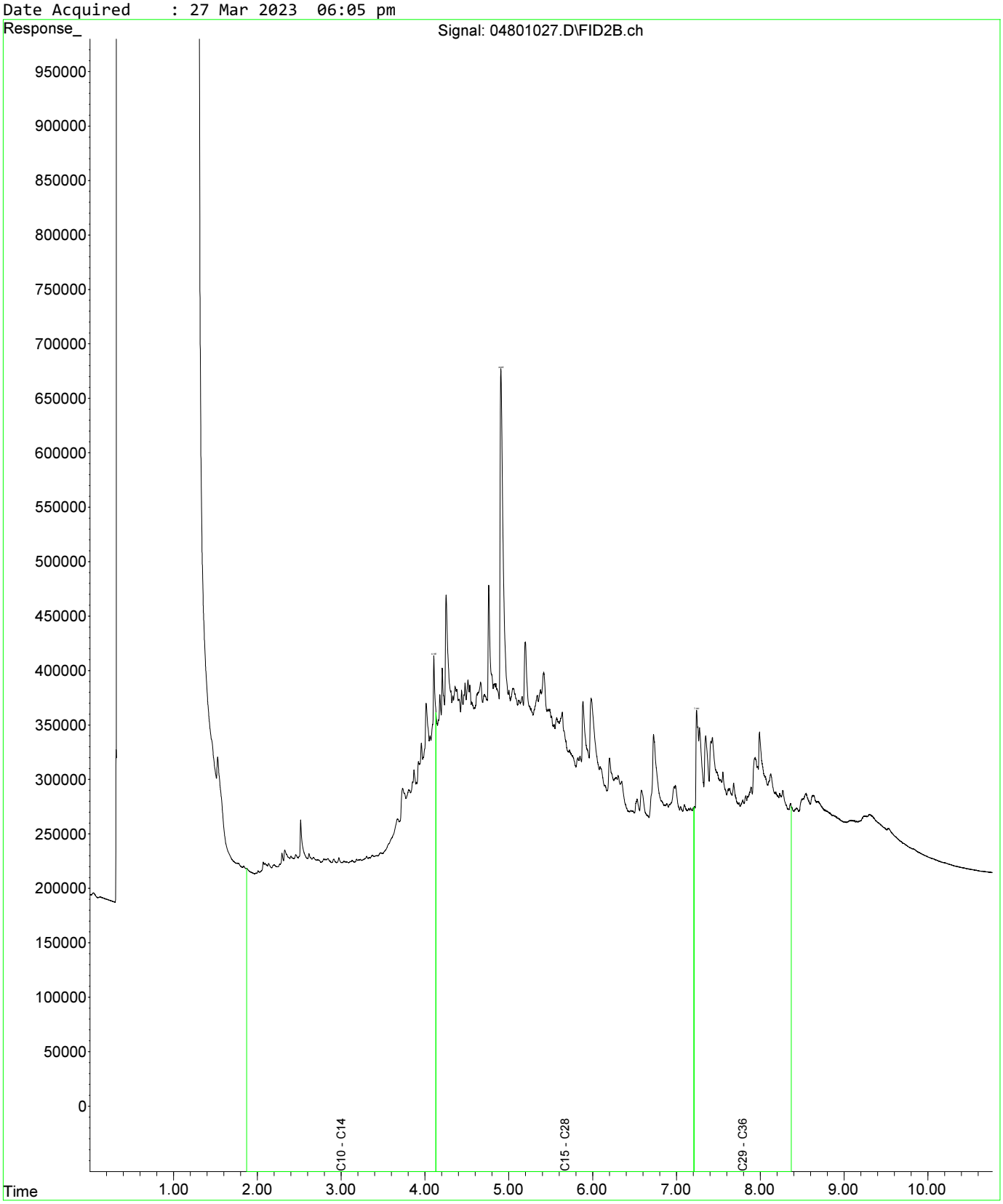

Fraction Scheme : Standard
Data File : 04601025.D
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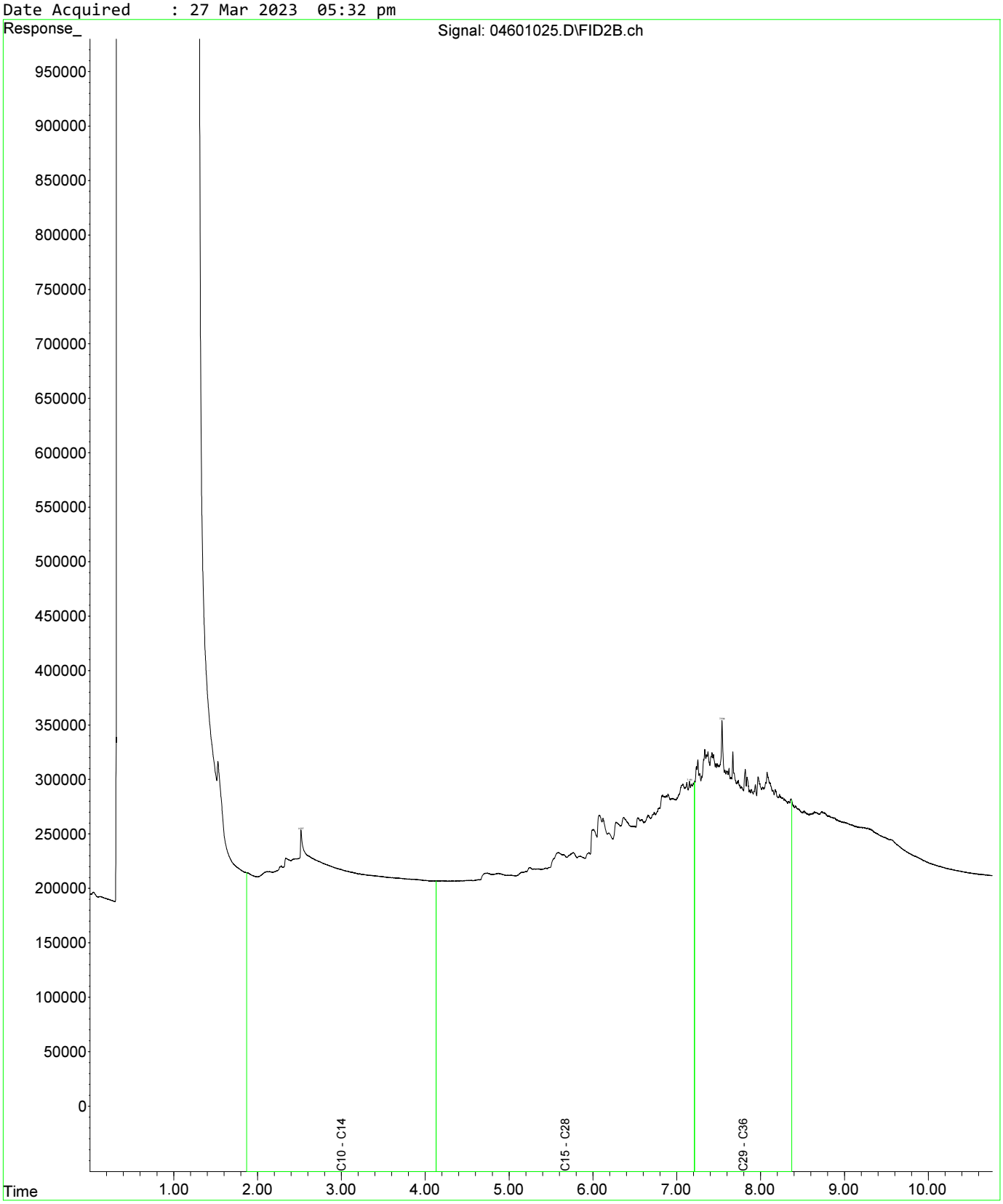
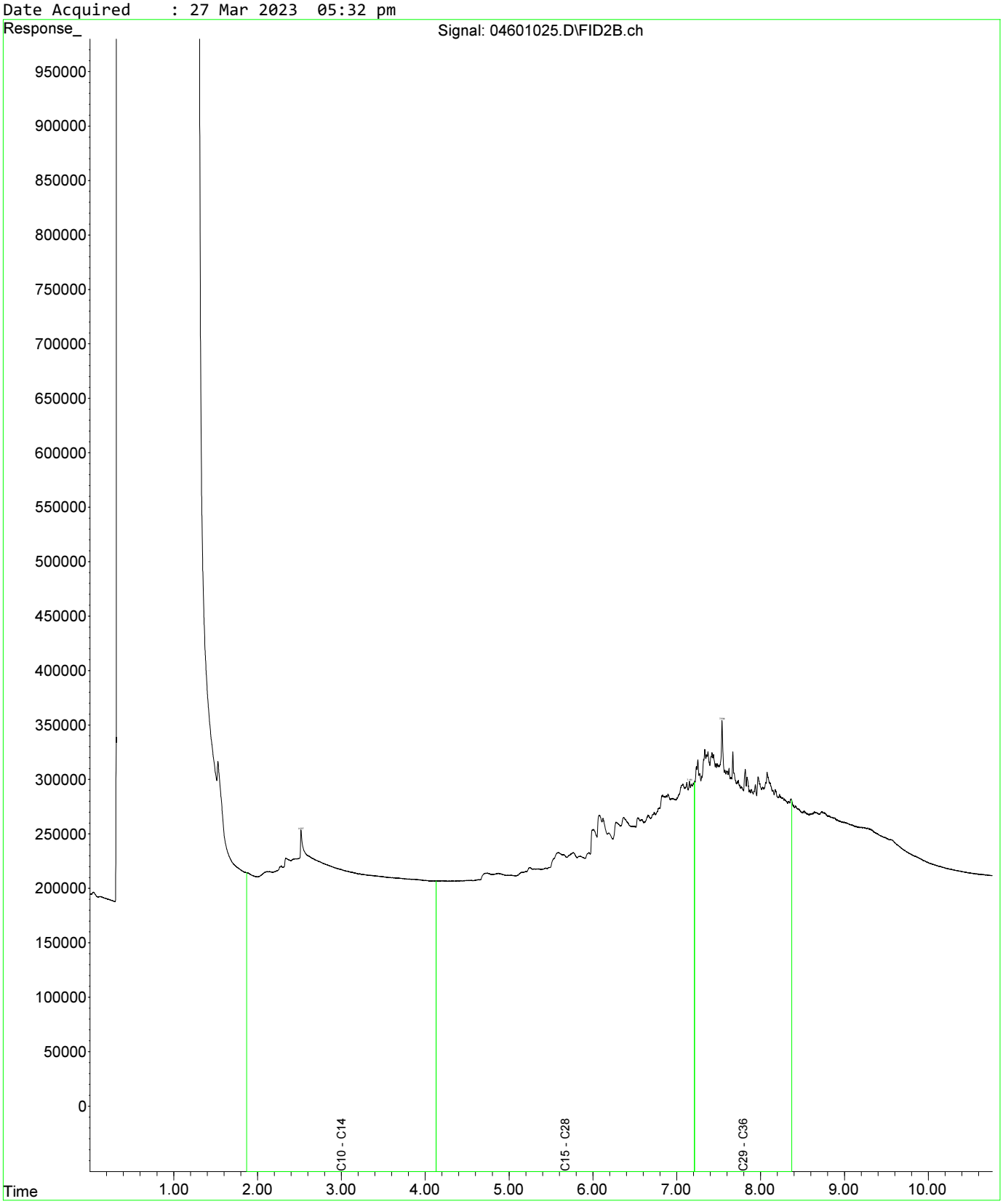
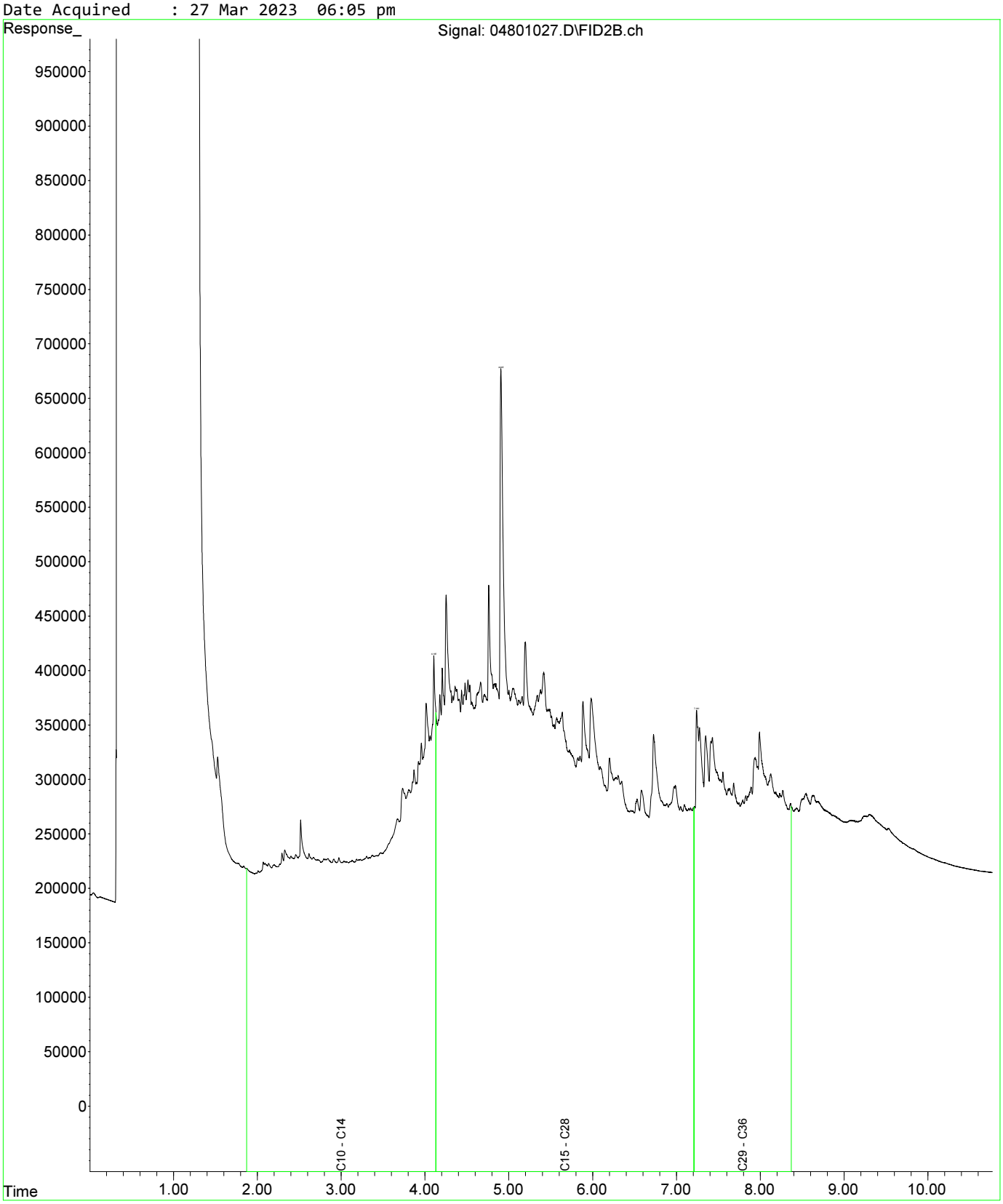


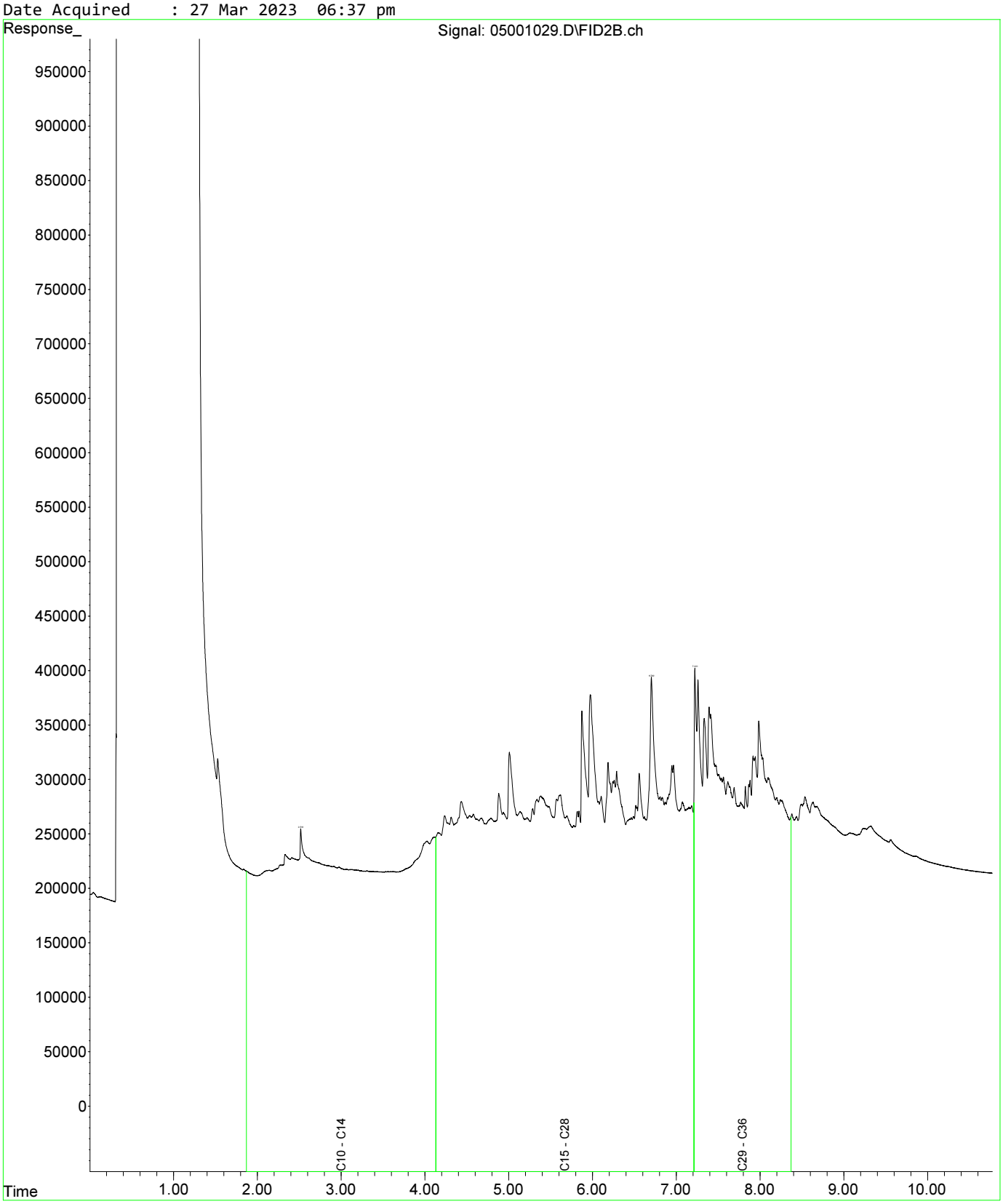
Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



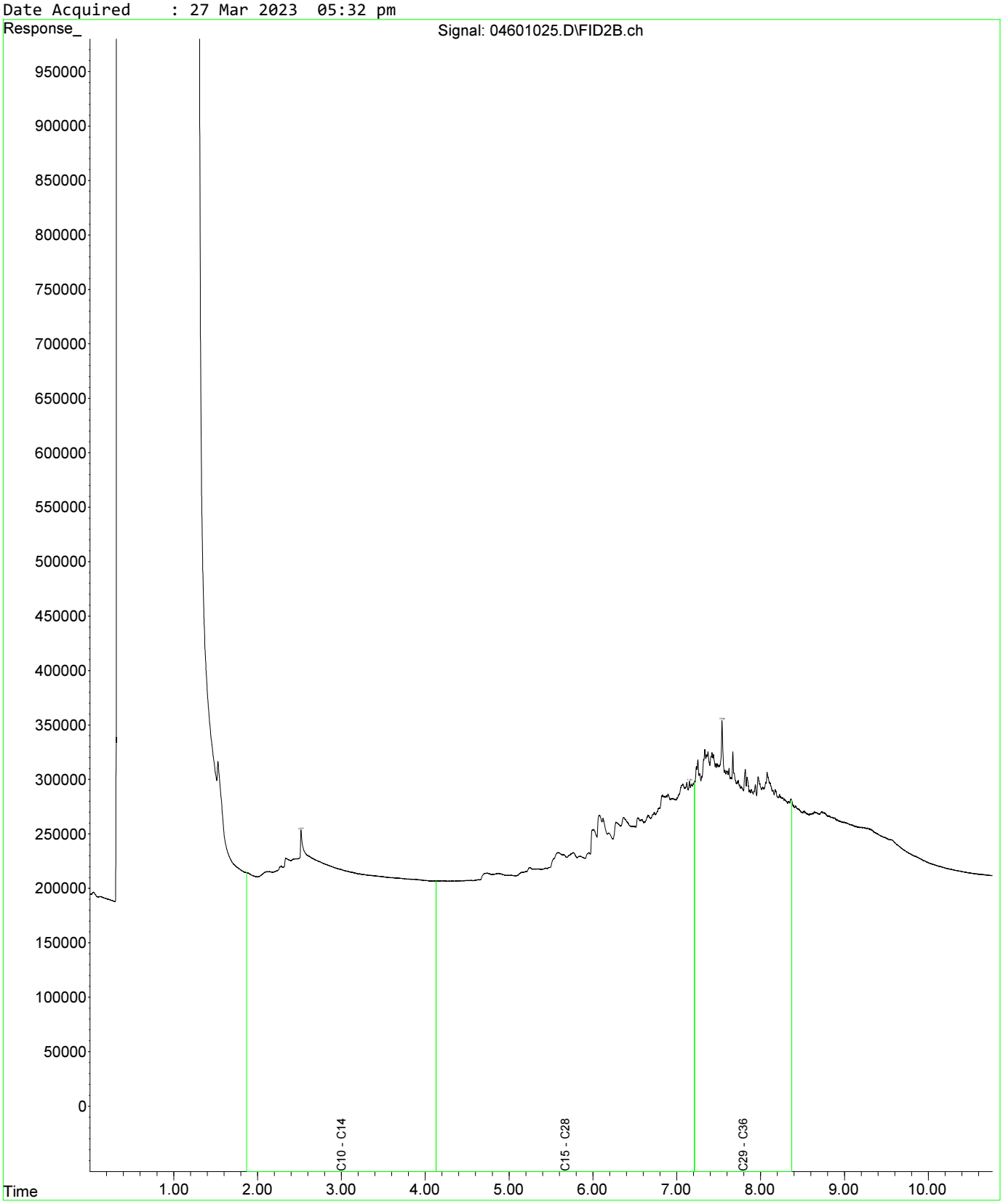
Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



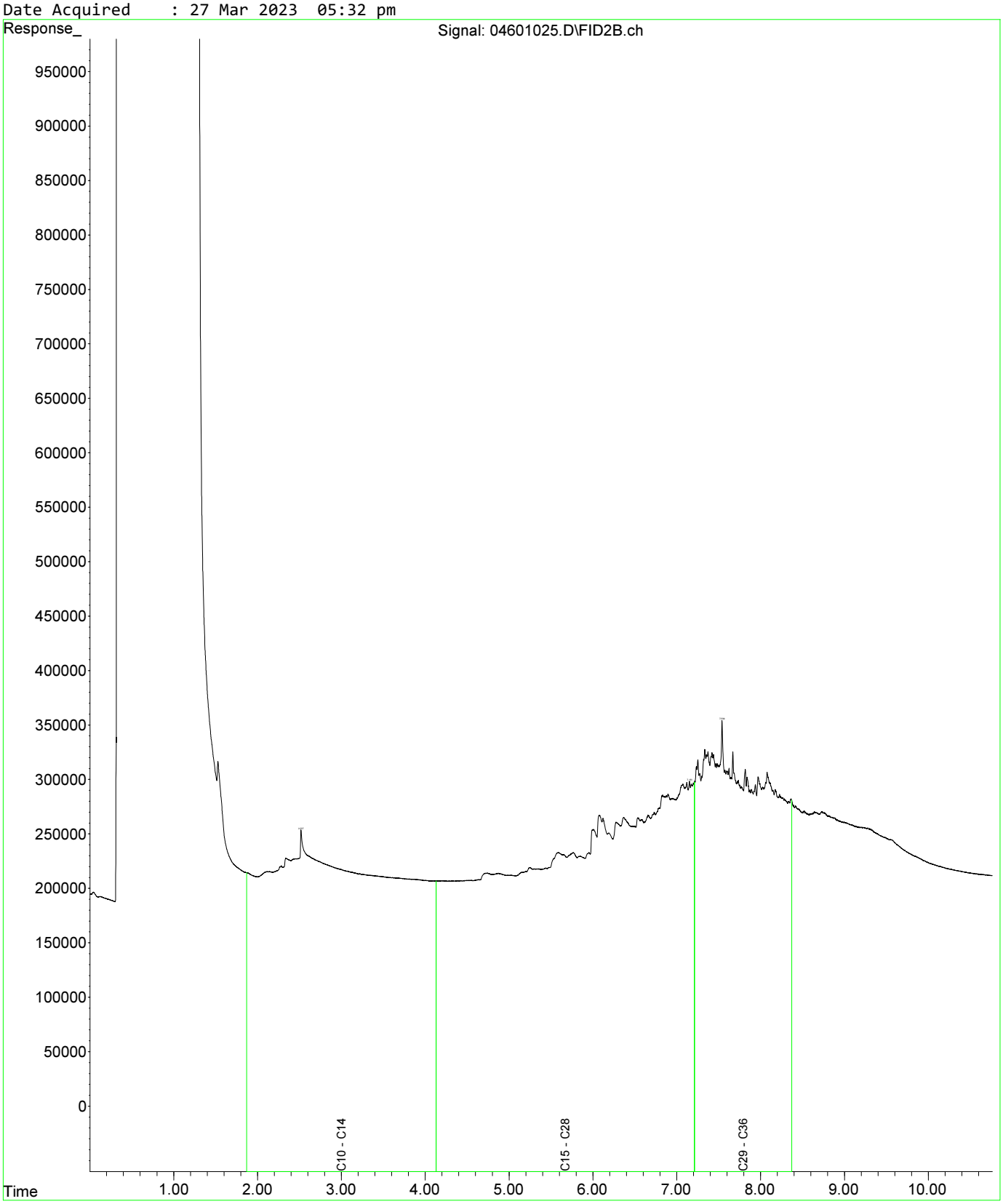
Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



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Laboratory Number: EM2305209-019
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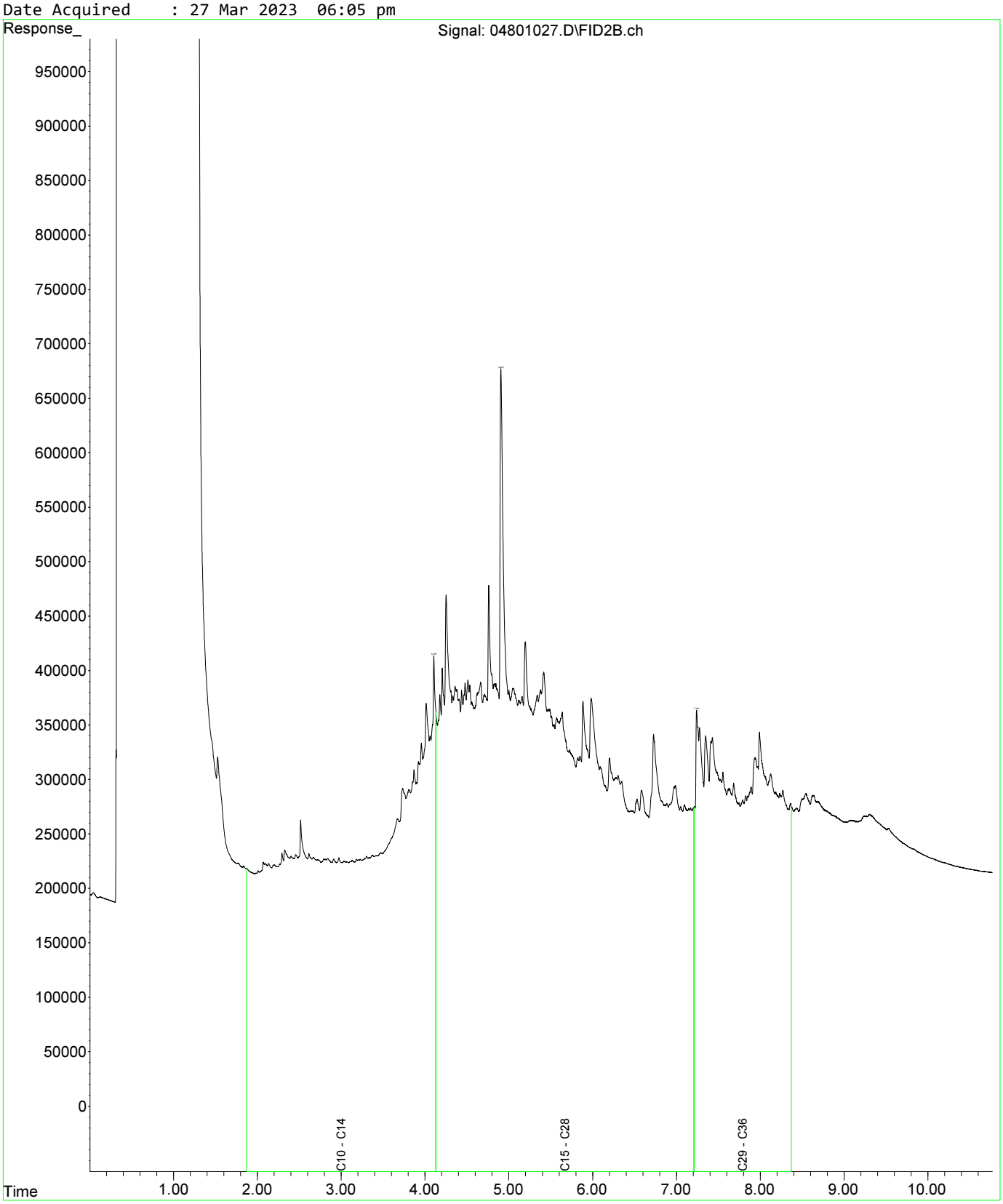
Date Acquired : 27 Mar 2023 06:05 pm



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Data File : 04601025.D
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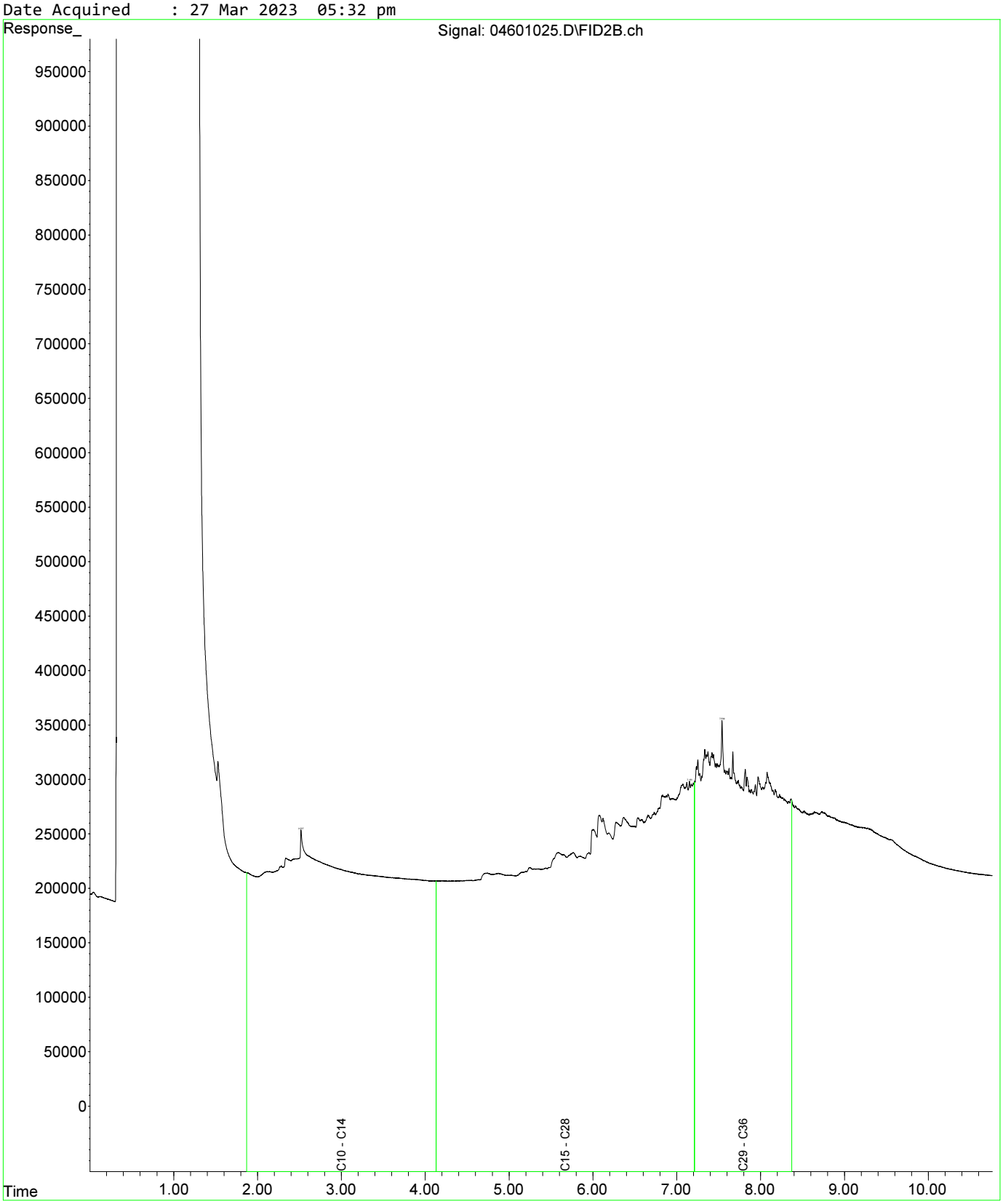

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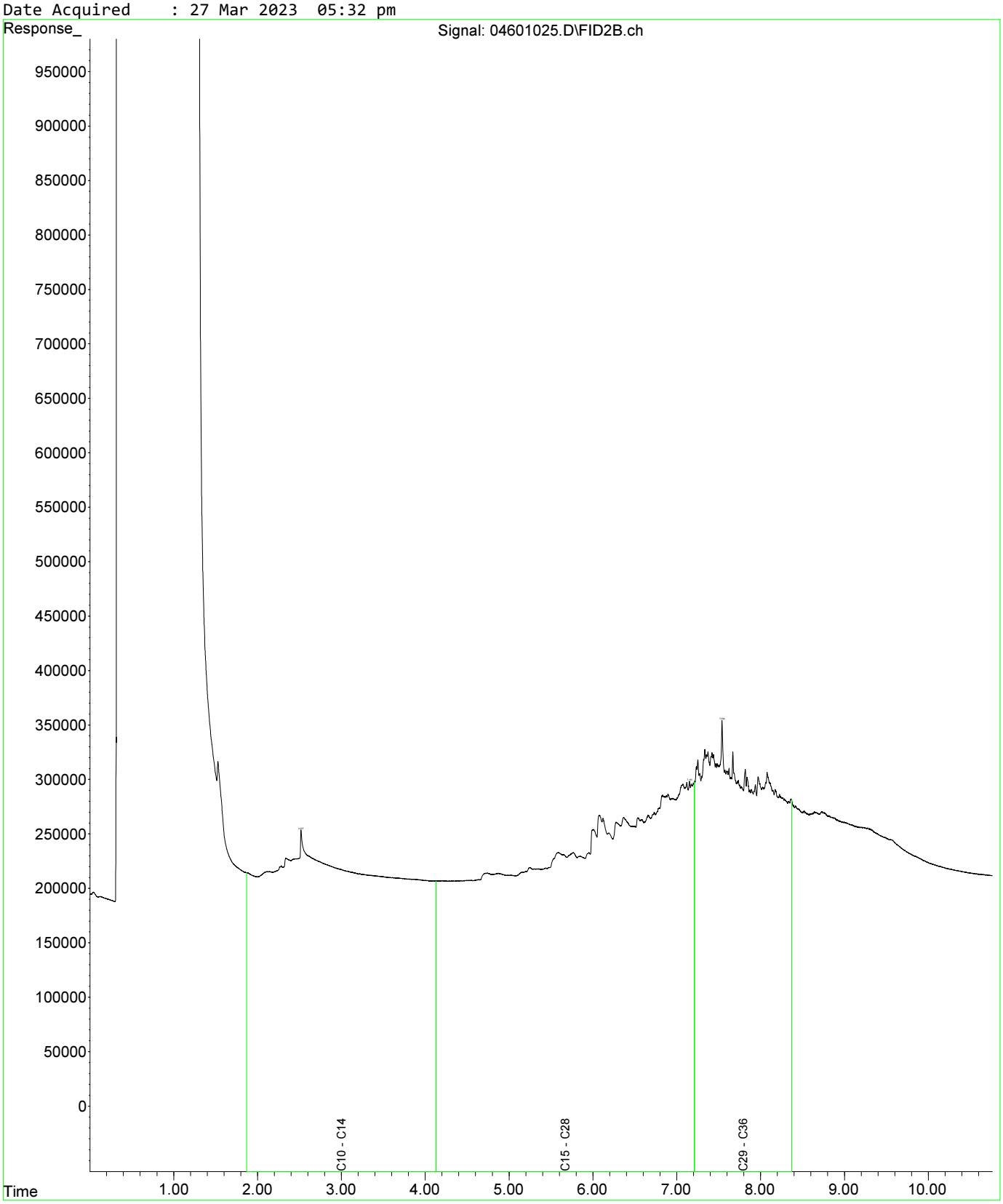

Fraction Scheme : Standard
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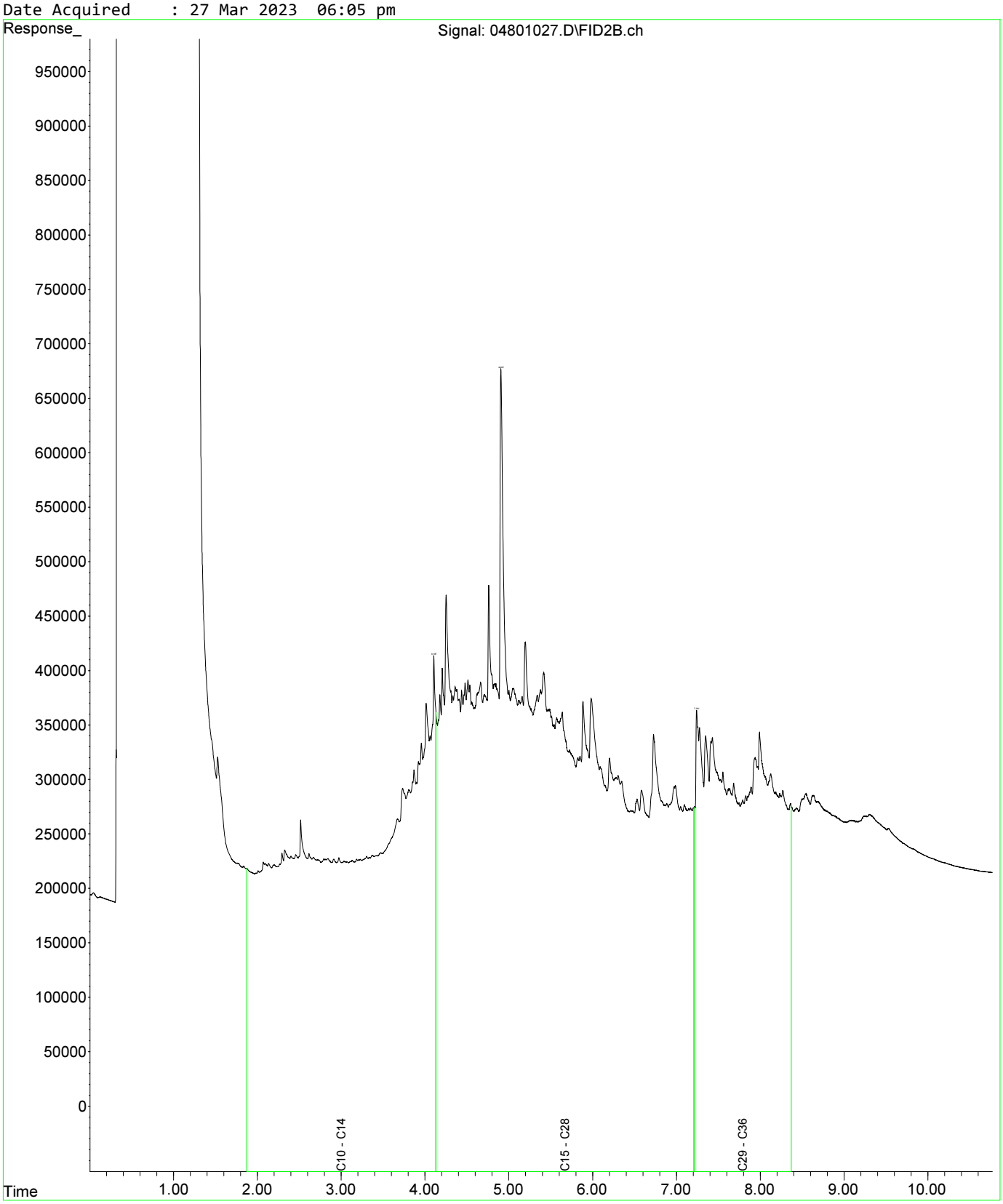
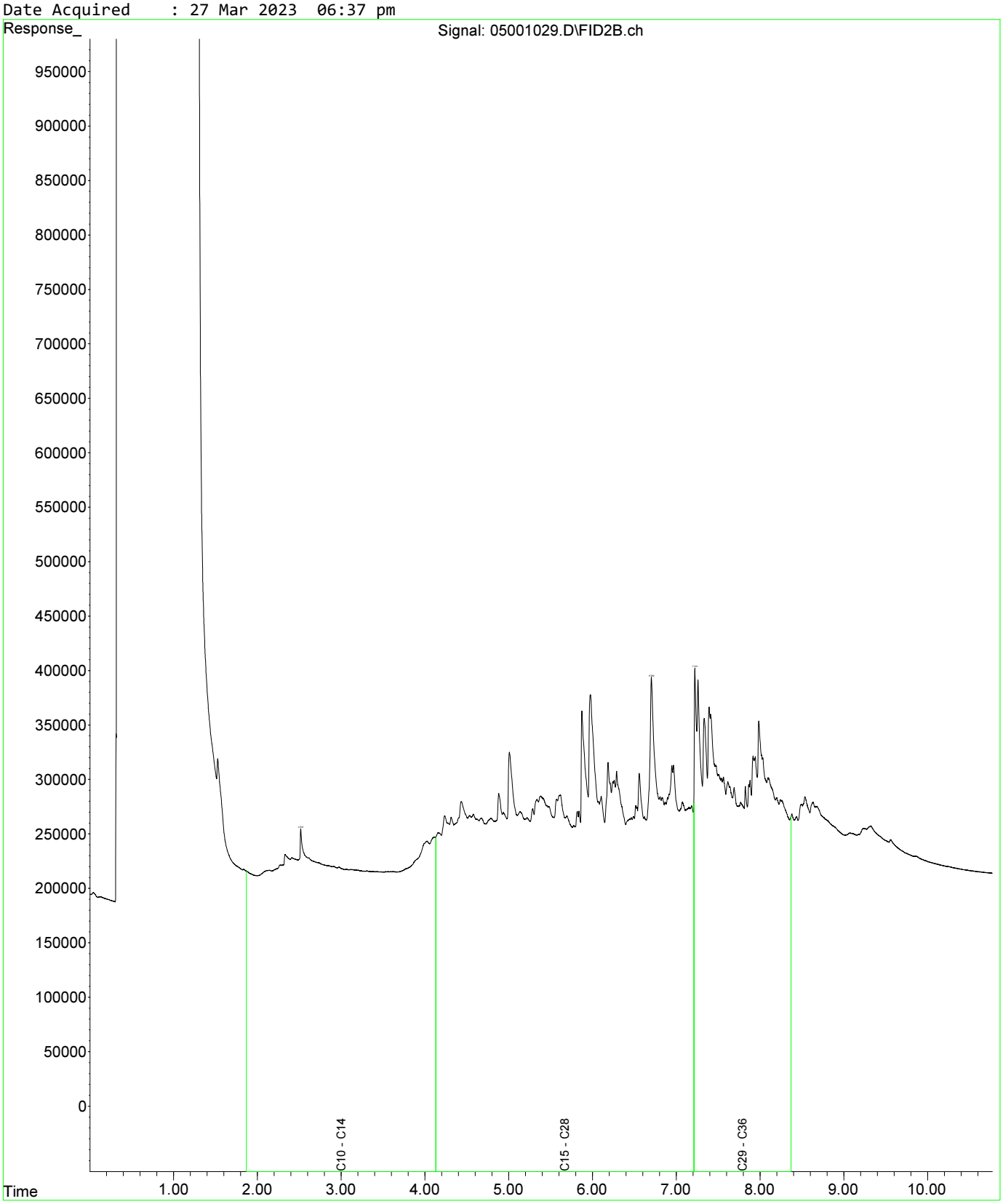
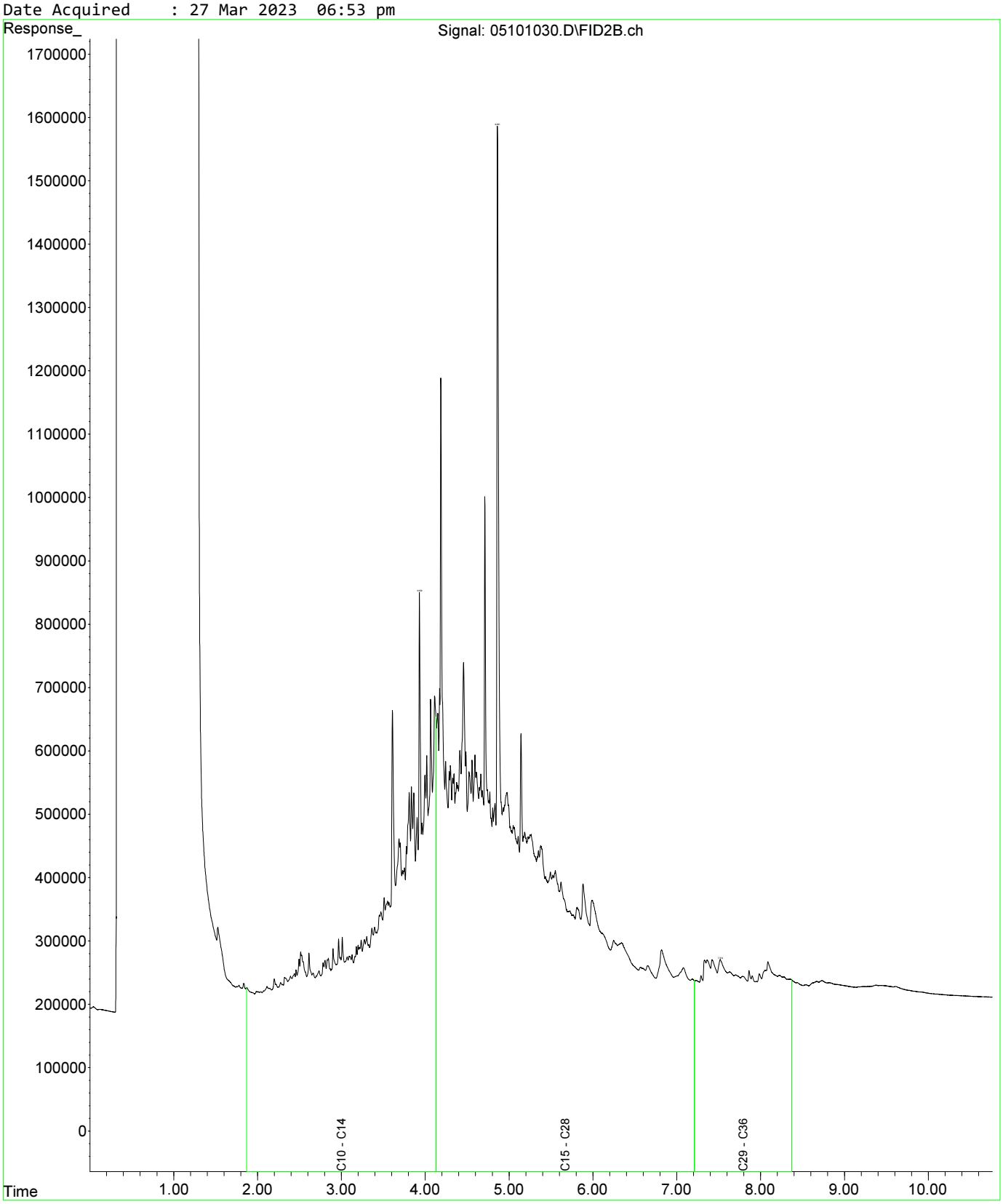
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
Sample ID : UST_SP_EXT_01
Date Acquired : 27 Mar 2023 06:53 pm



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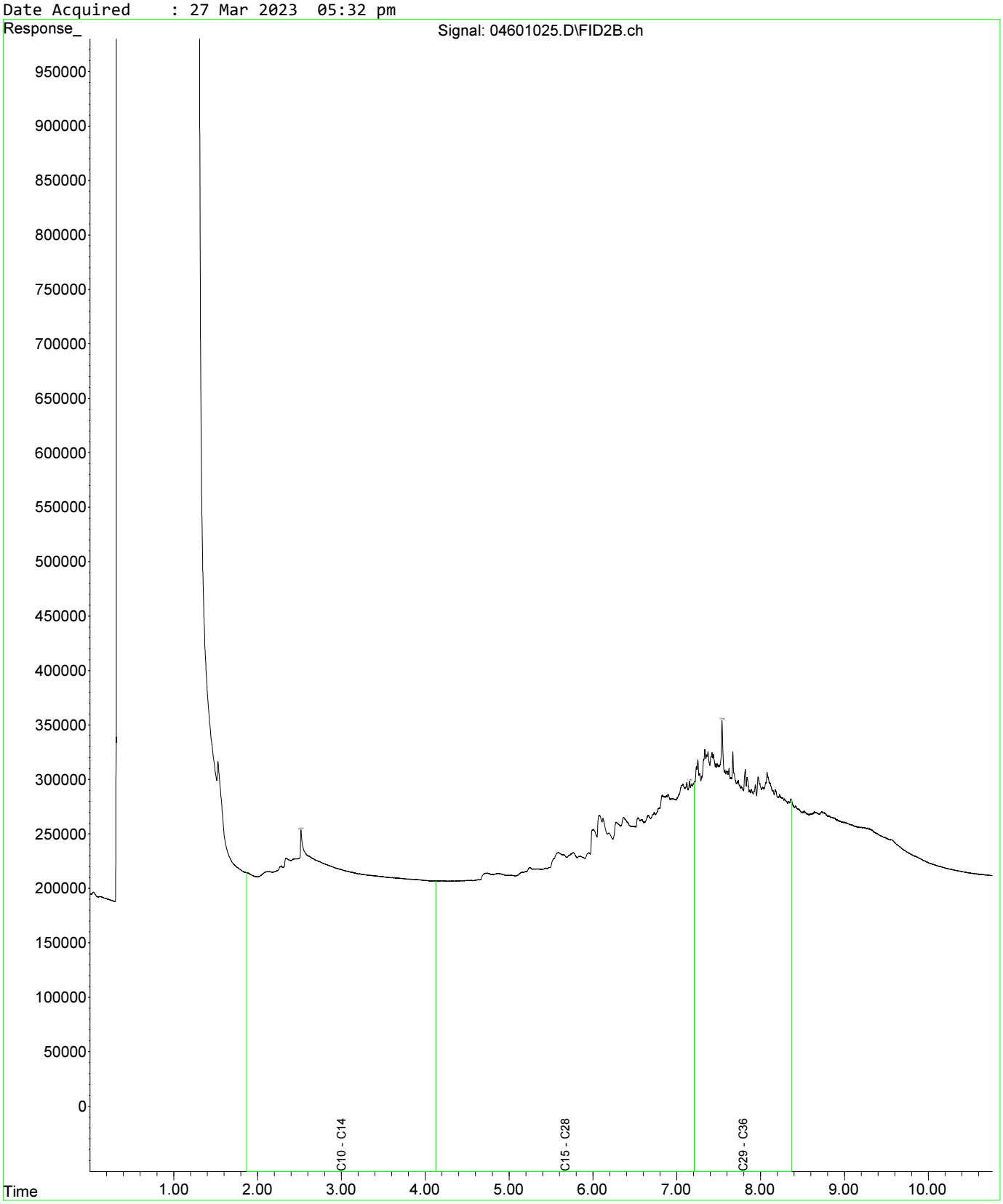
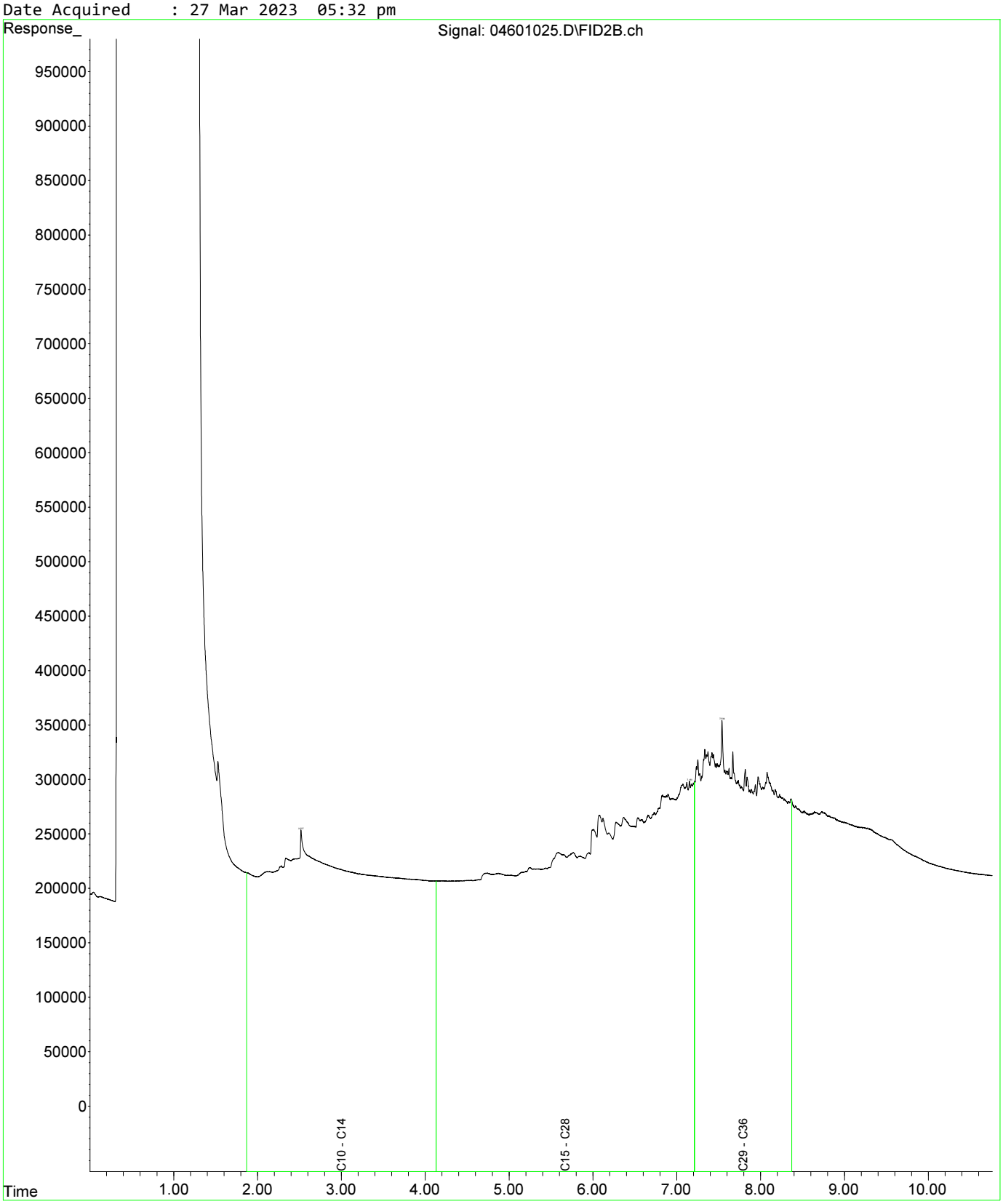
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
Sample ID : UST_SP_0.5-1.0_01
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
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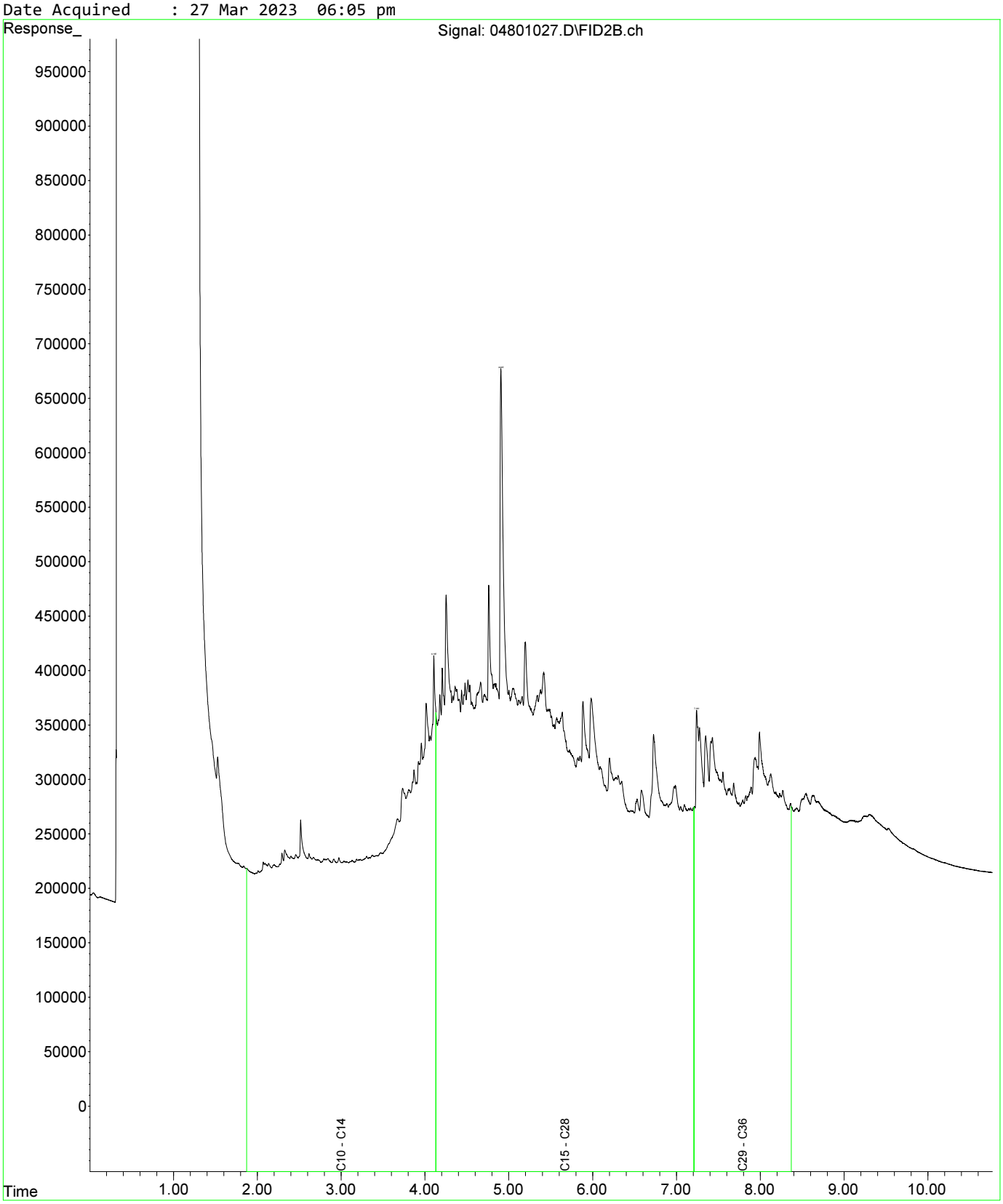
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
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Laboratory Number: EM2305209-013
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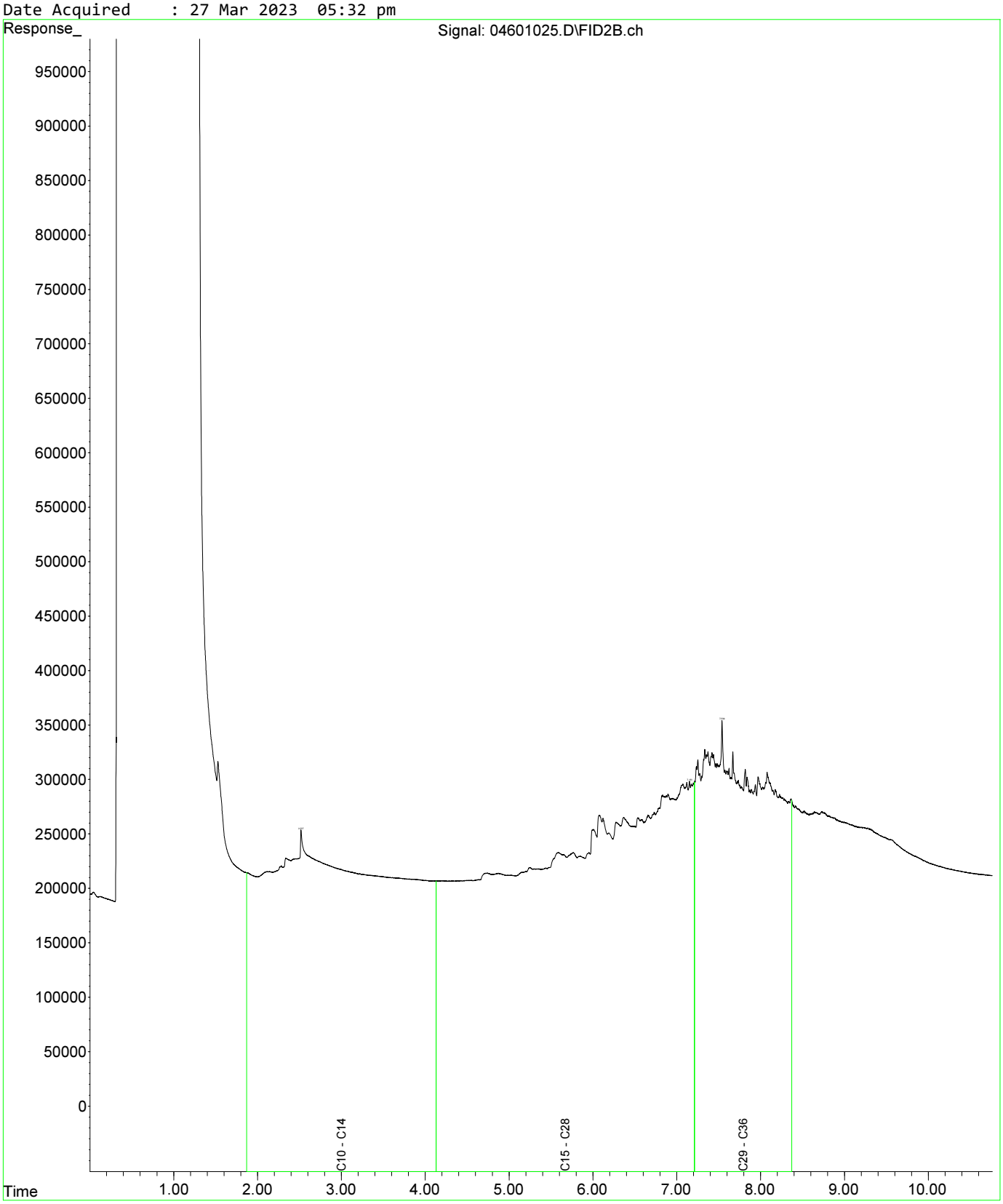

Fraction Scheme : Standard
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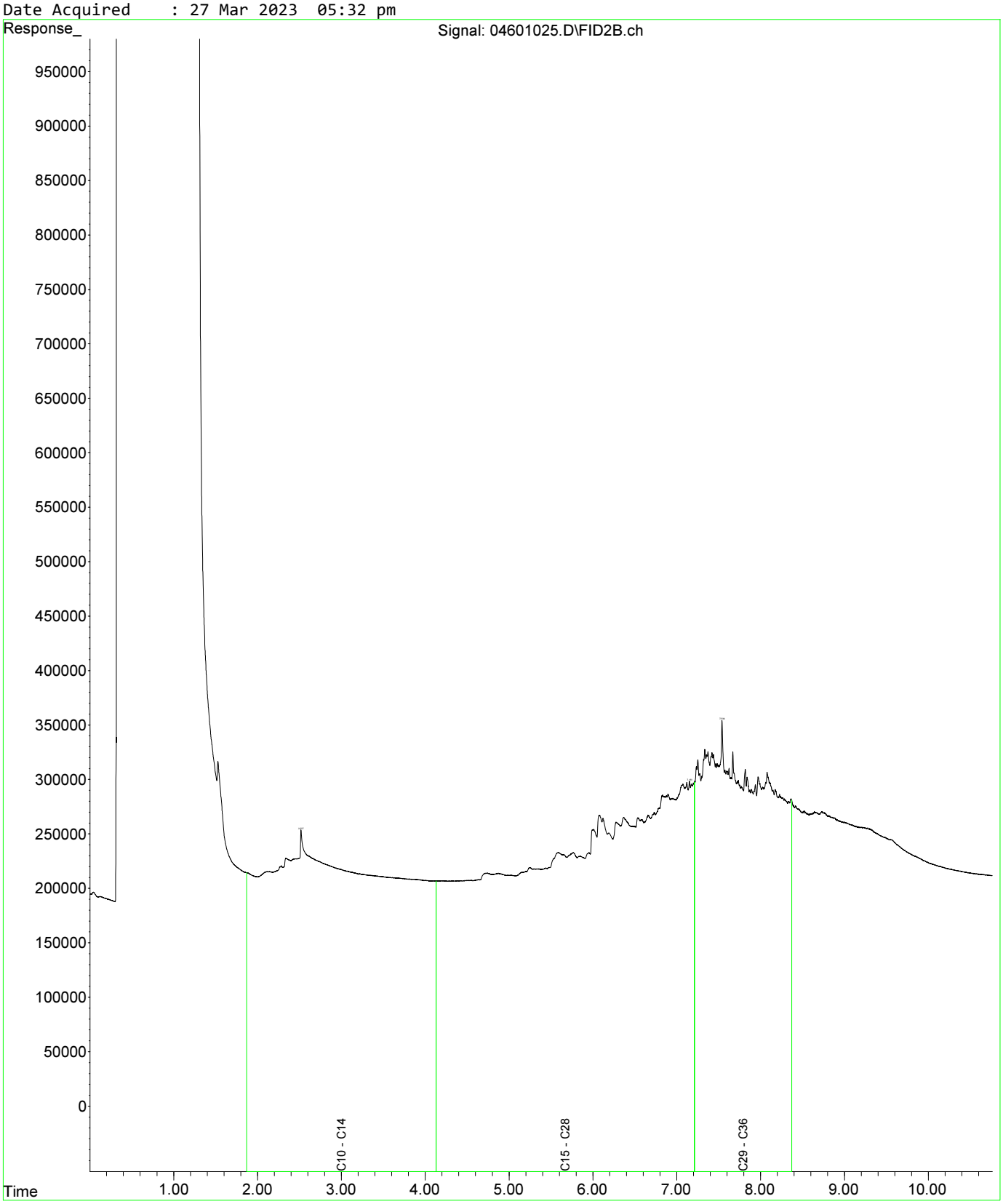

Fraction Scheme : Standard
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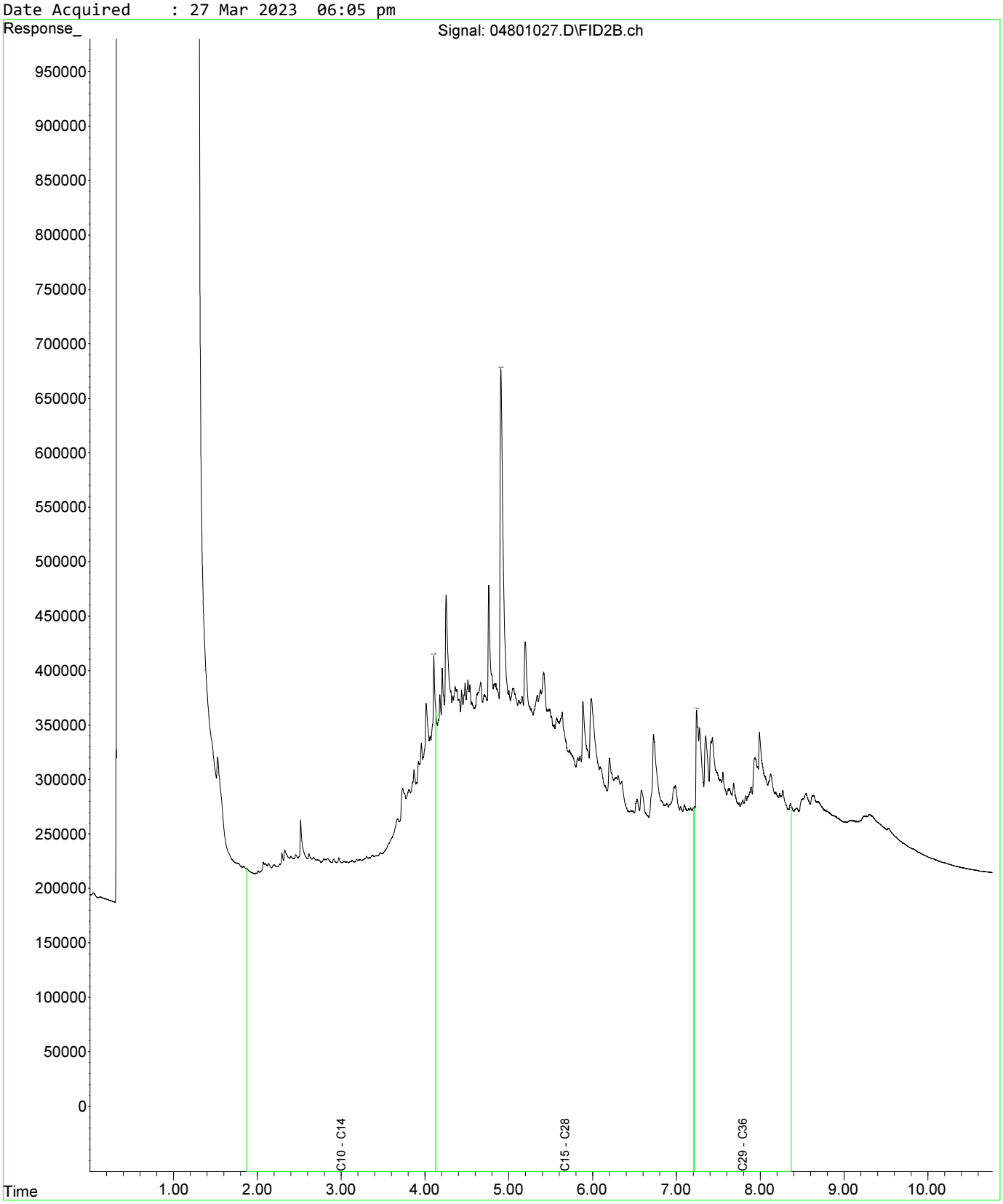
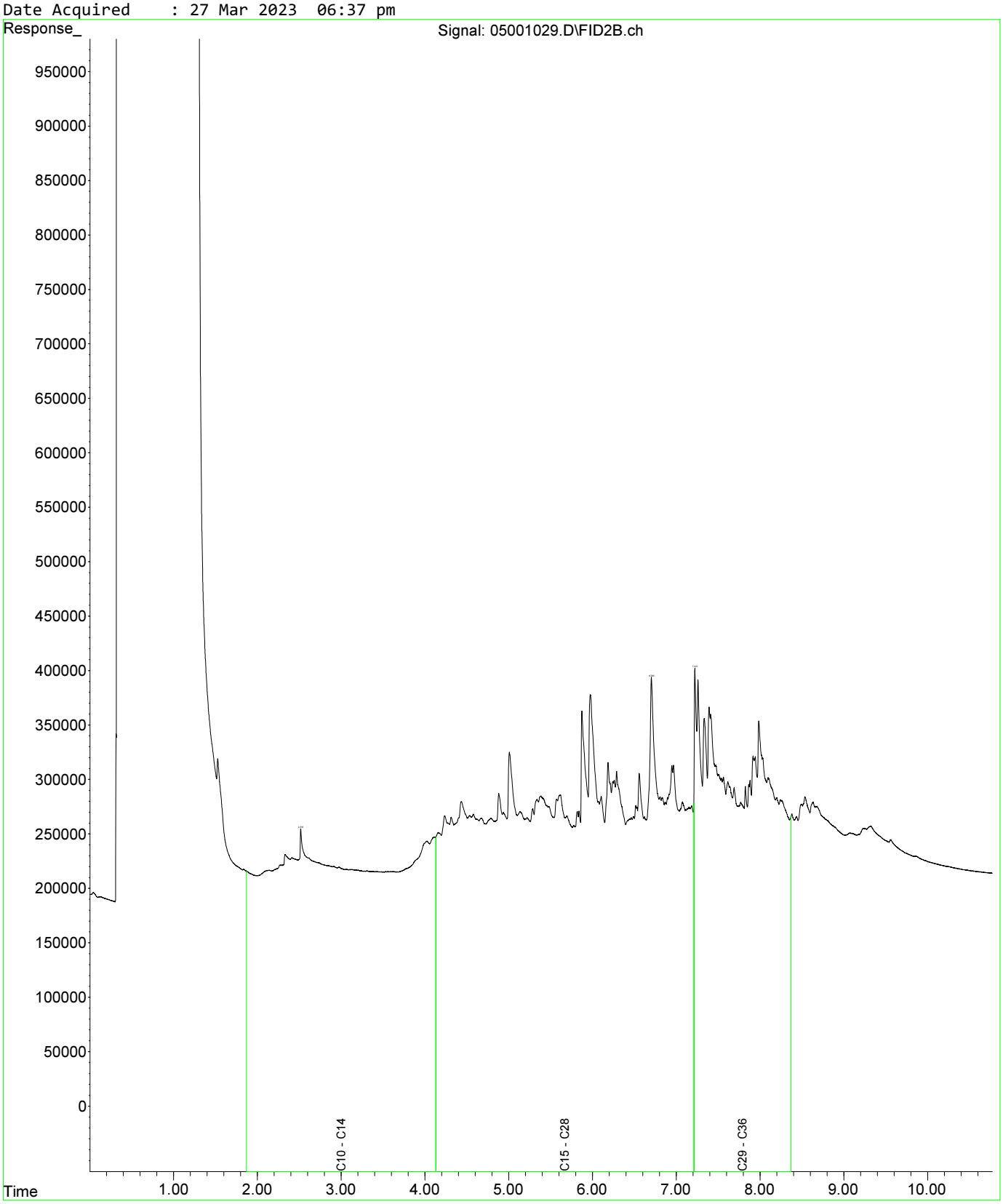


Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



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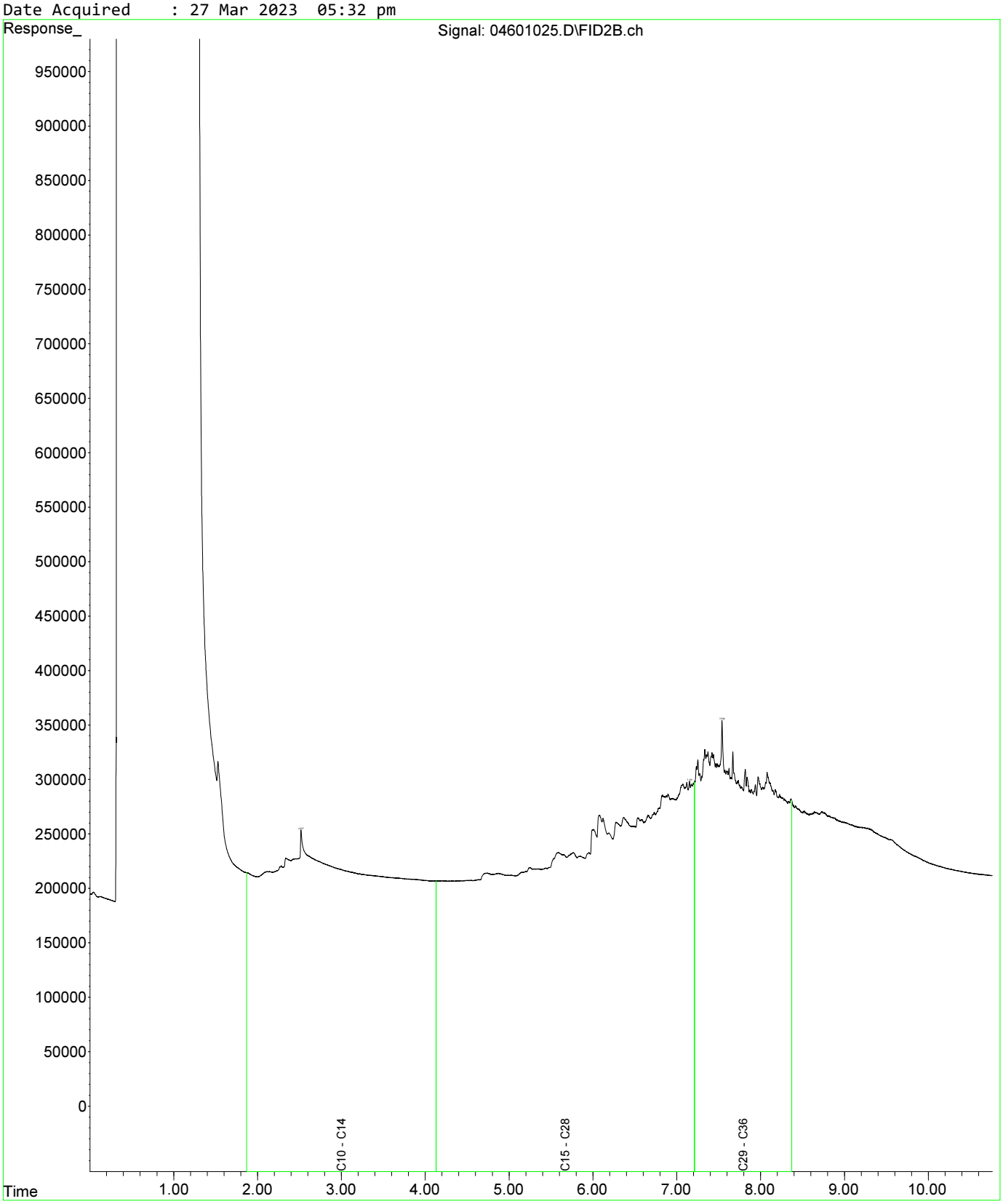

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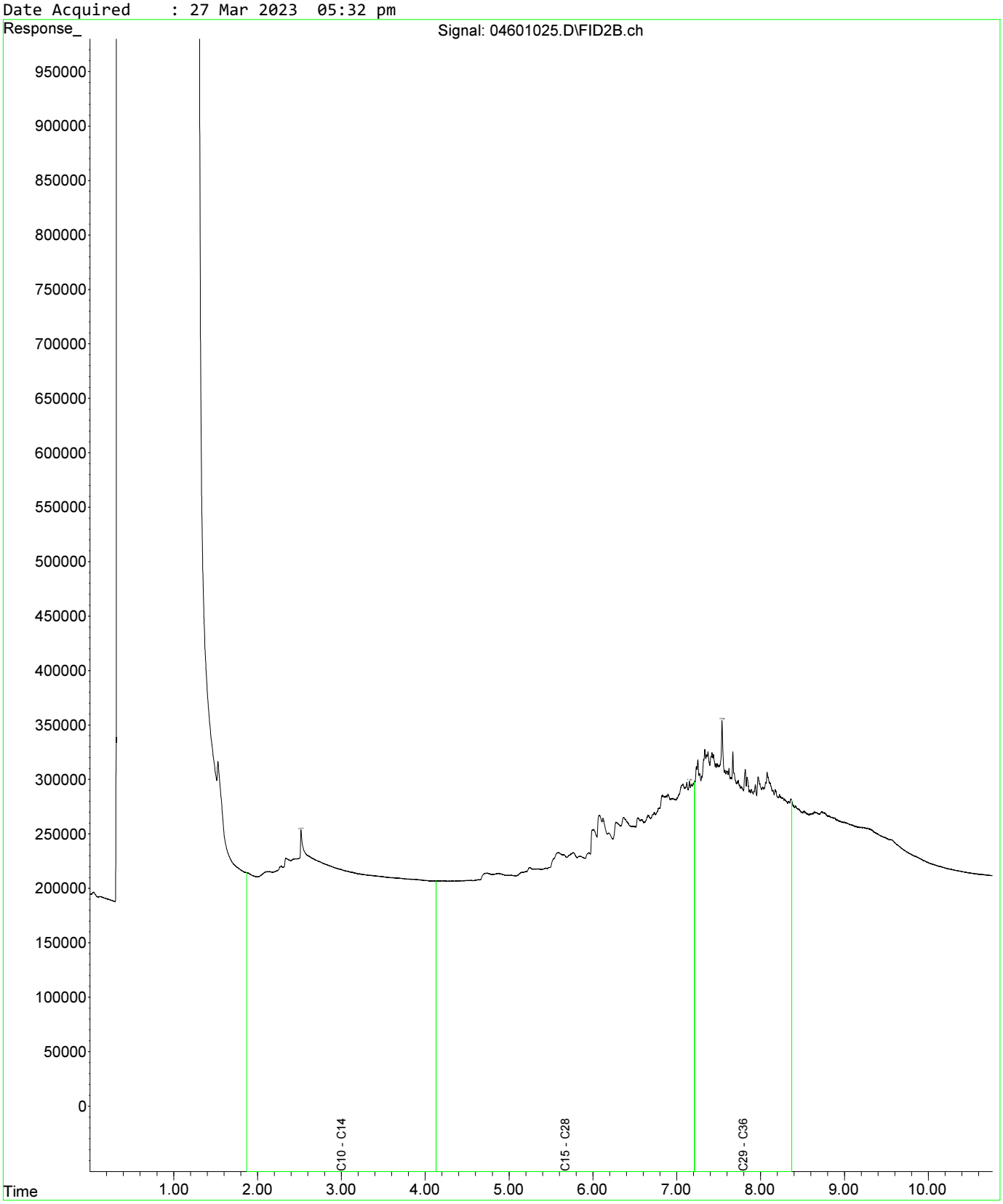
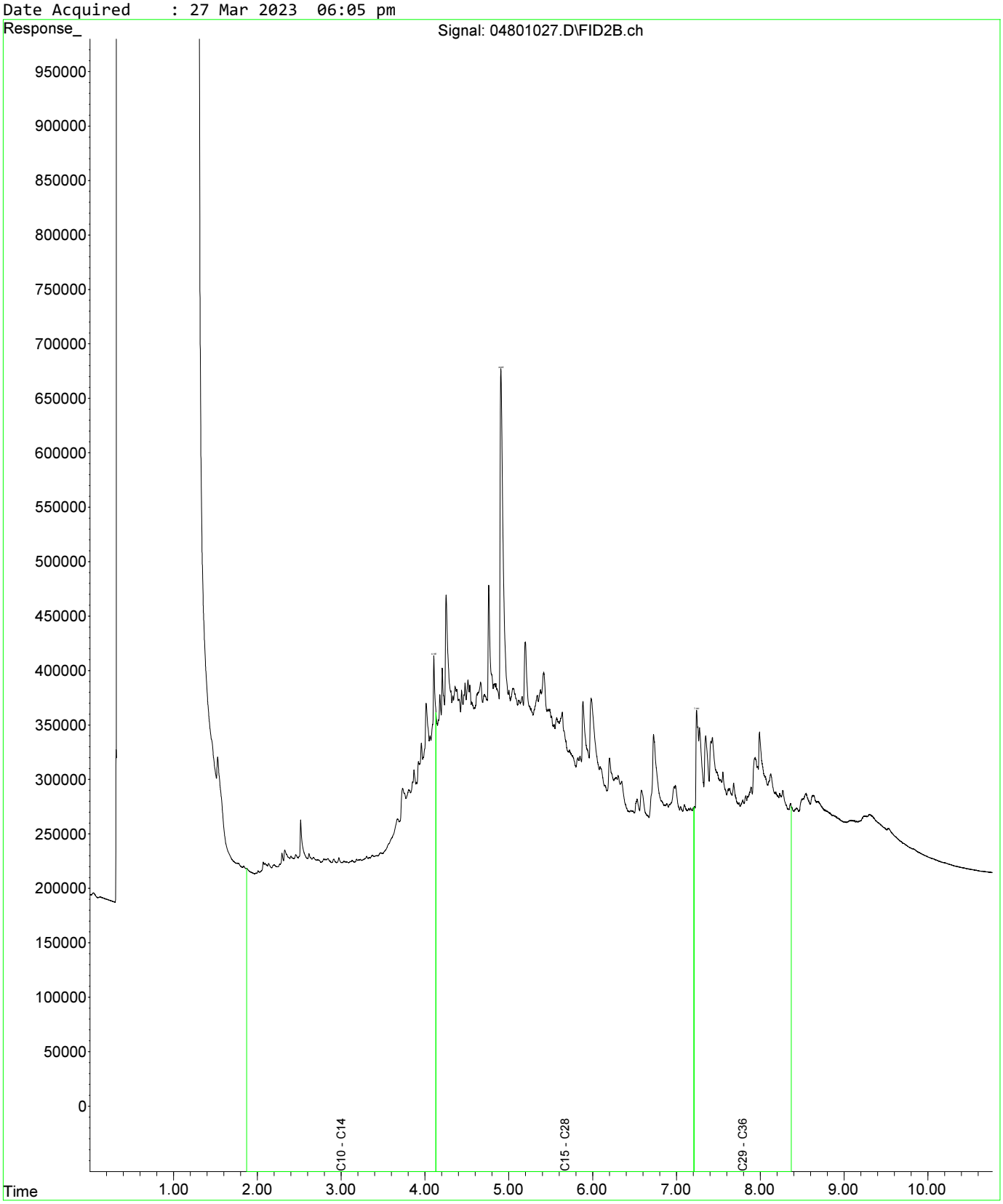
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
Sample ID : UST_SP_1.0-1.5_03
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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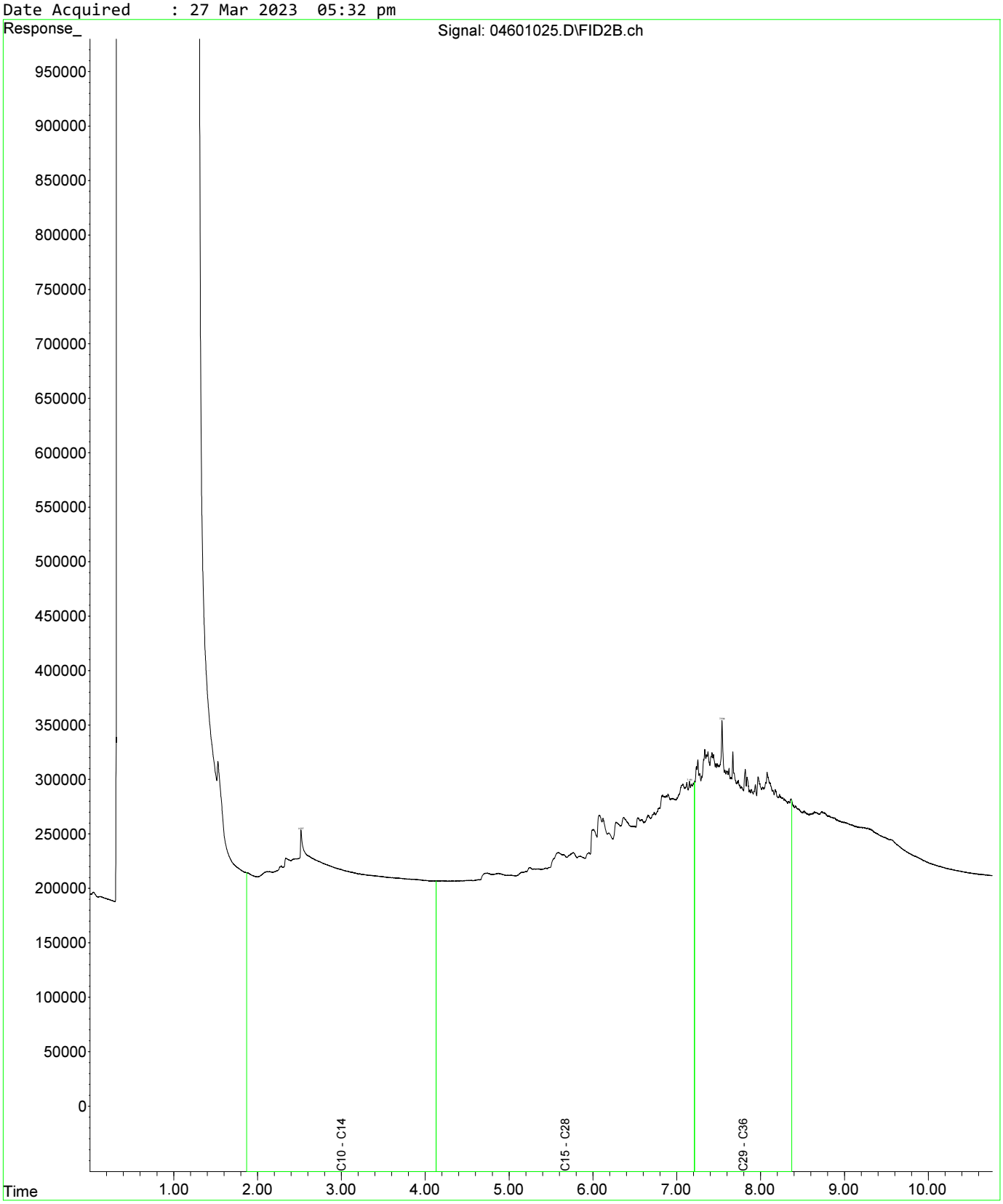
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04601025.D
Laboratory Number: EM2305209-013
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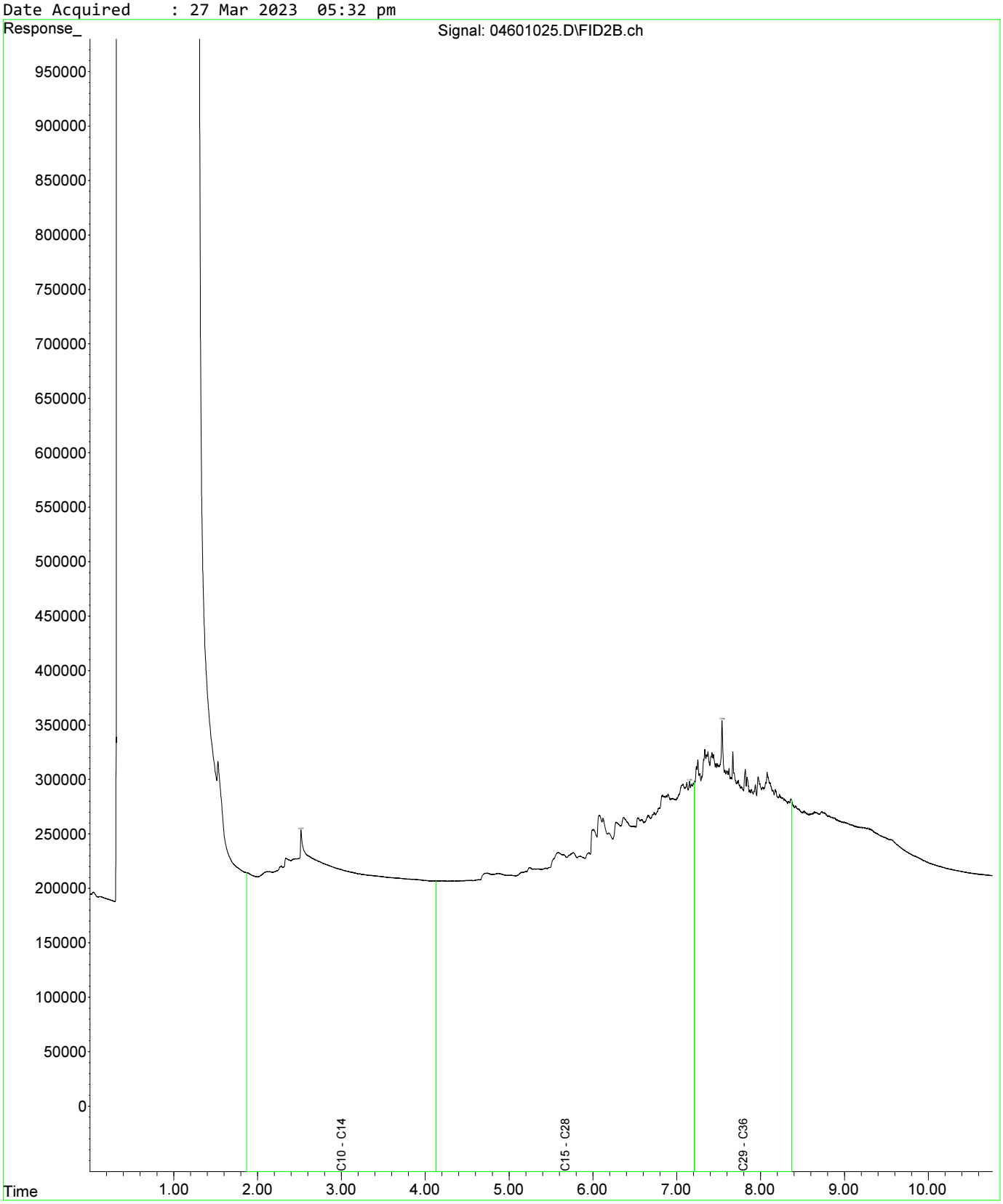
Date Acquired : 27 Mar 2023 05:32 pm



Fraction Scheme : Standard
Data File : 04801027.D
Laboratory Number: EM2305209-019
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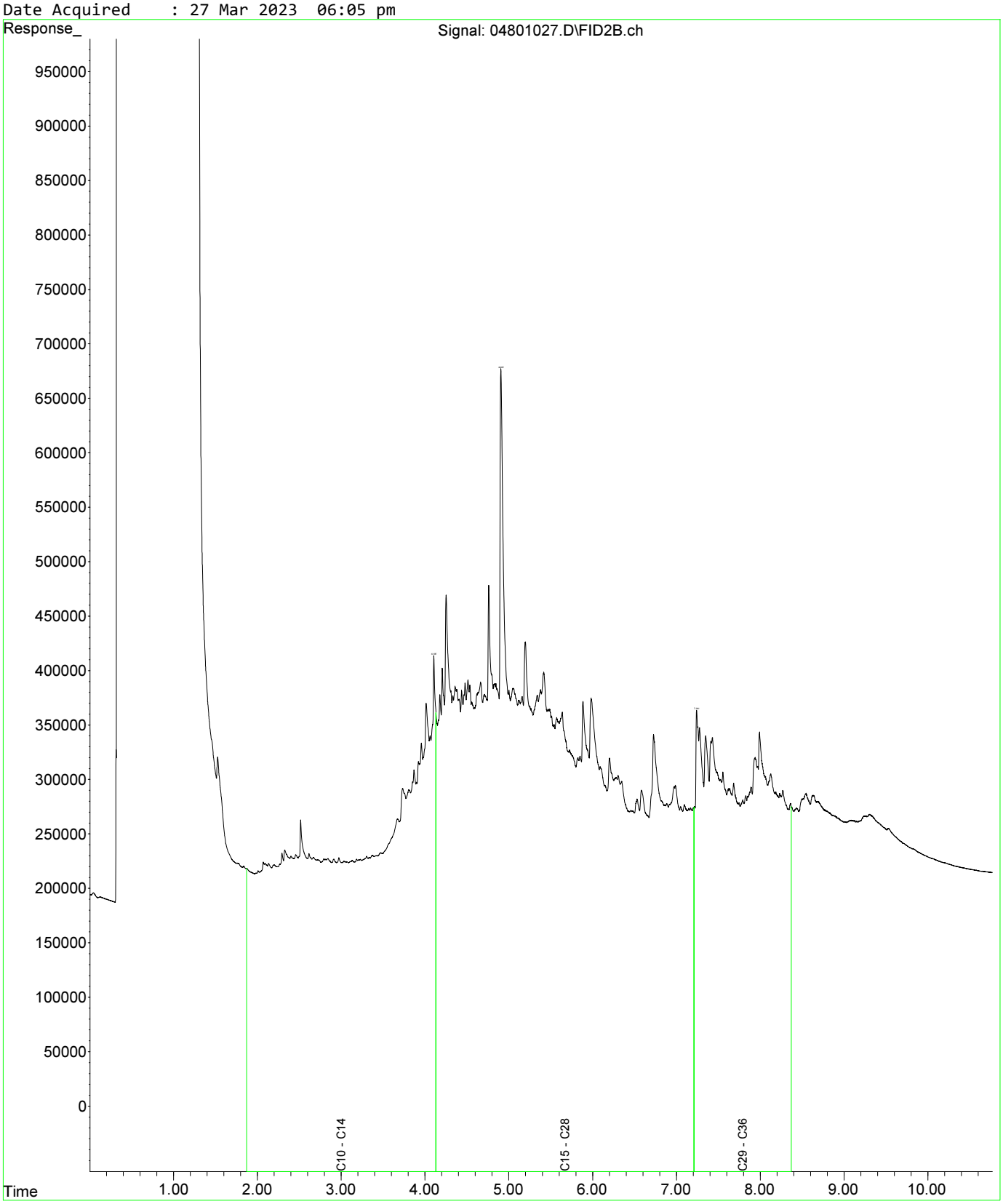
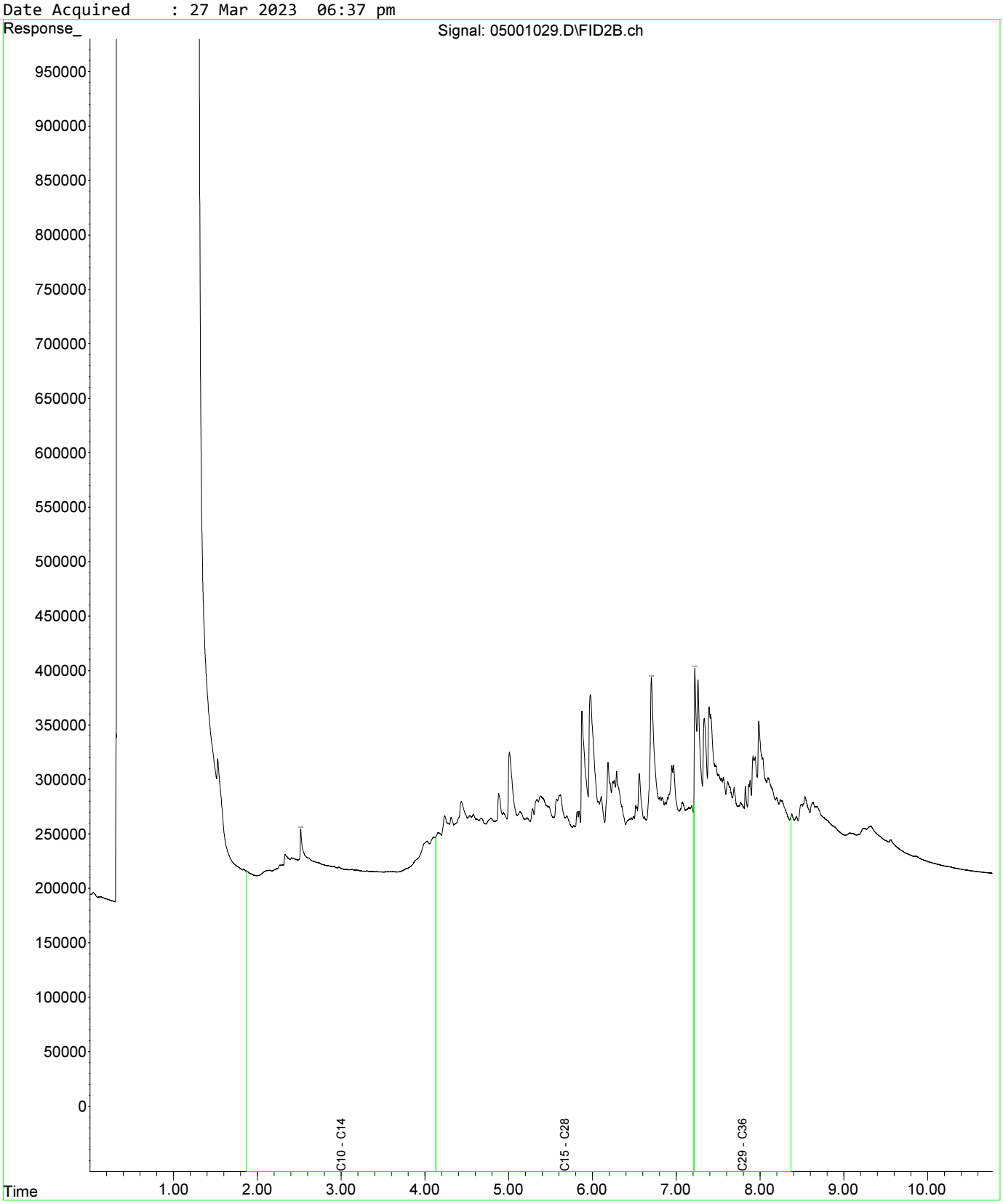
Date Acquired : 27 Mar 2023 06:05 pm



Fraction Scheme : Standard
Data File : 05001029.D
Laboratory Number: EM2305209-021
Sample ID : UST_SP_1.5-2.0_02
Date Acquired : 27 Mar 2023 06:37 pm



Fraction Scheme : Standard
Data File : 05101030.D
Laboratory Number: EM2305209-025
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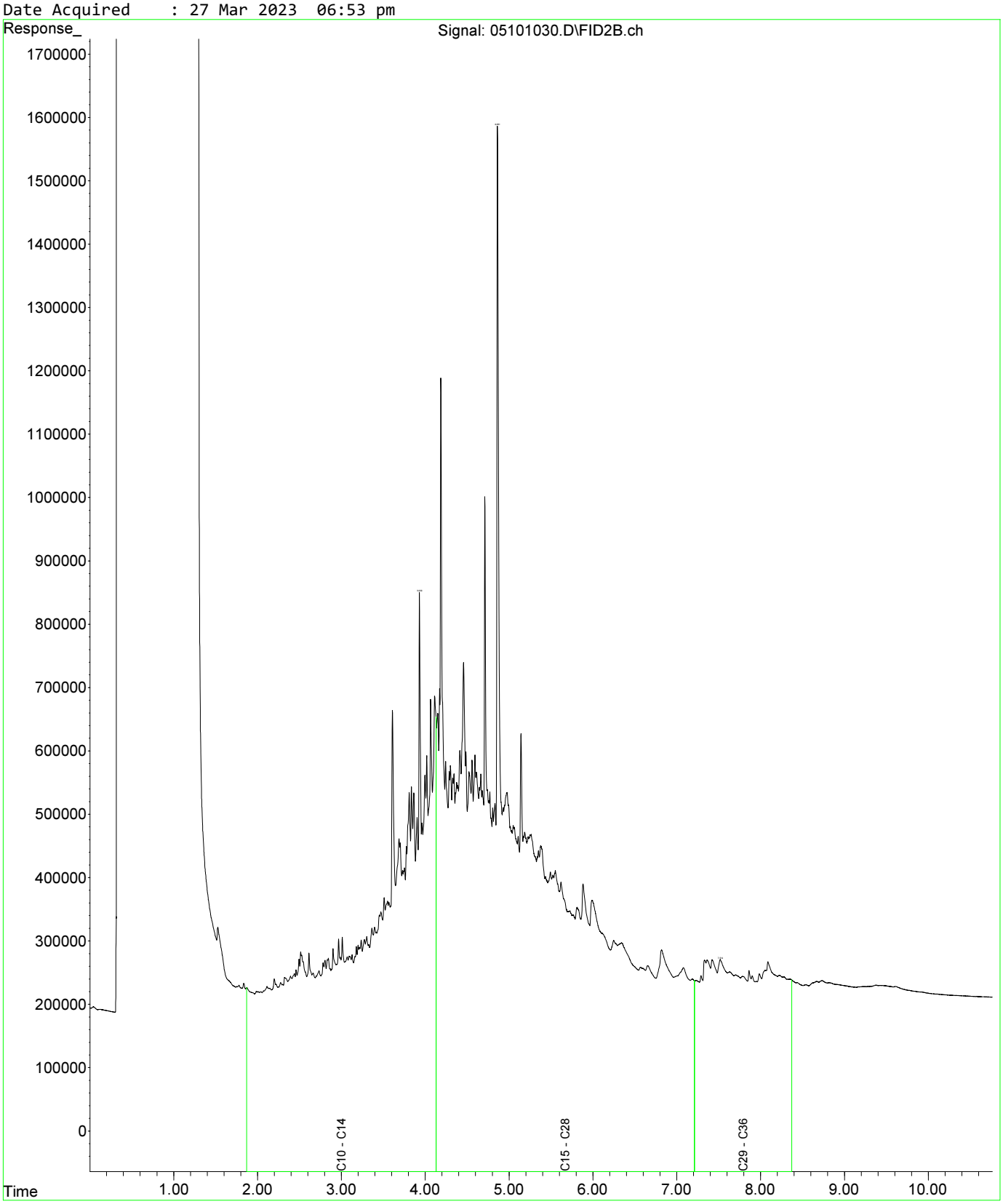
Date Acquired : 27 Mar 2023 06:53 pm



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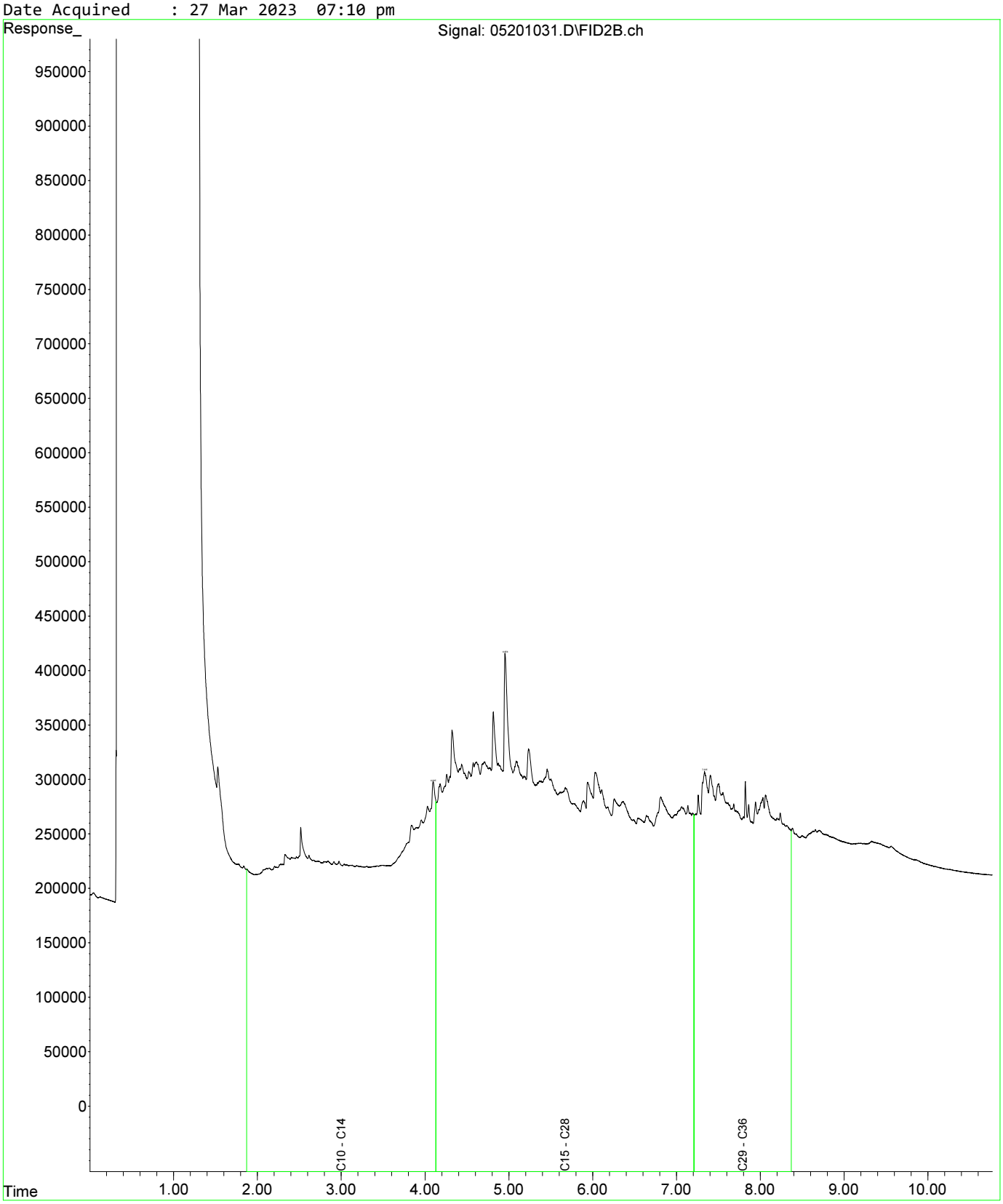

Fraction Scheme : Standard
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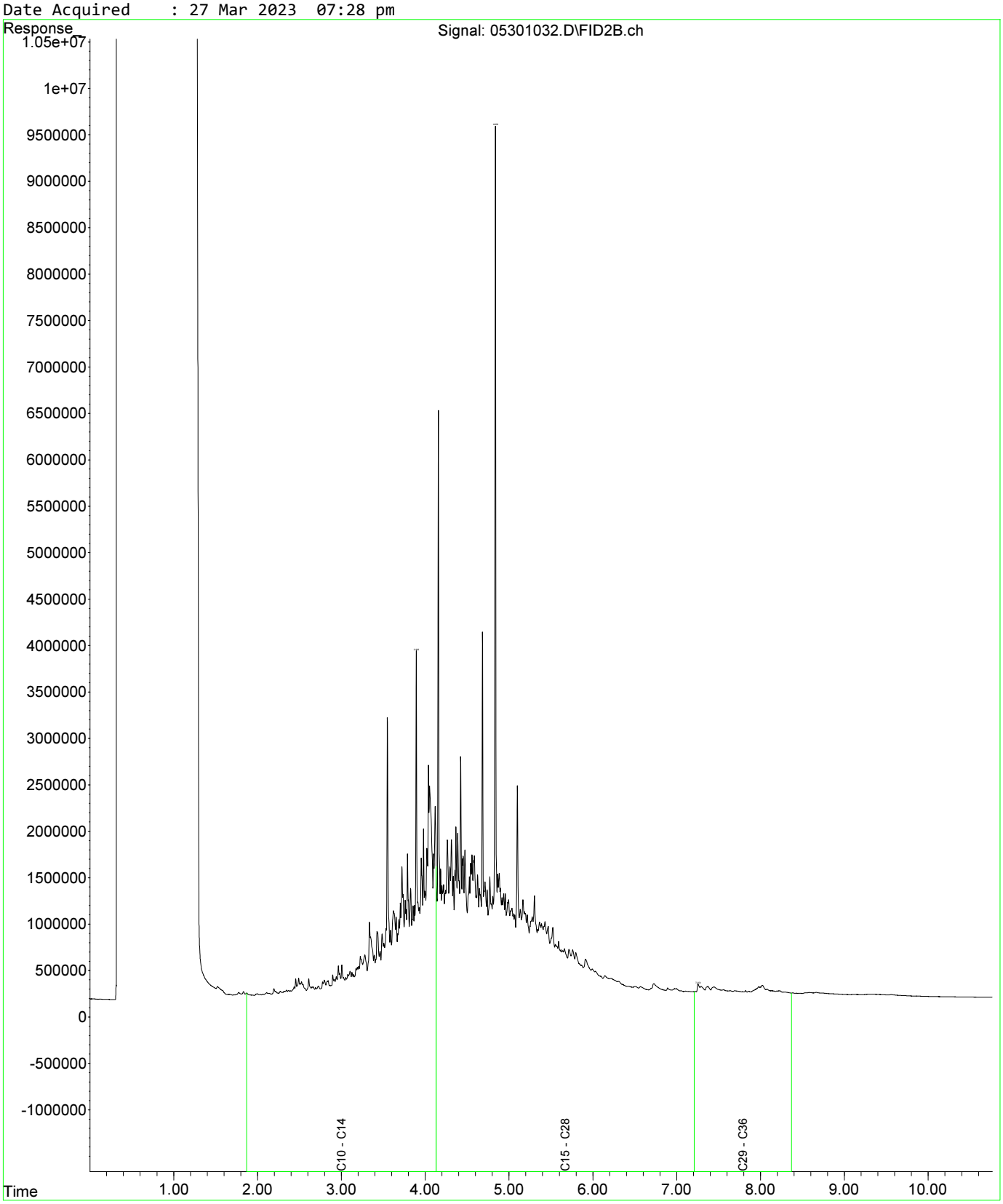
Laboratory Number: EM2305209-031
Sample ID : UST_SP_EXT_07
Date Acquired : 27 Mar 2023 07:28 pm



Fraction Scheme : Standard
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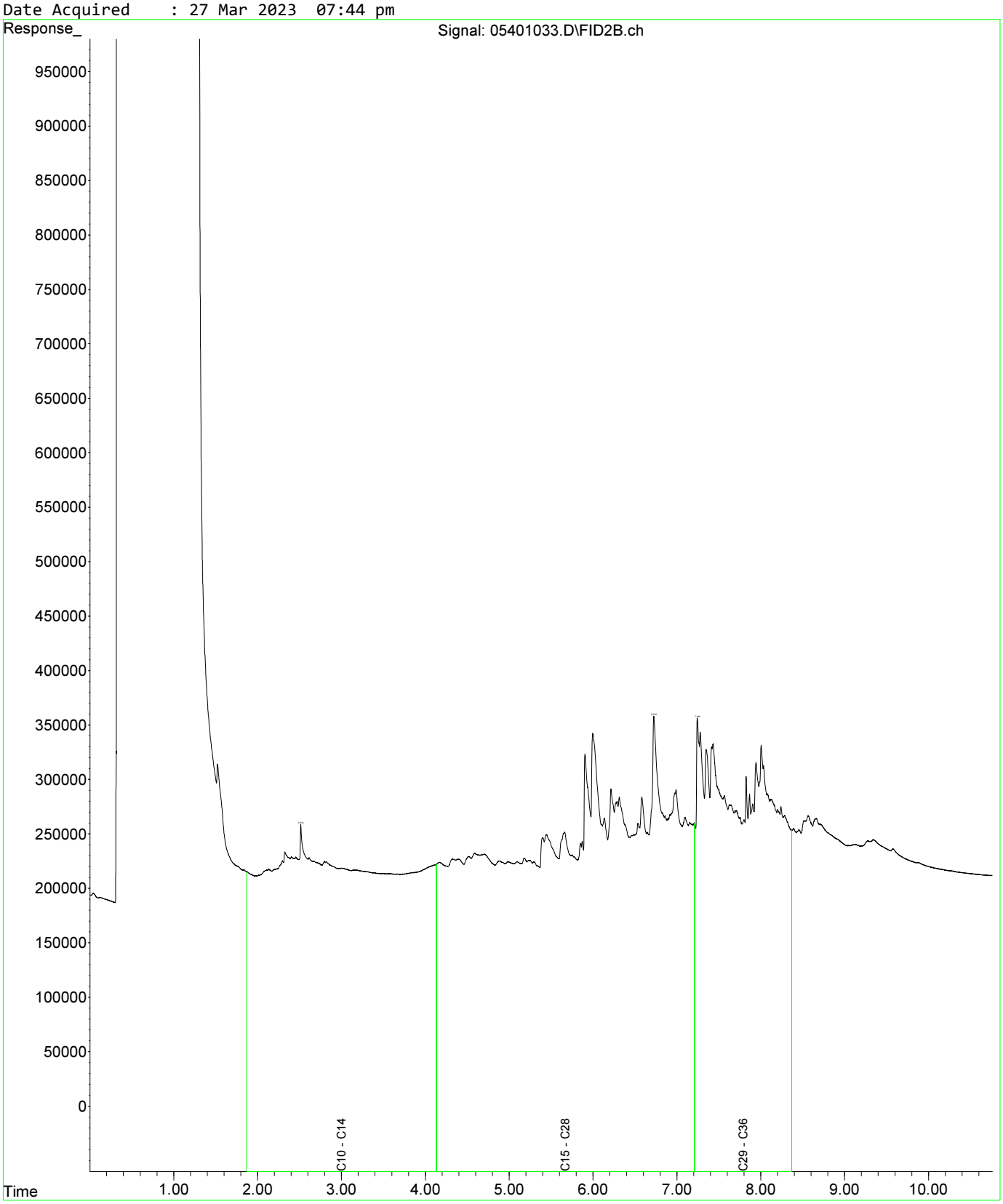
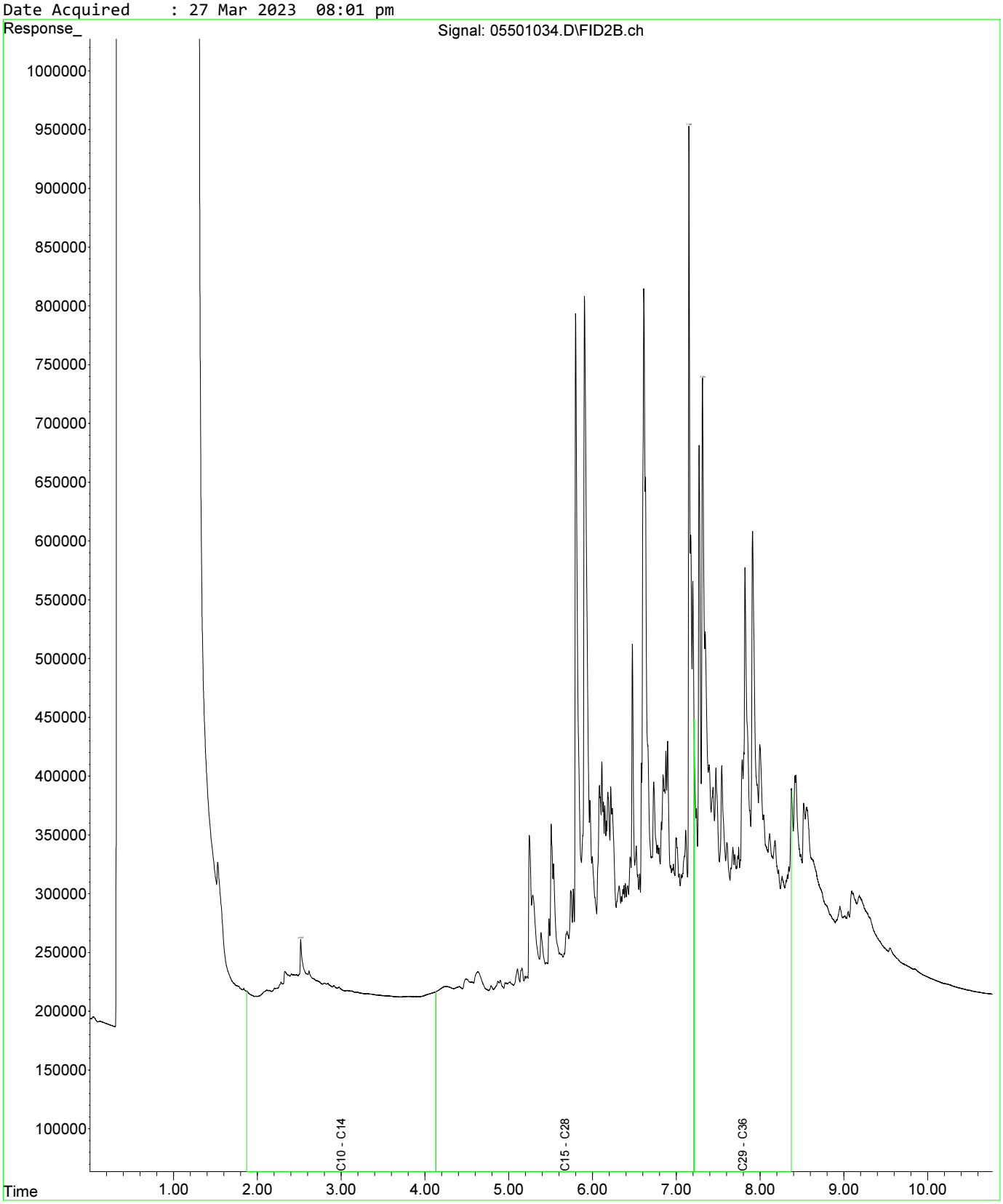
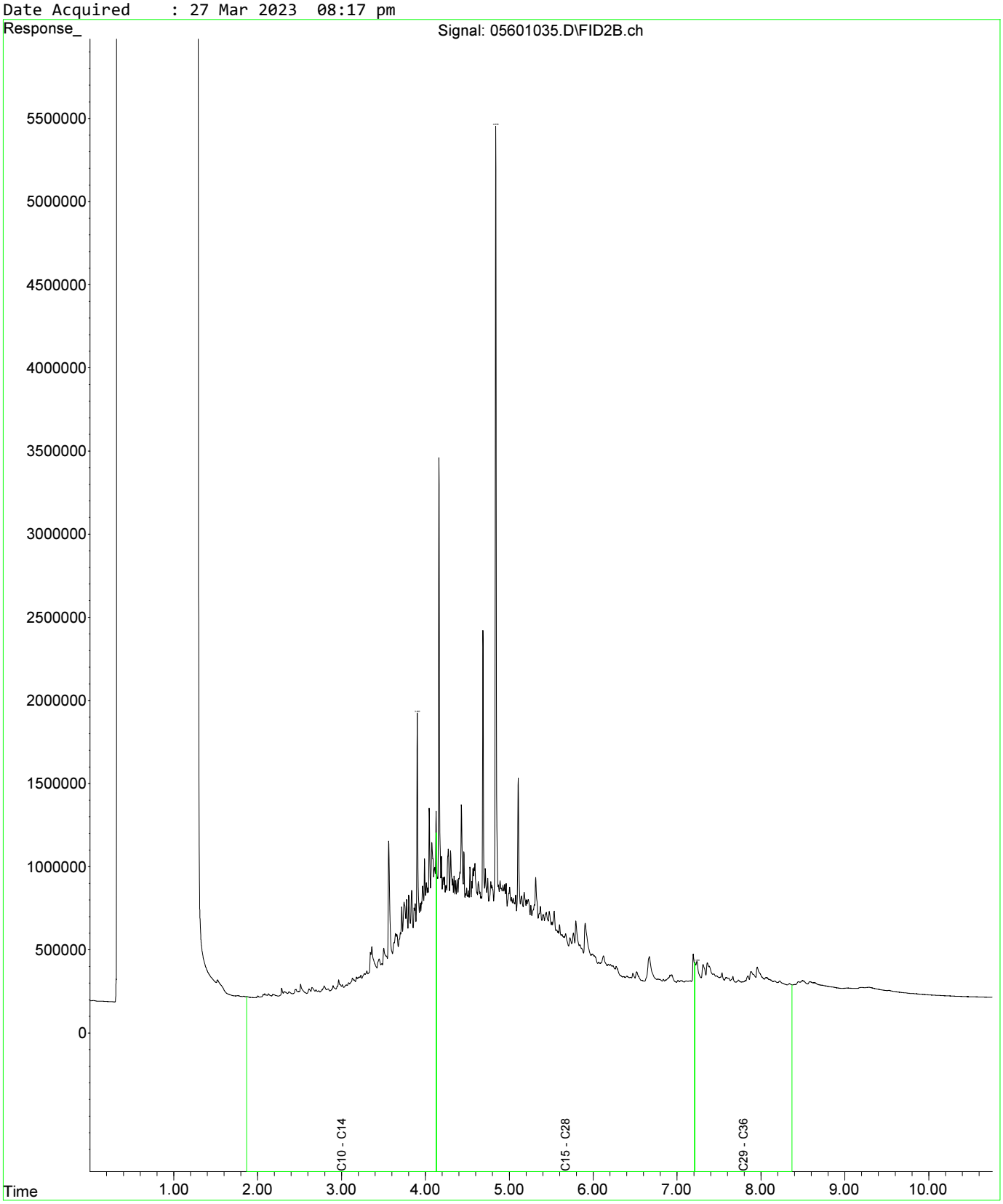
Laboratory Number: EM2305209-032
Sample ID : UST_SP_EXT_08
Date Acquired : 27 Mar 2023 07:44 pm



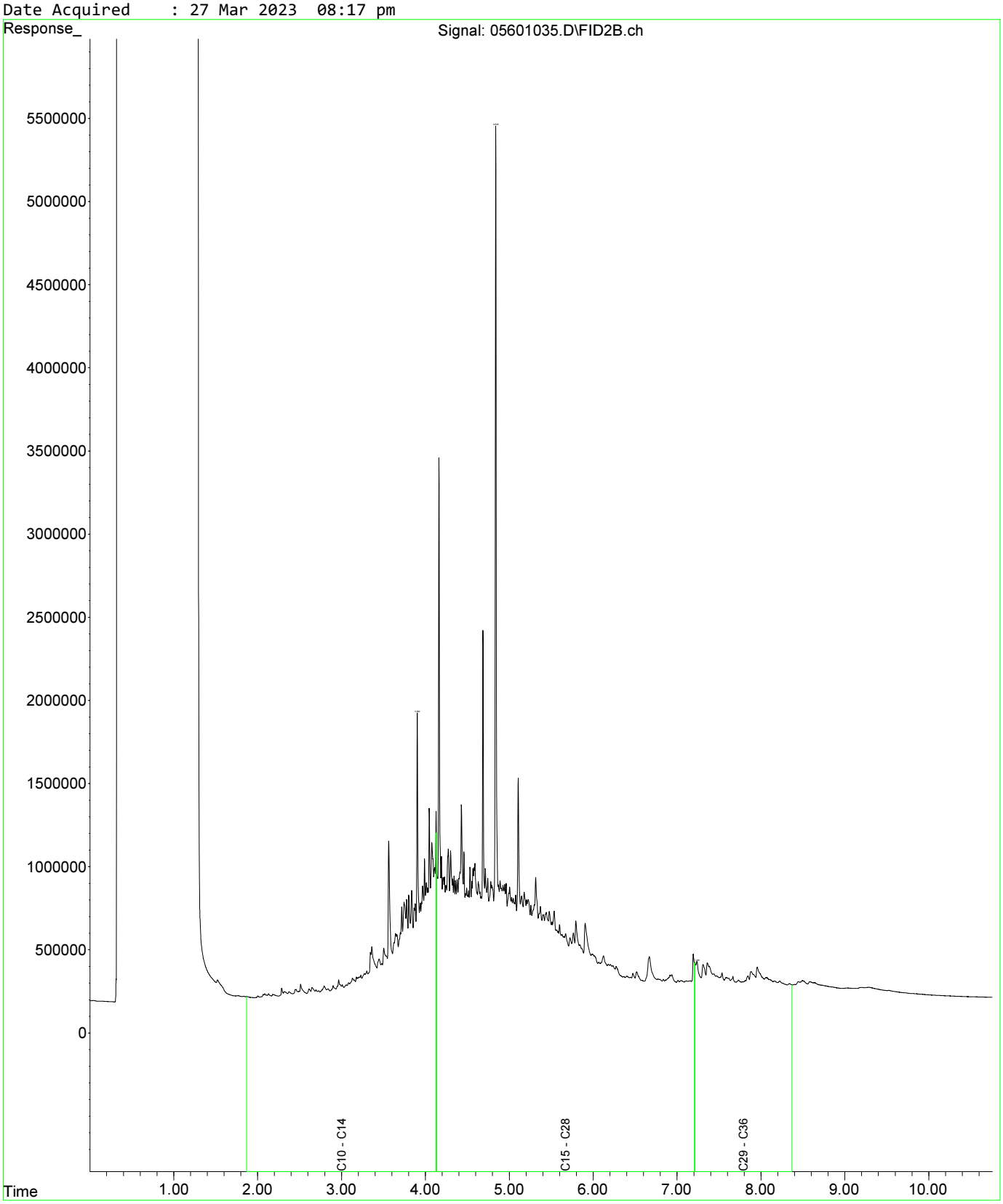
Fraction Scheme : Standard
Data File : 05501034.D
Laboratory Number: EM2305209-033
Sample ID : UST_SP_ch77-80_01
Date Acquired : 27 Mar 2023 08:01 pm



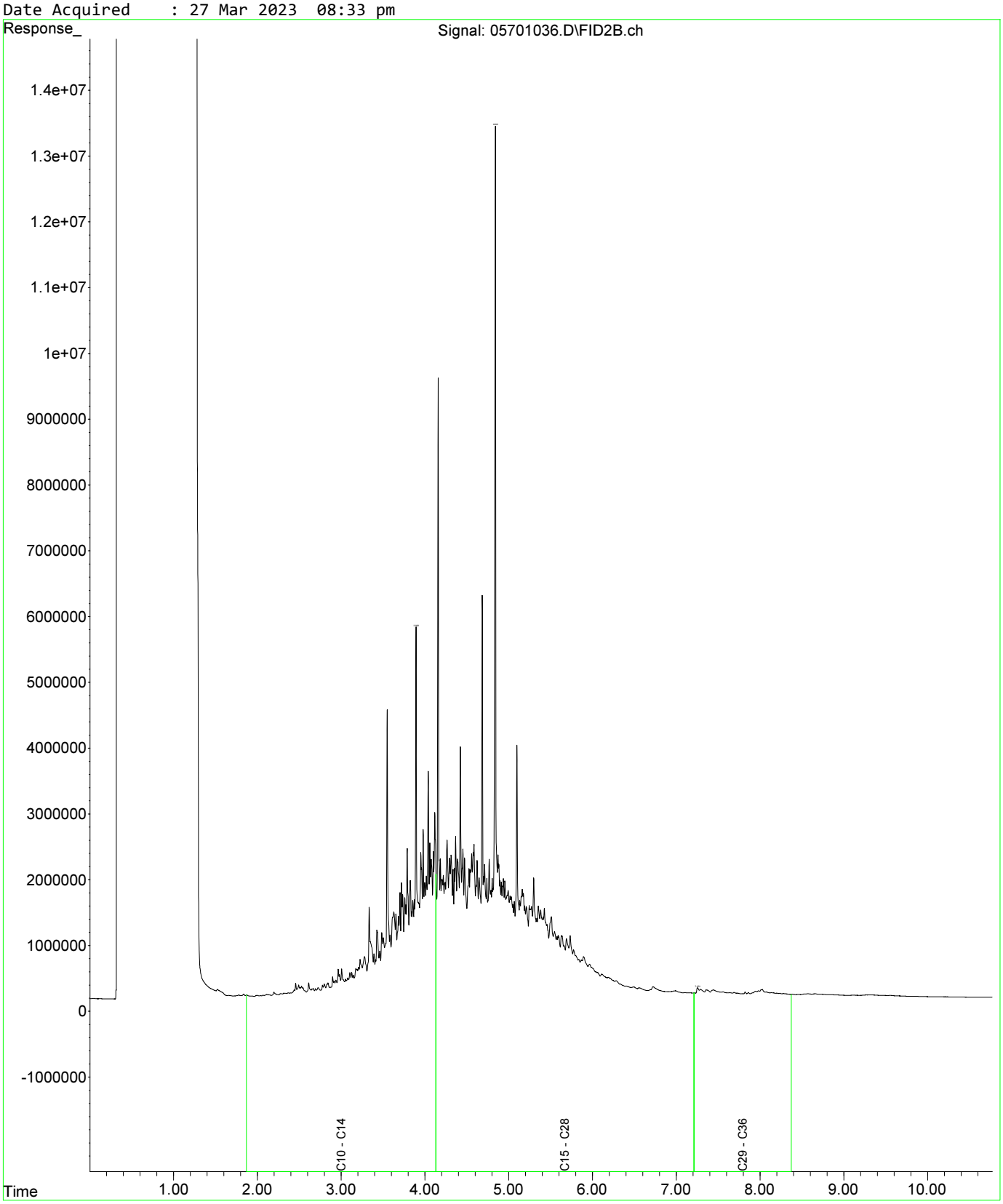
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



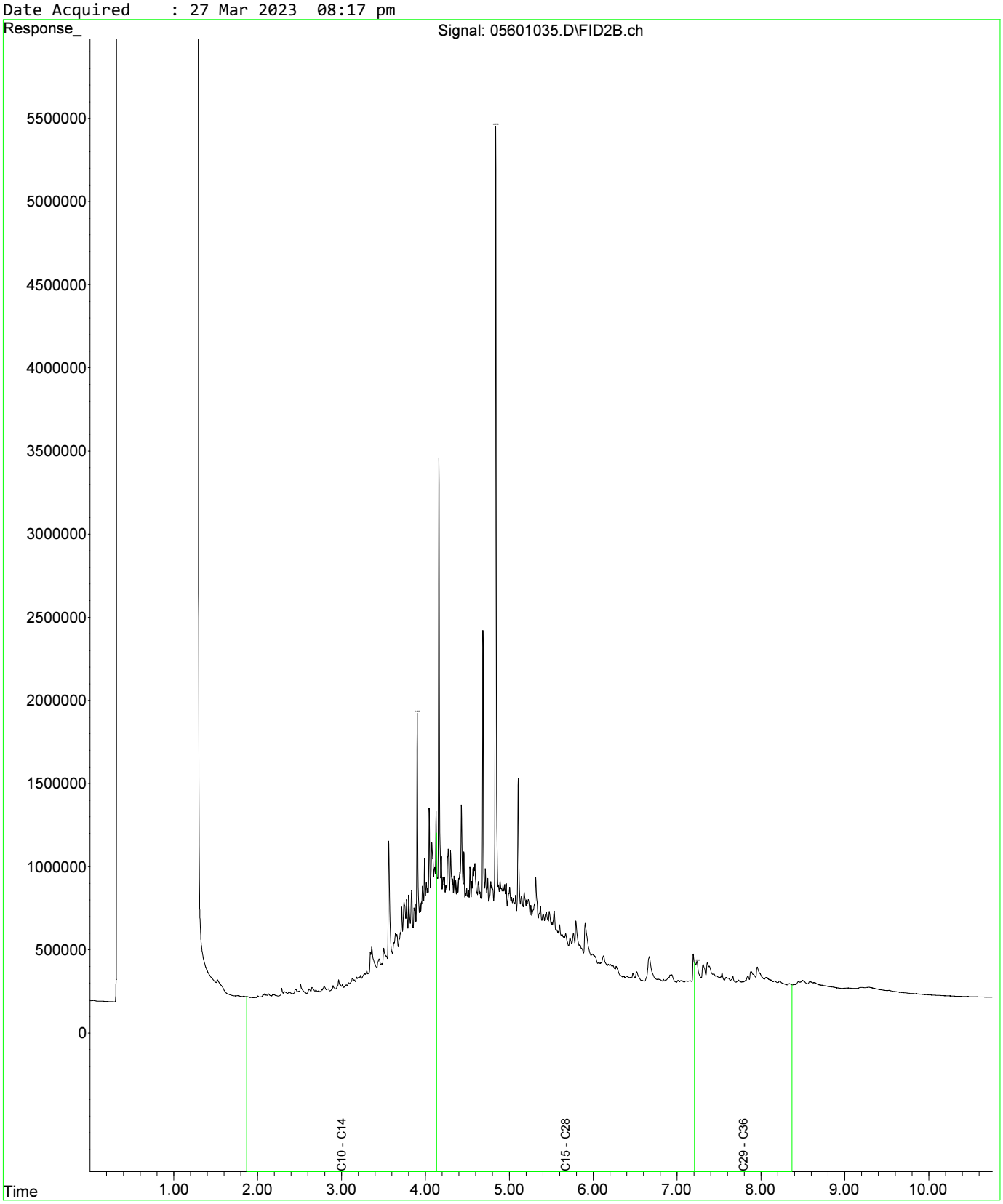
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



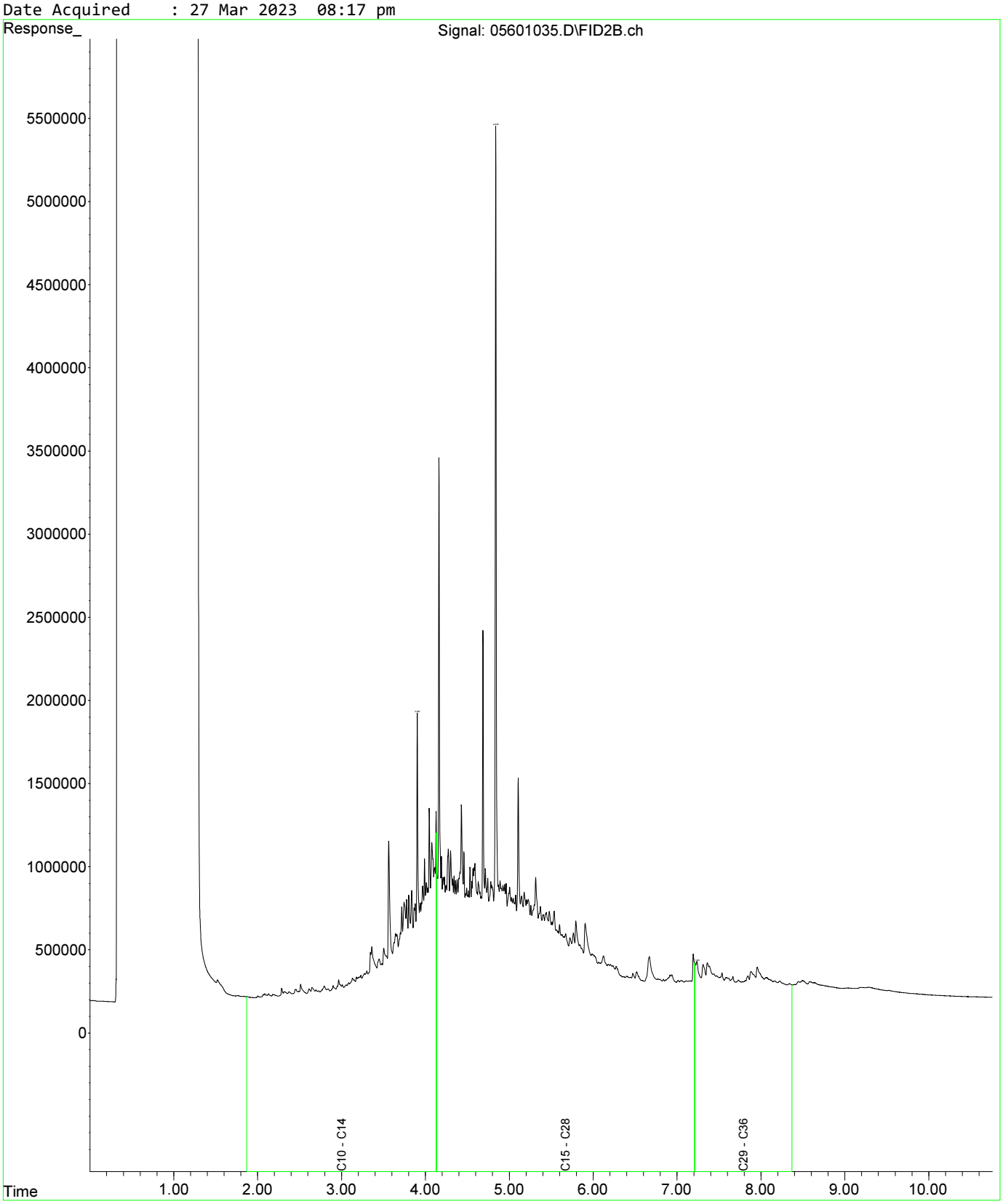
Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



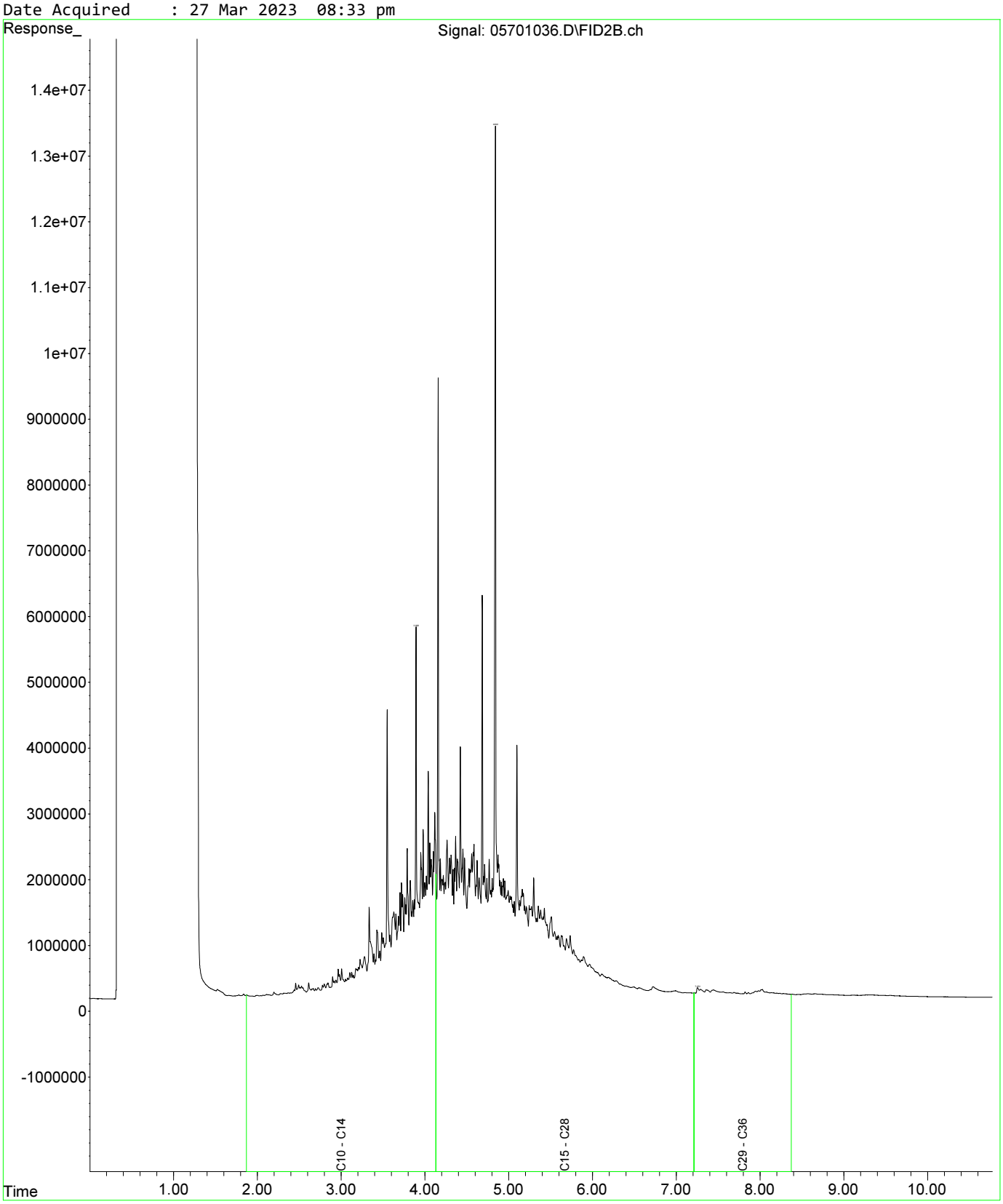
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



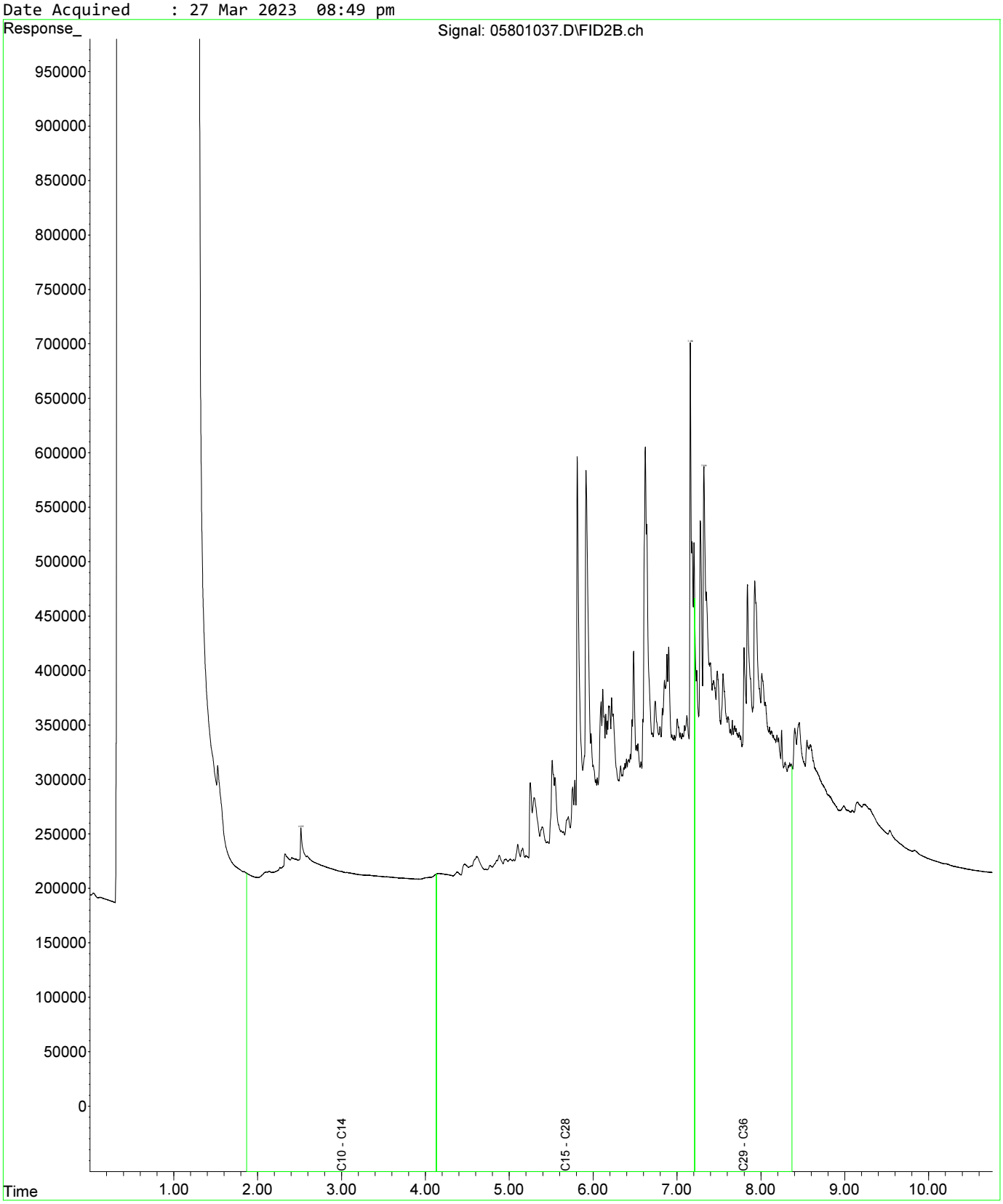
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : Standard
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
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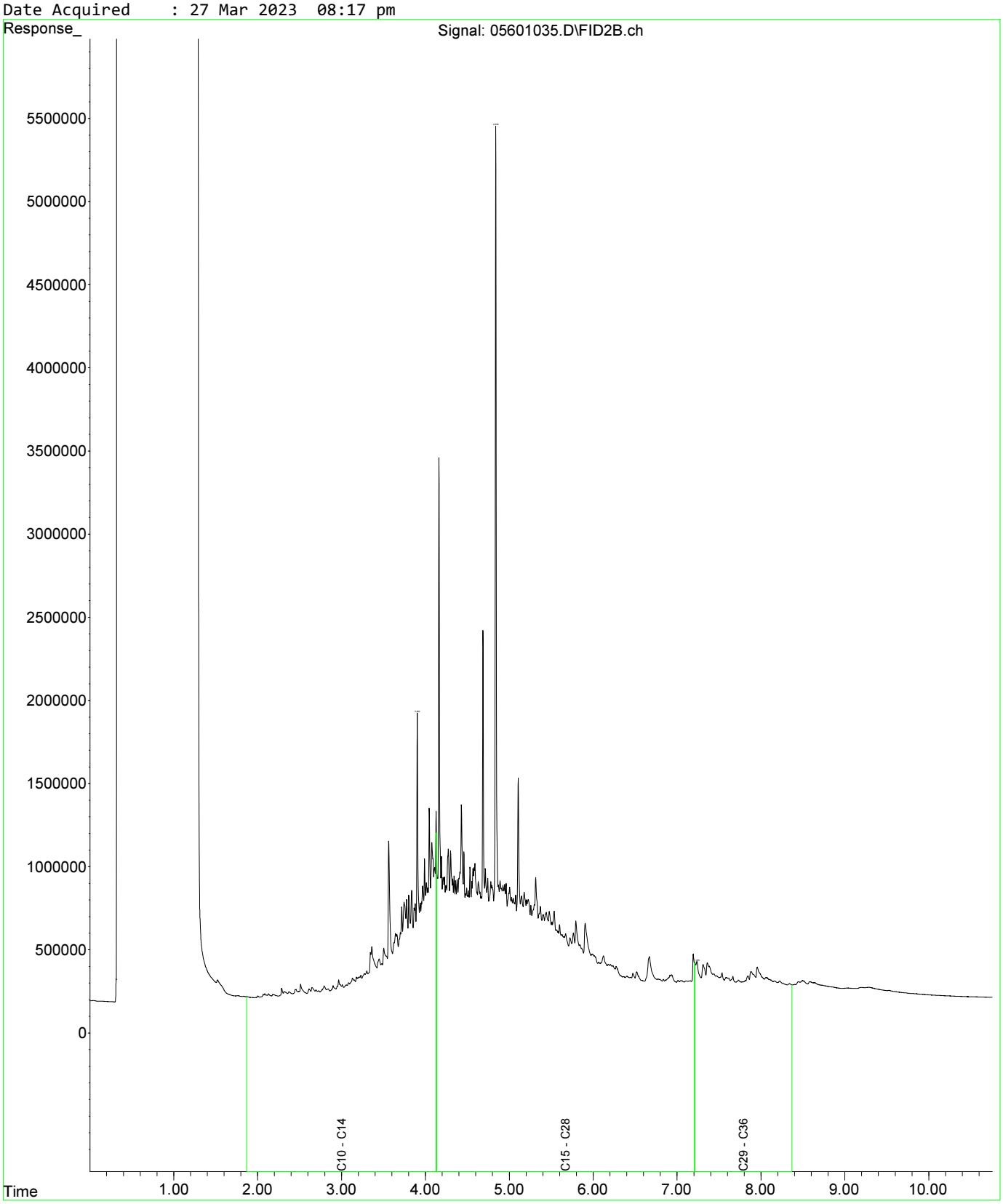
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
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Laboratory Number: EM2305209-034
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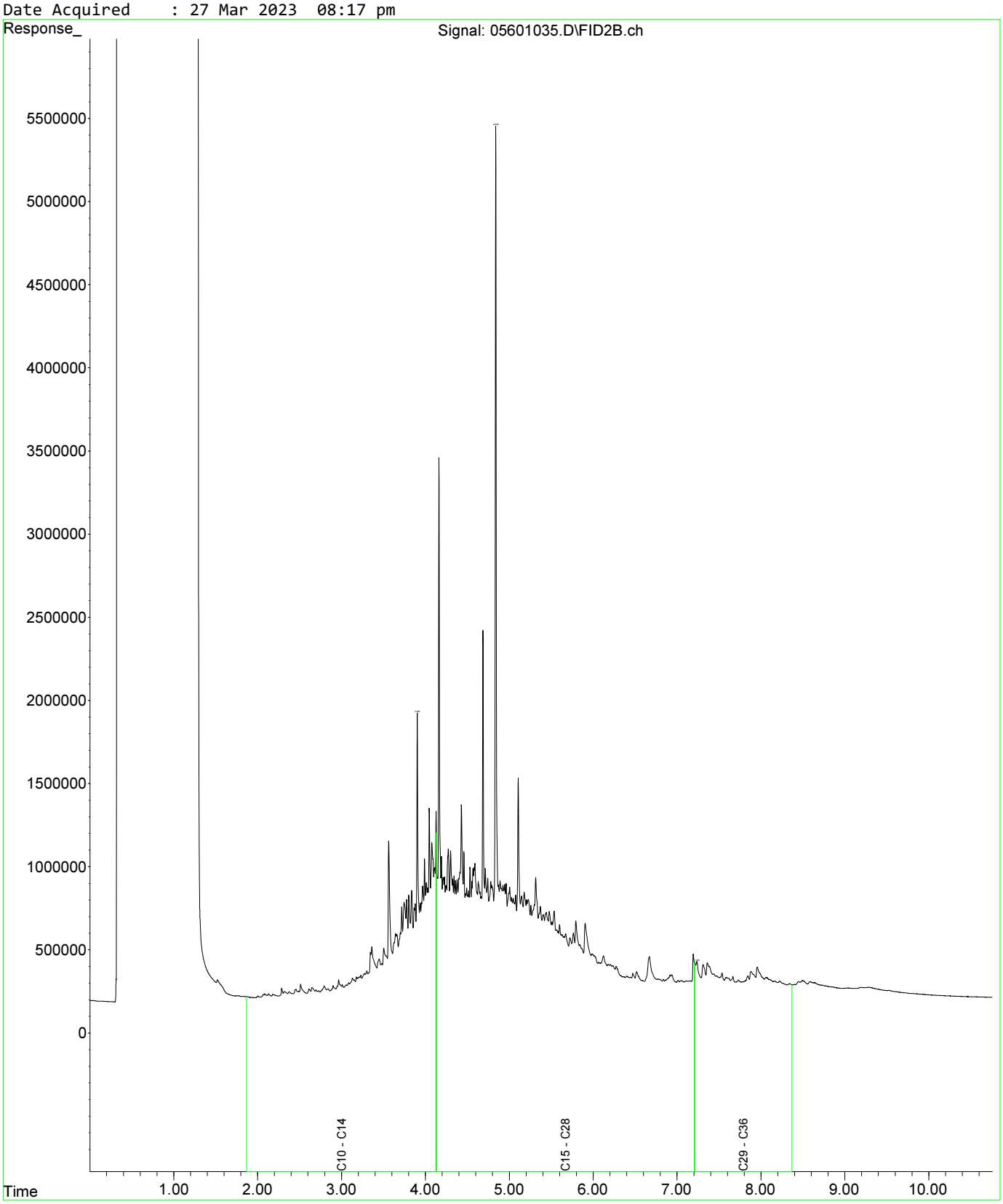
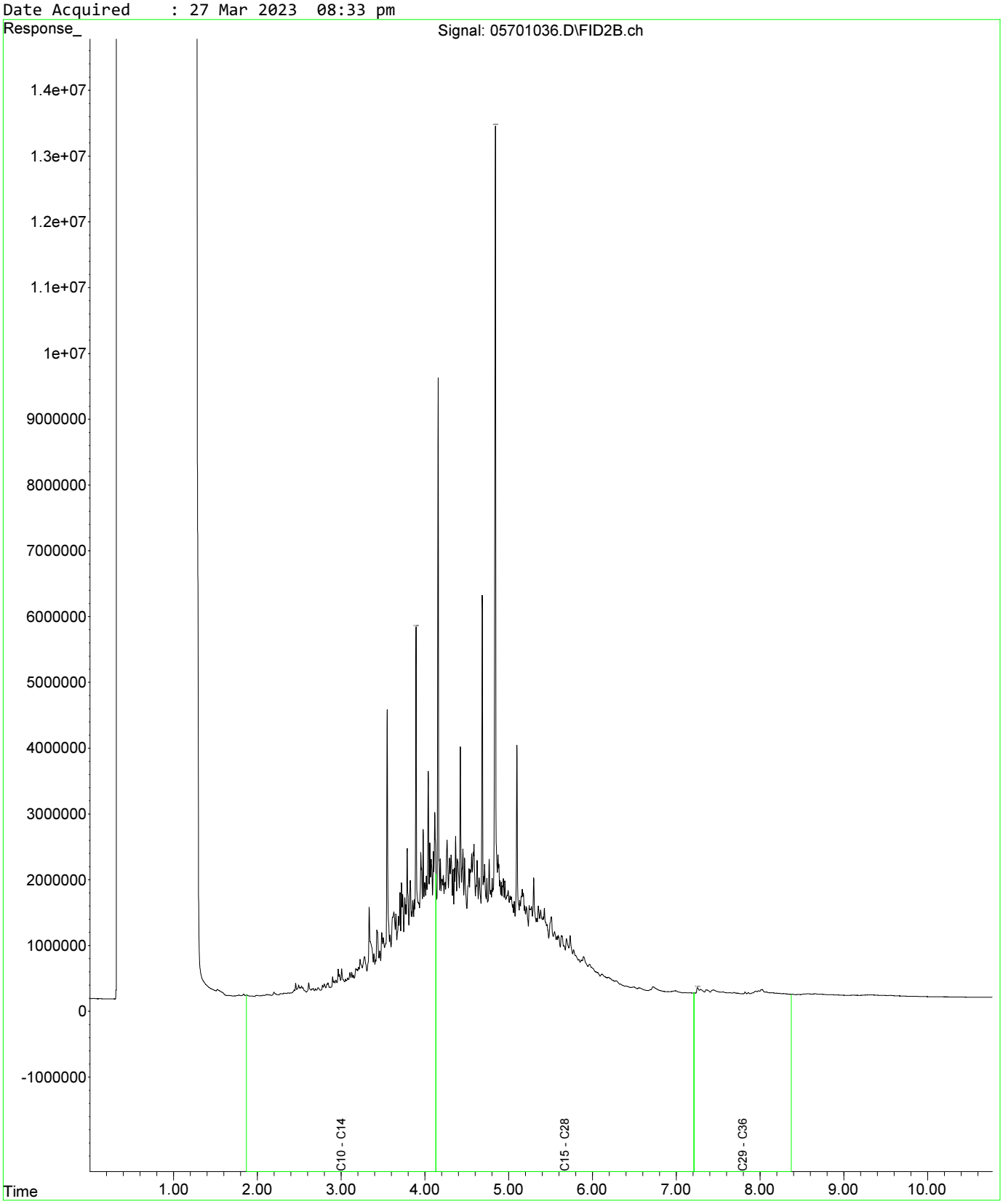
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
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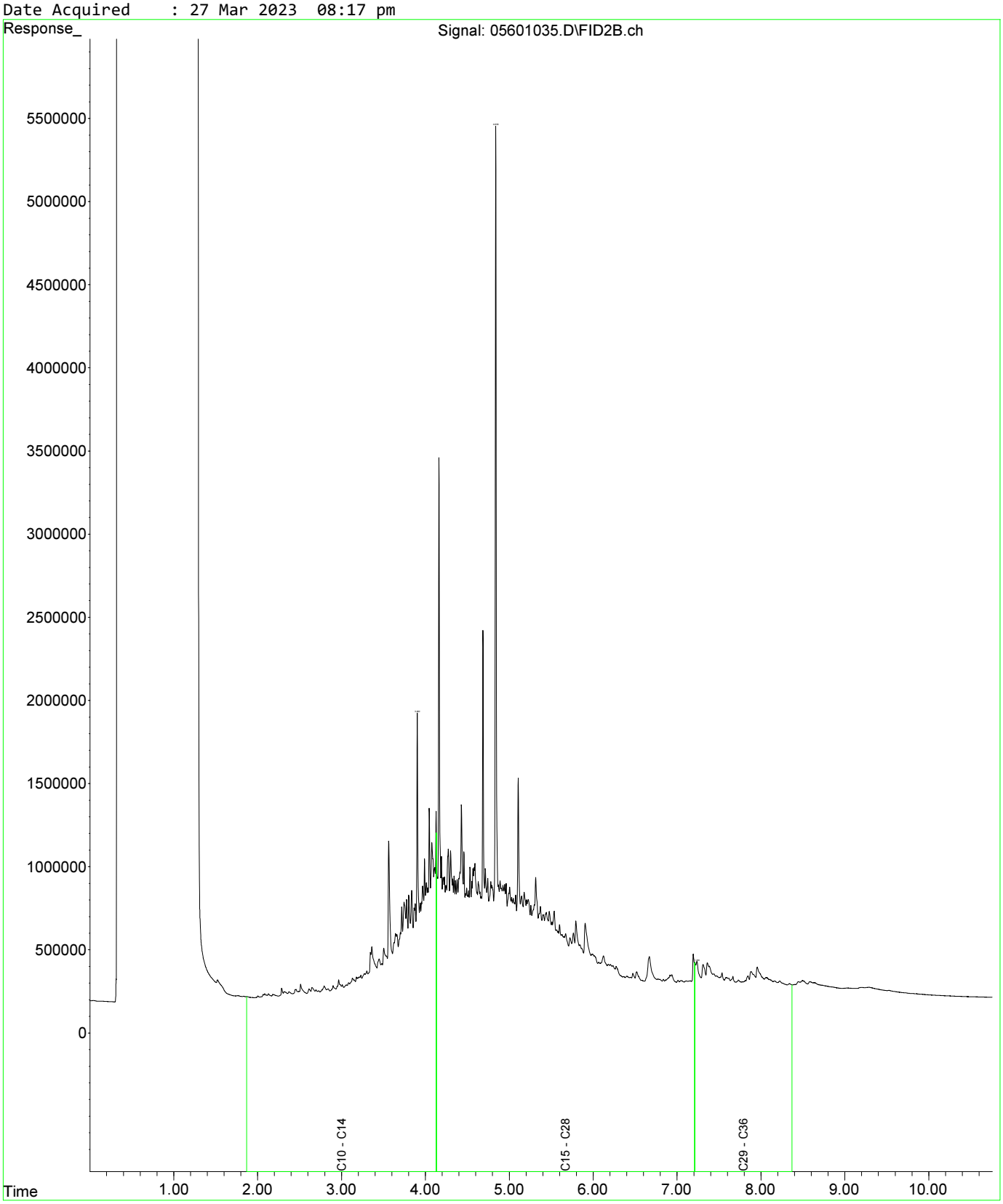
Date Acquired : 27 Mar 2023 08:17 pm



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Laboratory Number: EM2305209-034
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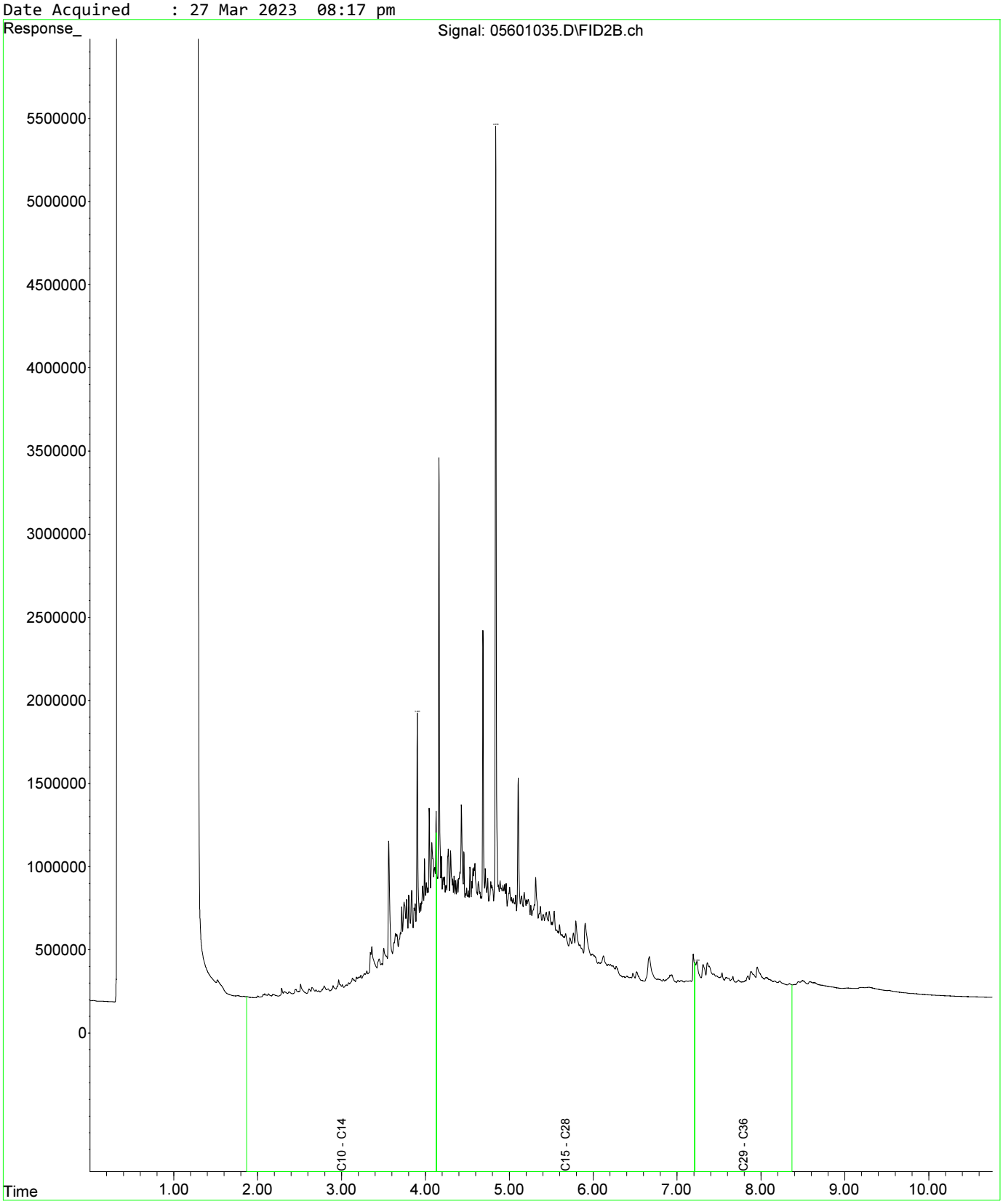

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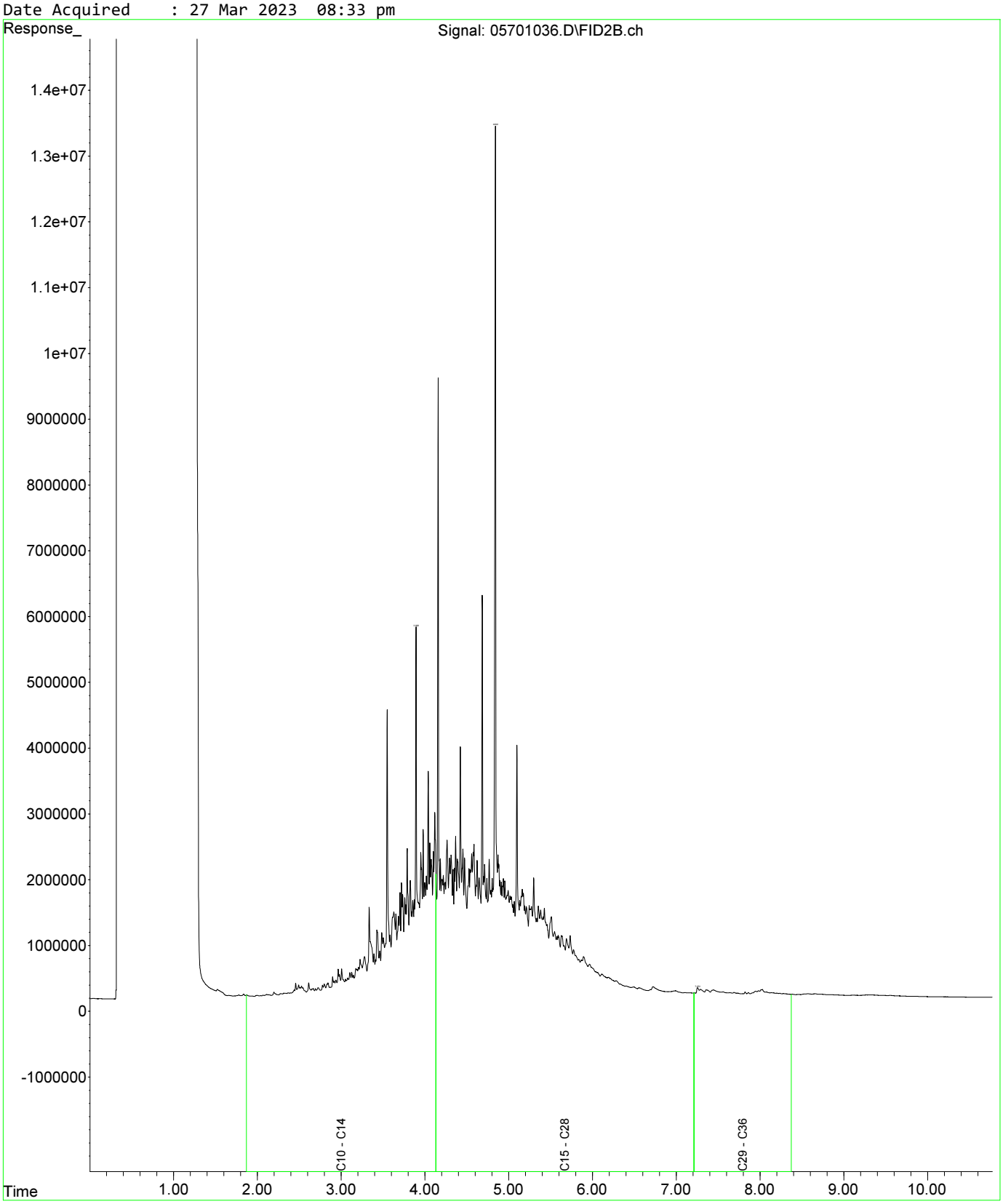

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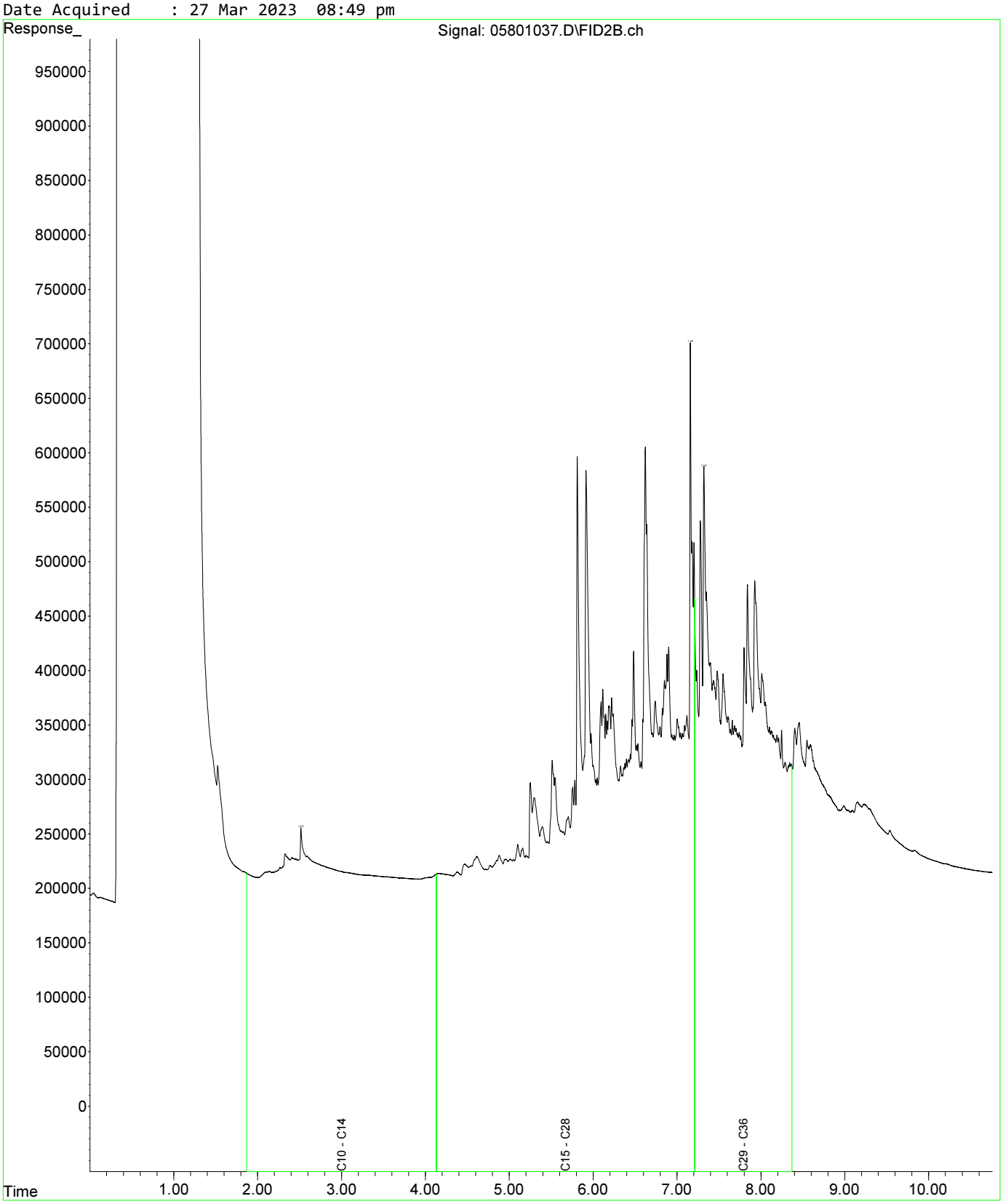

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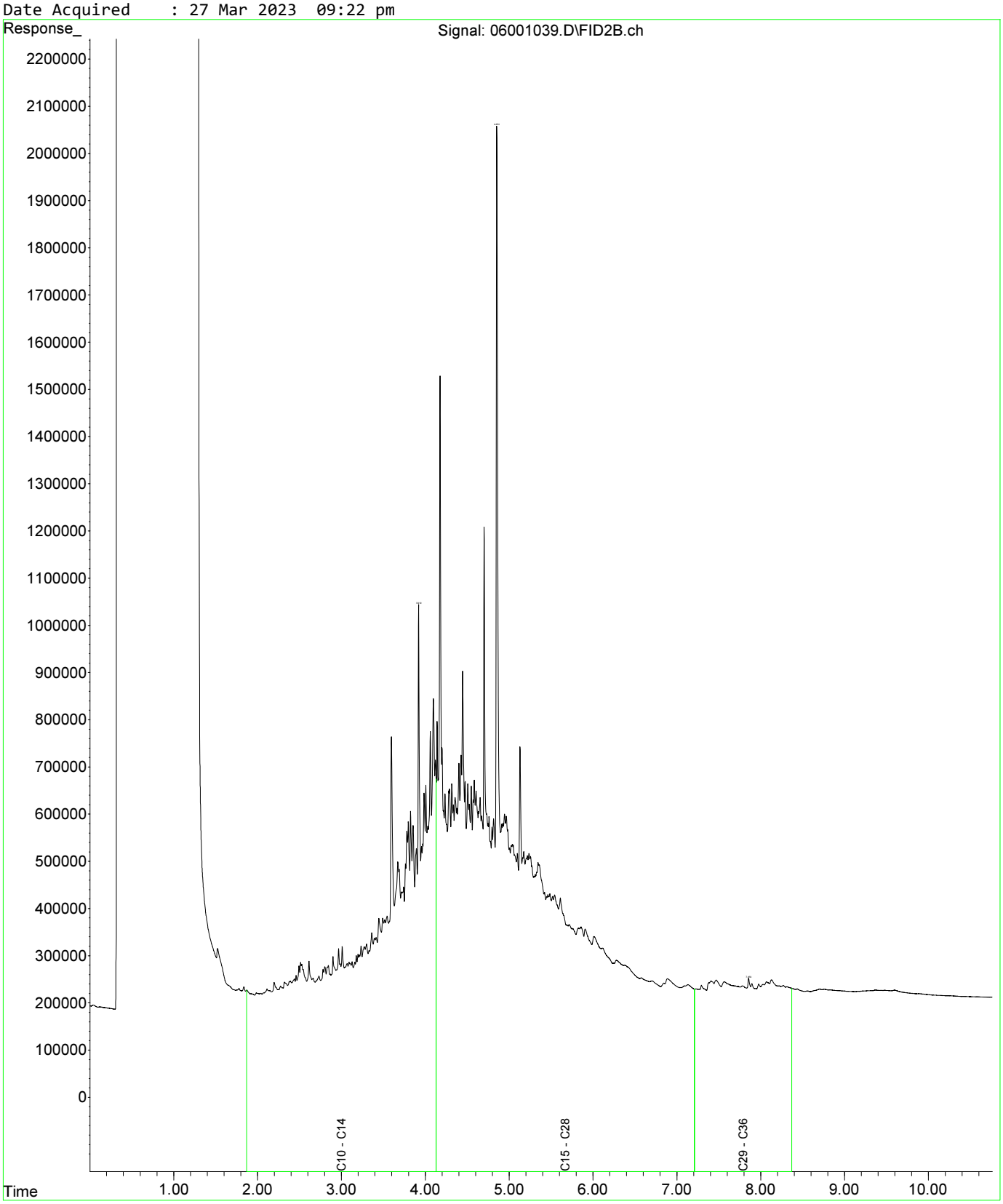

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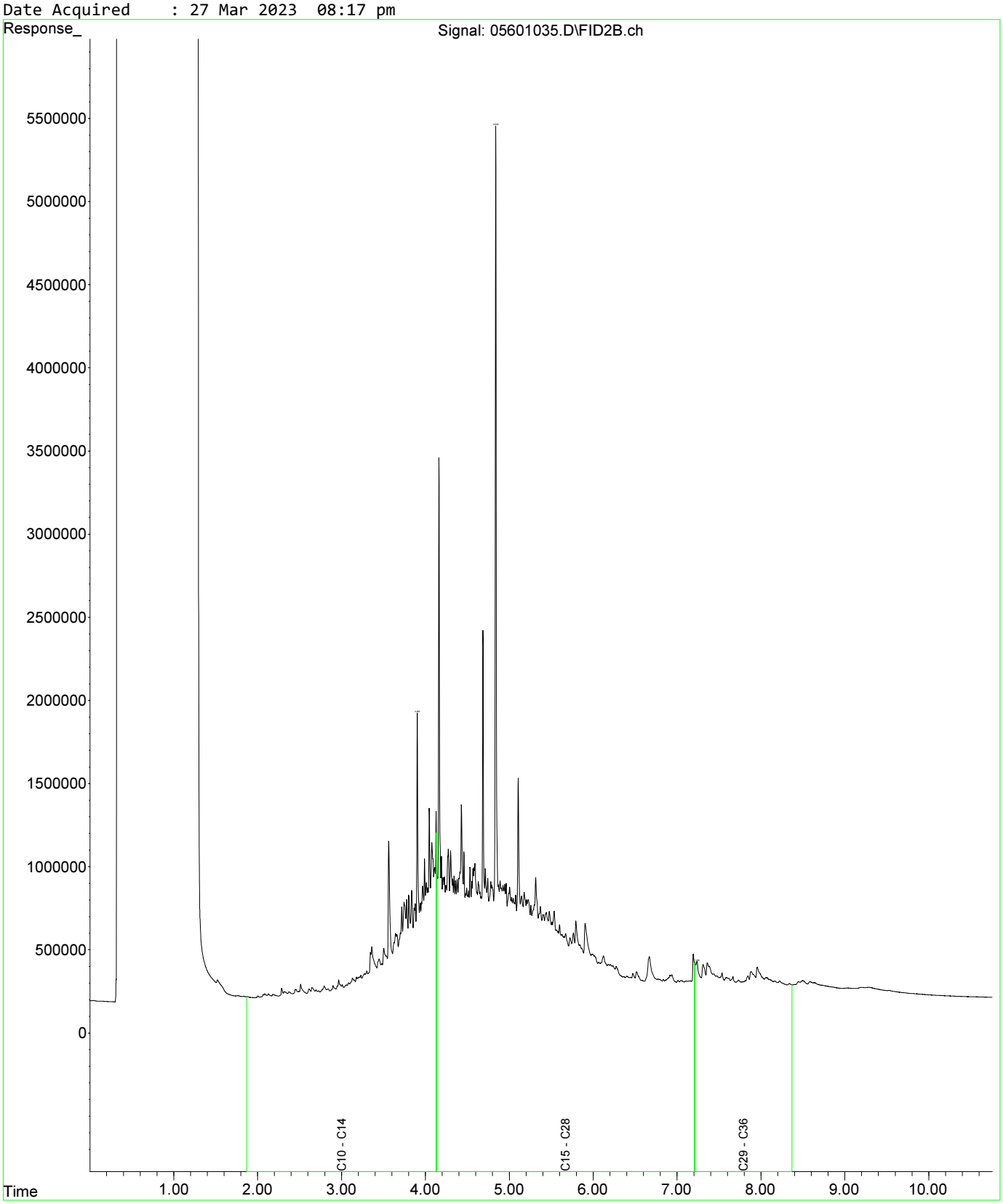

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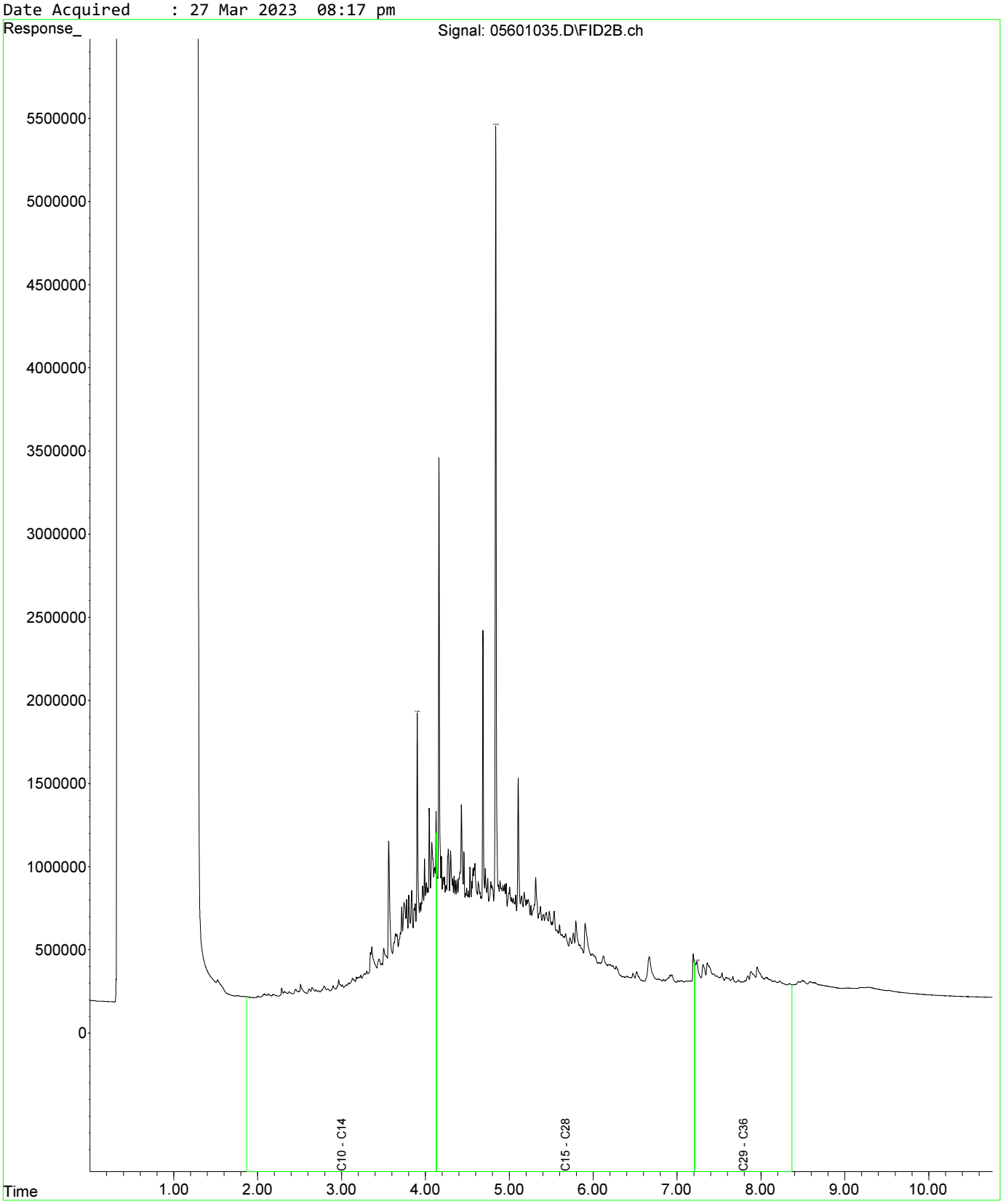

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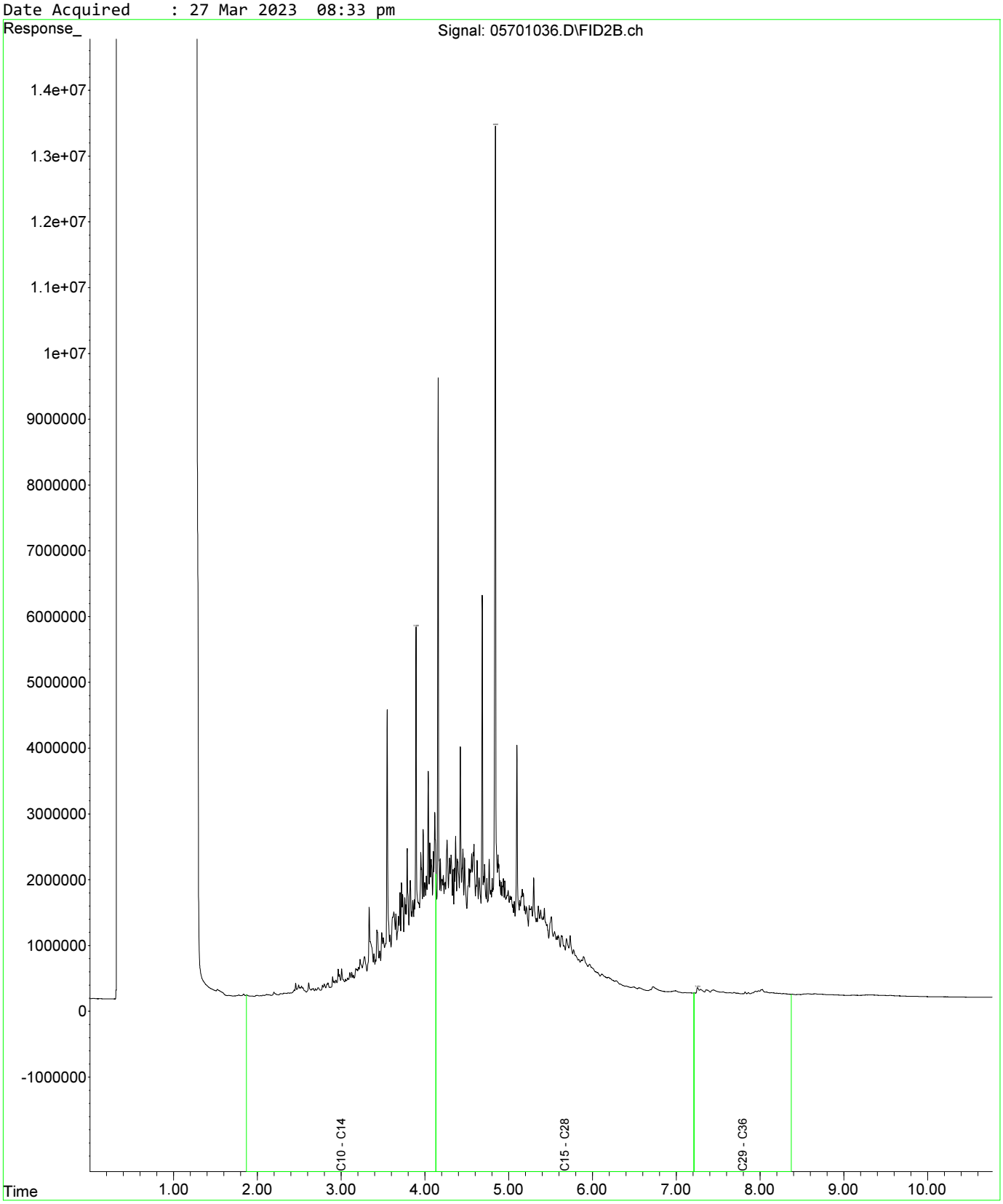

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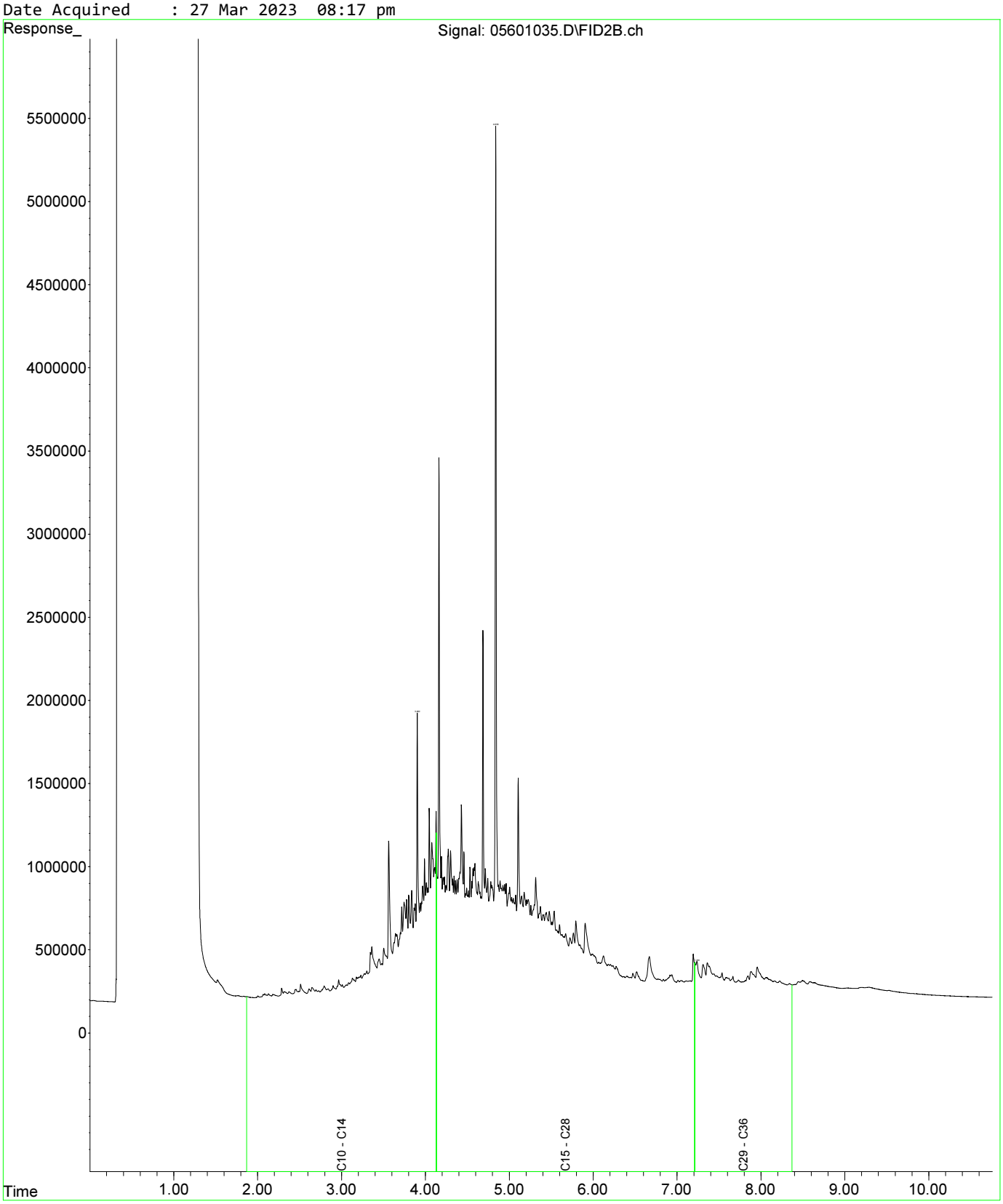

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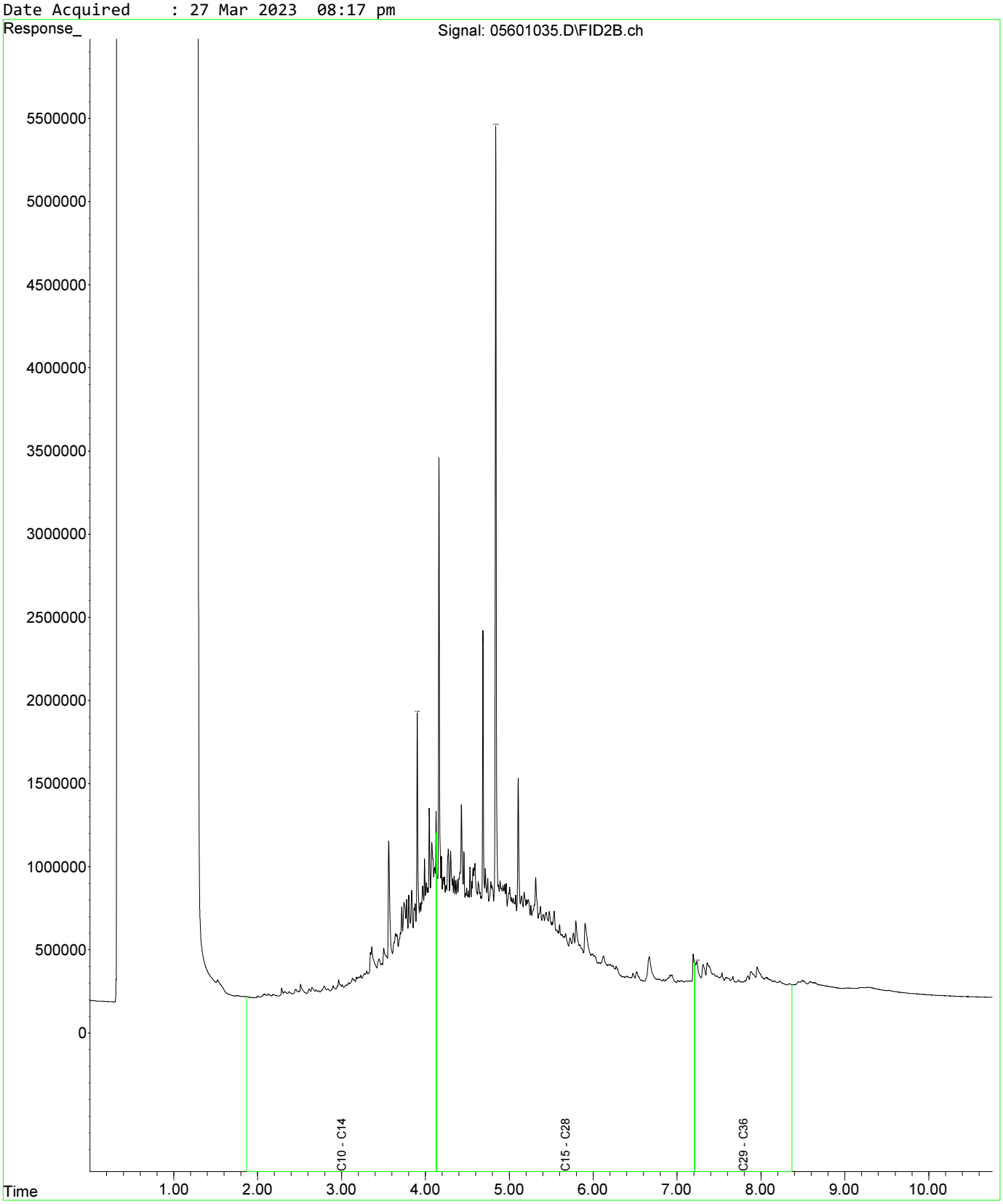

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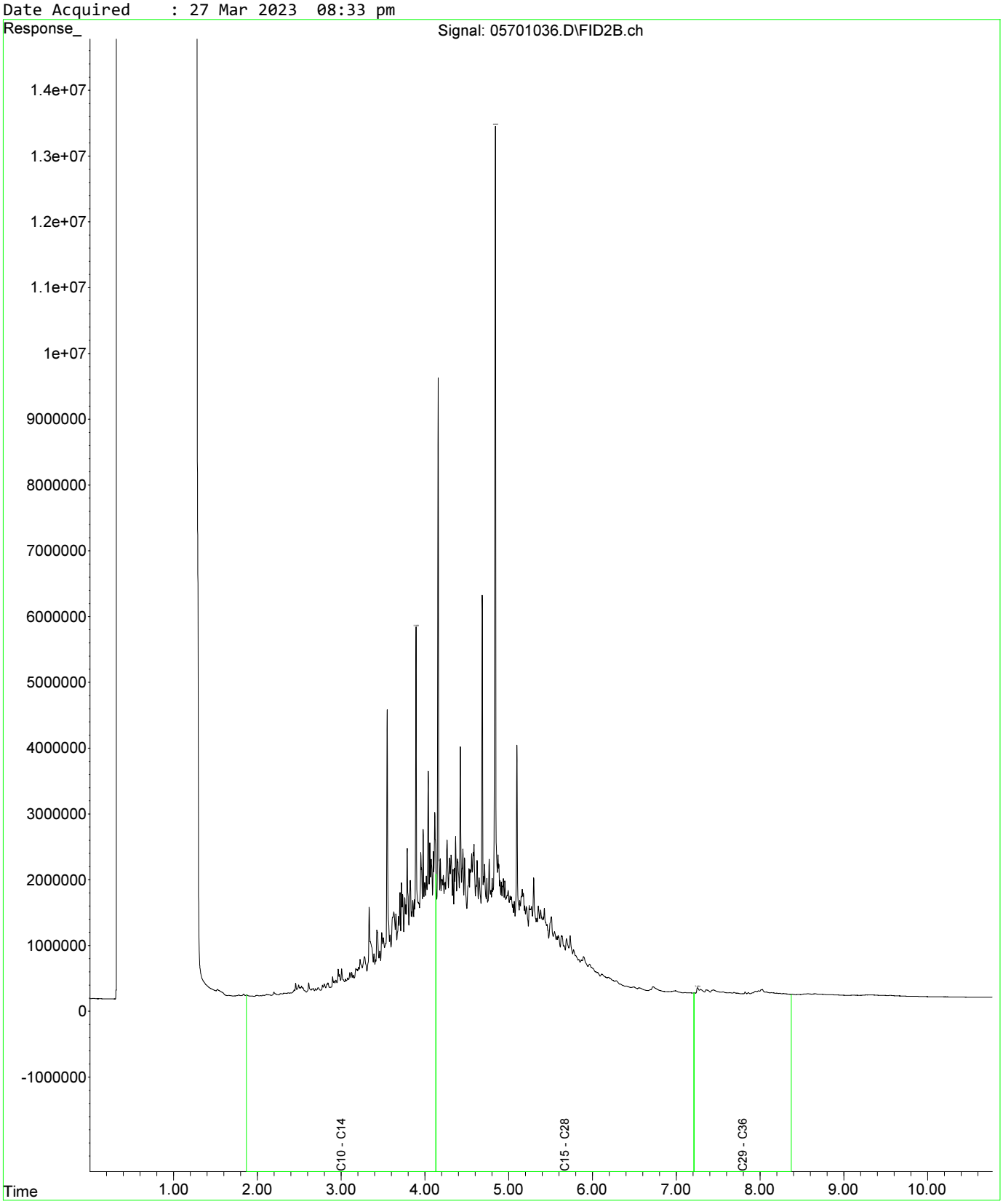

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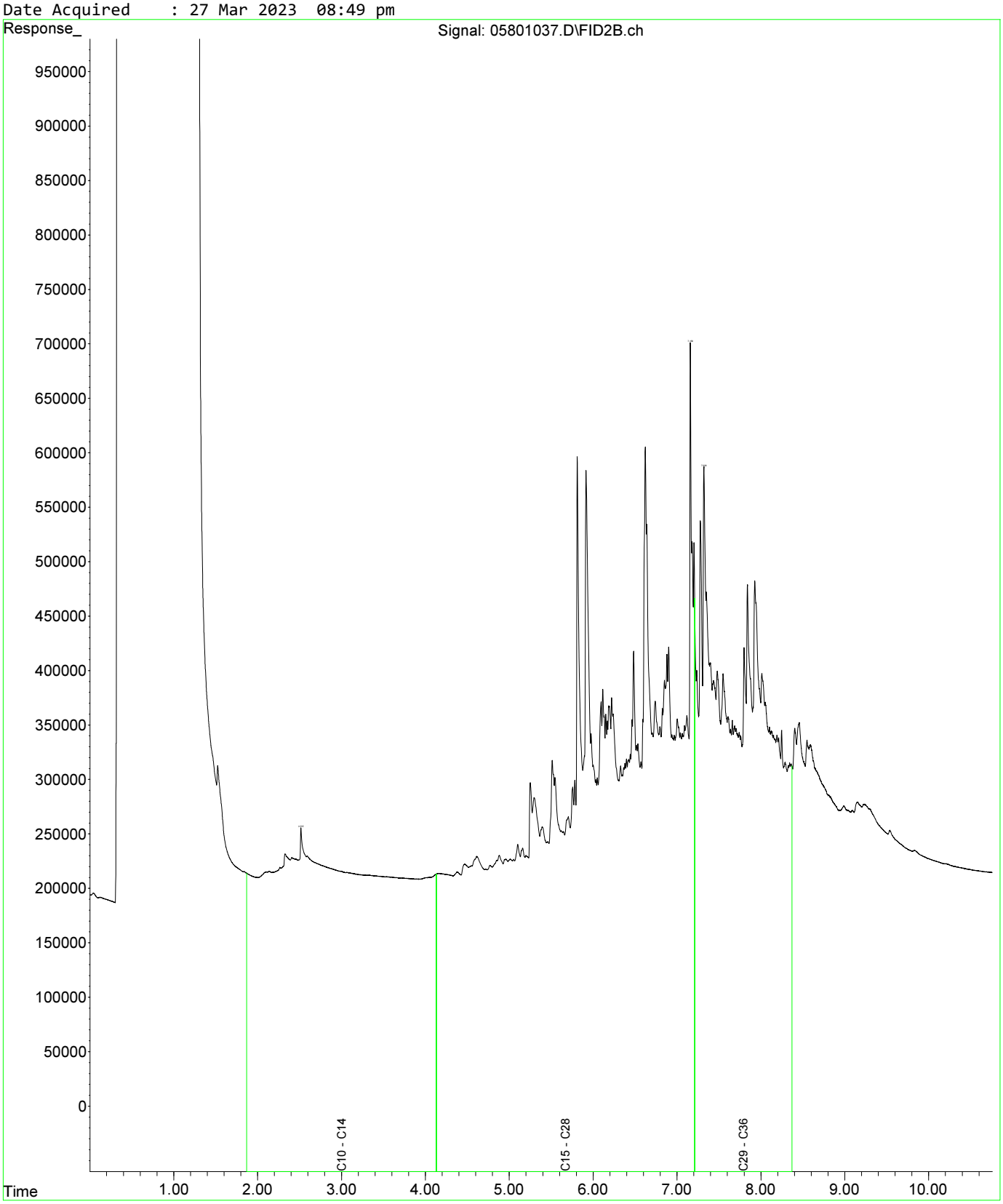

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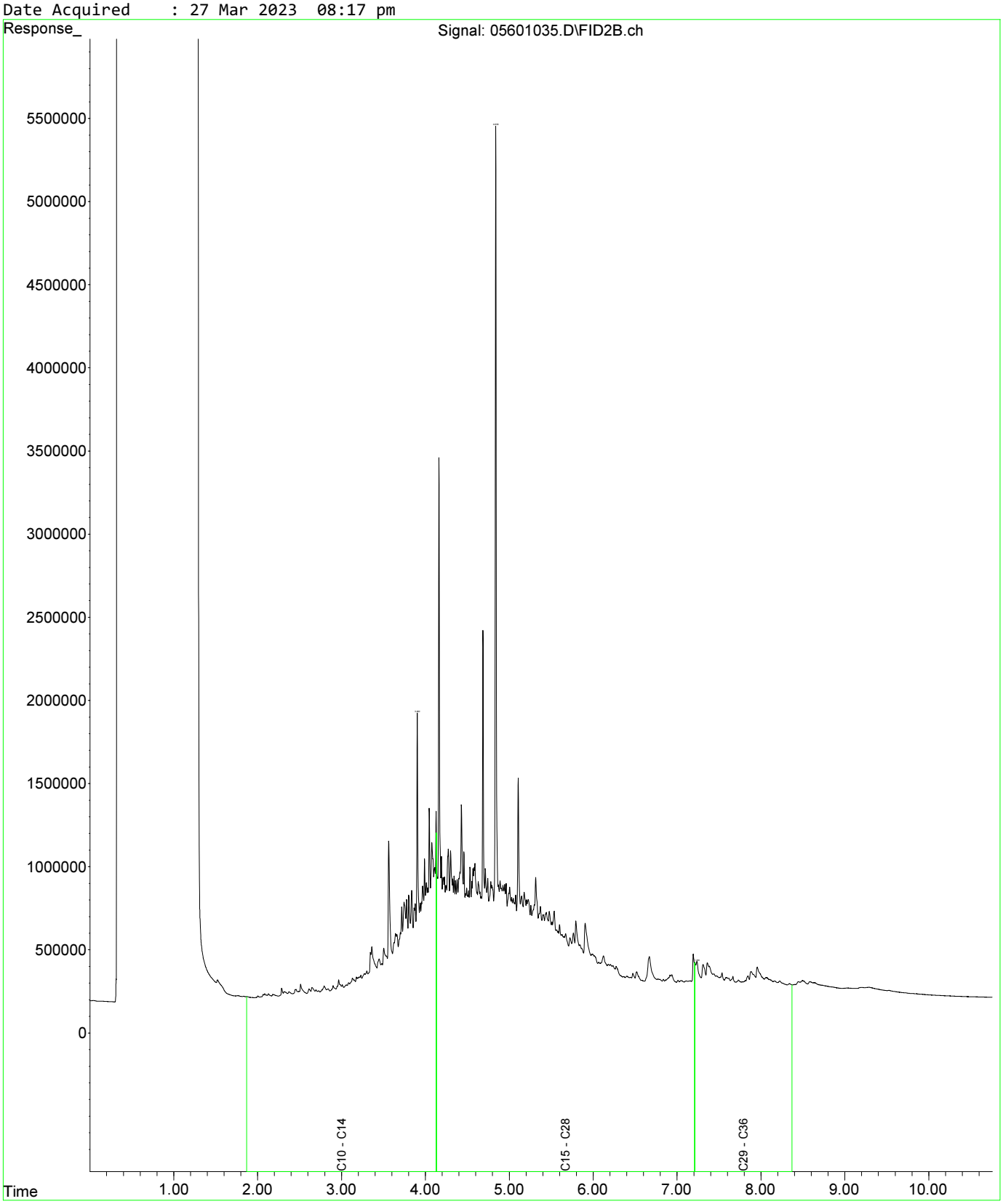

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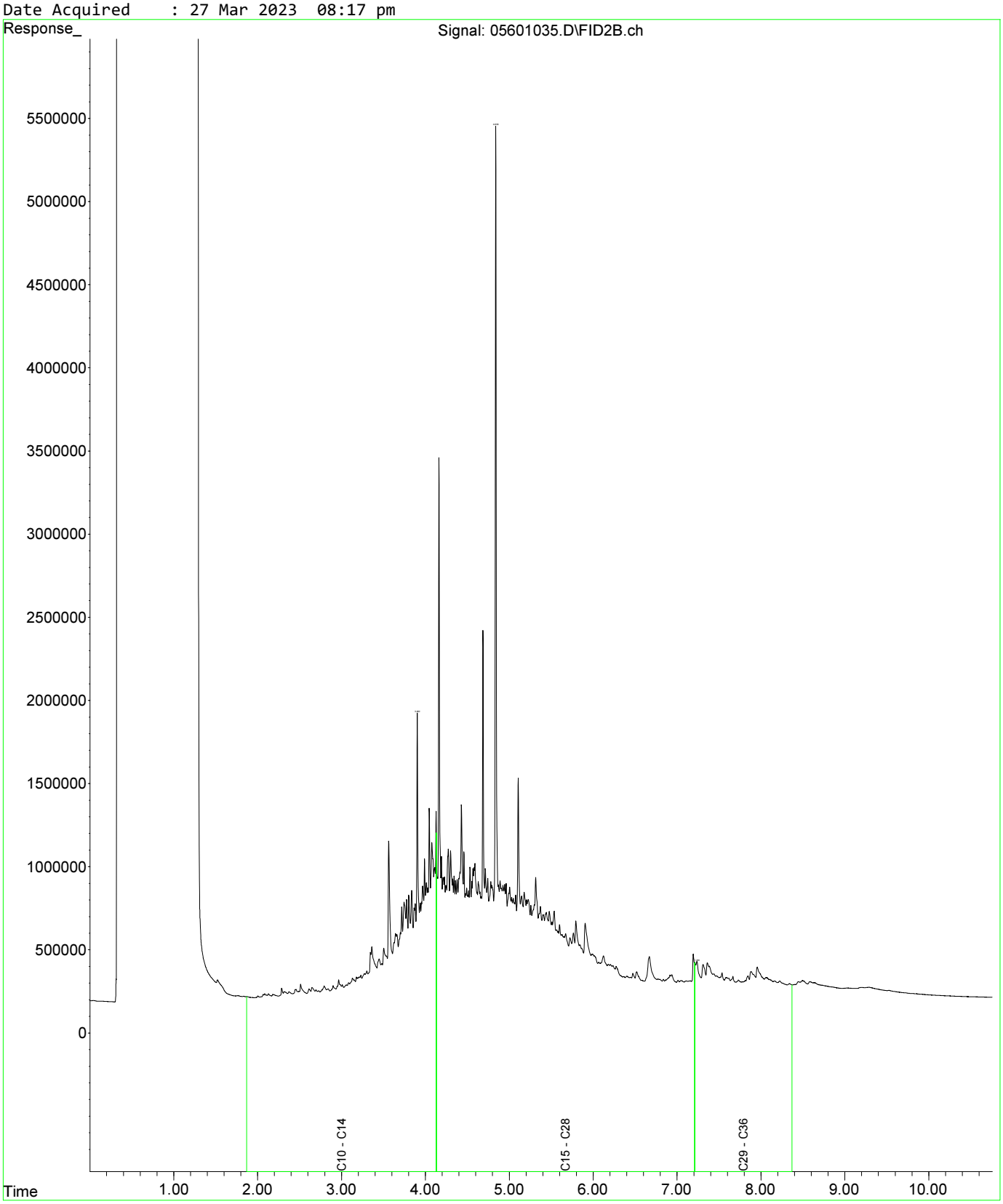

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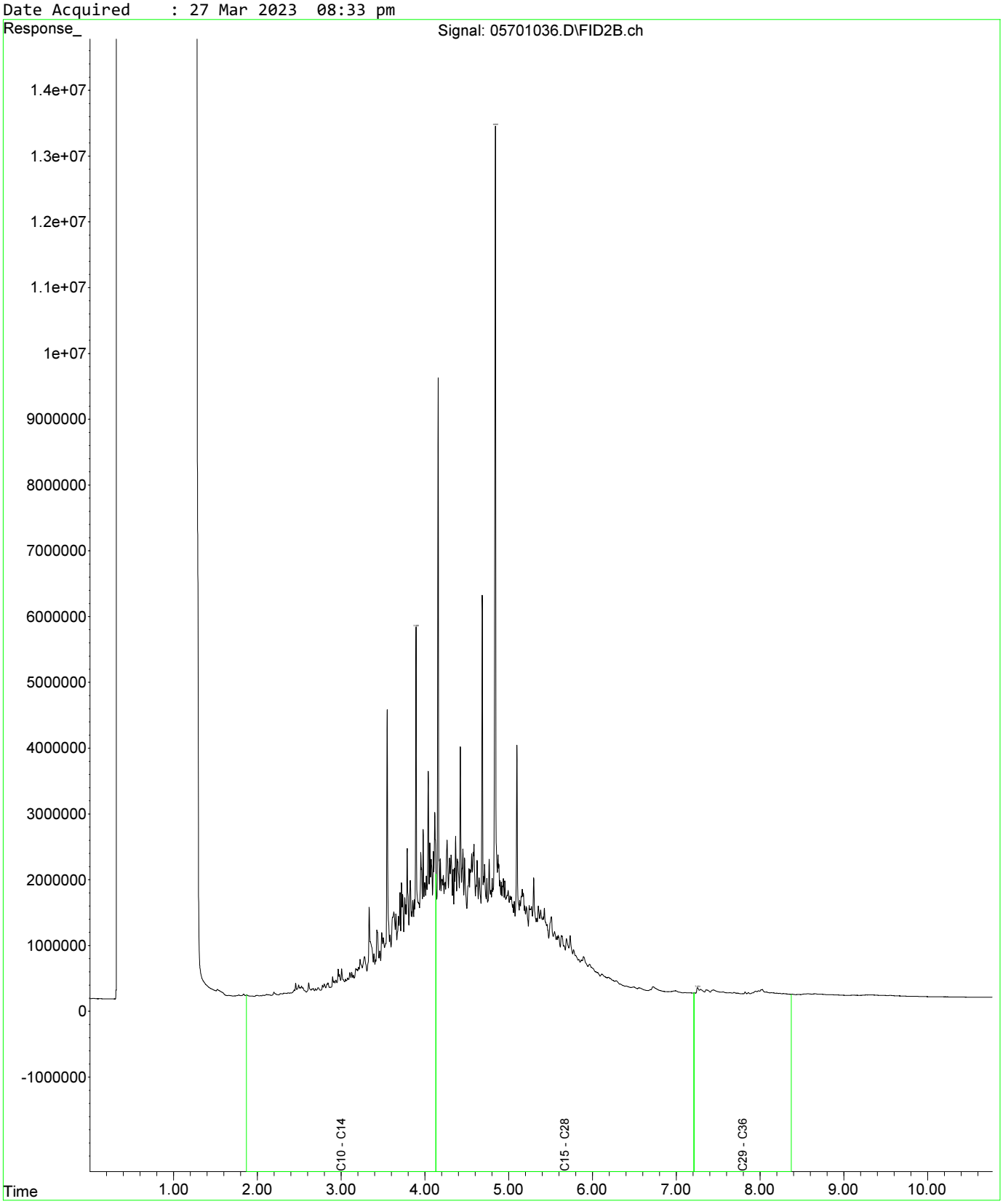

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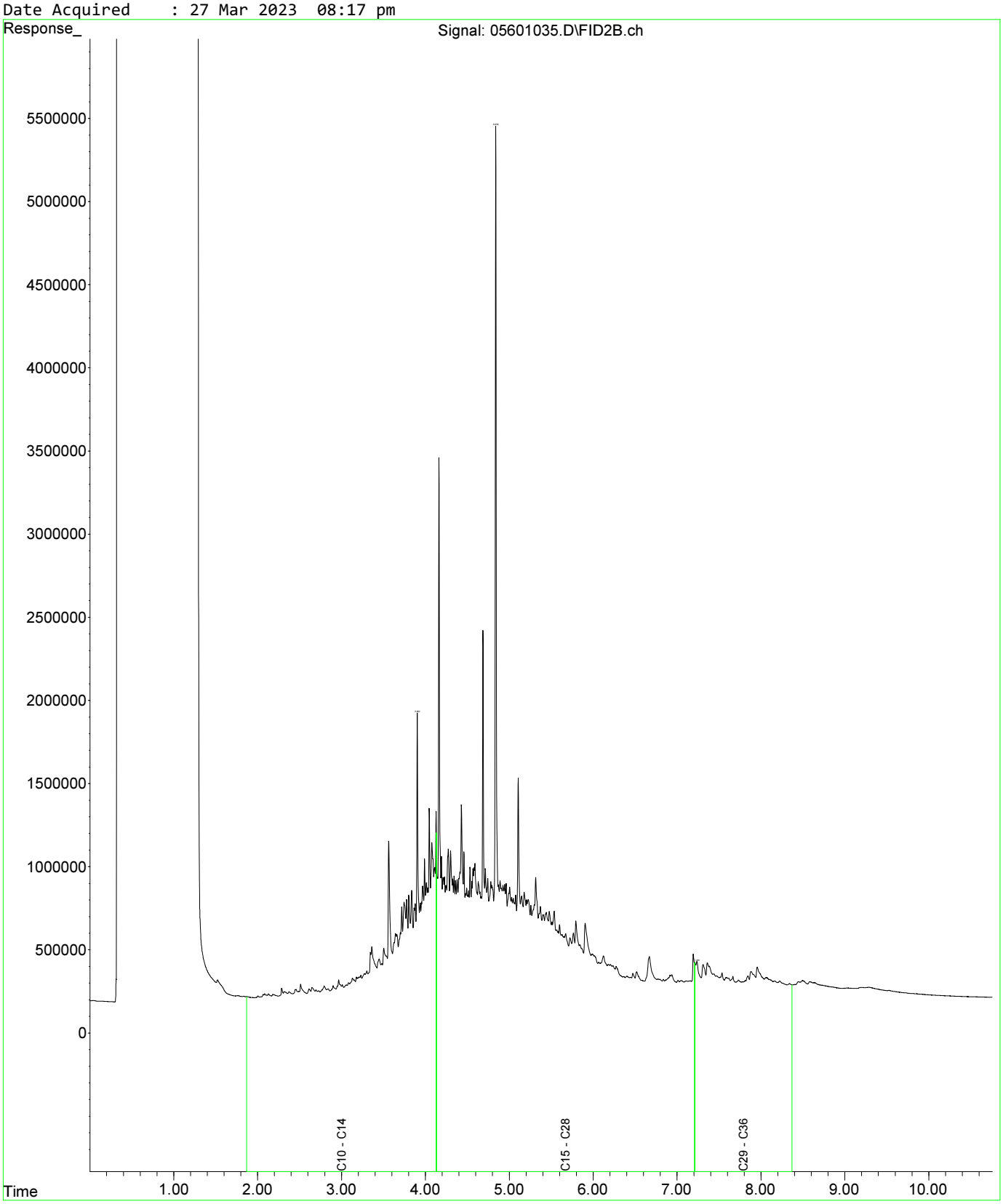

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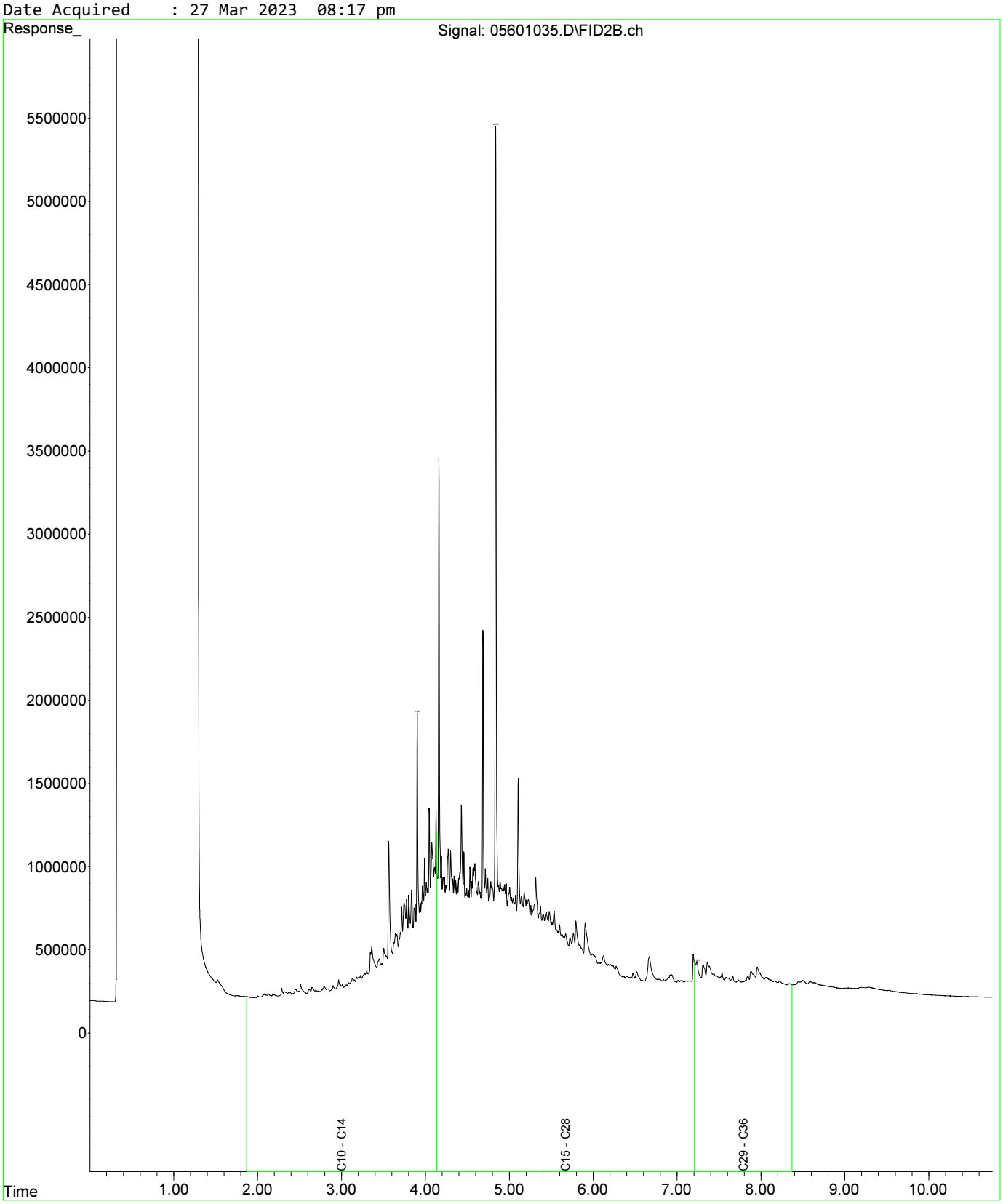

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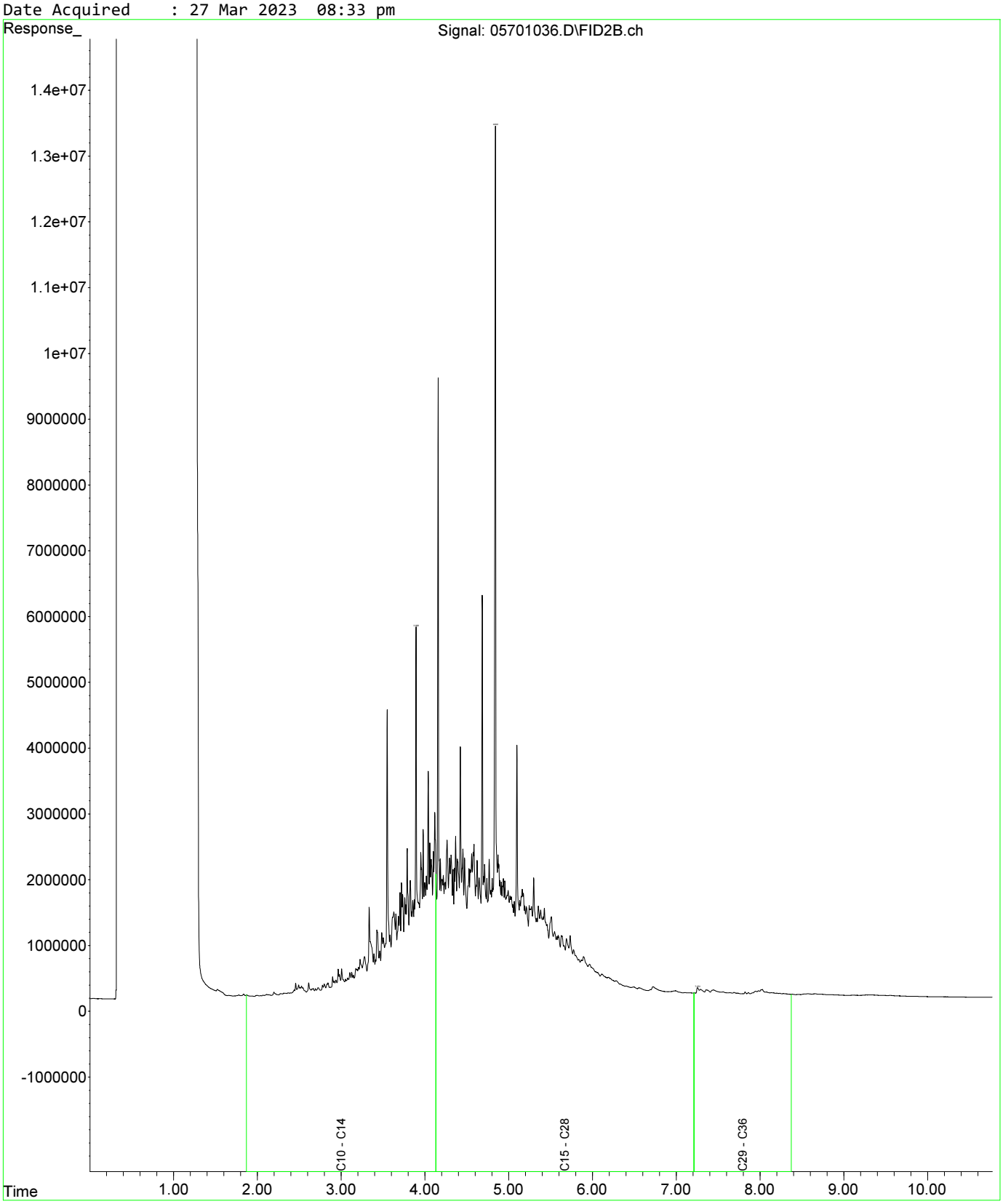

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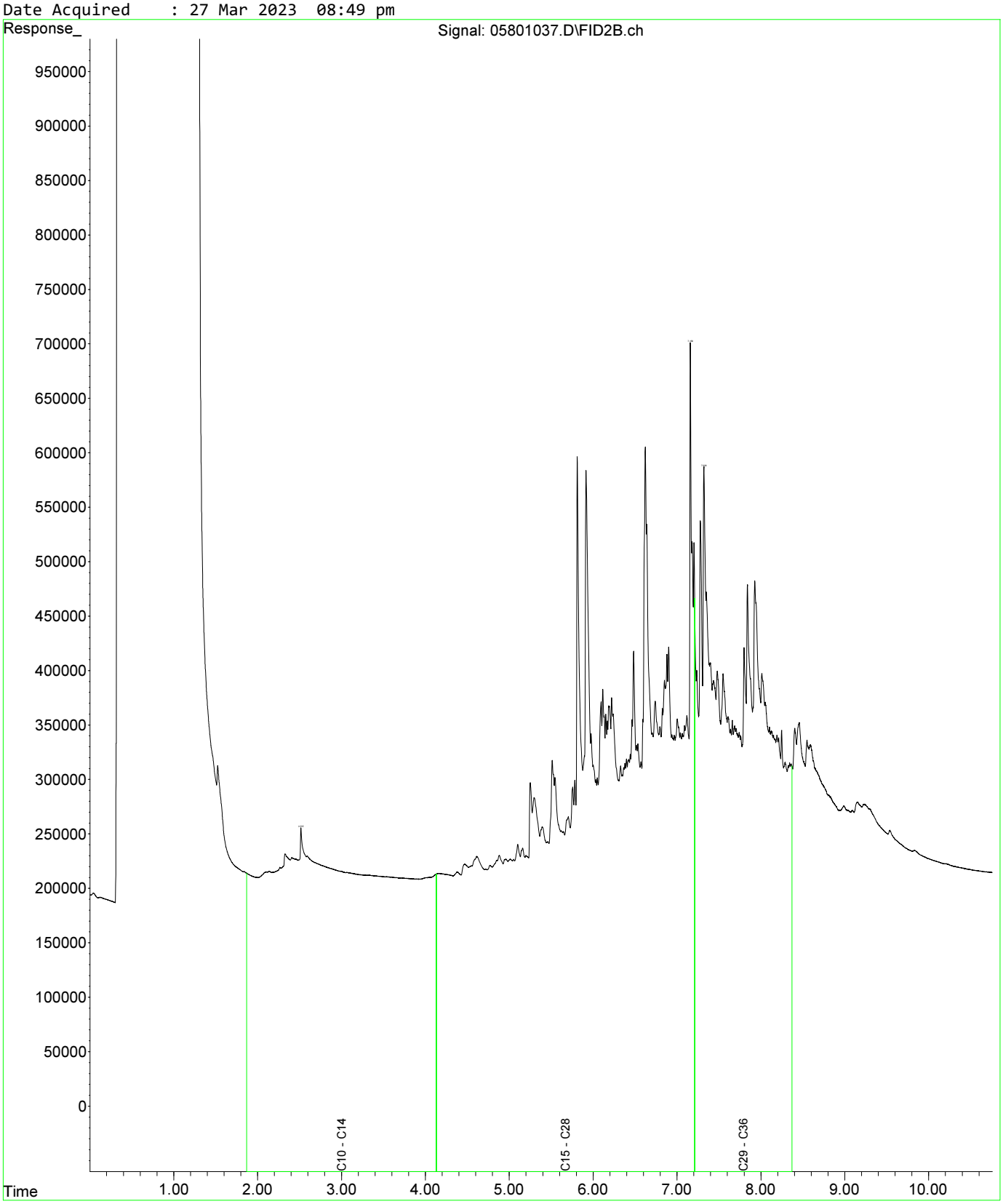

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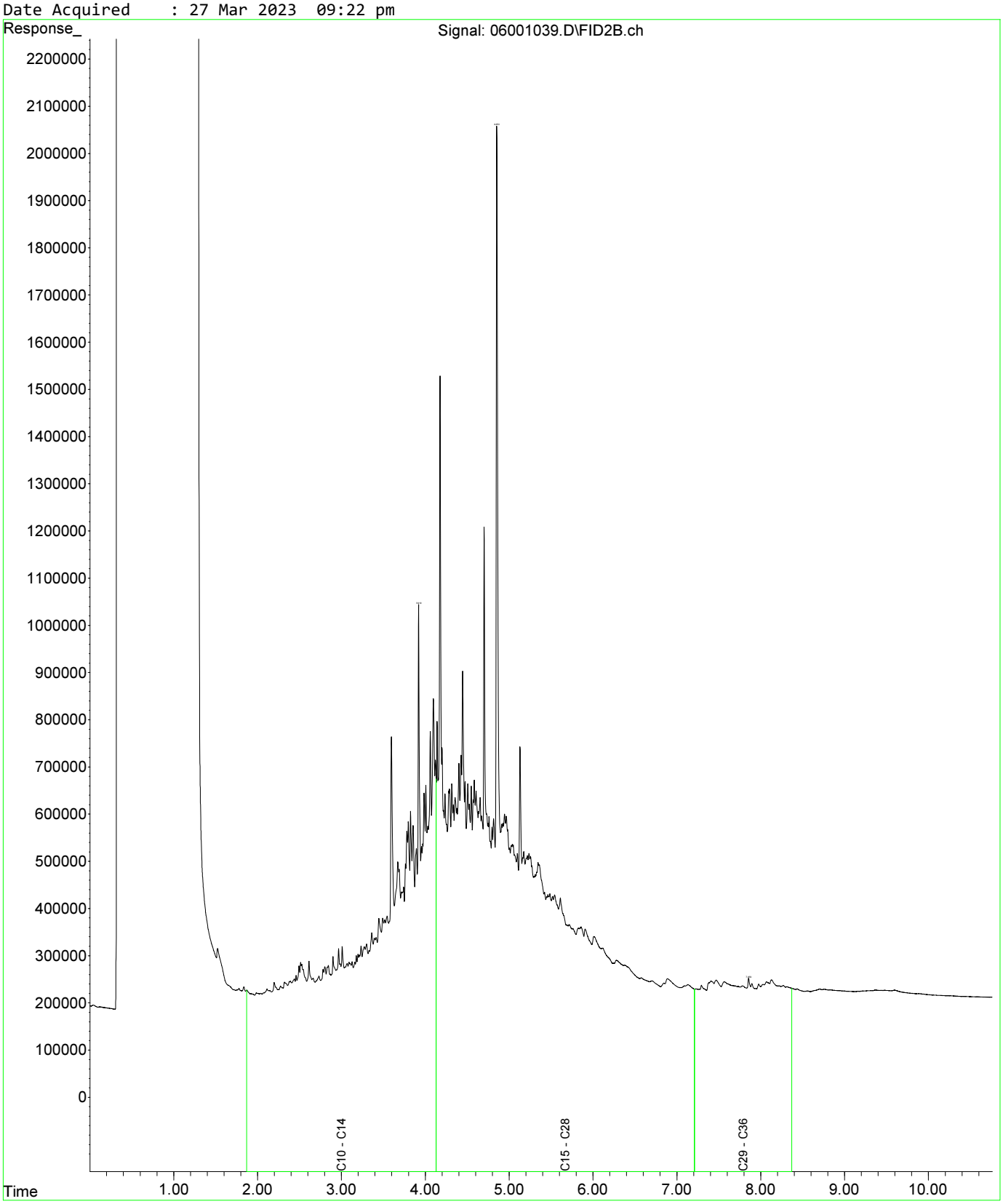

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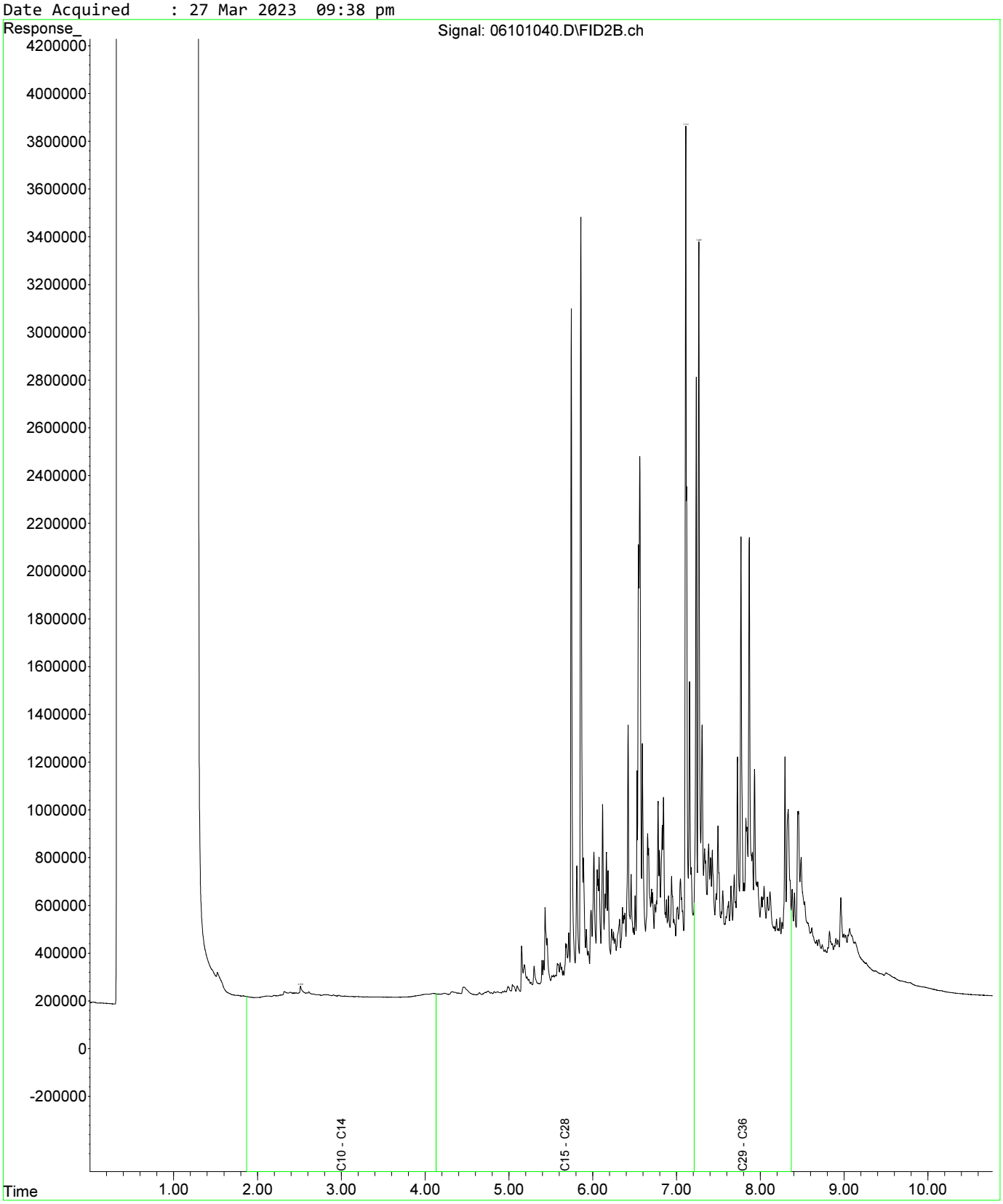

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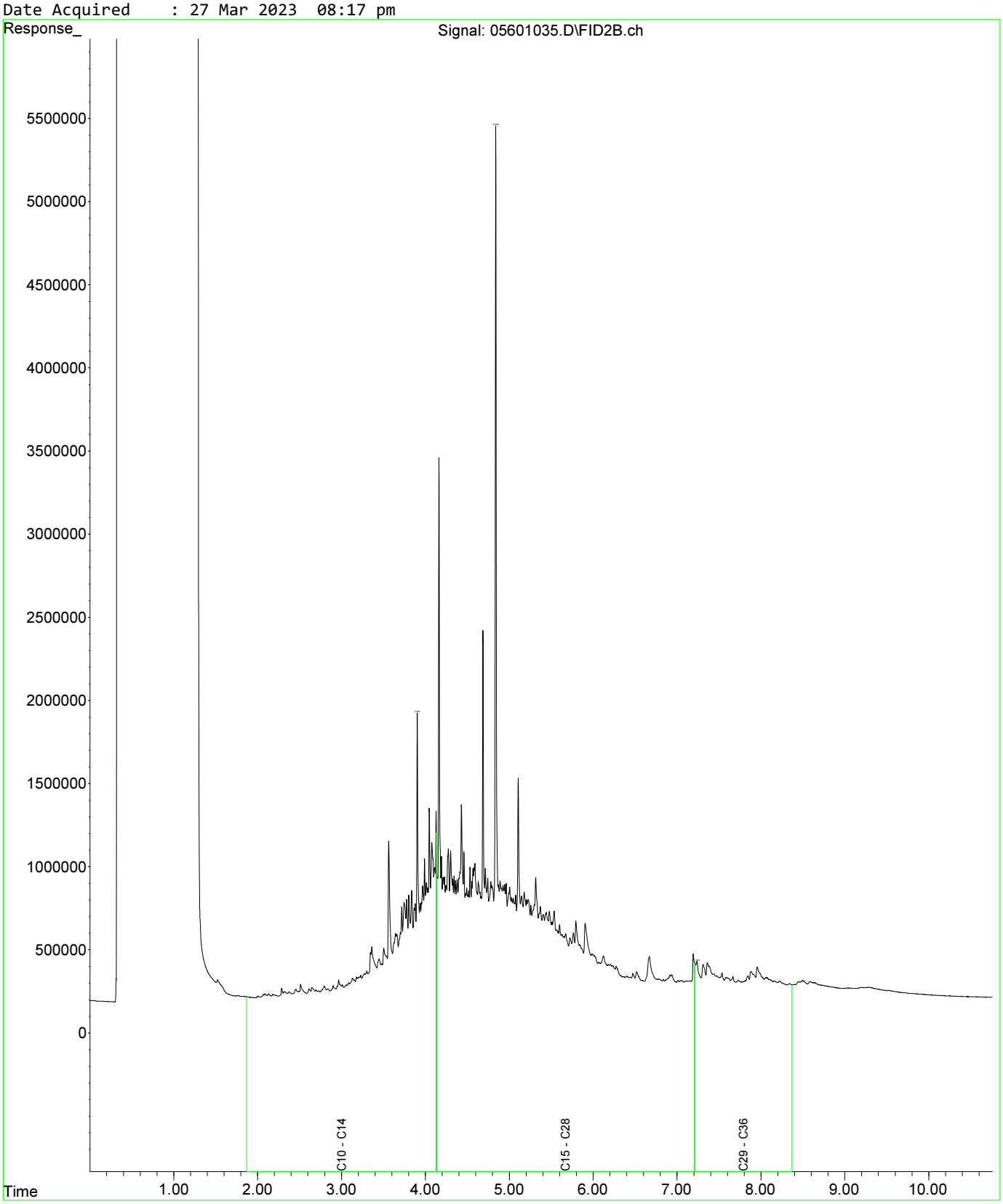

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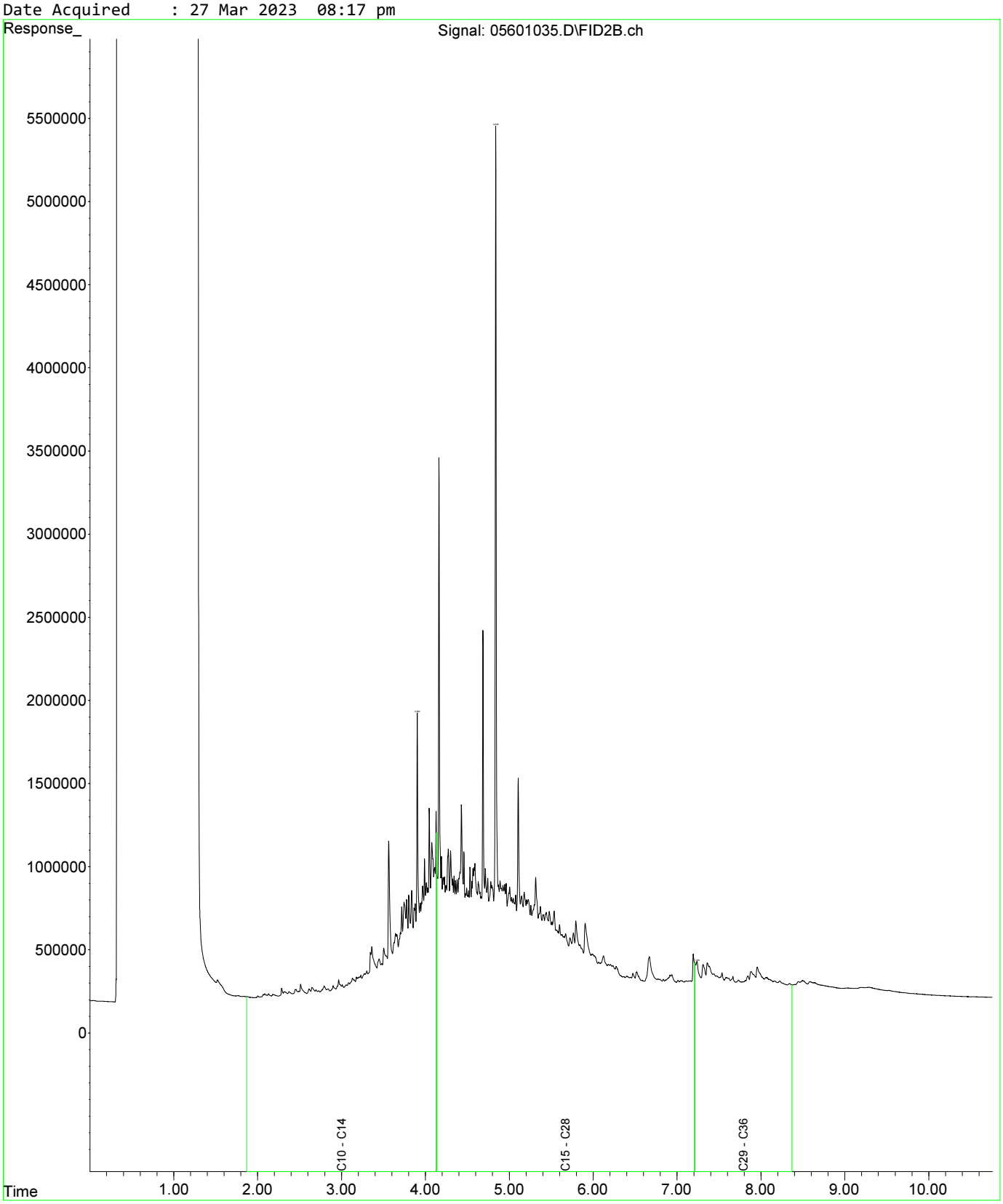

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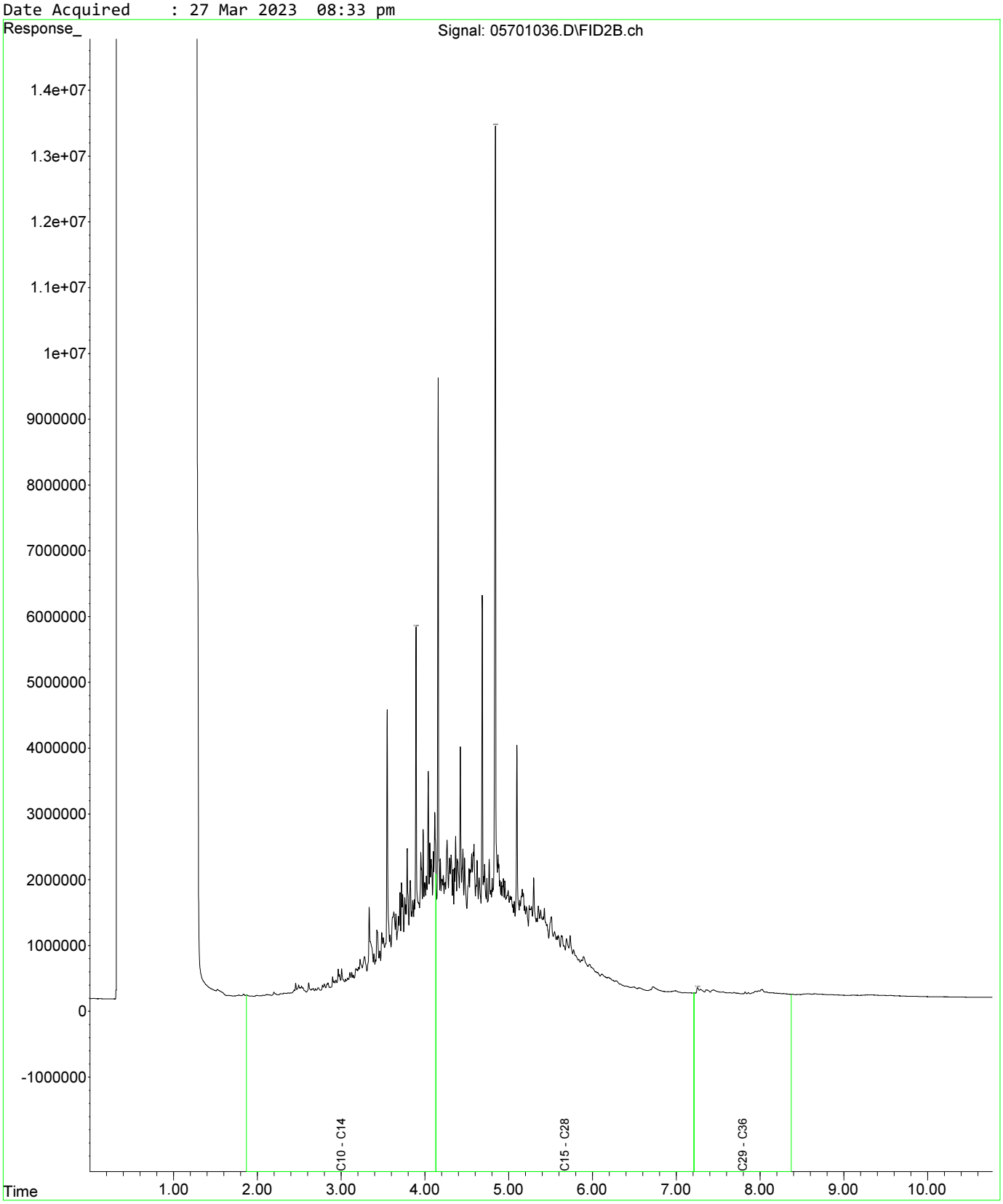

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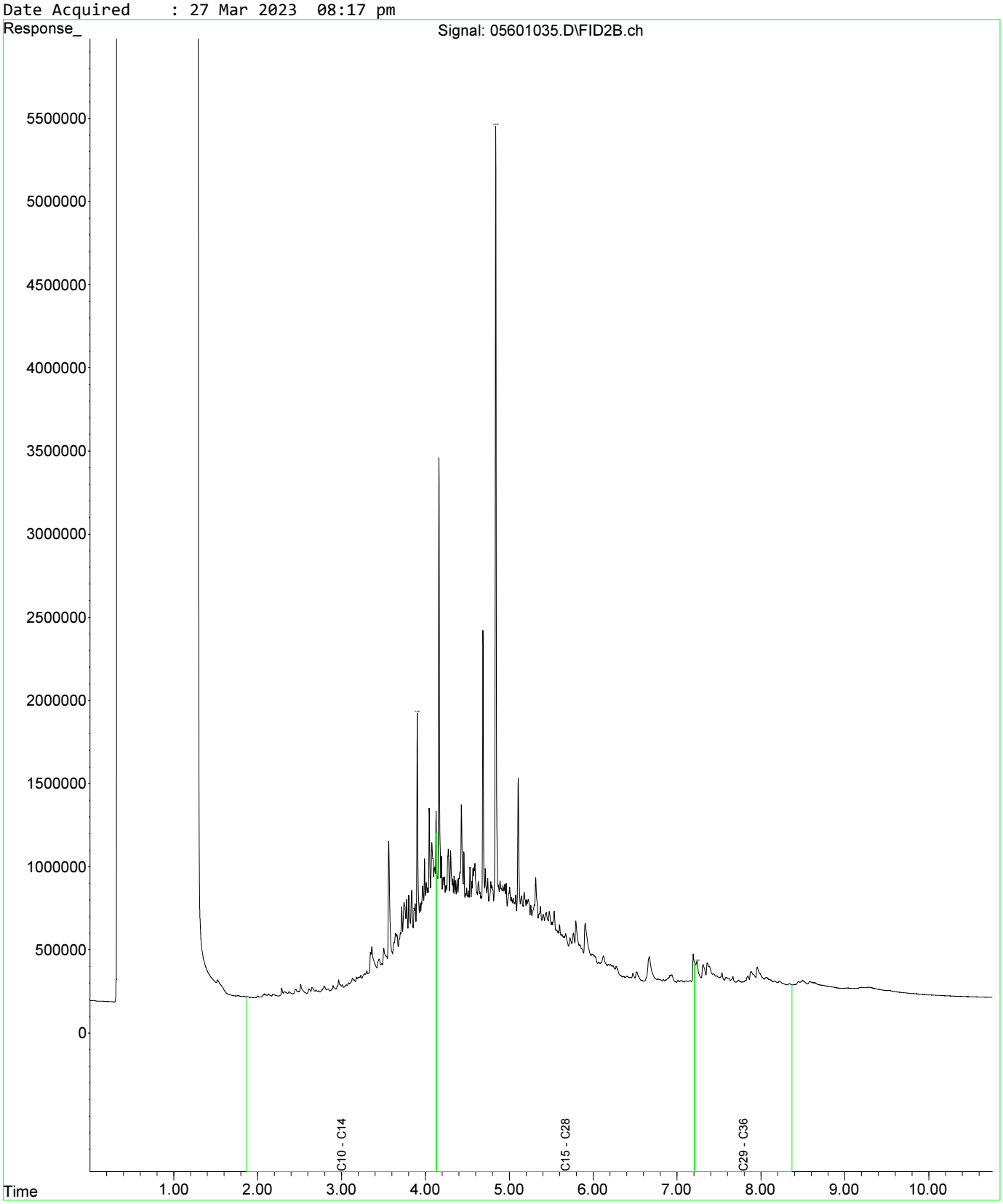

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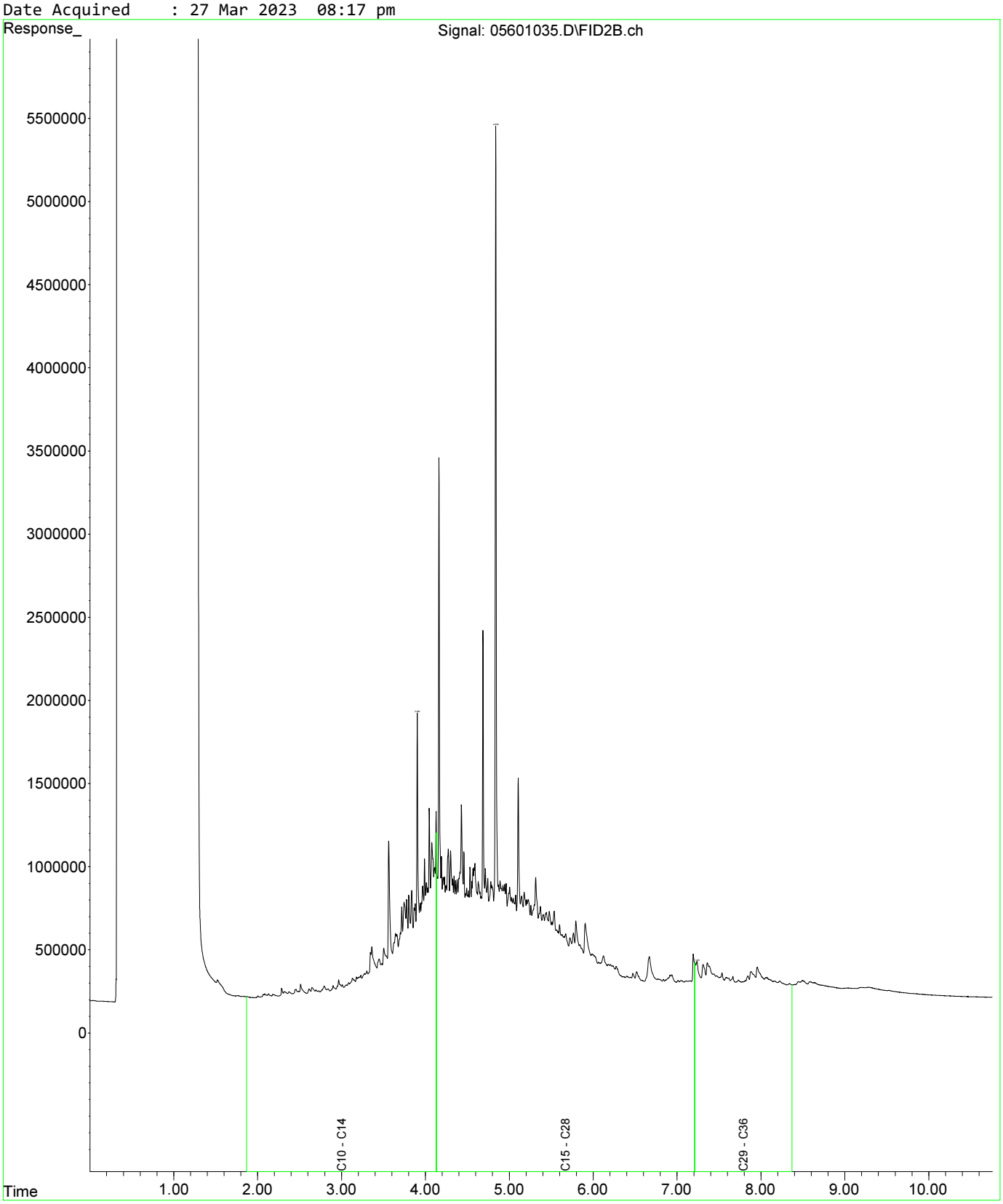

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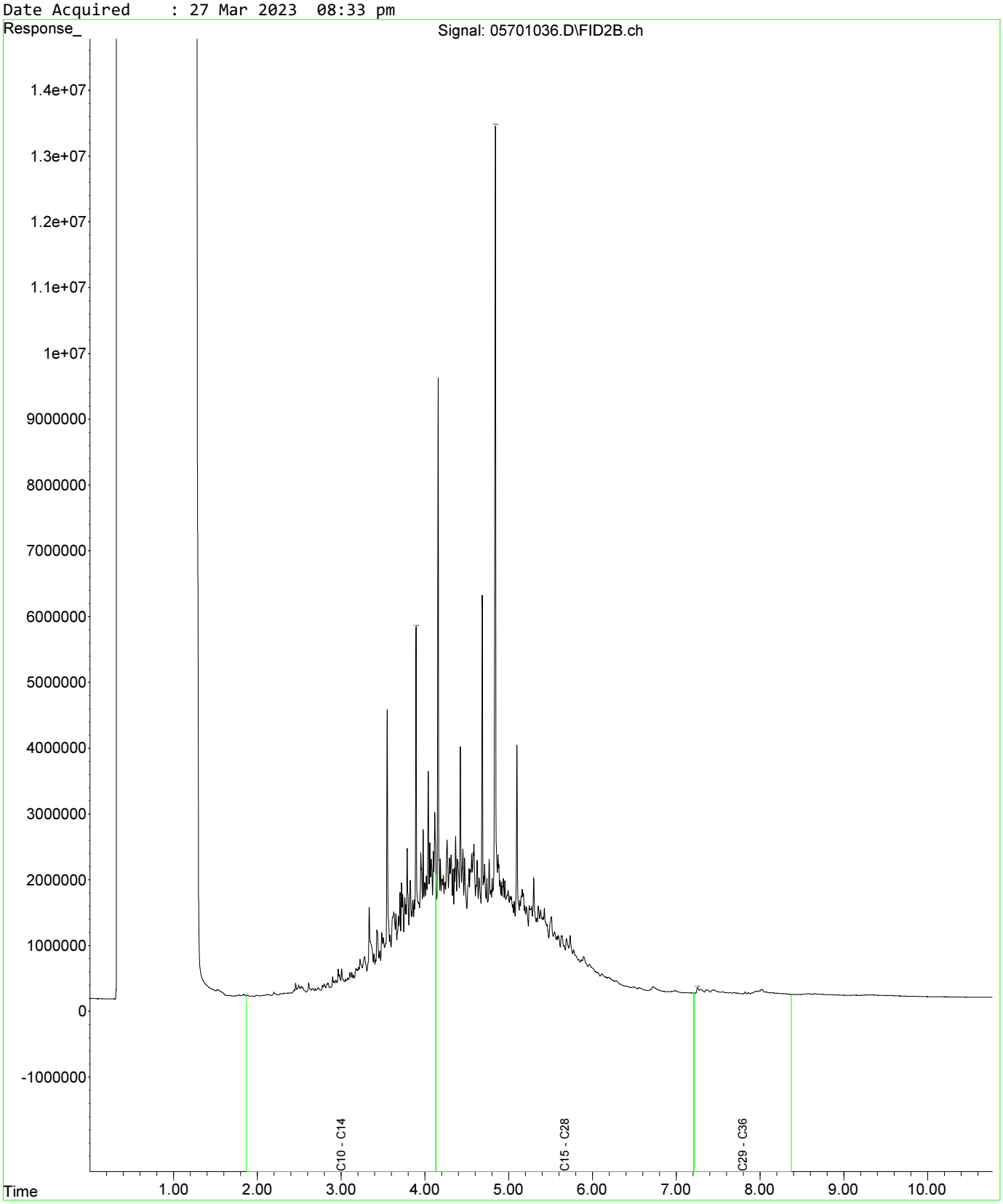

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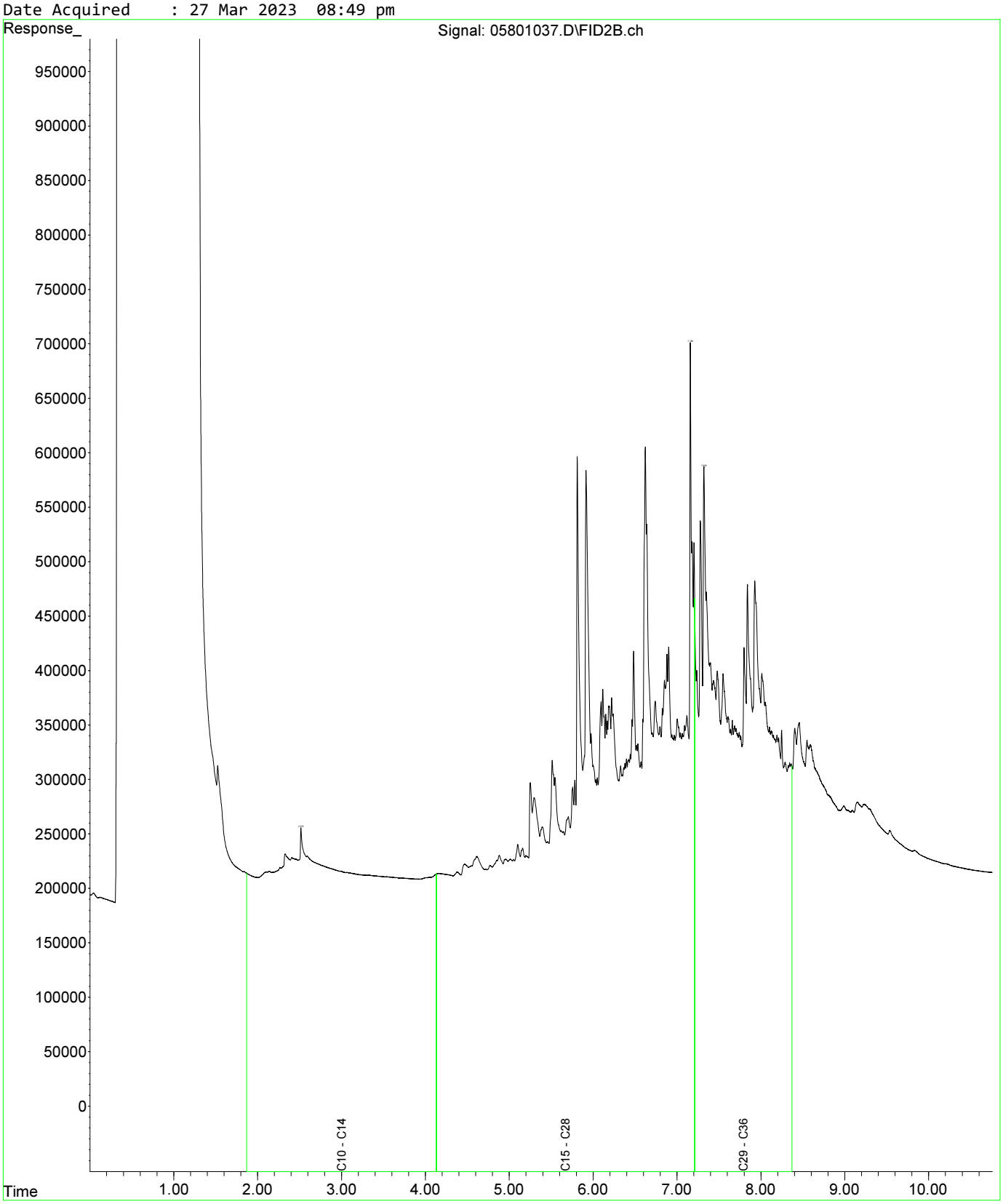

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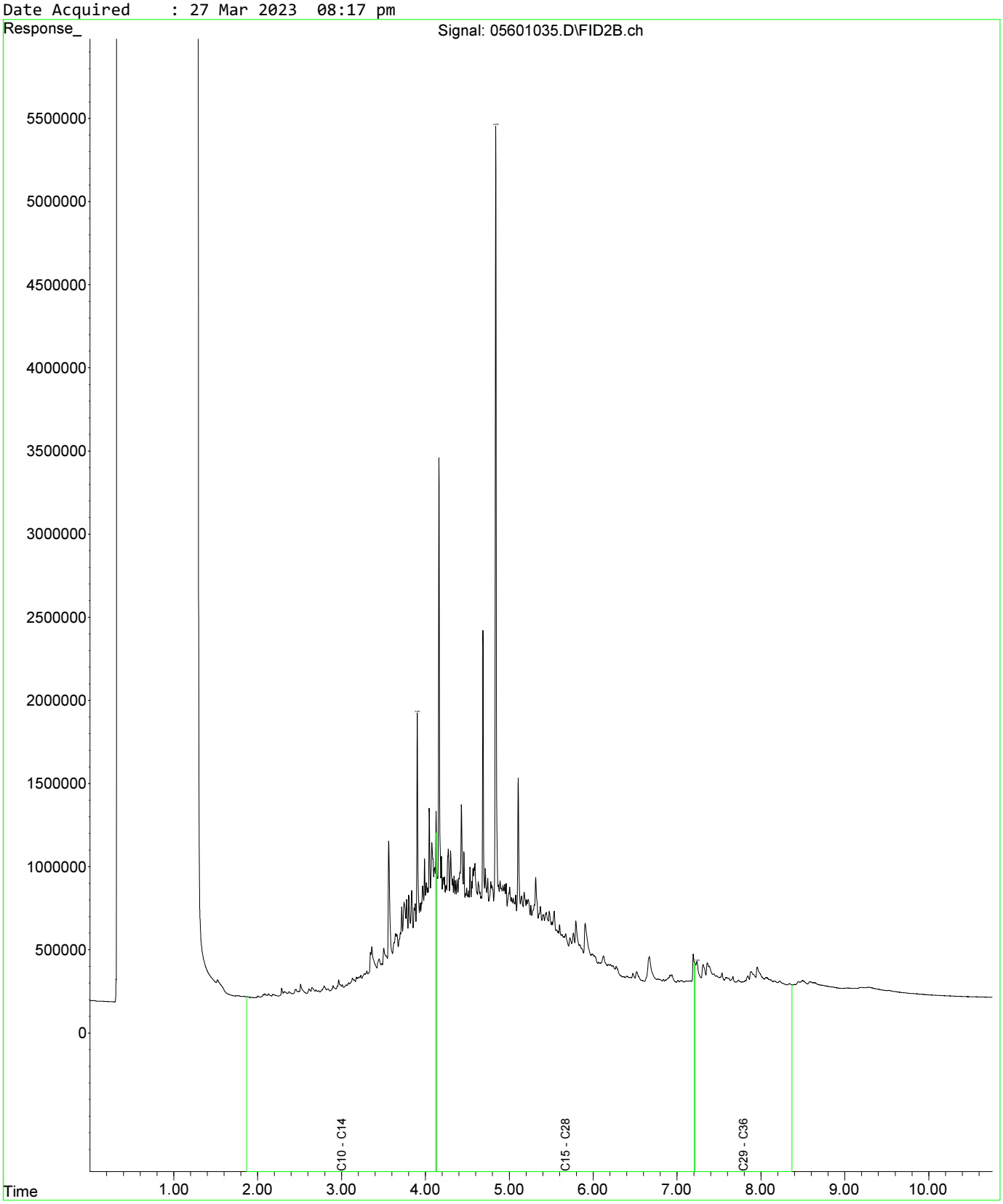

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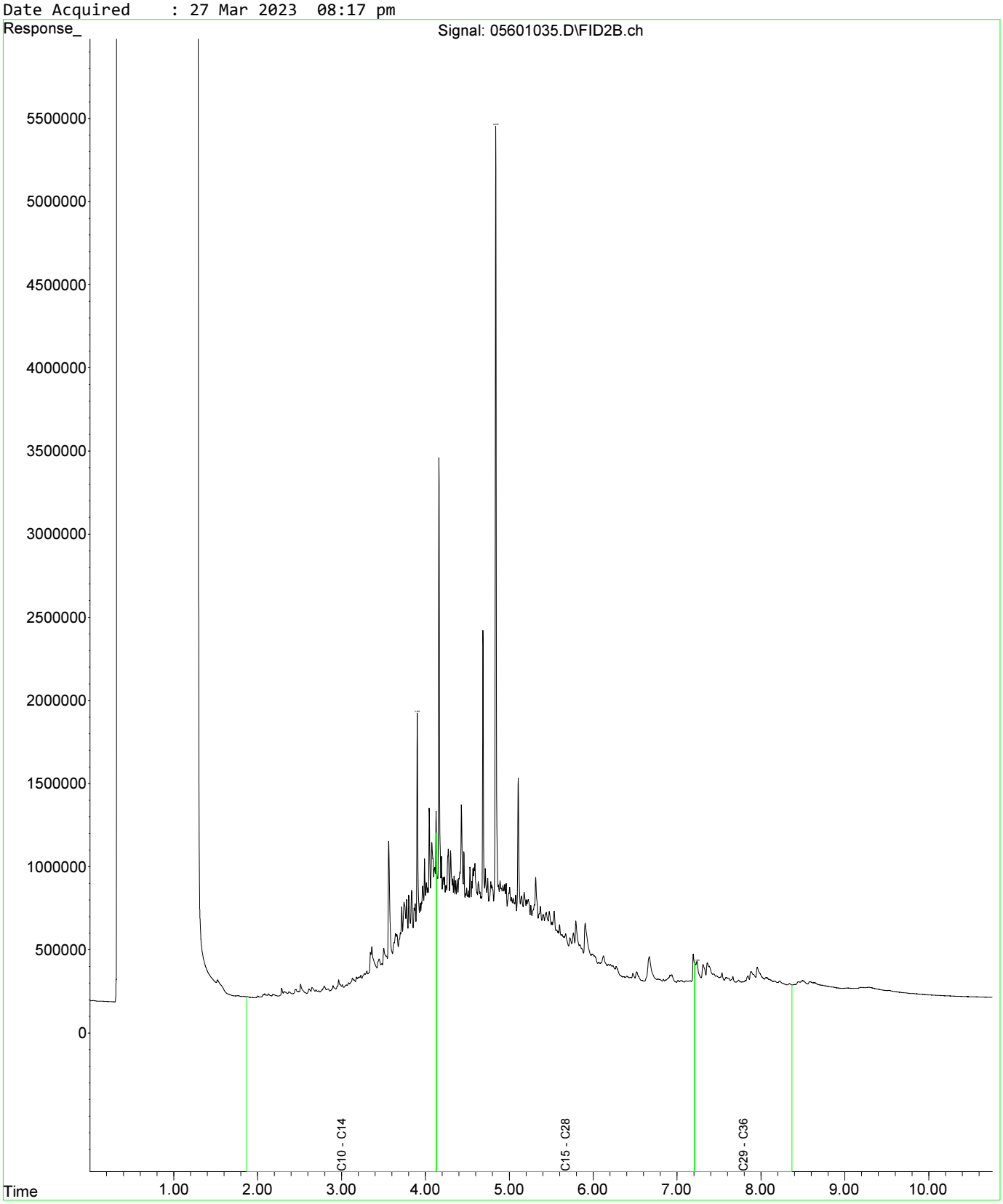

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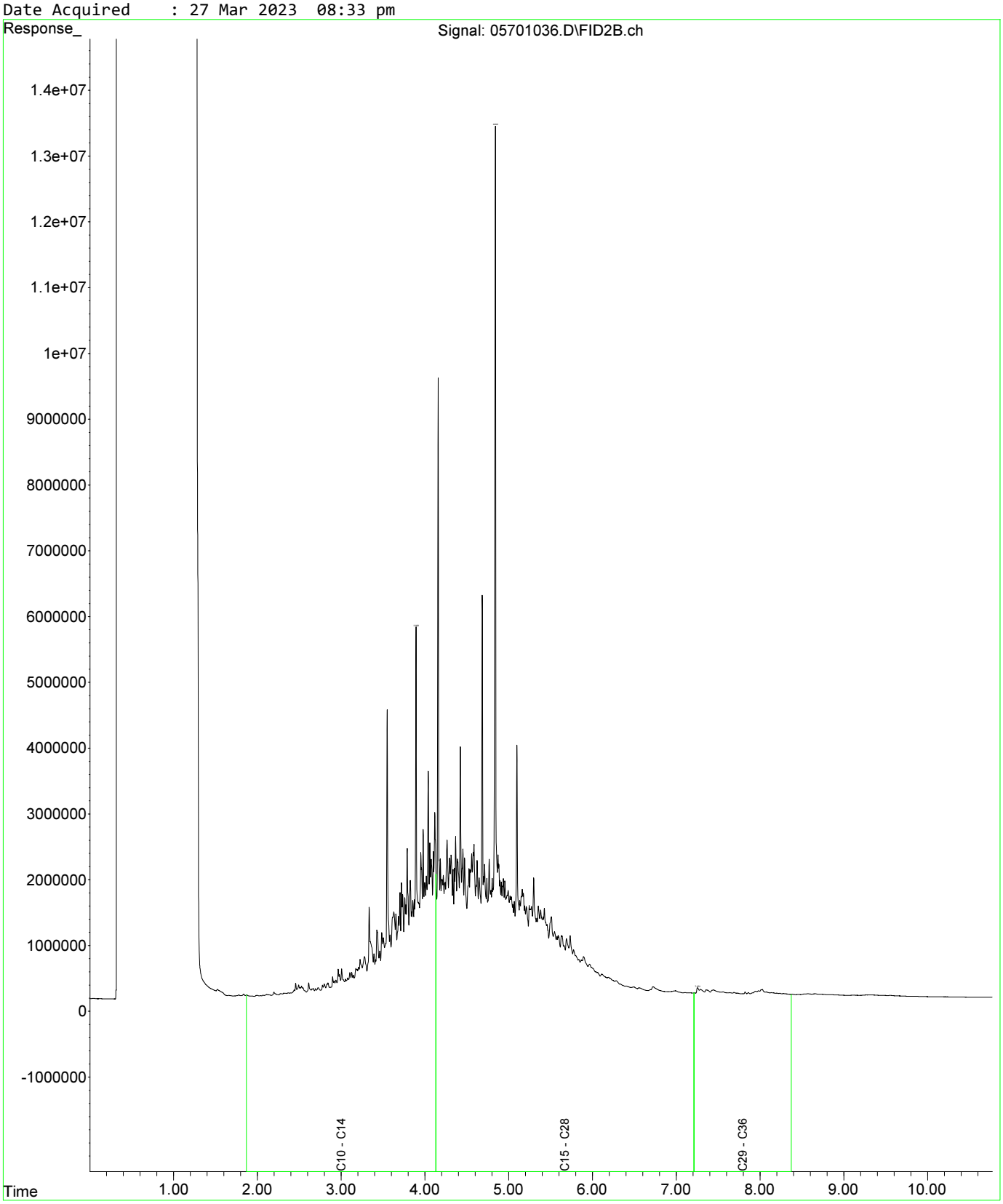

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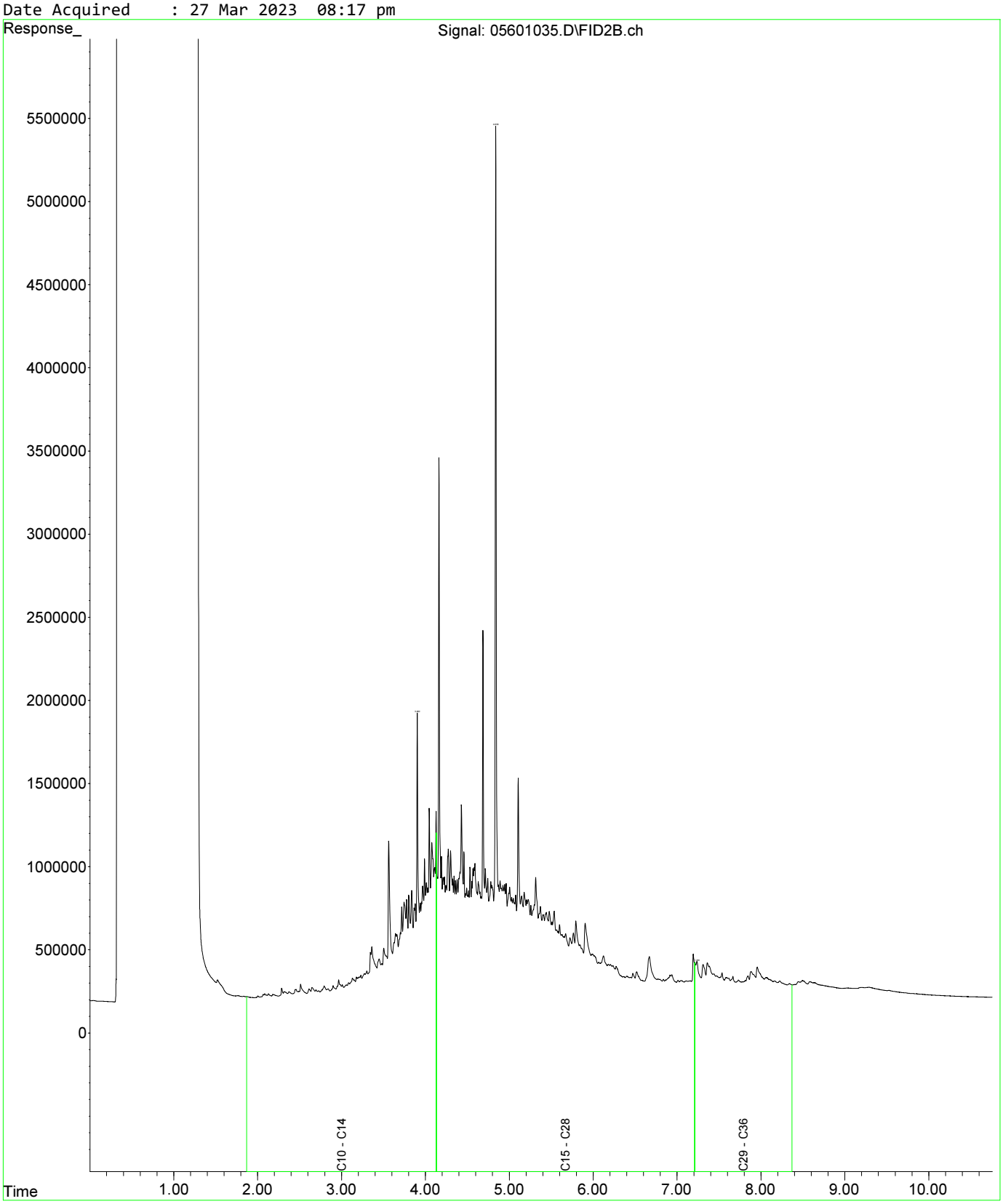

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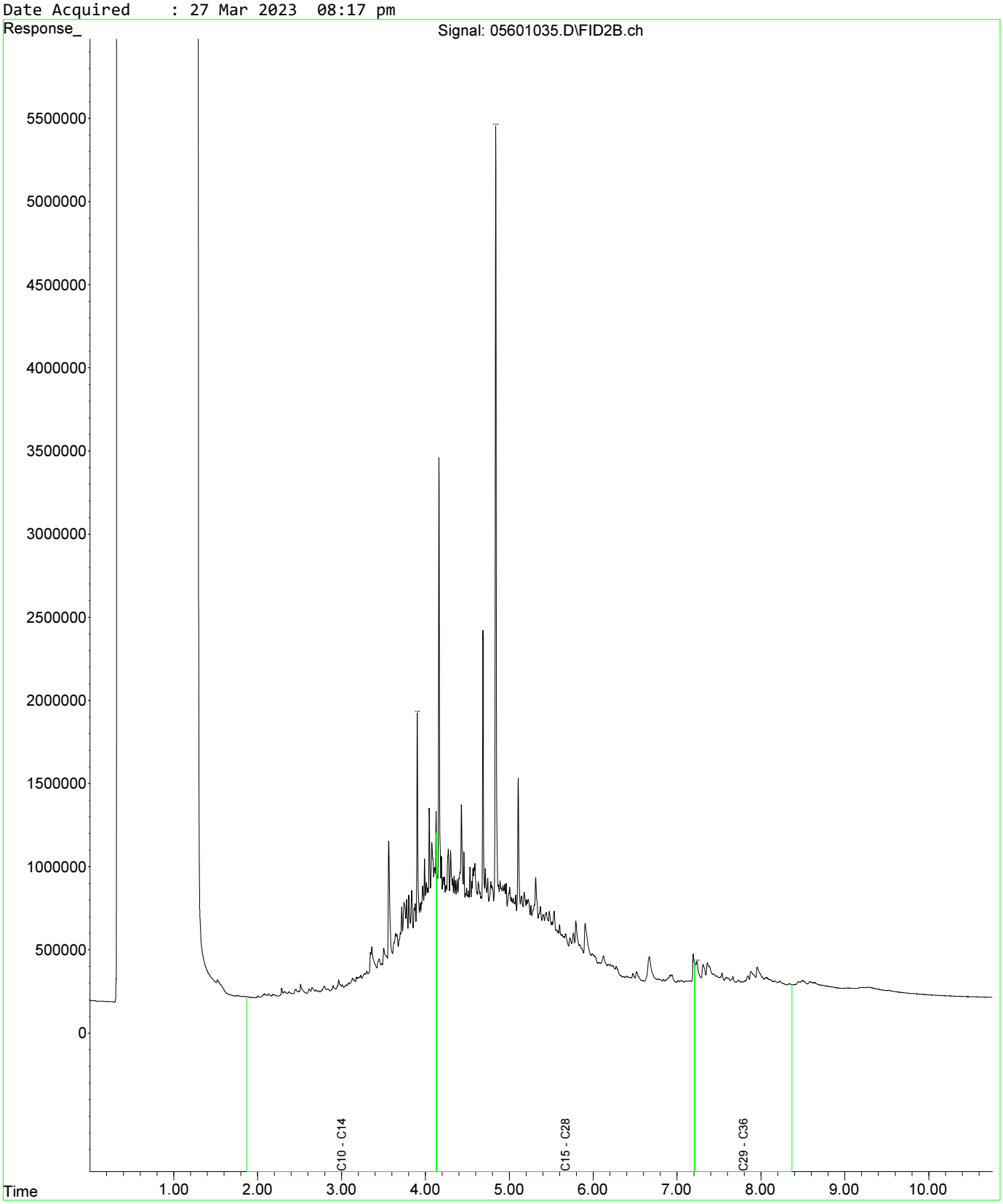

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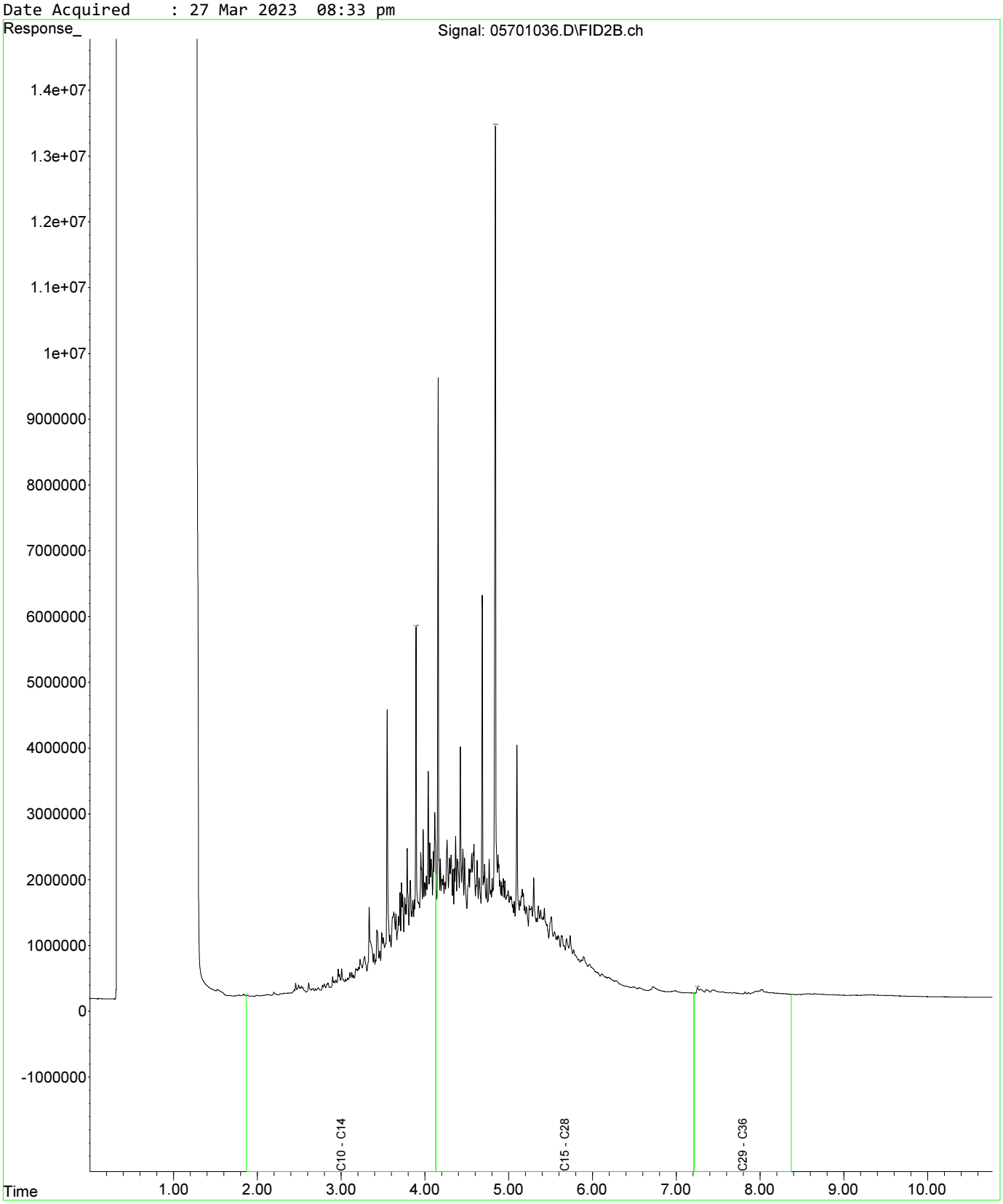

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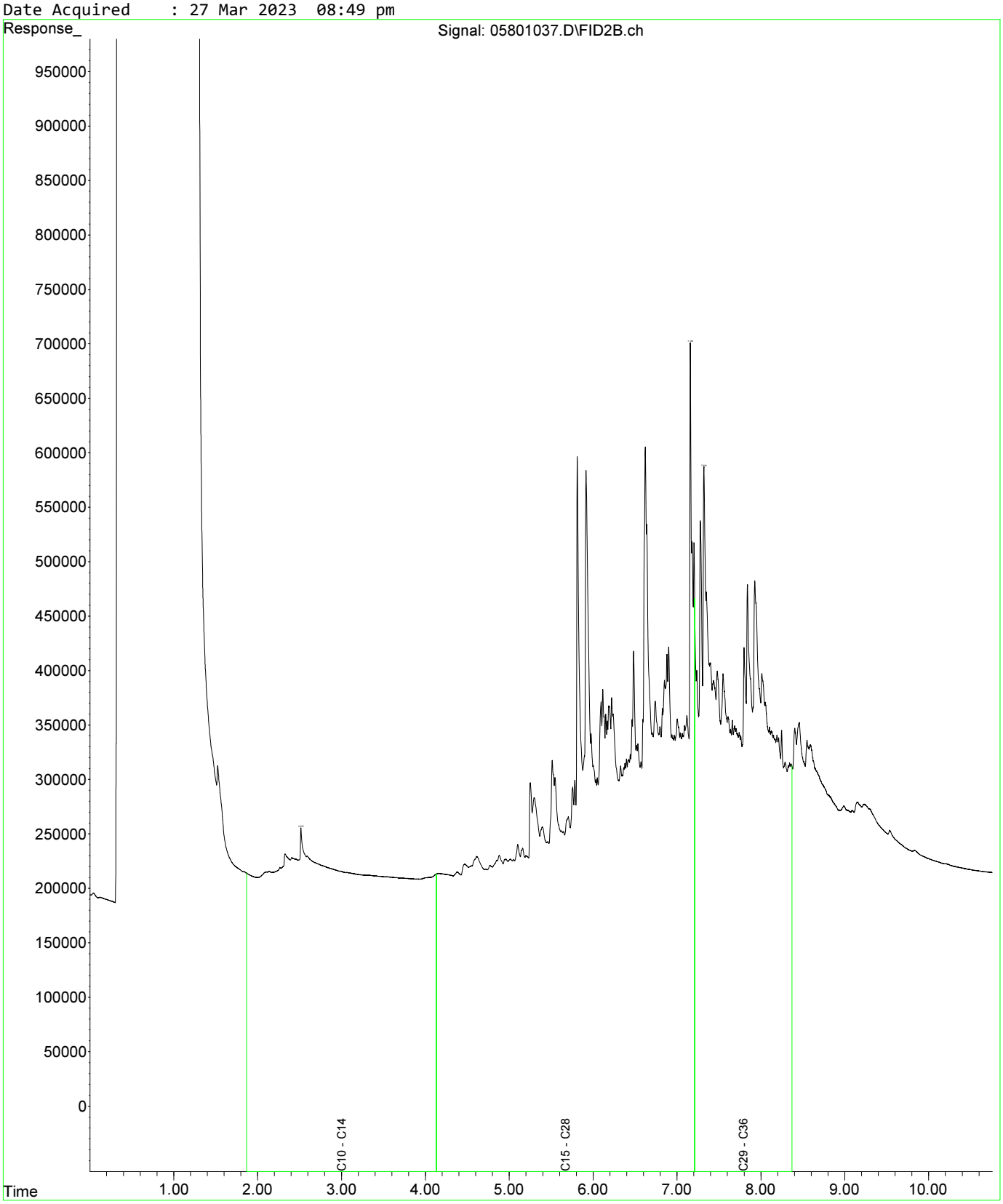

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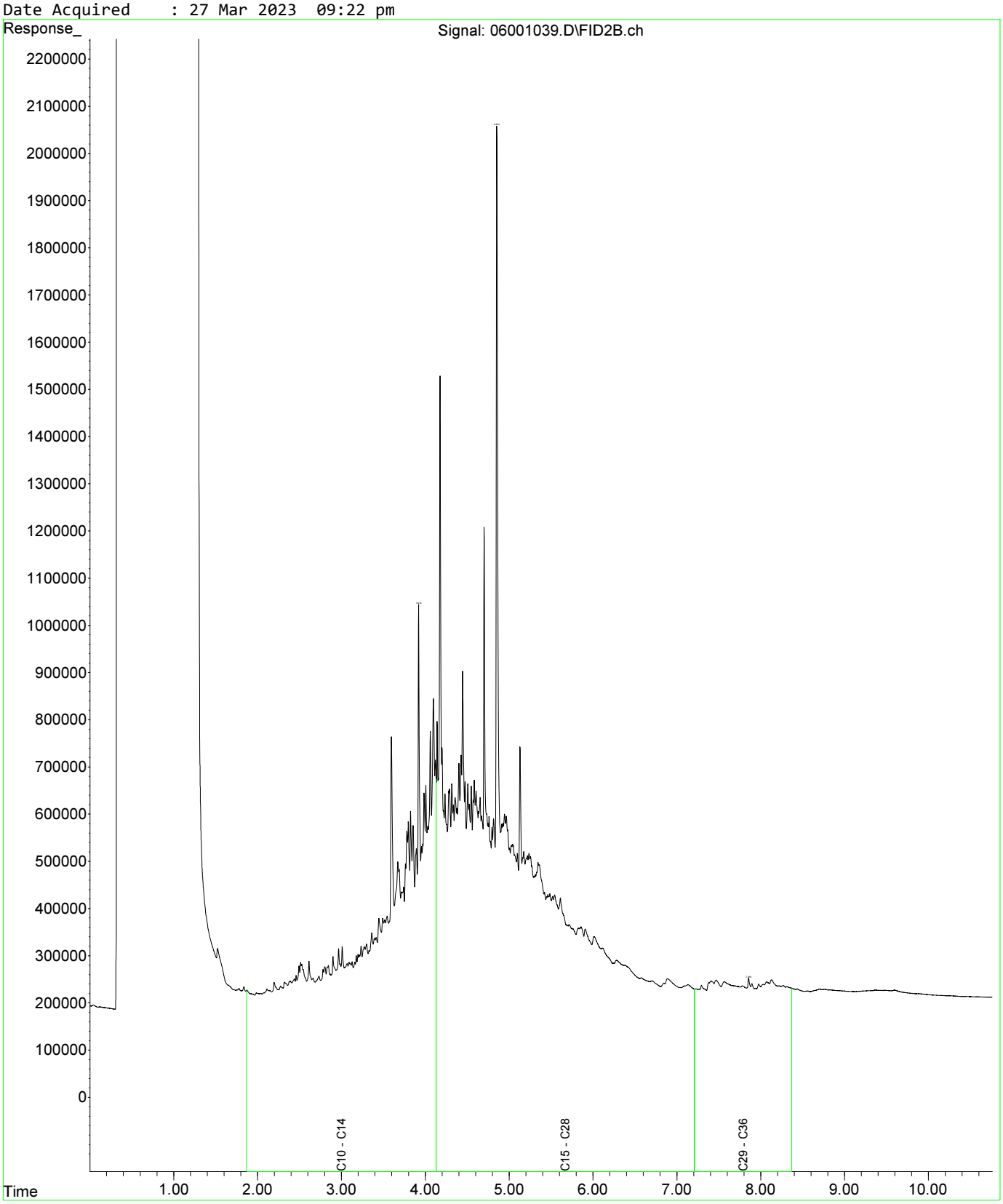

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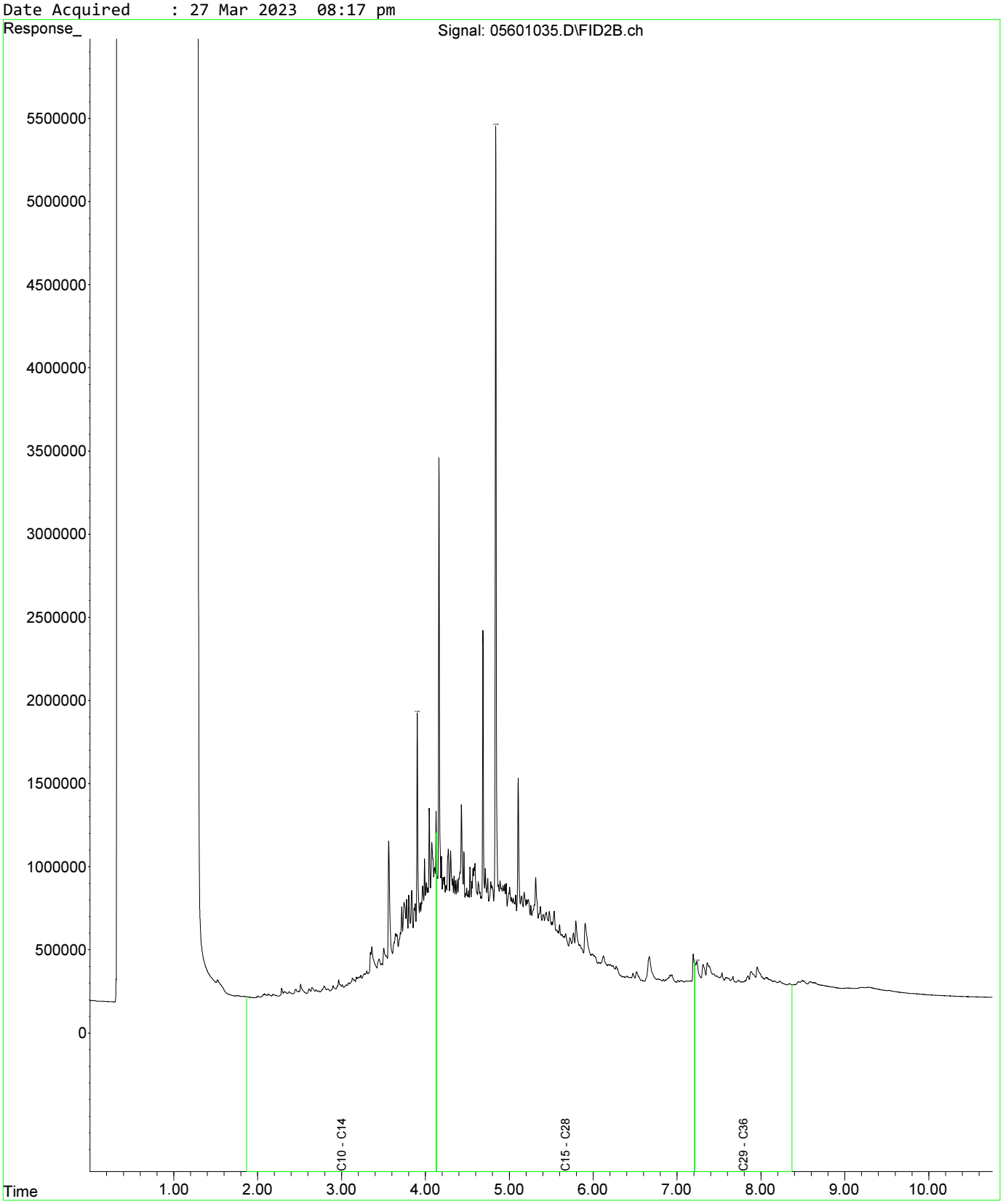

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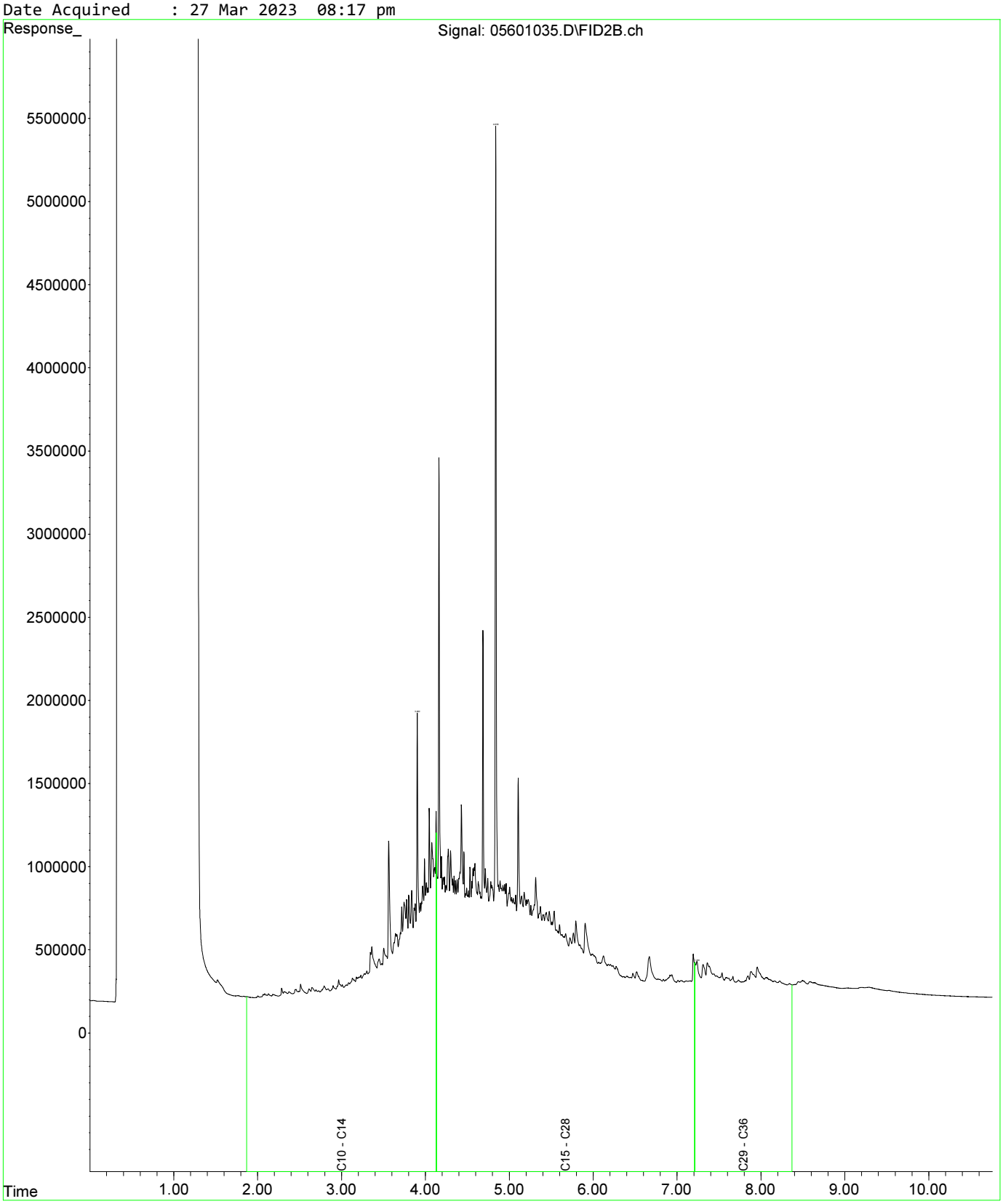

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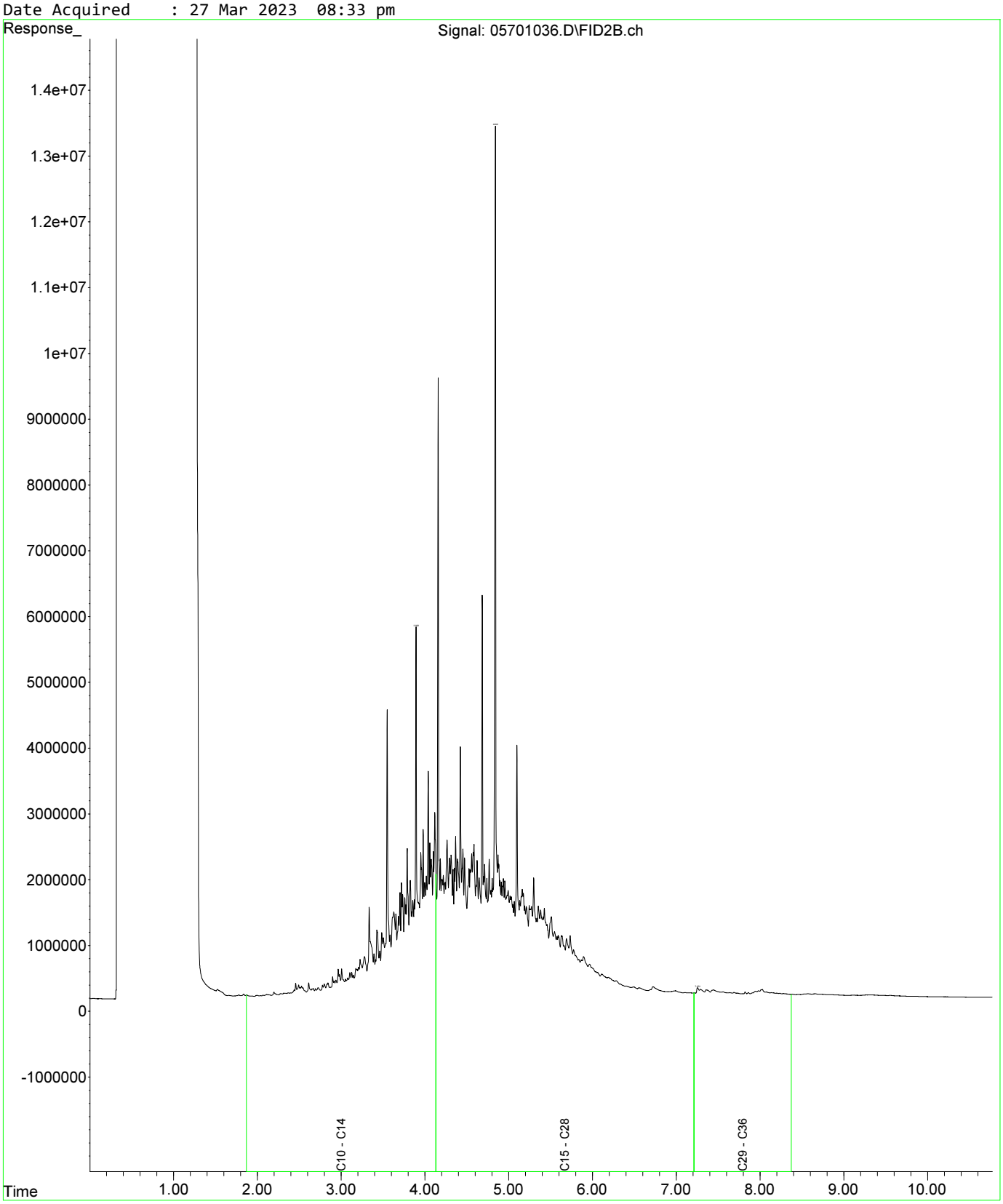

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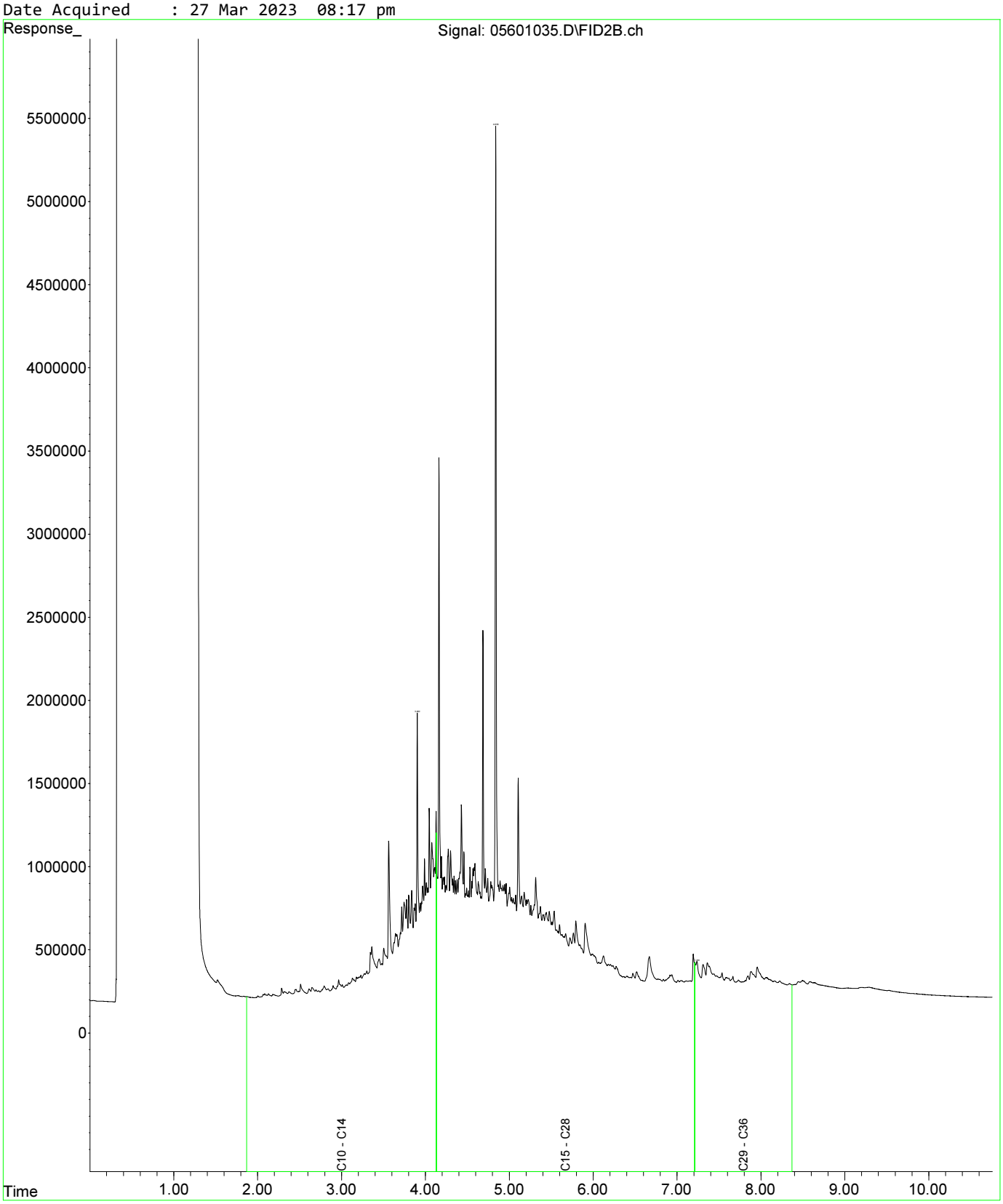

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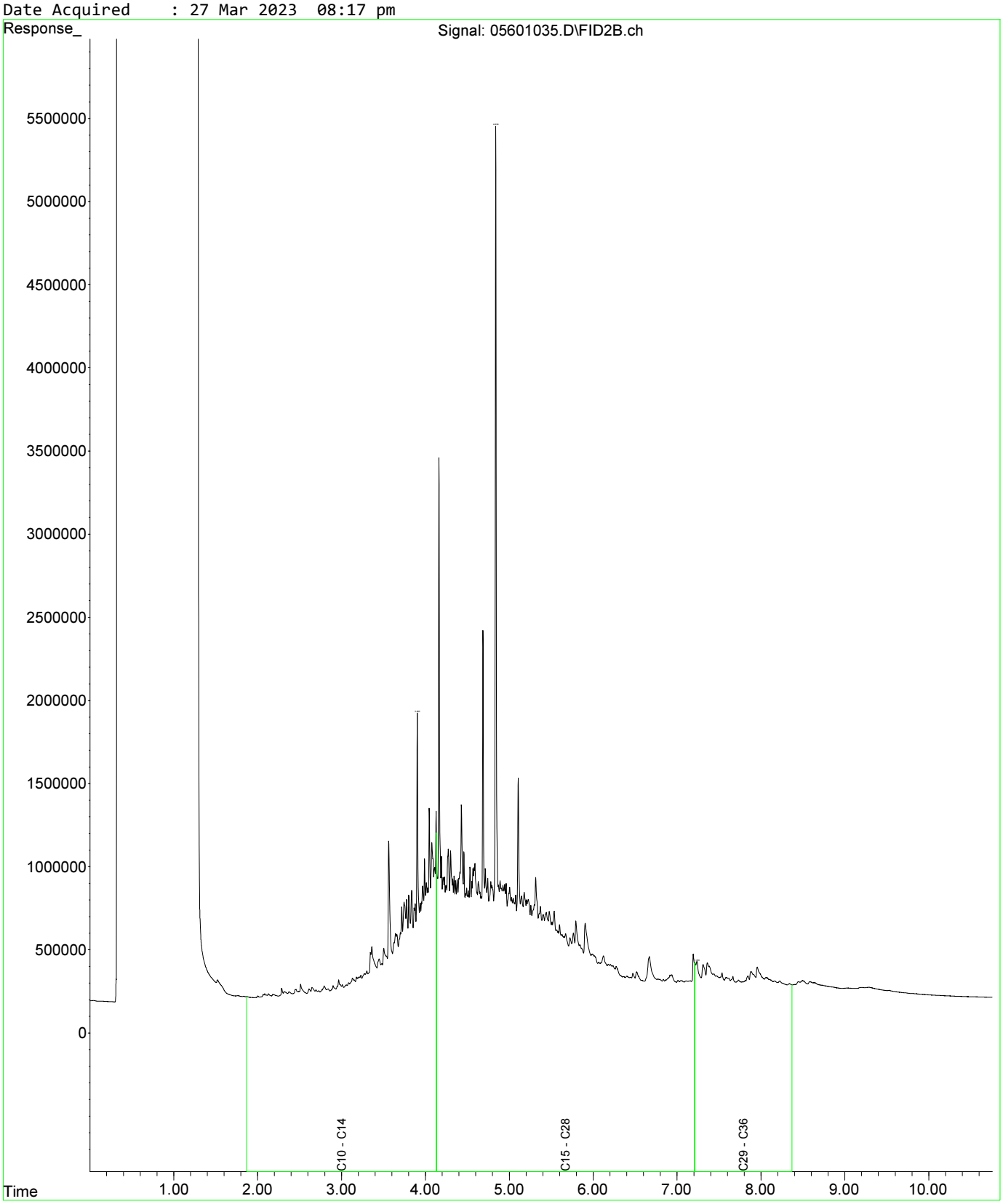

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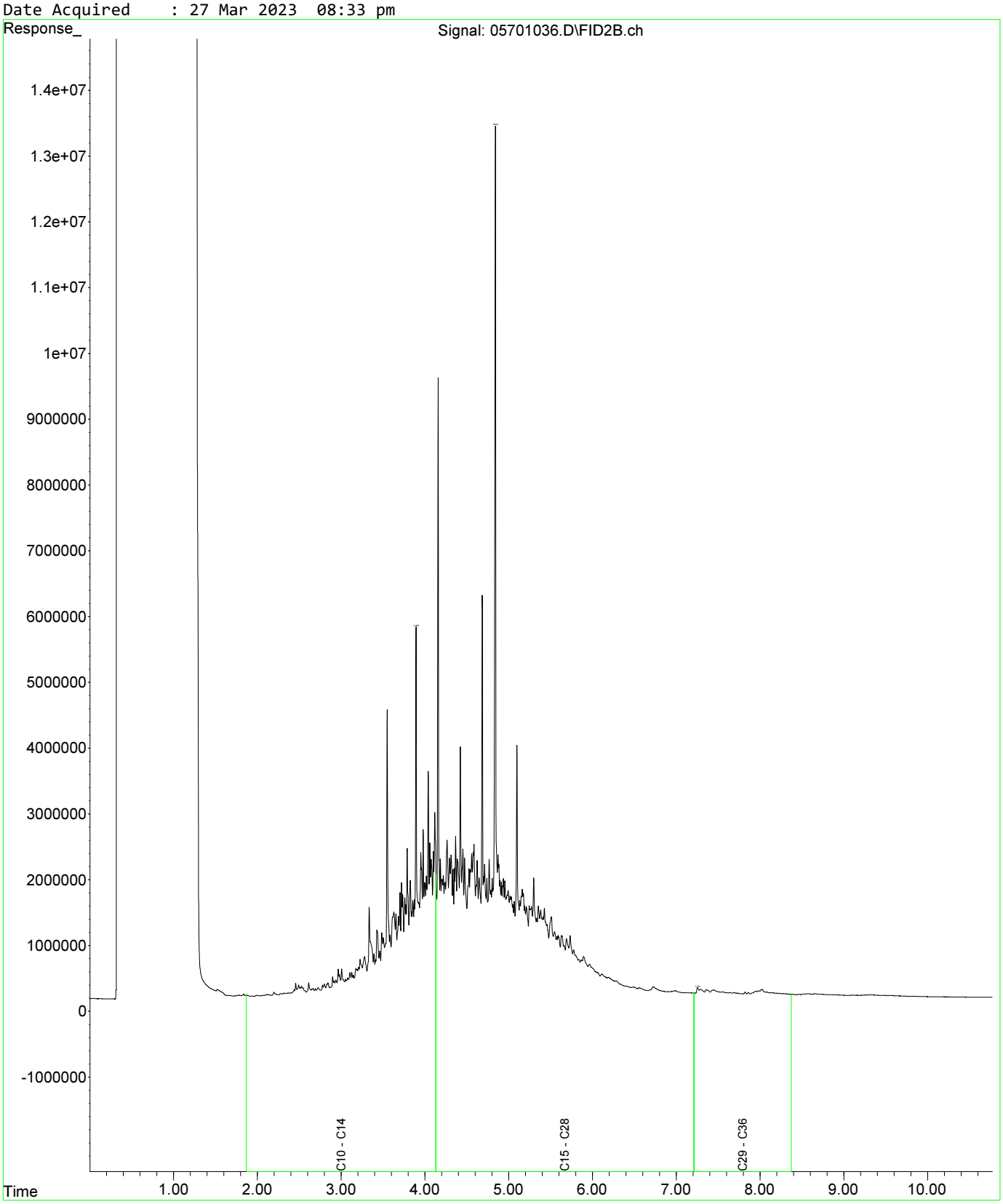
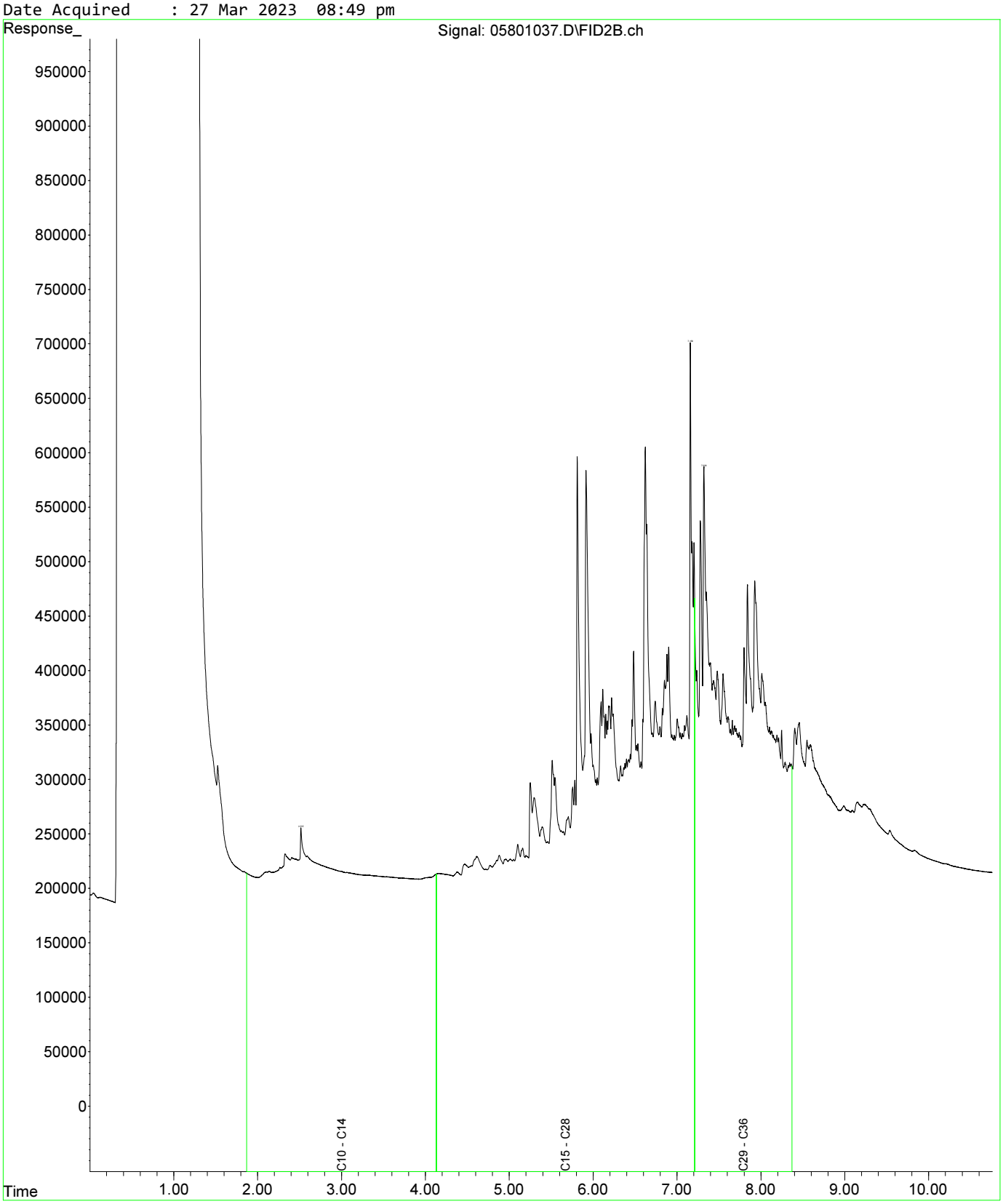
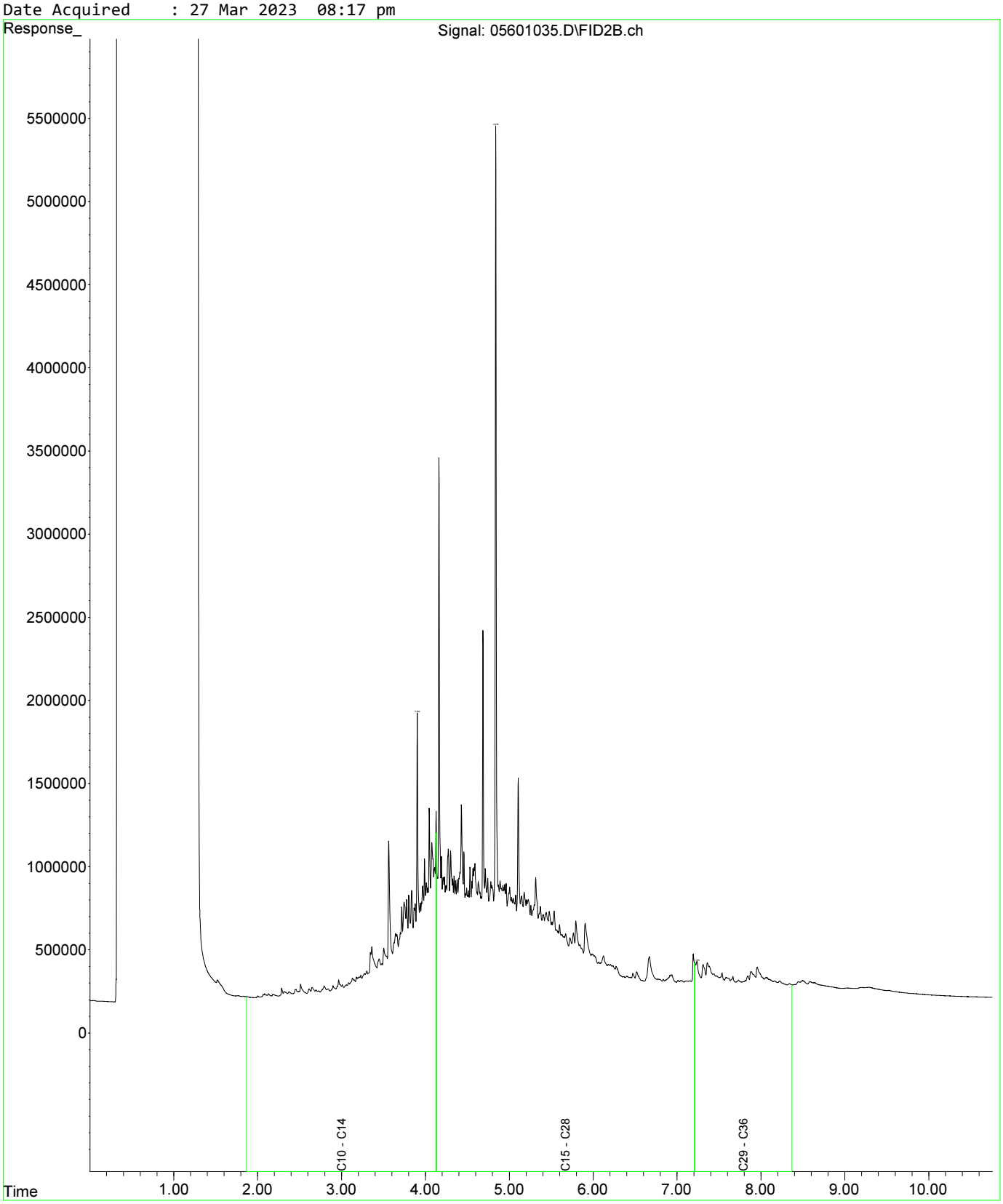
Date Acquired : 27 Mar 2023 08:33 pm



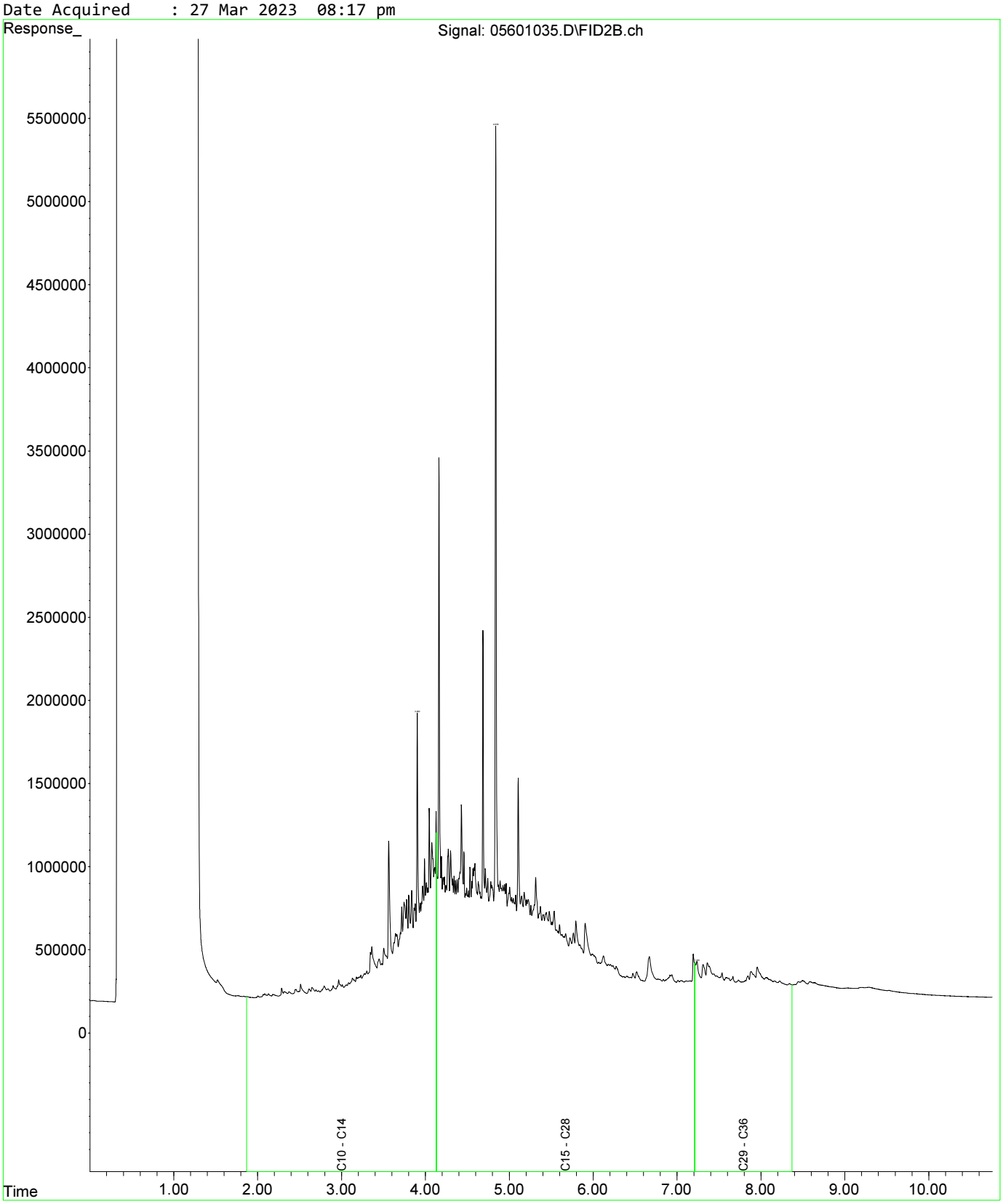
Fraction Scheme : Standard
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



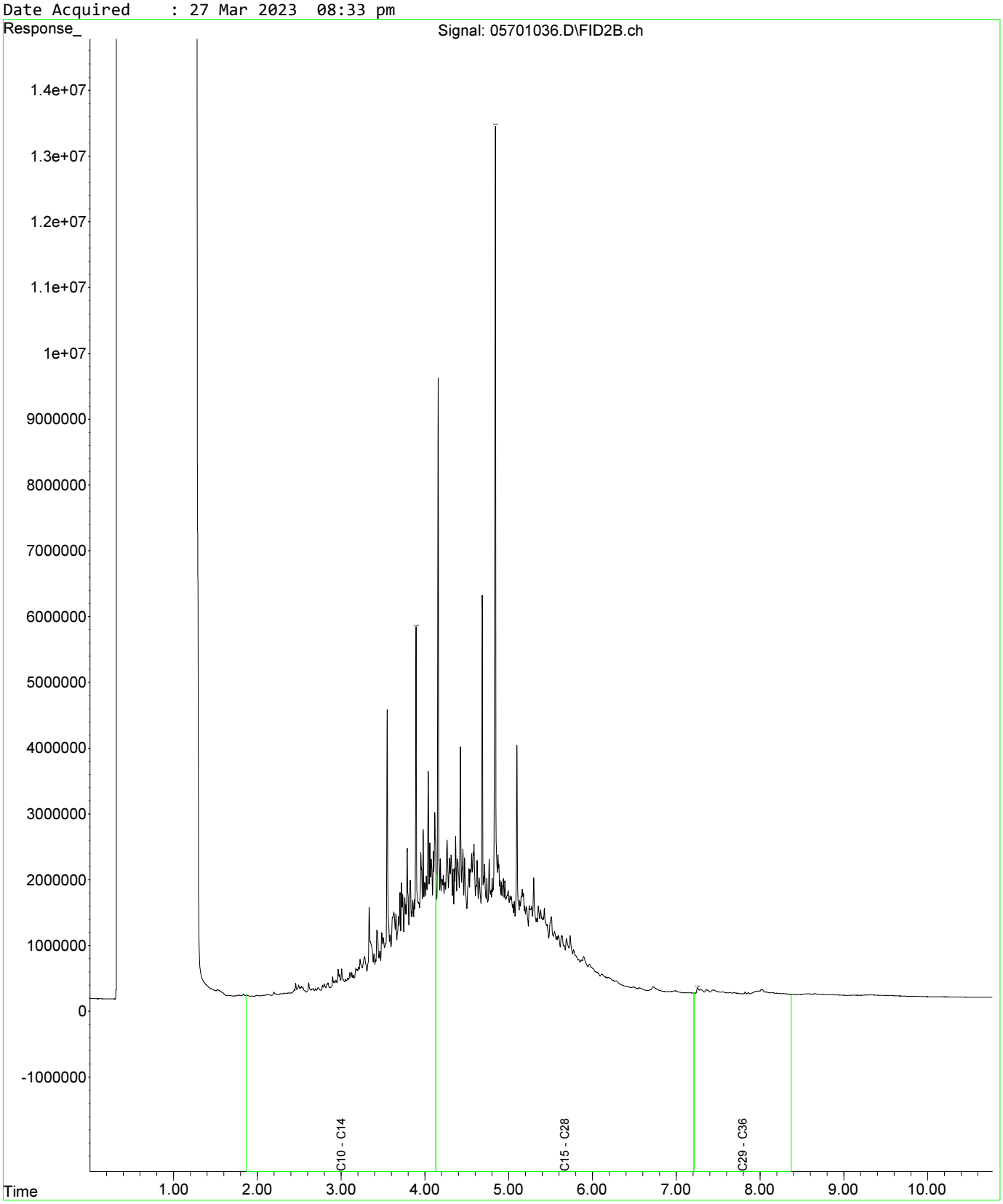
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



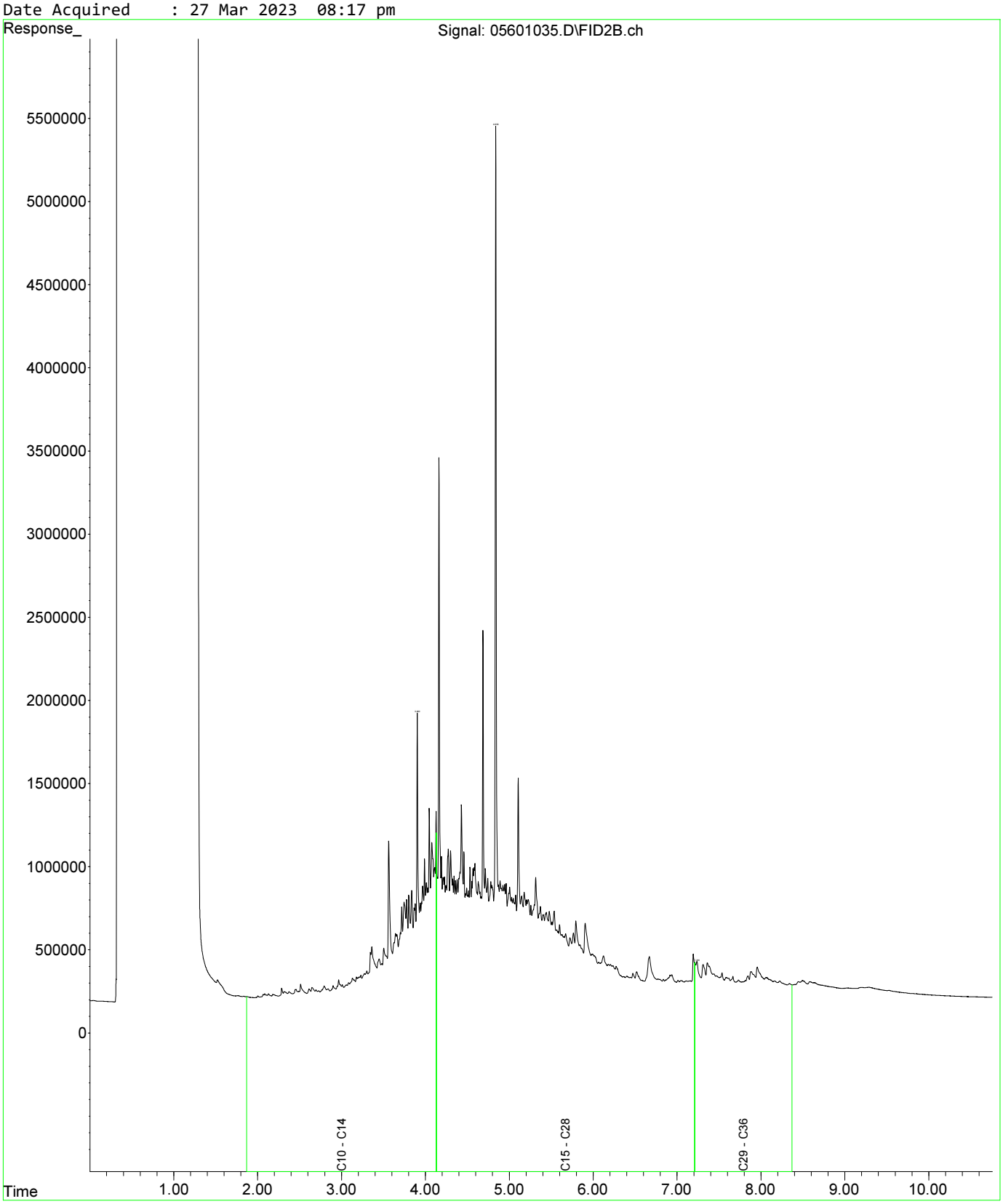
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



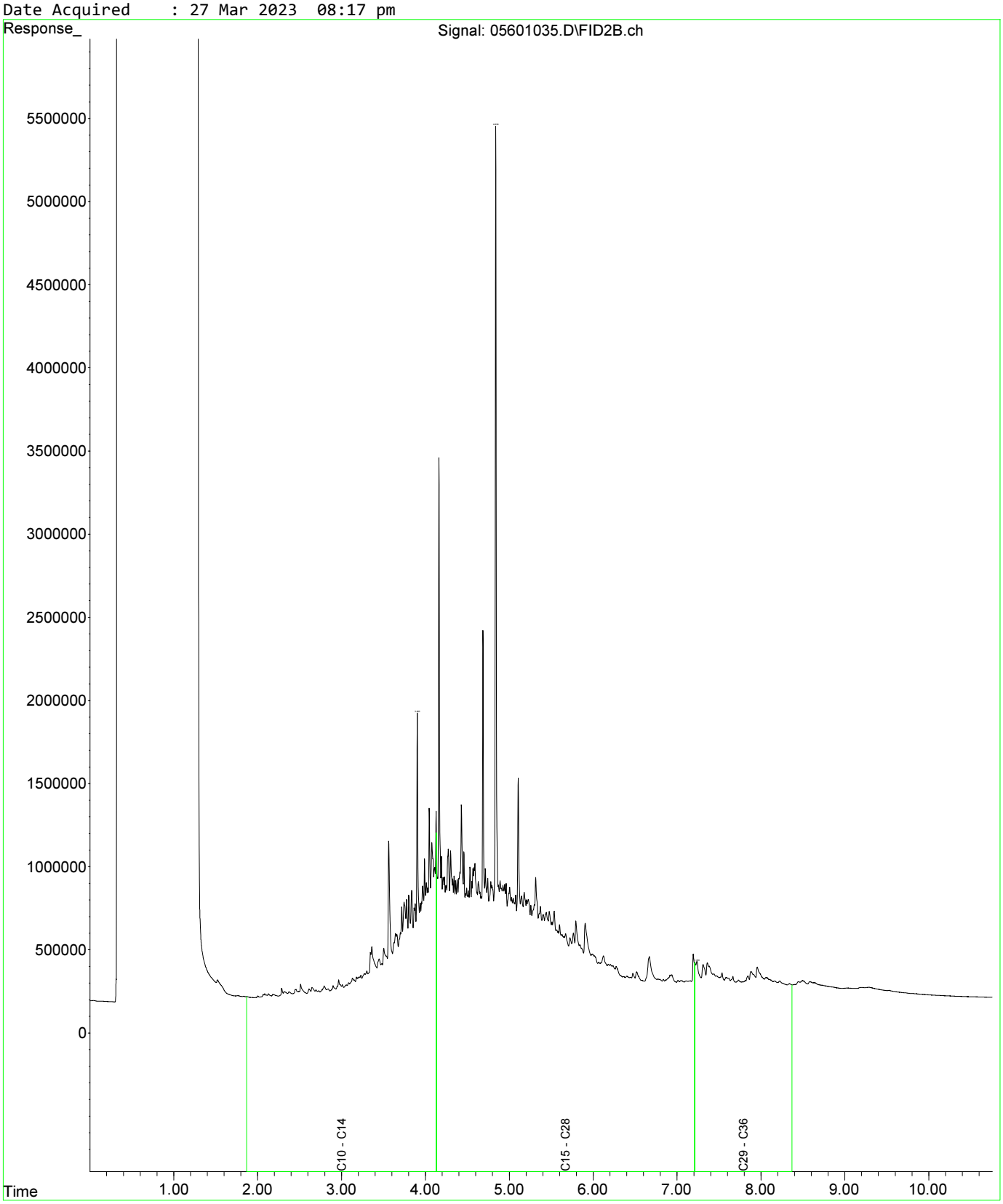
Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



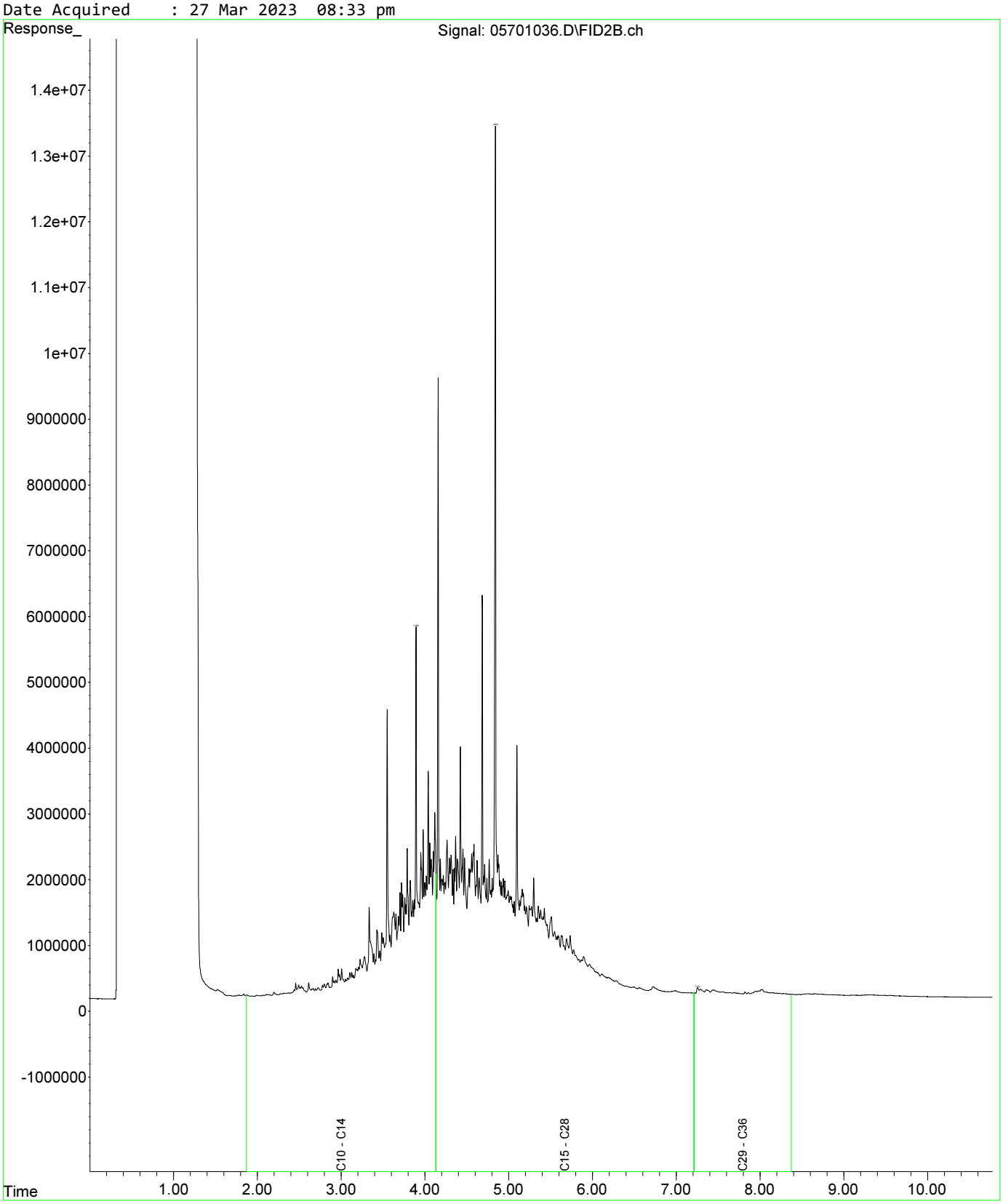
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



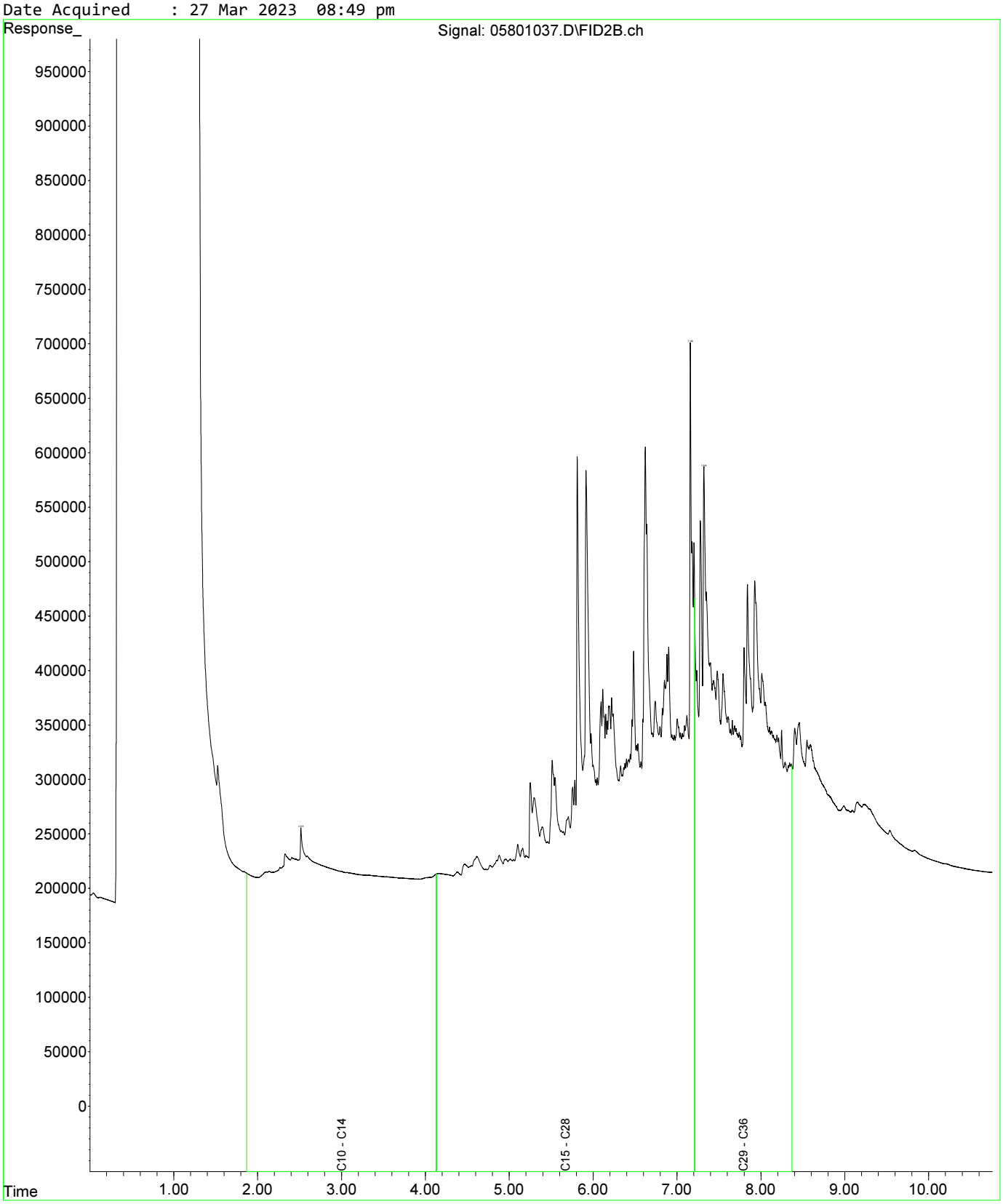
Fraction Scheme : Standard
Data File : 05601035.D
Laboratory Number: EM2305209-034
Sample ID : UST_SP_ch77-81_02
Date Acquired : 27 Mar 2023 08:17 pm



Fraction Scheme : Standard
Data File : 05701036.D
Laboratory Number: EM2305209-035
Sample ID : UST_SP_ch77-82_03
Date Acquired : 27 Mar 2023 08:33 pm



Fraction Scheme : Standard
Data File : 05801037.D
Laboratory Number: EM2305209-036
Sample ID : UST_QC108
Date Acquired : 27 Mar 2023 08:49 pm



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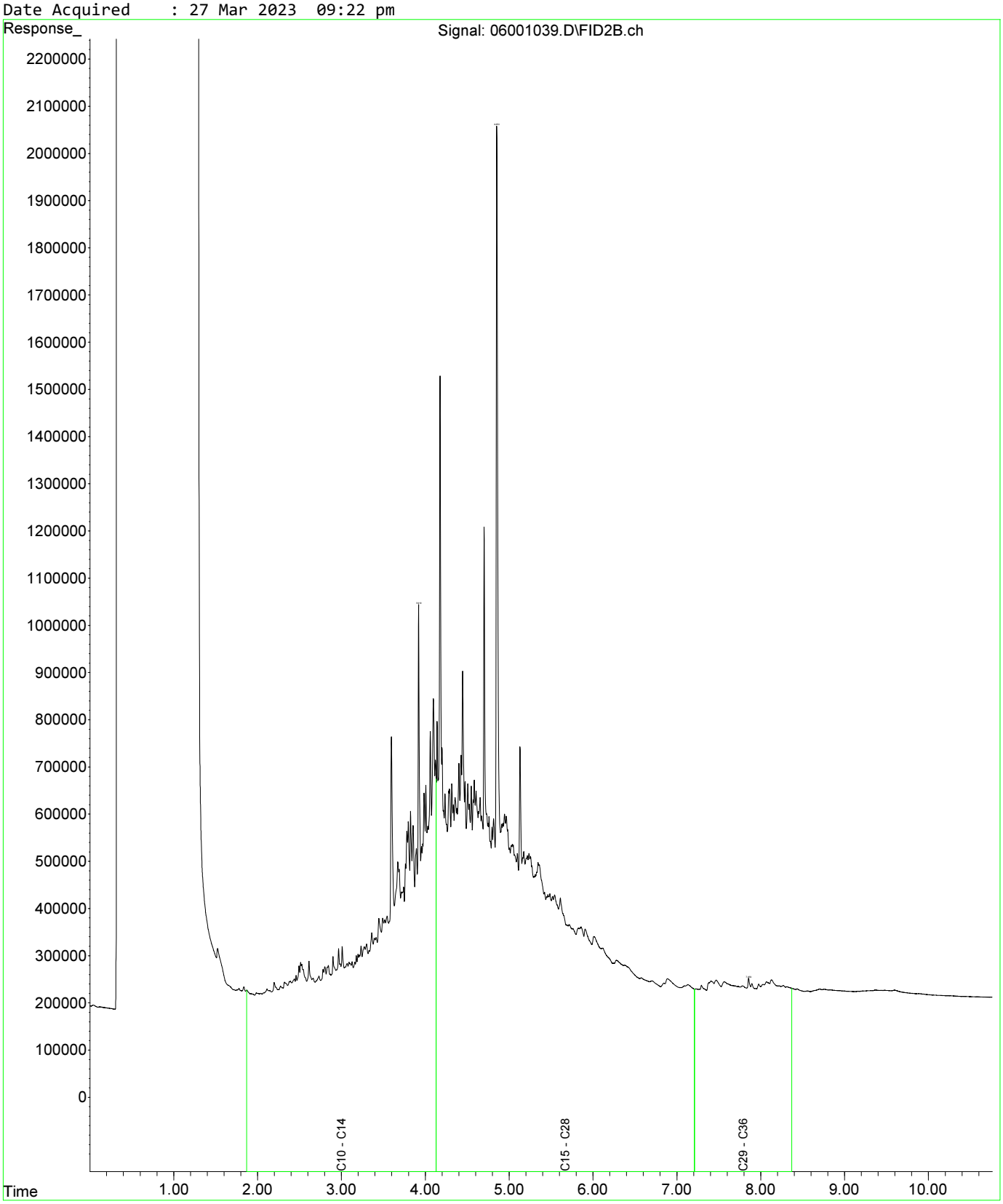
Laboratory Number: EM2305209-037
Sample ID : UST_QC109
Date Acquired : 27 Mar 2023 09:22 pm



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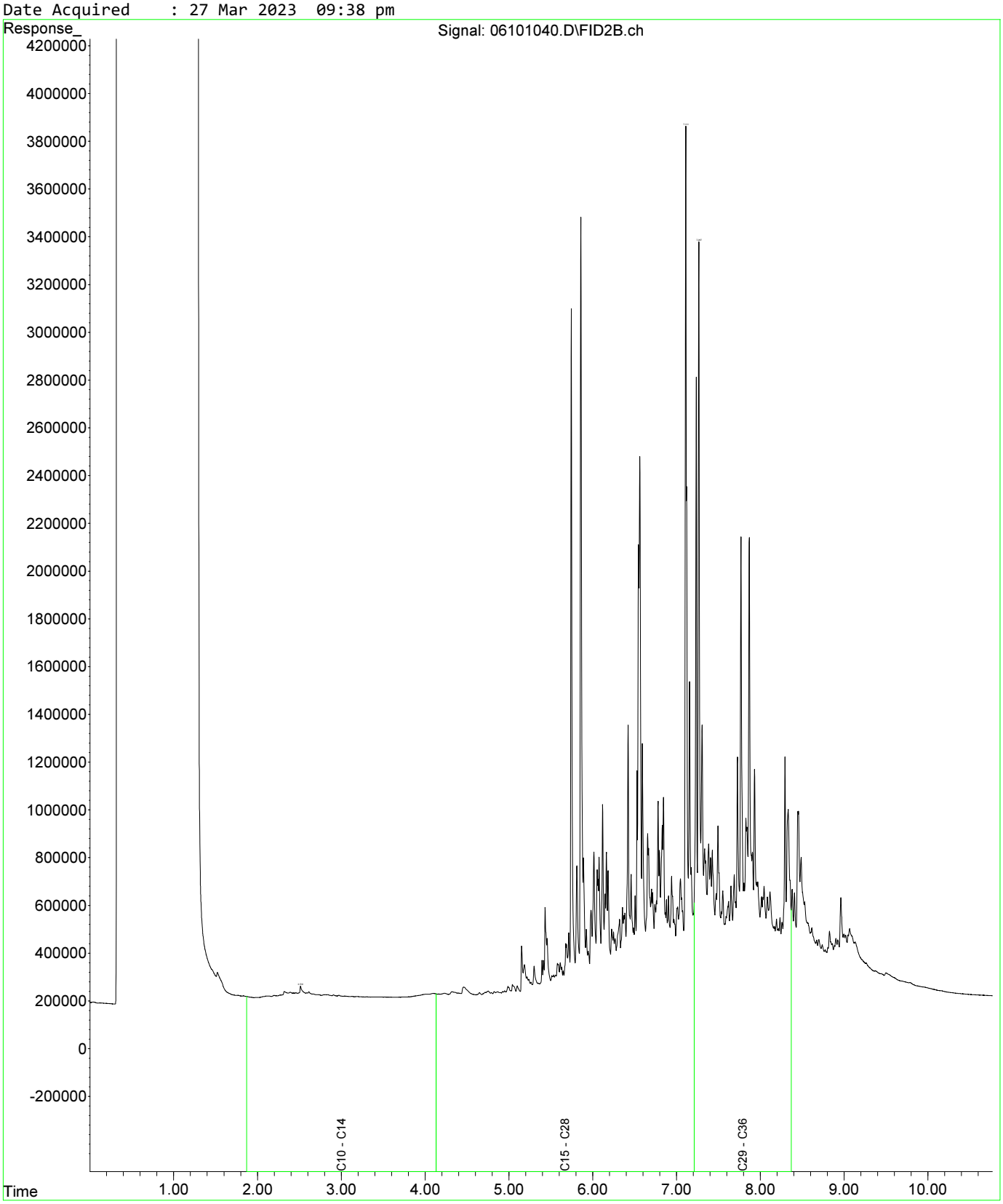
Data File : 06101040.D
Laboratory Number: EM2305209-038
Sample ID : UST_QC110
Date Acquired : 27 Mar 2023 09:38 pm



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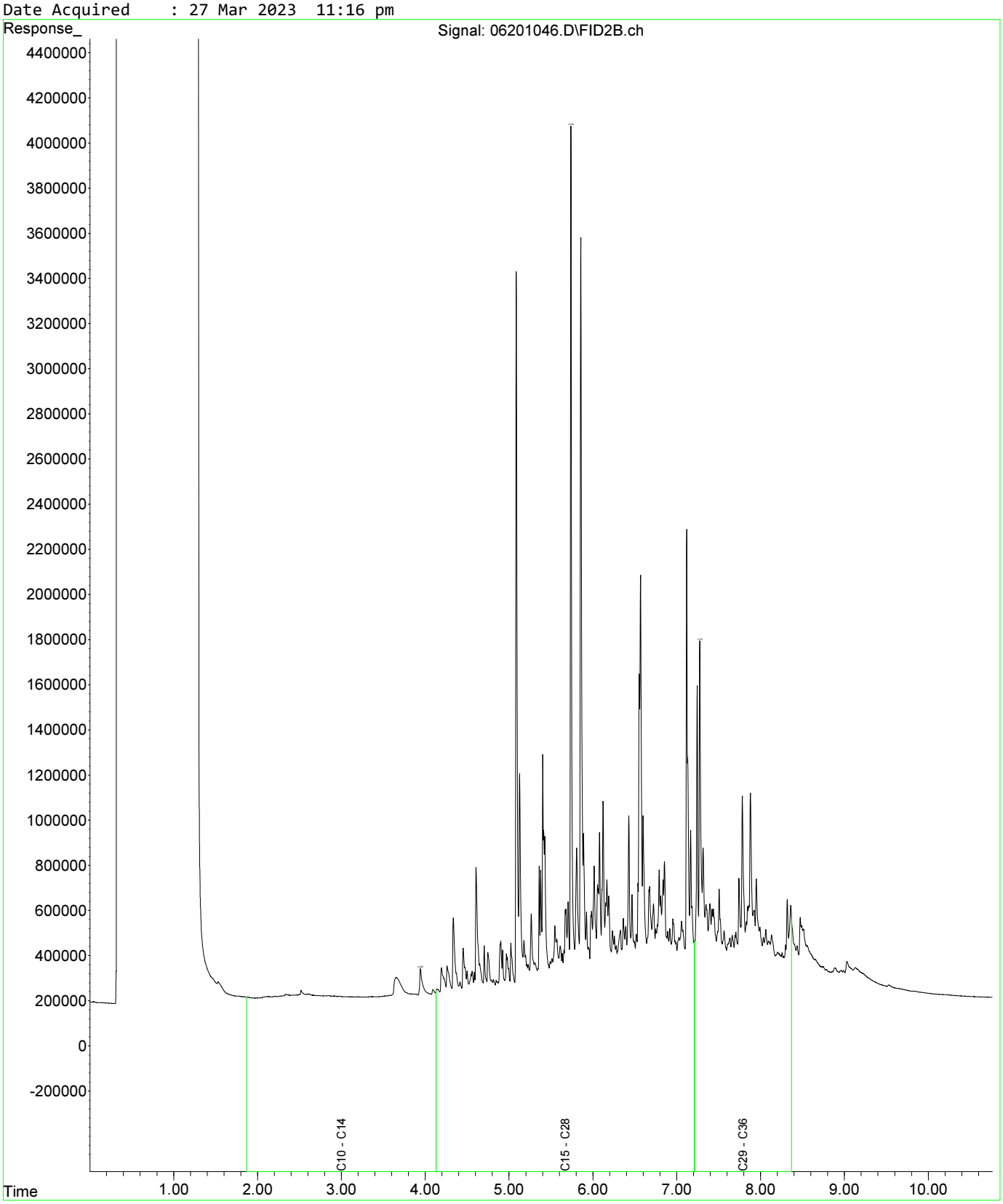
Laboratory Number: EM2305209-042
Sample ID : UST_QC107
Date Acquired : 27 Mar 2023 11:16 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2307275**	Page	: 1 of 13
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 01-May-2023
C-O-C number	: ----	Issue Date	: 03-May-2023 16:48
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 23		
No. of samples analysed	: 23		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- This is a rebatch of EM2305209.
- EN33a-G: EM2307275 #001 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.
- EN33a-G: EM2307275 #002, #003, #009 Due to limited sample for leach analysis, a scaled down amount of 50g into 1000mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307275-001	EM2307275-002	EM2307275-003	EM2307275-004	EM2307275-005
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**8.6**	**9.5**	**9.8**	**9.9**	**9.5**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.2**	**5.3**	**5.5**	**5.5**	**5.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307275-006	EM2307275-007	EM2307275-008	EM2307275-009	EM2307275-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	**9.9**	**9.9**	**10.0**	**10.0**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.5**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.5**	**5.9**	**6.4**	**6.5**	**6.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307275-011	EM2307275-012	EM2307275-013	EM2307275-014	EM2307275-015
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.5**	**9.2**	**9.2**	**9.2**	**9.5**
After HCl pH	----	0.1	pH Unit	**1.4**	**1.5**	**1.5**	**1.5**	**1.4**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.2**	**5.9**	**6.2**	**6.4**	**6.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-016	EM2307275-017	EM2307275-018	EM2307275-019	EM2307275-020
					Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**9.2**	**9.4**	**9.3**	**9.1**	**9.2**
After HCl pH	----	0.1	pH Unit		**1.4**	**1.4**	**1.5**	**1.4**	**1.4**
Extraction Fluid Number	----	1	-		**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit		**5.7**	**6.2**	**5.3**	**5.7**	**5.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	----	----
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2307275-021	EM2307275-022	EM2307275-023	--------	--------
				Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.2**	**9.6**	**9.2**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.4**	**1.5**	**1.5**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**----**	**----**
Final pH	----	0.1	pH Unit	**5.5**	**5.5**	**6.0**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-001	EM2307275-002	EM2307275-003	EM2307275-004	EM2307275-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**83.5**	**52.5**	**71.4**	**75.5**	**85.8**
Anthracene-d10	1719-06-8	1.0	%		**98.8**	**102**	**110**	**102**	**104**
4-Terphenyl-d14	1718-51-0	1.0	%		**76.0**	**91.7**	**94.6**	**86.6**	**92.6**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-006	EM2307275-007	EM2307275-008	EM2307275-009	EM2307275-010
					Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES									
Lead	7439-92-1	0.1	mg/L		**----**	**1.0**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**81.9**	**68.8**	**79.2**	**88.5**	**56.6**
Anthracene-d10	1719-06-8	1.0	%		**95.7**	**106**	**100.0**	**104**	**107**
4-Terphenyl-d14	1718-51-0	1.0	%		**83.5**	**89.9**	**85.3**	**87.3**	**90.5**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-011	EM2307275-012	EM2307275-013	EM2307275-014	EM2307275-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	**1.9**	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	**4.6**	**2.4**	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	**1.4**	**10.5**	**3.4**	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	**1.1**	**21.8**	**12.5**	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	**7.7**	**3.3**	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	**9.3**	**4.8**	<1.0
Pyrene	129-00-0	1.0	µg/L		**1.1**	<1.0	**7.9**	**5.0**	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**1.1**	**4.4**	**61.8**	**31.4**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**98.8**	**92.9**	**94.9**	**98.4**	**90.6**
Anthracene-d10	1719-06-8	1.0	%		**98.4**	**93.3**	**95.0**	**98.8**	**108**
4-Terphenyl-d14	1718-51-0	1.0	%		**97.2**	**91.4**	**93.2**	**97.5**	**98.1**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-016	EM2307275-017	EM2307275-018	EM2307275-019	EM2307275-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	**1.3**	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	**2.6**	<1.0
Phenanthrene	85-01-8	1.0	µg/L		**1.5**	<1.0	<1.0	**2.8**	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	**1.9**	<1.0
Pyrene	129-00-0	1.0	µg/L		**1.1**	<1.0	<1.0	**1.6**	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**2.6**	<0.5	<0.5	**10.2**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**95.4**	**84.9**	**75.7**	**83.7**	**75.7**
Anthracene-d10	1719-06-8	1.0	%		**96.6**	**101**	**106**	**98.6**	**91.6**
4-Terphenyl-d14	1718-51-0	1.0	%		**87.9**	**98.9**	**101**	**99.3**	**85.7**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2307275-021	EM2307275-022	EM2307275-023	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	**2.4**	<1.0	**----**	**----**
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Acenaphthene	83-32-9	1.0	µg/L		<1.0	**2.3**	<1.0	**----**	**----**
Fluorene	86-73-7	1.0	µg/L		**1.5**	**1.2**	<1.0	**----**	**----**
Phenanthrene	85-01-8	1.0	µg/L		**8.5**	**3.7**	<1.0	**----**	**----**
Anthracene	120-12-7	1.0	µg/L		**1.4**	<1.0	<1.0	**----**	**----**
Fluoranthene	206-44-0	1.0	µg/L		**3.0**	**1.7**	<1.0	**----**	**----**
Pyrene	129-00-0	1.0	µg/L		**2.9**	**1.9**	**1.1**	**----**	**----**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	**----**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**17.3**	**13.2**	**1.1**	**----**	**----**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**73.3**	**64.1**	**72.0**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**96.0**	**100**	**98.6**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**93.8**	**90.7**	**94.3**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2307275**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 01-May-2023
C-O-C number	: ----	Issue Date	: 03-May-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 23		
No. of samples analysed	: 23		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5022877)									
EM2307241-001	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	0.1	0.1	0.0	No Limit
EM2307241-010	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	0.1	0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5021301)									
EM2307275-001	UST_SP_0.5-1.0_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2307275-010	UST_SP_1.5-2.0_03	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5021301) - continued									
EM2307275-010	UST_SP_1.5-2.0_03	EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5024013)									
EM2307275-011	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	1.1	1.1	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2307275-020	UST_SP_EXT_08	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5024013) - continued									
EM2307275-020	UST_SP_EXT_08	EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5022877)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	90.4	80.0	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5021301)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	68.7	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	80.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	91.0	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	91.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	82.6	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	94.4	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	95.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	95.9	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	86.6	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	89.4	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	86.7	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	93.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	93.8	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	95.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5024013)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	58.1	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	64.5	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	65.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	68.0	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	71.8	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	71.1	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	71.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	77.1	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	74.0	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	73.6	48.7	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5024013) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	69.0	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	72.6	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	64.5	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	67.9	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	67.7	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	68.9	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5022877)							
EM2307241-002	Anonymous	EG005C: Lead	7439-92-1	1 mg/L	84.2	80.0	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2307275**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Site	: Macquarie Point	Issue Date	: 03-May-2023
Sampler	: TIM SMITH02	No. of samples received	: 23
Order number	: 60693007-3	No. of samples analysed	: 23

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)						
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03	01-May-2023	04-Apr-2023	**27**	----	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03	02-May-2023	04-Apr-2023	**28**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	28	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03	**21-Mar-2023**	**01-May-2023**	04-Apr-2023	×	**----**	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03	**21-Mar-2023**	**02-May-2023**	04-Apr-2023	×	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)							
UST_SP_1.0-1.5_03	**01-May-2023**	**02-May-2023**	28-Oct-2023	✓	**02-May-2023**	28-Oct-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03	**01-May-2023**	**02-May-2023**	08-May-2023	✓	**02-May-2023**	11-Jun-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03	**02-May-2023**	**03-May-2023**	09-May-2023	✓	**03-May-2023**	12-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	4	28	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	28	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2307275**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 3
Order number	: 60693007-3	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 22-Mar-2023 11:15	Issue Date	: 27-Apr-2023
Client Requested Due Date	: 03-May-2023	Scheduled Reporting Date	: **03-May-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 23 / 23

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2305209.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only
EM2307275-001	21-Mar-2023 00:00	UST_SP_0.5-1.0_01		✓	✓
EM2307275-002	21-Mar-2023 00:00	UST_SP_0.5-1.0_02		✓	✓
EM2307275-003	21-Mar-2023 00:00	UST_SP_0.5-1.0_03		✓	✓
EM2307275-004	21-Mar-2023 00:00	UST_SP_0.5-1.0_04		✓	✓
EM2307275-005	21-Mar-2023 00:00	UST_SP_1.0-1.5_01		✓	✓
EM2307275-006	21-Mar-2023 00:00	UST_SP_1.0-1.5_02		✓	✓
EM2307275-007	21-Mar-2023 00:00	UST_SP_1.0-1.5_03	✓	✓	✓
EM2307275-008	21-Mar-2023 00:00	UST_SP_1.5-2.0_01		✓	✓
EM2307275-009	21-Mar-2023 00:00	UST_SP_1.5-2.0_02		✓	✓
EM2307275-010	21-Mar-2023 00:00	UST_SP_1.5-2.0_03		✓	✓
EM2307275-011	21-Mar-2023 00:00	UST_SP_1.5-2.0_04		✓	✓
EM2307275-012	21-Mar-2023 00:00	UST_SP_1.5-2.0_05		✓	✓
EM2307275-013	21-Mar-2023 00:00	UST_SP_EXT_01		✓	✓
EM2307275-014	21-Mar-2023 00:00	UST_SP_EXT_02		✓	✓
EM2307275-015	21-Mar-2023 00:00	UST_SP_EXT_03		✓	✓
EM2307275-016	21-Mar-2023 00:00	UST_SP_EXT_04		✓	✓
EM2307275-017	21-Mar-2023 00:00	UST_SP_EXT_05		✓	✓
EM2307275-018	21-Mar-2023 00:00	UST_SP_EXT_06		✓	✓
EM2307275-019	21-Mar-2023 00:00	UST_SP_EXT_07		✓	✓
EM2307275-020	21-Mar-2023 00:00	UST_SP_EXT_08		✓	✓
EM2307275-021	21-Mar-2023 00:00	UST_SP_ch77-80_01		✓	✓
EM2307275-022	21-Mar-2023 00:00	UST_SP_ch77-81_02		✓	✓
EM2307275-023	21-Mar-2023 00:00	UST_SP_ch77-82_03		✓	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EN33a-G: TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel							
UST_SP_0.5-1.0_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_0.5-1.0_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_0.5-1.0_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_0.5-1.0_04	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_1.0-1.5_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_1.0-1.5_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×

UST_SP_1.0-1.5_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_04	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_05	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_ch77-80_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_ch77-81_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_ch77-82_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_04	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_05	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_06	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_07	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_08	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com

Rebatch

Client / Client code: AECOMAU
Project: 60693007
Project Manger: Robert Crowe
Date /time sample rec: 22/03/2023 11:15
Date/time Instructions rec: 26/04/2023 22:21
Due date: Wednesday, 3 May 2023
Due date surcharge: **STANDARD**
Client aware of any holding time issues

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

Environmental Division Melbourne
Work Order Reference
EM2307275

Telephone +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis										Shortest Holding time expiry
								Standard					Leach					
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container							TCLP - PAH	TCLP - Lead				
1	UST_SP_0.5-1.0_01	21/03/2023 0:00	EM2305209	13	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
2	UST_SP_0.5-1.0_02	21/03/2023 0:00	EM2305209	14	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
3	UST_SP_0.5-1.0_03	21/03/2023 0:00	EM2305209	15	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
4	UST_SP_0.5-1.0_04	21/03/2023 0:00	EM2305209	16	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
5	UST_SP_1.0-1.5_01	21/03/2023 0:00	EM2305209	17	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
6	UST_SP_1.0-1.5_02	21/03/2023 0:00	EM2305209	18	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
7	UST_SP_1.0-1.5_03	21/03/2023 0:00	EM2305209	19	MS: 2219-22193, 2228	soil jar	2						X	X				04-Apr-23
8	UST_SP_1.5-2.0_01	21/03/2023 0:00	EM2305209	20	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
9	UST_SP_1.5-2.0_02	21/03/2023 0:00	EM2305209	21	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
10	UST_SP_1.5-2.0_03	21/03/2023 0:00	EM2305209	22	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
11	UST_SP_1.5-2.0_04	21/03/2023 0:00	EM2305209	23	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
12	UST_SP_1.5-2.0_05	21/03/2023 0:00	EM2305209	24	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
13	UST_SP_EXT_01	21/03/2023 0:00	EM2305209	25	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
14	UST_SP_EXT_02	21/03/2023 0:00	EM2305209	26	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
15	UST_SP_EXT_03	21/03/2023 0:00	EM2305209	27	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
16	UST_SP_EXT_04	21/03/2023 0:00	EM2305209	28	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
17	UST_SP_EXT_05	21/03/2023 0:00	EM2305209	29	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
18	UST_SP_EXT_06	21/03/2023 0:00	EM2305209	30	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
19	UST_SP_EXT_07	21/03/2023 0:00	EM2305209	31	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
20	UST_SP_EXT_08	21/03/2023 0:00	EM2305209	32	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
21	UST_SP_ch77-80_01	21/03/2023 0:00	EM2305209	33	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
22	UST_SP_ch77-80_02	21/03/2023 0:00	EM2305209	34	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
23	UST_SP_ch77-80_03	21/03/2023 0:00	EM2305209	35	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
						TOTAL	46											

Ciara Barr

From: Peter Ravlic
Sent: Wednesday, 26 April 2023 11:37 AM
To: Ru Jayasinghe
Cc: ALS Enviro Melbourne
Subject: FW: [EXTERNAL] - RE: - RE: ALS Workorder EM2305209, Client AECOMAU, Project 60693007, Overall Description Macquarie Point email

Hi Ru

Can you please organise the below RB

Thanks

Kind Regards

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Wednesday, 26 April 2023 10:21 AM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - RE: - RE: ALS Workorder EM2305209, Client AECOMAU, Project 60693007, Overall Description Macquarie Point email

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Morning Dai, Peter,

Thanks for the help with this last week – files have been received and imported OK.

Can I please request TCLP PAH leachate assessment and lead leachate assessment for the samples in batch EM2305209-AB as per the table below?

Please let me know if any additional information is needed,

Cheers, Rob

Field_ID	TCLP - PAH	TCLP - Lead
UST_SP_0.5-1.0_01	x	
UST_SP_0.5-1.0_02	x	
UST_SP_0.5-1.0_03	x	
UST_SP_0.5-1.0_04	x	
UST_SP_1.0-1.5_01	x	
UST_SP_1.0-1.5_02	x	
UST_SP_1.0-1.5_03	x	x
UST_SP_1.5-2.0_01	x	
UST_SP_1.5-2.0_02	x	
UST_SP_1.5-2.0_03	x	
UST_SP_1.5-2.0_04	x	
UST_SP_1.5-2.0_05	x	
UST_SP_ch77-80_01	x	
UST_SP_ch77-80_02	x	
UST_SP_ch77-80_03	x	
UST_SP_EXT_01	x	
UST_SP_EXT_02	x	
UST_SP_EXT_03	x	
UST_SP_EXT_04	x	
UST_SP_EXT_05	x	
UST_SP_EXT_06	x	
UST_SP_EXT_07	x	
UST_SP_EXT_08	x	

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
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AECOM
Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, VIC, 3008, Australia
T +61 3 9653 1234
aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2309607**	Page	: 1 of 25
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 26-May-2023 11:00
Order number	: 60693007-2	Date Analysis Commenced	: 30-May-2023
C-O-C number	: 52798	Issue Date	: 02-Jun-2023 20:29
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 36		
No. of samples analysed	: 35		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: EM2309607 #2, Poor matrix spike recovery for Lead due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2309607_023 Poor matrix spike recovery for pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EG035T: EM2309607#27 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.
- EN33: Where leachable PFAS analysis is requested, centrifugation rather than pressure filtration is used as the default approach for removal of particulates, in line with AS 4439.3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_01_0.5	OL_EX_BF_01_1.0	OL_EX_BF_01_1.5	OL_EX_BF_02_0.5	OL_EX_BF_02_1.0
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-001	EM2309607-002	EM2309607-003	EM2309607-004	EM2309607-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.0	20.9	14.2	21.0	18.2
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	285	218	236	405	208
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.7	<0.5	1.7	0.6	0.6
Acenaphthylene	208-96-8	0.5	mg/kg	1.0	0.8	3.5	0.6	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	1.8	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.9	2.2	28.1	2.0	2.0
Anthracene	120-12-7	0.5	mg/kg	1.3	1.0	6.0	1.0	1.0
Fluoranthene	206-44-0	0.5	mg/kg	9.0	6.9	48.4	5.1	6.1
Pyrene	129-00-0	0.5	mg/kg	9.5	7.2	48.4	5.2	6.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	4.8	3.6	24.9	3.2	3.5
Chrysene	218-01-9	0.5	mg/kg	4.5	3.3	23.2	2.8	3.2
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.5	4.4	25.6	3.8	4.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	1.8	11.2	2.1	2.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	5.3	4.2	23.1	4.0	4.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.8	2.2	11.6	2.0	2.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	0.5	3.5	0.5	0.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.3	2.6	13.3	2.4	2.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	53.7	40.7	274	35.3	40.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_01_0.5	OL_EX_BF_01_1.0	OL_EX_BF_01_1.5	OL_EX_BF_02_0.5	OL_EX_BF_02_1.0
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-001	EM2309607-002	EM2309607-003	EM2309607-004	EM2309607-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**7.6**	**6.0**	**34.3**	**5.7**	**6.4**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**7.6**	**6.0**	**34.3**	**5.7**	**6.4**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**7.6**	**6.0**	**34.3**	**5.7**	**6.4**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**50**	<50	**150**	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**300**	**220**	**710**	**400**	**230**
C29 - C36 Fraction	----	100	mg/kg		**120**	**130**	**200**	**100**	**120**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**470**	**350**	**1060**	**500**	**350**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**80**	<50	**380**	**140**	<50
>C16 - C34 Fraction	----	100	mg/kg		**360**	**290**	**640**	**350**	**280**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**130**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**440**	**290**	**1150**	**490**	**280**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**80**	<50	**380**	**140**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**98.0**	**97.6**	**89.4**	**90.9**	**89.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**99.1**	**99.3**	**94.0**	**92.8**	**92.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**107**	**101**	**86.6**	**84.3**	**85.7**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**89.6**	**88.8**	**94.0**	**95.3**	**93.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_01_0.5	OL_EX_BF_01_1.0	OL_EX_BF_01_1.5	OL_EX_BF_02_0.5	OL_EX_BF_02_1.0
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-001	EM2309607-002	EM2309607-003	EM2309607-004	EM2309607-005
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**110**	**112**	**105**	**118**	**110**
4-Terphenyl-d14	1718-51-0	0.5	%		**98.0**	**99.2**	**105**	**108**	**104**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.4**	**83.6**	**82.0**	**80.2**	**79.1**
Toluene-D8	2037-26-5	0.2	%		**84.0**	**87.4**	**88.1**	**85.5**	**85.5**
4-Bromofluorobenzene	460-00-4	0.2	%		**95.2**	**101**	**103**	**99.8**	**98.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_02_1.5	OL_EX_BF_03_0.5	OL_EX_BF_03_1.0	OL_EX_BF_03_1.5	OL_EX_BF_04_0.5
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-006	EM2309607-007	EM2309607-008	EM2309607-009	EM2309607-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.7	16.1	15.3	10.8	13.5
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	254	228	247	251	240
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.6	0.5	0.6	1.3	0.7
Acenaphthylene	208-96-8	0.5	mg/kg	0.7	0.8	0.8	0.9	0.9
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.7	3.8	2.9	4.0	4.1
Anthracene	120-12-7	0.5	mg/kg	1.1	1.5	1.2	1.6	1.7
Fluoranthene	206-44-0	0.5	mg/kg	7.1	9.2	8.2	8.6	8.2
Pyrene	129-00-0	0.5	mg/kg	7.6	9.3	8.6	9.0	8.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	4.2	5.1	5.0	4.9	4.6
Chrysene	218-01-9	0.5	mg/kg	3.6	4.4	4.3	4.3	4.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.5	5.6	5.6	6.0	5.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.8	3.0	3.0	2.3	2.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	5.1	5.8	5.9	5.7	5.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	2.9	3.0	2.9	2.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	0.8	0.8	0.8	0.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.2	3.6	3.6	3.6	3.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	46.6	56.3	53.5	55.9	51.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_02_1.5	OL_EX_BF_03_0.5	OL_EX_BF_03_1.0	OL_EX_BF_03_1.5	OL_EX_BF_04_0.5
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-006	EM2309607-007	EM2309607-008	EM2309607-009	EM2309607-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**7.3**	**8.3**	**8.4**	**8.2**	**7.3**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**7.3**	**8.3**	**8.4**	**8.2**	**7.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**7.3**	**8.3**	**8.4**	**8.2**	**7.3**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**360**	**200**	**220**	**400**	**400**
C29 - C36 Fraction	----	100	mg/kg		**140**	**140**	**140**	**160**	**170**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**500**	**340**	**360**	**560**	**570**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**100**	<50	<50	**120**	**110**
>C16 - C34 Fraction	----	100	mg/kg		**370**	**290**	**300**	**440**	**460**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**470**	**290**	**300**	**560**	**570**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**100**	<50	<50	**120**	**110**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**90.3**	**90.5**	**92.1**	**92.1**	**93.6**
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.6**	**91.9**	**94.3**	**93.8**	**97.1**
2.4.6-Tribromophenol	118-79-6	0.5	%		**87.7**	**91.2**	**90.3**	**89.6**	**91.9**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.0**	**91.6**	**93.0**	**92.4**	**93.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_02_1.5	OL_EX_BF_03_0.5	OL_EX_BF_03_1.0	OL_EX_BF_03_1.5	OL_EX_BF_04_0.5
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-006	EM2309607-007	EM2309607-008	EM2309607-009	EM2309607-010
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**108**	**111**	**111**	**119**	**106**
4-Terphenyl-d14	1718-51-0	0.5	%	**102**	**97.0**	**99.6**	**98.1**	**103**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**84.3**	**76.0**	**79.9**	**83.4**	**79.5**
Toluene-D8	2037-26-5	0.2	%	**89.2**	**78.9**	**82.7**	**84.8**	**83.9**
4-Bromofluorobenzene	460-00-4	0.2	%	**103**	**92.3**	**96.0**	**101**	**95.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_04_1.0	OL_EX_BF_04_1.5	OL_EX_BF_05_0.5	OL_EX_BF_05_1.0	OL_EX_BF_05_1.5
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-011	EM2309607-012	EM2309607-013	EM2309607-014	EM2309607-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**17.9**	**17.6**	**13.3**	**14.3**	**16.2**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**243**	**282**	**324**	**132**	**78**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.7**	**0.7**	**0.6**	**1.3**	**1.5**
Acenaphthylene	208-96-8	0.5	mg/kg	**0.8**	**0.7**	**0.6**	**1.1**	**1.9**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	**0.5**	**1.4**
Phenanthrene	85-01-8	0.5	mg/kg	**4.3**	**2.5**	**1.8**	**4.4**	**8.0**
Anthracene	120-12-7	0.5	mg/kg	**1.8**	**1.0**	**0.8**	**1.7**	**3.1**
Fluoranthene	206-44-0	0.5	mg/kg	**9.1**	**6.6**	**5.1**	**8.7**	**13.5**
Pyrene	129-00-0	0.5	mg/kg	**9.5**	**7.1**	**5.4**	**8.6**	**13.8**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**4.7**	**3.9**	**3.0**	**4.5**	**6.7**
Chrysene	218-01-9	0.5	mg/kg	**4.3**	**3.7**	**2.9**	**4.0**	**5.8**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**5.1**	**5.1**	**4.0**	**5.2**	**7.2**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.5**	**2.1**	**1.6**	**2.0**	**3.1**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**5.2**	**4.9**	**3.9**	**4.9**	**7.0**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**2.7**	**2.6**	**2.2**	**2.4**	**3.4**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.7**	**0.6**	**0.6**	**0.6**	**0.9**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**3.2**	**3.0**	**2.6**	**2.9**	**4.0**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**54.6**	**44.5**	**35.1**	**52.8**	**81.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_04_1.0	OL_EX_BF_04_1.5	OL_EX_BF_05_0.5	OL_EX_BF_05_1.0	OL_EX_BF_05_1.5
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-011	EM2309607-012	EM2309607-013	EM2309607-014	EM2309607-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**7.5**	**6.9**	**5.6**	**7.0**	**10.0**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**7.5**	**6.9**	**5.6**	**7.0**	**10.0**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**7.5**	**6.9**	**5.6**	**7.0**	**10.0**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**70**	**80**	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**410**	**500**	**240**	**370**	**300**
C29 - C36 Fraction	----	100	mg/kg		**140**	**150**	**130**	**150**	**190**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**620**	**730**	**370**	**520**	**490**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**190**	**230**	<50	**130**	<50
>C16 - C34 Fraction	----	100	mg/kg		**410**	**480**	**310**	**410**	**410**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	**130**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**600**	**710**	**310**	**540**	**540**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**190**	**230**	<50	**130**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.3**	**93.5**	**92.7**	**93.4**	**96.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**94.5**	**94.9**	**95.6**	**96.7**	**97.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**85.9**	**85.4**	**91.7**	**90.5**	**92.5**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.9**	**96.9**	**93.8**	**96.2**	**96.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_04_1.0	OL_EX_BF_04_1.5	OL_EX_BF_05_0.5	OL_EX_BF_05_1.0	OL_EX_BF_05_1.5
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-011	EM2309607-012	EM2309607-013	EM2309607-014	EM2309607-015
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**103**	**112**	**116**	**109**	**119**
4-Terphenyl-d14	1718-51-0	0.5	%	**103**	**110**	**101**	**108**	**103**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**79.3**	**77.9**	**80.8**	**83.0**	**82.8**
Toluene-D8	2037-26-5	0.2	%	**84.0**	**80.7**	**83.9**	**89.2**	**87.8**
4-Bromofluorobenzene	460-00-4	0.2	%	**96.7**	**92.2**	**97.4**	**99.6**	**111**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_06_0.5	OL_EX_BF_06_1.0	OL_EX_BF_07_0.5	OL_EX_BF_07_1.0	OL_EX_BF_08_0.5
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-016	EM2309607-017	EM2309607-018	EM2309607-019	EM2309607-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.3	13.8	10.4	10.1	16.5
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	597	235	183	127	343
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.7	0.8	<0.5	<0.5	7.8
Acenaphthylene	208-96-8	0.5	mg/kg	0.7	1.2	<0.5	<0.5	1.2
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	23.2
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	18.4
Phenanthrene	85-01-8	0.5	mg/kg	2.7	3.0	1.8	1.4	90.4
Anthracene	120-12-7	0.5	mg/kg	1.1	1.2	0.7	0.5	29.6
Fluoranthene	206-44-0	0.5	mg/kg	6.5	7.4	4.2	3.3	56.4
Pyrene	129-00-0	0.5	mg/kg	6.7	8.7	4.4	3.2	66.9
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.6	4.8	2.4	1.7	26.2
Chrysene	218-01-9	0.5	mg/kg	3.2	4.6	2.2	1.6	24.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.6	6.7	2.9	2.0	22.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.1	3.1	1.5	1.1	6.7
Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.5	6.8	3.0	2.1	22.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.4	3.4	1.6	1.2	9.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.9	<0.5	<0.5	2.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.9	4.1	1.9	1.5	12.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	42.3	56.7	26.6	19.6	427

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_06_0.5	OL_EX_BF_06_1.0	OL_EX_BF_07_0.5	OL_EX_BF_07_1.0	OL_EX_BF_08_0.5
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-016	EM2309607-017	EM2309607-018	EM2309607-019	EM2309607-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**6.4**	**9.6**	**3.9**	**2.7**	**31.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**6.4**	**9.6**	**4.1**	**3.0**	**31.7**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**6.4**	**9.6**	**4.4**	**3.2**	**31.7**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	**200**	<50	<50	**210**
C15 - C28 Fraction	----	100	mg/kg		**300**	**890**	**190**	**160**	**1940**
C29 - C36 Fraction	----	100	mg/kg		**170**	**180**	**120**	**120**	**540**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**470**	**1270**	**310**	**280**	**2690**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**70**	**530**	<50	<50	**600**
>C16 - C34 Fraction	----	100	mg/kg		**380**	**720**	**250**	**240**	**2000**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	**120**	**280**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**450**	**1250**	**250**	**360**	**2880**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**70**	**530**	<50	<50	**600**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.2**	**91.4**	**93.2**	**90.7**	**87.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**88.1**	**94.1**	**93.7**	**91.8**	**91.1**
2.4.6-Tribromophenol	118-79-6	0.5	%		**79.7**	**87.2**	**86.3**	**79.6**	**86.2**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.6**	**96.1**	**96.8**	**95.0**	**94.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_06_0.5	OL_EX_BF_06_1.0	OL_EX_BF_07_0.5	OL_EX_BF_07_1.0	OL_EX_BF_08_0.5
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-016	EM2309607-017	EM2309607-018	EM2309607-019	EM2309607-020
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**104**	**105**	**118**	**113**	**105**
4-Terphenyl-d14	1718-51-0	0.5	%	**100**	**108**	**107**	**105**	**101**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**84.0**	**82.6**	**79.4**	**81.3**	**93.6**
Toluene-D8	2037-26-5	0.2	%	**87.0**	**87.8**	**81.6**	**86.0**	**103**
4-Bromofluorobenzene	460-00-4	0.2	%	**99.6**	**97.6**	**98.7**	**98.5**	**113**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_BF_08_1.0	OL_EX_BF_09_0.5	OL_EX_BF_09_1.0	OL_EX_QC122	OL_EX_QC123
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-021	EM2309607-022	EM2309607-023	EM2309607-024	EM2309607-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	15.0	15.6	17.9	15.8	15.7
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	111	392	600	346	308
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.9	<0.5	1.6	<0.5	0.7
Acenaphthylene	208-96-8	0.5	mg/kg	1.0	<0.5	1.1	0.6	1.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	0.8	<0.5	0.8	<0.5	1.2
Phenanthrene	85-01-8	0.5	mg/kg	4.4	2.2	10.0	4.9	13.2
Anthracene	120-12-7	0.5	mg/kg	1.5	0.9	2.7	1.7	4.4
Fluoranthene	206-44-0	0.5	mg/kg	7.0	6.6	12.8	10.6	19.9
Pyrene	129-00-0	0.5	mg/kg	7.6	6.8	12.8	10.4	19.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.4	3.8	6.8	5.6	9.1
Chrysene	218-01-9	0.5	mg/kg	3.0	3.4	6.3	5.3	8.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.7	4.0	7.7	4.8	9.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.8	2.0	4.0	1.9	3.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.7	3.9	7.5	4.7	9.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	2.2	4.0	2.5	4.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.6	1.0	0.7	1.2
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.2	2.7	4.5	3.0	5.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	42.8	39.1	83.6	56.7	110

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_08_1.0	OL_EX_BF_09_0.5	OL_EX_BF_09_1.0	OL_EX_QC122	OL_EX_QC123
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-021	EM2309607-022	EM2309607-023	EM2309607-024	EM2309607-025
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**4.8**	**5.8**	**10.8**	**7.0**	**13.0**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**5.1**	**5.8**	**10.8**	**7.0**	**13.0**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**5.3**	**5.8**	**10.8**	**7.0**	**13.0**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**70**	<50	**110**	<50	**90**
C15 - C28 Fraction	----	100	mg/kg		**320**	**200**	**480**	**280**	**590**
C29 - C36 Fraction	----	100	mg/kg		<100	**140**	**180**	**120**	**220**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**390**	**340**	**770**	**400**	**900**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**130**	<50	**190**	**60**	**180**
>C16 - C34 Fraction	----	100	mg/kg		**340**	**300**	**540**	**340**	**680**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**470**	**300**	**730**	**400**	**860**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**130**	<50	**190**	**60**	**180**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**104**	**104**	**93.4**	**104**	**110**
2-Chlorophenol-D4	93951-73-6	0.5	%		**106**	**111**	**98.3**	**109**	**113**
2.4.6-Tribromophenol	118-79-6	0.5	%		**95.9**	**96.5**	**101**	**91.8**	**101**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**101**	**102**	**95.2**	**104**	**106**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_08_1.0	OL_EX_BF_09_0.5	OL_EX_BF_09_1.0	OL_EX_QC122	OL_EX_QC123
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-021	EM2309607-022	EM2309607-023	EM2309607-024	EM2309607-025
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**119**	**111**	**110**	**116**	**108**
4-Terphenyl-d14	1718-51-0	0.5	%		**127**	**129**	**101**	**128**	**132**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**84.2**	**86.9**	**88.5**	**88.1**	**91.8**
Toluene-D8	2037-26-5	0.2	%		**90.4**	**96.5**	**98.9**	**97.0**	**98.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**102**	**108**	**109**	**111**	**107**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Bench_01A	Bench_01B	Bench_02A	Bench_02B	Bench_03A
			Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit	EM2309607-026	EM2309607-027	EM2309607-028	EM2309607-029	EM2309607-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	20.7	15.0	18.1	17.4	20.0
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	727	635	797	1480	1220
Arsenic	7440-38-2	5	mg/kg	12	13	11	12	12
Cadmium	7440-43-9	1	mg/kg	<1	4	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	33	30	95	46	38
Copper	7440-50-8	5	mg/kg	354	326	366	272	308
Nickel	7440-02-0	2	mg/kg	27	25	33	39	26
Zinc	7440-66-6	5	mg/kg	741	561	581	487	803
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	2.6	2.1	3.4	2.3	0.8
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	8.7	7.2	8.7	6.8	9.0
After HCl pH	----	0.1	pH Unit	1.4	1.6	1.5	1.6	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.6	6.5	5.8	6.5	6.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	Bench_03B	OL_EX_QC124	----	----	----
			Sampling date / time	25-May-2023 13:10	25-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2309607-031	EM2309607-032	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**20.4**	**13.0**	**----**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**1250**	**694**	**----**	**----**	**----**
Arsenic	7440-38-2	5	mg/kg	**43**	**20**	**----**	**----**	**----**
Cadmium	7440-43-9	1	mg/kg	**2**	**4**	**----**	**----**	**----**
Chromium	7440-47-3	2	mg/kg	**25**	**33**	**----**	**----**	**----**
Copper	7440-50-8	5	mg/kg	**318**	**418**	**----**	**----**	**----**
Nickel	7440-02-0	2	mg/kg	**29**	**28**	**----**	**----**	**----**
Zinc	7440-66-6	5	mg/kg	**1560**	**1040**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**1.1**	**2.6**	**----**	**----**	**----**
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	**6.9**	**8.9**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit	**6.5**	**6.7**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	Bench_01A	Bench_01B	Bench_02A	Bench_02B	Bench_03A
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2309607-026	EM2309607-027	EM2309607-028	EM2309607-029	EM2309607-030
					Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	7440-43-9	0.05	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Chromium	7440-47-3	0.1	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Copper	7440-50-8	0.1	mg/L		**0.2**	<0.1	<0.1	<0.1	**0.1**
Lead	7439-92-1	0.1	mg/L		**0.3**	<0.1	**0.3**	<0.1	**0.5**
Nickel	7440-02-0	0.1	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	0.1	mg/L		**2.7**	**0.3**	**2.4**	**0.2**	**5.2**
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	Bench_03B	OL_EX_QC124	----	----	----
			Sampling date / time	25-May-2023 13:10	25-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2309607-031	EM2309607-032	--------	--------	--------
				Result	Result	----	----	----
EG005(ED093)C: Leachable Metals by ICPAES								
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	----	----	----
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	----	----	----
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	----	----	----
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	----	----	----
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	----	----	----
Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	----	----	----
Zinc	7440-66-6	0.1	mg/L	**0.5**	**0.2**	----	----	----
EG035C: Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA12	OL_EX_QCA13	OL_EX_QCB13	----	----
				Sampling date / time	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309607-033	EM2309607-034	EM2309607-035	--------	--------
					Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	----	<0.001	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	----	<1.0	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	----	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	----	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	----	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	----	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	----	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	----	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	----	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	----	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	----	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	----	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	----	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	----	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	----	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		----	----	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	----	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		----	----	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	----	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L		----	----	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	----	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		----	----	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	----	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	----	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	----	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	----	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	----	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	OL_EX_QCA12	OL_EX_QCA13	OL_EX_QCB13	----	----
			Sampling date / time	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2309607-033	EM2309607-034	EM2309607-035	--------	--------
				Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	----	----	<50	----	----
C15 - C28 Fraction	----	100	µg/L	----	----	<100	----	----
C29 - C36 Fraction	----	50	µg/L	----	----	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	----	----	<100	----	----
>C16 - C34 Fraction	----	100	µg/L	----	----	<100	----	----
>C34 - C40 Fraction	----	100	µg/L	----	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	----	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	----	<100	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	----	**31.0**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	----	----	**89.8**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	----	----	**94.2**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	----	----	**80.1**	----	----
Anthracene-d10	1719-06-8	1.0	%	----	----	**76.7**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	----	----	**83.2**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**99.4**	**96.1**	**99.0**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA12	OL_EX_QCA13	OL_EX_QCB13	----	----
				Sampling date / time	25-May-2023 00:00	25-May-2023 00:00	25-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309607-033	EM2309607-034	EM2309607-035	--------	--------
					Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**95.0**	**92.0**	**93.1**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**106**	**104**	**100**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

QUALITY CONTROL REPORT

Work Order	: **EM2309607**	Page	: 1 of 17
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 26-May-2023
Order number	: 60693007-2	Date Analysis Commenced	: 30-May-2023
C-O-C number	: 52798	Issue Date	: 02-Jun-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 36		
No. of samples analysed	: 35		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5082678)									
EM2309607-001	OL_EX_BF_01_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	11	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	20	19	6.1	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	36	34	6.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	385	363	6.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	285	268	6.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1880	1770	6.1	0% - 20%
EM2309607-010	OL_EX_BF_04_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	11	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	19	21	8.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	44	47	7.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	68	73	8.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	240	259	7.7	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1330	1440	8.0	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5082679)									
EM2309607-030	Bench_03A	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	38	42	9.7	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	26	29	9.5	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	13	9.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	308	337	9.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	1220	1330	9.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	803	883	9.5	0% - 20%
EM2309607-026	Bench_01A	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	33	35	5.5	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5082679) - continued									
EM2309607-026	Bench_01A	EG005T: Nickel	7440-02-0	2	mg/kg	27	28	5.6	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	12	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	354	372	5.0	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	727	766	5.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	741	781	5.3	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5082338)									
EM2309607-001	OL_EX_BF_01_0.5	EA055: Moisture Content	----	0.1	%	16.0	19.1	17.9	0% - 50%
EM2309607-011	OL_EX_BF_04_1.0	EA055: Moisture Content	----	0.1	%	17.9	18.7	4.6	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5082339)									
EM2309607-021	OL_EX_BF_08_1.0	EA055: Moisture Content	----	0.1	%	15.0	15.0	0.0	0% - 50%
EM2309607-031	Bench_03B	EA055: Moisture Content	----	0.1	%	20.4	20.3	0.6	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5082680)									
EM2309607-026	Bench_01A	EG035T: Mercury	7439-97-6	0.1	mg/kg	2.6	2.8	5.3	0% - 20%
EP075(SIM)A: Phenolic Compounds (QC Lot: 5082669)									
EM2309607-001	OL_EX_BF_01_0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5082671)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5082671) - continued									
EM2309607-021	OL_EX_BF_08_1.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2309646-003	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5082669)									
EM2309607-001	OL_EX_BF_01_0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.7	0.6	22.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	0.8	22.8	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.9	1.9	40.9	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	0.9	34.1	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.0	5.7	45.1	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	9.5	6.0	43.9	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.8	3.2	39.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.5	3.0	39.2	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.5	4.4	22.6	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	1.3	59.6	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	5.3	3.7	34.9	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.8	2.1	29.7	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5082669) - continued									
EM2309607-001	OL_EX_BF_01_0.5	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	<0.5	35.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.3	2.5	28.6	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.7	0.7	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	0.8	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.3	2.6	49.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	0.9	65.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.1	6.6	32.0	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	9.5	7.1	28.6	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.7	3.5	28.4	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.3	3.1	34.1	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.1	4.3	17.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.5	2.2	12.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	5.2	4.5	14.0	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	2.4	9.4	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	0.6	15.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.2	2.9	8.7	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5082671)									
EM2309607-021	OL_EX_BF_08_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.7	26.7	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	0.6	54.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	<0.5	45.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.4	2.5	57.4	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.5	0.9	47.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	7.0	6.9	2.5	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	7.6	7.7	2.1	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	3.4	4.1	17.3	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	3.0	3.8	25.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.7	4.0	7.6	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.7	4.0	7.5	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	1.7	7.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.2	2.1	5.4	No Limit
EM2309646-003	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5082671) - continued									
EM2309646-003	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5082346)									
EM2309607-001	OL_EX_BF_01_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5082347)									
EM2309607-020	OL_EX_BF_08_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5082670)									
EM2309607-001	OL_EX_BF_01_0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	300	280	7.6	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	120	110	9.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	50	<50	0.0	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	410	510	21.6	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	140	160	10.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	70	90	21.4	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5082672)									
EM2309607-021	OL_EX_BF_08_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	320	370	14.3	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	70	80	25.0	No Limit
EM2309646-003	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	260	87.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	130	28.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5082346)									
EM2309607-001	OL_EX_BF_01_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5082347)									
EM2309607-020	OL_EX_BF_08_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5082670)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5082670) - continued									
EM2309607-001	OL_EX_BF_01_0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	360	330	9.3	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	80	70	20.7	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	410	490	19.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	190	240	20.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5082672)									
EM2309607-021	OL_EX_BF_08_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	340	370	10.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	130	170	24.4	No Limit
EM2309646-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	340	109	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5082346)									
EM2309607-001	OL_EX_BF_01_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2309607-011	OL_EX_BF_04_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 5082347)									
EM2309607-020	OL_EX_BF_08_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5087243)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5087243) - continued									
EM2308525-008	Anonymous	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EM2309607-032	OL_EX_QC124	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.2	0.2	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 5085641)									
EM2309589-032	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.001	0.0	No Limit
EM2309461-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 5086568)									
EM2309484-001	Anonymous	EG035C: Mercury	7439-97-6	0.0001	mg/L	<0.0010	<0.0010	0.0	No Limit
EM2309616-002	Anonymous	EG035C: Mercury	7439-97-6	0.0001	mg/L	0.0013	0.0018	28.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5081562)									
EM2309521-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5081562)									
EM2309521-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5081562)									
EM2309521-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5082678)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	93.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	66.0	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	102	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	94.3	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	100	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	78.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5082679)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	93.0	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	65.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	101	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.0	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	94.2	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	99.3	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	78.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5082680)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	103	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5082669)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	114	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	110	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	111	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	107	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	87.4	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	84.9	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	93.0	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	89.6	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	94.4	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	98.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	78.0	10.0	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5082671)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	93.0	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	94.6	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	88.5	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	98.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	93.0	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.0	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	96.0	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	73.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	85.2	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	82.7	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	54.3	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5082669)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	114	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	109	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	111	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	103	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	108	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	112	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	104	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	111	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	114	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	104	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	102	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	101	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	102	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5082671)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	91.8	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	84.3	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.7	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5082671) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	87.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	92.5	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	91.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	90.1	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	88.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	78.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	94.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	86.7	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	83.5	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	81.4	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	81.2	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082346)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	95.8	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082347)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	113	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082670)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	83.5	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	95.0	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	98.5	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082672)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	98.7	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	94.0	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082346)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	91.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082347)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	110	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082670)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	88.6	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	94.4	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	86.0	73.3	137

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082672)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	85.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	98.4	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	79.2	73.3	137
EP080: BTEXN (QCLot: 5082346)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	91.8	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	96.3	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	94.7	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	98.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	97.7	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	85.7	61.8	123
EP080: BTEXN (QCLot: 5082347)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	105	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	108	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	108	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	115	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	119	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	91.4	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5087243)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	107	80.0	120
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	1 mg/L	104	80.0	120
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	110	80.0	120
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	107	80.0	120
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	105	80.0	120
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	105	80.0	120
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	97.2	80.0	120
EG020T: Total Metals by ICP-MS (QCLot: 5085641)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	88.3	112
EG035C: Leachable Mercury by FIMS (QCLot: 5086568)								
EG035C: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	96.4	72.0	115
EP075(SIM)A: Phenolic Compounds (QCLot: 5082632)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 5082632) - continued								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	37.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	84.6	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	75.4	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	69.7	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	91.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	84.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	87.9	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	87.0	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	87.4	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	87.2	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	90.1	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	105	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5082632)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	83.3	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	82.7	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	84.2	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	89.9	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	91.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	91.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	99.3	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	99.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	101	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	99.3	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	98.3	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	100	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	86.3	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	97.8	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	97.4	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	97.5	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081562)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	102	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082633)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	105	47.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082633) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	103	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	107	50.4	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081562)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	102	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082633)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	102	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	103	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	102	47.2	130
EP080: BTEXN (QCLot: 5081562)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	103	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	99.7	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	104	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	108	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	97.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5082678)							
EM2309607-002	OL_EX_BF_01_1.0	EG005T: Arsenic	7440-38-2	50 mg/kg	85.8	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.4	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	91.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	# 133	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	96.4	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	93.9	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5082679)							
EM2309607-027	Bench_01B	EG005T: Copper	7440-50-8	250 mg/kg	89.6	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	110	80.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	99.4	80.0	120
EM2309607-027	Bench_01B						

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5082679) - continued							
EM2309607-027	Bench_01B	EG005T: Arsenic	7440-38-2	50 mg/kg	97.4	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	84.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	87.0	79.0	121
		EG005T: Nickel	7440-02-0	50 mg/kg	108	78.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5082680)							
EM2309607-027	Bench_01B	EG035T: Mercury	7439-97-6	0.5 mg/kg	# Not Determined	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 5082669)							
EM2309607-002	OL_EX_BF_01_1.0	EP075(SIM): Phenol	108-95-2	3 mg/kg	97.5	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	96.9	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	86.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	97.1	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	63.0	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5082671)							
EM2309607-023	OL_EX_BF_09_1.0	EP075(SIM): Phenol	108-95-2	3 mg/kg	97.0	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	103	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	96.1	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	84.6	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	89.5	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5082669)							
EM2309607-002	OL_EX_BF_01_1.0	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	99.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	105	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5082671)							
EM2309607-023	OL_EX_BF_09_1.0	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	96.4	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 18.7	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082346)							
EM2309607-002	OL_EX_BF_01_1.0	EP080: C6 - C9 Fraction	----	28 mg/kg	76.6	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082347)							
EM2309607-021	OL_EX_BF_08_1.0	EP080: C6 - C9 Fraction	----	28 mg/kg	101	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082670)							
EM2309607-003	OL_EX_BF_01_1.5	EP071: C10 - C14 Fraction	----	770 mg/kg	109	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	96.8	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082672)							
EM2309607-022	OL_EX_BF_09_0.5	EP071: C10 - C14 Fraction	----	770 mg/kg	100	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	96.9	75.6	122

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5082672) - continued							
EM2309607-022	OL_EX_BF_09_0.5	EP071: C29 - C36 Fraction	----	1540 mg/kg	104	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082346)							
EM2309607-002	OL_EX_BF_01_1.0	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	71.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082347)							
EM2309607-021	OL_EX_BF_08_1.0	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	94.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082670)							
EM2309607-003	OL_EX_BF_01_1.5	EP071: >C10 - C16 Fraction	----	1170 mg/kg	100	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	96.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	103	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5082672)							
EM2309607-022	OL_EX_BF_09_0.5	EP071: >C10 - C16 Fraction	----	1170 mg/kg	87.2	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	101	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	86.0	66.8	138
EP080: BTEXN (QCLot: 5082346)							
EM2309607-002	OL_EX_BF_01_1.0	EP080: Benzene	71-43-2	2 mg/kg	82.4	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	91.0	57.1	131
EP080: BTEXN (QCLot: 5082347)							
EM2309607-021	OL_EX_BF_08_1.0	EP080: Benzene	71-43-2	2 mg/kg	103	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	112	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5087243)							
EM2308525-009	Anonymous	EG005C: Arsenic	7440-38-2	1 mg/L	110	80.0	120
		EG005C: Cadmium	7440-43-9	0.25 mg/L	105	80.0	120
		EG005C: Chromium	7440-47-3	1 mg/L	103	80.0	120
		EG005C: Copper	7440-50-8	1 mg/L	106	80.0	120
		EG005C: Lead	7439-92-1	1 mg/L	105	80.0	120
		EG005C: Nickel	7440-02-0	1 mg/L	104	80.0	120
		EG005C: Zinc	7440-66-6	1 mg/L	99.6	80.0	120
EG020T: Total Metals by ICP-MS (QCLot: 5085641)							
EM2309461-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	114	80.5	121
EG035C: Leachable Mercury by FIMS (QCLot: 5086568)							
EM2309484-002	Anonymous	EG035C: Mercury	7439-97-6	0.01 mg/L	110	84.0	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081562)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081562) - continued							
EM2309521-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	73.6	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081562)							
EM2309521-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	71.0	34.0	122
EP080: BTEXN (QCLot: 5081562)							
EM2309521-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	85.5	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	87.6	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2309607**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 26-May-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 02-Jun-2023
Sampler	: TIM SMITH02	No. of samples received	: 36
Order number	: 60693007-2	No. of samples analysed	: 35

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2309607--002	OL_EX_BF_01_1.0	**Lead**	7439-92-1	133 %	80.0-120%	**Recovery greater than upper data quality objective**
EG035T: Total Recoverable Mercury by FIMS	EM2309607--027	Bench_01B	**Mercury**	7439-97-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2309607--023	OL_EX_BF_09_1.0	**Pyrene**	129-00-0	18.7 %	65.5-136%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	12	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	12	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_QC122, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0, OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC123, Bench_01A, Bench_01B, Bench_02A, Bench_02B, Bench_03A, Bench_03B, OL_EX_QC124	**25-May-2023**	**----**	----	**----**	**30-May-2023**	08-Jun-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_QC122, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0, OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC123, Bench_01A, Bench_01B, Bench_02A, Bench_02B, Bench_03A, Bench_03B, OL_EX_QC124	**25-May-2023**	**31-May-2023**	21-Nov-2023	✓	**31-May-2023**	21-Nov-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
Bench_01A, Bench_01B, Bench_02A, Bench_02B, Bench_03A, Bench_03B, OL_EX_QC124	**25-May-2023**	**31-May-2023**	22-Jun-2023	✓	**01-Jun-2023**	22-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)							
Non-Volatile Leach: 28 day HT(e.g. Hg, CrVI) (EN33a-P)							
Bench_01A, Bench_01B, Bench_02A, Bench_02B, Bench_03A, Bench_03B, OL_EX_QC124	**25-May-2023**	**31-May-2023**	22-Jun-2023	✓	**----**	----	----
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_QC122, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0, OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_QC122, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0, OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0	**25-May-2023**	**30-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	08-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_BF_05_1.5, OL_EX_BF_07_1.0, OL_EX_BF_08_0.5, OL_EX_QC122, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC122, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**31-May-2023**	08-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0	**25-May-2023**	**30-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	08-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_BF_05_1.5, OL_EX_BF_07_1.0, OL_EX_BF_08_0.5, OL_EX_QC122, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC122, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**31-May-2023**	08-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_BF_01_0.5, OL_EX_BF_01_1.0, OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_02_1.0, OL_EX_BF_02_1.5, OL_EX_BF_03_0.5, OL_EX_BF_03_1.0, OL_EX_BF_03_1.5, OL_EX_BF_04_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_05_0.5, OL_EX_BF_05_1.0, OL_EX_BF_05_1.5, OL_EX_BF_06_0.5, OL_EX_BF_06_1.0, OL_EX_BF_07_0.5, OL_EX_BF_07_1.0	**25-May-2023**	**30-May-2023**	08-Jun-2023	✓	**01-Jun-2023**	08-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_BF_08_0.5, OL_EX_BF_08_1.0, OL_EX_BF_09_0.5, OL_EX_BF_09_1.0, OL_EX_QC122, OL_EX_QC123	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**31-May-2023**	08-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)							
Bench_01A, Bench_01B, Bench_02A, Bench_02B, Bench_03A, Bench_03B, OL_EX_QC124	**31-May-2023**	**01-Jun-2023**	27-Nov-2023	✓	**01-Jun-2023**	27-Nov-2023	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QCB13	**25-May-2023**	**01-Jun-2023**	21-Nov-2023	✓	**01-Jun-2023**	21-Nov-2023	✓
EG035C: Leachable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035C)							
Bench_01A, Bench_01B, Bench_02A, Bench_02B, Bench_03A, Bench_03B, OL_EX_QC124	**31-May-2023**	**----**	----	----	**01-Jun-2023**	28-Jun-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB13	**25-May-2023**	**31-May-2023**	01-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB13	**25-May-2023**	**31-May-2023**	01-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB13	**25-May-2023**	**31-May-2023**	01-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA12, OL_EX_QCA13, OL_EX_QCB13	**25-May-2023**	**30-May-2023**	08-Jun-2023	✓	**31-May-2023**	08-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB13	**25-May-2023**	**31-May-2023**	01-Jun-2023	✓	**01-Jun-2023**	10-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA12, OL_EX_QCA13, OL_EX_QCB13	**25-May-2023**	**30-May-2023**	08-Jun-2023	✓	**31-May-2023**	08-Jun-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA12, OL_EX_QCA13, OL_EX_QCB13	**25-May-2023**	**30-May-2023**	08-Jun-2023	✓	**31-May-2023**	08-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	32	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	35	**11.43**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	32	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	25	**12.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	35	**5.71**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	25	**8.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	35	**5.71**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	25	**8.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	35	**5.71**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	32	**9.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	25	**8.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Leachable Mercury by FIMS	EG035C	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Leachable Metals by ICPAES	EG005C	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	12	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Leachable Mercury by FIMS	EG035C	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Leachable Metals by ICPAES	EG005C	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Mercury by FIMS	EG035C	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Leachable Metals by ICPAES	EG005C	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Mercury by FIMS	EG035C	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Leachable Metals by ICPAES	EG005C	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	12	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Plastic Leaching Vessel	EN33a-P	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2309607**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 52798	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 26-May-2023 11:00	Issue Date	: 30-May-2023
Client Requested Due Date	: 06-Jun-2023	Scheduled Reporting Date	: **06-Jun-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 1.2°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 36 / 35

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EN33a-P TCLP Leachate - Plastic Leaching Vessel	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - W-02L 8 metals (TCLP)
EM2309607-001	25-May-2023 13:10	OL_EX_BF_01_0.5	✓			✓	
EM2309607-002	25-May-2023 13:10	OL_EX_BF_01_1.0	✓			✓	
EM2309607-003	25-May-2023 13:10	OL_EX_BF_01_1.5	✓			✓	
EM2309607-004	25-May-2023 13:10	OL_EX_BF_02_0.5	✓			✓	
EM2309607-005	25-May-2023 13:10	OL_EX_BF_02_1.0	✓			✓	
EM2309607-006	25-May-2023 13:10	OL_EX_BF_02_1.5	✓			✓	
EM2309607-007	25-May-2023 13:10	OL_EX_BF_03_0.5	✓			✓	
EM2309607-008	25-May-2023 13:10	OL_EX_BF_03_1.0	✓			✓	
EM2309607-009	25-May-2023 13:10	OL_EX_BF_03_1.5	✓			✓	
EM2309607-010	25-May-2023 13:10	OL_EX_BF_04_0.5	✓			✓	
EM2309607-011	25-May-2023 13:10	OL_EX_BF_04_1.0	✓			✓	
EM2309607-012	25-May-2023 13:10	OL_EX_BF_04_1.5	✓			✓	
EM2309607-013	25-May-2023 13:10	OL_EX_BF_05_0.5	✓			✓	
EM2309607-014	25-May-2023 13:10	OL_EX_BF_05_1.0	✓			✓	
EM2309607-015	25-May-2023 13:10	OL_EX_BF_05_1.5	✓			✓	
EM2309607-016	25-May-2023 13:10	OL_EX_BF_06_0.5	✓			✓	
EM2309607-017	25-May-2023 13:10	OL_EX_BF_06_1.0	✓			✓	
EM2309607-018	25-May-2023 13:10	OL_EX_BF_07_0.5	✓			✓	
EM2309607-019	25-May-2023 13:10	OL_EX_BF_07_1.0	✓			✓	
EM2309607-020	25-May-2023 13:10	OL_EX_BF_08_0.5	✓			✓	
EM2309607-021	25-May-2023 13:10	OL_EX_BF_08_1.0	✓			✓	
EM2309607-022	25-May-2023 13:10	OL_EX_BF_09_0.5	✓			✓	
EM2309607-023	25-May-2023 13:10	OL_EX_BF_09_1.0	✓			✓	
EM2309607-024	25-May-2023 13:10	OL_EX_QC122	✓			✓	
EM2309607-025	25-May-2023 13:10	OL_EX_QC123	✓			✓	
EM2309607-026	25-May-2023 13:10	Bench_01A	✓	✓	✓		✓
EM2309607-027	25-May-2023 13:10	Bench_01B	✓	✓	✓		✓
EM2309607-028	25-May-2023 13:10	Bench_02A	✓	✓	✓		✓
EM2309607-029	25-May-2023 13:10	Bench_02B	✓	✓	✓		✓
EM2309607-030	25-May-2023 13:10	Bench_03A	✓	✓	✓		✓
EM2309607-031	25-May-2023 13:10	Bench_03B	✓	✓	✓		✓
EM2309607-032	25-May-2023 00:00	OL_EX_QC124	✓	✓	✓		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2309607-033	25-May-2023 00:00	OL_EX_QCA12	✓	
EM2309607-034	25-May-2023 00:00	OL_EX_QCA13	✓	
EM2309607-035	25-May-2023 00:00	OL_EX_QCB13		✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested
EM2309607-036	25-May-2023 00:00	OL_EX_QCC08	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

ALSCompass SAMPLING Intelligence

ALS

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2309607

Telephone : +61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: _____ Client: AECOM Project Manager: _____

Phone: ( )

ALS Compass COC Reference: 52798 # Samples: _____ Sampler: _____

Phone: ( )

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by: KO	Relinquished by:	Received by:
	26/5/23 11:00		
Date / Time:	Date / Time:	Date / Time:	Date / Time:

CHAIN OF CUSTODY

(ALS) *COC#:* 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_SP_0.5-1.0_01			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
002	UST_SP_0.5-1.0_02			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
003	UST_SP_0.5-1.0_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
004	UST_SP_0.5-1.0_04			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
005	UST_SP_1.0-1.5_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
006	UST_SP_1.0-1.5_02			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
007	UST_SP_1.0-1.5_03			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
008	Rail timber_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
009	UST_SP_1.5-2.0_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	

CHAIN OF CUSTODY

(ALS) COC#: 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_SP_1.5-2.0_02			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
011	UST_SP_1.5-2.0_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
012	UST_SP_1.5-2.0_04			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
013	UST_SP_1.5-2.0_05			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
014	UST_SP_Ext_01			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
015	UST_SP_Ext_02			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
016	UST_SP_Ext_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
017	UST_SP_Ext_04			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
018	UST_SP_Ext_05			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	

CHAIN OF CUSTODY

(ALS) COC#: 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_SP_Ext_06			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
020	UST_SP_Ext_07			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
021	UST_SP_Ext_08			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
022	UST_SP_ch77-80_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
023	UST_SP_ch77-80_02			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
024	UST_SP_ch77-80_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
025	UST_QC109			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
026	UST_QC110			SOIL	ALS: 0 Non ALS: 0	No	-		
027	UST_QC209			SOIL	ALS: 0 Non ALS: 0	No	-	Please forward to eurofins for EPA TASMANIA IB105 SUITE	

CHAIN OF CUSTODY

ALS COC#: 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	UST_QC210			SOIL	ALS: 0 Non ALS: 0	No	-		
029	UST_QC208			SOIL	ALS: 0 Non ALS: 0	No	-	Please forward to eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
030	UST_QC108			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
031	OL_90_1.0			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
032	OL_90_0.6_E			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
033	Untitled			SOIL	ALS: 0 Non ALS: 0	No	-		

Total Bottle Count: ALS: 0, Non ALS: 0

Felix Dong

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 10:53 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: AECOMAU COMPASS 52798

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

This is that same problem with Compass – it does not appear to have updated/sync'd the sample names when the COC is finalised.

	Compass 52798		sample date	TRH BTEXN PAH Phenols Pb	8 metals suite	TCLP 8 metals suite		HOLD
1	OL_EX_BF_01_0.5	5 day TAT	25-May	1				
2	OL_EX_BF_01_1.0	5 day TAT	25-May	1				
3	OL_EX_BF_01_1.5	5 day TAT	25-May	1				
4	OL_EX_BF_02_0.5	5 day TAT	25-May	1				
5	OL_EX_BF_02_1.0	5 day TAT	25-May	1				
6	OL_EX_BF_02_1.5	5 day TAT	25-May	1				
7	OL_EX_BF_03_0.5	5 day TAT	25-May	1				
8	OL_EX_BF_03_1.0	5 day TAT	25-May	1				
9	OL_EX_BF_03_1.5	5 day TAT	25-May	1				
10	OL_EX_BF_04_0.5	5 day TAT	25-May	1				
11	OL_EX_BF_04_1.0	5 day TAT	25-May	1				
12	OL_EX_BF_04_1.5	5 day TAT	25-May	1				
13	OL_EX_BF_05_0.5	5 day TAT	25-May	1				
14	OL_EX_BF_05_1.0	5 day TAT	25-May	1				
15	OL_EX_BF_05_1.5	5 day TAT	25-May	1				
16	OL_EX_BF_06_0.5	5 day TAT	25-May	1				
17	OL_EX_BF_06_1.0	5 day TAT	25-May	1				
18	OL_EX_BF_07_0.5	5 day TAT	25-May	1				
19	OL_EX_BF_07_1.0	5 day TAT	25-May	1				
20	OL_EX_BF_08_0.5	5 day TAT	25-May	1				

21	OL_EX_BF_08_1.0	5 day TAT	**25-May**	1				
22	OL_EX_BF_09_0.5	5 day TAT	**25-May**	1				
23	OL_EX_BF_09_1.0	5 day TAT	**25-May**	1				
24	OL_EX_QC122	5 day TAT	**25-May**	1				
25	OL_EX_QC123	5 day TAT	**25-May**	1				
→	OL_EX_QC222	5 day TAT	**25-May**	1	Please forward to Eurofins for analysis			
→	OL_EX_QC223	5 day TAT	**25-May**	1	Please forward to Eurofins for analysis			
26	Bench_01A	5 day TAT	**25-May**		1	1		
27	Bench_01B	5 day TAT	**25-May**		1	1		
28	Bench_02A	5 day TAT	**25-May**		1	1		
29	Bench_02B	5 day TAT	**25-May**		1	1		
30	Bench_03A	5 day TAT	**25-May**		1	1		
31	Bench_03B	5 day TAT	**25-May**		1	1		

Extra: ~~QC124~~

#32: QC124 & QC224

#33: EX-QCA12

#34: EX-QCA13

#35: OL-EX-QCB13

#36: OL-EX-QCC08

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







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ALSCompass SAMPLING Intelligence

ALS

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2309607

Telephone : +61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: _____ Client: AECOM Project Manager: _____

Phone: ( )

ALS Compass COC Reference: 52798 # Samples: _____ Sampler: _____

Phone: ( )

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by: KO	Relinquished by:	Received by:
	26/5/23 11:00		
Date / Time:	Date / Time:	Date / Time:	Date / Time:

CHAIN OF CUSTODY

ALS COC#: 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	UST_SP_0.5-1.0_01			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
002	UST_SP_0.5-1.0_02			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
003	UST_SP_0.5-1.0_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
004	UST_SP_0.5-1.0_04			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
005	UST_SP_1.0-1.5_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
006	UST_SP_1.0-1.5_02			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
007	UST_SP_1.0-1.5_03			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
008	Rail timber_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
009	UST_SP_1.5-2.0_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	

CHAIN OF CUSTODY

(ALS) COC#: 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	UST_SP_1.5-2.0_02			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
011	UST_SP_1.5-2.0_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
012	UST_SP_1.5-2.0_04			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
013	UST_SP_1.5-2.0_05			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
014	UST_SP_Ext_01			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
015	UST_SP_Ext_02			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
016	UST_SP_Ext_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
017	UST_SP_Ext_04			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
018	UST_SP_Ext_05			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	

CHAIN OF CUSTODY

ALS COC#: 52798 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_SP_Ext_06			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
020	UST_SP_Ext_07			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
021	UST_SP_Ext_08			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
022	UST_SP_ch77-80_01			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
023	UST_SP_ch77-80_02			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
024	UST_SP_ch77-80_03			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
025	UST_QC109			SOIL	ALS: 0 Non ALS: 0	No	-	EPA TASMANIA IB105 SUITE	
026	UST_QC110			SOIL	ALS: 0 Non ALS: 0	No	-		
027	UST_QC209			SOIL	ALS: 0 Non ALS: 0	No	-	Please forward to eurofins for EPA TASMANIA IB105 SUITE	

CHAIN OF CUSTODY

ALS COC#: 52798 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	UST_QC210			SOIL	ALS: 0 Non ALS: 0	No	-		
029	UST_QC208			SOIL	ALS: 0 Non ALS: 0	No	-	Please forward to eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
030	UST_QC108			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
031	OL_90_1.0			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
032	OL_90_0.6_E			SOIL	ALS: 0 Non ALS: 0	No	-	TRH BTEXN PAH PHENOLS Pb	
033	Untitled			SOIL	ALS: 0 Non ALS: 0	No	-		

Total Bottle Count: ALS: 0, Non ALS: 0

Felix Dong

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 10:53 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: AECOMAU COMPASS 52798

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

This is that same problem with Compass – it does not appear to have updated/sync'd the sample names when the COC is finalised.

	Compass 52798		sample date	TRH BTEXN PAH Phenols Pb	8 metals suite	TCLP 8 metals suite		HOLD
1	OL_EX_BF_01_0.5	5 day TAT	25-May	1				
2	OL_EX_BF_01_1.0	5 day TAT	25-May	1				
3	OL_EX_BF_01_1.5	5 day TAT	25-May	1				
4	OL_EX_BF_02_0.5	5 day TAT	25-May	1				
5	OL_EX_BF_02_1.0	5 day TAT	25-May	1				
6	OL_EX_BF_02_1.5	5 day TAT	25-May	1				
7	OL_EX_BF_03_0.5	5 day TAT	25-May	1				
8	OL_EX_BF_03_1.0	5 day TAT	25-May	1				
9	OL_EX_BF_03_1.5	5 day TAT	25-May	1				
10	OL_EX_BF_04_0.5	5 day TAT	25-May	1				
11	OL_EX_BF_04_1.0	5 day TAT	25-May	1				
12	OL_EX_BF_04_1.5	5 day TAT	25-May	1				
13	OL_EX_BF_05_0.5	5 day TAT	25-May	1				
14	OL_EX_BF_05_1.0	5 day TAT	25-May	1				
15	OL_EX_BF_05_1.5	5 day TAT	25-May	1				
16	OL_EX_BF_06_0.5	5 day TAT	25-May	1				
17	OL_EX_BF_06_1.0	5 day TAT	25-May	1				
18	OL_EX_BF_07_0.5	5 day TAT	25-May	1				
19	OL_EX_BF_07_1.0	5 day TAT	25-May	1				
20	OL_EX_BF_08_0.5	5 day TAT	25-May	1				

21	OL_EX_BF_08_1.0	5 day TAT	**25-May**	1				
22	OL_EX_BF_09_0.5	5 day TAT	**25-May**	1				
23	OL_EX_BF_09_1.0	5 day TAT	**25-May**	1				
24	OL_EX_QC122	5 day TAT	**25-May**	1				
25	OL_EX_QC123	5 day TAT	**25-May**	1				
→	OL_EX_QC222	5 day TAT	**25-May**	1	Please forward to Eurofins for analysis			
→	OL_EX_QC223	5 day TAT	**25-May**	1	Please forward to Eurofins for analysis			
26	Bench_01A	5 day TAT	**25-May**		1	1		
27	Bench_01B	5 day TAT	**25-May**		1	1		
28	Bench_02A	5 day TAT	**25-May**		1	1		
29	Bench_02B	5 day TAT	**25-May**		1	1		
30	Bench_03A	5 day TAT	**25-May**		1	1		
31	Bench_03B	5 day TAT	**25-May**		1	1		

Extra: ~~QC124~~

#32: QC124 & QC224

#33: EX-QCA12

#34: EX-QCA13

#35: OL-EX-QCB13

#36: OL-EX-QCC08

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004

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MUWININA
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Felix Dong

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 12:37 PM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: - RE: AECOMAU COMPASS 52798

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Thanks Peter, sorry about that

Compass 52798		sample date	**8 metals suite**	**TCLP 8 metals suite**	**Trip blank TRH C6-C10 BTEXN**	**Rinsate blank TRH BTEXN PAH Phenols Pb**	**HOLD**
OL_EX_QC214	5 day TAT	**25-May**	1	1			
OL_EX_QC224	5 day TAT	**25-May**	1	1	Please forward to Eurofins for analysis		
OL_EX_QCA12	5 day TAT	**25-May**			1		
OL_EX_QCA13	5 day TAT	**25-May**			1		
OL_EX_QCB13	5 day TAT	**25-May**				1	
OL_EX_QCC08	5 day TAT	**25-May**					HOLD

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

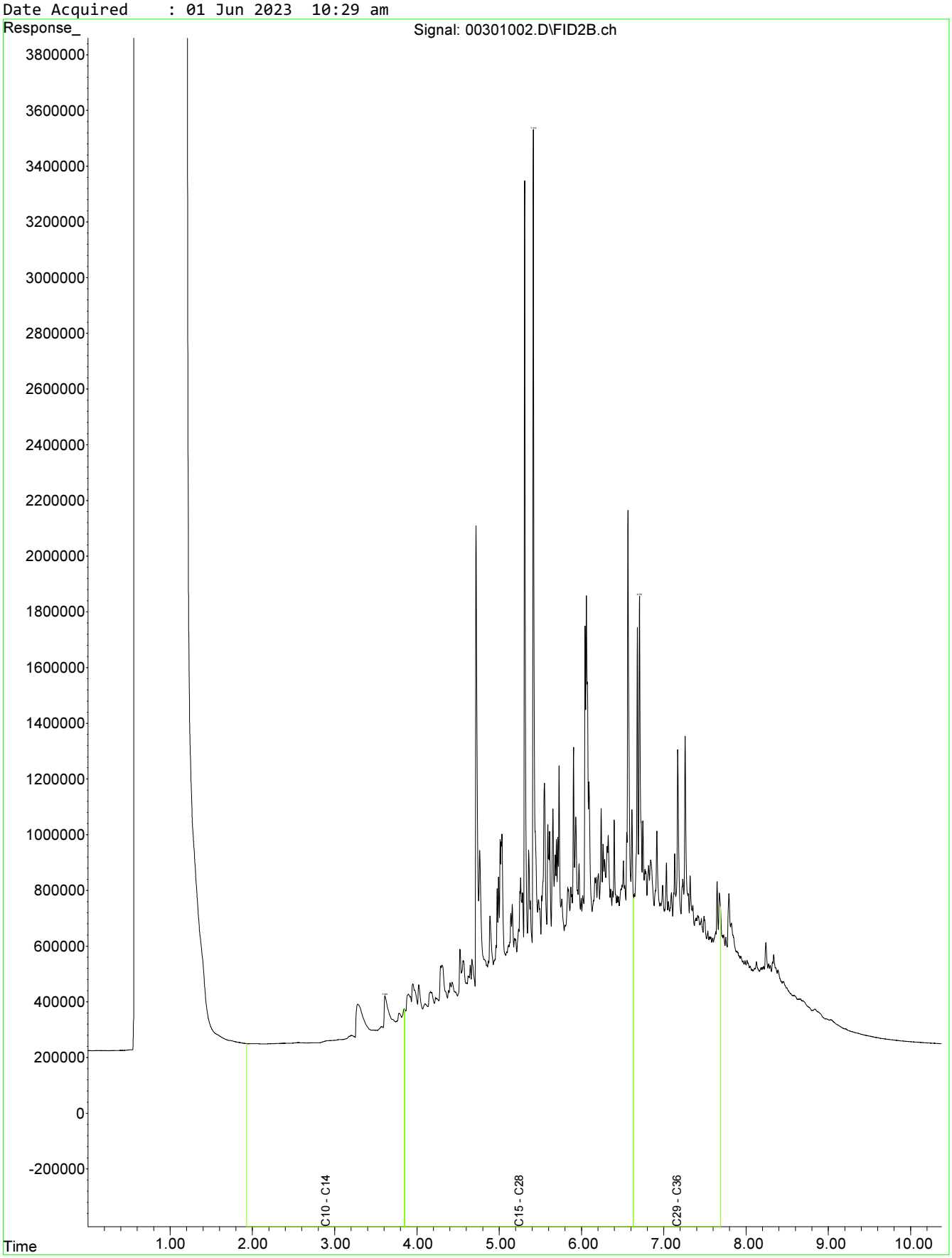
One email is estimated to produce 10^{-6} T of CO_2 equivalent. Not much? But, considering the average person sends ten unactionable, unnecessary emails per week, the cumulative carbon footprint mounts substantially. Please don't be offended if you don't receive acknowledgement emails from me. I appreciate deeply those I work for and with.

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004



aecom.com

Fraction Scheme : Legacy Fractions
Data File : 00301002.D
Laboratory Number: EM2309607-001
Sample ID : OL_EX_BF_01_0.5
Date Acquired : 01 Jun 2023 10:29 am



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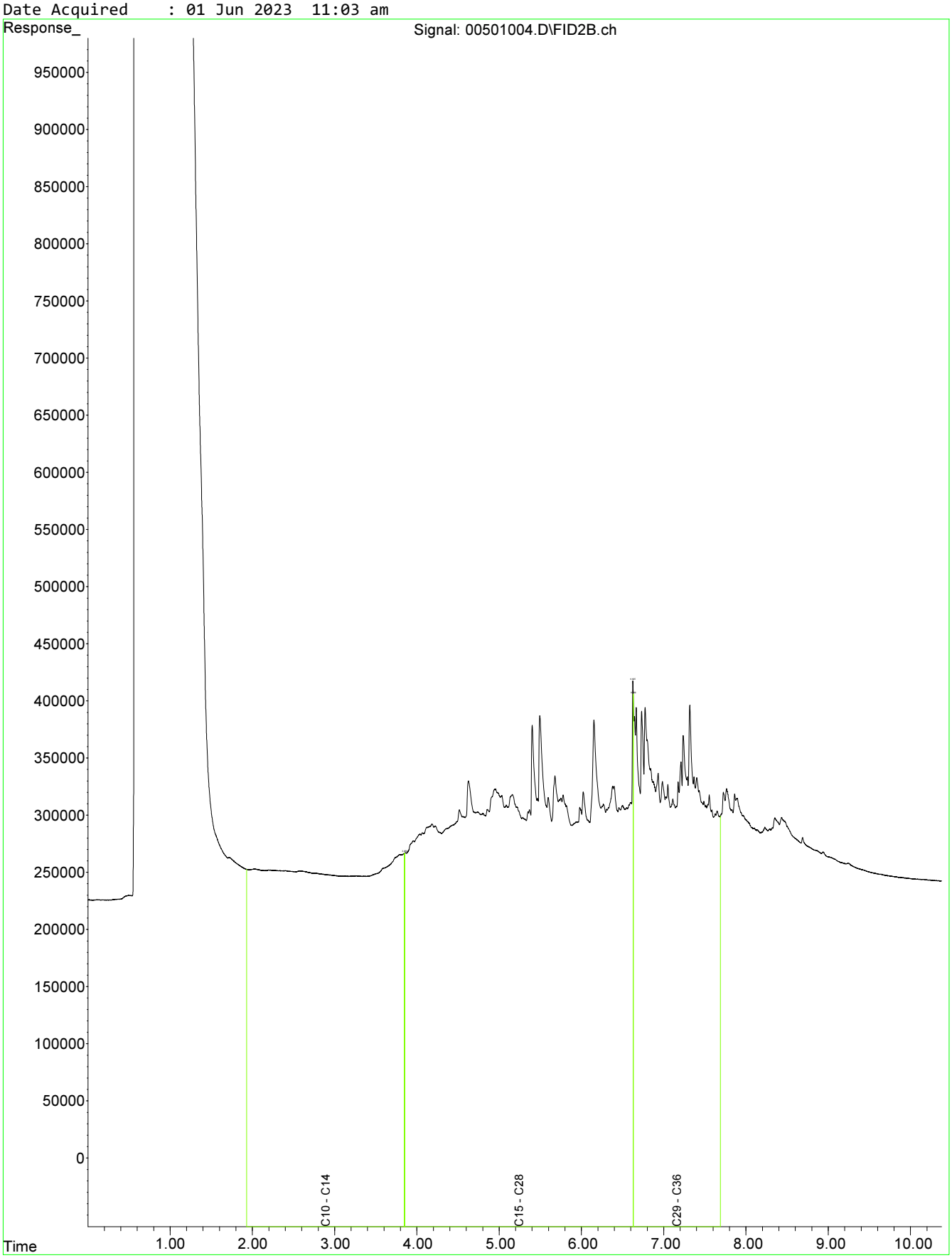
Data File : 00501004.D
Laboratory Number: EM2309607-002
Sample ID : OL_EX_BF_01_1.0
Date Acquired : 01 Jun 2023 11:03 am



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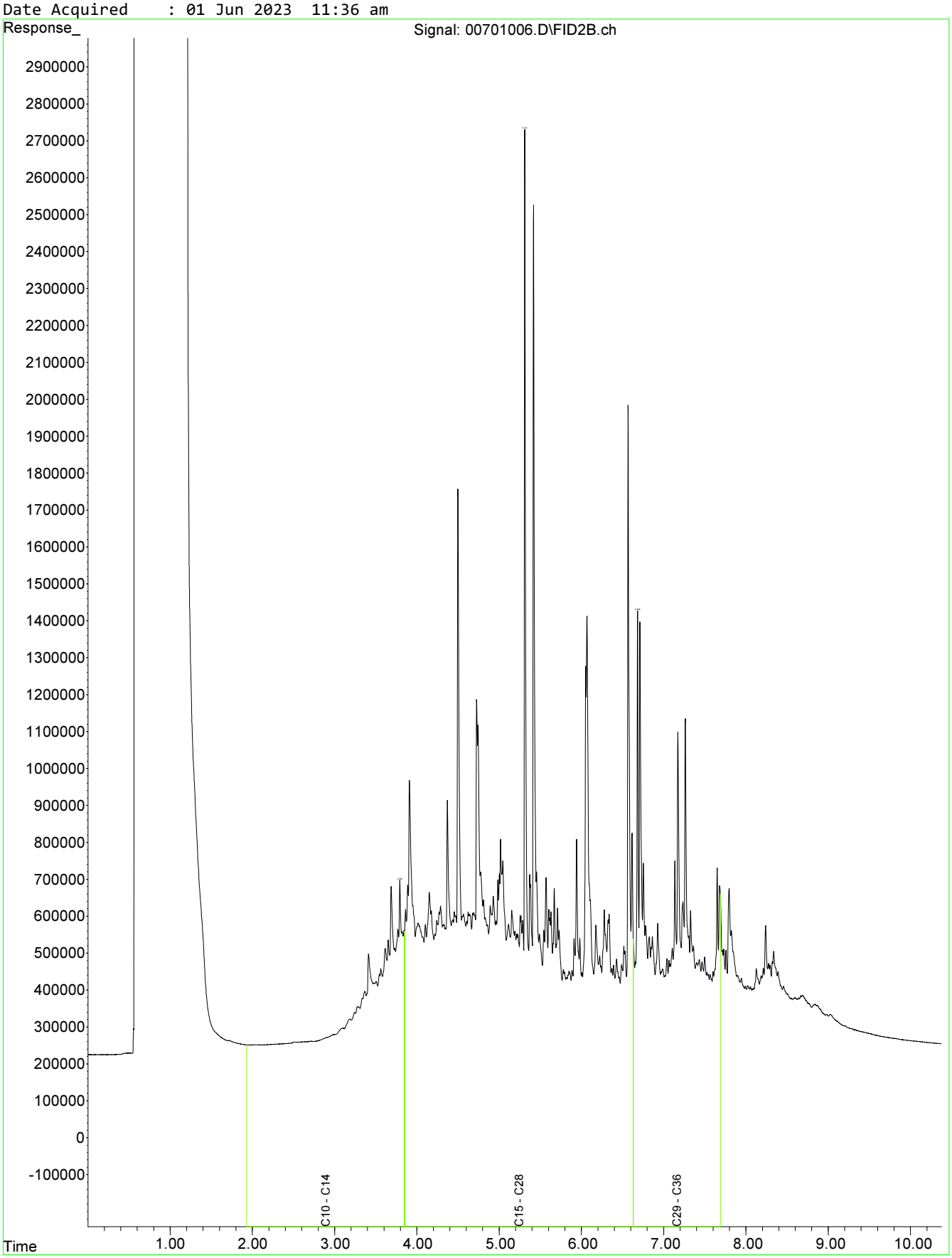
Data File : 00701006.D
Laboratory Number: EM2309607-003
Sample ID : OL_EX_BF_01_1.5
Date Acquired : 01 Jun 2023 11:36 am



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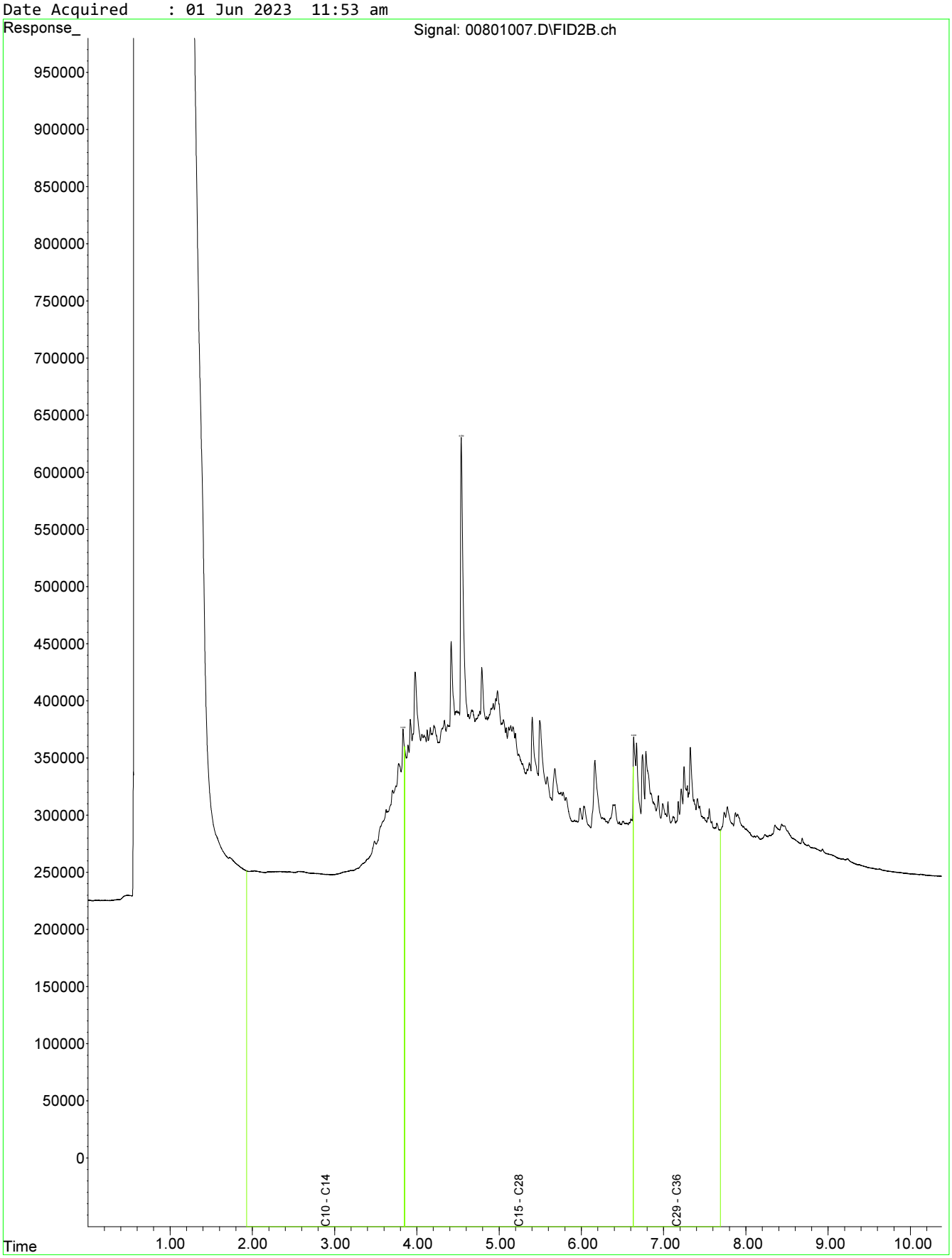
Date Acquired : 01 Jun 2023 11:53 am



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Laboratory Number: EM2309607-005
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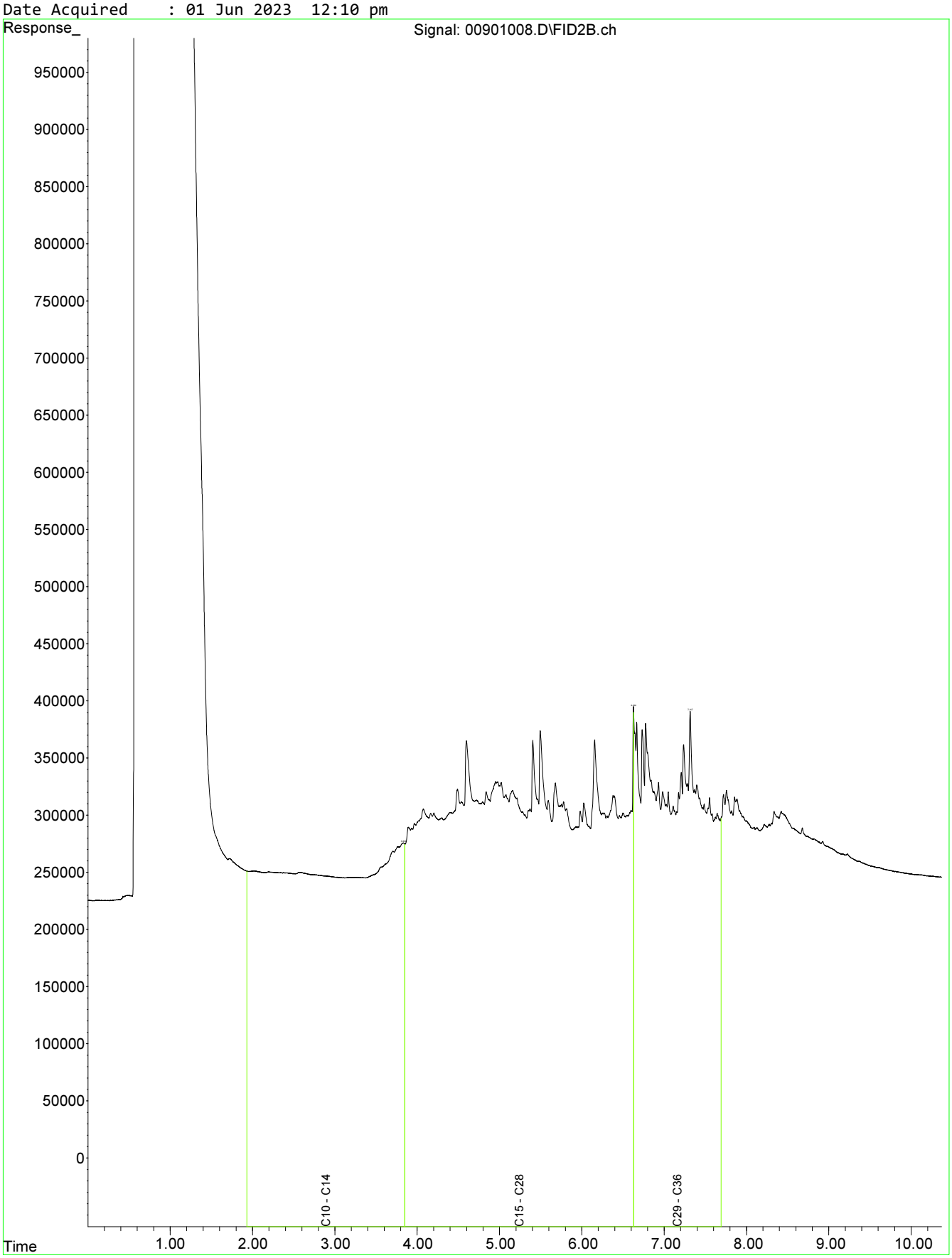
Date Acquired : 01 Jun 2023 12:10 pm



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Laboratory Number: EM2309607-006
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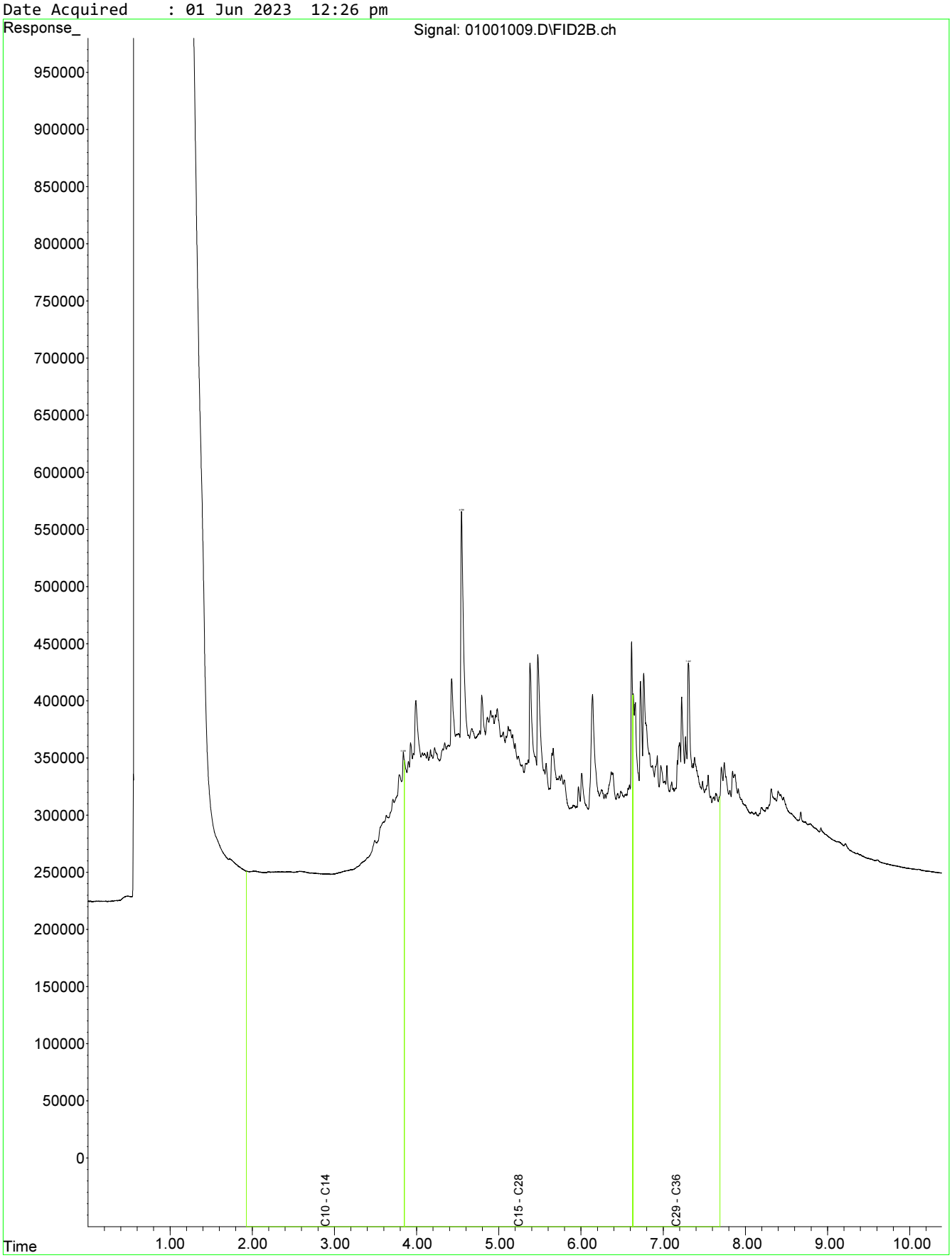
Date Acquired : 01 Jun 2023 12:26 pm



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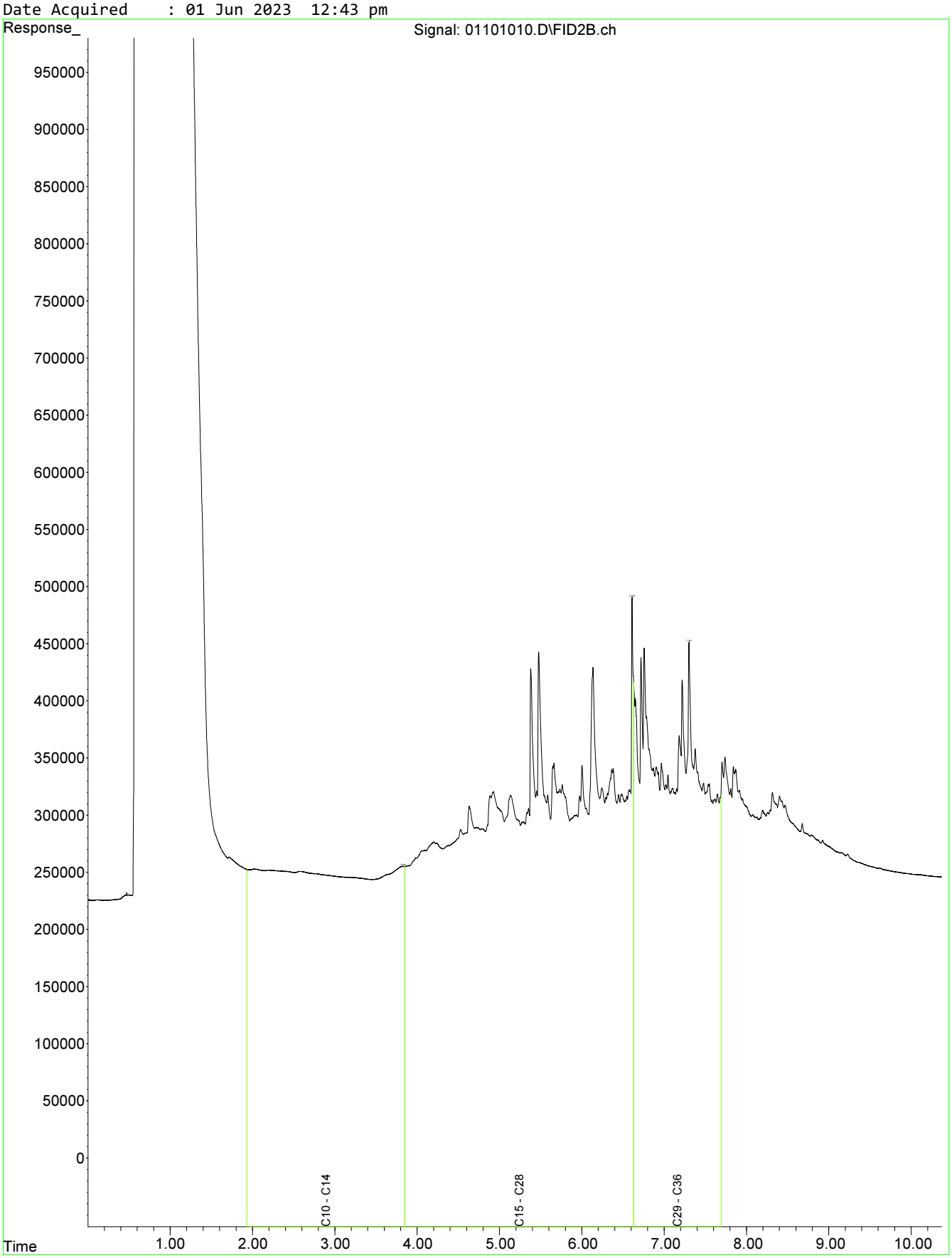
Date Acquired : 01 Jun 2023 12:43 pm



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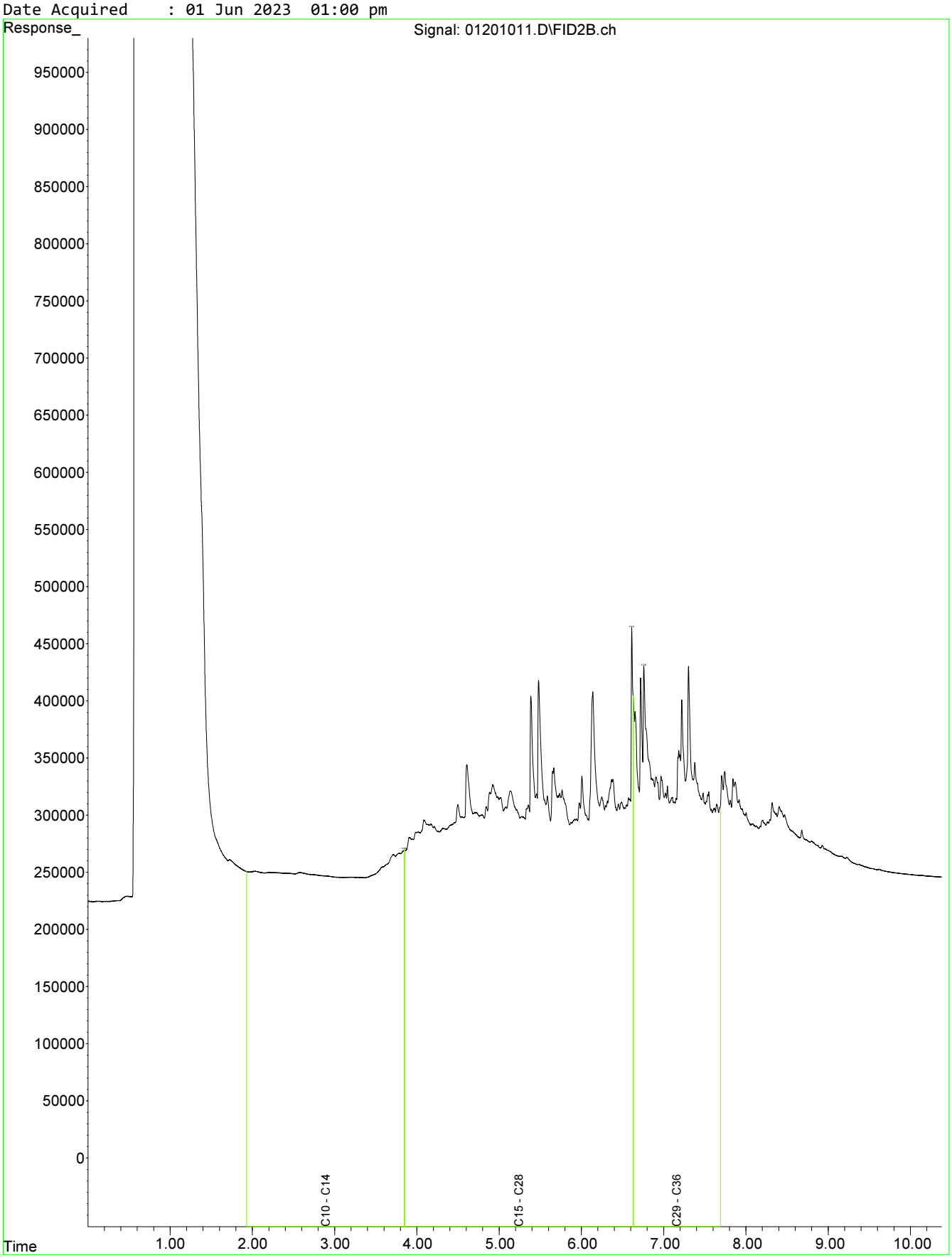
Sample ID : OL_EX_BF_03_1.0
Date Acquired : 01 Jun 2023 01:00 pm



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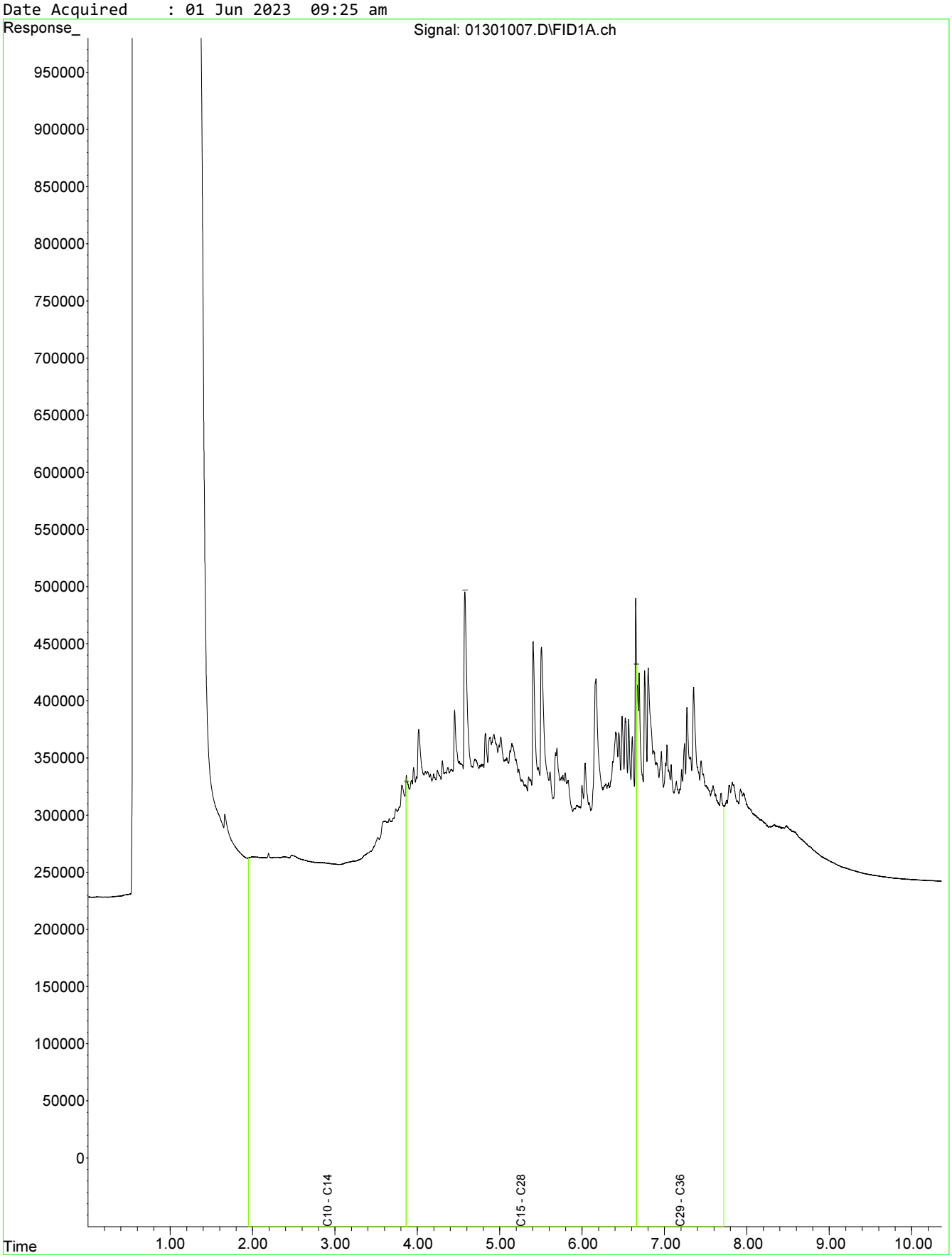
Laboratory Number: EM2309607-009
Sample ID : OL_EX_BF_03_1.5
Date Acquired : 01 Jun 2023 09:25 am



Fraction Scheme : Legacy Fractions
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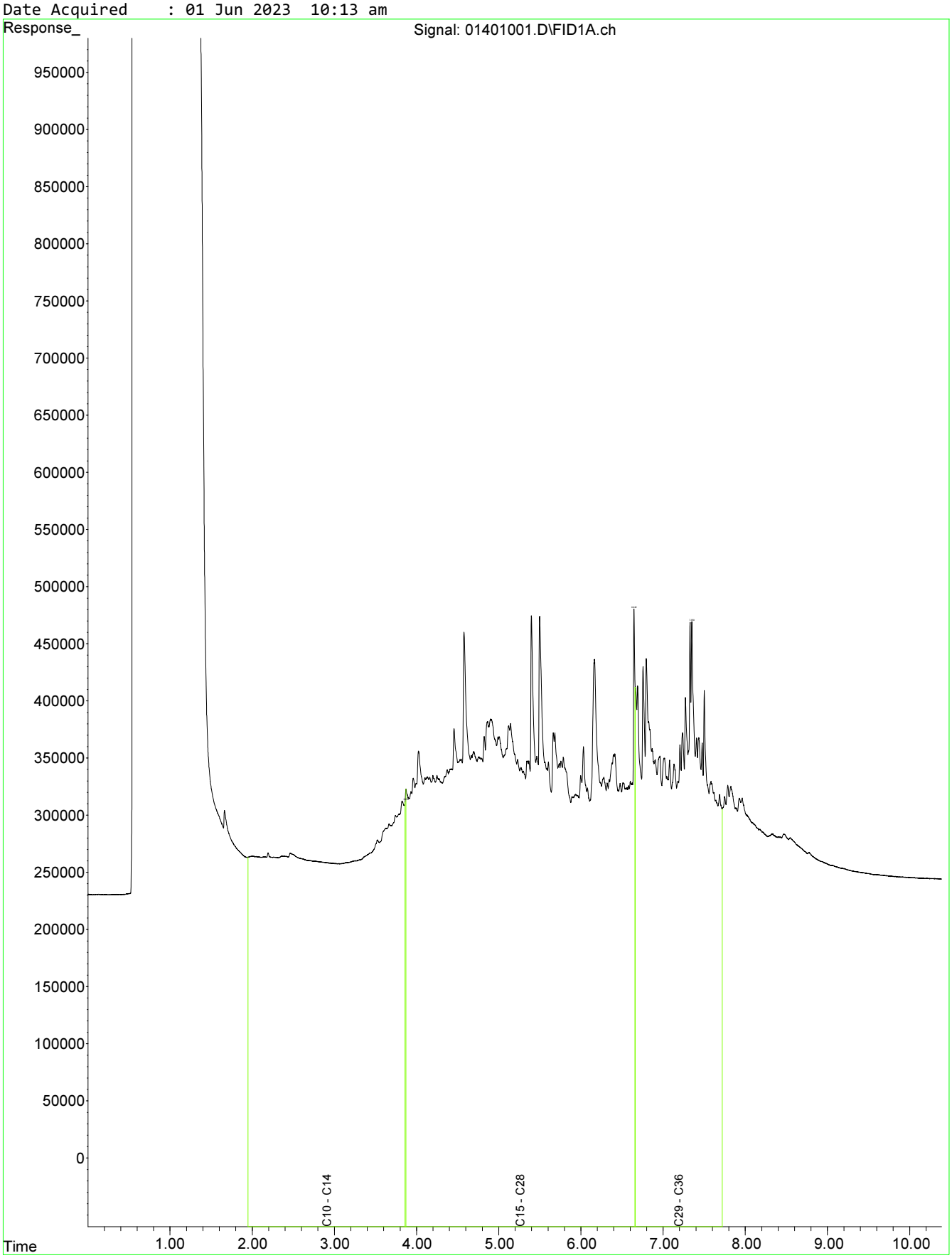
Laboratory Number: EM2309607-010
Sample ID : OL_EX_BF_04_0.5
Date Acquired : 01 Jun 2023 10:13 am



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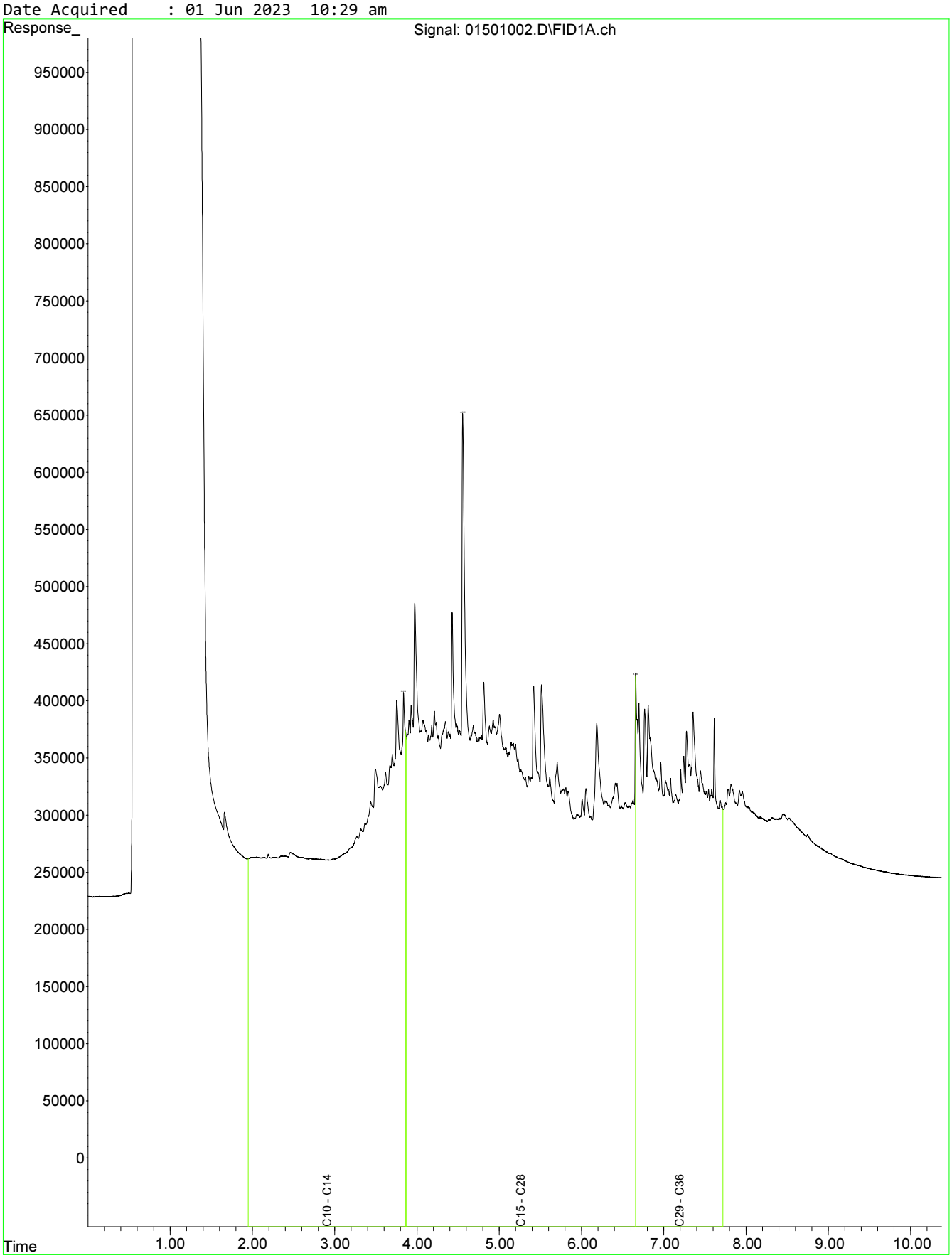
Sample ID : OL_EX_BF_04_1.0
Date Acquired : 01 Jun 2023 10:29 am



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Laboratory Number: EM2309607-012
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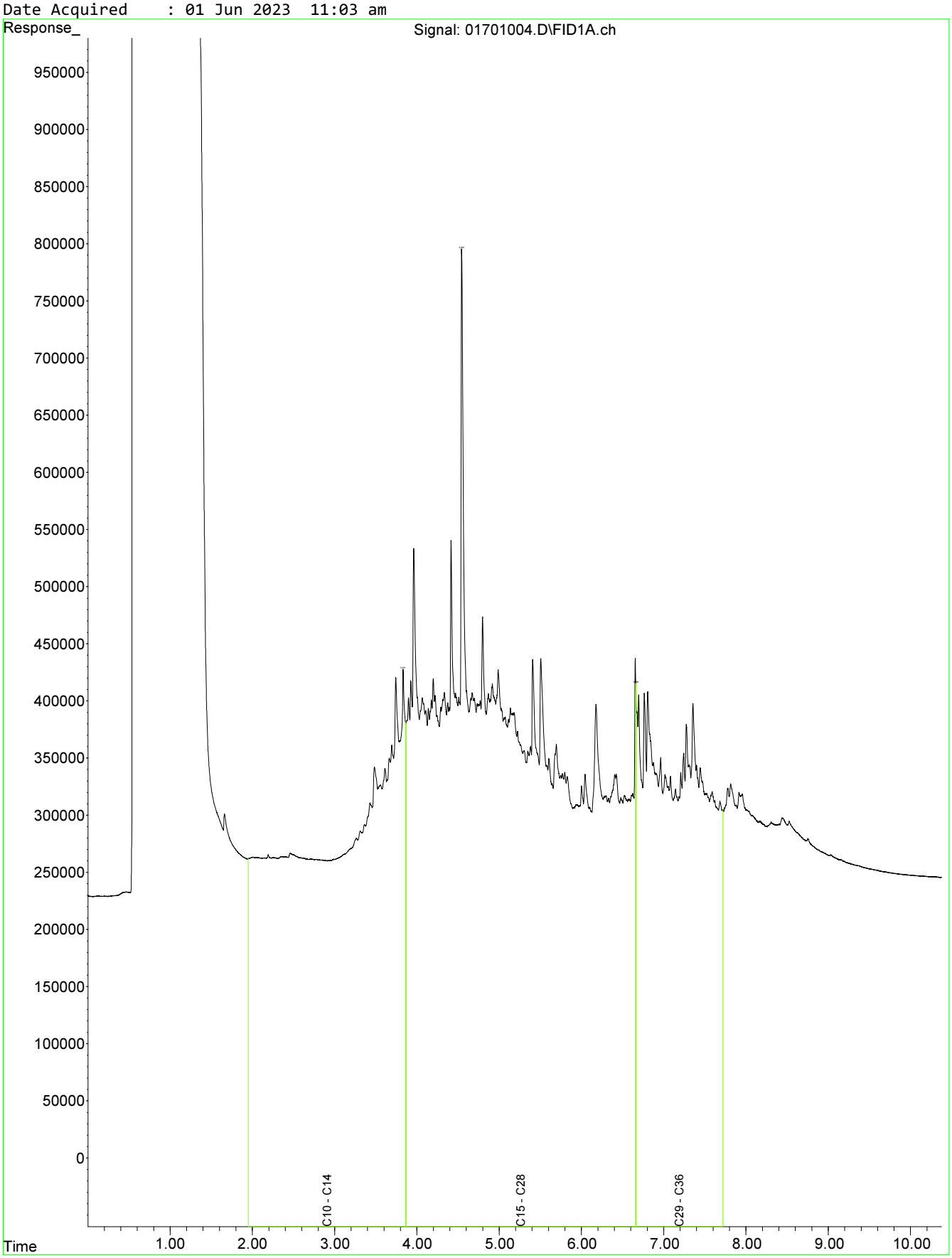
Date Acquired : 01 Jun 2023 11:03 am



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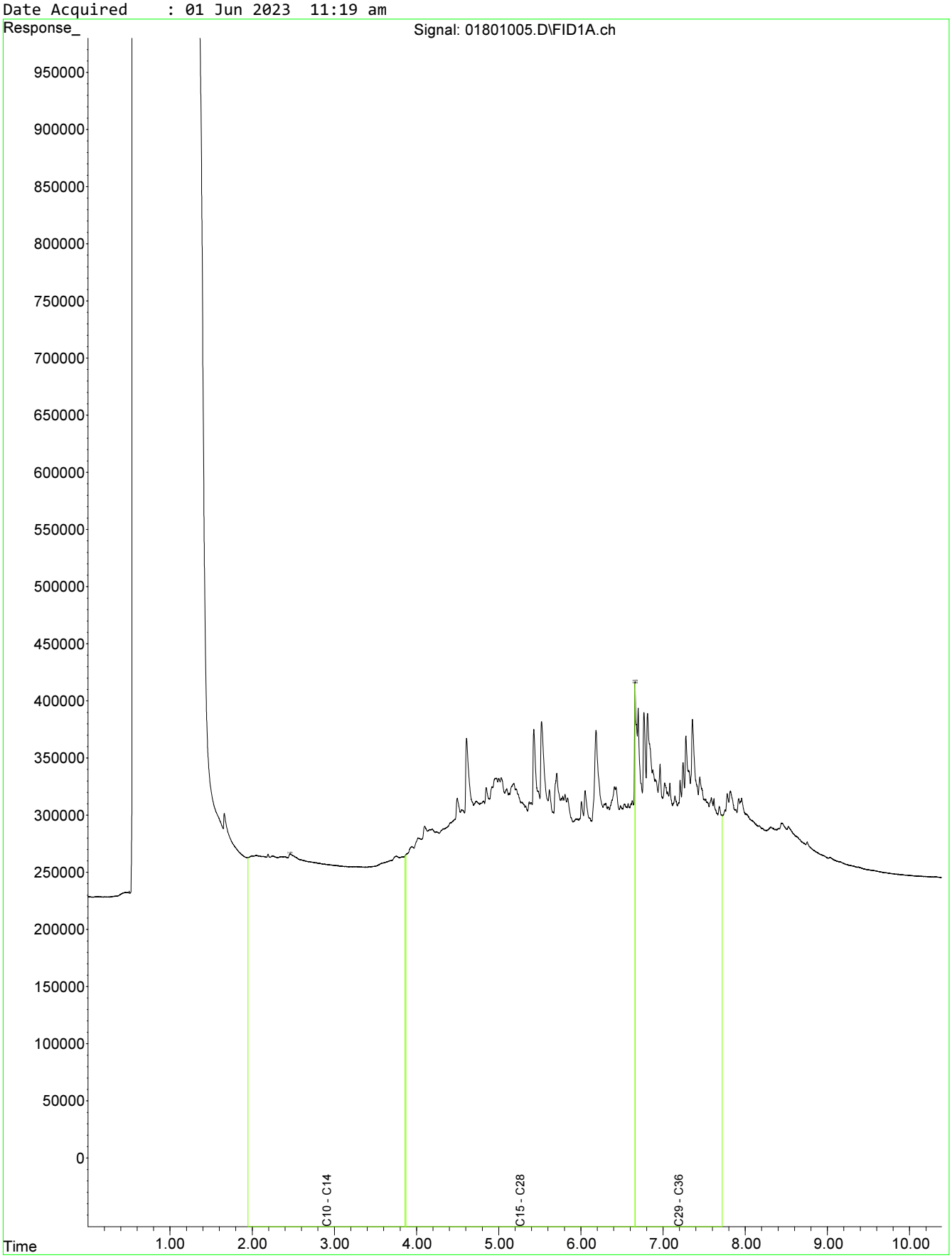
Date Acquired : 01 Jun 2023 11:19 am



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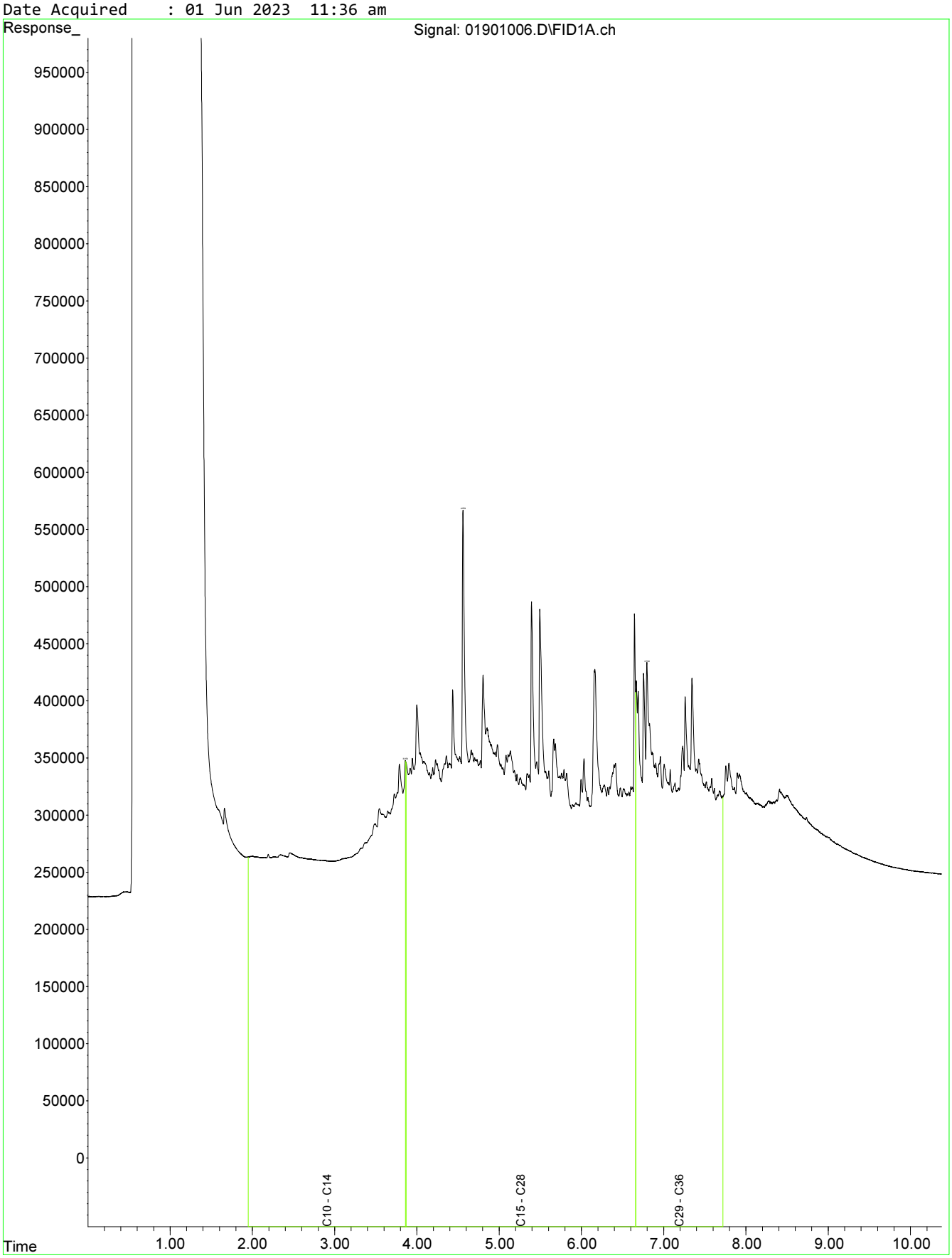
Date Acquired : 01 Jun 2023 11:36 am



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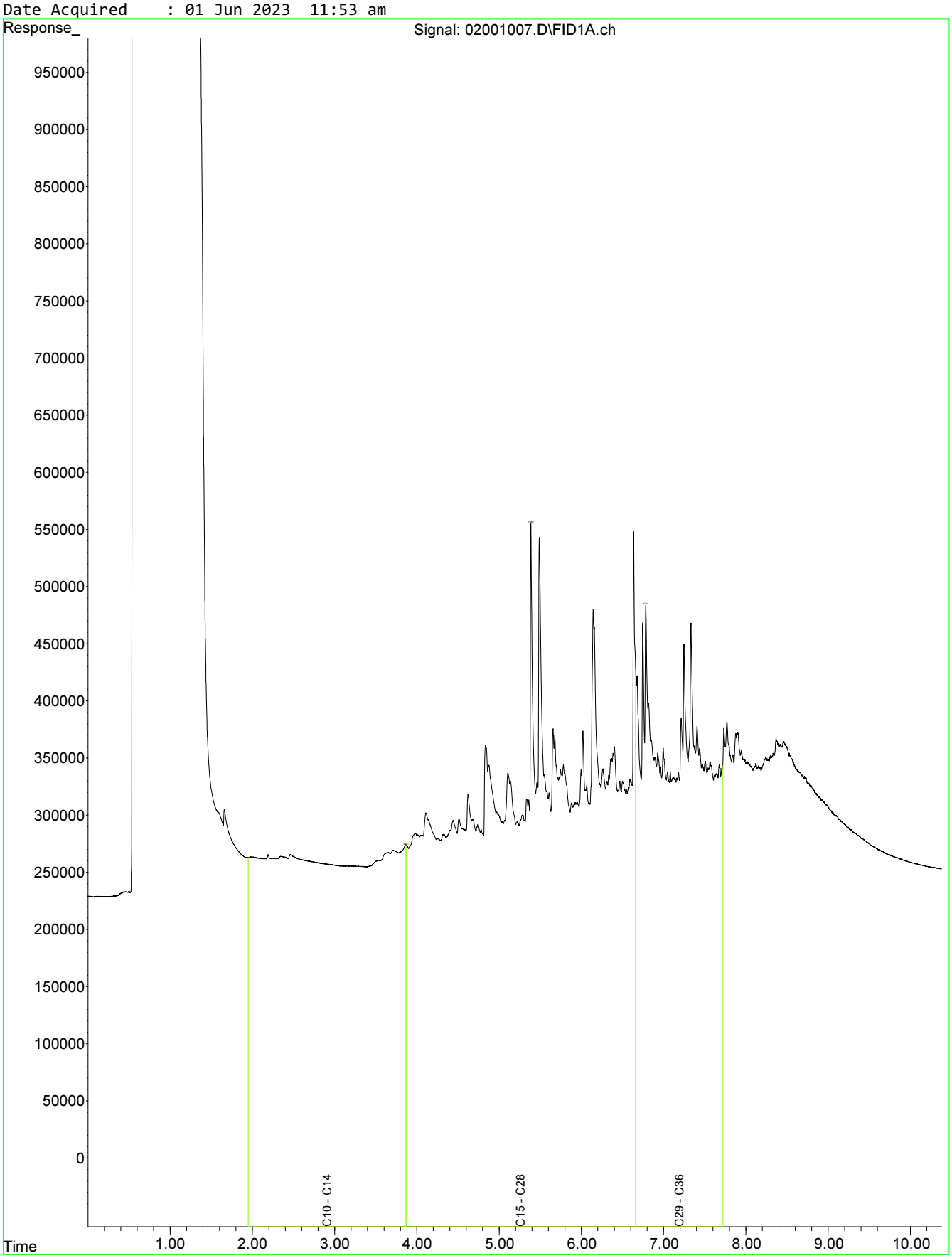
Sample ID : OL_EX_BF_05_1.5
Date Acquired : 01 Jun 2023 11:53 am



Fraction Scheme : Legacy Fractions
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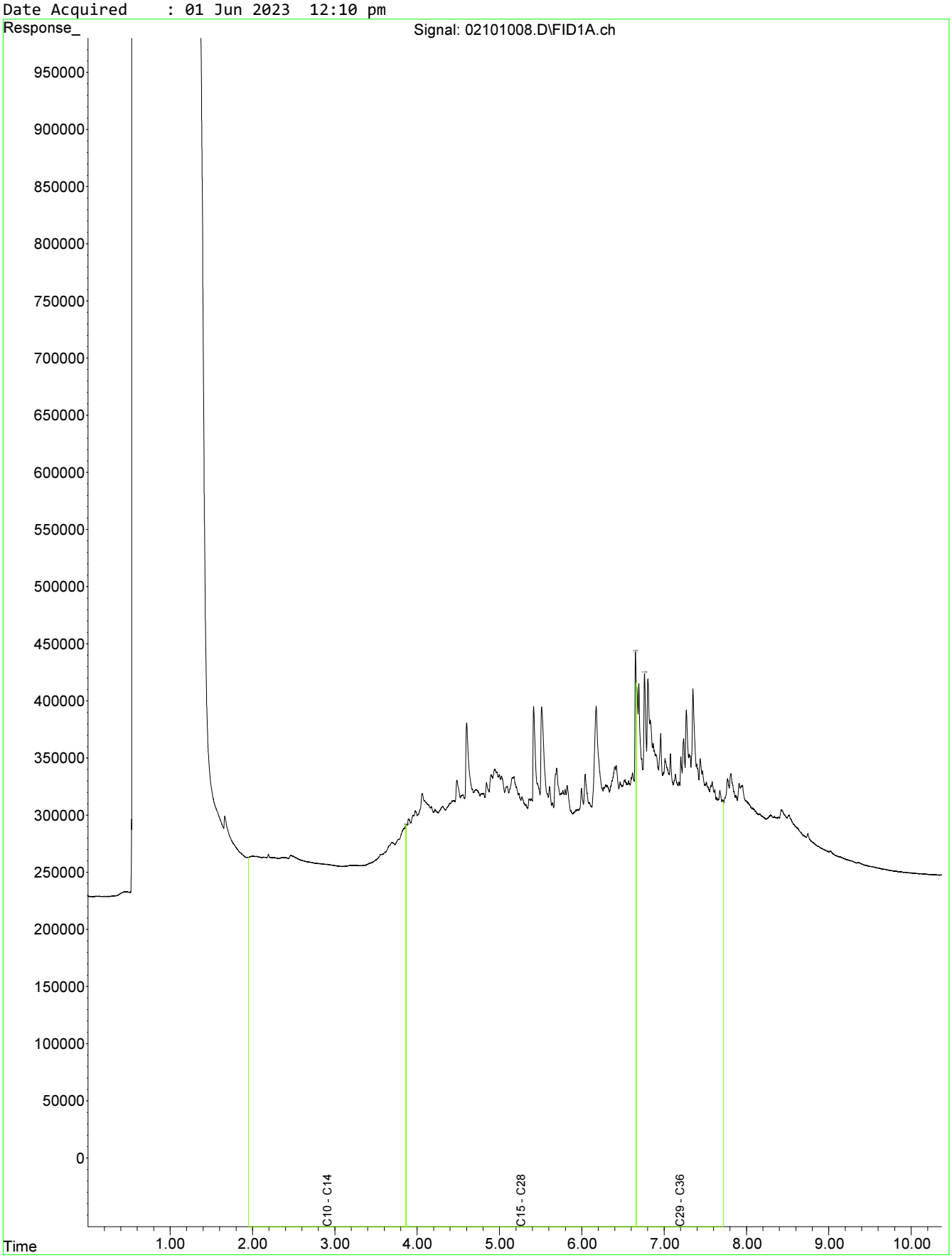
Laboratory Number: EM2309607-016
Sample ID : OL_EX_BF_06_0.5
Date Acquired : 01 Jun 2023 12:10 pm



Fraction Scheme : Legacy Fractions
Data File : 02201009.D
Laboratory Number: EM2309607-017
Sample ID : OL_EX_BF_06_1.0
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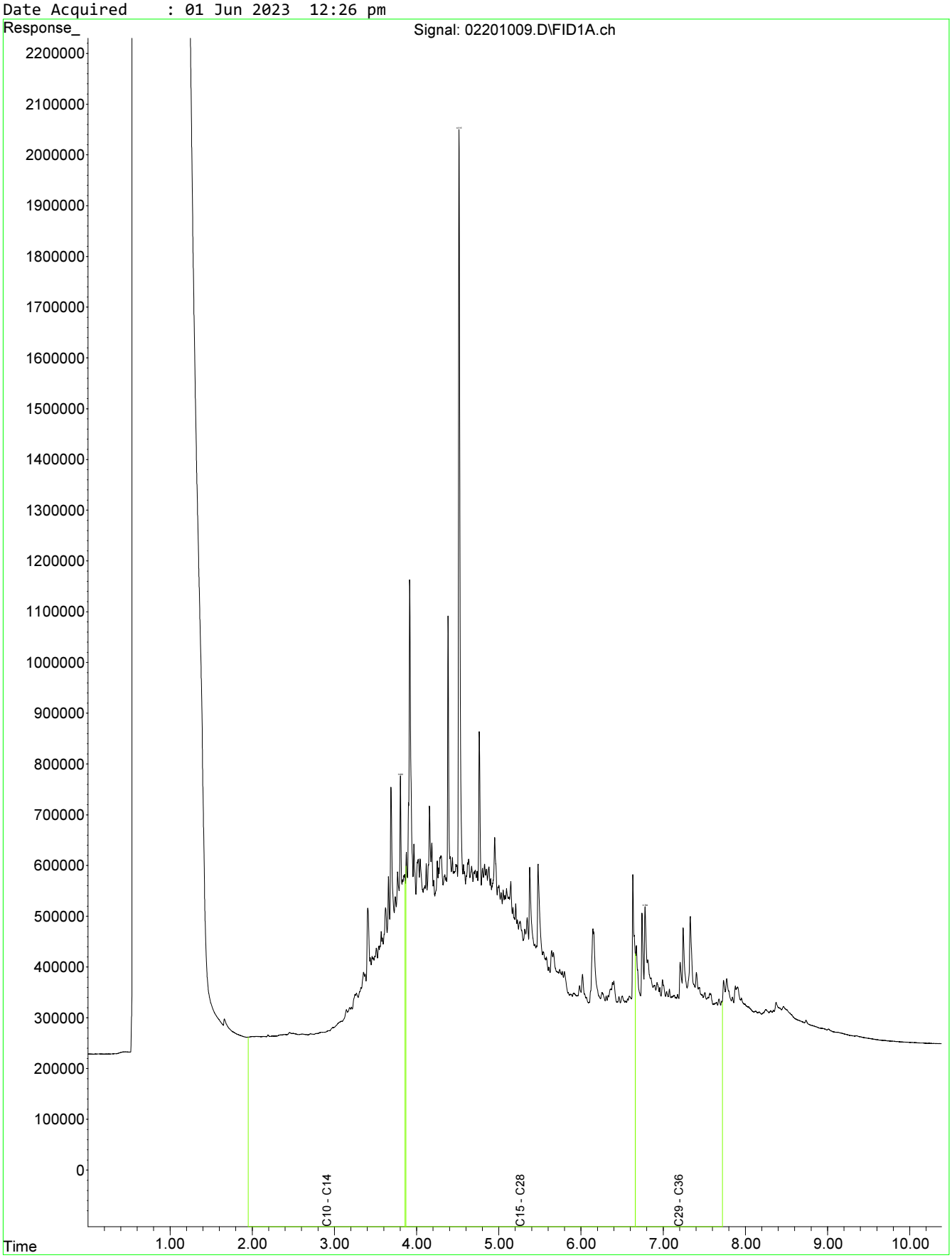

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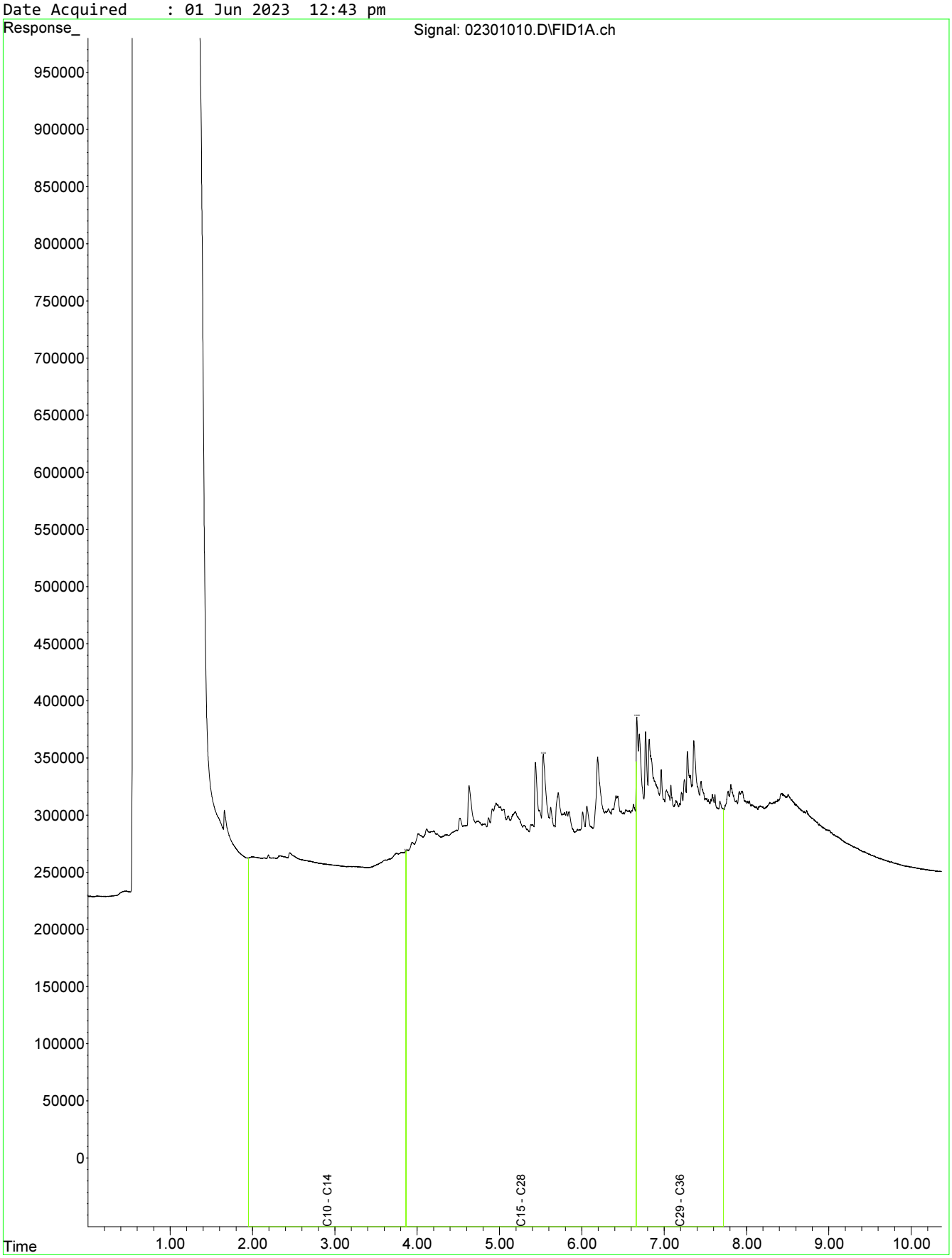

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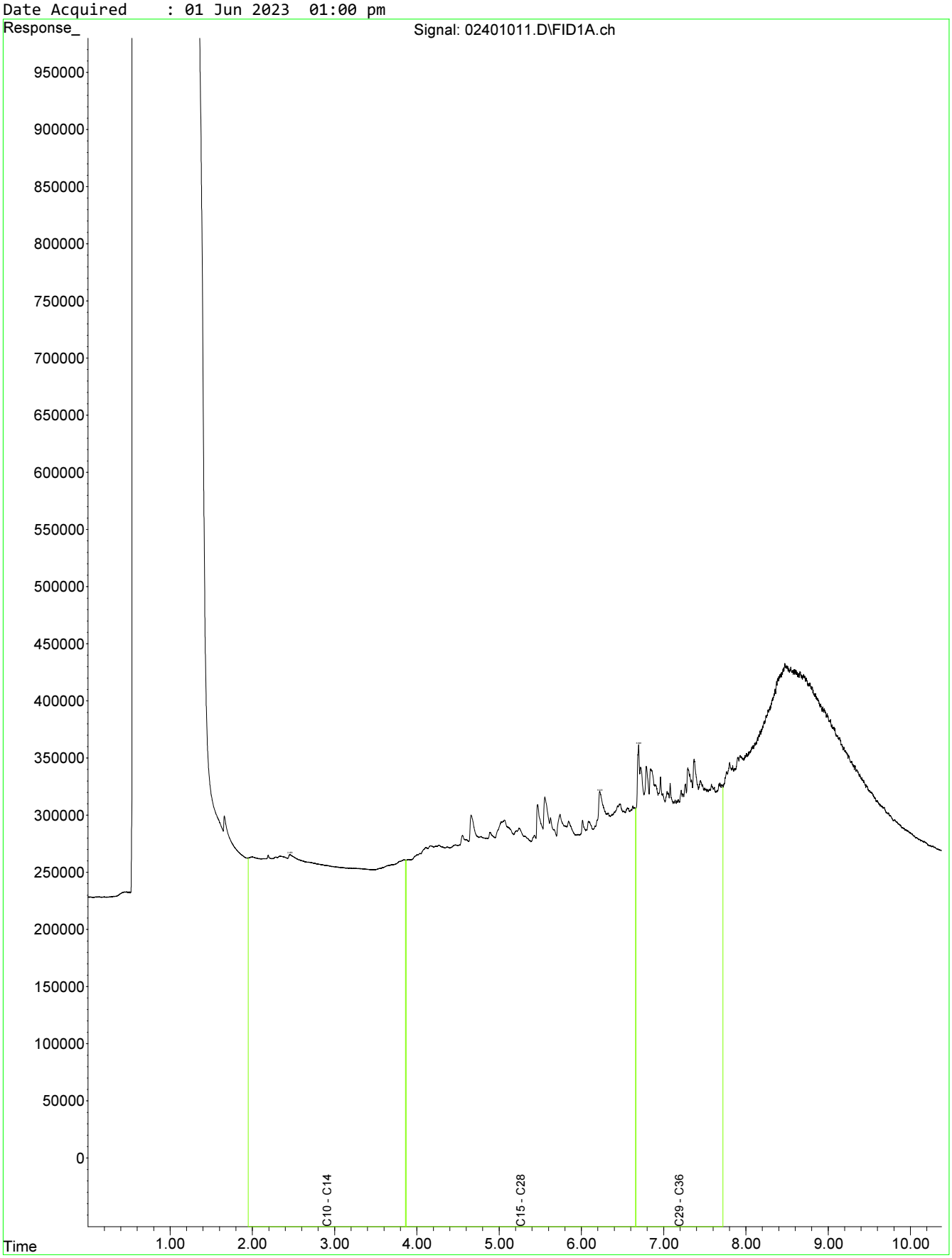
Date Acquired : 01 Jun 2023 01:00 pm



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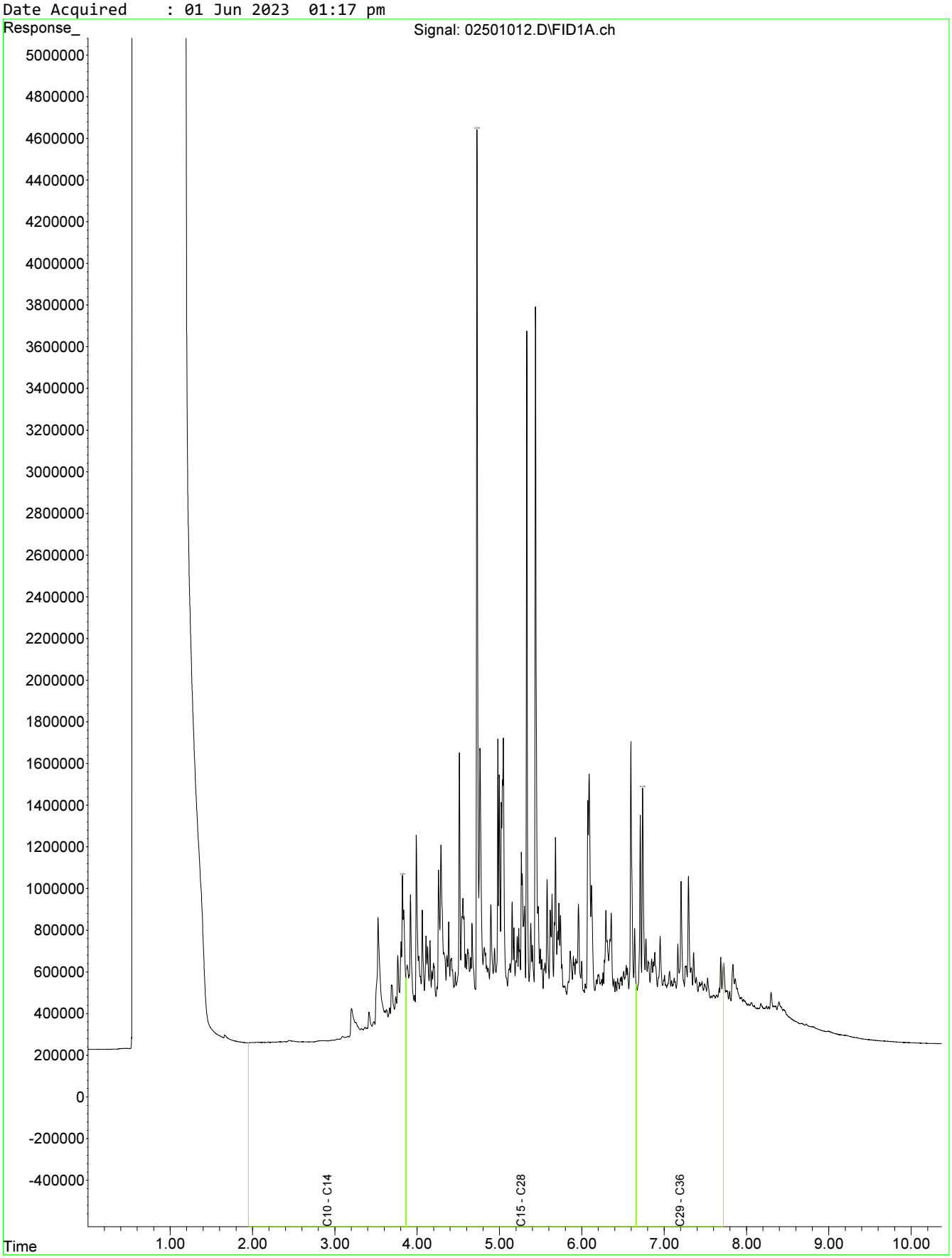
Date Acquired : 01 Jun 2023 01:17 pm



Fraction Scheme : NEPM Fractions
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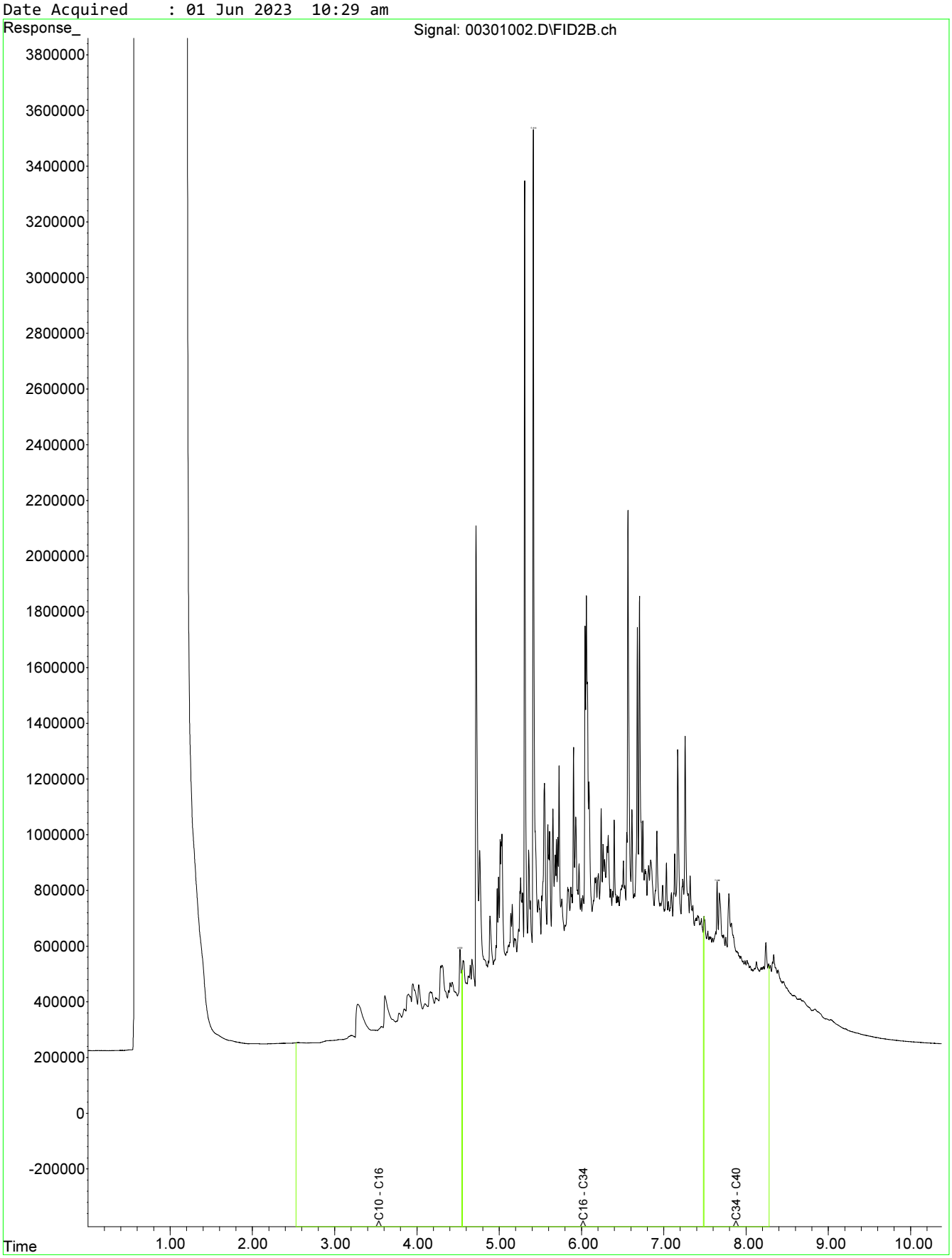
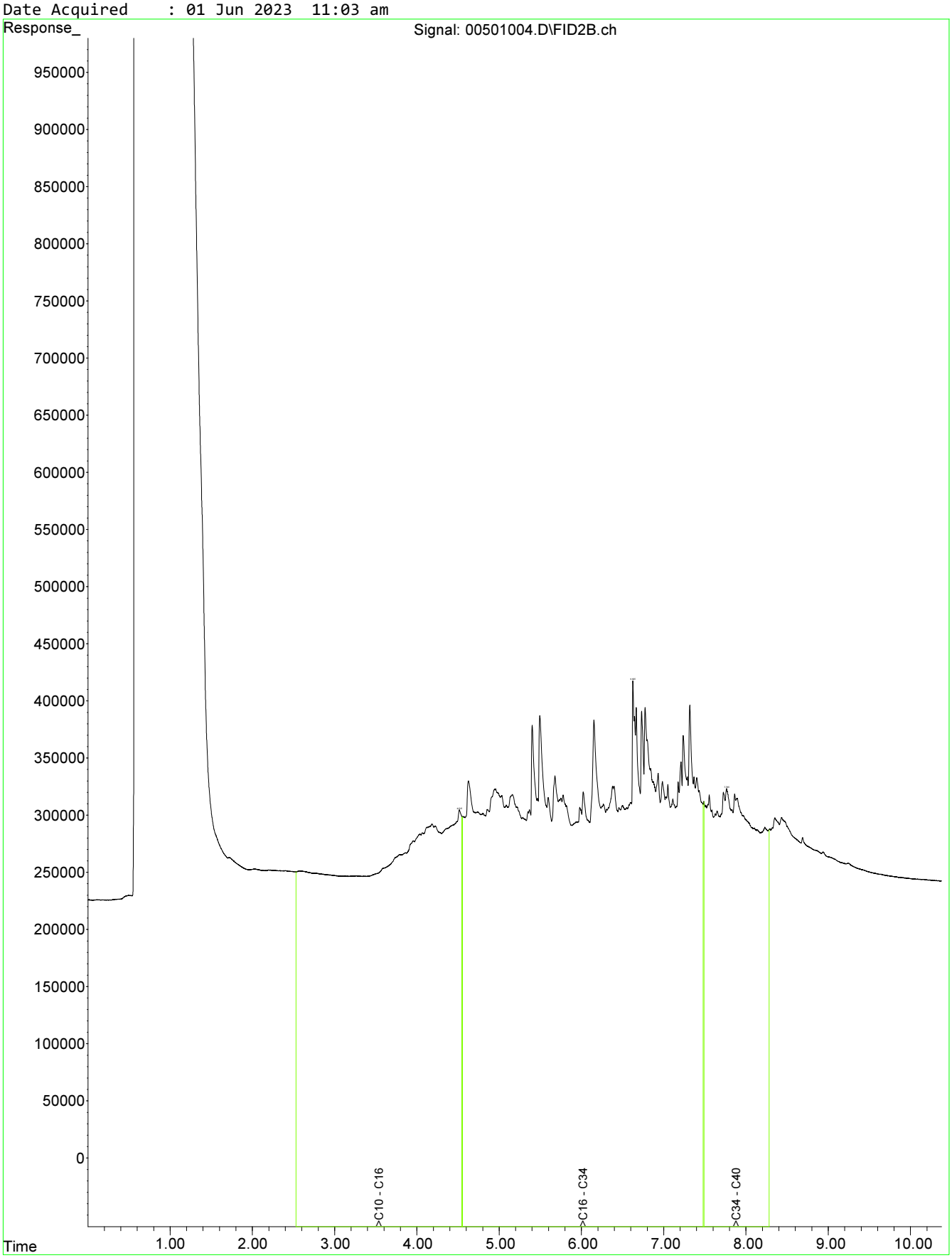
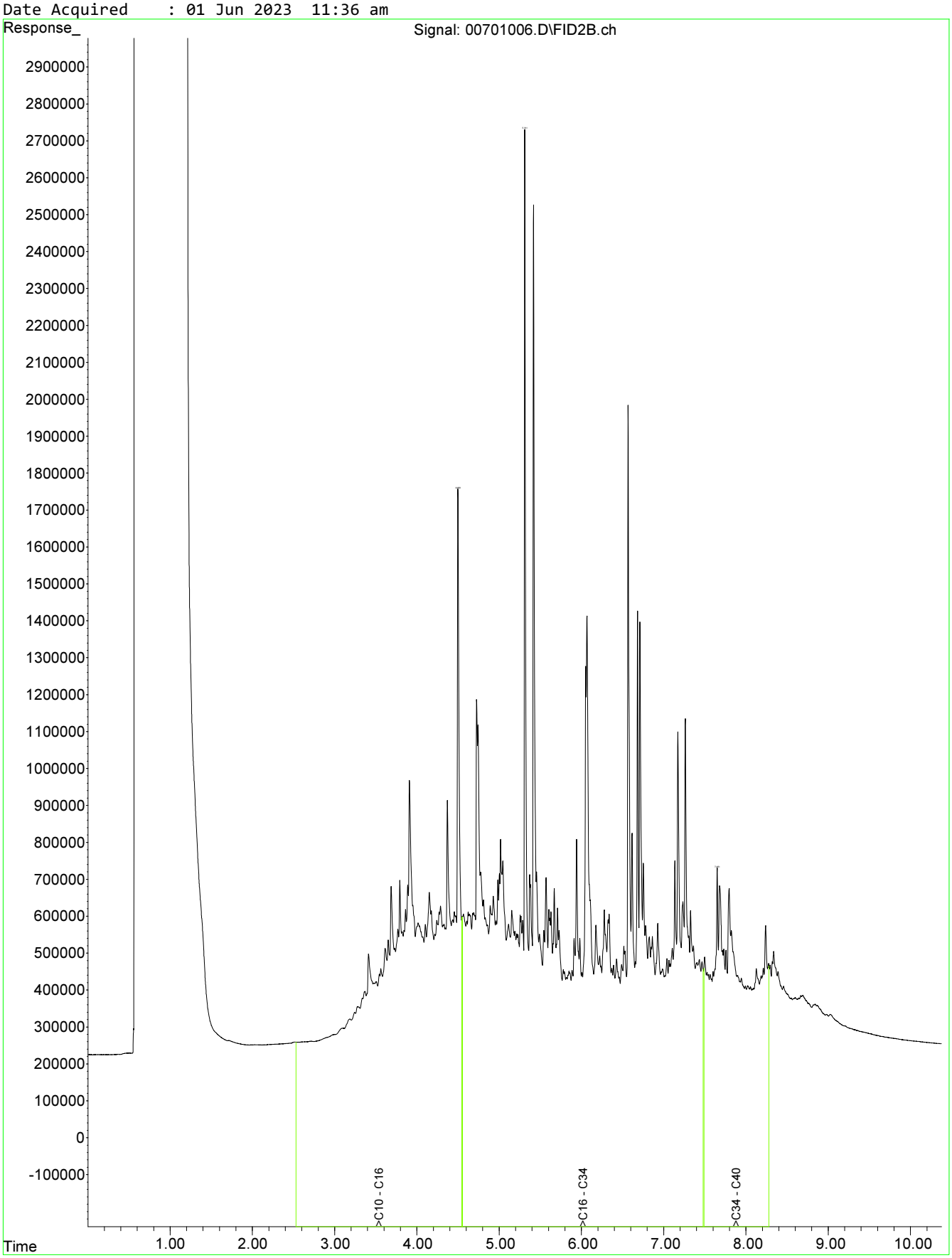
Date Acquired : 01 Jun 2023 10:29 am



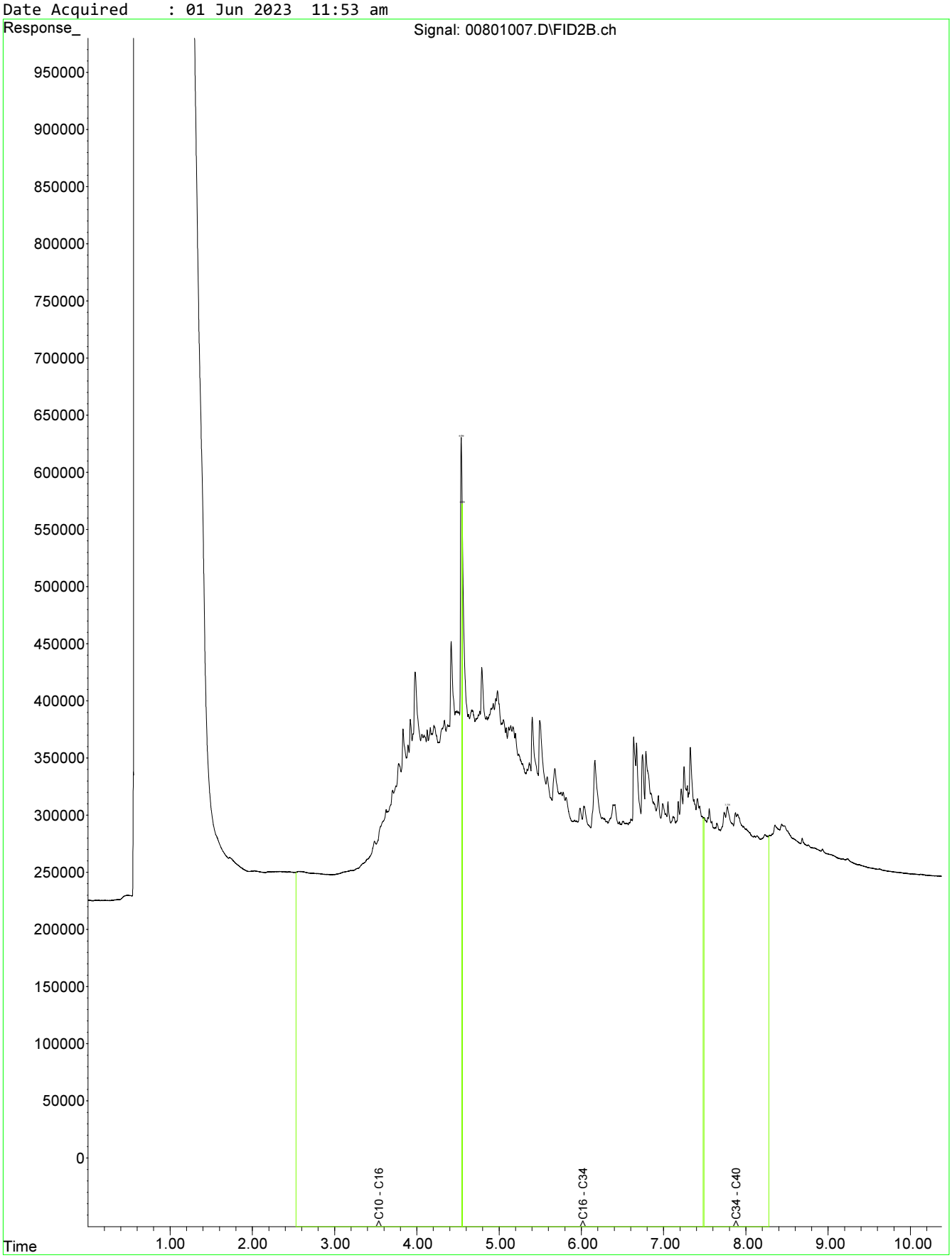
Fraction Scheme : NEPM Fractions
Data File : 00501004.D
Laboratory Number: EM2309607-002
Sample ID : OL_EX_BF_01_1.0
Date Acquired : 01 Jun 2023 11:03 am



Fraction Scheme : NEPM Fractions
Data File : 00701006.D
Laboratory Number: EM2309607-003
Sample ID : OL_EX_BF_01_1.5
Date Acquired : 01 Jun 2023 11:36 am



Fraction Scheme : NEPM Fractions
Data File : 00801007.D
Laboratory Number: EM2309607-004
Sample ID : OL_EX_BF_02_0.5
Date Acquired : 01 Jun 2023 11:53 am



Fraction Scheme : NEPM Fractions
Data File : 00901008.D
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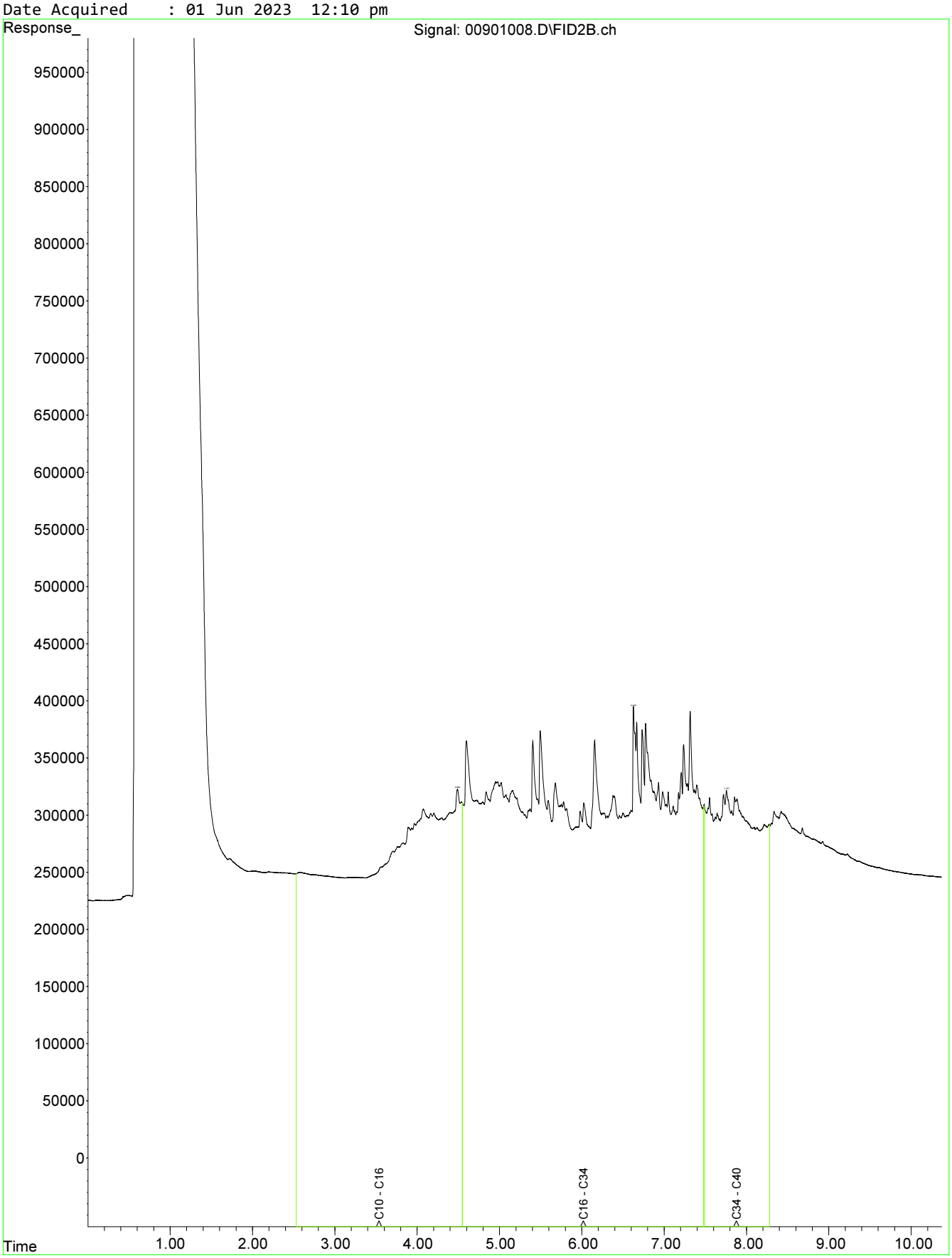
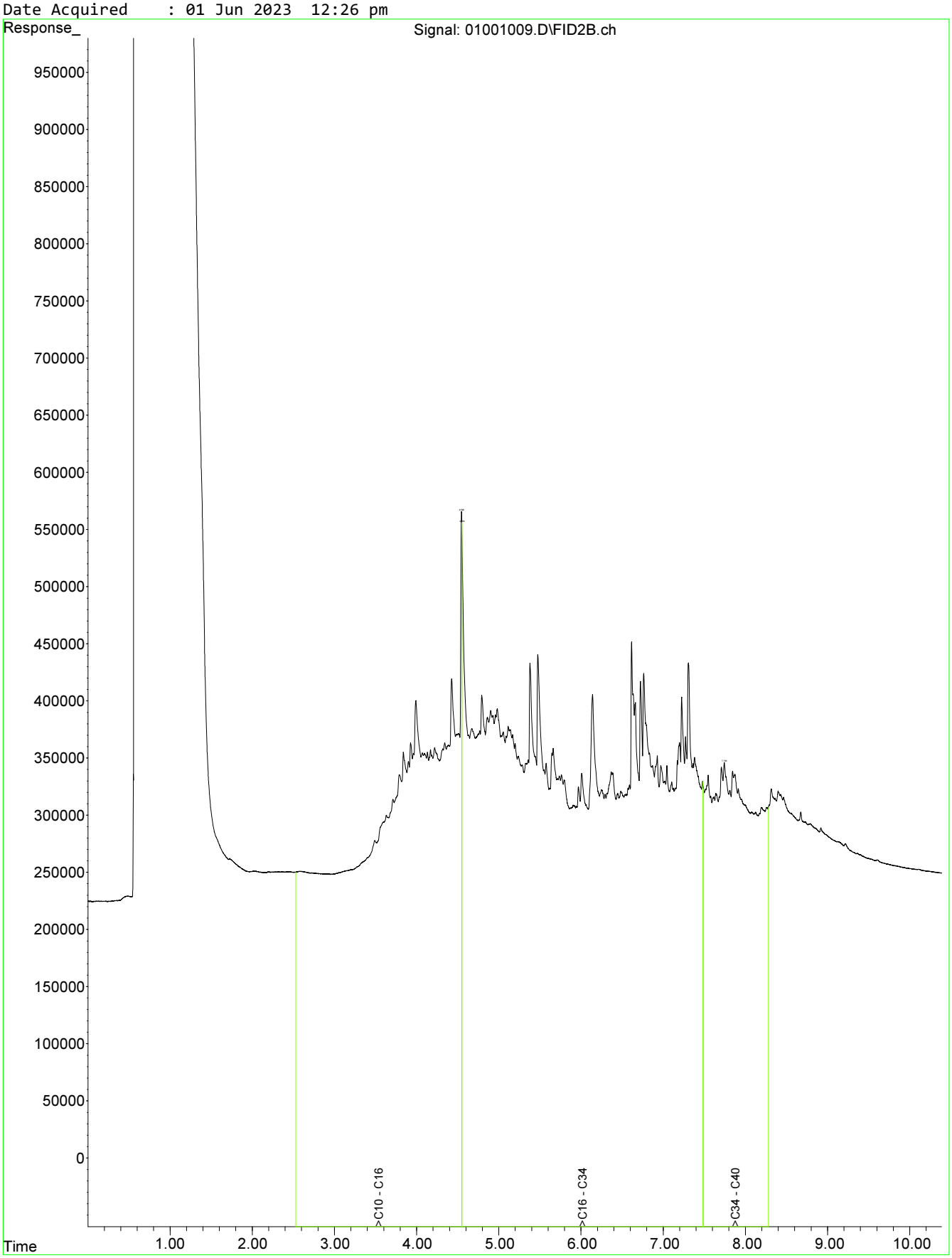
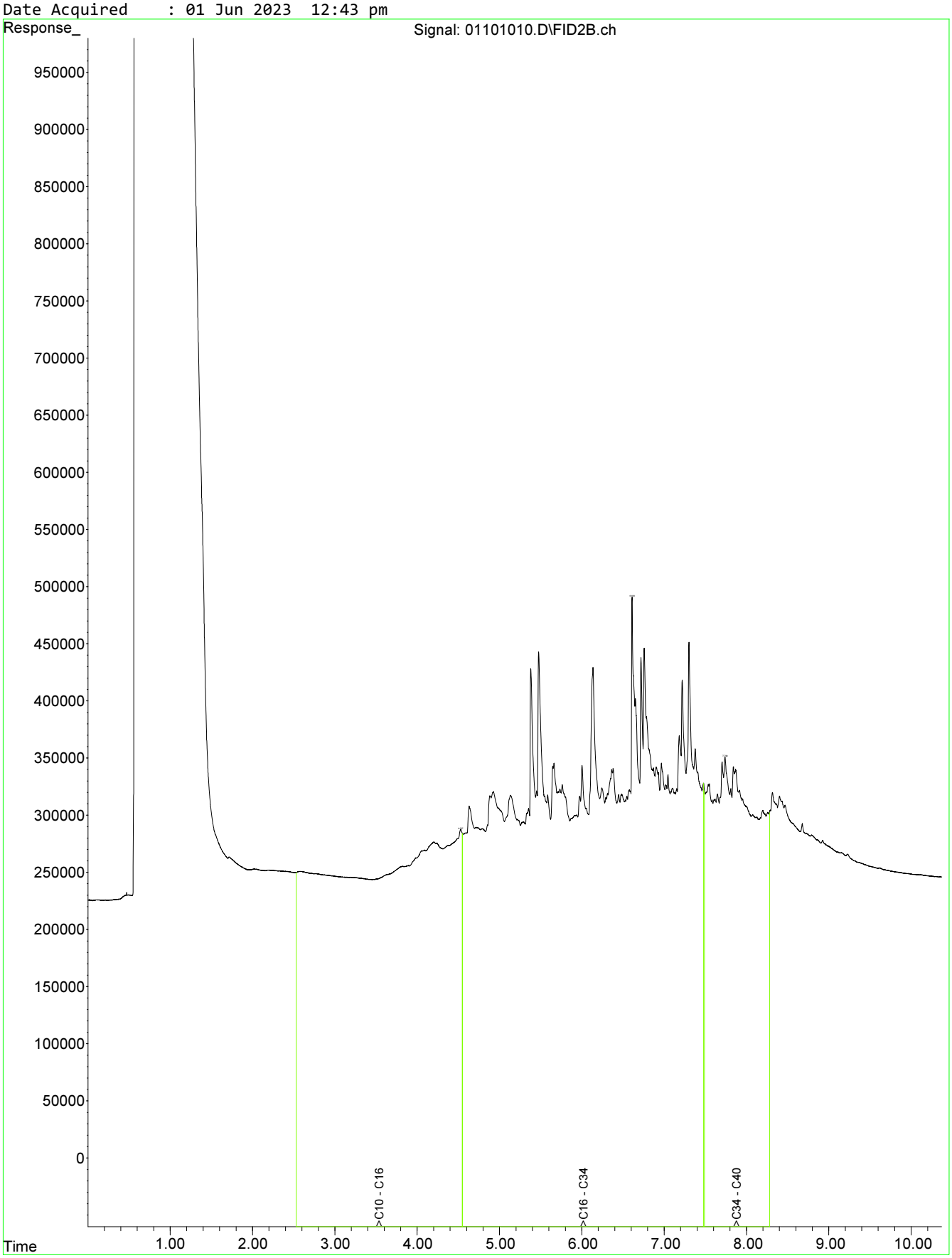
Date Acquired : 01 Jun 2023 12:10 pm



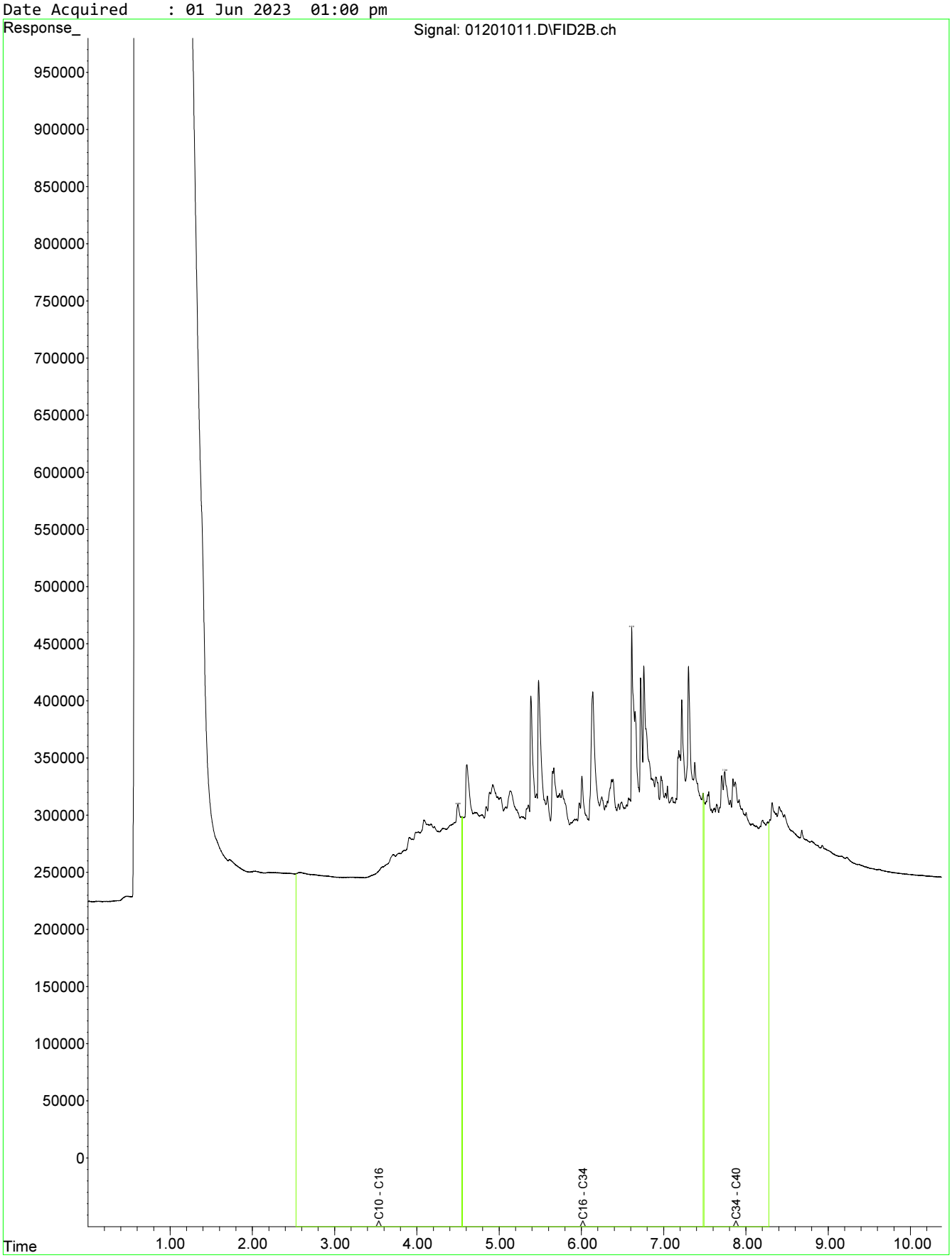
Fraction Scheme : NEPM Fractions
Data File : 01001009.D
Laboratory Number: EM2309607-006
Sample ID : OL_EX_BF_02_1.5
Date Acquired : 01 Jun 2023 12:26 pm



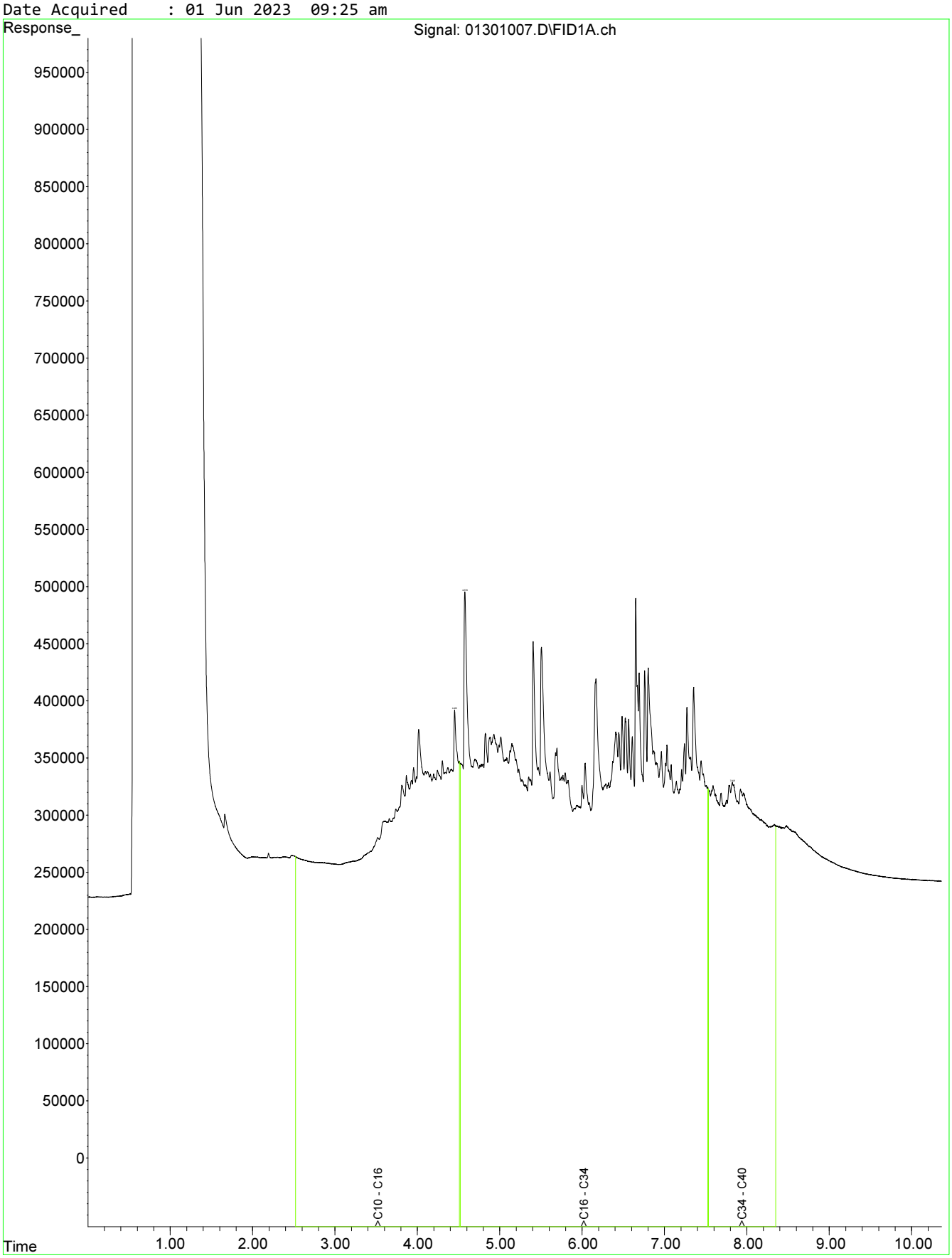
Fraction Scheme : NEPM Fractions
Data File : 01101010.D
Laboratory Number: EM2309607-007
Sample ID : OL_EX_BF_03_0.5
Date Acquired : 01 Jun 2023 12:43 pm



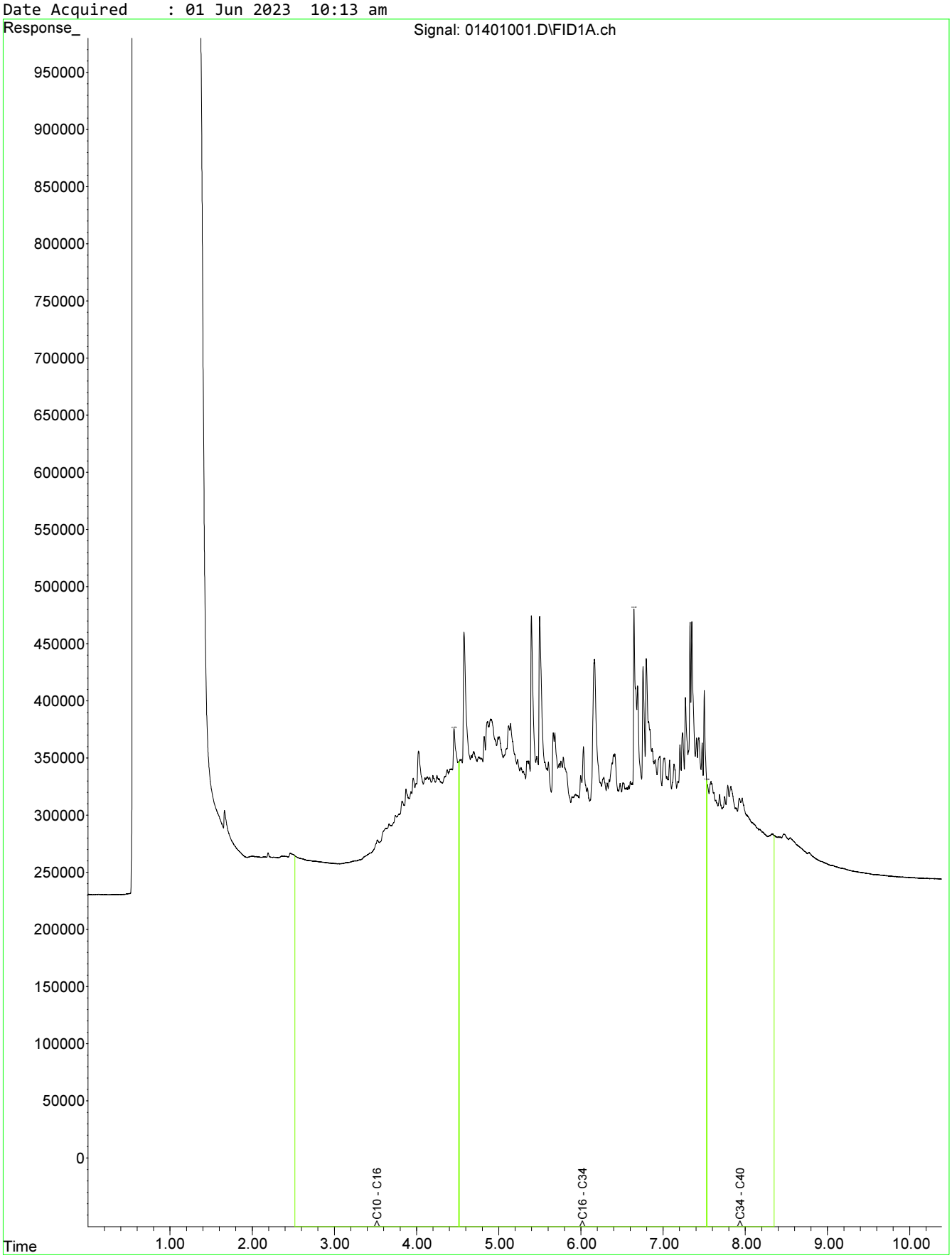
Fraction Scheme : NEPM Fractions
Data File : 01201011.D
Laboratory Number: EM2309607-008
Sample ID : OL_EX_BF_03_1.0
Date Acquired : 01 Jun 2023 01:00 pm



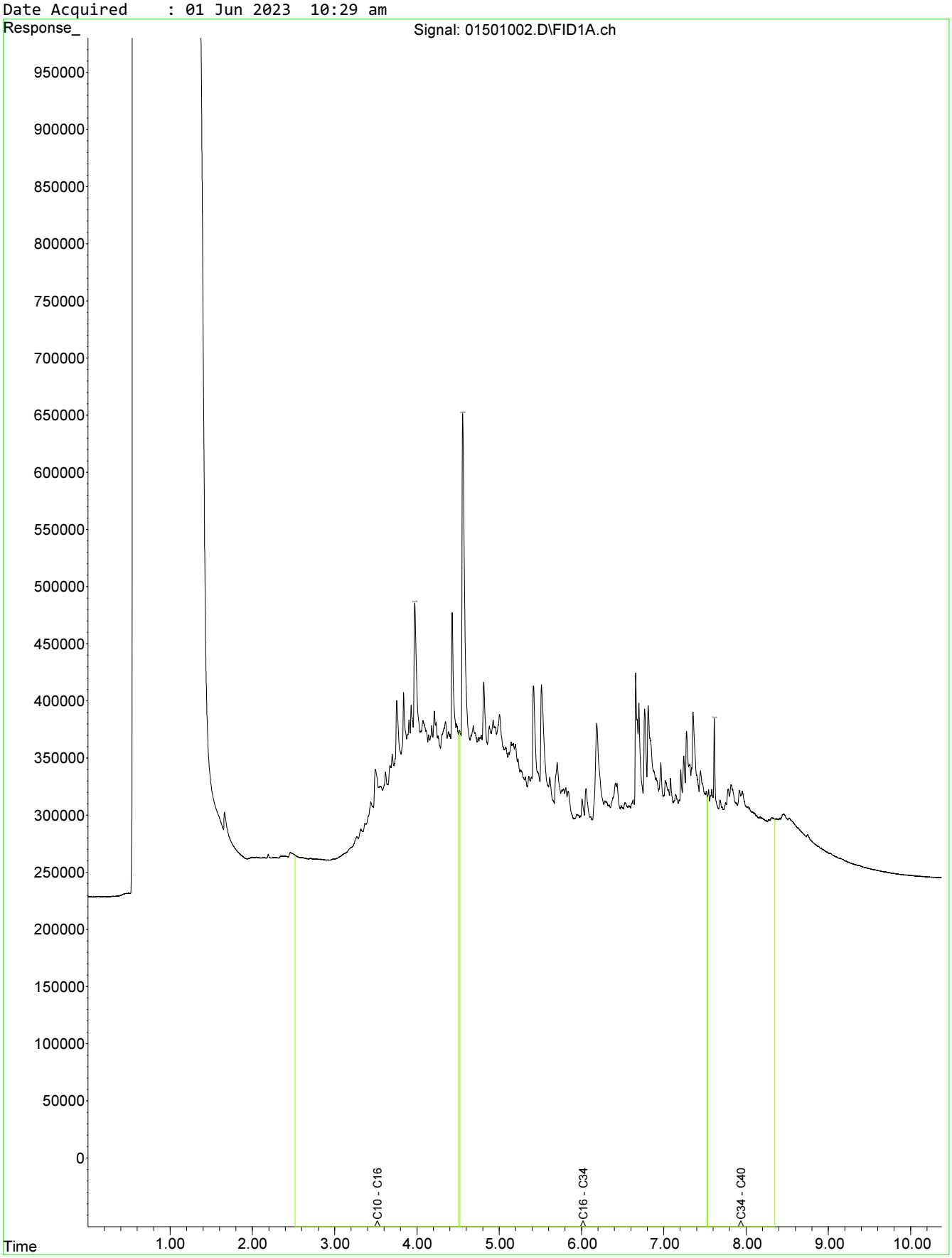
Fraction Scheme : NEPM Fractions
Data File : 01301007.D
Laboratory Number: EM2309607-009
Sample ID : OL_EX_BF_03_1.5
Date Acquired : 01 Jun 2023 09:25 am



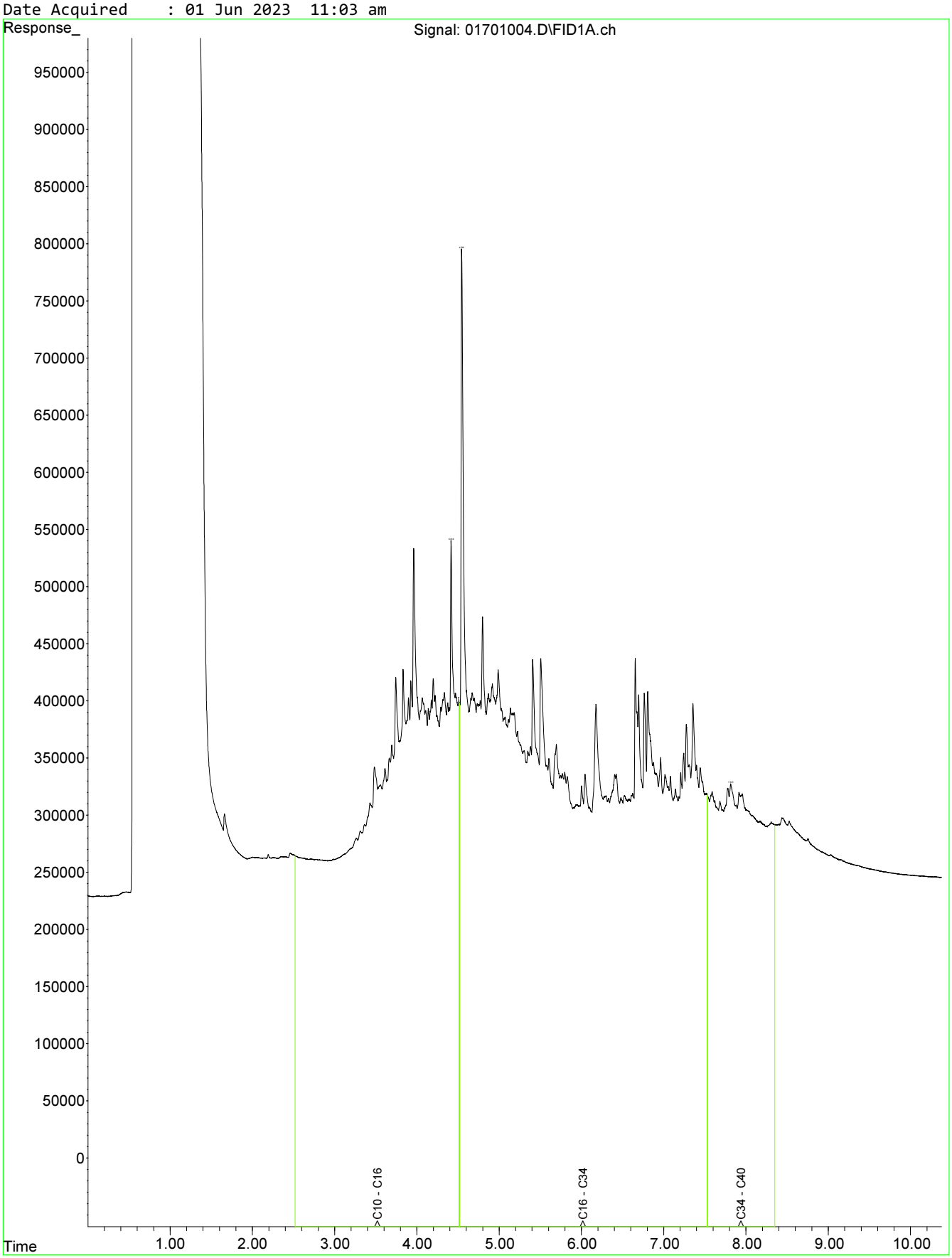
Fraction Scheme : NEPM Fractions
Data File : 01401001.D
Laboratory Number: EM2309607-010
Sample ID : OL_EX_BF_04_0.5
Date Acquired : 01 Jun 2023 10:13 am



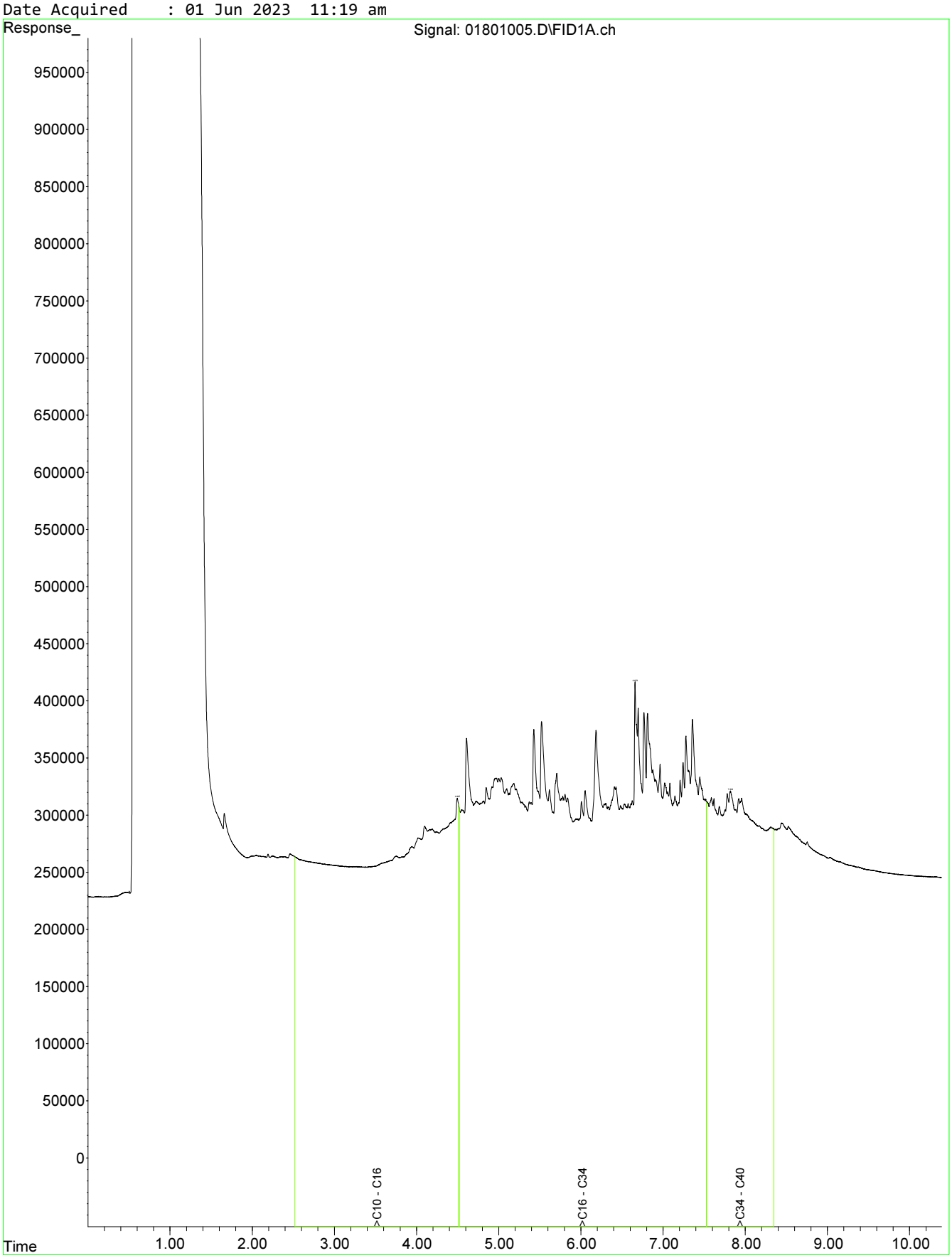
Fraction Scheme : NEPM Fractions
Data File : 01501002.D
Laboratory Number: EM2309607-011
Sample ID : OL_EX_BF_04_1.0
Date Acquired : 01 Jun 2023 10:29 am



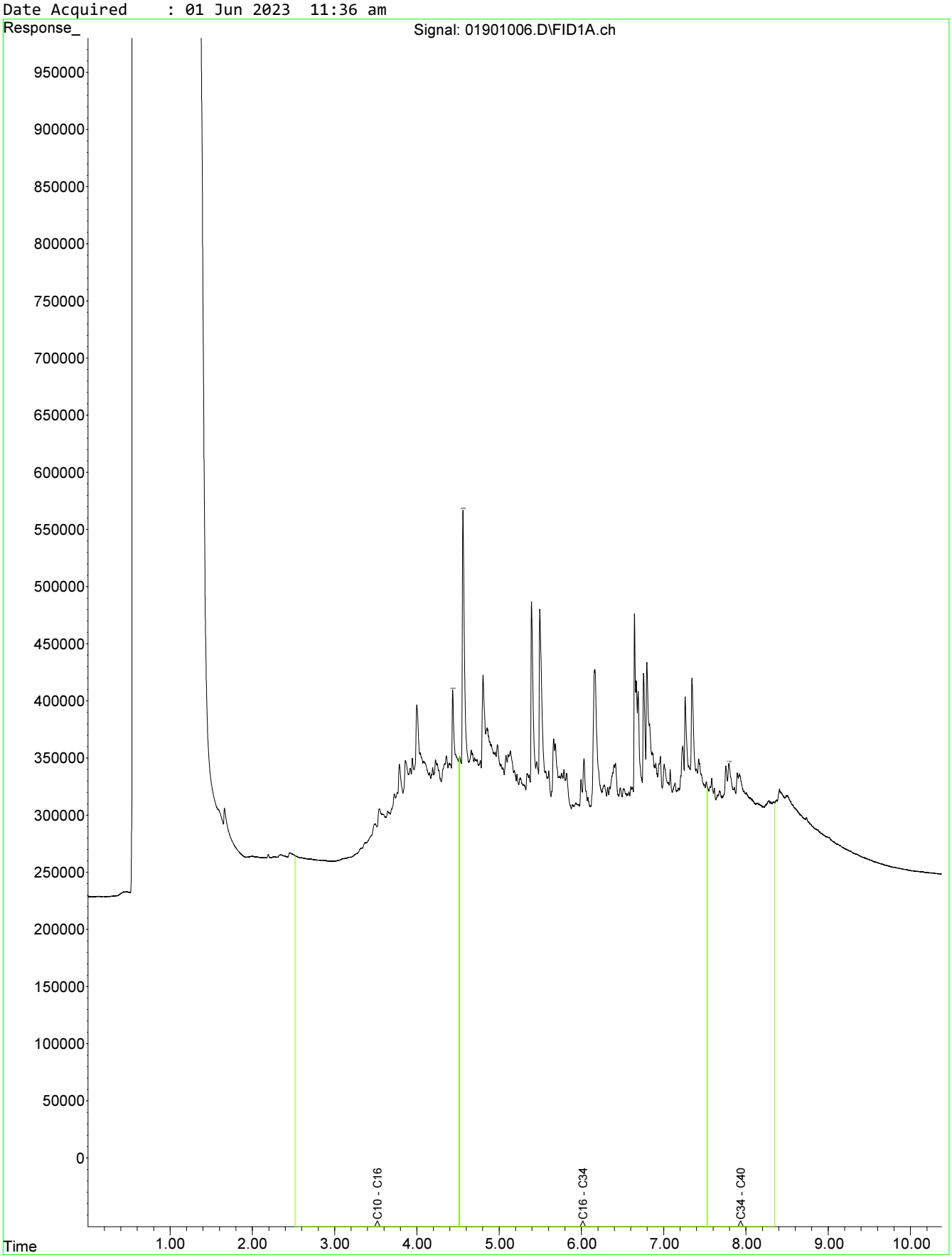
Fraction Scheme : NEPM Fractions
Data File : 01701004.D
Laboratory Number: EM2309607-012
Sample ID : OL_EX_BF_04_1.5
Date Acquired : 01 Jun 2023 11:03 am



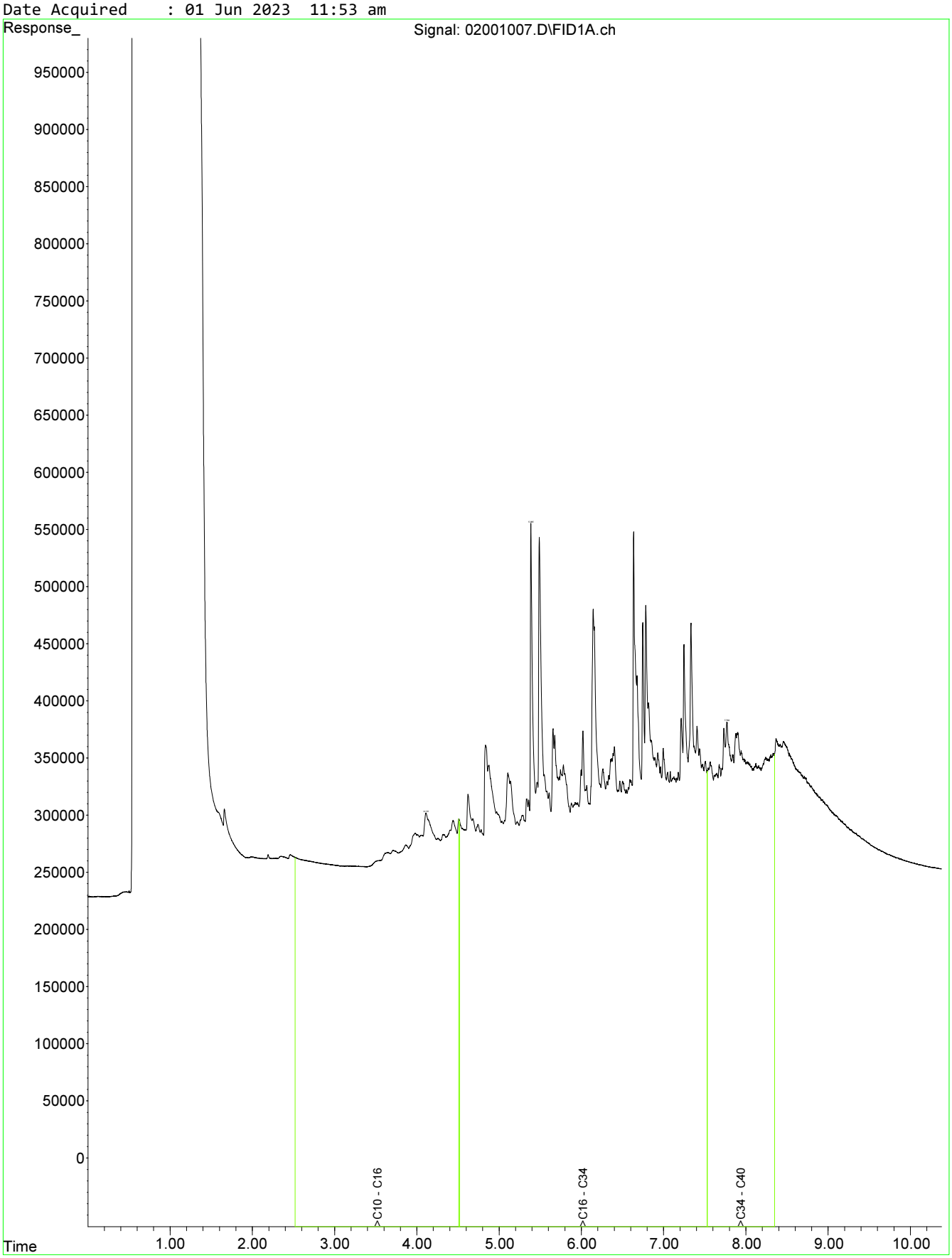
Fraction Scheme : NEPM Fractions
Data File : 01801005.D
Laboratory Number: EM2309607-013
Sample ID : OL_EX_BF_05_0.5
Date Acquired : 01 Jun 2023 11:19 am



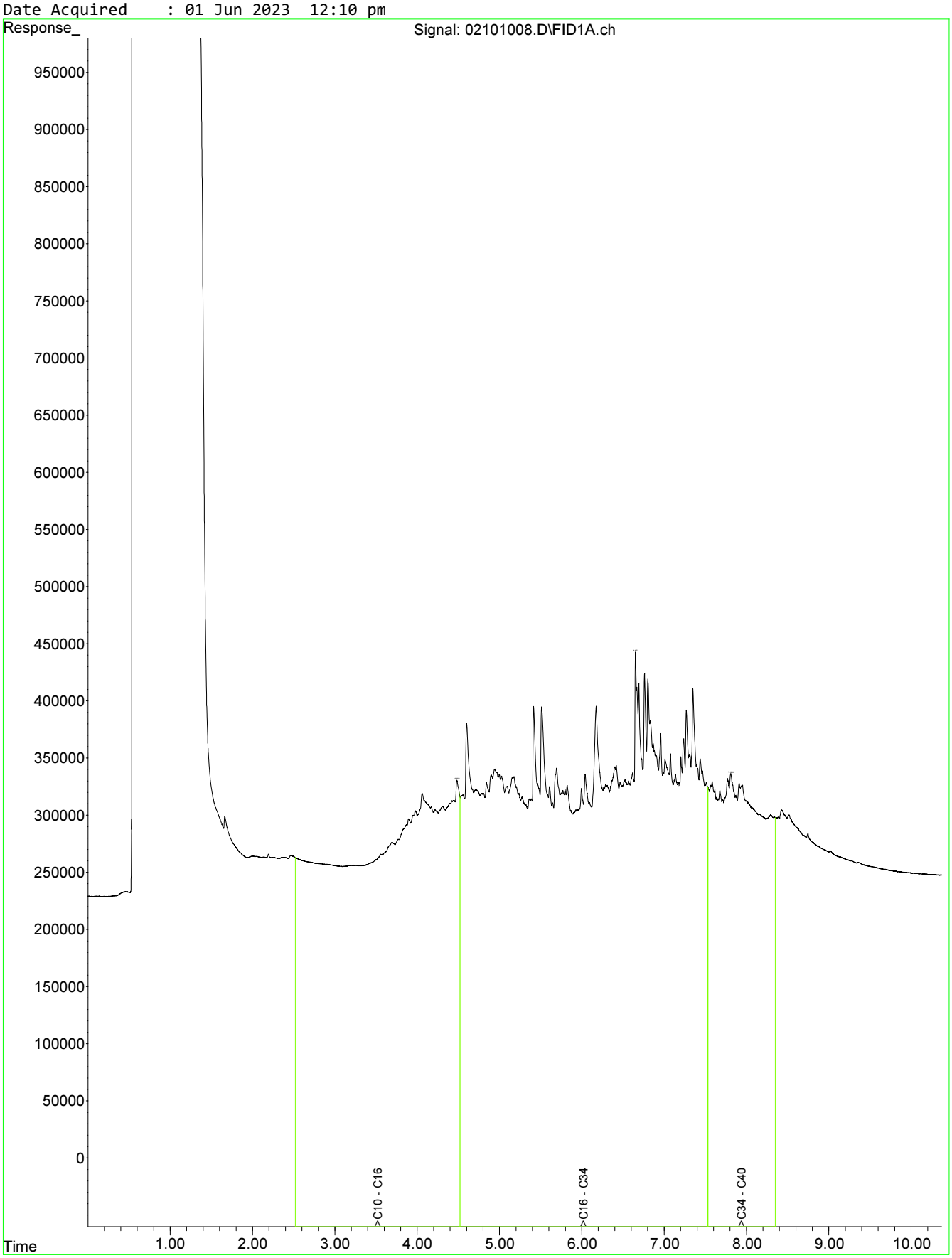
Fraction Scheme : NEPM Fractions
Data File : 01901006.D
Laboratory Number: EM2309607-014
Sample ID : OL_EX_BF_05_1.0
Date Acquired : 01 Jun 2023 11:36 am



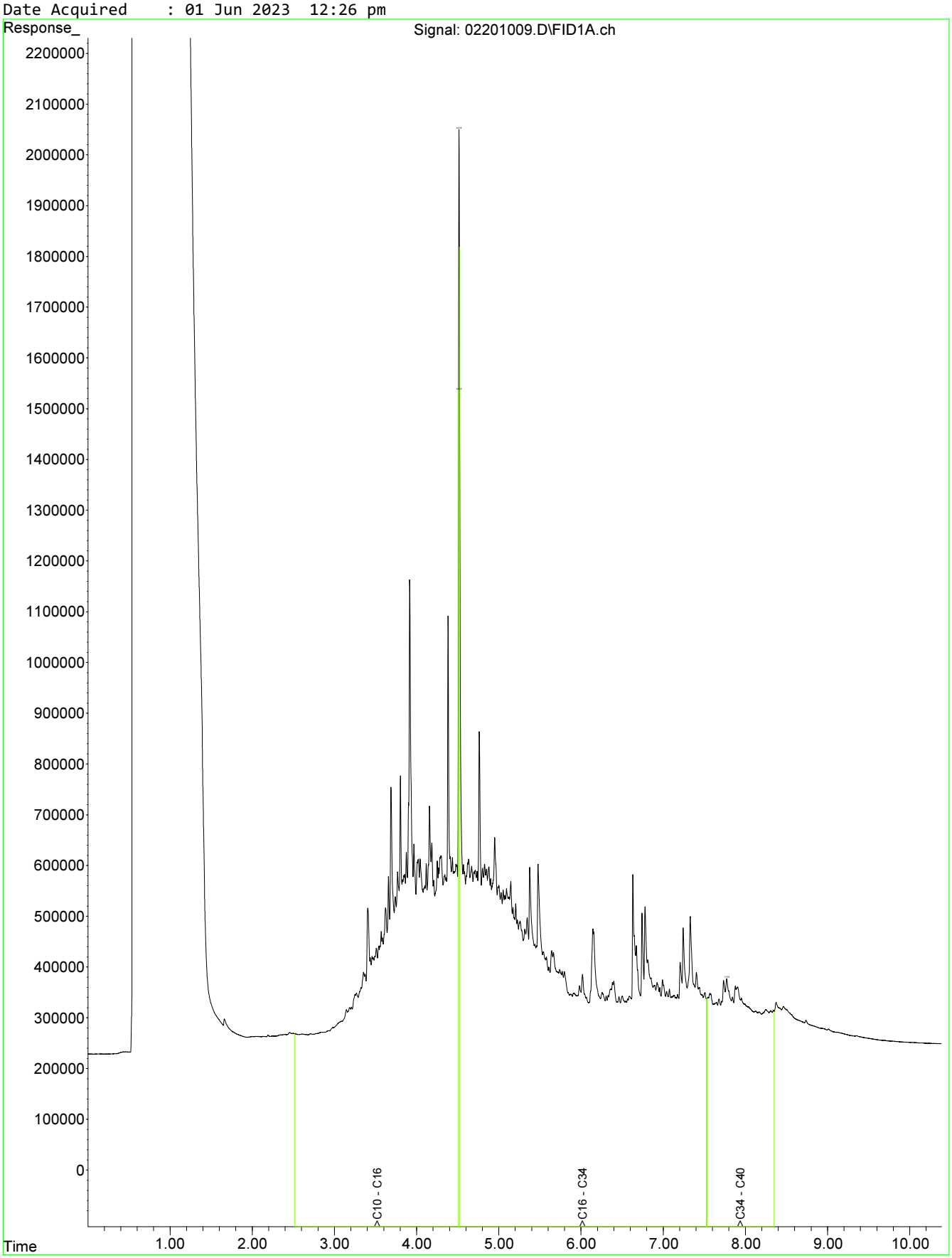
Fraction Scheme : NEPM Fractions
Data File : 02001007.D
Laboratory Number: EM2309607-015
Sample ID : OL_EX_BF_05_1.5
Date Acquired : 01 Jun 2023 11:53 am



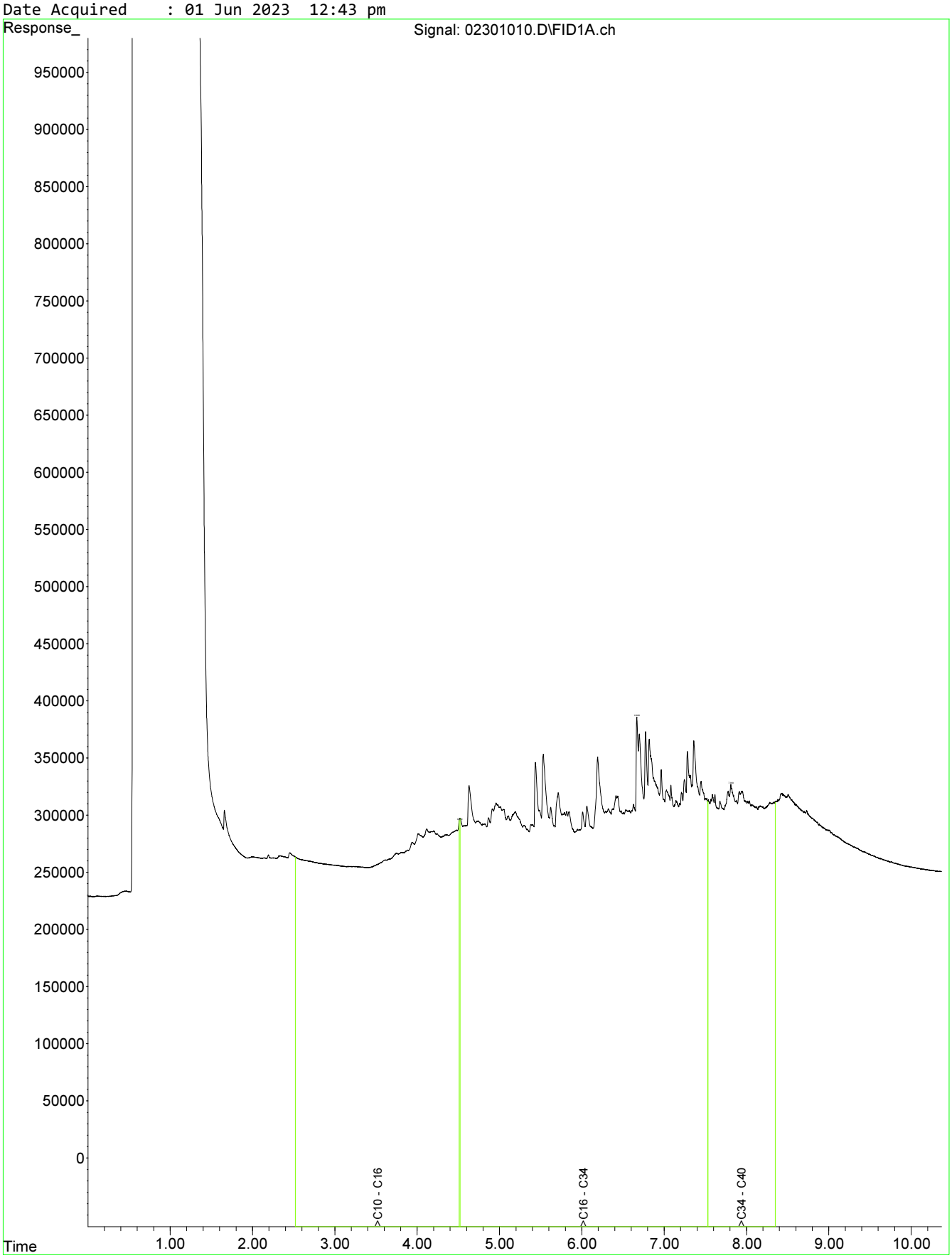
Fraction Scheme : NEPM Fractions
Data File : 02101008.D
Laboratory Number: EM2309607-016
Sample ID : OL_EX_BF_06_0.5
Date Acquired : 01 Jun 2023 12:10 pm



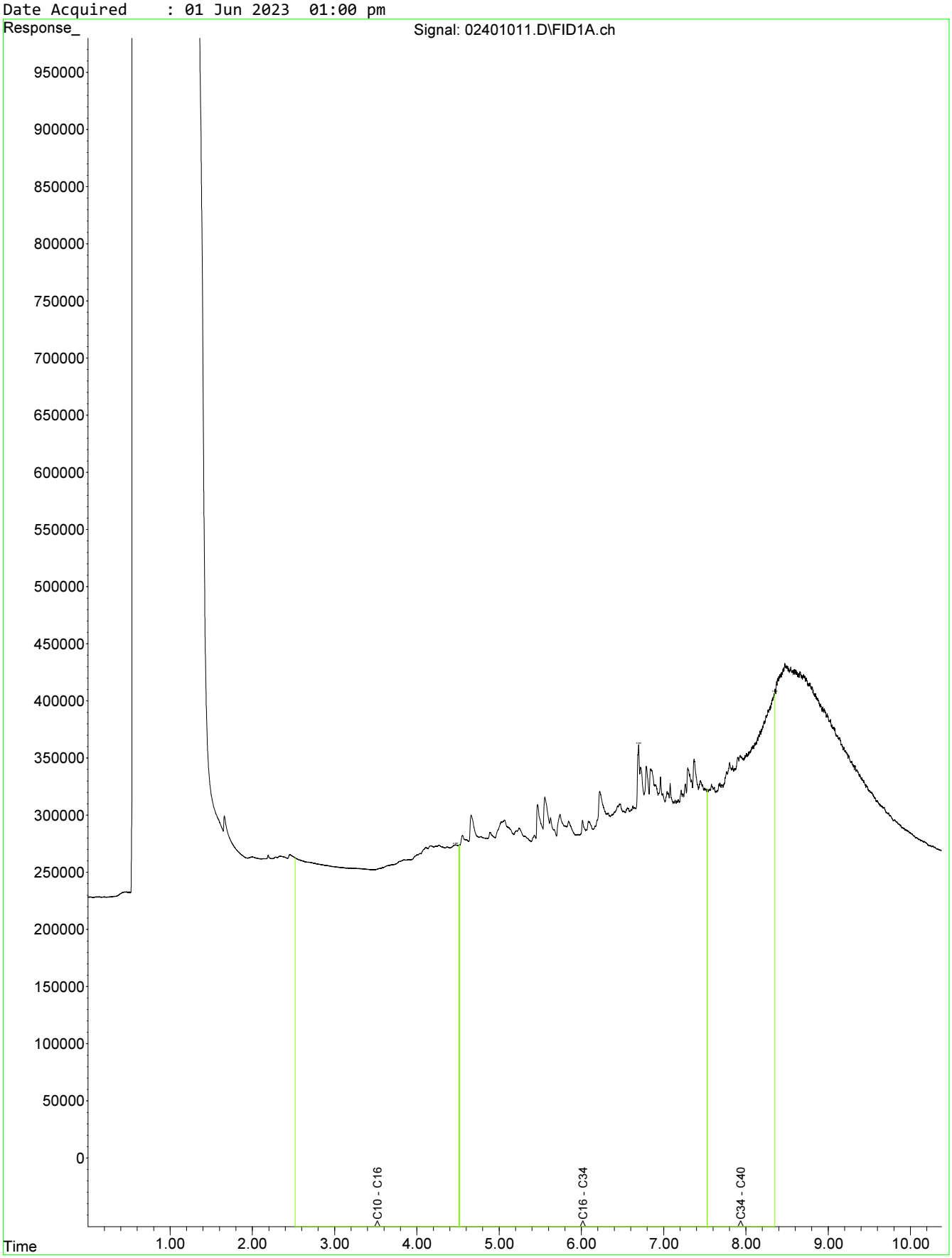
Fraction Scheme : NEPM Fractions
Data File : 02201009.D
Laboratory Number: EM2309607-017
Sample ID : OL_EX_BF_06_1.0
Date Acquired : 01 Jun 2023 12:26 pm



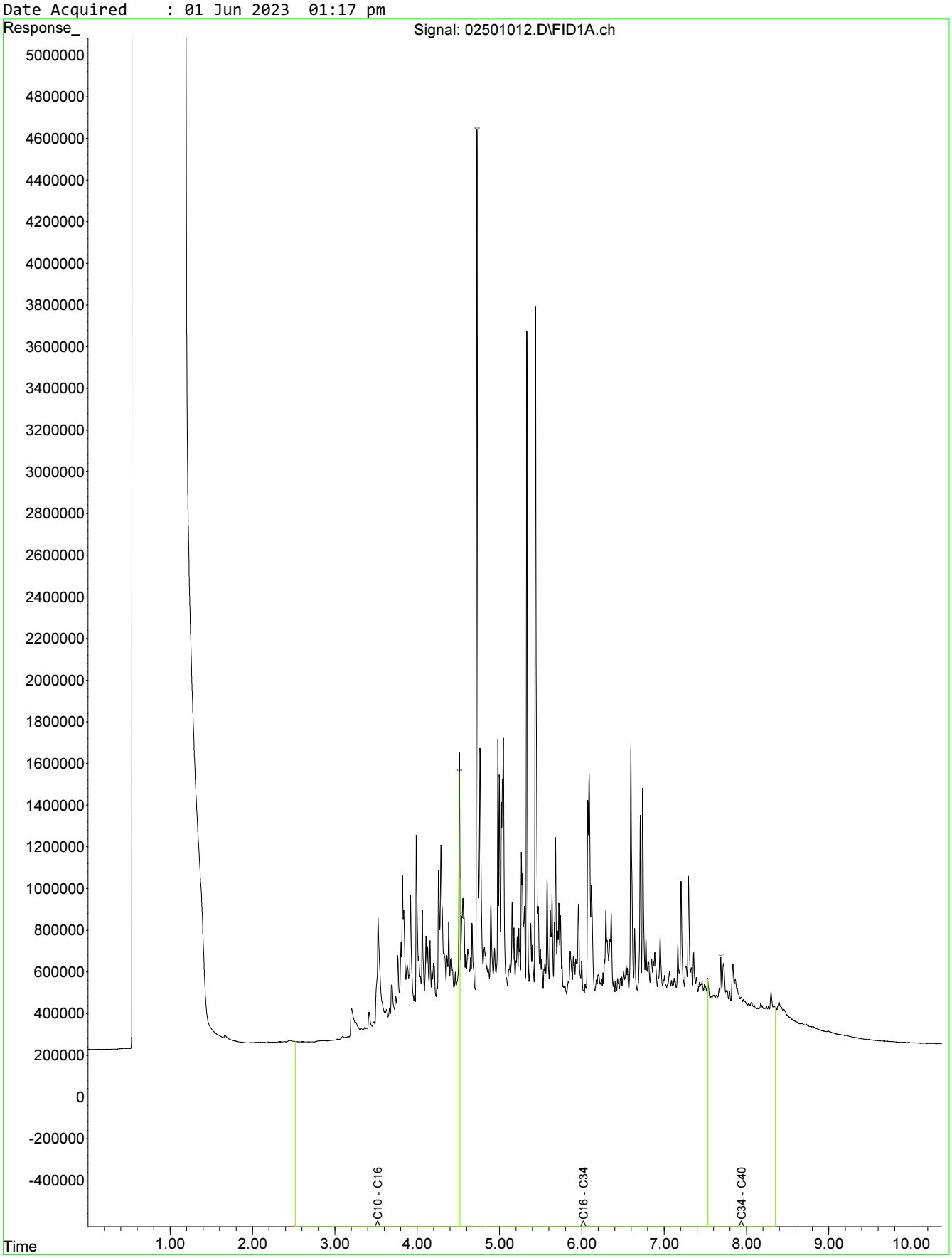
Fraction Scheme : NEPM Fractions
Data File : 02301010.D
Laboratory Number: EM2309607-018
Sample ID : OL_EX_BF_07_0.5
Date Acquired : 01 Jun 2023 12:43 pm



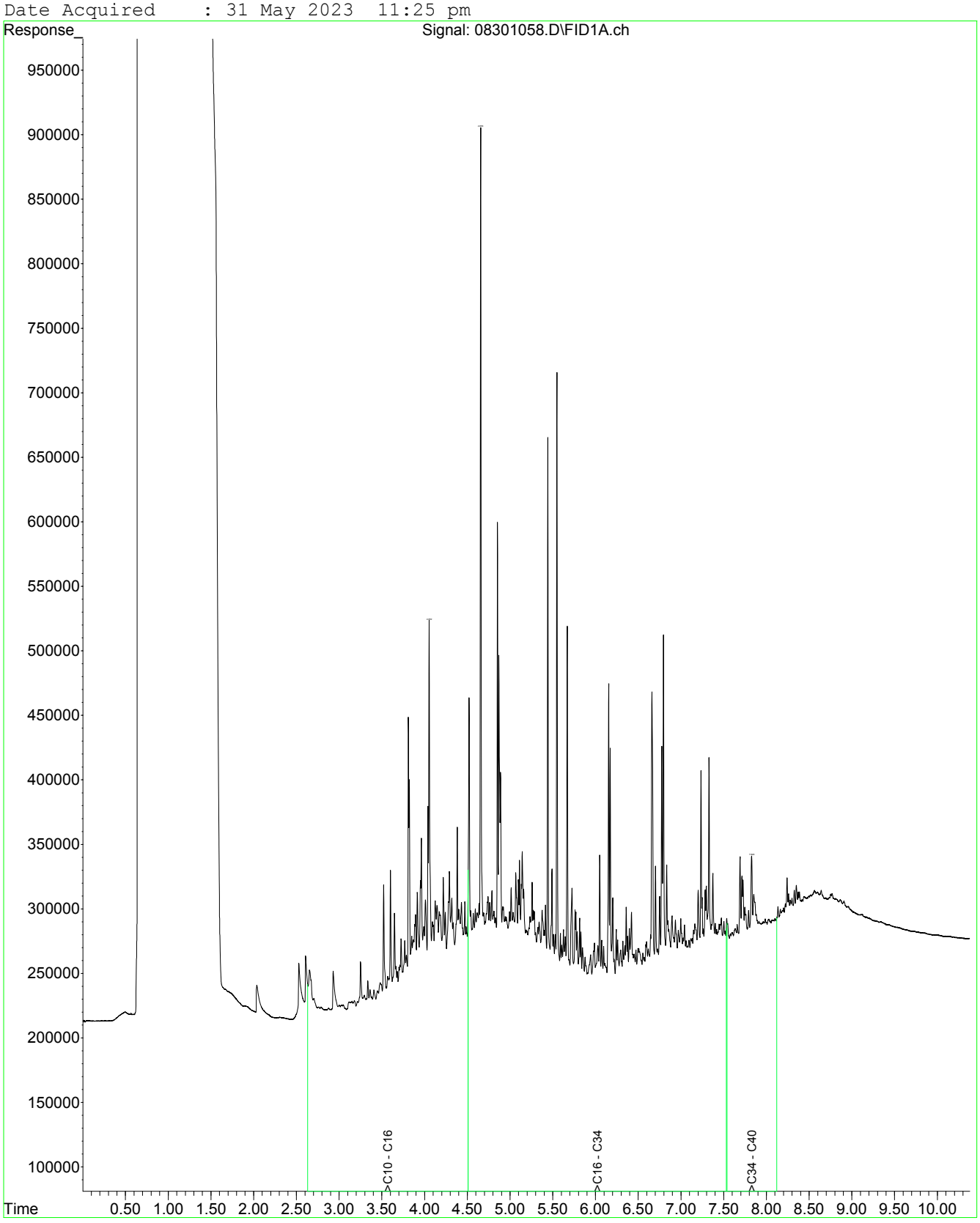
Fraction Scheme : NEPM Fractions
Data File : 02401011.D
Laboratory Number: EM2309607-019
Sample ID : OL_EX_BF_07_1.0
Date Acquired : 01 Jun 2023 01:00 pm



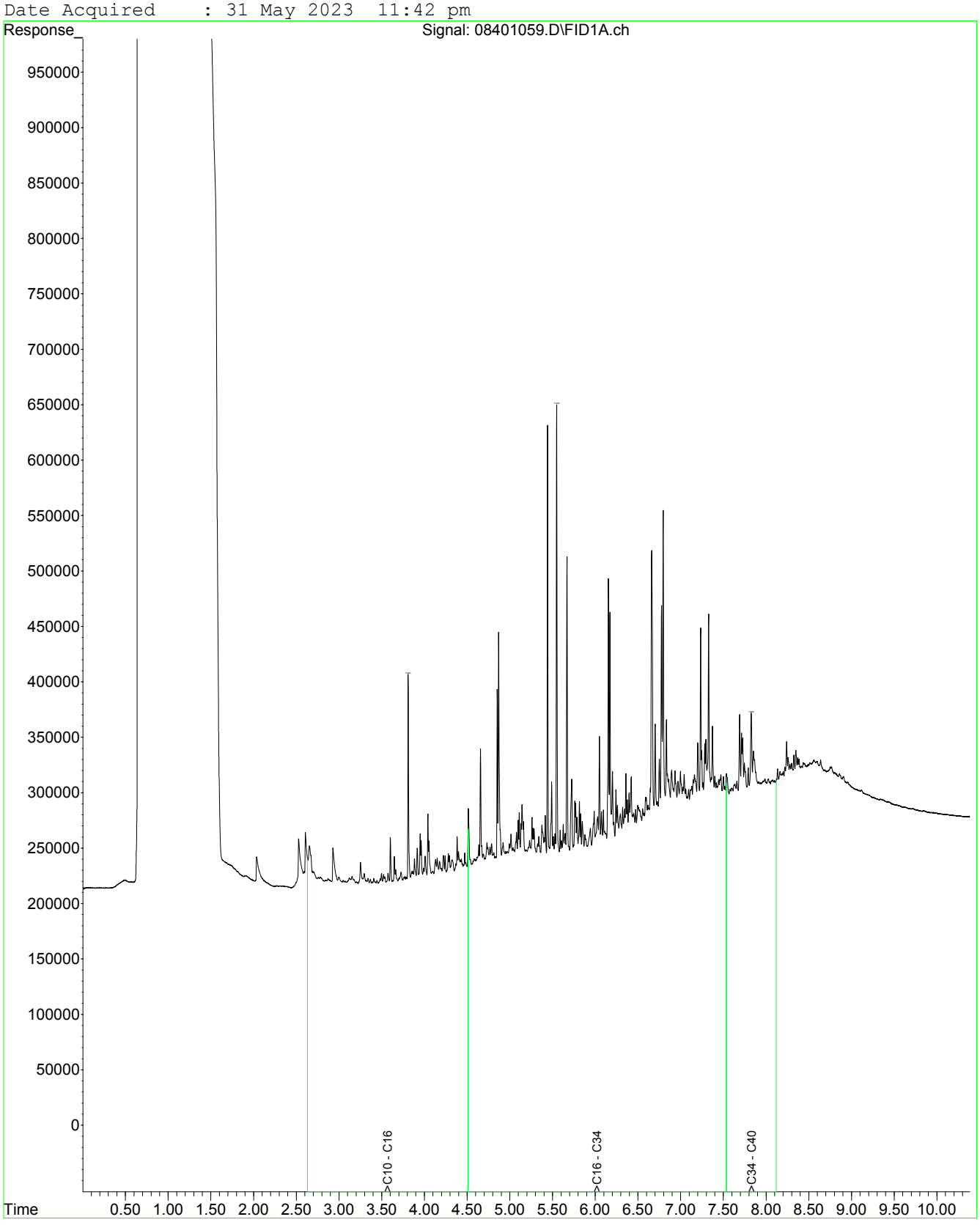
Fraction Scheme : NEPM Fractions
Data File : 02501012.D
Laboratory Number: EM2309607-020
Sample ID : OL_EX_BF_08_0.5
Date Acquired : 01 Jun 2023 01:17 pm



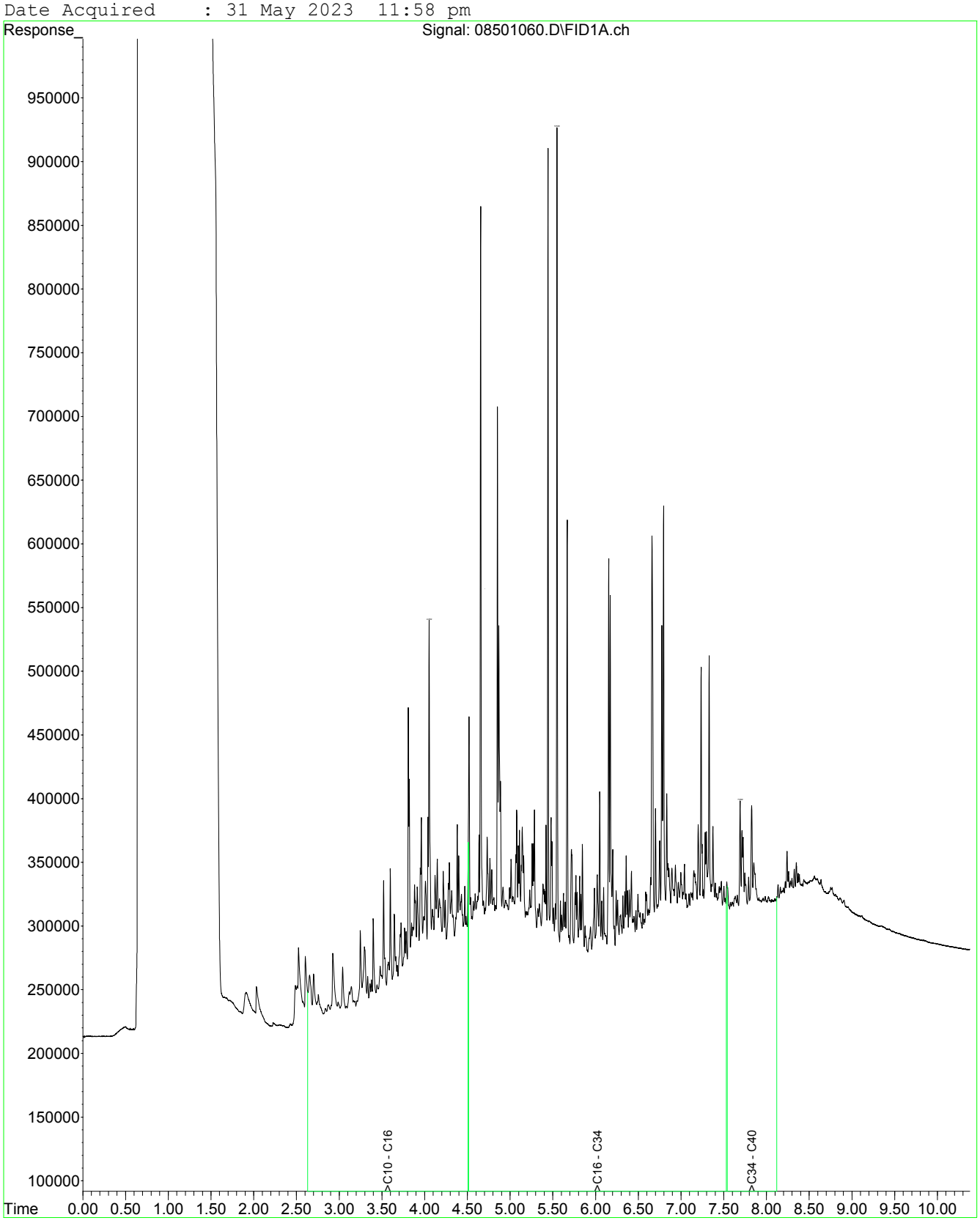
Fraction Scheme : NEPM Draft HIL
Data File : 08301058.D
Laboratory Number: EM2309607-021
Sample ID : OL_EX_BF_08_1.0
Date Acquired : 31 May 2023 11:25 pm



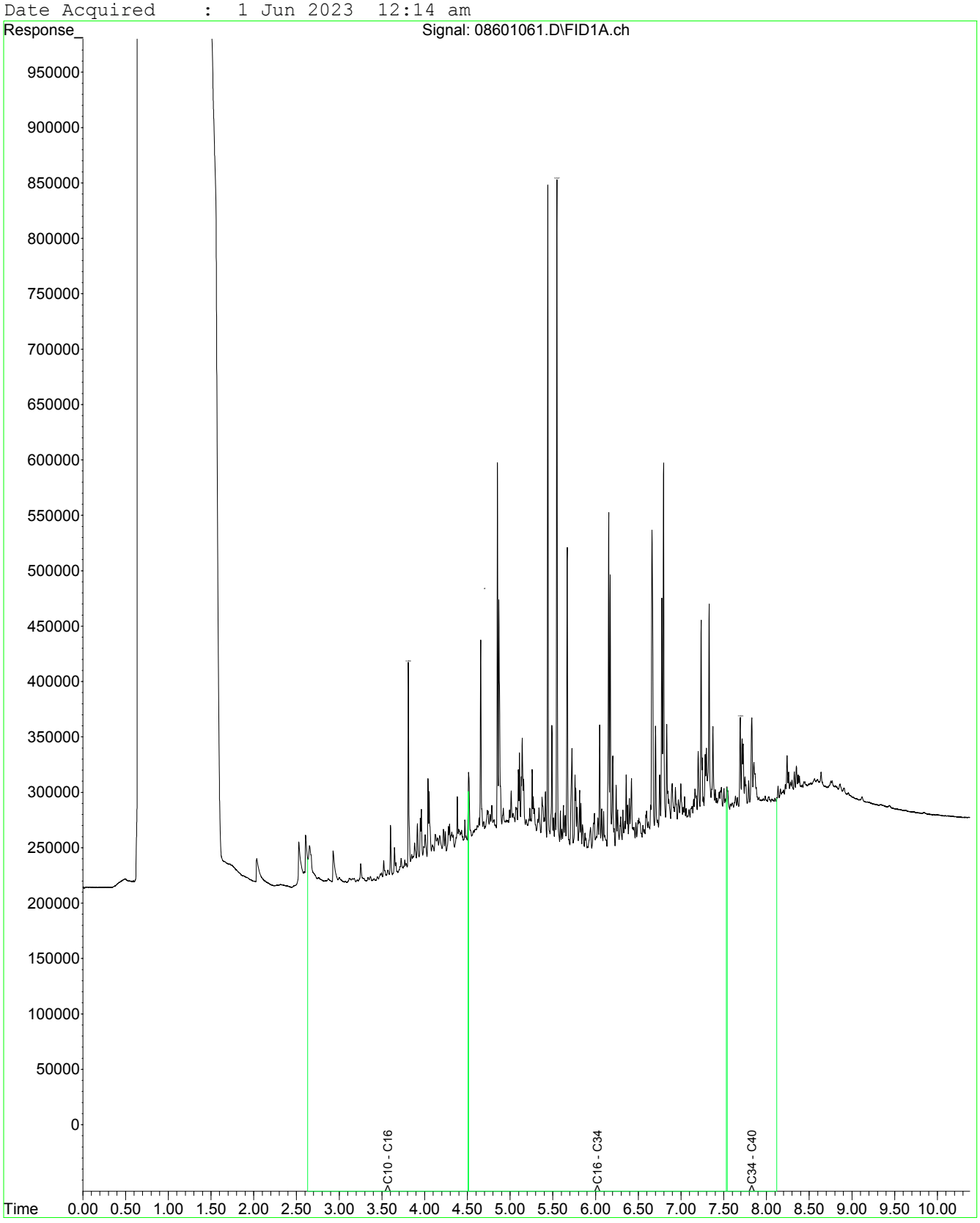
Fraction Scheme : NEPM Draft HIL
Data File : 08401059.D
Laboratory Number: EM2309607-022
Sample ID : OL_EX_BF_09_0.5
Date Acquired : 31 May 2023 11:42 pm



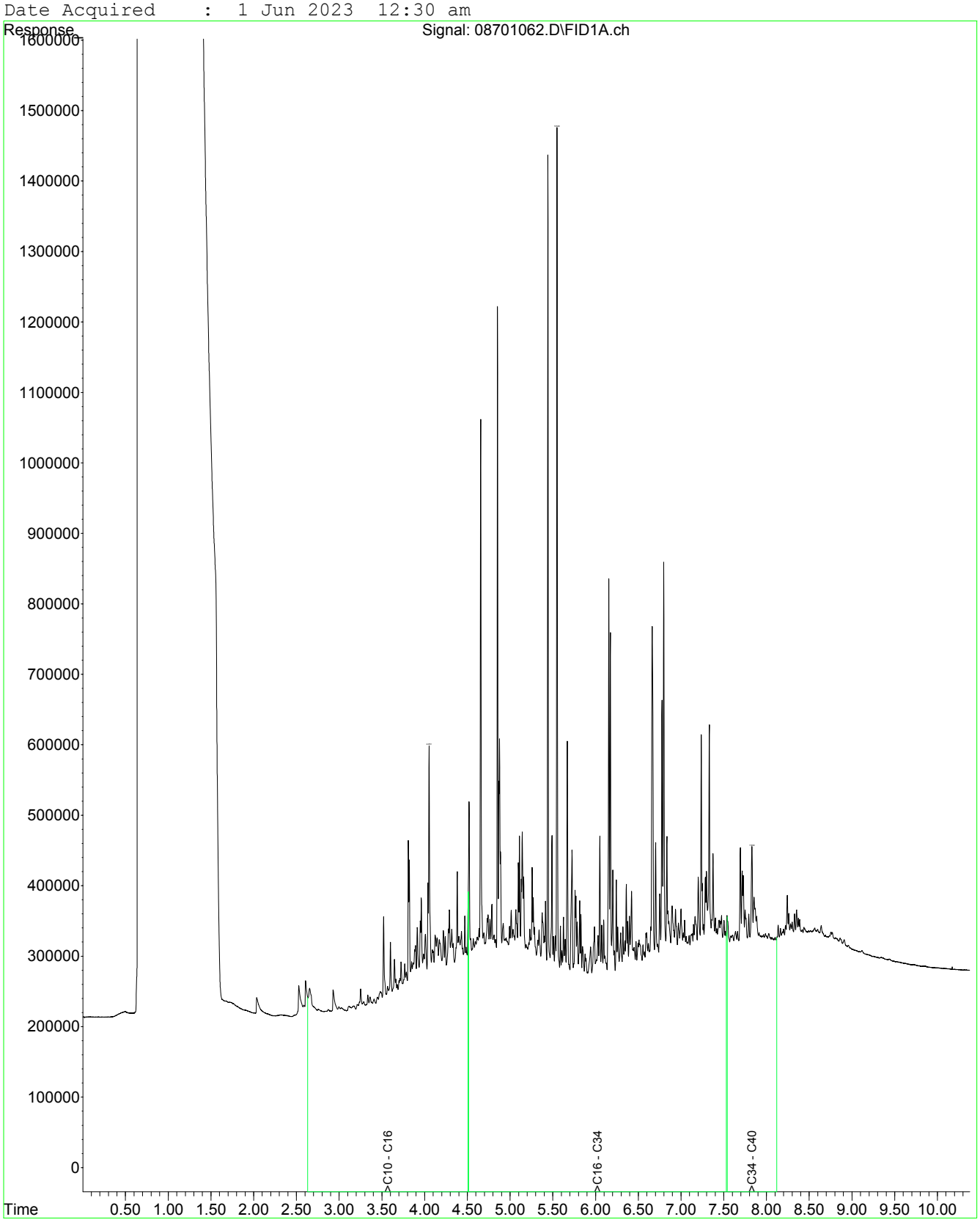
Fraction Scheme : NEPM Draft HIL
Data File : 08501060.D
Laboratory Number: EM2309607-023
Sample ID : OL_EX_BF_09_1.0
Date Acquired : 31 May 2023 11:58 pm



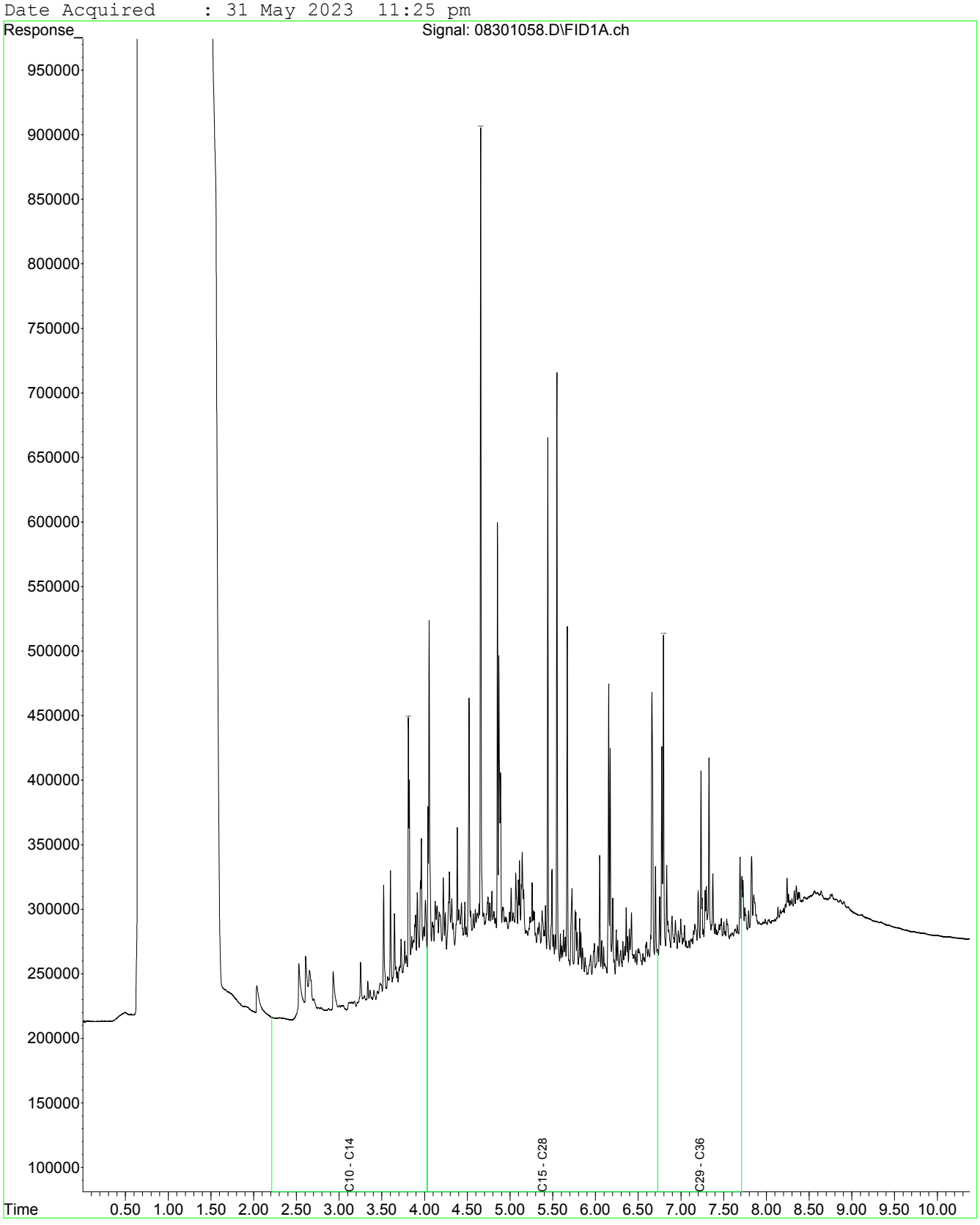
Fraction Scheme : NEPM Draft HIL
Data File : 08601061.D
Laboratory Number: EM2309607-024
Sample ID : OL_EX_QC122
Date Acquired : 1 Jun 2023 12:14 am



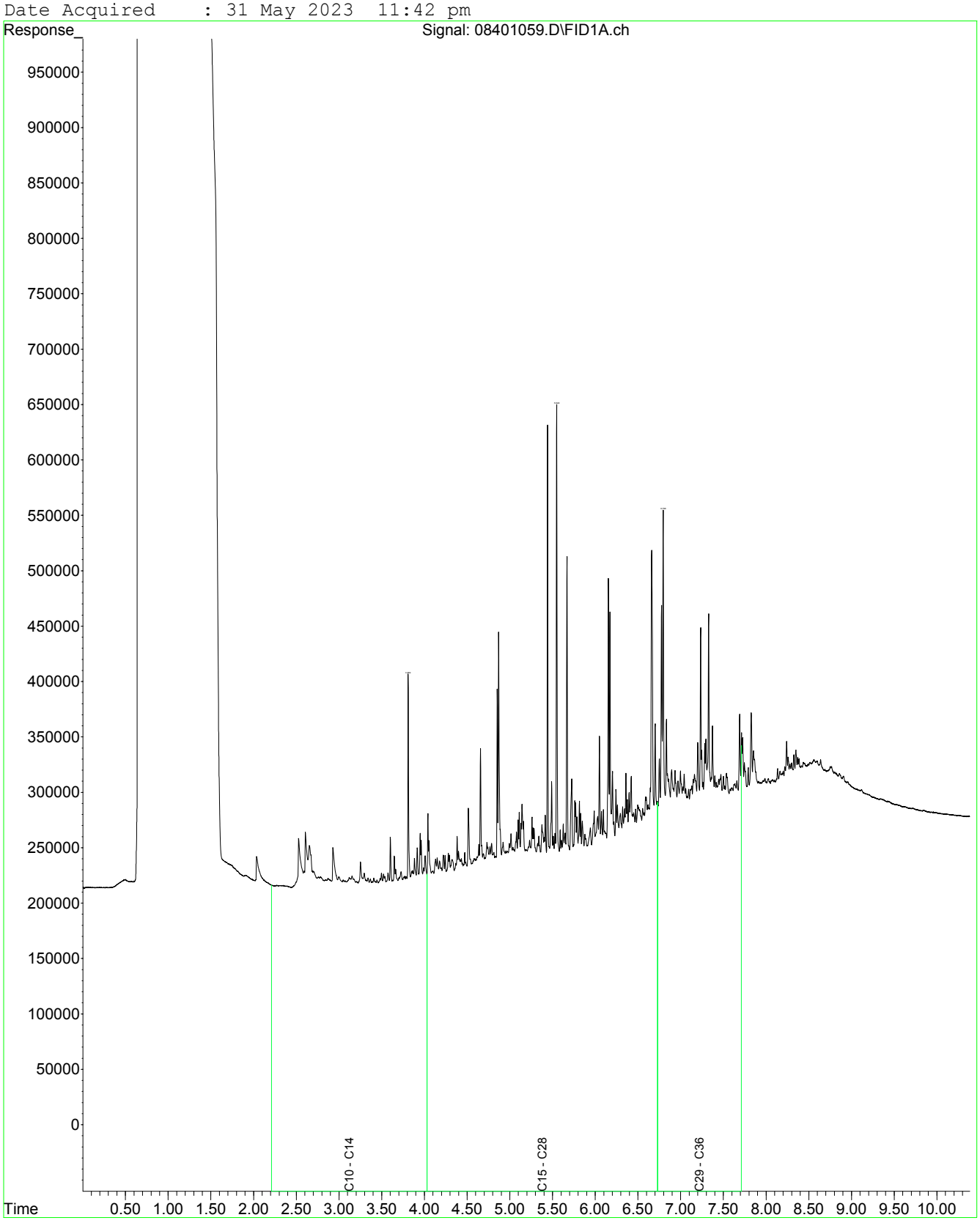
Fraction Scheme : NEPM Draft HIL
Data File : 08701062.D
Laboratory Number: EM2309607-025
Sample ID : OL_EX_QC123
Date Acquired : 1 Jun 2023 12:30 am



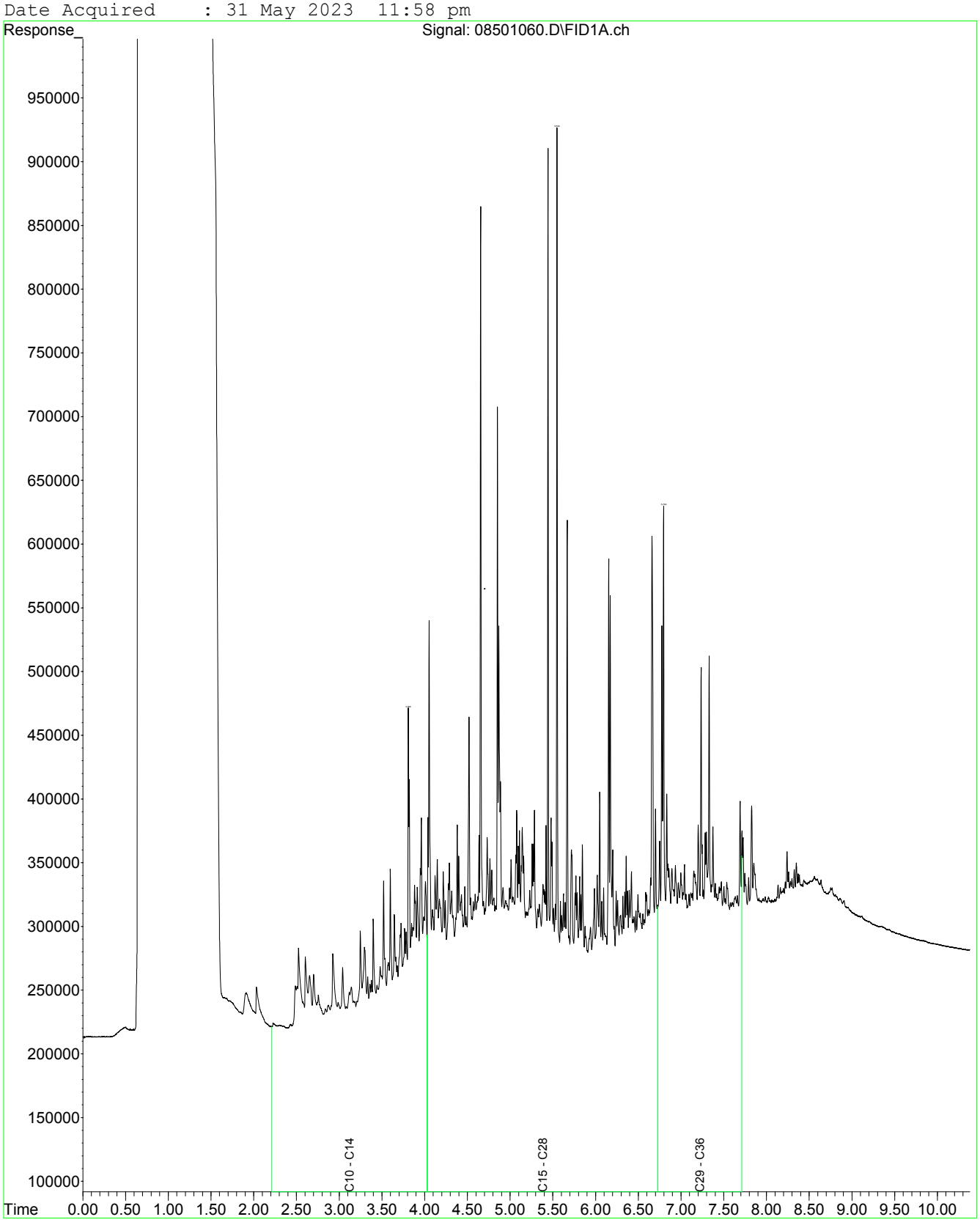
Fraction Scheme : Standard
Data File : 08301058.D
Laboratory Number: EM2309607-021
Sample ID : OL_EX_BF_08_1.0
Date Acquired : 31 May 2023 11:25 pm



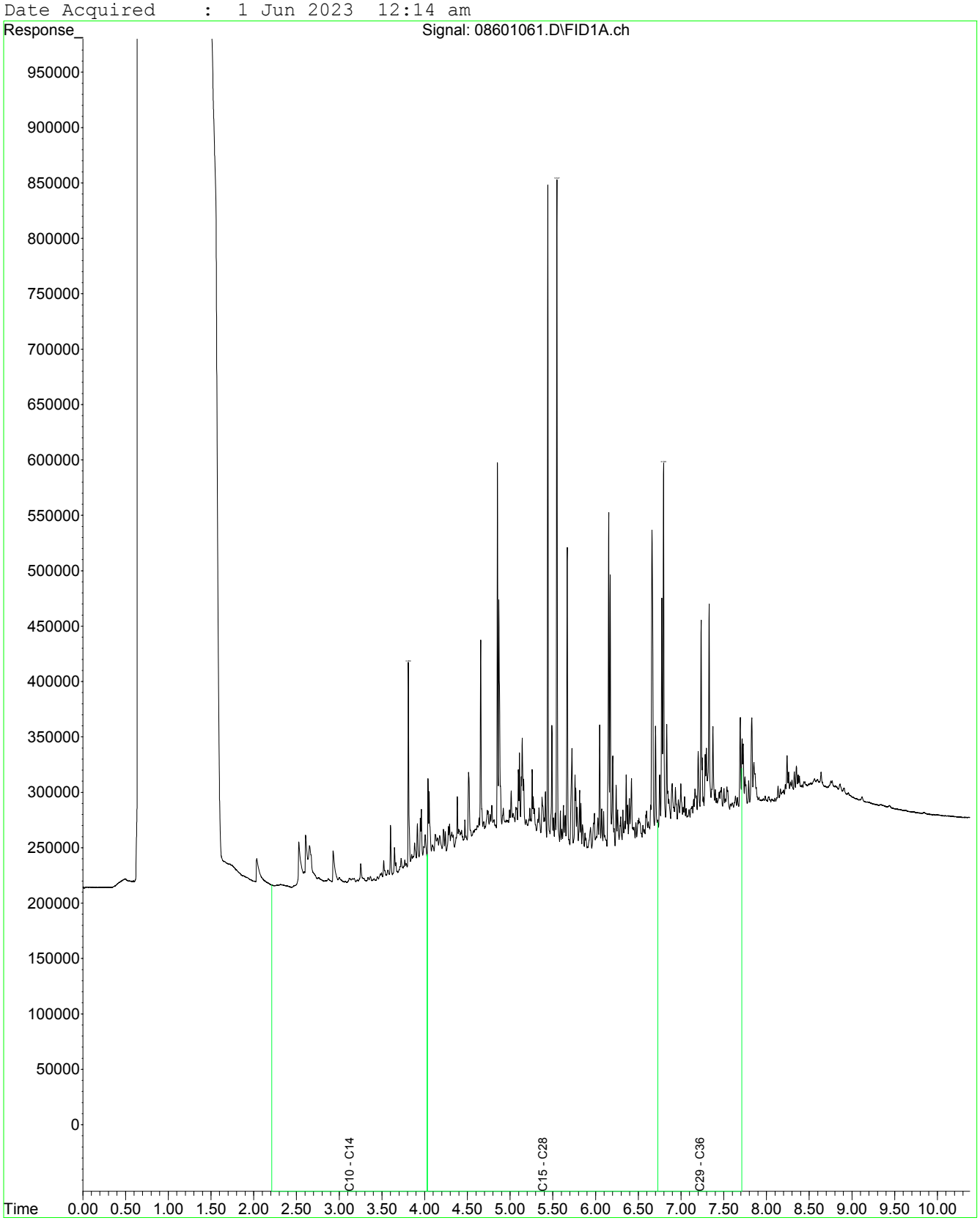
Fraction Scheme : Standard
Data File : 08401059.D
Laboratory Number: EM2309607-022
Sample ID : OL_EX_BF_09_0.5
Date Acquired : 31 May 2023 11:42 pm



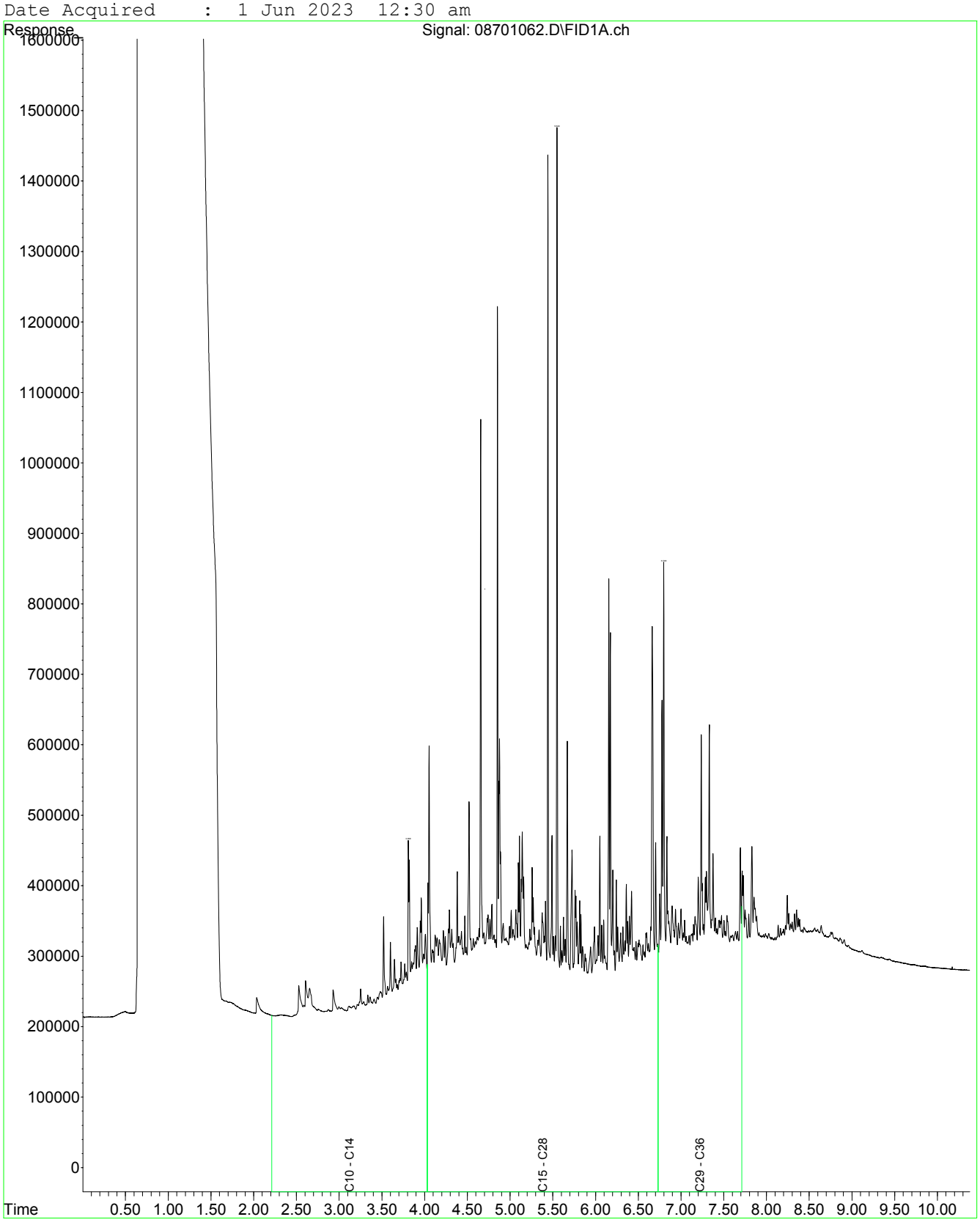
Fraction Scheme : Standard
Data File : 08501060.D
Laboratory Number: EM2309607-023
Sample ID : OL_EX_BF_09_1.0
Date Acquired : 31 May 2023 11:58 pm



Fraction Scheme : Standard
Data File : 08601061.D
Laboratory Number: EM2309607-024
Sample ID : OL_EX_QC122
Date Acquired : 1 Jun 2023 12:14 am



Fraction Scheme : Standard
Data File : 08701062.D
Laboratory Number: EM2309607-025
Sample ID : OL_EX_QC123
Date Acquired : 1 Jun 2023 12:30 am



CERTIFICATE OF ANALYSIS

Work Order	: **EM2310094**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 26-May-2023 11:00
Order number	: 60693007-2	Date Analysis Commenced	: 31-May-2023
C-O-C number	: ----	Issue Date	: 13-Jun-2023 16:42
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 7		
No. of samples analysed	: 7		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP070-CWG: EM2310094-006 Higher than expected surrogate recovery due to matrix interference.
- This is a rebatch of EM2309607 .

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_01_1.5	OL_EX_BF_02_0.5	OL_EX_BF_04_1.0	OL_EX_BF_04_1.5	OL_EX_BF_06_1.0
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10	25-May-2023 13:10
Compound	CAS Number	LOR	Unit		EM2310094-001	EM2310094-002	EM2310094-003	EM2310094-004	EM2310094-005
					Result	Result	Result	Result	Result
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		<50	<50	<50	<50	<50
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		**263**	**105**	**79**	**124**	**296**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		<50	<50	<50	<50	<50
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		**75**	<50	<50	<50	<50
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**100.0**	**101**	**101**	**91.1**	**92.2**
2-Fluorobiphenyl	321-60-8	1	%		**108**	**94.7**	**106**	**98.6**	**91.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_BF_08_0.5	OL_EX_BF_09_1.0	----	----	----
				Sampling date / time	25-May-2023 13:10	25-May-2023 13:10	----	----	----
Compound	CAS Number	LOR	Unit		EM2310094-006	EM2310094-007	--------	--------	--------
					Result	Result	----	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions									
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg		<50	<50	----	----	----
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg		**156**	**86**	----	----	----
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions									
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg		<50	<50	----	----	----
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg		**187**	<50	----	----	----
EP079/EP070S:TPH Surrogates - semivolatile speciation									
2-Bromonaphthalene	580-13-2	1	%		**83.1**	**95.8**	----	----	----
2-Fluorobiphenyl	321-60-8	1	%		**174**	**80.8**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP079/EP070S:TPH Surrogates - semivolatile speciation			
2-Bromonaphthalene	580-13-2	73	129
2-Fluorobiphenyl	321-60-8	64	128

QUALITY CONTROL REPORT

Work Order	: **EM2310094**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 26-May-2023
Order number	: 60693007-2	Date Analysis Commenced	: 31-May-2023
C-O-C number	: ----	Issue Date	: 13-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 7		
No. of samples analysed	: 7		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QC Lot: 5096261)									
EM2310094-003	OL_EX_BF_04_1.0	EP070-CWG: Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	79	126	45.8	No Limit
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QC Lot: 5096261)									
EM2310094-003	OL_EX_BF_04_1.0	EP070-CWG: Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	<50	<50	0.0	No Limit
		EP070-CWG: Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	<50	<50	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5096261)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	133	72.4	142
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	129	78.8	138
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5096261)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	93.6	44.7	157
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	86.1	55.2	142

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310094**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 26-May-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 13-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 7
Order number	: 60693007-2	No. of samples analysed	: 7

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP079/EP070S:TPH Surrogates - semivolatile speciatio	EM2310094-006	OL_EX_BF_08_0.5	**2-Fluorobiphenyl**	321-60-8	174 %	64.0-128 %	**Recovery greater than upper data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_06_1.0, OL_EX_BF_08_0.5, OL_EX_BF_09_1.0	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**09-Jun-2023**	10-Jul-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_BF_01_1.5, OL_EX_BF_02_0.5, OL_EX_BF_04_1.0, OL_EX_BF_04_1.5, OL_EX_BF_06_1.0, OL_EX_BF_08_0.5, OL_EX_BF_09_1.0	**25-May-2023**	**31-May-2023**	08-Jun-2023	✓	**09-Jun-2023**	10-Jul-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Rebatch

Client / Client code: AECOMAU
Project: Macqiarie Point
Project Manger: ROBERT CROWE
Date /time sample rec: 26/05/2023 23:00
Date/time Instructions rec: 5/06/2023 14:14
Due date: Monday, 13 June 2023
Due date surcharge: **STANDARD**

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

Environmental Division Melbourne
Work Order Reference
EM2310094

Telephone : +61-3-8549 9500

New Lab ID	Sample information: Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of Containers	Analysis: Standard: Aliphatic/Aromatic Speciation (TRH C10-C16)	Standard				Leach					Shortest Holding time expiry
1	OL_EX_BF_01_1.5	25/05/2023 13:10	EM2309607	3	MS: 4010-4012	previous extract		X										08-Jun-23
2	OL_EX_BF_02_0.5	25/05/2023 13:10	EM2309607	4	MS: 4010-4012	previous extract	1	X										08-Jun-23
3	OL_EX_BF_04_1.0	25/05/2023 13:10	EM2309607	11	MS: 4010-4012	previous extract		X										08-Jun-23
4	OL_EX_BF_04_1.5	25/05/2023 13:10	EM2309607	12	MS: 4010-4012	previous extract		X										08-Jun-23
5	OL_EX_BF_06_1.0	25/05/2023 13:10	EM2309607	17	MS: 4010-4012	previous extract		X										08-Jun-23
6	OL_EX_BF_08_0.5	25/05/2023 13:10	EM2309607	20	MS: 4010-4012	previous extract		X										08-Jun-23
7	OL_EX_BF_09_1.0	25/05/2023 13:10	EM2309607	23	MS: 4010-4012	previous extract		X										08-Jun-23
						TOTAL	1											

Ciara Barr

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Monday, 5 June 2023 2:14 PM
To: Peter Ravlic
Subject: [EXTERNAL] - RE: RESULTS & EDD for ALS Workorder : EM2309607 | Overall Description: Macquarie Point

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Afternoon Peter,

Hope you had a great weekend. Could I please request aliphatic/aromatic speciation (C10-C16) for the following samples from this batch?

Lab ID	Field ID	Additional Analytical Suite
EM2309607003	OL_EX_BF_01_1.5	Aliphatic/Aromatic Speciation (TRH C10-C16)
EM2309607004	OL_EX_BF_02_0.5	Aliphatic/Aromatic Speciation (TRH C10-C16)
EM2309607011	OL_EX_BF_04_1.0	Aliphatic/Aromatic Speciation (TRH C10-C16)
EM2309607012	OL_EX_BF_04_1.5	Aliphatic/Aromatic Speciation (TRH C10-C16)
EM2309607017	OL_EX_BF_06_1.0	Aliphatic/Aromatic Speciation (TRH C10-C16)
EM2309607020	OL_EX_BF_08_0.5	Aliphatic/Aromatic Speciation (TRH C10-C16)
EM2309607023	OL_EX_BF_09_1.0	Aliphatic/Aromatic Speciation (TRH C10-C16)

Thanks, and please let me know if you need any additional information,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
robert.crowe@aecom.com

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aecom.com

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LinkedIn | Twitter | Facebook | Instagram

From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Friday, 2 June 2023 8:33 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RESULTS & EDD for ALS Workorder : EM2309607 | Overall Description: Macquarie Point

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CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: 22/3/23, 1145	DATE/TIME: 27/3	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		#915786
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			27/3
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
				TOTAL	22	4	2	0	0	0	1	1	1	

DATE: 27/3
TIME: 4.20pm
COURIER: yes
TEMPERATURE 6.9 + 1.3 8.2
ATTEMP TO CHILL : YES NO
Jess 3

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

291

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	Scott (ALS)		
DATE/TIME:	DATE/TIME: 22/3/23, 1145	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			#975186
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	27/3
46	UST _ QC106	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC206	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
	Trip Blank													Forward to Eurofins
				TOTAL	18	4	0	0	0	0	1	1	1	

DATE: 27/3
TIME: 4:20pm
COURIER: YES
TEMPERATURE 5.2
ATTEMP TO CHILL: YES NO

Jess-s

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Approved Date: 12/10/2022

eurofins | Environment Testing

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Eurofins Environment Testing Australia Pty Ltd

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IANZ# 1327

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43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	60693007
Turnaround time:	5 Day
Date/Time received	Mar 27, 2023 4:20 PM
Eurofins reference	975786

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 8.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

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Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
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Mitchell
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Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
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Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd
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NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007

Order No.: 60693007-3
Report #: 975786
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 27, 2023 4:20 PM
Due: Apr 3, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	UST - QC208	Mar 21, 2023		Soil	M23-Ma0064241	X		X	X	X	X	X	
2	UST - QC210	Mar 21, 2023		Soil	M23-Ma0064242	X		X	X	X	X	X	
3	UST - QC207	Mar 20, 2023		Soil	M23-Ma0064243	X		X	X	X	X	X	
4	UST - QC206	Mar 20, 2023		Soil	M23-Ma0064244	X		X	X	X	X	X	
5	TRIP BLANK	Not Provided		Soil	M23-Ma0064245		X			X	X		
6	UST - QC209	Mar 21, 2023		Soil	M23-Ma0064246						X		X
Test Counts						4	1	4	4	5	6	4	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **975786-S**
Project name MACQUARIE POINT
Project ID 60693007
Received Date Mar 27, 2023

Client Sample ID			**UST - QC208**	**UST - QC210**	**UST - QC207**	**UST - QC206**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-Ma0064241**	**M23-Ma0064242**	**M23-Ma0064243**	**M23-Ma0064244**
Date Sampled			**Mar 21, 2023**	**Mar 21, 2023**	**Mar 20, 2023**	**Mar 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	21	42	490
TRH C15-C28	50	mg/kg	480	600	1300	1500
TRH C29-C36	50	mg/kg	260	270	470	90
TRH C10-C36 (Total)	50	mg/kg	740	891	1812	2080
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	40
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	39
TRH >C10-C16	50	mg/kg	< 50	60	160	960
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	60	158.2	953.8
TRH >C16-C34	100	mg/kg	730	880	1700	1100
TRH >C34-C40	100	mg/kg	< 100	< 100	120	< 100
TRH >C10-C40 (total)*	100	mg/kg	730	940	1980	2060
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	0.5
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.5
4-Bromofluorobenzene (surr.)	1	%	97	141	101	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	1.8	6.2
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	14	25	42	3.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	14	25	42	3.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	14	25	42	3.9
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	16	< 0.5
Acenaphthylene	0.5	mg/kg	1.1	1.4	2.6	0.5
Anthracene	0.5	mg/kg	1.9	4.1	18	< 0.5
Benz(a)anthracene	0.5	mg/kg	9.8	19	31	1.8
Benzo(a)pyrene	0.5	mg/kg	9.6	17	28	2.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	6.0	12	23	2.3
Benzo(g.h.i)perylene	0.5	mg/kg	3.7	8.0	15	2.0
Benzo(k)fluoranthene	0.5	mg/kg	7.4	14	22	2.1
Chrysene	0.5	mg/kg	11	20	30	2.1

Client Sample ID			UST - QC208	UST - QC210	UST - QC207	UST - QC206
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-Ma0064241	M23-Ma0064242	M23-Ma0064243	M23-Ma0064244
Date Sampled			Mar 21, 2023	Mar 21, 2023	Mar 20, 2023	Mar 20, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	2.5	4.5	< 0.5
Fluoranthene	0.5	mg/kg	18	30	82	5.6
Fluorene	0.5	mg/kg	0.6	0.9	18	0.8
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.7	9.3	16	2.1
Naphthalene	0.5	mg/kg	0.7	0.7	13	1.1
Phenanthrene	0.5	mg/kg	5.3	12	78	2.6
Pyrene	0.5	mg/kg	18	34	83	7.0
Total PAH*	0.5	mg/kg	98	180	480	33
2-Fluorobiphenyl (surr.)	1	%	91	99	83	106
p-Terphenyl-d14 (surr.)	1	%	67	79	81	105
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 1	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 1	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 1	< 0.5
Phenol-d6 (surr.)	1	%	69	71	81	92
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Lead	5	mg/kg	520	270	2600	200
Sample Properties						
% Moisture	1	%	19	14	22	21

Client Sample ID			TRIP BLANK	UST - QC209
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0064245	M23-Ma0064246
Date Sampled			Not Provided[I12]	Mar 21, 2023
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	-	< 20
TRH C10-C14	20	mg/kg	-	320
TRH C15-C28	50	mg/kg	-	1000
TRH C29-C36	50	mg/kg	-	56
TRH C10-C36 (Total)	50	mg/kg	-	1376
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20
TRH >C10-C16	50	mg/kg	-	620
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	620
TRH >C16-C34	100	mg/kg	-	770
TRH >C34-C40	100	mg/kg	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	1390
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	-	< 0.5
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	3.1
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	3.4
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	3.6
Acenaphthene	0.5	mg/kg	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5
Anthracene	0.5	mg/kg	-	1.6
Benz(a)anthracene	0.5	mg/kg	-	2.4
Benzo(a)pyrene	0.5	mg/kg	-	2.4
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	1.3
Benzo(g.h.i)perylene	0.5	mg/kg	-	1.1
Benzo(k)fluoranthene	0.5	mg/kg	-	2.2
Chrysene	0.5	mg/kg	-	2.1
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5
Fluoranthene	0.5	mg/kg	-	8.0
Fluorene	0.5	mg/kg	-	1.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	1.2
Naphthalene	0.5	mg/kg	-	< 0.5
Phenanthrene	0.5	mg/kg	-	4.3
Pyrene	0.5	mg/kg	-	9.4
Total PAH*	0.5	mg/kg	-	38
2-Fluorobiphenyl (surr.)	1	%	-	116
p-Terphenyl-d14 (surr.)	1	%	-	105

Client Sample ID			TRIP BLANK	UST - QC209
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0064245	M23-Ma0064246
Date Sampled			Not Provided[I12]	Mar 21, 2023
Test/Reference	LOR	Unit		
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5
Dinoseb	20	mg/kg	-	< 20
Phenol	0.5	mg/kg	-	< 0.5
Phenol-d6 (surr.)	1	%	-	93
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20
Heavy Metals				
Arsenic	2	mg/kg	-	3.3
Barium	10	mg/kg	-	230
Beryllium	2	mg/kg	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4
Chromium	5	mg/kg	-	24
Cobalt	5	mg/kg	-	19
Copper	5	mg/kg	-	63
Lead	5	mg/kg	-	110
Manganese	5	mg/kg	-	230
Mercury	0.1	mg/kg	-	0.8
Molybdenum	5	mg/kg	-	< 5
Nickel	5	mg/kg	-	23
Selenium	2	mg/kg	-	< 2
Silver	2	mg/kg	-	< 2
Tin	10	mg/kg	-	18
Zinc	5	mg/kg	-	180
Sample Properties				
% Moisture	1	%	< 1	23
Volatile Organics				
Naphthalene[N02]	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.8
Chromium (hexavalent)	1	mg/kg	-	< 1
Cyanide (total)	5	mg/kg	-	< 5
Fluoride	100	mg/kg	-	< 100

Client Sample ID			TRIP BLANK	UST - QC209
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Ma0064245	M23-Ma0064246
Date Sampled			Not Provided[I12]	Mar 21, 2023
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	96
Tetrachloro-m-xylene (surr.)	1	%	-	116
Polychlorinated Biphenyls				
Aroclor-1016	0.1	mg/kg	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	96
Tetrachloro-m-xylene (surr.)	1	%	-	116

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Mar 30, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Benzo(a)pyrene - low level	Melbourne	Mar 28, 2023	0 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Chromium (hexavalent)	Melbourne	Mar 28, 2023	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Mar 28, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Mar 29, 2023	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
Organochlorine Pesticides	Melbourne	Mar 28, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Mar 28, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Total Recoverable Hydrocarbons	Melbourne	Mar 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Mar 28, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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VIC 3008

Project Name: MACQUARIE POINT
Project ID: 60693007

Order No.: 60693007-3
Report #: 975786
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 27, 2023 4:20 PM
Due: Apr 3, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	UST - QC208	Mar 21, 2023		Soil	M23-Ma0064241	X		X	X	X	X	X	
2	UST - QC210	Mar 21, 2023		Soil	M23-Ma0064242	X		X	X	X	X	X	
3	UST - QC207	Mar 20, 2023		Soil	M23-Ma0064243	X		X	X	X	X	X	
4	UST - QC206	Mar 20, 2023		Soil	M23-Ma0064244	X		X	X	X	X	X	
5	TRIP BLANK	Not Provided		Soil	M23-Ma0064245		X			X	X		
6	UST - QC209	Mar 21, 2023		Soil	M23-Ma0064246						X		X
Test Counts						4	1	4	4	5	6	4	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	92			70-130	Pass	
TRH C10-C14	%	104			70-130	Pass	
TRH C6-C10	%	90			70-130	Pass	
TRH >C10-C16	%	116			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	107			70-130	Pass	
Anthracene	%	109			70-130	Pass	
Benz(a)anthracene	%	104			70-130	Pass	
Benzo(a)pyrene	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	%	112			70-130	Pass	
Benzo(g.h.i)perylene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	115			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	78			70-130	Pass	
Fluoranthene	%	106			70-130	Pass	
Fluorene	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	111			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	111			25-140	Pass	
2.4-Dichlorophenol	%	101			25-140	Pass	
2.4.5-Trichlorophenol	%	73			25-140	Pass	
2.4.6-Trichlorophenol	%	59			25-140	Pass	
2.6-Dichlorophenol	%	80			25-140	Pass	
4-Chloro-3-methylphenol	%	79			25-140	Pass	
Pentachlorophenol	%	66			25-140	Pass	
Tetrachlorophenols - Total	%	86			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	60			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	46			25-140	Pass	
2-Nitrophenol	%	97			25-140	Pass	
2.4-Dimethylphenol	%	65			25-140	Pass	
2.4-Dinitrophenol	%	96			25-140	Pass	
2-Methylphenol (o-Cresol)	%	94			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	92			25-140	Pass	
4-Nitrophenol	%	106			25-140	Pass	
Dinoseb	%	60			25-140	Pass	
Phenol	%	110			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Barium	%	113			80-120	Pass	
Beryllium	%	113			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	112			80-120	Pass	
Cobalt	%	110			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	93			80-120	Pass	
Manganese	%	113			80-120	Pass	
Mercury	%	93			80-120	Pass	
Molybdenum	%	109			80-120	Pass	
Nickel	%	111			80-120	Pass	
Selenium	%	109			80-120	Pass	
Silver	%	106			80-120	Pass	
Tin	%	113			80-120	Pass	
Zinc	%	111			80-120	Pass	
LCS - % Recovery							
Benzo(a)pyrene - low level	%	109			70-130	Pass	
Cyanide (total)	%	75			70-130	Pass	
Fluoride	%	99			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	83			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	90			70-130	Pass	
4.4'-DDT	%	88			70-130	Pass	
a-HCH	%	78			70-130	Pass	
Aldrin	%	90			70-130	Pass	
b-HCH	%	81			70-130	Pass	
d-HCH	%	81			70-130	Pass	
Dieldrin	%	112			70-130	Pass	
Endosulfan I	%	82			70-130	Pass	
Endosulfan II	%	80			70-130	Pass	
Endosulfan sulphate	%	88			70-130	Pass	
Endrin	%	94			70-130	Pass	
Endrin aldehyde	%	71			70-130	Pass	
Endrin ketone	%	78			70-130	Pass	
g-HCH (Lindane)	%	75			70-130	Pass	
Heptachlor	%	85			70-130	Pass	
Heptachlor epoxide	%	79			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene			%	82			70-130	Pass	
Methoxychlor			%	86			70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls									
Aroclor-1260			%	100			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Ma0069256	NCP	%	115			70-130	Pass	
Acenaphthylene	M23-Ma0069256	NCP	%	100			70-130	Pass	
Anthracene	M23-Ma0069256	NCP	%	122			70-130	Pass	
Benz(a)anthracene	M23-Ma0069256	NCP	%	100			70-130	Pass	
Benzo(a)pyrene	M23-Ma0069256	NCP	%	103			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Ma0069256	NCP	%	103			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ma0069256	NCP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M23-Ma0069256	NCP	%	107			70-130	Pass	
Chrysene	M23-Ma0069256	NCP	%	91			70-130	Pass	
Dibenz(a.h)anthracene	M23-Ma0069256	NCP	%	91			70-130	Pass	
Fluoranthene	M23-Ma0069256	NCP	%	112			70-130	Pass	
Fluorene	M23-Ma0069256	NCP	%	118			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0069256	NCP	%	99			70-130	Pass	
Naphthalene	M23-Ma0069256	NCP	%	96			70-130	Pass	
Phenanthrene	M23-Ma0069256	NCP	%	110			70-130	Pass	
Pyrene	M23-Ma0069256	NCP	%	122			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-Ma0069256	NCP	%	105			30-130	Pass	
2.4-Dichlorophenol	M23-Ma0069256	NCP	%	41			30-130	Pass	
2.4.5-Trichlorophenol	M23-Ma0069256	NCP	%	41			30-130	Pass	
2.4.6-Trichlorophenol	M23-Ma0069256	NCP	%	51			30-130	Pass	
2.6-Dichlorophenol	M23-Ma0069256	NCP	%	34			30-130	Pass	
4-Chloro-3-methylphenol	M23-Ma0069256	NCP	%	90			30-130	Pass	
Pentachlorophenol	M23-Ma0069256	NCP	%	40			30-130	Pass	
Tetrachlorophenols - Total	M23-Ma0069256	NCP	%	41			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0069256	NCP	%	47			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0069256	NCP	%	46			30-130	Pass	
2-Nitrophenol	M23-Ma0069256	NCP	%	53			30-130	Pass	
2.4-Dimethylphenol	M23-Ma0069256	NCP	%	82			30-130	Pass	
2.4-Dinitrophenol	M23-Ma0027634	NCP	%	118			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0069256	NCP	%	108			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0069256	NCP	%	106			30-130	Pass	
4-Nitrophenol	M23-Ma0069256	NCP	%	114			30-130	Pass	
Dinoseb	M23-Ma0069256	NCP	%	65			30-130	Pass	
Phenol	M23-Ma0069256	NCP	%	106			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ma0064241	CP	%	108			75-125	Pass	
Beryllium	M23-Ma0064241	CP	%	120			75-125	Pass	
Cadmium	M23-Ma0064241	CP	%	102			75-125	Pass	
Chromium	M23-Ma0064241	CP	%	112			75-125	Pass	
Cobalt	M23-Ma0064241	CP	%	112			75-125	Pass	
Lead	M23-Ma0076276	NCP	%	97			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Molybdenum	M23-Ma0064241	CP	%	112			75-125	Pass	
Nickel	M23-Ma0064241	CP	%	111			75-125	Pass	
Selenium	M23-Ma0064241	CP	%	108			75-125	Pass	
Silver	M23-Ma0064241	CP	%	103			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M23-Ma0064242	CP	%	102			70-130	Pass	
TRH >C10-C16	M23-Ma0064242	CP	%	110			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ma0064246	CP	%	101			70-130	Pass	
TRH C6-C10	M23-Ma0064246	CP	%	115			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ma0064246	CP	%	72			70-130	Pass	
Toluene	M23-Ma0064246	CP	%	74			70-130	Pass	
Ethylbenzene	M23-Ma0064246	CP	%	78			70-130	Pass	
m&p-Xylenes	M23-Ma0064246	CP	%	80			70-130	Pass	
o-Xylene	M23-Ma0064246	CP	%	82			70-130	Pass	
Xylenes - Total*	M23-Ma0064246	CP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ma0064246	CP	%	104			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ma0076276	NCP	%	113			75-125	Pass	
Barium	M23-Ma0076276	NCP	%	117			75-125	Pass	
Beryllium	M23-Ma0076276	NCP	%	124			75-125	Pass	
Cadmium	M23-Ma0076276	NCP	%	109			75-125	Pass	
Chromium	M23-Ma0076276	NCP	%	119			75-125	Pass	
Cobalt	M23-Ma0076276	NCP	%	118			75-125	Pass	
Copper	M23-Ma0076276	NCP	%	119			75-125	Pass	
Manganese	M23-Ma0076276	NCP	%	81			75-125	Pass	
Mercury	M23-Ma0076276	NCP	%	107			75-125	Pass	
Molybdenum	M23-Ma0076276	NCP	%	125			75-125	Pass	
Nickel	M23-Ma0076276	NCP	%	118			75-125	Pass	
Selenium	M23-Ma0076276	NCP	%	115			75-125	Pass	
Silver	M23-Ma0076276	NCP	%	130			75-125	Fail	Q08
Tin	M23-Ma0076276	NCP	%	109			75-125	Pass	
Zinc	M23-Ma0076276	NCP	%	122			75-125	Pass	
Spike - % Recovery									
				Result 1					
Benzo(a)pyrene - low level	M23-Ma0069256	NCP	%	103			70-130	Pass	
Fluoride	M23-Ma0070578	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M23-Ma0067982	NCP	%	83			70-130	Pass	
4.4'-DDD	M23-Ma0067982	NCP	%	80			70-130	Pass	
4.4'-DDE	M23-Ma0067982	NCP	%	82			70-130	Pass	
4.4'-DDT	M23-Ma0067982	NCP	%	74			70-130	Pass	
a-HCH	M23-Ma0067982	NCP	%	77			70-130	Pass	
Aldrin	M23-Ma0067982	NCP	%	80			70-130	Pass	
b-HCH	M23-Ma0067982	NCP	%	71			70-130	Pass	
d-HCH	M23-Ma0067982	NCP	%	86			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	M23-Ma0067982	NCP	%	94			70-130	Pass	
Endosulfan I	M23-Ma0067982	NCP	%	92			70-130	Pass	
Endosulfan II	M23-Ma0067982	NCP	%	75			70-130	Pass	
Endosulfan sulphate	M23-Ma0067982	NCP	%	75			70-130	Pass	
Endrin	M23-Ma0067982	NCP	%	79			70-130	Pass	
Endrin aldehyde	M23-Ma0067982	NCP	%	79			70-130	Pass	
Endrin ketone	M23-Ma0067982	NCP	%	78			70-130	Pass	
g-HCH (Lindane)	M23-Ma0067982	NCP	%	92			70-130	Pass	
Heptachlor	M23-Ma0067982	NCP	%	82			70-130	Pass	
Heptachlor epoxide	M23-Ma0067982	NCP	%	72			70-130	Pass	
Hexachlorobenzene	M23-Ma0067982	NCP	%	73			70-130	Pass	
Methoxychlor	M23-Ma0067982	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M23-Ma0068169	NCP	%	82			70-130	Pass	
Aroclor-1260	M23-Ma0068169	NCP	%	80			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ma0069252	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0069252	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0069252	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ma0069252	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ma0069252	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0069252	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0069252	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
4-Nitrophenol	M23-Ma0069252	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ma0069252	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ma0069252	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Ma0064241	CP	mg/kg	9.6	10	6.0	30%	Pass	
Barium	M23-Ma0064241	CP	mg/kg	140	140	3.6	30%	Pass	
Beryllium	M23-Ma0064241	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M23-Ma0064241	CP	mg/kg	0.4	0.4	<1	30%	Pass	
Chromium	M23-Ma0064241	CP	mg/kg	13	13	3.3	30%	Pass	
Cobalt	M23-Ma0064241	CP	mg/kg	9.5	10	7.2	30%	Pass	
Copper	M23-Ma0064241	CP	mg/kg	110	120	4.8	30%	Pass	
Lead	M23-Ma0064241	CP	mg/kg	520	530	2.2	30%	Pass	
Manganese	M23-Ma0064241	CP	mg/kg	200	210	4.7	30%	Pass	
Mercury	M23-Ma0064241	CP	mg/kg	9.1	9.6	5.4	30%	Pass	
Molybdenum	M23-Ma0064241	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M23-Ma0064241	CP	mg/kg	12	13	5.2	30%	Pass	
Selenium	M23-Ma0064241	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M23-Ma0064241	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M23-Ma0064241	CP	mg/kg	95	98	2.6	30%	Pass	
Zinc	M23-Ma0064241	CP	mg/kg	280	300	5.7	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0064242	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ma0064242	CP	mg/kg	21	< 20	14	30%	Pass	
TRH C15-C28	M23-Ma0064242	CP	mg/kg	600	560	7.6	30%	Pass	
TRH C29-C36	M23-Ma0064242	CP	mg/kg	270	240	12	30%	Pass	
TRH C6-C10	M23-Ma0064242	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ma0064242	CP	mg/kg	60	60	<1	30%	Pass	
TRH >C16-C34	M23-Ma0064242	CP	mg/kg	880	810	8.4	30%	Pass	
TRH >C34-C40	M23-Ma0064242	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0064242	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0064242	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0064242	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0064242	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ma0064245	CP	%	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	M23-Ma0064168	NCP	mg/kg	0.1	0.1	1.8	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M23-Ma0060309	NCP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chromium (hexavalent)	B23-Ma0055912	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Fluoride	M23-Ma0064246	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M23-Ma0060309	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M23-Ma0060309	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M23-Ma0060309	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Michael Morrison	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties
Caitlin Breeze	Senior Analyst-Metal
Harry Bacalis	Senior Analyst-Volatile
Carroll Lee	Senior Analyst-Organic



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Felix Dong

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 10:53 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: AECOMAU COMPASS 52798

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CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

This is that same problem with Compass – it does not appear to have updated/sync'd the sample names when the COC is finalised.

Compass 52798		sample date	TRH BTEXN PAH Phenols Pb	8 metals suite	TCLP 8 metals suite		HOLD
OL_EX_BF_01_0.5	5 day TAT	25-May	1				
OL_EX_BF_01_1.0	5 day TAT	25-May	1				
OL_EX_BF_01_1.5	5 day TAT	25-May	1				
OL_EX_BF_02_0.5	5 day TAT	25-May	1				
OL_EX_BF_02_1.0	5 day TAT	25-May	1				
OL_EX_BF_02_1.5	5 day TAT	25-May	1				
OL_EX_BF_03_0.5	5 day TAT	25-May	1				
OL_EX_BF_03_1.0	5 day TAT	25-May	1				
OL_EX_BF_03_1.5	5 day TAT	25-May	1				
OL_EX_BF_04_0.5	5 day TAT	25-May	1				
OL_EX_BF_04_1.0	5 day TAT	25-May	1				
OL_EX_BF_04_1.5	5 day TAT	25-May	1				
OL_EX_BF_05_0.5	5 day TAT	25-May	1				
OL_EX_BF_05_1.0	5 day TAT	25-May	1				
OL_EX_BF_05_1.5	5 day TAT	25-May	1				
OL_EX_BF_06_0.5	5 day TAT	25-May	1				
OL_EX_BF_06_1.0	5 day TAT	25-May	1				
OL_EX_BF_07_0.5	5 day TAT	25-May	1				
OL_EX_BF_07_1.0	5 day TAT	25-May	1				
OL_EX_BF_08_0.5	5 day TAT	25-May	1				

#444827

DATE: 31/5/23
TIME: 9.00
COURIER:
TEMPERATURE 9.4
ATTEMP TO CHILL : YES NO

RELINQUISHED BY SR (ALS), 31/05/2023

OL_EX_BF_08_1.0	5 day TAT	25-May	1				
OL_EX_BF_09_0.5	5 day TAT	25-May	1				
OL_EX_BF_09_1.0	5 day TAT	25-May	1				
OL_EX_QC122	5 day TAT	25-May	1				
OL_EX_QC123	5 day TAT	25-May	1				
OL_EX_QC222	5 day TAT	25-May	1	Please forward to Eurofins for analysis			
OL_EX_QC223	5 day TAT	25-May	1	Please forward to Eurofins for analysis			
Bench_01A	5 day TAT	25-May		1	1		
Bench_01B	5 day TAT	25-May		1	1		
Bench_02A	5 day TAT	25-May		1	1		
Bench_02B	5 day TAT	25-May		1	1		
Bench_03A	5 day TAT	25-May		1	1		
Bench_03B	5 day TAT	25-May		1	1		

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2/3

#994827

375

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

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Felix Dong

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 12:37 PM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: - RE: AECOMAU COMPASS 52798

412 3/3

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Thanks Peter, sorry about that

Compass 52798		sample date	**8 metals suite**	**TCLP 8 metals suite**	**Trip blank TRH C6-C10 BTEXN**	**Rinsate blank TRH BTEXN PAH Phenols Pb**	**HOLD**
OL_EX_QC214	5 day TAT	**25-May**	1	1			
OL_EX_QC224	5 day TAT	**25-May**	1	1	Please forward to Eurofins for analysis		
OL_EX_QCA12	5 day TAT	**25-May**			1		
OL_EX_QCA13	5 day TAT	**25-May**			1		
OL_EX_QCB13	5 day TAT	**25-May**				1	
OL_EX_QCC08	5 day TAT	**25-May**					HOLD

#994827 3/5/23

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

One email is estimated to produce 10^{-6} T of CO_2 equivalent. Not much? But, considering the average person sends ten unactionable, unnecessary emails per week, the cumulative carbon footprint mounts substantially. Please don't be offended if you don't receive acknowledgement emails from me. I appreciate deeply those I work for and with.

AECOM Australia
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Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Tim Smith
Project name:	AECOM AU COMPASS
Project ID:	52798
Turnaround time:	5 Day
Date/Time received	May 31, 2023 9:00 AM
Eurofins reference	994827

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 9.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

EXTRA TRIP BLANK SAMPLE RECEIVED

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Tim Smith - tim.smith02@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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NATA# 1261 Site# 18217

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Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
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Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
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IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: AECOM AU COMPASS
Project ID: 52798

Order No.:
Report #: 994827
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 31, 2023 9:00 AM
Due: Jun 7, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	OL_EX_QC222	May 25, 2023		Soil	M23-My0079383		X	X			X	X	X	X
2	OL_EX_QC223	May 25, 2023		Soil	M23-My0079384		X	X			X	X	X	X
3	OL_EX_QC224	May 25, 2023		Soil	M23-My0079385					X			X	
4	OL_EX_QC224	May 25, 2023		US Leachate	M23-My0079386				X	X				
5	TRIP BLANK	May 25, 2023		Soil	M23-My0079387	X								
Test Counts						1	2	2	1	2	2	2	3	2

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Smith**

Report **994827-L**
Project name
Project ID 60693007-3
Received Date May 31, 2023

Client Sample ID			**OL_EX_QC224**
Sample Matrix			**US Leachate**
Eurofins Sample No.			**M23-My0079386**
Date Sampled			**May 25, 2023**
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic	0.01	mg/L	0.07
Cadmium	0.005	mg/L	< 0.005
Chromium	0.01	mg/L	< 0.01
Copper	0.01	mg/L	0.03
Lead	0.01	mg/L	< 0.01
Mercury	0.001	mg/L	< 0.001
Nickel	0.01	mg/L	0.01
Zinc	0.01	mg/L	0.20
USA Leaching Procedure			
Leachate Fluid[C01]		comment	1.0
pH (initial)	0.1	pH Units	6.9
pH (Leachate fluid)	0.1	pH Units	5.0
pH (off)	0.1	pH Units	6.7
pH (USA HCl addition)	0.1	pH Units	1.7

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Metals M8	Melbourne	Jun 01, 2023	28 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
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VIC 3008

Project Name: AECOM AU COMPASS
Project ID: 52798

Order No.:
Report #: 994827
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 31, 2023 9:00 AM
Due: Jun 7, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	OL_EX_QC222	May 25, 2023		Soil	M23-My0079383		X	X			X	X	X	X
2	OL_EX_QC223	May 25, 2023		Soil	M23-My0079384		X	X			X	X	X	X
3	OL_EX_QC224	May 25, 2023		Soil	M23-My0079385					X			X	
4	OL_EX_QC224	May 25, 2023		US Leachate	M23-My0079386				X	X				
5	TRIP BLANK	May 25, 2023		Soil	M23-My0079387	X								
Test Counts						1	2	2	1	2	2	2	3	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.01			0.01	Pass	
Cadmium	mg/L	< 0.005			0.005	Pass	
Chromium	mg/L	< 0.01			0.01	Pass	
Copper	mg/L	< 0.01			0.01	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
Mercury	mg/L	< 0.001			0.001	Pass	
Nickel	mg/L	< 0.01			0.01	Pass	
Zinc	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	97			80-120	Pass	
Cadmium	%	92			80-120	Pass	
Chromium	%	96			80-120	Pass	
Copper	%	93			80-120	Pass	
Lead	%	94			80-120	Pass	
Mercury	%	99			80-120	Pass	
Nickel	%	95			80-120	Pass	
Zinc	%	98			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Jn0005210	NCP	%	97			75-125	Pass	
Cadmium	M23-Jn0005210	NCP	%	92			75-125	Pass	
Chromium	M23-Jn0005210	NCP	%	95			75-125	Pass	
Copper	M23-Jn0005210	NCP	%	92			75-125	Pass	
Lead	M23-Jn0005210	NCP	%	95			75-125	Pass	
Mercury	M23-Jn0005210	NCP	%	101			75-125	Pass	
Nickel	M23-Jn0005210	NCP	%	94			75-125	Pass	
Zinc	M23-Jn0005210	NCP	%	102			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Jn0005210	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Cadmium	M23-Jn0005210	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chromium	M23-Jn0005210	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Copper	M23-Jn0005210	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Lead	M23-Jn0005210	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Mercury	M23-Jn0005210	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nickel	M23-Jn0005210	NCP	mg/L	0.04	0.04	11	30%	Pass	
Zinc	M23-Jn0005210	NCP	mg/L	0.13	0.14	6.4	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Michael Morrison	Analytical Services Manager
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Attention: **Tim Smith**

Report **994827-S**
Project name
Project ID 60693007-3
Received Date May 31, 2023

Client Sample ID			**OL_EX_QC222**	**OL_EX_QC223**	**OL_EX_QC224**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-My0079383**	**M23-My0079384**	**M23-My0079385**
Date Sampled			**May 25, 2023**	**May 25, 2023**	**May 25, 2023**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	64	-
TRH C15-C28	50	mg/kg	350	410	-
TRH C29-C36	50	mg/kg	110	140	-
TRH C10-C36 (Total)	50	mg/kg	460	614	-
TRH C6-C10	20	mg/kg	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-
TRH >C10-C16	50	mg/kg	80	140	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	80	140	-
TRH >C16-C34	100	mg/kg	400	450	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	480	590	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	97	96	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.8	5.7	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	7.8	5.7	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.8	5.7	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	0.9	0.6	-
Benz(a)anthracene	0.5	mg/kg	4.3	2.5	-
Benzo(a)pyrene	0.5	mg/kg	5.5	4.0	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.2	3.0	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.6	1.6	-
Benzo(k)fluoranthene	0.5	mg/kg	3.9	2.7	-
Chrysene	0.5	mg/kg	4.4	3.2	-

Client Sample ID			OL_EX_QC222	OL_EX_QC223	OL_EX_QC224
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M23-My0079383	M23-My0079384	M23-My0079385
Date Sampled			May 25, 2023	May 25, 2023	May 25, 2023
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Dibenz(a.h)anthracene	0.5	mg/kg	0.8	0.6	-
Fluoranthene	0.5	mg/kg	7.7	6.2	-
Fluorene	0.5	mg/kg	0.6	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.1	2.2	-
Naphthalene	0.5	mg/kg	0.8	0.7	-
Phenanthrene	0.5	mg/kg	2.7	2.3	-
Pyrene	0.5	mg/kg	8.7	6.9	-
Total PAH*	0.5	mg/kg	49	37	-
2-Fluorobiphenyl (surr.)	1	%	104	103	-
p-Terphenyl-d14 (surr.)	1	%	108	100	-
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-
Dinoseb	20	mg/kg	< 20	< 20	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	105	67	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-
Heavy Metals					
Arsenic	2	mg/kg	-	-	10
Cadmium	0.4	mg/kg	-	-	1.8
Chromium	5	mg/kg	-	-	31
Copper	5	mg/kg	-	-	210
Lead	5	mg/kg	250	210	540
Mercury	0.1	mg/kg	-	-	1.3
Nickel	5	mg/kg	-	-	41
Zinc	5	mg/kg	-	-	410
Sample Properties					
% Moisture	1	%	13	11	8.3

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX and Naphthalene			
BTEX	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 01, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals	Melbourne	Jun 01, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	May 31, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: AECOM AU COMPASS
Project ID: 52798

Order No.:
Report #: 994827
Phone: 03 9653 1234
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Received: May 31, 2023 9:00 AM
Due: Jun 7, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	OL_EX_QC222	May 25, 2023		Soil	M23-My0079383		X	X			X	X	X	X
2	OL_EX_QC223	May 25, 2023		Soil	M23-My0079384		X	X			X	X	X	X
3	OL_EX_QC224	May 25, 2023		Soil	M23-My0079385					X			X	
4	OL_EX_QC224	May 25, 2023		US Leachate	M23-My0079386				X	X				
5	TRIP BLANK	May 25, 2023		Soil	M23-My0079387	X								
Test Counts						1	2	2	1	2	2	2	3	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	112			70-130	Pass	
TRH C10-C14	%	91			70-130	Pass	
TRH C6-C10	%	109			70-130	Pass	
TRH >C10-C16	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	81			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	103			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	80			70-130	Pass	
Benzo(a)pyrene	%	121			70-130	Pass	
Benzo(b&j)fluoranthene	%	82			70-130	Pass	
Benzo(g.h.i)perylene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	114			70-130	Pass	
Dibenz(a.h)anthracene	%	97			70-130	Pass	
Fluoranthene	%	103			70-130	Pass	
Fluorene	%	104			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	96			70-130	Pass	
Naphthalene	%	118			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (Halogenated)							
2-Chlorophenol	%	102			25-140	Pass	
2.4-Dichlorophenol	%	114			25-140	Pass	
2.4.5-Trichlorophenol	%	45			25-140	Pass	
2.4.6-Trichlorophenol	%	70			25-140	Pass	
2.6-Dichlorophenol	%	68			25-140	Pass	
4-Chloro-3-methylphenol	%	63			25-140	Pass	
Pentachlorophenol	%	39			25-140	Pass	
Tetrachlorophenols - Total	%	101			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	84			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	61			25-140	Pass	
2-Nitrophenol	%	83			25-140	Pass	
2.4-Dimethylphenol	%	55			25-140	Pass	
2-Methylphenol (o-Cresol)	%	75			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	104			25-140	Pass	
Dinoseb	%	88			25-140	Pass	
Phenol	%	96			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	89			80-120	Pass	
Cadmium	%	115			80-120	Pass	
Chromium	%	94			80-120	Pass	
Copper	%	93			80-120	Pass	
Lead	%	95			80-120	Pass	
Mercury	%	115			80-120	Pass	
Nickel	%	88			80-120	Pass	
Zinc	%	90			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Jn0002949	NCP	%	112			70-130	Pass	
TRH C10-C14	M23-My0078886	NCP	%	79			70-130	Pass	
TRH C6-C10	M23-Jn0002949	NCP	%	111			70-130	Pass	
TRH >C10-C16	M23-My0078886	NCP	%	73			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Jn0002949	NCP	%	99			70-130	Pass	
Toluene	M23-Jn0002949	NCP	%	109			70-130	Pass	
Ethylbenzene	M23-Jn0002949	NCP	%	118			70-130	Pass	
m&p-Xylenes	M23-Jn0002949	NCP	%	119			70-130	Pass	
o-Xylene	M23-Jn0002949	NCP	%	116			70-130	Pass	
Xylenes - Total*	M23-Jn0002949	NCP	%	118			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Jn0002949	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-My0078734	NCP	%	100			70-130	Pass	
Acenaphthylene	M23-My0078734	NCP	%	104			70-130	Pass	
Anthracene	M23-My0078734	NCP	%	81			70-130	Pass	
Benz(a)anthracene	M23-My0078734	NCP	%	71			70-130	Pass	
Benzo(a)pyrene	M23-My0078734	NCP	%	106			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	M23-My0078734	NCP	%	76			70-130	Pass	
Benzo(g.h.i)perylene	M23-My0078734	NCP	%	74			70-130	Pass	
Benzo(k)fluoranthene	M23-My0078734	NCP	%	90			70-130	Pass	
Chrysene	M23-My0078734	NCP	%	78			70-130	Pass	
Dibenz(a.h)anthracene	M23-My0078734	NCP	%	79			70-130	Pass	
Fluoranthene	M23-My0078734	NCP	%	100			70-130	Pass	
Fluorene	M23-My0078734	NCP	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0078734	NCP	%	77			70-130	Pass	
Naphthalene	M23-My0078734	NCP	%	113			70-130	Pass	
Phenanthrene	M23-My0078734	NCP	%	71			70-130	Pass	
Pyrene	M23-My0078734	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-My0078734	NCP	%	99			30-130	Pass	
2.4-Dichlorophenol	M23-My0078734	NCP	%	62			30-130	Pass	
2.4.5-Trichlorophenol	M23-My0078734	NCP	%	45			30-130	Pass	
2.4.6-Trichlorophenol	M23-My0078734	NCP	%	63			30-130	Pass	
2.6-Dichlorophenol	M23-My0078734	NCP	%	62			30-130	Pass	
4-Chloro-3-methylphenol	M23-My0078734	NCP	%	69			30-130	Pass	
Pentachlorophenol	M23-My0078734	NCP	%	60			30-130	Pass	
Tetrachlorophenols - Total	M23-My0078734	NCP	%	97			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Nitrophenol	M23-My0078734	NCP	%	82			30-130	Pass	
2.4-Dimethylphenol	M23-My0078734	NCP	%	65			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-My0078734	NCP	%	78			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0078734	NCP	%	88			30-130	Pass	
Dinoseb	M23-My0078734	NCP	%	53			30-130	Pass	
Phenol	M23-My0078734	NCP	%	107			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Jn0001847	NCP	%	103			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Jn0001847	NCP	%	94			75-125	Pass	
Cadmium	M23-Jn0001847	NCP	%	97			75-125	Pass	
Chromium	M23-Jn0001847	NCP	%	104			75-125	Pass	
Copper	M23-Jn0001847	NCP	%	97			75-125	Pass	
Mercury	M23-Jn0001847	NCP	%	102			75-125	Pass	
Nickel	M23-Jn0001847	NCP	%	101			75-125	Pass	
Zinc	M23-Jn0001847	NCP	%	85			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Jn0001762	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-My0079396	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-My0079396	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-My0079396	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M23-Jn0001762	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-My0079396	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-My0079396	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-My0079396	NCP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Jn0001762	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Jn0001762	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Jn0001762	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Jn0001762	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Jn0001762	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Jn0001762	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Jn0001762	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-My0079383	CP	mg/kg	0.9	< 0.5	80	30%	Fail	Q15
Benz(a)anthracene	M23-My0079383	CP	mg/kg	4.3	2.3	59	30%	Fail	Q15
Benzo(a)pyrene	M23-My0079383	CP	mg/kg	5.5	3.2	52	30%	Fail	Q15
Benzo(b&j)fluoranthene	M23-My0079383	CP	mg/kg	3.2	2.3	32	30%	Fail	Q15
Benzo(g.h.i)perylene	M23-My0079383	CP	mg/kg	2.6	1.6	50	30%	Fail	Q15
Benzo(k)fluoranthene	M23-My0079383	CP	mg/kg	3.9	2.0	64	30%	Fail	Q15
Chrysene	M23-My0079383	CP	mg/kg	4.4	2.6	53	30%	Fail	Q15
Dibenz(a.h)anthracene	M23-My0079383	CP	mg/kg	0.8	< 0.5	52	30%	Fail	Q15
Fluoranthene	M23-My0079383	CP	mg/kg	7.7	4.3	58	30%	Fail	Q15
Fluorene	M23-My0079383	CP	mg/kg	0.6	< 0.5	200	30%	Fail	Q15
Indeno(1.2.3-cd)pyrene	M23-My0079383	CP	mg/kg	3.1	1.9	46	30%	Fail	Q15
Naphthalene	M23-My0079383	CP	mg/kg	0.8	< 0.5	68	30%	Fail	Q15
Phenanthrene	M23-My0079383	CP	mg/kg	2.7	1.3	74	30%	Fail	Q15
Pyrene	M23-My0079383	CP	mg/kg	8.7	4.6	61	30%	Fail	Q15
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-My0079383	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-My0079383	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-My0079383	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-My0079383	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-My0079383	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-My0079383	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0079383	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-My0079383	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-My0079383	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-My0079383	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0079383	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-My0079383	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-My0079383	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-My0079383	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	L23-My0072516	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-My0079282	NCP	%	13	15	14	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	L23-My0072516	NCP	mg/kg	3.5	3.4	1.3	30%	Pass	
Cadmium	L23-My0072516	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	L23-My0072516	NCP	mg/kg	7.1	7.1	<1	30%	Pass	
Copper	L23-My0072516	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	L23-My0072516	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	L23-My0072516	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	L23-My0072516	NCP	mg/kg	< 5	< 5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Michael Morrison	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix B

Data Validation

Data Validation

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 3.5** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

ALS Laboratories (ALS) Melbourne was selected as the primary laboratory and Eurofins was selected as the secondary laboratory for chemical analysis of soil samples. Asbestos identification assessment was undertaken by HSR Consulting.

All laboratories used are accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The sampling events and relevant laboratory reports pertaining to the analytical data considered in this report are summarised in below **Table 1**.

Table 1 Laboratory Data Considered

Sample Source / ID	Sampling Event	Sampling Personnel	Lab Report Numbers
Oil Line Excavation Validation	27 February 2023 – Oil Line Excavation remediation validation sampling	Timothy Smith (AECOM	EM2303516 EM2304091 968430*
	27 February 2023 – Oil Line cladding sampling	Randall Stafford (BlackCap)	ID23101
UST_SP_0.5-1.0 UST_SP_0.5-1.0	21 March 2023 – Pre-remediation sampling	Timothy Smith (AECOM)	EM2305209-AB EM2307275
OL_EX_BF	25 May 2023 – *In situ* sampling of backfill area	Timothy Smith (AECOM	EM2309607 EM2310095 994827*

*Note: * – Laboratory reports from the secondary laboratory.*

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix A**. Results of Asbestos Identification are attached as **Appendix E**.

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples from stockpiles, excavation walls, and *in situ* test pits were collected by AECOM field personal with appropriate environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 4.2** of the main report. Samples were collected in laboratory supplied sample containers and placed in chilled eskies prior to transportation to the selected laboratories.

Cladding samples were cut from the Oil Line by BlackCap staff with suitable experience in asbestos assessment and handling, with AECOM staff onsite to supervise removal. Samples were appropriately packed in sealed containers for transport to the analytical laboratory.

1.2 Intra- and Inter-Laboratory Field Duplicate Samples

Four intra-laboratory and three inter-laboratory field duplicate sample pairs were collected from the 44 primary soil samples assessed as part of these works.

Intra- and inter-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of field duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e., concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e., concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e., concentrations 1 – 10 x LOR)

Of a total of 374 RPD values calculated, 58 RPD values (15.5%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, TRH and PAHs. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and soil sampled, and the variability of soil composition is likely to have resulted in these exceedances.

It is noted that of the 156 RPD pairs calculated for duplicates collected from *in situ* samples, only 9 RPD values (<6%) were reported above the acceptable DQO limits. The *in situ* samples are considered more indicative of potential future risks associated with the soil considered in this report, and the lower level of RPD exceedances may reflect a degree of homogenisation which occurred during stockpile generation and backfilling.

As 84.5% of duplicate RPD values for all samples were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

1.3 Trip Blank

One trip blank consisting of clean, laboratory supplied distilled water was submitted with each cooler box transported to the laboratory.

Trip blanks were analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. Concentrations of target compounds reported below the LOR for all trip blanks, indicating that cross contamination of samples occurring in transit is unlikely to have occurred.

Trip blank results are reported on **Table B2** attached.

1.4 Rinsate Blank

A rinsate blank was prepared for each day of sampling by pouring laboratory supplied water over non-dedicated sampling equipment (a trowel or clean glove) following decontamination procedures to assess the potential for cross-contamination.

A total of three rinsate blank was analysed as part of these works, one for each day on which sampling occurred.

All rinsate blanks reported concentrations of CoPC below LOR, indicating cross contamination is unlikely to have occurred during sampling.

Rinsate blanks results are reported on **Table B2** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil, leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.6** below.

Soil samples were analysed for a combination of analytes including metals, cyanide, fluoride, TPH/TRH, BTEX, PAH, MAH, phenols, PCBs and pesticides. As these analytes include the CoPC identified in **Section 1.4** (of the main report) for the areas in which the stockpiles were generated, based on available Site history and uses, and previous investigations conducted, soil analytical program is considered appropriate for the purposes of this report. The adequacy of the analytical suite selected is further detailed in in **Section 4.2** of the main report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported received by ALS (the primary laboratory) between 1.2 and 4.3^{o}C, and by Eurofins (the secondary laboratory) between 8.2 and 9.4^{o}C. Primary samples were within the acceptable target range of 0 – 6°C, and while secondary laboratory samples were received up to 3.4^{o}C above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only. Receipt at higher than expected temperatures may contribute to discrepancies in calculated RPDs.

Leachate or aliphatic/aromatic speciation analysis was conducted on samples previously extracted and do not have sample receipt temperatures reported.

2.2 Sample Holding Times

All primary samples were received by laboratories within the recommended holding times for the requested analyses.

Proactive holding time assessments completed by the analytical laboratories are provided in **Appendix A**.

2.3 Limits of Reporting

For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 2 to Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

2.4 Laboratory Method Blanks

All soil laboratory method blanks, detailed in **Appendix A**, were reported within the acceptable range, i.e., below the laboratory LORs.

2.5 Laboratory Control Spikes

Laboratory control spikes, detailed in **Appendix A**, were within the laboratory-derived control limits for the methods used, and no outliers were reported.

2.6 Frequency of Quality Control Spike

Frequency of quality control spikes, detailed in **Appendix A**, were at the rate expected by applicable QC specifications, and no outliers were reported.

2.7 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples collected from the stockpiles and their corresponding laboratory duplicates were within acceptable limits, with the exception of the duplicate outliers listed below in Error! Not a valid bookmark self-reference..

Table 2 Laboratory Duplicate RPD Exceedances

Work Order	Sample ID	Analyte	RPD	Limits
EM2303516	OL_05_1.0	Zinc	25.4%	0 - 20%
	OL_65_0.6E	Naphthalene	99.9%	0 - 50%
		Phenanthrene	107%	0 - 20%
		Fluoranthene	85.9%	0 - 20%
		Pyrene	80.7%	0 - 20%
		Benz(a)anthracene	71.0%	0 - 20%
		Chrysene	77.7%	0 - 20%
		Benzo(b+j)fluoranthene	71.6%	0 - 20%
		Benzo(a)pyrene	61.5%	0 - 20%
		Benzo(g.h.i)perylene	54.5%	0 – 50%
EM2305209AB	UST_SP_0.5-1.0_01	Arsenic	51.3%	0 - 20%

RPD exceedances are attributed to the heterogeneity of the soil samples submitted to the laboratory. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. These exceedances are not considered to impact interpretation of the results.

2.8 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix A**. Matrix spike recoveries were noted to be within the data quality objective range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 3** below.

Table 3 Matrix Spike Outliers

Work Order	Sample ID	Analyte	Matrix Spike	Limits
EM2305209AB	UST_SP_1.0-1.5_03	Zinc	172%	80-120%
		Hexavalent Chromium	46.0%	58.0-114%
EM2309607	OL_EX_BF_01_1.0	Lead	133%	80.0-120%
	OL_EX_BF_09_1.0	Pyrene	18.7%	65.5-136%

Matrix spike recovery outliers reported are due to matrix interference with samples. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. Overall, these outliers are not considered to impact interpretation of the results.

2.9 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix A**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used. No surrogate recovery outliers were reported.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Four intra-laboratory and three inter-laboratory field duplicate sample pairs were collected from the 44 primary soil samples assessed as part of these works.

  Intra- and inter-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

- Of a total of 374 RPD values calculated, 58 RPD values (15.5%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, TRH and PAHs. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and soil sampled, and the variability of soil composition is likely to have resulted in these exceedances.

  It is noted that of the 156 RPD pairs calculated for duplicates collected from *in situ* samples, only 9 RPD values (<6%) were reported above the acceptable DQO limits. The *in situ* samples are considered more indicative of potential future risks associated with the soil considered in this report, and the lower level of RPD exceedances may reflect a degree of homogenisation which occurred during stockpile generation and backfilling.

  As 84.5% of duplicate RPD values for all samples were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

- Trip blank and rinsate blank analytical results were reported below the laboratory LORs.

- All samples were received by the primary analytical laboratory (ALS) at between 0 and 6°C. While secondary laboratory (Eurofins) samples were received between 8.2 and 9.4^{o}C, up to 3.9^{o}C above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only. Receipt at higher than recommended temperatures may contribute to discrepancies in calculated RPDs noted above.

- All analysis was conducted within the recommended holding time.

- For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 3 and Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

- Laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, surrogate spike recoveries, laboratory control spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

Table B1
Relative Percentage Difference (RPD) Assessment
Precinct South - Lead Excavation Backfill Assessment
Macquarie Point Development Project

AECOM

			Lab Report Number	EM2303516	EM2303516		EM2305209-AB	EM2305209-AB		EM2309607	EM2309607		EM2309607	EM2309607		EM2303516	968430		EM2309607	994827		EM2309607	994827	
			Field ID	OL_77_1.0	OL_QC101	**RPD**	UST_SP_0.5-1.0_01	UST_QC108	**RPD**	OL_EX_BF_01_1.0	OL_EX_QC122	**RPD**	OL_EX_BF_04_1.0	OL_EX_QC123	**RPD**	OL_77_1.0	OL_QC201	**RPD**	OL_EX_BF_01_1.0	OL_EX_QC222	**RPD**	OL_EX_BF_04_1.0	OL_EX_QC223	**RPD**
			Sampled Date/Time	27/02/2023 9:21	27/02/2023 9:21		21/03/2023 15:00	21/03/2023 15:00		25/05/2023 13:10	25/05/2023 13:10		25/05/2023 13:10	25/05/2023 13:10		27/02/2023 9:21	27/02/2023 9:21		25/05/2023 13:10	25/05/2023 13:10		25/05/2023 13:10	25/05/2023 13:10	
Method_Type	**ChemNam**	**Units**	**EQL**																					
Total Metals by ICP-AES	Arsenic	mg/kg	5 : 2 (Interlab)	64	60	6										64								
	Cadmium	mg/kg	1 : 0.4 (Interlab)	<1	1	0										<1								
	Chromium	mg/kg	2 : 5 (Interlab)	13	9	36										13								
	Copper	mg/kg	5	**49**	**102**	**70**										49								
	Lead	mg/kg	5	146	178	20	**235**	**763**	**106**	**218**	**346**	**45**	243	308	24	146	190	26	218	250	14	243	210	15
	Nickel	mg/kg	2 : 5 (Interlab)	10	12	18										10								
	Zinc	mg/kg	5	**228**	**396**	**54**										228								
TRH - Semivolatile Fraction	C10-C14 fr	mg/kg	50 : 20 (Interlab)	4400	4170	5	<50	<50	0	<50	<50	0	70	90	25	**4400**	**2200**	**67**	<50	<20	0	70	64	9
	C15-C28 fr	mg/kg	100 : 50 (Interlab)	8890	8910	0	150	410	93	220	280	24	410	590	36	**8890**	**5300**	**51**	220	350	46	410	410	0
	C29-C36 fr	mg/kg	100 : 50 (Interlab)	580	760	27	150	290	64	130	120	8	140	220	44	580	390	39	130	110	17	140	140	0
	C10-C36 fr	mg/kg	50	13900	13800	1	**300**	**700**	**80**	350	400	13	620	900	37	**13900**	**7890**	**55**	350	460	27	620	614	1
TRH Volatiles/BTEX	C6-C9 frac	mg/kg	10 : 20 (Interlab)	55	41	29	<10	<10	0	<10	<10	0	<10	<10	0	55	<20	93	<10	<20	0	<10	<20	0
TRH - Semivolatile Fraction	>C10-C16	mg/kg	50	8110	7710	5	<50	<50	0	<50	60	18	190	180	5	**8110**	**3998**	**68**	<50	80	46	190	140	30
	>C10-C16	mg/kg	50	8110	7720	5	<50	<50	0	<50	60	18	190	180	5	**8110**	**4000**	**68**	<50	80	46	190	140	30
	>C16-C34	mg/kg	100	5540	5880	6	270	640	81	290	340	16	410	680	50	**5540**	**3500**	**45**	290	400	32	410	450	9
	>C34-C40	mg/kg	100	240	300	22	<100	<100	0	<100	<100	0	<100	<100	0	240	210	13	<100	<100	0	<100	<100	0
	>C10-C40	mg/kg	50 : 100 (Interlab)	13900	13900	0	**270**	**640**	**81**	290	400	32	600	860	36	**13900**	**7710**	**57**	290	480	49	600	590	2
TRH Volatiles/BTEX	C6-C10 fra	mg/kg	10 : 20 (Interlab)	87	64	30	<10	<10	0	<10	<10	0	<10	<10	0	87	33	90	<10	<20	0	<10	<20	0
	C6-C10 fra	mg/kg	10 : 20 (Interlab)	87	64	30	<10	<10	0	<10	<10	0	<10	<10	0	87	33	90	<10	<20	0	<10	<20	0
Total Fluoride	Fluoride	mg/kg	40																					
TRH Volatiles/BTEX	Naphthale	mg/kg	1 : 0.5 (Interlab)	1	6	143	<1	<1	0	<1	<1	0	<1	<1	0	1	2	67	<1	<0.5	0	<1	<0.5	0
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.1	0	<0.2	<0.1	0	<0.2	<0.1	0
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Ethylbenz	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	m&p-Xyler	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.3	0	<0.5	<0.2	0	<0.5	<0.2	0
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Total Xyler	mg/kg	0.5 : 0.3 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.3	0	<0.5	<0.3	0	<0.5	<0.3	0
	Total BTE	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2			<0.2			<0.2		
Benzo(a)pyrene- Waste Classi	Benzo(a)p	mg/kg	0.05																					
PAH/Phenols (SIM)	Benzo(a)p	mg/kg	0.5	**24.6**	**38.8**	**45**	**3**	**19.4**	**146**	6	7	15	**7.5**	**13**	**54**	**24.6**	**7.7**	**105**	6	7.8	26	7.5	5.7	27
	Benzo(a)p	mg/kg	0.5	**24.6**	**38.8**	**45**	**2.7**	**19.4**	**151**	6	7	15	**7.5**	**13**	**54**	**24.6**	**7.7**	**105**	6	7.8	26	7.5	5.7	27
	Benzo(a)p	mg/kg	0.5	**24.6**	**38.8**	**45**	**3.2**	**19.4**	**143**	6	7	15	**7.5**	**13**	**54**	**24.6**	**7.7**	**105**	6	7.8	26	7.5	5.7	27
	Naphthale	mg/kg	0.5	**4.2**	**13.2**	**103**	<0.5	0.9	57	<0.5	<0.5	0	0.7	0.7	0	4.2	5.2	21	<0.5	0.8	46	0.7	0.7	0
	Acenaphth	mg/kg	0.5	3.4	4.3	23	0.5	1.8	113	0.8	0.6	29	0.8	1	22	3.4	1.5	78	0.8	<0.5	46	0.8	<0.5	46
	Acenaphth	mg/kg	0.5	**3.1**	**7.6**	**84**	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	3.1	0.7	126	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracen	mg/kg	0.5	**6.7**	**15.1**	**77**	<0.5	3.5	150	1	1.7	52	1.8	4.4	84	6.7	6.3	6	1	0.9	11	1.8	0.6	100
	Fluorene	mg/kg	0.5	**11**	**15.1**	**31**	<0.5	0.8	46	<0.5	<0.5	0	<0.5	1.2	82	**11**	**7.5**	**38**	<0.5	0.6	18	<0.5	<0.5	0
	Phenanthr	mg/kg	0.5	**31.3**	**64.8**	**70**	**1.7**	**7.7**	**128**	2.2	4.9	76	**4.3**	**13.2**	**102**	**31.3**	**14**	**76**	2.2	2.7	20	4.3	2.3	61
	Fluoranthe	mg/kg	0.5	**30.6**	**54.2**	**56**	**3.6**	**21.8**	**143**	**6.9**	**10.6**	**42**	**9.1**	**19.9**	**74**	**30.6**	**16**	**63**	6.9	7.7	11	9.1	6.2	38
	Benz(a)an	mg/kg	0.5	**16.3**	**28**	**53**	**1.8**	**12.5**	**150**	3.6	5.6	43	**4.7**	**9.1**	**64**	**16.3**	**3.4**	**131**	3.6	4.3	18	4.7	2.5	61
	Benzo(k)fl	mg/kg	0.5	**6**	**10.5**	**55**	0.8	4.6	141	1.8	1.9	5	2.5	3.6	36	6	7.3	20	1.8	3.9	74	2.5	2.7	8
	Benzo(b&j	mg/kg	0.5	18.8	25.1	29	**2.3**	**14**	**144**	4.4	4.8	9	**5.1**	**9.8**	**63**	**18.8**	**6.5**	**97**	4.4	3.2	32	**5.1**	**3**	**52**
	Benzo(a)p	mg/kg	0.5	**17.4**	**27.3**	**44**				4.2	4.7	11	**5.2**	**9**	**54**	**17.4**	**3.6**	**131**	4.2	5.5	27	5.2	4	26
	Chrysene	mg/kg	0.5	**14**	**23**	**49**	**1.7**	**10.4**	**144**	3.3	5.3	47	**4.3**	**8.1**	**61**	14	14	0	3.3	4.4	29	4.3	3.2	29
	Pyrene	mg/kg	0.5	**32.7**	**56.6**	**54**	**3.5**	**22.2**	**146**	**7.2**	**10.4**	**36**	**9.5**	**19.8**	**70**	**32.7**	**19**	**53**	7.2	8.7	19	9.5	6.9	32
	Benzo(g,h	mg/kg	0.5	**9.2**	**15.7**	**52**	**1.4**	**6.5**	**129**	2.6	3	14	3.2	5	44	**9.2**	**4.4**	**71**	2.6	2.6	0	3.2	1.6	67
	Dibenz(a,h	mg/kg	0.5	2.1	3.6	53	<0.5	1.7	109	0.5	0.7	33	0.7	1.2	53	2.1	1.8	15	0.5	0.8	46	0.7	0.6	15
	Indeno(1,2	mg/kg	0.5	**7.7**	**12.1**	**44**	**1.1**	**5.8**	**136**	2.2	2.5	13	2.7	4.2	43	**7.7**	**3.8**	**68**	2.2	3.1	34	2.7	2.2	20
	Sum of PA	mg/kg	0.5	**214**	**376**	**55**	**20.5**	**128**	**145**	**40.7**	**56.7**	**33**	**54.6**	**110**	**67**	**214**	**120**	**56**	40.7	49	19	**54.6**	**37**	**38**
	3/4-Methyl	mg/kg	1	<1	2	67	<1	<1	0	<1	<1	0	<1	<1	0	<1			<1			<1		
	Phenol	mg/kg	0.5	<0.5	1.1	75	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chloroph	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Methylph	mg/kg	0.5 : 0.2 (Interlab)	<0.5	0.8	46	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0
	2-Nitrophe	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	2,4-Dichlor	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dimeth	mg/kg	0.5	<0.5	3.1	144	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-Dichlor	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chloro-3	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	2,4,6-Trich	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	2,4,5-Trich	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
	Pentachlor	mg/kg	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<1	0	<2	<1	0	<2	<1	0
	Sum of Ph	mg/kg	0.5																					
Moisture Content	Moisture C	%	1	13.4	19.8	39	15.6	20.8	29	20.9	15.8	28	17.9	15.7	13	13.4			20.9			17.9		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table B2
Analytical Results - Rinsate and Trip Blanks
Precinct South - Lead Excavation Backfill Assessment
Macquarie Point Development Project

| | | | | PAH/Phenols (GC/MS - SIM) | | | |

AECOM

Appendix C

Environmental Approval No. 10512/2

Environment Protection Authority

GPO Box 1550 HOBART TAS 7001 Australia
Phone (03) 6165 4594
Email wastemanagement@epa.tas.gov.au
Web www.epa.tas.gov.au
Our Ref: D22-445427/001

ENVIRONMENT PROTECTION AUTHORITY

14 September 2022

Mr James Puustinen
Project Manager, Capital Works
Macquarie Point Development Corporation
GPO Box 51
HOBART TAS 7001

Email: james@macquariepoint.com

Dear Mr Puustinen

Environmental Approval No. 10512/2 – Reuse of Low-Level Contaminated Soil at Macquarie Point Development Site

On 1 September 2022 your consultant, AECOM requested that the re-use of low-level contaminated soil at the Macquarie Point Development Site, currently authorised under Environmental Approval 10512/1, be authorised to continue for a further 2-year period, beyond 7 October 2022.

I enclose Environmental Approval No. 10512/2 for the re-use of low-level contaminated soil from stockpile at the Macquarie Point site. This authorisation is valid for a period of two (2) years from 7 October 2022. This authorisation is provided under Regulation 21 of the Regulations, subject to conditions. Please find attached Environmental Approval No. 10512/2 containing the conditions to be complied with.

Please take note that evidence of compliance with these conditions must be made available to an Authorised Officer on request.

Section 39F of the *Macquarie Point Development Corporation Act 2012* requires that an accredited environmental auditor has certified the remediation of any part of the site prior to redevelopment of that part of the site. I recommend that you discuss with your auditor the suitability of the above referenced material for the intended land use.

Pursuant to Regulation 21(7) I have decided to waive the application fee in relation to this Environmental Approval.

If you require any further information regarding this correspondence, please contact the EPA at the contact details at the head of this correspondence.

Yours sincerely

Joe Tranter
MANAGER, CONTAMINATED LAND AND WASTE REGULATION
Delegate for the Director, Environment Protection Authority

Cc: Robert Crowe, robert.crowe@aecom.com

Encl: Draft Environmental Approval No. 10512/2

ENVIRONMENTAL APPROVAL No. 10512/2

Approval under the *Environmental Management and Pollution Control (Waste Management) Regulations 2020*

I, Joseph Tranter, Delegate for the Director, Environment Protection Authority, hereby grant approval in accordance with Regulation 21(4)(a) of the *Environmental Management and Pollution Control (Waste Management) Regulations 2020* for the reuse of the waste material described below provided the following requirements are complied with:

Approval issued to:
MACQUARIE POINT DEVELOPMENT CORPORATION

ABN
92 657 409 841

Waste description and quantity (the waste):
Low Level Contaminated Soil
No limit set

NEPM code and description:
N120: Soils contaminated with a controlled waste

Location (the land):
MACQUARIE POINT, 10 EVANS ST, HOBART TAS 7000

Producer of the waste:
Macquarie Point Development Corporation

Period for which approval is valid:
7 October 2022 to 7 October 2024

Requirements:

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; 'Derivation of Remediation Criteria, Macquarie Point Redevelopment Project', prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.

2. The site environmental auditor, as accredited by Section 39F(3) of the Macquarie Point Development Corporation Act 2012, must endorse the reuse of each soil stockpile prior to the reuse occurring.

3. The reuse must be undertaken in accordance with the document titled 'Site Environment Management Plan, Macquarie Point Development Project', prepared by AECOM and dated 14 November 2018.

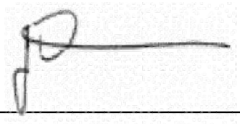
4. The activity must be conducted in such a manner as to prevent environmental nuisance and environmental harm resulting from escape of the materials, spillage, or emission of dust.

5. Unless otherwise approved in writing by the Director, waste material must not be removed from the storage site for any reason, including disposal.

6. If an incident causing or threatening environmental nuisance, serious environmental harm, or material environmental harm from pollution occurs in the course of the approved activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

7. A record of the soil reuse must be kept from the date of issue of this approval. This record must be provided to the Director annually no later than 14 days after the anniversary of the issue date of this approval and include, as a minimum, all records for the 12 months preceding the anniversary. Records must also be made available to an Authorized Officer on request in writing, within the timeframe and for the reporting period specified within the request.

8. For each soil stockpile that is reused the record of soil reuse must include:
   a. A description of the soil.
   b. Results of soil classification, in accordance with Information Bulletin No. 105.
   c. The quantity of soil that was reused.
   d. The location at which the soil was reused.
   e. The endorsement from the site environmental auditor for the reuse.
   f. Any certification required under section 39F of the Macquarie Point Development Corporation Act 2012.

Signed: 

DELEGATE FOR THE DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date: 14 September 2022

AECOM

Appendix D

Field Notes

27/2	PID		
OL_05_1.0	0.0		
OL_05_0.6W	0.0		
OL_17_1.0	0.0		
OL_17_0.6E	0.0		
OL_29_1.0	0.0		
OL_29_0.6W	0.0		
OL_41_1.0	0.0		
OL_41_0.5E	0.0		
OL_53_1.0	0.0		
OL_53_0.6W	0.0		
OL_65_1.0	0.0		
OL_65_0.6E	0.0		
OL_77_1.0	2.0	QC101	QC201
14 OL_77_0.6W	5.0		
28/2			
DL_100_1.0	1.0		
DL_100_0.6_N	0.0		
DL_90_1.0	0.0		
18 DL_90_0.6S	0.0		
DL_71_1.0	32.		
20 DL_71_0.6E	0.0		
DL_59_1.0	0.0	QC102	QC202
DL_59_0.6W	0.0		
DL_47_1.0	0.0		
DL_47_0.6E	0.0		

27/2

28/2

1/3

27/2

Oil Line excavation (OL)
Chainage ≈ 0 - 90m terminating adjacent water meter.

Eastern side of trench building slab. ≥ 0.45 - 0.5m deep underlain by ≥ 100 - 150mm bedding sand over sandy claystone / clayey sandstone boulder + cobble fill to 1m

Western side of trench asphalt + roadbase underlain by cobble + sandy CLAY fill.

below ≥ 0.5 - 0.6 darker layer with wood ash underlain by sandy clayey gravel / cobble fill, f-c sand, m-h plastic fines f-c gravel cobbles to 200mm ϕ also glass, ceramics, bones, ash + metal fragments

slight odour in particular towards southern portion of line - hydrocarbon with slight phenolic odour - 20 PID or LEL

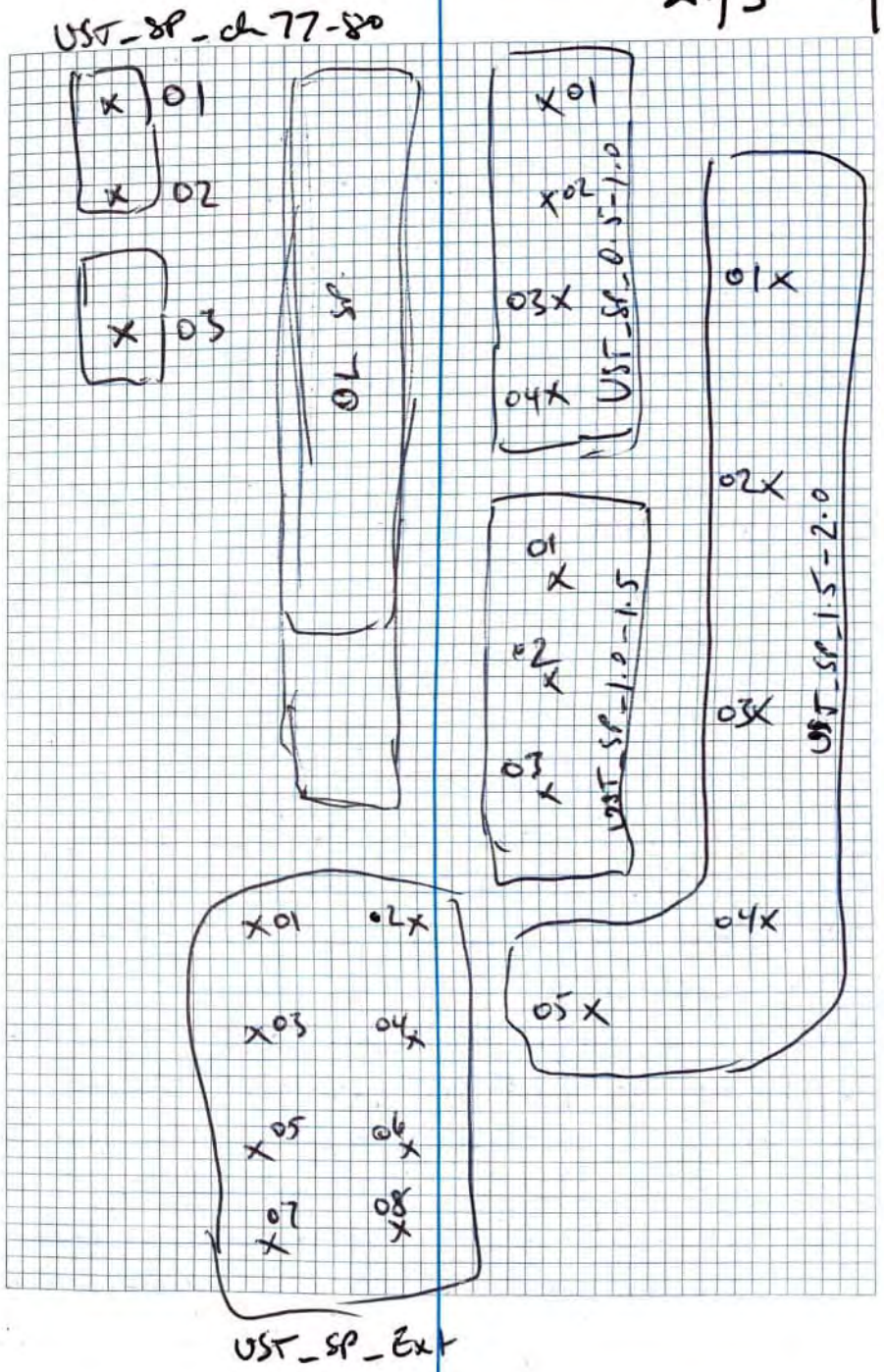
~~EM2504979~~

21/3 44

			PID		
UST_SP_0.5-1.0_	01	2/3	0		
≈84m³	02		0		
	03		0		
	04		0		
UST_SP_1.0-1.5_	01		0		
≈63m³	02		0		
	03		3.		
UST_SP_1.5-2.0_	01		0	QC108	QC208
≈80m³	02		0		
	03		33		
	04		52		
	05		50		
UST_SP_Ext_	01		15	QC109	QC209
≈150m³	02		26		
	03		50		
	04		20		
	05		14		
	06		3		
	07		93		
	08		5		
UST_SP_ch77-80_	01	shallow to deep	0	QC110	QC210
≈28m³	02		5		
	03		49		
Rail Timber_	01		—		
OL_90_1.0			0		
OL_90_0.6_E			0		

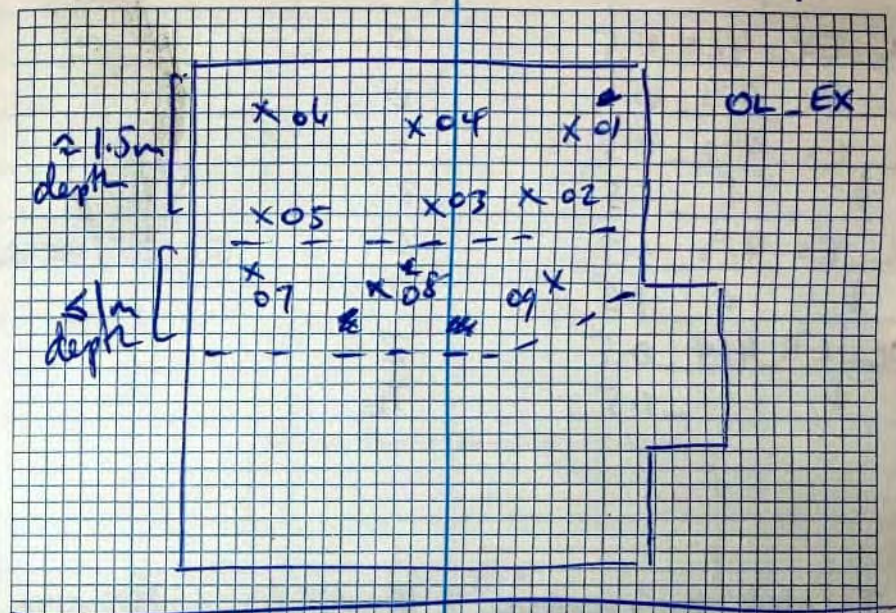
21/3

N



		PID			25/5
OL_EX_BF_01_0.5		0			25/5
	1.0	1	QC122	QC222	
	1.5	0			
	02_0.5	0			
	1.0	0			
	1.5	0			
	03_0.5	0			
	1.0	0			
	1.5	0			
	04_0.5	0			
	1.0	0	QC123	QC223	
	1.5	0			
	05_0.5	0			
	1.0	0			
	1.5	0			
	06_0.5	0			
	1.0	0			
	07_0.5	0			
	1.0	0			
	08_0.5	0			
	1.0	0			
	09_0.5	0			
	1.0	0			
OL EX	QC122 / QC222				
OL EX	QC123 / QC223				
	QCA12 A13 B13 C08				

25/5



Bench trial prep

N ½ Bench 01 A — 3% H_2O
01 B treated — 2% SSP
02 A — 5% H_2O
½ 02 B treated
03 A
S ½ 03 B treated

Not related to Lead Area Excavation Backfill Assessment

1kg soil + 5% water 50g

↓ sample A

1kg soil + 3% H_2O 30g
2% SSP 20g
5% H_2O 50g

sample S.

OL_EX_QC124 / QC224 / Bench_01B

Appendix E

Asbestos Identification Assessment

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No. 19794.

Asbestos Identification Report

Report: ID23101

Asbestos identification performed in accordance with AS 4964-2004 *Method for the qualitative identification of asbestos in bulk samples* and in-house method M036 Asbestos Fibre Identification by Polarised Light Microscopy including Dispersion Staining. This document shall not be reproduced except in full.

Client	Purchase Order
Aegis AC	-
Client Address	Received in Lab
Unit 2 # 4 Lampton Avenue, Derwent Park, TAS 7009	28.02.2023
Sample Address	Date of Analysis
16A Evans St	28.02.2023
Sample Collected By	Date of Report
Client	28.02.2023

Sample Number	Location - Sample Description	Sample Mass (g)	Asbestos Observed	Result by PLM
230179	Location not stated, Oil pipe coating – Black coloured hard material	26.1	No	-
230180	Location not stated, Oil pipe coating – Black coloured hard material	25.6	No	-
230181	Location not stated, Floor – Grey vinyl tile	21.5	No	-
	Location not stated, Floor – Adhesive		No	OF
230182	Location not stated, Diesel pipe coating – Black insulation	12.2	Yes	Chrysotile

Comments:

1. The results contained in this report relate only to the sample(s) submitted for testing, as received.
2. The sample address and location information are reported as provided by the person(s) indicated above in the "Sample Collected by" field.
3. The most common types of asbestos encountered in building materials are **Chrysotile**, **Amosite** and **Crocidolite**. **SMF** (Synthetic Mineral Fibre) is commonly known as glass fibre. **OF** (Organic Fibres) includes natural fibres and synthetic organic fibres.

Approved Identifier: Nomin-Erdene Battsengel

Approved Signatory: Nomin-Erdene Battsengel

Occupational Hygiene Services – Dust, Gas, Mist, Vapour, Fume, Noise Monitoring, PPE Fit Testing
Asbestos Services – Asbestos Registers, Asbestos Management Plans, Air Monitoring, Visual Clearances, Asbestos Identification
Workplace Health and Safety Consulting
Workplace Training

Occupational Hygiene Services – Dust, Gas, Mist, Vapour, Fume, Noise Monitoring, PPE Fit Testing
Asbestos Services – Asbestos Registers, Asbestos Management Plans, Air Monitoring, Visual Clearances, Asbestos Identification
Workplace Health and Safety Consulting
Workplace Training

HSR Consulting Pty Ltd
30 Patriarch Drive
Huntingfield, Tasmania, 7055
Office (03) 62272210
ABN 83 609 931 839

Project Name: Macquarie Point, Hobart - Voluntary Environmental Audits

Audit Issues Register

Auditor: David Lam

Project Number: 754-MELEN225720

Project Manager: Adi Thomas

Site Address: Macquarie Point, Hobart

~~Strikethrough indicates issue has been resolved~~.

No items to be deleted

Issue No.	Date Flagged	Reference/ Section	Audit Issue	Action Owner	Comments	Action Required (and by whom)	Action undertaken by Consultant (consultant to add comments)	Date Closed (Auditor Use Only)	Issue closed? (Auditor Use Only)
Macquarie Point - Precinct South Lead Excavation Backfill Assessment (AECOM, 12 July 2023) 60321835_MPDP_Lead Area backfill_230712 subsequently Macquarie Point - Precinct South Lead Excavation Backfill Assessment (AECOM, 22 February 2024) 60321835_MPDP_Lead Area backfill_240222_Rev 1									
~~1446~~	~~24/07/2023~~	~~Section 1.5 – Stockpile Descriptions, Table 2 – Stockpiles~~	~~Stockpile sources~~	~~AECOM~~	~~In Table 2, there is a description of the stockpile sources – can you clarify what occurred with any material that was shallower than 0.5 m or deeper than 1.5 m? It may not be relevant to the volumes in the stockpiles but would help to confirm that such material was excluded. The later Table 4 does not really provide clarification.~~	~~Please clarify~~	~~The paragraph under Table 2 has been updated to read:~~ ~~*UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were generated by the excavation of an area of reported Total Recoverable Hydrocarbon (TRH) impact beneath the Site road to the west of the SeaRoad Shed*~~ ~~*referred to as the Former UST Excavation Area. Soil excavated from this area at depths of less that 0.5 m bgl and greater than 1.5 m bgl was stockpiled and assessed separately and is not discussed in this report.*~~	~~12/04/2024~~	~~Yes~~
~~1447~~	~~24/07/2023~~	~~Section 1.5 – Stockpile Descriptions, Table 2 – Stockpiles~~	~~Unfinished sentence~~	~~AECOM~~	~~The source for Oil Line Stockpile OL_SP has an unfinished sentence: "*Soil surrounding remnant Oil Line, north of the former* "~~	~~Please complete~~	~~Description of OL_SP updated to read~~ ~~*Soil surrounding remnant Oil Line*~~ ~~*, from estimated chainage 0 to 77 m.*~~	~~12/04/2024~~	~~Yes~~
~~1448~~	~~24/07/2023~~	~~Section 1.5 – Stockpile Descriptions~~	~~Chainage~~	~~AECOM~~	~~The second paragraph under Table 2 says the following – "*surrounding soil between chainage 77 to 80 was separated based on staining and field PID readings as a separate stockpile (UST_SP_ch77-82)* ". It's a bit unclear the chainage in the stockpile name faithfully explains the source location (80 versus 82?).~~	~~Please clarify~~	~~Apologies - this was a typo. The correct stockpile name is UST_SP_ch77-80~~	~~12/04/2024~~	~~Yes~~
~~1449~~	~~24/07/2023~~	~~Section 1.5 – Stockpile Descriptions~~	~~Figure F2~~	~~AECOM~~	~~Can the chainage please be shown on Figure F2?~~	~~Please update~~	~~Figure F2 has been updated to show the chainage to 77 and 80 m from the northern end of the Oil Line. Additional text has been added to Section 1.5 and Figure F2 noting that locations of excavation and measure of chainage are based on field estimates which have not been surveyed at this time, and should be treated as approximations.~~	~~12/04/2024~~	~~Yes~~
~~1450~~	~~24/07/2023~~	~~Section 1.5 – Stockpile Descriptions~~	~~Field notes~~	~~AECOM~~	~~In the third paragraph under Table 2, we note that verbal notations should be recorded in writing in the field in order to be more reliable (absence of notation of something is not the same as notation of its absence).~~	~~Please consider~~	~~Noted and has been communicated to field staff~~	~~12/04/2024~~	~~Yes~~
~~1451~~	~~24/07/2023~~	~~Section 3.2 – Soil Excavation and Handling~~	~~Mention of 'backfilling'~~	~~AECOM~~	~~Please clarify that the "backfilling" in the last paragraph is to do with the backfilling at the UST/Oil Line areas, and not backfilling using the stockpiles at the Lead Excavation Area – it's not clear.~~	~~Please clarify~~	~~Text updated to read~~ ~~*BlackCap has reported that backfilling*~~ ~~*in the Lead Excavation Area*~~ ~~*was conducted using an excavator and compacting soil was compacted with the excavator bucket in layers.*~~	~~12/04/2024~~	~~Yes~~
~~1452~~	~~24/07/2023~~	~~Section 3.3 – In Situ Test Pitting~~	~~Lead Excavation Area~~	~~AECOM~~	~~Please clarify that this text below is to do with the Lead Excavation Area:~~ ~~*"Test pits were advanced using an excavator bucket until imported clean fill (shown on Plate 5) was encountered at between 1 and 1.5 m bgl."*~~ ~~It might seem obvious given the whole point of the letter, but it could be made clearer.~~	~~Please clarify~~	~~Additional text has been added to the last paragraph of Section 3.2 (above this section) stating:~~ ~~*An initial layer of imported clean fill of between 0.5 to 1 m thickness was placed at the base of the excavation following collection of validation samples due to groundwater into the excavation, which was assessed by BlackCap as a potential hazard which could erode the walls of the excavation and led to collapse or present a hazard if unauthorised access to the area occurred. Material from the stockpiles described in Section 1.5 was placed on top of the clean fill.*~~ ~~*Additional text has been added to Section 3.3 as below for context:*~~ ~~*Test pits were advanced using an excavator bucket until imported clean fill (shown on Plate 5),*~~ ~~*which was visually distinct from the backfill material being assessed and represented the maximum depth at which the potentially impacted material was used*~~ ~~*, was encountered at between 1 and 1.5 m bgl.*~~	~~12/04/2024~~	~~Yes~~

Project Name: Macquarie Point, Hobart - Voluntary Environmental Audits

Audit Issues Register

Auditor: David Lam

Project Number: 754-MELEN225720

Project Manager: Adi Thomas

Site Address: Macquarie Point, Hobart

~~Strikethrough indicates issue has been resolved~~.

No items to be deleted

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1453	24/07/2023	Section 3.3 – In Situ Test Pitting	Use of the term '*in situ*'	AECOM	The word '*in situ*' is unusual in this context – soils that used to be in stockpiles but are now emplaced/re-used in the Lead Excavation Area is what it means, but '*in situ*' implies soil that has not been disturbed, so a few words to explain this would make it clearer. The heading for Section 3.3 might be clearer if it was 'Test Pit Sampling Of Re-Used OL and UST Excavation Spoil in the Lead Excavation Area'. That would make the following clearer – a reader could easily be confused by a description of excavating to sample '*in situ*' soils by digging through them until imported clean fill was encountered – for typical remediation activities it makes no sense (although it's what has happened here).	Please clarify	Section title has been updated to " Test Pitting of Backfill in the Lead Excavation Area" Parts of this section have been reworded or expanded to clarify that soil samples considered were collected from the material reused from the Oil Line and UST Area excavation.	12/04/2024	Yes
1454	24/07/2023	Section 3.5 – Oil Line Cladding Sampling	Use of field photos	AECOM	Regarding the absence of photos – can we request that the requirement for photos is passed to all parties involved in field works?	Please notify	Noted and passed on to field staff.	12/04/2024	Yes
1455	24/07/2023	Section 4.1.3 – In Situ Sampling	Use of the term '*in situ*'	AECOM	Again – please clarify the context of '*in situ*' and maybe change the sub-heading title.	Please clarify	Subheading has been updated to "Sampling of Backfill Soil from the Oil Line and UST Excavation Area in the Lead Excavation Area" Text has been reworded where "in situ" has been used to remove this phrase.	12/04/2024	Yes
1456	24/07/2023	Section 4.2.3 – In Situ Soil Sampling	Analytical suite	AECOM	A few words on justification of the analytical suite for sampling would be useful for context – e.g. only lead for metals. E.g. results of stockpile sampling including screen analyses.	Please clarify	The following has been added to this section: *Section 2 of IB105 includes the following guidance on selection of analytical suites for classification of waste:* *It is not necessary to sample for all contaminants listed in Table 2 for soil classification. However, all contaminants that are reasonably likely to be present in the soil above background levels should be included in the sample analysis.* *Based on the CoPC reported in soil prior to use as backfill, samples collected from material used as backfill within the Lead Excavation Area were submitted to analytical laboratories for the following analytical suites which have had previously reported exceedances or are considered to have the potential to be present based on previous investigations:*	12/04/2024	Yes
1457	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)	OL_77_0.6W and OL_77_1.0	AECOM	Regarding TPH C10-C36 fraction (sum) – OL_77_0.6W and OL_77_1.0. This material went into the stockpile indicated to come from chainage 77 to 80 - what about the material from chainage 74-77?	Please clarify	As noted in Section 1.5, material from the southern end of the Oil Line excavation was field screened and separated based on visual and PID indicators of potential hydrocarbon impact. Text has been added to Section 1.5 to note that UST_SP_Ch77-80 may have included soil from the oil line excavation from less than chainage 77.	12/04/2024	Yes
1458	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)	Terminology	AECOM	The mention of 'pre- and post-remediation'. This deserves a few words as to what these terms mean.	Please clarify	This text has been updated to read: *Both prior to and following use as backfill in the Lead Excavation Area...*	12/04/2024	Yes
1459	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)	TCLP	AECOM	Minor issue, but TCLP stands for 'Toxicity Characteristic Leaching Procedure'.	Please correct	Text updated	12/04/2024	Yes
1460	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)	Stockpiles and surface water runoff	AECOM	Where the following is stated, it doesn't describe what the inference is. *"The volume in these stockpiles corresponds to approximately 55% of the soil used as backfill based on the estimated field volumes listed on Table 2"*. A reader might say reasonably – so there's nearly half the soil unrepresented by testing?	Please clarify	Text has been added to the dot point below (discussing soil excavated from the pipeline trench). Sub-points in this section discuss the available data for why PAH leachate is not considered likely to occur from this soil. The 55% represents soil which was not assessed for TCLP leachate - all soil was sampled and assessed at or exceeding IB105 requiremetns (1 sample per 25m3) for total concentrations of CoPC, and >30% of samples were assessed for the fill IB105 suite.	12/04/2024	Yes

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1461	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)		AECOM	We find the following text unclear: *"Leachate assessment was not conducted on excavation validation sample s used to assess OL_SP or on in situ samples collected. However: The source area of this soil is close and in contact with the area UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were excavated from, and it is considered likely to PAH leaching in these soils will be similar."* Jusitify the comparison of validation results to results from the 'source area of this soil'.	Please clarify	This text has been modifed as below: he source area of t he soil in OL_SP is close and in contact with the area UST_SP_0.5-1.0 and UST_SP_1.0-1.5 were excavated from, and it is considered likely that concentrations of PAH leachate in these soils will be similar to UST_SP_0.5-1.0 and UST_SP_1.0-1.5 (which reported below LOR) and unlikely to exceed the PAH leachate criteria, as the source of soil in both areas is identical (historic backfilling) and it is not considered likely to have been exposed to additional contaminants (in particular PAHs). No indications of additional contamination (such as staining/odours or breakage in the Oil Line) were observed during removal of the Oil Line or collection of validation samples.	12/04/2024	Yes
1462	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)	Similarity	AECOM	*"...and it is considered likely to PAH leaching in these soils will be similar."* Similar to something that shows what?	Please clarify	Please see repsonse to comment 1461, above, which includes modification to this text.	12/04/2024	Yes
1463	24/07/2023	Section 4.3.1 – Soil Categorisation (IB105)	Leachability data superseding actual TCC data	AECOM	In the last two paragraphs the text is really hard to follow – it appears to imply that (for some soils at least) use of non-existent leachability data could supersede actual TCC data, because of what such leachability data would be expected to show (but isn't available because it wasn't done). The Auditor is happy for this to be explained if this is not the case, but it's just unclear.	Please clarify	The text had been amended to clarify that while TCLP leachate assessment was not conducted on all samples, based on the availabile data from the area, and the broader context of the Site where leachable TCLP has not been detected in soil at any point, it is considered of sufficiently low probability for the purpose of assessing the risks presented by the backfilled soil. This approach has been previously been accepted by EPA Tasmania in disposal of soil off-Site where there has been gaps in the characteristation data available. Additional text has been added to include discussion of the overall risks of leachate, which are considered low as soil is not in contact with groundwater and the SEMP controls for future development include maintenance of hardstand over this soil.	12/04/2024	Yes
1464	24/07/2023	Section 4.3.2 – Site Specific Remediation Criteria	Pre-backfill	AECOM	Regarding the wording: *"soil from the locations OL_77_0.6W and OL_77_1.0 were collected from was stockpiled separately and was not used as backfill material "*. As an observation – it's not clear why you mention these results as 'pre backfill' (see the heading) for material that wasn't apparently backfilled? As a general comment: 'pre backfill' is a term that is not clearly explained. This seems to mean samples taken to represent soils in stockpiles (whether based on validation samples (in some instances) or stockpile soils). We think this needs to be re-stated – a reader could reasonably think 'pre backfill' might mean the condition of soils in the base/edges of the Lead Excavation Area prior to it being backfilled.	Please clarify	Data from OL_77 was included for presentation of results from the entire Oil Line excavation. Based on Auditor comment, this text and reference to these results have been removed, with exception to reference of impacts in these samples discussed in Section 1.5. Definition of pre-backill, indicating results of samples collected before backfilling in the Lead Excavation Area, and post-backfill, indicating results of samples collected from the material as described in Section 3.3, have been added at the start of this section.	12/04/2024	Yes
1465	24/07/2023	Section 4.3.2 – Site Specific Remediation Criteria	Grammar	AECOM	Regarding the unclear wording: "*While not **actively remediation** or reassessed prior to backfilling...".*	Please clarify	This text should have read "*actively remediat ed* ". However, this line has been removed as part of rewording of this paragraph in response to comment 1466 nelow.	12/04/2024	Yes
1466	24/07/2023	Section 4.3.2 – Site Specific Remediation Criteria	Grammar	AECOM	Also, the rest of the dot point is really hard to follow. (Try reading this to anyone in the office (pausing only at the commas), and see if they can describe back to you what it is saying.) Has the letter wording been run through a spell and grammar check?	Please clarify	This paragraph has been reworded.	12/04/2024	Yes
1467	24/07/2023	Section 4.3.2 – Site Specific Remediation Criteria	Stockpiles	AECOM	Regarding the following text - it is unclear how this supersedes results actually recovered in situ – the argument would seem to be why you wouldn't find the results that were found. *"In addition, the remaining samples from stockpile UST_SP_1.0-1.5 were below LOR for this CoPC, and as the stockpile was exposed to atmosphere for approximately two months prior to backfilling, it is considered likely that the concentration at this sample point would have reduced due to volatilisation/oxidation of TRH."*	Please clarify	This paragraph has been removed as upon review it is speculative and the inference is superceded by the actual data from the soil used as backfill within the Lead Excavation Area.	12/04/2024	Yes

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1468	24/07/2023	Section 4.3.2 – Site Specific Remediation Criteria	Lead exceedence	AECOM	Regarding the lead exceedance for UST_SP_1.0-1.5_03: The exceeding result should be discussed in terms of quantum in relation to the criterion – and this given context when discussing likely representativeness. The whole argument to dismiss the result appears to be based on subjective consideration that the result isn't representative, while noting that sampling to conduct a statistical analysis aren't available. That's the whole basis of a maximum concentration approach versus a 95% UCL approach. If you say you don't think an exceedance is likely to be representative – you need to say why.	Please clarify	Text in this section has been updated to discuss the density of sampling at greater than double the rate for soil classification in IB105 within the material following use as backfill, and to demonstrate that a degree of homogenisation as part of stockpile movements and placement is likely to have occurred based on comparision of statistical characteristics of soil pre- and post-backfilling. Based on these factors, the reported concentration prior to backfilling is not considered to represent an unacceptable risk to future intrustive maintenance workers.	12/04/2024	Yes
1469	24/07/2023	Section 4.3.3 – Environmental Approval 10512/2	Auditor approval	AECOM	Regarding the recommendation that "*Auditor approval for the reuse be sought* ." There is probably no issue with seeking Auditor approval, but the comments noted herein (within this Issues Register) will need to be addressed satisfactorily.	Please consider	Noted and provided in this iteration of the AIR.	12/04/2024	Yes
1470	24/07/2023	Section 4.4 – Quality Assurance / Quality Control (QA/QC) Data Validation	Use of QC samples	AECOM	Regarding this text: *"While secondary laboratory samples were received at 6.2 – 6.5oC, up to 0.5oC above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only."* QC samples aren't there to assess the conditions. They are there to support the validity of the primary data set which is used to characterise the conditions. You need arguments about the expected validity of the primary data set based on the QC data.	Please clarify	This section and Appendix B has been amended to note: - Sample receipt temperature is not expected to affect assessment of metals, such as lead. - Attempts to chill and zero headspace were noted upon receipt by the secondary laboratory, which limits the potential for degredation. - The CoPC of key concern (TRH) consist of longer chain semi-volatile components which are less sensitive to temperature fluctuations. It is noted that the text noted in the comment was in error in the intial issue of this letter - one inter-laboratory batch was received at 3°C, and one was received at 9.4°C. The text in the report have been updated to note this.	12/04/2024	Yes
1471	24/07/2023	Section 4.4 – Quality Assurance / Quality Control (QA/QC) Data Validation	Leachable v total	AECOM	Regarding the mention of LCC in this text below – see our above comment on absence of some LCC data. *"Considering the LOR allows for adequate characterisation of Level 3 and Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation…* "	Please clarify	This text has been reworded as follows: *Considering the LOR allows for adequate characterisation of Level 2 and higher based on TCC, a nd benzo(a)pyrene was typically detected above the LOR in the majority of samples analysed , the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.*	12/04/2024	Yes
1472	24/07/2023	Section 5 – Conclusions and Recommendations	General	AECOM	See comments above, and revise conclusions accordingly.	Please update	Conclusions have been updated in line with the comments above	12/04/2024	Yes
1473	24/07/2023	Section 5 – Conclusions and Recommendations	Missing text	AECOM	Is there missing content here? "*Pre-backfill - TRH C6-C10 (minus BTEX) (, TRH >C10-C16 (minus naphthalene) (F2)* "	Please clarify	No - this was a typo. Please note that the exceedance of TRH >C6-C10 has been removed as this was reported in soil which was not used as backfill discussed in this report.	12/04/2024	Yes
1474	24/07/2023	Section 5 – Conclusions and Recommendations	Stockpile concentrations	AECOM	Regarding the following text: *"had long periods of atmospheric exposure during which volatilisation and oxidation of TRH is expected to have occurred to reduce the reported concentrations,"* This argument should not be used as a rationale as to why risk is low. That needs to be made first and this might reasonably be mentioned as support (but not a primary part of the rationale, which should be based on data, not expectation of likely data). (See also this issue in Section 4.3.)	Please clarify	As noted in response to Comment1467, this text has been removed.	12/04/2024	Yes

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27 March 2023

Mr James Puustinen
Senior Project Officer
Macquarie Point Development Corporation
GPO Box 51
Hobart, Tasmania, 7001

Dear James

Soil Categorisation and Waste Management Plan - Stockpile RH_SP
Macquarie Point Development Project

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site). The Site location is shown on **Figure F1**

The Site has historically been used for mixture of commercial and industrial purposes. As part of the development works undertaken at the Site, a soil stockpile (RH_SP) was generated as part of the assessment of the southwestern corner of the Site (referred to as either “the Gateway” or “Audit Area 6”) which includes the excavation of soils from fill material overburden placed under a former Cold Store warehouse, that are under consideration for beneficial reuse as backfill on Site.

At the request of the Corporation, AECOM has prepared this soil categorisation and waste management plan for the soil stockpile RH_SP that is currently present on Site. This report is intended to assess the current status of, and act as a Waste Management Plan, for this stockpile.

It is currently proposed that the stockpile will be reused as fill material in excavations in the area of the Site referred to as the Precinct South under existing Environmental Approval No. 10512/2 (EA10512/2), included as **Appendix C**.

1.1 Objectives

The objectives of this letter are:

- To provide characterisation of RH_SP in accordance with EPA Tasmania *Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal* (IB105).
- To assess suitability of the stockpile for beneficial Site reuse as backfill material in accordance with EA10512/2.

It is intended that this document can act as a Waste Management Plan for the reuse of the stockpiled material in accordance with Section 3 and Section 5 of IB105.

1.2 Scope of Work

The following scope of work has been undertaken by AECOM:

- Field activities, including soil excavation works and soil sampling from the stockpile RH_SP.
- Review and screening of sample results from the stockpiles against the criteria within IB105 for categorisation.
- Evaluate sample results against appropriate screening criteria to assess the suitability of the stockpile for beneficial reuse as fill material without unacceptable risk.
- Provision of this Soil Categorisation and Waste Management Plan for the disposal or reuse of the stockpile RH_SP.

1.3 Background

The Site, and surrounding area, largely located on reclaimed land within the Hobart port, has a history of mixed industrial use including the former Hobart Gasworks, rail freight and bulk fuel storage. Former

industrial activities have been ceased at the Site. The Site is currently undergoing an Environmental Audit by Mr David Lam of Coffey under the *Macquarie Point Development Act 2012*.

The Gateway area of the Site has had various uses, including as part of the former Hobart Gasworks and as the site of a cold storage warehouse for freight transport. As part of the development and remediation of the Site, a pilot scale trial of *in situ* solidification (ISS) of soil to remediate contamination associated with the former Gasworks was conducted in June/July 2022 under Development Approval PLN-21-714 issued by City of Hobart. Cleaner materials (placed over gasworks infrastructure to allow construction of the former cold storage unit) was excavated to allow access to the subsurface as part of the pilot trial.

The remediation process undertaken produced some swell in the subsurface. Some fill was not able to be reinstated, and approval for disposal of this material is sought in this letter.

1.4 Chemicals of Potential Concern

Based on available Site history and uses, and previous investigations conducted, the Chemicals of Potential Concern (CoPC) summarised in **Table 1** below have been identified for the areas in which the stockpiles were generated.

Table 1 Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Contaminant of Potential Concern	Potentially Impacted Media
Gasworks	TRH, BTEXN, PAHs, phenolic compounds, ammonia, cyanide, asbestos, metals[1]	• Soil • Groundwater • Soil Vapour
Roundhouse (Locomotive maintenance and refuelling)	TRH, BTEXN, PAHs, phenolic compounds, chlorinated hydrocarbons, SVOC, VOC	
Land Reclamation	Heavy metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCP, cyanide, ammonia, asbestos	

Notes: TPH – Total Petroleum Hydrocarbons; TRH – Total Recoverable Hydrocarbons; PAH - Polycyclic aromatic Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene; SVOC – Semi-Volatile Organic Compounds; Volatile Organic Compounds; OCP – Organochlorine Pesticides; 1 – arsenic, chromium, manganese, aluminium, cadmium, chromium, copper, lead, nickel and zinc;

Previous investigations of the area from which the stockpiles in the assessment were excavated have typically identified notable concentrations of TPH, PAHs and lead in soil.

1.5 Stockpile Description

The stockpile to be considered in this report is:

- RH_SP, consisting of approximately 20 m^3 of soil and fill material.

The stockpile volume has not been surveyed and therefore the above figure is an estimate, based on the dimensions of the stockpile measured on site by the AECOM field staff.

The stockpile generally consists of fill material comprised of a mixture of brown sandy gravelly clay and sandy clayey gravel with a slight phenolic odour.

1.6 Proposed Reuse Scenario

Beneficial reuse of RH_SP as fill material within the area of the Site referred to as the Precinct South is proposed. Remediation works currently being undertaken in this area have generated excavations, and the use of RH_SP as fill material is considered advantageous as it reduces the import of clean fill to the Site, and the use of landfill as an alternative disposal of this material.

Reuse of RH_SP would be undertaken under the conditions assumed to prepare the Site Specific Remediation Criteria (RC) discussed in **Section 2.3**. The future uses of the Precinct South considered for this assessment are:

- Commercial / Industrial Use
- Intrusive Maintenance Workers
- Open Space

2.0 Assessment Criteria

2.1 Data Quality Indicators

The laboratory data, including copies of the chain of custody (CoC) documentation, sample receipt notification (SRN) reports, quality control (QC) reports, and certificates of analysis are attached in **Appendix A**.

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the laboratory and field data include:

- Assessment of field duplicate sampling rates and reproducibility of the data by calculation of the relative percentage difference (RPD) for laboratory and field duplicate samples (both intra- and inter-laboratory) to provide an indication of the precision of the data.
- Assessment of the analytical results for laboratory quality control samples to provide an indication of the accuracy of the data.
- Assessment of a range of QC and quality assurance (QA) measures generated from both the field sampling and laboratory analytical programs.

Assessment criteria for DQIs for soil samples are listed below in **Table 2**. Assessment against DQIs is provided in **Section 4.3**, and in **Appendix B**.

Table 2 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate, Field and Trip blanks	Less than the laboratory Limit of Reporting (LOR)
Intra and inter laboratory field duplicates (1) (3)	RPD less than ± 30%
Laboratory duplicates (2) (3)	RPDs Less than: • 30% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR) • 200% for low level laboratory duplicates (i.e. 1 to 10 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%.
Surrogate spikes	Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for tests but are within the criteria described in USEPA Method SW846.

Notes:

1. *Potential exceptions to these criteria may occur where the results are close to the LOR. This typical RPD range is obtained Schedule B3 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM Schedule B3).*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous, and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*

4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*

2.2 Soil Categorisation (IB105 Guideline Values)

To assess and categorise the soil within the stockpiles, soil analytical results were screened against the criteria in Table 2 of TAS EPA IB105, which uses four categories to classify contaminated soil as:

- Level 1 (Fill Material)
- Level 2 (Low Level Contaminated Soil)
- Level 3 (Contaminated Soil)
- Level 4 (Contaminant Soil for Remediation).

Analytical data for soil total contaminant concentration (TCC) and leachable contaminant concentration (LCC), compared to the criteria presented in Table 2 of IB105, are presented in **Table T1** and **Table T2**, respectively.

Excavated materials are required to be classified as Level 1 or Level 2 soils in accordance with IB105 to be considered for reuse.

2.3 Site Specific Remediation Criteria

AECOM has prepared Site Derived Remediation Criteria (RC) for soil and groundwater to inform potential remediation/ management works required at the Site for the protection of human health (*Derivation of Remediation Criteria, Macquarie Point Development Project*, AECOM, 2016). The following scenarios have been considered based on the potential future land uses:

- Recreational Open Space Users
- Residents:
  - Slab-on-grade unknown construction or multi-storey building
  - Low rise slab-on grade
  - Building with basement car park.
- Commercial:
  - Slab-on-grade unknown construction or multi-storey building.
- Commercial/ Light Industrial Workers:
  - Working within a basement car park
  - Low rise slab-on-grade.
- Maintenance Workers (including excavation to depths of up to 1 m bgl).

The RC is based on generic assumptions regarding future land use including:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Intrusive Maintenance Workers [IMW]) to have direct contact with soils. Agreement with the Site Contaminated Land Auditor will likely be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
  - Paved surfaces (e.g. concrete, asphalt, etc.)
  - Building footings
  - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g. 0.5 – 1.0 m topsoil)

  - Other suitable materials; e.g. geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternative to a thicker earthen layer.

- A Site Environment Management Plan (SEMP) will be in place in the future to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground breaking activities, including Intrusive Maintenance Workers.
- Adjacent off-Site land uses include open space, commercial/industrial and residential areas. As these potential land uses have been considered on Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary).

For current and proposed future uses of the proposed area of reuse (the Precinct South) residential use is not planned or considered likely to occur due to the planned future uses of the Site, and zoning controls and limitations for this area due to proximity to port facilities.

The Site has recently been announced as a preferred location for development of a future sports stadium. While no details of stadium design have been provided and specific RC for this use have not been developed, exceedances of the RC with respect to future Commercial/Light Industrial and Intrusive Maintenance Worker use of this area are considered as the most appropriate for a sporting/culture area.

It is noted that a future risk assessment of site data and completed remediation against stadium requirements will be required in the future and additional remediation may be required if specific risk scenarios not considered by the existing RC are identified.

2.4 Environmental Approval No. 10512/2

On 14 September 2022, Environmental Approval No. 10512/2 (attached as **Appendix C**) was issued by the Environment Protection Authority (EPA) Tasmania detailing the requirements under which beneficial reuse of waste material (excavated soil) which had been produced from on the Site was allowable. EA 10512/2 was issued to renew previous EA 10512/1, which was issued on 7 October 2020 for a two year period.

EA 10512/2 states (among other requirements):

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; 'Derivation of Remediation Criteria, Macquarie Point Redevelopment Project', prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.
2. The site environmental auditor, as accredited by Section 39F(3) of the Macquarie Point Development Corporation Act 2012, must endorse the reuse of each soil stockpile prior to the reuse occurring.
3. The reuse must be undertaken in accordance with the document titled 'Site Environment Management Plan, Macquarie Point Development Project', prepared by AECOM and dated 14 November 2018.

Reuse of soil under EA 10512/2 must meet these requirements.

3.0 Field Methodology and Data

3.1 Field Activities

The following field activities associated with these stockpiles have been conducted by Wagstaff Piling Pty Ltd (Wagstaff) and AECOM:

Table 3 Field Activities

Date	Activity
27 to 28 June 2022	Stockpiles generated during excavation activities in the Gateway.
6 March 2023	RH_SP sampled by AECOM field staff

A description of each activity carried out is provided below.

3.2 Soil Excavation and Stockpile Handling

RH_SP was generated as part of the site preparation for an *in situ* pilot trial to immobilise deeper contamination.

Stockpiles were excavated and moved using a mechanical excavator and stored on existing hardstand (i.e. bitumen or concrete slabs) when moved away from the point of excavation to prevent mixing with surface soils.

3.3 Sample Collection

Validation and categorisation sampling of individual stockpiles was undertaken by AECOM field staff following the procedures in the *Precinct South Remediation Work Plan* (AECOM, 2022) prepared for works. The general sampling methodology is summarised below:

- Nitrile gloves were used for the collection of each soil sample, and a new pair donned between each sample location.
- Samples were collected at a minimum rate of 1 per 25 m^3 of soil as per IB105. Field estimates of stockpile volumes were collected by AECOM. No survey data was collected.
- Sample locations were uniformly distributed throughout the excavated material.
- Soil samples were collected manually using a hand auger/trowel or similar from a depth of >0.2 m below the stockpile surface.
- Soil samples were stored in laboratory supplied 150 mL decontaminated glass jars with Teflon™ lined lids, and immediately placed in an 'esky' cooler with ice during sample storage and transport to the selected analytical laboratory under chain of custody procedures.

4.0 Assessment of Results

4.1 Sample Density

The number of samples analysed, i.e. sample density, is assessed against the estimated stockpile volume as summarised in **Table 4** below.

Table 4 Sample Density Assessment

Date	Stockpile ID	Volume (m^3)	Number of Primary Samples	Sample Density
6 March 2022	RH_SP	20	5	1 primary sample per 4 m^3

The following is noted:

- Sampling density in stockpile RH_SP was higher that the sampling frequency of one primary sample per 25 m^3 recommended in IB105 for all sampling events. On this basis, the sampling density is considered to be adequate to characterise these stockpiles.

Samples were collected based on a grid distribution within the stockpiles. Overall, the sampling density is considered acceptable for the categorisation and assessment of the stockpile.

4.2 Laboratory Analysis

Initial soil characterisation samples were submitted by AECOM to the laboratories for the following analytical suites:

- EPA Tasmania IB105 analytical suite [excluding tributyltin (TBT)]
- TPH/TRH, BTEXN, PAHs, phenols and metals (lead)

It is noted that, due to a computer error, samples were not initially selected for the IB105 analytical suite. Additional assessment of samples was conducted to meet sample density requirements.

40% of the initial samples collected from the stockpile were analysed for the IB105 suite of contaminants, excluding TBT, with the remaining samples analysed for key CoPC which have been identified as part of previous Site works or as likely to occur due to previous Site uses. The analytical suite selected is considered to be adequate for the assessment of these stockpiles. Toxicity Characteristic Leaching Procedure (TCLP) analysis was conducted for targeted samples as discussed in **Section 4.4.1**

The laboratory certificates of analysis and QC reports, as well as copies of the CoC and SRN documentation are attached in **Appendix A**.

The laboratory analytical results are presented in **Table T1** and **Table T2**.

4.3 Quality Assurance / Quality Control (QA/QC) Data Validation

The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. QA/QC assessment of the analytical data and sampling methodology has been conducted by AECOM following data collection by AECOM field staff. Samples were assessed against the DQIs discussed in **Section 2.1**. The detailed data validation report is presented in **Appendix B** and results are summarised below.

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Intra- and inter-laboratory field duplicate sample pairs assessed as part of this data validation were collected from stockpile DL_SP, which is not being assessed as part of this report. However, for the purposes of assessing data reliability, these duplicate sample pairs are considered suitable for assessment of laboratory performance.
- Of a total of 168 RPD values calculated, 2 RPD values (<2.5%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, Sum of PAHs and phenanthrene. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As greater than 97.5% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.
- Trip blank analytical results were reported below the laboratory LORs.
- Concentrations of Sum of Naphthalene (2.1 µg/L) and phenol (14.2 µg/L) were detected in the rinsate blank collected during works and may indicate that there was an error or cross-contamination in field decontamination procedures.

  However, no exceedances of criteria for naphthalene or phenols were detected in samples collected from RH_SP, and if cross-contamination occurred it is not considered likely to affect outcomes of assessment.

  Field staff conducting sample collection have been informed of results and instructed to ensure that decontamination is being undertaken with care and to the extent required in the Precinct South Remediation Work Plan.
- For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 3 and Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.
- Laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, surrogate spike recoveries, laboratory control spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor

possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

4.4 Soil Assessment

4.4.1 Soil Categorisation

The soil analytical data collected, including soil TCC and LCC concentrations, compared to the guideline values presented in Table 2 of IB105 for categorisation are presented on **Table T1** and **Table T2**, attached.

Exceedances of the Level 2 IB105 TCC criteria were reported for benzo(a)pyrene and Sum of PAHs for all samples collected from RH_SP. However, Toxicity Characterisation Leaching Procedure (TCLP) assessment conducted on all samples reported a leachate contaminant concentration for benzo(a)pyrene and for benzo(a)pyrene Toxicity Equivalence Quotient (TEQ) below the Level 2 Leachate Contaminant Concentration (LCC) for all samples.

Section 2.2.4 of IB105 states that "*Where a leachable concentration is proscribed in Table 2, generally that value will take precedence over the total concentration value and will be used as the sole determinant of final classification for disposal*".

On this basis, RH_SP is considered suitable to classify as Level 2 – Low Level Contaminated Soil.

4.4.2 Reuse Assessment

Results of stockpile sampling have been assessed against the Site Specific RC for proposed reuse as fill material in the Precinct South.

The results are presented in **Table T1**. Concentrations of all analytes were reported below the Site Specific RC for all analytes.

On this basis, stockpile RH_SP considered to be suitable for reuse as fill material under the conditions and assumptions of the Site Specific RC described in **Section** Error! Reference source not found..

5.0 Conclusions and Recommendations

Soil categorisation sample data results for one soil stockpile, generated by removal of shallow soil to undertake remediation trials of deeper contamination, have been considered in this report:

- RC_SP, consisting of 20 m^3 of soil and fill material.

The following conclusions have been drawn from this assessment:

- Level 2 TCC exceedances for benzo(a)pyrene and Sum of PAHs were reported in the stockpile. However, TCLP leachate concentrations for benzo(a)pyrene and benzo(a)pyrene TEQ were reported below the IB105 Level 2 criteria for all samples.
- No exceedances of Site Specific RC were detected in any samples collected from this stockpile.
- Sampling of the stockpile was conducted at sufficient density to allow assessment of potential contaminants, and no irregularities in DQIs were reported which may render results unsuitable for interpretation

Based on this assessment, RH_SP can be classified as **Level 2 – Low Level Contaminated Soil** and is suitable for reuse as fill material on the Macquarie Point site, under the conditions assumed in the RC.

Reuse of the soil is proposed under the conditions described in EA10512/2. Endorsement of reuse by the Site Environmental Auditor is required prior to reuse.

In the event that an alternative disposal methodology be proposed or further treatment required, this waste management plan should be updated, or a new plan be prepared, by a suitably experienced environmental professional.

Yours faithfully



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Principal Environmental Engineer
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AECOM (2016), *Macquarie Point Development Project – Derivation of Remediation Criteria*, AECOM Australia Pty Ltd, 22 August 2016

AECOM (2022), *Remediation Work Plan – The Precinct South*, AECOM Australia Pty Ltd, 24 November 2022

ASC NEPM (2013), *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013)

Environment Protection Agency (EPA) Tasmania (2018), *Information Bulletin No.105 Classification and Management of Contaminated Soil for Disposal* (IB105), Version 3

Figures

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LEGEND

Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Soil Categorisation and Waste Management Plan

- RH_SP

Macquarie Point, Hobart, TAS

Figure

F1

Map Document: (\\aumel1fp001.au.aecomnet.com\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2020\06\LNAPL_Remediation_End-Points\F1_Site_Location.mxd)

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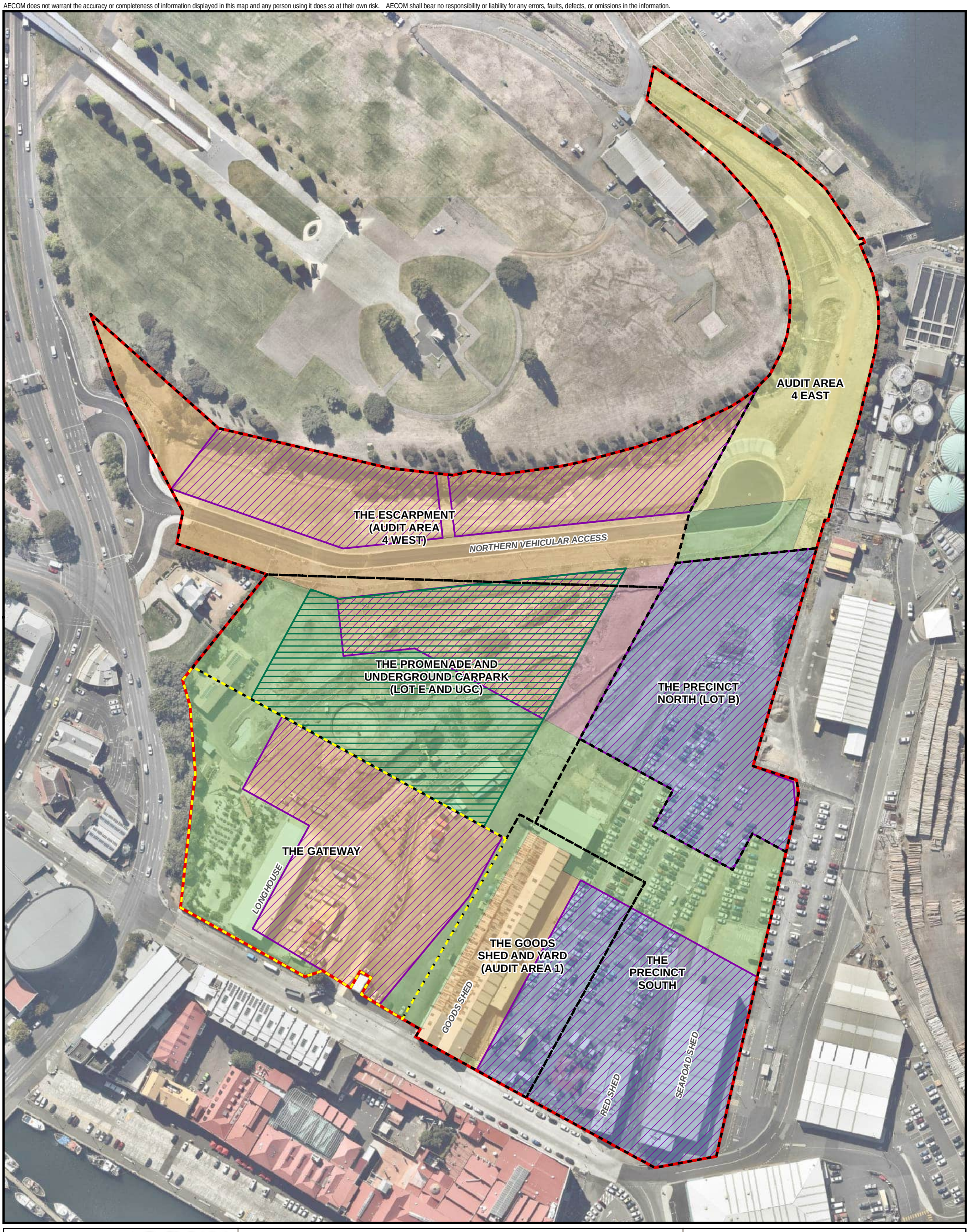

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Legend

- The Gateway
- Assessment Area
- Site Boundary
- Underground Carpark Footprint
- Building Parcels

Land Use

- Art and Institutional Area
- Open Space Area
- Mixed Use Area
- Access Link
- Transport/Vehicle Areas

SITE LAYOUT

Macquarie Point Development Corporations

Soil Categorisation and Waste Management Plan

- RH_SP

Macquarie Point, Hobart, TAS

Figure

F2

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2023\01\The_Gateway_DSI\F2_Site_Layout.mxd)

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Tables

Table T1
Analytical Results - RH_SP Total Contaminant Concentration
Soil Categorisation and Waste Management Plan - Stockpile RH_SP
Macquarie Point Development Project

AECOM

												Field_ID	RH_SP_01	RH_SP_01	RH_SP_02	RH_SP_02	RH_SP_03	RH_SP_03	RH_SP_04	RH_SP_04	RH_SP_05	RH_SP_05
												Location_Code	RH_SP_01	RH_SP_01	RH_SP_02	RH_SP_02	RH_SP_03	RH_SP_03	RH_SP_04	RH_SP_04	RH_SP_05	RH_SP_05
												Sampled_Date_Time	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023
												Lab_Report_Number	EM2304035	EM2304580	EM2304035	EM2304580	EM2304035	EM2304580	EM2304035	EM2304580	EM2304035	EM2304580
												Sample_Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				TAS Waste Classification Contaminated Soil Level 3	TAS Waste Classification Guidelines - Fill Material Level 1	TAS Waste Classification Low Level Contaminated Soil Level 2	Potential Future Comm (unknown construction or multi-storey bldg)	Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users											
Chem_Group	ChemName	output unit	EQL																			
Metals	Arsenic	mg/kg	5	750	20	200						<5	-	<5	-	<5	-	<5	-	<5	-
	Barium	mg/kg	10	30000	300	3000						-	40	-	-	-	40	-	-	-	-
	Beryllium	mg/kg	1	400	2	40						-	<1	-	-	-	<1	-	-	-	-
	Cadmium	mg/kg	1	400	3	40						<1	-	<1	-	<1	-	<1	-	<1	-
	Chromium	mg/kg	2	5000	50	500						11	6	6	-	8	8	8	-	9	-
	Cobalt	mg/kg	2	1000	100	200						-	8	-	-	-	11	-	-	-	-
	Copper	mg/kg	5	7500	100	2000						53	-	38	-	56	-	54	-	51	-
	Lead	mg/kg	5	3000	300	1200				620[#1]		97	-	32	-	37	-	52	-	48	-
	Manganese	mg/kg	5	25000	500	5000						-	240	-	-	-	297	-	-	-	-
	Mercury	mg/kg	0.1	110	1	30						0.2	-	<0.1	-	<0.1	-	0.1	-	<0.1	-
	Molybdenum	mg/kg	2	4000	10	1000						-	<2	-	-	-	<2	-	-	-	-
	Nickel	mg/kg	2	3000	60	600						16	-	10	-	14	-	13	-	17	-
	Selenium	mg/kg	5	200	10	50						-	<5	-	-	-	<5	-	-	-	-
	Silver	mg/kg	2	720	10	180						-	<2	-	-	-	<2	-	-	-	-
	Tin	mg/kg	5	900	50	500						-	10	-	-	-	14	-	-	-	-
	Zinc	mg/kg	5	50000	200	14000						113	-	59	-	86	-	78	-	66	-
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10	1000	65	650						<10	-	<10	-	<10	-	<10	-	<10	-
	C10-C14 fraction	mg/kg	50									<50	-	<50	-	<50	-	<50	-	<50	-
	C15-C28 fraction	mg/kg	100									260	-	300	-	250	-	320	-	180	-
	C29-C36 fraction	mg/kg	100									190	-	240	-	220	-	260	-	140	-
	C10-C36 fraction (sum)	mg/kg	50	10000	1000	5000						450	-	540	-	470	-	580	-	320	-
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10									<10	-	<10	-	<10	-	<10	-	<10	-
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10				67[#1]	340[#1]	130[#1]	110000[#1]		<10	-	<10	-	<10	-	<10	-	<10	-
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50				140[#1]	-999999[#1]	770[#1]	110000[#1]		<50	-	<50	-	<50	-	<50	-	<50	-
	>C10-C16 fraction	mg/kg	50									<50	-	<50	-	<50	-	<50	-	<50	-
	>C16-C34 fraction	mg/kg	100									380	-	460	-	410	-	510	-	290	-
	>C34-C40 fraction	mg/kg	100									120	-	170	-	230	-	180	-	<100	-
	>C10-C40 fraction (sum)	mg/kg	50									500	-	630	-	640	-	690	-	290	-
Major Ions	Fluoride	mg/kg	40	10000	300	3000						-	120	-	-	-	130	-	-	-	-
Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.2	50	1	5	3[#1]	3[#1]	3[#1]	170[#1]	360[#1]	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2	-
	Toluene	mg/kg	0.5	1000	1	100	950[#1]	2500[#1]	1400[#1]	660000[#1]		<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
	Ethylbenzene	mg/kg	0.5	1080	3	100	340[#1]	340[#1]	110[#1]	290000[#1]		<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
	m&p-Xylene	mg/kg	0.5									<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
	o-Xylene	mg/kg	0.5									<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
	Total Xylenes	mg/kg	0.5	1800	14	180	240[#1]	830[#1]	430[#1]	530000[#1]		<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
	Total BTEX	mg/kg	0.2									<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2	-
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5									11.8	-	13.7	-	-	12.5	14.8	-	9.4	-
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5									11.8	-	13.7	-	-	12.5	14.8	-	9.4	-
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5									11.8	-	13.7	-	-	12.5	14.8	-	9.4	-
	Naphthalene	mg/kg	0.5				12[#1]	160[#1]	97[#1]	38000[#1]		1.8	-	1.1	-	-	2.2	1.9	-	1.1	-
	Acenaphthylene	mg/kg	0.5									2.7	-	2	-	-	2.5	2.7	-	2.1	-
	Acenaphthene	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	Anthracene	mg/kg	0.5									3.8	-	3	-	-	2.7	3.8	-	2.3	-
	Fluorene	mg/kg	0.5									1.8	-	0.9	-	-	1	1.1	-	1	-
	Phenanthrene	mg/kg	0.5									9.3	-	7.2	-	-	8.2	10.5	-	6.2	-
	Fluoranthene	mg/kg	0.5									16.1	-	18.2	-	-	17	20.8	-	13	-
	Benz(a)anthracene	mg/kg	0.5									8.1	-	9.4	-	-	8.7	9.9	-	6.2	-
	Benzo(k)fluoranthene	mg/kg	0.5									3.5	-	3.7	-	-	3.1	4	-	2.5	-
	Benzo(b&j)fluoranthene	mg/kg	0.5									8.3	-	9.9	-	-	9	10.2	-	6.7	-
	Benzo(a)pyrene	mg/kg	0.5	20	0.08	2				110[#1]		8.3	-	9.7	-	-	8.8	10.4	-	6.7	-
	Chrysene	mg/kg	0.5									6.9	-	8.3	-	-	7.2	8.9	-	5.1	-
	Pyrene	mg/kg	0.5									16.2	-	19	-	-	16.9	21	-	13.4	-
	Benzo(g,h,i)perylene	mg/kg	0.5									4	-	4.3	-	-	4.3	5.3	-	3.1	-
	Dibenz(a,h)anthracene	mg/kg	0.5									1.1	-	1.2	-	-	1.1	1.4	-	0.8	-
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5									3.6	-	3.9	-	-	3.8	4.7	-	2.7	-
	Sum of PAHs	mg/kg	0.5	200	20	40						95.5	-	102	-	-	96.5	117	-	72.9	-
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1									<1	-	<1	-	-	<1	<1	-	<1	-
	Phenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2-Chlorophenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2-Methylphenol (o-Cresol)	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2-Nitrophenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2,4-Dichlorophenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2,4-Dimethylphenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2,6-Dichlorophenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	4-Chloro-3-methylphenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2,4,6-Trichlorophenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	2,4,5-Trichlorophenol	mg/kg	0.5									<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
	Pentachlorophenol	mg/kg	2									<2	-	<2	-	-	<2	<2	-	<2	-
Physico-Chemical Parameters	Moisture Content	%	0.1									6.1	7.4	7.7	-	8.5	9.2	9.9	-	8.6	-
Polychlorinated Biphenyls	Polychlorinated Biphenyls	mg/kg	0.1	50	2	20						-	<0.1	-	-	-	<0.1	-	-	-	-
Organochlorine Pesticides (OC)	Aldrin	mg/kg	0.05									-	<0.05	-	-	-	<0.05	-	-	-	-
	Dieldrin	mg/kg	0.05									-	<0.05	-	-	-	<0.05	-	-	-	-
	Aldrin + Dieldrin	mg/kg	0.05	50	2	20						-	<0.05	-	-	-	<0.05	-	-	-	-
	DDD	mg/kg	0.05									-	<0.05	-	-	-	<0.05	-	-	-	-
	DDE	mg/kg	0.05									-	<0.05	-	-	-	<0.05	-	-	-	-
	DDT	mg/kg	0.2									-	<0.2	-	-	-	<0.2	-	-	-	-
	DDT+DDE+DDD	mg/kg	0.05	1000	2	200						-	<0.05	-	-	-	<0.05	-	-	-	-
Cyanides	Cyanide Total	mg/kg	1	2500	32	1000						-	5	-	-	-	3	-	-	-	-
Inorganics	pH (Final)	pH Units	0.1									-	6	-	5.8	-	5.8	-	6.2	-	5.6
	pH (Initial)	pH Units	0.1									-	9.7	-	9.8	-	9.9	-	10	-	9.9
	pH (after HCL)	pH Units	0.1									-	1.6	-	1.7	-	1.6	-	1.6	-	1.6

Env Stds Comments
#1:Derivation of Remediation Criteria, August 2016 (AECOM, 2016)

Table T1
Analytical Results - RH_SP Total Contaminant Concentration
Soil Categorisation and Waste Management Plan - Stockpile RH_SP
Macquarie Point Development Project

						Field_ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
						Location_Code	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
						Sampled_Date_Time	6/03/2023	6/03/2023	6/03/2023	6/03/2023	6/03/2023
						Lab_Report_Number	EM2304580	EM2304580	EM2304580	EM2304580	EM2304580
						Sample_Type	Normal	Normal	Normal	Normal	Normal
				TEF	TAS Waste Classification Contaminated Soil Level 3 TCLP	TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP					
Chem_Group	**ChemName**	**output unit**	**EQL**								
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)[1]	µg/L	0.1	-	5	*0.5*	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene TEQ calc (Zero)[2]	µg/L	0.1	-	5	*0.5*	0.03375	0.00895	0.0113	0.02674	0.04896
	Naphthalene	µg/L	0.1	0.001			2.01	0.82	1.38	1.71	15.6
	2-Methylnaphthalene	µg/L	0.1	-			0.81	0.3	0.48	0.64	2.45
	Acenaphthylene	µg/L	0.1	0.001			1.56	0.48	0.51	0.99	2
	Acenaphthene	µg/L	0.1	0.001			0.47	0.16	0.23	0.35	0.54
	Anthracene	µg/L	0.1	0.01			1.09	0.44	0.54	0.8	1.17
	Fluorene	µg/L	0.1	0.001			2.28	0.62	0.64	1.35	2.92
	Phenanthrene	µg/L	0.1	0.001			4.69	1.51	2.01	2.79	4.51
	Fluoranthene	µg/L	0.1	0.001			1.06	0.54	0.63	0.85	0.97
	Benz(a)anthracene	µg/L	0.1	0.1			0.1	<0.1	<0.1	0.1	0.1
	Benzo(k)fluoranthene	µg/L	0.1	0.1			<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(b&j)fluoranthene	µg/L	0.1	0.1			<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo(a)pyrene	µg/L	0.05	1	5	*0.5*	<0.05	<0.05	<0.05	<0.05	<0.05
	Chrysene	µg/L	0.1	0.01			<0.1	<0.1	<0.1	<0.1	<0.1
	Pyrene	µg/L	0.1	0.001			0.78	0.42	0.5	0.7	0.72
	Benzo(g,h,i)perylene	µg/L	0.1	0.01			<0.1	<0.1	<0.1	<0.1	<0.1
	Dibenz(a,h)anthracene	µg/L	0.1	1			<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	0.01			<0.1	<0.1	<0.1	<0.1	<0.1
	Sum of PAHs	µg/L	0.1	-			14	4.99	6.44	9.64	28.5

Env Stds Comments
1. Laboratory calculated benzo(a)pyrene toxicity equivalence quotient calculated using 8 congeners
2. AECOM calculated benzo(a)pyrene toxicity equivalence quotient calculated using 16 congeners as per EPA Tasmania guidance documentation
TEF - Toxicity Equivalent Factor (EPA Advisory Note - Classification of Polycyclic Aromatic Hydrocarbons)

AECOM

Appendix A

Laboratory Reports

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304035**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023 11:15
Order number	: 60693007-2	Date Analysis Commenced	: 09-Mar-2023
C-O-C number	: 49293	Issue Date	: 14-Mar-2023 22:30
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 21		
No. of samples analysed	: 19		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Particular samples EM2304035_019 & 020, LOR has been raised for Toluene, meta- & para-Xylene due to possible contamination. Confirmed by re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2304035 #10 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EP075(SIM): EM2304035_012 Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	RH_QCA03	RH_QCB05	DL_QCB06	----	----
			Sampling date / time	06-Mar-2023 07:20	06-Mar-2023 07:21	07-Mar-2023 07:22	----	----
Compound	CAS Number	LOR	Unit	EM2304035-018	EM2304035-019	EM2304035-020	--------	--------
				Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L	----	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	----	<0.001	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	----	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L	----	<0.001	<0.001	----	----
Zinc	7440-66-6	0.005	mg/L	----	<0.005	<0.005	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	----	**14.2**	**15.6**	----	----
2-Chlorophenol	95-57-8	1.0	µg/L	----	<1.0	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L	----	<1.0	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	----	<2.0	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L	----	<1.0	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	----	<1.0	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	----	<1.0	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	----	<1.0	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	----	<1.0	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	----	<1.0	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	----	<1.0	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L	----	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	**2.1**	**3.2**	----	----
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L	----	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L	----	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L	----	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	<1.0	<1.0	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	RH_QCA03	RH_QCB05	DL_QCB06	----	----
			Sampling date / time	06-Mar-2023 07:20	06-Mar-2023 07:21	07-Mar-2023 07:22	----	----
Compound	CAS Number	LOR	Unit	EM2304035-018	EM2304035-019	EM2304035-020	--------	--------
				Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	**2.1**	**3.2**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	----	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	----	<100	<100	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	<100	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L	<2	<5	<5	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<4	<4	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	**34.6**	**38.1**	----	----

Analytical Results

Sub-Matrix: **RINSATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	RH_QCA03	RH_QCB05	DL_QCB06	----	----
				Sampling date / time	06-Mar-2023 07:20	06-Mar-2023 07:21	07-Mar-2023 07:22	----	----
					EM2304035-018	EM2304035-019	EM2304035-020	--------	--------
					Result	Result	Result	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		**----**	**61.3**	**69.8**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%		**----**	**86.1**	**100**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**----**	**57.0**	**86.9**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**----**	**68.2**	**88.5**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**----**	**76.4**	**93.9**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**94.9**	**99.9**	**93.9**	**----**	**----**
Toluene-D8	2037-26-5	2	%		**97.7**	**104**	**95.5**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**100**	**104**	**97.3**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304035-001	EM2304035-002	EM2304035-003	EM2304035-004	EM2304035-005
				Result	Result	Result	Result	Result
EA055: Moisture Content								
Moisture Content	----	1.0	%	**----**	**----**	**8.5**	**----**	**----**
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**6.1**	**7.7**	**----**	**9.9**	**8.6**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**11**	**6**	**8**	**8**	**9**
Copper	7440-50-8	5	mg/kg	**53**	**38**	**56**	**54**	**51**
Lead	7439-92-1	5	mg/kg	**97**	**32**	**37**	**52**	**48**
Nickel	7440-02-0	2	mg/kg	**16**	**10**	**14**	**13**	**17**
Zinc	7440-66-6	5	mg/kg	**113**	**59**	**86**	**78**	**66**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	<0.1	<0.1	**0.1**	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	**----**	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	**----**	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**1.8**	**1.1**	**----**	**1.9**	**1.1**
Acenaphthylene	208-96-8	0.5	mg/kg	**2.7**	**2.0**	**----**	**2.7**	**2.1**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	**1.8**	**0.9**	**----**	**1.1**	**1.0**
Phenanthrene	85-01-8	0.5	mg/kg	**9.3**	**7.2**	**----**	**10.5**	**6.2**
Anthracene	120-12-7	0.5	mg/kg	**3.8**	**3.0**	**----**	**3.8**	**2.3**
Fluoranthene	206-44-0	0.5	mg/kg	**16.1**	**18.2**	**----**	**20.8**	**13.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304035-001	EM2304035-002	EM2304035-003	EM2304035-004	EM2304035-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Pyrene	129-00-0	0.5	mg/kg	**16.2**	**19.0**	**----**	**21.0**	**13.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**8.1**	**9.4**	**----**	**9.9**	**6.2**
Chrysene	218-01-9	0.5	mg/kg	**6.9**	**8.3**	**----**	**8.9**	**5.1**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**8.3**	**9.9**	**----**	**10.2**	**6.7**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**3.5**	**3.7**	**----**	**4.0**	**2.5**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**8.3**	**9.7**	**----**	**10.4**	**6.7**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.6**	**3.9**	**----**	**4.7**	**2.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.1**	**1.2**	**----**	**1.4**	**0.8**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**4.0**	**4.3**	**----**	**5.3**	**3.1**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**95.5**	**102**	**----**	**117**	**72.9**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**11.8**	**13.7**	**----**	**14.8**	**9.4**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**11.8**	**13.7**	**----**	**14.8**	**9.4**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**11.8**	**13.7**	**----**	**14.8**	**9.4**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**260**	**300**	**250**	**320**	**180**
C29 - C36 Fraction	----	100	mg/kg	**190**	**240**	**220**	**260**	**140**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**450**	**540**	**470**	**580**	**320**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**380**	**460**	**410**	**510**	**290**
>C34 - C40 Fraction	----	100	mg/kg	**120**	**170**	**230**	**180**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**500**	**630**	**640**	**690**	**290**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304035-001	EM2304035-002	EM2304035-003	EM2304035-004	EM2304035-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	88.6	85.4	----	82.8	86.2
2-Chlorophenol-D4	93951-73-6	0.5	%	88.1	83.4	----	81.6	84.9
2.4.6-Tribromophenol	118-79-6	0.5	%	86.4	85.4	----	82.4	86.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	99.4	92.8	----	89.7	94.0
Anthracene-d10	1719-06-8	0.5	%	108	99.4	----	100	106
4-Terphenyl-d14	1718-51-0	0.5	%	87.5	83.9	----	77.9	83.5
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	77.1	101	92.0	82.8	95.6
Toluene-D8	2037-26-5	0.2	%	70.6	78.3	77.7	71.0	86.4
4-Bromofluorobenzene	460-00-4	0.2	%	71.4	82.6	78.5	64.4	77.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
				Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit		EM2304035-006	EM2304035-007	EM2304035-008	EM2304035-009	EM2304035-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.1	10.9	9.0	10.1	19.1
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		7	123	73	29	151
Cadmium	7440-43-9	1	mg/kg		<1	1	<1	<1	10
Chromium	7440-47-3	2	mg/kg		10	12	9	30	26
Copper	7440-50-8	5	mg/kg		70	84	76	71	204
Lead	7439-92-1	5	mg/kg		157	146	128	256	55500
Nickel	7440-02-0	2	mg/kg		18	20	18	47	51
Zinc	7440-66-6	5	mg/kg		206	711	312	200	2290
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.4	0.5	0.3	0.1	2.3
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	0.8	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		1.0	1.0	0.6	<0.5	1.7
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	0.5	<0.5	<0.5	0.9
Phenanthrene	85-01-8	0.5	mg/kg		5.0	7.5	2.5	<0.5	18.9
Anthracene	120-12-7	0.5	mg/kg		1.1	1.9	0.6	<0.5	4.0
Fluoranthene	206-44-0	0.5	mg/kg		9.6	12.0	5.6	0.5	17.5
Pyrene	129-00-0	0.5	mg/kg		9.4	12.3	5.7	0.5	16.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		4.3	5.2	2.8	<0.5	7.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
				Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit		EM2304035-006	EM2304035-007	EM2304035-008	EM2304035-009	EM2304035-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		4.2	5.2	2.7	<0.5	7.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		5.6	6.5	3.8	<0.5	8.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.1	2.3	1.2	<0.5	3.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg		5.5	6.1	3.6	<0.5	8.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.9	2.9	1.8	<0.5	3.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.7	0.7	<0.5	<0.5	1.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.4	3.4	2.2	<0.5	4.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		54.8	67.5	33.9	1.0	104
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		7.8	8.6	4.6	<0.5	11.7
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		7.8	8.6	4.8	0.6	11.7
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		7.8	8.6	5.1	1.2	11.7
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		140	200	210	<100	260
C29 - C36 Fraction	----	100	mg/kg		150	170	120	<100	190
^ C10 - C36 Fraction (sum)	----	50	mg/kg		290	370	330	<50	450
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	60	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		270	330	260	<100	400
>C34 - C40 Fraction	----	100	mg/kg		<100	110	<100	<100	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		270	440	320	<50	510
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	60	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
			Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit	EM2304035-006	EM2304035-007	EM2304035-008	EM2304035-009	EM2304035-010
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	80.7	86.6	87.1	92.8	81.2
2-Chlorophenol-D4	93951-73-6	0.5	%	85.9	85.0	88.0	93.8	81.6
2.4.6-Tribromophenol	118-79-6	0.5	%	89.4	79.2	90.7	90.0	76.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	94.2	91.9	95.6	101	88.5
Anthracene-d10	1719-06-8	0.5	%	109	103	98.7	107	90.6
4-Terphenyl-d14	1718-51-0	0.5	%	82.4	84.8	87.0	91.6	83.0
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	92.3	88.3	89.3	88.2	81.2
Toluene-D8	2037-26-5	0.2	%	78.1	73.4	73.5	74.5	67.3
4-Bromofluorobenzene	460-00-4	0.2	%	81.0	73.1	74.3	76.1	67.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit		EM2304035-011	EM2304035-012	EM2304035-013	EM2304035-014	EM2304035-015
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		11.0	12.7	11.4	13.0	7.9
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		58	59	38	24	6
Cadmium	7440-43-9	1	mg/kg		2	2	2	<1	<1
Chromium	7440-47-3	2	mg/kg		18	30	10	10	12
Copper	7440-50-8	5	mg/kg		119	174	104	84	75
Lead	7439-92-1	5	mg/kg		294	425	206	194	154
Nickel	7440-02-0	2	mg/kg		32	26	22	19	19
Zinc	7440-66-6	5	mg/kg		617	900	634	424	232
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.9	1.3	0.4	0.3	0.2
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	1.2	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		1.0	2.0	0.6	0.9	1.0
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		3.5	7.8	1.8	2.2	5.4
Anthracene	120-12-7	0.5	mg/kg		0.9	2.4	<0.5	0.8	1.4
Fluoranthene	206-44-0	0.5	mg/kg		9.1	18.0	4.5	6.0	10.1
Pyrene	129-00-0	0.5	mg/kg		9.4	19.1	4.7	6.5	9.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.0	10.6	2.7	3.8	4.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit		EM2304035-011	EM2304035-012	EM2304035-013	EM2304035-014	EM2304035-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		4.9	10.0	2.7	3.7	4.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.8	13.2	3.7	5.1	5.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.3	4.9	1.4	1.6	2.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg		6.4	12.5	3.6	5.1	5.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		3.3	6.4	2.0	2.7	3.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.9	1.9	0.5	0.7	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.9	7.6	2.4	3.2	3.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		57.4	118	30.6	42.3	58.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		9.1	18.1	5.1	7.2	8.2
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		9.1	18.1	5.1	7.2	8.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		9.1	18.1	5.1	7.2	8.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		220	380	260	140	160
C29 - C36 Fraction	----	100	mg/kg		250	400	340	160	160
^ C10 - C36 Fraction (sum)	----	50	mg/kg		470	780	600	300	320
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		400	680	520	260	280
>C34 - C40 Fraction	----	100	mg/kg		200	240	230	110	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		600	920	750	370	390
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
			Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit	EM2304035-011	EM2304035-012	EM2304035-013	EM2304035-014	EM2304035-015
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	82.6	88.2	90.0	81.5	85.9
2-Chlorophenol-D4	93951-73-6	0.5	%	82.5	87.8	88.6	82.2	85.3
2.4.6-Tribromophenol	118-79-6	0.5	%	84.7	86.7	99.0	88.7	82.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	93.7	94.7	95.9	91.5	91.2
Anthracene-d10	1719-06-8	0.5	%	96.2	98.9	101	96.9	97.2
4-Terphenyl-d14	1718-51-0	0.5	%	83.8	84.5	89.9	76.8	85.1
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	88.4	84.5	95.0	88.0	89.6
Toluene-D8	2037-26-5	0.2	%	73.1	69.2	79.4	72.5	74.0
4-Bromofluorobenzene	460-00-4	0.2	%	70.9	67.9	76.7	71.9	73.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_10	----	----	----	----
			Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2304035-017	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**12.5**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**48**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**1**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**14**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**90**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**243**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**22**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**519**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.6**	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**0.8**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**2.9**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**1.0**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**6.4**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**6.9**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**3.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_10	----	----	----	----
				Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2304035-017	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		**3.6**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**4.5**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**1.6**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**4.6**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**2.4**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.6**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.8**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**41.8**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**6.5**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**6.5**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**6.5**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**160**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**170**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**330**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**290**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**130**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**420**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_10	----	----	----	----
				Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2304035-017	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**83.6**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**83.9**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**83.1**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**101**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**79.9**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.4**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**74.2**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**73.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304035**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 09-Mar-2023
C-O-C number	: 49293	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 21		
No. of samples analysed	: 19		

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Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4917849)									
EM2304035-010	DL_SP_05	EG005T: Arsenic	7440-38-2	5	mg/kg	151	# 108	33.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	55500	# 13400	122	0% - 20%
EM2304035-001	RH_SP_01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	11	9	13.9	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	16	16	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	53	68	23.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	97	74	27.4	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	113	94	17.4	0% - 20%
EM2304035-010	DL_SP_05	EG005T: Cadmium	7440-43-9	1	mg/kg	10	8	25.2	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	26	28	7.2	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	51	42	19.9	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	204	228	11.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	2290	2430	5.7	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4918174)									
EM2304035-001	RH_SP_01	EA055: Moisture Content	----	0.1	%	6.1	7.9	25.2	No Limit
EM2304035-011	DL_SP_06	EA055: Moisture Content	----	0.1	%	11.0	15.5	33.9	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4917850)									
EM2304035-010	DL_SP_05	EG035T: Mercury	7439-97-6	0.1	mg/kg	2.3	1.6	35.0	0% - 50%
EM2304035-001	RH_SP_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4917769)									
EM2304035-001	RH_SP_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4917769) - continued									
EM2304035-001	RH_SP_01	EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2304035-012	DL_SP_07	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4917769)									
EM2304035-001	RH_SP_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.8	1.0	58.3	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.7	1.9	32.5	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.8	0.8	74.1	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.3	6.7	32.7	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.8	2.7	35.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	16.1	16.7	3.6	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	16.2	17.0	4.8	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	8.1	9.4	15.6	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	6.9	8.2	16.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	9.1	9.9	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.5	3.6	3.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.3	9.2	9.6	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.6	3.7	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.0	4.1	3.2	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4917769) - continued									
EM2304035-012	DL_SP_07	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	1.1	9.6	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.6	26.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.8	6.1	24.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.4	1.8	25.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	18.0	# 13.8	26.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	19.1	# 15.1	23.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	10.6	# 8.6	21.1	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.0	8.4	18.1	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	13.2	11.2	15.8	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.9	4.2	16.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	12.5	10.7	15.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	6.4	5.5	15.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.9	1.6	14.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	7.6	6.6	14.5	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917725)									
EM2304035-001	RH_SP_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2304035-011	DL_SP_06	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917770)									
EM2304035-001	RH_SP_01	EP071: C15 - C28 Fraction	----	100	mg/kg	260	260	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	190	190	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2304035-012	DL_SP_07	EP071: C15 - C28 Fraction	----	100	mg/kg	380	460	19.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	400	530	27.1	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917725)									
EM2304035-001	RH_SP_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2304035-011	DL_SP_06	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917770)									
EM2304035-001	RH_SP_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	380	390	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	120	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2304035-012	DL_SP_07	EP071: >C16 - C34 Fraction	----	100	mg/kg	680	860	23.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	240	310	25.5	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4917725)									
EM2304035-001	RH_SP_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4917725) - continued									
EM2304035-001	RH_SP_01	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2304035-011	DL_SP_06	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4920220)									
EM2303958-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.017	0.017	0.0	No Limit
EM2304055-043	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4918788)									
EM2303866-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2304084-004	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917470)									
EM2304084-009	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2304084-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917751)									
EM2304022-013	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917751) - continued									
EM2304022-013	Anonymous	EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917470)									
EM2304084-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2304084-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917751)									
EM2304022-013	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 4917470)									
EM2304084-009	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2304084-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4917849)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	103	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	71.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	117	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	99.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.7	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	74.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4917850)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4917769)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	110	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	111	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.0	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	108	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	45.7	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917769)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	112	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	111	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	105	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	107	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	107	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	104	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917769) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	113	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	103	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	104	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	104	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	103	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917725)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	82.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917770)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	119	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917725)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917770)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	112	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	102	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	119	73.3	137
EP080: BTEXN (QCLot: 4917725)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	85.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	84.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	83.0	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	82.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	94.2	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4920220)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	106	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.7	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	102	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	101	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	103	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	99.8	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	101	86.7	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4918788)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	93.4	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 4917752)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	36.6	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	85.5	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	73.1	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	62.2	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	86.6	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	81.7	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	87.3	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	90.8	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	53.9	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	92.8	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	91.8	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	90.0	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917752)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	89.1	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	85.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	88.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	91.3	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.2	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	93.2	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	90.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	90.6	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	87.8	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	93.8	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	83.6	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	88.0	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	89.4	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	91.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	91.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	92.0	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917470)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	107	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917751)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	85.9	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.9	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	93.4	50.4	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917470)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	104	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917751)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	93.5	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	81.0	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	107	47.2	130
EP080: BTEXN (QCLot: 4917470)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	105	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	110	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	111	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	110	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	90.6	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4917849)							
EM2304035-002	RH_SP_02	EG005T: Arsenic	7440-38-2	50 mg/kg	98.8	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.9	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	99.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	97.5	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	100	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	98.7	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4917850)							
EM2304035-002	RH_SP_02	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 4917769)							
EM2304035-002	RH_SP_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.4	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	89.1	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	74.4	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	67.2	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	81.1	15.3	139

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917769)							
EM2304035-002	RH_SP_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	87.4	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917725)							
EM2304035-002	RH_SP_02	EP080: C6 - C9 Fraction	----	28 mg/kg	67.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917770)							
EM2304035-003	RH_SP_03	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917725)							
EM2304035-002	RH_SP_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	57.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917770)							
EM2304035-003	RH_SP_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	110	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	98.8	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	102	66.8	138
EP080: BTEXN (QCLot: 4917725)							
EM2304035-002	RH_SP_02	EP080: Benzene	71-43-2	2 mg/kg	89.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	85.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4920220)							
EM2303958-003	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	97.1	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	94.5	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	91.9	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	97.0	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	96.5	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	94.9	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	95.5	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4918788)							
EM2304019-003	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	94.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917470)							
EM2304084-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	90.5	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917470)							
EM2304084-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	87.4	34.0	122

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 4917470)							
EM2304084-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	107	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	105	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304035**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 21
Order number	: 60693007-2	No. of samples analysed	: 19

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2304035--010	DL_SP_05	**Arsenic**	7440-38-2	33.1 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2304035--010	DL_SP_05	**Lead**	7439-92-1	122 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--012	DL_SP_07	**Fluoranthene**	206-44-0	26.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--012	DL_SP_07	**Pyrene**	129-00-0	23.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--012	DL_SP_07	**Benz(a)anthracene**	56-55-3	21.1 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--002	RH_SP_02	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055)							
RH_SP_03	**06-Mar-2023**	**----**	----	----	**09-Mar-2023**	20-Mar-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
RH_SP_01, RH_SP_02, RH_SP_04, RH_SP_05	**06-Mar-2023**	**----**	----	----	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**----**	----	----	**09-Mar-2023**	21-Mar-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	02-Sep-2023	✓	**09-Mar-2023**	02-Sep-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	03-Sep-2023	✓	**09-Mar-2023**	03-Sep-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	03-Apr-2023	✓	**09-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EG035T)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	04-Apr-2023	✓	**09-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_01, RH_SP_02, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_01, RH_SP_02, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	02-Sep-2023	✓	**09-Mar-2023**	02-Sep-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	03-Sep-2023	✓	**09-Mar-2023**	03-Sep-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) RH_QCB05	**06-Mar-2023**	**----**	----	----	**09-Mar-2023**	03-Apr-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) DL_QCB06	**07-Mar-2023**	**----**	----	----	**09-Mar-2023**	04-Apr-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) RH_QCA03, RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) RH_QCA03, RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) RH_QCA03, RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	16	18.75	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2304035**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49293	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 08-Mar-2023 11:15	Issue Date	: 08-Mar-2023
Client Requested Due Date	: 15-Mar-2023	Scheduled Reporting Date	: **15-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 3.5°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 21 / 19

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-05 TRH/BTEXN/8 Metals	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2304035-001	06-Mar-2023 07:18	RH_SP_01		✓		✓
EM2304035-002	06-Mar-2023 07:18	RH_SP_02		✓		✓
EM2304035-003	06-Mar-2023 07:19	RH_SP_03		✓	✓	
EM2304035-004	06-Mar-2023 07:19	RH_SP_04		✓		✓
EM2304035-005	06-Mar-2023 07:20	RH_SP_05		✓		✓
EM2304035-006	07-Mar-2023 07:22	DL_SP_01		✓		✓
EM2304035-007	07-Mar-2023 07:23	DL_SP_02		✓		✓
EM2304035-008	07-Mar-2023 07:23	DL_SP_03		✓		✓
EM2304035-009	07-Mar-2023 07:23	DL_SP_04		✓		✓
EM2304035-010	07-Mar-2023 07:23	DL_SP_05		✓		✓
EM2304035-011	07-Mar-2023 07:23	DL_SP_06		✓		✓
EM2304035-012	07-Mar-2023 07:23	DL_SP_07		✓		✓
EM2304035-013	07-Mar-2023 07:24	DL_SP_08		✓		✓
EM2304035-014	07-Mar-2023 07:24	DL_SP_09		✓		✓
EM2304035-015	07-Mar-2023 07:24	DL_QC103		✓		✓
EM2304035-017	07-Mar-2023 07:25	DL_SP_10		✓		✓
EM2304035-021	08-Mar-2023 09:42	DL_QC104	✓			
EM2304035-022	08-Mar-2023 09:42	DL_QC204	✓			

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2304035-018	06-Mar-2023 07:20	RH_QCA03	✓	
EM2304035-019	06-Mar-2023 07:21	RH_QCB05		✓
EM2304035-020	07-Mar-2023 07:22	DL_QCB06		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 8/3, 11-15

FREIGHT

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED							
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	RH_SP_01		06/03/2023 07:18 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
002	RH_SP_02		06/03/2023 07:18 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
003	RH_SP_03		06/03/2023 07:19 AM	SOIL	ALS: 0 Non ALS: 0	No			Partial 1/4				
004	RH_SP_04		06/03/2023 07:19 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
005	RH_SP_05		06/03/2023 07:20 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
006	DL_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
007	DL_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
008	DL_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
009	DL_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					

Environmental Division Melbourne

Work Order Reference

EM2304035

Telephone : + 61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 49293 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 8/3 11-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
011	DL_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
012	DL_SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
013	DL_SP_08			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
014	DL_SP_09			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
015	DL_QC103			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
016	DL_QC203			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis.	
017	DL_SP_10			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
018	RH_QCA03		06/03/2023 07:20 AM	WATER	ALS: 0 Non ALS: 0	No					X		

CHAIN OF CUSTODY

ALS COC#: 49293 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	RH_QCB05		06/03/2023 07:21 AM	WATER	ALS: 0 Non ALS: 0	No				Partial 1/2			
020	DL_QCB06			WATER	ALS: 0 Non ALS: 0	No				Partial 1/2			
021	Untitled			SOIL	ALS: 0 Non ALS: 0	No	-						
022	Untitled-1			SOIL	ALS: 0 Non ALS: 0	No	-						

CHAIN OF CUSTODY

ALS COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	RH_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	RH_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	RH_SP_03	Soil Suite 2 SOIL	SOIL	- S-05 TRH/BTEXN/8 Metals
004	RH_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	RH_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	DL_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	DL_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	DL_SP_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	DL_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	DL_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	DL_SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	DL_SP_07	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	DL_SP_08	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	DL_SP_09	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	DL_QC103	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 49293 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	

Other comments:

016	DL_QC203	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	DL_SP_10	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	RH_QCB05	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
020	DL_QCB06	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals

Total Bottle Count: ALS: 0, Non ALS: 0

21 DL_QC104 7/03/23

22 DL_QC204 7/03/23

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304580**	Page	: 1 of 15
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023 11:15
Order number	: 60693007-2	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: ----	Issue Date	: 22-Mar-2023 16:20
Sampler	: TIM SMITH02		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 16		
No. of samples analysed	: 16		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG005T: EM2304580 #10, sample heterogeneity has been observed for lead, with the following results obtained: 5140 mg/kg, 7620 mg/kg and 11500 mg/kg.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP068: EM2304580_001 Poor matrix spike recovery for heptachlor due to matrix effects.
- This is a rebatch of EM2304035.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**7.4**	----	----	----	----
Moisture Content	----	1.0	%	----	----	**9.2**	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Barium	7440-39-3	10	mg/kg	**40**	----	**40**	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	----
Chromium	7440-47-3	2	mg/kg	**6**	----	**8**	----	----
Cobalt	7440-48-4	2	mg/kg	**8**	----	**11**	----	----
Manganese	7439-96-5	5	mg/kg	**240**	----	**297**	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	----	<2	----	----
Selenium	7782-49-2	5	mg/kg	<5	----	<5	----	----
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	----
Tin	7440-31-5	5	mg/kg	**10**	----	**14**	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**5**	----	**3**	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**120**	----	**130**	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.7**	**9.8**	**9.9**	**10.0**	**9.9**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.7**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.0**	**5.8**	**5.8**	**6.2**	**5.6**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**2.2**	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**2.5**	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	**1.0**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**8.2**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**2.7**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**17.0**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**16.9**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**8.7**	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**7.2**	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	**9.0**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	**3.1**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**8.8**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**3.8**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	**1.1**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**4.3**	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	**96.5**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	**12.5**	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	**12.5**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	**12.5**	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**101**	----	**108**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
				Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit		EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
					Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**95.1**	----	**98.1**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**95.6**	----	**94.5**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	**89.0**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	**89.0**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	**88.2**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	**94.3**	----	----
Anthracene-d10	1719-06-8	0.5	%		----	----	**97.7**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	**93.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
			Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit	EM2304580-006	EM2304580-007	EM2304580-008	EM2304580-009	EM2304580-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	10.1	----	----	----	20.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	Yes	Yes	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	164	182	182	200	129
APPROVED IDENTIFIER:	----	-	--	M. TRAN	M. TRAN	M. TRAN	M. TRAN	M. TRAN
EG005(ED093)T: Total Metals by ICP-AES								
Barium	7440-39-3	10	mg/kg	50	----	----	----	160
Beryllium	7440-41-7	1	mg/kg	<1	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	7	----	----	----	12
Cobalt	7440-48-4	2	mg/kg	7	----	----	----	10
Lead	7439-92-1	5	mg/kg	----	----	----	----	11500
Manganese	7439-96-5	5	mg/kg	148	----	----	----	236
Molybdenum	7439-98-7	2	mg/kg	<2	----	----	----	<2
Selenium	7782-49-2	5	mg/kg	<5	----	----	----	<5
Silver	7440-22-4	2	mg/kg	<2	----	----	----	10
Tin	7440-31-5	5	mg/kg	10	----	----	----	22
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	1	----	----	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	140	----	----	----	120
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	9.8	9.7	9.4	----	9.4
After HCl pH	----	0.1	pH Unit	1.7	1.7	1.5	----	1.9
Extraction Fluid Number	----	1	-	1	1	1	----	1
Final pH	----	0.1	pH Unit	5.3	5.2	5.2	----	5.7
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
			Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit	EM2304580-006	EM2304580-007	EM2304580-008	EM2304580-009	EM2304580-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	----	<0.05
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**108**	----	----	----	**108**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**101**	----	----	----	**99.1**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**90.1**	----	----	----	**96.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
			Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit	EM2304580-011	EM2304580-012	EM2304580-013	EM2304580-014	EM2304580-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	10.1	----	8.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	Yes	Yes	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	129	124	185	170	194
APPROVED IDENTIFIER:	----	-	--	M. TRAN	M. TRAN	M. TRAN	M. TRAN	M. TRAN
EG005(ED093)T: Total Metals by ICP-AES								
Barium	7440-39-3	10	mg/kg	----	----	80	----	90
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	11	----	9
Cobalt	7440-48-4	2	mg/kg	----	----	9	----	10
Manganese	7439-96-5	5	mg/kg	----	----	178	----	192
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	19	----	8
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	2	----	1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	130	----	90
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	9.3	9.2	9.3	8.9	9.7
After HCl pH	----	0.1	pH Unit	1.7	1.8	1.8	1.7	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.2	5.2	5.3	5.1	5.4
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit		EM2304580-011	EM2304580-012	EM2304580-013	EM2304580-014	EM2304580-015
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		----	----	<0.05	----	<0.05
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**92.8**	----	**102**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	**92.9**	----	**91.2**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	**92.3**	----	**91.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_10	----	----	----	----
			Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2304580-016	--------	--------	--------	--------
				Result	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--	**-**	----	----	----	----
Synthetic Mineral Fibre	----	-	--	**No**	----	----	----	----
Organic Fibre	----	-	--	**Yes**	----	----	----	----
Sample weight (dry)	----	0.01	g	**170**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	**M. TRAN**	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.7**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.4**	----	----	----	----

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
				Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
					EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**2.01**	**0.82**	**1.38**	**1.71**	**15.6**
2-Methylnaphthalene	91-57-6	0.10	µg/L		**0.81**	**0.30**	**0.48**	**0.64**	**2.45**
Acenaphthylene	208-96-8	0.10	µg/L		**1.56**	**0.48**	**0.51**	**0.99**	**2.00**
Acenaphthene	83-32-9	0.10	µg/L		**0.47**	**0.16**	**0.23**	**0.35**	**0.54**
Fluorene	86-73-7	0.10	µg/L		**2.28**	**0.62**	**0.64**	**1.35**	**2.92**
Phenanthrene	85-01-8	0.10	µg/L		**4.69**	**1.51**	**2.01**	**2.79**	**4.51**
Anthracene	120-12-7	0.10	µg/L		**1.09**	**0.44**	**0.54**	**0.80**	**1.17**
Fluoranthene	206-44-0	0.10	µg/L		**1.06**	**0.54**	**0.63**	**0.85**	**0.97**
Pyrene	129-00-0	0.10	µg/L		**0.78**	**0.42**	**0.50**	**0.70**	**0.72**
Benz(a)anthracene	56-55-3	0.10	µg/L		**0.10**	<0.10	<0.10	**0.10**	**0.10**
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**14.0**	**4.99**	**6.44**	**9.64**	**28.5**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**70.6**	**61.9**	**69.1**	**64.3**	**65.8**
Anthracene-d10	1719-06-8	0.10	%		**93.2**	**79.4**	**92.3**	**76.2**	**78.0**
4-Terphenyl-d14	1718-51-0	0.10	%		**81.6**	**69.9**	**80.9**	**73.4**	**75.2**

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_05	DL_SP_06
				Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
					EM2304580-006	EM2304580-007	EM2304580-008	EM2304580-010	EM2304580-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**0.16**	**0.77**	**0.72**	**0.13**	<0.10
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	**0.51**	**0.29**	<0.10	<0.10
Acenaphthylene	208-96-8	0.10	µg/L		**0.10**	<0.10	<0.10	<0.10	<0.10
Acenaphthene	83-32-9	0.10	µg/L		**0.10**	**0.62**	**0.32**	<0.10	<0.10
Fluorene	86-73-7	0.10	µg/L		**0.16**	**0.34**	**0.16**	<0.10	<0.10
Phenanthrene	85-01-8	0.10	µg/L		**0.64**	**0.94**	**0.44**	**0.10**	<0.10
Anthracene	120-12-7	0.10	µg/L		**0.11**	**0.18**	<0.10	<0.10	<0.10
Fluoranthene	206-44-0	0.10	µg/L		**0.19**	**0.22**	**0.16**	<0.10	<0.10
Pyrene	129-00-0	0.10	µg/L		**0.14**	**0.17**	**0.13**	<0.10	<0.10
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**1.60**	**3.24**	**1.93**	**0.23**	<0.10
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**66.3**	**64.2**	**77.0**	**69.6**	**64.9**
Anthracene-d10	1719-06-8	0.10	%		**80.0**	**76.2**	**82.8**	**83.6**	**72.0**
4-Terphenyl-d14	1718-51-0	0.10	%		**77.4**	**72.8**	**78.5**	**81.1**	**69.3**

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103	DL_SP_10
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:25
					EM2304580-012	EM2304580-013	EM2304580-014	EM2304580-015	EM2304580-016
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**0.14**	<0.10	**0.12**	**0.21**	**0.16**
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	<0.10	<0.10	**0.17**	<0.10
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	<0.10	<0.10	**0.12**	<0.10
Acenaphthene	83-32-9	0.10	µg/L		<0.10	<0.10	<0.10	**0.17**	<0.10
Fluorene	86-73-7	0.10	µg/L		<0.10	<0.10	<0.10	**0.40**	<0.10
Phenanthrene	85-01-8	0.10	µg/L		**0.28**	**0.18**	**0.20**	**1.36**	**0.16**
Anthracene	120-12-7	0.10	µg/L		<0.10	<0.10	<0.10	**0.23**	<0.10
Fluoranthene	206-44-0	0.10	µg/L		**0.14**	<0.10	<0.10	**0.30**	<0.10
Pyrene	129-00-0	0.10	µg/L		**0.12**	<0.10	<0.10	**0.22**	<0.10
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**0.68**	**0.18**	**0.32**	**3.01**	**0.32**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**64.8**	**60.1**	**67.8**	**69.9**	**59.9**
Anthracene-d10	1719-06-8	0.10	%		**91.4**	**78.5**	**78.1**	**81.1**	**70.6**
4-Terphenyl-d14	1718-51-0	0.10	%		**81.3**	**75.6**	**75.3**	**78.0**	**69.0**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	DL_SP_01 - 07-Mar-2023 07:22	Grey rocky soil with organic matter.
EA200: Description	DL_SP_02 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_03 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_04 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_05 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_06 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_07 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_08 - 07-Mar-2023 07:24	Grey rocky soil with organic matter.
EA200: Description	DL_SP_09 - 07-Mar-2023 07:24	Grey rocky soil with organic matter.
EA200: Description	DL_QC103 - 07-Mar-2023 07:24	Grey rocky soil with organic matter.
EA200: Description	DL_SP_10 - 07-Mar-2023 07:25	Grey rocky soil with organic matter.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304580**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: ----	Issue Date	: 22-Mar-2023
Sampler	: TIM SMITH02		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 16		
No. of samples analysed	: 16		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4936252)									
EM2304580-001	RH_SP_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	8	33.2	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	10	15.4	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	68	78	14.1	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	240	266	10.3	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	10	7	25.7	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4935723)									
EM2304580-001	RH_SP_01	EA055: Moisture Content	----	0.1	%	7.4	8.3	10.4	0% - 20%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4940042)									
EM2304580-001	RH_SP_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	5	7	33.2	No Limit
EK040T: Fluoride Total (QC Lot: 4935708)									
EM2304580-001	RH_SP_01	EK040T: Fluoride	16984-48-8	40	mg/kg	120	160	22.4	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4936128)									
EM2304580-003	RH_SP_03	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4936127)									
EM2304580-003	RH_SP_03	EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4936127) - continued									
EM2304580-003	RH_SP_03	EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4936129)									
EM2304580-003	RH_SP_03	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4936129)									
EM2304580-003	RH_SP_03	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	2.2	1.7	29.7	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.5	2.1	16.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.0	0.8	20.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	8.2	6.5	22.7	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.7	2.2	18.7	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	17.0	14.4	16.7	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	16.9	14.2	17.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	8.7	7.4	15.8	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	7.2	6.0	18.4	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	9.0	8.0	11.5	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.1	2.4	22.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.8	7.2	20.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.8	3.1	20.7	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	1.0	13.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.3	3.6	18.2	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4939535)									
EM2304580-001	RH_SP_01	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	2.01	1.76	13.4	0% - 20%
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	0.81	0.70	14.4	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	1.56	1.35	14.3	0% - 50%
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	0.47	0.41	14.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4939535) - continued									
EM2304580-001	RH_SP_01	EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	2.28	2.00	13.2	0% - 20%
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	4.69	3.93	17.7	0% - 20%
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	1.09	1.05	4.2	0% - 50%
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	1.06	0.89	17.3	0% - 50%
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.78	0.65	18.5	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit
EM2304580-012	DL_SP_07	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	0.14	0.16	13.0	No Limit
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	0.28	0.30	7.5	No Limit
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	0.14	0.15	7.0	No Limit
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.12	0.13	0.0	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4936252)								
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	94.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	100	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	98.0	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	91.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	93.8	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	91.4	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	72.4	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	78.3	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	93.6	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4940042)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	90.3	70.0	130
EK040T: Fluoride Total (QCLot: 4935708)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	105	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4936128)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4936127)								
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	68.8	123
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	68.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	72.0	127
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.5	55.4	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4936129)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	102	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	104	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	98.4	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.6	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	94.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	98.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.3	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	96.8	64.5	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 4936129) - continued								
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	47.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4936129)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	106	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	104	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	107	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	104	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	109	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	104	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	106	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	105	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	105	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	111	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	104	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	103	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	106	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	105	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	108	65.8	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4939535)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	89.1	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	92.5	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	96.5	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	108	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	114	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	103	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	89.3	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	96.0	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	99.6	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	94.8	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	93.2	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	106	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	106	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	118	56.6	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4939535) - continued								
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	97.7	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	101	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	99.7	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4936252)							
EM2304580-003	RH_SP_03	EG005T: Chromium	7440-47-3	50 mg/kg	81.7	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	98.8	80.0	120
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4940042)							
EM2304580-003	RH_SP_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	80.9	70.0	130
EK040T: Fluoride Total (QCLot: 4935708)							
EM2304580-003	RH_SP_03	EK040T: Fluoride	16984-48-8	400 mg/kg	90.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4936128)							
EM2304580-003	RH_SP_03	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	122	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4936127)							
EM2304580-001	RH_SP_01	EP068: Aldrin	309-00-2	0.5 mg/kg	80.9	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	93.4	58.4	136
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	36.8	20.0	133

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304580**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Site	: ----	Issue Date	: 22-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 16
Order number	: 60693007-2	No. of samples analysed	: 16

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (SIM)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAHs (GC/MS - SIM) Low-Level	0	16	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**----**	----	----	**17-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**----**	----	----	**17-Mar-2023**	21-Mar-2023	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Soil Glass Jar - Unpreserved (EA200)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**----**	----	----	**17-Mar-2023**	03-Sep-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	02-Sep-2023	✓	**17-Mar-2023**	02-Sep-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	03-Sep-2023	✓	**17-Mar-2023**	03-Sep-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**20-Mar-2023**	20-Mar-2023	✓	**22-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EK026SF)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**20-Mar-2023**	21-Mar-2023	✓	**22-Mar-2023**	03-Apr-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	03-Apr-2023	✓	**21-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EK040T)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	04-Apr-2023	✓	**21-Mar-2023**	04-Apr-2023	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**19-Mar-2023**	20-Mar-2023	✓	**----**	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**19-Mar-2023**	21-Mar-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**21-Mar-2023**	26-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP066)							
DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	21-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP066)							
DL_SP_01, DL_SP_05	**07-Mar-2023**	**17-Mar-2023**	21-Mar-2023	✓	**21-Mar-2023**	26-Apr-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP068)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	21-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05, DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**19-Mar-2023**	**20-Mar-2023**	26-Mar-2023	✓	**21-Mar-2023**	29-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	16	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Rebatch

Client / Client code: AECOMAU
Project: Macquarie Point
Project Manger: ROBERT CROWE
Date /time sample rec: 08/03/ 11:15
Date/time instructions rec: 15 March 2023 12:31
Due date: Wednesday, 22 March 2023
Due date surcharge: STANDARD

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order

Environmental Division
Melbourne
Work Order Reference
EM2304580

Telephone : + 61-3-8549 9600

New Lab ID	Sample information: Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of	Analysis: Standard: Additional Analytes: Metals (Ba, Be, Cr, Co, Mn, Mo, Se, Ag, Sn)	Aldrin + Dieldrin	DDT + DDD +DDE	PCBs	Fluoride	Cyanide	Lead-Please use second sample jar provided. Do not use the initial sample. Repeat analysis on Ph	PAHs/ Phenols	Asbestos Presence/Absence		TCLP PAHs (LOR – 0.5ug/L).						Shortest Holding time expiry
1	RH_SP_01	6/03/2023 7:18	EM2304035	1	MS: 1785-1787	soil jar	2		X									X						20-Mar-23
2	RH_SP_02	6/03/2023 7:18	EM2304035	2	MS: 1785-1787	soil jar	2											X						20-Mar-23
3	RH_SP_03	6/03/2023 7:19	EM2304035	3	MS: 1785-1787	soil jar	2		X						X			X						20-Mar-23
4	RH_SP_04	6/03/2023 7:19	EM2304035	4	MS: 1785-1787	soil jar	2											X						20-Mar-23
5	RH_SP_05	6/03/2023 7:20	EM2304035	5	MS: 1785-1787	soil jar	2											X						20-Mar-23
6	DL_SP_01	7/03/2023 7:22	EM2304035	6	MS: 1785-1787	soil jar	2		X								X	X						21-Mar-23
7	DL_SP_02	7/03/2023 7:23	EM2304035	7	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
8	DL_SP_03	7/03/2023 7:23	EM2304035	8	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
9	DL_SP_04	7/03/2023 7:23	EM2304035	9	MS: 1785-1787	soil jar	2										X							21-Mar-23
10	DL_SP_05	7/03/2023 7:23	EM2304035	10	MS: 1785-1787	soil jar	2		X						X		X	X						21-Mar-23
11	DL_SP_06	7/03/2023 7:23	EM2304035	11	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
12	DL_SP_07	7/03/2023 7:23	EM2304035	12	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
13	DL_SP_08	7/03/2023 7:24	EM2304035	13	MS: 1785-1787	soil jar	2		X								X	X						21-Mar-23
14	DL_SP_09	7/03/2023 7:24	EM2304035	14	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
15	DL_QC103	7/03/2023 7:24	EM2304035	15	MS: 1785-1787	soil jar	2		X								X	X						21-Mar-23
16	DL_SP_10	7/03/2023 7:25	EM2304035	17	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
						TOTAL	32																	

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you

Hi Peter,

I'm looking at the results for batch EM2304035 which came through last night. There were a few analytical suites missed in assessment we'll need – Tim believes he included them in the additional notes for the samples on Compass, but it's my fault for not looking at the CoC too closely however.

Can you organise the following additional assessment? Sample suites are summarised below the table of samples. A few small notes:

- For lead analysis of DL_SP05 – could the second sample jar provided for this sample be used? The initial report was very high (55,500 mg/kg) and may indicate some lead metal in the sample.
- When calculating the benzo(a)pyrene TEQ, is it possible for this to be determined using the 16 congeners on the third table provided, rather than the 8 ALS normally uses? This is the range used by Tasmanian EPA - I have previously been calculating manually if needed, but it's always preferable for the values we talk about to be on the COA.

Thanks, and please let me know if you have any questions or need any additional information.

Requested Additional Analysis – EM2304035

		Additional Analysis				
Sample Code	Field ID	Additional IB105 Analytes	PAH leachate	Asbestos	Lead	PAHs/ Phenols
EM2304035-001	RH_SP_01	x	x			
EM2304035-002	RH_SP_02		x			
EM2304035-003	RH_SP_03	x	x			x
EM2304035-004	RH_SP_04		x			
EM2304035-005	RH_SP_05		x			
EM2304035-006	DL_SP_01	x	x	x		
EM2304035-007	DL_SP_02		x	x		
EM2304035-008	DL_SP_03		x	x		
EM2304035-009	DL_SP_04			x		
EM2304035-010	DL_SP_05	x	x	x	x	
EM2304035-011	DL_SP_06		x	x		
EM2304035-012	DL_SP_07		x	x		
EM2304035-013	DL_SP_08	x	x	x		
EM2304035-014	DL_SP_09		x	x		
EM2304035-015	DL_QC103	x	x	x		
EM2304035-017	DL_SP_10		x	x		

Additional Suites

Additional Analysis	Analytes / Notes
Additional IB105 Analytes	Metals (Ba, Be, Cr, Co, Mn, Mo, Se, Ag, Sn) Aldrin + Dieldrin DDT + DDD +DDE PCBs Fluoride Cyanide
PAH leachate	TCLP Leachate assessment for PAHs (LOR – 0.5ug/L). Note - can b(a)p TEQ be calculated using the 16 congeners which are used by TAS EPA on the table below?
Asbestos	Asbestos Prescence/Absence

CHAIN OF CUSTODY

(ALS) COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME: 8/3	DATE TIME:	DATE TIME:	DATE TIME: 8/3 11-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED							
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
011	DL_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
012	DL_SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
013	DL_SP_08			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
014	DL_SP_09			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
015	DL_QC103			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
016	DL_QC203			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_SP_10			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
018	RH_QCA03		06/03/2023 07:20 AM	WATER	ALS: 0 Non ALS: 0	No					X		

DATE: 9/3
TIME: 8:30
COURIER:
TEMPERATURE 5.8
ATTEMP TO CHILL: YES NO

970404

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Rolleston,
Christchurch 7675
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Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Mar 9, 2023 8:30 AM
Eurofins reference	970404

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3.8 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT OIL AND DIESEL LINE REMOVAL

Order No.: 60693007-2
Report #: 970404
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 9, 2023 8:30 AM
Due: Mar 17, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	DL_QC203	Mar 07, 2023		Soil	M23-Ma0022155	X	X	X	X	X	X
Test Counts						1	1	1	1	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **970404-S**
Project name MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Received Date Mar 09, 2023

Client Sample ID			**DL_QC203**
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-Ma0022155**
Date Sampled			**Mar 07, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	180
TRH C29-C36	50	mg/kg	120
TRH C10-C36 (Total)	50	mg/kg	300
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	270
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	270
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	5.8
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	5.8
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	0.8
Anthracene	0.5	mg/kg	0.8
Benz(a)anthracene	0.5	mg/kg	3.1
Benzo(a)pyrene	0.5	mg/kg	3.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.9
Benzo(g.h.i)perylene	0.5	mg/kg	2.3
Benzo(k)fluoranthene	0.5	mg/kg	2.4
Chrysene	0.5	mg/kg	3.2
Dibenz(a.h)anthracene	0.5	mg/kg	0.9

Client Sample ID			DL_QC203
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-Ma0022155**
Date Sampled			**Mar 07, 2023**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	0.5	mg/kg	6.0
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	2.6
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	3.0
Pyrene	0.5	mg/kg	6.4
Total PAH*	0.5	mg/kg	38
2-Fluorobiphenyl (surr.)	1	%	67
p-Terphenyl-d14 (surr.)	1	%	51
Phenols (Halogenated)			
2-Chlorophenol	0.5	mg/kg	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1
Pentachlorophenol	1	mg/kg	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10
Total Halogenated Phenol*	1	mg/kg	< 1
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5
2-Nitrophenol	1.0	mg/kg	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4
Total cresols*	0.5	mg/kg	< 0.5
4-Nitrophenol	5	mg/kg	< 5
Dinoseb	20	mg/kg	< 20
Phenol	0.5	mg/kg	< 0.5
Phenol-d6 (surr.)	1	%	81
Total Non-Halogenated Phenol*	20	mg/kg	< 20
Heavy Metals			
Lead	5	mg/kg	270
Sample Properties			
% Moisture	1	%	8.9

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX and Naphthalene			
BTEX	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Mar 10, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT OIL AND DIESEL LINE REMOVAL

Order No.: 60693007-2
Report #: 970404
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 9, 2023 8:30 AM
Due: Mar 17, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	DL_QC203	Mar 07, 2023		Soil	M23-Ma0022155	X	X	X	X	X	X
Test Counts						1	1	1	1	1	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	125			70-130	Pass	
TRH C10-C14	%	114			70-130	Pass	
TRH C6-C10	%	126			70-130	Pass	
TRH >C10-C16	%	114			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	88			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	114			70-130	Pass	
m&p-Xylenes	%	112			70-130	Pass	
Xylenes - Total*	%	112			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	95			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	128			70-130	Pass	
Benzo(b&j)fluoranthene	%	116			70-130	Pass	
Benzo(g.h.i)perylene	%	113			70-130	Pass	
Benzo(k)fluoranthene	%	128			70-130	Pass	
Chrysene	%	84			70-130	Pass	
Dibenz(a.h)anthracene	%	109			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	130			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	97			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	104			25-140	Pass	
2.4-Dichlorophenol	%	101			25-140	Pass	
2.4.5-Trichlorophenol	%	113			25-140	Pass	
2.4.6-Trichlorophenol	%	90			25-140	Pass	
2.6-Dichlorophenol	%	93			25-140	Pass	
4-Chloro-3-methylphenol	%	81			25-140	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol			%	82			25-140	Pass	
Tetrachlorophenols - Total			%	33			25-140	Pass	
LCS - % Recovery									
Phenols (non-Halogenated)									
2-Cyclohexyl-4.6-dinitrophenol			%	125			25-140	Pass	
2-Methyl-4.6-dinitrophenol			%	111			25-140	Pass	
2-Nitrophenol			%	109			25-140	Pass	
2.4-Dimethylphenol			%	100			25-140	Pass	
2.4-Dinitrophenol			%	108			25-140	Pass	
2-Methylphenol (o-Cresol)			%	99			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)			%	107			25-140	Pass	
4-Nitrophenol			%	109			25-140	Pass	
Dinoseb			%	101			25-140	Pass	
Phenol			%	107			25-140	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	104			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ma0016297	NCP	%	120			70-130	Pass	
TRH C10-C14	M23-Ma0023100	NCP	%	87			70-130	Pass	
TRH C6-C10	M23-Ma0016297	NCP	%	114			70-130	Pass	
TRH >C10-C16	M23-Ma0023100	NCP	%	88			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ma0016297	NCP	%	76			70-130	Pass	
Toluene	M23-Ma0016297	NCP	%	91			70-130	Pass	
Ethylbenzene	M23-Ma0016297	NCP	%	93			70-130	Pass	
m&p-Xylenes	M23-Ma0016297	NCP	%	93			70-130	Pass	
o-Xylene	M23-Ma0016297	NCP	%	94			70-130	Pass	
Xylenes - Total*	M23-Ma0016297	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ma0016297	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Ma0019960	NCP	%	76			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0023596	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ma0022155	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-Ma0022155	CP	mg/kg	180	200	12	30%	Pass	
TRH C29-C36	M23-Ma0022155	CP	mg/kg	120	140	16	30%	Pass	
TRH C6-C10	M23-Ma0023596	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ma0022155	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-Ma0022155	CP	mg/kg	270	310	14	30%	Pass	
TRH >C34-C40	M23-Ma0022155	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0023596	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0023596	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0023596	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ma0022155	CP	mg/kg	0.8	0.7	1.9	30%	Pass	
Anthracene	M23-Ma0022155	CP	mg/kg	0.8	0.7	7.1	30%	Pass	
Benz(a)anthracene	M23-Ma0022155	CP	mg/kg	3.1	2.9	7.2	30%	Pass	
Benzo(a)pyrene	M23-Ma0022155	CP	mg/kg	3.7	3.6	3.9	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ma0022155	CP	mg/kg	2.9	2.8	4.4	30%	Pass	
Benzo(g.h.i)perylene	M23-Ma0022155	CP	mg/kg	2.3	2.5	9.1	30%	Pass	
Benzo(k)fluoranthene	M23-Ma0022155	CP	mg/kg	2.4	2.5	2.9	30%	Pass	
Chrysene	M23-Ma0022155	CP	mg/kg	3.2	3.0	6.3	30%	Pass	
Dibenz(a.h)anthracene	M23-Ma0022155	CP	mg/kg	0.9	0.9	3.2	30%	Pass	
Fluoranthene	M23-Ma0022155	CP	mg/kg	6.0	5.5	7.8	30%	Pass	
Fluorene	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0022155	CP	mg/kg	2.6	2.6	<1	30%	Pass	
Naphthalene	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ma0022155	CP	mg/kg	3.0	2.5	16	30%	Pass	
Pyrene	M23-Ma0022155	CP	mg/kg	6.4	6.4	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ma0022155	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0022155	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0022155	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ma0022155	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0022155	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0022155	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-Ma0022155	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ma0022155	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Ma0019960	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ma0022074	NCP	%	15	15	2.3	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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AECOM

Appendix B

Data Validation

Data Validation

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 5.1** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

ALS Laboratories (ALS) Melbourne was selected as the primary laboratory and Eurofins was selected as the secondary laboratory for chemical analysis. Both laboratories are accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The sampling events and relevant laboratory reports pertaining to the stockpiles considered in this report are summarised in below **Table 1**.

Table 1 Stockpile Data Considered

Stockpile ID	Categorisation Sampling Event	Sampling Personnel	Lab Report Numbers
RH_SP	6 March 2023	Timothy Smith (AECOM)	EM2304035 EM2304580 970404*

*Note: * – Laboratory reports from the secondary laboratory.*

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix A**.

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples from stockpiles were collected by AECOM field personal with appropriate environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 3.2** of the main report. Samples were collected in laboratory supplied sample containers and placed in chilled eskies prior to transportation to the selected laboratories.

1.2 Intra- and Inter-Laboratory Field Duplicate Samples

One intra-laboratory and one inter-laboratory field duplicate sample pairs were collected from the 15 primary samples collected on 6 March 2023.

It is noted that intra- and inter-laboratory field duplicate sample pairs were collected from stockpile DL_SP, which is not being assessed as part of this report. However, for the purposes of assessing data reliability, these duplicate sample pairs are considered suitable for assessment of laboratory performance.

Intra-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of field duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e. concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e. concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e. concentrations 1 – 10 x LOR)

Of a total of 168 RPD values calculated, 2 RPD values (<2.5%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, Sum of PAHs and phenanthrene. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

As greater than 97.4% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

1.3 Trip Blank

One trip blank consisting of clean, laboratory supplied distilled water was submitted iwith cooler box transported to the laboratory.

The trip blanks was analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. The trip blank sample had concentrations of target compounds reported below the LOR, indicating that cross contamination of samples occurring in transit is unlikely to have occurred.

Trip blank results are reported on **Table B2** attached.

1.4 Rinsate Blank

A rinsate blank was prepared by pouring laboratory supplied water over non-dedicated sampling equipment (a trowel) following decontamination procedures to assess the potential for cross-contamination.

A total of one rinsate blank was analysed as part of these works, which occurred on one day of sampling.

Concentrations of Sum of Naphthalene (2.1 µg/L) and phenol (14.2 µg/L) were in the rinsate blank and may indicate that there was an error or cross-contamination in field decontamination procedures. However, no exceedances of criteria for naphthalene or phenols were detected in samples collected from RH_SP, and if cross-contamination occurred it is not considered likely to affect outcomes of assessment.

Field staff conducting sample collection have been informed of results and instructed to ensure that decontamination is being undertaken with care and to the extent required in the Precinct South Remediation Work Plan.

Rinsate blanks results are reported on **Table B2** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil, leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.6** below.

Soil samples were analysed for a combination of analytes including metals, cyanide, fluoride, TPH/TRH, BTEX, PAH, MAH, phenols, PCBs and pesticides. As these analytes include the CoPC identified in **Section 1.4** (of the main report) for the areas in which the stockpiles were generated, based on available Site history and uses, and previous investigations conducted, soil analytical program is considered appropriate for the purposes of this report. The adequacy of the analytical suite selected is further detailed in in **Section 5.2** of the main report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported received by ALS (the primary laboratory) at 3.5ºC, and by Eurfoins (the secondary laboratory) at 3.8 ºC, within the acceptable target range of 0 – 6°C.

Leachate analysis was conducted on samples previously extracted and do not have sample receipt temperatures reported.

2.2 Sample Holding Times

All primary samples were received by laboratories within the recommended holding times for the requested analyses.

Proactive holding time assessments completed by the analytical laboratories are provided in **Appendix A**.

2.3 Limits of Reporting

For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 2 to Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

2.4 Laboratory Method Blanks

All soil laboratory method blanks, detailed in **Appendix A**, were reported within the acceptable range, i.e. below the laboratory LORs.

2.5 Laboratory Control Spikes

Laboratory control spikes, detailed in **Appendix A**, were within the laboratory-derived control limits for the methods used, and no outliers were reported.

2.6 Frequency of Quality Control Spike

Frequency of quality control spikes, detailed in **Appendix A**, were at the rate expected by applicable QC specifications, and no outliers were reported.

2.7 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding laboratory duplicates were within acceptable limits, with the exception of the duplicate outliers listed below in **Table 2**.

Table 2 Laboratory Duplicate RPD Exceedances

Work Order	Sample ID	Analyte	RPD	Limits
EM2304035	DL_SP_05	Arsenic	33.1%	0% - 20%
		Lead	122%	
		Fluoranthene	26.4%	
		Pyrene	23.7%	
		Benzo(a)pyrene	51.1%	

RPD exceedances are attributed to the heterogeneity of the soil samples submitted to the laboratory. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. These exceedances are not considered to impact interpretation of the results.

2.8 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix A**. Matrix spike recoveries were noted to be within the data quality objective range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 3** below.

Table 3 Matrix Spike Outliers

Work Order	Sample ID	Analyte	Matrix Spike	Limits
EM2304035	RH_SP_02	Pyrene	Not Determined	MS recovery not determined – background level greater than or equal to 4x spike level

Matrix spike recovery outliers reported are due to matrix interference with samples. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. Overall, these outliers are not considered to impact interpretation of the results.

2.9 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix A**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used. No surrogate recovery outliers were reported.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Intra- and inter-laboratory field duplicate sample pairs assessed as part of this data validation were collected from stockpile DL_SP, which is not being assessed as part of this report. However, for the purposes of assessing data reliability, these duplicate sample pairs are considered suitable for assessment of laboratory performance.
- Of a total of 168 RPD values calculated, 2 RPD values (<2.5%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, Sum of PAHs and phenanthrene. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As greater than 97.4% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.
- Trip blank analytical results were reported below the laboratory LORs.
- Concentrations of Sum of Naphthalene (2.1 µg/L) and phenol (14.2 µg/L) were detected in the rinsate blank collected during works and may indicate that there was an error or cross-contamination in field decontamination procedures.

  However, no exceedances of criteria for naphthalene or phenols were detected in samples collected from RH_SP, and if cross-contamination occurred it is not considered likely to affect outcomes of assessment.

Field staff conducting sample collection have been informed of results and instructed to ensure that decontamination is being undertaken with care and to the extent required in the Precinct South Remediation Work Plan.

- For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 3 and Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.
- Laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, surrogate spike recoveries, laboratory control spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

AECOM

Appendix C

EA 10512/2

Environment Protection Authority

GPO Box 1550 HOBART TAS 7001 Australia
Phone (03) 6165 4594
Email wastemanagement@epa.tas.gov.au
Web www.epa.tas.gov.au
Our Ref: D22-445427/001

ENVIRONMENT PROTECTION AUTHORITY

14 September 2022

Mr James Puustinen
Project Manager, Capital Works
Macquarie Point Development Corporation
GPO Box 51
HOBART TAS 7001

Email: james@macquariepoint.com

Dear Mr Puustinen

Environmental Approval No. 10512/2 – Reuse of Low-Level Contaminated Soil at Macquarie Point Development Site

On 1 September 2022 your consultant, AECOM requested that the re-use of low-level contaminated soil at the Macquarie Point Development Site, currently authorised under Environmental Approval 10512/1, be authorised to continue for a further 2-year period, beyond 7 October 2022.

I enclose Environmental Approval No. 10512/2 for the re-use of low-level contaminated soil from stockpile at the Macquarie Point site. This authorisation is valid for a period of two (2) years from 7 October 2022. This authorisation is provided under Regulation 21 of the Regulations, subject to conditions. Please find attached Environmental Approval No. 10512/2 containing the conditions to be complied with.

Please take note that evidence of compliance with these conditions must be made available to an Authorised Officer on request.

Section 39F of the *Macquarie Point Development Corporation Act 2012* requires that an accredited environmental auditor has certified the remediation of any part of the site prior to redevelopment of that part of the site. I recommend that you discuss with your auditor the suitability of the above referenced material for the intended land use.

Pursuant to Regulation 21(7) I have decided to waive the application fee in relation to this Environmental Approval.

If you require any further information regarding this correspondence, please contact the EPA at the contact details at the head of this correspondence.

Yours sincerely

Joe Tranter
MANAGER, CONTAMINATED LAND AND WASTE REGULATION
Delegate for the Director, Environment Protection Authority

Cc: Robert Crowe, robert.crowe@aecom.com

Encl: Draft Environmental Approval No. 10512/2

ENVIRONMENTAL APPROVAL No. 10512/2

Approval under the *Environmental Management and Pollution Control (Waste Management) Regulations 2020*

I, Joseph Tranter, Delegate for the Director, Environment Protection Authority, hereby grant approval in accordance with Regulation 21(4)(a) of the *Environmental Management and Pollution Control (Waste Management) Regulations 2020* for the reuse of the waste material described below provided the following requirements are complied with:

Approval issued to:
MACQUARIE POINT DEVELOPMENT CORPORATION

ABN
92 657 409 841

Waste description and quantity (the waste):
Low Level Contaminated Soil
No limit set

NEPM code and description:
N120: Soils contaminated with a controlled waste

Location (the land):
MACQUARIE POINT, 10 EVANS ST, HOBART TAS 7000

Producer of the waste:
Macquarie Point Development Corporation

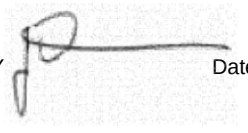
Period for which approval is valid:
7 October 2022 to 7 October 2024

Requirements:

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; 'Derivation of Remediation Criteria, Macquarie Point Redevelopment Project', prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.

2. The site environmental auditor, as accredited by Section 39F(3) of the Macquarie Point Development Corporation Act 2012, must endorse the reuse of each soil stockpile prior to the reuse occurring.

3. The reuse must be undertaken in accordance with the document titled 'Site Environment Management Plan, Macquarie Point Development Project', prepared by AECOM and dated 14 November 2018.

DELEGATE FOR THE DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY  Date of issue: 14 September 2022

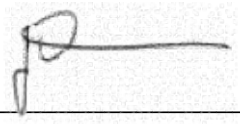
4. The activity must be conducted in such a manner as to prevent environmental nuisance and environmental harm resulting from escape of the materials, spillage, or emission of dust.

5. Unless otherwise approved in writing by the Director, waste material must not be removed from the storage site for any reason, including disposal.

6. If an incident causing or threatening environmental nuisance, serious environmental harm, or material environmental harm from pollution occurs in the course of the approved activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

7. A record of the soil reuse must be kept from the date of issue of this approval. This record must be provided to the Director annually no later than 14 days after the anniversary of the issue date of this approval and include, as a minimum, all records for the 12 months preceding the anniversary. Records must also be made available to an Authorized Officer on request in writing, within the timeframe and for the reporting period specified within the request.

8. For each soil stockpile that is reused the record of soil reuse must include:
   a. A description of the soil.
   b. Results of soil classification, in accordance with Information Bulletin No. 105.
   c. The quantity of soil that was reused.
   d. The location at which the soil was reused.
   e. The endorsement from the site environmental auditor for the reuse.
   f. Any certification required under section 39F of the Macquarie Point Development Corporation Act 2012.

Signed: 

DELEGATE FOR THE DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date: 14 September 2022

Crowe, Robert

From: Lam, David <David.Lam@tetratech.com>
Sent: Tuesday, 28 March 2023 12:17 PM
To: Crowe, Robert; Thomas, Adi
Cc: McArdle, Sean; Puustinen, James; Smith, Timothy (Hobart)
Subject: RE: Macquarie Point - Auditor Approval sought for reuse of material from AA6 ISS Pilot Trial as fill in the Precinct South

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Report Suspicious

Hi Rob,

This should be fine.

Just one thing though the description says: *The stockpile generally consists of fill material comprised of a mixture of brown sandy gravelly clay and sandy clayey gravel with a slight phenolic odour.*

But the field records saying this aren't obvious in the report. Just wanting to know what is the basis for saying the material is a soil and not a waste pile (or soil with a significant proportion of other wastes, like metal/plastic/waste wood, etc) that happens to have acceptable concentrations. The description as cut/pasted looks fine, but where did it come from? (the COC just notes 'soil').

Cheers,

David Lam | Senior Principal Environmental Consultant
Direct **+61** 3 **9290 7104** | Business **+61 3 9290 7000** | Mobile **+61 418 327 397**| david.lam@tetratech.com

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TETRA TECH COFFEY

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Monday, 27 March 2023 5:37 PM
To: Lam, David <David.Lam@tetratech.com>; Thomas, Adi <Adi.Thomas@tetratech.com>
Cc: McArdle, Sean <Sean@macpoint.com>; Puustinen, James <james@macpoint.com>; Smith, Timothy (Hobart) <tim.smith02@aecom.com>

Subject: Macquarie Point - Auditor Approval sought for reuse of material from AA6 ISS Pilot Trial as fill in the Precinct South

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⚠

Afternoon David, Adi,

In accordance with the approach in the *Precinct South Remediation Work Plan* (AECOM, 24 November 2022) and Environmental Approval 10512/2 (included as Appendix C of the attached report), this email is to seek Auditor approval for reuse of a stockpile RH_SP as fill material within the excavations undertaken as part of the Macquarie Point Precinct South remediation.

RH_SP is a stockpile of approximately 20 m^3 which consists of fill material excavated from beneath the Cold Store slab in the Gateway Area of Macquarie Point (also referred to as Audit Area 6) as part of works to complete the *in situ* solidification pilot trial in July-August 2022. The original source of the material (prior to placement at Macquarie Point) in unknown, but the material is believed to have been imported to build up the surface level of the area to allow construction of the Cold Store (circa 1995).

Please find attached Soil Categorisation and Waste Management Plan – RH_SP for this stockpile. From these results of categorisation samples collected, the following has been assessed:

- No exceedance of the Site Specific Remediation Criteria (RC) for the proposed future uses of the Precinct South were reported.
- The soil within the stockpile is suitable for categorisation as Level 2 – Low Level Contaminated Soil.

Excel copies of the sample results for this stockpile have been included with this email for your reference/review.

On the basis of the above, no unacceptable risk to current or future uses of the Site are likely to occur under the conditions of the Site Environment Management Plan.

Under EA10512/2, beneficial reuse of this stockpile as fill on the Macquarie Point can proceed with Auditor approval. It is proposed that this material be reused as fill in either the former UST Area (within and adjacent to the site road between the Red Shed and the former location of the Sea Road Shed) or for the removal of additional lead impacted soil on the boundary of the Precinct South and the Precinct North, where chase out of lead impacted soil was halted in 2020. The final location of reuse will be recorded by BlackCap, who are undertaking civil works associated with remediation, and reported in the final remediation validation report for works.

Please let me know if you have any questions or comments on this assessment, stockpile or the proposed reuse, or if you are happy to approve reuse as fill.

Cheers,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
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5 July 2023

Mr Sean McArdle
Project Manager - Capital Works
Macquarie Point Development Corporation
GPO Box 51
Hobart, Tasmania, 7001

Dear Sean,

Soil Categorisation and Waste Management Plan - Precinct South Remediation - Former UST Area Excavation Stockpiles
Macquarie Point Development Project

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site). The Site location is shown on **Figure F1**

The Site has historically been used for mixture of commercial and industrial purposes. As part of the remediation work undertaken at the area of the Site referred to as the Precinct South, two soil stockpiles (UST_SP1 and UST_SP_Ext_59SP) were generated via excavation of hydrocarbon impacted soil beneath a Site road.

Biopiling and landfarming have been undertaken on these stockpiles by BlackCap Group Pty Ltd (BlackCap) to reduce hydrocarbon concentrations in soil and allow potential for beneficial reuse as backfill on the Site. The stockpiles are currently situated on the former SeaRoad Shed slab in the south-east corner of the Site.

At the request of the Corporation, AECOM has prepared this soil categorisation and waste management plan for these soil stockpiles. This report is intended to assess the effectiveness of the remediation of these stockpiles and act as a Waste Management Plan to advise of disposal options.

It is currently proposed that the stockpiles will be reused as fill material in excavations in the area of the Site referred to as the Precinct South under existing Environmental Approval No. 10512/2 (EA10512/2), included as **Appendix C**.

1.1 Objectives

The objectives of this letter are:

- To assess the remediation of stockpiles UST_SP1 and UST_SP_Ext_50SP.
- To provide characterisation of UST_SP1 and UST_SP_Ext_50SP in accordance with EPA Tasmania *Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal* (IB105).
- To assess suitability of UST_SP1 and UST_SP_Ext_50SP for beneficial Site reuse as backfill material in accordance with EA10512/2.

It is intended that this document can act as a Waste Management Plan for the reuse of the stockpiled material in accordance with Section 3 and Section 5 of IB105.

1.2 Scope of Work

Excavation and remediation of stockpiles was undertaken by BlackCap and is described in **Section 4.0**.

The following scope of work has been undertaken by AECOM:

- Field activities, including soil sampling from the stockpiles UST_SP1 and UST_SP_Ext_50SP, and the precursor stockpiles used to form them.
- Review and screening of sample results from the stockpiles against the criteria within IB105 for categorisation.

- Evaluate sample results against appropriate screening criteria to assess the suitability of the stockpile for beneficial reuse as fill material without unacceptable risk.
- Provision of this Soil Categorisation and Waste Management Plan for the disposal or reuse of the stockpile UST_SP1 and UST_SP_Ext_59SP.

1.3 Background

The Site, and surrounding area, largely located on reclaimed land within the Hobart port, has a history of mixed industrial use including the former Hobart Gasworks, rail freight and bulk fuel storage. Former industrial activities have been ceased at the Site. The Site is currently undergoing an Environmental Audit by Mr David Lam of Coffey under the *Macquarie Point Development Act 2012*.

The Precinct South area of the Site has had various uses, including land reclamation, bulk fuel terminal usage, freight handling, and fuel and oil transfer. As part of previous investigations, an area of elevated hydrocarbon impact to soil was identified adjacent to former fuel lines beneath a Site road adjacent between site buildings the Red Shed (to the west) and the SeaRoad Shed (to the east). The SeaRoad Shed was demolished in late 2022 and a large slab remains in its place. A removed Underground Storage Tank (UST) previously beneath the Site road is believed to be source of impacts to soil.

The Precinct South - Remediation Work Plan (the RWP) (AECOM, 2023a) and *The Precinct South – Technical Specification* (the Technical Specification) (AECOM, 2023b) were prepared to provide a framework and methodology for remediation of the Precinct South. BlackCap was engaged by the Corporation to undertake remediation of this area in accordance with the RWP and Technical Specification in early 2023. As part of these works, fuel impacted soil beneath the Site road and the SeaRoad Shed slab have been excavated and stockpiled on Site. UST_SP1 was formed by consolidation of a number of precursor stockpiles based on space constraints within the area of works.

On the basis of initial stockpile sample results, AECOM advised that excavated material may be suitable for remediation by biopiling and landfarming to reduce hydrocarbon concentrations and allow beneficial reuse.

1.4 Chemicals of Potential Concern

Based on available Site history and uses, and previous investigations conducted, the Chemicals of Potential Concern (CoPC) summarised in **Table 1** below have been identified for the areas in which the stockpiles were generated.

Table 1 Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Contaminant of Potential Concern	Potentially Impacted Media
Land Reclamation	Heavy metals[1], TRH, PAH, BTEXN, phenolic compounds, SVOC, VOC, OCPs	• Soil • Groundwater • Soil Vapour
Freight Handling	Heavy metals[1], TRH, PAH, BTEXN, phenolic compounds, SVOC, VOC, pH	
Fuel Storage	Lead, TRH, PAH, BTEX, ACM	

Notes: TPH – Total Petroleum Hydrocarbons; TRH – Total Recoverable Hydrocarbons; PAH - Polycyclic aromatic Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene; SVOC – Semi-Volatile Organic Compounds; Volatile Organic Compounds; OCP – Organochlorine Pesticides; 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel, and zinc

1.5 Stockpile Description

The following stockpiles have been assessed in this report:

Table 2 Stockpiles Considered

Stockpile ID	Estimated Volume	Precursor Stockpiles
UST_SP1	200 m^3	UST_SP_1.5-2.0 UST_SP_EXT UST_SP_ch77-82
UST_SP_Ext_59SP	10 m^3	-

UST_SP1 consisted of a combination of three precursor stockpiles:

- UST_SP_1.5-2.0, generated from excavation of the initial UST area from 1.5 to 2.0 m below ground level (m bgl)
- UST_SP_EXT and UST_SP_ch77-82, generated from chase-out and excavation of the initial area to the east based on excavation validation results, beneath the SeaRoad Shed slab.

UST_SP_Ext_59SP was generated via further chase out based on excavation validation sampling.

The stockpiles have not been surveyed and therefore the volumes are estimated based on the dimensions of the stockpile measured on site by the AECOM field staff.

The stockpiles are shown at the time of most recent sampling on 6 June 2023 on **Plate 1** and **Plate 2** below. Both stockpiles consist of brown fill material with some cobbles/boulders present. Some small anthropogenic material (rebar) appears to be present in UST_SP1 (visible on the right side of **Plate 1**), and small amounts of hay from drainage protection are visible in both stockpiles.



Plate 1 UST_SP1, pre-remediation



Plate 2 UST_SP_Ext_50SP, pre-remediation

1.6 Proposed Reuse Scenario

Beneficial reuse of these stockpiles as fill material within the Precinct South is proposed. Remediation works, consisting of excavation of lead impacted soil to the north of the SeaRoad Shed slab, have resulted in the removal of soil from the Site, and the use stockpiles as fill material is considered advantageous as it reduces the import of clean fill to the Site, and the use of landfill as an alternative disposal of this material.

The intended location of reuse is shown on **Plate 3** below.



Plate 3 Proposed Area of Reuse (image accessed at Nearmap.com on 5 July and dated 15 February 2023)

Reuse of stockpiled material would be undertaken under the conditions assumed to prepare the Site Specific Remediation Criteria (RC) discussed in **Section 3.3**. The future uses of the Precinct South considered for this assessment are:

- Commercial / Industrial Use
- Intrusive Maintenance Workers
- Open Space

The location of reuse will be recorded in the Remediation Validation Report to be prepared at the conclusion of remediation works in the Precinct South. The recorded characteristics of reused soil, including concentrations of CoPC, will be included in the record, and would be considered in the event of a reassessment of risks and remediation requirements in the event in a change in proposed future site uses.

2.0 Stockpile Remediation Technologies

Remediation of stockpiles was conducted by a combination of biopiling and landfarming. Each technique is described briefly below.

2.1.1 Land Farming

Land farming is an ex-situ remediation technology that involves spreading impacted soils in thin layers across a prepared surface and regularly turning the material to enable air flow through the soil matrix (CRC CARE, 2018). The soil material is placed on a lined surface, with drainage control and bunding, to minimise the potential for leaching and run-off of contaminants. The soil conditions are controlled to maximise the degradation rate, including moisture content (via irrigation/spraying), aeration (by tilling/turning) and pH (buffered to neutral by adding acid or alkali).

Where land farming is carried out in the open and volatile contaminants (such as hydrocarbons) are involved, volatilisation can be a significant contributor to loss of contaminants. For successful treatment to meet regulatory drivers, additional degradation (via the addition of nutrients or biopiling) may be required to satisfy remediation thresholds for off-Site disposal.

2.1.2 Biopiling

Biopiling (stockpiles) is an ex-situ application of bioremediation where petroleum hydrocarbon impacted soils are excavated and placed in a treatment area where agents (such as fertilizer) are usually mixed into the contaminated soils to enhance the degradation process (CRC CARE, 2018). The soil can be placed in stockpiles (biopiles) or rows (windrows). To increase the effectiveness of biopiling, excavated soils can be aerated through mechanical turning or tilling, and moisture, temperature, oxygen, and pH can be adjusted. During this process, leachate is likely to occur and leachate barriers or a collection system are required to avoid contamination leaching into the soil and groundwater below or around the treatment area.

The addition of nutrients (typically in the form of plant fertilizer) helps to stimulate native microorganisms in the biopile material to enhance degradation of the petroleum contaminant. The organic make-up of the contaminant and the presence of other organic matter typically provides sufficient carbon for microorganism stimulation, however nutrient addition increase availability of nitrogen, phosphorus and/or potassium to the biopile to a Carbon: Nitrate: Phosphorus (C:N:P) ratio of 100:1:0.1 is recommended for effective treatment.

Additional engineering controls can be implemented, as an addition to biopile remediation, which can take the form of contained ventilation piping and blower, irrigation piping and/or sump and pump systems to facilitate aeration and drainage to maximise degradation rates.

3.0 Assessment Criteria

3.1 Data Quality Indicators

The laboratory data, including copies of the chain of custody (CoC) documentation, sample receipt notification (SRN) reports, quality control (QC) reports, and certificates of analysis are attached in **Appendix A**.

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the laboratory and field data include:

- Assessment of field duplicate sampling rates and reproducibility of the data by calculation of the relative percentage difference (RPD) for laboratory and field duplicate samples (both intra- and inter-laboratory) to provide an indication of the precision of the data.
- Assessment of the analytical results for laboratory quality control samples to provide an indication of the accuracy of the data.
- Assessment of a range of QC and quality assurance (QA) measures generated from both the field sampling and laboratory analytical programs.

Assessment criteria for DQIs for soil samples are listed below in **Table 3**. Assessment against DQIs is provided in **Section 5.5**, and in **Appendix B**.

Table 3 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate, Field and Trip blanks	Less than the laboratory Limit of Reporting (LOR)
Intra and inter laboratory field duplicates (1) (3)	RPD less than ± 30%
Laboratory duplicates (2) (3)	RPDs Less than: • 30% for high level laboratory duplicates (i.e., >20 x LOR) • 50% for medium level laboratory duplicates (i.e., 10 to 20 x LOR) • 200% for low level laboratory duplicates (i.e., 1 to 10 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%.
Surrogate spikes	Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for tests but are within the criteria described in USEPA Method SW846.

Notes:

1. *Potential exceptions to these criteria may occur where the results are close to the LOR. This typical RPD range is obtained Schedule B3 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM Schedule B3).*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous, and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*

3.2 Soil Categorisation (IB105 Guideline Values)

To assess and categorise the soil within the stockpiles, soil analytical results were screened against the criteria in Table 2 of TAS EPA IB105, which uses four categories to classify contaminated soil as:

- Level 1 (Fill Material)
- Level 2 (Low Level Contaminated Soil)
- Level 3 (Contaminated Soil)
- Level 4 (Contaminant Soil for Remediation).

Excavated materials are required to be classified as Level 1 or Level 2 soils in accordance with IB105 to be considered for reuse.

3.3 Site Specific Remediation Criteria

AECOM has prepared Site Derived Remediation Criteria (RC) for soil and groundwater to inform potential remediation/ management works required at the Site for the protection of human health (*Derivation of Remediation Criteria, Macquarie Point Development Project*, AECOM, 2016). The following scenarios have been considered based on the potential future land uses:

- Recreational Open Space Users
- Residents:
  - Slab-on-grade unknown construction or multi-storey building
  - Low rise slab-on grade
  - Building with basement car park.
- Commercial:
  - Slab-on-grade unknown construction or multi-storey building.
- Commercial/ Light Industrial Workers:
  - Working within a basement car park
  - Low rise slab-on-grade.
- Maintenance Workers (including excavation to depths of up to 1 m bgl).

The RC is based on generic assumptions regarding future land use including:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Intrusive Maintenance Workers [IMW]) to have direct contact with soils. Agreement with the Site Contaminated Land Auditor will likely be required when specifying an appropriate engineered break layer to mitigate potential direct contact with underlying soils. The engineered break layer may consist of, but not be limited to:
  - Paved surfaces (e.g., concrete, asphalt, etc.)
  - Building footings
  - Sufficient clean soil to mitigate potential direct access to underlying soil during incidental digging (e.g., 0.5 – 1.0 m topsoil)
  - Other suitable materials: e.g., geosynthetic materials that may provide a suitable physical barrier and may be able to be used as alternative to a thicker earthen layer.
- A Site Environment Management Plan (SEMP) will be in place in the future to maintain/manage the surface cover and to specify the requirement for a Work Health and Safety Plan (WHSP) for ground breaking activities, including Intrusive Maintenance Workers.
- Adjacent off-Site land uses include open space, commercial/industrial and residential areas. As these potential land uses have been considered on Site, the derived RC are considered to also

be protective of potential exposures to off-Site receptors (e.g., via groundwater migration beyond the Site boundary).

For current and proposed future uses of the proposed area of reuse (the Precinct South) residential use is not planned or considered likely to occur due to the planned future uses of the Site, and zoning controls and limitations for this area due to proximity to port facilities.

The Site has recently been announced as a preferred location for development of a future sports stadium. While no details of stadium design have been provided and specific RC for this use have not been developed, exceedances of the RC with respect to future Commercial/Light Industrial and Intrusive Maintenance Worker use of this area are considered as the most appropriate for a sporting/culture area.

It is noted that if and when further details of the stadium design are determined, a review of the remediation and approved future Site uses may be required to determine if there is potential for unacceptable risks associated with uses that have not been subject to direct consideration in assessment/auditing to date. This may require reconsideration of necessary remediation or management measures required to manage residual risks following the completion of practicable remediation.

3.4 Environmental Approval No. 10512/2

On 14 September 2022, Environmental Approval No. 10512/2 (attached as **Appendix C**) was issued by the Environment Protection Authority (EPA) Tasmania detailing the requirements under which beneficial reuse of waste material (excavated soil) which had been produced from on the Site was allowable. EA 10512/2 was issued to renew previous EA 10512/1, which was issued on 7 October 2020 for a two year period.

EA 10512/2 states (among other requirements):

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; ‘Derivation of Remediation Criteria, Macquarie Point Redevelopment Project’, prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.
2. The site environmental auditor, as accredited by Section 39F(3) of the Macquarie Point Development Corporation Act 2012, must endorse the reuse of each soil stockpile prior to the reuse occurring.
3. The reuse must be undertaken in accordance with the document titled ‘Site Environment Management Plan, Macquarie Point Development Project’, prepared by AECOM and dated 14 November 2018.

Reuse of soil under EA 10512/2 must meet these requirements.

4.0 Field Methodology and Data

4.1 Field Activities

The following field activities associated with these stockpiles have been conducted by BlackCap and AECOM:

Table 4 Field Activities

Date	Activity
13-16 March 2023	Initial excavation of soil from former UST Area by BlackCap. Excavation of additional soil advised based on field screening by AECOM.
21 March 2023	Initial excavation validation sampling and stockpile classification of UST_SP_1.5-2.0, UST_SP_EXT_01 and UST_SP_ch77-82 by AECOM.
26 April 2023	Removal of SeaRoad Shed Slab and further chase out of TRH impacted soil.
23 May 2023	Sampling of UST_EXT_59SP by AECOM. Advice to remediate based on field assessment. It was identified that other stockpiles had been combined in UST_SP1 by BlackCap.
25 May 2023	Addition of nutrients and turning of stockpiles
6 June 2023	Validation sampling of stockpiles.

A description of each activity carried out is provided below.

4.2 Soil Excavation and Stockpile Handling

Soil stockpiles were generated as part of the site remediation to remove soil impacted with fuel hydrocarbons, believed to be present due to a UST previously present in the area of works. For some areas, existing surface cover (the SeaRoad Shed slab) was broken and removed prior to excavation.

Stockpiles were excavated by BlackCap and moved using a mechanical excavator and stored on existing hardstand (the concrete slab remaining from the SeaRoad Shed [demolished in late 2022]) when moved away from the point of excavation to prevent mixing with surface soils.

AECOM field staff inspected excavations and assessed extent of excavation based on indicators of potential fuel impact including staining, odours, and measurement of vapour using a hand-held Photo-Ionisation Detector (PID). If indicators of fuel impact were present, further excavation was recommended and conducted by BlackCap.

4.3 Stockpile Remediation

To provide additional nutrients and increase the rate of biological activity within the biopiles, a commercially available fertiliser mix was added to stockpiles within water by BlackCap. It is recommended in CRC CARE 2018 that a carbon / nitrate / phosphorus ratio of 100/1/0.1 should be used.

Based on this ratio, BlackCap selected a commercially available fertilizer with a reported nitrogen / phosphorus / potassium (NPK) ratio of 14% / 7% / 3% to provide additional nutrients to the stockpiles.

100 L of fertiliser mix was combined with water and turned through the stockpiles on 25 May 2023.

4.4 Sample Collection

Validation and categorisation sampling of individual stockpiles was undertaken by AECOM field staff following the procedures in the *Precinct South Remediation Work Plan* (AECOM, 2023a) prepared for works. The general sampling methodology is summarised below:

- Nitrile gloves were used for the collection of each soil sample, and a new pair donned between each sample location.

- Samples were collected at a minimum rate of 1 per 25 m^3 of soil as per IB105. Field estimates of stockpile volumes were collected by AECOM. No survey data was collected.
- Sample locations were uniformly distributed throughout the excavated material.
- Soil samples were collected manually using a hand auger/trowel or similar from a depth of >0.2 m below the stockpile surface.
- Soil samples were stored in laboratory supplied 150 mL decontaminated glass jars with Teflon™ lined lids, and immediately placed in an 'esky' cooler with ice during sample storage and transport to the selected analytical laboratory under chain of custody procedures.

5.0 Assessment of Results

5.1 Sample Density

The number of samples analysed, i.e., sample density, is assessed against the estimated stockpile volume as summarised in **Table 5** below.

Table 5 Sample Density Assessment

Date	Stockpile ID	Volume (m^3)	Number of Primary Samples	Sample Density
Pre-Remediation				
21 March 2023	UST_SP_1.5-2.0	80	5	1 primary sample per 16 m^3
21 March 2023	UST_SP_EXT	150	8	1 primary sample per 12.5 m^3
21 March 2023	UST_SP_ch77-82	30	3	1 primary sample per 10 m^3
23 May 2023	UST_SP_Ext_59SP	10	3	1 primary sample per 3.3 m^3
Post-Remediation				
6 June 2023	UST_SP1[1]	200	6	1 primary sample per 30 m^3
6 June 2023	UST_SP_Ext_59SP	10	3	1 primary sample per 3.3 m^3

Notes: UST_SP1 was formed by combination of UST_SP_1.5-2.0, UST_SP_EXT, and UST_SP_ch77-82.

The following is noted:

- The total estimated volume of the three stockpiles which form UST_SP1 (UST_SP1.5-2.0, UST_SP_EXT, and UST_SP_ch77-82) during initial sampling is 260 m^3, which is greater than the estimated volume of this stockpile during post-remediation sampling (200 m^3). Field estimated of volumes are based on pacing out and measurement of stockpile dimensions and estimation of stockpile height and following initial excavation all three stockpiles were of irregular shape and layout with variation in height across the stockpile. Initial volumes may have been overestimated by field staff.
- Sampling density in stockpile UST_SP1 was lower than that the sampling frequency of one primary sample per 25 m^3 recommended in IB105. However, the mixing undertaken as part of remediation is expected to have homogenised the stockpile, which is reflected in the post-remediation sample results on **Table T3** and **Table T4**, and sample density is still considered suitable for assessment.

Samples were collected based on a grid distribution within the stockpiles. Overall, the sampling density is considered acceptable for the categorisation and assessment of the stockpile.

5.2 Laboratory Analysis

Initial soil characterisation samples were submitted by AECOM to the laboratories for the following analytical suites:

- 30% of primary samples - EPA Tasmania IB105 analytical suite [excluding tributyltin (TBT)]
- Remaining primary samples - TPH/TRH, BTEXN, PAHs, phenols, and metals (lead)

As UST_SP_EX_50SP is a small (10 m^3) stockpile collected from directly adjacent to the previous stockpiles, it was not sampled for IB105 analytical suites.

Toxicity Characteristic Leaching Procedure (TCLP) analysis was conducted for targeted samples as discussed in **Section 5.4.1**.

Following remediation, all stockpile samples were analysed for:

- Total Contaminant Concentration - TPH/TRH, BTEXN, PAHs, phenols, and metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc, and mercury).
- TCLP Leachate - PAHs

The laboratory certificates of analysis and QC reports, as well as copies of the CoC and SRN documentation are attached in **Appendix A**. It is noted that these lab reports contain sample results for other assessment conducted as part of works which is not discussed in this report.

The laboratory analytical results are presented on **Table T1** and **Table T2** (pre-remediation) and **Table T3** and **Table T4** (post-remediation).

5.3 Effectiveness of Remediation

As stockpiles were relocated, combined, and turned as part of remediation works, direct comparison between sample points pre- and post-remediation is not possible.

The changes in average concentrations of CoPC which reported exceedances of the Site Commercial/Industrial RC prior to remediation is presented on **Table 6** below.

Where sample results were below the laboratory supplied Limits of Reporting (LOR), they have conservatively been assumed to be at the LOR for the purpose of assessment. For UST_SP1, the average concentrations of samples from all precursor stockpiles have been used to calculate pre-remediation averages.

Table 6 Stockpile Remediation Assessment –TRH

Stockpile	CoPC	Average Concentrations (mg/kg)		% Initial Remaining
		Pre-Remediation	Post-Remediation	
UST_SP1	TRH >C6-C10 (minus BTEXN)	23	All results below LOR (10 mg/kg)	N/A
	TRH >C10-C16 (minus naphthalene)	1,343	62	4.6%
	TRH >C16-C34	1,024	273	27%
	TRH >C34-C40	104	All results below LOR (100 mg/kg)	N/A
UST_SP_Ext_59SP	TRH >C6-C10 (minus BTEXN)	All results below LOR (10 mg/kg)		
	TRH >C10-C16 (minus naphthalene)	487	120	25%
	TRH >C16-C34	1,247	882	71%
	TRH >C34-C40	107	106	99%

The following was noted for the effectiveness of TRH remediation:

- Volatile TRH concentrations were below LOR following remediation. Volatile TRH are generally more easily oxidised and volatilised and would be expected to undergo significant reduction due to stockpile movements and turning, and exposure to oxygen/atmosphere.
- Greater reduction in semi-volatile TRH concentrations were observed for shorter-chain (more volatile) semi-volatile TRH, which is expected as these CoPC are more likely to volatilise and are more easily digested by soil bacteria.
- Greater reduction in semi-volatile TRH concentrations were observed in UST_SP1. The soil in this stockpile was excavated earlier than UST_SP_Ext_59S, and has been moved and combined several times, and has had additional opportunities for volatilisation and oxidation of TRH (due to

more accessible oxygen while stockpiles as compared to *in situ*), which is considered likely to be the cause of this difference.

It is noted that both stockpiles remain *ex situ* and oxidation and volatilisation of TRH is expected to be ongoing.

5.4 Soil Assessment

5.4.1 Soil Categorisation

The soil analytical data collected, including soil Total Contaminant Concentration (TCC) and Leachable Contaminant Concentration (LCC), compared to the guideline values presented in Table 2 of IB105 for categorisation, are presented on **Table T1** to **Table T4**, attached.

Based on the available data pre- and post-remediation, both stockpiles are considered suitable to categorise as **Level 2 – Low Level Contaminated Material**.

CoPC with reported exceedances of IB105 criteria are discussed below.

TPH and BTEXN

Prior to remediation, exceedances of the IB105 Level 1, Level 2, and Level 3 TCC criteria for semi-volatile TPH C10-C36 fraction were reported in the precursor stockpiles to UST_SP1. Exceedances of the IB105 Level 1 TCC criteria for TPH C10-C36 were reported within UST_EXT_59SP.

Following remediation, UST_SP1 reported no exceedances of Level 2 IB105 TCC criteria for TPH. Exceedances of the IB105 Level 1 TCC criteria for TPH C10-C36 were reported in UST_EX_59SP.

On this basis, TPH concentrations within the stockpiles are not considered to preclude the material from being categorised as Level 2 – Low Level Contaminated Soil.

PAHs

Both pre- and post-remediation, exceedances of the IB015 Level 2 TCC criteria were reported for benzo(a)pyrene and Sum of PAHs for multiple samples collected from both stockpiles.

Toxicity Characterisation Leaching Procedure (TCLP) assessment was conducted on all samples, with the exception of UST_EX_59SP pre-remediation. Samples collected from UST_EX_59SP following remediation were assessed for TCLP Leachate for PAHs.

All analysed samples reported a leachate contaminant concentration for benzo(a)pyrene and for benzo(a)pyrene Toxicity Equivalence Quotient (TEQ) below the IB105 Level 2 LCC.

Section 2.2.4 of IB105 states that "*Where a leachable concentration is proscribed in Table 2, generally that value will take precedence over the total concentration value and will be used as the sole determinant of final classification for disposal*".

On this basis, the exceedances of IB105 Level 2 TCC criteria for benzo(a)pyrene and Sum of PAHs are not considered to preclude the stockpiles from being categorised as Level 2 – Low Level Contaminated Soil.

Metals

Exceedances of the Level 1 IB105 TCC criteria for metals including copper, lead, tin, zinc, and/or mercury were reported in samples from UST_SP1 or precursors stockpiles both pre- and post-remediation. No exceedances of the Level 2 IB105 TCC criteria have been reported, and on this basis metals concentrations within the stockpiles are not considered to preclude the material from being categorised as Level 2 – Low Level Contaminated Soil.

Other Materials Within the Stockpiles

The stockpiles are noted to contain some non-soil materials, including cobbles and rocks within the soil, potential chucks of iron rebar, and small amounts of hay.

Section 4.1.2 of IB105 states that: "*The definition of Fill Material includes inert construction material, soils, and rocks, which have not been contaminated with any substance, and stable asphalt or bituminous pavement material, all of which are generally considered inert for use as 'fill'. However,*

soil and other material classified as Fill Material can still be a 'pollutant' under EMPCA and must be responsibly managed".

The rocks, cobbles and other materials present in the stockpiles are considered suitable to classify as inert construction material as:

- The rocks/cobbles were present within soil while *in situ* since at least 2015 (when AECOM commenced works on the Site), and it considered unlikely that contamination which could present an unacceptable risk to future uses could be present in the solid material and not have presented an indicator in surrounding soil.
- The small amounts of hay, believed likely to be part of temporary run-off controls during stockpiling, are not considered likely to present a risk to future uses.
- The small amount rebar within UST_SP1 is not anticipated to present an environmental risk to future uses, and the SEMP and assumptions of the RC include maintenance of hard cover over the entire Site for future uses. Removal of rebar to the extent practicable is recommended to reduce potential physical risks associated with future excavation or handling of soil.
- The proposed reuse scenario (use as backfill) is effectively the same as the condition from which the material was excavated. As noted above, no impact to surrounding soil has been detected from samples surrounding the soil materials.
- Soil in the proposed area of reuse has reported anthropogenic impacts present (AECOM, 2023a). Inclusion of this material is not considered to alter or preclude any potential uses of this soil (i.e., aesthetic considerations) which are not already precluded by known conditions at the point of reuse.

Inclusion of inert construction waste in material to be backfilled is considered suitable. Rebar should be removed to the extent practicable to remove risk of physical injury to future site users.

5.4.2 Reuse Assessment

Results of stockpile sampling have been assessed against the Site Specific RC for proposed reuse as fill material in the Precinct South. The results are presented in **Table T1** for results pre-remediation, and on **Table T3** for sample results post-remediation.

Prior to remediation, exceedances of the following Site Specific RC were reported in stockpile samples:

- Naphthalene:
  - Potential Future Residents (unknown construction or multi-storey building)
- TRH >C6-C10 (minus BTEX)
  - Potential Future Residents (unknown construction or multi-storey building)
  - Potential Future Residents (low rise slab-on-grade)
  - Potential Future Residents (building with a basement carpark)
  - Potential Future Commercial (unknown construction or multi-storey building)
  - Potential Future Commercial/Light Industrial Workers (low rise slab-on-grade)
  - Potential Future Commercial/Light Industrial Workers (working within a basement)
- TRH >C10-C16 (minus naphthalene),
  - Potential Future Residents (unknown construction or multi-storey building)
  - Potential Future Residents (low rise slab-on-grade)
  - Potential Future Residents (building with a basement carpark)
  - Potential Future Commercial (unknown construction or multi-storey building)
  - Potential Future Commercial/Light Industrial Workers (working within a basement)

Following remediation, exceedance of Potential Future Residents (unknown construction or multi-storey building) and Potential Future Residents (low rise slab-on-grade) for TRH >C10-C16 (minus naphthalene) were reported in both stockpiles, with all other CoPC analysed below RC, including CoPC with exceedances of RC detected prior to remediation.

Residential use of the proposed area of reuse area is not planned and is considered unlikely to be considered in future due to the proximity of active port facilities to the east.

On this basis, stockpiles UST_SP1 and UST_SP_Ext59SP are considered to be suitable for reuse as fill material under the conditions and assumptions of the Site Specific RC described in **Section 3.3**. The location of reuse will be recorded, and soil data reassessed if any change in current or potential future use occurs.

5.5 Quality Assurance / Quality Control (QA/QC) Data Validation

The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. QA/QC assessment of the analytical data and sampling methodology has been conducted by AECOM following data collection by AECOM field staff. Samples were assessed against the DQIs discussed in **Section 3.1**. The detailed data validation report is presented in **Appendix B** and results are summarised below.

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Five intra-laboratory and two inter-laboratory field duplicate sample pairs were collected from the 28 primary samples collected from stockpiles.

  Intra-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

- Of a total of 635 Relative Percentage Difference (RPD) values calculated for intra- and inter-laboratory duplicate samples analysed, 45 RPD values (<~7%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, TRH and PAHs. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As 93% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

- Trip blank and rinsate blank analytical results were reported below the laboratory LORs.

- All samples were received by the primary analytical laboratory between 0 and 6°C. While secondary laboratory samples were received at 6.2 – 6.5^{o}C, up to 0.5^{o}C above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only. Receipt at higher than recommended temperatures may contribute to discrepancies in calculated RPDs noted above.

- For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 3 and Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

- Laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, surrogate spike recoveries, laboratory control spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

6.0 Conclusions and Recommendations

Soil categorisation sample data results for two soil stockpiles, generated by removal of hydrocarbon impacted soil, has been considered in this report:

- UST_SP1, consisting of approximately 200 m^3 of soil and fill material. This stockpile was formed by combination of three precursor stockpiles UST_SP_1.5-2.0, UST_SP_EXT, and UST_SP_ch77-82.
- UST_SP_Ext_50SP, consisting of approximately 10 m^3 of soil and fill material.

Stockpiles were generated via excavation of hydrocarbon impacted soil associated with a UST (previously removed).

Beneficial reuse of the stockpiles as backfill is proposed within the area of Macquarie Point referred to as the Precinct South, under the conditions of Environmental Approval EA10512/2. The proposed area of reuse is intended for future Commercial/Industrial uses.

Initial assessment of excavated soil identified concentrations of TPH/TRH which would preclude the proposed beneficial reuse. Remediation of the stockpiles was undertaken via biopiling/land-farming by BlackCap, who applied approximately 100L of a commercial fertiliser mixed in a water feed on 1 June 2023.

Based on sampling of both stockpiles pre- and post-remediation, the following conclusions have been reached in this assessment:

- Sampling of UST_SP_Ext59SP was conducted at sufficient density to allow assessment of potential contaminants. Sampling of UST_SP1 was undertaken a density of 1 primary sample per 30 m^3, slightly lower than the recommended frequency in IB105. However, based on homogenisation of the stockpile during sample movement and remediation, the results are considered suitable for interpretation.
- Exceedances of the following IB105 criteria have been reported in samples from one or both stockpiles:
    - TCC of TPH C10-C36 fraction was reported in excess of the IB105 Level 1, Level 2, and Level 3 criteria prior to remediation. Following remediation, concentrations of TPH C10-C36 fraction in excess of the IB105 Level 1 TCC criteria remained.
    - Concentrations of benzo(a)pyrene and Sum of PAHs in excess of the IB105 Level 1, Level 2, and Level 3 TCC criteria were reported pre- and post-remediation. However, TCLP leachate concentrations for benzo(a)pyrene and benzo(a)pyrene TEQ were reported below the IB105 Level 2 criteria for all samples. In accordance with Section 2.2.4 of IB105, LCC values take precedence over TCC and are the sole determinant in final classification of material.
    - Concentrations of metals (copper, lead, tin, zinc, and/or mercury) in excess of the IB105 Level 1 TCC criteria were reported in stockpiles pre- and post-remediation.

    The stockpiles are noted to contain some non-soil materials, including cobbles and rocks within the soil, potential chucks of iron rebar, and small amounts of hay. These materials are considered suitable to classify as inert construction material and are not considered likely to present an environmental risk under the proposed reuse scenario. It is recommended that iron rebar be removed to the extent practicable prior to reuse to reduce any physical risk in future handling of material.
- Prior to remediation, the stockpiles reported sample locations with concentrations of naphthalene, TRH C6-C10 (minus BTEX), and/or TRH >C10-C16 (minus naphthalene) in excess of Site Specific RC for future Residential and Commercial/Industrial uses.

    Following remediation, concentrations of TRH C6-C10 (minus BTEX) in excess of Site Specific RC for future Residential uses were reported in both stockpiles. However, as the proposed area of reuse is not planned for residential use, and record of the stockpile results will be recorded and reassessed in the event of a future change in use or proposed use, reuse of the material is not considered to represent an unacceptable risk to future users.
- No irregularities in DQIs were reported which may render results unsuitable for interpretation

Based on this assessment, UST_SP1 and UST_SP_Ext59SP can be classified as **Level 2 – Low Level Contaminated Soil** and are suitable for reuse as fill material on the Macquarie Point site, under the conditions assumed in the RC and discussed in the SEMP.

Reuse of the soil is proposed under the conditions described in EA10512/2. Endorsement of reuse by the Site Environmental Auditor is required prior to reuse.

It is recommended iron rebar noted within stockpiles be removed to the extent practicable prior to reuse as fill.

In the event that an alternative disposal methodology be proposed, or further treatment undertaken, this waste management plan should be updated, or a new plan be prepared, by a suitably experienced environmental professional.

Yours faithfully

Robert Crowe
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Figures

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DATUM GDA 1994, PROJECTION MGA ZONE 55

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metres

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LEGEND

Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Soil Categorisation and Waste Management Plan - UST Excavation Area Stockpiles

Macquarie Point, Hobart, TAS

Figure

F1

Map Document: (\\aumel1fp001.au.aecomnet.com\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2020\06\LNAPL_Remediation_End-Points\F1_Site_Location.mxd)

A3 size

Tables

Table T1
Analytical Results - Pre-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

								PAH/Phenols (SIM)																		
					Benzo(a)pyrene-Waste Classification (TAS requirem	Hexavalent Chromium by Alkaline Digestion and DA F	Moisture Content																				
					Benzo(a)pyrene	Chromium (hexavalent)	Moisture Content	3/4-Methylphenol (m/p-cresol)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs
					mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
TAS Waste Classification Contaminated Soil Level 3					20	2000															20						200
TAS Waste Classification Guidelines - Fill Material Level 1					0.08	1															0.08						20
TAS Waste Classification Low Level Contaminated Soil Level 2					2	200															2						40
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)												12															
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)												160															
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)												97															
VI_MacPoint Potential Future Maintenance Workers					110							38000									110						
VI_MacPoint Potential Future Recreational Open Space Users																											
VI_MacPoint Potential Future Residents (building with a basement car park)												20															
VI_MacPoint Potential Future Residents (low rise slab-on-grade)												13															
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)												2.7															
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																							
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2305209-AB	Normal	-	-	19.7	<1	14.4	14.4	14.4	1	1	<0.5	2.6	<0.5	5	14.4	8.9	4	10.2	10.4	7.9	14.3	4.9	1.2	4.2	90
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2305209-AB	Normal	4.53	<0.5	18.9	<1	9.8	9.8	9.8	<0.5	0.8	<0.5	1.4	<0.5	3.7	8.9	6.1	2.4	7	-	5.2	9.2	3.6	0.9	3	59.2
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2305209-AB	Normal	-	-	19.8	<1	3.8	3.5	4	<0.5	<0.5	<0.5	0.6	<0.5	2	3	1.9	1.1	2.8	2.8	1.8	3.9	1.2	<0.5	1.1	22.2
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2305209-AB	Normal	6.37	<0.5	19.1	<1	8.7	8.7	8.7	1.2	1	<0.5	1.3	0.9	4.5	8.4	5	2.4	6.2	-	4.4	10	3.1	0.7	2.7	58.1
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2305209-AB	Normal	-	-	21.9	<1	3.7	3.4	3.9	7.4	1.3	1	1.1	4	4.4	4	2	3.4	3.4	2.4	1.8	5.4	1.4	<0.5	1.2	44.2
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2305209-AB	Normal	-	-	13.1	<1	23.4	23.4	23.4	<0.5	2.2	<0.5	2.4	0.5	10.5	24.8	14.9	5.4	16.4	16.6	13	25.6	8.6	2.2	7.6	151
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2305209-AB	Normal	-	-	13	<1	9.8	9.8	9.8	6.1	1	1.3	1.8	1.9	6.3	8.8	5.7	2.2	7.6	6.9	5	10.6	4	0.9	3.4	73.5
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2305209-AB	Normal	3.94	<0.5	18.6	<1	6.4	6.4	6.4	2.1	0.6	0.6	1.2	1.5	2.4	6.3	4	1.6	4.8	-	3.5	7.2	2.8	0.6	2.3	46
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2305209-AB	Normal	5.04	<0.5	19.5	<1	6	5.8	6.3	1	0.6	1.1	2.3	2.1	6.3	9.4	4.5	2.1	4	-	3.4	8.9	2	<0.5	1.7	53.9
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2305209-AB	Normal	-	-	25.1	<1	5.4	5.2	5.7	<0.5	0.5	0.8	2.6	1.6	6.1	8.7	4.2	1.5	4	4	3.2	8.1	1.8	<0.5	1.5	48.6
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2305209-AB	Normal	4.14	<0.5	17.7	<1	4.1	3.9	4.4	<0.5	<0.5	<0.5	0.6	<0.5	1.7	4.1	2.6	1.1	3.1	-	2.3	4.2	1.7	<0.5	1.4	25.8
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2305209-AB	Normal	-	-	19.8	<1	6.4	6.4	6.4	<0.5	0.7	<0.5	1.7	0.7	4	8.2	4.2	2.1	4.2	4.6	3.5	8.3	2.2	0.5	2	46.9
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2305209-AB	Normal	-	-	19.8	<1	7.4	7.4	7.4	0.6	0.7	<0.5	1.4	0.7	3.7	7.6	4.4	2.1	5.2	5.3	3.9	7.9	2.7	0.6	2.3	49.1
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2305209-AB	Normal	-	-	12.8	<1	6.5	6.5	6.5	<0.5	0.6	<0.5	0.7	<0.5	2.4	6	3.8	1.8	4.6	4.6	3.4	5.7	2.4	0.6	2	38.6
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2305209-AB	Normal	-	-	21.2	<1	6.5	6.5	6.5	0.9	0.9	0.9	1.6	3.2	7	7.5	4.2	1.5	4.8	4.6	3.6	7.6	2.5	0.6	2.1	53.5
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2305209-AB	Normal	5.02	<0.5	21.2	<1	9.2	9.2	9.2	2.1	0.9	<0.5	1.4	<0.5	4.5	9.9	6	2.1	7	-	5.1	9.7	3.3	0.8	2.9	62.2
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_01	UST_EXT_59SP_01	23/05/2023	EM2309346	Normal	-	-	20.8	<1	9.9	9.9	9.9	1	0.9	0.8	2.2	1.2	5.6	9.9	6.1	2.5	7.5	7	5.2	10.9	3.6	0.9	3	68.3
UST_EXT_59SP_02	UST_EXT_59SP_02	23/05/2023	EM2309346	Normal	-	-	21.1	<1	10.9	10.9	10.9	2.6	1.2	0.8	2.2	1.1	4.6	11.2	6.3	3	8.3	7.7	5.3	12.8	4.1	1	3.4	75.6
UST_EXT_59SP_03	UST_EXT_59SP_03	23/05/2023	EM2309346	Normal	-	-	18.9	<1	8.5	8.5	8.5	1.3	0.8	<0.5	1.7	0.7	3.3	7.6	5.3	2.8	6.6	6	4.5	8.5	3.1	0.7	2.6	55.5

Table T1
Analytical Results - Pre-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

																			Pesticides by GCMS															
	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	Sum of Phenols	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05
TAS Waste Classification Contaminated Soil Level 3															50											1000				
TAS Waste Classification Guidelines - Fill Material Level 1															2											2				
TAS Waste Classification Low Level Contaminated Soil Level 2															20											200				
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)																														
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																														
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)																														
VI_MacPoint Potential Future Maintenance Workers																														
VI_MacPoint Potential Future Recreational Open Space Users																														
VI_MacPoint Potential Future Residents (building with a basement car park)																														
VI_MacPoint Potential Future Residents (low rise slab-on-grade)																														
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)																														
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type																													
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	0.7	2.3	0.9	0.5	1.3	0.9	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_01	UST_EXT_59SP_01	23/05/2023	EM2309346	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_02	UST_EXT_59SP_02	23/05/2023	EM2309346	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_03	UST_EXT_59SP_03	23/05/2023	EM2309346	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1
Analytical Results - Pre-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

									Polychlorinated Biphenyls (PCB)	TCLP for Non & Semivolatile Analytes - Glass Leach			Total Cyanide by Segmented Flow Analyser	Total Fluoride	Total Mercury by FIMS			
									Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Polychlorinated Biphenyls	pH (Final)	pH (Initial)	pH (after HCL)	Cyanide Total	Fluoride	Mercury	Arsenic
									mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg
EQL									0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1	0.1	0.1	0.1	1	40	0.1	5
TAS Waste Classification Contaminated Soil Level 3																50				2500	10000	110	750
TAS Waste Classification Guidelines - Fill Material Level 1																2				32	300	1	20
TAS Waste Classification Low Level Contaminated Soil Level 2																20				1000	3000	30	200
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)																							
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																							
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)																							
VI_MacPoint Potential Future Maintenance Workers																							
VI_MacPoint Potential Future Recreational Open Space Users																							
VI_MacPoint Potential Future Residents (building with a basement car park)																							
VI_MacPoint Potential Future Residents (low rise slab-on-grade)																							
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)																							
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																			
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.4	9.9	1.6	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2305209-AB	Normal	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	1	90	4	13				
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.5	10	1.6	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.3	10	1.6	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2305209-AB	Normal	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	70	0.8	20				
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.2	9.5	1.4	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.9	9.2	1.5	-	-	-	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.5	9.2	1.4	-	-	-	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.5	9.6	1.5	-	-	-	-	-	-	-	-
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2305209-AB	Normal	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	80	0.9	35				
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6	9.2	1.5	-	-	-	-	-	-	-	-
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2305209-AB	Normal	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	80	0.7	<5				
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.2	9.2	1.5	-	-	-	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.4	9.2	1.5	-	-	-	-	-	-	-	-
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2305209-AB	Normal	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	130	0.8	<5				
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6	9.5	1.4	-	-	-	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.7	9.2	1.4	-	-	-	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	6.2	9.4	1.4	-	-	-	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.3	9.3	1.5	-	-	-	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.7	9.1	1.4	-	-	-	-	-	-	-	-
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2305209-AB	Normal	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	80	1.3	15				
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	5.6	9.2	1.4	-	-	-	-	-	-	-	-
UST_EXT_59SP_01	UST_EXT_59SP_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_02	UST_EXT_59SP_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_03	UST_EXT_59SP_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1
Analytical Results - Pre-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

							Total Metals by ICP-AES									TRH - Semivolatile Fraction									TRH Volatiles						
							Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene	Toluene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	1	1	2	2	5	5	5	2	2	5	2	5	5	50	100	100	50	50	50	100	100	50	1	10	10	10	0.2	0.5
TAS Waste Classification Contaminated Soil Level 3							30000	400	400	5000	1000	7500	3000	25000	4000	3000	200	720	900	50000				10000						1000			50	1000
TAS Waste Classification Guidelines - Fill Material Level 1							300	2	3	50	100	100	300	500	10	60	10	10	50	200				1000						65			1	1
TAS Waste Classification Low Level Contaminated Soil Level 2							3000	40	40	500	200	2000	1200	5000	1000	600	50	180	500	14000				5000						650			5	100
VI MacPoint Potential Future Comm (unknown construction or multi-storey bldg)																									140							67	3	950
VI MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																																340	3	2500
VI MacPoint Potential Future Comm/Light Ind Workers (working within a basement)																									770							130	3	1400
VI MacPoint Potential Future Maintenance Workers													620												110000							110000	170	660000
VI MacPoint Potential Future Recreational Open Space Users																																	360	
VI MacPoint Potential Future Residents (building with a basement car park)																									170							28	0.5	290
VI MacPoint Potential Future Residents (low rise slab-on-grade)																									130							27	0.5	200
VI MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)																									25							12	0.5	160
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																														
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	259	-	-	-	-	-	-	-	<50	360	230	590	<50	<50	530	<100	530	<1	<10	<10	<10	<0.2	<0.5
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2305209-AB	Normal	130	<1	<1	11	9	60	213	191	<2	12	<5	<2	41	133	<50	310	160	470	80	80	380	<100	460	<1	<10	<10	<10	<0.2	<0.5
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	153	-	-	-	-	-	-	-	470	1190	110	1770	1040	1040	700	<100	1740	<1	11	25	25	<0.2	<0.5
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2305209-AB	Normal	130	<1	<1	13	10	47	306	182	<2	15	<5	<2	32	243	1130	2350	160	3640	2020	2020	1540	<100	3560	<1	<10	19	19	<0.2	<0.5
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	373	-	-	-	-	-	-	-	4500	8550	<100	13,000	8010	8010	4920	<100	12,900	3	41	82	81	<0.2	<0.5
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	309	-	-	-	-	-	-	-	<50	410	270	680	<50	<50	620	150	770	<1	<10	<10	<10	<0.2	<0.5
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	182	-	-	-	-	-	-	-	590	1710	200	2500	1380	1380	1070	120	2570	2	<10	<10	<10	<0.2	<0.5
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2305209-AB	Normal	130	<1	<1	11	18	181	228	317	<2	20	<5	<2	17	374	1820	3930	140	5890	3900	3900	1910	<100	5810	<1	30	57	57	<0.2	<0.5
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2305209-AB	Normal	150	<1	<1	16	23	47	152	222	<2	24	<5	<2	67	111	340	880	<100	1220	760	760	510	<100	1270	<1	<10	<10	<10	<0.2	<0.5
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	181	-	-	-	-	-	-	-	380	850	<100	1230	620	620	650	<100	1270	<1	11	20	20	<0.2	<0.5
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2305209-AB	Normal	120	<1	<1	18	16	59	421	344	<2	28	<5	<2	24	202	<50	370	120	490	150	150	360	<100	510	<1	<10	<10	<10	<0.2	<0.5
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	260	-	-	-	-	-	-	-	220	880	190	1290	410	410	830	<100	1240	<1	<10	10	10	<0.2	<0.5
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	425	-	-	-	-	-	-	-	140	530	140	810	240	240	520	<100	760	<1	<10	<10	<10	<0.2	<0.5
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	516	-	-	-	-	-	-	-	<50	210	110	320	<50	<50	280	<100	280	<1	<10	<10	<10	<0.2	<0.5
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2305209-AB	Normal	-	-	-	-	-	-	393	-	-	-	-	-	-	-	1320	2550	140	4010	2670	2670	1260	<100	3930	<1	29	59	59	<0.2	<0.5
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2305209-AB	Normal	160	<1	<1	13	12	395	316	204	<2	16	<5	<2	50	301	<50	200	140	340	<50	<50	300	<100	300	<1	<10	<10	<10	<0.2	<0.5
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2307275	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_59SP_01	UST_EXT_59SP_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	185	-	-	-	-	-	-	-	300	1550	300	2150	590	590	1490	100	2180	<1	<10	<10	<10	<0.2	<0.5
UST_EXT_59SP_02	UST_EXT_59SP_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	274	-	-	-	-	-	-	-	230	1080	310	1620	400	400	1160	120	1680	<1	<10	<10	<10	<0.2	<0.5
UST_EXT_59SP_03	UST_EXT_59SP_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	189	-	-	-	-	-	-	-	250	1110	250	1610	470	470	1090	<100	1560	<1	<10	<10	<10	<0.2	<0.5

Table T1
Analytical Results - Pre-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

					s/BTEX				
					Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.5	0.2
TAS Waste Classification Contaminated Soil Level 3					1080			1800	
TAS Waste Classification Guidelines - Fill Material Level 1					3			14	
TAS Waste Classification Low Level Contaminated Soil Level 2					100			180	
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)					340			240	
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)					340			830	
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)					110			430	
VI_MacPoint Potential Future Maintenance Workers					290000			530000	
VI_MacPoint Potential Future Recreational Open Space Users									
VI_MacPoint Potential Future Residents (building with a basement car park)					24			93	
VI_MacPoint Potential Future Residents (low rise slab-on-grade)					57			67	
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)					57			40	
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**					
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2305209-AB	Normal	<0.5	1	<0.5	1	1
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2305209-AB	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2307275	Normal	-	-	-	-	-
UST_EXT_59SP_01	UST_EXT_59SP_01	23/05/2023	EM2309346	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_EXT_59SP_02	UST_EXT_59SP_02	23/05/2023	EM2309346	Normal	<0.5	<0.5	<0.5	<0.5	<0.2
UST_EXT_59SP_03	UST_EXT_59SP_03	23/05/2023	EM2309346	Normal	<0.5	<0.5	<0.5	<0.5	<0.2

Table T2
Analytical Results - Pre-Remediation Leachate Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

					PAH/Phenols (GC/MS - SIM)															
					Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.5	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1	0.5
TAS Waste Classification Contaminated Soil Level 3 TCLP																5						
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP																0.5						
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																		
UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_01	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_02	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_1.5-2.0_03	UST_SP_1.5-2.0_03	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_04	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	1.1	<1	<1	<1	1.1
UST_SP_1.5-2.0_05	UST_SP_1.5-2.0_05	21/03/2023	EM2307275	Normal	<0.5	1.9	<1	<1	<1	1.4	1.1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	4.4
UST_SP_ch77-80_01	UST_SP_ch77-80_01	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	1.4	1.5	8.5	3	<1	<1	<1	<0.5	<1	2.9	<1	<1	<1	17.3
UST_SP_ch77-81_02	UST_SP_ch77-81_02	21/03/2023	EM2307275	Normal	<0.5	2.4	<1	2.3	<1	1.2	3.7	1.7	<1	<1	<1	<0.5	<1	1.9	<1	<1	<1	13.2
UST_SP_ch77-82_03	UST_SP_ch77-82_03	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	1.1	<1	<1	<1	1.1
UST_SP_EXT_01	UST_SP_EXT_01	21/03/2023	EM2307275	Normal	<0.5	<1	<1	4.6	7.7	10.5	21.8	9.3	<1	<1	<1	<0.5	<1	7.9	<1	<1	<1	61.8
UST_SP_EXT_02	UST_SP_EXT_02	21/03/2023	EM2307275	Normal	<0.5	<1	<1	2.4	3.3	3.4	12.5	4.8	<1	<1	<1	<0.5	<1	5	<1	<1	<1	31.4
UST_SP_EXT_03	UST_SP_EXT_03	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_EXT_04	UST_SP_EXT_04	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	1.5	<1	<1	<1	<1	<0.5	<1	1.1	<1	<1	<1	2.6
UST_SP_EXT_05	UST_SP_EXT_05	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_EXT_06	UST_SP_EXT_06	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_EXT_07	UST_SP_EXT_07	21/03/2023	EM2307275	Normal	<0.5	<1	<1	1.3	<1	2.6	2.8	1.9	<1	<1	<1	<0.5	<1	1.6	<1	<1	<1	10.2
UST_SP_EXT_08	UST_SP_EXT_08	21/03/2023	EM2307275	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5

Table T3
Analytical Results - Post-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

		Moisture Content																PAH/Pher	
		Moisture Content	3/4-Methylphenol (m/p-cresol)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene
		%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
TAS Waste Classification Contaminated Soil Level 3																		20	
TAS Waste Classification Guidelines - Fill Material Level 1																		0.08	
TAS Waste Classification Low Level Contaminated Soil Level 2																		2	
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)							12												
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)							160												
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)							97												
VI_MacPoint Potential Future Maintenance Workers							38000											110	
VI_MacPoint Potential Future Recreational Open Space Users																			
VI_MacPoint Potential Future Residents (building with a basement car park)							20												
VI_MacPoint Potential Future Residents (low rise slab-on-grade)							13												
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)							2.7												
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**															
UST_SP_01	UST_SP_01	7/06/2023	EM2310229	Normal	14.2	<1	2.8	2.6	3.1	<0.5	<0.5	<0.5	0.5	<0.5	2.1	3.5	1.7	0.8	2.1	2	1.5
UST_SP_01	UST_SP_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_02	UST_SP_02	7/06/2023	EM2310229	Normal	18.2	<1	4.4	4.2	4.6	<0.5	<0.5	<0.5	0.7	<0.5	2.3	4.6	2.8	1.5	3.3	3.2	2.5
UST_SP_02	UST_SP_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_03	UST_SP_03	7/06/2023	EM2310229	Normal	17.4	<1	6.4	6.4	6.4	<0.5	<0.5	<0.5	1.4	0.6	5.2	7.7	3.9	1.9	4.7	4.5	3.4
UST_SP_03	UST_SP_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_04	UST_SP_04	7/06/2023	EM2310229	Normal	17.8	<1	3.4	3.1	3.6	<0.5	<0.5	<0.5	0.6	<0.5	1.4	3.1	1.9	1	2.6	2.4	1.7
UST_SP_04	UST_SP_04	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_05	UST_SP_05	7/06/2023	EM2310229	Normal	22.3	<1	7.9	7.9	7.9	<0.5	0.6	<0.5	1.3	<0.5	3.3	8	4.9	2.4	5.5	5.6	4.4
UST_SP_05	UST_SP_05	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_06	UST_SP_06	7/06/2023	EM2310229	Normal	17.8	<1	6.8	6.8	6.8	<0.5	0.6	<0.5	0.9	<0.5	2.5	5.5	3.8	2.1	4.9	4.8	3.4
UST_SP_06	UST_SP_06	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310229	Normal	23	<1	9	9	9	2.4	0.8	0.7	3.4	1.3	7.9	10.8	6	2.5	6.7	6.3	5
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310229	Normal	21.6	<1	27.9	27.9	27.9	2.2	1.6	1.2	8.6	2.9	23.4	34.5	20.1	7.7	19.8	19.6	16.7
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310229	Normal	22.2	<1	4.9	4.6	5.1	0.7	<0.5	<0.5	1	0.7	2.8	5.4	3.1	1.2	3.9	3.6	2.7
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310229	Normal	23.9	<1	8.7	8.7	8.7	1	0.8	0.5	1.9	0.8	4.7	8.8	5.3	2.5	6.6	6.2	4.9
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_QC126	UST_SP_01	7/06/2023	EM2310229	Field_D	13.3	<1	3.8	3.5	4	<0.5	<0.5	<0.5	0.5	<0.5	2.2	4.1	2.3	1.2	2.9	2.7	2

Table T3
Analytical Results - Post-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

	ıols (SIM)																r Non & Semivolatile An	
	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	pH (Final)	pH (Initial)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	pH Units
EQL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.1	0.1
TAS Waste Classification Contaminated Soil Level 3					200													
TAS Waste Classification Guidelines - Fill Material Level 1					20													
TAS Waste Classification Low Level Contaminated Soil Level 2					40													
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)																		
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																		
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)																		
VI_MacPoint Potential Future Maintenance Workers																		
VI_MacPoint Potential Future Recreational Open Space Users																		
VI_MacPoint Potential Future Residents (building with a basement car park)																		
VI_MacPoint Potential Future Residents (low rise slab-on-grade)																		
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)																		

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type															
UST_SP_01	UST_SP_01	7/06/2023	EM2310229	Normal	3.4	1.3	<0.5	1	19.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_01	UST_SP_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	9.3
UST_SP_02	UST_SP_02	7/06/2023	EM2310229	Normal	4.8	1.8	<0.5	1.5	29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_02	UST_SP_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	9.3
UST_SP_03	UST_SP_03	7/06/2023	EM2310229	Normal	7.5	3	0.6	2.4	46.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_03	UST_SP_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	9.5
UST_SP_04	UST_SP_04	7/06/2023	EM2310229	Normal	3.2	1.5	<0.5	1.3	20.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_04	UST_SP_04	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.5
UST_SP_05	UST_SP_05	7/06/2023	EM2310229	Normal	8.4	3	0.7	2.6	50.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_05	UST_SP_05	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	9.8
UST_SP_06	UST_SP_06	7/06/2023	EM2310229	Normal	5.7	2.8	0.6	2.4	40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_06	UST_SP_06	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.7
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310229	Normal	11.3	3.1	0.8	2.7	71.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	9.8
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310229	Normal	34.7	10	2.4	8.4	214	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	9.7
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310229	Normal	6.2	1.8	<0.5	1.5	34.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	9.6
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310229	Normal	9.6	3.2	0.7	2.7	60.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	9.9
UST_SP_QC126	UST_SP_01	7/06/2023	EM2310229	Field_D	4.1	1.7	<0.5	1.4	25.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-

Table T3
Analytical Results - Post-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

					alytes - Gla	Total Mercury by FIMS	Total Metals by ICP-AES							TRH - Semivolatile Fraction											TRH
					pH (after HCL)	Mercury	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene
					pH Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	5	1	2	5	5	2	5	50	100	100	50	50	50	100	100	50	1	10	10	10	0.2
TAS Waste Classification Contaminated Soil Level 3						110	750	400	5000	7500	3000	3000	50000				10000							1000			50
TAS Waste Classification Guidelines - Fill Material Level 1						1	20	3	50	100	300	60	200				1000							65			1
TAS Waste Classification Low Level Contaminated Soil Level 2						30	200	40	500	2000	1200	600	14000				5000							650			5
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)																		140								67	3
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)																										340	3
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)																		770								130	3
VI_MacPoint Potential Future Maintenance Workers											620							110000								110000	170
VI_MacPoint Potential Future Recreational Open Space Users																											360
VI_MacPoint Potential Future Residents (building with a basement car park)																		170								28	0.5
VI_MacPoint Potential Future Residents (low rise slab-on-grade)																		130								27	0.5
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)																		25								12	0.5
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type																							
UST_SP_01	UST_SP_01	7/06/2023	EM2310229	Normal	-	0.3	28	1	14	63	179	32	276	<50	130	<100	130	<50	<50	160	<100	160	<1	<10	<10	<10	<0.2
UST_SP_01	UST_SP_01	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_02	UST_SP_02	7/06/2023	EM2310229	Normal	-	1.3	11	<1	17	79	387	38	196	<50	250	<100	250	60	60	270	<100	330	<1	<10	<10	<10	<0.2
UST_SP_02	UST_SP_02	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_03	UST_SP_03	7/06/2023	EM2310229	Normal	-	2	16	<1	14	94	533	20	251	<50	280	<100	280	80	80	320	<100	400	<1	<10	<10	<10	<0.2
UST_SP_03	UST_SP_03	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_04	UST_SP_04	7/06/2023	EM2310229	Normal	-	0.9	18	<1	14	84	328	22	322	<50	200	<100	200	60	60	220	<100	280	<1	<10	<10	<10	<0.2
UST_SP_04	UST_SP_04	7/06/2023	EM2310878	Normal	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_05	UST_SP_05	7/06/2023	EM2310229	Normal	-	1.4	10	<1	14	61	523	37	257	<50	290	130	420	60	60	360	<100	420	<1	<10	<10	<10	<0.2
UST_SP_05	UST_SP_05	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_06	UST_SP_06	7/06/2023	EM2310229	Normal	-	0.6	24	<1	16	122	385	30	286	<50	250	120	370	60	60	310	<100	370	<1	<10	<10	<10	<0.2
UST_SP_06	UST_SP_06	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310229	Normal	-	1.5	6	<1	13	59	426	16	245	100	670	180	950	110	110	700	<100	910	<1	<10	<10	<10	<0.2
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310229	Normal	-	0.8	<5	<1	11	47	203	14	117	240	1480	400	2120	120	120	1580	130	2170	<1	<10	<10	<10	<0.2
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310229	Normal	-	1.1	10	<1	14	54	245	17	217	180	800	140	1120	130	130	740	<100	1090	<1	<10	<10	<10	<0.2
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310229	Normal	-	1.2	5	<1	14	43	190	18	144	130	760	180	1070	120	120	770	<100	1040	<1	<10	<10	<10	<0.2
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310878	Normal	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_SP_QC126	UST_SP_01	7/06/2023	EM2310229	Field_D	-	0.2	31	<1	9	53	142	18	218	<50	540	120	660	<50	<50	620	<100	620	<1	<10	<10	<10	<0.2

Table T3
Analytical Results - Post-Remediation Total Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

	Volatiles/BTEX					
	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.2
TAS Waste Classification Contaminated Soil Level 3	1000	1080			1800	
TAS Waste Classification Guidelines - Fill Material Level 1	1	3			14	
TAS Waste Classification Low Level Contaminated Soil Level 2	100	100			180	
VI_MacPoint Potential Future Comm (unknown construction or multi-storey bldg)	950	340			240	
VI_MacPoint Potential Future Comm/Light Ind Workers (low-rise slab-on-grade)	2500	340			830	
VI_MacPoint Potential Future Comm/Light Ind Workers (working within a basement)	1400	110			430	
VI_MacPoint Potential Future Maintenance Workers	660000	290000			530000	
VI_MacPoint Potential Future Recreational Open Space Users						
VI_MacPoint Potential Future Residents (building with a basement car park)	290	24			93	
VI_MacPoint Potential Future Residents (low rise slab-on-grade)	200	57			67	
VI_MacPoint Potential Future Residents (unknown constr. or multi-storey bldg)	160	57			40	

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type						
UST_SP_01	UST_SP_01	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_01	UST_SP_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_02	UST_SP_02	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_02	UST_SP_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_03	UST_SP_03	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_03	UST_SP_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_04	UST_SP_04	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_04	UST_SP_04	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_05	UST_SP_05	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_05	UST_SP_05	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_06	UST_SP_06	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_06	UST_SP_06	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310229	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310878	Normal	-	-	-	-	-	-
UST_SP_QC126	UST_SP_01	7/06/2023	EM2310229	Field_D	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2

Table T4
Analytical Results - Post-Remediation Leachate Contaminant Concentration
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

					PAH/Phenols (GC/MS - SIM)															
					Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.5	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1	0.5
TAS Waste Classification Contaminated Soil Level 3 TCLP					5											5						
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP					0.5											0.5						
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																		
UST_SP_01	UST_SP_01	7/06/2023	EM2310878	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_02	UST_SP_02	7/06/2023	EM2310878	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_03	UST_SP_03	7/06/2023	EM2310878	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_04	UST_SP_04	7/06/2023	EM2310878	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_05	UST_SP_05	7/06/2023	EM2310878	Normal	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5
UST_SP_06	UST_SP_06	7/06/2023	EM2310878	Normal	<0.5	<1	<1	<1	<1	<1	1.7	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.7
UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_04	7/06/2023	EM2310878	Normal	<0.5	<1	<1	1.3	<1	1.3	2.3	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	4.9
UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_05	7/06/2023	EM2310878	Normal	<0.5	1.5	<1	2.5	1	2.6	3.5	1.3	<1	<1	<1	<0.5	<1	1.8	<1	<1	<1	14.2
UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_06	7/06/2023	EM2310878	Normal	<0.5	<1	<1	1.3	<1	1.4	2.3	1	<1	<1	<1	<0.5	<1	1.2	<1	<1	<1	7.2
UST_SP_Ext_59SP_07	UST_SP_Ext_59SP_07	7/06/2023	EM2310878	Normal	<0.5	<1	<1	1.2	<1	1.2	1.9	1.1	<1	<1	<1	<0.5	<1	1.5	<1	<1	<1	6.9

AECOM

Appendix A

Laboratory Reports

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2305209**		
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 4
Order number	: 60693007-3	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 22-Mar-2023 11:15	Issue Date	: 30-Mar-2023
Client Requested Due Date	: 29-Mar-2023	Scheduled Reporting Date	: **29-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 4.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 49 / 45

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Extra samples received:**
  UST_QC106 (sample 046)
  UST_QC206 (sample 047)
  OL_90_0.6_E (sample 048)
  OL_90_1.0 (sample 049)
  Rail Timber 01 (sample 050)
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - TRH-CWG Aliphatic/Aromatic CWG/RIVM Bands
EM2305209-001	20-Mar-2023 00:00	UST_80_1.2_S	✓		✓	
EM2305209-002	20-Mar-2023 00:00	UST_OL_DL_BF	✓		✓	
EM2305209-003	20-Mar-2023 00:00	UST_77_SE_0.8	✓		✓	
EM2305209-004	20-Mar-2023 00:00	UST_77_SE_1.6	✓		✓	✓
EM2305209-005	20-Mar-2023 00:00	UST_74_E_0.8	✓		✓	
EM2305209-006	20-Mar-2023 00:00	UST_74_E_1.6	✓		✓	
EM2305209-007	20-Mar-2023 00:00	UST_66_E_0.8	✓		✓	
EM2305209-008	20-Mar-2023 00:00	UST_66_E_1.6	✓		✓	
EM2305209-009	20-Mar-2023 00:00	UST_59_E_0.8	✓		✓	
EM2305209-010	20-Mar-2023 00:00	UST_59_E_1.6	✓		✓	✓
EM2305209-011	20-Mar-2023 00:00	UST_55_NE_0.8	✓		✓	
EM2305209-012	20-Mar-2023 00:00	UST_55_NE_1.6	✓		✓	
EM2305209-013	21-Mar-2023 00:00	UST_SP_0.5-1.0_01	✓	✓		
EM2305209-014	21-Mar-2023 00:00	UST_SP_0.5-1.0_02	✓		✓	
EM2305209-015	21-Mar-2023 00:00	UST_SP_0.5-1.0_03	✓		✓	
EM2305209-016	21-Mar-2023 00:00	UST_SP_0.5-1.0_04	✓		✓	
EM2305209-017	21-Mar-2023 00:00	UST_SP_1.0-1.5_01	✓		✓	
EM2305209-018	21-Mar-2023 00:00	UST_SP_1.0-1.5_02	✓		✓	
EM2305209-019	21-Mar-2023 00:00	UST_SP_1.0-1.5_03	✓	✓		
EM2305209-020	21-Mar-2023 00:00	UST_SP_1.5-2.0_01	✓		✓	
EM2305209-021	21-Mar-2023 00:00	UST_SP_1.5-2.0_02	✓	✓		
EM2305209-022	21-Mar-2023 00:00	UST_SP_1.5-2.0_03	✓		✓	
EM2305209-023	21-Mar-2023 00:00	UST_SP_1.5-2.0_04	✓	✓		
EM2305209-024	21-Mar-2023 00:00	UST_SP_1.5-2.0_05	✓		✓	
EM2305209-025	21-Mar-2023 00:00	UST_SP_EXT_01	✓	✓		
EM2305209-026	21-Mar-2023 00:00	UST_SP_EXT_02	✓		✓	
EM2305209-027	21-Mar-2023 00:00	UST_SP_EXT_03	✓	✓		
EM2305209-028	21-Mar-2023 00:00	UST_SP_EXT_04	✓		✓	
EM2305209-029	21-Mar-2023 00:00	UST_SP_EXT_05	✓		✓	
EM2305209-030	21-Mar-2023 00:00	UST_SP_EXT_06	✓		✓	
EM2305209-031	21-Mar-2023 00:00	UST_SP_EXT_07	✓		✓	
EM2305209-032	21-Mar-2023 00:00	UST_SP_EXT_08	✓	✓		
EM2305209-033	21-Mar-2023 00:00	UST_SP_ch77-80_01	✓		✓	
EM2305209-034	21-Mar-2023 00:00	UST_SP_ch77-81_02	✓		✓	
EM2305209-035	21-Mar-2023 00:00	UST_SP_ch77-82_03	✓	✓		

			SOIL - EA055-103 Moisture Content	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb	SOIL - TRH-CWG Aliphatic/Aromatic CWG/RIVM Bands
EM2305209-036	21-Mar-2023 00:00	UST_QC108	✓		✓	
EM2305209-037	21-Mar-2023 00:00	UST_QC109	✓	✓		
EM2305209-038	21-Mar-2023 00:00	UST_QC110	✓		✓	
EM2305209-042	20-Mar-2023 00:00	UST_QC107	✓		✓	
EM2305209-046	20-Mar-2023 00:00	UST_QC106	✓		✓	
EM2305209-050	21-Mar-2023 00:00	Rail Timber 01	✓			

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) SOIL No analysis requested	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2305209-048	21-Mar-2023 00:00	OL_90_0.6_E	✓			
EM2305209-049	21-Mar-2023 00:00	OL_90_1.0	✓			
EM2305209-050	21-Mar-2023 00:00	Rail Timber 01		✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2305209-039	21-Mar-2023 00:00	UST_QCA06		✓	
EM2305209-040	21-Mar-2023 00:00	UST_QCB08			✓
EM2305209-041	21-Mar-2023 00:00	UST_QCC03	✓		
EM2305209-043	20-Mar-2023 00:00	UST_QCA05		✓	
EM2305209-044	20-Mar-2023 00:00	UST_QCB07			✓
EM2305209-045	20-Mar-2023 00:00	UST_QCC02	✓		

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- Chromatogram (CHROM)	Email	tim.smith02@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	tim.smith02@aecom.com

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8167 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Ph: 07 4952 9755 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 5-7 Western Road Springvale VIC 3171 Ph: 03 8549 9600 E: ossc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4968 9500 E: newcastle.mail@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rabbit Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 10 Carilon Street Kirwan QLD Ph: 07 4773 6308 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 7/19-21 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

FREIGHT

SCANNED

291

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE: Hobart	
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	Free ice / frozen ice bricks present upon receipt? Yes No N/A
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com	Random Sample Temperature on Receipt: °C
Email Invoice to (will default to PM if no other addresses are listed):	Other comment:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:	RELINQUISHED BY: DATE/TIME: RECEIVED BY: Scott (ALS) DATE/TIME: 22/3/23, 1115 RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1		1						
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								potential high TRH
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1		1						
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								potential high TRH
					2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Environmental Division
Melbourne
Work Order Reference
EM2305209

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8162 5130 E: adelaide@alsglobal.com

BRISBANE 3 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinton Qld 4680 Ph: 07 4979 7044 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Unit 20/0 Caterpillar Drive Eimeo QLD 4740 Ph: 07 4852 8395 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 3-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: coc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: samples.mudgee@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rheola Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 12 Carlton Street Kirwan QLD Ph: 07 4773 8000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/19-21 Bligh Place Wollongong Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO 60693007**	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.: 60693007-3**	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE: 21 Burma Road Pooraka SA 5095 Ph: 08 8162 9136 E: adelaide@alsglobal.com

BRISBANE: 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE: 48 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 2944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY: Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4952 5399 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE: 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: coc.melbourne@alsglobal.com

MUDGEE: 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE: 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA: 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH: 26 Rigel Way Wangara WA 6065 Ph: 08 9406 1501 E: samples.perth@alsglobal.com

SYDNEY: 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE: 13 Garden Street Kelwin QLD Ph: 07 4723 0600 E: ALSEnviro.Townsville@als

WOLLONGONG: 1/19-21 Neigh Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE:** 0428 420 162		
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: Scott (ALS) 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
~~36~~														
				TOTAL	22	7	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8162 5130 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Gladstone QLD 4680
Ph: 07 4979 7944 E: ALSEnviro.Gladstone@alsglobal.com

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Ph: 07 4963 5795 E: ALSEnviro.Mackay@alsglobal.com

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Ph: 03 8549 9600 E: customerservice@alsglobal.com

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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

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Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

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Ph: 02 4422 2063 E: nowra@alsglobal.com

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Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14 Carlton Street Kirwan QLD
Ph: 07 4727 9600 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 4/19-21 Robert Black Drive
Ph: 02 4725 2125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:** Scott (ALS)
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME: 22/3/23, 1115
Email Invoice to (will default to PM if no other addresses are listed):		**RELINQUISHED BY:**	**RECEIVED BY:**
		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 5100 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 4971 9944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4967 5795 E: ALSEnviro.Mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: coc.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

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PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 13/5 Carlton Street Rowan QLD Ph: 07 4775 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 4/19-21 Asquith Street Ph: 02 4225 3125 E: Addsamples@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187		Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: Scott (ALS) 22/3/23, 1115	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	
46	UST_QC106	20/3	S	Jar	2									
47	UST_QC206	20/3	S	Jar	2									
48	OL_90_0.6_E	21/3	S	Jar	2									
49	OL_90_1.0	21/3	S	Jar	2									
50	Rail Timber 01	21/3	Soil, wood	Jar	2									
				TOTAL	14	2	0	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 3/1 Burma Road Pooraka SA 5095 Ph: 08 8162 5155 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 48 Callemondah Drive Gladstone QLD 4680 Ph: 07 4979 7944 E: ALSEnviro.Gladstone@alsglobal.com

MACKAY Unit 2/20 Caterpillar Drive Paget QLD 4740 Ph: 07 4965 5795 E: ALSEnviro.Mackay@alsglobal.com

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MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 12 Carlton Street Kirwan QLD Ph: 07 4773 0000 E: ALSEnviro.Townsville@als

WOLLONGONG 1/19-31 Ralph Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NC 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe CONTACT PH: 0422 692 187		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	TRH ali/aro speciation						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	UST _ 80 _ 1.2 _ S	20/03/2023 0:00	Soil	Jar	2	1								
2	UST_OL_DL_BF	20/03/2023 0:00	Soil	Jar	2	1								
3	UST _ 77 _ SE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
4	UST _ 77 _ SE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
5	UST _ 74 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
6	UST _ 74 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
7	UST _ 66 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
8	UST _ 66 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
9	UST _ 59 _ E _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
10	UST _ 59 _ E _ 1.6	20/03/2023 0:00	Soil	Jar	2	1		1						potential high TRH
11	UST _ 55 _ NE _ 0.8	20/03/2023 0:00	Soil	Jar	2	1								
12	UST _ 55 _ NE _ 1.6	20/03/2023 0:00	Soil	Jar	2	1								
				TOTAL	24	12	0	2	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

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CLIENT: AECOM - Macquarie Point	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Hobart		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	COUNTRY OF ORIGIN:	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	SAMPLER MOBILE: 0428 420 162	RELINQUISHED BY:	RECEIVED BY:
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): tim.smith02@aecom.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	UST _ SP _ 0.5-1.0 _ 01	21/03/2023 0:00	Soil	Jar	2		1							
14	UST _ SP _ 0.5-1.0 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
15	UST _ SP _ 0.5-1.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								
16	UST _ SP _ 0.5-1.0 _ 04	21/03/2023 0:00	Soil	Jar	2	1								
17	UST _ SP _ 1.0-1.5 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
18	UST _ SP _ 1.0-1.5 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
19	UST _ SP _ 1.0-1.5 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
20	UST _ SP _ 1.5-2.0 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
21	UST _ SP _ 1.5-2.0 _ 02	21/03/2023 0:00	Soil	Jar	2		1							
22	UST _ SP _ 1.5-2.0 _ 03	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
23	UST _ SP _ 1.5-2.0 _ 04	21/03/2023 0:00	Soil	Jar	2		1							potential high TRH
24	UST _ SP _ 1.5-2.0 _ 05	21/03/2023 0:00	Soil	Jar	2	1								potential high TRH
				TOTAL	24	8	4	0	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 26 Rigali Way Wangara WA 6065 Ph: 08 9406 1301 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield Ph: 02 8784 8555 E: samples.sydney@alsglobal

TOWNSVILLE 13 Carlton Street Kirwan QLD Ph: 07 4727 9000 E: ALSEnviro.Townsville@als

WOLLONGONG 1/19-21 Balgh Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.n

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT	8 Metals, BTEXN, TRH, PAH + PAH TCLP leechate						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	UST _ SP _ EXT _ 01	21/03/2023 0:00	Soil	Jar	2		1							
26	UST _ SP _ EXT _ 02	21/03/2023 0:00	Soil	Jar	2	1								
27	UST _ SP _ EXT _ 03	21/03/2023 0:00	Soil	Jar	2		1							
28	UST _ SP _ EXT _ 04	21/03/2023 0:00	Soil	Jar	2	1								
29	UST _ SP _ EXT _ 05	21/03/2023 0:00	Soil	Jar	2	1								
30	UST _ SP _ EXT _ 06	21/03/2023 0:00	Soil	Jar	2	1								
31	UST _ SP _ EXT _ 07	21/03/2023 0:00	Soil	Jar	2	1								
32	UST _ SP _ EXT _ 08	21/03/2023 0:00	Soil	Jar	2		1							
33	UST _ SP _ ch77-80 _ 01	21/03/2023 0:00	Soil	Jar	2	1								
34	UST _ SP _ ch77-81 _ 02	21/03/2023 0:00	Soil	Jar	2	1								
35	UST _ SP _ ch77-82 _ 03	21/03/2023 0:00	Soil	Jar	2		1							
50	Rail Timber_01	21/03/2023 0:00	Soil	Jar	2			1						
				TOTAL	24	7	4	1	0	0	0	0	0	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

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MUDGEE 1/30 Sydney Road Mudgee NSW 2850 Ph: 02 8373 6735 E: enviromud.mail@alsglobal.com

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: alsnowra@alsglobal.com

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TOWNSVILLE 13 Garbutt Street Kirwan QLD Ph: 07 4773 0000 E: ALSEnviro.Townsville@alsglobal.com

WOLLONGONG 1/19-21 Rails Black Drive Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (**List due date**):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT (**List due date**):	Custody Seal Intact? Yes No N/A
PROJECT: Macquarie Point PROJECT NO. 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE: 0428 420 162**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		**RELINQUISHED BY:**	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	UST _ QC108	21/03/2023 0:00	Soil	Jar	2	1								
37	UST _ QC109	21/03/2023 0:00	Soil	Jar	2		1							
38	UST _ QC110	21/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC208	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
→	UST _ QC209	21/03/2023 0:00	Soil	Jar	2		1							Please forward to Eurofins for analysis
→	UST _ QC210	21/03/2023 0:00	Soil	Jar	2	1								Please forward to Eurofins for analysis
39	UST _ QCA06	21/03/2023 0:00	Water	vial	2							1		
40	UST _ QCB08	21/03/2023 0:00	Water	vial, amber, plastic	4						1			
41	UST _ QCC03	21/03/2023 0:00	Water	vial, amber, plastic	4								1	
				TOTAL	22	4	2	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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Ph: 07 4779 9000 E: ALSEnviro.Townsville@als

☐WOLLONGONG Unit 9 19-21 Ralph Black Drive,
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM - Macquarie Point	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Hobart		☐ Non Standard or urgent TAT **(List due date):**	Custody Seal Intact? Yes / No / N/A
PROJECT: Macquarie Point **PROJECT NO** 60693007	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:** 60693007-3	**COUNTRY OF ORIGIN:**	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Tim Smith	**SAMPLER MOBILE:** 0428 420 162	**RELINQUISHED BY:**	**RECEIVED BY:**
COC Emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): **tim.smith02@aecom.com**		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	TRH, BTEXN PAH Phenols Pb	EPA Tasmania IB105 suite - no TBT				TRH, BTEXN PAH Phenols Pb	TRH C6-C10 BTEXN	hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	UST _ QC107	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC207	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
43	UST _ QCA05	20/03/2023 0:00	Water	vial	2							1		
44	UST _ QCB07	20/03/2023 0:00	Water	vial, amber, plastic	4						1			
45	UST _ QCC02	20/03/2023 0:00	Water	vial, amber, plastic	4								1	
~~46~~ 46	UST _ QC106	20/03/2023 0:00	Soil	Jar	2	1								
→	UST _ QC206	20/03/2023 0:00	Soil	Jar	2	1								please forward to Eurofins for analysis
				TOTAL	18	4	0	0	0	0	1	1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

QUALITY CONTROL REPORT

Work Order	: **EM2305209-AB**	Page	: 1 of 32
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723)									
EM2305209-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	110	90	15.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	7	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	18	16	11.3	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	258	248	4.1	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	81	72	12.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	289	267	7.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	172	178	2.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	23	17	28.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1320	1260	5.2	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Arsenic	7440-38-2	5	mg/kg	150	# 88	51.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	403	# 556	32.1	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	140	27.6	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	11	11	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	23	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953723) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	83	81	2.9	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	235	195	18.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	223	248	10.6	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	24	14	49.7	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953725)									
EM2305209-021	UST_SP_1.5-2.0_02	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	100	19.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	14	15.1	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	10	29.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	60	50	17.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	213	# 315	38.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	191	198	3.5	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	41	42	3.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	133	# 351	90.0	0% - 20%
EM2305209-030	UST_SP_EXT_06	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	12	12.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	12	11.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	19	9.1	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	8	40.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	66	61	7.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	516	# 710	31.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	245	222	10.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	26	16	49.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	198	167	16.9	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873)									
EM2305098-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	50	49	2.4	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4953873) - continued									
EM2305098-001	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	120	120	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	41	2.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	22	8.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	134	133	0.8	0% - 20%
EM2305119-013	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	44	3.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	50	51	2.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	18	7.8	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952641)									
EM2305209-004	Anonymous	EA055: Moisture Content	----	0.1	%	15.5	17.6	12.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952642)									
EM2305209-001	Anonymous	EA055: Moisture Content	----	0.1	%	23.7	23.6	0.0	0% - 20%
EM2305209-013	UST_SP_0.5-1.0_01	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.9	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4952643)									
EM2305209-026	UST_SP_EXT_02	EA055: Moisture Content	----	0.1	%	25.1	23.4	6.8	0% - 20%
EM2305209-036	UST_QC108	EA055: Moisture Content	----	0.1	%	20.8	17.7	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4953914)									
EM2305209-046	Anonymous	EA055: Moisture Content	----	0.1	%	21.9	21.4	2.2	0% - 20%
EM2305271-043	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	21.2	1.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953724)									
EM2305209-013	UST_SP_0.5-1.0_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4953872)									
EM2305098-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2305119-013	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 4952639)									
EM2305209-013	UST_SP_0.5-1.0_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4954561)									
EM2305209-013	UST_SP_0.5-1.0_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 4952640)									
EM2305209-013	UST_SP_0.5-1.0_01	EK040T: Fluoride	16984-48-8	40	mg/kg	130	100	20.5	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952630)									
EM2305209-023	UST_SP_1.5-2.0_04	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4952634)									
EM2305209-013	UST_SP_0.5-1.0_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952629)									
EM2305209-023	UST_SP_1.5-2.0_04	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633)									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4952633) - continued									
EM2305209-013	UST_SP_0.5-1.0_01	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952631) - continued									
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952635)									
EM2305209-036	UST_QC108	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627)									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	3.4	96.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.0	4.2	123	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.6	25.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.9	2.7	102	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.5	# 16.9	116	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	# 6.6	133	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.4	# 26.9	105	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.0	# 27.1	92.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	# 16.2	106	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	# 13.7	102	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.2	# 18.7	101	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.4	# 8.0	108	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952627) - continued									
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.3	# 18.2	96.9	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	# 7.7	96.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	2.1	100	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.1	# 8.7	94.2	0% - 50%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952631)									
EM2305209-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	14.9	12.4	18.6	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.3	1.8	20.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.5	1.2	19.8	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	3.7	3.2	14.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.9	8.9	11.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.8	1.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.1	# 11.4	21.3	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	14.2	# 11.4	21.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.7	4.5	23.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	4.5	22.0	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.4	6.6	23.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.9	21.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.5	6.0	22.5	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.5	3.6	22.2	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	0.8	26.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.4	4.4	21.1	0% - 50%
EM2305209-014	UST_SP_0.5-1.0_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.3	<0.5	91.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.6	14.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.3	3.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.4	3.3	3.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	1.8	5.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.8	1.6	8.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.2	14.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	2.1	8.7	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	10.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.2	11.4	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952635) - continued									
EM2305209-036	UST_QC108	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.9	0.8	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.8	1.6	10.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.8	0.7	14.9	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.7	6.3	19.0	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.5	2.8	22.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	21.8	18.4	17.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	22.2	18.9	16.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	10.7	15.7	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.4	9.6	7.4	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	14.0	11.7	17.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.6	5.4	14.9	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.9	13.1	6.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.8	5.5	5.0	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	1.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.5	6.1	6.2	0% - 50%
EM2305209-013	UST_SP_0.5-1.0_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	3.6	3.6	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.5	3.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	1.9	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.3	2.4	5.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.4	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850)									
EM2305209-046	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	17.5	14.7	17.4	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	1.9	1.6	19.1	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	4.6	3.7	22.4	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	12.0	10.9	9.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953850) - continued									
EM2305209-046	Anonymous	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.5	2.3	11.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	14.0	13.4	4.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.5	13.4	0.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.3	5.6	5.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.5	6.0	9.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	8.6	4.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.9	3.0	4.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.1	7.4	5.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	4.8	3.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	5.9	6.1	3.2	0% - 50%
EM2305277-008	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953231)									
EM2305209-013	UST_SP_0.5-1.0_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	2.15	2.03	5.6	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	23	12	60.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C9 Fraction	----	10	mg/kg	30	32	5.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: C15 - C28 Fraction	----	100	mg/kg	2350	2000	16.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	160	110	38.3	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1130	970	15.0	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	3080	2690	13.6	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	270	12.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1540	1360	12.5	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: C15 - C28 Fraction	----	100	mg/kg	110	130	15.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: C15 - C28 Fraction	----	100	mg/kg	410	400	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	290	300	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: C15 - C28 Fraction	----	100	mg/kg	150	160	7.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	170	9.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	2920	3260	11.0	0% - 20%
		EP071: C29 - C36 Fraction	----	100	mg/kg	380	360	4.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	1470	1700	14.5	0% - 20%
EM2305277-008	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	540	410	27.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	360	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	20	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	44	26	51.8	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	57	62	6.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952628)									
EM2305209-023	UST_SP_1.5-2.0_04	EP071: >C16 - C34 Fraction	----	100	mg/kg	1540	1270	19.5	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2020	1750	14.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952632)									
EM2305209-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2000	13.5	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	100	10.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2540	2230	13.0	0% - 20%
EM2305209-014	UST_SP_0.5-1.0_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	170	200	14.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952636)									
EM2305209-036	UST_QC108	EP071: >C16 - C34 Fraction	----	100	mg/kg	640	640	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	290	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	17	16	6.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953851)									
EM2305209-046	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	2020	2170	7.0	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	180	170	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	2600	3000	14.2	0% - 20%
EM2305277-008	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	790	640	21.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	220	210	6.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	90	50.4	No Limit
EP080: BTEXN (QC Lot: 4952597)									
EM2305209-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	4	3	0.0	No Limit
EM2305209-013	UST_SP_0.5-1.0_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952613)									
EM2305209-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4952613) - continued									
EM2305209-004	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4952615)									
EM2305209-025	UST_SP_EXT_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2305209-035	UST_SP_ch77-82_03	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4953845)									
EM2305209-046	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	1	1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4953474)									
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.316	0.306	3.1	0% - 20%
EM2304907-008	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4952478) - continued									
EM2305236-001	Anonymous	EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4952478)									
EM2305236-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864)									
EM2305003-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4953864) - continued									
EM2305003-003	Anonymous	EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4952479)									
EM2305219-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305243-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2305293-038	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4953590)									
EM2305186-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305243-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4953606)									
EM2305209-039	UST_QCA06	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2305293-038	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.4	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	98.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	98.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.7	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	94.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	95.6	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	93.5	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	97.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	94.3	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	95.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.0	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	94.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	76.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	105	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	79.5	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	115	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725) - continued								
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.2	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	104	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	91.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.1	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	79.3	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	101	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952630)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	100	68.0	133
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	98.8	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	70.2	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952629) - continued								
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	90.8	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.6	55.5	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.9	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	96.1	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.5	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	98.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	37.7	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	99.9	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	100	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	90.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	97.2	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	38.8	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.2	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.9	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	93.3	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	41.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.8	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	101	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	99.8	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	89.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.5	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	100	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	100	70.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.2	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	100	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	99.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	99.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	97.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	98.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	99.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	92.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	90.0	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.8	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	89.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	89.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	92.0	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.9	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	89.0	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953231)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	86.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	80.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	79.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	110	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	120	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	107	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	113	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	112	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	103	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	80.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	78.3	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	108	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	101	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	122	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	101	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	110	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	103	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	81.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 4952597)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP080: BTEXN (QCLot: 4952613)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	81.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	80.9	65.8	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4952613) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	87.9	61.8	123
EP080: BTEXN (QCLot: 4952615)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	76.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	77.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	78.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	81.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	85.5	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.9	61.8	123
EP080: BTEXN (QCLot: 4953845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	87.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	87.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	91.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.6	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	60.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	55.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	51.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	63.1	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	60.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	61.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	62.0	44.3	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4952478) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	62.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	63.1	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	67.0	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.4	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952478)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	61.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	63.1	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	63.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	66.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	65.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	66.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	65.9	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	65.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	64.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	67.3	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	65.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	64.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	64.3	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	63.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	85.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	86.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.1	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	82.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	96.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	89.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	101	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	101	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	99.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	98.2	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	101	54.5	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953864) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	100	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	97.2	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	96.1	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	95.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	103	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	74.5	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	87.3	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	105	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	97.2	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	78.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	83.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	80.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 4953590)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	108	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	108	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	109	68.3	131
EP080: BTEXN (QCLot: 4953606)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	102	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	106	72.3	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 4953606) - continued								
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	106	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	99.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953723)							
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Lead	7439-92-1	250 mg/kg	# Not Determined	80.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 172	80.0	120
EM2305209-019	UST_SP_1.0-1.5_03	EG005T: Arsenic	7440-38-2	50 mg/kg	114	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	99.0	78.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953725)							
EM2305209-022	UST_SP_1.5-2.0_03	EG005T: Arsenic	7440-38-2	50 mg/kg	89.2	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	87.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	96.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.9	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	93.1	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4953873)							
EM2305098-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.1	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	91.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	95.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	88.2	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953724)							
EM2305209-019	UST_SP_1.0-1.5_03	EG035T: Mercury	7439-97-6	0.5 mg/kg	105	76.0	116

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4953872)							
EM2305098-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4952639)							
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 46.0	58.0	114
EM2305209-019	UST_SP_1.0-1.5_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	60.1	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4954561)							
EM2305209-019	UST_SP_1.0-1.5_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	112	70.0	130
EK040T: Fluoride Total (QCLot: 4952640)							
EM2305209-019	UST_SP_1.0-1.5_03	EK040T: Fluoride	16984-48-8	400 mg/kg	80.0	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4952634)							
EM2305209-021	UST_SP_1.5-2.0_02	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	110	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4952633)							
EM2305209-019	UST_SP_1.0-1.5_03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	92.0	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	93.7	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	64.8	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	99.1	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	94.1	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	71.2	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 4952627)							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	98.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	90.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	81.9	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	70.1	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.6	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	91.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	42.3	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Phenol	108-95-2	3 mg/kg	89.2	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.0	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	77.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	70.4	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	60.8	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952627) - continued							
EM2305209-023	UST_SP_1.5-2.0_04	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# 45.6	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952631)							
EM2305209-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	89.2	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4952635)							
EM2305209-025	UST_SP_EXT_01	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	102	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4953850)							
EM2305245-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	87.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	63.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	# Not Determined	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C9 Fraction	----	28 mg/kg	71.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: C10 - C14 Fraction	----	770 mg/kg	# Not Determined	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	# 72.6	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	99.4	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	103	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	101	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953851) - continued							
EM2305245-006	Anonymous	EP071: C10 - C14 Fraction	----	770 mg/kg	112	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	102	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	# Not Determined	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	70.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952628)							
EM2305209-024	UST_SP_1.5-2.0_05	EP071: >C10 - C16 Fraction	----	1170 mg/kg	# Not Determined	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	89.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	101	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952632)							
EM2305209-003	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	99.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	105	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	96.1	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952636)							
EM2305209-027	UST_SP_EXT_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	106	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	99.3	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	124	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953851)							
EM2305245-006	Anonymous	EP071: >C10 - C16 Fraction	----	1170 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 4952597)							
EM2305209-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	82.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	86.4	57.1	131
EP080: BTEXN (QCLot: 4952613)							
EM2305209-010	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	81.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.9	57.1	131

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP080: BTEXN (QCLot: 4952615)							
EM2305209-026	UST_SP_EXT_02	EP080: Benzene	71-43-2	2 mg/kg	74.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	78.7	57.1	131
EP080: BTEXN (QCLot: 4953845)							
EM2305245-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	74.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.9	57.1	131

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 4953474)							
EB2308593-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	89.9	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	66.6	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	77.4	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	79.0	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	89.6	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	84.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4952479)							
EM2305219-004	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	69.7	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	75.3	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	73.1	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	83.0	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.6	34.0	122
EP080: BTEXN (QCLot: 4953590)							
EM2305186-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	105	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	104	60.4	132
EP080: BTEXN (QCLot: 4953606)							
EM2305209-043	Anonymous	EP080: Benzene	71-43-2	20 µg/L	101	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305209**	Page	: 1 of 21
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Site	: Macquarie Point	Issue Date	: 18-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 49
Order number	: 60693007-3	No. of samples analysed	: 45

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--013	UST_SP_0.5-1.0_01	**Arsenic**	7440-38-2	51.3 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--021	UST_SP_1.5-2.0_02	**Lead**	7439-92-1	38.9 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--030	UST_SP_EXT_06	**Lead**	7439-92-1	31.5 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--021	UST_SP_1.5-2.0_02	**Zinc**	7440-66-6	90.0 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--013	UST_SP_0.5-1.0_01	**Zinc**	7440-66-6	32.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Phenanthrene**	85-01-8	116 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Anthracene**	120-12-7	133 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--001	UST_80_1.2_S	**Fluoranthene**	206-44-0	21.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Fluoranthene**	206-44-0	105 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--001	UST_80_1.2_S	**Pyrene**	129-00-0	21.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Pyrene**	129-00-0	92.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benz(a)anthracene**	56-55-3	106 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Chrysene**	218-01-9	102 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(b+j)fluoranthene**	205-99-2 205-82-3	101 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(k)fluoranthene**	207-08-9	108 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(a)pyrene**	50-32-8	96.9 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Indeno(1.2.3.cd)pyrene**	193-39-5	96.2 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Benzo(g.h.i)perylene**	191-24-2	94.2 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2305209--019	UST_SP_1.0-1.5_03	**Zinc**	7440-66-6	172 %	80.0-120%	**Recovery greater than upper data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2305209--019	UST_SP_1.0-1.5_03	**Hexavalent Chromium**	18540-29-9	46.0 %	58.0-114%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--010	UST_59_E_1.6	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2305209--023	UST_SP_1.5-2.0_04	**Pyrene**	129-00-0	45.6 %	65.5-136%	**Recovery less than lower data quality objective**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions	EM2305209--010	UST_59_E_1.6	**Aliphatic >C6-C8**	TPHCWG-ALV2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP079/070: TPH CWG Aromatic Hydrocarbon Fraction	EM2305209--010	UST_59_E_1.6	**Aromatic >C21-C35**	TPHCWG-ARE4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--010	UST_59_E_1.6	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP080/071: Total Petroleum Hydrocarbons	EM2305209--024	UST_SP_1.5-2.0_05	**C10 - C14 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--024	UST_SP_1.5-2.0_05	**C15 - C28 Fraction**	----	72.6 %	75.6-122%	**Recovery less than lower data quality objective**
EP080/071: Total Petroleum Hydrocarbons	EM2305209--010	UST_59_E_1.6	**C6 - C9 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--010	UST_59_E_1.6	**>C10 - C16 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--024	UST_SP_1.5-2.0_05	**>C10 - C16 Fraction**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM2305209--010	UST_59_E_1.6	**C6 - C10 Fraction**	C6_C10	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**----**	----	----	**24-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
UST_QC106	**20-Mar-2023**	**----**	----	----	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**----**	----	----	**24-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
Rail Timber 01	**21-Mar-2023**	**----**	----	----	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
UST_80_1.2_S,	UST_OL_DL_BF,	**20-Mar-2023**	**27-Mar-2023**	16-Sep-2023	✓	**27-Mar-2023**	16-Sep-2023	✓
UST_77_SE_0.8,	UST_77_SE_1.6,							
UST_74_E_0.8,	UST_74_E_1.6,							
UST_66_E_0.8,	UST_66_E_1.6,							
UST_59_E_0.8,	UST_59_E_1.6,							
UST_55_NE_0.8,	UST_55_NE_1.6,							
UST_QC107,	UST_QC106							
Soil Glass Jar - Unpreserved (EG005T)								
UST_SP_0.5-1.0_01,	UST_SP_0.5-1.0_02,	**21-Mar-2023**	**27-Mar-2023**	17-Sep-2023	✓	**27-Mar-2023**	17-Sep-2023	✓
UST_SP_0.5-1.0_03,	UST_SP_0.5-1.0_04,							
UST_SP_1.0-1.5_01,	UST_SP_1.0-1.5_02,							
UST_SP_1.0-1.5_03,	UST_SP_1.5-2.0_01,							
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_03,							
UST_SP_1.5-2.0_04,	UST_SP_1.5-2.0_05,							
UST_SP_EXT_01,	UST_SP_EXT_02,							
UST_SP_EXT_03,	UST_SP_EXT_04,							
UST_SP_EXT_05,	UST_SP_EXT_06,							
UST_SP_EXT_07,	UST_SP_EXT_08,							
UST_SP_ch77-80_01,	UST_SP_ch77-81_02,							
UST_SP_ch77-82_03,	UST_QC108,							
UST_QC109,	UST_QC110,							
Rail Timber 01								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
UST_SP_0.5-1.0_01,	UST_SP_1.0-1.5_03,	**21-Mar-2023**	**27-Mar-2023**	18-Apr-2023	✓	**27-Mar-2023**	18-Apr-2023	✓
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_04,							
UST_SP_EXT_01,	UST_SP_EXT_03,							
UST_SP_EXT_08,	UST_SP_ch77-82_03,							
UST_QC109,	Rail Timber 01							
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)								
UST_SP_0.5-1.0_01,	UST_SP_1.0-1.5_03,	**21-Mar-2023**	**25-Mar-2023**	18-Apr-2023	✓	**28-Mar-2023**	01-Apr-2023	✓
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_04,							
UST_SP_EXT_01,	UST_SP_EXT_03,							
UST_SP_EXT_08,	UST_SP_ch77-82_03,							
UST_QC109								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**29-Mar-2023**	10-Apr-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	18-Apr-2023	✓	**28-Mar-2023**	18-Apr-2023	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
Rail Timber 01	**21-Mar-2023**	**26-Mar-2023**	04-Apr-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_02, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_02, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**28-Mar-2023**	06-May-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
UST_SP_0.5-1.0_01, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_04, UST_SP_EXT_01, UST_SP_EXT_03, UST_SP_EXT_08, UST_SP_ch77-82_03, UST_QC109	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	06-May-2023	✓
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**28-Mar-2023**	04-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued								
UST_SP_0.5-1.0_01,	UST_SP_0.5-1.0_02,	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
UST_SP_0.5-1.0_03,	UST_SP_0.5-1.0_04,							
UST_SP_1.0-1.5_01,	UST_SP_1.0-1.5_02,							
UST_SP_1.0-1.5_03,	UST_SP_1.5-2.0_01,							
UST_SP_1.5-2.0_02,	UST_SP_1.5-2.0_03,							
UST_SP_1.5-2.0_04,	UST_SP_1.5-2.0_05,							
UST_SP_EXT_01,	UST_SP_EXT_02,							
UST_SP_EXT_03,	UST_SP_EXT_04,							
UST_SP_EXT_05,	UST_SP_EXT_06,							
UST_SP_EXT_07,	UST_SP_EXT_08,							
UST_SP_ch77-80_01,	UST_SP_ch77-81_02,							
UST_SP_ch77-82_03,	UST_QC108,							
UST_QC109,	UST_QC110							
Soil Glass Jar - Unpreserved (EP080)								
Rail Timber 01		**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_77_SE_1.6, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_59_E_1.6, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP071)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) UST_80_1.2_S, UST_OL_DL_BF, UST_77_SE_0.8, UST_74_E_0.8, UST_74_E_1.6, UST_66_E_0.8, UST_66_E_1.6, UST_59_E_0.8, UST_55_NE_0.8, UST_55_NE_1.6, UST_QC107	**20-Mar-2023**	**24-Mar-2023**	03-Apr-2023	✓	**25-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_77_SE_1.6, UST_59_E_1.6	**20-Mar-2023**	**25-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_QC106	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03, UST_QC108, UST_QC109, UST_QC110	**21-Mar-2023**	**24-Mar-2023**	04-Apr-2023	✓	**25-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) UST_SP_1.5-2.0_03, UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05	**21-Mar-2023**	**25-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) Rail Timber 01	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T) UST_QCB07	**20-Mar-2023**	**26-Mar-2023**	16-Sep-2023	✓	**27-Mar-2023**	16-Sep-2023	✓
Clear HDPE (U-T ORC) - Unfiltered; Lab-acidified (EG020A-T) UST_QCB08	**21-Mar-2023**	**26-Mar-2023**	17-Sep-2023	✓	**27-Mar-2023**	17-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) Rail Timber 01	**26-Mar-2023**	**27-Mar-2023**	02-Apr-2023	✓	**27-Mar-2023**	06-May-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP071) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) UST_QCB07	**20-Mar-2023**	**24-Mar-2023**	27-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber Glass Bottle - Unpreserved (EP071) UST_QCB08	**21-Mar-2023**	**24-Mar-2023**	28-Mar-2023	✓	**27-Mar-2023**	03-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA05, UST_QCB07	**20-Mar-2023**	**27-Mar-2023**	03-Apr-2023	✓	**27-Mar-2023**	03-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) UST_QCA06, UST_QCB08	**21-Mar-2023**	**27-Mar-2023**	04-Apr-2023	✓	**27-Mar-2023**	04-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	7	58	**12.07**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	8	52	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	7	60	**11.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	8	54	**14.81**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	6	45	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	52	**9.62**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	60	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	54	**9.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	45	**8.89**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	36	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).

Analytical Methods	Method	Matrix	Method Descriptions
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromotic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998,Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Automated Guideline Comparison Report

Work Order	: **EM2305209-AA**	Page	: 1 of 2
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 18-Apr-2023 10:30
No. of samples received	: 16		
No. of samples analysed	: 16	Quote number	: EN/004/21

General Comments

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Results for all samples detailed in this report are below the upper threshold limits for Fill Material.

Analytical Results

Sub-Matrix:				Sample ID	Guideline Lower Limit	Guideline Upper Limit	----	----	----	----	----
				Sampling date/time			----	----	----	----	----
Compound	*Method*	*LOR*	*Unit*				MU	MU	MU	MU	MU
		-	-		----	----	----	----	----	----	----

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysed	: 24-Mar-2023
C-O-C number	: ----	Date Issued	: 18-Apr-2023 10:31
No. of samples received	: 29		
No. of samples analysed	: 29	Quote number	: EN/004/21

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 5,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.69 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_0.5-1.0_01	**EM2305209-013**	Arsenic	EG005T	5	*< 20 mg/kg*	**150 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Zinc	EG005T	5	*< 200 mg/kg*	**403 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**20.5 mg/kg**
UST_SP_0.5-1.0_01	**EM2305209-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.15 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Arsenic	EG005T	5	*< 20 mg/kg*	**32 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Lead	EG005T	5	*< 300 mg/kg*	**796 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Zinc	EG005T	5	*< 200 mg/kg*	**266 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**42.9 mg/kg**
UST_SP_1.0-1.5_03	**EM2305209-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**16.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Mercury	EG035T	0.1	*< 1 mg/kg*	**4.0 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**59.2 mg/kg**
UST_SP_1.5-2.0_02	**EM2305209-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.53 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Arsenic	EG005T	5	*< 20 mg/kg*	**20 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Lead	EG005T	5	*< 300 mg/kg*	**306 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Zinc	EG005T	5	*< 200 mg/kg*	**243 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**3640 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
UST_SP_1.5-2.0_04	**EM2305209-023**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**58.1 mg/kg**
UST_SP_1.5-2.0_04	**EM2305209-023**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**6.37 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Tin	EG005T	5	*< 50 mg/kg*	**67 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1220 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**53.9 mg/kg**
UST_SP_EXT_01	**EM2305209-025**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.04 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Lead	EG005T	5	*< 300 mg/kg*	**421 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Zinc	EG005T	5	*< 200 mg/kg*	**202 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.8 mg/kg**
UST_SP_EXT_03	**EM2305209-027**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**4.14 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Copper	EG005T	5	*< 100 mg/kg*	**395 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Lead	EG005T	5	*< 300 mg/kg*	**316 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Tin	EG005T	5	*< 50 mg/kg*	**50 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Zinc	EG005T	5	*< 200 mg/kg*	**301 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.3 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**62.2 mg/kg**
UST_SP_EXT_08	**EM2305209-032**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.02 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Arsenic	EG005T	5	*< 20 mg/kg*	**35 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Copper	EG005T	5	*< 100 mg/kg*	**181 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Zinc	EG005T	5	*< 200 mg/kg*	**374 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**5890 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**46.0 mg/kg**
UST_SP_ch77-82_03	**EM2305209-035**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.94 mg/kg**
UST_QC109	**EM2305209-037**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1390 mg/kg**
UST_QC109	**EM2305209-037**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**25.4 mg/kg**
UST_QC109	**EM2305209-037**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.69 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**20.5**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**2.15**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**300**	**----**	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	1000	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**150** ± 18	----	----	----	----
Barium	EG005T	10	mg/kg	----	300	**100** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	**2** ± 0.2	----	----	----	----
Chromium	EG005T	2	mg/kg	----	50	**14** ± 2	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	**11** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	100	**83** ± 10	----	----	----	----
Lead	EG005T	5	mg/kg	----	300	**235** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	500	**223** ± 22	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	60	**24** ± 2	----	----	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	10	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	50	**24** ± 4	----	----	----	----
Zinc	EG005T	5	mg/kg	----	200	**403** ± 42	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.3** ± 0.03	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**1** ± 0.1	----	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**130** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**20.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1		<0.5	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_0.5-1.0_01 *Sample ID* / 21-Mar-2023 15:00 *Sampling date/time* / EM2305209-013	MU	UST_SP_0.5-1.0_02 / 21-Mar-2023 15:00 / EM2305209-014	MU	UST_SP_0.5-1.0_03 / 21-Mar-2023 15:00 / EM2305209-015	MU	UST_SP_0.5-1.0_04 / 21-Mar-2023 15:00 / EM2305209-016	MU	UST_SP_1.0-1.5_01 / 21-Mar-2023 15:00 / EM2305209-017	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	200	**150**	± 18	----		----		----		----	
Barium	EG005T	10	mg/kg	----	3000	**100**	± 10	----		----		----		----	
Beryllium	EG005T	1	mg/kg	----	40	<1	- -	----		----		----		----	
Cadmium	EG005T	1	mg/kg	----	40	**2**	± 0.2	----		----		----		----	
Chromium	EG005T	2	mg/kg	----	500	**14**	± 2	----		----		----		----	
Cobalt	EG005T	2	mg/kg	----	200	**11**	± 1	----		----		----		----	
Copper	EG005T	5	mg/kg	----	2000	**83**	± 10	----		----		----		----	
Lead	EG005T	5	mg/kg	----	1200	**235**	± 25	----		----		----		----	
Manganese	EG005T	5	mg/kg	----	5000	**223**	± 22	----		----		----		----	
Molybdenum	EG005T	2	mg/kg	----	1000	<2	- -	----		----		----		----	
Nickel	EG005T	2	mg/kg	----	600	**24**	± 2	----		----		----		----	
Selenium	EG005T	5	mg/kg	----	50	<5	- -	----		----		----		----	
Silver	EG005T	2	mg/kg	----	180	<2	- -	----		----		----		----	
Tin	EG005T	5	mg/kg	----	500	**24**	± 4	----		----		----		----	
Zinc	EG005T	5	mg/kg	----	14000	**403**	± 42	----		----		----		----	
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	30	**0.3**	± 0.03	----		----		----		----	
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5	- -	----		----		----		----	
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	1000	**1**	± 0.1	----		----		----		----	
EK040T: Fluoride Total															
Fluoride	EK040T	40	mg/kg	----	3000	**130**	± 30	----		----		----		----	
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1		----		----		----		----	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05		----		----		----		----	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05		----		----		----		----	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5		----		----		----		----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**20.5**		----		----		----		----	
EP075B: Polynuclear Aromatic Hydrocarbons															

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_0.5-1.0_01 21-Mar-2023 15:00 EM2305209-013 MU	UST_SP_0.5-1.0_02 21-Mar-2023 15:00 EM2305209-014 MU	UST_SP_0.5-1.0_03 21-Mar-2023 15:00 EM2305209-015 MU	UST_SP_0.5-1.0_04 21-Mar-2023 15:00 EM2305209-016 MU	UST_SP_1.0-1.5_01 21-Mar-2023 15:00 EM2305209-017 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**2.15**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**300**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	30000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	400	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	5000	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	1000	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	7500	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	3000	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	25000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	4000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	3000	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	200	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	720	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	900	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	50000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID / Sampling date/time	UST_SP_1.0-1.5_02 21-Mar-2023 15:00 EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	<10	----	<10	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	<0.2	----	<0.2	----
Toluene	EP080	0.5	mg/kg	----	1000		----	<0.5	----	<0.5	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	<0.5	----	<0.5	----
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	<0.5	----	<0.5	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Sample ID						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	300	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	2	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	3	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	50	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	100	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	100	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	300	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	500	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	60	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	10	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	10	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	50	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	200	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**42.9**	**----**	**59.2**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**16.2**	**----**	**4.53**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	<10	**----**	<10	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**770**	**----**	**470**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	<0.2	**----**	<0.2	**----**
Toluene	EP080	0.5	mg/kg	----	1	**----**	<0.5	**----**	<0.5	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	<0.5	**----**	<0.5	**----**
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	<0.5	**----**	<0.5	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-018 MU	EM2305209-019 MU	EM2305209-020 MU	EM2305209-021 MU	EM2305209-022 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	**32** ± 4	----	**13** ± 2	----
Barium	EG005T	10	mg/kg	----	3000	----	**80** ± 8	----	**130** ± 10	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	<1 - -	----
Chromium	EG005T	2	mg/kg	----	500	----	**14** ± 2	----	**11** ± 1	----
Cobalt	EG005T	2	mg/kg	----	200	----	**12** ± 1	----	**9** ± 1	----
Copper	EG005T	5	mg/kg	----	2000	----	**71** ± 9	----	**60** ± 7	----
Lead	EG005T	5	mg/kg	----	1200	----	**796** ± 83	----	**213** ± 22	----
Manganese	EG005T	5	mg/kg	----	5000	----	**236** ± 24	----	**191** ± 19	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	600	----	**31** ± 3	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	500	----	**39** ± 6	----	**41** ± 7	----
Zinc	EG005T	5	mg/kg	----	14000	----	**266** ± 28	----	**133** ± 14	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.6** ± 0.06	----	**4.0** ± 0.4	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	**1** ± 0.1	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	**120** ± 30	----	**90** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_1.0-1.5_02 21-Mar-2023 15:00 EM2305209-018 MU	UST_SP_1.0-1.5_03 21-Mar-2023 15:00 EM2305209-019 MU	UST_SP_1.5-2.0_01 21-Mar-2023 15:00 EM2305209-020 MU	UST_SP_1.5-2.0_02 21-Mar-2023 15:00 EM2305209-021 MU	UST_SP_1.5-2.0_03 21-Mar-2023 15:00 EM2305209-022 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	**42.9**	----	**59.2**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	**16.2**	----	**4.53**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	<10	----	<10	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	**770**	----	**470**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	<0.2	----	<0.2	----
Toluene	EP080	0.5	mg/kg	----	100		----	<0.5	----	<0.5	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	<0.5	----	<0.5	----
Total Xylenes	EP080	0.5	mg/kg	----	180		----	<0.5	----	<0.5	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	30000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	400	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	7500	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	3000	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	25000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	4000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	200	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	50000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID						
				Sampling date/time	Guideline	Guideline	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
							21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	20	**20** ± 3	----	<5 --	----	<5 --	
Barium	EG005T	10	mg/kg	----	300	**130** ± 10	----	**150** ± 20	----	**120** ± 10	
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	<1 --	----	<1 --	
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	<1 --	----	<1 --	
Chromium	EG005T	2	mg/kg	----	50	**13** ± 2	----	**16** ± 2	----	**18** ± 2	
Cobalt	EG005T	2	mg/kg	----	100	**10** ± 1	----	**23** ± 3	----	**16** ± 2	
Copper	EG005T	5	mg/kg	----	100	**47** ± 6	----	**47** ± 6	----	**59** ± 7	
Lead	EG005T	5	mg/kg	----	300	**306** ± 32	----	**152** ± 16	----	**421** ± 44	
Manganese	EG005T	5	mg/kg	----	500	**182** ± 18	----	**222** ± 22	----	**344** ± 34	
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --	
Nickel	EG005T	2	mg/kg	----	60	**15** ± 1	----	**24** ± 2	----	**28** ± 3	
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	<5 --	----	<5 --	
Silver	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	<2 --	
Tin	EG005T	5	mg/kg	----	50	**32** ± 5	----	**67** ± 10	----	**24** ± 4	
Zinc	EG005T	5	mg/kg	----	200	**243** ± 26	----	**111** ± 12	----	**202** ± 21	
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	1	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08	
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	<0.5 --	----	<0.5 --	
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	32	<1 --	----	<1 --	----	<1 --	
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	300	**70** ± 30	----	**80** ± 30	----	**130** ± 30	
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	<0.1	----	<0.1	
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	<0.05	
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	<0.5	----	<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04 21-Mar-2023 15:00 EM2305209-023 MU	UST_SP_1.5-2.0_05 21-Mar-2023 15:00 EM2305209-024 MU	UST_SP_EXT_01 21-Mar-2023 15:00 EM2305209-025 MU	UST_SP_EXT_02 21-Mar-2023 15:00 EM2305209-026 MU	UST_SP_EXT_03 21-Mar-2023 15:00 EM2305209-027 MU
Sample ID										
Sampling date/time										
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**20** ± 3	----	<5 --	----	<5 --
Barium	EG005T	10	mg/kg	----	3000	**130** ± 10	----	**150** ± 20	----	**120** ± 10
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	**13** ± 2	----	**16** ± 2	----	**18** ± 2
Cobalt	EG005T	2	mg/kg	----	200	**10** ± 1	----	**23** ± 3	----	**16** ± 2
Copper	EG005T	5	mg/kg	----	2000	**47** ± 6	----	**47** ± 6	----	**59** ± 7
Lead	EG005T	5	mg/kg	----	1200	**306** ± 32	----	**152** ± 16	----	**421** ± 44
Manganese	EG005T	5	mg/kg	----	5000	**182** ± 18	----	**222** ± 22	----	**344** ± 34
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	**15** ± 1	----	**24** ± 2	----	**28** ± 3
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	<2 --	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	**32** ± 5	----	**67** ± 10	----	**24** ± 4
Zinc	EG005T	5	mg/kg	----	14000	**243** ± 26	----	**111** ± 12	----	**202** ± 21
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.8** ± 0.08	----	**0.7** ± 0.07	----	**0.8** ± 0.08
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	<1 --	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**70** ± 30	----	**80** ± 30	----	**130** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
Sample ID						EM2305209-023 MU	EM2305209-024 MU	EM2305209-025 MU	EM2305209-026 MU	EM2305209-027 MU
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**58.1**	**----**	**53.9**	**----**	**25.8**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**6.37**	**----**	**5.04**	**----**	**4.14**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10 --	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**3640**	**----**	**1220**	**----**	**490**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	<0.2 --	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5 --	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5 --	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	30000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	400	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	5000	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	3000	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	25000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	3000	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	720	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	900	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	50000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	----	----	----	----	**340**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal
Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	300	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	3	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	50	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	100	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	300	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	500	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	60	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	10	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	50	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	200	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	----	----	----	**62.2**	
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	----	----	----	----	**5.02**	
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65	----	----	----	----	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	----	----	----	----	**340**	
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1	----	----	----	----	<0.2	--
Toluene	EP080	0.5	mg/kg	----	1	----	----	----	----	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	3	----	----	----	----	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	14	----	----	----	----	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-028 MU	EM2305209-029 MU	EM2305209-030 MU	EM2305209-031 MU	EM2305209-032 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	----	----	**15** ± 3
Barium	EG005T	10	mg/kg	----	3000	----	----	----	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	40	----	----	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	500	----	----	----	----	**13** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	----	----	**395** ± 47
Lead	EG005T	5	mg/kg	----	1200	----	----	----	----	**316** ± 33
Manganese	EG005T	5	mg/kg	----	5000	----	----	----	----	**204** ± 20
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	600	----	----	----	----	**16** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	180	----	----	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	500	----	----	----	----	**50** ± 8
Zinc	EG005T	5	mg/kg	----	14000	----	----	----	----	**301** ± 32
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	----	----	**1.3** ± 0.1
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	----	----	<1 - -
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	----	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	UST_SP_EXT_04 21-Mar-2023 15:00 EM2305209-028 MU	UST_SP_EXT_05 21-Mar-2023 15:00 EM2305209-029 MU	UST_SP_EXT_06 21-Mar-2023 15:00 EM2305209-030 MU	UST_SP_EXT_07 21-Mar-2023 15:00 EM2305209-031 MU	UST_SP_EXT_08 21-Mar-2023 15:00 EM2305209-032 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	----	----	----	**62.2**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	----	----	----	**5.02**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	----	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	----	----	----	**340**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	----	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100		----	----	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	----	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180		----	----	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77 -80_01	UST_SP_ch77 -81_02	UST_SP_ch77 -82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	7500	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	3000	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	25000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	50000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
						Sampling date/time	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
							EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		----	----	**46.0**	----	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		----	----	**3.94**	----	**2.69**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		----	----	**30** ± 6	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		----	----	**5890**	----	**1390**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000		----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080		----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800		----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	300	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	2	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	100	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	300	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	500	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	200	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date/time		21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
Sample ID										
Sampling date/time						21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
						EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	**35** ± 5	----	**6** ± 2
Barium	EG005T	10	mg/kg	----	3000	----	----	**130** ± 10	----	**160** ± 20
Beryllium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	**11** ± 1	----	**19** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	**18** ± 2	----	**19** ± 2
Copper	EG005T	5	mg/kg	----	2000	----	----	**181** ± 22	----	**44** ± 5
Lead	EG005T	5	mg/kg	----	1200	----	----	**228** ± 24	----	**153** ± 16
Manganese	EG005T	5	mg/kg	----	5000	----	----	**317** ± 32	----	**271** ± 27
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	**20** ± 2	----	**22** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	**17** ± 4	----	**15** ± 3
Zinc	EG005T	5	mg/kg	----	14000	----	----	**374** ± 39	----	**92** ± 10
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	**0.9** ± 0.09	----	**0.6** ± 0.06
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	<1 --	----	<1 --
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	**80** ± 30	----	**80** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID		UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date/time		21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00	21-Mar-2023 15:00
Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	EM2305209-033 MU	EM2305209-034 MU	EM2305209-035 MU	EM2305209-036 MU	EM2305209-037 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**----**	**----**	**46.0**	**----**	**25.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**----**	**----**	**3.94**	**----**	**2.69**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	**----**	**----**	**30** ± 6	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**----**	**----**	**5890**	**----**	**1390**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	100	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	100	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	180	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110** 21-Mar-2023 15:00 **EM2305209-038** MU	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	**----**	**----**	**----**	**----**
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**UST_QC110**	----	----	----	----
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
							EM2305209-038 MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	----	----	----	----	----	----
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Lead	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	----	----	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**UST_QC110**	**----**	**----**	**----**	**----**
				Sampling date/time			21-Mar-2023 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305209-038** MU				
EP080/071: Total Petroleum Hydrocarbons											
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
C6 - C9 Fraction	EP080	10	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	----	**----**	**----**	**----**	**----**	**----**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305209-AB**	Page	: 1 of 39
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 24-Mar-2023
C-O-C number	: ----	Issue Date	: 18-Apr-2023 10:25
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 29		
No. of samples analysed	: 29		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
~ = Indicates an estimated value.

- EP070-CWG: EM2305209_010 Unable to determine surrogate recovery due to matrix interferences.
- EG048G: EM2305209 #19 Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305209 #13 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #19 Poor spike recovery for total metal due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #21 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2305209 #30 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (30/03/2023):This report has been amended following the request from client to split report. All analysis results are as per the previous report
- EP075(SIM): EM2305209_023 Poor duplicate precision due to sample heterogeneity. Confirmed by MS QC.
- EP075(SIM): EM2305209_001 Poor duplicate precision for fluoranthene and pyrene due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_023 Poor matrix spike recovery sample heterogeneity. Confirmed by DUP QC.
- EP071: EM2305209-024 Poor matrix spike recovery due to sample matrix. Confirmed by re-extraction and re-analysis.
- EP075(SIM): EM2305209_042 Poor matrix spike recovery for pyrene due to sample matrix. Confirmed by re-extraction and re-analysis.
- ALS is not NATA accredited for the analysis of organics or inorganics in timber.
- EN33a-G: EM2305209 #050 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**15.6**	**18.5**	**10.9**	**10.0**	**15.4**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**150**	----	----	----	----
Barium	7440-39-3	10	mg/kg	**100**	----	----	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**2**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**14**	----	----	----	----
Cobalt	7440-48-4	2	mg/kg	**11**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**83**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**235**	**277**	**386**	**95**	**250**
Manganese	7439-96-5	5	mg/kg	**223**	----	----	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**24**	----	----	----	----
Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
Silver	7440-22-4	2	mg/kg	<2	----	----	----	----
Tin	7440-31-5	5	mg/kg	**24**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**403**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.3**	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**1**	----	----	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**130**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	1.3	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		0.5	<0.5	<0.5	<0.5	1.7
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	0.6
Phenanthrene	85-01-8	0.5	mg/kg		1.7	1.4	1.2	1.6	8.1
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	2.2
Fluoranthene	206-44-0	0.5	mg/kg		3.6	3.3	2.1	3.1	20.2
Pyrene	129-00-0	0.5	mg/kg		3.5	3.4	2.2	3.3	19.3
Benz(a)anthracene	56-55-3	0.5	mg/kg		1.8	1.9	1.2	1.8	11.6
Chrysene	218-01-9	0.5	mg/kg		1.7	1.8	1.2	1.7	10.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		2.3	2.6	1.7	2.4	13.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		0.8	0.9	0.7	0.9	5.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	2.3	1.6	2.3	14.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.1	1.1	0.8	1.1	6.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	1.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.4	1.4	1.0	1.4	7.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		20.5	21.4	13.7	19.6	123
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		2.7	3.0	2.1	3.0	19.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.0	3.2	2.3	3.2	19.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		3.2	3.5	2.6	3.4	19.8
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		2.15	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		150	110	<100	150	390
C29 - C36 Fraction	----	100	mg/kg		150	<100	<100	<100	230
^ C10 - C36 Fraction (sum)	----	50	mg/kg		300	110	<50	150	620
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		270	170	130	190	550

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**270**	**170**	**130**	**190**	**550**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**86.6**	**----**	**----**	**----**	**----**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**102**	**----**	**----**	**----**	**----**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**104**	**----**	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**95.0**	**87.8**	**88.7**	**81.5**	**89.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.9**	**87.3**	**93.6**	**85.4**	**87.9**
2.4.6-Tribromophenol	118-79-6	0.5	%		**87.7**	**84.2**	**85.6**	**83.6**	**87.6**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.1**	**92.2**	**96.7**	**91.7**	**92.7**
Anthracene-d10	1719-06-8	0.5	%		**95.0**	**97.2**	**102**	**95.3**	**96.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**90.1**	**95.4**	**101**	**92.6**	**94.6**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**72.5**	**----**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	0.025	%		**74.7**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.025	%		**76.6**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.7**	**90.1**	**87.4**	**90.6**	**91.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-013	EM2305209-014	EM2305209-015	EM2305209-016	EM2305209-017
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**77.4**	**73.1**	**72.8**	**79.8**	**75.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.4**	**83.2**	**82.3**	**83.9**	**83.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.7	11.8	19.7	18.9	19.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	32	----	13	----
Barium	7440-39-3	10	mg/kg	----	80	----	130	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	<1	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	----
Chromium	7440-47-3	2	mg/kg	----	14	----	11	----
Cobalt	7440-48-4	2	mg/kg	----	12	----	9	----
Copper	7440-50-8	5	mg/kg	----	71	----	60	----
Lead	7439-92-1	5	mg/kg	250	796	259	213	153
Manganese	7439-96-5	5	mg/kg	----	236	----	191	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	<2	----
Nickel	7440-02-0	2	mg/kg	----	31	----	12	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	<5	----
Silver	7440-22-4	2	mg/kg	----	<2	----	<2	----
Tin	7440-31-5	5	mg/kg	----	39	----	41	----
Zinc	7440-66-6	5	mg/kg	----	266	----	133	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.6	----	4.0	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	1	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	120	----	90	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	<0.2	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	<0.05	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	0.9	1.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		0.9	0.9	1.0	0.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		3.4	2.6	5.0	3.7	2.0
Anthracene	120-12-7	0.5	mg/kg		1.1	0.8	2.6	1.4	0.6
Fluoranthene	206-44-0	0.5	mg/kg		9.4	6.1	14.4	8.9	3.0
Pyrene	129-00-0	0.5	mg/kg		9.5	6.5	14.3	9.2	3.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		6.2	3.9	8.9	6.1	1.9
Chrysene	218-01-9	0.5	mg/kg		5.5	3.5	7.9	5.2	1.8
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		7.8	5.1	10.2	7.0	2.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		3.0	1.6	4.0	2.4	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		7.9	----	10.4	----	2.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		3.4	2.4	4.2	3.0	1.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.9	0.7	1.2	0.9	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		4.1	2.9	4.9	3.6	1.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		63.1	42.9	90.0	59.2	22.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	3.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	3.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		10.9	7.1	14.4	9.8	4.0
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	16.2	----	4.53	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	11
C10 - C14 Fraction	----	50	mg/kg		<50	80	<50	<50	470
C15 - C28 Fraction	----	100	mg/kg		270	540	360	310	1190
C29 - C36 Fraction	----	100	mg/kg		150	150	230	160	110
^ C10 - C36 Fraction (sum)	----	50	mg/kg		420	770	590	470	1770
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	25
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	25
>C10 - C16 Fraction	----	50	mg/kg		<50	260	<50	80	1040
>C16 - C34 Fraction	----	100	mg/kg		360	480	530	380	700

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**360**	**740**	**530**	**460**	**1740**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**260**	<50	**80**	**1040**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**89.4**	----	**81.6**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**104**	----	**98.1**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**103**	----	**102**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**82.6**	**97.5**	**89.3**	**90.6**	**84.5**
2-Chlorophenol-D4	93951-73-6	0.5	%		**86.1**	**92.0**	**88.7**	**89.5**	**86.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**83.1**	**91.0**	**83.8**	**81.6**	**90.9**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**88.9**	**90.2**	**91.1**	**91.3**	**87.7**
Anthracene-d10	1719-06-8	0.5	%		**95.9**	**97.8**	**95.7**	**95.6**	**94.4**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.8**	**96.6**	**94.4**	**101**	**98.8**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	**76.5**	----	**81.5**	----
Anthracene-d10	1719-06-8	0.025	%		----	**81.3**	----	**91.9**	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	**88.5**	----	**85.9**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**92.2**	**86.5**	**89.1**	**86.0**	**86.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-018	EM2305209-019	EM2305209-020	EM2305209-021	EM2305209-022
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**72.1**	**71.2**	**74.6**	**72.9**	**97.1**
4-Bromofluorobenzene	460-00-4	0.2	%		**80.1**	**80.2**	**81.3**	**79.5**	**119**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.1**	**21.9**	**19.5**	**25.1**	**17.7**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**20**	----	<5	----	<5
Barium	7440-39-3	10	mg/kg	**130**	----	**150**	----	**120**
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	**13**	----	**16**	----	**18**
Cobalt	7440-48-4	2	mg/kg	**10**	----	**23**	----	**16**
Copper	7440-50-8	5	mg/kg	**47**	----	**47**	----	**59**
Lead	7439-92-1	5	mg/kg	**306**	**373**	**152**	**181**	**421**
Manganese	7439-96-5	5	mg/kg	**182**	----	**222**	----	**344**
Molybdenum	7439-98-7	2	mg/kg	<2	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	**15**	----	**24**	----	**28**
Selenium	7782-49-2	5	mg/kg	<5	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	**32**	----	**67**	----	**24**
Zinc	7440-66-6	5	mg/kg	**243**	----	**111**	----	**202**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.8**	----	**0.7**	----	**0.8**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**70**	----	**80**	----	**130**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	**2.3**	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	**0.7**	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	**0.5**	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	**1.3**	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	**0.9**	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		1.2	7.4	1.0	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		1.0	1.3	0.6	0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	1.0	1.1	0.8	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.9	4.0	2.1	1.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		4.5	4.4	6.3	6.1	1.7
Anthracene	120-12-7	0.5	mg/kg		1.3	1.1	2.3	2.6	0.6
Fluoranthene	206-44-0	0.5	mg/kg		8.4	4.0	9.4	8.7	4.1
Pyrene	129-00-0	0.5	mg/kg		10.0	5.4	8.9	8.1	4.2
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.0	2.0	4.5	4.2	2.6
Chrysene	218-01-9	0.5	mg/kg		4.4	1.8	3.4	3.2	2.3
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.2	3.4	4.0	4.0	3.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.4	3.4	2.1	1.5	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	2.4	----	4.0	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.7	1.2	1.7	1.5	1.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.7	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.1	1.4	2.0	1.8	1.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		58.1	44.2	53.9	48.6	25.8
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		8.7	3.4	5.8	5.2	3.9
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		8.7	3.7	6.0	5.4	4.1
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		8.7	3.9	6.3	5.7	4.4
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		6.37	----	5.04	----	4.14
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	41	<10	11	<10
C10 - C14 Fraction	----	50	mg/kg		1130	4500	340	380	<50
C15 - C28 Fraction	----	100	mg/kg		2350	8550	880	850	370
C29 - C36 Fraction	----	100	mg/kg		160	<100	<100	<100	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg		3640	13000	1220	1230	490
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		19	82	<10	20	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		19	81	<10	20	<10
>C10 - C16 Fraction	----	50	mg/kg		2020	8010	760	620	150
>C16 - C34 Fraction	----	100	mg/kg		1540	4920	510	650	360

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**3560**	**12900**	**1270**	**1270**	**510**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**2020**	**8010**	**760**	**620**	**150**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**1.0**	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	**1.0**	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	**1.0**	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	**3**	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**85.5**	**----**	**86.8**	**----**	**86.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**101**	**----**	**102**	**----**	**98.9**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**104**	**----**	**107**	**----**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.1**	**91.1**	**89.3**	**84.2**	**90.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.6**	**88.9**	**105**	**86.6**	**89.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**93.4**	**98.4**	**84.4**	**84.1**	**83.1**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.6**	**93.0**	**93.1**	**92.8**	**88.3**
Anthracene-d10	1719-06-8	0.5	%		**94.8**	**94.3**	**84.2**	**95.7**	**96.6**
4-Terphenyl-d14	1718-51-0	0.5	%		**92.7**	**91.0**	**92.3**	**94.0**	**101**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**78.5**	**----**	**82.6**	**----**	**82.3**
Anthracene-d10	1719-06-8	0.025	%		**83.7**	**----**	**85.3**	**----**	**91.5**
4-Terphenyl-d14	1718-51-0	0.025	%		**87.2**	**----**	**88.7**	**----**	**86.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**75.7**	**83.2**	**91.6**	**96.0**	**114**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-023	EM2305209-024	EM2305209-025	EM2305209-026	EM2305209-027
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**81.0**	**93.4**	**75.9**	**80.2**	**80.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**94.1**	**116**	**84.3**	**89.9**	**91.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.8**	**19.8**	**12.8**	**21.2**	**21.2**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	----	**15**
Barium	7440-39-3	10	mg/kg	----	----	----	----	**160**
Beryllium	7440-41-7	1	mg/kg	----	----	----	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	----	**13**
Cobalt	7440-48-4	2	mg/kg	----	----	----	----	**12**
Copper	7440-50-8	5	mg/kg	----	----	----	----	**395**
Lead	7439-92-1	5	mg/kg	**260**	**425**	**516**	**393**	**316**
Manganese	7439-96-5	5	mg/kg	----	----	----	----	**204**
Molybdenum	7439-98-7	2	mg/kg	----	----	----	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	----	----	**16**
Selenium	7782-49-2	5	mg/kg	----	----	----	----	<5
Silver	7440-22-4	2	mg/kg	----	----	----	----	<2
Tin	7440-31-5	5	mg/kg	----	----	----	----	**50**
Zinc	7440-66-6	5	mg/kg	----	----	----	----	**301**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	----	**1.3**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	----	----	**80**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	0.6	<0.5	0.9	2.1
Acenaphthylene	208-96-8	0.5	mg/kg		0.7	0.7	0.6	0.9	0.9
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	0.9	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.7	0.7	<0.5	3.2	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		4.0	3.7	2.4	7.0	4.5
Anthracene	120-12-7	0.5	mg/kg		1.7	1.4	0.7	1.6	1.4
Fluoranthene	206-44-0	0.5	mg/kg		8.2	7.6	6.0	7.5	9.9
Pyrene	129-00-0	0.5	mg/kg		8.3	7.9	5.7	7.6	9.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		4.2	4.4	3.8	4.2	6.0
Chrysene	218-01-9	0.5	mg/kg		3.5	3.9	3.4	3.6	5.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		4.2	5.2	4.6	4.8	7.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.1	2.1	1.8	1.5	2.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg		4.6	5.3	4.6	4.6	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.0	2.3	2.0	2.1	2.9
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.5	0.6	0.6	0.6	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		2.2	2.7	2.4	2.5	3.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		46.9	49.1	38.6	53.5	62.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		6.4	7.4	6.5	6.5	9.2
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	----	----	5.02
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	29	<10
C10 - C14 Fraction	----	50	mg/kg		220	140	<50	1320	<50
C15 - C28 Fraction	----	100	mg/kg		880	530	210	2550	200
C29 - C36 Fraction	----	100	mg/kg		190	140	110	140	140
^ C10 - C36 Fraction (sum)	----	50	mg/kg		1290	810	320	4010	340
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		10	<10	<10	59	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		10	<10	<10	59	<10
>C10 - C16 Fraction	----	50	mg/kg		410	240	<50	2670	<50
>C16 - C34 Fraction	----	100	mg/kg		830	520	280	1260	300

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**1240**	**760**	**280**	**3930**	**300**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**410**	**240**	<50	**2670**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	**86.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	**101**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**81.6**	**83.1**	**85.8**	**96.3**	**90.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		**100**	**85.7**	**89.0**	**92.2**	**88.5**
2.4.6-Tribromophenol	118-79-6	0.5	%		**82.9**	**85.8**	**83.1**	**92.3**	**83.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**85.0**	**86.4**	**91.4**	**96.2**	**92.3**
Anthracene-d10	1719-06-8	0.5	%		**84.0**	**89.7**	**97.2**	**95.0**	**95.2**
4-Terphenyl-d14	1718-51-0	0.5	%		**88.8**	**88.2**	**95.0**	**98.6**	**98.9**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	----	----	----	**86.6**
Anthracene-d10	1719-06-8	0.025	%		----	----	----	----	**95.9**
4-Terphenyl-d14	1718-51-0	0.025	%		----	----	----	----	**90.1**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**85.3**	**86.2**	**93.8**	**92.6**	**89.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-028	EM2305209-029	EM2305209-030	EM2305209-031	EM2305209-032
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**72.0**	**70.2**	**77.7**	**80.0**	**73.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**78.4**	**79.2**	**85.8**	**87.2**	**80.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.1	13.0	18.6	20.8	25.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	35	----	6
Barium	7440-39-3	10	mg/kg	----	----	130	----	160
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	11	----	19
Cobalt	7440-48-4	2	mg/kg	----	----	18	----	19
Copper	7440-50-8	5	mg/kg	----	----	181	----	44
Lead	7439-92-1	5	mg/kg	309	182	228	763	153
Manganese	7439-96-5	5	mg/kg	----	----	317	----	271
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	20	----	22
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	17	----	15
Zinc	7440-66-6	5	mg/kg	----	----	374	----	92
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	0.9	----	0.6
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	80	----	80
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	6.1	2.1	0.9	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		2.2	1.0	0.6	1.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	1.3	0.6	<0.5	0.6
Fluorene	86-73-7	0.5	mg/kg		0.5	1.9	1.5	0.8	1.4
Phenanthrene	85-01-8	0.5	mg/kg		10.5	6.3	2.4	7.7	3.4
Anthracene	120-12-7	0.5	mg/kg		2.4	1.8	1.2	3.5	1.0
Fluoranthene	206-44-0	0.5	mg/kg		24.8	8.8	6.3	21.8	3.8
Pyrene	129-00-0	0.5	mg/kg		25.6	10.6	7.2	22.2	3.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		14.9	5.7	4.0	12.5	2.1
Chrysene	218-01-9	0.5	mg/kg		13.0	5.0	3.5	10.4	1.7
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		16.4	7.6	4.8	14.0	2.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		5.4	2.2	1.6	4.6	0.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		16.6	6.9	----	13.9	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		7.6	3.4	2.3	5.8	1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		2.2	0.9	0.6	1.7	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		8.6	4.0	2.8	6.5	1.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		151	73.5	46.0	128	25.4
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.0
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		23.4	9.8	6.4	19.4	3.4
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	3.94	----	2.69
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	30	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	590	1820	<50	410
C15 - C28 Fraction	----	100	mg/kg		410	1710	3930	410	980
C29 - C36 Fraction	----	100	mg/kg		270	200	140	290	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		680	2500	5890	700	1390
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	57	<10	13
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	57	<10	13
>C10 - C16 Fraction	----	50	mg/kg		<50	1380	3900	<50	900
>C16 - C34 Fraction	----	100	mg/kg		620	1070	1910	640	530

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		**150**	**120**	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**770**	**2570**	**5810**	**640**	**1430**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**1380**	**3900**	<50	**900**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	**2**	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**----**	**----**	**87.8**	**----**	**84.4**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**----**	**----**	**103**	**----**	**97.1**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**----**	**----**	**118**	**----**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**97.3**	**91.5**	**93.8**	**90.1**	**89.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**91.7**	**87.4**	**92.1**	**108**	**86.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**89.8**	**87.4**	**88.4**	**85.9**	**77.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.8**	**92.9**	**98.2**	**98.3**	**89.0**
Anthracene-d10	1719-06-8	0.5	%		**95.9**	**95.3**	**98.2**	**99.0**	**94.1**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.4**	**97.6**	**106**	**94.9**	**100**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**----**	**----**	**88.1**	**----**	**74.6**
Anthracene-d10	1719-06-8	0.025	%		**----**	**----**	**89.4**	**----**	**72.8**
4-Terphenyl-d14	1718-51-0	0.025	%		**----**	**----**	**90.1**	**----**	**82.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.8**	**87.1**	**81.5**	**88.1**	**82.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	UST_QC108	UST_QC109
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2305209-033	EM2305209-034	EM2305209-035	EM2305209-036	EM2305209-037
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**74.8**	**69.3**	**68.4**	**71.1**	**68.7**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.8**	**79.9**	**76.6**	**80.5**	**79.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_QC110	----	----	----	----
			Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-038	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**12.9**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**266**	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	**0.5**	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.9**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**3.4**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**0.7**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**8.5**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**3.9**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**54.0**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**66.7**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**43.7**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**32.7**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**54.2**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**16.7**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**55.8**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**23.6**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**6.9**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**26.0**	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**398**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_QC110	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-038	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**77.1**	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**77.1**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**77.1**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1130**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**850**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1980**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**1800**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**430**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2230**	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**85.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**85.3**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**91.5**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_QC110	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-038	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**98.9**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**95.8**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.2**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**73.3**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.8**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**94.4**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**95.3**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**102**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**35.1**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**49.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**35.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**75.4**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**81.4**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**85.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**108**	**108**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	UST_QCA06	UST_QCB08	----	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-039	EM2305209-040	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**100**	**101**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**110**	**111**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)			Sample ID	Rail Timber 01	----	----	----	----
			Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305209-050	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**34.0**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**78**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**4**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**80**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**26**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**13**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**615**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**7.0**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.5**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.2**	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1070**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**1240**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**2310**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**2080**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**710**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2790**	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**76.1**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**75.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**80.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**78.9**	----	----	----	----

Analytical Results

Sub-Matrix: WOOD (Matrix: SOIL)				Sample ID	Rail Timber 01	----	----	----	----
				Sampling date / time	21-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305209-050	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**81.8**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**79.1**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**71.3**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**75.5**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.8**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)T: PAH Surrogates - Continued			
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: WOOD		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

CERTIFICATE OF ANALYSIS

Work Order	: **EM2310878**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 10-Jun-2023
C-O-C number	: 53213	Issue Date	: 22-Jun-2023 16:48
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 18		
No. of samples analysed	: 18		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- This is a rebatch of EM2310229.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_424_0.5	OL_EX_424_1.5	UST_SP_01	UST_SP_02	UST_SP_03
			Sampling date / time	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:07	07-Jun-2023 10:08	07-Jun-2023 10:08
Compound	CAS Number	LOR	Unit	EM2310878-001	EM2310878-002	EM2310878-003	EM2310878-004	EM2310878-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.8**	**22.3**	**----**	**----**	**----**
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**----**	**----**	**9.3**	**9.3**	**9.5**
After HCl pH	----	0.1	pH Unit	**----**	**----**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**----**	**----**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**----**	**----**	**5.5**	**5.7**	**5.8**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions								
^ Aliphatic >C5-C6	----	5	mg/kg	<5	<5	**----**	**----**	**----**
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	**----**	**----**	**----**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	**216**	**106**	**----**	**----**	**----**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	**1500**	**1020**	**----**	**----**	**----**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	**721**	**613**	**----**	**----**	**----**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions								
Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	**----**	**----**	**----**
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg	<0.5	<0.5	**----**	**----**	**----**
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg	**128**	**31.7**	**----**	**----**	**----**
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	**938**	**222**	**----**	**----**	**----**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	**532**	**201**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_04	UST_SP_05	UST_SP_06	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05
			Sampling date / time	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit	EM2310878-006	EM2310878-007	EM2310878-008	EM2310878-009	EM2310878-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.5**	**9.8**	**9.7**	**9.8**	**9.7**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.6**	**5.7**	**5.6**	**6.3**	**6.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03
			Sampling date / time	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23
Compound	CAS Number	LOR	Unit	EM2310878-011	EM2310878-012	EM2310878-013	EM2310878-014	EM2310878-015
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	**9.9**	**9.7**	**9.8**	**9.9**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.3**	**6.2**	**5.9**	**5.9**	**5.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP8_01	OL_EX_SP8_02	OL_EX_SP8_03	----	----
			Sampling date / time	07-Jun-2023 10:25	07-Jun-2023 10:25	07-Jun-2023 10:25	----	----
Compound	CAS Number	LOR	Unit	EM2310878-016	EM2310878-017	EM2310878-018	--------	--------
				Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**10.0**	**9.8**	**9.2**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**----**	**----**
Final pH	----	0.1	pH Unit	**6.3**	**5.6**	**5.4**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	UST_SP_01	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05
			Sampling date / time	07-Jun-2023 10:07	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09
Compound	CAS Number	LOR	Unit	EM2310878-003	EM2310878-004	EM2310878-005	EM2310878-006	EM2310878-007
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**80.3**	**71.2**	**66.0**	**95.6**	**81.8**
Anthracene-d10	1719-06-8	1.0	%	**84.2**	**80.0**	**78.5**	**89.0**	**90.6**
4-Terphenyl-d14	1718-51-0	1.0	%	**90.2**	**86.4**	**83.9**	**94.6**	**97.3**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_06	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310878-008	EM2310878-009	EM2310878-010	EM2310878-011	EM2310878-012
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	**1.5**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	**1.3**	**2.5**	**1.3**	**1.2**
Fluorene	86-73-7	1.0	µg/L		<1.0	**1.3**	**2.6**	**1.4**	**1.2**
Phenanthrene	85-01-8	1.0	µg/L		**1.7**	**2.3**	**3.5**	**2.3**	**1.9**
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	**1.0**	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	**1.3**	**1.0**	**1.1**
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	**1.8**	**1.2**	**1.5**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**1.7**	**4.9**	**14.2**	**7.2**	**6.9**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.7**	**80.7**	**88.5**	**86.0**	**89.6**
Anthracene-d10	1719-06-8	1.0	%		**85.8**	**83.8**	**77.4**	**83.5**	**84.5**
4-Terphenyl-d14	1718-51-0	1.0	%		**91.0**	**90.2**	**83.2**	**88.4**	**90.4**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
				Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit		EM2310878-013	EM2310878-014	EM2310878-015	EM2310878-016	EM2310878-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	**1.8**	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	**1.8**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**92.0**	**103**	**95.9**	**89.0**	**105**
Anthracene-d10	1719-06-8	1.0	%		**85.7**	**94.0**	**88.9**	**86.2**	**98.2**
4-Terphenyl-d14	1718-51-0	1.0	%		**90.9**	**98.2**	**93.1**	**88.8**	**102**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310878-018	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**96.6**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**91.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**95.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2310878**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Order number	: 60693007-2	Date Analysis Commenced	: 10-Jun-2023
C-O-C number	: 53213	Issue Date	: 22-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 18		
No. of samples analysed	: 18		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5121409)									
EM2310878-003	UST_SP_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2310878-012	UST_SP_Ext_59SP_07	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	1.2	<1.0	15.2	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	1.2	<1.0	14.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	1.9	1.4	27.7	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5121409) - continued									
EM2310878-012	UST_SP_Ext_59SP_07	EP075(SIM): Fluoranthene	206-44-0	1	µg/L	1.1	<1.0	10.1	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	1.5	1.1	26.7	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5124015)									
EM2310878-013	OL_EX_SP7_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5121029)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	138	72.4	142
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	138	78.8	138
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5122335)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	78.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	93.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	71.1	55.0	124
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5121029)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	110	44.7	157
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	106	55.2	142
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5122335)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	83.8	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	87.6	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	87.5	72.2	107

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5121409)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.9	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	81.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	86.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	86.2	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	84.9	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	84.8	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.4	50.0	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5121409) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	89.0	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	85.9	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	86.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	87.2	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.0	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	83.8	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	83.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	84.1	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5124015)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	105	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	99.2	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	105	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	105	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	112	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	113	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	114	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	110	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	110	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	125	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	108	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	104	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	100	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	105	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	106	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	112	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310878**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 22-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 18
Order number	: 60693007-2	No. of samples analysed	: 18

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
TPH Speciation (TPH CWG & RIVM fractions)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	17	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**----**	----	**----**	**10-Jun-2023**	21-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**19-Jun-2023**	04-Dec-2023	✓	**----**	----	----
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**20-Jun-2023**	04-Dec-2023	✓	**----**	----	----
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
UST_SP_Ext_59SP_05	**07-Jun-2023**	**21-Jun-2023**	04-Dec-2023	✓	**----**	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_1.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_0.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**21-Jun-2023**	23-Jul-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_1.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_0.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**21-Jun-2023**	23-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**19-Jun-2023**	**20-Jun-2023**	26-Jun-2023	✓	**21-Jun-2023**	30-Jul-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**20-Jun-2023**	**21-Jun-2023**	27-Jun-2023	✓	**21-Jun-2023**	31-Jul-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05	**21-Jun-2023**	**20-Jun-2023**	28-Jun-2023	✓	**21-Jun-2023**	30-Jul-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	3	17	**17.65**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromatic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Rebatch

Client / Client code: AECOM
Project: McQUARIE Point
Project Manger: Robert Crowe
Date /time sample rec: 7/06/2023 23:45
Date/time Instructions rec: 16/06/2023 13:18:00 PM
Due date: Friday, 23 June 2023
Due date surcharge: STANDARD

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

Environmental Division
Melbourne
Work Order Reference
EM2310878

Telephone : +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis											Shortest Holding time expiry
								Standard					Leach						
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container		Aliphatic/Aromatic Speciation TRH C10-C16	Aliphatic/Aromatic Speciation TRH C6-C10				TCLP Leachate (PAHs)						
1	OL_EX_424_0.5	7/06/2023 10:03	EM2310229	7	PREVIOUS EXTRAXCT	EXTRCT VIAL	1	X	X										21-Jun-23
2	OL_EX_424_1.5	7/06/2023 10:04	EM2310229	8	PREVIOUS EXTRAXCT	EXTRCT VIAL	1	X	X										21-Jun-23
3	UST_SP_01	7/06/2023 10:07	EM2310229	11	MS: 4322-4324	SOIL JAR	1						X						21-Jun-23
4	UST_SP_02	7/06/2023 10:08	EM2310229	12	MS: 4322-4325	SOIL JAR	1						X						21-Jun-23
5	UST_SP_03	7/06/2023 10:08	EM2310229	13	MS: 4322-4326	SOIL JAR	1						X						21-Jun-23
6	UST_SP_04	7/06/2023 10:09	EM2310229	14	MS: 4322-4327	SOIL JAR	1						X						21-Jun-23
7	UST_SP_05	7/06/2023 10:09	EM2310229	15	MS: 4322-4328	SOIL JAR	1						X						21-Jun-23
8	UST_SP_06	7/06/2023 10:10	EM2310229	16	MS: 4322-4329	SOIL JAR	1						X						21-Jun-23
9	UST_SP_Ext_59SP_04	7/06/2023 10:12	EM2310229	19	MS: 4322-4330	SOIL JAR	1						X						21-Jun-23
10	UST_SP_Ext_59SP_05	7/06/2023 10:16	EM2310229	20	MS: 4322-4331	SOIL JAR	1						X						21-Jun-23
11	UST_SP_Ext_59SP_06	7/06/2023 10:16	EM2310229	21	MS: 4322-4332	SOIL JAR	1						X						21-Jun-23
12	UST_SP_Ext_59SP_07	7/06/2023 10:16	EM2310229	22	MS: 4322-4333	SOIL JAR	1						X						21-Jun-23
13	OL_EX_SP7_01	7/06/2023 10:22	EM2310229	23	MS: 4322-4334	SOIL JAR	1						X						21-Jun-23
14	OL_EX_SP7_02	7/06/2023 10:22	EM2310229	24	MS: 4322-4335	SOIL JAR	1						X						21-Jun-23
15	OL_EX_SP7_03	7/06/2023 10:23	EM2310229	28	MS: 4322-4336	SOIL JAR	1						X						21-Jun-23
16	OL_EX_SP8_01	7/06/2023 10:25	EM2310229	29	MS: 4322-4337	SOIL JAR	1						X						21-Jun-23
17	OL_EX_SP8_02	7/06/2023 10:25	EM2310229	30	MS: 4322-4338	SOIL JAR	1						X						21-Jun-23
18	OL_EX_SP8_03	7/06/2023 10:25	EM2310229	31	MS: 4322-4339	SOIL JAR	1						X						21-Jun-23
						TOTAL	18												

Bryn Walker

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Friday, 16 June 2023 1:18 PM
To: Peter Ravlic
Subject: [EXTERNAL] - FW: RESULTS & EDD & INVOICE for ALS Workorder : EM2310094 | Overall Description: Macquarie Point - This is a rebatch of EM2309607.
Attachments: Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV; Macquarie Point.ESDAT_EM2310094_0.Header.XML; Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV; EM2310094_0_QC.pdf; EM2310094_COC.pdf; EM2310094_0_COA.pdf; EM2310094_0_QCI.pdf; EM2310094a.Macquarie Point.AECOM.zip; 1151728282_INV.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

Can I request the following additional analysis on this batch? Would you also be able to give me a quick call if any issues – unfortunately just moved house and having some fun IT teething issues at the moment.

Cheers, and hope you have a good weekend ahead,

Rob

Lab ID	Field ID	Additional Analysis		
		Aliphatic/Aromatic Speciation TRH C6-C10	Aliphatic/Aromatic Speciation TRH C10-C16	TCLP Leachate (PAHs)
EM2310229007	OL_EX_424_0.5	X	X	
EM2310229008	OL_EX_424_1.5	X	X	
EM2310229011	UST_SP_01			x
EM2310229012	UST_SP_02			x
EM2310229013	UST_SP_03			x
EM2310229014	UST_SP_04			x
EM2310229015	UST_SP_05			x
EM2310229016	UST_SP_06			x
EM2310229019	UST_SP_Ext_59SP_04			x
EM2310229020	UST_SP_Ext_59SP_05			x
EM2310229021	UST_SP_Ext_59SP_06			x
EM2310229022	UST_SP_Ext_59SP_07			x
EM2310229023	OL_EX_SP7_01			x
EM2310229024	OL_EX_SP7_02			x
EM2310229028	OL_EX_SP7_03			x
EM2310229029	OL_EX_SP8_01			x
EM2310229030	OL_EX_SP8_02			x
EM2310229031	OL_EX_SP8_03			x

Robert Crowe
He/him/his

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From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Tuesday, 13 June 2023 5:06 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RESULTS & EDD & INVOICE for ALS Workorder : EM2310094 | Overall Description: Macquarie Point - This is a rebatch of EM2309607.

Deliverables for ALS Workorder EM2310094

Project: Macquarie Point

Overall Description: Macquarie Point - This is a rebatch of EM2309607.

Dear ROBERT CROWE,

Please find enclosed the following deliverables for **EM2310094**:

- Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV
- Macquarie Point.ESDAT_EM2310094_0.Header.XML
- Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV
- EM2310094_0_QC.pdf
- EM2310094_0_QCI.pdf
- EM2310094_0_COA.pdf
- EM2310094a.Macquarie Point.AECOM.zip
- 1151728282_INV.pdf
- EM2310094_COC.pdf

Report Recipients

- ROBERT CROWE
  - Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV
  - Macquarie Point.ESDAT_EM2310094_0.Header.XML
  - Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV
  - EM2310094_0_QC.pdf (Email)

- EM2310094_0_QCI.pdf (Email)
- EM2310094_0_COA.pdf (Email)
- EM2310094a.Macquarie Point.AECOM.zip
- 1151728282_INV.pdf (Email)
- EM2310094_COC.pdf (Email)

- ACCOUNTS PAYABLE
  - 1151728282_INV
  - EM2310094_COC

CERTIFICATE OF ANALYSIS

Work Order	: **EM2307275**	Page	: 1 of 13
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023 11:15
Order number	: 60693007-3	Date Analysis Commenced	: 01-May-2023
C-O-C number	: ----	Issue Date	: 03-May-2023 16:48
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 23		
No. of samples analysed	: 23		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- This is a rebatch of EM2305209.
- EN33a-G: EM2307275 #001 Due to limited sample for leach analysis, a scaled down amount of 30g into 600mL was used.
- EN33a-G: EM2307275 #002, #003, #009 Due to limited sample for leach analysis, a scaled down amount of 50g into 1000mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307275-001	EM2307275-002	EM2307275-003	EM2307275-004	EM2307275-005
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**8.6**	**9.5**	**9.8**	**9.9**	**9.5**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.2**	**5.3**	**5.5**	**5.5**	**5.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307275-006	EM2307275-007	EM2307275-008	EM2307275-009	EM2307275-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	**9.9**	**9.9**	**10.0**	**10.0**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.5**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.5**	**5.9**	**6.4**	**6.5**	**6.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit	EM2307275-011	EM2307275-012	EM2307275-013	EM2307275-014	EM2307275-015
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.5**	**9.2**	**9.2**	**9.2**	**9.5**
After HCl pH	----	0.1	pH Unit	**1.4**	**1.5**	**1.5**	**1.5**	**1.4**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.2**	**5.9**	**6.2**	**6.4**	**6.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-016	EM2307275-017	EM2307275-018	EM2307275-019	EM2307275-020
					Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**9.2**	**9.4**	**9.3**	**9.1**	**9.2**
After HCl pH	----	0.1	pH Unit		**1.4**	**1.4**	**1.5**	**1.4**	**1.4**
Extraction Fluid Number	----	1	-		**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit		**5.7**	**6.2**	**5.3**	**5.7**	**5.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	----	----
			Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2307275-021	EM2307275-022	EM2307275-023	--------	--------
				Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.2**	**9.6**	**9.2**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.4**	**1.5**	**1.5**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**----**	**----**
Final pH	----	0.1	pH Unit	**5.5**	**5.5**	**6.0**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_0.5-1.0_01	UST_SP_0.5-1.0_02	UST_SP_0.5-1.0_03	UST_SP_0.5-1.0_04	UST_SP_1.0-1.5_01
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-001	EM2307275-002	EM2307275-003	EM2307275-004	EM2307275-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**83.5**	**52.5**	**71.4**	**75.5**	**85.8**
Anthracene-d10	1719-06-8	1.0	%		**98.8**	**102**	**110**	**102**	**104**
4-Terphenyl-d14	1718-51-0	1.0	%		**76.0**	**91.7**	**94.6**	**86.6**	**92.6**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_1.0-1.5_02	UST_SP_1.0-1.5_03	UST_SP_1.5-2.0_01	UST_SP_1.5-2.0_02	UST_SP_1.5-2.0_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-006	EM2307275-007	EM2307275-008	EM2307275-009	EM2307275-010
					Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES									
Lead	7439-92-1	0.1	mg/L		**----**	**1.0**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**81.9**	**68.8**	**79.2**	**88.5**	**56.6**
Anthracene-d10	1719-06-8	1.0	%		**95.7**	**106**	**100.0**	**104**	**107**
4-Terphenyl-d14	1718-51-0	1.0	%		**83.5**	**89.9**	**85.3**	**87.3**	**90.5**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_1.5-2.0_04	UST_SP_1.5-2.0_05	UST_SP_EXT_01	UST_SP_EXT_02	UST_SP_EXT_03
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-011	EM2307275-012	EM2307275-013	EM2307275-014	EM2307275-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	**1.9**	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	**4.6**	**2.4**	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	**1.4**	**10.5**	**3.4**	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	**1.1**	**21.8**	**12.5**	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	**7.7**	**3.3**	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	**9.3**	**4.8**	<1.0
Pyrene	129-00-0	1.0	µg/L		**1.1**	<1.0	**7.9**	**5.0**	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**1.1**	**4.4**	**61.8**	**31.4**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**98.8**	**92.9**	**94.9**	**98.4**	**90.6**
Anthracene-d10	1719-06-8	1.0	%		**98.4**	**93.3**	**95.0**	**98.8**	**108**
4-Terphenyl-d14	1718-51-0	1.0	%		**97.2**	**91.4**	**93.2**	**97.5**	**98.1**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_EXT_04	UST_SP_EXT_05	UST_SP_EXT_06	UST_SP_EXT_07	UST_SP_EXT_08
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00
Compound	CAS Number	LOR	Unit		EM2307275-016	EM2307275-017	EM2307275-018	EM2307275-019	EM2307275-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	**1.3**	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	**2.6**	<1.0
Phenanthrene	85-01-8	1.0	µg/L		**1.5**	<1.0	<1.0	**2.8**	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	**1.9**	<1.0
Pyrene	129-00-0	1.0	µg/L		**1.1**	<1.0	<1.0	**1.6**	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**2.6**	<0.5	<0.5	**10.2**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**95.4**	**84.9**	**75.7**	**83.7**	**75.7**
Anthracene-d10	1719-06-8	1.0	%		**96.6**	**101**	**106**	**98.6**	**91.6**
4-Terphenyl-d14	1718-51-0	1.0	%		**87.9**	**98.9**	**101**	**99.3**	**85.7**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_ch77-80_01	UST_SP_ch77-81_02	UST_SP_ch77-82_03	----	----
				Sampling date / time	21-Mar-2023 00:00	21-Mar-2023 00:00	21-Mar-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2307275-021	EM2307275-022	EM2307275-023	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	**2.4**	<1.0	**----**	**----**
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Acenaphthene	83-32-9	1.0	µg/L		<1.0	**2.3**	<1.0	**----**	**----**
Fluorene	86-73-7	1.0	µg/L		**1.5**	**1.2**	<1.0	**----**	**----**
Phenanthrene	85-01-8	1.0	µg/L		**8.5**	**3.7**	<1.0	**----**	**----**
Anthracene	120-12-7	1.0	µg/L		**1.4**	<1.0	<1.0	**----**	**----**
Fluoranthene	206-44-0	1.0	µg/L		**3.0**	**1.7**	<1.0	**----**	**----**
Pyrene	129-00-0	1.0	µg/L		**2.9**	**1.9**	**1.1**	**----**	**----**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	**----**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	**----**	**----**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**17.3**	**13.2**	**1.1**	**----**	**----**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**73.3**	**64.1**	**72.0**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**96.0**	**100**	**98.6**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**93.8**	**90.7**	**94.3**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2307275**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Order number	: 60693007-3	Date Analysis Commenced	: 01-May-2023
C-O-C number	: ----	Issue Date	: 03-May-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point		
Quote number	: EN/004/21		
No. of samples received	: 23		
No. of samples analysed	: 23		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5022877)									
EM2307241-001	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	0.1	0.1	0.0	No Limit
EM2307241-010	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	0.1	0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5021301)									
EM2307275-001	UST_SP_0.5-1.0_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2307275-010	UST_SP_1.5-2.0_03	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5021301) - continued									
EM2307275-010	UST_SP_1.5-2.0_03	EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5024013)									
EM2307275-011	UST_SP_1.5-2.0_04	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	1.1	1.1	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2307275-020	UST_SP_EXT_08	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5024013) - continued									
EM2307275-020	UST_SP_EXT_08	EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5022877)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	90.4	80.0	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5021301)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	68.7	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	80.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	91.0	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.3	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	91.0	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	82.6	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	94.4	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	95.4	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	95.9	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	86.6	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	89.4	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	86.7	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	93.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	93.8	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	95.9	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5024013)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	58.1	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	64.5	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	65.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	68.0	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	71.8	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	71.1	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	71.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	77.1	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	74.0	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	73.6	48.7	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5024013) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	69.0	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	72.6	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	64.5	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	67.9	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	67.7	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	68.9	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5022877)							
EM2307241-002	Anonymous	EG005C: Lead	7439-92-1	1 mg/L	84.2	80.0	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2307275**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 22-Mar-2023
Site	: Macquarie Point	Issue Date	: 03-May-2023
Sampler	: TIM SMITH02	No. of samples received	: 23
Order number	: 60693007-3	No. of samples analysed	: 23

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)						
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03	01-May-2023	04-Apr-2023	**27**	----	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03	02-May-2023	04-Apr-2023	**28**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	28	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03	**21-Mar-2023**	**01-May-2023**	04-Apr-2023	×	**----**	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03	**21-Mar-2023**	**02-May-2023**	04-Apr-2023	×	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)							
UST_SP_1.0-1.5_03	**01-May-2023**	**02-May-2023**	28-Oct-2023	✓	**02-May-2023**	28-Oct-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_0.5-1.0_01, UST_SP_0.5-1.0_02, UST_SP_0.5-1.0_03, UST_SP_0.5-1.0_04, UST_SP_1.0-1.5_01, UST_SP_1.0-1.5_02, UST_SP_1.0-1.5_03, UST_SP_1.5-2.0_01, UST_SP_1.5-2.0_02, UST_SP_1.5-2.0_03	**01-May-2023**	**02-May-2023**	08-May-2023	✓	**02-May-2023**	11-Jun-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_1.5-2.0_04, UST_SP_1.5-2.0_05, UST_SP_EXT_01, UST_SP_EXT_02, UST_SP_EXT_03, UST_SP_EXT_04, UST_SP_EXT_05, UST_SP_EXT_06, UST_SP_EXT_07, UST_SP_EXT_08, UST_SP_ch77-80_01, UST_SP_ch77-81_02, UST_SP_ch77-82_03	**02-May-2023**	**03-May-2023**	09-May-2023	✓	**03-May-2023**	12-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	4	28	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	28	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	28	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2307275**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 3
Order number	: 60693007-3	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 22-Mar-2023 11:15	Issue Date	: 27-Apr-2023
Client Requested Due Date	: 03-May-2023	Scheduled Reporting Date	: **03-May-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 23 / 23

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2305209.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only
EM2307275-001	21-Mar-2023 00:00	UST_SP_0.5-1.0_01		✓	✓
EM2307275-002	21-Mar-2023 00:00	UST_SP_0.5-1.0_02		✓	✓
EM2307275-003	21-Mar-2023 00:00	UST_SP_0.5-1.0_03		✓	✓
EM2307275-004	21-Mar-2023 00:00	UST_SP_0.5-1.0_04		✓	✓
EM2307275-005	21-Mar-2023 00:00	UST_SP_1.0-1.5_01		✓	✓
EM2307275-006	21-Mar-2023 00:00	UST_SP_1.0-1.5_02		✓	✓
EM2307275-007	21-Mar-2023 00:00	UST_SP_1.0-1.5_03	✓	✓	✓
EM2307275-008	21-Mar-2023 00:00	UST_SP_1.5-2.0_01		✓	✓
EM2307275-009	21-Mar-2023 00:00	UST_SP_1.5-2.0_02		✓	✓
EM2307275-010	21-Mar-2023 00:00	UST_SP_1.5-2.0_03		✓	✓
EM2307275-011	21-Mar-2023 00:00	UST_SP_1.5-2.0_04		✓	✓
EM2307275-012	21-Mar-2023 00:00	UST_SP_1.5-2.0_05		✓	✓
EM2307275-013	21-Mar-2023 00:00	UST_SP_EXT_01		✓	✓
EM2307275-014	21-Mar-2023 00:00	UST_SP_EXT_02		✓	✓
EM2307275-015	21-Mar-2023 00:00	UST_SP_EXT_03		✓	✓
EM2307275-016	21-Mar-2023 00:00	UST_SP_EXT_04		✓	✓
EM2307275-017	21-Mar-2023 00:00	UST_SP_EXT_05		✓	✓
EM2307275-018	21-Mar-2023 00:00	UST_SP_EXT_06		✓	✓
EM2307275-019	21-Mar-2023 00:00	UST_SP_EXT_07		✓	✓
EM2307275-020	21-Mar-2023 00:00	UST_SP_EXT_08		✓	✓
EM2307275-021	21-Mar-2023 00:00	UST_SP_ch77-80_01		✓	✓
EM2307275-022	21-Mar-2023 00:00	UST_SP_ch77-81_02		✓	✓
EM2307275-023	21-Mar-2023 00:00	UST_SP_ch77-82_03		✓	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EN33a-G: TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel							
UST_SP_0.5-1.0_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_0.5-1.0_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_0.5-1.0_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_0.5-1.0_04	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_1.0-1.5_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×
UST_SP_1.0-1.5_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	×

UST_SP_1.0-1.5_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_04	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_1.5-2.0_05	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_ch77-80_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_ch77-81_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_ch77-82_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_01	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_02	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_03	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_04	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_05	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_06	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_07	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘
UST_SP_EXT_08	Non-Volatile Leach: 14 day HT(ε	04-Apr-2023	----	22-Mar-2023	✓	26-Apr-2023	✘

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com

Rebatch

Client / Client code: AECOMAU
Project: 60693007
Project Manger: Robert Crowe
Date /time sample rec: 22/03/2023 11:15
Date/time Instructions rec: 26/04/2023 22:21
Due date: Wednesday, 3 May 2023
Due date surcharge: **STANDARD**
Client aware of any holding time issues

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

Environmental Division Melbourne
Work Order Reference
EM2307275

Telephone +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis										Shortest Holding time expiry
								Standard					Leach					
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container							TCLP - PAH	TCLP - Lead				
1	UST_SP_0.5-1.0_01	21/03/2023 0:00	EM2305209	13	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
2	UST_SP_0.5-1.0_02	21/03/2023 0:00	EM2305209	14	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
3	UST_SP_0.5-1.0_03	21/03/2023 0:00	EM2305209	15	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
4	UST_SP_0.5-1.0_04	21/03/2023 0:00	EM2305209	16	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
5	UST_SP_1.0-1.5_01	21/03/2023 0:00	EM2305209	17	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
6	UST_SP_1.0-1.5_02	21/03/2023 0:00	EM2305209	18	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
7	UST_SP_1.0-1.5_03	21/03/2023 0:00	EM2305209	19	MS: 2219-22193, 2228	soil jar	2						X	X				04-Apr-23
8	UST_SP_1.5-2.0_01	21/03/2023 0:00	EM2305209	20	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
9	UST_SP_1.5-2.0_02	21/03/2023 0:00	EM2305209	21	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
10	UST_SP_1.5-2.0_03	21/03/2023 0:00	EM2305209	22	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
11	UST_SP_1.5-2.0_04	21/03/2023 0:00	EM2305209	23	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
12	UST_SP_1.5-2.0_05	21/03/2023 0:00	EM2305209	24	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
13	UST_SP_EXT_01	21/03/2023 0:00	EM2305209	25	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
14	UST_SP_EXT_02	21/03/2023 0:00	EM2305209	26	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
15	UST_SP_EXT_03	21/03/2023 0:00	EM2305209	27	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
16	UST_SP_EXT_04	21/03/2023 0:00	EM2305209	28	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
17	UST_SP_EXT_05	21/03/2023 0:00	EM2305209	29	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
18	UST_SP_EXT_06	21/03/2023 0:00	EM2305209	30	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
19	UST_SP_EXT_07	21/03/2023 0:00	EM2305209	31	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
20	UST_SP_EXT_08	21/03/2023 0:00	EM2305209	32	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
21	UST_SP_ch77-80_01	21/03/2023 0:00	EM2305209	33	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
22	UST_SP_ch77-80_02	21/03/2023 0:00	EM2305209	34	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
23	UST_SP_ch77-80_03	21/03/2023 0:00	EM2305209	35	MS: 2219-22193, 2228	soil jar	2						X					04-Apr-23
						TOTAL	46											

Ciara Barr

From: Peter Ravlic
Sent: Wednesday, 26 April 2023 11:37 AM
To: Ru Jayasinghe
Cc: ALS Enviro Melbourne
Subject: FW: [EXTERNAL] - RE: - RE: ALS Workorder EM2305209, Client AECOMAU, Project 60693007, Overall Description Macquarie Point email

Hi Ru

Can you please organise the below RB

Thanks

Kind Regards

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Wednesday, 26 April 2023 10:21 AM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - RE: - RE: ALS Workorder EM2305209, Client AECOMAU, Project 60693007, Overall Description Macquarie Point email

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Morning Dai, Peter,

Thanks for the help with this last week – files have been received and imported OK.

Can I please request TCLP PAH leachate assessment and lead leachate assessment for the samples in batch EM2305209-AB as per the table below?

Please let me know if any additional information is needed,

Cheers, Rob

Field_ID	TCLP - PAH	TCLP - Lead
UST_SP_0.5-1.0_01	x	
UST_SP_0.5-1.0_02	x	
UST_SP_0.5-1.0_03	x	
UST_SP_0.5-1.0_04	x	
UST_SP_1.0-1.5_01	x	
UST_SP_1.0-1.5_02	x	
UST_SP_1.0-1.5_03	x	x
UST_SP_1.5-2.0_01	x	
UST_SP_1.5-2.0_02	x	
UST_SP_1.5-2.0_03	x	
UST_SP_1.5-2.0_04	x	
UST_SP_1.5-2.0_05	x	
UST_SP_ch77-80_01	x	
UST_SP_ch77-80_02	x	
UST_SP_ch77-80_03	x	
UST_SP_EXT_01	x	
UST_SP_EXT_02	x	
UST_SP_EXT_03	x	
UST_SP_EXT_04	x	
UST_SP_EXT_05	x	
UST_SP_EXT_06	x	
UST_SP_EXT_07	x	
UST_SP_EXT_08	x	

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
robert.crowe@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, VIC, 3008, Australia
T +61 3 9653 1234
aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2309346**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023 12:35
Order number	: Macquarie Point	Date Analysis Commenced	: 26-May-2023
C-O-C number	: ----	Issue Date	: 01-Jun-2023 13:18
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 27		
No. of samples analysed	: 26		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Tim Kuo	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2309346 #8 Poor duplicate precision for total Lead due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2309346 #12 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 1220 mg/kg, 831 mg/kg, and 783 mg/kg.
- EG005-T : EM2309346 #13 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 523 mg/kg, 6630 mg/kg, and 1420 mg/kg.
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Analysis of asbestos from swabs and tapes is not covered under the current scope of NATA accreditation.
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

- EA200: N/A - Not Applicable

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP2_01	OL_EX_SP2_02	OL_EX_SP2_03	OL_EX_SP2_04	OL_EX_SP3_01
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-001	EM2309346-002	EM2309346-003	EM2309346-004	EM2309346-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**25.9**	**15.4**	**12.7**	**21.4**	**15.5**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**993**	**739**	**548**	**2340**	**208**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	**0.5**	<0.5	**0.6**	**0.9**
Acenaphthylene	208-96-8	0.5	mg/kg	**0.8**	**0.7**	**0.7**	<0.5	**1.5**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**2.2**	**2.1**	**2.4**	**1.9**	**5.1**
Anthracene	120-12-7	0.5	mg/kg	**1.2**	**0.8**	**0.9**	**0.5**	**2.0**
Fluoranthene	206-44-0	0.5	mg/kg	**7.4**	**5.3**	**6.0**	**3.0**	**11.2**
Pyrene	129-00-0	0.5	mg/kg	**6.9**	**5.8**	**6.4**	**2.7**	**11.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**4.0**	**2.9**	**3.4**	**1.5**	**5.6**
Chrysene	218-01-9	0.5	mg/kg	**4.1**	**2.5**	**3.1**	**1.4**	**5.1**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**6.3**	**4.0**	**4.3**	**2.3**	**7.2**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.9**	**1.6**	**1.7**	**1.0**	**2.9**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**3.8**	**3.6**	**4.1**	**1.6**	**6.3**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.0**	**2.1**	**2.3**	**1.1**	**3.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.8**	**0.5**	**0.6**	<0.5	**1.0**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**3.4**	**2.5**	**2.7**	**1.4**	**4.5**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**45.8**	**34.9**	**38.6**	**19.0**	**68.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP2_01	OL_EX_SP2_02	OL_EX_SP2_03	OL_EX_SP2_04	OL_EX_SP3_01
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-001	EM2309346-002	EM2309346-003	EM2309346-004	EM2309346-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**6.2**	**5.2**	**5.9**	**2.2**	**9.3**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**6.2**	**5.2**	**5.9**	**2.5**	**9.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**6.2**	**5.2**	**5.9**	**2.7**	**9.3**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	**60**
C15 - C28 Fraction	----	100	mg/kg	**120**	**270**	**270**	**270**	**400**
C29 - C36 Fraction	----	100	mg/kg	**100**	**200**	**240**	**250**	**220**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**220**	**470**	**510**	**520**	**680**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	**100**
>C16 - C34 Fraction	----	100	mg/kg	**200**	**400**	**440**	**450**	**520**
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	**120**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**200**	**400**	**440**	**570**	**620**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	**100**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**107**	**110**	**100**	**96.6**	**102**
2-Chlorophenol-D4	93951-73-6	0.5	%	**109**	**113**	**101**	**96.6**	**101**
2.4.6-Tribromophenol	118-79-6	0.5	%	**112**	**108**	**100**	**95.3**	**105**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**104**	**110**	**99.6**	**101**	**96.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP2_01	OL_EX_SP2_02	OL_EX_SP2_03	OL_EX_SP2_04	OL_EX_SP3_01
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-001	EM2309346-002	EM2309346-003	EM2309346-004	EM2309346-005
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**108**	**120**	**109**	**110**	**119**
4-Terphenyl-d14	1718-51-0	0.5	%	**93.5**	**109**	**103**	**104**	**88.6**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**93.9**	**85.3**	**89.8**	**93.1**	**90.0**
Toluene-D8	2037-26-5	0.2	%	**89.7**	**73.2**	**79.6**	**75.3**	**79.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**96.4**	**82.8**	**88.1**	**82.5**	**90.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP3_02	OL_EX_SP3_03	OL_EX_SP4_01	OL_EX_SP4_02	OL_EX_SP4_03
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-006	EM2309346-007	EM2309346-008	EM2309346-009	EM2309346-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.2	21.2	16.6	10.1	17.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	No	No
Asbestos (Trace)	1332-21-4	-	-	----	----	No	No	No
Asbestos Type	1332-21-4	-	--	----	----	-	-	-
Synthetic Mineral Fibre	----	-	--	----	----	No	No	No
Organic Fibre	----	-	--	----	----	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	----	----	158	140	154
APPROVED IDENTIFIER:	----	-	--	----	----	M. TRAN	M. TRAN	M. TRAN
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	559	297	577	883	455
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	2.4	8.0	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	1.4	3.7	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.0	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	0.6	2.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	9.6	35.3	0.9	1.5	2.1
Anthracene	120-12-7	0.5	mg/kg	1.9	5.8	<0.5	0.6	0.7
Fluoranthene	206-44-0	0.5	mg/kg	11.2	32.8	2.1	3.5	3.9
Pyrene	129-00-0	0.5	mg/kg	10.7	29.0	2.1	3.8	4.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	6.3	16.0	1.2	2.1	2.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP3_02	OL_EX_SP3_03	OL_EX_SP4_01	OL_EX_SP4_02	OL_EX_SP4_03
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-006	EM2309346-007	EM2309346-008	EM2309346-009	EM2309346-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	**5.6**	**14.0**	**1.2**	**2.0**	**2.2**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**8.7**	**18.8**	**1.5**	**2.7**	**2.9**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.5**	**7.8**	**0.7**	**1.2**	**1.4**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**5.9**	**11.6**	**1.5**	**2.6**	**2.9**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.6**	**8.3**	**0.7**	**1.3**	**1.4**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.0**	**2.3**	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**4.3**	**9.2**	**1.0**	**1.6**	**1.8**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**75.7**	**206**	**12.9**	**22.9**	**25.6**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**9.1**	**19.2**	**1.9**	**3.4**	**3.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**9.1**	**19.2**	**2.2**	**3.6**	**4.0**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**9.1**	**19.2**	**2.4**	**3.9**	**4.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	**120**	**420**	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**640**	**1230**	**240**	**240**	**290**
C29 - C36 Fraction	----	100	mg/kg	**300**	**420**	**190**	**200**	**260**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**1060**	**2070**	**430**	**440**	**550**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	**170**	**470**	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**800**	**1430**	**380**	**390**	**480**
>C34 - C40 Fraction	----	100	mg/kg	**120**	**130**	<100	<100	**120**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**1090**	**2030**	**380**	**390**	**600**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	**170**	**470**	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP3_02	OL_EX_SP3_03	OL_EX_SP4_01	OL_EX_SP4_02	OL_EX_SP4_03
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-006	EM2309346-007	EM2309346-008	EM2309346-009	EM2309346-010
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	96.9	92.5	83.0	91.8	91.0
2-Chlorophenol-D4	93951-73-6	0.5	%	97.7	94.5	84.4	101	98.2
2.4.6-Tribromophenol	118-79-6	0.5	%	102	104	82.4	92.5	86.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	102	98.4	92.5	104	102
Anthracene-d10	1719-06-8	0.5	%	117	111	109	118	116
4-Terphenyl-d14	1718-51-0	0.5	%	106	98.4	99.1	111	109
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	85.9	84.1	98.7	91.2	87.3
Toluene-D8	2037-26-5	0.2	%	74.4	79.5	92.4	82.7	80.0
4-Bromofluorobenzene	460-00-4	0.2	%	81.9	88.2	105	78.9	74.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP5_01	OL_EX_SP5_02	OL_EX_SP5_03	OL_EX_SP6_01	OL_EX_SP6_02
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-011	EM2309346-012	EM2309346-013	EM2309346-014	EM2309346-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	24.9	25.3	19.3	20.4	23.9
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	588	783	1420	757	541
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	2	4
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.5	0.7	0.5	0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.4	1.7	3.9	1.0	1.7
Anthracene	120-12-7	0.5	mg/kg	0.8	0.6	1.0	<0.5	0.7
Fluoranthene	206-44-0	0.5	mg/kg	5.4	4.8	7.2	2.4	3.5
Pyrene	129-00-0	0.5	mg/kg	5.7	5.2	7.4	2.5	3.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.3	3.1	3.9	1.7	2.1
Chrysene	218-01-9	0.5	mg/kg	3.1	3.1	4.0	1.6	2.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	4.0	5.2	2.8	3.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.8	1.8	2.2	1.3	1.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.9	3.8	4.9	2.4	2.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.9	2.1	2.5	1.6	1.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.5	0.6	0.7	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP5_01	OL_EX_SP5_02	OL_EX_SP5_03	OL_EX_SP6_01	OL_EX_SP6_02
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-011	EM2309346-012	EM2309346-013	EM2309346-014	EM2309346-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.3**	**2.6**	**3.0**	**2.0**	**2.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**35.7**	**33.9**	**46.6**	**19.8**	**25.4**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**5.6**	**5.6**	**7.0**	**3.2**	**3.6**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**5.6**	**5.6**	**7.0**	**3.4**	**3.8**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**5.6**	**5.6**	**7.0**	**3.7**	**4.1**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	**70**
C15 - C28 Fraction	----	100	mg/kg	**310**	**200**	**320**	**120**	**200**
C29 - C36 Fraction	----	100	mg/kg	**230**	**160**	**240**	**120**	**170**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**540**	**360**	**560**	**240**	**440**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	**70**
>C16 - C34 Fraction	----	100	mg/kg	**490**	**330**	**500**	**210**	**330**
>C34 - C40 Fraction	----	100	mg/kg	**120**	<100	**110**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**610**	**330**	**610**	**210**	**400**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	**70**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.8**	**88.2**	**93.5**	**89.6**	**85.0**
2-Chlorophenol-D4	93951-73-6	0.5	%	**103**	**97.5**	**104**	**88.8**	**83.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**90.6**	**82.7**	**95.5**	**85.3**	**74.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP5_01	OL_EX_SP5_02	OL_EX_SP5_03	OL_EX_SP6_01	OL_EX_SP6_02
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309346-011	EM2309346-012	EM2309346-013	EM2309346-014	EM2309346-015
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**105**	**96.7**	**108**	**93.5**	**89.6**
Anthracene-d10	1719-06-8	0.5	%		**119**	**108**	**113**	**107**	**113**
4-Terphenyl-d14	1718-51-0	0.5	%		**114**	**105**	**114**	**91.2**	**92.4**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**89.5**	**97.1**	**88.2**	**83.1**	**84.1**
Toluene-D8	2037-26-5	0.2	%		**82.6**	**88.6**	**81.0**	**80.7**	**72.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.0**	**91.8**	**82.9**	**80.0**	**79.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP6_03	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_QC118
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-016	EM2309346-017	EM2309346-018	EM2309346-019	EM2309346-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.8	20.8	21.1	18.9	20.8
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	758	185	274	189	1010
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	2	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.0	2.6	1.3	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.9	1.2	0.8	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.8	0.8	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	1.2	1.1	0.7	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.6	5.6	4.6	3.3	1.7
Anthracene	120-12-7	0.5	mg/kg	0.6	2.2	2.2	1.7	0.9
Fluoranthene	206-44-0	0.5	mg/kg	3.7	9.9	11.2	7.6	6.4
Pyrene	129-00-0	0.5	mg/kg	3.7	10.9	12.8	8.5	6.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.2	6.1	6.3	5.3	3.7
Chrysene	218-01-9	0.5	mg/kg	2.0	5.2	5.3	4.5	3.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.2	7.5	8.3	6.6	5.7
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.3	2.5	3.0	2.8	2.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.7	7.0	7.7	6.0	3.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.7	3.0	3.4	2.6	2.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.9	1.0	0.7	0.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP6_03	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_QC118
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309346-016	EM2309346-017	EM2309346-018	EM2309346-019	EM2309346-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.0**	**3.6**	**4.1**	**3.1**	**3.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**25.3**	**68.3**	**75.6**	**55.5**	**41.5**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**3.6**	**9.9**	**10.9**	**8.5**	**6.1**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**3.8**	**9.9**	**10.9**	**8.5**	**6.1**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**4.1**	**9.9**	**10.9**	**8.5**	**6.1**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**130**	**300**	**230**	**250**	<50
C15 - C28 Fraction	----	100	mg/kg		**190**	**1550**	**1080**	**1110**	**170**
C29 - C36 Fraction	----	100	mg/kg		**140**	**300**	**310**	**250**	**140**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**460**	**2150**	**1620**	**1610**	**310**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**130**	**590**	**400**	**470**	<50
>C16 - C34 Fraction	----	100	mg/kg		**280**	**1490**	**1160**	**1090**	**270**
>C34 - C40 Fraction	----	100	mg/kg		<100	**100**	**120**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**410**	**2180**	**1680**	**1560**	**270**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**130**	**590**	**400**	**470**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**103**	**98.4**	**91.2**	**93.2**	**104**
2-Chlorophenol-D4	93951-73-6	0.5	%		**102**	**100**	**89.2**	**91.5**	**102**
2.4.6-Tribromophenol	118-79-6	0.5	%		**94.5**	**92.7**	**86.2**	**86.1**	**99.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP6_03	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_QC118
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-016	EM2309346-017	EM2309346-018	EM2309346-019	EM2309346-020
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**103**	**100**	**88.0**	**91.2**	**102**
Anthracene-d10	1719-06-8	0.5	%	**116**	**119**	**109**	**111**	**107**
4-Terphenyl-d14	1718-51-0	0.5	%	**103**	**110**	**93.0**	**98.5**	**98.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**94.7**	**89.8**	**87.9**	**93.5**	**87.7**
Toluene-D8	2037-26-5	0.2	%	**73.5**	**71.2**	**68.1**	**83.8**	**79.0**
4-Bromofluorobenzene	460-00-4	0.2	%	**90.9**	**78.4**	**75.0**	**85.4**	**78.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_QC120	UST_EXT_QC121	----	----	----
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2309346-021	EM2309346-022	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**20.1**	**22.3**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**772**	**173**	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.6**	**0.9**	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**0.6**	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	**0.5**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**1.2**	**2.2**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**0.5**	**0.8**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**3.0**	**4.5**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**3.0**	**6.0**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**2.0**	**2.7**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**1.9**	**2.5**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**3.2**	**3.8**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.4**	**1.7**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**2.6**	**3.6**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.7**	**1.8**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.0**	**2.1**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**23.7**	**33.1**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC120	UST_EXT_QC121	----	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2309346-021	EM2309346-022	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**3.5**	**4.6**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**3.7**	**4.9**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**4.0**	**5.1**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		**140**	**380**	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**230**	**1320**	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**200**	**240**	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**570**	**1940**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**140**	**680**	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**370**	**1220**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**510**	**1900**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**140**	**680**	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.8**	**95.5**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.0**	**96.5**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**86.0**	**82.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.7**	**101**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC120	UST_EXT_QC121	----	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2309346-021	EM2309346-022	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**108**	**101**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**92.3**	**115**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.5**	**99.0**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**76.1**	**84.2**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**78.9**	**88.2**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)				Sample ID	OL_EX_SP4_01 Solid	----	----	----	----
				Sampling date / time	23-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2309346-027	--------	--------	--------	--------
					Result	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		**Yes**	----	----	----	----
Asbestos Type	1332-21-4	-	--		**Ch**	----	----	----	----
Asbestos (Trace)	1332-21-4	-	-		**N/A**	----	----	----	----
Sample weight (dry)	----	0.01	g		**2.10**	----	----	----	----
Synthetic Mineral Fibre	----	-	-		**No**	----	----	----	----
Organic Fibre	----	-	-		**No**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		**T. KUO**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	UST_EXT_QCA11	OL_EX_QCB12	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309346-023	EM2309346-024	EM2309346-025	--------	--------
					Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	----	<0.001	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	----	<1.0	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	----	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	----	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	----	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	----	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	----	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	----	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	----	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	----	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	----	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	----	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	----	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	----	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	----	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		----	----	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	----	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		----	----	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	----	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L		----	----	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	----	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		----	----	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	----	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	----	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	----	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	----	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	----	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	UST_EXT_QCA11	OL_EX_QCB12	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309346-023	EM2309346-024	EM2309346-025	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L		----	----	<50	----	----
C15 - C28 Fraction	----	100	µg/L		----	----	<100	----	----
C29 - C36 Fraction	----	50	µg/L		----	----	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L		----	----	<100	----	----
>C16 - C34 Fraction	----	100	µg/L		----	----	<100	----	----
>C34 - C40 Fraction	----	100	µg/L		----	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	----	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	----	<100	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	----	**22.0**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	----	**61.6**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	----	**56.0**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	----	**49.0**	----	----
Anthracene-d10	1719-06-8	1.0	%		----	----	**50.8**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	----	**49.8**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**103**	**102**	**100**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	UST_EXT_QCA11	OL_EX_QCB12	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309346-023	EM2309346-024	EM2309346-025	--------	--------
					Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**89.8**	**91.9**	**91.7**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**103**	**99.9**	**101**	**----**	**----**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	OL_EX_SP4_01 - 23-May-2023 00:00	Grey rocky soil with organic matter.
EA200: Description	OL_EX_SP4_02 - 23-May-2023 00:00	Grey rocky soil with organic matter.
EA200: Description	OL_EX_SP4_03 - 23-May-2023 00:00	Grey rocky soil with organic matter.

Sub-Matrix: **SOLID**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	OL_EX_SP4_01Solid - 23-May-2023 00:00	Asbestos sheeting fragments with attached soil matter approx 40 x 15 x 3mm.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

QUALITY CONTROL REPORT

Work Order	: **EM2309346**	Page	: 1 of 16
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023
Order number	: Macquarie Point	Date Analysis Commenced	: 26-May-2023
C-O-C number	: ----	Issue Date	: 01-Jun-2023
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 27		
No. of samples analysed	: 26		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Tim Kuo	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5076787)									
EM2309346-001	OL_EX_SP2_01	EG005T: Lead	7439-92-1	5	mg/kg	993	912	8.4	0% - 20%
EM2309346-016	OL_EX_SP6_03	EG005T: Lead	7439-92-1	5	mg/kg	758	623	19.6	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5081332)									
EM2309346-008	OL_EX_SP4_01	EG005T: Lead	7439-92-1	5	mg/kg	577	# 389	39.0	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5076613)									
EM2309346-001	OL_EX_SP2_01	EA055: Moisture Content	----	0.1	%	25.9	25.5	1.4	0% - 20%
EM2309346-017	UST_EXT_59SP_01	EA055: Moisture Content	----	0.1	%	20.8	20.4	2.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5081538)									
EM2309346-008	OL_EX_SP4_01	EA055: Moisture Content	----	0.1	%	16.6	13.5	20.3	0% - 50%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5081819)									
EM2309682-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5076750)									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5076750) - continued									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2309346-001	OL_EX_SP2_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5081317)									
EM2309346-008	OL_EX_SP4_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5076750)									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.0	0.9	14.6	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.9	0.6	37.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.8	<0.5	40.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.2	0.7	48.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	5.6	3.7	41.5	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.2	1.7	27.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.9	7.4	29.1	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.9	9.1	17.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	6.1	4.5	31.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.2	4.2	22.9	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	7.5	5.9	23.5	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.5	2.3	8.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5076750) - continued									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.0	5.6	21.7	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.0	2.6	15.9	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.9	0.7	27.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.6	3.0	19.7	No Limit
EM2309346-001	OL_EX_SP2_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	<0.5	41.7	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.2	1.3	53.4	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.2	0.8	40.3	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	7.4	6.2	18.7	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	6.9	5.8	16.6	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.0	3.3	18.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.1	3.3	20.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.3	5.5	12.8	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.9	1.6	14.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.8	3.5	8.8	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.0	2.5	18.8	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.8	0.6	23.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.4	2.8	19.5	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5081317)									
EM2309346-008	OL_EX_SP4_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.9	0.6	47.6	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.1	1.3	47.2	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.1	1.3	45.6	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.2	0.8	40.6	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.2	0.7	46.8	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.5	1.0	36.9	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.7	<0.5	32.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.5	1.0	42.9	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	0.5	35.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.0	0.7	32.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5074280)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5074280) - continued									
EM2309346-001	OL_EX_SP2_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2309346-017	UST_EXT_59SP_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5076751)									
EM2309346-017	UST_EXT_59SP_01	EP071: C15 - C28 Fraction	----	100	mg/kg	1550	1460	5.5	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	280	6.9	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	300	310	3.6	No Limit
EM2309346-001	OL_EX_SP2_01	EP071: C15 - C28 Fraction	----	100	mg/kg	120	170	34.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	100	130	24.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5081312)									
EM2309346-008	OL_EX_SP4_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5081318)									
EM2309346-008	OL_EX_SP4_01	EP071: C15 - C28 Fraction	----	100	mg/kg	240	350	36.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	190	280	37.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5074280)									
EM2309346-001	OL_EX_SP2_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2309346-017	UST_EXT_59SP_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5076751)									
EM2309346-017	UST_EXT_59SP_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	1490	1420	4.7	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	590	570	3.7	0% - 50%
EM2309346-001	OL_EX_SP2_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	200	270	29.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5081312)									
EM2309346-008	OL_EX_SP4_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5081318)									
EM2309346-008	OL_EX_SP4_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	380	560	37.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	130	26.2	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5074280)									
EM2309346-001	OL_EX_SP2_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 5074280) - continued									
EM2309346-001	OL_EX_SP2_01	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2309346-017	UST_EXT_59SP_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 5081312)									
EM2309346-008	OL_EX_SP4_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5075576)									
EM2309262-006	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.002	<0.002	0.0	No Limit
EM2309299-007	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.004	0.004	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5073926)									
EM2309355-005	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EM2309378-003	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5073926) - continued									
EM2309378-003	Anonymous	EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5073926)									
EM2309355-005	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2309378-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5073926) - continued									
EM2309378-003	Anonymous	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5073925)									
EM2309355-005	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EM2309378-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	70	38.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5073982)									
EM2309230-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2309351-014	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5073925)									
EM2309355-005	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2309378-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	140	34.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5073982)									
EM2309230-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2309351-014	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5073982)									
EM2309230-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2309351-014	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5076787)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	89.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5081332)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	81.5	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5081819)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	86.9	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5076750)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	108	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	107	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	75.9	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	103	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	98.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	103	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	93.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	92.9	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	79.0	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5081317)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	95.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	99.7	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	93.5	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	101	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	100	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	87.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	103	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	97.2	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	89.1	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.9	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	102	64.5	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5081317) - continued								
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	71.9	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5076750)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	107	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	108	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	110	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	113	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	114	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	108	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	112	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	112	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	114	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	108	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	108	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	108	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	106	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5081317)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	101	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	98.0	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	105	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	103	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	104	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	104	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	113	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	116	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	110	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.6	67.9	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5081317) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	93.8	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	90.0	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5074280)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	73.9	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5076751)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	119	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	112	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081312)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	82.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081318)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	117	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5074280)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	72.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5076751)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	98.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	108	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	102	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081312)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	85.2	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081318)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	99.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	108	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080: BTEXN (QCLot: 5074280)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	73.8	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	83.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	81.6	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	79.0	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	78.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	77.6	61.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5081312)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	92.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	91.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	88.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	89.8	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	91.4	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	81.2	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5075576)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	106	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 5073926)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	33.5	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	77.6	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	68.2	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	64.6	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	84.9	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	74.3	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	81.1	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	83.9	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	80.9	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	81.8	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	82.6	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	53.9	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5073926)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.4	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	80.9	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	85.4	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	86.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	86.7	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	86.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	88.6	49.4	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5073926) - continued								
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	85.4	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	88.0	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	86.6	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.8	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	83.9	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	83.9	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	84.0	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073925)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	76.0	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	80.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	90.4	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073982)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	93.4	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073925)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	74.8	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	82.6	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	87.0	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073982)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	92.6	66.2	132
EP080: BTEXN (QCLot: 5073982)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	89.3	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	100	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	95.9	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	92.8	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	89.6	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	108	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5076787)							
EM2309346-002	OL_EX_SP2_02	EG005T: Lead	7439-92-1	250 mg/kg	109	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5081332)							
EM2309346-009	OL_EX_SP4_02	EG005T: Lead	7439-92-1	250 mg/kg	80.3	80.0	120
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5081819)							
EM2309346-015	OL_EX_SP6_02	EK026SF: Total Cyanide	57-12-5	20 mg/kg	121	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5076750)							
EM2309346-002	OL_EX_SP2_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	101	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	104	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	80.9	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	98.1	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	75.0	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5081317)							
EM2309346-009	OL_EX_SP4_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	80.3	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	90.9	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	89.0	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	54.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5076750)							
EM2309346-002	OL_EX_SP2_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	131	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5081317)							
EM2309346-009	OL_EX_SP4_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	101	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	131	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5074280)							
EM2309346-002	OL_EX_SP2_02	EP080: C6 - C9 Fraction	----	28 mg/kg	58.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5076751)							
EM2309346-003	OL_EX_SP2_03	EP071: C10 - C14 Fraction	----	770 mg/kg	120	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	100	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081312)							
EM2309346-009	OL_EX_SP4_02	EP080: C6 - C9 Fraction	----	28 mg/kg	56.8	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081318)							
EM2309346-010	OL_EX_SP4_03	EP071: C10 - C14 Fraction	----	770 mg/kg	114	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	101	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	103	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5074280)							
EM2309346-002	OL_EX_SP2_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	49.2	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5076751)							
EM2309346-003	OL_EX_SP2_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	98.8	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	103	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	98.9	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081312)							
EM2309346-009	OL_EX_SP4_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	50.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081318)							
EM2309346-010	OL_EX_SP4_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	96.3	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	103	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	94.0	66.8	138
EP080: BTEXN (QCLot: 5074280)							
EM2309346-002	OL_EX_SP2_02	EP080: Benzene	71-43-2	2 mg/kg	63.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.2	57.1	131
EP080: BTEXN (QCLot: 5081312)							
EM2309346-009	OL_EX_SP4_02	EP080: Benzene	71-43-2	2 mg/kg	76.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	80.0	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5075576)							
EM2309262-006	Anonymous	EG020A-T: Lead	7439-92-1	2 mg/L	104	80.5	121
EP075(SIM)A: Phenolic Compounds (QCLot: 5073926)							
EM2309355-007	Anonymous	EP075(SIM): Phenol	108-95-2	5 µg/L	33.4	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	74.0	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	105	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	82.7	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	23.1	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5073926)							
EM2309355-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	73.7	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	86.9	44.0	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073925)							
EM2309355-006	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	67.3	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	80.6	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	94.2	50.5	127

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073982)							
EM2309230-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	62.5	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073925)							
EM2309355-006	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	65.8	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	83.4	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	90.4	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073982)							
EM2309230-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	52.9	34.0	122
EP080: BTEXN (QCLot: 5073982)							
EM2309230-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	73.8	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	84.8	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2309346**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023
Site	: ----	Issue Date	: 01-Jun-2023
Sampler	: ----	No. of samples received	: 27
Order number	: Macquarie Point	No. of samples analysed	: 26

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2309346--008	OL_EX_SP4_01	**Lead**	7439-92-1	39.0 %	0% - 20%	**RPD exceeds LOR based limits**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_SP2_01,	OL_EX_SP2_02,	**23-May-2023**	**----**	----	**----**	**27-May-2023**	06-Jun-2023	✓
OL_EX_SP2_03,	OL_EX_SP2_04,							
OL_EX_SP3_01,	OL_EX_SP3_02,							
OL_EX_SP3_03,	OL_EX_SP6_01,							
OL_EX_SP6_02,	OL_EX_SP6_03,							
UST_EXT_59SP_01,	UST_EXT_59SP_02,							
UST_EXT_59SP_03,	OL_EX_QC118,							
OL_EX_QC120,	UST_EXT_QC121							
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_SP4_01,	OL_EX_SP4_02,	**23-May-2023**	**----**	----	**----**	**30-May-2023**	06-Jun-2023	✓
OL_EX_SP4_03,	OL_EX_SP5_01,							
OL_EX_SP5_02,	OL_EX_SP5_03							
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)								
OL_EX_SP4_01,	OL_EX_SP4_02,	**23-May-2023**	**----**	----	**----**	**30-May-2023**	19-Nov-2023	✓
OL_EX_SP4_03								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	19-Nov-2023	✓	**27-May-2023**	19-Nov-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	19-Nov-2023	✓	**30-May-2023**	19-Nov-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**31-May-2023**	13-Jun-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_03	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**31-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**31-May-2023**	09-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_03	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**31-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**31-May-2023**	09-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**29-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**30-May-2023**	06-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**29-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**30-May-2023**	06-Jun-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**30-May-2023**	06-Jun-2023	✓

Matrix: **SOLID**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **SOLID**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
OL_EX_SP4_01 - Solid	**23-May-2023**	**----**	----	----	**30-May-2023**	19-Nov-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	19-Nov-2023	✓	**26-May-2023**	19-Nov-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**30-May-2023**	05-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**30-May-2023**	05-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**29-May-2023**	05-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, UST_EXT_QCA11, OL_EX_QCB12	**23-May-2023**	**26-May-2023**	06-Jun-2023	✓	**26-May-2023**	06-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**29-May-2023**	05-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, UST_EXT_QCA11, OL_EX_QCB12	**23-May-2023**	**26-May-2023**	06-Jun-2023	✓	**26-May-2023**	06-Jun-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, UST_EXT_QCA11, OL_EX_QCB12	**23-May-2023**	**26-May-2023**	06-Jun-2023	✓	**26-May-2023**	06-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2309346**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: tim.smith02@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Facsimile	: 02 8934 0001	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 4
Order number	: ----	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 24-May-2023 12:35	Issue Date	: 25-May-2023
Client Requested Due Date	: 31-May-2023	Scheduled Reporting Date	: **31-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.7°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 27 / 19

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Cyanide has not been logged for sample 025 due to container non-compliance.**
- **Samples 008-013 and 027 placed on hold pending confirmation of whether samples are to be analysed (COC lists these samples for both analysis and hold).**
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2309346-027 : [23-May-2023] : OL_EX_SP4_01 - Solid

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2309346-001	23-May-2023 00:00	OL_EX_SP2_01		✓	✓
EM2309346-002	23-May-2023 00:00	OL_EX_SP2_02		✓	✓
EM2309346-003	23-May-2023 00:00	OL_EX_SP2_03		✓	✓
EM2309346-004	23-May-2023 00:00	OL_EX_SP2_04		✓	✓
EM2309346-005	23-May-2023 00:00	OL_EX_SP3_01		✓	✓
EM2309346-006	23-May-2023 00:00	OL_EX_SP3_02		✓	✓
EM2309346-007	23-May-2023 00:00	OL_EX_SP3_03		✓	✓
EM2309346-008	23-May-2023 00:00	OL_EX_SP4_01	✓		
EM2309346-009	23-May-2023 00:00	OL_EX_SP4_02	✓		
EM2309346-010	23-May-2023 00:00	OL_EX_SP4_03	✓		
EM2309346-011	23-May-2023 00:00	OL_EX_SP5_01	✓		
EM2309346-012	23-May-2023 00:00	OL_EX_SP5_02	✓		
EM2309346-013	23-May-2023 00:00	OL_EX_SP5_03	✓		
EM2309346-014	23-May-2023 00:00	OL_EX_SP6_01		✓	✓
EM2309346-015	23-May-2023 00:00	OL_EX_SP6_02		✓	✓
EM2309346-016	23-May-2023 00:00	OL_EX_SP6_03		✓	✓
EM2309346-017	23-May-2023 00:00	UST_EXT_59SP_01		✓	✓
EM2309346-018	23-May-2023 00:00	UST_EXT_59SP_02		✓	✓
EM2309346-019	23-May-2023 00:00	UST_EXT_59SP_03		✓	✓
EM2309346-020	23-May-2023 00:00	OL_EX_QC118		✓	✓
EM2309346-021	23-May-2023 00:00	OL_EX_QC120		✓	✓
EM2309346-022	23-May-2023 00:00	UST_EXT_QC121		✓	✓

Matrix: **SOLID**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) SOLID No analysis requested
EM2309346-027	23-May-2023 00:00	OL_EX_SP4_01 Solid	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2309346-023	23-May-2023 00:00	OL_EX_QCA10		✓	
EM2309346-024	23-May-2023 00:00	UST_EXT_QCA11		✓	
EM2309346-025	23-May-2023 00:00	OL_EX_QCB12			✓
EM2309346-026	23-May-2023 00:00	OL_EX_QCC07	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- A4 - AU Tax Invoice (INV)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	tim.smith02@aecom.com

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~~FREIGHT~~
~~URGENT~~

Environmental Division
Melbourne
Work Order Reference
EM2309346

Telephone : - 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: MACQUARIE POINT Client: AECOM

Project Manager:
Phone: ( )

ALS Compass COC Reference: 52713 # Samples:

Sampler:
Phone: ( )

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only			
SH 25/5	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time: 24/5 12:35	Date / Time:	Date / Time:

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 24 May 2023 4:28 PM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, here are samples arriving today that I flagged as a compass COC 52713 but have not had the chance to fill it out. Please note that we are hunting 24h TAT for half the batch so you may want to split.

		sample date	TRH BTEXN PAH Phenols Pb	Cyanide	ACM presence/absence in soil	ACM fragment ID	HOLD	TRH C6-C10 BTEN	TRH BTEXN PAH Phenols Pb cyanide
OL_EX_412_0.5	24h TAT	23-May	1						
OL_EX_412_1.5	24h TAT	23-May	1						
OL_EX_413_0.5	24h TAT	23-May	1						
OL_EX_413_1.5	24h TAT	23-May	1						
OL_EX_413_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_414_0.5	24h TAT	23-May	1						
OL_EX_414_1.5	24h TAT	23-May	1						
OL_EX_414_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_415_0.5	24h TAT	23-May	1						
OL_EX_415_1.5	24h TAT	23-May	1						
OL_EX_416_0.5	24h TAT	23-May	1						
OL_EX_416_1.5	24h TAT	23-May	1						

	OL_EX_417_0.5	24h TAT	23-May	1						
	OL_EX_417_1.5	24h TAT	23-May	1						
	OL_EX_418_0.5	24h TAT	23-May	1						
	OL_EX_418_1.5	24h TAT	23-May	1						
	OL_EX_419_0.5	24h TAT	23-May	1						
	OL_EX_419_1.5	24h TAT	23-May	1						
	OL_EX_QC119	24h TAT	23-May	1						
1	OL_EX_SP2_01	5 day TAT	23-May	1						
2	OL_EX_SP2_02	5 day TAT	23-May	1						
3	OL_EX_SP2_03	5 day TAT	23-May	1						
4	OL_EX_SP2_04	5 day TAT	23-May	1						
5	OL_EX_SP3_01	5 day TAT	23-May	1						
6	OL_EX_SP3_02	5 day TAT	23-May	1						
7	OL_EX_SP3_03	5 day TAT	23-May	1						
8	OL_EX_SP4_01	5 day TAT	23-May	1		1	1 *	1		
9	OL_EX_SP4_02	5 day TAT	23-May	1		1		1		
10	OL_EX_SP4_03	5 day TAT	23-May	1		1		1		
11	OL_EX_SP5_01	5 day TAT	23-May	1				1		
12	OL_EX_SP5_02	5 day TAT	23-May	1				1		
13	OL_EX_SP5_03	5 day TAT	23-May	1				1		

* Sample 027 (PTO)

14	OL_EX_SP6_01	5 day TAT	23-May	1						
15	OL_EX_SP6_02	5 day TAT	23-May	1						
16	OL_EX_SP6_03	5 day TAT	23-May	1						
17	UST_EXT_59SP_01	5 day TAT	23-May	1						
18	UST_EXT_59SP_02	5 day TAT	23-May	1						
19	UST_EXT_59SP_03	5 day TAT	23-May	1						
20	OL_EX_QC118	5 day TAT	23-May	1						
21	OL_EX_QC120	5 day TAT	23-May	1						
22	UST_EXT_QC121	5 day TAT	23-May	1						
→	OL_EX_QC218	5 day TAT	23-May	1						
→	OL_EX_QC219	5 day TAT	23-May	1						
→	OL_EX_QC220	5 day TAT	23-May	1						
→	UST_EXT_QC221	5 day TAT	23-May	1						
23	OL_EX_QCA10	5 day TAT	23-May						1	
24	UST_EXT_QCA11	5 day TAT	23-May						1	
25	OL_EX_QCB12	5 day TAT	23-May							1
26	OL_EX_QCC07	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD

27. OL_EX_SP4_01 (solid) 1

SM 25/5

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

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~~FREIGHT~~
~~URGENT~~

Environmental Division
Melbourne
Work Order Reference
EM2309346

Telephone : + 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: MACQUARIE POINT Client: ~~AB~~ LOW

Project Manager:
Phone: ( )

ALS Compass COC Reference: 52713 # Samples:

Sampler:
Phone: ( )

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only			
SM 25/5	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time: 24/5 12-35	Date / Time:	Date / Time:

SM 25/5

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 24 May 2023 4:28 PM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, here are samples arriving today that I flagged as a compass COC 52713 but have not had the chance to fill it out. Please note that we are hunting 24h TAT for half the batch so you may want to split.

		sample date	TRH BTEXN PAH Phenols Pb	Cyanide	ACM presence/absence in soil	ACM fragment ID	HOLD	TRH C6-C10 BTEN	TRH BTEXN PAH Phenols Pb cyanide
OL_EX_412_0.5	24h TAT	23-May	1						
OL_EX_412_1.5	24h TAT	23-May	1						
OL_EX_413_0.5	24h TAT	23-May	1						
OL_EX_413_1.5	24h TAT	23-May	1						
OL_EX_413_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_414_0.5	24h TAT	23-May	1						
OL_EX_414_1.5	24h TAT	23-May	1						
OL_EX_414_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_415_0.5	24h TAT	23-May	1						
OL_EX_415_1.5	24h TAT	23-May	1						
OL_EX_416_0.5	24h TAT	23-May	1						
OL_EX_416_1.5	24h TAT	23-May	1						

	OL_EX_417_0.5	24h TAT	23-May	1						
	OL_EX_417_1.5	24h TAT	23-May	1						
	OL_EX_418_0.5	24h TAT	23-May	1						
	OL_EX_418_1.5	24h TAT	23-May	1						
	OL_EX_419_0.5	24h TAT	23-May	1						
	OL_EX_419_1.5	24h TAT	23-May	1						
	OL_EX_QC119	24h TAT	23-May	1						
1	OL_EX_SP2_01	5 day TAT	23-May	1						
2	OL_EX_SP2_02	5 day TAT	23-May	1						
3	OL_EX_SP2_03	5 day TAT	23-May	1						
4	OL_EX_SP2_04	5 day TAT	23-May	1						
5	OL_EX_SP3_01	5 day TAT	23-May	1						
6	OL_EX_SP3_02	5 day TAT	23-May	1						
7	OL_EX_SP3_03	5 day TAT	23-May	1						
8	OL_EX_SP4_01	5 day TAT	23-May	1		1	1 *	1		
9	OL_EX_SP4_02	5 day TAT	23-May	1		1		1		
10	OL_EX_SP4_03	5 day TAT	23-May	1		1		1		
11	OL_EX_SP5_01	5 day TAT	23-May	1				1		
12	OL_EX_SP5_02	5 day TAT	23-May	1				1		
13	OL_EX_SP5_03	5 day TAT	23-May	1				1		

* Sample 027 (PTO)

14	OL_EX_SP6_01	5 day TAT	23-May	1						
15	OL_EX_SP6_02	5 day TAT	23-May	1						
16	OL_EX_SP6_03	5 day TAT	23-May	1						
17	UST_EXT_59SP_01	5 day TAT	23-May	1						
18	UST_EXT_59SP_02	5 day TAT	23-May	1						
19	UST_EXT_59SP_03	5 day TAT	23-May	1						
20	OL_EX_QC118	5 day TAT	23-May	1						
21	OL_EX_QC120	5 day TAT	23-May	1						
22	UST_EXT_QC121	5 day TAT	23-May	1						
→	OL_EX_QC218	5 day TAT	23-May	1						
→	OL_EX_QC219	5 day TAT	23-May	1						
→	OL_EX_QC220	5 day TAT	23-May	1						
→	UST_EXT_QC221	5 day TAT	23-May	1						
23	OL_EX_QCA10	5 day TAT	23-May						1	
24	UST_EXT_QCA11	5 day TAT	23-May						1	
25	OL_EX_QCB12	5 day TAT	23-May							1
26	OL_EX_QCC07	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD

27. OL_EX_SP4_01 (solid) 1

SH 25/5

Tim Smith
Principal, Geologist
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My regular work days are Monday to Thursday

Scott Huett

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 9:59 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: - RE: - Re: - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

HI Peter, no those samples should not be on hold. Analysis should be TRH BTEXN PAH Phenols and Pb, with additional ACM in soil and ACM ID at SP4 samples. Additionally samples from SP6 should include cyanide in the analysis

Tim Smith
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tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 29 May 2023 6:57 PM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: - RE: - Re: - Macquarie Point samples arriving today - Compass COC 52713

Hi Tim

Can you please confirm if the following samples are on hold or for analysis

SP4_01 through to SP5_03

Thanks

CERTIFICATE OF ANALYSIS

Work Order	: **EM2310229**	Page	: 1 of 24
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 09-Jun-2023
C-O-C number	: 53213	Issue Date	: 15-Jun-2023 17:36
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 29		
No. of samples analysed	: 28		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG005T: EM2310229 #4, the LOR has been raised for cadmium due to sample matrix interferences.
- EG005T: EM2310229 #7, sample heterogeneity has been observed for Zinc, with the following results obtained: 1230 mg/kg, 2790 mg/kg and 3600 mg/kg.
- EG005T: EM2310229 #7, sample heterogeneity has been observed for Lead, with the following results obtained: 380 mg/kg, 502 mg/kg and 932 mg/kg.
- EG005T: EM2310229 #31, sample heterogeneity has been observed for Zinc, with the following results obtained: 1590 mg/kg, 758 mg/kg and 691 mg/kg.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP075(SIM): EM2310229_001 Poor duplicate precision due to sample heterogeneity. Confirmed via visual inspection.
- EG035T: EM2310229#24 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		----	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		----	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	<0.0001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**31.0**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		**----**	**89.0**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%		**----**	**78.9**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**----**	**77.2**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**----**	**70.3**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**----**	**74.3**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**109**	**109**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%		**95.8**	**97.1**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**107**	**106**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.0	22.3	16.2	32.5	14.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	12	7	49	68	15
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<5	<1
Chromium	7440-47-3	2	mg/kg	14	44	78	21	15
Copper	7440-50-8	5	mg/kg	122	214	151	213	115
Lead	7439-92-1	5	mg/kg	199	181	331	291	254
Nickel	7440-02-0	2	mg/kg	15	28	23	58	16
Zinc	7440-66-6	5	mg/kg	441	551	393	443	295
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.6	0.8	1.8	0.5	1.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.7
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.6	2.0	0.7	1.3
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.7	5.2	0.5	8.0
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.6	1.6	<0.5	1.8
Fluoranthene	206-44-0	0.5	mg/kg	2.9	3.9	15.2	2.5	12.2
Pyrene	129-00-0	0.5	mg/kg	3.1	4.1	16.0	2.7	12.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	2.6	9.8	2.7	8.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	1.7	2.4	9.4	2.8	7.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	3.4	12.0	4.3	10.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.5	5.0	1.8	3.7
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	3.0	11.6	3.9	10.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	1.7	6.2	2.2	5.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	1.7	0.6	1.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	2.0	7.4	2.8	7.4
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	19.7	27.5	103	27.5	91.1
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	3.0	4.0	16.8	5.6	14.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	3.2	4.2	16.8	5.6	14.5
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	3.5	4.5	16.8	5.6	14.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	130	150	310	<100	290
C29 - C36 Fraction	----	100	mg/kg	150	150	250	110	230
^ C10 - C36 Fraction (sum)	----	50	mg/kg	280	300	560	110	520
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	250	260	500	170	470
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	250	260	600	170	470
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	85.6	99.6	89.2	94.4	86.3
2-Chlorophenol-D4	93951-73-6	0.5	%	79.2	90.7	83.5	88.7	80.8
2.4.6-Tribromophenol	118-79-6	0.5	%	88.1	94.4	98.9	103	74.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	93.1	107	92.6	104	96.8
Anthracene-d10	1719-06-8	0.5	%	106	126	111	124	116
4-Terphenyl-d14	1718-51-0	0.5	%	90.6	117	95.9	104	112
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	88.3	105	104	91.9	96.2
Toluene-D8	2037-26-5	0.2	%	79.9	94.5	91.3	82.7	89.5
4-Bromofluorobenzene	460-00-4	0.2	%	84.3	102	98.4	89.4	95.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
			Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit	EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	26.9	19.8	22.3	32.8	14.2
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	22	18	<5	14	28
Cadmium	7440-43-9	1	mg/kg	<1	2	<1	<1	1
Chromium	7440-47-3	2	mg/kg	18	13	10	17	14
Copper	7440-50-8	5	mg/kg	235	124	73	281	63
Lead	7439-92-1	5	mg/kg	623	932	419	2220	179
Nickel	7440-02-0	2	mg/kg	38	14	11	36	32
Zinc	7440-66-6	5	mg/kg	716	3600	210	1030	276
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	2.3	0.6	0.4	2.4	0.3
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	22.6	2.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.0	0.6	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.3	4.7	1.3	1.6	2.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	1.2	0.8	<0.5	0.5
Fluoranthene	206-44-0	0.5	mg/kg	3.3	7.3	4.9	3.4	3.5
Pyrene	129-00-0	0.5	mg/kg	3.3	6.9	4.9	3.3	3.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.5	4.2	3.5	2.4	1.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
				Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit		EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		2.3	4.0	3.3	2.2	1.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		3.2	6.2	4.1	3.3	2.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.4	2.8	1.9	1.4	0.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		3.1	5.8	4.2	3.0	2.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.6	3.4	2.1	1.6	1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.8	0.6	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.9	4.1	2.5	2.0	1.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		23.9	75.6	37.2	24.2	19.9
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		4.0	8.3	6.0	3.9	2.6
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		4.3	8.3	6.0	4.2	2.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.5	8.3	6.0	4.4	3.1
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	74	39	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	4390	2340	<50	<50
C15 - C28 Fraction	----	100	mg/kg		100	330	240	110	130
C29 - C36 Fraction	----	100	mg/kg		100	260	240	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		200	4980	2820	110	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	287	127	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	286	127	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	3610	2070	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		180	480	400	180	160
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		180	4090	2470	180	160
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	3600	2070	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	0.6	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	0.6	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
			Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit	EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	**0.6**	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	**12**	**2**	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.8**	**102**	**89.6**	**95.4**	**96.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**83.6**	**90.9**	**95.3**	**88.1**	**87.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**85.2**	**86.8**	**97.9**	**87.7**	**95.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**102**	**103**	**102**	**104**	**99.8**
Anthracene-d10	1719-06-8	0.5	%	**118**	**105**	**124**	**120**	**122**
4-Terphenyl-d14	1718-51-0	0.5	%	**107**	**107**	**104**	**111**	**104**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**94.6**	**92.8**	**95.8**	**91.3**	**91.5**
Toluene-D8	2037-26-5	0.2	%	**81.1**	**89.3**	**88.9**	**79.4**	**81.6**
4-Bromofluorobenzene	460-00-4	0.2	%	**87.6**	**91.2**	**85.9**	**86.5**	**88.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.2	17.4	17.8	22.3	17.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	16	18	10	24
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	17	14	14	14	16
Copper	7440-50-8	5	mg/kg	79	94	84	61	122
Lead	7439-92-1	5	mg/kg	387	533	328	523	385
Nickel	7440-02-0	2	mg/kg	38	20	22	37	30
Zinc	7440-66-6	5	mg/kg	196	251	322	257	286
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.3	2.0	0.9	1.4	0.6
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.6	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.3	5.2	1.4	3.3	2.5
Anthracene	120-12-7	0.5	mg/kg	0.7	1.4	0.6	1.3	0.9
Fluoranthene	206-44-0	0.5	mg/kg	4.6	7.7	3.1	8.0	5.5
Pyrene	129-00-0	0.5	mg/kg	4.8	7.5	3.2	8.4	5.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	3.9	1.9	4.9	3.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	2.5	3.4	1.7	4.4	3.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	4.7	2.6	5.5	4.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.9	1.0	2.4	2.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	4.5	2.4	5.6	4.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.5	2.4	1.3	2.6	2.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.6	<0.5	0.7	0.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	3.0	1.5	3.0	2.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	29.0	46.8	20.7	50.7	40.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	4.2	6.4	3.1	7.9	6.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	4.4	6.4	3.4	7.9	6.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	4.6	6.4	3.6	7.9	6.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	250	280	200	290	250
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	130	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg	250	280	200	420	370
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	60	80	60	60	60
>C16 - C34 Fraction	----	100	mg/kg	270	320	220	360	310
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	330	400	280	420	370
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	60	80	60	60	60
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	92.4	98.0	99.8	102	96.2
2-Chlorophenol-D4	93951-73-6	0.5	%	84.9	90.1	92.0	92.6	88.8
2.4.6-Tribromophenol	118-79-6	0.5	%	85.8	84.6	88.4	101	96.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	104	110	111	107	103
Anthracene-d10	1719-06-8	0.5	%	119	123	127	123	120
4-Terphenyl-d14	1718-51-0	0.5	%	108	120	117	108	103
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	96.6	102	92.5	95.0	92.6
Toluene-D8	2037-26-5	0.2	%	92.3	93.7	83.5	84.8	80.4
4-Bromofluorobenzene	460-00-4	0.2	%	101	102	92.5	92.0	91.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
			Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit	EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.3	23.0	21.6	22.2	23.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	31	6	<5	10	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	9	13	11	14	14
Copper	7440-50-8	5	mg/kg	53	59	47	54	43
Lead	7439-92-1	5	mg/kg	142	426	203	245	190
Nickel	7440-02-0	2	mg/kg	18	16	14	17	18
Zinc	7440-66-6	5	mg/kg	218	245	117	217	144
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	1.5	0.8	1.1	1.2
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	2.4	2.2	0.7	1.0
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.8	1.6	<0.5	0.8
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.7	1.2	<0.5	0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	1.3	2.9	0.7	0.8
Phenanthrene	85-01-8	0.5	mg/kg	2.2	7.9	23.4	2.8	4.7
Anthracene	120-12-7	0.5	mg/kg	0.5	3.4	8.6	1.0	1.9
Fluoranthene	206-44-0	0.5	mg/kg	4.1	10.8	34.5	5.4	8.8
Pyrene	129-00-0	0.5	mg/kg	4.1	11.3	34.7	6.2	9.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.3	6.0	20.1	3.1	5.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		2.0	5.0	16.7	2.7	4.9
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		2.9	6.7	19.8	3.9	6.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.2	2.5	7.7	1.2	2.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		2.7	6.3	19.6	3.6	6.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.4	2.7	8.4	1.5	2.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.8	2.4	<0.5	0.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.7	3.1	10.0	1.8	3.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		25.1	71.7	214	34.6	60.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		3.5	9.0	27.9	4.6	8.7
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.8	9.0	27.9	4.9	8.7
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.0	9.0	27.9	5.1	8.7
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	100	240	180	130
C15 - C28 Fraction	----	100	mg/kg		540	670	1480	800	760
C29 - C36 Fraction	----	100	mg/kg		120	180	400	140	180
^ C10 - C36 Fraction (sum)	----	50	mg/kg		660	950	2120	1120	1070
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	110	120	130	120
>C16 - C34 Fraction	----	100	mg/kg		620	700	1580	740	770
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	130	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		620	910	2170	1090	1040
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	110	120	130	120
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		95.0	100	91.9	104	101
2-Chlorophenol-D4	93951-73-6	0.5	%		86.9	92.3	86.0	95.8	92.2
2.4.6-Tribromophenol	118-79-6	0.5	%		93.4	101	92.8	109	99.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		104	108	99.8	107	102
Anthracene-d10	1719-06-8	0.5	%		118	122	126	129	123
4-Terphenyl-d14	1718-51-0	0.5	%		108	117	115	115	113
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		93.4	99.9	95.0	93.2	93.3
Toluene-D8	2037-26-5	0.2	%		82.1	85.9	86.4	83.8	83.4
4-Bromofluorobenzene	460-00-4	0.2	%		90.5	94.1	93.2	90.1	89.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.7	15.9	15.9	16.1	17.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	7	6	7	54
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	12	15	12	34
Copper	7440-50-8	5	mg/kg	109	122	159	144	173
Lead	7439-92-1	5	mg/kg	126	141	144	532	814
Nickel	7440-02-0	2	mg/kg	17	20	24	17	22
Zinc	7440-66-6	5	mg/kg	324	475	382	639	562
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	0.3	0.4	1.0	0.8
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.8	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.8	1.0	1.1	1.0	0.9
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.0	5.2	4.1	2.4	2.9
Anthracene	120-12-7	0.5	mg/kg	0.6	1.5	1.3	0.9	0.9
Fluoranthene	206-44-0	0.5	mg/kg	4.4	9.9	9.0	7.2	7.4
Pyrene	129-00-0	0.5	mg/kg	4.8	10.3	9.4	7.1	7.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	5.9	5.4	4.8	4.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	2.6	5.6	4.8	4.2	4.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	8.0	6.8	6.7	6.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	2.5	2.2	2.8	2.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	6.9	6.0	6.3	5.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	3.8	3.1	3.6	3.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	1.1	0.9	1.0	0.9
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.1	4.3	3.5	4.2	3.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	31.4	66.0	57.6	54.0	51.8
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	10	<10	<10	16	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	710	<50
C15 - C28 Fraction	----	100	mg/kg	230	230	320	260	260
C29 - C36 Fraction	----	100	mg/kg	240	200	290	210	250
^ C10 - C36 Fraction (sum)	----	50	mg/kg	470	430	610	1180	510
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	12	11	<10	58	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	12	11	<10	58	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	680	<50
>C16 - C34 Fraction	----	100	mg/kg	400	380	530	400	450
>C34 - C40 Fraction	----	100	mg/kg	130	110	150	100	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	530	490	680	1180	560
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	680	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	2	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	94.7	105	102	96.2	100.0
2-Chlorophenol-D4	93951-73-6	0.5	%	89.0	95.2	96.4	95.3	97.4
2.4.6-Tribromophenol	118-79-6	0.5	%	90.5	94.8	96.5	98.7	96.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	115	113	115	118	117
Anthracene-d10	1719-06-8	0.5	%	119	119	119	120	114
4-Terphenyl-d14	1718-51-0	0.5	%	121	123	122	120	120
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	91.2	90.2	79.6	85.9	73.2
Toluene-D8	2037-26-5	0.2	%	89.6	88.1	76.4	83.9	71.5
4-Bromofluorobenzene	460-00-4	0.2	%	102	102	89.4	104	78.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**26.5**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**15**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**177**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**185**	----	----	----	----
Lead	7439-92-1	5	mg/kg		**585**	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**20**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**691**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**1.9**	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**0.9**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**2.2**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		**0.5**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**7.0**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**3.0**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**20.7**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**21.2**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**13.8**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		**13.0**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**19.4**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**6.0**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**16.4**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**8.9**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**2.5**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**9.9**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**145**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**23.9**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**23.9**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**23.9**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**420**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**380**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**800**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**710**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**160**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**870**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	**----**	**----**	**----**	**----**
Naphthalene	91-20-3	1	mg/kg		<1	**----**	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.3**	**----**	**----**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**90.0**	**----**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**102**	**----**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**115**	**----**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	0.5	%		**118**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**123**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.9**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**78.2**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**89.0**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2310229**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Order number	: 60693007-2	Date Analysis Commenced	: 09-Jun-2023
C-O-C number	: 53213	Issue Date	: 15-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 29		
No. of samples analysed	: 28		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5103608)									
EM2310229-001	OL_EX_420_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	15	9.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	19	24.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	13	9.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	122	132	8.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	199	178	11.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	441	458	3.8	0% - 20%
EM2310229-011	UST_SP_01	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	16	14.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	32	29	10.7	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	28	31	7.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	63	68	8.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	179	162	9.6	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	276	276	0.0	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5103610)									
EM2310229-023	OL_EX_SP7_01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	12	13.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	17	18	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	109	95	13.5	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	126	128	2.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	324	301	7.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104491)									
EM2310229-001	OL_EX_420_0.5	EA055: Moisture Content	----	0.1	%	18.0	18.3	2.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104491) - continued									
EM2310229-012	UST_SP_02	EA055: Moisture Content	----	0.1	%	18.2	18.4	1.2	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104492)									
EM2310229-023	OL_EX_SP7_01	EA055: Moisture Content	----	0.1	%	11.7	9.5	21.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103609)									
EM2310229-001	OL_EX_420_0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.4	37.1	No Limit
EM2310229-011	UST_SP_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.3	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103611)									
EM2310229-023	OL_EX_SP7_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103528)									
EM2310229-001	OL_EX_420_0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2310229-012	UST_SP_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103538)									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103538) - continued									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103528)									
EM2310229-001	OL_EX_420_0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.8	42.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	3.1	76.1	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.0	68.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.9	# 5.7	64.9	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.1	# 6.0	63.5	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	3.3	54.5	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	3.1	59.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	3.8	45.5	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.9	66.8	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	3.9	52.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	2.0	53.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	2.3	48.0	No Limit
EM2310229-012	UST_SP_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.0	69.9	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.3	2.9	22.2	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.7	0.9	24.1	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.6	5.7	21.6	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	5.9	21.1	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	3.4	19.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.5	3.0	17.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	3.9	17.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.8	21.7	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	4.0	19.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.5	1.8	15.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103528) - continued									
EM2310229-012	UST_SP_02	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	2.1	13.9	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103538)									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.0	2.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.4	4.1	8.7	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	4.4	8.4	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	2.6	8.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.6	2.3	9.5	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	3.1	25.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	1.3	9.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	2.8	20.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	1.4	24.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.5	24.2	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.1	1.7	22.6	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: C6 - C9 Fraction	----	10	mg/kg	10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103529)									
EM2310229-001	OL_EX_420_0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	130	200	43.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	200	30.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2310229-012	UST_SP_02	EP071: C15 - C28 Fraction	----	100	mg/kg	250	310	22.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103539)									
EM2310229-023	OL_EX_SP7_01	EP071: C15 - C28 Fraction	----	100	mg/kg	230	200	14.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	240	200	14.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	12	11	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103529)									
EM2310229-001	OL_EX_420_0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	250	360	37.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2310229-012	UST_SP_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	330	19.4	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	60	90	35.3	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103539)									
EM2310229-023	OL_EX_SP7_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	400	340	15.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	130	120	12.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5104590)									
EM2309997-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5104590) - continued									
EM2309997-003	Anonymous	EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.125	0.127	1.4	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.120	0.124	2.8	0% - 20%
EM2310262-004	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.947	0.971	2.6	0% - 20%
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	1.09	1.10	0.9	0% - 20%
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.121	0.127	4.2	0% - 20%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	12.8	12.8	0.2	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	134	137	2.7	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.455	0.451	0.9	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	377	385	2.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103274)									
EM2310229-026	OL_EX_QC14	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2310250-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5101667)									
EM2310352-007	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EM2310341-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5101667) - continued									
EM2310341-001	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5101667)									
EM2310352-007	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2310341-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101668)									
EM2310352-007	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	200	66.6	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101668) - continued									
EM2310341-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	20	20	0.0	No Limit
EM2310271-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5101668)									
EM2310352-007	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	170	54.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2310341-001	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	20	20	0.0	No Limit
EM2310271-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	6	6	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2310271-007	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103608)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	67.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.7	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	99.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	102	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	78.3	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	100	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	66.9	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	101	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	103	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103609)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103611)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.8	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	94.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	98.4	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	97.1	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	95.8	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.2	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	92.9	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	91.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	91.4	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.4	67.8	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528) - continued								
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	92.4	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	76.0	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5103538)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	107	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	109	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	97.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	94.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	111	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	106	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	95.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	91.0	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103528)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	96.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	100	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	95.7	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.9	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.0	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	95.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.0	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	96.8	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	97.3	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	93.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.6	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	95.4	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	90.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	91.7	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.0	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	117	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	119	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	116	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	112	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	119	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	116	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	118	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	119	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	117	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	116	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	116	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	117	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	108	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	106	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	113	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	115	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103488)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	70.2	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103489)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	96.1	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103529)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	103	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	97.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	107	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103539)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	95.0	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	94.3	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	99.1	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103488)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	74.6	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103489)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	94.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	86.9	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	84.8	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103539)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	83.1	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	97.9	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	84.9	73.3	137
EP080: BTEXN (QCLot: 5103488)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	75.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	78.3	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	79.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	80.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	82.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.0	61.8	123
EP080: BTEXN (QCLot: 5103489)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	95.2	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	98.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	95.3	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	100	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	100	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	108	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5104590)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	101	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	110	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.3	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.5	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	105	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.4	86.7	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274) - continued								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	92.1	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	34.4	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	79.5	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	71.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	66.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	85.0	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	77.8	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	84.7	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	85.4	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	86.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	87.4	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	85.5	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	73.2	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101667)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.2	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.4	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	81.7	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	87.3	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	87.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	85.8	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	90.2	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	90.9	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	91.8	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	90.8	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	88.4	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	92.5	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.5	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	89.6	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	89.5	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	90.7	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	73.1	47.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	73.8	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	77.8	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101853)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	91.9	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101668)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	69.6	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	74.7	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	78.4	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101853)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	97.1	66.2	132
EP080: BTEXN (QCLot: 5101853)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	96.3	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	101	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	104	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	107	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103608)							
EM2310229-002	OL_EX_421_0.5	EG005T: Copper	7440-50-8	250 mg/kg	119	80.0	120
EM2310229-002	OL_EX_421_0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	99.9	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.4	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	121	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	102	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	111	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	92.0	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610)							
EM2310229-024	OL_EX_SP7_02	EG005T: Zinc	7440-66-6	250 mg/kg	107	80.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610) - continued							
EM2310229-024	OL_EX_SP7_02	EG005T: Arsenic	7440-38-2	50 mg/kg	108	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	102	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	111	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	120	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.7	78.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103609)							
EM2310229-002	OL_EX_421_0.5	EG035T: Mercury	7439-97-6	0.5 mg/kg	115	76.0	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103611)							
EM2310229-024	OL_EX_SP7_02	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 132	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528)							
EM2310229-002	OL_EX_421_0.5	EP075(SIM): Phenol	108-95-2	3 mg/kg	98.4	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	102	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	94.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	67.9	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5103538)							
EM2310229-024	OL_EX_SP7_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	102	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	109	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	99.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	79.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103528)							
EM2310229-002	OL_EX_421_0.5	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	99.4	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538)							
EM2310229-024	OL_EX_SP7_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	107	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	68.0	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: C6 - C9 Fraction	----	28 mg/kg	67.3	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: C6 - C9 Fraction	----	28 mg/kg	73.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103529)							
EM2310229-003	OL_EX_422_0.5	EP071: C10 - C14 Fraction	----	770 mg/kg	99.6	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	94.9	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	106	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103539)							
EM2310229-028	OL_EX_SP7_03	EP071: C10 - C14 Fraction	----	770 mg/kg	96.8	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	92.4	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	98.6	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	65.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	67.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529)							
EM2310229-003	OL_EX_422_0.5	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.9	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	101	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	83.5	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103539)							
EM2310229-028	OL_EX_SP7_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.7	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	96.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	84.6	66.8	138
EP080: BTEXN (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: Benzene	71-43-2	2 mg/kg	67.5	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.6	57.1	131
EP080: BTEXN (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: Benzene	71-43-2	2 mg/kg	75.3	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	82.8	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5104590)							
EM2309997-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.1	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	102	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	89.1	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	90.2	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	93.9	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	89.6	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	90.1	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274)							
EM2310246-005	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	102	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667)							
EM2310352-001	Anonymous						

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667) - continued							
EM2310352-001	Anonymous	EP075(SIM): Phenol	108-95-2	5 µg/L	36.2	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	78.9	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	86.4	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	88.0	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	26.1	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101667)							
EM2310352-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	81.0	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	88.5	44.0	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668)							
EM2310352-003	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	77.7	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	88.0	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	97.5	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	74.9	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101668)							
EM2310352-003	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	73.4	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	90.2	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	97.6	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	74.0	34.0	122
EP080: BTEXN (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: Benzene	71-43-2	20 µg/L	89.9	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	94.4	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310229**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 15-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 29
Order number	: 60693007-2	No. of samples analysed	: 28

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2310229--001	OL_EX_420_0.5	**Fluoranthene**	206-44-0	64.9 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2310229--001	OL_EX_420_0.5	**Pyrene**	129-00-0	63.5 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG035T: Total Recoverable Mercury by FIMS	EM2310229--024	OL_EX_SP7_02	**Mercury**	7439-97-6	132 %	76.0-116%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**----**	----	----	**10-Jun-2023**	21-Jun-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**13-Jun-2023**	04-Dec-2023	✓	**13-Jun-2023**	04-Dec-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**13-Jun-2023**	05-Jul-2023	✓	**13-Jun-2023**	05-Jul-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**10-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_02, OL_EX_SP7_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_SP_03, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, OL_EX_SP7_01, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**10-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_02, OL_EX_SP7_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_SP_03, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, OL_EX_SP7_01, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	07-Jun-2023	10-Jun-2023	21-Jun-2023	✓	10-Jun-2023	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	07-Jun-2023	10-Jun-2023	21-Jun-2023	✓	14-Jun-2023	21-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QC14	07-Jun-2023	10-Jun-2023	04-Dec-2023	✓	13-Jun-2023	04-Dec-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T)							
OL_EX_QC14	07-Jun-2023	----	----	----	13-Jun-2023	05-Jul-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	07-Jun-2023	09-Jun-2023	21-Jun-2023	✓	09-Jun-2023	21-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	07-Jun-2023	09-Jun-2023	21-Jun-2023	✓	09-Jun-2023	21-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	**07-Jun-2023**	**09-Jun-2023**	21-Jun-2023	✓	**09-Jun-2023**	21-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	26	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2310229**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 53213	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH		

Dates

Date Samples Received	: 07-Jun-2023 11:45	Issue Date	: 08-Jun-2023
Client Requested Due Date	: 15-Jun-2023	Scheduled Reporting Date	: **15-Jun-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 5.6°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 29 / 28

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EA055-103 Moisture Content	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2310229-001	07-Jun-2023 09:58	OL_EX_420_0.5	✓	✓
EM2310229-002	07-Jun-2023 09:59	OL_EX_421_0.5	✓	✓
EM2310229-003	07-Jun-2023 09:59	OL_EX_422_0.5	✓	✓
EM2310229-004	07-Jun-2023 10:01	OL_EX_422_1.5	✓	✓
EM2310229-005	07-Jun-2023 10:02	OL_EX_423_0.5	✓	✓
EM2310229-006	07-Jun-2023 10:02	OL_EX_423_1.5	✓	✓
EM2310229-007	07-Jun-2023 10:03	OL_EX_424_0.5	✓	✓
EM2310229-008	07-Jun-2023 10:04	OL_EX_424_1.5	✓	✓
EM2310229-009	07-Jun-2023 10:06	OL_EX_QC125	✓	✓
EM2310229-011	07-Jun-2023 10:07	UST_SP_01	✓	✓
EM2310229-012	07-Jun-2023 10:08	UST_SP_02	✓	✓
EM2310229-013	07-Jun-2023 10:08	UST_SP_03	✓	✓
EM2310229-014	07-Jun-2023 10:09	UST_SP_04	✓	✓
EM2310229-015	07-Jun-2023 10:09	UST_SP_05	✓	✓
EM2310229-016	07-Jun-2023 10:10	UST_SP_06	✓	✓
EM2310229-017	07-Jun-2023 10:10	UST_SP_QC126	✓	✓
EM2310229-019	07-Jun-2023 10:12	UST_SP_Ext_59SP_04	✓	✓
EM2310229-020	07-Jun-2023 10:16	UST_SP_Ext_59SP_05	✓	✓
EM2310229-021	07-Jun-2023 10:16	UST_SP_Ext_59SP_06	✓	✓
EM2310229-022	07-Jun-2023 10:16	UST_SP_Ext_59SP_07	✓	✓
EM2310229-023	07-Jun-2023 10:22	OL_EX_SP7_01	✓	✓
EM2310229-024	07-Jun-2023 10:22	OL_EX_SP7_02	✓	✓
EM2310229-028	07-Jun-2023 10:23	OL_EX_SP7_03	✓	✓
EM2310229-029	07-Jun-2023 10:25	OL_EX_SP8_01	✓	✓
EM2310229-030	07-Jun-2023 10:25	OL_EX_SP8_02	✓	✓
EM2310229-031	07-Jun-2023 10:25	OL_EX_SP8_03	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2310229-025	07-Jun-2023 10:23	OL_EX_QCA14		✓	
EM2310229-026	07-Jun-2023 10:24	OL_EX_QC14			✓
EM2310229-027	07-Jun-2023 10:24	OL_EX_QCC09	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

COC#: 53213 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 7/6/23 11.45	DATE TIME:	DATE TIME:

FREIGHT

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_EX_420_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
002	OL_EX_421_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
003	OL_EX_422_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
004	OL_EX_422_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
005	OL_EX_423_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
006	OL_EX_423_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
007	OL_EX_424_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
008	OL_EX_424_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
009	OL_EX_QC125			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

Environmental Division
Melbourne
Work Order Reference
EM2310229

Telephone - 61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_QC225	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
011	UST_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
012	UST_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
013	UST_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
014	UST_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
015	UST_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
016	UST_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
017	UST_SP_QC126			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
018	UST_SP_QC226	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_SP_Ext_59SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
020	UST_SP_Ext_59SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
021	UST_SP_Ext_59SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
022	UST_SP_Ext_59SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
023	OL_EX_SP7_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
024	OL_EX_SP7_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
025	OL_EX_QCA14			WATER	ALS: 0 Non ALS: 0	No				X		
026	OL_EX_QC14			WATER	ALS: 0 Non ALS: 0	No			Partial 1/2		Lead only from metals suite	
027	OL_EX_QCC09			WATER	ALS: 0 Non ALS: 0	Yes	-					

CHAIN OF CUSTODY

COC#: **53213** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	OL_EX_SP7_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
029	OL_EX_SP8_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
030	OL_EX_SP8_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
031	OL_EX_SP8_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_EX_420_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_EX_421_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_EX_422_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
004	OL_EX_422_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_EX_423_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_EX_423_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_EX_424_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_EX_424_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_EX_QC125	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_EX_QC225	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	UST_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	UST_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	UST_SP_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	UST_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	UST_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 53213 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

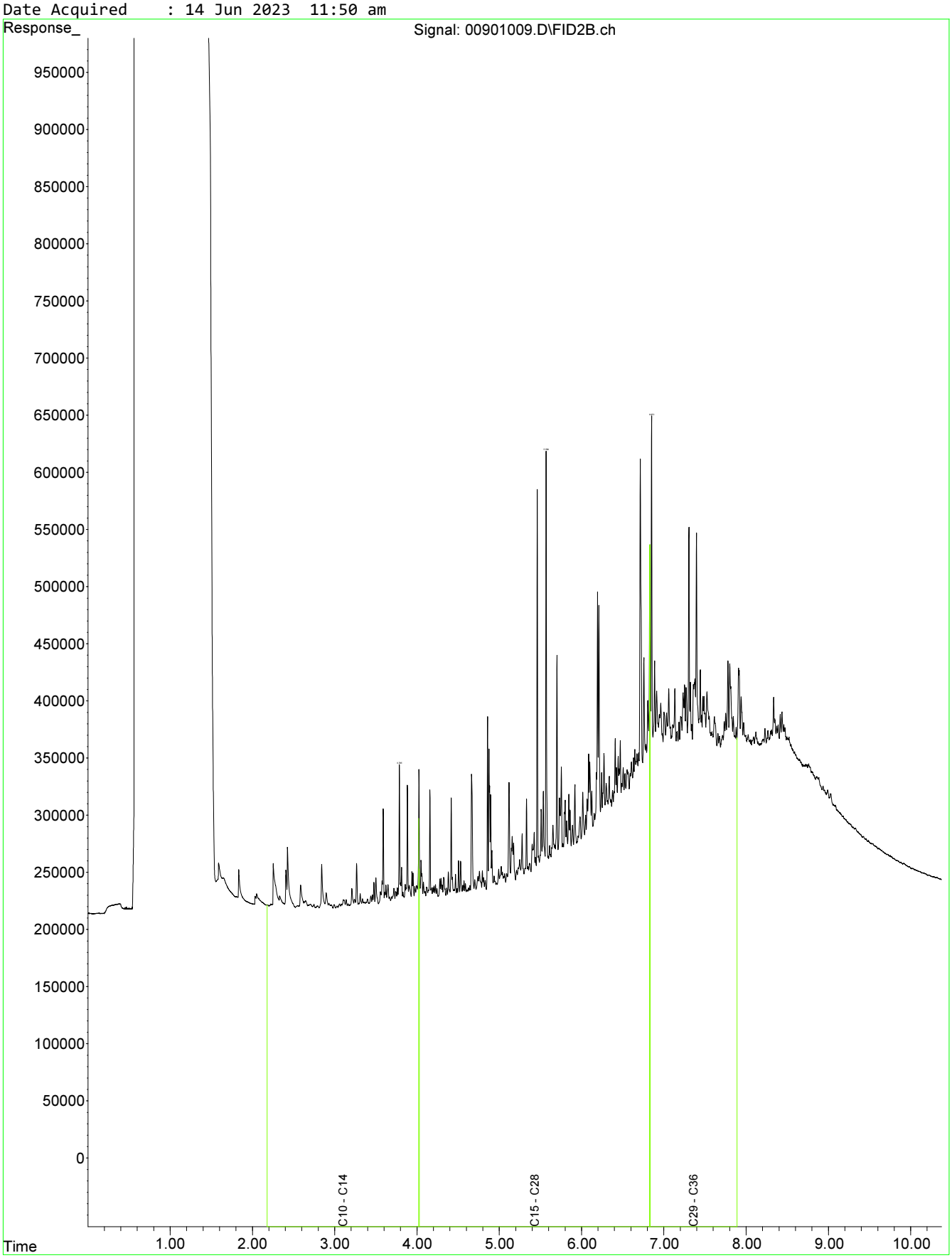
Random Sample Temperature on Receipt: °C

Other comments:

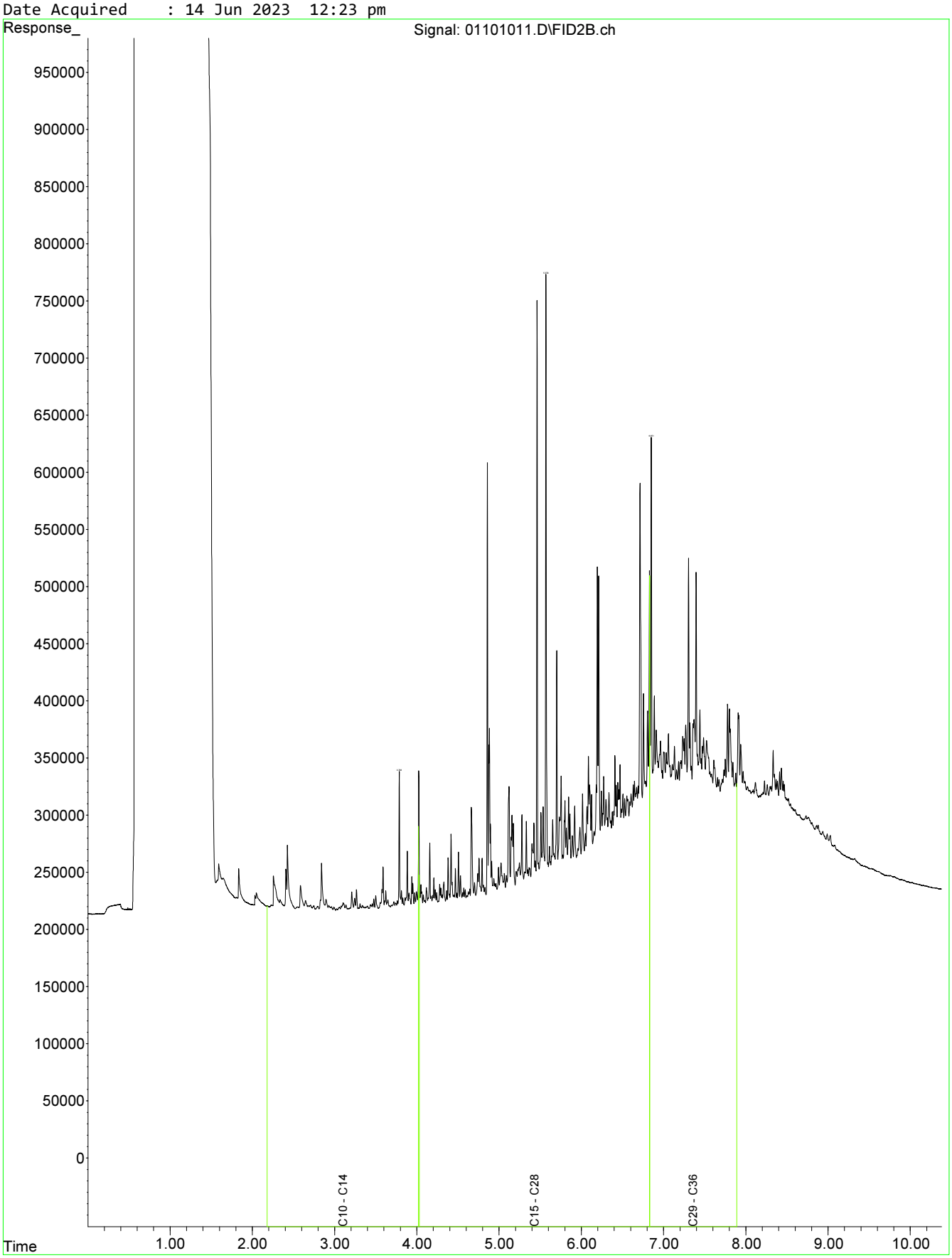
016	UST_SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	UST_SP_QC126	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	UST_SP_QC226	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	UST_SP_Ext_59SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	UST_SP_Ext_59SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
021	UST_SP_Ext_59SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	UST_SP_Ext_59SP_07	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
023	OL_EX_SP7_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
024	OL_EX_SP7_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
026	OL_EX_QC14	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
028	OL_EX_SP7_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
029	OL_EX_SP8_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
030	OL_EX_SP8_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
031	OL_EX_SP8_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

Total Bottle Count: ALS: 0, Non ALS: 0

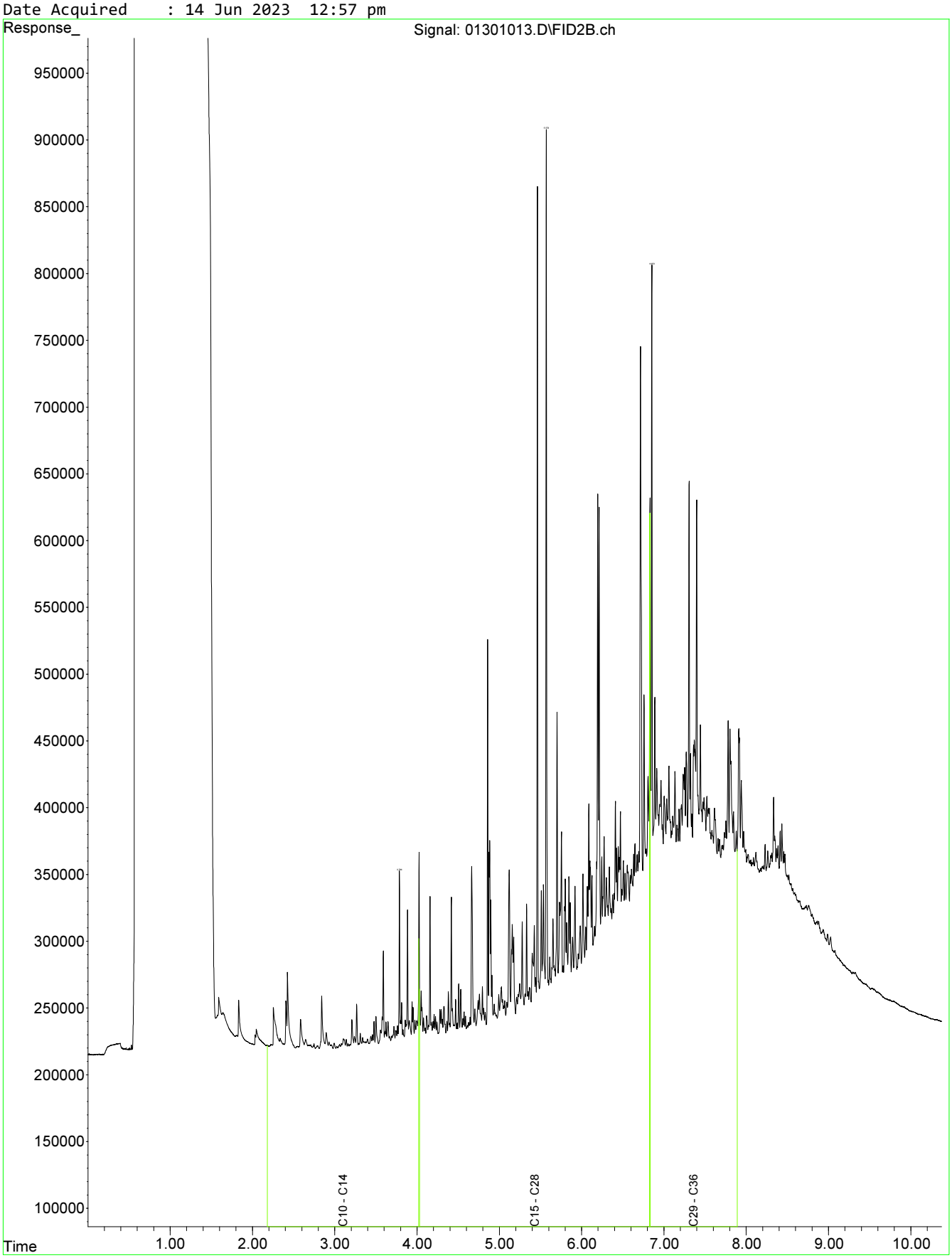
Fraction Scheme : Legacy Fractions
Data File : 00901009.D
Laboratory Number: EM2310229-023
Sample ID : OL_EX_SP7_01
Date Acquired : 14 Jun 2023 11:50 am



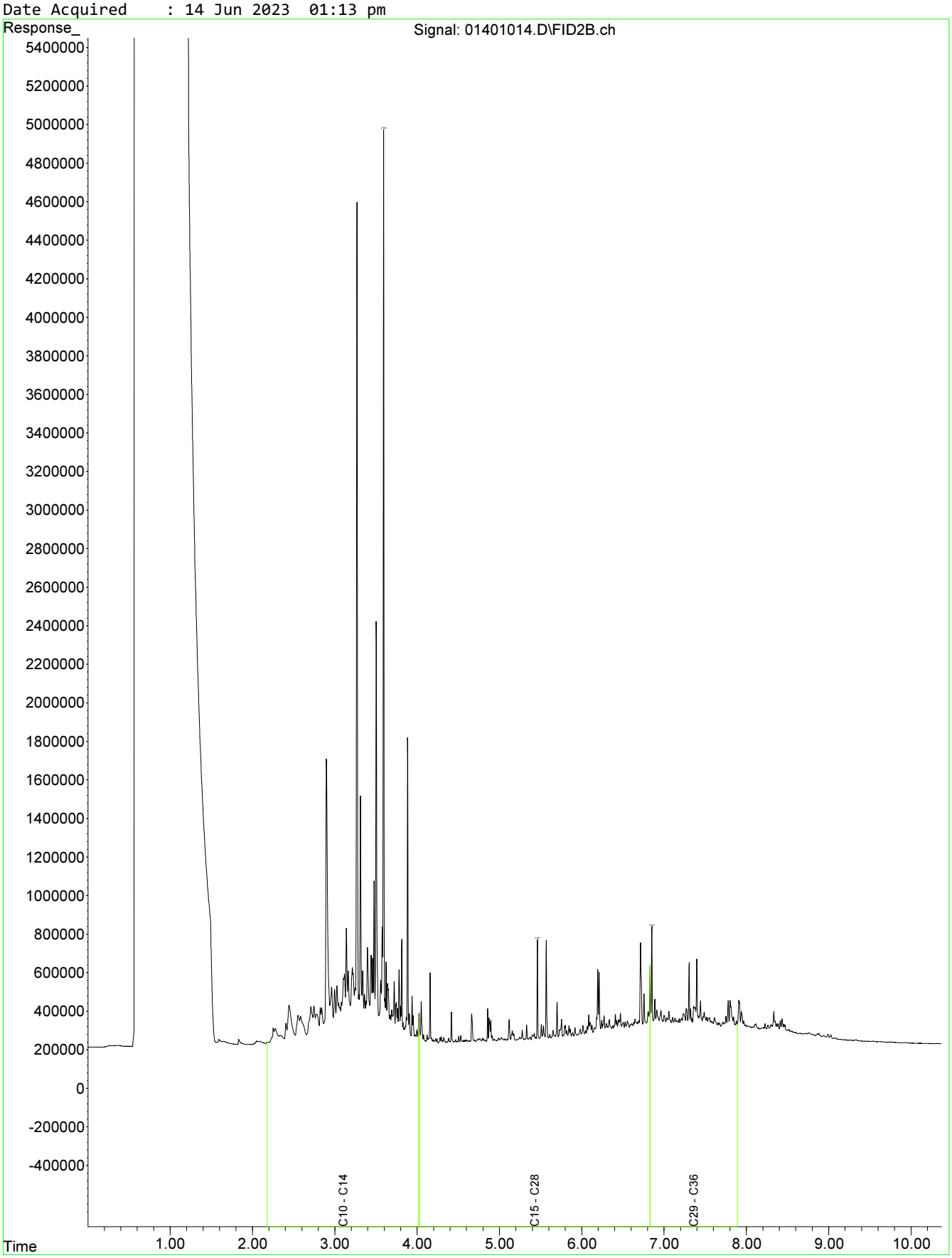
Fraction Scheme : Legacy Fractions
Data File : 01101011.D
Laboratory Number: EM2310229-024
Sample ID : OL_EX_SP7_02
Date Acquired : 14 Jun 2023 12:23 pm



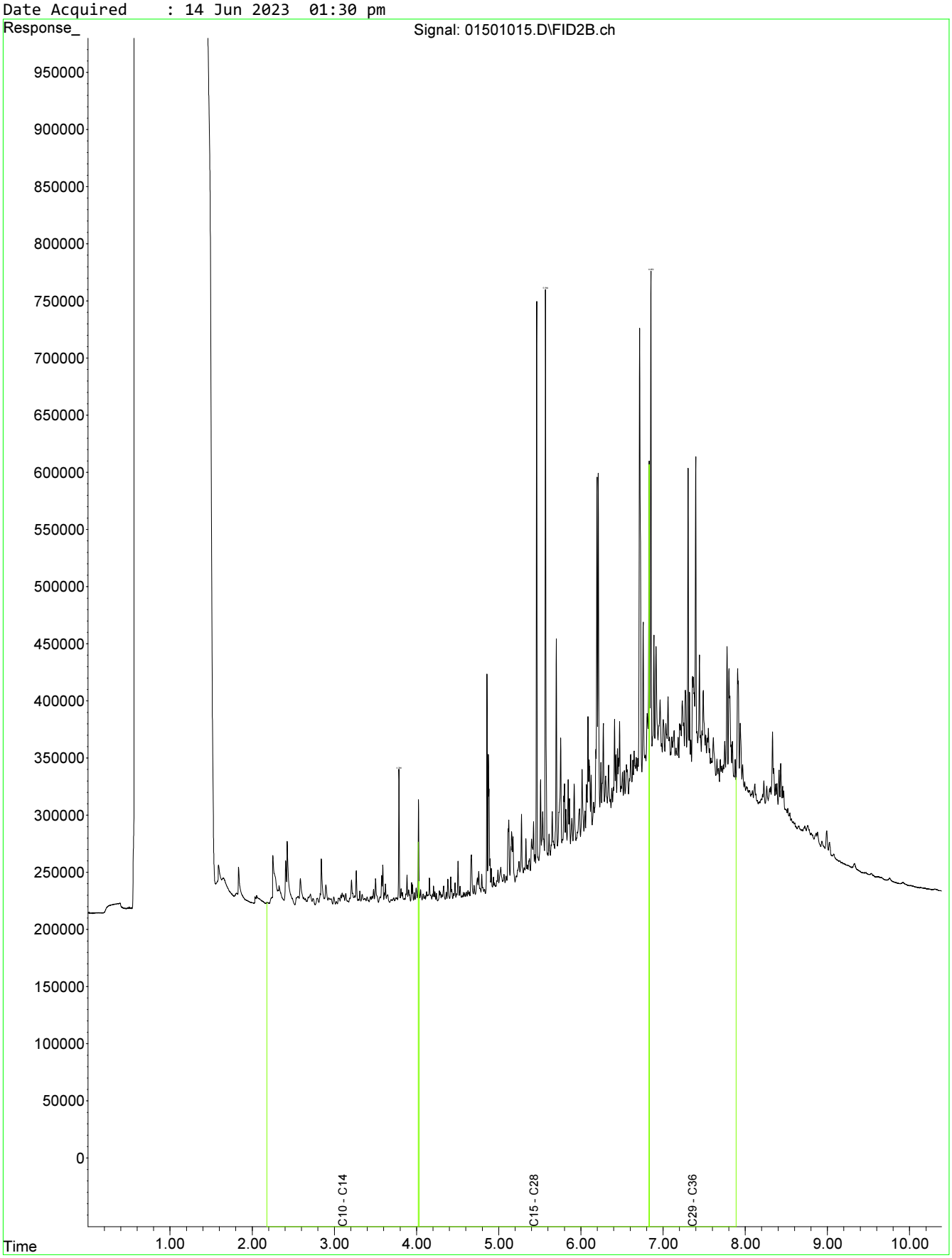
Fraction Scheme : Legacy Fractions
Data File : 01301013.D
Laboratory Number: EM2310229-028
Sample ID : OL_EX_SP7_03
Date Acquired : 14 Jun 2023 12:57 pm



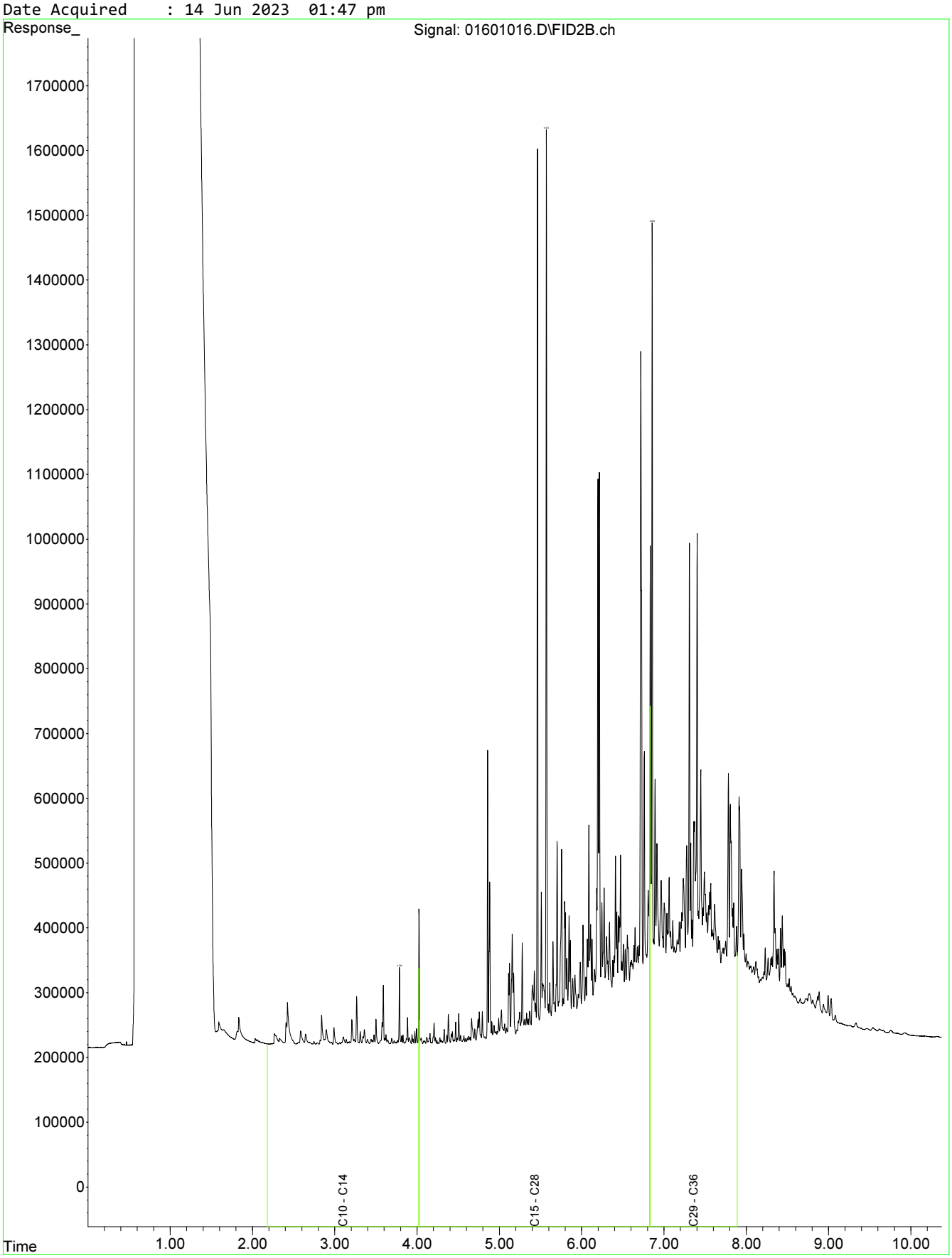
Fraction Scheme : Legacy Fractions
Data File : 01401014.D
Laboratory Number: EM2310229-029
Sample ID : OL_EX_SP8_01
Date Acquired : 14 Jun 2023 01:13 pm



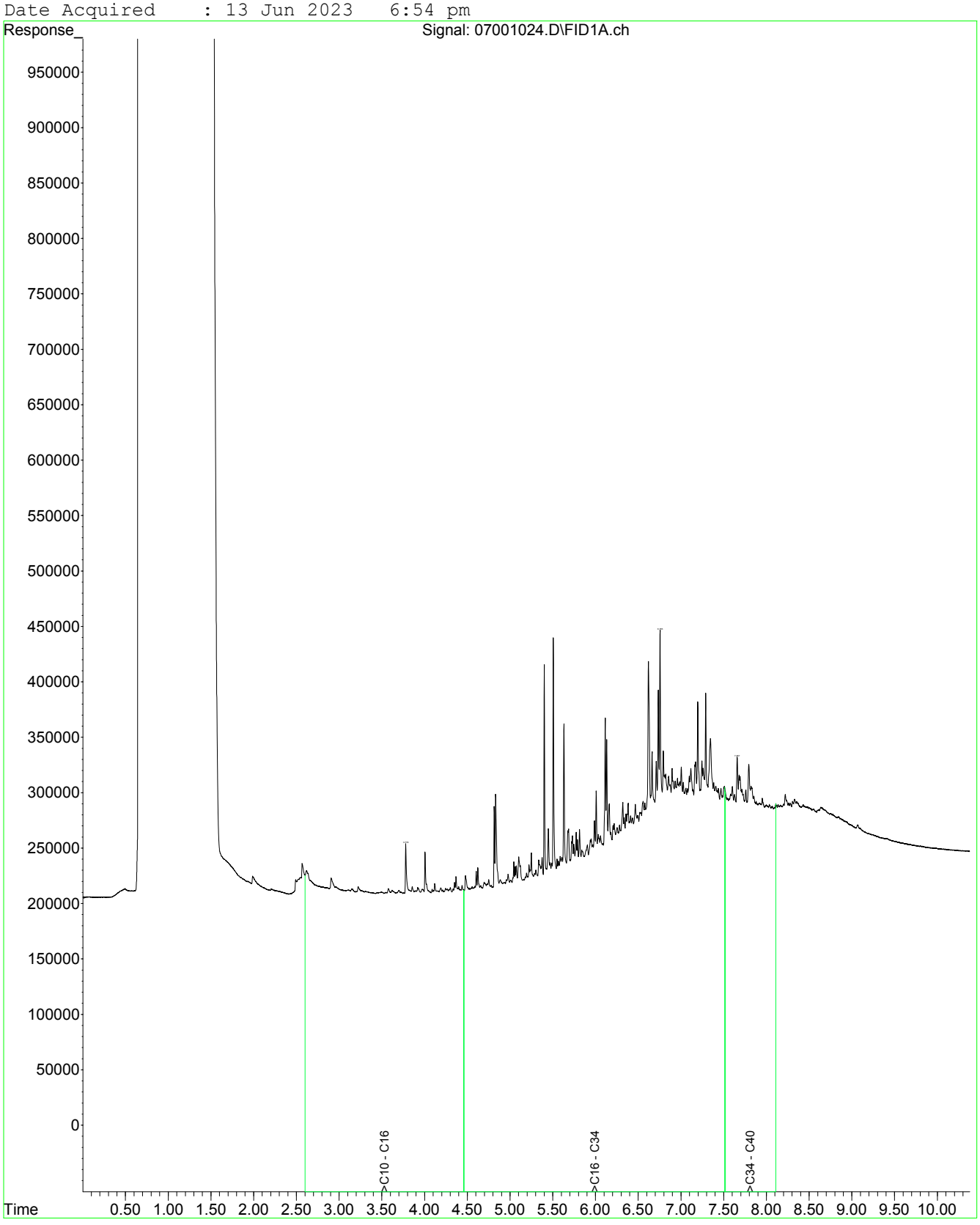
Fraction Scheme : Legacy Fractions
Data File : 01501015.D
Laboratory Number: EM2310229-030
Sample ID : OL_EX_SP8_02
Date Acquired : 14 Jun 2023 01:30 pm



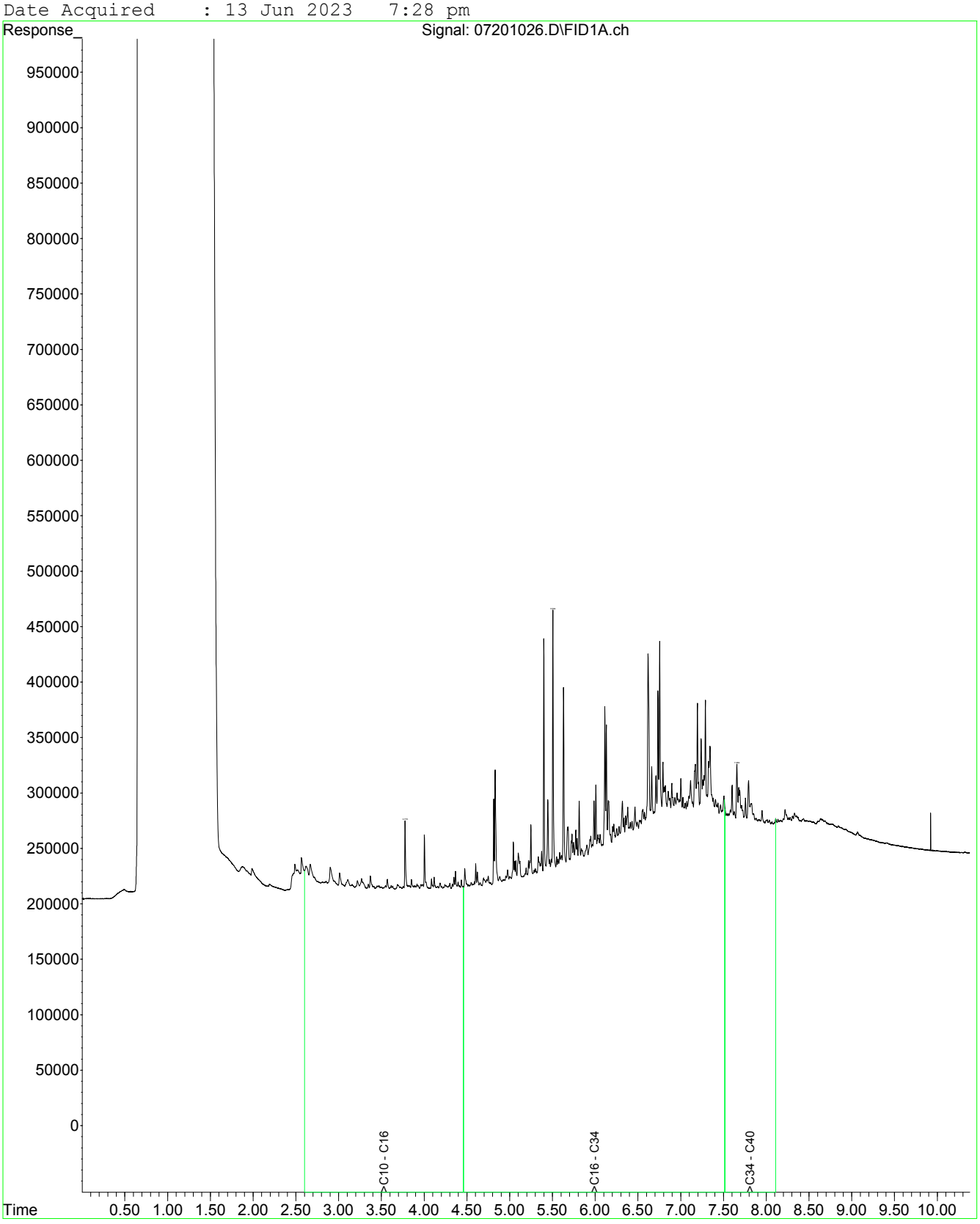
Fraction Scheme : Legacy Fractions
Data File : 01601016.D
Laboratory Number: EM2310229-031
Sample ID : OL_EX_SP8_03
Date Acquired : 14 Jun 2023 01:47 pm



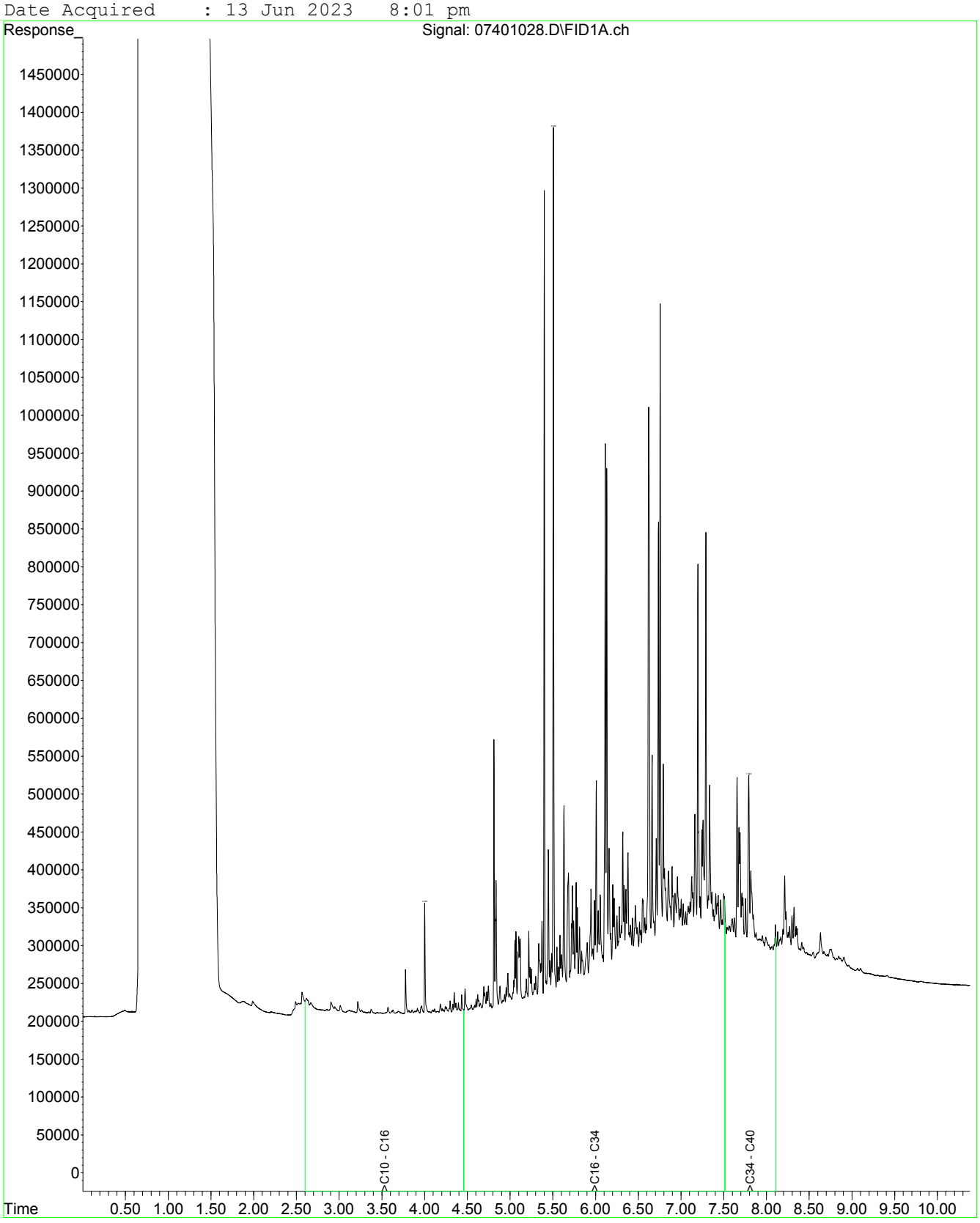
Fraction Scheme : NEPM Draft HIL
Data File : 07001024.D
Laboratory Number: EM2310229-001
Sample ID : OL_EX_420_0.5
Date Acquired : 13 Jun 2023 6:54 pm



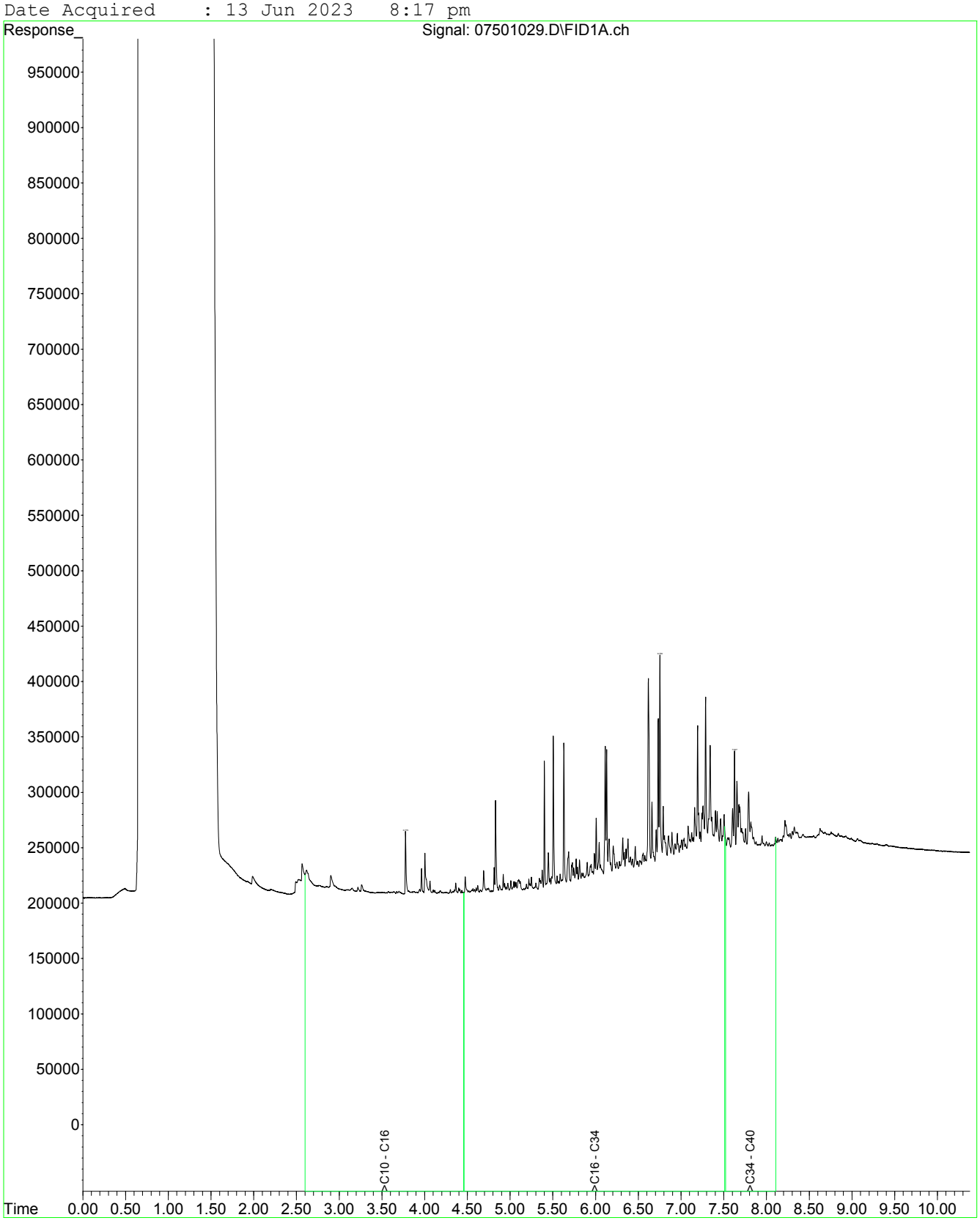
Fraction Scheme : NEPM Draft HIL
Data File : 07201026.D
Laboratory Number: EM2310229-002
Sample ID : OL_EX_421_0.5
Date Acquired : 13 Jun 2023 7:28 pm



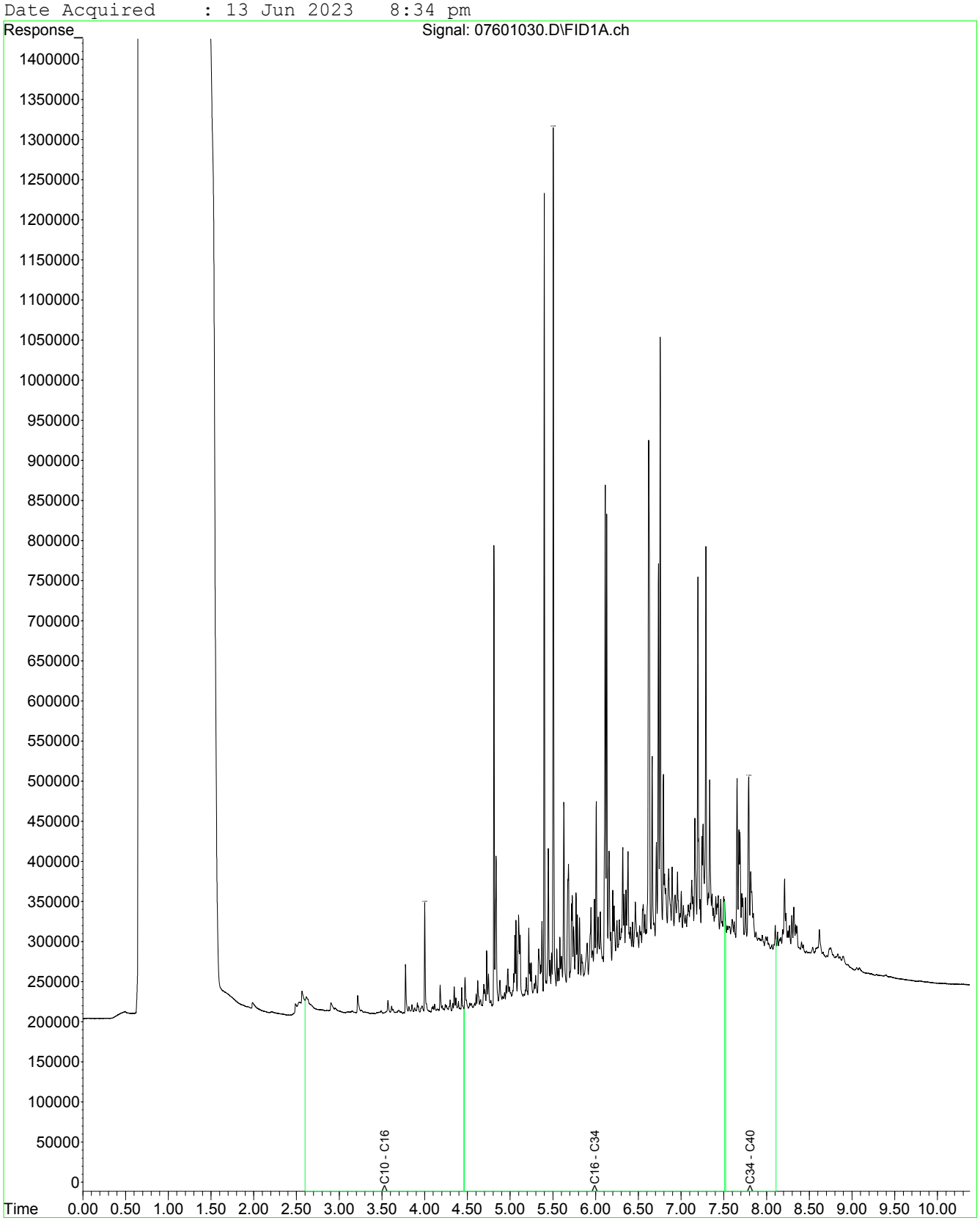
Fraction Scheme : NEPM Draft HIL
Data File : 07401028.D
Laboratory Number: EM2310229-003
Sample ID : OL_EX_422_0.5
Date Acquired : 13 Jun 2023 8:01 pm



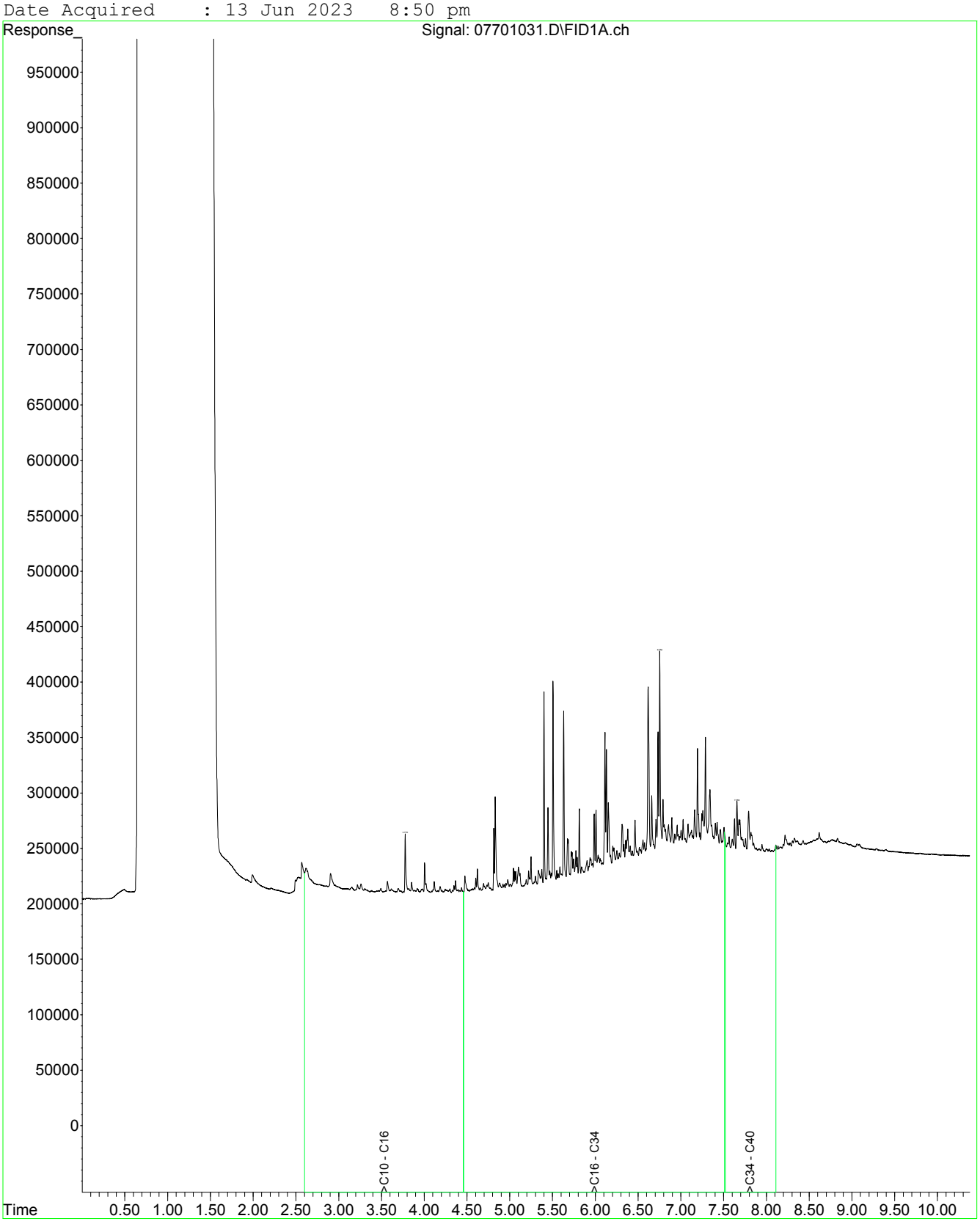
Fraction Scheme : NEPM Draft HIL
Data File : 07501029.D
Laboratory Number: EM2310229-004
Sample ID : OL_EX_422_1.5
Date Acquired : 13 Jun 2023 8:17 pm



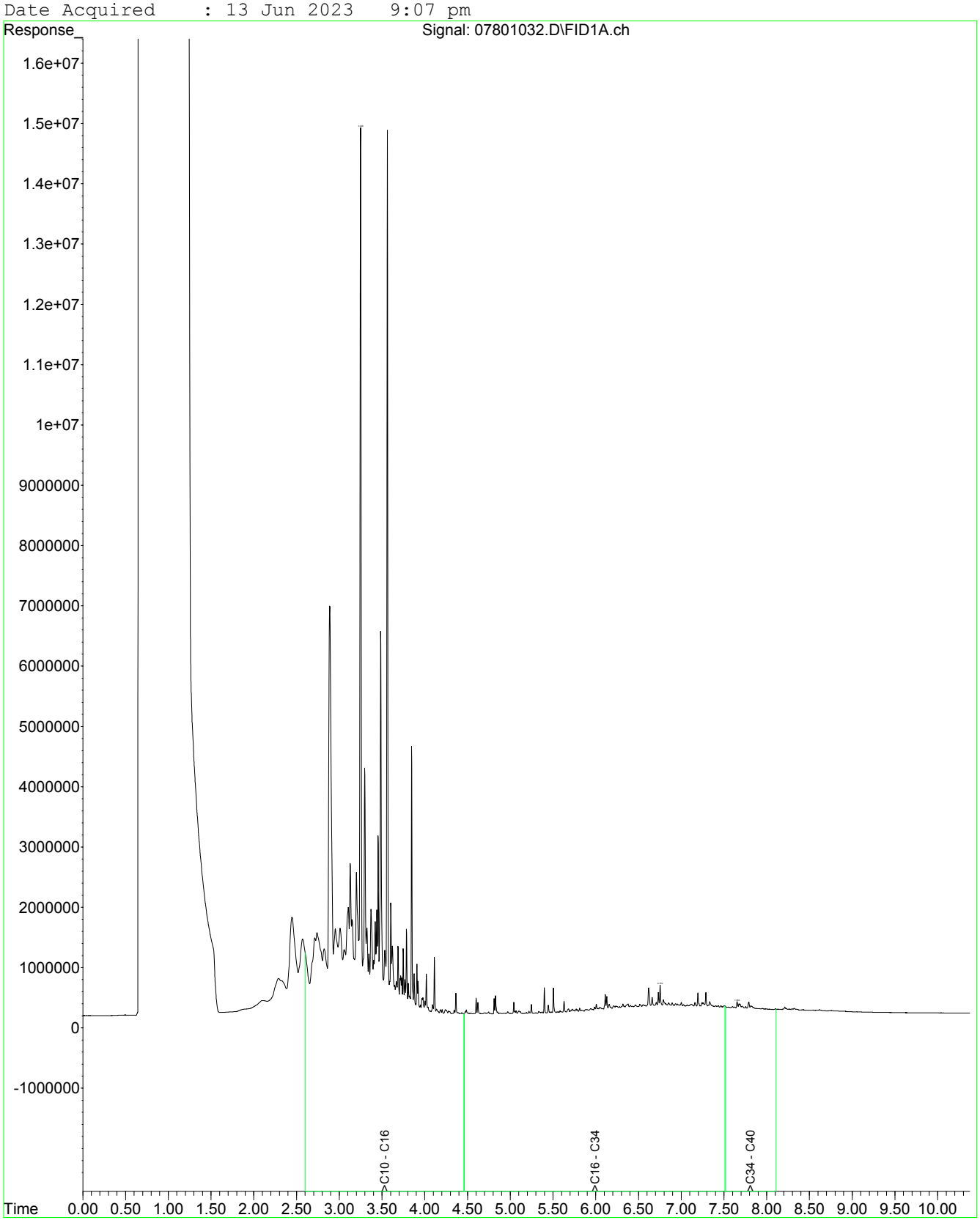
Fraction Scheme : NEPM Draft HIL
Data File : 07601030.D
Laboratory Number: EM2310229-005
Sample ID : OL_EX_423_0.5
Date Acquired : 13 Jun 2023 8:34 pm



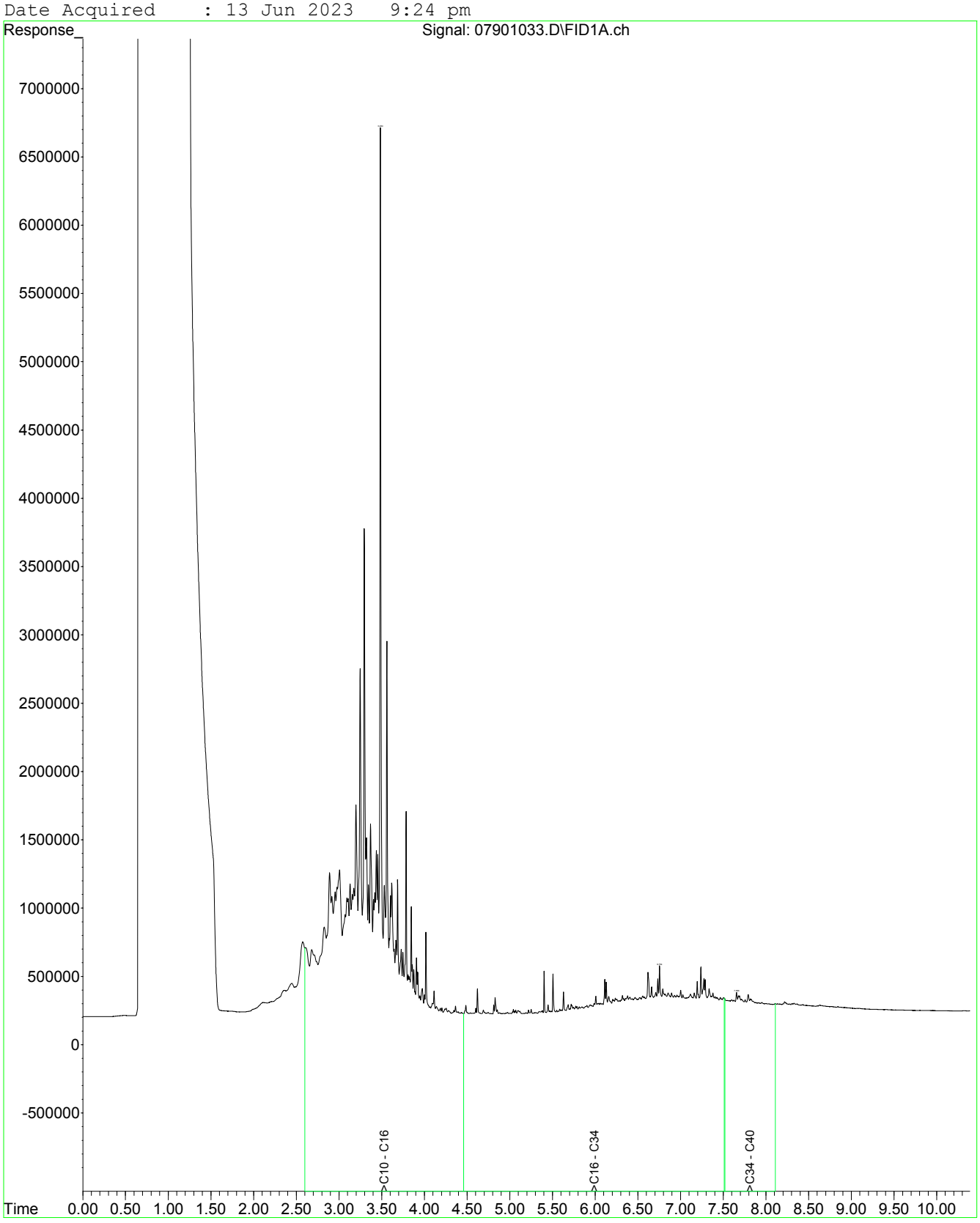
Fraction Scheme : NEPM Draft HIL
Data File : 07701031.D
Laboratory Number: EM2310229-006
Sample ID : OL_EX_423_1.5
Date Acquired : 13 Jun 2023 8:50 pm



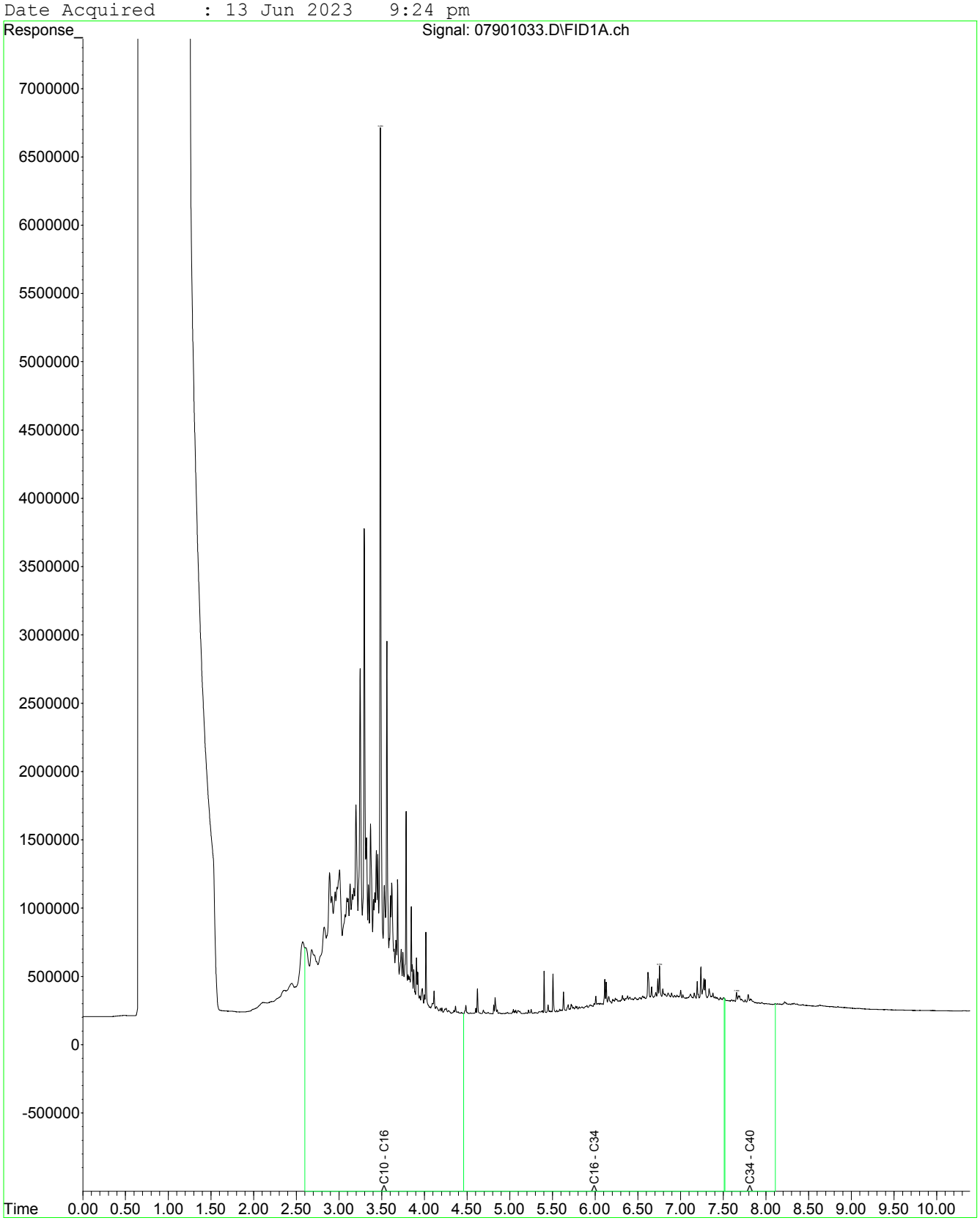
Fraction Scheme : NEPM Draft HIL
Data File : 07801032.D
Laboratory Number: EM2310229-007
Sample ID : OL_EX_424_0.5
Date Acquired : 13 Jun 2023 9:07 pm



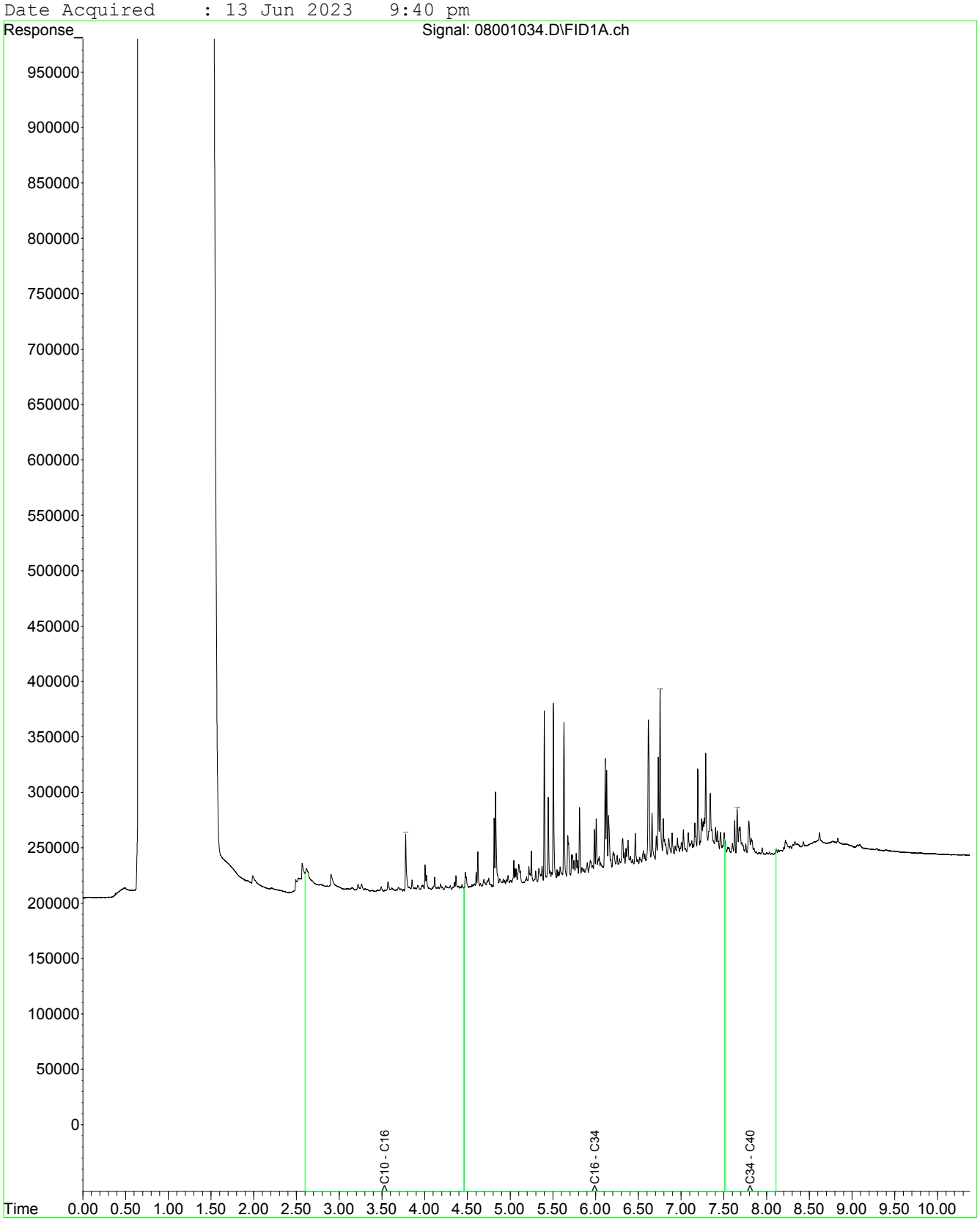
Fraction Scheme : NEPM Draft HIL
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



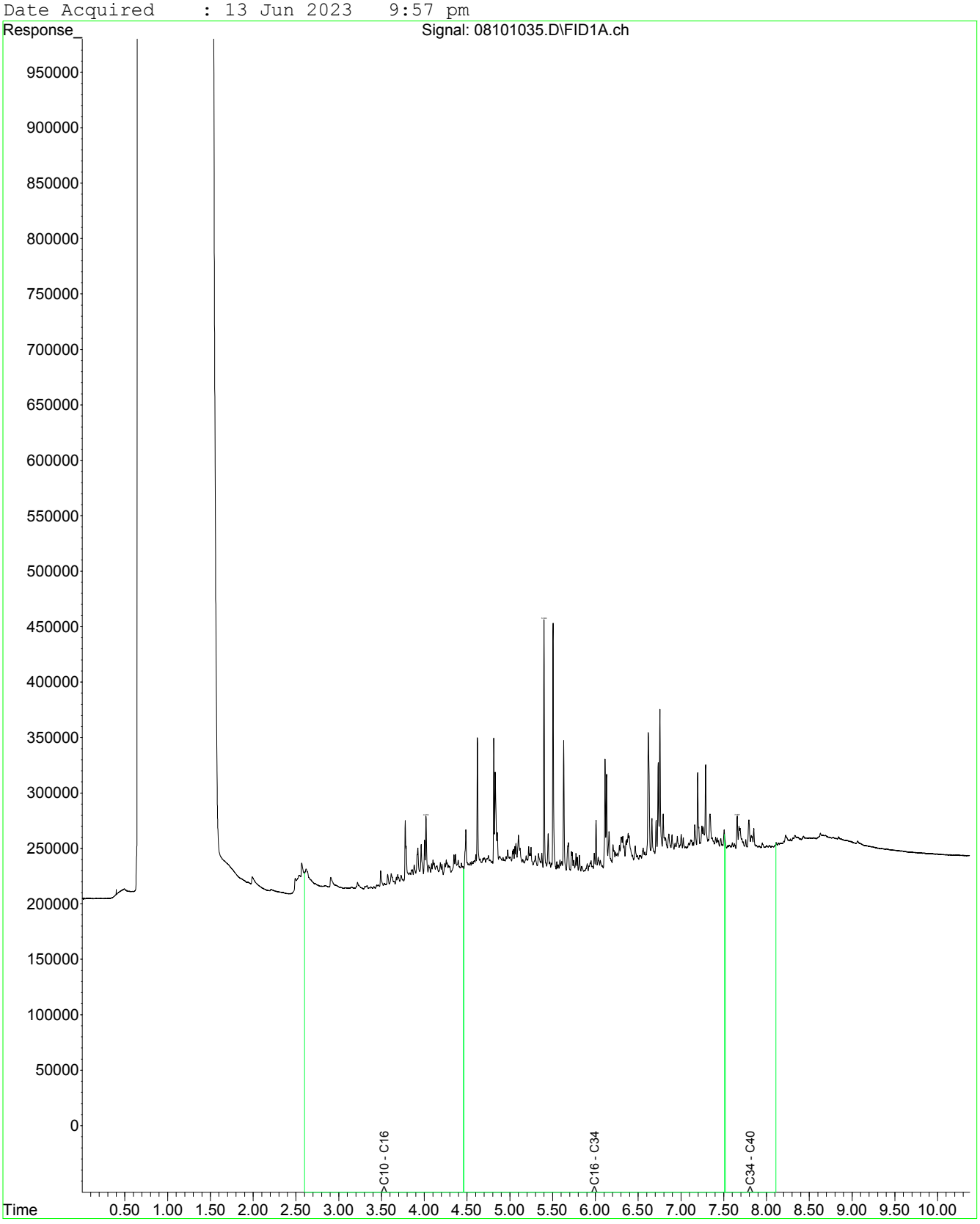
Fraction Scheme : NEPM Draft HIL
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



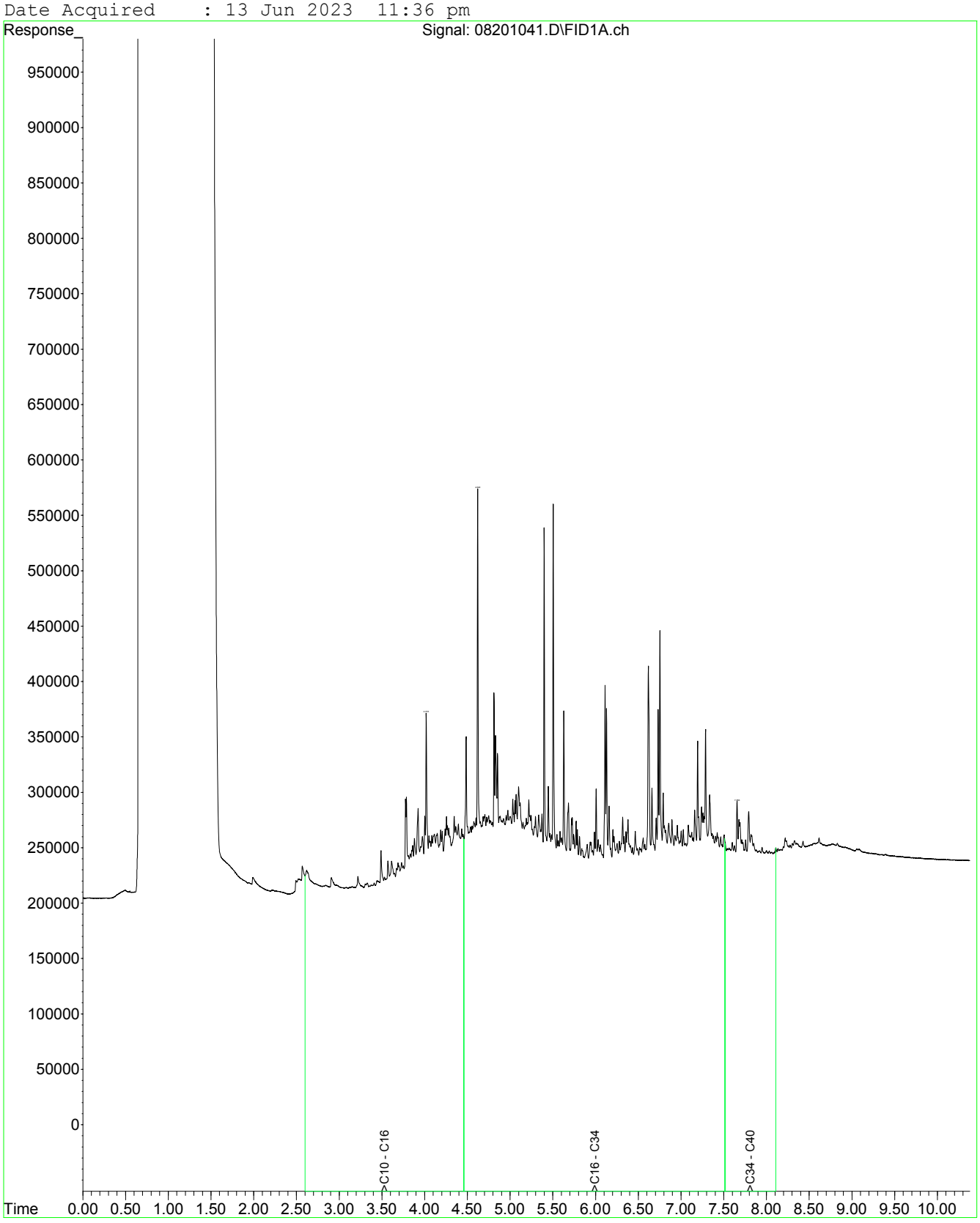
Fraction Scheme : NEPM Draft HIL
Data File : 08001034.D
Laboratory Number: EM2310229-009
Sample ID : OL_EX_QC125
Date Acquired : 13 Jun 2023 9:40 pm



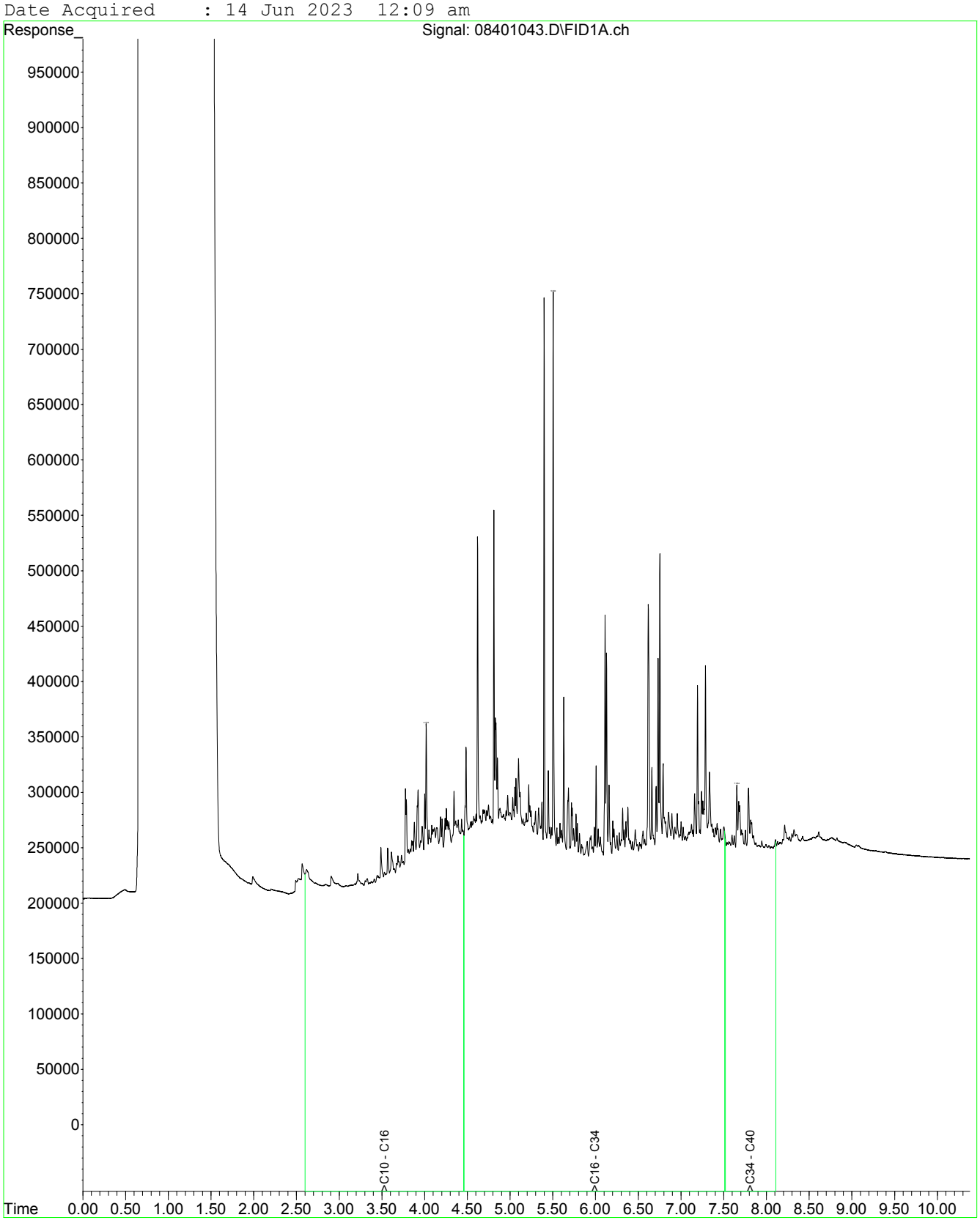
Fraction Scheme : NEPM Draft HIL
Data File : 08101035.D
Laboratory Number: EM2310229-011
Sample ID : UST_SP_01
Date Acquired : 13 Jun 2023 9:57 pm



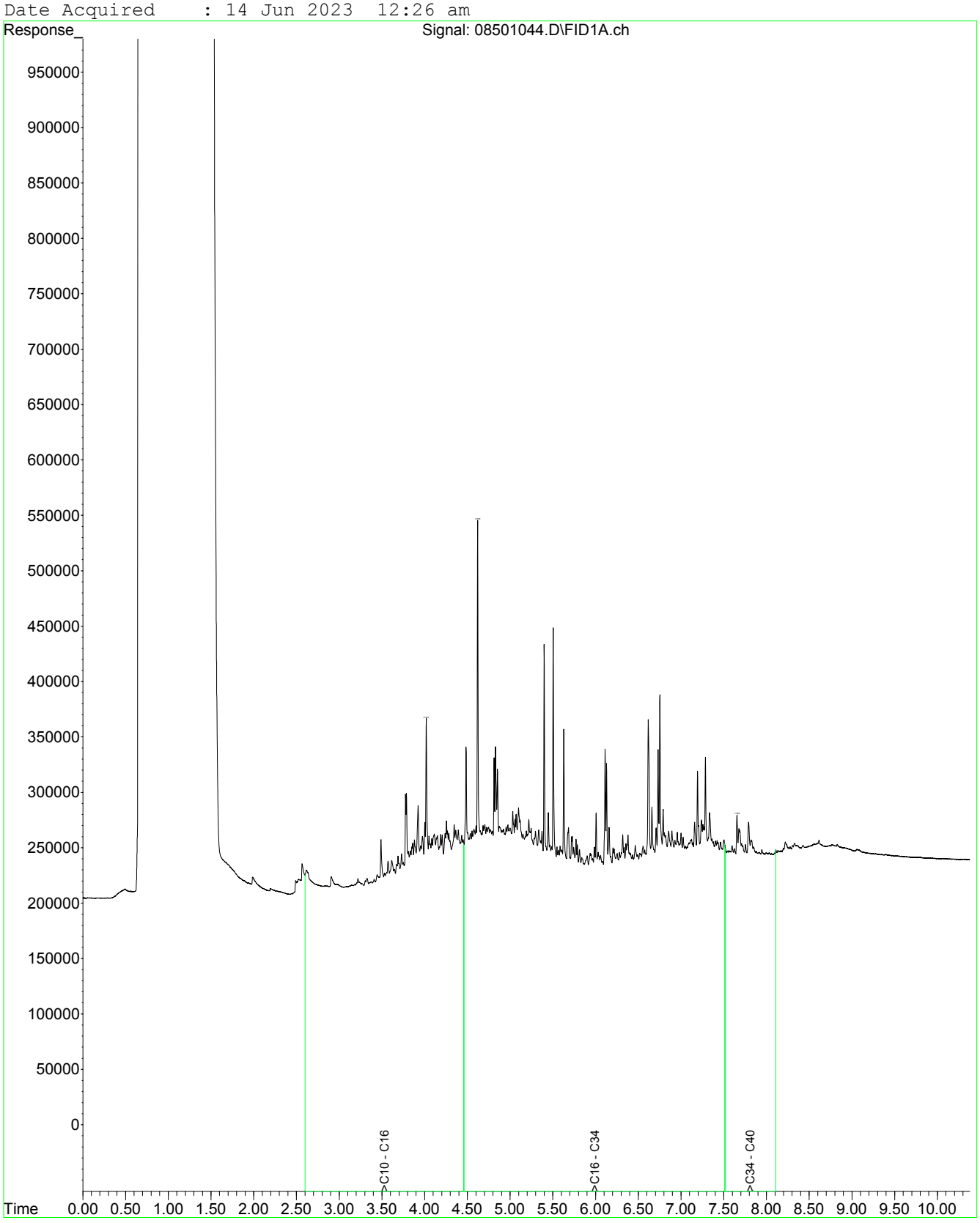
Fraction Scheme : NEPM Draft HIL
Data File : 08201041.D
Laboratory Number: EM2310229-012
Sample ID : UST_SP_02
Date Acquired : 13 Jun 2023 11:36 pm



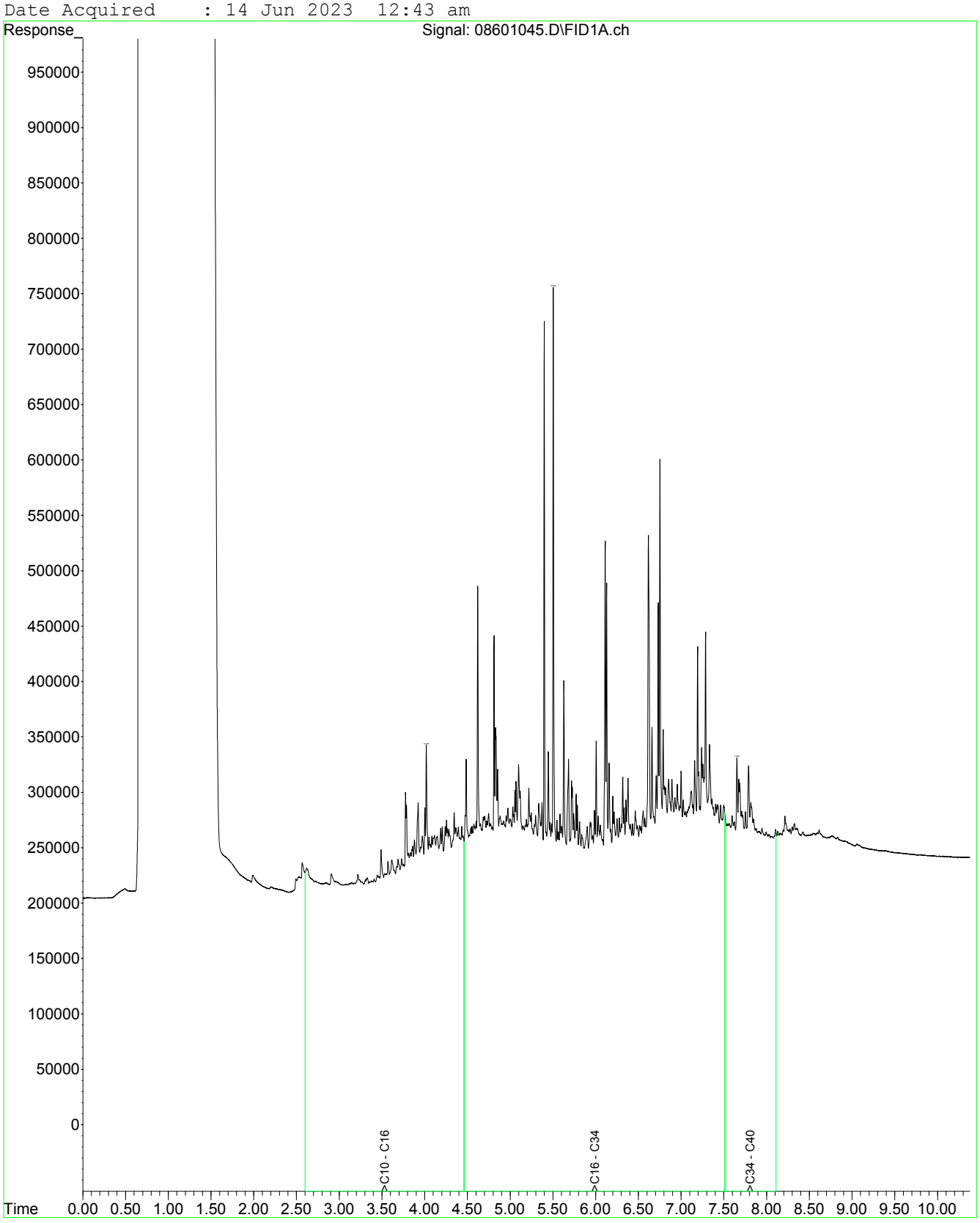
Fraction Scheme : NEPM Draft HIL
Data File : 08401043.D
Laboratory Number: EM2310229-013
Sample ID : UST_SP_03
Date Acquired : 14 Jun 2023 12:09 am



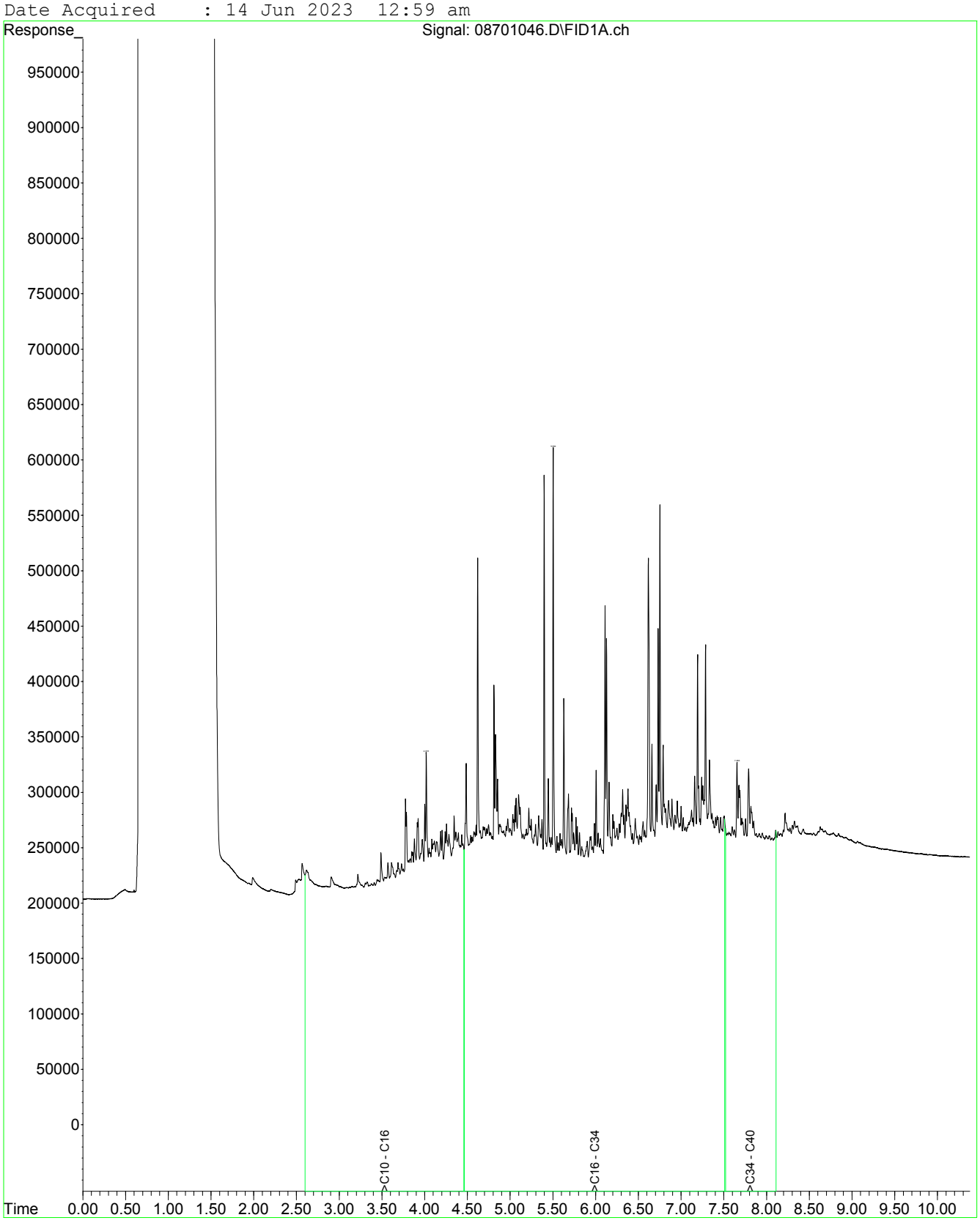
Fraction Scheme : NEPM Draft HIL
Data File : 08501044.D
Laboratory Number: EM2310229-014
Sample ID : UST_SP_04
Date Acquired : 14 Jun 2023 12:26 am



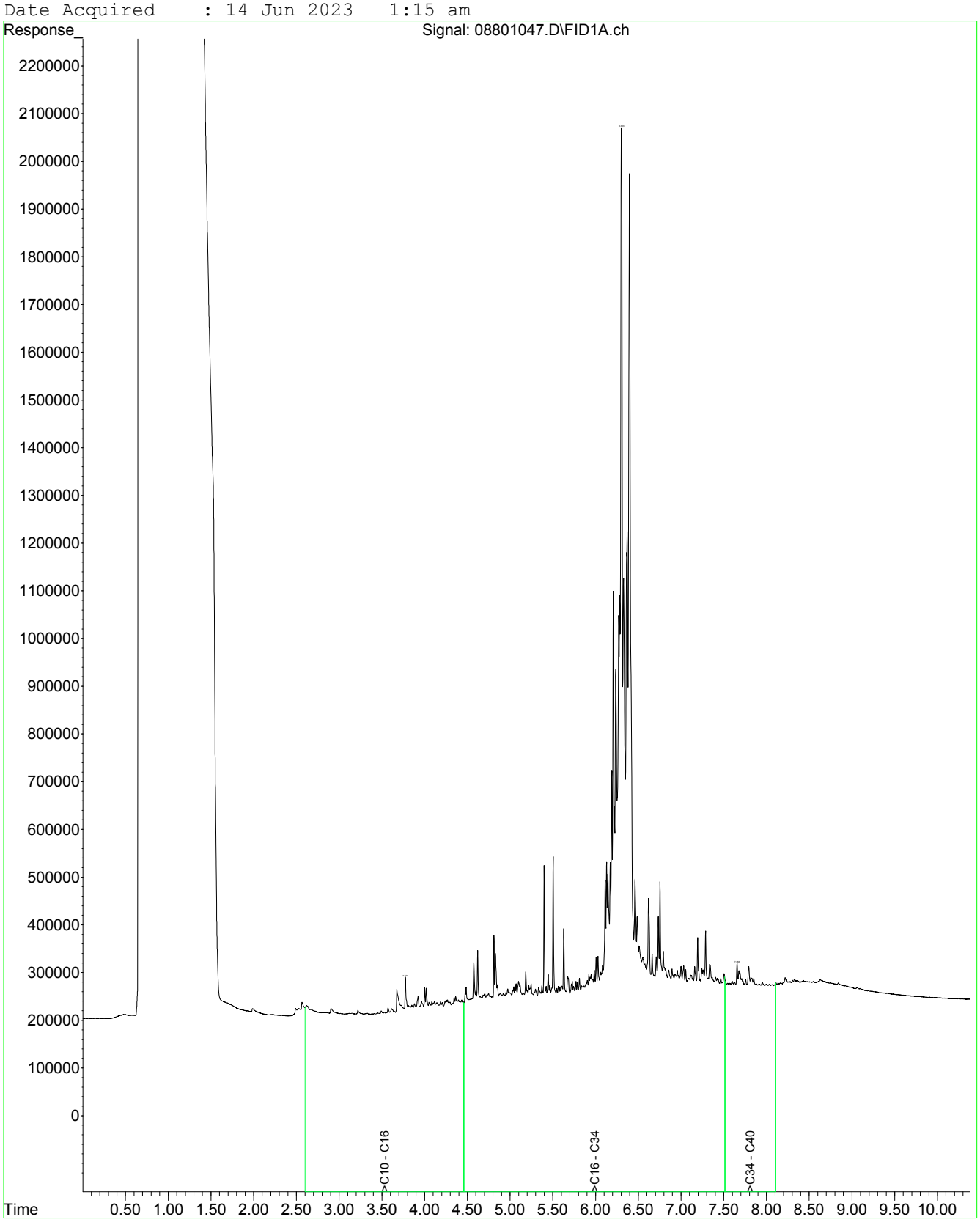
Fraction Scheme : NEPM Draft HIL
Data File : 08601045.D
Laboratory Number: EM2310229-015
Sample ID : UST_SP_05
Date Acquired : 14 Jun 2023 12:43 am



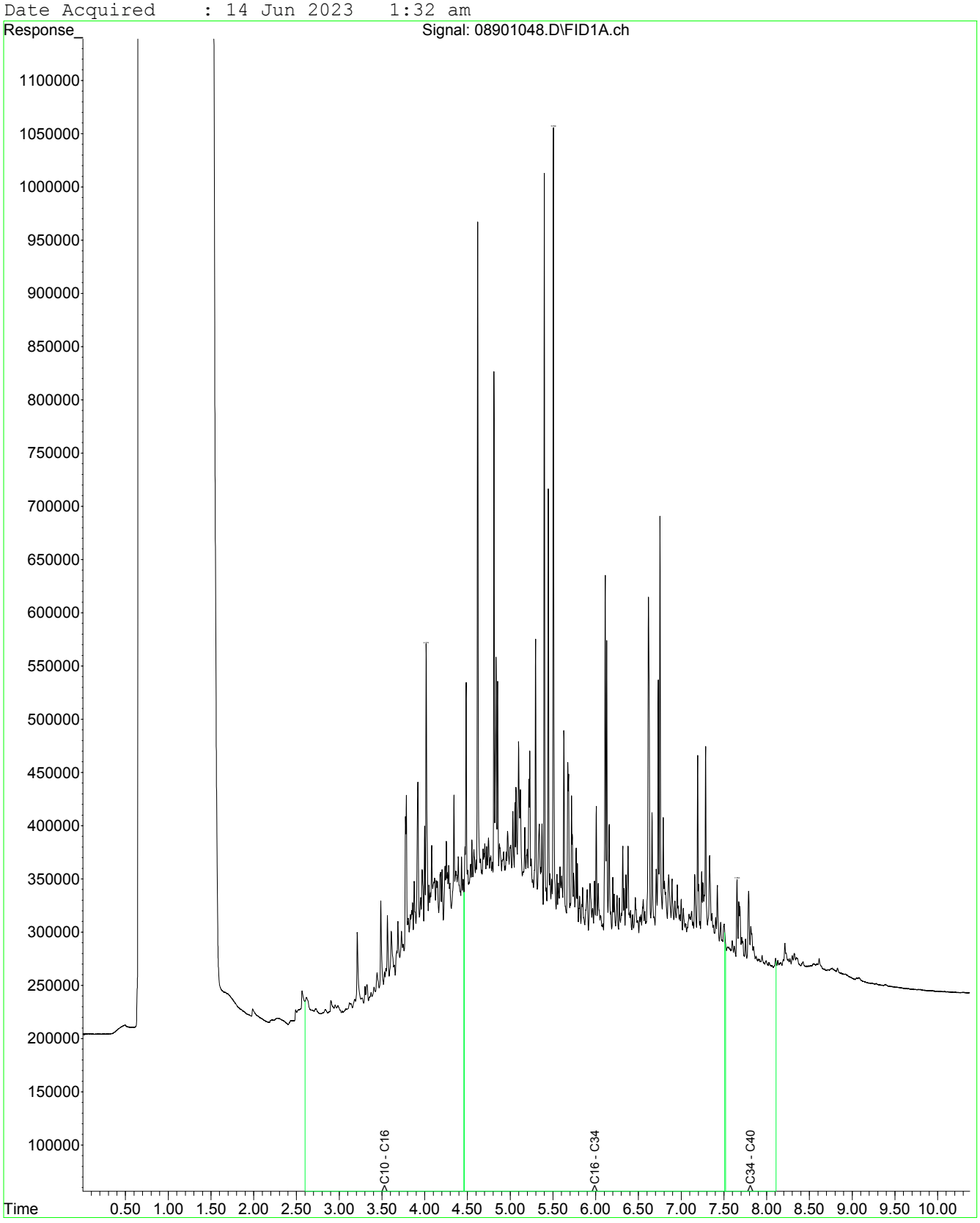
Fraction Scheme : NEPM Draft HIL
Data File : 08701046.D
Laboratory Number: EM2310229-016
Sample ID : UST_SP_06
Date Acquired : 14 Jun 2023 12:59 am



Fraction Scheme : NEPM Draft HIL
Data File : 08801047.D
Laboratory Number: EM2310229-017
Sample ID : UST_SP_QC126
Date Acquired : 14 Jun 2023 1:15 am



Fraction Scheme : NEPM Draft HIL
Data File : 08901048.D
Laboratory Number: EM2310229-019
Sample ID : UST_SP_Ext_59SP_04
Date Acquired : 14 Jun 2023 1:32 am



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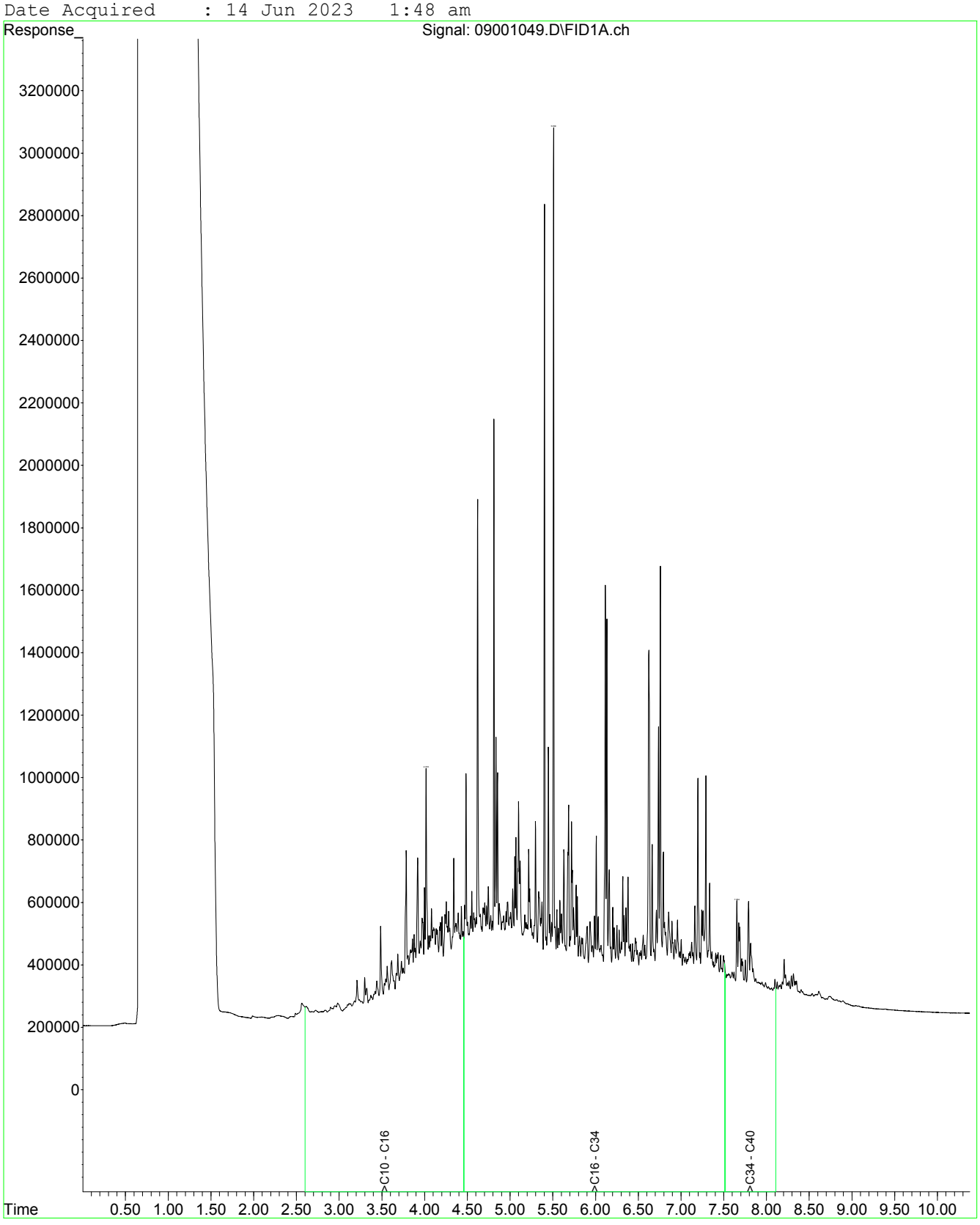
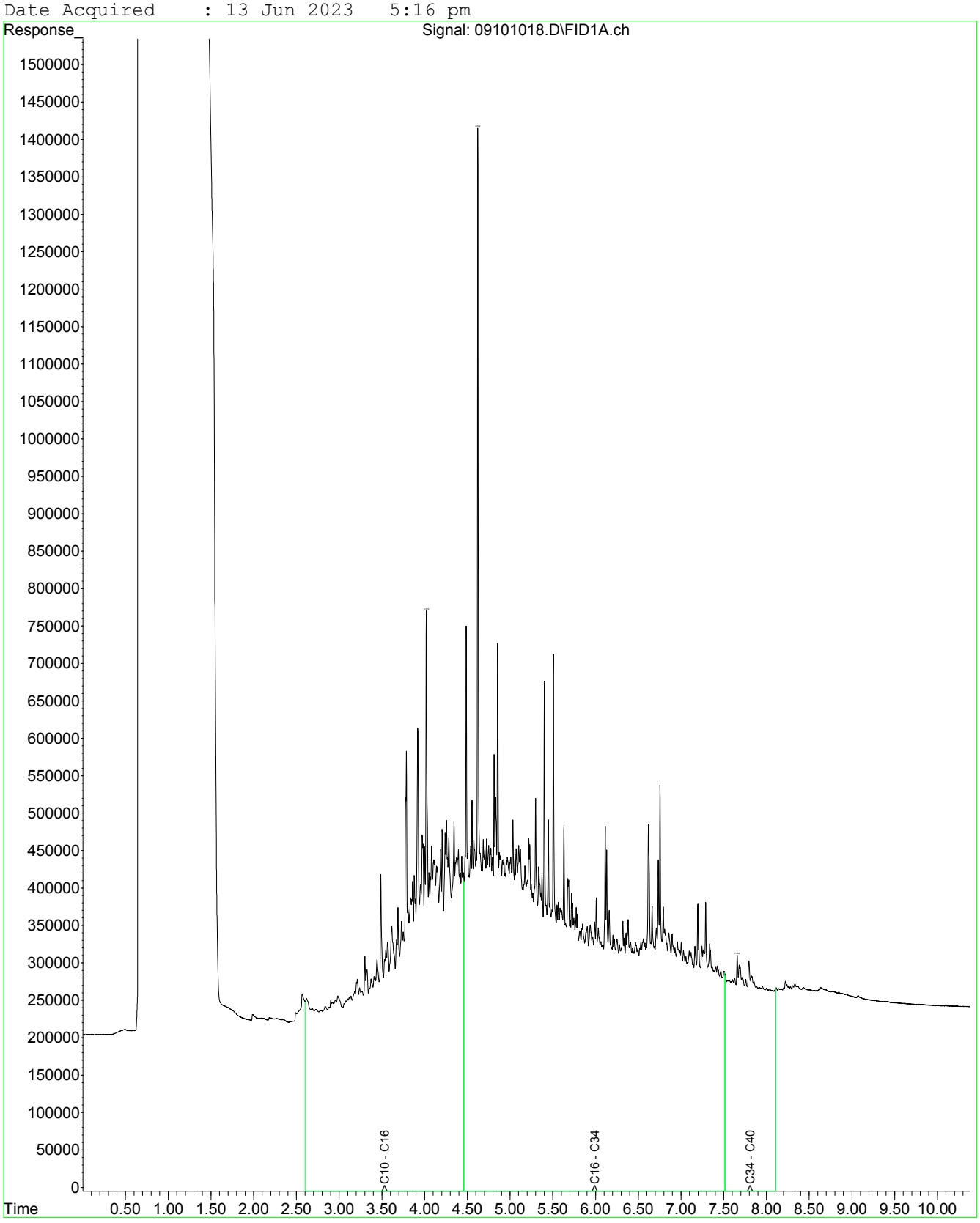
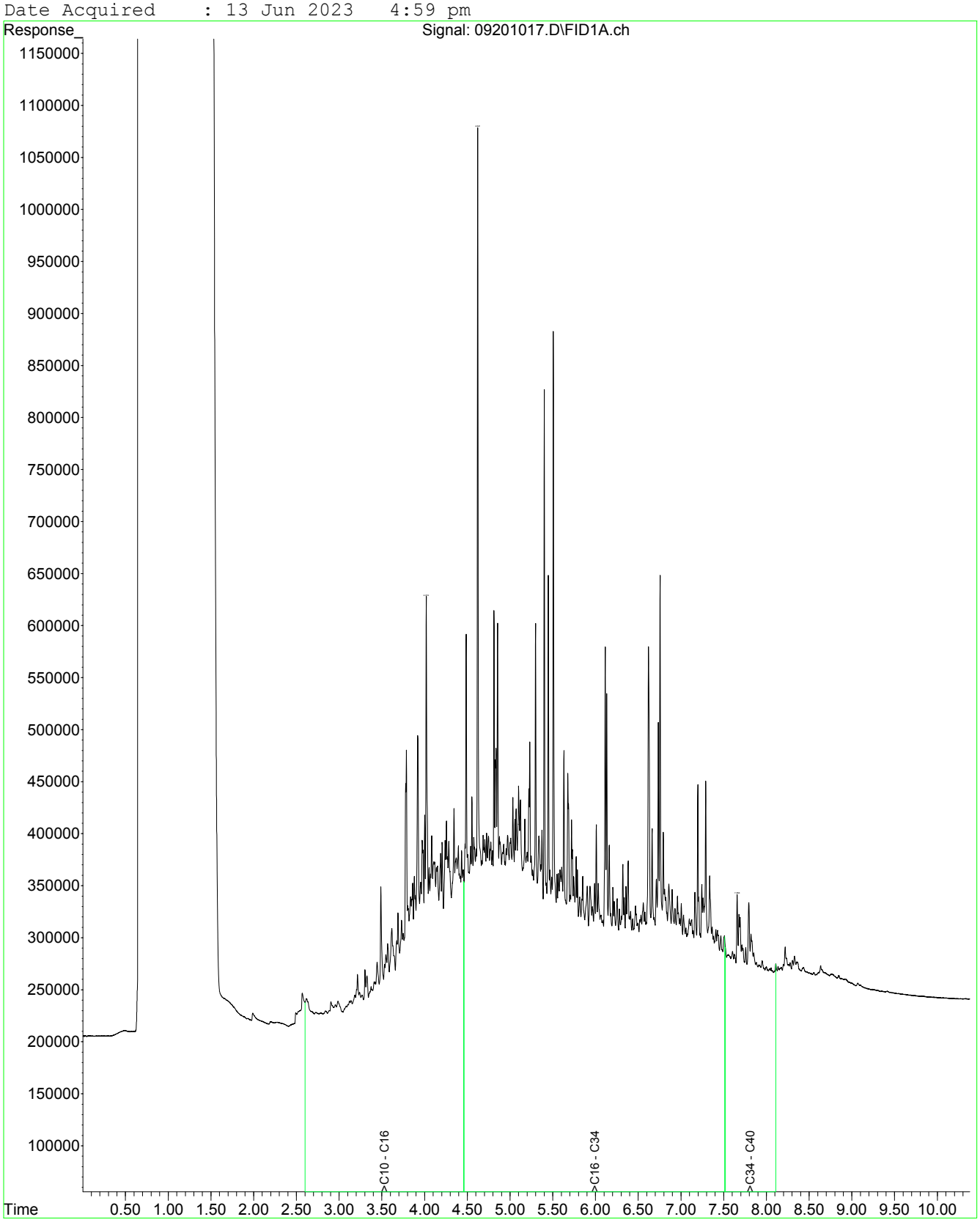
Data File : 09001049.D
Laboratory Number: EM2310229-020
Sample ID : UST_SP_Ext_59SP_05
Date Acquired : 14 Jun 2023 1:48 am



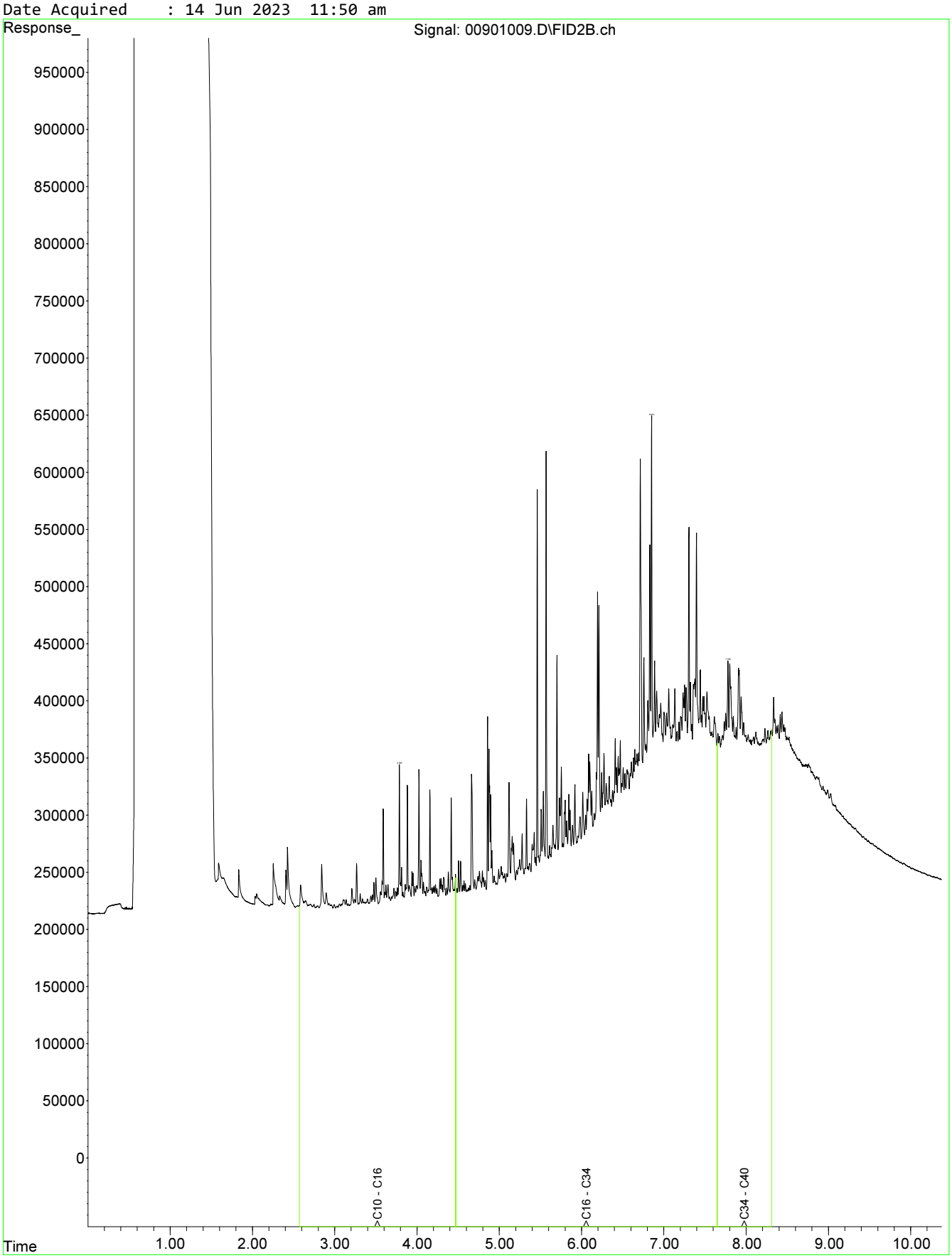
Fraction Scheme : NEPM Draft HIL
Data File : 09101018.D
Laboratory Number: EM2310229-021
Sample ID : UST_SP_Ext_59SP_06
Date Acquired : 13 Jun 2023 5:16 pm



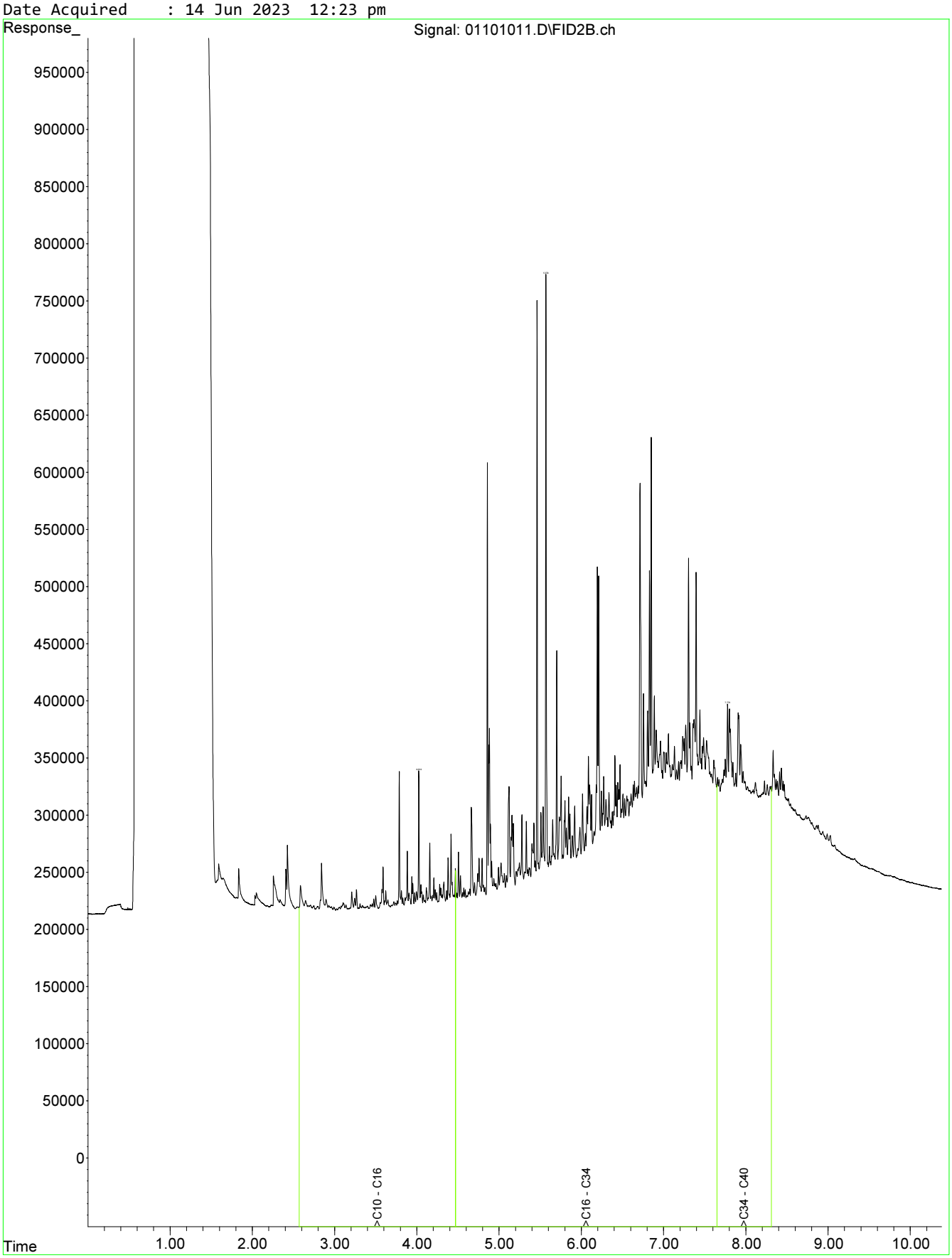
Fraction Scheme : NEPM Draft HIL
Data File : 09201017.D
Laboratory Number: EM2310229-022
Sample ID : UST_SP_Ext_59SP_07
Date Acquired : 13 Jun 2023 4:59 pm



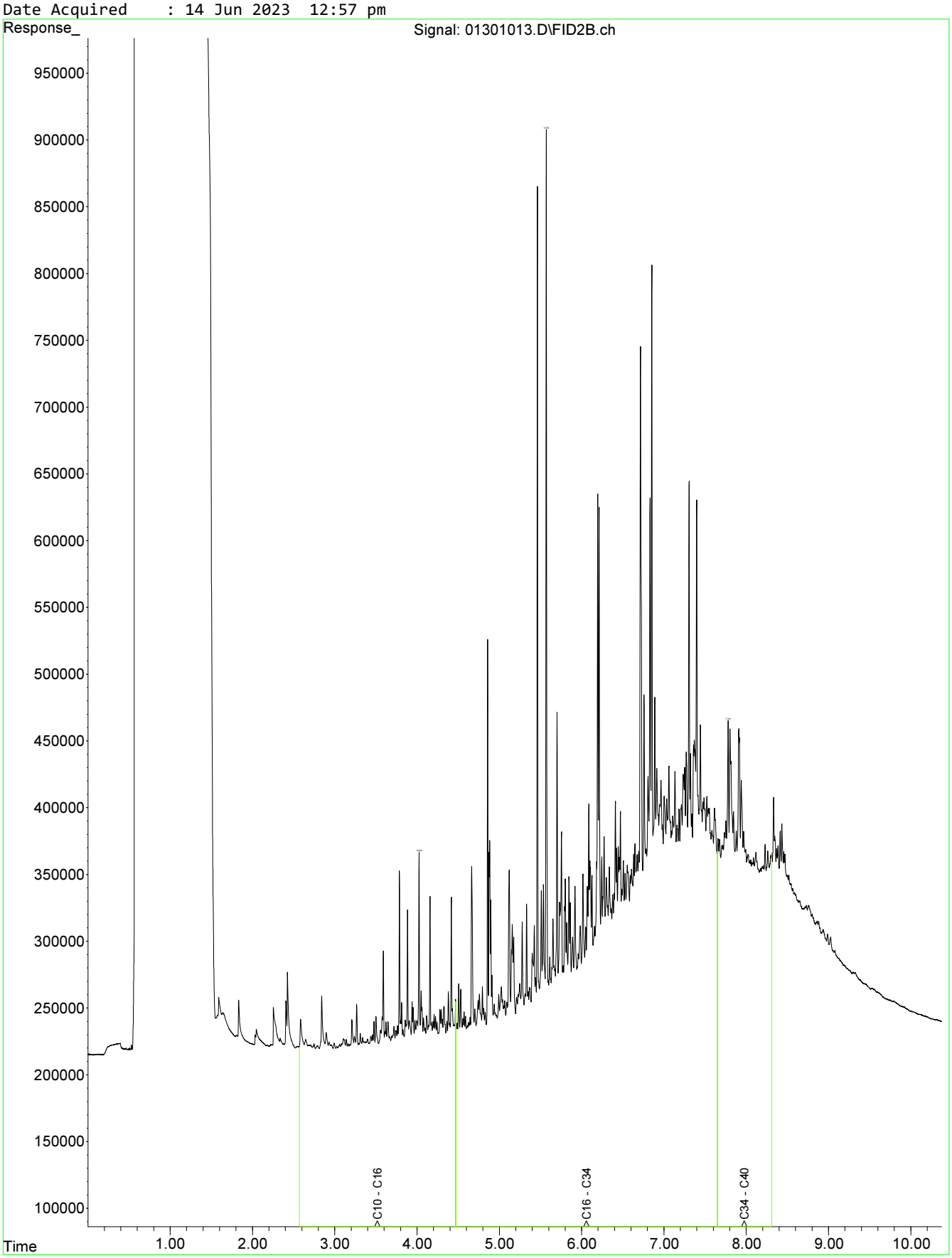
Fraction Scheme : NEPM Fractions
Data File : 00901009.D
Laboratory Number: EM2310229-023
Sample ID : OL_EX_SP7_01
Date Acquired : 14 Jun 2023 11:50 am



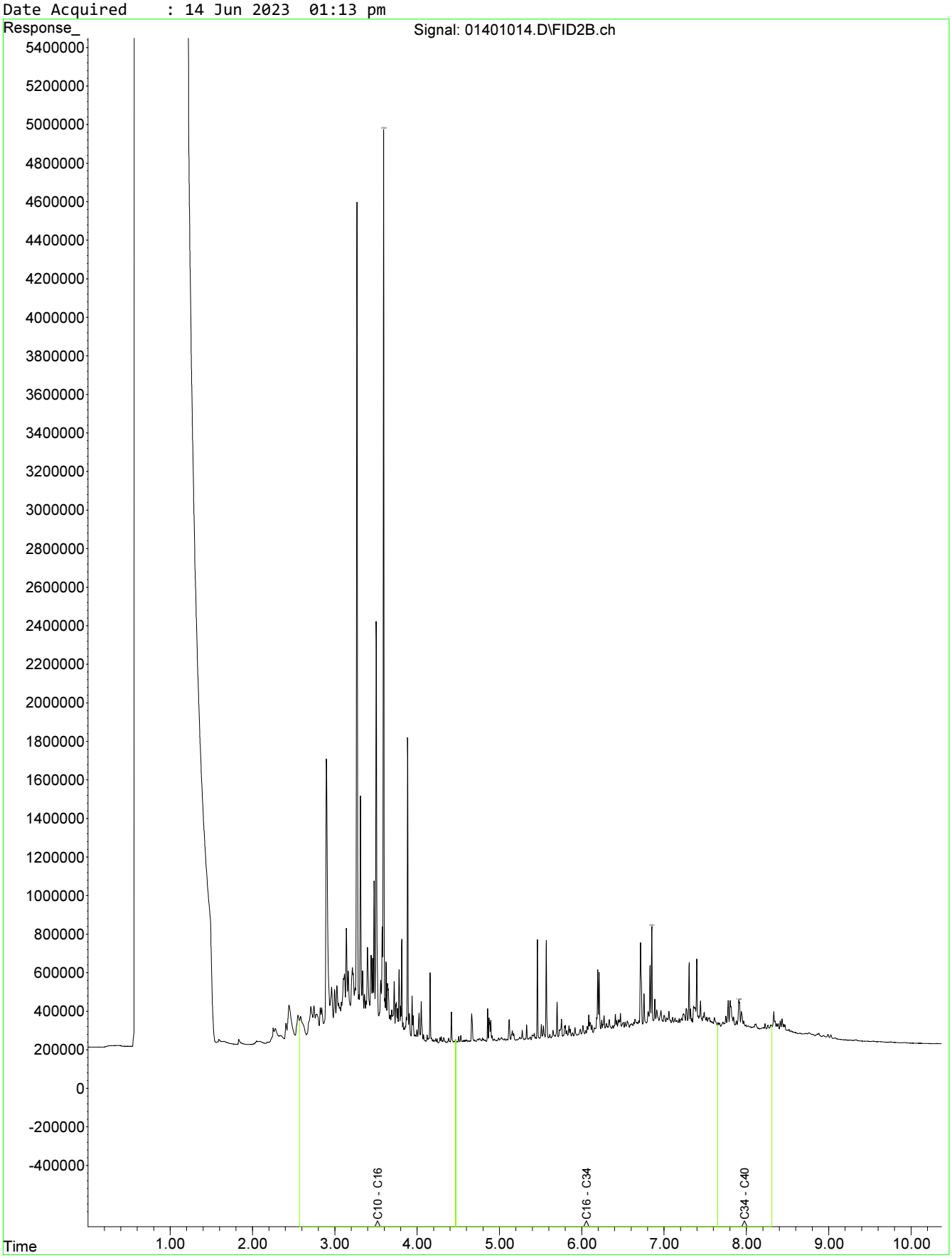
Fraction Scheme : NEPM Fractions
Data File : 01101011.D
Laboratory Number: EM2310229-024
Sample ID : OL_EX_SP7_02
Date Acquired : 14 Jun 2023 12:23 pm



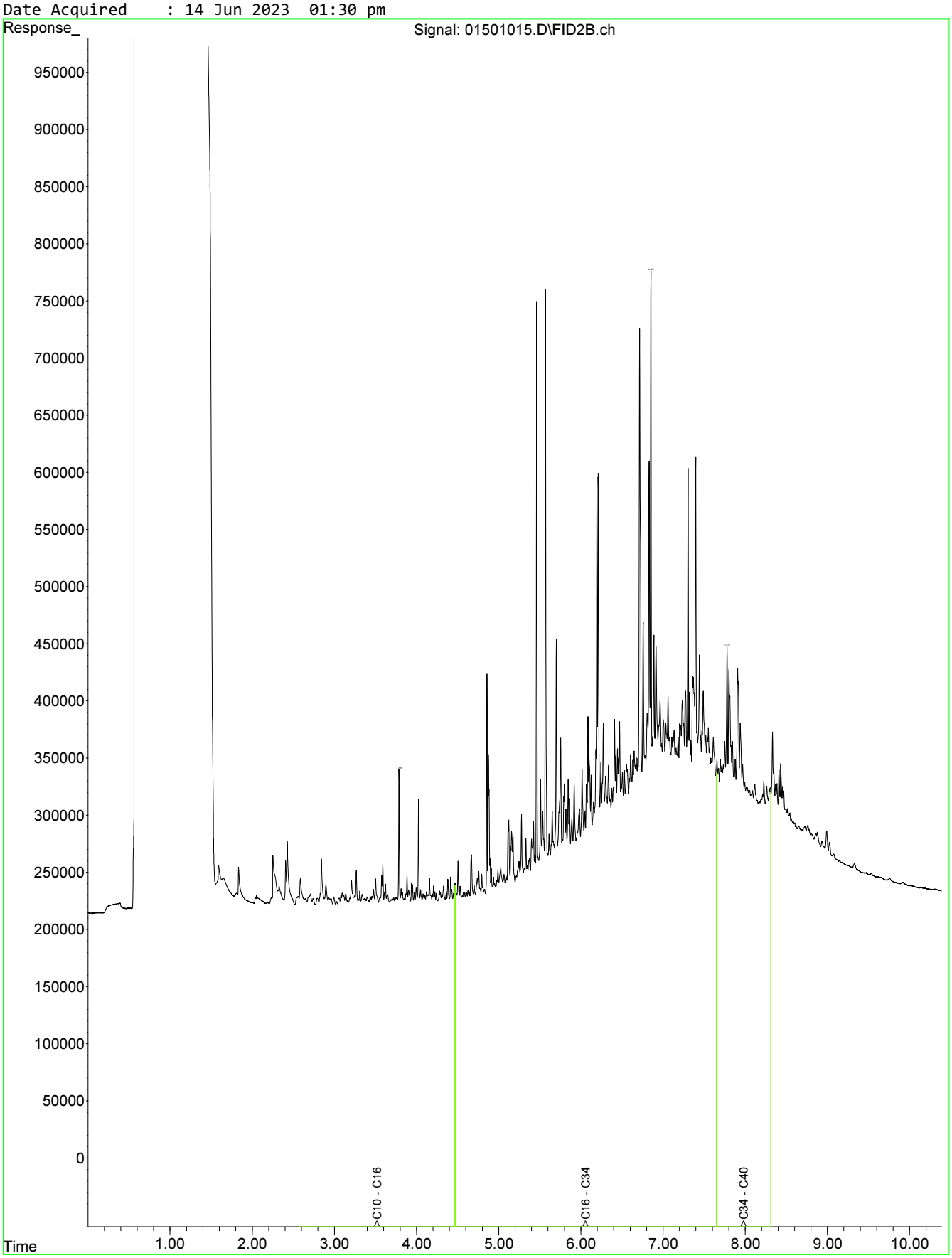
Fraction Scheme : NEPM Fractions
Data File : 01301013.D
Laboratory Number: EM2310229-028
Sample ID : OL_EX_SP7_03
Date Acquired : 14 Jun 2023 12:57 pm



Fraction Scheme : NEPM Fractions
Data File : 01401014.D
Laboratory Number: EM2310229-029
Sample ID : OL_EX_SP8_01
Date Acquired : 14 Jun 2023 01:13 pm



Fraction Scheme : NEPM Fractions
Data File : 01501015.D
Laboratory Number: EM2310229-030
Sample ID : OL_EX_SP8_02
Date Acquired : 14 Jun 2023 01:30 pm



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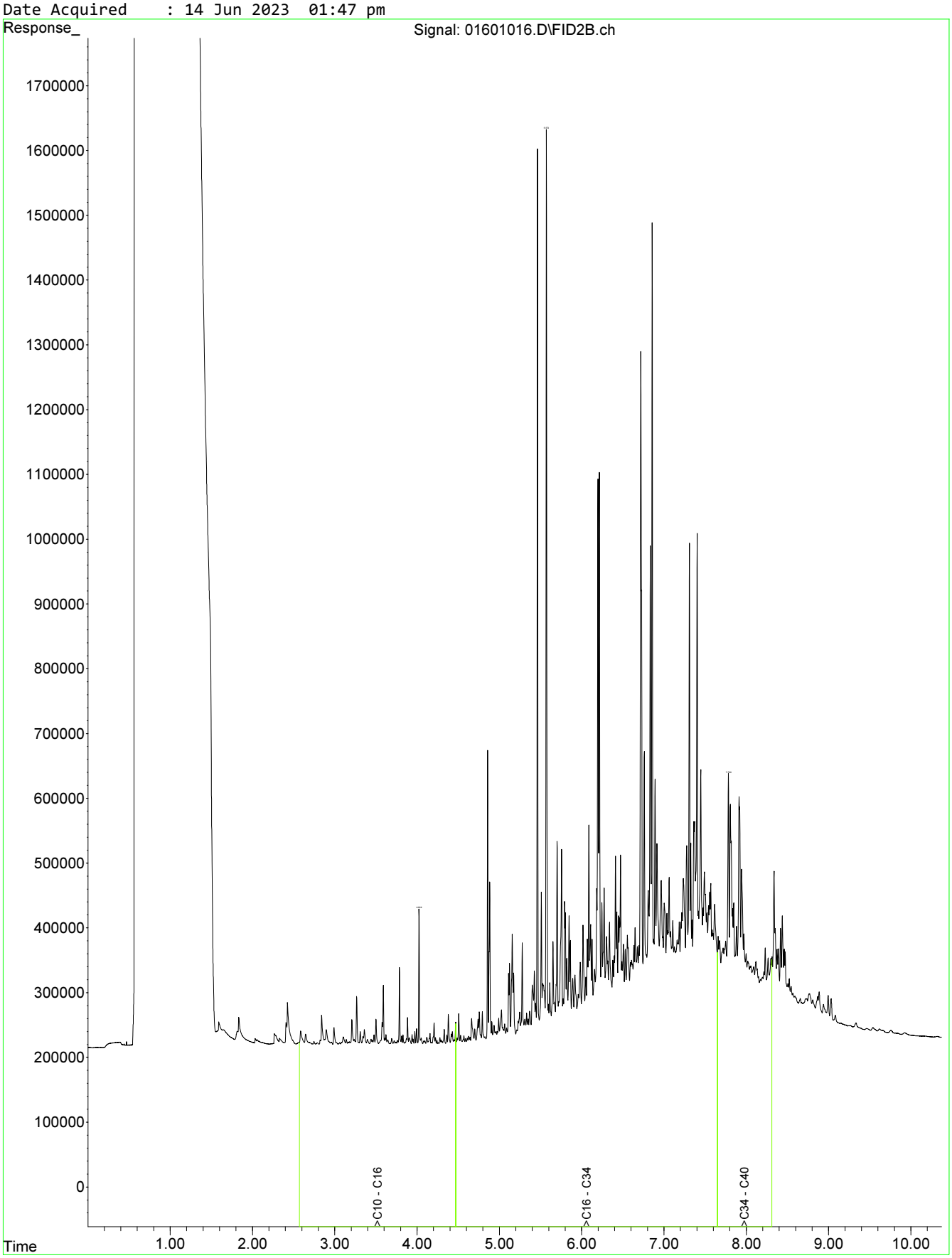

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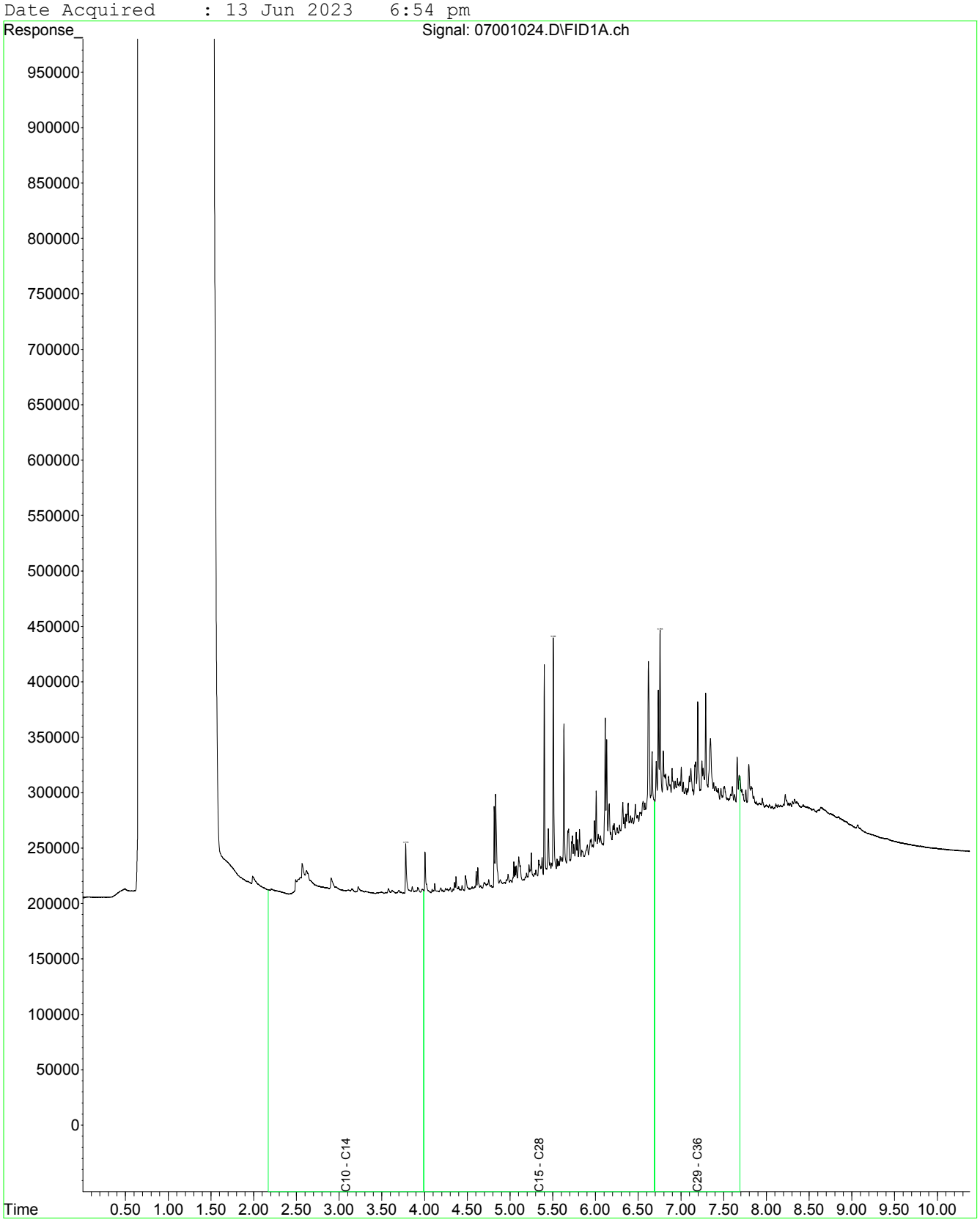
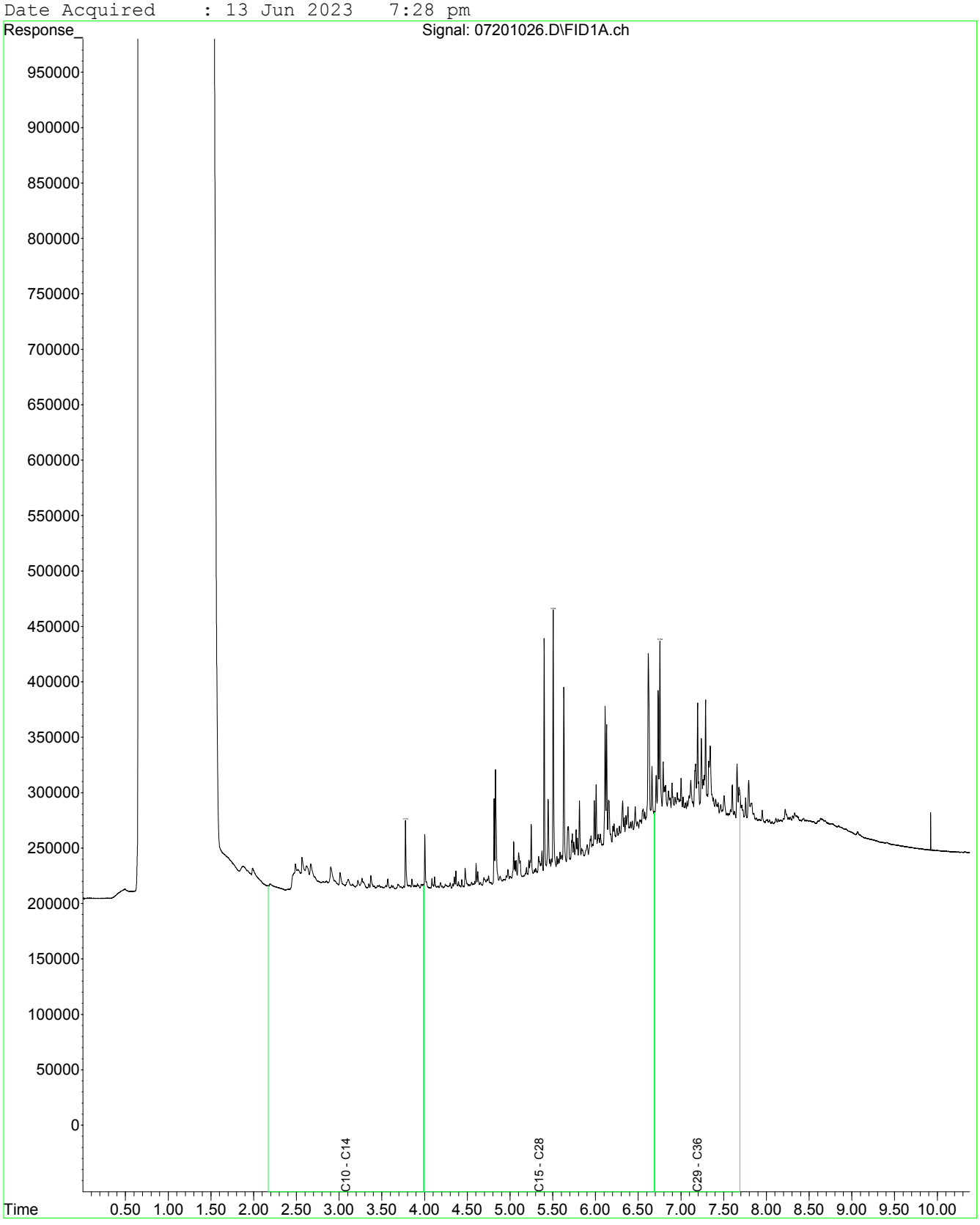
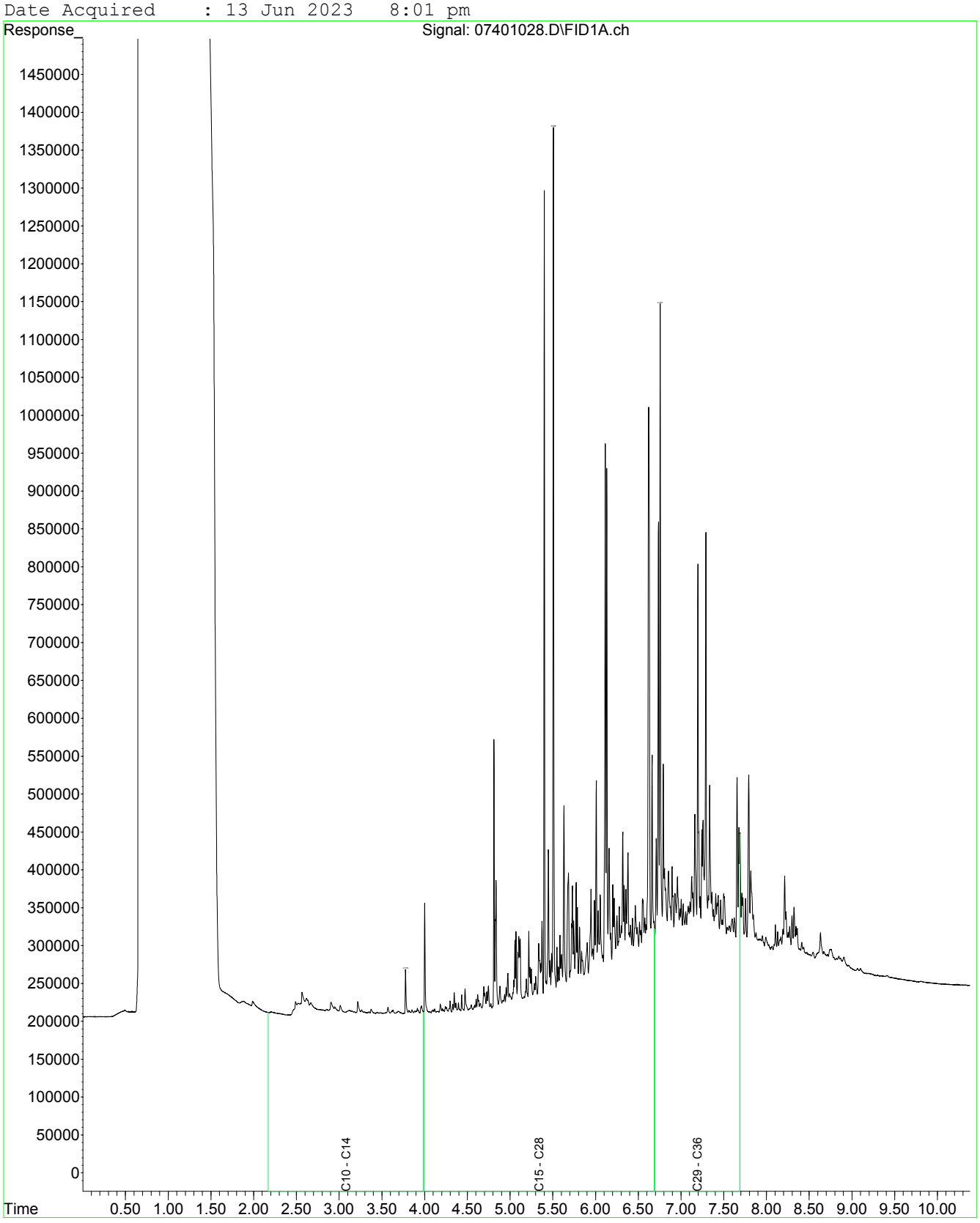
Data File : 07001024.D
Laboratory Number: EM2310229-001
Sample ID : OL_EX_420_0.5
Date Acquired : 13 Jun 2023 6:54 pm



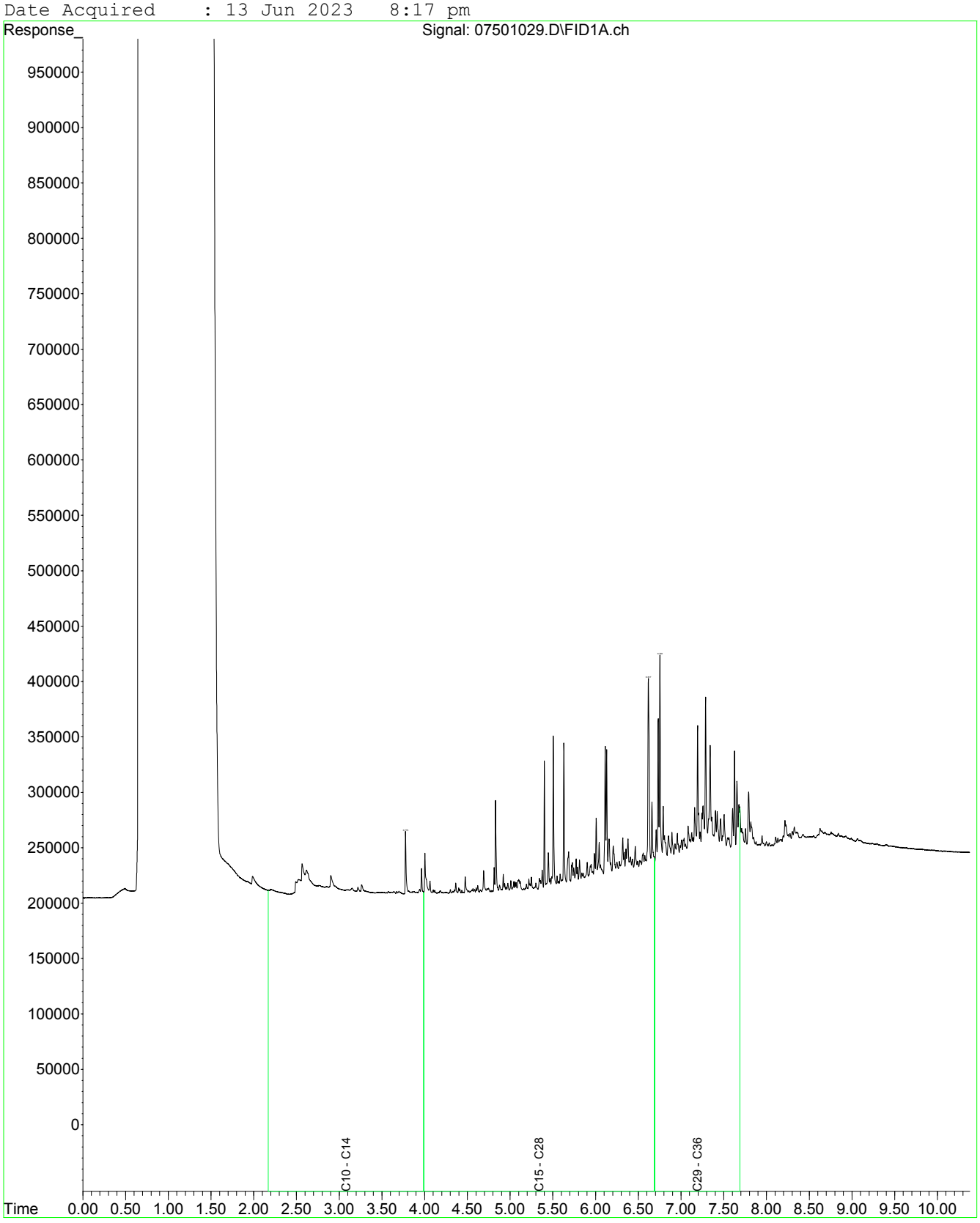
Fraction Scheme : Standard
Data File : 07201026.D
Laboratory Number: EM2310229-002
Sample ID : OL_EX_421_0.5
Date Acquired : 13 Jun 2023 7:28 pm



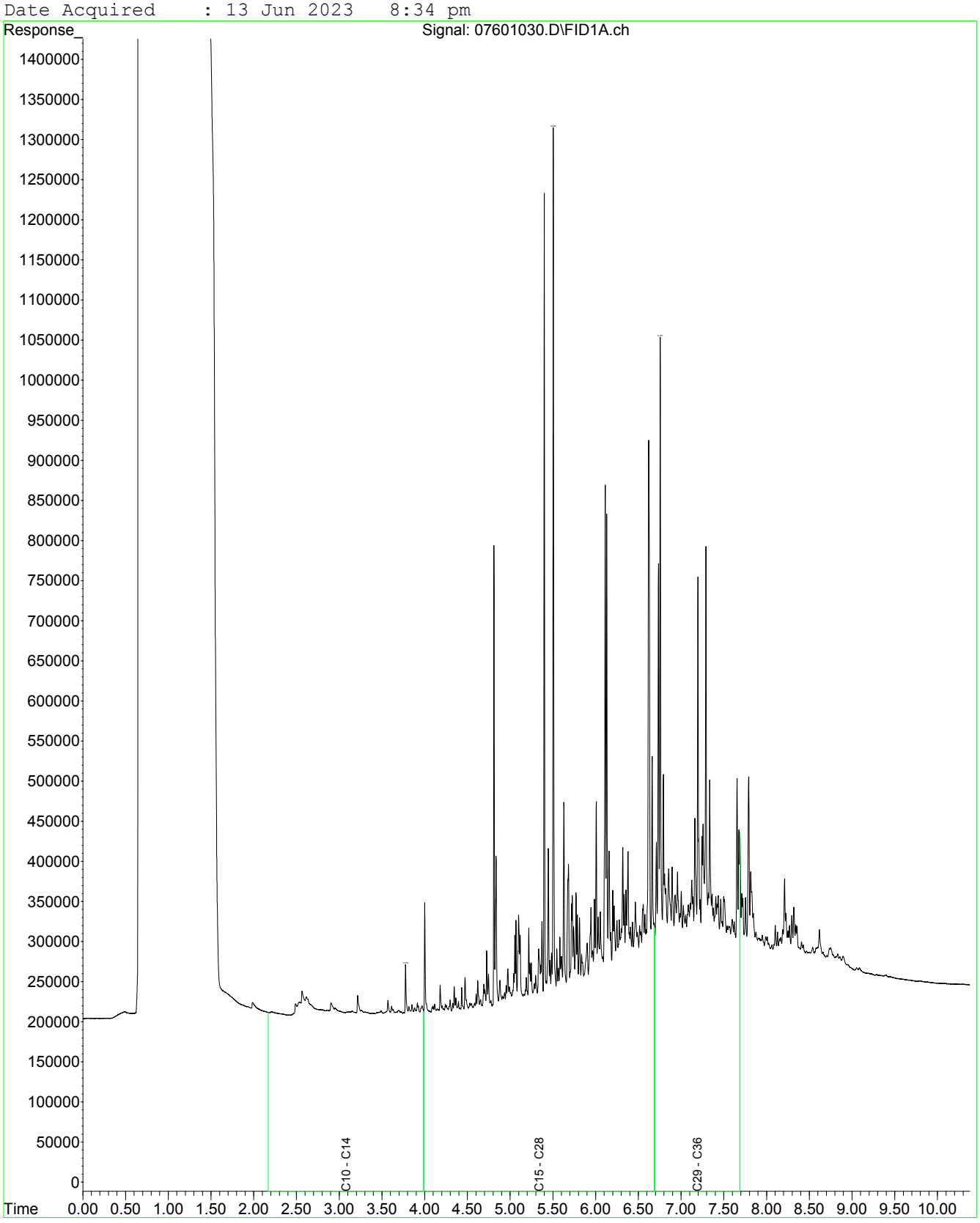
Fraction Scheme : Standard
Data File : 07401028.D
Laboratory Number: EM2310229-003
Sample ID : OL_EX_422_0.5
Date Acquired : 13 Jun 2023 8:01 pm



Fraction Scheme : Standard
Data File : 07501029.D
Laboratory Number: EM2310229-004
Sample ID : OL_EX_422_1.5
Date Acquired : 13 Jun 2023 8:17 pm



Fraction Scheme : Standard
Data File : 07601030.D
Laboratory Number: EM2310229-005
Sample ID : OL_EX_423_0.5
Date Acquired : 13 Jun 2023 8:34 pm



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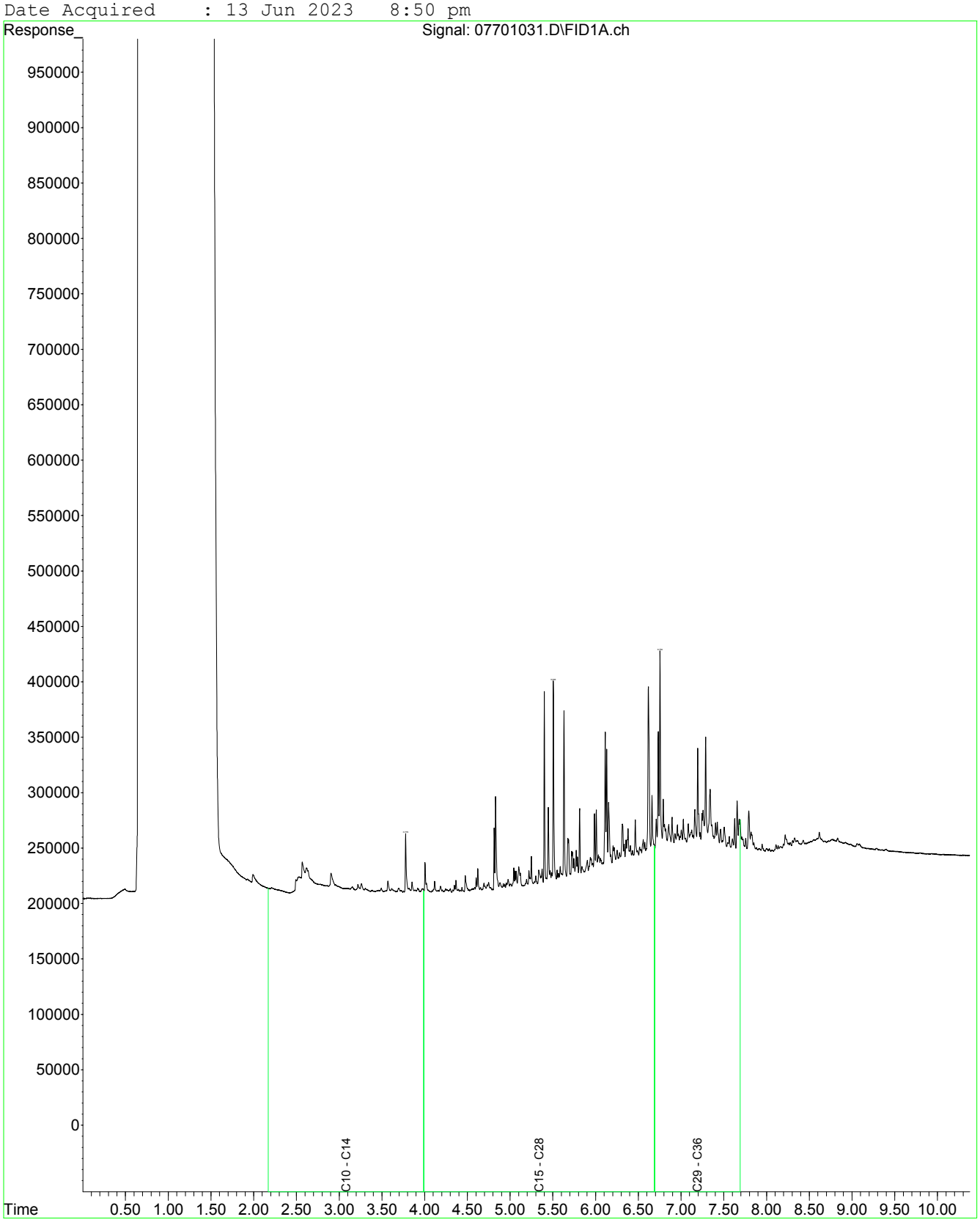
Data File : 07701031.D
Laboratory Number: EM2310229-006
Sample ID : OL_EX_423_1.5
Date Acquired : 13 Jun 2023 8:50 pm



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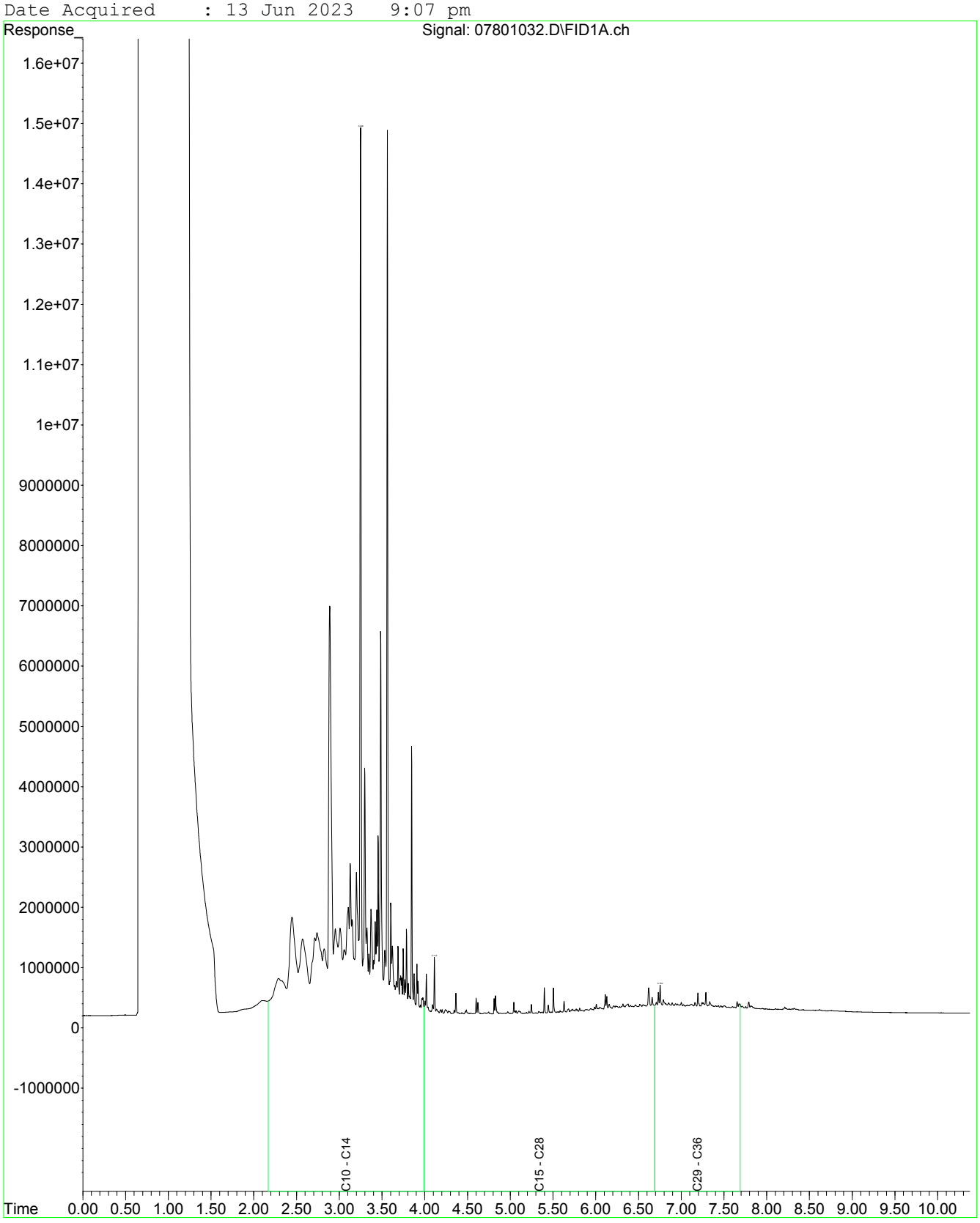
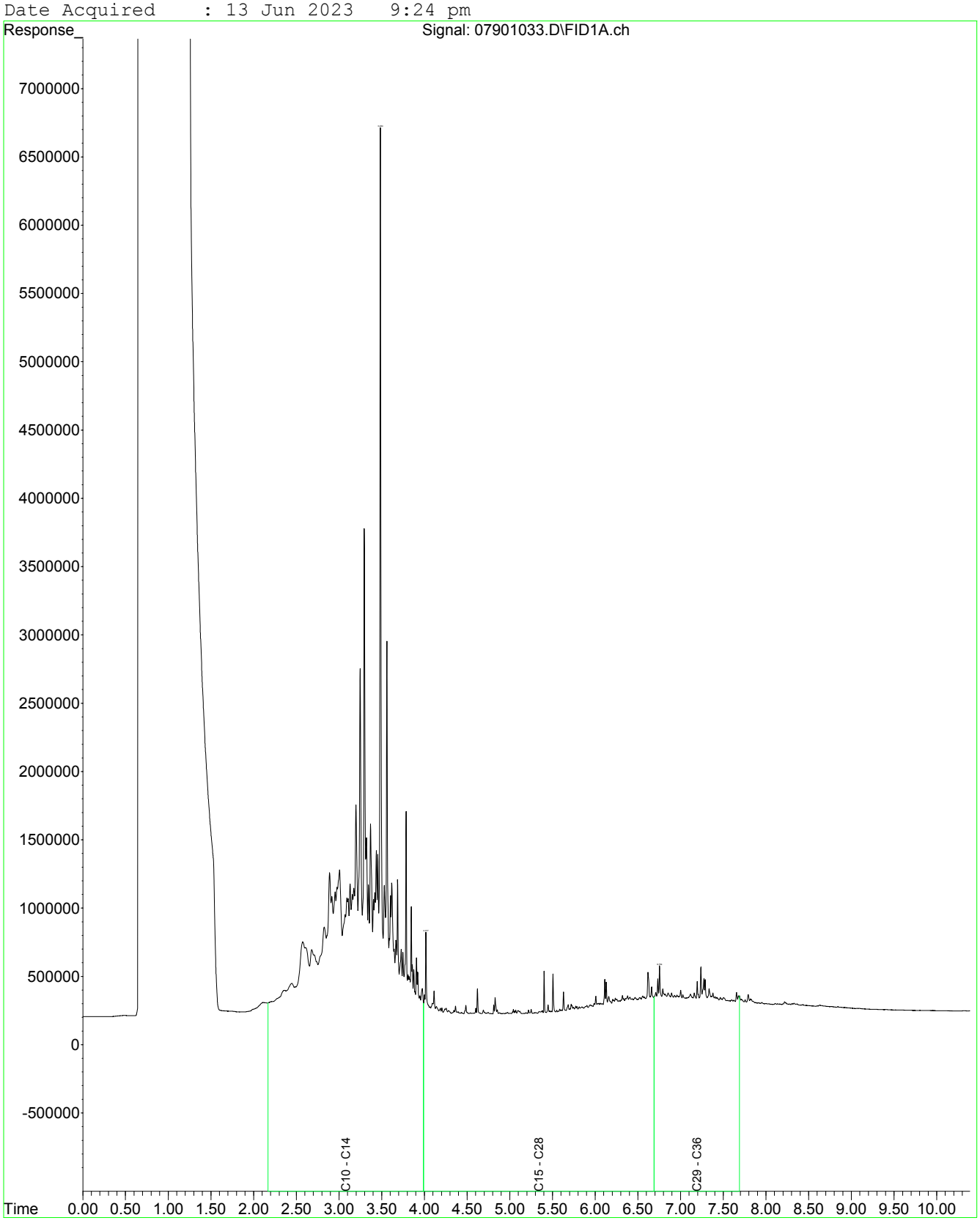
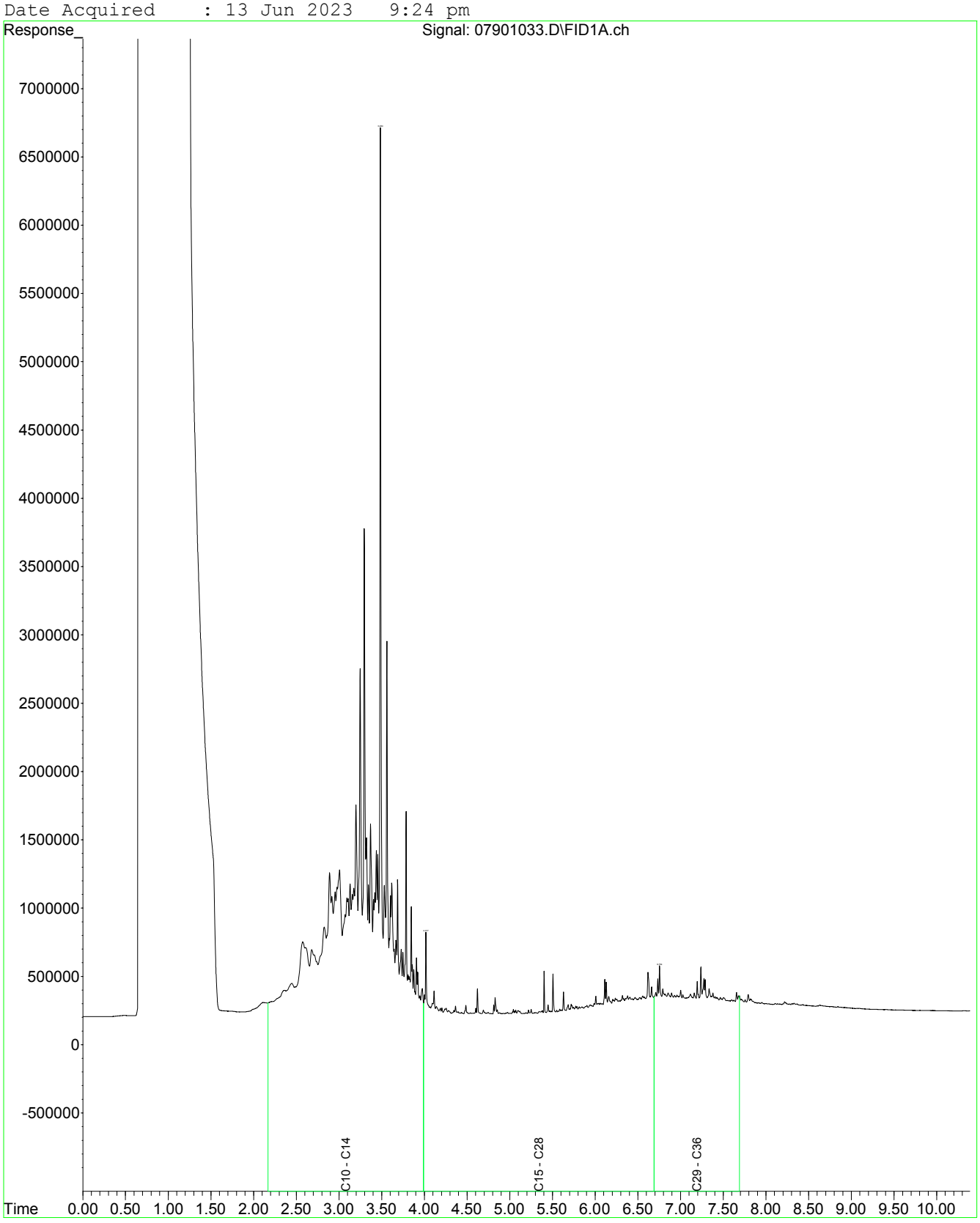
Laboratory Number: EM2310229-007
Sample ID : OL_EX_424_0.5
Date Acquired : 13 Jun 2023 9:07 pm



Fraction Scheme : Standard
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



Fraction Scheme : Standard
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



Fraction Scheme : Standard
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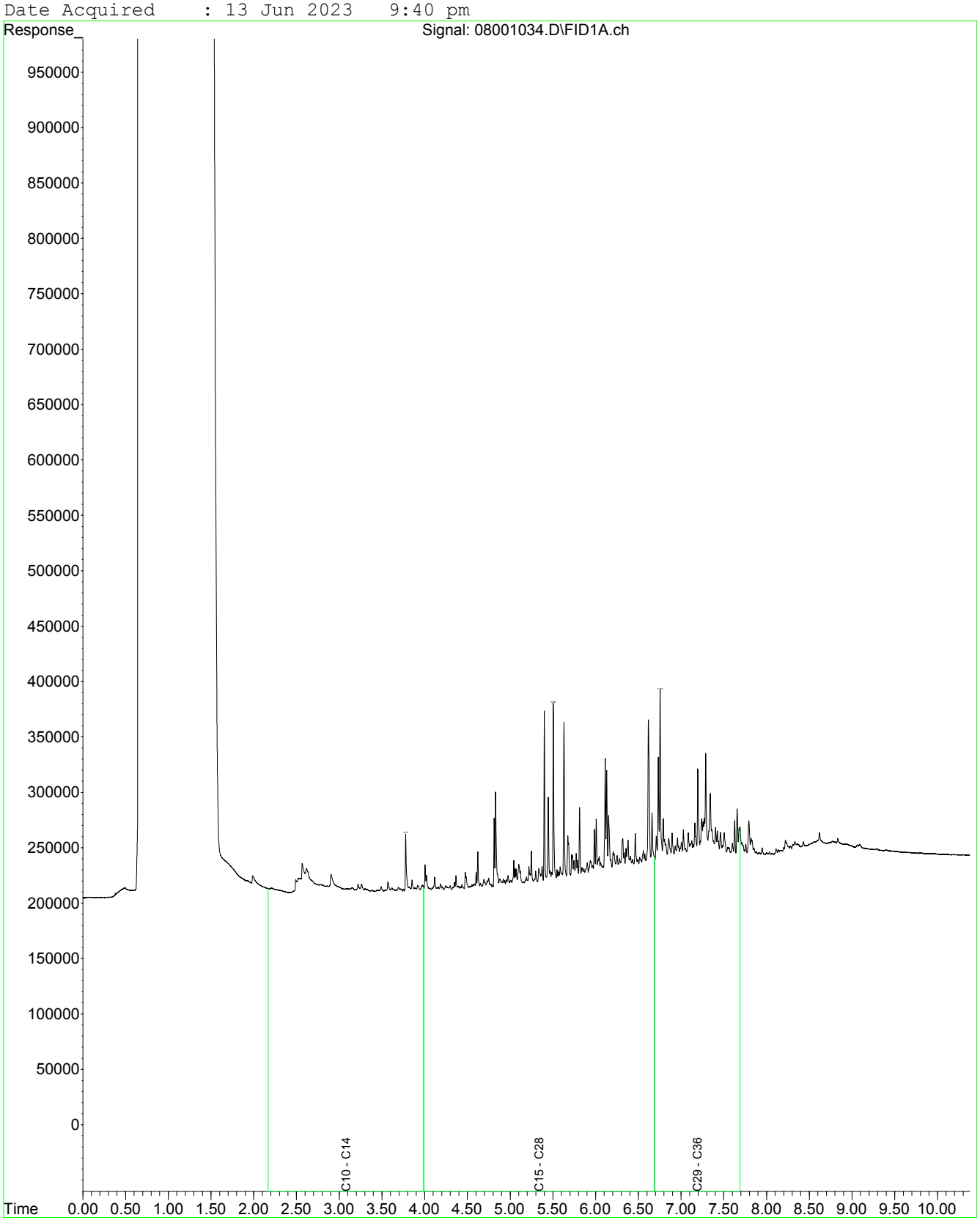
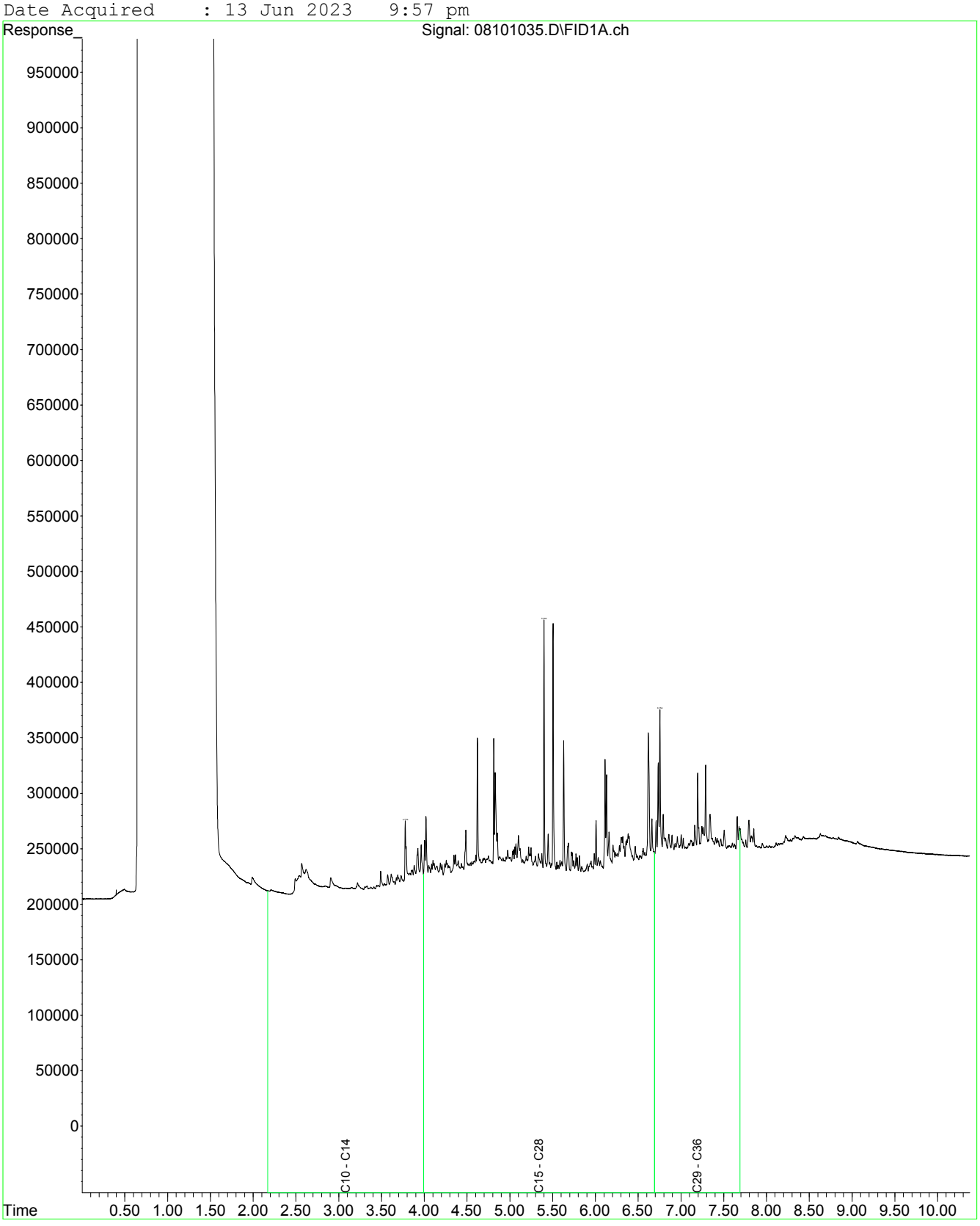
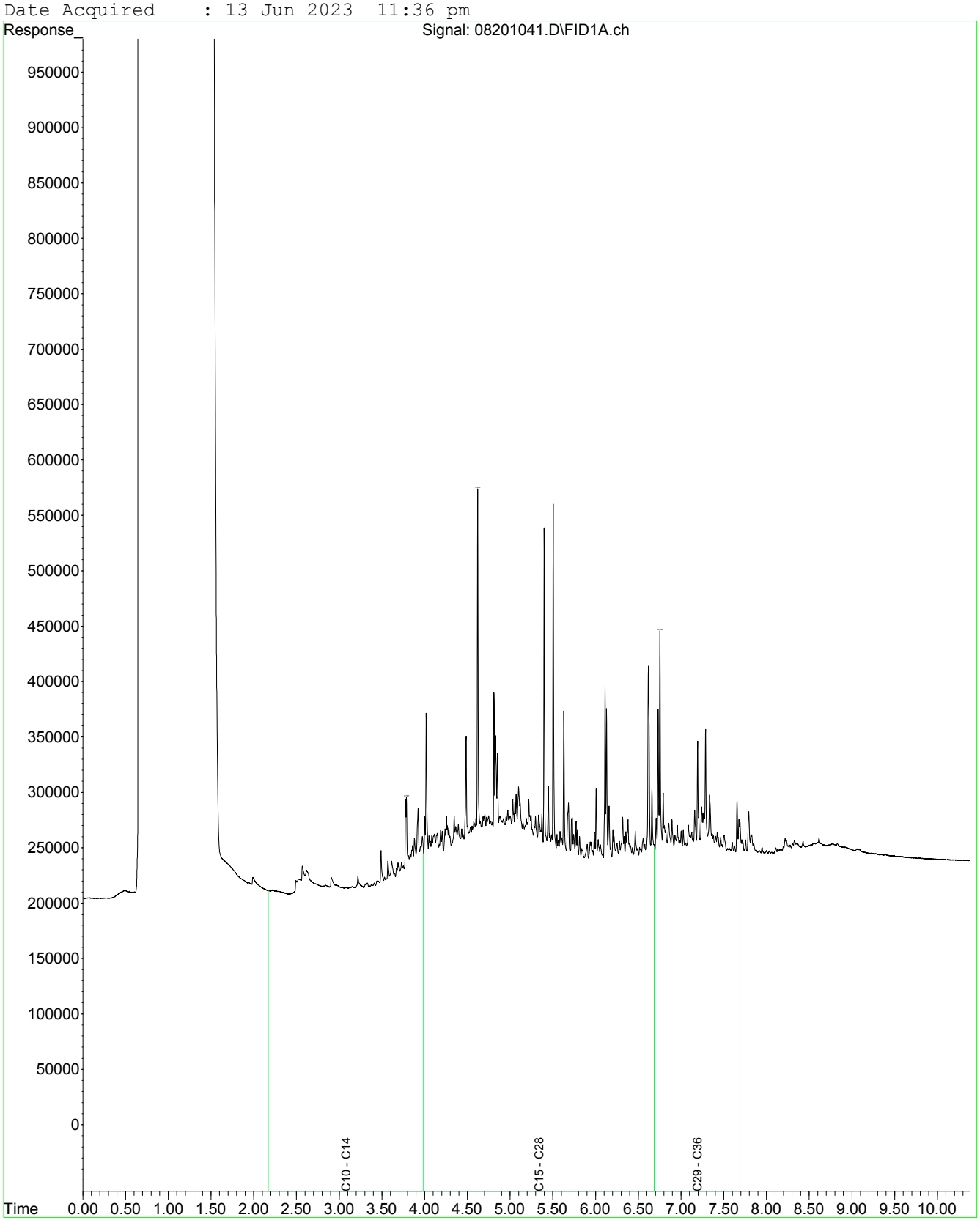
Laboratory Number: EM2310229-009
Sample ID : OL_EX_QC125
Date Acquired : 13 Jun 2023 9:40 pm



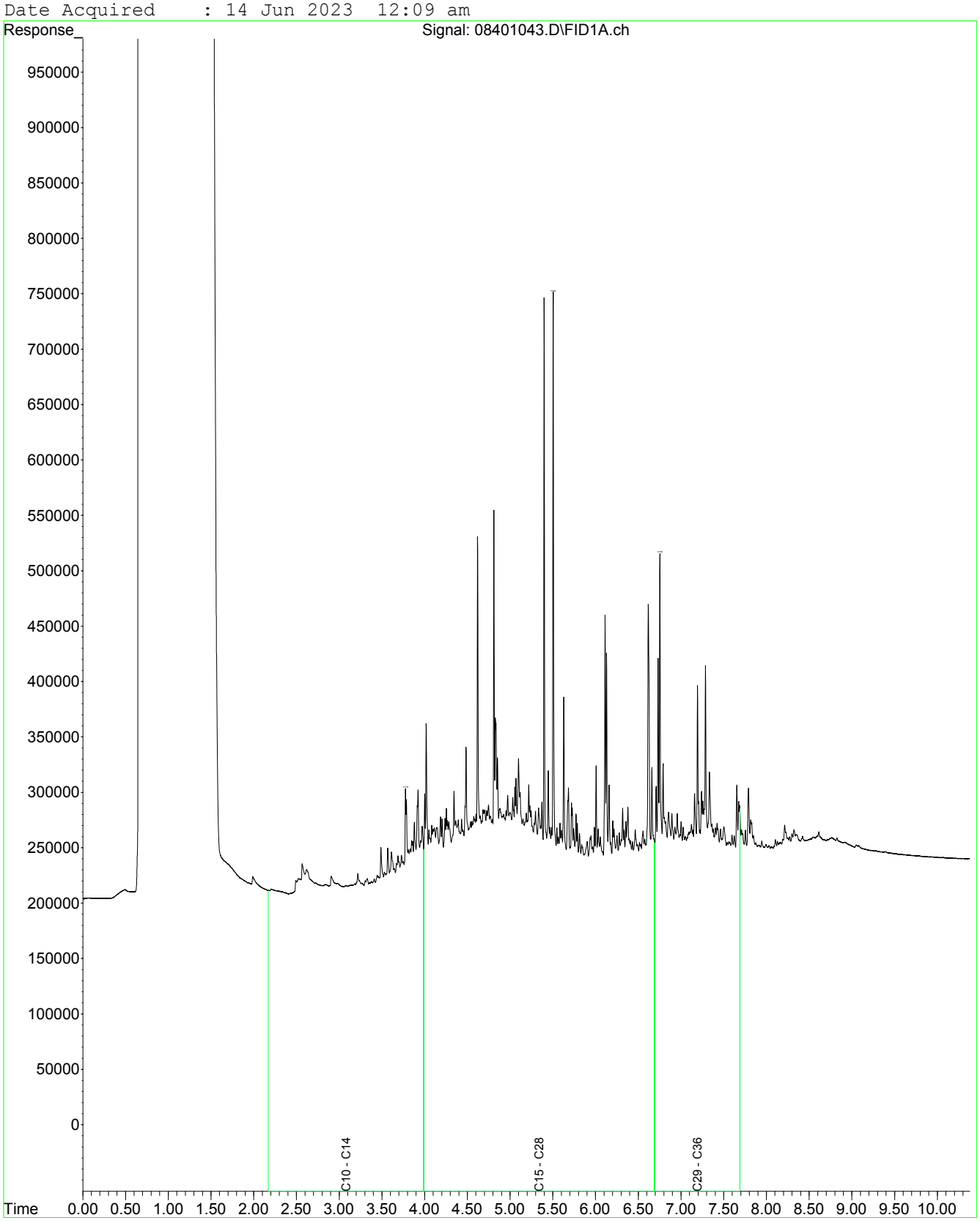
Fraction Scheme : Standard
Data File : 08101035.D
Laboratory Number: EM2310229-011
Sample ID : UST_SP_01
Date Acquired : 13 Jun 2023 9:57 pm



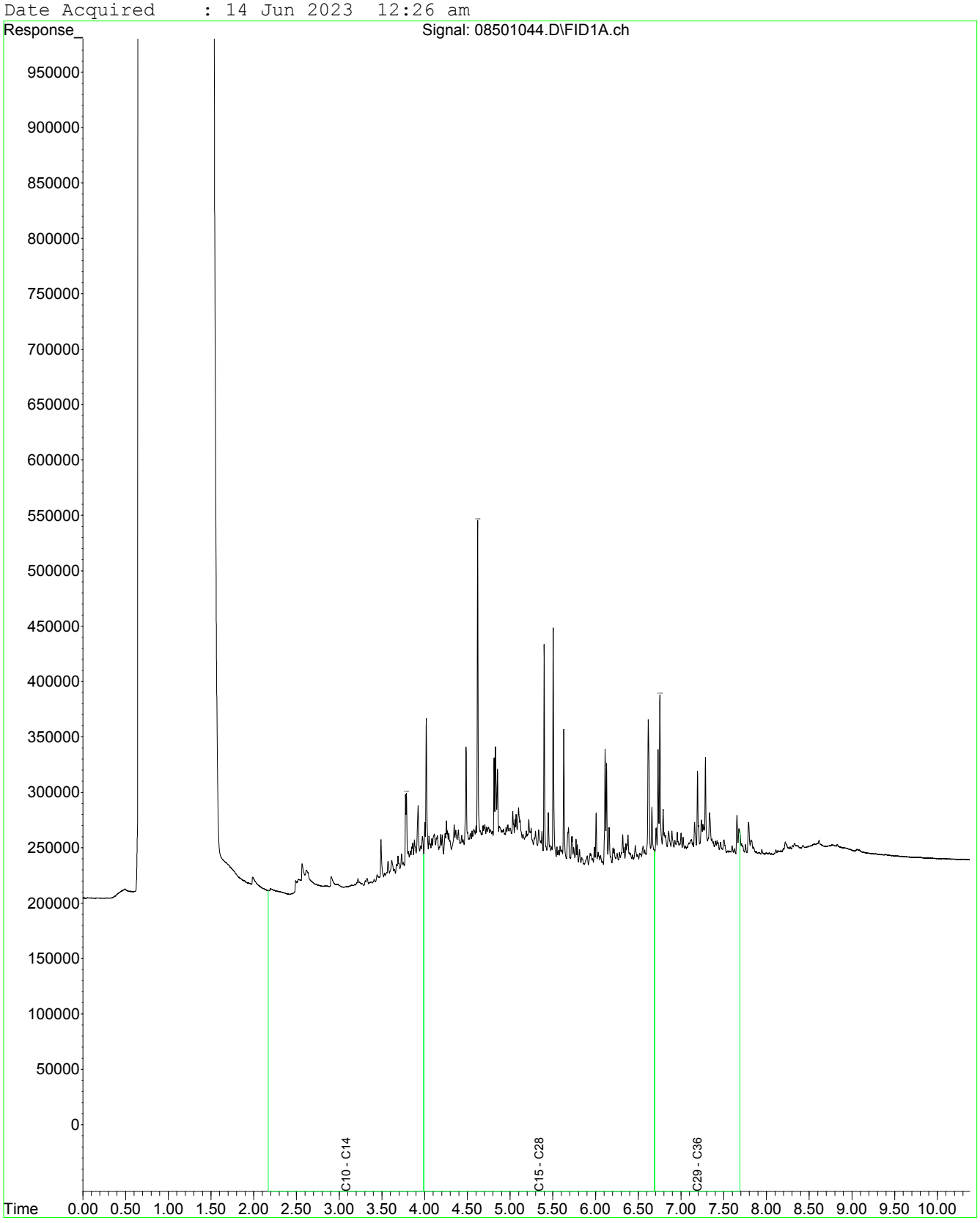
Fraction Scheme : Standard
Data File : 08201041.D
Laboratory Number: EM2310229-012
Sample ID : UST_SP_02
Date Acquired : 13 Jun 2023 11:36 pm



Fraction Scheme : Standard
Data File : 08401043.D
Laboratory Number: EM2310229-013
Sample ID : UST_SP_03
Date Acquired : 14 Jun 2023 12:09 am



Fraction Scheme : Standard
Data File : 08501044.D
Laboratory Number: EM2310229-014
Sample ID : UST_SP_04
Date Acquired : 14 Jun 2023 12:26 am



Fraction Scheme : Standard
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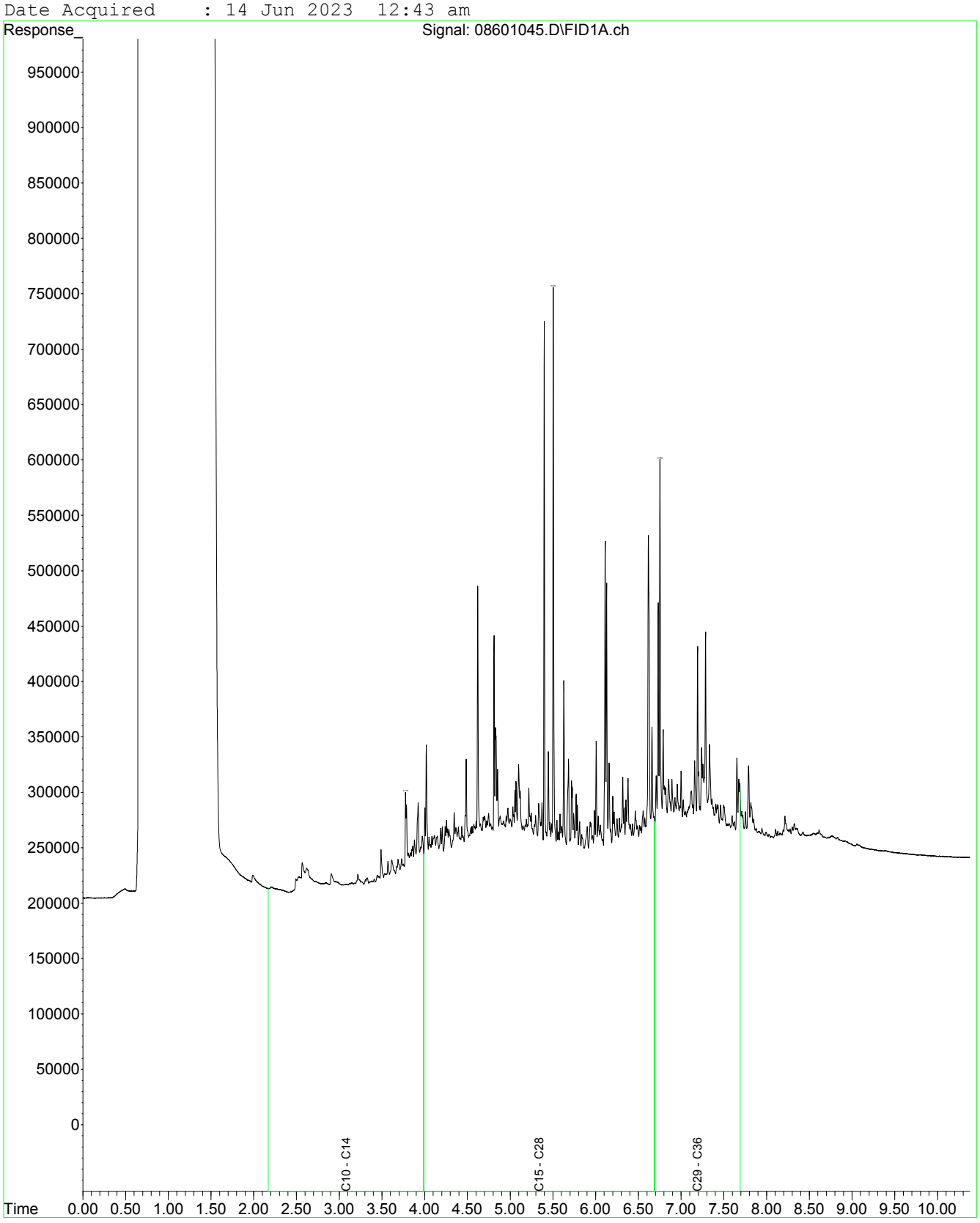
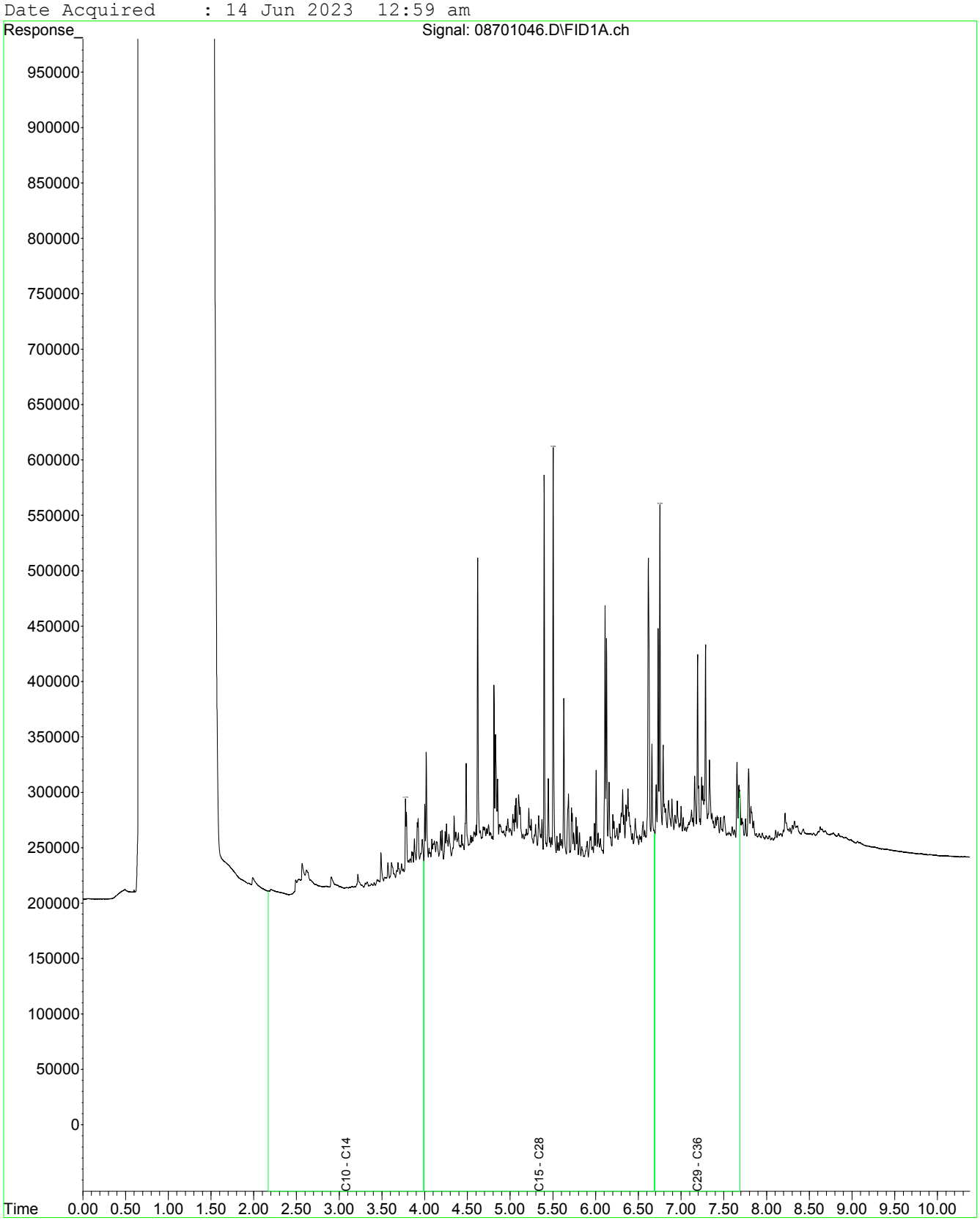
Laboratory Number: EM2310229-015
Sample ID : UST_SP_05
Date Acquired : 14 Jun 2023 12:43 am



Fraction Scheme : Standard
Data File : 08701046.D
Laboratory Number: EM2310229-016
Sample ID : UST_SP_06
Date Acquired : 14 Jun 2023 12:59 am



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Data File : 08801047.D
Laboratory Number: EM2310229-017
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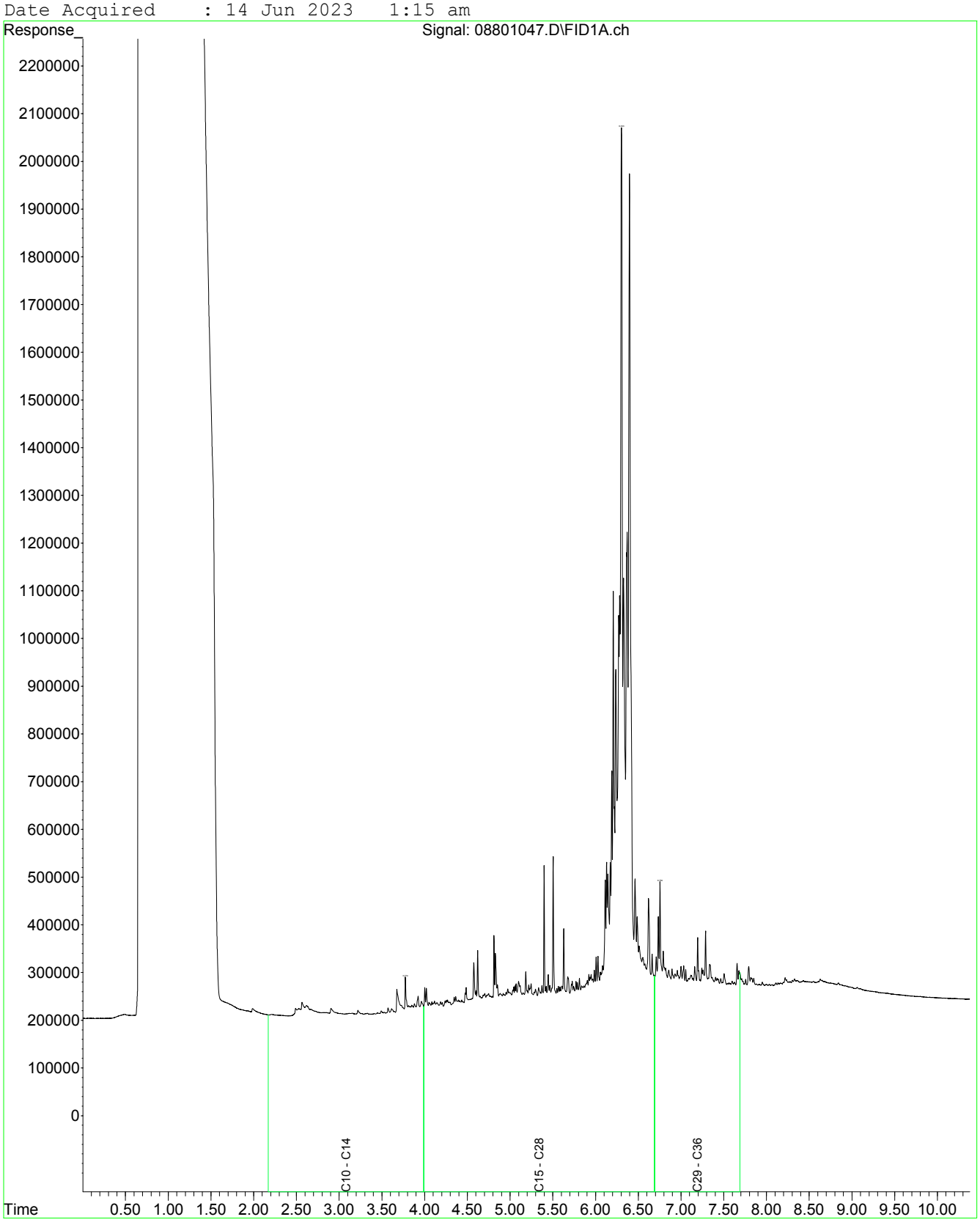
Date Acquired : 14 Jun 2023 1:15 am



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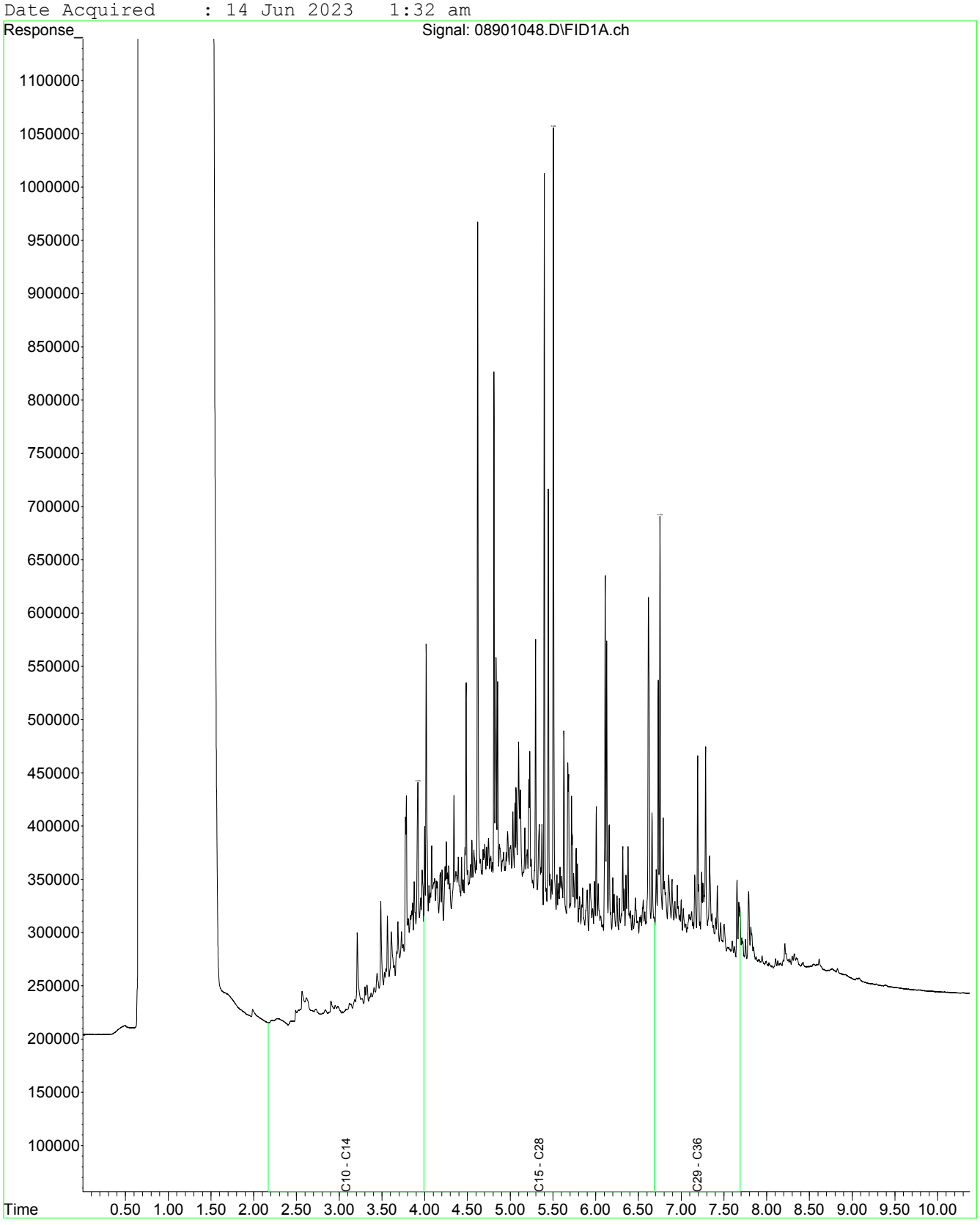
Data File : 08901048.D
Laboratory Number: EM2310229-019
Sample ID : UST_SP_Ext_59SP_04
Date Acquired : 14 Jun 2023 1:32 am



Fraction Scheme : Standard
Data File : 09001049.D
Laboratory Number: EM2310229-020
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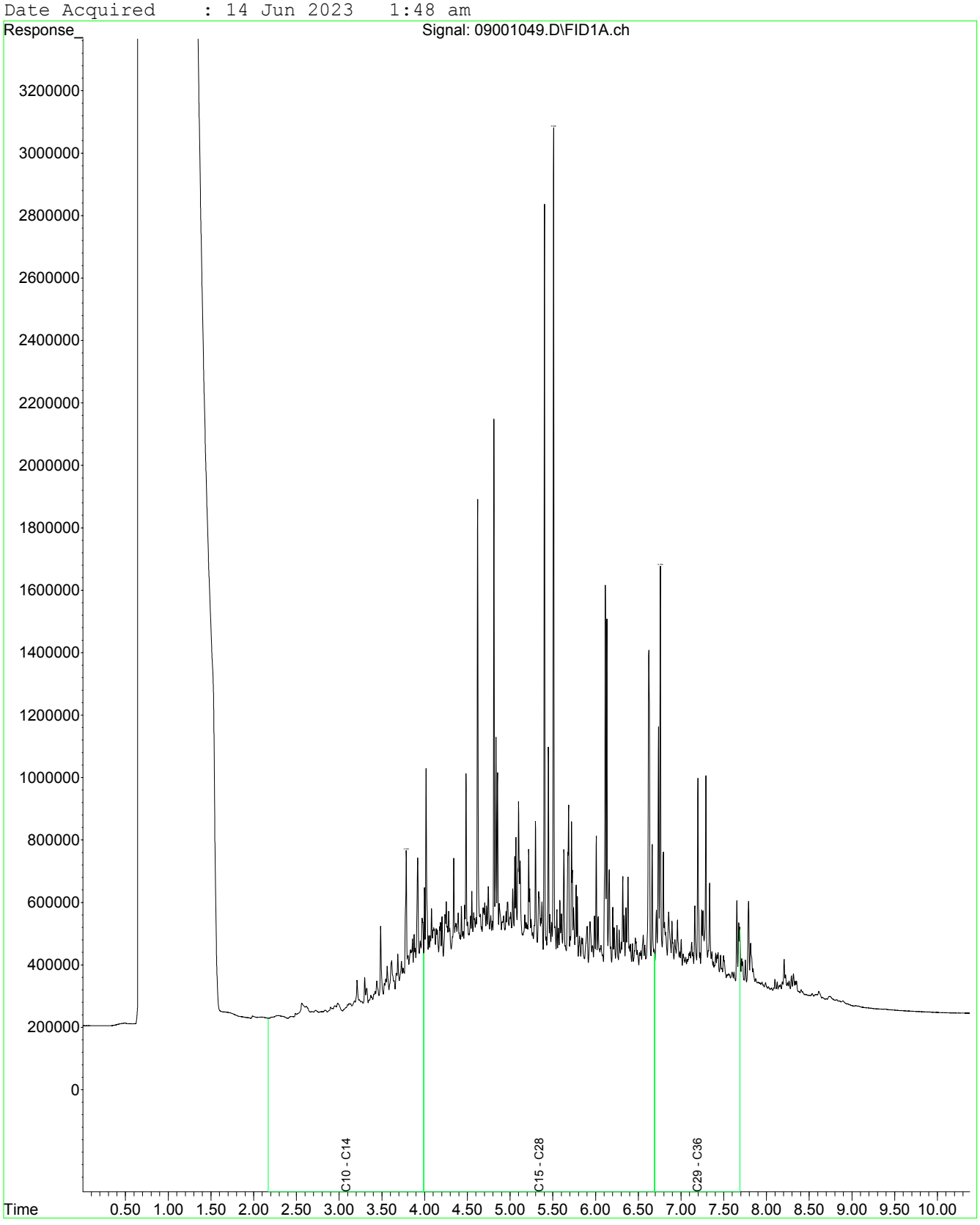
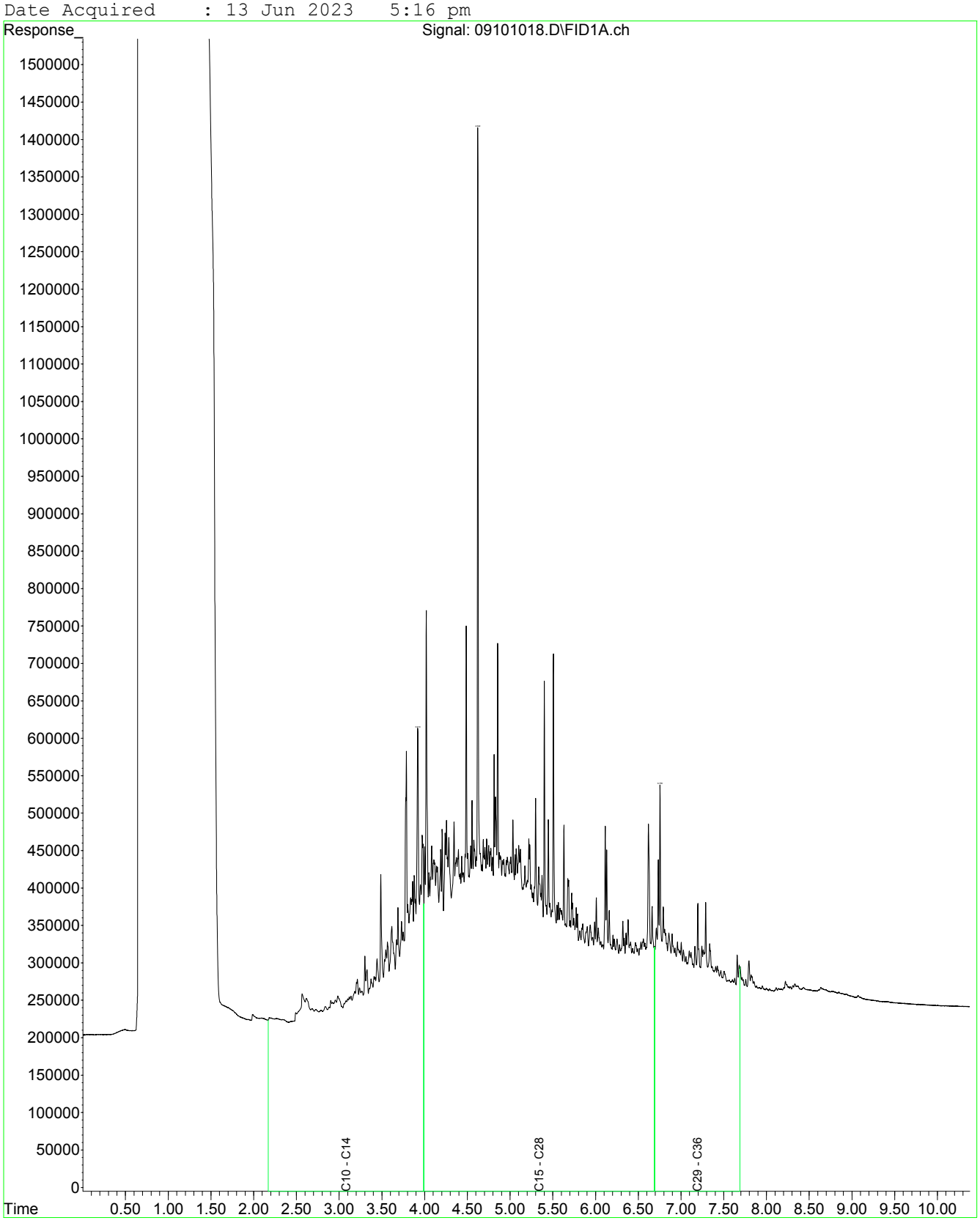
Date Acquired : 14 Jun 2023 1:48 am



Fraction Scheme : Standard
Data File : 09101018.D
Laboratory Number: EM2310229-021
Sample ID : UST_SP_Ext_59SP_06
Date Acquired : 13 Jun 2023 5:16 pm



Fraction Scheme : Standard
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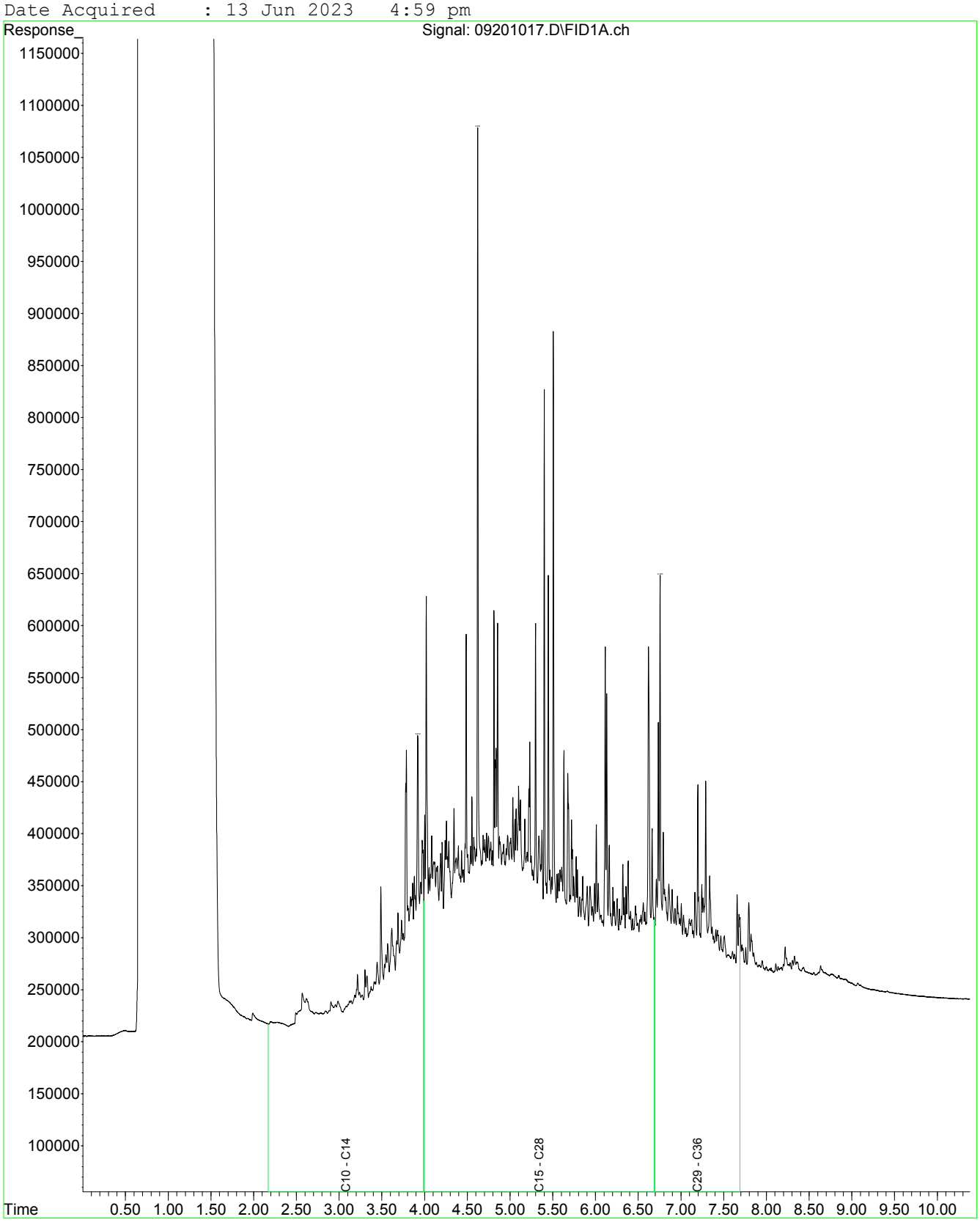
Date Acquired : 13 Jun 2023 4:59 pm



M2

Scott Huett

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Thursday, 25 May 2023 8:51 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - Re: - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

I did make a mistake. Can these samples be forwarded to eurofins

OL_EX_QC218	5 day TAT	**23-May**	1					
OL_EX_QC219	5 day TAT	**23-May**	1					
OL_EX_QC220	5 day TAT	**23-May**	1					
UST_EXT_QC221	5 day TAT	**23-May**	1					

TRH/BTEXN/ PAH/Phenols/ Pb

Trip Blank V-TRH/BTEXN

SH 25/5 (ALS)

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com

My regular work days are Monday to Thursday

AECOM
210 Collins Street
Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004
aecom.com

From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Wednesday, May 24, 2023 5:48:56 PM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: - Macquarie Point samples arriving today - Compass COC 52713

Received by Scott (ALS) 24/5/23, 1235

Hi Tim

Due to lab workload at the moment, we are unable to provide results this week

We can report by Monday 29/5

Thanks

#993445

Kind Regards

26/05/23

RELINQUISHED BY RK (ALS) 2575

DATE: 26/5/23
TIME: 9:00
COURIER:
TEMPERATURE: 6.5
ATTEMP TO CHILL: ~~YES~~ NO

Sealed

S.D

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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IANZ# 1327

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Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Tim Smith
Project name:	Not provided
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	May 26, 2023 4:00 PM
Eurofins reference	993445

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 6.5 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Tim Smith - tim.smith02@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name:

Order No.:
Report #: 993445
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 26, 2023 4:00 PM
Due: Jun 2, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC218	May 23, 2023		Soil	M23-My0068559	X		X	X	X	X	X
2	OL_EX_QC219	May 23, 2023		Soil	M23-My0068560	X		X	X	X	X	X
3	OL_EX_QC220	May 23, 2023		Soil	M23-My0068561	X		X	X	X	X	X
4	UST_EXT_QC221	May 23, 2023		Soil	M23-My0068562	X		X	X	X	X	X
5	TRIP BLANK	May 23, 2023		Soil	M23-My0068563		X			X	X	
Test Counts						4	1	4	4	5	5	4

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Smith**

Report **993445-S**
Project name
Received Date May 26, 2023

Client Sample ID			**OL_EX_QC218**	**OL_EX_QC219**	**OL_EX_QC220**	**UST_EXT_QC221**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-My0068559**	**M23-My0068560**	**M23-My0068561**	**M23-My0068562**
Date Sampled			**May 23, 2023**	**May 23, 2023**	**May 23, 2023**	**May 23, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	48	40	130
TRH C15-C28	50	mg/kg	210	620	250	1200
TRH C29-C36	50	mg/kg	120	340	180	250
TRH C10-C36 (Total)	50	mg/kg	330	1008	470	1580
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	84	60	310
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	84	60	310
TRH >C16-C34	100	mg/kg	310	910	400	1200
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	310	994	460	1510
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	82	75	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.0	11	5.7	10
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	7.0	11	5.9	10
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.0	11	6.2	10
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	1.4	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.7	1.6	0.6	1.2
Benz(a)anthracene	0.5	mg/kg	2.9	6.0	1.7	3.5
Benzo(a)pyrene	0.5	mg/kg	4.3	6.7	4.5	7.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	4.2	6.1	3.7	4.6
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	3.8	1.0	1.9
Benzo(k)fluoranthene	0.5	mg/kg	5.0	8.6	4.6	5.9
Chrysene	0.5	mg/kg	3.5	7.7	1.7	3.1

Client Sample ID			OL_EX_QC218	OL_EX_QC219	OL_EX_QC220	UST_EXT_QC221
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-My0068559	M23-My0068560	M23-My0068561	M23-My0068562
Date Sampled			May 23, 2023	May 23, 2023	May 23, 2023	May 23, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	1.4	< 0.5	0.9
Fluoranthene	0.5	mg/kg	5.3	10	3.0	5.9
Fluorene	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.4	5.0	1.5	2.3
Naphthalene	0.5	mg/kg	< 0.5	1.1	< 0.5	0.6
Phenanthrene	0.5	mg/kg	1.6	4.1	1.4	2.8
Pyrene	0.5	mg/kg	5.0	11	3.2	7.0
Total PAH*	0.5	mg/kg	39	75	27	47
2-Fluorobiphenyl (surr.)	1	%	80	86	87	85
p-Terphenyl-d14 (surr.)	1	%	96	88	60	55
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	96	57	92	81
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Lead	5	mg/kg	850	430	2100	180
Sample Properties						
% Moisture	1	%	20	18	20	17

Client Sample ID			TRIP BLANK
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-My0068563**
Date Sampled			**May 23, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C10	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93
Sample Properties			
% Moisture	1	%	1.0
Volatile Organics			
Naphthalene[N02]	0.5	mg/kg	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	May 30, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
BTEX and Naphthalene			
BTEX	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	May 26, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name:

Order No.:
Report #: 993445
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 26, 2023 4:00 PM
Due: Jun 2, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC218	May 23, 2023		Soil	M23-My0068559	X		X	X	X	X	X
2	OL_EX_QC219	May 23, 2023		Soil	M23-My0068560	X		X	X	X	X	X
3	OL_EX_QC220	May 23, 2023		Soil	M23-My0068561	X		X	X	X	X	X
4	UST_EXT_QC221	May 23, 2023		Soil	M23-My0068562	X		X	X	X	X	X
5	TRIP BLANK	May 23, 2023		Soil	M23-My0068563		X			X	X	
Test Counts						4	1	4	4	5	5	4

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	113			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
TRH C6-C10	%	103			70-130	Pass	
TRH >C10-C16	%	88			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	79			70-130	Pass	
Xylenes - Total*	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	82			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	89			70-130	Pass	
Benz(a)anthracene	%	89			70-130	Pass	
Benzo(a)pyrene	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	119			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	120			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	82			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
Phenanthrene	%	72			70-130	Pass	
Pyrene	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	82			25-140	Pass	
2.4-Dichlorophenol	%	82			25-140	Pass	
2.4.5-Trichlorophenol	%	34			25-140	Pass	
2.4.6-Trichlorophenol	%	35			25-140	Pass	
2.6-Dichlorophenol	%	60			25-140	Pass	
4-Chloro-3-methylphenol	%	70			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	39			25-140	Pass	
Tetrachlorophenols - Total	%	59			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	64			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	73			25-140	Pass	
2-Nitrophenol	%	40			25-140	Pass	
2.4-Dimethylphenol	%	64			25-140	Pass	
2-Methylphenol (o-Cresol)	%	65			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	83			25-140	Pass	
4-Nitrophenol	%	43			25-140	Pass	
Dinoseb	%	84			25-140	Pass	
Phenol	%	86			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	115			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-My0063737	NCP	%	102			70-130	Pass	
TRH C10-C14	M23-My0077509	NCP	%	80			70-130	Pass	
TRH C6-C10	M23-My0063737	NCP	%	93			70-130	Pass	
TRH >C10-C16	M23-My0077509	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-My0063737	NCP	%	77			70-130	Pass	
Toluene	M23-My0063737	NCP	%	79			70-130	Pass	
Ethylbenzene	M23-My0063737	NCP	%	79			70-130	Pass	
m&p-Xylenes	M23-My0063737	NCP	%	75			70-130	Pass	
o-Xylene	M23-My0063737	NCP	%	80			70-130	Pass	
Xylenes - Total*	M23-My0063737	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-My0063737	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-My0051205	NCP	%	120			70-130	Pass	
Acenaphthylene	M23-My0051205	NCP	%	122			70-130	Pass	
Anthracene	M23-My0051205	NCP	%	101			70-130	Pass	
Benz(a)anthracene	M23-My0051205	NCP	%	125			70-130	Pass	
Benzo(a)pyrene	M23-My0051205	NCP	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	M23-My0051205	NCP	%	118			70-130	Pass	
Benzo(g.h.i)perylene	M23-My0051205	NCP	%	110			70-130	Pass	
Benzo(k)fluoranthene	M23-My0051205	NCP	%	118			70-130	Pass	
Chrysene	M23-My0051205	NCP	%	110			70-130	Pass	
Dibenz(a.h)anthracene	M23-My0051205	NCP	%	113			70-130	Pass	
Fluoranthene	M23-My0051205	NCP	%	114			70-130	Pass	
Fluorene	M23-My0051205	NCP	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0051205	NCP	%	121			70-130	Pass	
Naphthalene	M23-My0051205	NCP	%	125			70-130	Pass	
Phenanthrene	M23-My0051205	NCP	%	102			70-130	Pass	
Pyrene	M23-My0051205	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Chlorophenol	M23-My0051205	NCP	%	60			30-130	Pass	
2.4-Dichlorophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2.4.5-Trichlorophenol	M23-My0051205	NCP	%	33			30-130	Pass	
2.4.6-Trichlorophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2.6-Dichlorophenol	M23-My0051205	NCP	%	50			30-130	Pass	
4-Chloro-3-methylphenol	M23-My0051205	NCP	%	49			30-130	Pass	
Pentachlorophenol	M23-My0051205	NCP	%	108			30-130	Pass	
Tetrachlorophenols - Total	M23-My0051205	NCP	%	106			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-My0051205	NCP	%	43			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2-Nitrophenol	M23-My0051205	NCP	%	50			30-130	Pass	
2.4-Dimethylphenol	M23-My0051205	NCP	%	44			30-130	Pass	
2.4-Dinitrophenol	M23-My0051205	NCP	%	55			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-My0051205	NCP	%	52			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0051205	NCP	%	57			30-130	Pass	
4-Nitrophenol	M23-My0051205	NCP	%	59			30-130	Pass	
Dinoseb	M23-My0051205	NCP	%	37			30-130	Pass	
Phenol	M23-My0051205	NCP	%	67			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-My0065642	NCP	%	84			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M23-My0074862	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-My0074862	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-My0074862	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-My0076021	NCP	mg/kg	< 0.5	2.4	130	30%	Fail	Q15
Fluorene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-My0076021	NCP	mg/kg	< 0.5	1.8	130	30%	Fail	Q15
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-My0076021	NCP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-My0076021	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-My0076021	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0076021	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-My0076021	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-My0065642	NCP	mg/kg	7.3	7.3	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-My0068523	NCP	%	5.4	5.8	7.5	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-My0068563	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M23-My0068563	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-My0068563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-My0068563	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-My0068563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

(ALS) COC#: 53213 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Vicky (ALS)			
DATE TIME: 09/06 1500	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_QC225	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
011	UST_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
012	UST_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
013	UST_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
014	UST_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
015	UST_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
016	UST_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
017	UST_SP_QC126			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
018	UST_SP_QC226	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

#997185

9/6

DATE: 9/6

TIME: 3:54

COURIER

TEMPERATURE 4.8 + 1.3 6.2

ATTEMPTO COOL: YES NO

Emily

Wednesday, June 7, 2023 12:28:13 AM

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521
Phone: +61 3 8564 5000
e.mail: EnviroRemittances@eurofins.com

Tax Invoice

AECOM Aust Pty Ltd Melbourne
Accounts Payable P O BOX 1307
Fortitude Valley
QLD 4006

Purchase Order #:	60693007-2
Invoice #:	781326
Date:	Jun 14, 2023
Report #:	997785
Project Name:	MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID:	60693007-2
Contact:	Robert Crowe

Description	Quantity	Price	Total	Notes
Solid Samples				
Metals - Premier Customer Price List				
Pb	2	$7.15	$14.30	

	Nett Total	$14.30
	GST	$1.43
	Total Inc GST	$15.73

This invoice is subject to Eurofins General Terms of Sales.

Please detach and return with payment to:
Postal:
Eurofins Environment Testing
6 Monterey Road
Dandenong South
Victoria, 3175

Please EFT Payments to:
Eurofins Environment Testing
BSB 063-498
Acct No: 10057019
e.mail Remittances:
EnviroRemittances@eurofins.com

Invoice Number : 781326
Amount Inc GST : $15.73

TERMS STRICTLY 30 DAYS

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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Geelong
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Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
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Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
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Murarrie
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Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
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NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
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Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Jun 9, 2023 3:54 PM
Eurofins reference	997785

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 6.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Please confirm soil suite analysis

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT OIL AND DIESEL LINE REMOVAL

Order No.: 60693007-2
Report #: 997785
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Jun 9, 2023 3:54 PM
Due: Jun 19, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	OL_EX_QC225	Jun 06, 2023		Soil	M23-Jn0024176	X	X
2	UST_SP_QC226	Jun 06, 2023		Soil	M23-Jn0024177	X	X
Test Counts						2	2

eurofins | Environment Testing

Certificate of Analysis

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **997785-S**
Project name MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID 60693007-2
Received Date Jun 09, 2023

Client Sample ID			**OL_EX_QC225**	**UST_SP_QC226**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M23-Jn0024176**	**M23-Jn0024177**
Date Sampled			**Jun 06, 2023**	**Jun 06, 2023**
Test/Reference	LOR	Unit		
Heavy Metals				
Lead	5	mg/kg	700	410
Sample Properties				
% Moisture	1	%	32	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Melbourne	Jun 10, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 09, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Sample Detail						Lead	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	OL_EX_QC225	Jun 06, 2023		Soil	M23-Jn0024176	X	X
2	UST_SP_QC226	Jun 06, 2023		Soil	M23-Jn0024177	X	X
Test Counts						2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**µg/L:** micrograms per litre
ppm: parts per million	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/kg	< 5			5	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	106			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Jn0024372	NCP	%	106			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Jn0023791	NCP	mg/kg	13	20	41	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Jn0024157	NCP	%	26	23	12	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Michael Morrison	Analytical Services Manager
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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AECOM

Appendix B

Data Validation

Data Validation

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 3.1** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

ALS Laboratories (ALS) Melbourne was selected as the primary laboratory and Eurofins was selected as the secondary laboratory for chemical analysis. Both laboratories are accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The sampling events and relevant laboratory reports pertaining to the stockpiles considered in this report are summarised in below **Table 1**.

Table 1 Stockpile Data Considered

Stockpile ID	Sampling Event	Sampling Personnel	Lab Report Numbers
UST_SP_1.5-2.0 UST_SP_ch77-81 UST_SP_EXT	21 March 2023 – Pre-remediation sampling	Timothy Smith (AECOM)	EM2305209-AB EM2307275
UST_SP_59SP	25 May 2023 – Pre-remediation sampling	Timothy Smith (AECOM	EM2309346 993445*
UST_SP1	7 June 2023 – Post-Remediation Sampling	Timothy Smith (AECOM	EM2310229 EM2310878 997785*

*Note: * – Laboratory reports from the secondary laboratory.*

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix A**.

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples from stockpiles were collected by AECOM field personal with appropriate environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 4.2** of the main report. Samples were collected in laboratory supplied sample containers and placed in chilled eskies prior to transportation to the selected laboratories.

1.2 Intra- and Inter-Laboratory Field Duplicate Samples

Five intra-laboratory and two inter-laboratory field duplicate sample pairs were collected from the 28 primary samples collected from stockpiles.

Intra-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of field duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e. concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e. concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e. concentrations 1 – 10 x LOR)

Of a total of 635 RPD values calculated, 45 RPD values (<~7%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, TRH and PAHs. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

As 93% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

1.3 Trip Blank

One trip blank consisting of clean, laboratory supplied distilled water was submitted with each cooler box transported to the laboratory.

Trip blanks were analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. Concentrations of target compounds reported below the LOR for all trip blanks, indicating that cross contamination of samples occurring in transit is unlikely to have occurred.

Trip blank results are reported on **Table B2** attached.

1.4 Rinsate Blank

Rinsate blank was prepared by pouring laboratory supplied water over non-dedicated sampling equipment (a trowel) following decontamination procedures to assess the potential for cross-contamination.

A total of three rinsate blank was analysed as part of these works, one for each day on which sampling occurred.

All rinsates reported concentrations of CoPC below LOR, indicating cross contamination is unlikely to have occurred during sampling.

Rinsate blanks results are reported on **Table B2** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil, leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.6** below.

Soil samples were analysed for a combination of analytes including metals, cyanide, fluoride, TPH/TRH, BTEX, PAH, MAH, phenols, PCBs and pesticides. As these analytes include the CoPC identified in **Section 1.4** (of the main report) for the areas in which the stockpiles were generated, based on available Site history and uses, and previous investigations conducted, soil analytical program is considered appropriate for the purposes of this report. The adequacy of the analytical suite selected is further detailed in in **Section 5.2** of the main report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported received by ALS (the primary laboratory) between 3.7 and 5.6ºC, and by Eurofins (the secondary laboratory) between 6.2 and 6.5ºC. Primary samples were within the acceptable target range of 0 – 6°C, and while secondary laboratory samples were received up to 0.5ºC above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only. Receipt at higher than expected temperatures may contribute to discrepancies in calculated RPDs.

Leachate analysis was conducted on samples previously extracted and do not have sample receipt temperatures reported.

2.2 Sample Holding Times

All primary samples were received by laboratories within the recommended holding times for the requested analyses.

Proactive holding time assessments completed by the analytical laboratories are provided in **Appendix A**.

2.3 Limits of Reporting

For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 2 to Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

2.4 Laboratory Method Blanks

All soil laboratory method blanks, detailed in **Appendix A**, were reported within the acceptable range, i.e. below the laboratory LORs.

2.5 Laboratory Control Spikes

Laboratory control spikes, detailed in **Appendix A**, were within the laboratory-derived control limits for the methods used, and no outliers were reported.

2.6 Frequency of Quality Control Spike

Frequency of quality control spikes, detailed in **Appendix A**, were at the rate expected by applicable QC specifications, and no outliers were reported.

2.7 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples collected from the stockpiles and their corresponding laboratory duplicates were within acceptable limits, with the exception of the duplicate outliers listed below in Error! Not a valid bookmark self-reference..

Table 2 Laboratory Duplicate RPD Exceedances

Work Order	Sample ID	Analyte	RPD	Limits
EM2305209	UST_SP_EXT_06	Lead	31.5%	0 - 20%
	UST_SP_1.5-2.0_02	Lead	38.9%	0 - 20%
		Zinc	90%	0 - 20%
	UST_SP_1.5-2.0_04	Phenanthrene	116%	0 - 20%
		Anthracene	133%	0 - 50%
		Fluoranthene	105%	0 - 20%
		Pyrene	92.3%	0 - 20%
		Benz(a)anthracene	106%	0 - 20%
		Chrysene	102%	0 - 20%
		Benzo(b+j)fluoranthene	101%	0 - 20%

Work Order	Sample ID	Analyte	RPD	Limits
		Benzo(k)fluoranthene	108%	0 - 50%
		Benzo(a)pyrene	96.9%	0 - 20%
		Indeno(1.2.3.cd)pyrene	96.2%	0 - 50%
		Benzo(g.h.i_perylene	94.2%	0 - 50%

RPD exceedances are attributed to the heterogeneity of the soil samples submitted to the laboratory. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. These exceedances are not considered to impact interpretation of the results.

2.8 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix A**. Matrix spike recoveries were noted to be within the data quality objective range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 3** below.

Table 3 Matrix Spike Outliers

Work Order	Sample ID	Analyte	Matrix Spike	Limits
EM2305209	UST_SP_1.5-2.0_04	Pyrene	45.6%	65.5-136%
	UST_SP_1.5-2.0_05	TP C10-C14	Not Determined	MS recovery not determined – background level greater than or equal to 4x spike level
		TPH C15-C28	72.6%	75.6-122%
		TRH C10-C16	Not Determined	MS recovery not determined – background level greater than or equal to 4x spike level

Matrix spike recovery outliers reported are due to matrix interference with samples. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. Overall, these outliers are not considered to impact interpretation of the results.

2.9 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix A**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used. No surrogate recovery outliers were reported.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Five intra-laboratory and two inter-laboratory field duplicate sample pairs were collected from the 28 primary samples collected from stockpiles.

  Intra-laboratory duplicate samples were collected at a rate greater than or equal to one per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples) and the duplicate sample rate is considered satisfactory for assessment of data reliability.

- Of a total of 635 RPD values calculated for intra- and inter-laboratory duplicate samples analysed, 45 RPD values (<~7%) were reported above the adopted acceptable RPD DQO limits. RPD exceedances were reported for lead, TRH and PAHs. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As 93% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

- Trip blank and rinsate blank analytical results were reported below the laboratory LORs.

- All samples were received by the primary analytical laboratory between 0 and 6°C. While secondary laboratory samples were received at 6.2 – 6.5^{o}C, up to 0.5^{o}C above the recommended range, these samples have not been relied on for assessment of stockpile status and have been used for comparison of analytical methodologies only. Receipt at higher than recommended temperatures may contribute to discrepancies in calculated RPDs noted above.

- For a number of the primary samples analysed, the laboratory reported a LOR of 0.5 mg/kg for benzo(a)pyrene, which is higher than the IB105 TCC Level 1 screening criterion (0.08 mg/kg), however is lower than the Level 2 (2 mg/kg) and Level 3 (20 mg/kg) screening criteria for benzo(a)pyrene. Considering the LOR allows for adequate characterisation of Level 3 and Level 4 soils based on TCC, and LCC of benzo(a)pyrene was relied upon for characterisation, the LOR is not considered to impact the usability of the data for the purposes of soil characterisation.

- Laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, surrogate spike recoveries, laboratory control spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

Table B1
Intra- and Inter-Laboratory Duplicates - Relative Percentage Differences
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

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			Lab Report Number	EM2305209-AB	EM2305209-AB		EM2305209-AB	EM2305209-AB		EM2309346	EM2309346		EM2310229	EM2310229	
			Field ID	UST_SP_EXT_01	UST_QC109	**RPD**	UST_SP_ch77-80_01	UST_QC110	**RPD**	UST_EXT_59SP_03	UST_EXT_QC121	**RPD**	OL_EX_423_0.5	OL_EX_QC125	**RPD**
			Sampled Date/Time	21/03/2023 15:00	21/03/2023 15:00		21/03/2023 15:00	21/03/2023 15:00		23/05/2023 15:00	23/05/2023 15:00		7/06/2023 10:02	7/06/2023 10:02	
Method_Type	**ChemName**	**Units**	**EQL**												
Hexavalent Chromium by Alkaline Digestion and DA F	Chromium (hexavalent)	mg/kg	0.5	<0.5	<0.5	0									
Total Mercury by FIMS	Mercury	mg/kg	0.1	0.7	0.6	15							**1.1**	**2.4**	**74**
Total Metals by ICP-AES	Arsenic	mg/kg	5	<5	6	18							15	14	7
	Barium	mg/kg	10	150	160	6									
	Beryllium	mg/kg	1	<1	<1	0									
	Cadmium	mg/kg	1	<1	<1	0							<1	<1	0
	Chromium	mg/kg	2	16	19	17							15	17	13
	Cobalt	mg/kg	2	23	19	19									
	Copper	mg/kg	5	47	44	7							**115**	**281**	**84**
	Lead	mg/kg	5	152	153	1	309	266	15	189	173	9	**254**	**2220**	**159**
	Manganese	mg/kg	5	222	271	20									
	Molybdenum	mg/kg	2	<2	<2	0									
	Nickel	mg/kg	2	24	22	9							**16**	**36**	**77**
	Selenium	mg/kg	5	<5	<5	0									
	Silver	mg/kg	2	<2	<2	0									
	Tin	mg/kg	5	**67**	**15**	**127**									
	Zinc	mg/kg	5	111	92	19							**295**	**1030**	**111**
TRH - Semivolatile Fraction	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	340	410	19	<50	<50	0	250	380	41	<50	<50	0
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	880	980	11	**410**	**1130**	**94**	1110	1320	17	290	110	90
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	<100	<100	0	270	850	104	250	240	4	230	<100	79
	C10-C36 fraction (sum)	mg/kg	50	1220	1390	13	**680**	**1980**	**98**	1610	1940	19	**520**	**110**	**130**
TRH Volatiles/BTEX	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0
TRH - Semivolatile Fraction	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	760	900	17	<50	<50	0	470	680	37	<50	<50	0
	>C10-C16 fraction	mg/kg	50	760	900	17	<50	<50	0	470	680	37	<50	<50	0
	>C16-C34 fraction	mg/kg	100	510	530	4	**620**	**1800**	**98**	1090	1220	11	470	180	89
	>C34-C40 fraction	mg/kg	100	<100	<100	0	150	430	97	<100	<100	0	<100	<100	0
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	1270	1430	12	**770**	**2230**	**97**	1560	1900	20	470	180	89
TRH Volatiles/BTEX	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	<10	13	26	<10	<10	0	<10	<10	0	<10	<10	0
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	<10	13	26	<10	<10	0	<10	<10	0	<10	<10	0
Total Fluoride	Fluoride	mg/kg	40	80	80	0									
TRH Volatiles/BTEX	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Benzo(a)pyrene- Waste Classification (TAS requirem	Benzo(a)pyrene	mg/kg	0.05	**5.04**	**2.69**	**61**									
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	**6**	**3.2**	**61**	**23.4**	**77.1**	**107**	**8.5**	**4.9**	**54**	**14.5**	**4.2**	**110**
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	**5.8**	**3**	**64**	**23.4**	**77.1**	**107**	**8.5**	**4.6**	**60**	**14.5**	**3.9**	**115**
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	**6.3**	**3.4**	**60**	**23.4**	**77.1**	**107**	**8.5**	**5.1**	**50**	**14.5**	**4.4**	**107**
	Naphthalene	mg/kg	0.5	1	<0.5	67	<0.5	0.9	57	1.3	0.9	36	0.7	<0.5	33
	Acenaphthylene	mg/kg	0.5	0.6	<0.5	18	2.2	3.4	43	0.8	<0.5	46	1.3	<0.5	89
	Acenaphthene	mg/kg	0.5	1.1	0.6	59	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	2.3	1	79	2.4	3.9	48	1.7	0.8	72	1.8	<0.5	113
	Fluorene	mg/kg	0.5	2.1	1.4	40	0.5	0.7	33	0.7	0.5	33	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	**6.3**	**3.4**	**60**	10.5	8.5	21	3.3	2.2	40	**8**	**1.6**	**133**
	Fluoranthene	mg/kg	0.5	**9.4**	**3.8**	**85**	**24.8**	**54**	**74**	**7.6**	**4.5**	**51**	**12.2**	**3.4**	**113**
	Benz(a)anthracene	mg/kg	0.5	4.5	2.1	73	**14.9**	**43.7**	**98**	**5.3**	**2.7**	**65**	**8.3**	**2.4**	**110**
	Benzo(k)fluoranthene	mg/kg	0.5	2.1	0.8	90	**5.4**	**16.7**	**102**	2.8	1.7	49	3.7	1.4	90
	Benzo(b&j)fluoranthene	mg/kg	0.5	4	2.4	50	**16.4**	**54.2**	**107**	**6.6**	**3.8**	**54**	**10.4**	**3.3**	**104**
	Benzo(a)pyrene	mg/kg	0.5				**16.6**	**55.8**	**108**	6	3.6	50	**10**	**3**	**108**
	Chrysene	mg/kg	0.5	3.4	1.7	67	**13**	**32.7**	**86**	4.5	2.5	57	**7.6**	**2.2**	**110**
	Pyrene	mg/kg	0.5	**8.9**	**3.7**	**83**	**25.6**	**66.7**	**89**	8.5	6	34	**12.5**	**3.3**	**116**
	Benzo(g,h,i)perylene	mg/kg	0.5	2	1.2	50	**8.6**	**26**	**101**	3.1	2.1	38	**7.4**	**2**	**115**
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	**2.2**	**6.9**	**103**	0.7	<0.5	33	1.5	<0.5	100
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	1.7	1	52	**7.6**	**23.6**	**103**	2.6	1.8	36	**5.7**	**1.6**	**112**
	Sum of PAHs	mg/kg	0.5	**53.9**	**25.4**	**72**	**151**	**398**	**90**	**55.5**	**33.1**	**51**	**91.1**	**24.2**	**116**
	3/4-Methylphenol (m/p-cresol)	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Methylphenol (o-Cresol)	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Nitrophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0

Table B1
Intra- and Inter-Laboratory Duplicates - Relative Percentage Differences
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
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	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chloro-3-methylphenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,6-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,5-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachlorophenol	mg/kg	2 : 1 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0
	Sum of Phenols	mg/kg	0.5	<0.5	<0.5	0									
Moisture Content	Moisture Content	%	1	19.5	25.7	27	13.1	12.9	2	18.9	22.3	17	**14.1**	**32.8**	**80**
Polychlorinated Biphenyls (PCB)	Polychlorinated Biphenyls	mg/kg	0.1	<0.1	<0.1	0									
Pesticides by GCMS	Aldrin	mg/kg	0.05	<0.05	<0.05	0									
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0									
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0									
	a-BHC	mg/kg	0.05	<0.05	<0.05	0									
	b-BHC	mg/kg	0.05	<0.05	<0.05	0									
	d-BHC	mg/kg	0.05	<0.05	<0.05	0									
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0									
	cis-Chlordane	mg/kg	0.05	<0.05	<0.05	0									
	trans-Chlordane	mg/kg	0.05	<0.05	<0.05	0									
	Chlordane	mg/kg	0.05	<0.05	<0.05	0									
	DDD	mg/kg	0.05	<0.05	<0.05	0									
	DDE	mg/kg	0.05	<0.05	<0.05	0									
	DDT	mg/kg	0.2	<0.2	<0.2	0									
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0									
	Endosulfan	mg/kg	0.05	<0.05	<0.05	0									
	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	0									
	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	0									
	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	0									
	Endrin	mg/kg	0.05	<0.05	<0.05	0									
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0									
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0									
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0									
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0									
	Hexachlorobenzene (HCB)	mg/kg	0.05	<0.05	<0.05	0									
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	0									
Total Cyanide by Segmented Flow Analyser	Cyanide Total	mg/kg	1	<1	<1	0									

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table B1
Intra- and Inter-Laboratory Duplicates - Relative Percentage Differences
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

EM2310229 UST_SP_01 7/06/2023 10:07	EM2310229 UST_SP_QC126 7/06/2023 10:07	RPD	EM2310229 UST_SP_01 7/06/2023 10:07	997785 UST_SP_QC226 7/06/2023 10:07	RPD	EM2309346 UST_EXT_59SP_03 23/05/2023 15:00	993445 UST_EXT_QC221 23/05/2023 15:00	RPD
0.3	0.2	40	0.3					
28	31	10	28					
1	<1	0	1					
14	9	43	14					
63	53	17	63					
179	142	23	**179**	**410**	**78**	189	180	5
32	**18**	**56**	32					
276	218	23	276					
<50	<50	0	<50			250	130	63
130	540	122	130			1110	1200	8
<100	120	18	<100			250	250	0
130	**660**	**134**	130			1610	1580	2
<10	<10	0	<10			<10	<20	0
<50	<50	0	<50			470	310	41
<50	<50	0	<50			470	310	41
160	620	118	160			1090	1200	10
<100	<100	0	<100			<100	<100	0
160	**620**	**118**	160			1560	1510	3
<10	<10	0	<10			<10	<20	0
<10	<10	0	<10			<10	<20	0
<1	<1	0	<1			<1	<0.5	0
<0.2	<0.2	0	<0.2			<0.2	<0.1	0
<0.5	<0.5	0	<0.5			<0.5	<0.1	0
<0.5	<0.5	0	<0.5			<0.5	<0.1	0
<0.5	<0.5	0	<0.5			<0.5	<0.2	0
<0.5	<0.5	0	<0.5			<0.5	<0.1	0
<0.5	<0.5	0	<0.5			<0.5	<0.3	0
<0.2	<0.2	0	<0.2			<0.2		
2.8	3.8	30	2.8			8.5	10	16
2.6	3.5	30	2.6			8.5	10	16
3.1	4	25	3.1			8.5	10	16
<0.5	<0.5	0	<0.5			1.3	0.6	74
<0.5	<0.5	0	<0.5			0.8	<0.5	46
<0.5	<0.5	0	<0.5			<0.5	<0.5	0
0.5	0.5	0	0.5			1.7	1.2	34
<0.5	<0.5	0	<0.5			0.7	<0.5	33
2.1	2.2	5	2.1			3.3	2.8	16
3.5	4.1	16	3.5			7.6	5.9	25
1.7	2.3	30	1.7			5.3	3.5	41
0.8	1.2	40	0.8			**2.8**	**5.9**	**71**
2.1	2.9	32	2.1			6.6	4.6	36
2	2.7	30	2			6	7.5	22
1.5	2	29	1.5			4.5	3.1	37
3.4	4.1	19	3.4			8.5	7	19
1.3	1.7	27	1.3			3.1	1.9	48
<0.5	<0.5	0	<0.5			0.7	0.9	25
1	1.4	33	1			2.6	2.3	12
19.9	25.1	23	19.9			55.5	47	17
<1	<1	0	<1			<1		
<0.5	<0.5	0	<0.5			<0.5	<0.5	0
<0.5	<0.5	0	<0.5			<0.5	<0.5	0
<0.5	<0.5	0	<0.5			<0.5	<0.2	0
<0.5	<0.5	0	<0.5			<0.5	<1	0
<0.5	<0.5	0	<0.5			<0.5	<0.5	0

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<0.5	<0.5	0	<0.5			<0.5	<0.5	0
<0.5	<0.5	0	<0.5			<0.5	<0.5	0
<0.5	<0.5	0	<0.5			<0.5	<1	0
<0.5	<0.5	0	<0.5			<0.5	<1	0
<0.5	<0.5	0	<0.5			<0.5	<1	0
<2	<2	0	<2			<2	<1	0
14.2	13.3	7	14.2			18.9		

Table B2
Rinsate and Field Blanks
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

				PAH/Phenols (GC/MS - SIM)																				
				3/4-Methylphenol (m/p-cresol)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Phenol	2-Chlorophenol
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	0.5	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1	0.5	1	1
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																					
OL_EX_QCA10	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCA14	7/06/2023	EM2310229	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCB12	23/05/2023	EM2309346	Rinsate	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1
OL_EX_QCB14	7/06/2023	EM2310229	Rinsate	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1
UST_EXT_QCA11	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_QCA06	21/03/2023	EM2305209-AB	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_QCB08	21/03/2023	EM2305209-AB	Rinsate	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1

Table B2
Rinsate and Field Blanks
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

AECOM

												Total Mercury by FIMS	Total Metals by ICP-MS - Suite A							TRH - Semivolatile Fraction						
				2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	Mercury	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	2	0.0001	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	50	100	50	50	100	100	100
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																								
OL_EX_QCA10	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCA14	7/06/2023	EM2310229	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCB12	23/05/2023	EM2309346	Rinsate	<1	<1	<1	<1	<1	<1	<1	<1	<2	-	-	-	-	-	<0.001	-	-	<50	<100	<50	<50	<100	<100	<100
OL_EX_QCB14	7/06/2023	EM2310229	Rinsate	<1	<1	<1	<1	<1	<1	<1	<1	<2	<0.0001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.005	<50	<100	<50	<50	<100	<100	<100
UST_EXT_QCA11	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_QCA06	21/03/2023	EM2305209-AB	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_QCB08	21/03/2023	EM2305209-AB	Rinsate	<1	<1	<1	<1	<1	<1	<1	<1	<2	-	-	-	-	-	<0.001	-	-	<50	<100	<50	<50	<100	<100	<100

Table B2
Rinsate and Field Blanks
Soil Categorisation and Waste Management Plant - Former UST Area Excavation Stockpiles
Macquarie Point Development Project - The Precinct South

				TRH Volatiles/BTEX												
				>C34-C40 fraction	>C10-C40 fraction (sum)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				100	100	5	20	20	20	1	2	2	2	2	2	1
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**													
OL_EX_QCA10	23/05/2023	EM2309346	Trip_B	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCA14	7/06/2023	EM2310229	Trip_B	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCB12	23/05/2023	EM2309346	Rinsate	<100	<100	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCB14	7/06/2023	EM2310229	Rinsate	<100	<100	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
UST_EXT_QCA11	23/05/2023	EM2309346	Trip_B	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
UST_QCA06	21/03/2023	EM2305209-AB	Trip_B	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
UST_QCB08	21/03/2023	EM2305209-AB	Rinsate	<100	<100	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1

AECOM

Appendix C

Environmental Approval No. 10512/1

Environment Protection Authority

GPO Box 1550 HOBART TAS 7001 Australia
Phone (03) 6165 4594
Email wastemanagement@epa.tas.gov.au
Web www.epa.tas.gov.au
Our Ref: D22-445427/001

ENVIRONMENT PROTECTION AUTHORITY

14 September 2022

Mr James Puustinen
Project Manager, Capital Works
Macquarie Point Development Corporation
GPO Box 51
HOBART TAS 7001

Email: james@macquariepoint.com

Dear Mr Puustinen

Environmental Approval No. 10512/2 – Reuse of Low-Level Contaminated Soil at Macquarie Point Development Site

On 1 September 2022 your consultant, AECOM requested that the re-use of low-level contaminated soil at the Macquarie Point Development Site, currently authorised under Environmental Approval 10512/1, be authorised to continue for a further 2-year period, beyond 7 October 2022.

I enclose Environmental Approval No. 10512/2 for the re-use of low-level contaminated soil from stockpile at the Macquarie Point site. This authorisation is valid for a period of two (2) years from 7 October 2022. This authorisation is provided under Regulation 21 of the Regulations, subject to conditions. Please find attached Environmental Approval No. 10512/2 containing the conditions to be complied with.

Please take note that evidence of compliance with these conditions must be made available to an Authorised Officer on request.

Section 39F of the *Macquarie Point Development Corporation Act 2012* requires that an accredited environmental auditor has certified the remediation of any part of the site prior to redevelopment of that part of the site. I recommend that you discuss with your auditor the suitability of the above referenced material for the intended land use.

Pursuant to Regulation 21(7) I have decided to waive the application fee in relation to this Environmental Approval.

If you require any further information regarding this correspondence, please contact the EPA at the contact details at the head of this correspondence.

Yours sincerely

Joe Tranter
MANAGER, CONTAMINATED LAND AND WASTE REGULATION
Delegate for the Director, Environment Protection Authority

Cc: Robert Crowe, robert.crowe@aecom.com

Encl: Draft Environmental Approval No. 10512/2

ENVIRONMENTAL APPROVAL No. 10512/2

Approval under the *Environmental Management and Pollution Control (Waste Management) Regulations 2020*

I, Joseph Tranter, Delegate for the Director, Environment Protection Authority, hereby grant approval in accordance with Regulation 21(4)(a) of the *Environmental Management and Pollution Control (Waste Management) Regulations 2020* for the reuse of the waste material described below provided the following requirements are complied with:

Approval issued to:
MACQUARIE POINT DEVELOPMENT CORPORATION

ABN
92 657 409 841

Waste description and quantity (the waste):
Low Level Contaminated Soil
No limit set

NEPM code and description:
N120: Soils contaminated with a controlled waste

Location (the land):
MACQUARIE POINT, 10 EVANS ST, HOBART TAS 7000

Producer of the waste:
Macquarie Point Development Corporation

Period for which approval is valid:
7 October 2022 to 7 October 2024

Requirements:

1. Where stockpiled soil, derived from the land, has been classified as Low Level Contaminated Soil (Level 2 Soil), in accordance with Information Bulletin No. 105, and contaminant concentrations are below the Site Specific Remediation Criteria defined in the document; 'Derivation of Remediation Criteria, Macquarie Point Redevelopment Project', prepared by AECOM and dated 9 August 2016, the stockpiled soil may be reused on the land, subject to the conditions of this approval.

2. The site environmental auditor, as accredited by Section 39F(3) of the Macquarie Point Development Corporation Act 2012, must endorse the reuse of each soil stockpile prior to the reuse occurring.

3. The reuse must be undertaken in accordance with the document titled 'Site Environment Management Plan, Macquarie Point Development Project', prepared by AECOM and dated 14 November 2018.

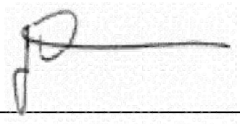
4. The activity must be conducted in such a manner as to prevent environmental nuisance and environmental harm resulting from escape of the materials, spillage, or emission of dust.

5. Unless otherwise approved in writing by the Director, waste material must not be removed from the storage site for any reason, including disposal.

6. If an incident causing or threatening environmental nuisance, serious environmental harm, or material environmental harm from pollution occurs in the course of the approved activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

7. A record of the soil reuse must be kept from the date of issue of this approval. This record must be provided to the Director annually no later than 14 days after the anniversary of the issue date of this approval and include, as a minimum, all records for the 12 months preceding the anniversary. Records must also be made available to an Authorized Officer on request in writing, within the timeframe and for the reporting period specified within the request.

8. For each soil stockpile that is reused the record of soil reuse must include:
   a. A description of the soil.
   b. Results of soil classification, in accordance with Information Bulletin No. 105.
   c. The quantity of soil that was reused.
   d. The location at which the soil was reused.
   e. The endorsement from the site environmental auditor for the reuse.
   f. Any certification required under section 39F of the Macquarie Point Development Corporation Act 2012.

Signed: 

DELEGATE FOR THE DIRECTOR, ENVIRONMENT PROTECTION AUTHORITY

Date: 14 September 2022

Crowe, Robert

From: Lam, David <David.Lam@tetratech.com>
Sent: Friday, 14 July 2023 3:18 PM
To: Crowe, Robert
Cc: Thomas, Adi
Subject: RE: The Precinct South - Proposed Stockpile Reuse

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Report Suspicious

Hi Rob,

This seems fine to me. The only comments I would make are that

- The table could be clearer in separating out current versus pre-remediation results (which appear in an undivided table unless I am mis-reading)
- The presence of anthropogenic fill (in this case, re-bar was noted) IMO should always include at least pro-active recording of at least the visual presence/absence of any potential ACM – and this didn't seem to have occurred.

These things aren't material for this instance, but ideally future such documents recording conditions in order to determine suitable management would reduce potential lack of clarity on these issues.

Cheers,

David Lam | Senior Principal Environmental Consultant
Direct **+61** 3 **9290 7104** | Business **+61 3 9290 7000** | Mobile **+61 418 327 397**| david.lam@tetratech.com

Tetra Tech Coffey | *Leading with Science*®
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TETRA TECH COFFEY

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Tuesday, 11 July 2023 10:06 AM
To: Lam, David <David.Lam@tetratech.com>; Thomas, Adi <Adi.Thomas@tetratech.com>
Subject: The Precinct South - Proposed Stockpile Reuse

⚠ CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.
⚠

Morning David, Adi,

As part of works within the Precinct South at Macquarie Point, two stockpiles (UST_SP1 and UST_SP_Ext_59SP) which generated via excavation of hydrocarbon impacted soil to the west of and beneath the former SeaRoads Shed slab have been remediated onsite and are proposed for reuse as fill material to the north of the SeaRoad Shed.

The soil categorisation and waste management plan for these stockpiles and the proposed reuse scenario is available HERE for your review (including excel tables of soil data).

Please let me know if you have any comments, questions or require any further information to assess the proposed reuse, or would like to discuss the proposed reuse and any additional conditions which may be required. Otherwise, if you are happy for the reuse to proceed please let me know and I will direct BlackCap to use the soil as planned.

Thanks,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
D +61
M +61422 692 187
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1 October 2023

Mr Sean McArdle
Project Manager - Capital Works
Macquarie Point Development Corporation
41 Evans Street, Hobart, TAS, 7000

Dear Sean,

Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site). The Site location is shown on **Figure F1**.

The Site, and surrounding area, largely located on reclaimed land within the Hobart port, has a history of mixed industrial use including the former Hobart Gasworks, rail freight and bulk fuel storage.

Industrial activities have been ceased at the Site, however impacts are known to be present within soil. As part of the development works undertaken at the Site, soil stockpiles

At the request of the Corporation, AECOM has prepared this soil categorisation and waste management plan for soil stockpiles PS-Pb-SP1 and PS-Pb-SP2, which were generated as part of the Precinct South remediation project, which includes the excavation of soils with known elevated concentrations of lead which may represent an unacceptable risk to future Site users. This report is intended to assess the current status of these stockpile prior to removal from the Site and assess the effectiveness of lead stabilisation remediation conducted on the stockpiles to reduce leachability of contaminants present.

It is currently proposed that stockpiles be removed from the Site for either disposal or for beneficial reuse as a covering material at a commercial or industrial site. McRobies Gully Waste Management Centre (McRobies), a waste site owned and operated by the City of Hobart (CoH), is currently proposed site for disposal of soil.

1.1 Objectives

The objectives of this letter are:

- To assess the effectiveness of lead stabilisation remediation of PS-Pb-SP1 and PS-PB-SP2 to reduce lead leachate concentrations detected during initial sampling of the stockpiles.
- To provide characterisation of the soil currently stockpiled within PS-Pb-SP1 and PS-PB-SP2 in accordance with EPA Tasmania *Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal* (IB105).
- To assess suitability of the stockpiles for beneficial off-Site reuse as fill and levelling material at McRobies.

It is intended that this document can act as a Waste Management Plan for the off-Site disposal or reuse of the stockpiled material in accordance with Section 3 and Section 5 of IB105.

1.2 Scope of Work

The following scope of work has been undertaken by AECOM:

- Review and screening of sample results from the stockpiles against the criteria within IB105 for categorisation.
- Evaluate sample results against appropriate screening criteria to assess the suitability of the stockpiles for beneficial reuse as covering material at the McRobies without unacceptable risk.
- Assess the reduction in Chemicals of Potential Concern (CoPC) by on-Site remediation.

- Provision of this Soil Categorisation and Waste Management Plan for the disposal or reuse of stockpiles.

Soil excavation and remediation works were planned and conducted by BlackCap Group Pty Ltd (BlackCap), and soil sampling has been undertaken by AECOM and by Elgin Associates Pty Ltd (Elgin), as detailed in **Section 4.0**.

1.3 Background

The Site, and surrounding area, largely located on reclaimed land within the Hobart port, has a history of mixed industrial use including the former Hobart Gasworks, rail freight and bulk fuel storage. Former industrial activities have been ceased at the Site. The Site is currently undergoing an Environmental Audit by Mr David Lam of Coffey under the *Macquarie Point Development Act 2012*.

As part of the development and remediation of the Site, the Precinct South Remediation Project is currently being undertaken by BlackCap, which involves the removal of impacted soil from the southeast area of the Site. Previously identified impacts in this area which are being removed as part of these works are:

- Remnant buried fuel lines.
- Hydrocarbon impacted soil at the former location of an Underground Storage Tank (UST) which has been removed from the Site.
- Areas of lead impacted soil, sourced from historic land reclamation.

1.4 Chemicals of Potential Concern

Based on available Site history and uses, and previous investigations conducted, the Chemicals of Potential Concern (CoPC) summarised in **Table 1** below have been identified for the areas in which the stockpiles were generated.

Table 1 Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Chemicals of Potential Concern	Potential Impacted Media
Land Reclamation	Heavy metals[1], TPH/TRH, PAH, BTEXN, phenolic compounds, SVOC, VOC, OCPs	Soil Groundwater Soil vapour
Freight Handling	Heavy metals[1], TPH/TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, pH	
Fuel Storage and Locomotive Fuelling	Lead, TPH/TRH, PAH, BTEXN	

Notes: TPH – Total Petroleum Hydrocarbons; TRH – Total Recoverable Hydrocarbons; PAH - Polycyclic aromatic Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene; SVOC – Semi-Volatile Organic Compounds; Volatile Organic Compounds; OCP – Organochlorine Pesticides; 1 – arsenic, chromium, manganese, aluminium, cadmium, chromium, copper, lead, nickel and zinc; 2 - lead and arsenic.

Previous investigations of the Site have typically identified notable concentrations of TPH, PAHs and lead in soil as key CoPCs.

1.5 Stockpile Descriptions

The stockpiles considered in the report are:

- PS-Pb-SP1, consisting of an estimated 600 m^3 of soil and fill material. Field observations of this stockpile during sampling by Elgin noted anthropogenic materials in this stockpile, consisting of paper bag fragments, which are inferred to be from the soil remediation reagent mixing process undertaken by BlackCap (see **Section 4.4**), and glass and ceramic fragments, which are sourced from historical fill and backfill which make up this stockpile.
- PS-Pb-SP2, consisting of an estimated 250 m^3 of soil and fill material. Field observations of this stockpile during sampling by Elgin noted anthropogenic materials in this stockpile, consisting of

paper bag fragments, which are inferred to be from the soil remediation reagent mixing process undertaken by BlackCap (see **Section 4.4**), and glass, ceramic and brick fragments, which are sourced from historical fill and backfill which make up this stockpile. Material in this stockpile may also contain small fragments of Asbestos Containing Material (ACM) from the precursor stockpiles combined to form it, as discussed below.

Both stockpiles are currently situated on a sealed slab in the south-east corner of the Site



Plate 1 **PS-Pb-SP1, 1 September 2023 (photograph provided by Elgin)**



Plate 2 **PS-Pb-SP2, 1 September 2023 (photograph provided by Elgin)**

These stockpiles were combined from previous excavations stockpiles, as listed on **Table 2** below and combined for remediation and assessment by BlackCap. Stockpiles were assessed as suitable for lead stabilisation remediation, as described in **Section 2.0**, on the basis of initial assessment of soil samples collected by AECOM at the time of excavation.

Table 2 Source Stockpiles

Source Stockpile	Estimated Volume	Comment
PS-Pb-SP1		
OL_EX_SP1	250 m^3	Initial excavation of known area of lead above Site Specific Remediation Criteria.
OL_EX_SP2	100 m^3	
OL_EX_SP3	40 m^3	
OL_EX_SP6	60 m^3	Minor blue flecks noted in one portion as potential “Prussian Blue” by field staff.
OL_EX_SP7	15 m^3	
OL_EX_SP8	80 m^3	
PS-Pb-SP2		
OL_EX_SP4	50 m^3	Minor potential ACM fragments noted and removed by field staff
OL_EX_SP5	40 m^3	
DL_SP	205 m^3	Soil removed surrounding pipeline with ACM cladding.

The following was noted in assessment of initial stockpiles:

- DL_SP consisted of soil excavated during removal of a remnant pipeline which was clad with ACM. The cladding was reported in good condition during excavation of the pipeline, however during sampling, the occasional fragment of ACM was observed (shown on **Plate 3** below) and removed by AECOM field staff. As a precautionary measure, initial samples from this stockpile were assessed for asbestos fibres with none detected.



Plate 3 ACM Cladding Fragment (DL_SP)

- All OL_EX stockpiles (SP1 to SP6) were excavated from an area of detected lead concentrations in excess of 600 mg/kg, the Site Specific Remediation Criteria (RC) (AECOM, 2016). OL_EX_SP1 consisted of the initial excavation of this area, with OL_EX_SP2 to OL_SP_EX6 consisting of follow-up excavation and chase out of material. It is noted that the lead RC is less than the maximum allowable Level 1 – Fill total contaminant concentration (TCC) for lead.
- OL_EX_SP4 and OL_EX_SP5 each had one small piece of potential ACM noted and removed by field staff. No additional ACM was observed by BlackCap during excavation or handling of these stockpiles, or by AECOM staff during sampling of these or other stockpiles (with the exception of DL_SP discussed above). The excavated material consists of fill from historic backfilling for land reclamation, and occasional small fragments of ACM are not uncommon in fill of this nature for this or similar Sites.
- OL_EX_SP6 had a small amount of blue paint material in one area noted to be potential "Prussian Blue", a dark blue pigment historical used in paints with high levels of cyanide. The total volume observed is shown on **Plate 4** below.

  This material was removed and samples from this stockpile were assessed for cyanide in addition to other known CoPC for the area.



Plate 4 Blue Paint (Potential Prussian Blue) OL_EX_SP6

2.0 Stockpile Remediation

Based on detected contaminants within stockpiles, chemical immobilisation was selected as a potentially effective remediation technology to reduce lead leachate concentrations generated by waste soil and fill produced on the Site. Technology selection was conducted with reference to the *CRC CARE National Remediation Framework Technology guide: Bioremediation* (CRC CARE, 2018) and *CRC CARE National Remediation Framework Technology Guide: Soil – Chemical immobilisation and stabilisation* (CRC CARE, 2019).

Chemical immobilisation and stabilisation can be either ex situ or *in situ* remediation technology that involves mixing reagents into contaminated materials (such as soil or stockpiles) to alter their physical properties by the processes of sorption, precipitation or incorporation into crystal lattices, or by encapsulating the contaminants, with the objective of reducing the rate of contaminant migration via leaching (CRC CARE, 2019). This is achieved through the addition of reagents to the contaminated material in the presence of water, the aim of which is to induce chemical and physical conditions favourable for encapsulating contaminants and reducing their solubility from the contaminated materials matrix, such as the contaminant leachability from soil.

The treatment used at the Site utilised the following reagent and target ratios:

- 2% w/w single super phosphate (SSP)
- 3% w/w magnesium oxide (MgO)

Both SSP and MgO are commonly used agricultural fertilisers. The supplied SSP reacts with lead in soil to form pyromorphite, an insoluble and relatively stable lead mineral, and at pH of 4.0 or great, overall dissolution of less than 1% of lead has been reported in literature (Scheckel and Ryan, 2002). The MgO acts to buffer the treated material and maintain neutral to alkaline conditions (Shen et al, 2019).

Bench scale trials of chemical immobilisation of lead were conducted on Site soils (AECOM, 2020) and demonstrated that this technology was suitable for Site soils. It is noted that approximately 835 m^3 of lead impacted soil was treated and had lead leachate levels reduced to below the IB105 Level 2 total leachate concentration limits in late 2020 (AECOM, 2021).

Stockpile remediation by chemical immobilisation was approved by City of Hobart in Development Approval PLN-19-616.

3.0 Assessment Criteria

3.1 Data Quality Indicators

The laboratory data, including copies of the chain of custody (CoC) documentation, sample receipt notification (SRN) reports, quality control (QC) reports, and certificates of analysis are attached in **Appendix A**.

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the laboratory and field data include:

- Assessment of field duplicate sampling rates and reproducibility of the data by calculation of the relative percentage difference (RPD) for laboratory and field duplicate samples (both intra- and inter-laboratory) to provide an indication of the precision of the data.
- Assessment of the analytical results for laboratory quality control samples to provide an indication of the accuracy of the data.
- Assessment of a range of QC and quality assurance (QA) measures generated from both the field sampling and laboratory analytical programs.

Assessment criteria for DQIs for soil samples are listed below in **Table 3**. Assessment against DQIs is provided in **Section 5.3**, and in **Appendix B**.

Table 3 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate, Field and Trip blanks	Less than the laboratory Limit of Reporting (LOR)
Intra and inter laboratory field duplicates (1) (3)	RPD less than ± 30%
Laboratory duplicates (2) (3)	RPDs Less than: • 30% for high level laboratory duplicates (i.e., >20 x LOR) • 50% for medium level laboratory duplicates (i.e., 10 to 20 x LOR) • 200% for low level laboratory duplicates (i.e., 1 to 10 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%.
Surrogate spikes	Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for tests but are within the criteria described in USEPA Method SW846.

Notes:

1. *Potential exceptions to these criteria may occur where the results are close to the LOR. This typical RPD range is obtained Schedule B3 of the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM Schedule B3).*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous, and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*

3.2 Soil Categorisation (IB105 Guideline Values)

To assess and categorise the soil within the stockpiles, soil analytical results were screened against the criteria in Table 2 of TAS EPA IB105, which uses four categories to classify contaminated soil as:

- Level 1 (Fill Material)
- Level 2 (Low Level Contaminated Soil)
- Level 3 (Contaminated Soil)
- Level 4 (Contaminant Soil for Remediation).

Analytical data for soil total contaminant concentration (TCC) and leachable contaminant concentration (LCC), compared to the criteria presented in Table 2 of IB105, is presented in **Table T1** and **Table T2**, attached.

Excavated materials are required to be classified as Level 1 or Level 2 soils in accordance with IB105 to be considered for reuse.

3.3 Off-Site Reuse Criteria

Section 4.2 of IB105 notes that Level 2 – Low Level Contaminated Soil, may be suitable for use as intermediate covering material at nominated municipal landfills.

McRobies has proposed that, where no unacceptable human health or ecological risks are present, some stockpiles may be beneficially reused as a cover material for an old tip face within their facility. Stockpiles which may present an unacceptable risk will not be used in this scenario and will be disposed of as Low Level Contaminated Soil by McRobies.

The beneficial reuse scenario proposed by McRobies is summarised below:

- The excavated material will be transported off-Site by a contractor on behalf of the Corporation or the receiving Site. Reasonable precautions will be undertaken to ensure that no environmental or human health harm results from the movement of potentially contaminated materials between the sites. All truckloads will be tracked.
- The receiving site (McRobies) intends to use the soil as cover and levelling material on old land fill batters.
- Material will be immediately applied to the old tip face and levelled using an enclosed excavator or other mechanical methods. No manual works outside the machine are planned as part of the soil placement.
- McRobies will develop a Safe Work Method Statement (SWMS) for the placement of the soil which will include handling measures and personal protective equipment (PPE) requirements. The minimum PPE requirements for the work are gloves, long sleeves and pants, eye protection and face mask, and will include procedures (such as washing of hands before eating, drinking or smoking to remove any material) to reduce any potential exposure by McRobies staff while handling and placing material.
- A cover layer of clean fill and green waste will be placed over the imported material following levelling to prevent dust generation or contact with the soil.
- The areas of reuse are remote from members of the public or any staff outside excavators/machines.
- The area of reuse is unsaturated (i.e., above the water table).
- The material will not be stored by McRobies prior to use.
- If the soil is dry and generating dust when imported, wetting will be used to supress dust.
- No further excavation or disturbance of the area of use will take place following import of the material.
- McRobies has an EPA certified leachate capture and treatment system. Leachate from the area of reuse will be captured in a silt trap/holding basin prior to discharge to sewer.

Based on the off-Site reuse scenario described above, including the low potential for contact between the soil and site workers and lack of ecological receptors at the proposed reuse location, the ASC NEPM (2013) *National Environment Protection Council, National Environment Protection (Assessment*

of Site Contamination) Measure 1999 (as amended May 2013) Heath Investigation Levels (HILs) for Commercial / Industrial use (HIL-D) have been adopted for assessment of the material for reuse. Sample results from stockpiles considered for reuse are assessed against the ASC NEPM HIL-D criteria on **Table T1**.

The HIL-D criteria assume a level of exposure to impacted soil, specifically that adults on the receiving site may have direct contact with soil for one hour per day, 240 days per year, for 30 years. Under the proposed reuse scenario, contact with impacted soil at this frequency and duration is not likely to occur, and the HIL-D criteria are be considered conservative for assessment of the material.

4.0 Field Methodology and Data

4.1 Field Activities

The following field activities associated with this stockpile have been conducted:

Table 4 Field Activities

Date	Activity
27 February - 3 March 2023	Excavation of soil around remnant pipeline with ACM cladding and generation of stockpile DL_EX_SP by BlackCap.
7 March 2023	Initial stockpile sampling of DL_SP by AECOM.
28 March 2023	Follow-up sampling of DL_SP by AECOM to assess extent of detected lead impact.
27 – 31 March 2023	Initial excavation of soil with lead impacts in excess of Site Specific RC by BlackCap and generation of stockpile OL_EX_SP1.
3 April 2023	Stockpile sampling of OL_EX_SP1 by AECOM.
14 April – 12 May 2023	Additional excavation of lead impacted soil area and generation of stockpiles OL_EX_SP2 to OL_EX_SP6 by BlackCap
23 May 2023	Stockpile sampling of OL_EX_SP2 to OL_EX_SP6 by AECOM.
29 May – 2 June 2023	Additional excavation of lead impacted soil area and generation of stockpiles OL_EX_SP7 and OL_EX_SP8 by BlackCap
6 June 2023	Stockpile sampling of OL_EX_SP7 and OL_EX_SP8 by AECOM.
21 – 25 August 2023	Combination of stockpiles into PS-Pb-SP1 and PS-Pb-SP2 and chemical stabilisation remediation by BlackCap
1 September 2023	Stockpile sampling of PS-Pb-SP1 and PS-Pb-SP2 by Elgin.

A description of each activity carried out is provided below.

4.2 Soil Excavation and Stockpile Handling

The stockpiles assessed in this report were excavated by BlackCap between February and June 2023. Stockpiles were excavated and moved using a mechanical excavator and stored on an existing hardstand concrete slab adjacent to the area of excavation, the former SeaRoad Shed, to prevent mixing with surface soils. The stockpiles generally consisted of fill material, with some anthropogenic waste noted within the stockpile.

4.3 Sample Collection

Validation and categorisation sampling of individual stockpiles was undertaken by AECOM or Elgin field staff following the procedures in the Sampling, Analysis and Quality Plans (SAQPs) prepared for works. The general sampling methodology is summarised below:

- Nitrile gloves were used for the collection of each soil sample, and a new pair donned between each sample location.
- Samples were collected at a minimum rate of either :
  - 1 per 25 m^3 of soil as per IB105; or
  - Three primary samples per stockpile.
- Sample locations were uniformly distributed throughout the excavated material.
- Soil samples were collected manually using a hand auger/trowel or similar from a depth of >0.2 m below the stockpile surface.
- Soil samples were stored in laboratory supplied 150 mL decontaminated glass jars with Teflon™ lined lids, and immediately placed in an ‘esky’ cooler with ice during sample storage and transport to the selected analytical laboratory under chain of custody procedures.

Field notes collected by AECOM and Elgin during stockpile sampling are attached as **Appendix C**.

4.4 Stockpile Remediation

BlackCap was engaged by the Corporation undertake chemical lead immobilisation, as described in **Section 2.0**, for the remediation of lead impacted within the stockpiles.

The target reagent concentrations for stabilisation of lead impacts, based on previous remediation conducted on the Site, were:

- 2% w/w single super phosphate (SSP)
- 3% w/w magnesium oxide (MgO)

BlackCap estimated approximately 2,000 tonnes of soil. The soil being treated was spread at a uniform level across an intact slab on the Site, and 40 tonnes of SSP were spread using a computerised spreading truck and 60 tonnes of MgO were placed on a grid layout in 20 kg paper bags, or in small volumes from 1 tonne bulk bags, for uniform spread.

Soil and reagents were then mixed using a rotary mixer shown on **Plate 5** below, before being re-established in windrows for testing and storage.



Plate 5 Soil mixing of remediation reagents through soil (photograph provided by BlackCap)

5.0 Assessment of Results

5.1 Sample Density

The number of samples analysed, i.e., sample density, is assessed against stockpile volumes estimated by field staff as summarised in **Table 5** below.

Table 5 Sample Density Assessment

Date	Stockpile ID	Est. Volume (m^3)	Primary Samples	Sample Density (m^3 per primary sample)
PS-Pb-SP1				
Pre-Remediation				
3 April 2023	OL_EX_SP1	250	10	25
23 May 2023	OL_EX_SP2	100	4	25
	OL_EX_SP3	40	3	14
	OL_EX_SP6	60	3	20
6 June 2023	OL_EX_SP7	15	3	5
	OL_EX_SP8	75	3	25
Post-Remediation				
1 September 2023	PS-Pb-SP1	600	24	25
PS-Pb-SP2				
Pre-Remediation				
7 March 2023	DL_SP	200	10	20
28 March 2023	DL_SP[1]	205	10	20.5
23 May 2023	OL_EX_SP4	50	3	17
	OL_EX_SP5	40	3	14
Post-Remediation				
1 September 2023	PS-Pb-SP2	250	10	25

Note: [1]DL_SP was sampled a second time on 28 March 2023 to assess extent of detected lead impacts.

Sampling density from all stockpiles was greater than the sampling frequency of one primary sample per 25 m^3 recommended in IB105 for all sampling events, and a minimum of three primary samples were collected per stockpile. Samples were collected from a generally grid based distribution in material.

Some variances in volume estimates between sum of precursor (pre-remediation) stockpiles and final post-remediation stockpiles occurred. Field estimates of stockpile volumes were performed by field staff based on field observation and measurement of stockpile dimensions and have a degree of uncertainty due to irregularity in stockpile shape and surface height, and a degree of difference between stockpile volumes when measures at different times after stockpile movements or treatment is expected.

Overall, the sampling density is considered acceptable for the categorisation and assessment of these stockpiles.

5.2 Laboratory Analysis

Initial soil characterisation samples were submitted to the laboratories for the following analytical suites:

- EPA Tasmania IB105 analytical suite [excluding tributyltin (TBT)]
- TPH/TRH, BTEXN, PAHs, phenols and metals (lead)

30% or greater of the initial samples collected from each stockpile were analysed for the IB105 suite of contaminants, excluding TBT, with the remaining samples analysed for key CoPC which have been identified as part of previous Site works or as likely to occur due to previous Site uses. The analytical suite selected is considered to be adequate for the assessment of these stockpiles. Toxicity Characteristic Leaching Procedure (TCLP) analysis was conducted for targeted samples.

Additional assessment was conducted as follows:

- A second round of samples from DL_SP were analysed for lead (total contaminant concentration [TCC] and leachate contaminate concentration [LCC]) to assess extent of lead in the stockpile based on one initial detection.
- Analysis of all initial samples collected from DL_SP and OL_EX_SP4 for asbestos fibres, following reported small ACM fragments removed by field staff.
- Analysis of all primary samples from OL_EX_SP6 for cyanide following observation of a small area of blue spotting identified as potential Prussian Blue dye.

Following remediation, all samples were analysed for:

- Lead (TCC and LCC) to assess final concentrations and effectiveness of remediation.
- Polycyclic Aromatic Hydrocarbons (PAHs) (TCC and LCC) to assess final leachable concentrations of these CoPCs, as TCLP leachate of the CoPC was not conducted on some precursor stockpiles.

The laboratory certificates of analysis and QC reports, as well as copies of the CoC and SRN documentation are attached in **Appendix A**.

The laboratory analytical results are presented in **Table T1** and **Table T2**.

5.3 Quality Assurance / Quality Control

The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. QA/QC assessment of the analytical data and sampling methodology has been conducted by AECOM on the basis of discussion of the data collected by AECOM field staff, as well as discussion with Elgin and BlackCap staff. Samples were assessed against the DQIs discussed in **Section 3.1**. The detailed data validation report is presented in **Appendix B** and results are summarised below.

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Of a total of 883 RPD values, 56 RPD values (~6%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were predominantly associated with concentrations of PAHs and metals. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As approximately 94% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.
- Detectable concentrations of naphthalene and phenol were present in rinsate blank DL_QCB06, collected during sampling of DL_SP on 7 March 2023. The detected concentrations are not considered to affect the outcomes of interpretation of this data.
- Three secondary laboratory sample batches (978719, 993445, and 1023335) were received between 6.5 and 9.7ºC above the recommended temperature of 6ºC. The higher than recommended receipt temperatures are not expected to affect interpretation due to the attempts to chill noted and the periods of exposure to atmosphere and movement of stockpiles prior to sampling.
- Other laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from

recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals.

These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

5.4 Effectiveness of Remediation

Table 6 below summarises the reagent concentrations added to each stockpile and the estimated dosing amount for soil.

Table 6 Stockpile Remediation Reagent Assessment

Parameter		Value
Stockpile Volume (m^3)	PS-Pb-SP1	600
	PS-Pb-SP2	250
	TOTAL	**850**
Soil Density (tonne/m^3) (assumed based on fill consistency)		1.8
Soil mass (tonne)		1,530
SSP	Target Concentration ($\%^w/_w$)	2%
	Mass (tonne)	40
	Actual Concentration ($\%^w/_w$)	2.6%
MgO	Target Concentration ($\%^w/_w$)	3%
	Mass (tonne)	60
	Actual Concentration ($\%^w/_w$)	3.9%

The results of samples collected prior to and following remediation are presented on **Table T1** and **Table T2**, attached. The changes in lead TCC and LCC in treated material is summarised on **Table 7** below.

Table 7 Chemical Immobilisation of Lead Assessment

Parameter		Pre-Remediation[1]	Post-Remediation	% of Initial
PS-Pb-SP1				
Lead TCC (mg/kg)	Minimum	126	291	230%
	Maximum	2,340	1,200	51%
	Mean	746	736	99%
	Standard Deviation	520	167	32%
Lead LCC (mg/kg)	Minimum[2]	0.2	<0.1	<50%
	Maximum	1.3	0.4	31%
	Mean	0.49	0.13	27%
	Standard Deviation	0.28	0.08	29%

Parameter		Pre-Remediation[1]	Post-Remediation	% of Initial
PS-Pb-SP2				
Lead TCC[3] (mg/kg)	Minimum	120	454	378%
	Maximum	55,500 / 1,420	844	2% / 59%
	Mean	2,520 / 400	614	24% / 159%
	Standard Deviation	10,810 / 318	102	1% / 32%
Lead LCC (mg/kg)	Minimum	<0.1	<0.1	N/A
	Maximum	34.1 / 4.6	<0.1	<0.1% / <2%
	Mean	3.72 / 0.7	<0.1	<3% / <14%
	Standard Deviation	10.16 / 1.4	N/A	N/A

Notes: [1]It is noted that not all pre-remediation samples were analysed for lead LCC (discussed below) [2]Where results were reported below the LOR, they have conservatively been assumed to be at the LOR; [3]Maximum, mean and standard deviation for PS-Pb-SP2 pre-remediation were calculated included and excluding the sample at DL_SP-05 as discussed below. Results included DL_SP-05 are listed first on the table above.

The following is noted from assessment of remediation effectiveness:

- Reagent volumes added to stockpiles exceeded the estimated quantities and have an allowance for incomplete mixing. If areas of soil exist which have not been mixed with sufficient quantities of reagent, it is considered likely that there remain reagents in soil which can react with lead leachate if generated in future.
- Mean lead LCC was reduced to between 2 and 27% of pre-remediation samples.
- No lead LCC above the IB105 Level 2 – Low Level Contaminated Soil maximum LCC criteria was detected post-remediation.
- Minimum lead TCC increased, and maximum lead TCC decreased, for both stockpiles. This is considered likely to be due to a level of homogenisation which occurred during stockpile movement, mixing, and/or remediation. The standard deviation of lead TCC and lead LCC results decreased for both stockpiles, which also supports homogenisation of the stockpiles occurring.
- It is noted that not all pre-remediation samples were assessed for lead LCC. However, all pre-remediation samples with a lead TCC greater than the Level 2 – Low Level Contaminated Soil TCC criteria were assessed (i.e., soil with higher lead concentrations), and the calculated mean TCC for pre-remediation soils may be reported higher than present pre-remediation.
- Very high lead TCC and LCC were reported pre-remediation in sample DL_SP_05, collected from DL_SP, a precursor stockpile to PS-Pb-01. This detection is discussed further in **Section 5.5.1** below, however based on repeat sampling of the stockpile and interview with field staff it is not considered characteristic of the stockpile or to indicate an unacceptable risk of lead leachate. Comparison of results of remediation for PS-Pb-SP2 have been conducted with and without results from this sample location to assess remediation effectiveness with and without the influence of the outlier data point.

Based on the results of lead TCC and LCC pre- and post-remediation, chemical immobilisation of lead within PS-Pb-SP1 and PS-Pb-SP2 is considered successful.

5.5 Soil Categorisation

5.5.1 IB105 Categorisation

The soil analytical data collected, including soil TCC and LCC concentrations, compared to the guideline values presented in Table 2 of IB105 for categorisation are presented on **Table T1** and **Table T2**, attached, and summarised on **Table 8** below.

Table 8 Comparison to IB105 Criteria

Criteria	CoPC in Excess of TCC	CoPC in Excess of TCC
PS-Pb-SP1		
Pre-Remediation		
Level 1 - Fill	Benzo(a)pyrene, Sum of PAHs, Cyanide Total, Mercury, Arsenic, Barium, Chromium, Copper, Lead, Manganese, Tin, Zinc, TPH (C10-C36).	N/A
Level 2 – Low Level Contaminated Soil	Benzo(a)pyrene, Sum of PAHs, Lead	Lead
Level 3 – Contaminated Soil	Sum of PAHs	No exceedances
Post-Remediation		
Level 1 - Fill	Sum of PAHs, Cyanide Total, Fluoride, Mercury, Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Nickel, Tin, Zinc,	N/A
Level 2 – Low Level Contaminated Soil	Benzo(a)pyrene, Sum of PAHs, Lead	No exceedances
Level 3 – Contaminated Soil	No exceedances	No exceedances
PS-Pb-SP2		
Pre-Remediation		
Level 1 - Fill	Benzo(a)pyrene, Sum of PAHs, Mercury, Arsenic, Cadmium, Copper, Lead, Silver, Zinc, TPH (C10-C36).	N/A
Level 2 – Low Level Contaminated Soil	Benzo(a)pyrene, Sum of PAHs, Lead	No exceedances
Level 3 – Contaminated Soil	Lead	No exceedances
Post-Remediation		
Level 1 - Fill	Sum of PAHs, Cyanide Total, Fluoride, Mercury, Arsenic, Cadmium, Chromium, Copper, Lead, Tin, Zinc,	N/A
Level 2 – Low Level Contaminated Soil	Benzo(a)pyrene, Sum of PAHs,	No exceedances
Level 3 – Contaminated Soil	No exceedances	No exceedances

Notes: PAH – Polycyclic Aromatic Hydrocarbons; TPH – Total Petroleum Hydrocarbons

The following has been considered in categorisation of PS-Pb-SP1 and PS-Pb-SP2:

- Section 2 of IB015 notes that where LCC criteria are prescribed, they take generally take precedence over the TCC and should be used as the sole determinant of final classification for disposal.

  TCC of benzo(a)pyrene, Sum of PAHs, and lead exceeding the Level 2 – Low Level Contaminated Soil criteria were reported in pre- and post-remediation stockpiles. All samples collected from post-remediation stockpiles were assessed for LCC (or had the benzo(a)pyrene

Toxicity Equivalent Factor [TEQ] calculated in the case of Sum of PAHs) and reported results below the Level 2 LCC.

On this basis, the TCC concentrations above the Level 2 criteria are not considered to preclude classification of this material as Level 2 – Low Level Contaminated Soil

- One sample (DL_SP_05, collected 7 March 2023) from DL_SP, a precursor stockpile to PS-Pb-SP2, reported lead TCC in excess of the Level 3 – Contaminated Soil criteria. This result was confirmed by reanalysis of this sample by the analytical laboratory (ALS).

  The reported TCC and LCC are considered likely to indicate that there may have been a small piece of lead metal, or an alternative source of lead such as solder splatter, present in DL_SP at this location. As DL_SP had been moved before initial validation sample results were received, the area where DL_SP_05 was collected could not be inspected for a potential source. A second round of sampling from DL_SP was conducted on 23 March to:

  - Inspect the stockpile for any possible sources of the reported lead concentration (i.e., metal fragments, solder splatter etc).
  - Assess if lead impacts were widespread within the stockpile or had potentially been missed during initial sampling.

  No potential sources were observed during the second sampling event. No exceedances of the IB105 TCC were detected, although exceedances of the LCC were detected in samples DL_SP_15 and DL_SP_17. No exceedances of the Level 2 TCC or LCC were detected in post-remediation samples collected from PS-Pb-SP2 (with all lead LCC below the LOR of 0.1 µg/L).

  On this basis, it is not considered that the lead detected at DL_SP_05 is characteristic of the stockpile as a whole or that the reported concentrations at this location represent a potential ongoing source which would result in this stockpile being unsuitable to consider Level 2 – Low Level Contaminated Soil.

Based on the results of analysis and the considerations discussed above, it is considered suitable to classify both PS-Pb-SP1 and PS-Pb-SP2 as Level 2 – Low Level Contaminated Soil.

5.5.2 Off-Site Reuse Scenario

The soil analytical data collected, compared to the guideline values presented for HIL-D on Table 1A(1) of the ASC NEPM, is presented on **Table T1** attached, and summarised on **Table 8** below.

Table 9 Comparison to ASC NEPM HIL-D Criteria

Criteria	CoPC in Excess (Pre-Remediation)	CoPC in Excess (Post-Remediation)
PS-Pb-SP1	Lead	No exceedances
PS-Pb-SP2	Lead	No exceedances

The following has been considered in assessment of the suitability of the stockpiles for reuse as described in **Section 3.3**:

- Lead concentrations in excess of the HIL-D criteria (1,500 mg/kg) were reported in pre-remediation stockpiles as follows:
  - OL_EX_SP1, OL_EX_SP2 (precursor stockpiles to PS-Pb-SP1)
  - DL_SP_05 (precursor stockpile to PS-Pb-SP1)

  The reported lead TCC in excess of the HIL-D pre-remediation are not considered to preclude the proposed reuse scenario as:

  - As discussed in **Section 5.4**, comparison of pre- and post-remediation lead concentrations indicate that a level of homogenisation and reduction in maximum lead concentrations (as demonstrated by the lower standard deviation of results detected post-remediation) is considered likely to have occurred during movement, mixing or remediation of stockpiles,

and it is considered likely that areas of high lead concentrations have been mixed into surrounding soil and overall concentration decreased.

- The risk pathway for exposure to lead TCC is via inhalation or ingestion of impacted soil. Under the proposed reuse scenario, no long-term direct contact with soil is considered likely to occur due to the covering material, and a SWMS will be prepared by the receiving for handling and placement of the material to minimise potential exposure by their staff.
- As noted in **Section 3.3**, the assumptions used in the ASC NEPM to generate assume a high level and long term exposure to soil, and do not account for Personal Protective Equipment (PPE) such as gloves or procedures such as handwashing which can be used to reduce the risk of exposure and remove these risk pathways.
- No lead TCC in excess of the HIL-D was detected in the final categorisation samples collected post-remediation.

- No HIL-D criteria are presented in the ASC NEPM for benzo(a)pyrene or Sum of PAHs, which were also detected above the IB105 Level 2 TCC in the soil. Similar to the lead concentrations discussed above, the risk pathway from these CoPC is via inhalation or ingestion. Under the proposed reuse scenario in **Section 3.3**, potential risks to receiving site staff will be controlled via SWMS during handling and placement, and by the cover layer to be included in the long-term placement of material.
- Fragments of ACM were noted in precursor stockpiles to PS-Pb-SP2. Although all ACM fragments were removed by field staff where observed, the potential exists for fragments to exist within the soil. The potential ACM fragments are not considered to preclude offsite reuse under the proposed conditions in **Section 3.3**, as:
  - ACM observed was non-friable.
  - No asbestos fibres were detected in soil samples from the point of observation.
  - No areas of large quantities of bulk ACM, which may indicate large sheeting or fragments, were observed.

  Based on the observed quantities and overall volume and mass of the PS-Pb-SP2, the total volume of ACM is considered likely to be below the 0.05%$^{w}/_{w}$ criteria for asbestos in soil for commercial/industrial use provided in the ASC NEPM.

  Fragments of ACM are common to observe in industrial fill material and can often be managed in place without representing an unacceptable risk to site users. The proposed reuse scenario includes installation of a covering layer which, if greater than 10 cm, would be suitable for containment of ACM of the type observed during stockpile sampling, and is not considered to preclude reuse of PS-Pb-SP2 under the conditions described in **Section 3.3**.
- Some small areas of blue paint discolouration were noted at the source location of OL_EX_SP6, a precursor stockpile to PS-PB-SP1, and noted by field staff as potential Prussian Blue paint as discussed in **Section 1.5**.

  The total volume of blue paint observed was small and localised in a small volume removed from the stockpile and disposed of to a hazardous waste bin. No elevated cyanide (the CoPC for Prussian Blue paint/dye) were detected in samples from OL_EX_SP6, which were generally lower than reported in other samples assessed from the area, and it is considered likely that either:
  - The observed blue paint was not Prussian Blue; or
  - There was not sufficient material to impact the stockpile or represent an unacceptable risk to future uses.

  The blue-coloured material was removed from OL_EX_SP6 and was not observed in any other areas during sampling or movement of this or other stockpiles.

Based on the assessment above, PS-Pb-SP1 and PS-Pb-SP2 are considered suitable for reuse as cover material at McRobies Gully under the reuse scenario described in **Section 3.3**.

6.0 Conclusions and Recommendations

As part of the Precinct South remediation of the Macquarie Point site undertaken by BlackCap, two soil stockpiles were generated which have been considered in this report:

- PS-Pb-SP1, consisting of approximately 600 m^3 of soil and fill material.
- PS-Pb-SP2, consisting of approximately 250 m^3 of soil and fill material.

The following conclusions have been drawn from this assessment:

- The following exceedances of waste classification criteria from IB105 were detected in soil samples from the stockpiles:
  - Benzo(a)pyrene and Sum of PAHs were detected above the Level 2 and Level 3 TCC criteria. However, no exceedances of the benzo(a)pyrene or the benzo(a)pyrene TEQ were detected in precursor or in the categorisation samples collected from the final stockpiles.

    Section 2 of IB015 notes that where LCC criteria are prescribed, they take generally take precedence over the TCC and should be used as the sole determinant of final classification for disposal.
  - Exceedance of the Level 2 – Low Level Contaminated Soil LCC for lead was detected in soil from precursor samples for each stockpile. The stockpiles were treated to chemically stabilise lead with an estimated reagent dosing of:
    - 2.6% single super phosphate
    - 3.9% magnesium oxide

    Chemical stabilisation using these reagents binds leached lead into stable pyromorphite. Remediation of the stockpiles was assessed as successful and no exceedances of the lead LCC were reported in soil following treatment. Both reagents used are commonly used agricultural chemicals and are not considered to alter the risk profile of the stockpiles.
- The stockpiles were assessed against the ASC NEPM HIL-D, and for other observations during stockpile excavation and sampling, for suitability for reuse as cover material at the McRobies Gully Waste Management Centre, a municipal landfill. The following was observed or has been considered in assessing the stockpiles for reuse:
  - Lead concentrations in excess of the ASC NEPM HIL-D for lead were observed in precursor stockpiles combined to form PS-Pb-SP1 and PS-Pb-SP2. These detections are not considered to represent an unacceptable risk under the proposed reuse scenario as:
    - A degree of homogenisation and decrease of peak areas of lead concentration is considered likely to have occurred during movement, combination, and remediation of stockpiles.
    - Exposure to lead in soil can be managed by PPE, handling procedures, and the final conditions of reuse (including a surface layer) and does not represent an unacceptable risk if managed as described in the reuse scenario.
    - The NEPM HIL-D criteria assume a level of contact over a long period of time which is unlikely to occur under the proposed reuse scenario.
    - No lead TCC in excess of the HIL-D were detected in samples collected from the final stockpiles.
  - The NEPM HIL-D does not contain criteria for benzo(a)pyrene or Sum of PAHs, both of which reported TCC above the Level 2 – Low Level Contaminated Soil criteria. However, these CoPC are considered unlikely to represent a leachate risk, based on the TCLP LCC assessment conducted on stockpile samples, and the risk pathway from these CoPC is via inhalation or ingestion. Under the proposed reuse scenario potential risks to receiving site staff will be controlled via SWMS during handling and placement, and by the cover layer to be included in the long-term placement of material.

- Small, isolated fragments of ACM were observed and removed by field staff from precursor stockpiles of PS-Pb-SP2. The ACM observed is not considered to represent a risk to the proposed offsite reuse as:
    - ACM observed was non-friable and not observed in large quantities which may be indicative of large scale ACM disposal.
    - No asbestos fibres were detected in soil samples from the stockpiles.
    - Based on the quantities observed, the total ACM within PS-Pb-SP2 is considered unlikely to exceed the ASC NEPM non-friable asbestos criteria of 0.05%$^{w}/_{w}$ for commercial/industrial land.

  It is recommended a cover layer of at least 10 cm be placed over PS-Pb-SP2 to prevent any ACM fragments at or near the surface of the area of reuse of PS-Pb-SP2.

Based on this assessment, PS-Pb-SP1 and PS-Pb-SP2 can be classified as **Level 2 – Low Level Contaminated Soil** and are suitable for disposal as covering material at McRobies, under the conditions described below.

The following recommendations are made based on this assessment:

- The excavated material will be transported off-Site by a contractor on behalf of the Corporation or the receiving Site. Reasonable precautions will be undertaken to ensure that no environmental or human health harm results from the movement of potentially contaminated materials between the sites. All truckloads will be tracked.
- The receiving site (McRobies) intends to use the soil as cover and levelling material on old land fill batters.
- Material will be immediately applied to the old tip face and levelled using an enclosed excavator or other mechanical methods. No manual works outside the machine are planned as part of the soil placement.
- McRobies will develop a Safe Work Method Statement (SWMS) for the placement of the soil which will include handling measures and personal protective equipment (PPE) requirements. The minimum PPE requirements for the work are gloves, long sleeves and pants, eye protection and face mask, and will include procedures (such as washing of hands before eating, drinking or smoking to remove any material) to reduce any potential exposure by McRobies staff while handling and placing material.
- A cover layer of at least 10 cm clean fill and green waste will be placed over the imported material following levelling to prevent dust generation or contact with the soil.
- The areas of reuse are remote from members of the public or any staff outside excavators/machines.
- The area of reuse is unsaturated (i.e., above the water table).
- The material will not be stored by McRobies prior to use.
- If the soil is dry and generating dust when imported, wetting will be used to supress dust.
- No further excavation or disturbance of the area of use will take place following import of the material.
- McRobies has an EPA certified leachate capture and treatment system. Leachate from the area of reuse will be captured in a silt trap/holding basin prior to discharge to sewer.

Approval from EPA is required prior to the disposal of any material, and all material must be transported off Site by an appropriately licensed waste transporter. In the event that an alternative disposal methodology, be proposed or further treatment required, this waste management plan should be updated, or a new plan be prepared, by a suitably experienced environmental professional.

Yours faithfully



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7.0 References

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Figures

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LEGEND

Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2

Macquarie Point, Hobart, TAS

Figure

F1

Map Document: (\\aumel1fp001.au.aecomnet.com\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2020\06\LNAPL_Remediation_End-Points\F1_Site_Location.mxd)

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Tables

Table T1
Analytical Results - Total Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

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					Asbestos Identification in Soils						Benzo(a)pyrene-Waste	Hexavalent Chromium by	Moisture Content	PAH/Phenols (SIM)																														
					APPROVED IDENTIFIER:	Asbestos fibres	Total Asbestos	Asbestos (Trace)	Description	weight of sample	Benzo(a)pyrene	Chromium (hexavalent)	Moisture Content	3/4-Methylphenol (m/p-cresol)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(bδj)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol
					-	g/kg	-	Fibres	-	g	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1		5		0.01	0.05	0.5	0.1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil												3600			40[#1]	40[#1]	40[#1]																	4000[#2]	240000										
TAS Waste Classification Contaminated Soil Level 3											20	2000															20						200										
TAS Waste Classification Low Level Contaminated Soil Level 2											2	200															2						40										
TAS Waste Classification Guidelines - Fill Material Level 1											0.08	1															0.08						20										
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type																																							
PS-Pb-SP1																																											
Pre-Remediation Samples																																											
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2305901	Normal	1	0	1	0	1	157	8.97	<0.5	15.4	<1	9.3	9.3	9.3	8.8	2.2	0.8	2.4	1.4	18.8	15.8	6.7	3.6	7.7	-	6.6	13.2	4.7	1.1	4.1	104	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	10.1	<1	9.9	9.9	9.9	3.1	2.1	<0.5	2.3	0.8	9.2	11.9	6.6	3.9	6.5	6.8	6.3	10.8	3.9	1	3.4	78.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	5.56	<0.5	16.6	<1	8.9	8.9	8.9	1.2	2.3	<0.5	1.6	0.8	5.8	9.2	5.1	2.9	6	-	4.7	9.4	3.8	0.9	3.2	63.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	11.5	<1	6.1	6.1	6.1	1.3	1.2	<0.5	1	<0.5	4	6.6	3.7	1.8	4.7	4.2	3.6	6.7	2.8	0.6	2.3	44.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	20.1	<1	8.2	8.2	8.2	<0.5	1.8	<0.5	1.6	<0.5	6.3	10.7	4.9	2.5	6.3	5.7	4.8	9.9	3.5	0.7	3	61.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	14.3	<1	12.6	12.6	12.6	1.1	2.7	<0.5	2.7	0.8	14.2	18.5	8.7	4.8	9.2	8.3	8.3	17.9	5.8	1.4	5	109	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	7.5	<0.5	19.6	<1	7.8	7.8	7.8	0.6	1	<0.5	1.1	<0.5	5.2	8.5	4.8	3.1	5.5	-	4.6	8.4	3.7	0.9	3.1	55.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	15.3	<1	6.1	6.1	6.1	<0.5	1	<0.5	0.7	<0.5	2.6	5.4	3.5	2.3	4.2	4.2	3.4	5.6	2.7	0.6	2.3	38.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	10	<1	4.3	4	4.5	<0.5	0.8	<0.5	<0.5	<0.5	1	2.5	1.9	1.3	3	3.2	1.8	2.6	2.1	<0.5	1.7	21.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	1.25	<0.5	9.8	<1	2.1	1.8	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	1.8	1.2	0.6	1.5	-	1	1.9	0.8	<0.5	0.7	11.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	26.6	<1	5.9	5.9	5.9	2.8	0.9	<0.5	1.4	0.9	8.9	8.6	3.9	2.8	4	3.8	4	7.6	2.8	0.7	2.4	55.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	29.2	<1	3.5	3.2	3.8	3.1	0.6	<0.5	0.7	<0.5	4.9	4.8	2.3	1.2	3.1	2.4	2.4	4.2	1.8	<0.5	1.5	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	7.02	<0.5	11.3	<1	19	19	19	1	4.7	0.6	4.5	2.4	18.4	25.9	12.9	6	12.2	-	9.9	24.8	6.7	1.5	5.8	151	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	17.1	<1	5.7	5.7	5.7	<0.5	1	<0.5	0.7	<0.5	2.1	5.4	3.3	2.1	3.7	3.9	3	5.9	2.5	0.6	2.1	36.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	2.75	<0.5	16.7	<1	4.7	4.7	4.7	<0.5	0.8	<0.5	0.5	<0.5	2	3.9	2.6	1.6	3.4	-	2.5	4	2.2	0.5	1.8	29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	21	<1	6.4	6.4	6.4	<0.5	0.9	<0.5	0.8	<0.5	2.9	5.6	3.7	2.1	4.7	4.5	3.5	5.8	2.8	0.6	2.3	40.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	3.57	<0.5	12.5	<1	7.8	7.8	7.8	<0.5	1.3	<0.5	1	<0.5	4.9	8.6	5	2.7	6.1	-	4.8	8.6	3.5	0.8	2.9	55.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	19.8	<1	7.5	7.5	7.5	<0.5	0.7	<0.5	1	<0.5	3.6	7.4	5.2	2.2	5	4.8	5.6	7.8	4.2	1	3.7	52.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	0.42	<0.5	15.2	<1	3.3	3	3.5	<0.5	0.6	<0.5	<0.5	<0.5	0.7	2.3	1.8	1.1	2.7	-	1.9	2.7	2	<0.5	1.5	19.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	14.5	<1	4.2	4	4.5	<0.5	0.7	<0.5	0.6	<0.5	1.5	3.9	2.3	1.7	2.7	3.1	2	4	1.9	<0.5	1.6	26	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP2_01	OL_EX_SP2_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	25.9	<1	6.2	6.2	6.2	<0.5	0.8	<0.5	1.2	<0.5	2.2	7.4	4	1.9	6.3	3.8	4.1	6.9	3.4	0.8	3	45.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP2_02	OL_EX_SP2_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	15.4	<1	5.2	5.2	5.2	0.5	0.7	<0.5	0.8	<0.5	2.1	5.3	2.9	1.6	4	3.6	2.5	5.8	2.5	0.5	2.1	34.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP2_03	OL_EX_SP2_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	12.7	<1	5.9	5.9	5.9	<0.5	0.7	<0.5	0.9	<0.5	2.4	6	3.4	1.7	4.3	4.1	3.1	6.4	2.7	0.6	2.3	38.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP2_04	OL_EX_SP2_04	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	21.4	<1	2.5	2.2	2.7	0.6	<0.5	<0.5	0.5	<0.5	1.9	3	1.5	1	2.3	1.6	1.4	2.7	1.4	<0.5	1.1	19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP3_01	OL_EX_SP3_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	15.5	<1	9.3	9.3	9.3	0.9	1.5	<0.5	2	<0.5	5.1	11.2	5.6	2.9	7.2	6.3	5.1	11.4	4.5	1	3.7	68.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP3_02	OL_EX_SP3_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	17.2	<1	9.1	9.1	9.1	2.4	1.4	<0.5	1.9	0.6	9.6	11.2	6.3	2.5	8.7	5.9	5.6	10.7	4.3	1	3.6	75.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP3_03	OL_EX_SP3_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	21.2	<1	19.2	19.2	19.2	8	3.7	1	5.8	2.6	35.3	32.8	16	7.8	18.8	11.6	14	29	9.2	2.3	8.3	206	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP6_01	OL_EX_SP6_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	20.4	<1	3.4	3.2	3.7	<0.5	0.5	<0.5	<0.5	<0.5	1	2.4	1.7	1.3	2.8	2.4	1.6	2.5	2	<0.5	1.6	19.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP6_02	OL_EX_SP6_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	23.9	<1	3.8	3.6	4.1	<0.5	0.5	<0.5	0.7	<0.5	1.7	3.5	2.1	1.5	3.2	2.7	2	3.5	2.2	<0.5	1.8	25.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP6_03	OL_EX_SP6_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	-	-	22.8	<1	3.8	3.6	4.1	<0.5	0.6	<0.5	0.6	<0.5	1.6	3.7	2.2	1.3	3.2	2.7	2	3.7	2	<0.5	1.7	25.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310229	Normal	-	-	-	-	-	-	-	-	11.7	<1	5.1	5.1	5.1	<0.5	0.8	<0.5	0.6	<0.5	2	4.4	2.8	1.4	4	3.5	2.6	4.8	2.1	0.6	1.8	31.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310229	Normal	-	-	-	-	-	-	-	-	15.9	<1	10.1	10.1	10.1	<0.5	1	<0.5	1.5	<0.5	5.2	9.9	5.9	2.5	8	6.9	5.6	10.3	4.3	1.1	3.8	66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310229	Normal	-	-	-	-	-	-	-	-	15.9	<1	8.7	8.7	8.7	<0.5	1.1	<0.5	1.3	<0.5	4.1	9	5.4	2.2	6.8	6	4.8	9.4	3.5	0.9	3.1	57.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310229	Normal	-	-	-	-	-	-	-	-	16.1	<1	9.2	9.2	9.2	1.8	1	<0.5	0.9	<0.5	2.4	7.2	4.8	2.8	6.7	6.3	4.2	7.1	4.2	1	3.6	54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310229	Normal	-	-	-	-	-	-	-	-	17.3	<1	8.5	8.5	8.5	<0.5	0.9	<0.5	0.9	<0.5	2.9	7.4	4.9	2.3	6.9	5.8	4.6	7.4	3.7	0.9	3.2	51.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310229	Normal	-	-	-	-	-	-	-	-	26.5	<1	23.9	23.9	23.9	0.9	2.2	<0.5	3	0.5	7	20.7	13.8	6	19.4	16.4	13	21.2	9.9	2.5	8.9	145	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Remediation Samples																																										
PS-Pb-SP1-1	PS-Pb-SP1-1	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	5.78	<0.5	-	<1	7.3	7.3	7.3	1.8	0.7	<0.5	1	0.5	6.1	8.4	5	2	6.6	-	4.4	7.6	3.2	0.7	2.6	55.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PS-Pb-SP1-2	PS-Pb-SP1-2	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	8	8	8	1.5	0.9	<0.5	1.3	0.6	6.7	9.3	4.8	2.7	6.9	5.4	4.8	9.1	3.8	0.8	3.1	61.7	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-3	PS-Pb-SP1-3	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	6.9	6.9	6.9	0.8	0.7	<0.5	0.9	<0.5	4.3	7.1	3.9	2.2	5.8	4.7	4	7	3.3	0.7	2.7	48.1	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-4	PS-Pb-SP1-4	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	4.43	<0.5	-	<1	6.1	6.1	6.1	1.3	0.7	<0.5	1	<0.5	5.5	7.6	4.4	2	4.9	-	3.8	7.1	2.8	0.6	2.3	48.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PS-Pb-SP1-5	PS-Pb-SP1-5	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	6.1	6.1	6.1	0.6	0.7	<0.5	0.9	<0.5	4.1	7	3.8	1.8	5.2	4.1	3.7	6.9	2.6	0.6	2.2	44.2	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-6	PS-Pb-SP1-6	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	4.72	<0.5	-	<1	6.9	6.9	6.9	1	0.9	<0.5	1.4	<0.5	5.9	9.3	5.1	1.9	6.2	-	4.2	8.6	2.8	0.6	2.4	55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PS-Pb-SP1-7	PS-Pb-SP1-7	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	5.3	5.3	5.3	0.5	0.6	<0.5	0

Table T1
Analytical Results - Total Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

AECOM

| | | | | | | | | | | | | PAH/Phenols (SIM) | | | | | | | | | | | |

Table T1
Analytical Results - Total Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

AECOM

					Pesticides by GCMS																								Polychlorinated Biphenyls (PCB)	TCLP			Total Cyanide by Segmented	Total Fluoride	Total Mercury by FIMS	
					Pentachlorophenol	Sum of Phenols	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Polychlorinated Biphenyls	pH (Final)	pH (Initial)	pH (after HCL)	Cyanide Total	Fluoride	Mercury	Arsenic
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg
EQL					2	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1	0.1	0.1	0.1	1	40	0.1	5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					**660**				**45**							**530**				**3600**	**2000**				**100**			**50**		**80**	**2500**	**7**[#3]						**730**[#4]	**3000**[#5]
TAS Waste Classification Contaminated Soil Level 3									50											1000												50				2500	10000	110	750
TAS Waste Classification Low Level Contaminated Soil Level 2									20											200												20				1000	3000	30	200
TAS Waste Classification Guidelines - Fill Material Level 1									2											2												2				32	300	1	20
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																																		
PS-Pb-SP1																																						
Pre-Remediation Samples																																						
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	232	80	0.9	12
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	8.7	1.6	-	-	-	-
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9	1.6	-	-	-	-
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	87	70	1.2	10
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.3	1.6	-	-	-	-
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9	1.6	-	-	-	-
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	8.6	1.6	-	-	-	-
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	8.7	1.6	-	-	-	-
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	296	50	2.2	15
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	8.8	1.6	-	-	-	-
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.2	1.5	-	-	-	-
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.6	1.5	-	-	-	-
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	14	120	1.8	12
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	9.6	1.5	-	-	-	-
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	8.3	1.6	-	-	-	-
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8.9	1.6	-	-	-	-
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	64	70	0.6	9
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	9.2	1.6	-	-	-	-
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.2	1.6	-	-	-	-
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	61	40	5.4	18
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	8.8	1.7	-	-	-	-
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	8.8	1.7	-	-	-	-
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	106	80	1.8	11
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	8.6	1.7	-	-	-	-
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	8.5	1.6	-	-	-	-
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2305901	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	-	-	-	<1	50	0.7	15
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.1	1.7	-	-	-	-
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2305901	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	9	1.9	-	-	-	-
OL_EX_SP2_01	OL_EX_SP2_01	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP2_02	OL_EX_SP2_02	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP2_03	OL_EX_SP2_03	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP2_04	OL_EX_SP2_04	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP3_01	OL_EX_SP3_01	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP3_02	OL_EX_SP3_02	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP3_03	OL_EX_SP3_03	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP6_01	OL_EX_SP6_01	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
OL_EX_SP6_02	OL_EX_SP6_02	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
OL_EX_SP6_03	OL_EX_SP6_03	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310229	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	7
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	9.7	1.6	-	-	-	-
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310229	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	7
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	9.8	1.6	-	-	-	-
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310229	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	6
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.9	1.6	-	-	-	-
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310229	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	10	1.6	-	-	-	-
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310229	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	54
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	9.8	1.6	-	-	-	-
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310229	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	15
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.2	1.6	-	-	-	-
Post-Remediation Samples																																						
PS-Pb-SP1-1	PS-Pb-SP1-1	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	6.5	9.9	1.5	155	370	1.7	16
PS-Pb-SP1-2	PS-Pb-SP1-2	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	10	1.4	-	-	-	-
PS-Pb-SP1-3	PS-Pb-SP1-3	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	10.1	1.9	-	-	-	-
PS-Pb-SP1-4	PS-Pb-SP1-4	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	8.3	10.2	1.6	161	270	1.5	15
PS-Pb-SP1-5	PS-Pb-SP1-5	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8	10.4	1.8	-	-	-	-
PS-Pb-SP1-6	PS-Pb-SP1-6	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	8.2	10.2	1.4	156	380	1	13
PS-Pb-SP1-7	PS-Pb-SP1-7	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	10.3	1.7	-	-	-	-
PS-Pb-SP1-8	PS-Pb-SP1-8	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	10.3	1.5	-	-	-	-

Table T1
Analytical Results - Total Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

AECOM

					Pesticides by GCMS																									Polychlorinated Biphenyls (PCB)	TCLP			Total Cyanide by Segmented	Total Fluoride	Total Mercury by FIMS	
					Pentachlorophenol	Sum of Phenols	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Polychlorinated Biphenyls	pH (Final)	pH (Initial)	pH (after HCL)	Cyanide Total	Fluoride	Mercury	Arsenic
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	pH Units	pH Units	mg/kg	mg/kg	mg/kg	mg/kg
EQL					2	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1	0.1	0.1	0.1	1	40	0.1	5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					660				45							530				3600	2000				100			50		80	2500	7[#3]						730[#4]	3000[#5]
TAS Waste Classification Contaminated Soil Level 3									50											1000												50				2500	10000	110	750
TAS Waste Classification Low Level Contaminated Soil Level 2									20											200												20				1000	3000	30	200
TAS Waste Classification Guidelines - Fill Material Level 1									2											2												2				32	300	1	20
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																																		
PS-Pb-SP1-9	PS-Pb-SP1-9	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	8.2	10.3	1.7	91	1040	1.7	26
PS-Pb-SP1-10	PS-Pb-SP1-10	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	10.4	2	-	-	-	-
PS-Pb-SP1-11	PS-Pb-SP1-11	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	10.6	5.6	-	-	-	-
PS-Pb-SP1-12	PS-Pb-SP1-12	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	5	10.2	5.5	84	560	1.3	20
PS-Pb-SP1-13	PS-Pb-SP1-13	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	10.4	5.7	-	-	-	-
PS-Pb-SP1-14	PS-Pb-SP1-14	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	10.4	5.7	-	-	-	-
PS-Pb-SP1-15	PS-Pb-SP1-15	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	10.5	5.6	-	-	-	-
PS-Pb-SP1-16	PS-Pb-SP1-16	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	5.4	10.4	5.8	75	580	1.5	21
PS-Pb-SP1-17	PS-Pb-SP1-17	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	10.3	5.5	-	-	-	-
PS-Pb-SP1-18	PS-Pb-SP1-18	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	10.4	5.5	-	-	-	-
PS-Pb-SP1-19	PS-Pb-SP1-19	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	10.5	5.6	-	-	-	-
PS-Pb-SP1-20	PS-Pb-SP1-20	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	8.7	10.5	5.6	79	580	1.7	13
PS-Pb-SP1-21	PS-Pb-SP1-21	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	10.3	5.4	-	-	-	-
PS-Pb-SP1-22	PS-Pb-SP1-22	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9	10.4	5.4	-	-	-	-
PS-Pb-SP1-23	PS-Pb-SP1-23	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	7.7	10.4	5.5	134	430	1.8	15
PS-Pb-SP1-24	PS-Pb-SP1-24	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	10.3	5.4	-	-	-	-
PS-Pb-SP2																																						
Pre-Remediation Samples																																						
DL_SP_01	DL_SP_01	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	7
DL_SP_01	DL_SP_01	7/03/2023	EM2304580	Normal	-	-	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.2	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.1	5.3	9.8	1.7	1	140	-	-
DL_SP_02	DL_SP_02	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	123
DL_SP_02	DL_SP_02	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	9.7	1.7	-	-	-	-
DL_SP_03	DL_SP_03	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	73
DL_SP_03	DL_SP_03	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	9.4	1.5	-	-	-	-
DL_SP_04	DL_SP_04	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	29
DL_SP_04	DL_SP_04	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_05	DL_SP_05	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	151
DL_SP_05	DL_SP_05	7/03/2023	EM2304580	Normal	-	-	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.2	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.1	5.7	9.4	1.9	<1	120	-	-
DL_SP_05	DL_SP_05	7/03/2023	EM2305511	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	9	1.3	-	-	-	-
DL_SP_06	DL_SP_06	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	58
DL_SP_06	DL_SP_06	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	9.3	1.7	-	-	-	-
DL_SP_07	DL_SP_07	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	59
DL_SP_07	DL_SP_07	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	9.2	1.8	-	-	-	-
DL_SP_08	DL_SP_08	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	38
DL_SP_08	DL_SP_08	7/03/2023	EM2304580	Normal	-	-	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.2	<0.05	-	-	-	-	-	-	-	-	-	-	-	<0.1	5.3	9.3	1.8	2	130	-	-
DL_SP_09	DL_SP_09	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	24
DL_SP_09	DL_SP_09	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	8.9	1.7	-	-	-	-
DL_SP_10	DL_SP_10	7/03/2023	EM2304035	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	48
DL_SP_10	DL_SP_10	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.6	1.7	-	-	-	-
DL_SP_11*	DL_SP_11*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.5	1.5	-	-	-	-
DL_SP_12*	DL_SP_12*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.5	1.6	-	-	-	-
DL_SP_13*	DL_SP_13*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.7	1.6	-	-	-	-
DL_SP_14*	DL_SP_14*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.7	1.6	-	-	-	-
DL_SP_15*	DL_SP_15*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.5	1.7	-	-	-	-
DL_SP_16*	DL_SP_16*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	9.6	1.6	-	-	-	-
DL_SP_17*	DL_SP_17*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.7	1.7	-	-	-	-
DL_SP_18*	DL_SP_18*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.7	1.6	-	-	-	-
DL_SP_19*	DL_SP_19*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	9.7	1.7	-	-	-	-
DL_SP_20*	DL_SP_20*	28/03/2023	EM2305446	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	9.6	1.6	-	-	-	-
OL_EX_SP4_01	OL_EX_SP4_01	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP4_02	OL_EX_SP4_02	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP4_03	OL_EX_SP4_03	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP5_01	OL_EX_SP5_01	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP5_02	OL_EX_SP5_02	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP5_03	OL_EX_SP5_03	23/05/2023	EM2309346	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Remediation Samples																																						
PS-Pb-SP2-1	PS-Pb-SP2-1	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	8.1	10.5	5.5	60	830	1.3	17
PS-Pb-SP2-2	PS-Pb-SP2-2	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	10.4	5.5	-	-	-	-
PS-Pb-SP2-3	PS-Pb-SP2-3	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	9.9	1.9	-	-	-	-
PS-Pb-SP2-4	PS-Pb-SP2-4	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	10.3	1.9	-	-	-	-
PS-Pb-SP2-5	PS-Pb-SP2-5	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	7.4	10.3	1.7	19	400	0.8	47
PS-Pb-SP2-6	PS-Pb-SP2-6	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	10.4	1.7	-	-	-	-
PS-Pb-SP2-7	PS-Pb-SP2-7	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	10.4	5.5	-	-	-	-
PS-Pb-SP2-8	PS-Pb-SP2-8	1/09/2023	EM2315815	Normal	<2	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	5.3	10.5	5.6	8	1340	0.6	50
PS-Pb-SP2-9	PS-Pb-SP2-9	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	10.5	5.5	-	-	-	-
PS-Pb-SP2-10	PS-Pb-SP2-10	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	10.4	5.6	-	-	-	-

Comments
* Samples collected from second sampling round of stockpile DL_SP
#1:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc
#2:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider pre
#3:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a sit
#4:Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be cons
#5:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be
#6:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioav

Table T1
Analytical Results - Total Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

AECOM

					Total Metals by ICP-AES														TRH - Semivolatile Fraction									TRH Volatiles/BTEX										
					Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					10	1	1	2	2	5	5	5	2	2	5	2	5	5	50	100	100	50	50	50	100	100	50	1	10	10	10	0.2	0.5	0.5	0.5	0.5	0.5	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						500	900		4000	240000	1500[#6]	60000		6000	10000			400000																				
TAS Waste Classification Contaminated Soil Level 3					30000	400	400	5000	1000	7500	3000	25000	4000	3000	200	720	900	50000				10000							1000			50	1000	1080			1800	
TAS Waste Classification Low Level Contaminated Soil Level 2					3000	40	40	500	200	2000	1200	5000	1000	600	50	180	500	14000				5000							650			5	100	100			180	
TAS Waste Classification Guidelines - Fill Material Level 1					300	2	3	50	100	100	300	500	10	60	10	10	50	200				1000							65			1	1	3			14	
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type																																		
PS-Pb-SP1																																						
Pre-Remediation Samples																																						
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2305901	Normal	190	<1	<1	105	12	558	698	251	<2	65	<5	<2	49	582	150	920	520	1590	200	200	1260	230	1690	2	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	404	-	-	-	-	-	-	-	80	920	580	1580	130	130	1330	240	1700	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2305901	Normal	220	<1	<1	17	10	218	449	221	<2	20	<5	<2	55	902	<50	540	460	1000	<50	<50	900	210	1110	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	900	-	-	-	-	-	-	-	<50	710	610	1320	<50	<50	1180	270	1450	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	2020	-	-	-	-	-	-	-	<50	740	590	1330	<50	<50	1190	260	1450	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	494	-	-	-	-	-	-	-	<50	360	230	590	<50	<50	510	120	630	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2305901	Normal	310	<1	<1	157	10	556	706	283	<2	29	<5	<2	87	565	<50	250	180	430	<50	<50	380	<100	380	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	823	-	-	-	-	-	-	-	<50	390	300	690	<50	<50	600	160	760	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	428	-	-	-	-	-	-	-	<50	120	120	240	<50	<50	210	<100	210	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2305901	Normal	100	<1	<1	16	12	97	197	346	<2	21	<5	<2	18	223	<50	<100	<100	<50	<50	<50	160	<100	160	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	1740	-	-	-	-	-	-	-	<50	460	240	700	70	70	620	<100	690	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	1080	-	-	-	-	-	-	-	<50	280	200	480	<50	<50	420	<100	420	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2305901	Normal	230	<1	<1	14	14	151	365	1070	<2	20	<5	<2	23	364	<50	870	630	1500	<50	<50	1350	270	1620	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	693	-	-	-	-	-	-	-	<50	480	410	890	<50	<50	800	210	1010	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2305901	Normal	260	<1	<1	23	10	960	1100	313	<2	30	<5	<2	91	1560	<50	350	250	600	<50	<50	540	130	670	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	705	-	-	-	-	-	-	-	<50	290	230	520	<50	<50	460	110	570	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2305901	Normal	210	<1	<1	38	10	241	527	248	<2	23	<5	<2	54	386	<50	350	260	610	<50	<50	540	120	660	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	868	-	-	-	-	-	-	-	<50	480	280	760	<50	<50	670	130	800	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2305901	Normal	780	1	1	22	28	815	1890	591	<2	44	<5	<2	141	1250	<50	180	170	350	<50	<50	310	<100	310	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2305901	Normal	-	-	-	-	-	-	666	-	-	-	-	-	-	-	<50	110	120	230	<50	<50	200	<100	200	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2306516	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP2_01	OL_EX_SP2_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	993	-	-	-	-	-	-	-	<50	120	100	220	<50	<50	200	<100	200	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP2_02	OL_EX_SP2_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	739	-	-	-	-	-	-	-	<50	270	200	470	<50	<50	400	<100	400	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP2_03	OL_EX_SP2_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	548	-	-	-	-	-	-	-	<50	270	240	510	<50	<50	440	<100	440	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP2_04	OL_EX_SP2_04	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	2340	-	-	-	-	-	-	-	<50	270	250	520	<50	<50	450	120	570	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP3_01	OL_EX_SP3_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	208	-	-	-	-	-	-	-	60	400	220	680	100	100	520	<100	620	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP3_02	OL_EX_SP3_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	559	-	-	-	-	-	-	-	120	640	300	1060	170	170	800	120	1090	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP3_03	OL_EX_SP3_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	297	-	-	-	-	-	-	-	420	1230	420	2070	470	470	1430	130	2030	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP6_01	OL_EX_SP6_01	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	757	-	-	-	-	-	-	-	<50	120	120	240	<50	<50	210	<100	210	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP6_02	OL_EX_SP6_02	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	541	-	-	-	-	-	-	-	70	200	170	440	70	70	330	<100	400	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP6_03	OL_EX_SP6_03	23/05/2023	EM2309346	Normal	-	-	-	-	-	-	758	-	-	-	-	-	-	-	130	190	140	460	130	130	280	<100	410	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310229	Normal	-	-	<1	10	-	109	126	-	-	17	-	-	-	324	<50	230	240	470	<50	<50	400	130	530	<1	10	12	12	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310229	Normal	-	-	<1	12	-	122	141	-	-	20	-	-	-	475	<50	230	200	430	<50	<50	380	110	490	<1	<10	11	11	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310229	Normal	-	-	<1	15	-	159	144	-	-	24	-	-	-	382	<50	320	290	610	<50	<50	530	150	680	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310229	Normal	-	-	<1	12	-	144	532	-	-	17	-	-	-	639	710	260	210	1180	680	680	400	100	1180	2	16	58	58	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310229	Normal	-	-	<1	34	-	173	814	-	-	22	-	-	-	562	<50	260	250	510	<50	<50	450	110	560	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310229	Normal	-	-	<1	177	-	185	585	-	-	20	-	-	-	691	<50	420	380	800	<50	<50	710	160	870	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310878	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Remediation Samples																																						
PS-Pb-SP1-1	PS-Pb-SP1-1	1/09/2023	EM2315815	Normal	330	<1	1	72	14	357	861	326	<2	39	<5	<2	226	698	50	430	270	750	70	70	610	100	780	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
PS-Pb-SP1-2	PS-Pb-SP1-2	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-3	PS-Pb-SP1-3	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-4	PS-Pb-SP1-4	1/09/2023	EM2315815	Normal	260	<1	2	43	14	216	814	297	<2	36	<5	<2	73	569	<50	330	220	550	70	70	470	<100	540	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
PS-Pb-SP1-5	PS-Pb-SP1-5	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-6	PS-Pb-SP1-6	1/09/2023	EM2315815	Normal	230	<1	5	61	13	180	491	315	<2	41	<5	<2	58	493	<50	380	260	640	60	60	560	110	730	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
PS-Pb-SP1-7	PS-Pb-SP1-7	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	657	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-8	PS-Pb-SP1-8	1/09/2023	EM2315815	Normal	-	-	-	-	-	-	701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1
Analytical Results - Total Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

AECOM

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Table T2
Analytical Results - Leachate Contaminant Concentration
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

						Leachable Metals by ICPAES	PAH/Phenols (GC/MS - SIM)															PAHs (GC/MS - SIM) Low-Level														
						Lead	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs
						mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
EQL						0.1	0.5	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
TAS Waste Classification Contaminated Soil Level 3 TCLP						5	5											5							5										5					
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP						0.5	0.5											0.5							0.5										0.5					
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																																			
PS-Pb-SP1																																							
Pre-Remediation Samples																																							
OL_EX_SP1_01	OL_EX_SP1_01	3/04/2023	EM2306516	Normal	0.3	<0.5	17.3	<1	<1	<1	<1	3.1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	20.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_02	OL_EX_SP1_02	3/04/2023	EM2306516	Normal	0.4	<0.6	4	<1	<1	<1	<1	1.3	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_03	OL_EX_SP1_03	3/04/2023	EM2306516	Normal	0.4	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_04	OL_EX_SP1_04	3/04/2023	EM2306516	Normal	0.5	<0.6	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_05	OL_EX_SP1_05	3/04/2023	EM2306516	Normal	0.4	<0.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_06	OL_EX_SP1_06	3/04/2023	EM2306516	Normal	0.3	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_07	OL_EX_SP1_07	3/04/2023	EM2306516	Normal	1	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_08	OL_EX_SP1_08	3/04/2023	EM2306516	Normal	0.4	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_09	OL_EX_SP1_09	3/04/2023	EM2306516	Normal	0.4	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_10	OL_EX_SP1_10	3/04/2023	EM2306516	Normal	0.2	<0.6	<1	<1	<1	<1	<1	1.4	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_11	OL_EX_SP1_11	3/04/2023	EM2306516	Normal	1.3	<0.6	1.4	<1	<1	<1	<1	1.1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_12	OL_EX_SP1_12	3/04/2023	EM2306516	Normal	0.5	<0.6	2.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_13	OL_EX_SP1_13	3/04/2023	EM2306516	Normal	0.4	<0.6	1.5	<1	<1	<1	1	3.2	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_14	OL_EX_SP1_14	3/04/2023	EM2306516	Normal	0.4	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_15	OL_EX_SP1_15	3/04/2023	EM2306516	Normal	0.8	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_16	OL_EX_SP1_16	3/04/2023	EM2306516	Normal	0.4	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_17	OL_EX_SP1_17	3/04/2023	EM2306516	Normal	0.4	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_18	OL_EX_SP1_18	3/04/2023	EM2306516	Normal	0.2	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_19	OL_EX_SP1_19	3/04/2023	EM2306516	Normal	0.8	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP1_20	OL_EX_SP1_20	3/04/2023	EM2306516	Normal	0.2	<0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_01	OL_EX_SP7_01	7/06/2023	EM2310878	Normal	-	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_02	OL_EX_SP7_02	7/06/2023	EM2310878	Normal	-	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP7_03	OL_EX_SP7_03	7/06/2023	EM2310878	Normal	-	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_01	OL_EX_SP8_01	7/06/2023	EM2310878	Normal	-	<0.5	1.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_02	OL_EX_SP8_02	7/06/2023	EM2310878	Normal	-	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_SP8_03	OL_EX_SP8_03	7/06/2023	EM2310878	Normal	-	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Remediation Samples																																							
PS-Pb-SP1-1	PS-Pb-SP1-1	1/09/2023	EM2315815	Normal	<0.1	<0.5	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-2	PS-Pb-SP1-2	1/09/2023	EM2315815	Normal	<0.1	<0.5	3.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-3	PS-Pb-SP1-3	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-4	PS-Pb-SP1-4	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-5	PS-Pb-SP1-5	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-6	PS-Pb-SP1-6	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-7	PS-Pb-SP1-7	1/09/2023	EM2315815	Normal	0.4	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-8	PS-Pb-SP1-8	1/09/2023	EM2315815	Normal	<0.1	<0.5	2.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-9	PS-Pb-SP1-9	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-10	PS-Pb-SP1-10	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-11	PS-Pb-SP1-11	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-12	PS-Pb-SP1-12	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-13	PS-Pb-SP1-13	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-14	PS-Pb-SP1-14	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-15	PS-Pb-SP1-15	1/09/2023	EM2315815	Normal	0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-16	PS-Pb-SP1-16	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-17	PS-Pb-SP1-17	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-18	PS-Pb-SP1-18	1/09/2023	EM2315815	Normal	0.1	<0.5	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-19	PS-Pb-SP1-19	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-20	PS-Pb-SP1-20	1/09/2023	EM2315815	Normal	0.4	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-21	PS-Pb-SP1-21	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-22	PS-Pb-SP1-22	1/09/2023	EM2315815	Normal	<0.1	<0.5	2.1	<1	<1	<1	<1	1.7	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-23	PS-Pb-SP1-23	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP1-24	PS-Pb-SP1-24	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2																																							
Pre-Remediation Samples																																							
DL_SP_01	DL_SP_01	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.16	<0.1	0.1	0.1	0.11	0.16	0.64	0.19	<0.1	<0.1	<0.1	<0.05	<0.1	0.14	<0.1	<0.1	<0.1	1.6
DL_SP_02	DL_SP_02	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.77	0.51	<0.1	0.62	0.18	0.34	0.94	0.22	<0.1	<0.1	<0.1	<0.05	<0.1	0.17	<0.1	<0.1	<0.1	3.24
DL_SP_03	DL_SP_03	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.72	0.29	<0.1	0.32	<0.1	0.16	0.44	0.16	<0.1	<0.1	<0.1	<0.05	<0.1	0.13	<0.1	<0.1	<0.1	1.93
DL_SP_05	DL_SP_05	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.13	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.23
DL_SP_05	DL_SP_05	7/03/2023	EM2305511	Normal	34.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_06	DL_SP_06	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
DL_SP_07	DL_SP_07	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.14	<0.1	<0.1	<0.1	<0.1	<0.1	0.28	0.14	<0.1	<0.1	<0.1	<0.05	<0.1	0.12	<0.1	<0.1	<0.1	0.68
DL_SP_08	DL_SP_08	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.18	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.18
DL_SP_09	DL_SP_09	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.12	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.32
DL_SP_10	DL_SP_10	7/03/2023	EM2304580	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	0.16	<0.1	<0.1	<0.1	<0.1	<0.1	0.16	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.32
DL_SP_11*	DL_SP_11*	28/03/2023	EM2305446	Normal	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_12*	DL_SP_12*	28/03/2023	EM2305446	Normal	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_13*	DL_SP_13*	28/03/2023	EM2305446	Normal	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_14*	DL_SP_14*	28/03/2023	EM2305446	Normal	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_15*	DL_SP_15*	28/03/2023	EM2305446	Normal	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_16*	DL_SP_16*	28/03/2023	EM2305446	Normal	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_17*	DL_SP_17*	28/03/2023	EM2305446	Normal	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_18*	DL_SP_18*	28/03/2023	EM2305446	Normal	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_19*	DL_SP_19*	28/03/2023	EM2305446	Normal	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DL_SP_20*	DL_SP_20*	28/03/2023	EM2305446	Normal	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Remediation Samples																																							
PS-Pb-SP2-1	PS-Pb-SP2-1	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-2	PS-Pb-SP2-2	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-3	PS-Pb-SP2-3	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-4	PS-Pb-SP2-4	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-5	PS-Pb-SP2-5	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-6	PS-Pb-SP2-6	1/09/2023	EM2315815	Normal	<0.1	<0.5	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-7	PS-Pb-SP2-7	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-8	PS-Pb-SP2-8	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-9	PS-Pb-SP2-9	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-Pb-SP2-10	PS-Pb-SP2-10	1/09/2023	EM2315815	Normal	<0.1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
* Samples collected from second sampling round of stockpile DL_SP

AECOM

Appendix A

Laboratory Reports

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304035**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023 11:15
Order number	: 60693007-2	Date Analysis Commenced	: 09-Mar-2023
C-O-C number	: 49293	Issue Date	: 14-Mar-2023 22:30
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 21		
No. of samples analysed	: 19		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Particular samples EM2304035_019 & 020, LOR has been raised for Toluene, meta- & para-Xylene due to possible contamination. Confirmed by re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2304035 #10 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EP075(SIM): EM2304035_012 Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	RH_QCA03	RH_QCB05	DL_QCB06	----	----
			Sampling date / time	06-Mar-2023 07:20	06-Mar-2023 07:21	07-Mar-2023 07:22	----	----
Compound	CAS Number	LOR	Unit	EM2304035-018	EM2304035-019	EM2304035-020	--------	--------
				Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L	----	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	----	<0.001	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	----	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L	----	<0.001	<0.001	----	----
Zinc	7440-66-6	0.005	mg/L	----	<0.005	<0.005	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	----	**14.2**	**15.6**	----	----
2-Chlorophenol	95-57-8	1.0	µg/L	----	<1.0	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L	----	<1.0	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	----	<2.0	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L	----	<1.0	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	----	<1.0	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	----	<1.0	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	----	<1.0	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	----	<1.0	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	----	<1.0	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	----	<1.0	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L	----	<2.0	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	**2.1**	**3.2**	----	----
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L	----	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L	----	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L	----	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	<1.0	<1.0	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	RH_QCA03	RH_QCB05	DL_QCB06	----	----
			Sampling date / time	06-Mar-2023 07:20	06-Mar-2023 07:21	07-Mar-2023 07:22	----	----
Compound	CAS Number	LOR	Unit	EM2304035-018	EM2304035-019	EM2304035-020	--------	--------
				Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	**2.1**	**3.2**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	----	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	----	<100	<100	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	<100	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L	<2	<5	<5	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<4	<4	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	**34.6**	**38.1**	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	RH_QCA03	RH_QCB05	DL_QCB06	----	----
				Sampling date / time	06-Mar-2023 07:20	06-Mar-2023 07:21	07-Mar-2023 07:22	----	----
Compound	CAS Number	LOR	Unit		EM2304035-018	EM2304035-019	EM2304035-020	--------	--------
					Result	Result	Result	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		----	61.3	69.8	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	86.1	100	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	57.0	86.9	----	----
Anthracene-d10	1719-06-8	1.0	%		----	68.2	88.5	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	76.4	93.9	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		94.9	99.9	93.9	----	----
Toluene-D8	2037-26-5	2	%		97.7	104	95.5	----	----
4-Bromofluorobenzene	460-00-4	2	%		100	104	97.3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304035-001	EM2304035-002	EM2304035-003	EM2304035-004	EM2304035-005
				Result	Result	Result	Result	Result
EA055: Moisture Content								
Moisture Content	----	1.0	%	**----**	**----**	**8.5**	**----**	**----**
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**6.1**	**7.7**	**----**	**9.9**	**8.6**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**11**	**6**	**8**	**8**	**9**
Copper	7440-50-8	5	mg/kg	**53**	**38**	**56**	**54**	**51**
Lead	7439-92-1	5	mg/kg	**97**	**32**	**37**	**52**	**48**
Nickel	7440-02-0	2	mg/kg	**16**	**10**	**14**	**13**	**17**
Zinc	7440-66-6	5	mg/kg	**113**	**59**	**86**	**78**	**66**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	<0.1	<0.1	**0.1**	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	**----**	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	**----**	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**1.8**	**1.1**	**----**	**1.9**	**1.1**
Acenaphthylene	208-96-8	0.5	mg/kg	**2.7**	**2.0**	**----**	**2.7**	**2.1**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	**----**	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	**1.8**	**0.9**	**----**	**1.1**	**1.0**
Phenanthrene	85-01-8	0.5	mg/kg	**9.3**	**7.2**	**----**	**10.5**	**6.2**
Anthracene	120-12-7	0.5	mg/kg	**3.8**	**3.0**	**----**	**3.8**	**2.3**
Fluoranthene	206-44-0	0.5	mg/kg	**16.1**	**18.2**	**----**	**20.8**	**13.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304035-001	EM2304035-002	EM2304035-003	EM2304035-004	EM2304035-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Pyrene	129-00-0	0.5	mg/kg	16.2	19.0	----	21.0	13.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	8.1	9.4	----	9.9	6.2
Chrysene	218-01-9	0.5	mg/kg	6.9	8.3	----	8.9	5.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	9.9	----	10.2	6.7
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.5	3.7	----	4.0	2.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.3	9.7	----	10.4	6.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.6	3.9	----	4.7	2.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	1.2	----	1.4	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.0	4.3	----	5.3	3.1
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	95.5	102	----	117	72.9
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	11.8	13.7	----	14.8	9.4
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	11.8	13.7	----	14.8	9.4
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	11.8	13.7	----	14.8	9.4
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	260	300	250	320	180
C29 - C36 Fraction	----	100	mg/kg	190	240	220	260	140
^ C10 - C36 Fraction (sum)	----	50	mg/kg	450	540	470	580	320
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	380	460	410	510	290
>C34 - C40 Fraction	----	100	mg/kg	120	170	230	180	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	500	630	640	690	290
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304035-001	EM2304035-002	EM2304035-003	EM2304035-004	EM2304035-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	88.6	85.4	----	82.8	86.2
2-Chlorophenol-D4	93951-73-6	0.5	%	88.1	83.4	----	81.6	84.9
2.4.6-Tribromophenol	118-79-6	0.5	%	86.4	85.4	----	82.4	86.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	99.4	92.8	----	89.7	94.0
Anthracene-d10	1719-06-8	0.5	%	108	99.4	----	100	106
4-Terphenyl-d14	1718-51-0	0.5	%	87.5	83.9	----	77.9	83.5
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	77.1	101	92.0	82.8	95.6
Toluene-D8	2037-26-5	0.2	%	70.6	78.3	77.7	71.0	86.4
4-Bromofluorobenzene	460-00-4	0.2	%	71.4	82.6	78.5	64.4	77.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
				Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit		EM2304035-006	EM2304035-007	EM2304035-008	EM2304035-009	EM2304035-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.1	10.9	9.0	10.1	19.1
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		7	123	73	29	151
Cadmium	7440-43-9	1	mg/kg		<1	1	<1	<1	10
Chromium	7440-47-3	2	mg/kg		10	12	9	30	26
Copper	7440-50-8	5	mg/kg		70	84	76	71	204
Lead	7439-92-1	5	mg/kg		157	146	128	256	55500
Nickel	7440-02-0	2	mg/kg		18	20	18	47	51
Zinc	7440-66-6	5	mg/kg		206	711	312	200	2290
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.4	0.5	0.3	0.1	2.3
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	0.8	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		1.0	1.0	0.6	<0.5	1.7
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	0.5	<0.5	<0.5	0.9
Phenanthrene	85-01-8	0.5	mg/kg		5.0	7.5	2.5	<0.5	18.9
Anthracene	120-12-7	0.5	mg/kg		1.1	1.9	0.6	<0.5	4.0
Fluoranthene	206-44-0	0.5	mg/kg		9.6	12.0	5.6	0.5	17.5
Pyrene	129-00-0	0.5	mg/kg		9.4	12.3	5.7	0.5	16.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		4.3	5.2	2.8	<0.5	7.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
				Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit		EM2304035-006	EM2304035-007	EM2304035-008	EM2304035-009	EM2304035-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		4.2	5.2	2.7	<0.5	7.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		5.6	6.5	3.8	<0.5	8.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.1	2.3	1.2	<0.5	3.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg		5.5	6.1	3.6	<0.5	8.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.9	2.9	1.8	<0.5	3.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.7	0.7	<0.5	<0.5	1.1
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.4	3.4	2.2	<0.5	4.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		54.8	67.5	33.9	1.0	104
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		7.8	8.6	4.6	<0.5	11.7
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		7.8	8.6	4.8	0.6	11.7
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		7.8	8.6	5.1	1.2	11.7
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		140	200	210	<100	260
C29 - C36 Fraction	----	100	mg/kg		150	170	120	<100	190
^ C10 - C36 Fraction (sum)	----	50	mg/kg		290	370	330	<50	450
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	60	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		270	330	260	<100	400
>C34 - C40 Fraction	----	100	mg/kg		<100	110	<100	<100	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		270	440	320	<50	510
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	60	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
			Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit	EM2304035-006	EM2304035-007	EM2304035-008	EM2304035-009	EM2304035-010
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**80.7**	**86.6**	**87.1**	**92.8**	**81.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**85.9**	**85.0**	**88.0**	**93.8**	**81.6**
2.4.6-Tribromophenol	118-79-6	0.5	%	**89.4**	**79.2**	**90.7**	**90.0**	**76.4**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**94.2**	**91.9**	**95.6**	**101**	**88.5**
Anthracene-d10	1719-06-8	0.5	%	**109**	**103**	**98.7**	**107**	**90.6**
4-Terphenyl-d14	1718-51-0	0.5	%	**82.4**	**84.8**	**87.0**	**91.6**	**83.0**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**92.3**	**88.3**	**89.3**	**88.2**	**81.2**
Toluene-D8	2037-26-5	0.2	%	**78.1**	**73.4**	**73.5**	**74.5**	**67.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**81.0**	**73.1**	**74.3**	**76.1**	**67.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
			Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit	EM2304035-011	EM2304035-012	EM2304035-013	EM2304035-014	EM2304035-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.0	12.7	11.4	13.0	7.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	58	59	38	24	6
Cadmium	7440-43-9	1	mg/kg	2	2	2	<1	<1
Chromium	7440-47-3	2	mg/kg	18	30	10	10	12
Copper	7440-50-8	5	mg/kg	119	174	104	84	75
Lead	7439-92-1	5	mg/kg	294	425	206	194	154
Nickel	7440-02-0	2	mg/kg	32	26	22	19	19
Zinc	7440-66-6	5	mg/kg	617	900	634	424	232
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.9	1.3	0.4	0.3	0.2
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.2	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	1.0	2.0	0.6	0.9	1.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	3.5	7.8	1.8	2.2	5.4
Anthracene	120-12-7	0.5	mg/kg	0.9	2.4	<0.5	0.8	1.4
Fluoranthene	206-44-0	0.5	mg/kg	9.1	18.0	4.5	6.0	10.1
Pyrene	129-00-0	0.5	mg/kg	9.4	19.1	4.7	6.5	9.9
Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	10.6	2.7	3.8	4.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit		EM2304035-011	EM2304035-012	EM2304035-013	EM2304035-014	EM2304035-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		4.9	10.0	2.7	3.7	4.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.8	13.2	3.7	5.1	5.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.3	4.9	1.4	1.6	2.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg		6.4	12.5	3.6	5.1	5.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		3.3	6.4	2.0	2.7	3.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.9	1.9	0.5	0.7	0.8
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.9	7.6	2.4	3.2	3.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		57.4	118	30.6	42.3	58.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		9.1	18.1	5.1	7.2	8.2
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		9.1	18.1	5.1	7.2	8.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		9.1	18.1	5.1	7.2	8.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		220	380	260	140	160
C29 - C36 Fraction	----	100	mg/kg		250	400	340	160	160
^ C10 - C36 Fraction (sum)	----	50	mg/kg		470	780	600	300	320
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		400	680	520	260	280
>C34 - C40 Fraction	----	100	mg/kg		200	240	230	110	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		600	920	750	370	390
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
			Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit	EM2304035-011	EM2304035-012	EM2304035-013	EM2304035-014	EM2304035-015
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**82.6**	**88.2**	**90.0**	**81.5**	**85.9**
2-Chlorophenol-D4	93951-73-6	0.5	%	**82.5**	**87.8**	**88.6**	**82.2**	**85.3**
2.4.6-Tribromophenol	118-79-6	0.5	%	**84.7**	**86.7**	**99.0**	**88.7**	**82.4**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**93.7**	**94.7**	**95.9**	**91.5**	**91.2**
Anthracene-d10	1719-06-8	0.5	%	**96.2**	**98.9**	**101**	**96.9**	**97.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**83.8**	**84.5**	**89.9**	**76.8**	**85.1**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**88.4**	**84.5**	**95.0**	**88.0**	**89.6**
Toluene-D8	2037-26-5	0.2	%	**73.1**	**69.2**	**79.4**	**72.5**	**74.0**
4-Bromofluorobenzene	460-00-4	0.2	%	**70.9**	**67.9**	**76.7**	**71.9**	**73.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_10	----	----	----	----
				Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2304035-017	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**12.5**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**48**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		**1**	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**14**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**90**	----	----	----	----
Lead	7439-92-1	5	mg/kg		**243**	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**22**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**519**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**0.6**	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**0.8**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**2.9**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**1.0**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**6.4**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**6.9**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**3.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_10	----	----	----	----
				Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2304035-017	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		**3.6**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**4.5**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**1.6**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**4.6**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**2.4**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.6**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.8**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**41.8**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**6.5**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**6.5**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**6.5**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**160**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**170**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**330**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**290**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**130**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**420**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_10	----	----	----	----
			Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2304035-017	--------	--------	--------	--------
				Result	----	----	----	----
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**83.6**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**83.9**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**83.1**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**92.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	**101**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**79.9**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**91.4**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%	**74.2**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**73.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304035**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 09-Mar-2023
C-O-C number	: 49293	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 21		
No. of samples analysed	: 19		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4917849)									
EM2304035-010	DL_SP_05	EG005T: Arsenic	7440-38-2	5	mg/kg	151	# 108	33.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	55500	# 13400	122	0% - 20%
EM2304035-001	RH_SP_01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	11	9	13.9	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	16	16	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	53	68	23.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	97	74	27.4	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	113	94	17.4	0% - 20%
EM2304035-010	DL_SP_05	EG005T: Cadmium	7440-43-9	1	mg/kg	10	8	25.2	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	26	28	7.2	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	51	42	19.9	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	204	228	11.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	2290	2430	5.7	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4918174)									
EM2304035-001	RH_SP_01	EA055: Moisture Content	----	0.1	%	6.1	7.9	25.2	No Limit
EM2304035-011	DL_SP_06	EA055: Moisture Content	----	0.1	%	11.0	15.5	33.9	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4917850)									
EM2304035-010	DL_SP_05	EG035T: Mercury	7439-97-6	0.1	mg/kg	2.3	1.6	35.0	0% - 50%
EM2304035-001	RH_SP_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4917769)									
EM2304035-001	RH_SP_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4917769) - continued									
EM2304035-001	RH_SP_01	EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2304035-012	DL_SP_07	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4917769)									
EM2304035-001	RH_SP_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.8	1.0	58.3	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.7	1.9	32.5	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.8	0.8	74.1	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	9.3	6.7	32.7	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	3.8	2.7	35.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	16.1	16.7	3.6	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	16.2	17.0	4.8	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	8.1	9.4	15.6	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	6.9	8.2	16.7	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	8.3	9.1	9.9	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.5	3.6	3.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.3	9.2	9.6	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.6	3.7	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	1.2	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.0	4.1	3.2	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4917769) - continued									
EM2304035-012	DL_SP_07	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	1.1	9.6	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.0	1.6	26.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	7.8	6.1	24.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.4	1.8	25.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	18.0	# 13.8	26.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	19.1	# 15.1	23.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	10.6	# 8.6	21.1	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	10.0	8.4	18.1	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	13.2	11.2	15.8	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.9	4.2	16.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	12.5	10.7	15.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	6.4	5.5	15.2	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.9	1.6	14.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	7.6	6.6	14.5	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917725)									
EM2304035-001	RH_SP_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2304035-011	DL_SP_06	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917770)									
EM2304035-001	RH_SP_01	EP071: C15 - C28 Fraction	----	100	mg/kg	260	260	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	190	190	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2304035-012	DL_SP_07	EP071: C15 - C28 Fraction	----	100	mg/kg	380	460	19.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	400	530	27.1	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917725)									
EM2304035-001	RH_SP_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2304035-011	DL_SP_06	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917770)									
EM2304035-001	RH_SP_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	380	390	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	120	120	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2304035-012	DL_SP_07	EP071: >C16 - C34 Fraction	----	100	mg/kg	680	860	23.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	240	310	25.5	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4917725)									
EM2304035-001	RH_SP_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4917725) - continued									
EM2304035-001	RH_SP_01	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2304035-011	DL_SP_06	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 4920220)									
EM2303958-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.017	0.017	0.0	No Limit
EM2304055-043	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4918788)									
EM2303866-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2304084-004	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917470)									
EM2304084-009	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2304084-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917751)									
EM2304022-013	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4917751) - continued									
EM2304022-013	Anonymous	EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917470)									
EM2304084-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2304084-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4917751)									
EM2304022-013	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 4917470)									
EM2304084-009	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2304084-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4917849)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	103	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	71.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	117	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	99.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	96.7	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	111	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	74.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4917850)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4917769)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	110	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	111	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.0	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	108	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	45.7	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917769)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	112	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	111	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	105	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	107	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	107	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	104	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	112	80.9	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917769) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	113	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	103	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	104	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	104	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	103	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917725)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	82.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917770)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	119	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917725)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917770)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	112	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	102	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	119	73.3	137
EP080: BTEXN (QCLot: 4917725)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	82.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	85.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	84.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	83.0	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	82.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	94.2	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4920220)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	106	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.7	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	102	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	101	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	103	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	99.8	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	101	86.7	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4918788)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	93.4	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 4917752)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	36.6	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	85.5	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	73.1	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	62.2	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	86.6	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	81.7	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	87.3	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	90.8	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	53.9	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	92.8	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	91.8	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	90.0	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917752)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	89.1	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	85.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	88.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	91.3	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.2	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	93.2	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	90.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	90.6	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	87.8	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	93.8	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	83.6	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	88.0	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	89.4	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	91.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	91.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	92.0	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917470)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	107	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917751)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	85.9	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	85.9	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	93.4	50.4	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917470)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	104	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917751)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	93.5	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	81.0	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	107	47.2	130
EP080: BTEXN (QCLot: 4917470)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	105	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	110	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	111	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	110	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	90.6	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4917849)							
EM2304035-002	RH_SP_02	EG005T: Arsenic	7440-38-2	50 mg/kg	98.8	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.9	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	99.9	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	97.5	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	100	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	98.7	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4917850)							
EM2304035-002	RH_SP_02	EG035T: Mercury	7439-97-6	0.5 mg/kg	102	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 4917769)							
EM2304035-002	RH_SP_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.4	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	89.1	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	74.4	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	67.2	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	81.1	15.3	139

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4917769)							
EM2304035-002	RH_SP_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	87.4	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917725)							
EM2304035-002	RH_SP_02	EP080: C6 - C9 Fraction	----	28 mg/kg	67.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917770)							
EM2304035-003	RH_SP_03	EP071: C10 - C14 Fraction	----	770 mg/kg	117	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917725)							
EM2304035-002	RH_SP_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	57.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917770)							
EM2304035-003	RH_SP_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	110	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	98.8	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	102	66.8	138
EP080: BTEXN (QCLot: 4917725)							
EM2304035-002	RH_SP_02	EP080: Benzene	71-43-2	2 mg/kg	89.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	85.9	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4920220)							
EM2303958-003	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	97.1	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	94.5	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	91.9	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	97.0	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	96.5	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	94.9	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	95.5	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4918788)							
EM2304019-003	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	94.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4917470)							
EM2304084-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	90.5	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4917470)							
EM2304084-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	87.4	34.0	122

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 4917470)							
EM2304084-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	107	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	105	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304035**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 14-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 21
Order number	: 60693007-2	No. of samples analysed	: 19

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2304035--010	DL_SP_05	**Arsenic**	7440-38-2	33.1 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2304035--010	DL_SP_05	**Lead**	7439-92-1	122 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--012	DL_SP_07	**Fluoranthene**	206-44-0	26.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--012	DL_SP_07	**Pyrene**	129-00-0	23.7 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--012	DL_SP_07	**Benz(a)anthracene**	56-55-3	21.1 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2304035--002	RH_SP_02	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055)							
RH_SP_03	**06-Mar-2023**	**----**	----	----	**09-Mar-2023**	20-Mar-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
RH_SP_01, RH_SP_02, RH_SP_04, RH_SP_05	**06-Mar-2023**	**----**	----	----	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**----**	----	----	**09-Mar-2023**	21-Mar-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	02-Sep-2023	✓	**09-Mar-2023**	02-Sep-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	03-Sep-2023	✓	**09-Mar-2023**	03-Sep-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	03-Apr-2023	✓	**09-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EG035T)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	04-Apr-2023	✓	**09-Mar-2023**	04-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_01, RH_SP_02, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_01, RH_SP_02, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071) RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080) DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071) DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**10-Mar-2023**	18-Apr-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	02-Sep-2023	✓	**09-Mar-2023**	02-Sep-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	03-Sep-2023	✓	**09-Mar-2023**	03-Sep-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) RH_QCB05	**06-Mar-2023**	**----**	----	----	**09-Mar-2023**	03-Apr-2023	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) DL_QCB06	**07-Mar-2023**	**----**	----	----	**09-Mar-2023**	04-Apr-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) RH_QCA03, RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	13-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber Glass Bottle - Unpreserved (EP071) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	14-Mar-2023	✓	**09-Mar-2023**	18-Apr-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) RH_QCA03, RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) RH_QCA03, RH_QCB05	**06-Mar-2023**	**09-Mar-2023**	20-Mar-2023	✓	**09-Mar-2023**	20-Mar-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080) DL_QCB06	**07-Mar-2023**	**09-Mar-2023**	21-Mar-2023	✓	**09-Mar-2023**	21-Mar-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	16	18.75	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	0.00	10.00	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2304035**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 49293	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 08-Mar-2023 11:15	Issue Date	: 08-Mar-2023
Client Requested Due Date	: 15-Mar-2023	Scheduled Reporting Date	: **15-Mar-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 3.5°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 21 / 19

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-05 TRH/BTEXN/8 Metals	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2304035-001	06-Mar-2023 07:18	RH_SP_01		✓		✓
EM2304035-002	06-Mar-2023 07:18	RH_SP_02		✓		✓
EM2304035-003	06-Mar-2023 07:19	RH_SP_03		✓	✓	
EM2304035-004	06-Mar-2023 07:19	RH_SP_04		✓		✓
EM2304035-005	06-Mar-2023 07:20	RH_SP_05		✓		✓
EM2304035-006	07-Mar-2023 07:22	DL_SP_01		✓		✓
EM2304035-007	07-Mar-2023 07:23	DL_SP_02		✓		✓
EM2304035-008	07-Mar-2023 07:23	DL_SP_03		✓		✓
EM2304035-009	07-Mar-2023 07:23	DL_SP_04		✓		✓
EM2304035-010	07-Mar-2023 07:23	DL_SP_05		✓		✓
EM2304035-011	07-Mar-2023 07:23	DL_SP_06		✓		✓
EM2304035-012	07-Mar-2023 07:23	DL_SP_07		✓		✓
EM2304035-013	07-Mar-2023 07:24	DL_SP_08		✓		✓
EM2304035-014	07-Mar-2023 07:24	DL_SP_09		✓		✓
EM2304035-015	07-Mar-2023 07:24	DL_QC103		✓		✓
EM2304035-017	07-Mar-2023 07:25	DL_SP_10		✓		✓
EM2304035-021	08-Mar-2023 09:42	DL_QC104	✓			
EM2304035-022	08-Mar-2023 09:42	DL_QC204	✓			

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2304035-018	06-Mar-2023 07:20	RH_QCA03	✓	
EM2304035-019	06-Mar-2023 07:21	RH_QCB05		✓
EM2304035-020	07-Mar-2023 07:22	DL_QCB06		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

(ALS) COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY: FREIGHT	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 8/3, 11-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	RH_SP_01		06/03/2023 07:18 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
002	RH_SP_02		06/03/2023 07:18 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
003	RH_SP_03		06/03/2023 07:19 AM	SOIL	ALS: 0 Non ALS: 0	No			Partial 1/4				
004	RH_SP_04		06/03/2023 07:19 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
005	RH_SP_05		06/03/2023 07:20 AM	SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
006	DL_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
007	DL_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
008	DL_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
009	DL_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					

Environmental Division
Melbourne
Work Order Reference
EM2304035

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

COC#: **49293** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 8/3 11-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
011	DL_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
012	DL_SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
013	DL_SP_08			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
014	DL_SP_09			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
015	DL_QC103			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
016	DL_QC203			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_SP_10			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
018	RH_QCA03		06/03/2023 07:20 AM	WATER	ALS: 0 Non ALS: 0	No					X		

CHAIN OF CUSTODY

ALS COC#: 49293 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED						
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	RH_QCB05		06/03/2023 07:21 AM	WATER	ALS: 0 Non ALS: 0	No				Partial 1/2			
020	DL_QCB06			WATER	ALS: 0 Non ALS: 0	No				Partial 1/2			
021	Untitled			SOIL	ALS: 0 Non ALS: 0	No	-						
022	Untitled-1			SOIL	ALS: 0 Non ALS: 0	No	-						

CHAIN OF CUSTODY

ALS COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	RH_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	RH_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	RH_SP_03	Soil Suite 2 SOIL	SOIL	- S-05 TRH/BTEXN/8 Metals
004	RH_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	RH_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	DL_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	DL_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	DL_SP_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	DL_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	DL_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	DL_SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	DL_SP_07	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	DL_SP_08	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	DL_SP_09	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	DL_QC103	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

016	DL_QC203	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	DL_SP_10	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	RH_QCB05	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
020	DL_QCB06	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals

Total Bottle Count: ALS: 0, Non ALS: 0

21 DL-QC104 7/03/23

22 DL_QC204 7/03/23

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2304580**	Page	: 1 of 15
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023 11:15
Order number	: 60693007-2	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: ----	Issue Date	: 22-Mar-2023 16:20
Sampler	: TIM SMITH02		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 16		
No. of samples analysed	: 16		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG005T: EM2304580 #10, sample heterogeneity has been observed for lead, with the following results obtained: 5140 mg/kg, 7620 mg/kg and 11500 mg/kg.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP068: EM2304580_001 Poor matrix spike recovery for heptachlor due to matrix effects.
- This is a rebatch of EM2304035.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	7.4	----	----	----	----
Moisture Content	----	1.0	%	----	----	9.2	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Barium	7440-39-3	10	mg/kg	40	----	40	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	----
Chromium	7440-47-3	2	mg/kg	6	----	8	----	----
Cobalt	7440-48-4	2	mg/kg	8	----	11	----	----
Manganese	7439-96-5	5	mg/kg	240	----	297	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	----	<2	----	----
Selenium	7782-49-2	5	mg/kg	<5	----	<5	----	----
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	----
Tin	7440-31-5	5	mg/kg	10	----	14	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	5	----	3	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	120	----	130	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	9.7	9.8	9.9	10.0	9.9
After HCl pH	----	0.1	pH Unit	1.6	1.7	1.6	1.6	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	6.0	5.8	5.8	6.2	5.6
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
			Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit	EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	**2.2**	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	**2.5**	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	**1.0**	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	**8.2**	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	**2.7**	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**17.0**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**16.9**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	**8.7**	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	**7.2**	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	**9.0**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	**3.1**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	**8.8**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	**3.8**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	**1.1**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	**4.3**	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	**96.5**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	**12.5**	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	**12.5**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	**12.5**	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**101**	----	**108**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
				Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
Compound	CAS Number	LOR	Unit		EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
					Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**95.1**	----	**98.1**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**95.6**	----	**94.5**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	**89.0**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	**89.0**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	**88.2**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	**94.3**	----	----
Anthracene-d10	1719-06-8	0.5	%		----	----	**97.7**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	**93.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
			Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit	EM2304580-006	EM2304580-007	EM2304580-008	EM2304580-009	EM2304580-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	10.1	----	----	----	20.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	Yes	Yes	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	164	182	182	200	129
APPROVED IDENTIFIER:	----	-	--	M. TRAN	M. TRAN	M. TRAN	M. TRAN	M. TRAN
EG005(ED093)T: Total Metals by ICP-AES								
Barium	7440-39-3	10	mg/kg	50	----	----	----	160
Beryllium	7440-41-7	1	mg/kg	<1	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	7	----	----	----	12
Cobalt	7440-48-4	2	mg/kg	7	----	----	----	10
Lead	7439-92-1	5	mg/kg	----	----	----	----	11500
Manganese	7439-96-5	5	mg/kg	148	----	----	----	236
Molybdenum	7439-98-7	2	mg/kg	<2	----	----	----	<2
Selenium	7782-49-2	5	mg/kg	<5	----	----	----	<5
Silver	7440-22-4	2	mg/kg	<2	----	----	----	10
Tin	7440-31-5	5	mg/kg	10	----	----	----	22
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	1	----	----	----	<1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	140	----	----	----	120
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	9.8	9.7	9.4	----	9.4
After HCl pH	----	0.1	pH Unit	1.7	1.7	1.5	----	1.9
Extraction Fluid Number	----	1	-	1	1	1	----	1
Final pH	----	0.1	pH Unit	5.3	5.2	5.2	----	5.7
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_04	DL_SP_05
			Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
Compound	CAS Number	LOR	Unit	EM2304580-006	EM2304580-007	EM2304580-008	EM2304580-009	EM2304580-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	----	<0.05
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**108**	----	----	----	**108**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**101**	----	----	----	**99.1**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**90.1**	----	----	----	**96.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
			Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit	EM2304580-011	EM2304580-012	EM2304580-013	EM2304580-014	EM2304580-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	10.1	----	8.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	Yes	Yes	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	129	124	185	170	194
APPROVED IDENTIFIER:	----	-	--	M. TRAN	M. TRAN	M. TRAN	M. TRAN	M. TRAN
EG005(ED093)T: Total Metals by ICP-AES								
Barium	7440-39-3	10	mg/kg	----	----	80	----	90
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	11	----	9
Cobalt	7440-48-4	2	mg/kg	----	----	9	----	10
Manganese	7439-96-5	5	mg/kg	----	----	178	----	192
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	19	----	8
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	2	----	1
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	130	----	90
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	9.3	9.2	9.3	8.9	9.7
After HCl pH	----	0.1	pH Unit	1.7	1.8	1.8	1.7	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.2	5.2	5.3	5.1	5.4
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_06	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24
Compound	CAS Number	LOR	Unit		EM2304580-011	EM2304580-012	EM2304580-013	EM2304580-014	EM2304580-015
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		----	----	<0.05	----	<0.05
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**92.8**	----	**102**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	**92.9**	----	**91.2**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	**92.3**	----	**91.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_10	----	----	----	----
			Sampling date / time	07-Mar-2023 07:25	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2304580-016	--------	--------	--------	--------
				Result	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--	**-**	----	----	----	----
Synthetic Mineral Fibre	----	-	--	**No**	----	----	----	----
Organic Fibre	----	-	--	**Yes**	----	----	----	----
Sample weight (dry)	----	0.01	g	**170**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	**M. TRAN**	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	----	----	----	----
After HCl pH	----	0.1	pH Unit	**1.7**	----	----	----	----
Extraction Fluid Number	----	1	-	**1**	----	----	----	----
Final pH	----	0.1	pH Unit	**5.4**	----	----	----	----

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	RH_SP_01	RH_SP_02	RH_SP_03	RH_SP_04	RH_SP_05
				Sampling date / time	06-Mar-2023 07:18	06-Mar-2023 07:18	06-Mar-2023 07:19	06-Mar-2023 07:19	06-Mar-2023 07:20
					EM2304580-001	EM2304580-002	EM2304580-003	EM2304580-004	EM2304580-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**2.01**	**0.82**	**1.38**	**1.71**	**15.6**
2-Methylnaphthalene	91-57-6	0.10	µg/L		**0.81**	**0.30**	**0.48**	**0.64**	**2.45**
Acenaphthylene	208-96-8	0.10	µg/L		**1.56**	**0.48**	**0.51**	**0.99**	**2.00**
Acenaphthene	83-32-9	0.10	µg/L		**0.47**	**0.16**	**0.23**	**0.35**	**0.54**
Fluorene	86-73-7	0.10	µg/L		**2.28**	**0.62**	**0.64**	**1.35**	**2.92**
Phenanthrene	85-01-8	0.10	µg/L		**4.69**	**1.51**	**2.01**	**2.79**	**4.51**
Anthracene	120-12-7	0.10	µg/L		**1.09**	**0.44**	**0.54**	**0.80**	**1.17**
Fluoranthene	206-44-0	0.10	µg/L		**1.06**	**0.54**	**0.63**	**0.85**	**0.97**
Pyrene	129-00-0	0.10	µg/L		**0.78**	**0.42**	**0.50**	**0.70**	**0.72**
Benz(a)anthracene	56-55-3	0.10	µg/L		**0.10**	<0.10	<0.10	**0.10**	**0.10**
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**14.0**	**4.99**	**6.44**	**9.64**	**28.5**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**70.6**	**61.9**	**69.1**	**64.3**	**65.8**
Anthracene-d10	1719-06-8	0.10	%		**93.2**	**79.4**	**92.3**	**76.2**	**78.0**
4-Terphenyl-d14	1718-51-0	0.10	%		**81.6**	**69.9**	**80.9**	**73.4**	**75.2**

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	DL_SP_01	DL_SP_02	DL_SP_03	DL_SP_05	DL_SP_06
				Sampling date / time	07-Mar-2023 07:22	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23	07-Mar-2023 07:23
					EM2304580-006	EM2304580-007	EM2304580-008	EM2304580-010	EM2304580-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**0.16**	**0.77**	**0.72**	**0.13**	<0.10
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	**0.51**	**0.29**	<0.10	<0.10
Acenaphthylene	208-96-8	0.10	µg/L		**0.10**	<0.10	<0.10	<0.10	<0.10
Acenaphthene	83-32-9	0.10	µg/L		**0.10**	**0.62**	**0.32**	<0.10	<0.10
Fluorene	86-73-7	0.10	µg/L		**0.16**	**0.34**	**0.16**	<0.10	<0.10
Phenanthrene	85-01-8	0.10	µg/L		**0.64**	**0.94**	**0.44**	**0.10**	<0.10
Anthracene	120-12-7	0.10	µg/L		**0.11**	**0.18**	<0.10	<0.10	<0.10
Fluoranthene	206-44-0	0.10	µg/L		**0.19**	**0.22**	**0.16**	<0.10	<0.10
Pyrene	129-00-0	0.10	µg/L		**0.14**	**0.17**	**0.13**	<0.10	<0.10
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**1.60**	**3.24**	**1.93**	**0.23**	<0.10
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**66.3**	**64.2**	**77.0**	**69.6**	**64.9**
Anthracene-d10	1719-06-8	0.10	%		**80.0**	**76.2**	**82.8**	**83.6**	**72.0**
4-Terphenyl-d14	1718-51-0	0.10	%		**77.4**	**72.8**	**78.5**	**81.1**	**69.3**

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	DL_SP_07	DL_SP_08	DL_SP_09	DL_QC103	DL_SP_10
				Sampling date / time	07-Mar-2023 07:23	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:24	07-Mar-2023 07:25
					EM2304580-012	EM2304580-013	EM2304580-014	EM2304580-015	EM2304580-016
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**0.14**	<0.10	**0.12**	**0.21**	**0.16**
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	<0.10	<0.10	**0.17**	<0.10
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	<0.10	<0.10	**0.12**	<0.10
Acenaphthene	83-32-9	0.10	µg/L		<0.10	<0.10	<0.10	**0.17**	<0.10
Fluorene	86-73-7	0.10	µg/L		<0.10	<0.10	<0.10	**0.40**	<0.10
Phenanthrene	85-01-8	0.10	µg/L		**0.28**	**0.18**	**0.20**	**1.36**	**0.16**
Anthracene	120-12-7	0.10	µg/L		<0.10	<0.10	<0.10	**0.23**	<0.10
Fluoranthene	206-44-0	0.10	µg/L		**0.14**	<0.10	<0.10	**0.30**	<0.10
Pyrene	129-00-0	0.10	µg/L		**0.12**	<0.10	<0.10	**0.22**	<0.10
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**0.68**	**0.18**	**0.32**	**3.01**	**0.32**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**64.8**	**60.1**	**67.8**	**69.9**	**59.9**
Anthracene-d10	1719-06-8	0.10	%		**91.4**	**78.5**	**78.1**	**81.1**	**70.6**
4-Terphenyl-d14	1718-51-0	0.10	%		**81.3**	**75.6**	**75.3**	**78.0**	**69.0**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	DL_SP_01 - 07-Mar-2023 07:22	Grey rocky soil with organic matter.
EA200: Description	DL_SP_02 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_03 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_04 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_05 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_06 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_07 - 07-Mar-2023 07:23	Grey rocky soil with organic matter.
EA200: Description	DL_SP_08 - 07-Mar-2023 07:24	Grey rocky soil with organic matter.
EA200: Description	DL_SP_09 - 07-Mar-2023 07:24	Grey rocky soil with organic matter.
EA200: Description	DL_QC103 - 07-Mar-2023 07:24	Grey rocky soil with organic matter.
EA200: Description	DL_SP_10 - 07-Mar-2023 07:25	Grey rocky soil with organic matter.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2304580**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 17-Mar-2023
C-O-C number	: ----	Issue Date	: 22-Mar-2023
Sampler	: TIM SMITH02		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 16		
No. of samples analysed	: 16		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4936252)									
EM2304580-001	RH_SP_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	8	33.2	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	10	15.4	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	68	78	14.1	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	240	266	10.3	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	10	7	25.7	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4935723)									
EM2304580-001	RH_SP_01	EA055: Moisture Content	----	0.1	%	7.4	8.3	10.4	0% - 20%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4940042)									
EM2304580-001	RH_SP_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	5	7	33.2	No Limit
EK040T: Fluoride Total (QC Lot: 4935708)									
EM2304580-001	RH_SP_01	EK040T: Fluoride	16984-48-8	40	mg/kg	120	160	22.4	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4936128)									
EM2304580-003	RH_SP_03	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4936127)									
EM2304580-003	RH_SP_03	EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4936127) - continued									
EM2304580-003	RH_SP_03	EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4936129)									
EM2304580-003	RH_SP_03	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4936129)									
EM2304580-003	RH_SP_03	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	2.2	1.7	29.7	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.5	2.1	16.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.0	0.8	20.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	8.2	6.5	22.7	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.7	2.2	18.7	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	17.0	14.4	16.7	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	16.9	14.2	17.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	8.7	7.4	15.8	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	7.2	6.0	18.4	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	9.0	8.0	11.5	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.1	2.4	22.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.8	7.2	20.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.8	3.1	20.7	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	1.0	13.4	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.3	3.6	18.2	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4939535)									
EM2304580-001	RH_SP_01	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	2.01	1.76	13.4	0% - 20%
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	0.81	0.70	14.4	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	1.56	1.35	14.3	0% - 50%
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	0.47	0.41	14.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4939535) - continued									
EM2304580-001	RH_SP_01	EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	2.28	2.00	13.2	0% - 20%
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	4.69	3.93	17.7	0% - 20%
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	1.09	1.05	4.2	0% - 50%
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	1.06	0.89	17.3	0% - 50%
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.78	0.65	18.5	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit
EM2304580-012	DL_SP_07	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	0.14	0.16	13.0	No Limit
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	0.28	0.30	7.5	No Limit
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	0.14	0.15	7.0	No Limit
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.12	0.13	0.0	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4936252)								
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	94.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	100	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	98.0	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	91.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	93.8	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	91.4	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	72.4	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	78.3	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	93.6	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4940042)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	90.3	70.0	130
EK040T: Fluoride Total (QCLot: 4935708)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	105	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4936128)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4936127)								
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	68.8	123
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	68.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	72.0	127
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.5	55.4	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4936129)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	102	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	104	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	98.4	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	97.6	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	99.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	94.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	98.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	95.3	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	96.8	64.5	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 4936129) - continued								
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	47.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4936129)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	106	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	104	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	107	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	104	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	109	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	104	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	106	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	105	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	105	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	111	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	104	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	103	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	106	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	105	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	108	65.8	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4939535)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	89.1	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	92.5	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	96.5	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	108	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	114	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	103	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	89.3	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	96.0	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	99.6	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	94.8	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	93.2	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	106	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	106	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	118	56.6	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4939535) - continued								
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	97.7	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	101	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	99.7	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4936252)							
EM2304580-003	RH_SP_03	EG005T: Chromium	7440-47-3	50 mg/kg	81.7	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	98.8	80.0	120
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4940042)							
EM2304580-003	RH_SP_03	EK026SF: Total Cyanide	57-12-5	20 mg/kg	80.9	70.0	130
EK040T: Fluoride Total (QCLot: 4935708)							
EM2304580-003	RH_SP_03	EK040T: Fluoride	16984-48-8	400 mg/kg	90.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4936128)							
EM2304580-003	RH_SP_03	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	122	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4936127)							
EM2304580-001	RH_SP_01	EP068: Aldrin	309-00-2	0.5 mg/kg	80.9	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	93.4	58.4	136
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	36.8	20.0	133

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2304580**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Site	: ----	Issue Date	: 22-Mar-2023
Sampler	: TIM SMITH02	No. of samples received	: 16
Order number	: 60693007-2	No. of samples analysed	: 16

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (SIM)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAHs (GC/MS - SIM) Low-Level	0	16	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**----**	----	----	**17-Mar-2023**	20-Mar-2023	✓
Soil Glass Jar - Unpreserved (EA055)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**----**	----	----	**17-Mar-2023**	21-Mar-2023	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Soil Glass Jar - Unpreserved (EA200)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_04, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**----**	----	----	**17-Mar-2023**	03-Sep-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	02-Sep-2023	✓	**17-Mar-2023**	02-Sep-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	03-Sep-2023	✓	**17-Mar-2023**	03-Sep-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**20-Mar-2023**	20-Mar-2023	✓	**22-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EK026SF)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**20-Mar-2023**	21-Mar-2023	✓	**22-Mar-2023**	03-Apr-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	03-Apr-2023	✓	**21-Mar-2023**	03-Apr-2023	✓
Soil Glass Jar - Unpreserved (EK040T)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	04-Apr-2023	✓	**21-Mar-2023**	04-Apr-2023	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05	**06-Mar-2023**	**19-Mar-2023**	20-Mar-2023	✓	**----**	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**07-Mar-2023**	**19-Mar-2023**	21-Mar-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**21-Mar-2023**	26-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP066)							
DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	21-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP066)							
DL_SP_01, DL_SP_05	**07-Mar-2023**	**17-Mar-2023**	21-Mar-2023	✓	**21-Mar-2023**	26-Apr-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
RH_SP_01, RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
Soil Glass Jar - Unpreserved (EP068)							
DL_SP_01, DL_SP_05, DL_SP_08, DL_QC103	**07-Mar-2023**	**17-Mar-2023**	21-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
RH_SP_03	**06-Mar-2023**	**17-Mar-2023**	20-Mar-2023	✓	**20-Mar-2023**	26-Apr-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
RH_SP_01, RH_SP_02, RH_SP_03, RH_SP_04, RH_SP_05, DL_SP_01, DL_SP_02, DL_SP_03, DL_SP_05, DL_SP_06, DL_SP_07, DL_SP_08, DL_SP_09, DL_QC103, DL_SP_10	**19-Mar-2023**	**20-Mar-2023**	26-Mar-2023	✓	**21-Mar-2023**	29-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	16	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Rebatch

Client / Client code: AECOMAU
Project: Macquarie Point
Project Manger: ROBERT CROWE
Date /time sample rec: 08/03/ 11:15
Date/time Instructions rec: 15 March 2023 12:31
Due date: Wednesday, 22 March 2023
Due date surcharge: STANDARD

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order

Environmental Division Melbourne
Work Order Reference
EM2304580

Telephone : - 61-3-8549 9600

New Lab ID	Sample information: Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Number of	Analysis: Standard: Additional Analytes: Metals (Ba, Be, Cr, Co, Mn, Mo, Se, Ag, Sn)	Aldrin + Dieldrin	DDT + DDD +DDE	PCBs	Fluoride	Cyanide	Lead-Please use second sample jar provided. Do not use the initial sample. Repeat analysis on Pb	PAHs/ Phenols	Asbestos Prescence/Absence		TCLP PAHs (LOR – 0.5ug/L).						Shortest Holding time expiry
1	RH_SP_01	6/03/2023 7:18	EM2304035	1	MS: 1785-1787	soil jar	2		X									X						20-Mar-23
2	RH_SP_02	6/03/2023 7:18	EM2304035	2	MS: 1785-1787	soil jar	2											X						20-Mar-23
3	RH_SP_03	6/03/2023 7:19	EM2304035	3	MS: 1785-1787	soil jar	2		X							X		X						20-Mar-23
4	RH_SP_04	6/03/2023 7:19	EM2304035	4	MS: 1785-1787	soil jar	2											X						20-Mar-23
5	RH_SP_05	6/03/2023 7:20	EM2304035	5	MS: 1785-1787	soil jar	2											X						20-Mar-23
6	DL_SP_01	7/03/2023 7:22	EM2304035	6	MS: 1785-1787	soil jar	2		X								X	X						21-Mar-23
7	DL_SP_02	7/03/2023 7:23	EM2304035	7	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
8	DL_SP_03	7/03/2023 7:23	EM2304035	8	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
9	DL_SP_04	7/03/2023 7:23	EM2304035	9	MS: 1785-1787	soil jar	2										X							21-Mar-23
10	DL_SP_05	7/03/2023 7:23	EM2304035	10	MS: 1785-1787	soil jar	2		X						X		X	X						21-Mar-23
11	DL_SP_06	7/03/2023 7:23	EM2304035	11	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
12	DL_SP_07	7/03/2023 7:23	EM2304035	12	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
13	DL_SP_08	7/03/2023 7:24	EM2304035	13	MS: 1785-1787	soil jar	2		X								X	X						21-Mar-23
14	DL_SP_09	7/03/2023 7:24	EM2304035	14	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
15	DL_QC103	7/03/2023 7:24	EM2304035	15	MS: 1785-1787	soil jar	2		X								X	X						21-Mar-23
16	DL_SP_10	7/03/2023 7:25	EM2304035	17	MS: 1785-1787	soil jar	2										X	X						21-Mar-23
						TOTAL	32																	

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

I'm looking at the results for batch EM2304035 which came through last night. There were a few analytical suites missed in assessment we'll need – Tim believes he included them in the additional notes for the samples on Compass, but it's my fault for not looking at the CoC too closely however.

Can you organise the following additional assessment? Sample suites are summarised below the table of samples. A few small notes:

- For lead analysis of DL_SP05 – could the second sample jar provided for this sample be used? The initial report was very high (55,500 mg/kg) and may indicate some lead metal in the sample.
- When calculating the benzo(a)pyrene TEQ, is it possible for this to be determined using the 16 congeners on the third table provided, rather than the 8 ALS normally uses? This is the range used by Tasmanian EPA - I have previously been calculating manually if needed, but it's always preferable for the values we talk about to be on the COA.

Thanks, and please let me know if you have any questions or need any additional information.

Requested Additional Analysis – EM2304035

		Additional Analysis				
Sample Code	**Field ID**	**Additional IB105 Analytes**	**PAH leachate**	**Asbestos**	**Lead**	**PAHs/ Phenols**
EM2304035-001	RH_SP_01	x	x			
EM2304035-002	RH_SP_02		x			
EM2304035-003	RH_SP_03	x	x			x
EM2304035-004	RH_SP_04		x			
EM2304035-005	RH_SP_05		x			
EM2304035-006	DL_SP_01	x	x	x		
EM2304035-007	DL_SP_02		x	x		
EM2304035-008	DL_SP_03		x	x		
EM2304035-009	DL_SP_04			x		
EM2304035-010	DL_SP_05	x	x	x	x	
EM2304035-011	DL_SP_06		x	x		
EM2304035-012	DL_SP_07		x	x		
EM2304035-013	DL_SP_08	x	x	x		
EM2304035-014	DL_SP_09		x	x		
EM2304035-015	DL_QC103	x	x	x		
EM2304035-017	DL_SP_10		x	x		

Additional Suites

Additional Analysis	**Analytes / Notes**
Additional IB105 Analytes	Metals (Ba, Be, Cr, Co, Mn, Mo, Se, Ag, Sn) Aldrin + Dieldrin DDT + DDD +DDE PCBs Fluoride Cyanide
PAH leachate	TCLP Leachate assessment for PAHs (LOR – 0.5ug/L). Note - can b(a)p TEQ be calculated using the 16 congeners which are used by TAS EPA on the table below?
Asbestos	Asbestos Prescence/Absence

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305511**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023 11:15
Order number	: Macquarie Point	Date Analysis Commenced	: 30-Mar-2023
C-O-C number	: ----	Issue Date	: 03-Apr-2023 21:53
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- This is a rebatch of EM2304580.
- EN60a-P: EM2305511 #001 Due to limited sample for leach analysis, a scaled down amount of 15g into 300mL was used.
- EN60: Where leachable PFAS analysis is requested, centrifugation rather than pressure filtration is used as the default approach for removal of particulates, in line with AS 4439.3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_05	----	----	----	----
				Sampling date / time	07-Mar-2023 07:23	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2305511-001	--------	--------	--------	--------	
				Result	----	----	----	----	
EN60: ASLP Leaching Procedure - Inorganics/PFAS (Plastic Vessel)									
Initial pH	----	0.1	pH Unit	**9.0**	**----**	**----**	**----**	**----**	
After HCl pH	----	0.1	pH Unit	**1.3**	**----**	**----**	**----**	**----**	
Extraction Fluid pH	----	0.1	pH Unit	**5.0**	**----**	**----**	**----**	**----**	
Final pH	----	0.1	pH Unit	**5.8**	**----**	**----**	**----**	**----**	

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	DL_SP_05	----	----	----	----
				Sampling date / time	07-Mar-2023 07:23	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305511-001	--------	--------	--------	--------
					Result	----	----	----	----
EG005(ED093)C: Leachable Metals by ICPAES									
Lead	7439-92-1	0.1	mg/L		**34.1**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EM2305511**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Order number	: Macquarie Point	Date Analysis Commenced	: 30-Mar-2023
C-O-C number	: ----	Issue Date	: 03-Apr-2023
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 4969666)									
EM2305511-001	DL_SP_05	EG005C: Lead	7439-92-1	0.1	mg/L	34.1	33.8	0.8	0% - 20%
EM2305732-009	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4969666)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	83.4	80.0	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4969666)							
EM2305520-001	Anonymous	EG005C: Lead	7439-92-1	1 mg/L	94.9	80.0	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305511**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 08-Mar-2023
Site	: ----	Issue Date	: 03-Apr-2023
Sampler	: ----	No. of samples received	: 1
Order number	: Macquarie Point	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN60: ASLP Leaching Procedure - Inorganics/PFAS (Plastic Vessel)							
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN60a-P)							
DL_SP_05	**07-Mar-2023**	**30-Mar-2023**	03-Sep-2023	✓	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)							
DL_SP_05	**30-Mar-2023**	**03-Apr-2023**	26-Sep-2023	✓	**03-Apr-2023**	26-Sep-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	2	1	**200.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
ASLP for Non & Semivolatile Analytes - Plastic Leaching Vessel	EN60a-P	SOIL	In house QWI-EN/60 referenced to AS4439.3 Preparation of Leachates.

Rebatch

Client / Client code: AECOMAU
Project: MACQUARIE POINT
Project Manager: ROBERT CROWE
Date /time sample rec: 08/03/2023 11:15AM
Date/time Instructions rec: Wednesday, 29 March 2023 10:48 AM
Due date: Wednesday, 5 April 2023
Due date surcharge: **STANDARD**

CS Contact: PETER RAVLIC
Additional Information:
report recipient as per main WO and include requester

Environmental Division
Melbourne
Work Order Reference
EM2305511

Telephone : +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis										Shortest Holding time expiry
								Standard					Leach					
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container							TCLP Pb					
	DL_SP_05	7/03/2023 7:23	EM2304580	10	MS2016-7	SOIL							X					03-Sep-23
						TOTAL	0											

Ciara Barr

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Wednesday, 29 March 2023 10:57 AM
To: ALS Enviro Melbourne
Cc: Smith, Timothy (Hobart); Samples Melbourne; Peter Ravlic
Subject: [EXTERNAL] - RE: Macquarie Point - soil samples arriving today

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Good morning,

Please see below – just forwarding on as Peter is on leave.

Thanks,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
robert.crowe@aecom.com

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aecom.com

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From: Crowe, Robert
Sent: Wednesday, 29 March 2023 10:48 AM
To: Peter Ravlic <peter.ravlic@alsglobal.com>; samples.melbourne@alsglobal.com
Cc: Gillespie, Emily <Emily.Gillespie@aecom.com>; Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Subject: RE: Macquarie Point - soil samples arriving today

Morning Peter,

Would it be possible to add TCLP leachate assessment for lead for sample EM2304035-010 (DL_SP_05) from a previously submitted set of samples to this batch?

If not, can this be requested as a separate assessment?

Thanks,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
robert.crowe@aecom.com

AECOM

CHAIN OF CUSTODY

(ALS) COC#: 49293 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME: 8/3	DATE TIME:	DATE TIME:	DATE TIME: 8/3 11-15

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED							
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Soil Suite 2 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
011	DL_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
012	DL_SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
013	DL_SP_08			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
014	DL_SP_09			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
015	DL_QC103			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
016	DL_QC203			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2				Please forward to Eurofins for TRH BTEXN PAH PHENOLS Pb analysis	
017	DL_SP_10			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2					
018	RH_QCA03		06/03/2023 07:20 AM	WATER	ALS: 0 Non ALS: 0	No					X		

DATE: 9/3
TIME: 8:30
COURIER:
TEMPERATURE 5.8
ATTEMP TO CHILL: YES NO

970404

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

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IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Mar 9, 2023 8:30 AM
Eurofins reference	970404

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3.8 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT OIL AND DIESEL LINE REMOVAL

Order No.: 60693007-2
Report #: 970404
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 9, 2023 8:30 AM
Due: Mar 17, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	DL_QC203	Mar 07, 2023		Soil	M23-Ma0022155	X	X	X	X	X	X
Test Counts						1	1	1	1	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **970404-S**
Project name MACQUARIE POINT OIL AND DIESEL LINE REMOVAL
Received Date Mar 09, 2023

Client Sample ID			**DL_QC203**
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-Ma0022155**
Date Sampled			**Mar 07, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	180
TRH C29-C36	50	mg/kg	120
TRH C10-C36 (Total)	50	mg/kg	300
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	270
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	270
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	5.8
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	5.8
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	0.8
Anthracene	0.5	mg/kg	0.8
Benz(a)anthracene	0.5	mg/kg	3.1
Benzo(a)pyrene	0.5	mg/kg	3.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.9
Benzo(g.h.i)perylene	0.5	mg/kg	2.3
Benzo(k)fluoranthene	0.5	mg/kg	2.4
Chrysene	0.5	mg/kg	3.2
Dibenz(a.h)anthracene	0.5	mg/kg	0.9

Client Sample ID			DL_QC203
Sample Matrix			Soil
Eurofins Sample No.			M23-Ma0022155
Date Sampled			Mar 07, 2023
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	0.5	mg/kg	6.0
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	2.6
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	3.0
Pyrene	0.5	mg/kg	6.4
Total PAH*	0.5	mg/kg	38
2-Fluorobiphenyl (surr.)	1	%	67
p-Terphenyl-d14 (surr.)	1	%	51
Phenols (Halogenated)			
2-Chlorophenol	0.5	mg/kg	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1
Pentachlorophenol	1	mg/kg	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10
Total Halogenated Phenol*	1	mg/kg	< 1
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5
2-Nitrophenol	1.0	mg/kg	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4
Total cresols*	0.5	mg/kg	< 0.5
4-Nitrophenol	5	mg/kg	< 5
Dinoseb	20	mg/kg	< 20
Phenol	0.5	mg/kg	< 0.5
Phenol-d6 (surr.)	1	%	81
Total Non-Halogenated Phenol*	20	mg/kg	< 20
Heavy Metals			
Lead	5	mg/kg	270
Sample Properties			
% Moisture	1	%	8.9

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX and Naphthalene			
BTEX	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Mar 10, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Mar 10, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	Mar 09, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
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VIC 3008

Project Name: MACQUARIE POINT OIL AND DIESEL LINE REMOVAL

Order No.: 60693007-2
Report #: 970404
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Mar 9, 2023 8:30 AM
Due: Mar 17, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	DL_QC203	Mar 07, 2023		Soil	M23-Ma0022155	X	X	X	X	X	X
Test Counts						1	1	1	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	125			70-130	Pass	
TRH C10-C14	%	114			70-130	Pass	
TRH C6-C10	%	126			70-130	Pass	
TRH >C10-C16	%	114			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	88			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	114			70-130	Pass	
m&p-Xylenes	%	112			70-130	Pass	
Xylenes - Total*	%	112			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	95			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	128			70-130	Pass	
Benzo(b&j)fluoranthene	%	116			70-130	Pass	
Benzo(g.h.i)perylene	%	113			70-130	Pass	
Benzo(k)fluoranthene	%	128			70-130	Pass	
Chrysene	%	84			70-130	Pass	
Dibenz(a.h)anthracene	%	109			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	130			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	97			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	104			25-140	Pass	
2.4-Dichlorophenol	%	101			25-140	Pass	
2.4.5-Trichlorophenol	%	113			25-140	Pass	
2.4.6-Trichlorophenol	%	90			25-140	Pass	
2.6-Dichlorophenol	%	93			25-140	Pass	
4-Chloro-3-methylphenol	%	81			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	82			25-140	Pass	
Tetrachlorophenols - Total	%	33			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	125			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	111			25-140	Pass	
2-Nitrophenol	%	109			25-140	Pass	
2.4-Dimethylphenol	%	100			25-140	Pass	
2.4-Dinitrophenol	%	108			25-140	Pass	
2-Methylphenol (o-Cresol)	%	99			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	107			25-140	Pass	
4-Nitrophenol	%	109			25-140	Pass	
Dinoseb	%	101			25-140	Pass	
Phenol	%	107			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	104			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ma0016297	NCP	%	120			70-130	Pass	
TRH C10-C14	M23-Ma0023100	NCP	%	87			70-130	Pass	
TRH C6-C10	M23-Ma0016297	NCP	%	114			70-130	Pass	
TRH >C10-C16	M23-Ma0023100	NCP	%	88			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ma0016297	NCP	%	76			70-130	Pass	
Toluene	M23-Ma0016297	NCP	%	91			70-130	Pass	
Ethylbenzene	M23-Ma0016297	NCP	%	93			70-130	Pass	
m&p-Xylenes	M23-Ma0016297	NCP	%	93			70-130	Pass	
o-Xylene	M23-Ma0016297	NCP	%	94			70-130	Pass	
Xylenes - Total*	M23-Ma0016297	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ma0016297	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Ma0019960	NCP	%	76			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ma0023596	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ma0022155	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-Ma0022155	CP	mg/kg	180	200	12	30%	Pass	
TRH C29-C36	M23-Ma0022155	CP	mg/kg	120	140	16	30%	Pass	
TRH C6-C10	M23-Ma0023596	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ma0022155	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-Ma0022155	CP	mg/kg	270	310	14	30%	Pass	
TRH >C34-C40	M23-Ma0022155	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0023596	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0023596	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0023596	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0023596	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Ma0022155	CP	mg/kg	0.8	0.7	1.9	30%	Pass	
Anthracene	M23-Ma0022155	CP	mg/kg	0.8	0.7	7.1	30%	Pass	
Benz(a)anthracene	M23-Ma0022155	CP	mg/kg	3.1	2.9	7.2	30%	Pass	
Benzo(a)pyrene	M23-Ma0022155	CP	mg/kg	3.7	3.6	3.9	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ma0022155	CP	mg/kg	2.9	2.8	4.4	30%	Pass	
Benzo(g.h.i)perylene	M23-Ma0022155	CP	mg/kg	2.3	2.5	9.1	30%	Pass	
Benzo(k)fluoranthene	M23-Ma0022155	CP	mg/kg	2.4	2.5	2.9	30%	Pass	
Chrysene	M23-Ma0022155	CP	mg/kg	3.2	3.0	6.3	30%	Pass	
Dibenz(a.h)anthracene	M23-Ma0022155	CP	mg/kg	0.9	0.9	3.2	30%	Pass	
Fluoranthene	M23-Ma0022155	CP	mg/kg	6.0	5.5	7.8	30%	Pass	
Fluorene	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ma0022155	CP	mg/kg	2.6	2.6	<1	30%	Pass	
Naphthalene	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Ma0022155	CP	mg/kg	3.0	2.5	16	30%	Pass	
Pyrene	M23-Ma0022155	CP	mg/kg	6.4	6.4	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ma0022155	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ma0022155	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ma0022155	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Ma0022155	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ma0022155	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ma0022155	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ma0022155	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-Ma0022155	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Ma0022155	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Ma0022155	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Ma0019960	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ma0022074	NCP	%	15	15	2.3	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CERTIFICATE OF ANALYSIS

Work Order	: **EM2305446**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 29-Mar-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 30-Mar-2023
C-O-C number	: 50282	Issue Date	: 03-Apr-2023 21:32
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 15		
No. of samples analysed	: 14		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EN33: Where leachable PFAS analysis is requested, centrifugation rather than pressure filtration is used as the default approach for removal of particulates, in line with AS 4439.3.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)			Sample ID	UST_QCA07	UST_QCB09	----	----	----
			Sampling date / time	28-Mar-2023 10:30	28-Mar-2023 10:32	----	----	----
Compound	CAS Number	LOR	Unit	EM2305446-013	EM2305446-014	--------	--------	--------
				Result	Result	----	----	----
EG020T: Total Metals by ICP-MS								
Lead	7439-92-1	0.001	mg/L	**----**	<0.001	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	**----**	**----**	**----**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	**----**	**----**	**----**	**----**
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	**----**	**----**	**----**	**----**
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	**----**	**----**	**----**	**----**
Toluene	108-88-3	2	µg/L	<2	**----**	**----**	**----**	**----**
Ethylbenzene	100-41-4	2	µg/L	<2	**----**	**----**	**----**	**----**
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**----**	**----**	**----**	**----**
ortho-Xylene	95-47-6	2	µg/L	<2	**----**	**----**	**----**	**----**
^ **Total Xylenes**	----	2	µg/L	<2	**----**	**----**	**----**	**----**
^ **Sum of BTEX**	----	1	µg/L	<1	**----**	**----**	**----**	**----**
Naphthalene	91-20-3	5	µg/L	<5	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**106**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%	**104**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%	**107**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_SP_11	DL_SP_12	DL_SP_13	DL_SP_14	DL_SP_15
			Sampling date / time	28-Mar-2023 10:30	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:31
Compound	CAS Number	LOR	Unit	EM2305446-001	EM2305446-002	EM2305446-003	EM2305446-004	EM2305446-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	12.1	14.1	11.7	15.1	15.4
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	193	243	120	159	984
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	9.5	9.5	9.7	9.7	9.5
After HCl pH	----	0.1	pH Unit	1.5	1.6	1.6	1.6	1.7
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.3	5.3	5.3	5.4	5.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	DL_SP_16	DL_SP_17	DL_SP_18	DL_SP_19	DL_SP_20
				Sampling date / time	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:32	28-Mar-2023 10:32
Compound	CAS Number	LOR	Unit		EM2305446-006	EM2305446-007	EM2305446-008	EM2305446-009	EM2305446-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		17.2	18.1	13.9	9.7	15.3
EG005(ED093)T: Total Metals by ICP-AES									
Lead	7439-92-1	5	mg/kg		407	361	250	246	291
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)									
Initial pH	----	0.1	pH Unit		9.6	9.7	9.7	9.7	9.6
After HCl pH	----	0.1	pH Unit		1.6	1.7	1.6	1.7	1.6
Extraction Fluid Number	----	1	-		1	1	1	1	1
Final pH	----	0.1	pH Unit		5.4	5.3	5.3	5.3	5.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DL_QC111	DL_QC211	----	----	----
			Sampling date / time	28-Mar-2023 10:32	28-Mar-2023 10:32	----	----	----
Compound	CAS Number	LOR	Unit	EM2305446-011	EM2305446-012	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**9.9**	**15.0**	**----**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**238**	**225**	**----**	**----**	**----**
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	**9.5**	**9.6**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.7**	**1.6**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit	**5.2**	**5.3**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	DL_SP_11	DL_SP_12	DL_SP_13	DL_SP_14	DL_SP_15
				Sampling date / time	28-Mar-2023 10:30	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:31
Compound	CAS Number	LOR	Unit		EM2305446-001	EM2305446-002	EM2305446-003	EM2305446-004	EM2305446-005
					Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES									
Lead	7439-92-1	0.1	mg/L		**0.2**	**0.1**	<0.1	**0.1**	**4.6**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	DL_SP_16	DL_SP_17	DL_SP_18	DL_SP_19	DL_SP_20
			Sampling date / time	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:31	28-Mar-2023 10:32	28-Mar-2023 10:32
Compound	CAS Number	LOR	Unit	EM2305446-006	EM2305446-007	EM2305446-008	EM2305446-009	EM2305446-010
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**0.4**	**0.8**	**0.2**	**0.2**	**0.1**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	DL_QC111	DL_QC211	----	----	----
			Sampling date / time	28-Mar-2023 10:32	28-Mar-2023 10:32	----	----	----
Compound	CAS Number	LOR	Unit	EM2305446-011	EM2305446-012	--------	--------	--------
				Result	Result	----	----	----
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**0.1**	**0.2**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **RINSATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

QUALITY CONTROL REPORT

Work Order	: **EM2305446**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 29-Mar-2023
Order number	: 60693007-2	Date Analysis Commenced	: 30-Mar-2023
C-O-C number	: 50282	Issue Date	: 03-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 15		
No. of samples analysed	: 14		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4964306)									
EM2305446-001	DL_SP_11	EG005T: Lead	7439-92-1	5	mg/kg	193	229	17.0	0% - 20%
EM2305446-010	DL_SP_20	EG005T: Lead	7439-92-1	5	mg/kg	291	257	12.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4964322)									
EM2305446-001	DL_SP_11	EA055: Moisture Content	----	0.1	%	12.1	11.6	4.0	0% - 20%
EM2305446-011	DL_QC111	EA055: Moisture Content	----	0.1	%	9.9	11.4	13.8	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 4965413)									
EM2305446-001	DL_SP_11	EG005C: Lead	7439-92-1	0.1	mg/L	0.2	0.2	0.0	No Limit
EM2305446-010	DL_SP_20	EG005C: Lead	7439-92-1	0.1	mg/L	0.1	0.1	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 4965096)									
EM2305443-004	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.015	0.014	0.0	0% - 50%
EM2305346-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4964989)									
EM2305446-013	UST_QCA07	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4964989)									
EM2305446-013	UST_QCA07	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4964989)									
EM2305446-013	UST_QCA07	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4964989) - continued									
EM2305446-013	UST_QCA07	EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4964306)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	91.5	70.0	130

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4965413)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	86.0	80.0	120
EG020T: Total Metals by ICP-MS (QCLot: 4965096)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	88.3	112
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4964989)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	126	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4964989)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	124	66.2	132
EP080: BTEXN (QCLot: 4964989)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	116	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	118	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	118	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	124	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	124	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	112	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4964306)							
EM2305446-002	DL_SP_12	EG005T: Lead	7439-92-1	250 mg/kg	111	80.0	120

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4965413)							
EM2305446-002	DL_SP_12	EG005C: Lead	7439-92-1	1 mg/L	90.2	80.0	120
EG020T: Total Metals by ICP-MS (QCLot: 4965096)							
EM2305346-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	102	80.5	121

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305446**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 29-Mar-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 03-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 15
Order number	: 60693007-2	No. of samples analysed	: 14

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC 0	Regular	Actual	Expected	
Matrix Spikes (MS)					
TRH Volatiles/BTEX	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
DL_SP_11, DL_SP_12, DL_SP_13, DL_SP_14, DL_SP_15, DL_SP_16, DL_SP_17, DL_SP_18, DL_SP_19, DL_SP_20, DL_QC111, DL_QC211	**28-Mar-2023**	**----**	----	**----**	**30-Mar-2023**	11-Apr-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
DL_SP_11, DL_SP_12, DL_SP_13, DL_SP_14, DL_SP_15, DL_SP_16, DL_SP_17, DL_SP_18, DL_SP_19, DL_SP_20, DL_QC111, DL_QC211	**28-Mar-2023**	**30-Mar-2023**	24-Sep-2023	✓	**30-Mar-2023**	24-Sep-2023	✓
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)							
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-P)							
DL_SP_11, DL_SP_12, DL_SP_13, DL_SP_14, DL_SP_15, DL_SP_16, DL_SP_17, DL_SP_18, DL_SP_19, DL_SP_20, DL_QC111, DL_QC211	**28-Mar-2023**	**30-Mar-2023**	24-Sep-2023	✓	**----**	----	**----**

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)							
DL_SP_11, DL_SP_12, DL_SP_13, DL_SP_14, DL_SP_15, DL_SP_16, DL_SP_17, DL_SP_18, DL_SP_19, DL_SP_20, DL_QC111, DL_QC211	**30-Mar-2023**	**31-Mar-2023**	26-Sep-2023	✓	**31-Mar-2023**	26-Sep-2023	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
UST_QCB09	**28-Mar-2023**	**31-Mar-2023**	24-Sep-2023	✓	**31-Mar-2023**	24-Sep-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
UST_QCA07	**28-Mar-2023**	**31-Mar-2023**	11-Apr-2023	✓	**31-Mar-2023**	11-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
UST_QCA07	**28-Mar-2023**	**31-Mar-2023**	11-Apr-2023	✓	**31-Mar-2023**	11-Apr-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
UST_QCA07	**28-Mar-2023**	**31-Mar-2023**	11-Apr-2023	✓	**31-Mar-2023**	11-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Plastic Leaching Vessel	EN33a-P	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2305446**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 50282	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 29-Mar-2023 11:45	Issue Date	: 30-Mar-2023
Client Requested Due Date	: 05-Apr-2023	Scheduled Reporting Date	: **05-Apr-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 6.0°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 15 / 14

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EN33a-P TCLP Leachate - Plastic Leaching Vessel
EM2305446-001	28-Mar-2023 10:30	DL_SP_11	✓	✓	✓	✓
EM2305446-002	28-Mar-2023 10:31	DL_SP_12	✓	✓	✓	✓
EM2305446-003	28-Mar-2023 10:31	DL_SP_13	✓	✓	✓	✓
EM2305446-004	28-Mar-2023 10:31	DL_SP_14	✓	✓	✓	✓
EM2305446-005	28-Mar-2023 10:31	DL_SP_15	✓	✓	✓	✓
EM2305446-006	28-Mar-2023 10:31	DL_SP_16	✓	✓	✓	✓
EM2305446-007	28-Mar-2023 10:31	DL_SP_17	✓	✓	✓	✓
EM2305446-008	28-Mar-2023 10:31	DL_SP_18	✓	✓	✓	✓
EM2305446-009	28-Mar-2023 10:32	DL_SP_19	✓	✓	✓	✓
EM2305446-010	28-Mar-2023 10:32	DL_SP_20	✓	✓	✓	✓
EM2305446-011	28-Mar-2023 10:32	DL_QC111	✓	✓	✓	✓
EM2305446-012	28-Mar-2023 10:32	DL_QC211	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EG020T Total Metals by ICP/MS (including digestion)	WATER - W-18 TRH(C6 - C9)/BTEXN
EM2305446-013	28-Mar-2023 10:30	UST_QCA07			✓
EM2305446-014	28-Mar-2023 10:32	UST_QCB09		✓	
EM2305446-015	28-Mar-2023 10:30	UST_QCC04	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS COC#: 50282 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: FREIGHT	DATE TIME:	DATE TIME: NC 29/03 11:45am

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE: / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	DL_SP_11			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
002	DL_SP_12			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
003	DL_SP_13			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
004	DL_SP_14			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
005	DL_SP_15			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
006	DL_SP_16			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
007	DL_SP_17			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
008	DL_SP_18			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
009	DL_SP_19			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	

Environmental Division
Melbourne
Work Order Reference
EM2305446



Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 50282 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	DL_SP_20			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
011	DL_QC111			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
012	DL_QC211			SOIL	ALS: 0 Non ALS: 0	No	-		Pb total and TCLP only	
013	UST_QCA07			WATER	ALS: 0 Non ALS: 0	No		X		
014	UST_QCB09			WATER	ALS: 0 Non ALS: 0	No	-		Pb only	
015	UST_QCC04			WATER	ALS: 0 Non ALS: 0	Yes	-			

Total Bottle Count: ALS: 0, Non ALS: 0

Ranil Weerakkody

From: ALS Enviro Melbourne
Sent: Wednesday, 29 March 2023 12:01 PM
To: COC Melbourne
Subject: AECOM- Macquarie Point - soil samples arriving today FORWARD BAG T SGS
Attachments: approved-a8fca9eb-9d90-4063-b118-79bace7f2675.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 29 March 2023 10:42 AM
To: Peter Ravlic <peter.ravlic@alsglobal.com>; Samples Melbourne <Samples.Melbourne@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Gillespie, Emily <Emily.Gillespie@aecom.com>
Subject: [EXTERNAL] - Macquarie Point - soil samples arriving today

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, there is a lab batch arriving today from Hobart Compass CoC 50282. All soil samples are to be analysed for Pb and TCLP Pb only. Rinsate Pb only.
There are also another two samples in a plastic bag that are for a separate project. They should be pretty obvious and are LNAPL so smell a little. I am told that these need to be forwarded to:
Minh Nguyen,
SGS
Unit 16 / 33 Maddox St
Alexandria, NSW 2015

Could you please create a separate batch number for this and forward on for the NGP team. Project reference 60680381

Thanks in advance

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2305901**	Page	: 1 of 34
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 04-Apr-2023
C-O-C number	: 50528	Issue Date	: 06-Apr-2023 14:40
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 27		
No. of samples analysed	: 25		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG048G: EM2305901 #3 Poor matrix spike recovery for Hexavalent Chromium due to sample matrix. Confirmed by re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2305901 #3 Poor spike recovery for total Zinc due to sample matrix. Confirmed by re-digestion and re-analysis.
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Analysis of asbestos from swabs and tapes is not covered under the current scope of NATA accreditation.
- EP068: EM2305903_003 Poor matrix spike recovery for aldrin due to matrix effects. Confirmed by re-extraction and re-analysis.
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.

- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EA200: N/A - Not Applicable

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA08	OL_EX_QCB10	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-025	EM2305901-026	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA08	OL_EX_QCB10	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-025	EM2305901-026	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**36.9**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	**68.0**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	**97.6**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	**95.0**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		----	**95.6**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**94.0**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**116**	**115**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA08	OL_EX_QCB10	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-025	EM2305901-026	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**106**	**106**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**117**	**115**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-001	EM2305901-002	EM2305901-003	EM2305901-004	EM2305901-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**15.4**	**10.1**	**16.6**	**11.5**	**20.1**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--	**-**	----	----	----	----
Synthetic Mineral Fibre	----	-	--	**No**	----	----	----	----
Organic Fibre	----	-	--	**Yes**	----	----	----	----
Sample weight (dry)	----	0.01	g	**157**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	**M. TRAN**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**12**	----	**10**	----	----
Barium	7440-39-3	10	mg/kg	**190**	----	**220**	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	----
Chromium	7440-47-3	2	mg/kg	**105**	----	**17**	----	----
Cobalt	7440-48-4	2	mg/kg	**12**	----	**10**	----	----
Copper	7440-50-8	5	mg/kg	**558**	----	**218**	----	----
Lead	7439-92-1	5	mg/kg	**698**	**404**	**449**	**900**	**2020**
Manganese	7439-96-5	5	mg/kg	**251**	----	**221**	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	----	<2	----	----
Nickel	7440-02-0	2	mg/kg	**65**	----	**20**	----	----
Selenium	7782-49-2	5	mg/kg	<5	----	<5	----	----
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	----
Tin	7440-31-5	5	mg/kg	**49**	----	**55**	----	----
Zinc	7440-66-6	5	mg/kg	**582**	----	**902**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.9**	----	**1.2**	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**232**	----	**87**	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**80**	----	**70**	----	----
EP066: Polychlorinated Biphenyls (PCB)								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-001	EM2305901-002	EM2305901-003	EM2305901-004	EM2305901-005
				Result	Result	Result	Result	Result
EP066: Polychlorinated Biphenyls (PCB) - Continued								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-001	EM2305901-002	EM2305901-003	EM2305901-004	EM2305901-005
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ Sum of Phenols	----	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**8.8**	**3.1**	**1.2**	**1.3**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**2.2**	**2.1**	**2.3**	**1.2**	**1.8**
Acenaphthene	83-32-9	0.5	mg/kg	**0.8**	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	**1.4**	**0.8**	**0.8**	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**18.8**	**9.2**	**5.8**	**4.0**	**6.3**
Anthracene	120-12-7	0.5	mg/kg	**2.4**	**2.3**	**1.6**	**1.0**	**1.6**
Fluoranthene	206-44-0	0.5	mg/kg	**15.8**	**11.9**	**9.2**	**6.6**	**10.7**
Pyrene	129-00-0	0.5	mg/kg	**13.2**	**10.8**	**9.4**	**6.7**	**9.9**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**6.7**	**6.6**	**5.1**	**3.7**	**4.9**
Chrysene	218-01-9	0.5	mg/kg	**6.6**	**6.3**	**4.7**	**3.6**	**4.8**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**7.7**	**6.5**	**6.0**	**4.7**	**6.3**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**3.6**	**3.9**	**2.9**	**1.8**	**2.5**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**6.8**	----	**4.2**	**5.7**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**4.1**	**3.4**	**3.2**	**2.3**	**3.0**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.1**	**1.0**	**0.9**	**0.6**	**0.7**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**4.7**	**3.9**	**3.8**	**2.8**	**3.5**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**104**	**78.6**	**63.1**	**44.5**	**61.7**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**9.3**	**9.9**	**8.9**	**6.1**	**8.2**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**9.3**	**9.9**	**8.9**	**6.1**	**8.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**9.3**	**9.9**	**8.9**	**6.1**	**8.2**
EP075B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.05	mg/kg	**8.97**	----	**5.56**	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	**150**	**80**	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-001	EM2305901-002	EM2305901-003	EM2305901-004	EM2305901-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C15 - C28 Fraction	----	100	mg/kg		920	920	540	710	740
C29 - C36 Fraction	----	100	mg/kg		520	580	460	610	590
^ C10 - C36 Fraction (sum)	----	50	mg/kg		1590	1580	1000	1320	1330
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		200	130	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		1260	1330	900	1180	1190
>C34 - C40 Fraction	----	100	mg/kg		230	240	210	270	260
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		1690	1700	1110	1450	1450
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		200	130	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		2	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		73.4	----	95.5	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		97.2	----	120	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		82.9	----	95.6	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		96.2	101	118	101	97.1
2-Chlorophenol-D4	93951-73-6	0.5	%		110	116	117	118	115
2.4.6-Tribromophenol	118-79-6	0.5	%		104	105	118	107	102
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.7	91.4	94.3	91.1	88.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-001	EM2305901-002	EM2305901-003	EM2305901-004	EM2305901-005
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**89.8**	**88.5**	**96.0**	**89.5**	**87.7**
4-Terphenyl-d14	1718-51-0	0.5	%		**91.6**	**91.9**	**95.6**	**91.8**	**92.7**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**116**	**----**	**75.5**	**----**	**----**
Anthracene-d10	1719-06-8	0.025	%		**117**	**----**	**81.1**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.025	%		**128**	**----**	**82.6**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.9**	**78.7**	**72.9**	**78.0**	**72.7**
Toluene-D8	2037-26-5	0.2	%		**86.5**	**82.7**	**72.6**	**84.9**	**75.5**
4-Bromofluorobenzene	460-00-4	0.2	%		**101**	**94.8**	**76.0**	**98.9**	**91.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-006	EM2305901-007	EM2305901-008	EM2305901-009	EM2305901-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.3	19.6	15.3	10.0	9.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	15	----	----	12
Barium	7440-39-3	10	mg/kg	----	310	----	----	100
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	<1
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	<1
Chromium	7440-47-3	2	mg/kg	----	157	----	----	16
Cobalt	7440-48-4	2	mg/kg	----	10	----	----	12
Copper	7440-50-8	5	mg/kg	----	556	----	----	97
Lead	7439-92-1	5	mg/kg	494	706	823	428	197
Manganese	7439-96-5	5	mg/kg	----	283	----	----	346
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	----	<2
Nickel	7440-02-0	2	mg/kg	----	29	----	----	21
Selenium	7782-49-2	5	mg/kg	----	<5	----	----	<5
Silver	7440-22-4	2	mg/kg	----	<2	----	----	<2
Tin	7440-31-5	5	mg/kg	----	87	----	----	18
Zinc	7440-66-6	5	mg/kg	----	565	----	----	223
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	2.2	----	----	1.8
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	296	----	----	14
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	50	----	----	120
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-006	EM2305901-007	EM2305901-008	EM2305901-009	EM2305901-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg	----	<0.05	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	----	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-006	EM2305901-007	EM2305901-008	EM2305901-009	EM2305901-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**1.1**	**0.6**	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		**2.7**	**1.0**	**1.0**	**0.8**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		**0.8**	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		**14.2**	**5.2**	**2.6**	**1.0**	**0.8**
Anthracene	120-12-7	0.5	mg/kg		**2.7**	**1.1**	**0.7**	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		**18.5**	**8.5**	**5.4**	**2.5**	**1.8**
Pyrene	129-00-0	0.5	mg/kg		**17.9**	**8.4**	**5.6**	**2.6**	**1.9**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**8.7**	**4.8**	**3.5**	**1.9**	**1.2**
Chrysene	218-01-9	0.5	mg/kg		**8.3**	**4.6**	**3.4**	**1.8**	**1.0**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**9.2**	**5.5**	**4.2**	**3.0**	**1.5**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**4.8**	**3.1**	**2.3**	**1.3**	**0.6**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**8.3**	**----**	**4.2**	**3.2**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**5.0**	**3.1**	**2.3**	**1.7**	**0.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**1.4**	**0.9**	**0.6**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**5.8**	**3.7**	**2.7**	**2.1**	**0.8**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**109**	**55.7**	**38.5**	**21.9**	**11.7**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**12.6**	**7.8**	**6.1**	**4.0**	**1.8**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**12.6**	**7.8**	**6.1**	**4.3**	**2.1**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**12.6**	**7.8**	**6.1**	**4.5**	**2.3**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**----**	**7.50**	**----**	**----**	**1.25**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**360**	**250**	**390**	**120**	<100
C29 - C36 Fraction	----	100	mg/kg		**230**	**180**	**300**	**120**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**590**	**430**	**690**	**240**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**510**	**380**	**600**	**210**	**160**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-006	EM2305901-007	EM2305901-008	EM2305901-009	EM2305901-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	**120**	<100	**160**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**630**	**380**	**760**	**210**	**160**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**91.0**	----	----	**86.0**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	**114**	----	----	**89.2**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	**87.8**	----	----	**86.9**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**106**	**101**	**98.2**	**97.1**	**98.7**
2-Chlorophenol-D4	93951-73-6	0.5	%	**123**	**119**	**116**	**114**	**115**
2.4.6-Tribromophenol	118-79-6	0.5	%	**122**	**113**	**107**	**112**	**102**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**87.3**	**87.3**	**86.0**	**85.6**	**88.0**
Anthracene-d10	1719-06-8	0.5	%	**89.1**	**88.3**	**88.1**	**90.2**	**90.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**88.4**	**89.2**	**88.1**	**87.5**	**91.7**
EP075T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.025	%	----	**85.8**	----	----	**93.8**
Anthracene-d10	1719-06-8	0.025	%	----	**76.8**	----	----	**84.8**
4-Terphenyl-d14	1718-51-0	0.025	%	----	**90.2**	----	----	**95.0**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**77.1**	**77.0**	**80.6**	**78.2**	**83.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-006	EM2305901-007	EM2305901-008	EM2305901-009	EM2305901-010
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**81.5**	**85.7**	**88.9**	**83.7**	**92.0**
4-Bromofluorobenzene	460-00-4	0.2	%		**96.8**	**96.2**	**98.7**	**99.1**	**106**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-011	EM2305901-012	EM2305901-013	EM2305901-014	EM2305901-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	26.6	29.2	11.3	17.1	16.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	9	----	18
Barium	7440-39-3	10	mg/kg	----	----	230	----	260
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	<1	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	14	----	23
Cobalt	7440-48-4	2	mg/kg	----	----	14	----	10
Copper	7440-50-8	5	mg/kg	----	----	151	----	960
Lead	7439-92-1	5	mg/kg	1740	1080	365	693	1100
Manganese	7439-96-5	5	mg/kg	----	----	1070	----	313
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	20	----	30
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	23	----	91
Zinc	7440-66-6	5	mg/kg	----	----	364	----	1560
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	0.6	----	5.4
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	64	----	61
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	70	----	40
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-011	EM2305901-012	EM2305901-013	EM2305901-014	EM2305901-015
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		----	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg		----	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-011	EM2305901-012	EM2305901-013	EM2305901-014	EM2305901-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**2.8**	**3.1**	**1.0**	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		**0.9**	**0.6**	**4.7**	**1.0**	**0.8**
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	**0.6**	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		**0.9**	<0.5	**2.4**	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		**8.9**	**4.9**	**18.4**	**2.1**	**2.0**
Anthracene	120-12-7	0.5	mg/kg		**1.4**	**0.7**	**4.5**	**0.7**	**0.5**
Fluoranthene	206-44-0	0.5	mg/kg		**8.6**	**4.8**	**25.9**	**5.4**	**3.9**
Pyrene	129-00-0	0.5	mg/kg		**7.6**	**4.2**	**24.8**	**5.9**	**4.0**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**3.9**	**2.3**	**12.9**	**3.3**	**2.6**
Chrysene	218-01-9	0.5	mg/kg		**4.0**	**2.4**	**9.9**	**3.0**	**2.5**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**4.0**	**3.1**	**12.2**	**3.7**	**3.4**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**2.8**	**1.2**	**6.0**	**2.1**	**1.6**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**3.8**	**2.4**	**----**	**3.9**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**2.4**	**1.5**	**5.8**	**2.1**	**1.8**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.7**	<0.5	**1.5**	**0.6**	**0.5**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.8**	**1.8**	**6.7**	**2.5**	**2.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**55.5**	**33.0**	**151**	**36.3**	**29.0**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**5.9**	**3.2**	**19.0**	**5.7**	**4.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**5.9**	**3.5**	**19.0**	**5.7**	**4.7**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**5.9**	**3.8**	**19.0**	**5.7**	**4.7**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**----**	**----**	**7.02**	**----**	**2.75**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**460**	**280**	**870**	**480**	**350**
C29 - C36 Fraction	----	100	mg/kg		**240**	**200**	**630**	**410**	**250**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**700**	**480**	**1500**	**890**	**600**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**70**	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**620**	**420**	**1350**	**800**	**540**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-011	EM2305901-012	EM2305901-013	EM2305901-014	EM2305901-015
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	**270**	**210**	**130**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**690**	**420**	**1620**	**1010**	**670**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	**70**	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	**105**	----	**98.6**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	**117**	----	**104**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	**85.6**	----	**91.3**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**94.7**	**100**	**102**	**98.0**	**102**
2-Chlorophenol-D4	93951-73-6	0.5	%	**113**	**117**	**119**	**116**	**119**
2.4.6-Tribromophenol	118-79-6	0.5	%	**107**	**108**	**107**	**104**	**112**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**95.1**	**88.8**	**89.1**	**87.2**	**87.4**
Anthracene-d10	1719-06-8	0.5	%	**92.7**	**89.3**	**87.2**	**88.7**	**88.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**96.2**	**91.6**	**91.6**	**91.9**	**91.1**
EP075T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.025	%	----	----	**86.7**	----	**87.5**
Anthracene-d10	1719-06-8	0.025	%	----	----	**81.7**	----	**79.4**
4-Terphenyl-d14	1718-51-0	0.025	%	----	----	**91.7**	----	**90.0**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**72.9**	**73.8**	**84.8**	**81.6**	**73.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-011	EM2305901-012	EM2305901-013	EM2305901-014	EM2305901-015
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**77.1**	**76.8**	**94.1**	**91.9**	**82.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**88.4**	**92.0**	**107**	**106**	**95.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-016	EM2305901-017	EM2305901-018	EM2305901-019	EM2305901-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	21.0	12.5	19.8	15.2	14.5
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	11	----	15	----
Barium	7440-39-3	10	mg/kg	----	210	----	780	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	1	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	1	----
Chromium	7440-47-3	2	mg/kg	----	38	----	22	----
Cobalt	7440-48-4	2	mg/kg	----	10	----	28	----
Copper	7440-50-8	5	mg/kg	----	241	----	815	----
Lead	7439-92-1	5	mg/kg	705	527	868	1890	666
Manganese	7439-96-5	5	mg/kg	----	248	----	591	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	<2	----
Nickel	7440-02-0	2	mg/kg	----	23	----	44	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	<5	----
Silver	7440-22-4	2	mg/kg	----	<2	----	<2	----
Tin	7440-31-5	5	mg/kg	----	54	----	141	----
Zinc	7440-66-6	5	mg/kg	----	386	----	1250	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	1.8	----	0.7	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	<0.5	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	106	----	<1	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	80	----	50	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-016	EM2305901-017	EM2305901-018	EM2305901-019	EM2305901-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg	----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-016	EM2305901-017	EM2305901-018	EM2305901-019	EM2305901-020
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**0.9**	**1.3**	**0.7**	**0.6**	**0.7**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**2.9**	**4.9**	**3.6**	**0.7**	**1.5**
Anthracene	120-12-7	0.5	mg/kg	**0.8**	**1.0**	**1.0**	<0.5	**0.6**
Fluoranthene	206-44-0	0.5	mg/kg	**5.6**	**8.6**	**7.4**	**2.3**	**3.9**
Pyrene	129-00-0	0.5	mg/kg	**5.8**	**8.6**	**7.8**	**2.7**	**4.0**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**3.7**	**5.0**	**5.2**	**1.8**	**2.3**
Chrysene	218-01-9	0.5	mg/kg	**3.5**	**4.8**	**5.6**	**1.9**	**2.0**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**4.7**	**6.1**	**5.0**	**2.7**	**2.7**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.1**	**2.7**	**2.2**	**1.1**	**1.7**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**4.5**	**----**	**4.8**	**----**	**3.1**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**2.3**	**2.9**	**3.7**	**1.5**	**1.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.6**	**0.8**	**1.0**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.8**	**3.5**	**4.2**	**2.0**	**1.9**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**40.2**	**55.5**	**52.2**	**19.6**	**26.0**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**6.4**	**7.8**	**7.5**	**3.0**	**4.0**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**6.4**	**7.8**	**7.5**	**3.3**	**4.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**6.4**	**7.8**	**7.5**	**3.5**	**4.5**
EP075B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.05	mg/kg	**----**	**3.57**	**----**	**0.42**	**----**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**290**	**350**	**480**	**180**	**110**
C29 - C36 Fraction	----	100	mg/kg	**230**	**260**	**280**	**170**	**120**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**520**	**610**	**760**	**350**	**230**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**460**	**540**	**670**	**310**	**200**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2305901-016	EM2305901-017	EM2305901-018	EM2305901-019	EM2305901-020
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C34 - C40 Fraction	----	100	mg/kg	**110**	**120**	**130**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**570**	**660**	**800**	**310**	**200**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**----**	**97.6**	**----**	**95.7**	**----**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**----**	**98.8**	**----**	**100**	**----**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**----**	**95.5**	**----**	**89.1**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**97.9**	**98.6**	**98.7**	**105**	**87.6**
2-Chlorophenol-D4	93951-73-6	0.5	%	**116**	**114**	**114**	**108**	**107**
2.4.6-Tribromophenol	118-79-6	0.5	%	**106**	**103**	**94.9**	**111**	**94.8**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**87.4**	**86.0**	**100**	**85.3**	**82.9**
Anthracene-d10	1719-06-8	0.5	%	**88.0**	**86.6**	**96.1**	**91.0**	**102**
4-Terphenyl-d14	1718-51-0	0.5	%	**91.6**	**90.2**	**98.9**	**88.5**	**92.9**
EP075T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.025	%	**----**	**85.1**	**----**	**85.6**	**----**
Anthracene-d10	1719-06-8	0.025	%	**----**	**78.0**	**----**	**78.6**	**----**
4-Terphenyl-d14	1718-51-0	0.025	%	**----**	**89.2**	**----**	**87.2**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**69.8**	**67.2**	**73.6**	**75.3**	**79.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2305901-016	EM2305901-017	EM2305901-018	EM2305901-019	EM2305901-020
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**69.6**	**67.0**	**78.2**	**75.7**	**80.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.1**	**73.5**	**89.7**	**86.8**	**98.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_QC113	OL_EX_SP1_QC114	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-021	EM2305901-022	--------	--------	--------
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**16.1**	**11.6**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**7**	----	----	----	----
Barium	7440-39-3	10	mg/kg		**150**	----	----	----	----
Beryllium	7440-41-7	1	mg/kg		<1	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**35**	----	----	----	----
Cobalt	7440-48-4	2	mg/kg		**10**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**171**	----	----	----	----
Lead	7439-92-1	5	mg/kg		**315**	**311**	----	----	----
Manganese	7439-96-5	5	mg/kg		**213**	----	----	----	----
Molybdenum	7439-98-7	2	mg/kg		<2	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**31**	----	----	----	----
Selenium	7782-49-2	5	mg/kg		<5	----	----	----	----
Silver	7440-22-4	2	mg/kg		<2	----	----	----	----
Tin	7440-31-5	5	mg/kg		**31**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**363**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**0.8**	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		<0.5	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		**444**	----	----	----	----
EK040T: Fluoride Total									
Fluoride	16984-48-8	40	mg/kg		**80**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_QC113	OL_EX_SP1_QC114	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-021	EM2305901-022	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	----	----	----
^ **Sum of Phenols**	----	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_QC113	OL_EX_SP1_QC114	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-021	EM2305901-022	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**6.9**	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**2.1**	**0.5**	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		**0.6**	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		**1.2**	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**16.1**	**1.5**	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**2.6**	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**16.1**	**4.0**	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**14.9**	**4.1**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**8.5**	**2.6**	----	----	----
Chrysene	218-01-9	0.5	mg/kg		**8.0**	**2.4**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**9.1**	**2.1**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**4.8**	**1.0**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**----**	**2.3**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**4.5**	**1.4**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**1.2**	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**5.2**	**1.5**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**110**	**23.4**	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**12.7**	**3.0**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**12.7**	**3.3**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**12.7**	**3.5**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**8.72**	**----**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		**60**	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**740**	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**470**	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1270**	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**120**	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**1070**	**120**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_QC113	OL_EX_SP1_QC114	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-021	EM2305901-022	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg		**200**	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**1390**	**120**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**120**	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		**3**	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**84.2**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**118**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**95.0**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**98.6**	**91.5**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**116**	**112**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**106**	**93.4**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**89.4**	**102**	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**87.2**	**98.5**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**88.7**	**104**	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**83.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.025	%		**78.3**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		**88.7**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**87.1**	**77.0**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_QC113	OL_EX_SP1_QC114	----	----	----
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-021	EM2305901-022	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**84.0**	**80.0**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**81.4**	**97.6**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)				Sample ID	OL_EX_SP1_01	----	----	----	----
				Sampling date / time	03-Apr-2023 05:16	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2305901-028	--------	--------	--------	--------
					Result	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		**Yes**	----	----	----	----
Asbestos Type	1332-21-4	-	--		**Ch + Cr**	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres		**N/A**	----	----	----	----
Sample weight (dry)	----	0.01	g		**20.3**	----	----	----	----
Synthetic Mineral Fibre	----	-	-		**No**	----	----	----	----
Organic Fibre	----	-	-		**No**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		**M. TRAN**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	OL_EX_SP1_01 - 03-Apr-2023 17:16	Grey rocky soil with organic matter.

Sub-Matrix: **SOLID**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	OL_EX_SP1_01 - 03-Apr-2023 05:16	Asbestos sheeting fragments with attached soil matter approx 40 x 30 x 5mm.

Surrogate Control Limits

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2305901**	Page	: 1 of 34
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Date Received	: 04-Apr-2023 11:45
Order number	: 60693007-2	Date Analysed	: 04-Apr-2023
C-O-C number	: 50528	Date Issued	: 06-Apr-2023 14:41
No. of samples received	: 27		
No. of samples analysed	: 25	Quote number	: ME/386/22

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.

This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.

This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.

Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
OL_EX_SP1_01	**EM2305901-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**104 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**8.97 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**63.1 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.56 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**55.7 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**7.50 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**151 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**7.02 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.75 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**55.5 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.57 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Lead	EG005T	5	*< 1,200 mg/kg*	**1890 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**110 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**8.72 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
OL_EX_SP1_01	**EM2305901-001**	Chromium	EG005T	2	*< 50 mg/kg*	**105 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Copper	EG005T	5	*< 100 mg/kg*	**558 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Lead	EG005T	5	*< 300 mg/kg*	**698 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Nickel	EG005T	2	*< 60 mg/kg*	**65 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Zinc	EG005T	5	*< 200 mg/kg*	**582 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**232 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1590 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**104 mg/kg**
OL_EX_SP1_01	**EM2305901-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**8.97 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Copper	EG005T	5	*< 100 mg/kg*	**218 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Lead	EG005T	5	*< 300 mg/kg*	**449 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Tin	EG005T	5	*< 50 mg/kg*	**55 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Zinc	EG005T	5	*< 200 mg/kg*	**902 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.2 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**87 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1000 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**63.1 mg/kg**
OL_EX_SP1_03	**EM2305901-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.56 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
OL_EX_SP1_07	**EM2305901-007**	Barium	EG005T	10	*< 300 mg/kg*	**310 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Chromium	EG005T	2	*< 50 mg/kg*	**157 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Copper	EG005T	5	*< 100 mg/kg*	**556 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Lead	EG005T	5	*< 300 mg/kg*	**706 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Tin	EG005T	5	*< 50 mg/kg*	**87 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Zinc	EG005T	5	*< 200 mg/kg*	**565 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Mercury	EG035T	0.1	*< 1 mg/kg*	**2.2 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**296 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**55.7 mg/kg**
OL_EX_SP1_07	**EM2305901-007**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**7.50 mg/kg**
OL_EX_SP1_10	**EM2305901-010**	Zinc	EG005T	5	*< 200 mg/kg*	**223 mg/kg**
OL_EX_SP1_10	**EM2305901-010**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.8 mg/kg**
OL_EX_SP1_10	**EM2305901-010**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**1.25 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Copper	EG005T	5	*< 100 mg/kg*	**151 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Lead	EG005T	5	*< 300 mg/kg*	**365 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Manganese	EG005T	5	*< 500 mg/kg*	**1070 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Zinc	EG005T	5	*< 200 mg/kg*	**364 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**64 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1500 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**151 mg/kg**
OL_EX_SP1_13	**EM2305901-013**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**7.02 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Copper	EG005T	5	*< 100 mg/kg*	**960 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Lead	EG005T	5	*< 300 mg/kg*	**1100 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Tin	EG005T	5	*< 50 mg/kg*	**91 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Zinc	EG005T	5	*< 200 mg/kg*	**1560 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Mercury	EG035T	0.1	*< 1 mg/kg*	**5.4 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**61 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**29.0 mg/kg**
OL_EX_SP1_15	**EM2305901-015**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.75 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Copper	EG005T	5	*< 100 mg/kg*	**241 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Lead	EG005T	5	*< 300 mg/kg*	**527 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Tin	EG005T	5	*< 50 mg/kg*	**54 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Zinc	EG005T	5	*< 200 mg/kg*	**386 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.8 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**106 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**55.5 mg/kg**
OL_EX_SP1_17	**EM2305901-017**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.57 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
OL_EX_SP1_19	**EM2305901-019**	Barium	EG005T	10	*< 300 mg/kg*	**780 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Copper	EG005T	5	*< 100 mg/kg*	**815 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Lead	EG005T	5	*< 300 mg/kg*	**1890 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Manganese	EG005T	5	*< 500 mg/kg*	**591 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Tin	EG005T	5	*< 50 mg/kg*	**141 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Zinc	EG005T	5	*< 200 mg/kg*	**1250 mg/kg**
OL_EX_SP1_19	**EM2305901-019**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.42 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Copper	EG005T	5	*< 100 mg/kg*	**171 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Lead	EG005T	5	*< 300 mg/kg*	**315 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Zinc	EG005T	5	*< 200 mg/kg*	**363 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**444 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1270 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**110 mg/kg**
OL_EX_SP1_QC113	**EM2305901-021**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**8.72 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_01 03-Apr-2023 17:16 EM2305901-001 MU	OL_EX_SP1_02 03-Apr-2023 17:16 EM2305901-002 MU	OL_EX_SP1_03 03-Apr-2023 17:16 EM2305901-003 MU	OL_EX_SP1_04 03-Apr-2023 17:16 EM2305901-004 MU	OL_EX_SP1_05 03-Apr-2023 17:16 EM2305901-005 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	750	**12** ± 2	----	**10** ± 2	----	----
Barium	EG005T	10	mg/kg		----	30000	**190** ± 20	----	**220** ± 20	----	----
Beryllium	EG005T	1	mg/kg		----	400	<1 - -	----	<1 - -	----	----
Cadmium	EG005T	1	mg/kg		----	400	<1 - -	----	<1 - -	----	----
Chromium	EG005T	2	mg/kg		----	5000	**105** ± 12	----	**17** ± 2	----	----
Cobalt	EG005T	2	mg/kg		----	1000	**12** ± 1	----	**10** ± 1	----	----
Copper	EG005T	5	mg/kg		----	7500	**558** ± 67	----	**218** ± 26	----	----
Lead	EG005T	5	mg/kg		----	3000	**698** ± 73	----	**449** ± 47	----	----
Manganese	EG005T	5	mg/kg		----	25000	**251** ± 25	----	**221** ± 22	----	----
Molybdenum	EG005T	2	mg/kg		----	4000	<2 - -	----	<2 - -	----	----
Nickel	EG005T	2	mg/kg		----	3000	**65** ± 6	----	**20** ± 2	----	----
Selenium	EG005T	5	mg/kg		----	200	<5 - -	----	<5 - -	----	----
Silver	EG005T	2	mg/kg		----	720	<2 - -	----	<2 - -	----	----
Tin	EG005T	5	mg/kg		----	900	**49** ± 8	----	**55** ± 8	----	----
Zinc	EG005T	5	mg/kg		----	50000	**582** ± 60	----	**902** ± 93	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	110	**0.9** ± 0.09	----	**1.2** ± 0.1	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	2000	<0.5 - -	----	<0.5 - -	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	2500	**232** ± 23	----	**87** ± 9	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	10000	**80** ± 30	----	**70** ± 30	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	50	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	50	<0.05	----	<0.05	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	1000	<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	2000	<0.5	----	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_SP1_01 03-Apr-2023 17:16 EM2305901-001 MU	OL_EX_SP1_02 03-Apr-2023 17:16 EM2305901-002 MU	OL_EX_SP1_03 03-Apr-2023 17:16 EM2305901-003 MU	OL_EX_SP1_04 03-Apr-2023 17:16 EM2305901-004 MU	OL_EX_SP1_05 03-Apr-2023 17:16 EM2305901-005 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		**104**	**----**	**63.1**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		**8.97**	**----**	**5.56**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		<10 --	**----**	<10 --	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		**1590**	**----**	**1000**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		<0.2 --	**----**	<0.2 --	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	1000		<0.5 --	**----**	<0.5 --	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080		<0.5 --	**----**	<0.5 --	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800		<0.5 --	**----**	<0.5 --	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time* OL_EX_SP1_01 03-Apr-2023 17:16 EM2305901-001 MU	OL_EX_SP1_02 03-Apr-2023 17:16 EM2305901-002 MU	OL_EX_SP1_03 03-Apr-2023 17:16 EM2305901-003 MU	OL_EX_SP1_04 03-Apr-2023 17:16 EM2305901-004 MU	OL_EX_SP1_05 03-Apr-2023 17:16 EM2305901-005 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**12** ± 2	----	**10** ± 2	----	----
Barium	EG005T	10	mg/kg	----	300	**190** ± 20	----	**220** ± 20	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	<1 --	----	----
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	<1 --	----	----
Chromium	EG005T	2	mg/kg	----	50	**105** ± 12	----	**17** ± 2	----	----
Cobalt	EG005T	2	mg/kg	----	100	**12** ± 1	----	**10** ± 1	----	----
Copper	EG005T	5	mg/kg	----	100	**558** ± 67	----	**218** ± 26	----	----
Lead	EG005T	5	mg/kg	----	300	**698** ± 73	----	**449** ± 47	----	----
Manganese	EG005T	5	mg/kg	----	500	**251** ± 25	----	**221** ± 22	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	----
Nickel	EG005T	2	mg/kg	----	60	**65** ± 6	----	**20** ± 2	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	<5 --	----	----
Silver	EG005T	2	mg/kg	----	10	<2 --	----	<2 --	----	----
Tin	EG005T	5	mg/kg	----	50	**49** ± 8	----	**55** ± 8	----	----
Zinc	EG005T	5	mg/kg	----	200	**582** ± 60	----	**902** ± 93	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.9** ± 0.09	----	**1.2** ± 0.1	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	<0.5 --	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**232** ± 23	----	**87** ± 9	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**80** ± 30	----	**70** ± 30	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**104**	----	**63.1**	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_SP1_01 03-Apr-2023 17:16	OL_EX_SP1_02 03-Apr-2023 17:16	OL_EX_SP1_03 03-Apr-2023 17:16	OL_EX_SP1_04 03-Apr-2023 17:16	OL_EX_SP1_05 03-Apr-2023 17:16
							EM2305901-001 MU	EM2305901-002 MU	EM2305901-003 MU	EM2305901-004 MU	EM2305901-005 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**8.97**	**----**	**5.56**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10 --	**----**	<10 --	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**1590**	**----**	**1000**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2 --	**----**	<0.2 --	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	1		<0.5 --	**----**	<0.5 --	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5 --	**----**	<0.5 --	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5 --	**----**	<0.5 --	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-001 MU	EM2305901-002 MU	EM2305901-003 MU	EM2305901-004 MU	EM2305901-005 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**12** ± 2	----	**10** ± 2	----	----
Barium	EG005T	10	mg/kg	----	3000	**190** ± 20	----	**220** ± 20	----	----
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	----
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	<1 --	----	----
Chromium	EG005T	2	mg/kg	----	500	**105** ± 12	----	**17** ± 2	----	----
Cobalt	EG005T	2	mg/kg	----	200	**12** ± 1	----	**10** ± 1	----	----
Copper	EG005T	5	mg/kg	----	2000	**558** ± 67	----	**218** ± 26	----	----
Lead	EG005T	5	mg/kg	----	1200	**698** ± 73	----	**449** ± 47	----	----
Manganese	EG005T	5	mg/kg	----	5000	**251** ± 25	----	**221** ± 22	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	<2 --	----	----
Nickel	EG005T	2	mg/kg	----	600	**65** ± 6	----	**20** ± 2	----	----
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	<5 --	----	----
Silver	EG005T	2	mg/kg	----	180	<2 --	----	<2 --	----	----
Tin	EG005T	5	mg/kg	----	500	**49** ± 8	----	**55** ± 8	----	----
Zinc	EG005T	5	mg/kg	----	14000	**582** ± 60	----	**902** ± 93	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.9** ± 0.09	----	**1.2** ± 0.1	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	<0.5 --	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	**232** ± 23	----	**87** ± 9	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**80** ± 30	----	**70** ± 30	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	<0.05	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**104**	----	**63.1**	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_SP1_01 03-Apr-2023 17:16 EM2305901-001 MU	OL_EX_SP1_02 03-Apr-2023 17:16 EM2305901-002 MU	OL_EX_SP1_03 03-Apr-2023 17:16 EM2305901-003 MU	OL_EX_SP1_04 03-Apr-2023 17:16 EM2305901-004 MU	OL_EX_SP1_05 03-Apr-2023 17:16 EM2305901-005 MU
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		**8.97**	**----**	**5.56**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		<10 --	**----**	<10 --	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		**1590**	**----**	**1000**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		<0.2 --	**----**	<0.2 --	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	100		<0.5 --	**----**	<0.5 --	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	100		<0.5 --	**----**	<0.5 --	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	180		<0.5 --	**----**	<0.5 --	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_06 03-Apr-2023 17:16 EM2305901-006 MU	OL_EX_SP1_07 03-Apr-2023 17:16 EM2305901-007 MU	OL_EX_SP1_08 03-Apr-2023 17:16 EM2305901-008 MU	OL_EX_SP1_09 03-Apr-2023 17:16 EM2305901-009 MU	OL_EX_SP1_10 03-Apr-2023 17:16 EM2305901-010 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	**15** ± 3	----	----	**12** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	**310** ± 30	----	----	**100** ± 10
Beryllium	EG005T	1	mg/kg	----	400	----	<1 - -	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	400	----	<1 - -	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	5000	----	**157** ± 18	----	----	**16** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	**10** ± 1	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	**556** ± 67	----	----	**97** ± 12
Lead	EG005T	5	mg/kg	----	3000	----	**706** ± 74	----	----	**197** ± 21
Manganese	EG005T	5	mg/kg	----	25000	----	**283** ± 28	----	----	**346** ± 34
Molybdenum	EG005T	2	mg/kg	----	4000	----	<2 - -	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	3000	----	**29** ± 3	----	----	**21** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	<5 - -	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	720	----	<2 - -	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	900	----	**87** ± 13	----	----	**18** ± 4
Zinc	EG005T	5	mg/kg	----	50000	----	**565** ± 58	----	----	**223** ± 24
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	**2.2** ± 0.2	----	----	**1.8** ± 0.2
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	<0.5 - -	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	**296** ± 30	----	----	**14** ± 1
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	**50** ± 30	----	----	**120** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	<0.1	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	<0.05	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	<0.5	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-006 MU	EM2305901-007 MU	EM2305901-008 MU	EM2305901-009 MU	EM2305901-010 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	**55.7**	----	----	**11.7**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	----	**7.50**	----	----	**1.25**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	----	<10 --	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	----	**430**	----	----	<50
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	----	<0.2 --	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	----	<0.5 --	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	----	<0.5 --	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	----	<0.5 --	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_06 *Sampling date/time*: 03-Apr-2023 17:16 EM2305901-006 MU	OL_EX_SP1_07 *Sampling date/time*: 03-Apr-2023 17:16 EM2305901-007 MU	OL_EX_SP1_08 *Sampling date/time*: 03-Apr-2023 17:16 EM2305901-008 MU	OL_EX_SP1_09 *Sampling date/time*: 03-Apr-2023 17:16 EM2305901-009 MU	OL_EX_SP1_10 *Sampling date/time*: 03-Apr-2023 17:16 EM2305901-010 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	**15** ± 3	----	----	**12** ± 2
Barium	EG005T	10	mg/kg	----	300	----	**310** ± 30	----	----	**100** ± 10
Beryllium	EG005T	1	mg/kg	----	2	----	<1 - -	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	3	----	<1 - -	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	50	----	**157** ± 18	----	----	**16** ± 2
Cobalt	EG005T	2	mg/kg	----	100	----	**10** ± 1	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	100	----	**556** ± 67	----	----	**97** ± 12
Lead	EG005T	5	mg/kg	----	300	----	**706** ± 74	----	----	**197** ± 21
Manganese	EG005T	5	mg/kg	----	500	----	**283** ± 28	----	----	**346** ± 34
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 - -	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	60	----	**29** ± 3	----	----	**21** ± 2
Selenium	EG005T	5	mg/kg	----	10	----	<5 - -	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	10	----	<2 - -	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	50	----	**87** ± 13	----	----	**18** ± 4
Zinc	EG005T	5	mg/kg	----	200	----	**565** ± 58	----	----	**223** ± 24
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**2.2** ± 0.2	----	----	**1.8** ± 0.2
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 - -	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	**296** ± 30	----	----	**14** ± 1
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	**50** ± 30	----	----	**120** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-006 MU	EM2305901-007 MU	EM2305901-008 MU	EM2305901-009 MU	EM2305901-010 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**55.7**	**----**	**----**	**11.7**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**7.50**	**----**	**----**	**1.25**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	<10 --	**----**	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**430**	**----**	**----**	<50
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	<0.2 --	**----**	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	**----**	<0.5 --	**----**	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	<0.5 --	**----**	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	<0.5 --	**----**	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_SP1_06 03-Apr-2023 17:16 EM2305901-006 MU	OL_EX_SP1_07 03-Apr-2023 17:16 EM2305901-007 MU	OL_EX_SP1_08 03-Apr-2023 17:16 EM2305901-008 MU	OL_EX_SP1_09 03-Apr-2023 17:16 EM2305901-009 MU	OL_EX_SP1_10 03-Apr-2023 17:16 EM2305901-010 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	200		----	**15** ± 3	----	----	**12** ± 2
Barium	EG005T	10	mg/kg	----	3000		----	**310** ± 30	----	----	**100** ± 10
Beryllium	EG005T	1	mg/kg	----	40		----	<1 - -	----	----	<1 - -
Cadmium	EG005T	1	mg/kg	----	40		----	<1 - -	----	----	<1 - -
Chromium	EG005T	2	mg/kg	----	500		----	**157** ± 18	----	----	**16** ± 2
Cobalt	EG005T	2	mg/kg	----	200		----	**10** ± 1	----	----	**12** ± 1
Copper	EG005T	5	mg/kg	----	2000		----	**556** ± 67	----	----	**97** ± 12
Lead	EG005T	5	mg/kg	----	1200		----	**706** ± 74	----	----	**197** ± 21
Manganese	EG005T	5	mg/kg	----	5000		----	**283** ± 28	----	----	**346** ± 34
Molybdenum	EG005T	2	mg/kg	----	1000		----	<2 - -	----	----	<2 - -
Nickel	EG005T	2	mg/kg	----	600		----	**29** ± 3	----	----	**21** ± 2
Selenium	EG005T	5	mg/kg	----	50		----	<5 - -	----	----	<5 - -
Silver	EG005T	2	mg/kg	----	180		----	<2 - -	----	----	<2 - -
Tin	EG005T	5	mg/kg	----	500		----	**87** ± 13	----	----	**18** ± 4
Zinc	EG005T	5	mg/kg	----	14000		----	**565** ± 58	----	----	**223** ± 24
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	30		----	**2.2** ± 0.2	----	----	**1.8** ± 0.2
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200		----	<0.5 - -	----	----	<0.5 - -
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	1000		----	**296** ± 30	----	----	**14** ± 1
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	3000		----	**50** ± 30	----	----	**120** ± 30
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20		----	<0.1	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20		----	<0.05	----	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200		----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500		----	<0.5	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305901-006 MU	EM2305901-007 MU	EM2305901-008 MU	EM2305901-009 MU	EM2305901-010 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	40	----	**55.7**	----	----	**11.7**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	----	**7.50**	----	----	**1.25**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	----	<10 --	----	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	----	**430**	----	----	<50
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	----	<0.2 --	----	----	<0.2 --
Toluene	EP080	0.5	mg/kg		----	100	----	<0.5 --	----	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg		----	100	----	<0.5 --	----	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg		----	180	----	<0.5 --	----	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_11 *Sample ID* / *Sampling date/time* 03-Apr-2023 17:16 EM2305901-011 MU	OL_EX_SP1_12 03-Apr-2023 17:16 EM2305901-012 MU	OL_EX_SP1_13 03-Apr-2023 17:16 EM2305901-013 MU	OL_EX_SP1_14 03-Apr-2023 17:16 EM2305901-014 MU	OL_EX_SP1_15 03-Apr-2023 17:16 EM2305901-015 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	----	----	**9** ± 2	----	**18** ± 3
Barium	EG005T	10	mg/kg	----	30000	----	----	**230** ± 20	----	**260** ± 30
Beryllium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	**14** ± 2	----	**23** ± 3
Cobalt	EG005T	2	mg/kg	----	1000	----	----	**14** ± 2	----	**10** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	----	**151** ± 18	----	**960** ± 115
Lead	EG005T	5	mg/kg	----	3000	----	----	**365** ± 38	----	**1100** ± 114
Manganese	EG005T	5	mg/kg	----	25000	----	----	**1070** ± 105	----	**313** ± 31
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	**20** ± 2	----	**30** ± 3
Selenium	EG005T	5	mg/kg	----	200	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	**23** ± 4	----	**91** ± 14
Zinc	EG005T	5	mg/kg	----	50000	----	----	**364** ± 38	----	**1560** ± 160
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	**0.6** ± 0.06	----	**5.4** ± 0.5
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	**64** ± 6	----	**61** ± 6
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	10000	----	----	**70** ± 30	----	**40** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-011 MU	EM2305901-012 MU	EM2305901-013 MU	EM2305901-014 MU	EM2305901-015 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**----**	**----**	**151**	**----**	**29.0**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**----**	**----**	**7.02**	**----**	**2.75**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	**----**	**----**	<10 --	**----**	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**----**	**----**	**1500**	**----**	**600**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	**----**	**----**	<0.2 --	**----**	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	**----**	**----**	<0.5 --	**----**	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	**----**	**----**	<0.5 --	**----**	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	**----**	**----**	<0.5 --	**----**	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_11 03-Apr-2023 17:16 EM2305901-011 MU	OL_EX_SP1_12 03-Apr-2023 17:16 EM2305901-012 MU	OL_EX_SP1_13 03-Apr-2023 17:16 EM2305901-013 MU	OL_EX_SP1_14 03-Apr-2023 17:16 EM2305901-014 MU	OL_EX_SP1_15 03-Apr-2023 17:16 EM2305901-015 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	----	----	**9** ± 2	----	**18** ± 3
Barium	EG005T	10	mg/kg	----	300	----	----	**230** ± 20	----	**260** ± 30
Beryllium	EG005T	1	mg/kg	----	2	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	----	----	**14** ± 2	----	**23** ± 3
Cobalt	EG005T	2	mg/kg	----	100	----	----	**14** ± 2	----	**10** ± 1
Copper	EG005T	5	mg/kg	----	100	----	----	**151** ± 18	----	**960** ± 115
Lead	EG005T	5	mg/kg	----	300	----	----	**365** ± 38	----	**1100** ± 114
Manganese	EG005T	5	mg/kg	----	500	----	----	**1070** ± 105	----	**313** ± 31
Molybdenum	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	----	----	**20** ± 2	----	**30** ± 3
Selenium	EG005T	5	mg/kg	----	10	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	10	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	50	----	----	**23** ± 4	----	**91** ± 14
Zinc	EG005T	5	mg/kg	----	200	----	----	**364** ± 38	----	**1560** ± 160
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	----	**0.6** ± 0.06	----	**5.4** ± 0.5
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	----	**64** ± 6	----	**61** ± 6
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	----	----	**70** ± 30	----	**40** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-011 MU	EM2305901-012 MU	EM2305901-013 MU	EM2305901-014 MU	EM2305901-015 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	----	**151**	----	**29.0**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	----	----	**7.02**	----	**2.75**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	----	----	<10 --	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	----	----	**1500**	----	**600**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1	----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3	----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14	----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-011 MU	EM2305901-012 MU	EM2305901-013 MU	EM2305901-014 MU	EM2305901-015 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	----	----	**9** ± 2	----	**18** ± 3
Barium	EG005T	10	mg/kg	----	3000	----	----	**230** ± 20	----	**260** ± 30
Beryllium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	<1 --	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	**14** ± 2	----	**23** ± 3
Cobalt	EG005T	2	mg/kg	----	200	----	----	**14** ± 2	----	**10** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	**151** ± 18	----	**960** ± 115
Lead	EG005T	5	mg/kg	----	1200	----	----	**365** ± 38	----	**1100** ± 114
Manganese	EG005T	5	mg/kg	----	5000	----	----	**1070** ± 105	----	**313** ± 31
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	<2 --	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	**20** ± 2	----	**30** ± 3
Selenium	EG005T	5	mg/kg	----	50	----	----	<5 --	----	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	<2 --	----	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	**23** ± 4	----	**91** ± 14
Zinc	EG005T	5	mg/kg	----	14000	----	----	**364** ± 38	----	**1560** ± 160
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	**0.6** ± 0.06	----	**5.4** ± 0.5
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	<0.5 --	----	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	**64** ± 6	----	**61** ± 6
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	----	----	**70** ± 30	----	**40** ± 30
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	<0.05	----	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305901-011 MU	EM2305901-012 MU	EM2305901-013 MU	EM2305901-014 MU	EM2305901-015 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	40	----	----	**151**	----	**29.0**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	----	----	**7.02**	----	**2.75**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	----	----	<10 --	----	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	----	----	**1500**	----	**600**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	----	----	<0.2 --	----	<0.2 --
Toluene	EP080	0.5	mg/kg		----	100	----	----	<0.5 --	----	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg		----	100	----	----	<0.5 --	----	<0.5 --
Total Xylenes	EP080	0.5	mg/kg		----	180	----	----	<0.5 --	----	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_SP1_16 03-Apr-2023 17:16 EM2305901-016 MU	OL_EX_SP1_17 03-Apr-2023 17:16 EM2305901-017 MU	OL_EX_SP1_18 03-Apr-2023 17:16 EM2305901-018 MU	OL_EX_SP1_19 03-Apr-2023 17:16 EM2305901-019 MU	OL_EX_SP1_20 03-Apr-2023 17:16 EM2305901-020 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	750		----	**11** ± 2	----	**15** ± 3	----
Barium	EG005T	10	mg/kg	----	30000		----	**210** ± 20	----	**780** ± 80	----
Beryllium	EG005T	1	mg/kg	----	400		----	<1 - -	----	**1** ± 0.2	----
Cadmium	EG005T	1	mg/kg	----	400		----	<1 - -	----	**1** ± 0.2	----
Chromium	EG005T	2	mg/kg	----	5000		----	**38** ± 4	----	**22** ± 3	----
Cobalt	EG005T	2	mg/kg	----	1000		----	**10** ± 1	----	**28** ± 3	----
Copper	EG005T	5	mg/kg	----	7500		----	**241** ± 29	----	**815** ± 98	----
Lead	EG005T	5	mg/kg	----	3000		----	**527** ± 55	----	**1890** ± 197	----
Manganese	EG005T	5	mg/kg	----	25000		----	**248** ± 25	----	**591** ± 58	----
Molybdenum	EG005T	2	mg/kg	----	4000		----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	3000		----	**23** ± 2	----	**44** ± 4	----
Selenium	EG005T	5	mg/kg	----	200		----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	720		----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	900		----	**54** ± 8	----	**141** ± 20	----
Zinc	EG005T	5	mg/kg	----	50000		----	**386** ± 40	----	**1250** ± 128	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	110		----	**1.8** ± 0.2	----	**0.7** ± 0.07	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000		----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	2500		----	**106** ± 11	----	<1 - -	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	10000		----	**80** ± 30	----	**50** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50		----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50		----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000		----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000		----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID		OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
				Sampling date/time	Guideline	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	EM2305901-016 MU	EM2305901-017 MU	EM2305901-018 MU	EM2305901-019 MU	EM2305901-020 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**----**	**55.5**	**----**	**19.6**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**----**	**3.57**	**----**	**0.42**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	**----**	<10	**----**	<10	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**----**	**610**	**----**	**350**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50	**----**	<0.2	**----**	<0.2	**----**
Toluene	EP080	0.5	mg/kg	----	1000	**----**	<0.5	**----**	<0.5	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	**----**	<0.5	**----**	<0.5	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	**----**	<0.5	**----**	<0.5	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
						Sampling date/time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
							EM2305901-016 MU	EM2305901-017 MU	EM2305901-018 MU	EM2305901-019 MU	EM2305901-020 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	20		----	**11** ± 2	----	**15** ± 3	----
Barium	EG005T	10	mg/kg	----	300		----	**210** ± 20	----	**780** ± 80	----
Beryllium	EG005T	1	mg/kg	----	2		----	<1 - -	----	**1** ± 0.2	----
Cadmium	EG005T	1	mg/kg	----	3		----	<1 - -	----	**1** ± 0.2	----
Chromium	EG005T	2	mg/kg	----	50		----	**38** ± 4	----	**22** ± 3	----
Cobalt	EG005T	2	mg/kg	----	100		----	**10** ± 1	----	**28** ± 3	----
Copper	EG005T	5	mg/kg	----	100		----	**241** ± 29	----	**815** ± 98	----
Lead	EG005T	5	mg/kg	----	300		----	**527** ± 55	----	**1890** ± 197	----
Manganese	EG005T	5	mg/kg	----	500		----	**248** ± 25	----	**591** ± 58	----
Molybdenum	EG005T	2	mg/kg	----	10		----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	60		----	**23** ± 2	----	**44** ± 4	----
Selenium	EG005T	5	mg/kg	----	10		----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	10		----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	50		----	**54** ± 8	----	**141** ± 20	----
Zinc	EG005T	5	mg/kg	----	200		----	**386** ± 40	----	**1250** ± 128	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	1		----	**1.8** ± 0.2	----	**0.7** ± 0.07	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1		----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	32		----	**106** ± 11	----	<1 - -	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	300		----	**80** ± 30	----	**50** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2		----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2		----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2		----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25		----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
Sample ID										
Sampling date/time						03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
						EM2305901-016 MU	EM2305901-017 MU	EM2305901-018 MU	EM2305901-019 MU	EM2305901-020 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**----**	**55.5**	**----**	**19.6**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**----**	**3.57**	**----**	**0.42**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	**----**	<10	**----**	<10	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**----**	**610**	**----**	**350**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	**----**	<0.2	**----**	<0.2	**----**
Toluene	EP080	0.5	mg/kg	----	1	**----**	<0.5	**----**	<0.5	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	3	**----**	<0.5	**----**	<0.5	**----**
Total Xylenes	EP080	0.5	mg/kg	----	14	**----**	<0.5	**----**	<0.5	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	OL_EX_SP1_16 03-Apr-2023 17:16 EM2305901-016 MU	OL_EX_SP1_17 03-Apr-2023 17:16 EM2305901-017 MU	OL_EX_SP1_18 03-Apr-2023 17:16 EM2305901-018 MU	OL_EX_SP1_19 03-Apr-2023 17:16 EM2305901-019 MU	OL_EX_SP1_20 03-Apr-2023 17:16 EM2305901-020 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	200		----	**11** ± 2	----	**15** ± 3	----
Barium	EG005T	10	mg/kg	----	3000		----	**210** ± 20	----	**780** ± 80	----
Beryllium	EG005T	1	mg/kg	----	40		----	<1 - -	----	**1** ± 0.2	----
Cadmium	EG005T	1	mg/kg	----	40		----	<1 - -	----	**1** ± 0.2	----
Chromium	EG005T	2	mg/kg	----	500		----	**38** ± 4	----	**22** ± 3	----
Cobalt	EG005T	2	mg/kg	----	200		----	**10** ± 1	----	**28** ± 3	----
Copper	EG005T	5	mg/kg	----	2000		----	**241** ± 29	----	**815** ± 98	----
Lead	EG005T	5	mg/kg	----	1200		----	**527** ± 55	----	**1890** ± 197	----
Manganese	EG005T	5	mg/kg	----	5000		----	**248** ± 25	----	**591** ± 58	----
Molybdenum	EG005T	2	mg/kg	----	1000		----	<2 - -	----	<2 - -	----
Nickel	EG005T	2	mg/kg	----	600		----	**23** ± 2	----	**44** ± 4	----
Selenium	EG005T	5	mg/kg	----	50		----	<5 - -	----	<5 - -	----
Silver	EG005T	2	mg/kg	----	180		----	<2 - -	----	<2 - -	----
Tin	EG005T	5	mg/kg	----	500		----	**54** ± 8	----	**141** ± 20	----
Zinc	EG005T	5	mg/kg	----	14000		----	**386** ± 40	----	**1250** ± 128	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	30		----	**1.8** ± 0.2	----	**0.7** ± 0.07	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200		----	<0.5 - -	----	<0.5 - -	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	1000		----	**106** ± 11	----	<1 - -	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	3000		----	**80** ± 30	----	**50** ± 30	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20		----	<0.1	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20		----	<0.05	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200		----	<0.05	----	<0.05	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500		----	<0.5	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
						Sampling date/time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
							EM2305901-016 MU	EM2305901-017 MU	EM2305901-018 MU	EM2305901-019 MU	EM2305901-020 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		----	**55.5**	----	**19.6**	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2		----	**3.57**	----	**0.42**	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	650		----	<10 --	----	<10 --	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000		----	**610**	----	**350**	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	5		----	<0.2 --	----	<0.2 --	----
Toluene	EP080	0.5	mg/kg	----	100		----	<0.5 --	----	<0.5 --	----
Ethylbenzene	EP080	0.5	mg/kg	----	100		----	<0.5 --	----	<0.5 --	----
Total Xylenes	EP080	0.5	mg/kg	----	180		----	<0.5 --	----	<0.5 --	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	OL_EX_SP1_QC113	OL_EX_SP1_QC114	----	----	----
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
							EM2305901-021 MU	EM2305901-022 MU			
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	750		**7** ± 2	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000		**150** ± 20	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400		<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400		<1 - -	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000		**35** ± 4	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000		**10** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500		**171** ± 20	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000		**315** ± 33	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000		**213** ± 21	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000		<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000		**31** ± 3	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200		<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720		<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900		**31** ± 5	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000		**363** ± 38	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	110		**0.8** ± 0.08	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000		<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	2500		**444** ± 44	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	10000		**80** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50		<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		**110**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID						
				Sampling date/time	Guideline	Guideline	**OL_EX_SP1_ QC113** 03-Apr-2023 17:16	**OL_EX_SP1_ QC114** 03-Apr-2023 17:16	---- ----	---- ----	---- ----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305901-021** MU	**EM2305901-022** MU			
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	20	**8.72**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	1000	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	10000	**1270**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	50	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1000	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	1080	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	1800	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal
Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**OL_EX_SP1_QC113**	**OL_EX_SP1_QC114**	----	----	----
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
							EM2305901-021 MU	**EM2305901-022** MU			
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	20		**7** ± 2	----	----	----	----
Barium	EG005T	10	mg/kg	----	300		**150** ± 20	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	2		<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	3		<1 - -	----	----	----	----
Chromium	EG005T	2	mg/kg	----	50		**35** ± 4	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	100		**10** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	100		**171** ± 20	----	----	----	----
Lead	EG005T	5	mg/kg	----	300		**315** ± 33	----	----	----	----
Manganese	EG005T	5	mg/kg	----	500		**213** ± 21	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10		<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	60		**31** ± 3	----	----	----	----
Selenium	EG005T	5	mg/kg	----	10		<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	10		<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	50		**31** ± 5	----	----	----	----
Zinc	EG005T	5	mg/kg	----	200		**363** ± 38	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	1		**0.8** ± 0.08	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1		<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	32		**444** ± 44	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	300		**80** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2		<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20		**110**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**OL_EX_SP1_ QC113**	**OL_EX_SP1_ QC114**	**----**	**----**	**----**
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305901-021** MU	**EM2305901-022** MU			
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	0.08	**8.72**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	65	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	1000	**1270**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	1	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	3	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	14	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID*	Guideline Lower Limit	Guideline Upper Limit	**OL_EX_SP1_QC113**	**OL_EX_SP1_QC114**	----	----	----
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
							EM2305901-021 MU	**EM2305901-022** MU			
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	200		**7** ± 2	----	----	----	----
Barium	EG005T	10	mg/kg	----	3000		**150** ± 20	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	40		<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	40		<1 - -	----	----	----	----
Chromium	EG005T	2	mg/kg	----	500		**35** ± 4	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	200		**10** ± 1	----	----	----	----
Copper	EG005T	5	mg/kg	----	2000		**171** ± 20	----	----	----	----
Lead	EG005T	5	mg/kg	----	1200		**315** ± 33	----	----	----	----
Manganese	EG005T	5	mg/kg	----	5000		**213** ± 21	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000		<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	600		**31** ± 3	----	----	----	----
Selenium	EG005T	5	mg/kg	----	50		<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	180		<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	500		**31** ± 5	----	----	----	----
Zinc	EG005T	5	mg/kg	----	14000		**363** ± 38	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	30		**0.8** ± 0.08	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200		<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	1000		**444** ± 44	----	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg	----	3000		**80** ± 30	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20		<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40		**110**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**OL_EX_SP1_ QC113**	**OL_EX_SP1_ QC114**	**----**	**----**	**----**
				Sampling date/time			03-Apr-2023 17:16	03-Apr-2023 17:16	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2305901-021** MU	**EM2305901-022** MU			
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	**8.72**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	**1270**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	100	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	100	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	180	<0.5	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EM2305901**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023
Order number	: 60693007-2	Date Analysis Commenced	: 04-Apr-2023
C-O-C number	: 50528	Issue Date	: 06-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 27		
No. of samples analysed	: 25		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Arenie Vijayaratnam	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4972475)									
EM2305901-001	OL_EX_SP1_01	EG005T: Chromium	7440-47-3	2	mg/kg	105	103	1.7	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	65	66	0.0	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	558	555	0.6	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	698	691	0.9	0% - 20%
		EG005T: Tin	7440-31-5	5	mg/kg	49	46	6.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	582	577	0.8	0% - 20%
EM2305901-010	OL_EX_SP1_10	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	80	18.4	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	14	10.1	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	12	12	8.4	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	22	4.8	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	8	43.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	97	98	0.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	197	197	0.0	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	346	344	0.4	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	18	39	73.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	223	220	1.4	0% - 20%
EM2305901-001	OL_EX_SP1_01	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	190	190	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4972475) - continued									
EM2305901-001	OL_EX_SP1_01	EG005T: Cobalt	7440-48-4	2	mg/kg	12	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	33	91.1	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	251	257	2.3	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4972476)									
EM2305901-021	OL_EX_SP1_QC113	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	150	140	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	35	35	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	10	10	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	31	31	0.0	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	171	168	1.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	315	313	0.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	213	212	0.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	31	30	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	363	361	0.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4972490)									
EM2305901-001	OL_EX_SP1_01	EA055: Moisture Content	----	0.1	%	15.4	18.7	19.1	0% - 50%
EM2305901-011	OL_EX_SP1_11	EA055: Moisture Content	----	0.1	%	26.6	26.9	1.1	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4972491)									
EM2305901-021	OL_EX_SP1_QC113	EA055: Moisture Content	----	0.1	%	16.1	15.8	2.2	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4972474)									
EM2305901-001	OL_EX_SP1_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.9	1.4	47.2	0% - 50%
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 4972489)									
EM2305901-001	OL_EX_SP1_01	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 4972631)									
EM2305901-001	OL_EX_SP1_01	EK026SF: Total Cyanide	57-12-5	1	mg/kg	232	259	11.2	0% - 20%
EM2305901-021	OL_EX_SP1_QC113	EK026SF: Total Cyanide	57-12-5	1	mg/kg	444	428	3.6	0% - 20%
EK040T: Fluoride Total (QC Lot: 4972484)									
EM2305901-001	OL_EX_SP1_01	EK040T: Fluoride	16984-48-8	40	mg/kg	80	50	39.7	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4972464)									
EM2305901-001	OL_EX_SP1_01	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4972463)									
EM2305901-001	OL_EX_SP1_01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4972465)									
EM2305901-011	OL_EX_SP1_11	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2305901-001	OL_EX_SP1_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 4972465) - continued									
EM2305901-001	OL_EX_SP1_01	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4972467)									
EM2305901-018	OL_EX_SP1_18	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4972465)									
EM2305901-011	OL_EX_SP1_11	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	2.8	2.2	21.2	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.9	0.6	48.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.9	0.6	41.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	8.9	6.5	30.5	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.4	1.0	36.7	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.6	6.0	35.3	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	7.6	5.3	35.6	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	3.9	2.6	40.4	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.0	2.6	41.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	3.2	21.7	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.8	1.4	68.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.8	2.6	35.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.4	1.6	36.5	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	<0.5	27.9	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.8	2.0	36.9	No Limit
EM2305901-001	OL_EX_SP1_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	8.8	6.8	25.0	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.2	2.0	8.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.8	0.6	22.4	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4972465) - continued									
EM2305901-001	OL_EX_SP1_01	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.4	1.2	15.8	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	18.8	15.7	18.0	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.4	2.2	7.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	15.8	14.1	11.1	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	13.2	12.4	6.5	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	6.7	6.4	4.8	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	6.6	6.1	7.3	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	7.7	7.3	5.2	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.6	2.8	26.3	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	5.9	5.7	3.6	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.1	3.5	15.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.1	1.0	12.7	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.7	4.1	13.2	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4972467)									
EM2305901-018	OL_EX_SP1_18	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.7	0.8	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	3.6	5.3	38.1	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.0	1.3	24.7	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	7.4	9.2	22.5	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	7.8	9.7	21.6	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.2	7.0	29.0	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.6	7.3	26.8	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.0	6.2	21.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.2	3.3	42.3	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.8	6.0	22.6	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.7	4.4	17.7	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.0	1.2	18.6	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.2	5.1	19.6	0% - 50%
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4972461)									
EM2305901-001	OL_EX_SP1_01	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	8.97	9.31	3.6	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4972457)									
EM2305901-001	OL_EX_SP1_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2305901-011	OL_EX_SP1_11	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4972458)									
EM2305901-021	OL_EX_SP1_QC113	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4972466)									
EM2305901-001	OL_EX_SP1_01	EP071: C15 - C28 Fraction	----	100	mg/kg	920	710	25.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	520	390	29.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	150	120	16.9	No Limit
EM2305901-011	OL_EX_SP1_11	EP071: C15 - C28 Fraction	----	100	mg/kg	460	420	10.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	240	240	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4972468)									
EM2305901-018	OL_EX_SP1_18	EP071: C15 - C28 Fraction	----	100	mg/kg	480	210	77.6	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	280	140	63.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4972457)									
EM2305901-001	OL_EX_SP1_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2305901-011	OL_EX_SP1_11	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4972458)									
EM2305901-021	OL_EX_SP1_QC113	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4972466)									
EM2305901-001	OL_EX_SP1_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	1260	960	27.3	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	230	180	24.2	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	200	170	17.2	No Limit
EM2305901-011	OL_EX_SP1_11	EP071: >C16 - C34 Fraction	----	100	mg/kg	620	580	6.9	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	110	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	70	60	15.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4972468)									
EM2305901-018	OL_EX_SP1_18	EP071: >C16 - C34 Fraction	----	100	mg/kg	670	310	74.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	130	<100	28.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 4972457)									
EM2305901-001	OL_EX_SP1_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	2	1	0.0	No Limit
EM2305901-011	OL_EX_SP1_11	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4972457) - continued									
EM2305901-011	OL_EX_SP1_11	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4972458)									
EM2305901-021	OL_EX_SP1_QC113	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	3	2	50.1	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 4972572)									
EM2305901-026	OL_EX_QCB10	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4973065)									
EM2305901-025	OL_EX_QCA08	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4973065)									
EM2305901-025	OL_EX_QCA08	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4973065)									
EM2305901-025	OL_EX_QCA08	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972475)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.3	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	97.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	80.1	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	95.8	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	88.7	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	93.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	90.1	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	90.0	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	74.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	96.6	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	81.6	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	104	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	75.0	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972476)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.2	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	101	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	103	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.6	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	96.6	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	88.8	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	95.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	94.9	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	90.8	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	72.4	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	97.3	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	81.9	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	121	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972476) - continued								
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	77.4	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4972474)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	96.9	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4972489)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	83.0	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4972631)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	103	70.0	130
EK040T: Fluoride Total (QCLot: 4972484)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	99.9	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4972464)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	118	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 4972463)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	115	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	117	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	116	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	114	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	115	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	113	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	115	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	115	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	119	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	115	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	115	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	116	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	116	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	114	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	116	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	115	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	107	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	103	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	103	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 4972465)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4972465) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	100	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	103	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	91.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	97.1	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	92.0	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	112	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	101	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	113	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	109	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	26.6	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 4972467)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	92.3	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	95.1	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	91.8	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	93.6	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	86.8	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	90.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	89.6	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.8	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	85.7	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	88.4	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	86.1	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	39.7	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972465)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	94.3	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	95.2	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	94.6	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.1	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	94.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	95.0	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	97.2	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	97.8	79.9	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972465) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	95.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	94.6	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	93.8	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	92.3	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	94.8	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	90.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	90.4	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	90.6	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972467)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	94.6	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	102	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	94.8	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	92.6	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	97.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	110	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	110	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.4	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	98.7	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	86.4	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	109	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	98.5	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	91.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	92.0	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	88.9	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972461)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	109	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972457)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	88.7	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972458)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	98.2	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972466)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	110	75.0	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972466) - continued								
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	101	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	101	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972468)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	91.7	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	94.5	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	96.9	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972457)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	85.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972458)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	97.0	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972466)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	106	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	100	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	90.3	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972468)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	90.2	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	93.9	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	78.5	73.3	137
EP080: BTEXN (QCLot: 4972457)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	86.2	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	90.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	89.2	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	94.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.6	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	95.2	61.8	123
EP080: BTEXN (QCLot: 4972458)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	90.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	95.3	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	96.6	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	103	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	105	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	113	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 4972572)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 4973702)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	44.3	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	86.9	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	82.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	77.3	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	94.4	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	95.3	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	98.4	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	99.1	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	102	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	105	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	105	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	97.5	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4973702)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	93.3	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	102	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	101	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	108	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	107	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	104	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	113	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	114	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	111	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	110	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	105	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	108	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	112	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	114	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	114	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	104	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4973065)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	112	66.2	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4973703)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4460 µg/L	67.8	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	14300 µg/L	80.7	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7300 µg/L	83.7	50.4	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4973065)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	109	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4973703)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6090 µg/L	75.1	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	19400 µg/L	78.4	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1300 µg/L	74.5	47.2	130
EP080: BTEXN (QCLot: 4973065)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	106	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	107	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	106	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	113	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	113	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	106	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972475)							
EM2305901-003	OL_EX_SP1_03	EG005T: Zinc	7440-66-6	250 mg/kg	# 3.0	80.0	120
EM2305901-003	OL_EX_SP1_03	EG005T: Arsenic	7440-38-2	50 mg/kg	91.3	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	89.2	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	81.0	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	94.2	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	81.2	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	85.7	78.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972476)							
EM2305901-022	OL_EX_SP1_QC114	EG005T: Arsenic	7440-38-2	50 mg/kg	97.6	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.1	79.7	116

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4972476) - continued							
EM2305901-022	OL_EX_SP1_QC114	EG005T: Chromium	7440-47-3	50 mg/kg	91.4	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	94.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	84.7	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	89.5	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	96.0	80.0	120
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 4972489)							
EM2305901-003	OL_EX_SP1_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 23.9	58.0	114
EM2305901-003	OL_EX_SP1_03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 25.8	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 4972631)							
EM2305901-001	OL_EX_SP1_01	EK026SF: Total Cyanide	57-12-5	200 mg/kg	111	70.0	130
EK040T: Fluoride Total (QCLot: 4972484)							
EM2305901-003	OL_EX_SP1_03	EK040T: Fluoride	16984-48-8	400 mg/kg	73.8	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4972464)							
EM2305901-003	OL_EX_SP1_03	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	135	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 4972463)							
EM2305901-003	OL_EX_SP1_03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	116	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	93.7	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	# 16.0	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	92.2	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	103	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	79.4	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 4972465)							
EM2305901-002	OL_EX_SP1_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	107	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	101	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	109	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	96.4	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 4972467)							
EM2305901-020	OL_EX_SP1_20	EP075(SIM): Phenol	108-95-2	3 mg/kg	94.8	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	97.1	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	85.9	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	94.7	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	71.2	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972465)							
EM2305901-002	OL_EX_SP1_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.5	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	71.9	65.5	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4972467)							
EM2305901-020	OL_EX_SP1_20	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	95.9	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	82.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972457)							
EM2305901-002	OL_EX_SP1_02	EP080: C6 - C9 Fraction	----	28 mg/kg	81.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972458)							
EM2305901-022	OL_EX_SP1_QC114	EP080: C6 - C9 Fraction	----	28 mg/kg	74.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972466)							
EM2305901-002	OL_EX_SP1_02	EP071: C10 - C14 Fraction	----	770 mg/kg	110	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	88.7	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	87.8	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4972468)							
EM2305901-022	OL_EX_SP1_QC114	EP071: C10 - C14 Fraction	----	770 mg/kg	85.7	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	86.8	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	88.5	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972457)							
EM2305901-002	OL_EX_SP1_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	72.9	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972458)							
EM2305901-022	OL_EX_SP1_QC114	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	73.2	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972466)							
EM2305901-002	OL_EX_SP1_02	EP071: >C10 - C16 Fraction	----	1170 mg/kg	92.8	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	88.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	75.3	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4972468)							
EM2305901-022	OL_EX_SP1_QC114	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.8	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	86.0	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	74.2	66.8	138
EP080: BTEXN (QCLot: 4972457)							
EM2305901-002	OL_EX_SP1_02	EP080: Benzene	71-43-2	2 mg/kg	85.8	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	94.8	57.1	131
EP080: BTEXN (QCLot: 4972458)							
EM2305901-022	OL_EX_SP1_QC114	EP080: Benzene	71-43-2	2 mg/kg	82.0	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	87.0	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG020T: Total Metals by ICP-MS (QCLot: 4972572)							
EM2305901-026	OL_EX_QCB10	EG020A-T: Lead	7439-92-1	1 mg/L	105	80.5	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4973065)							
EM2305901-026	OL_EX_QCB10	EP080: C6 - C9 Fraction	----	280 µg/L	81.2	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4973065)							
EM2305901-026	OL_EX_QCB10	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	76.0	34.0	122
EP080: BTEXN (QCLot: 4973065)							
EM2305901-026	OL_EX_QCB10	EP080: Benzene	71-43-2	20 µg/L	99.8	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	102	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2305901**	Page	: 1 of 13
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 06-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 27
Order number	: 60693007-2	No. of samples analysed	: 25

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2305901--003	OL_EX_SP1_03	**Zinc**	7440-66-6	3.0 %	80.0-120%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2305901--003	OL_EX_SP1_03	**Hexavalent Chromium**	18540-29-9	23.9 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2305901--003	OL_EX_SP1_03	**Hexavalent Chromium**	18540-29-9	25.8 %	58.0-114%	**Recovery less than lower data quality objective**
EP068A: Organochlorine Pesticides (OC)	EM2305901--003	OL_EX_SP1_03	**Aldrin**	309-00-2	16.0 %	38.4-135%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Matrix Spikes (MS)					
Total Mercury by FIMS	0	9	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation* ***Date extracted***	*Due for extraction*	*Evaluation*	*Analysis* ***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20, OL_EX_SP1_QC113, OL_EX_SP1_QC114	**03-Apr-2023**	**----**	----	**----**	**04-Apr-2023**	17-Apr-2023	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag: Separate bag received (EA200)							
OL_EX_SP1_01	**03-Apr-2023**	**----**	----	**----**	**04-Apr-2023**	30-Sep-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20, OL_EX_SP1_QC113, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	30-Sep-2023	✓	**04-Apr-2023**	30-Sep-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	01-May-2023	✓	**05-Apr-2023**	01-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	01-May-2023	✓	**05-Apr-2023**	11-Apr-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	18-Apr-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	01-May-2023	✓	**05-Apr-2023**	01-May-2023	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**04-Apr-2023**	14-May-2023	✓
Soil Glass Jar - Unpreserved (EP066)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20, OL_EX_SP1_QC113, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20, OL_EX_SP1_QC113, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
OL_EX_SP1_01, OL_EX_SP1_03, OL_EX_SP1_07, OL_EX_SP1_10, OL_EX_SP1_13, OL_EX_SP1_15, OL_EX_SP1_17, OL_EX_SP1_19, OL_EX_SP1_QC113	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	14-May-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP1_01, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_18, OL_EX_SP1_20, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**04-Apr-2023**	14-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20, OL_EX_SP1_QC113, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	17-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP1_01, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_18, OL_EX_SP1_20, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**04-Apr-2023**	14-May-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20, OL_EX_SP1_QC113, OL_EX_SP1_QC114	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	17-Apr-2023	✓

Matrix: **SOIL** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP1_01, OL_EX_SP1_02,	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	17-Apr-2023	✓
OL_EX_SP1_03, OL_EX_SP1_04,							
OL_EX_SP1_05, OL_EX_SP1_06,							
OL_EX_SP1_07, OL_EX_SP1_08,							
OL_EX_SP1_09, OL_EX_SP1_10,							
OL_EX_SP1_11, OL_EX_SP1_12,							
OL_EX_SP1_13, OL_EX_SP1_14,							
OL_EX_SP1_15, OL_EX_SP1_16,							
OL_EX_SP1_17, OL_EX_SP1_18,							
OL_EX_SP1_19, OL_EX_SP1_20,							
OL_EX_SP1_QC113, OL_EX_SP1_QC114							

Matrix: **SOLID** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
OL_EX_SP1_01	**03-Apr-2023**	**----**	----	----	**04-Apr-2023**	30-Sep-2023	✓

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QCB10	**03-Apr-2023**	**05-Apr-2023**	30-Sep-2023	✓	**05-Apr-2023**	30-Sep-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB10	**03-Apr-2023**	**05-Apr-2023**	10-Apr-2023	✓	**05-Apr-2023**	15-May-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB10	**03-Apr-2023**	**05-Apr-2023**	10-Apr-2023	✓	**05-Apr-2023**	15-May-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB10	**03-Apr-2023**	**05-Apr-2023**	10-Apr-2023	✓	**05-Apr-2023**	15-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA08, OL_EX_QCB10	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	17-Apr-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB10	**03-Apr-2023**	**05-Apr-2023**	10-Apr-2023	✓	**05-Apr-2023**	15-May-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA08, OL_EX_QCB10	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	17-Apr-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA08, OL_EX_QCB10	**03-Apr-2023**	**04-Apr-2023**	17-Apr-2023	✓	**05-Apr-2023**	17-Apr-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	22	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	0	9	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	22	**13.64**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2305901**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 4
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 50528	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 04-Apr-2023 11:45	Issue Date	: 04-Apr-2023
Client Requested Due Date	: 05-Apr-2023	Scheduled Reporting Date	: **05-Apr-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 4.9°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 27 / 25

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2305901-001	03-Apr-2023 17:16	OL_EX_SP1_01	✓	✓	✓	
EM2305901-002	03-Apr-2023 17:16	OL_EX_SP1_02	✓			✓
EM2305901-003	03-Apr-2023 17:16	OL_EX_SP1_03	✓		✓	
EM2305901-004	03-Apr-2023 17:16	OL_EX_SP1_04	✓			✓
EM2305901-005	03-Apr-2023 17:16	OL_EX_SP1_05	✓			✓
EM2305901-006	03-Apr-2023 17:16	OL_EX_SP1_06	✓			✓
EM2305901-007	03-Apr-2023 17:16	OL_EX_SP1_07	✓		✓	
EM2305901-008	03-Apr-2023 17:16	OL_EX_SP1_08	✓			✓
EM2305901-009	03-Apr-2023 17:16	OL_EX_SP1_09	✓			✓
EM2305901-010	03-Apr-2023 17:16	OL_EX_SP1_10	✓		✓	
EM2305901-011	03-Apr-2023 17:16	OL_EX_SP1_11	✓			✓
EM2305901-012	03-Apr-2023 17:16	OL_EX_SP1_12	✓			✓
EM2305901-013	03-Apr-2023 17:16	OL_EX_SP1_13	✓		✓	
EM2305901-014	03-Apr-2023 17:16	OL_EX_SP1_14	✓			✓
EM2305901-015	03-Apr-2023 17:16	OL_EX_SP1_15	✓		✓	
EM2305901-016	03-Apr-2023 17:16	OL_EX_SP1_16	✓			✓
EM2305901-017	03-Apr-2023 17:16	OL_EX_SP1_17	✓		✓	
EM2305901-018	03-Apr-2023 17:16	OL_EX_SP1_18	✓			✓
EM2305901-019	03-Apr-2023 17:16	OL_EX_SP1_19	✓		✓	
EM2305901-020	03-Apr-2023 17:16	OL_EX_SP1_20	✓			✓
EM2305901-021	03-Apr-2023 17:16	OL_EX_SP1_QC113	✓		✓	
EM2305901-022	03-Apr-2023 17:16	OL_EX_SP1_QC114	✓			✓

Matrix: **SOLID**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOLID No analysis requested	SOLID - EA200B Asbestos Identification in Bulk Solids (Excluding
EM2305901-028	03-Apr-2023 05:16	OL_EX_SP1_01		✓
EM2305901-029	03-Apr-2023 05:16	OL_EX_SP1_03	✓	

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2305901-025	03-Apr-2023 17:16	OL_EX_QCA08		✓	
EM2305901-026	03-Apr-2023 17:16	OL_EX_QCB10			✓
EM2305901-027	03-Apr-2023 17:16	OL_EX_QCC05	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	tim.smith02@aecom.com

CHAIN OF CUSTODY

ALS COC#: **50528** *ALS Laboratory:* EM Melbourne

URGENT

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 4/4, 10:45

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : ~~5 Days~~ 1 Day

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments: **FREIGHT**

28 ← (Solids)

29

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_EX_SP1_01			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE minus TBT, asbestos presence absence in soil, potential ACM	
002	OL_EX_SP1_02			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
003	OL_EX_SP1_03			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE minus TBT	
004	OL_EX_SP1_04			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
005	OL_EX_SP1_05			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
006	OL_EX_SP1_06			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
007	OL_EX_SP1_07			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
008	OL_EX_SP1_08			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
009	OL_EX_SP1_09			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

Forwarded to Secondary Lab
Initials SH Date 4/4

Environmental Division
Melbourne
Work Order Reference
EM2305901

Telephone : + 61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: **50528** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_SP1_10			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE	
011	OL_EX_SP1_11			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
012	OL_EX_SP1_12			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
013	OL_EX_SP1_13			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
014	OL_EX_SP1_14			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
015	OL_EX_SP1_15			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
016	OL_EX_SP1_16			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
017	OL_EX_SP1_17			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
018	OL_EX_SP1_18			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	

CHAIN OF CUSTODY

ALS COC#: **50528** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

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CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	OL_EX_SP1_19			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
020	OL_EX_SP1_20			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
021	OL_EX_SP1_QC113			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
022	OL_EX_SP1_QC114			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
023	OL_EX_SP1_QC213	PLEASE FORWARD TO EUROFINS FOR ANALYSIS		SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE NO TBT	
024	OL_EX_SP1_QC214	PLEASE FORWARD TO EUROFINS FOR ANALYSIS		SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
025	OL_EX_QCA08			WATER	ALS: 0 Non ALS: 0	No		X		
026	OL_EX_QCB10			WATER	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
027	OL_EX_QCC05			WATER	ALS: 0 Non ALS: 0	Yes	-			

CHAIN OF CUSTODY

COC#: 50528 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A

Random Sample Temperature on Receipt: °C

Other comments:

Total Bottle Count: ALS: 0, Non ALS: 0

Ranil Weerakkody

From: Peter Ravlic
Sent: Tuesday, 4 April 2023 10:16 AM
To: COC Melbourne
Subject: AECOM - Macquarie Point samples arriving tomorrow for 24h TAT analysis

Follow Up Flag: Follow up
Flag Status: Flagged

Peter Ravlic

Client Services – Springvale

Environmental

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Springvale Vic 3171
Australia

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ALS is closed during public holidays in April: Good Friday, Easter Monday and ANZAC Day Tuesday (7th, 10th and 25th April).

ALS Springvale will be transitioning our telephony services to a different provider. During this time you may notice that the number that we call you on is not consistent with the details listed above. All of our existing numbers are being routed through temporary numbers during this time and will remain active for the entire process. Please continue to contact us via the numbers listed above, we would recommend not saving the temporary numbers to your records as they will be deleted once the transition is complete.

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Monday, 3 April 2023 5:31 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>; ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - AECOM - Macquarie Point samples arriving tomorrow for 24h TAT analysis

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

HI Peter and team, there is one esky arriving from Hobart tomorrow with two sample batches.
24 Hr TAT requested: Compass COC 50528 has 22 primary and duplicate samples to be analyses for EPA Tasmania IB105 minus TBT (30%) and TRH BTEXN PAH Phenol Pb (70%), one trip blank and one rinsate blank (TRH BTEXN PAH Phenol Pb) and one on hold + 2 triplicate samples to forward to Eurofins
Standard TAT: Compass 50529 has 11 primary and duplicate samples to be analyses for TRH BTEXN PAH Phenol Pb + 1 triplicate sample to forward to Eurofins

Please let us know if this is a realistic request.
Thanks in advance.

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004

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CERTIFICATE OF ANALYSIS

Work Order	: **EM2306516**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 17-Apr-2023
C-O-C number	: ----	Issue Date	: 19-Apr-2023 17:43
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 20		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- This is a rebatch of EM2305901.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2306516-001	EM2306516-002	EM2306516-003	EM2306516-004	EM2306516-005
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**8.7**	**9.0**	**9.3**	**9.0**	**8.6**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.4**	**5.4**	**5.4**	**5.4**	**5.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2306516-006	EM2306516-007	EM2306516-008	EM2306516-009	EM2306516-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**8.7**	**8.8**	**9.2**	**9.6**	**9.6**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.5**	**1.5**	**1.5**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.6**	**5.4**	**5.6**	**5.6**	**5.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2306516-011	EM2306516-012	EM2306516-013	EM2306516-014	EM2306516-015
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**8.3**	**8.9**	**9.2**	**9.2**	**8.8**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**1.6**	**1.7**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.7**	**6.0**	**5.7**	**5.4**	**5.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2306516-016	EM2306516-017	EM2306516-018	EM2306516-019	EM2306516-020
					Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**8.8**	**8.6**	**8.5**	**9.1**	**9.0**
After HCl pH	----	0.1	pH Unit		**1.7**	**1.7**	**1.6**	**1.7**	**1.9**
Extraction Fluid Number	----	1	-		**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit		**6.3**	**5.7**	**5.6**	**5.6**	**5.9**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	OL_EX_SP1_01	OL_EX_SP1_02	OL_EX_SP1_03	OL_EX_SP1_04	OL_EX_SP1_05
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2306516-001	EM2306516-002	EM2306516-003	EM2306516-004	EM2306516-005
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**0.3**	**0.4**	**0.4**	**0.5**	**0.4**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**17.3**	**4.0**	<1.0	**1.1**	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	**3.1**	**1.3**	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	**20.4**	**5.3**	<0.6	**1.1**	<0.9
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.6	<0.6	<0.6	<0.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**78.6**	**68.1**	**80.1**	**82.5**	**75.1**
Anthracene-d10	1719-06-8	1.0	%	**106**	**107**	**106**	**103**	**102**
4-Terphenyl-d14	1718-51-0	1.0	%	**108**	**98.1**	**102**	**99.0**	**95.8**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	OL_EX_SP1_06	OL_EX_SP1_07	OL_EX_SP1_08	OL_EX_SP1_09	OL_EX_SP1_10
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2306516-006	EM2306516-007	EM2306516-008	EM2306516-009	EM2306516-010
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**0.3**	**1.0**	**0.4**	**0.4**	**0.2**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	**1.4**
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.6	<0.6	<0.6	<0.6	**1.4**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**81.0**	**73.8**	**64.2**	**71.5**	**61.1**
Anthracene-d10	1719-06-8	1.0	%	**108**	**114**	**112**	**105**	**85.6**
4-Terphenyl-d14	1718-51-0	1.0	%	**101**	**102**	**102**	**112**	**80.8**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP1_11	OL_EX_SP1_12	OL_EX_SP1_13	OL_EX_SP1_14	OL_EX_SP1_15
				Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit		EM2306516-011	EM2306516-012	EM2306516-013	EM2306516-014	EM2306516-015
					Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES									
Lead	7439-92-1	0.1	mg/L		**1.3**	**0.5**	**0.4**	**0.4**	**0.8**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**1.4**	**2.2**	**1.5**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	**1.0**	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		**1.1**	<1.0	**3.2**	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**2.5**	**2.2**	**5.7**	<0.6	<0.6
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.6	<0.6	<0.6	<0.6	<0.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.0**	**75.5**	**83.5**	**74.8**	**84.5**
Anthracene-d10	1719-06-8	1.0	%		**108**	**104**	**106**	**105**	**112**
4-Terphenyl-d14	1718-51-0	1.0	%		**93.2**	**99.1**	**103**	**100**	**107**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	OL_EX_SP1_16	OL_EX_SP1_17	OL_EX_SP1_18	OL_EX_SP1_19	OL_EX_SP1_20
			Sampling date / time	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16	03-Apr-2023 17:16
Compound	CAS Number	LOR	Unit	EM2306516-016	EM2306516-017	EM2306516-018	EM2306516-019	EM2306516-020
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**0.4**	**0.4**	**0.2**	**0.8**	**0.2**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.6	<0.6	<0.6	<0.5	<0.6
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.6	<0.6	<0.6	<0.5	<0.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**85.8**	**80.4**	**83.1**	**76.5**	**79.5**
Anthracene-d10	1719-06-8	1.0	%	**108**	**112**	**111**	**108**	**108**
4-Terphenyl-d14	1718-51-0	1.0	%	**94.9**	**105**	**106**	**103**	**104**

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2306516**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023
Order number	: 60693007-2	Date Analysis Commenced	: 17-Apr-2023
C-O-C number	: ----	Issue Date	: 19-Apr-2023
Sampler	: TIM SMITH02		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 20		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 4997966)									
EM2306147-017	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EM2306400-007	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 4997967)									
EM2306516-011	OL_EX_SP1_11	EG005C: Lead	7439-92-1	0.1	mg/L	1.3	1.3	0.0	0% - 50%
EM2306516-020	OL_EX_SP1_20	EG005C: Lead	7439-92-1	0.1	mg/L	0.2	0.2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4996238)									
EM2306516-001	OL_EX_SP1_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	17.3	17.4	0.0	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	3.1	3.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2306516-010	OL_EX_SP1_10	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4996238) - continued									
EM2306516-010	OL_EX_SP1_10	EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	1.4	1.7	22.5	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4997966)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	93.4	80.0	120
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4997967)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	93.6	80.0	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4996238)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	94.3	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	110	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	103	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	101	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	110	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	107	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	90.4	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	105	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	114	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	99.3	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	103	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	95.4	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	94.6	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	103	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	105	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	106	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4997966)							
EM2306147-022	Anonymous	EG005C: Lead	7439-92-1	1 mg/L	102	80.0	120

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 4997967)							
EM2306516-012	OL_EX_SP1_12	EG005C: Lead	7439-92-1	1 mg/L	102	80.0	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2306516**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 04-Apr-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 19-Apr-2023
Sampler	: TIM SMITH02	No. of samples received	: 20
Order number	: 60693007-2	No. of samples analysed	: 20

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC 0	Regular	Actual	Expected	
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	20	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
OL_EX_SP1_01, OL_EX_SP1_02, OL_EX_SP1_03, OL_EX_SP1_04, OL_EX_SP1_05, OL_EX_SP1_06, OL_EX_SP1_07, OL_EX_SP1_08, OL_EX_SP1_09, OL_EX_SP1_10, OL_EX_SP1_11, OL_EX_SP1_12, OL_EX_SP1_13, OL_EX_SP1_14, OL_EX_SP1_15, OL_EX_SP1_16, OL_EX_SP1_17, OL_EX_SP1_18, OL_EX_SP1_19, OL_EX_SP1_20	**03-Apr-2023**	**17-Apr-2023**	30-Sep-2023	✓	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)								
OL_EX_SP1_01,	OL_EX_SP1_02,	**17-Apr-2023**	**18-Apr-2023**	14-Oct-2023	✓	**19-Apr-2023**	14-Oct-2023	✓
OL_EX_SP1_03,	OL_EX_SP1_04,							
OL_EX_SP1_05,	OL_EX_SP1_06,							
OL_EX_SP1_07,	OL_EX_SP1_08,							
OL_EX_SP1_09,	OL_EX_SP1_10,							
OL_EX_SP1_11,	OL_EX_SP1_12,							
OL_EX_SP1_13,	OL_EX_SP1_14,							
OL_EX_SP1_15,	OL_EX_SP1_16,							
OL_EX_SP1_17,	OL_EX_SP1_18,							
OL_EX_SP1_19,	OL_EX_SP1_20							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP075(SIM))								
OL_EX_SP1_01,	OL_EX_SP1_02	**17-Apr-2023**	**18-Apr-2023**	24-Apr-2023	✓	**18-Apr-2023**	28-May-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))								
OL_EX_SP1_03,	OL_EX_SP1_04,	**17-Apr-2023**	**18-Apr-2023**	24-Apr-2023	✓	**19-Apr-2023**	28-May-2023	✓
OL_EX_SP1_05,	OL_EX_SP1_06,							
OL_EX_SP1_07,	OL_EX_SP1_08,							
OL_EX_SP1_09,	OL_EX_SP1_10,							
OL_EX_SP1_11,	OL_EX_SP1_12,							
OL_EX_SP1_13,	OL_EX_SP1_14,							
OL_EX_SP1_15,	OL_EX_SP1_16,							
OL_EX_SP1_17,	OL_EX_SP1_18,							
OL_EX_SP1_19,	OL_EX_SP1_20							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	4	26	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	20	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2306516**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH02		

Dates

Date Samples Received	: 04-Apr-2023 11:45	Issue Date	: 17-Apr-2023
Client Requested Due Date	: 21-Apr-2023	Scheduled Reporting Date	: **21-Apr-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 20 / 20

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2305901.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only
EM2306516-001	03-Apr-2023 17:16	OL_EX_SP1_01	✓	✓	✓
EM2306516-002	03-Apr-2023 17:16	OL_EX_SP1_02	✓	✓	✓
EM2306516-003	03-Apr-2023 17:16	OL_EX_SP1_03	✓	✓	✓
EM2306516-004	03-Apr-2023 17:16	OL_EX_SP1_04	✓	✓	✓
EM2306516-005	03-Apr-2023 17:16	OL_EX_SP1_05	✓	✓	✓
EM2306516-006	03-Apr-2023 17:16	OL_EX_SP1_06	✓	✓	✓
EM2306516-007	03-Apr-2023 17:16	OL_EX_SP1_07	✓	✓	✓
EM2306516-008	03-Apr-2023 17:16	OL_EX_SP1_08	✓	✓	✓
EM2306516-009	03-Apr-2023 17:16	OL_EX_SP1_09	✓	✓	✓
EM2306516-010	03-Apr-2023 17:16	OL_EX_SP1_10	✓	✓	✓
EM2306516-011	03-Apr-2023 17:16	OL_EX_SP1_11	✓	✓	✓
EM2306516-012	03-Apr-2023 17:16	OL_EX_SP1_12	✓	✓	✓
EM2306516-013	03-Apr-2023 17:16	OL_EX_SP1_13	✓	✓	✓
EM2306516-014	03-Apr-2023 17:16	OL_EX_SP1_14	✓	✓	✓
EM2306516-015	03-Apr-2023 17:16	OL_EX_SP1_15	✓	✓	✓
EM2306516-016	03-Apr-2023 17:16	OL_EX_SP1_16	✓	✓	✓
EM2306516-017	03-Apr-2023 17:16	OL_EX_SP1_17	✓	✓	✓
EM2306516-018	03-Apr-2023 17:16	OL_EX_SP1_18	✓	✓	✓
EM2306516-019	03-Apr-2023 17:16	OL_EX_SP1_19	✓	✓	✓
EM2306516-020	03-Apr-2023 17:16	OL_EX_SP1_20	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com

CHAIN OF CUSTODY

(ALS) COC#: 50528 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	J.D DATE TIME: 5/4	DATE TIME:	DATE TIME: 4/4/23, 1145

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU001 9

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	OL_EX_SP1_19			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
020	OL_EX_SP1_20			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
021	OL_EX_SP1_QC113			SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE no TBT	
022	OL_EX_SP1_QC114			SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
023	OL_EX_SP1_QC213	PLEASE FORWARD TO EUROFINS FOR ANALYSIS		SOIL	ALS: 0 Non ALS: 0	No	-		EPA TASMANIA IB105 SUITE NO TBT	
024	OL_EX_SP1_QC214	PLEASE FORWARD TO EUROFINS FOR ANALYSIS		SOIL	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
025	OL_EX_QCA08			WATER	ALS: 0 Non ALS: 0	No		X		
026	OL_EX_QCB10			WATER	ALS: 0 Non ALS: 0	No	-		TRH BTEXN PAH PHENOLS Pb	
027	OL_EX_QCC05			WATER	ALS: 0 Non ALS: 0	Yes	-			

DATE: 5/4
TIME: 9:10
COURIER:
TEMPERATURE 9.7
ATTEMP TO CHILL : YES NO

Sealed

J.D

#978719

05/04/23

Trip Blank

V-TRH/BTEXN.

Tuesday, April 4, 2023 2:04:24 AM

RELINQUISHED BY SR (ALS), 05/04/23

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Apr 5, 2023 9:10 AM
Eurofins reference	978719

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 9.7 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✗ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- ✓ Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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ABN: 50 005 085 521

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Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT

Order No.: 60693007-2
Report #: 978719
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Apr 5, 2023 9:10 AM
Due: Apr 14, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	OL_EX_SP1_QC213	Not Provided		Soil	M23-Ap0010948					X			X
2	OL_EX_SP1_QC214	Not Provided		Soil	M23-Ap0010949	X	X	X	X	X	X		
3	TRIP BLANK	Not Provided		Soil	M23-Ap0010950					X		X	
Test Counts						1	1	1	1	3	1	1	1

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **978719-S**
Project name MACQUARIE POINT
Received Date Apr 05, 2023

Client Sample ID			**OL_EX_SP1_QC213**	**OL_EX_SP1_QC214**	**TRIP BLANK**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-Ap0010948**	**M23-Ap0010949**	**M23-Ap0010950**
Date Sampled			**Not Provided**[I12]	**Not Provided**[I12]	**Not Provided**[I12]
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	260	< 20	-
TRH C15-C28	50	mg/kg	1600	160	-
TRH C29-C36	50	mg/kg	640	< 50	-
TRH C10-C36 (Total)	50	mg/kg	2500	160	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	330	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	328.4	< 50	-
TRH >C16-C34	100	mg/kg	1900	220	-
TRH >C34-C40	100	mg/kg	350	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	2580	220	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	53	85	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	1.6	< 0.5	-
Benzo(a)pyrene - low level	0.005	mg/kg	4.8	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-
Cyanide (total)	5	mg/kg	240	-	-
Fluoride	100	mg/kg	< 100	-	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	8.8	0.9	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.8	1.1	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	8.8	1.4	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	1.0	< 0.5	-
Anthracene	0.5	mg/kg	4.2	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	6.9	0.7	-

Client Sample ID			OL_EX_SP1_QC213	OL_EX_SP1_QC214	TRIP BLANK
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M23-Ap0010948	M23-Ap0010949	M23-Ap0010950
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene	0.5	mg/kg	5.5	0.7	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	4.4	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	4.6	0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	6.1	0.6	-
Chrysene	0.5	mg/kg	12	1.2	-
Dibenz(a.h)anthracene	0.5	mg/kg	1.0	< 0.5	-
Fluoranthene	0.5	mg/kg	23	1.7	-
Fluorene	0.5	mg/kg	2.3	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.6	< 0.5	-
Naphthalene	0.5	mg/kg	13	< 0.5	-
Phenanthrene	0.5	mg/kg	23	1.0	-
Pyrene	0.5	mg/kg	21	1.8	-
Total PAH*	0.5	mg/kg	130	8.2	-
2-Fluorobiphenyl (surr.)	1	%	86	58	-
p-Terphenyl-d14 (surr.)	1	%	84	52	-
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	129	-	-
Tetrachloro-m-xylene (surr.)	1	%	77	-	-
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	< 0.2	-	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	-

Client Sample ID			OL_EX_SP1_QC213	OL_EX_SP1_QC214	TRIP BLANK
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M23-Ap0010948	M23-Ap0010949	M23-Ap0010950
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Test/Reference	LOR	Unit			
Polychlorinated Biphenyls					
Aroclor-1248	0.1	mg/kg	< 0.2	-	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	-
Total PCB*	0.1	mg/kg	< 0.2	-	-
Dibutylchlorendate (surr.)	1	%	129	-	-
Tetrachloro-m-xylene (surr.)	1	%	77	-	-
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-
Dinoseb	20	mg/kg	< 20	< 20	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	55	55	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-
Heavy Metals					
Arsenic	2	mg/kg	10	-	-
Barium	10	mg/kg	170	-	-
Beryllium	2	mg/kg	< 2	-	-
Cadmium	0.4	mg/kg	1.0	-	-
Chromium	5	mg/kg	61	-	-
Cobalt	5	mg/kg	12	-	-
Copper	5	mg/kg	220	-	-
Lead	5	mg/kg	470	160	-
Manganese	5	mg/kg	300	-	-
Mercury	0.1	mg/kg	0.8	-	-
Molybdenum	5	mg/kg	< 5	-	-
Nickel	5	mg/kg	39	-	-
Selenium	2	mg/kg	< 2	-	-
Silver	2	mg/kg	< 2	-	-
Tin	10	mg/kg	51	-	-
Zinc	5	mg/kg	720	-	-
Sample Properties					
% Moisture	1	%	14	10	1.2

Client Sample ID			OL_EX_SP1_QC213	OL_EX_SP1_QC214	TRIP BLANK
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M23-Ap0010948	M23-Ap0010949	M23-Ap0010950
Date Sampled			Not Provided[I12]	Not Provided[I12]	Not Provided[I12]
Test/Reference	LOR	Unit			
Volatile Organics					
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Benzo(a)pyrene - low level	Melbourne	Apr 06, 2023	0 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Chromium (hexavalent)	Melbourne	Apr 06, 2023	28 Days
- Method: LTM-INO-4100 Hexavalent Chromium by Spectrometric detection			
Cyanide (total)	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Apr 11, 2023	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
Polycyclic Aromatic Hydrocarbons	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Apr 06, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Apr 06, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Total Recoverable Hydrocarbons	Melbourne	Apr 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Apr 05, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Company Name: AECOM Aust Pty Ltd Melbourne
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Project Name: MACQUARIE POINT

Order No.: 60693007-2
Report #: 978719
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Apr 5, 2023 9:10 AM
Due: Apr 14, 2023
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	OL_EX_SP1_QC213	Not Provided		Soil	M23-Ap0010948					X			X
2	OL_EX_SP1_QC214	Not Provided		Soil	M23-Ap0010949	X	X	X	X	X	X		
3	TRIP BLANK	Not Provided		Soil	M23-Ap0010950					X		X	
Test Counts						1	1	1	1	3	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	93			70-130	Pass	
TRH C10-C14	%	86			70-130	Pass	
TRH C6-C10	%	81			70-130	Pass	
TRH >C10-C16	%	93			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	93			70-130	Pass	
Ethylbenzene	%	93			70-130	Pass	
m&p-Xylenes	%	93			70-130	Pass	
Xylenes - Total*	%	85			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
LCS - % Recovery							
Benzo(a)pyrene - low level	%	85			70-130	Pass	
Cyanide (total)	%	113			70-130	Pass	
Fluoride	%	108			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	73			70-130	Pass	
Benz(a)anthracene	%	100			70-130	Pass	
Benzo(a)pyrene	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	100			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	105			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	82			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	78			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Naphthalene	%	110			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	106			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	87			70-130	Pass	
4.4'-DDD	%	94			70-130	Pass	
4.4'-DDE	%	109			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDT	%	87			70-130	Pass	
a-HCH	%	92			70-130	Pass	
Aldrin	%	102			70-130	Pass	
b-HCH	%	129			70-130	Pass	
d-HCH	%	104			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	108			70-130	Pass	
Endosulfan II	%	103			70-130	Pass	
Endosulfan sulphate	%	119			70-130	Pass	
Endrin	%	119			70-130	Pass	
Endrin aldehyde	%	108			70-130	Pass	
Endrin ketone	%	94			70-130	Pass	
g-HCH (Lindane)	%	102			70-130	Pass	
Heptachlor	%	77			70-130	Pass	
Heptachlor epoxide	%	98			70-130	Pass	
Hexachlorobenzene	%	93			70-130	Pass	
Methoxychlor	%	83			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	72			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	51			25-140	Pass	
2.4-Dichlorophenol	%	59			25-140	Pass	
2.4.5-Trichlorophenol	%	60			25-140	Pass	
2.4.6-Trichlorophenol	%	57			25-140	Pass	
2.6-Dichlorophenol	%	59			25-140	Pass	
4-Chloro-3-methylphenol	%	35			25-140	Pass	
Pentachlorophenol	%	42			25-140	Pass	
Tetrachlorophenols - Total	%	78			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	36			25-140	Pass	
2.4-Dimethylphenol	%	56			25-140	Pass	
2-Methylphenol (o-Cresol)	%	38			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	60			25-140	Pass	
4-Nitrophenol	%	58			25-140	Pass	
Dinoseb	%	89			25-140	Pass	
Phenol	%	52			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	102			80-120	Pass	
Barium	%	102			80-120	Pass	
Beryllium	%	99			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	105			80-120	Pass	
Cobalt	%	108			80-120	Pass	
Copper	%	106			80-120	Pass	
Lead	%	108			80-120	Pass	
Manganese	%	101			80-120	Pass	
Mercury	%	102			80-120	Pass	
Molybdenum	%	102			80-120	Pass	
Nickel	%	103			80-120	Pass	
Selenium	%	100			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Silver			%	108			80-120	Pass	
Tin			%	102			80-120	Pass	
Zinc			%	103			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Ap0014542	NCP	%	95			70-130	Pass	
TRH C10-C14	M23-Ap0015990	NCP	%	93			70-130	Pass	
TRH C6-C10	M23-Ap0014542	NCP	%	96			70-130	Pass	
TRH >C10-C16	M23-Ap0015990	NCP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Ap0014542	NCP	%	77			70-130	Pass	
Toluene	M23-Ap0014542	NCP	%	84			70-130	Pass	
Ethylbenzene	M23-Ap0014542	NCP	%	86			70-130	Pass	
m&p-Xylenes	M23-Ap0014542	NCP	%	74			70-130	Pass	
o-Xylene	M23-Ap0014542	NCP	%	91			70-130	Pass	
Xylenes - Total*	M23-Ap0014542	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Ap0014542	NCP	%	83			70-130	Pass	
Spike - % Recovery									
				Result 1					
Benzo(a)pyrene - low level	M23-Ap0003863	NCP	%	70			70-130	Pass	
Chromium (hexavalent)	M23-Ap0010163	NCP	%	71			70-130	Pass	
Fluoride	M23-Ap0010948	CP	%	104			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Ap0003863	NCP	%	85			70-130	Pass	
Acenaphthylene	M23-Ap0003863	NCP	%	86			70-130	Pass	
Anthracene	M23-Ap0003863	NCP	%	101			70-130	Pass	
Benz(a)anthracene	M23-Ap0003863	NCP	%	89			70-130	Pass	
Benzo(a)pyrene	M23-Ap0003863	NCP	%	70			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Ap0003863	NCP	%	89			70-130	Pass	
Benzo(g.h.i)perylene	M23-Ap0003863	NCP	%	104			70-130	Pass	
Benzo(k)fluoranthene	M23-Ap0003863	NCP	%	96			70-130	Pass	
Chrysene	M23-Ap0003863	NCP	%	102			70-130	Pass	
Dibenz(a.h)anthracene	M23-Ap0003863	NCP	%	92			70-130	Pass	
Fluoranthene	M23-Ap0003863	NCP	%	90			70-130	Pass	
Fluorene	M23-Ap0003863	NCP	%	110			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ap0003863	NCP	%	90			70-130	Pass	
Naphthalene	M23-Ap0003863	NCP	%	80			70-130	Pass	
Phenanthrene	M23-Ap0003863	NCP	%	86			70-130	Pass	
Pyrene	M23-Ap0003863	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M23-Ap0007925	NCP	%	99			70-130	Pass	
4.4'-DDD	M23-Ap0007925	NCP	%	89			70-130	Pass	
4.4'-DDE	M23-Ap0007925	NCP	%	115			70-130	Pass	
4.4'-DDT	M23-Ap0007925	NCP	%	109			70-130	Pass	
a-HCH	M23-Ap0007925	NCP	%	104			70-130	Pass	
Aldrin	M23-Ap0007925	NCP	%	107			70-130	Pass	
b-HCH	M23-Ap0007925	NCP	%	95			70-130	Pass	
d-HCH	M23-Ap0007925	NCP	%	112			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	M23-Ap0007925	NCP	%	111			70-130	Pass	
Endosulfan I	M23-Ap0007925	NCP	%	116			70-130	Pass	
Endosulfan II	M23-Ap0007925	NCP	%	103			70-130	Pass	
Endosulfan sulphate	M23-Ap0007925	NCP	%	111			70-130	Pass	
Endrin	M23-Ap0007925	NCP	%	94			70-130	Pass	
Endrin aldehyde	M23-Ap0007925	NCP	%	116			70-130	Pass	
Endrin ketone	M23-Ap0007925	NCP	%	94			70-130	Pass	
g-HCH (Lindane)	M23-Ap0007925	NCP	%	126			70-130	Pass	
Heptachlor	M23-Ap0007925	NCP	%	108			70-130	Pass	
Heptachlor epoxide	M23-Ap0007925	NCP	%	103			70-130	Pass	
Hexachlorobenzene	M23-Ap0007925	NCP	%	98			70-130	Pass	
Methoxychlor	M23-Ap0007925	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-Ap0010948	CP	%	79			30-130	Pass	
2.4-Dichlorophenol	M23-Ap0010948	CP	%	91			30-130	Pass	
2.4.5-Trichlorophenol	M23-Ap0003863	NCP	%	62			30-130	Pass	
2.4.6-Trichlorophenol	M23-Ap0003863	NCP	%	35			30-130	Pass	
2.6-Dichlorophenol	M23-Ap0010948	CP	%	31			30-130	Pass	
4-Chloro-3-methylphenol	M23-Ap0010948	CP	%	50			30-130	Pass	
Pentachlorophenol	M23-Ap0003863	NCP	%	59			30-130	Pass	
Tetrachlorophenols - Total	M23-Ap0010948	CP	%	43			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Ap0010948	CP	%	121			30-130	Pass	
2-Nitrophenol	M23-Ap0010948	CP	%	49			30-130	Pass	
2.4-Dimethylphenol	M23-Ap0010948	CP	%	56			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-Ap0010948	CP	%	40			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ap0010948	CP	%	53			30-130	Pass	
Dinoseb	M23-Ap0010948	CP	%	101			30-130	Pass	
Phenol	M23-Ap0010948	CP	%	78			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Ap0015064	NCP	%	101			75-125	Pass	
Barium	M23-Ap0015064	NCP	%	105			75-125	Pass	
Beryllium	M23-Ap0015064	NCP	%	102			75-125	Pass	
Cadmium	M23-Ap0015064	NCP	%	112			75-125	Pass	
Chromium	M23-Ap0015064	NCP	%	113			75-125	Pass	
Cobalt	M23-Ap0015064	NCP	%	103			75-125	Pass	
Copper	M23-Ap0015064	NCP	%	117			75-125	Pass	
Lead	M23-Ap0015064	NCP	%	111			75-125	Pass	
Manganese	M23-Ap0008045	NCP	%	121			75-125	Pass	
Mercury	M23-Ap0015064	NCP	%	113			75-125	Pass	
Molybdenum	M23-Ap0015064	NCP	%	108			75-125	Pass	
Nickel	M23-Ap0015064	NCP	%	116			75-125	Pass	
Selenium	M23-Ap0015064	NCP	%	100			75-125	Pass	
Silver	M23-Ap0015064	NCP	%	113			75-125	Pass	
Tin	M23-Ap0015064	NCP	%	105			75-125	Pass	
Zinc	M23-Ap0015064	NCP	%	106			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Ap0010948	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M23-Ap0018960	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-Ap0018960	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-Ap0018960	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M23-Ma0070669	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Ap0018960	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-Ap0018960	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-Ap0018960	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Ma0070669	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Ma0070669	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Ma0070669	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Ma0070669	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M23-Ap0000392	NCP	mg/kg	< 0.005	**	<1	30%	Pass	
Chromium (hexavalent)	M23-Ap0010170	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Fluoride	M23-Ap0010177	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Acenaphthylene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Anthracene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Benz(a)anthracene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Benzo(a)pyrene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Chrysene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Fluoranthene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Fluorene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Naphthalene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Phenanthrene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Pyrene	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-Ap0000392	NCP	mg/kg	< 0.1	**	<1	30%	Pass	
4.4'-DDD	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
4.4'-DDE	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
4.4'-DDT	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
a-HCH	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Aldrin	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
b-HCH	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
d-HCH	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Dieldrin	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Endosulfan I	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Endosulfan II	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Endosulfan sulphate	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Endrin	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Endrin aldehyde	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Endrin ketone	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
g-HCH (Lindane)	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Heptachlor	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Heptachlor epoxide	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Hexachlorobenzene	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Methoxychlor	M23-Ap0000392	NCP	mg/kg	< 0.05	**	<1	30%	Pass	
Toxaphene	M23-Ap0011266	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M23-Ap0011266	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
2.4-Dichlorophenol	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Ap0000392	NCP	mg/kg	< 1	**	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Ap0000392	NCP	mg/kg	< 1	**	<1	30%	Pass	
2.6-Dichlorophenol	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Ap0000392	NCP	mg/kg	< 1	**	<1	30%	Pass	
Pentachlorophenol	M23-Ap0000392	NCP	mg/kg	< 1	**	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Ap0000392	NCP	mg/kg	< 10	**	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Ap0000392	NCP	mg/kg	< 20	**	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Ap0000392	NCP	mg/kg	< 5	**	<1	30%	Pass	
2-Nitrophenol	M23-Ap0000392	NCP	mg/kg	< 1	**	<1	30%	Pass	
2.4-Dimethylphenol	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
2.4-Dinitrophenol	M23-Ap0000392	NCP	mg/kg	< 5	**	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Ap0000392	NCP	mg/kg	< 0.2	**	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Ap0000392	NCP	mg/kg	< 0.4	**	<1	30%	Pass	
4-Nitrophenol	M23-Ap0000392	NCP	mg/kg	< 5	**	<1	30%	Pass	
Dinoseb	M23-Ap0000392	NCP	mg/kg	< 20	**	<1	30%	Pass	
Phenol	M23-Ap0000392	NCP	mg/kg	< 0.5	**	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Copper	M23-Ap0015063	NCP	mg/kg	23	20	17	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Ap0010787	NCP	%	7.3	7.6	4.3	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	Yes
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CERTIFICATE OF ANALYSIS

Work Order	: **EM2309346**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023 12:35
Order number	: Macquarie Point	Date Analysis Commenced	: 26-May-2023
C-O-C number	: ----	Issue Date	: 01-Jun-2023 13:18
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 27		
No. of samples analysed	: 26		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Tim Kuo	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2309346 #8 Poor duplicate precision for total Lead due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2309346 #12 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 1220 mg/kg, 831 mg/kg, and 783 mg/kg.
- EG005-T : EM2309346 #13 results for total Lead have been confirmed by re-digestion and re-analysis. It's been noted that the repeated results vary greatly. Repeated results are as follows: Lead: 523 mg/kg, 6630 mg/kg, and 1420 mg/kg.
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Analysis of asbestos from swabs and tapes is not covered under the current scope of NATA accreditation.
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

- EA200: N/A - Not Applicable

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP2_01	OL_EX_SP2_02	OL_EX_SP2_03	OL_EX_SP2_04	OL_EX_SP3_01
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-001	EM2309346-002	EM2309346-003	EM2309346-004	EM2309346-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**25.9**	**15.4**	**12.7**	**21.4**	**15.5**
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**993**	**739**	**548**	**2340**	**208**
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	**0.5**	<0.5	**0.6**	**0.9**
Acenaphthylene	208-96-8	0.5	mg/kg	**0.8**	**0.7**	**0.7**	<0.5	**1.5**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**2.2**	**2.1**	**2.4**	**1.9**	**5.1**
Anthracene	120-12-7	0.5	mg/kg	**1.2**	**0.8**	**0.9**	**0.5**	**2.0**
Fluoranthene	206-44-0	0.5	mg/kg	**7.4**	**5.3**	**6.0**	**3.0**	**11.2**
Pyrene	129-00-0	0.5	mg/kg	**6.9**	**5.8**	**6.4**	**2.7**	**11.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**4.0**	**2.9**	**3.4**	**1.5**	**5.6**
Chrysene	218-01-9	0.5	mg/kg	**4.1**	**2.5**	**3.1**	**1.4**	**5.1**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**6.3**	**4.0**	**4.3**	**2.3**	**7.2**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.9**	**1.6**	**1.7**	**1.0**	**2.9**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**3.8**	**3.6**	**4.1**	**1.6**	**6.3**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.0**	**2.1**	**2.3**	**1.1**	**3.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.8**	**0.5**	**0.6**	<0.5	**1.0**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**3.4**	**2.5**	**2.7**	**1.4**	**4.5**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**45.8**	**34.9**	**38.6**	**19.0**	**68.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP2_01	OL_EX_SP2_02	OL_EX_SP2_03	OL_EX_SP2_04	OL_EX_SP3_01
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-001	EM2309346-002	EM2309346-003	EM2309346-004	EM2309346-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**6.2**	**5.2**	**5.9**	**2.2**	**9.3**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**6.2**	**5.2**	**5.9**	**2.5**	**9.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**6.2**	**5.2**	**5.9**	**2.7**	**9.3**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	**60**
C15 - C28 Fraction	----	100	mg/kg	**120**	**270**	**270**	**270**	**400**
C29 - C36 Fraction	----	100	mg/kg	**100**	**200**	**240**	**250**	**220**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**220**	**470**	**510**	**520**	**680**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	**100**
>C16 - C34 Fraction	----	100	mg/kg	**200**	**400**	**440**	**450**	**520**
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	**120**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**200**	**400**	**440**	**570**	**620**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	**100**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**107**	**110**	**100**	**96.6**	**102**
2-Chlorophenol-D4	93951-73-6	0.5	%	**109**	**113**	**101**	**96.6**	**101**
2.4.6-Tribromophenol	118-79-6	0.5	%	**112**	**108**	**100**	**95.3**	**105**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**104**	**110**	**99.6**	**101**	**96.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP2_01	OL_EX_SP2_02	OL_EX_SP2_03	OL_EX_SP2_04	OL_EX_SP3_01
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-001	EM2309346-002	EM2309346-003	EM2309346-004	EM2309346-005
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued								
Anthracene-d10	1719-06-8	0.5	%	**108**	**120**	**109**	**110**	**119**
4-Terphenyl-d14	1718-51-0	0.5	%	**93.5**	**109**	**103**	**104**	**88.6**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**93.9**	**85.3**	**89.8**	**93.1**	**90.0**
Toluene-D8	2037-26-5	0.2	%	**89.7**	**73.2**	**79.6**	**75.3**	**79.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**96.4**	**82.8**	**88.1**	**82.5**	**90.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP3_02	OL_EX_SP3_03	OL_EX_SP4_01	OL_EX_SP4_02	OL_EX_SP4_03
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-006	EM2309346-007	EM2309346-008	EM2309346-009	EM2309346-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.2	21.2	16.6	10.1	17.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	No	No
Asbestos (Trace)	1332-21-4	-	-	----	----	No	No	No
Asbestos Type	1332-21-4	-	--	----	----	-	-	-
Synthetic Mineral Fibre	----	-	--	----	----	No	No	No
Organic Fibre	----	-	--	----	----	Yes	Yes	Yes
Sample weight (dry)	----	0.01	g	----	----	158	140	154
APPROVED IDENTIFIER:	----	-	--	----	----	M. TRAN	M. TRAN	M. TRAN
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	559	297	577	883	455
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	2.4	8.0	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	1.4	3.7	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.0	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	0.6	2.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	9.6	35.3	0.9	1.5	2.1
Anthracene	120-12-7	0.5	mg/kg	1.9	5.8	<0.5	0.6	0.7
Fluoranthene	206-44-0	0.5	mg/kg	11.2	32.8	2.1	3.5	3.9
Pyrene	129-00-0	0.5	mg/kg	10.7	29.0	2.1	3.8	4.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	6.3	16.0	1.2	2.1	2.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP3_02	OL_EX_SP3_03	OL_EX_SP4_01	OL_EX_SP4_02	OL_EX_SP4_03
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-006	EM2309346-007	EM2309346-008	EM2309346-009	EM2309346-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	**5.6**	**14.0**	**1.2**	**2.0**	**2.2**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**8.7**	**18.8**	**1.5**	**2.7**	**2.9**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**2.5**	**7.8**	**0.7**	**1.2**	**1.4**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**5.9**	**11.6**	**1.5**	**2.6**	**2.9**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**3.6**	**8.3**	**0.7**	**1.3**	**1.4**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**1.0**	**2.3**	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**4.3**	**9.2**	**1.0**	**1.6**	**1.8**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**75.7**	**206**	**12.9**	**22.9**	**25.6**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**9.1**	**19.2**	**1.9**	**3.4**	**3.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**9.1**	**19.2**	**2.2**	**3.6**	**4.0**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**9.1**	**19.2**	**2.4**	**3.9**	**4.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	**120**	**420**	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**640**	**1230**	**240**	**240**	**290**
C29 - C36 Fraction	----	100	mg/kg	**300**	**420**	**190**	**200**	**260**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**1060**	**2070**	**430**	**440**	**550**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	**170**	**470**	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**800**	**1430**	**380**	**390**	**480**
>C34 - C40 Fraction	----	100	mg/kg	**120**	**130**	<100	<100	**120**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**1090**	**2030**	**380**	**390**	**600**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	**170**	**470**	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP3_02	OL_EX_SP3_03	OL_EX_SP4_01	OL_EX_SP4_02	OL_EX_SP4_03
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-006	EM2309346-007	EM2309346-008	EM2309346-009	EM2309346-010
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	96.9	92.5	83.0	91.8	91.0
2-Chlorophenol-D4	93951-73-6	0.5	%	97.7	94.5	84.4	101	98.2
2.4.6-Tribromophenol	118-79-6	0.5	%	102	104	82.4	92.5	86.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	102	98.4	92.5	104	102
Anthracene-d10	1719-06-8	0.5	%	117	111	109	118	116
4-Terphenyl-d14	1718-51-0	0.5	%	106	98.4	99.1	111	109
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	85.9	84.1	98.7	91.2	87.3
Toluene-D8	2037-26-5	0.2	%	74.4	79.5	92.4	82.7	80.0
4-Bromofluorobenzene	460-00-4	0.2	%	81.9	88.2	105	78.9	74.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP5_01	OL_EX_SP5_02	OL_EX_SP5_03	OL_EX_SP6_01	OL_EX_SP6_02
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-011	EM2309346-012	EM2309346-013	EM2309346-014	EM2309346-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	24.9	25.3	19.3	20.4	23.9
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	588	783	1420	757	541
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	2	4
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.5	0.7	0.5	0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.4	1.7	3.9	1.0	1.7
Anthracene	120-12-7	0.5	mg/kg	0.8	0.6	1.0	<0.5	0.7
Fluoranthene	206-44-0	0.5	mg/kg	5.4	4.8	7.2	2.4	3.5
Pyrene	129-00-0	0.5	mg/kg	5.7	5.2	7.4	2.5	3.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.3	3.1	3.9	1.7	2.1
Chrysene	218-01-9	0.5	mg/kg	3.1	3.1	4.0	1.6	2.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	4.0	5.2	2.8	3.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.8	1.8	2.2	1.3	1.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.9	3.8	4.9	2.4	2.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.9	2.1	2.5	1.6	1.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.5	0.6	0.7	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP5_01	OL_EX_SP5_02	OL_EX_SP5_03	OL_EX_SP6_01	OL_EX_SP6_02
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-011	EM2309346-012	EM2309346-013	EM2309346-014	EM2309346-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.3**	**2.6**	**3.0**	**2.0**	**2.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**35.7**	**33.9**	**46.6**	**19.8**	**25.4**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**5.6**	**5.6**	**7.0**	**3.2**	**3.6**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**5.6**	**5.6**	**7.0**	**3.4**	**3.8**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**5.6**	**5.6**	**7.0**	**3.7**	**4.1**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	**70**
C15 - C28 Fraction	----	100	mg/kg	**310**	**200**	**320**	**120**	**200**
C29 - C36 Fraction	----	100	mg/kg	**230**	**160**	**240**	**120**	**170**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**540**	**360**	**560**	**240**	**440**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	**70**
>C16 - C34 Fraction	----	100	mg/kg	**490**	**330**	**500**	**210**	**330**
>C34 - C40 Fraction	----	100	mg/kg	**120**	<100	**110**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**610**	**330**	**610**	**210**	**400**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	**70**
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.8**	**88.2**	**93.5**	**89.6**	**85.0**
2-Chlorophenol-D4	93951-73-6	0.5	%	**103**	**97.5**	**104**	**88.8**	**83.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**90.6**	**82.7**	**95.5**	**85.3**	**74.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP5_01	OL_EX_SP5_02	OL_EX_SP5_03	OL_EX_SP6_01	OL_EX_SP6_02
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309346-011	EM2309346-012	EM2309346-013	EM2309346-014	EM2309346-015
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**105**	**96.7**	**108**	**93.5**	**89.6**
Anthracene-d10	1719-06-8	0.5	%		**119**	**108**	**113**	**107**	**113**
4-Terphenyl-d14	1718-51-0	0.5	%		**114**	**105**	**114**	**91.2**	**92.4**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**89.5**	**97.1**	**88.2**	**83.1**	**84.1**
Toluene-D8	2037-26-5	0.2	%		**82.6**	**88.6**	**81.0**	**80.7**	**72.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**82.0**	**91.8**	**82.9**	**80.0**	**79.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP6_03	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_QC118
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-016	EM2309346-017	EM2309346-018	EM2309346-019	EM2309346-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.8	20.8	21.1	18.9	20.8
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	758	185	274	189	1010
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	2	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.0	2.6	1.3	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.9	1.2	0.8	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.8	0.8	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	1.2	1.1	0.7	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.6	5.6	4.6	3.3	1.7
Anthracene	120-12-7	0.5	mg/kg	0.6	2.2	2.2	1.7	0.9
Fluoranthene	206-44-0	0.5	mg/kg	3.7	9.9	11.2	7.6	6.4
Pyrene	129-00-0	0.5	mg/kg	3.7	10.9	12.8	8.5	6.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.2	6.1	6.3	5.3	3.7
Chrysene	218-01-9	0.5	mg/kg	2.0	5.2	5.3	4.5	3.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.2	7.5	8.3	6.6	5.7
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.3	2.5	3.0	2.8	2.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.7	7.0	7.7	6.0	3.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.7	3.0	3.4	2.6	2.8
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.9	1.0	0.7	0.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP6_03	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_QC118
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit		EM2309346-016	EM2309346-017	EM2309346-018	EM2309346-019	EM2309346-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.0**	**3.6**	**4.1**	**3.1**	**3.2**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**25.3**	**68.3**	**75.6**	**55.5**	**41.5**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**3.6**	**9.9**	**10.9**	**8.5**	**6.1**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**3.8**	**9.9**	**10.9**	**8.5**	**6.1**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**4.1**	**9.9**	**10.9**	**8.5**	**6.1**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		**130**	**300**	**230**	**250**	<50
C15 - C28 Fraction	----	100	mg/kg		**190**	**1550**	**1080**	**1110**	**170**
C29 - C36 Fraction	----	100	mg/kg		**140**	**300**	**310**	**250**	**140**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**460**	**2150**	**1620**	**1610**	**310**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		**130**	**590**	**400**	**470**	<50
>C16 - C34 Fraction	----	100	mg/kg		**280**	**1490**	**1160**	**1090**	**270**
>C34 - C40 Fraction	----	100	mg/kg		<100	**100**	**120**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**410**	**2180**	**1680**	**1560**	**270**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**130**	**590**	**400**	**470**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**103**	**98.4**	**91.2**	**93.2**	**104**
2-Chlorophenol-D4	93951-73-6	0.5	%		**102**	**100**	**89.2**	**91.5**	**102**
2.4.6-Tribromophenol	118-79-6	0.5	%		**94.5**	**92.7**	**86.2**	**86.1**	**99.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP6_03	UST_EXT_59SP_01	UST_EXT_59SP_02	UST_EXT_59SP_03	OL_EX_QC118
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00
Compound	CAS Number	LOR	Unit	EM2309346-016	EM2309346-017	EM2309346-018	EM2309346-019	EM2309346-020
				Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**103**	**100**	**88.0**	**91.2**	**102**
Anthracene-d10	1719-06-8	0.5	%	**116**	**119**	**109**	**111**	**107**
4-Terphenyl-d14	1718-51-0	0.5	%	**103**	**110**	**93.0**	**98.5**	**98.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**94.7**	**89.8**	**87.9**	**93.5**	**87.7**
Toluene-D8	2037-26-5	0.2	%	**73.5**	**71.2**	**68.1**	**83.8**	**79.0**
4-Bromofluorobenzene	460-00-4	0.2	%	**90.9**	**78.4**	**75.0**	**85.4**	**78.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_QC120	UST_EXT_QC121	----	----	----
			Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2309346-021	EM2309346-022	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**20.1**	**22.3**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	**772**	**173**	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.6**	**0.9**	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	**0.6**	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	**0.5**	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**1.2**	**2.2**	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**0.5**	**0.8**	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**3.0**	**4.5**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**3.0**	**6.0**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**2.0**	**2.7**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**1.9**	**2.5**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**3.2**	**3.8**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.4**	**1.7**	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**2.6**	**3.6**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.7**	**1.8**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.0**	**2.1**	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**23.7**	**33.1**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC120	UST_EXT_QC121	----	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2309346-021	EM2309346-022	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**3.5**	**4.6**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**3.7**	**4.9**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**4.0**	**5.1**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		**140**	**380**	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**230**	**1320**	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**200**	**240**	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**570**	**1940**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**140**	**680**	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**370**	**1220**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**510**	**1900**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**140**	**680**	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.8**	**95.5**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.0**	**96.5**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**86.0**	**82.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.7**	**101**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_QC120	UST_EXT_QC121	----	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2309346-021	EM2309346-022	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**108**	**101**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**92.3**	**115**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.5**	**99.0**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**76.1**	**84.2**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**78.9**	**88.2**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)				Sample ID	OL_EX_SP4_01 Solid	----	----	----	----
				Sampling date / time	23-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2309346-027	--------	--------	--------	--------
					Result	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		**Yes**	----	----	----	----
Asbestos Type	1332-21-4	-	--		**Ch**	----	----	----	----
Asbestos (Trace)	1332-21-4	-	-		**N/A**	----	----	----	----
Sample weight (dry)	----	0.01	g		**2.10**	----	----	----	----
Synthetic Mineral Fibre	----	-	-		**No**	----	----	----	----
Organic Fibre	----	-	-		**No**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		**T. KUO**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	UST_EXT_QCA11	OL_EX_QCB12	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309346-023	EM2309346-024	EM2309346-025	--------	--------
					Result	Result	Result	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		----	----	<0.001	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	----	<1.0	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	----	<1.0	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	----	<1.0	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	----	<2.0	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	----	<1.0	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	----	<1.0	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	----	<1.0	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	----	<1.0	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	----	<1.0	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	----	<1.0	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	----	<1.0	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	----	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	----	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	----	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		----	----	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	----	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		----	----	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	----	<1.0	----	----
Pyrene	129-00-0	1.0	µg/L		----	----	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	----	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		----	----	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	----	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	----	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	----	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	----	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	----	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	UST_EXT_QCA11	OL_EX_QCB12	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309346-023	EM2309346-024	EM2309346-025	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L		----	----	<50	----	----
C15 - C28 Fraction	----	100	µg/L		----	----	<100	----	----
C29 - C36 Fraction	----	50	µg/L		----	----	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L		----	----	<100	----	----
>C16 - C34 Fraction	----	100	µg/L		----	----	<100	----	----
>C34 - C40 Fraction	----	100	µg/L		----	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	----	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	----	<100	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	----	**22.0**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	----	**61.6**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	----	**56.0**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	----	**49.0**	----	----
Anthracene-d10	1719-06-8	1.0	%		----	----	**50.8**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	----	**49.8**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**103**	**102**	**100**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	OL_EX_QCA10	UST_EXT_QCA11	OL_EX_QCB12	----	----
				Sampling date / time	23-May-2023 00:00	23-May-2023 00:00	23-May-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2309346-023	EM2309346-024	EM2309346-025	--------	--------
					Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	2	%		**89.8**	**91.9**	**91.7**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**103**	**99.9**	**101**	**----**	**----**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	OL_EX_SP4_01 - 23-May-2023 00:00	Grey rocky soil with organic matter.
EA200: Description	OL_EX_SP4_02 - 23-May-2023 00:00	Grey rocky soil with organic matter.
EA200: Description	OL_EX_SP4_03 - 23-May-2023 00:00	Grey rocky soil with organic matter.

Sub-Matrix: **SOLID**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	OL_EX_SP4_01Solid - 23-May-2023 00:00	Asbestos sheeting fragments with attached soil matter approx 40 x 15 x 3mm.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

QUALITY CONTROL REPORT

Work Order	: **EM2309346**	Page	: 1 of 16
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023
Order number	: Macquarie Point	Date Analysis Commenced	: 26-May-2023
C-O-C number	: ----	Issue Date	: 01-Jun-2023
Sampler	: ----		
Site	: ----		
Quote number	: ME/386/22		
No. of samples received	: 27		
No. of samples analysed	: 26		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Tim Kuo	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5076787)									
EM2309346-001	OL_EX_SP2_01	EG005T: Lead	7439-92-1	5	mg/kg	993	912	8.4	0% - 20%
EM2309346-016	OL_EX_SP6_03	EG005T: Lead	7439-92-1	5	mg/kg	758	623	19.6	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5081332)									
EM2309346-008	OL_EX_SP4_01	EG005T: Lead	7439-92-1	5	mg/kg	577	# 389	39.0	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5076613)									
EM2309346-001	OL_EX_SP2_01	EA055: Moisture Content	----	0.1	%	25.9	25.5	1.4	0% - 20%
EM2309346-017	UST_EXT_59SP_01	EA055: Moisture Content	----	0.1	%	20.8	20.4	2.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5081538)									
EM2309346-008	OL_EX_SP4_01	EA055: Moisture Content	----	0.1	%	16.6	13.5	20.3	0% - 50%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5081819)									
EM2309682-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5076750)									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5076750) - continued									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2309346-001	OL_EX_SP2_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5081317)									
EM2309346-008	OL_EX_SP4_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5076750)									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.0	0.9	14.6	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.9	0.6	37.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.8	<0.5	40.3	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	1.2	0.7	48.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	5.6	3.7	41.5	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.2	1.7	27.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.9	7.4	29.1	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.9	9.1	17.9	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	6.1	4.5	31.2	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	5.2	4.2	22.9	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	7.5	5.9	23.5	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.5	2.3	8.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5076750) - continued									
EM2309346-017	UST_EXT_59SP_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	7.0	5.6	21.7	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.0	2.6	15.9	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.9	0.7	27.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.6	3.0	19.7	No Limit
EM2309346-001	OL_EX_SP2_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	<0.5	41.7	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.2	1.3	53.4	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.2	0.8	40.3	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	7.4	6.2	18.7	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	6.9	5.8	16.6	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.0	3.3	18.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.1	3.3	20.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.3	5.5	12.8	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.9	1.6	14.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.8	3.5	8.8	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.0	2.5	18.8	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.8	0.6	23.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.4	2.8	19.5	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5081317)									
EM2309346-008	OL_EX_SP4_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.9	0.6	47.6	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.1	1.3	47.2	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.1	1.3	45.6	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.2	0.8	40.6	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.2	0.7	46.8	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.5	1.0	36.9	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.7	<0.5	32.9	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.5	1.0	42.9	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	0.5	35.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.0	0.7	32.7	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5074280)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5074280) - continued									
EM2309346-001	OL_EX_SP2_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2309346-017	UST_EXT_59SP_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5076751)									
EM2309346-017	UST_EXT_59SP_01	EP071: C15 - C28 Fraction	----	100	mg/kg	1550	1460	5.5	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	300	280	6.9	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	300	310	3.6	No Limit
EM2309346-001	OL_EX_SP2_01	EP071: C15 - C28 Fraction	----	100	mg/kg	120	170	34.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	100	130	24.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5081312)									
EM2309346-008	OL_EX_SP4_01	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5081318)									
EM2309346-008	OL_EX_SP4_01	EP071: C15 - C28 Fraction	----	100	mg/kg	240	350	36.2	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	190	280	37.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5074280)									
EM2309346-001	OL_EX_SP2_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2309346-017	UST_EXT_59SP_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5076751)									
EM2309346-017	UST_EXT_59SP_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	1490	1420	4.7	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	590	570	3.7	0% - 50%
EM2309346-001	OL_EX_SP2_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	200	270	29.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5081312)									
EM2309346-008	OL_EX_SP4_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5081318)									
EM2309346-008	OL_EX_SP4_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	380	560	37.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	130	26.2	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5074280)									
EM2309346-001	OL_EX_SP2_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 5074280) - continued									
EM2309346-001	OL_EX_SP2_01	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2309346-017	UST_EXT_59SP_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 5081312)									
EM2309346-008	OL_EX_SP4_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5075576)									
EM2309262-006	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.002	<0.002	0.0	No Limit
EM2309299-007	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.004	0.004	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5073926)									
EM2309355-005	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EM2309378-003	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5073926) - continued									
EM2309378-003	Anonymous	EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5073926)									
EM2309355-005	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2309378-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5073926) - continued									
EM2309378-003	Anonymous	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5073925)									
EM2309355-005	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EM2309378-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	70	38.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5073982)									
EM2309230-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2309351-014	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5073925)									
EM2309355-005	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2309378-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	140	34.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5073982)									
EM2309230-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2309351-014	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5073982)									
EM2309230-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2309351-014	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5076787)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	89.8	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5081332)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	81.5	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5081819)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	86.9	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5076750)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	108	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	107	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	75.9	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	103	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	98.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	103	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	96.4	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	93.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	92.9	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	79.0	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5081317)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	95.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	99.7	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	93.5	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	101	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	100	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	87.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	103	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	97.2	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	89.1	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.9	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	102	64.5	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5081317) - continued								
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	71.9	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5076750)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	107	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	108	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	110	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	113	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	114	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	108	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	112	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	112	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	114	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	108	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	108	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	108	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	106	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5081317)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	101	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	98.0	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	105	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	103	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	104	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	104	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	113	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	116	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	110	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.6	67.9	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5081317) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	93.8	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	90.0	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5074280)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	73.9	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5076751)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	119	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	104	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	112	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081312)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	82.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081318)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	117	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	105	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	111	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5074280)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	72.1	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5076751)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	98.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	108	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	102	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081312)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	85.2	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081318)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	99.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	108	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	126	73.3	137
EP080: BTEXN (QCLot: 5074280)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	73.8	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	83.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	81.6	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	79.0	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	78.3	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	77.6	61.8	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 5081312)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	92.6	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	91.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	88.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	89.8	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	91.4	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	81.2	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5075576)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	106	88.3	112
EP075(SIM)A: Phenolic Compounds (QCLot: 5073926)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	33.5	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	77.6	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	68.2	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	64.6	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	84.9	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	74.3	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	81.1	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	83.9	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	80.9	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	81.8	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	82.6	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	53.9	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5073926)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.4	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	80.9	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	85.4	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	86.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	86.7	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	86.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.7	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	88.6	49.4	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5073926) - continued								
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	85.4	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	88.0	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	86.6	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.8	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	83.9	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	83.9	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	84.0	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073925)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	76.0	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	80.6	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	90.4	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073982)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	93.4	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073925)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	74.8	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	82.6	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	87.0	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073982)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	92.6	66.2	132
EP080: BTEXN (QCLot: 5073982)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	89.3	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	100	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	95.9	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	92.8	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	89.6	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	108	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5076787)							
EM2309346-002	OL_EX_SP2_02	EG005T: Lead	7439-92-1	250 mg/kg	109	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5081332)							
EM2309346-009	OL_EX_SP4_02	EG005T: Lead	7439-92-1	250 mg/kg	80.3	80.0	120
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5081819)							
EM2309346-015	OL_EX_SP6_02	EK026SF: Total Cyanide	57-12-5	20 mg/kg	121	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5076750)							
EM2309346-002	OL_EX_SP2_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	101	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	104	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	80.9	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	98.1	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	75.0	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5081317)							
EM2309346-009	OL_EX_SP4_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	80.3	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	90.9	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	89.0	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	54.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5076750)							
EM2309346-002	OL_EX_SP2_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	131	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5081317)							
EM2309346-009	OL_EX_SP4_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	101	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	131	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5074280)							
EM2309346-002	OL_EX_SP2_02	EP080: C6 - C9 Fraction	----	28 mg/kg	58.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5076751)							
EM2309346-003	OL_EX_SP2_03	EP071: C10 - C14 Fraction	----	770 mg/kg	120	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	100	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	107	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081312)							
EM2309346-009	OL_EX_SP4_02	EP080: C6 - C9 Fraction	----	28 mg/kg	56.8	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5081318)							
EM2309346-010	OL_EX_SP4_03	EP071: C10 - C14 Fraction	----	770 mg/kg	114	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	101	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	103	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5074280)							
EM2309346-002	OL_EX_SP2_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	49.2	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5076751)							
EM2309346-003	OL_EX_SP2_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	98.8	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	103	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	98.9	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081312)							
EM2309346-009	OL_EX_SP4_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	50.1	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5081318)							
EM2309346-010	OL_EX_SP4_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	96.3	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	103	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	94.0	66.8	138
EP080: BTEXN (QCLot: 5074280)							
EM2309346-002	OL_EX_SP2_02	EP080: Benzene	71-43-2	2 mg/kg	63.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.2	57.1	131
EP080: BTEXN (QCLot: 5081312)							
EM2309346-009	OL_EX_SP4_02	EP080: Benzene	71-43-2	2 mg/kg	76.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	80.0	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5075576)							
EM2309262-006	Anonymous	EG020A-T: Lead	7439-92-1	2 mg/L	104	80.5	121
EP075(SIM)A: Phenolic Compounds (QCLot: 5073926)							
EM2309355-007	Anonymous	EP075(SIM): Phenol	108-95-2	5 µg/L	33.4	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	74.0	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	105	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	82.7	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	23.1	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5073926)							
EM2309355-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	73.7	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	86.9	44.0	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073925)							
EM2309355-006	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	67.3	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	80.6	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	94.2	50.5	127

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5073982)							
EM2309230-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	62.5	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073925)							
EM2309355-006	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	65.8	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	83.4	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	90.4	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5073982)							
EM2309230-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	52.9	34.0	122
EP080: BTEXN (QCLot: 5073982)							
EM2309230-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	73.8	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	84.8	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2309346**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 24-May-2023
Site	: ----	Issue Date	: 01-Jun-2023
Sampler	: ----	No. of samples received	: 27
Order number	: Macquarie Point	No. of samples analysed	: 26

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2309346--008	OL_EX_SP4_01	**Lead**	7439-92-1	39.0 %	0% - 20%	**RPD exceeds LOR based limits**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_SP2_01,	OL_EX_SP2_02,	**23-May-2023**	**----**	----	**----**	**27-May-2023**	06-Jun-2023	✓
OL_EX_SP2_03,	OL_EX_SP2_04,							
OL_EX_SP3_01,	OL_EX_SP3_02,							
OL_EX_SP3_03,	OL_EX_SP6_01,							
OL_EX_SP6_02,	OL_EX_SP6_03,							
UST_EXT_59SP_01,	UST_EXT_59SP_02,							
UST_EXT_59SP_03,	OL_EX_QC118,							
OL_EX_QC120,	UST_EXT_QC121							
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_SP4_01,	OL_EX_SP4_02,	**23-May-2023**	**----**	----	**----**	**30-May-2023**	06-Jun-2023	✓
OL_EX_SP4_03,	OL_EX_SP5_01,							
OL_EX_SP5_02,	OL_EX_SP5_03							
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)								
OL_EX_SP4_01,	OL_EX_SP4_02,	**23-May-2023**	**----**	----	**----**	**30-May-2023**	19-Nov-2023	✓
OL_EX_SP4_03								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	19-Nov-2023	✓	**27-May-2023**	19-Nov-2023	✓
Soil Glass Jar - Unpreserved (EG005T)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	19-Nov-2023	✓	**30-May-2023**	19-Nov-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**31-May-2023**	13-Jun-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_03	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**31-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**31-May-2023**	09-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP2_03	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**31-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**31-May-2023**	09-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**29-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**30-May-2023**	06-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**29-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**29-May-2023**	06-Jun-2023	✓	**30-May-2023**	08-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**30-May-2023**	06-Jun-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP2_01, OL_EX_SP2_02, OL_EX_SP2_03, OL_EX_SP2_04, OL_EX_SP3_01, OL_EX_SP3_02, OL_EX_SP3_03, OL_EX_SP6_01, OL_EX_SP6_02, OL_EX_SP6_03, UST_EXT_59SP_01, UST_EXT_59SP_02, UST_EXT_59SP_03, OL_EX_QC118, OL_EX_QC120, UST_EXT_QC121	**23-May-2023**	**27-May-2023**	06-Jun-2023	✓	**27-May-2023**	06-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP4_01, OL_EX_SP4_02, OL_EX_SP4_03, OL_EX_SP5_01, OL_EX_SP5_02, OL_EX_SP5_03	**23-May-2023**	**30-May-2023**	06-Jun-2023	✓	**30-May-2023**	06-Jun-2023	✓

Matrix: **SOLID**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **SOLID**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
OL_EX_SP4_01 - Solid	**23-May-2023**	**----**	----	----	**30-May-2023**	19-Nov-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	19-Nov-2023	✓	**26-May-2023**	19-Nov-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**30-May-2023**	05-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**30-May-2023**	05-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**29-May-2023**	05-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, UST_EXT_QCA11, OL_EX_QCB12	**23-May-2023**	**26-May-2023**	06-Jun-2023	✓	**26-May-2023**	06-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QCB12	**23-May-2023**	**26-May-2023**	30-May-2023	✓	**29-May-2023**	05-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, UST_EXT_QCA11, OL_EX_QCB12	**23-May-2023**	**26-May-2023**	06-Jun-2023	✓	**26-May-2023**	06-Jun-2023	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA10, UST_EXT_QCA11, OL_EX_QCB12	**23-May-2023**	**26-May-2023**	06-Jun-2023	✓	**26-May-2023**	06-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2309346**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM SMITH02	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: tim.smith02@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 02 8934 0000	Telephone	: +6138549 9645
Facsimile	: 02 8934 0001	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 4
Order number	: ----	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 24-May-2023 12:35	Issue Date	: 25-May-2023
Client Requested Due Date	: 31-May-2023	Scheduled Reporting Date	: **31-May-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 3.7°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 27 / 19

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Cyanide has not been logged for sample 025 due to container non-compliance.**
- **Samples 008-013 and 027 placed on hold pending confirmation of whether samples are to be analysed (COC lists these samples for both analysis and hold).**
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2309346-027 : [23-May-2023] : OL_EX_SP4_01 - Solid

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-25 TRH/BTEXN/PAH/Phenols/Pb
EM2309346-001	23-May-2023 00:00	OL_EX_SP2_01		✓	✓
EM2309346-002	23-May-2023 00:00	OL_EX_SP2_02		✓	✓
EM2309346-003	23-May-2023 00:00	OL_EX_SP2_03		✓	✓
EM2309346-004	23-May-2023 00:00	OL_EX_SP2_04		✓	✓
EM2309346-005	23-May-2023 00:00	OL_EX_SP3_01		✓	✓
EM2309346-006	23-May-2023 00:00	OL_EX_SP3_02		✓	✓
EM2309346-007	23-May-2023 00:00	OL_EX_SP3_03		✓	✓
EM2309346-008	23-May-2023 00:00	OL_EX_SP4_01	✓		
EM2309346-009	23-May-2023 00:00	OL_EX_SP4_02	✓		
EM2309346-010	23-May-2023 00:00	OL_EX_SP4_03	✓		
EM2309346-011	23-May-2023 00:00	OL_EX_SP5_01	✓		
EM2309346-012	23-May-2023 00:00	OL_EX_SP5_02	✓		
EM2309346-013	23-May-2023 00:00	OL_EX_SP5_03	✓		
EM2309346-014	23-May-2023 00:00	OL_EX_SP6_01		✓	✓
EM2309346-015	23-May-2023 00:00	OL_EX_SP6_02		✓	✓
EM2309346-016	23-May-2023 00:00	OL_EX_SP6_03		✓	✓
EM2309346-017	23-May-2023 00:00	UST_EXT_59SP_01		✓	✓
EM2309346-018	23-May-2023 00:00	UST_EXT_59SP_02		✓	✓
EM2309346-019	23-May-2023 00:00	UST_EXT_59SP_03		✓	✓
EM2309346-020	23-May-2023 00:00	OL_EX_QC118		✓	✓
EM2309346-021	23-May-2023 00:00	OL_EX_QC120		✓	✓
EM2309346-022	23-May-2023 00:00	UST_EXT_QC121		✓	✓

Matrix: **SOLID**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) SOLID No analysis requested
EM2309346-027	23-May-2023 00:00	OL_EX_SP4_01 Solid	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-25T TRH/BTEXN/PAH/Phenols/Total Pb
EM2309346-023	23-May-2023 00:00	OL_EX_QCA10		✓	
EM2309346-024	23-May-2023 00:00	UST_EXT_QCA11		✓	
EM2309346-025	23-May-2023 00:00	OL_EX_QCB12			✓
EM2309346-026	23-May-2023 00:00	OL_EX_QCC07	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIM SMITH02

- *AU Certificate of Analysis - NATA (COA)	Email	tim.smith02@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tim.smith02@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tim.smith02@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tim.smith02@aecom.com
- A4 - AU Tax Invoice (INV)	Email	tim.smith02@aecom.com
- Chain of Custody (CoC) (COC)	Email	tim.smith02@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tim.smith02@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tim.smith02@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	tim.smith02@aecom.com

ALSCompass
SAMPLING *Intelligence*

ALS

~~URGENT~~
~~FREIGHT~~
~~URGENT~~

Environmental Division
Melbourne
Work Order Reference
EM2309346

Telephone : - 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: MACQUARIE POINT Client: AECOM

Project Manager:
Phone: ( )

ALS Compass COC Reference: 52713 # Samples:

Sampler:
Phone: ( )

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only			
SH 25/5	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time: 24/5 12:35	Date / Time:	Date / Time:

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 24 May 2023 4:28 PM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, here are samples arriving today that I flagged as a compass COC 52713 but have not had the chance to fill it out. Please note that we are hunting 24h TAT for half the batch so you may want to split.

		sample date	TRH BTEXN PAH Phenols Pb	Cyanide	ACM presence/absence in soil	ACM fragment ID	HOLD	TRH C6-C10 BTEN	TRH BTEXN PAH Phenols Pb cyanide
OL_EX_412_0.5	24h TAT	23-May	1						
OL_EX_412_1.5	24h TAT	23-May	1						
OL_EX_413_0.5	24h TAT	23-May	1						
OL_EX_413_1.5	24h TAT	23-May	1						
OL_EX_413_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_414_0.5	24h TAT	23-May	1						
OL_EX_414_1.5	24h TAT	23-May	1						
OL_EX_414_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_415_0.5	24h TAT	23-May	1						
OL_EX_415_1.5	24h TAT	23-May	1						
OL_EX_416_0.5	24h TAT	23-May	1						
OL_EX_416_1.5	24h TAT	23-May	1						

	OL_EX_417_0.5	24h TAT	23-May	1						
	OL_EX_417_1.5	24h TAT	23-May	1						
	OL_EX_418_0.5	24h TAT	23-May	1						
	OL_EX_418_1.5	24h TAT	23-May	1						
	OL_EX_419_0.5	24h TAT	23-May	1						
	OL_EX_419_1.5	24h TAT	23-May	1						
	OL_EX_QC119	24h TAT	23-May	1						
1	OL_EX_SP2_01	5 day TAT	23-May	1						
2	OL_EX_SP2_02	5 day TAT	23-May	1						
3	OL_EX_SP2_03	5 day TAT	23-May	1						
4	OL_EX_SP2_04	5 day TAT	23-May	1						
5	OL_EX_SP3_01	5 day TAT	23-May	1						
6	OL_EX_SP3_02	5 day TAT	23-May	1						
7	OL_EX_SP3_03	5 day TAT	23-May	1						
8	OL_EX_SP4_01	5 day TAT	23-May	1		1	1 *	1		
9	OL_EX_SP4_02	5 day TAT	23-May	1		1		1		
10	OL_EX_SP4_03	5 day TAT	23-May	1		1		1		
11	OL_EX_SP5_01	5 day TAT	23-May	1				1		
12	OL_EX_SP5_02	5 day TAT	23-May	1				1		
13	OL_EX_SP5_03	5 day TAT	23-May	1				1		

* Sample 027 (PTO)

14	OL_EX_SP6_01	5 day TAT	23-May	1						
15	OL_EX_SP6_02	5 day TAT	23-May	1						
16	OL_EX_SP6_03	5 day TAT	23-May	1						
17	UST_EXT_59SP_01	5 day TAT	23-May	1						
18	UST_EXT_59SP_02	5 day TAT	23-May	1						
19	UST_EXT_59SP_03	5 day TAT	23-May	1						
20	OL_EX_QC118	5 day TAT	23-May	1						
21	OL_EX_QC120	5 day TAT	23-May	1						
22	UST_EXT_QC121	5 day TAT	23-May	1						
→	OL_EX_QC218	5 day TAT	23-May	1						
→	OL_EX_QC219	5 day TAT	23-May	1						
→	OL_EX_QC220	5 day TAT	23-May	1						
→	UST_EXT_QC221	5 day TAT	23-May	1						
23	OL_EX_QCA10	5 day TAT	23-May						1	
24	UST_EXT_QCA11	5 day TAT	23-May						1	
25	OL_EX_QCB12	5 day TAT	23-May							1
26	OL_EX_QCC07	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD

27. OL_EX_SP4_01 (solid) 1

SM 25/5

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

ALSCompass
SAMPLING *Intelligence*

~~URGENT~~
~~FREIGHT~~
~~URGENT~~

Environmental Division
Melbourne
Work Order Reference
EM2309346

Telephone : + 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: MACQUARIE POINT Client: ~~AB~~ LOW

Project Manager:
Phone: ( )

ALS Compass COC Reference: 52713 # Samples:

Sampler:
Phone: ( )

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only			
SM 25/5	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time:	Date / Time: 24/5 12-35	Date / Time:	Date / Time:

SM 25/5

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Wednesday, 24 May 2023 4:28 PM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>; Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: [EXTERNAL] - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter, here are samples arriving today that I flagged as a compass COC 52713 but have not had the chance to fill it out. Please note that we are hunting 24h TAT for half the batch so you may want to split.

		sample date	TRH BTEXN PAH Phenols Pb	Cyanide	ACM presence/absence in soil	ACM fragment ID	HOLD	TRH C6-C10 BTEN	TRH BTEXN PAH Phenols Pb cyanide
OL_EX_412_0.5	24h TAT	23-May	1						
OL_EX_412_1.5	24h TAT	23-May	1						
OL_EX_413_0.5	24h TAT	23-May	1						
OL_EX_413_1.5	24h TAT	23-May	1						
OL_EX_413_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_414_0.5	24h TAT	23-May	1						
OL_EX_414_1.5	24h TAT	23-May	1						
OL_EX_414_1.5B	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD
OL_EX_415_0.5	24h TAT	23-May	1						
OL_EX_415_1.5	24h TAT	23-May	1						
OL_EX_416_0.5	24h TAT	23-May	1						
OL_EX_416_1.5	24h TAT	23-May	1						

	OL_EX_417_0.5	24h TAT	23-May	1						
	OL_EX_417_1.5	24h TAT	23-May	1						
	OL_EX_418_0.5	24h TAT	23-May	1						
	OL_EX_418_1.5	24h TAT	23-May	1						
	OL_EX_419_0.5	24h TAT	23-May	1						
	OL_EX_419_1.5	24h TAT	23-May	1						
	OL_EX_QC119	24h TAT	23-May	1						
1	OL_EX_SP2_01	5 day TAT	23-May	1						
2	OL_EX_SP2_02	5 day TAT	23-May	1						
3	OL_EX_SP2_03	5 day TAT	23-May	1						
4	OL_EX_SP2_04	5 day TAT	23-May	1						
5	OL_EX_SP3_01	5 day TAT	23-May	1						
6	OL_EX_SP3_02	5 day TAT	23-May	1						
7	OL_EX_SP3_03	5 day TAT	23-May	1						
8	OL_EX_SP4_01	5 day TAT	23-May	1		1	1 *	1		
9	OL_EX_SP4_02	5 day TAT	23-May	1		1		1		
10	OL_EX_SP4_03	5 day TAT	23-May	1		1		1		
11	OL_EX_SP5_01	5 day TAT	23-May	1				1		
12	OL_EX_SP5_02	5 day TAT	23-May	1				1		
13	OL_EX_SP5_03	5 day TAT	23-May	1				1		

* Sample 027 (PTO)

14	OL_EX_SP6_01	5 day TAT	23-May	1						
15	OL_EX_SP6_02	5 day TAT	23-May	1						
16	OL_EX_SP6_03	5 day TAT	23-May	1						
17	UST_EXT_59SP_01	5 day TAT	23-May	1						
18	UST_EXT_59SP_02	5 day TAT	23-May	1						
19	UST_EXT_59SP_03	5 day TAT	23-May	1						
20	OL_EX_QC118	5 day TAT	23-May	1						
21	OL_EX_QC120	5 day TAT	23-May	1						
22	UST_EXT_QC121	5 day TAT	23-May	1						
→	OL_EX_QC218	5 day TAT	23-May	1						
→	OL_EX_QC219	5 day TAT	23-May	1						
→	OL_EX_QC220	5 day TAT	23-May	1						
→	UST_EXT_QC221	5 day TAT	23-May	1						
23	OL_EX_QCA10	5 day TAT	23-May						1	
24	UST_EXT_QCA11	5 day TAT	23-May						1	
25	OL_EX_QCB12	5 day TAT	23-May							1
26	OL_EX_QCC07	HOLD	23-May	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD

27. OL_EX_SP4_01 (solid) 1

SH 25/5

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

Scott Huett

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Tuesday, 30 May 2023 9:59 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - RE: - RE: - Re: - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

HI Peter, no those samples should not be on hold. Analysis should be TRH BTEXN PAH Phenols and Pb, with additional ACM in soil and ACM ID at SP4 samples. Additionally samples from SP6 should include cyanide in the analysis

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com
My regular work days are Monday to Thursday

AECOM Australia
210 Collins Street, Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004







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Delivering a better world
微信WeChat | LinkedIn | Twitter | Facebook | Instagram

From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 29 May 2023 6:57 PM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: - RE: - Re: - Macquarie Point samples arriving today - Compass COC 52713

Hi Tim

Can you please confirm if the following samples are on hold or for analysis

SP4_01 through to SP5_03

Thanks

M2

Scott Huett

From: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Sent: Thursday, 25 May 2023 8:51 AM
To: Peter Ravlic
Cc: Crowe, Robert
Subject: [EXTERNAL] - Re: - Macquarie Point samples arriving today - Compass COC 52713

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

I did make a mistake. Can these samples be forwarded to eurofins

OL_EX_QC218	5 day TAT	**23-May**	1					
OL_EX_QC219	5 day TAT	**23-May**	1					
OL_EX_QC220	5 day TAT	**23-May**	1					
UST_EXT_QC221	5 day TAT	**23-May**	1					

TRH/BTEXN/ PAH/Phenols/ Pb

Trip Blank V-TRH/BTEXN

SH 25/5 (ALS)

Tim Smith
Principal, Geologist
M +61 428 420 162
tim.smith02@aecom.com

My regular work days are Monday to Thursday

AECOM
210 Collins Street
Hobart, TAS 7000
PO Box 406 South Hobart Tasmania 7004
aecom.com

From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Wednesday, May 24, 2023 5:48:56 PM
To: Smith, Timothy (Hobart) <tim.smith02@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: - Macquarie Point samples arriving today - Compass COC 52713

Received by Scott (ALS) 24/5/23, 1235

Hi Tim

Due to lab workload at the moment, we are unable to provide results this week

We can report by Monday 29/5

Thanks

#993445

Kind Regards

26/05/23

RELINQUISHED BY RK (ALS) 2575

DATE: 26/5/23
TIME: 9:00
COURIER:
TEMPERATURE: 6.5
ATTEMP TO CHILL: ~~YES~~ NO

Sealed

S.D

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
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VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
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VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
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Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
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Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
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Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Tim Smith
Project name:	Not provided
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	May 26, 2023 4:00 PM
Eurofins reference	993445

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 6.5 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Tim Smith - tim.smith02@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name:

Order No.:
Report #: 993445
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 26, 2023 4:00 PM
Due: Jun 2, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC218	May 23, 2023		Soil	M23-My0068559	X		X	X	X	X	X
2	OL_EX_QC219	May 23, 2023		Soil	M23-My0068560	X		X	X	X	X	X
3	OL_EX_QC220	May 23, 2023		Soil	M23-My0068561	X		X	X	X	X	X
4	UST_EXT_QC221	May 23, 2023		Soil	M23-My0068562	X		X	X	X	X	X
5	TRIP BLANK	May 23, 2023		Soil	M23-My0068563		X			X	X	
Test Counts						4	1	4	4	5	5	4

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Smith**

Report **993445-S**
Project name
Received Date May 26, 2023

Client Sample ID			**OL_EX_QC218**	**OL_EX_QC219**	**OL_EX_QC220**	**UST_EXT_QC221**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M23-My0068559**	**M23-My0068560**	**M23-My0068561**	**M23-My0068562**
Date Sampled			**May 23, 2023**	**May 23, 2023**	**May 23, 2023**	**May 23, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	48	40	130
TRH C15-C28	50	mg/kg	210	620	250	1200
TRH C29-C36	50	mg/kg	120	340	180	250
TRH C10-C36 (Total)	50	mg/kg	330	1008	470	1580
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	84	60	310
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	84	60	310
TRH >C16-C34	100	mg/kg	310	910	400	1200
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	310	994	460	1510
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	82	75	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.0	11	5.7	10
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	7.0	11	5.9	10
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.0	11	6.2	10
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	1.4	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.7	1.6	0.6	1.2
Benz(a)anthracene	0.5	mg/kg	2.9	6.0	1.7	3.5
Benzo(a)pyrene	0.5	mg/kg	4.3	6.7	4.5	7.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	4.2	6.1	3.7	4.6
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	3.8	1.0	1.9
Benzo(k)fluoranthene	0.5	mg/kg	5.0	8.6	4.6	5.9
Chrysene	0.5	mg/kg	3.5	7.7	1.7	3.1

Client Sample ID			OL_EX_QC218	OL_EX_QC219	OL_EX_QC220	UST_EXT_QC221
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M23-My0068559	M23-My0068560	M23-My0068561	M23-My0068562
Date Sampled			May 23, 2023	May 23, 2023	May 23, 2023	May 23, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	1.4	< 0.5	0.9
Fluoranthene	0.5	mg/kg	5.3	10	3.0	5.9
Fluorene	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.4	5.0	1.5	2.3
Naphthalene	0.5	mg/kg	< 0.5	1.1	< 0.5	0.6
Phenanthrene	0.5	mg/kg	1.6	4.1	1.4	2.8
Pyrene	0.5	mg/kg	5.0	11	3.2	7.0
Total PAH*	0.5	mg/kg	39	75	27	47
2-Fluorobiphenyl (surr.)	1	%	80	86	87	85
p-Terphenyl-d14 (surr.)	1	%	96	88	60	55
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	96	57	92	81
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Lead	5	mg/kg	850	430	2100	180
Sample Properties						
% Moisture	1	%	20	18	20	17

Client Sample ID			TRIP BLANK
Sample Matrix			**Soil**
Eurofins Sample No.			**M23-My0068563**
Date Sampled			**May 23, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C10	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93
Sample Properties			
% Moisture	1	%	1.0
Volatile Organics			
Naphthalene[N02]	0.5	mg/kg	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	May 30, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
BTEX and Naphthalene			
BTEX	Melbourne	Jun 01, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	May 30, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	May 26, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
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VIC 3008

Project Name:

Order No.:
Report #: 993445
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: May 26, 2023 4:00 PM
Due: Jun 2, 2023
Priority: 5 Day
Contact Name: Tim Smith

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	Phenols (Speciated)	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	OL_EX_QC218	May 23, 2023		Soil	M23-My0068559	X		X	X	X	X	X
2	OL_EX_QC219	May 23, 2023		Soil	M23-My0068560	X		X	X	X	X	X
3	OL_EX_QC220	May 23, 2023		Soil	M23-My0068561	X		X	X	X	X	X
4	UST_EXT_QC221	May 23, 2023		Soil	M23-My0068562	X		X	X	X	X	X
5	TRIP BLANK	May 23, 2023		Soil	M23-My0068563		X			X	X	
Test Counts						4	1	4	4	5	5	4

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	113			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
TRH C6-C10	%	103			70-130	Pass	
TRH >C10-C16	%	88			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	79			70-130	Pass	
Xylenes - Total*	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	82			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	89			70-130	Pass	
Benz(a)anthracene	%	89			70-130	Pass	
Benzo(a)pyrene	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	119			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	120			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	82			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
Phenanthrene	%	72			70-130	Pass	
Pyrene	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	82			25-140	Pass	
2.4-Dichlorophenol	%	82			25-140	Pass	
2.4.5-Trichlorophenol	%	34			25-140	Pass	
2.4.6-Trichlorophenol	%	35			25-140	Pass	
2.6-Dichlorophenol	%	60			25-140	Pass	
4-Chloro-3-methylphenol	%	70			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	%	39			25-140	Pass	
Tetrachlorophenols - Total	%	59			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	64			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	73			25-140	Pass	
2-Nitrophenol	%	40			25-140	Pass	
2.4-Dimethylphenol	%	64			25-140	Pass	
2-Methylphenol (o-Cresol)	%	65			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	83			25-140	Pass	
4-Nitrophenol	%	43			25-140	Pass	
Dinoseb	%	84			25-140	Pass	
Phenol	%	86			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	115			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-My0063737	NCP	%	102			70-130	Pass	
TRH C10-C14	M23-My0077509	NCP	%	80			70-130	Pass	
TRH C6-C10	M23-My0063737	NCP	%	93			70-130	Pass	
TRH >C10-C16	M23-My0077509	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-My0063737	NCP	%	77			70-130	Pass	
Toluene	M23-My0063737	NCP	%	79			70-130	Pass	
Ethylbenzene	M23-My0063737	NCP	%	79			70-130	Pass	
m&p-Xylenes	M23-My0063737	NCP	%	75			70-130	Pass	
o-Xylene	M23-My0063737	NCP	%	80			70-130	Pass	
Xylenes - Total*	M23-My0063737	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-My0063737	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-My0051205	NCP	%	120			70-130	Pass	
Acenaphthylene	M23-My0051205	NCP	%	122			70-130	Pass	
Anthracene	M23-My0051205	NCP	%	101			70-130	Pass	
Benz(a)anthracene	M23-My0051205	NCP	%	125			70-130	Pass	
Benzo(a)pyrene	M23-My0051205	NCP	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	M23-My0051205	NCP	%	118			70-130	Pass	
Benzo(g.h.i)perylene	M23-My0051205	NCP	%	110			70-130	Pass	
Benzo(k)fluoranthene	M23-My0051205	NCP	%	118			70-130	Pass	
Chrysene	M23-My0051205	NCP	%	110			70-130	Pass	
Dibenz(a.h)anthracene	M23-My0051205	NCP	%	113			70-130	Pass	
Fluoranthene	M23-My0051205	NCP	%	114			70-130	Pass	
Fluorene	M23-My0051205	NCP	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0051205	NCP	%	121			70-130	Pass	
Naphthalene	M23-My0051205	NCP	%	125			70-130	Pass	
Phenanthrene	M23-My0051205	NCP	%	102			70-130	Pass	
Pyrene	M23-My0051205	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Chlorophenol	M23-My0051205	NCP	%	60			30-130	Pass	
2.4-Dichlorophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2.4.5-Trichlorophenol	M23-My0051205	NCP	%	33			30-130	Pass	
2.4.6-Trichlorophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2.6-Dichlorophenol	M23-My0051205	NCP	%	50			30-130	Pass	
4-Chloro-3-methylphenol	M23-My0051205	NCP	%	49			30-130	Pass	
Pentachlorophenol	M23-My0051205	NCP	%	108			30-130	Pass	
Tetrachlorophenols - Total	M23-My0051205	NCP	%	106			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-My0051205	NCP	%	43			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0051205	NCP	%	52			30-130	Pass	
2-Nitrophenol	M23-My0051205	NCP	%	50			30-130	Pass	
2.4-Dimethylphenol	M23-My0051205	NCP	%	44			30-130	Pass	
2.4-Dinitrophenol	M23-My0051205	NCP	%	55			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-My0051205	NCP	%	52			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0051205	NCP	%	57			30-130	Pass	
4-Nitrophenol	M23-My0051205	NCP	%	59			30-130	Pass	
Dinoseb	M23-My0051205	NCP	%	37			30-130	Pass	
Phenol	M23-My0051205	NCP	%	67			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-My0065642	NCP	%	84			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M23-My0074862	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M23-My0074862	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M23-My0074862	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M23-My0074862	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-My0076021	NCP	mg/kg	< 0.5	2.4	130	30%	Fail	Q15
Fluorene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-My0076021	NCP	mg/kg	< 0.5	1.8	130	30%	Fail	Q15
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-My0076021	NCP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-My0076021	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-My0076021	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-My0076021	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-My0076021	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-My0076021	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-My0076021	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-My0076021	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-My0065642	NCP	mg/kg	7.3	7.3	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-My0068523	NCP	%	5.4	5.8	7.5	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-My0068563	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M23-My0068563	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-My0068563	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-My0068563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-My0068563	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-My0068563	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CERTIFICATE OF ANALYSIS

Work Order	: **EM2310229**	Page	: 1 of 24
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 09-Jun-2023
C-O-C number	: 53213	Issue Date	: 15-Jun-2023 17:36
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 29		
No. of samples analysed	: 28		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG005T: EM2310229 #4, the LOR has been raised for cadmium due to sample matrix interferences.
- EG005T: EM2310229 #7, sample heterogeneity has been observed for Zinc, with the following results obtained: 1230 mg/kg, 2790 mg/kg and 3600 mg/kg.
- EG005T: EM2310229 #7, sample heterogeneity has been observed for Lead, with the following results obtained: 380 mg/kg, 502 mg/kg and 932 mg/kg.
- EG005T: EM2310229 #31, sample heterogeneity has been observed for Zinc, with the following results obtained: 1590 mg/kg, 758 mg/kg and 691 mg/kg.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP075(SIM): EM2310229_001 Poor duplicate precision due to sample heterogeneity. Confirmed via visual inspection.
- EG035T: EM2310229#24 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		----	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		----	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	<0.0001	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		----	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		----	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		----	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		----	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		----	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		----	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		----	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		----	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		----	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		----	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		----	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	**31.0**	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	OL_EX_QCA14	OL_EX_QC14	----	----	----
				Sampling date / time	07-Jun-2023 10:23	07-Jun-2023 10:24	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-025	EM2310229-026	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	1.0	%		**----**	**89.0**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%		**----**	**78.9**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**----**	**77.2**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**----**	**70.3**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**----**	**74.3**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**109**	**109**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%		**95.8**	**97.1**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**107**	**106**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.0	22.3	16.2	32.5	14.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	12	7	49	68	15
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<5	<1
Chromium	7440-47-3	2	mg/kg	14	44	78	21	15
Copper	7440-50-8	5	mg/kg	122	214	151	213	115
Lead	7439-92-1	5	mg/kg	199	181	331	291	254
Nickel	7440-02-0	2	mg/kg	15	28	23	58	16
Zinc	7440-66-6	5	mg/kg	441	551	393	443	295
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.6	0.8	1.8	0.5	1.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.7
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.6	2.0	0.7	1.3
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.7	5.2	0.5	8.0
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.6	1.6	<0.5	1.8
Fluoranthene	206-44-0	0.5	mg/kg	2.9	3.9	15.2	2.5	12.2
Pyrene	129-00-0	0.5	mg/kg	3.1	4.1	16.0	2.7	12.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	2.6	9.8	2.7	8.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	1.7	2.4	9.4	2.8	7.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	3.4	12.0	4.3	10.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.5	5.0	1.8	3.7
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	3.0	11.6	3.9	10.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	1.7	6.2	2.2	5.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	1.7	0.6	1.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	2.0	7.4	2.8	7.4
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	19.7	27.5	103	27.5	91.1
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	3.0	4.0	16.8	5.6	14.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	3.2	4.2	16.8	5.6	14.5
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	3.5	4.5	16.8	5.6	14.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	130	150	310	<100	290
C29 - C36 Fraction	----	100	mg/kg	150	150	250	110	230
^ C10 - C36 Fraction (sum)	----	50	mg/kg	280	300	560	110	520
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	250	260	500	170	470
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	250	260	600	170	470
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_420_0.5	OL_EX_421_0.5	OL_EX_422_0.5	OL_EX_422_1.5	OL_EX_423_0.5
			Sampling date / time	07-Jun-2023 09:58	07-Jun-2023 09:59	07-Jun-2023 09:59	07-Jun-2023 10:01	07-Jun-2023 10:02
Compound	CAS Number	LOR	Unit	EM2310229-001	EM2310229-002	EM2310229-003	EM2310229-004	EM2310229-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	85.6	99.6	89.2	94.4	86.3
2-Chlorophenol-D4	93951-73-6	0.5	%	79.2	90.7	83.5	88.7	80.8
2.4.6-Tribromophenol	118-79-6	0.5	%	88.1	94.4	98.9	103	74.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	93.1	107	92.6	104	96.8
Anthracene-d10	1719-06-8	0.5	%	106	126	111	124	116
4-Terphenyl-d14	1718-51-0	0.5	%	90.6	117	95.9	104	112
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	88.3	105	104	91.9	96.2
Toluene-D8	2037-26-5	0.2	%	79.9	94.5	91.3	82.7	89.5
4-Bromofluorobenzene	460-00-4	0.2	%	84.3	102	98.4	89.4	95.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
			Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit	EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	26.9	19.8	22.3	32.8	14.2
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	22	18	<5	14	28
Cadmium	7440-43-9	1	mg/kg	<1	2	<1	<1	1
Chromium	7440-47-3	2	mg/kg	18	13	10	17	14
Copper	7440-50-8	5	mg/kg	235	124	73	281	63
Lead	7439-92-1	5	mg/kg	623	932	419	2220	179
Nickel	7440-02-0	2	mg/kg	38	14	11	36	32
Zinc	7440-66-6	5	mg/kg	716	3600	210	1030	276
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	2.3	0.6	0.4	2.4	0.3
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	22.6	2.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.0	0.6	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.3	4.7	1.3	1.6	2.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	1.2	0.8	<0.5	0.5
Fluoranthene	206-44-0	0.5	mg/kg	3.3	7.3	4.9	3.4	3.5
Pyrene	129-00-0	0.5	mg/kg	3.3	6.9	4.9	3.3	3.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.5	4.2	3.5	2.4	1.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
				Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit		EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		2.3	4.0	3.3	2.2	1.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		3.2	6.2	4.1	3.3	2.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.4	2.8	1.9	1.4	0.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		3.1	5.8	4.2	3.0	2.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.6	3.4	2.1	1.6	1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.8	0.6	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.9	4.1	2.5	2.0	1.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		23.9	75.6	37.2	24.2	19.9
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		4.0	8.3	6.0	3.9	2.6
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		4.3	8.3	6.0	4.2	2.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.5	8.3	6.0	4.4	3.1
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	74	39	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	4390	2340	<50	<50
C15 - C28 Fraction	----	100	mg/kg		100	330	240	110	130
C29 - C36 Fraction	----	100	mg/kg		100	260	240	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		200	4980	2820	110	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	287	127	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	286	127	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	3610	2070	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		180	480	400	180	160
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		180	4090	2470	180	160
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	3600	2070	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	0.6	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	0.6	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_423_1.5	OL_EX_424_0.5	OL_EX_424_1.5	OL_EX_QC125	UST_SP_01
			Sampling date / time	07-Jun-2023 10:02	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:06	07-Jun-2023 10:07
Compound	CAS Number	LOR	Unit	EM2310229-006	EM2310229-007	EM2310229-008	EM2310229-009	EM2310229-011
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	**0.6**	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	**12**	**2**	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.8**	**102**	**89.6**	**95.4**	**96.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**83.6**	**90.9**	**95.3**	**88.1**	**87.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**85.2**	**86.8**	**97.9**	**87.7**	**95.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**102**	**103**	**102**	**104**	**99.8**
Anthracene-d10	1719-06-8	0.5	%	**118**	**105**	**124**	**120**	**122**
4-Terphenyl-d14	1718-51-0	0.5	%	**107**	**107**	**104**	**111**	**104**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**94.6**	**92.8**	**95.8**	**91.3**	**91.5**
Toluene-D8	2037-26-5	0.2	%	**81.1**	**89.3**	**88.9**	**79.4**	**81.6**
4-Bromofluorobenzene	460-00-4	0.2	%	**87.6**	**91.2**	**85.9**	**86.5**	**88.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.2	17.4	17.8	22.3	17.8
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	16	18	10	24
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	17	14	14	14	16
Copper	7440-50-8	5	mg/kg	79	94	84	61	122
Lead	7439-92-1	5	mg/kg	387	533	328	523	385
Nickel	7440-02-0	2	mg/kg	38	20	22	37	30
Zinc	7440-66-6	5	mg/kg	196	251	322	257	286
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.3	2.0	0.9	1.4	0.6
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.6	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.3	5.2	1.4	3.3	2.5
Anthracene	120-12-7	0.5	mg/kg	0.7	1.4	0.6	1.3	0.9
Fluoranthene	206-44-0	0.5	mg/kg	4.6	7.7	3.1	8.0	5.5
Pyrene	129-00-0	0.5	mg/kg	4.8	7.5	3.2	8.4	5.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	3.9	1.9	4.9	3.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	2.5	3.4	1.7	4.4	3.4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	4.7	2.6	5.5	4.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.9	1.0	2.4	2.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	4.5	2.4	5.6	4.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.5	2.4	1.3	2.6	2.4
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.6	<0.5	0.7	0.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	3.0	1.5	3.0	2.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	29.0	46.8	20.7	50.7	40.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	4.2	6.4	3.1	7.9	6.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	4.4	6.4	3.4	7.9	6.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	4.6	6.4	3.6	7.9	6.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	250	280	200	290	250
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	130	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg	250	280	200	420	370
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	60	80	60	60	60
>C16 - C34 Fraction	----	100	mg/kg	270	320	220	360	310
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	330	400	280	420	370
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	60	80	60	60	60
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05	UST_SP_06
			Sampling date / time	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10
Compound	CAS Number	LOR	Unit	EM2310229-012	EM2310229-013	EM2310229-014	EM2310229-015	EM2310229-016
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	92.4	98.0	99.8	102	96.2
2-Chlorophenol-D4	93951-73-6	0.5	%	84.9	90.1	92.0	92.6	88.8
2.4.6-Tribromophenol	118-79-6	0.5	%	85.8	84.6	88.4	101	96.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	104	110	111	107	103
Anthracene-d10	1719-06-8	0.5	%	119	123	127	123	120
4-Terphenyl-d14	1718-51-0	0.5	%	108	120	117	108	103
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	96.6	102	92.5	95.0	92.6
Toluene-D8	2037-26-5	0.2	%	92.3	93.7	83.5	84.8	80.4
4-Bromofluorobenzene	460-00-4	0.2	%	101	102	92.5	92.0	91.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
			Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit	EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.3	23.0	21.6	22.2	23.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	31	6	<5	10	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	9	13	11	14	14
Copper	7440-50-8	5	mg/kg	53	59	47	54	43
Lead	7439-92-1	5	mg/kg	142	426	203	245	190
Nickel	7440-02-0	2	mg/kg	18	16	14	17	18
Zinc	7440-66-6	5	mg/kg	218	245	117	217	144
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	1.5	0.8	1.1	1.2
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	2.4	2.2	0.7	1.0
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.8	1.6	<0.5	0.8
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.7	1.2	<0.5	0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	1.3	2.9	0.7	0.8
Phenanthrene	85-01-8	0.5	mg/kg	2.2	7.9	23.4	2.8	4.7
Anthracene	120-12-7	0.5	mg/kg	0.5	3.4	8.6	1.0	1.9
Fluoranthene	206-44-0	0.5	mg/kg	4.1	10.8	34.5	5.4	8.8
Pyrene	129-00-0	0.5	mg/kg	4.1	11.3	34.7	6.2	9.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.3	6.0	20.1	3.1	5.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		2.0	5.0	16.7	2.7	4.9
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		2.9	6.7	19.8	3.9	6.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.2	2.5	7.7	1.2	2.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		2.7	6.3	19.6	3.6	6.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.4	2.7	8.4	1.5	2.7
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.8	2.4	<0.5	0.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.7	3.1	10.0	1.8	3.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		25.1	71.7	214	34.6	60.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		3.5	9.0	27.9	4.6	8.7
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		3.8	9.0	27.9	4.9	8.7
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.0	9.0	27.9	5.1	8.7
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	100	240	180	130
C15 - C28 Fraction	----	100	mg/kg		540	670	1480	800	760
C29 - C36 Fraction	----	100	mg/kg		120	180	400	140	180
^ C10 - C36 Fraction (sum)	----	50	mg/kg		660	950	2120	1120	1070
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	110	120	130	120
>C16 - C34 Fraction	----	100	mg/kg		620	700	1580	740	770
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	130	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		620	910	2170	1090	1040
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	110	120	130	120
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	UST_SP_QC126	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310229-017	EM2310229-019	EM2310229-020	EM2310229-021	EM2310229-022
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		95.0	100	91.9	104	101
2-Chlorophenol-D4	93951-73-6	0.5	%		86.9	92.3	86.0	95.8	92.2
2.4.6-Tribromophenol	118-79-6	0.5	%		93.4	101	92.8	109	99.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		104	108	99.8	107	102
Anthracene-d10	1719-06-8	0.5	%		118	122	126	129	123
4-Terphenyl-d14	1718-51-0	0.5	%		108	117	115	115	113
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		93.4	99.9	95.0	93.2	93.3
Toluene-D8	2037-26-5	0.2	%		82.1	85.9	86.4	83.8	83.4
4-Bromofluorobenzene	460-00-4	0.2	%		90.5	94.1	93.2	90.1	89.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.7	15.9	15.9	16.1	17.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	7	6	7	54
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	12	15	12	34
Copper	7440-50-8	5	mg/kg	109	122	159	144	173
Lead	7439-92-1	5	mg/kg	126	141	144	532	814
Nickel	7440-02-0	2	mg/kg	17	20	24	17	22
Zinc	7440-66-6	5	mg/kg	324	475	382	639	562
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	0.3	0.4	1.0	0.8
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.8	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.8	1.0	1.1	1.0	0.9
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.0	5.2	4.1	2.4	2.9
Anthracene	120-12-7	0.5	mg/kg	0.6	1.5	1.3	0.9	0.9
Fluoranthene	206-44-0	0.5	mg/kg	4.4	9.9	9.0	7.2	7.4
Pyrene	129-00-0	0.5	mg/kg	4.8	10.3	9.4	7.1	7.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	5.9	5.4	4.8	4.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Chrysene	218-01-9	0.5	mg/kg	2.6	5.6	4.8	4.2	4.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	8.0	6.8	6.7	6.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	2.5	2.2	2.8	2.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	6.9	6.0	6.3	5.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	3.8	3.1	3.6	3.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	1.1	0.9	1.0	0.9
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.1	4.3	3.5	4.2	3.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	31.4	66.0	57.6	54.0	51.8
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	5.1	10.1	8.7	9.2	8.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	10	<10	<10	16	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	710	<50
C15 - C28 Fraction	----	100	mg/kg	230	230	320	260	260
C29 - C36 Fraction	----	100	mg/kg	240	200	290	210	250
^ C10 - C36 Fraction (sum)	----	50	mg/kg	470	430	610	1180	510
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	12	11	<10	58	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	12	11	<10	58	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	680	<50
>C16 - C34 Fraction	----	100	mg/kg	400	380	530	400	450
>C34 - C40 Fraction	----	100	mg/kg	130	110	150	100	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	530	490	680	1180	560
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	680	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
			Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit	EM2310229-023	EM2310229-024	EM2310229-028	EM2310229-029	EM2310229-030
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	2	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	94.7	105	102	96.2	100.0
2-Chlorophenol-D4	93951-73-6	0.5	%	89.0	95.2	96.4	95.3	97.4
2.4.6-Tribromophenol	118-79-6	0.5	%	90.5	94.8	96.5	98.7	96.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	115	113	115	118	117
Anthracene-d10	1719-06-8	0.5	%	119	119	119	120	114
4-Terphenyl-d14	1718-51-0	0.5	%	121	123	122	120	120
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	91.2	90.2	79.6	85.9	73.2
Toluene-D8	2037-26-5	0.2	%	89.6	88.1	76.4	83.9	71.5
4-Bromofluorobenzene	460-00-4	0.2	%	102	102	89.4	104	78.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**26.5**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**15**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**177**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**185**	----	----	----	----
Lead	7439-92-1	5	mg/kg		**585**	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**20**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**691**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**1.9**	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**0.9**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**2.2**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		**0.5**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**7.0**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**3.0**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**20.7**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**21.2**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**13.8**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		**13.0**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**19.4**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**6.0**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**16.4**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**8.9**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**2.5**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**9.9**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**145**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**23.9**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**23.9**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**23.9**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**420**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**380**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**800**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**710**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**160**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**870**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310229-031	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	**----**	**----**	**----**	**----**
Naphthalene	91-20-3	1	mg/kg		<1	**----**	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.3**	**----**	**----**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%		**90.0**	**----**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%		**102**	**----**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**115**	**----**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	0.5	%		**118**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%		**123**	**----**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.9**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**78.2**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**89.0**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2310229**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Order number	: 60693007-2	Date Analysis Commenced	: 09-Jun-2023
C-O-C number	: 53213	Issue Date	: 15-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 29		
No. of samples analysed	: 28		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5103608)									
EM2310229-001	OL_EX_420_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	15	9.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	19	24.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	13	9.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	122	132	8.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	199	178	11.1	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	441	458	3.8	0% - 20%
EM2310229-011	UST_SP_01	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	16	14.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	32	29	10.7	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	28	31	7.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	63	68	8.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	179	162	9.6	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	276	276	0.0	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5103610)									
EM2310229-023	OL_EX_SP7_01	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	12	13.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	17	18	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	109	95	13.5	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	126	128	2.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	324	301	7.5	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104491)									
EM2310229-001	OL_EX_420_0.5	EA055: Moisture Content	----	0.1	%	18.0	18.3	2.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104491) - continued									
EM2310229-012	UST_SP_02	EA055: Moisture Content	----	0.1	%	18.2	18.4	1.2	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5104492)									
EM2310229-023	OL_EX_SP7_01	EA055: Moisture Content	----	0.1	%	11.7	9.5	21.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103609)									
EM2310229-001	OL_EX_420_0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.4	37.1	No Limit
EM2310229-011	UST_SP_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.3	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103611)									
EM2310229-023	OL_EX_SP7_01	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103528)									
EM2310229-001	OL_EX_420_0.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2310229-012	UST_SP_02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103538)									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5103538) - continued									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103528)									
EM2310229-001	OL_EX_420_0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.8	42.1	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	3.1	76.1	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.0	68.8	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.9	# 5.7	64.9	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.1	# 6.0	63.5	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.9	3.3	54.5	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	3.1	59.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.4	3.8	45.5	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.9	66.8	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.3	3.9	52.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	2.0	53.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	2.3	48.0	No Limit
EM2310229-012	UST_SP_02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.0	69.9	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.3	2.9	22.2	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.7	0.9	24.1	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.6	5.7	21.6	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	5.9	21.1	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	3.4	19.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.5	3.0	17.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	3.9	17.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.8	21.7	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	4.0	19.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.5	1.8	15.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103528) - continued									
EM2310229-012	UST_SP_02	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.8	2.1	13.9	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5103538)									
EM2310229-023	OL_EX_SP7_01	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.0	2.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.4	4.1	8.7	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	4.4	8.4	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	2.6	8.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.6	2.3	9.5	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.0	3.1	25.8	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	1.3	9.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	2.8	20.3	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.8	1.4	24.1	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.5	24.2	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.1	1.7	22.6	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: C6 - C9 Fraction	----	10	mg/kg	10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103529)									
EM2310229-001	OL_EX_420_0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	130	200	43.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	200	30.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2310229-012	UST_SP_02	EP071: C15 - C28 Fraction	----	100	mg/kg	250	310	22.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5103539)									
EM2310229-023	OL_EX_SP7_01	EP071: C15 - C28 Fraction	----	100	mg/kg	230	200	14.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	240	200	14.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	12	11	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103529)									
EM2310229-001	OL_EX_420_0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	250	360	37.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2310229-012	UST_SP_02	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	330	19.4	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	60	90	35.3	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5103539)									
EM2310229-023	OL_EX_SP7_01	EP071: >C16 - C34 Fraction	----	100	mg/kg	400	340	15.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	130	120	12.7	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5103488)									
EM2310229-001	OL_EX_420_0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2310229-012	UST_SP_02	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 5103489)									
EM2310229-023	OL_EX_SP7_01	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5104590)									
EM2309997-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 5104590) - continued									
EM2309997-003	Anonymous	EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.125	0.127	1.4	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.120	0.124	2.8	0% - 20%
EM2310262-004	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.947	0.971	2.6	0% - 20%
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	1.09	1.10	0.9	0% - 20%
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.121	0.127	4.2	0% - 20%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	12.8	12.8	0.2	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	134	137	2.7	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.455	0.451	0.9	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	377	385	2.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5103274)									
EM2310229-026	OL_EX_QC14	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2310250-008	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5101667)									
EM2310352-007	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EM2310341-001	Anonymous	EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	<2.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5101667) - continued									
EM2310341-001	Anonymous	EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5101667)									
EM2310352-007	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2310341-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101668)									
EM2310352-007	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	200	66.6	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101668) - continued									
EM2310341-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	20	20	0.0	No Limit
EM2310271-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5101668)									
EM2310352-007	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	170	54.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2310341-001	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	20	20	0.0	No Limit
EM2310271-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 5101853)									
EM2310366-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	6	6	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2310271-007	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103608)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	67.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.7	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	99.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	102	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	78.3	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	100	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	66.9	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	101	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	103	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	79.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103609)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103611)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.8	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	94.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	98.4	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	97.1	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	95.8	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	89.2	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	92.9	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	91.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	91.4	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	87.4	67.8	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528) - continued								
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	92.4	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	76.0	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5103538)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	107	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	105	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	104	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	109	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	97.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	94.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	111	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	95.8	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	106	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	95.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	91.0	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103528)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	96.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	99.5	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	100	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	95.7	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.9	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.0	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	95.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.0	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	96.8	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	97.3	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	93.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	97.6	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	95.4	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	90.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	91.7	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.0	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	117	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	119	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	116	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	112	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	119	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	116	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	118	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	119	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	117	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	116	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	116	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	117	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	108	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	106	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	113	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	115	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103488)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	70.2	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103489)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	96.1	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103529)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	103	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	97.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	107	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103539)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	770 mg/kg	95.0	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2860 mg/kg	94.3	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1540 mg/kg	99.1	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103488)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	74.6	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103489)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	94.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	86.9	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	103	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	84.8	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103539)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1170 mg/kg	83.1	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3830 mg/kg	97.9	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	84.9	73.3	137
EP080: BTEXN (QCLot: 5103488)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	75.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	78.3	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	79.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	80.3	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	82.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.0	61.8	123
EP080: BTEXN (QCLot: 5103489)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	95.2	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	98.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	95.3	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	100	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	100	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	108	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 5104590)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	101	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	110	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.3	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.5	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	105	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.4	86.7	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274) - continued								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	92.1	73.4	119
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	34.4	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	79.5	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	71.7	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	66.0	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	85.0	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	77.8	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	84.7	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	85.4	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	86.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	87.4	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	85.5	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	73.2	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101667)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.2	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.4	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	81.7	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	87.3	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	87.9	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	85.8	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	90.2	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	90.9	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	91.8	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	90.8	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	88.4	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	92.5	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.5	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	89.6	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	89.5	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	90.7	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4560 µg/L	73.1	47.2	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16200 µg/L	73.8	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8650 µg/L	77.8	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101853)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	91.9	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101668)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6190 µg/L	69.6	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22200 µg/L	74.7	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1520 µg/L	78.4	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101853)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	97.1	66.2	132
EP080: BTEXN (QCLot: 5101853)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	96.3	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	102	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	101	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	104	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	107	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103608)							
EM2310229-002	OL_EX_421_0.5	EG005T: Copper	7440-50-8	250 mg/kg	119	80.0	120
EM2310229-002	OL_EX_421_0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	99.9	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.4	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	121	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	102	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	111	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	92.0	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610)							
EM2310229-024	OL_EX_SP7_02	EG005T: Zinc	7440-66-6	250 mg/kg	107	80.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5103610) - continued							
EM2310229-024	OL_EX_SP7_02	EG005T: Arsenic	7440-38-2	50 mg/kg	108	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	102	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	111	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	120	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.7	78.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103609)							
EM2310229-002	OL_EX_421_0.5	EG035T: Mercury	7439-97-6	0.5 mg/kg	115	76.0	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103611)							
EM2310229-024	OL_EX_SP7_02	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 132	76.0	116
EP075(SIM)A: Phenolic Compounds (QCLot: 5103528)							
EM2310229-002	OL_EX_421_0.5	EP075(SIM): Phenol	108-95-2	3 mg/kg	98.4	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	102	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	94.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	67.9	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5103538)							
EM2310229-024	OL_EX_SP7_02	EP075(SIM): Phenol	108-95-2	3 mg/kg	102	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	109	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	99.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	79.0	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103528)							
EM2310229-002	OL_EX_421_0.5	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	100	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	99.4	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5103538)							
EM2310229-024	OL_EX_SP7_02	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	107	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	68.0	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: C6 - C9 Fraction	----	28 mg/kg	67.3	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: C6 - C9 Fraction	----	28 mg/kg	73.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103529)							
EM2310229-003	OL_EX_422_0.5	EP071: C10 - C14 Fraction	----	770 mg/kg	99.6	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	94.9	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	106	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5103539)							
EM2310229-028	OL_EX_SP7_03	EP071: C10 - C14 Fraction	----	770 mg/kg	96.8	71.2	125
		EP071: C15 - C28 Fraction	----	2860 mg/kg	92.4	75.6	122
		EP071: C29 - C36 Fraction	----	1540 mg/kg	98.6	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	65.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	67.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103529)							
EM2310229-003	OL_EX_422_0.5	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.9	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	101	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	83.5	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5103539)							
EM2310229-028	OL_EX_SP7_03	EP071: >C10 - C16 Fraction	----	1170 mg/kg	83.7	72.2	128
		EP071: >C16 - C34 Fraction	----	3830 mg/kg	96.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	84.6	66.8	138
EP080: BTEXN (QCLot: 5103488)							
EM2310229-002	OL_EX_421_0.5	EP080: Benzene	71-43-2	2 mg/kg	67.5	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.6	57.1	131
EP080: BTEXN (QCLot: 5103489)							
EM2310229-024	OL_EX_SP7_02	EP080: Benzene	71-43-2	2 mg/kg	75.3	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	82.8	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5104590)							
EM2309997-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.1	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	102	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	89.1	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	90.2	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	93.9	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	89.6	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	90.1	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5103274)							
EM2310246-005	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	102	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667)							
EM2310352-001	Anonymous						

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5101667) - continued							
EM2310352-001	Anonymous	EP075(SIM): Phenol	108-95-2	5 µg/L	36.2	15.0	61.0
		EP075(SIM): 2-Chlorophenol	95-57-8	5 µg/L	78.9	35.0	131
		EP075(SIM): 2-Nitrophenol	88-75-5	5 µg/L	86.4	39.0	121
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	5 µg/L	88.0	32.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	5 µg/L	26.1	11.0	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101667)							
EM2310352-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	5 µg/L	81.0	39.3	123
		EP075(SIM): Pyrene	129-00-0	5 µg/L	88.5	44.0	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101668)							
EM2310352-003	Anonymous	EP071: C10 - C14 Fraction	----	4460 µg/L	77.7	48.0	126
		EP071: C15 - C28 Fraction	----	14300 µg/L	88.0	51.7	132
		EP071: C29 - C36 Fraction	----	7300 µg/L	97.5	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	74.9	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101668)							
EM2310352-003	Anonymous	EP071: >C10 - C16 Fraction	----	6090 µg/L	73.4	48.0	128
		EP071: >C16 - C34 Fraction	----	19400 µg/L	90.2	50.4	130
		EP071: >C34 - C40 Fraction	----	1300 µg/L	97.6	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	74.0	34.0	122
EP080: BTEXN (QCLot: 5101853)							
EM2310271-007	Anonymous	EP080: Benzene	71-43-2	20 µg/L	89.9	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	94.4	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310229**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 15-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 29
Order number	: 60693007-2	No. of samples analysed	: 28

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2310229--001	OL_EX_420_0.5	**Fluoranthene**	206-44-0	64.9 %	0% - 50%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2310229--001	OL_EX_420_0.5	**Pyrene**	129-00-0	63.5 %	0% - 50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG035T: Total Recoverable Mercury by FIMS	EM2310229--024	OL_EX_SP7_02	**Mercury**	7439-97-6	132 %	76.0-116%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**----**	----	----	**10-Jun-2023**	21-Jun-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**13-Jun-2023**	04-Dec-2023	✓	**13-Jun-2023**	04-Dec-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
OL_EX_420_0.5,	OL_EX_421_0.5,	**07-Jun-2023**	**13-Jun-2023**	05-Jul-2023	✓	**13-Jun-2023**	05-Jul-2023	✓
OL_EX_422_0.5,	OL_EX_422_1.5,							
OL_EX_423_0.5,	OL_EX_423_1.5,							
OL_EX_424_0.5,	OL_EX_424_1.5,							
OL_EX_QC125,	UST_SP_01,							
UST_SP_02,	UST_SP_03,							
UST_SP_04,	UST_SP_05,							
UST_SP_06,	UST_SP_QC126,							
UST_SP_Ext_59SP_04,	UST_SP_Ext_59SP_05,							
UST_SP_Ext_59SP_06,	UST_SP_Ext_59SP_07,							
OL_EX_SP7_01,	OL_EX_SP7_02,							
OL_EX_SP7_03,	OL_EX_SP8_01,							
OL_EX_SP8_02,	OL_EX_SP8_03							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**10-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_02, OL_EX_SP7_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_SP_03, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, OL_EX_SP7_01, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**10-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07, OL_EX_SP7_02, OL_EX_SP7_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**13-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
UST_SP_03, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, OL_EX_SP7_01, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**14-Jun-2023**	23-Jul-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_420_0.5, OL_EX_421_0.5, OL_EX_422_0.5, OL_EX_422_1.5, OL_EX_423_0.5, OL_EX_423_1.5, OL_EX_424_0.5, OL_EX_424_1.5, OL_EX_QC125, UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_QC126, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_05, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	07-Jun-2023	10-Jun-2023	21-Jun-2023	✓	10-Jun-2023	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP080)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	07-Jun-2023	10-Jun-2023	21-Jun-2023	✓	14-Jun-2023	21-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
OL_EX_QC14	07-Jun-2023	10-Jun-2023	04-Dec-2023	✓	13-Jun-2023	04-Dec-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T)							
OL_EX_QC14	07-Jun-2023	----	----	----	13-Jun-2023	05-Jul-2023	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	07-Jun-2023	09-Jun-2023	21-Jun-2023	✓	09-Jun-2023	21-Jun-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
OL_EX_QC14	07-Jun-2023	09-Jun-2023	14-Jun-2023	✓	13-Jun-2023	19-Jul-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	07-Jun-2023	09-Jun-2023	21-Jun-2023	✓	09-Jun-2023	21-Jun-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
OL_EX_QCA14, OL_EX_QC14	**07-Jun-2023**	**09-Jun-2023**	21-Jun-2023	✓	**09-Jun-2023**	21-Jun-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	26	**11.54**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	26	**15.38**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	26	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2310229**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point	Page	: 1 of 3
Order number	: 60693007-2	Quote number	: EM2022AECOMAU0019 (ME/386/22)
C-O-C number	: 53213	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point Oil and Diesel Line removal		
Sampler	: TIM SMITH		

Dates

Date Samples Received	: 07-Jun-2023 11:45	Issue Date	: 08-Jun-2023
Client Requested Due Date	: 15-Jun-2023	Scheduled Reporting Date	: **15-Jun-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 5.6°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 29 / 28

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EA055-103 Moisture Content	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
EM2310229-001	07-Jun-2023 09:58	OL_EX_420_0.5	✓	✓
EM2310229-002	07-Jun-2023 09:59	OL_EX_421_0.5	✓	✓
EM2310229-003	07-Jun-2023 09:59	OL_EX_422_0.5	✓	✓
EM2310229-004	07-Jun-2023 10:01	OL_EX_422_1.5	✓	✓
EM2310229-005	07-Jun-2023 10:02	OL_EX_423_0.5	✓	✓
EM2310229-006	07-Jun-2023 10:02	OL_EX_423_1.5	✓	✓
EM2310229-007	07-Jun-2023 10:03	OL_EX_424_0.5	✓	✓
EM2310229-008	07-Jun-2023 10:04	OL_EX_424_1.5	✓	✓
EM2310229-009	07-Jun-2023 10:06	OL_EX_QC125	✓	✓
EM2310229-011	07-Jun-2023 10:07	UST_SP_01	✓	✓
EM2310229-012	07-Jun-2023 10:08	UST_SP_02	✓	✓
EM2310229-013	07-Jun-2023 10:08	UST_SP_03	✓	✓
EM2310229-014	07-Jun-2023 10:09	UST_SP_04	✓	✓
EM2310229-015	07-Jun-2023 10:09	UST_SP_05	✓	✓
EM2310229-016	07-Jun-2023 10:10	UST_SP_06	✓	✓
EM2310229-017	07-Jun-2023 10:10	UST_SP_QC126	✓	✓
EM2310229-019	07-Jun-2023 10:12	UST_SP_Ext_59SP_04	✓	✓
EM2310229-020	07-Jun-2023 10:16	UST_SP_Ext_59SP_05	✓	✓
EM2310229-021	07-Jun-2023 10:16	UST_SP_Ext_59SP_06	✓	✓
EM2310229-022	07-Jun-2023 10:16	UST_SP_Ext_59SP_07	✓	✓
EM2310229-023	07-Jun-2023 10:22	OL_EX_SP7_01	✓	✓
EM2310229-024	07-Jun-2023 10:22	OL_EX_SP7_02	✓	✓
EM2310229-028	07-Jun-2023 10:23	OL_EX_SP7_03	✓	✓
EM2310229-029	07-Jun-2023 10:25	OL_EX_SP8_01	✓	✓
EM2310229-030	07-Jun-2023 10:25	OL_EX_SP8_02	✓	✓
EM2310229-031	07-Jun-2023 10:25	OL_EX_SP8_03	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - W-18 TRH(C6 - C9)/BTEXN	WATER - W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
EM2310229-025	07-Jun-2023 10:23	OL_EX_QCA14		✓	
EM2310229-026	07-Jun-2023 10:24	OL_EX_QC14			✓
EM2310229-027	07-Jun-2023 10:24	OL_EX_QCC09	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

COC#: 53213 *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME: 7/6/23 11.45	DATE TIME:	DATE TIME:

FREIGHT

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe
PRIMARY SAMPLER: Tim Smith

CONTACT PH:
QUOTE NO: ME/386/22

SAMPLER MOBILE:
/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	OL_EX_420_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
002	OL_EX_421_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
003	OL_EX_422_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
004	OL_EX_422_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
005	OL_EX_423_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
006	OL_EX_423_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
007	OL_EX_424_0.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
008	OL_EX_424_1.5			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
009	OL_EX_QC125			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

Environmental Division
Melbourne
Work Order Reference
EM2310229

Telephone - 61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	OL_EX_QC225	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
011	UST_SP_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
012	UST_SP_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
013	UST_SP_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
014	UST_SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
015	UST_SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
016	UST_SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
017	UST_SP_QC126			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
018	UST_SP_QC226	Please forward to EUROFINS for analysis		SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe CONTACT PH: SAMPLER MOBILE:

PRIMARY SAMPLER: Tim Smith QUOTE NO: ME/386/22 / EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 'C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	UST_SP_Ext_59SP_04			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
020	UST_SP_Ext_59SP_05			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
021	UST_SP_Ext_59SP_06			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
022	UST_SP_Ext_59SP_07			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
023	OL_EX_SP7_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
024	OL_EX_SP7_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
025	OL_EX_QCA14			WATER	ALS: 0 Non ALS: 0	No				X		
026	OL_EX_QC14			WATER	ALS: 0 Non ALS: 0	No			Partial 1/2		Lead only from metals suite	
027	OL_EX_QCC09			WATER	ALS: 0 Non ALS: 0	Yes	-					

CHAIN OF CUSTODY

COC#: **53213** *ALS Laboratory:* EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Soil Suite 1 SOIL	Water Suite 1 RINSATE	Water Suite 2 TRIP BLANK	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	OL_EX_SP7_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
029	OL_EX_SP8_01			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
030	OL_EX_SP8_02			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	
031	OL_EX_SP8_03			SOIL	ALS: 0 Non ALS: 0	No		Partial 1/2			Lead only from metals suite	

CHAIN OF CUSTODY

ALS COC#: 53213 ALS Laboratory: EM Melbourne

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	OL_EX_420_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
002	OL_EX_421_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
003	OL_EX_422_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
004	OL_EX_422_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
005	OL_EX_423_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
006	OL_EX_423_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
007	OL_EX_424_0.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
008	OL_EX_424_1.5	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
009	OL_EX_QC125	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
010	OL_EX_QC225	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
011	UST_SP_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
012	UST_SP_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
013	UST_SP_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
014	UST_SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
015	UST_SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

CHAIN OF CUSTODY

ALS COC#: 53213 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: Macquarie Point

SITE: Macquarie Point Oil and Diesel Line removal

ORDER NO: 60693007-2

PROJECT MANAGER: Robert Crowe

PRIMARY SAMPLER: Tim Smith

CONTACT PH:

QUOTE NO: ME/386/22

SAMPLER MOBILE:

/ EM2022AECOMAU0019

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

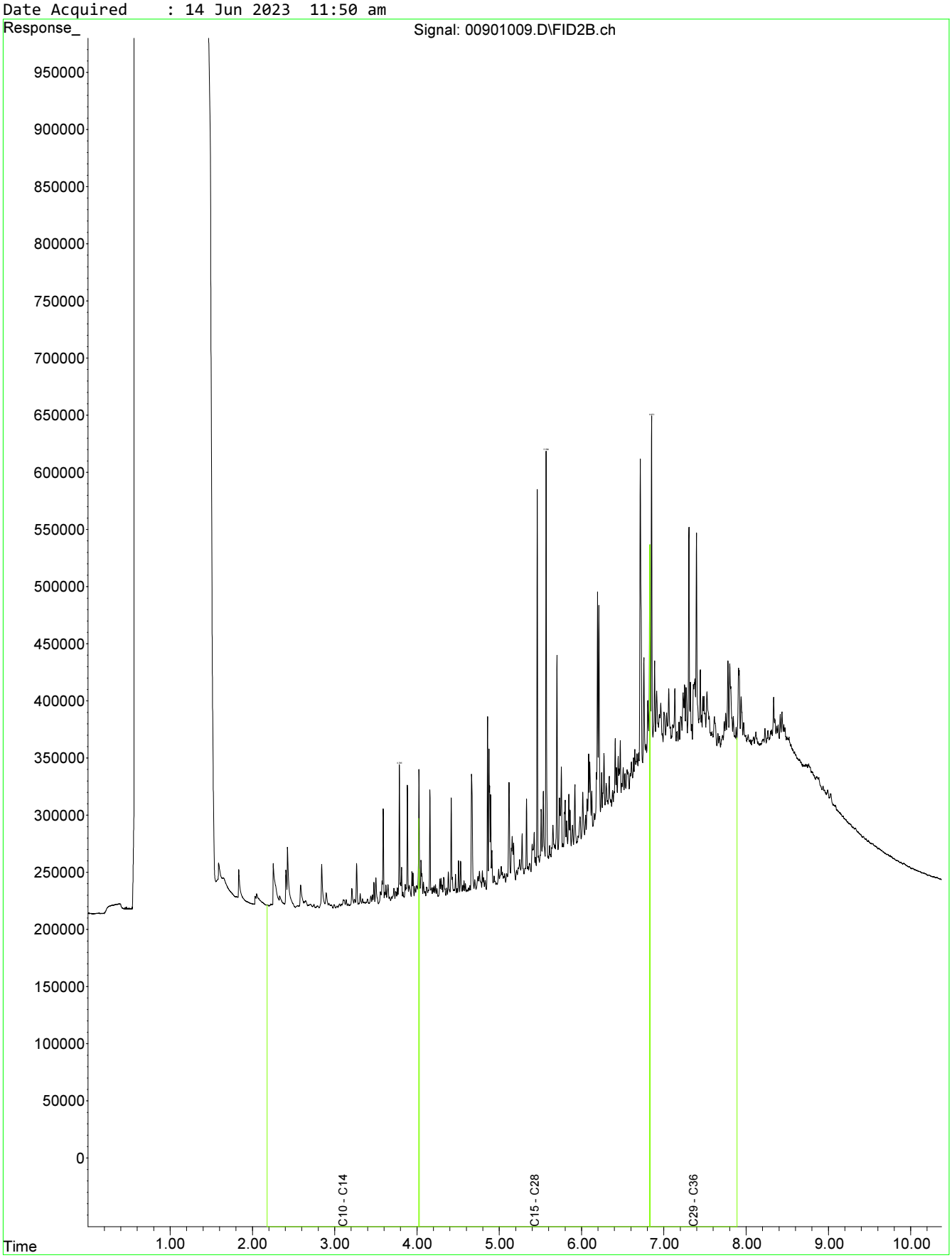
Random Sample Temperature on Receipt: °C

Other comments:

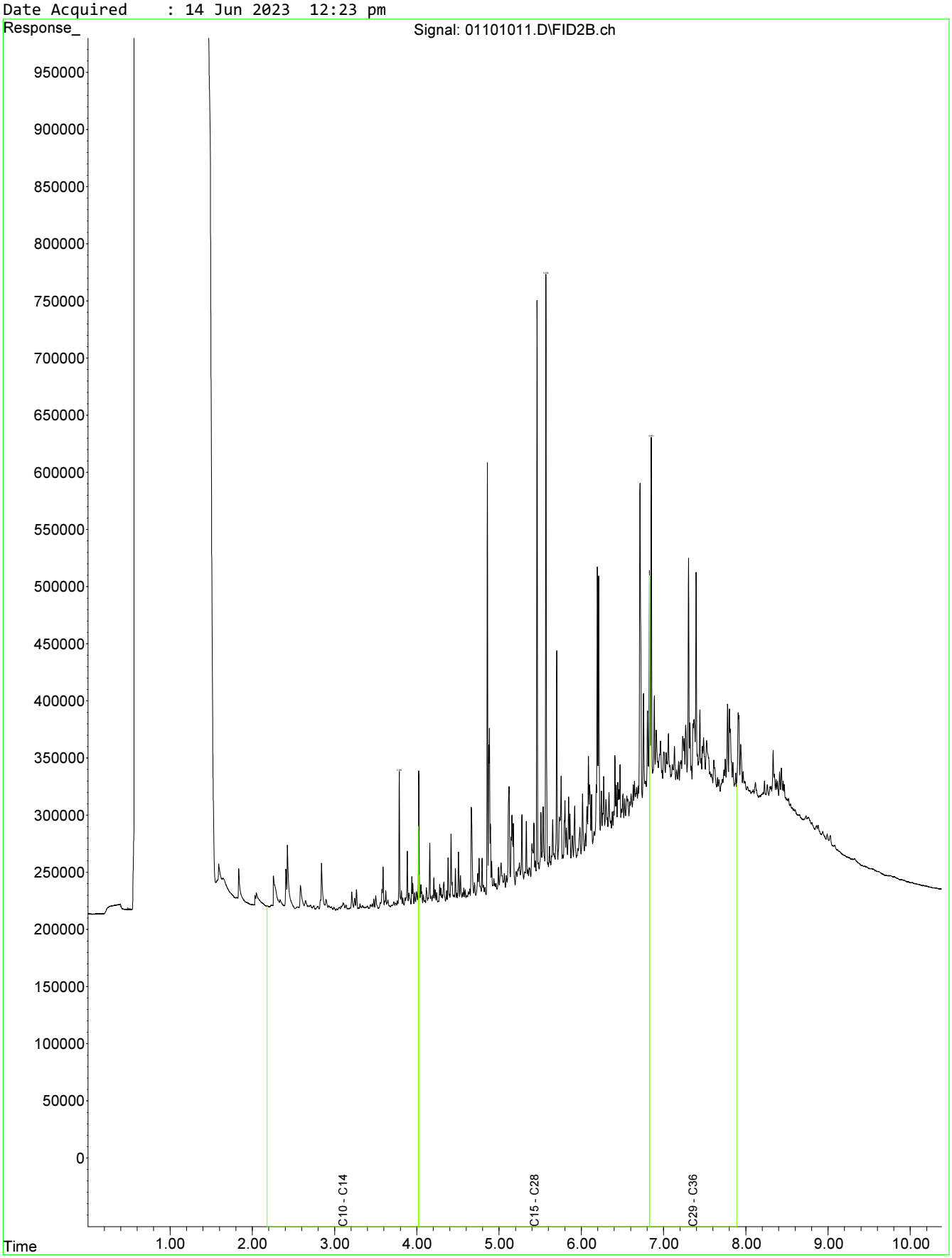
016	UST_SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
017	UST_SP_QC126	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
018	UST_SP_QC226	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
019	UST_SP_Ext_59SP_04	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
020	UST_SP_Ext_59SP_05	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
021	UST_SP_Ext_59SP_06	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
022	UST_SP_Ext_59SP_07	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
023	OL_EX_SP7_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
024	OL_EX_SP7_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
026	OL_EX_QC14	Water Suite 1 RINSATE	WATER	- W-27T TRH/BTEXN/PAH/Phenols/Total 8 Metals
028	OL_EX_SP7_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
029	OL_EX_SP8_01	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
030	OL_EX_SP8_02	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals
031	OL_EX_SP8_03	Soil Suite 1 SOIL	SOIL	- S-27 TRH/BTEXN/PAH/Phenols/8Metals

Total Bottle Count: ALS: 0, Non ALS: 0

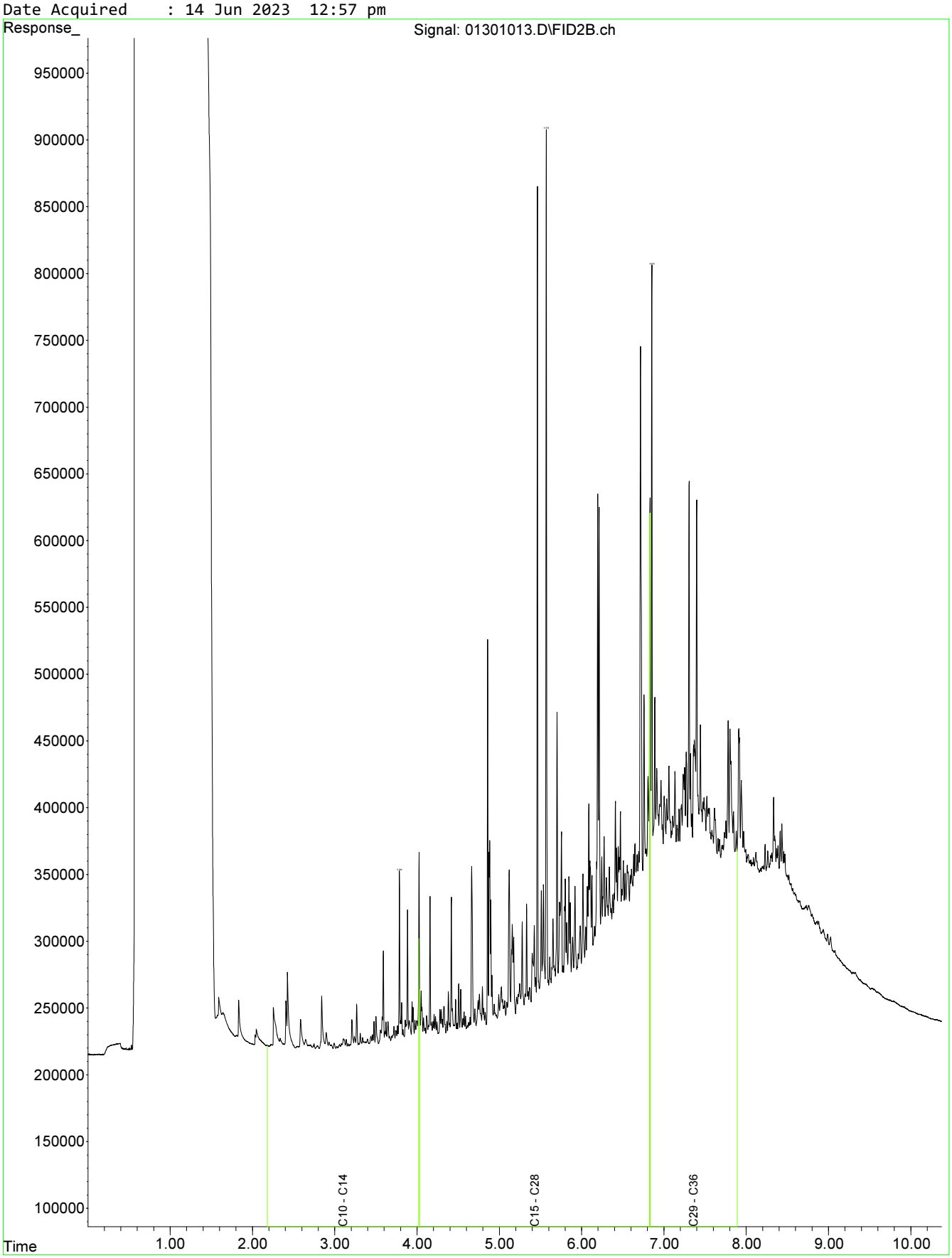
Fraction Scheme : Legacy Fractions
Data File : 00901009.D
Laboratory Number: EM2310229-023
Sample ID : OL_EX_SP7_01
Date Acquired : 14 Jun 2023 11:50 am



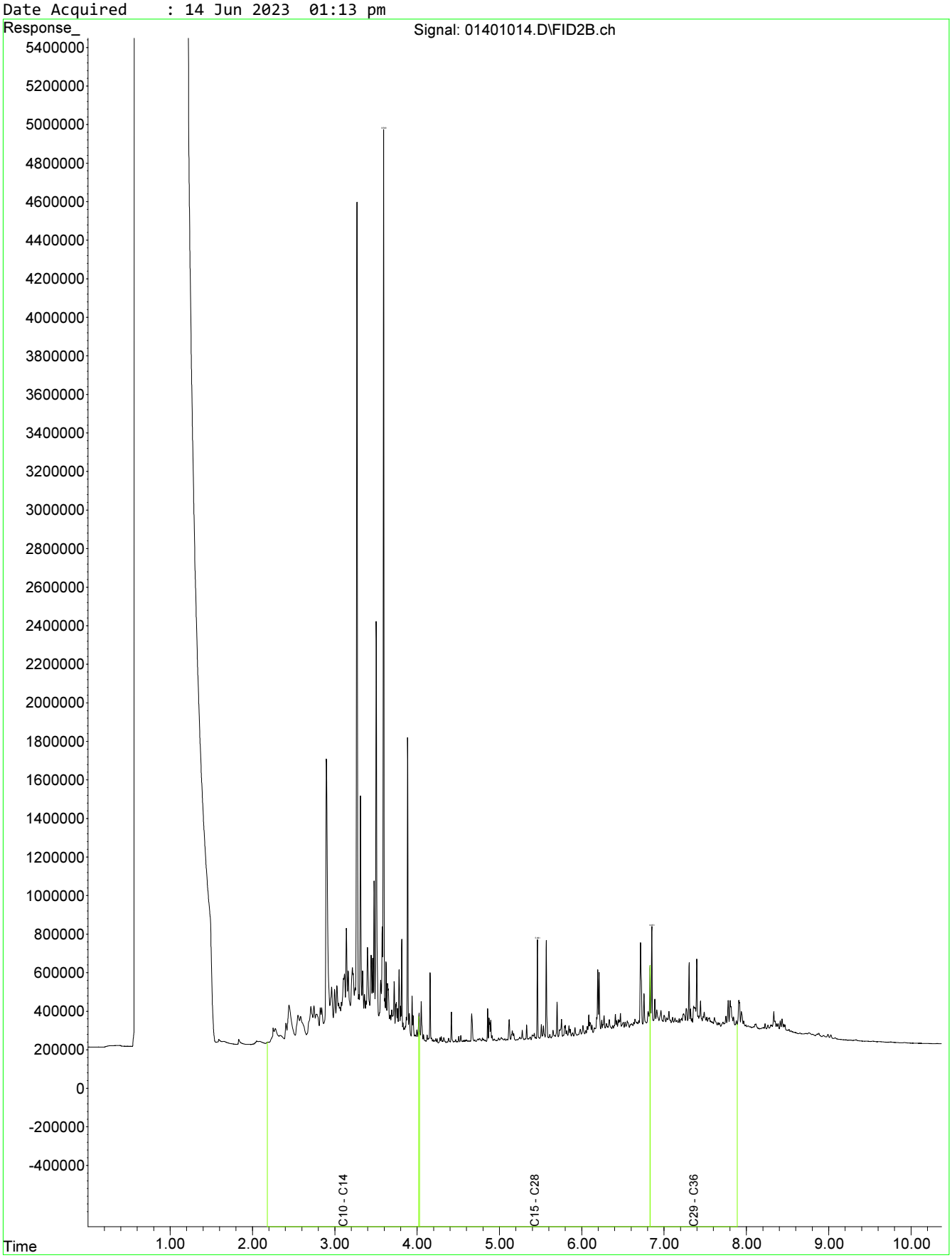
Fraction Scheme : Legacy Fractions
Data File : 01101011.D
Laboratory Number: EM2310229-024
Sample ID : OL_EX_SP7_02
Date Acquired : 14 Jun 2023 12:23 pm



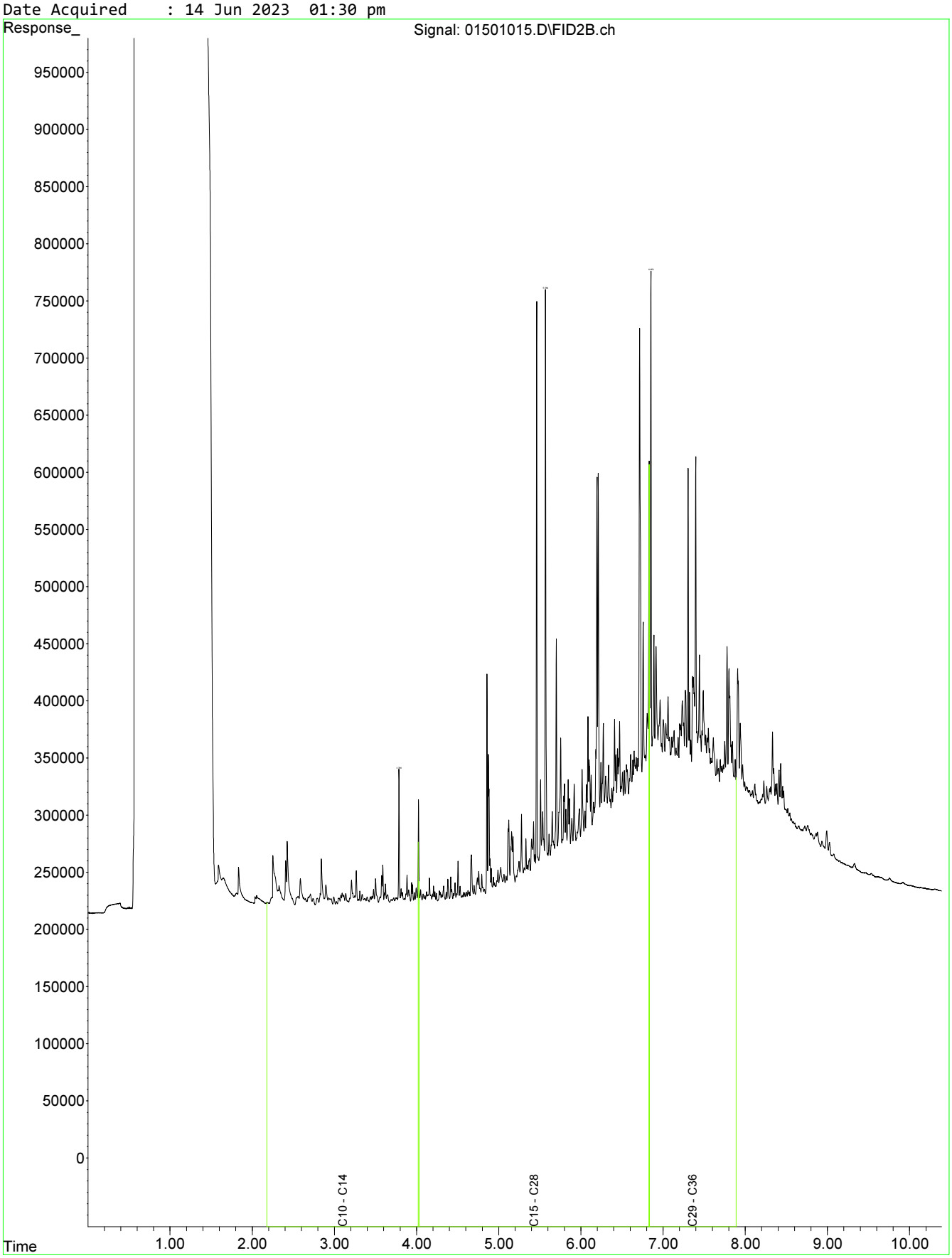
Fraction Scheme : Legacy Fractions
Data File : 01301013.D
Laboratory Number: EM2310229-028
Sample ID : OL_EX_SP7_03
Date Acquired : 14 Jun 2023 12:57 pm



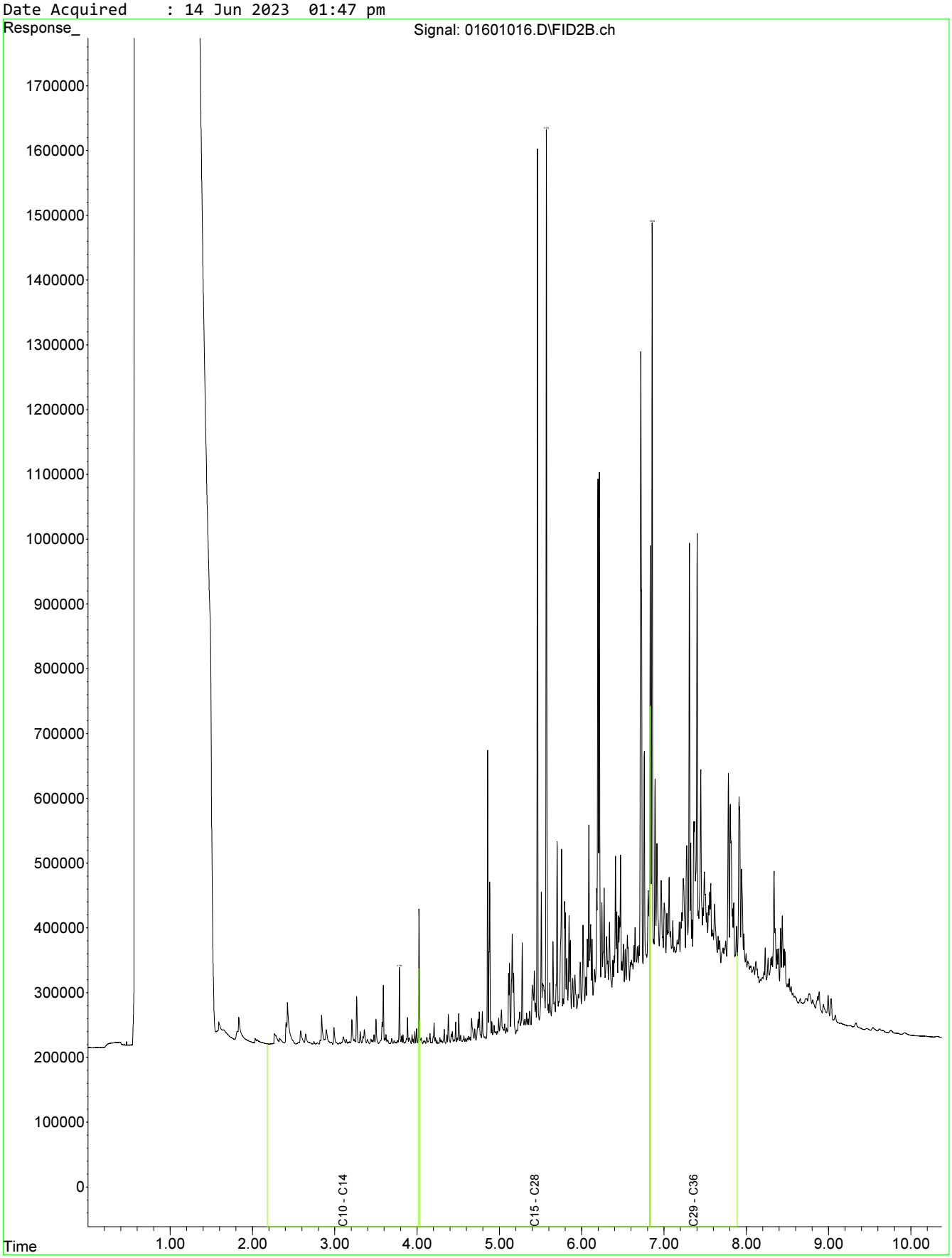
Fraction Scheme : Legacy Fractions
Data File : 01401014.D
Laboratory Number: EM2310229-029
Sample ID : OL_EX_SP8_01
Date Acquired : 14 Jun 2023 01:13 pm



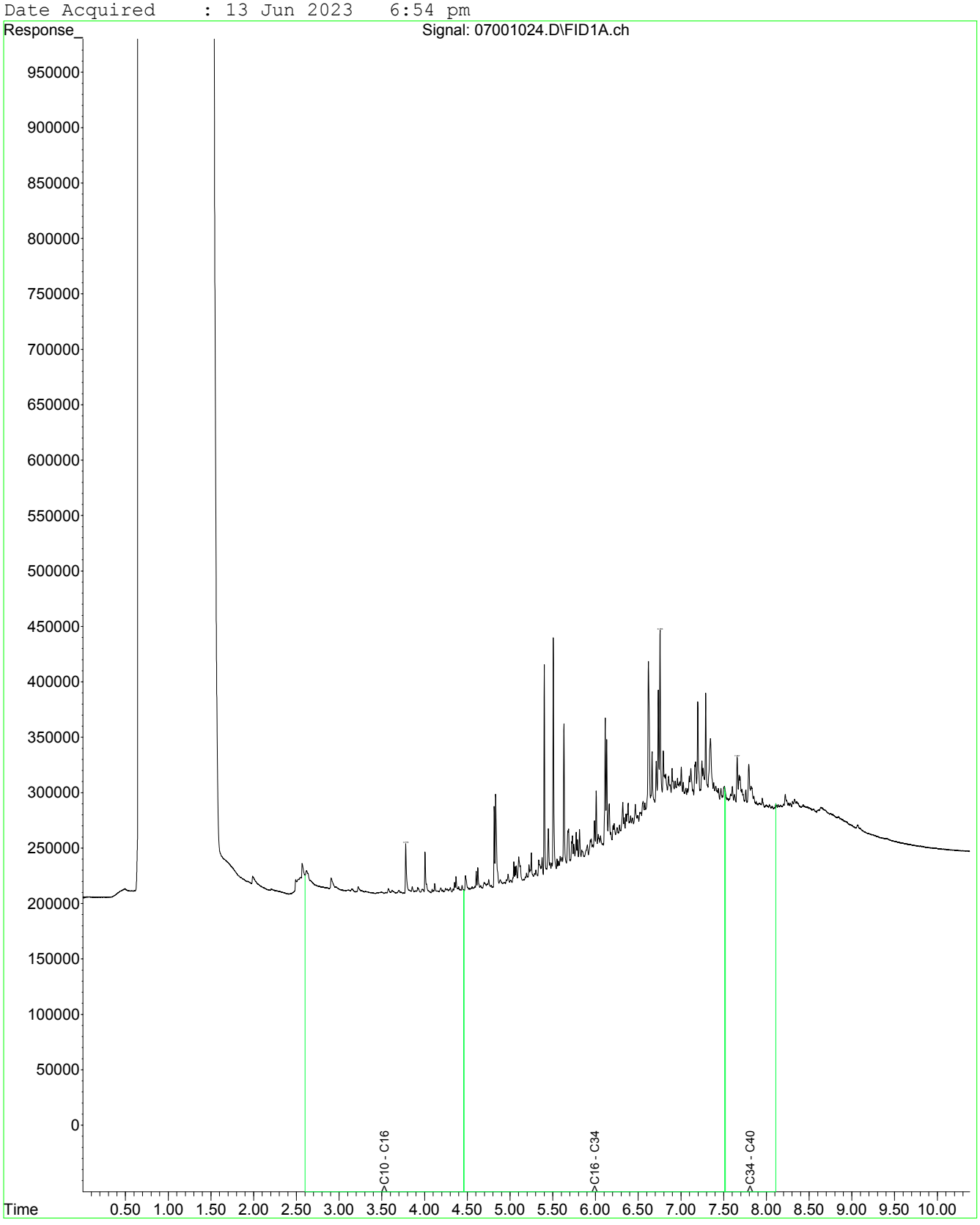
Fraction Scheme : Legacy Fractions
Data File : 01501015.D
Laboratory Number: EM2310229-030
Sample ID : OL_EX_SP8_02
Date Acquired : 14 Jun 2023 01:30 pm



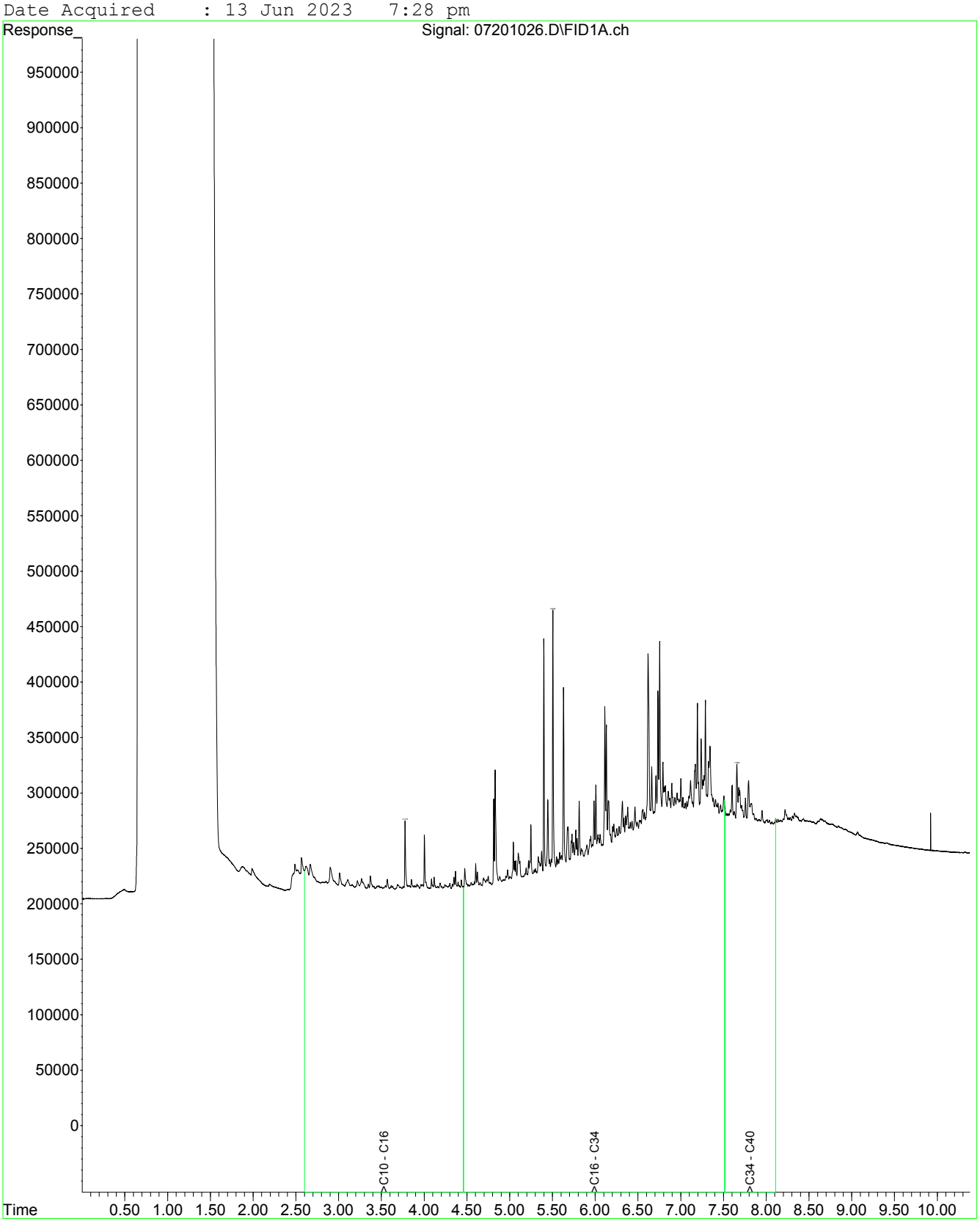
Fraction Scheme : Legacy Fractions
Data File : 01601016.D
Laboratory Number: EM2310229-031
Sample ID : OL_EX_SP8_03
Date Acquired : 14 Jun 2023 01:47 pm



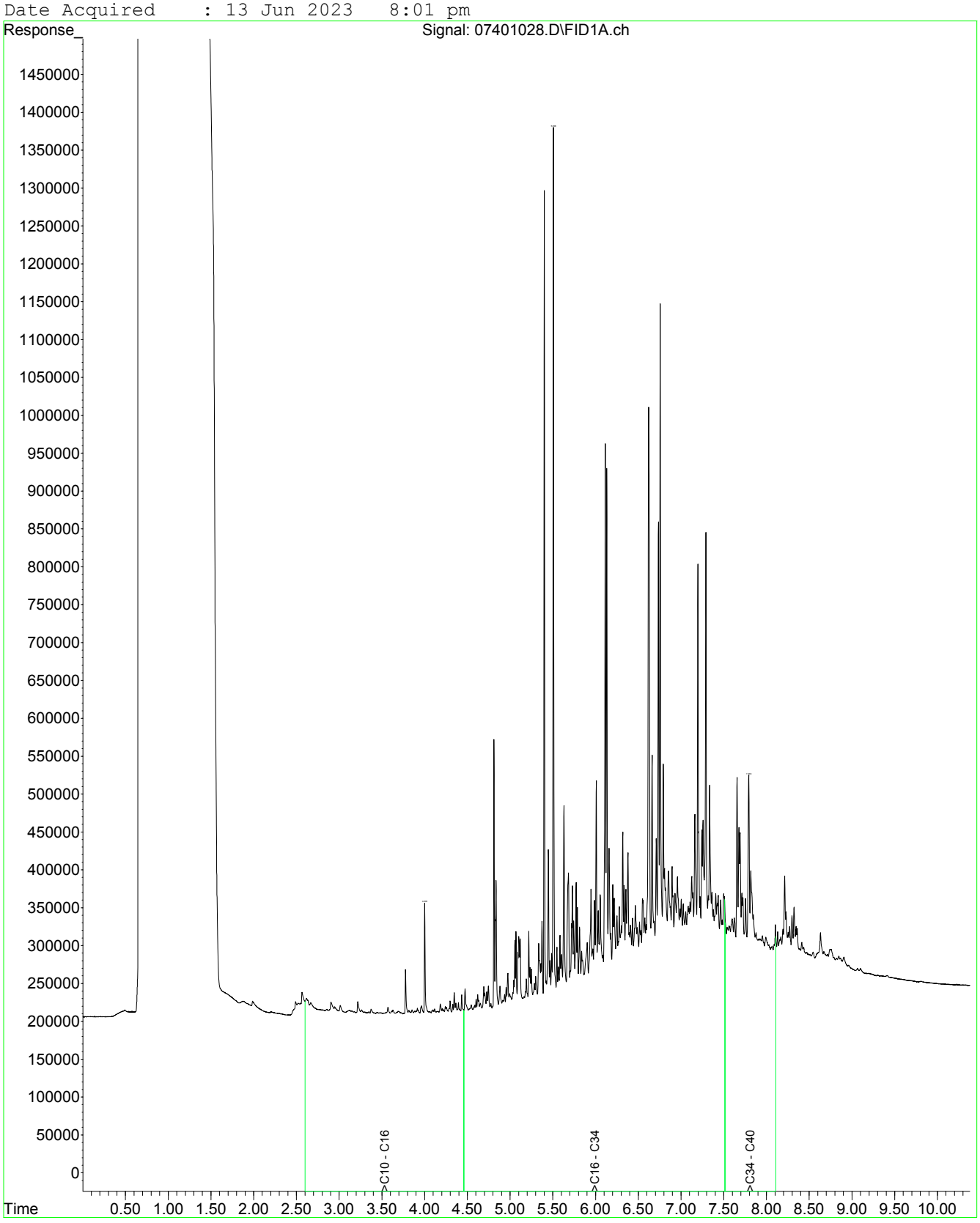
Fraction Scheme : NEPM Draft HIL
Data File : 07001024.D
Laboratory Number: EM2310229-001
Sample ID : OL_EX_420_0.5
Date Acquired : 13 Jun 2023 6:54 pm



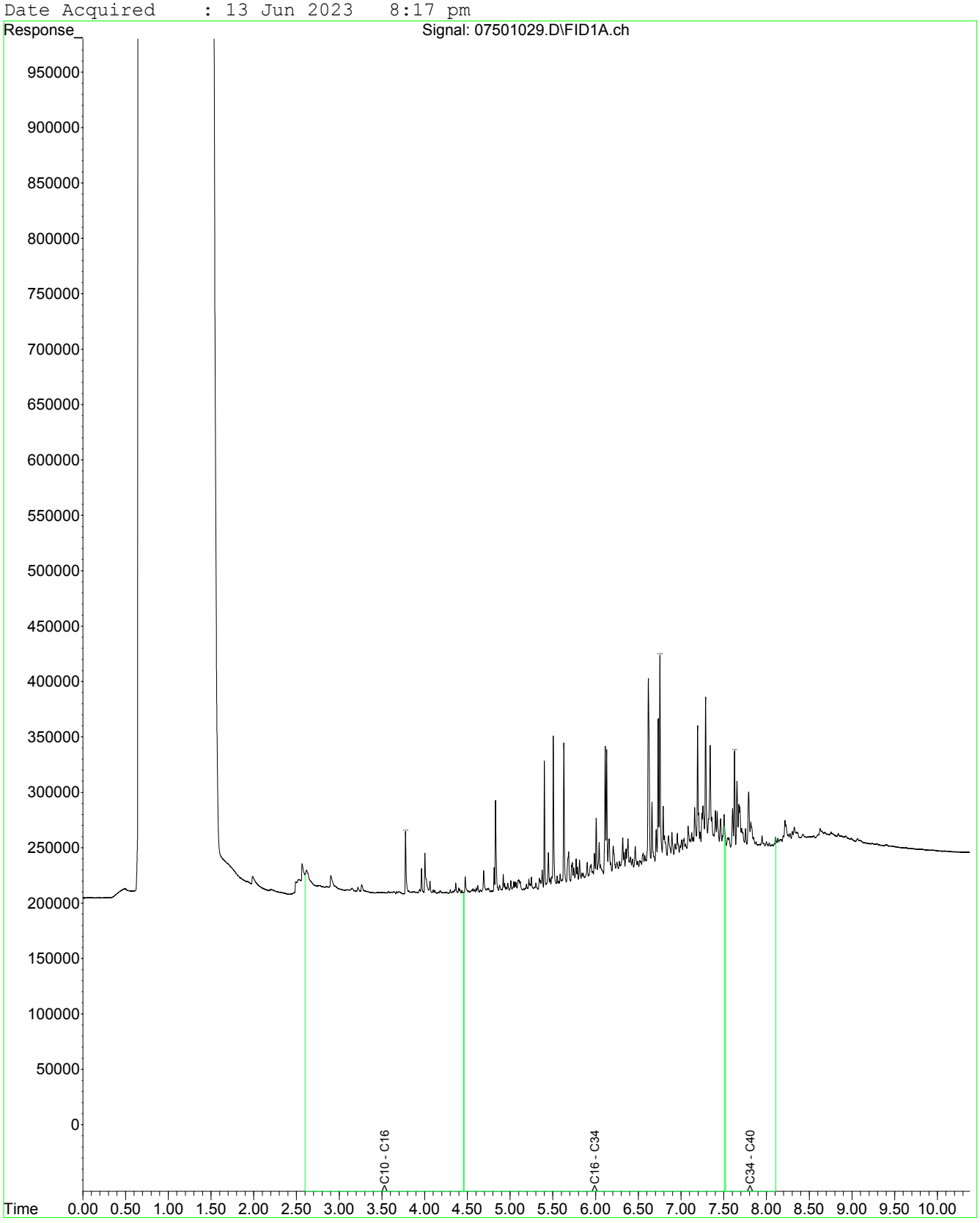
Fraction Scheme : NEPM Draft HIL
Data File : 07201026.D
Laboratory Number: EM2310229-002
Sample ID : OL_EX_421_0.5
Date Acquired : 13 Jun 2023 7:28 pm



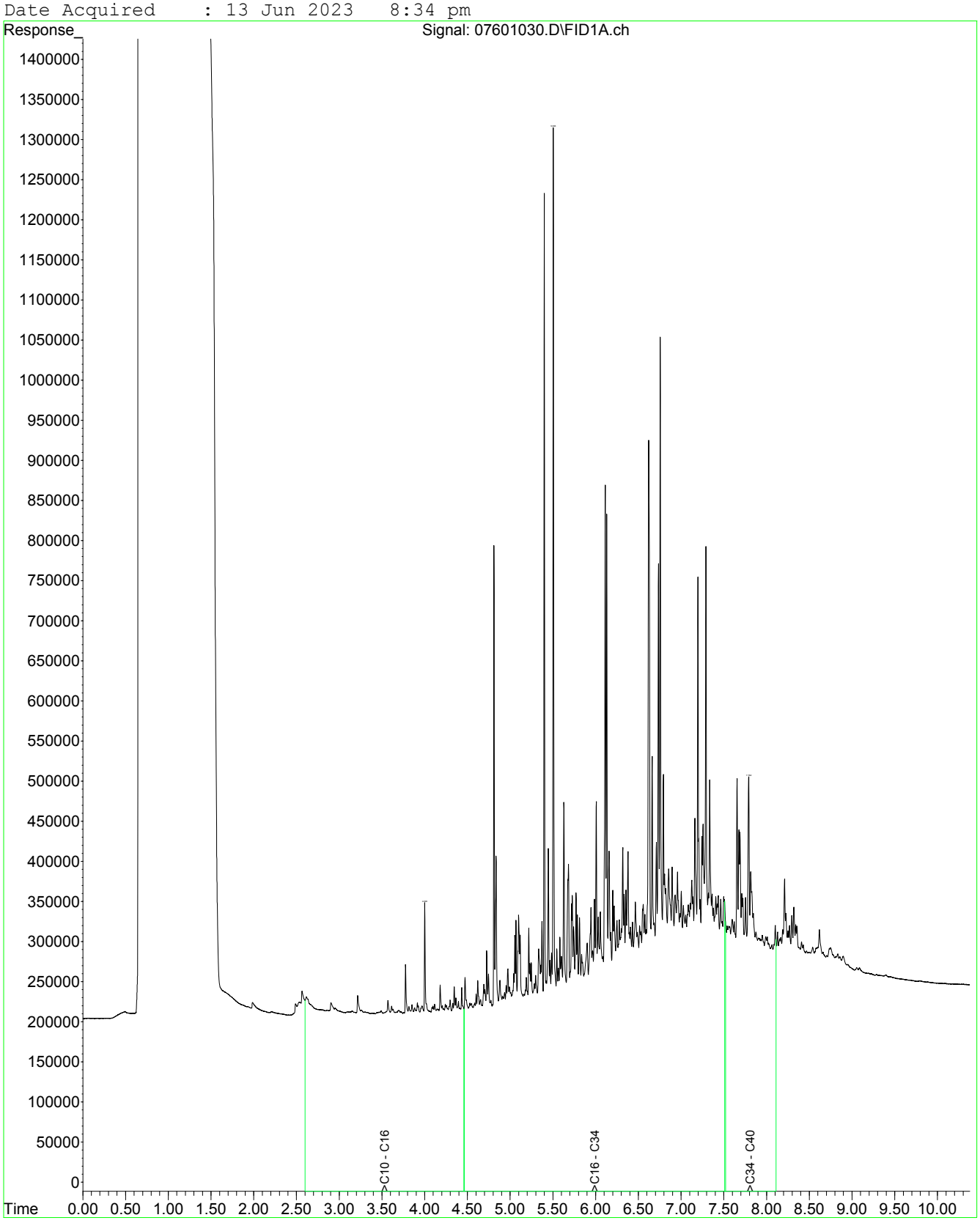
Fraction Scheme : NEPM Draft HIL
Data File : 07401028.D
Laboratory Number: EM2310229-003
Sample ID : OL_EX_422_0.5
Date Acquired : 13 Jun 2023 8:01 pm



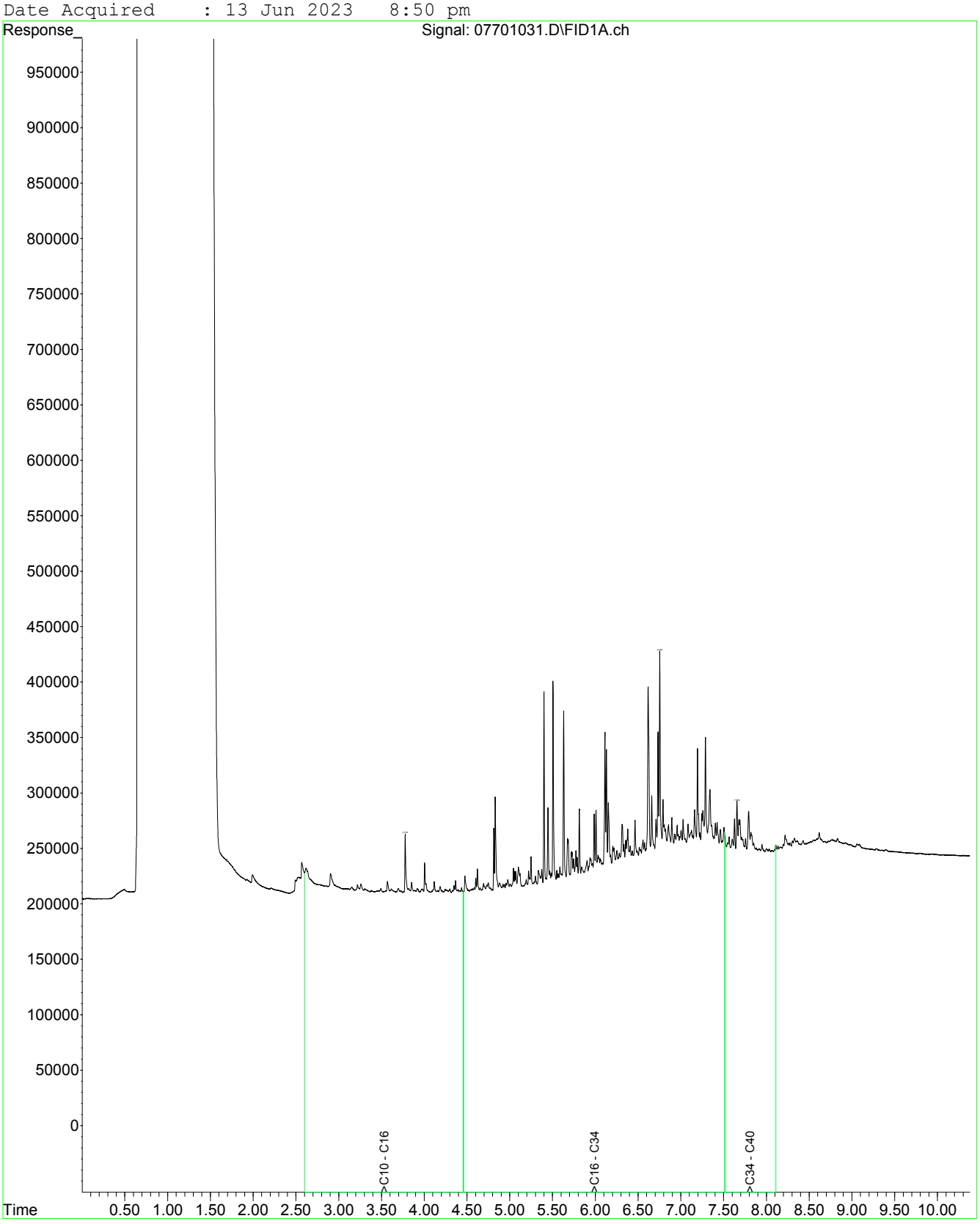
Fraction Scheme : NEPM Draft HIL
Data File : 07501029.D
Laboratory Number: EM2310229-004
Sample ID : OL_EX_422_1.5
Date Acquired : 13 Jun 2023 8:17 pm



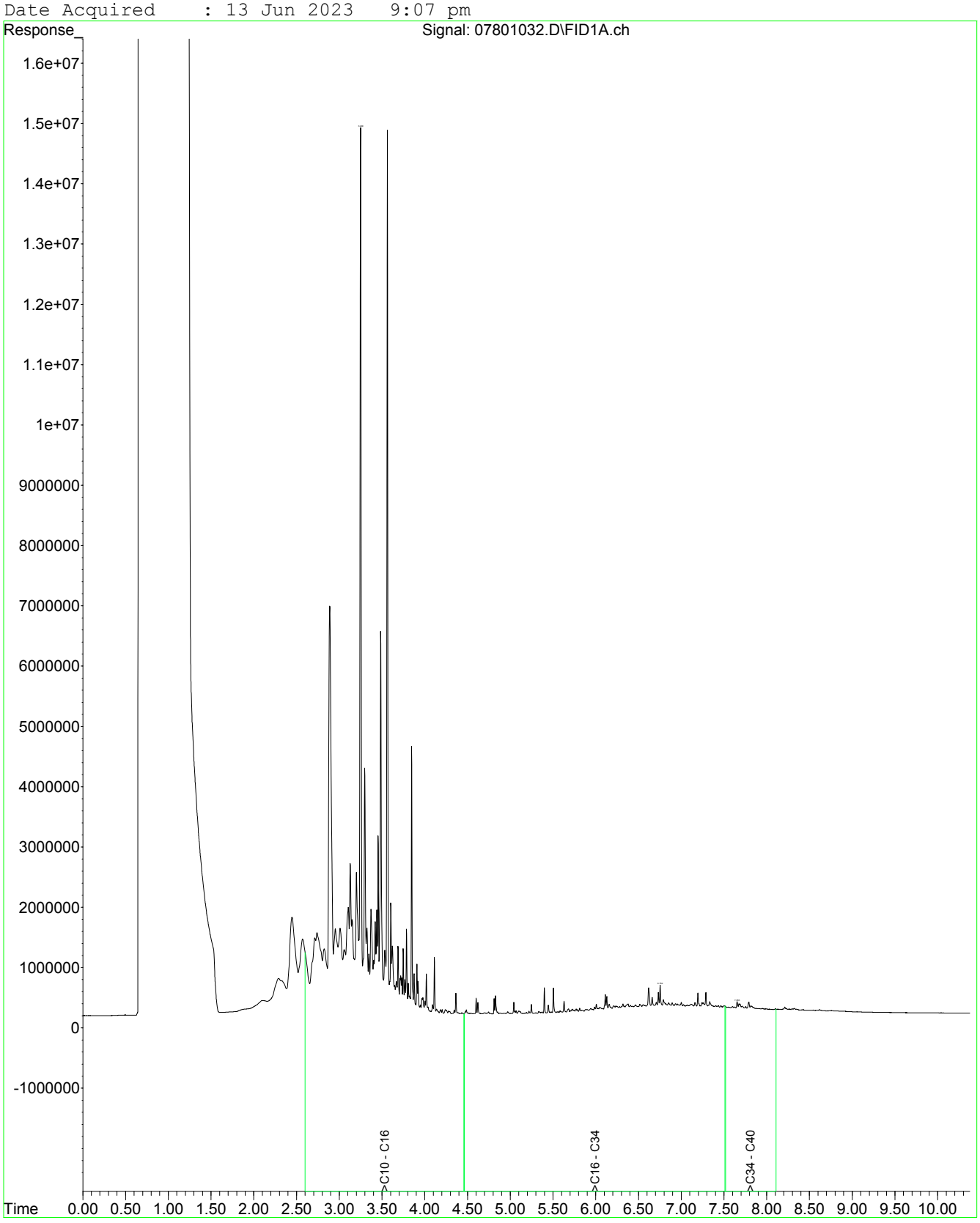
Fraction Scheme : NEPM Draft HIL
Data File : 07601030.D
Laboratory Number: EM2310229-005
Sample ID : OL_EX_423_0.5
Date Acquired : 13 Jun 2023 8:34 pm



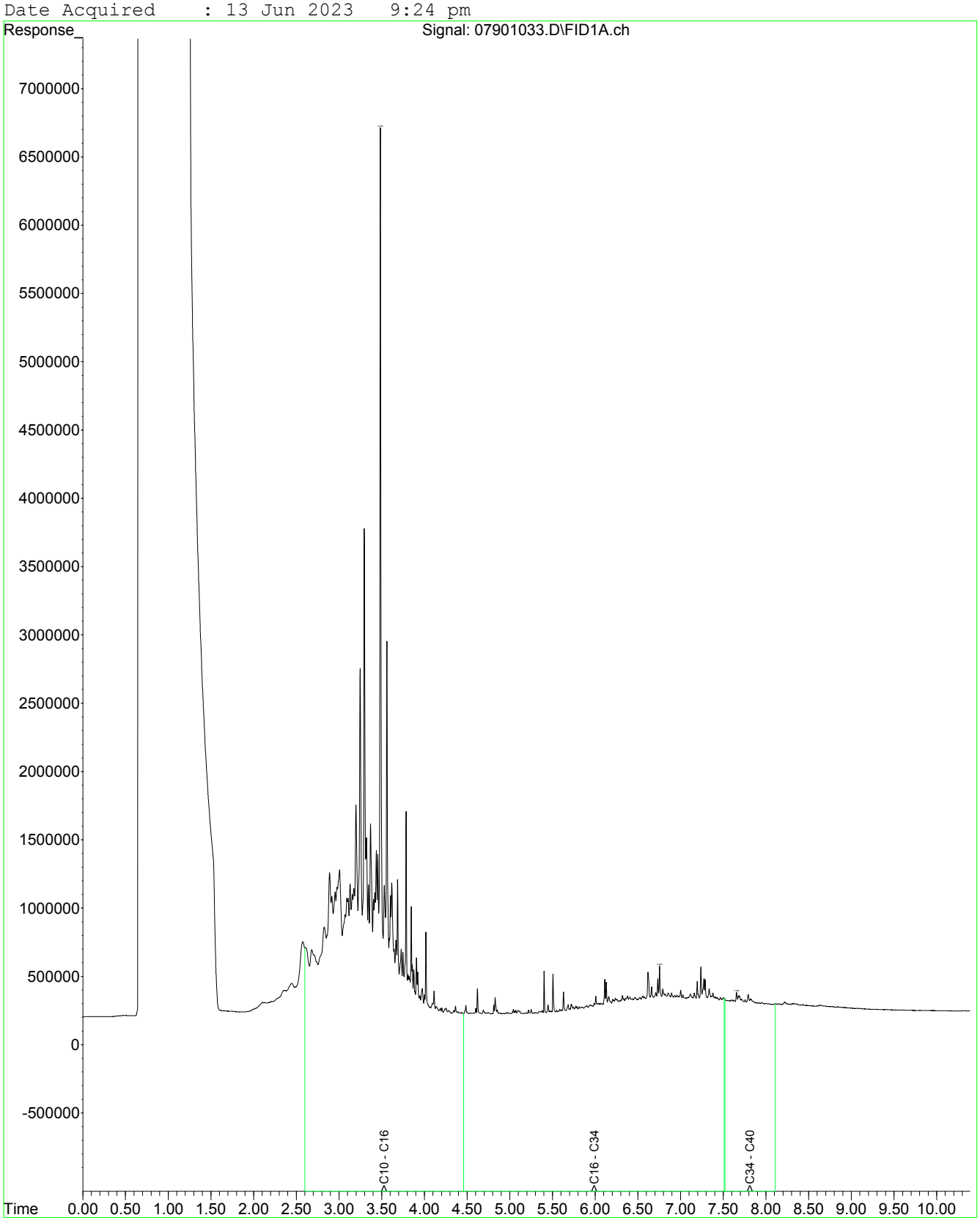
Fraction Scheme : NEPM Draft HIL
Data File : 07701031.D
Laboratory Number: EM2310229-006
Sample ID : OL_EX_423_1.5
Date Acquired : 13 Jun 2023 8:50 pm



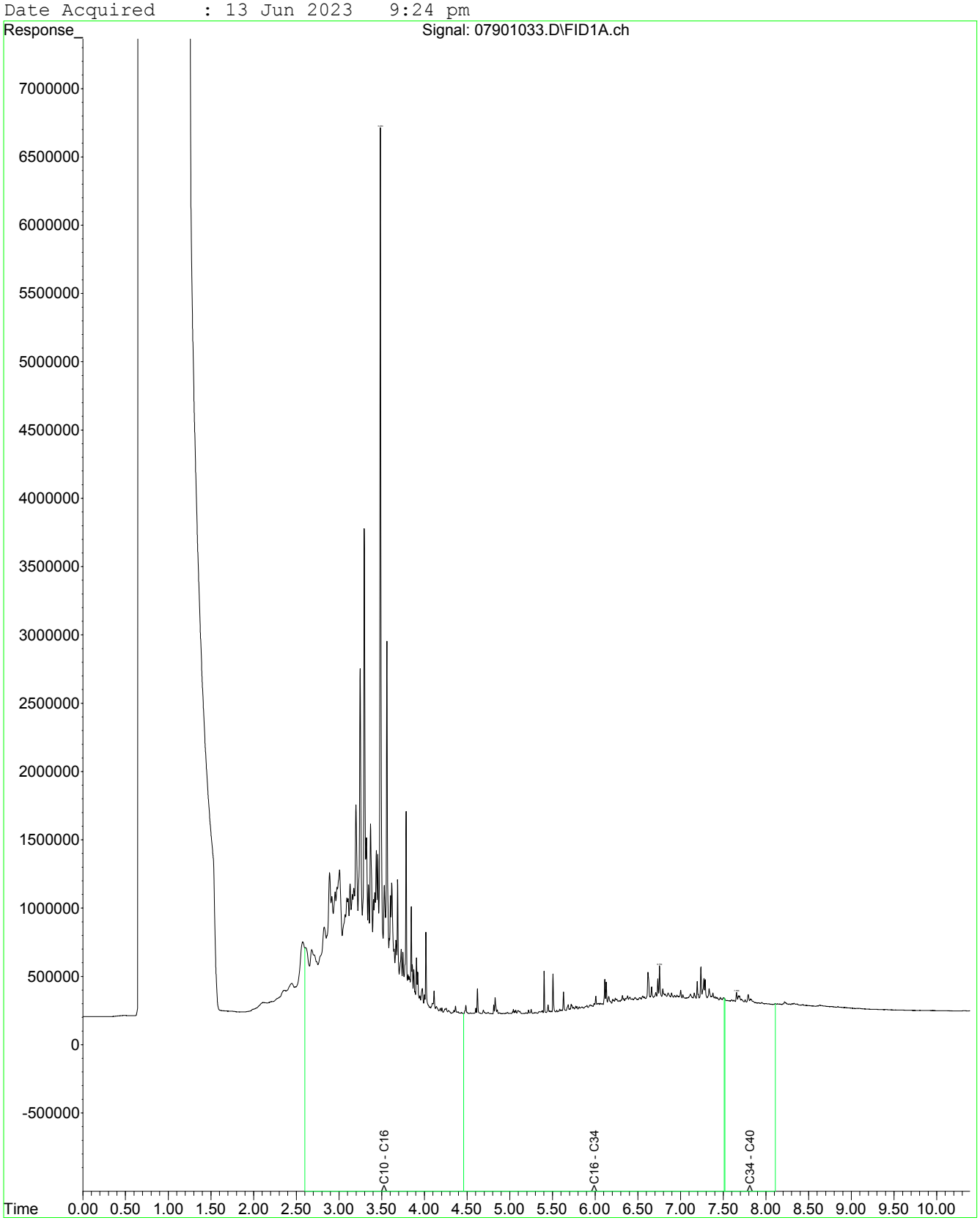
Fraction Scheme : NEPM Draft HIL
Data File : 07801032.D
Laboratory Number: EM2310229-007
Sample ID : OL_EX_424_0.5
Date Acquired : 13 Jun 2023 9:07 pm



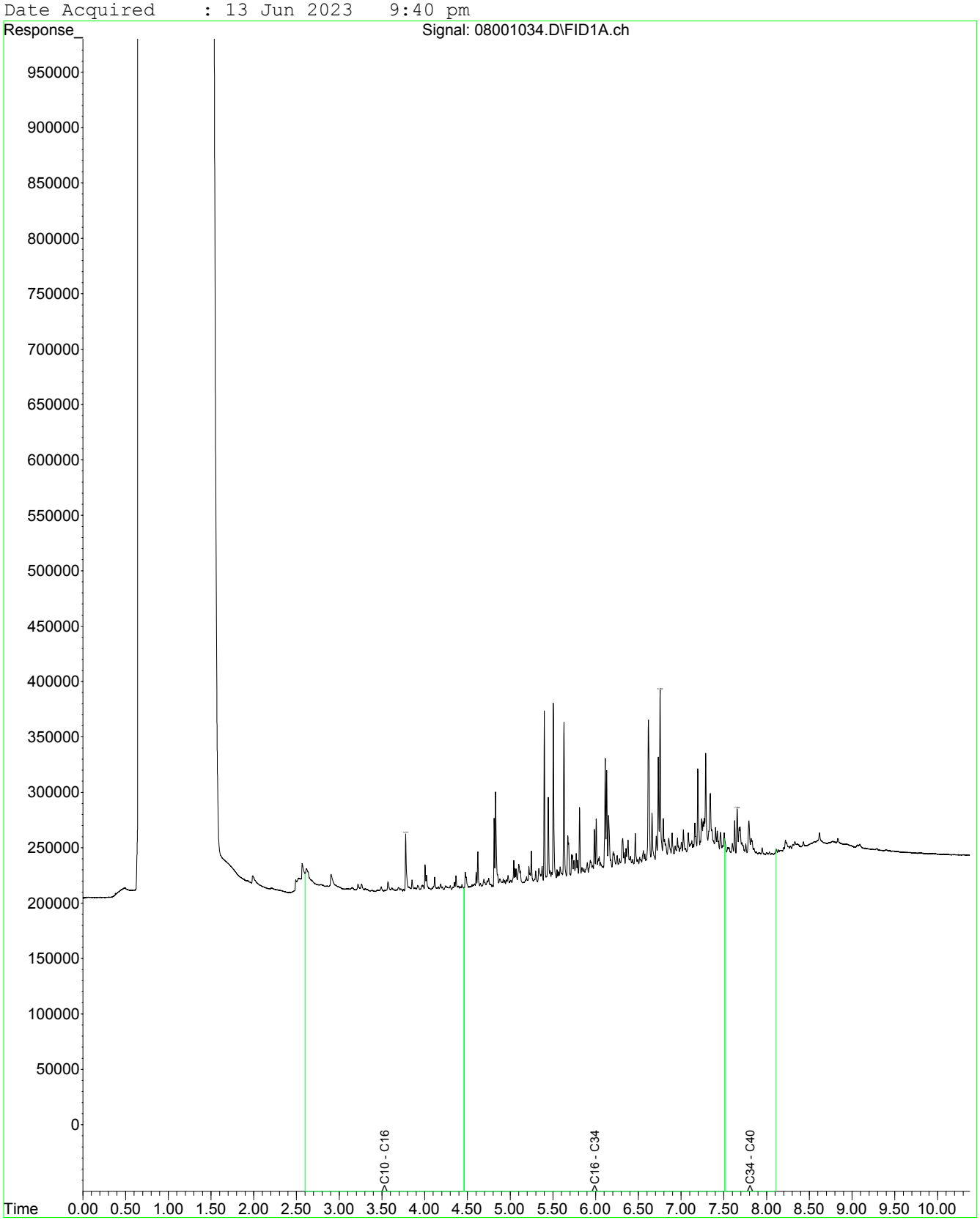
Fraction Scheme : NEPM Draft HIL
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



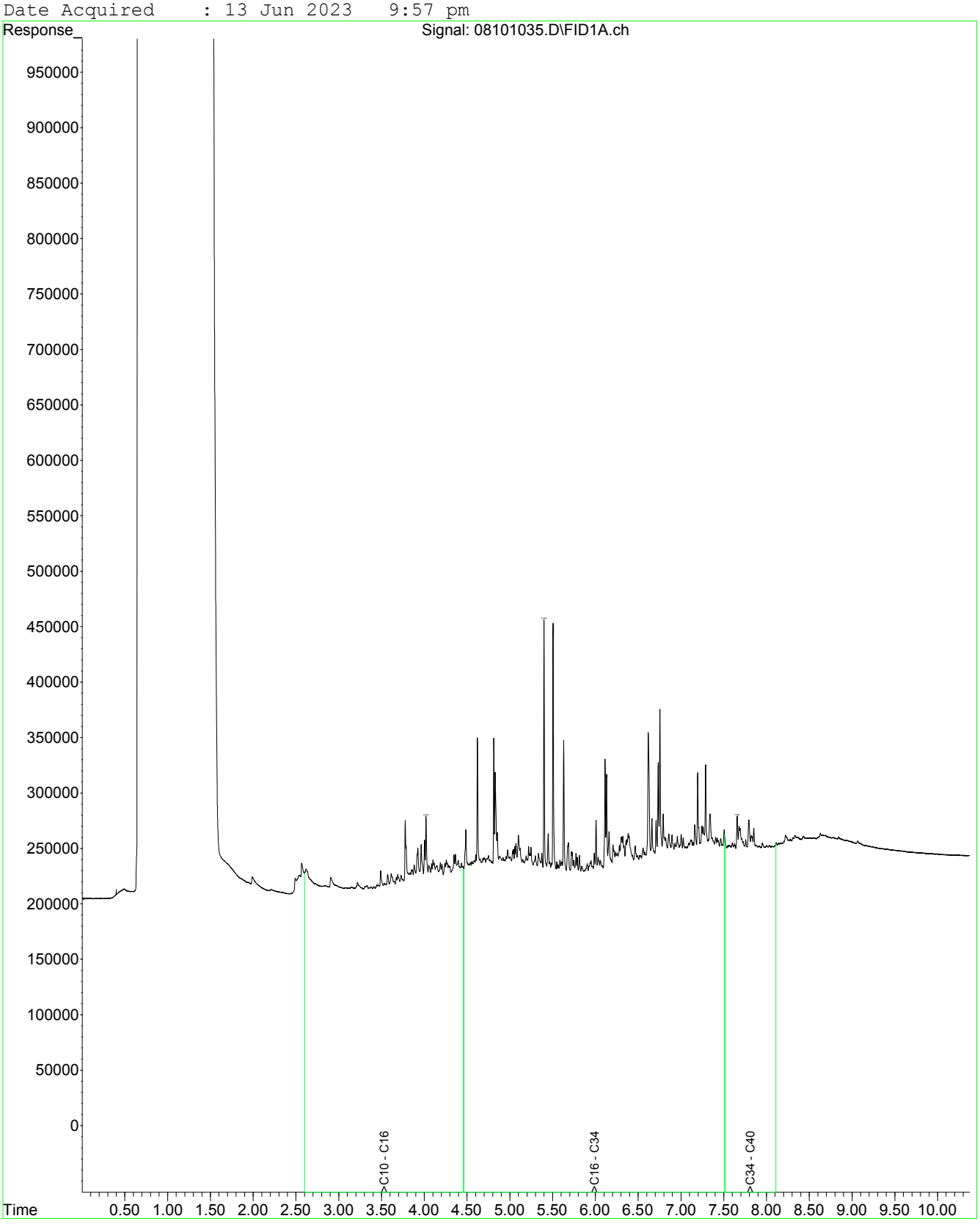
Fraction Scheme : NEPM Draft HIL
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



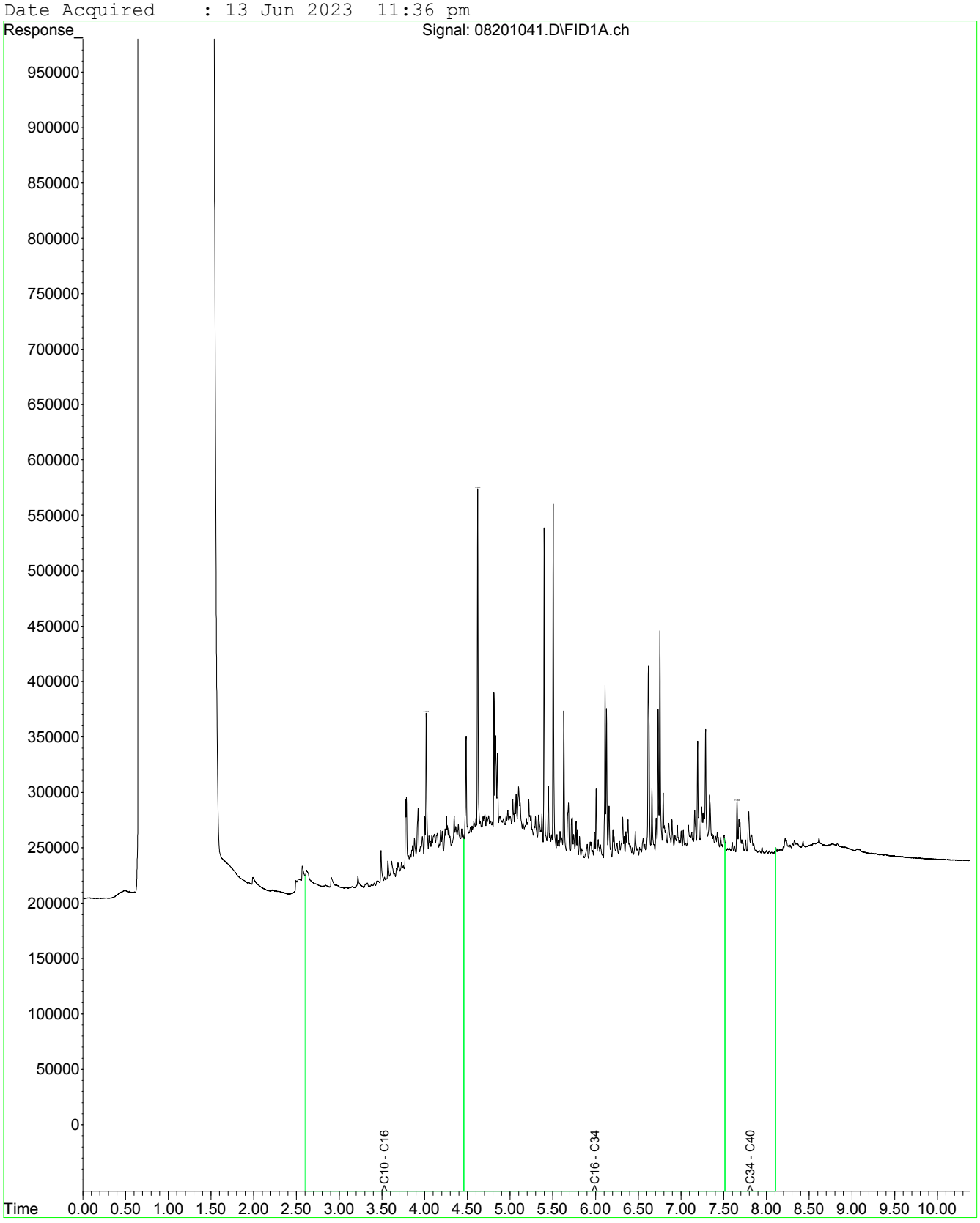
Fraction Scheme : NEPM Draft HIL
Data File : 08001034.D
Laboratory Number: EM2310229-009
Sample ID : OL_EX_QC125
Date Acquired : 13 Jun 2023 9:40 pm



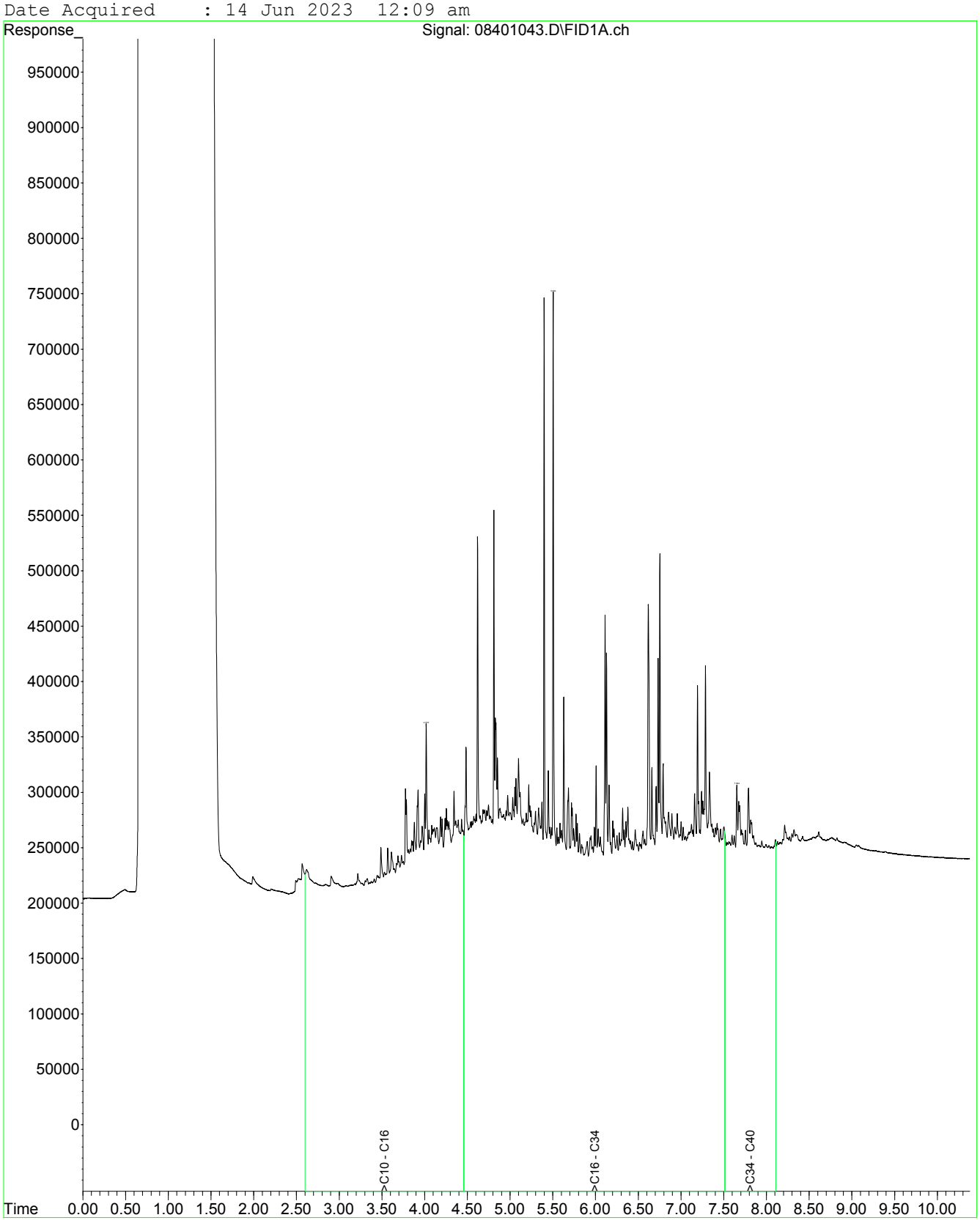
Fraction Scheme : NEPM Draft HIL
Data File : 08101035.D
Laboratory Number: EM2310229-011
Sample ID : UST_SP_01
Date Acquired : 13 Jun 2023 9:57 pm



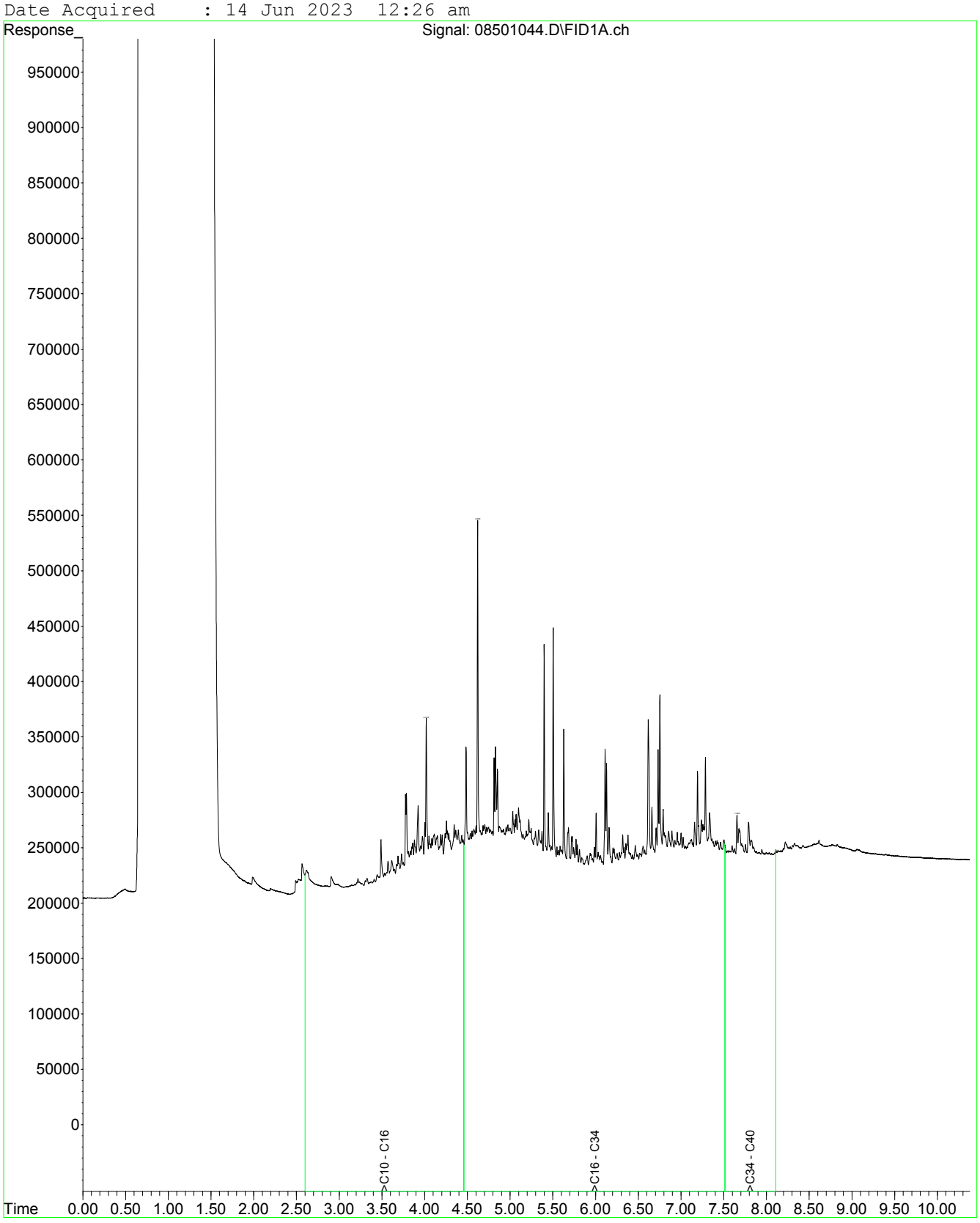
Fraction Scheme : NEPM Draft HIL
Data File : 08201041.D
Laboratory Number: EM2310229-012
Sample ID : UST_SP_02
Date Acquired : 13 Jun 2023 11:36 pm



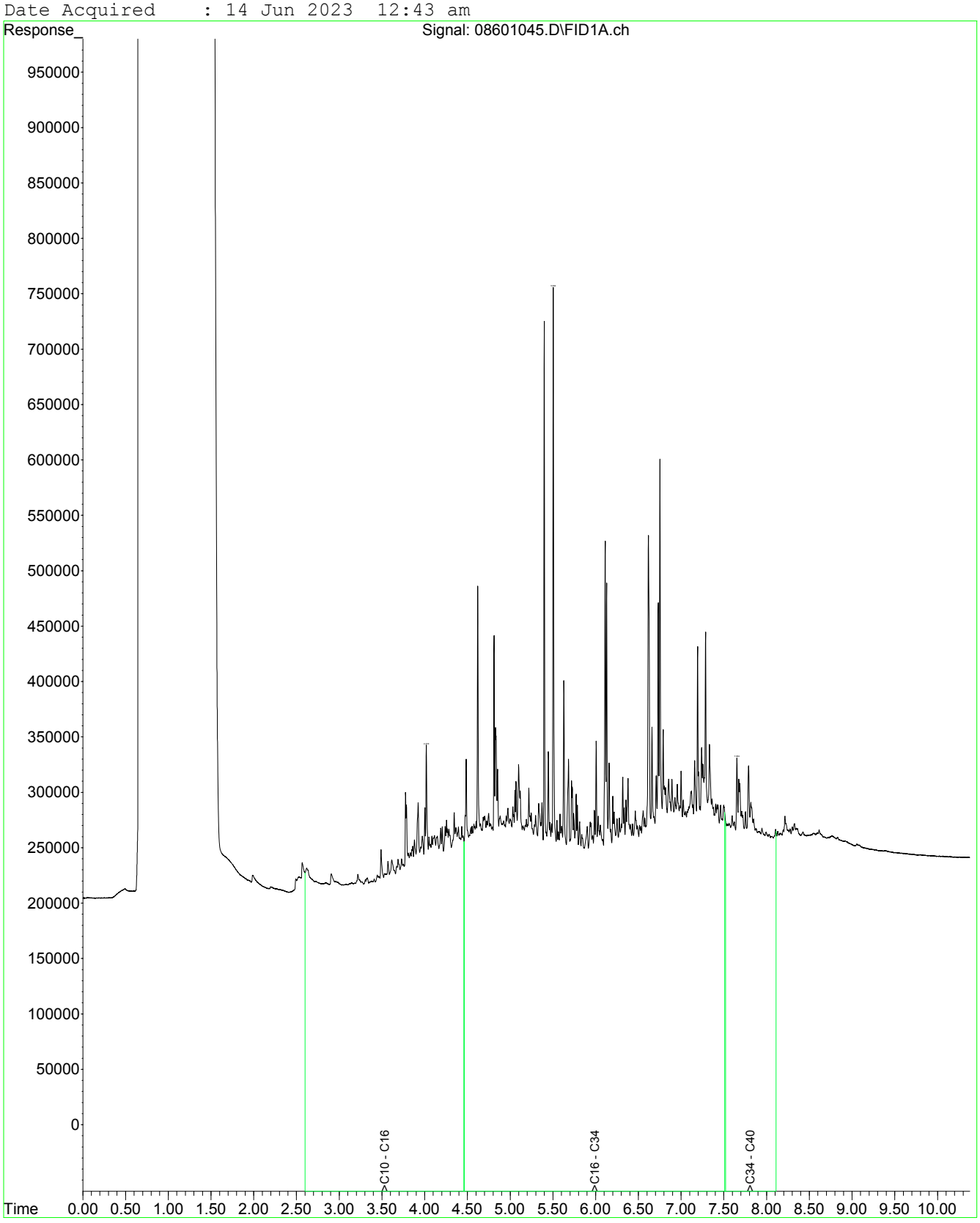
Fraction Scheme : NEPM Draft HIL
Data File : 08401043.D
Laboratory Number: EM2310229-013
Sample ID : UST_SP_03
Date Acquired : 14 Jun 2023 12:09 am



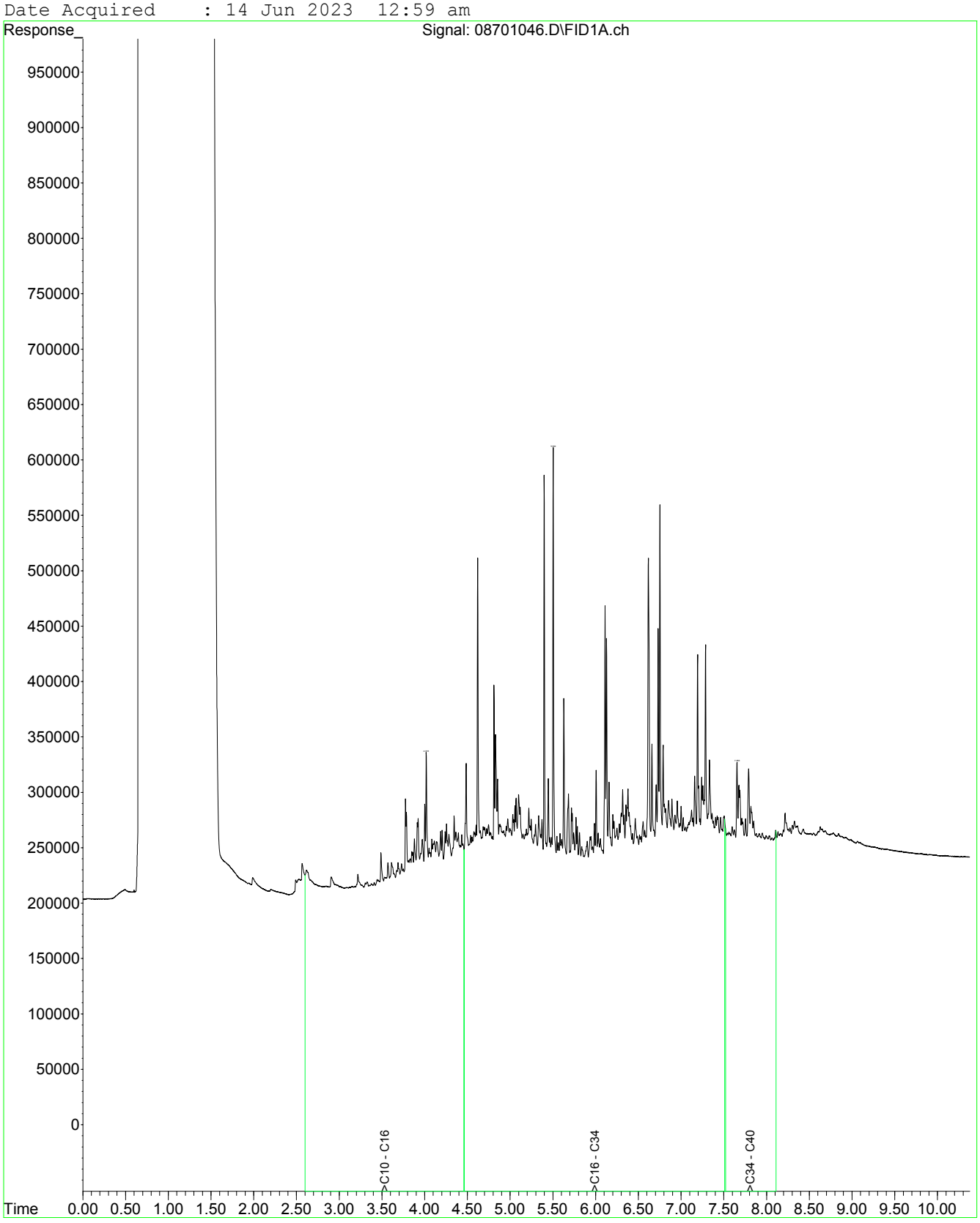
Fraction Scheme : NEPM Draft HIL
Data File : 08501044.D
Laboratory Number: EM2310229-014
Sample ID : UST_SP_04
Date Acquired : 14 Jun 2023 12:26 am



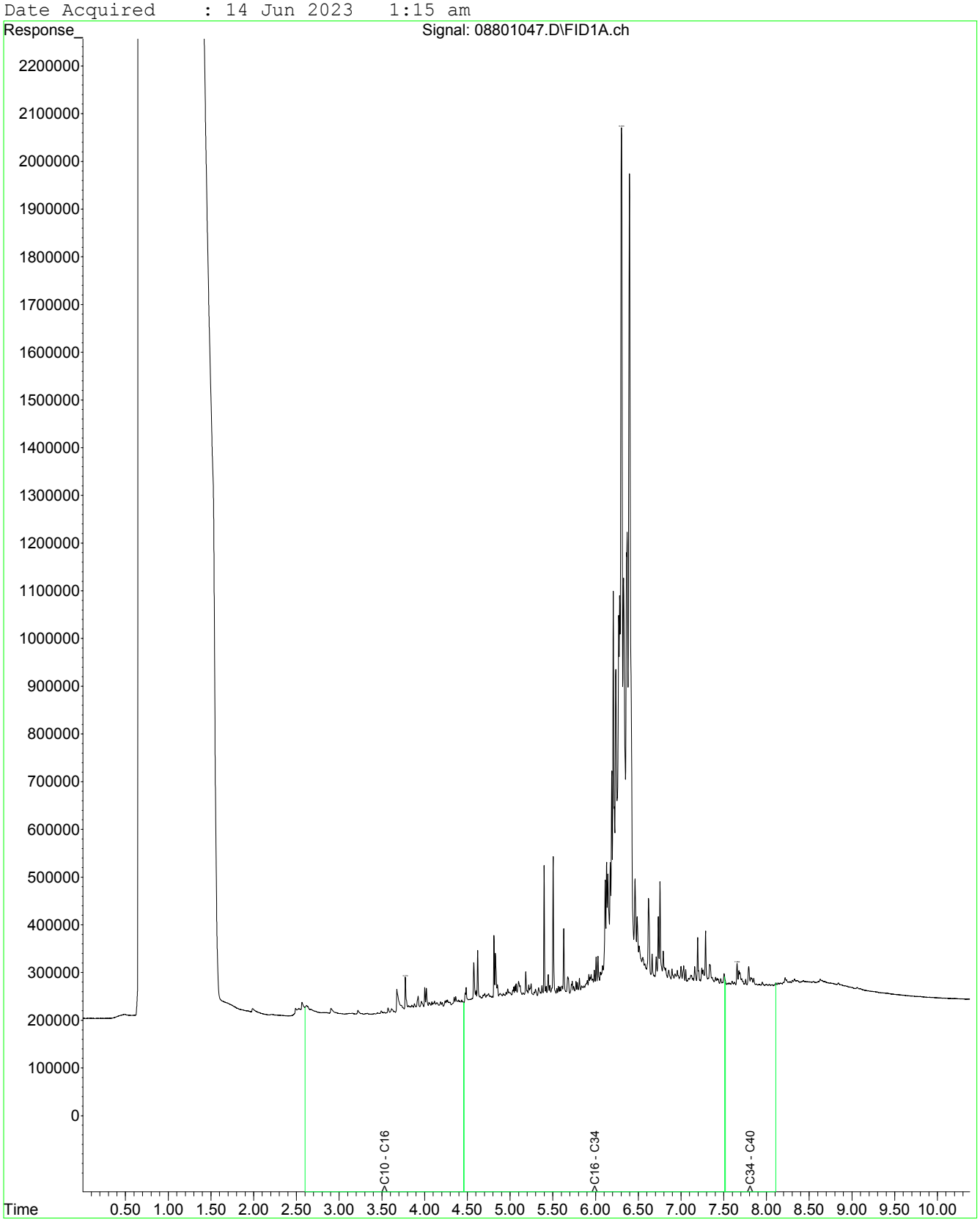
Fraction Scheme : NEPM Draft HIL
Data File : 08601045.D
Laboratory Number: EM2310229-015
Sample ID : UST_SP_05
Date Acquired : 14 Jun 2023 12:43 am



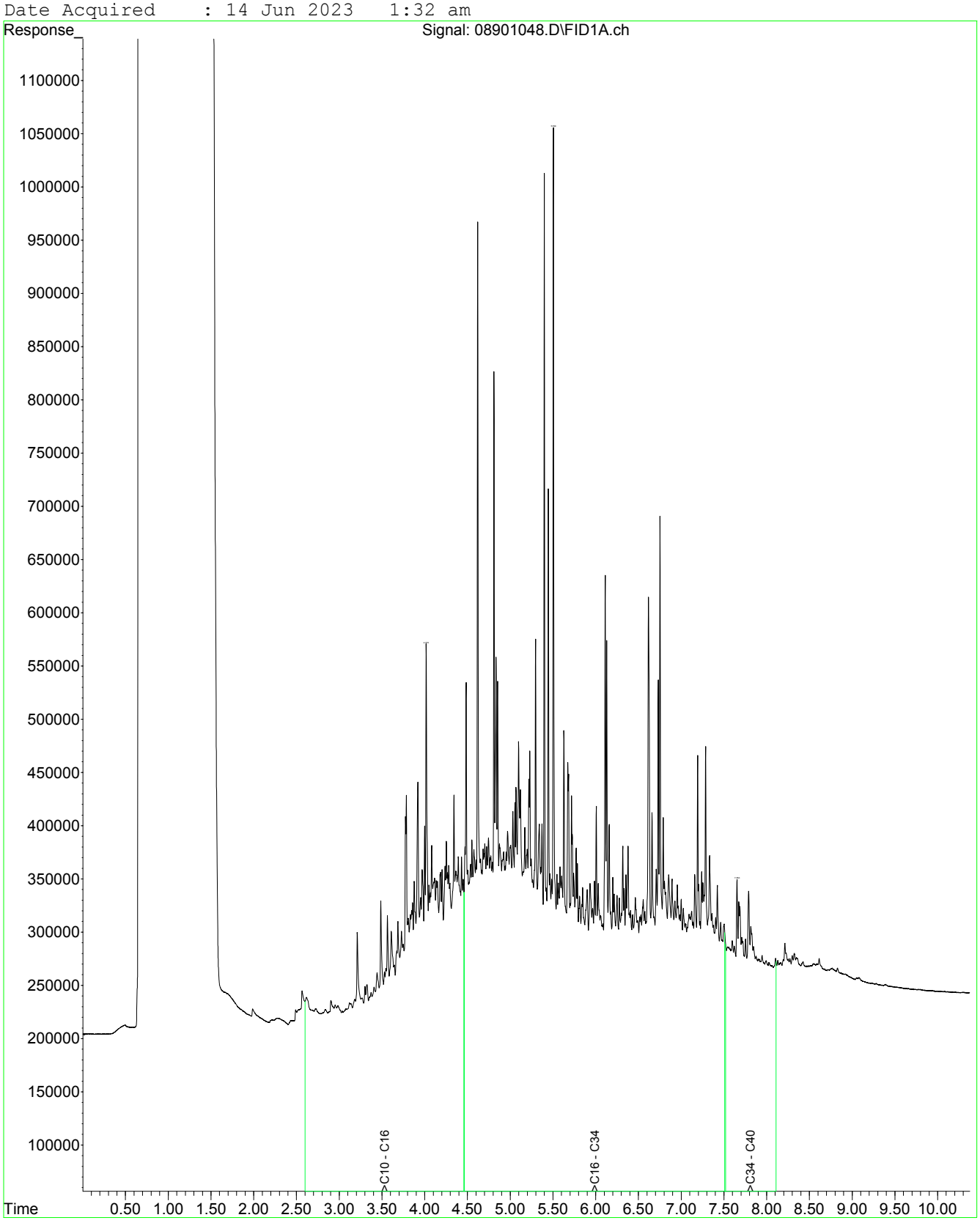
Fraction Scheme : NEPM Draft HIL
Data File : 08701046.D
Laboratory Number: EM2310229-016
Sample ID : UST_SP_06
Date Acquired : 14 Jun 2023 12:59 am



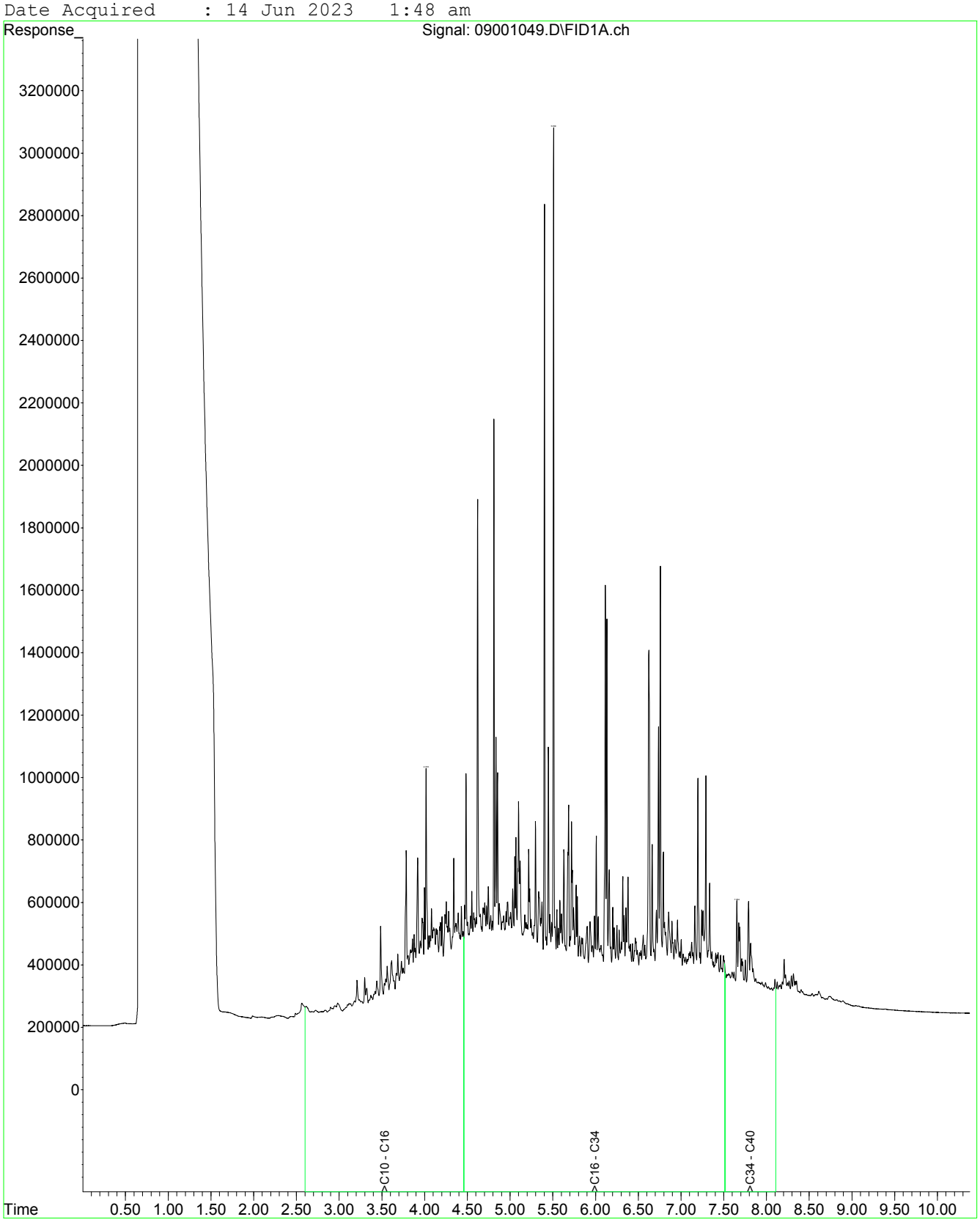
Fraction Scheme : NEPM Draft HIL
Data File : 08801047.D
Laboratory Number: EM2310229-017
Sample ID : UST_SP_QC126
Date Acquired : 14 Jun 2023 1:15 am



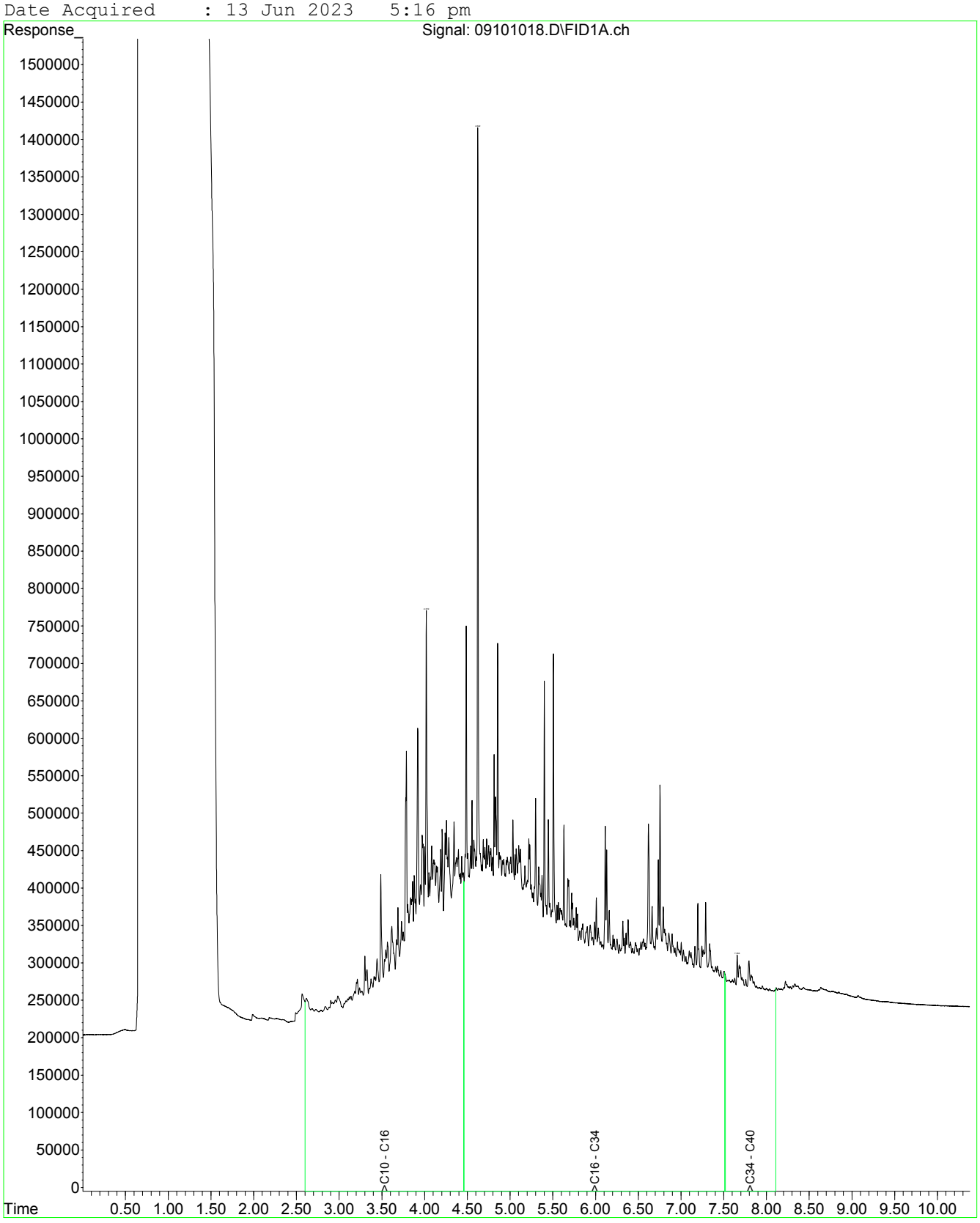
Fraction Scheme : NEPM Draft HIL
Data File : 08901048.D
Laboratory Number: EM2310229-019
Sample ID : UST_SP_Ext_59SP_04
Date Acquired : 14 Jun 2023 1:32 am



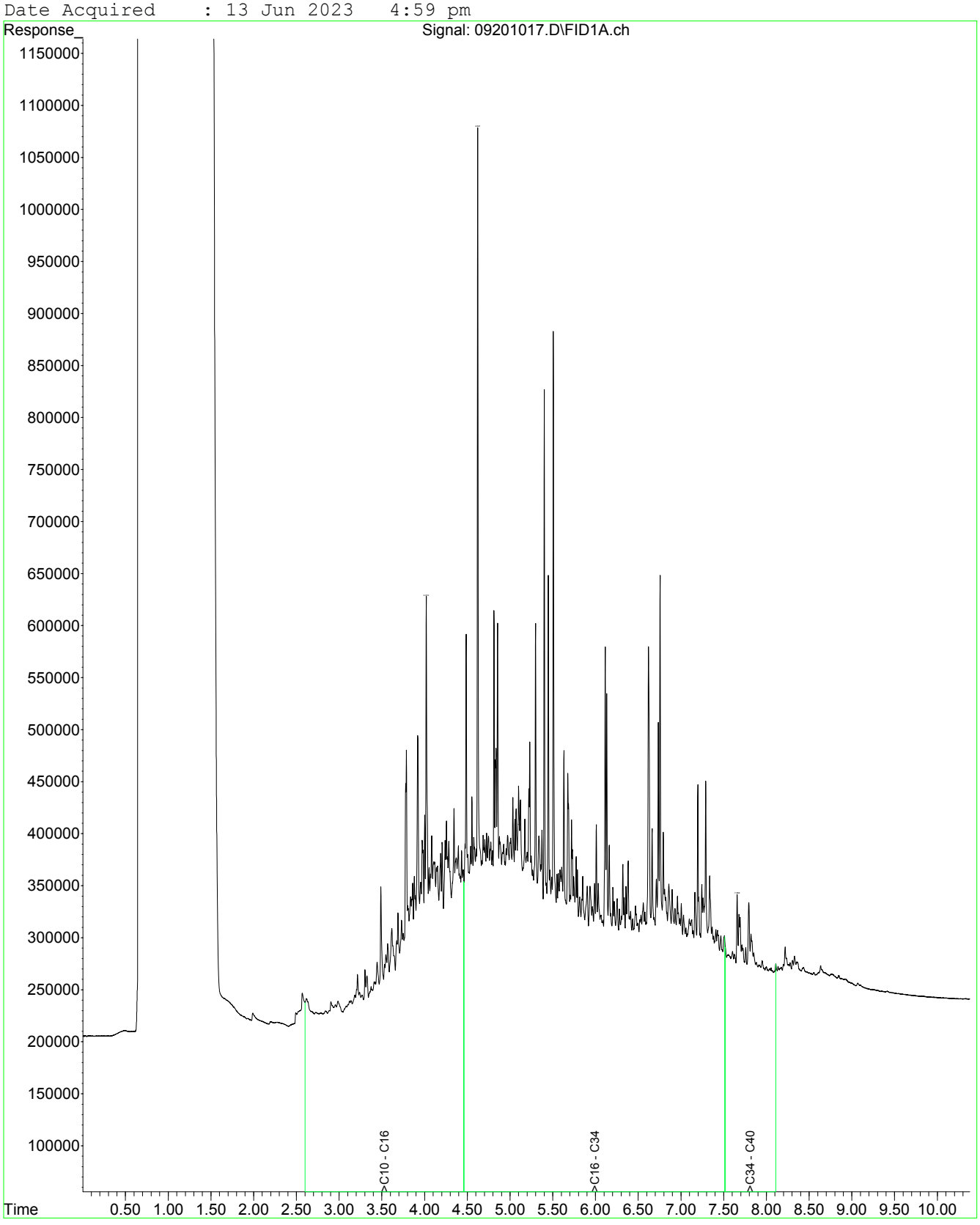
Fraction Scheme : NEPM Draft HIL
Data File : 09001049.D
Laboratory Number: EM2310229-020
Sample ID : UST_SP_Ext_59SP_05
Date Acquired : 14 Jun 2023 1:48 am



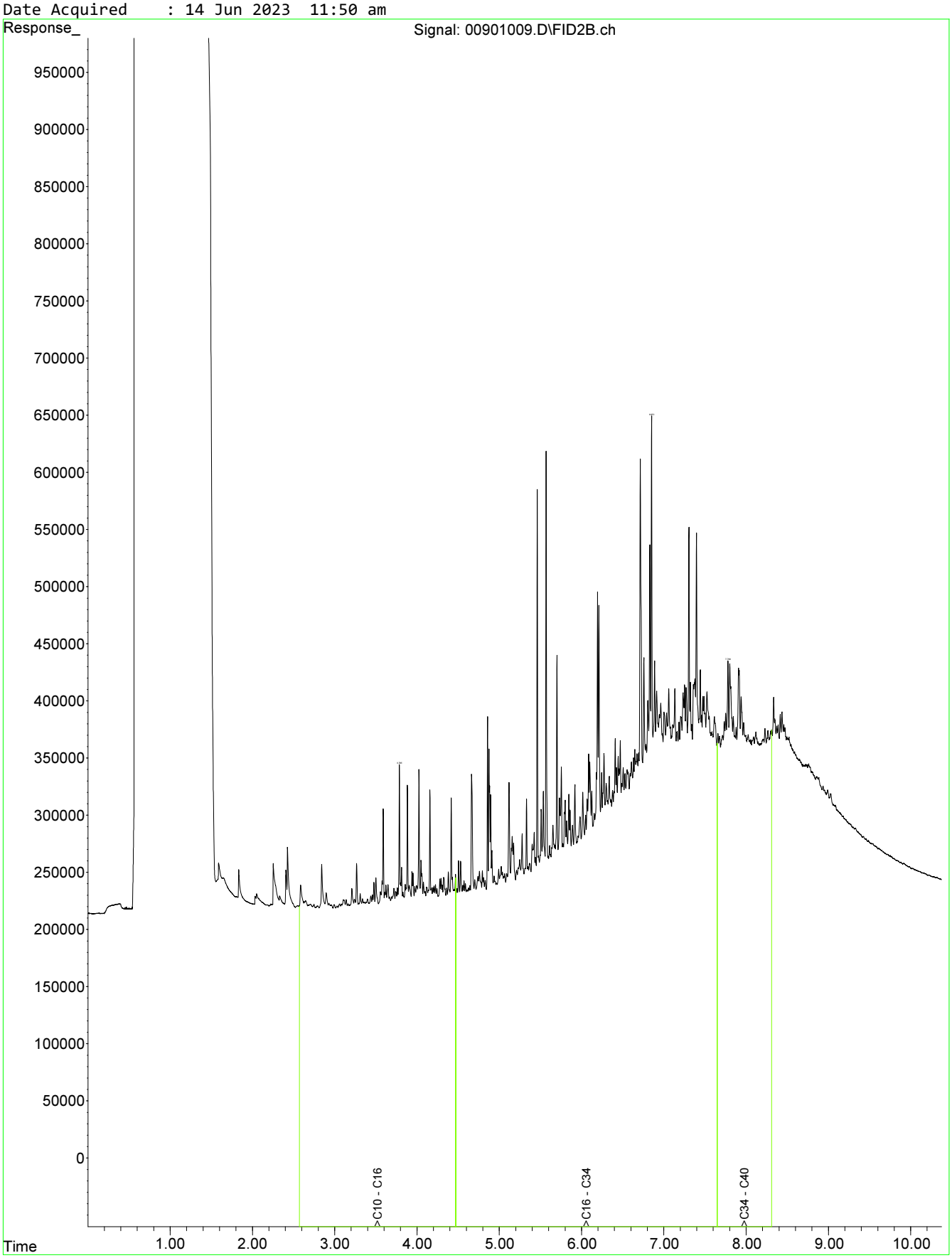
Fraction Scheme : NEPM Draft HIL
Data File : 09101018.D
Laboratory Number: EM2310229-021
Sample ID : UST_SP_Ext_59SP_06
Date Acquired : 13 Jun 2023 5:16 pm



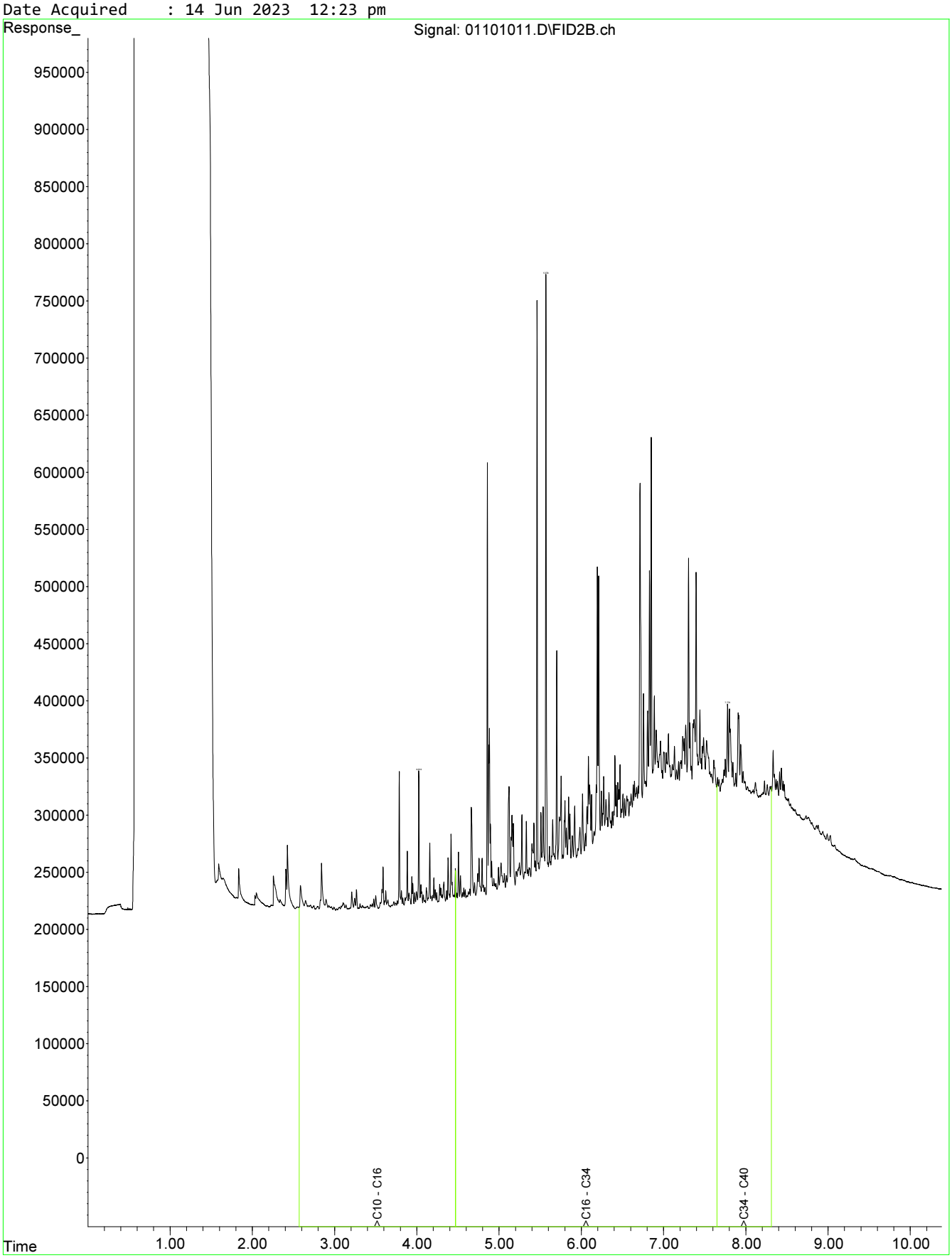
Fraction Scheme : NEPM Draft HIL
Data File : 09201017.D
Laboratory Number: EM2310229-022
Sample ID : UST_SP_Ext_59SP_07
Date Acquired : 13 Jun 2023 4:59 pm



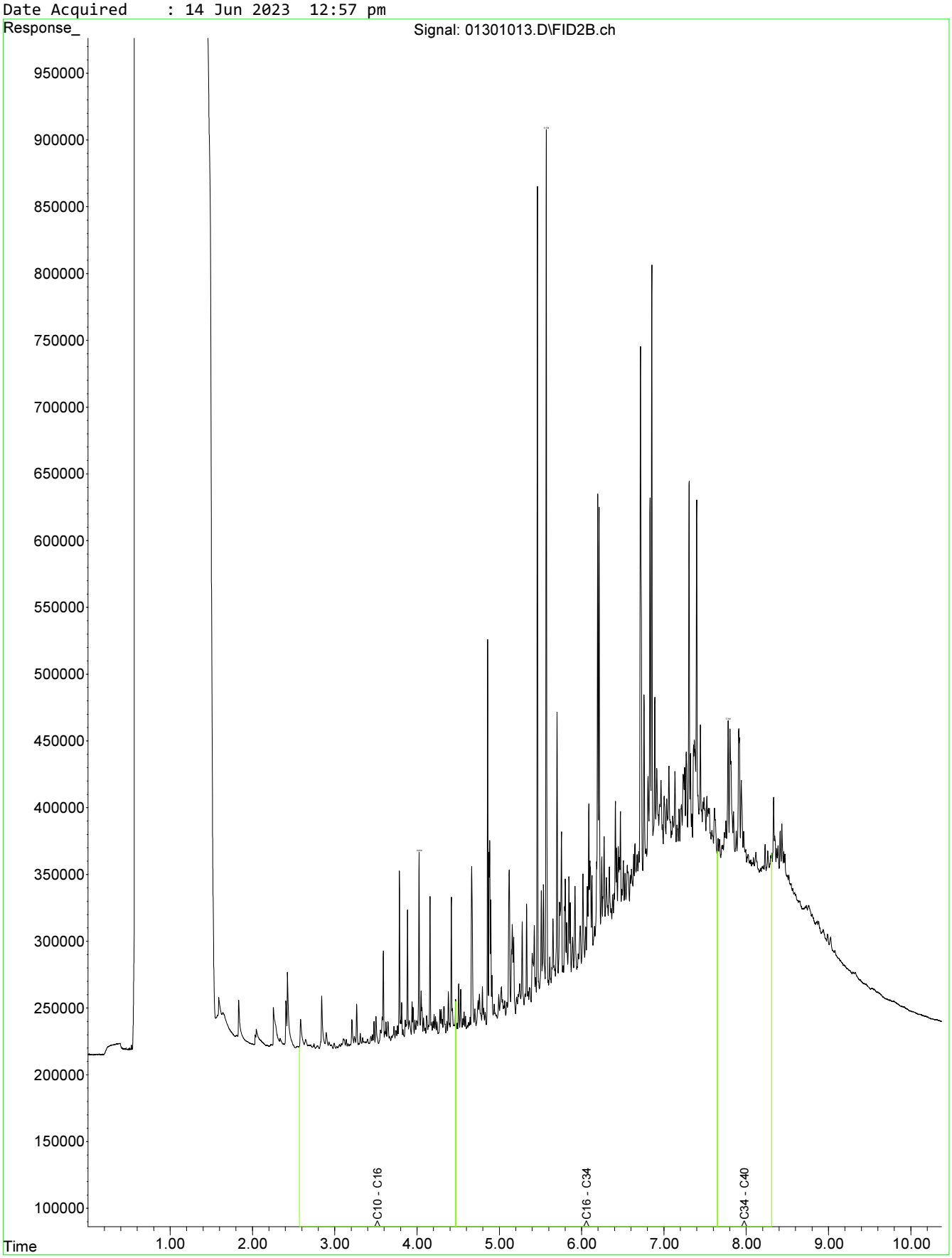
Fraction Scheme : NEPM Fractions
Data File : 00901009.D
Laboratory Number: EM2310229-023
Sample ID : OL_EX_SP7_01
Date Acquired : 14 Jun 2023 11:50 am



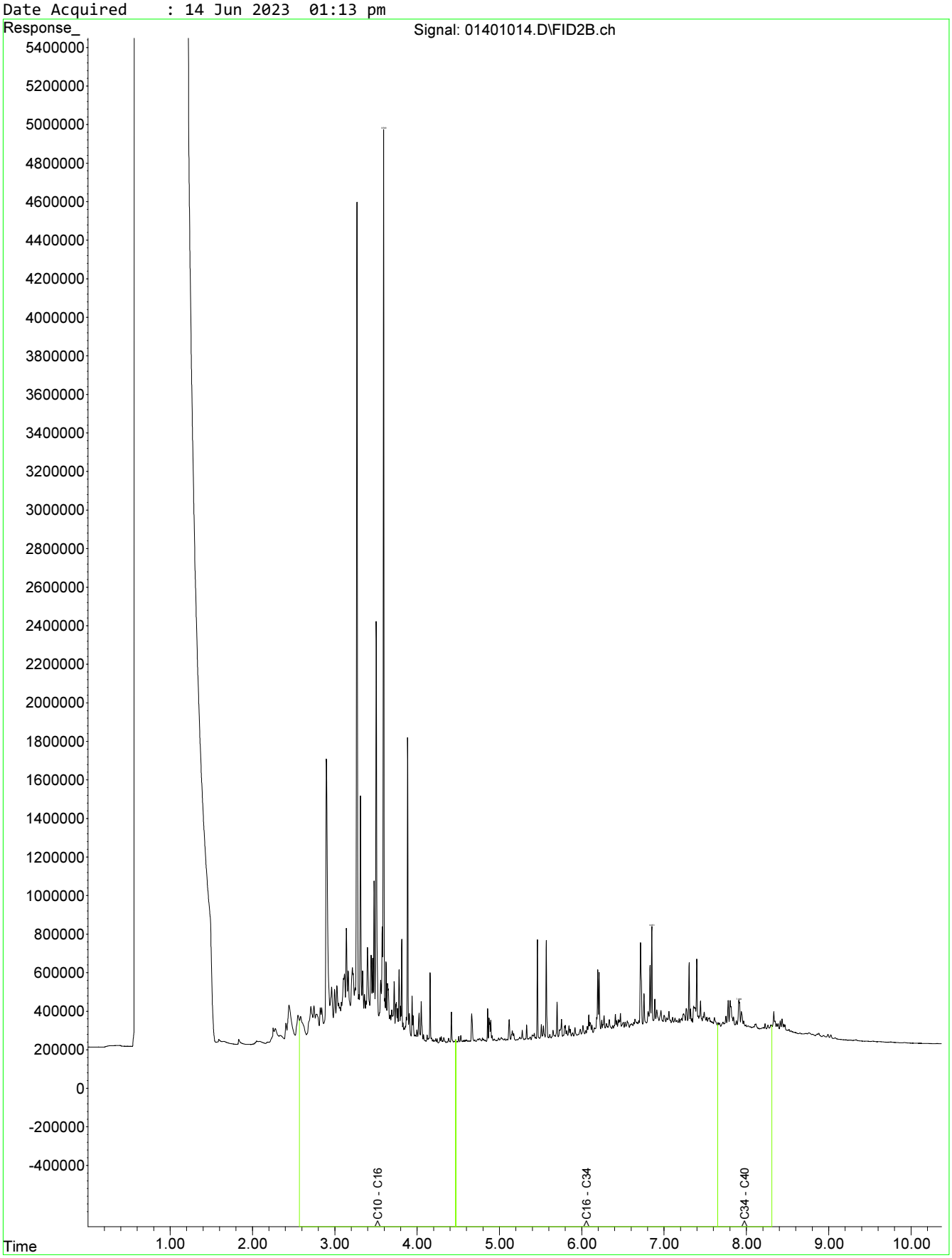
Fraction Scheme : NEPM Fractions
Data File : 01101011.D
Laboratory Number: EM2310229-024
Sample ID : OL_EX_SP7_02
Date Acquired : 14 Jun 2023 12:23 pm



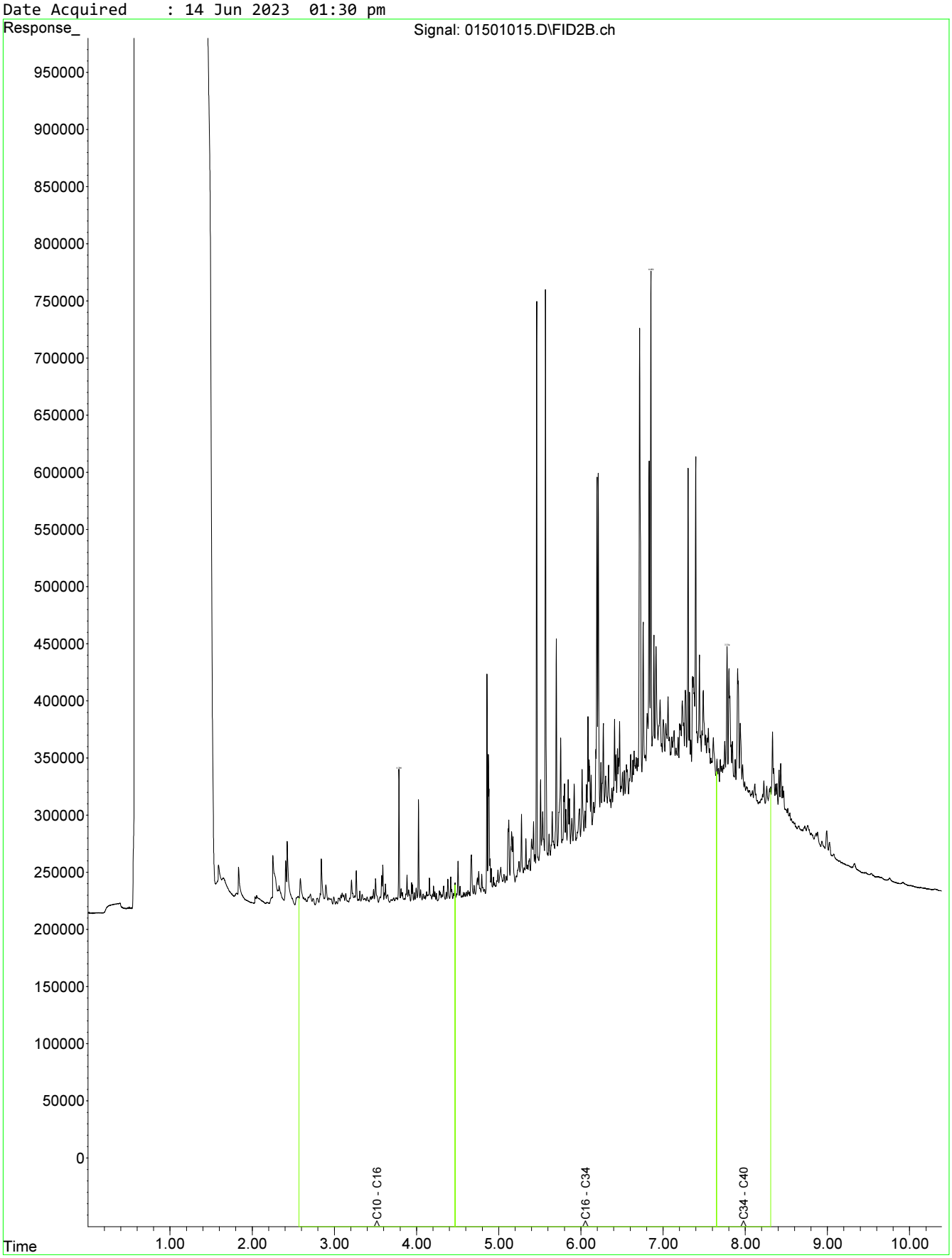
Fraction Scheme : NEPM Fractions
Data File : 01301013.D
Laboratory Number: EM2310229-028
Sample ID : OL_EX_SP7_03
Date Acquired : 14 Jun 2023 12:57 pm



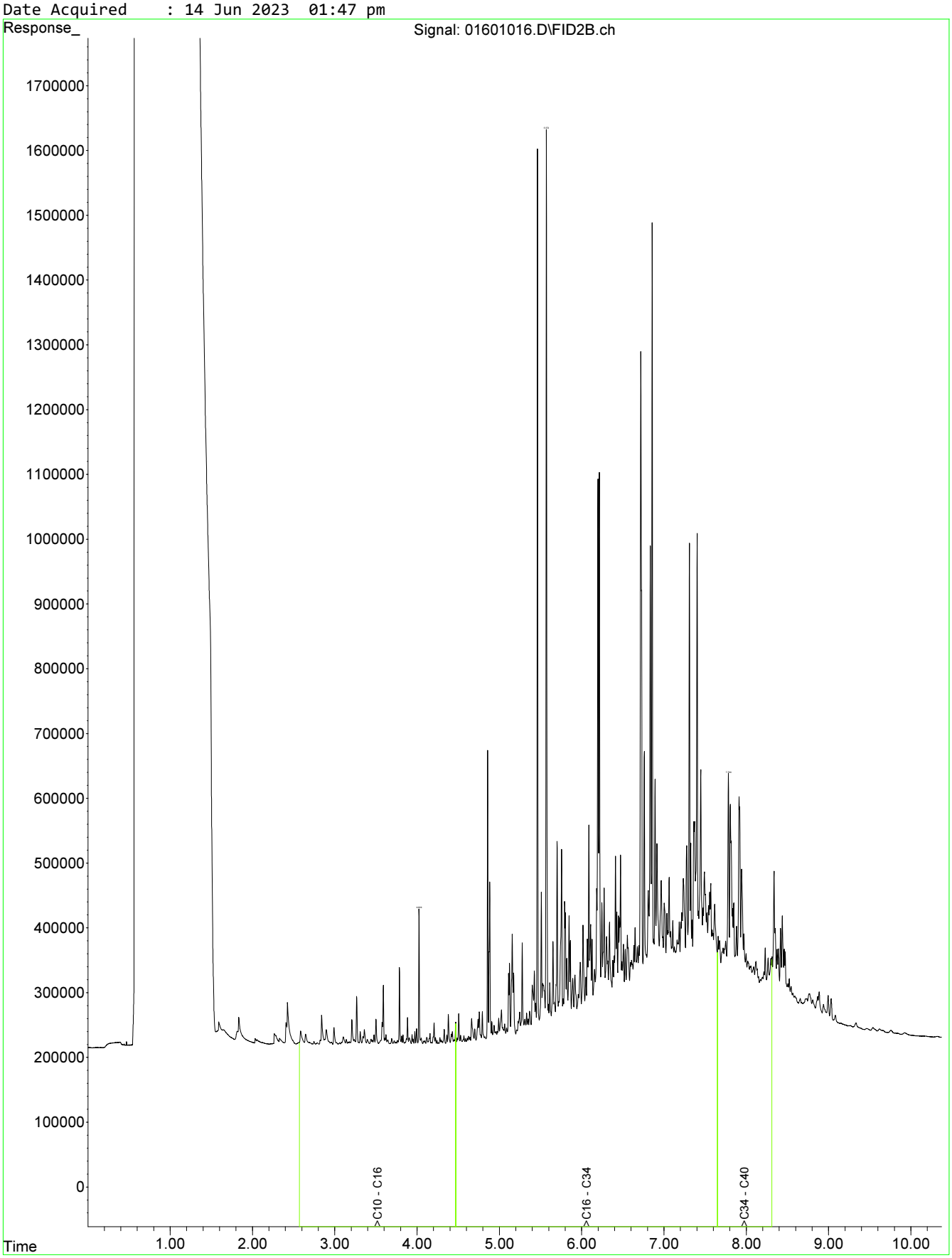
Fraction Scheme : NEPM Fractions
Data File : 01401014.D
Laboratory Number: EM2310229-029
Sample ID : OL_EX_SP8_01
Date Acquired : 14 Jun 2023 01:13 pm



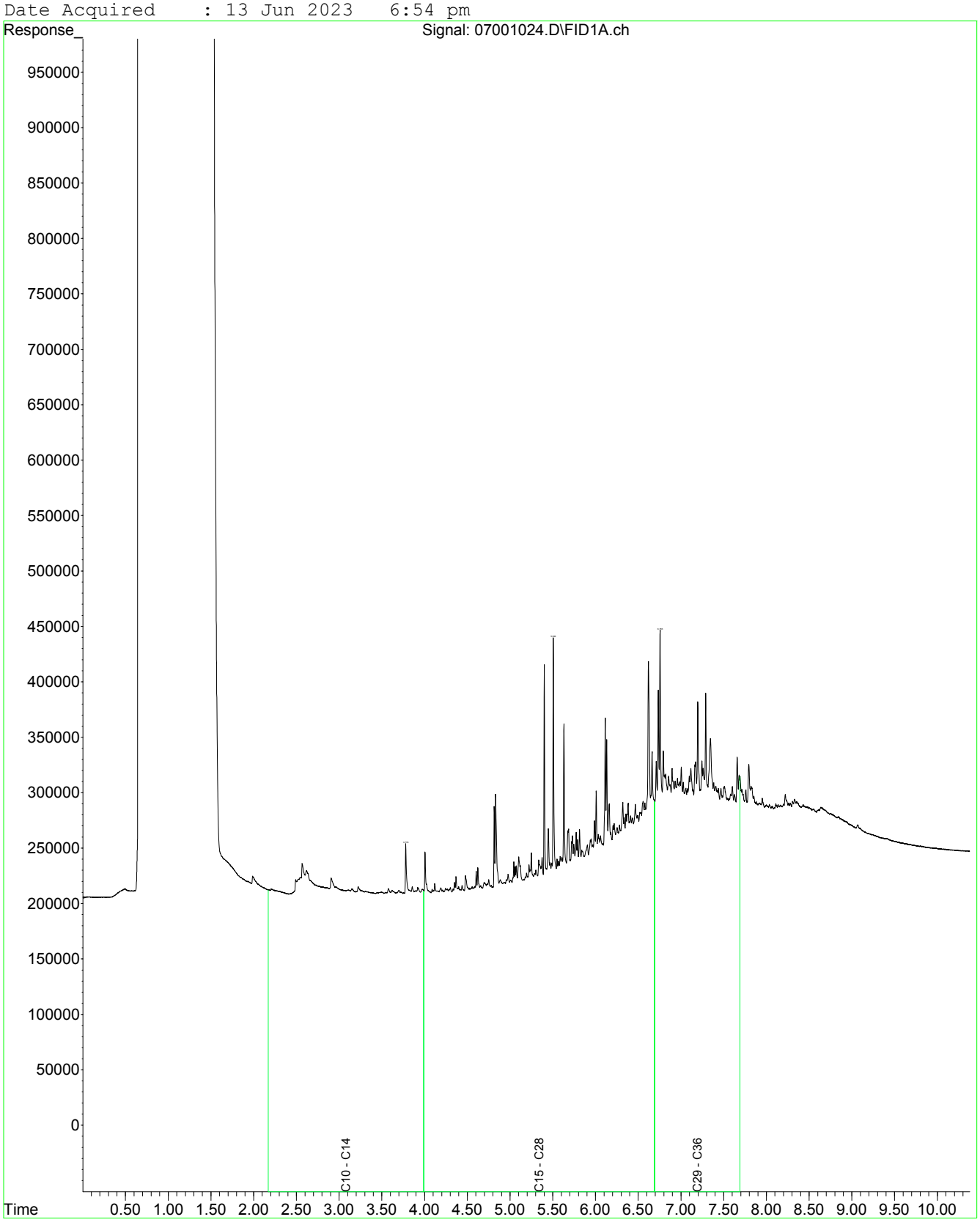
Fraction Scheme : NEPM Fractions
Data File : 01501015.D
Laboratory Number: EM2310229-030
Sample ID : OL_EX_SP8_02
Date Acquired : 14 Jun 2023 01:30 pm



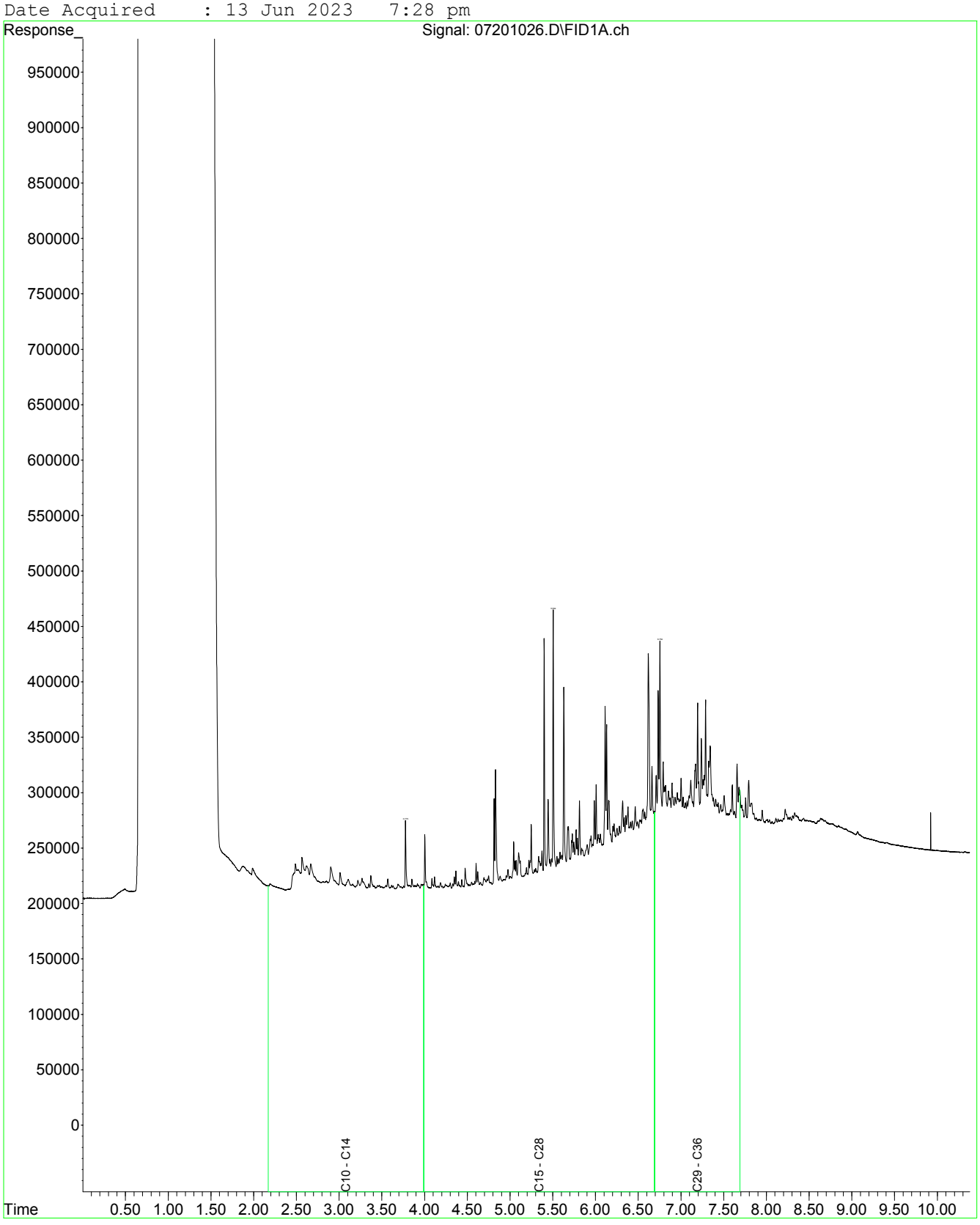
Fraction Scheme : NEPM Fractions
Data File : 01601016.D
Laboratory Number: EM2310229-031
Sample ID : OL_EX_SP8_03
Date Acquired : 14 Jun 2023 01:47 pm



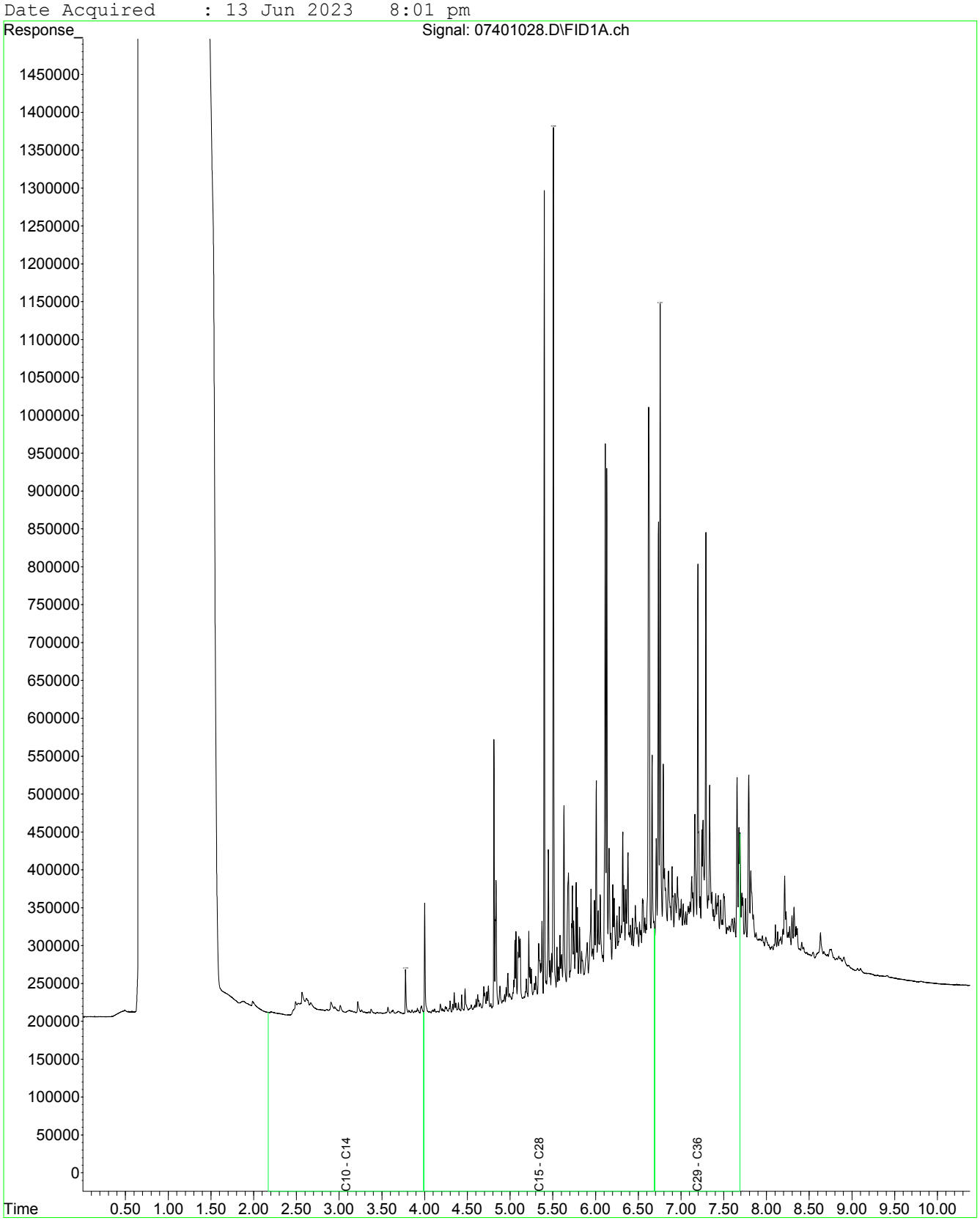
Fraction Scheme : Standard
Data File : 07001024.D
Laboratory Number: EM2310229-001
Sample ID : OL_EX_420_0.5
Date Acquired : 13 Jun 2023 6:54 pm



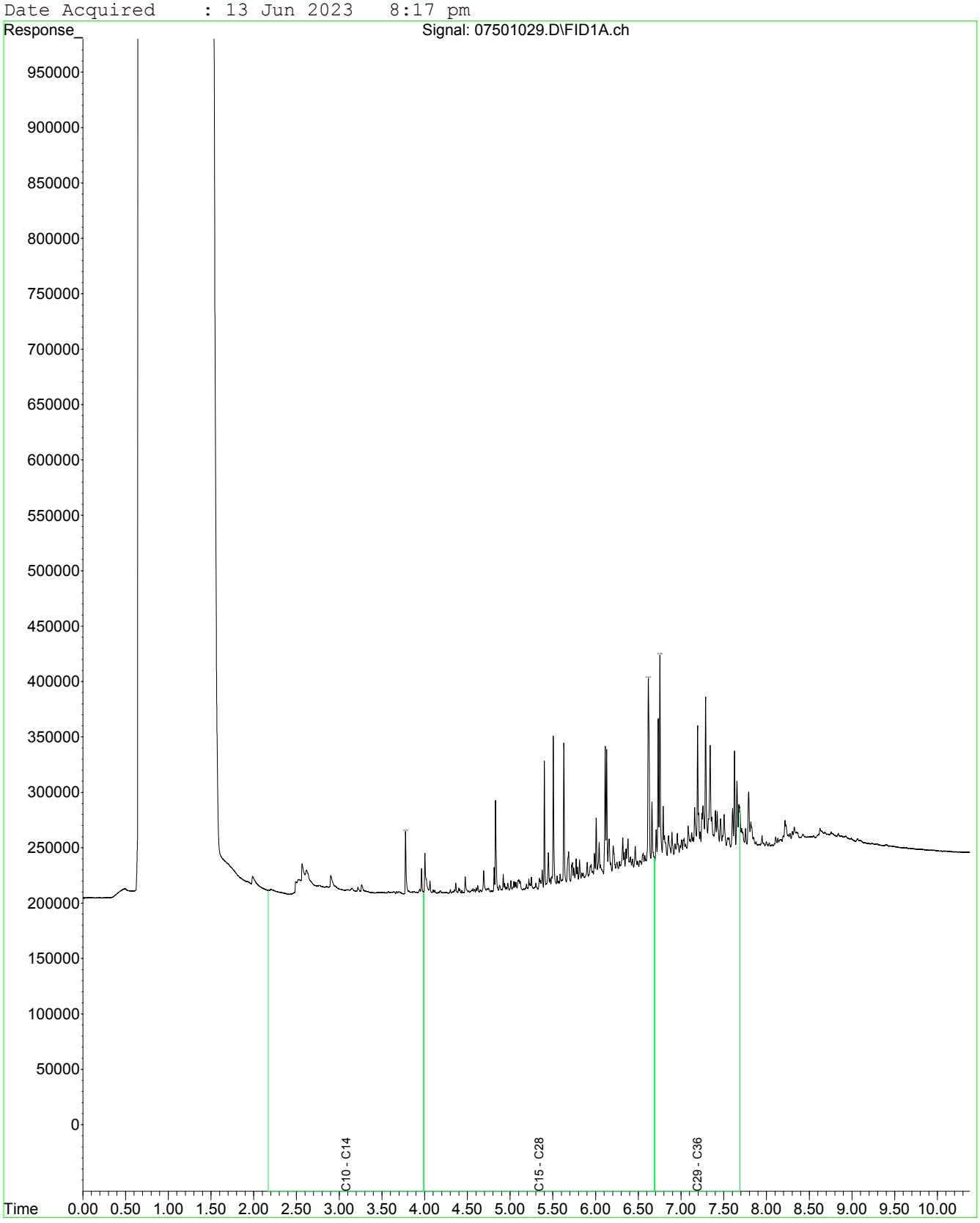
Fraction Scheme : Standard
Data File : 07201026.D
Laboratory Number: EM2310229-002
Sample ID : OL_EX_421_0.5
Date Acquired : 13 Jun 2023 7:28 pm



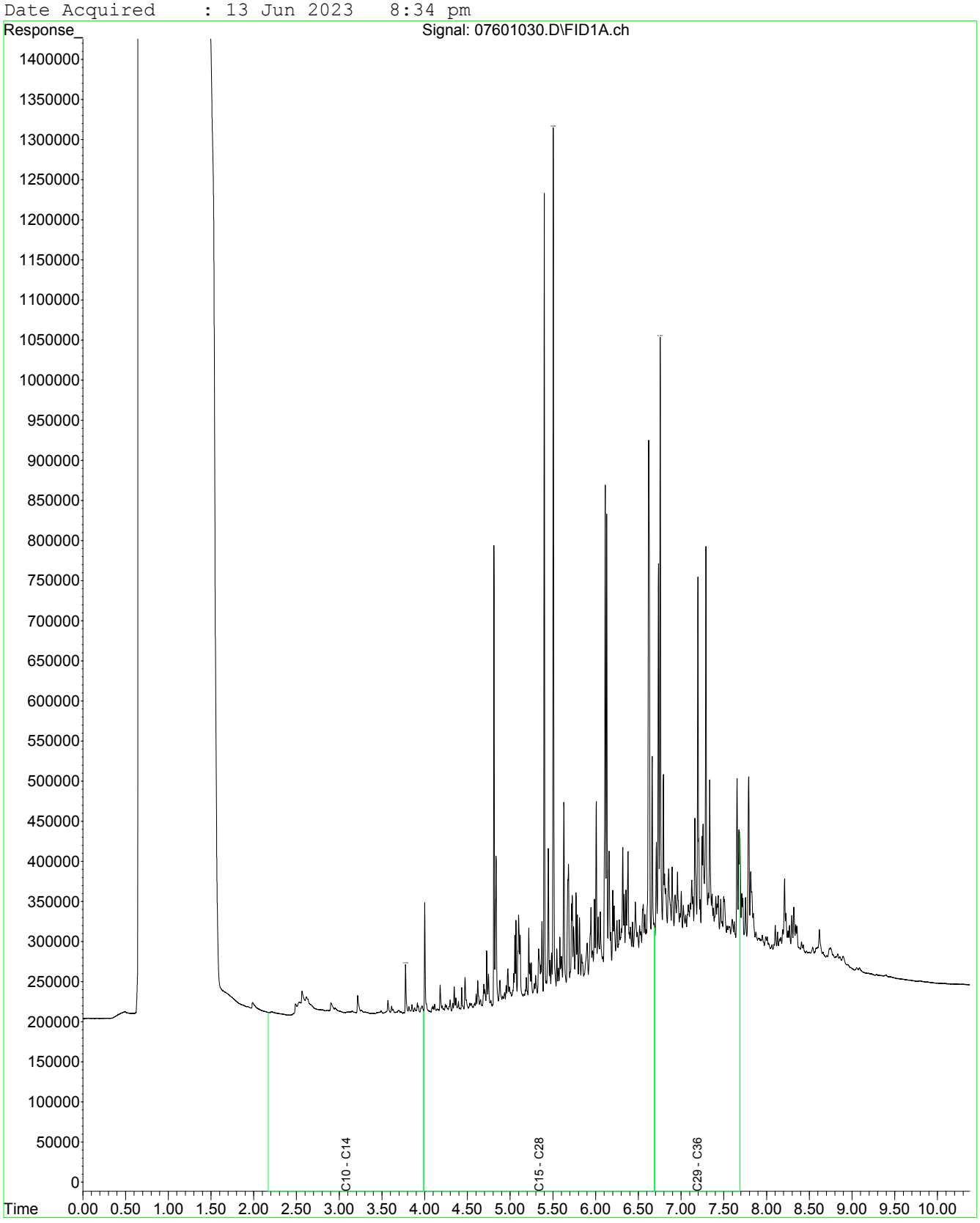
Fraction Scheme : Standard
Data File : 07401028.D
Laboratory Number: EM2310229-003
Sample ID : OL_EX_422_0.5
Date Acquired : 13 Jun 2023 8:01 pm



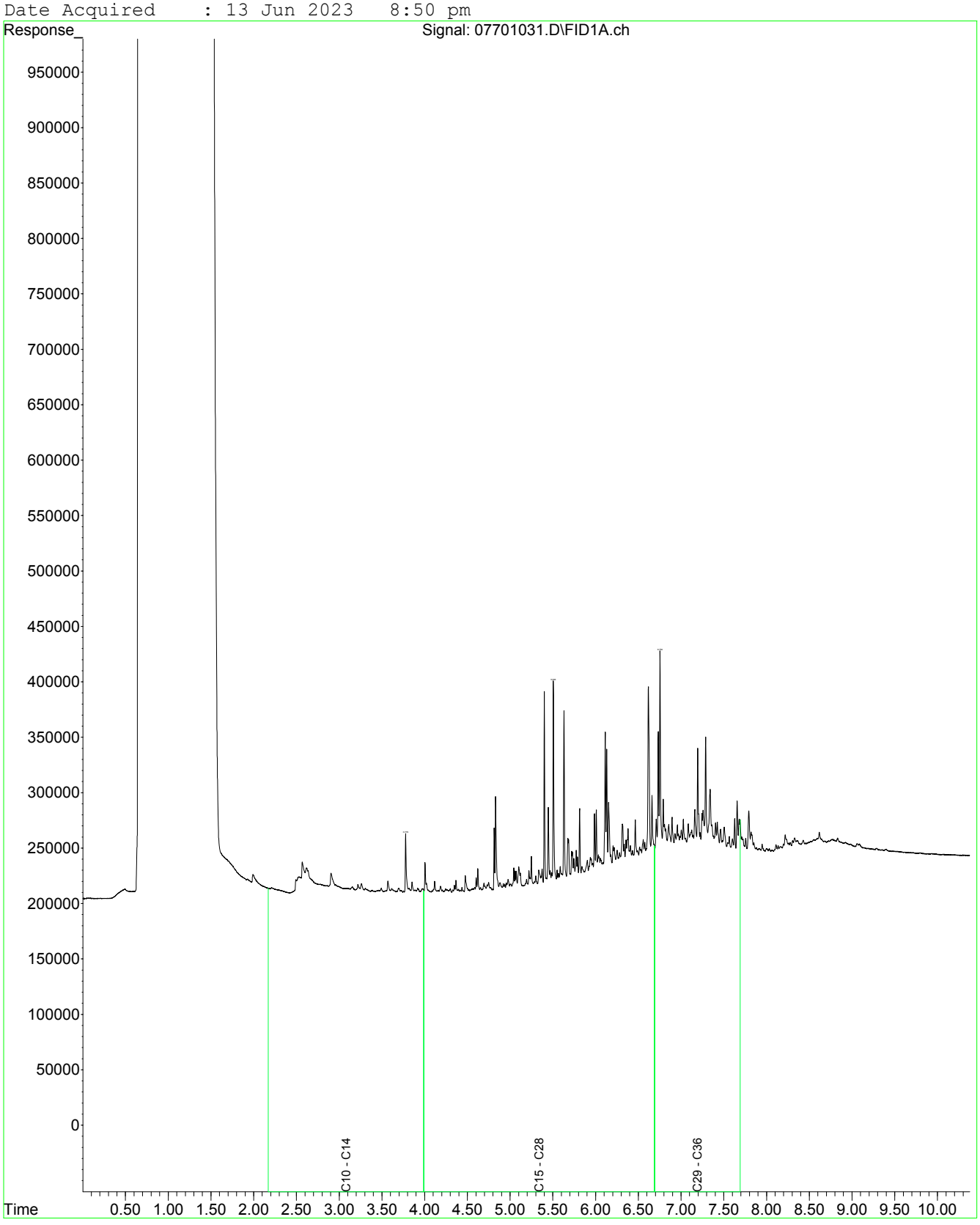
Fraction Scheme : Standard
Data File : 07501029.D
Laboratory Number: EM2310229-004
Sample ID : OL_EX_422_1.5
Date Acquired : 13 Jun 2023 8:17 pm



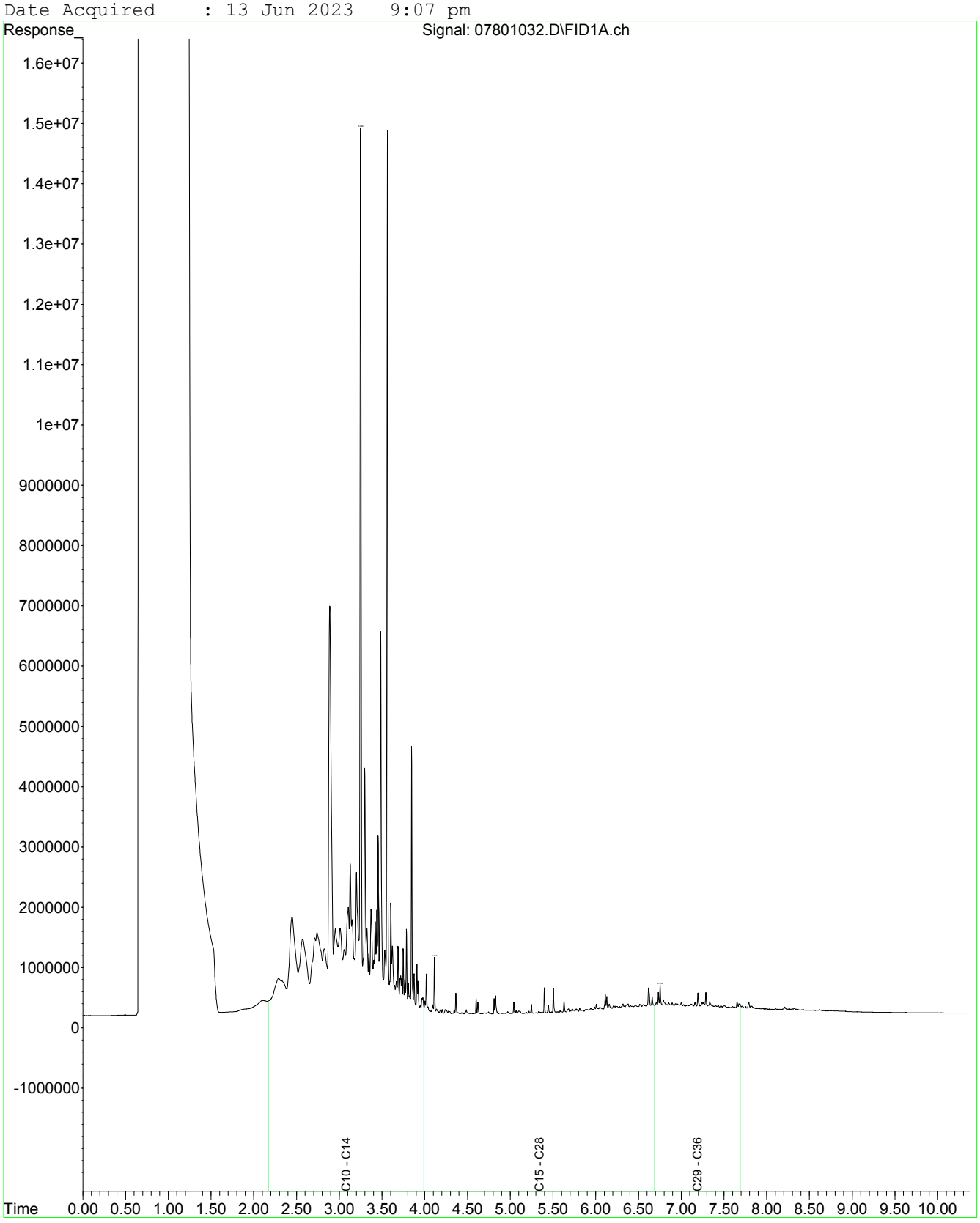
Fraction Scheme : Standard
Data File : 07601030.D
Laboratory Number: EM2310229-005
Sample ID : OL_EX_423_0.5
Date Acquired : 13 Jun 2023 8:34 pm



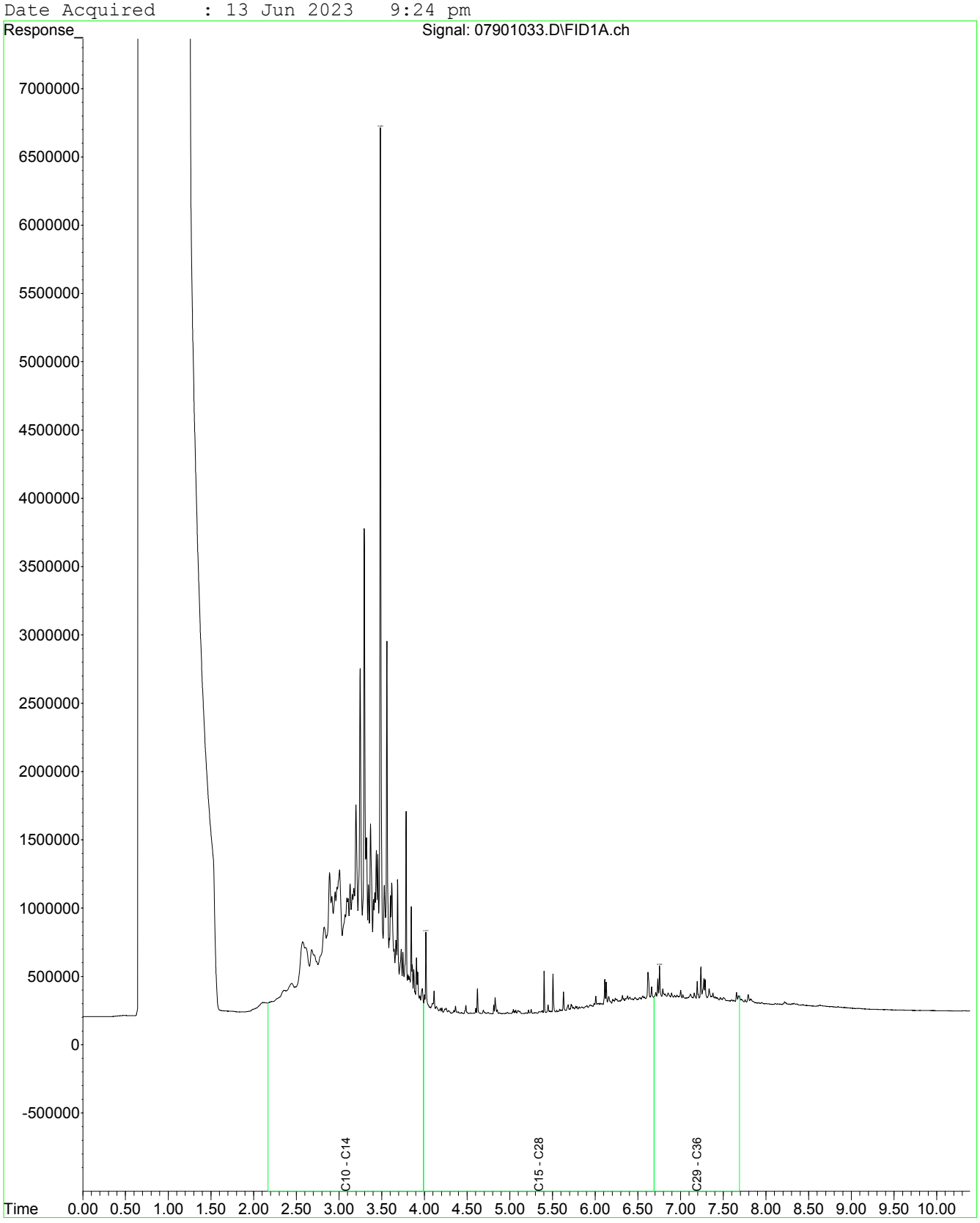
Fraction Scheme : Standard
Data File : 07701031.D
Laboratory Number: EM2310229-006
Sample ID : OL_EX_423_1.5
Date Acquired : 13 Jun 2023 8:50 pm



Fraction Scheme : Standard
Data File : 07801032.D
Laboratory Number: EM2310229-007
Sample ID : OL_EX_424_0.5
Date Acquired : 13 Jun 2023 9:07 pm



Fraction Scheme : Standard
Data File : 07901033.D
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



Fraction Scheme : Standard
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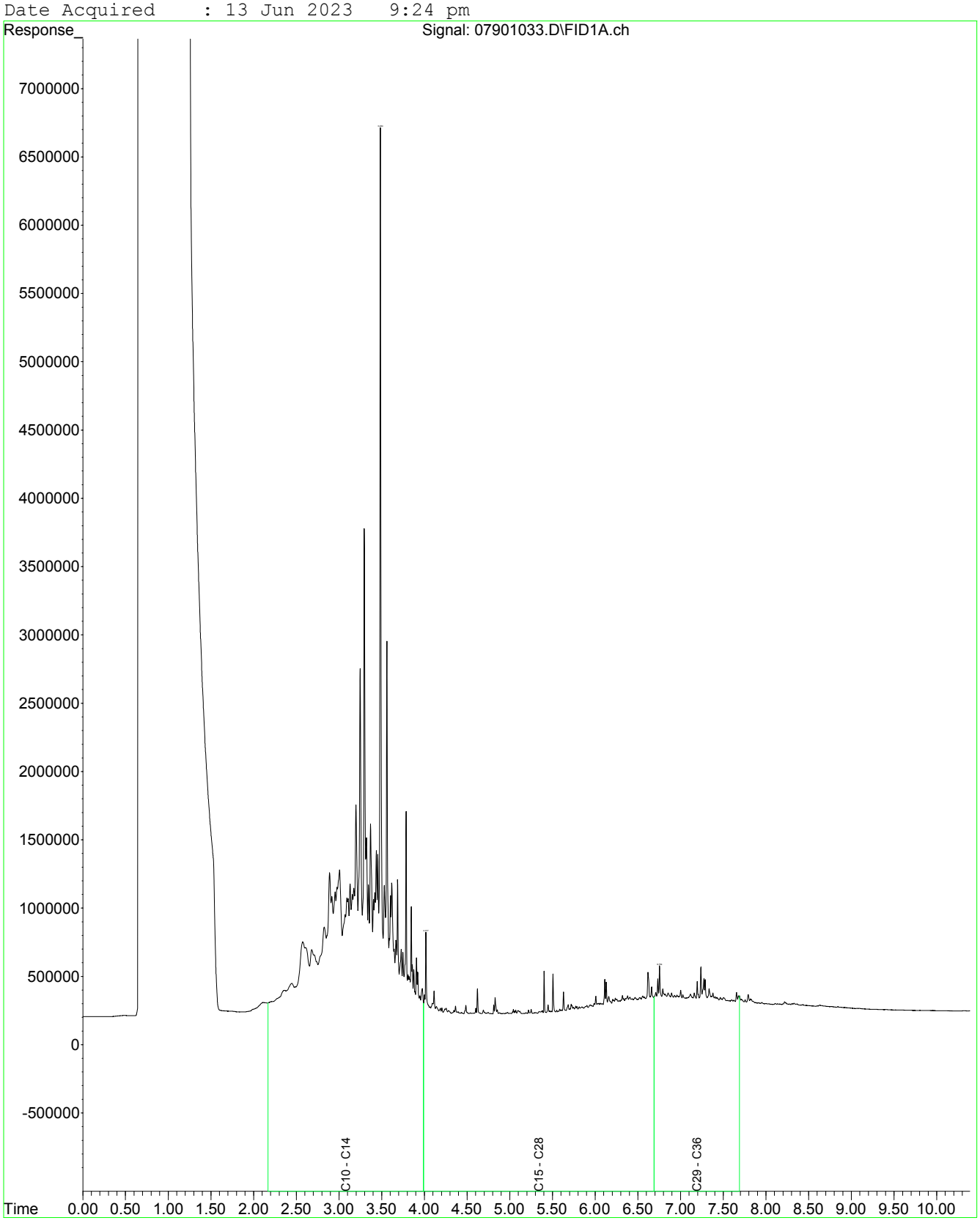
Laboratory Number: EM2310229-008
Sample ID : OL_EX_424_1.5
Date Acquired : 13 Jun 2023 9:24 pm



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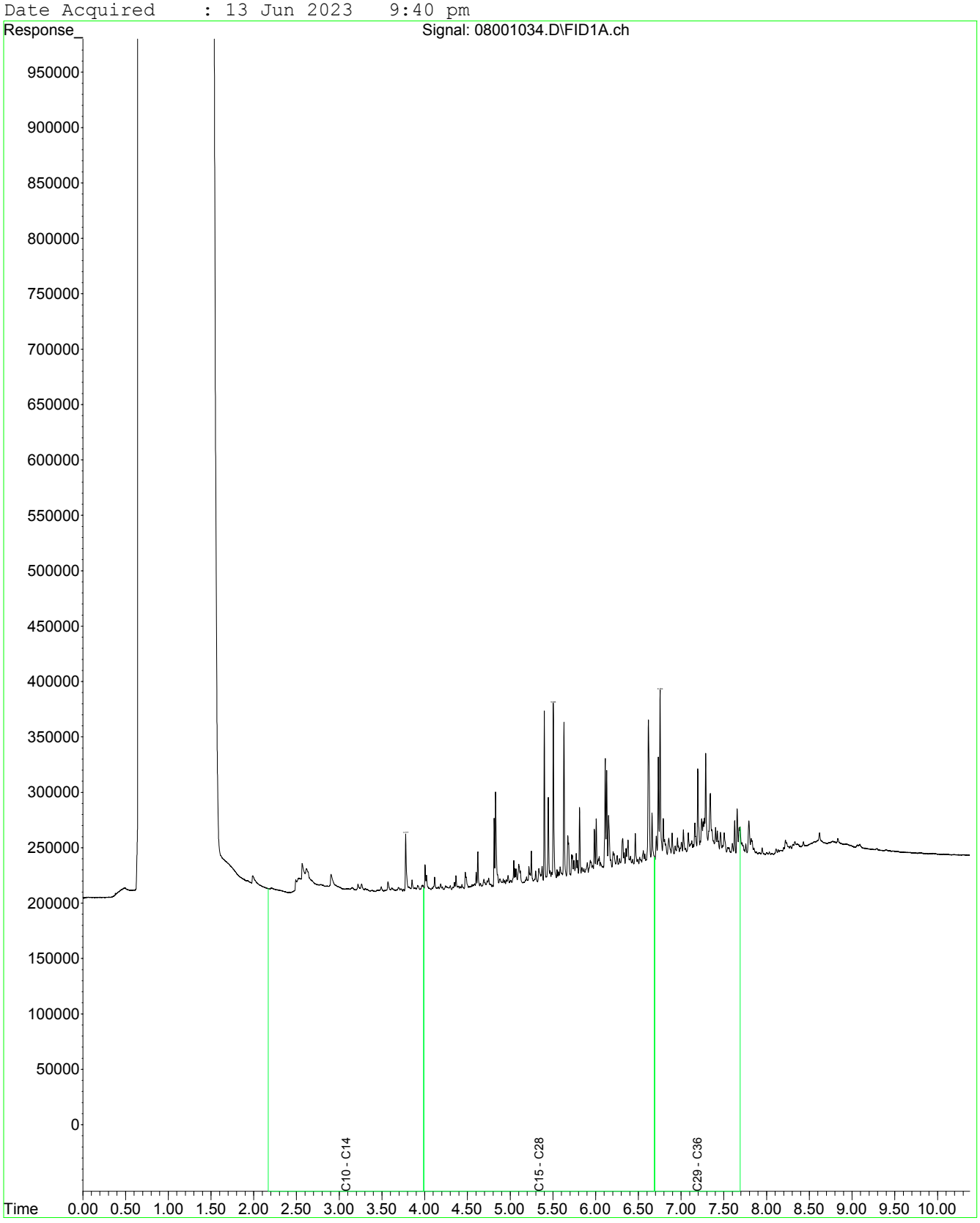
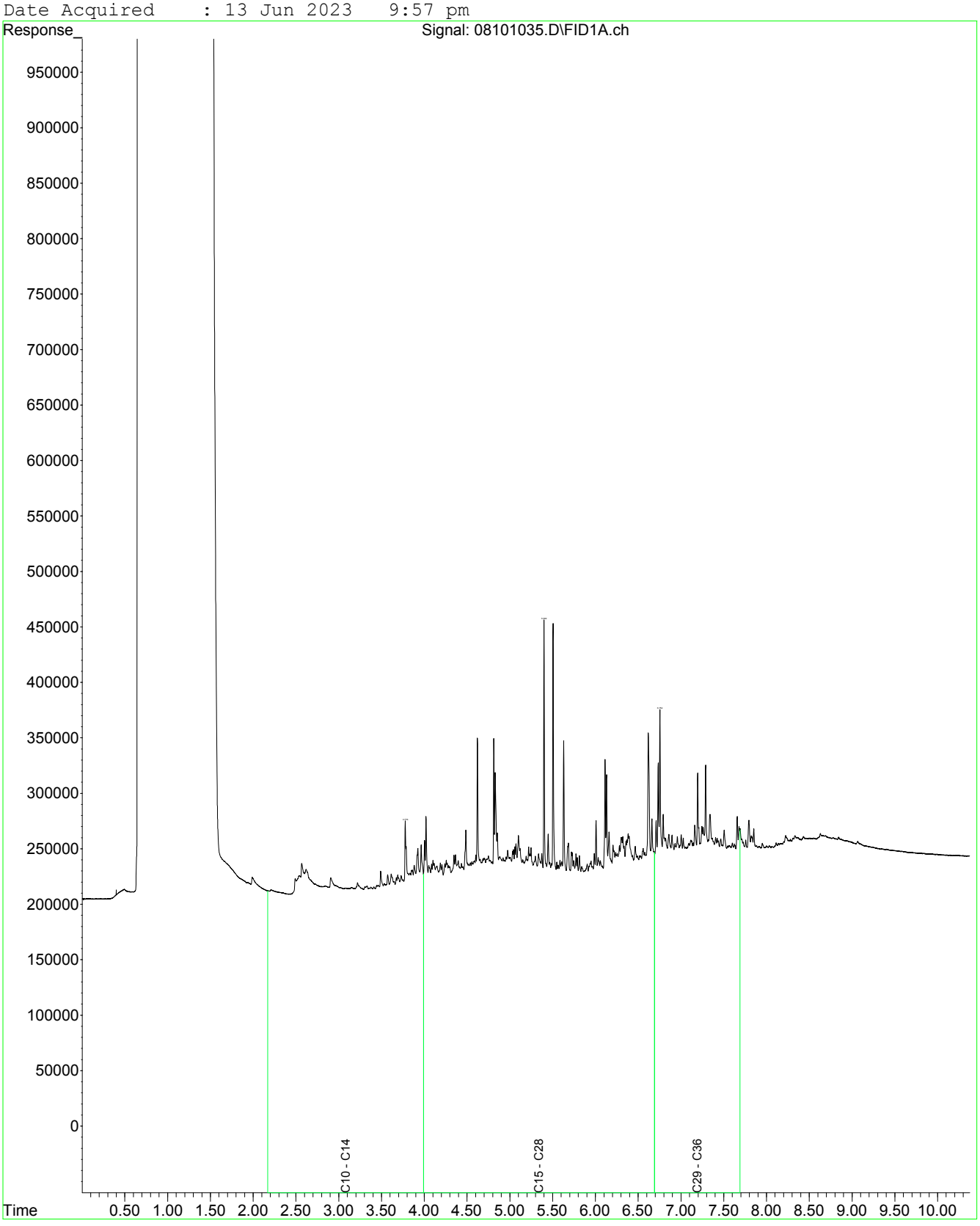
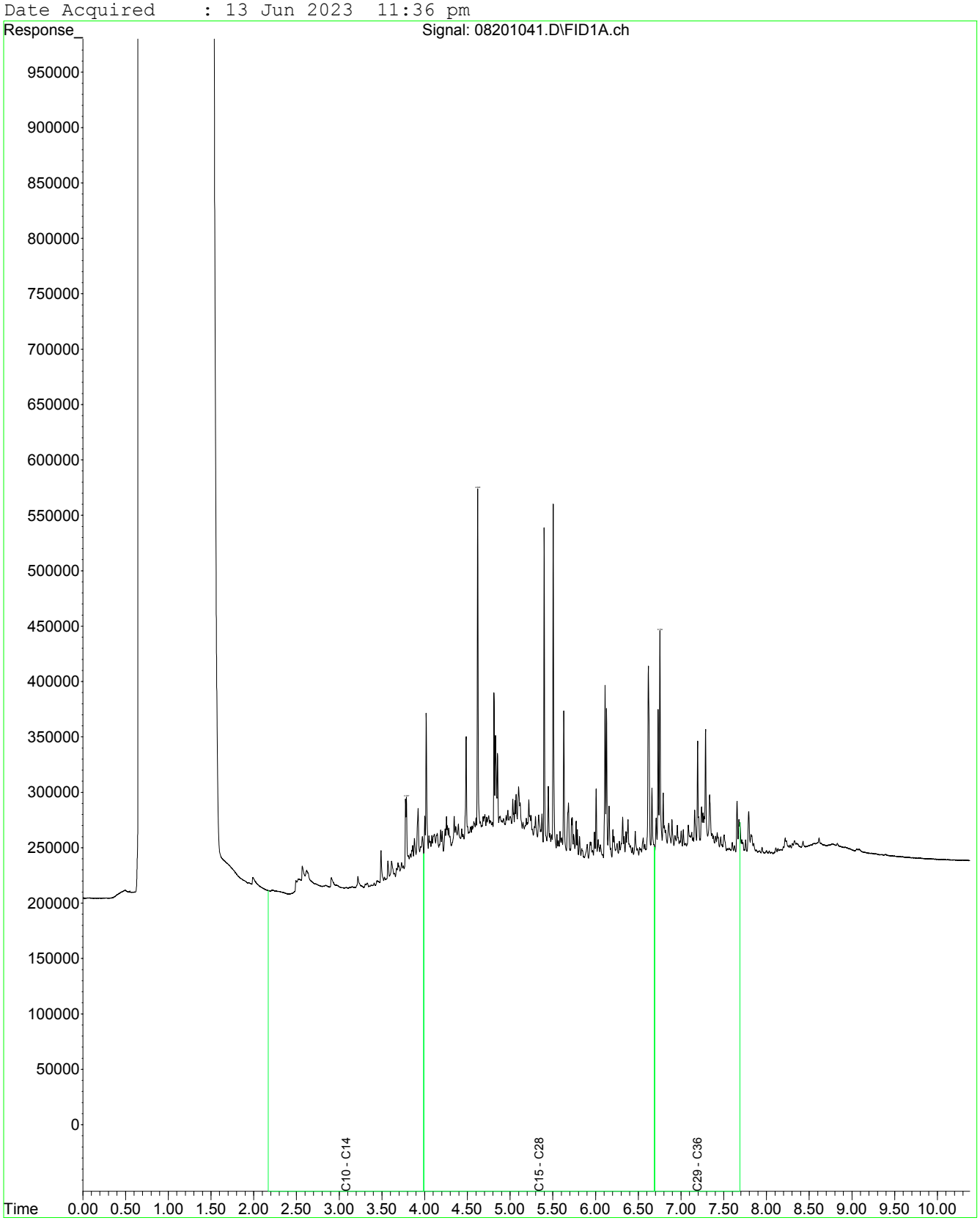
Laboratory Number: EM2310229-009
Sample ID : OL_EX_QC125
Date Acquired : 13 Jun 2023 9:40 pm



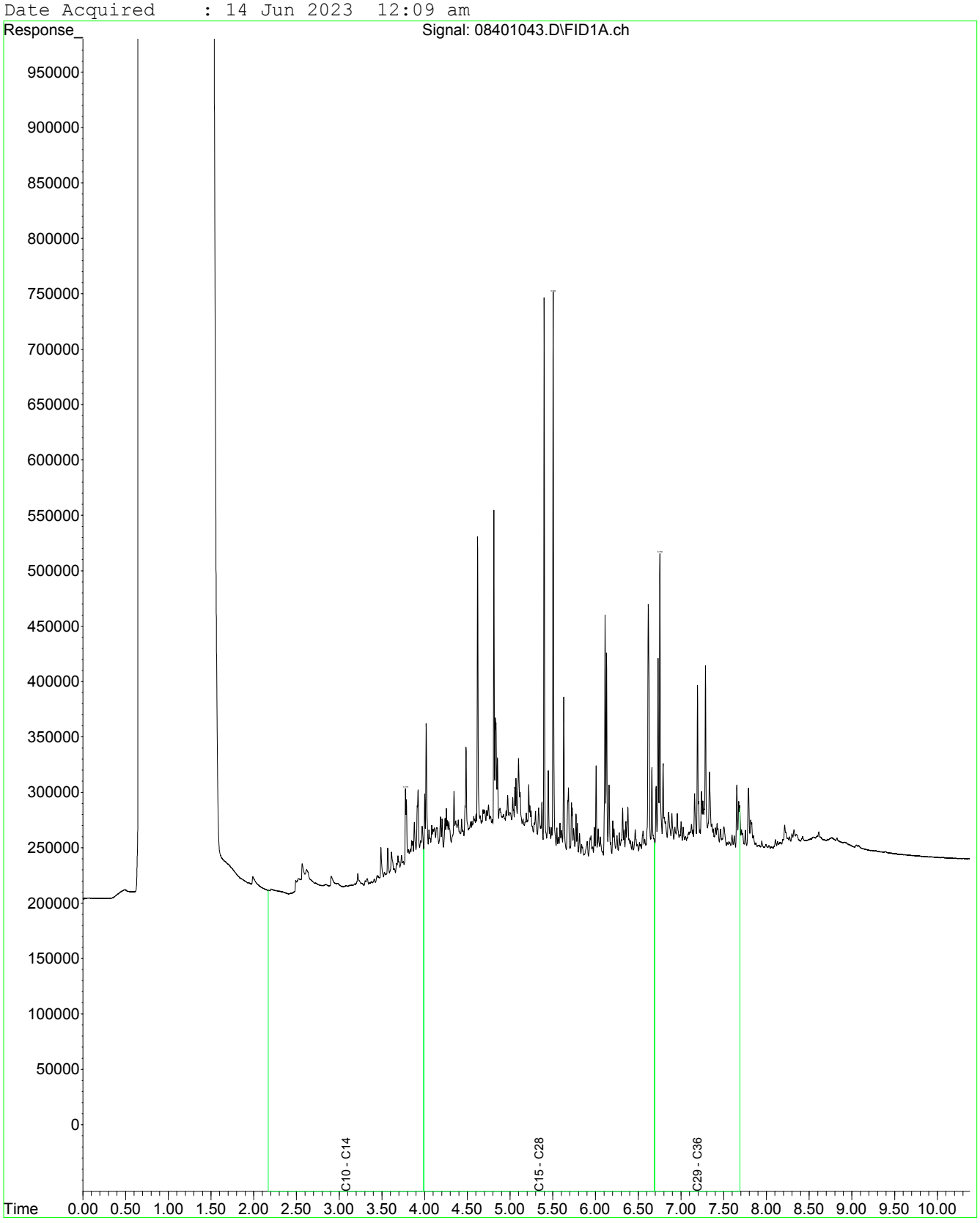
Fraction Scheme : Standard
Data File : 08101035.D
Laboratory Number: EM2310229-011
Sample ID : UST_SP_01
Date Acquired : 13 Jun 2023 9:57 pm



Fraction Scheme : Standard
Data File : 08201041.D
Laboratory Number: EM2310229-012
Sample ID : UST_SP_02
Date Acquired : 13 Jun 2023 11:36 pm



Fraction Scheme : Standard
Data File : 08401043.D
Laboratory Number: EM2310229-013
Sample ID : UST_SP_03
Date Acquired : 14 Jun 2023 12:09 am



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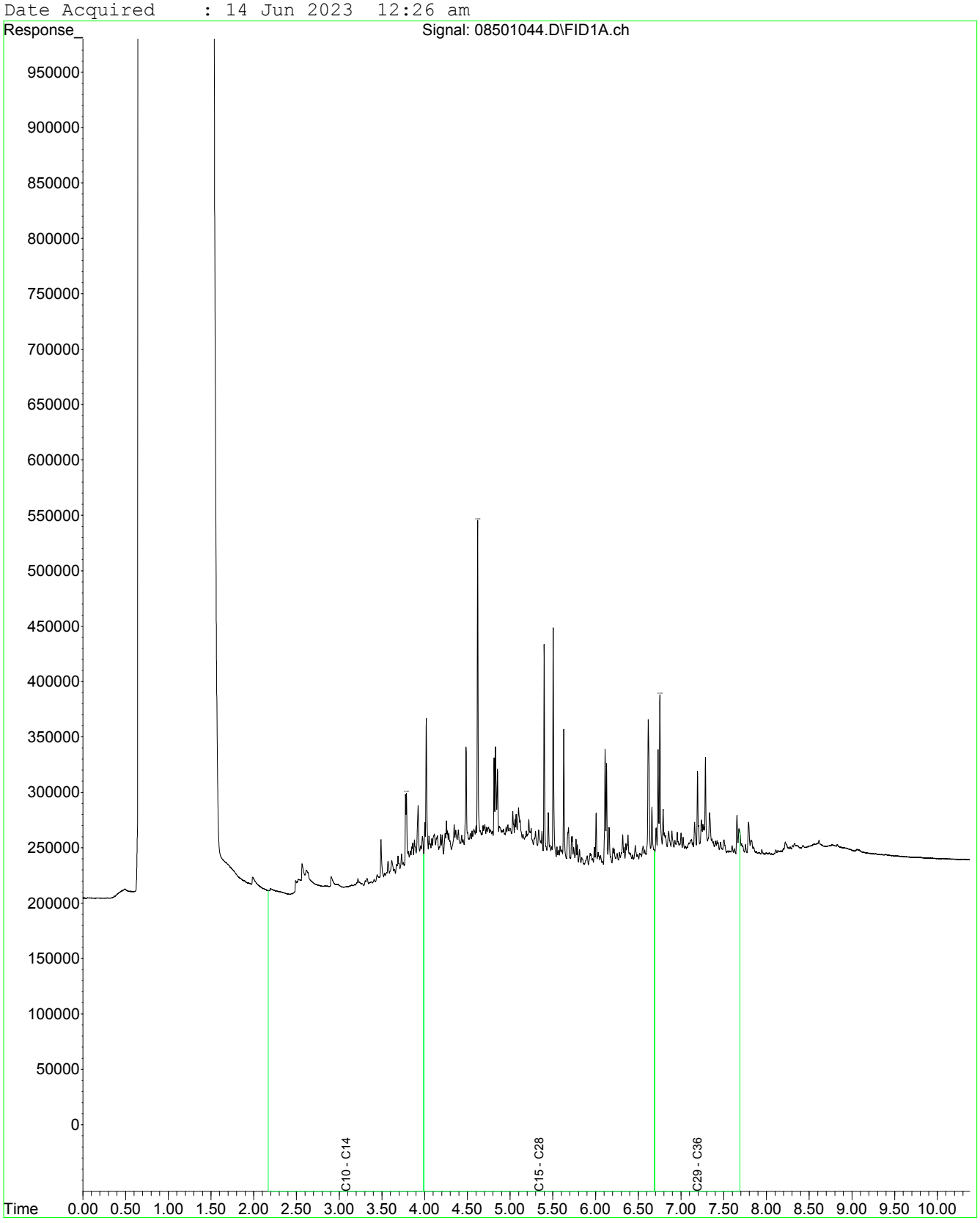
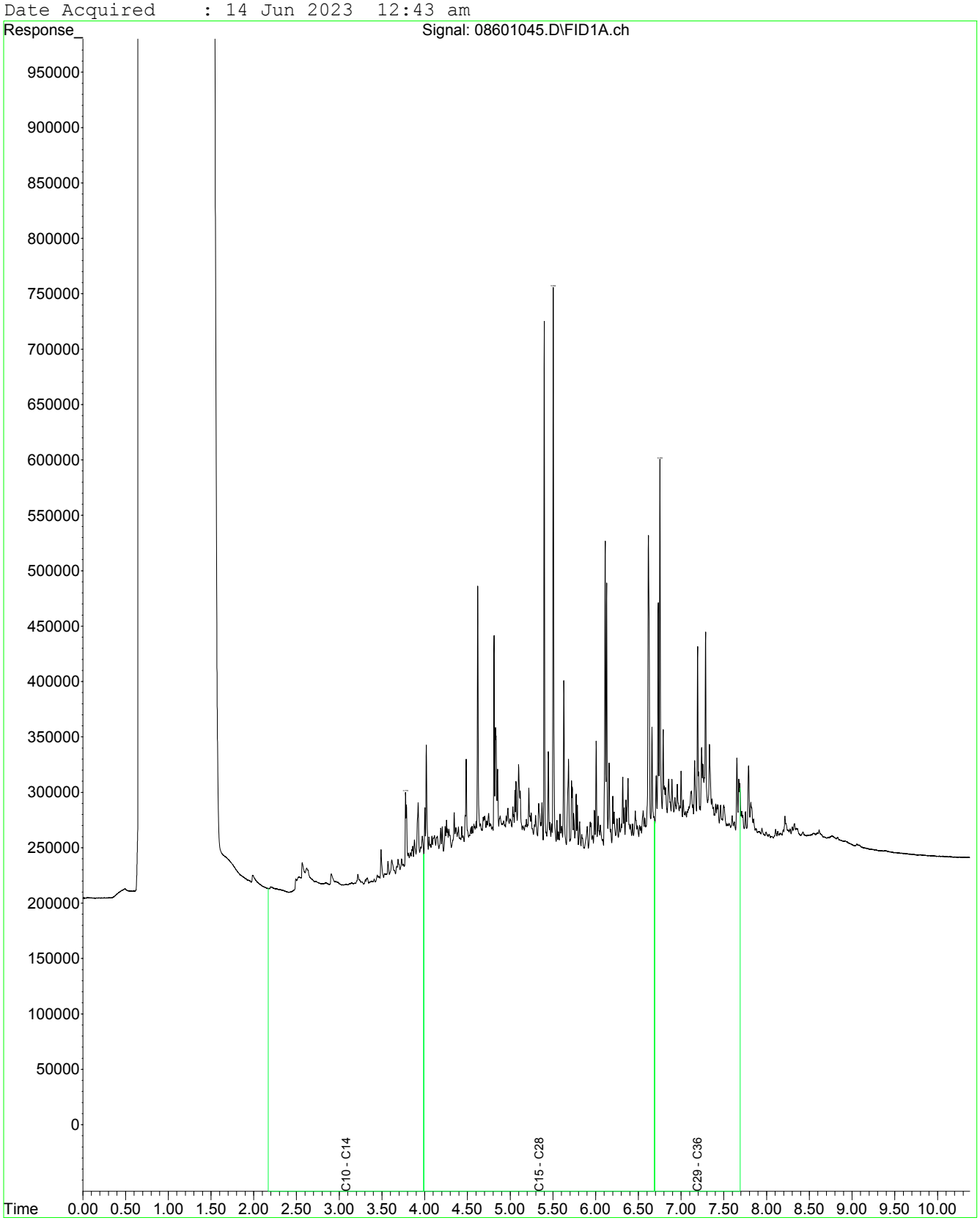
Data File : 08501044.D
Laboratory Number: EM2310229-014
Sample ID : UST_SP_04
Date Acquired : 14 Jun 2023 12:26 am



Fraction Scheme : Standard
Data File : 08601045.D
Laboratory Number: EM2310229-015
Sample ID : UST_SP_05
Date Acquired : 14 Jun 2023 12:43 am



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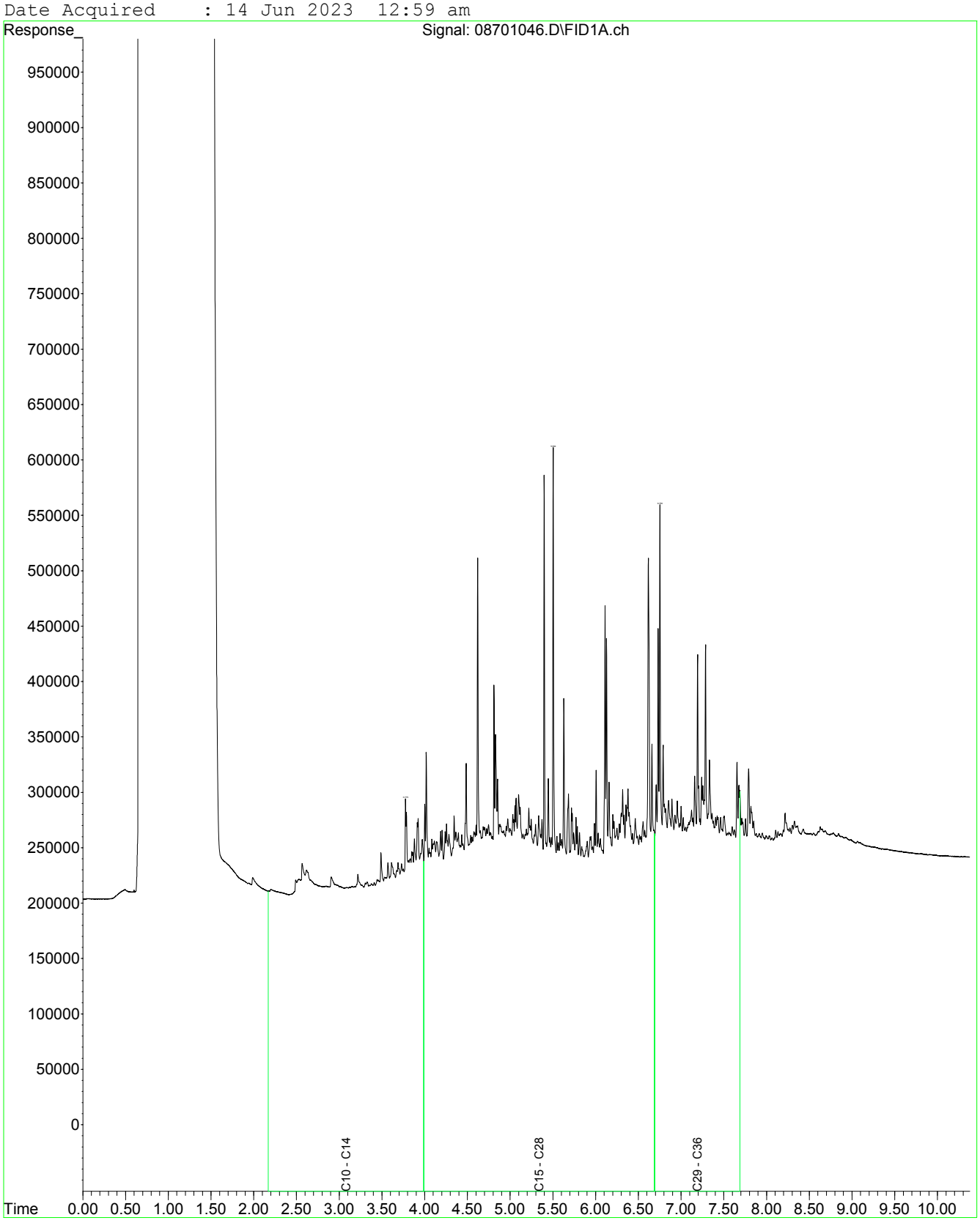
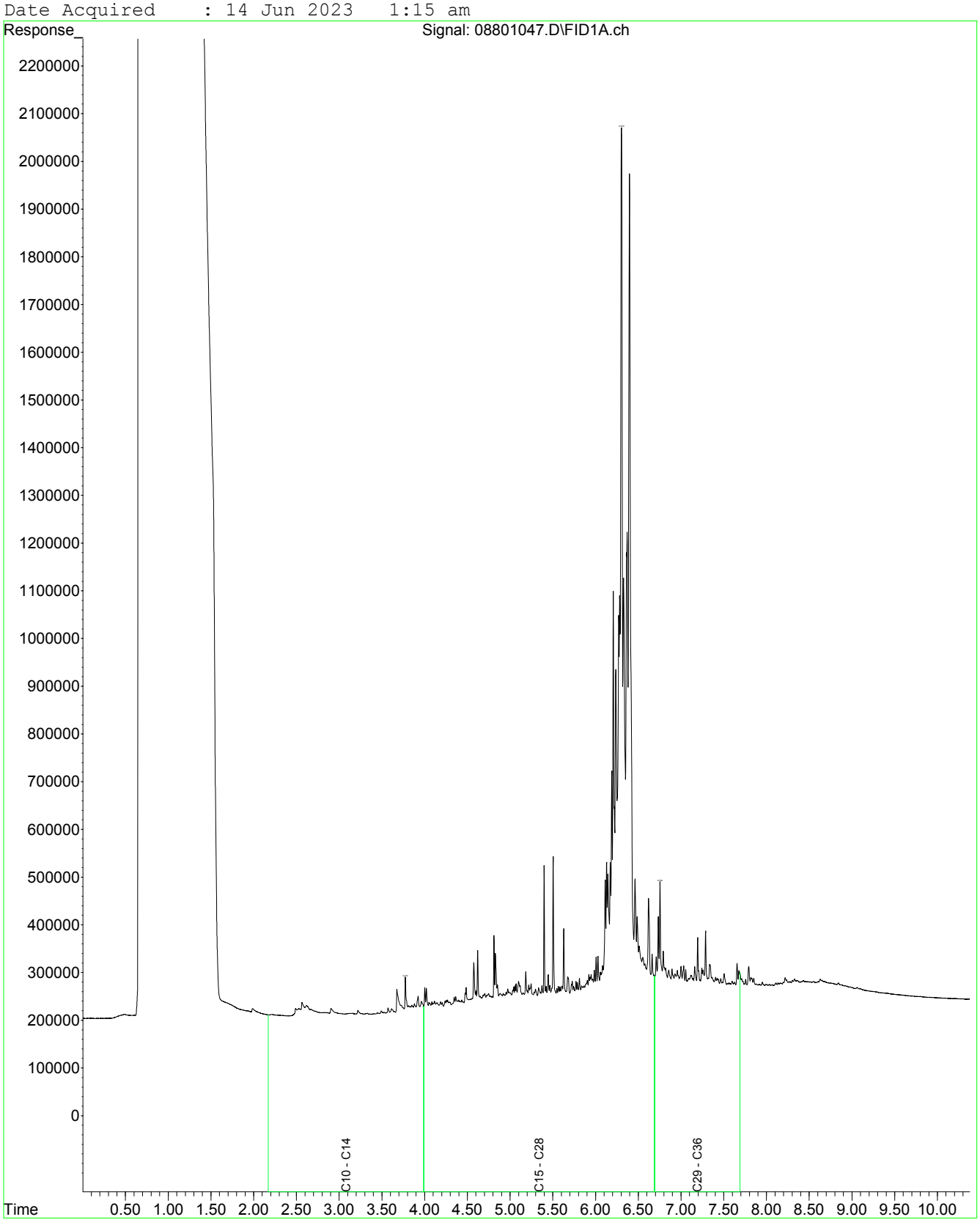
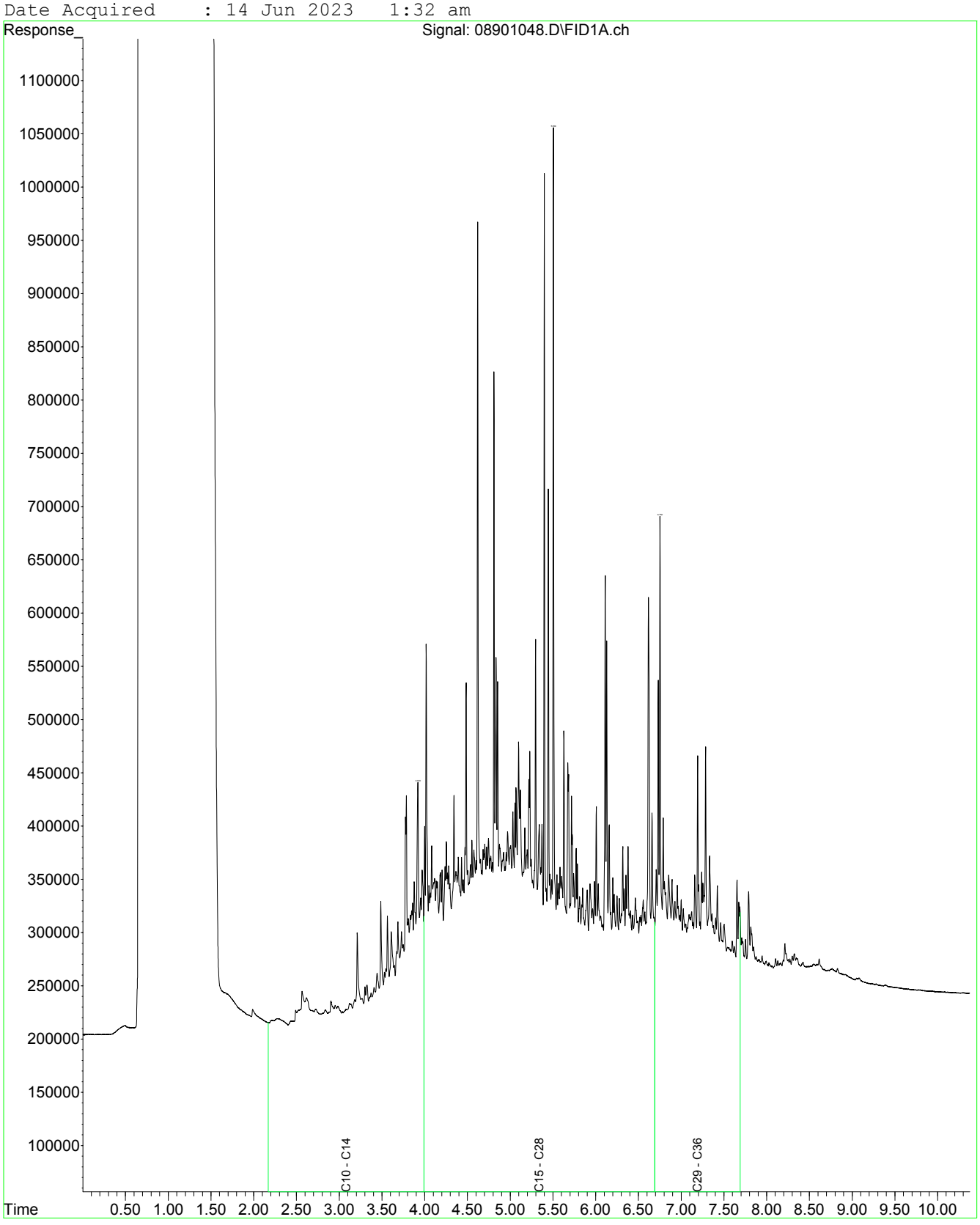
Data File : 08701046.D
Laboratory Number: EM2310229-016
Sample ID : UST_SP_06
Date Acquired : 14 Jun 2023 12:59 am



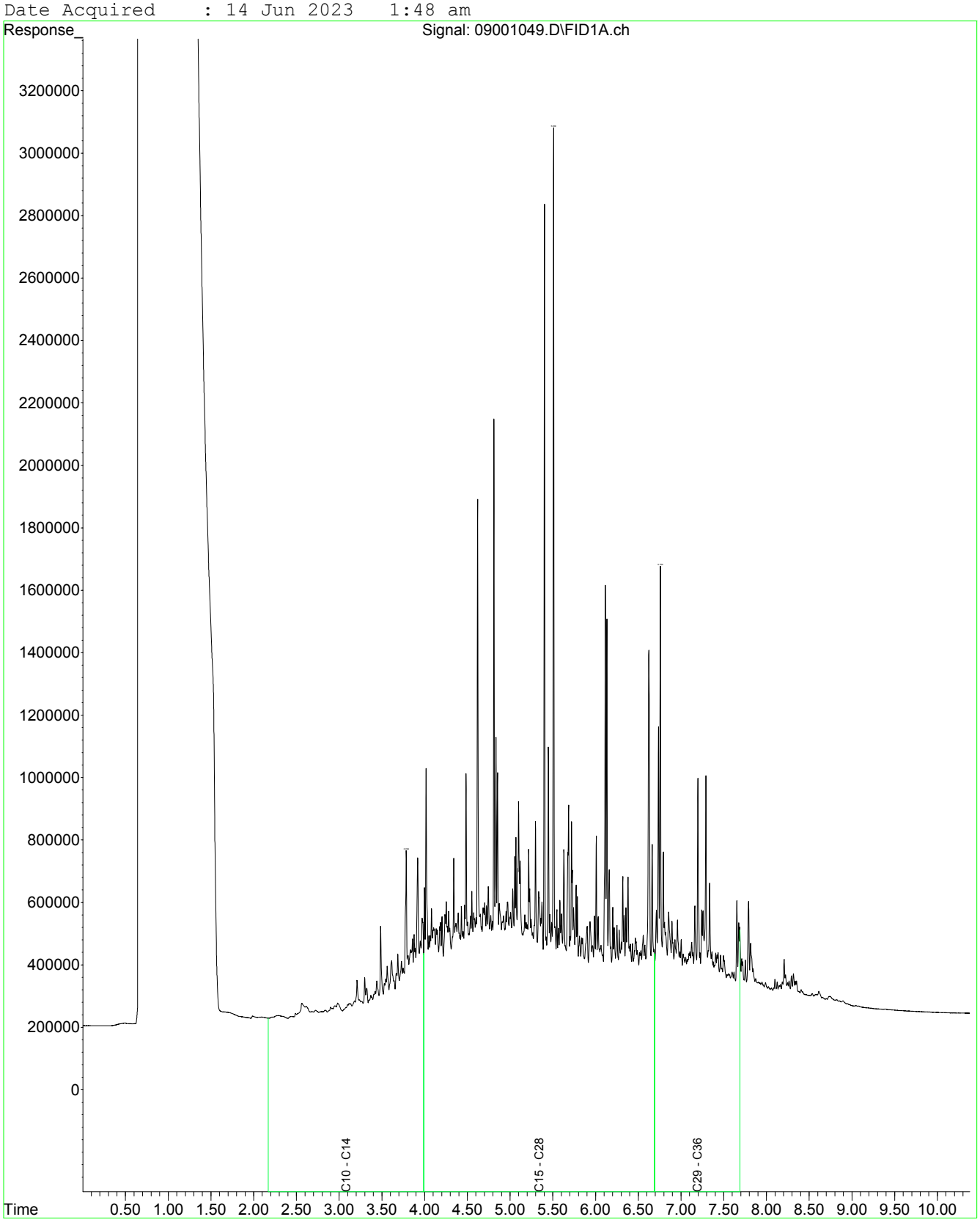
Fraction Scheme : Standard
Data File : 08801047.D
Laboratory Number: EM2310229-017
Sample ID : UST_SP_QC126
Date Acquired : 14 Jun 2023 1:15 am



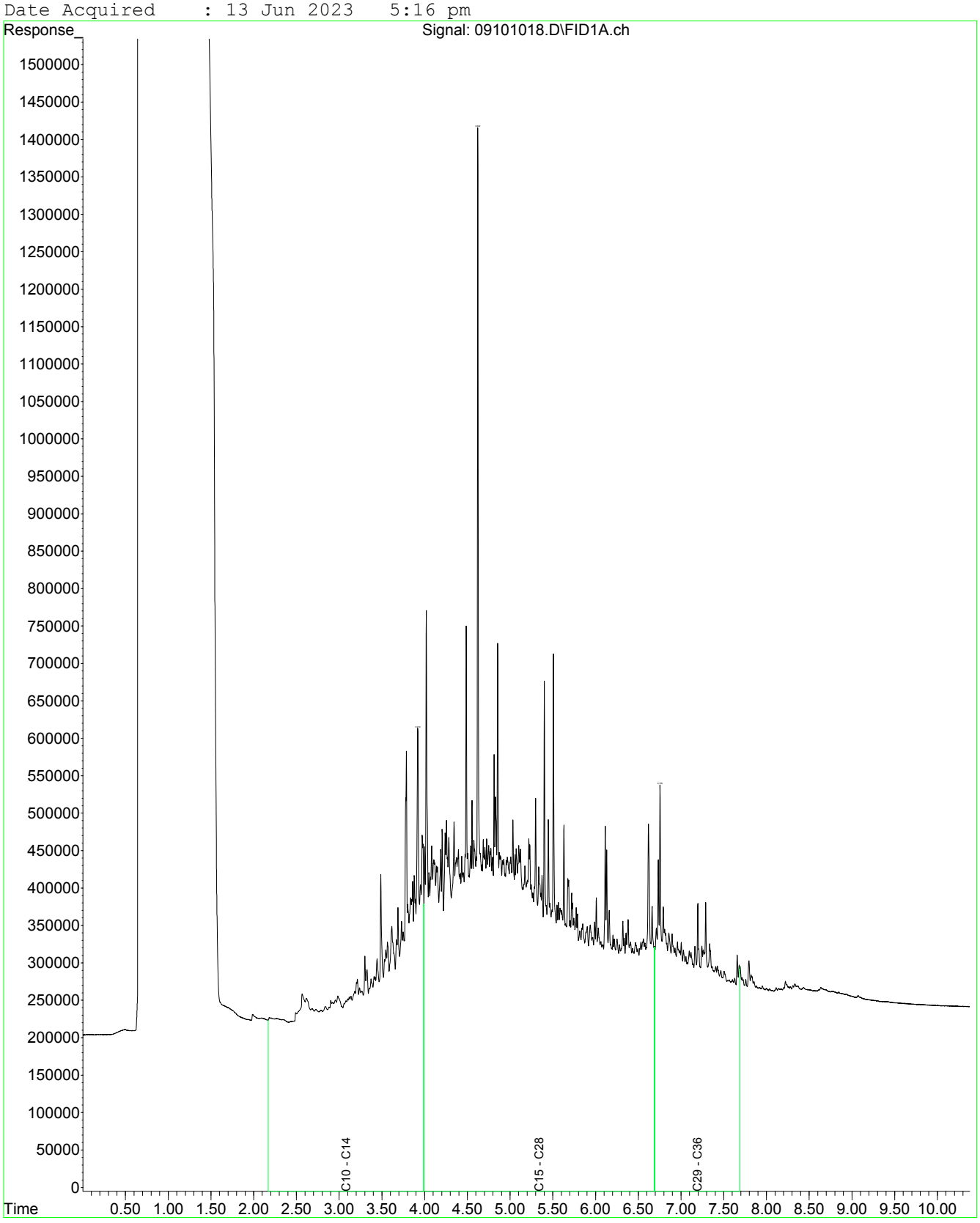
Fraction Scheme : Standard
Data File : 08901048.D
Laboratory Number: EM2310229-019
Sample ID : UST_SP_Ext_59SP_04
Date Acquired : 14 Jun 2023 1:32 am



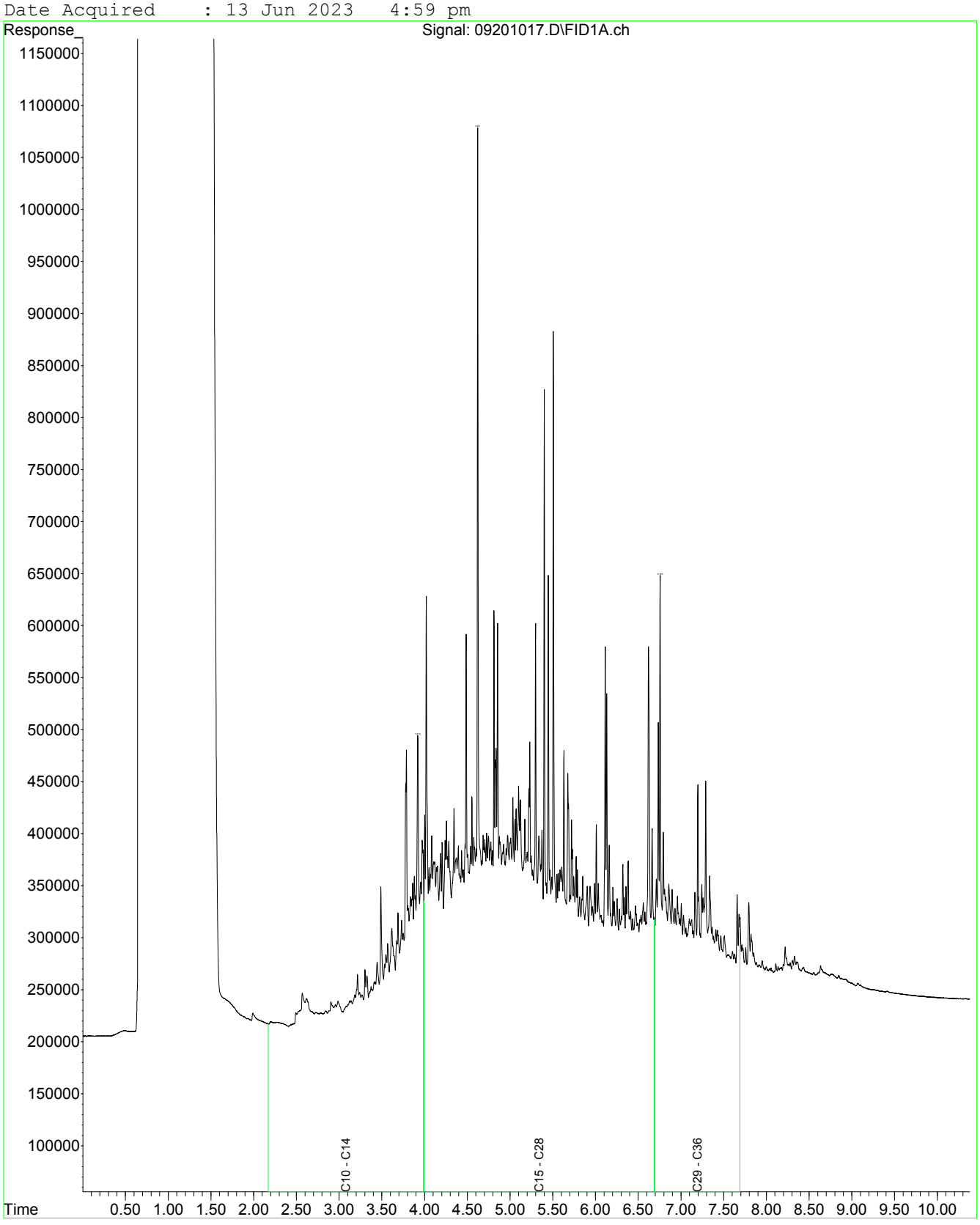
Fraction Scheme : Standard
Data File : 09001049.D
Laboratory Number: EM2310229-020
Sample ID : UST_SP_Ext_59SP_05
Date Acquired : 14 Jun 2023 1:48 am



Fraction Scheme : Standard
Data File : 09101018.D
Laboratory Number: EM2310229-021
Sample ID : UST_SP_Ext_59SP_06
Date Acquired : 13 Jun 2023 5:16 pm



Fraction Scheme : Standard
Data File : 09201017.D
Laboratory Number: EM2310229-022
Sample ID : UST_SP_Ext_59SP_07
Date Acquired : 13 Jun 2023 4:59 pm



CERTIFICATE OF ANALYSIS

Work Order	: **EM2310878**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023 11:45
Order number	: 60693007-2	Date Analysis Commenced	: 10-Jun-2023
C-O-C number	: 53213	Issue Date	: 22-Jun-2023 16:48
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 18		
No. of samples analysed	: 18		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- This is a rebatch of EM2310229.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_424_0.5	OL_EX_424_1.5	UST_SP_01	UST_SP_02	UST_SP_03
			Sampling date / time	07-Jun-2023 10:03	07-Jun-2023 10:04	07-Jun-2023 10:07	07-Jun-2023 10:08	07-Jun-2023 10:08
Compound	CAS Number	LOR	Unit	EM2310878-001	EM2310878-002	EM2310878-003	EM2310878-004	EM2310878-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**19.8**	**22.3**	**----**	**----**	**----**
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**----**	**----**	**9.3**	**9.3**	**9.5**
After HCl pH	----	0.1	pH Unit	**----**	**----**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**----**	**----**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**----**	**----**	**5.5**	**5.7**	**5.8**
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions								
^ Aliphatic >C5-C6	----	5	mg/kg	<5	<5	**----**	**----**	**----**
Aliphatic >C6-C8	TPHCWG-ALV2	5	mg/kg	<5	<5	**----**	**----**	**----**
Aliphatic >C8-C10	TPHCWG-ALV3	5	mg/kg	**216**	**106**	**----**	**----**	**----**
Aliphatic >C10-C12	TPHCWG-ALE1	50	mg/kg	**1500**	**1020**	**----**	**----**	**----**
Aliphatic >C12-C16	TPHCWG-ALE2	50	mg/kg	**721**	**613**	**----**	**----**	**----**
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions								
Aromatic >C5-C7	----	0.2	mg/kg	<0.2	<0.2	**----**	**----**	**----**
Aromatic >C7-C8	TPHCWG-ARV2	0.5	mg/kg	<0.5	<0.5	**----**	**----**	**----**
Aromatic >C8-C10	TPHCWG-ARV3	1.0	mg/kg	**128**	**31.7**	**----**	**----**	**----**
Aromatic >C10-C12	TPHCWG-ARE1	50	mg/kg	**938**	**222**	**----**	**----**	**----**
Aromatic >C12-C16	TPHCWG-ARE2	50	mg/kg	**532**	**201**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_04	UST_SP_05	UST_SP_06	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05
			Sampling date / time	07-Jun-2023 10:09	07-Jun-2023 10:09	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit	EM2310878-006	EM2310878-007	EM2310878-008	EM2310878-009	EM2310878-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.5**	**9.8**	**9.7**	**9.8**	**9.7**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.6**	**5.7**	**5.6**	**6.3**	**6.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03
			Sampling date / time	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23
Compound	CAS Number	LOR	Unit	EM2310878-011	EM2310878-012	EM2310878-013	EM2310878-014	EM2310878-015
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.6**	**9.9**	**9.7**	**9.8**	**9.9**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.3**	**6.2**	**5.9**	**5.9**	**5.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	OL_EX_SP8_01	OL_EX_SP8_02	OL_EX_SP8_03	----	----
			Sampling date / time	07-Jun-2023 10:25	07-Jun-2023 10:25	07-Jun-2023 10:25	----	----
Compound	CAS Number	LOR	Unit	EM2310878-016	EM2310878-017	EM2310878-018	--------	--------
				Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**10.0**	**9.8**	**9.2**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**1.6**	**1.6**	**1.6**	**----**	**----**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**----**	**----**
Final pH	----	0.1	pH Unit	**6.3**	**5.6**	**5.4**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	UST_SP_01	UST_SP_02	UST_SP_03	UST_SP_04	UST_SP_05
			Sampling date / time	07-Jun-2023 10:07	07-Jun-2023 10:08	07-Jun-2023 10:08	07-Jun-2023 10:09	07-Jun-2023 10:09
Compound	CAS Number	LOR	Unit	EM2310878-003	EM2310878-004	EM2310878-005	EM2310878-006	EM2310878-007
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**80.3**	**71.2**	**66.0**	**95.6**	**81.8**
Anthracene-d10	1719-06-8	1.0	%	**84.2**	**80.0**	**78.5**	**89.0**	**90.6**
4-Terphenyl-d14	1718-51-0	1.0	%	**90.2**	**86.4**	**83.9**	**94.6**	**97.3**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	UST_SP_06	UST_SP_Ext_59SP_04	UST_SP_Ext_59SP_05	UST_SP_Ext_59SP_06	UST_SP_Ext_59SP_07
				Sampling date / time	07-Jun-2023 10:10	07-Jun-2023 10:12	07-Jun-2023 10:16	07-Jun-2023 10:16	07-Jun-2023 10:16
Compound	CAS Number	LOR	Unit		EM2310878-008	EM2310878-009	EM2310878-010	EM2310878-011	EM2310878-012
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	**1.5**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	**1.3**	**2.5**	**1.3**	**1.2**
Fluorene	86-73-7	1.0	µg/L		<1.0	**1.3**	**2.6**	**1.4**	**1.2**
Phenanthrene	85-01-8	1.0	µg/L		**1.7**	**2.3**	**3.5**	**2.3**	**1.9**
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	**1.0**	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	**1.3**	**1.0**	**1.1**
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	**1.8**	**1.2**	**1.5**
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**1.7**	**4.9**	**14.2**	**7.2**	**6.9**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.7**	**80.7**	**88.5**	**86.0**	**89.6**
Anthracene-d10	1719-06-8	1.0	%		**85.8**	**83.8**	**77.4**	**83.5**	**84.5**
4-Terphenyl-d14	1718-51-0	1.0	%		**91.0**	**90.2**	**83.2**	**88.4**	**90.4**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP7_01	OL_EX_SP7_02	OL_EX_SP7_03	OL_EX_SP8_01	OL_EX_SP8_02
				Sampling date / time	07-Jun-2023 10:22	07-Jun-2023 10:22	07-Jun-2023 10:23	07-Jun-2023 10:25	07-Jun-2023 10:25
Compound	CAS Number	LOR	Unit		EM2310878-013	EM2310878-014	EM2310878-015	EM2310878-016	EM2310878-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	**1.8**	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	**1.8**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**92.0**	**103**	**95.9**	**89.0**	**105**
Anthracene-d10	1719-06-8	1.0	%		**85.7**	**94.0**	**88.9**	**86.2**	**98.2**
4-Terphenyl-d14	1718-51-0	1.0	%		**90.9**	**98.2**	**93.1**	**88.8**	**102**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	OL_EX_SP8_03	----	----	----	----
				Sampling date / time	07-Jun-2023 10:25	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2310878-018	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**96.6**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**91.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**95.1**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2310878**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Order number	: 60693007-2	Date Analysis Commenced	: 10-Jun-2023
C-O-C number	: 53213	Issue Date	: 22-Jun-2023
Sampler	: TIM SMITH		
Site	: Macquarie Point Oil and Diesel Line removal		
Quote number	: ME/386/22		
No. of samples received	: 18		
No. of samples analysed	: 18		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5121409)									
EM2310878-003	UST_SP_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2310878-012	UST_SP_Ext_59SP_07	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	1.2	<1.0	15.2	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	1.2	<1.0	14.7	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	1.9	1.4	27.7	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5121409) - continued									
EM2310878-012	UST_SP_Ext_59SP_07	EP075(SIM): Fluoranthene	206-44-0	1	µg/L	1.1	<1.0	10.1	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	1.5	1.1	26.7	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5124015)									
EM2310878-013	OL_EX_SP7_01	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5121029)								
EP070-CWG: Aliphatic >C10-C12	TPHCWG-AL E1	50	mg/kg	<50	1129 mg/kg	138	72.4	142
EP070-CWG: Aliphatic >C12-C16	TPHCWG-AL E2	50	mg/kg	<50	3884 mg/kg	138	78.8	138
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions (QCLot: 5122335)								
EP079-CWG: Aliphatic >C5-C6	----	5	mg/kg	<5	5 mg/kg	78.0	54.2	127
EP079-CWG: Aliphatic >C6-C8	TPHCWG-AL V2	5	mg/kg	<5	10 mg/kg	93.0	57.9	114
EP079-CWG: Aliphatic >C8-C10	TPHCWG-AL V3	5	mg/kg	<5	10 mg/kg	71.1	55.0	124
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5121029)								
EP070-CWG: Aromatic >C10-C12	TPHCWG-AR E1	50	mg/kg	<50	341 mg/kg	110	44.7	157
EP070-CWG: Aromatic >C12-C16	TPHCWG-AR E2	50	mg/kg	<50	1365 mg/kg	106	55.2	142
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions (QCLot: 5122335)								
EP079-CWG: Aromatic >C5-C7	----	0.2	mg/kg	<0.2	2 mg/kg	83.8	66.6	117
EP079-CWG: Aromatic >C7-C8	TPHCWG-AR V2	0.5	mg/kg	<0.5	2 mg/kg	87.6	73.7	110
EP079-CWG: Aromatic >C8-C10	TPHCWG-AR V3	1	mg/kg	<1.0	16 mg/kg	87.5	72.2	107

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5121409)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.9	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	81.6	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	86.1	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	86.2	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	84.9	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	84.8	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.4	50.0	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5121409) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	89.0	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	85.9	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	86.9	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	87.2	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.0	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	83.8	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	83.6	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	84.1	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5124015)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	105	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	99.2	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	105	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	105	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	112	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	113	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	114	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	110	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	110	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	125	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	108	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	104	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	100	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	105	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	106	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	112	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2310878**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point	Date Samples Received	: 07-Jun-2023
Site	: Macquarie Point Oil and Diesel Line removal	Issue Date	: 22-Jun-2023
Sampler	: TIM SMITH	No. of samples received	: 18
Order number	: 60693007-2	No. of samples analysed	: 18

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Laboratory Duplicates (DUP)					
TPH Speciation (TPH CWG & RIVM fractions)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TPH Speciation (TPH CWG & RIVM fractions)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	17	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**----**	----	**----**	**10-Jun-2023**	21-Jun-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**07-Jun-2023**	**19-Jun-2023**	04-Dec-2023	✓	**----**	----	----
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**07-Jun-2023**	**20-Jun-2023**	04-Dec-2023	✓	**----**	----	----
Non-Volatile Leach: 180 day HT (e.g. PFAS, metals ex.Hg) (EN33a-G)							
UST_SP_Ext_59SP_05	**07-Jun-2023**	**21-Jun-2023**	04-Dec-2023	✓	**----**	----	----
EP079/070: TPH CWG Aliphatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_1.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_0.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**21-Jun-2023**	23-Jul-2023	✓
EP079/070: TPH CWG Aromatic Hydrocarbon Fractions							
Soil Glass Jar - Unpreserved (EP079-CWG)							
OL_EX_424_0.5, OL_EX_424_1.5	**07-Jun-2023**	**10-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	21-Jun-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_1.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**20-Jun-2023**	23-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP070-CWG)							
OL_EX_424_0.5	**07-Jun-2023**	**13-Jun-2023**	21-Jun-2023	✓	**21-Jun-2023**	23-Jul-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_01, UST_SP_02, UST_SP_03, UST_SP_04, UST_SP_05, UST_SP_06, UST_SP_Ext_59SP_04, UST_SP_Ext_59SP_06, UST_SP_Ext_59SP_07	**19-Jun-2023**	**20-Jun-2023**	26-Jun-2023	✓	**21-Jun-2023**	30-Jul-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
OL_EX_SP7_01, OL_EX_SP7_02, OL_EX_SP7_03, OL_EX_SP8_01, OL_EX_SP8_02, OL_EX_SP8_03	**20-Jun-2023**	**21-Jun-2023**	27-Jun-2023	✓	**21-Jun-2023**	31-Jul-2023	✓
Amber Glass Bottle - Unpreserved (EP075(SIM))							
UST_SP_Ext_59SP_05	**21-Jun-2023**	**20-Jun-2023**	28-Jun-2023	✓	**21-Jun-2023**	30-Jul-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	3	17	**17.65**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	**11.76**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	17	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
TPH Speciation (TPH CWG & RIVM fractions)	EP070-CWG	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C35. Fractions conform to those outlined in TPHCWG, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Volatile Hydrocarbon Speciation (TPH CWG & RIVM fractions)	EP079-CWG	SOIL	In house: Conventional TPH and MAH data are determined by Purge and Trap GCMS analysis. TIC data (as fractions) and target aromatics (or groups of aromatics) are used to compute aliphatic and aromatic hydrocarbon fractions by addition or difference. Fractions conform to those outlined in TPHCWG, 1998, Analysis of Petroleum Hydrocarbons in Environmental Media, TPH Criteria Working Group, Toxicity Technical Action Group, vol I and RIVM report 601501021/2004, Environmental Risk Limits for Mineral Oil (Total Petroleum Hydrocarbons)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17-SP	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Rebatch

Client / Client code: AECOM
Project: McQUARIE Point
Project Manger: Robert Crowe
Date /time sample rec: 7/06/2023 23:45
Date/time Instructions rec: 16/06/2023 13:18:00 PM
Due date: Friday, 23 June 2023
Due date surcharge: STANDARD

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

Environmental Division
Melbourne
Work Order Reference
EM2310878

Telephone : +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis											Shortest Holding time expiry
								Standard					Leach						
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container		Aliphatic/Aromatic Speciation TRH C10-C16	Aliphatic/Aromatic Speciation TRH C6-C10				TCLP Leachate (PAHs)						
1	OL_EX_424_0.5	7/06/2023 10:03	EM2310229	7	PREVIOUS EXTRAXCT	EXTRCT VIAL	1	X	X										21-Jun-23
2	OL_EX_424_1.5	7/06/2023 10:04	EM2310229	8	PREVIOUS EXTRAXCT	EXTRCT VIAL	1	X	X										21-Jun-23
3	UST_SP_01	7/06/2023 10:07	EM2310229	11	MS: 4322-4324	SOIL JAR	1						X						21-Jun-23
4	UST_SP_02	7/06/2023 10:08	EM2310229	12	MS: 4322-4325	SOIL JAR	1						X						21-Jun-23
5	UST_SP_03	7/06/2023 10:08	EM2310229	13	MS: 4322-4326	SOIL JAR	1						X						21-Jun-23
6	UST_SP_04	7/06/2023 10:09	EM2310229	14	MS: 4322-4327	SOIL JAR	1						X						21-Jun-23
7	UST_SP_05	7/06/2023 10:09	EM2310229	15	MS: 4322-4328	SOIL JAR	1						X						21-Jun-23
8	UST_SP_06	7/06/2023 10:10	EM2310229	16	MS: 4322-4329	SOIL JAR	1						X						21-Jun-23
9	UST_SP_Ext_59SP_04	7/06/2023 10:12	EM2310229	19	MS: 4322-4330	SOIL JAR	1						X						21-Jun-23
10	UST_SP_Ext_59SP_05	7/06/2023 10:16	EM2310229	20	MS: 4322-4331	SOIL JAR	1						X						21-Jun-23
11	UST_SP_Ext_59SP_06	7/06/2023 10:16	EM2310229	21	MS: 4322-4332	SOIL JAR	1						X						21-Jun-23
12	UST_SP_Ext_59SP_07	7/06/2023 10:16	EM2310229	22	MS: 4322-4333	SOIL JAR	1						X						21-Jun-23
13	OL_EX_SP7_01	7/06/2023 10:22	EM2310229	23	MS: 4322-4334	SOIL JAR	1						X						21-Jun-23
14	OL_EX_SP7_02	7/06/2023 10:22	EM2310229	24	MS: 4322-4335	SOIL JAR	1						X						21-Jun-23
15	OL_EX_SP7_03	7/06/2023 10:23	EM2310229	28	MS: 4322-4336	SOIL JAR	1						X						21-Jun-23
16	OL_EX_SP8_01	7/06/2023 10:25	EM2310229	29	MS: 4322-4337	SOIL JAR	1						X						21-Jun-23
17	OL_EX_SP8_02	7/06/2023 10:25	EM2310229	30	MS: 4322-4338	SOIL JAR	1						X						21-Jun-23
18	OL_EX_SP8_03	7/06/2023 10:25	EM2310229	31	MS: 4322-4339	SOIL JAR	1						X						21-Jun-23
						TOTAL	18												

Bryn Walker

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Friday, 16 June 2023 1:18 PM
To: Peter Ravlic
Subject: [EXTERNAL] - FW: RESULTS & EDD & INVOICE for ALS Workorder : EM2310094 | Overall Description: Macquarie Point - This is a rebatch of EM2309607.
Attachments: Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV; Macquarie Point.ESDAT_EM2310094_0.Header.XML; Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV; EM2310094_0_QC.pdf; EM2310094_COC.pdf; EM2310094_0_COA.pdf; EM2310094_0_QCI.pdf; EM2310094a.Macquarie Point.AECOM.zip; 1151728282_INV.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

Can I request the following additional analysis on this batch? Would you also be able to give me a quick call if any issues – unfortunately just moved house and having some fun IT teething issues at the moment.

Cheers, and hope you have a good weekend ahead,

Rob

Lab ID	Field ID	Additional Analysis		
		Aliphatic/Aromatic Speciation TRH C6-C10	Aliphatic/Aromatic Speciation TRH C10-C16	TCLP Leachate (PAHs)
EM2310229007	OL_EX_424_0.5	X	X	
EM2310229008	OL_EX_424_1.5	X	X	
EM2310229011	UST_SP_01			x
EM2310229012	UST_SP_02			x
EM2310229013	UST_SP_03			x
EM2310229014	UST_SP_04			x
EM2310229015	UST_SP_05			x
EM2310229016	UST_SP_06			x
EM2310229019	UST_SP_Ext_59SP_04			x
EM2310229020	UST_SP_Ext_59SP_05			x
EM2310229021	UST_SP_Ext_59SP_06			x
EM2310229022	UST_SP_Ext_59SP_07			x
EM2310229023	OL_EX_SP7_01			x
EM2310229024	OL_EX_SP7_02			x
EM2310229028	OL_EX_SP7_03			x
EM2310229029	OL_EX_SP8_01			x
EM2310229030	OL_EX_SP8_02			x
EM2310229031	OL_EX_SP8_03			x

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA
M +61 422 692 187
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AECOM

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T +61 3 9653 1234
aecom.com

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From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Tuesday, 13 June 2023 5:06 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RESULTS & EDD & INVOICE for ALS Workorder : EM2310094 | Overall Description: Macquarie Point - This is a rebatch of EM2309607.

Deliverables for ALS Workorder EM2310094

Project: Macquarie Point

Overall Description: Macquarie Point - This is a rebatch of EM2309607.

Dear ROBERT CROWE,

Please find enclosed the following deliverables for **EM2310094**:

- Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV
- Macquarie Point.ESDAT_EM2310094_0.Header.XML
- Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV
- EM2310094_0_QC.pdf
- EM2310094_0_QCI.pdf
- EM2310094_0_COA.pdf
- EM2310094a.Macquarie Point.AECOM.zip
- 1151728282_INV.pdf
- EM2310094_COC.pdf

Report Recipients

- ROBERT CROWE
  - Macquarie Point.ESDAT_EM2310094_0.Chemistry2e.CSV
  - Macquarie Point.ESDAT_EM2310094_0.Header.XML
  - Macquarie Point.ESDAT_EM2310094_0.Sample2e.CSV
  - EM2310094_0_QC.pdf (Email)

- EM2310094_0_QCI.pdf (Email)
- EM2310094_0_COA.pdf (Email)
- EM2310094a.Macquarie Point.AECOM.zip
- 1151728282_INV.pdf (Email)
- EM2310094_COC.pdf (Email)

- ACCOUNTS PAYABLE
  - 1151728282_INV
  - EM2310094_COC

CERTIFICATE OF ANALYSIS

Work Order	: **EM2315815**	Page	: 1 of 46
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point Stockpile Sampling	Date Samples Received	: 04-Sep-2023 11:35
Order number	: Macquarie Point Stockpile Sampling	Date Analysis Commenced	: 05-Sep-2023
C-O-C number	: ----	Issue Date	: 08-Sep-2023 13:54
Sampler	: Annette Heath		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 41		
No. of samples analysed	: 36		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG048G: EM2315815 #4 poor matrix spike recovery for hexavalent chromium due to matrix effects. Confirmed by re-preparation and re-analysis.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: EM2315815-001 Poor duplicate precision for total tin due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005T: EM2315815-004 Poor spike recovery for total lead due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005T: EM2315815-010 Poor duplicate precision for total lead due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005T: EM2315815-021 Poor duplicate precision for total copper due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005T: EM2315815-022 Poor spike recovery for total chromium, lead, and zinc due to sample matrix. Confirmed by re-digestion and re-analysis.
- EP068: EM2315815_004 Poor matrix spike recovery for aldrin due to matrix effects.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-1	PS-Pb-SP1-2	PS-Pb-SP1-3	PS-Pb-SP1-4	PS-Pb-SP1-5
			Sampling date / time	01-Sep-2023 12:00	01-Sep-2023 12:07	01-Sep-2023 12:11	01-Sep-2023 12:15	01-Sep-2023 12:17
Compound	CAS Number	LOR	Unit	EM2315815-001	EM2315815-002	EM2315815-003	EM2315815-004	EM2315815-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**----**	**15.4**	**14.8**	**----**	**14.7**
Moisture Content	----	1.0	%	**15.6**	**----**	**----**	**15.6**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**16**	**----**	**----**	**15**	**----**
Barium	7440-39-3	10	mg/kg	**330**	**----**	**----**	**260**	**----**
Beryllium	7440-41-7	1	mg/kg	<1	**----**	**----**	<1	**----**
Cadmium	7440-43-9	1	mg/kg	**1**	**----**	**----**	**2**	**----**
Chromium	7440-47-3	2	mg/kg	**72**	**----**	**----**	**43**	**----**
Cobalt	7440-48-4	2	mg/kg	**14**	**----**	**----**	**14**	**----**
Copper	7440-50-8	5	mg/kg	**357**	**----**	**----**	**216**	**----**
Lead	7439-92-1	5	mg/kg	**861**	**820**	**659**	**814**	**545**
Manganese	7439-96-5	5	mg/kg	**326**	**----**	**----**	**297**	**----**
Molybdenum	7439-98-7	2	mg/kg	<2	**----**	**----**	<2	**----**
Nickel	7440-02-0	2	mg/kg	**39**	**----**	**----**	**36**	**----**
Selenium	7782-49-2	5	mg/kg	<5	**----**	**----**	<5	**----**
Silver	7440-22-4	2	mg/kg	<2	**----**	**----**	<2	**----**
Tin	7440-31-5	5	mg/kg	**226**	**----**	**----**	**73**	**----**
Zinc	7440-66-6	5	mg/kg	**698**	**----**	**----**	**569**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**1.7**	**----**	**----**	**1.5**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	**----**	**----**	<0.5	**----**
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**155**	**----**	**----**	**161**	**----**
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**370**	**----**	**----**	**270**	**----**
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**9.9**	**10.0**	**10.1**	**10.2**	**10.4**
After HCl pH	----	0.1	pH Unit	**1.5**	**1.4**	**1.9**	**1.6**	**1.8**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**6.5**	**7.0**	**8.0**	**8.3**	**8.8**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	**----**	**----**	<0.1	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-1	PS-Pb-SP1-2	PS-Pb-SP1-3	PS-Pb-SP1-4	PS-Pb-SP1-5
				Sampling date / time	01-Sep-2023 12:00	01-Sep-2023 12:07	01-Sep-2023 12:11	01-Sep-2023 12:15	01-Sep-2023 12:17
Compound	CAS Number	LOR	Unit		EM2315815-001	EM2315815-002	EM2315815-003	EM2315815-004	EM2315815-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-1	PS-Pb-SP1-2	PS-Pb-SP1-3	PS-Pb-SP1-4	PS-Pb-SP1-5
				Sampling date / time	01-Sep-2023 12:00	01-Sep-2023 12:07	01-Sep-2023 12:11	01-Sep-2023 12:15	01-Sep-2023 12:17
Compound	CAS Number	LOR	Unit		EM2315815-001	EM2315815-002	EM2315815-003	EM2315815-004	EM2315815-005
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	<2	----
^ Sum of Phenols	----	0.5	mg/kg		<0.5	----	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		1.8	1.5	0.8	1.3	0.6
Acenaphthylene	208-96-8	0.5	mg/kg		0.7	0.9	0.7	0.7	0.7
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		0.5	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		6.1	6.7	4.3	5.5	4.1
Anthracene	120-12-7	0.5	mg/kg		1.0	1.3	0.9	1.0	0.9
Fluoranthene	206-44-0	0.5	mg/kg		8.4	9.3	7.1	7.6	7.0
Pyrene	129-00-0	0.5	mg/kg		7.6	9.1	7.0	7.1	6.9
Benz(a)anthracene	56-55-3	0.5	mg/kg		5.0	4.8	3.9	4.4	3.8
Chrysene	218-01-9	0.5	mg/kg		4.4	4.8	4.0	3.8	3.7
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		6.6	6.9	5.8	4.9	5.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		2.0	2.7	2.2	2.0	1.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	5.4	4.7	----	4.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.6	3.1	2.7	2.3	2.2
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.7	0.8	0.7	0.6	0.6
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		3.2	3.8	3.3	2.8	2.6
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		55.5	61.7	48.1	48.1	44.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		7.3	8.0	6.9	6.1	6.1
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		7.3	8.0	6.9	6.1	6.1
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		7.3	8.0	6.9	6.1	6.1
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		5.78	----	----	4.43	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg		50	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg		430	----	----	330	----
C29 - C36 Fraction	----	100	mg/kg		270	----	----	220	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		750	----	----	550	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-1	PS-Pb-SP1-2	PS-Pb-SP1-3	PS-Pb-SP1-4	PS-Pb-SP1-5
				Sampling date / time	01-Sep-2023 12:00	01-Sep-2023 12:07	01-Sep-2023 12:11	01-Sep-2023 12:15	01-Sep-2023 12:17
Compound	CAS Number	LOR	Unit		EM2315815-001	EM2315815-002	EM2315815-003	EM2315815-004	EM2315815-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	<10	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg		**70**	----	----	**70**	----
>C16 - C34 Fraction	----	100	mg/kg		**610**	----	----	**470**	----
>C34 - C40 Fraction	----	100	mg/kg		**100**	----	----	<100	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**780**	----	----	**540**	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**70**	----	----	**70**	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	<0.2	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	<1	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**84.3**	----	----	**83.5**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**112**	----	----	**107**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**98.0**	----	----	**95.6**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**99.2**	**95.2**	**100**	**99.4**	**99.9**
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.5**	**83.7**	**88.7**	**85.7**	**88.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**76.7**	**77.8**	**71.8**	**73.6**	**51.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**106**	**95.4**	**100**	**107**	**98.6**
Anthracene-d10	1719-06-8	0.5	%		**109**	**107**	**112**	**110**	**112**
4-Terphenyl-d14	1718-51-0	0.5	%		**110**	**91.4**	**102**	**108**	**101**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**94.5**	----	----	**95.2**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-1	PS-Pb-SP1-2	PS-Pb-SP1-3	PS-Pb-SP1-4	PS-Pb-SP1-5
				Sampling date / time	01-Sep-2023 12:00	01-Sep-2023 12:07	01-Sep-2023 12:11	01-Sep-2023 12:15	01-Sep-2023 12:17
Compound	CAS Number	LOR	Unit		EM2315815-001	EM2315815-002	EM2315815-003	EM2315815-004	EM2315815-005
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		**99.6**	----	----	**104**	----
4-Terphenyl-d14	1718-51-0	0.025	%		**101**	----	----	**103**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**112**	----	----	**92.7**	----
Toluene-D8	2037-26-5	0.2	%		**110**	----	----	**94.9**	----
4-Bromofluorobenzene	460-00-4	0.2	%		**121**	----	----	**112**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-6	PS-Pb-SP1-7	PS-Pb-SP1-8	PS-Pb-SP1-9	PS-Pb-SP1-10
			Sampling date / time	01-Sep-2023 12:30	01-Sep-2023 12:33	01-Sep-2023 12:39	01-Sep-2023 12:43	01-Sep-2023 12:52
Compound	CAS Number	LOR	Unit	EM2315815-006	EM2315815-007	EM2315815-008	EM2315815-009	EM2315815-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**----**	**13.6**	**13.9**	**----**	**13.8**
Moisture Content	----	1.0	%	**15.0**	**----**	**----**	**14.0**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**13**	**----**	**----**	**26**	**----**
Barium	7440-39-3	10	mg/kg	**230**	**----**	**----**	**280**	**----**
Beryllium	7440-41-7	1	mg/kg	<1	**----**	**----**	<1	**----**
Cadmium	7440-43-9	1	mg/kg	**5**	**----**	**----**	**2**	**----**
Chromium	7440-47-3	2	mg/kg	**61**	**----**	**----**	**43**	**----**
Cobalt	7440-48-4	2	mg/kg	**13**	**----**	**----**	**13**	**----**
Copper	7440-50-8	5	mg/kg	**180**	**----**	**----**	**230**	**----**
Lead	7439-92-1	5	mg/kg	**491**	**657**	**701**	**849**	**522**
Manganese	7439-96-5	5	mg/kg	**315**	**----**	**----**	**302**	**----**
Molybdenum	7439-98-7	2	mg/kg	<2	**----**	**----**	<2	**----**
Nickel	7440-02-0	2	mg/kg	**41**	**----**	**----**	**41**	**----**
Selenium	7782-49-2	5	mg/kg	<5	**----**	**----**	<5	**----**
Silver	7440-22-4	2	mg/kg	<2	**----**	**----**	<2	**----**
Tin	7440-31-5	5	mg/kg	**58**	**----**	**----**	**134**	**----**
Zinc	7440-66-6	5	mg/kg	**493**	**----**	**----**	**648**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**1.0**	**----**	**----**	**1.7**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	**----**	**----**	<0.5	**----**
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**156**	**----**	**----**	**91**	**----**
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**380**	**----**	**----**	**1040**	**----**
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**10.2**	**10.3**	**10.3**	**10.3**	**10.4**
After HCl pH	----	0.1	pH Unit	**1.4**	**1.7**	**1.5**	**1.7**	**2.0**
Extraction Fluid Number	----	1	-	**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**8.2**	**8.4**	**8.0**	**8.2**	**8.7**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	**----**	**----**	<0.1	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-6	PS-Pb-SP1-7	PS-Pb-SP1-8	PS-Pb-SP1-9	PS-Pb-SP1-10
				Sampling date / time	01-Sep-2023 12:30	01-Sep-2023 12:33	01-Sep-2023 12:39	01-Sep-2023 12:43	01-Sep-2023 12:52
Compound	CAS Number	LOR	Unit		EM2315815-006	EM2315815-007	EM2315815-008	EM2315815-009	EM2315815-010
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	<0.05	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	<0.05	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	----	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	<0.2	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	<0.05	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-6	PS-Pb-SP1-7	PS-Pb-SP1-8	PS-Pb-SP1-9	PS-Pb-SP1-10
				Sampling date / time	01-Sep-2023 12:30	01-Sep-2023 12:33	01-Sep-2023 12:39	01-Sep-2023 12:43	01-Sep-2023 12:52
Compound	CAS Number	LOR	Unit		EM2315815-006	EM2315815-007	EM2315815-008	EM2315815-009	EM2315815-010
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	<2	----
^ Sum of Phenols	----	0.5	mg/kg		<0.5	----	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**1.0**	**0.5**	<0.5	**0.8**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		**0.9**	**0.6**	**0.8**	**3.2**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	**0.5**	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	**3.4**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		**5.9**	**3.0**	**4.3**	**26.5**	**2.2**
Anthracene	120-12-7	0.5	mg/kg		**1.4**	**0.7**	**1.0**	**5.1**	**0.6**
Fluoranthene	206-44-0	0.5	mg/kg		**9.3**	**5.4**	**7.4**	**22.4**	**4.4**
Pyrene	129-00-0	0.5	mg/kg		**8.6**	**5.4**	**7.4**	**21.4**	**4.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**5.1**	**3.1**	**4.1**	**10.0**	**2.6**
Chrysene	218-01-9	0.5	mg/kg		**4.2**	**3.0**	**4.0**	**8.6**	**2.5**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**6.2**	**4.5**	**5.3**	**9.6**	**3.6**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**1.9**	**1.6**	**1.9**	**4.0**	**1.3**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	**3.6**	**4.4**	----	**2.9**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**2.4**	**2.0**	**2.2**	**4.3**	**1.5**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.6**	**0.5**	**0.6**	**1.4**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.8**	**2.4**	**2.7**	**5.2**	**1.8**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**55.0**	**36.3**	**46.1**	**136**	**27.8**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**6.9**	**5.3**	**6.4**	**13.4**	**3.8**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**6.9**	**5.3**	**6.4**	**13.4**	**4.1**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**6.9**	**5.3**	**6.4**	**13.4**	**4.3**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**4.72**	----	----	**4.50**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg		**380**	----	----	**360**	----
C29 - C36 Fraction	----	100	mg/kg		**260**	----	----	**260**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**640**	----	----	**620**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-6	PS-Pb-SP1-7	PS-Pb-SP1-8	PS-Pb-SP1-9	PS-Pb-SP1-10
				Sampling date / time	01-Sep-2023 12:30	01-Sep-2023 12:33	01-Sep-2023 12:39	01-Sep-2023 12:43	01-Sep-2023 12:52
Compound	CAS Number	LOR	Unit		EM2315815-006	EM2315815-007	EM2315815-008	EM2315815-009	EM2315815-010
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	<10	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg		**60**	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg		**560**	----	----	**540**	----
>C34 - C40 Fraction	----	100	mg/kg		**110**	----	----	**110**	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**730**	----	----	**650**	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**60**	----	----	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	<0.2	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	<1	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**76.2**	----	----	**82.6**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**120**	----	----	**112**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**93.0**	----	----	**98.9**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**95.6**	**98.5**	**109**	**95.3**	**95.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**83.2**	**86.8**	**95.0**	**83.7**	**83.9**
2.4.6-Tribromophenol	118-79-6	0.5	%		**76.9**	**74.9**	**79.1**	**74.8**	**61.6**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**100**	**95.6**	**104**	**104**	**92.2**
Anthracene-d10	1719-06-8	0.5	%		**108**	**110**	**118**	**106**	**106**
4-Terphenyl-d14	1718-51-0	0.5	%		**96.2**	**99.1**	**107**	**104**	**96.7**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**91.0**	----	----	**80.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-6	PS-Pb-SP1-7	PS-Pb-SP1-8	PS-Pb-SP1-9	PS-Pb-SP1-10
				Sampling date / time	01-Sep-2023 12:30	01-Sep-2023 12:33	01-Sep-2023 12:39	01-Sep-2023 12:43	01-Sep-2023 12:52
Compound	CAS Number	LOR	Unit		EM2315815-006	EM2315815-007	EM2315815-008	EM2315815-009	EM2315815-010
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		**101**	----	----	**92.4**	----
4-Terphenyl-d14	1718-51-0	0.025	%		**99.7**	----	----	**87.2**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**88.0**	----	----	**82.6**	----
Toluene-D8	2037-26-5	0.2	%		**88.9**	----	----	**84.4**	----
4-Bromofluorobenzene	460-00-4	0.2	%		**103**	----	----	**97.9**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-11	PS-Pb-SP1-12	PS-Pb-SP1-13	PS-Pb-SP1-14	PS-Pb-SP1-15
			Sampling date / time	01-Sep-2023 13:05	01-Sep-2023 13:10	01-Sep-2023 13:14	01-Sep-2023 13:18	01-Sep-2023 13:23
Compound	CAS Number	LOR	Unit	EM2315815-011	EM2315815-012	EM2315815-013	EM2315815-014	EM2315815-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	13.5	----	12.8	12.6	10.9
Moisture Content	----	1.0	%	----	13.7	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	20	----	----	----
Barium	7440-39-3	10	mg/kg	----	240	----	----	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	2	----	----	----
Chromium	7440-47-3	2	mg/kg	----	67	----	----	----
Cobalt	7440-48-4	2	mg/kg	----	13	----	----	----
Copper	7440-50-8	5	mg/kg	----	779	----	----	----
Lead	7439-92-1	5	mg/kg	893	593	1200	733	624
Manganese	7439-96-5	5	mg/kg	----	304	----	----	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	----	----
Nickel	7440-02-0	2	mg/kg	----	57	----	----	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	----	----
Silver	7440-22-4	2	mg/kg	----	<2	----	----	----
Tin	7440-31-5	5	mg/kg	----	73	----	----	----
Zinc	7440-66-6	5	mg/kg	----	522	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	1.3	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	84	----	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	560	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	10.6	10.2	10.4	10.4	10.5
After HCl pH	----	0.1	pH Unit	5.6	5.5	5.7	5.7	5.6
Extraction Fluid Number	----	1	-	2	2	2	2	2
Final pH	----	0.1	pH Unit	5.4	5.0	5.8	7.3	5.0
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-11	PS-Pb-SP1-12	PS-Pb-SP1-13	PS-Pb-SP1-14	PS-Pb-SP1-15
			Sampling date / time	01-Sep-2023 13:05	01-Sep-2023 13:10	01-Sep-2023 13:14	01-Sep-2023 13:18	01-Sep-2023 13:23
Compound	CAS Number	LOR	Unit	EM2315815-011	EM2315815-012	EM2315815-013	EM2315815-014	EM2315815-015
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-11	PS-Pb-SP1-12	PS-Pb-SP1-13	PS-Pb-SP1-14	PS-Pb-SP1-15
				Sampling date / time	01-Sep-2023 13:05	01-Sep-2023 13:10	01-Sep-2023 13:14	01-Sep-2023 13:18	01-Sep-2023 13:23
Compound	CAS Number	LOR	Unit		EM2315815-011	EM2315815-012	EM2315815-013	EM2315815-014	EM2315815-015
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	<2	----	----	----
^ Sum of Phenols	----	0.5	mg/kg		----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		0.6	1.4	<0.5	<0.5	0.5
Acenaphthylene	208-96-8	0.5	mg/kg		0.6	0.7	0.6	<0.5	0.7
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	1.1
Fluorene	86-73-7	0.5	mg/kg		<0.5	0.7	<0.5	<0.5	1.6
Phenanthrene	85-01-8	0.5	mg/kg		3.5	5.5	3.2	2.4	10.8
Anthracene	120-12-7	0.5	mg/kg		0.8	1.3	0.8	0.5	3.0
Fluoranthene	206-44-0	0.5	mg/kg		5.7	7.8	6.3	4.5	11.6
Pyrene	129-00-0	0.5	mg/kg		5.7	7.1	6.5	4.6	11.1
Benz(a)anthracene	56-55-3	0.5	mg/kg		3.2	4.2	3.6	2.7	5.6
Chrysene	218-01-9	0.5	mg/kg		3.2	3.7	3.6	2.6	4.9
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		4.7	5.1	5.0	3.8	6.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.6	2.1	1.9	1.4	2.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg		3.7	----	4.2	3.1	5.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		2.0	2.1	2.1	1.6	2.6
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		0.5	0.5	0.6	<0.5	0.7
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		2.4	2.5	2.5	1.9	3.1
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		38.2	49.0	40.9	29.1	72.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		5.4	6.2	6.1	4.1	8.1
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		5.4	6.2	6.1	4.3	8.1
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		5.4	6.2	6.1	4.6	8.1
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	4.76	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		----	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		----	330	----	----	----
C29 - C36 Fraction	----	100	mg/kg		----	220	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	550	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-11	PS-Pb-SP1-12	PS-Pb-SP1-13	PS-Pb-SP1-14	PS-Pb-SP1-15
				Sampling date / time	01-Sep-2023 13:05	01-Sep-2023 13:10	01-Sep-2023 13:14	01-Sep-2023 13:18	01-Sep-2023 13:23
Compound	CAS Number	LOR	Unit		EM2315815-011	EM2315815-012	EM2315815-013	EM2315815-014	EM2315815-015
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	<10	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		----	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		----	**60**	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		----	**480**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		----	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		----	**540**	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		----	**60**	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	<0.2	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		----	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		----	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**81.0**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**109**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**96.8**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**99.2**	**95.0**	**101**	**104**	**106**
2-Chlorophenol-D4	93951-73-6	0.5	%		**86.0**	**85.1**	**88.0**	**90.2**	**91.5**
2.4.6-Tribromophenol	118-79-6	0.5	%		**57.7**	**67.0**	**54.0**	**56.8**	**73.0**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.7**	**101**	**96.1**	**97.7**	**99.0**
Anthracene-d10	1719-06-8	0.5	%		**108**	**107**	**111**	**114**	**114**
4-Terphenyl-d14	1718-51-0	0.5	%		**97.3**	**108**	**102**	**103**	**104**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	**91.9**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-11	PS-Pb-SP1-12	PS-Pb-SP1-13	PS-Pb-SP1-14	PS-Pb-SP1-15
				Sampling date / time	01-Sep-2023 13:05	01-Sep-2023 13:10	01-Sep-2023 13:14	01-Sep-2023 13:18	01-Sep-2023 13:23
Compound	CAS Number	LOR	Unit		EM2315815-011	EM2315815-012	EM2315815-013	EM2315815-014	EM2315815-015
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		----	**102**	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	**98.8**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	**82.0**	----	----	----
Toluene-D8	2037-26-5	0.2	%		----	**82.3**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	**96.8**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-16	PS-Pb-SP1-17	PS-Pb-SP1-18	PS-Pb-SP1-19	PS-Pb-SP1-20
			Sampling date / time	01-Sep-2023 13:35	01-Sep-2023 13:40	01-Sep-2023 13:46	01-Sep-2023 13:50	01-Sep-2023 13:55
Compound	CAS Number	LOR	Unit	EM2315815-016	EM2315815-017	EM2315815-018	EM2315815-019	EM2315815-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**----**	**12.1**	**13.2**	**11.2**	**----**
Moisture Content	----	1.0	%	**12.5**	**----**	**----**	**----**	**11.8**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**21**	**----**	**----**	**----**	**13**
Barium	7440-39-3	10	mg/kg	**230**	**----**	**----**	**----**	**260**
Beryllium	7440-41-7	1	mg/kg	<1	**----**	**----**	**----**	<1
Cadmium	7440-43-9	1	mg/kg	**2**	**----**	**----**	**----**	**2**
Chromium	7440-47-3	2	mg/kg	**56**	**----**	**----**	**----**	**83**
Cobalt	7440-48-4	2	mg/kg	**14**	**----**	**----**	**----**	**15**
Copper	7440-50-8	5	mg/kg	**249**	**----**	**----**	**----**	**374**
Lead	7439-92-1	5	mg/kg	**665**	**750**	**1070**	**773**	**616**
Manganese	7439-96-5	5	mg/kg	**309**	**----**	**----**	**----**	**327**
Molybdenum	7439-98-7	2	mg/kg	<2	**----**	**----**	**----**	<2
Nickel	7440-02-0	2	mg/kg	**48**	**----**	**----**	**----**	**65**
Selenium	7782-49-2	5	mg/kg	<5	**----**	**----**	**----**	<5
Silver	7440-22-4	2	mg/kg	<2	**----**	**----**	**----**	<2
Tin	7440-31-5	5	mg/kg	**82**	**----**	**----**	**----**	**59**
Zinc	7440-66-6	5	mg/kg	**528**	**----**	**----**	**----**	**503**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**1.5**	**----**	**----**	**----**	**1.7**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	**----**	**----**	**----**	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**75**	**----**	**----**	**----**	**79**
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**580**	**----**	**----**	**----**	**580**
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**10.4**	**10.3**	**10.4**	**10.5**	**10.5**
After HCl pH	----	0.1	pH Unit	**5.8**	**5.5**	**5.5**	**5.6**	**5.6**
Extraction Fluid Number	----	1	-	**2**	**2**	**2**	**2**	**2**
Final pH	----	0.1	pH Unit	**5.4**	**7.7**	**8.7**	**7.8**	**8.7**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	**----**	**----**	**----**	<0.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-16	PS-Pb-SP1-17	PS-Pb-SP1-18	PS-Pb-SP1-19	PS-Pb-SP1-20
				Sampling date / time	01-Sep-2023 13:35	01-Sep-2023 13:40	01-Sep-2023 13:46	01-Sep-2023 13:50	01-Sep-2023 13:55
Compound	CAS Number	LOR	Unit		EM2315815-016	EM2315815-017	EM2315815-018	EM2315815-019	EM2315815-020
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-16	PS-Pb-SP1-17	PS-Pb-SP1-18	PS-Pb-SP1-19	PS-Pb-SP1-20
			Sampling date / time	01-Sep-2023 13:35	01-Sep-2023 13:40	01-Sep-2023 13:46	01-Sep-2023 13:50	01-Sep-2023 13:55
Compound	CAS Number	LOR	Unit	EM2315815-016	EM2315815-017	EM2315815-018	EM2315815-019	EM2315815-020
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	<2
^ Sum of Phenols	----	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.8**	**0.7**	<0.5	**0.8**	**0.6**
Acenaphthylene	208-96-8	0.5	mg/kg	**0.6**	**0.6**	<0.5	**0.8**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	**0.6**	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**3.5**	**3.6**	**2.7**	**6.0**	**2.8**
Anthracene	120-12-7	0.5	mg/kg	**0.9**	**0.7**	**0.6**	**1.2**	**0.6**
Fluoranthene	206-44-0	0.5	mg/kg	**6.6**	**5.8**	**4.8**	**8.2**	**4.8**
Pyrene	129-00-0	0.5	mg/kg	**6.4**	**5.6**	**4.8**	**8.3**	**4.6**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**4.0**	**3.2**	**2.9**	**4.3**	**2.7**
Chrysene	218-01-9	0.5	mg/kg	**3.4**	**3.2**	**2.8**	**4.2**	**2.5**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**5.5**	**4.6**	**3.8**	**5.8**	**3.7**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**1.5**	**1.6**	**1.3**	**2.0**	**1.4**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**3.5**	**3.0**	**4.6**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**2.1**	**1.9**	**1.5**	**2.3**	**1.5**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**0.6**	<0.5	<0.5	**0.6**	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**2.5**	**2.2**	**1.8**	**2.6**	**1.8**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**42.6**	**37.2**	**30.0**	**52.3**	**30.0**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**6.2**	**4.7**	**4.0**	**6.7**	**4.0**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**6.2**	**4.9**	**4.2**	**6.7**	**4.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**6.2**	**5.2**	**4.5**	**6.7**	**4.5**
EP075B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.05	mg/kg	**4.59**	----	----	----	**3.69**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	**280**	----	----	----	**270**
C29 - C36 Fraction	----	100	mg/kg	**200**	----	----	----	**200**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**480**	----	----	----	**470**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-16	PS-Pb-SP1-17	PS-Pb-SP1-18	PS-Pb-SP1-19	PS-Pb-SP1-20
				Sampling date / time	01-Sep-2023 13:35	01-Sep-2023 13:40	01-Sep-2023 13:46	01-Sep-2023 13:50	01-Sep-2023 13:55
Compound	CAS Number	LOR	Unit		EM2315815-016	EM2315815-017	EM2315815-018	EM2315815-019	EM2315815-020
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg		**410**	----	----	----	**400**
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**410**	----	----	----	**400**
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**81.0**	----	----	----	**70.6**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**108**	----	----	----	**110**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**94.0**	----	----	----	**85.4**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**94.4**	**103**	**101**	**115**	**94.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.5**	**89.7**	**86.8**	**99.9**	**84.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		**61.0**	**48.8**	**53.8**	**42.4**	**37.3**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**102**	**97.0**	**93.7**	**108**	**102**
Anthracene-d10	1719-06-8	0.5	%		**108**	**112**	**110**	**125**	**107**
4-Terphenyl-d14	1718-51-0	0.5	%		**105**	**100**	**100**	**111**	**102**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**88.2**	----	----	----	**88.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-16	PS-Pb-SP1-17	PS-Pb-SP1-18	PS-Pb-SP1-19	PS-Pb-SP1-20
				Sampling date / time	01-Sep-2023 13:35	01-Sep-2023 13:40	01-Sep-2023 13:46	01-Sep-2023 13:50	01-Sep-2023 13:55
Compound	CAS Number	LOR	Unit		EM2315815-016	EM2315815-017	EM2315815-018	EM2315815-019	EM2315815-020
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		**93.9**	**----**	**----**	**----**	**96.7**
4-Terphenyl-d14	1718-51-0	0.025	%		**94.0**	**----**	**----**	**----**	**95.1**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**83.7**	**----**	**----**	**----**	**89.9**
Toluene-D8	2037-26-5	0.2	%		**84.0**	**----**	**----**	**----**	**90.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**99.5**	**----**	**----**	**----**	**102**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-21	PS-Pb-SP1-22	PS-Pb-SP1-23	PS-Pb-SP1-24	PS-Pb-SP2-1
			Sampling date / time	01-Sep-2023 14:09	01-Sep-2023 14:15	01-Sep-2023 14:20	01-Sep-2023 11:23	01-Sep-2023 10:27
Compound	CAS Number	LOR	Unit	EM2315815-021	EM2315815-022	EM2315815-023	EM2315815-024	EM2315815-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	12.7	10.5	----	13.7	----
Moisture Content	----	1.0	%	----	----	11.7	----	11.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	15	----	17
Barium	7440-39-3	10	mg/kg	----	----	200	----	220
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	<1
Cadmium	7440-43-9	1	mg/kg	----	----	4	----	2
Chromium	7440-47-3	2	mg/kg	----	----	93	----	68
Cobalt	7440-48-4	2	mg/kg	----	----	13	----	15
Copper	7440-50-8	5	mg/kg	----	----	249	----	257
Lead	7439-92-1	5	mg/kg	761	661	827	570	543
Manganese	7439-96-5	5	mg/kg	----	----	312	----	310
Molybdenum	7439-98-7	2	mg/kg	----	----	<2	----	<2
Nickel	7440-02-0	2	mg/kg	----	----	52	----	56
Selenium	7782-49-2	5	mg/kg	----	----	<5	----	<5
Silver	7440-22-4	2	mg/kg	----	----	<2	----	<2
Tin	7440-31-5	5	mg/kg	----	----	92	----	82
Zinc	7440-66-6	5	mg/kg	----	----	550	----	505
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	1.8	----	1.3
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	134	----	60
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	430	----	830
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	10.3	10.4	10.4	10.3	10.5
After HCl pH	----	0.1	pH Unit	5.4	5.4	5.5	5.4	5.5
Extraction Fluid Number	----	1	-	2	2	2	2	2
Final pH	----	0.1	pH Unit	6.9	8.9	7.7	5.4	8.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-21	PS-Pb-SP1-22	PS-Pb-SP1-23	PS-Pb-SP1-24	PS-Pb-SP2-1
				Sampling date / time	01-Sep-2023 14:09	01-Sep-2023 14:15	01-Sep-2023 14:20	01-Sep-2023 11:23	01-Sep-2023 10:27
Compound	CAS Number	LOR	Unit		EM2315815-021	EM2315815-022	EM2315815-023	EM2315815-024	EM2315815-025
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg		----	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		----	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		----	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		----	----	<0.05	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	----	<1	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	<0.5	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP1-21	PS-Pb-SP1-22	PS-Pb-SP1-23	PS-Pb-SP1-24	PS-Pb-SP2-1
			Sampling date / time	01-Sep-2023 14:09	01-Sep-2023 14:15	01-Sep-2023 14:20	01-Sep-2023 11:23	01-Sep-2023 10:27
Compound	CAS Number	LOR	Unit	EM2315815-021	EM2315815-022	EM2315815-023	EM2315815-024	EM2315815-025
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	----	<2
^ Sum of Phenols	----	0.5	mg/kg	----	----	<0.5	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	0.8	1.0	0.8	0.8
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.6	0.7	0.8	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	3.1	3.8	4.2	5.5	4.0
Anthracene	120-12-7	0.5	mg/kg	0.6	0.7	0.9	1.2	0.9
Fluoranthene	206-44-0	0.5	mg/kg	5.3	5.8	6.7	8.3	6.1
Pyrene	129-00-0	0.5	mg/kg	5.4	5.7	6.3	8.2	5.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.1	3.2	4.0	4.4	3.6
Chrysene	218-01-9	0.5	mg/kg	3.0	3.1	3.4	4.4	3.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.3	4.7	4.9	5.8	4.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	1.5	1.9	2.1	1.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.3	3.6	----	4.7	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.7	1.8	2.3	2.3	1.9
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.6	0.6	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.0	2.0	2.8	2.5	2.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	33.8	37.3	43.9	51.6	38.6
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	4.4	4.8	6.2	6.8	4.8
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	4.7	5.0	6.2	6.8	5.1
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	4.9	5.3	6.2	6.8	5.3
EP075B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.05	mg/kg	----	----	4.11	----	4.50
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	320	----	260
C29 - C36 Fraction	----	100	mg/kg	----	----	250	----	190
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	570	----	450

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-21	PS-Pb-SP1-22	PS-Pb-SP1-23	PS-Pb-SP1-24	PS-Pb-SP2-1
				Sampling date / time	01-Sep-2023 14:09	01-Sep-2023 14:15	01-Sep-2023 14:20	01-Sep-2023 11:23	01-Sep-2023 10:27
Compound	CAS Number	LOR	Unit		EM2315815-021	EM2315815-022	EM2315815-023	EM2315815-024	EM2315815-025
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	<10	----	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		----	----	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg		----	----	**60**	----	<50
>C16 - C34 Fraction	----	100	mg/kg		----	----	**480**	----	**390**
>C34 - C40 Fraction	----	100	mg/kg		----	----	**120**	----	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		----	----	**660**	----	**390**
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		----	----	**60**	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg		----	----	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	<0.5	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	----	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		----	----	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg		----	----	<1	----	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**81.3**	----	**83.6**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	**110**	----	**108**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	**95.8**	----	**95.0**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**112**	----	**93.0**	**102**	**91.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**97.1**	----	**85.1**	**88.0**	**81.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		**62.4**	----	**56.9**	**57.7**	**44.3**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**103**	**95.8**	**107**	**94.4**	**102**
Anthracene-d10	1719-06-8	0.5	%		**120**	**111**	**110**	**111**	**110**
4-Terphenyl-d14	1718-51-0	0.5	%		**109**	**99.1**	**105**	**96.3**	**107**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	----	**88.8**	----	**92.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP1-21	PS-Pb-SP1-22	PS-Pb-SP1-23	PS-Pb-SP1-24	PS-Pb-SP2-1
				Sampling date / time	01-Sep-2023 14:09	01-Sep-2023 14:15	01-Sep-2023 14:20	01-Sep-2023 11:23	01-Sep-2023 10:27
Compound	CAS Number	LOR	Unit		EM2315815-021	EM2315815-022	EM2315815-023	EM2315815-024	EM2315815-025
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		----	----	**97.7**	----	**104**
4-Terphenyl-d14	1718-51-0	0.025	%		----	----	**97.0**	----	**103**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	**81.6**	----	**87.5**
Toluene-D8	2037-26-5	0.2	%		----	----	**75.8**	----	**83.6**
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	**97.6**	----	**102**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP2-2	PS-Pb-SP2-3	PS-Pb-SP2-4	PS-Pb-SP2-5	PS-Pb-SP2-6
			Sampling date / time	01-Sep-2023 10:33	01-Sep-2023 10:39	01-Sep-2023 10:43	01-Sep-2023 10:46	01-Sep-2023 10:57
Compound	CAS Number	LOR	Unit	EM2315815-026	EM2315815-027	EM2315815-028	EM2315815-029	EM2315815-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	12.2	12.3	10.9	----	11.3
Moisture Content	----	1.0	%	----	----	----	10.9	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	47	----
Barium	7440-39-3	10	mg/kg	----	----	----	140	----
Beryllium	7440-41-7	1	mg/kg	----	----	----	<1	----
Cadmium	7440-43-9	1	mg/kg	----	----	----	2	----
Chromium	7440-47-3	2	mg/kg	----	----	----	30	----
Cobalt	7440-48-4	2	mg/kg	----	----	----	13	----
Copper	7440-50-8	5	mg/kg	----	----	----	128	----
Lead	7439-92-1	5	mg/kg	667	633	645	622	844
Manganese	7439-96-5	5	mg/kg	----	----	----	273	----
Molybdenum	7439-98-7	2	mg/kg	----	----	----	<2	----
Nickel	7440-02-0	2	mg/kg	----	----	----	37	----
Selenium	7782-49-2	5	mg/kg	----	----	----	<5	----
Silver	7440-22-4	2	mg/kg	----	----	----	<2	----
Tin	7440-31-5	5	mg/kg	----	----	----	31	----
Zinc	7440-66-6	5	mg/kg	----	----	----	548	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	0.8	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	19	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	----	----	400	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	10.4	9.9	10.3	10.3	10.4
After HCl pH	----	0.1	pH Unit	5.5	1.9	1.9	1.7	1.7
Extraction Fluid Number	----	1	-	2	1	1	1	1
Final pH	----	0.1	pH Unit	5.3	5.8	7.0	7.4	6.2
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP2-2	PS-Pb-SP2-3	PS-Pb-SP2-4	PS-Pb-SP2-5	PS-Pb-SP2-6
			Sampling date / time	01-Sep-2023 10:33	01-Sep-2023 10:39	01-Sep-2023 10:43	01-Sep-2023 10:46	01-Sep-2023 10:57
Compound	CAS Number	LOR	Unit	EM2315815-026	EM2315815-027	EM2315815-028	EM2315815-029	EM2315815-030
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-2	PS-Pb-SP2-3	PS-Pb-SP2-4	PS-Pb-SP2-5	PS-Pb-SP2-6
				Sampling date / time	01-Sep-2023 10:33	01-Sep-2023 10:39	01-Sep-2023 10:43	01-Sep-2023 10:46	01-Sep-2023 10:57
Compound	CAS Number	LOR	Unit		EM2315815-026	EM2315815-027	EM2315815-028	EM2315815-029	EM2315815-030
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg		----	----	----	<2	----
^ Sum of Phenols	----	0.5	mg/kg		----	----	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**0.6**	<0.5	<0.5	**0.5**	**0.9**
Acenaphthylene	208-96-8	0.5	mg/kg		**0.7**	**0.5**	**0.6**	**0.6**	**1.9**
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.4**
Phenanthrene	85-01-8	0.5	mg/kg		**3.8**	**3.1**	**3.0**	**3.8**	**22.4**
Anthracene	120-12-7	0.5	mg/kg		**1.0**	**0.8**	**0.8**	**0.9**	**5.9**
Fluoranthene	206-44-0	0.5	mg/kg		**7.2**	**5.8**	**6.6**	**6.4**	**27.0**
Pyrene	129-00-0	0.5	mg/kg		**7.3**	**5.8**	**6.6**	**6.1**	**25.1**
Benz(a)anthracene	56-55-3	0.5	mg/kg		**4.3**	**3.3**	**3.8**	**3.6**	**12.6**
Chrysene	218-01-9	0.5	mg/kg		**4.0**	**3.1**	**3.5**	**3.0**	**10.9**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**5.6**	**4.3**	**4.7**	**4.6**	**13.0**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**2.1**	**1.4**	**1.6**	**1.3**	**4.8**
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**4.7**	**3.4**	**3.9**	----	**10.6**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**2.3**	**1.7**	**1.8**	**2.0**	**4.4**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.6**	<0.5	<0.5	**0.5**	**1.2**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**2.6**	**1.9**	**2.0**	**2.5**	**4.6**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**46.8**	**35.1**	**38.9**	**39.6**	**147**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**6.8**	**4.5**	**5.1**	**5.5**	**15.4**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**6.8**	**4.8**	**5.4**	**5.5**	**15.4**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**6.8**	**5.0**	**5.6**	**5.5**	**15.4**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	----	----	**3.94**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg		----	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg		----	----	----	**220**	----
C29 - C36 Fraction	----	100	mg/kg		----	----	----	**190**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	----	**410**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-2	PS-Pb-SP2-3	PS-Pb-SP2-4	PS-Pb-SP2-5	PS-Pb-SP2-6
				Sampling date / time	01-Sep-2023 10:33	01-Sep-2023 10:39	01-Sep-2023 10:43	01-Sep-2023 10:46	01-Sep-2023 10:57
Compound	CAS Number	LOR	Unit		EM2315815-026	EM2315815-027	EM2315815-028	EM2315815-029	EM2315815-030
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	----	<10	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		----	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg		----	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	**350**	----
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	<100	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		----	----	----	**350**	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		----	----	----	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg		----	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	----
^ **Total Xylenes**	----	0.5	mg/kg		----	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg		----	----	----	<1	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	**77.5**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	**102**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	**90.5**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**105**	**109**	**107**	**91.2**	**106**
2-Chlorophenol-D4	93951-73-6	0.5	%		**89.7**	**93.8**	**92.3**	**81.6**	**90.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		**47.8**	**75.9**	**72.8**	**61.5**	**71.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**95.0**	**96.4**	**95.5**	**104**	**94.6**
Anthracene-d10	1719-06-8	0.5	%		**112**	**114**	**114**	**106**	**110**
4-Terphenyl-d14	1718-51-0	0.5	%		**100**	**104**	**103**	**106**	**101**
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	----	----	**90.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-2	PS-Pb-SP2-3	PS-Pb-SP2-4	PS-Pb-SP2-5	PS-Pb-SP2-6
				Sampling date / time	01-Sep-2023 10:33	01-Sep-2023 10:39	01-Sep-2023 10:43	01-Sep-2023 10:46	01-Sep-2023 10:57
Compound	CAS Number	LOR	Unit		EM2315815-026	EM2315815-027	EM2315815-028	EM2315815-029	EM2315815-030
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		----	----	----	**98.8**	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	----	----	**93.9**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	**86.2**	----
Toluene-D8	2037-26-5	0.2	%		----	----	----	**90.6**	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	**103**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	PS-Pb-SP2-7	PS-Pb-SP2-8	PS-Pb-SP2-9	PS-Pb-SP2-10	TB02
			Sampling date / time	01-Sep-2023 11:01	01-Sep-2023 11:10	01-Sep-2023 11:17	01-Sep-2023 11:23	01-Sep-2023 00:00
Compound	CAS Number	LOR	Unit	EM2315815-031	EM2315815-032	EM2315815-033	EM2315815-034	EM2315815-035
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	9.5	----	9.9	8.8	----
Moisture Content	----	1.0	%	----	8.7	----	----	<1.0
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	50	----	----	----
Barium	7440-39-3	10	mg/kg	----	120	----	----	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	3	----	----	----
Chromium	7440-47-3	2	mg/kg	----	33	----	----	----
Cobalt	7440-48-4	2	mg/kg	----	12	----	----	----
Copper	7440-50-8	5	mg/kg	----	116	----	----	----
Lead	7439-92-1	5	mg/kg	554	454	609	564	----
Manganese	7439-96-5	5	mg/kg	----	244	----	----	----
Molybdenum	7439-98-7	2	mg/kg	----	<2	----	----	----
Nickel	7440-02-0	2	mg/kg	----	43	----	----	----
Selenium	7782-49-2	5	mg/kg	----	<5	----	----	----
Silver	7440-22-4	2	mg/kg	----	<2	----	----	----
Tin	7440-31-5	5	mg/kg	----	26	----	----	----
Zinc	7440-66-6	5	mg/kg	----	477	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.6	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	8	----	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	1340	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	10.4	10.5	10.5	10.4	----
After HCl pH	----	0.1	pH Unit	5.5	5.6	5.5	5.6	----
Extraction Fluid Number	----	1	-	2	2	2	2	----
Final pH	----	0.1	pH Unit	4.9	5.3	7.3	5.4	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-7	PS-Pb-SP2-8	PS-Pb-SP2-9	PS-Pb-SP2-10	TB02
				Sampling date / time	01-Sep-2023 11:01	01-Sep-2023 11:10	01-Sep-2023 11:17	01-Sep-2023 11:23	01-Sep-2023 00:00
Compound	CAS Number	LOR	Unit		EM2315815-031	EM2315815-032	EM2315815-033	EM2315815-034	EM2315815-035
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-2	0.05	mg/kg		----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-7	PS-Pb-SP2-8	PS-Pb-SP2-9	PS-Pb-SP2-10	TB02
				Sampling date / time	01-Sep-2023 11:01	01-Sep-2023 11:10	01-Sep-2023 11:17	01-Sep-2023 11:23	01-Sep-2023 00:00
Compound	CAS Number	LOR	Unit		EM2315815-031	EM2315815-032	EM2315815-033	EM2315815-034	EM2315815-035
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	<2	----	----	----
^ Sum of Phenols	----	0.5	mg/kg		----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	1.2	0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		0.6	0.7	0.6	1.1	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	0.5	<0.5	0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		2.7	5.6	2.8	7.7	----
Anthracene	120-12-7	0.5	mg/kg		0.6	1.3	0.7	1.7	----
Fluoranthene	206-44-0	0.5	mg/kg		5.7	8.2	5.8	12.1	----
Pyrene	129-00-0	0.5	mg/kg		5.7	8.1	5.7	11.1	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		3.4	4.5	3.5	6.0	----
Chrysene	218-01-9	0.5	mg/kg		2.9	4.1	3.2	5.3	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		4.4	5.4	4.2	7.0	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		1.6	2.0	1.6	2.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		3.9	----	3.8	6.3	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.9	2.4	2.0	3.2	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	0.6	0.5	0.8	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		2.4	3.0	2.4	3.9	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		35.8	52.4	37.3	69.2	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		5.1	6.9	5.5	9.1	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		5.3	6.9	5.5	9.1	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		5.6	6.9	5.5	9.1	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		----	5.00	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	<10	----	----	<10
C10 - C14 Fraction	----	50	mg/kg		----	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		----	240	----	----	----
C29 - C36 Fraction	----	100	mg/kg		----	200	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	440	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-7	PS-Pb-SP2-8	PS-Pb-SP2-9	PS-Pb-SP2-10	TB02
				Sampling date / time	01-Sep-2023 11:01	01-Sep-2023 11:10	01-Sep-2023 11:17	01-Sep-2023 11:23	01-Sep-2023 00:00
Compound	CAS Number	LOR	Unit		EM2315815-031	EM2315815-032	EM2315815-033	EM2315815-034	EM2315815-035
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	<10	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	<10	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg		----	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		----	380	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		----	100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	480	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg		----	<0.5	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg		----	<1	----	----	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	80.8	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	104	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	94.0	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		89.8	89.5	94.7	90.2	----
2-Chlorophenol-D4	93951-73-6	0.5	%		78.7	79.6	82.8	80.9	----
2.4.6-Tribromophenol	118-79-6	0.5	%		59.4	54.0	61.2	60.2	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		98.4	101	106	105	----
Anthracene-d10	1719-06-8	0.5	%		102	104	110	106	----
4-Terphenyl-d14	1718-51-0	0.5	%		102	103	104	104	----
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		----	84.3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	PS-Pb-SP2-7	PS-Pb-SP2-8	PS-Pb-SP2-9	PS-Pb-SP2-10	TB02
				Sampling date / time	01-Sep-2023 11:01	01-Sep-2023 11:10	01-Sep-2023 11:17	01-Sep-2023 11:23	01-Sep-2023 00:00
Compound	CAS Number	LOR	Unit		EM2315815-031	EM2315815-032	EM2315815-033	EM2315815-034	EM2315815-035
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.025	%		----	**93.9**	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		----	**84.3**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	**84.7**	----	----	**94.2**
Toluene-D8	2037-26-5	0.2	%		----	**82.6**	----	----	**91.8**
4-Bromofluorobenzene	460-00-4	0.2	%		----	**98.7**	----	----	**112**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TB03	----	----	----	----
			Sampling date / time	01-Sep-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2315815-036	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	86.6	----	----	----	----
Toluene-D8	2037-26-5	0.2	%	83.2	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	109	----	----	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP1-1	PS-Pb-SP1-2	PS-Pb-SP1-3	PS-Pb-SP1-4	PS-Pb-SP1-5
			Sampling date / time	01-Sep-2023 12:00	01-Sep-2023 12:07	01-Sep-2023 12:11	01-Sep-2023 12:15	01-Sep-2023 12:17
Compound	CAS Number	LOR	Unit	EM2315815-001	EM2315815-002	EM2315815-003	EM2315815-004	EM2315815-005
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	**1.1**	**3.2**	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	**1.0**	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	**1.1**	**3.2**	**1.0**	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**92.2**	**95.7**	**95.8**	**82.9**	**97.0**
Anthracene-d10	1719-06-8	1.0	%	**88.0**	**94.6**	**94.8**	**84.1**	**96.6**
4-Terphenyl-d14	1718-51-0	1.0	%	**98.9**	**106**	**107**	**94.8**	**107**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP1-6	PS-Pb-SP1-7	PS-Pb-SP1-8	PS-Pb-SP1-9	PS-Pb-SP1-10
			Sampling date / time	01-Sep-2023 12:30	01-Sep-2023 12:33	01-Sep-2023 12:39	01-Sep-2023 12:43	01-Sep-2023 12:52
Compound	CAS Number	LOR	Unit	EM2315815-006	EM2315815-007	EM2315815-008	EM2315815-009	EM2315815-010
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	**0.4**	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	**2.5**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	**2.5**	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**99.4**	**94.5**	**93.7**	**94.8**	**95.6**
Anthracene-d10	1719-06-8	1.0	%	**99.1**	**94.6**	**94.3**	**96.2**	**99.6**
4-Terphenyl-d14	1718-51-0	1.0	%	**110**	**107**	**105**	**107**	**112**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP1-11	PS-Pb-SP1-12	PS-Pb-SP1-13	PS-Pb-SP1-14	PS-Pb-SP1-15
			Sampling date / time	01-Sep-2023 13:05	01-Sep-2023 13:10	01-Sep-2023 13:14	01-Sep-2023 13:18	01-Sep-2023 13:23
Compound	CAS Number	LOR	Unit	EM2315815-011	EM2315815-012	EM2315815-013	EM2315815-014	EM2315815-015
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	**0.1**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**88.8**	**90.6**	**89.9**	**82.0**	**93.0**
Anthracene-d10	1719-06-8	1.0	%	**96.0**	**96.0**	**96.1**	**96.6**	**98.2**
4-Terphenyl-d14	1718-51-0	1.0	%	**109**	**108**	**110**	**110**	**112**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP1-16	PS-Pb-SP1-17	PS-Pb-SP1-18	PS-Pb-SP1-19	PS-Pb-SP1-20
			Sampling date / time	01-Sep-2023 13:35	01-Sep-2023 13:40	01-Sep-2023 13:46	01-Sep-2023 13:50	01-Sep-2023 13:55
Compound	CAS Number	LOR	Unit	EM2315815-016	EM2315815-017	EM2315815-018	EM2315815-019	EM2315815-020
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	**0.1**	<0.1	**0.4**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	**1.3**	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	**1.3**	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**84.1**	**86.4**	**80.8**	**84.2**	**96.3**
Anthracene-d10	1719-06-8	1.0	%	**91.9**	**102**	**96.3**	**96.6**	**93.0**
4-Terphenyl-d14	1718-51-0	1.0	%	**105**	**114**	**106**	**101**	**100**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP1-21	PS-Pb-SP1-22	PS-Pb-SP1-23	PS-Pb-SP1-24	PS-Pb-SP2-1
			Sampling date / time	01-Sep-2023 14:09	01-Sep-2023 14:15	01-Sep-2023 14:20	01-Sep-2023 11:23	01-Sep-2023 10:27
Compound	CAS Number	LOR	Unit	EM2315815-021	EM2315815-022	EM2315815-023	EM2315815-024	EM2315815-025
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	**2.1**	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	**1.7**	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	**3.8**	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**116**	**107**	**110**	**107**	**114**
Anthracene-d10	1719-06-8	1.0	%	**105**	**97.9**	**102**	**97.7**	**106**
4-Terphenyl-d14	1718-51-0	1.0	%	**111**	**102**	**107**	**103**	**111**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP2-2	PS-Pb-SP2-3	PS-Pb-SP2-4	PS-Pb-SP2-5	PS-Pb-SP2-6
			Sampling date / time	01-Sep-2023 10:33	01-Sep-2023 10:39	01-Sep-2023 10:43	01-Sep-2023 10:46	01-Sep-2023 10:57
Compound	CAS Number	LOR	Unit	EM2315815-026	EM2315815-027	EM2315815-028	EM2315815-029	EM2315815-030
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	**1.2**
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	**1.2**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**113**	**113**	**110**	**106**	**110**
Anthracene-d10	1719-06-8	1.0	%	**103**	**102**	**104**	**104**	**101**
4-Terphenyl-d14	1718-51-0	1.0	%	**109**	**109**	**108**	**111**	**106**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	PS-Pb-SP2-7	PS-Pb-SP2-8	PS-Pb-SP2-9	PS-Pb-SP2-10	----
			Sampling date / time	01-Sep-2023 11:01	01-Sep-2023 11:10	01-Sep-2023 11:17	01-Sep-2023 11:23	----
Compound	CAS Number	LOR	Unit	EM2315815-031	EM2315815-032	EM2315815-033	EM2315815-034	--------
				Result	Result	Result	Result	----
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**108**	**110**	**79.4**	**107**	----
Anthracene-d10	1719-06-8	1.0	%	**99.1**	**102**	**81.5**	**100**	----
4-Terphenyl-d14	1718-51-0	1.0	%	**105**	**108**	**86.4**	**106**	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124

QUALITY CONTROL REPORT

Work Order	: **EM2315815**	Page	: 1 of 19
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point Stockpile Sampling	Date Samples Received	: 04-Sep-2023
Order number	: Macquarie Point Stockpile Sampling	Date Analysis Commenced	: 05-Sep-2023
C-O-C number	: ----	Issue Date	: 08-Sep-2023
Sampler	: Annette Heath		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 41		
No. of samples analysed	: 36		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5278723)									
EM2315815-001	PS-Pb-SP1-1	EG005T: Tin	7440-31-5	5	mg/kg	226	# 69	107	0% - 20%
EM2315815-010	PS-Pb-SP1-10	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	1	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	240	260	11.5	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	42	49	15.1	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	14	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	41	42	0.0	0% - 20%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	26	26	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	195	224	14.0	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	522	# 816	43.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	339	407	18.1	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	75	77	2.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	576	647	11.5	0% - 20%
EM2315815-001	PS-Pb-SP1-1	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	330	350	5.5	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	72	60	18.9	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	11	17.8	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	39	36	5.9	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5278723) - continued									
EM2315815-001	PS-Pb-SP1-1	EG005T: Arsenic	7440-38-2	5	mg/kg	16	20	23.1	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	357	410	13.9	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	861	985	13.5	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	326	284	13.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	698	614	12.9	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5278724)									
EM2315815-021	PS-Pb-SP1-21	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	3	50.5	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	270	270	0.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	83	89	6.6	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	16	13.7	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	57	65	13.2	0% - 20%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	30	20	37.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	257	# 319	21.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	761	651	15.6	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	338	344	1.5	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	130	111	15.6	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	495	561	12.4	0% - 20%
EM2315815-029	PS-Pb-SP2-5	EG005T: Tin	7440-31-5	5	mg/kg	31	34	9.0	No Limit
EM2315815-029	PS-Pb-SP2-5	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	140	120	12.1	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	30	24	20.8	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	13	12	9.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	37	32	16.0	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	47	40	15.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	128	106	19.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	622	736	16.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	273	255	6.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	548	468	15.8	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5278730)									
EM2315815-001	PS-Pb-SP1-1	EA055: Moisture Content	----	0.1	%	15.6	15.3	1.7	0% - 50%
EM2315815-011	PS-Pb-SP1-11	EA055: Moisture Content	----	0.1	%	13.5	12.7	5.5	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5278731)									
EM2315815-021	PS-Pb-SP1-21	EA055: Moisture Content	----	0.1	%	12.7	12.6	0.8	0% - 20%
EM2315815-031	PS-Pb-SP2-7	EA055: Moisture Content	----	0.1	%	9.5	8.9	6.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5278722)									
EM2315815-001	PS-Pb-SP1-1	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.7	2.0	14.2	0% - 20%
EM2315815-029	PS-Pb-SP2-5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.8	0.7	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 5278729)									
EM2315815-001	PS-Pb-SP1-1	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2315815-029	PS-Pb-SP2-5	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5278720)									
EM2315815-001	PS-Pb-SP1-1	EK026SF: Total Cyanide	57-12-5	1	mg/kg	155	140	10.0	0% - 20%
EM2315815-029	PS-Pb-SP2-5	EK026SF: Total Cyanide	57-12-5	1	mg/kg	19	17	12.9	0% - 50%
EK040T: Fluoride Total (QC Lot: 5278719)									
EM2315815-001	PS-Pb-SP1-1	EK040T: Fluoride	16984-48-8	40	mg/kg	370	480	25.2	0% - 50%
EM2315815-029	PS-Pb-SP2-5	EK040T: Fluoride	16984-48-8	40	mg/kg	400	400	0.0	0% - 50%
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5278715)									
EM2315815-001	PS-Pb-SP1-1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2315815-032	PS-Pb-SP2-8	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5278714)									
EM2315815-001	PS-Pb-SP1-1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5278714) - continued									
EM2315815-032	PS-Pb-SP2-8	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5278713)									
EM2315815-002	PS-Pb-SP1-2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2315815-017	PS-Pb-SP1-17	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 5278713) - continued									
EM2315815-017	PS-Pb-SP1-17	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5278716)									
EM2315815-001	PS-Pb-SP1-1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2315815-032	PS-Pb-SP2-8	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5278713)									
EM2315815-002	PS-Pb-SP1-2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.5	1.9	23.6	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.9	1.0	18.7	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.6	0.9	44.6	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	6.7	9.1	30.8	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	1.7	25.7	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.3	11.1	17.6	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	9.1	10.7	16.2	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5278713) - continued									
EM2315815-002	PS-Pb-SP1-2	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.8	5.4	12.5	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.8	5.4	13.3	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.9	7.8	12.1	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.7	2.9	5.3	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	5.4	6.0	10.2	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.1	3.5	11.4	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.8	0.9	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.8	4.2	10.9	No Limit
EM2315815-017	PS-Pb-SP1-17	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	0.7	0.6	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	3.6	3.5	3.7	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.7	0.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	5.8	5.8	0.0	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	5.6	5.7	1.9	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	3.2	3.4	4.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	3.2	3.3	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.6	4.7	2.2	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.6	1.7	6.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.5	3.6	3.2	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.9	1.9	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.2	2.2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5278716)									
EM2315815-001	PS-Pb-SP1-1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.8	1.4	29.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.7	0.7	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	6.1	5.6	8.5	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.0	1.1	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.4	8.3	0.0	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	7.6	7.6	0.0	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	5.0	4.6	7.3	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.4	4.0	9.2	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	6.6	5.9	10.4	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.0	1.9	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5278716) - continued									
EM2315815-001	PS-Pb-SP1-1	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.9	4.5	9.8	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.6	2.4	7.6	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	0.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.2	2.9	8.6	No Limit
EM2315815-032	PS-Pb-SP2-8	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.2	<0.5	86.4	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.7	0.8	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	5.6	5.0	12.2	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	1.3	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.2	8.4	2.9	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	8.1	8.4	3.3	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.5	4.8	7.2	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.1	4.1	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.4	5.6	2.7	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.0	2.0	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.8	5.0	3.8	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.4	2.5	5.4	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.0	3.1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5278718)									
EM2315815-001	PS-Pb-SP1-1	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	5.78	4.75	19.5	0% - 20%
EM2315815-032	PS-Pb-SP2-8	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	5.00	4.20	17.3	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5278704)									
EM2315815-001	PS-Pb-SP1-1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2315815-032	PS-Pb-SP2-8	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5278717)									
EM2315815-032	PS-Pb-SP2-8	EP071: C15 - C28 Fraction	----	100	mg/kg	240	220	7.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	200	180	10.8	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2315815-001	PS-Pb-SP1-1	EP071: C15 - C28 Fraction	----	100	mg/kg	430	350	18.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	270	250	10.6	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5278704)									
EM2315815-001	PS-Pb-SP1-1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2315815-032	PS-Pb-SP2-8	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5278717)									
EM2315815-032	PS-Pb-SP2-8	EP071: >C16 - C34 Fraction	----	100	mg/kg	380	350	8.2	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5278717) - continued									
EM2315815-032	PS-Pb-SP2-8	EP071: >C34 - C40 Fraction	----	100	mg/kg	100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2315815-001	PS-Pb-SP1-1	EP071: >C16 - C34 Fraction	----	100	mg/kg	610	520	17.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	100	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	70	70	0.0	No Limit
EP080: BTEXN (QC Lot: 5278704)									
EM2315815-001	PS-Pb-SP1-1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2315815-032	PS-Pb-SP2-8	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5282853)									
EM2315815-001	PS-Pb-SP1-1	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EM2315815-010	PS-Pb-SP1-10	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5282854)									
EM2315815-021	PS-Pb-SP1-21	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EM2315815-030	PS-Pb-SP2-6	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5282218)									
EM2315815-001	PS-Pb-SP1-1	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	1.1	1.2	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5282218) - continued									
EM2315815-001	PS-Pb-SP1-1	EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2315815-010	PS-Pb-SP1-10	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5282222)									
EM2315815-021	PS-Pb-SP1-21	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5282222) - continued									
EM2315815-021	PS-Pb-SP1-21	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EM2315815-030	PS-Pb-SP2-6	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	1.2	1.2	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5278723)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	103	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	86.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	95.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	66.2	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	95.7	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	86.0	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	87.8	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	87.6	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	87.7	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	73.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	95.3	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	78.9	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	97.1	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	73.3	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5278724)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	89.9	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	91.4	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	70.1	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	100	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	88.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.5	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	93.8	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	92.3	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	73.8	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	98.6	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	76.3	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	102	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5278724) - continued								
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	82.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5278722)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	94.5	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5278729)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	72.2	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5278720)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	102	70.0	130
EK040T: Fluoride Total (QCLot: 5278719)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	103	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5278715)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	108	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 5278714)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	75.8	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.7	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	87.5	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	87.2	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 5278713)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5278713) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	102	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	102	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	101	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	94.9	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	95.7	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	98.7	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	94.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	94.0	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	82.0	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 5278716)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	106	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	103	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	107	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	100	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	95.7	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	100	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.3	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	99.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	104	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	104	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	105	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	87.3	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5278713)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	101	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	105	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	104	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	103	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	104	79.9	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5278713) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	100	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	105	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.2	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	92.7	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	97.2	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	98.2	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	98.2	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5278716)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	105	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	102	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	105	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	106	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	99.1	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	100	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	97.9	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	105	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	108	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	110	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	101	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	100	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	96.2	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.7	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	95.1	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5278718)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	93.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5278704)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	103	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5278717)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	860 mg/kg	98.4	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2770 mg/kg	96.0	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1520 mg/kg	99.8	82.4	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5278704)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	97.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5278717)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1130 mg/kg	98.6	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3730 mg/kg	96.3	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	97.5	73.3	137
EP080: BTEXN (QCLot: 5278704)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	98.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	104	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	101	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	106	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	108	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	119	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5282853)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	83.1	80.0	120
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5282854)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	85.8	80.0	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5282218)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	94.0	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	86.2	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	98.9	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	94.7	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	101	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	101	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	109	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	106	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	103	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	106	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	94.3	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	99.9	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	91.1	55.6	135

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5282218) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	97.2	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	94.8	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	101	54.4	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5282222)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	95.2	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	93.6	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	99.0	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	99.9	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	102	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	99.2	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	100	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	98.0	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	101	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	99.5	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	100	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	105	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	94.7	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	101	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	100	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	103	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5278723)							
EM2315815-004	PS-Pb-SP1-4	EG005T: Arsenic	7440-38-2	50 mg/kg	109	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.0	79.7	116
		EG005T: Copper	7440-50-8	250 mg/kg	110	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.8	78.0	120
EM2315815-004	PS-Pb-SP1-4	EG005T: Chromium	7440-47-3	50 mg/kg	93.4	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	# 57.4	80.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5278723) - continued							
EM2315815-004	PS-Pb-SP1-4	EG005T: Zinc	7440-66-6	250 mg/kg	102	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5278724)							
EM2315815-022	PS-Pb-SP1-22	EG005T: Arsenic	7440-38-2	50 mg/kg	93.5	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	86.6	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	# 165	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	109	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	# 61.5	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	102	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 127	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5278722)							
EM2315815-004	PS-Pb-SP1-4	EG035T: Mercury	7439-97-6	0.5 mg/kg	104	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5278729)							
EM2315815-004	PS-Pb-SP1-4	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# Not Determined	58.0	114
EM2315815-004	PS-Pb-SP1-4	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 0.04	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5278720)							
EM2315815-004	PS-Pb-SP1-4	EK026SF: Total Cyanide	57-12-5	100 mg/kg	105	70.0	130
EK040T: Fluoride Total (QCLot: 5278719)							
EM2315815-004	PS-Pb-SP1-4	EK040T: Fluoride	16984-48-8	400 mg/kg	95.5	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5278715)							
EM2315815-006	PS-Pb-SP1-6	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	119	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 5278714)							
EM2315815-004	PS-Pb-SP1-4	EP068: gamma-BHC	58-89-9	0.5 mg/kg	79.8	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	98.2	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	# 7.9	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	86.3	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	105	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	72.6	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 5278713)							
EM2315815-003	PS-Pb-SP1-3	EP075(SIM): Phenol	108-95-2	3 mg/kg	90.3	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.3	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	79.3	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	84.5	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	26.5	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 5278716)							
EM2315815-009	PS-Pb-SP1-9	EP075(SIM): Phenol	108-95-2	3 mg/kg	103	77.1	119

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5278716) - continued							
EM2315815-009	PS-Pb-SP1-9	EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	87.4	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	101	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	45.7	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5278713)							
EM2315815-003	PS-Pb-SP1-3	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	93.8	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	76.8	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5278716)							
EM2315815-009	PS-Pb-SP1-9	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	92.2	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	# Not Determined	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5278704)							
EM2315815-004	PS-Pb-SP1-4	EP080: C6 - C9 Fraction	----	28 mg/kg	80.7	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5278717)							
EM2315815-012	PS-Pb-SP1-12	EP071: C10 - C14 Fraction	----	860 mg/kg	102	71.2	125
		EP071: C15 - C28 Fraction	----	2770 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1520 mg/kg	105	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5278704)							
EM2315815-004	PS-Pb-SP1-4	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	77.6	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5278717)							
EM2315815-012	PS-Pb-SP1-12	EP071: >C10 - C16 Fraction	----	1130 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	3730 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	260 mg/kg	106	66.8	138
EP080: BTEXN (QCLot: 5278704)							
EM2315815-004	PS-Pb-SP1-4	EP080: Benzene	71-43-2	2 mg/kg	90.4	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	97.7	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5282853)							
EM2315815-002	PS-Pb-SP1-2	EG005C: Lead	7439-92-1	1 mg/L	85.2	80.0	120
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5282854)							
EM2315815-022	PS-Pb-SP1-22	EG005C: Lead	7439-92-1	1 mg/L	86.4	80.0	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2315815**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point Stockpile Sampling	Date Samples Received	: 04-Sep-2023
Site	: ----	Issue Date	: 08-Sep-2023
Sampler	: Annette Heath	No. of samples received	: 41
Order number	: Macquarie Point Stockpile Sampling	No. of samples analysed	: 36

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--021	PS-Pb-SP1-21	**Copper**	7440-50-8	21.3 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--010	PS-Pb-SP1-10	**Lead**	7439-92-1	43.9 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--001	PS-Pb-SP1-1	**Tin**	7440-31-5	107 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--022	PS-Pb-SP1-22	**Chromium**	7440-47-3	165 %	79.0-121%	**Recovery greater than upper data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--022	PS-Pb-SP1-22	**Lead**	7439-92-1	61.5 %	80.0-120%	**Recovery less than lower data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--004	PS-Pb-SP1-4	**Lead**	7439-92-1	57.4 %	80.0-120%	**Recovery less than lower data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2315815--022	PS-Pb-SP1-22	**Zinc**	7440-66-6	127 %	80.0-120%	**Recovery greater than upper data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2315815--004	PS-Pb-SP1-4	**Hexavalent Chromium**	18540-29-9	0.04 %	58.0-114%	**Recovery less than lower data quality objective**
EP068A: Organochlorine Pesticides (OC)	EM2315815--004	PS-Pb-SP1-4	**Aldrin**	309-00-2	7.9 %	38.4-135%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2315815--009	PS-Pb-SP1-9	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
	0				
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	34	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)		***Date extracted***	Due for extraction	Evaluation	***Date analysed***	Due for analysis	Evaluation

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)			Sample Date	Extraction / Preparation			Analysis		
				Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)									
Soil Glass Jar - Unpreserved (EA055)									
PS-Pb-SP1-1,	PS-Pb-SP1-2,		**01-Sep-2023**	**----**	----	----	**05-Sep-2023**	15-Sep-2023	✓
PS-Pb-SP1-3,	PS-Pb-SP1-4,								
PS-Pb-SP1-5,	PS-Pb-SP1-6,								
PS-Pb-SP1-7,	PS-Pb-SP1-8,								
PS-Pb-SP1-9,	PS-Pb-SP1-10,								
PS-Pb-SP1-11,	PS-Pb-SP1-12,								
PS-Pb-SP1-13,	PS-Pb-SP1-14,								
PS-Pb-SP1-15,	PS-Pb-SP1-16,								
PS-Pb-SP1-17,	PS-Pb-SP1-18,								
TB02,	PS-Pb-SP1-19,	PS-Pb-SP1-20,							
PS-Pb-SP1-21,	PS-Pb-SP1-22,								
PS-Pb-SP1-23,	PS-Pb-SP1-24,								
PS-Pb-SP2-1,	PS-Pb-SP2-2,								
PS-Pb-SP2-3,	PS-Pb-SP2-4,								
PS-Pb-SP2-5,	PS-Pb-SP2-6,								
PS-Pb-SP2-7,	PS-Pb-SP2-8,								
PS-Pb-SP2-9,	PS-Pb-SP2-10,								
TB03									
EG005(ED093)T: Total Metals by ICP-AES									
Soil Glass Jar - Unpreserved (EG005T)									
PS-Pb-SP1-1,	PS-Pb-SP1-2,		**01-Sep-2023**	**06-Sep-2023**	28-Feb-2024	✓	**06-Sep-2023**	28-Feb-2024	✓
PS-Pb-SP1-3,	PS-Pb-SP1-4,								
PS-Pb-SP1-5,	PS-Pb-SP1-6,								
PS-Pb-SP1-7,	PS-Pb-SP1-8,								
PS-Pb-SP1-9,	PS-Pb-SP1-10,								
PS-Pb-SP1-11,	PS-Pb-SP1-12,								
PS-Pb-SP1-13,	PS-Pb-SP1-14,								
PS-Pb-SP1-15,	PS-Pb-SP1-16,								
PS-Pb-SP1-17,	PS-Pb-SP1-18,								
PS-Pb-SP1-19,	PS-Pb-SP1-20,								
PS-Pb-SP1-21,	PS-Pb-SP1-22,								
PS-Pb-SP1-23,	PS-Pb-SP1-24,								
PS-Pb-SP2-1,	PS-Pb-SP2-2,								
PS-Pb-SP2-3,	PS-Pb-SP2-4,								
PS-Pb-SP2-5,	PS-Pb-SP2-6,								
PS-Pb-SP2-7,	PS-Pb-SP2-8,								
PS-Pb-SP2-9,	PS-Pb-SP2-10								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	29-Sep-2023	✓	**07-Sep-2023**	29-Sep-2023	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**05-Sep-2023**	29-Sep-2023	✓	**07-Sep-2023**	12-Sep-2023	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**05-Sep-2023**	15-Sep-2023	✓	**07-Sep-2023**	19-Sep-2023	✓
EK040T: Fluoride Total							
Soil Glass Jar - Unpreserved (EK040T)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**05-Sep-2023**	29-Sep-2023	✓	**07-Sep-2023**	29-Sep-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
PS-Pb-SP1-1, PS-Pb-SP1-2, PS-Pb-SP1-3, PS-Pb-SP1-4, PS-Pb-SP1-5, PS-Pb-SP1-6, PS-Pb-SP1-7, PS-Pb-SP1-8, PS-Pb-SP1-9, PS-Pb-SP1-10, PS-Pb-SP1-11, PS-Pb-SP1-12, PS-Pb-SP1-13, PS-Pb-SP1-14, PS-Pb-SP1-15, PS-Pb-SP1-16, PS-Pb-SP1-17, PS-Pb-SP1-18, PS-Pb-SP1-19, PS-Pb-SP1-20, PS-Pb-SP1-21, PS-Pb-SP1-22, PS-Pb-SP1-23, PS-Pb-SP1-24, PS-Pb-SP2-1, PS-Pb-SP2-2, PS-Pb-SP2-3, PS-Pb-SP2-4, PS-Pb-SP2-5, PS-Pb-SP2-6, PS-Pb-SP2-7, PS-Pb-SP2-8, PS-Pb-SP2-9, PS-Pb-SP2-10	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	16-Oct-2023	✓
Soil Glass Jar - Unpreserved (EP066)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**07-Sep-2023**	16-Oct-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	16-Oct-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	16-Oct-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
PS-Pb-SP1-2, PS-Pb-SP1-3, PS-Pb-SP1-5, PS-Pb-SP1-7, PS-Pb-SP1-8, PS-Pb-SP1-10, PS-Pb-SP1-11, PS-Pb-SP1-13, PS-Pb-SP1-14, PS-Pb-SP1-15, PS-Pb-SP1-17, PS-Pb-SP1-18, PS-Pb-SP1-19, PS-Pb-SP1-21, PS-Pb-SP1-22, PS-Pb-SP1-24, PS-Pb-SP2-2, PS-Pb-SP2-3, PS-Pb-SP2-4, PS-Pb-SP2-6	**01-Sep-2023**	**05-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	15-Oct-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-7, PS-Pb-SP2-8, PS-Pb-SP2-9, PS-Pb-SP2-10	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	16-Oct-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**07-Sep-2023**	16-Oct-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8, TB02, TB03	**01-Sep-2023**	**05-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	15-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	16-Oct-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8, TB02, TB03	**01-Sep-2023**	**05-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	15-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP071)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8	**01-Sep-2023**	**06-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	16-Oct-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
PS-Pb-SP1-1, PS-Pb-SP1-4, PS-Pb-SP1-6, PS-Pb-SP1-9, PS-Pb-SP1-12, PS-Pb-SP1-16, PS-Pb-SP1-20, PS-Pb-SP1-23, PS-Pb-SP2-1, PS-Pb-SP2-5, PS-Pb-SP2-8, TB02, TB03	**01-Sep-2023**	**05-Sep-2023**	15-Sep-2023	✓	**06-Sep-2023**	15-Sep-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)								
PS-Pb-SP1-1,	PS-Pb-SP1-2,	**06-Sep-2023**	**07-Sep-2023**	04-Mar-2024	✓	**07-Sep-2023**	04-Mar-2024	✓
PS-Pb-SP1-3,	PS-Pb-SP1-4,							
PS-Pb-SP1-5,	PS-Pb-SP1-6,							
PS-Pb-SP1-7,	PS-Pb-SP1-8,							
PS-Pb-SP1-9,	PS-Pb-SP1-10,							
PS-Pb-SP1-11,	PS-Pb-SP1-12,							
PS-Pb-SP1-13,	PS-Pb-SP1-14,							
PS-Pb-SP1-15,	PS-Pb-SP1-16,							
PS-Pb-SP1-17,	PS-Pb-SP1-18,							
PS-Pb-SP1-19,	PS-Pb-SP1-20,							
PS-Pb-SP1-21,	PS-Pb-SP1-22,							
PS-Pb-SP1-23,	PS-Pb-SP1-24,							
PS-Pb-SP2-1,	PS-Pb-SP2-2,							
PS-Pb-SP2-3,	PS-Pb-SP2-4,							
PS-Pb-SP2-5,	PS-Pb-SP2-6,							
PS-Pb-SP2-7,	PS-Pb-SP2-8,							
PS-Pb-SP2-9,	PS-Pb-SP2-10							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP075(SIM))								
PS-Pb-SP1-1,	PS-Pb-SP1-2,	**06-Sep-2023**	**07-Sep-2023**	13-Sep-2023	✓	**07-Sep-2023**	17-Oct-2023	✓
PS-Pb-SP1-3,	PS-Pb-SP1-4,							
PS-Pb-SP1-5,	PS-Pb-SP1-6,							
PS-Pb-SP1-7,	PS-Pb-SP1-8,							
PS-Pb-SP1-9,	PS-Pb-SP1-10,							
PS-Pb-SP1-11,	PS-Pb-SP1-12,							
PS-Pb-SP1-13,	PS-Pb-SP1-14,							
PS-Pb-SP1-15,	PS-Pb-SP1-16,							
PS-Pb-SP1-17,	PS-Pb-SP1-18,							
PS-Pb-SP1-19,	PS-Pb-SP1-20,							
PS-Pb-SP1-21,	PS-Pb-SP1-22,							
PS-Pb-SP1-23,	PS-Pb-SP1-24,							
PS-Pb-SP2-1,	PS-Pb-SP2-2,							
PS-Pb-SP2-3,	PS-Pb-SP2-4,							
PS-Pb-SP2-5,	PS-Pb-SP2-6,							
PS-Pb-SP2-7,	PS-Pb-SP2-8,							
PS-Pb-SP2-9,	PS-Pb-SP2-10							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	34	**17.65**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	34	**8.82**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	34	**0.00**	**5.00**	✘	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2315815**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point Stockpile Sampling	Page	: 1 of 4
Order number	: ----	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Annette Heath		

Dates

Date Samples Received	: 04-Sep-2023 11:35	Issue Date	: 05-Sep-2023
Client Requested Due Date	: 07-Sep-2023	Scheduled Reporting Date	: **07-Sep-2023**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 2.5°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 41 / 36

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-18 TRH(C6-C9)/BTEXN
EM2315815-001	01-Sep-2023 12:00	PS-Pb-SP1-1	✓	✓		✓	✓	✓	
EM2315815-002	01-Sep-2023 12:07	PS-Pb-SP1-2	✓	✓	✓	✓	✓		
EM2315815-003	01-Sep-2023 12:11	PS-Pb-SP1-3	✓	✓	✓	✓	✓		
EM2315815-004	01-Sep-2023 12:15	PS-Pb-SP1-4	✓	✓		✓	✓	✓	
EM2315815-005	01-Sep-2023 12:17	PS-Pb-SP1-5	✓	✓	✓	✓	✓		
EM2315815-006	01-Sep-2023 12:30	PS-Pb-SP1-6	✓	✓		✓	✓	✓	
EM2315815-007	01-Sep-2023 12:33	PS-Pb-SP1-7	✓	✓	✓	✓	✓		
EM2315815-008	01-Sep-2023 12:39	PS-Pb-SP1-8	✓	✓	✓	✓	✓		
EM2315815-009	01-Sep-2023 12:43	PS-Pb-SP1-9	✓	✓		✓	✓	✓	
EM2315815-010	01-Sep-2023 12:52	PS-Pb-SP1-10	✓	✓	✓	✓	✓		
EM2315815-011	01-Sep-2023 13:05	PS-Pb-SP1-11	✓	✓	✓	✓	✓		
EM2315815-012	01-Sep-2023 13:10	PS-Pb-SP1-12	✓	✓		✓	✓	✓	
EM2315815-013	01-Sep-2023 13:14	PS-Pb-SP1-13	✓	✓	✓	✓	✓		
EM2315815-014	01-Sep-2023 13:18	PS-Pb-SP1-14	✓	✓	✓	✓	✓		
EM2315815-015	01-Sep-2023 13:23	PS-Pb-SP1-15	✓	✓	✓	✓	✓		
EM2315815-016	01-Sep-2023 13:35	PS-Pb-SP1-16	✓	✓		✓	✓	✓	
EM2315815-017	01-Sep-2023 13:40	PS-Pb-SP1-17	✓	✓	✓	✓	✓		
EM2315815-018	01-Sep-2023 13:46	PS-Pb-SP1-18	✓	✓	✓	✓	✓		
EM2315815-019	01-Sep-2023 13:50	PS-Pb-SP1-19	✓	✓	✓	✓	✓		
EM2315815-020	01-Sep-2023 13:55	PS-Pb-SP1-20	✓	✓		✓	✓	✓	
EM2315815-021	01-Sep-2023 14:09	PS-Pb-SP1-21	✓	✓	✓	✓	✓		
EM2315815-022	01-Sep-2023 14:15	PS-Pb-SP1-22	✓	✓	✓	✓	✓		
EM2315815-023	01-Sep-2023 14:20	PS-Pb-SP1-23	✓	✓		✓	✓	✓	
EM2315815-024	01-Sep-2023 11:23	PS-Pb-SP1-24	✓	✓	✓	✓	✓		
EM2315815-025	01-Sep-2023 10:27	PS-Pb-SP2-1	✓	✓		✓	✓	✓	
EM2315815-026	01-Sep-2023 10:33	PS-Pb-SP2-2	✓	✓	✓	✓	✓		
EM2315815-027	01-Sep-2023 10:39	PS-Pb-SP2-3	✓	✓	✓	✓	✓		
EM2315815-028	01-Sep-2023 10:43	PS-Pb-SP2-4	✓	✓	✓	✓	✓		
EM2315815-029	01-Sep-2023 10:46	PS-Pb-SP2-5	✓	✓		✓	✓	✓	
EM2315815-030	01-Sep-2023 10:57	PS-Pb-SP2-6	✓	✓	✓	✓	✓		
EM2315815-031	01-Sep-2023 11:01	PS-Pb-SP2-7	✓	✓	✓	✓	✓		
EM2315815-032	01-Sep-2023 11:10	PS-Pb-SP2-8	✓	✓		✓	✓	✓	
EM2315815-033	01-Sep-2023 11:17	PS-Pb-SP2-9	✓	✓	✓	✓	✓		
EM2315815-034	01-Sep-2023 11:23	PS-Pb-SP2-10	✓	✓	✓	✓	✓		
EM2315815-035	01-Sep-2023 00:00	TB02	✓						✓

			SOIL - EA055-103 Moisture Content	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-18 TRH(C6-C9)/BTEXN
EM2315815-036	01-Sep-2023 00:00	TB03	✓						✓

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) SOIL No analysis requested
EM2315815-037	01-Sep-2023 00:00	TB04	✓
EM2315815-040	01-Sep-2023 00:00	FD02	✓
EM2315815-041	01-Sep-2023 00:00	FD03	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested
EM2315815-038	01-Sep-2023 14:34	FB02	✓
EM2315815-039	01-Sep-2023 14:36	RB02	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

CHAIN OF CUSTODY

ALS Laboratory please tick →

☐ Sydney 277 Woodpark Rd (cnr Vore St) Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com

☐ Brisbane 32 Shand St Stafford Qld 4053 Ph: (07) 3243 7222 E: samples.brisbane@alsenviro.com

☐ Melbourne 2 Claverton St Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com

☐ Perth 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com

☐ Newcastle 5 Rugby Rd Warabrook NSW 2304 Ph: 02 4958 2150 E: samples.newcastle@alsenviro.com

☐ Townsville 14-15 Desma Ct Bohle Qld 4818 Ph: 07 4796 0600 E: samples.townsville@alsenviro.com

☐ Adelaide 21 Burma Rd Pooraka SA 5095 Ph: 08 8359 0890 E: samples.adelaide@alsenviro.com

☐ Launceston 27 Vanguard Dr Launceston TAS 7249 Ph: 03 6259 4200 E: samples.launceston@alsenviro.com

CLIENT: AECOM	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):				FOR LABORATORY USE ONLY (Circle)	
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):				Custody Seal Intact?	No N/A
PROJECT: Macquarie Point Stockpile Sampling	ALS QUOTE NO.:		COC SEQUENCE NUMBER (Circle)		Free Ice / frozen ice bricks present upon receipt?	No N/A
ORDER NUMBER:			COC: 1 2 3 4 5 7		Random Sample Temperature on Receipt	C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187		OF: 1 2 3 4 5 7		Other comment:	
SAMPLER: Annette Heath	SAMPLER MOBILE: 0438 428 638	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:		RECEIVED BY:
COC emailed to ALS? (YES)	EDD FORMAT (or default):	*Reggi Duffy*	*TasFast*			FD
Email Reports to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		DATE/TIME:	DATE/TIME:	DATE/TIME:		DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		1/09/23 16:00				4/9 11:35

COMMENTS/SPECIAL HANDLING/:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																		
	PS-Pb-SP1-1	01-09-23 12:00	S	2 glass jars	2	X																		
	PS-Pb-SP1-2	01-09-23 12:07	S	2 glass jars	2	X																		
	PS-Pb-SP1-3	01-09-23 12:11	S	2 glass jars	2	X																		
	PS-Pb-SP1-4	01-09-23 12:15	S	2 glass jars	2	X																		
	PS-Pb-SP1-5	01-09-23 12:17	S	2 glass jars	2	X																		
	PS-Pb-SP1-6	01-09-23 12:30	S	2 glass jars	2	X																		
	PS-Pb-SP1-7	01-09-23 12:33	S	2 glass jars	2	X																		
	PS-Pb-SP1-8	01-09-23 12:39	S	2 glass jars	2	X																		
	PS-Pb-SP1-9	01-09-23 12:43	S	2 glass jars	2	X																		
	PS-Pb-SP1-10	01-09-23 12:52	S	2 glass jars	2	X																		
	PS-Pb-SP1-11	01-09-23 13:05	S	2 glass jars	2	X																		
	PS-Pb-SP1-12	01-09-23 13:10	S	2 glass jars	2	X																		
				TOTAL	24																			

Environmental Division
Melbourne
Work Order Reference
EM2315815

Telephone : + 61-3-8549 9600

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide/Cd Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved, VB = VOA Vial Sodium Bisulphate Preserved, VS = VOA Vial Sulfuric Preserved, AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass, H = HCl preserved Plastic, HS = HCl preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles, ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney 277 Woodpark Rd, Smithfield NSW 2164 Ph: (02) 8784 8555 E: samples.sydney@alsglobal.com

☐ Brisbane 32 Shand St, Stafford QLD 4053 Ph: (07) 3243 7222 E: samples.brisbane@alsglobal.com

☐ Melbourne 24 Westall Rd, Springvale VIC 3171 Ph: (03) 8549 9600 E: samples.melbourne@alsglobal.com

☐ Perth 10 Hod Way, Malaga WA 6090 Ph: (08) 9209 7655 E: samples.perth@alsglobal.com

☐ Newcastle 4 Rodborough Rd, Doyalson NSW 2262 Ph: (02) 4968 9433 E: samples.newcastle@alsglobal.com

☐ Townsville 14-15 Desma Ct, Bohle QLD 4818 Ph: (07) 4796 0600 E: samples.townsville@alsglobal.com

☐ Adelaide 21 Burma Rd, Pooraka SA 5095 Ph: (08) 8359 0890 E: samples.adelaide@alsglobal.com

☐ Launceston 27 Welder Rd, Launceston TAS 7250 Ph: (03) 6331 2935 E: samples.launceston@alsglobal.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS :** " Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? No N/A
PROJECT: Macquarie Point Stockpile Sampling	**ALS QUOTE NO.:**	COC SEQUENCE NUMBER (Circle) Free Ice / frozen ice bricks present upon receipt? No N/A
ORDER NUMBER:		COC: 1 **2** 3 4 5 7 Random Sample Temperature on Receipt: C
PROJECT MANAGER: Rob Crowe	**CONTACT PH:** 0422 692 187	OF: 1 2 3 4 5 7 Other comment:
SAMPLER: Annette Heath	**SAMPLER MOBILE:** 0438 428 638	**RELINQUISHED BY:**
COC emailed to ALS? (YES)	**EDD FORMAT (or default):**	*Reggi Duffy*
Email Reports to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		1/09/23 16:00

RECEIVED BY:	**RELINQUISHED BY:**	**RECEIVED BY:**
TasFast		
DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																			
	PS-Pb-SP1-13	01-09-23 13:14	S	2 glass jars	2	X																			
	PS-Pb-SP1-14	01-09-23 13:18	S	2 glass jars	2	X																			
	PS-Pb-SP1-15	01-09-23 13:23	S	2 glass jars	2	X																			
	PS-Pb-SP1-16	01-09-23 13:35	S	2 glass jars	2	X																			
	PS-Pb-SP1-17	01-09-23 13:40	S	2 glass jars	2	X																			
	PS-Pb-SP1-18	01-09-23 13:46	S	2 glass jars	2	X																			
	PS-Pb-SP1-19	01-09-23 13:50	S	2 glass jars	2	X																			
	PS-Pb-SP1-20	01-09-23 13:55	S	2 glass jars	2	X																			
	PS-Pb-SP1-21	01-09-23 14:09	S	2 glass jars	2	X																			
	PS-Pb-SP1-22	01-09-23 14:15	S	2 glass jars	2	X																			
	PS-Pb-SP1-23	01-09-23 14:20	S	2 glass jars	2	X																			
	PS-Pb-SP1-24	01-09-23 14:25	S	2 glass jars	2	X																			
				TOTAL	24																				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass,
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

CHAIN OF CUSTODY

ALS Laboratory please tick →

Sydney 277 Woodpark Rd Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
Brisbane 32 Shand St Stafford Qld 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
Melbourne 24 Westall Rd Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
Perth 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
Newcastle 5 Rosegum Rd Warabrook NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com
Townsville 14-15 Desma Ct Bohle Qld 4818 Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
Adelaide 21 Burma Rd Pooraka SA 5095 Ph: 08 8359 0890 E: samples.adelaide@alsglobal.com
Launceston 27 Wellington St Launceston TAS 7250 Ph: 03 6331 2999 E: samples.launceston@alsglobal.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS :** * Standard TAT (list due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		Custody Seal Intact? No N/A
PROJECT: Macquarie Point Stockpile Sampling	**ALS QUOTE NO.:**	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? No N/A
ORDER NUMBER:		COC: 1 2 3 4 5 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 7	Other comment:
SAMPLER: Annette Heath	**SAMPLER MOBILE: 0438 428 638**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES)	**EDD FORMAT (or default):**	*Reggi Duffy*	*TasFast*
Email Reports to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		1/09/23 16:00	

RELINQUISHED BY:		**RECEIVED BY:**
DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																	
	PS-Pb-SP2-1	01-09-23 10:27	S	2 glass jars	2	X																	
	PS-Pb-SP2-2	01-09-23 10:33	S	2 glass jars	2	X																	
	PS-Pb-SP2-3	01-09-23 10:39	S	2 glass jars	2	X																	
	PS-Pb-SP2-4	01-09-23 10:43	S	2 glass jars	2	X																	
	PS-Pb-SP2-5	01-09-23 10:46	S	2 glass jars	2	X																	
	PS-Pb-SP2-6	01-09-23 10:57	S	2 glass jars	2	X																	
	PS-Pb-SP2-7	01-09-23 11:01	S	2 glass jars	2	X																	
	PS-Pb-SP2-8	01-09-23 11:10	S	2 glass jars	2	X																	
	PS-Pb-SP2-9	01-09-23 11:17	S	2 glass jars	2	X																	
	PS-Pb-SP2-10	01-09-23 11:23	S	2 glass jars	2	X																	
	TB02		S	1 glass jar	1	X																	
	TB03		S	1 glass jar	1	X																	
				TOTAL	22																		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved, AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney 277 Woodpark Rd, Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Brisbane 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Melbourne 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Perth 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Newcastle 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Townsville 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: samples.townsville@alsenviro.com
☐ Adelaide 21 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: samples.adelaide@alsenviro.com
☐ Launceston 27 Wellington St, Launceston TAS 7250 Ph: 03 6323 2800 E: samples.launceston@alsenviro.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS:** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? No N/A
PROJECT: Macquarie Point Stockpile Sampling	**ALS QUOTE NO.:**	COC SEQUENCE NUMBER (Circle): COC: 1 2 3 4 5 7 / OF: 1 2 3 4 5 7
ORDER NUMBER:		Free ice / frozen ice bricks present upon receipt? No N/A
PROJECT MANAGER: Rob Crowe — CONTACT PH: 0422 692 187		Random Sample Temperature on Receipt: C
SAMPLER: Annette Heath — SAMPLER MOBILE: 0438 428 638	RELINQUISHED BY:	Other comment:
COC emailed to ALS? (YES) — EDD FORMAT (or default):	*Reggi Duffy*	RECEIVED BY: *TasFast*
Email Reports to (will default to PM if no other addresses are listed): robert.crowe@aecom.com	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): robert.crowe@aecom.com	1/09/23 16:00	RELINQUISHED BY: / DATE/TIME: / RECEIVED BY: / DATE/TIME:

COMMENTS/SPECIAL HANDLING:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price). Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																		
	TB04	01-09-23	S	1 glass jar	1	X																		
	FB02	01-09-23 14:34	S	2 glass jars	2	X																		
	RB02	01-09-23 14:35	S	2 glass jars	2	X																		
	FD02	01-09-23	W	1AP, 2V, 1AG	5	X																		
	FD03	01-09-23	W	1AP, 2V, 1AG	5	X																		
						X																		
						X																		
						X																		
						X																		
						X																		
						X																		
						X																		
				TOTAL	15																			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

CHAIN OF CUSTODY RECORD

☐ Sydney Laboratory
Unit F3, Building 16, Norcal Road, Lane Cove West NSW 2066
02 9900 8400 Email: samplereceipt.NSW@eurofins.com

☐ Brisbane Laboratory
Unit 1, 21 Smallwood Place, Murarrie QLD 4172
07 3902 4600 Email: samplereceipt.BRISBANE@eurofins.com

☐ Perth Laboratory
Unit 2, 91 Leach Highway, Kewdale WA 6105
08 9251 9600 Email: PerthSampleReceipt@eurofins.com

☒ Melbourne Laboratory
6 Monterey Road, Dandenong South VIC 3175
03 8564 5000 Email: samplereceipt.MELBOURNE@eurofins.com

Company	AECOM	Project ID	JN23482	Sampler	Annette Heath
Address	Collins Square, Level 10, Tower Two, 727 Collins Street Melbourne, Victoria, 3008	Project Name	Macquarie Point Stockpile Sampling	Invoice Email	Miguel Urrea
Contact Name	Rob Crowe	EDD Format (if required)	ESDAT EDD	Email for Invoice	robert.crowe@aecom.com
Phone ID	0422 692 187			Email for Results	robert.crowe@aecom.com
Special Directions				Containers (Please confirm by ticking)	Required Turnaround Time (TAT) (Please select one option)
Purchase Order					♦Surcharge will apply ☐ Overnight (reporting by 9am)♦ ☐ Same day♦ ☐ 1 day♦ ☐ 2 days♦ ☐ 3 days♦ ☐ 5 days (Standard) ☐ Other( )
Quote ID					

	Client Sample ID	Sampled Date/Time (Please provide)	Matrix (Soil / Water)	Archived (Please tick if required)	HOLD	TRH / BTEXN (B4A)	TRH / TPH / BTEXN / PAHs/ Pheonls / PB (B4A)	TAS EPA (B105 no TBT) R35	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments (Dangerous Goods, Hazards, Handling)
1	FD-IL-01	01-09-23 14:43	S		X										2		
2	FD-IL-02	01-09-23 11:10	S		X										2		
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
	Total Counts																

Method of Shipment	☒ Courier (# C/O ALS)	☐ Hand Delivered	☒ Postal	Name	Annette Heath	Signature	Date	Time
Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Temperature
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to this facility will be deemed acceptance of Eurofins | Environment Testing Australia's Terms and Conditions. A copy is available on request or from www.eurofins.com.au

CHAIN OF CUSTODY

ALS Laboratory: please tick →

URGENT

CLIENT: AECOM	TURNAROUND REQUIREMENTS: Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☑ Non Standard or urgent TAT (List due date): 2 days	Custody Seal Intact?	No N/A
PROJECT: Macquarie Point Stockpile Sampling	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? No N/A
ORDER NUMBER:		COC: 1 2 3 4 5 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Rob Crowe	CONTACT PH: 0422 692 187	OF: 1 2 3 4 5 7	Other comment
SAMPLER: Annette Heath	SAMPLER MOBILE: 0438 428 638	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES)	EDD FORMAT (or default):	*Reggi Duffy*	*TasFast*
Email Reports to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): robert.crowe@aecom.com		1/09/23 16:00	

RELINQUISHED BY:	RECEIVED BY:
	FD
DATE/TIME:	DATE/TIME:
	4/9 11:35

COMMENTS/SPECIAL HANDLING/:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)																				
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																					
1	PS-Pb-SP1-1	01-09-23 12:00	S	2 glass jars	2	X																					
2	PS-Pb-SP1-2	01-09-23 12:07	S	2 glass jars	2	X																					
3	PS-Pb-SP1-3	01-09-23 12:11	S	2 glass jars	2	X																					
4	PS-Pb-SP1-4	01-09-23 12:15	S	2 glass jars	2	X																					
5	PS-Pb-SP1-5	01-09-23 12:17	S	2 glass jars	2	X																					
6	PS-Pb-SP1-6	01-09-23 12:30	S	2 glass jars	2	X																					
7	PS-Pb-SP1-7	01-09-23 12:33	S	2 glass jars	2	X																					
8	PS-Pb-SP1-8	01-09-23 12:39	S	2 glass jars	2	X																					
9	PS-Pb-SP1-9	01-09-23 12:43	S	2 glass jars	2	X																					
10	PS-Pb-SP1-10	01-09-23 12:52	S	2 glass jars	2	X																					
11	PS-Pb-SP1-11	01-09-23 13:05	S	2 glass jars	2	X																					
12	PS-Pb-SP1-12	01-09-23 13:10	S	2 glass jars	2	X																					
				TOTAL	24																						

Environmental Division
Melbourne
Work Order Reference
EM2315815

Telephone : +61-3-8549 9600

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V = VOA Vial HCl Preserved; VR = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

CHAIN OF CUSTODY

ALS Laboratory: *please tick* →

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☐ Newcastle: 5 Rosegum Rd Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: samples.environmental@alsenviro.com
☐ Adelaide: 21 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2548 E: launceston@alsenviro.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? No N/A
PROJECT: Macquarie Point Stockpile Sampling	**ALS QUOTE NO.:**	COC SEQUENCE NUMBER (Circle) — Free ice / frozen ice bricks present upon receipt? No N/A
ORDER NUMBER:		COC: 1 **2** 3 4 5 7 — Random Sample Temperature on Receipt: C
PROJECT MANAGER: Rob Crowe	CONTACT PH: **0422 692 187**	OF: 1 **2** 3 4 5 7 — Other comment:

SAMPLER: Annette Heath	**SAMPLER MOBILE: 0438 428 638**	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:** / **RECEIVED BY:**
COC emailed to ALS? (YES)	**EDD FORMAT (or default):**	*Reggi Duffy*	*TasFast*	
Email Reports to (will default to PM if no other addresses are listed): **robert.crowe@aecom.com**		DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): **robert.crowe@aecom.com**		1/09/23 16:00		

COMMENTS/SPECIAL HANDLING/:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																			
13	PS-Pb-SP1-13	01-09-23 13:14	S	2 glass jars	2	X																			
14	PS-Pb-SP1-14	01-09-23 13:18	S	2 glass jars	2	X																			
15	PS-Pb-SP1-15	01-09-23 13:23	S	2 glass jars	2	X																			
16	PS-Pb-SP1-16	01-09-23 13:35	S	2 glass jars	2	X																			
17	PS-Pb-SP1-17	01-09-23 13:40	S	2 glass jars	2	X																			
18	PS-Pb-SP1-18	01-09-23 13:46	S	2 glass jars	2	X																			
19	PS-Pb-SP1-19	01-09-23 13:50	S	2 glass jars	2	X																			
20	PS-Pb-SP1-20	01-09-23 13:55	S	2 glass jars	2	X																			
21	PS-Pb-SP1-21	01-09-23 14:09	S	2 glass jars	2	X																			
22	PS-Pb-SP1-22	01-09-23 14:15	S	2 glass jars	2	X																			
23	PS-Pb-SP1-23	01-09-23 14:20	S	2 glass jars	2	X																			
24	PS-Pb-SP1-24	01-09-23 14:25	S	2 glass jars	2	X																			
				TOTAL	24																				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct Bohle QLD 4818 Ph: 07 4796 0600 E: samples.townsville@alsenviro.com
☐ Melbourne: 24 Westall Rd Springvale VIC 3171 Ph: 07 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 21 Burma Rd Pooraka SA 5095 Ph: 08 8359 0890 E: samples.adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St Launceston TAS 7250 Ph: 03 6331 2158 E: samples.launceston@alsenviro.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? No N/A
PROJECT: Macquarie Point Stockpile Sampling	**ALS QUOTE NO.:**	COC SEQUENCE NUMBER (Circle) — Free ice / frozen ice bricks present upon receipt? No N/A
ORDER NUMBER:		COC: 1 2 3 4 5 7 — Random Sample Temperature on Receipt: C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 7 — Other comment:
SAMPLER: Annette Heath	**SAMPLER MOBILE: 0438 428 638**	**RELINQUISHED BY:** *Reggi Duffy* — **RECEIVED BY:** *TasFast* — **RELINQUISHED BY:** — **RECEIVED BY:**
COC emailed to ALS? (YES)	**EDD FORMAT (or default):**	DATE/TIME: 1/09/23 16:00 — DATE/TIME: — DATE/TIME: — DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **robert.crowe@aecom.com**		
Email Invoice to (will default to PM if no other addresses are listed): **robert.crowe@aecom.com**		

COMMENTS/SPECIAL HANDLING/:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD																				
25	PS-Pb-SP2-1	01-09-23 10:27	S	2 glass jars	2	X																				
26	PS-Pb-SP2-2	01-09-23 10:33	S	2 glass jars	2	X																				
27	PS-Pb-SP2-3	01-09-23 10:39	S	2 glass jars	2	X																				
28	PS-Pb-SP2-4	01-09-23 10:43	S	2 glass jars	2	X																				
29	PS-Pb-SP2-5	01-09-23 10:46	S	2 glass jars	2	X																				
30	PS-Pb-SP2-6	01-09-23 10:57	S	2 glass jars	2	X																				
31	PS-Pb-SP2-7	01-09-23 11:01	S	2 glass jars	2	X																				
32	PS-Pb-SP2-8	01-09-23 11:10	S	2 glass jars	2	X																				
33	PS-Pb-SP2-9	01-09-23 11:17	S	2 glass jars	2	X																				
34	PS-Pb-SP2-10	01-09-23 11:23	S	2 glass jars	2	X																				
35	TB02		S	1 glass jar	1	X																				
36	TB03		S	1 glass jar	1	X																				
				TOTAL	22																					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: samples.townsville@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 21 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: samples.adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2548 E: samples.launceston@alsenviro.com

CLIENT: AECOM	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Collins Square, Level 10, Tower Two, 727 Collins Street, Melbourne, Victoria, 3008, Australia	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? No N/A
PROJECT: Macquarie Point Stockpile Sampling	**ALS QUOTE NO.:**	COC SEQUENCE NUMBER (Circle) — Free ice / frozen ice bricks present upon receipt? No N/A
ORDER NUMBER:		COC: 1 2 3 4 5 7 — Random Sample Temperature on Receipt: C
PROJECT MANAGER: Rob Crowe	**CONTACT PH: 0422 692 187**	OF: 1 2 3 4 5 7 — Other comment:
SAMPLER: Annette Heath	**SAMPLER MOBILE: 0438 428 638**	**RELINQUISHED BY:** *Reggi Duffy* — **RECEIVED BY:** *TasFast* — **RELINQUISHED BY:** — **RECEIVED BY:**
COC emailed to ALS? (YES)	**EDD FORMAT (or default):**	DATE/TIME: 1/09/23 16:00 — DATE/TIME: — DATE/TIME: — DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): **robert.crowe@aecom.com**		
Email Invoice to (will default to PM if no other addresses are listed): **robert.crowe@aecom.com**		
COMMENTS/SPECIAL HANDLING/:		

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	Bottles required (per sample)	TOTAL BOTTLES	HOLD	
37	TB04	01-09-23	S	1 glass jar	1	X	
38	FB02	01-09-23 14:34	S	2 glass jars	2	X	
39	RB02	01-09-23 14:36	S	2 glass jars	2	X	
40	FD02	01-09-23	W	1AP, 2V, 1AG	5	X	
41	FD03	01-09-23	W	1AP, 2V, 1AG	5	X	
						X	
						X	
						X	
						X	
						X	
						X	
						X	
				TOTAL	15		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

Ranil Weerakkody

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Tuesday, 5 September 2023 10:19 AM
To: ALS Enviro Melbourne
Cc: Peter Ravlic
Subject: [EXTERNAL] - FW: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING
Attachments: 04092023170700-0001.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Good morning,

Could I please request the following analysis for the samples on this CoC on two day turnaround?

Please let me know if you need any additional information,

Cheers,

	Analysis				
Sample ID	P20/1 – Tasmanian EPA Bulletin No. 105 (Soil) excluding TBT	EG-2-T - Lead	EP075B(SIM) - PAHs	TCLP (Lead, PAHs)	S-18 - TRH C6-C10, BTEXN
PS-Pb-SP1-1	X			X	
PS-Pb-SP1-2		X	X	X	
PS-Pb-SP1-3		X	X	X	
PS-Pb-SP1-4	X			X	
PS-Pb-SP1-5		X	X	X	
PS-Pb-SP1-6	X			X	
PS-Pb-SP1-7		X	X	X	
PS-Pb-SP1-8		X	X	X	
PS-Pb-SP1-9	X			X	
PS-Pb-SP1-10		X	X	X	
PS-Pb-SP1-11		X	X	X	
PS-Pb-SP1-12	X			X	
PS-Pb-SP1-13		X	X	X	
PS-Pb-SP1-14		X	X	X	
PS-Pb-SP1-15		X	X	X	
PS-Pb-SP1-16	X			X	
PS-Pb-SP1-17		X	X	X	
PS-Pb-SP1-18		X	X	X	
PS-Pb-SP1-19		X	X	X	
PS-Pb-SP1-20	X			X	
PS-Pb-SP1-21		X	X	X	
PS-Pb-SP1-22		X	X	X	
PS-Pb-SP1-23	X			X	
PS-Pb-SP1-24		X	X	X	

PS-Pb-SP2-1	X			X	
PS-Pb-SP2-2		X	X	X	
PS-Pb-SP2-3		X	X	X	
PS-Pb-SP2-4		X	X	X	
PS-Pb-SP2-5	X			X	
PS-Pb-SP2-6		X	X	X	
PS-Pb-SP2-7		X	X	X	
PS-Pb-SP2-8	X			X	
PS-Pb-SP2-9		X	X	X	
PS-Pb-SP2-10		X	X	X	
TB02					X
TB03					X
FD-IL-01	X			X	
FD-IL-02	X			X	

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
M +61 422 692 187
robert.crowe@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, Victoria, 3008, Australia
T +61 3 9653 1234
aecom.com

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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 4 September 2023 5:11 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING

Hi Robert

Please find attached COC for samples rec'd today

Thanks

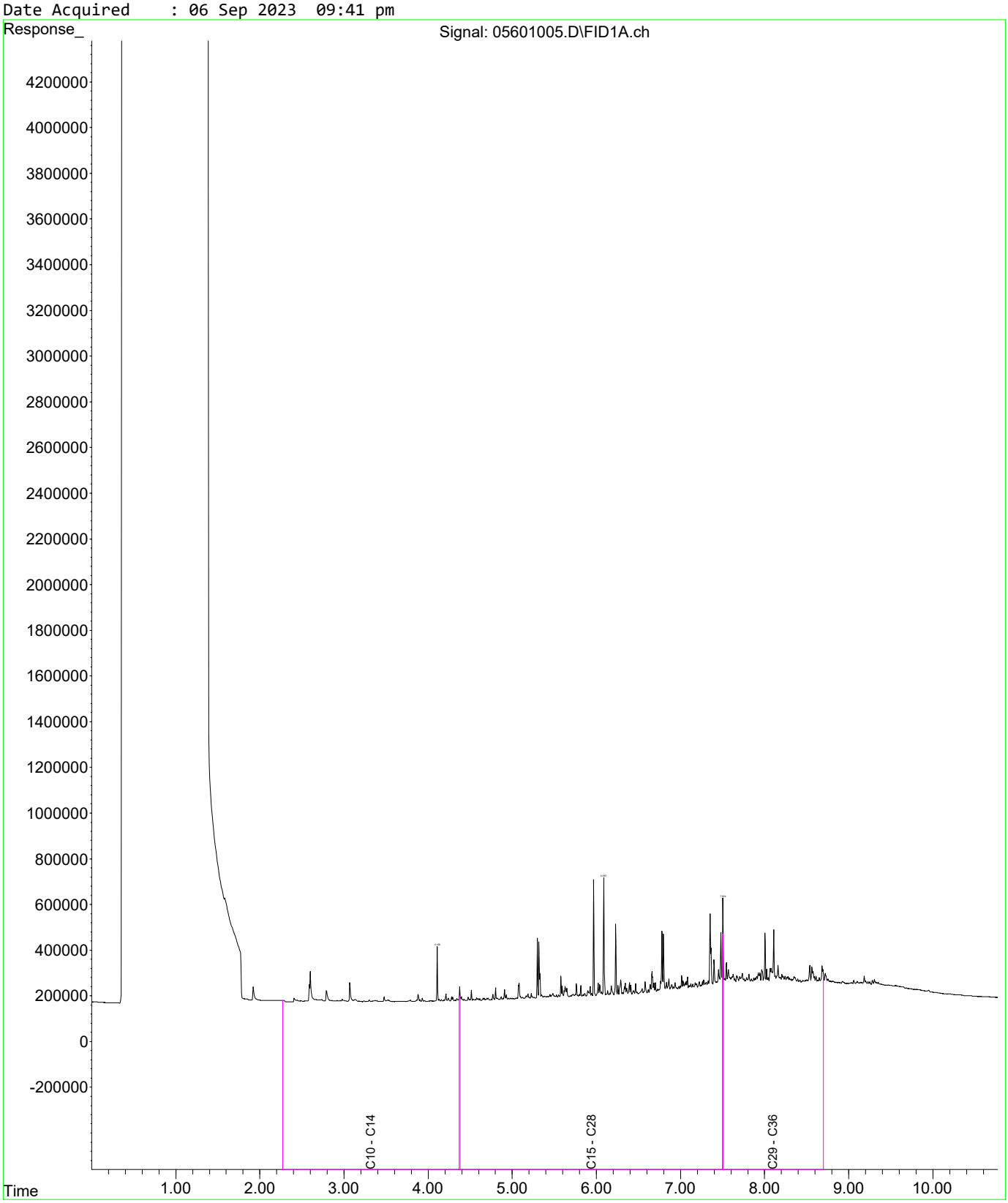
Kind Regards

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com
2-4 Westall Road, Springvale VIC 3171

alsglobal.com

Fraction Scheme : Legacy Fractions
Data File : 05601005.D
Laboratory Number: EM2315815-032
Sample ID : PS-Pb-SP2-8
Date Acquired : 06 Sep 2023 09:41 pm



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Laboratory Number: EM2315815-001
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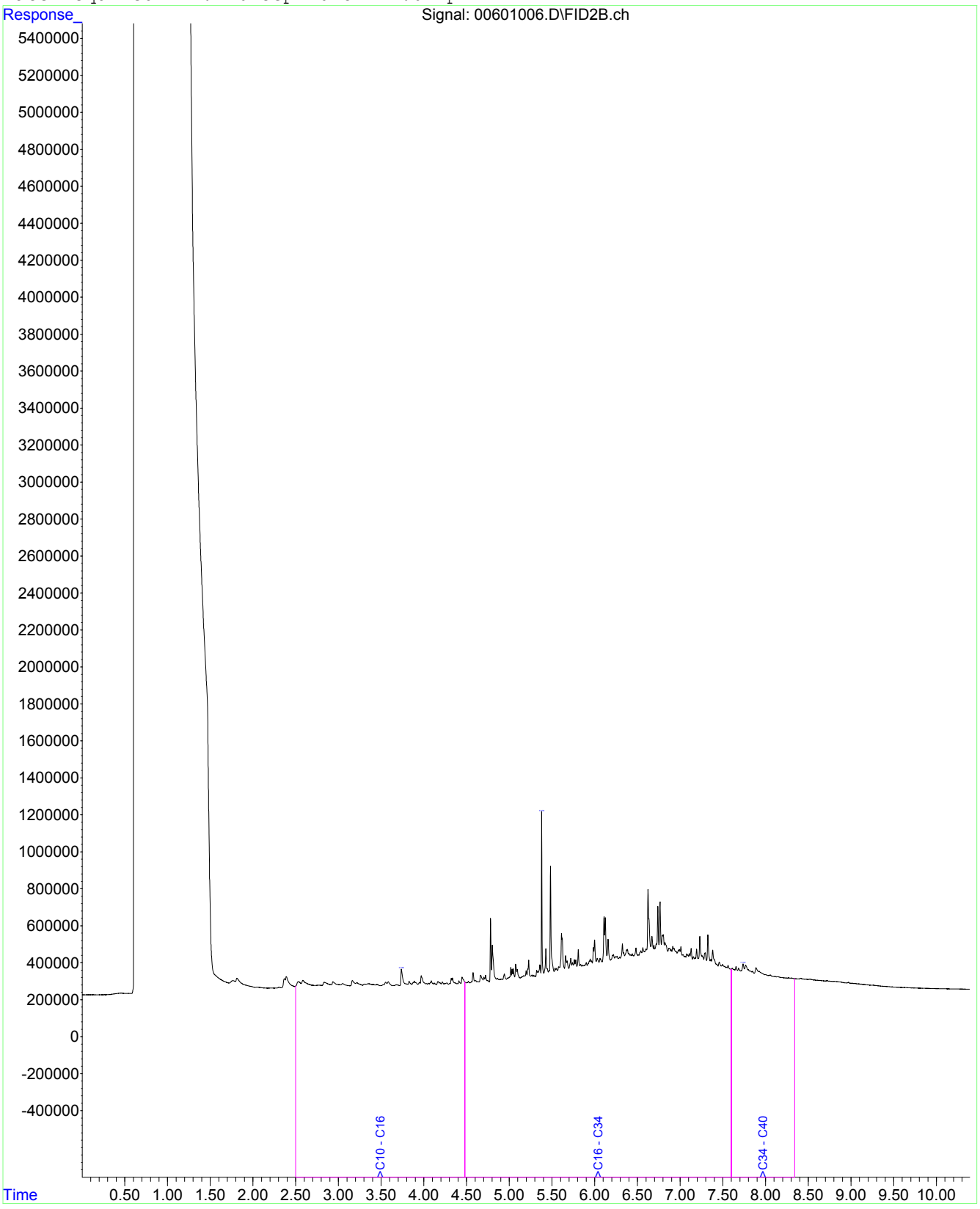
Date Acquired : 6 Sep 2023 1:02 pm



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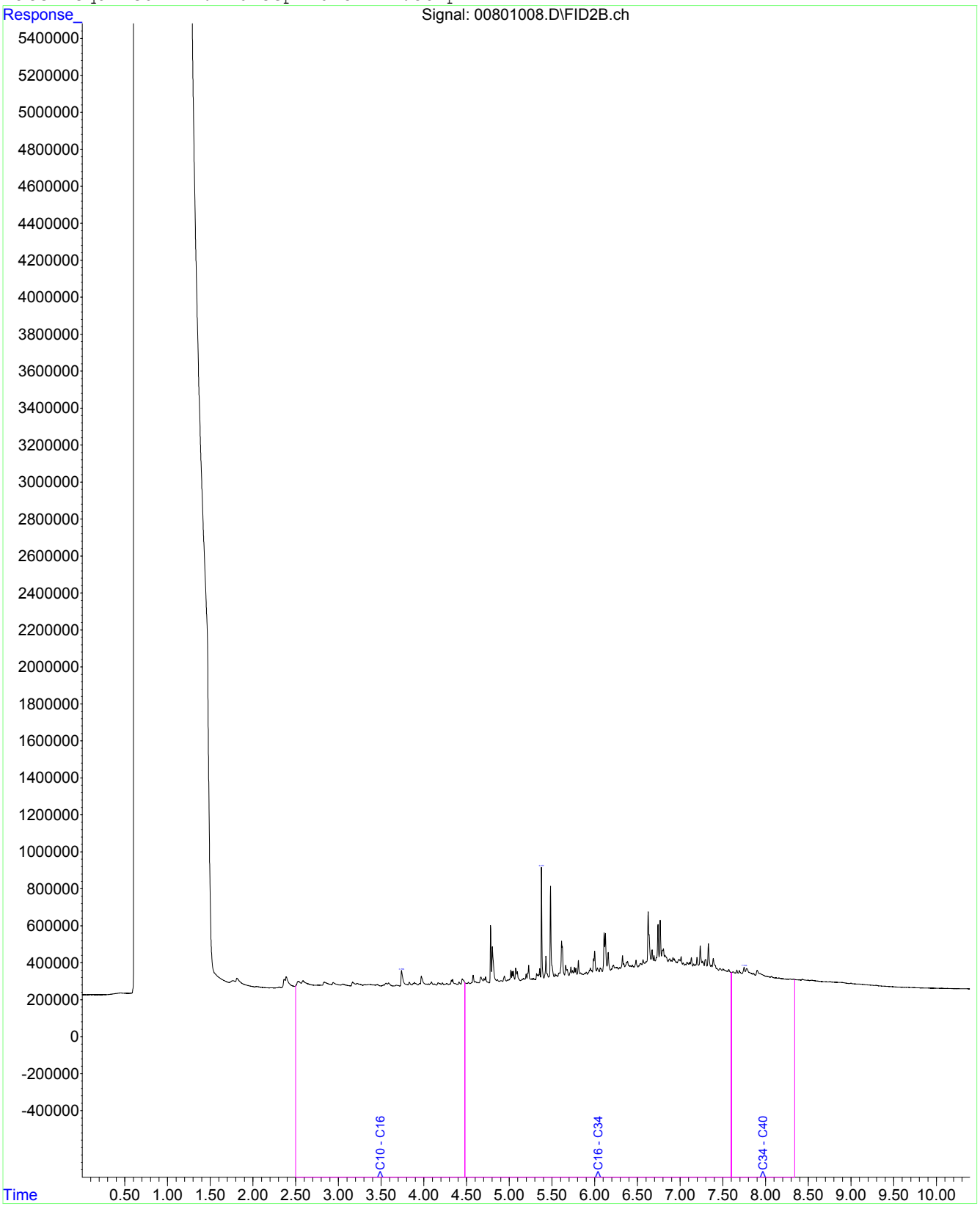

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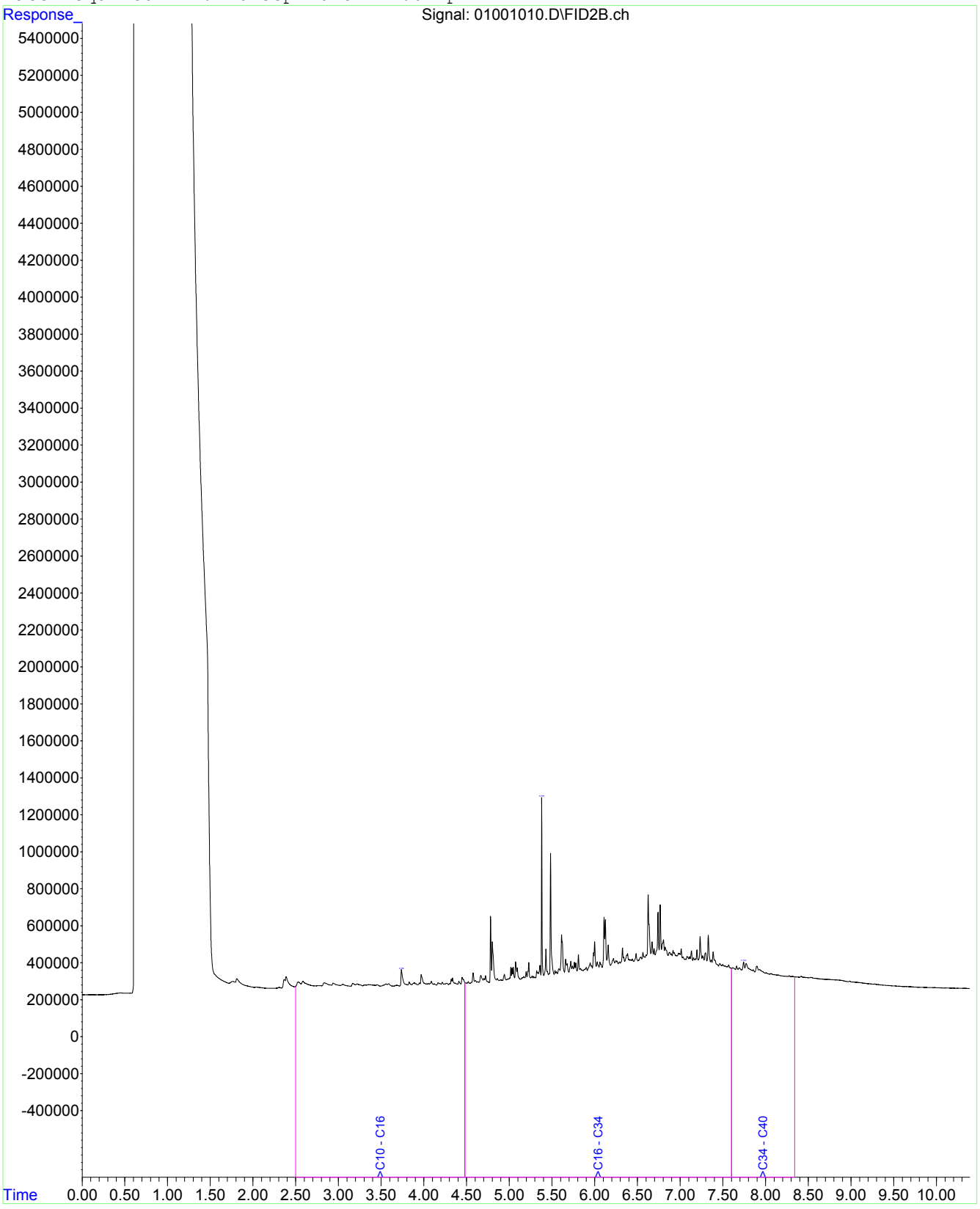

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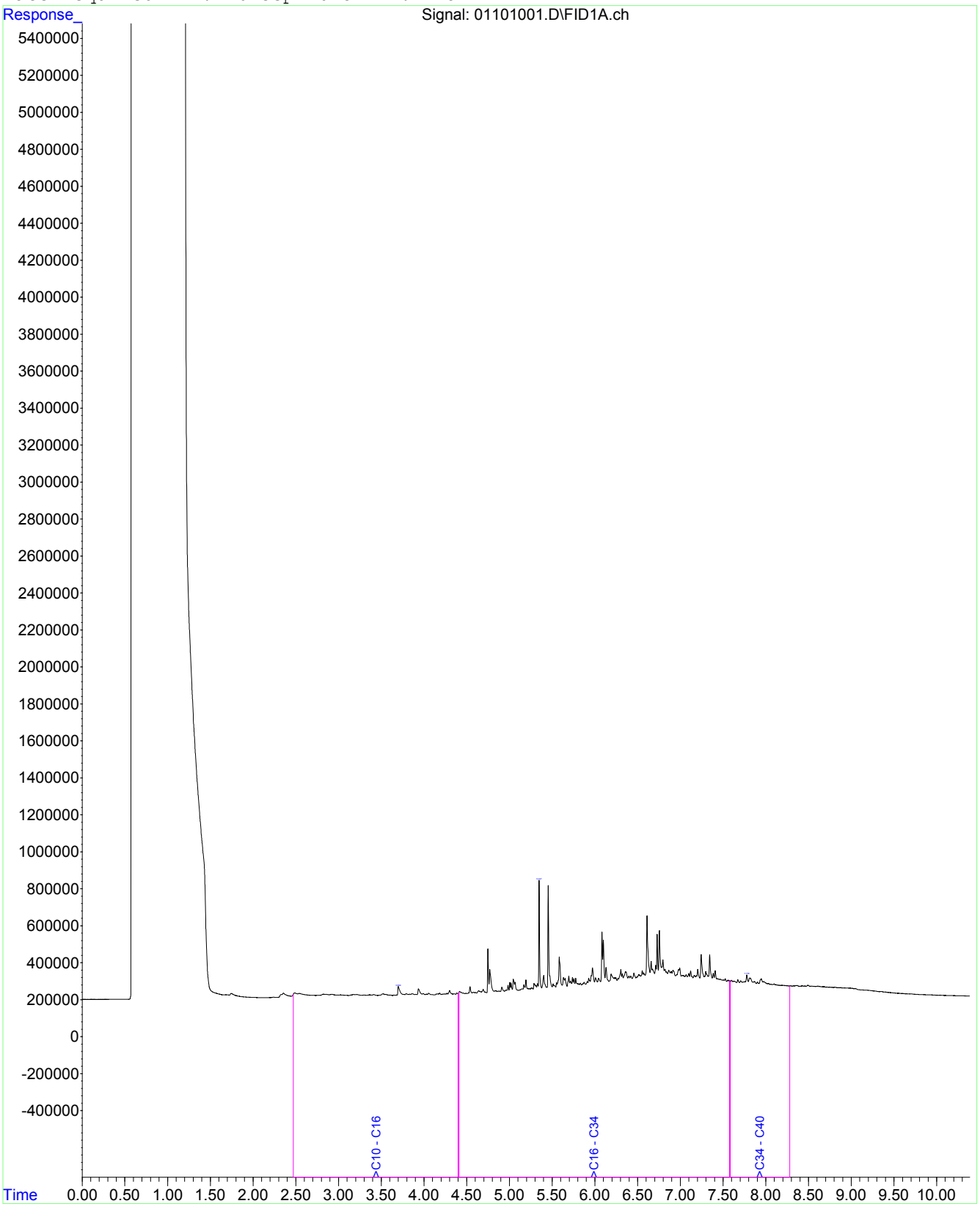

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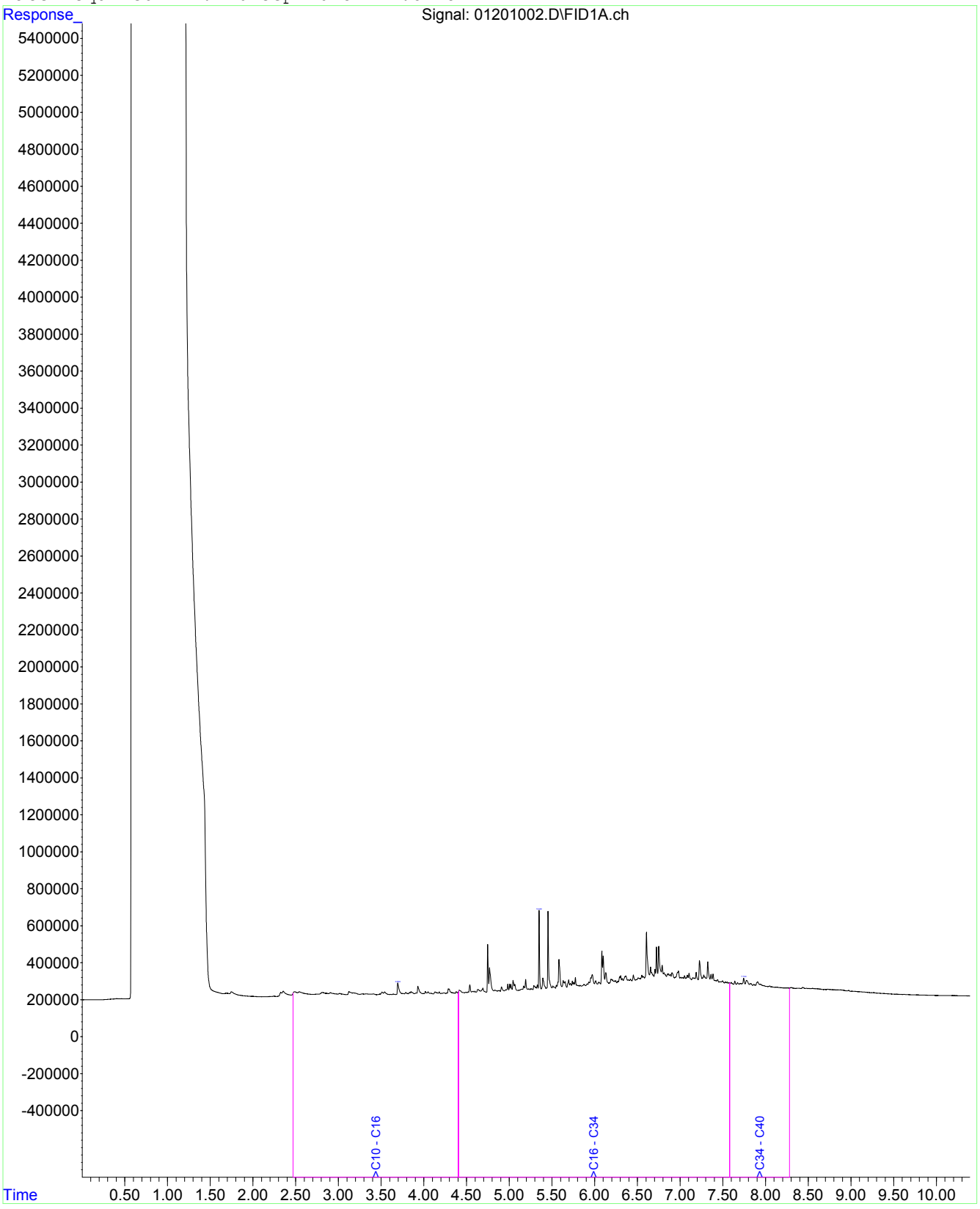
Date Acquired : 6 Sep 2023 11:57 am



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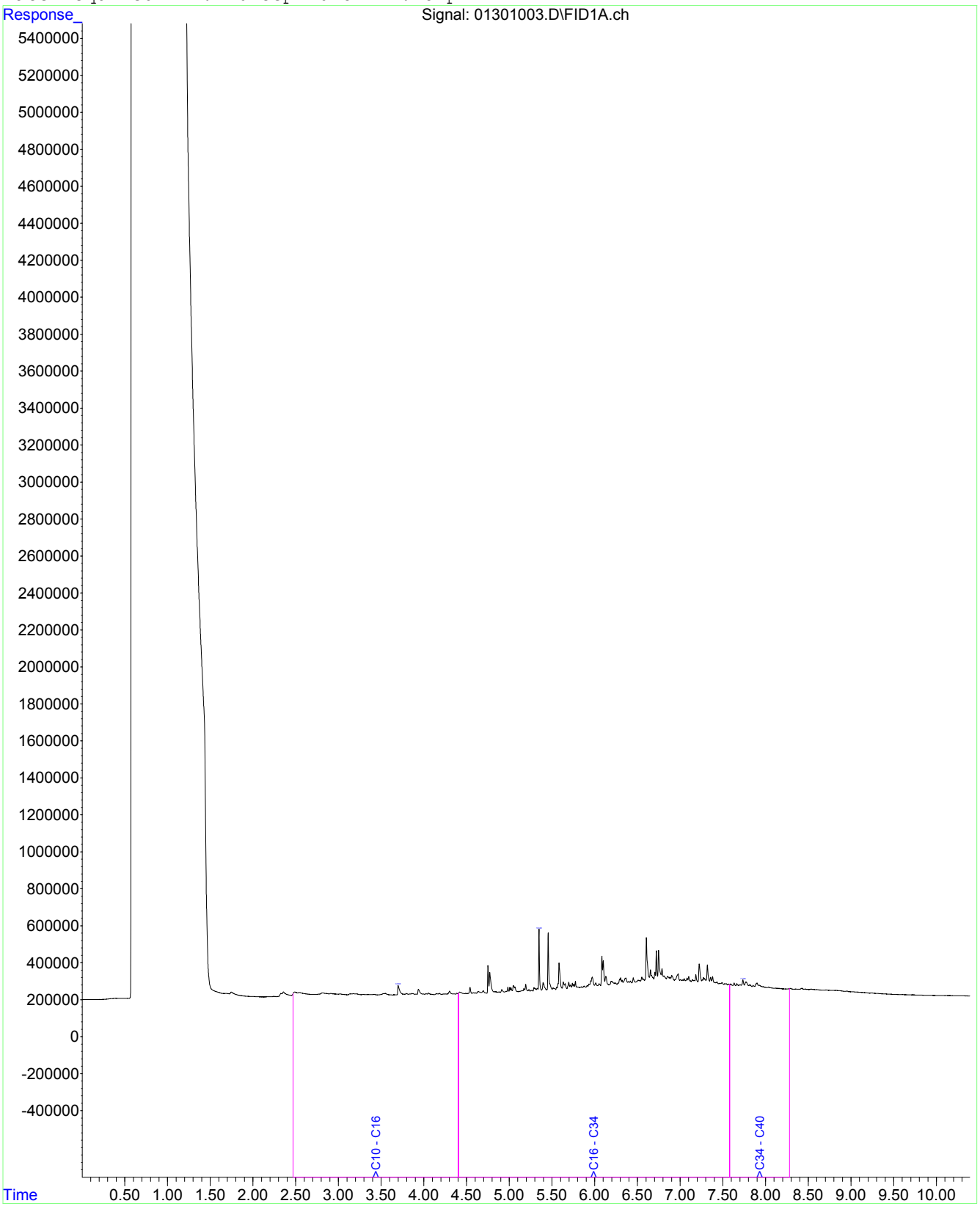

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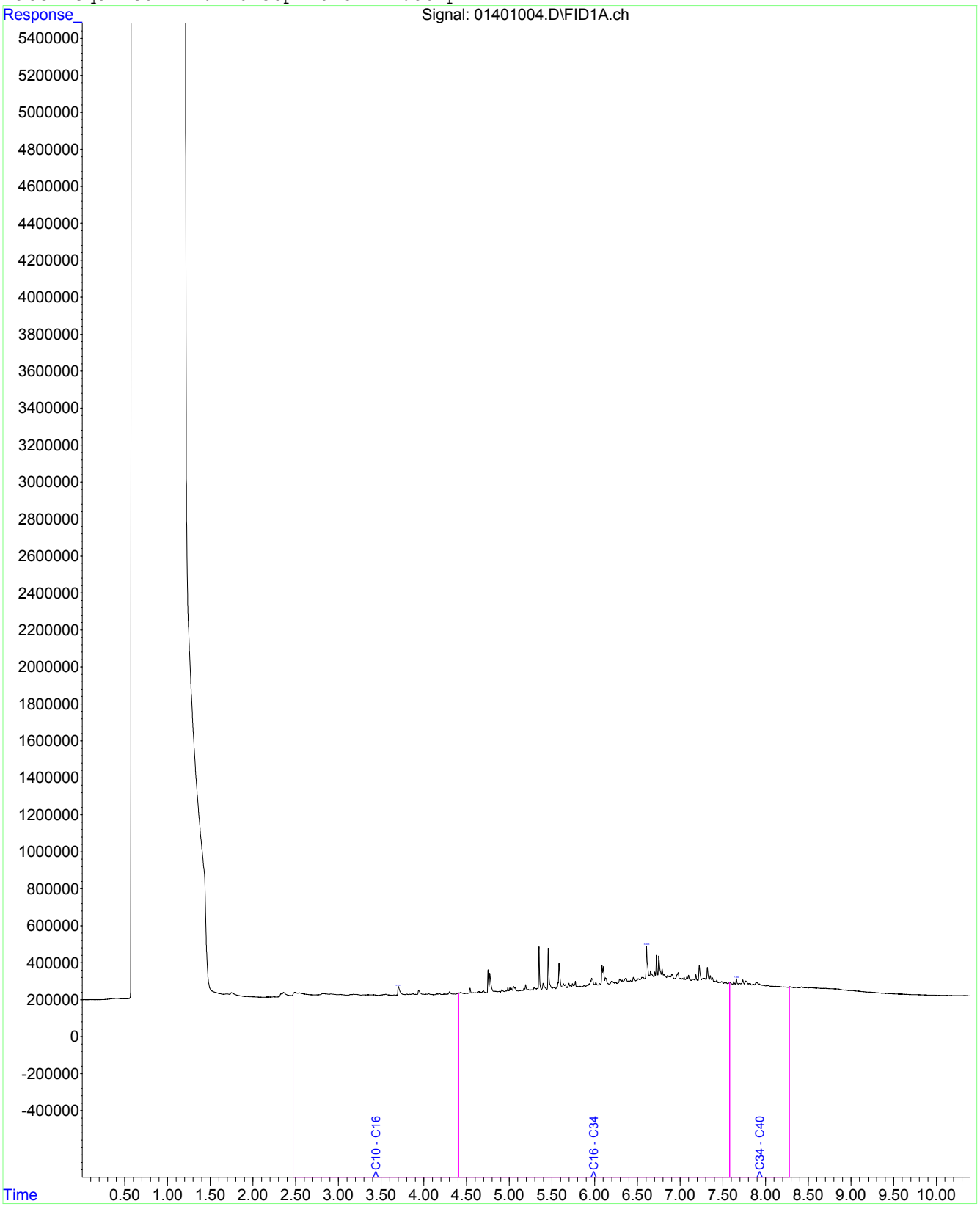

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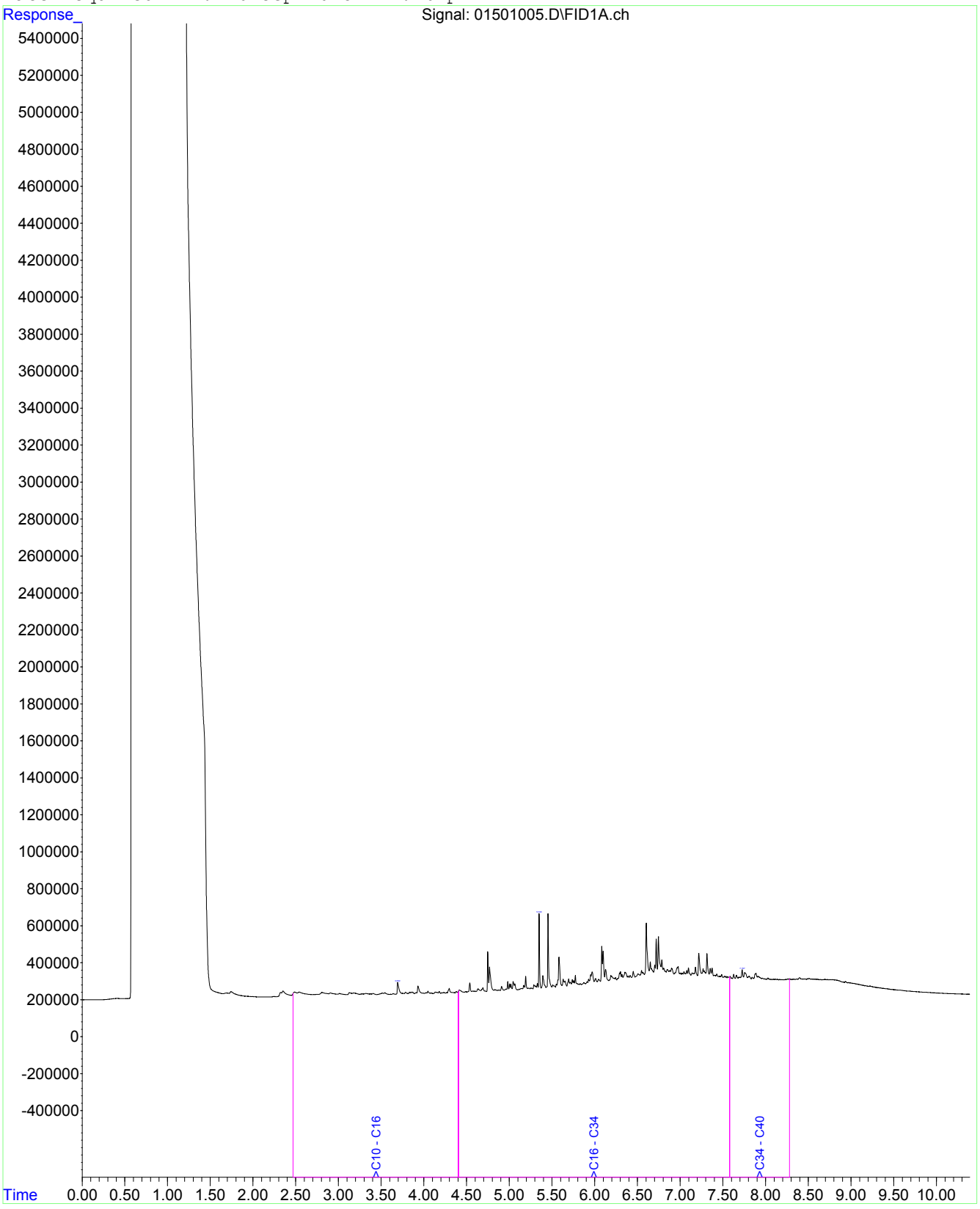
Sample ID : PS-Pb-SP1-23
Date Acquired : 6 Sep 2023 12:46 pm



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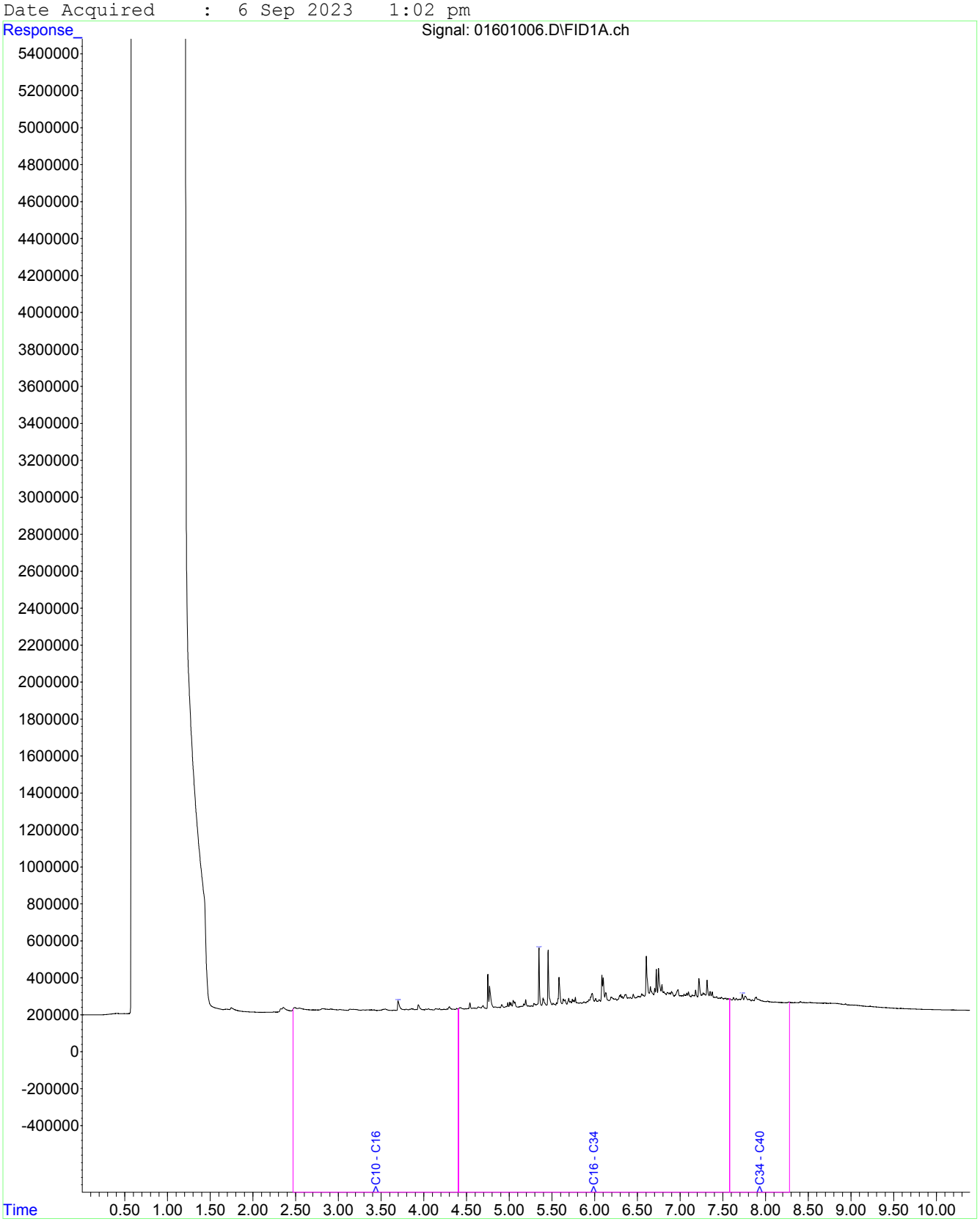
Date Acquired : 6 Sep 2023 1:02 pm



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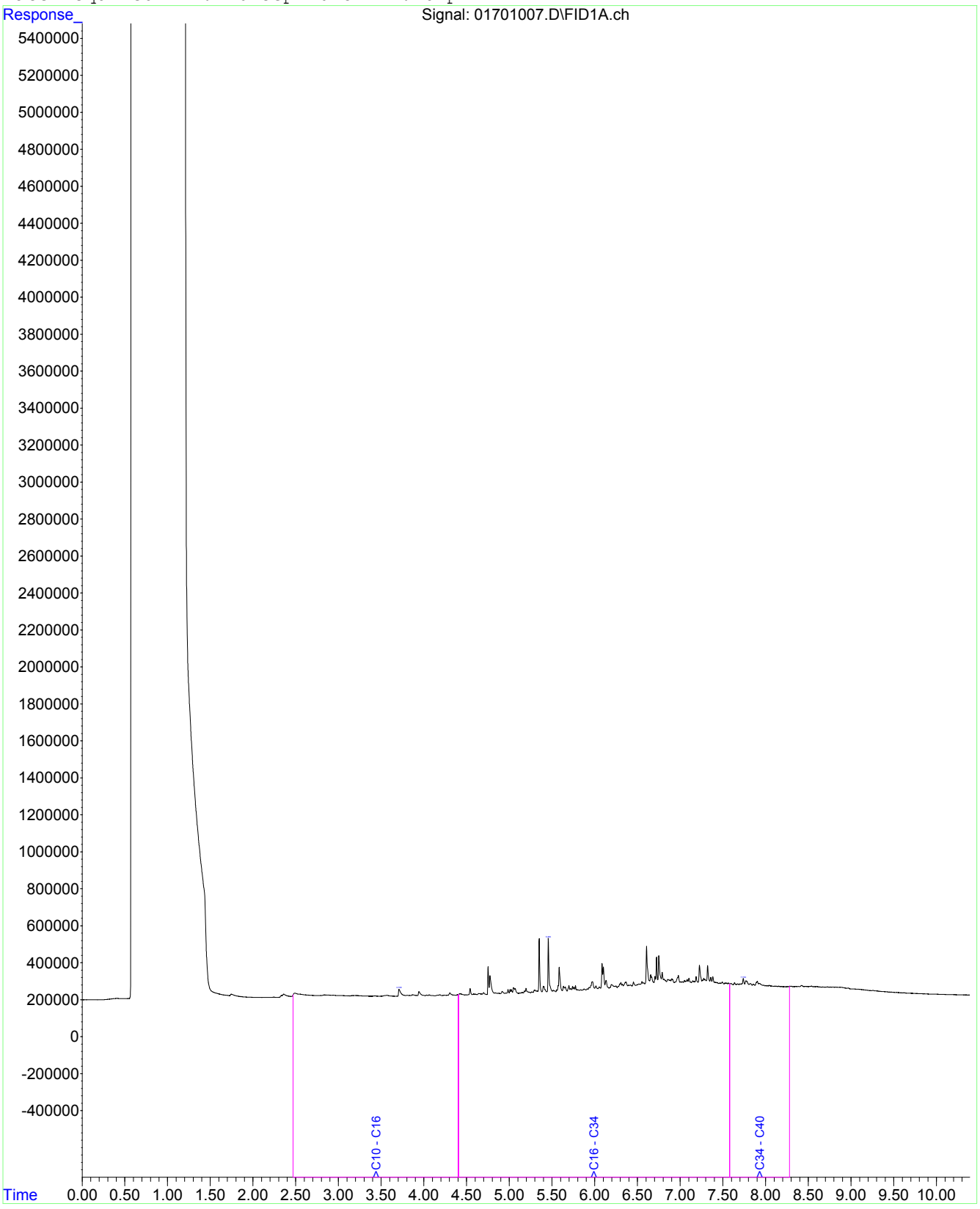
Sample ID : PS-Pb-SP2-5
Date Acquired : 6 Sep 2023 1:18 pm



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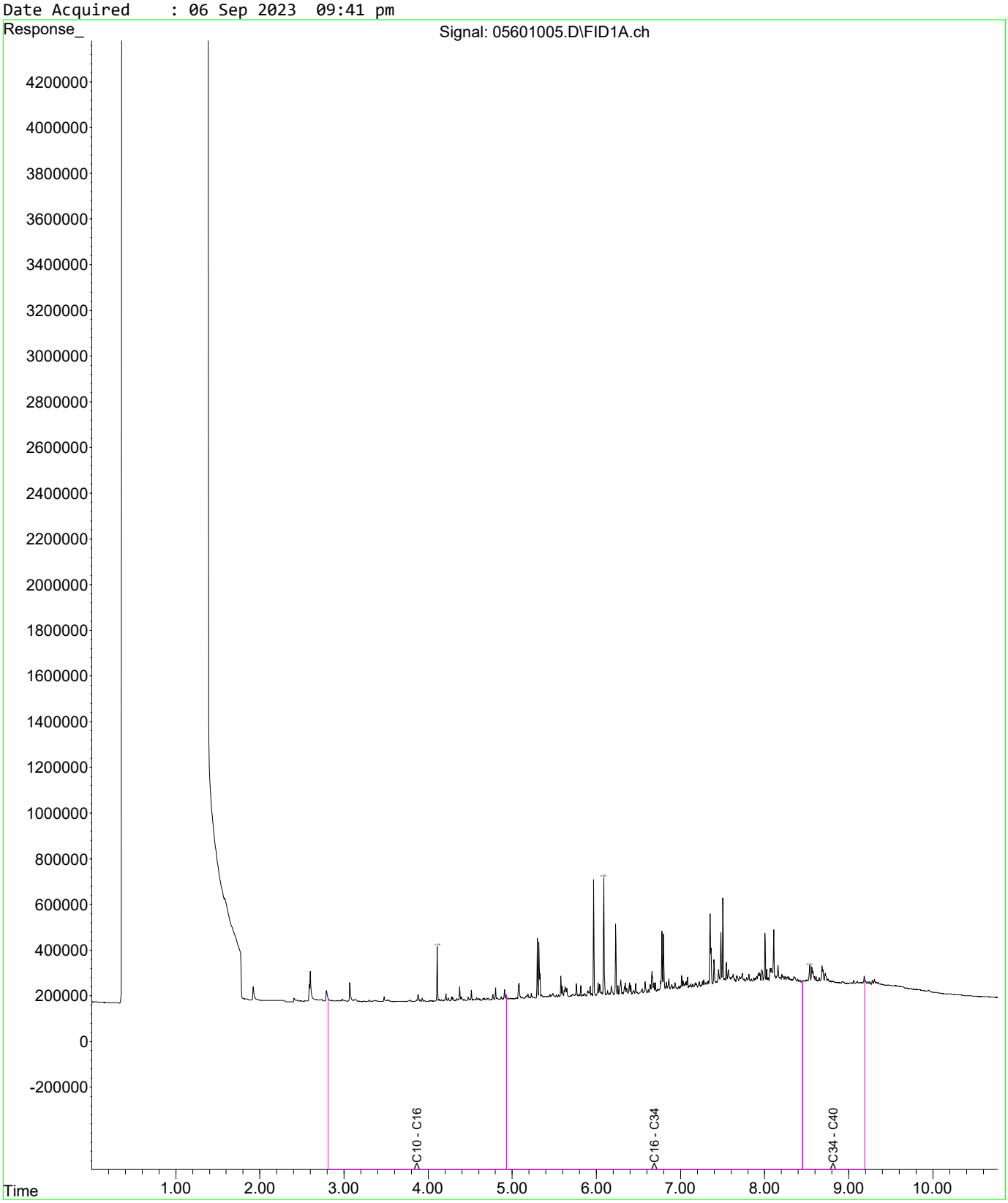
Laboratory Number: EM2315815-032
Sample ID : PS-Pb-SP2-8
Date Acquired : 06 Sep 2023 09:41 pm



Fraction Scheme : Standard
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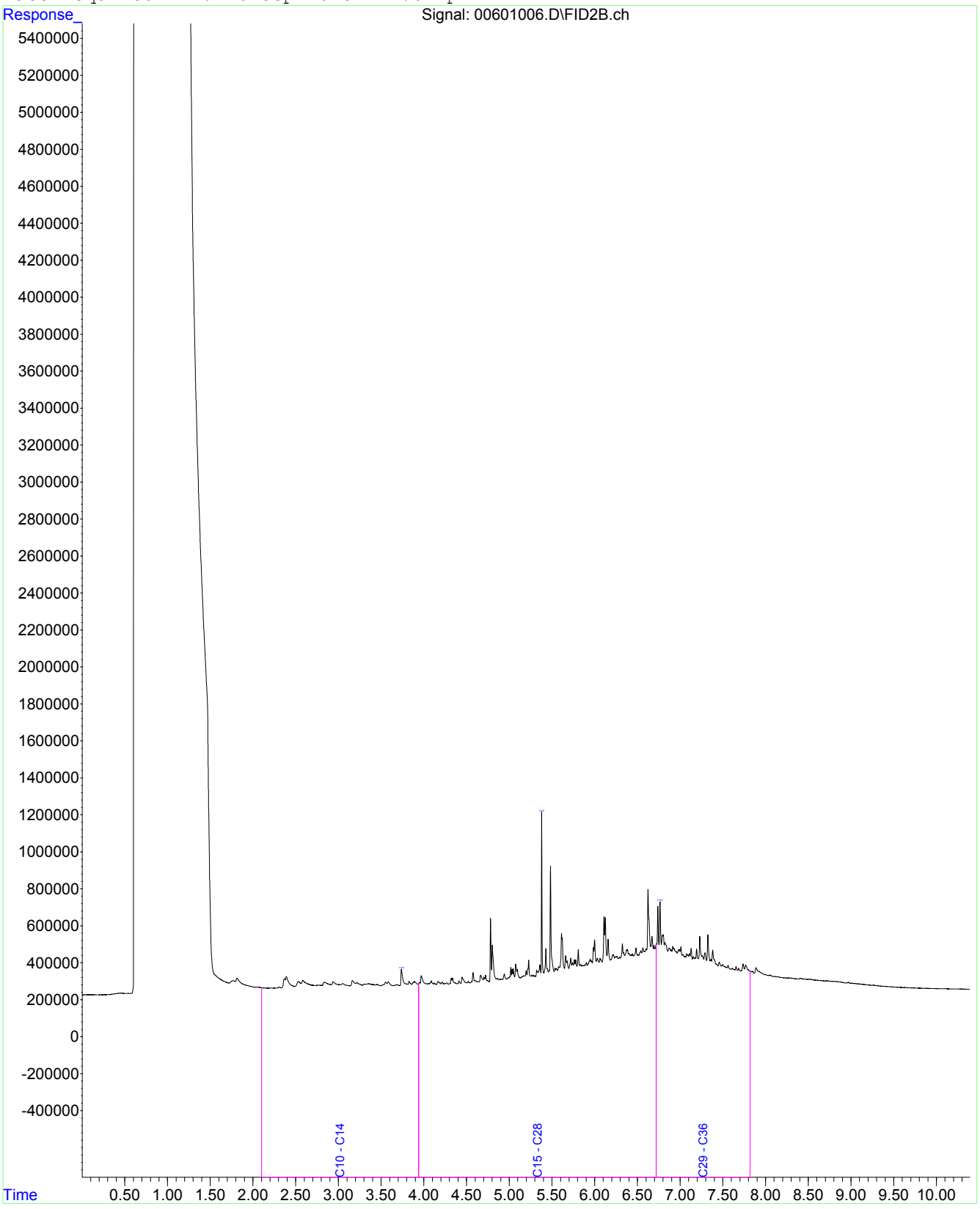
Laboratory Number: EM2315815-001
Sample ID : PS-Pb-SP1-1
Date Acquired : 6 Sep 2023 1:02 pm



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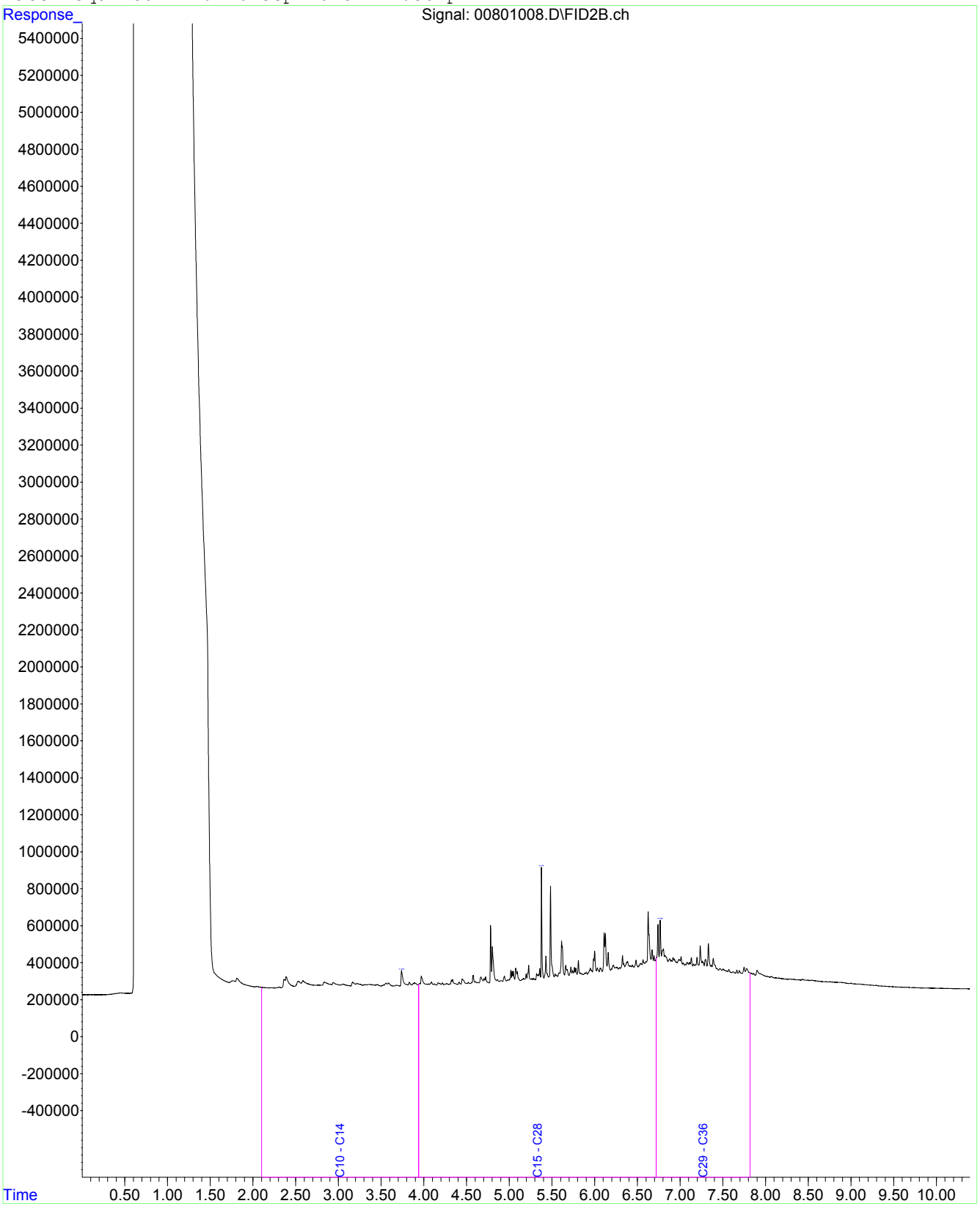
Sample ID : PS-Pb-SP1-4
Date Acquired : 6 Sep 2023 1:35 pm



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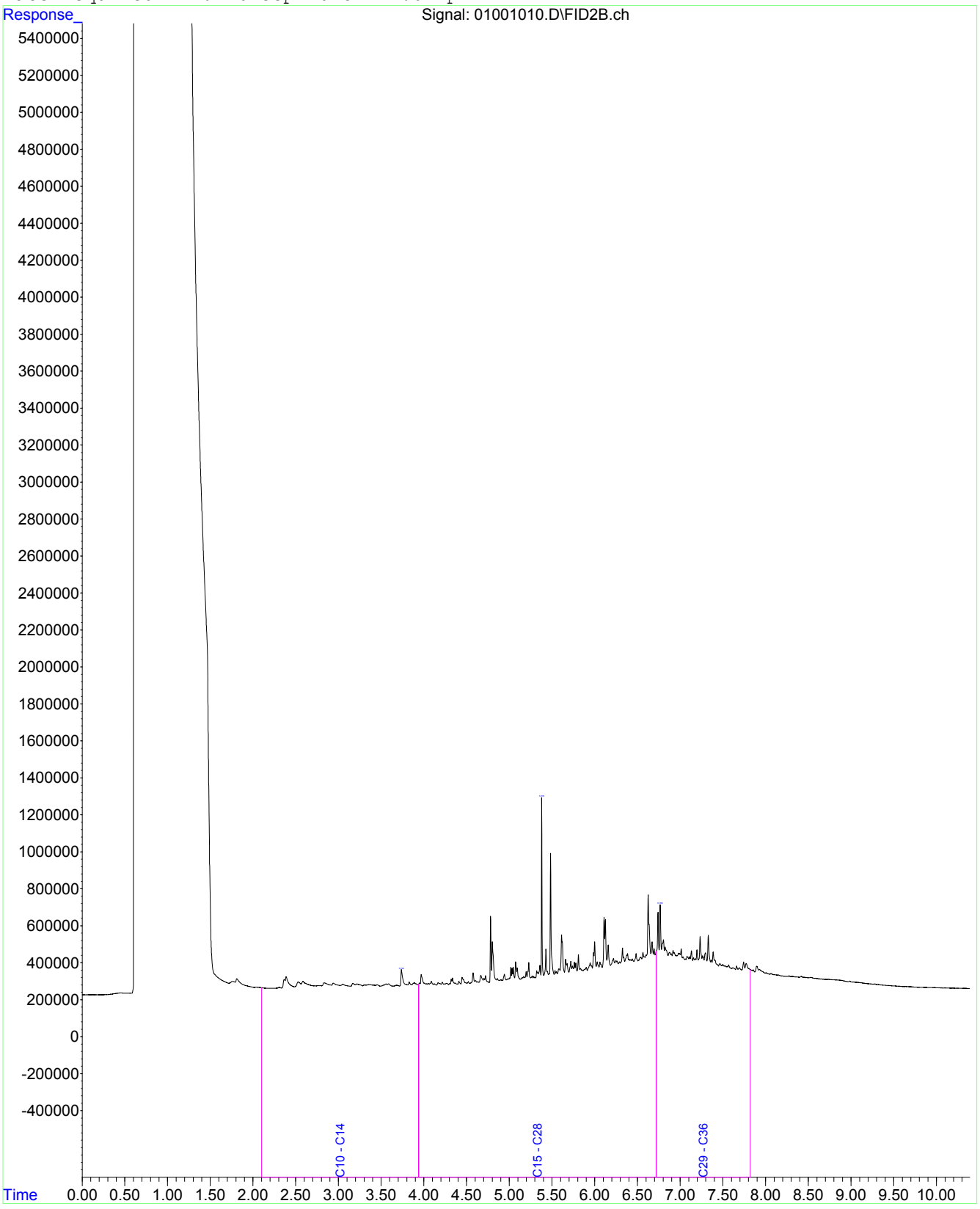
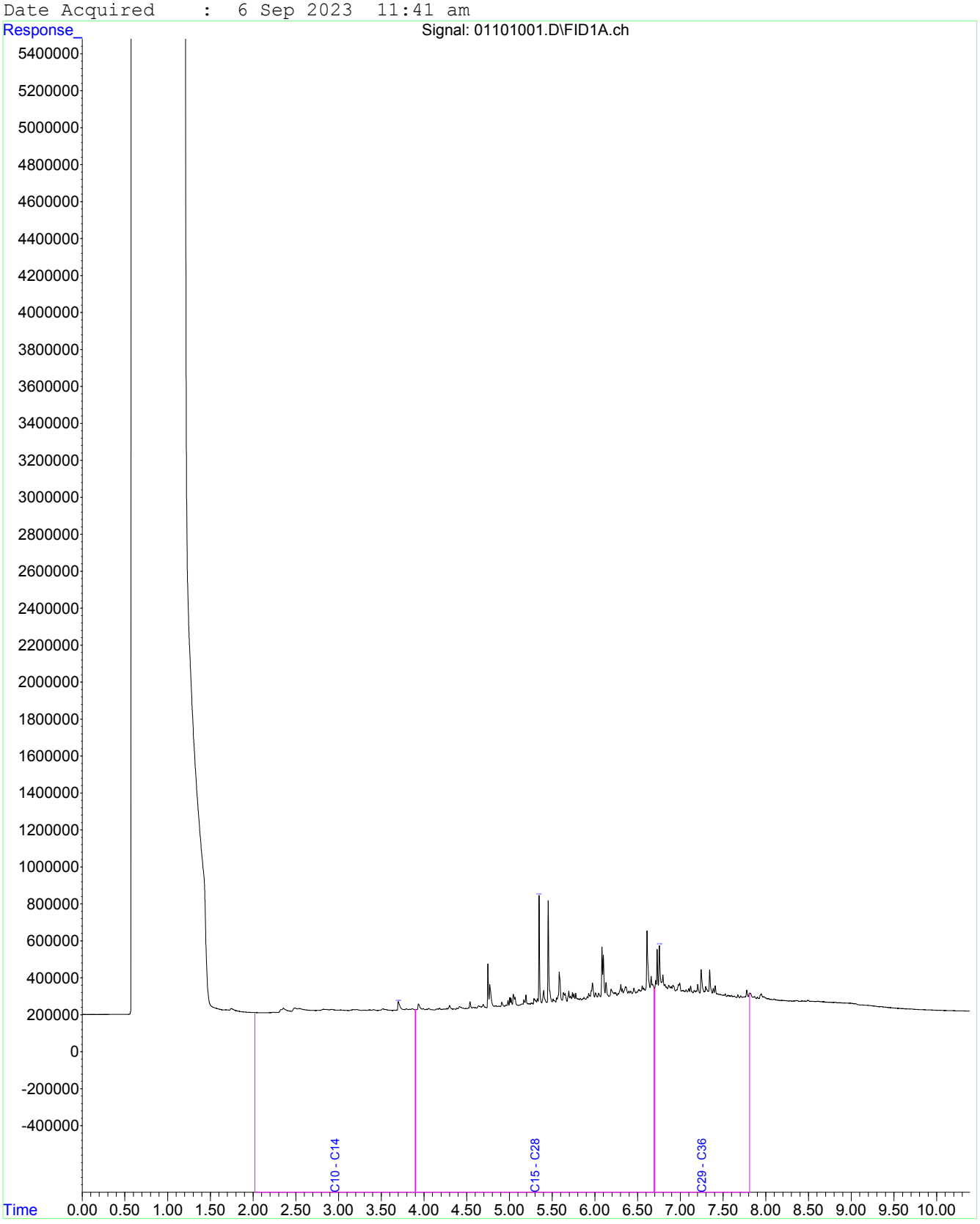
Date Acquired : 6 Sep 2023 2:07 pm



Fraction Scheme : Standard
Data File : 01101001.D
Laboratory Number: EM2315815-009
Sample ID : PS-Pb-SP1-9
Date Acquired : 6 Sep 2023 11:41 am



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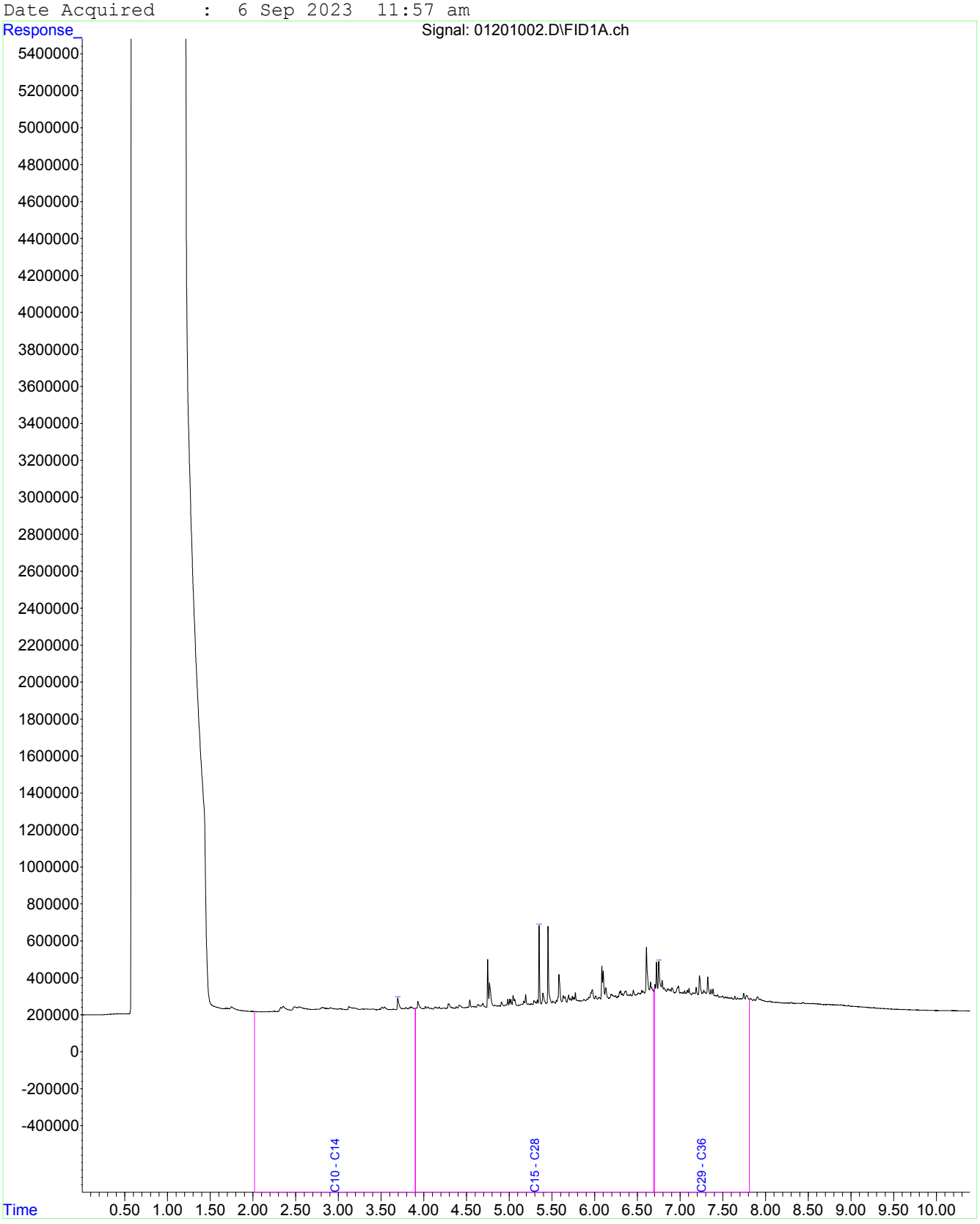
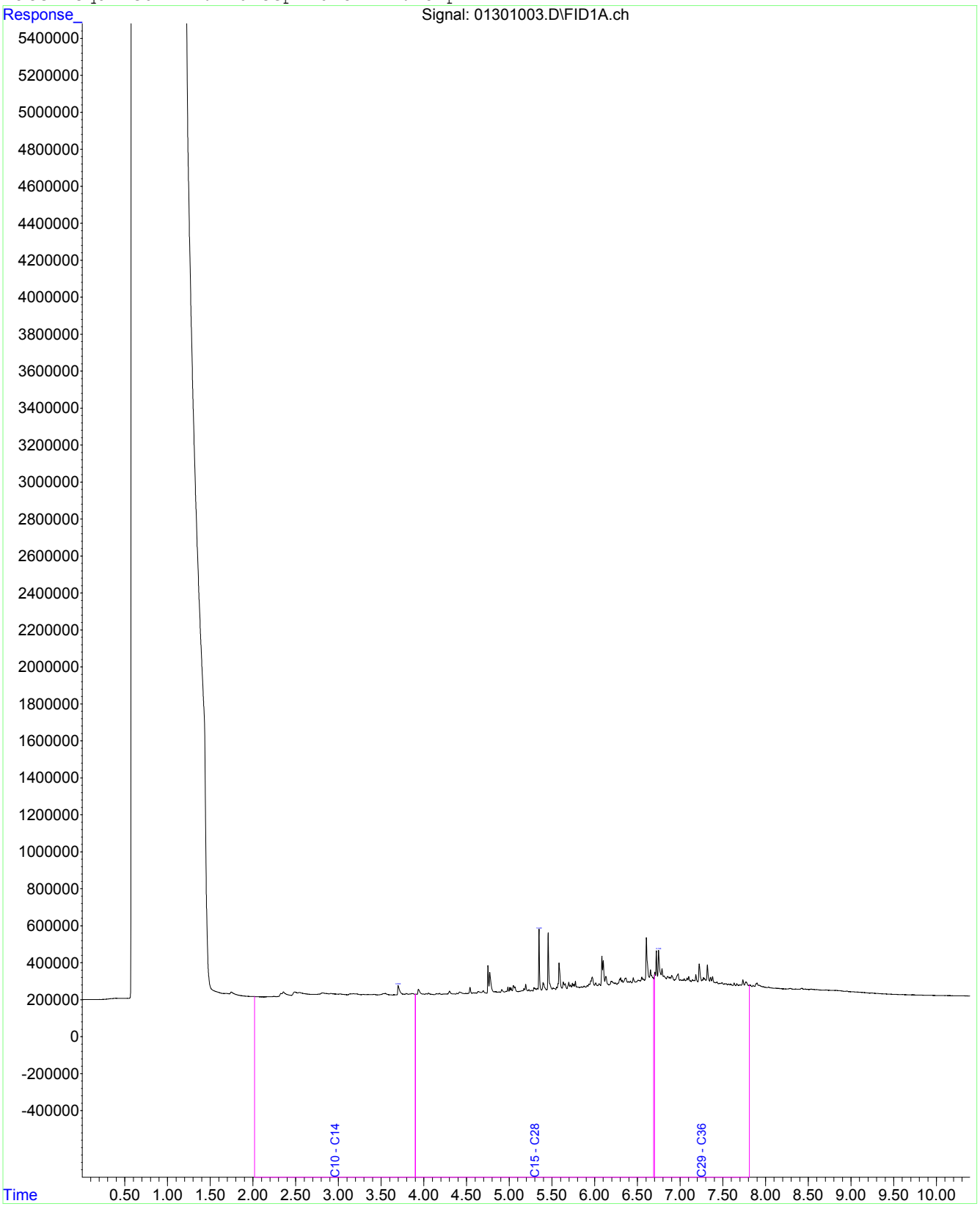
Laboratory Number: EM2315815-012
Sample ID : PS-Pb-SP1-12
Date Acquired : 6 Sep 2023 11:57 am



Fraction Scheme : Standard
Data File : 01301003.D
Laboratory Number: EM2315815-016
Sample ID : PS-Pb-SP1-16
Date Acquired : 6 Sep 2023 12:13 pm



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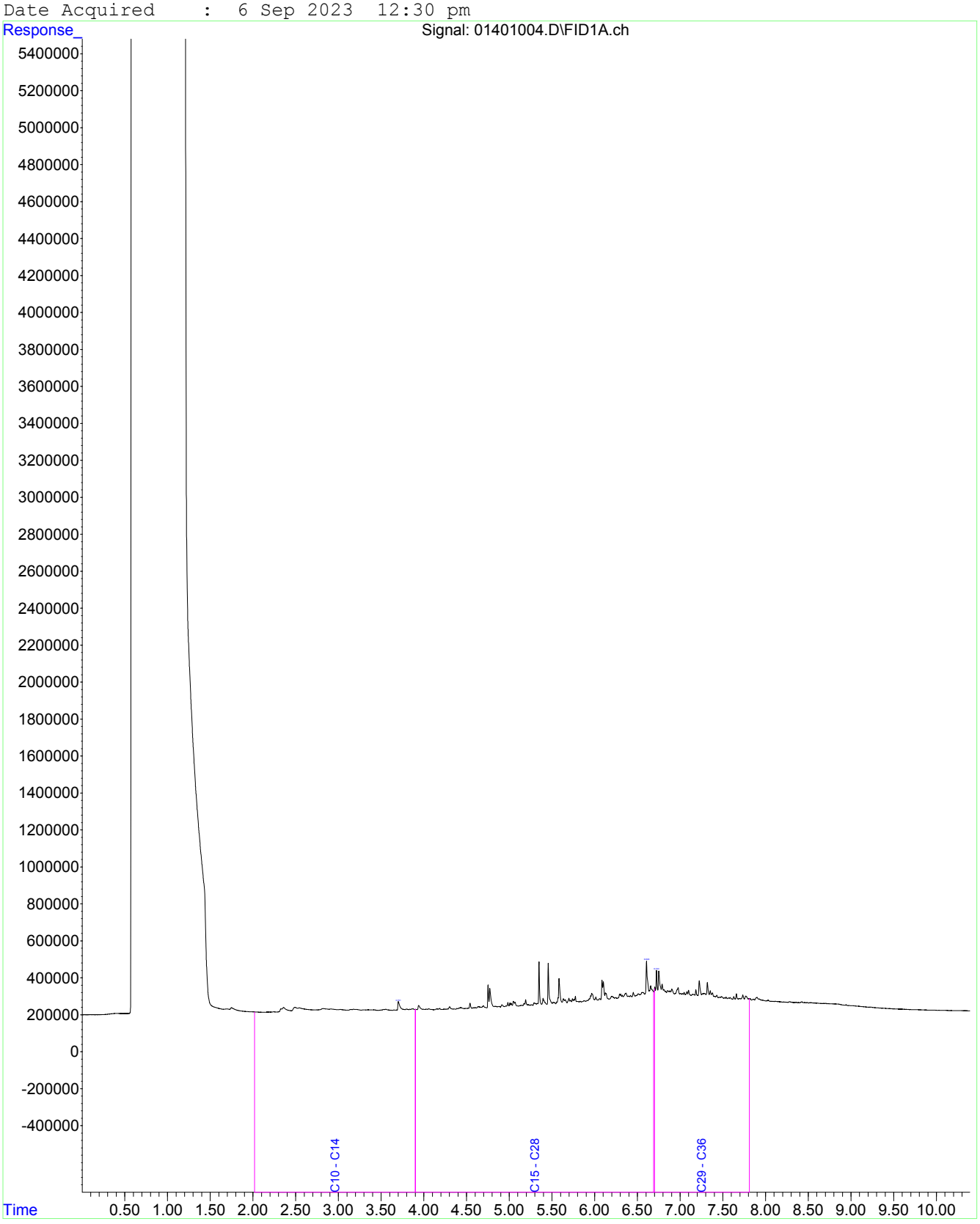
Sample ID : PS-Pb-SP1-20
Date Acquired : 6 Sep 2023 12:30 pm



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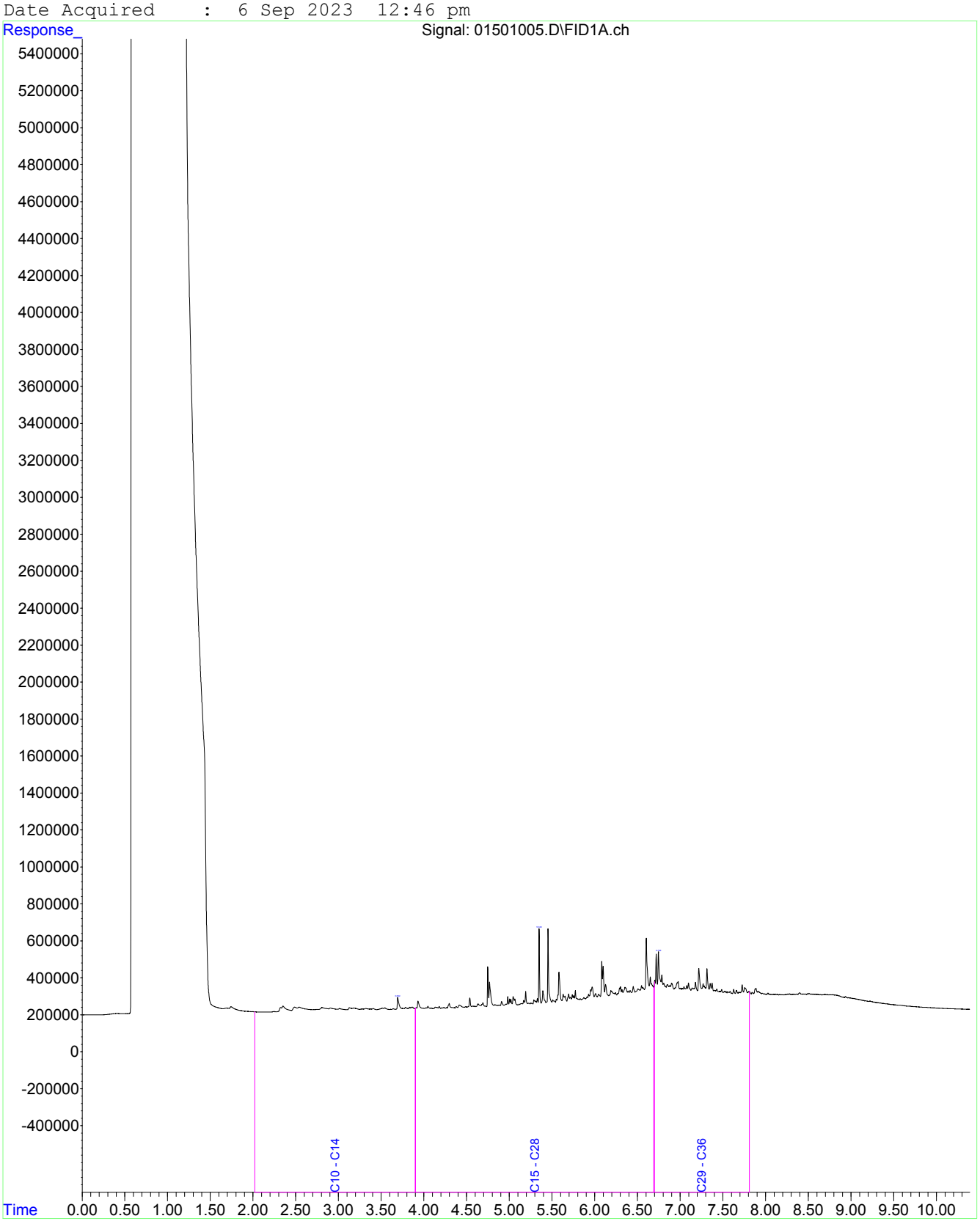

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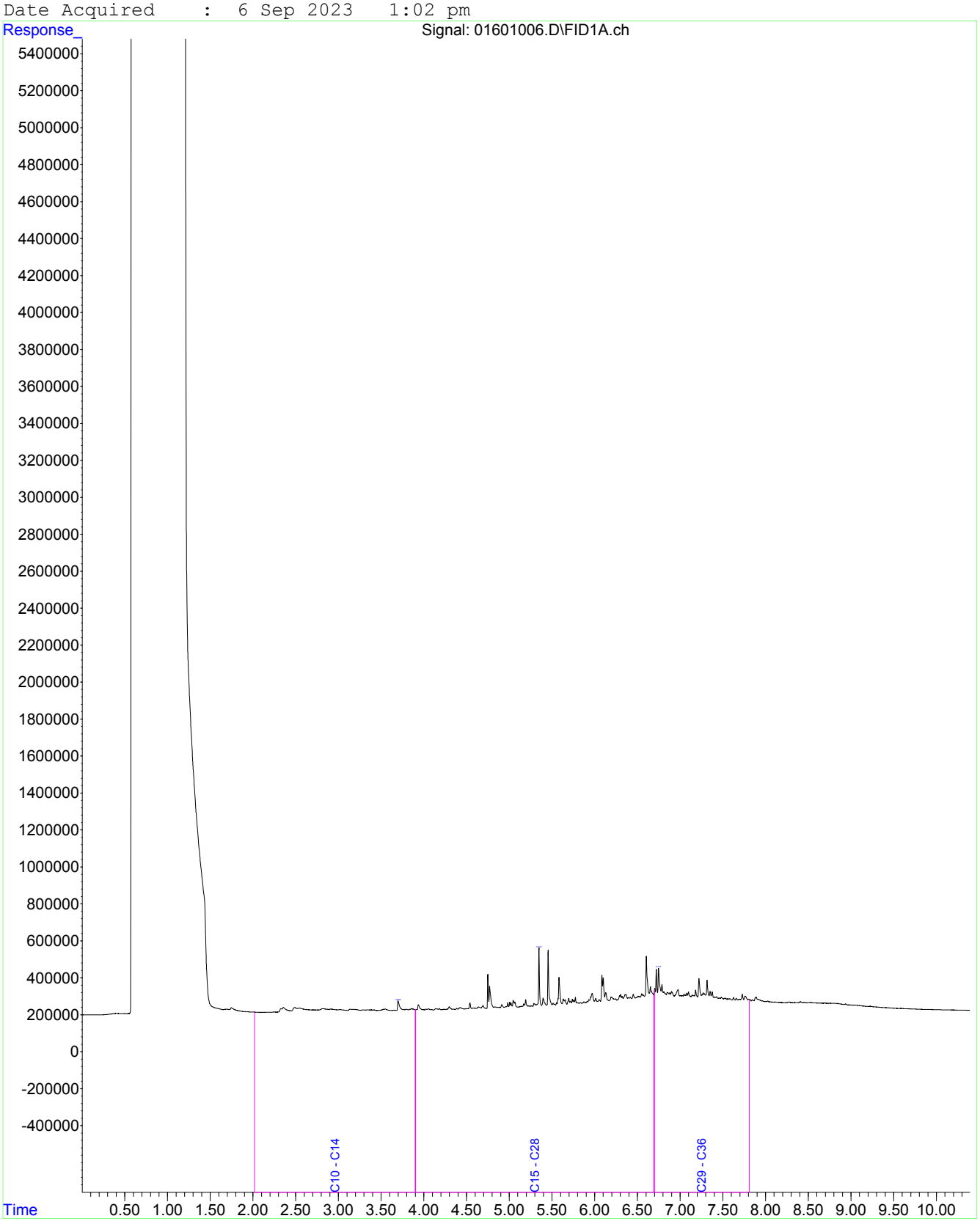
Data File : 01601006.D
Laboratory Number: EM2315815-025
Sample ID : PS-Pb-SP2-1
Date Acquired : 6 Sep 2023 1:02 pm



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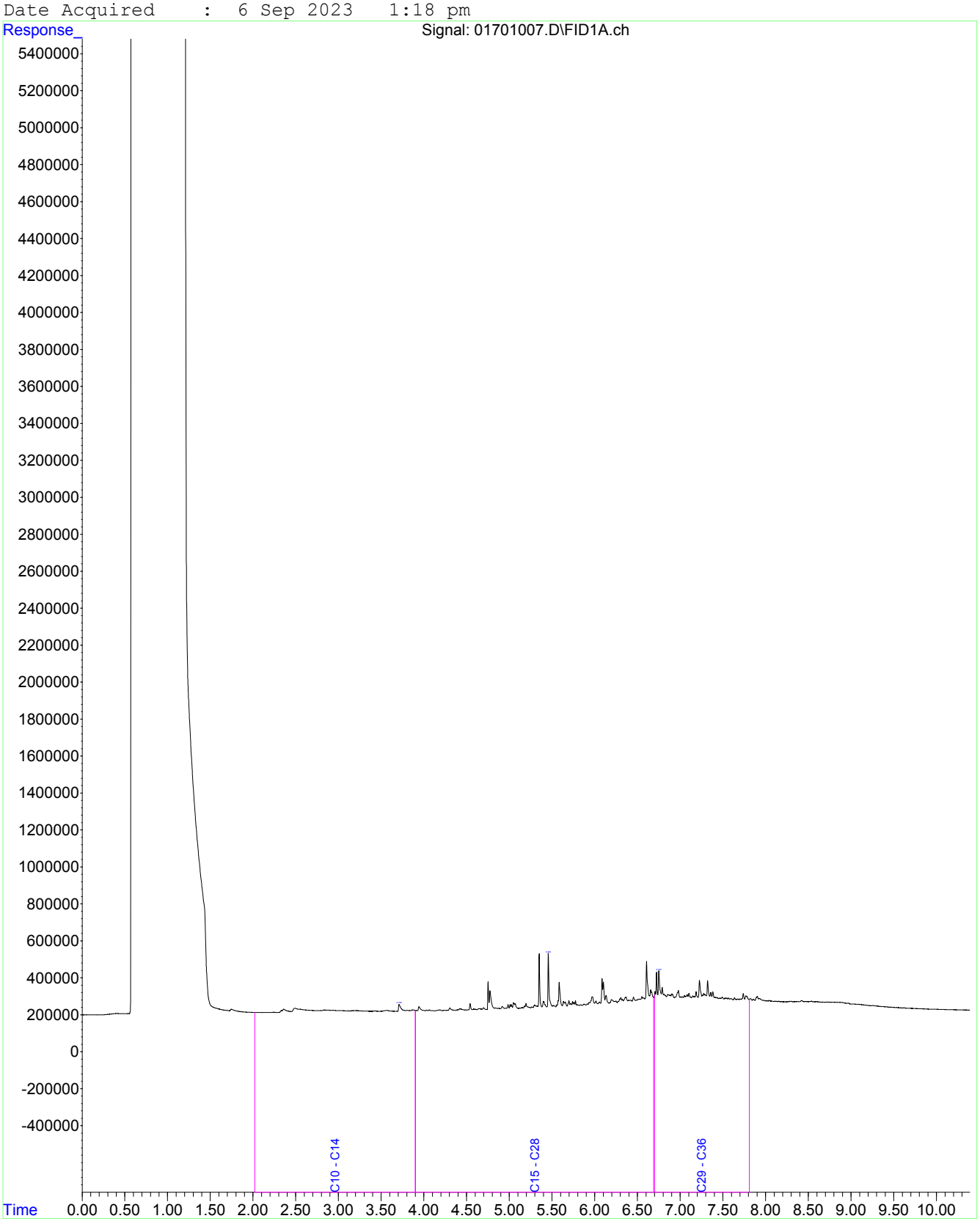
Data File : 01701007.D
Laboratory Number: EM2315815-029
Sample ID : PS-Pb-SP2-5
Date Acquired : 6 Sep 2023 1:18 pm



Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2316192**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point Stockpile Sampling	Date Received	: 04-Sep-2023 11:35
Order number	: Macquarie Point Stockpile Sampling	Date Analysed	: 09-Sep-2023
C-O-C number	: ----	Date Issued	: 13-Sep-2023 12:01
No. of samples received	: 2		
No. of samples analysed	: 2	Quote number	: EN/004/23

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
FD02	**EM2316192-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**49.1 mg/kg**
FD02	**EM2316192-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.85 mg/kg**
FD03	**EM2316192-002**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**48.9 mg/kg**
FD03	**EM2316192-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**3.41 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
FD02	**EM2316192-001**	Arsenic	EG005T	5	*< 20 mg/kg*	**50 mg/kg**
FD02	**EM2316192-001**	Copper	EG005T	5	*< 100 mg/kg*	**109 mg/kg**
FD02	**EM2316192-001**	Lead	EG005T	5	*< 300 mg/kg*	**451 mg/kg**
FD02	**EM2316192-001**	Zinc	EG005T	5	*< 200 mg/kg*	**500 mg/kg**
FD02	**EM2316192-001**	Fluoride	EK040T	40	*< 300 mg/kg*	**460 mg/kg**
FD02	**EM2316192-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**49.1 mg/kg**
FD02	**EM2316192-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.85 mg/kg**
FD03	**EM2316192-002**	Arsenic	EG005T	5	*< 20 mg/kg*	**21 mg/kg**
FD03	**EM2316192-002**	Cadmium	EG005T	1	*< 3 mg/kg*	**3 mg/kg**
FD03	**EM2316192-002**	Copper	EG005T	5	*< 100 mg/kg*	**216 mg/kg**
FD03	**EM2316192-002**	Lead	EG005T	5	*< 300 mg/kg*	**508 mg/kg**
FD03	**EM2316192-002**	Tin	EG005T	5	*< 50 mg/kg*	**113 mg/kg**
FD03	**EM2316192-002**	Zinc	EG005T	5	*< 200 mg/kg*	**1620 mg/kg**
FD03	**EM2316192-002**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.4 mg/kg**
FD03	**EM2316192-002**	Hexavalent Chromium	EG048G	0.5	*< 1 mg/kg*	<5.0 mg/kg
FD03	**EM2316192-002**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**111 mg/kg**
FD03	**EM2316192-002**	Fluoride	EK040T	40	*< 300 mg/kg*	**440 mg/kg**
FD03	**EM2316192-002**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**48.9 mg/kg**
FD03	**EM2316192-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**3.41 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**FD02** 01-Sep-2023 15:00 **EM2316192-001** MU	**FD03** 01-Sep-2023 15:00 **EM2316192-002** MU	----	----	----
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	750	**50** ± 6	**21** ± 3	----	----	----
Barium	EG005T	10	mg/kg		----	30000	**140** ± 10	**270** ± 30	----	----	----
Beryllium	EG005T	1	mg/kg		----	400	<1 - -	<1 - -	----	----	----
Cadmium	EG005T	1	mg/kg		----	400	**2** ± 0.2	**3** ± 0.2	----	----	----
Chromium	EG005T	2	mg/kg		----	5000	**39** ± 5	**49** ± 6	----	----	----
Cobalt	EG005T	2	mg/kg		----	1000	**14** ± 2	**14** ± 2	----	----	----
Copper	EG005T	5	mg/kg		----	7500	**109** ± 13	**216** ± 26	----	----	----
Lead	EG005T	5	mg/kg		----	3000	**451** ± 47	**508** ± 53	----	----	----
Manganese	EG005T	5	mg/kg		----	25000	**274** ± 27	**306** ± 30	----	----	----
Molybdenum	EG005T	2	mg/kg		----	4000	<2 - -	<2 - -	----	----	----
Nickel	EG005T	2	mg/kg		----	3000	**47** ± 5	**41** ± 4	----	----	----
Selenium	EG005T	5	mg/kg		----	200	<5 - -	<5 - -	----	----	----
Silver	EG005T	2	mg/kg		----	720	<2 - -	<2 - -	----	----	----
Tin	EG005T	5	mg/kg		----	900	**31** ± 5	**113** ± 17	----	----	----
Zinc	EG005T	5	mg/kg		----	50000	**500** ± 52	**1620** ± 166	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	110	**0.8** ± 0.08	**1.4** ± 0.1	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	2000	<0.5 - -	<5.0 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	2500	**13** ± 1	**111** ± 11	----	----	----
EK040T: Fluoride Total											
Fluoride	EK040T	40	mg/kg		----	10000	**460** ± 80	**440** ± 70	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	50	<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	50	<0.05	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	1000	<0.05	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	2000	<0.5	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	200	**49.1**	**48.9**	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	FD02	FD03	----	----	----
				Sampling date/time			01-Sep-2023 15:00	01-Sep-2023 15:00	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2316192-001** MU	**EM2316192-002** MU			
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	20	**3.85**	**3.41**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	1000	<10	<10	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	10000	**470**	**720**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	50	<0.2	<0.2	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1000	<0.5	<0.5	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	1080	<0.5	<0.5	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	1800	<0.5	<0.5	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time* FD02 01-Sep-2023 15:00 EM2316192-001 MU	FD03 01-Sep-2023 15:00 EM2316192-002 MU	----	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**50** ± 6	**21** ± 3	----	----	----
Barium	EG005T	10	mg/kg	----	300	**140** ± 10	**270** ± 30	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	<1 - -	<1 - -	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	**2** ± 0.2	**3** ± 0.2	----	----	----
Chromium	EG005T	2	mg/kg	----	50	**39** ± 5	**49** ± 6	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	**14** ± 2	**14** ± 2	----	----	----
Copper	EG005T	5	mg/kg	----	100	**109** ± 13	**216** ± 26	----	----	----
Lead	EG005T	5	mg/kg	----	300	**451** ± 47	**508** ± 53	----	----	----
Manganese	EG005T	5	mg/kg	----	500	**274** ± 27	**306** ± 30	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 - -	<2 - -	----	----	----
Nickel	EG005T	2	mg/kg	----	60	**47** ± 5	**41** ± 4	----	----	----
Selenium	EG005T	5	mg/kg	----	10	<5 - -	<5 - -	----	----	----
Silver	EG005T	2	mg/kg	----	10	<2 - -	<2 - -	----	----	----
Tin	EG005T	5	mg/kg	----	50	**31** ± 5	**113** ± 17	----	----	----
Zinc	EG005T	5	mg/kg	----	200	**500** ± 52	**1620** ± 166	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.8** ± 0.08	**1.4** ± 0.1	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 - -	<5.0 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**13** ± 1	**111** ± 11	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	300	**460** ± 80	**440** ± 70	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**49.1**	**48.9**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**3.85**	**3.41**	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**FD02**	**FD03**	**----**	**----**	**----**
				Sampling date/time			01-Sep-2023 15:00	01-Sep-2023 15:00	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2316192-001** MU	**EM2316192-002** MU			
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	65	<10	<10	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	1000	**470**	**720**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	1	<0.2	<0.2	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1	<0.5	<0.5	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	3	<0.5	<0.5	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	14	<0.5	<0.5	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID		FD02	FD03	----	----	----
				Sampling date/time	Guideline	01-Sep-2023 15:00	01-Sep-2023 15:00	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	EM2316192-001 MU	EM2316192-002 MU			
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**50** ± 6	**21** ± 3	----	----	----
Barium	EG005T	10	mg/kg	----	3000	**140** ± 10	**270** ± 30	----	----	----
Beryllium	EG005T	1	mg/kg	----	40	<1 - -	<1 - -	----	----	----
Cadmium	EG005T	1	mg/kg	----	40	**2** ± 0.2	**3** ± 0.2	----	----	----
Chromium	EG005T	2	mg/kg	----	500	**39** ± 5	**49** ± 6	----	----	----
Cobalt	EG005T	2	mg/kg	----	200	**14** ± 2	**14** ± 2	----	----	----
Copper	EG005T	5	mg/kg	----	2000	**109** ± 13	**216** ± 26	----	----	----
Lead	EG005T	5	mg/kg	----	1200	**451** ± 47	**508** ± 53	----	----	----
Manganese	EG005T	5	mg/kg	----	5000	**274** ± 27	**306** ± 30	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	<2 - -	<2 - -	----	----	----
Nickel	EG005T	2	mg/kg	----	600	**47** ± 5	**41** ± 4	----	----	----
Selenium	EG005T	5	mg/kg	----	50	<5 - -	<5 - -	----	----	----
Silver	EG005T	2	mg/kg	----	180	<2 - -	<2 - -	----	----	----
Tin	EG005T	5	mg/kg	----	500	**31** ± 5	**113** ± 17	----	----	----
Zinc	EG005T	5	mg/kg	----	14000	**500** ± 52	**1620** ± 166	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.8** ± 0.08	**1.4** ± 0.1	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 - -	<5.0 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	**13** ± 1	**111** ± 11	----	----	----
EK040T: Fluoride Total										
Fluoride	EK040T	40	mg/kg	----	3000	**460** ± 80	**440** ± 70	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**49.1**	**48.9**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**3.85**	**3.41**	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time* / Guideline Lower Limit	Guideline Upper Limit	**FD02** 01-Sep-2023 15:00 **EM2316192-001** MU	**FD03** 01-Sep-2023 15:00 **EM2316192-002** MU	**----** ----	**----** ----	**----** ----
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10	<10	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**470**	**720**	**----**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	<0.2	<0.2	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	100	<0.5	<0.5	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5	<0.5	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5	<0.5	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EM2316192**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: Macquarie Point Stockpile Sampling	Date Samples Received	: 04-Sep-2023
Order number	: Macquarie Point Stockpile Sampling	Date Analysis Commenced	: 09-Sep-2023
C-O-C number	: ----	Issue Date	: 13-Sep-2023
Sampler	: ----		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

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General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5287389)									
EM2316192-001	FD02	EG005T: Lead	7439-92-1	5	mg/kg	451	# 966	72.7	0% - 20%
		EG005T: Tin	7440-31-5	5	mg/kg	31	29	5.8	No Limit
EM2316192-001	FD02	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	140	120	15.4	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	39	34	14.4	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	14	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	47	45	4.2	0% - 20%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	50	51	2.3	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	109	112	2.9	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	274	275	0.0	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	500	577	14.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5287393)									
EM2315154-007	Anonymous	EA055: Moisture Content	----	0.1	%	18.0	15.7	14.1	0% - 50%
EM2315154-029	Anonymous	EA055: Moisture Content	----	0.1	%	7.9	8.0	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5287388)									
EM2316192-001	FD02	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.8	0.6	24.4	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 5287576)									
EM2315154-008	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EK040T: Fluoride Total (QC Lot: 5287375)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EK040T: Fluoride Total (QC Lot: 5287375) - continued									
EM2316192-001	FD02	EK040T: Fluoride	16984-48-8	40	mg/kg	460	730	44.8	0% - 50%
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5287372)									
EM2316192-001	FD02	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5287371)									
EM2316192-001	FD02	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 5287373)									
EM2316192-001	FD02	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5287373)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5287373) - continued									
EM2316192-001	FD02	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.9	0.8	15.4	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.6	3.0	41.6	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.3	0.8	47.1	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.6	6.5	27.2	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	8.4	7.0	18.8	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.1	3.8	6.9	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	3.8	3.4	10.4	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	5.1	5.3	3.6	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.0	1.4	32.6	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.2	2.4	5.5	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.8	3.0	6.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5287370)									
EM2316192-001	FD02	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	3.85	3.62	6.2	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5287367)									
EM2316192-001	FD02	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5287374)									
EM2316192-001	FD02	EP071: C15 - C28 Fraction	----	100	mg/kg	260	230	10.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	210	190	6.4	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5287367)									
EM2316192-001	FD02	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5287374)									
EM2316192-001	FD02	EP071: >C16 - C34 Fraction	----	100	mg/kg	410	380	8.8	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	110	100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5287367)									
EM2316192-001	FD02	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)C: Leachable Metals by ICPAES (QC Lot: 5291890)									
EM2316002-001	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	0.1	0.1	0.0	No Limit
EM2316081-006	Anonymous	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5291058)									
EM2316192-001	FD02	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	<1.0	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5287389)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.1	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	105	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	106	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	68.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	98.3	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	89.7	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.0	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	89.8	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	88.0	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	72.1	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	97.6	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	76.8	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	122	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	73.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5287388)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	101	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5287387)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	78.4	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5287576)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	104	70.0	130
EK040T: Fluoride Total (QCLot: 5287375)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	94.6	93.1	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5287372)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	130	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 5287371)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	106	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	103	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	102	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	69.1	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5287371) - continued								
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	108	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	105	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	115	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	109	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	103	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	101	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	96.4	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 5287373)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	105	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	108	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	96.9	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	94.4	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	91.0	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	94.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	94.6	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	97.8	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	99.4	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	99.7	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	100	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	95.3	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5287373)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	102	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	105	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5287373) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	101	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.6	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	100	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	101	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	100	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	105	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	99.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	105	80.4	130
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	102	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	107	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 5287370)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	86.0	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5287367)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	72.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5287374)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	860 mg/kg	103	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2770 mg/kg	99.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1520 mg/kg	93.4	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5287367)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	77.5	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5287374)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1130 mg/kg	102	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3730 mg/kg	98.2	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	107	73.3	137
EP080: BTEXN (QCLot: 5287367)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	78.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	75.8	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	77.1	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	73.8	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	78.8	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	76.2	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5291890)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	83.7	80.0	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5291058)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	82.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	81.0	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	84.1	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	86.0	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.7	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	94.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	95.5	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	94.8	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	94.1	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	94.3	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	86.3	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	90.4	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	86.0	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	93.5	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	91.5	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	96.1	54.4	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5287389)							
EM2316192-002	FD03	EG005T: Lead	7439-92-1	250 mg/kg	# 161	80.0	120
EM2316192-002	FD03	EG005T: Arsenic	7440-38-2	50 mg/kg	120	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	87.2	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	81.0	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	105	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	100	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# Not Determined	80.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5287388)							
EM2316192-002	FD03	EG035T: Mercury	7439-97-6	0.5 mg/kg	104	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 5287387)							
EM2316192-002	FD03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# Not Determined	58.0	114
EM2316192-002	FD03	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# Not Determined	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 5287576)							
EM2315154-011	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	112	70.0	130
EK040T: Fluoride Total (QCLot: 5287375)							
EM2316192-002	FD03	EK040T: Fluoride	16984-48-8	400 mg/kg	107	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5287372)							
EM2316192-002	FD03	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	132	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 5287371)							
EM2316192-002	FD03	EP068: gamma-BHC	58-89-9	0.5 mg/kg	102	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	103	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	# 12.5	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	89.7	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	109	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	92.7	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 5287373)							
EM2316192-002	FD03	EP075(SIM): Phenol	108-95-2	3 mg/kg	111	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	115	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	106	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	110	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	48.9	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5287373)							
EM2316192-002	FD03	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	109	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	88.2	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5287367)							
EM2316192-002	FD03	EP080: C6 - C9 Fraction	----	28 mg/kg	69.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5287374)							
EM2316192-002	FD03	EP071: C10 - C14 Fraction	----	860 mg/kg	109	71.2	125
		EP071: C15 - C28 Fraction	----	2770 mg/kg	105	75.6	122
		EP071: C29 - C36 Fraction	----	1520 mg/kg	99.6	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5287367)							
EM2316192-002	FD03	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	67.1	30.8	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5287374)							
EM2316192-002	FD03	EP071: >C10 - C16 Fraction	----	1130 mg/kg	108	72.2	128
		EP071: >C16 - C34 Fraction	----	3730 mg/kg	104	76.5	119
		EP071: >C34 - C40 Fraction	----	260 mg/kg	108	66.8	138
EP080: BTEXN (QCLot: 5287367)							
EM2316192-002	FD03	EP080: Benzene	71-43-2	2 mg/kg	91.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	89.8	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)C: Leachable Metals by ICPAES (QCLot: 5291890)							
EM2316002-002	Anonymous	EG005C: Lead	7439-92-1	1 mg/L	99.5	80.0	120

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2316192**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: Macquarie Point Stockpile Sampling	Date Samples Received	: 04-Sep-2023
Site	: ----	Issue Date	: 13-Sep-2023
Sampler	: ----	No. of samples received	: 2
Order number	: Macquarie Point Stockpile Sampling	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2316192--001	FD02	**Lead**	7439-92-1	72.7 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2316192--002	FD03	**Lead**	7439-92-1	161 %	80.0-120%	**Recovery greater than upper data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2316192--002	FD03	**Zinc**	7440-66-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP068A: Organochlorine Pesticides (OC)	EM2316192--002	FD03	**Aldrin**	309-00-2	12.5 %	38.4-135%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Hexavalent Chromium by Alkaline Digestion and DA Finish	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation* Date extracted	Due for extraction	Evaluation	*Analysis* Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) FD02, FD03	**01-Sep-2023**	**----**	----	**----**	**09-Sep-2023**	15-Sep-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	28-Feb-2024	✓	**11-Sep-2023**	28-Feb-2024	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	29-Sep-2023	✓	**11-Sep-2023**	29-Sep-2023	✓
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	29-Sep-2023	✓	**11-Sep-2023**	16-Sep-2023	✓
EK026SF: Total CN by Segmented Flow Analyser								
Soil Glass Jar - Unpreserved (EK026SF)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**11-Sep-2023**	23-Sep-2023	✓
EK040T: Fluoride Total								
Soil Glass Jar - Unpreserved (EK040T)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	29-Sep-2023	✓	**11-Sep-2023**	29-Sep-2023	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)								
FD02,	FD03	**01-Sep-2023**	**11-Sep-2023**	15-Sep-2023	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**11-Sep-2023**	19-Oct-2023	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**12-Sep-2023**	19-Oct-2023	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**11-Sep-2023**	19-Oct-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**11-Sep-2023**	19-Oct-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075-TAS)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**11-Sep-2023**	19-Oct-2023	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**09-Sep-2023**	15-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP071)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**12-Sep-2023**	19-Oct-2023	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**09-Sep-2023**	15-Sep-2023	✓
Soil Glass Jar - Unpreserved (EP071)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**12-Sep-2023**	19-Oct-2023	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
FD02,	FD03	**01-Sep-2023**	**09-Sep-2023**	15-Sep-2023	✓	**09-Sep-2023**	15-Sep-2023	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)								
FD02,	FD03	**11-Sep-2023**	**12-Sep-2023**	09-Mar-2024	✓	**12-Sep-2023**	09-Mar-2024	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP075(SIM))								
FD02,	FD03	**11-Sep-2023**	**12-Sep-2023**	18-Sep-2023	✓	**12-Sep-2023**	22-Oct-2023	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	2	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	2	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	2	100.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride	EK040T	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	2	100.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	2	3	66.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	0.00	5.00	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Leachable Metals by ICPAES	EG005C	SOIL	In house: referenced to APHA 3120; USEPA SW 846 - 6010: The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene- Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2316192**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Macquarie Point Stockpile Sampling	Page	: 1 of 2
Order number	: Macquarie Point Stockpile Sampling	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 04-Sep-2023 11:35	Issue Date	: 08-Sep-2023
Client Requested Due Date	: 12-Sep-2023	Scheduled Reporting Date	: **12-Sep-2023**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Analytical work for this work order will be conducted at ALS Springvale.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - P-20/1 TAS EPA 105 (no TBT)
EM2316192-001	01-Sep-2023 00:00	FD02	✓	✓	✓	✓	✓
EM2316192-002	01-Sep-2023 00:00	FD03	✓	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

Rebatch

Client / Client code: AECOMAU
Project: Macquarie Point Stockpile Sampling
Project Manger: ROBERT CROWE
Date /time sample rec: 4/09/2023 23:35
Date/time Instructions rec: 8/09/2023 16:18

Due date: Tuesday, 12 September 2023

Due date surcharge: 2 DAY TAT

CS Contact: Peter Ravlic
Additional Information:
Report receipients as per previous work order and the person requesting this analysis

URGENT

Environmental Divisic
Melbourne
Work Order Reference
EM231619

Telephone : +61-3-8549 9600

New Lab ID	Sample information						Number of Containers	Analysis										
								Standard					Leach					
	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container		P20/1 – Tasmanian EPA Bulletin No. 105 (Soil) excluding TBT					TCLP Lead	TCLP PAHs				
1	FD02	1/09/2023 0:00	EM2315815	40	MS: 6777-6783	soil jar	1	X					X	X				15
2	FD03	1/09/2023 0:00	EM2315815	41	MS: 6777-6783	soil jar	1	X					X	X				15
						TOTAL	2											

Scott Huett

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Friday, 8 September 2023 4:18 PM
To: Peter Ravlic; ALS Enviro Melbourne
Subject: [EXTERNAL] - RE: - FW: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Afternoon Peter,

I'm just looking at the data for this batch – two samples (FD02 and FD03) had a discrepancy between the field notes and the electronic CoC sent through earlier this week. Apologies as I missed this on the SRN.

Could these two samples be analysed at two day TAT for:

- P20/1 – Tasmanian EPA Bulletin No. 105 (Soil) excluding TBT
- TCLP (Lead, PAHs)

Cheers,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
M +61 422 692 187
robert.crowe@aecom.com

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T +61 3 9653 1234
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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Tuesday, 5 September 2023 10:28 AM
To: Crowe, Robert <Robert.Crowe@aecom.com>; ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Subject: RE: - FW: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING

Thanks Robert

Kind Regards

Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Tuesday, 5 September 2023 10:19 AM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Cc: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - FW: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Good morning,

Could I please request the following analysis for the samples on this CoC on two day turnaround?

Please let me know if you need any additional information,

Cheers,

	Analysis				
Sample ID	P20/1 – Tasmanian EPA Bulletin No. 105 (Soil) excluding TBT	EG-2-T - Lead	EP075B(SIM) - PAHs	TCLP (Lead, PAHs)	S-18 - TRH C6-C10, BTEXN
PS-Pb-SP1-1	X			X	
PS-Pb-SP1-2		X	X	X	
PS-Pb-SP1-3		X	X	X	
PS-Pb-SP1-4	X			X	
PS-Pb-SP1-5		X	X	X	
PS-Pb-SP1-6	X			X	
PS-Pb-SP1-7		X	X	X	
PS-Pb-SP1-8		X	X	X	
PS-Pb-SP1-9	X			X	
PS-Pb-SP1-10		X	X	X	
PS-Pb-SP1-11		X	X	X	
PS-Pb-SP1-12	X			X	
PS-Pb-SP1-13		X	X	X	
PS-Pb-SP1-14		X	X	X	
PS-Pb-SP1-15		X	X	X	
PS-Pb-SP1-16	X			X	

PS-Pb-SP1-18		X	X	X	
PS-Pb-SP1-19		X	X	X	
PS-Pb-SP1-20	X			X	
PS-Pb-SP1-21		X	X	X	
PS-Pb-SP1-22		X	X	X	
PS-Pb-SP1-23	X			X	
PS-Pb-SP1-24		X	X	X	
PS-Pb-SP2-1	X			X	
PS-Pb-SP2-2		X	X	X	
PS-Pb-SP2-3		X	X	X	
PS-Pb-SP2-4		X	X	X	
PS-Pb-SP2-5	X			X	
PS-Pb-SP2-6		X	X	X	
PS-Pb-SP2-7		X	X	X	
PS-Pb-SP2-8	X			X	
PS-Pb-SP2-9		X	X	X	
PS-Pb-SP2-10		X	X	X	
TB02					X
TB03					X
FD-IL-01	X			X	
FD-IL-02	X			X	

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
M +61 422 692 187
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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 4 September 2023 5:11 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING

Hi Robert

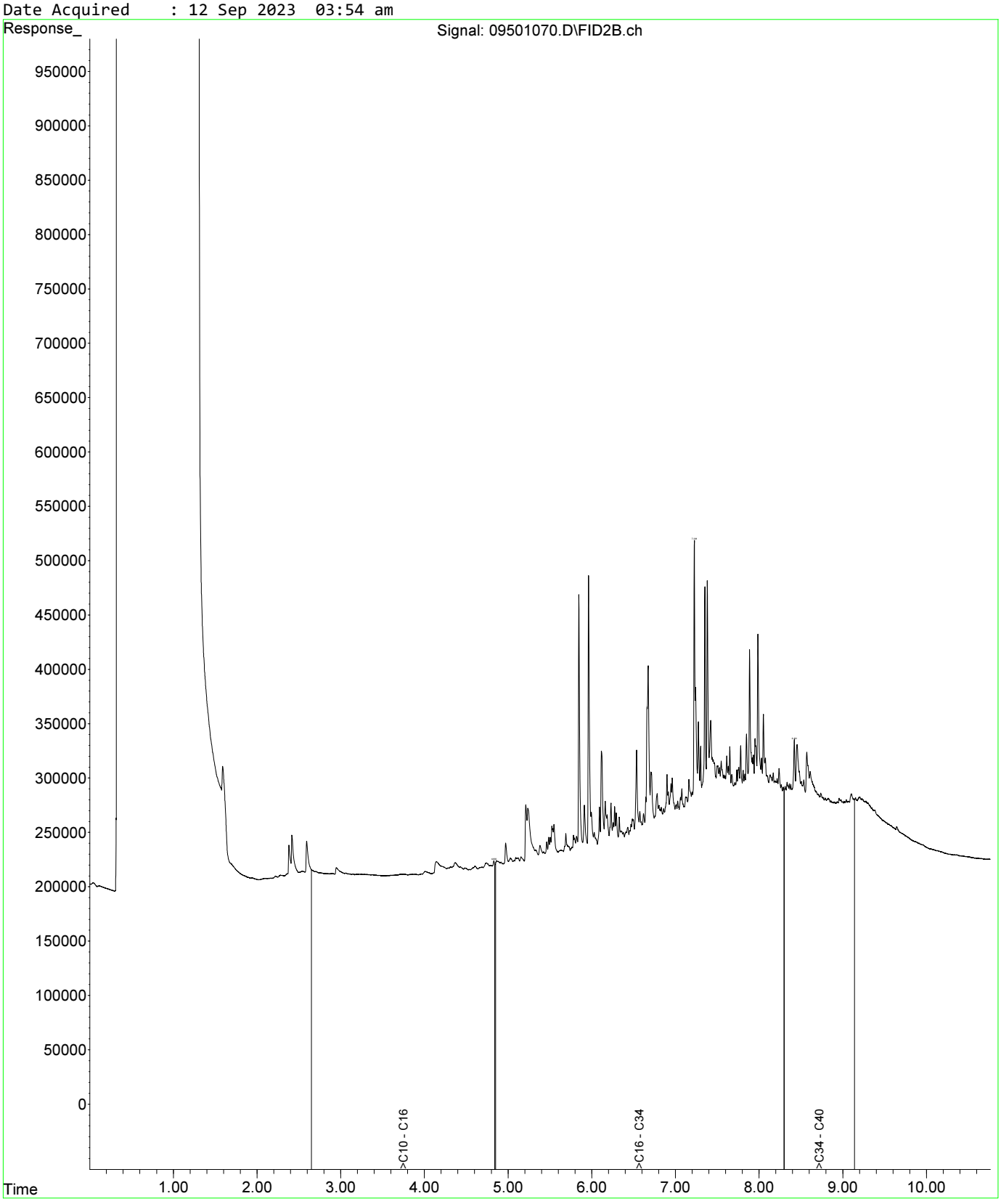
Please find attached COC for samples rec'd today

Thanks

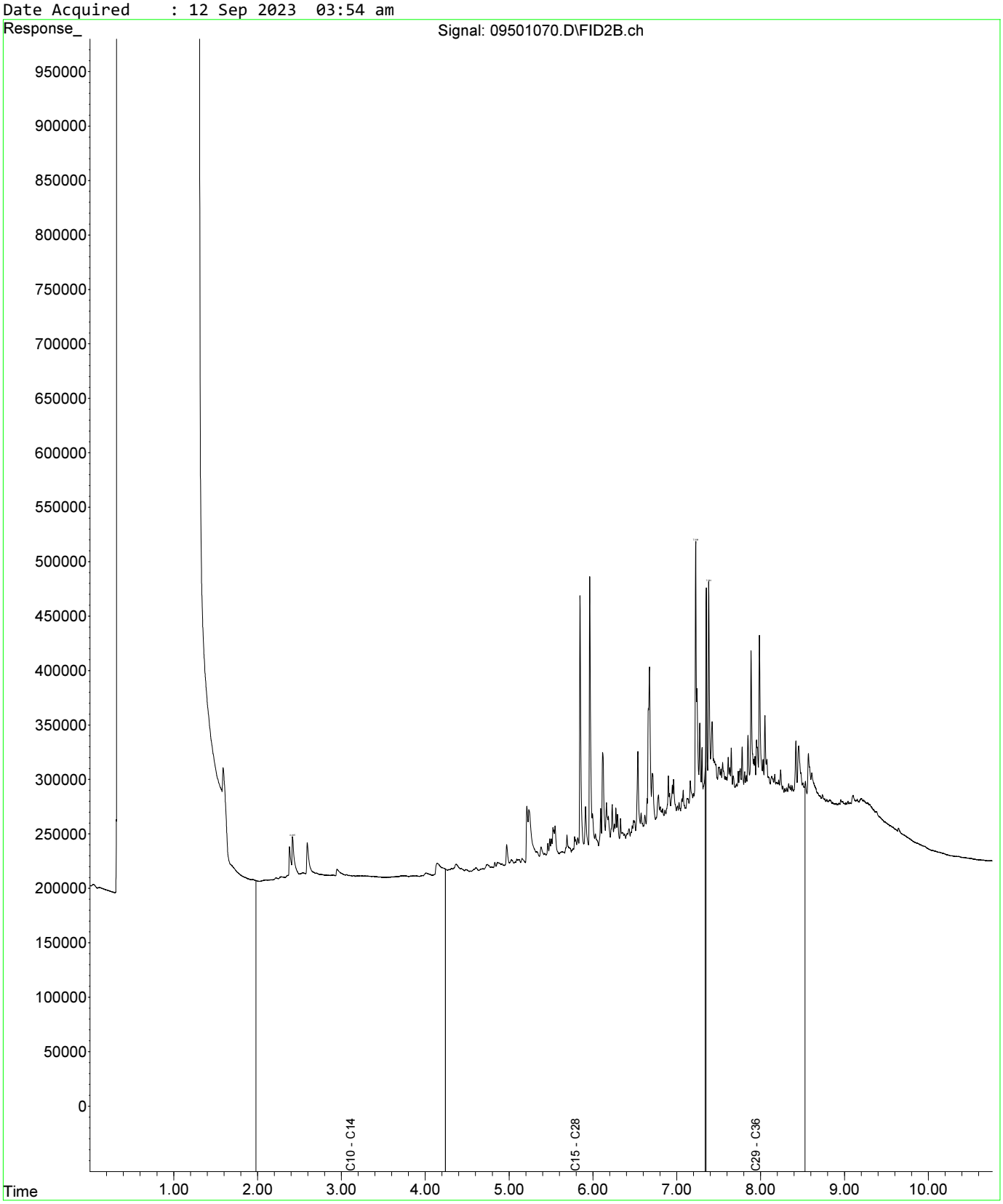
Kind Regards

Peter Ravlic

Fraction Scheme : NEPM DRAFT HIL
Data File : 09501070.D
Laboratory Number: EM2316192-001
Sample ID : FD02
Date Acquired : 12 Sep 2023 03:54 am



Fraction Scheme : Standard
Data File : 09501070.D
Laboratory Number: EM2316192-001
Sample ID : FD02
Date Acquired : 12 Sep 2023 03:54 am



CHAIN OF CUSTODY RECORD

☐ Sydney Laboratory ☐ Brisbane Laboratory ☐ Perth Laboratory ☒ Melbourne Laboratory

40

1/3

Company	AECOM	Project №	JN23482
Address	Collins Square, Level 10, Tower Two, 727 Collins Street Melbourne, Victoria, 3008	Project Name	Macquarie Point Stockpile Sampling
Contact Name	Rob Crowe	Project Manager	Rob Crowe
Phone №	0422 692 187	EDD Format	ESDAT EDD
Special Directions		Sampler(s)	Annette Heath
Purchase Order		Handed over by	Miguel Urrea
Quote ID №		Email for Invoice	robert.crowe@aecom.com
		Email for Results	robert.crowe@aecom.com

Analyses: Where metals are requested, please specify "Total" or "Filtered". SLITE code must be used to attract SLITE pricing

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked

♦Surcharge will apply

☐ Overnight (reporting by 9am)♦ ☐ Same day♦ ☐ 1 day♦ ☐ 2 days♦ ☐ 3 days♦ ☐ 5 days (Standard) ☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	HOLD	TRH / BTEXN (B4A)	TRH / TPH / BTEXN / PAHs/ Pheonls / PB (B4A)	TAS EPA (B105 no TBT) R35	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	FD-IL-01	01-09-23 14:43	S	X										2		
2	FD-IL-02	01-09-23 11:10	S	X										2		
3																
4																
5																
6																
7																
8																
9																
10																
			Total Counts													

RELINQUISHED BY
Ch
5/9/23

Method of Shipment	☒ Courier (# C/O ALS)	☐ Hand Delivered	☒ Postal	Name	Annette Heath	Signature		Date		Time	
Laboratory Use Only	Received By	James Dobor	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	[signature]	Date	6/9/23	Time	9:00am	Temperature	7.3
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to this laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless signed otherwise. A copy is available on request.

#1023335 OH 06/09/23

Ice

2/3

Ranil Weerakkody

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Tuesday, 5 September 2023 10:19 AM
To: ALS Enviro Melbourne
Cc: Peter Ravlic
Subject: [EXTERNAL] - FW: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING
Attachments: 04092023170700-0001.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Good morning,

Could I please request the following analysis for the samples on this CoC on two day turnaround?

Please let me know if you need any additional information,

Cheers,

	Sample ID	Analysis				
		P20/1 – Tasmanian EPA Bulletin No. 105 (Soil) excluding TBT	EG-2-T - Lead	EP075B(SIM) - PAHs	TCLP (Lead, PAHs)	S-18 - TRH C6-C10, BTEXN
1	PS-Pb-SP1-1	X			X	
2	PS-Pb-SP1-2		X	X	X	
3	PS-Pb-SP1-3		X	X	X	
4	PS-Pb-SP1-4	X			X	
5	PS-Pb-SP1-5		X	X	X	
6	PS-Pb-SP1-6	X			X	
7	PS-Pb-SP1-7		X	X	X	
8	PS-Pb-SP1-8		X	X	X	
9	PS-Pb-SP1-9	X			X	
10	PS-Pb-SP1-10		X	X	X	
11	PS-Pb-SP1-11		X	X	X	
12	PS-Pb-SP1-12	X			X	
13	PS-Pb-SP1-13		X	X	X	
14	PS-Pb-SP1-14		X	X	X	
15	PS-Pb-SP1-15		X	X	X	
16	PS-Pb-SP1-16	X			X	
17	PS-Pb-SP1-17		X	X	X	
18	PS-Pb-SP1-18		X	X	X	
19	PS-Pb-SP1-19		X	X	X	
20	PS-Pb-SP1-20	X			X	
21	PS-Pb-SP1-21		X	X	X	
22	PS-Pb-SP1-22		X	X	X	
23	PS-Pb-SP1-23	X			X	
24	PS-Pb-SP1-24		X	X	X	

PS-Pb-SP2-1	X			X	
PS-Pb-SP2-2		X	X	X	
PS-Pb-SP2-3		X	X	X	
PS-Pb-SP2-4		X	X	X	
PS-Pb-SP2-5	X			X	
PS-Pb-SP2-6		X	X	X	
PS-Pb-SP2-7		X	X	X	
PS-Pb-SP2-8	X			X	
PS-Pb-SP2-9		X	X	X	
PS-Pb-SP2-10		X	X	X	
TB02					X
TB03					X
FD-IL-01	X			X	
FD-IL-02	X			X	

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
M +61 422 692 187
robert.crowe@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, Victoria, 3008, Australia
T +61 3 9653 1234
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From: Peter Ravlic <peter.ravlic@alsglobal.com>
Sent: Monday, 4 September 2023 5:11 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: EM2315815 - AECOMAU - MACQUARIE POINT STOCKPILE SAMPLING

Hi Robert

Please find attached COC for samples rec'd today

Thanks

Kind Regards

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com
2-4 Westall Road, Springvale VIC 3171

alsglobal.com

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www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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Penrose,	Rolleston,	Gate Pa,
Auckland 1061	Christchurch 7675	Tauranga 3112
Tel: +64 9 526 4551	Tel: +64 3 343 5201	Tel: +64 9 525 0568
IANZ# 1327	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Melbourne
Contact name:	Lee Taylor
Project name:	MACQUARIE POINT STOCKPILE SAMPLING
Project ID:	JN23482
Turnaround time:	2 Day
Date/Time received	Sep 6, 2023 9:00 AM
Eurofins reference	1023335

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 7.3 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : +61 3 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Lee Taylor - lee.taylor@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Melbourne email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
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IANZ# 1327	IANZ# 1290	IANZ# 1402

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Order No.:
Report #: 1023335
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Sep 6, 2023 9:00 AM
Due: Sep 8, 2023
Priority: 2 Day
Contact Name: Lee Taylor

Project Name: MACQUARIE POINT STOCKPILE SAMPLING
Project ID: JN23482

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Moisture Set	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	FD-IL-01	Sep 01, 2023		Soil	M23-Se0009696				X	X
2	FD-IL-02	Sep 01, 2023		Soil	M23-Se0009697				X	X
3	FD-IL-01	Sep 01, 2023		US Leachate	M23-Se0009698	X	X	X		
4	FD-IL-02	Sep 01, 2023		US Leachate	M23-Se0009699	X	X	X		
Test Counts						2	2	2	2	2

AECOM Aust Pty Ltd Melbourne
Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Lee Taylor**

Report **1023335-L**
Project name MACQUARIE POINT STOCKPILE SAMPLING
Project ID JN23482
Received Date Sep 06, 2023

Client Sample ID			**FD-IL-01**	**FD-IL-02**
Sample Matrix			**US Leachate**	**US Leachate**
Eurofins Sample No.			**M23-Se0009698**	**M23-Se0009699**
Date Sampled			**Sep 01, 2023**	**Sep 01, 2023**
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.0005	mg/L	< 0.0005	< 0.0005
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	108	115
p-Terphenyl-d14 (surr.)	1	%	137	134
Heavy Metals				
Lead	0.01	mg/L	< 0.01	< 0.01
USA Leaching Procedure				
Leachate Fluid[C01]		comment	1.0	1.0
pH (initial)	0.1	pH Units	9.3	9.5
pH (Leachate fluid)	0.1	pH Units	5.0	5.0
pH (off)	0.1	pH Units	8.4	9.5
pH (USA HCl addition)	0.1	pH Units	1.5	1.7

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons	Melbourne	Sep 06, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Sep 06, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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email: EnviroSales@eurofins.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
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Tel: +64 9 526 4551	Tel: +64 3 343 5201	Tel: +64 9 525 0568
IANZ# 1327	IANZ# 1290	IANZ# 1402

Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
Docklands
VIC 3008

Project Name: MACQUARIE POINT STOCKPILE SAMPLING
Project ID: JN23482

Order No.:
Report #: 1023335
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Sep 6, 2023 9:00 AM
Due: Sep 8, 2023
Priority: 2 Day
Contact Name: Lee Taylor

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Moisture Set	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	FD-IL-01	Sep 01, 2023		Soil	M23-Se0009696				X	X
2	FD-IL-02	Sep 01, 2023		Soil	M23-Se0009697				X	X
3	FD-IL-01	Sep 01, 2023		US Leachate	M23-Se0009698	X	X	X		
4	FD-IL-02	Sep 01, 2023		US Leachate	M23-Se0009699	X	X	X		
Test Counts						2	2	2	2	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**µg/L:** micrograms per litre
ppm: parts per million	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	104			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Se0011874	NCP	%	98			70-130	Pass	
Acenaphthylene	M23-Se0011874	NCP	%	106			70-130	Pass	
Anthracene	M23-Se0011874	NCP	%	88			70-130	Pass	
Benz(a)anthracene	M23-Se0011874	NCP	%	90			70-130	Pass	
Benzo(a)pyrene	M23-Se0011874	NCP	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Se0011874	NCP	%	82			70-130	Pass	
Benzo(g.h.i)perylene	M23-Se0011874	NCP	%	82			70-130	Pass	
Benzo(k)fluoranthene	M23-Se0011874	NCP	%	90			70-130	Pass	
Chrysene	M23-Se0011874	NCP	%	100			70-130	Pass	
Dibenz(a.h)anthracene	M23-Se0011874	NCP	%	78			70-130	Pass	
Fluoranthene	M23-Se0011874	NCP	%	116			70-130	Pass	
Fluorene	M23-Se0011874	NCP	%	102			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Se0011874	NCP	%	86			70-130	Pass	
Naphthalene	M23-Se0011874	NCP	%	94			70-130	Pass	
Phenanthrene	M23-Se0011874	NCP	%	108			70-130	Pass	
Pyrene	M23-Se0011874	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M23-Se0009698	CP	%	102			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M23-Se0015384	NCP	mg/L	< 0.0005	< 0.0005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M23-Se0015384	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M23-Se0009698	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Temperature of Chilled samples on receipt	7.3°C
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Morrison	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Accreditation Number 1261
Site Number 1254

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Attention: **Lee Taylor**

Report **1023335-S**
Project name MACQUARIE POINT STOCKPILE SAMPLING
Project ID JN23482
Received Date Sep 06, 2023

Client Sample ID			**FD-IL-01**	**FD-IL-02**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M23-Se0009696**	**M23-Se0009697**
Date Sampled			**Sep 01, 2023**	**Sep 01, 2023**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	200	180
TRH C29-C36	50	mg/kg	140	190
TRH C10-C36 (Total)	50	mg/kg	340	370
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	300	320
TRH >C34-C40	100	mg/kg	< 100	100
TRH >C10-C40 (total)*	100	mg/kg	300	420
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	91
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene - low level	0.005	mg/kg	1.8	2.1
Chromium (hexavalent)	1	mg/kg	< 1	< 1
Cyanide (total)	5	mg/kg	< 5	< 5
Fluoride	100	mg/kg	1400	310
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.7	3.1
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	2.9	3.4
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	3.2	3.6
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			FD-IL-01	FD-IL-02
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Se0009696	M23-Se0009697
Date Sampled			Sep 01, 2023	Sep 01, 2023
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Benz(a)anthracene	0.5	mg/kg	1.8	2.2
Benzo(a)pyrene	0.5	mg/kg	2.1	2.3
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.1	1.7
Benzo(g.h.i)perylene	0.5	mg/kg	1.6	1.8
Benzo(k)fluoranthene	0.5	mg/kg	1.4	2.2
Chrysene	0.5	mg/kg	2.4	2.6
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	1.7	2.8
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.9	1.8
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	1.3	1.3
Pyrene	0.5	mg/kg	1.8	3.5
Total PAH*	0.5	mg/kg	16	23
2-Fluorobiphenyl (surr.)	1	%	69	53
p-Terphenyl-d14 (surr.)	1	%	56	60
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	62	66
Tetrachloro-m-xylene (surr.)	1	%	85	73
Polychlorinated Biphenyls				
Aroclor-1016	0.1	mg/kg	< 0.2	< 0.2
Aroclor-1221	0.1	mg/kg	< 0.2	< 0.2
Aroclor-1232	0.1	mg/kg	< 0.2	< 0.2
Aroclor-1242	0.1	mg/kg	< 0.2	< 0.2

Client Sample ID			FD-IL-01	FD-IL-02
Sample Matrix			Soil	Soil
Eurofins Sample No.			M23-Se0009696	M23-Se0009697
Date Sampled			Sep 01, 2023	Sep 01, 2023
Test/Reference	LOR	Unit		
Polychlorinated Biphenyls				
Aroclor-1248	0.1	mg/kg	< 0.2	< 0.2
Aroclor-1254	0.1	mg/kg	< 0.2	< 0.2
Aroclor-1260	0.1	mg/kg	< 0.2	< 0.2
Total PCB*	0.1	mg/kg	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	62	66
Tetrachloro-m-xylene (surr.)	1	%	85	73
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	58	68
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20
Heavy Metals				
Arsenic	2	mg/kg	18	54
Barium	10	mg/kg	270	130
Beryllium	2	mg/kg	< 2	< 2
Cadmium	0.4	mg/kg	1.1	2.5
Chromium	5	mg/kg	40	42
Cobalt	5	mg/kg	12	13
Copper	5	mg/kg	220	110
Lead	5	mg/kg	610	850
Manganese	5	mg/kg	350	320
Mercury	0.1	mg/kg	1.1	0.6
Molybdenum	5	mg/kg	< 5	< 5
Nickel	5	mg/kg	40	47
Selenium	2	mg/kg	< 2	< 2
Silver	2	mg/kg	< 2	< 2
Tin	10	mg/kg	170	40
Zinc	5	mg/kg	650	650
Sample Properties				
% Moisture	1	%	14	8.4

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Benzo(a)pyrene - low level	Melbourne	Sep 06, 2023	0 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Chromium (hexavalent)	Melbourne	Sep 06, 2023	28 Days
- Method: LTM-INO-4100 Hexavalent Chromium by Spectrometric detection			
Cyanide (total)	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Sep 06, 2023	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
Polycyclic Aromatic Hydrocarbons	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Sep 06, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Sep 06, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Sep 06, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: AECOM Aust Pty Ltd Melbourne
Address: Collins Square, Tower 2, Level 11, 727 Collins Street
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Project Name: MACQUARIE POINT STOCKPILE SAMPLING
Project ID: JN23482

Order No.:
Report #: 1023335
Phone: 03 9653 1234
Fax: 03 9654 7117

Received: Sep 6, 2023 9:00 AM
Due: Sep 8, 2023
Priority: 2 Day
Contact Name: Lee Taylor

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Moisture Set	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	FD-IL-01	Sep 01, 2023		Soil	M23-Se0009696				X	X
2	FD-IL-02	Sep 01, 2023		Soil	M23-Se0009697				X	X
3	FD-IL-01	Sep 01, 2023		US Leachate	M23-Se0009698	X	X	X		
4	FD-IL-02	Sep 01, 2023		US Leachate	M23-Se0009699	X	X	X		
Test Counts						2	2	2	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	83			70-130	Pass	
TRH C10-C14	%	128			70-130	Pass	
TRH C6-C10	%	71			70-130	Pass	
TRH >C10-C16	%	126			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	93			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	82			70-130	Pass	
m&p-Xylenes	%	84			70-130	Pass	
Xylenes - Total*	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	90			70-130	Pass	
LCS - % Recovery							
Benzo(a)pyrene - low level	%	110			70-130	Pass	
Chromium (hexavalent)	%	104			70-130	Pass	
Cyanide (total)	%	103			70-130	Pass	
Fluoride	%	71			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	105			70-130	Pass	
Acenaphthylene	%	108			70-130	Pass	
Anthracene	%	79			70-130	Pass	
Benz(a)anthracene	%	116			70-130	Pass	
Benzo(a)pyrene	%	110			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(g.h.i)perylene	%	121			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	108			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	85			70-130	Pass	
Naphthalene	%	122			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	79			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	85			70-130	Pass	
4.4'-DDD	%	90			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDE	%	75			70-130	Pass	
4.4'-DDT	%	82			70-130	Pass	
a-HCH	%	91			70-130	Pass	
Aldrin	%	112			70-130	Pass	
b-HCH	%	82			70-130	Pass	
d-HCH	%	96			70-130	Pass	
Dieldrin	%	75			70-130	Pass	
Endosulfan I	%	91			70-130	Pass	
Endosulfan II	%	92			70-130	Pass	
Endosulfan sulphate	%	79			70-130	Pass	
Endrin	%	102			70-130	Pass	
Endrin aldehyde	%	117			70-130	Pass	
Endrin ketone	%	88			70-130	Pass	
g-HCH (Lindane)	%	86			70-130	Pass	
Heptachlor	%	110			70-130	Pass	
Heptachlor epoxide	%	107			70-130	Pass	
Hexachlorobenzene	%	103			70-130	Pass	
Methoxychlor	%	84			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	99			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	118			25-140	Pass	
2.4-Dichlorophenol	%	118			25-140	Pass	
2.4.5-Trichlorophenol	%	107			25-140	Pass	
2.4.6-Trichlorophenol	%	87			25-140	Pass	
2.6-Dichlorophenol	%	95			25-140	Pass	
4-Chloro-3-methylphenol	%	98			25-140	Pass	
Pentachlorophenol	%	40			25-140	Pass	
Tetrachlorophenols - Total	%	46			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	60			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	89			25-140	Pass	
2-Nitrophenol	%	83			25-140	Pass	
2.4-Dimethylphenol	%	124			25-140	Pass	
2.4-Dinitrophenol	%	75			25-140	Pass	
2-Methylphenol (o-Cresol)	%	109			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	115			25-140	Pass	
4-Nitrophenol	%	65			25-140	Pass	
Dinoseb	%	44			25-140	Pass	
Phenol	%	111			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	107			80-120	Pass	
Barium	%	115			80-120	Pass	
Beryllium	%	114			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	119			80-120	Pass	
Cobalt	%	114			80-120	Pass	
Copper	%	114			80-120	Pass	
Lead	%	106			80-120	Pass	
Manganese	%	100			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury			%	99			80-120	Pass	
Molybdenum			%	101			80-120	Pass	
Nickel			%	103			80-120	Pass	
Selenium			%	108			80-120	Pass	
Silver			%	92			80-120	Pass	
Tin			%	102			80-120	Pass	
Zinc			%	97			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M23-Se0005540	NCP	%	79			70-130	Pass	
TRH C10-C14	M23-Se0002350	NCP	%	106			70-130	Pass	
TRH C6-C10	M23-Se0005540	NCP	%	73			70-130	Pass	
TRH >C10-C16	M23-Se0002350	NCP	%	104			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M23-Se0005540	NCP	%	74			70-130	Pass	
Toluene	M23-Se0005540	NCP	%	84			70-130	Pass	
Ethylbenzene	M23-Se0005540	NCP	%	77			70-130	Pass	
m&p-Xylenes	M23-Se0005540	NCP	%	80			70-130	Pass	
o-Xylene	M23-Se0005540	NCP	%	74			70-130	Pass	
Xylenes - Total*	M23-Se0005540	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M23-Se0005540	NCP	%	81			70-130	Pass	
Spike - % Recovery									
				Result 1					
Benzo(a)pyrene - low level	M23-Se0004730	NCP	%	96			70-130	Pass	
Cyanide (total)	M23-Se0005549	NCP	%	83			70-130	Pass	
Fluoride	M23-Se0004723	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M23-Se0004730	NCP	%	92			70-130	Pass	
Acenaphthylene	M23-Se0004730	NCP	%	99			70-130	Pass	
Anthracene	M23-Se0004730	NCP	%	87			70-130	Pass	
Benz(a)anthracene	M23-Se0004730	NCP	%	101			70-130	Pass	
Benzo(a)pyrene	M23-Se0004730	NCP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	M23-Se0004730	NCP	%	74			70-130	Pass	
Benzo(g.h.i)perylene	M23-Se0004730	NCP	%	125			70-130	Pass	
Benzo(k)fluoranthene	M23-Se0004730	NCP	%	87			70-130	Pass	
Chrysene	M23-Se0004730	NCP	%	113			70-130	Pass	
Dibenz(a.h)anthracene	M23-Se0004730	NCP	%	87			70-130	Pass	
Fluoranthene	M23-Se0004730	NCP	%	75			70-130	Pass	
Fluorene	M23-Se0004730	NCP	%	91			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M23-Se0004730	NCP	%	86			70-130	Pass	
Naphthalene	M23-Se0004730	NCP	%	101			70-130	Pass	
Phenanthrene	M23-Se0004730	NCP	%	75			70-130	Pass	
Pyrene	M23-Se0004730	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M23-Se0010459	NCP	%	79			70-130	Pass	
4.4'-DDD	M23-Se0010459	NCP	%	94			70-130	Pass	
4.4'-DDE	M23-Se0010459	NCP	%	85			70-130	Pass	
4.4'-DDT	M23-Se0010459	NCP	%	105			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
a-HCH	M23-Se0010459	NCP	%	91			70-130	Pass	
Aldrin	M23-Se0010459	NCP	%	101			70-130	Pass	
b-HCH	M23-Se0010459	NCP	%	96			70-130	Pass	
d-HCH	M23-Se0010459	NCP	%	97			70-130	Pass	
Dieldrin	M23-Se0010459	NCP	%	73			70-130	Pass	
Endosulfan I	M23-Se0010459	NCP	%	80			70-130	Pass	
Endosulfan II	M23-Se0010459	NCP	%	97			70-130	Pass	
Endosulfan sulphate	M23-Se0010459	NCP	%	97			70-130	Pass	
Endrin	M23-Se0010459	NCP	%	127			70-130	Pass	
Endrin aldehyde	M23-Se0010459	NCP	%	121			70-130	Pass	
Endrin ketone	M23-Se0010459	NCP	%	95			70-130	Pass	
g-HCH (Lindane)	M23-Se0010459	NCP	%	90			70-130	Pass	
Heptachlor	M23-Se0010459	NCP	%	110			70-130	Pass	
Heptachlor epoxide	M23-Se0010459	NCP	%	82			70-130	Pass	
Hexachlorobenzene	M23-Se0010459	NCP	%	113			70-130	Pass	
Methoxychlor	M23-Se0010459	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M23-Se0004730	NCP	%	95			30-130	Pass	
2.4-Dichlorophenol	M23-Se0004730	NCP	%	93			30-130	Pass	
2.4.5-Trichlorophenol	M23-Se0004730	NCP	%	94			30-130	Pass	
2.4.6-Trichlorophenol	M23-Se0004730	NCP	%	118			30-130	Pass	
2.6-Dichlorophenol	M23-Se0004730	NCP	%	78			30-130	Pass	
4-Chloro-3-methylphenol	M23-Se0004730	NCP	%	67			30-130	Pass	
Tetrachlorophenols - Total	M23-Se0004730	NCP	%	35			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	M23-Se0004730	NCP	%	39			30-130	Pass	
2-Nitrophenol	M23-Se0004730	NCP	%	74			30-130	Pass	
2.4-Dimethylphenol	M23-Se0004730	NCP	%	84			30-130	Pass	
2.4-Dinitrophenol	M23-Se0004730	NCP	%	30			30-130	Pass	
2-Methylphenol (o-Cresol)	M23-Se0004730	NCP	%	78			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Se0004730	NCP	%	83			30-130	Pass	
Dinoseb	M23-Se0004730	NCP	%	46			30-130	Pass	
Phenol	M23-Se0004730	NCP	%	104			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M23-Se0011499	NCP	%	77			75-125	Pass	
Barium	M23-Se0011499	NCP	%	100			75-125	Pass	
Beryllium	M23-Se0011499	NCP	%	78			75-125	Pass	
Cadmium	M23-Se0011499	NCP	%	102			75-125	Pass	
Chromium	M23-Se0011499	NCP	%	90			75-125	Pass	
Cobalt	M23-Se0011499	NCP	%	87			75-125	Pass	
Copper	M23-Se0011499	NCP	%	89			75-125	Pass	
Lead	M23-Se0011499	NCP	%	98			75-125	Pass	
Manganese	M23-Se0007555	NCP	%	93			75-125	Pass	
Mercury	M23-Se0011499	NCP	%	96			75-125	Pass	
Molybdenum	M23-Se0011499	NCP	%	78			75-125	Pass	
Nickel	M23-Se0011499	NCP	%	108			75-125	Pass	
Selenium	M23-Se0011499	NCP	%	84			75-125	Pass	
Silver	M23-Se0011499	NCP	%	90			75-125	Pass	
Tin	M23-Se0011499	NCP	%	80			75-125	Pass	
Zinc	M23-Se0011499	NCP	%	80			75-125	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	B23-Au0051259	NCP	%	118			70-130	Pass	
Aroclor-1260	B23-Au0051259	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
Pentachlorophenol	M23-Se0002063	NCP	%	85			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M23-Se0005011	NCP	%	108			30-130	Pass	
4-Nitrophenol	M23-Se0003014	NCP	%	105			30-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M23-Se0004560	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M23-Se0004560	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M23-Se0009696	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M23-Se0004560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M23-Se0004560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M23-Se0004560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M23-Se0004560	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M23-Se0004560	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M23-Se0004560	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M23-Se0004560	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M23-Se0009696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M23-Se0009696	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M23-Se0009696	CP	mg/kg	1400	1700	18	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M23-Se0009993	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-Se0009696	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M23-Se0009696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1221	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1232	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1242	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1248	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1254	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1260	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Total PCB*	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M23-Se0009696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M23-Se0009696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M23-Se0009696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M23-Se0009696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M23-Se0009696	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M23-Se0009696	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M23-Se0009696	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M23-Se0009696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M23-Se0009696	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M23-Se0009696	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M23-Se0009696	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M23-Se0009696	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M23-Se0009696	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M23-Se0009696	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M23-Se0011499	NCP	mg/kg	13	13	<1	30%	Pass	
Barium	M23-Se0011499	NCP	mg/kg	130	130	<1	30%	Pass	
Beryllium	M23-Se0011499	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M23-Se0011499	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M23-Se0011499	NCP	mg/kg	81	82	<1	30%	Pass	
Cobalt	M23-Se0011499	NCP	mg/kg	19	20	<1	30%	Pass	
Copper	M23-Se0011499	NCP	mg/kg	36	32	12	30%	Pass	
Lead	M23-Se0007887	NCP	mg/kg	15000	16000	5.5	30%	Pass	
Manganese	M23-Se0011499	NCP	mg/kg	440	440	<1	30%	Pass	
Mercury	M23-Se0011499	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M23-Se0011499	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M23-Se0011499	NCP	mg/kg	70	69	<1	30%	Pass	
Selenium	M23-Se0011499	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M23-Se0011499	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M23-Se0011499	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M23-Se0007887	NCP	mg/kg	18000	19000	4.8	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M23-Se0009696	CP	%	14	14	3.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Temperature of Chilled samples on receipt	7.3°C
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

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Caitlin Breeze	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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AECOM

Appendix B

Data Validation

Data Validation

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 3.1** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

ALS Laboratories (ALS) Melbourne was selected as the primary laboratory and Eurofins was selected as the secondary laboratory for the majority of the investigations. Both laboratories were accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The sampling events and relevant laboratory reports pertaining to the stockpiles considered in this report are summarised in below **Table 1**.

Table 1 Stockpile Data Considered

Date	Stockpiles Sampled	Sampling Personnel	Lab Report Numbers	Comments
7 March 2023	DL_SP	AECOM – Timothy Smith	EM2304035 EM2304580 EM2305511 970404*	
28 March 2023	DL_SP	AECOM – Timothy Smith	EM2305446	Second sampling event to assess lead impacts.
3 April 2023	OL_EX_SP1	AECOM – Timothy Smith	EM2305901 EM2306516 978719*	
23 May 2023	OL_EX_SP2 OL_EX_SP3 OL_EX_SP4 OL_EX_SP5 OL_EX_SP6	AECOM – Timothy Smith	EM2309346 993445*	
6 June 2023	OL_EX_SP7 OL_EX_SP8	AECOM – Timothy Smith	EM2310229 EM2310878	
1 September 2023	PS-Pb-SP1 PS-Pb-SP2	Elgin – Annette Heath	EM2315815 EM2316192 1023335*	

*Note: * – Laboratory reports from the secondary laboratory.*

The stockpiles sampled were combined by BlackCap into two final stockpiles, PS-Pb-SP1 and PS-Pb-SP2 as summarised on **Table 2** below.

Table 2 Source Stockpiles

Source Stockpile	Estimated Volume	Comment
PS-Pb-SP1		
OL_EX_SP1	250 m^3	Initial excavation of known area of lead above Site Specific Remediation Criteria.
OL_EX_SP2	100 m^3	
OL_EX_SP3	40 m^3	
OL_EX_SP6	60 m^3	Minor blue flecks noted in one portion as potential “Prussian Blue” by field staff.
OL_EX_SP7	15 m^3	

Source Stockpile	Estimated Volume	Comment
OL_EX_SP8	80 m^3	
PS-Pb-SP2		
OL_EX_SP4	50 m^3	Minor potential ACM fragments noted and removed by field staff
OL_EX_SP5	40 m^3	
DL_SP	205 m^3	Soil removed surrounding pipeline with ACM cladding.

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix A**. It is noted that results for other analytical samples not discussed in this report are included in the laboratory documentation which relate to other site assessment works conducted.

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples from stockpiles were collected by GES or AECOM field personal with environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 4.0** of the report text. Samples were collected in laboratory supplied sample containers and placed in eskies prior to transportation to the selected laboratories.

1.2 Intra- and Inter-Laboratory Duplicate Samples

A total of six intra-laboratory duplicate and nine inter-laboratory duplicate sample pairs were collected and analysed against 96 primary samples collected from the stockpiles assessed in this report, at a rate of approximately one intra-laboratory sample per 16 primary samples, and one inter-laboratory sample per 11 primary samples, which exceeds the rate specified in the sample methodology (one duplicate per 20 primary samples). The rate of collection of duplicate samples is considered satisfactory.

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e. concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e. concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e. concentrations 1 – 10 x LOR)

Of a total of 883 RPD values, 56 RPD values (~6%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were predominantly associated with concentrations of PAHs and metals. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

As approximately 94% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

1.3 Trip Blanks

One trip blank was submitted for each cooler box transported to the laboratory. A total of ten trip blanks, consisting of either laboratory supplied deionised water or clean inert sand, were analysed as part of the work orders relevant to this report.

Trip blanks were analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. All trip blank samples had concentrations of target compounds reported below the LOR, indicating that cross contamination of samples occurring in transit is unlikely to have occurred. Trip blank results are reported on **Table B2a** and **Table B2b** attached.

1.4 Rinsate Blanks

A total of five rinsate blanks were analysed as part of the work orders relevant to this report. Rinsate blanks were prepared by pouring laboratory supplied rinsate water over non-dedicated sampling equipment following decontamination procedures to assess the potential for cross-contamination. At least one rinsate blank was collected for each day of sampling which occurred. A

All rinsate blank results were reported below the laboratory LOR, with the exception of DL_QCB06, collected during sampling of DL_SP on 7 March 2023, which reported detections of PAHs (naphthalene and phenol). This detection is not considered to affect the outcomes of assessment as sample results were not used to delineate impacts, PAH impacts were known to be present throughout DL_SP above criteria, and if cross-contamination occurred resulting in higher detections of PAHs in samples it would not affect the outcomes of assessment.

No exceedances of LOR were reported in any other rinstate blanks, indicating that field decontamination procedures were appropriately adopted and that the risk of cross contamination of samples through field equipment is acceptably low. Rinsate results are reported on **Table B2a** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil, leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.9** below.

Soil samples were analysed for a combination of analytes including metals (including lead), cyanide, TPH/TRH, BTEX, PAH, MAH, phenols, PCBs and pesticides. As these analytes include the CoPC identified in **Section 1.4** (in the main report) for the areas in which the stockpiles were generated, based on available Site history and uses, and previous investigations conducted, soil analytical program is considered appropriate for the purposes of this report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Ice or attempts to chill was noted as present in coolers in the Sample Receipt Notification (SRN) documentation by ALS and Eurofins on receipt of the sample batches.

All samples were received by the primary laboratory ALS at or below 6ºC. Exceedances of the target sample receipt temperature were reported for the follow sample batches received by the secondary laboratory, Eurofins:

- 978719 – 9.7ºC (inter-laboratory duplicates from OL_EX_SP1)
- 993445 – 6.5ºC (interlaboratory duplicate from OL_EX_SP2)
- 1023335 – 7.3ºC (interlaboratory duplicates from PS-Pb-SP1 and PS-Pb-SP2)

The sample receipt temperature exceedances are not considered to affect the results of interpretation as:

- The soil samples considered were taken from stockpiles which were excavated and moved several times under ambient Hobart conditions. CoPC which were vulnerable to degradation from temperature are considered likely to have already degraded within stockpiles during exposure to atmospheric air or movement prior to sampling.
- Samples were close to recommended temperature and attempts to chill were noted, and the period of time and degree to which samples exceeded 6ºC is limited.

- Secondary laboratory results have not been used for interpretative purposes.
- The CoPCs considered in the main report text with exceedances of criteria consist of PAHs (Sum of PAHs and benzo(a)pyrene) and metals (lead). These CoPC are not considered likely to suffer significant degradation due to temperature.

2.2 Sample Holding Times

Samples were generally received by the laboratories within the holding times for sample extraction and/or analysis, with the exception of the exceedances reported for the samples shown in **Table 3** below.

Table 3 Holding Time Exceedances

Work Order	Sample ID	Analytes	Days Overdue
EM2021588	QCB01_24/11/20	TRH - Semivolatile Fraction, PAH/Phenols	6
EM2019057 *	FH-SP23-003, FH-SP23-005, FH-SP23-007, FH-SP23-009, FH-SP23-011, FH-SP23-014, FH-SP23-016, FH-SP23-017, FH-SP23-018, FH-SP23-020	Moisture content, TRH - Semivolatile Fraction, PAH/Phenols, TRH Volatiles/BTEX	3
EM2020860 *	FH-SP23-005, FH-SP23-007, FH-SP23-009, FH-SP23-011, FH-SP23-014, FH-SP23-017, FH-SP23-020	TCLP leach for non- and semi-volatile organic analytes	15
	FH-SP23-022 to FH-SP23-030		31
ES2018414	Trip Blank 10	TRH Volatiles/BTEX	10

*Note: * - Samples from these batches were rebatched*

Eurofins reported samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

These exceedances were not considered to affect the overall usability of the datasets, with consideration given to the following:

- Some samples were re-batched during the soil investigations causing exceedance of holding times.

These exceedances are not expected to materially affect the outcomes of assessment, as:

- The stockpiles potentially affected by this exceedance (RH-SP07 and FH-SP23) were subject to mixing and mechanical turning, which is expected to have encouraged volatilisation of volatile organic compounds from the stockpiles.
- The stockpiles were stored on-Site for over nine months prior to treatment. Volatilisation of VOC would have occurred naturally during this time and reduced VOC concentrations.
- VOC levels in excess of the assessment criteria were not reported in samples collected from these stockpiles.

The results are considered suitable for interpretation. Proactive holding time assessments completed by the analytical laboratory are provided in the SRN reports in **Appendix A**.

2.3 Limits of Reporting

All laboratory LORs were either lower than or equal to the screening criteria applied to the samples analysed, to adequate assessment.

2.4 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix A**.

Matrix spike recoveries were noted to be within the data quality objective range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 4** below.

Table 4 Matrix Spike Outliers

Work Order	Sample ID	Analyte	Matrix Spike	Limits
EM2305901	OL_EX_SP1_03	Zinc	3.0%	80.0-120%
		Hexavalent Chromium	23.9-25.8%	58.0-114%
		Aldrin	16.0%	38.4-135%
EM2310229	OL_EX_SP7_02	Mercury	132%	76.0-116%
EM2315815	PS-Pb-SP1-4	Lead	57.4&	80.0-120%
		Hexavalent Chromium	0.04%	58.0-114%
		Aldrin	7.9%	38.4-135%
	PS-Pb-SP1-9	Pyrene	ND	N/A[1]
	PS-Pb-SP1-22	Chromium	165%	79.0-121%
		Lead	61.5%	80.0-120%
		Zinc	127%	80.0-120%
EM2316192	FD03	Lead	161%	80.0-120%
		Zinc	ND	N/A[1]
		Aldrin	12.5%	38.4-135%

Note: [1]MS recovery not determined, background levels greater than or equal to 4x spike level; ND – Not Determined; NA – Not Applicable

Matrix spike recovery outliers, either lower than or higher than the acceptable limits, are likely attributed to the heterogeneity of the soil samples submitted to the laboratory, or due to matrix interference with samples. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. Moreover, a significant number of the outliers are associated with samples not relevant to the stockpiles considered in this report, including anonymous samples, or samples from other stockpiles that were included in the above laboratory batches.

Overall, these outliers are not considered to impact interpretation of the results.

2.5 Laboratory Method Blanks

All soil laboratory method blanks were reported within the acceptable range, i.e., below the laboratory LORs.

2.6 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix A**. All surrogate spike recoveries for

regular sample matrices were within the surrogate control limits adopted for the methods used, and no outliers were reported.

2.7 Laboratory Control Spikes

Laboratory control spikes, presented in **Appendix A**, were within the laboratory-derived control limits for the methods used, and no outliers were reported.

2.8 Frequency of Quality Control Spike

Frequency of quality control spikes, presented in **Appendix A**, were at the rate expected by applicable QC specifications, with the exceptions of the outliers listed in **Table 5** below.

Table 5 Frequency of Quality Control Samples

Work Order	Type	Analyte	Rate (%)		Quality Control Specification
			Actual	Expected	
EM2008727	Matrix Spikes	Total Mercury by FIMS	0	5	NEPM 2013 B3 & ALS QC Standard

It is noted that analytes for which the actual rate of control spikes were below the expected frequency, there were not sufficient samples assessed for that analytical suite to complete quality control spike sampling. These outliers are not considered to impact interpretation of the results. Frequency of control spikes for water samples (i.e. rinsate and trip blanks) are not listed due to the low numbers of these samples analysed.

2.9 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding laboratory duplicates were within acceptable limits, with the exception of the duplicate outliers listed below in **Table 6**.

Table 6 Laboratory Duplicate RPD Exceedances

Work Order	Sample ID	Analyte	RPD	Limits
EM2304035	DL_SP_05	Arsenic	33.1	0% - 20%
		Lead	122	0% - 20%
	DL_SP_07	Fluoranthene	26.4	0% - 20%
		Pyrene	23.7	0% - 20%
		Benz(a)anthracene	21.1	0% - 20%
EM2309346	OL_EX_SP4_01	Lead	39.0	0% - 20%
EM2315815	PS-Pb-SP1-1	Tin	107%	0% - 20%
	PS-Pb-SP1-10	Lead	43.9%	0% - 20%
	PS-Pb-SP1-21	Copper	21.3%	0% - 20%
EM2316192	FD02	Lead	72.7%	0% - 20%

RPD exceedances are attributed to the heterogeneity of the soil samples submitted to the laboratory. The presence of varied fill material is well documented across the Site, including areas where these stockpiles were generated. These exceedances are not considered to impact interpretation of the results.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- Of a total of 883 RPD values, 56 RPD values (~6%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were predominantly associated with concentrations of PAHs and metals. This is not unexpected considering the degree of heterogeneity known to be associated with soil fill material. Heterogeneity of the soil, in particular the fill material, has been visually confirmed across the stockpiles and the variability of soil composition is likely to have resulted in these exceedances.

  As approximately 94% of duplicate RPD values were reported within the acceptable range, and considering known heterogeneity, the RPD results are not considered to have compromised the interpretive use of the data.

- Detectable concentrations of naphthalene and phenol were present in rinsate blank DL_QCB06, collected during sampling of DL_SP on 7 March 2023. The detected concentrations are not considered to affect the outcomes of interpretation of this data.

- Three secondary laboratory sample batches (978719, 993445, and 1023335) were received between 6.5 and 9.7^{o}C above the recommended temperature of 6°C. The higher than recommended receipt temperatures are not expected to affect interpretation due to the attempts to chill noted and the periods of exposure to atmosphere and movement of stockpiles prior to sampling.

- Other laboratory QA/QC sampling procedures including analysis of matrix spike recoveries, laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals.

These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of stockpiles.

Table B1
Relative Percentage Differences
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

Field Duplicates (Soil)
Filter: Lab_Report_Number in('EM2315815','EM2310

	Lab Report Number	EM2304035	EM2304035		EM2304580	EM2304580		EM2305901	EM2305901		EM2305901	EM2305901		EM2309346	EM2309346		EM2309346	EM2309346		EM2309346	EM2309346		EM2309346	EM2309346		EM2310229	EM2310229		EM2310229	
	Field ID	DL_SP_01	DL_QC103	**RPD**	DL_SP_01	DL_QC103	**RPD**	OL_EX_SP1_01	OL_EX_SP1_QC113	**RPD**	OL_EX_SP1_10	OL_EX_SP1_QC114	**RPD**	OL_EX_SP2_01	OL_EX_QC118	**RPD**	OL_EX_SP6_01	OL_EX_QC120	**RPD**	UST_EXT_59SP_03	UST_EXT_QC121	**RPD**	OL_EX_423_0.5	OL_EX_QC125	**RPD**	UST_SP_01	
	Sampled Date/Time	7/03/2023 7:22	7/03/2023 7:22		7/03/2023 7:22	7/03/2023 7:22		3/04/2023 17:16	3/04/2023 17:16		3/04/2023 17:16	3/04/2023 17:16		23/05/2023 15:00	23/05/2023 15:00		23/05/2023 15:00	23/05/2023 15:00		23/05/2023 15:00	23/05/2023 15:00		7/06/2023 10:02	7/06/2023 10:02		7/06/2023 10:07	
Method_Type	**ChemName**	**Units**	**EQL**																																	
Hexavalent Chromium by Alkaline Digestion and DAF	Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)								<0.5	<0.5	0																							
Total Mercury by FIMS	Mercury	mg/kg	0.1	0.4	0.2	67					0.9	0.8	12																		**1.1**	**2.4**	**74**	0.3
Total Metals by ICP-AES	Arsenic	mg/kg	5 : 2 (Interlab)	7	6	15					12	7	53																		15	14	7	28
	Barium	mg/kg	10				50	90	57		190	150	24																							
	Beryllium	mg/kg	1 : 2 (Interlab)				<1	<1	0		<1	<1	0																							
	Cadmium	mg/kg	1 : 0.4 (Interlab)	<1	<1	0					<1	<1	0																		<1	<1	0	1
	Chromium	mg/kg	2 : 5 (Interlab)	10	12	18	7	9	25		**105**	**35**	**100**																		15	17	13	14
	Cobalt	mg/kg	2 : 5 (Interlab)				7	10	35		12	10	18																							
	Copper	mg/kg	5	70	75	7					**558**	**171**	**106**																		**115**	**281**	**84**	63
	Lead	mg/kg	5	157	154	2					**698**	**315**	**76**	**197**	**311**	**45**	993	1010	2	757	772	2	189	173	9	**254**	**2220**	**159**	179
	Manganese	mg/kg	5				148	192	26		251	213	16																							
	Molybdenum	mg/kg	2 : 5 (Interlab)				<2	<2	0		<2	<2	0																							
	Nickel	mg/kg	2 : 5 (Interlab)	18	19	5					**65**	**31**	**71**																		**16**	**36**	**77**	**32**
	Selenium	mg/kg	5 : 2 (Interlab)				<5	<5	0		<5	<5	0																							
	Silver	mg/kg	2				<2	<2	0		<2	<2	0																							
	Tin	mg/kg	5 : 10 (Interlab)				10	8	22		49	31	45																							
	Zinc	mg/kg	5	206	232	12					**582**	**363**	**46**																		**295**	**1030**	**111**	276
Asbestos Identification in Soils	Description	-					1	1	0																											
TRH - Semivolatile Fraction	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	<50	<50	0					150	60	86	<50	<50	0	<50	<50	0	<50	140	95	250	380	41	<50	<50	0	<50
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	140	160	13					920	740	22	<100	<100	0	120	170	34	120	230	63	1110	1320	17	290	110	90	130
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	150	160	6					520	470	10	<100	<100	0	100	140	33	120	200	50	250	240	4	230	<100	79	<100
	C10-C36 fraction (sum)	mg/kg	50	290	320	10					1590	1270	22	<50	<50	0	220	310	34	**240**	**570**	**81**	1610	1940	19	**520**	**110**	**130**	**130**
TRH Volatiles/BTEX	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	<10	<10	0					<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10
TRH - Semivolatile Fraction	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	<50	<50	0					200	120	50	<50	<50	0	<50	<50	0	<50	140	95	470	680	37	<50	<50	0	<50
	>C10-C16 fraction	mg/kg	50	<50	<50	0					200	120	50	<50	<50	0	<50	<50	0	<50	140	95	470	680	37	<50	<50	0	<50
	>C16-C34 fraction	mg/kg	100	270	280	4					1260	1070	16	160	120	29	200	270	30	210	370	55	1090	1220	11	470	180	89	160
	>C34-C40 fraction	mg/kg	100	<100	110	10					230	200	14	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	270	390	36					1690	1390	19	160	120	29	200	270	30	**210**	**510**	**83**	1560	1900	20	470	180	89	**160**
TRH Volatiles/BTEX	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	<10	<10	0					<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	<10	<10	0					<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10
Total Fluoride	Fluoride	mg/kg	40 : 100 (Interlab)				140	90	43		80	80	0																							
TRH Volatiles/BTEX	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	<1	<1	0					2	3	40	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.2	0					<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0					<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2
Benzo(a)pyrene- Waste Classification (TAS requirem	Benzo(a)pyrene	mg/kg	0.05 : 0.5 (Interlab)								8.97	8.72	3	1.25																				
PAH/Phenols (GC/MS - SIM) (leached)	Naphthalene	µg/L	1																																	
	Acenaphthylene	µg/L	1																																	
	Acenaphthene	µg/L	1																																	
	Anthracene	µg/L	1																																	
	Fluorene	µg/L	1																																	
	Phenanthrene	µg/L	1																																	
	Fluoranthene	µg/L	1																																	
	Benz(a)anthracene	µg/L	1																																	
	Benzo(k)fluoranthene	µg/L	1																																	
	Benzo(b&j)fluoranthene	µg/L	1																																	
	Benzo(a)pyrene	µg/L	0.5																																	
	Chrysene	µg/L	1																																	
	Pyrene	µg/L	1																																	
	Benzo(g,h,i)perylene	µg/L	1																																	
	Dibenz(a,h)anthracene	µg/L	1																																	
	Indeno(1,2,3-cd)pyrene	µg/L	1																																	
	Sum of PAHs	µg/L	0.5 : 1 (Interlab)																																	
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	7.8	8.2	5					**9.3**	**12.7**	**31**	2.1	3.3	44	6.2	6.1	2	3.4	3.7	8	**8.5**	**4.9**	**54**	**14.5**	**4.2**	**110**	2.8
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	7.8	8.2	5					**9.3**	**12.7**	**31**	1.8	3	50	6.2	6.1	2	3.2	3.5	9	**8.5**	**4.6**	**60**	**14.5**	**3.9**	**115**	2.6
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	7.8	8.2	5					**9.3**	**12.7**	**31**	2.3	3.5	41	6.2	6.1	2	3.7	4	8	**8.5**	**5.1**	**50**	**14.5**	**4.4**	**107**	3.1
	Naphthalene	mg/kg	0.5	<0.5	<0.5	0					8.8	6.9	24	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.6	18	1.3	0.9	36	0.7	<0.5	33	<0.5
	Acenaphthylene	mg/kg	0.5	1	1	0					2.2	2.1	5	<0.5	0.5	0	0.8	0.6	29	0.5	0.6	18	0.8	<0.5	46	1.3	<0.5	89	<0.5
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0					0.8	0.6	29	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Anthracene	mg/kg	0.5	1.1	1.4	24					2.4	2.6	8	<0.5	<0.5	0	1.2	0.9	29	<0.5	0.5	0	1.7	0.8	72	1.8	<0.5	113	0.5
	Fluorene	mg/kg	0.5	<0.5	<0.5	0					1.4	1.2	15	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	0.7	0.5	33	<0.5	<0.5	0	<0.5
	Phenanthrene	mg/kg	0.5	5	5.4	8					18.8	16.1	15	0.8	1.5	61	2.2	1.7	26	1	1.2	18	3.3	2.2	40	**8**	**1.6**	**133**	2.1
	Fluoranthene	mg/kg	0.5	9.6	10.1	5					15.8	16.1	2	1.8	4	76	7.4	6.4	14	2.4	3	22	**7.6**	**4.5**	**51**	**12.2**	**3.4**	**113**	3.5
	Benz(a)anthracene	mg/kg	0.5	4.3	4.6	7					6.7	8.5	24	1.2	2.6	74	4	3.7	8	1.7	2	16	**5.3**	**2.7**	**65**	**8.3**	**2.4**	**110**	1.7
	Benzo(k)fluoranthene	mg/kg	0.5	2.1	2	5					3.6	4.8	29	0.6	1	50	1.9	2.2	15	1.3	1.4	7	2.8	1.7	49	3.7	1.4	90	0.8
	Benzo(b&j)fluoranthene	mg/kg	0.5	5.6	5.9	5					7.7	9.1	17	1.5	2.1	33	6.3	5.7	10	2.8	3.2	13	**6.6**	**3.8**	**54**	**10.4**	**3.3**	**104**	2.1
	Benzo(a)pyrene	mg/kg	0.5	5.5	5.8	5											3.8	3.9	3	2.4	2.6	8	6	3.6	50	**10**	**3**	**108**	2
	Chrysene	mg/kg	0.5	4.2	4.4	5					6.6	8	19	1	2.4	82	4.1	3.6	13	1.6	1.9	17	4.5	2.5	57	**7.6**	**2.2**	**110**	1.5
	Pyrene	mg/kg	0.5	9.4	9.9	5					13.2	14.9	12	1.9	4.1	73	6.9	6.1	12	2.5	3	18	8.5	6	34	**12.5**	**3.3**	**116**	3.4
	Benzo(g,h,i)perylene	mg/kg	0.5	3.4	3.7	8					4.7	5.2	10	0.8	1.5	61	3.4	3.2	6	2	2	0	3.1	2.1	38	**7.4**	**2**	**115**	1.3
	Dibenz(a,h)anthracene	mg/kg	0.5	0.7	0.8	13					1.1	1.2	9	<0.5	<0.5	0	0.8	0.7	13	<0.5	<0.5	0	0.7	<0.5	33	1.5	<0.5	100	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	2.9	3	3					4.1	4.5	9	0.7	1.4	67	3	2.8	7	1.6	1.7	6	2.6	1.8	36	**5.7**	**1.6**	**112**	1
	Sum of PAHs	mg/kg	0.5	54.8	58	6					104	110	6	**11.7**	**23.4**	**67**	45.8	41.5	10	19.8	23.7	18	**55.5**	**33.1**	**51**	**91.1**	**24.2**	**116**	19.9

Table B1
Relative Percentage Differences
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

Field Duplicates (Soil)
Filter: Lab_Report_Number in('EM2315815','EM2310

	Lab Report Number	EM2304035	EM2304035		EM2304580	EM2304580		EM2305901	EM2305901		EM2305901	EM2305901		EM2309346	EM2309346		EM2309346	EM2309346		EM2309346	EM2309346		EM2310229	EM2310229		EM2310229								
	Field ID	DL_SP_01	DL_QC103	**RPD**	DL_SP_01	DL_QC103	**RPD**	OL_EX_SP1_01	OL_EX_SP1_QC113	**RPD**	OL_EX_SP1_10	OL_EX_SP1_QC114	**RPD**	OL_EX_SP2_01	OL_EX_QC118	**RPD**	OL_EX_SP6_01	OL_EX_QC120	**RPD**	UST_EXT_59SP_03	UST_EXT_QC121	**RPD**	OL_EX_423_0.5	OL_EX_QC125	**RPD**	UST_SP_01								
	Sampled Date/Time	7/03/2023 7:22	7/03/2023 7:22		7/03/2023 7:22	7/03/2023 7:22		3/04/2023 17:16	3/04/2023 17:16		3/04/2023 17:16	3/04/2023 17:16		23/05/2023 15:00	23/05/2023 15:00		23/05/2023 15:00	23/05/2023 15:00		23/05/2023 15:00	23/05/2023 15:00		7/06/2023 10:02	7/06/2023 10:02		7/06/2023 10:07								
Method_Type	**ChemName**	**Units**	**EQL**																															
PAHs (GC/MS - SIM) Low-Level (leached)	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.1					<0.1	<0.1	0																								
	Naphthalene	µg/L	0.1					0.16	0.21	27																								
	2-Methylnaphthalene	µg/L	0.1					<0.1	0.17	52																								
	Acenaphthylene	µg/L	0.1					0.1	0.12	18																								
	Acenaphthene	µg/L	0.1					0.1	0.17	52																								
	Anthracene	µg/L	0.1					0.11	0.23	71																								
	Fluorene	µg/L	0.1					0.16	0.4	86																								
	Phenanthrene	µg/L	0.1					**0.64**	**1.36**	**72**																								
	Fluoranthene	µg/L	0.1					0.19	0.3	45																								
	Benz(a)anthracene	µg/L	0.1					<0.1	<0.1	0																								
	Benzo(k)fluoranthene	µg/L	0.1					<0.1	<0.1	0																								
	Benzo(b&j)fluoranthene	µg/L	0.1					<0.1	<0.1	0																								
	Benzo(a)pyrene	µg/L	0.05					<0.05	<0.05	0																								
	Chrysene	µg/L	0.1					<0.1	<0.1	0																								
	Pyrene	µg/L	0.1					0.14	0.22	44																								
	Benzo(g,h,i)perylene	µg/L	0.1					<0.1	<0.1	0																								
	Dibenz(a,h)anthracene	µg/L	0.1					<0.1	<0.1	0																								
	Indeno(1,2,3-cd)pyrene	µg/L	0.1					<0.1	<0.1	0																								
	Sum of PAHs	µg/L	0.1					**1.6**	**3.01**	**61**																								
PAH/Phenols (SIM)	3/4-Methylphenol (m/p-cresol)	mg/kg	1	<1	<1	0					<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1			
	Phenol	mg/kg	0.5	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2-Methylphenol (o-Cresol)	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2-Nitrophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	4-Chloro-3-methylphenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2,4,6-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	2,4,5-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0					<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	Pentachlorophenol	mg/kg	2 : 1 (Interlab)	<2	<2	0					<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2			
	Sum of Phenols	mg/kg	0.5								<0.5	<0.5	0																					
Asbestos Identification in Soils	weight of sample	g	0.01					164	194	17																								
Moisture Content	Moisture Content	%	1	9.1	7.9	14					15.4	16.1	4	9.8	11.6	17	25.9	20.8	22	20.4	20.1	1	18.9	22.3	17	**14.1**	**32.8**	**80**	14.2						
	Moisture Content	%	0.1					10.1	8.2	21																								
Polychlorinated Biphenyls (PCB)	Polychlorinated Biphenyls	mg/kg	0.1					<0.1	<0.1	0	<0.1	<0.1	0																					
Pesticides by GCMS	Aldrin	mg/kg	0.05					<0.05	<0.05	0	<0.05	<0.05	0																					
	Dieldrin	mg/kg	0.05					<0.05	<0.05	0	<0.05	<0.05	0																					
	Aldrin + Dieldrin	mg/kg	0.05					<0.05	<0.05	0	<0.05	<0.05	0																					
	a-BHC	mg/kg	0.05								<0.05	<0.05	0																					
	b-BHC	mg/kg	0.05								<0.05	<0.05	0																					
	d-BHC	mg/kg	0.05								<0.05	<0.05	0																					
	g-BHC (Lindane)	mg/kg	0.05								<0.05	<0.05	0																					
	cis-Chlordane	mg/kg	0.05								<0.05	<0.05	0																					
	trans-Chlordane	mg/kg	0.05								<0.05	<0.05	0																					
	Chlordane	mg/kg	0.05 : 0.1 (Interlab)								<0.05	<0.05	0																					
	DDD	mg/kg	0.05					<0.05	<0.05	0	<0.05	<0.05	0																					
	DDE	mg/kg	0.05					<0.05	<0.05	0	<0.05	<0.05	0																					
	DDT	mg/kg	0.2 : 0.05 (Interlab)					<0.2	<0.2	0	<0.2	<0.2	0																					
	DDT+DDE+DDD	mg/kg	0.05					<0.05	<0.05	0	<0.05	<0.05	0																					
	Endosulfan	mg/kg	0.05								<0.05	<0.05	0																					
	Endosulfan 1	mg/kg	0.05								<0.05	<0.05	0																					
	Endosulfan 2	mg/kg	0.05								<0.05	<0.05	0																					
	Endosulfan sulfate	mg/kg	0.05								<0.05	<0.05	0																					
	Endrin	mg/kg	0.05								<0.05	<0.05	0																					
	Endrin aldehyde	mg/kg	0.05								<0.05	<0.05	0																					
	Endrin ketone	mg/kg	0.05								<0.05	<0.05	0																					
	Heptachlor	mg/kg	0.05								<0.05	<0.05	0																					
	Heptachlor epoxide	mg/kg	0.05								<0.05	<0.05	0																					
	Hexachlorobenzene (HCB)	mg/kg	0.05								<0.05	<0.05	0																					
	Methoxychlor	mg/kg	0.2 : 0.05 (Interlab)								<0.2	<0.2	0																					
Asbestos Identification in Soils	APPROVED IDENTIFIER:	-						1	1	0																								
	Asbestos fibres	g/kg	0.1					0.0E0	0.0E0	0																								
	Total Asbestos	-	--					1	1	0																								
	Asbestos (Trace)	Fibres	5					0.0E0	0.0E0	0																								
Total Cyanide by Segmented Flow Analyser	Cyanide Total	mg/kg	1 : 5 (Interlab)					1	1	0	**232**	**444**	**63**																					
TCLP for Non & Semivolatile Analytes - Glass Leach	pH (Final)	pH Units	0.1					5.3	5.4	2																								
	pH (Initial)	pH Units	0.1					9.8	9.7	1																								
	pH (after HCL)	pH Units	0.1					1.7	1.6	6																								

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table B1
Relative Percentage Differences
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

Field Duplicates (Soil)
Filter: Lab_Report_Number in('EM2315815','EM2310

	Lab Report Number	EM2310229			EM2305901	978719			EM2305901	978719			EM2310229	997785			EM2310229	997785			EM2304035	970404			EM2309346	993445			EM2309346	993445			EM2309346	993445	
	Field ID	UST_SP_QC126		**RPD**	OL_EX_SP1_01	OL_EX_SP1_QC213		**RPD**	OL_EX_SP1_10	OL_EX_SP1_QC214		**RPD**	OL_EX_423_0.5	OL_EX_QC225		**RPD**	UST_SP_01	UST_SP_QC226		**RPD**	DL_SP_01	DL_QC203		**RPD**	OL_EX_SP2_01	OL_EX_QC218		**RPD**	OL_EX_SP6_01	OL_EX_QC220		**RPD**	UST_EXT_59SP_03	UST_EXT_QC221	
	Sampled Date/Time	7/06/2023 10:07			3/04/2023 17:16	3/04/2023 17:16			3/04/2023 17:16	3/04/2023 17:16			7/06/2023 10:02	7/06/2023 10:02			7/06/2023 10:07	7/06/2023 10:07			7/03/2023 7:22	7/03/2023 7:22			23/05/2023 15:00	23/05/2023 15:00			23/05/2023 15:00	23/05/2023 15:00			23/05/2023 15:00	23/05/2023 15:00	
Method_Type	**ChemName**	**Units**	**EQL**																																	
Hexavalent Chromium by Alkaline Digestion and DAF	Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)			<0.5	<1	0																												
Total Mercury by FIMS	Mercury	mg/kg	0.1	0.2	40	0.9	0.8	12					1.1				0.3				0.4															
Total Metals by ICP-AES	Arsenic	mg/kg	5 : 2 (Interlab)	31	10	12	10	18					15				28				7															
	Barium	mg/kg	10			190	170	11																												
	Beryllium	mg/kg	1 : 2 (Interlab)			<1	<2	0																												
	Cadmium	mg/kg	1 : 0.4 (Interlab)	<1	0	<1	1	0					<1				1				<1															
	Chromium	mg/kg	2 : 5 (Interlab)	9	43	**105**	**61**	**53**					15				14				10															
	Cobalt	mg/kg	2 : 5 (Interlab)			12	12	0																												
	Copper	mg/kg	5	53	17	**558**	**220**	**87**					115				63				70															
	Lead	mg/kg	5	142	23	**698**	**470**	**39**	197	160	21		**254**	**700**	**94**		**179**	**410**	**78**		**157**	**270**	**53**		993	850	16		**757**	**2100**	**94**		189	180			
	Manganese	mg/kg	5			251	300	18																												
	Molybdenum	mg/kg	2 : 5 (Interlab)			<2	<5	0																												
	Nickel	mg/kg	2 : 5 (Interlab)	**18**	**56**	**65**	**39**	**50**					16				32				18															
	Selenium	mg/kg	5 : 2 (Interlab)			<5	<2	0																												
	Silver	mg/kg	2			<2	<2	0																												
	Tin	mg/kg	5 : 10 (Interlab)			49	51	4																												
	Zinc	mg/kg	5	218	23	582	720	21					295				276				206															
Asbestos Identification in Soils	Description	-																																		
TRH - Semivolatile Fraction	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	<50	0	**150**	**260**	**54**	<50	<20	0		<50				<50				<50	<20	0		<50	<20	0		<50	40	0		250	130			
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	540	122	**920**	**1600**	**54**	<100	160	46		290				130				140	180	25		120	210	55		120	250	70		1110	1200			
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	120	18	520	640	21	<100	<50	0		230				<100				150	120	22		100	120	18		120	180	40		250	250			
	C10-C36 fraction (sum)	mg/kg	50	**660**	**134**	**1590**	**2500**	**44**	<50	160	105		520				130				290	300	3		220	330	40		240	470	65		1610	1580			
TRH Volatiles/BTEX	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	<10	0	<10	<20	0	<10	<20	0		<10				<10				<10	<20	0		<10	<20	0		<10	<20	0		<10	<20			
TRH - Semivolatile Fraction	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	<50	0	200	328.4	49	<50	<50	0		<50				<50				<50	<50	0		<50	<50	0		<50	60	18		470	310			
	>C10-C16 fraction	mg/kg	50	<50	0	200	330	49	<50	<50	0		<50				<50				<50	<50	0		<50	<50	0		<50	60	18		470	310			
	>C16-C34 fraction	mg/kg	100	620	118	1260	1900	41	160	220	32		470				160				270	270	0		200	310	43		210	400	62		1090	1200			
	>C34-C40 fraction	mg/kg	100	<100	0	230	350	41	<100	<100	0		<100				<100				<100	<100	0		<100	<100	0		<100	<100	0		<100	<100			
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	**620**	**118**	**1690**	**2580**	**42**	160	220	32		470				160				270	270	0		200	310	43		210	460	75		1560	1510			
TRH Volatiles/BTEX	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	<10	0	<10	<20	0	<10	<20	0		<10				<10				<10	<20	0		<10	<20	0		<10	<20	0		<10	<20			
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	<10	0	<10	<20	0	<10	<20	0		<10				<10				<10	<20	0		<10	<20	0		<10	<20	0		<10	<20			
Total Fluoride	Fluoride	mg/kg	40 : 100 (Interlab)			80	<100	0																												
TRH Volatiles/BTEX	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	<1	0	2	1.6	22	<1	<0.5	0		<1				<1				<1	<0.5	0		<1	<0.5	0		<1	<0.5	0		<1	<0.5			
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	0	<0.2	<0.1	0	<0.2	<0.1	0		<0.2				<0.2				<0.2	<0.1	0		<0.2	<0.1	0		<0.2	<0.1	0		<0.2	<0.1			
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0		<0.5				<0.5				<0.5	<0.1	0		<0.5	<0.1	0		<0.5	<0.1	0		<0.5	<0.1			
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0		<0.5				<0.5				<0.5	<0.1	0		<0.5	<0.1	0		<0.5	<0.1	0		<0.5	<0.1			
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	<0.5	0	<0.5	<0.2	0	<0.5	<0.2	0		<0.5				<0.5				<0.5	<0.2	0		<0.5	<0.2	0		<0.5	<0.2	0		<0.5	<0.2			
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0		<0.5				<0.5				<0.5	<0.1	0		<0.5	<0.1	0		<0.5	<0.1	0		<0.5	<0.1			
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	<0.5	0	<0.5	<0.3	0	<0.5	<0.3	0		<0.5				<0.5				<0.5	<0.3	0		<0.5	<0.3	0		<0.5	<0.3	0		<0.5	<0.3			
	Total BTEX	mg/kg	0.2	<0.2	0	<0.2			<0.2				<0.2				<0.2				<0.2				<0.2				<0.2				<0.2				
Benzo(a)pyrene- Waste Classification (TAS requirem	Benzo(a)pyrene	mg/kg	0.05 : 0.5 (Interlab)			**8.97**	**4.8 - 5.5**	**61**	**1.25**	**0.7**	**56**																											
PAH/Phenols (GC/MS - SIM) (leached)	Naphthalene	µg/L	1																																	
	Acenaphthylene	µg/L	1																																	
	Acenaphthene	µg/L	1																																	
	Anthracene	µg/L	1																																	
	Fluorene	µg/L	1																																	
	Phenanthrene	µg/L	1																																	
	Fluoranthene	µg/L	1																																	
	Benz(a)anthracene	µg/L	1																																	
	Benzo(k)fluoranthene	µg/L	1																																	
	Benzo(b&j)fluoranthene	µg/L	1																																	
	Benzo(a)pyrene	µg/L	0.5																																	
	Chrysene	µg/L	1																																	
	Pyrene	µg/L	1																																	
	Benzo(g,h,i)perylene	µg/L	1																																	
	Dibenz(a,h)anthracene	µg/L	1																																	
	Indeno(1,2,3-cd)pyrene	µg/L	1																																	
	Sum of PAHs	µg/L	0.5 : 1 (Interlab)																																	
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	3.8	30	9.3	8.8	6	2.1	1.1	63		14.5				2.8				7.8	5.8	29		6.2	7	12		**3.4**	**5.9**	**54**		8.5	10			
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	3.5	30	9.3	8.8	6	1.8	0.9	67		14.5				2.6				7.8	5.8	29		6.2	7	12		**3.2**	**5.7**	**56**		8.5	10			
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	4	25	9.3	8.8	6	2.3	1.4	49		14.5				3.1				7.8	5.8	29		6.2	7	12		**3.7**	**6.2**	**51**		8.5	10			
	Naphthalene	mg/kg	0.5	<0.5	0	**8.8**	**13**	**39**	<0.5	<0.5	0		0.7				<0.5				<0.5	<0.5	0		<0.5	<0.5	0		<0.5	<0.5	0		1.3	0.6			
	Acenaphthylene	mg/kg	0.5	<0.5	0	2.2	1	75	<0.5	<0.5	0		1.3				<0.5				1	0.8	22		0.8	<0.5	46		0.5	<0.5	0		0.8	<0.5			
	Acenaphthene	mg/kg	0.5	<0.5	0	0.8	<0.5	46	<0.5	<0.5	0		<0.5				<0.5				<0.5	<0.5	0		<0.5	<0.5	0		<0.5	<0.5	0		<0.5	<0.5			
	Anthracene	mg/kg	0.5	0.5	0	2.4	4.2	55	<0.5	<0.5	0		1.8				0.5				1.1	0.8	32		1.2	0.7	53		<0.5	0.6	18		1.7	1.2			
	Fluorene	mg/kg	0.5	<0.5	0	1.4	2.3	49	<0.5	<0.5	0		<0.5				<0.5				<0.5	<0.5	0		<0.5	<0.5	0		<0.5	<0.5	0		0.7	<0.5			
	Phenanthrene	mg/kg	0.5	2.2	5	18.8	23	20	0.8	1	22		8				2.1				5	3	50		2.2	1.6	32		1	1.4	33		3.3	2.8			
	Fluoranthene	mg/kg	0.5	4.1	16	**15.8**	**23**	**37**	1.8	1.7	6		12.2				3.5				9.6	6	46		7.4	5.3	33		2.4	3	22		7.6	5.9			
	Benz(a)anthracene	mg/kg	0.5	2.3	30	6.7	6.9	3	1.2	0.7	53		8.3				1.7				4.3	3.1	32		4	2.9	32		1.7	1.7	0		5.3	3.5			
	Benzo(k)fluoranthene	mg/kg	0.5	1.2	40	**3.6**	**6.1**	**52**	0.6	0.6	0		3.7				0.8				2.1	2.4	13		1.9	5	90		1.3	4.6	112		**2.8**	**5.9**			
	Benzo(b&j)fluoranthene	mg/kg	0.5	2.9	32	**7.7**	**4.4**	**55**	1.5	<0.5	100		10.4				2.1				**5.6**	**2.9**	**64**		6.3	4.2	40		2.8	3.7	28		6.6	4.6			
	Benzo(a)pyrene	mg/kg	0.5	2.7	30								10				2				5.5	3.7	39		3.8	4.3	12		2.4	4.5	61		6	7.5			
	Chrysene	mg/kg	0.5	2	29	**6.6**	**12**	**58**	1	1.2	18		7.6				1.5				4.2	3.2	27		4.1	3.5	16		1.6	1.7	6		4.5	3.1			
	Pyrene	mg/kg	0.5	4.1	19	**13.2**	**21**	**46**	1.9	1.8	5		12.5				3.4				9.4	6.4	38		6.9	5	32		2.5	3.2	25		8.5	7			
	Benzo(g,h,i)perylene	mg/kg	0.5	1.7	27	4.7	4.6	2	0.8	0.5	46		7.4				1.3				3.4	2.3	39		3.4	2.3	39		2	1	67		3.1	1.9			
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	0	1.1	1	10	<0.5	<0.5	0		1.5				<0.5				0.7	0.9	25		0.8	1.1	32		<0.5	<0.5	0		0.7	0.9			
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	1.4	33	4.1	3.6	13	0.7	<0.5	33		5.7				1				2.9	2.6	11		3	3.4	13		1.6	1.5	6		2.6	2.3			
	Sum of PAHs	mg/kg	0.5	25.1	23	104	130	22	**11.7**	**8.2**	**35**		91.1				19.9				**54.8**	**38**	**36**		45.8	39	16		**19.8**	**27**	**31**		55.5	47			

Table B1
Relative Percentage Differences
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

Field Duplicates (Soil)
Filter: Lab_Report_Number in('EM2315815','EM2310

| | | |

Table B1
Relative Percentage Differences
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

Field Duplicates (Soil)
Filter: Lab_Report_Number in('EM2315815','EM2310

	Lab Report Number		EM2315815	1023335		EM2315815	1023335		EM2315815	1023335		EM2315815	1023335		EM2315815	1023335	
	Field ID	**RPD**	PS-Pb-SP1-9	FD-IL-01	**RPD**	PS-Pb-SP2-8	FD-IL-02	**RPD**	PS-Pb-SP1-9	FD-IL-01	**RPD**	PS-Pb-SP2-8	FD-IL-02	**RPD**
	Sampled Date/Time		1/09/2023 12:43	1/09/2023 12:43		1/09/2023 11:10	1/09/2023 11:10		1/09/2023 12:43	1/09/2023 12:43		1/09/2023 11:10	1/09/2023 11:10	
Method_Type	**ChemName**	**Units**	**EQL**														
Hexavalent Chromium by Alkaline Digestion and DAF	Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)		<0.5	<1	0	<0.5	<1	0	<0.5				<0.5		
Total Mercury by FIMS	Mercury	mg/kg	0.1		1.7	1.1	43	0.6	0.6	0	1.7				0.6		
Total Metals by ICP-AES	Arsenic	mg/kg	5 : 2 (Interlab)		26	18	36	50	54	8	26				50		
	Barium	mg/kg	10		280	270	4	120	130	8	280				120		
	Beryllium	mg/kg	1 : 2 (Interlab)		<1	<2	0	<1	<2	0	<1				<1		
	Cadmium	mg/kg	1 : 0.4 (Interlab)		2	1.1	58	3	2.5	18	2				3		
	Chromium	mg/kg	2 : 5 (Interlab)		43	40	7	33	42	24	43				33		
	Cobalt	mg/kg	2 : 5 (Interlab)		13	12	8	12	13	8	13				12		
	Copper	mg/kg	5		230	220	4	116	110	5	230				116		
	Lead	mg/kg	5	5	**849**	**610**	**33**	**454**	**850**	**61**	849				454		
	Manganese	mg/kg	5		302	350	15	244	320	27	302				244		
	Molybdenum	mg/kg	2 : 5 (Interlab)		<2	<5	0	<2	<5	0	<2				<2		
	Nickel	mg/kg	2 : 5 (Interlab)		41	40	2	43	47	9	41				43		
	Selenium	mg/kg	5 : 2 (Interlab)		<5	<2	0	<5	<2	0	<5				<5		
	Silver	mg/kg	2		<2	<2	0	<2	<2	0	<2				<2		
	Tin	mg/kg	5 : 10 (Interlab)		134	170	24	26	40	42	134				26		
	Zinc	mg/kg	5		648	650	0	**477**	**650**	**31**	648				477		
Asbestos Identification in Soils	Description	-															
TRH - Semivolatile Fraction	C10-C14 fraction	mg/kg	50 : 20 (Interlab)	63	<50	<20	0	<50	<20	0	<50				<50		
	C15-C28 fraction	mg/kg	100 : 50 (Interlab)	8	360	200	57	240	180	29	360				240		
	C29-C36 fraction	mg/kg	100 : 50 (Interlab)	0	260	140	60	200	190	5	260				200		
	C10-C36 fraction (sum)	mg/kg	50	2	**620**	**340**	**58**	440	370	17	620				440		
TRH Volatiles/BTEX	C6-C9 fraction	mg/kg	10 : 20 (Interlab)	0	<10	<20	0	<10	<20	0	<10				<10		
TRH - Semivolatile Fraction	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	41	<50	<50	0	<50	<50	0	<50				<50		
	>C10-C16 fraction	mg/kg	50	41	<50	<50	0	<50	<50	0	<50				<50		
	>C16-C34 fraction	mg/kg	100	10	540	300	57	380	320	17	540				380		
	>C34-C40 fraction	mg/kg	100	0	110	<100	10	100	100	0	110				100		
	>C10-C40 fraction (sum)	mg/kg	50 : 100 (Interlab)	3	**650**	**300**	**74**	480	420	13	650				480		
TRH Volatiles/BTEX	C6-C10 fraction	mg/kg	10 : 20 (Interlab)	0	<10	<20	0	<10	<20	0	<10				<10		
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10 : 20 (Interlab)	0	<10	<20	0	<10	<20	0	<10				<10		
Total Fluoride	Fluoride	mg/kg	40 : 100 (Interlab)		1040	1400	30	**1340**	**310**	**125**	1040				1340		
TRH Volatiles/BTEX	Naphthalene (used F2 calc)	mg/kg	1 : 0.5 (Interlab)	0	<1	<0.5	0	<1	<0.5	0	<1				<1		
	Benzene	mg/kg	0.2 : 0.1 (Interlab)	0	<0.2	<0.1	0	<0.2	<0.1	0	<0.2				<0.2		
	Toluene	mg/kg	0.5 : 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5				<0.5		
	Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5				<0.5		
	m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5				<0.5		
	o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5				<0.5		
	Total Xylenes	mg/kg	0.5 : 0.3 (Interlab)	0	<0.5	<0.3	0	<0.5	<0.3	0	<0.5				<0.5		
	Total BTEX	mg/kg	0.2														
Benzo(a)pyrene- Waste Classification (TAS requirem	Benzo(a)pyrene	mg/kg	0.05 : 0.5 (Interlab)		**4.5**	**1.8 - 2.1**	**86**	**5**	**2.1 - 2.3**	**82**	4.5				5		
PAH/Phenols (GC/MS - SIM) (leached)	Naphthalene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Acenaphthylene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Acenaphthene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Anthracene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Fluorene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Phenanthrene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Fluoranthene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Benz(a)anthracene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Benzo(k)fluoranthene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Benzo(b&j)fluoranthene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Benzo(a)pyrene	µg/L	0.5		<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0	
	Chrysene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Pyrene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Benzo(g,h,i)perylene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Dibenz(a,h)anthracene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Indeno(1,2,3-cd)pyrene	µg/L	1		<1			<1			<1	<1	0	<1	<1	0	
	Sum of PAHs	µg/L	0.5 : 1 (Interlab)		<0.5			<0.5			<0.5	<1	0	<0.5	<1	0	
PAH/Phenols (SIM)	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	16	**13.4**	**2.9**	**129**	**6.9**	**3.4**	**68**	13.4			6.9			
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	16	**13.4**	**2.7**	**133**	**6.9**	**3.1**	**76**	13.4			6.9			
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	16	**13.4**	**3.2**	**123**	**6.9**	**3.6**	**63**	13.4			6.9			
	Naphthalene	mg/kg	0.5	74	0.8	<0.5	46	1.2	<0.5	82	0.8			1.2			
	Acenaphthylene	mg/kg	0.5	46	3.2	<0.5	146	0.7	0.5	33	3.2			0.7			
	Acenaphthene	mg/kg	0.5	0	0.5	<0.5	0	<0.5	<0.5	0	0.5			<0.5			
	Anthracene	mg/kg	0.5	34	**5.1**	**<0.5**	**164**	1.3	<0.5	89	5.1			1.3			
	Fluorene	mg/kg	0.5	33	3.4	<0.5	149	0.5	<0.5	0	3.4			0.5			
	Phenanthrene	mg/kg	0.5	16	**26.5**	**1.3**	**181**	**5.6**	**1.3**	**125**	26.5			5.6			
	Fluoranthene	mg/kg	0.5	25	**22.4**	**1.7**	**172**	**8.2**	**2.8**	**98**	22.4			8.2			
	Benz(a)anthracene	mg/kg	0.5	41	**10**	**1.8**	**139**	4.5	2.2	69	10			4.5			
	Benzo(k)fluoranthene	mg/kg	0.5	**71**	4	1.4	96	2	2.2	10	4			2			
	Benzo(b&j)fluoranthene	mg/kg	0.5	36	**9.6**	**1.1**	**159**	**5.4**	**1.7**	**104**	9.6			5.4			
	Benzo(a)pyrene	mg/kg	0.5	22													
	Chrysene	mg/kg	0.5	37	**8.6**	**2.4**	**113**	4.1	2.6	45	8.6			4.1			
	Pyrene	mg/kg	0.5	19	**21.4**	**1.8**	**169**	**8.1**	**3.5**	**79**	21.4			8.1			
	Benzo(g,h,i)perylene	mg/kg	0.5	48	**5.2**	**1.6**	**106**	3	1.8	50	5.2			3			
	Dibenz(a,h)anthracene	mg/kg	0.5	25	1.4	<0.5	95	0.6	<0.5	18	1.4			0.6			
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	12	4.3	0.9	131	2.4	1.8	29	4.3			2.4			
	Sum of PAHs	mg/kg	0.5	17	**136**	**16**	**158**	**52.4**	**23**	**78**	136			52.4			

Table B1
Relative Percentage Differences
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

Field Duplicates (Soil)
Filter: Lab_Report_Number in('EM2315815','EM2310

Lab Report Number		EM2315815	1023335		EM2315815	1023335		EM2315815	1023335		EM2315815	1023335		EM2315815	1023335	
Field ID	**RPD**	PS-Pb-SP1-9	FD-IL-01	**RPD**	PS-Pb-SP2-8	FD-IL-02	**RPD**	PS-Pb-SP1-9	FD-IL-01	**RPD**	PS-Pb-SP2-8	FD-IL-02	**RPD**
Sampled Date/Time		1/09/2023 12:43	1/09/2023 12:43		1/09/2023 11:10	1/09/2023 11:10		1/09/2023 12:43	1/09/2023 12:43		1/09/2023 11:10	1/09/2023 11:10	

Method_Type	**ChemName**	**Units**	**EQL**													
PAHs (GC/MS - SIM) Low-Level (leached)	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.1													
	Naphthalene	µg/L	0.1													
	2-Methylnaphthalene	µg/L	0.1													
	Acenaphthylene	µg/L	0.1													
	Acenaphthene	µg/L	0.1													
	Anthracene	µg/L	0.1													
	Fluorene	µg/L	0.1													
	Phenanthrene	µg/L	0.1													
	Fluoranthene	µg/L	0.1													
	Benz(a)anthracene	µg/L	0.1													
	Benzo(k)fluoranthene	µg/L	0.1													
	Benzo(b&j)fluoranthene	µg/L	0.1													
	Benzo(a)pyrene	µg/L	0.05													
	Chrysene	µg/L	0.1													
	Pyrene	µg/L	0.1													
	Benzo(g,h,i)perylene	µg/L	0.1													
	Dibenz(a,h)anthracene	µg/L	0.1													
	Indeno(1,2,3-cd)pyrene	µg/L	0.1													
	Sum of PAHs	µg/L	0.1													
PAH/Phenols (SIM)	3/4-Methylphenol (m/p-cresol)	mg/kg	1													
	Phenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5		
	2-Chlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5		
	2-Methylphenol (o-Cresol)	mg/kg	0.5 : 0.2 (Interlab)	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5			<0.5		
	2-Nitrophenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5			<0.5		
	2,4-Dichlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5		
	2,4-Dimethylphenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5		
	2,6-Dichlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5		
	4-Chloro-3-methylphenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5			<0.5		
	2,4,6-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5			<0.5		
	2,4,5-Trichlorophenol	mg/kg	0.5 : 1 (Interlab)	0	<0.5	<1	0	<0.5	<1	0	<0.5			<0.5		
	Pentachlorophenol	mg/kg	2 : 1 (Interlab)	0	<2	<1	0	<2	<1	0	<2			<2		
	Sum of Phenols	mg/kg	0.5													
Asbestos Identification in Soils	weight of sample	g	0.01													
Moisture Content	Moisture Content	%	1													
	Moisture Content	%	0.1													
Polychlorinated Biphenyls (PCB)	Polychlorinated Biphenyls	mg/kg	0.1		<0.1	<0.2	0	<0.1	<0.2	0	<0.1			<0.1		
Pesticides by GCMS	Aldrin	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Dieldrin	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Aldrin + Dieldrin	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	a-BHC	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	b-BHC	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	d-BHC	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	g-BHC (Lindane)	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	cis-Chlordane	mg/kg	0.05													
	trans-Chlordane	mg/kg	0.05													
	Chlordane	mg/kg	0.05 : 0.1 (Interlab)		<0.05	<0.1	0	<0.05	<0.1	0	<0.05			<0.05		
	DDD	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	DDE	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	DDT	mg/kg	0.2 : 0.05 (Interlab)		<0.2	<0.05	0	<0.2	<0.05	0	<0.2			<0.2		
	DDT+DDE+DDD	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endosulfan	mg/kg	0.05													
	Endosulfan 1	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endosulfan 2	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endosulfan sulfate	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endrin	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endrin aldehyde	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Endrin ketone	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Heptachlor	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Heptachlor epoxide	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Hexachlorobenzene (HCB)	mg/kg	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05		
	Methoxychlor	mg/kg	0.2 : 0.05 (Interlab)		<0.2	<0.05	0	<0.2	<0.05	0	<0.2			<0.2		
Asbestos Identification in Soils	APPROVED IDENTIFIER:	-														
	Asbestos fibres	g/kg	0.1													
	Total Asbestos	-	--													
	Asbestos (Trace)	Fibres	5													
Total Cyanide by Segmented Flow Analyser	Cyanide Total	mg/kg	1 : 5 (Interlab)		**91**	**<5**	**179**	8	<5	46	91			8		
TCLP for Non & Semivolatile Analytes - Glass Leach	pH (Final)	pH Units	0.1													
	pH (Initial)	pH Units	0.1													
	pH (after HCL)	pH Units	0.1													

*RPDs have only been considered where a concentration is greater than 1 times the EQL
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10
***Interlab Duplicates are matched on a per compound basis as methods vary between la

Table B2a
Analytical Results - Trip and Rinsate Blanks - Liquid
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

AECOM

				PAH/Phenols (GC/MS - SIM)																												Total Mercury by FIMS	Total Metals by ICP-MS - Suite A						
				3/4-Methylphenol (m/p-cresol)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	Mercury	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				2	0.5	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1	0.5	1	1	1	1	1	1	1	1	1	2	0.0001	0.001	0.0001	0.001	0.001	0.001	0.001
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																																					
DL_QCB06	7/03/2023	EM2304035	Rinsate	<2	<0.5	3.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	3.2	15.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<0.0001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001
UST_QCB09	28/03/2023	EM2305446	Rinsate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-
OL_EX_QCB10	3/04/2023	EM2305901	Rinsate	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	-	-	-	-	-	<0.001	-
OL_EX_QCB12	23/05/2023	EM2309346	Rinsate	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	-	-	-	-	-	<0.001	-
OL_EX_QCB14	7/06/2023	EM2310229	Rinsate	<2	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<0.0001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001
RH_QCA03	6/03/2023	EM2304035	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_QCA07	28/03/2023	EM2305446	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCA08	3/04/2023	EM2305901	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCA10	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UST_EXT_QCA11	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCA14	7/06/2023	EM2310229	Trip_B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B2a
Analytical Results - Trip and Rinsate Blanks - Liquid
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

				TRH - Semivolatile Fraction										TRH Volatiles/BTEX										
				Zinc	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
				mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.005	50	100	50	50	100	100	100	100	100	5	20	20	20	1	2	2	2	2	2	1
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																					
DL_QCB06	7/03/2023	EM2304035	Rinsate	<0.005	<50	<100	<50	<50	<100	<100	<100	<100	<100	<5	<20	<20	<20	<1	<5	<2	<4	<2	<2	<1
UST_QCB09	28/03/2023	EM2305446	Rinsate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OL_EX_QCB10	3/04/2023	EM2305901	Rinsate	-	<50	<100	<50	<50	<100	<100	<100	<100	<100	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCB12	23/05/2023	EM2309346	Rinsate	-	<50	<100	<50	<50	<100	<100	<100	<100	<100	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCB14	7/06/2023	EM2310229	Rinsate	<0.005	<50	<100	<50	<50	<100	<100	<100	<100	<100	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
RH_QCA03	6/03/2023	EM2304035	Trip_B	-	-	-	-	-	-	-	-	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
UST_QCA07	28/03/2023	EM2305446	Trip_B	-	-	-	-	-	-	-	-	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCA08	3/04/2023	EM2305901	Trip_B	-	-	-	-	-	-	-	-	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCA10	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
UST_EXT_QCA11	23/05/2023	EM2309346	Trip_B	-	-	-	-	-	-	-	-	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1
OL_EX_QCA14	7/06/2023	EM2310229	Trip_B	-	-	-	-	-	-	-	-	-	-	<5	<20	<20	<20	<1	<2	<2	<2	<2	<2	<1

Table B2v
Analytical Results - Trip and Rinsate Blanks - Solid
Stockpile Remediation Validation and Waste Management Plan - PS-Pb-SP1 and PS-Pb-SP2
Macquarie Point Development Project

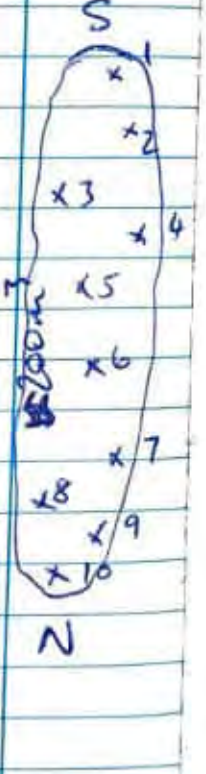
						Inorganic	Organic				TRH Volatiles/BTEX											Volatile					
						Moisture Content (dried @ 103°C)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Naphthalene (used F2 calc)	C6-C9 fraction	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes
						%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						1	0.5	20	20	20	1	10	10	10	0.2	0.5	0.5	0.5	0.5	0.5	0.2	0.1	0.1	0.1	0.2	0.1	0.3
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**	**Sample_Type**																							
TB02		1/09/2023	EM2315815	Trip_B		-	-	-	-	-	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	-	-
TB03		1/09/2023	EM2315815	Trip_B		-	-	-	-	-	<1	<10	<10	<10	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	-	-
TRIP BLANK		23/05/2023	978719	Trip_B		1.2	<0.5	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
TRIP BLANK		23/05/2023	993445	Trip_B		1	<0.5	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3

AECOM

Appendix C

Field Notes

			PID ppm	
QCA03	TB			6/3
QCB05	FB			↓
RH_SP_01			0	6/3
02			0	
03			0	
04			0	
39 05			0	
QCB06				7/3
DL_SP_01	QC103	QC203	0	
02			0	
03			0	
04			0	
05			0	
06			0	
07			0	
08			0	
09			0	
9 10	QC104	QC204	0	
DL_QC103	DL_SP_01			
DL_QC203	↓			
DL_QC104	DL_SP_10			
L_QC204	↓			



analysis includes 1B1ϕ5 + Asbestos presence absence in soil

6/3

Roundhouse stockpile sample mixed fill from stabilisation trial

7/3

~~Diesel~~ Diesel line stockpile sampling + some mixed with oil line

$\approx$ 200 m^3 bulked.

Mixed fill gravelly clayey sand/ gravelly sandy clay. f-c sand, m-h plas fines moist / $\leq$PL, f-c gravel, cobbles + trace boulders.

bricks, glass, ceramics, leather metal - iron, silver, copper, bones slag, wood/organic ash + cinders coal; occasional fragments of pipe lagging (ACM), bitumen

- note approximate locations of samples along $\approx$65m long windrow. approximately equally spaced!

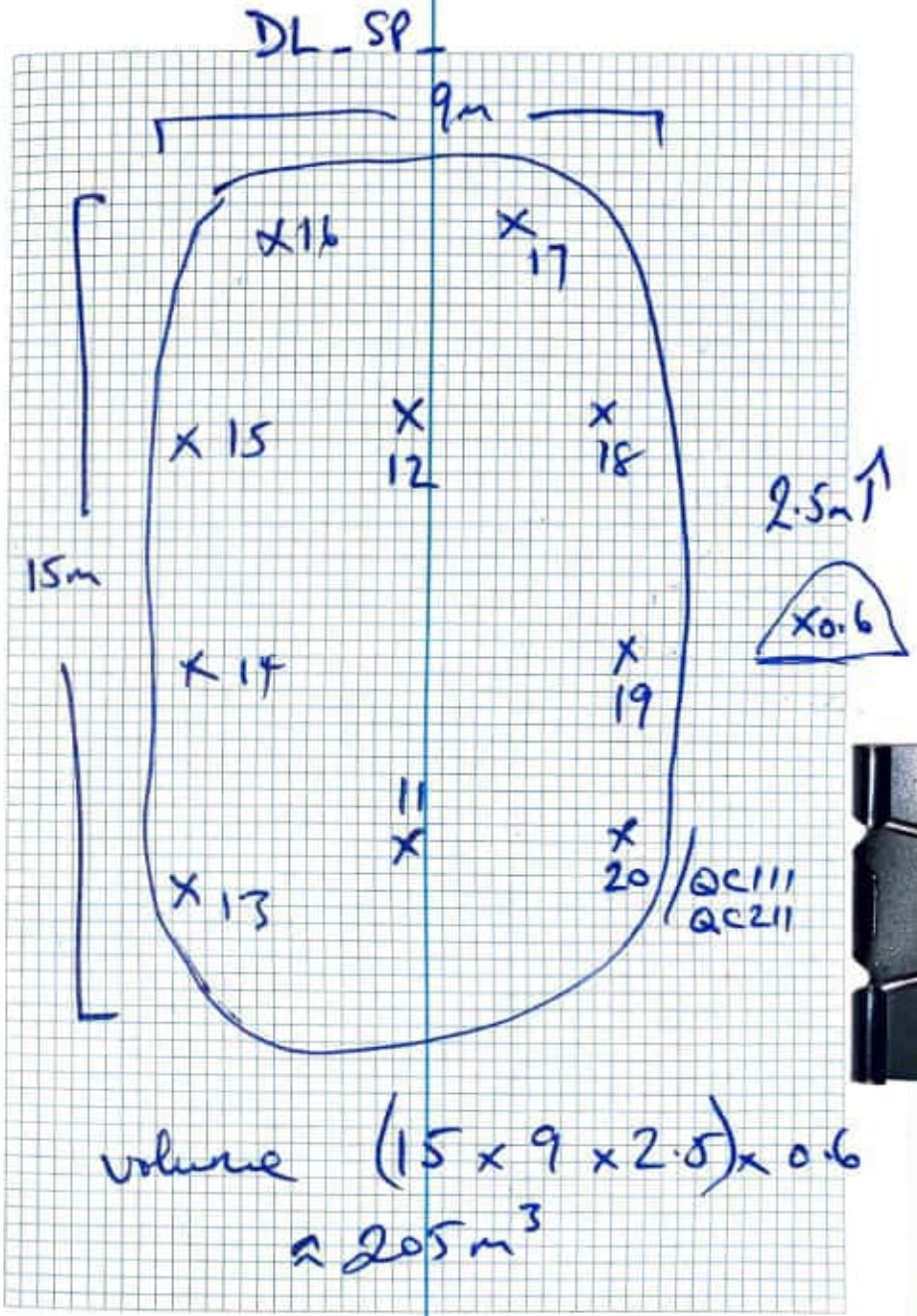
0.5 m^3 cut into stockpile + sample from spoil - 2x jars each.

28/3

Stockpile combined UST 0.5 - 2.0 + ch 77-80

Stockpile DL + some OL mix - Pb + ACM
≈ 9 x 15 x 2.5 = 135 x 2.5 = 270 + 67.5 = 340 m³
340 x 0.6 = 205 m³

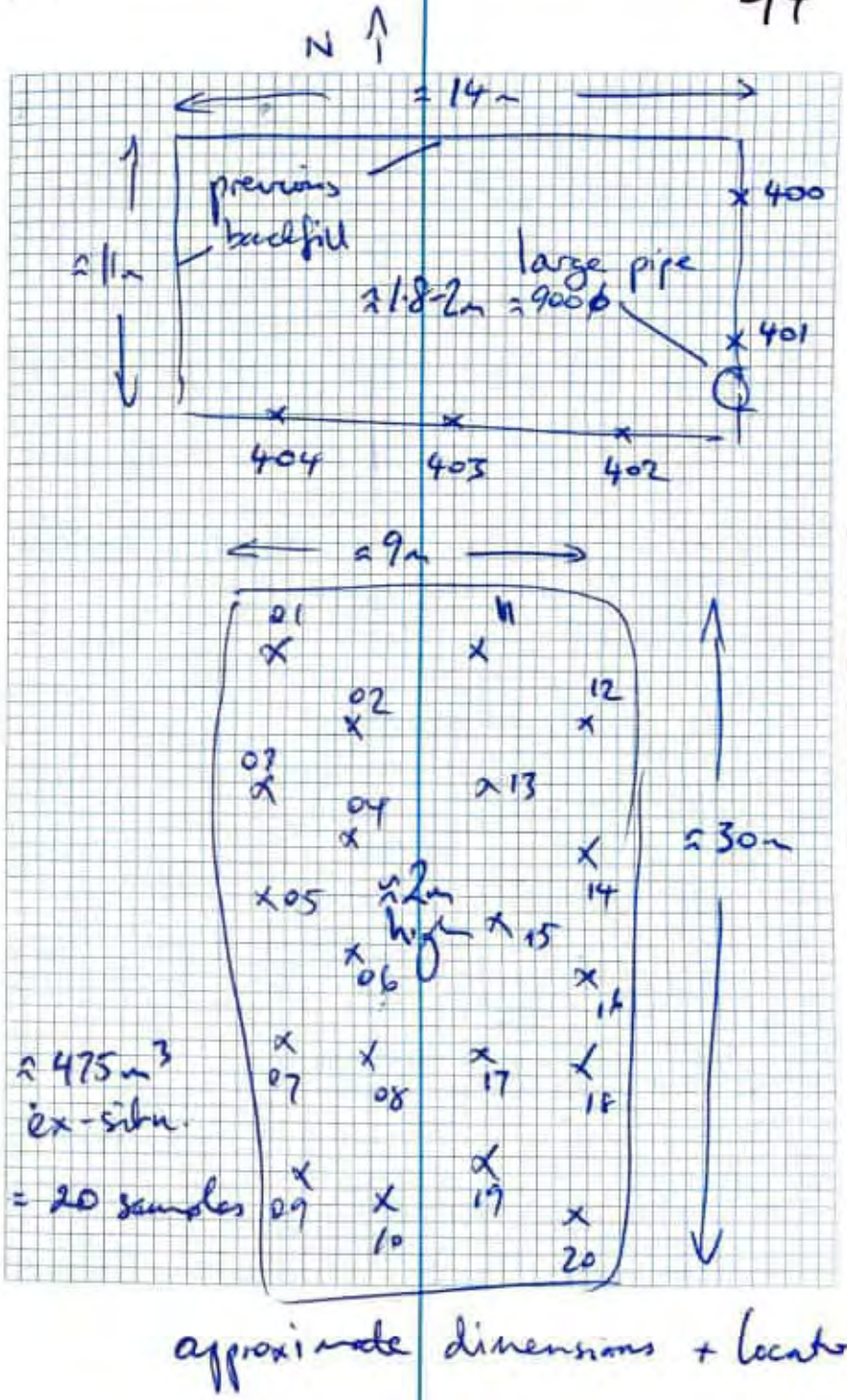
Stockpile relocated from window beside DL trench. Mixing of some OL material with DL meant that material has all been combined into a single stockpile. ACM fragments (bonded bitumen pipe wrap) observed on surface of stockpile. IPM to assess AECOM resample for Pb. due to mixing of very high sample from OL_53



			PID	
DL_SP_	11	28/3	0	
	12		0	
	13		0	
	14		0	
	15		0	
	16		0	
	17		0	
	18		0	
	19		0	
	20		0	DL_QC111 DL_QC211
DL_QC407	TB			
DL_QCB04	RB			under glove
DL_QCC04	FB			

Compass 50529

DL_EX_400	0.8	3/4	0	
	1.6		0	
401	0.8		0	
	1.6		0	
402	0.8		0	
	1.6		0	
403	0.8		0	
	1.6		0	DL_EX_QC112/DL_EX_QC02
404	0.8		0	
	1.6		0	



approximate dimensions + locations

3/4 -

compass 50528 24h TAT

	PID
OL_EX_SP1_01	0
02	0
03	0
04	0
05	0
06	0
07	0
08	0
09	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
OL_EX_QCA08	
OL_EX_QCB10	
OL_EX_QCC05	

3/4 OL_EX_SP1_QC113/QC213

OL_EX_SP1_QC114/QC214

3/4 -

Lead area excavation extension

0.0-0.5 m asphalt underlain by cobble gravel roabase.

0.5-2.0 mixed layers of fill variable + consisting: sandy gravelly cobbly CLAY. dark brown + orange brown f-c sand, f-c gravel, cobbles to boulders. M-h plas fines

General wastes mixed in fill: bricks, glass, ceramics metal objects, leather, bones coal + slag/coal ash, barley work (beer waste)

one piece of lead pipe found on stockpile

two pieces ACM (bonded) ~ 5cm x 4cm found on stockpile

no odour or staining.

23/5

		PID			
OL_EX_SP2_	01	0	QC118 / QC218		
	02	0			
	03	0			
	04	0			
OL_EX_SP3_	01	0			
	02	0			
	03	0			
OL_EX_SP4_	01	0		potential ACM fragment	
	02	0			
	03	0			
OL_EX_SP5_	01	0			
(ACM)	02	0			
	03	0			
OL_EX_SP6_	01	0	QC120 / QC220	very slight	
([redacted]CN)	02	0		degraded HC	
	03	0		phenolic odours	

QL_EX_QC118 / QC218
OL_EX_QC120 / QC220
OL_EX_QCA16
OL_EX_QCB12
OL_EX_QCC07

27/5

OL_EX_SP2 ≈ 8 x 8 x 2.5 = 160 x 0.6
≈ 96 m³
First extension of OL EX Pb over ≈5m to south, 14m length of wall

OL_EX_SP3 ≈ 8 x 6 x 2.5 = 960 x 0.6
≈ 58 m³
eastern extension of OL EX Pb over east of unknown UST + OL_EX_409
5 x 5 x 2m excavation around UST.

OL_EX_SP4 ≈ 10 x 4 x 2 = 80 x 0.6
(EAST) ≈ 48 m³
second extension south of OL EX Pb over eastern third of wall excavation over south of OL EX 410 + 408

OL_EX_SP5 ≈ 8 x 4 x 2 = 64 x 0.6
(CENTRE) ≈ 38 m³
second extension of OL EX Pb over middle third of wall extension over south of OL EX 407 and potential ACM

OL_EX_SP6 ≈ 7 x 4 x 2 = 56 x 0.6
(WEST) ≈ 62 m³
second extension of OL EX Pb over western third of wall excavation over south of OL_EX_406 and potential "Prussian blue"

6/6

		PID
OL_EX_SP7_01		0
↓	02	0
	03	0
OL_EX_SP8	01	11
↓	02	3
	03	3
OL_EX_QCA14		TB
OL_EX_QCB14		Rinsate
OL_EX_QCC09		Field

6/6

UST_SP ≈ 6 × 15 = 90 × 2 = 180 × 0.6 ≈ 108 m³

UST EXT SP8 ≈ 66 m³

approximate volumes of HC stockpiles turned + treated

SP7 - eastern extension towards fence of lead chase area. Cobble + boulder fill over concrete slab. 0-0.8m
≈ 5m × 2m × 0.8 = 8 × 1.6 = 13 m³

SP8 western extension of lead chase area, mixed fill with slight to moderate degraded hydrocarbon odour towards base where groundwater encountered (≈ 1.8m)
≈ 5 × 5 × 2 = 50 × 1.6 ≈ 78 m³

SP1 8 × 36 × 2 = 576 × 0.6 ≈ 345 m³ &

SP1 + SP2 ≈ 450 m³ Pb treatment volume.

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Daily Running Sheet

Date: 01/09/23	Project Name: Macquarie Pt stockpile sampling
Job Number: JN23482	Client: AECOM
Location Details: Macquarie Point	Personnel: AH

Weather: Sunny / partly-cloudy. wind.

Time	Log
0830	Prepare fieldsheets & equip for sampling onsite.
1000	sign in to Mac Pt office.
1025	sample PS-Pb-SP2 → see fieldsheet for sample times
1110	*FD02 & FD-1L-02 collected @ PS-Pb-SP2-8
	sample PS-Pb-SP1 → see fieldsheet for sample times
1243	*FD01 & FD-1L-01 collected @ PS-Pb-SP1-9
1434	FB02
1436	RB02
1450	sign out of site.
1500	Return to office. Preparat^{n} of COC & eskey packaging.

Signoff AJe

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Stockpile Sampling Location Sketch Sheet

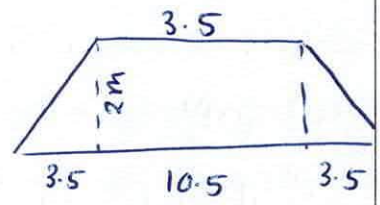
Date: 01/09/23	Project Name: Macquarie Pt stockpile Samplings
Job Number: JN23482	Client: AECOM
Location Details: Macquarie Point	Personnel: AH

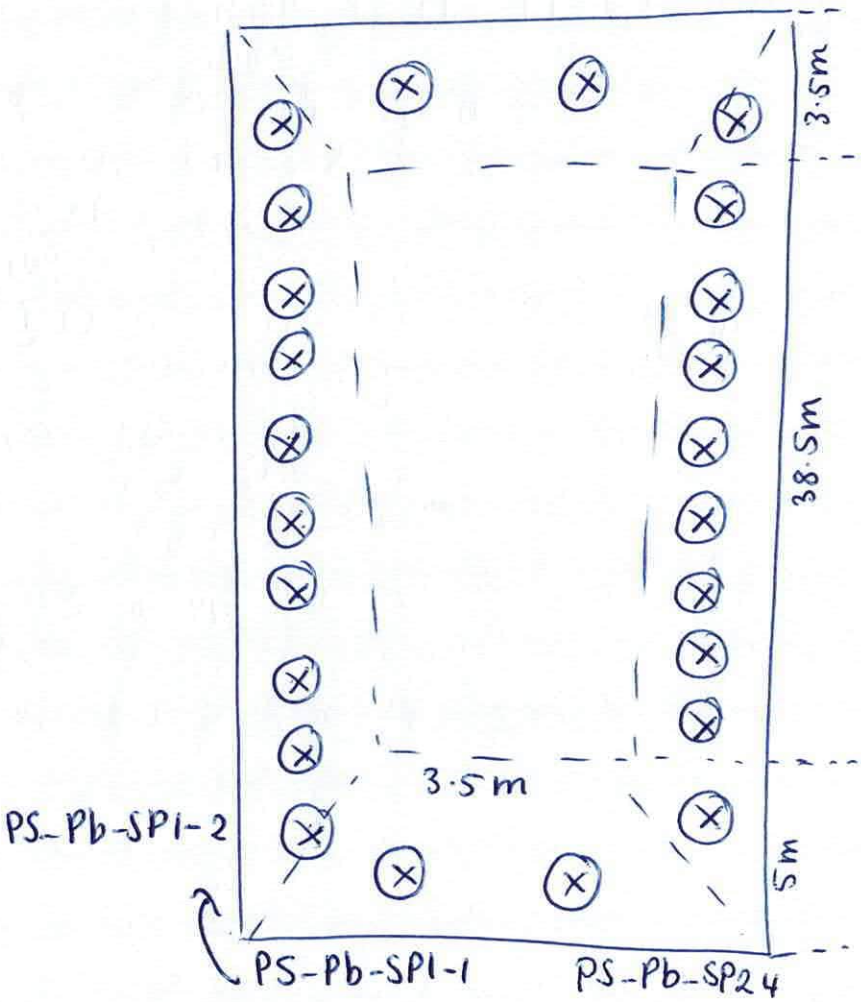
Stockpile ID PS-Pb-SP1

Field Sketch & Observations

Mostly dry with plastic/paper bag fragments throughout, and a lot of glass & ceramic fragments. No noticeable odour.

*stockpile ~ 2m high





Volume estimate: 613m³ ∴ 24 samples (+ QA/QC)

Signoff cdfe

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Stockpile Sampling Observation Sheet

Date: 01/09/23	Project Name: Macquarie Pt Stockpile Sampling
Job Number: JN23482	Client: AECOM
Location Details: Macquarie Point	Personnel: AH

Sample ID	PID (PPM)	Observations	
PS-Pb-SP1-1	0.0	Slightly moist. Brown, gravel, fragments of paper/plastic bags, glass, rocks dark brown, coal fragment & brick	1200
-2	0.0	slightly moist, dark brown, gravel, ceramic & brick fragments	1207
-3	0.0	slightly moist, brick & ceramic fragments, rocks & gravel, dark brown	1211
-4	0.0	Slightly moist, paper/plastic bag fragments, gravel & rocks, ceramic dark brown	1215
-5	0.0	light brown, paper/plastic bag fragments, rock & gravel	1217
-6	0.0	slightly moist, dark brown, ceramic & rock fragments, piece of cable/wire	1230
-7	0.0	slightly moist, fragments of ceramic & glass. Rocks & gravel.	1233
-8	0.0	dark brown, fragments of brick, ceramic, plastic & glass, paper bag fragments, rock & gravel	1239
-9	0.0	slightly moist, fragments of paper/plastic bag & glass, rocks & gravel	1243
-10	0.0	slightly moist, large amounts glass/ceramics; fragments of paper/plastic bags, rocks & gravel	1252
-11	0.0	dark brown, glass & ceramic fragments, pieces of paper/plastic bags, rocks & gravel	1305
-12	0.0	dark brown, plastic/paper bag fragments, rocks, glass & ceramics	1310
-13	0.0	Dry, rock & gravel, fragments of paper/plastic bag & glass	1314
-14	0.0	Dry, rocks & gravel; fragments of paper/plastic bag. ceramics	1318
-15	0.0	Dry, rocks/gravel. Fragments of paper/plastic bag. Glass & ceramics	1323
-16	0.0	Dry, gravel & rocks, plastic/paper bag fragments and glass	1335
-17	0.0	Dry, plastic/paper bag fragments & glass. Rocks/gravel.	1340
-18	0.0	Dry, plastic/paper bag and glass fragments. Rocks & gravel	1346
-19	0.0	Dry, gravel & rocks, paper/plastic fragments, glass & ceramics	1350
-20	0.0	Dry, gravel & rocks & plastic/paper bag fragments and glass.	1355
-21	0.0	Dry, gravel & plastic/paper bag fragments. Rocks & glass.	1409
-22	1.2	Dry/powdery & rocks & gravel; fragments of paper/plastic bag & glass.	1415
-23	0.0	Dry & powdery & gravel, glass & paper/plastic bag fragments.	1420
-24	0.0	Dry & gravel, rocks, ceramic fragments.	1425

Signoff

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Daily Running Sheet

Date: 01/09/23	Project Name: Macquarie Pt stockpile sampling
Job Number: JN23482	Client: AECOM
Location Details: Macquarie Point	Personnel: AH

Weather: Sunny / partly-cloudy. wind.

Time	Log
0830	Prepare fieldsheets & equip for sampling onsite.
1000	sign in to Mac Pt office.
1025	sample PS-Pb-SP2 → see fieldsheet for sample times
1110	*FD02 & FD-1L-02 collected @ PS-Pb-SP2-8
	sample PS-Pb-SP1 → see fieldsheet for sample times
1243	*FD01 & FD-1L-01 collected @ PS-Pb-SP1-9
1434	FB02
1436	RB02
1450	sign out of site.
1500	Return to office. Preparat^{n} of COC & eskey packaging.

Signoff AJe

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Stockpile Sampling Location Sketch Sheet

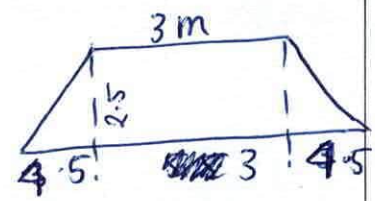
Date: 01/09/23	Project Name: Macquarie Pt Stockpile Sampling
Job Number: JN23482	Client: AECOM
Location Details: Macquarie Point	Personnel: AH

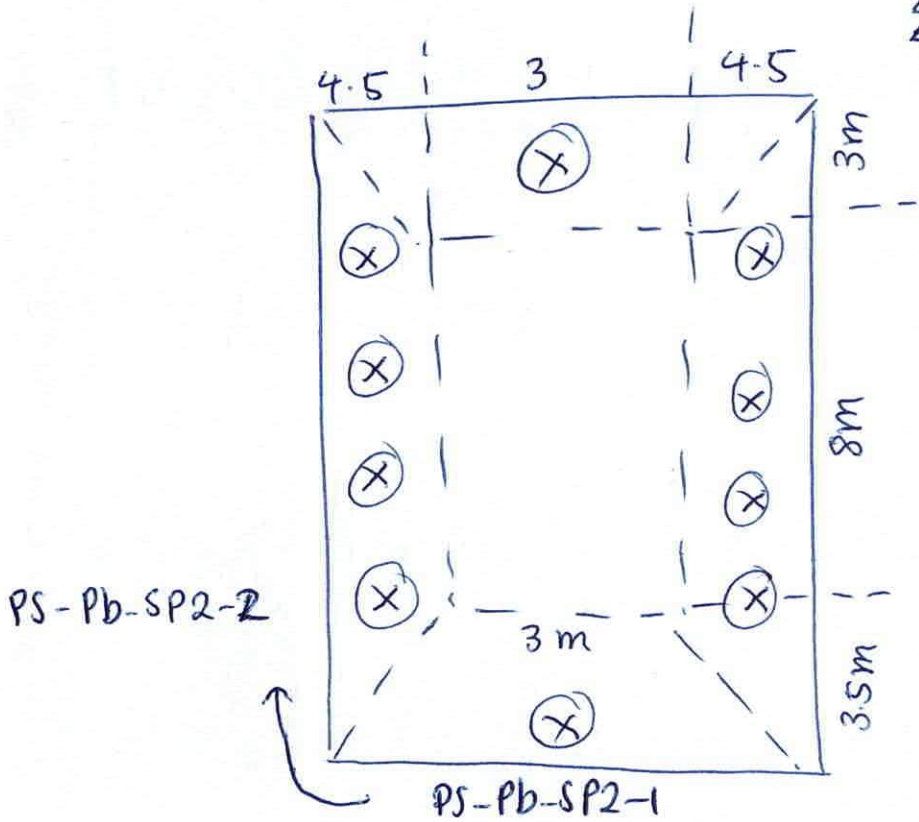
Stockpile ID PS-Pb-SP2

Field Sketch & Observations

Mostly dry with a lot of glass/ceramic fragments & paper/plastic bag pieces throughout. Some brick/building waste. No odour.

* Stockpile ~ 2.5m high





Volume estimate: $248m^3$ ∴ 10 samples (+ QA/QC)

Signoff

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Stockpile Sampling Observation Sheet

Date: 01/09/23	Project Name: Macquarie Pt stockpile sampling
Job Number: JN23482	Client: AECOM
Location Details: Macquarie Point	Personnel: AH

Sample ID	PID (PPM)	Observations	
PS-Pb-SP2-1	0.0	very dry, gravel & rocks, glass fragments, pieces of paper & plastic bag mixed Through	1027
-2	0.0	slightly moist, dark brown, gravel, fragments of glass and paper/plastic bag mixed through	1033
-3	0.0	slightly moist, dark brown, fragments glass & ceramic, rocks, paper/plastic bag mixed Through	1039
-4	0.0	Slight dry, gravel, fragments of glass & paper/plastic bag, rocks	1043
-5	0.0	slightly dry, gravel, fragments of ceramic & paper/plastic bag, grave rocks.	1046
-6	0.0	slightly dry, dark brown, fragments of paper/plastic bag, gravel rocks & glass fragments.	1057
-7	0.0	Dry, gravel, brick, glass & ceramic fragments, plastic/paper bag, rocks, plastic strapping	1101
-8	0.0	very dry, rocks, plastic/paper bag fragments, glass & ceramic fragments, gravel	1110
-9	0.0	very dry, rocks, gravel, plastic/paper bag fragments	1117
-10	0.0	very dry, rocks, ceramic fragments, paper/plastic bag pieces, gravel.	1123

Signoff

Stockpile PS-Pb-SP1



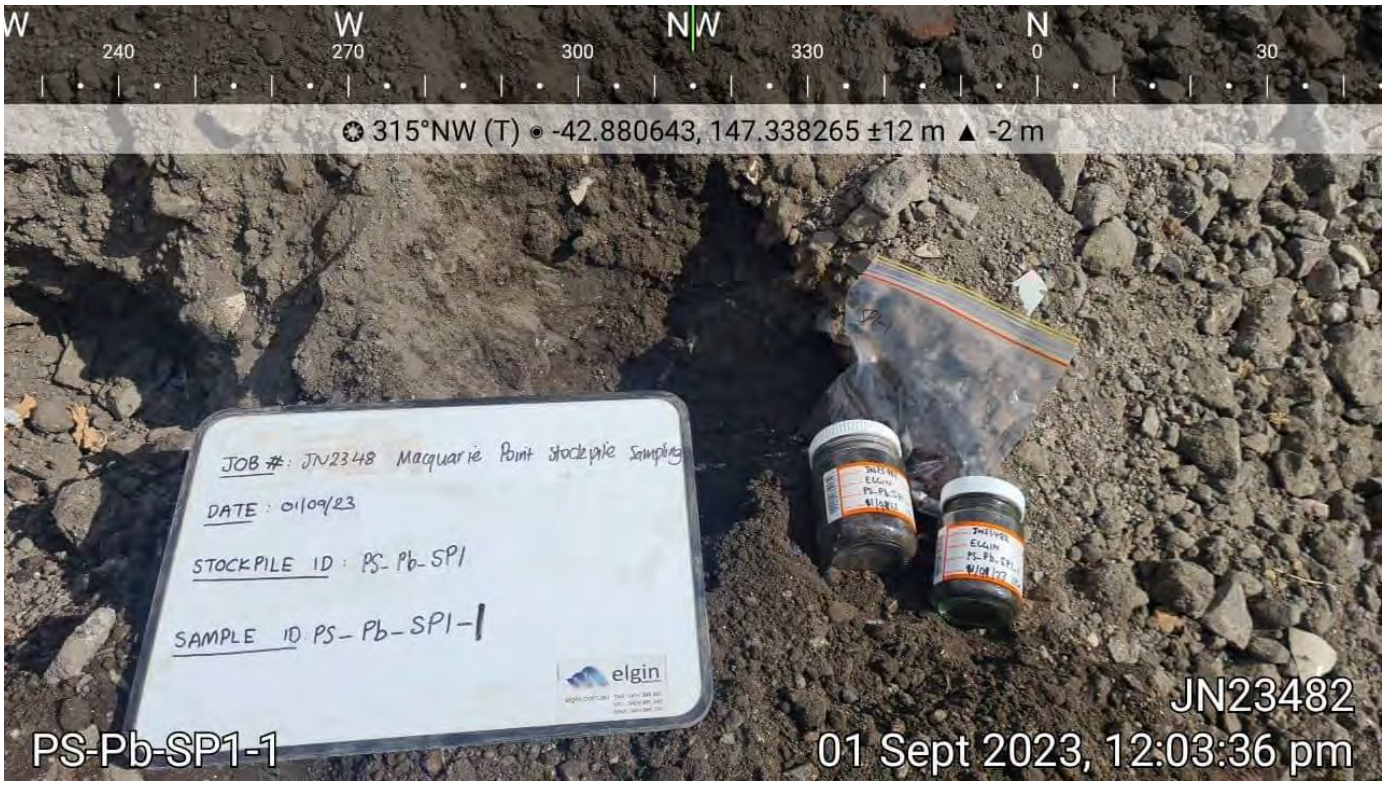



S
180
SW
210
240
W
270
300
NW
330
260°W (T) -42.880752, 147.338343 ±7 m ▲ 2 m
JN23482
PS-Pb-SP1
01 Sept 2023, 11:58:46 am


E
90
SE
120
150
S
180
210
SW
240
172°S (T) -42.880662, 147.338047 ±7 m ▲ 1 m
JN23482
PS-Pb-SP1
01 Sept 2023, 11:59:12 am



Stockpile PS-Pb-SP1-1



Stockpile PS-Pb-SP1-2



Stockpile PS-Pb-SP1-3



Stockpile PS-Pb-SP1-4



Stockpile PS-Pb-SP1-5



Stockpile PS-Pb-SP1-6



Stockpile PS-Pb-SP1-7



Stockpile PS-Pb-SP1-8



Stockpile PS-Pb-SP1-9



Stockpile PS-Pb-SP1-10



Stockpile PS-Pb-SP1-11



Stockpile PS-Pb-SP1-12



Stockpile PS-Pb-SP1-13



Stockpile PS-Pb-SP1-14



Stockpile PS-Pb-SP1-15



Stockpile PS-Pb-SP1-16



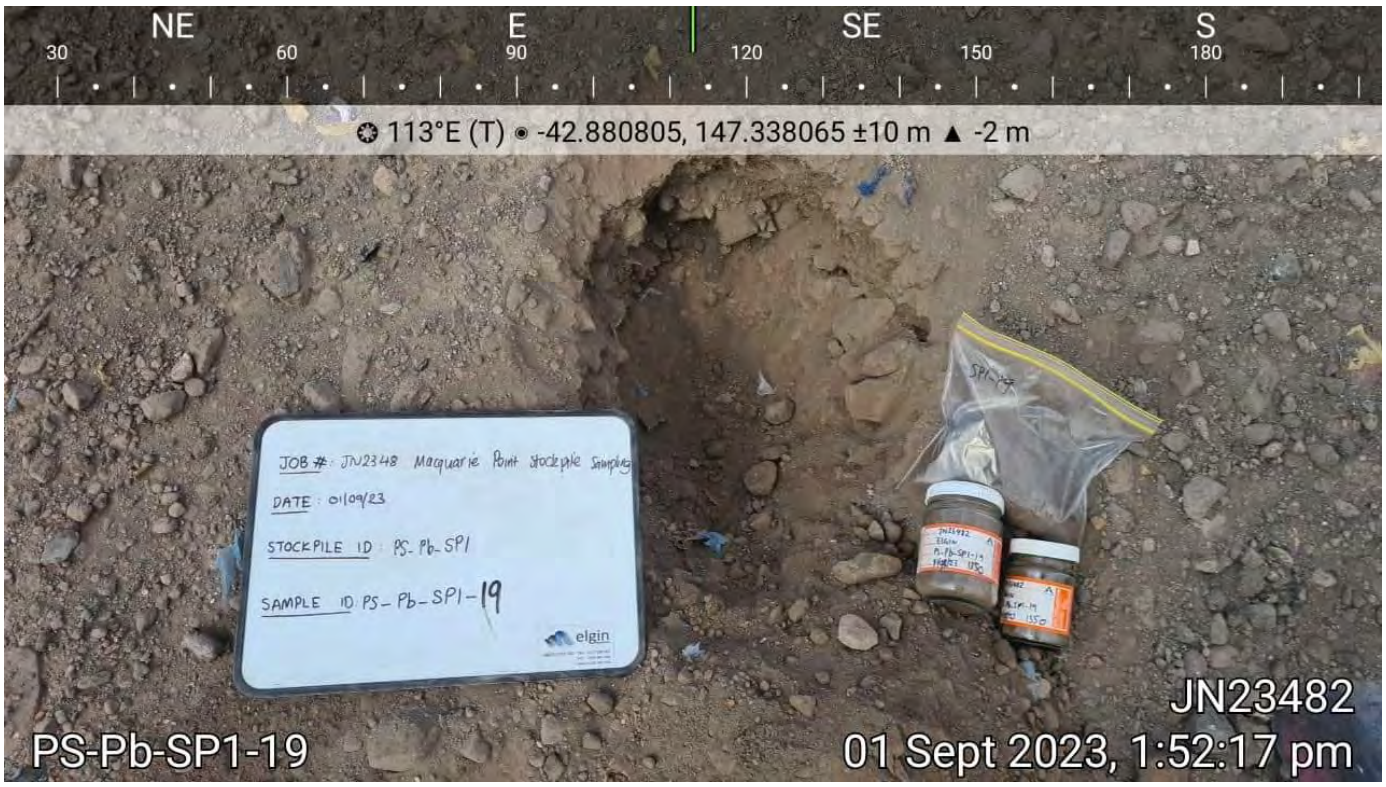
Stockpile PS-Pb-SP1-17



Stockpile PS-Pb-SP1-18



Stockpile PS-Pb-SP1-19



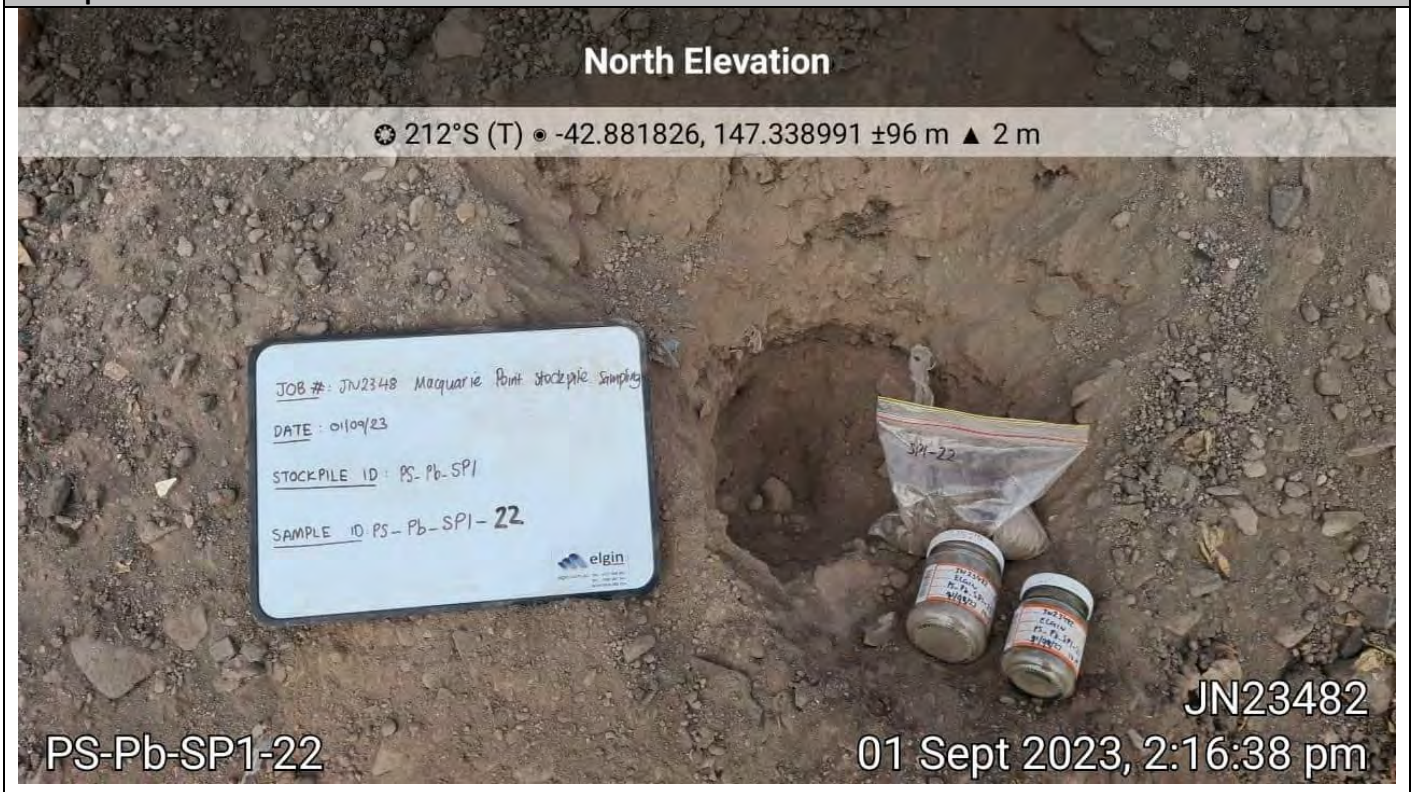
Stockpile PS-Pb-SP1-20



Stockpile PS-Pb-SP1-21



Stockpile PS-Pb-SP1-22



Stockpile PS-Pb-SP1-23



Stockpile PS-Pb-SP1-24



Stockpile PS-Pb-SP2





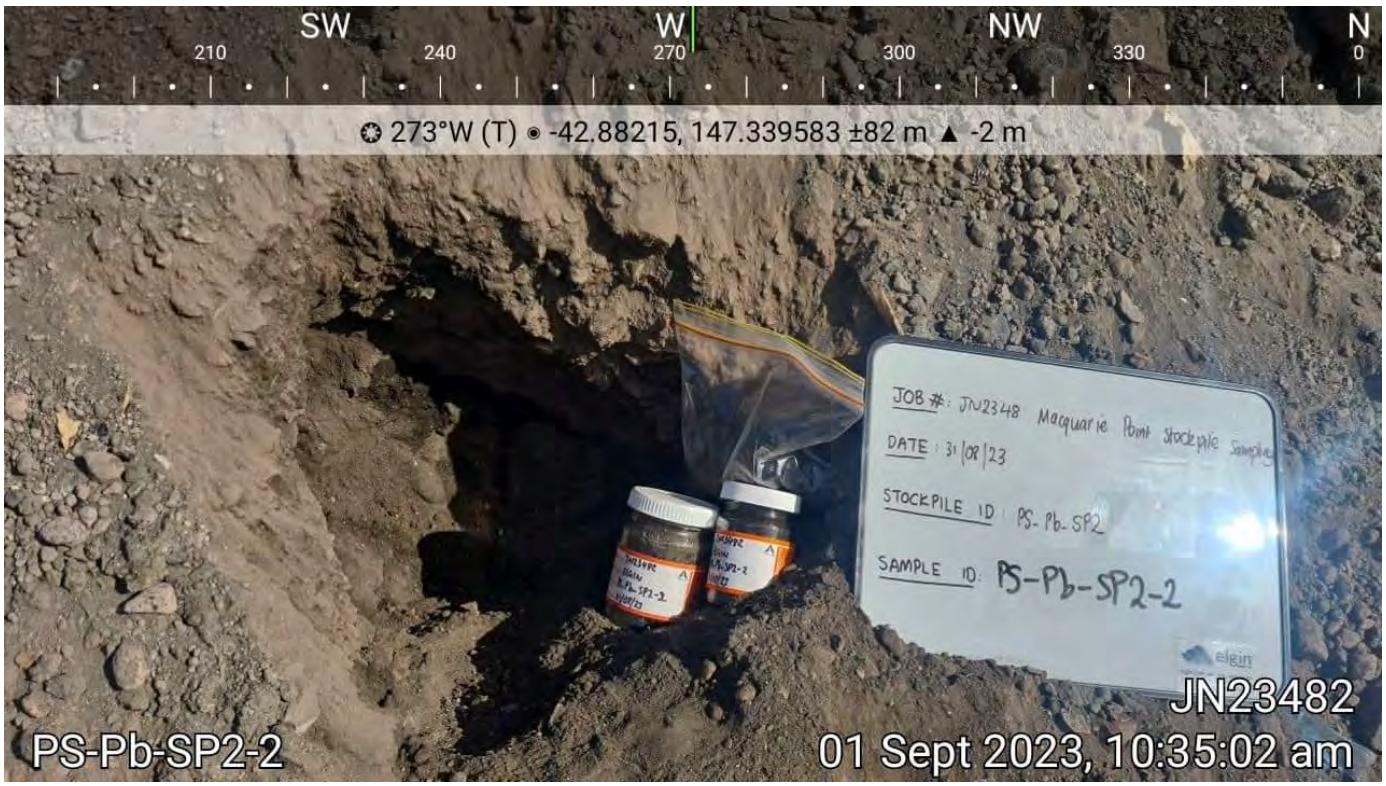

SE
120
150
S
180
210
SW
240
W
270
182°S (T) -42.881066, 147.338033 ±7 m ▲ -2 m
JN23482
PS-Pb-SP2
01 Sept 2023, 10:21:30 am


NW
300
330
N
0
30
NE
60
E
90
15°N (T) -42.881315, 147.337976 ±7 m ▲ -2 m
JN23482
PS-Pb-SP2
01 Sept 2023, 10:22:04 am

Stockpile PS-Pb-SP2-1



Stockpile PS-Pb-SP2-2



Stockpile PS-Pb-SP2-3



Stockpile PS-Pb-SP2-4



Stockpile PS-Pb-SP2-5



Stockpile PS-Pb-SP2-6



Stockpile PS-Pb-SP2-7



Stockpile PS-Pb-SP2-8



Stockpile PS-Pb-SP2-9



Stockpile PS-Pb-SP2-10



Appendix G

Pipeline Cladding ACM Assessment

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No. 19794.

Asbestos Identification Report

Report: ID23101

Asbestos identification performed in accordance with AS 4964-2004 *Method for the qualitative identification of asbestos in bulk samples* and in-house method M036 Asbestos Fibre Identification by Polarised Light Microscopy including Dispersion Staining. This document shall not be reproduced except in full.

Client	Purchase Order
Aegis AC	-
Client Address	Received in Lab
Unit 2 # 4 Lampton Avenue, Derwent Park, TAS 7009	28.02.2023
Sample Address	Date of Analysis
16A Evans St	28.02.2023
Sample Collected By	Date of Report
Client	28.02.2023

Sample Number	Location - Sample Description	Sample Mass (g)	Asbestos Observed	Result by PLM
230179	Location not stated, Oil pipe coating – Black coloured hard material	26.1	No	-
230180	Location not stated, Oil pipe coating – Black coloured hard material	25.6	No	-
230181	Location not stated, Floor – Grey vinyl tile	21.5	No	-
	Location not stated, Floor – Adhesive		No	OF
230182	Location not stated, Diesel pipe coating – Black insulation	12.2	Yes	Chrysotile

Comments:

1. The results contained in this report relate only to the sample(s) submitted for testing, as received.
2. The sample address and location information are reported as provided by the person(s) indicated above in the "Sample Collected by" field.
3. The most common types of asbestos encountered in building materials are **Chrysotile**, **Amosite** and **Crocidolite**. **SMF** (Synthetic Mineral Fibre) is commonly known as glass fibre. **OF** (Organic Fibres) includes natural fibres and synthetic organic fibres.

Approved Identifier: Nomin-Erdene Battsengel

Approved Signatory: Nomin-Erdene Battsengel

Occupational Hygiene Services – Dust, Gas, Mist, Vapour, Fume, Noise Monitoring, PPE Fit Testing
Asbestos Services – Asbestos Registers, Asbestos Management Plans, Air Monitoring, Visual Clearances, Asbestos Identification
Workplace Health and Safety Consulting
Workplace Training

Occupational Hygiene Services – Dust, Gas, Mist, Vapour, Fume, Noise Monitoring, PPE Fit Testing
Asbestos Services – Asbestos Registers, Asbestos Management Plans, Air Monitoring, Visual Clearances, Asbestos Identification
Workplace Health and Safety Consulting
Workplace Training

HSR Consulting Pty Ltd
30 Patriarch Drive
Huntingfield, Tasmania, 7055
Office (03) 62272210
ABN 83 609 931 839

Appendix H

Waste Removal Records

hazellbros
P.O. Box 430
MOONAH 7009
Telephone: (03) 6277 7888
Facsimile: (03) 6273 4028

DOCKET

ORDER NO.

TRANSPORT · HEAVY HAULAGE · TIPPERS

Hirer: BLACK 6

A/c Address:

T287923

DATE 7/3/23

Job Location: Evans St to Copping

Details:

MINIMUM 2 HOURS WEEKDAYS · 4 HOURS WEEKENDS

DESCRIPTION	RATE	AMOUNT
Hourly Hire 3 @		
Standby @		
Tonnage		
Start Time: 9.00 Finish Time: 12-00		
Disposal Fees: Yes ☐ No. of Loads ____ / No ☐ No. of Loads ____		
	TOTAL	**$**

Customer's Signature:

Driver: JC Truck Unit No: 834 Trailer No: 301

PLEASE READ CONDITIONS OF CONTRACT ON REVERSE

CUSTOMER - WHITE · INVOICE - PINK · SUBCONTRACTOR - YELLOW

Recycal
your scrap metal recycler

10-12 Hale Street
Derwent Park TAS 7009
P: + 61 3 6273 1822

ABN 56 145 386 992

Recipient Created Tax Invoice

Purchase Docket RCTI330371

Supplier code - BLAGRO01

BLACKCAP CONSTRUCTION PTY LTD
VARIOUS SITES
DARCY 0488 533 845
TAS TOM 0417 610 486

DATE	PICK-UP DOCKET NO.	SUPPLIER DOCKET NO.	WEIGHBRIDGE DOCKET NO.
08.03.2023	113989		

ITEM CODE	DESCRIPTION	QUANTITY	PER	PRICE	VALUE
F05720	STEEL HMS MIXED	1700	KG	0.1400	238.00

The State governments through EPA are increasing the waste levy imposed on the metal recycling industry again from 1st July 2021. This is a charge imposed on metal recyclers when they dispose of waste that comes out of the process of metal recycling. It is important to note that only a small fraction of these levies are returned to the general recycling industry and most of this money goes direct to the governments consolidated revenue pool.
As you would be aware, a significant and increasing proportion of materials contain an ever increasing amount of non-metal materials. While we use our best endeavours to recycle these materials it is not always technically possible to do so.
We continue to make representation to governments regarding these cost increases and just how they impact our industry. Be assured that if the government changes its approach to our industry we will review the waste levy accordingly.

VEHICLE TYPE	REGISTRATION No.	LICENCE No.	BUYERS CODE
			NAT GEORGE

Subtotal $	238.00
GST $	23.80
TOTAL VALUE $	261.80
Paid $	261.80
Due $	0.00

Please keep for "E.P.A" Record of transaction - SECOND-HAND DEALERS RECORD BOOK - Second-Hand Dealers and Pawnbrokers Act 1989

Recycal
your scrap metal recycler

10-12 Hale Street
Derwent Park TAS 7009
P: + 61 3 6273 1822

ABN 56 145 386 992

Recipient Created Tax Invoice

Purchase Docket RCTI330375

Supplier code - BLAGRO01

BLACKCAP CONSTRUCTION PTY LTD
VARIOUS SITES
DARCY 0488 533 845
TAS TOM 0417 610 486

DATE	PICK-UP DOCKET NO.	SUPPLIER DOCKET NO.	WEIGHBRIDGE DOCKET NO.
09.03.2023	114008		

ITEM CODE	DESCRIPTION	QUANTITY	PER	PRICE	VALUE
F05720	STEEL HMS MIXED	3780	KG	0.1400	529.20

The State governments through EPA are increasing the waste levy imposed on the metal recycling industry again from 1st July 2021. This is a charge imposed on metal recyclers when they dispose of waste that comes out of the process of metal recycling. It is important to note that only a small fraction of these levies are returned to the general recycling industry and most of this money goes direct to the governments consolidated revenue pool.
As you would be aware, a significant and increasing proportion of materials contain an ever increasing amount of non-metal materials. While we use our best endeavours to recycle these materials it is not always technically possible to do so.
We continue to make representation to governments regarding these cost increases and just how they impact our industry. Be assured that if the government changes its approach to our industry we will review the waste levy accordingly.

VEHICLE TYPE	REGISTRATION No.	LICENCE No.	BUYERS CODE
			NAT GEORGE

Subtotal $	529.20
GST $	52.92
TOTAL VALUE $	582.12
Paid $	582.12
Due $	0.00

Please keep for "E.P.A" Record of transaction - SECOND-HAND DEALERS RECORD BOOK - Second-Hand Dealers and Pawnbrokers Act 1989

Veolia Environmental Services
ABN 20 051 316 584
PO Box 431 ROSNY TAS 7018
Phone : 03 6244 0000
www.veolia.com/anz

VEOLIA
ENVIRONMENTAL SERVICES

TAX Invoice No : 2701367109
CA Number : 7087103
Account Number : 70080198
Date : 16/05/2023
Page : 1 /1

BLACKCAP GROUP
MAC POINT
HOBART TAS 7000

ACCOUNT ENQUIRIES
Customer Hub: veolia.com/anz/customer-login
Email : accounts.wasantTAS@veolia.com
Phone : 13 29 55

PAYMENT CONTACT DETAILS
Email: remittance.VES@veolia.com

Site Number: 70080198
BLACKCAP GROUP
MAC POINT, HOBART TAS 7000

Reference	Date	Description	Docket No	Qty	Uom	Rate	Ex GST	GST	Total
700209752		COD - LIQUID COLLECTION SERVICE							
970976355	16/05/23	COD - LIQUID COLLECTION SERVICE		1.000	ST		1,062.50	106.25	1,168.75

Taxable Amount	**1,062.50**
Non-Taxable Amount	**0.00**
GST	**106.25**
Invoice Total	**1,168.75**

Credit Claims must be received in writing within 21 days of this invoice

PAYMENT OPTIONS

PLEASE DETACH AND RETURN WITH YOUR PAYMENT

DIRECT DEBIT
Please access our online Customer Hub or call 13 29 55

EFT **PAYMENTS** remit to
BSB : 342-312
Bank Account No: 200579007
Please forward remittance advice to
Email: remittance.VES@veolia.com

CHEQUE
For cheque payment, please send your cheque with this slip made payable to Veolia Environmental Services, GPO BOX 3940, SYDNEY NSW 2001

CREDIT CARD*
Please access our online Customer Hub or call 13 29 55 to pay using Visa/Mastercard
*A transaction fee of 1.40 % incl. GST will apply on payments made by Visa/MasterCard

BPAY
Biller Code: 216648
Reference: 700 801 988
Contact your participating financial institution to make this payment using your bank account

INVOICE NUMBER	2701367109
ACCOUNT NUMBER	70080198
PAYABLE BY	16/05/2023
TOTAL DUE	$1,168.75

City of Hobart
16 Elizabeth Street
HOBART TAS 7000
P 03 6238 2711
E accountsreceivable@hobartcity.com.au
ABN 39 055 343 428

Tax Invoice

Invoice No.	**SI257541**
Invoice Date	31/10/2023
Due Date	30/11/2023
Payment Terms	30 Days
Customer No.	D006267

Macquarie Point Development Corporation
41 Evans Street
HOBART TAS 7000

Attn: Richard Ziman

Description	GST %	Quantity	Unit	Unit Price	Amount
Tipbilling 16-31 October 2023	10	1	EA	24,845.44	24,845.44
LevyFees	10	1	EA	8,281.82	8,281.82
				Total Excl. GST	**33,127.26**
				10% GST	3,312.73
				Total Incl. GST	**36,439.99**

IMPORTANT NOTICE :

Invoices not paid by the due date will be subject to debt recovery procedures which may include referral to a collection agency without further notice.

Daily interest may be charged on overdue amounts if payment is not received by the invoice due date. The rate of interest for the period 1 July 2023 to 30 June 2024 is 9.85 per cent per annum.

If address details are incorrect, please advise in writing to email:accountsreceivable@hobartcity.com.au

PAYMENT METHODS

PAYMENT BY CREDIT CARDS AND EFTPOS BY PHONE

If making a phone payment please phone **(03) 6238 2190** and be ready to quote the invoice number to be paid, to the customer services officer. **Please Note:** a maximum payment limit of $3000.00 applies to credit card payments.

PAYMENT BY DIRECT BANK DEPOSIT

Account Name: Hobart City Council
Branch: 81 Elizabeth Street, Hobart, TAS, 7000
BSB Number: 067-000
Account Number: 10159311
Please Note: Use the customer number for the reference. If the payment applies to multiple invoices, please send details of the payment on or before the payment date by email to: **remittance@hobartcity.com.au**

PAYMENT IN PERSON

Please present this invoice when making your payment at the
City of Hobart Customer Service Centre, **16 Elizabeth Street**, **Hobart**.
Opening Hours: Monday to Friday, 8.15 am – 5.15 pm

PAYMENT BY CHEQUE

Cheques should be made payable to: **Hobart City Council.**
Please Note: receipts for cheques are subject to collection of money.
Post-dated cheques will not be accepted.

PAYMENT BY MAIL

These should be addressed to: **General Manager**
City of Hobart
GPO Box 503
Hobart TAS 7001

ENQUIRIES

LONG TERM CAR PARKING ENQUIRIES

Contact: Parking Administration
Telephone: (03) 6238 2150
Email: parkingadministration@hobartcity.com.au

ALL OTHER ENQUIRIES

Contact: Accounts Receivable Officer
Telephone: (03) 6238 2749 or (03) 6238 2786
Email: accountsreceivable@hobartcity.com.au

City of HOBART

Account Detail Report

Printed on 01/11/2023

Completed transactions from 16/10/2023 to 31/10/2023

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
Account : D006267 MACQUARIE POINT DEVELOPMENT CORPORATION												
865203	1:11 pm	*F89LQT*	MAC POINT CONTAMINATED SOIL			27.56 t	0.0 m3	0	$1503.27	$150.33	$551.20	$2204.80
865206	1:15 pm	*B02AF*	MAC POINT CONTAMINATED SOIL			10.22 t	0.0 m3	0	$557.45	$55.75	$204.40	$817.60
865221	1:34 pm	*XT24BH*	MAC POINT CONTAMINATED SOIL			10.74 t	0.0 m3	0	$585.82	$58.58	$214.80	$859.20
865240	1:57 pm	*F89LQT*	MAC POINT CONTAMINATED SOIL			28.70 t	0.0 m3	0	$1565.45	$156.55	$574.00	$2296.00
865242	1:59 pm	*B02AF*	MAC POINT CONTAMINATED SOIL			11.94 t	0.0 m3	0	$651.27	$65.13	$238.80	$955.20
865254	2:18 pm	*XT24BH*	MAC POINT CONTAMINATED SOIL			10.44 t	0.0 m3	0	$569.45	$56.95	$208.80	$835.20
865273	2:45 pm	*F89LQT*	MAC POINT CONTAMINATED SOIL			28.76 t	0.0 m3	0	$1568.73	$156.87	$575.20	$2300.80
865279	2:57 pm	*XT24BH*	MAC POINT CONTAMINATED SOIL			10.96 t	0.0 m3	0	$597.82	$59.78	$219.20	$876.80
865304	3:47 pm	*XT24BH*	MAC POINT CONTAMINATED SOIL			13.64 t	0.0 m3	0	$744.00	$74.40	$272.80	$1091.20
Date	**23-Oct-2023**											
865557	8:07 am	*XT24BH*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		12.52 t	0.0 m3	0	$682.91	$68.29	$250.40	$1001.60
865581	9:29 am	*XT24BH*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		13.84 t	0.0 m3	0	$754.91	$75.49	$276.80	$1107.20
865607	10:32 am	*XT24BH*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		9.12 t	0.0 m3	0	$497.45	$49.75	$182.40	$729.60
Total for this Account for this report						**455.50 t**	**0.0 m3**	**0**	**$24,845.44**	**$2484.56**	**$9,110.00**	**$36,440.00**

City of Hobart
16 Elizabeth Street
HOBART TAS 7000
P 03 6238 2711
E accountsreceivable@hobartcity.com.au
ABN 39 055 343 428

Tax Invoice

Invoice No.	**SI257654**
Invoice Date	02/11/2023
Due Date	02/12/2023
Payment Terms	30 Days
Customer No.	D006267

Macquarie Point Development Corporation
41 Evans Street
HOBART TAS 7000

Attn: Sean McArdle

Description	GST %	Quantity	Unit	Unit Price	Amount
Tip Billing - Contaminated soil 19 & 20 Oct 2023 Vehicles: H90DF, B02AF, F89LQ & XT24BH	10	1	EA	28,808.73	28,808.73

Total Excl. GST	**28,808.73**
10% GST	2,880.87
Total Incl. GST	**31,689.60**

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City of Hobart
GPO Box 503
Hobart TAS 7001

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Contact: Parking Administration
Telephone: (03) 6238 2150
Email: parkingadministration@hobartcity.com.au

ALL OTHER ENQUIRIES

Contact: Accounts Receivable Officer
Telephone: (03) 6238 2749 or (03) 6238 2786
Email: accountsreceivable@hobartcity.com.au

Account Detail Report

Printed on 06/11/2023

Completed transactions from 19/10/2023 to 20/10/2023

Account : D001485 DDM CIVIL PTY LTD - MACQUARIE POINT TO BE INVOICED FOR HIGHLIGHTED VEHICLES

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
Date	**19-Oct-2023**											
864746	7:40 am	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		12.88t	0.0 m3	0	$702.55	$70.25	$257.60	$1030.40
864750	8:17 am	H90DF.	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		30.70t	0.0 m3	0	$1674.55	$167.45	$614.00	$2456.00
864753	7:55 am	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		14.40t	0.0 m3	0	$785.45	$78.55	$288.00	$1152.00
864754	8:15 am	F89LQ.	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		13.22t	0.0 m3	0	$721.09	$72.11	$264.40	$1057.60
864757	8:17 am	B02AF.	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		14.50t	0.0 m3	0	$790.91	$79.09	$290.00	$1160.00
864769	8:50 am	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.62t	0.0 m3	0	$579.27	$57.93	$212.40	$849.60
864772	8:54 am	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		12.20t	0.0 m3	0	$665.45	$66.55	$244.00	$976.00
864774	8:59 am	F89LQ	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.88t	0.0 m3	0	$593.45	$59.35	$217.60	$870.40
864775	9:01 am	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.90t	0.0 m3	0	$649.09	$64.91	$238.00	$952.00
864776	9:11 am	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		30.02t	0.0 m3	0	$1637.45	$163.75	$600.40	$2401.60
864784	9:38 am	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.72t	0.0 m3	0	$639.27	$63.93	$234.40	$937.60
864787	9:42 am	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.76t	0.0 m3	0	$641.45	$64.15	$235.20	$940.80
864788	9:45 am	F89LQ	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.20t	0.0 m3	0	$610.91	$61.09	$224.00	$896.00
864793	9:50 am	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.56t	0.0 m3	0	$630.55	$63.05	$231.20	$924.80
864796	9:57 am	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.88t	0.0 m3	0	$1520.73	$152.07	$557.60	$2230.40
864830	10:56 am	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.68t	0.0 m3	0	$582.55	$58.25	$213.60	$854.40
864832	10:58 am	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.78t	0.0 m3	0	$588.00	$58.80	$215.60	$862.40
864843	11:07 am	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.02t	0.0 m3	0	$1473.82	$147.38	$540.40	$2161.60

Account Detail Report

Printed on 06/11/2023

Completed transactions from 19/10/2023 to 20/10/2023

Account : D001485 DDM CIVIL PTY LTD

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
864845	11:09 am	F89LQ	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.62t	0.0 m3	0	$633.82	$63.38	$232.40	$929.60
864846	11:12 am	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		13.36t	0.0 m3	0	$728.73	$72.87	$267.20	$1068.80
864861	11:41 am	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.98t	0.0 m3	0	$653.45	$65.35	$239.60	$958.40
864862	11:42 am	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.76t	0.0 m3	0	$641.45	$64.15	$235.20	$940.80
864864	11:45 am	F89LQ	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.30t	0.0 m3	0	$561.82	$56.18	$206.00	$824.00
864870	11:55 am	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		28.34t	0.0 m3	0	$1545.82	$154.58	$566.80	$2267.20
864872	11:57 am	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.20t	0.0 m3	0	$610.91	$61.09	$224.00	$896.00
864880	12:22 pm	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.50t	0.0 m3	0	$572.73	$57.27	$210.00	$840.00
864883	12:24 pm	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.44t	0.0 m3	0	$569.45	$56.95	$208.80	$835.20
864887	12:37 pm	F89LQ.	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		30.10t	0.0 m3	0	$1641.82	$164.18	$602.00	$2408.00
864900	12:55 pm	B02AF	MAC POINT CONTAMINATED SOIL	MACQURIE POINT		10.42t	0.0 m3	0	$568.36	$56.84	$208.40	$833.60
864901	12:56 pm	H90DFT	MAC POINT CONTAMINATED SOIL	MACQURIE POINT		29.78t	0.0 m3	0	$1624.36	$162.44	$595.60	$2382.40
864906	1:01 pm	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.50t	0.0 m3	0	$572.73	$57.27	$210.00	$840.00
864910	1:03 pm	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.66t	0.0 m3	0	$581.45	$58.15	$213.20	$852.80
864929	1:29 pm	F89LQT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		31.36t	0.0 m3	0	$1710.55	$171.05	$627.20	$2508.80
864931	1:34 pm	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		12.16t	0.0 m3	0	$663.27	$66.33	$243.20	$972.80
864938	1:43 pm	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		28.48t	0.0 m3	0	$1553.45	$155.35	$569.60	$2278.40
864942	1:49 pm	XT84AR	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.64t	0.0 m3	0	$580.36	$58.04	$212.80	$851.20

Account Detail Report

Printed on 06/11/2023

Completed transactions from 19/10/2023 to 20/10/2023

Account : D001485 DDM CIVIL PTY LTD - MACQUARIE POINT TO BE CHARGED FOR HIGHLIGHTED VEHICLES

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
864944	1:51 pm	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.72t	0.0 m3	0	$584.73	$58.47	$214.40	$857.60
864955	2:13 pm	F89LQT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		26.58t	0.0 m3	0	$1449.82	$144.98	$531.60	$2126.40
864957	2:17 pm	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.92t	0.0 m3	0	$595.64	$59.56	$218.40	$873.60
864969	2:41 pm	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		25.78t	0.0 m3	0	$1406.18	$140.62	$515.60	$2062.40
864973	2:43 pm	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		11.18t	0.0 m3	0	$609.82	$60.98	$223.60	$894.40
864987	3:07 pm	B02AF	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		9.38t	0.0 m3	0	$511.64	$51.16	$187.60	$750.40
864991	3:11 pm	F89LQT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		28.76t	0.0 m3	0	$1568.73	$156.87	$575.20	$2300.80
865003	3:26 pm	XT24BH	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.90t	0.0 m3	0	$594.55	$59.45	$218.00	$872.00
865009	3:37 pm	H90DFT	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.86t	0.0 m3	0	$1519.64	$151.96	$557.20	$2228.80

Account Detail Report

Printed on 06/11/2023

Completed transactions from 19/10/2023 to 20/10/2023

Account : D001485 DDM CIVIL PTY LTD

Date 20-Oct-2023

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
865025	7:39 am	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.44t	0.0 m3	0	$569.45	$56.95	$208.80	$835.20
865034	7:56 am	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.50t	0.0 m3	0	$1500.00	$150.00	$550.00	$2200.00
865042	8:33 am	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		9.94t	0.0 m3	0	$542.18	$54.22	$198.80	$795.20
865058	8:52 am	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		25.74t	0.0 m3	0	$1404.00	$140.40	$514.80	$2059.20
865071	9:22 am	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		9.54t	0.0 m3	0	$520.36	$52.04	$190.80	$763.20
865086	9:49 am	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.96t	0.0 m3	0	$1525.09	$152.51	$559.20	$2236.80
865111	10:42 am	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.08t	0.0 m3	0	$549.82	$54.98	$201.60	$806.40
865130	11:09 am	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.70t	0.0 m3	0	$1510.91	$151.09	$554.00	$2216.00
865137	11:23 am	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.62t	0.0 m3	0	$579.27	$57.93	$212.40	$849.60
865153	11:56 am	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		26.54t	0.0 m3	0	$1447.64	$144.76	$530.80	$2123.20
865167	12:08 pm	*XT84AR*	MAC POINT CONTAMINATED SOIL	Macquarie Point		9.18t	0.0 m3	0	$500.73	$50.07	$183.60	$734.40
865185	12:47 pm	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		25.88t	0.0 m3	0	$1411.64	$141.16	$517.60	$2070.40
865187	12:50 pm	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		9.38t	0.0 m3	0	$511.64	$51.16	$187.60	$750.40
865218	1:33 pm	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		26.68t	0.0 m3	0	$1455.27	$145.53	$533.60	$2134.40
865224	1:37 pm	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		9.02t	0.0 m3	0	$492.00	$49.20	$180.40	$721.60
865255	2:20 pm	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.50t	0.0 m3	0	$1500.00	$150.00	$550.00	$2200.00
865258	2:22 pm	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.44t	0.0 m3	0	$569.45	$56.95	$208.80	$835.20
865278	3:09 pm	*B02AF.*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.06t	0.0 m3	0	$1476.00	$147.60	$541.20	$2164.80

Account Detail Report

Printed on 06/11/2023

Completed transactions from 19/10/2023 to 20/10/2023

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
Account : D001485 DDM CIVIL PTY LTD												
865282	3:00 pm	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		10.32t	0.0 m3	0	$562.91	$56.29	$206.40	$825.60
865287	3:06 pm	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		28.48t	0.0 m3	0	$1553.45	$155.35	$569.60	$2278.40
865298	3:37 pm	*XT84AR*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		13.64t	0.0 m3	0	$744.00	$74.40	$272.80	$1091.20
865302	4:02 pm	*B02AF.*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		30.84t	0.0 m3	0	$1682.18	$168.22	$616.80	$2467.20
865307	3:56 pm	*H90DFT*	MAC POINT CONTAMINATED SOIL	MACQUARIE POINT		27.90t	0.0 m3	0	$1521.82	$152.18	$558.00	$2232.00
Total for this Account for this report						**1,181.98t**	**0.0 m3**	**0**	**$64,471.63**	**$6447.17**	**$23,639.60**	**$94,558.40**

Account Detail Report

Printed on 06/11/2023

Completed transactions from 19/10/2023 to 20/10/2023

Docket No.	Time	Rego	Waste	Order No.	Council Number	Net Wt	Volume	Units	Fee	GST	Levy	Total
Total for this Site for this report						**1,181.98 t**	**0.0 m3**	**0**	**$64,471.63**	**$6447.17**	**$23,639.60**	**$94,558.40**
Grand Total for all accounts						**1,181.98 t**	**0.0 m3**	**0**	**$64,471.63**	**$6,447.17**	**$23,639.60**	**$94,558.40**

City of Hobart
16 Elizabeth Street
HOBART TAS 7000
P 03 6238 2711
E accountsreceivable@hobartcity.com.au
ABN 39 055 343 428

Tax Invoice

Invoice No.	**SI257740**
Invoice Date	10/11/2023
Due Date	10/12/2023
Payment Terms	30 Days
Customer No.	D006267

Macquarie Point Development Corporation
41 Evans Street
HOBART TAS 7000

Attn: Sean McArdle

Description	GST %	Quantity	Unit	Unit Price	Amount
Tip billing charges - contaminated soil 16-31 October 2023. Vehicles: H90DFT and F89LQT	10	1	EA	42,453.82	42,453.82

Total Excl. GST	**42,453.82**
10% GST	4,245.38
Total Incl. GST	**46,699.20**

IMPORTANT NOTICE :

Invoices not paid by the due date will be subject to debt recovery procedures which may include referral to a collection agency without further notice.

Daily interest may be charged on overdue amounts if payment is not received by the invoice due date. The rate of interest for the period 1 July 2023 to 30 June 2024 is 9.85 per cent per annum.

If address details are incorrect, please advise in writing to email:accountsreceivable@hobartcity.com.au

PAYMENT METHODS

PAYMENT BY CREDIT CARDS AND EFTPOS BY PHONE

If making a phone payment please phone **(03) 6238 2190** and be ready to quote the invoice number to be paid, to the customer services officer. **Please Note:** a maximum payment limit of $3000.00 applies to credit card payments.

PAYMENT BY DIRECT BANK DEPOSIT

Account Name: Hobart City Council
Branch: 81 Elizabeth Street, Hobart, TAS, 7000
BSB Number: 067-000
Account Number: 10159311
Please Note: Use the customer number for the reference. If the payment applies to multiple invoices, please send details of the payment on or before the payment date by email to: **remittance@hobartcity.com.au**

PAYMENT IN PERSON

Please present this invoice when making your payment at the
City of Hobart Customer Service Centre, **16 Elizabeth Street**, **Hobart**.
Opening Hours: Monday to Friday, 8.15 am – 5.15 pm

PAYMENT BY CHEQUE

Cheques should be made payable to: **Hobart City Council.**
Please Note: receipts for cheques are subject to collection of money.
Post-dated cheques will not be accepted.

PAYMENT BY MAIL

These should be addressed to: **General Manager**
City of Hobart
GPO Box 503
Hobart TAS 7001

ENQUIRIES

LONG TERM CAR PARKING ENQUIRIES

Contact: Parking Administration
Telephone: (03) 6238 2150
Email: parkingadministration@hobartcity.com.au

ALL OTHER ENQUIRIES

Contact: Accounts Receivable Officer
Telephone: (03) 6238 2749 or (03) 6238 2786
Email: accountsreceivable@hobartcity.com.au

D006267 - Macquarie Point Development Corporation

Docket Number	Date and time	Vehicle rego		Net WT		Fee	GST	Levy	Total
864776	9:11 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	30.02 t	m3	$1637.45	$163.75	$600.40	$2401.60
864796	9:57 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.88 t	m3	$1520.73	$152.07	$557.60	$2230.40
864843	11:07 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.02 t	m3	$1473.82	$147.38	$540.40	$2161.60
864870	11:55 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	28.34 t	m3	$1545.82	$154.58	$566.80	$2267.20
864901	12:56 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	29.78 t	m3	$1624.36	$162.44	$595.60	$2382.40
864929	1:29 PM	*F89LQT*	MAC POINT CONTAMINATED SOIL	31.36 t	m3	$1710.55	$171.05	$627.20	$2508.80
864938	1:43 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	28.48 t	m3	$1553.45	$155.35	$569.60	$2278.40
864955	2:13 PM	*F89LQT*	MAC POINT CONTAMINATED SOIL	26.58 t	m3	$1449.82	$144.98	$531.60	$2126.40
864969	2:41 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	25.78 t	m3	$1406.18	$140.62	$515.60	$2062.40
864991	3:11 PM	*F89LQT*	MAC POINT CONTAMINATED SOIL	28.76 t	m3	$1568.73	$156.87	$575.20	$2300.80
865009	3:37 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.86 t	m3	$1519.64	$151.96	$557.20	$2228.80
865034	7:56 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.50 t	m3	$1500.00	$150.00	$550.00	$2200.00
865058	8:52 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	25.74 t	m3	$1404.00	$140.40	$514.80	$2059.20
865086	9:49 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.96 t	m3	$1525.09	$152.51	$559.20	$2236.80
865130	11:09 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.70 t	m3	$1510.91	$151.09	$554.00	$2216.00
865153	11:56 AM	*H90DFT*	MAC POINT CONTAMINATED SOIL	26.54 t	m3	$1447.64	$144.76	$530.80	$2123.20
865185	12:47 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	25.88 t	m3	$1411.64	$141.16	$517.60	$2070.40
865218	1:33 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	26.68 t	m3	$1455.27	$145.53	$533.60	$2134.40
865255	2:20 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.50 t	m3	$1500.00	$150.00	$550.00	$2200.00
865287	3:06 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	28.48 t	m3	$1553.45	$155.35	$569.60	$2278.40
865307	3:56 PM	*H90DFT*	MAC POINT CONTAMINATED SOIL	27.90 t	m3	$1521.82	$152.18	$558.00	$2232.00
				583.74					**$46699.20**

City of Hobart
16 Elizabeth Street
HOBART TAS 7000
P 03 6238 2711
E accountsreceivable@hobartcity.com.au
ABN 39 055 343 428

Tax Invoice

Invoice No.	**SI257749**
Invoice Date	14/11/2023
Due Date	14/12/2023
Payment Terms	30 Days
Customer No.	D006267

Macquarie Point Development Corporation
41 Evans Street
HOBART TAS 7000

Attn: Sean McArdle

Description	GST %	Quantity	Unit	Unit Price	Amount
Tip billing charges for vehicle registered XT84AR for the period 19-23 October 2023	10	1	EA	14,699.64	14,699.64

Total	**Excl. GST**	**14,699.64**
	10% GST	1,469.96
Total	**Incl. GST**	**16,169.60**

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City of Hobart
GPO Box 503
Hobart TAS 7001

ENQUIRIES

LONG TERM CAR PARKING ENQUIRIES

Contact: Parking Administration
Telephone: (03) 6238 2150
Email: parkingadministration@hobartcity.com.au

ALL OTHER ENQUIRIES

Contact: Accounts Receivable Officer
Telephone: (03) 6238 2749 or (03) 6238 2786
Email: accountsreceivable@hobartcity.com.au

MACQUARIE POINT DEVELOPMENT CORPORATION

DOCKET	DATE	TIME	VEHICLE		WEIGHT (tn)	FEE	GST	LEVY	TOTAL
864746	19/10/2023	7:40:00	XT84AR	MPDC	12.88	$702.55	$70.25	$257.60	$1030.40
864769	19/10/2023	8:50:03	XT84AR	MPDC	10.62	$579.27	$57.93	$212.40	$849.60
864784	19/10/2023	9:38:16	XT84AR	MPDC	11.72	$639.27	$63.93	$234.40	$937.60
864830	19/10/2023	10:56:59	XT84AR	MPDC	10.68	$582.55	$58.25	$213.60	$854.40
864861	19/10/2023	11:41:05	XT84AR	MPDC	11.98	$653.45	$65.35	$239.60	$958.40
864880	19/10/2023	12:22:09	XT84AR	MPDC	10.50	$572.73	$57.27	$210.00	$840.00
864906	19/10/2023	13:01:15	XT84AR	MPDC	10.50	$572.73	$57.27	$210.00	$840.00
864942	19/10/2023	13:49:43	XT84AR	MPDC	10.64	$580.36	$58.04	$212.80	$851.20
865025	20/10/2023	7:39:38	XT84AR	MPDC	10.44	$569.45	$56.95	$208.80	$835.20
865042	20/10/2023	8:33:02	XT84AR	MPDC	9.94	$542.18	$54.22	$198.80	$795.20
865071	20/10/2023	9:22:16	XT84AR	MPDC	9.54	$520.36	$52.04	$190.80	$763.20
865111	20/10/2023	10:42:27	XT84AR	MPDC	10.08	$549.82	$54.98	$201.60	$806.40
865137	20/10/2023	11:23:31	XT84AR	MPDC	10.62	$579.27	$57.93	$212.40	$849.60
865167	20/10/2023	12:08:09	XT84AR	MPDC	9.18	$500.73	$50.07	$183.60	$734.40
865187	20/10/2023	12:50:46	XT84AR	MPDC	9.38	$511.64	$51.16	$187.60	$750.40
865224	20/10/2023	13:37:48	XT84AR	MPDC	9.02	$492.00	$49.20	$180.40	$721.60
865258	20/10/2023	14:22:47	XT84AR	MPDC	10.44	$569.45	$56.95	$208.80	$835.20
865282	20/10/2023	15:00:06	XT84AR	MPDC	10.32	$562.91	$56.29	$206.40	$825.60
865298	20/10/2023	15:37:18	XT84AR	MPDC	13.64	$744.00	$74.40	$272.80	$1091.20
				TOTAL	**202.12**	**$11024.72**	**$1102.48**	**$4042.40**	**$16169.60**

Appendix I

Survey of Excavations



LEGEND

LEAD BOX

APPROXIMATE TRENCH

UST BOXOUT

NOTE;

1. ALL POINTS ARE MGA2020 GRID PROJECTION, DATUM SPM793, E=527707.904, N=5252237.708

12 0 10 20 30 m

SCALE = 1:500 @ A3

Rev	DATE	DESCRIPTION
0	03/07/2023	FIRST ISSUED

BLACKCAP GROUP

MACQUARIE POINT

MINOR ROAD IMPROVEMENTS

SKETCH OF SUB SURFACE WORK

BlackCap

Walter Surveys PTY LTD

ABN: 71 217 806 325

127 Bathurst Street
Hobart, Tas, 7000

MOB: 0419 532 669
Email: tom.walter@waltersurveys.com.au

Contour Interval: N/A

Scale: 1:500 @ A3 Sheet

Drawn: JT | Surveyor: MS

Sheet No. 50400-SK-01

Appendix G-4: Review of Site Specific Remediation Criteria 2025

AECOM Australia Pty Ltd
Wurundjeri and Bunurong Country
Tower 2, Level 10
727 Collins Street
Melbourne VIC 3008
Australia
www.aecom.com

+61 1800 868 654 tel

ABN 20 093 846 925

10 October 2025

Mr Greg Cooper
Chief Operating Officer
Company Secretary
Macquarie Point Development Corporation
41 Evans Street, Hobart, TAS, 7001

Dear Greg,

Macquarie Point - Review of Site Specific Remediation Criteria 2025

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point site, and adjacent Regatta Point (intended to be added to the overall Macquarie Point site) in Hobart, Tasmania. Macquarie Point and Regatta Point are referred to as “the Site” herein, and the location of the Site is shown on **Figure F1** in **Appendix A**.

As part of the assessment and remediation of Macquarie Point, Remediation Criteria (RC) specific to the Macquarie Point site were developed and presented in *Derivation of Remediation Criteria* (AECOM, 2016), and have been used as part of environmental investigations to identify remediation requirements to remove or mitigate any unacceptable risks to current and future users of the Site.

Since the RC were derived, updates in the vision for development of the Site, including changes in proposed uses and expansion of the area considered for development, have occurred, and the potential exists for changes in relevant Australian or international guidance used to assess potential risks and derive criteria.

As a result of the potential for changes identified, AECOM has prepared this review of the RC to assess if they are still suitable for use in the ongoing assessment and remediation of the Site.

2.0 Background

Historically, Hobart and surrounding areas (Nipaluna), including the Site, were inhabited by the Muwinina people, descended from those who arrived in Tasmania approximately 40,000 years ago. Following European settlement circa 1804, the Site has been subject to a variety of potentially contaminating land uses, including land reclamation, gasworks, bulk fuel storage, and rail and freight transport and maintenance.

In 2012, the Corporation was formed by the *Macquarie Point Development Corporation Act 2015* (the MPDCA) in order to plan, facilitate and manage the remediation and development of Macquarie Point. The MPDCA was amended in 2015 to enable the accreditation of a Contaminated Land Auditor, which for the first time in Tasmania allows for a statutory audit of contaminated land (the Audit) to be undertaken, and Mr David Lam of Tetra Tech Coffey Pty Ltd (Coffey) was engaged by the Corporation as an independent Contaminated Land Auditor (the Auditor).

For the purpose of assessment and completion of the Environmental Audit, the Site has been divided into seven sub-areas for assessment based on the nature of identified contamination, historic activity, and the intended future uses of each area. The location and boundaries of sub-areas of the Site used in the most recent assessments, remediation and reports are shown on **Figure 1** below.

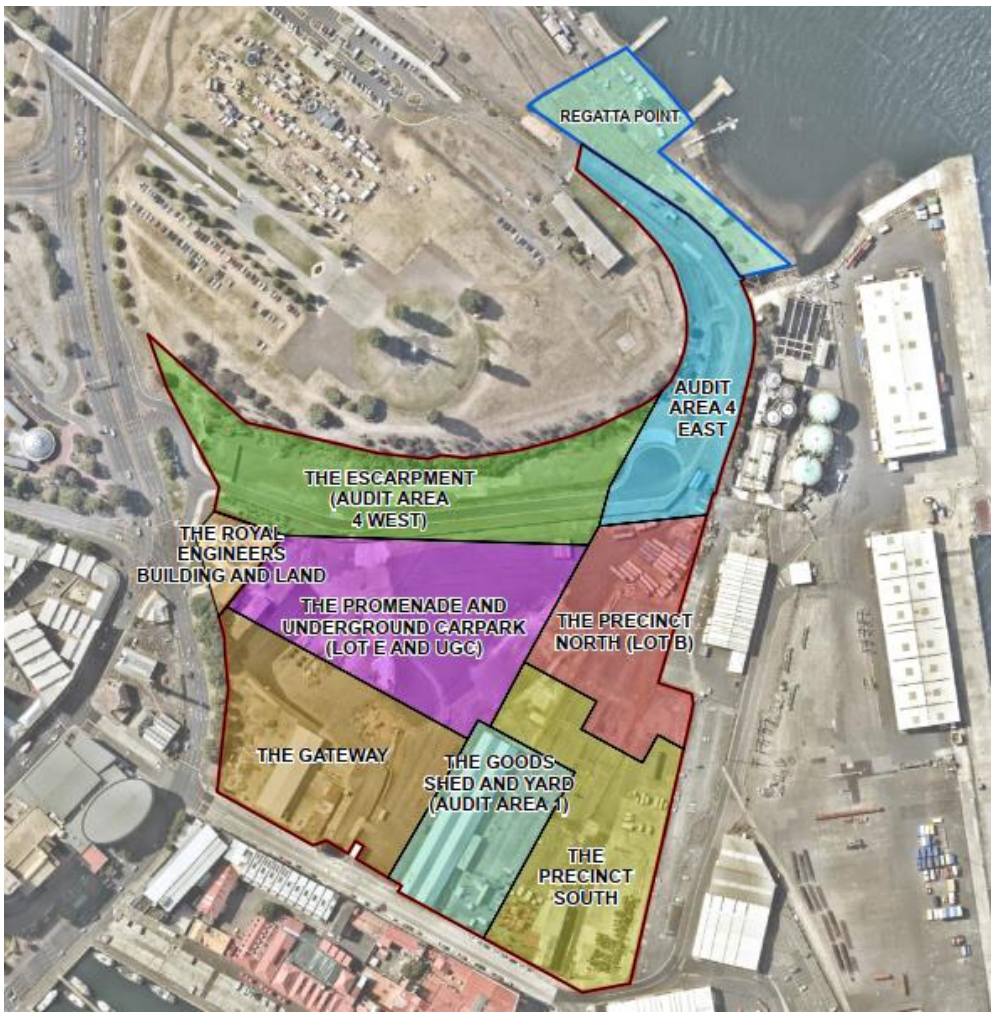

Figure 1 Site Assessment Areas

Early reports (prior to 2020) also referred to Audit Areas 1 to 7, based on possible Site uses prior to issue of an initial site development strategy (discussed in **Section 2.1**), which may be referenced in earlier report names.

The Corporation is currently in the process of negotiating land transfer for the addition of Regatta Point, located to the north, to the overall Site and for inclusion in the Audit. The Royal Engineers Building and Land to the west of the Site is included in the overall planned development of the area, however no changes in use are planned and it is not intended to be included in the Audit at this time.

2.1 Proposed Future Development

The RC were derived, and the assessment and remediation of Macquarie Point prior to 2023 was conducted, with reference to the previous vision for development of Macquarie Point, *New Territory from Old Ground – Macquarie Point Strategic Framework and Masterplan 2015-2030* (MPDC, 2015).

The Tasmanian Government Department of State Growth announced in September 2022 that the Site is the preferred location for a mixed-use precinct, including a multipurpose stadium. As a result, in August 2024, the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024) was finalised by the corporation as the planned future development of the Site as a mixed-use precinct comprised of interconnected discrete zones, including, but not limited to those summarised in **Table 1** below.

Table 1 Precinct Plan - Proposed Development Precincts

Precinct	Land Use
Aboriginal culturally informed zone	Open space and commercial
Multipurpose stadium and associated concourse zone	Open space and commercial
Royal Engineers building and land	Open space and commercial
Complementary integrated mixed use zone, including restraints, cafes, hotels, medical facilities and commercial office space	Open space and commercial
Antarctic facilities zone including commercial spaces and connections with the complementary integrated mixed use zone	Commercial and underground car parking
Residential development and public foreshore zone accommodating a variety of tenures and housing opportunities, along with a new public promenade and food and beverage offerings	High density residential, commercial and open space
A transport corridor and roadway linking Regatta Point to the main areas of the Site	Open space
A vegetated area along the northern boundary of the Site, where the slope of the escarpment below the Hobart Cenotaph would prevent development or construction	Open space

Subsurface utilities and maintenance activities are anticipated to occur in all Site areas.

The concept layout of the Site in the Precinct Plan is shown in **Figure 2** below.

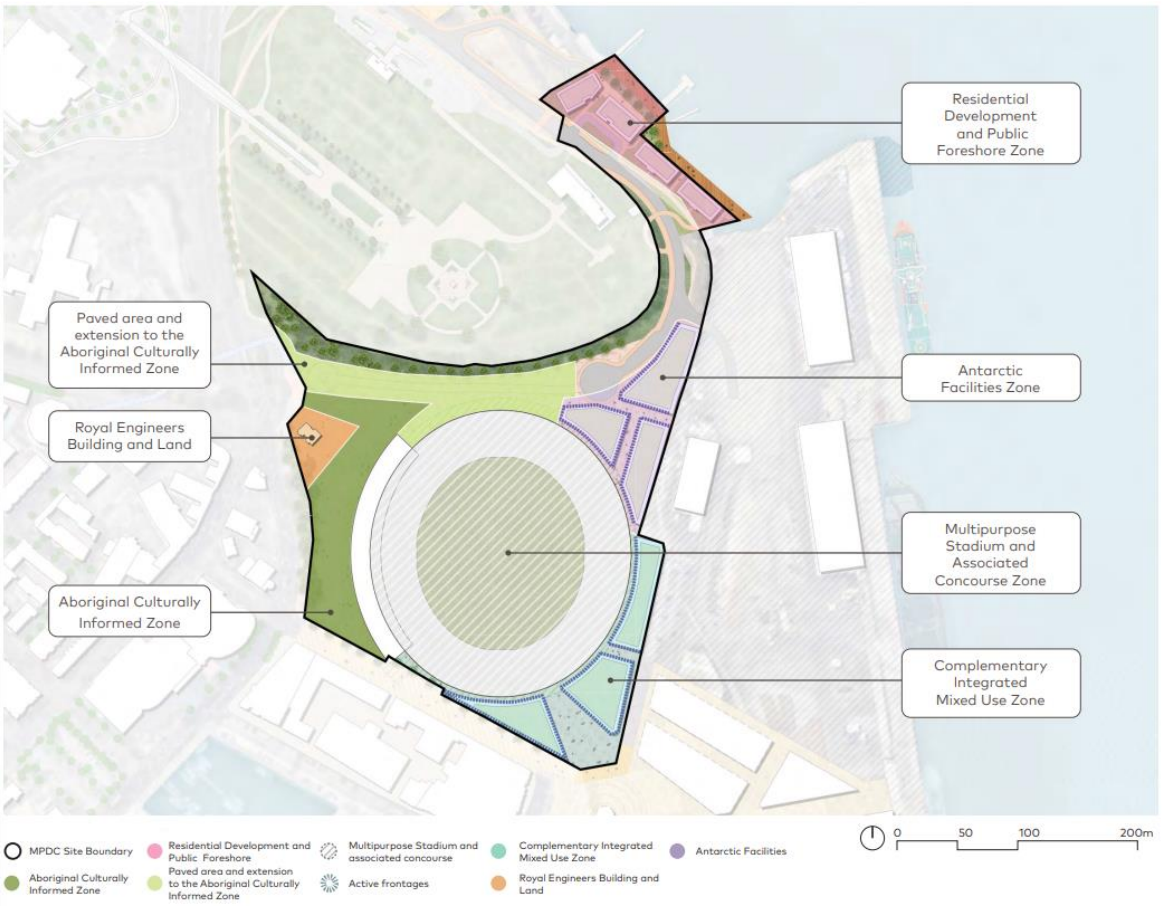

Figure 2 Proposed Development Layout (MPDC, 2024)

2.2 Site Specific Remediation Criteria

The risk-based site-specific RC presented in *Derivation of Remediation Criteria* (AECOM, 2016) were prepared for soil and groundwater in order to inform remediation and management works required at the Site for the protection of human health. Potential risks to ecological receptors were not considered in the RC and have been separately assessed (AECOM, 2020a). Review and, if required, update of the assessment of potential risks to ecological receptors is planned as a separate assessment, and it is not considered necessary to include ecological receptors in the RC as part of this review on this basis.

The RC consider the following scenarios and land uses based on the initially proposed development of Macquarie Point (MPDC, 2015)*:*

- High density residential development (slab-on-grade buildings and buildings with a communal basement car park)
- Recreation / open space
- Multi-storey car park
- Commercial/light industrial (slab-on-grade buildings and working within a basement car park).

The risk-based Site RC were derived based on generic, conservative exposure assumptions protective of on-Site and off-Site human health under the above-mentioned potential future land use conditions at the Site, and incorporated the following key assumptions:

- Non-Aqueous Phase Liquid (NAPL) impacts at the Site will be remediated to the extent practicable and therefore risks associated with exposure to NAPL, and volatile contaminants derived from NAPL were not considered in the derivation of the RC. If residual NAPL is present at the Site following completion of remediation works, the associated potential risks to human health should be assessed at that time.
- Intrusive maintenance work at up to 1 m bgl may be undertaken in all land uses.
- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of maintenance workers) to have direct contact with soils.
- A reticulated water supply will be available, based on the urban setting of the Site, and abstraction of groundwater for any purposes other than remediation or monitoring will not be required for long term use.
- A Site Environment Management Plan (SEMP) will be prepared and put in place to maintain/manage surface cover.
- With regard to basements:
    - Use of any future basements is assumed to be limited to car parking. If basements are constructed for other purposes, a risk assessment specific to the intended use should be conducted.
    - Where basements are associated with future residential or commercial buildings, it is assumed that these will be communal areas for multiple properties, for example, as part of a strata scheme that is managed by a body corporate. Private basements will therefore not be associated with individual residences.
    - Where there is access to a basement car park, it is assumed that any groundwater seepage collects in floor drains and a physical barrier is present, and therefore, groundwater will not be directly contacted by basement users, with the exception of maintenance workers. It is assumed that individual tenants will not be involved in the maintenance of any associated services, including drainage pumps or sumps.
- For potential future multi-storey car park users, the most sensitive receptor in this scenario would be considered to be a parking attendant present at the Site for a typical eight hour working day. It is considered that RC derived for potential future commercial/light industrial workers (working within a basement) would be protective of all other basement users. This includes multi-storey car park users and residential tenants who access basement car parks and are likely to have lower

frequency and duration of exposure, therefore the multi-storey car park users scenario is not evaluated separately in this assessment.

- Adjacent off-Site land uses include open space, commercial/industrial, and residential areas. As these potential land uses have been considered on-Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary).
- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan (CEMP). The CEMP should be prepared during the planning stage for any future remediation and/or development activities.
- A separate assessment of the potential risks to on-Site visitors was not undertaken as it was considered that the chronic exposure duration assessment of commercial/light industrial workers or residents is sufficiently protective of the shorter exposure duration visitor scenario.

3.0 Key Site Assessments Completed Following Derivation of the Remediation Criteria

Information regarding the current environmental condition of the Site, which has been used in this report, is presented in the key reports listed below.

All reports listed below have been provided to the Auditor, who has provided comments or questions on any aspects where he required more information or clarification in order to assess environmental outcomes. In some cases, Auditor review, or response to Auditor comment or questions, has not yet been completed. Reports where this is the case are noted on the list below.

Reviewed and Accepted by the Auditor

- *Derivation of Remediation Strategy* (AECOM, 2016)
- *Audit Area 1 – Detailed Site Investigation* (AECOM, 2019a)
- *Audit Area 1, Clean Up to the Extent Practicable Report* (AECOM, 2019b)
- *Audit Area 4 – Detailed Site Investigation* (AECOM, 2020a)
- *Audit Area 4 West – Clean Up to the Extent Practicable Report* (AECOM, 2020b)
- *Assessment of LNAPL Remediation Endpoints* (AECOM, 2020c*)*
- *Audit Area 2 – Detailed Site Investigation* (AECOM, 2020d)
- *Audit Area 7 – Detailed Site Investigation* (AECOM, 2020e)
- *Audit Area 5 – Detailed Site Investigation* (AECOM, 2021a)
- *Lot E and Underground Carpark – Clean Up to the Extent Practicable Report* (AECOM, 2021b)
- *Lot B – Clean Up to the Extent Practicable Report* (AECOM, 2021c)
- *Audit Area 3 – Detailed Site Investigation* (AECOM, 2022)
- *Preliminary Site Investigation – Regatta Point* (AECOM, 2023)
- *The Gateway – Detailed Site Investigation* (AECOM, 2024a)

Undergoing Auditor Review

- *Site Remediation Strategy Update 2024* (AECOM, 2024b)
- *The Precinct South – Clean Up to the Extent Practicable Report* (AECOM, 2024c)
- *Site Environment Management Plan* (AECOM, 2024d)
- *Remediation Validation Report, The Gateway* (AECOM, 2025a)
- *Acid Sulfate Soil Investigation* (AECOM, 2025b)
- *Review of Site Suitability Statements 2025* (AECOM, 2025d)

Details of the review are provided in the sections below.

4.0 Conceptual Site Model Review

A Conceptual Site Model (CSM) is a site-specific qualitative description of the source(s) of contamination, the pathway(s) by which contaminants may migrate through the environmental media, and the populations (human or ecological) that may potentially be exposed. This relationship is commonly known as a Source-Pathway-Receptor (SPR) linkage. Where one or more elements of the SPR linkage are missing, the exposure pathway is considered to be incomplete and no further assessment is required.

The previous CSM used to derive RC (AECOM, 2016) has been reviewed and the current CSM is presented as **Sections 4.1** to **4.3**, with the SPR linkage assessment provided in **Section 4.4**.

4.1 Sources of Contamination and Chemicals of Potential Concern

Table 2 below presents a summary of the Chemicals of Potential Concern (CoPC) identified as part of previous investigations, that may be present based on known historical activities or uncovered during investigation of the Site, and may have impacted soil and groundwater, with secondary impacts/exposure pathways via generation of soil vapour. Actual detections of CoPC are discussed by medium in **Sections 4.1.1** to **4.1.3** below the table.

Identified CoPC are consistent with those considered in 2016, with the following exceptions which have been identified and assessed as part of ongoing investigation and remediation:

- Per- and Poly-fluoroalkyl Substances (PFAS) are a contaminant class for which the environmental interest and approach has matured significantly over the past 10+ years, and PFAS was identified as a CoPC, primarily associated with historic bulk fuel storage off-Site to the east, and extending onto the eastern portion of Macquarie Point.

  Sampling and analysis for PFAS in soil and groundwater was conducted between 2015 and 2017, and detected no concentrations in excess of the human health investigation levels (HILs) provided in the *PFAS National Environmental Management Plan, Version 3.0* (the PFAS NEMP 3.0) (HEPA, 2025), with the exception of:

  - Soil sampled at 1.1 m bgl at BH70, located in the Precinct South, reported perfluorooctane sulfonic acid (PFOS) in excess of the HIL-A – Residential with garden/accessible soil. As this land use is not intended anywhere on the Site and is not considered in the RC scenarios, adoption of an RC for PFOS is not considered required.

  In general, PFAS are non-volatile and exposure to humans primarily occurs via ingestion. The controls and assumptions inherent to the RC and documented in the SEMP include maintenance of a barrier layer and prohibition on extractive use of groundwater which prevent contact with soil and groundwater by Site users, with the exception of intrusive maintenance workers. However, detected concentrations do not indicate any unacceptable risk to intrusive maintenance workers.

  Ecological impacts, including any ecological impacts relating to PFAS, are not considered in the RC and will be assessed as part of separate investigations.

- Acid Sulfate Soil (ASS) was identified as requiring assessment based on the *Tasmanian Acid Sulfate Soil Management Guidelines* (TASSMG) (DPIPWE, 2009), based on the elevation of the Site and level of potential soil disturbance which is proposed as part of future development.

  Potential Acid Sulfate Soil (PASS), with potential to acidify to hazardous levels, was identified as present primarily within submerged natural estuarine sands in the central, eastern and southern portions of Macquarie Point, or within some reworked sands, which may be imported dredged material, in fill (AECOM, 2025b). No PASS with potential to acidify was detected in Regatta Point, and no Actual Acid Sulfate Soil (AASS) was detected at either Macquarie Point or Regatta Point.

  While an ASS Management Plan will be required for future development of the Site, and recommendations relating to this are made in *Acid Sulfate Soil Investigation* (AECOM, 2025b), remediation of the detected PASS would require high cost effort to either excavate soil to bedrock, or add large quantities of neutralising agents to soil which could have unintended environmental impacts, and identification of RC for ASS/PASS is not considered practicable or required.

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Table 2 Sources of Contamination and Chemicals of Potential Concern

Former Land Use/ Potential Contaminating Activity	Chemicals of Potential Concern	Potential Impacted Media
Macquarie Point and Adjacent Areas		
Land Reclamation	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs, ASS[4]	• Soil • Groundwater • Soil Vapour
Freight Handling	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, pH	
Fuel and Oil Storage and Transfer	LNAPL, lead, TRH, PAH, BTEX, phenolic compounds, ACM	
Railyards and freight handling (including locomotive and vehicle maintenance, and refuelling and fuel storage)	Metals[1], TRH, BTEXN, PAHs, phenolic compounds, chlorinated hydrocarbons, SVOC, VOC	
Port Operations	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC	
Gasworks	Metals[1], TRH, PAH, BTEX, phenolic compounds, cyanide, ammonia, ACM	
Fuel Storage and Bulk Fuel Terminals	LNAPL, lead, TRH, PAH, BTEX, PFAS[2], ACM, methane[3]	
Former Hobart Rivulet	Metals[1], TRH, PAH, BTEX, phenolic compounds, cyanide, ammonia, SVOC, VOC, OCPs	
Sewer (Main Hobart Pipeline) and adjacent waste water treatment plan	Metals[1], TRH, PAH, BTEX, VOC, SVOC, nitrate, ammonia, faecal coliforms [Escherichia coli (E. coli)]	
Regatta Point and Surrounding Areas		
Public Boating, Yachting and Port Activities	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, TBT, asbestos/ACM	• Soil • Groundwater • Soil Vapour
Rail Corridor	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs	
Land Reclamation	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOCs, VOCs, OCPs, cyanide, ammonia, asbestos/ACM	
Hobart Rivulet	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOCs, VOCs, OCPs, cyanide, ammonia	
Fuel Pipeline	LNAPL, lead, TRH, PAH, BTEX	

Former Land Use/ Potential Contaminating Activity	Chemicals of Potential Concern	Potential Impacted Media
Wastewater Treatment Plant	Metals[1], OCPs, nitrate, ammonia, faecal coliforms [Escherichia coli (E. coli)]	
Helipad	TRH, PAH, BTEX, phenolic compounds, SVOC, VOC	
Former Cattle Jetties	Ammonia, nitrate, sulfate	
Former Military and Battery Operations	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, nitrate, sulfate	
Former Rail Yards and Freight Handling	Metals[1], TRH, PAH, BTEX, phenolic compounds, SVOC, VOC, OCPs	
Former Bulk Fuel Terminals	Lead, TRH, PAH, BTEX, PFAS[2]	

Notes: TRH: total recoverable hydrocarbons, PAH: polycyclic aromatic hydrocarbons, BTEX: benzene, toluene, ethylbenzene and xylenes; SVOC: Semi-Volatile Organic Compounds; VOC: Volatile Organic Compounds; OCP: Organochlorine Pesticides; PFAS: Per and Poly-fluoroalkyl Substances; ACM: Asbestos Containing Material; ASS: Acid Sulfate Soil; TBT: tributyltin; 1: aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel and zinc;; 2: A review of historical information has not identified the use of products containing PFAS, however there is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations or for training purposes during bulk fuel storage in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in the 1970s; 3: The source of methane in soil vapour and groundwater is no known, but is considered likely to be due to the anaerobic degradation of hydrocarbon contamination or organic materials in buried estuarine material or fill; 4: Potential Acid Sulfate Soil (PASS) has been identified in buried estuarine sands in the central, southern and eastern portion of Macquarie Point (AECOM, 2025b), and may be due to either latent conditions (i.e., former sea- or riverbed covered by land reclamation), or to reworked dredged material in fill.

4.1.1 Extent of Contamination - Soil

In the absence of specific Tasmanian guidance regarding the protected environmental values (PEVs) of land, the Victorian Environment Reference Standard (the ERS), (Victorian Government, 2021) has been referenced to identify potential PEVs at the Site relating to land. The ERS replaces and supersedes Victorian *State Environment Protection Policy - Prevention and Management of Contamination of Land* (PMCL SEPP, 2002), which was also used in some assessments of the Site prior to 2021.

Soil samples collected during the investigation of the Site have been assessed against adopted Tier 1 Criteria (presented in the assessment reports listed in **Section 3.0**) for the following PEVs:

- Human Health
  - Low and Medium/High Density Residential
  - Recreation/Open Space
  - Commercial Industrial
  - Shallow Trench Worker
- Other PEVs:
  - Maintenance of Modified/Highly Modified Ecosystems
  - Buildings and Structures
  - Aesthetics.

The following CoPC have been detected in excess of one or more of the adopted Tier 1 Criteria adopted for Human Health PEVs in soil samples collected from the Site:

- TRH – >C6–C10, >C10-C40 (assessed/reported as TPH in some reports)
- Benzene
- PAHs – benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, Sum of PAHs
- Metals – arsenic, cadmium, chromium, copper, lead, nickel, zinc
- Cyanide (total)

In addition:

- Asbestos containing material (ACM) has been previously identified or suspected on Site as:
  - Small, isolated fragments in fill
  - Cladding of remnant fuel pipelines (removed)
  - Buried in a hillside in the Escarpment area
  - Anecdotally, may be present in former rail service pits in the Promenade and Underground Carpark Area, although no buried ACM has been observed in this area during previous excavation and investigation.
- Although not a contaminant, PASS has been detected in submerged estuarine sands or in limited quantities in reworked fill.

4.1.2 Extent of Contamination - Groundwater

PEVs for groundwater at the Site have been identified with reference to the Tasmanian Government *State Policy on Water Quality Management* (1997) (the SPoWQM), and measured Total Dissolved Solids (TDS) concentrations during monitoring events. Additional PEVs, not included in the SPoWQM, have also been considered based on identified potential risks to future users.

The PEVs considered in assessment of the Site are:

- Human Health:
  - Drinking water
  - Recreational water use (primary and secondary contact)[1]
  - Vapour Intrusion[1]
- Other PEVs:
  - Irrigation
  - Industry
  - Stock Watering
  - Irrigation[1]
  - Ecosystems Protection
  - Aesthetics[1]
  - Buildings and Structures[1]

The following CoPC have been detected in excess of one or more of the adopted Tier 1 Criteria for Human Health PEVs in groundwater samples collected from the Site:

- TRH C10-C40 (reported as TPH C10-C36 in earlier investigations)
- Benzene
- PAHs – anthracene, benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, phenanthrene, fluoranthene, naphthalene, dibenzofuran
- Metals – arsenic, lead, manganese, vanadium
- Cyanide
- E. Coli, (noting that this is not a chemical, but has adopted criteria for assessment of PEVs and has been treated similar to a CoPC in previous assessments).

In addition, LNAPL has been detected on groundwater in the centre of the Site, and on the south-eastern boundary.

4.1.3 Extent of Contamination - Soil Vapour

Soil vapour is considered a secondary impact from soil and groundwater. However, the Tasmanian *Environment Protection Policy (Air Quality) 2004* (the Air Quality EPP) identifies the following PEVs which require protection:

- Human Health
- Ecosystems
- Aesthetics.

Based on Tier 1 screening for human health (AECOM, 2021d) the following exceedances have been reported:

- Concentrations of benzene and naphthalene in excess of adopted residential criteria in the central portion of the Site.
- Methane in soil vapour in excess of adopted sub-slab action levels in the central and south-eastern portion of Macquarie Point.

[1] PEV not listed in SPoWQM

These impacts are considered to be derived from soil and groundwater impacts.

4.2 Potential Receptors

AECOM (2016) derived RC to be protective of the health of the following groups of land users (referred to as “receptors”), with specific RC derived for each group of receptors:

- Residents of a high density development with minimal opportunities for soil access (slab-on-grade) – assumed to be multiple dwellings in a communal scheme that is managed by a body corporate.
- Residents of a high density development with minimal opportunities for soil access (upper floors of a building with a communal basement car park).
- Commercial/light industrial workers (slab-on-grade)
- Commercial/light industrial workers (working within a basement car park)
- Outdoor maintenance workers (undertaking ground works including excavation to depths of up to 1 m bgl).
- Recreational open space users
- Users of a multi-storey car park (noting that this scenario has not been evaluated separately as discussed in the assumptions below).

It is noted that the RC do not consider ecological receptors. Potential risks from contamination to ecological receptors have been assessed in separate reports. In addition, the assumptions made when assessing receptors in 2016 and listed in **Section 2.2** are considered still applicable and have been included in this assessment.

As described in **Table 1**, the future land uses proposed in the Precinct Plan include:

- High density residential
- Commercial (including the Aboriginal culturally informed zone, multipurpose stadium and associated concourse zone, Royal Engineers building and land, complementary integrated mixed use zone, and Antarctic facilities zone)
- Open space (including the Aboriginal culturally informed zone, multipurpose stadium and associated concourse zone, Royal Engineers building and land, complementary integrated mixed use zone, transport corridor, and northern boundary along the slope of the escarpment)
- Underground car parking. Construction details have not been finalised, but the AECOM (2016) assumption that basements would be sufficiently deep to intersect groundwater is considered likely to remain valid.

Therefore, the land use scenarios (and associated receptors) proposed as part of the Precinct Plan were all previously considered in the development of the RC. There are no new receptor groups anticipated as part of the Precinct Plan that would warrant new RC to be derived. Off-Site uses (medium to high density residential, commercial/industrial, and open space) have not changed since the initial derivation of RC.

Table 3 summarises how the receptors considered in the RC are relevant to each of the future land uses proposed in the Precinct Plan.

Table 3 Potential Human Receptors – RC Scenarios

Derivation of Remediation Criteria (AECOM, 2016)	Precinct Plan (MPDC, 2024)			
	High Density Residential	Commercial	Open Space	Underground Carpark
High Density Residential (slab-on-grade)	✓	×	×	×
High Density Residential (shared basement)	✓	×	×	✓[1]
Commercial (slab-on-grade)	×	✓	×	×
Commercial (shared basement)	×	✓	×	✓[1]
Maintenance Workers	✓	✓	✓	×
Open Space Users	×	×	✓	×
Off-Site	✓	✓	✓	✓[2]

Notes: ✓ - RC corresponds to proposed future Site use; × - RC does not correspond to proposed future Site use; 1. The RC derived for commercial land uses with a basement are suitable to apply to a separate underground carpark scenario, as the most sensitive potential receptor was assumed to be a parking attendant present in the basement for 8 hours per day.; 2. No underground carparks have been identified in the vicinity of the Site. However, the potential exists for future external developments, beyond the control of the Corporation, to include underground carparks.

4.3 Potential Exposure Pathways

AECOM (2016) derived RC based on the following exposure pathways for each group of receptors:

- Residents of high density residential buildings (with or without underground car parking) would only have potential exposure via indoor and outdoor inhalation of vapours derived from soil and groundwater. An engineered break layer will be present at the ground surface to mitigate potential direct contact with soils, or generation of dust in indoor air environments.
- Groundwater will not be abstracted for beneficial uses on-Site and there will be a barrier to prevent direct contact with any groundwater seepage into drains in an underground car park.
- Workers in commercial/industrial buildings (with or without basements) would have potential exposure via indoor and outdoor inhalation of vapours derived from soil and groundwater, and via contact with groundwater seepage in basements during infrequent maintenance of the drains. An engineered break layer will be present at the ground surface to mitigate potential direct contact with soils. Groundwater will not be abstracted for beneficial uses on-Site.
- Users of recreational open space would only have potential exposure via outdoor inhalation of vapours derived from soil and groundwater. An engineered break layer will be present at the ground surface to mitigate potential direct contact with soils. Groundwater will not be abstracted for beneficial uses on-Site.
- Outdoor maintenance workers would have potential exposure via direct contact with soils (incidental ingestion, dermal contact, and outdoor dust inhalation), and outdoor inhalation of vapours derived from soil and groundwater. Groundwater will not be abstracted for beneficial uses on-Site and is too deep to be contacted during routine utilities maintenance excavations.
- Migration of groundwater beyond the Site boundary, and secondary pathways which may arise from groundwater such as extraction and direct contact, vapour generation, or discharge to surface water bodies, is considered to be the only pathway for exposure to Site contamination following development, with other pathways (such as inhalation of dust from Site soil) controlled via the SEMP or by CEMPs during construction works. With regards to groundwater migration:
    - Off-Site extractive use of groundwater is not considered likely to occur or to be occurring as the metropolitan setting of the surrounding area (Hobart) has a reticulated water supply

available for irrigation (i.e., park lands or gardens), and washing. Review of registered groundwater bores on the Tasmanian Groundwater Information Access Portal in November 2024 only identified one bore within 2 km of the Site (approximately 2 km north-north-west) (AECOM, 2024c), which was drilled to 54 m bgl in 1983 by the Tasmanian Department of Mines. Based on the age, depth, distance and direction, and originator of the bore, it is not considered likely that extractive use of groundwater is occurring from this bore, or that if extractive use is occurring, groundwater conditions in this area would be affected by the Site. The SEMP will include a requirement that the outcomes of any Site Suitability Statement or future assessments, including potential impacts to groundwater which may affect neighbouring Sites, be communicated to neighbours who may be affected and advise them not to use groundwater without checking its suitability for use.

  - No basement structures are known to exist to the inferred hydraulic downgradient (south and east), and are considered unlikely to be constructed in future due to the relatively shallow elevation of groundwater and likely tidal influence in these directions.

- Potential hazards associated with accumulation of methane in buildings and structures have been assessed separately, based on direct soil vapour data, and have not been considered in the RC.

The above exposure pathways remain relevant to the receptors identified in association with the future land uses proposed in the Precinct Plan, assuming the continued implementation of physical control measures (including an engineered break layer at the ground surface, no on-site abstraction of groundwater for beneficial uses, and a physical barrier to prevent direct contact with groundwater seepage in basements by receptors other than maintenance workers). No additional exposure pathways have been identified in association with the future land uses proposed in the Precinct Plan.

4.4 Source-Pathway-Receptor Linkage Assessment

Based on the review of sources, pathways, and receptors presented in **Sections 4.1** to **4.3**, informed by the Site investigations completed since the RC were first derived in 2016 and the future land uses proposed in the Precinct Plan, the SPR linkages that were included for derivation of the RC remain relevant. There are no new SPR linkages identified that would warrant inclusion in the RC.

Table 4 summarises how the SPR linkages considered in the RC are relevant to each of the future land uses proposed in the Precinct Plan.

This assessment has been conducted with the assumption that the control measures included in the initial *Derivation of Remediation Criteria* (AECOM, 2016), noted in **Section 2.2**, will be implemented as part of the future development.

Table 4 SPR Linkage Assessment

Exposure Pathway	Potential Future Residents – Slab on Grade Buildings		Potential Future Residents –Buildings with Communal Basements *		Potential Future Recreational Open Space Users		Potential Future Commercial/Light Industrial Workers – Slab on Grade Buildings		Potential Future Commercial/Light Industrial Workers – Buildings with Basements *		Potential Future Outdoor Maintenance Workers	
	2016	2025	2016	2025	2016	2025	2016	2025	2016	2025	2016	2025
Soil												
Incidental Ingestion of Contaminated Site Soils	x (a)		x (a)		x (a)		x (a)		x (a)		✓	
Dermal Contact with Contaminated Site Soils	x (a)		x (a)		x (a)		x (a)		x (a)		✓	
Inhalation of Contaminated Soil-Derived Dust in Indoor Air	x (a)		x (a)		x (a & b)		x (a)		x (a)		x (b)	
Inhalation of Contaminated Soil-Derived Dust in Outdoor Air	x (a)		x (a)		x (a)		x (a)		x (a)		✓	
Inhalation or Accumulation of Contaminated Soil-Derived Vapours in Indoor Air	✓		✓		x (b)		✓		✓		x (b)	
Inhalation of Contaminated Soil-Derived Vapours in Outdoor Air	(✓)		(✓)		✓		✓		✓		✓	
Groundwater(e)												
Incidental Ingestion of Contaminated Groundwater	x (c)		x (c)		x (c)		x (c)		✓ (c)		x (c)	
Dermal Contact with Contaminated Groundwater	x (c)		x (c)		x (c)		x (c)		✓ (c)		x (c)	
Inhalation of Contaminated Groundwater-Derived Vapours in Indoor Air	✓		✓		x (b)		✓		✓		x (b)	
Inhalation of Contaminated Groundwater-Derived Vapours in Outdoor Air	(✓)		(✓)		✓		✓		(✓)		✓	
Ingestion of Contaminated Groundwater used as Potable Water Supply	x (d)		x (d)		x (d)		x (d)		x (d)		x (d)	
Inhalation of Contaminated Groundwater Vapours during Irrigation/Showering	x (d)		x (d)		x (d)		x (d)		x (d)		x (d)	
Ingestion of Vegetables Irrigated with Contaminated Groundwater	x (d)		x (d)		x (d)		x (d)		x (d)		x (d)	

Notes:
x: incomplete pathway
✓: potentially complete pathway
(✓): outdoor inhalation of vapours is considered potentially complete for future residential and commercial receptors, however not likely to contribute significantly to inhalation risks in comparison to indoor vapour inhalation.
: Refer to discussion of assumptions regarding basements in **Section 4.2.*
(a) Potential future Site users, with the exception of maintenance workers, are not considered likely to have direct contact with soils during daily activities as the SEMP requires that an engineered break layer will be present at the ground surface, which will also mitigate dust generation from Site soils.
(b) It is assumed that recreational open space users and maintenance workers will spend their day outdoors.
(c) It is assumed that on-site commercial workers in a slab-on-grade building will not be exposed to groundwater directly during daily activities. However, workers in a basement car park may have infrequent direct contact with groundwater seepage while maintaining basement drainage infrastructure. It is assumed that any groundwater seepage collects in floor drains and a physical barrier is present and therefore it is unlikely that groundwater will be directly contacted by other basement users. This review has identified that this assumption is not currently documented in the SEMP, and should be incorporated into the next version of the SEMP.
(d) No on-Site or down-gradient off-Site bores used for agricultural / domestic purposes have been identified in previous investigations. The current SEMP restricts the use of Site groundwater to monitoring or remediation purposes. Based on the land use off-Site and downgradient, and the reticulated water supply available, use or handling of groundwater off-Site is considered unlikely, but the SEMP will include a requirement that the outcomes of any Site Suitability Statement or future assessments, including potential impacts to groundwater which may affect neighbouring Sites, be communicated to neighbours who may be affected and advise them not to use groundwater without checking its suitability for use.
*(e) As discussed in **Section 4.3**, groundwater migration is considered as a potential pathway for exposure to off-Site receptors. Based on the surrounding land uses being consistent with the land uses assessed on-Site, groundwater RC are considered protective of off-Site users.*

5.0 Derivation Review

5.1 Derivation Methodology

The AECOM (2016) RC were derived in accordance with the methodology recommended in the following Australian guidance:

- *Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risks from Environmental Hazards*. Department of Health and Ageing and enHealth Council, Commonwealth of Australia (enHealth, 2012a)
- *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as amended in May 2013 (ASC NEPM, 2013):
  - Schedule B4, Guideline on Site-Specific Health Risk Assessment Methodology
  - Schedule B7, Guideline on Derivation of Health-Based Investigation Levels.

There have been no subsequent revisions or amendments to these guidance documents. Therefore, the methodology followed for the derivation of the RC remains current.

It is noted that in the selection of the final RC for each land use, AECOM (2016) made the following adjustments:

- Where the soil criteria calculated using the infinite source model were more conservative than the CRC CARE (2011) screening values based on a finite source model, the CRC CARE (2011) HSL values were proposed for adoption.

  This adjustment remains appropriate and the HSLs remain current for use in Australian risk assessments. It is noted that this approach should have been applied for the aliphatic TPH >C8-10 soil RC for residential and commercial/light industrial buildings with basements, and that the previously adopted RC for this contaminant were overly conservative. The summary of RC attached in **Appendix C** includes this update for future assessment.
- RC for the following groundwater contaminants, based on the vapour inhalation pathway, exceeded the water solubility limit in the AECOM (2016) RC:
  - Toluene
  - Ethylbenzene
  - Xylenes (total)
  - TPH C6-C8 (Aliphatic)
  - TPH >C8-C10 (Aliphatic)
  - TPH >C10-C12 (Aliphatic)
  - TPH >C10-C12 (Aromatic)
  - TPH >C12-C16 (Aliphatic)
  - TPH >C12-C16 (Aromatic)

  Under these conditions it is not possible for unacceptable risks to occur, and the RC should be listed as “not limiting” (NL).

A summary of recommended RC, attached in **Appendix C**, includes updated values recommended for future assessment. It is noted that the 2016 RC previously used in Site assessment reports were conservative based on the update derivation methodology, and therefore more likely to have over-estimated than under-estimated potential risks.

5.2 Exposure Assessment

In the exposure assessment stage of a human health risk assessment (HHRA), the CSM is used to generate a numerical representation of the exposure pathways which are the inputs for an exposure assessment. This involves quantifying assumptions relating to human behaviour and the environmental setting. To account for variability in the population and to be protective of more

sensitive sub-groups, exposure assumptions are typically selected that cumulatively reflect a reasonable maximum exposure scenario.

The exposure assumptions adopted by AECOM (2016) for the RC were obtained from the following recognised Australian and international resources:

- ASC NEPM, 2013
- enHealth, 2012b. *Australian Exposure Factor Guide*
- CRC CARE, 2011. Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) *Technical Report No.10 - Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater*.

Where specific guidance was not available from the sources listed above (or other literature sources), conservative estimates for exposure parameters were adopted based on AECOM's professional judgement as noted on **Table 5** to **Table 9** below.

The adopted exposure assumptions were reviewed to confirm whether they are consistent with current Australian risk assessment practice. The findings of the review are summarised below:

- The majority of exposure assumptions were the Australian recommended default assumptions for assessment of residential, recreational, commercial worker, or maintenance worker receptors. There have been no revisions or amendments to the associated guidance documents since the RC were derived in 2016, hence the adopted exposure assumptions remain current.
- Four exposure parameter assumptions were based on professional judgement because there were no Australian or international recommended default assumptions (time spent indoors in a basement car park, incidental water ingestion rate during maintenance of basements drains, exposure time for dermal contact with water during maintenance of basements drains, and frequency of maintenance of basements drains). No new Australian or international guidance has been published on these aspects. The AECOM (2016) assumptions for these parameters, listed on **Table 5** and **Table 8** below, are considered to remain appropriate and are conservatively based on a reasonable maximum exposure scenario that is more likely to over-estimate than under-estimate potential risk).

The default exposure assumptions recommended in Australian guidance are conservative generic assumptions that cumulatively represent a reasonable maximum exposure scenario and are intended to be protective of a wide range of potential development scenarios. They are not dependent on the building internal layout or detailed development plan. Therefore, the exposure assumptions adopted for the derivation of the RC in 2016 remain appropriate for the specific development design envisioned under the Precinct Plan, despite differences in configuration to the land uses envisioned at the time of derivation of the RC in 2016 (e.g., the configuration of commercial premises as part of a stadium development).

The outcomes of the exposure assessment review are detailed in **Table 5** to **Table 9** below.

Table 5 Exposure Parameters – Potential Future Residents of a High Density Development

Parameter (Units)	Adopted Value		Reference	Comment
	Adult	Child		
Body Weight (kg)	70	15	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Duration (years)	29	6	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Averaging Time – Carcinogens (years)	70	70	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Averaging Time – Non-Carcinogens (years)	29	6	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance

Parameter (Units)	Adopted Value		Reference	Comment
	Adult	Child		
Exposure Time – Indoors (hours/day)	20	20	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Time – Indoors in a basement car park (hours/day)	1	1	Professional judgement	No new Australian guidance on this aspect. The AECOM (2016) assumption for this parameter is considered to remain appropriate and conservative, and was selected to deliberately over-estimate the time required for a person to drive to/from a parking spot, and walk to/from the exit, even if this is done multiple times per day.
Exposure Frequency (days/year)	365	365	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance

Table 6 Exposure Parameters – Potential Future Recreational Open Space Users

Parameter (Units)	Adopted Value		Reference	Comment
	Adult	Child		
Body Weight (kg)	70	15	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Duration (years)	29	6	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Averaging Time – Carcinogens (years)	70	70	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Averaging Time – Non-Carcinogens (years)	29	6	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Exposure Time – Outdoors (hours/day)	2	2	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Frequency (days/year)	365	365	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance

Table 7 Exposure Parameters – Potential Future Commercial/Light Industrial Worker

Parameter (Units)	Adopted Value	Reference	Comment
Body Weight (kg)	70	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Duration (years)	30	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance

Parameter (Units)	Adopted Value	Reference	Comment
Averaging Time – Carcinogens (years)	70	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Averaging Time – Non-Carcinogens (years)	30	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Exposure Time – Indoors (including within a basement) (hours/day)	8	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Time – Outdoors (hours/day)	1	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Frequency (days/year)	240	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance

Table 8 Exposure Parameters – Potential Future Commercial/Light Industrial Worker undertaking drain maintenance in a basement

Parameter (Units)	Adopted Value	Reference	Comment
Body Weight (kg)	70	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Exposure Duration (years)	30	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance
Averaging Time – Carcinogens (years)	70	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Averaging Time – Non-Carcinogens (years)	30	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Exposure Time – Indoors Within a Basement (hours/day)	8	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance This assumption would be conservatively protective of visitors in other underground spaces that may be constructed as part of the proposed development e.g. stadium access tunnels.

Parameter (Units)	Adopted Value	Reference	Comment
Incidental water ingestion rate for groundwater seepage during maintenance activities (mL/day)	5	Professional judgement	No new Australian guidance on this aspect. The AECOM (2016) assumption for this parameter is considered to remain appropriate. This volume represents approximately one quarter of a mouthful which is conservative as an estimated volume workers may ingest (i.e., from minor splashes or on hands) during maintenance activities.
Event time – dermal contact with groundwater (hours/day)	1	Professional judgement	No new Australian guidance on this aspect. The AECOM (2016) assumption for this parameter is considered to remain appropriate and conservative, and was selected to deliberately over-estimate the time over which a person undertaking drain maintenance activities would have their hands and forearms submerged in water in a drain, as it is likely that tools will be used and/or tasks such as preparation and installation of replacement parts will not involve contact with water in drains.
Exposure frequency – incidental ingestion and dermal contact with groundwater (days/year)	12	Professional judgement – monthly drainage maintenance	No new Australian guidance on this aspect. The AECOM (2016) assumption for this parameter is considered to remain appropriate and conservative, and was selected to deliberately over-estimate the frequency of drain maintenance activities in a new building constructed to the relevant Australian Standard.
Exposed Skin Surface Area for Groundwater Contact (cm^2)	2,600	Assumes hands and forearms exposed, conservatively based on values reported for males in enHealth (2012) Table 3.2.3	Consistent with current guidance

Table 9 Exposure Parameters – Potential Future Intrusive Maintenance Worker

Parameter (Units)	Adopted Value	Reference	Comment
Body Weight (kg)	70	*ASC NEPM*, 2013: Schedule B7, Table 5 (Commercial/Industrial Worker)	Consistent with current guidance
Exposure Duration (years)	30	CRC CARE 2011	Consistent with current guidance
Averaging Time – Carcinogens (years)	70	*ASC NEPM*, 2013: Schedule B7, Appendix C	Consistent with current guidance
Averaging Time – Non-Carcinogens (years)	30	*ASC NEPM*, 2013: Schedule B7, Appendix C (equal to Exposure Duration)	Consistent with current guidance
Exposure Time – Outdoors (hours/day)	8	CRC CARE, 2011: Part 1, Table 6	Consistent with current guidance
Exposure Frequency (days/year)	20	CRC CARE, 2011: Part 1, Table 6	Consistent with current guidance
Daily Soil Ingestion Rate (mg/day)	330	USEPA (2002) value for construction worker, as adopted by CRC CARE (2011) Part 1, Table 6	Consistent with current guidance
Exposed Skin Surface Area for Soil Contact (cm^2)	6,800	CRC CARE (2011) Part 1, Table 6, conservatively assumes head, hands, forearms and lower legs exposed to dirt through clothing	Consistent with current guidance
Soil to Skin Adherence Factor (mg/cm^2)	0.5	*ASC NEPM*, 2013: Schedule B7, Table 5 (Commercial/Industrial Worker)	Consistent with current guidance

Parameter (Units)	Adopted Value	Reference	Comment
Particulate Emission Factor m^3/kg)	2.6×10^7	*ASC NEPM*, 2013: Schedule B7, Appendix C, value for Recreational Receptor adopted as it assumes poor ground cover and activities that involve the generation of dust. A dust in air concentration of 39 $\mu g/m^3$ (95th percentile from Australian data as presented in enHealth, 2012a) has been used, where 100% is assumed to be derived from the contaminated Site.	Consistent with current guidance
Lung Retention Factor	0.375	*ASC NEPM*, 2013: Schedule B7, Table 5	Consistent with current guidance

5.3 Vapour Attenuation Modelling

The AECOM (2016) RC were derived using theoretical modelling of vapour attenuation in the subsurface based on the approach adopted by CRC CARE (2011) and originally described in:

- Johnson, 2002. *Identification of Critical Parameters for the Johnson and Ettinger (1991) Vapor Intrusion Model*. American Petroleum Institute May 2002, No 17.
- USEPA, 2004. *User's Guide for Evaluating Subsurface Vapour Intrusion into Buildings*. Office of Emergency and Remedial Response. Revised February 22, 2004.

As a conservative approach, a number of the vapour attenuation modelling assumptions were set to the CRC CARE (2011) generic assumptions for residential or commercial buildings which were used to derive the health screening level (HSLs) adopted in the ASC NEPM 2013. The vapour emissions from groundwater seepage into basements was assessed based on CRC CARE (2011) generic building assumptions and additional guidance from CRC CARE (2013) Technical Report 23. There have been no revisions or amendments to the associated Australian guidance documents since the RC were derived in 2016, hence the adopted generic exposure assumptions remain current. However, the following site-specific assumptions required review:

- The 2106 derivation of soil RC for all land use scenarios assumed a minimum thickness of 60 cm clean fill/capping (required to meet the ASC NEPM HSL/HIL relevant for the proposed land use) would be placed across the Site as part of the final condition. Based on current available information this assumption remains valid for the development proposed in the Precinct Plan, and is retained as a condition for risk assessment based on the RC to be applicable.
- The groundwater RC for a future slab-on-grade building (residential or commercial) assumed groundwater would be no shallower than 2 m below the building slab. This was adopted as a conservative representation of site-wide groundwater levels and assumed that the final ground surface level would not be lowered as a result of the site redevelopment works. Based on the preliminary designs associated with the Precinct Plan this assumption appears to remain valid, except for the following:
    - The *Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025* letter (AECOM, 2025c) reported two wells within Regatta Point where the depth to groundwater was 1.025 and 1.145 m below ground level, which is significantly less than the 2 m distance assumed in the derivation of the RC. Regatta Point was not part of the

Site when the RC were derived in 2016 and hence the shallower depth to groundwater in this area was not previously taken into account.

- The proposed stadium design indicates the playing field and associated buildings will be constructed at +3 m AHD. Groundwater elevation beneath the proposed stadium footprint as measured in wells during February 2025 ranges between 2.9 and 0.6 m AHD, with the majority of wells. Therefore, groundwater may be present at less than 2 m below the final ground level in the eastern and northern portions of the stadium footprint. However, AECOM understands that for ground stability purposes the stadium design will include engineered subsurface barriers to divert groundwater around the stadium footprint and reduce groundwater levels beneath the stadium.

The AECOM (2016) RC are therefore considered appropriate with regards to vapour attenuation modelling in areas where groundwater is greater than 2 m below the surface.

A sensitivity analysis has been conducted to assess the impact on the RC if groundwater is present at 1 m below a future residential or commercial building slab and is attached as **Appendix B**. This is representative of the shallowest depth to groundwater reported on the site within the Regatta Point area and likely to be conservative in relation to the anticipated future groundwater elevation beneath the stadium, considering the engineering measures planned to manage groundwater flow in this area.

The sensitivity analysis concluded that the RC would not change materially (less than 20% variation) based on a depth of 1 m to groundwater. Therefore, the AECOM (2016) RC are appropriate for assessment of potential human health risks which may arise from the land uses proposed in the Precinct Plan, including stadium construction, in all areas of the site where groundwater is present at 1 m bgl or deeper.

Where groundwater is shallower than 2 m below the surface, the AECOM (2016) assumption that basements would be sufficiently deep to intersect the groundwater table remains valid. Therefore, the RC for buildings with basements do not require revision to account for the shallower depth to groundwater encountered in Regatta Point compared to other areas of the Site.

If future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, additional assessment of the potential vapour intrusion risk to building users, based on data representative of that part of the Site, will be required.

5.4 Toxicity Assessment

The toxicity assessment stage of a HHRA examines the capacity of a chemical agent to cause adverse health effects in humans and includes a dose−response assessment, which is the process of making a quantitative link between the degree of exposure to a chemical and the adverse effect that may be realised. The toxicity reference values (TRV) adopted by AECOM (2016) for the RC derivation were reviewed to confirm whether they are consistent with current Australian risk assessment practice as outlined in the ASC NEPM 2013. The outcomes of this review are detailed in **Table 10** and **Table 11**, and summarised below:

- The tolerable concentration in air (TC) adopted for ethylbenzene (0.26 mg/m^3) was more conservative than the TC (1.3 mg/m^3) adopted for the derivation of the HSLs in the ASC NEPM, 2013. The RC for the vapour inhalation pathway are proportional to the TC and therefore the impact of adopting the TC of 1.3 mg/m^3 on the adopted RC for ethylbenzene would be:
  - Increase in the soil RC for slab-on-grade low-rise residential and commercial/ light industrial buildings to 81 mg/kg and 990 mg/kg (respectively).
  - Increase in the soil RC for residential buildings with a basement from 24 mg/kg to 120 mg/kg.
  - Increase in the soil RC for commercial/ light industrial buildings with a basement from 110 mg/kg to 570 mg/kg.
  - No change in the RC for other scenarios, because these already exceeded the soil saturation limit or solubility limit for the vapour inhalation pathway based on the more conservative TC.

- All other adopted TRV remain current and were selected in a manner consistent with the guidance in ASC NEPM 2013, Schedule B4.

It is recommended to update the RC tables to adopt the higher ethylbenzene RC, and the updated values have been included in the summary of RC in **Appendix C**.

Table 10 Review of threshold toxicity reference values adopted by AECOM (2016)

Analyte	Tolerable concentration in air (mg/m^3)	Tolerable daily intake (mg/kg/day)	Reference	Comment
Naphthalene	0.0037	0.02	CRC CARE (2011)	Consistent with current guidance
Benzene	0.024	0.004	CRC CARE (2011)	Consistent with current guidance
Toluene	5	0.222857	CRC CARE (2011)	Consistent with current guidance
Ethylbenzene	0.26	0.097143	TC: ATSDR (2010) TDI: CRC CARE (2011)	The adopted TC is not consistent with the TC adopted for the derivation of the HSLs that were incorporated into the NEPM. The adopted tolerable daily intake is consistent with current guidance
Xylenes (total)	0.87	0.179	CRC CARE (2011)	Consistent with current guidance
Styrene	0.26	0.077	TC: WHO (2000) TDI: NHMRC (2011)	Consistent with current guidance
TPH C6-C8 (Aliphatic)	18.4	5	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C8-C10 (Aliphatic)	1	0.1	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C8-C10 (Aromatic)	2	0.04	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C10-C12 (Aliphatic)	1	0.1	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C10-C12 (Aromatic)	2	0.04	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C12-C16 (Aliphatic)	1	0.1	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C12-C16 (Aromatic)	0.2	0.04	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C16-C21 (Aliphatic)	1	2	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance

Analyte	Tolerable concentration in air (mg/m^3)	Tolerable daily intake (mg/kg/day)	Reference	Comment
TPH >C16-C21 (Aromatic)	1	0.03	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C21-C34 (Aliphatic)	0.2	2	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C21-C34 (Aromatic)	0.2	0.03	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C34-C40 (Aliphatic)	1	2	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
TPH >C34-C40 (Aromatic)	0.2	0.03	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance
Dimethylphenol, 2,4-	0.07	0.02	USEPA (2015)	Consistent with current guidance
Methylphenol-2 (cresol, o-)	0.35	0.1	ASC NEPM 2013	Consistent with current guidance
Methylphenol-3 (cresol, m-)	0.35	0.1	ASC NEPM 2013	Consistent with current guidance
Methylphenol-4 (cresol, p-)	0.35	0.1	ASC NEPM 2013	Consistent with current guidance
Aniline	0.001	0.007	USEPA (2015)	Consistent with current guidance
Dibenzofuran	0.001	0.0035	USEPA (2015)	Consistent with current guidance

Table 11 Review of non-threshold oral toxicity reference values adopted by AECOM (2016)

Analyte	Inhalation unit risk $((\mu g/m^3)^{-1})$	Oral slope factor $((mg/kg/day)^{-1})$	Reference	Comment
Benzo(a)pyrene	Not volatile	1.00E+00	ASC NEPM 2013	Consistent with current guidance
Benzene	6E-06	1.00E+00	CRC CARE (2011), based on TPHCWG (1999)	Consistent with current guidance

6.0 Conclusions

This review of the AECOM (2016) RC has identified the following conclusions:

- Although the land development plans have evolved since 2016, there have been no material changes to the CSM that would warrant the RC to be revised to account for additional groups of human receptors or SPR linkages for soil or groundwater contamination at the site. The land uses proposed within the Precinct Plan are adequately accounted for by the land use scenarios for which the RC were originally developed.
- Although additional soil and groundwater investigations have been conducted at the Site since 2016, there are no new CoPC identified which would warrant RC to be derived. There was no data available for PFAS at the site in 2016, but the concentrations subsequently detected at the site have not exceeded relevant Tier 1 human health screening assessment criteria, and do not have any pathway to human exposure for future residents, recreational open space users, or commercial/industrial workers under the controls and development restrictions, including maintenance of barrier layers and prohibition on extractive use of groundwater, included in the RC and documented in the SEMP. Detected concentrations do not indicate any unacceptable risk to intrusive maintenance workers. Tier 1 criteria can continue to be used for screening purposes if additional PFAS data are collected at the Site.
- The methodology adopted for derivation of the RC in consistent with Australian guidance for conducting HHRA and remains current. However, RC for the following CoPC were based on the vapour inhalation pathway exceeded the water solubility limit:
    - Toluene
    - Ethylbenzene
    - Xylenes (total)
    - TPH C6-C8 (Aliphatic)
    - TPH >C8-C10 (Aliphatic)
    - TPH >C10-C12 (Aliphatic)
    - TPH >C10-C12 (Aromatic)
    - TPH >C12-C16 (Aliphatic)
    - TPH >C12-C16 (Aromatic)

  Under these conditions it is not possible for unacceptable risks to occur, and the RC should be listed as “not limiting”.
- The adoption of the CRC CARE (2011) HSLs as soil RC remains appropriate where the soil criteria calculated using the infinite source model were more conservative than the CRC CARE (2011) HSL based on a finite source model. It is noted that this approach should have been applied for the aliphatic TPH >C8-10 soil RC for residential and commercial/light industrial buildings with basements.
- The exposure assumptions made in the derivation of the RC were generic, conservative values commonly adopted for HHRA in Australia and remain current.
- The toxicity assumptions made in the derivation of the RC were selected in a manner consistent with the guidance in ASC NEPM 2013, Schedule B4 and remain current, with the exception of the TC for ethylbenzene.
    - Adopting the current TC for ethylbenzene would increase the soil RC for residential and commercial/ light industrial buildings but not change the RC for other land use scenarios.
- The vapour attenuation modelling assumptions made in the derivation of the RC were primarily generic, conservative values commonly adopted for HHRA in Australia and remain current, except for the site-specific depth to groundwater:

- The depth to groundwater was assumed in AECOM (2016) to be 2 m beneath a slab-on-grade building. However, shallower groundwater levels of approximately 1 m bgl had subsequently been measured in the Regatta Point area and could potentially be present due to a planned decrease in ground level beneath the stadium.
- A sensitivity analysis was performed which concluded that the RC would not change materially based on a depth of 1 m to groundwater. Therefore, the AECOM (2016) RC are appropriate for assessment of potential human health risks which may arise from the land uses proposed in the Precinct Plan, including stadium construction, in all areas of the site where groundwater is present at 1 m bgl or deeper.

- The SEMP should be updated to include:
  - Any drains in basements or buried structures should include a physical barrier to prevent direct contact with any groundwater infiltration.
  - While off-Site extraction and use of groundwater is considered unlikely, neighbouring sites should be informed of the outcomes of any Site Suitability Statement or future assessments, including potential impacts to groundwater which may affect neighbouring Sites, and advise them not to use groundwater without checking its suitability for use.

Based on the findings of this review, the AECOM (2016) RC are overall appropriate for ongoing assessment of potential human health risks which may arise from the land uses proposed in the Precinct Plan, including stadium construction, in areas where groundwater will be 1 m below the final surface or deeper. If future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building becomes less than 1 m bgl, additional assessment of the potential vapour intrusion risk to building users, based on data representative of that part of the Site, will be required.

Minor updates to the RC have been recommended, to align with the TC adopted for ethylbenzene in the HSLs from the ASC NEPM 2013 and to clarify where RC based on the vapour inhalation pathway exceed theoretical soil saturation limits or water solubility limits and therefore this pathway is not limiting. The RC recommended for ongoing assessments at the site are tabulated in **Appendix C**.

As all recommended changes increase adopted RC values, the results of previous assessments using the AECOM (2016) RC are considered conservative and applicable for assessment of potential risks for development under the Precinct Plan (MPDC, 2024).

When development plans are finalised, the CSM should be revisited to confirm that there are no changes which would materially affect the RC.

If you have any queries, please do not hesitate to contact the undersigned.

Yours faithfully

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Appendix A
Figures

AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



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LEGEND

- Regatta Point Boundary
- Macquarie Point Site Boundary

REGATTA POINT - LOCATION

Macquarie Point Development Corporation

Review of Site Specific Remediation Criteria
March 2025

Macquarie Point, Hobart, TAS

Figure

F1

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\10\DSI_Regatta_Point\F1_A3P_RP_Location.mxd)

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Appendix B
Groundwater RC Sensitivity Analysis

Groundwater Depth Sensitivity Analysis

Methodology

The derivation of groundwater RC utilised a theoretical model to estimate the concentration in the breathing zone (i.e., indoor air, or outdoor air in a trench excavation), based on concentrations in the groundwater. The model adopts a number of assumptions about the subsurface and human exposure that cumulatively represent a reasonable maximum exposure scenario that is intended to over-estimate rather than under-estimate potential risk. Sensitivity analysis involves adjusting one of these assumptions at a time and quantifying the impact on the calculated RC. If the RC varies by less than 20-30%, the sensitivity to the adjusted assumption is considered to be low because it is within the typical range of precision associated with field sampling and laboratory analysis techniques.

The groundwater RC for a future slab-on-grade building (residential or commercial) assumed groundwater would be no shallower than 2 m below the building slab. This was adopted as a conservative representation of Site-wide groundwater levels and assumed that the final ground surface level would not be lowered as a result of the Site redevelopment works. Based on the currently available data and preliminary designs associated with the Precinct Plan this assumption appears to remain valid, except for the following:

- The *Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025* letter (AECOM, 2025) reported two wells within Regatta Point where the depth to groundwater was 1.025 and 1.145 m below ground level, which is significantly less than the 2 m distance assumed in the derivation of the RC. Regatta Point was not part of the Site when the RC were derived in 2016 and hence the shallower depth to groundwater in this area was not previously taken into account.
- The proposed stadium design indicates the playing field and associated buildings will be constructed at +3 m AHD. Groundwater elevation beneath the proposed stadium footprint as measured in wells during February 2025 ranges between 2.9 and 0.6 m AHD, with the majority of wells. Therefore, groundwater may be present at less than 2 m below the final ground level in the eastern and northern portions of the stadium footprint. However, AECOM understands that for ground stability purposes the stadium design will include engineered subsurface barriers to divert groundwater around the stadium footprint and reduce groundwater levels beneath the stadium.

The groundwater RC for future residential or commercial developments with basement car parking assumed that the basement would be sufficiently deep to intersect the groundwater table and hence remain appropriate if the final ground surface level is lowered as a result of the Site redevelopment works.

The sensitivity analysis has therefore assessed the impact on the RC if groundwater is present at 1 m below a future residential or commercial building slab. This is representative of the shallowest depth to groundwater reported on the site within the Regatta Point area and likely to be conservative in relation to the anticipated future groundwater elevation beneath the stadium, considering the engineering measures planned to manage groundwater flow in this area.

Two sets of RC were presented in AECOM (2016) for future residential or commercial buildings:

- RC for slab-on-grade multi-storey buildings, or buildings with unknown construction, were adopted from CRC CARE (2011) based on generic default assumptions for residential or commercial land use
- RC for low rise one to two storey slab-on-grade buildings were derived assuming these buildings would have lower rates of vapour entry.

The sensitivity analysis has considered the RC for each of these building types.

The sensitivity analysis has only been performed for volatile chemicals, because the depth to groundwater only affects the vapour inhalation pathway for these RC.

Sensitivity Analysis

The outcomes of the sensitivity analysis are detailed in **Table B1** to **Table B4** below and calculations are included at the end of this Appendix.

Table B1 Sensitivity Analysis – Groundwater RC for residential slab-on-grade low-rise building (mg/L)

Chemical	AECOM (2016) RC	RC (groundwater at 1 m bgl)
Naphthalene	2.7	2.4
Benzene	0.8	0.7
Toluene	>Sol	>Sol
Ethylbenzene	250 *	>Sol
Xylenes (total)	>Sol	>Sol
TPH C6-C8 (Aliphatic)	>Sol	>Sol
TPH >C8-C10 (Aliphatic)	>Sol	>Sol
TPH >C8-C10 (Aromatic)	30 *	30 *
TPH >C10-C12 (Aliphatic)	>Sol	>Sol
TPH >C10-C12 (Aromatic)	>Sol	>Sol
TPH >C12-C16 (Aliphatic)	>Sol	>Sol
TPH >C12-C16 (Aromatic)	>Sol	>Sol
Styrene	99	95

*Notes: * Source = CRC CARE (2011) Appendix F; >Sol = calculated RC exceeds theoretical pure phase solubility limit*

Table B2 Sensitivity Analysis – Groundwater RC for residential slab-on-grade multi-storey building (mg/L)

Chemical	AECOM (2016) RC *	RC (groundwater at 1 m bgl)
Naphthalene	2	1.8
Benzene	0.8	0.8
Toluene	950 (>Sol)	>Sol
Ethylbenzene	250 (>Sol)	>Sol
Xylenes (total)	180 (>Sol)	>Sol
TPH C6-C8 (Aliphatic)	21 (>Sol)	>Sol
TPH >C8-C10 (Aliphatic)	0.6 (>Sol)	>Sol
TPH >C8-C10 (Aromatic)	30	30
TPH >C10-C12 (Aliphatic)	0.8 (>Sol)	>Sol
TPH >C10-C12 (Aromatic)	38 (>Sol)	>Sol
TPH >C12-C16 (Aliphatic)	1 (>Sol)	>Sol
TPH >C12-C16 (Aromatic)	72 (>Sol)	>Sol

Chemical	AECOM (2016) RC *	RC (groundwater at 1 m bgl)
Styrene	96	85

*Notes: * Source = CRC CARE (2011) Appendix F; >Sol = calculated RC exceeds theoretical pure phase solubility limit*

Table B3 Sensitivity Analysis – Groundwater RC for commercial slab-on-grade low-rise building (mg/L)

Chemical	AECOM (2016) RC	RC (groundwater at 1 m bgl)
Naphthalene	28	26
Benzene	8.8	8.6
Toluene	>Sol	>Sol
Ethylbenzene	>Sol	>Sol
Xylenes (total)	>Sol	>Sol
TPH C6-C8 (Aliphatic)	>Sol	>Sol
TPH >C8-C10 (Aliphatic)	>Sol	>Sol
TPH >C8-C10 (Aromatic)	>Sol	>Sol
TPH >C10-C12 (Aliphatic)	>Sol	>Sol
TPH >C10-C12 (Aromatic)	>Sol	>Sol
TPH >C12-C16 (Aliphatic)	>Sol	>Sol
TPH >C12-C16 (Aromatic)	>Sol	>Sol
Styrene	>Sol	>Sol

Notes: >Sol = calculated RC exceeds theoretical pure phase solubility limit

Table B4 Sensitivity Analysis – Groundwater RC for commercial slab-on-grade multi-storey building (mg/L)

Chemical	AECOM (2016) RC *	RC (groundwater at 1 m bgl)
Naphthalene	12	11
Benzene	5	4.8
Toluene	>Sol	>Sol
Ethylbenzene	>Sol	>Sol
Xylenes (total)	>Sol	>Sol
TPH C6-C8 (Aliphatic)	>Sol	>Sol
TPH >C8-C10 (Aliphatic)	4 (>Sol)	>Sol
TPH >C8-C10 (Aromatic)	190 (>Sol)	>Sol

Chemical	AECOM (2016) RC *	RC (groundwater at 1 m bgl)
TPH >C10-C12 (Aliphatic)	5 (>Sol)	>Sol
TPH >C10-C12 (Aromatic)	>Sol	>Sol
TPH >C12-C16 (Aliphatic)	6 (>Sol)	>Sol
TPH >C12-C16 (Aromatic)	>Sol	>Sol
Styrene	>Sol	>Sol

*Notes: * Source = CRC CARE (2011) Appendix F; >Sol = calculated RC exceeds theoretical pure phase solubility limit*

Conclusions

This sensitivity analysis identified that adopting a depth of 1 m to groundwater would change the RC by less than 20%. This is within the typical range of precision for environmental investigations due to field and laboratory precision and therefore not significant in terms of assessing potential risk. This is consistent with the reasoning adopted in the ASC NEPM 2013 which concluded that HILs did not require updating in 2013 if they varied by less than 20% based on updated assumptions.

Therefore, the AECOM (2016) groundwater RC are appropriate for ongoing assessment of potential human health risks which may arise from the land uses proposed in the Precinct Plan, including stadium construction, in all areas of the site where groundwater is present at 1 m bgl or deeper.

Appendix C
Updated RC Tables

Table C1 Residential Land Use RC for Soil (mg/kg)

Chemical	Potential Future Residents (slab-on-grade with unknown construction or multi-storey building) *	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)
Naphthalene	2.7	13	20
Benzene	0.5	0.5 *	0.5 *
Toluene	160	200	290
Ethylbenzene	57	81 (57)[1,2]	120 (24)[1,2]
Xylenes (total)	40	67	93
TPH C6-C8 (Aliphatic)	54	94	120
TPH >C8-C10 (Aliphatic)	88	88 *	88 * (24)[1,3]
TPH >C8-C10 (Aromatic)	12	27	36
TPH >C10-C12 (Aliphatic)	51	140	NL
TPH >C10-C12 (Aromatic)	25	130	170
TPH >C12-C16 (Aliphatic)	330	NL	NL
TPH >C12-C16 (Aromatic)	110	NL	NL

Notes:

** Source = CRC CARE (2011) Appendix F*

1. Previous adopted RC (AECOM, 2016)

*2. Ethylbenzene RC modified based on toxicity assessment (see **Section 5.4**)*

*3. TPH >C8-C10 (aliphatic) RC modified to CRC CARE (2011) HSL (see **Section 5.1**)*

NL = Not limiting. The calculated RC exceeds the theoretical soil saturation limit and therefore unacceptable risks via vapour inhalation will not occur.

Table C2 Commercial Land Use RC for Soil (mg/kg)

Chemical	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) *	Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)	Potential Future Commercial/Light Industrial Workers (Working within a basement car park)
Naphthalene	12	160	97
Benzene	3	3 *	3 *
Toluene	950	2500	1400
Ethylbenzene	340	990 (340)[1,2]	570 (110)[1,2]
Xylenes (total)	240	830	430
TPH C6-C8 (Aliphatic)	310	NL	570
TPH >C8-C10 (Aliphatic)	510	510 *	510 * (130)[1,3]
TPH >C8-C10 (Aromatic)	67	340	170
TPH >C10-C12 (Aliphatic)	300	NL	NL
TPH >C10-C12 (Aromatic)	140	NL	770
TPH >C12-C16 (Aliphatic)	1700	NL	NL
TPH >C12-C16 (Aromatic)	510	NL	NL

Notes:

** Source = CRC CARE (2011) Appendix F*

1. Previous adopted RC (AECOM, 2016)

*2. Ethylbenzene RC modified based on toxicity assessment (see **Section 5.4**)*

*3. TPH >C8-C10 (aliphatic) RC modified to CRC CARE (2011) HSL (see **Section 5.1**)*

NL = Not limiting. The calculated RC exceeds the theoretical soil saturation limit and therefore unacceptable risks via vapour inhalation will not occur.

Table C3 Recreational Land Use and Intrusive Maintenance Worker RC for Soil (mg/kg)

Chemical	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers
Lead	NV	620
Benzo(a)pyrene	NV	110
Naphthalene	NL	38,000
Benzene	360	170
Toluene	NL	660,000
Ethylbenzene	NL	290,000
Xylenes (total)	NL	530,000
TPH C6-C8 (Aliphatic)	NL	1,000,000
TPH >C8-C10 (Aliphatic)	NL	270,000
TPH >C8-C10 (Aromatic)	NL	110,000
TPH >C10-C12 (Aliphatic)	NL	270,000
TPH >C10-C12 (Aromatic)	NL	110,000
TPH >C12-C16 (Aliphatic)	NL	270,000
TPH >C12-C16 (Aromatic)	NL	110,000
TPH >C16-C21 (Aliphatic)	NV	1,000,000
TPH >C16-C21 (Aromatic)	NV	65,000
TPH >C21-C34 (Aliphatic)	NV	1,000,000
TPH >C21-C34 (Aromatic)	NV	65,000
TPH >C34-C40 (Aliphatic)	NV	1,000,000
TPH >C34-C40 (Aromatic)	NV	65,000

Notes:

NL = Not limiting. The calculated RC exceeds the theoretical soil saturation limit and therefore unacceptable risks via vapour inhalation will not occur.

NV = Not volatile. No RC has been adopted as the exposure pathway under this scenario is inhalation only.

Table C4 Residential Land Use RC for Groundwater (mg/L)

Chemical	Potential Future Residents (slab-on-grade with unknown construction or multi-storey building) *	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)
Naphthalene	2	3	7
Benzene	0.8	0.8	6
Toluene	NL (950)[1,2]	NL	NL
Ethylbenzene	NL (250)[1,2]	NL (250)[1,2]	NL
Xylenes (total)	NL (180)[1,2]	NL	NL
TPH C6-C8 (Aliphatic)	NL (21)[1,2]	NL	NL
TPH >C8-C10 (Aliphatic)	NL (0.6)[1,2]	NL	NL
TPH >C8-C10 (Aromatic)	30	30 *	NL
TPH >C10-C12 (Aliphatic)	NL	NL	NL
TPH >C10-C12 (Aromatic)	NL (38)[1,2]	NL	NL
TPH >C12-C16 (Aliphatic)	NL (1)[1,2]	NL	NL
TPH >C12-C16 (Aromatic)	NL (72)[1,2]	NL	NL
Styrene	96	99	NL

Notes:

** Source = CRC CARE (2011) Appendix F*

1. Previous adopted RC (AECOM, 2016)

*2. Previously adopted RC greater than water solubility limit (see **Section 5.1**)*

NL = Not limiting. The calculated RC exceeds the theoretical soil saturation limit and therefore unacceptable risks via vapour inhalation will not occur.

Table C5 Commercial Land Use RC for Groundwater (mg/L)

Chemical	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) *	Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)	Potential Future Commercial/Light Industrial Workers (Working within a basement car park)
Benzo(a)pyrene	NV	NV	0.05
Naphthalene	12	28	6
Benzene	5	9	5
Toluene	NL	NL	5,500
Ethylbenzene	NL	NL	1,600
Xylenes (total)	NL	NL	2,800
TPH C6-C8 (Aliphatic)	NL	NL	16,000
TPH >C8-C10 (Aliphatic)	NL (4)[1,2]	NL	79
TPH >C8-C10 (Aromatic)	NL (190)[1,2]	NL	360
TPH >C10-C12 (Aliphatic)	NL (5)[1,2]	NL	40
TPH >C10-C12 (Aromatic)	NL	NL	190
TPH >C12-C16 (Aliphatic)	NL (6)[1,2]	NL	67
TPH >C12-C16 (Aromatic)	NL	NL	160
TPH >C16-C21 (Aliphatic)	NV	NV	3,300
TPH >C16-C21 (Aromatic)	NV	NV	94
TPH >C21-C34 (Aliphatic)	NV	NV	3,300
TPH >C21-C34 (Aromatic)	NV	NV	39
TPH >C34-C40 (Aliphatic)	NV	NV	3,300
TPH >C34-C40 (Aromatic)	NV	NV	39
Dimethylphenol, 2,4-	NV	NV	1,300
Methylphenol-2 (cresol, o-)	NV	NV	4,300
Methylphenol-3 (cresol, m-)	NV	NV	4,200
Methylphenol-4 (cresol, p-)	NV	NV	4,300
Aniline	NV	NV	890
Dibenzofuran	NV	NV	8

Chemical	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) *	Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)	Potential Future Commercial/Light Industrial Workers (Working within a basement car park)
Styrene	NL	NL	160

Notes:
** Source = CRC CARE (2011) Appendix F*
1. Previous adopted RC (AECOM, 2016)
*2. Previously adopted RC greater than water solubility limit (see **Section 5.1**)*
NL = Not limiting. The calculated RC exceeds the theoretical soil saturation limit and therefore unacceptable risks via vapour inhalation will not occur.
NV = Not volatile. No RC has been adopted as the exposure pathway under this scenario is inhalation only.

Table C6 Recreational Land Use and Intrusive Maintenance Worker RC for Groundwater (mg/L)

Chemical	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers
Naphthalene	NL	NL
Benzene	NL	NL
Toluene	NL	NL
Ethylbenzene	NL	NL
Xylenes (total)	NL	NL
TPH C6-C8 (Aliphatic)	NL	NL
TPH >C8-C10 (Aliphatic)	NL	NL
TPH >C8-C10 (Aromatic)	NL	NL
TPH >C10-C12 (Aliphatic)	NL	NL
TPH >C10-C12 (Aromatic)	NL	NL
TPH >C12-C16 (Aliphatic)	NL	NL
TPH >C12-C16 (Aromatic)	NL	NL
Styrene	NL	NL

Notes:
NL = Not limiting. The calculated RC exceeds the theoretical soil saturation limit and therefore unacceptable risks via vapour inhalation will not occur.

Appendix G-5: In Situ Soil Characterisation and Waste Management Plan – Stage 1 and Stage 2 Bulk Excavation

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

In Situ Soil Characterisation and Waste Management Plan

Stage 1 and Stage 2 Bulk Excavation

19-Sep-2025
Macquarie Point Development Project

In Situ Soil Characterisation and Waste Management Plan

Stage 1 and Stage 2 Bulk Excavation

Client: Macquarie Point Development Corporation

ABN: 92 657 409 841

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Executive Summary

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site).

As part of proposed development of Macquarie Point, staged excavation of up to ~191,123 m^3 of soil and rock (WSP, 2024) is proposed, consisting of a mixture of anthropogenic fill from historic land reclamation, estuarine sediments from the former river- and sea-bed, and dolerite (ranging from fresh to extremely weathered) bed rock. At the request of the Corporation, AECOM has conducted an *in situ* waste categorisation of the proposed Stage 1 and Stage 2 excavation area, which has involved:

- Review of historic environmental data for the Site.
- Advancement of 125 boreholes across the Stage 1 and Stage 2 excavation areas.
- Collection and laboratory analysis of 518 primary soil samples.
- Screening and assessment of soil data against the waste categorisation data presented in *Information Bulletin No. 105 – Classification and Management of Contaminated Soil for Disposal* (IB105) (EPA, 2018) and the Health Investigation Level (HIL) D – Commercial/Industrial Land use from the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended in 2013) (ASC NEPM).
- Preparation of this Soil Categorisation and Waste Management Plan to recommend disposal of this material following excavation.

Sampling design and statistical assessment of contaminant concentrations in assessed material was undertaken using *Industrial Waste Resource Guidelines 702 - Soil Sampling* (IWRG 702) (EPA Victoria, 2024), which provides statistical methodologies for assessment of large (>250 m^3) quantities of soil for disposal. While no equivalent guidelines have been issued by EPA Tasmania, the approach presented by IWRG 702, and an earlier version of this document (EPA Victoria, 2009), have been previously accepted by EPA Tasmania in assessments of soil from the Site for waste disposal.

A total soil volume of ~104,000 m^3 *in situ* (138,300 m^3 *ex situ* with a bulking factor of 1.33 applied [IWRG 702]) has been estimated to be within the area of soil assessed in this report. Based on results of assessment:

- The majority of the material assessed is categorised as Level 2 – Low Level Contaminated Soil, consisting of 93,900 m^3 (*in situ*) - 85,100 m^3 of anthropogenic fill and 8,800 m^3 of moderately to extremely weather dolerite.

  The Level 2 material is considered suitable for disposal to landfill, under the conditions detailed later in this document. It is noted that specific landfill site or sites have not yet been proposed as the ultimate destination for excavated Level 2 material. However, handling and disposal requirements for any disposal site have been identified and included in this assessment.
- 9,800 m^3 (*in situ*) of anthropogenic fill in three hot spots is considered to be potential Level 3 – Contaminated Soil or higher, and is recommended for *ex situ* assessment and potential remediation following excavation.
- An estimated 327 m^3 (*in situ*) of fresh to mildly weathered dolerite in the proposed Stage 1 and Stage 2 excavation area is categorised as Level 1 – Fill Material, Type 1.

Field Assessment and Sample Analysis

Field work conducted as part of this assessment, completed between 25 November and 11 December 2024, was conducted in accordance with the methodology proposed in *Stadium Footprint In Situ Soil Characterisation – Sampling, Analysis and Quality Plan* (the SAQP) (AECOM, 2024a), and consisted of:

- Advancement of boreholes in a 20 x 20 m grid across the Stage 1 and Stage 2 excavation areas. Some minor deviations from grid occurred due to accessibility at some locations.

- Boreholes were advanced to a target depth below the proposed depth of excavation (2.4 m below ground level [bgl]), based on Site surface surveys conducted in 2024.
- Soil samples were collected every 0.5 m, or if a change in lithology or feature of interest was noted by field staff, and analysed as follows:
  - 168 soil samples (33% of total) were assessed for total contaminant concentration (TCC) of all Chemicals of Potential Concern (CoPC) listed on Table 2 of IB105, excluding tributyltin (TBT), which has not been detected on the Site as part of previous investigations.
  - 350 soil samples (67% of total) were assessed for TCC of targeted CoPC selected based on previous soil investigations and historical Site uses, consisting of benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN), total petroleum hydrocarbons (TPH), lead, arsenic and polycyclic aromatic hydrocarbons (PAH).
  - 179 samples (35% of total) were additionally analysed for leachate contaminant concentration (LCC) of metals (primarily lead, but also including mercury, arsenic, cadmium, chromium and/or zinc) and/or PAHs, based on TCC concentrations.
- Key observations recorded during borehole advancement were:
  - Anthropogenic material (such as fragments of brick, metal, plastic, glass, wood, bitumen, ceramics, concrete and coal noted in various locations) were noted in anthropogenic fill at the surface to between 1 and >3.5 m bgl, and is considered likely to be the material introduced to the Site during progressive historical land reclamation events.
  - Odours and elevated vapour levels (recorded by photo-ionisation detector [PID]) were detected in locations in the former gasworks area, and are attributed to gasworks operations, and in one location (~3 m bgl in H10) close the water table, and is attributed to groundwater fluctuation.
  - One fragment of Asbestos Containing Material (ACM) was observed at 0.5 m bgl in borehole E13. The ACM was non-friable and no asbestos fibres were detectable at the Limit of Reporting (LOR) of 0.01%$^{w}/_{w}$ in the soil surrounding the fragment.
- No samples were collected from fresh or slightly weathered dolerite, as the low hydraulic conductivity of dolerite limits any potential penetration of contamination into the rock mass.

Sampling density, spacing, and analytical suites are considered suitable for assessment and interpretation, based on applicable standard and guidance documents.

Based on the depth of boreholes and the surface area assessed, the following *in situ* volumes have been estimated as included in the volume sampled for this assessment:

- Anthropogenic fill – 94,900 m^3
- Weathered dolerite – 8,800 m^3

It is noted that the estimated *in situ* volume assessed has minor variations from the earlier modelling of the excavation area (WSP, 2024), which is considered to be due to a variation in the area assessed as “Stage 1” of excavation, where the area assessed in this report includes a strip of land to the north, previously considered part of the “Balance of the Site” in earlier modelling, and on natural minor differences which may arise from different calculation methods.

Assessment of fresh or slightly weathered dolerite has also been conducted, based on a modelled volume of 327 m^3 (WSP, 2024).

Soil Assessment

Waste classification of soil has been conducted with reference to the total contaminant concentration (TCC) and leachate contaminant concentration (LCC) criteria provided on Table 2 of IB105.

Exceedances of the IB105 Level 1 TCC criteria were detected for TPH C10-C36, metals (arsenic, barium, beryllium, cadmium, chromium (VI and total), copper, lead, mercury, silver, tin, and/or zinc), fluoride, and/or PAHS (benzo(a)pyrene or sum of PAHs), which were detected in multiple locations

within the anthropogenic fill, and it is considered that this material should be categorised as Level 2 at a minimum based on these results.

Table E1 summarises assessment of exceedances of the IB105 Level 2 (or higher) criteria in the material proposed for excavation

Table E1 Summary of Soil Waste Categorisation – Level 2 or Higher

Lithology	Volume (*in situ*)		IB105 Category
Anthropogenic Fill	9,800 m^3	Soil with potentially higher levels of contamination, which is recommended for *ex situ* sampling and further investigation following excavation, has been identified: • ~7,000 m^3 proposed to be excavated from the former gasworks footprint in the south-west corner of the proposed excavation (grid references E15-E16, F15-16, G15-G18 and H15-H18). • ~1,300 m^3, to be excavated to an average of approximately 2.5 m bgl in an 18 m radius around sample point J06, noting that only approximately half of this hotspot is within the proposed Stage 1 and Stage 2 excavation area. • ~1,500 m^3, to be excavated to approximately 1.5 m bgl in an 18 m radius around sample point M13.	Level 3 or higher – further assessment recommended.
Anthropogenic Fill	85,100 m^3	Concentrations of TPH C10-C36, metals (arsenic, cadmium, chromium (total), lead, tin, and zinc) and PAHs (benzo(a)pyrene and Sum of PAHs) were detected above the Level 2 criteria in some samples for this volume. However, following calculation of 95% upper confidence limits (95% UCLs) for these CoPC: • 95% UCL TCC of TPH C10-C36, metals (arsenic, cadmium, chromium (total), tin and zinc) are below the Level 1 TCC criteria. • 95% UCL TCC and LCC of lead are below the Level 2 TCC criteria. • 95%UCL TCC of benzo(a)pyrene and Sum of PAHs in excess of the Level 2 TCC criteria. However, the 95% UCL LCC for these CoPC are below the Level 2 LCC criteria, which has been used to determine waste category.	Level 2 – Low Level Contaminated Soil
Weathered (moderately to extremely) Dolerite	8,800 m^3	• Copper and manganese were detected above the Level 1 TCC criteria. These CoPC are considered likely to be natural constituents of the dolerite. • Benzo(a)pyrene and Sum of PAHs were detected above the Level 2 TCC criteria. However, 95%UCL TCC of these CoPC were below the Level	Level 2 – Low Level Contaminated Soil

Lithology	Volume (*in situ*)		IB105 Category
		criteria, and LCC of benzo(a)pyrene and benzo(a)pyrene TEQ(LOR) were below the Level 2 LCC criteria, and as recommended in IB105, LCC will be used as sole determinant of waste category.	

In addition:

- Modelling of the excavation area (WSP, 2024) estimated 327 m^3 of fresh to weathered dolerite, forming natural bedrock below the Site, is within the volume proposed for Stage 1 and State 2 of excavation.

  While not sampled as part of this assessment, the low conductivity of the dolerite limits potential penetration of contamination into the rock interior. Small amounts of contaminated soil (i.e., fill material which has settled into fractures within the dolerite, or contamination transported by surface water running over the dolerite surface) may be present, however any such volumes would consist of only a small overall portion of the volume to be removed, and are not considered to likely represent overall contamination of the material when excavated.

- Two areas of possible Potential Acid Sulfate Soil (PASS) (BH-004 and ABH-004) have been identified within the proposed excavation area in an acid soil investigation (AECOM, 2025a). Further investigation to assess if PASS is present, and, if so, what management requirements will be required for safe excavation and neutralisation, are planned and will be completed prior to excavation.

- As part of assessment of soil for off-Site disposal to landfill, potential environmental risks to landfill workers while handling and placing the soil were assessed against the ASC NEPM HIL-D criteria for commercial/industrial land use. While exceedances of the HIL-D criteria for lead and benzo(a)pyrene TEQ TCC were reported in some samples in anthropogenic fill, these exceedances are not considered represent a risk of environmental harm at the proposed disposal site under the conditions considered (presented in recommendations below) as:

  - Benzo(a)pyrene TEQ and lead present a risk via physical contact (ingestion/inhalation). The proposed disposal methodology includes controls to limit contact with soil/dust during handing of the material (via use of Personal Protective Equipment (PPE), soil handing and enclosed equipment) and as part of long term management (via cover material to limit contact with the soil).
  - The HIL-D criteria contain an assumption of up to one hour per day of contact with soil over a 30 year period, which is considered conservative and unlikely to occur under the proposed disposal methodology, as no contact with the soil is considered likely to occur once placed and covered.
  - 95% UCL concentrations of the CoPC were below the adopted ASC NEPM HIL-D criteria, and exceedances of criteria are likely limited throughout the material. The small areas of exceedance are not considered to be representative of the overall condition or expected exposure of the soil during handling and disposal.

Recommendations

Based on the assessment provided in this report, it is recommended that the following additional works be conducted during or prior to excavation:

- Anthropogenic fill at the following locations is considered to potentially be Level 3 or higher, and should be resampled and assessed *ex situ* following excavation:

- ~7,000 m^3 proposed to be excavated from the former gasworks footprint in the south-west corner of the proposed excavation (grid references E15-E16, F15-16, G15-G18 and H15-H18).
- ~1,300 m^3, to be excavated to an average of approximately 2.5 m bgl in an 18 m radius around sample point J06, noting that only approximately half of this hotspot is within the proposed Stage 1 and Stage 2 excavation area.
- ~1,500 m^3, to be excavated to approximately 1.5 m bgl in an 18 m radius around sample point M13.

Results of the *ex situ* investigation should be assessed and a separate waste management assessment for disposal or remediation be prepared for soil from these areas.

- Planned additional investigation to determine if PASS is present in anthropogenic fill in two locations (BH-004 and ABH-004) must be completed prior to excavation. If PASS is present, an Acid Sulfate Soil Management Plan for excavation of these areas must be prepared detailing handling and neutralisation measures, with reference to the *Tasmanian Acid Sulfate Soil Management Guidelines* (DPIPWE, 2009), which must be implemented to allow safe handling and disposal of this material.
- During excavation, any areas of potential elevated contamination (such as odours, staining, or high concentrations of anthropogenic material), and any bulk buried materials or infrastructure encountered (such as buried slabs or pipes) must be noted and segregated for further *ex situ* assessment, similar to the areas of potential elevated contamination noted above.

Following excavation, it is recommended that 93,900 m^3 of Level 2 – Low Level Contaminated Soil, consisting of anthropogenic fill and weathered dolerite, and any fresh to mildly weathered dolerite removed from the Stage 1 and Stage 2 excavation areas must be disposed of using the following methods:

- Any excavation or handling of soil should be conducted in accordance with the Site Environment Management Plan (the SEMP) (AECOM, 2024a), or any future updates of the SEMP.
- Beneficial on-Site re-use: – Any on-Site beneficial re-use of soil should meet the following criteria:
  - Soil must be categorised as either Level 1 – Fill, or Level 2 – Low Level Contaminated Soil, in accordance with IB105.
  - Contaminant concentrations in the soil must not represent an environmental risk to human or ecological health on the Site or in surrounding areas under the proposed re-use scenario. Potential environmental risks must be assessed with reference to the Site specific Remediation Criteria (AECOM, 2025b).
  - Re-use must be undertaken in such a way to prevent environmental nuisance or harm from escape of materials, spillage, or emission of dust or odours.
  - All soil must be handed in accordance with practices presented within the Site Environment Management Plan (the SEMP) (AECOM, 2024a).

  Any on-Site re-use scenario must be presented to an independent Environmental Auditor, as accredited by Section 39F(3) of the *Macquarie Point Development Corporation Act 2012*, for review and endorsement.

  If the on-Site beneficial re-use is endorsed by the Environmental Auditor, re-use will proceed, and a record of the re-use scenario, including the volume and characteristics of the soil, the location of re-use, the assessment of environmental risks and mitigations, and the Auditor's endorsement must be provided to EPA no later than one year after re-use has occurred.
- Off-Site disposal to landfill under the following conditions:
  - The excavated material will be transported off-Site by a contractor on behalf of the Corporation or the receiving Site. Reasonable precautions will be undertaken to ensure that no environmental or human health harm results from the movement of potentially contaminated materials between the sites. All truckloads will be tracked.

- Material will be immediately disposed of using an enclosed excavator or other mechanical methods. No manual works outside the machine are to be planned as part of the soil placement.
- The receiving landfill will have developed a Safe Work Method Statement (SWMS) for the placement of the soil which will include handling measures and PPE requirements. The minimum PPE requirements for the work are gloves, long sleeves and pants, eye protection and face mask, and will include procedures (such as washing of hands before eating, drinking, or smoking to remove any material) to reduce any potential exposure by receiving site staff while handling and placing material.
- The receiving site will have mitigation methods to prevent dust generation during soil placement or long term.
- The areas of disposal will be remote from members of the public or any staff outside excavators/machines.
- The area of disposal must be unsaturated (i.e., above the water table).
- The material will not be stored by the receiving site prior to use.
- No further excavation or disturbance of the area of use will take place following import of the material.
- The receiving site will have an EPA certified leachate capture and treatment system. Leachate from the area of reuse will be captured in a silt trap/holding basin prior to discharge to sewer.

Approval from EPA is required prior to the disposal of any material, and all material must be transported off Site by an appropriately licensed waste transporter. It is noted that the receiving site is still to be determined by the Corporation, and will need to be nominated, and compliance to the terms above received, prior to disposal, and any additional requirements (i.e., which may arise from the licence conditions at the receiving Site) or changes in handling and disposal methodology will require review and may require amendment of any disposal approvals.

Assessment of soil waste categories and suitability for proposed disposal routes has been undertaken as a statistical assessment of the entire volume of soil proposed for excavation. In the event that an alternative disposal methodology or Site be proposed, or further treatment required, this Waste Management Plan should be updated to separately assess each volume of soil proposed for different disposal methods, or a new plan be prepared, by a suitably experienced environmental practitioner.

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of remediation at the Macquarie Point Site in Hobart, Tasmania (the Site). The Site location is shown on **Figure F1**, in the **Figures** section.

The redevelopment of Macquarie Point aims to restore and energise a Site that has long been associated with industrial, freight and rail use into a significant hub for the people of Hobart. In August 2024, the Corporation released the latest design concepts for the Macquarie Point Precinct within the *Mac Point Final Precinct Plan* (the Precinct Plan) (MPDC, 2024). To facilitate the Precinct Plan, excavation of soil is required to prepare the Site for proposed future development, and is currently planned to be conducted in three stages, Stage 1 to Stage 3, shown on **Figure 1** below.

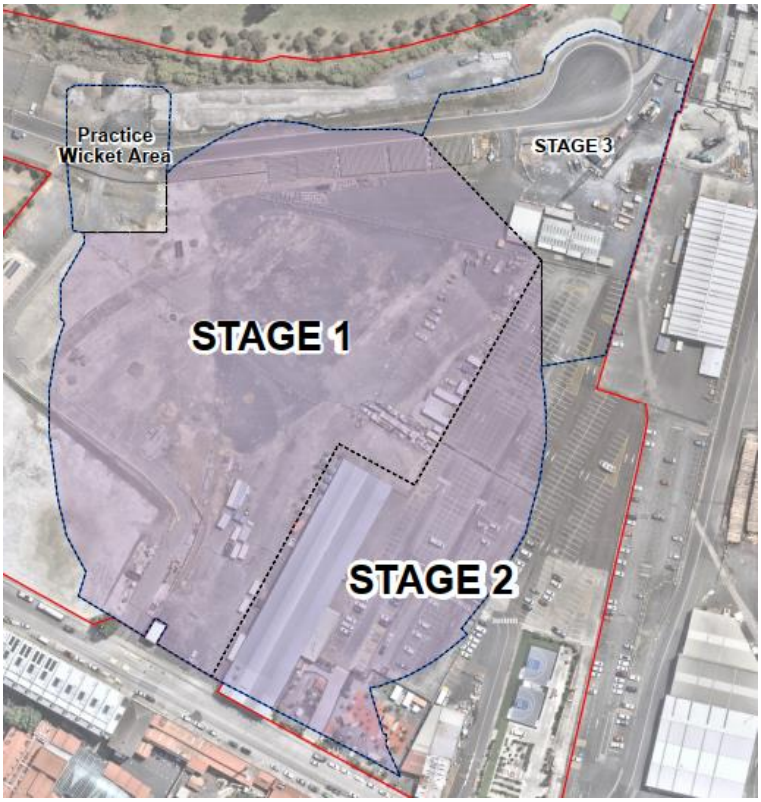

Figure 1: Proposed Bulk Excavation Stages

At the request of the Corporation, AECOM has conducted sampling in the Stage 1 and Stage 2 excavation areas to assess and characterise the unsaturated soil, consisting of anthropogenic fill, weathered dolerite, and fresh dolerite, to be excavated for future removal from Site and disposal. This Soil Characterisation and Waste Management Plan has been prepared to provide the outcomes of this investigation.

1.1 Background

Previous environmental investigations at the Site have identified environmental impacts resulting from historical activities undertaken on and in proximity to the Site, including land reclamation, locomotive maintenance and refuelling, bulk fuel and oil storage and transfer, and the former Hobart Gasworks.

Contaminated soil has been identified in previous investigations and has been assessed as being between waste categories Level 1 – Fill Material, and Level 4 – Contaminated Soil Requiring Remediation, in accordance with the Tasmanian guidelines, regulations and legislation relating to soil waste, including the *Environmental Management and Pollution Control Act 1994* (the EMPCA), the *Environmental Management and Pollution Control (Waste Management) Regulations 2020* (the

Regulations) and EPA Tasmania *Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal* (IB105) (EPA, 2018).

Based on the Site history and previous investigations, and in accordance with the Site Environment Management Plan (the SEMP) (AECOM, 2024a), which directs environmental management procedures at the Site, all soil excavated from the Site should be considered potentially contaminated and requires assessment prior to removal and reuse or disposal.

1.2 Objectives

The objectives of this report are to:

- Record the outcomes of the field investigation in the Stage 1 and Stage 2 excavation areas conducted between 25 November and 11 December 2024.
- Assess and characterise the waste category of unsaturated soil within the Stage 1 and Stage 2 excavation areas in accordance with EPA Tasmania IB105.
- Assess the potential for excavated unsaturated soil (fill and dolerite) to be disposed off-Site to landfill.

It is intended that this document can act as a Waste Management Plan for the off-Site disposal or reuse of the soil material in accordance with Section 3 and Section 5 of IB105. *In situ c*ategorisation has been undertaken to assist in reducing the time and costs associated with bulk excavation to allow material to be excavated and transferred to the receiving waste site without stockpiling and sampling on-Site.

Review and approval from the Environment Protection Authority (EPA) of Tasmania is required prior to any disposal of soil.

1.3 Scope of Work

The following scope of work has been undertaken by AECOM:

- Advancement, and collection of soil samples, from 125 bore holes within a gridded pattern, shown on **Figure F2**, in the Stage 1 and Stage 2 excavation areas.
- Review and screening of sample results from bore hole works and historical sample results against the adopted criteria (described in **Section 5.0**) to determine the waste category of soil and assess potential disposal options
- Preparation of this Soil Categorisation and Waste Management Plan.

The methodology and assessment criteria adopted were defined in the *Stadium Footprint In Situ Soil Characterisation – Sampling, Analysis and Quality Plan* (SAQP; AECOM, 2024b).

2.0 Site Details

The Site details are provided in **Table 1** below.

Table 1 Site Details

Item	Description
Site Identification	Macquarie Point.
Site Address	41 Evans Street, Hobart, Tasmania.
Site Area	Approximately 9.3 ha.
Site Layout	**Figure F2**
Current Site Owners	State of Tasmania (Crown Land).
Title Details	Land title 179192/1 (also recorded as 45404/1), 179192/2, 179192/3, 179192/4 (formerly 113521/1, formerly CT 114462/1) and land title 129483/6 cover the overall Site.
Current Zoning	The *Sullivans Cove Planning Scheme 1997* [amended on 10 May 2023] (HCC, 2023) notes that the Site falls within the *Sullivans Cove 'Gateway & Transport'/Activity Area 3.0 (Macquarie Point Mixed Use Zone)* and is subject to the following three use areas as per Clause 32.5 under Part F of the Scheme: • Arts and Institutional Area • Mixed Use Area (including residential) • Open Space Area. It is noted that the *Macquarie Point Development Corporation Amendment Bill 2018* passed the parliament in November 2018. The Bill allows the Corporation to update the vision for the Site.
Current Uses	The following is noted with regard to Site use and features: • The majority of the Site is currently vacant and is covered with a combination of asphalt, concrete and gravel surfacing, as well as backfill and clean fill material from previous soil remediation works. Portions of the north, west and south-east of the Site are currently in use for remediation activities, including stockpiling of excavated materials. • The remnant concrete slab associated with the former SeaRoads Shed is being used for temporary storage of the plantings of the former Edible Precinct (in planter boxes) and for two basketball half-courts. • The Corporation's office building is located in 8A Evans Street on the western boundary of the Site. • The Goods Shed was previously used by the Corporation as office space, and is subject to intermittent uses including public events. • The "Red Shed", located in the south eastern portion of Macquarie Point, is currently used by a microbrewer and includes a public bar. • Small retail outlets are located in the area adjacent to the Red Shed (Red Square) which is also used for markets, music and other outdoor events with food vans. • A public carpark is present in the south-eastern and eastern portion of the Site.

Item	Description
	• Public events including markets and concerts have intermittently occurred at the Site. • A range of short-term tenants (6 – 12 months) utilise the western and central portions of the Site to support local construction activities, including a lease by the Tasmanian Water and Sewage Corporation (TasWater) during construction of a Sewage Pumping Station (SPS) off-Site to the east. • An access road (the Northern Vehicular Access) is located in the northern section of the Site. • Access stairs to the adjacent Hobart Cenotaph are present in the northwest corner of the Site
Future Land Uses	The current development plans for the Site are proposed to revitalise the Macquarie Point Precinct with a mix of uses, as detailed within the *Mac Point Final Precinct Plan* (the Precinct Plan) (MPDC, 2024), which includes (but is not limited to): • Retail and Port Commercial. • Residential Development and Public Foreshore. • Multipurpose Stadium. • Transport/ Vehicle Access.
Closest Surface Water Body(s)	• Sullivans Cove, approximately 170 m to the south • River Derwent, approximately 350 m southeast (inferred direction of groundwater flow) and 25 m to the northeast.
Site Geology	The Site is underlain by a combination of reclaimed land, Quaternary aged sediments and Dolerite of Jurassic age. Micaceous quartz sandstone and white felspathic sandstone and micaceous mudstone of Triassic age are located to the north and west of the Site. *Tasmanian Department of Resources and Energy Engineering Geology Greater Hobart Area, Map 1 (1990)*
Site Hydrogeology	The Site is underlain by a single aquifer unit extending to greater than 25 m below ground level (bgl). Groundwater beneath the Site is generally encountered in anthropogenic fill material, extending into the underlying natural estuarine sediments and fractured dolerite bedrock.

3.0 Assessment Approach

The following considerations was given when planning this investigation in the SAQP (AECOM, 2024b), prior to work commencing, and during sampling and assessment of results.

3.1 Chemicals of Potential Concern (CoPC)

Based on available Site history and uses, previous investigations has been conducted on eight sub-areas, shown on **Figure F2** in the **Figures** section, located across the Site and off-Site at Regatta Point, a parcel of land to the north which is currently undergoing land transfer to the control of the Corporation.

The proposed extents of the Stage 1 and Stage 2 excavation includes land within the Escarpment, the Goods Shed and Yard, the Promenade and Underground Carpark, the Precinct North, the Precinct South, and the Gateway areas.

Table 2, below, summarises the CoPC identified for these areas, based on historic land uses. While previous remediation has been conducted to remove areas of known contamination associated with these CoPC within the Bulk Excavation Area (BEE), the potential exists for them to be present within other areas of Site soil.

Table 2 CoPC

Assessment Areas and Potential Contaminating Activity	CoPC
The Escarpment • Locomotive refuelling • Railway maintenance • Fuel transfer infrastructure • Concrete batching plant	• TPH, BTEXN, PAHs, phenolic compounds, chlorinated solvents, metals[1], phosphorus, sulphur, ACM, SVOC, VOC, OCPs
Goods Shed and Yard • Freight storage and handling • Vehicle maintenance • Fuel storage and handling	• TPHs, BTEXN, PAHs, phenolic compounds, chlorinated solvents
The Promenade and Underground carpark • Locomotive refuelling and maintenance • Freight storage and handling	• TPHs, BTEXN, PAHs, phenolic compounds, chlorinated solvents, metals[1], ACM
The Precinct North • Freight storage and handling	• TPHs, BTEX, PAHs, phenolic compounds, chlorinated solvents, metals[1], SVOC, VOC
The Precinct South • Freight storage and handling	• TPHs, BTEX, PAHs, phenolic compounds, chlorinated solvents, metals[1], SVOC, VOC
The Gateway • Former Hobart Gasworks • Locomotive refuelling • Railway maintenance	• TPHs, BTEX, PAHs , phenols, metals[1], chlorinated solvents, phosphorus, sulphur, ACM, complex cyanides, free cyanides

Notes: TPH – Total Petroleum Hydrocarbons; TRH – Total Recoverable Hydrocarbons; PAH - Polycyclic aromatic Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene; ACM – Asbestos containing material, SVOC – Semi-Volatile Organic Compounds; VOC - Volatile Organic Compounds; OCPs – Organochlorine Pesticides; 1 – arsenic, chromium, manganese, aluminium, cadmium, chromium, copper, lead, nickel, and zinc.

It is also noted that Potential Acid Sulfate Soil (PASS) has been detected beneath the Site and assessed in *Acid Sulfate Soil Investigation* (AECOM, 2025a), and is discussed with reference to the proposed excavation in **Section 7.5.1.1.1**.

3.2 Previous Soil Data

Soil data has been collected from across the areas intended for excavation as part of previous environmental investigations at the Site. While these samples were not specifically targeting the

excavation areas, or intended to be used for soil waste categorisation, it is considered appropriate to use them as additional data points and to support waste categorisation assessed, as:

- The data reviewed was obtained within the past 10 years, and collected using suitable sampling methodologies consistent with applicable guidance documents and practices.
- Samples were assessed for the applicable Site CoPC, based on identified historic uses and contaminants of the excavation area, which may be present in concentrations which would indicate a higher waste category.
- Samples were obtained from within the proposed excavation area, with inclusion of a 10 m buffer, within unsaturated soil.
- Sample locations have not been excavated and the soil removed from the Site.

The review identified 405 soil samples from within the excavation area which are appropriate for consideration as part of this assessment. The locations of previous soil sampling is shown on **Figure F5**, and analytical data collected is presented in attached **Table T6**.

Assessment of soil data from prior investigations reported exceedances of the IB105 Level 2 criteria for:

- Metals (arsenic, lead).
- TPH (C10-C36 fraction). It is noted that detected exceedances of criteria in soil remaining on Site have only been reported in samples collected from below the water table, and may be influenced by groundwater impacts.
- PAHs (benzo(a)pyrene, Sum of PAHs).
- Cyanide.

For exceedances of the Level 2 criteria noted:

- No exceedances of Level 2 criteria were detected in the Practice Wicket Area.
- While limited exceedances of lead and arsenic were detected, these metals (particularly lead) have been key soil CoPC for earlier soil remediation programs at the Site.
- TPH exceedances were typically below or close to the water table, near known Light Non-Aqueous Phase Liquid (LNAPL) plumes, which will not be removed by excavation, and are considered likely to be due to groundwater impacts. This included all exceedances of the Level 3 criteria, with the exception of:
    - RHTP_07_BASE_1.3-1.3, which was collected from a thin (~2 mm) layer of grease-impacted soil beneath a geofabric layer at the base of a buried service pit associated with former rail operations. The small volume of soil in this pit would be removed with the service pit and is not considered to affect overall waste classification.
    - BH127/0.5, in the footprint of the Underground Carpark area. This soil is not included in assessment of the Stage 1 and Stage 2 soil excavation, and management or disposal assessment of this area will be undertaken as part of future work.
- Multiple locations reported benzo(a)pyrene concentrations above the Level 2 criteria, and Sum of PAH concentrations above the Level 2 or Level 4 criteria, and these are considered key CoPC for soil assessment.
- Only one sample reported an exceedance of the Level 2 criteria for cyanide, BH116/3 in the Stage 1 and Stage 2 excavation area. Soil at this location is deeper than the proposed extent of excavation, which is 1.5 m in this area, and is delineated vertically at 1 m bgl (within the proposed excavation volume) and 3.5 m bgl. As other assessments for cyanide were below the laboratory limit of reporting (LOR) in 90 locations, below Level 1 in 15 locations, and below Level 2 in two locations, cyanide is not considered a key CoPC for soil assessment.

3.3 Analytical Suites

Based on the CoPC identified from historical land uses discussed in **Section 3.1**, and results of previous investigations of soil at the Site (**Section 3.2**), the following analytical suites and frequency were selected in the SAQP for soil assessment:

- A minimum of 30% of primary soil samples were to be analysed for total contaminant concentrations (TCC) of the full suite of chemical listed on Table 2 of IB105, excluding tributyltin (TBT).
- The remaining primary soil samples were to be analysed for a targeted suite consisting of TCC of:
  - BTEXN
  - TPH C6-C40
  - Metals (lead and arsenic)
  - PAHs.
- Based on TCC results, targeted analysis for leachate contaminant concentration (LCC) would be conducted using Toxicity Characteristic Leaching Procedure (TCLP).

The selected suites and densities were based on:

- While IB105 does not require analysis for all chemicals for which criteria are provided (on Table 2 of IB105), based on the long industrial history of the Site and varied potentially contaminating uses, assessment of a subset (30%) of samples for a broad suite of chemicals is considered appropriate and conservative.

  TBT was excluded as it has not been identified as a CoPC for any previous Site uses and has not been detected in previous soil sampling programs.
- The targeted CoPC analysed in the majority of samples are based on previous soil stockpiles removed from Site and assessment of previous Site soil data (attached as **Table T6**), where these CoPC have been detected in excess of the Level 2 – Low Level Contaminated Soil criteria within IB105.
- Section 2.2.4 of IB105 notes that, where a leachable concentration is prescribed in IB105, it generally takes precedence over the total concentration and will be used as at sole determinant of final classification for disposal. It is noted that the TCC has been considered when assessing disposal options and suitability of the proposed receiving site, however.
- Two other potential soil considerations mentioned in IB105 are Acid Sulfate Soil (ASS) and Per- and Poly-Fluoroalkyl Substances (PFAS).
  - ASS has been assessed in a separate investigation and is discussed in **Section 7.5.1.1.1**.
  - No records of any historic use or storage of PFAS on the Site have been located, and activities which have occurred on Site and may generally be associated with PFAS (i.e., fire prevention systems for bulk fuel storage), were completed in the 1970s, which predates widespread adoption of PFAS in Australia.

    Previous soil samples from the Site collected and analysed for PFAS between 2015 and 2017 were non-detect for locations within the proposed excavation area (see **Table T7** and **Figure F7**). Detectable concentrations of perfluorooctane sulfonic acid (PFOS) were present in soil along the eastern boundary of the Site (outside the proposed excavation) (AECOM, 2024c), and may be associated with historic off-Site bulk fuel storage. However, the highest reported concentration of PFOS in Site soil, 0.0132 mg/kg at 1.1 m bgl in soil bore BH70, is:
    - Three orders of magnitude below the unlined landfill acceptance criteria provided in the *PFAS National Environmental Plan* (the PFAS NEMP) (HEPA, 2025), which is the most conservative landfill criteria presented in the PFAS NEMP.
    - Outside the proposed area of excavation considered in this report.
    - Delineated into the excavation area by bores BH61 and BH67.

Within the proposed excavation area, the highest detected concentration of PFOS was 0.002 mg/kg at 2.0 to 2.1 m bgl, in bore TW02 to the north. This detected concentration is 4 orders of magnitude below the unfilled landfill acceptance criteria in the PFAS NEMP (HEPA, 2025)

All data related to PFAS in soil at the Site (inside and outside the excavation area) is attached on **Table T7**, **Appendix B**. Locations of previous PFAS soil sampling results are presented on **Figure F7**, **Appendix A**.

On this basis, ASS or PFAS are not considered CoPC in the soil proposed for excavation, and no analysis for these compounds was considered required for categorisation of bulk soil.

- Asbestos Containing Material (ACM) has been identified in previous soil investigations (AECOM 2021b) and during remediation works at the Site to remove soil and remnant pipelines (AECOM 2020).

  The ACM in pipe cladding was intact and removed with the pipe, as was surrounding soil, and disposed off-Site. The area where pipelines with ACM cladding were removed were inspected and certified by an asbestos hygienist as part of validation of remediation.

  Fragments of ACM, similar to the fragment observed in this investigation and discussed in **Section 7.5**, have been observed in four locations during previous assessments. In each case, the fragment has been small (<5 cm) and isolated, and consisted bonded, non-friable ACM, and no risk from ACM or of potential impact from soil has been identified.

  The SEMP (AECOM, 2024a) contains procedures for excavation and handling soil, including for management of any observed ACM or asbestos. In the event that potential ACM is observed in soil, all activities are to cease immediately in the immediate work area. A suitably experienced environmental practitioner should be consulted to provide advice regarding the removal and management of ACM in soils prior to works re-commencing.

  Any work plans or procedures for excavation of soil from the Site will be required to conform to the SEMP and will contain this procedure.

3.4 Extent of Excavation and Soil Volume for Disposal

A model of the proposed volume of excavation was developed by WSP using *LeapFrog Works*® (WPS, 2024). The model utilised available surface elevation data, groundwater monitoring survey data, and geological descriptions which had been recorded in bore logs from previous soil investigations at the Site, and divided the excavation into three stages:

- Stage 1 and Stage 2: Proposed to be excavated to a depth of 2.4 m Australian Height Datum (m AHD). The edge of the excavation will be benched or sloped in order to allow safe access and maintain excavation stability, assumed within the model to have a slope of 2 units horizontal for every 1 unit of vertical drop.
- Stage 3 will consist of two areas:
  - Basement Carpark, located to the north-east, which was modelled for excavation to a depth of - 3.9 m AHD, which is anticipated to be below the water table. A vertical excavation extent was assumed in the model for this area for excavation stability and where it meets the Site boundary to the east.

    It is noted that design of the proposed Basement Carpark has not been finalised and may be modified prior to development.
  - The ‘Balance of Site’ area, located to the north-west, which includes the practice wicket area and an area north of Stage 1, Stage 2, and the Basement Carpark. The practice wicket area is proposed to be excavated to a depth of 4.2 m AHD.

The model estimated that 191,123 m^3 of *in situ* material is identified for excavation, as summarised in **Table 3** and presented on **Figure 2** below.

Table 3 Summary of *In Situ* Soil Volume Estimates (WSP 2024, Table 3)

Geotechnical Unit	Stage 1 (m^3)	Stage 2 (m^3)	Basement Car Park (m^3)	Balance of Site (m^3)	Total (m^3)
Anthropological Fill	73,695	20,150	47,556	6,979	148,380
Estuarine Sediments	0	0	6,915	0	6,915
Dolerite (Extremely Weathered)	191	0	55	419	665
Dolerite (Moderately Weathered)	8,085	0	14,165	7,638	29,888
Dolerite (Slightly Weathered to Fresh)	327	0	4,181	767	5,275
TOTAL	**82,298**	**20,150**	**72,872**	**15,803**	**191,123**

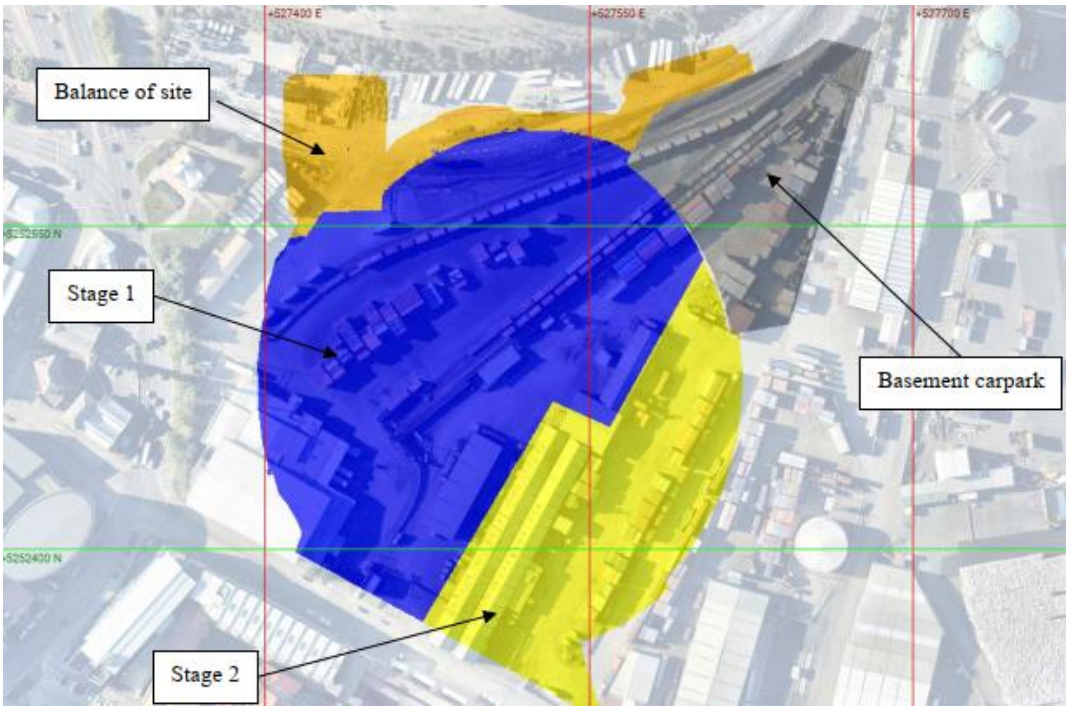

Figure 2 Proposed extent of *in situ* classification assessment area (WSP 2024)

Assessment of the volume of soil assessed by this investigation, including consideration of volume changes which may occur during excavation, is provided in **Section 7.2** It is noted that the proposed staging of excavations used in WSP (2024) modelling, as shown on **Figure 2** and summarised on **Table 3,** has been modified slightly (see **Figure 1**), with the eastern portion of the "Balance of Site" area now included in the Stage 1 excavation.

3.5 Sample Density and Distribution

IB105 notes that, in the event *in situ* classification of soil is conducted, AS4482.1 should be consulted to obtain a representative number of samples. Table E1 in Appendix E of AS4482.1 suggests that the minimum of 55 sample points using a square grid are required to characterise an area of 5.0 ha, and that sites greater than this area should be subdivided into smaller areas. The proposed excavation extent is approximately 5.8 ha, and a greater number of sample points was required.

The SAQP (AECOM, 2024b) divided the proposed excavation area in three zones based on staging and proposed excavation depth, consisting of the Stage 1 and Stage 2 (4.7 ha), the Basement Car Park (0.8 ha) and the Practice Wickets (0.3 ha), shown on **Figure F2** in the **Figures** section. Based on these

areas, and with reference to Table E1 in Appendix E of AS4482.1, the following minimum number of sample points were required for each excavation zone:

- Stage 1 / Stage 2 – 55 sample points
- Basement Carpark – 19 sample points
- Practise Wickets – 9 sample points

IB105 also recommends a sample density of 1 sample per 25 m^3 of material for soil classification purposes. Sampling at this density was not considered practicable as, based on the estimated in situ soil volume in the WSP model, a minimum of 7,644 samples would be required to categorise the soil, without accounting for any changes in density and volume due to loss of compaction during excavation.

Industrial Waste Resource Guidelines 702 - Soil Sampling (IWRG 702) (EPA Victoria, 2024) provides statistical methodologies for assessment of large (>250 m^3) quantities of soil for disposal. While no equivalent guidelines have been issued by EPA Tasmania, the approach presented by IWRG 702, and an earlier version of this document (EPA Victoria, 2009), have been previously accepted by EPA Tasmania in assessments of soil from the Site for waste disposal.

For volumes greater than 250 m^3, IWRG 702 requires sampling at a minimum density of one primary sample per 250 m^3 of soil, combined with statistical assessment using 95% Upper Confidence Limits (95% UCL), to assess soil volumes for disposal. IWRG 702 also recommends a bulking factor of 1.33 be applied to *in situ* volumes to assess volume of soil when excavated.

Based on this approach, the SAQP proposed that:

- Sample points be aligned on a 20 x 20 m grid, allowing for minor variations for surface features or access limitations. This sample point frequency exceeds the minimum numbers provided in AS4482.1.
- Samples be collected at 0.5 m bgl, and every 0.5 m until the target depth was reached, based on the estimated excavation depths presented in the WSP model (**Section 3.4**). **Figure F3**, attached, shows the estimated depth per grid section based on surveys of the Site surface conducted in 2024.

Additional samples were collected at any change in lithology recorded.

At this density, each sample collected corresponded to 200 m^3 of *in situ* soil. While this provides a ratio of 1 primary sample to every 266 m^3 of *ex situ* soil, extensive soil data from previous investigations is also available and is assessed and discussed when sample density is considered in **Section 7.2**

3.6 Hotspot Detection and Identification of Areas of Potential Higher Contamination

Contaminated Land Guidelines – Sampling Design Part 1 – Application (EPA NSW, 2022) provides Equation 1, below, to estimate the maximum size of "hotspots" of contaminated soil which may not be detected by grid based sampling:

$$r = k \times G$$

Equation 1 – Critical Size of Hotspots

Where:

- *r* is the radius of a circular hotspot, or half the length of the major axis for an intermediate or elliptical hotspot.
- *k* is a statistical constant, depending on the shape and required confidence level of the hotspot detection. For 95% confidence levels, *k* has values of 0.59 for a hotspot which is circular, 0.69 for one which is "intermediate" (axis ratio of ~4:3), and 0.9 for an elliptical (axis ration of ~2:1) hotspot.
- *G* is the grid size, or distance between sample points.

Using Equation 1, and conservatively assuming elliptical hotspots, which approximate irregular hotspot shapes considered more likely to be present in anthropogenic fill, the 20 x 20 sampling grid is able to locate hotspots above to 18 m radius along the major axis with 95% confidence. Previous hotspots identified and removed by excavation (AECOM, 2024b) have been greater than this distance (see previous remediation excavation areas shown on **Figure F5**), and the sampling density is considered suitable for detection of areas of potentially higher contamination.

The 95%UCL approach adopted from IWRG702 (discussed in **Section 3.5**) considers a statistical average concentration of CoPC likely to be encountered by future contact with the soil being assessed. However, the potential exists for areas of higher contamination to exist within soil, particularly within the heterogenous fill material present at the Site.

As part of this assessment, the following indicators of areas of potential higher contamination have been noted and further considered in **Section 7.0**:

- Staining, discolouration, or odours
- High levels of anthropogenic materials
- Analytical results more than 250% of the adopted criteria
- The presence of LNAPL.

Where areas of high contamination were considered to be present, and not suitable for inclusion in the overall bulk volume to be excavated, they excluded from the overall assessment of soil and are recommended for *ex situ* assessment, following excavation, for future remediation or disposal under a higher waste classification. Assessment and identification of such areas is included in **Section 7.5.1**.

4.0 Data Quality Objectives

Setting data quality objectives (DQOs) is a process used to define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site. The process of establishing appropriate DQOs is defined by the seven-step planning approach presented in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended in 2013) (ASC NEPM).

Outputs from the DQO review process undertaken in the SAQP (AECOM, 2024b) are summarised in **Table 4** below.

Table 4 Data Quality Objectives

DQO	Data Quality Objective Step Summary
Step 1 - State the Problem	Waste characterisation of the proposed Stage 1 and Stage 2 excavation areas is required to inform adequate off-site management options for re-use / disposal as part of the Stadium development works, and to identify any areas of soil which may require additional management, such as additional assessment, remediation/ stockpiling and/or *ex situ* classifications.
Step 2 - Identify the Goal of the Study	The decision identification component of the DQO process represents the key issues that have been considered to resolve the problems identified in Step 1. These include: • Will the investigation approach be suitable and scientifically defensible, at an adequate sample density across each soil sub-cell, and consistent with relevant guidelines (e.g. ASC NEPM, AS4482.1, AS4482.2, IWRG702 and IB105) (**Sections 7.2** to **7.4)**? • Do the concentrations identified exceed the relevant adopted criteria for waste categorisation and assessment of off-Site disposal (**Sections 5.0**)?
Step 3 - Identify Information Inputs	To allow assessment of the data against the goals listed in **Step 2**, various inputs have been considered as follows: • Identification of the CoPC, based on the assessment areas across the proposed excavation area, which includes review of area-specific history, aerial photograph information, records, site and area specific practices, anecdotal information and previous investigation data, where available. • Concentrations and distribution of chemicals and aesthetic impacts, relative to the investigation criteria, based on the field investigations detailed in this report and historic assessments. • Data collected during field investigation and borehole advancement.
Step 4 - Define the Boundaries of the Study	The spatial boundaries (geographical limits) applied for data collection and decision making for the purpose of the *in situ* soil characterisation sampling are limited to Stage 1 and Stage 2 excavation areas (**Figure 1**). A 10 m buffer has been considered to classify soil where over-excavation may occur, to account for adequate sloping and benching and where soil may be taken to provide access into areas of the excavation. The maximum depth of assessment is determined by the proposed extent of excavation at each area of the stadium footprint. For the Stage 1 and Stage 2 excavation areas, soil is proposed to be excavated to a maximum depth of 2.2 m AHD, which is 0.2 m below the design excavation depth for application of surface covering, with soil bores advanced to down to ~1.9 m AHD to capture this volume. Temporal boundaries include available soil data obtained from previous soil investigations undertaken within the spatial boundaries above, up to a period of 10 years prior to the *in situ* soil investigation (i.e. 2014), which were reviewed and

DQO	Data Quality Objective Step Summary
	considered appropriate for supplementing the dataset, and provided in the SAQP (AECOM, 2024b).
Step 5 - Develop the Analytical Approach	The decision rule for this investigation is to assess the representativeness of collected data to further inform the understanding of: • Waste classification in accordance with IB105. • Suitability for landfill disposal. The analytical approach was informed by identified CoPC, and sample density requirements to achieve results suitable for statistically significant interpretation.
Step 6 - Specify Performance or Acceptance Criteria	A decision error in the context of the decision rule presented in Step 5 would lead to either underestimation or overestimation of the potential risk level associated with a particular site. Decision errors may include: • Limitations in available site history information; • Constraints associated with the ability to access certain areas of the site; • Errors in the sampling plan; and • Data not representative of site conditions. Performance criteria are defined by the assessment criteria in **Section 5.0**.
Step 7 - Develop the Plan for Obtaining Data	The methodology, developed in the SAQP (AECOM, 2024b) and summarised in **Section 6.0**, presents a sampling plan which has been designed to meet the objectives of the assessment, and also to achieve the nominated DQOs in **Section 5.4**. Optimisation of the data collection process was based on data available from previous investigations. The investigation is to be carried out to a level of accuracy and confidence presented in the ASC NEPM (2013).

5.0 Assessment Criteria

5.1 Soil Characterisation

Under the relevant Tasmanian regulations and guidelines for disposal of soil, the EMPCA, the Regulations and IB105, all contaminated soil and clean fill material greater than 100 tonnes, must be classified and approved for disposal or reuse by EPA.

To assess and categorise the soil within the soil bore assessment, soil analytical results were screened against the criteria in Table 2 of TAS EPA IB105, which uses four categories to classify contaminated soil as:

- Level 1 - Fill Material. Two categories of Fill Material were introduced by amendment of the EMPCA and the Regulations in 2021.
- Level 2 - Low Level Contaminated Soil
- Level 3 - Contaminated Soil
- Level 4 - Contaminant Soil for Remediation.

Waste classification has been conducted for the likely assessment volume of soil to be excavated as a whole, using statistical assessment of concentrations of CoPC which will be present in soil. In the event that this volume is sub-divided (i.e., if a portion of soil is identified for beneficial reuse), each such sub-division will require re-assessment and classification.

5.2 Soil Disposal Scenarios

The following soil disposal scenarios have been previously implemented for soil excavated from the Site:

- Beneficial re-use (either on- or off-Site).
- Off-Site disposal to a landfill or contaminated waste facility.

On-Site remediation has also been successfully applied as an interim step to reduce contaminant concentrations or risk profiles, prior to either on-Site beneficial reuse or off-Site disposal.

5.2.1 Beneficial Re-use

Beneficial re-use is considered of greater environmental value than landfill disposal of soil, and is allowable under IB105 for waste soil classified as Level 1 or Level 2 with the following guidelines:

IB105 provides the following guidelines for consideration of re-use of Level 1 and Level 2 waste soils:

- Section 4.1.3 – *The re-use of Fill Material* (Level 1 material) *must not result in environmental harm.*
- Section 4.2.3 - *Low Level Contaminated Soil* (Level 2 material) *might be suitable for re-use as fill or levelling material on an industrial or commercial site, but will be judged on a case by case basis.*"

On-Site beneficial reuse has been previously approved for Level 2 material by EPA as Environmental Approvals No. 10512 and No. 10512/2, with the most recent approval (EA 10512/2) expiring on 7 October 2024. EPA indicated at the time that future on-Site beneficial re-use would be considered by them if, and when, a specific scenario was identified, and if a scenario is identified a submission should be made to EPA. Off-Site beneficial reuse of Level 1 (Type 1) material has been previously approved by EPA under EA No. 12066/1, and of Level 2 material as cover material at landfill under numerous EAs.

While no beneficial re-use scenarios have been identified at this time, in the event that any such re-use is proposed for Level 1 or Level 2 soils, the following approach is recommended:

- On-Site beneficial re-use – Any on-Site beneficial re-use of soil should meet the following criteria:
  - Soil should be categorised as either Level 1 – Fill, or Level 2 – Low Level Contaminated Soil, in accordance with IB105.
  - Contaminant concentrations in the soil should not represent an environmental risk to human or ecological health on the Site or in surrounding areas under the proposed re-use scenario.

Potential environmental risks should be assessed with reference to the Site specific Remediation Criteria (AECOM, 2025b).

- Re-use must be undertaken in such a way to prevent environmental nuisance or harm from escape of materials, spillage, or emission of dust or odours.
- All soil must be handed in accordance with practices presented within the Site Environment Management Plan (the SEMP) (AECOM, 2024a).

Previous EPA approvals for on-Site re-use required that any on-Site re-use scenario must be presented to an independent Environmental Auditor, as accredited by Section 39F(3) of the *Macquarie Point Development Corporation Act 2012*, for review and endorsement. Environmental Auditor endorsement is considered a requirement for any re-use of the soil proposed for excavation.

If the on-Site beneficial re-use is endorsed by the Environmental Auditor, a record of the re-use scenario, including the volume and characteristics of the soil, the location of re-use, the assessment of environmental risks and mitigations, and the Auditor's endorsement must be provided to EPA no later than one year after re-use has occurred.

- Off-Site beneficial re-use - Any off-Site re-use scenario will require additional assessment and consideration of the proposed re-use and conditions of the accepting site. If an off-Site reuse is proposed, a separate assessment must be conducted, and environmental approval sought from EPA prior to any transport of material from the Site and/or re-use.

5.2.2 Landfill Disposal

If no beneficial re-use scenario of the material proposed for excavation is identified, it will be disposed of under the receiving site's licence conditions.

In addition, IB105 provides criteria for both Total Contaminant Concentration (TCC) and Leachate Contaminant Concentration (LCC), and notes in Section 2 that "*Generally, where a leachable concentration is prescribed in Table 2* [of IB105] *that value takes precedence over the total concentration and is used as the sole determinant of the final classification for disposal…*"

While LCC may determine waste category for some CoPC, consideration of potential environmental risks from TCC at the receiving Site is considered to require additional controls and assessment. As such, selection and handing if any Level 2 material soil proposed for landfill disposal will be conducted with the following requirements:

- The excavated material will be transported off-Site by a contractor on behalf of the Corporation or the receiving Site. Reasonable precautions will be undertaken to ensure that no environmental or human health harm results from the movement of potentially contaminated materials between the sites. All truckloads will be tracked.
- Material will be immediately disposed of using an enclosed excavator or other mechanical methods. No manual works outside the machine should be conducted as part of the soil placement.
- The receiving site must develop a Safe Work Method Statement (SWMS) for the placement of the soil which will include handling measures and personal protective equipment (PPE) requirements. The minimum PPE requirements for the work are gloves, long sleeves and pants, eye protection and face mask, and will include procedures (such as washing of hands before eating, drinking, or smoking to remove any material) to reduce any potential exposure by receiving site staff while handling and placing material.
- The receiving site will have mitigation methods to prevent dust generation during soil placement or long term.
- The areas of disposal will be remote from members of the public or any staff outside excavators/machines.
- The area of disposal will be unsaturated (i.e., above the water table).
- The material will not be stored by the receiving site prior to use.

- No further excavation or disturbance of the area of use will take place following import of the material.
- The receiving site will have an EPA certified leachate capture and treatment system. Leachate from the area of reuse will be captured in a silt trap/holding basin prior to discharge to sewer.
- The receiving site will not have ecological receptors (i.e., plants/trees/wildlife) in the final disposal location.
- The receiving site will be within Tasmania. Additional approvals will be required transport to and disposal at non-Tasmanian sites.

Based on the off-Site disposal scenario described above, which are intended to minimise the potential for contact between the soil and site workers and lack of ecological receptors at the proposed disposal location, the ASC NEPM (2013) *National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended May 2013) Heath Investigation Levels (HILs) for Commercial / Industrial use (HIL-D) are considered appropriate for assessment of the soil proposed for excavation for this scenario.

Any soil categorised as potential Level 3 – Contaminated Soil or Level 4 – Contaminated Soil Requiring Remediation is excluded from the proposed disposal at McRobies, and will be subject to further *ex situ* assessment following excavation to determine if:

- Remediation to reduce CoPC concentrations and future environmental risks associated with the soil is practicable and can be implemented.
- The soil can be disposed to an alternative waste site licensed to receive this category of waste. It is noted that the Southern Waste Solutions facility located at Copping is the only facility in Tasmania currently licenced to receive Level 3 waste soils.

The following is also noted regarding off-Site disposal:

- If any alternative waste disposal sites or methodologies are identified, the conditions at the site and licence conditions will be reviewed and additional approval from EPA may be required for transport and disposal of waste. Some sites may have alternative approval processes which should be complied with on a site-by-site basis.
- Any disposal should comply with the licence conditions of the receiving waste site, which will include estimated annual volumes. Additional approvals or actions may be required if any variation to these conditions is sought, for example to allow additional volume to be accepted in a one year period.

5.3 Sample Density

The requirements for sample density and distribution to collect data suitable for statistically significant interpretation are derived from AS4482.1 and IWRG 702, discussed in **Section 3.5**, and consist of:

- A minimum of 55 sample locations (i.e., soil bores) in the Stage 1 and Stage 2 excavation area (4.7 ha)
- A minimum of 1 primary sample per 250 m^3 (*ex situ*).

5.4 Assessment of Data Quality

The quality of the data collected will be assessed on a range of factors including:

- Documentation and data completeness.
- Reference to relevant guidance documents.
- Consistency of methodology.
- Data quality including comparability, representativeness, and accuracy for data collection and analysis.

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the laboratory and field data include:

- Assessment of field duplicate sampling rates and reproducibility of the data by calculation of the relative percentage difference (RPD) for laboratory and field duplicate samples (both intra- and inter-laboratory) to provide an indication of the precision of the data.
- Assessment of the analytical results for laboratory quality control samples to provide an indication of the accuracy of the data.
- Assessment of a range of quality control (QC) and quality assurance (QA) measures generated from both the field sampling and laboratory analytical programs.

Assessment criteria for data quality indicators for the soil samples to be collected during the assessment are listed below in **Table 5**.

Table 5 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate blanks	Less than the laboratory limit of reporting (LOR)
Intra and inter laboratory field duplicates (1) (3)	Relative Percent Difference (RPD) less than ± 30%
Laboratory duplicates (2) (3)	RPDs Less than: 20% for high level laboratory duplicates (i.e. >20 x LOR) 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%.
Surrogate spikes	*See Note 5*

Notes:

1. *Potential exceptions to these criteria may occur where the results are close to the LOR. This typical RPD range is obtained from Schedule B2 of the ASC NEPM.*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous, and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*

6.0 Field Methodology

In order to assess the waste category of soil within the Stage 1 and Stage 2 excavation areas, 518 primary soil samples were collected and submitted for laboratory analysis from 125 boreholes between 25 November and 11 December 2024, at the locations shown on **Figure F2**.

The methodology of assessment was developed and is presented in the SAQP (AECOM, 2024b), and is summarised in **Table 6**, below.

Table 6 Summary of Field Methodology

Activity	Methodology
Date of Field Works	• 25 November to 11 December 2024
Field Personnel	• Jacob Muller, Taya Gerstel, Andrew Christensen (AECOM) • South-West Drilling (SWD)
Borehole Advancement	• Clearance for potential sub-surface infrastructure (i.e. pipelines, conduits etc) was conducted in accordance with AECOM Service Identification for Excavation (SIE) procedures at all bore locations. • Bore holes were advanced using non-destructive drilling (NDD) to a depth of 1.5 m below ground level (bgl). If refusal occurred prior to 1.5 m bgl, the borehole was relocated, or an SIE variation was conducted to determine if mechanical drilling could be safety conducted. • For locations where the target depth was greater than 1.5 m bgl, the borehole was completed via Sonic drill rig. • All soil bores were backfilled and sealed at the surface with grout following sample collection. Bore logs for all locations are provided in **Appendix D**.
Field Soil Screening	• The soil profile of each bore was recorded by AECOM staff with training and experience in soil investigation, noting the presence of anthropogenic materials, olfactory evidence of contamination (i.e. staining and/ or odour), or any other features of interest. • For each sample collected, additional soil was placed in a sealed plastic bag and screened for head space vapours and the presence of VOCs using a calibrated photoionisation detector (PID). • The headspace reading was taken at ambient temperature (not in sun) and was recorded on the field log sheets. The PID readings were used in consideration of sample analysis. • The PID was calibrated with isobutylene gas at 100 ppm at the start of each day of sampling. Field records, including calibration records for PIDs, are included in **Appendix F**
Soil Sample Collection	• Soil samples were either: - Collected from hand augers. - Retrieved from plastic sleeves generated by each ~0.9 m core run using the sonic drill rig.

Activity	Methodology
	• Samples were collected at 0.5 m bgl, and at every 0.5 m thereafter until conditions are met to end the borehole. Additional samples were collected if a change in lithology was recorded. • All soil samples were collected by AECOM staff with training and experience in soil sampling and handling, and transferred into laboratory supplied glass sample containers. A new pair of nitrile gloves will be worn for each sample collected, and any reuseable equipment (i.e., trowels) were decontaminated as described below between each sample collected. • Field inter and intra-laboratory duplicates were prepared in the field by splitting soil samples. • In order to minimise the loss of volatiles, samples were not mixed or homogenised during collection or splitting, and sample containers were filled to minimise the amount of headspace. • Soils were immediately placed in chilled containers following collection and kept in low temperature until delivered to the analytical laboratory. • Sample IDs, and the IDs of any QA/QC samples collected, were recorded on standard AECOM Chain of Custody (CoC) documentation, which was included with samples when transported. A copy of all CoCs were retained by field staff and are included in **Appendix E**.
Decontamination	• Decontamination procedures were performed before initial use of re-useable equipment and after each subsequent use (i.e. hand auger). • All re-usable sampling equipment (i.e. trowel or hand auger) was decontaminated between each sample by scrubbing with a solution of Decon90 (a phosphate-free detergent) followed by a double rinse with potable water. • For each day of sampling, following decontamination procedures, one rinsate blank was completed by running laboratory prepared deionised water over the re-usable sampling equipment for collection directly into laboratory prepared sampling containers for analysis.

6.1 Deviations to Methodology

Deviations to the soil assessment methodology proposed in the SAQP occurred during soil works and are described below:

- The SAQP contemplated sampling and categorisation of all three proposed stages of excavation. This assessment has considered only Stage 1 and Stage 2.
- The SAQP excluded areas where Level 2 soil had been beneficially reused on Site as part of previous remediation works, with sampling to occur beneath the backfill material. However, this backfilled soil was sampled, as well as the underlying soil, and is included in this assessment.
- The following borehole locations required minor relocation based on access restrictions identified during field works:
    - Boreholes K13 to K18 were proposed within the footprint of the existing Site building known as the Goods Shed, and was moved approximately 8 m west to the exterior of this structure as the interior was not accessible by drill rig. No highly contaminating activities have been recorded for this section of the Site, and the movement of these boreholes is not considered to represent an unacceptable risk of unidentified contamination.

  - H14 was moved ~1-2 m north due to the presence of scrap waste on the surface at the proposed location. The amount of movement is minor and is not considered to represent an unacceptable risk of unidentified contamination.
  - Borehole location F17 was covered by a large puddle of surface water from rain and was not accessible to sample during works. This grid location is on the boundary of excavation and consists primarily of the area allowed for shelving/sloping of the excavation, and has been identified for further *ex situ* investigation and assessment following excavation (see **Section 7.5.1.1**), and the absence of data from this borehole is not considered to affect the assessment conducted in this report.

- Samples collected from soil bore I06 between 1.5 and 3.0 m bgl were incorrectly labelled by field staff as I16. Correct sample IDs were identified based on recorded sample date and depths, and have been associated with the correct point on data tables and in assessment of results.
- Samples at 1.5, 2.5 and 3.5 m bgl from location H07 were not analysed due to a laboratory error. No exceedances of Level 2 criteria were detected for any CoPC in the four samples from 0.5, 1.0, 2.0 and 3.0 collected and analysed from this borehole, and no historic activities considered high risk of contamination (i.e., gasworks, fuel storage) are known to have occurred at this location. As such, it is considered unlikely that contamination which would affect the assessment of soil for disposal may not have been detected by these omissions.
- A sample was not collected at 1.5 m bgl in borehole H14 due to the presence of a large dolerite boulder in fill. Samples were collected at 1.0 m bgl and 2.0 m bgl, either side of the boulder and it is not considered that the sample not collected at this location and depth represents a risk of unidentified contamination.
- Boreholes N18 and O18 were advanced to 1.5 m bgl, greater than the proposed excavation depth of 1.0 m bgl in these areas. The lithology and sample results from the deeper sample locations were consistent with higher samples and the additional data collected is not considered to affect the outcomes of the investigation.

None of the deviations to the methodology identified are considered to represent unacceptable risks of unidentified contamination based on the extent of movement or historic uses of the areas, or identified future investigation to be conducted in the area where the deviation occurred.

7.0 Assessment of Results

7.1 Soil Description and Field Observations

Records of the lithology encountered in soil bores is attached as **Appendix D**. In general, observed soil characteristics were consistent with previous investigations of the Site and consisted of:

- Brown to black fill soil, consisting of sands, clays and gravels with some anthropogenic materials (fragments of brick, metal, plastic, glass, wood, bitumen, ceramics, concrete and coal noted in various locations) at the surface to between 1 and >3.5 m bgl. This fill material is considered likely to be the material introduced to the Site during progressive historical land reclamation events.
- Dolerite, with or without an initial layer of weathered dolerite, starting at between 1 m bgl, to greater than 3.5 m bgl in the southern and eastern areas of investigation where dolerite was not encountered.

The following key features were observed during borehole advancement:

- In general, dolerite bedrock was shallower in the western and northern sections of the Site, and increased in depth to the east and south, consistent with previous investigations.
- No estuarine sands were encountered during borehole advancement, which is consistent with the modelling provided by WSP (2024) (**Section 3.4**) for soil in the areas considered.
- Water was noted at one location only, at 3 m bgl in borehole E12. Based on previous gauging at the Site, it is inferred that this may have been groundwater, but this borehole reached the target depth (3.5 m bgl) shortly after and the observed water was not confirmed to be groundwater.
- Odours were noted at:
  - A slight hydrocarbon odour in G06 at 0.6 m bgl. PID readings of 8.1 ppm were recorded at 1.3 m bgl in this borehole, however no notable concentrations of BTENX or TRH were detected in samples from this borehole.
  - Hydrocarbon odours were recorded between 1.5 and 3 m bgl in H10, increasing with depth, with a PID reading of 43.8 ppm recorded at 3 m bgl. H10 is located near historic fuel storage and LNAPL impacts to groundwater, and the increase in odour and PID readings with depth may indicate historic groundwater fluctuations and impacts to soil.
  - A strong “gasworks/hydrocarbon” odour was noted at 0.5 m bgl in bore G16 and at 0.3 m bgl in bore G18. Elevated BTEXN and TRH was also reported for the soil samples collected from these bores (**Section 7.5.1.1**), and elevated PID readings of up to 109.6 ppm were recorded from bagged soil samples from G18. Both these bores are located within the footprint of historic gasworks operations at the Site.
  - A faint hydrocarbon odour was noted at 1 m bgl in L18, but no elevated hydrocarbon concentrations or PID readings were detected in soil from this bore.
- Railway sleepers, either intact or as fragments, were observed in boreholes H13 (0.9 m bgl), H16 (0.5 m bgl), J07 (2.0 m bgl), and M09 (0.1 m bgl).

  Buried railway lines and isolated sleepers have been encountered in fill on Site as part of previous investigations. The sleepers encountered previously have been sampled and determined not to have been treated with creosote, and have been previously considered inert waste.
- The majority of recorded PID readings from bagged soil samples were below 2 ppm. Elevated PID readings (>10 ppm) were detected only in soil from:
  - The footprint of the historic gasworks in the south-west corner of the Site.
  - Close to the vadose zone (i.e., ~3 m bgl) near historic fuel storage and handing operations in the central and norther portion of the Site. It is noted that previous assessment of soil vapour in these areas (AECOM, 2021a) have not identified any inhalation risk in these areas, including for intrusive maintenance workers digging in soil for installation of conduits/service trenches.

- A fragment of Asbestos Containing Material (ACM), described as cement sheeting approximately 50 x 40 x 5 mm in size and weighing 16 g, was identified in soil excavated at 0.5 m bgl in borehole E13. The fragment, and the soil surrounding it, was analysed for asbestos presence/absence, and while the sample contained chrysolite and amosite asbestos in a cement matrix, no crumbling or degradation was observed by field staff or the analytical laboratory, and asbestos fibres were not detected in the surrounding soil at the LOR (0.01% w/w).

  As such, the fragment of ACM is considered non-friable, and it is noted that this fragment has been removed from the Site when submitted to the laboratory for analysis. No other ACM or potential ACM was noted in soil.

7.2 Soil Volume and Sampling Density

The volumes to be excavated for future development have been previously estimated based on existing soil data as discussed in **Section 3.4**.

In order to determine the volume of soil considered for assessment by the soil sampling undertaken in November and December 2024, discussed in the report, the following methodology has been used:

- Each soil bore has been assumed to cover 20 x 20 m of surface area (400 m^2) based on the grid sampling undertaken.
- The maximum depth in each borehole has been assumed as the base of soil assessed.

For example, borehole C12 was sampled every 0.5 m to a maximum depth of 2.5 m bgl. The volume of soil considered for excavation is therefore 1,000 m^3 (20 m x 20 m x 2.5 m).

Soil bores, observed lithology, and maximum depth of sampling are provided in the boreholes in **Appendix D** and presented on **Table T1**. Based on the recorded data, approximately:

- ~94,900 m^3 (*in situ*) of anthropogenic fill material was included in the assessment volume. 471 primary samples were collected and analysed from fill.
- ~8,800 m^3 (*in situ*) of weathered dolerite was included in the assessment volume. 47 primary samples were collected and analysed from weathered dolerite.

Table 7 summarises volumes and sampling density in each recorded lithology.

Table 7 Assessed Volumes and Sample Density

Parameter		Anthropogenic Fill	Weathered Dolerite	Total
Volume	*in situ*	94,900 m^3	8,800 m^3	103,700 m^3
	ex situ[1]	126,200 m^3	11,800 m^3	138,000 m^3
Number of Primary Samples		471	47	518
Sample Density	*in situ*	202 m^3/primary sample	188 m^3/primary sample	200 m^3/primary sample
	ex situ	268 m^3/primary sample	250 m^3/primary sample	266 m^3/primary sample

Notes: 1. Bulking factor of 1.33 applied as recommended by IWRG 702 (see **Section 3.5**)

Fresh or mildly weathered dolerite within the proposed excavation area was not sampled as the low hydraulic conductivity of dolerite limits any potential penetration of contamination into the rock mass. 327 m^3 of mildly weathered to fresh dolerite was estimated within the excavation area by WSP (2024) (**Section 3.4**), and assessment of this volume is discussed in **Section 7.5.1.3**.

The following is noted regarding sample volumes and density:

- AS4482.1, referenced in IB105 for consideration during *in situ* sampling, recommends 55 sample points (i.e., boreholes) for a 5 ha area (noting that this frequency is for contaminated land assessment). 125 boreholes were advanced in the 4.8 ha Stage 1 and Stage 2 excavation areas as part of this investigation, exceeding the recommended amount.

- The weathered dolerite was sampled at the density recommended by IWRG702 (250 m^3 (*ex situ*) per primary sample) and is considered a suitable density for assessment.

  While anthropogenic fill was sampled at a lower density than recommended in IWRG702 when a bulking factor is included, sample data from an additional 331 primary samples, collected from 160 bores or test pits within the excavation area is available from previous investigations and is provided as **Table T6**.

  These data points, which were collected as part of previous investigations, were generally:

  - Targeting areas of suspected higher contamination, rather than grid based sampling.
  - Analysed for targeted CoPC based on historic uses and known or suspected contaminants in the areas of interest, not broad IB105 suites.

  Assessment of the previous data in the SAQP, discussed in **Section 3.2**, reported results consistent with sample results collected in November and December 2024 and did not identify any other potential hotspots. While the sample density from the November and December field program is less than 1 primary sample per 250 m^3 (*ex situ*), inclusion of historical data (an additional 405 primary samples), the sample density is one primary sample per 144 m^3 (*ex situ*), exceeding the IWRG 702 recommendation.

On this basis, the sampling density is considered suitable for assessment and interpretation.

It is noted that the estimated *in situ* volume assessed has minor variations from the model outputs provided by WSP (2024) (**Table 3**). The primary source of any difference is considered to be the inclusion of soil along the northern area of the proposed excavation (between the practice wicket and basement carpark areas), which was included in the “Balance of Site” in the WSP model, but has been included in the Stage 1 and Stage 2 excavation areas in this assessment. Other minor differences may arise based on differing model and estimate assumptions or data (i.e., depth of dolerite), however the variance is not considered to affect the overall outcomes of assessment and is attributed to inherent variability in pre-excavation estimation.

7.3 Analytical Suites

Analytical suites selected for the 518 primary soil samples collected between 25 November and 11 December 2024 consisted of:

- 168 samples (33%) were analysed for IB105 Table 2 (excluding TBT) TCC.
- 350 samples (67%) were analysed for the targeted TCC suite of BTEXN, TPH, lead, arsenic and PAHs.
- 179 samples (35%) were analysed for LCC using TCLP, consisting of:
  - 75 samples analysed for metal LCC, primarily lead, but also including mercury, arsenic, cadmium, chromium, and zinc in targeted locations.
  - 139 samples analysed for PAHs

  LCC analysis was conducted where exceedances of the Level 2 – Low Level Contaminated Soil criteria for TCC were detected and LCC criteria are provided by IB105.
- One fragment of potential ACM, identified at 0.5 m bgl in borehole E13, and the sample of soil surrounding it, were submitted for asbestos identification/detection analysis.

The selected suites are consistent and meet the requirements proposed in the SAQP and summarised in **Section 3.2**, and are considered suitable for assessment of soil properties.

7.4 Quality Assurance / Quality Control

The data validation procedure employed in the assessment of the field and laboratory QA/QC data were assessed in **Appendix C.**

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, no data quality non-conformances were

identified which would indicate that the collected data is not suitable for interpretative use and assessment of the *in situ* soil volume.

7.5 Soil Assessment

Laboratory-reported soil analytical data, including soil TCC and LCC, is presented and compared to the adopted assessment criteria (**Section 5.0**) in **Table T2** and **Table T3** attached. The lithology and proposed excavation stage has been noted for each sample.

Benzo(a)pyrene Toxic Equivalency Quotient (TEQ) was reported by the primary analytical laboratory for TCC only. For leachate, TEQ has been calculated for the congeners and using the Toxic Equivalence Factors (TEFs) provided in *Advisory Note – Classification of Polycyclic Aromatic Hydrocarbons* (EPA, 2021) and are reported on **Table T4** for TCC, and **Table T5** for LCC, as follows:

- TEQ(LOR) – non-detect results have been treated as being at the Limit of Reporting (LOR) for the purpose of calculation.
- TEQ(half) – non-detect results have been treated as being half of the LOR for the purpose of calculation.
- TEQ(zero) – non-detect results have been treated as being zero for the purpose of calculation.

95% UCL values, where reported, were calculated using *ProUCL 5.1.001 – Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations* (ProUCL). Outputs from ProUCL are attached as **Appendix G**.

It is noted that for some samples, benzo(a)pyrene was initially reported with a higher LOR than adopted criteria, and samples were re-analysed for this CoPC. Both the initial and reissued results are provided in data tables attached to this report. However, for the purposed of calculating TEQs and 95% UCL values:

- Actual results (i.e., results reported above LOR) have been preferentially used.
- If two results above LOR have been reported, the higher result has been used.

7.5.1 Waste Classification

7.5.1.1 Anthropogenic Fill

Soil analytical data collected from anthropogenic fill has been compared to the guideline values provided on Table 2 of IB105 on **Table T2** and **Table T3** attached.

Exceedances of IB105 criteria anthropogenic fill are summarised on **Table 8** below.

Table 8 Exceedances of IB105 Criteria in Anthropogenic Fill

CoPC	IB105 Exceedances				
	Level 1	Level 2		Level 3	
		TCC	LCC	TCC	LCC
TPH C10-C36	Yes	Yes	N/A	Yes	N/A
Arsenic	Yes	Yes	No	No	No
Barium	Yes	No	Not analysed	No	Not analysed
Beryllium	Yes	No	Not analysed	No	Not analysed
Cadmium	Yes	Yes	Yes	No	No
Chromium (VI)	Yes	No	Not analysed	No	Not analysed
Chromium (Total)	Yes	Yes	No	No	No
Copper	Yes	No	Not analysed	No	Not analysed
Lead	Yes	Yes	Yes	Yes	Yes
Mercury	Yes	No	No	No	No

CoPC	IB105 Exceedances				
	Level 1	Level 2		Level 3	
		TCC	LCC	TCC	LCC
Nickel	Yes	No	Not analysed	No	Not analysed
Silver	Yes	No	Not analysed	No	Not analysed
Tin	Yes	Yes	N/A	No	N/A
Zinc	Yes	Yes	Yes	No	No
Benzo(a)pyrene	Yes	Yes	Yes	Yes	No
Sum of PAHs	Yes	Yes	Yes[1]	Yes	N/A
Fluoride	Yes	No	N/A	No	N/A

Notes: N/A – Not applicable / no criteria is set in IB105; 1. Benzo(a)pyrene TEQ(LOR) used to assess LCC from Sum of PAH data.

Based on review of the analytical data:

- Exceedances of IB105 Level 1 TCC criteria were detected in multiple sample locations across the proposed excavation area, and for multiple CoPC, and it is not considered that the anthropogenic fill is suitable to categorise as Level 1 material.
- Samples collected from the former gasworks area, in the south-west corner of the proposed excavation, appeared to have continuous areas of higher concentration impacts of some CoPC, including TPH C10-C36 and naphthalene. Odour and elevated PID readings were also noted by field staff during sample collection in this area (**Section 7.1**).

  Based on the analytical results, field observations, and known potentially contaminating historical use of this area (gasworks), soil contamination in this area is considered likely to be distinct from the remainder of the Site and not suitable for including in a statistical assessment of the whole volume. As such, soil proposed for excavation within the footprint of gasworks activities (consisting of grid references E15-E16, F15-16, G15-G18 and H15-H18) has not been included in the assessment, and it is recommended that the estimated soil volume to be excavated from this area (approx. 7,000 m^3) be assessed *ex situ* following excavation. The proposed area for *ex situ* assessment is shown on **Figure F4**.

  Based on the CoPC detected in this soil, remediation (on- or off-Site) may be suitable to reduce contaminant concentrations, however separate environmental approval should be sought if this is proposed.
- Section 2 of IB105 notes that "*Generally, where a leachable concentration is prescribed in Table 2* [of IB105] *that value takes precedence over the total concentration and is used as the sole determinant of the final classification for disposal…*"

  Where exceedances of the IB105 TCC Level 2 criteria were detected for CoPC with a prescribed LCC criteria, TCLP leachate analysis was requested. LCC of arsenic and chromium (total) were below the Level 2 LCC criteria, and the TCC above the Level 2 TCC criteria are not considered to cause the anthropogenic fill to be categorised as Level 3 or higher material. However, the TCC of these CoPC has been considered when assessing potential risks associated with the disposal of soil.

  Concentrations of LCC for cadmium, lead, zinc, benzo(a)pyrene, and benzo(a)pyrene TEQ(LOR) (used to assess leachate risks from Sum of PAHs) were reported in excess of the Level 2 criteria. The cadmium and zinc LCC exceedances (detected in one sample J10_1.0) are considered to be associated with a limited area of impact which may be associated with a small spill, and not characteristic of the properties of the soil to be excavated as a whole (discussed on **Table 9** below), while the exceedances of LCC criteria for lead, benzo(a)pyrene, and benzo(a)pyrene TEQ(LOR) have been assessed using 95%UCL, presented on **Table 12** and discussed below.

- Sample results (excluding the gasworks area discussed above) were assessed for potential hotspots, i.e., areas of elevated contamination not suitable for inclusion in 95% UCL, based on locations where CoPC concentrations greater than 250% of the IB105 Level 2 criteria were detected. Potential hotspots were identified based on LCC concentrations if available and if there was a relevant Level 2 LCC criteria, or on TCC if not.

  Table 9 below presents identified potential hotspots and assessment of whether they are considered to indicate of an area of soil requiring excavation and *ex situ* assessment.

Table 9 Potential Hotspot Assessment - Anthropogenic Fill

Location and Depth	CoPC	Detected Concentration	Assessment
Potential Hotspot			
J06_1.5	Lead (LCC)	5.1 – 5.2 µg/L	**Hotspot J06** Lead leachate concentration in excess of the Level 2 LCC criteria was detected in adjacent sample K05_1.5, and benzo(a)pyrene and benzo(a)pyrene TEQ in I07_2.5, K07_1.0, and K07_1.5
	Benzo(a)pyrene TEQ(LOR) (LCC)	3.15 µg/L	
M13_1.0	Lead (LCC)	39-120 µg/L	**Hotspot M13** The elevated lead leachate concentration at this location (confirmed by retesting of the sample), and elevated lead LCC in adjacent sample M12_1.0 indicate a potential hotspot.
Not Considered a Hotspot			
J10_1.0	TPH C10-C36 (TCC)	59,092 mg/kg	Samples collected vertically (J10_0.5 and J10_1.5) and laterally (samples from J09 and J11, I09-I11, and K09-K11) from J10_1.0 did not report any exceedances of Level 2 TCC criteria for TPH C10-C36, and it is considered that the exceedance detected is limited in extent and may be due to a minor spill or patch of historic release. Metals exceedances of criteria at this location (cadmium, lead and zinc) are considered to potentially be associated with this release and are not considered characteristic of the soil proposed for excavation as a whole, and are unlikely to represent a source of impact or risk at the disposal site as part of the bulk removal. Sample results from this location have been included in the 95%UCL calculations (below).
H13_2.0	Lead (LCC)	2.3 µg/L	Samples collected vertically (H13_1.0 to H12_1.5 and H12_2.5) and laterally (samples from H12 and H14, G12 to G14, and I12 to I14) from J10_1.0 did not report any exceedances of Level 2 LCC criteria for lead, and it is considered that the exceedance detected is limited in extent, not characteristic of the soil proposed for excavation as a whole, and is unlikely to represent a source of impact or risk at the disposal site as part of the bulk removal. Sample results from this location have been included in the 95%UCL calculations (below)

Based on this assessment, two potential hotspots, consisting of J06 in the northeastern portion of the proposed excavation area, and M13, in the south-eastern area, were identified and are not included in assessment of bulk soil to be excavated, and will be reassessed *ex situ* following excavation.

As noted in **Section 3.6**, the adopted grid spacing of sampling is considered suitable to detect an elliptical hotspot of 18 m radius (along the major axis). As the potential orientation of hotspots is not known, soil in an 18 m radius in all directions (~1,020 m^2) around the potential hotspot will be excavated and assessed *ex situ*.

The location and estimated extent of these hotspots are shown on **Figure F4**, and the volume of soil within each hotspot proposed for excavation is presented on **Table 10** below.

Table 10 Estimated Potential Hotspot Volumes

Parameter	J06	M13
Surface Area within Proposed Excavation[1]	510 m^2	1020 m^2
Proposed Depth of Excavation	2.5 m	1.5 m
Estimated Volume (*in situ*)	~1,300 m^3	~1,500 m^3
Estimated Volume (*ex situ*)[2]	~2,000 m^3	~1,700 m^3

Notes: 1. Approximately 50% of the area around J06 is outside the proposed excavation area. 2. A bulking factor of 1.33 has been adopted for estimation of *ex situ* volume (see **Section 3.5**)

Based on the assessment of the data above, 95% UCL for the concentrations of CoPC which reported an exceedances of the Level 2 criteria in anthropogenic fill were calculated using ProUCL, excluding data from areas which are proposed for *ex situ* assessment following excavation, consisting of the former gasworks area (E15-E16, F15-16, G15-G18 and H15-H18) and potential hotspots (J06 and M13).

It is noted that LCC was not analysed for all samples and a lower proportion of sample points have been used to calculate the 95% UCLs for lead, benzo(a)pyrene and benzo(a)pyrene TEQ(LOR). As leachate analysis was conducted at targeted locations with elevated TCC of these CoPC, the 95% UCL for LCC are considered likely to be biased high, and it is considered conservative to use them for assessment of overall LCC from the soil.

Calculated 95% UCLs are attached in **Appendix G**, and are summarised in **Table 11** and **Table 12** below.

Table 11 95% UCL Summary - Anthropogenic Fill TCC (excluding ex situ assessment areas)

CoPC	No. of Primary Samples	IB105 Criteria (mg/kg)			95% UCL (mg/kg)
		Level 1	Level 2	Level 3	
TPH C10-C36	429	1,000	5,000	10,000	512.8
Arsenic	429	20	200	750	14.5
Cadmium	138	3	40	400	2.7
Chromium (Total)	429	50	500	5,000	43.2
Lead	429	300	1,200	3,000	343.4
Tin	138	50	500	900	34.7
Zinc	138	200	20,000	50,000	87.8
Benzo(a)pyrene	430	0.08	2	20	4.3
Sum of PAHs	430	20	40	200	41.6

Table 12 95% UCL Summary - Anthropogenic Fill LCC (excluding ex situ assessment areas)

CoPC	No. of Primary Samples	IB105 Criteria (µg/kg)		95% UCL (µg/kg)
		Level 2	Level 3	
Lead	60	0.5	5	0.137
Benzo(a)pyrene	120	0.5	5	0.126
Benzo(a)pyrene TEQ(LOR)[1]	120	0.5	No Criteria	0.253

Notes: 1. Benzo(a)pyrene TEQ used to assess leachate risks from Sum of PAH total concentrations.

Based on calculated 95% UCL values, the anthropogenic fill material proposed for excavation (excluding the former gasworks area and potential hotspots):

- 95% UCL TCC of TPH C10-C36, metals (arsenic, cadmium, chromium (total), tin and zinc) are below the Level 1 TCC criteria.
- 95% UCL TCC and LCC of lead are below the Level 2 TCC criteria.
- 95% UCL TCC of benzo(a)pyrene and Sum of PAHs in excess of the Level 2 TCC criteria. However, the 95% UCL LCC for these CoPC are below the Level 2 LCC criteria, which has been used to determine waste category.

While exceedances of the Level 2 criteria for some TCC and LCC may be present in the overall soil volume, they are not considered to represent the overall characteristics of the soil and do not represent the potential risks and impacts which may arise from the soil volume.

Based on the assessment of anthropogenic fill material within the Stage 1 and Stage 2 excavation areas:

- Approximately 9,800 m^3 (*in situ*) is considered potential Level 3 or higher waste soil, and is recommended to be excavated, stockpiled on-Site and assessed for potential remediation options. The soil considered potential Level 3 consists of:
  - ~7,000 m^3 proposed to be excavated from the former gasworks footprint in the south-west corner of the proposed excavation (grid references E15-E16, F15-16, G15-G18 and H15-H18).
  - ~1,300 m^3, to be excavated to an average of approximately 2.5 m bgl in an 18m radius around sample point J06, noting that only approximately half of this hotspot is within the proposed Stage 1 and Stage 2 excavation area.
  - ~1,500 m^3, to be excavated to approximately 1.5 m bgl in an 18 m radius around sample point M13.
- Approximately 85,100 m^3 (*in situ*), consisting of the balance of anthropogenic fill material proposed for excavation as part of Stage 1 and Stage 2 excavation areas, is categorised as **Level 2 – Low Level Contaminated Soil**. It is noted that ACM and PASS in this soil may require additional consideration, and are discussed in **Section 7.5.1.1.1** and **Section 7.5.1.1.2** below.

7.5.1.1.1 Potential Acid Sulfate Soil (PASS) in Anthropogenic Fill

The *Acid Sulfate Soil Investigation* (AECOM, 2025a) has made an assessment of acid sulfate soil (ASS) which may be present beneath the Site. This assessment, conducted in accordance with the *Tasmanian Acid Sulfate Soil Management Guidelines* (TASSMG) (DPIPWE, 2009), concluded that:

- No Actual Acid Sulfate Soil (AASS) was present beneath the Site.
- PASS was present in submerged estuarine soil (primarily sands/clays) and would require management if disturbed. No excavation of such material is proposed as part of the Stage 1 and Stage 2 excavation.
- PASS may be present in anthropogenic fill at two locations (shown on **Figure F6**):
  - At 2.9 to 3 m bgl in borehole BH-004 (within *in situ* assessment cell I17).
  - At 1.5 to 1.6 m bgl in borehole ABH-004 (within *in situ* assessment cell M12).

Samples collected at these locations and depths reported the potential to acidify to harmful pH levels. However, surrounding soil samples (vertically and laterally), and all other samples from anthropogenic fill collected as part of the investigation, did not demonstrate the same potential, and the detected acidification volume may be limited in extent, or caused by other soil constituents reacting to reagents during assessment.

The proposed depth of excavation at both BH-004 and ABH-004 is 1.5 m bgl. While the possible PASS at BH-004 will not be disturbed excavation, possible PASS at ABH-004 may be exposed. Further investigation to determine the cause of acidification and level of neutralisation, if any, required at these locations is planned and will be completed prior to bulk excavation, and if PASS is present, soil at these locations will be handled in accordance with an Acid Sulfate Soil Management Plan developed for the work.

7.5.1.1.2 Asbestos Containing Material

One fragment of ACM was detected during sample collection at 0.5 m bgl in borehole E13. Analysis of asbestos in the fragment and surrounding soil, provided in laboratory report 1171413 (**Appendix E**), reported that:

- Chrysotile asbestos and organic fibres were present in the fragment.
- Asbestos in the surrounding soil was below the reporting limit of 0.01% $^{w}/_{w}$.

Encountering small, isolated fragments of ACM in fill materials is not uncommon on historical industrial sites, and the fragment encountered in this case was removed as part of the sampling program and is no longer *in situ*. In addition, the ASC NEPM provides risk-based guidelines for asbestos concentrations in soil, with the Health Investigation Level (HIL) D provided for commercial and industrial land uses, which are considered appropriate for the proposed future uses of the Site and the proposed disposal site.

The ASC NEPM HIL-D for asbestos in soil is 0.05%$^{w}/_{w}$. Based on this criteria, the fragment encountered would not have represented a risk of harm for commercial/industrial uses, even if it had not been removed, and it is not considered that if other fragments are present, they are likely to be substantially different or represent a risk of harm.

The SEMP (AECOM, 2024a) contains procedures for excavation and handling soil, including for management of any observed ACM or asbestos. In the event that potential ACM is observed in soil, all activities are to cease immediately in the immediate work area. A suitably experienced environmental practitioner should be consulted to provide advice regarding the removal and management of ACM in soils prior to works re-commencing.

Any work plans or procedures for excavation of soil from the Site will be required to conform to the SEMP and will contain this procedure, in the event that ACM is observed during bulk removal.

7.5.1.2 Weathered Dolerite

Soil analytical data collected from weathered dolerite has been compared to the guideline values provided on Table 2 of IB105 on **Table T2** and **Table T3** attached.

Exceedances of IB105 criteria in weathered dolerite are summarised on **Table 13** below.

Table 13 Exceedances of IB105 Criteria in Weathered Dolerite

CoPC	IB105 Exceedances				
	Level 1	Level 2		Level 3	
		TCC	LCC	TCC	LCC
Copper	Yes	No	No	No	No
Manganese	Yes	No	No	No	No
Benzo(a)pyrene	Yes	Yes	No	No	No
Sum of PAHs	Yes	Yes	No[1]	No	No

Notes: 1. Benzo(a)pyrene TEQ(LOR) used to assess LCC from Sum of PAH data.

Based on the review of the analytical data for weathered dolerite:

- Copper and manganese were detected above the Level 1 TCC criteria. These CoPC are considered likely to be natural constituents of the dolerite.
- Benzo(a)pyrene and Sum of PAHs were detected above the Level 2 TCC criteria. However, LCC of benzo(a)pyrene and benzo(a)pyrene TEQ(LOR) were below the Level 2 LCC criteria, and as recommended in IB105, LCC will be used as sole determinant of waste category. The presence of benzo(a)pyrene and PAHs will be considered in assessment of disposal site.

The 95% UCL for the concentrations of CoPC which reported exceedances of the Level 2 criteria in weathered dolerite were calculated using ProUCL, and are attached in **Appendix G**. **Table 11** below provides a summary of the results.

Table 14 95% UCL Summary – Weathered Dolerite TCC

CoPC	No. of Primary Samples	IB105 Criteria (mg/kg)			95% UCL (mg/kg)
		Level 1	Level 2	Level 3	
Benzo(a)pyrene	46	0.08	2	20	0.52
Sum of PAHs	46	20	40	200	6.5

While sample results from weathered dolerite were predominantly below Level 1 criteria, or had CoPC present (copper and manganese) which are considered likely to be naturally sourced, the 95% UCL for benzo(a)pyrene was greater than the Level 1 TCC criteria, and the presence of benzo(a)pyrene and PAHs indicates that some mixing with anthropogenic fill, or contamination from historic Site uses, into weathered dolerite occurred. As such, the ~8,800 m^3 (*in* situ) of weathered dolerite is categorised as **Level 2 – Low Level Contaminated Soil**.

7.5.1.3 Fresh to Mildly Weathered Dolerite

The WSP (2024) modelling (**Section 3.4**) estimates excavation and removal of approximately 327 m^3 (*in situ*) of fresh to mildly weathered dolerite.

While not sampled as part of these works, this material, when excavated, is considered suitable to categorised as **Level 1 – Fill Material Type 1** as the fresh and mildly weathered dolerite:

- Is the natural bedrock of the Site and is not imported material which may have been impacted off-Site.
- Has a low hydraulic conductivity, with a typical range of 8x 10^{-9} to 2x10^{-4} m/s (Domenico and Schwartz, 1990). Aquifer testing in Site dolerite in 2015 reported an average hydraulic conductivity of 6.2x10^{-8} m/s (AECOM, 2016).
- Is likely to be encountered and excavated from the north-western portion of the Stage 1 and Stage 2 areas, and is not considered likely to be encountered and removed from areas with higher contamination such as the presence of LNAPL.

The low hydraulic conductivity of the dolerite limits any potential penetration of contamination in groundwater into the rock interior. Small amounts of contaminated soil (i.e., fill material which has settled into fractures within the dolerite, or contamination transported by surface water running over the dolerite surface) may be present, however any such volumes would consist of only a small overall portion of the volume to be removed, and are not considered to likely represent overall contamination of the material when excavated.

7.5.2 Disposal

7.5.2.1 Beneficial Re-Use

While no beneficial re-use is proposed at present, and no assessment of soil data has thus occurred, if any re-use scenarios are identified:

- On-Site re-use will be submitted to the Environmental Auditor for endorsement prior to proceeding. Records of any on-Site re-use will be provided to EPA within one year of occurring.

- Off-Site re-use will require a separate assessment, with consideration of the characteristics and environmental risks associated with the proposed re-use Site. Separate approval will be sought for any off-Site re-use.

The presence of asbestos contamination in soil has been identified in previous soil investigations at the Site, however, it is not considered to impact on potential re-use scenarios for Level 2 material, based on the following summary of observations and control procedures for asbestos removal:

- The one asbestos sample identified in E13 of the in situ soil sampling program was within the close vicinity of the former Roundhouse service trenches, anecdotally noted as having been backfilled with asbestos-containing building rubble in the 1980s (AECOM, 2021b). This material has been removed as part of remediation works to remove the roundhouse turntable and associated impacted soil material within the former Roundhouse footprint.
- No bulk asbestos or ACM has been encountered in investigations to date, with only non-friable fragments observed. During remediation of the former Roundhouse and associated service trenches between 2019 and 2020, fragments were confirmed as a similar non-friable composition (chryosite), suggesting the ACM identified in E13 is likely a remnant fragment from soil remediation in the area, and not evidence toward bulk asbestos contamination (AECOM, 2020).
- Other sources of asbestos contamination across the site align with historical information, such as bituminous pipe lagging with asbestos within the South Precinct Remediation works (AECOM, 2020). This former diesel transfer pipeline has been removed and a visual clearance certificate obtained by a certified hygienist for the entire length. It is noted this pipeline run was situated east of the proposed bulk excavation areas.
- An Asbestos Register has been prepared for the Site, and the Site Environment Management Plan (SEMP) (AECOM, 2024a) outlines the requirement for all potential ACM identified at the Site, including inspection by a suitably experienced occupational hygienist to provide advice regarding the removal and management of ACM in soils prior to works re-commencing.
- All ACM materials identified during soil investigation have been removed from the Site.
- The SEMP (AECOM, 2024a) includes as a requirement that a surface barrier between Site soil and users. This barrier would also prevent exposure to isolated ACM fragments, if present in soil.

Further detail on the requirements and process to be implemented for any re-use scenarios is provided in **Section 5.2**.

7.5.2.2 Off-Site Disposal to Landfill

Soil analytical data from the anthropogenic fill material (excluding the areas identified for future *ex situ* assessment) and weathered dolerite has been compared to the adopted criteria (the ASC NEPM HIL-D) for landfill disposal on **Table T2**.

Exceedances of the NEPM HIL-D criteria were reported for:

- Lead in seven samples (G11_1.5, H13_2.0, J08_1.5, J10_1.0, K06_1.5, M12_1.0, and N10_1.5)
- Benzo(a)pyrene TEQ(LOR) in eight samples (G10_2.0, H09_3.0, I07_2.5, I08_1.0, I13_1.5, I14_1.0. J14_0.5, and K09_1.5).

All samples with exceedances of the ASC NEPM HIL-D were collected from anthropogenic fill soil.

95% UCL values were calculated for these CoPC are attached in **Appendix G**. **Table 15** below provides a summary of the results.

Table 15 95% UCL Summary – ASC NEPM HIL-D

CoPC	No. of Primary Samples	ASC NEPM HIL-D (mg/kg)	95% UCL (mg/kg)
Lead	519	1,500	300.9
Benzo(a)pyrene TEQ(LOR)	476	40	5.5

The exceedance of the ASC NEPM HIL-D in some samples is not considered to represent an unacceptable risk to workers at the proposed receiving site under the disposal scenario described in **Section 5.2**, however, as:

- Benzo(a)pyrene TEQ and lead present a risk via physical contact (ingestion/inhalation). The proposed disposal methodology includes controls to limit contact with soil/dust during handing of the material (via use of PPE, soil handing and enclosed equipment) and as part of long term management (via cover material to limit contact with the soil).
- The HIL D criteria contain an assumption of up to one hour per day of contact with soil over a 30 year period, which is considered conservative and unlikely to occur under the proposed disposal methodology. No contact with the soil is considered likely to occur once placed and covered.
- 95% UCL concentrations of the CoPC were below criteria, and exceedances of criteria are likely limited throughout the material. The small areas of exceedance are not considered to be representative of the overall condition or expected exposure of the soil during handling and disposal.

On this basis, the assessed material is considered suitable for disposal to landfill under the conditions described in **Section 5.2**.

8.0 Conclusions and Recommendations

As part of proposed development of the Site, excavation of up to ~191,123 m^3 material (WSP, 2024) is proposed, consisting of a mixture of anthropogenic fill, estuarine sediments, and dolerite (ranging from fresh to extremely weathered). Excavation is planned to be conducted in a staged manner and, at the request of the Corporation, AECOM has conducted an *in situ* waste categorisation of the first proposed stages (Stage 1 and Stage 2).

For this assessment, the following activities have been completed:

- Review of historic environmental data for the Site.
- Advancement of 125 boreholes across the Stage 1 and Stage 2 excavation area.
- Collection and laboratory analysis of 518 primary soil samples.
- Screening and assessment of soil data against the waste categorisation data presented in IB105 and the ASC NEPM HIL-D.
- Preparation of this Soil Categorisation and Waste Management Plan to recommend disposal of this material following excavation.

Assessment of waste category was undertaken using IWRG 702, which provides statistical methodologies for assessment of large (>250 m^3) quantities of soil for disposal. While no equivalent guidelines have been issued by EPA Tasmania, the approach presented by IWRG 702, and an earlier version of this document (EPA Victoria, 2009), have been previously accepted by EPA Tasmania in assessments of soil from the Site for waste disposal.

A total soil volume of ~104,000 m^3 *in situ* (138,300 m^3 *ex situ* with a bulking factor of 1.33 applied [IWRG 702]) has been estimated to be within the area of soil assessed in this report, consisting of:

- 93,900 m^3 (*in situ*), consisting of 85,100 m^3 of anthropogenic fill and 8,800 m^3 of moderately to extremely weather dolerite, is categorised as Level 2 – Low Level Contaminated Soil.

  The Level 2 material is considered suitable for disposal to landfill, under the conditions detailed later in this document. It is noted that specific landfill site or sites have not yet been proposed as the ultimate destination for excavated Level 2 material. However, handling and disposal requirements for any disposal site have been identified and included in this assessment.
- 9,800 m^3 (*in situ*) of anthropogenic fill in three hot spots is considered to be potential Level 3 – Contaminated Soil or higher, and is recommended for *ex situ* assessment and potential remediation following excavation.
- An estimated 327 m^3 (*in situ*) of fresh to mildly weathered dolerite in the proposed Stage 1 and Stage 2 excavation area is categorised as Level 1 – Fill Material, Type 1.

Based on the assessment provided in this report, it is recommended that the following additional works be conducted during or prior to excavation:

- Anthropogenic fill at the following locations is considered to potentially be Level 3 or higher, and should be resampled and assessed *ex situ* following excavation:
  - ~7,000 m^3 (*in situ*) proposed to be excavated from the former gasworks footprint in the south-west corner of the proposed excavation (grid references E15-E16, F15-16, G15-G18 and H15-H18).
  - ~1,300 m^3 (*in situ*) to be excavated to an average of approximately 2.5 m bgl in an 18 m radius around sample point J06 noting that only approximately half of this hotspot is within the proposed Stage 1 and Stage 2 excavation area.
  - ~1,500 m^3 (*in situ*), to be excavated to approximately 1.5 m bgl in an 18 m radius around sample point M13.

  Results of the *ex situ* investigation should be assessed and a separate waste management assessment for disposal or remediation be prepared for soil from these areas.

- Planned additional investigation to determine if PASS is present in anthropogenic fill in two locations (BH-004 in *in situ* assessment cell I17 and ABH-004 in *in situ* assessment cell M12) must be completed prior to excavation. If PASS is present, an Acid Sulfate Soil Management Plan for excavation of these areas should be prepared detailing handling and neutralisation measures, with reference to the *Tasmanian Acid Sulfate Soil Management Guidelines* (DPIPWE, 2009), which must be implemented to allow safe handling and disposal of this material.
- During excavation, any areas of potential elevated contamination (such as odours, staining, or high concentrations of anthropogenic material), and any bulk buried materials or infrastructure encountered (such as buried slabs or pipes) should be noted and segregated for further *ex situ* assessment, similar to the areas of potential elevated contamination noted above.

Following excavation, it is recommended that 93,900 m^3 (*in situ*) of Level 2 – Low Level Contaminated Soil, consisting of anthropogenic fill and weathered dolerite, and any fresh to mildly weathered dolerite removed from the Stage 1 and Stage 2 excavation areas, should be disposed of using the following methods:

- Any excavation or handling of soil should be conducted in accordance with the Site Environment Management Plan (the SEMP) (AECOM, 2024a), or any future updates of the SEMP.
- Beneficial on-Site re-use: – Any on-Site beneficial re-use of soil should meet the following criteria:
  - Soil should be categorised as either Level 1 – Fill, or Level 2 – Low Level Contaminated Soil, in accordance with IB105.
  - Contaminant concentrations in the soil should not represent an environmental risk to human or ecological health on the Site or in surrounding areas under the proposed re-use scenario. Potential environmental risks should be assessed with reference to the Site specific Remediation Criteria (AECOM, 2025b).
  - Re-use must be undertaken in such a way to prevent environmental nuisance or harm from escape of materials, spillage, or emission of dust or odours.
  - All soil must be handed in accordance with practices presented within the Site Environment Management Plan (the SEMP) (AECOM, 2024a).

  Any on-Site re-use scenario must be presented an independent Environmental Auditor, as accredited by Section 39F(3) of the *Macquarie Point Development Corporation Act 2012*, for review and endorsement.

  If the on-Site beneficial re-use is endorsed by the Site Environmental Auditor, re-use will proceed, and a record of the re-use scenario, including the volume and characteristics of the soil, the location of re-use, the assessment of environmental risks and mitigations, and the Auditor's endorsement must be provided to EPA no later than one year after re-use has occurred.
- Off-Site disposal to landfill, under the following conditions:
  - The excavated material will be transported off-Site by a contractor on behalf of the Corporation or the receiving Site. Reasonable precautions will be undertaken to ensure that no environmental or human health harm results from the movement of potentially contaminated materials between the sites. All truckloads will be tracked.
  - Material will be immediately disposed of using an enclosed excavator or other mechanical methods. No manual works outside the machine should be conducted as part of the soil placement.
  - The receiving site must develop a Safe Work Method Statement (SWMS) for the placement of the soil which will include handling measures and personal protective equipment (PPE) requirements. The minimum PPE requirements for the work are gloves, long sleeves and pants, eye protection and face mask, and will include procedures (such as washing of hands before eating, drinking, or smoking to remove any material) to reduce any potential exposure by receiving site staff while handling and placing material.
  - The receiving site will have mitigation methods to prevent dust generation during soil placement or long term.

- The areas of disposal will be remote from members of the public or any staff outside excavators/machines.
- The area of disposal will be unsaturated (i.e., above the water table).
- The material will not be stored by the receiving site prior to use.
- No further excavation or disturbance of the area of use will take place following import of the material.
- The receiving site will have an EPA certified leachate capture and treatment system. Leachate from the area of reuse will be captured in a silt trap/holding basin prior to discharge to sewer.
- The receiving site will not have ecological receptors (i.e., plants/trees/wildlife) in the final disposal location.
- The receiving site will be within Tasmania. Additional approvals will be required transport to and disposal at non-Tasmanian sites.

Approval from EPA is required prior to the disposal of any material, and all material must be transported off Site by an appropriately licensed waste transporter.

Assessment of soil waste categories and suitability for proposed disposal routes has been undertaken as a statistical assessment of the entire volume of soil proposed for excavation. In the event that an alternative disposal methodology or Site be proposed, or further treatment required, this Waste Management Plan should be updated to separately assess each volume of soil proposed for different disposal methods, or a new plan be prepared, by a suitably experienced environmental practitioner.

9.0 References

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10.0 Statement of Limitations

This document was prepared for the purpose described herein and as agreed to by AECOM Australia Pty Ltd (AECOM) and the Macquarie Point Development Corporation Pty Ltd (the Principal).

This document was prepared for the sole use of the Principal, the only intended beneficiaries of our work. AECOM accepts no duty of care or liability to any third parties who may use or rely on this report, other than as expressly agreed by AECOM. Without limiting the foregoing sentence in any way, in no circumstances will AECOM be liable to any third party whether that liability arises in contract, tort (including negligence or breach of statutory duty) or otherwise for any loss whatsoever arising out of or in any way related to this report.

For the purposes of this report, AECOM has relied upon previous detailed investigations carried out and a review of available reports as referenced in the text of this document. It is assumed by AECOM that all relevant information and reports have been provided by those persons from whom it has been requested and that such information provided is accurate. AECOM does not assume any liability for misrepresentation of items not visible, accessible or present at the Site during Site inspections.

This report is not intended as a substitute for legal advice, nor is it an exhaustive review of the Site conditions. AECOM makes no warranties about the condition of the Site or the operations occurring at the Site.

From a technical perspective, the subsurface environment at any Site may present substantial uncertainty. It is a heterogeneous, complex environment, in which small subsurface features or changes in geologic conditions can have substantial impacts on water and chemical movement. Uncertainties may also affect source characterisation assessment of chemical fate and transport in the environment, assessment of exposure risks and health effects and remedial action performance.

There is no investigation that is thorough enough to preclude the presence of material, which presently or in the future, may be considered hazardous at the Site. Because regulatory evaluation criteria change from time to time, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that may require a change in action.

Any advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole and are considered current to the date of this document. AECOM believes that its opinions are reasonably supported by the testing and analysis that have been done and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. That standard of care may change, and new methods and practices of exploration, testing, analysis and remediation may develop in the future, which might produce different results. AECOM’s professional opinions contained in this document are subject to modification if additional information is obtained through further investigation, observations, or testing and analysis during any future assessment or remedial activities.

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Appendix A

Figures

Appendix A Figures

List of Attached Figures

Figure F1 Site Location

Figure F2 Site Layout and Soil Bore Locations

Figure F3 Estimated Depth of Excavation

Figure F4 Ex Situ Assessment Areas

Figure F5 Previous Remediation Excavation and Sample Locations

Figure F6 Possible PASS in Anthropogenic Fill Locations

Figure F7 PFAS Soil Sampling Locations

AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



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1:10,000 (when printed at A3)

LEGEND

- Regatta Point Boundary
- Macquarie Point Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure

F1

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\10\DSI_Regatta_Point\F1_A3P_RP_Location.mxd)

A3 size

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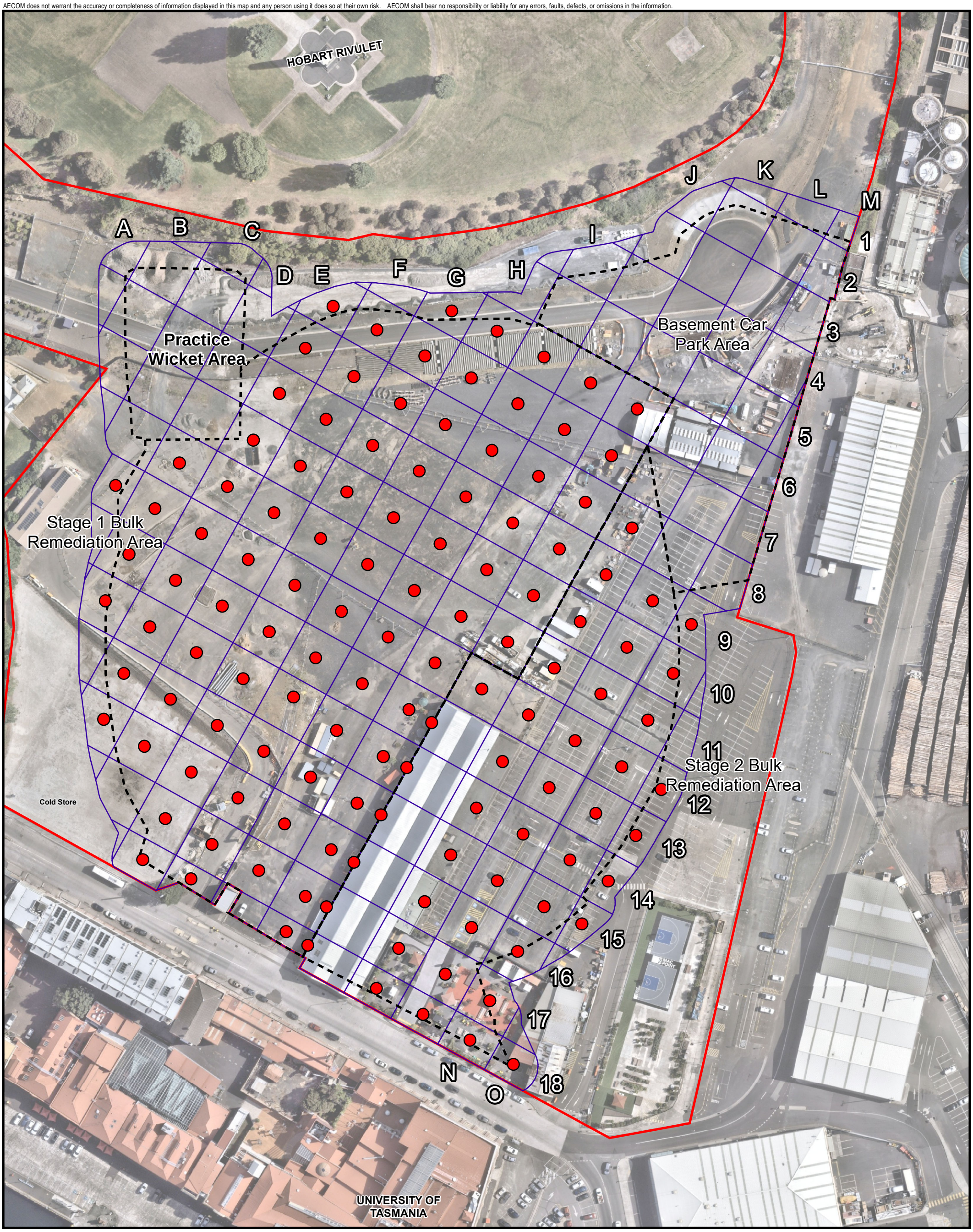

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,297 (when printed at A3)

Legend

- Soil Bore Location
- Proposed Excavation Phase
- Site Boundary

SITE LAYOUT AND SOIL BORE LOCATIONS

Macquarie Point Development Corporation

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure

F2

Map Document: (C:\Users\FengerS\OneDrive - AECOM\Documents\Mac Point\GIS\Figures For Report\F3a PAH Total Conentrations.mxd)

A3 size

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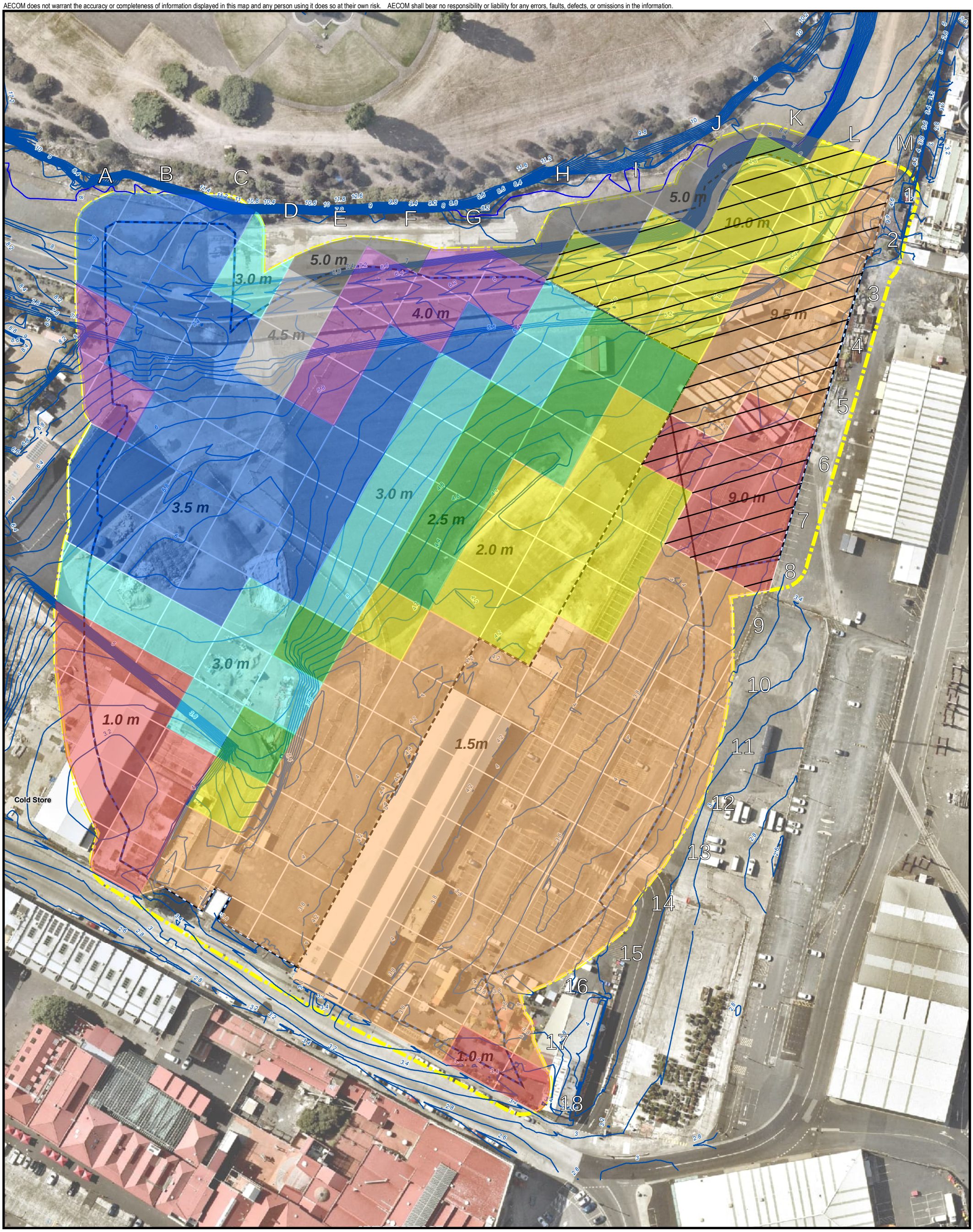

PROJECT ID 60321835
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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,200 (when printed at A3)

Legend

- Survey Contours
- Remediation Phase
- Excavation Footprint
- 10m Buffer
- Site Boundary

Anticipated Excavation Depth

- 1.0 m bgl
- 1.5 m bgl
- 2.0 m bgl
- 2.5 m bgl
- 3.0 m bgl
- 3.5 m bgl
- 4.0 m bgl
- 4.5 m bgl
- 5.0 m bgl

Anticipated Drilling Depth (Basement Car Park)

- 9.0 m bgl
- 9.5 m bgl
- 10.0 m bgl

ANTICIPATED DEPTH OF EXCAVATION

Macquarie Point Development Corporation

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure

F3

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\Data_Gap_Assessment\F4_Current_Site_Survey_Plan.mxd)

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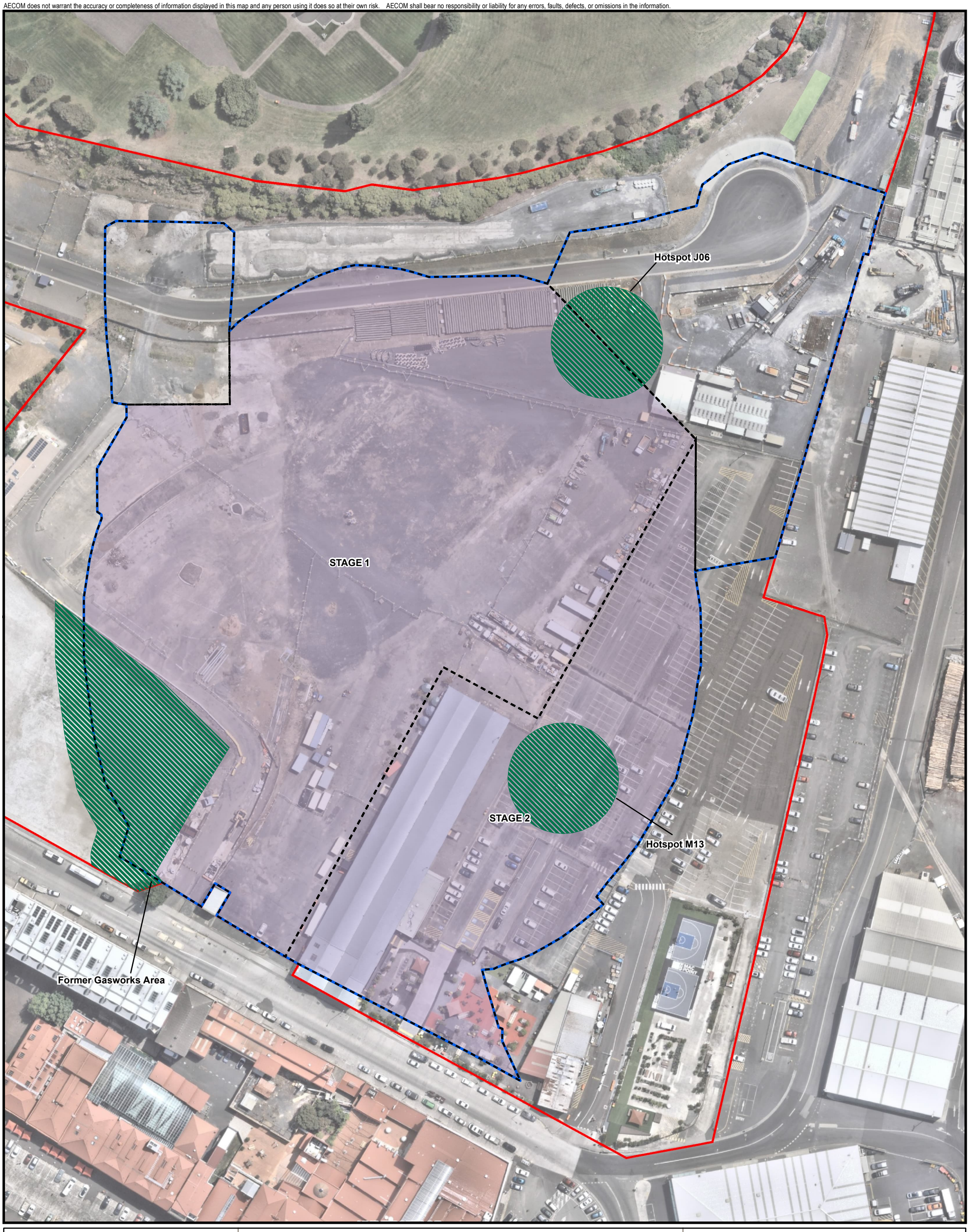

PROJECT ID 60321835
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LAST MODIFIED PRACHI.KULKARNI1 28 APR 2025

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,200 (when printed at A3)

Legend

- Proposed Excavation Area for Future Development
- Site Boundary
- Proposed Stage of Excavation
- Soil Characterization Hotspot Locations

BEL Depth

- +2.4 m AHD

PRELIMINARY SOIL CHARACTERISATION HOTSPOT LOCATIONS

Macquarie Point Development Corporation

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure

F4

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\01\BulkEx-FutureDev_Stage1_2\F7_A3P_Preliminary_Soil_Hotspot_Locs.mxd)

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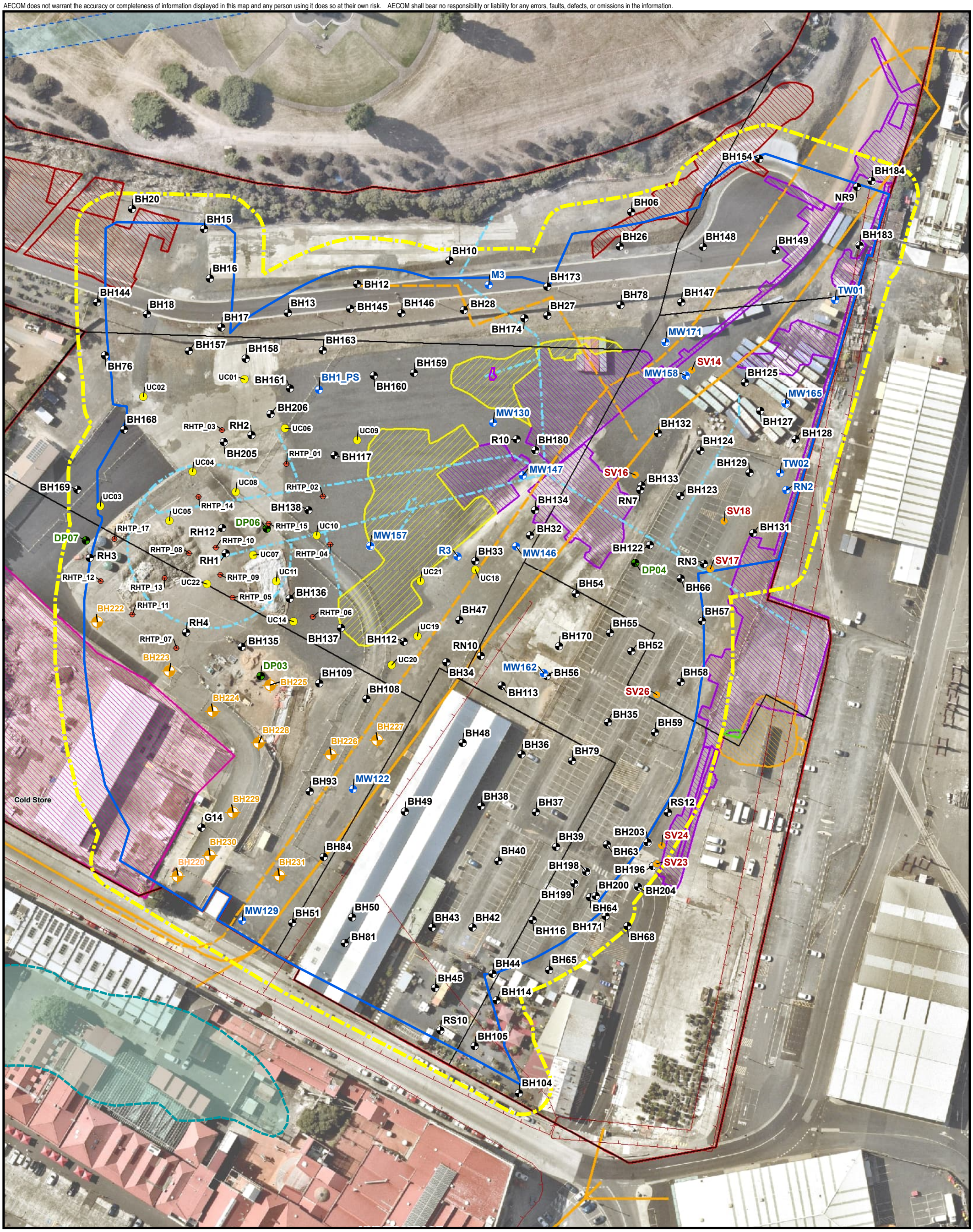

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,200 (when printed at A3)

Legend

- Test Pit (Underground Carpark)
- Test Pit (Roundhouse Investigation)
- Trench (Roundhouse Investigation)
- Groundwater Well
- Geotechnical Borehole
- Soil Bores/Test Pits
- Former Gas Works Excavation area
- Precinct South - Northern Excavation
- Precinct South - Additional Excavation Area (Unsurveyed)
- 2020 Excavation
- Extent of Excavation - Northern Refuelling Area and Concrete Batching Plant
- Sea Wall
- Stormwater Infrastructure
- Sewer pipeline - Historic
- Sewer Pipeline - Existing
- Hobart Rivulet Diversion
- Hunter Island
- Proposed Excavation Footprint
- 10m Buffer
- Assessment
- Site Boundary

PREVIOUS REMEDIATION EXCAVATION AND SAMPLE LOCATIONS

Macquarie Point Development Corporation

Technical Specification - Bulk Excavation for Future Development, Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure F5

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\08\Data_Gap_Assessment\F2_Sample_data_locations_and_excavations.mxd)

A3 size

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100
metres

1:1,800 (when printed at A3)

Legend

- PASS Investigation Bore
- ASS Investigation Location
- Regatta Point Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Future Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

ACID SULFATE SOIL INVESTIGATION BORE LOCATIONS

Macquarie Point Development Corporation

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure
F6

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\04\Acid_Sulfate_Soil_Investigation\F2_Site_Layout_and_Assessment_Locationst.mxd)

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LAST MODIFIED PRACHI.KULKARNI1 19 SEP 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 15 30 60
metres

1:1,250 (when printed at A3)

Legend

- Borehole Location
- Groundwater Well
- Soil Bores/Test Pits
- Stadium Footpring Assessment Area
- 10m Buffer to the Proposed Stadium
- Site Boundary

Note: Locations were reported as below laboratory detection limits for all PFAS samples, except where presented on the figure.

PFAS SOIL SAMPLE LOCATIONS

Macquarie Point Development Corporation

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2

Macquarie Point, Hobart, TAS

Figure

F7

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\09\F7_PFAS_Soil_Sample_Locations.mxd)

A3 size

Appendix B

Tables

Appendix B Tables

List of Attached Tables

Table T1 Borehole Depths and Volume Estimate

Table T2 Analytical Results - Total Contaminant Concentrations

Table T3 Analytical Results - Leachate Contaminant Concentrations

Table T4 Calculated Benzo(a)Pyrene Toxic Equivalency Quotient – Total Contaminant Concentrations

Table T5 Calculated Benzo(a)Pyrene Toxic Equivalency Quotient – Leachate Contaminant Concentrations

Table T6 Analytical Results – Previous Soil Investigations

Table T7 Analytical Results – PFAS Soil Investigations

Table T1
Borehole Depths and Volume Estimates
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

Borehole	Excavation Area	Maximum Depth (m bgl)		Calculated Volume (m^3)			Number of Primary Samples			Comments
		Fill	Weathered Dolerite	Fill	Weathered Dolerite	Total	Fill	Weathered Dolerite	Total	
C12	Stage 1	1.1	2.5	440	560	1,000	3	2	5	
D11	Stage 1	2.2	3.5	880	520	1,400	4	3	7	
D12	Stage 1	3	3.5	1,200	200	1,400	6	1	7	
D13	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
D14	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
E07	Stage 1	0.8	1.2	320	160	480	2	1	3	Within WSP "Balance of Site area"
E08	Stage 1	0.7	ND	280	ND	280	1	0	1	Within WSP "Balance of Site area". Fresh dolerite at end of borehole
E09	Stage 1	3	4.5	1,200	600	1,800	6	3	9	
E10	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
E11	Stage 1	0.6	3.5	240	1,160	1,400	1	6	7	
E12	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	Water encountered at 3 m bgl
E13	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	ACM fragment encountered at 0.6 m bgl
E14	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
E15	Stage 1	1	ND	400	ND	400	2	0	2	Trace of rail sleeper at 0.8 m bgl. Former gasworks area.
E16	Stage 1	0.3	1	120	280	400	1	2	3	Former gasworks area
F07	Stage 1	0.5	1	200	200	400	1	2	3	Within WSP "Balance of Site area"
F08	Stage 1	1	ND	400	ND	400	2	0	2	Old conduit at 1.2 m bgl
F09	Stage 1	1.5	4	600	1,000	1,600	2	7	9	
F10	Stage 1	3	3.5	1,200	200	1,400	6	1	7	
F11	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
F12	Stage 1	3	3.5	1,200	200	1,400	6	1	7	
F13	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
F14	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
F15	Stage 1	1	ND	400	ND	400	2	0	2	Former gasworks area
F16	Stage 1	1	ND	400	ND	400	2	0	2	Former gasworks area
G06	Stage 1	0.9	2	360	440	800	1	3	4	Within WSP "Balance of Site area"
G07	Stage 1	0.8	1.5	320	280	600	1	1	2	Within WSP "Balance of Site area"
G08	Stage 1	0.6	3.5	240	1,160	1,400	1	6	7	
G09	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
G10	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
G11	Stage 1	3.5	ND	1,400	ND	1,400	7	0	7	
G12	Stage 1	1.7	3.5	680	720	1,400	3	4	7	
G13	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
G14	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
G15	Stage 1	3	ND	1,200	ND	1,200	6	0	6	Former gasworks area
G16	Stage 1	1	ND	400	ND	400	2	0	2	Former gasworks area
G17	Stage 1	1	ND	400	ND	400	2	0	2	Former gasworks area
G18	Stage 1	1	ND	400	ND	400	2	0	2	Former gasworks area
H06	Stage 1	0.9	1.5	360	240	600	3	1	4	Within WSP "Balance of Site area"
H07	Stage 1	0.7	3	280	920	1,200	1	3	4	Samples at 1.5, 2.5 and 3.5 m bgl not reported by lab - on CoC
H08	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
H09	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
H10	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
H11	Stage 1	3	ND	1,200	ND	1,200	6	0	6	Buried concrete at 0.5 m bgl
H12	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
H13	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	Buried railway sleeper 0.9 m bgl
H14	Stage 1	3	ND	1,200	ND	1,200	5	0	5	Unable to sample at 1.5 m bgl due to large boulders and limited soil
H15	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	Fragement of railway sleeper at 0.5 m bgl. Former gasworks area
H16	Stage 1	2	ND	800	ND	800	4	0	4	Former gasworks area
H17	Stage 1	1.5	ND	600	ND	600	3	0	3	Former gasworks area
H18	Stage 1	1.5	ND	600	ND	600	3	0	3	Former gasworks area
I06	Stage 1	3	ND	1,200	ND	1,200	6	0	6	Samples below 1 m bgl labelled incorrectly as "I16". Correct location able to be identified from date and depth of samples
I07	Stage 1	3	ND	1,200	ND	1,200	6	0	6	
I08	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
I09	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
I10	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
I11	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
I12	Stage 1	2	ND	800	ND	800	4	0	4	
I13	Stage 1	1.5	ND	600	ND	600	3	0	3	
I14	Stage 1	1.5	ND	600	ND	600	3	0	3	
I15	Stage 1	1.5	ND	600	ND	600	3	0	3	
I16	Stage 1	1.5	ND	600	ND	600	3	0	3	
I17	Stage 1	1.5	ND	600	ND	600	3	0	3	
J06	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
J07	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	Trace of rail sleeper at 2.0 m bgl
J08	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
J09	Stage 1	2	ND	800	ND	800	4	0	4	
J10	Stage 1	2	ND	800	ND	800	4	0	4	
J11	Stage 1	2	ND	800	ND	800	4	0	4	
J12	Stage 1	1.5	ND	600	ND	600	3	0	3	
J13	Stage 1	1.5	ND	600	ND	600	3	0	3	
J14	Stage 1	1.5	ND	600	ND	600	3	0	3	
J15	Stage 1	1.5	ND	600	ND	600	3	0	3	

Table T1
Borehole Depths and Volume Estimates
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

Borehole	Excavation Area	Maximum Depth (m bgl)		Calculated Volume (m^3)			Number of Primary Samples			Comments
		Fill	Weathered Dolerite	Fill	Weathered Dolerite	Total	Fill	Weathered Dolerite	Total	
J16	Stage 1	1.5	ND	600	ND	600	3	0	3	
J17	Stage 1	1.5	ND	600	ND	600	3	0	3	
J18	Stage 1	1.5	ND	600	ND	600	3	0	3	
K06	Stage 1	2.5	ND	1,000	ND	1,000	5	0	5	
K07	Stage 1	2	ND	800	ND	800	4	0	4	
K08	Stage 1	2	ND	800	ND	800	4	0	4	
K09	Stage 1	2	ND	800	ND	800	4	0	4	
K10	Stage 1	2	ND	800	ND	800	4	0	4	
K11	Stage 1	2	ND	800	ND	800	4	0	4	
K12	Stage 2	1.5	ND	600	ND	600	3	0	3	
K13	Stage 2	1.5	ND	600	ND	600	3	0	3	
K14	Stage 2	1.5	ND	600	ND	600	3	0	3	
K15	Stage 2	1.5	ND	600	ND	600	3	0	3	
K16	Stage 2	1.5	ND	600	ND	600	3	0	3	
K17	Stage 2	1.5	ND	600	ND	600	3	0	3	
K18	Stage 2	1.5	ND	600	ND	600	3	0	3	
L08	Stage 2	2	ND	800	ND	800	4	0	4	
L09	Stage 2	2	ND	800	ND	800	4	0	4	
L10	Stage 2	2	ND	800	ND	800	4	0	4	
L11	Stage 2	1.5	ND	600	ND	600	3	0	3	
L12	Stage 2	1.5	ND	600	ND	600	3	0	3	
L13	Stage 2	1.5	ND	600	ND	600	3	0	3	
L14	Stage 2	1.5	ND	600	ND	600	3	0	3	
L15	Stage 2	1.5	ND	600	ND	600	3	0	3	
L16	Stage 2	1.5	ND	600	ND	600	3	0	3	
L17	Stage 2	1.5	ND	600	ND	600	3	0	3	
L18	Stage 2	1.5	ND	600	ND	600	3	0	3	
M09	Stage 2	1.5	ND	600	ND	600	3	0	3	Rail timber noted at 0.1 m bgl
M10	Stage 2	1.5	ND	600	ND	600	3	0	3	
M11	Stage 2	1.5	ND	600	ND	600	3	0	3	
M12	Stage 2	1.5	ND	600	ND	600	3	0	3	
M13	Stage 2	1.5	ND	600	ND	600	3	0	3	
M14	Stage 2	1.5	ND	600	ND	600	3	0	3	
M15	Stage 2	1.5	ND	600	ND	600	3	0	3	
M16	Stage 2	1.5	ND	600	ND	600	3	0	3	
M17	Stage 2	1.5	ND	600	ND	600	3	0	3	
M18	Stage 2	1.5	ND	600	ND	600	3	0	3	
N09	Stage 2	1.5	ND	600	ND	600	3	0	3	
N10	Stage 2	1.5	ND	600	ND	600	3	0	3	
N11	Stage 2	1.5	ND	600	ND	600	3	0	3	
N12	Stage 2	1.5	ND	600	ND	600	3	0	3	
N13	Stage 2	1.5	ND	600	ND	600	3	0	3	
N14	Stage 2	1.5	ND	600	ND	600	3	0	3	
N15	Stage 2	1.5	ND	600	ND	600	3	0	3	
N16	Stage 2	1.5	ND	600	ND	600	3	0	3	
N17	Stage 2	1.5	ND	600	ND	600	3	0	3	
N18	Stage 2	1	ND	400	ND	400	2	0	2	Borehole advanced to 1.5 m bgl, beyond proposed excavation. No sample collected at 1.5 m bgl
O12	Stage 2	1.5	ND	600	ND	600	3	0	3	
O13	Stage 2	1.5	ND	600	ND	600	3	0	3	
O14	Stage 2	1.5	ND	600	ND	600	3	0	3	
O15	Stage 2	1.5	ND	600	ND	600	3	0	3	
O18	Stage 2	1.5	ND	600	ND	600	2	0	2	Borehole advanced to 1.5 m bgl, beyond proposed excavation. No sample collected at 1.5 m bgl
			Total	**94,920**	**8,840**	**103,760**	**471**	**47**	**518**	

| | | |

| | | |

Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons				Metals														Monocyclic Aromatic Hydrocarbons						
							C6-C10 fraction	C6-C10 fraction (minus B-TEX)(F1)	>C10-C16 fraction (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C10-C14 fraction	>C15-C28 fraction	>C29-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (hexavalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	0.4	2	0.5	2	5	5	0.1	2	2	2	2	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.2
NEPM 2013 Table 1A(1) HIL-I Comm/Ind D Soil																			3,000	500	900	3,600	3,600	4,000	240,000	1,500	60,000	730	6,000	10,000				400,000						
TAS Waste Classification Contaminated Soil Level 3														1,000				10,000	750	30,000	400	400	5,000	2,000	1,000	7,500	3,000	25,000	110	4,000	3,000	200	720	900	50,000	50	1,000	1,080			1,800	
TAS Waste Classification Guidelines - Fill Material Level 1														65				1,000	20	300	2	3	50	1	100	100	300	500	1	10	60	10	10	50	200	1	1	3			14	
TAS Waste Classification Low Level Contaminated Soil Level 2														650				5,000	200	3,000	40	40	500	200	200	2,000	1,200	5,000	30	1,000	600	50	180	500	14,000	5	100	100			180	

| Location | Field ID | Depth | Excavation Stage | Lithology | IB105 Waste Category / Actions | Sample Type | Lab Report Num | Date | | | | | | | | | | | | | | | | | | |

Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

							Total Recoverable Hydrocarbons						Total Petroleum Hydrocarbons				Metals															Monocyclic Aromatic Hydrocarbons						
							C6-C10 fraction	C6-C10 fraction (minus B-TEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C9-C14 fraction	>C15-C28 fraction	>C28-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (hexavalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	0.4	2	0.5	2	5	5	5	0.1	2	2	2	2	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.2
NEPM 2013 Table 1A(1) HIL-s Comm/Ind D Soil																			3,000		500	900	3,600	3,600	4,000	240,000	1,500	60,000	730		6,000	10,000			400,000					
TAS Waste Classification Contaminated Soil Level 3													1,000					10,000	750	30,000	400	400	5,000	2,000	1,000	7,500	3,000	25,000	110	4,000	3,000	200	720	900	50,000	50	1,000	1,080			1,800	
TAS Waste Classification Guidelines - Fill Material Level 1													65					1,000	20	300	2	3	50	1	100	100	300	500	1	10	60	10	10	50	200	1	1	3			14	
TAS Waste Classification Low Level Contaminated Soil Level 2													650					5,000	200	3,000	40	40	500	200	200	2,000	1,200	5,000	30	1,000	600	50	180	500	14,000	5	100	100			180	

Location	Field ID	Depth	Excavation Stage	Stage	Lithology	IB105 Waste Category / Actions	Sample Type	Lab Report Num	Date	C6-C10 fraction	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C9-C14 fraction	>C15-C28 fraction	>C28-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (hexavalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
J12	J12 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	360	<20	<20	290	<50	290	5.4	-	-	-	-	-	-	-	840	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J12	J12 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	410	<20	<20	250	210	460	8.9	-	-	-	-	-	-	-	420	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J13	J13 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	370	100	470	<20	<20	250	160	410	3.6	190	<2	<0.4	24	<1	17	260	330	260	1.1	<5	28	<2	83	310	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J13	J13 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	J13 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	610	170	780	<20	<20	410	270	680	6.0	-	-	-	-	-	-	-	530	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J13	J13 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	4.6	-	-	-	-	-	-	-	180	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J14	J14 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	1,800	1,000	2,800	<20	<20	1,000	1,100	2,100	7.5	-	-	-	-	-	-	-	360	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J14	QC103	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Interlab_D	EM2421847	25 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	QC104	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Field_D	1165428	25 Nov 2024	<20	<20	<50	<50	270	<100	270	<20	<20	170	130	300	5.0	-	-	-	-	-	-	-	250	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J14	J14 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	410	<100	410	<20	<20	310	140	450	6.6	-	-	-	-	-	-	-	560	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J14	QC103	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Interlab_D	EM2421016	25 Nov 2024	<10	<10	<50	<50	710	200	910	<10	<50	450	360	810	9	-	-	-	-	-	-	-	404	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.6	<0.2
J14	J14 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	110	<50	110	11	330	<2	17	23	<1	13	120	1,200	290	3.6	<5	43	<2	<2	120	5,000	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J14	J14 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J15	J15 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	27 Nov 2024	<20	<20	58	58	8,200	1,600	9,858	<20	<20	4,400	4,500	8,900	8.3	-	-	-	-	-	-	-	320	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J15	J15 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	27 Nov 2024	<20	<20	<50	<50	3,100	420	3,520	<20	<20	1,800	1,500	3,300	5.0	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J15	J15 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	27 Nov 2024	<20	<20	<50	<50	3,600	520	4,120	<20	<20	2,000	1,800	3,800	8.8	150	<2	5.2	37	<1	16	160	260	240	0.5	<5	34	<2	<2	31	2,000	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J15	J15 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	27 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	130	<100	130	<20	<20	97	<50	97	13	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J16	J16 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	170	<100	170	<20	<20	100	91	191	9.1	57	<2	1.9	26	<1	15	62	69	250	0.2	<5	25	<2	<2	<10	740	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J16	J16 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	4.1	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J17	J17 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	730	150	880	<20	<20	360	420	780	110	-	-	-	-	-	-	-	340	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J17	J17 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	720	240	960	<20	<20	410	410	820	92	180	<2	9.1	33	<1	17	170	550	360	0.4	<5	37	<2	<2	31	3,400	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J17	J17 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J17	J17 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	740	250	990	<20	<20	390	450	840	66	-	-	-	-	-	-	-	430	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J18	J18 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	1,400	500	1,900	<20	<20	670	910	1,580	7.7	110	<2	0.5	22	<1	14	87	99	460	0.3	<5	35	<2	<2	27	210	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J18	J18 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J18	J18 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	140	<100	140	<20	<20	81	64	145	17	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
J18	J18 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	26 Nov 2024	<20	<20	<50	<50	300	<100	300	<20	<20	170	160	330	4.8	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K06	K06 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	<20	<20	<50	<50	100	<100	100	<20	<20	63	53	116	8.4	-	-	-	-	-	-	-	610	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K06	QC188	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Field_D	1171417	11 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	5.4	-	-	-	-	-	-	-	300	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K06	QC189	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Interlab_D	EM2423322	11 Dec 2024	<10	<10	<50	<50	200	<100	200	<10	<50	130	110	240	6	-	-	-	-	-	-	-	366	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.6	<0.2
K06	K06 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	<20	<20	56.3	57	1,000	180	1,237	<20	20	830	340	1,190	3.0	110	<3	<0.4	9.0	<1	10	20	29	150	<0.1	<5	13	<2	<2	<10	35	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K06	K06 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	<20	<20	<50	<50	790	140	930	<20	<20	600	280	880	7.1	-	-	-	-	-	-	-	2,900	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K06	K06 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	140	<3	<0.4	25	1.1	20	74	62	520	<0.1	<5	26	<2	<2	<10	43	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K06	K06 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06 2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171417	11 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	8.3	-	-	-	-	-	-	-	180	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K07	K07 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	350	<100	350	<20	<20	200	190	390	13	-	-	-	-	-	-	-	160	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K07	K07 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	680	250	930	<20	<20	350	410	760	<2	-	-	-	-	-	-	-	200	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K07	K07 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	980	<100	980	<20	<20	630	390	1,020	7.5	270	<3	<0.4	19	<1	7.9	570	290	270	1.2	<5	21	<2	34	49	1,000	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K07	K07 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	5.3	-	-	-	-	-	-	-	240	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K08	K08 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	360	<100	360	<20	<20	230	180	410	<2	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K08	K08 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	6.8	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K08	K08 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K08	K08 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	190	<100	190	<20	<20	120	83	203	6.8	170	<3	<0.4	39	<1	24	120	73	900	0.1	<5	27	<2	<2	33	89	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K08	K08 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	580	970	1,550	<20	<20	190	630	820	6.0	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K09	K09 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	110	<100	110	<20	<20	64	53	117	8.9	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K09	K09 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	1,000	220	1,220	<20	<20	670	470	1,140	2.0	110	<3	<0.4	20	<1	22	86	92	350	0.1	<5	22	<2	<2	13	70	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K09	K09 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	3.4	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K10	K10 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	110	110	410	140	660	<20	39	390	130	559	2.5	93	<3	0.4	15	<1	13	64	140	270	0.3	<5	31	<2	<2	21	150	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K10	K10 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	110	190	300	<20	<20	53	110	163	<2	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K10	K10 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	230	<100	230	<20	<20	140	130	270	7.7	-	-	-	-	-	-	-	97	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K10	K10 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	310	<100	310	<20	<20	190	150	340	4.0	110	<2	<0.4	11	<1	21	120	81	490	0.2	<5	18	<2	<2	13	110	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K10	K10 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	K11 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	3.2	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K11	K11 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K11	K11 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	<50	<100	<100	<100	<20	<20	<50	<50	<50	<2	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K11	K11 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	<20	<20	<50	50	650	200	900	<20	<20	460	290	750	110	94	<2	<0.4	330	<1	18	82	290	900	0.5	<5	34	<2	<2	15	120	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K11	K11 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Normal	1169377	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC147	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Field_D	1169377	06 Dec 2024	<20	<20	<50	<50	580	<100	580	<20	<20	430	210	640	36	110	<2	<0.4	18	<1	14	100	180	220	0.2	<5	13	<2	<2	<10	62	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Interlab_D	EM2422180	06 Dec 2024	<10	<10	210	220	1,020	170	1,410	<10	190	820	370	1,380	36	130	<1	<1	115	<0.5	17	73	242	443	1.8	<2	33	<5	<2	7	80	<0.2	<0.5	<0.5	<0.5	<0.5	<0.6	<0.2
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Interlab_D	EM2422180	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil		Interlab_D	EM2422713	06 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	380	<100	380	<20	<20	210	260	470	37	-	-	-	-	-	-	-	290	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K12	K12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	270	<100	270	<20	<20	150	150	300	6.1	240	<2	<0.4	530	<1	11	150	740	140	0.9	<5	49	<2	<2	97	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K12	K12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1165428	25 Nov 2024	<20	<20	<50	<50	530	170	700	<20	<20	270	320	590	5.4	-	-	-	-	-	-	-	1,100	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K13	K13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171413	10 Dec 2024	<20	<20	<50	<50	830	<100	830	<20	<20	450	220	670	<2	30	<2	0.4	29	<1	13	51	22	260	<0.1	<5	34	<2	<2	<10	140	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-
K13	K13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171413	10 Dec 2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	K13 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil		Normal	1171413

Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

							Total Recoverable Hydrocarbons							Total Petroleum Hydrocarbons				Metals														Monocyclic Aromatic Hydrocarbons						
							C6-C10 fraction	C6-C10 fraction (minus B-TEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	>C10-C14 fraction	>C15-C28 fraction	>C28-C36 fraction	>C10-C36 fraction (sum)	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (hexavalent)	Cobalt	Copper	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	50	50	100	100	50	10	20	50	50	50	2	10	1	0.4	2	0.5	2	5	5	0.1	2	2	2	2	5	5	0.1	0.1	0.1	0.2	0.1	0.3	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			3,000	500	900	3,600	3,600	4,000	240,000	1,500	60,000	730	6,000	10,000				400,000							
TAS Waste Classification Contaminated Soil Level 3														1,000				10,000	750	30,000	400	400	5,000	2,000	1,000	7,500	3,000	25,000	110	4,000	3,000	200	720	900	50,000	50	1,000	1,080			1,800	
TAS Waste Classification Guidelines - Fill Material Level 1														65				1,000	20	300	2	3	50	1	100	100	300	500	1	10	60	10	10	50	200	1	1	3			14	
TAS Waste Classification Low Level Contaminated Soil Level 2														650				5,000	200	3,000	40	40	500	200	200	2,000	1,200	5,000	30	1,000	600	50	180	500	14,000	5	100	100			180	

| Location | Field ID | Depth | Excavation Stage | Lithology | IB105 Waste Category / Actions | Sample Type | Lab Report Num | Date | | | | | | | | | | | | | | | | | | |

| | | |

													Polynuclear Aromatic Hydrocarbons																		Major Ions	Cyanides

Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

							Polynuclear Aromatic Hydrocarbons																								Major Ions	Cyanides
							Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (LOR)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthrene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Benzo(e)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Coronene	Perylene	Sum of PAHs	Fluoride	Cyanide Total
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							0.001	0.01	0.01	0.005	0.01	0.005	0.005	0.005	0.005	0.5	0.005	0.005	0.005	0.005	0.005	1	0.1	0.01	0.005	0.01	0.005	0.005	0.01	0.005	0.005	0.005	0.01	0.01	0.005	40	1
NEPM 2013 Table 1A(1) HIL-Comm/Ind D Soil							40	40	40																										4,000		
TAS Waste Classification Contaminated Soil Level 3																									20										200	10,000	2,500
TAS Waste Classification Guidelines - Fill Material Level 1																									0.08										20	300	32
TAS Waste Classification Low Level Contaminated Soil Level 2																									2										40	3,000	1,000
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																	
H13	H13_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-
H13	H13_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.22	-	0.078	0.059	0.67	0.37	<0.5	1.7	2.4	2.0	1.2	1.1	-	-	-	-	1.3	-	1.8	3.0	-	0.80	0.35	0.67	-	-	17.717	-	-
H14	H14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	-	-	-	-	0.32	-	<0.5	0.8	-	<0.5	<0.5	<0.5	-	-	1.6	180	<5
H14	H14_0.5	0.5		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	H14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	240	<5
H14	H14_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	180	<5
H14	H14_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.009	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	0.073	0.069	<0.005	<0.005	-	-	-	-	<0.005	-	0.077	0.11	-	<0.005	<0.005	<0.005	-	-	0.338	-	-
H14	H14_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	1.3	1.0	1.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	0.8	<0.5	-	-	-	-	0.65	-	0.7	1.3	-	0.7	<0.5	<0.5	-	-	6.1	290	<5
H14	H14_3.0	3		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	QC196	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	12	12	12	<0.5	-	0.6	<0.5	1.1	<0.5	<0.5	2.8	8.1	5.2	6.0	5.8	-	-	-	-	6.5	-	5.9	9.6	-	3.3	1.2	3.5	-	-	61	<100	<5
H14	QC196	3		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	QC197	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	7.9	7.9	7.9	<0.5	-	0.8	<0.5	1.1	<0.5	<1	3.6	8.3	4.6	3.4	4.5	-	-	-	-	5.05	-	4.7	8.6	-	3.3	0.9	2.7	-	-	51.9	<40	2
H14	QC197	3		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	0.007	0.012	0.016	<0.005	-	-	-	-	0.010	-	0.010	0.013	-	<0.005	<0.005	<0.005	-	-	0.068	-	-
H15	H15_1.0	1		Fill	Former Gasworks - ex situ assessment	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
H15	H15_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	0.19	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	180	<5
H15	H15_1.5	1.5		Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_2.0	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	0.071	-	0.015	0.008	0.043	0.026	<0.5	0.25	0.45	0.14	0.14	0.13	-	-	-	-	0.15	-	0.34	0.44	-	0.20	0.048	0.14	-	-	2.591	-	-
H15	H15_2.5	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	1.3	1.0	1.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.9	0.7	1.4	1.3	-	-	-	-	0.51	-	0.9	1.3	-	0.7	<0.5	0.6	-	-	10	210	<5
H15	H15_2.5	2.5		Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	QC177	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	1.9	1.6	2.1	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	3.5	1.6	2.7	2.9	-	-	-	-	0.71	-	1.4	2.1	-	0.9	<0.5	0.9	-	-	18	<100	<5
H15	QC177	2.5		Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	QC178	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	1.5	1.3	1.8	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	1.0	2.6	1.4	0.5	3.0	-	-	-	-	0.74	-	1.0	1.8	-	0.7	<0.5	0.7	-	-	13.4	<40	<1
H16	H16_0.5	0.5		Fill	Former Gasworks - ex situ assessment	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
H16	H16_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	250	<5
H16	H16_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	2.0	1.8	2.3	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	2.8	1.1	2.5	2.2	-	-	-	-	0.95	-	1.6	2.0	-	0.6	<0.5	0.7	-	-	16	<100	<5
H16	H16_1.5	1.5		Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-
H16	H16_2.0	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	24	-	31	10.0	180	85	4.3	600	480	330	250	240	-	-	-	-	280	-	400	500	-	120	51	110	-	-	3,691	-	-
H16	QC183	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	7.8	-	10	2.7	38	27	8.9	130	130	120	77	51	-	-	-	-	73	-	96	130	-	46	19	44	-	-	1,001.5	-	-
H16	QC184	2	Stage 1	Fill	Former Gasworks - ex situ assessment	97.4	97.4	97.4	3.5	-	16.2	1.0	29.2	7.5	<1	98.9	146	73.9	-	-	105	-	-	-	66.8	-	64.2	139	-	38.1	8.4	32.7	-	-	830	-	-
H16	QC184	2		Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H17	H17_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	0.7	<0.5	1.3	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.9	<0.5	0.8	0.7	-	-	-	-	<0.005	-	<0.5	0.9	-	<0.5	<0.5	<0.5	-	-	3.8	160	<5
H17	QC179	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	0.8	<0.5	1.3	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	1.0	<0.5	1.0	0.9	-	-	-	-	0.6	-	0.6	0.8	-	<0.5	<0.5	<0.5	-	-	4.3	<100	<5
H17	QC180	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	1.2	1.0	1.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	2.3	0.8	0.6	1.3	-	-	-	-	0.65	-	0.9	2.0	-	<0.5	<0.5	0.6	-	-	9.9	90	<5
H17	H17_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	0.14	-	0.23	0.026	0.74	0.26	<0.5	2.5	5.3	5.4	3.6	3.2	-	-	-	-	4.0	-	4.7	6.7	-	3.0	1.2	2.4	-	-	43.396	-	-
H17	H17_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	8.7	-	18	5.4	40	54	0.6	100	67	61	35	29	-	-	-	-	39	-	50	73	-	12	8.1	13	-	-	611.2	-	-
H18	H18_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	0.21	-	0.037	0.024	0.26	0.13	<0.5	1.1	1.9	1.4	1.2	1.2	-	-	-	-	0.75	-	1.7	7.0	-	0.72	0.33	0.64	-	-	13.601	-	-
H18	H18_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	14	14	14	<0.5	-	0.9	<0.5	1.0	<0.5	<0.5	3.0	12	7.5	6.6	6.2	-	-	-	-	7.7	-	8.0	13	-	4.7	1.8	5.2	-	-	79	<100	5.6
H18	H18_1.0	1		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H18	H18_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	0.021	-	0.008	<0.005	0.021	0.017	<0.5	0.25	0.37	0.65	1.1	0.96	-	-	-	-	1.1	-	0.40	0.48	-	3.6	0.31	2.2	-	-	11.487	-	-
H18	QC181	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	0.027	-	0.013	0.009	0.035	0.035	<0.5	0.23	0.39	0.53	0.83	0.62	-	-	-	-	0.79	-	0.37	0.49	-	2.8	0.28	1.6	-	-	9.049	-	-
H18	QC182	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	0.92	0.59	1.25	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	-	<1.0	-	-	-	0.50	-	<0.5	<0.5	-	1.2	<0.5	0.8	-	-	2.50	-	-
J06	J06_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.097	-	0.17	0.068	0.19	0.019	<0.5	0.61	2.0	1.4	1.3	1.5	-	-	-	-	2.4	-	1.0	2.5	-	1.6	0.080	0.37	-	-	15.304	-	-
J06	QC190	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.64	-	0.043	0.020	0.26	0.14	<0.5	0.52	0.93	0.56	0.49	0.37	-	-	-	-	0.37	-	0.66	1.2	-	0.28	0.045	0.17	-	-	6.698	-	-
J06	QC191	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.50	0.14	0.85	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	-	<1.0	-	-	-	0.14	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	0.14	-	-
J06	J06_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.15	-	<0.005	<0.005	0.88	<0.005	<0.5	2.0	6.5	3.5	2.0	2.0	-	-	-	-	2.0	-	2.6	7.2	-	0.27	0.037	0.13	-	-	29.267	-	-
J06	J16_1.5#B	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	10	10	10	<0.5	-	1.2	<0.5	1.5	<0.5	<0.5	6.0	14	6.0	8.1	5.1	-	-	-	-	6.0	-	8.4	14	-	3.9	1.0	3.1	-	-	79	<100	<5
J06	J16_1.5#B	1.5		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-
J06	J16_2.0#B	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.011	-	<0.005	<0.005	0.012	<0.005	<0.5	0.020	0.042	0.088	0.24	0.20	-	-	-	-	0.26	-	0.13	0.068	-	0.19	0.054	0.14	-	-	1.455	-	-
J06	J16_2.5#B	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	-	-	-	-	0.28	-	<0.5	0.5	-	<0.5	<0.5	<0.5	-	-	1.0	<100	<5
J06	J16_2.5#B	2.5		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J06	J16_3.0#B	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	0.009	<0.005	<0.005	<0.5	0.007	0.029	0.021	0.042	0.028	-	-	-	-	0.064	-	0.020	0.036	-	0.018	<0.005	0.006	-	-	0.28	-	-
J07	J07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.79	-	0.19	0.031	0.84	0.21	<0.5	1.7	3.5	2.0	2.1	1.7	-	-	-	-	2.6	-	2.9	4.8	-	1.0	0.30	0.89	-	-	25.551	-	-
J07	J07_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.53	-	0.33	0.078	4.0	0.95	<0.5	10	15	11	8.8	7.1	-	-	-	-	11	-	18	19	-	5.5	1.7	4.5	-	-	117.488	-	-
J07	J07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	0.9	<0.5	<0.5	0.9	1.2	<0.5	<0.5	<0.5	-	-	-	-	0.23	-	<0.5	1.1	-	<0.5	<0.5	<0.5	-	-	3.2	360	<5
J07	J07_1.5	1.5		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
J07	J07_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.027	-	0.009	<0.005	0.017	<0.005	<0.5	0.040	0.20	0.086	0.036	0.039	-	-	-	-	0.21	-	0.055	0.23	-	0.056	<0.005	0.026	-	-	1.031	-	-
J07	J07_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	1.5	-	7.0	1.8	19	16	<0.5	84	63	41	29	19	-	-	-	-	31	-	35	70	-	15	6.0	15	-	-	453.3	-	-
J07	J07_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	1.4	1.2	1.7	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	2.0	1.1	1.1	0.9	0.6	-	-	-	-	0.70	-	1.1	2.0	-	<0.5	<0.5	<0.5	-	-	9.6	280	<5
J07	J07_3.0	3		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-
J08	J08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	0.17	<0.005	<0.005	-	-	-	-	<0.005	-	0.071	0.068	-	<0.005	<0.005	<0.005	-	-	0.309	-	-
J08	J08_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.74	-	2.1	0.13	4.5	1.1	<0.5	16	28	24	18	18	-	-	-	-	32	-	20	30	-	18	3.4	8.8	-	-	224.77	-	-
J08	J08_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.059	-	0.073	0.008	0.33	0.040	<0.5	0.58	0.92	0.53	0.65	0.47	-	-	-	-	0.69	-	0.79	0.98	-	0.34	0.089	0.19	-	-	6.739	-	-
J08	J08_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	2.2	2.0	2.5	<0.5	-	<0.5	<0.5	0.8	<0.5	<0.5	2.6	4.7	1.4	1.3	0.8	-	-	-	-	1.2	-	1.5	4.1	-	1.1	<0.5	0.9	-	-	21	<100	<5
J08	J08_2.0	2		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
J08	J08_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.023	-	0.010	<0.005	0.045	0.008	<0.5	0.086	0.24	0.17	0.14	0.17	-	-	-	-	0.24	-	0.22	0.32	-	0.11	0.035	0.057	-	-	1.874	-	-
J09	J09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	0.008	0.014	<0.005	<0.005	<0.005	-	-	-	-	<0.005	-	<0.005	0.014	-	<0.005	<0.005	<0.005	-	-	0.036	-	-
J09	J09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.028	-	<0.005	<0.005	<0.005	0.008	<0.5	0.18	0.28	0.22	0.12	0.17	-	-	-	-	0.19	-	0.21	0.33	-	<0.005	<0.005	<0.005	-	-	1.736	-	-
J09	J09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.097	-	0.097	<0.005	0.14	0.068	<0.5	0.36	2.1	1.4	0.83	0.92	-	-	-	-	1.7	-	1.1	2.3	-	0.81	0.077	0.28	-	-	12.279	-	-
J09	J09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	2.7	2.5	3.0	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	5.9	1.7	1.9	1.7	-	-	-	-	1.5	-	2.1	6.1	-	1.6	<0.5	0.9	-	-	25	<100	<5
J09	J09_2.0	2		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-
J09	J09_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.024	-	0.022	0.007	0.032	0.015	<0.5	0.081	0.20	0.14	0.046	0.041	-	-	-	-	0.013	-	0.11	0.20	-	0.040	<0.005	0.056	-	-	1.027	-	-
J10	J10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
J10	J10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.17	-	0.20	0.050	0.47	0.26	<0.5	1.0	1.9	1.4	2.5	2.1	-	-	-	-	3.3	-	2.5	2.4	-	3.3	0.46	1.7	-	-	23.71	-	-
J10	QC149	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.005	-	<0.005	<0.005	<0.005	0.54	<0.005	<0.5	0.90	3.5	2.5	2.5	1.6	-	-	-	-	-	-	2.0	-	2.7	4.5	-	0.90	<0.005	0.51	-	-	22.15	-	-
J10	QC152	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	2.36	2.11	2.61	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	1.3	2.5	1.4	-	-	2.4	-	-	-	1.63	-	1.2	2.7	-	1.1	<0.5	0.8	-	-	15.0	-	-
J10	QC152	1		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J10	J10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.23	-	0.33	0.075	0.70	0.38	<0.5	1.7	5.3	4.7	5.0	4.8	-	-	-	-	7.1	-	6.1	6.2	-	5.9	1.0	3.0	-	-	52.515	-	-
J10	J10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	9.6	9.6	9.6	0.7	-	1.1	1.5	6.6	2.8	<0.5	19	29	7.1	6.8	4.0	-	-	-	-	5.4	-	8.1	29	-	3.6	0.8	2.2	-	-	130	<100	<5
J10	J10_2.0	2		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-
J10	J10_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.51	-	0.32	0.46	1.1	0.89	<0.5	3.0	3.4	1.4	1.2	0.93	-	-	-	-	1.2	-	3.3	3.6	-	0.63	0.18	0.72	-	-	22.84	-	-
J11	J11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.009	-	0.013	0.011	0.027	<0.005	<0.5	0.029	0.089	0.13	0.19	0.16	-	-	-	-	0.077	-	0.092	0.12	-	0.049	0.033	0.072	-	-	1.101	-	-
J11	J11_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.044	-	0.12	0.007	0.23	0.022	<0.5	0.34	0.99	0.64	0.89	0.76	-	-	-	-	0.96	-	0.81	1.1	-	0.41	0.10	1.1	-	-	7.903	-	-
J11	J11_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	0.36	<0.005	1.0	0.29	<0.5	2.4	3.3	1.6	0.60	0.75	-	-	-	-	2.7	-	1.8	4.0	-	1.0	<0.005	2.2	-	-	22	-	-
J11	J11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	2.9	2.9	2.9	<0.5	-	0.5	1.8	1.9	3.0	0.8	4.6	6.6	3.8	1.7	1.1	-	-	-	-	1.3	-	3.5	10	-	1.2	0.6	0.8	-	-	43	<100	<5
J11	J11_2.0	2		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
J11	J11_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	19	19	19	<0.5	-	1.6	1.3	6.9	1.7	<0.5	11	41	14	8.9	6.4	-	-	-	-	12	-	13	41	-	6.2	1.3	5.9	-	-	170	<100	<5
J11	J11_2.5	2.5		Fill		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-
J12	J12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	20	20	20	0.6	-	1.4	<0.5	1.4	<0.5	<0.5	4.7	26	11

Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

						Polynuclear Aromatic Hydrocarbons																								Major Ions	Cyanides
						Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (LOR)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b,j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-(2-Fluorenyl) Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Benzo(e)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	2Benz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Coronene	Perylene	Sum of PAHs	Fluoride	Cyanide Total
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.001	0.01	0.01	0.005	0.01	0.005	0.005	0.005	0.005	0.5	0.005	0.005	0.005	0.005	0.005	1	0.1	0.01	0.005	0.01	0.005	0.005	0.01	0.005	0.005	0.005	0.01	0.01	0.005	40	1
NEPM 2013 Table 1A(1) HIL-Comm/Ind D Soil						40	40	40																										4,000		
TAS Waste Classification Contaminated Soil Level 3																								20										200	10,000	2,500
TAS Waste Classification Guidelines - Fill Material Level 1																								0.08										20	300	32
TAS Waste Classification Low Level Contaminated Soil Level 2																								2										40	3,000	1,000
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																															
J12	J12 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.53	-	0.67	0.061	2.0	0.32	<0.5	3.7	8.1	7.2	5.9	7.8	-	-	-	11	-	8.4	9.9	-	2.9	1.1	2.7	-	-	72.281	-	-
J12	J12 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.52	-	0.83	0.051	2.1	0.30	<0.5	3.3	8.8	8.6	6.9	9.8	-	-	-	15	-	9.2	11	-	3.8	1.2	3.2	-	-	84.601	-	-
J13	J13 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	6.5	6.5	6.5	<0.5	-	0.6	<0.5	0.8	<0.5	<0.5	1.7	4.7	3.5	2.4	2.9	-	-	-	3.6	-	5.2	5.5	-	2.4	1.3	2.4	-	-	37	120	<5
J13	J13 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	-	-	-	-	-	-	-
J13	J13 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.37	-	0.36	0.085	1.5	0.60	<0.5	4.1	7.2	4.0	1.5	2.1	-	-	-	5.2	-	2.8	8.7	-	2.0	0.30	1.0	-	-	41.815	-	-
J13	J13 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.012	-	0.015	<0.005	0.039	0.009	<0.5	0.086	0.24	0.13	0.067	0.099	-	-	-	0.14	-	0.094	0.37	-	0.11	0.009	0.072	-	-	1.492	-	-
J14	J14 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.84	-	2.3	0.16	3.6	0.50	<0.5	7.7	18	20	15	20	-	-	-	40	-	19	25	-	12	3.2	8.4	-	-	195.7	-	-
J14	QC103	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	QC104	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.18	-	0.13	0.026	0.49	0.086	<0.5	1.2	2.2	1.6	1.7	2.2	-	-	-	2.9	-	2.1	2.3	-	1.2	0.36	1.0	-	-	19.672	-	-
J14	J14 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.23	-	<0.005	<0.005	0.39	0.16	<0.5	1.8	4.5	5.5	2.7	2.5	-	-	-	1.9	-	4.0	6.2	-	1.8	0.31	0.95	-	-	32.94	-	-
J14	QC103	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	22.8	22.8	22.8	1.13	0.35	2.83	0.13	2.6	0.48	<1	9.76	21	14	7.94	16.5	-	<0.1	<0.05[1]	16.2	12	12.2	22.2	<0.05[1]	8.06	1.88	7.28	<0.05[1]	4.69	161	-	-
J14	J14 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	10.0	10.0	10.0	0.5	-	0.7	<0.5	1.9	<0.5	<0.5	5.0	9.0	5.8	3.8	4.3	-	-	-	5.1	-	8.0	9.9	-	3.8	1.4	4.6	-	-	65	<100	<5
J14	J14 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-
J15	J15 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.18	-	0.25	0.040	0.47	0.063	<0.5	0.84	1.9	1.5	1.5	1.9	-	-	-	1.6	-	2.0	2.4	-	0.61	0.19	0.35	-	-	15.793	-	-
J15	J15 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.030	-	0.060	0.040	0.070	0.010	<0.5	0.15	0.34	0.23	0.15	0.18	-	-	-	<0.05[1]	-	0.21	0.43	-	0.060	<0.005	0.040	-	-	2.02	-	-
J15	J15 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	14	14	14	<0.5	-	1.1	<0.5	0.7	<0.5	<0.5	1.8	6.6	4.4	8.4	5.0	-	-	-	9.3	-	4.9	9.4	-	2.6	1.1	3.1	-	-	58	<100	<5
J15	J15 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.20	-	0.075	<0.005	0.48	0.092	<0.5	0.96	2.7	2.1	1.5	1.5	-	-	-	2.2	-	2.5	3.0	-	0.93	0.31	0.70	-	-	19.247	-	-
J16	J16 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	1.4	1.1	1.7	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.8	<0.5	0.6	-	-	-	0.73	-	1.3	1.6	-	<0.5	<0.5	<0.5	-	-	6.6	<100	<5
J16	J16 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.030	-	<0.005	<0.005	0.035	<0.005	<0.5	0.054	0.13	0.14	0.13	0.11	-	-	-	0.15	-	0.11	0.13	-	<0.005	<0.005	<0.005	-	-	1.019	-	-
J17	J17 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.068	-	0.080	0.010	0.38	0.081	<0.5	0.87	1.6	1.3	1.00	1.1	-	-	-	1.4	-	1.3	1.7	-	0.51	0.20	0.42	-	-	12.019	-	-
J17	J17 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	2.4	2.2	2.7	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	2.7	1.9	1.6	1.2	-	-	-	1.4	-	1.9	3.3	-	0.6	<0.5	0.7	-	-	17	<100	<5
J17	J17 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-
J17	J17 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.057	-	0.041	<0.005	0.23	<0.005	<0.5	0.54	1.0	0.79	0.72	0.71	-	-	-	0.82	-	0.91	1.0	-	0.33	0.11	0.26	-	-	7.518	-	-
J18	J18 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	1.6	1.3	1.8	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.7	0.9	0.7	-	-	-	-	0.81	-	0.8	0.6	-	0.7	<0.5	0.7	-	-	6.6	<100	<5
J18	J18 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-
J18	J18 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.099	-	0.071	0.017	0.45	0.061	<0.5	0.92	1.4	0.95	1.1	1.2	-	-	-	1.8	-	1.3	1.4	-	0.72	0.17	0.41	-	-	12.068	-	-
J18	J18 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.073	-	0.058	<0.005	0.34	<0.005	<0.5	0.65	1.3	0.92	1.1	1.0	-	-	-	1.5	-	1.1	1.4	-	0.79	0.17	0.47	-	-	10.871	-	-
K06	K06 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.025	-	0.063	<0.005	0.075	0.019	<0.5	0.19	0.46	0.32	0.27	0.26	-	-	-	0.44	-	0.40	0.54	-	0.38	0.097	0.33	-	-	3.869	-	-
K06	QC188	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.035	-	0.024	<0.005	0.11	0.018	<0.5	0.28	0.56	0.37	0.53	0.41	-	-	-	0.54	-	0.61	0.72	-	0.33	0.077	0.25	-	-	4.864	-	-
K06	QC189	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	1.40	1.15	1.65	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	<0.5	1.2	0.7	-	-	1.4	-	-	0.88	-	0.5	1.2	-	0.7	<0.5	0.5	-	-	7.08	-	-
K06	K06 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	18	18	18	1.3	-	3.6	0.6	11	4.2	0.7	30	35	13	10.0	6.8	-	-	-	10	-	11	28	-	5.2	2.0	5.4	-	-	180	<100	<5
K06	K06 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.22	-	0.86	0.16	1.8	0.62	<0.5	6.5	11	6.2	5.2	4.2	-	-	-	6.9	-	6.7	11	-	4.6	1.4	4.2	-	-	71.56	-	-
K06	K06 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	-	-	-	0.35	-	<0.5	0.8	-	<0.5	<0.5	<0.5	-	-	1.7	<100	<5
K06	K06 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06 2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	0.010	0.020	0.013	<0.005	<0.005	-	-	-	0.017	-	0.011	0.029	-	0.008	<0.005	<0.005	-	-	0.108	-	-
K07	K07 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.27	-	<0.005	<0.005	0.76	<0.005	<0.5	1.4	5.7	2.5	1.8	1.5	-	-	-	2.7	-	2.0	4.6	-	1.1	<0.005	0.83	-	-	25.16	-	-
K07	K07 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.44	-	0.53	<0.005	1.7	0.58	<0.5	3.9	11	6.9	5.4	5.3	-	-	-	8.3	-	10	11	-	3.9	0.40	1.2	-	-	70.55	-	-
K07	K07 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	4.5	4.5	4.5	<0.5	-	<0.5	<0.5	0.8	<0.5	<0.5	4.0	9.0	3.1	3.7	2.2	-	-	-	1.7	-	3.5	9.7	-	1.7	0.6	1.4	-	-	43	<100	<5
K07	K07 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.030	-	<0.005	<0.005	0.066	0.035	<0.5	0.15	0.36	0.20	0.14	0.12	-	-	-	0.053	-	0.22	0.49	-	<0.005	<0.005	<0.005	-	-	1.862	-	-
K08	K08 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.15	-	0.38	0.016	0.19	0.046	<0.5	0.44	2.1	1.7	1.8	1.7	-	-	-	2.8	-	1.4	2.4	-	1.9	0.28	0.87	-	-	18.172	-	-
K08	K08 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.024	-	<0.005	<0.005	0.030	<0.005	<0.5	0.071	0.19	0.14	0.12	0.12	-	-	-	0.074	-	0.12	0.26	-	<0.005	<0.005	<0.005	-	-	1.149	-	-
K08	K08 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.028	-	0.015	0.008	0.027	0.043	<0.5	0.14	0.21	0.17	0.19	0.17	-	-	-	0.30	-	0.17	0.23	-	0.13	0.068	0.084	-	-	1.983	-	-
K08	K08 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	4.1	3.9	4.4	<0.5	-	<0.5	<0.5	1.0	<0.5	<0.5	3.4	7.1	2.2	2.4	2.1	-	-	-	2.4	-	2.0	5.6	-	1.8	<0.5	1.8	-	-	32	<100	<5
K08	K08 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	0.080	<0.005	<0.5	0.40	1.1	0.61	0.43	0.32	-	-	-	0.49	-	0.82	1.3	-	0.31	0.081	0.32	-	-	6.261	-	-
K09	K09 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.052	-	0.089	0.011	0.35	0.024	<0.5	0.57	1.5	0.75	1.5	1.1	-	-	-	1.1	-	0.81	1.6	-	1.1	0.39	2.1	-	-	13.046	-	-
K09	K09 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	59	59	59	1.5	-	2.7	<0.5	8.7	0.8	<0.5	19	95	28	32	21	-	-	-	34	-	31	75	-	18	5.8	23	-	-	400	<100	<5
K09	K09 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
K10	K10 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	1.5	1.2	1.8	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	0.7	0.9	0.7	-	-	-	0.94	-	0.8	2.3	-	0.7	<0.5	<0.5	-	-	9.0	<100	<5
K10	K10 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
K10	K10 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.12	-	0.43	0.021	0.78	0.075	<0.5	1.2	4.7	3.7	3.6	3.2	-	-	-	5.6	-	4.7	5.0	-	4.2	0.81	2.0	-	-	40.136	-	-
K10	K10 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	6.2	6.2	6.2	<0.5	-	<0.5	<0.5	0.5	<0.5	<0.5	1.7	4.2	4.2	4.7	2.6	-	-	-	3.7	-	4.4	11	-	2.1	0.5	1.6	-	-	48	<100	<5
K10	K10 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	-	-	-	-	-	-	-	-	-	-
K11	K11 0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.012	-	0.008	<0.005	0.024	<0.005	<0.5	0.042	0.098	0.086	0.20	0.086	-	-	-	0.045	-	0.10	0.098	-	0.23	0.036	0.15	-	-	1.215	-	-
K11	K11 1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
K11	K11 1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
K11	K11 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	16	16	16	7.0	-	1.3	3.7	3.6	5.6	2.1	8.5	25	10	12	7.6	-	-	-	8.3	-	11	25	-	5.6	1.7	4.1	-	-	140	<100	20
K11	K11 2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC147	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	11	11	11	6.2	-	1.2	2.4	4.4	6.1	3.1	11	10	5.4	5.5	4.7	-	-	-	7.2	-	6.2	10	-	3.5	1.4	5.3	-	-	91	<100	<5
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	21.5	21.5	21.5	7.3	-	2.7	6.4	8.7	13.9	6	15.9	35.3	17.3	6.3	18.7	-	-	-	13.7	-	15.9	32.3	-	9.7	2.1	8.2	-	-	215	<40	4.8
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.1	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.069	-	0.043	0.020	0.10	0.008	<0.5	0.27	0.46	0.31	0.27	0.37	-	-	-	0.32	-	0.28	0.53	-	0.14	0.037	0.081	-	-	3.308	-	-
K12	K12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	4.7	4.7	4.7	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	3.5	2.2	3.1	2.7	-	-	-	2.0	-	2.9	3.9	-	1.8	0.8	1.8	-	-	27	<100	9.5
K12	K12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.25	-	0.36	0.063	0.84	0.14	<0.5	1.6	3.7	3.9	3.1	4.1	-	-	-	6.7	-	4.7	4.7	-	1.7	0.54	1.5	-	-	37.893	-	-
K13	K13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	-	-	-	0.27	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	0.5	210	<5
K13	K13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
K13	K13 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	0.37	<0.005	<0.5	0.83	1.7	1.8	1.9	1.7	-	-	-	3.6	-	1.9	3.1	-	2.2	<0.005	0.76	-	-	19.86	-	-
K13	K13 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	0.021	0.050	0.045	<0.005	<0.005	-	-	-	<0.005	-	0.032	0.058	-	<0.005	<0.005	<0.005	-	-	0.206	-	-
K14	K14 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	1.7	1.5	2.0	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	1.1	1.0	1.1	0.8	-	-	-	0.98	0.7	1.1	1.4	-	0.7	<0.5	0.9	-	-	10	<100	<5
K14	K14 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-
K14	K14 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.21	-	0.22	0.028	0.57	0.10	<0.5	1.6	3.9	3.7	3.6	4.6	-	-	-	5.7	-	4.0	4.2	-	3.1	0.84	2.0	-	-	38.368	-	-
K14	K14 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.54	-	0.34	0.029	0.90	0.17	<0.5	3.1	7.6	3.5	6.6	6.7	-	-	-	9.4	-	3.1	3.7	-	6.0	1.5	3.7	-	-	61.079	-	-
K15	K15 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.007	-	0.017	<0.005	0.023	0.005	<0.5	0.054	0.33	0.18	0.059	0.099	-	-	-	0.15	-	0.13	0.45	-	0.12	0.028	0.076	-	-	1.728	-	-
K15	K15 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	2.5	2.2	2.7	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	3.1	2.1	1.4	1.5	-	-	-	1.3	-	2.2	3.1	-	1.3	<0.5	1.7	-	-	20	<100	23
K15	K15 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-
K15	K15 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.15	-	0.055	0.022	0.32	0.084	<0.5	0.77	2.0	1.4	1.7	1.6	-	-	-	2.4	-	1.8	1.9	-	0.86	0.24	0.62	-	-	15.921	-	-
K16	K16 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<100	<5
K16	K16 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.030	-	0.056	<0.005	0.096	0.009	<0.5	0.20	0.58	0.43	0.67	0.67	-	-	-	1.1	-	0.64	0.68	-	0.44	0.11	0.32	-	-	6.031	-	-
K16	K16 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	1.2	1.0	1.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.7

Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

													Polynuclear Aromatic Hydrocarbons																			Major Ions	Cyanides
													Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (LOR)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthrene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-(2-Fluorenyl) Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Benzo(e)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	7(Benz(b,j)anthracen e)	Indeno(1,2,3-cd)pyrene	Coronene	Perylene	Sum of PAHs	Fluoride	Cyanide Total
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							0.001	0.01	0.01	0.005	0.01	0.005	0.005	0.005	0.005	0.5	0.005	0.005	0.005	0.005	0.005	1	0.1	0.01	0.005	0.005	0.01	0.005	0.005	0.005	0.01	0.01	0.005	40	1
NEPM 2013 Table 1A(1) HIL-I Comm/Ind D Soil							40	40	40																							4,000		
TAS Waste Classification Contaminated Soil Level 3																									20							200	10,000	2,500
TAS Waste Classification Guidelines - Fill Material Level 1																									0.08							20	300	32
TAS Waste Classification Low Level Contaminated Soil Level 2																									2							40	3,000	1,000
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																														
M09	M09_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	25	25	25	0.6	-	1.1	<0.5	3.5	0.7	<0.5	7.2	14	8.5	7.8	7.0	-	-	-	16	-	8.7	18	-	5.9	2.7	6.4	-	-	110	<100	<5
M09	M09_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-
M09	M09_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.44	-	0.20	0.32	0.61	0.34	1.3	2.3	3.2	2.0	1.6	1.4	-	-	-	2.8	-	2.2	3.8	-	1.3	0.63	1.5	-	-	24.64	-	-
M10	M10_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.16	-	0.058	<0.005	0.084	<0.005	<0.5	0.24	0.30	0.19	0.22	0.20	-	-	-	<0.005	-	0.26	0.24	-	0.078	0.025	0.088	-	-	2.143	-	-
M10	M10_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	10	10	10	1.0	-	0.8	0.5	1.2	0.9	<0.5	3.5	7.8	5.0	4.8	4.5	-	-	-	5.7	-	6.4	7.6	-	2.4	1.2	4.1	-	-	59	<100	<5
M10	M10_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-
M10	M10_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	35	-	0.14	9.8	5.8	5.0	36	10	7.4	4.2	2.5	2.5	-	-	-	3.6	-	6.3	6.3	-	0.85	0.15	0.69	-	-	100.23	-	-
M11	M11_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.33	-	0.078	<0.005	0.13	0.072	<0.5	1.5	0.62	0.31	0.43	0.43	-	-	-	0.32	-	0.55	0.58	-	0.15	0.084	0.29	-	-	5.874	-	-
M11	QC123	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.14	-	0.023	0.042	0.078	0.038	<0.5	0.51	0.65	0.24	0.28	0.29	-	-	-	0.20	-	0.42	0.67	-	0.27	0.077	0.23	-	-	4.158	-	-
M11	QC124	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	1.31	1.06	1.56	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	1.8	1.9	0.8	-	-	1.8	-	-	0.74	-	0.8	1.8	-	0.6	<0.5	0.5	-	-	10.7	-	-
M11	M11_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	28	28	28	1.0	-	2.4	<0.5	5.6	4.0	<0.5	15	24	14	13	13	-	-	-	17	-	16	23	-	6.9	3.3	9.6	-	-	170	<100	<5
M11	M11_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-
M11	M11_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	3.4	-	1.5	0.98	5.9	6.7	1.9	23	26	13	11	8.8	-	-	-	12	-	14	23	-	4.6	2.1	7.8	-	-	163.78	-	-
M12	M12_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.016	-	0.020	0.018	0.073	0.015	<0.5	0.18	0.44	0.21	0.31	0.34	-	-	-	0.49	-	0.23	0.54	-	0.11	0.025	0.12	-	-	3.137	-	-
M12	M12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	8.0	7.8	8.3	1.1	-	<0.5	0.6	<0.5	0.5	<0.5	1.9	6.9	3.3	3.4	3.5	-	-	-	4.9	-	4.1	8.5	-	2.2	<0.5	1.9	-	-	44	<100	7.7
M12	M12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-
M12	M12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.091	-	0.042	0.038	0.18	0.068	<0.5	0.31	1.1	0.87	0.89	0.82	-	-	-	1.7	-	0.73	1.6	-	1.4	0.26	0.67	-	-	10.769	-	-
M13	M13_0.5	0.5	Stage 2	Fill	Hotspot M13 - Ex Situ Assessment	-	-	-	0.15	-	0.071	0.058	0.19	0.064	<0.5	0.55	0.84	0.43	0.54	0.62	-	-	-	0.47	-	0.66	0.87	-	0.45	0.069	0.18	-	-	6.212	-	-
M13	M13_1.0	1	Stage 2	Fill	Hotspot M13 - Ex Situ Assessment	7.6	7.6	7.6	1.1	-	1.2	<0.5	1.4	0.9	2.6	5.6	13	4.6	5.0	3.4	-	-	-	4.1	-	5.8	14	-	3.0	0.8	2.2	-	-	67	<100	<5
M13	M13_1.0	1	Stage 2	Fill	Hotspot M13 - Ex Situ Assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-
M13	M13_1.5	1.5	Stage 2	Fill	Hotspot M13 - Ex Situ Assessment	-	-	-	0.21	-	0.39	0.014	0.78	0.078	<0.5	1.1	3.6	2.3	3.0	2.4	-	-	-	2.8	-	3.3	4.1	-	2.4	0.64	1.6	-	-	28.712	-	-
M14	M14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	1.7	1.5	2.0	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.9	0.9	0.8	-	-	-	1.0	-	0.9	0.8	-	0.6	<0.5	1.0	-	-	7.7	<100	<5
M14	M14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-
M14	M14_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.20	-	0.44	0.035	1.5	0.23	<0.5	4.0	8.8	7.5	7.9	6.8	-	-	-	12	-	7.0	9.3	-	5.1	1.1	3.6	-	-	75.505	-	-
M14	M14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.16	-	0.48	0.094	1.7	0.69	<0.5	4.9	7.6	4.7	4.0	4.5	-	-	-	6.6	-	4.6	6.8	-	2.5	0.84	2.0	-	-	52.164	-	-
M15	M15_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.007	-	<0.005	<0.005	0.032	0.009	<0.5	0.050	0.083	0.075	0.10	0.11	-	-	-	0.12	-	0.061	0.11	-	0.062	0.013	0.028	-	-	0.86	-	-
M15	M15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.007	-	<0.005	<0.005	0.030	0.018	<0.5	0.069	0.071	0.072	0.069	0.074	-	-	-	0.10	-	0.050	0.10	-	0.063	0.019	0.029	-	-	0.761	-	-
M15	M15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.009	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.009	<0.005	-	<0.005	<0.009	<0.005	-	-	<0.097	-	-
M16	M16_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.095	-	0.76	0.12	2.2	0.92	<0.5	7.9	6.6	5.1	2.2	2.8	-	-	-	5.9	-	3.9	7.9	-	1.2	0.47	0.98	-	-	49.045	-	-
M16	M16_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	38	38	38	1.1	-	5.0	<0.5	4.7	1.8	<0.5	16	19	13	14	16	-	-	-	22	-	14	23	-	13	5.4	24	-	-	200	<100	<5
M16	M16_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-
M16	M16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	1.2	-	1.6	0.19	3.7	1.1	1.3	8.4	18	12	5.9	6.8	-	-	-	12	-	8.6	22	-	5.8	1.7	4.0	-	-	112.98	-	-
M17	M17_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.083	-	0.045	0.008	0.20	0.048	<0.5	0.39	1.2	0.77	0.37	0.46	-	-	-	0.56	-	0.71	1.4	-	0.40	0.074	0.26	-	-	6.978	-	-
M17	M17_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.066	-	0.052	0.019	0.21	0.070	<0.5	0.60	1.6	1.0	0.58	0.77	-	-	-	1.4	-	1.00	1.8	-	0.60	0.067	0.36	-	-	10.194	-	-
M17	M17_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	7.9	7.9	7.9	<0.5	-	<0.5	<0.5	1.7	0.7	<0.5	4.4	9.6	4.6	4.6	3.1	-	-	-	4.6	-	4.6	9.8	-	2.1	1.0	2.5	-	-	54	<100	<5
M17	M17_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	-	-	-	-	-	-	-	-	-	-	-
M18	M18_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.097	-	0.17	0.009	0.25	0.052	<0.5	0.57	1.3	1.3	1.1	0.88	-	-	-	2.0	-	1.2	1.6	-	0.58	0.19	0.39	-	-	11.688	-	-
M18	M18_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.13	-	0.12	0.014	0.44	0.091	<0.5	0.83	2.0	1.5	1.6	1.9	-	-	-	2.8	-	1.8	2.1	-	1.3	0.34	0.80	-	-	17.765	-	-
M18	M18_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	7.7	7.7	7.7	6.0	-	<0.5	<0.5	1.1	<0.5	1.5	3.2	8.2	3.9	4.3	3.3	-	-	-	4.8	-	3.8	9.4	-	2.2	1.0	2.3	-	-	54	130	<5
M18	M18_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	-	-	-	-	-	-	-	-	-	-	-
N09	N09_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.71	1.6	0.59	1.1	0.92	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	1.5	<100	<5
N09	N09_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.13	-	0.19	0.25	0.049	<0.5	0.71	1.6	0.59	1.1	0.92	-	-	-	-	1.5	-	0.90	2.1	-	0.49	0.18	0.57	-	-	11.198	-	-
N09	N09_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.10	-	0.25	0.016	0.66	0.077	<0.5	0.88	5.0	2.1	1.7	1.8	-	-	-	3.1	-	2.0	5.4	-	1.6	0.29	0.90	-	-	25.873	-	-
N10	N10_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	0.054	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<100	<5
N10	N10_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
N10	N10_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.43	-	0.41	0.12	0.55	0.21	<0.5	2.3	3.5	2.0	1.2	1.2	-	-	-	1.8	-	1.8	4.0	-	0.86	0.11	1.3	-	-	21.79	-	-
N10	N10_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.63	-	0.29	0.76	0.67	0.36	<0.5	2.4	2.4	2.4	2.9	3.0	-	-	-	4.5	-	2.7	3.2	-	0.11	0.25	0.14	-	-	26.71	-	-
N11	N11_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	0.009	-	<0.005	<0.005	<0.005	-	-	0.018	-	-
N11	N11_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	6.0	-	5.8	2.3	14	7.9	4.1	45	28	14	12	11	-	-	-	21	-	15	29	-	5.5	3.2	9.2	-	-	228.9	-	-
N11	N11_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	1.8	1.6	2.1	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.6	1.1	1.1	1.1	-	-	-	0.81	-	1.4	1.8	-	1.3	<0.5	1.1	-	-	12	<100	<5
N11	N11_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-
N12	N12_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	0.012	<0.005	<0.5	0.030	0.057	0.021	0.029	0.029	-	-	-	0.045	-	0.034	0.065	-	0.015	0.006	0.019	-	-	0.362	-	-
N12	N12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.032	-	0.034	0.019	0.029	0.031	<0.5	0.10	0.28	0.19	0.40	0.21	-	-	-	0.18	-	0.30	0.30	-	0.26	0.26	0.062	-	-	2.687	-	-
N12	N12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	6.1	5.8	6.3	<0.5	-	<0.5	<0.5	0.6	<0.5	<0.5	1.3	4.3	2.6	2.9	2.5	-	-	-	3.7	-	3.6	5.7	-	2.0	<0.5	1.6	-	-	32	<100	<5
N12	N12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	-	-	-	-	-	-	-	-	-	-	-
N13	N13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<100	<5
N13	N13_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.013	-	<0.005	0.016	0.056	0.024	<0.5	0.12	0.25	0.076	0.10	0.098	-	-	-	0.16	-	0.13	0.28	-	0.058	0.020	0.066	-	-	1.467	-	-
N13	N13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.010	-	<0.005	<0.005	0.017	<0.005	<0.5	0.054	0.074	0.026	0.035	0.027	-	-	-	0.049	-	0.050	0.083	-	0.016	0.007	0.017	-	-	0.465	-	-
N14	N14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	0.29	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	<100	<5
N14	N14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
N14	N14_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.13	-	0.38	0.026	0.58	0.13	<0.5	0.96	2.7	3.0	2.4	2.5	-	-	-	5.7	-	2.4	3.6	-	1.6	0.46	1.0	-	-	27.566	-	-
N14	N14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.34	-	0.86	0.060	1.1	0.23	<0.5	2.9	6.8	7.9	6.3	6.4	-	-	-	14	-	6.4	9.0	-	3.0	1.2	2.8	-	-	69.29	-	-
N15	N15_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	0.007	0.006	0.005	<0.5	0.012	0.051	0.019	0.015	0.019	-	-	-	0.011	-	0.020	0.048	-	0.011	<0.005	0.005	-	-	0.229	-	-
N15	N15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.13	-	0.39	0.058	0.84	0.18	<0.5	2.8	5.1	4.2	2.7	2.6	-	-	-	6.8	-	3.4	6.0	-	1.3	0.53	1.2	-	-	38.228	-	-
N15	N15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	2.9	2.6	3.1	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	1.5	1.5	1.6	1.2	-	-	-	1.7	-	1.6	1.7	-	1.1	<0.5	1.5	-	-	15	<100	<5
N15	N15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-
N16	N16_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.009	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.009	<0.005	-	0.010	<0.009	<0.005	-	-	0.01	-	-
N16	N16_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.5	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	-	<0.005	-	-
N16	N16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	15	15	15	<0.5	-	0.5	<0.5	1.4	<0.5	<0.5	3.5	12	5.8	5.6	5.3	-	-	-	9.7	-	7.8	14	-	3.9	1.0	3.3	-	-	76	120	<5
N16	N16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-
N16	QC127	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	7.2	7.2	7.2	<0.5	-	<0.5	<0.5	0.9	<0.5	<0.5	2.0	6.1	5.0	4.9	3.5	-	-	-	4.1	-	7.6	7.6	-	5.4	0.7	2.1	-	-	51	<100	<5
N16	QC127	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	-	-	-	-	-	-	-	-	-	-	-
N16	QC128	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	3.2	3.0	3.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	1.4	4.1	2.1	1.7	1.5	-	-	-	2.56	-	2.2	4.1	-	1.4	<0.5	1.1	-	-	21.9	90	<5
N17	N17_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.057	-	0.064	0.023	0.21	0.069	<0.5	0.48	1.6	0.83	0.52	0.79	-	-	-	1.3	-	0.68	2.3	-	0.49	0.058	0.34	-	-	9.811	-	-
N17	N17_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.009	-	<0.005	<0.005	0.024	0.006	<0.5	0.068	0.17	0.10	0.045	0.065	-	-	-	0.10	-	0.063	0.23	-	0.048	0.008	0.042	-	-	0.978	-	-
N17	N17_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	0.6	<0.5	1.2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.005	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	<0.5	100	<5
N18	N18_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.026	-	0.011	<0.005	0.056	<0.005	<0.5	0.11	0.18	0.15	0.14	0.14	-	-	-	0.18	-	0.13	0.14	-	<0.005	<0.005	<0.005	-	-	1.263	-	-
N18	N18_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.43	-	0.32	0.037	0.33	0.18	<0.5	1.2	3.1	3.2	3.5	3.6	-	-	-	5.1	-	3.0	3.8	-	1.5	0.47	1.0	-	-	30.767	-	-
O12	O12_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.055	-	0.046	0.029	0.091	0.038	<0.5	0.17	0.39	0.22	0.16	0.16	-	-	-	0.12	-	0.28	0.42	-	0.24	0.24	0.051	-	-	2.71	-	-
O12	O12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	1.7	1.4	1.9	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.5	0.7	0.8	0.9	-	-	-	0.75	-	0.8	1.7	-	<0.5	<0.5	0.5	-	-	8.7	<100	<5
O12	O12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-
O12	O12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.097	-	0.078	<0.005	0.044	0.012	<0.5	0.15	0.55	0.51	0.66	0.53	-	-	-	0.49	-	0.70	0.66	-	0.60	0.60	0.19	-	-	5.871	-	-
O13	O13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.031	-	<0.005	<0.005	0.026	0.006	<0.5	0.089	0.024	0.027	<0.005	<0.005	-	-	-	<0.005	-	0.071	0.043	-	<0.005	<0.005	<0.005	-	-	0.317	-	-
O13	O13_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	0.12	-	0.16	<0.005	0.55	0.13	<0.5	1.3	5.5	2.6	1.3	1.2	-	-	-	1.5	-	2.9	6.6	-	1.4	0.11	0.97	-	-	26.34	-	-
O13	O13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	17	17	17	<0.5	-	0.9	<0.5	1.0	<0.5	<0.5	1.8	8.1	5.6	8.9	7.0	-	-	-	6.7	-	5.9	11	-	11	4.1	12	-	-	86	<100	<5
O13	O13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-

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Table T2
Analytical Results - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

								Phenolic Compounds																Mass	Polychlorinated Biphenyls							
								3,5-Methylphenol (m/p-Cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (m&p-Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	2,4-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Sum of Phenols	Mass FA	Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								1	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	1	5	20	5	20	10	1	20	0.5		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HIL's Comm/Ind D Soil									240,000				25,000										660									7							
TAS Waste Classification Contaminated Soil Level 3																																50							
TAS Waste Classification Guidelines - Fill Material Level 1																																2							
TAS Waste Classification Low Level Contaminated Soil Level 2																																20							

Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																			
E15	E15_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F15	QC119	0.5	Staoe 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F15	QC120	0.5	Staoe 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F15	F15_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F16	F16_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
F16	F16_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F16	F16_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	G06_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	G06_1.0	1	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G06	G06_1.3	1.3	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G06	G06_2.0	2	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G07	G07_0.6	0.6	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G07	G07_0.7	0.7	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G08	G08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G08	G08_1.0	1	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G08	G08_1.5	1.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G08	G08_2.0	2	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G08	G08_2.5	2.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G08	G08_3.0	3	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G08	G08_3.5	3.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G09	G09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G09	G09_3.5	3.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G09	G09_3.5	3.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	0.5	<0.5	<0.2	0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
G10	G10_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_3.5	3.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G11	G11_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G11	G11_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_3.5	3.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G12	G12_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	QC163	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	QC164	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	QC164	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G12	G12_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_2.5	2.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_3.0	3	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_3.5	3.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G12	G12_3.5	3.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	QC167	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G13	QC168	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<1	<0.5	<0.5	<0.5	+	+	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	+	<2	+	+	<5	+	+	+	+	+	<0.5	-	<0.1	+	+	+	+	+	+	+
G13	G13_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G13	G13_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	+	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	+	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
G14	G14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	QC173	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	QC174	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	QC174	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G14	G14_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	1.4	<0.1	<0.1	1.4	<0.1	<0.1	<0.1	<0.1
G15	G15_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G15	G15_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G15	G15_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_2.0	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	QC175	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	QC176	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_2.5	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_3.0	3	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
G15	G15_3.0	3	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G16	G16_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
G16	G16_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G16	G16_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G16	G16_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G17	G17_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G17	G17_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G17	QC198	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G17	QC199	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G18	G18_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G18	G18_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	48	<2	76	130	210	<2	<2	170	<2	<2	<2	<5	<2	<5	<20	<5	<20	<10	<2	420	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
G18	G18_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	H06_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	H06_0.7	0.7	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H06	H06_0.8	0.8	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	H06_1.5	1.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	H07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H07	H07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	H07_1.0	1

								Phenolic Compounds																		Mass	Polychlorinated Biphenyls							
								3,5-Methylphenol (Total Cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	4&4-Methylphenol (mMp-Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dichlorophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Sum of Phenols	Mass FA	Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								1	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	1	5	20	5	20	10	1	20	0.5		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HIL-I Comm/Ind D Soil									240,000				25,000										660									7							
TAS Waste Classification Contaminated Soil Level 3																																50							
TAS Waste Classification Guidelines - Fill Material Level 1																																2							
TAS Waste Classification Low Level Contaminated Soil Level 2																																20							
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																			
H13	H13_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H13	H13_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	H14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H14	H14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H14	H14_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H14	H14_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	H14_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H14	H14_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	QC196	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H14	QC196	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H14	QC197	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<1	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	<0.5	-	<0.1	-	-	-	-	-	-
H14	QC197	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H15	H15_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_2.0	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	H15_2.5	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
H15	H15_2.5	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	QC177	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
H15	QC177	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H15	QC178	2.5	Stage 1	Fill	Former Gasworks - ex situ assessment	<1	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.1	-	-	-	-	-	-
H16	H16_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H16	H16_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H16	H16_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H16	H16_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H16	H16_2.0	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H16	QC183	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H16	QC184	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H16	QC184	2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H17	H17_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H17	QC179	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H17	QC180	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.1	-	-	-	-	-	-
H17	H17_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H17	H17_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H18	H18_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H18	H18_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
H18	H18_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H18	H18_1.5	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H18	QC181	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H18	QC182	1.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	I06_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	QC190	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	QC191	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	I06_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	I16_1.5#B	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
I06	I16_1.5#B	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	I16_2.0#B	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	I16_2.5#B	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I06	I16_2.5#B	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I06	I16_3.0#B	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	I07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	I07_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	I07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I07	I07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	I07_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	I07_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I07	I07_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I08	I08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	I08_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	I08_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	I08_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I08	I08_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	I09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I09	I09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	I09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	I09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I09	I09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I09	I09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	I10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
I10	I10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	I10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	I10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I10	I10_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I11	I11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I11	I11_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I11	I11_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I11	I11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I11	I11_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I11	I11_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I12	I12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I12	I12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I12	I12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I12	I12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I12	I12_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I12	I12_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I13	I13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I13	I13_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I13	I13_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I14	I14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I14	I14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I14	I14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I14	I14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I15	I15_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I15	I15_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
I15	I15_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I15	QC194	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
I15	QC194	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I15	QC195	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<1	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.1	-	-	-	-	-	-
I15	I15_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I16	I16_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-

								Phenolic Compounds																							Mass	Polychlorinated Biphenyls							
								3&4-Methylphenol (m&p-Cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (m&p-Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Sum of Phenols		Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	n	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								1	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	1	5	20	5	20	10	1	20	0.5		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HIL-I Comm/Ind D Soil									240,000				25,000										660									7							
TAS Waste Classification Contaminated Soil Level 3																																50							
TAS Waste Classification Guidelines - Fill Material Level 1																																2							
TAS Waste Classification Low Level Contaminated Soil Level 2																																20							

Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																	
J12	J12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J12	J12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	J13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
J13	J13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	J13_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	J13_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	J14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	QC103	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	QC104	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	J14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	QC103	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	J14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
J14	J14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J15	J15_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J15	J15_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J15	J15_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
J15	J15_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
J16	J16_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J17	J17_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J17	J17_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
J17	J17_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J17	J17_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J18	J18_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
J18	J18_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J18	J18_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J18	J18_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	QC188	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	QC189	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
K06	K06_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K06	K06_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	0.9	<0.5	<0.2	6.6	6.6	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K07	K07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	K08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	K08_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	K08_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K08	K08_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K08	K08_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K09	K09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K10	K10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K10	K10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	K11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	K11_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	K11_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	K11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K11	K11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC147	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<3	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.1	-	-	-	-	-	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K12	K12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	K13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K13	K13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	K13_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	K13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	K14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
K14	K14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	K14_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	K14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	K15_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	K15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
K15	K15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	K15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K16	K16_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
K16	K16_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K16	K16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
K16	K16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	K17_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
K17	QC108	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	K17_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	QC107	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	K17_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K18	K18_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K18	K18_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K18	K18_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
K18	K18_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	L08_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	L08_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
L08	L08_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	QC150	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	QC151	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	L08_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	L08_2.0	2	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L09	L09_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
L09	L09_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L09	L09_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

							Phenolic Compounds																		Mass	Polychlorinated Biphenyls							
							3,4-Methylphenol (m/p-Cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2,4-Methylphenol (m&p-Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Sum of Phenols	Mass FA	Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							1	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	1	5	20	5	20	10	1	20	0.5		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								240,000				25,000										660										7							
TAS Waste Classification Contaminated Soil Level 3																																50							
TAS Waste Classification Guidelines - Fill Material Level 1																																2							
TAS Waste Classification Low Level Contaminated Soil Level 2																																20							
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																		
M09	M09_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
M09	M09_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M09	M09_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M10	M10_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M10	M10_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
M10	M10_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M10	M10_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	M11_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	QC123	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	QC124	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	M11_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
M11	M11_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	M11_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M12	M12_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M12	M12_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
M12	M12_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M12	M12_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M13	M13_0.5	0.5	Staoe 2	Fill	Hotspot M13 - Ex Situ Assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M13	M13_1.0	1	Staoe 2	Fill	Hotspot M13 - Ex Situ Assessment	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
M13	M13_1.0	1	Staoe 2	Fill	Hotspot M13 - Ex Situ Assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M13	M13_1.5	1.5	Staoe 2	Fill	Hotspot M13 - Ex Situ Assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	M14_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
M14	M14_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	M14_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	M14_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M15	M15_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M15	M15_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M15	M15_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16	M16_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16	M16_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
M16	M16_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M16	M16_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M17	M17_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M17	M17_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M17	M17_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
M17	M17_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M18	M18_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M18	M18_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M18	M18_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
M18	M18_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N09	N09_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
N09	N09_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N09	N09_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N10	N10_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N10	N10_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N10	N10_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N10	N10_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N11	N11_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N11	N11_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N11	N11_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N11	N11_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N12	N12_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N12	N12_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N12	N12_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
N12	N12_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N13	N13_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N13	N13_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N13	N13_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N14	N14_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N14	N14_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N14	N14_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N14	N14_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N15	N15_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N15	N15_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N15	N15_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N15	N15_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N16	N16_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N16	N16_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N16	N16_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
N16	N16_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N16	QC127	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
N16	QC127	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N16	QC128	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	<1	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<2	-	-	-	-	-	-	-	-	-	<0.5	-	<0.1	-	-	-	-	-	-	-
N17	N17_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N17	N17_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N17	N17_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N18	N18_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N18	N18_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O12	O12_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O12	O12_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
O12	O12_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O12	O12_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O13	O13_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O13	O13_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O13	O13_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
O13	O13_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O14	O14_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O14	O14_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O14	O14_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O15	O15_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O15	O15_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
O15	O15_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O15	O15_1.5	1.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O18	O18_0.5	0.5	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O18	O18_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	<0.5	<0.5	<0.2	<0.4	<0.5	<1	<0.5	<0.5	<0.5	<1	<1	<1	<5	<1	<5	<20	<5	<20	<10	<1	<20	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
O18	O18_1.0	1	Staoe 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
#1 Chrysotile asbestos detected.Organic fibres detected.
#2 50 x 40 x 5
#3 Organic fibres detected.
#4 Chrysotile and amosite asbestos detected in fibre cement fragments and in the form of loose fibre bundles.Approximate raw weight of asbesto
#5 Nil
#6 No trace asbestos detected.
#7 Reported Analyte LOR is higher than Requested Analyte LOR
#8 Sample accidently labelled as "I18" not "I08". Correct location determined by sample date and depths

Environmental Standards
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
TBA, TBA, TAS Waste Classification Contaminated Soil Level 3
TBA, TBA, TAS Waste Classification Guidelines - Fill Material Level 1
TBA, TBA, TAS Waste Classification Low Level Contaminated Soil Level 2

												Organochlorine Pesticides (OC)																				Physio-Chemical Parameters	Physico-Chemical Parameters
												Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (Dried @ 105°C)
												mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL												0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
NEPM 2013 Table 1A(1) HIL's Comm/Ind D Soil														45							530					3,600	2,000											
TAS Waste Classification Contaminated Soil Level 3														50												1,000												
TAS Waste Classification Guidelines - Fill Material Level 1														7												2												
TAS Waste Classification Low Level Contaminated Soil Level 2														20												200												
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																		
C12	C12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
C12	C12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C12	C12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
C12	C12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
C12	C12_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	3.9
C12	C12_2.5	2.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
D11	D11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4
D11	D11_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8
D11	D11_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
D11	D11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
D11	D11_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1
D11	D11_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
D11	D11_3.5	3.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	6.6
D12	D12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	24
D12	D12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29
D12	D12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
D12	D12_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
D12	D12_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.4
D12	D12_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
D12	D12_3.5	3.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
D13	D13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3
D13	D13_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
D13	D13_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
D13	D13_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30
D13	D13_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	22
D13	D13_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
D13	D13_3.5	3.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.7
D14	D14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0
D14	D14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.4
D14	D14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
D14	D14_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
D14	D14_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	26
D14	D14_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25
E07	E07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
E07	QC131	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
E07	QC132	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	-
E07	E07_0.9	0.9	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8
E07	E07_1.0	1	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E08	E08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.3
E09	E09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
E09	E09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
E09	E09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1
E09	E09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
E09	E09_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	8.7
E09	E09_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7
E09	E09_3.5	3.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8
E09	E09_4.0	4	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E09	E09_4.5	4.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	3.2
E10	E10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
E10	E10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
E10	E10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	6.7
E10	E10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2
E10	E10_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
E10	E10_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E10	E10_3.5	3.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6
E11	E11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
E11	E11_1.0	1	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
E11	E11_1.5	1.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
E11	E11_2.0	2	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
E11	E11_2.5	2.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E11	E11_3.0	3	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.7
E11	E11_3.5	3.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
E12	E12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.8
E12	E12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
E12	QC155	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.0
E12	QC156	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	-
E12	E12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E12	E12_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.7
E12	E12_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
E12	E12_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
E12	E12_3.5	3.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
E13	ACM_E13_0.5	0.5	Stage 1	ACM	Removed From Site	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E13	E13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
E13	E13_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
E13	E13_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
E13	QC171	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
E13	QC172	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	-
E13	QC172	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E13	E13_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
E13	E13_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	29
E13	E13_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
E13	E13_3.5	3.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	25
E14	E14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
E14	E14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
E14	E14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
E14	QC157	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
E14	QC157	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E14	QC158	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	12.2	-
E14	E14_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
E14	E14_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	21
E14	E14_3.0	3	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
E15	E15_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
E15	E15_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	42
E15	E15_1.0	1	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E16	E16_0.2	0.2	Stage 1	Fill	Former Gasworks - ex situ assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
E16	E16_0.5	0.5	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	1.5
E16	E16_1.0	1	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
F07	F07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	4.5
F07	F07_0.6	0.6	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5
F07	F07_1.0	1	Stage 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
F08	F08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
F08	F08_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05

						Organochlorine Pesticides (OC)																							Physio-Chemical Parameters	Physico-Chemical Parameters
						Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	g-BHC	a-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (oven @ 105°C)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL						0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
NEPM 2013 Table 1A(1) HIL's Comm/Ind D Soil								45							530				3,600	2,000				100			50			80	2,500	160				
TAS Waste Classification Contaminated Soil Level 3								50											1,000																
TAS Waste Classification Guidelines - Fill Material Level 1								7											7																
TAS Waste Classification Low Level Contaminated Soil Level 2								20											200																
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																														
E15	E15_0.5	0.5	Stage 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
F15	OC119	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
F15	OC120	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.9	-
F15	F15_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
F16	F16_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
F16	F16_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F16	F16_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G06	G06_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1
G06	G06_1.0	1	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4
G06	G06_1.3	1.3	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.4
G06	G06_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G07	G07_0.6	0.6	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8
G07	G07_0.7	0.7	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1
G08	G08_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9
G08	G08_1.0	1	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.3
G08	G08_1.5	1.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
G08	G08_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8
G08	G08_2.5	2.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	7.1
G08	G08_3.0	3	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
G08	G08_3.5	3.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0
G09	G09_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
G09	G09_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G09	G09_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
G09	G09_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
G09	G09_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G09	G09_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
G09	G09_3.5	3.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	26
G09	G09_3.5	3.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G10	G10_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2
G10	G10_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G10	G10_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	25
G10	G10_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G10	G10_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
G10	G10_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
G10	G10_3.5	3.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
G11	G11_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
G11	G11_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5
G11	G11_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G11	G11_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G11	G11_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G11	G11_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
G11	G11_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G11	G11_3.5	3.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
G12	G12_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.7
G12	G12_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
G12	OC163	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G12	OC164	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.3	-
G12	OC164	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4
G12	G12_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.2
G12	G12_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G12	G12_2.5	2.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6
G12	G12_3.0	3	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
G12	G12_3.5	3.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
G12	G12_3.5	3.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
G13	G13_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
G13	OC167	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.6
G13	OC168	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	12.7	-
G13	G13_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
G13	G13_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
G13	G13_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G13	G13_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
G13	G13_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
G14	G14_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	3.0
G14	G14_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5
G14	G14_1.5	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G14	OC173	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
G14	OC174	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.4	-
G14	OC174	1.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_2.0	2	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
G14	G14_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
G14	G14_2.5	2.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14	G14_3.0	3	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
G15	G15_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
G15	G15_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	6.3
G15	G15_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_1.5	1.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
G15	G15_1.5	1.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G15	G15_2.0	2	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
G15	OC175	2	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
G15	OC176	2	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.5	-
G15	G15_2.5	2.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
G15	G15_3.0	3	Staoe 1	Fill	Former Gasworks - ex situ assesment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
G15	G15_3.0	3	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G16	G16_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.3
G16	G16_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G16	G16_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G16	G16_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G17	G17_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2
G17	G17_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
G17	OC198	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1
G17	OC199	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9	-
G18	G18_0.5	0.5	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41
G18	G18_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	22
G18	G18_1.0	1	Staoe 1	Fill	Former Gasworks - ex situ assesment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H06	H06_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
H06	H06_0.7	0.7	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	3.9
H06	H06_0.8	0.8	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7
H06	H06_1.5	1.5	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4
H07	H07_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	15
H07	H07_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H07	H07_1.0	1	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	2.1
H07	H07_2.0	2	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
H07	H07_3.0	3	Staoe 1	Dolerite	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.1	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	<1
H08	H08_0.5	0.5	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
H08	H08_1.0	1	Staoe 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-

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							Organochlorine Pesticides (OC)																						Physio-Chemical Parameters	Physico-Chemical Parameters
							Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	g-BHC	d-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan alpha (Endosulfan I)	Endosulfan beta (Endosulfan II)	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	Moisture Content	Moisture Content (Dried @ 103°c)
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%
EQL							0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.1	0.1	0.1	1
NEPM 2013 Table 1A(1) HIL-Comm/Ind D Soil									45							530				3,600	2,000				100			50			80	2,500	160				
TAS Waste Classification Contaminated Soil Level 3									50											1,000																	
TAS Waste Classification Guidelines - Fill Material Level 1									7											7																	
TAS Waste Classification Low Level Contaminated Soil Level 2									20											200																	
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions																																
J12	J12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
J12	J12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
J13	J13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	10
J13	J13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J13	J13_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J13	J13_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
J14	J14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
J14	QC103	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J14	QC104	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
J14	J14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
J14	QC103	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.0	-
J14	J14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	22
J14	J14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J15	J15_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
J15	J15_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J15	J15_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
J15	J15_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
J16	J16_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
J16	J16_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J16	J16_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5
J17	J17_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
J17	J17_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	13
J17	J17_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J17	J17_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
J18	J18_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	17
J18	J18_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J18	J18_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5
J18	J18_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0
K06	K06_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
K06	QC188	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
K06	QC189	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.7	-
K06	K06_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
K06	K06_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0
K06	K06_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
K06	K06_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K06	K06_2.5	2.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
K07	K07_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
K07	K07_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
K07	K07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	37
K07	K07_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K07	K07_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
K08	K08_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7
K08	K08_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7
K08	K08_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
K08	K08_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	19
K08	K08_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.8
K09	K09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5
K09	K09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	20
K09	K09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K09	K09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6
K10	K10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.9
K10	K10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6
K10	K10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
K10	K10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	14
K09	K09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6
K10	K10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	5.9
K10	K10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K10	K10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6
K10	K10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9
K10	K10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	14
K10	K10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
K11	K11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7
K11	K11_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7
K11	K11_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9
K11	K11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
K11	K11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC147	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	23
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<3.0[2]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	25.8	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K11	QC148	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
K12	K12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	30
K12	K12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K12	K12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
K13	K13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.3
K13	K13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K13	K13_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
K13	K13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6
K14	K14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
K14	K14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K14	K14_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
K14	K14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.7
K15	K15_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
K15	K15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	16
K15	K15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K15	K15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
K16	K16_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	9.5
K16	K16_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
K16	K16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	11
K16	K16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	K17_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	12
K17	QC108	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K17	K17_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
K17	QC107	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8
K17	K17_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1
K18	K18_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2
K18	K18_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9
K18	K18_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	<0.1	-	13
K18	K18_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L08	L08_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	-	-	-	-	-	-	-	-	-

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Table T3

Analytical Results - Leachate Contaminant Concentrations

In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation

Macquarie Point Development Project

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						Metals						Polynuclear Aromatic Hydrocarbons																	Calculated benzo(a)pyrene TEQ[3]			Inorganics			Un-assigned
						Arsenic	Cadmium	Chromium	Lead	Mercury	Zinc	Benzo(a)pyrene TEQ (WHO 2005)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(e)pyrene	Benzo(a)pyrene	Perylene	Pyrene	Benz(a)p,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	TEQ(LOR)	TEQ(half)	TEQ(zero)	pH (Field)	pH (In-lab)	pH (after HCL)	pH of Leaching Fluid
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH Units	pH Units	pH Units	pH Units
LOR						0.01	0.005	0.01	0.01	0.001	0.01	0.1	0.01	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.1	0.1	0.1
TAS Waste Classification Contaminated Soil Level 3 TCLP						5	0.5	5	5	0.1	250	5												5													
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP						0.5	0.1	0.5	0.5	0.01	25	0.5												0.5													
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions	Sample Type	Lab Report Number	Date																													
L10	L10 2.0	2	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	0.60	-	0.20	1.3	1.8	3.6	5.6	1.4	<0.01	<0.01	<0.01	<0.01	0.10	1.5	<0.01	<0.01	<0.01	16.1	0.07	0.05	0.03	6.4	8.2	1.2	5.0
L11	L11_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	06 Dec 2024	-	-	-	-	-	-	-	<0.01	-	0.10	<0.01	0.10	0.10	0.40	0.30	0.10	0.20	0.20	0.30	0.20	0.30	0.10	<0.01	0.10	2.5	0.38	0.37	0.37	5.0	6.8	1.4	5.0
L11	QC143	1.5	Stage 2	Fill	Field_D	Normal	1173784	06 Dec 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.0	6.8	1.5	5.0
L11	QC144	1.5	Stage 2	Fill	Interlab_D	EM2422444	06 Dec 2024	-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.02	0.01	<0.01	-	-	-	-
L12	L12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	0.10	-	<0.01	<0.01	0.10	0.10	0.20	0.20	<0.01	<0.01	<0.01	<0.01	<0.01	0.60	<0.01	<0.01	<0.01	1.3	0.03	0.01	<0.01	6.1	8.0	1.2	5.0
L12	L12 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	0.20	-	<0.01	0.20	0.60	1.3	2.4	0.80	<0.01	<0.01	<0.01	<0.01	0.10	1.1	<0.01	<0.01	<0.01	6.7	0.04	0.03	0.01	5.6	8.0	1.2	5.0
L13	L13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	05 Dec 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.0	6.7	1.5	5.0
L13	L13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	05 Dec 2024	-	-	-	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	7.2	1.7	4.9
L13	L13 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	05 Dec 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	0.40	<0.01	0.10	<0.01	0.10	0.10	<0.01	0.10	<0.01	<0.01	<0.01	<0.01	0.8	0.05	0.04	0.03	5.0	6.8	1.5	5.0
L13	L13 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	05 Dec 2024	-	-	-	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	6.7	1.3	4.9
L13	L13 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	05 Dec 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	0.10	<0.01	0.30	0.30	<0.01	<0.01	<0.01	<0.01	<0.01	0.9	0.03	0.01	<0.01	5.0	6.8	1.4	5.0
L13	L13 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	05 Dec 2024	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	6.7	1.3	4.9
L14	L14 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	05 Dec 2024	-	-	-	-	-	-	-	<0.01	-	0.10	<0.01	0.20	0.10	0.60	0.40	0.10	<0.01	<0.01	<0.01	0.10	0.20	<0.01	<0.01	<0.01	1.8	0.04	0.03	0.01	5.2	6.9	1.4	5.0
L14	L14 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	06 Dec 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	<0.01	0.10	<0.01	<0.01	<0.01	0.3	0.04	0.02	0.01	5.0	6.8	1.4	5.0
L15	L15 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1176785	05 Dec 2024	-	-	-	-	-	-	-	0.30	-	<0.01	<0.01	0.10	<0.01	<0.01	0.20	0.20	<0.01	<0.01	<0.01	0.20	0.20	<0.01	<0.01	<0.01	1	0.03	0.01	<0.01	5.7	6.0	1.8	5.0
L16	L16 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.3	6.2	1.6	4.9
L16	QC115	0.5	Stage 2	Fill	Field_D	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.4	6.3	1.6	4.9
L16	QC116	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Interlab_D	EM2422063	27 Nov 2024	-	-	-	-	-	-	-	<0.10	<0.1 [#1]	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.02	0.01	<0.01	-	-	-	-
L16	L16 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.9	6.6	1.5	4.9
L16	L16 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.1	7.4	1.3	4.9
L17	L17 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.2	8.8	1.4	4.9
L17	L17 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.3	9	1.1	4.9
L17	L17 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	1	-	<0.01	<0.01	<0.01	<0.01	1	1	<0.01	<0.01	<0.01	<0.01	1	<0.01	<0.01	<0.01	<0.01	4	0.03	0.02	<0.01	5.1	8.3	1.2	4.9
L18	L18 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.2	6.7	1.5	4.9
L18	L18 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6	6.8	1.5	4.9
L18	L18 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.2	6.8	1.5	4.9
M09	M09 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	0.46	-	-	-	-	-	-	0.20	-	0.10	0.10	0.50	0.50	0.40	<0.01	<0.01	<0.01	<0.01	0.60	<0.01	<0.01	<0.01	2.4	0.03	0.02	<0.01	6.3	7.9	1.1	5.0
M09	M09 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	0.30	-	<0.01	0.30	0.40	0.50	1.3	0.80	<0.01	<0.01	<0.01	<0.01	<0.01	0.90	<0.01	<0.01	<0.01	4.5	0.03	0.02	<0.01	6.2	8.0	1.1	5.0
M10	M10 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	<0.001	-	0.20	-	<0.01	0.40	0.20	0.50	0.50	0.30	<0.01	<0.01	<0.01	<0.01	0.50	<0.01	<0.01	<0.01	<0.01	2.6	0.03	0.02	<0.01	5.4	8.3	1.2	5.0
M10	M10 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	13	-	0.30	7.4	1.2	3.8	7.8	1.4	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	<0.01	<0.01	<0.01	36.1	0.07	0.06	0.05	5.1	8.0	1.2	5.0
M11	M11 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	<0.01	-	0.20	<0.01	0.50	0.70	3.0	1.1	<0.01	<0.01	<0.01	<0.01	1.0	<0.01	<0.01	<0.01	<0.01	6.5	0.04	0.02	0.01	5.9	8.1	1.2	5.0
M11	M11 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	-	-	9.0	-	0.10	2.8	6.0	17	33	6.3	<0.01	<0.01	<0.01	<0.01	4.1	<0.01	<0.01	<0.01	<0.01	78.3	0.16	0.14	0.13	5.4	8.4	1.3	5.0
M12	M12 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	03 Dec 2024	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	6.9	1.3	4.9
M12	M12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	0.02	-	<0.01	-	<0.01	<0.01	0.10	<0.01	<0.01	<0.01	<0.01	0.20	<0.01	<0.01	<0.01	<0.01	<0.01	0.40	<0.01	<0.01	<0.01	0.7	0.03	0.01	<0.01	6.6	8.3	1.3	5.0
M12	M12 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	03 Dec 2024	-	-	-	0.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	6.7	1.3	4.9
M12	M12 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	03 Dec 2024	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	7.2	1.3	4.9
M13	M13 0.5	0.5	Stage 2	Fill	Hotspot M13 - Ex Situ Assesment	Normal	1179861	03 Dec 2024	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	7.6	1.3	4.9
M13	M13 1.0	1	Stage 2	Fill	Hotspot M13 - Ex Situ Assesment	Normal	1173784	05 Dec 2024	-	-	-	120	-	0.10	-	<0.01	<0.01	<0.01	<0.01	0.10	0.10	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	0.11	0.11	0.10	4.9	6.8	1.4	5.0
M13	M13 1.0	1	Stage 2	Fill	Hotspot M13 - Ex Situ Assesment	Normal	1182411	11 Dec 2024	-	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	6.4	1.6	5.0
M13	M13 1.5	1.5	Stage 2	Fill	Hotspot M13 - Ex Situ Assesment	Normal	1173784	05 Dec 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.0	6.8	1.4	5.0
M13	M13 1.5	1.5	Stage 2	Fill	Hotspot M13 - Ex Situ Assesment	Normal	1179861	03 Dec 2024	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	M14 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	28 Nov 2024	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	7.5	1.3	4.9
M14	M14 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.5	6.7	1.5	4.9
M14	M14 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	28 Nov 2024	-	-	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	7.3	1.2	5.0
M14	M14 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.5	8.6	1	4.9
M14	M14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	28 Nov 2024	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0	7.3	1.2	4.9
M16	M16 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.4	6.8	1.5	4.9
M16	M16 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	2	-	2	1	3	1	3	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1	<0.01	<0.01	<0.01	<0.01	12	0.05	0.04	0.03	6	8.5	1.3	4.9
M16	M16 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	0.3	-	0.4	<0.01	0.2	0.5	1.7	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3.2	0.03	0.02	<0.01	5.7	7.4	1.5	4.9
M17	M17 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.9	0.03	0.01	<0.01	5.9	7.3	1.4	4.9
M18	M18 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170315	25 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	0.02	0.01	<0.01	5.0	7.4	1.4	4.9
N09	N09 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	0.10	-	<0.01	<0.01	0.10	<0.01	<0.01	0.30	0.10	0.10	<0.01	<0.01	<0.01	<0.01	0.20	<0.01	<0.01	<0.01	<0.01	0.8	0.03	0.02	0.01	6.1	8.0	1.3	5.0
N10	N10 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	<0.01	-	<0.01	0.10	0.10	0.10	0.20	0.20	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.30	<0.01	<0.01	<0.01	<0.01	1	0.03	0.01	<0.01	6.3	8.2	1.3	5.0
N11	N11 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	5.4	-	5.9	4.6	5.1	12	21	4.5	0.50	0.20	0.20	0.10	0.30	4.7	<0.01	<0.01	<0.01	64.5	0.31	0.31	0.30	5.4	8.3	1.4	5.0
N12	N12 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	0.10	-	<0.01	0.10	1.3	0.20	0.90	0.30	0.20	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	<0.01	<0.01	4.3	0.06	0.05	0.04	5.5	8.1	1.3	5.0
N13	N13 0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	03 Dec 2024	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	7.7	1.2	4.9
N13	N13 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	03 Dec 2024	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	8.0	1.2	4.9
N13	N13 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1179861	03 Dec 2024	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	8.4	1.2	4.9
N14	N14 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	7.5	7.3	1.5	4.9
N14	N14 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.5	7.4	1.6	4.9
N15	N15 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6.5	7.4	1.4	4.9
N15	N15 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	6	8.7	1.3	4.9
N16	N16 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1172378	03 Dec 2024	-	-	-	-	-	<0.01	-	<0.01	0.10	0.10	<0.01	0.30	0.30	0.10	<0.01	<0.01	<0.01	<0.01	0.10	0.30	<0.01	<0.01	<0.01	1.3	0.04	0.02	0.01	5.4	8.2	1.4	5.0
N16	QC127	1.5	Stage 2	Fill	Field_D	Normal	1172378	03 Dec 2024	-	-	-	-	-	<0.01	-	<0.01	0.10	0.10	<0.01	0.30	0.30	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.30	<0.01	<0.01	<0.01	<0.01	1	0.03	0.01	<0.01	5.4	8.2	1.4	5.0
N16	QC128	1.5	Stage 2	Fill	Interlab_D	EM2421657	03 Dec 2024	-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	0.28	<0.10	<0.10	<0.10	<0.10	0.24	<0.10	<0.10	<0.10	0.80	0.03	0.01	<0.01	-	-	-	-
N18	N18 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170315	25 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.5	7.3	1.6	4.9
O13	O13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1173784	05 Dec 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.02	0.01	<0.01	4.9	7.4	1.4	5.0
O15	O15 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5	9	1.2	4.9
O15	O15 1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170851	27 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	5.7	7.5	1.6	4.9
O18	O18 1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1170315	25 Nov 2024	-	-	-	-	-	<0.01	-	<0.01	<0.01	<0.01

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Table T4
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

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Table T4
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

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Table T4
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

										Polynuclear Aromatic Hydrocarbons																				
										Benzo(a)pyrene TEQ calc (half)#1	Benzo(a)pyrene TEQ calc (zero)#1	Benzo(a)pyrene TEQ calc(LOR)#1	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(e)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ calc (LOR)	Benzo(a)pyrene TEQ calc (half)	Benzo(a)pyrene TEQ calc(Zero)
										mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL										0.001	0.01	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005				
Toxicity Equivalence Factor (TEF)													0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										40	40	40																	4,000	40	40	40

Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions	Sample Type	Lab Report Num	Date																										
C12	C12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1171413	09 Dec 2024	1.5	1.2	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	1	2.1	0.9	0.8	0.7	0.9	1	2	0.6	<0.5	0.6	11			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.00005	0.00005	0.00005	0.001	0.0021	0.09	0.08	0.07	0.9	0.01	0.002	0.006	0.005	0.06		1.226			
J09	J09_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	26	26	26	<0.5	1.8	<0.5	2.2	0.6	9.2	38	14	17	12	19	17	49	8.7	2	6.8	200			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.0018	0.000005	0.022	0.0006	0.0092	0.038	1.4	1.7	1.2	19	0.17	0.049	0.087	2	0.68		26.358			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0018	0.0000025	0.022	0.0006	0.0092	0.038	1.4	1.7	1.2	19	0.17	0.049	0.087	2	0.68			26.358		
								Benzo(a)pyrene TEQ(zero)				0	0.0018	0	0.022	0.0006	0.0092	0.038	1.4	1.7	1.2	19	0.17	0.049	0.087	2	0.68				26.356	
J09	J09_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	-	-	-	0.7	0.77	0.11	3.5	0.56	8.7	12	7.8	5.5	5.2	8.3	8.8	12	7.7	1.4	4.1	87.14			
								Benzo(a)pyrene TEQ(LOR)				0.0007	0.00077	0.00011	0.035	0.00056	0.0087	0.012	0.78	0.55	0.52	8.3	0.088	0.012	0.077	1.4	0.41		12.195			
								Benzo(a)pyrene TEQ(half)				0.0007	0.00077	0.00011	0.035	0.00056	0.0087	0.012	0.78	0.55	0.52	8.3	0.088	0.012	0.077	1.4	0.41			12.194		
								Benzo(a)pyrene TEQ(zero)				0.0007	0.00077	0.00011	0.035	0.00056	0.0087	0.012	0.78	0.55	0.52	8.3	0.088	0.012	0.077	1.4	0.41				12.193	
J09	J09_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	-	-	-	0.1	0.064	0.01	0.18	0.066	0.63	2.5	1	0.56	0.73	1.1	0.76	2.9	0.84	0.042	0.29	11.772			
								Benzo(a)pyrene TEQ(LOR)				0.0001	0.000064	0.00001	0.0018	0.000056	0.00063	0.0025	0.1	0.056	0.073	1.1	0.0076	0.0029	0.0084	0.042	0.029		1.424			
								Benzo(a)pyrene TEQ(half)				0.0001	0.000064	0.00001	0.0018	0.000056	0.00063	0.0025	0.1	0.056	0.073	1.1	0.0076	0.0029	0.0084	0.042	0.029			1.424		
								Benzo(a)pyrene TEQ(zero)				0.0001	0.000064	0.00001	0.0018	0.000056	0.00063	0.0025	0.1	0.056	0.073	1.1	0.0076	0.0029	0.0084	0.042	0.029				1.424	
J09	J09_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.00005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.012	0.00005	0.000005	0.00005	0.0005	0.0005		0.019			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.00005	0.0000025	0.0000025	0.0000025	0.0000025	0.00025	0.00025	0.012	0.0000025	0.0000025	0.00025	0.0025	0.00025			0.016		
								Benzo(a)pyrene TEQ(zero)				0	0	0	0	0	0	0	0	0	0	0.012	0	0	0	0	0				0.012	
J10	J10_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024	-	-	-	0.16	0.26	0.03	1.7	0.12	1.7	4.3	6.3	4	5.3	3.9	3.7	3.8	2.5	0.45	1.1	39.32			
								Benzo(a)pyrene TEQ(LOR)				0.00016	0.00026	0.00003	0.017	0.00012	0.0017	0.0043	0.63	0.4	0.53	3.9	0.037	0.0038	0.025	0.45	0.11		6.109			
								Benzo(a)pyrene TEQ(half)				0.00016	0.00026	0.00003	0.017	0.00012	0.0017	0.0043	0.63	0.4	0.53	3.9	0.037	0.0038	0.025	0.45	0.11			6.109		
								Benzo(a)pyrene TEQ(zero)				0.00016	0.00026	0.00003	0.017	0.00012	0.0017	0.0043	0.63	0.4	0.53	3.9	0.037	0.0038	0.025	0.45	0.11				6.109	
J10	J10_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024	1.5	1.2	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	1	1.5	0.5	0.6	0.8	1	1.8	0.8	<0.5	<0.5	<0.5	8			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.00005	0.000005	0.0015	0.001	0.05	0.06	0.08	1	0.018	0.0008	0.00009	0.005	0.0005		1.217			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.00025	0.0000025	0.0015	0.001	0.05	0.06	0.08	1	0.018	0.0008	0.00025	0.0025	0.00025			1.214		
								Benzo(a)pyrene TEQ(zero)				0	0	0	0	0	0.0015	0.001	0.05	0.06	0.08	1	0.018	0.0008	0	0	0				1.211	
J10	J10_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024	-	-	-	0.01	0.01	<0.005	0.006	<0.005	0.027	0.066	0.072	0.072	0.065	0.072	0.12	0.12	0.092	0.092	0.023	0.847			
								Benzo(a)pyrene TEQ(LOR)				0.00001	0.00001	0.000005	0.00006	0.000005	0.00027	0.000066	0.0072	0.0072	0.0065	0.072	0.0012	0.00012	0.00092	0.092	0.0023		0.190			
								Benzo(a)pyrene TEQ(half)				0.00001	0.00001	0.0000025	0.00006	0.0000025	0.00027	0.000066	0.0072	0.0072	0.0065	0.072	0.0012	0.00012	0.00092	0.092	0.0023			0.190		
								Benzo(a)pyrene TEQ(zero)				0.00001	0.00001	0	0.00006	0	0.00027	0.000066	0.0072	0.0072	0.0065	0.072	0.0012	0.00012	0.00092	0.092	0.0023				0.190	
J10	J10_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024	-	-	-	0.047	0.052	0.009	0.067	0.03	0.18	0.47	0.37	0.29	0.28	0.26	0.47	0.54	0.39	0.39	0.096	3.941			
								Benzo(a)pyrene TEQ(LOR)				0.000047	0.000052	0.000009	0.00067	0.00003	0.00018	0.00047	0.037	0.029	0.028	0.26	0.0047	0.00054	0.0039	0.39	0.0096		0.764			
								Benzo(a)pyrene TEQ(half)				0.000047	0.000052	0.000009	0.00067	0.00003	0.00018	0.00047	0.037	0.029	0.028	0.26	0.0047	0.00054	0.0039	0.39	0.0096			0.764		
								Benzo(a)pyrene TEQ(zero)				0.000047	0.000052	0.000009	0.00067	0.00003	0.00018	0.00047	0.037	0.029	0.028	0.26	0.0047	0.00054	0.0039	0.39	0.0096				0.764	
J11	J11_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.3	0.53	0.36	0.4	0.34	0.62	0.45	<0.005	<0.005	<0.005	3			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.0003	0.053	0.036	0.04	0.34	0.0062	0.00045	0.00009	0.005	0.0005		0.482			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.00025	0.0000025	0.0000025	0.0003	0.053	0.036	0.04	0.34	0.0062	0.00045	0.0000025	0.0025	0.00025			0.479		
								Benzo(a)pyrene TEQ(zero)				0	0	0	0	0	0	0.0003	0.053	0.036	0.04	0.34	0.0062	0.00045	0	0	0				0.476	
J11	J11_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	-	-	-	0.006	<0.005	<0.005	0.007	<0.005	0.02	0.01	0.11	<0.005	<0.005	<0.005	0.19	0.006	<0.005	<0.005	<0.005	0.349			
								Benzo(a)pyrene TEQ(LOR)				0.000006	0.000005	0.000005	0.00007	0.000005	0.00002	0.00001	0.011	0.0005	0.0005	0.005	0.0019	0.000006	0.00009	0.005	0.0005		0.025			
								Benzo(a)pyrene TEQ(half)				0.000006	0.0000025	0.0000025	0.00007	0.0000025	0.00002	0.00001	0.011	0.00025	0.00025	0.0025	0.0019	0.000006	0.0000025	0.0025	0.00025			0.019		
								Benzo(a)pyrene TEQ(zero)				0.000006	0	0	0.00007	0	0.00002	0.00001	0.011	0	0	0	0.0019	0.000006	0	0	0				0.013	
J11	J11_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	4.4	4.4	4.4	<0.5	<0.5	<0.5	0.8	<0.5	1.6	8.8	3.1	3.2	2	2.9	2.5	9.8	2.7	0.5	1.4	39			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.008	0.000005	0.0016	0.0088	0.31	0.32	0.2	2.9	0.025	0.0098	0.027	0.5	0.14		4.450			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.008	0.0000025	0.0016	0.0088	0.31	0.32	0.2	2.9	0.025	0.0098	0.027	0.5	0.14			4.450		
								Benzo(a)pyrene TEQ(zero)				0	0	0	0.008	0	0.0016	0.0088	0.31	0.32	0.2	2.9	0.025	0.0098	0.027	0.5	0.14				4.450	
J11	J11_2.0	2	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024	-	-	-	0.011	<0.005	0.037	0.006	0.009	0.053	0.057	0.075	<0.005	<0.005	<0.005	0.021	0.23	<0.005	<0.005	<0.005	0.499			
								Benzo(a)pyrene TEQ(LOR)				0.000011	0.000005	0.000037	0.00006	0.000009	0.00053	0.00057	0.0075	0.0005	0.0005	0.005	0.00021	0.00023	0.00005	0.005	0.0005		0.020			
								Benzo(a)pyrene TEQ(half)				0.000011	0.0000025	0.000037	0.00006	0.000009	0.00053	0.00057	0.0075	0.00025	0.00025	0.0025	0.00021	0.00023	0.0000025	0.0025	0.00025			0.014		
								Benzo(a)pyrene TEQ(zero)				0.000011	0	0.000037	0.00006	0.000009	0.00053	0.00057	0.0075	0	0	0	0.00021	0.00023	0	0	0				0.008	
J12	J12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	10	10	10	<0.5	1.1	1.3	<0.5	1.3	2.3	6.9	4.4	3.7	4.3	6.6	6.5	7.8	4	1.6	4.1	55			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.0011	0.000005	0.013	0.000005	0.0023	0.0069	0.44	0.37	0.43	6.6	0.065	0.0078	0.04	1.6	0.41		9.986			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0011	0.0000025	0.013	0.0000025	0.0023	0.0069	0.44	0.37	0.43	6.6	0.065	0.0078	0.04	1.6	0.41			9.986		
								Benzo(a)pyrene TEQ(zero)				0	0.0011	0	0.013	0	0.0023	0.0069	0.44	0.37	0.43	6.6	0.065	0.0078	0.04	1.6	0.41				9.985	
J12	J12_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	-	-	-	0.53	0.67	0.061	2	0.32	3.7	8.1	7.2	5.9	7.8	11	8.4	9.9	2.9	1.1	2.7	72.281			
								Benzo(a)pyrene TEQ(LOR)				0.00053	0.00067	0.000061	0.02	0.00032	0.0037	0.0081	0.72	0.59	0.78	11	0.084	0.0099	0.029	1.1	0.27		14.616			
								Benzo(a)pyrene TEQ(half)				0.00053	0.00067	0.000061	0.02	0.00032	0.0037	0.0081	0.72	0.59	0.78	11	0.084	0.0099	0.029	1.1	0.27			14.616		
								Benzo(a)pyrene TEQ(zero)				0.00053	0.00067	0.000061	0.02	0.00032	0.0037	0.0081	0.72	0.59	0.78	11	0.084	0.0099	0.029	1.1	0.27				14.615	
J12	J12_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	-	-	-	0.52	0.83	0.051	2.1	0.3	3.3	8.8	8.6	6.9	9.8	15	9.2	11	3.8	1.2	3.2	84.601			
								Benzo(a)pyrene TEQ(LOR)				0.00052	0.00083	0.000051	0.021	0.0003	0.0033	0.0088	0.86	0.69	0.98	15	0.092	0.011	0.038	1.2	0.32		19.226			
								Benzo(a)pyrene TEQ(half)				0.00052	0.00083	0.000051	0.021	0.0003	0.0033	0.0088	0.86	0.69	0.98	15	0.092	0.011	0.038	1.2	0.32			19.225		
								Benzo(a)pyrene TEQ(zero)				0.00052	0.00083	0.000051	0.021	0.0003	0.0033	0.0088	0.86	0.69	0.98	15	0.092	0.011	0.038	1.2	0.32				19.224	
J13	J13_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	6.5	6.5	6.5	<0.5	0.6	<0.5	0.8	<0.5	1.7	4.7	3.5	2.4	2.9	4	5.2	5.5	2.4	1.3	2.4	37			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.0006	0.000005	0.008	0.000005	0.0017	0.0047	0.35	0.24	0.29	4	0.052	0.0055	0.024	1.3	0.24		6.517			
								Benzo(a)pyrene TEQ(half)				0.0000025	0.0006	0.0000025	0.008	0.0000025	0.0017	0.0047	0.35	0.24	0.29	4	0.052	0.0055	0.024	1.3	0.24			6.517		
								Benzo(a)pyrene TEQ(zero)				0	0.0006	0	0.008	0	0.0017	0.0047	0.35	0.24	0.29	4	0.052	0.0055	0.024	1.3	0.24				6.516	
J13	J13_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	-	-	-	0.37	0.36	0.085	1.5	0.6	4.1	7.2	4	1.5	2.1	5.2	2.8	8.7	2	0.3	1	41.815			
								Benzo(a)pyrene TEQ(LOR)				0.00037	0.00036	0.000085	0.015	0.0006	0.0041	0.0072	0.4	0.15	0.21	5.2	0.028	0.0087	0.02	0.3	0.1		6.444			
								Benzo(a)pyrene TEQ(half)				0.00037	0.00036	0.000085	0.015	0.0006	0.0041	0.0072	0.4	0.15	0.21	5.2	0.028	0.0087	0.02	0.3	0.1			6.444		
								Benzo(a)pyrene TEQ(zero)				0.00037	0.00036	0.000085	0.015	0.0006	0.0041	0.0072	0.4	0.15	0.21	5.2	0.028	0.0087	0.02	0.3	0.1				6.444	
J13	J13_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	-	-	-	0.012	0.015	<0.005	0.039	0.009	0.086	0.24	0.13	0.067	0.099	0.14	0.094	0.37	0.11	0.009	0.072	1.492			
								Benzo(a)pyrene TEQ(LOR)				0.00012	0.000015	0.000005	0.00039	0.000009	0.000086	0.00024	0.013	0.0067	0.0099	0.14	0.00094	0.00037	0.0011	0.009	0.0072		0.189			
								Benzo(a)pyrene TEQ(half)				0.00012	0.000015	0.0000025	0.00039	0.000009	0.000086	0.00024	0.013	0.0067	0.0099	0.14	0.00094	0.00037	0.0011	0.009	0.0072			0.189		
								Benzo(a)pyrene TEQ(zero)				0.00012	0.000015	0	0.00039	0.000009	0.000086	0.00024	0.013	0.0067	0.0099	0.14	0.00094	0.00037	0.0011	0.009	0.0072				0.189	
J14	J14_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	-	-	-	0.84	2.3	0.16	3.6	0.5	7.7	18	20	15	20	40	19	25	12	3.2	8.4	195.7			
								Benzo(a)pyrene TEQ(LOR)				0.00084	0.0023	0.00016	0.036	0.0005	0.0077	0.018	2	1.5	2	40	0.19	0.025	0.12	3.2	0.84		49.941			
								Benzo(a)pyrene TEQ(half)				0.00084	0.0023	0.00016	0.036	0.0005	0.0077	0.018	2	1.5	2	40	0.19	0.025	0.12	3.2	0.84			49.940		
								Benzo(a)pyrene TEQ(zero)				0.00084	0.0023	0.00016	0.036	0.0005	0.0077	0.018	2	1.5	2	40	0.19	0.025	0.12	3.2	0.84				49.937	
J14	J14_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	-	-	-	0.23	<0.005	<0.005	0.39	0.16	1.8	4.5	5.5	2.7	2.5	1.9	4	6.2	1.8	0.31	0.95	32.94			
								Benzo(a)pyrene TEQ(LOR)				0.00023	0.000005	0.000005	0.0039	0.00016	0.0018	0.0045	0.55	0.27	0.25	1.9	0.04	0.0062	0.018	0.31	0.095		3.450			
								Benzo(a)pyrene TEQ(half)				0.00023	0.0000025	0.0000025	0.0039	0.00016	0.0018	0.0045	0.55	0.27	0.25	1.9	0.04	0.0062	0.018	0.31	0.095			3.450		
								Benzo(a)pyrene TEQ(zero)				0.00023	0	0	0.0039	0.00016	0.0018	0.0045	0.55	0.27	0.25	1.9	0.04	0.0062	0.018	0.31	0.095				3.450	
J14	J14_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	25 Nov 2024	10	10	10	0.5	0.7	<0.5	1.9	<0.5	5	9	5.8	3.8	4.3	6.6	8	9.9	3.8	1.4	4.6	65			
								Benzo(a)pyrene TEQ(LOR)				0.0005	0.0007	0.000005	0.019	0.000005	0.005	0.009	0.58	0.38	0.43	6.6	0.08	0.0099	0.038	1.4	0.46		10.012			
								Benzo(a)pyrene TEQ(half)				0.0005	0.0007	0.0000025	0.019	0.0000025	0.005	0.009	0.58	0.38	0.43	6.6	0.08	0.0099	0.038	1.4	0.46			10.012		
								Benzo(a)pyrene TEQ(zero)				0.0005	0.0007	0	0.019	0	0.005	0.009	0.58	0.38	0.43	6.6	0.08	0.0099	0.038	1.4	0.46				10.011	
J15	J15_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	27 Nov 2024	-	-	-	0.18	0.25	0.04	0.47	0.063	0.84	1.9	1.5	1.5	1.9	1.6	2	2.4	0.61	0.19	0.35	15.793			
								Benzo(a)pyrene TEQ(LOR)				0.00018	0.00025	0.00004	0.0047	0.000063	0.00084	0.0019	0.15	0.15	0.19	1.6	0.02	0.0024	0.0061	0.19	0.035		2.351			
								Benzo(a)pyrene TEQ(half)				0.00018	0.00025	0.00004	0.0047	0.000063	0.00084	0.0019	0.15	0.15	0.19	1.6	0.02	0.0024	0.0061	0.19	0.035			2.351		
								Benzo(a)pyrene TEQ(zero)				0.00018	0.00025	0.00004	0.0047	0.000063	0.00084	0.0019	0.15	0.15	0.19	1.6	0.02	0.0024	0.0061	0.19	0.035				2.351	
J15	J15_1.0	1	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	27 Nov 2024	-	-	-	0.03	0.06	0.04	0.07	0.01	0.15	0.34	0.23	0.15	0.18	<0.005	0.21	0.43	0.08	<0.005	0.04	2.02			
								Benzo(a)pyrene TEQ(LOR)				0.00003	0.00006	0.00004	0.0007	0.00001	0.00015	0.00034	0.023	0.015	0.018	0.005	0.0021	0.00043	0.0008	0.005	0.004		0.075			
								Benzo(a)pyrene TEQ(half)				0.00003	0.00006	0.00004	0.0007	0.00001	0.00015	0.00034	0.023	0.015	0.018	0.0025	0.0021	0.00043	0.0008	0.0025	0.004			0.070		
								Benzo(a)pyrene TEQ(zero)				0.00003	0.00006	0.00004	0.0007	0.00001	0.00015	0.00034	0.023	0.015	0.018	0	0.0021	0.00043	0.0008	0	0.004				0.065	
J15	J15_1.5	1.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	27 Nov 2024	14	14	14	<0.5	1.1	<0.5	0.7	<0.5	1.8	6.6	4.4	6.4	5	11	9.4	2.6	1.1	3.1	58			
								Benzo(a)pyrene TEQ(LOR)				0.000005	0.0011	0.000005	0.007	0.000005	0.0018	0.0066	0.44	0.64	0.5	11	0.049	0.0094

Table T4

Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

| | | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | |

Table T4
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

										Polynuclear Aromatic Hydrocarbons																							
										Benzo(a)pyrene TEQ calc (half)#1	Benzo(a)pyrene TEQ calc (zero)#1	Benzo(a)pyrene TEQ calc(LOR)#1	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(e)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ calc (LOR)	Benzo(a)pyrene TEQ calc (half)	Benzo(a)pyrene TEQ calc(Zero)
										mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL										0.001	0.01	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Toxicity Equivalence Factor (TEF)													0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										40	40	40																	4,000	40	40	40
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions	Sample Type	Lab Report Num	Date																									
C12	C12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1171413	09 Dec 2024		1.5	1.2	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	1	2.1	0.9	0.8	0.7	0.9	1	2	0.6	<0.5	0.6	11			
									Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.000005	0.000005	0.001	0.0021	0.09	0.08	0.07	0.9	0.01	0.002	0.006	0.005	0.06		1.226		
M09	M09_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		25	25	25	0.6	1.1	<0.5	3.5	0.7	7.2	14	8.5	7.8	7	19	8.7	18	5.9	2.7	6.4	110			
									Benzo(a)pyrene TEQ(LOR)				0.0006	0.0011	0.000005	0.035	0.0007	0.0072	0.014	0.85	0.78	0.7	19	0.087	0.018	0.059	2.7	0.64		24.893		
									Benzo(a)pyrene TEQ(half)				0.0006	0.0011	0.0000025	0.035	0.0007	0.0072	0.014	0.85	0.78	0.7	19	0.087	0.018	0.059	2.7	0.64			24.892	
									Benzo(a)pyrene TEQ(zero)				0.0006	0.0011	0	0.035	0.0007	0.0072	0.014	0.85	0.78	0.7	19	0.087	0.018	0.059	2.7	0.64				24.891
M09	M09_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	0.44	0.2	0.32	0.61	0.34	2.3	3.2	2	1.6	1.4	2.8	2.2	3.8	1.3	0.63	1.5	24.64			
									Benzo(a)pyrene TEQ(LOR)				0.00044	0.0002	0.00032	0.0061	0.00034	0.0023	0.0032	0.2	0.16	0.14	2.8	0.022	0.0038	0.013	0.63	0.15		4.132		
									Benzo(a)pyrene TEQ(half)				0.00044	0.0002	0.00032	0.0061	0.00034	0.0023	0.0032	0.2	0.16	0.14	2.8	0.022	0.0038	0.013	0.63	0.15			4.131	
									Benzo(a)pyrene TEQ(zero)				0.00044	0.0002	0.00032	0.0061	0.00034	0.0023	0.0032	0.2	0.16	0.14	2.8	0.022	0.0038	0.013	0.63	0.15				4.131
M10	M10_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	0.16	0.058	<0.005	0.084	<0.005	0.24	0.3	0.19	0.22	0.2	<0.005	0.26	0.24	0.078	0.025	0.088	2.143			
									Benzo(a)pyrene TEQ(LOR)				0.00016	0.000058	0.000005	0.00084	0.000005	0.00024	0.0003	0.019	0.022	0.02	0.005	0.0026	0.00024	0.00078	0.025	0.0088		0.105		
									Benzo(a)pyrene TEQ(half)				0.00016	0.000058	0.0000025	0.00084	0.0000025	0.00024	0.0003	0.019	0.022	0.02	0.0025	0.0026	0.00024	0.00078	0.025	0.0088			0.102	
									Benzo(a)pyrene TEQ(zero)				0.00016	0.000058	0	0.00084	0	0.00024	0.0003	0.019	0.022	0.02	0	0.0026	0.00024	0.00078	0.025	0.0088				0.100
M10	M10_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		10	10	10	1	0.8	0.5	1.2	0.9	3.5	7.8	5	4.8	4.5	7.2	6.4	7.6	2.4	1.2	4.1	59			
									Benzo(a)pyrene TEQ(LOR)				0.001	0.0008	0.0005	0.012	0.0009	0.0035	0.0078	0.5	0.48	0.45	7.2	0.064	0.0076	0.024	1.2	0.41		10.362		
									Benzo(a)pyrene TEQ(half)				0.001	0.0008	0.0005	0.012	0.0009	0.0035	0.0078	0.5	0.48	0.45	7.2	0.064	0.0076	0.024	1.2	0.41			10.361	
									Benzo(a)pyrene TEQ(zero)				0.001	0.0008	0.0005	0.012	0.0009	0.0035	0.0078	0.5	0.48	0.45	7.2	0.064	0.0076	0.024	1.2	0.41				10.360
M10	M10_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	35	0.14	9.8	5.8	5	10	7.4	4.2	2.5	2.5	3.6	6.3	6.3	0.85	0.15	0.69	100.23			
									Benzo(a)pyrene TEQ(LOR)				0.035	0.00014	0.0098	0.058	0.005	0.01	0.0074	0.42	0.25	0.25	3.6	0.063	0.0063	0.0085	0.15	0.069		4.942		
									Benzo(a)pyrene TEQ(half)				0.035	0.00014	0.0098	0.058	0.005	0.01	0.0074	0.42	0.25	0.25	3.6	0.063	0.0063	0.0085	0.15	0.069			4.907	
									Benzo(a)pyrene TEQ(zero)				0.035	0.00014	0.0098	0.058	0.005	0.01	0.0074	0.42	0.25	0.25	3.6	0.063	0.0063	0.0085	0.15	0.069				4.907
M11	M11_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	0.33	0.078	<0.005	0.13	0.072	1.5	0.62	0.31	0.43	0.43	0.32	0.55	0.58	0.15	0.084	0.29	5.874			
									Benzo(a)pyrene TEQ(LOR)				0.00033	0.000078	0.000095	0.0013	0.000072	0.0015	0.00062	0.031	0.043	0.043	0.32	0.0059	0.00058	0.0015	0.084	0.029		0.561		
									Benzo(a)pyrene TEQ(half)				0.00033	0.000078	0.0000025	0.0013	0.000072	0.0015	0.00062	0.031	0.043	0.043	0.32	0.0055	0.00058	0.0015	0.084	0.029			0.561	
									Benzo(a)pyrene TEQ(zero)				0.00033	0.000078	0	0.0013	0.000072	0.0015	0.00062	0.031	0.043	0.043	0.32	0.0055	0.00058	0.0015	0.084	0.029				0.561
M11	M11_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		28	28	28	1	2.4	<0.5	5.6	4	15	24	14	13	13	20	16	23	6.9	3.3	9.6	170			
									Benzo(a)pyrene TEQ(LOR)				0.001	0.0024	0.000095	0.056	0.004	0.015	0.024	1.4	1.3	1.3	20	0.16	0.023	0.069	3.3	0.96		28.614		
									Benzo(a)pyrene TEQ(half)				0.001	0.0024	0.0000025	0.056	0.004	0.015	0.024	1.4	1.3	1.3	20	0.16	0.023	0.069	3.3	0.96			28.613	
									Benzo(a)pyrene TEQ(zero)				0.001	0.0024	0	0.056	0.004	0.015	0.024	1.4	1.3	1.3	20	0.16	0.023	0.069	3.3	0.96				28.611
M11	M11_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	3.4	1.5	0.98	5.9	6.7	23	26	13	11	8.8	12	14	23	4.6	2.1	7.8	163.78			
									Benzo(a)pyrene TEQ(LOR)				0.0034	0.0015	0.00098	0.059	0.0067	0.023	0.026	1.3	1.1	0.88	12	0.14	0.023	0.046	2.1	0.78		18.490		
									Benzo(a)pyrene TEQ(half)				0.0034	0.0015	0.00098	0.059	0.0067	0.023	0.026	1.3	1.1	0.88	12	0.14	0.023	0.046	2.1	0.78			18.486	
									Benzo(a)pyrene TEQ(zero)				0.0034	0.0015	0.00098	0.059	0.0067	0.023	0.026	1.3	1.1	0.88	12	0.14	0.023	0.046	2.1	0.78				18.485
M12	M12_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	0.016	0.02	0.018	0.073	0.015	0.18	0.44	0.21	0.31	0.34	0.49	0.23	0.54	0.11	0.025	0.12	3.137			
									Benzo(a)pyrene TEQ(LOR)				0.000016	0.00002	0.000018	0.00073	0.000015	0.00018	0.00044	0.021	0.031	0.034	0.49	0.0023	0.00054	0.0011	0.025	0.012		0.618		
									Benzo(a)pyrene TEQ(half)				0.000016	0.00002	0.000018	0.00073	0.000015	0.00018	0.00044	0.021	0.031	0.034	0.49	0.0023	0.00054	0.0011	0.025	0.012			0.618	
									Benzo(a)pyrene TEQ(zero)				0.000016	0.00002	0.000018	0.00073	0.000015	0.00018	0.00044	0.021	0.031	0.034	0.49	0.0023	0.00054	0.0011	0.025	0.012				0.618
M12	M12_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		8	7.8	8.3	1.1	<0.5	0.6	<0.5	0.5	1.9	6.9	3.3	3.4	3.5	6.5	4.1	8.5	2.2	<0.5	1.9	44			
									Benzo(a)pyrene TEQ(LOR)				0.0011	0.000005	0.0006	0.00005	0.0005	0.0019	0.0069	0.33	0.34	0.35	6.5	0.041	0.0085	0.022	0.005	0.19		7.798		
									Benzo(a)pyrene TEQ(half)				0.0011	0.0000025	0.0006	0.0000025	0.0005	0.0019	0.0069	0.33	0.34	0.35	6.5	0.041	0.0085	0.022	0.0025	0.19			7.794	
									Benzo(a)pyrene TEQ(zero)				0.0011	0	0.0006	0	0.0005	0.0019	0.0069	0.33	0.34	0.35	6.5	0.041	0.0085	0.022	0	0.19				7.791
M12	M12_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	0.091	0.042	0.038	0.18	0.068	0.31	1.1	0.87	0.89	0.82	1.7	0.73	1.6	1.4	0.26	0.67	10.769			
									Benzo(a)pyrene TEQ(LOR)				0.000091	0.000042	0.000038	0.0018	0.000068	0.00031	0.0011	0.087	0.089	0.082	1.7	0.0073	0.0016	0.014	0.26	0.067		2.311		
									Benzo(a)pyrene TEQ(half)				0.000091	0.000042	0.000038	0.0018	0.000068	0.00031	0.0011	0.087	0.089	0.082	1.7	0.0073	0.0016	0.014	0.26	0.067			2.311	
									Benzo(a)pyrene TEQ(zero)				0.000091	0.000042	0.000038	0.0018	0.000068	0.00031	0.0011	0.087	0.089	0.082	1.7	0.0073	0.0016	0.014	0.26	0.067				2.311
M14	M14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		1.7	1.5	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.9	0.9	0.8	1.1	0.9	0.8	0.6	<0.5	1	7.7			
									Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.0007	0.09	0.09	0.08	1.1	0.009	0.0008	0.006	0.005	0.1		1.482		
									Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0007	0.09	0.09	0.08	1.1	0.009	0.0008	0.006	0.0025	0.1			1.479	
									Benzo(a)pyrene TEQ(zero)				0	0	0	0	0	0	0.0007	0.09	0.09	0.08	1.1	0.009	0.0008	0.006	0	0.1				1.477
M14	M14_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.2	0.44	0.035	1.5	0.23	4	8.8	7.5	7.9	6.8	12	7	9.3	5.1	1.1	3.6	75.505			
									Benzo(a)pyrene TEQ(LOR)				0.0002	0.00044	0.000035	0.015	0.00023	0.004	0.0088	0.75	0.79	0.68	12	0.07	0.0093	0.051	1.1	0.36		15.839		
									Benzo(a)pyrene TEQ(half)				0.0002	0.00044	0.000035	0.015	0.00023	0.004	0.0088	0.75	0.79	0.68	12	0.07	0.0093	0.051	1.1	0.36			15.839	
									Benzo(a)pyrene TEQ(zero)				0.0002	0.00044	0.000035	0.015	0.00023	0.004	0.0088	0.75	0.79	0.68	12	0.07	0.0093	0.051	1.1	0.36				15.838
M14	M14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.16	0.48	0.094	1.7	0.69	4.9	7.6	4.7	4	4.5	6.6	4.6	6.8	2.5	0.84	2	52.164			
									Benzo(a)pyrene TEQ(LOR)				0.00016	0.00048	0.000094	0.017	0.00069	0.0049	0.0076	0.47	0.4	0.45	6.6	0.046	0.0068	0.025	0.84	0.2		9.069		
									Benzo(a)pyrene TEQ(half)				0.00016	0.00048	0.000094	0.017	0.00069	0.0049	0.0076	0.47	0.4	0.45	6.6	0.046	0.0068	0.025	0.84	0.2			9.069	
									Benzo(a)pyrene TEQ(zero)				0.00016	0.00048	0.000094	0.017	0.00069	0.0049	0.0076	0.47	0.4	0.45	6.6	0.046	0.0068	0.025	0.84	0.2				9.068
M15	M15_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.007	<0.005	<0.005	0.032	0.009	0.05	0.083	0.075	0.1	0.11	0.12	0.061	0.11	0.062	0.013	0.028	0.86			
									Benzo(a)pyrene TEQ(LOR)				0.000007	0.000005	0.000005	0.00032	0.000009	0.00005	0.000083	0.0075	0.01	0.011	0.12	0.00061	0.00011	0.00062	0.013	0.0028		0.166		
									Benzo(a)pyrene TEQ(half)				0.000007	0.0000025	0.0000025	0.00032	0.000009	0.00005	0.000083	0.0075	0.01	0.011	0.12	0.00061	0.00011	0.00062	0.013	0.0028			0.166	
									Benzo(a)pyrene TEQ(zero)				0.000007	0	0	0.00032	0.000009	0.00005	0.000083	0.0075	0.01	0.011	0.12	0.00061	0.00011	0.00062	0.013	0.0028				0.166
M15	M15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.007	<0.005	<0.005	0.03	0.018	0.059	0.071	0.072	0.069	0.074	0.1	0.05	0.1	0.063	0.019	0.029	0.761			
									Benzo(a)pyrene TEQ(LOR)				0.000007	0.000005	0.000005	0.0003	0.000018	0.000059	0.000071	0.0072	0.0069	0.0074	0.1	0.0005	0.0001	0.00063	0.019	0.0029		0.145		
									Benzo(a)pyrene TEQ(half)				0.000007	0.0000025	0.0000025	0.0003	0.000018	0.000059	0.000071	0.0072	0.0069	0.0074	0.1	0.0005	0.0001	0.00063	0.019	0.0029			0.145	
									Benzo(a)pyrene TEQ(zero)				0.000007	0	0	0.0003	0.000018	0.000059	0.000071	0.0072	0.0069	0.0074	0.1	0.0005	0.0001	0.00063	0.019	0.0029				0.145
M15	M15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
									Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.00009	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00009	0.000005	0.00009	0.005	0.0005		0.012		
									Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.00009	0.0000025	0.0000025	0.000009	0.00025	0.00025	0.00025	0.025	0.00009	0.0000025	0.00009	0.0025	0.00025			0.006	
									Benzo(a)pyrene TEQ(zero)				0	0	0	0	0	0	0.000009	0	0	0	0	0.00009	0	0.00009	0	0				<0.005
M16	M16_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.095	0.76	0.12	2.2	0.92	7.9	6.6	5.1	2.2	2.8	5.9	3.9	7.9	1.2	0.47	0.98	49.045			
									Benzo(a)pyrene TEQ(LOR)				0.00095	0.00076	0.00012	0.022	0.00092	0.0079	0.0066	0.51	0.22	0.28	5.9	0.039	0.0079	0.012	0.47	0.098		7.575		
									Benzo(a)pyrene TEQ(half)				0.00095	0.00076	0.00012	0.022	0.00092	0.0079	0.0066	0.51	0.22	0.28	5.9	0.039	0.0079	0.012	0.47	0.098			7.575	
									Benzo(a)pyrene TEQ(zero)				0.00095	0.00076	0.00012	0.022	0.00092	0.0079	0.0066	0.51	0.22	0.28	5.9	0.039	0.0079	0.012	0.47	0.098				7.574
M16	M16_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		38	38	38	1.1	5	<0.5	4.7	1.8	16	19	13	14	16	26	14	23	13	5.4	24	200			
									Benzo(a)pyrene TEQ(LOR)				0.0011	0.005	0.000005	0.047	0.0018	0.016	0.019	1.3	1.4	1.6	26	0.14	0.023	0.13	5.4	2.4		38.483		
									Benzo(a)pyrene TEQ(half)				0.0011	0.005	0.0000025	0.047	0.0018	0.016	0.019	1.3	1.4	1.6	26	0.14	0.023	0.13	5.4	2.4			38.482	
									Benzo(a)pyrene TEQ(zero)				0.0011	0.005	0	0.047	0.0018	0.016	0.019	1.3	1.4	1.6	26	0.14	0.023	0.13	5.4	2.4				38.477
M16	M16_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	1.2	1.6	0.19	3.7	1.1	8.4	18	12	5.9	6.8	12	8.6	22	5.8	1.7	4	112.99			
									Benzo(a)pyrene TEQ(LOR)				0.0012	0.0016	0.00019	0.037	0.0011	0.0084	0.018	1.2	0.59	0.68	12	0.086	0.022	0.058	1.7	0.4		16.803		
									Benzo(a)pyrene TEQ(half)				0.0012	0.0016	0.00019	0.037	0.0011	0.0084	0.018	1.2	0.59	0.68	12	0.086	0.022	0.058	1.7	0.4			16.802	
									Benzo(a)pyrene TEQ(zero)				0.0012	0.0016	0.00019	0.037	0.0011	0.0084	0.018	1.2	0.59	0.68	12	0.086	0.022	0.058	1.7	0.4				16.801
M17	M17_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	27 Nov 2024		-	-	-	0.083	0.045	0.008	0.2	0.048	0.39	1.2	0.77	0.37	0.46	0.56	0.71	1.4	0.4	0.074	0.26	6.978			
									Benzo(a)pyrene TEQ(LOR)				0.00083	0.00045	0.00008	0.002	0.00048	0.00039	0.0012	0.077	0.037	0.046	0.56	0.0071	0.0014	0.004	0.074	0.026		0.836		
									Benzo(a)pyrene TEQ(half)				0.00083	0.00045	0.00008	0.002	0.00048	0.00039	0.0012	0.077	0.037	0.046	0.56	0.0071	0.0014	0.004	0.074	0.026			0.836	
									Benzo(a)pyrene TEQ(zero)				0.00083	0.00045	0.00008	0.002	0.00048	0.00039	0.0012	0.077	0.037	0.046	0.56	0.0071	0.0014	0.004	0.074	0.026				0.836
M17	M17_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	27 Nov 2024		-	-	-	0.066	0.052	0.019	0.21	0.07	0.6	1.6	1	0.58	0.77	1.4	1	1.8	0.6	0.067	0.36	10.194			
									Benzo(a)pyrene TEQ(LOR)				0.00066	0.00052	0.00019	0.0021	0.00007	0.0006	0.0016	0.1	0.058	0.077	1.4	0.01	0.0018	0.006	0.067	0.036		1.760		
									Benzo(a)pyrene TEQ(half)				0.00066	0.00052	0.00019	0.0021	0.00007	0.0006	0.0016	0.1	0.058	0.077	1.4	0.01	0.0018	0.006	0.067	0.036			1.760	
									Benzo(a)pyrene TEQ(zero)				0.00066	0.00052	0.00019	0.0021	0.00007	0.0006	0.0016	0.1	0.058	0.077	1.4	0.01	0.0018	0.006	0.067	0.036				1.760
M17	M17_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	27 Nov 2024		7.9	7.9	7.9	<0.5	<0.5	<0.5	1.7	0.7	4.4	9.6	4.6	4.6	3.1	5.4	4.6	9.8	2.1	1	2.5	54			
									Benzo(a)pyrene TEQ(LOR)				0.000005	0.000005	0.000005	0.017	0.0007	0.0044	0.0096	0.46	0.46	0.31	5.4	0.046	0.0098	0.021	1	0.25		7.989		
									Benzo(a)pyrene TEQ(half)				0.0000025	0.0000025	0.0000025	0.017	0.0007	0.0044	0.0096	0.46	0.46	0.31	5.4	0.046	0.0098	0.021	1	0.25			7.989	
									Benzo(a)pyrene TEQ(zero)				0	0	0	0.017	0.0007	0.0044	0.0096	0.46	0.46	0.31	5.4	0.046	0.0098	0.021	1	0.25				7.989
M18	M18_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	27 Nov 2024		-	-	-	0.097	0.17	0.009	0.25	0.052	0.57	1.3	1.3	1.1	0.88	2	1.2	1.6	0.58	0.19	0.39	11.688			
									Benzo(a)pyrene TEQ(LOR)				0.00097	0.00017	0.000009	0.0025	0.000052	0.00057	0.0013	0.13	0.11	0.088	2	0.012	0.0016	0.0058	0.19	0.039		2.581		
									Benz

Table T4
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Total Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

										Polynuclear Aromatic Hydrocarbons																							
										Benzo(a)pyrene TEQ calc (half)#1	Benzo(a)pyrene TEQ calc (zero)#1	Benzo(a)pyrene TEQ calc(LOR)#1	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(e)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	2Benz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ calc (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc(Zero)
										mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL										0.001	0.01	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Toxicity Equivalence Factor (TEF)													0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										40	40	40																	4,000	40	40	40
Location	Field ID	Depth	Excavation Stage	Lithology	IB105 Waste Category / Actions	Sample Type	Lab Report Num	Date																									
C12	C12_0.5	0.5	Stage 1	Fill	Level 2 - Low Level Contaminated Soil	Normal	1171413	09 Dec 2024		1.5	1.2	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	1	2.1	0.9	0.8	0.7	0.9	1	2	0.6	<0.5	0.6	11			
								Benzo(a)pyrene TEQ(LOR)					0.000005	0.000005	0.000005	0.00005	0.000005	0.00005	0.001	0.0021	0.09	0.08	0.07	0.9	0.01	0.002	0.006	0.005	0.06		1.226		
O13	O13_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024		-	-	-	0.031	<0.005	<0.005	0.026	0.006	0.089	0.024	0.027	<0.005	<0.005	<0.005	0.071	0.043	<0.005	<0.005	<0.005	0.317			
								Benzo(a)pyrene TEQ(LOR)					0.000031	0.000005	0.000005	0.00026	0.000006	0.000089	0.000024	0.0027	0.0005	0.0005	0.005	0.00071	0.000043	0.00005	0.005	0.0005		0.015		
								Benzo(a)pyrene TEQ(half)					0.000031	0.0000025	0.0000025	0.00026	0.000006	0.000089	0.000024	0.0027	0.00025	0.00025	0.0025	0.00071	0.000043	0.000025	0.0025	0.00025			0.010	
								Benzo(a)pyrene TEQ(zero)					0.000031	0	0	0.00026	0.000006	0.000089	0.000024	0.0027	0	0	0	0.00071	0.000043	0	0	0				<0.005
O13	O13_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024		-	-	-	0.12	0.16	<0.005	0.55	0.13	1.3	5.5	2.6	1.3	1.2	1.5	2.9	6.6	1.4	0.11	0.97	26.34			
								Benzo(a)pyrene TEQ(LOR)					0.00012	0.00016	0.000005	0.0055	0.00013	0.0013	0.0055	0.26	0.13	0.12	1.5	0.029	0.0066	0.014	0.11	0.097		2.279		
								Benzo(a)pyrene TEQ(half)					0.00012	0.00016	0.0000025	0.0055	0.00013	0.0013	0.0055	0.26	0.13	0.12	1.5	0.029	0.0066	0.014	0.11	0.097			2.279	
								Benzo(a)pyrene TEQ(zero)					0.00012	0.00016	0	0.0055	0.00013	0.0013	0.0055	0.26	0.13	0.12	1.5	0.029	0.0066	0.014	0.11	0.097				2.279
O13	O13_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1169377	05 Dec 2024		17	17	17	<0.5	0.9	<0.5	1	<0.5	1.8	8.1	5.6	8.9	7	8.9	5.9	11	11	4.1	12	86			
								Benzo(a)pyrene TEQ(LOR)					0.000005	0.0009	0.000005	0.01	0.000005	0.0018	0.0081	0.56	0.89	0.7	8.9	0.059	0.011	0.11	4.1	1.2		16.551		
								Benzo(a)pyrene TEQ(half)					0.0000025	0.0009	0.0000025	0.01	0.0000025	0.0018	0.0081	0.56	0.89	0.7	8.9	0.059	0.011	0.11	4.1	1.2			16.551	
								Benzo(a)pyrene TEQ(zero)					0	0.0009	0	0.01	0	0.0018	0.0081	0.56	0.89	0.7	8.9	0.059	0.011	0.11	4.1	1.2				16.550
O14	O14_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
								Benzo(a)pyrene TEQ(LOR)					0.000005	0.000005	0.000005	0.00005	0.000005	0.00005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.012		
								Benzo(a)pyrene TEQ(half)					0.0000025	0.0000025	0.0000025	0.00005	0.0000025	0.00005	0.0000025	0.0005	0.0005	0.0005	0.005	0.00005	0.0000025	0.00005	0.005	0.0005			0.006	
								Benzo(a)pyrene TEQ(zero)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				<0.005
O14	O14_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	0.019			
								Benzo(a)pyrene TEQ(LOR)					0.000005	0.000005	0.000005	0.00005	0.000005	0.00005	0.000008	0.0005	0.0005	0.0005	0.005	0.00005	0.000011	0.00005	0.005	0.0005		0.012		
								Benzo(a)pyrene TEQ(half)					0.0000025	0.0000025	0.0000025	0.00005	0.0000025	0.00005	0.000008	0.00025	0.00025	0.00025	0.0025	0.00005	0.000011	0.00005	0.0025	0.00025			0.006	
								Benzo(a)pyrene TEQ(zero)					0	0	0	0	0	0	0.000008	0	0	0	0	0	0.000011	0	0	0				<0.005
O14	O14_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1168041	03 Dec 2024		-	-	-	0.082	0.15	0.024	0.11	0.015	0.25	0.94	1	1.1	1.3	1.6	1.3	1.2	1	0.48	1.7	12.251			
								Benzo(a)pyrene TEQ(LOR)					0.000082	0.00015	0.000024	0.0011	0.000015	0.00025	0.00094	0.1	0.11	0.13	1.6	0.013	0.0012	0.01	0.48	0.17		2.617		
								Benzo(a)pyrene TEQ(half)					0.000082	0.00015	0.000024	0.0011	0.000015	0.00025	0.00094	0.1	0.11	0.13	1.6	0.013	0.0012	0.01	0.48	0.17			2.617	
								Benzo(a)pyrene TEQ(zero)					0.000082	0.00015	0.000024	0.0011	0.000015	0.00025	0.00094	0.1	0.11	0.13	1.6	0.013	0.0012	0.01	0.48	0.17				2.617
O15	O15_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.12	0.022	0.017	0.05	0.052	0.13	0.22	0.16	0.12	0.13	0.22	0.14	0.3	0.11	0.027	0.058	1.876			
								Benzo(a)pyrene TEQ(LOR)					0.00012	0.000022	0.000017	0.0005	0.000052	0.00013	0.00022	0.016	0.012	0.013	0.22	0.0014	0.0058	0.0011	0.027	0.0058		0.298		
								Benzo(a)pyrene TEQ(half)					0.00012	0.000022	0.000017	0.0005	0.000052	0.00013	0.00022	0.016	0.012	0.013	0.22	0.0014	0.0003	0.0011	0.027	0.0058			0.298	
								Benzo(a)pyrene TEQ(zero)					0.00012	0.000022	0.000017	0.0005	0.000052	0.00013	0.00022	0.016	0.012	0.013	0.22	0.0014	0.0003	0.0011	0.027	0.0058				0.298
O15	O15_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		14	14	14	<0.5	1.1	<0.5	0.8	<0.5	2	4.9	5.1	6	6.2	9.1	6.2	5.6	4.9	1.9	8.1	62			
								Benzo(a)pyrene TEQ(LOR)					0.000005	0.0011	0.000005	0.008	0.000005	0.002	0.0049	0.51	0.6	0.62	9.1	0.062	0.0056	0.049	1.9	0.81		13.673		
								Benzo(a)pyrene TEQ(half)					0.0000025	0.0011	0.0000025	0.008	0.0000025	0.002	0.0049	0.51	0.6	0.62	9.1	0.062	0.0056	0.049	1.9	0.81			13.673	
								Benzo(a)pyrene TEQ(zero)					0	0.0011	0	0.008	0	0.002	0.0049	0.51	0.6	0.62	9.1	0.062	0.0056	0.049	1.9	0.81				13.672
O15	O15_1.5	1.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1166213	28 Nov 2024		-	-	-	0.25	0.43	0.036	0.98	0.13	1.8	6	6.3	8.5	8	11	6.7	6.4	5.5	1.7	3.8	67.526			
								Benzo(a)pyrene TEQ(LOR)					0.00025	0.00043	0.000036	0.0098	0.00013	0.0018	0.006	0.63	0.85	0.8	11	0.067	0.0064	0.055	1.7	0.38		15.507		
								Benzo(a)pyrene TEQ(half)					0.00025	0.00043	0.000036	0.0098	0.00013	0.0018	0.006	0.63	0.85	0.8	11	0.067	0.0064	0.055	1.7	0.38			15.507	
								Benzo(a)pyrene TEQ(zero)					0.00025	0.00043	0.000036	0.0098	0.00013	0.0018	0.006	0.63	0.85	0.8	11	0.067	0.0064	0.055	1.7	0.38				15.506
O18	O18_0.5	0.5	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	27 Nov 2024		-	-	-	0.16	0.064	0.007	0.21	0.048	0.44	1	0.91	1.3	1.3	1.9	1.3	1.1	0.88	0.22	0.68	11.519			
								Benzo(a)pyrene TEQ(LOR)					0.00016	0.000064	0.000007	0.0021	0.000048	0.00044	0.001	0.091	0.13	0.13	1.9	0.013	0.0011	0.0088	0.22	0.068		2.566		
								Benzo(a)pyrene TEQ(half)					0.00016	0.000064	0.000007	0.0021	0.000048	0.00044	0.001	0.091	0.13	0.13	1.9	0.013	0.0011	0.0088	0.22	0.068			2.566	
								Benzo(a)pyrene TEQ(zero)					0.00016	0.000064	0.000007	0.0021	0.000048	0.00044	0.001	0.091	0.13	0.13	1.9	0.013	0.0011	0.0088	0.22	0.068				2.565
O18	O18_1.0	1	Stage 2	Fill	Level 2 - Low Level Contaminated Soil	Normal	1165428	27 Nov 2024		5.5	5.5	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	5.4	2.7	2.8	2.7	3.7	3.3	5.7	2.9	0.7	2.5	34			
								Benzo(a)pyrene TEQ(LOR)					0.000005	0.000005	0.000005	0.00005	0.000005	0.0018	0.0054	0.27	0.28	0.27	3.7	0.033	0.0057	0.029	0.7	0.25		5.545		
								Benzo(a)pyrene TEQ(half)					0.0000025	0.0000025	0.0000025	0.00005	0.0000025	0.0018	0.0054	0.27	0.28	0.27	3.7	0.033	0.0057	0.029	0.7	0.25			5.545	
								Benzo(a)pyrene TEQ(zero)					0	0	0	0	0	0.0018	0.0054	0.27	0.28	0.27	3.7	0.033	0.0057	0.029	0.7	0.25				5.545

Comments
#1 Laboratory reported benzo(a)pyrene TEQ
#2 Sample accidently labelled as "I16" not "I06". Correct location determined by sample date and depths

Environmental Standards
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
TBA, TBA, TAS Waste Classification Contaminated Soil Level 3
TBA, TBA, TAS Waste Classification Guidelines - Fill Material Level 1
TBA, TBA, TAS Waste Classification Low Level Contaminated Soil Level 2

Table T5
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Leachate Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

								Polynuclear Aromatic Hydrocarbons																	
								Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ
								µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL								0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toxicity Equivalence Factor (TEF)									0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1		
TAS Waste Classification Contaminated Soil Level 3 TCLP																			5							
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP																			0.5							0.5
Field_ID	**Location_Code**	**Depth**	Excavation Stage	Lithology	**Date**	**Result Type**																				
E13_1.5	E13	1.5	Stage 1	Fill	9/12/2024	Normal	-	0.6	1.4	0.4	0.2	1.4	2.7	0.5	0.1	<0.01	<0.01	<0.01	0.1	0.6	<0.01	<0.01	<0.01	8	
						TEQ(LOR)		0.0006	0.0014	0.0004	0.002	0.0014	0.0027	0.0005	0.01	0.001	0.001	0.01	0.001	0.0006	0.0001	0.01	0.001		0.04
						TEQ(half)		0.0006	0.0014	0.0004	0.002	0.0014	0.0027	0.0005	0.01	0.0005	0.0005	0.005	0.001	0.0006	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.0006	0.0014	0.0004	0.002	0.0014	0.0027	0.0005	0.01	0	0	0	0.001	0.0006	0	0	0		0.02
QC171	E13	1.5	Stage 1	Fill	9/12/2024		-	11	0.2	0.1	0.2	0.5	0.7	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	13.1	
						TEQ(LOR)		0.011	0.0002	0.0001	0.002	0.0005	0.0007	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0002	0.0001	0.01	0.001		0.04
						TEQ(half)		0.011	0.0002	0.0001	0.002	0.0005	0.0007	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0002	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.011	0.0002	0.0001	0.002	0.0005	0.0007	0.0002	0	0	0	0	0	0.0002	0	0	0		0.01
QC172	E13	1.5	Stage 1	Fill	10/12/2024		<0.1	0.58	0.8	0.43	0.33	1.05	1.66	0.31	<0.1	<0.1	<0.1	<0.05	<0.1	0.22	<0.1	<0.1	<0.1	5.38	
						TEQ(LOR)		0.00058	0.0008	0.00043	0.0033	0.00105	0.00166	0.00031	0.001	0.001	0.001	0.01	0.0001	0.00022	0.0001	0.01	0.001		0.03
						TEQ(half)		0.00058	0.0008	0.00043	0.0033	0.00105	0.00166	0.00031	0.0005	0.0005	0.0005	0.005	0.00005	0.00022	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.00058	0.0008	0.00043	0.0033	0.00105	0.00166	0.00031	0	0	0	0	0	0.00022	0	0	0		<0.01
E15_1.0	E15	1	Stage 1	Fill	11/12/2024	Normal	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
F13_0.5	F13	0.5	Stage 1	Fill	9/12/2024	Normal	-	0.7	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	1.1	
						TEQ(LOR)		0.0007	0.00001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0002	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0007	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0002	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0007	0	0	0	0	0.0001	0.0001	0	0	0	0	0	0.0002	0	0	0		<0.01
F13_1.0	F13	1	Stage 1	Fill	9/12/2024	Normal	-	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.4	
						TEQ(LOR)		0.0002	0.00001	0.00001	0.0001	0.00001	0.00001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0002	0.000005	0.000005	0.00005	0.000005	0.000005	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0002	0	0	0	0	0	0.0001	0	0	0	0	0	0.0001	0	0	0		<0.01
F14_2.5	F14	2.5	Stage 1	Fill	9/12/2024		-	0.2	0.1	0.1	0.1	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.8	
						TEQ(LOR)		0.0002	0.0001	0.0001	0.001	0.0001	0.0001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0002	0.0001	0.0001	0.001	0.0001	0.0001	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0002	0.0001	0.0001	0.001	0.0001	0.0001	0	0	0	0	0	0	0.0001	0	0	0		<0.01
F14_3.0	F14	3	Stage 1	Fill	9/12/2024		-	0.2	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.3	
						TEQ(LOR)		0.0002	0.01	0.01	0.01	0.01	0.0001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		0.14
						TEQ(half)		0.0002	0.005	0.005	0.005	0.005	0.0001	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005		0.07
						TEQ(zero)		0.0002	0	0	0	0	0.0001	0	0	0	0	0	0	0	0	0	0		<0.01
G10_2.0	G10	2	Stage 1	Fill	5/12/2024		-	0.5	0.3	0.3	0.7	0.9	2.2	1.4	0.1	<0.01	<0.01	<0.01	0.2	1.2	<0.01	<0.01	<0.01	7.8	
						TEQ(LOR)		0.0005	0.0003	0.0003	0.007	0.0009	0.0022	0.0014	0.01	0.001	0.001	0.01	0.002	0.0012	0.0001	0.01	0.001		0.05
						TEQ(half)		0.0005	0.0003	0.0003	0.007	0.0009	0.0022	0.0014	0.01	0.0005	0.0005	0.005	0.002	0.0012	0.00005	0.005	0.0005		0.04
						TEQ(zero)		0.0005	0.0003	0.0003	0.007	0.0009	0.0022	0.0014	0.01	0	0	0	0.002	0.0012	0	0	0		0.03
G11_0.5	G11	0.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	0.1	0.1	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	
						TEQ(LOR)		0.00001	0.00001	0.0001	0.001	0.0001	0.0001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.0001	0.001	0.0001	0.0001	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0.0001	0.001	0.0001	0.0001	0	0	0	0	0	0	0	0	0	0		<0.01
G11_1.5	G11	1.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
G11_3.0	G11	3	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
G12_1.0	G12	1	Stage 1	Dolerite	9/12/2024		-	0.1	0.1	<0.01	0.1	0.1	0.4	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	1	
						TEQ(LOR)		0.0001	0.0001	0.00001	0.001	0.0001	0.0004	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0001	0.0001	0.000005	0.001	0.0001	0.0004	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0.0001	0	0.001	0.0001	0.0004	0.0001	0	0	0	0	0	0.0001	0	0	0		<0.01
QC163	G12	1	Stage 1	Dolerite	9/12/2024		-	0.1	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.0001	0.00001	0.0001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0001	0.000005	0.000005	0.00005	0.000005	0.0001	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0	0	0	0	0.0001	0	0	0	0	0	0	0	0	0	0		<0.01
QC164	G12	1	Stage 1	Dolerite	10/12/2024		<0.1	<0.1	<0.1	<0.1	0.12	0.19	0.44	0.21	<0.1	<0.1	<0.1	<0.05	<0.1	0.16	<0.1	<0.1	<0.1	1.12	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0012	0.00019	0.00044	0.00021	0.001	0.001	0.001	0.01	0.0001	0.00016	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.000005	0.0012	0.00019	0.00044	0.00021	0.0005	0.0005	0.0005	0.005	0.00005	0.00016	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0.0012	0.00019	0.00044	0.00021	0	0	0	0	0	0.00016	0	0	0		<0.01
G12_1.5	G12	1.5	Stage 1	Dolerite	9/12/2024		-	0.3	0.1	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.6	
						TEQ(LOR)		0.0003	0.0001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0003	0.0001	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0003	0.0001	0	0	0	0.0001	0.0001	0	0	0	0	0	0	0	0	0		<0.01
G12_3.5	G12	3.5	Stage 1	Dolerite	9/12/2024		-	0.6	0.4	1.5	1.3	2.3	3.6	1.6	0.1	<0.01	<0.01	<0.01	0.1	1.6	<0.01	<0.01	<0.01	13.1	
						TEQ(LOR)		0.0006	0.0004	0.0015	0.013	0.0023	0.0036	0.0016	0.01	0.001	0.001	0.01	0.001	0.0016	0.0001	0.01	0.001		0.06
						TEQ(half)		0.0006	0.0004	0.0015	0.013	0.0023	0.0036	0.0016	0.01	0.0005	0.0005	0.005	0.001	0.0016	0.00005	0.005	0.0005		0.05
						TEQ(zero)		0.0006	0.0004	0.0015	0.013	0.0023	0.0036	0.0016	0.01	0	0	0	0.001	0.0016	0	0	0		0.04
G13_1.5	G13	1.5	Stage 1	Fill	9/12/2024		-	25	0.1	0.1	0.1	0.3	0.6	0.4	<0.01	<0.01	<0.01	<0.01	<0.01	0.6	<0.01	<0.01	<0.01	27.2	
						TEQ(LOR)		0.025	0.0001	0.0001	0.001	0.0003	0.0006	0.0004	0.001	0.001	0.001	0.01	0.0001	0.0006	0.0001	0.01	0.001		0.05
						TEQ(half)		0.025	0.0001	0.0001	0.001	0.0003	0.0006	0.0004	0.0005	0.0005	0.0005	0.005	0.00005	0.0006	0.00005	0.005	0.0005		0.04
						TEQ(zero)		0.025	0.0001	0.0001	0.001	0.0003	0.0006	0.0004	0	0	0	0	0	0.0006	0	0	0		0.03
G13_2.0	G13	2	Stage 1	Fill	9/12/2024		-	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.1	<0.01	<0.01	<0.01	<0.01	0.5	<0.01	<0.01	<0.01	2	
						TEQ(LOR)		0.0003	0.0001	0.0001	0.001	0.0002	0.0003	0.0003	0.01	0.001	0.001	0.01	0.0001	0.0005	0.0001	0.01	0.001		0.04
						TEQ(half)		0.0003	0.0001	0.0001	0.001	0.0002	0.0003	0.0003	0.01	0.0005	0.0005	0.005	0.00005	0.0005	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0003	0.0001	0.0001	0.001	0.0002	0.0003	0.0003	0.01	0	0	0	0	0.0005	0	0	0		0.01
G14_1.5	G14	1.5	Stage 1	Fill	9/12/2024		-	0.5	0.1	0.1	0.1	0.1	0.2	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	<0.01	<0.01	<0.01	1.7	
						TEQ(LOR)		0.0005	0.0001	0.0001	0.001	0.0001	0.0002	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0004	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0005	0.0001	0.0001	0.001	0.0001	0.0002	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0004	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0005	0.0001	0.0001	0.001	0.0001	0.0002	0.0002	0	0	0	0	0	0.0004	0	0	0		<0.01
QC173	G14	1.5	Stage 1	Fill	9/12/2024		-	0.3	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.3	<0.01	<0.01	<0.01	0.8	
						TEQ(LOR)		0.0003	0.00001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0003	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0003	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0003	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0003	0	0	0	0	0.0001	0.0001	0	0	0	0	0	0.0003	0	0	0		<0.01
QC174	G14	1.5	Stage 1	Fill	10/12/2024		<0.1	0.21	<0.1	0.44	0.2	0.96	0.52	0.24	<0.1	<0.1	<0.1	<0.05	<0.1	0.18	<0.1	<0.1	<0.1	2.75	
						TEQ(LOR)		0.00021	0.00001	0.00044	0.002	0.00096	0.00052	0.00024	0.001	0.001	0.001	0.01	0.0001	0.00018	0.0001	0.01	0.001		0.03
						TEQ(half)		0.00021	0.000005	0.00044	0.002	0.00096	0.00052	0.00024	0.0005	0.0005	0.0005	0.005	0.00005	0.00018	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.00021	0	0.00044	0.002	0.00096	0.00052	0.00024	0	0	0	0	0	0.00018	0	0	0		<0.01
G14_2.0	G14	2	Stage 1	Fill	9/12/2024		-	0.3	<0.01	<0.01	<0.01	<0.01	0.2	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	0.8	
						TEQ(LOR)		0.0003	0.00001	0.00001	0.0001	0.00001	0.0002	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0002	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0003	0.000005	0.000005	0.00005	0.000005	0.0002	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0002	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0003	0	0	0	0	0.0002	0.0001	0	0	0	0	0	0.0002	0	0	0		<0.01
G15_1.5	G15	1.5	Stage 1	Fill	9/12/2024		-	14	1.3	0.2	0.1	0.5	0.5	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.3	<0.01	<0.01	<0.01	17.1	
						TEQ(LOR)		0.014	0.0013	0.0002	0.001	0.0005	0.0005	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0003	0.0001	0.01	0.001		0.04
						TEQ(half)		0.014	0.0013	0.0002	0.001	0.0005	0.0005	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0003	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.014	0.0013	0.0002	0.001	0.0005	0.0005	0.0002	0	0	0	0	0	0.0003	0	0	0		0.02
G15_3.0	G15	3	Stage 1	Fill	9/12/2024		-	0.6	0.2	0.1	0.5	0.6	1.2	0.8	0.1	<0.01	<0.01	0.1	0.1	0.9	<0.01	<0.01	<0.01	5.2	
						TEQ(LOR)		0.0006	0.0002	0.0001	0.005	0.0006	0.0012	0.0008	0.01	0.001	0.001	0.1	0.001	0.0009	0.0001	0.01	0.001		0.13
						TEQ(half)		0.0006	0.0002	0.0001	0.005	0.0006	0.0012	0.0008	0.01	0.0005	0.0005	0.1	0.001	0.0009	0.00005	0.005	0.0005		0.13
						TEQ(zero)		0.0006	0.0002	0.0001	0.005	0.0006	0.0012	0.0008	0.01	0	0	0.1	0.001	0.0009	0	0	0		0.12
G16_0.5	G16	0.5	Stage 1	Fill	11/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
G16_1.0	G16	1	Stage 1	Fill	11/12/2024		-	530	0.4	4	3.1	9.3	13	2.8	0.1	<0.01	<0.01	<0.01	0.1	2	<0.01	<0.01	<0.01	564.8	
						TEQ(LOR)		0.53	0.0004	0.004	0.031	0.0093	0.013	0.0028	0.01	0.001	0.001	0.01	0.001	0.002	0.0001	0.01	0.001		0.63
						TEQ(half)		0.53	0.0004	0.004	0.031	0.0093	0.013	0.0028	0.01	0.0005	0.0005	0.005	0.001	0.002	0.00005	0.005	0.0005		0.62
						TEQ(zero)		0.53	0.0004	0.004	0.031	0.0093	0.013	0.0028	0.01	0	0	0	0.001	0.002	0	0	0		0.60
G18_0.5	G18	0.5	Stage 1	Fill	11/12/2024		-	830	230	23	15	59	44	5.8	0.3	<0.01	<0.01	<0.01	0.2	4.1	<0.01	<0.01	<0.01	1211.4	
						TEQ(LOR)		0.83	0.23	0.023	0.15	0.059	0.044	0.0058	0.03	0.001	0.001	0.01	0.002	0.0041	0.0001	0.01	0.001		1.40
						TEQ(half)		0.83	0.23	0.023	0.15	0.059	0.044	0.0058	0.03	0.0005	0.0005	0.005	0.002	0.0041	0.00005	0.005	0.0005		1.39
						TEQ(zero)		0.83	0.23	0.023	0.15	0.059	0.044	0.0058	0.03	0	0	0	0.002	0.0041	0	0	0		1.38
G18_1.0	G18	1	Stage 1	Fill	11/12/2024		-	1600	160	18	12	42	38	5	0.3	<0.01	<0.01	<0.01	0.2	3.9	<0.01	<0.01	<0.01	1879.4	
						TEQ(LOR)		1.6	0.16	0.018	0.12	0.042	0.038	0.005	0.03	0.001	0.001	0.01	0.002	0.0039	0.0001	0.01	0.001		2.04
						TEQ(half)		1.6	0.16	0.018	0.12	0.042	0.038	0.005	0.03	0.0005	0.0005	0.005	0.002	0.0039	0.00005	0.005	0.0005		2.03
						TEQ(zero)		1.6	0.16	0.018	0.12	0.042	0.038	0.005	0.03	0	0	0	0.002	0.0039	0	0	0		2.02

Table T5
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Leachate Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

								Polynuclear Aromatic Hydrocarbons																	
							Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toxicity Equivalence Factor (TEF)								0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1		
TAS Waste Classification Contaminated Soil Level 3 TCLP																		5							
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP																		0.5							0.5
Field_ID	**Location_Code**	**Depth**	Excavation Stage	Lithology	**Date**	**Result Type**																			
H11_2.5	H11	2.5	Stage 1	Fill	6/12/2024		-	2.4	0.8	6.9	4.9	8.3	16	4	0.5	0.1	0.2	0.3	0.4	3.5	0.1	<0.01	<0.01	48.4	
						TEQ(LOR)		0.0024	0.0008	0.0069	0.049	0.0083	0.016	0.004	0.05	0.01	0.02	0.3	0.004	0.0035	0.001	0.01	0.001		0.49
						TEQ(half)		0.0024	0.0008	0.0069	0.049	0.0083	0.016	0.004	0.05	0.01	0.02	0.3	0.004	0.0035	0.001	0.005	0.0005		0.48
						TEQ(zero)		0.0024	0.0008	0.0069	0.049	0.0083	0.016	0.004	0.05	0.01	0.02	0.3	0.004	0.0035	0.001	0	0		0.48
H12_1.0	H12	1	Stage 1	Fill	11/12/2024		-	2.3	0.3	0.1	0.2	0.2	0.7	0.7	0.1	<0.01	<0.01	<0.01	0.1	0.8	<0.01	<0.01	<0.01	5.5	
						TEQ(LOR)		0.0023	0.0003	0.0001	0.002	0.0002	0.0007	0.0007	0.01	0.001	0.001	0.01	0.001	0.0008	0.0001	0.01	0.001		0.04
						TEQ(half)		0.0023	0.0003	0.0001	0.002	0.0002	0.0007	0.0007	0.01	0.0005	0.0005	0.005	0.001	0.0008	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.0023	0.0003	0.0001	0.002	0.0002	0.0007	0.0007	0.01	0	0	0	0.001	0.0008	0	0	0		0.02
H12_3.0	H12	3	Stage 1	Fill	11/12/2024		-	11	2	0.4	0.9	1.7	1.8	0.4	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	<0.01	<0.01	<0.01	18.7	
						TEQ(LOR)		0.011	0.002	0.0004	0.009	0.0017	0.0018	0.0004	0.001	0.001	0.001	0.01	0.0001	0.0005	0.0001	0.01	0.001		0.05
						TEQ(half)		0.011	0.002	0.0004	0.009	0.0017	0.0018	0.0004	0.0005	0.0005	0.0005	0.005	0.00005	0.0005	0.00005	0.005	0.0005		0.04
						TEQ(zero)		0.011	0.002	0.0004	0.009	0.0017	0.0018	0.0004	0	0	0	0	0	0.0005	0	0	0		0.03
H13_1.5	H13	1.5	Stage 1	Fill	11/12/2024		-	1.4	0.1	<0.01	0.1	0.2	0.2	0.3	<0.01	<0.01	<0.01	<0.01	0.1	0.5	<0.01	<0.01	<0.01	2.9	
						TEQ(LOR)		0.0014	0.0001	0.00001	0.001	0.0002	0.0002	0.0003	0.001	0.001	0.001	0.01	0.001	0.0005	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0014	0.0001	0.000005	0.001	0.0002	0.0002	0.0003	0.0005	0.0005	0.0005	0.005	0.001	0.0005	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0014	0.0001	0	0.001	0.0002	0.0002	0.0003	0	0	0	0	0.001	0.0005	0	0	0		<0.01
H13_2.0	H13	2	Stage 1	Fill	11/12/2024		-	1	0.1	<0.01	0.1	0.1	0.3	0.3	0.1	<0.01	<0.01	<0.01	0.1	0.5	<0.01	<0.01	<0.01	2.6	
						TEQ(LOR)		0.001	0.0001	0.00001	0.001	0.0001	0.0003	0.0003	0.01	0.001	0.001	0.01	0.001	0.0005	0.0001	0.01	0.001		0.04
						TEQ(half)		0.001	0.0001	0.000005	0.001	0.0001	0.0003	0.0003	0.01	0.0005	0.0005	0.005	0.001	0.0005	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.001	0.0001	0	0.001	0.0001	0.0003	0.0003	0.01	0	0	0	0.001	0.0005	0	0	0		0.01
H16_2.0	H16	2	Stage 1	Fill	9/12/2024		-	24	31	5.1	11	21	60	18	3.2	2	2.7	3.2	2.2	14	0.9	0.3	0.8	199.4	
						TEQ(LOR)		0.024	0.031	0.0051	0.11	0.021	0.06	0.018	0.32	0.2	0.27	3.2	0.022	0.014	0.009	0.3	0.08		4.68
						TEQ(half)		0.024	0.031	0.0051	0.11	0.021	0.06	0.018	0.32	0.2	0.27	3.2	0.022	0.014	0.009	0.3	0.08		4.68
						TEQ(zero)		0.024	0.031	0.0051	0.11	0.021	0.06	0.018	0.32	0.2	0.27	3.2	0.022	0.014	0.009	0.3	0.08		4.68
QC183	H16	2	Stage 1	Fill	9/12/2024		-	63	39	5.9	9.3	23	52	11	0.8	<0.01	<0.01	<0.01	0.6	8.7	<0.01	<0.01	<0.01	213.3	
						TEQ(LOR)		0.063	0.039	0.0059	0.093	0.023	0.052	0.011	0.08	0.001	0.001	0.01	0.006	0.0087	0.0001	0.01	0.001		0.40
						TEQ(half)		0.063	0.039	0.0059	0.093	0.023	0.052	0.011	0.08	0.0005	0.0005	0.005	0.006	0.0087	0.00005	0.005	0.0005		0.39
						TEQ(zero)		0.063	0.039	0.0059	0.093	0.023	0.052	0.011	0.08	0	0	0	0.006	0.0087	0	0	0		0.38
QC184	H16	2	Stage 1	Fill	10/12/2024		0.24	24.9	25.8	5.18	12.5	19.5	63.2	13.7	0.58	<0.1	0.17	0.159	0.53	10	<0.1	<0.1	<0.1	176	
						TEQ(LOR)		0.0249	0.0258	0.00518	0.125	0.0195	0.0632	0.0137	0.058	0.001	0.017	0.159	0.0053	0.01	0.0001	0.01	0.001		0.54
						TEQ(half)		0.0249	0.0258	0.00518	0.125	0.0195	0.0632	0.0137	0.058	0.0005	0.017	0.159	0.0053	0.01	0.00005	0.005	0.0005		0.53
						TEQ(zero)		0.0249	0.0258	0.00518	0.125	0.0195	0.0632	0.0137	0.058	0	0.017	0.159	0.0053	0.01	0	0	0		0.53
H17_1.0	H17	1	Stage 1	Fill	9/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
H17_1.5	H17	1.5	Stage 1	Fill	9/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
H18_1.0	H18	1	Stage 1	Fill	9/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
I06_0.5	I06	0.5	Stage 1	Fill	11/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
I06_1.0	I06	1	Stage 1	Fill	11/12/2024		-	0.4	<0.01	<0.01	<0.01	0.1	0.1	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	<0.01	<0.01	<0.01	1.2	
						TEQ(LOR)		0.0004	0.00001	0.00001	0.0001	0.0001	0.0001	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0004	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0004	0.000005	0.000005	0.00005	0.0001	0.0001	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0004	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0004	0	0	0	0.0001	0.0001	0.0002	0	0	0	0	0	0.0004	0	0	0		<0.01
I06_1.5	I16	1.5	Stage 1	Fill	11/12/2024		-	0.6	0.1	<0.01	0.2	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.5	0.1	<0.01	<0.01	2.8	
						TEQ(LOR)		0.0006	0.0001	0.00001	0.002	0.0001	0.0003	0.0003	0.01	0.01	0.01	0.1	0.002	0.0005	0.001	0.01	0.001		0.15
						TEQ(half)		0.0006	0.0001	0.000005	0.002	0.0001	0.0003	0.0003	0.01	0.01	0.01	0.1	0.002	0.0005	0.001	0.005	0.0005		0.14
						TEQ(zero)		0.0006	0.0001	0	0.002	0.0001	0.0003	0.0003	0.01	0.01	0.01	0.1	0.002	0.0005	0.001	0	0		0.14
I07_0.5	I07	0.5	Stage 1	Fill	11/12/2024		-	1.1	0.2	0.3	0.4	0.6	0.5	0.4	0.1	<0.01	<0.01	<0.01	0.1	0.9	<0.01	<0.01	<0.01	4.6	
						TEQ(LOR)		0.0011	0.0002	0.0003	0.004	0.0006	0.0005	0.0004	0.01	0.001	0.001	0.01	0.001	0.0009	0.0001	0.01	0.001		0.04
						TEQ(half)		0.0011	0.0002	0.0003	0.004	0.0006	0.0005	0.0004	0.01	0.0005	0.0005	0.005	0.001	0.0009	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.0011	0.0002	0.0003	0.004	0.0006	0.0005	0.0004	0.01	0	0	0	0.001	0.0009	0	0	0		0.02
I07_1.0	I07	1	Stage 1	Fill	11/12/2024		-	1.1	0.1	<0.01	0.1	0.1	0.2	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	<0.01	<0.01	<0.01	2.3	
						TEQ(LOR)		0.0011	0.0001	0.00001	0.001	0.0001	0.0002	0.0003	0.001	0.001	0.001	0.01	0.0001	0.0004	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0011	0.0001	0.000005	0.001	0.0001	0.0002	0.0003	0.0005	0.0005	0.0005	0.005	0.00005	0.0004	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0011	0.0001	0	0.001	0.0001	0.0002	0.0003	0	0	0	0	0	0.0004	0	0	0		<0.01
I07_2.5	I07	2.5	Stage 1	Fill	11/12/2024		-	2	7.2	2.3	14	25	53	17	1.1	0.5	0.3	0.3	1.5	17	0.2	0.2	0.2	141.8	
						TEQ(LOR)		0.002	0.0072	0.0023	0.14	0.025	0.053	0.017	0.11	0.05	0.03	0.3	0.015	0.017	0.002	0.2	0.02		0.99
						TEQ(half)		0.002	0.0072	0.0023	0.14	0.025	0.053	0.017	0.11	0.05	0.03	0.3	0.015	0.017	0.002	0.2	0.02		0.99
						TEQ(zero)		0.002	0.0072	0.0023	0.14	0.025	0.053	0.017	0.11	0.05	0.03	0.3	0.015	0.017	0.002	0.2	0.02		0.99
I08_1.0	I08	1	Stage 1	Fill	4/12/2024		-	<0.01	0.1	<0.01	0.2	0.1	0.6	0.9	0.6	0.4	0.5	0.8	0.6	0.9	0.5	0.1	0.3	6.6	
						TEQ(LOR)		0.00001	0.0001	0.00001	0.002	0.0001	0.0006	0.0009	0.06	0.04	0.05	0.8	0.006	0.0009	0.005	0.1	0.03		1.10
						TEQ(half)		0.000005	0.0001	0.000005	0.002	0.0001	0.0006	0.0009	0.06	0.04	0.05	0.8	0.006	0.0009	0.005	0.1	0.03		1.10
						TEQ(zero)		0	0.0001	0	0.002	0.0001	0.0006	0.0009	0.06	0.04	0.05	0.8	0.006	0.0009	0.005	0.1	0.03		1.10
I10_1.0	I10	1	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC149	I10	1	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC152	I10	1	Stage 1	Fill	6/12/2024		<0.1	0.49	0.74	0.24	0.3	0.69	1.86	0.45	<0.1	<0.1	<0.1	<0.05	<0.1	0.38	<0.1	<0.1	<0.1	5.15	
						TEQ(LOR)		0.00049	0.00074	0.00024	0.003	0.00069	0.00186	0.00045	0.001	0.001	0.001	0.01	0.0001	0.00038	0.0001	0.01	0.001		0.03
						TEQ(half)		0.00049	0.00074	0.00024	0.003	0.00069	0.00186	0.00045	0.0005	0.0005	0.0005	0.005	0.00005	0.00038	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.00049	0.00074	0.00024	0.003	0.00069	0.00186	0.00045	0	0	0	0	0	0.00038	0	0	0		<0.01
I10_1.5	I10	1.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
I10_2.0	I10	2	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.1	0.1	0.1	0.5	0.1	<0.01	<0.01	1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.01	0.01	0.1	0.001	0.0005	0.001	0.01	0.001		0.13
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.01	0.01	0.1	0.001	0.0005	0.001	0.005	0.0005		0.13
						TEQ(zero)		0	0	0	0	0	0	0	0	0.01	0.01	0.1	0.001	0.0005	0.001	0	0		0.12
I11_1.5	I11	1.5	Stage 1	Fill	6/12/2024		-	<0.01	0.1	0.1	<0.01	0.2	1.2	0.4	0.3	0.1	0.2	0.2	0.3	0.1	0.1	<0.01	<0.01	3.3	
						TEQ(LOR)		0.00001	0.0001	0.0001	0.0001	0.0002	0.0012	0.0004	0.03	0.01	0.02	0.2	0.003	0.0001	0.001	0.01	0.001		0.28
						TEQ(half)		0.000005	0.0001	0.0001	0.00005	0.0002	0.0012	0.0004	0.03	0.01	0.02	0.2	0.003	0.0001	0.001	0.005	0.0005		0.27
						TEQ(zero)		0	0.0001	0.0001	0	0.0002	0.0012	0.0004	0.03	0.01	0.02	0.2	0.003	0.0001	0.001	0	0		0.27
I11_2.0	I11	2	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.0001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.0001	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0.0001	0	0	0	0	0	0	0	0	0	0	0		<0.01
I11_2.5	I11	2.5	Stage 1	Fill	6/12/2024		-	<0.01	0.2	0.7	<0.01	0.2	0.2	4.4	1.1	0.4	0.7	0.9	1	4.1	0.4	<0.01	0.2	14.5	
						TEQ(LOR)		0.00001	0.0002	0.0007	0.0001	0.0002	0.0002	0.0044	0.11	0.04	0.07	0.9	0.01	0.0041	0.004	0.01	0.02		1.17
						TEQ(half)		0.000005	0.0002	0.0007	0.00005	0.0002	0.0002	0.0044	0.11	0.04	0.07	0.9	0.01	0.0041	0.004	0.005	0.02		1.17
						TEQ(zero)		0	0.0002	0.0007	0	0.0002	0.0002	0.0044	0.11	0.04	0.07	0.9	0.01	0.0041	0.004	0	0.02		1.16
I12_0.5	I12	0.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	0.1	<0.01	0.1	0.4	0.4	0.4	0.6	0.7	0.5	0.3	0.4	0.1	0.3	4.3	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.001	0.00001	0.0001	0.0004	0.04	0.04	0.06	0.7	0.005	0.0003	0.004	0.1	0.03		0.98
						TEQ(half)		0.000005	0.000005	0.000005	0.001	0.000005	0.0001	0.0004	0.04	0.04	0.06	0.7	0.005	0.0003	0.004	0.1	0.03		0.98
						TEQ(zero)		0	0	0	0.001	0	0.0001	0.0004	0.04	0.04	0.06	0.7	0.005	0.0003	0.004	0.1	0.03		0.98
I13_1.5	I13	1.5	Stage 1	Fill	9/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
I14_1.0	I14	1	Stage 1	Fill	9/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
I15_1.5	I15	1.5	Stage 1	Fill	11/12/2024		-	15	1.3	0.3	0.4

Table T5
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Leachate Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

								Polynuclear Aromatic Hydrocarbons																	
							Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toxicity Equivalence Factor (TEF)								0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1		
TAS Waste Classification Contaminated Soil Level 3 TCLP																		5							
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP																		0.5							0.5
Field_ID	**Location_Code**	**Depth**	Excavation Stage	Lithology	**Date**	**Result Type**																			
J10_0.5	J10	0.5	Stage 1	Fill	3/12/2024		-	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	<0.01	0.2	0.7	<0.01	<0.01	0.1	2.5	
						TEQ(LOR)		0.0001	0.0001	0.0001	0.001	0.0002	0.0003	0.0003	0.01	0.01	0.01	0.01	0.002	0.0007	0.0001	0.01	0.01		0.06
						TEQ(half)		0.0001	0.0001	0.0001	0.001	0.0002	0.0003	0.0003	0.01	0.01	0.01	0.005	0.002	0.0007	0.00005	0.005	0.01		0.05
						TEQ(zero)		0.0001	0.0001	0.0001	0.001	0.0002	0.0003	0.0003	0.01	0.01	0.01	0	0.002	0.0007	0	0	0.01		0.04
J11_1.5	J11	1.5	Stage 1	Fill	5/12/2024		-	0.4	0.3	1.1	5.6	5.1	15	9.6	1.2	0.9	1	1.3	1.5	7.3	0.6	0.1	0.4	51.4	
						TEQ(LOR)		0.0004	0.0003	0.0011	0.056	0.0051	0.015	0.0096	0.12	0.09	0.1	1.3	0.015	0.0073	0.006	0.1	0.04		1.87
						TEQ(half)		0.0004	0.0003	0.0011	0.056	0.0051	0.015	0.0096	0.12	0.09	0.1	1.3	0.015	0.0073	0.006	0.1	0.04		1.87
						TEQ(zero)		0.0004	0.0003	0.0011	0.056	0.0051	0.015	0.0096	0.12	0.09	0.1	1.3	0.015	0.0073	0.006	0.1	0.04		1.87
J12_0.5	J12	0.5	Stage 1	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
J12_1.0	J12	1	Stage 1	Fill	25/11/2024		-	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0001	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
J12_1.5	J12	1.5	Stage 1	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.3	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0.0001	0.0001	0	0	0	0	0	0.0001	0	0	0		<0.01
J13_0.5	J13	0.5	Stage 1	Fill	25/11/2024		-	0.3	<0.01	0.1	<0.01	0.1	0.2	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.9	
						TEQ(LOR)		0.0003	0.00001	0.0001	0.0001	0.0001	0.0002	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0003	0.000005	0.0001	0.00005	0.0001	0.0002	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0003	0	0.0001	0	0.0001	0.0002	0.0001	0	0	0	0	0	0.0001	0	0	0		<0.01
J13_1.0	J13	1	Stage 1	Fill	25/11/2024		-	1	0.2	0.1	0.2	0.3	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.1	
						TEQ(LOR)		0.001	0.0002	0.0001	0.002	0.0003	0.0003	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.001	0.0002	0.0001	0.002	0.0003	0.0003	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.001	0.0002	0.0001	0.002	0.0003	0.0003	0	0	0	0	0	0	0	0	0	0		<0.01
J14_0.5	J14	0.5	Stage 1	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC103	J14	0.5	Stage 1	Fill	25/11/2024		0.14	<0.1	<0.1	<0.1	<0.1	<0.1	0.16	0.16	0.1	<0.1	0.12	0.122	<0.1	0.16	0.1	<0.1	<0.1	0.92	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00016	0.00016	0.01	0.001	0.012	0.122	0.0001	0.00016	0.001	0.01	0.001		0.16
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.00016	0.00016	0.01	0.0005	0.012	0.122	0.00005	0.00016	0.001	0.005	0.0005		0.15
						TEQ(zero)		0	0	0	0	0	0.00016	0.00016	0.01	0	0.012	0.122	0	0.00016	0.001	0	0		0.15
QC104	J14	0.5	Stage 1	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
J14_1.5	J14	1.5	Stage 1	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
J15_1.5	J15	1.5	Stage 1	Fill	25/11/2024		-	<0.01	<0.01	<0.01	0.1	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.0001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.0001	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0.0001	0	0	0	0	0	0	0	0	0	0		<0.01
J16_0.5	J16	0.5	Stage 1	Fill	25/11/2024		-	0.1	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.4	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0001	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0	0	0	0	0.0001	0.0001	0	0	0	0	0	0.0001	0	0	0		<0.01
K06_1.0	K06	1	Stage 1	Fill	11/12/2024		-	6.9	17	3	7.6	18	39	9.7	0.6	0.1	0.1	0.1	0.3	6.9	<0.01	<0.01	<0.01	109.3	
						TEQ(LOR)		0.0069	0.017	0.003	0.076	0.018	0.039	0.0097	0.06	0.01	0.01	0.1	0.003	0.0069	0.0001	0.01	0.001		0.37
						TEQ(half)		0.0069	0.017	0.003	0.076	0.018	0.039	0.0097	0.06	0.01	0.01	0.1	0.003	0.0069	0.00005	0.005	0.0005		0.37
						TEQ(zero)		0.0069	0.017	0.003	0.076	0.018	0.039	0.0097	0.06	0.01	0.01	0.1	0.003	0.0069	0	0	0		0.36
K06_1.5	K06	1.5	Stage 1	Fill	11/12/2024		-	0.4	0.2	0.3	1.2	1.1	2.4	1.5	0.2	<0.01	<0.01	<0.01	0.2	1.6	<0.01	<0.01	<0.01	9.1	
						TEQ(LOR)		0.0004	0.0002	0.0003	0.012	0.0011	0.0024	0.0015	0.02	0.001	0.001	0.01	0.002	0.00001	0.0001	0.01	0.001		0.06
						TEQ(half)		0.0004	0.0002	0.0003	0.012	0.0011	0.0024	0.0015	0.02	0.0005	0.0005	0.005	0.002	0.000005	0.00005	0.005	0.0005		0.05
						TEQ(zero)		0.0004	0.0002	0.0003	0.012	0.0011	0.0024	0.0015	0.02	0	0	0	0.002	0	0	0	0		0.04
K07_0.5	K07	0.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
K07_1.0	K07	1	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	0.4	0.1	0.5	1.5	0.7	0.6	0.8	1.1	1	1.4	0.6	0.1	0.4	9.2	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.004	0.0001	0.0005	0.0015	0.07	0.06	0.08	1.1	0.01	0.0014	0.006	0.1	0.04		1.47
						TEQ(half)		0.000005	0.000005	0.000005	0.004	0.0001	0.0005	0.0015	0.07	0.06	0.08	1.1	0.01	0.0014	0.006	0.1	0.04		1.47
						TEQ(zero)		0	0	0	0.004	0.0001	0.0005	0.0015	0.07	0.06	0.08	1.1	0.01	0.0014	0.006	0.1	0.04		1.47
K07_1.5	K07	1.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	0.2	<0.01	0.4	1	0.5	0.6	0.7	1	0.8	1.1	0.5	0.1	0.3	7.2	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.002	0.00001	0.0004	0.001	0.05	0.06	0.07	1	0.008	0.0011	0.005	0.1	0.03		1.33
						TEQ(half)		0.000005	0.000005	0.000005	0.002	0.000005	0.0004	0.001	0.05	0.06	0.07	1	0.008	0.0011	0.005	0.1	0.03		1.33
						TEQ(zero)		0	0	0	0.002	0	0.0004	0.001	0.05	0.06	0.07	1	0.008	0.0011	0.005	0.1	0.03		1.33
K08_0.5	K08	0.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	0.1	<0.01	0.2	<0.01	0.1	0.1	<0.01	0.1	0.7	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.0001	0.001	0.01	0.001	0.2	0.0001	0.0001	0.001	0.01	0.01		0.23
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.0001	0.0005	0.01	0.0005	0.2	0.00005	0.0001	0.001	0.005	0.01		0.23
						TEQ(zero)		0	0	0	0	0	0	0.0001	0	0.01	0	0.2	0	0.0001	0.001	0	0.01		0.22
K08_2.0	K08	2	Stage 1	Fill	5/12/2024		-	0.1	<0.01	<0.01	0.1	0.1	0.3	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.3	<0.01	<0.01	<0.01	1.1	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.001	0.0001	0.0003	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0003	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0001	0.000005	0.000005	0.001	0.0001	0.0003	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0003	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0	0	0.001	0.0001	0.0003	0.0002	0	0	0	0	0	0.0003	0	0	0		<0.01
K09_1.5	K09	1.5	Stage 1	Fill	6/12/2024		-	0.1	<0.01	<0.01	0.2	0.1	0.3	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	1.1	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.002	0.0001	0.0003	0.0003	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0001	0.000005	0.000005	0.002	0.0001	0.0003	0.0003	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0001	0	0	0.002	0.0001	0.0003	0.0003	0	0	0	0	0	0.0001	0	0	0		<0.01
K10_1.5	K10	1.5	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
K10_2.0	K10	2	Stage 1	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0.0001	0	0	0	0	0	0	0	0	0		<0.01
K11_2.0	K11	2	Stage 1	Fill	6/12/2024		-	0.9	<0.01	1.1	0.4	1.6	0.6	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	0.3	<0.01	<0.01	<0.01	5.4	
						TEQ(LOR)		0.0009	0.00001	0.0011	0.004	0.0016	0.0006	0.0005	0.001	0.001	0.001	0.01	0.0001	0.0003	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0009	0.000005	0.0011	0.004	0.0016	0.0006	0.0005	0.0005	0.0005	0.0005	0.005	0.00005	0.0003	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0009	0	0.0011	0.004	0.0016	0.0006	0.0005	0	0	0	0	0	0.0003	0	0	0		<0.01
QC147	K11	2	Stage 1	Fill	6/12/2024		-	3.3	0.2	1.5	1.1	2	2.2	0.7	<0.01	<0.01	<0.01	<0.01	0.1	0.6	<0.01	<0.01	<0.01	11.7	
						TEQ(LOR)		0.0033	0.0002	0.0015	0.011	0.002	0.0022	0.0007	0.001	0.001	0.001	0.01	0.001	0.0006	0.0001	0.01	0.001		0.05
						TEQ(half)		0.0033	0.0002	0.0015	0.011	0.002	0.0022	0.0007	0.0005	0.0005	0.0005	0.005	0.001	0.0006	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0.0033	0.0002	0.0015	0.011	0.002	0.0022	0.0007	0	0	0	0	0.001	0.0006	0	0	0		0.02
QC148	K11	2	Stage 1	Fill	6/12/2024		<0.1	12	6.48	16.8	10.4	39	51.6	9.07	0.28	<0.1	<0.1	<0.05	0.24	6.51	<0.1	<0.1	<0.1	152	
						TEQ(LOR)		0.012	0.00648	0.0168	0.104	0.039	0.0516	0.00907	0.028	0.001	0.001	0.01	0.0024	0.00651	0.0001	0.01	0.001		0.30
						TEQ(half)		0.012	0.00648	0.0168	0.104	0.039	0.0516	0.00907	0.028	0.0005	0.0005	0.005	0.0024	0.00651	0.00005	0.005	0.0005		0.29
						TEQ(zero)		0.012	0.00648	0.0168	0.104	0.039	0.0516	0.00907	0.028	0	0	0	0.0024	0.00651	0	0	0		0.28
K12_1.0	K12	1	Stage 2	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0.0001	0	0	0		<0.01
K12_1.5	K12	1.5	Stage 2	Fill	25/11/2024		-	0.1	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.3	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.0001	0.00001	0.0001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0001	0.000005	0.000005	0.00005	0.000005	0.0001	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0	0	0	0	0.0001	0	0	0	0	0	0	0.0001	0	0	0		<0.01
K13_1.0	K13	1	Stage 2	Fill	9/12/2024		-	0.1	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	0.1	<0.01	0.2	<0.01	<0.01	<0.01	0.6	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0002	0.0001	0.01	0.001		0.02
						TEQ(half)		0.0001	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0002	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0001	0	0	0	0	0.0001	0.0001	0	0	0	0	0	0.0002	0	0	0		<0.01
K14_1.0	K14	1	Stage 2	Fill	25/11/2024		-	0.1	<0.01	<0.01	<0.01

Table T5
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Leachate Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

								Polynuclear Aromatic Hydrocarbons																	
							Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toxicity Equivalence Factor (TEF)								0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1		
TAS Waste Classification Contaminated Soil Level 3 TCLP																		5							
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP																		0.5							0.5
Field_ID	**Location_Code**	**Depth**	Excavation Stage	Lithology	**Date**	**Result Type**																			
L13_0.5	L13	0.5	Stage 2	Fill	5/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L13_1.0	L13	1	Stage 2	Fill	5/12/2024		-	<0.01	<0.01	<0.01	0.4	<0.01	0.1	<0.01	0.1	<0.01	0.1	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	0.8	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.004	0.00001	0.0001	0.00001	0.01	0.001	0.01	0.01	0.001	0.00001	0.0001	0.01	0.001		0.05
						TEQ(half)		0.000005	0.000005	0.000005	0.004	0.000005	0.0001	0.000005	0.01	0.0005	0.01	0.005	0.001	0.000005	0.00005	0.005	0.0005		0.04
						TEQ(zero)		0	0	0	0.004	0	0.0001	0	0.01	0	0.01	0	0.001	0	0	0	0		0.03
L13_1.5	L13	1.5	Stage 2	Fill	5/12/2024		-	<0.01	<0.01	<0.01	0.1	<0.01	0.3	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	0.9	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.001	0.00001	0.0003	0.0003	0.001	0.001	0.001	0.01	0.0001	0.0002	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.000005	0.001	0.000005	0.0003	0.0003	0.0005	0.0005	0.0005	0.005	0.00005	0.0002	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0.001	0	0.0003	0.0003	0	0	0	0	0	0.0002	0	0	0		<0.01
L14_1.0	L14	1	Stage 2	Fill	5/12/2024		-	<0.01	0.1	<0.01	0.2	0.1	0.6	0.4	0.1	<0.01	<0.01	<0.01	0.1	0.2	<0.01	<0.01	<0.01	1.8	
						TEQ(LOR)		0.00001	0.0001	0.00001	0.002	0.0001	0.0006	0.0004	0.01	0.001	0.001	0.01	0.001	0.0002	0.0001	0.01	0.001		0.04
						TEQ(half)		0.000005	0.0001	0.000005	0.002	0.0001	0.0006	0.0004	0.01	0.0005	0.0005	0.005	0.001	0.0002	0.00005	0.005	0.0005		0.03
						TEQ(zero)		0	0.0001	0	0.002	0.0001	0.0006	0.0004	0.01	0	0	0	0.001	0.0002	0	0	0		0.01
L14_1.5	L14	1.5	Stage 2	Fill	5/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	0.1	<0.01	0.1	<0.01	<0.01	0.3	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.01	0.001	0.01	0.001	0.00001	0.001	0.01	0.001		0.04
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.01	0.0005	0.005	0.001	0.000005	0.001	0.005	0.0005		0.02
						TEQ(zero)		0	0	0	0	0	0	0	0	0.01	0	0	0.001	0	0.001	0	0		0.01
L15_1.5	L15	1.5	Stage 2	Fill	5/12/2024		-	0.3	<0.01	<0.01	0.1	<0.01	0.2	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.001	0.00001	0.0002	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0002	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.000005	0.001	0.000005	0.0002	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0002	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0.001	0	0.0002	0.0002	0	0	0	0	0	0.0002	0	0	0		<0.01
L16_0.5	L16	0.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC115	L16	0.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC116	L16	0.5	Stage 2	Fill	27/11/2024		<0.1	<0.15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L16_1.0	L16	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L16_1.5	L16	1.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L17_0.5	L17	0.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L17_1.0	L17	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L17_1.5	L17	1.5	Stage 2	Fill	27/11/2024		-	1	<0.01	<0.01	<0.01	<0.01	1	1	<0.01	<0.01	<0.01	<0.01	<0.01	1	<0.01	<0.01	<0.01	4	
						TEQ(LOR)		0.001	0.00001	0.00001	0.0001	0.00001	0.001	0.001	0.001	0.001	0.001	0.01	0.0001	0.001	0.0001	0.01	0.001		0.03
						TEQ(half)		0.001	0.000005	0.000005	0.00005	0.000005	0.001	0.001	0.0005	0.0005	0.0005	0.005	0.00005	0.001	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.001	0	0	0	0	0.001	0.001	0	0	0	0	0	0.001	0	0	0		<0.01
L18_0.5	L18	0.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L18_1.0	L18	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
L18_1.5	L18	1.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
M09_1.0	M09	1	Stage 2	Fill	3/12/2024		-	0.2	<0.01	0.1	0.1	0.5	0.5	0.4	<0.01	<0.01	<0.01	<0.01	<0.01	0.6	<0.01	<0.01	<0.01	2.4	
						TEQ(LOR)		0.0002	0.00001	0.0001	0.001	0.0005	0.0005	0.0004	0.001	0.001	0.001	0.01	0.0001	0.0006	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0002	0.000005	0.0001	0.001	0.0005	0.0005	0.0004	0.0005	0.0005	0.0005	0.005	0.00005	0.0006	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0002	0	0.0001	0.001	0.0005	0.0005	0.0004	0	0	0	0	0	0.0006	0	0	0		<0.01
M09_1.5	M09	1.5	Stage 2	Fill	3/12/2024		-	0.3	<0.01	0.3	0.4	0.5	1.3	0.8	<0.01	<0.01	<0.01	<0.01	<0.01	0.9	<0.01	<0.01	<0.01	4.5	
						TEQ(LOR)		0.0003	0.00001	0.0003	0.004	0.0005	0.0013	0.0008	0.001	0.001	0.001	0.01	0.0001	0.0009	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0003	0.000005	0.0003	0.004	0.0005	0.0013	0.0008	0.0005	0.0005	0.0005	0.005	0.00005	0.0009	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0003	0	0.0003	0.004	0.0005	0.0013	0.0008	0	0	0	0	0	0.0009	0	0	0		<0.01
M10_1.0	M10	1	Stage 2	Fill	3/12/2024		-	0.2	<0.01	0.4	0.2	0.5	0.5	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	<0.01	<0.01	<0.01	2.6	
						TEQ(LOR)		0.0002	0.00001	0.0004	0.002	0.0005	0.0005	0.0003	0.001	0.001	0.001	0.01	0.0001	0.0005	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0002	0.000005	0.0004	0.002	0.0005	0.0005	0.0003	0.0005	0.0005	0.0005	0.005	0.00005	0.0005	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0.0002	0	0.0004	0.002	0.0005	0.0005	0.0003	0	0	0	0	0	0.0005	0	0	0		<0.01
M10_1.5	M10	1.5	Stage 2	Fill	3/12/2024		-	13	0.3	7.4	1.2	3.8	7.8	1.4	<0.01	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	<0.01	<0.01	36.1	
						TEQ(LOR)		0.013	0.0003	0.0074	0.012	0.0038	0.0078	0.0014	0.001	0.001	0.001	0.01	0.0001	0.0012	0.0001	0.01	0.001		0.07
						TEQ(half)		0.013	0.0003	0.0074	0.012	0.0038	0.0078	0.0014	0.0005	0.0005	0.0005	0.005	0.00005	0.0012	0.00005	0.005	0.0005		0.06
						TEQ(zero)		0.013	0.0003	0.0074	0.012	0.0038	0.0078	0.0014	0	0	0	0	0	0.0012	0	0	0		0.05
M11_1.0	M11	1	Stage 2	Fill	3/12/2024		-	<0.01	0.2	<0.01	0.5	0.7	3	1.1	<0.01	<0.01	<0.01	<0.01	<0.01	1	<0.01	<0.01	<0.01	6.5	
						TEQ(LOR)		0.00001	0.0002	0.00001	0.005	0.0007	0.003	0.0011	0.001	0.001	0.001	0.01	0.0001	0.001	0.0001	0.01	0.001		0.04
						TEQ(half)		0.000005	0.0002	0.000005	0.005	0.0007	0.003	0.0011	0.0005	0.0005	0.0005	0.005	0.00005	0.001	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0	0.0002	0	0.005	0.0007	0.003	0.0011	0	0	0	0	0	0.001	0	0	0		0.01
M11_1.5	M11	1.5	Stage 2	Fill	3/12/2024		-	9	0.1	2.8	6	17	33	6.3	<0.01	<0.01	<0.01	<0.01	<0.01	4.1	<0.01	<0.01	<0.01	78.3	
						TEQ(LOR)		0.009	0.0001	0.0028	0.06	0.017	0.033	0.0063	0.001	0.001	0.001	0.01	0.0001	0.0041	0.0001	0.01	0.001		0.16
						TEQ(half)		0.009	0.0001	0.0028	0.06	0.017	0.033	0.0063	0.0005	0.0005	0.0005	0.005	0.00005	0.0041	0.00005	0.005	0.0005		0.14
						TEQ(zero)		0.009	0.0001	0.0028	0.06	0.017	0.033	0.0063	0	0	0	0	0	0.0041	0	0	0		0.13
M12_1.0	M12	1	Stage 2	Fill	3/12/2024		-	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	<0.01	<0.01	<0.01	0.7	
						TEQ(LOR)		0.00001	0.00001	0.0001	0.0001	0.00001	0.00001	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0004	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.0001	0.00005	0.000005	0.000005	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0004	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0.0001	0	0	0	0.0002	0	0	0	0	0	0.0004	0	0	0		<0.01
M13_1.0	M13	1	Stage 2	Fill	5/12/2024		-	0.1	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	
						TEQ(LOR)		0.0001	0.00001	0.00001	0.001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.1	0.0001	0.00001	0.0001	0.01	0.001		0.11
						TEQ(half)		0.0001	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.1	0.00005	0.000005	0.00005	0.005	0.0005		0.11
						TEQ(zero)		0.0001	0	0	0	0	0.0001	0.0001	0	0	0	0.1	0	0	0	0	0		0.10
M13_1.5	M13	1.5	Stage 2	Fill	5/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
M14_1.0	M14	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
M14_1.5	M14	1.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
M16_0.5	M16	0.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
M16_1.0	M16	1	Stage 2	Fill	27/11/2024		-	2	2	<0.01	2	1	3	1	<0.01	<0.01	<0.01	<0.01	<0.01	1	<0.01	<0.01	<0.01	12	
						TEQ(LOR)		0.002	0.002	0.00001	0.02	0.001	0.003	0.001	0.001	0.001	0.001	0.

Table T5
Calculated Benzo(a)Pyrene Toxic Equivalency Quotient - Leachate Contaminant Concentrations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

							Polynuclear Aromatic Hydrocarbons																	
							Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(a)pyrene	Chrysene	Pyrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Benzo(a)pyrene TEQ
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toxicity Equivalence Factor (TEF)								0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.1	0.1	0.1	1	0.01	0.001	0.01	1	0.1		
TAS Waste Classification Contaminated Soil Level 3 TCLP																		5							
TAS Waste Classification Low Level Contaminated Soil Level 2 TCLP																		0.5							0.5
Field_ID	**Location_Code**	**Depth**	Excavation Stage	Lithology	**Date**	**Result Type**																			
N12_1.5	N12	1.5	Stage 2	Fill	3/12/2024		-	0.1	<0.01	0.1	1.3	0.2	0.9	0.3	0.2	<0.01	<0.01	<0.01	<0.01	1.2	<0.01	<0.01	<0.01	4.3	
						TEQ(LOR)		0.0001	0.00001	0.0001	0.013	0.0002	0.0009	0.0003	0.02	0.001	0.001	0.01	0.0001	0.0012	0.0001	0.01	0.001		0.06
						TEQ(half)		0.0001	0.000005	0.0001	0.013	0.0002	0.0009	0.0003	0.02	0.0005	0.0005	0.005	0.00005	0.0012	0.00005	0.005	0.0005		0.05
						TEQ(zero)		0.0001	0	0.0001	0.013	0.0002	0.0009	0.0003	0.02	0	0	0	0	0.0012	0	0	0		0.04
N14_1.0	N14	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
N14_1.5	N14	1.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
N15_1.0	N15	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
N15_1.5	N15	1.5	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
N16_1.5	N16	1.5	Stage 2	Fill	3/12/2024		-	<0.01	<0.01	0.1	0.1	<0.01	0.3	0.3	0.1	<0.01	<0.01	<0.01	0.1	0.3	<0.01	<0.01	<0.01	1.3	
						TEQ(LOR)		0.00001	0.00001	0.0001	0.001	0.00001	0.0003	0.0003	0.01	0.001	0.001	0.01	0.001	0.0003	0.0001	0.01	0.001		0.04
						TEQ(half)		0.000005	0.000005	0.0001	0.001	0.000005	0.0003	0.0003	0.01	0.0005	0.0005	0.005	0.001	0.0003	0.00005	0.005	0.0005		0.02
						TEQ(zero)		0	0	0.0001	0.001	0	0.0003	0.0003	0.01	0	0	0	0.001	0.0003	0	0	0		0.01
QC127	N16	1.5	Stage 2	Fill	3/12/2024		-	<0.01	<0.01	<0.01	0.1	<0.01	0.3	0.3	<0.01	<0.01	<0.01	<0.01	<0.01	0.3	<0.01	<0.01	<0.01	1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.001	0.00001	0.0003	0.0003	0.001	0.001	0.001	0.01	0.0001	0.0003	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.000005	0.001	0.000005	0.0003	0.0003	0.0005	0.0005	0.0005	0.005	0.00005	0.0003	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0.001	0	0.0003	0.0003	0	0	0	0	0	0.0003	0	0	0		<0.01
QC128	N16	1.5	Stage 2	Fill	3/12/2024		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.28	0.28	<0.1	<0.1	<0.1	<0.05	<0.1	0.24	<0.1	<0.1	<0.1	0.8	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00028	0.00028	0.001	0.001	0.001	0.01	0.0001	0.00024	0.0001	0.01	0.001		0.03
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.00028	0.00028	0.0005	0.0005	0.0005	0.005	0.00005	0.00024	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0.00028	0.00028	0	0	0	0	0	0.00024	0	0	0		<0.01
N18_1.0	N18	1	Stage 2	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
O13_1.5	O13	1.5	Stage 2	Fill	5/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0.0001	0	0	0	0	0	0	0	0	0		<0.01
O15_1.0	O15	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
O15_1.5	O15	1	Stage 2	Fill	27/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
O18_1.0	O18	1	Stage 2	Fill	25/11/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	0.3	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.0001	0.0001	0.001	0.001	0.001	0.01	0.0001	0.0001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.0001	0.0001	0.0005	0.0005	0.0005	0.005	0.00005	0.0001	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0.0001	0.0001	0	0	0	0	0	0.0001	0	0	0		<0.01
QC143	L11	1.5	Stage 2	Fill	6/12/2024		-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC144	L11	1.5	Stage 2	Fill	6/12/2024		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
						TEQ(LOR)		0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.001	0.001	0.001	0.01	0.0001	0.00001	0.0001	0.01	0.001		0.02
						TEQ(half)		0.000005	0.000005	0.000005	0.00005	0.000005	0.000005	0.000005	0.0005	0.0005	0.0005	0.005	0.00005	0.000005	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		<0.01
QC196	H14	3	Stage 2	Fill	11/12/2024		-	0.8	<0.01	<0.01	0.1	0.1	0.2	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	<0.01	<0.01	<0.01	1.8	
						TEQ(LOR)		0.0008	0.00001	0.00001	0.001	0.0001	0.0002	0.0002	0.001	0.001	0.001	0.01	0.0001	0.0004	0.0001	0.01	0.001		0.03
						TEQ(half)		0.0008	0.000005	0.000005	0.001	0.0001	0.0002	0.0002	0.0005	0.0005	0.0005	0.005	0.00005	0.0004	0.00005	0.005	0.0005		0.01
						TEQ(zero)		0.0008	0	0	0.001	0.0001	0.0002	0.0002	0	0	0	0	0	0.0004	0	0	0		<0.01
QC197	H14	3	Stage 2	Fill	11/12/2024		<0.1	1.45	2.23	0.73	1.02	3	5.51	0.87	<0.1	<0.1	<0.1	<0.05	<0.1	0.61	<0.1	<0.1	<0.1	15.4	
						TEQ(LOR)		0.00145	0.00223	0.00073	0.0102	0.003	0.00551	0.00087	0.001	0.001	0.001	0.01	0.0001	0.00061	0.0001	0.01	0.001		0.05
						TEQ(half)		0.00145	0.00223	0.00073	0.0102	0.003	0.00551	0.00087	0.0005	0.0005	0.0005	0.005	0.00005	0.00061	0.00005	0.005	0.0005		0.04
						TEQ(zero)		0.00145	0.00223	0.00073	0.0102	0.003	0.00551	0.00087	0	0	0	0	0	0.00061	0	0	0		0.02

Table T6
Analytical Results - Previous Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

AECOM

| | | | Metals | | | | | | | | | | | | | | | | Total Petroleum Hydrocarbons | | | | Total Recoverable Hydrocarbons | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | Polycyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | Phenolic Compounds | | | | | | | | | | | | | | | | | | | |
|---|---|---

Table T6
Analytical Results - Previous Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

AECOM

| | Metals | | | | | | | | | | | | | | | | | Total Petroleum Hydrocarbons | | | | Total Recoverable Hydrocarbons | | | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | Polycyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | | Phenolic Compounds | | | | | | | | | | | | | | | | | |

Table T6
Analytical Results - Previous Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

AECOM

| | | | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | Cyanides | | | Major Ions | | Polychlorinated Biphenyls | | | | | | | | |

AECOM

| | | | Per- and Poly-fluoroalkyl Substances | | | | | | | | | Cyanides | | | Major Ions | | Polychlorinated Biphenyls | | | | | | | Organophosphorus Pesticides (OP) | | | | | | | | |

Table T6
Analytical Results - Previous Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

AECOM

					Phenoxyacetic Acid Herbicides								Herbicides					
					2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorophenoxy butanoic acid	2,4-Dichloroprop	2,4-Dichlorophenoxy acetic acid	4-Methyl-4-chlorophenoxyacetic acid	4-Methyl-4-Chlorophenoxy Butanoic Acid
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
NEPM 2013 Table 1A(1) HIL-c Commer/Ind D. Soil										3000	35000		5000			5000	5000	5000
TAS Waste Classification Contaminated Soil Level 3																		
TAS Waste Classification Low Level Contaminated Soil Level 2																		
TAS Waste Classification Guidelines - Fill Material Level 1																		
BH109/0.3	BH10	0.3	29/07/2015	EM1512728	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12/0.1	BH12	0.1	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13/0.1	BH13	0.1	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13/0.5	BH13	0.5	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28/0.1	BH28	0.1	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH32/0.2	BH32	0.2	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33/0.5	BH33	0.5	16/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33/1.7	BH33	1.7	20/07/2015	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH34/3.2	BH34	3.2	20/07/2015	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35/0.1	BH35	0.1	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35/2.5	BH35	2.5	7/08/2015	EM1513110	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH36/0.1	BH36	0.1	14/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH36/1.5	BH36	1.5	16/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH37/0.1	BH37	0.1	16/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH37/2.5	BH37	2.5	20/07/2015	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH38/0.1	BH38	0.1	17/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39/0.5	BH39	0.5	13/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39/1.9	BH39	1.9	16/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39/2.5	BH39	2.5	16/07/2015	EM1513107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40/1.0	BH40	1	17/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40/2.6	BH40	2.6	20/07/2015	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40/3.5	BH40	3.5	20/07/2015	EM1513107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH42/0.1	BH42	0.1	13/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH42/2.0	BH42	2	16/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH43/0.15	BH43	0.15	17/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH44/0.1	BH44	0.1	13/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45/0.5	BH45	0.5	13/07/2015	EM1512107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45/2.5	BH45	2.5	16/07/2015	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH47/0.5	BH47	0.5	9/02/2016	EM1601444	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48/0.5	BH48	0.5	15/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48/2.0	BH48	2	17/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48/2.5	BH48	2.5	17/02/2016	EM1602351	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49/0.2	BH49	0.2	15/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49/2.5	BH49	2.5	17/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH50/0.5	BH50	0.5	15/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51/0.5	BH51	0.5	12/02/2016	EM1601758	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51/2.0	BH51	2	18/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH52/1.4	BH52	1.4	11/02/2016	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH54/1.5	BH54	1.5	10/02/2016	EM1601444	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH54/3.5	BH54	3.5	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH54/4.0	BH54	4	16/02/2016	EM1602351	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55/0.3	BH55	0.3	11/02/2016	EM1601758	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55/1.0	BH55	1	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH55/1.5	BH55	1.5	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56/1.0	BH56	1	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH56/2.0	BH56	2	16/02/2016	EM1602351	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57/0.5	BH57	0.5	10/02/2016	EM1601758	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH57/2.0	BH57	2	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH58/1.3	BH58	1.3	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH59/0.5	BH59	0.5	11/02/2016	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH59/2.0	BH59	2	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH63/0.2	BH63	0.2	12/02/2016	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH63/0.5	BH63	0.5	12/02/2016	EM1601758	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH63/2.0	BH63	2	18/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH64/0.5	BH64	0.5	12/02/2016	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH64/2.0	BH64	2	18/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH64/3.0	BH64	3	18/02/2016	EM1602351	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH65/0.2	BH65	0.2	15/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH66/1.5	BH66	1.5	10/02/2016	EM1601444	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH68/1.2	BH68	1.2	12/02/2016	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH79/0.2	BH79	0.2	16/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH81/0.5	BH81	0.5	15/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH81/1.0	BH81	1	15/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH81/1.5	BH81	1.5	17/02/2016	EM1601699	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH81/2.0	BH81	2	17/02/2016	EM1602351	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH84/0.5	BH84	0.5	6/03/2017	EM1702777	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH93/1.0	BH93	1	8/03/2017	EM1702777	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104/0.5	BH104	0.5	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104/2.5	BH104	2.5	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105/0.2	BH105	0.2	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105/2.0	BH105	2	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/0.2	BH108	0.2	18/07/2018	EM1811659	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/1.0	BH108	1	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/2.0	BH108	2	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/3.5	BH108	3.5	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109/1.0	BH109	1	18/07/2018	EM1811659	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104/2.5	BH104	2.5	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105/0.2	BH105	0.2	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH105/2.0	BH105	2	17/07/2018	EM1811504	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/0.2	BH108	0.2	18/07/2018	EM1811659	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/1.0	BH108	1	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/2.0	BH108	2	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH108/3.5	BH108	3.5	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109/1.0	BH109	1	18/07/2018	EM1811659	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109/1.5	BH109	1.5	19/07/2018	EM1811785	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109/2.5	BH109	2.5	19/07/2018	EM1812202	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112/0.2	BH112	0.2	18/07/2018	EM1811659	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH112/2.0	BH112	2	25/07/2018	EM1812026	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113/0.5	BH113	0.5	18/07/2018	EM1811659	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113/1.5	BH113	1.5	19/07/2018	EM1811785	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH113/2.5	BH113	2.5	19/07/2018	EM1812202	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114/0.5	BH114	0.5	18/07/2018	EM1811626	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH114/1.5	BH114	1.5	18/07/2018	EM1811626	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH116/1	BH116	1	19/07/2018	EM1811786	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH116/3	BH116	3	19/07/2018	EM1811786	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH116/3.5	BH116	3.5	19/07/2018	EM1811786	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH117/0.2	BH117	0.2	20/07/2018	EM1811780	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH117/4.0	BH117	4	20/07/2018	EM1811780	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH122/0.5	BH122	0.5	23/07/2018	EM1811941	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH122/2.0	BH122	2	24/07/2018	EM1811941	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH122/3.0	BH122	3	24/07/2018	EM1812424	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH123/0.2	BH123	0.2	23/07/2018	EM1811941	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH123/1.5	BH123	1.5	24/07/2018	EM1811941	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH132/0.2	BH132	0.2	25/07/2018	EM1812024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH132/2.5	BH132	2.5	25/07/2018	EM1812024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH132/3.5	BH132	3.5	25/07/2018	EM1812024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH133/0.2	BH133	0.2	25/07/2018	EM1812024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH133/2	BH133	2	25/07/2018	EM1812024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH133/3.5	BH133	3.5	6/08/2018	EM1812751	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH134/0.5	BH134	0.5	25/07/2018	EM1812028	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH134/3.0	BH134	3	25/07/2018	EM1812028	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH135/1.0	BH135	1	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH135/4.0	BH135	4	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH136/0.5	BH136	0.5	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH136/2.0	BH136	2	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH138/0.5	BH138	0.5	26/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH138/2.0	BH138	2	27/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH138/3.5	BH138	3.5	27/07/2018	EM1812172	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH145/0.2	BH145	0.2	30/07/2018	EM1812342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH145/0.5	BH145	0.5	30/07/2018	EM1812342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH146/0.2	BH146	0.2	30/07/2018	EM1812342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH146/1.0	BH146	1	30/07/2018	EM1812342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH147/0.5	BH147	0.5	30/07/2018	EM1812342	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH158/0.3	BH158	0.3	1/08/2018	EM1812438	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH159/0.5	BH159	0.5	1/08/2018	EM1812438	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH159/1.0	BH159	1	1/08/2018	EM1812438	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH160/0.2	BH160	0.2	1/08/2018	EM1812438	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH161_0.2	BH161	0.2	2/08/2018	EM1812561	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH163_0.2	BH163	0.2	2/08/2018	EM1812561	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH163_0.5	BH163	0.5	2/08/2018	EM1812561	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH168/0.2	BH168	0.2	3/08/2018	EM1812558	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH169/0.2	BH169	0.2	3/08/2018	EM1812558	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH170/1.0	BH170	1	7/08/2018	EM1812741	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH170/1.5	BH170	1.5	7/08/2018	EM1812741	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH170/2.5	BH170	2.5	7/08/2018	EM1812741	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH171/0.5	BH171	0.5	7/08/2018	EM1812748	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH171/1.5	BH171	1.5	7/08/2018	EM1812748	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH174/0.1	BH174	0.1	26/11/2018	EM1819199	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH174/0.5	BH174	0.5	26/11/2018	EM1819199	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH180/2.0	BH180	2	25/06/2019	EM1910116	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH191/0.5	BH191	0.5	27/06/2019	EM1910435	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH191/2.0	BH191	2	27/06/2019	EM1910435	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH196/0.5	BH196	0.5	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH196/1.0	BH196	1	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH196/1.5	BH196	1.5	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH198/1.0	BH198	1	2/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH199/1.0	BH199	1	2/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH199/2.0	BH199	2	2/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH200/1.0	BH200	1	2/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH200/2.0	BH200	2	2/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH203_1.0	BH203	1-1.1	3/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH203_1.5	BH203	1.5-1.6	3/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH204_1.0	BH204	1-1.1	3/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH204_2.0	BH204	2-2.1	3/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206_0.5	BH206	0.5-0.6	4/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206_0.5	BH206	0.5-0.6	4/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206_1.0	BH206	1-1.1	4/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206_1.5	BH206	1.5-1.6	4/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH220_0.5	BH220	0.5-0.5	9/11/2021	EM2122913	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH220_10.0	BH220	10	1/12/2021	EM2124633	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH220_3.0	BH220	3	1/12/2021	EM2124633	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH220_5.0	BH220	5	1/12/2021	EM2124633	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH222_0.9	BH222	0.9-0.9	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH222_1.8	BH222	1.8-1.8	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH223_2.5	BH223	2.5-2.5	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH223_3.8	BH223	3.8-3.8	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH224_1.0	BH224	1-1	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH224_2.0	BH224	2-2	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH225_0.15	BH225	0.15-0.15	19/08/2021	EM2116956	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH225_2.5	BH225	2.5-2.5	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH226_2.0	BH226	2-2	23/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH226_4.0	BH226	4-4	23/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH227_0.6	BH227	0.6-0.6	20/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH227_3.0	BH227	3-3	23/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH228_1.6	BH228	1.6-1.6	19/08/2021	EM2116556	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T6
Analytical Results - Previous Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

					Phenoxyacetic Acid Herbicides									Herbicides					
					2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Fenoxam	Triclopyr	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorophenoxy butanoic acid	2,4-Dichloroprop	2,4-Dichlorophenoxy acetic acid	4-Methyl-4-chlorophenoxyacetic acid	4-Methyl-4-Chlorophenoxy Butanoic Acid
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA					0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
NEPM 2013 Table 1A(1) HIL-s Commrcial D Soil										3000	30000		3000			3000	3000	3000
TAS Waste Classification Contaminated Soil Level 3																		
TAS Waste Classification Low Level Contaminated Soil Level 2																		
TAS Waste Classification Guidelines - Fill Material Level 1																		
BH229_0.3	BH229	0.3	12/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH229_0.8	BH229	0.8-0.8	20/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH229_2.8	BH229	2.8-2.8	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH230_1.0	BH230	1-1	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH230_4.0	BH230	4-4	24/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH231_2.0	BH231	2-2	23/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH231_4.0	BH231	4-4	23/08/2021	EM2117215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DP031.7	DP03	1.7	11/08/2015	EM1512294	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DP03'3.9	DP03	3.9	11/08/2015	EM1512294	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DP041.4	DP04	1.4	11/08/2015	EM1512294	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DP060.7	DP06	0.7	12/08/2015	EM1512294	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DP070.8	DP07	0.8	12/08/2015	EM1512294	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G14_0.4-0.5	G14	0.4-0.5	26/08/2014	EM1408748	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M3	M3	0.4-0.5	8/10/2014	EM1410743	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MW122/1.5	MW122	1.5	3/08/2015	EM1512922	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW124/0.5	MW124	0.5	22/07/2015	EM1512282	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127/0.1	MW127	0.1	21/07/2015	EM1512282	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127/3.4	MW127	3.4	31/07/2015	EM1512821	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW129/3.5	MW129	3.5	3/08/2015	EM1512922	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130	MW130	0.5	19/10/2015	EM1516133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130/0.5	MW130	0.5-0.5	27/10/2015	EM1516534	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW137/0.1	MW137	0.1	21/10/2015	EM1516133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW137/2.0	MW137	2-2	28/10/2015	EM1516534	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW142	MW142	1	21/10/2015	EM1516133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW142/3.0	MW142	3	26/10/2015	EM1516534	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW143/0.2	MW143	0.2	21/10/2015	EM1516133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	MW145	1.5	19/02/2016	EM1602028	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	MW145	1.8	19/02/2016	EM1602028	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW146	MW146	0.85	23/02/2016	EM1602028	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW147	MW147	1	12/02/2016	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157/0.5	MW157	0.5	24/06/2019	EM1910116	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157/1.0	MW157	1	24/06/2019	EM1910116	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157/2.3	MW157	2.3	24/06/2019	EM1910116	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162/0.5	MW162	0.5	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162/2.0	MW162	2	29/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162/5.1	MW162	5.1	29/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R1	R1	0.8-1	3/10/2014	EM1410604	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
R3	R3	3.6-3.8	3/10/2014	EM1410604	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
R4_0.5-0.7	R4	0.5-0.7	3/10/2014	EM1410604	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R4_3.6-3.8	R4	3.6-3.8	3/10/2014	EM1410604	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R10_0.9-1.0	R10	0.9-1	4/11/2014	EM1411792	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
RH1_0.6-0.7	RH1	0.6-0.7	19/11/2014	EM1412568	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RH2_0.4-0.5	RH2	0.4-0.5	19/11/2014	EM1412568	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
RH2_0.9-1.0	RH2	0.9-1	19/11/2014	EM1412568	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RH3_0.8-0.9	RH3	0.8-0.9	19/11/2014	EM1412568	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RH3_2.7-2.8	RH3	2.7-2.8	19/11/2014	EM1412568	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RH4_0.5-0.6	RH4	0.5-0.6	19/11/2014	EM1412568	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
RH4_2.4-2.5	RH4	2.4-2.5	19/11/2014	EM1412568	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RH12_0.3-0.4	RH12	0.3-0.4	19/11/2014	EM1412568	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_01_0.5_0.40-0.50	RHTP_01	0.4-0.5	30/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_01_1.0_0.90-1.00	RHTP_01	0.9-1	30/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_02_1.0_0.90-1.00	RHTP_02	0.9-1	30/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_02_2.0_1.90-2.00	RHTP_02	1.9-2	30/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_03_0.5_0.40-0.50	RHTP_03	0.4-0.5	30/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_03_1.0_0.90-1.00	RHTP_03	0.9-1	30/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_04_1.0_0.90-1.00	RHTP_04	0.9-1	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_04_2.0_1.90-2.00	RHTP_04	1.9-2	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_05_0.5_0.40-0.50	RHTP_05	0.4-0.5	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_05_1.0_0.90-1.00	RHTP_05	0.9-1	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_06_0.2_0.10-0.20	RHTP_06	0.1-0.2	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_06_1.0_0.90-1.00	RHTP_06	0.9-1	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_07_1.0_0.80-1.00	RHTP_07	0.8-1	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_07_BASE_1.30-1.30	RHTP_07	1.3-1.3	31/03/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_08_1.0_0.90-1.10	RHTP_08	0.9-1.1	2/04/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_08_2.3_2.20-2.30	RHTP_08	2.2-2.3	2/04/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_09_1.0_0.80-1.00	RHTP_09	0.8-1	2/04/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_09_2.0_1.80-2.00	RHTP_09	1.8-2	2/04/2020	EM2005599	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_10_1.0_0.80-1.00	RHTP_10	0.8-1	3/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_10_2.7_2.50-2.70	RHTP_10	2.5-2.7	3/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_11_1.0_0.80-1.00	RHTP_11	0.8-1	3/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_11_2.0_1.90-2.00	RHTP_11	1.9-2	3/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_12_1.0_0.80-1.00	RHTP_12	0.8-1	3/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_12_2.0_1.80-2.00	RHTP_12	1.8-2	3/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_13_1.0_0.80-1.00	RHTP_13	0.8-1	6/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_13_2.0_1.80-2.00	RHTP_13	1.8-2	6/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_14_2.2_2.20-2.30	RHTP_14	0.2-0.3	6/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_14_0.5_0.50-0.60	RHTP_14	0.5-0.6	6/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_15_0.5_0.50-0.60	RHTP_15	0.5-0.6	6/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_15_1.0_0.80-1.00	RHTP_15	0.8-1	6/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHTP_17_2.0_2.00-2.10	RHTP_17	2-2.1	7/04/2020	EM2005818	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN3_2.9-3.0	RN3	2.9-3	3/11/2014	EM1411792	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
RN6_3.9-4.0	RN6	3.9-4	3/11/2014	EM1411792	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
RN7_0.9-1.0	RN7	0.9-1	3/11/2014	EM1411792	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN7_3.1-3.2	RN7	3.1-3.2	3/11/2014	EM1411792	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
RN10_0.9-1.0	RN10	0.9-1	20/10/2014	EM1411357	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
RS10_2.4-2.5	RS10	2.4-2.5	22/10/2014	EM1411357	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
RS12_0.4-0.5	RS12	0.4-0.5	3/11/2014	EM1411792	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
SV16/1.0	SV16	1	26/06/2019	EM1910236	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV16/2.0	SV16	2	26/06/2019	EM1910236	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV16/2.7	SV16	2.7	26/06/2019	EM1910236	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV17/1.0	SV17	1	27/06/2019	EM1910435	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV17/2.0	SV17	2	27/06/2019	EM1910435	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV18/1.0	SV18	1	27/06/2019	EM1910435	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV18/2.0	SV18	2	27/06/2019	EM1910435	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV23/1.0	SV23	1	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV23/1.9	SV23	1.9	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV24/1.0	SV24	1	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV24/1.9	SV24	1.9	1/07/2019	EM1910545	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV26_1.0	SV26	1-1.1	3/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SV26_1.9	SV26	1.9-2	3/07/2019	EM1910754	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC01_0.2	UC01	0.2	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC01_0.5	UC01	0.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC01_1.0	UC01	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC03_0.2	UC03	0.2	4/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC03_0.5	UC03	0.5	4/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC03_1.0	UC03	1	4/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC03_2.0	UC03	2	4/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC03_3.0	UC03	3	4/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC04_1.0	UC04	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC04_1.5	UC04	1.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC05_0.5	UC05	0.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC05_1.0	UC05	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC05_1.5	UC05	1.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC05_2.0	UC05	2	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC06_0.5	UC06	0.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC06_1.0	UC06	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC06_2.0	UC06	2	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC06_2.9	UC06	2.9	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC07_0.5	UC07	0.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC07_1.0	UC07	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC07_2.0	UC07	2	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC07_3.0	UC07	3	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC07_3.5	UC07	3.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC07_4.0	UC07	4	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC08_0.5	UC08	0.5	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC08_1.0	UC08	1	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC08_1.8	UC08	1.8	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC09_0.5	UC09	0.5	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC09_1.0	UC09	1	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC09_2.0	UC09	2	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC09_3.0	UC09	3	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC10_0.5	UC10	0.5-0.5	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC10_1.0	UC10	1-1	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC10_2.0	UC10	2-2	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC10_3.0	UC10	3-3	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC10_4.0	UC10	4-4	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC11_1.0	UC11	1-1	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC11_2.0	UC11	2-2	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC11_3.0	UC11	3-3	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC11_4.0	UC11	4-4	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC14_0.5	UC14	0.5	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC14_1.0	UC14	1	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC14_2.0	UC14	2	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC14_3.0	UC14	3	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC14_4.0	UC14	4	12/08/2020	EM2014107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC18_0.2	UC18	0.2	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC18_0.5	UC18	0.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC18_1.0	UC18	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC18_1.7	UC18	1.7	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC18_3.0	UC18	3	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC19_0.5	UC19	0.5	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC19_1.0	UC19	1	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC19_2.0	UC19	2	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC19_3.0	UC19	3	6/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC20_0.5	UC20	0.5	7/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC20_1.0	UC20	1	7/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC20_2.0	UC20	2	7/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC20_3.0	UC20	3	7/08/2020	EM2013968	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC21_0.5	UC21	0.5-0.5	17/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC21_1.0	UC21	1-1	17/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC21_2.0	UC21	2-2	17/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC21_3.0	UC21	3-3	17/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC22_3.0	UC22	3-3	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UC22_4.0	UC22	4-4	13/08/2020	EM2014275	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T7
Analytical Results - PFAS Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

						Perfluoropropanesulfonic acid (PFPrS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic Acid (PFNS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0001	0.0001	0.0001	0.0001
PFAS NEMP 2025 HIL D Industrial/commercial									20[#1]		20[#1]							50
PFAS NEMP 2025 Interim Landfill - Clay/Single composite lined									50[#1]		50[#1]							50
PFAS NEMP 2025 Interim Landfill - Double composite lined									50[#1]		50[#1]							50
PFAS NEMP 2025 Interim Landfill - Unlined									20[#1]		20[#1]							50
Location_Code	**Depth**	**Date**	**Field_ID**	**Sample Type**	**Lab Report Number**													
BH02	0.1	15 Jul 2015	BH02/0.1	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH07	0.1	14 Jul 2015	BH07/0.1	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH13	0.1	14 Jul 2015	BH13/0.1	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH16	0.1	15 Jul 2015	BH16/0.1	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH25	0.1	20 Jul 2015	BH25/0.1	Normal	EM1512392	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH28	0.1	04 Aug 2015	BH28/0.1	Normal	EM1512922	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH30	0.2	15 Jul 2015	BH30/0.2	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH32	0.1	14 Jul 2015	BH32/0.1	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH35	0.1	14 Jul 2015	BH35/0.1	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH37	2.5	20 Jul 2015	BH37/2.5	Normal	EM1512392	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH40	1	17 Jul 2015	BH40/1.0	Normal	EM1512276	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH40	2.6	20 Jul 2015	BH40/2.6	Normal	EM1512392	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH44	0.1	21 Jul 2015	BH44/0.1	Normal	EM1512392	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH60	0.1	11 Feb 2016	BH60/0.1	Normal	EM1601502	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH61	0.3	23 Feb 2016	BH61/0.3	Normal	EM1602028	-	-	-	-	-	0.0008	-	-	-	-	-	-	<0.0005
BH61	2	17 Feb 2016	BH61/2.0	Normal	EM1601695	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH62	0.5	15 Feb 2016	BH62/0.5	Normal	EM1601695	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH63	0.3	18 Feb 2016	BH63/0.3	Normal	EM1601695	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH64	0.5	12 Feb 2016	BH64/0.5	Normal	EM1601502	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH66	4.5	16 Feb 2016	BH66/4.5	Normal	EM1601695	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH66	5.5	16 Feb 2016	BH66/5.5	Normal	EM1601695	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH67	0.2	10 Feb 2016	BH67/0.2	Normal	EM1601444	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH70	1.1	22 Feb 2016	BH70/1.1	Normal	EM1602028	-	-	-	-	-	0.0132	-	-	-	-	-	-	<0.0005
BH72	0.3	11 Feb 2016	BH72/0.3	Normal	EM1601502	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
BH80	0.1	10 Feb 2016	BH80/0.1	Normal	EM1601444	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
MW120A	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
MW120A	2	05 Jun 2025	MW120A_2.0	Normal	1229786	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
MW124	0.5	22 Jul 2015	MW124/0.5	Normal	EM1512392	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
MW127	0.1	21 Jul 2015	MW127/0.1	Normal	EM1512392	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005
MW188	0.5	02 Jun 2025	MW188_0.5	Normal	1227989	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW188	0.5	02 Jun 2025	QC102	Field_D	1227989	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW188	0.5	02 Jun 2025	QC202	Interlab_D	EM2512074	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002
MW188	1	02 Jun 2025	MW188_1.0	Normal	1227989	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW193	0.5	03 Jun 2025	MW193_0.5	Normal	1228034	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
MW193	1	03 Jun 2025	MW193_1.0	Normal	1228034	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001
TW02	2 - 2.1	14 Jul 2016	TW02/2.0	Normal	EM1608498	-	-	-	<0.0002	-	0.0002	-	-	-	-	-	-	<0.0002
TW03	0.5 - 0.6	13 Jul 2016	TW03	Normal	EM1608498	-	-	-	<0.0002	-	0.0012	-	-	-	-	-	-	<0.0002
TW03	1 - 1.1	13 Jul 2016	TW03	Normal	EM1608498	-	-	-	<0.0002	-	0.0006	-	-	-	-	-	-	<0.0002

Comments
#1 Individual compounds have been assessed through the sum of PFOS+PFHxS

Table T7
Analytical Results - PFAS Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

						Per- and Poly-fluoroalkyl Substances												
						Perfluoropropanesulfonic acid (PFPrS)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002
PFAS NEMP 2025 HIL D Industrial/commercial																		
PFAS NEMP 2025 Interim Landfill - Clay/Single composite lined																		
PFAS NEMP 2025 Interim Landfill - Double composite lined																		
PFAS NEMP 2025 Interim Landfill - Unlined																		
Location_Code	**Depth**	**Date**	**Field_ID**	**Sample Type**	**Lab Report Number**													
BH02	0.1	15 Jul 2015	BH02/0.1	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07	0.1	14 Jul 2015	BH07/0.1	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	0.1	14 Jul 2015	BH13/0.1	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	0.1	15 Jul 2015	BH16/0.1	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH25	0.1	20 Jul 2015	BH25/0.1	Normal	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	0.1	04 Aug 2015	BH28/0.1	Normal	EM1512922	-	-	-	-	-	-	-	-	-	-	-	-	-
BH30	0.2	15 Jul 2015	BH30/0.2	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH32	0.1	14 Jul 2015	BH32/0.1	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH35	0.1	14 Jul 2015	BH35/0.1	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH37	2.5	20 Jul 2015	BH37/2.5	Normal	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40	1	17 Jul 2015	BH40/1.0	Normal	EM1512276	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40	2.6	20 Jul 2015	BH40/2.6	Normal	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-
BH44	0.1	21 Jul 2015	BH44/0.1	Normal	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-
BH60	0.1	11 Feb 2016	BH60/0.1	Normal	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-
BH61	0.3	23 Feb 2016	BH61/0.3	Normal	EM1602028	-	-	-	-	-	-	-	-	-	-	-	-	-
BH61	2	17 Feb 2016	BH61/2.0	Normal	EM1601695	-	-	-	-	-	-	-	-	-	-	-	-	-
BH62	0.5	15 Feb 2016	BH62/0.5	Normal	EM1601695	-	-	-	-	-	-	-	-	-	-	-	-	-
BH63	0.3	18 Feb 2016	BH63/0.3	Normal	EM1601695	-	-	-	-	-	-	-	-	-	-	-	-	-
BH64	0.5	12 Feb 2016	BH64/0.5	Normal	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-
BH66	4.5	16 Feb 2016	BH66/4.5	Normal	EM1601695	-	-	-	-	-	-	-	-	-	-	-	-	-
BH66	5.5	16 Feb 2016	BH66/5.5	Normal	EM1601695	-	-	-	-	-	-	-	-	-	-	-	-	-
BH67	0.2	10 Feb 2016	BH67/0.2	Normal	EM1601444	-	-	-	-	-	-	-	-	-	-	-	-	-
BH70	1.1	22 Feb 2016	BH70/1.1	Normal	EM1602028	-	-	-	-	-	-	-	-	-	-	-	-	-
BH72	0.3	11 Feb 2016	BH72/0.3	Normal	EM1601502	-	-	-	-	-	-	-	-	-	-	-	-	-
BH80	0.1	10 Feb 2016	BH80/0.1	Normal	EM1601444	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW120A	2	05 Jun 2025	MW120A_2.0	Normal	1229786	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW124	0.5	22 Jul 2015	MW124/0.5	Normal	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-
MW127	0.1	21 Jul 2015	MW127/0.1	Normal	EM1512392	-	-	-	-	-	-	-	-	-	-	-	-	-
MW188	0.5	02 Jun 2025	MW188_0.5	Normal	1227989	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW188	0.5	02 Jun 2025	QC102	Field_D	1227989	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW188	0.5	02 Jun 2025	QC202	Interlab_D	EM2512074	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
MW188	1	02 Jun 2025	MW188_1.0	Normal	1227989	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW193	0.5	03 Jun 2025	MW193_0.5	Normal	1228034	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW193	1	03 Jun 2025	MW193_1.0	Normal	1228034	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
TW02	2 - 2.1	14 Jul 2016	TW02/2.0	Normal	EM1608498	-	-	-	-	-	-	-	-	-	-	-	-	-
TW03	0.5 - 0.6	13 Jul 2016	TW03	Normal	EM1608498	-	-	-	-	-	-	-	-	-	-	-	-	-
TW03	1 - 1.1	13 Jul 2016	TW03	Normal	EM1608498	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments
#1 Individual compounds have been assessed through the sum of PFOS+PFHxS

Table T7
Analytical Results - PFAS Soil Investigations
In Situ Soil Characterisation and Waste Management Plan - Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

	Perfluoropropanesulfonic acid (PFPrS)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum (PFHxS + PFOS)	Sum of PFAS	Sum of WA DWER PFAS (n=10)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	Sum of US EPA PFAS (PFOS + PFOA)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.0001	0.0002	0.0001	0.0005	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0001
PFAS NEMP 2025 HIL D Industrial/commercial							20				
PFAS NEMP 2025 Interim Landfill - Clay/Single composite lined							50				
PFAS NEMP 2025 Interim Landfill - Double composite lined							50				
PFAS NEMP 2025 Interim Landfill - Unlined							20				

Location_Code	Depth	Date	Field_ID	Sample Type	Lab Report Number											
BH02	0.1	15 Jul 2015	BH02/0.1	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH07	0.1	14 Jul 2015	BH07/0.1	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH13	0.1	14 Jul 2015	BH13/0.1	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH16	0.1	15 Jul 2015	BH16/0.1	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH25	0.1	20 Jul 2015	BH25/0.1	Normal	EM1512392	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH28	0.1	04 Aug 2015	BH28/0.1	Normal	EM1512922	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH30	0.2	15 Jul 2015	BH30/0.2	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH32	0.1	14 Jul 2015	BH32/0.1	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH35	0.1	14 Jul 2015	BH35/0.1	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH37	2.5	20 Jul 2015	BH37/2.5	Normal	EM1512392	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH40	1	17 Jul 2015	BH40/1.0	Normal	EM1512276	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH40	2.6	20 Jul 2015	BH40/2.6	Normal	EM1512392	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH44	0.1	21 Jul 2015	BH44/0.1	Normal	EM1512392	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH60	0.1	11 Feb 2016	BH60/0.1	Normal	EM1601502	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH61	0.3	23 Feb 2016	BH61/0.3	Normal	EM1602028	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH61	2	17 Feb 2016	BH61/2.0	Normal	EM1601695	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH62	0.5	15 Feb 2016	BH62/0.5	Normal	EM1601695	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH63	0.3	18 Feb 2016	BH63/0.3	Normal	EM1601695	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH64	0.5	12 Feb 2016	BH64/0.5	Normal	EM1601502	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH66	4.5	16 Feb 2016	BH66/4.5	Normal	EM1601695	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH66	5.5	16 Feb 2016	BH66/5.5	Normal	EM1601695	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH67	0.2	10 Feb 2016	BH67/0.2	Normal	EM1601444	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH70	1.1	22 Feb 2016	BH70/1.1	Normal	EM1602028	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH72	0.3	11 Feb 2016	BH72/0.3	Normal	EM1601502	-	-	-	<0.005	<0.001	-	-	-	-	-	-
BH80	0.1	10 Feb 2016	BH80/0.1	Normal	EM1601444	-	-	-	<0.005	<0.001	-	-	-	-	-	-
MW120A	0.2	05 Jun 2025	MW120A_0.2	Normal	1229786	<0.0001	<0.0005	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.0001
MW120A	2	05 Jun 2025	MW120A_2.0	Normal	1229786	<0.0001	<0.0005	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.0001
MW124	0.5	22 Jul 2015	MW124/0.5	Normal	EM1512392	-	-	-	<0.005	<0.001	-	-	-	-	-	-
MW127	0.1	21 Jul 2015	MW127/0.1	Normal	EM1512392	-	-	-	<0.005	<0.001	-	-	-	-	-	-
MW188	0.5	02 Jun 2025	MW188_0.5	Normal	1227989	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	<0.005
MW188	0.5	02 Jun 2025	QC102	Field_D	1227989	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	<0.005
MW188	0.5	02 Jun 2025	QC202	Interlab_D	EM2512074	<0.0005	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	-	-
MW188	1	02 Jun 2025	MW188_1.0	Normal	1227989	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	<0.005
MW193	0.5	03 Jun 2025	MW193_0.5	Normal	1228034	<0.0001	<0.0005	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.0001
MW193	1	03 Jun 2025	MW193_1.0	Normal	1228034	<0.0001	<0.0005	<0.0001	<0.0005	<0.0001	<0.0001	0.0001	<0.0005	<0.0005	0.0001	0.0001
TW02	2 - 2.1	14 Jul 2016	TW02/2.0	Normal	EM1608498	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	-	-	-	-
TW03	0.5 - 0.6	13 Jul 2016	TW03	Normal	EM1608498	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	-	-	-	-
TW03	1 - 1.1	13 Jul 2016	TW03	Normal	EM1608498	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	-	-	-	-

Comments
#1 Individual compounds have been assessed through the sum of PFOS+PFHxS

Appendix C

Data Validation

Data Validation Total Contamination Samples

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 5.3** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

Eurofins Environment Testing (Eurofins) was selected as the primary laboratory and ALS Laboratories (ALS) Melbourne was selected as the secondary laboratory for chemical analysis. Both laboratories are accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The relevant laboratory reports pertaining to the primary soil bore samples considered in this report are summarised in below **Table 1**. Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix E**, and field records collected during works are attached as **Appendix F**.

Table 1 Primary Soil Bore Data Considered

Laboratory Report	Sample Date	Sample Locations or IDs
1165428	25-27 Nov	J12, K12, J13, J14, K14, K15, K16, I17, J17, J18, K18, J16, K17, N18, M18, O18, J15
1166213	27-28 Nov	M17, L17, L18, N17, L16, M15, M14, M16, O15, N15, N14, F15, F16
1168041	3-4 Dec	N09, M12, N12, L12, O12, L10, M10, N10, N11, O14, M11, N16, N13, J10, E08, G06, F07, H06, G07, F08, H08, G08, F09, E07, M09, J08
1169377	4-6 Dec	J08, I08, J09, J11, J11, M13, I09, L13, L14, L15, O13, H09, E09, G09, G10, F10, E10, L11, K11, H10, K10, L08, L09, K08, K09, K07, I12, I11, I10, H11, H11
1171413	9-10 Dec	F11, E11, D11, F12, E12, D12, C12, D13, D14, E14, F14, I16, I13, I14, K13, G12, G13, F13, E13, G14, G15, H15, H14, H13, H12, H17, H18, H16
1171417	11-Dec	G16, G17, G18, E16, E15, K06, J07, J06, I06, I15, H13, H12, H14, I16, I07, H07
1177159	11 Dec	QC103, QC108
EM2421016	25-Nov	Qc116, QC120
EM2421150	27-28 Nov	QC124, QC128, QC132
EM2421657	3-4 Dec	QC142, QC144, QC151, QC152
EM2421846	5-6 Dec	QC148
EM2422180	6-Dec	QC156, QC158, QC164, QC168, QC170, QC172, QC174, QC176, QC178, QC180, QC182
EM2422260	9-10 Dec	QC189, QC191, QC195, QC197, QC199
EM2422322	11-Dec	QC184
EM2422568	10-Dec	QC103, QC108

*Note: * – Laboratory reports from the secondary laboratory.*

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples were collected by Jacob Muller, Andrew Christensen and Taya Gerstel field personal with appropriate environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 6.0** of the main report. Samples were collected in laboratory supplied sample containers and placed in chilled eskies prior to transportation to the selected laboratories.

1.2 Intra- and Inter-Laboratory Field Duplicate Samples

A total of 29 intra-laboratory and inter-laboratory field duplicate sample pairs were collected alongside the 498 primary samples analysed for Contaminants of Potential Concern and IB105.

Duplicate samples were collected at a rate greater than one intra-laboratory sample and one inter-laboratory sample per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples).

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of field duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e. concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e. concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e. concentrations 1 – 10 x LOR)

532 RPD values (~ 15% of the 3,389 values calculated) were reported above the adopted acceptable RPD DQO limits.

While this is a relatively high proportion of the total number of RPDs, The majority of non-conforming RPD values were reported for polycyclic aromatic hydrocarbons (PAHs). These CoPC are typically of low mobility, or immobile in soil, and sensitive to variation across short distances in the sample matrix. Non-conformance numbers may also be elevated as:

- Benzo(a)pyrene was sampled using multiple techniques for low level and standard results, and discrepancies within the data may arise from the inconsistency of method analysis.
- Benzo(a)pyrene toxic equivalence factor (TEQ) values reported were included in RPD calculations. If there is variance in initial results (due to sample heterogeneity, LORs adopted by different laboratories, or potential analytical method error) RPD non-conformances can be elevated by calculated benzo(a)pyrene TEQ values.
- Samples exceeding RPD and Level 2 waste classification criteria for Benzo(a)pyrene are below. These samples were tested for leachable concentrations and were below the level 2 TCLP waste classification criteria, with the exception of sample H16_2.0

Sample Location	Duplicate ID
J14_0.5	QC104
J14_0.5	QC103
L16_0.5	QC115
L16_0.5	QC116
N16_1.5	QC127
N16_1.5	QC128
I10_1.0	QC149 – not exceed

Sample Location	Duplicate ID
I10_1.0	QC152 – not exceeded
K11_2.0	QC147
K11_2.0	QC148
E13_1.5	QC171
E13_1.5	QC172
G12_1.0	QC163
G12_1.0	QC164
G14_1.5	QC173
G14_1.5	QC174
H16_2.0	QC183
H16_2.0	QC184
H14_3.0 – not exceeded	QC196
H14_3.0 – not exceeded	QC197
I06_0.5	QC190 – not exceeded
I06_0.5	QC191 – not exceeded

A number of RPD non-conformances were also reported for metals and TPH/TRH but are low compared to conforming RPD values and considered likely to be due to soil heterogeneity.

The RPD results are not considered to have compromised the interpretive use of the data. However, the higher concentration will be considered for interpretation.

1.3 Trip Blanks

Trip blanks, consisting of either clean inert silicate or deionised water supplied by the analytical laboratory, were collected at a rate of one per esky cooler delivered to the laboratory and were analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. Trip blank samples QC138 and QC187 were not delivered to the laboratory on 6 December 2024, and 10 December 2024 respectively.

All trip blank analytes had concentrations of target compounds reported below the LOR, and it is considered unlikely that any cross contamination occurred in transit.

Trip blank results are reported on **Table B3** and **Table B4** attached.

1.4 Rinsate Blanks and Field Blanks

Rinsate blanks were prepared by pouring laboratory supplied water over non-dedicated sampling equipment following decontamination procedures to assess the potential for cross-contamination. Field blank samples were prepared by pouring laboratory supplied water in sampling containers in the field during sampling to assess whether contamination may have occurred in the field during sampling.

11 rinsate blanks and 11 field blanks were collected as part of field work, at a rate of one rinsate blank per day and one field blank day. Rinsate blanks were analysed for the same analytes as the corresponding primary sample, and field blanks were submitted on hold for assessment if any rinsate blank discrepancies were reported. All rinsate blank analytes had concentrations below the laboratory LOR, indicating that field decontamination procedures were appropriately adopted and that the risk of cross contamination of samples through field equipment or during field sampling is acceptably low.

Rinsate results are reported on **Table B3** and **Table B4** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil, leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.9** below.

Soil samples were analysed for a combination of analytes including metals, cyanide, fluoride, ammonia, TPH/TRH, BTEX, PAH, MAH, phenols, and asbestos. As these analytes include the CoPC identified in **Section 3.1** (of the main report) for the areas from which the stockpile was generated, based on available Site history and uses, and previous investigations conducted, the soil analytical program is considered appropriate for the purposes of this report. The adequacy of the analytical suite selected is further detailed in in **Section 7.3** of the main report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported received by the primary analytical laboratory (Eurofins) as chilled with ice present. Sample batches 1165428 (10°C), 1168041 (10°C), 1169377 (10°C), 1171413 (21.6°C), 1171417 (21.6) were reported as being received above the acceptable temperature range of 0 – 6°C.

Sample receipt temperature discrepancies at the primary analytical laboratory are not considered to potentially affect interpretation of results, as samples were delivered directly to the analytical laboratory, located within 10 minutes' drive of the Site, on the same day as collected by field staff and were noted to be chilled upon receipt, and the temperature discrepancy is considered to be due to insufficient time for samples to cool between collection and receipt.

Samples were received outside the acceptable temperature range of 0 – 6°C by the secondary lab (ALS) in batch EM2421016 (13.3°C), EM2421150 (9.1°C), EM2421657 (15.4°C), EM2422260 (11.2°C), EM2422322 (20.1°C), EM2422568 (12.2°C) although ice bricks were noted to be present. Some degradation of volatile hydrocarbons may have occurred on transit to the secondary laboratory.

2.2 Sample Holding Times

All primary samples were received by laboratories within the recommended holding times for the requested analyses.

Proactive holding time assessments completed by the analytical laboratories are provided in **Appendix C**.

2.3 Limits of Reporting

All LORs were sufficiently low enough to ensure reliability of data when compared to assessment criteria. There is no other impact from LORs to the usability of the data for the purposes of soil characterisation.

2.4 Laboratory Method Blanks

All laboratory method blanks, detailed in **Appendix C**, were reported within the acceptable range, i.e. below the laboratory LORs.

2.5 Laboratory Control Spikes

Laboratory control spikes, detailed in **Appendix C**, were within the laboratory-derived control limits for the methods used.

2.6 Frequency of Quality Control Spike

Frequency of quality control spikes, detailed in **Appendix C**, were at the rate expected by applicable QC specifications.

2.7 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding laboratory duplicates are reported in **Appendix C** and were within acceptable limits for all samples, with the exception of the below reports and associated analytical groups:

1165428 – PAH and heavy metals

- 1166213 – Heavy metals
- 1168041 – PAH
- 1169377 – TRH, and PAH
- 1171413 - PAH
- 1171417 – PAH, fluoride, heavy metals

The elevated RPDs should be taken into consideration when using the data quantitatively. Although some minor variances from recommended limits or ranges occurred, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

2.8 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix C**. Matrix spike recoveries were noted to be within the data quality objective ranges.

2.9 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix C**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used. No surrogate recovery outliers were reported.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- eleven intra-laboratory and one inter-laboratory field duplicate sample pair was collected alongside the 148 primary samples.

  Duplicate samples were collected at a rate greater than one intra-laboratory sample and one inter-laboratory sample per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples).

- 532 RPD values (~ 15% of the 3389 values calculated) were reported above the adopted acceptable RPD DQO limits as highlighted in red in Table B1.

- While this is a relatively high proportion of the total number of RPDs, the majority of non-conforming RPD values were reported for polycyclic aromatic hydrocarbons (PAHs). These CoPC are typically of low mobility, or immobile in soil, and sensitive to variation across short distances in the sample matrix. Non-conformance numbers may also be elevated as:

  - Benzo(a)pyrene was sampled using multiple techniques for low level and standard results, and discrepancies within the data may arise from the inconsistency of method analysis.
  - Benzo(a)pyrene toxic equivalence factor (TEQ) values reported were included in RPD calculations. If there is variance in initial results (due to sample heterogeneity, LORs adopted by different laboratories, or potential analytical method error) RPD non-conformances can be elevated by calculated benzo(a)pyrene TEQ values.
  - Samples exceeding RPD and level 2 waste classification criteria for Benzo(a)pyrene are below. These samples were tested for leachable concentrations and were below the level 2 TCLP waste classification criteria, with the exception of sample H16_2.0

- A number of RPD non-conformances were also reported for metals and TPH/TRH but are low compared to conforming RPD values and considered likely to be due to soil heterogeneity.

- The RPD results are not considered to have compromised the interpretive use of the data. However, the higher concentration will be considered for interpretation.

- Trip blank and rinsate blank samples were collected on each day primary samples were collected. All analytical results for trip and rinsate blanks were reported below the laboratory LORs.

- Samples were reported received by the primary analytical laboratory as chilled and suitable for assessment. Some samples were reported outside the acceptable temperature range of 0 – 6°C, although ice bricks were noted to be present, and this temperature discrepancy is believed to be due to the short period between sample collection and delivery to the laboratory.

  Samples were received by the secondary laboratory outside the acceptable temperature range of 0 – 6°C, although ice bricks were noted to be present. Some degradation of volatile components may have occurred in transit.

- All LORs were sufficiently low enough to ensure reliability of data when compared to assessment criteria. There is no other impact from LORs to the usability of the data for the purposes of soil characterisation.

- Laboratory QA/QC sampling procedures including analysis of laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of excavation validation and overall Site condition at the completion of remediation.

Data Validation Leachate Analysis Samples

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data considered in this report are presented in **Section 5.3** of the main report. Quality assurance (QA) and quality control (QC) assessment of the sampling methodology and analytical data against the DQIs has been undertaken in this data validation.

Eurofins Environment Testing (Eurofins) was selected as the primary laboratory and ALS Laboratories (ALS) Melbourne was selected as the secondary laboratory for chemical analysis. Both laboratories are accredited by the National Association of Testing Authorities (NATA) for the analyses selected.

The relevant laboratory reports pertaining to the leachate analysis samples considered in this report are summarised in below **Table 1**. Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports, and certificates of analysis are attached in **Appendix E**, and field records collected during works are attached as **Appendix F**.

Table 1 Primary Soil bore Data Considered

Laboratory Reports	Sample Date	Sample IDs
1170315	25 Nov	J12_0.5, 1.0, 1.5; J13_0.5, 1.0 J14_0.5, 1.5, QC104; J15_1.5; J16_0.5; K12_1.0, 1.5 K14_1.0, 1.5; K15_1.5 M18_0.5; N18_1.0; O18_1.0
1170851	27 Nov	L16_0.5, 1.0, 1.5, QC115; L17_0.5, 1.0, 1.5; L18_0.5, 1.0, 1.5; M14_1.0, 1.5; M16_0.5, 1.0, 1.5; M17_1.5 N14_1.0, 1.5; N15_1.0, 1.5; O15_1.0, 1.5;
1172378	5-6 Dec	H08_1.5, 2.0. 3.0; J10_0.5, 1.0 L10_2.0; L12_1.0, 1.5 M09_1.0, 1.5; M10_1.0, 1.5 M11_0.5, 1.0, 1.5; M12_1.0 N09_1.5; N10_1.5 N11_1.0; N12_1.5 N16_1.5, QC127
1173784	4-6 Dec	G10_2.0; G11_0.5, 1.5; G11_3.0; H09_3.0; H10_2.0, 2.5; H11_1.0, 2.5; I08_1.0; I10_1.0, 1.5, 2.0, QC149; I11_1.5, 2.0, 2.5; I12_0.5; J08_1.5; J09_0.5, 1.0 J11_1.5; K07_0.5, 1.0, 1.5; K08_0.5, 2.0 K09_1.5; K10_1.5, 2.0; K11_2.0, QC147 L11_0.5, QC143; L13_0.5, 1.0, 1.5 L14_1.0, 1.5; L15_1.5; M13_1.0, 1.5; O13_1.5
1176785	5 Dec	J09_0.5, J11_1.5, K08_2.0, L15_1.5

Laboratory Reports	Sample Date	Sample IDs
1174347	9 Dec	E13_1.5; QC171; F13_0.5; F14_1.0; F14_2.5; F14_3.0; G12_1.0; G12_1.5; G12_3.5; QC163; G13_1.5; G14_2.0; G14_1.5; G14_2.0; QC173; G15_1.5; G15_3.0; H16_2.0; QC183; H17_1.0; H17_1.5; H18_1.0; I13_1.5; I14_1.0; I16_1.0; I16_1.5; K13_1.0
1174332	11 Dec	E15_1.0; G16_0.5, 1.0; G18_0.5, 1.0; H12_1.0, 3.0 H13_1.5, 2.0; QC196; I06_0.5, 1.0; I07_0.5, 1.0, 2.5; I15_1.5; I16_1.5 J06_1.5; J06_2.5 K06_1.0, 1.5
1179861	28 Nov, 3 Dec, 5-6 Dec, 9-11 Dec	F11_1.0, 1.5, 2.0; G10_1.0, 1.5, 2.0 G11_1.0, 2.0, 2.5; G12_1.0, 1.5, 2.0 G13_1.5, 2.0, 2.5; H11_1.0, 1.5, 2.0 H12_1.5, 2.0, 2.5; H13_1.0, 1.5, 2.5 H14_1.0, 2.0, 2.5; I06_1.0, 1.5, 2.0 I13_1.5 J06_0.5, 1.0, 2.0, 2.5 J07_1.0, 1.5, 2.0; K06_0.5, 1.0, 2.0, 2.5 K07_1.0, 1.5, 2.0; L13_0.5, 1.0, 1.5 M12_0.5, 1.0, 1.5; M13_0.5, 1.5 M14_0.5, 1.0, 1.5; N13_0.5, 1.0, 1.5
1182411	11 Dec	J06_1.5, M13_1.0
EM2421847*	25 Nov	QC103
EM2422063*	27 Nov	QC116
EM2421657*	3-4 Dec	QC128
EM2422444*	6 Dec	QC144, QC152
EM2422713*	6 Dec	QC148
EM2422754*	10-11 Dec	QC164, QC172, QC174, QC197, QC184

*Note: * – Laboratory reports from the secondary laboratory.*

1.0 Assessment of Field Data Quality

1.1 Sample Collection

Soil samples were collected by Jacob Muller, Andrew Christensen and Taya Gerstel field personal with appropriate environmental sampling experience. Sample collection was conducted with reference to the methodology described in **Section 6.0** of the main report. Samples were collected in laboratory supplied sample containers and placed in chilled eskies prior to transportation to the selected laboratories.

1.2 Intra- and Inter-Laboratory Field Duplicate Samples

A total of 11 intra-laboratory and inter-laboratory field duplicate sample pairs were analysed for TCLP PAH leachate alongside the 206 primary samples analysed for TCLP PAH leachate

Duplicate samples were collected at a rate greater than one intra-laboratory sample and one inter-laboratory sample per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples).

Duplicate samples have been compared to primary samples and Relative Percentage Differences (RPDs) were calculated. Results of field duplicate samples and RPDs are presented in **Table B1**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e. concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e. concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e. concentrations 1 – 10 x LOR)

67 RPD values (~ 19% of the 349 values calculated) were reported above the adopted acceptable RPD DQO limits as highlighted in red in **Table B2**.

While this is a relatively high proportion of the total number of RPDs, The non-conforming RPD values were reported for polycyclic aromatic hydrocarbons (PAHs). These CoPC are typically of low mobility, or immobile in soil, and sensitive to variation across short distances in the sample matrix. All non-conforming RPDs were reviewed against TCLP waste classification criteria. No samples exceeded the level 2 TCLP waste classification criteria, with the exception of H16_2.0 for benzo(a)pyrene – the respective intra and inter-laboratory duplicates QC183 and QC184 did not exceed the criteria.

1.3 Trip Blanks

Trip blanks, consisting of either clean inert silicate or deionised water supplied by the analytical laboratory, were collected at a rate of one per esky cooler delivered to the laboratory with the primary samples and were analysed for select volatile compounds, including TPH C_6-C_9, TRH C_6-C_{10}, and BTEXN. Trip blank samples QC138 and QC187 were not delivered to the laboratory on 6 December 2024, and 10 December 2024 respectively. Trip Blanks QC185 and QC186 were sent in laboratory batch 1174347 and 1171413.

All trip blank analytes had concentrations of target compounds reported below the LOR, and it is considered unlikely that any cross contamination occurred in transit.

Trip blank results are reported on **Table B3** and **Table B4** attached.

1.4 Rinsate Blanks and Field Blanks

Rinsate blanks were prepared by pouring laboratory supplied water over non-dedicated sampling equipment following decontamination procedures to assess the potential for cross-contamination. Field blank samples were prepared by pouring laboratory supplied water in sampling containers in the field during sampling to assess whether contamination may have occurred in the field during sampling.

11 rinsate blanks and 11 field blanks were collected as part of field work, at a rate of one rinsate blank per day and one field blank day. Rinsate blanks were analysed for the same analytes as the corresponding primary sample, and field blanks were submitted on hold for assessment if any rinsate blank discrepancies were reported. All rinsate blank analytes had concentrations below the laboratory LOR, indicating that field decontamination procedures were appropriately adopted and that the risk of cross contamination of samples through field equipment or during field sampling is acceptably low.

Rinsate results are reported on **Table B3** attached.

2.0 Assessment of Laboratory Data Quality

A summary of the assessment of laboratory data quality for leachate and QA/QC samples relevant to the report is provided in **Section 2.1** – **Section 2.9** below.

Soil samples were re-analysed for a combination of analytes including PAH (trace level), and USA leaching procedure. As these analytes include the CoPC identified in **Section 1.3** (of the main report), based on available Site history and uses, and previous investigations conducted, the soil analytical program is considered appropriate for the purposes of this report. The adequacy of the analytical suite selected is further detailed in in **Section 4.2** of the main report.

2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported received by the primary analytical laboratory (Eurofins) as chilled with ice present. Sample batches 1170315, 1172368, 1173784, 1176785, 1174347, 1174332, 1179861 and 1182411 did not provide temperature on the sample receipts. This is due to the samples being re-analysed and were sent to the laboratory through different laboratory batches.

Samples were received outside the acceptable temperature range of 0 – 6°C by the secondary lab (ALS) in batch EM2421657 (15.4°C), although ice bricks were noted to be present. Some degradation of volatile hydrocarbons may have occurred on transit to the secondary laboratory.

Sample batches EM2421847, EM2422063, EM2422444, EM2422713, EM2422754 did not provide temperature on the sample receipts. This is due to the samples being re-analysed and were sent to the laboratory through different laboratory batches.

2.2 Sample Holding Times

All primary and secondary samples were received by laboratories within the recommended holding times for the requested analyses, with the exception of the following:

Laboratory	Sample	Analyte	Days overdue
EM2421847	QC103	Non-Volatile Leach: 14 day HT(e.g. SV organics)	4
EM2422063	QC116	Non-Volatile Leach: 14 day HT(e.g. SV organics)	5
EM2422713	QC148	Non-Volatile Leach: 14 day HT(e.g. SV organics)	10
EM2422754	QC174, QC172, QC164, QC184	Non-Volatile Leach: 14 day HT(e.g. SV organics)	6
	QC187	Non-Volatile Leach: 14 day HT(e.g. SV organics)	5

Samples were extracted and analysed marginally outside recommended holding times for non-volatile leach method groups. There is the potential for these analytes to have degraded over time and not be truly representative of field conditions. This potential under reporting should be taken into consideration when interpreting data for these analytes.

Proactive holding time assessments completed by the analytical laboratories are provided in **Appendix C**.

2.3 Limits of Reporting

All LORs were sufficiently low enough to ensure reliability of data when compared to assessment criteria. There is no other impact from LORs to the usability of the data for the purposes of soil characterisation.

2.4 Laboratory Method Blanks

All laboratory method blanks, detailed in **Appendix C**, were reported within the acceptable range, i.e. below the laboratory LORs.

2.5 Laboratory Control Spikes

Laboratory control spikes, detailed in **Appendix C**, were within the laboratory-derived control limits for the methods used.

2.6 Frequency of Quality Control Spike

Frequency of quality control spikes, detailed in **Appendix C**, were at the rate expected by applicable QC specifications.

2.7 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding laboratory duplicates are reported in **Appendix C** and were within acceptable limits for all samples, with the exception of the below reports and associated analytical groups:

1172378 – PAH (trace level)

1173784 – PAH (trace level)

1174347 – PAH (trace level)

The elevated RPDs should be taken into consideration when using the data quantitatively. Although some minor variances from recommended limits or ranges occurred, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

2.8 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix C**. Matrix spike recoveries were noted to be within the data quality objective ranges.

2.9 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory quality control reports provided in **Appendix C**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used. No surrogate recovery outliers were reported.

3.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

- 11 intra-laboratory and inter-laboratory field duplicate sample pairs were analysed for TCLP PAH leachate alongside the 206 primary samples analysed for TCLP PAH leachate

  Duplicate samples were collected at a rate greater than one intra-laboratory sample and one inter-laboratory sample per 20 primary samples, which is consistent with the rate specified in the sample methodology (one duplicate per 20 primary samples).

- 67 RPD values (~ 19% of the 349 values calculated) were reported above the adopted acceptable RPD DQO limits as highlighted in red in **Table B2**.

- While this is a relatively high proportion of the total number of RPDs, The non-conforming RPD values were reported for polycyclic aromatic hydrocarbons (PAHs). These CoPC are typically of low mobility, or immobile in soil, and sensitive to variation across short distances in the sample matrix. All non-conforming RPDs were reviewed against TCLP waste classification criteria. No samples exceeded the level 2 TCLP waste classification criteria, with the exception of H16_2.0 for benzo(a)pyrene – the respective intra and inter-laboratory duplicates QC183 and QC184 did not exceed the criteria.

- The RPD results are not considered to have compromised the interpretive use of the data. However, the higher concentration will be considered for interpretation.

- Trip blank and rinsate blank samples were collected on each day primary samples were collected. All analytical results for trip and rinsate blanks were reported below the laboratory LORs.

- Samples were reported received by the primary analytical laboratory (Eurofins) as chilled with ice present. Sample batches 1170315, 1172368, 1173784, 1176785, 1174347, 1174332, 1179861 and 1182411 did not provide temperature on the sample receipts. This is due to the samples being re-analysed and were sent to the laboratory through different laboratory batches.

  Samples were received outside the acceptable temperature range of 0 – 6°C by the secondary lab (ALS) in batch EM2421657 (15.4°C), although ice bricks were noted to be present. Some degradation of volatile hydrocarbons may have occurred on transit to the secondary laboratory.

  Sample batches EM2421847, EM2422063, EM2422444, EM2422713, EM2422754 did not provide temperature on the sample receipts. This is due to the samples being re-analysed and were sent to the laboratory through different laboratory batches.

- All LORs were sufficiently low enough to ensure reliability of data when compared to assessment criteria. There is no other impact from LORs to the usability of the data for the purposes of soil characterisation.

- Laboratory QA/QC sampling procedures including analysis of laboratory duplicates and frequency of QA/QC reported some minor variances from recommended limits or ranges, indicating minor possibility of under- or over-reporting for some chemicals. These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data is considered to be suitable for interpretative use and assessment of excavation validation and overall Site condition at the completion of remediation.

Table B1
Total Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

| | | |

Table B1
Total Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

				36				113				1				92				1				1				1				39				36				39				36				112		
		03 Dec 2024			03 Dec 2024	03 Dec 2024			03 Dec 2024	03 Dec 2024			03 Dec 2024	03 Dec 2024			03 Dec 2024	03 Dec 2024			03 Dec 2024	03 Dec 2024			04 Dec 2024	04 Dec 2024			04 Dec 2024	04 Dec 2024			05 Dec 2024	05 Dec 2024			05 Dec 2024	05 Dec 2024			06 Dec 2024	06 Dec 2024			06 Dec 2024	06 Dec 2024			06 Dec 2024	06 Dec 2024	
		QC124			N16 1.5	QC127			N16 1.5	QC127			N16 1.5	QC128			N16 1.5	QC128			N16 1.5	QC131			E07 0.5	QC132			E07 0.5	QC132			H09 1.0	QC141			H09 1.0	QC142			I10 1.0	QC149			I10 1.0	QC152			K11 2.0	QC147	
		Interlab_D			Normal	Field_D			Normal	Field_D			Normal	Interlab_D			Normal	Interlab_D			Normal	Field_D			Normal	Interlab_D			Normal	Interlab_D			Normal	Field_D			Normal	Interlab_D			Normal	Field_D			Normal	Interlab_D			Normal	Field_D	
		EM2421657			1168041	1168041			1168041	1168041			1168041	EM2421657			1168041	EM2421657			1168041	1168041			E07 0.5	EM2421657			1168041	EM2421657			1169377	1169377			1169377	EM2421846			1169377	1169377			1169377	EM2421846			1169377	1169377	
	Unit	Soil		RPD	Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD		Soil	Soil	RPD
Metals																																																		
Chromium (hexavalent)	mg/kg	-	-		<1	<1	0		<1	-	-		<1	<0.5	0		<1	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		<1	<1	0	<1
Lead	mg/kg	324	-	37	240	130	60		240	-	-		240	264	10		130	-	-		-	-	-		264	-	360	150	82		360	74	131		100	130	26		100	109	9		420	220	62		420	261	47		290	180	47	290
Manganese	mg/kg	-	-		210	160	27		210	-	-		160	-	-		-	-	-		-	-	-		101	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		900	220	121	900
Mercury	mg/kg	-	-		0.7	0.3	80		0.7	-	-		0.3	0.2	111		0.3	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		0.1	-	-		-	-	-		0.5	0.2	86	0.5
Molybdenum	mg/kg	-	-		<5	<5	0		<5	-	-		<5	<2	0		<5	-	-		-	-	-		<2	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		<5	<5	0	<5
Nickel	mg/kg	-	-		18	15	18		18	-	-		18	18	0		18	-	-		-	-	-		18	-	-	-	-		-	-	-		-	-	-		22	-	-		-	-	-		34	13	89	34
Silver	mg/kg	-	-		<2	<2	0		<2	-	-		<2	<2	0		<2	-	-		-	-	-		<2	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		<2	<2	0	<2
Arsenic	mg/kg	68	1		2.6	2.8	7		2.6	-	-		2.6	7	92		2.8	-	-		-	-	-		7	-	26	4.6	140		26	<5	139		14	21	40		14	14	0		6.9	7.3	6		6.9	7	1		110	36	101	110
Tin	mg/kg	-	-		44	56	24		44	-	-		44	14	103		56	-	-		-	-	-		14	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		15	<10	40	15
Barium	mg/kg	-	-		96	84	13		96	-	-		84	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		94	110	16	94
Beryllium	mg/kg	-	-		<2	<2	0		<2	-	-		<2	<1	0		<2	-	-		-	-	-		<1	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		<2	<2	0	<2
Cadmium	mg/kg	-	-		<0.4	<0.4	0		<0.4	-	-		<0.4	<1	0		<0.4	-	-		-	-	-		<1	-	-	-	-		-	-	-		-	-	-		<1	-	-		-	-	-		<1	<0.4	0	<0.4
Chromium (III+VI)	mg/kg	-	-		8.8	11	22		8.8	-	-		8.8	6	38		11	-	-		-	-	-		6	-	-	-	-		-	-	-		-	-	-		12	-	-		-	-	-		15	-	17	330
Cobalt	mg/kg	-	-		13	10	26		13	-	-		13	7	60		10	-	-		-	-	-		7	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		18	14	25	18
Copper	mg/kg	-	-		89	56	46		89	-	-		89	46	64		56	-	-		-	-	-		46	-	-	-	-		-	-	-		-	-	-		88	-	-		-	-	-		121	-	82	100	20	82
Selenium	mg/kg	-	-		<2	<2	0		<2	-	-		<2	<5	0		<2	-	-		-	-	-		<5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	<2	0	<2
Zinc	mg/kg	-	-		130	91	35		130	-	-		130	78	50		91	-	-		-	-	-		78	-	-	-	-		-	-	-		-	-	-		260	-	-		-	-	-		245	-	120	62	64	120
Inorganics																																																	
Moisture Content (dried @ 103°C)	%	-	-		19	15	24		19	-	-		15	-	-		-	-	-		-	-	-		-	-	10	11	10		10	-	-		18	12	40		18	-	-		13	14	7		13	-	-		23	-	-	23
Cyanide Total	mg/kg	-	-		<5	<5	0		<5	-	-		<5	<1	0		<5	-	-		-	-	-		<1	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	<5	120	20
Fluoride	mg/kg	-	-		120	<100	18		120	-	-		120	90	29		<100	-	-		-	-	-		90	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	<100	<100	0	<100
TPH																																																	
C6 - C9	mg/kg	<10	0		<20	<20	0		<20	-	-		<20	<10	0		<20	-	-		-	-	-		<10	-	<20	<20	<20		<20	<20	0		<20	<20	0		<20	<10	0		<20	<20	0		<20	<10	0	<20
C10 - C14	mg/kg	<50	0		<20	<20	0		<20	-	-		<20	<50	0		<20	-	-		-	-	-		<50	-	<20	<20	<20	0	<20	<50	0		29	72	85		29	100	110		120	70	53		120	100	18		<20	<20	0	<20
C15 - C28	mg/kg	2,240	48	67	340	350	3		340	-	-		340	160	72		350	-	-		-	-	-		160	-	200	120	50		200	110	58		710	620	14		710	1,100	43		890	250	113		890	540	49		460	430	7	460
C29-C36	mg/kg	2,000	10		180	240	29		180	-	-		180	110	48		240	-	-		-	-	-		110	-	140	71	65		140	53	90		530	430	21		530	770	37		760	64	169		760	290	90		290	210	32	290
C10 - C36 (Sum of total)	mg/kg	4,240	46	71	520	590	13		520	-	-		520	270	73		590	-	-		-	-	-		340	-	340	191	56		340	110	102		1,269	1,122	12		1,269	1,970	43		1,770	384	129		1,770	930	62		750	640	16	750
>C16-C34	mg/kg	3,740	48		490	550	12		490	-	-		490	230	72		550	-	-		-	-	-		230	-	320	180	56		320	160	67		1,100	810	30		1,100	1,500	31		1,200	320	114		1,200	580	70		650	580	11	650
C6-C10	mg/kg	<10	0		<20	<20	0		<20	-	-		<20	<10	0		<20	-	-		-	-	-		<10	-	<20	<20	<20		<20	<20	0		<20	<20	0		<20	<10	0		<20	<20	0		<20	<10	0	<20
>C34-C40	mg/kg	1,260	97	23	<100	110	10		<100	-	-		<100	<100	0		110	-	-		-	-	-		<100	-	<100	<100	<100	0	<100	<100	0		250	400	46		250	560	77		780	<100	155		780	270	97		200	<100	67	200
>C10 - C40 (Sum of total)	mg/kg	5,070	52		490	660	30		490	-	-		490	230	72		660	-	-		-	-	-		230	-	320	180	56		320	160	67		1,460	1,430	2		1,460	2,360	47		2,330	490	130		2,330	1,140	69		900	580	43	900
>C10-C16	mg/kg	70	35		<50	<50	0		<50	-	-		<50	<50	0		<50	-	-		-	-	-		<50	-	<50	<50	<50	0	<50	<50	0		110	220	67		110	300	93		350	170	69		350	290	19		50	<50	0	50
>C10-C16 minus Naphthalene (F2)	mg/kg	70	35		<50	<50	0		<50	-	-		<50	<50	0		<50	-	-		-	-	-		<50	-	<50	<50	<50	0	<50	<50	0		110	220	67		110	300	93		350	170	69		350	290	19		<50	<50	0	<50
C6-C10 less BTEX (F1)	mg/kg	<10	0		<20	<20	0		<20	-	-		<20	<10	0		<20	-	-		-	-	-		<10	-	<20	<20	<20	0	<20	<10	0		<20	<20	0		<20	<10	0		<20	<20	0		<20	<10	0	<20
Naphthalene																																																	
Naphthalene (VOC)	mg/kg	<1	0		<0.5	<0.5	0		<0.5	-	-		<0.5	<1	0		<0.5	-	-		-	-	-		<1	-	<0.5	<0.5	<0.5	0	<0.5	<1	0		<0.5	<0.5	0		<0.5	<1	0		<0.5	<0.5	0		<0.5	<1	0	2.1	3.1	38	2.1
Polynuclear Aromatic Hydrocarbons																																																	
Benzo(a)pyrene TEQ calc (Half)	mg/kg	1.31	-		15	7.2	70		15	-	-		15	3.2	130		7.2	-	-		-	-	-		3.2	-	-	-	-		-	0.74	-		-	-	-		-	1.81	-		-	-	-		2.36	-	16	11	37	16
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	1.06	-		15	7.2	70		15	-	-		15	3.0	133		7.2	-	-		-	-	-		3.0	-	-	-	-		-	0.38	-		-	-	-		-	1.56	-		-	-	-		2.11	-	16	11	37	16
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	1.56	-		15	7.2	70		15	-	-		15	3.5	124		7.2	-	-		-	-	-		3.5	-	-	-	-		-	1.09	-		-	-	-		-	2.06	-		-	-	-		2.61	-	16	11	37	16
BTEX																																																	
Benzene	mg/kg	<0.2	0		<0.1	<0.1	0		<0.1	-	-		<0.1	<0.2	0		<0.1	-	-		-	-	-		<0.2	-	<0.1	<0.1	<0.1	0	<0.1	<0.2	0		<0.1	<0.1	0		<0.1	<0.2	0		<0.1	<0.1	0		<0.1	<0.2	0	<0.1	<0.1	0	<0.1
Ethylbenzene	mg/kg	<0.5	0		<0.1	<0.1	0		<0.1	-	-		<0.1	<0.5	0		<0.1	-	-		-	-	-		<0.5	-	<0.1	<0.1	<0.1	0	<0.1	<0.5	0		<0.1	<0.1	0		<0.1	<0.5	0		<0.1	<0.1	0		<0.1	<0.5	0	<0.1	<0.1	0	<0.1
Toluene	mg/kg	<0.5	0		<0.1	<0.1	0		<0.1	-	-		<0.1	<0.5	0		<0.1	-	-		-	-	-		<0.5	-	<0.1	<0.1	<0.1	0	<0.1	<0.5	0		<0.1	<0.1	0		<0.1	<0.5	0		<0.1	<0.1	0		<0.1	<0.5	0	<0.1	<0.1	0	<0.1
Total BTEX	mg/kg	<0.2	-		-	-	-		-	-	-		-	<0.2	-		-	-	-		-	-	-		<0.2	-	-	-	-		-	<0.2	-		-	-	-		-	<0.2	-		-	-	-		-	<0.2	-	<0.2	<0.2	0	<0.2
Xylene (m & p)	mg/kg	<0.5	0		<0.2	<0.2	0		<0.2	-	-		<0.2	<0.5	0		<0.2	-	-		-	-	-		<0.5	-	<0.2	<0.2	<0.2	0	<0.2	<0.5	0		<0.2	<0.2	0		<0.2	<0.5	0		<0.2	<0.2	0		<0.2	<0.5	0	<0.2	<0.2	0	<0.2
Xylene (o)	mg/kg	<0.5	0		<0.1	<0.1	0		<0.1	-	-		<0.1	<0.5	0		<0.1	-	-		-	-	-		<0.5	-	<0.1	<0.1	<0.1	0	<0.1	<0.5	0		<0.1	<0.1	0		<0.1	<0.5	0		<0.1	<0.1	0		<0.1	<0.5	0	<0.1	<0.1	0	<0.1
Xylene Total	mg/kg	<0.5	0		<0.3	<0.3	0		<0.3	-	-		<0.3	<0.5	0		<0.3	-	-		-	-	-		<0.3	-	<0.3	<0.3	<0.3	0	<0.3	<0.5	0		<0.3	<0.3	0		<0.3	<0.5	0		<0.3	<0.3	0		<0.3	<0.5	0	<0.3	<0.3	0	<0.3
PAH																																																	
2-methylnaphthalene	mg/kg	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-	-	-
3-methylcholanthrene	mg/kg	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-	-	-
7,12-dimethylbenz(a)anthracene	mg/kg	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-	-	-
Acenaphthene	mg/kg	<0.5	0		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	0.024	0.021	13		0.024	<0.5	0		0.081	0.17	71		0.081	<0.5	0		0.050	<0.005	164		0.050	<0.5	0		3.7	2.4	43	3.7
Acenaphthylene	mg/kg	<0.5	0		0.5	<0.5	0		0.5	-	-		0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	0.16	0.13	21		0.16	<0.5	0		0.048	0.10	70		0.048	<0.5	0		0.20	<0.005	87		0.20	<0.5	0		1.3	1.2	8	1.3
Anthracene	mg/kg	<0.5	0		1.4	0.9	43		1.4	-	-		1.4	<0.5	95		0.9	-	-		-	-	-		<0.5	-	0.12	0.11	9		0.12	<0.5	0		0.25	0.24	4		0.25	<0.5	0		0.47	0.54	14		0.47	<0.5	0		3.6	4.4	20	3.6
Benz(a)anthracene	mg/kg	0.8	86		5.8	5.0	15		5.8	-	-		5.8	2.1	94		5.0	-	-		-	-	-		2.1	-	0.52	0.46	12		0.52	<0.5	4		0.56	0.66	16		0.56	1.4	86		1.4	2.5	56		1.4	1.4	0		10	5.4	60	10
Benzo(a) pyrene	mg/kg	0.74	79		9.7	4.1	81		9.7	4.8	68		9.7	2.56	116		4.1	68	12		4.8	12	12		2.56	9.7	1.5	0.93	47		1.5	0.38	119		0.38	0.66	54		0.38	1.12	97		3.3	2.0	49		3.3	1.63	68		8.3	7.2	14	8.3
Benzo(b,j,h,i)perylene	mg/kg	0.6	120		3.9	5.4	32		3.9	-	-		3.9	1.4	94		5.4	-	-		-	-	-		1.4	-	0.52	0.41	24		0.52	<0.5	4		<0.005	0.37	195		<0.005	0.8	198		3.3	0.90	114		3.3	1.1	100		5.6	3.5	46	5.6
Benzo(b)fluoranthene	mg/kg	-	-		5.6	4.9	13		5.6	-	-		5.6	1.7	107		4.9	-	-		-	-	-		1.7	-	0.70	0.48	37		0.70	<0.5	33		0.37	0.62	51		0.37	-	-		2.5	2.5	0		2.5	-	-		12	5.5	74	12
Benzo[b+j]fluoranthene	mg/kg	-	-		5.3	3.5	41		5.3	-	-		5.3	1.5	112		3.5	-	-		-	-	-		1.5	-	1.1	0.53	70		1.1	-	-		0.37	0.66	56		0.37	-	-		2.1	1.6	27		2.1	-	-		7.6	4.7	47	7.6
Chrysene	mg/kg	0.8	37		7.8	7.6	3		7.8	-	-		7.8	2.2	112		7.6	-	-		-	-	-		2.2	-	0.62	0.43	36		0.62	<0.5	21		0.62	0.78	23		0.62	1.1	56		2.5	2.7	8		2.5	1.2	70		11	6.2	58	11
Dibenz(a,h)anthracene	mg/kg	<0.5	0		1.0	0.7	35		1.0	-	-		1.0	<0.5	67		0.7	-	-		-	-	-		<0.5	-	0.29	0.19	41		0.29	<0.5	0		<0.005	0.092	181		<0.005	0.26	136		0.45	<0.005	196		0.45	<0.5	0		1.7	1.4	19	1.7
Fluoranthene	mg/kg	1.9	102		12	6.1	65		12	-	-		12	4.1	98		6.1	-	-		-	-	-		4.1	-	0.76	0.66	14		0.76	<0.5	41		1.0	1.1	10		1.0	3.0	100		1.9	3.5	59		1.9	2.5	27		25	10	86	25
Fluorene	mg/kg	<0.5	0		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	0.027	0.053	65		0.027	<0.5	0		0.17	0.27	45		0.17	<0.5	0		0.26	<0.005	192		0.26	<0.5	0		5.6	6.1	9	5.6
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	53		3.3	2.1	44		3.3	-	-		3.3	1.1	100		2.1	-	-		-	-	-		1.1	-	0.60	0.41	38		0.60	<0.5	18		<0.005	0.19	190		<0.005	0.6	197		1.7	0.51	108		1.7	0.8	72		4.1	5.3	26	4.1
Naphthalene	mg/kg	<0.5	0		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	0.069	0.053	26		0.069	<0.5	0		0.17	0.26	42		0.17	0.5	99		0.17	<0.005	187		0.17	<0.5	0		7.0	6.2	12	7.0
PAHs (Sum of total)	mg/kg	10.7	58		76	51	39		76	-	-		76	21.9	111		51	-	-		-	-	-		21.9	-	8.1	6.167	27		8.1	0.38	175		5.789	8.212	35		5.789	15.9	93		23.71	22.15	7		23.71	15.0	45		140	91	42	140
Phenanthrene	mg/kg	1.8	18		3.5	2.0	55		3.5	-	-		3.5	1.4	86		2.0	-	-		-	-	-		1.4	-	0.35	0.51	37		0.35	<0.5	0		0.57	0.94	48		0.57	2.3	121		1.0	0.90	11		1.0	1.3	26		8.5	11	26	8.5
Pyrene	mg/kg	1.8	110		14	7.6	60		14	-	-		14	4.1	109		7.6	-	-		-	-	-		4.1	-	0.74	0.79	7		0.74	<0.5	37		1.2	1.1	9		1.2	2.9	83		2.4	4.5	61		2.4	2.7	12		25	10	86	25
Phenols																																																	
2,4,5-trichlorophenol	mg/kg	-	-		<1	<1	0		<1	-	-		<1	<0.5	0		<1	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<1	<1	0	<1
2,4,6-trichlorophenol	mg/kg	-	-		<1	<1	0		<1	-	-		<1	<0.5	0		<1	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<1	<1	0	<1
2,4-dichlorophenol	mg/kg	-	-		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.5	<0.5	0	<0.5
2,4-dimethylphenol	mg/kg	-	-		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.5	<0.5	0	<0.5
2,4-dinitrophenol	mg/kg	-	-		<5	<5	0		<5	-	-		<5	-	-		<5	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<5	<5	0	<5
2,6-dichlorophenol	mg/kg	-	-		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.5	<0.5	0	<0.5
2-chlorophenol	mg/kg	-	-		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.5	<0.5	0	<0.5
2-methylphenol	mg/kg	-	-		<0.2	<0.2	0		<0.2	-	-		<0.2	<0.5	0		<0.2	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.2	<0.2	0	<0.2
2-nitrophenol	mg/kg	-	-		<1	<1	0		<1	-	-		<1	<0.5	0		<1	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<1	<1	0	<1
3-&4-methylphenol	mg/kg	-	-		<0.4	<0.4	0		<0.4	-	-		<0.4	-	-		<0.4	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.4	<0.4	0	<0.4
4,6-Dinitro-2-methylphenol	mg/kg	-	-		<5	<5	0		<5	-	-		<5	-	-		<5	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<5	<5	0	<5
4-chloro-3-methylphenol	mg/kg	-	-		<1	<1	0		<1	-	-		<1	<0.5	0		<1	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<1	<1	0	<1
4-nitrophenol	mg/kg	-	-		<5	<5	0		<5	-	-		<5	-	-		<5	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<5	<5	0	<5
Cresol Total	mg/kg	-	-		<0.5	<0.5	0		<0.5	-	-		<0.5	-	-		<0.5	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.5	<0.5	0	<0.5
Pentachlorophenol	mg/kg	-	-		<1	<1	0		<1	-	-		<1	<2	0		<1	-	-		-	-	-		<2	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<1	<1	0	<1
Phenol	mg/kg	-	-		<0.5	<0.5	0		<0.5	-	-		<0.5	<0.5	0		<0.5	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<0.5	<0.5	0	<0.5
Phenolics Total	mg/kg	-	-		-	-	-		-	-	-		-	<0.5	-		-	-	-		-	-	-		<0.5	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-	-	-	-
tetrachlorophenols	mg/kg	-	-		<10	<10	0		<10	-	-		<10	-	-		<10	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	<10	<10	0	<10
SVOCs																																																	
2-(acetylamino) fluorene	mg/kg	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-	-	-	-
Benzo(c)pyrene	mg/kg	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-	-	-	-
Coronene	mg/kg	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-	-	-	-		-	-	-		-	-	-		-	-	-		-

Table B1
Total Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

				92				1			1			1			3			39			45			1			1			113			1			92			39			36	
		06 Dec 2024			06 Dec 2024			06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		09 Dec 2024	09 Dec 2024		09 Dec 2024	09 Dec 2024		09 Dec 2024	
		QC148			K11 2.0			K11 2.0	QC147		K11 2.0	QC148		L08 1.0	QC151		L08 1.0	QC150		L08 1.0	QC151		L08 1.0	QC150		L08 1.0	QC151		111 1.5	QC143		111 1.5	QC143		111 1.5	QC144		E12 1.0	QC155		E12 1.0	QC156		E14 1.5	
		Interlab_D			Normal			Normal	Field_D		Normal	Interlab_D		Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D		Normal	Field_D		Normal	Field_D		Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D		Normal	
		EM2422180			1169377			1169377	1169377		1169377	EM2422180		1169377	EM2421846		1169377	1169377		1169377	EM2421846		1169377	1169377		1169377	EM2421846		1169377	1169377		1169377	1169377		1169377	EM2421846		1171413	1171413		1171413	EM2422260		1171413	
	Unit	Soil		RPD	Soil		RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	
Metals																																													
Chromium (hexavalent)	mg/kg	<0.5	0		<1	-	-	-	<1	-	-	<0.5	-	-	-	-	<1	-	-	<1	-	-	-	-	-	<1	<1	0	<1	-	-	<1	<0.5	0	-	-	-	-	-	-	-	-	-	<1
Lead	mg/kg	242	18		290	-	-	-	180	-	-	242	-	-	-	-	15	17	12	15	16	6	-	17	-	-	16	-	31	72	79	31	-	-	31	57	59	74	81	9	74	68	8	75	
Manganese	mg/kg	443	68		900	-	-	-	220	-	-	443	-	-	-	-	17	-	-	17	-	-	-	-	-	-	-	190	140	30	190	-	-	190	89	72	-	-	-	-	-	-	240	
Mercury	mg/kg	1.8	113		0.5	-	-	-	0.2	-	-	1.8	-	-	<0.1	<0.1	0	-	-	-	-	-	-	-	-	-	<0.1	0.2	67	<0.1	-	-	<0.1	<0.1	0	-	-	-	-	-	-	0.2	
Molybdenum	mg/kg	<2	0		<5	-	-	-	<5	-	-	<2	-	-	<5	<5	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	-	-	<5	<2	0	-	-	-	-	-	-	-	
Nickel	mg/kg	33	3		34	-	-	-	13	-	-	33	-	-	<5	<5	4	0	-	4	4	0	-	-	-	-	13	9.2	34	13	-	-	13	10	26	-	-	-	-	-	-	28	
Silver	mg/kg	<2	0		<2	-	-	-	<2	-	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	-	-	<2	<2	0	<2	-	-	<2	<2	0	-	-	-	-	-	-	-	
Arsenic	mg/kg	36	103		110	-	-	-	36	-	-	36	-	-	2.1	<2	5	2.1	<5	0	-	<2	-	-	<5	<2	<2	7.7	118	<2	-	-	<2	<5	0	8.3	11	28	8.3	<5	50	4.8	
Tin	mg/kg	7	73		15	-	-	-	<10	-	-	7	-	-	<10	-	-	<10	-	-	-	-	-	-	-	-	<10	<10	0	<10	-	-	<10	11	10	-	-	-	-	-	-	28	
Barium	mg/kg	130	32		94	-	-	-	110	-	-	130	-	-	12	-	-	12	-	-	-	-	-	-	-	-	430	250	53	430	-	-	430	170	87	-	-	-	-	-	-	69	
Beryllium	mg/kg	<1	0		<2	-	-	-	<2	-	-	<1	-	-	<2	<2	-	<1	<2	0	-	-	-	-	-	-	<2	<2	0	<2	-	-	<2	<1	0	-	-	-	-	-	-	<2	
Cadmium	mg/kg	<1	0		<0.4	-	-	-	<0.4	-	-	<1	-	-	<0.4	<1	0	-	-	-	-	-	-	-	-	-	<0.4	<0.4	0	<0.4	-	-	<0.4	<1	0	-	-	-	-	-	-	0.7	
Chromium (III+VI)	mg/kg	115	78		330	-	-	-	18	-	-	115	-	-	<5	<2	0	<5	<2	0	-	-	-	-	-	-	20	20	0	20	-	-	20	10	67	-	-	-	-	-	-	15	
Cobalt	mg/kg	17	6		18	-	-	-	14	-	-	17	-	-	<5	-	-	<5	-	-	-	-	-	-	-	-	15	11	31	15	-	-	15	13	14	-	-	-	-	-	-	8.9	
Copper	mg/kg	73	12		82	-	-	-	100	-	-	73	-	-	15	-	0	15	15	0	-	-	-	-	15	-	23	14	49	23	-	-	23	18	24	-	-	-	-	-	-	100	
Selenium	mg/kg	<5	0		<2	-	-	-	<2	-	-	<5	-	-	<2	-	-	-	-	-	-	-	-	-	-	-	<2	<2	0	<2	-	-	<2	<5	0	-	-	-	-	-	-	<2	
Zinc	mg/kg	80	40		120	-	-	-	62	-	-	80	-	-	8.1	-	-	8.1	12	39	-	-	-	-	12	-	25	25	0	25	-	-	25	18	33	-	-	-	-	-	-	200	
Inorganics																																												
Moisture Content (dried @ 103°C)	%	-	-		23	-	-	-	-	-	-	-	-	-	15	16	6	15	-	-	-	16	-	-	-	-	16	18	12	16	-	-	16	-	-	12	9.0	29	12	-	-	11	
Cyanide Total	mg/kg	4,820	116		20	-	-	-	<5	-	-	4,820	-	-	<5	-	-	<5	-	-	-	-	-	-	-	-	<5	<5	0	<5	-	-	<5	<1	0	-	-	-	-	-	-	<5	
Fluoride	mg/kg	<40	0		<100	-	-	-	<100	-	-	<40	-	-	<100	-	-	<100	-	-	-	-	-	-	-	-	<100	<100	0	<100	-	-	<100	<40	0	-	-	-	-	-	-	290	
TPH																																												
C6 - C9	mg/kg	<10	0		<20	-	-	-	<20	-	-	<10	-	-	<20	<20	0	<20	27	30	-	<30	-	-	27	-	<20	<20	0	<20	-	-	<20	<10	0	<20	<20	0	<20	<10	0	<20	
C10 - C14	mg/kg	190	162		<20	-	-	-	<20	-	-	190	-	-	160	150	6	160	310	64	-	150	-	-	310	-	<20	<20	0	<20	-	-	<20	<50	0	<20	<20	0	<20	<50	0	<20	
C15 - C28	mg/kg	820	56		460	-	-	-	430	-	-	820	-	-	910	1,400	42	910	1,850	68	-	1,400	-	-	1,850	-	<50	260	135	<50	-	-	<50	<100	0	130	120	8	130	210	47	860	
C29-C36	mg/kg	370	24		290	-	-	-	210	-	-	370	-	-	240	380	45	240	460	63	-	380	-	-	460	-	<50	65	26	<50	-	-	<50	<100	0	150	140	7	150	210	33	1,100	
C10 - C36 (Sum of total)	mg/kg	1,380	73		750	-	-	-	640	-	-	1,380	-	-	1,310	1,930	38	1,310	2,620	67	-	1,930	-	-	2,620	-	<50	325	147	<50	-	-	<50	<100	0	280	260	7	280	420	40	1,960	
>C16-C34	mg/kg	1,020	44		650	-	-	-	580	-	-	1,020	-	-	1,200	1,600	29	1,200	1,910	46	-	1,600	-	-	1,910	-	<100	420	123	<100	-	-	<100	<100	0	240	230	4	240	370	43	1,600	
C6-C10	mg/kg	<10	0		<20	-	-	-	<20	-	-	<10	-	-	29	30	3	29	34	16	-	30	-	-	34	-	<20	<20	0	<20	-	-	<20	<10	0	<20	<20	0	<20	<10	0	<20	
>C34-C40	mg/kg	170	16		200	-	-	-	<100	-	-	170	-	-	110	120	9	110	170	43	-	120	-	-	170	-	<100	<100	0	<100	-	-	<100	<100	0	<100	<100	0	<100	110	10	990	
>C10 - C40 (Sum of total)	mg/kg	1,410	44		900	-	-	-	580	-	-	1,410	-	-	1,610	2,040	24	1,610	2,670	50	-	2,040	-	-	2,670	-	<100	420	123	<100	-	-	<100	<50	0	240	230	4	240	480	67	2,663	
>C10-C16	mg/kg	220	126		50	-	-	-	<50	-	-	220	-	-	300	320	6	300	590	65	-	320	-	-	590	-	<50	<50	0	<50	-	-	<50	<50	0	<50	<50	0	<50	<50	0	73	
>C10-C16 minus Naphthalene (F2)	mg/kg	210	123		<50	-	-	-	<50	-	-	210	-	-	300	320	6	300	590	65	-	320	-	-	590	-	<50	<50	0	<50	-	-	<50	<50	0	<50	<50	0	<50	<50	0	73	
C6-C10 less BTEX (F1)	mg/kg	<10	0		<20	-	-	-	<20	-	-	<10	-	-	29	30	3	29	34	16	-	30	-	-	34	-	<20	<20	0	<20	-	-	<20	<10	0	<20	<20	0	<20	<10	0	<20	
Naphthalene																																												
Naphthalene (VOC)	mg/kg	6	96		2.1	-	-	-	3.1	-	-	6	-	-	<0.5	<0.5	0	<0.5	<1	0	-	<0.5	-	-	<1	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<1	0	<0.5	<0.5	0	<0.5	<1	0	<0.5	
Polynuclear Aromatic Hydrocarbons																																												
Benzo(a)pyrene TEQ calc (Half)	mg/kg	21.5	29		16	-	-	-	11	-	-	21.5	-	-	0.9	-	-	0.9	1.54	52	-	-	-	-	1.54	-	0.6	3.1	135	0.6	-	-	0.6	0.6	0	-	-	-	0.44	-	0.6	
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	21.5	29		16	-	-	-	11	-	-	21.5	-	-	<0.5	-	-	<0.5	1.26	86	-	-	-	-	1.26	-	<0.5	2.8	139	<0.5	-	-	<0.5	<0.5	0	-	-	-	0.08	-	<0.5	
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	21.5	29		16	-	-	-	11	-	-	21.5	-	-	1.4	-	-	1.4	1.82	26	-	-	-	-	1.82	-	1.2	3.3	93	1.2	-	-	1.2	1.2	0	-	-	-	0.79	-	1.2	
BTEX																																												
Benzene	mg/kg	<0.2	0		<0.1	-	-	-	<0.1	-	-	<0.2	-	-	0.4	0.3	29	0.4	0.3	29	-	0.3	-	-	0.3	-	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.2	0	<0.1	<0.1	0	<0.1	<0.2	0	<0.1	
Ethylbenzene	mg/kg	<0.5	0		<0.1	-	-	-	<0.1	-	-	<0.5	-	-	<0.1	<0.1	0	<0.1	<0.5	0	-	<0.1	-	-	<0.5	-	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	
Toluene	mg/kg	<0.5	0		<0.1	-	-	-	<0.1	-	-	<0.5	-	-	<0.1	0.1	0	<0.1	<0.5	0	-	0.1	-	-	<0.5	-	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	
Total BTEX	mg/kg	<0.2	-		-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	0.3	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	<0.2	-	-	
Xylene (m & p)	mg/kg	<0.5	0		<0.2	-	-	-	<0.2	-	-	<0.5	-	-	<0.2	<0.2	0	<0.2	<0.5	0	-	<0.2	-	-	<0.5	-	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.5	0	<0.2	<0.2	0	<0.2	<0.5	0	<0.2	
Xylene (o)	mg/kg	<0.5	0		<0.1	-	-	-	<0.1	-	-	<0.5	-	-	<0.1	<0.1	0	<0.1	<0.5	0	-	<0.1	-	-	<0.5	-	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	
Xylene Total	mg/kg	<0.5	0		<0.3	-	-	-	<0.5	-	-	<0.5	-	-	<0.3	<0.3	0	<0.3	<0.5	0	-	<0.3	-	-	<0.5	-	<0.3	<0.3	0	<0.3	-	-	<0.3	<0.5	0	<0.3	<0.3	0	<0.3	<0.5	0	<0.3	
PAH																																												
2-methylnaphthalene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3-methylcholanthrene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7,12-dimethylbenz(a)anthracene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene	mg/kg	6.4	83		3.7	-	-	-	2.4	-	-	6.4	-	-	<0.5	0.073	0	<0.5	<0.5	0	-	0.073	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Acenaphthylene	mg/kg	2.7	70		1.3	-	-	-	1.2	-	-	2.7	-	-	<0.5	0.021	0	<0.5	<0.5	0	-	0.021	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Anthracene	mg/kg	8.7	83		3.6	-	-	-	4.4	-	-	8.7	-	-	0.8	0.35	78	0.8	<0.5	46	-	0.35	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Benz(a)anthracene	mg/kg	17.3	82		10	-	-	-	5.4	-	-	17.3	-	-	1.5	0.83	58	1.5	2.0	29	-	0.83	-	-	2.0	-	<0.5	1.7	109	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Benzo(a) pyrene	mg/kg	13.7	47	22	8.3	14.1	52	11	7.2	42	11	13.7	22	11	14.1	25	0.39	0.34	14	0.39	0.76	64	<0.5	0.34	0	<0.5	0.76	41	<0.005	1.8	120	2.2	199	<0.005	0.14	186	<0.005	<0.005	0	<0.005	0.08	176	<0.005	
Benzo(b,j,h,i)perylene	mg/kg	9.7	54		5.6	-	-	-	3.5	-	-	9.7	-	-	<0.5	0.23	0	<0.5	<0.5	0	-	0.23	-	-	<0.5	-	<0.5	0.7	33	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Benzo(k)fluoranthene	mg/kg	6.3	62		3.6	-	-	-	5.5	-	-	6.3	-	-	0.80	1.3	48	0.80	1.3	48	-	0.80	-	-	-	-	<0.5	1.6	105	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Benzo[b+j]fluoranthene	mg/kg	18.7	84		7.6	-	-	-	4.7	-	-	18.7	-	-	0.78	0.78	11	0.7	-	-	-	0.78	-	-	-	-	<0.5	1.6	105	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	-	-	<0.5	
Chrysene	mg/kg	15.9	96		11	-	-	-	6.2	-	-	15.9	-	-	1.9	1.5	24	1.9	1.5	24	-	1.5	-	-	1.5	-	<0.5	1.6	105	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	0.6	
Dibenz(a,h)anthracene	mg/kg	2.1	21		1.7	-	-	-	1.4	-	-	2.1	-	-	<0.5	0.083	0	<0.5	<0.5	0	-	0.083	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Fluoranthene	mg/kg	35.3	34		25	-	-	-	10	-	-	35.3	-	-	3.6	1.7	70	3.6	3.6	0	-	1.7	-	-	3.6	-	<0.5	4.8	162	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	0.8	
Fluorene	mg/kg	13.9	86		6.6	-	-	-	6.1	-	-	13.9	-	-	<0.5	0.14	0	<0.5	<0.5	0	-	0.14	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Indeno(1,2,3-c,d)pyrene	mg/kg	8.2	67		4.1	-	-	-	5.3	-	-	8.2	-	-	<0.5	0.12	0	<0.5	<0.5	0	-	0.12	-	-	<0.5	-	<0.5	0.9	57	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Naphthalene	mg/kg	7.3	4		7.0	-	-	-	6.2	-	-	7.3	-	-	<0.5	0.28	0	<0.5	<0.5	0	-	0.28	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
PAHs (Sum of total)	mg/kg	215	42		140	-	-	-	91	-	-	215	-	-	14	9.537	44	14	15.5	10	-	9.537	-	-	15.5	-	<0.5	20	143	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	0.08	176	2.2	
Phenanthrene	mg/kg	15.9	61		8.5	-	-	-	11	-	-	15.9	-	-	1.2	0.59	66	1.2	1.1	9	-	0.59	-	-	1.1	-	<0.5	1.7	109	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	<0.5	
Pyrene	mg/kg	32.3	25		25	-	-	-	10	-	-	32.3	-	-	3.3	1.7	64	3.3	3.6	9	-	1.7	-	-	3.6	-	<0.5	3.5	150	<0.5	-	-	<0.5	<0.5	0	<0.005	<0.005	0	<0.005	<0.5	0	0.8	
Phenols																																												
2,4,5-trichlorophenol	mg/kg	<0.5	0		<1	-	-	-	<1	-	-	<0.5	-	-	<1	<1	0	<1	<1	0	-	<1	-	-	<1	-	<1	<1	0	<1	-	-	<1	<0.5	0	-	-	-	-	-	-	<1	
2,4,6-trichlorophenol	mg/kg	<0.5	0		<1	-	-	-	<1	-	-	<0.5	-	-	<1	<1	0	<1	<1	0	-	<1	-	-	<1	-	<1	<1	0	<1	-	-	<1	<0.5	0	-	-	-	-	-	-	<1	
2,4-dichlorophenol	mg/kg	<0.5	0		<0.5	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	-	<0.5	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	-	-	-	-	-	-	<0.5	
2,4-dimethylphenol	mg/kg	<0.5	0		<0.5	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	-	<0.5	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	-	-	-	-	-	-	<0.5	
2,4-dinitrophenol	mg/kg	-	-		<5	-	-	-	<5	-	-	<5	-	-	<5	<5	0	<5	<5	0	-	<5	-	-	<5	-	<5	<5	0	<5	-	-	<5	-	-	-	-	-	-	-	-	<5	
2-chlorophenol	mg/kg	<0.5	0		<0.5	-	-	-	<0.5	-	-	<0.5	-	-	<0.2	<0.2	0	<0.2	<0.5	0	-	<0.2	-	-	<0.5	-	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.5	0	-	-	-	-	-	-	<0.2	
2-methylphenol	mg/kg	<0.5	0		<0.2	-	-	-	<0.2	-	-	<0.5	-	-	<0.2	<0.2	0	<0.2	<0.5	0	-	<0.2	-	-	<0.5	-	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.5	0	-	-	-	-	-	-	<0.2	
2-nitrophenol	mg/kg	<0.5	0		<1	-	-	-	<1	-	-	<0.5	-	-	<1	<1	0	<1	<1	0	-	<1	-	-	<1	-	<1	<1	0	<1	-	-	<1	<0.5	0	-	-	-	-	-	-	<1	
3,4,5-trimethylphenol	mg/kg	-	-		<0.4	-	-	-	<0.4	-	-	-	-	-	<0.4	<0.4	0	<0.4	<0.4	0	-	<0.4	-	-	<0.4	-	<0.4	<0.4	0	<0.4	-	-	<0.4	-	-	-	-	-	-	-	-	<0.4	
4,6-Dinitro-2-methylphenol	mg/kg	-	-		<5	-	-	-	<5	-	-	-	-	-	<5	<5	0	<5	<5	0	-	<5	-	-	<5	-	<5	<5	0	<5	-	-	<5	-	-	-	-	-	-	-	-	<5	
4-chloro-3-methylphenol	mg/kg	<0.5	0		<1	-	-	-	<1	-	-	<0.5	-	-	<1	<1	0	<1	<1	0	-	<1	-	-	<1	-	<1	<1	0	<1	-	-	<1	<0.5	0	-	-	-	-	-	-	<1	
4-nitrophenol	mg/kg	-	-		<5	-	-	-	<5	-	-	-	-	-	<5	<5	0	<5	<5	0	-	<5	-	-	<5	-	<5	<5	0	<5	-	-	<5	-	-	-	-	-	-	-	-	<5	
Cresol Total	mg/kg	-	-		<0.5	-	-	-	<0.5	-	-	-	-	-	<0.5	<0.5	0	<0.5	<0.5	0	-	<0.5	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	<0.5	
Pentachlorophenol	mg/kg	<2	0		<1	-	-	-	<1	-	-	<2	-	-	<1	<1	0	<1	<1	0	-	<1	-	-	<1	-	<1	<1	0	<1	-	-	<1	<2	0	-	-	-	-	-	-	<1	
Phenol	mg/kg	<0.5	0		<0.5	-	-	-	<0.5	-	-	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	-	<0.5	-	-	<0.5	-	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	-	-	-	-	-	-	<0.5	
Phenolics Total	mg/kg	<0.5	-		-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	
tetrachlorophenols	mg/kg	-	-		<10	-	-	-	<10	-	-	-	-	-	<10	<10	0	<10	<10	0	-	<10	-	-	<10	-	<10	<10	0	<10	-	-	<10	-	-	-	-	-	-	-	-	<10	
SVOCs																																												
2-(acetylamino) fluorene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(e)pyrene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Coronene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Perylene	mg/kg	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Halogenated Benzenes																																												
Hexachlorobenzene	mg/kg	<0.05	0		<0.05	-	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	0	<0.05	-	-	<0.05	<0.05	0	-	-	-	-	-	-	<0.05	
Herbicides																																												
Dinoseb	mg/kg	-	-		<20	-	-	-	<20	-	-	-	-	-	<20	-	-	<20	-	-	-	-	-	-	-	-	-	<20	<20	0	<20	-	-	<20	-	-	-	-	-	-	-	-	<20	
Organochlorine Pesticides																																												
4,4-DDE	mg/kg	<0.05	0		<0.05	-	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	0	<0.05	-	-	<0.05	<0.05	0	-	-	-	-	-	-	<0.05	
a-BHC	mg/kg	<0.05	0		<0.05	-	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	0	<0.05	-	-	<0.05	<0.05	0	-	-	-	-	-	-	<0.05	
Aldrin	mg/kg	<0.05	0		<0.05	-	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	0	<0.05	-	-	<0.05	<0.05	0	-	-	-	-	-	-	<0.05	
Aldrin + Dieldrin	mg/kg	<0.05	0		<0.05	-	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	<0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	0	<0.05	-	-

Table B1
Total Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

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Table B1
Total Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

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Table B1
Total Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

| | | |

				3			39			38
		11 Dec 2024		11 Dec 2024	11 Dec 2024		11 Dec 2024	11 Dec 2024		
		OC196		K06 0.5	OC188		K06 0.5	OC189		
		Interlab D		Normal	Field D		Normal	Interlab D		
		EM2422322		1171417	1171417		1171417	EM2422322		
		Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	
	Unit									
Metals										
Chromium (hexavalent)	mg/kg	<0.5	-	-	-	-	-	-	-	
Lead	mg/kg	42	-	610	300	68	610	366	50	
Manganese	mg/kg	240	-	-	-	-	-	-	-	
Mercury	mg/kg	<0.1	-	-	-	-	-	-	-	
Molybdenum	mg/kg	<2	-	-	-	-	-	-	-	
Nickel	mg/kg	12	-	-	-	-	-	-	-	
Silver	mg/kg	<2	-	-	-	-	-	-	-	
Arsenic	mg/kg	<5	-	8.4	5.4	43	8.4	6	33	
Tin	mg/kg	<5	-	-	-	-	-	-	-	
Barium	mg/kg	40	-	-	-	-	-	-	-	
Beryllium	mg/kg	<1	-	-	-	-	-	-	-	
Cadmium	mg/kg	<1	-	-	-	-	-	-	-	
Chromium (III+VI)	mg/kg	12	-	-	-	-	-	-	-	
Cobalt	mg/kg	8	-	-	-	-	-	-	-	
Copper	mg/kg	42	-	-	-	-	-	-	-	
Selenium	mg/kg	<5	-	-	-	-	-	-	-	
Zinc	mg/kg	210	-	-	-	-	-	-	-	
Inorganics										
Moisture Content (dried @ 103°C)	%	-	-	22	20	10	22	-	-	
Cyanide Total	mg/kg	1	-	-	-	-	-	-	-	
Fluoride	mg/kg	<40	-	-	-	-	-	-	-	
TPH										
C6 - C9	mg/kg	<10	-	<20	<20	0	<20	<10	0	
C10 - C14	mg/kg	<50	-	<20	<20	0	<20	<50	0	
C15 - C28	mg/kg	320	-	63	<50	23	63	130	69	
C29-C36	mg/kg	180	-	53	<50	6	53	110	70	
C10 - C36 (Sum of total)	mg/kg	500	-	116	<50	80	116	240	70	
>C16-C34	mg/kg	440	-	100	<100	0	100	200	67	
C6-C10	mg/kg	<10	-	<20	<20	0	<20	<10	0	
>C34-C40	mg/kg	<100	-	<100	<100	0	<100	<100	0	
>C10 - C40 (Sum of total)	mg/kg	440	-	100	<100	0	100	200	67	
>C10-C16	mg/kg	<50	-	<50	<50	0	<50	<50	0	
>C10-C16 minus Naphthalene (F2)	mg/kg	<50	-	<50	<50	0	<50	<50	0	
C6-C10 less BTEX (F1)	mg/kg	<10	-	<20	<20	0	<20	<10	0	
Naphthalene										
Naphthalene (VOC)	mg/kg	<1	-	<0.5	<0.5	0	<0.5	<1	0	
Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene TEQ calc (Half)	mg/kg	2.3	-	-	-	-	-	1.40	-	
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	2.1	-	-	-	-	-	1.15	-	
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	2.6	-	-	-	-	-	1.65	-	
BTEX										
Benzene	mg/kg	<0.2	-	<0.1	<0.1	0	<0.1	<0.2	0	
Ethylbenzene	mg/kg	<0.5	-	<0.1	<0.1	0	<0.1	<0.5	0	
Toluene	mg/kg	<0.5	-	<0.1	<0.1	0	<0.1	<0.5	0	
Total BTEX	mg/kg	<0.2	-	-	-	-	-	<0.2	-	
Xylene (m & p)	mg/kg	<0.5	-	<0.2	<0.2	0	<0.2	<0.5	0	
Xylene (o)	mg/kg	<0.5	-	<0.1	<0.1	0	<0.1	<0.5	0	
Xylene Total	mg/kg	<0.5	-	<0.3	<0.3	0	<0.3	<0.5	0	
PAH										
2-methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	
3-methylcholanthrene	mg/kg	-	-	-	-	-	-	-	-	
7,12-dimethylbenz(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	
Acenaphthene	mg/kg	<0.5	-	<0.005	<0.005	0	<0.005	<0.5	0	
Acenaphthylene	mg/kg	<0.5	-	0.063	0.024	90	0.063	<0.5	0	
Anthracene	mg/kg	<0.5	-	0.075	0.11	38	0.075	<0.5	0	
Benz(a)anthracene	mg/kg	1.7	-	0.32	0.37	14	0.32	0.7	75	
Benzo(a) pyrene	mg/kg	1.29	8	0.44	0.54	20	0.44	0.88	67	
Benzo(g,h,i)perylene	mg/kg	1.0	-	0.38	0.33	14	0.38	0.7	69	
Benzo(k)fluoranthene	mg/kg	1.3	-	0.27	0.53	65	0.27	-	-	
Benzo(b+j)fluoranthene	mg/kg	2.5	-	0.26	0.41	45	0.26	-	-	
Chrysene	mg/kg	1.6	-	0.40	0.61	42	0.40	0.5	22	
Dibenz(a,h)anthracene	mg/kg	<0.5	-	0.097	0.077	23	0.097	<0.5	0	
Fluoranthene	mg/kg	3.1	-	0.46	0.56	20	0.46	1.2	89	
Fluorene	mg/kg	<0.5	-	0.019	0.018	5	0.019	<0.5	0	
Indeno(1,2,3-c,d)pyrene	mg/kg	0.9	-	0.33	0.25	28	0.33	0.5	41	
Naphthalene	mg/kg	<0.5	-	0.025	0.035	33	0.025	<0.5	0	
PAHs (Sum of total)	mg/kg	17.6	-	3.869	4.864	23	3.869	7.08	58	
Phenanthrene	mg/kg	1.1	-	0.19	0.28	38	0.19	<0.5	0	
Pyrene	mg/kg	3.0	-	0.54	0.72	29	0.54	1.2	75	
Phenols										
2,4,5-trichlorophenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2,4,6-trichlorophenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2,4-dichlorophenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2,4-dimethylphenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2,4-dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	
2,6-dichlorophenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2-chlorophenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2-methylphenol	mg/kg	<0.5	-	-	-	-	-	-	-	
2-nitrophenol	mg/kg	<0.5	-	-	-	-	-	-	-	
3-&4-methylphenol	mg/kg	-	-	-	-	-	-	-	-	
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	-	-	-	-	
4-chloro-3-methylphenol	mg/kg	<0.5	-	-	-	-	-	-	-	
4-nitrophenol	mg/kg	-	-	-	-	-	-	-	-	
Cresol Total	mg/kg	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	<2	-	-	-	-	-	-	-	
Phenol	mg/kg	<0.5	-	-	-	-	-	-	-	
Phenolics Total	mg/kg	<0.5	-	-	-	-	-	-	-	
tetrachlorophenols	mg/kg	-	-	-	-	-	-	-	-	
SVOCs										
2-(acetylamino) fluorene	mg/kg	-	-	-	-	-	-	-	-	
Benzo(e)pyrene	mg/kg	-	-	-	-	-	-	-	-	
Coronene	mg/kg	-	-	-	-	-	-	-	-	
Perylene	mg/kg	-	-	-	-	-	-	-	-	
Halogenated Benzenes										
Hexachlorobenzene	mg/kg	<0.05	-	-	-	-	-	-	-	
Herbicides										
Dinoseb	mg/kg	-	-	-	-	-	-	-	-	
Organochlorine Pesticides										
4,4-DDE	mg/kg	<0.05	-	-	-	-	-	-	-	
a-BHC	mg/kg	<0.05	-	-	-	-	-	-	-	
Aldrin	mg/kg	<0.05	-	-	-	-	-	-	-	
Aldrin + Dieldrin	mg/kg	<0.05	-	-	-	-	-	-	-	
b-BHC	mg/kg	<0.05	-	-	-	-	-	-	-	
chlordane	mg/kg	<0.05	-	-	-	-	-	-	-	
Chlordane (cis)	mg/kg	<0.05	-	-	-	-	-	-	-	
Chlordane (trans)	mg/kg	<0.05	-	-	-	-	-	-	-	
d-BHC	mg/kg	<0.05	-	-	-	-	-	-	-	
DDD	mg/kg	<0.05	-	-	-	-	-	-	-	
DDT	mg/kg	<0.2	-	-	-	-	-	-	-	
DDT+DDE+DDD	mg/kg	<0.05	-	-	-	-	-	-	-	
Dieldrin	mg/kg	<0.05	-	-	-	-	-	-	-	
Endosulfan	mg/kg	<0.05	-	-	-	-	-	-	-	
Endosulfan I	mg/kg	<0.05	-	-	-	-	-	-	-	
Endosulfan II	mg/kg	<0.05	-	-	-	-	-	-	-	
Endosulfan sulphate	mg/kg	<0.05	-	-	-	-	-	-	-	
Endrin	mg/kg	<0.05	-	-	-	-	-	-	-	
Endrin aldehyde	mg/kg	<0.05	-	-	-	-	-	-	-	
Endrin ketone	mg/kg	<0.05	-	-	-	-	-	-	-	
g-BHC (Lindane)	mg/kg	<0.05	-	-	-	-	-	-	-	
Heptachlor	mg/kg	<0.05	-	-	-	-	-	-	-	
Heptachlor epoxide	mg/kg	<0.05	-	-	-	-	-	-	-	
Methoxychlor	mg/kg	<0.2	-	-	-	-	-	-	-	
Toxaphene	mg/kg	-	-	-	-	-	-	-	-	
Phenolics										
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	-	-	-	-	-	-	-	-	
Phenols (Total Halogenated)	mg/kg	-	-	-	-	-	-	-	-	
Phenols (Total Non Halogenated)	mg/kg	-	-	-	-	-	-	-	-	
Polychlorinated Biphenyls										
Arochlor 1016	mg/kg	-	-	-	-	-	-	-	-	
Arochlor 1221	mg/kg	-	-	-	-	-	-	-	-	
Arochlor 1232	mg/kg	-	-	-	-	-	-	-	-	
Arochlor 1242	mg/kg	-	-	-	-	-	-	-	-	
Arochlor 1248	mg/kg	-	-	-	-	-	-	-	-	
Arochlor 1254	mg/kg	-	-	-	-	-	-	-	-	
Arochlor 1260	mg/kg	-	-	-	-	-	-	-	-	
PCBs (Sum of total)	mg/kg	<0.1	-	-	-	-	-	-	-	
Organochlorine Pesticides (OC)										
Organochlorine pesticides (sum)	mg/kg	-	-	-	-	-	-	-	-	
Other organochlorine pesticides (sum)	mg/kg	-	-	-	-	-	-	-	-	

*RPDs have only been considered where a concentrati
**Elevated RPDs are highlighted as per QAQC Profile
***Interlab Duplicates are matched on a per compound

Table B2
Leachate Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

					21			20			21			20	
		Date	25 Nov 2024	25 Nov 2024		25 Nov 2024	25 Nov 2024		27 Nov 2024	27 Nov 2024		27 Nov 2024	27 Nov 2024		03 Dec 2024
		Field ID	J14_0.5	QC104		J14_0.5	QC103		L16_0.5	QC115		L16_0.5	QC116		N16_1.5
		Sample Type	Normal	Field_D		Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D		Normal
		Lab Report Number	1170315	1170315		1170315	EM2421847		1170851	1170851		1170851	EM2422063		1172378
		Matrix Type	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil
	Unit	EQL													
Inorganics															
pH (after HCL)	pH_Units	0.1	1.4	1.5	7	1.4	1.3	7	1.6	1.6	0	1.6	1.2	29	1.4
pH (Final)	pH Unit	0.1	5.8	6.0	3	5.8	5.3	9	6.3	6.4	2	6.3	5.9	7	5.4
pH (Initial)	pH_Units	0.1	6.8	6.8	0	6.8	8.7	25	6.2	6.3	2	6.2	8.9	36	8.2
pH of Leaching Fluid	PH UNITS		4.9	4.9	0	4.9	-	-	4.9	4.9	0	4.9	-	-	5.0
PAH															
2-methylnaphthalene	µg/L	0.1	-	-	-	-	<0.10	-	-	-	-	-	<0.10	-	-
Acenaphthene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	0.10
Acenaphthylene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Anthracene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	0.10
Benz(a)anthracene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.10	164	<0.01	<0.01	0	<0.01	<0.10	0	0.10
Benzo(a) pyrene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.122	170	<0.01	<0.01	0	<0.01	<0.050	0	<0.01
Benzo(g,h,i)perylene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.10	164	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Benzo(k)fluoranthene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Benzo[b+j]fluoranthene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.12	169	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Chrysene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	0.10
Dibenz(a,h)anthracene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Fluoranthene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.16	176	<0.01	<0.01	0	<0.01	<0.10	0	0.30
Fluorene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Indeno(1,2,3-c,d)pyrene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01
Naphthalene	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.15	0	<0.01
PAHs (Sum of total)	µg/L	0.01	<0.01	<0.01	0	<0.01	0.92	196	<0.01	<0.01	0	<0.01	<0.10	0	1.3
Phenanthrene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.16	176	<0.01	<0.01	0	<0.01	<0.10	0	0.30
Pyrene	µg/L	0.01	<0.01	<0.01	0	<0.01	0.16	176	<0.01	<0.01	0	<0.01	<0.10	0	0.30

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table B2
Leachate Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

			21			21			20			21			20
		03 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024		06 Dec 2024	06 Dec 2024	
		QC127		I10_1.0	QC149		I10_1.0	QC152		K11_2.0	QC147		K11_2.0	QC148	
		Field_D		Normal	Field_D		Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D	
		1172378		1173784	1173784		1173784	EM2422444		1173784	1173784		1173784	EM2422713	
		Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD
	Unit														
Inorganics															
pH (after HCL)	pH_Units	1.4	0	1.3	1.2	8	1.3	1.4	7	1.5	1.4	7	1.5	1.3	14
pH (Final)	pH Unit	5.4	0	7.5	8.2	9	7.5	5.3	34	5.0	5.0	0	5.0	5.1	2
pH (Initial)	pH_Units	8.2	0	5.2	5.7	9	5.2	7.4	35	6.7	6.8	1	6.7	5.9	13
pH of Leaching Fluid	PH UNITS	5.0	0	5.0	5.0	0	5.0	-	-	5.0	5.0	0	5.0	-	-
PAH															
2-methylnaphthalene	µg/L	-	-	-	-	-	-	0.19	-	-	-	-	-	4.96	-
Acenaphthene	µg/L	<0.01	164	<0.01	<0.01	0	<0.01	0.24	184	1.1	1.5	31	1.1	16.8	175
Acenaphthylene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	0.74	195	<0.01	0.20	181	<0.01	6.48	199
Anthracene	µg/L	0.10	0	<0.01	<0.01	0	<0.01	0.30	187	0.40	1.1	93	0.40	10.4	185
Benz(a)anthracene	µg/L	<0.01	164	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	0.28	186
Benzo(a) pyrene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	<0.050	0	<0.01	<0.01	0	<0.01	<0.050	0
Benzo(g,h,i)perylene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0
Benzo(k)fluoranthene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0
Benzo[b+j]fluoranthene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0
Chrysene	µg/L	<0.01	164	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	0.10	164	<0.01	0.24	184
Dibenz(a,h)anthracene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0
Fluoranthene	µg/L	0.30	0	<0.01	<0.01	0	<0.01	0.45	191	0.50	0.70	33	0.50	9.07	179
Fluorene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	0.69	194	1.6	2.0	22	1.6	39.0	184
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0
Naphthalene	µg/L	<0.01	0	<0.01	<0.01	0	<0.01	0.49	192	0.90	3.3	114	0.90	12.0	172
PAHs (Sum of total)	µg/L	1	26	<0.01	<0.01	0	<0.01	5.15	199	5.4	11.7	74	5.4	152	186
Phenanthrene	µg/L	0.30	0	<0.01	<0.01	0	<0.01	1.86	198	0.60	2.2	114	0.60	51.6	195
Pyrene	µg/L	0.30	0	<0.01	<0.01	0	<0.01	0.38	190	0.30	0.60	67	0.30	6.51	182

*RPDs have only been considered where a concentra
**Elevated RPDs are highlighted as per QAQC Profile
***Interlab Duplicates are matched on a per compoun

Table B2
Leachate Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

				21			20			21			20		
		09 Dec 2024	09 Dec 2024		09 Dec 2024	10 Dec 2024		09 Dec 2024	09 Dec 2024		09 Dec 2024	10 Dec 2024		09 Dec 2024	09 Dec 2024
		E13_1.5	QC171		E13_1.5	QC172		G12_1.0	QC163		G12_1.0	QC164		G14_1.5	QC173
		Normal	Field_D		Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D		Normal	Field_D
		1174347	1174347		1174347	EM2422754		1174347	1174347		1174347	EM2422754		1174347	1174347
		Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil
	Unit														
Inorganics															
pH (after HCL)	pH_Units	1.5	1.4	7	1.5	1.2	22	1.6	1.5	6	1.6	1.2	29	1.8	1.5
pH (Final)	pH Unit	6.6	6.6	0	6.6	6.1	8	6.4	7.6	17	6.4	6.0	6	5.8	5.7
pH (Initial)	pH_Units	5.4	5.6	4	5.4	6.4	17	5.8	7.9	31	5.8	6.3	8	8.3	5.5
pH of Leaching Fluid	PH UNITS	5.0	5.0	0	5.0	-	-	5.0	5.0	0	5.0	-	-	5.0	5.0
PAH															
2-methylnaphthalene	µg/L	-	-	-	-	0.69	-	-	-	-	-	<0.10	-	-	-
Acenaphthene	µg/L	0.40	0.10	120	0.40	0.43	7	<0.01	<0.01	0	<0.01	<0.10	0	0.10	<0.01
Acenaphthylene	µg/L	1.4	0.20	150	1.4	0.80	55	0.10	<0.01	164	0.10	<0.10	0	0.10	<0.01
Anthracene	µg/L	0.20	0.20	0	0.20	0.33	49	0.10	<0.01	164	0.10	0.12	18	0.10	<0.01
Benz(a)anthracene	µg/L	0.10	<0.01	164	0.10	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Benzo(a) pyrene	µg/L	<0.01	<0.01	0	<0.01	<0.050	0	<0.01	<0.01	0	<0.01	<0.050	0	<0.01	<0.01
Benzo(g,h,i)perylene	µg/L	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Benzo(k)fluoranthene	µg/L	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Benzo[b+j]fluoranthene	µg/L	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Chrysene	µg/L	0.10	<0.01	164	0.10	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Dibenz(a,h)anthracene	µg/L	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Fluoranthene	µg/L	0.50	0.20	86	0.50	0.31	47	0.10	<0.01	164	0.10	0.21	71	0.20	0.10
Fluorene	µg/L	1.4	0.50	95	1.4	1.05	29	0.10	<0.01	164	0.10	0.19	62	0.10	<0.01
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01	0	<0.01	<0.10	0	<0.01	<0.01
Naphthalene	µg/L	0.60	11	179	0.60	0.58	3	0.10	0.10	0	0.10	<0.10	0	0.50	0.30
PAHs (Sum of total)	µg/L	8	13.1	48	8	5.38	39	1	0.2	133	1	1.12	11	1.7	0.8
Phenanthrene	µg/L	2.7	0.70	118	2.7	1.66	48	0.40	0.10	120	0.40	0.44	10	0.20	0.10
Pyrene	µg/L	0.60	0.20	100	0.60	0.22	93	0.10	<0.01	164	0.10	0.16	46	0.40	0.30

*RPDs have only been considered where a concentra
**Elevated RPDs are highlighted as per QAQC Profile
***Interlab Duplicates are matched on a per compoun

Table B2
Leachate Contamination Concentrations - Relative Percentage Differences
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

		21			20			21			20
			09 Dec 2024	10 Dec 2024		09 Dec 2024	09 Dec 2024		09 Dec 2024	10 Dec 2024	
			G14_1.5	QC174		H16_2.0	QC183		H16_2.0	QC184	
			Normal	Interlab_D		Normal	Field_D		Normal	Interlab_D	
			1174347	EM2422754		1174347	1174347		1174347	EM2422754	
		RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD
	Unit										
Inorganics											
pH (after HCL)	pH_Units	18	1.8	1.2	40	1.5	1.6	6	1.5	1.3	14
pH (Final)	pH Unit	2	5.8	6.1	5	5.2	5.5	6	5.2	5.8	11
pH (Initial)	pH_Units	41	8.3	6.3	27	5.3	5.4	2	5.3	6.0	12
pH of Leaching Fluid	PH UNITS	0	5.0	-	-	5.0	5.0	0	5.0	-	-
PAH											
2-methylnaphthalene	µg/L	-	-	<0.10	-	-	-	-	-	10.3	-
Acenaphthene	µg/L	164	0.10	0.44	126	5.1	5.9	15	5.1	5.18	2
Acenaphthylene	µg/L	164	0.10	<0.10	0	31	39	23	31	25.8	18
Anthracene	µg/L	164	0.10	0.20	67	11	9.3	17	11	12.5	13
Benz(a)anthracene	µg/L	0	<0.01	<0.10	0	3.2	0.80	120	3.2	0.58	139
Benzo(a) pyrene	µg/L	0	<0.01	<0.050	0	3.2	<0.01	199	3.2	0.159	181
Benzo(g,h,i)perylene	µg/L	0	<0.01	<0.10	0	0.90	<0.01	196	0.90	<0.10	160
Benzo(k)fluoranthene	µg/L	0	<0.01	<0.10	0	2.0	<0.01	198	2.0	<0.10	181
Benzo[b+j]fluoranthene	µg/L	0	<0.01	<0.10	0	2.7	<0.01	199	2.7	0.17	176
Chrysene	µg/L	0	<0.01	<0.10	0	2.2	0.60	114	2.2	0.53	122
Dibenz(a,h)anthracene	µg/L	0	<0.01	<0.10	0	0.30	<0.01	187	0.30	<0.10	100
Fluoranthene	µg/L	67	0.20	0.24	18	18	11	48	18	13.7	27
Fluorene	µg/L	164	0.10	0.96	162	21	23	9	21	19.5	7
Indeno(1,2,3-c,d)pyrene	µg/L	0	<0.01	<0.10	0	0.80	<0.01	195	0.80	<0.10	156
Naphthalene	µg/L	50	0.50	0.21	82	24	63	90	24	24.9	4
PAHs (Sum of total)	µg/L	72	1.7	2.75	47	199.4	213.3	7	199.4	176	12
Phenanthrene	µg/L	67	0.20	0.52	89	60	52	14	60	63.2	5
Pyrene	µg/L	29	0.40	0.18	76	14	8.7	47	14	10.0	33

*RPDs have only been considered where a concentra
**Elevated RPDs are highlighted as per QAQC Profile
***Interlab Duplicates are matched on a per compoun

Table B3
Rinsate and Trip Blanks - Solid
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

						TPH			Naphthalene	BTEX					
						C6 - C9	C6-C10	C6-C10 less BTEX (F1)	Naphthalene (VOC)	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						20	20	20	0.5	0.1	0.1	0.1	0.2	0.1	0.3
Field ID	Date	Sample Type	Lab Report Number	Sample Code	Matrix Type										
QC111	27 Nov 2024	Trip_B	1165428	M24-No0080472	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC112	27 Nov 2024	Trip_B	1165428	M24-No0080473	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC113	27 Nov 2024	Trip_B	1165428	M24-No0080474	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC114	27 Nov 2024	Trip_B	1165428	M24-No0080475	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC121	28 Nov 2024	Trip_B	1166213	M24-De0000177	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC122	28 Nov 2024	Trip_B	1166213	M24-De0000178	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC133	04 Dec 2024	Trip_B	1168041	M24-De0012247	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC134	04 Dec 2024	Trip_B	1168041	M24-De0012248	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC135	04 Dec 2024	Trip_B	1168041	M24-De0012249	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC136	04 Dec 2024	Trip_B	1168041	M24-De0012250	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC137	04 Dec 2024	Trip_B	1168041	M24-De0012251	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC153	06 Dec 2024	Trip_B	1169377	M24-De0021984	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC154	06 Dec 2024	Trip_B	1169377	M24-De0021985	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC155-1	06 Dec 2024	Trip_B	1169377	M24-De0021986	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC156-1	06 Dec 2024	Trip_B	1169377	M24-De0021987	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC160	09 Dec 2024	Trip_B	1171413	M24-De0037836	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC161	09 Dec 2024	Trip_B	1171413	M24-De0037837	Soil	-	<20	-	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC185	10 Dec 2024	Trip_B	1171413	M24-De0037901	Soil	-	<20	-	-	-	-	-	-	-	-
QC186	10 Dec 2024	Trip_B	1171413	M24-De0037902	Soil	-	<20	-	-	-	-	-	-	-	-
QC200	11 Dec 2024	Trip_B	1171417	M24-De0037961	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC201	11 Dec 2024	Trip_B	1171417	M24-De0037962	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3
QC202	11 Dec 2024	Trip_B	1171417	M24-De0037963	Soil	<20	<20	<20	<0.5	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3

Table B4
Rinsate and Trip Blanks - Liquid
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

						Metals		TPH										
						Lead	Arsenic	C6 - C9	C10 - C14	C15 - C28	C29-C36	C10 - C36 (Sum of total)	>C16-C34	C6-C10	>C34-C40	>C10 - C40 (Sum of total)	>C10-C16	>C10-C16 minus Naphthalene (F2)
						mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.001	0.001	20	50	100	100	100	100	20	100	100	50	50
Field ID	Date	Sample Type	Lab Report Number	Sample Code	Matrix Type													
QC102	25 Nov 2024	Rinsate	1165428	M24-No0080425	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC106	26 Nov 2024	Rinsate	1165428	M24-No0080442	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC110	27 Nov 2024	Rinsate	1165428	M24-No0080462	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC118	28 Nov 2024	Rinsate	1166213	M24-De0000175	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC126	03 Dec 2024	Rinsate	1168041	M24-De0012207	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC130	04 Dec 2024	Rinsate	1168041	M24-De0012223	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC140	05 Dec 2024	Rinsate	1169377	M24-De0021842	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC146	06 Dec 2024	Rinsate	1169377	M24-De0021914	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC159	09 Dec 2024	Rinsate	1171413	M24-De0038146	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC165	10 Dec 2024	Rinsate	1171413	M24-De0037838	Water	<0.001	<0.001	<20	<50	<100	<100	<100	<100	<20	<100	<100	<50	<50
QC192	11 Dec 2024	Rinsate	1171417	M24-De0038009	Water	-	-	<20	-	-	-	-	-	<20	-	-	-	-

Table B4
Rinsate and Trip Blanks - Liquid
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

							Naphthalene	BTEX								
						C6-C10 less BTEX (F1)	Naphthalene (VOC)	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						20	10	1	1	1	2	1	3	0.01	0.01	0.01	0.01	0.01
Field ID	Date	Sample Type	Lab Report Number	Sample Code	Matrix Type													
QC102	25 Nov 2024	Rinsate	1165428	M24-No0080425	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC106	26 Nov 2024	Rinsate	1165428	M24-No0080442	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC110	27 Nov 2024	Rinsate	1165428	M24-No0080462	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC118	28 Nov 2024	Rinsate	1166213	M24-De0000175	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC126	03 Dec 2024	Rinsate	1168041	M24-De0012207	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC130	04 Dec 2024	Rinsate	1168041	M24-De0012223	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC140	05 Dec 2024	Rinsate	1169377	M24-De0021842	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC146	06 Dec 2024	Rinsate	1169377	M24-De0021914	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC159	09 Dec 2024	Rinsate	1171413	M24-De0038146	Water	<20	<10	<1	<1	<1	<2	<1	<3	<0.01	<0.01	<0.01	<0.01	<0.01
QC165	10 Dec 2024	Rinsate	1171413	M24-De0037838	Water	<20	<10	<1	<1	<1	<2	<1	<3	<1	<1	<1	<1	<1
QC192	11 Dec 2024	Rinsate	1171417	M24-De0038009	Water	<20	<10	<1	<1	<1	<2	<1	<3	-	-	-	-	-

Table B4
Rinsate and Trip Blanks - Liquid
In Situ Soil Characterisation and Waste Management Plan -Stage 1 and Stage 2 Bulk Excavation
Macquarie Point Development Project

						PAH											
						Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo[b+j]fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Pyrene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Field ID	Date	Sample Type	Lab Report Number	Sample Code	Matrix Type												
QC102	25 Nov 2024	Rinsate	1165428	M24-No0080425	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC106	26 Nov 2024	Rinsate	1165428	M24-No0080442	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC110	27 Nov 2024	Rinsate	1165428	M24-No0080462	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC118	28 Nov 2024	Rinsate	1166213	M24-De0000175	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC126	03 Dec 2024	Rinsate	1168041	M24-De0012207	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC130	04 Dec 2024	Rinsate	1168041	M24-De0012223	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC140	05 Dec 2024	Rinsate	1169377	M24-De0021842	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC146	06 Dec 2024	Rinsate	1169377	M24-De0021914	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC159	09 Dec 2024	Rinsate	1171413	M24-De0038146	Water	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
QC165	10 Dec 2024	Rinsate	1171413	M24-De0037838	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC192	11 Dec 2024	Rinsate	1171417	M24-De0038009	Water	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D

Bore Logs

SOIL BOREHOLE C12

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **9-12-24**	Total Depth: **2.50 m**	Coordinates: **5252537.80 mN 527406.23 mE**	Drill Model:
Date Finished: **9-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt FILL: Sandy CLAY, brown to light brown, medium plasticity, fine to medium grained sand, traces of cobbles (20mm), no odour	D			1.2	C12_0.5
							FILL: Sandy CLAY, black, high plasticity, fine to medium grained sand	D				
				1			Becoming light brown to grey, cobbles (20mm)	D			1.1	C12_1.0
											0.5	C12_0.5
				2			Dolerite, grey, highly weathered	D			1.5	C12_2.0
							Becoming light brown, fresh and hard	D			0.3	C12_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE D11

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**3.50 m**
Coordinates:	**5252547.01 mN 527430.61 mE**	Drill Model:	
Date Started:	**9-12-24**		
Permit No:		Drill Fluid:	
Date Finished:	**9-12-24**		

Depth (m)	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Sample Interval	PID (ppm)	Sample ID
0		Asphalt			
		FILL: Gravelly CLAY, black to brown, medium plasticity, gravels (30mm)			
		Dolerite, brown, slightly weathered		1.0	D11_0.5
1				0.7	D11_1.0
				0.9	D11_1.5
2		Sandy CLAY, brown, medium to high plasticity, fine to medium grained sand, cobbles (90mm)		0.5	D11_2.0
		Dolerite, highly weathered, grey		0.8	D11_2.5
3				0.9	D11_3.0
				0.8	D11_3.5
		End of Borehole at 3.5 m bgl			

Method: Casing: Penetration (S M H R): Groundwater Data and Comments: Moisture Condition: Consistency Relative Density:

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE D12

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252529.53 mN** **527420.90 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, black, medium to high plasticity, gravel (20mm)	D/M			0.4	D12_0.5
				1			Becoming brown				0.6	D12_1.0
							FILL: Sandy CLAY, brown, medium to high plasticity, fine to coarse grained sand, cobbles (30mm)	D			0.2	D12_1.5
				2							0.4	D12_2.0
							Becoming light grey				0.7	D12_2.5
											0.6	D12_3.0
				3			Dolerite, grey, highly weathered, fresh, hard				0.7	D12_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE D13

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **3.50 m**	Coordinates: **5252512.04 mN**	Drill Model:
Date Started: **9-12-24**		**527411.19 mE**	Drill Fluid:
Date Finished: **9-12-24**		Permit No:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey to brown, medium plasticity, cobbles (30mm) FILL: Sandy CLAY, brown, medium plasticity, fine to medium grained sand, traces of cobbles (100mm), no odour	D		0.3		D13_0.5
							Becoming grey					
				1			FILL: Sandy CLAY, black, high plasticity, fine to very fine sand, traces of red brick fragments	D/M		0.7		D13_1.0
										0.6		D13_1.5
				2						0.3		D13_2.0
							Becoming grey					
							Groundwater			0.5		D13_2.5
							FILL: Sandy CLAY, light brown, high plasticity, medium to coarse grained sand	W				
				3						0.8		D13_3.0
										0.5		D13_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE D14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252494.63 mN** **527402.41 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, brown, medium plasticity, fine to medium grained sand, traces of cobbles (100mm), no odour	D				
											0.3	D14_0.5
							Becoming black					
							FILL: Gravelly Sand, grey, fine to medium grained sands, cobbles (70mm), traces of red brick fragments	D				
				1							0.4	D14_1.0
											0.5	D14_1.5
							FILL: CLAY, black, high plasticity, traces of gravels (10mm)	M/W				
				2							0.5	D14_2.0
											0.5	D14_2.5
											0.8	D14_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E07

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **4-12-24**
Date Finished: **4-12-24**
Bore Size: **mm**
Total Depth: **1.20 m**
Relative Level: **mRL**
Coordinates: **5252604.92 mN** **527487.69 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			Concrete				
							FILL: Gravelly CLAY, grey to brown, medium plasticity, gravel cobbles (25mm)			1.3	E07_0.5, QC131, QC132
										1.4	E07_0.9
							Dolerite, brown, slightly weathered				
				1			Becoming fresh, hard, grey			3.9	E07_1.2
							End of Borehole at 1.2 m bgl, refusal on fresh bedrock				

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E08

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.00 m**
Coordinates:	**5252589.77 mN**	Drill Model:	
Date Started:	**4-12-24**		**527477.21 mE**
Date Finished:	**4-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, grey to brown, fine to course grained sands, fine to course gravels, cobbles (20mm)			0.3		E08_0.5
										0.3		E08_0.6
										0.5		E08_0.7
							Dolerite. Hard, fresh					
				1			End of Borehole at 1.0 m bgl on fresh dolerite					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E09

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**
Bore Size: **mm**
Total Depth: **4.50 m**
Relative Level: **mRL**
Coordinates: **5252572.28 mN** **527467.51 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, grey, medium to course grained sand, gravel cobbles (50mm)	D			1.3	E09_0.5
				1							0.6	E09_1.0
											1.5	E09_1.5
							Becoming light grey				1.0	E09_2.0
				2			FILL: Sandy CLAY, black, high plasticity, fine to medium grained sand, cobbles (30mm)	D/M			1.2	E09_2.5
											0.5	E09_3.0
				3			Dolerite, light brown, slightly weathered	D			0.9	E09_3.5
				4							0.8	E09_4.0
											0.4	E09_4.5
							End of Borehole at 4.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E10

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252554.79 mN** **527457.80 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Sandy CLAY, brown-black, med-high plasticity, sand is fine-medium, cobbles up to 30mm	D				
							Becoming light brown	D			2.1	E10_0.5
							Becoming black, high plasticity, trace red brick fragments	D/M			2.4	E10_1.0
				1			FILL: Clayey SAND, grey, fine grained, medium plasticity clay, cobbles up to 20mm	D			1.9	E10_1.5
				2			FILL: Gravelly Clay, dark brown, grey	D			2.2	E10_2.0
											19.5	E10_2.5
				3							10.5	E10_3.0
											10.2	E10_3.5
							End of borehole at 3.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E11

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**

Bore Size: **mm**
Total Depth: **3.50 m**

Relative Level: **mRL**
Coordinates: **5252537.31 mN**
527448.09 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown to black, medium plasticity, cobbles (50mm), traces of red brick fragments, no odour					
											0.5	E11_0.5
				1			Dolerite, light brown, slightly weathered, no odour				0.2	E11_1.0
											0.3	E11_1.5
				2			Becoming grey, highly weathered				0.5	E11_2.0
											7.6	E11_2.5
				3							2.7	E11_3.0
							Cobbles (50mm)				2.3	E11_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E12

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252519.82 mN** **527438.39 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, medium to high plasticity, green gravels (20mm), no odour	D			0.7	E12_0.5
				1			Becoming black				1.3	E12_1.0, QC155, QC156
							Becoming light grey				0.5	E12_1.5
				2							0.7	E12_2.0
							FILL: Gravelly CLAY, brown, high plasticity, grey cobbles (50mm)	D/M			0.7	E12_2.5
				3			Water				0.3	E12_3.0
											0.1	E12_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252502.33 mN 527428.68 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
0			Asphalt	D				
			FILL: Sandy Clay, grey-brown, medium plasticity, sand is fine-medium, cobbles up to 50mm	D				
			Asbestos present at 0.5 mbgl (4-5cm)				1.0	E13_0.5
1			FILL: Sandy CLAY, black, med-high plasticity, sand is brown, fine-medium, cobbles up to 20mm	D/M			1.0	E13_1.0
			Some red brick fragments					
			Becoming brown 1.5-1.7 mbgl, steel fragments	D/M			0	E13_1.5
2			Black discolouration	D/M			1.0	E13_2.0
			Becoming brown	M			0.7	E13_2.5
3							0	E13_3.0
							0.7	E13_3.5
			End of borehole at 3.5 mbgl, target depth reached					

Method: | Casing: | Penetration (S M H R) | Groundwater Data and Comments

SOIL BOREHOLE E14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252484.85 mN** **527418.97 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, brown, medium plasticity, fine to medium grained sand, traces of gravel (30mm) and cobbles, no odour	D				
										0.3		E14_0.5
										0.5		E14_1.0
				1			Becoming black, with some dolerite cobbles	D/M				
										0.4		E14_1.5, QC157, QC158
							Becoming grey	D				
										0.7		E14_2.0
				2			CLAY, black, high plasticity	M				
										0.6		E14_2.5
										0.7		E14_3.0
				3			End of Borehole at 3.0 m bgl					

SOIL BOREHOLE E15

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **11-12-24**	Total Depth: **1.00 m**	Coordinates: **5252467.36 mN 527409.27 mE**	Drill Model:
Date Finished: **11-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium to high plasticity, grey gravels, cobbles (50mm), no odour	D			1.6	E15_0.5
							Becoming black	D/M				
							Traces of rail sleeper, cobbles (100mm)				1.5	E15_1.0
				1			End of Borehole at 1.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE E16

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **11-12-24**
Date Finished: **11-12-24**
Bore Size: **mm**
Total Depth: **1.00 m**
Relative Level: **mRL**
Coordinates: **5252450.22 mN** **527401.67 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey to brown, medium to high plasticity, cobbles (20mm), no odour	D/M		6.3	E16_0.2
							Natural dolerite, grey, highly weathered, fresh, hard	D		3.4	E16_0.5
										25.7	E16_1.0
				1			End of Borehole at 1.0 m bgl				

SOIL BOREHOLE F07

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **4-12-24**	Total Depth: **1.00 m**	Coordinates: **5252597.55 mN 527504.41 mE**	Drill Model:
Date Finished: **4-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	D				
							FILL: Gravelly CLAY, grey to brown, medium plasticity, fine to course gravels, cobbles (50mm)					
							Geofabric, crushed rock			0.9		F07_0.5
							Dolerite, fresh, hard, slightly weathered			1.5		F07_0.6
										0.5		F07_0.7
										0.9		F07_1.0
				1			End of Borehole at 1.0 m bgl on fresh dolerite					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE F08

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **4-12-24**	Total Depth: **1.20 m**	Coordinates: **5252580.06 mN 527494.70 mE**	Drill Model:
Date Finished: **4-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey to brown, medium plasticity, gravel cobbles (50mm)	D				
											0.3	F08_0.5
							Becoming black, cobbles (10mm)					
				1			FILL: SAND, brown, fine to very fine grains, small cobbles (15mm)				0.4	F08_1.0
											0.3	F08_1.2
							End of Borehole at 1.2 m bgl, terminated due to old conduit intercepted, moved off due to risk of service					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE F09

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **4-12-24**
Date Finished: **4-12-24**

Bore Size: **mm**
Total Depth: **4.00 m**

Relative Level: **mRL**
Coordinates: **5252562.57 mN** **527484.99 mE**
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, black to brown, high plasticity, gravel cobbles (20mm), brick fragments, no odour	D				F09_0.5
				1			Becoming light brown				0.4	F09_1.0
							Dolorite, light brown, highly weathered				0.6	F09_1.5
											0.7	F09_1.6
				2							0.6	F09_2.0
											0.6	F09_2.5
				3			Fall in				2.4	F09_3.0
							Becoming grey, slightly weathered				1.3	F09_3.5
				4							2.5	F09_4.0
							End of Borehole at 4.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE F10

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252545.09 mN** **527475.29 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, angular gravels to 35mm	D			2.5	F10_0.5
											3.5	F10_1.0
				1			FILL: Dolerite cobbles and concrete	D				
							Red brown brick	D			3.2	F10_1.5
							Red brown brick and plastic fragments	D				
				2			FILL: Gravelly SAND, grey, medium-fine grained, angular gravels to 70mm	D			12.0	F10_2.0
							FILL: Gravelly CLAY, dark brown, grey	D			2.2	F10_2.5
				3			Dolerite: grey, slightly weathered, hard	D			3.1	F10_3.0
											4.3	F10_3.5
							End of borehole at 3.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE F11

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252527.60 mN** **527465.58 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Concrete					
							FILL: Sandy CLAY, light brown, medium plasticity, fine to medium grained sand, cobbles (20mm), no odour	D			0.9	F11_0.5
				1							0.8	F11_1.0
							Becoming brown, black discolouration				0.8	F11_1.5
				2			Becoming high plasticity, traces of red brick fragments				1.0	F11_2.0
							FILL: Sandy CLAY, black, medium to high plasticity, fine grained sand, no odour, black discolouration				1.1	F11_2.5
				3							0.7	F11_3.0
											2.5	F11_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE F12

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor: **SWD**	Project No.: **60598077**	Location:	**Evans Street, Hobart**
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **3.50 m**	Coordinates: **5252510.11 mN**	Drill Model:
Date Started: **9-12-24**		**527455.87 mE**	Drill Fluid:
Date Finished: **9-12-24**		Permit No:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, brown to black, medium plasticity, cobbles (40mm), no odour	D				
											0.4	F12_0.5
				1			FILL: Sandy CLAY, black,medium to high plasticity, fine to medium grained sand, with some cobbles (20mm)	D			0.7	F12_1.0
											0.9	F12_1.5
							Traces of grey cobbles					
				2							0.7	F12_2.0
							Black discolouration	D/M			0.1	F12_2.5
				3			Dolerite, slightly weathered, light brown				0.9	F12_3.0
											0.6	F12_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE F13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252492.63 mN 527446.17 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	D				
							FILL: Gravelly CLAY, grey-brown, medium plasticity, gravel is grey, cobbles up to 30 mm	D				
											0.4	F13_0.5
				1							1.0	F13_1.0
							Cobbles up to 70 mm	D				
							FILL: Sandy CLAY, brown, med-high plasticity, sand is fine to medium, cobbles up to 100 mm Steel hit at 1.6 mbgl, moved hole 0.5m north	D			0.4	F13_1.5
				2							0.6	F13_2.0
							Trace red brick fragments	D			0.6	F13_2.5
							Dolerite cobbles up to 120 mm	D				
				3							0.6	F13_3.0
											0.4	F13_3.5
							End of borehole at 3.5 mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE F14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **9-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252475.14 mN** **527436.46 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, black to brown, medium plasticity, fine to medium grained sand, traces of cobbles (30mm), no odour					
											1.0	F14_0.5
				1							0.9	F14_1.0
							Black discoloration					
							Becoming light brown				0.5	F14_1.5
				2			FILL: Gravelly CLAY, medium plasticity, gravel (30mm), traces of red brick fragments				0.5	F14_2.0
							Black discolouration				0.3	F14_2.5
							Traces of ceramics and broken glass				0.1	F14_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE F15

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**

Bore Size: **mm**
Total Depth: **1.00 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252457.65 mN 527426.75 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			FILL: concrete rubble				
							FILL: Gravelly SAND, red to brown, sub-angular gravels (20mm), no odour	D		1.6	F15_0.5, QC119, QC120
										2.2	F15_1.0
				1			End of Borehole at 1.0 m bgl				

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE F16

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **28-11-24**	Total Depth: **1.00 m**	Coordinates: **5252440.17 mN 527417.05 mE**	Drill Model:
Date Finished: **28-11-24**	Permit No:		Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Concrete rubble	D				
							FILL: SAND, red to brown, poorly graded, medium to fine grained sand, traces of angular gravels (10mm), no odour					
							Becoming gravelly sand				0.6	F16_0.5
				1			End of Borehole at 1.0 m bgl				0.6	F16_1.0

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G06

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**2.90 m**
Coordinates:	**5252603.03 mN 527531.69 mE**	Drill Model:	
Date Started:	**4-12-24**		
Permit No:		Drill Fluid:	
Date Finished:	**4-12-24**		

Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
0			Asphalt					
			FILL: Gravelly CLAY, brown to grey, medium plasticity, gravel cobbles (20mm), no odour	D				
			Traces of geofabric			0.3		G06_0.5
			FILL: Crushed rock, grey angular cobbles (170mm)					
1			Dolerite, moderately weathered, moderately hard, grey to brown, slight HC odour			0.6		G06_0.9
						1.6		G06_1.0
						8.1		G06_1.3
2			Becoming fresh grey, hard			1.0		G06_2.0
						2.7		G06_2.1
3			End of Borehole at 2.9 m bgl, refusal on fresh bedrock					

Penetration: S M H R

Groundwater Data and Comments

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G07

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.80 m**
Coordinates:	**5252587.84 mN**	Drill Model:	
Date Started:	**4-12-24**		**527521.89 mE**
Date Finished:	**4-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, grey to brown, medium plasticity, gravel cobbles (20mm)	D				
							Geofibre, crushed rock, grey			0.4		G07_0.5
										0.7		G07_0.6
										1.1		G07_0.7
				1			Dolerite, brown, slightly weathered					
							Becoming fresh			1.5		G07_1.5
							End of Borehole at 1.8 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G08

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **4-12-24**
Date Finished: **4-12-24**

Bore Size: **mm**
Total Depth: **3.50 m**

Relative Level: **mRL**
Coordinates: **5252570.35 mN**
527512.19 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium plasticity, gravel cobbles (20mm)	D			1.6	G08_0.5
				1			Dolerite, highly weathered, brown				1.7	G08_1.0
											1.6	G08_1.5
				2							1.7	G08_2.0
											1.4	G08_2.5
				3			Becoming grey, with some natural weathering				1.8	G08_3.0
							End of Borehole at 3.5 m bgl				2.0	G08_3.5

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G09

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **5-12-24**	Total Depth: **3.50 m**	Coordinates: **525244.09 mN 527502.48 mE**	Drill Model:
Date Finished: **5-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Clayey SAND, grey-brown, fine to medium, cobbles up to 20mm, clay is medium plasticity	D				
											1.5	G09_0.5
							Geofabric present					
							Becoming black	D				
							Trace red brick fragments					
											1.5	G09_1.0
				1			FILL: Sandy CLAY, black, med-high plasticity, sand is light brown, fine to medium, trace red brick fragments	D				
											2.1	G09_1.5
							Becoming brown	D				
											2.8	G09_2.0
				2								
							Becoming black, sand is yellow-grey	D				
											2.4	G09_2.5
											1.9	G09_3.0
				3								
											1.0	G09_3.5
							End of borehole at 3.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G10

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **AC**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **3.50 m**	Coordinates: **5252535.38 mN**	Drill Model:
Date Started: **5-12-24**		**527492.77 mE**	
Date Finished: **5-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravel, grey angular to 70mm	D				
							FILL: Gravelly SAND, grey, fine-med, angular gravel to 10mm	D				
							as above, brown	D			2.4	G10_0.5
							grey black	D				
							FILL: Gravel, grey angular to 80mm, some fine sand + clay and red brick	D				
											1.8	G10_1.0
				1			FILL: Gravelly CLAY, dark grey, cobbles to 180mm, some fine sand	D				
											1.5	G10_1.5
							Becoming brown	D				
							Becoming dark grey, no more cobbles				23.1	G10_2.0
				2			FILL: SAND, medium-coarse grained, brown, some gravel	D				
											3.1	G10_2.5
							FILL: Cobbles, grey	D				
							FILL: Sandy CLAY, dark grey-black	D				
							FILL: Clayey SAND, medium, orange-grey, m-f, poor grading	D				
				3							2.4	G10_3.0
											1.2	G10_3.5
							End of borehole at 3.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G11

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **6-12-24**
Date Finished: **6-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252517.89 mN** **527483.07 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Crushed rock, cobbles (30mm)					
							FILL: Gravelly CLAY, black to brown, medium to high plasticity, cobbles (20mm), no odour, black discolouration				0.8	G11_0.5
				1			Concrete				0.7	G11_1.0
							FILL: Sandy CLAY, brown, high plasticity, fine grained yellow sands				0.6	G11_1.5
				2			Becoming black				0.4	G11_2.0
							Becoming brown				0.4	G11_2.5
				3			Traces of red brick fragments, becoming black				0.2	G11_3.0
							End of Borehole at 3.5 m bgl				0.9	G11_3.5

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G12

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252500.41 mN** **527473.36 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Sandy CLAY, black-brown, high plasticity, sand is f-m, cobbles up to 30mm	D/M				
											0.6	G12_0.5
							Becoming black, cobbles up to 40mm	D/M				
				1							0.7	G12_1.0
							Trace red brick fragments					
											0.6	G12_1.5
							Natural dolerite, slightly weathered, grey	D				
				2							0.6	G12_2.0
											0.9	G12_2.5
				3							1.1	G12_3.0
							CLAY, black, high plasticity, cobbles up to 20mm	D/M				
							Layer of sand, yellow, f-m	D				
							Clay, trace red brick fragments	D/M			0.7	G12_3.5
							End of borehole at 3.5 mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252482.92 mN** **527463.65 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	D				
							FILL:Sandy CLAY, grey-brown, medium plasticity, sand is f-m, cobbles up to 30mm	D				
											0.9	G13_0.5
							Becoming light brown	D				
							Becoming black, dolerite cobbles up to 20mm	D			1.4	G13_1.0
				1								
											0.7	G13_1.5
							FILL: Sandy CLAY, black, high plasticity, sand is fine grained, cobbles up to 20mm	D/M				
											0.9	G13_2.0
				2								
											0.7	G13_2.5
											0.7	G13_3.0
				3			End of borehole at 3.0 mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G14

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**AC**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**3.00 m**
Coordinates:	**5252465.43 mN**	Drill Model:	
Date Started:	**10-12-24**		**527453.95 mE**
Date Finished:	**10-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	D				
							FILL: Sandy CLAY, black-brown, medium plasticity, sand is brown, f-m, cobbles up to 30mm	D			6.7	G14_0.5
				1							1.9	G14_1.0
							Black discolouration	D			1.8	G14_1.5
							Becoming black, some red brick fragments up to 100m	D				
				2							1.2	G14_2.0
							FILL: Sandy CLAY, light brown, med-high plasticity, sand is light brown-red, some red brick fragments	D/M				
							Sand becoming light brown-yellow	D/M			0.4	G14_2.5
				3							0.4	G14_3.0
							End of borehole at 3.0mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G15

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252447.95 mN** **527444.24 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, brown, medium plasticity, fine to medium grained sand, cobbles (20mm), no odour	D			9.2	G15_0.5
				1							2.9	G15_1.0
							FILL: Sandy CLAY, black, medium to high plasticity, brown fine grained sand, cobbles (20mm), no odour	D/M			1.3	G15_1.5
				2							1.3	G15_2.0, QC175, QC176
							Traces of red brick fragments	D			1.5	G15_2.5
							Traces of ceramics				0.9	G15_3.0
				3			End of Borehole at 3.0 m bgl					

SOIL BOREHOLE G16

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **1.00 m**	Coordinates: **5252430.46 mN**	Drill Model:
Date Started: **11-12-24**		**527434.53 mE**	
Date Finished: **11-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium plasticity, grey gravels, cobbles (50mm), trace red brick fragments, no odour	D				
							Becoming black, traces of wood and bitumen/tar, strong gas HC odour, black discolouration				1.5	G16_0.5
											242	G16_1.0
				1			End of Borehole at 1.0 m bgl					

SOIL BOREHOLE G17

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **11-12-24**
Date Finished: **11-12-24**

Bore Size: **mm**
Total Depth: **1.00 m**

Relative Level: **mRL**
Coordinates: **5252412.97 mN**
527424.83 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey, medium plasticity, grey gravels, cobbles (20mm), no odour	D			
							Becoming brown			2.5	G17_0.5
							Traces of red brick fragment			7.5	G17_1.0, QC198, QC199
				1			End of Borehole at 1.0 m bgl				

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE G18

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **11-12-24**
Date Finished: **11-12-24**

Bore Size: **mm**
Total Depth: **1.00 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252397.61 mN** **527416.35 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey, medium plasticity, cobbles (20mm), no odour	D			
							Becoming brown to black				
							Traces of blue plastic, strong gas works HC odour (woody)			109.6	G18_0.5
										901	G18_1.0
				1			End of Borehole at 1.0 m bgl				

SOIL BOREHOLE H06

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **4-12-24**	Total Depth: **1.50 m**	Coordinates: **5252595.62 mN 527549.09 mE**	Drill Model:
Date Finished: **4-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Clayey GRAVEL, brown, high plasticity, sub-angular gravel (10mm)	D				
							Geofabric, crushed rock, grey			1.2		H06_0.5
							FILL: sub-angular GRAVEL (70mm), well graded			0.3		H06_0.7
										1.4		H06_0.8
				1			Dolorite, grey-brown, moderately weathered, moderately hard					
							Becoming grey, fresh, hard			0.9		H06_1.5
							End of Borehole at 1.5 m bgl on fresh dolerite					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H07

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **11-12-24**
Date Finished: **11-12-24**
Bore Size: **mm**
Total Depth: **3.50 m**
Relative Level: **mRL**
Coordinates: **5252578.13 mN** **527539.38 mE**
Permit No:
Drill Type: **NDD / Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown to black, medium plasticity, traces of red brick fragments and geofrabric (0.2 m bgl), cobbles (100mm), no odour	D/M			0.3	H07_0.5
				1			Dolerite, light brown, highly weathered	D			4.0	H07_1.0
											1.6	H07_1.5
				2							6.1	H07_2.0
											4.6	H07_2.5
				3							17.1	H07_3.0
											14.3	H07_3.5
							End of Borehole at 3.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H08

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **4-12-24**
Date Finished: **4-12-24**

Bore Size: **mm**
Total Depth: **3.00 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252560.65 mN** **527529.67 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: GRAVEL, grey, well graded, angular (60mm), no odour	D				
							FILL: Sandy CLAY, dark grey, medium plasticity, fine to medium grained sand, traces of gravel, no odour				2.2	H08_0.5
							FILL: SAND, brown, fine grained, some gravels					
				1			FILL: Sandy CLAY, mottled grey, brown, fine to medium grained sand, some angular gravels (10mm), red brick fragments				2.1	H08_1.0
											2.3	H08_1.5
				2							2.0	H08_2.0
											1.6	H08_2.5
											1.8	H08_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H09

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252543.16 mN** **527519.97 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, grey to brown, angular gravel (40mm), well graded, some compaction of drilling returns, no odour	D			1.9	H09_0.5
							Traces of geofabric, angular cobbles (170mm)					
				1			FILL: Gravelly SAND, black to grey, medium to fine grained sand, well graded	D			2.3	H09_1.0, QC141, QC142
											5.2	H09_1.5
							Becoming black					
				2			FILL: Sandy CLAY, black to brown, medium plasticity, traces of red brick fragments				7.1	H09_2.0
											7.1	H09_2.5
											63.5	H09_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H10

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **6-12-24**	Total Depth: **3.00 m**	Coordinates: **5252525.67 mN 527510.26 mE**	Drill Model:
Date Finished: **6-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium plasticity, grey gravel, cobbles (50mm), no odour	D			3.1	H10_0.5
				1			Becoming black, traces of brick fragments				1.8	H10_1.0
							FILL: Sandy CLAY, black, medium to high plasticity, fine to medium grained sands, cobbles (30mm), traces of brick fragments	D			3.9	H10_1.5
				2			Becoming light brown, slight HC odour				5.7	H10_2.0
							Becoming black, HC odour				4.6	H10_2.5
											43.8	H10_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H11

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **6-12-24**	Total Depth: **3.00 m**	Coordinates: **5252508.19 mN 527500.55 mE**	Drill Model:
Date Finished: **6-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown to grey, medium plasticity, cobbles (30mm), no odour	D				
							Concrete				0.6	H11_0.5
				1			FILL: Gravelly CLAY, brown to black, high plasticity, cobbles (20mm), no odour	D/M			1.3	H11_1.0
							Black discolouration				1.6	H11_1.5
				2							3.4	H11_2.0
							Traces of red brick fragments				2.2	H11_2.5
											1.0	H11_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H12

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **11-12-24**

Bore Size: **mm**
Total Depth: **3.00 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252490.70 mN** **527490.85 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **NDD / Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Sandy GRAVEL, black to brown, small to large gravels, large rocks, no odour	D				
											0.2	H12_0.5
							Refusal on large rock					
				1			FILL: Gravelly CLAY, black, medium to high plasticity, gravel cobbles (30mm), subrounded, traces of red brick fragments				0.3	H12_1.0
							Becoming brown					
							FILL: Sandy CLAY, brown to black, high plasticity, brown, traces of red brick fragments				0.4	H12_1.5
				2							0.5	H12_2.0
							Sand becoming red				0.9	H12_2.5
							Green mottling					
											1.0	H12_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **11-12-24**
Bore Size: **mm**
Total Depth: **2.50 m**
Relative Level: **mRL**
Coordinates: **5252473.21 mN** **527481.14 mE**
Permit No:
Drill Type: **NDD / Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Sandy GRAVEL, medium to large gravels, angular, brown to grey, no odour	D				
											0.7	H13_0.5
				1			FILL: Sandy CLAY, black, medium to high plasticity, fine grained sand, traces of railway sleeper, no odour	D/M				
											0.6	H13_1.0
											1.0	H13_1.5
							No railway sleeper					
				2							1.0	H13_2.0
							Traces of red brick fragments					
							Becoming brown				0.6	H13_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **9-12-24**
Date Finished: **11-12-24**

Bore Size: **mm**
Total Depth: **3.00 m**

Relative Level: **mRL**
Coordinates: **5252455.73 mN**
527471.43 mE
Permit No:

Drill Type: **NDD / Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, black to brown, small to medium gravels, medium to large orange to grey cobbles, no odour	D				
										0.2		H14_0.5
				1			Traces of low plasticity clay			0.2		H14_1.0
							Large boulders present					
							Unable to obtain sample due to large boulders					
				2			FILL: Gravelly CLAY, grey to brown, medium plasticity, grey gravels, cobbles (150mm)			0.6		H14_2.0
										0.6		H14_2.5
										0.3		H14_3.0. QC196, QC197
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H15

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **10-12-24**	Total Depth: **2.50 m**	Coordinates: **5252438.24 mN 527461.73 mE**	Drill Model:
Date Finished: **10-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Sandy CLAY, black-brown, medium plasticity, sand is brown, cobbles up to 60mm	D/M				
											2.7	H15_0.5
							Old wire present	D				
							Trace red brick fragments	D				
											1.2	H15_1.0
				1			Ceramic present	D				
											0.3	H15_1.5
							Becoming black, med-high plasticity	D			0.7	H15_2.0
				2								
							Trace bitumen	D/M			1.4	H15_2.5
							End of borehole at 2.5 mbgl, target depth reached					

SOIL BOREHOLE H16

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **AC**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **2.00 m**	Coordinates: **5252420.75 mN**	Drill Model:
Date Started: **10-12-24**		**527452.02 mE**	
Date Finished: **10-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	M				
							FILL: Sandy CLAY, light brown, med-high plasticity	D			2.7	H16_0.5
				1			Black discolouration, trace bitumen	D			1.1	H16_1.0
							Becoming high plasticity, trace red brick fragments	D/M			0.8	H16_1.5
				2			End of borehole at 2.0 mbgl, target depth reached				0.4	H16_2.0

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE H17

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252403.27 mN** **527442.31 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	M				
							FILL: Gravelly CLAY, grey, medium plasticity, cobbles up to 20mm	D				
							Black discolouration	D			2.1	H17_0.5
							Becoming brown	D				
											1.7	H17_1.0
				1			FILL: Sandy CLAY, black, high plasticity, sand is fine grained, cobbles up to 20mm	D/M				
											1.5	H17_1.5
							End of borehole at 1.5 mbgl, target depth reached					

SOIL BOREHOLE H18

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Relative Level: **mRL**
Coordinates: **5252390.52 mN**
527434.46 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	D				
							FILL:Gravelly Clay, grey, medium plasticity, gravel is grey, cobbles up to 70mm	D				
							Black discolouration	D			1.6	H18_0.5
				1			FILL: Sandy Clay, black, high plasticity, sand is fine, cobbles up to 20mm	D/M			1.0	H18_1.0
							Trace red brick fragments				1.4	H18_1.5
							End of borehole at 1.5 mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I06

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**3.00 m**
Coordinates:	**5252585.91 mN**	Drill Model:	
Date Started:	**11-12-24**		**527566.57 mE**
Date Finished:	**11-12-24**	Permit No:	
		Drill Fluid:	

Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
0			FILL: Gravelly CLAY, grey, medium plasticity, cobbles (20mm)	D				
			Black discolouration			0.3		I06_0.5, QC190, QC191
			FILL: Sandy CLAY, black, medium to high plasticity, fine to medium grained brown sands, cobbles (20mm)	D				
1			Traces of ceramics and iron railway pin			0.6		I06_1.0
			Traces of red brick fragments					
			Becoming brown			0.3		I06_1.5
			Becoming black					
2						0.3		I06_2.0
			FILL: Sandy CLAY, black, high plasticity, fine to medium grained light brown sands, cobbles (40mm)	D/M				
						0.2		I06_2.5
						0.2		I06_3.0
3			End of Borehole at 3.0 m bgl					

Method: | Casing: | Penetration (S M H R): | Groundwater Data and Comments:

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I07

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **11-12-24**
Date Finished: **11-12-24**
Bore Size: **mm**
Total Depth: **3.00 m**
Relative Level: **mRL**
Coordinates: **5252568.43 mN** **527556.87 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium to high plasticity, cobbles (20mm), traces of red brick fragments, no odour	D				
							Becoming brown				1.3	I07_0.5
							FILL: Sandy CLAY, black, medium plasticity, fine to medium grained black sands, cobbles (30mm), traces of red brick fragments, 100 mm of perched water, no odour	D				
				1							1.0	I07_1.0
											1.2	I07_1.5
							Becoming brown					
				2							0.9	I07_2.0
											1.2	I07_2.5
							Black discolouration				0.9	I07_3.0
				3			End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

AECOM

SOIL BOREHOLE I08

Drilling Contractor: SWD		Project Name: Macquarie Point Development Project	Client:
		Project No.: 60598077	Location: Evans Street, Hobart
Logged By: AC	Bore Size: mm	Relative Level: mRL	Drill Type: Sonic
Checked By:	Total Depth: 2.50 m	Coordinates: 5252550.94 mN 527547.16 mE	Drill Model:
Date Started: 4-12-24			
Date Finished: 4-12-24		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium to high plasticity, gravel cobbles up to 20mm	D				
											1.2	I08_0.5
							Becoming black	D				
											1.4	I08_1.0
				1								
							Some red brick fragments	D			1.4	I08_1.5
											0.6	I08_2.0
				2			FILL: Sandy CLAY, black, high plasticity, sand is fine grained, cobbles up to 20mm	D				
											0.4	I08_2.5
							End of borehole at 2.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I09

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**

Bore Size: **mm**
Total Depth: **2.50 m**

Relative Level: **mRL**
Coordinates: **5252504.33 mN**
527589.91 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey to brown, medium plasticity, gravel cobbles (30mm), crushed rock, no odour	D			1.2	I09_0.5
				1			FILL: Gravelly CLAY, black, high plasticity, cobbles (20mm), no odour	D			1.1	I09_1.0
							Traces of red brick fragments	D/M			2.2	I09_1.5
				2							1.9	I09_2.0
							Becoming red					
							Becoming black				1.2	I09_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I10

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**NDD / Sonic**
Checked By:		Total Depth:	**2.50 m**
Coordinates:	**5252515.97 mN**	Drill Model:	
Date Started:	**6-12-24**		**527527.75 mE**
Date Finished:	**6-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium plasticity, cobbles (30mm), no odour					
											0.0	I10_0.5
							FILL: Gravelly CLAY, black, high plasticity, cobbles (20mm), HC odour					
				1							0.5	I10_1.0, QC149, QC152
											0.3	I10_1.5
							Becoming grey					
				2			Traces of red brick fragments				5.0	I10_2.0
											8.9	I10_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I11

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **2.50 m**	Coordinates: **5252498.48 mN**	Drill Model:
Date Started: **6-12-24**		**527518.04 mE**	
Date Finished: **6-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey to brown, high plasticity, cobbles (40mm)	D/M			1.1	I11_0.5
				1			Black discolouration				1.1	I11_1.0
							Crushed rock cobbles (80mm)				0.1	I11_1.5
				2							12.1	I11_2.0
							Traces of red brick fragments				3.2	I11_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I12

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **6-12-24**
Date Finished: **6-12-24**
Bore Size: **mm**
Total Depth: **2.00 m**
Relative Level: **mRL**
Coordinates: **5252480.99 mN** **527508.33 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey, high plasticity, angular gravels (10mm)					
							Becoming dark grey, with some brick and ceramic fragments				0.4	I12_0.5
				1			With some fine sands, mottled orange to brown, no ceramics				0.9	I12_1.0
							FILL: Clayey SAND, orange to brown, traces of gravels (10mm)				1.5	I12_1.5
							FILL: Gravelly CLAY, grey, high plasticity,angular gravels (10mm)				1.9	I12_2.0
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I13

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252463.51 mN**	Drill Model:	
Date Started:	**10-12-24**		**527498.63 mE**
Date Finished:	**10-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, grey, medium plasticity, fine to medium grained light brown sands, cobbles (20mm)	D				
											1.2	I13_0.5
							Becoming brown					
							Becoming black					
				1							1.0	I13_1.0
							Traces of broken glass					
							Traces of red brick fragments				1.5	I13_1.5
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252446.02 mN** **527488.92 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, grey to brown, medium plasticity, fine to medium grained sands, cobbles (50mm)	D				
							Becoming black				1.0	I14_0.5
							Cobbles (80mm)					
							FILL: Sandy CLAY, black, medium to high plasticity, fine to medium grained sand, cobbles (30mm), traces of red brick fragments and ceramics	D/M			0.6	I14_1.0
				1			Increasing red brick fragments					
							Becoming high plasticity				6.3	I14_1.5
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I15

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **1.50 m**	Coordinates: **5252428.53 mN**	Drill Model:
Date Started: **11-12-24**		**527479.21 mE**	
Date Finished: **11-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, grey, medium plasticity, gravel cobbles (20mm), no odour	D				
							Becoming black, cobbles (30mm)				1.8	I15_0.5
				1							1.1	I15_1.0. QC194, QC195
							FILL: Sandy CLAY, brown, medium plasticity, sand is fine to medium grained, cobbles (40mm)					
							Becoming grey	D/M				
							Beocoming medium to high plasticity, traces of red brick fragments				1.0	I15_1.5
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I16

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252411.05 mN 527469.51 mE**	Drill Model:	
Date Started:	**10-12-24**		
Permit No:		Drill Fluid:	
Date Finished:	**10-12-24**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, black to brown, medium plasticity, grey gravels (20mm)	D		0.6		I16_0.5
							Black discolouration					
							Becoming brown to grey					
				1			FILL: Sandy CLAY, black to brown, medium to high plasticity, medium grained sand, cobbles (20mm), traces of brick fragments, no odour	D/M		0.5		I16_1.0
							Traces of ceramics			0.3		I16_1.5
							End of Borehole at 3.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE I17

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **26-11-24**
Date Finished: **26-11-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252393.57 mN** **527459.81 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **NDD / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: SAND, brown, medium to fine grained sands, well graded, minor gravels and basalt cobbles (70mm), no odour				0.0	I17_0.5
											0.0	I17_1.0
				1			Subrounded gravels (50mm)				0.6	I17_1.5
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE J06

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **11-12-24**	Total Depth: **2.50 m**	Coordinates: **5252576.21 mN 527584.06 mE**	Drill Model:
Date Finished: **11-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, black, medium to high plasticity, cobbles (20mm), traces of red brick fragments, no odour	D			0.3	J06_0.5
							FILL: SAND, brown, fine grained, traces of red brick fragments, no odour	D/M				
				1			FILL: Sandy CLAY, black, medium to high plasticity, fine grained brown sands, traces of red brick fragments, no odour				0.5	J06_1.0
							Clay becoming brown				0.3	J06_1.5
				2							2.7	J06_2.0
							Black discolouration				0.6	J06_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J07

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **11-12-24**	Total Depth: **2.50 m**	Coordinates: **5252558.72 mN 527574.35 mE**	Drill Model:
Date Finished: **11-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium plasticity, grey cobbles (100mm), no odour	D				
							FILL: Crushed rock, grey	D			0.8	J07_0.5
				1							0.7	J07_1.0
							FILL: Sandy CLAY, black to brown, medium to high plasticity, fine to medium grained black to brown sands, cobbles (50mm)	D/M			0.8	J07_1.5
				2			Traces of rail sleeper				0.7	J07_2.0
							Cobbles (100mm)				0.9	J07_2.5
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J08

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **4-12-24**
Date Finished: **4-12-24**
Bore Size: **mm**
Total Depth: **2.50 m**
Relative Level: **mRL**
Coordinates: **5252541.23 mN** **527564.65 mE**
Permit No:
Drill Type: **NDD / Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: GRAVEL with cobbles, grey	D				
											0.7	J08_0.5
							Refusal with NDD 0.8mbgl, cobbles and gravel	D				
				1			FILL: Gravelly CLAY, dark grey, HP, angular gravels to 10mm, trace subrounded cobbles to 200mm	D			0.8	J08_1.0
											0.7	J08_1.5
				2			Becoming brown, as above	D			1.0	J08_2.0
											1.2	J08_2.5
							End of borehole at 2.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J09

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **5-12-24**	Total Depth: **2.00 m**	Coordinates: **5252523.75 mN 527554.94 mE**	Drill Model:
Date Finished: **5-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, brown, fine to medium grained sands, gravel cobbles (100mm), no odour	D				
							FILL: Gravelly CLAY, brown to black, medium plasticity, gravel cobbles (20mm), traces of red brick fragments, no odour	D			0.1	J09_0.5
				1							0.1	J09_1.0
							FILL: Clayey SAND, light brown, fine grained sand, clay is black, medium plasticity, no odour	D/M				
							FILL: Sandy CLAY, black, medium to high plasticity, fine grained sand, cobbles (20mm), no odour	D/M			0.0	J09_1.5
							Becoming brown, high plasticity				0.9	J09_2.0
				2			End of Borehole at 2.0 m bgl					

SOIL BOREHOLE J10

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **2.00 m**
Relative Level: **mRL**
Coordinates: **5252506.26 mN 527545.23 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Gravelly rock					
							FILL: Gravelly SAND, black, coarse grained, gravel cobbles subrounded up to 50mm	D/M			1.8	J10_0.5
				1			Becoming light brown, fine-coarse	D			1.4	J10_1.0
							Becoming black, trace red brick fragments, cobbles up to 100mm	D			1.3	J10_1.5
				2			End of borehole at 2.0mbgl, Target depth reached				2.7	J10_2.0

SOIL BOREHOLE J11

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**
Bore Size: **mm**
Total Depth: **2.00 m**
Relative Level: **mRL**
Coordinates: **5252488.77 mN** **527535.53 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, grey, fine to medium grained sands, well graded angular (40mm), trace cobbles, no odour	D				
							Becoming light grey				1.2	J11_0.5
							FILL: SAND, black to grey, medium to fine grained sands, trace gravels, no odour	D				
							FILL: Gravelly CLAY with some sand, brown, angular gravels (40mm), medium grained sands, no odour	D				
							FILL: Gravelly SAND, brown, fine angular gravels (10mm), no odour	D				
											1.1	J11_1.0
				1			FILL: Cobbles (170mm), grey, no odour	D				
							FILL: Gravelly CLAY, dark brown to grey, angular gravels (60mm), well graded, no odour	D				
											1.2	J11_1.5
											0.8	J11_2.0
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J12

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **25-11-24**	Total Depth: **1.50 m**	Coordinates: **5252471.29 mN 527525.82 mE**	Drill Model:
Date Finished: **25-11-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt	D				
							FILL: Silty SAND, grey-brown, fine, some angular gravels and black coal and slag fragments	D			1.3	
				1			FILL: Clayey SAND, brown-grey, medium-fine grained, well graded, some black coal fragments and angular gravels, minor red brick fragments				0.7	
											0.6	
							End of borehole at 1.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **25-11-24**
Date Finished: **25-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252453.80 mN** **527516.11 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Basalt cobbles, angular, grey-brown, some silt and fine sand, some slag	D				
							FILL: Silty SAND, grey-black, fine, some clay and coal fragments, trace red brick and slag	D			0	
				1							0	
							FILL: Clayey SAND, red brown-black, medium-fine grained sand, well graded, minor coal and brick fragments	D			0.1	
							End of borehole at 1.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J14

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **25-11-24**	Total Depth: **1.50 m**	Coordinates: **5252436.31 mN 527506.41 mE**	Drill Model:
Date Finished: **25-11-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Silty CLAY, black-brown, HP, fine sand, trace coal fragments and red brick fragments, some slag	D/M			0.1	
				1			as above, hose fragments	D/M			0	
							FILL: SAND, orange-brown, medium-fine grained, some black coal fragments	D			0	
							End of borehole at 1.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J15

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **26-11-24**	Total Depth: **1.50 m**	Coordinates: **5252418.83 mN 527496.70 mE**	Drill Model:
Date Finished: **26-11-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Clayey SAND, dark brown, medium to fine grained sands, some gravels and coal/bitumen fragments, no odour	D			0.0	
				1			Becoming brown with red brick fragments				0.3	
											0.3	
							End of borehole at 1.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J16

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **26-11-24**	Total Depth: **1.50 m**	Coordinates: **5252401.34 mN 527486.99 mE**	Drill Model:
Date Finished: **26-11-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Clayey SAND, dark brown, fine sand, HP clay, minor bitumen and coal fragments	D			0.3	
							Becoming brown, some red brick fragments	D			0.3	
				1			FILL: Clayey SAND, grey, fine-grained, medium plasticity, cobbles up to 20mm	D			0.1	
							End of borehole at 1.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE J17

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **26-11-24**
Date Finished: **26-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252383.85 mN** **527477.29 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Clayey SAND, black-grey, fine, some angular gravels to 10mm, trace coal and bitumen fragments	D			0	
							As above increasing gravels to 30mm	D			0.3	
				1			Iron rail pin/nail				0	
							End of borehole at 1.5mbgl, target depth reached					

SOIL BOREHOLE J18

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**AC**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**CC / SSA**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252370.68 mN 527470.07 mE**	Drill Model:	
Date Started:	**26-11-24**		
Date Finished:	**26-11-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Clayey GRAVEL, dark brown, angular to 20mm, some fine sand, trace coal/bitumen fragments, red brick and glass fragments	D			0.1	
							No more bitumen/coal fragments, becoming sandy gravel, no more clay	D			0	
				1							0	
							End of borehole at 1.5mbgl, target depth reached					

SOIL BOREHOLE K06

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **11-12-24**	Total Depth: **2.50 m**	Coordinates: **5252566.50 mN 527601.55 mE**	Drill Model:
Date Finished: **11-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, black to brown, medium plasticity, grey cobbles (20mm), traces of red brick fragments, no odour	D				
							Black discolouration			0.3		
							Becoming brown, traces of red brick fragments					
				1			FILL: Sandy CLAY, black, medium plasticity, fine to medium grained brown sands, cobbles (100mm)	D/M		0.4		
										0.5		
				2			Becoming brown, traces of red brick fragments			0.6		
										0.6		
							End of Borehole at 2.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K07

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **6-12-24**
Date Finished: **6-12-24**

Bore Size: **mm**
Total Depth: **2.00 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252549.01 mN** **527591.84 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, brown, medium to high plasticity, cobbles (20mm), no odour					
							Becoming black					
							With some yellow sand				1.5	
							FILL: Gravelly CLAY, black, high plasticity, cobbles (40mm), no odour					
				1			Traces of bitumen and ceramics				2.7	
											2.9	
											3.1	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K08

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **6-12-24**
Date Finished: **6-12-24**
Bore Size: **mm**
Total Depth: **2.00 m**
Relative Level: **mRL**
Coordinates: **5252531.53 mN** **527582.13 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey, medium plasticity, gravel cobbles (100mm), no odour	D			3.4	
				1			Gravel cobbles (100mm)				3.8	
							FILL: Gravelly CLAY, black, high plasticity, gravel cobbles (40mm), black discolouration, no odour				1.6	
											1.2	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K09

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **6-12-24**
Date Finished: **6-12-24**
Bore Size: **mm**
Total Depth: **2.00 m**
Relative Level: **mRL**
Coordinates: **5252514.04 mN** **527572.43 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, grey, fine to medium grained sands, cobbles (20mm), no odour	D				
							Becoming brown				1.4	
							Gravels becoming grey, cobbles (200mm)					
				1			FILL: Sandy CLAY, brown, medium plasticity, fine to medium grained sand, grey cobbles (40mm), no odour	D/M			1.0	
							Traces of red brick fragments				1.3	
											1.7	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K10

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **6-12-24**
Date Finished: **6-12-24**
Bore Size: **mm**
Total Depth: **2.00 m**
Relative Level: **mRL**
Coordinates: **5252496.55 mN** **527562.72 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, grey, fine grained sands, cobbles (20mm), no odour	D				
							Becoming black				1.9	
				1			FILL: Sandy CLAY, brown to black, medium plasticity, fine to medium grained brown sands				1.5	
							Becoming high plasticity				0.6	
							Traces of red brick fragments				1.2	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K11

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **6-12-24**	Total Depth: **2.00 m**	Coordinates: **5252479.07 mN 527553.01 mE**	Drill Model:
Date Finished: **6-12-24**	Permit No:		Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly SAND, grey to brown, fine to medium grained sands, grey gravels, cobbles (20mm), no odour	D				
							FILL: Sandy CLAY, grey, medium plasticity, fine to medium grained sands, cobbles (20mm)	D			1.2	
				1							1.2	
							Becoming brown				0.9	
							Becoming black, with some broken glass fragments, slight HC odour	D/M			1.3	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K12

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **25-11-24**
Date Finished: **25-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252461.58 mN** **527543.31 mE**
Permit No:
Drill Type: **NDD / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Concrete					
							FILL: Gravel, grey-black, angular	D				
							FILL: Silty SAND, grey, fine, black, some gravel and coal	D			0	
				1			FILL: Sandy CLAY, brown-orange, some gravel and coal fragments, fine sand	D			0	
							FILL: Gravel, grey-black, angular with some clay	D			0	
							End of borehole at 1.5mbgl, target depth reached					

SOIL BOREHOLE K13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **10-12-24**
Date Finished: **10-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252444.09 mN** **527533.60 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			Asphalt				
							FILL: Gravelly CLAY, brown, medium plasticity, gravel is grey, cobbles up to 40mm	D		0.9	
							Crushed rock				
				1			FILL: Sandy CLAY, black, medium to high plasticity, sand is fine to medium, cobbles up to 20mm	D/M		0.7	
							Becoming brown				
							Becoming black, trace red brick fragments			0.6	
							End of borehole at 1.5mbgl, target depth reached				

SOIL BOREHOLE K14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **26-11-24**
Date Finished: **26-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252426.61 mN** **527523.89 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							Concrete rubble					
							FILL: Clayey SAND, grey, fine grained, clay is medium plasticity, cobbles up to 20mm	D			0	
				1			Increasing red brick fragments	D			0.1	
							End of borehole at 1.5mbgl, target depth reached				0.1	

SOIL BOREHOLE K15

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **26-11-24**
Date Finished: **26-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252409.12 mN** **527514.19 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Clayey SAND, grey-brown, very fine	D				
											0	
							FILL: Sandy CLAY, yellow brown, HP, very fine sand	D			0.3	
				1			FILL: SAND, grey-black, medium-fine, some red brick fragments	D				
											0.3	
							End of borehole at 1.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K16

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **AC**
Checked By:
Date Started: **26-11-24**
Date Finished: **26-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252401.34 mN** **527486.99 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, grey, angular, some clay and fine sand, gravels to 20mm	D			0	
				1			FILL: Clayey SAND, brown, medium-fine, well graded, abundant red brick fragments	D			0	
							some angular gravel to 10mm				0	
							End of borehole at 1.5mbgl, Target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE K17

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **26-11-24**	Total Depth: **1.50 m**	Coordinates: **5252374.15 mN 527494.77 mE**	Drill Model:
Date Finished: **26-11-24**	Permit No:		Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, brown, sub angular to 50mm, some clay and fine sand	D		0.4		
				1			FILL: Clayey SAND, medium-fine, some angular gravels to 10mm and red brick fragments	D		1.2		
										0.4		
							End of borehole at 1.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE K18

Drilling Contractor: **SWD**

Logged By: **AC**
Checked By:
Date Started: **26-11-24**
Date Finished: **26-11-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252359.06 mN** **527486.56 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, brown grey, some clay and sand, angular gravels to 25mm, red brick fragments	D				
							FILL: Gravelly SAND, dark brown, fine, some clay, red brick	D			0	
											0.7	
				1			Minor bitumenous material	D				
							Some larger angular gravels to 40mm	D				
											0.3	
							End of borehole at 1.5mbgl, target depth reached					

SOIL BOREHOLE L08

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **6-12-24**	Total Depth: **2.00 m**	Coordinates: **5252521.82 mN 527599.62 mE**	Drill Model:
Date Finished: **6-12-24**	Permit No:		Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Sandy CLAY, brown to light brown, medium plasticity, fine to medium grained sand, cobbles (20mm), no odour				3.1	
				1			FILL: Sandy CLAY, black, medium to high plasticity, fine to medium grained sand, no odour				2.7	
							Becoming red					
							Becoming black, traces of red brick fragments				1.5	
							Traces of bitumen, black discoloration				2.8	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L09

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **6-12-24**	Total Depth: **2.00 m**	Coordinates: **5252504.33 mN 527589.91 mE**	Drill Model:
Date Finished: **6-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			FILL: Gravelly CLAY, grey to brown, medium plasticity, gravel cobbles (100mm), no odour	D			1.3	
				1			FILL: CLAY, brown, medium to high plasticity, with some gravel cobbles (30mm)				1.8	
							Crushed rock cobbles (200mm), boulders (25cm)				3.4	
											0.7	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L10

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**2.00 m**
Coordinates:	**5252515.97 mN 527527.75 mE**	Drill Model:	
Date Started:	**3-2-24**		
Permit No:		Drill Fluid:	
Date Finished:	**3-2-24**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, grey, medium plasticity, subrounded cobbles (250mm), fine grained sand, no odour	D/M				
											0.4	
				1			Sand becoming yellow to orange, traces of red brick fragments and broken glass				0.5	
							Clay becoming black, sand becoming grey to light grey				0.8	
							Sand becoming black cobbles (50mm)				0.9	
				2			End of Borehole at 2.0 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L11

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252469.36 mN**	Drill Model:	
Date Started:	**6-12-24**		**527570.50 mE**
Date Finished:	**6-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Cobbles, grey, sub-rounded to angular gravels (180mm)					
											1.86	L11_0.5
							FILL: Clayey SAND, dark brown, fine to medium grained sands				0.0	
											1.87	L11_1.0
				1			FILL: Sandy CLAY, mottled brown, green to grey, fine grained sands				0.0	
							Mottled grey to dark brown				1.88	L11_1.5, QC143, QC144
											0.0	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L12

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **AC**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **3-12-24**	Total Depth: **1.50 m**	Coordinates: **5252451.87 mN 527560.79 mE**	Drill Model:
Date Finished: **3-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly SAND, brown-grey, medium-fine, with some clay, with some basalt cobbles and 50mm Bitumen cobbles	D		0.6		
							Black, broken glass present, red brick fragments	D		1.5		
				1						0.7		
							End of borehole at 1.5mbgl, Target depth reached					

SOIL BOREHOLE L13

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **5-12-24**	Total Depth: **1.50 m**	Coordinates: **5252434.39 mN 527551.09 mE**	Drill Model:
Date Finished: **5-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, brown to grey, medium plasticity, fine to course grained sand, gravel cobbles (20mm), no odour	D				
							Traces of ceramics				1.92	L13_0.5
							FILL: Sandy CLAY, medium to high plasticity, fine grained sand, cobbles (20mm), no odour	D/M			2.8	
							Becoming black					
											1.93	L13_1.0
				1							1.6	
							Becoming red to brown				1.94	L13_1.5
							Becoming black				2.7	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L14

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252399.41 mN**	Drill Model:	
Date Started:	**5-12-24**		**527531.67 mE**
Date Finished:	**5-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, grey to brown, medium plasticity, gravel cobbles (20mm), no odour	D			1.95	L14_0.5
							Traces of tarp and crushd rock				1.9	
											1.96	L14_1.0
				1			FILL: Gravelly CLAY, black, medium plasticity, traces red brick fragments, coarse gravel, slight HC odour	D/M			2.5	
											1.97	L14_1.5
											3.1	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L15

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Relative Level: **mRL**
Coordinates: **5252399.41 mN**
527531.67 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, brown, medium plasticity, gravel cobbles (40mm), no odour	D				
										0.7	1.98	L15_0.5
							Becoming grey					
							Becoming brown			1	1.99	L15_1.0
				1			Becoming black, traces of red brick fragments	D/M		1.5		
										2.1	1.100	L15_1.5
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE L16

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **27-11-24**	Total Depth: **1.50 m**	Coordinates: **5252381.93 mN 527521.97 mE**	Drill Model:
Date Finished: **27-11-24**	Permit No:		Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravel, brown angular to 40 mm sub angular					
											1.101	L16_0.5, QC115, QC116
							FILL: Clayey SAND, black, brown, medium-fine, well graded, red brick fragments, some gravels to 30mm, sub angular				0.9	
											1.102	L16_1.0
				1							1.0	
											1.103	L16_1.5
											0.9	
							End of Borehole at 1.5 mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 8/4/25

SOIL BOREHOLE L17

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**CC / SSA**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252364.44 mN**	Drill Model:	
Date Started:	**27-11-24**		**527512.26 mE**
Date Finished:	**27-11-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, grey to black, angular (50mm), traces of bitumen/coal fragments and red brick fragments, no odour	D				
							FILL: Gravelly CLAY, dark brown, high plasticity, medium to fine grained sand, angular gravels (15mm), no odour	D		1.104 0.0		L17_0.5
				1						1.105 1.3		L17_1.0
							Becoming dark grey to black, with some fine sand, decreasing gravel, faint organic odour			1.106 1.2		L17_1.5
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE L18

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **27-11-24**
Date Finished: **27-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252349.39 mN** **527503.89 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, dark grey, angular gravels (50mm), with some clay and red brick fragments, no odour	D				
							FILL: Sandy CLAY, dark brown to black to grey, with some angular gravels (20mm), red brick fragments, no odour	D		1.107		L18_0.5
										0.0		
										1.108		L18_1.0
				1			Faint HC odour			1.3		
										1.109		L18_1.5
										1.0		
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M09

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **AC**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **1.50 m**	Coordinates: **5252494.63 mN**	Drill Model:
Date Started: **3-12-24**		**527607.40 mE**	
Date Finished: **3-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Timber rail	D				
							FILL: Sandy GRAVEL, grey, angular to 40mm	D				
											1.2	
							FILL: Gravelly SAND, dark grey, medium-fine, angular gravels to 10 mm, trace subrounded cobbles	D				
							FILL: Clayey SAND, light brown, medium-fine	D			2.9	
				1								
							Becoming dark-grey, timber fragment	D				
							Becoming red brown, slag, red brick fragment	D			1.5	
							End of borehole at 1.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M10

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Date Started: **3-12-24**	Total Depth: **1.50 m**	Coordinates: **5252477.14 mN 527597.69 mE**	Drill Model:
Date Finished: **3-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, grey, angular gravels (25mm), medium to fine grained well graded sand, no odour	D				
							Becoming light brown					
							FILL: Gravelly SAND, grey to black, medium to fine grained well graided sand, no odour			1.113 1.9		M10_0.5
							FILL: SAND with cobbles (170mm), sub-rounded, orange to brown, medium to fine grained sand, with some clay, no odour					
				1			FILL: Gravelly CLAY, dark grey to brown, medium plasticity, angular gravels (20mm), some medium to fine grained sand, traces of brick fragments and organic wood, no odour			1.114 1.5		M10_1.0
										1.115 1.7		M10_1.5
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE M11

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252459.65 mN 527587.99 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, grey to black, medium plasticity, fine to medium grained sand, with some dolerite cobbles (20mm)	D			1.116	M11_0.5, QC123, QC124
										1.7		
							Becoming light grey					
							Becoming black				1.117	M11_1.0
				1			Becoming brown, traces of red brick fragments			1.6		
							Becoming light grey					
							Becoming brown to black				1.118	M11_1.5
										1.5		
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M12

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252442.17 mN 527578.28 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, grey, angular gravels (10mm), medium to fine grained, well graded sand, no odour	D				
							FILL: Gravelly CLAY,dark brown, black angular gravels (10mm), high plasticity, with some coal and ceramics, no odour				1.119	M12_0.5
							FILL: Clayey SAND, brown, medium to fine grained, high plasticity clay, no odour				0.0	
				1			FILL: Sandy CLAY, dark brown to black, some coal, glass, wood, and ceramic fragments, black discolouration, no odour				1.120	M12_1.0
											0.3	
											1.121	M12_1.5
											0.5	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **5-12-24**
Date Finished: **5-12-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Relative Level: **mRL**
Coordinates: **5252424.68 mN**
527568.57 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, grey, medium plasticity, gravel cobbles (20mm), no odour	D				
											1.122	M13_0.5
							Becoming black, traces of ceramics			1.5		
											1.123	M13_1.0
				1			Black discolouration			1.6		
							Becoming light brown, traces of red brick fragment				1.124	M13_1.5
										1.0		
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252407.19 mN** **527558.87 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, dark brown to grey, angular (25mm), medium to fine well graded sand, traces of sub-rounded cobbles, no odour	D			1.125	M14_1.5
											0.1	
											1.126	M14_1.5
				1			FILL: Sandy CLAY, dark brown, high plasticity, medium to fine grained sand, with some gravel, charcoal/coal and red brick fragments, traces of sub-rounded cobbles, no odour	D			0.6	
											1.127	M14_1.5
							Becoming light brown				0.1	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M15

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252389.71 mN** **527549.16 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, grey, angular (40mm), no odour	D				
							FILL: Sandy GRAVEL, dark brown, angular (20mm), medium to fine well graded sand, no odour	D			1.128	M15_0.5
											0.0	
											1.129	M15_1.0
				1			With some red brick rubble				0.0	
											1.130	M15_1.5
											0.1	
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE M16

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252372.22 mN** **527539.45 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, dark grey, angular (40mm), with some sub-rounded cobbles, no odour	D			1.131	M16_0.5
											1.0	
											1.132	M16_1.0
				1			Becoming clayey gravel, high plasticity clay				0.6	
											1.133	M16_1.5
							FILL: Gravelly CLAY, dark grey, high plasticity, angular gravels (10mm), with some organic material	D			0.4	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE M17

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
Logged By: **TG**	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Checked By:	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **CC / SSA**
Date Started: **27-11-24**	Total Depth: **1.50 m**	Coordinates: **5252354.73 mN 527529.75 mE**	Drill Model:
Date Finished: **27-11-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, dark grey, angular gravels (50mm), with some clay and red brick fragments, no odour	D		1.134		M17_0.5
											13	
				1						1.135		M17_1.0
											1.2	
										1.136		M17_1.5
							FILL: Gravelly CLAY, dark grey to black, angular gravels (20mm), slight black discolouration, no odour	D			1.0	
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE M18

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **27-11-24**
Date Finished: **27-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252339.72 mN** **527521.40 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, dark brown, angular well graded gravels (50mm), with some clay, no odour					
							FILL: Gravelly CLAY, dark brown, angular well graded gravels (50mm), red brick fragments, no odour				1.137	M18_0.5
											0.0	
				1							1.138	M18_1.0
											0.0	
							Becoming grey to black, with some coal/bitumen material, faint HC odour, black discolouration				1.139	M18_1.5
											1.3	
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE N09

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252485.73 mN 527621.90 mE**	Drill Model:	
Date Started:	**30-11-24**		
Permit No:		Drill Fluid:	
Date Finished:	**30-11-24**		

Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
0			Asphalt					
			FILL: Gravelly CLAY, grey, medium plasticity, gravel cobbles (50mm), no odour	D				
						1.140		N09_0.5
						2.8		
						1.141		N09_1.0
1			FILL: CLAY, black, high plasticity, traces of bitumen			1.2		
			Traces of red brick fragments			1.142		N09_1.5
						2.1		
			End of Borehole at 1.5 m bgl					

Method: | Casing: | Penetration (S M H R): | Groundwater Data and Comments:

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N10

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252467.41 mN** **527615.08 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly SAND, grey to light brown, medium to fine grained sand, dolerite cobbles (20mm), no odour	D		1.143		N10_0.5
											4.1	
				1			Becoming black, cobbles (250mm), traces of red brick fragments			1.144		N10_1.0
											1.7	
							FILL: Sandy CLAY, grey to black, low to medium plasticity, yellow to brown sand, very fine, no odour			1.145		N10_1.5
							Sand becoming black				1.0	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N11

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252449.95 mN** **527605.47 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, brown to grey, medium grained angular gravels (20mm), no odour	D				
											1.146	N11_0.5
											0.7	
							Becoming black				1.147	N11_1.0
				1			FILL: Gravelly CLAY, grey to black, medium plasticity, bituman cobbles (50 mm), no odour				1.4	
											1.148	N11_0.5
							Becoming grey				0.4	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N12

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **1.50 m**	Coordinates: **5252432.46 mN**	Drill Model:
Date Started: **3-12-24**		**527595.77 mE**	
Date Finished: **3-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly SAND, light grey, fine grained, angular gravels (40mm), some clay, traces of sub rounded cobbles, no odour	D		1.149 0.5		N12_0.5
				1			FILL: Gravelly CLAY, grey to black, high plasticity, traces of sub-rounded cobbles and brick fragments, some fine grained sands, no odour			1.150 1.0		N12_1.0
										1.151 1.1		N12_1.5
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N13

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252414.97 mN** **527586.06 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly SAND, grey to brown, medium grained, well graded, angular to 40mm	D				
											1.152	N13_0.5
											1.8	
											1.153	N13_1.0
				1			FILL: Sandy CLAY, mottled grey, brown to black, high plasticity, medium to fine grained sand, some angular gravels, traces of red brick fragments and rounded cobbles				1.8	
											1.154	N13_1.5
											1.3	
							End of Borehole at 1.5 m bgl					

SOIL BOREHOLE N14

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252397.49 mN** **527576.35 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, light brown, angular gravels (40mm), medium to fine grained well graded sand, no odour	D			1.155	N14_0.5
											0.0	
											1.156	N14_1.0
				1			Becoming clayey gravel with some medium to fine grained sands, no odour				0.0	
											1.157	N14_1.5
							FILL: Sandy CLAY, dark grey, high plasticity, fine sand, with some sub-angular gravel (10mm), traces of ceramic fragments, no odour				0.6	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N15

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252380.00 mN 527566.65 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy GRAVEL, light brown, angular gravels (10mm), medium to fine grained sand, no odour	D			1.158	N15_0.5
											0.0	
				1			FILL: Gravelly SAND, light brown, medium to fine grained sand, with some clay, angular gravels (10mm), no odour	D			1.159	N15_1.0
											0.3	
											1.160	N15_1.5
							Becoming red-brown, with red brick fragments				0.4	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N16

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**

Logged By: **AC**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Relative Level: **mRL**
Coordinates: **5252363.25 mN**
527556.70 mE
Permit No:

Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly SAND, medium-coarse grained, grey-brown, angular gravels to 50mm					
											3.1	
				1			as above, brown				2.2	
							FILL: Sandy CLAY, dark grey, HP, fine sand, some gravel, angular 10mm, red brick fragments				2.2	
							End of borehole at 1.5mbgl, target depth reached					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N17

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **27-11-24**
Date Finished: **27-11-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252344.74 mN** **527546.27 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL, brown, angular (50mm), no odour	D				
											1.164	N17_0.5
											1.6	
											1.165	N17_1.0
				1			Becoming light brown, with some gravels (20mm)				1.8	
											1.166	N17_1.5
							Sandy CLAY: mottled brown to grey, high plasticity, very fine sands, with some black organic material, no odour				0.0	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE N18

Drilling Contractor: **SWD**

Logged By: **TG**
Checked By:
Date Started: **27-11-24**
Date Finished: **27-11-24**

Bore Size: **mm**
Total Depth: **1.50 m**

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Relative Level: **mRL**
Coordinates: **5252330.08 mN** **527538.91 mE**
Permit No:

Client:
Location: **Evans Street, Hobart**
Drill Type: **SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: GRAVEL and CLAY, dark grey, high plasticity clay, angular gravels (10mm), red brick fragments, no odour	D			1.167	N18_0.5
											1.3	
				1			With some medium to fine grained sands				1.168	N18_1.0
											1.0	
											1.169	N18_1.5
											1.1	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE O12

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252423.98 mN**	Drill Model:	
Date Started:	**3-12-24**		**527610.55 mE**
Date Finished:	**3-12-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, grey to brown, high plasticity, angular gravels (50mm), well graded, traces of red brick fragments, no odour	D			1.170	O12_0.5
							Becoming light brown, with some medium to fine grained sand				1.2	
				1			Becoming dark grey				1.171	O12_1.0
											0.7	
											1.172	O12_1.5
											1.0	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE O13

Drilling Contractor: **SWD**	Project Name: **Macquarie Point Development Project**	Client:	
	Project No.: **60598077**	Location: **Evans Street, Hobart**	
Logged By: **TG**	Bore Size: **mm**	Relative Level: **mRL**	Drill Type: **Sonic**
Checked By:	Total Depth: **1.50 m**	Coordinates: **5252406.73 mN**	Drill Model:
Date Started: **5-12-24**		**527601.05 mE**	
Date Finished: **5-12-24**		Permit No:	Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Gravelly CLAY, brown to light brown, medium plasticity, cobbles (30mm), no odour	D		1.173		O13_0.5
							Becoming grey to brown, cobbles (100mm), crushed rock			1.0		
				1			Becoming brown to black, high plasticity, cobbles (20mm)	D/M		1.174		O13_1.0
										0.9		
							Traces of red brick fragment and broken glass			1.175		O13_1.5
										1.8		
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE O14

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **3-12-24**
Date Finished: **3-12-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252389.63 mN** **527590.67 mE**
Permit No:
Drill Type: **Sonic**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
				0			Concrete, concrete powder			1.176 5.4	O14_0.5
				1			FILL: Gravelly CLAY, brown to black, high plasticity, traces of red brick fragments, no odour, concrete powder	D/M		1.177 3.0	O14_1.0
										1.178 1.0	O14_1.5
							End of Borehole at 1.5 m bgl				

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE O15

Project Name: **Macquarie Point Development Project**
Project No.: **60598077**
Client:
Location: **Evans Street, Hobart**

Drilling Contractor: **SWD**
Logged By: **TG**
Checked By:
Date Started: **28-11-24**
Date Finished: **28-11-24**
Bore Size: **mm**
Total Depth: **1.50 m**
Relative Level: **mRL**
Coordinates: **5252373.50 mN** **527580.82 mE**
Permit No:
Drill Type: **CC / SSA**
Drill Model:
Drill Fluid:

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Basalt cobbles (150mm), angular with some gravel and sand, dark brown, no odour	D				
											1.179	O15_0.5
							FILL: GRAVEL, brown, with some clay and red brick fragments, no odour	D			1.2	
											1.180	O15_1.0
				1			Traces of bitumen material and ceramic fragments				3.8	
											1.181	O15_1.5
							FILL: Gravelly CLAY, dark brown, high plasticity, angular gravels (10mm), with some red brick fragments	D			1.8	
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

SOIL BOREHOLE O18

Project Name:	**Macquarie Point Development Project**	Client:	
Drilling Contractor:	**SWD**	Location:	**Evans Street, Hobart**
Project No.:	**60598077**		
Logged By:	**TG**	Bore Size:	**mm**
Relative Level:	**mRL**	Drill Type:	**CC / SSA**
Checked By:		Total Depth:	**1.50 m**
Coordinates:	**5252320.95 mN**	Drill Model:	
Date Started:	**27-11-24**		**527555.18 mE**
Date Finished:	**27-11-24**	Permit No:	
		Drill Fluid:	

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			Asphalt					
							FILL: Sandy CLAY, dark brown, high plasticity, fine sands, angular gravels (10mm), with some red brick fragments, slight black discolouration, no odour	D		1.182 1.3		O18_0.5
				1			Increasing red brick fragments			1.183 1.0		O18_1.0
										1.184 1.5		O18_1.5
							End of Borehole at 1.5 m bgl					

02. SOIL BORE LOG 2024 GINT WORKS - TEMPLATE - COPY.GPJ WCC_AUS.GDT 7/4/25

Appendix E

Laboratory Reports

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

28/11/24 # 1165428

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

TRH C10 - C40 * included in 1B105

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	* B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)	1B105	TRH c6-c10 BTEXN	HOLD
✓	J12_0.5	S	25/11/24			1	X	X		
✓	J12_1.0	↓	↓				X			
✓	J12_1.5						X			
✓	K12_0.5						X			
✓	K12_1.0	↓					X	X		
✓	K12_1.5	S					X			X*
✓	QC101	W								X
✓	QC102	W					X			
✓	J13_0.5	S					X	X		
✓	J13_1.0						X			
✓	J13_1.5						X			
✓	J14_0.5						X			
✓	J14_1.0						X			
✓	J14_1.5						X	X		
✓	QC103		↓					Please forward to AKS		
✓	QC104		25/11/24				X			
✓	K14_0.5		26/11/24				X	X		
✓	K14_1.0						X			
✓	K14_1.5						X			

* Extra samples x3 Received J15-0.5, J15-1.0 + J15-1.5 27/11/24 SB

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barnett	Date: 27/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:31 AM	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; ...maldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
✓	K15-0.5	S	26/11/24				X												
✓	K15_1.0						X		X										
✓	K15_1.5						X												
✓	K16_0.5						X		X										
✓	K16_1.0						X												
✓	K16_1.5						X												
✓	QC105	W																X	
✓	QC106	W					X												
✓	I17_0.5	S					X		X										
✓	I17_1.0						X												
✓	I17_1.5						X												
✓	J17_0.5						X												
✓	J17_1.0						X		X										
✓	J17_1.5						X												
*	K16_0.5						X												* K16-0.5, K16_1.0 + K16_1.5 all listed twice on COC - 27/11/24 SB
*	K16_1.0						X												
*	K16_1.5						X		X										
✓	J18_0.5	S					X		X										
✓	J18_1.0	S	26/11/24				X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 27/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:31 Am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page 7 of 4

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory**
PROJECT MANAGER (PM): **Rob Crowe**	SITE: **Macquaire Point**	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI **60693007 7**	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
✓	J18_1.5	S	26/11/24				X												
✓	K18-0.5	↓					X												
✓	K18_1.5						X		X										
✓	K16_1.0						X												
✓	J16_0.5						X												
✓	J16_1.0						X		X										
✓	J16_1.5						X												
✓	K17_0.5						X		X										
✓	K17_1.6						X												
✓	K17_1.5						X												
✓	QC108						Please forward to ALS												
✓	QC107	S	26/11/24				X												
✓	QC109	W	27/11/24															X	
✓	QC110	W	"				X												
✓	N18_0.5	S					X												
✓	N18_1.0						X												
✓	N18_1.5						X												
✓	M18_0.5		↓				X												
✓	M18_1.0	S	27/11/24				X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sherida Bamua	Date: 27/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:31 AM	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): **Rob Crowe**	SITE: **Macquaire Point**	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI **60693007 7**	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
✓	M18_1.5	S	27/11/24				X		X											
✓	018_0.5						X													
✓	018_1.0						X		X											
✓	018_1.5						X													
✓	QC111									X										
✓	QC112									X										
✓	QC113									X										
✓	QC114									X										

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 27/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:31 Am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page 4 of 4

COPY 5

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory**
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	ALS
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
~~QC104~~ QC103		S	25/11/24				X												
QC108		S	"				X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 27/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:31 Am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Friday, 29 November 2024 1:54 PM
To: EnviroSampleVic <EnviroSampleVic@eurofins.com>
Cc: Sheridan Barrett <SheridanBarrett@eurofins.com>; Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; Muller, Jacob <Jacob.Muller@aecom.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Please update analysis for the following samples in Batch 1165428: (and refer to annotated SRN)

Not on COC samples:

- J15_0.5 (B1 – TRH/BTEXN; Metals (Pb, As); PAH trace-level)
- J15_1.0 (B1 – TRH/BTEXN; Metals (Pb, As); PAH trace-level)
- J15_1.5 (IB105 suite)

Remove analysis and place on Hold:

- N18_1.5
- O18_1.5

Remove full PAH trace level suite and only complete IB105 suite (only B(a)P trace level required initially):

- J12_0.5
- J13_0.5
- J14_1.5
- K14_0.5
- K15_1.0
- K16_0.5
- K16_1.5
- I17_0.5
- J17_1.0
- J18_0.5
- K18_1.5
- J16_1.0
- K17_0.5

COC IDs:

- 018_0.5, 1.0 and 1.5; it should be the letter O18_0.5, 1.0 and 1.5

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com

Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
✗	✓	✓	✓	✓

Outlook

RE: Eurofins Sample Receipt Advice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

From Martin, Tim <Timothy.Martin@aecom.com>
Date Sun 01/12/24 8:50 PM
To EnviroSampleVic <EnviroSampleVic@eurofins.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Cc Sheridan Barrett <SheridanBarrett@eurofins.com>; April Pottinger <April.Pottinger@eurofinsanz.com>

1 attachment (112 KB)
1165428_summary_TMupdate2_1Dec.pdf;

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Please see further updates, as previously requested: see attached highlights…

IB105 suite only (without PAH trace level);

- K12_1.0
- J17_1.0
- M18_1.5
- O18_1.0

From: EnviroSampleVic@eurofins.com <EnviroSampleVic@eurofins.com>
Sent: Saturday, 30 November 2024 12:04 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Martin, Tim <Timothy.Martin@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

Dear Valued Client,

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: MACQUAIRE POINT
Project ID: 60693007 7
Turnaround time: 5 Day
Date/Time received Nov 27, 2024 11:31 AM
Eurofins reference 1165428

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10 degrees Celsius.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

✓ Split sample sent to requested external lab.

✗ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Extra samples received J15_0.5, J15_1.0, J15_1.5 samples have been placed on hold. Please advise for analysis.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1165428
Phone: 08 7223 5400
Fax:

Received: Nov 27, 2024 11:31 AM
Due: Dec 4, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X
External Laboratory									

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	J12_0.5	Nov 25, 2024		Soil	M24-No0080419						X		X
2	J12_1.0	Nov 25, 2024		Soil	M24-No0080420	X		X			X	X	X	
3	J12_1.5	Nov 25, 2024		Soil	M24-No0080421	X		X			X	X	X	
4	K12_0.5	Nov 25, 2024		Soil	M24-No0080422	X		X			X	X	X	
5	K12_1.0	Nov 25, 2024		Soil	M24-No0080423						X			X
6	K12_1.5	Nov 25, 2024		Soil	M24-No0080424	X		X			X	X	X	
7	QC102	Nov 25, 2024		Water	M24-No0080425	X		X				X	X	
8	J13_0.5	Nov 25, 2024		Soil	M24-No0080426						X			X
9	J13_1.0	Nov 25, 2024		Soil	M24-No0080427	X		X			X	X	X	
10	J13_1.5	Nov 25, 2024		Soil	M24-No0080428	X		X			X	X	X	
11	J14_0.5	Nov 25, 2024		Soil	M24-No0080429	X		X			X	X	X	
12	J14_1.0	Nov 25, 2024		Soil	M24-No0080430	X		X			X	X	X	
13	J14_1.5	Nov 25, 2024		Soil	M24-No0080431						X			X
14	QC104	Nov 25, 2024		Soil	M24-No0080432	X		X			X	X	X	

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Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1165428
Phone: 08 7223 5400
Fax:

Received: Nov 27, 2024 11:31 AM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
15	K14_0.5	Nov 26, 2024		Soil	M24-No0080433						X			X
16	K14_1.0	Nov 26, 2024		Soil	M24-No0080434	X		X			X	X	X	
17	K14_1.5	Nov 26, 2024		Soil	M24-No0080435	X		X			X	X	X	
18	K15_0.5	Nov 26, 2024		Soil	M24-No0080436	X		X			X	X	X	
19	K15_1.0	Nov 26, 2024		Soil	M24-No0080437						X			X
20	K15_1.5	Nov 26, 2024		Soil	M24-No0080438	X		X			X	X	X	
21	K16_0.5	Nov 26, 2024		Soil	M24-No0080439						X			X
22	K16_1.0	Nov 26, 2024		Soil	M24-No0080440	X		X			X	X	X	
23	K16_1.5	Nov 26, 2024		Soil	M24-No0080441						X			X
24	QC106	Nov 26, 2024		Water	M24-No0080442	X		X				X	X	
25	I17_0.5	Nov 26, 2024		Soil	M24-No0080443						X			X
26	I17_1.0	Nov 26, 2024		Soil	M24-No0080444	X		X			X	X	X	
27	I17_1.5	Nov 26, 2024		Soil	M24-No0080445	X		X			X	X	X	
28	J17_0.5	Nov 26, 2024		Soil	M24-No0080446	X		X			X	X	X	
29	J17_1.0	Nov 26, 2024		Soil	M24-No0080447						X			X
30	J17_1.5	Nov 26, 2024		Soil	M24-No0080448	X		X			X	X	X	
31	J18_0.5	Nov 26, 2024		Soil	M24-No0080449						X			X

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Project ID: 60693007 7

Order No.:
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Phone: 08 7223 5400
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Received: Nov 27, 2024 11:31 AM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
32	J18_1.0	Nov 26, 2024		Soil	M24-No0080450	X		X			X	X	X	
33	J18_1.5	Nov 26, 2024		Soil	M24-No0080451	X		X			X	X	X	
34	K18_0.5	Nov 26, 2024		Soil	M24-No0080452	X		X			X	X	X	
35	K18_1.0	Nov 26, 2024		Soil	M24-No0080453	X		X			X	X	X	
36	K18_1.5	Nov 26, 2024		Soil	M24-No0080454						X			X
37	J16_0.5	Nov 26, 2024		Soil	M24-No0080455	X		X			X	X	X	
38	J16_1.0	Nov 26, 2024		Soil	M24-No0080456						X			X
39	J16_1.5	Nov 26, 2024		Soil	M24-No0080457	X		X			X	X	X	
40	K17_0.5	Nov 26, 2024		Soil	M24-No0080458						X			X
41	K17_1.0	Nov 26, 2024		Soil	M24-No0080459	X		X			X	X	X	
42	K17_1.5	Nov 26, 2024		Soil	M24-No0080460	X		X			X	X	X	
43	QC107	Nov 26, 2024		Soil	M24-No0080461	X		X			X	X	X	
44	QC110	Nov 27, 2024		Water	M24-No0080462	X		X				X	X	
45	N18_0.5	Nov 27, 2024		Soil	M24-No0080463	X		X			X	X	X	
46	N18_1.0	Nov 27, 2024		Soil	M24-No0080464	X		X			X	X	X	
47	N18_1.5	Nov 27, 2024		Soil	M24-No0080465		X							
48	M18_0.5	Nov 27, 2024		Soil	M24-No0080466	X		X			X	X	X	

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Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
49	M18_1.0	Nov 27, 2024		Soil	M24-No0080467	X		X			X	X	X	
50	M18_1.5	Nov 27, 2024		Soil	M24-No0080468						X			X
51	O18_0.5	Nov 27, 2024		Soil	M24-No0080469	X		X			X	X	X	
52	O18_1.0	Nov 27, 2024		Soil	M24-No0080470						X			X
53	O18_1.5	Nov 27, 2024		Soil	M24-No0080471		X							
54	QC111	Nov 27, 2024		Soil	M24-No0080472				X	X				
55	QC112	Nov 27, 2024		Soil	M24-No0080473				X	X				
56	QC113	Nov 27, 2024		Soil	M24-No0080474				X	X				
57	QC114	Nov 27, 2024		Soil	M24-No0080475				X	X				
58	QC101	Nov 25, 2024		Water	M24-No0080476		X							
59	QC105	Nov 26, 2024		Water	M24-No0080477		X							
60	QC109	Nov 27, 2024		Water	M24-No0080478		X							
61	J15_0.5	Nov 27, 2024		Soil	M24-No0080479	X		X			X	X	X	
62	J15_1.0	Nov 27, 2024		Soil	M24-No0080480	X		X			X	X	X	
63	J15_1.5	Nov 27, 2024		Soil	M24-No0080481						X			X
Test Counts						37	5	37	4	4	51	37	37	17

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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1165428-S**
Project name MACQUAIRE POINT
Project ID 60693007 7
Received Date Nov 27, 2024

Client Sample ID			**J12_0.5**	**J12_1.0**	**J12_1.5**	**K12_0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-No0080419**	**M24-No0080420**	**M24-No0080421**	**M24-No0080422**
Date Sampled			**Nov 25, 2024**	**Nov 25, 2024**	**Nov 25, 2024**	**Nov 25, 2024**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	420	290	250	210
TRH C29-C36	50	mg/kg	310	< 50	210	260
TRH C10-C36 (Total)	50	mg/kg	730	290	460	470
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	660	360	410	380
TRH >C34-C40	100	mg/kg	180	< 100	130	< 100
TRH >C10-C40 (total)*	100	mg/kg	840	360	540	380
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	68	59	60	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	10.0	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	10.0	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	10.0	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	1.1	-	-	-
Anthracene	0.5	mg/kg	1.3	-	-	-
Benz(a)anthracene	0.5	mg/kg	4.4	-	-	-
Benzo(a)pyrene	0.5	mg/kg	6.6	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	4.3	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	4.0	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	3.7	-	-	-
Chrysene	0.5	mg/kg	6.5	-	-	-

Client Sample ID			J12_0.5	J12_1.0	J12_1.5	K12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080419	M24-No0080420	M24-No0080421	M24-No0080422
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.6	-	-	-
Fluoranthene	0.5	mg/kg	6.9	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	4.1	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	2.3	-	-	-
Pyrene	0.5	mg/kg	7.8	-	-	-
Total PAH*	0.5	mg/kg	55	-	-	-
2-Fluorobiphenyl (surr.)	1	%	72	-	-	-
p-Terphenyl-d14 (surr.)	1	%	64	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	113	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	70	-	-	-
Polychlorinated Biphenyls						
Comments			G01			
Aroclor-1016	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	-	-
Total PCB*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	113	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	70	-	-	-

Client Sample ID			J12_0.5	J12_1.0	J12_1.5	K12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080419	M24-No0080420	M24-No0080421	M24-No0080422
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	58	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	5.4	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	35	5.4	8.9	37
Barium	10	mg/kg	380	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	1.3	-	-	-
Chromium	5	mg/kg	20	-	-	-
Cobalt	5	mg/kg	17	-	-	-
Copper	5	mg/kg	340	-	-	-
Lead	5	mg/kg	560	840	420	290
Manganese	5	mg/kg	460	-	-	-
Mercury	0.1	mg/kg	0.8	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	37	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	210	-	-	-
Zinc	5	mg/kg	1100	-	-	-
Sample Properties						
% Moisture	1	%	19	18	18	14

Client Sample ID			J12_0.5	J12_1.0	J12_1.5	K12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080419	M24-No0080420	M24-No0080421	M24-No0080422
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.061	0.051	0.020
Acenaphthylene	0.005	mg/kg	-	0.67	0.83	0.043
Anthracene	0.005	mg/kg	-	2.0	2.1	0.10
Benz(a)anthracene	0.005	mg/kg	-	7.2	8.6	0.31
Benzo(a)pyrene - low level	0.005	mg/kg	-	11	15	0.32
Benzo(b&j)fluoranthene	0.005	mg/kg	-	7.8	9.8	0.37
Benzo(g.h.i)perylene	0.005	mg/kg	-	2.9	3.8	0.14
Benzo(k)fluoranthene	0.005	mg/kg	-	5.9	6.9	0.27
Chrysene	0.005	mg/kg	-	8.4	9.2	0.28
Dibenz(a.h)anthracene	0.005	mg/kg	-	1.1	1.2	0.037
Fluoranthene	0.005	mg/kg	-	8.1	8.8	0.46
Fluorene	0.005	mg/kg	-	0.32	0.30	0.008
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	2.7	3.2	0.081
Naphthalene	0.005	mg/kg	-	0.53	0.52	0.069
Phenanthrene	0.005	mg/kg	-	3.7	3.3	0.27
Pyrene	0.005	mg/kg	-	9.9	11	0.53
Total PAH*	0.005	mg/kg	-	72.281	84.601	3.308
2-Fluorobiphenyl (surr.)	1	%	-	142	144	146
p-Terphenyl-d14 (surr.)	1	%	-	61	59	65

Client Sample ID			K12_1.0	K12_1.5	J13_0.5	J13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080423	M24-No0080424	M24-No0080426	M24-No0080427
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	150	270	250	410
TRH C29-C36	50	mg/kg	150	320	160	270
TRH C10-C36 (Total)	50	mg/kg	300	590	410	680
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	270	530	370	610
TRH >C34-C40	100	mg/kg	< 100	170	100	170
TRH >C10-C40 (total)*	100	mg/kg	270	700	470	780
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	61	58	119	56
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			K12_1.0	K12_1.5	J13_0.5	J13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080423	M24-No0080424	M24-No0080426	M24-No0080427
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	4.7	-	6.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	4.7	-	6.5	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	4.7	-	6.5	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	0.6	-
Anthracene	0.5	mg/kg	< 0.5	-	0.8	-
Benz(a)anthracene	0.5	mg/kg	2.2	-	3.5	-
Benzo(a)pyrene	0.5	mg/kg	2.9	-	4.0	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.7	-	2.9	-
Benzo(g.h.i)perylene	0.5	mg/kg	1.8	-	2.4	-
Benzo(k)fluoranthene	0.5	mg/kg	3.1	-	2.4	-
Chrysene	0.5	mg/kg	2.9	-	5.2	-
Dibenz(a.h)anthracene	0.5	mg/kg	0.8	-	1.3	-
Fluoranthene	0.5	mg/kg	3.5	-	4.7	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.8	-	2.4	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	1.3	-	1.7	-
Pyrene	0.5	mg/kg	3.9	-	5.5	-
Total PAH*	0.5	mg/kg	27	-	37	-
2-Fluorobiphenyl (surr.)	1	%	148	-	57	-
p-Terphenyl-d14 (surr.)	1	%	101	-	128	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	121	-	82	-
Tetrachloro-m-xylene (surr.)	1	%	139	-	76	-

Client Sample ID			K12_1.0	K12_1.5	J13_0.5	J13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080423	M24-No0080424	M24-No0080426	M24-No0080427
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Comments					G01	
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.2	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	121	-	82	-
Tetrachloro-m-xylene (surr.)	1	%	139	-	76	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	134	-	45	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	2.0	-	3.6	-
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	9.5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	120	-
Heavy Metals						
Arsenic	2	mg/kg	6.1	5.4	3.6	6.0
Barium	10	mg/kg	240	-	190	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	530	-	24	-
Cobalt	5	mg/kg	11	-	17	-

Client Sample ID			K12_1.0	K12_1.5	J13_0.5	J13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080423	M24-No0080424	M24-No0080426	M24-No0080427
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Copper	5	mg/kg	150	-	260	-
Lead	5	mg/kg	740	1100	330	530
Manganese	5	mg/kg	140	-	260	-
Mercury	0.1	mg/kg	0.9	-	1.1	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	49	-	28	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	97	-	83	-
Zinc	5	mg/kg	300	-	310	-
Sample Properties						
% Moisture	1	%	30	16	10	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.063	-	0.085
Acenaphthylene	0.005	mg/kg	-	0.36	-	0.36
Anthracene	0.005	mg/kg	-	0.84	-	1.5
Benz(a)anthracene	0.005	mg/kg	-	3.9	-	4.0
Benzo(a)pyrene - low level	0.005	mg/kg	-	6.7	-	5.2
Benzo(b&j)fluoranthene	0.005	mg/kg	-	4.1	-	2.1
Benzo(g.h.i)perylene	0.005	mg/kg	-	1.7	-	2.0
Benzo(k)fluoranthene	0.005	mg/kg	-	3.1	-	1.5
Chrysene	0.005	mg/kg	-	4.7	-	2.8
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.54	-	0.30
Fluoranthene	0.005	mg/kg	-	3.7	-	7.2
Fluorene	0.005	mg/kg	-	0.14	-	0.60
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	1.5	-	1.0
Naphthalene	0.005	mg/kg	-	0.25	-	0.37
Phenanthrene	0.005	mg/kg	-	1.6	-	4.1
Pyrene	0.005	mg/kg	-	4.7	-	8.7
Total PAH*	0.005	mg/kg	-	37.893	-	41.815
2-Fluorobiphenyl (surr.)	1	%	-	141	-	120
p-Terphenyl-d14 (surr.)	1	%	-	64	-	125

Client Sample ID			J13_1.5	J14_0.5	J14_1.0	J14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080428	M24-No0080429	M24-No0080430	M24-No0080431
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	1000	310	110
TRH C29-C36	50	mg/kg	< 50	1100	140	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	2100	450	110
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			J13_1.5	J14_0.5	J14_1.0	J14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080428	M24-No0080429	M24-No0080430	M24-No0080431
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1800	410	< 100
TRH >C34-C40	100	mg/kg	< 100	1000	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	2800	410	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	60	74	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	10.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	10.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	10.0
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	0.7
Anthracene	0.5	mg/kg	-	-	-	1.9
Benz(a)anthracene	0.5	mg/kg	-	-	-	5.8
Benzo(a)pyrene	0.5	mg/kg	-	-	-	6.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	4.3
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	3.8
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	3.8
Chrysene	0.5	mg/kg	-	-	-	8.0
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	1.4
Fluoranthene	0.5	mg/kg	-	-	-	9.0
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	4.6
Naphthalene	0.5	mg/kg	-	-	-	0.5
Phenanthrene	0.5	mg/kg	-	-	-	5.0
Pyrene	0.5	mg/kg	-	-	-	9.9
Total PAH*	0.5	mg/kg	-	-	-	65
2-Fluorobiphenyl (surr.)	1	%	-	-	-	57
p-Terphenyl-d14 (surr.)	1	%	-	-	-	70
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			J13_1.5	J14_0.5	J14_1.0	J14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080428	M24-No0080429	M24-No0080430	M24-No0080431
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	85
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	78
Polychlorinated Biphenyls						
Comments						G01
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.2
Total PCB*	0.1	mg/kg	-	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	-	-	85
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	78
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5

Client Sample ID			J13_1.5	J14_0.5	J14_1.0	J14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080428	M24-No0080429	M24-No0080430	M24-No0080431
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	47
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	5.1
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	4.6	7.5	6.6	11
Barium	10	mg/kg	-	-	-	330
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	17
Chromium	5	mg/kg	-	-	-	23
Cobalt	5	mg/kg	-	-	-	13
Copper	5	mg/kg	-	-	-	120
Lead	5	mg/kg	180	360	560	1200
Manganese	5	mg/kg	-	-	-	290
Mercury	0.1	mg/kg	-	-	-	3.6
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	43
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	120
Zinc	5	mg/kg	-	-	-	5000
Sample Properties						
% Moisture	1	%	20	19	19	22
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.16	< 0.005	-
Acenaphthylene	0.005	mg/kg	0.015	2.3	< 0.005	-
Anthracene	0.005	mg/kg	0.039	3.6	0.39	-
Benz(a)anthracene	0.005	mg/kg	0.13	20	5.5	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.14	40	1.9	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.099	20	2.5	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.11	12	1.8	-
Benzo(k)fluoranthene	0.005	mg/kg	0.067	15	2.7	-
Chrysene	0.005	mg/kg	0.094	19	4.0	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.009	3.2	0.31	-
Fluoranthene	0.005	mg/kg	0.24	18	4.5	-
Fluorene	0.005	mg/kg	0.009	0.50	0.16	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.072	8.4	0.95	-
Naphthalene	0.005	mg/kg	0.012	0.84	0.23	-
Phenanthrene	0.005	mg/kg	0.086	7.7	1.8	-
Pyrene	0.005	mg/kg	0.37	25	6.2	-
Total PAH*	0.005	mg/kg	1.492	195.7	32.94	-
2-Fluorobiphenyl (surr.)	1	%	144	86	69	-
p-Terphenyl-d14 (surr.)	1	%	79	108	61	-

Client Sample ID			QC104	K14_0.5	K14_1.0	K14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080432	M24-No0080433	M24-No0080434	M24-No0080435
Date Sampled			Nov 25, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	170	84	260	330
TRH C29-C36	50	mg/kg	130	67	200	230
TRH C10-C36 (Total)	50	mg/kg	300	151	460	560
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	270	130	410	520
TRH >C34-C40	100	mg/kg	< 100	< 100	120	120
TRH >C10-C40 (total)*	100	mg/kg	270	130	530	640
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	87	89	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	1.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.7	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	2.0	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	1.0	-	-
Benzo(a)pyrene	0.5	mg/kg	-	1.1	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	0.8	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	0.7	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	1.1	-	-
Chrysene	0.5	mg/kg	-	1.1	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	1.1	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	0.9	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	1.1	-	-
Pyrene	0.5	mg/kg	-	1.4	-	-
Total PAH*	0.5	mg/kg	-	10	-	-
2-Fluorobiphenyl (surr.)	1	%	-	144	-	-
p-Terphenyl-d14 (surr.)	1	%	-	134	-	-

Client Sample ID			QC104	K14_0.5	K14_1.0	K14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080432	M24-No0080433	M24-No0080434	M24-No0080435
Date Sampled			Nov 25, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	141	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	147	-	-
Polychlorinated Biphenyls						
Comments				G01		
Aroclor-1016	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.2	-	-
Total PCB*	0.1	mg/kg	-	< 0.2	-	-
Dibutylchlorendate (surr.)	1	%	-	141	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	147	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			QC104	K14_0.5	K14_1.0	K14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080432	M24-No0080433	M24-No0080434	M24-No0080435
Date Sampled			Nov 25, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	126	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.98	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	5.0	2.1	4.9	42
Barium	10	mg/kg	-	76	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	27	-	-
Cobalt	5	mg/kg	-	26	-	-
Copper	5	mg/kg	-	72	-	-
Lead	5	mg/kg	250	81	250	1100
Manganese	5	mg/kg	-	350	-	-
Mercury	0.1	mg/kg	-	0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	46	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	12	-	-
Zinc	5	mg/kg	-	140	-	-
Sample Properties						
% Moisture	1	%	17	12	15	9.7
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.026	-	0.028	0.029
Acenaphthylene	0.005	mg/kg	0.13	-	0.22	0.34
Anthracene	0.005	mg/kg	0.49	-	0.57	0.90
Benz(a)anthracene	0.005	mg/kg	1.6	-	3.7	3.5
Benzo(a)pyrene - low level	0.005	mg/kg	2.9	-	5.7	9.4
Benzo(b&j)fluoranthene	0.005	mg/kg	2.2	-	4.6	6.7
Benzo(g.h.i)perylene	0.005	mg/kg	1.2	-	3.1	6.0
Benzo(k)fluoranthene	0.005	mg/kg	1.7	-	3.6	6.6
Chrysene	0.005	mg/kg	2.1	-	4.0	3.1

Client Sample ID			QC104	K14_0.5	K14_1.0	K14_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080432	M24-No0080433	M24-No0080434	M24-No0080435
Date Sampled			Nov 25, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	0.36	-	0.84	1.5
Fluoranthene	0.005	mg/kg	2.2	-	3.9	7.6
Fluorene	0.005	mg/kg	0.086	-	0.10	0.17
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	1.0	-	2.0	3.7
Naphthalene	0.005	mg/kg	0.18	-	0.21	0.54
Phenanthrene	0.005	mg/kg	1.2	-	1.6	3.1
Pyrene	0.005	mg/kg	2.3	-	4.2	7.9
Total PAH*	0.005	mg/kg	19.672	-	38.368	61.079
2-Fluorobiphenyl (surr.)	1	%	77	-	75	92
p-Terphenyl-d14 (surr.)	1	%	62	-	58	73

Client Sample ID			K15_0.5	K15_1.0	K15_1.5	K16_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080436	M24-No0080437	M24-No0080438	M24-No0080439
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	92	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	92	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	120	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	120	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	100	111	116
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	2.2	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	2.5	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	2.7	-	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	2.1	-	< 0.5

Client Sample ID			K15_0.5	K15_1.0	K15_1.5	K16_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080436	M24-No0080437	M24-No0080438	M24-No0080439
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	1.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	1.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	1.3	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	1.4	-	< 0.5
Chrysene	0.5	mg/kg	-	2.2	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	3.1	-	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	1.7	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	1.7	-	< 0.5
Pyrene	0.5	mg/kg	-	3.1	-	< 0.5
Total PAH*	0.5	mg/kg	-	20	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	127	-	100
p-Terphenyl-d14 (surr.)	1	%	-	105	-	136
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	85	-	148
Tetrachloro-m-xylene (surr.)	1	%	-	141	-	149
Polychlorinated Biphenyls						
Comments				G01		G01
Aroclor-1016	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1221	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1232	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1242	0.1	mg/kg	-	< 0.2	-	< 0.2

Client Sample ID			K15_0.5	K15_1.0	K15_1.5	K16_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080436	M24-No0080437	M24-No0080438	M24-No0080439
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1248	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1254	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1260	0.1	mg/kg	-	< 0.2	-	< 0.2
Total PCB*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	85	-	148
Tetrachloro-m-xylene (surr.)	1	%	-	141	-	149
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	80	-	127
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.3	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	23	-	< 5
Fluoride	100	mg/kg	-	< 100	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.8	< 2
Barium	10	mg/kg	-	330	-	23
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4	-	< 0.4
Chromium	5	mg/kg	-	13	-	17
Cobalt	5	mg/kg	-	14	-	25
Copper	5	mg/kg	-	6.6	-	46
Lead	5	mg/kg	80	8.3	82	15
Manganese	5	mg/kg	-	100	-	210
Mercury	0.1	mg/kg	-	< 0.1	-	< 0.1
Molybdenum	5	mg/kg	-	< 5	-	< 5

Client Sample ID			K15_0.5	K15_1.0	K15_1.5	K16_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080436	M24-No0080437	M24-No0080438	M24-No0080439
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Nickel	5	mg/kg	-	12	-	26
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	< 10	-	< 10
Zinc	5	mg/kg	-	14	-	71
Sample Properties						
% Moisture	1	%	15	16	13	9.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	0.022	-
Acenaphthylene	0.005	mg/kg	0.017	-	0.055	-
Anthracene	0.005	mg/kg	0.023	-	0.32	-
Benz(a)anthracene	0.005	mg/kg	0.18	-	1.4	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.15	-	2.4	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.099	-	1.6	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.12	-	0.86	-
Benzo(k)fluoranthene	0.005	mg/kg	0.059	-	1.7	-
Chrysene	0.005	mg/kg	0.13	-	1.8	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.028	-	0.24	-
Fluoranthene	0.005	mg/kg	0.33	-	2.0	-
Fluorene	0.005	mg/kg	0.005	-	0.084	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.076	-	0.62	-
Naphthalene	0.005	mg/kg	0.007	-	0.15	-
Phenanthrene	0.005	mg/kg	0.054	-	0.77	-
Pyrene	0.005	mg/kg	0.45	-	1.9	-
Total PAH*	0.005	mg/kg	1.728	-	15.921	-
2-Fluorobiphenyl (surr.)	1	%	51	-	78	-
p-Terphenyl-d14 (surr.)	1	%	80	-	53	-

Client Sample ID			K16_1.0	K16_1.5	I17_0.5	I17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080440	M24-No0080441	M24-No0080443	M24-No0080444
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	59	65	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	59	65	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			K16_1.0	K16_1.5	I17_0.5	I17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080440	M24-No0080441	M24-No0080443	M24-No0080444
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	133	122	108	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	1.0	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.2	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.5	1.2	-
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	0.7	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	0.7	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	0.6	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	0.7	< 0.5	-
Chrysene	0.5	mg/kg	-	0.7	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	0.7	< 0.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	-	0.6	< 0.5	-
Total PAH*	0.5	mg/kg	-	5.2	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	147	147	-
p-Terphenyl-d14 (surr.)	1	%	-	130	132	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-

Client Sample ID			K16_1.0	K16_1.5	I17_0.5	I17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080440	M24-No0080441	M24-No0080443	M24-No0080444
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	143	144	-
Tetrachloro-m-xylene (surr.)	1	%	-	147	146	-
Polychlorinated Biphenyls						
Comments				G01	G01	
Aroclor-1016	0.1	mg/kg	-	< 0.2	< 0.2	-
Aroclor-1221	0.1	mg/kg	-	< 0.2	< 0.2	-
Aroclor-1232	0.1	mg/kg	-	< 0.2	< 0.2	-
Aroclor-1242	0.1	mg/kg	-	< 0.2	< 0.2	-
Aroclor-1248	0.1	mg/kg	-	< 0.2	< 0.2	-
Aroclor-1254	0.1	mg/kg	-	< 0.2	< 0.2	-
Aroclor-1260	0.1	mg/kg	-	< 0.2	< 0.2	-
Total PCB*	0.1	mg/kg	-	< 0.2	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	143	144	-
Tetrachloro-m-xylene (surr.)	1	%	-	147	146	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	-
Pentachlorophenol	1	mg/kg	-	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	-	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	-	< 5	< 5	-
Dinoseb	20	mg/kg	-	< 20	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	-	127	127	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.63	< 0.005	-

Client Sample ID			K16_1.0	K16_1.5	I17_0.5	I17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080440	M24-No0080441	M24-No0080443	M24-No0080444
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	< 1	< 1	-
Cyanide (total)	5	mg/kg	-	< 5	< 5	-
Fluoride	100	mg/kg	-	< 100	140	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.3	2.6	< 2
Barium	10	mg/kg	-	210	86	-
Beryllium	2	mg/kg	-	< 2	< 2	-
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	-
Chromium	5	mg/kg	-	24	16	-
Cobalt	5	mg/kg	-	16	12	-
Copper	5	mg/kg	-	45	51	-
Lead	5	mg/kg	41	67	61	35
Manganese	5	mg/kg	-	230	190	-
Mercury	0.1	mg/kg	-	0.2	0.2	-
Molybdenum	5	mg/kg	-	< 5	< 5	-
Nickel	5	mg/kg	-	17	17	-
Selenium	2	mg/kg	-	< 2	< 2	-
Silver	2	mg/kg	-	< 2	< 2	-
Tin	10	mg/kg	-	< 10	< 10	-
Zinc	5	mg/kg	-	190	140	-
Sample Properties						
% Moisture	1	%	12	11	7.6	6.7
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.056	-	-	< 0.005
Anthracene	0.005	mg/kg	0.096	-	-	0.048
Benz(a)anthracene	0.005	mg/kg	0.43	-	-	0.12
Benzo(a)pyrene - low level	0.005	mg/kg	1.1	-	-	0.12
Benzo(b&j)fluoranthene	0.005	mg/kg	0.67	-	-	0.14
Benzo(g.h.i)perylene	0.005	mg/kg	0.44	-	-	0.098
Benzo(k)fluoranthene	0.005	mg/kg	0.67	-	-	0.16
Chrysene	0.005	mg/kg	0.64	-	-	0.11
Dibenz(a.h)anthracene	0.005	mg/kg	0.11	-	-	0.013
Fluoranthene	0.005	mg/kg	0.58	-	-	0.13
Fluorene	0.005	mg/kg	0.009	-	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.32	-	-	0.054
Naphthalene	0.005	mg/kg	0.030	-	-	0.026
Phenanthrene	0.005	mg/kg	0.20	-	-	0.065
Pyrene	0.005	mg/kg	0.68	-	-	0.074
Total PAH*	0.005	mg/kg	6.031	-	-	1.158
2-Fluorobiphenyl (surr.)	1	%	79	-	-	72
p-Terphenyl-d14 (surr.)	1	%	75	-	-	89

Client Sample ID			I17_1.5	J17_0.5	J17_1.0	J17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080445	M24-No0080446	M24-No0080447	M24-No0080448
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	360	410	390
TRH C29-C36	50	mg/kg	77	420	410	450
TRH C10-C36 (Total)	50	mg/kg	77	780	820	840
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	730	720	740
TRH >C34-C40	100	mg/kg	130	150	240	250
TRH >C10-C40 (total)*	100	mg/kg	130	880	960	990
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	108	76	52	126
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	2.2	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	2.4	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	2.7	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	1.9	-
Benzo(a)pyrene	0.5	mg/kg	-	-	1.6	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	1.2	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	0.6	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	1.6	-
Chrysene	0.5	mg/kg	-	-	1.9	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	2.7	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	0.7	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	1.1	-
Pyrene	0.5	mg/kg	-	-	3.3	-
Total PAH*	0.5	mg/kg	-	-	17	-
2-Fluorobiphenyl (surr.)	1	%	-	-	126	-
p-Terphenyl-d14 (surr.)	1	%	-	-	130	-

Client Sample ID			I17_1.5	J17_0.5	J17_1.0	J17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080445	M24-No0080446	M24-No0080447	M24-No0080448
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	80	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	135	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	80	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	135	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			I17_1.5	J17_0.5	J17_1.0	J17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080445	M24-No0080446	M24-No0080447	M24-No0080448
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	119	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	1.4	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	110	92	66
Barium	10	mg/kg	-	-	180	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	9.1	-
Chromium	5	mg/kg	-	-	33	-
Cobalt	5	mg/kg	-	-	17	-
Copper	5	mg/kg	-	-	170	-
Lead	5	mg/kg	25	340	550	430
Manganese	5	mg/kg	-	-	360	-
Mercury	0.1	mg/kg	-	-	0.4	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	37	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	31	-
Zinc	5	mg/kg	-	-	3400	-
Sample Properties						
% Moisture	1	%	12	15	13	11
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.010	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.024	0.080	-	0.041
Anthracene	0.005	mg/kg	0.028	0.38	-	0.23
Benz(a)anthracene	0.005	mg/kg	0.11	1.3	-	0.79
Benzo(a)pyrene - low level	0.005	mg/kg	0.19	1.4	-	0.82
Benzo(b&j)fluoranthene	0.005	mg/kg	0.12	1.1	-	0.71
Benzo(g.h.i)perylene	0.005	mg/kg	0.028	0.51	-	0.33
Benzo(k)fluoranthene	0.005	mg/kg	0.11	1.00	-	0.72
Chrysene	0.005	mg/kg	0.12	1.3	-	0.91

Client Sample ID			I17_1.5	J17_0.5	J17_1.0	J17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080445	M24-No0080446	M24-No0080447	M24-No0080448
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	0.011	0.20	-	0.11
Fluoranthene	0.005	mg/kg	0.13	1.6	-	1.0
Fluorene	0.005	mg/kg	0.007	0.081	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.033	0.42	-	0.26
Naphthalene	0.005	mg/kg	0.014	0.068	-	0.057
Phenanthrene	0.005	mg/kg	0.056	0.87	-	0.54
Pyrene	0.005	mg/kg	0.14	1.7	-	1.0
Total PAH*	0.005	mg/kg	1.121	12.019	-	7.518
2-Fluorobiphenyl (surr.)	1	%	54	69	-	83
p-Terphenyl-d14 (surr.)	1	%	76	52	-	68

Client Sample ID			J18_0.5	J18_1.0	J18_1.5	K18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080449	M24-No0080450	M24-No0080451	M24-No0080452
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	670	81	170	< 50
TRH C29-C36	50	mg/kg	910	64	160	< 50
TRH C10-C36 (Total)	50	mg/kg	1580	145	330	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	1400	140	300	< 100
TRH >C34-C40	100	mg/kg	500	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1900	140	300	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	88	89	78	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	1.3	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.8	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	0.7	-	-	-

Client Sample ID			J18_0.5	J18_1.0	J18_1.5	K18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080449	M24-No0080450	M24-No0080451	M24-No0080452
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	1.0	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	0.7	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	0.7	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	0.9	-	-	-
Chrysene	0.5	mg/kg	0.8	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.7	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	0.6	-	-	-
Total PAH*	0.5	mg/kg	6.6	-	-	-
2-Fluorobiphenyl (surr.)	1	%	52	-	-	-
p-Terphenyl-d14 (surr.)	1	%	136	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	59	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	60	-	-	-
Polychlorinated Biphenyls						
Comments			G01			
Aroclor-1016	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	-	-

Client Sample ID			J18_0.5	J18_1.0	J18_1.5	K18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080449	M24-No0080450	M24-No0080451	M24-No0080452
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1248	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	-	-
Total PCB*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	59	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	60	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	131	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.81	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	7.7	17	4.8	2.1
Barium	10	mg/kg	110	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	0.5	-	-	-
Chromium	5	mg/kg	22	-	-	-
Cobalt	5	mg/kg	14	-	-	-
Copper	5	mg/kg	87	-	-	-
Lead	5	mg/kg	99	150	200	320
Manganese	5	mg/kg	460	-	-	-
Mercury	0.1	mg/kg	0.3	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-

Client Sample ID			J18_0.5	J18_1.0	J18_1.5	K18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080449	M24-No0080450	M24-No0080451	M24-No0080452
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Nickel	5	mg/kg	35	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	27	-	-	-
Zinc	5	mg/kg	210	-	-	-
Sample Properties						
% Moisture	1	%	17	9.5	10.0	6.2
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.017	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	-	0.071	0.058	< 0.005
Anthracene	0.005	mg/kg	-	0.45	0.34	0.013
Benz(a)anthracene	0.005	mg/kg	-	0.95	0.92	0.031
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.8	1.5	0.040
Benzo(b&j)fluoranthene	0.005	mg/kg	-	1.2	1.0	0.056
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.72	0.79	0.039
Benzo(k)fluoranthene	0.005	mg/kg	-	1.1	1.1	0.054
Chrysene	0.005	mg/kg	-	1.3	1.1	0.026
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.17	0.17	< 0.005
Fluoranthene	0.005	mg/kg	-	1.4	1.3	0.047
Fluorene	0.005	mg/kg	-	0.061	< 0.005	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.41	0.47	0.025
Naphthalene	0.005	mg/kg	-	0.099	0.073	0.015
Phenanthrene	0.005	mg/kg	-	0.92	0.65	0.025
Pyrene	0.005	mg/kg	-	1.4	1.4	0.051
Total PAH*	0.005	mg/kg	-	12.068	10.871	0.422
2-Fluorobiphenyl (surr.)	1	%	-	77	68	85
p-Terphenyl-d14 (surr.)	1	%	-	56	61	55

Client Sample ID			K18_1.0	K18_1.5	J16_0.5	J16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080453	M24-No0080454	M24-No0080455	M24-No0080456
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	58	< 50	97	100
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	91
TRH C10-C36 (Total)	50	mg/kg	58	< 50	97	191
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	130	170
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	130	170

Client Sample ID			K18_1.0	K18_1.5	J16_0.5	J16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080453	M24-No0080454	M24-No0080455	M24-No0080456
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	113	98	117	136
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	0.5	-	1.1
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.9	-	1.4
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	1.7
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	0.8
Benzo(a)pyrene	0.5	mg/kg	-	0.5	-	0.9
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	-	1.3
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	-	1.4
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	-	1.6
Total PAH*	0.5	mg/kg	-	0.5	-	6.6
2-Fluorobiphenyl (surr.)	1	%	-	147	-	63
p-Terphenyl-d14 (surr.)	1	%	-	132	-	76
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			K18_1.0	K18_1.5	J16_0.5	J16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080453	M24-No0080454	M24-No0080455	M24-No0080456
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	138	-	86
Tetrachloro-m-xylene (surr.)	1	%	-	148	-	98
Polychlorinated Biphenyls						
Comments				G01		
Aroclor-1016	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1221	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1232	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1242	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1248	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1254	0.1	mg/kg	-	< 0.2	-	< 0.2
Aroclor-1260	0.1	mg/kg	-	< 0.2	-	< 0.2
Total PCB*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	138	-	86
Tetrachloro-m-xylene (surr.)	1	%	-	148	-	98
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	129	-	53
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.46	-	0.73

Client Sample ID			K18_1.0	K18_1.5	J16_0.5	J16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080453	M24-No0080454	M24-No0080455	M24-No0080456
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	< 5
Fluoride	100	mg/kg	-	< 100	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	4.1	< 2	13	9.1
Barium	10	mg/kg	-	130	-	57
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4	-	1.9
Chromium	5	mg/kg	-	27	-	26
Cobalt	5	mg/kg	-	38	-	15
Copper	5	mg/kg	-	58	-	62
Lead	5	mg/kg	740	420	140	69
Manganese	5	mg/kg	-	470	-	250
Mercury	0.1	mg/kg	-	0.2	-	0.2
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	56	-	25
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	12	-	< 10
Zinc	5	mg/kg	-	180	-	740
Sample Properties						
% Moisture	1	%	7.9	13	12	19
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.011	-	< 0.005	-
Acenaphthylene	0.005	mg/kg	0.070	-	0.075	-
Anthracene	0.005	mg/kg	0.45	-	0.48	-
Benz(a)anthracene	0.005	mg/kg	0.62	-	2.1	-
Benzo(a)pyrene - low level	0.005	mg/kg	1.2	-	2.2	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.86	-	1.5	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.58	-	0.93	-
Benzo(k)fluoranthene	0.005	mg/kg	1.1	-	1.5	-
Chrysene	0.005	mg/kg	1.1	-	2.5	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.15	-	0.31	-
Fluoranthene	0.005	mg/kg	1.2	-	2.7	-
Fluorene	0.005	mg/kg	0.035	-	0.092	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.36	-	0.70	-
Naphthalene	0.005	mg/kg	0.066	-	0.20	-
Phenanthrene	0.005	mg/kg	1.1	-	0.96	-
Pyrene	0.005	mg/kg	1.2	-	3.0	-
Total PAH*	0.005	mg/kg	10.102	-	19.247	-
2-Fluorobiphenyl (surr.)	1	%	82	-	104	-
p-Terphenyl-d14 (surr.)	1	%	60	-	78	-

Client Sample ID			J16_1.5	K17_0.5	K17_1.0	K17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080457	M24-No0080458	M24-No0080459	M24-No0080460
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	120	93	68	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	100	-	-
p-Terphenyl-d14 (surr.)	1	%	-	146	-	-

Client Sample ID			J16_1.5	K17_0.5	K17_1.0	K17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080457	M24-No0080458	M24-No0080459	M24-No0080460
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	82	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	56	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	82	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	56	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			J16_1.5	K17_0.5	K17_1.0	K17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080457	M24-No0080458	M24-No0080459	M24-No0080460
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	138	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	4.1	2.4	< 2	< 2
Barium	10	mg/kg	-	90	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	29	-	-
Cobalt	5	mg/kg	-	23	-	-
Copper	5	mg/kg	-	63	-	-
Lead	5	mg/kg	37	33	28	21
Manganese	5	mg/kg	-	390	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	42	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	67	-	-
Sample Properties						
% Moisture	1	%	7.5	12	14	8.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Anthracene	0.005	mg/kg	0.035	-	< 0.005	< 0.005
Benz(a)anthracene	0.005	mg/kg	0.14	-	< 0.005	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	0.15	-	< 0.005	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	0.11	-	< 0.005	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.13	-	< 0.005	< 0.005
Chrysene	0.005	mg/kg	0.11	-	< 0.005	< 0.005

Client Sample ID			J16_1.5	K17_0.5	K17_1.0	K17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080457	M24-No0080458	M24-No0080459	M24-No0080460
Date Sampled			Nov 26, 2024	Nov 26, 2024	Nov 26, 2024	Nov 26, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Fluoranthene	0.005	mg/kg	0.13	-	< 0.005	< 0.005
Fluorene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Naphthalene	0.005	mg/kg	0.030	-	0.006	0.005
Phenanthrene	0.005	mg/kg	0.054	-	< 0.005	< 0.005
Pyrene	0.005	mg/kg	0.13	-	< 0.005	< 0.005
Total PAH*	0.005	mg/kg	1.019	-	0.006	0.005
2-Fluorobiphenyl (surr.)	1	%	99	-	79	84
p-Terphenyl-d14 (surr.)	1	%	70	-	84	65

Client Sample ID			QC107	N18_0.5	N18_1.0	M18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080461	M24-No0080463	M24-No0080464	M24-No0080466
Date Sampled			Nov 26, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	57	110	< 50
TRH C29-C36	50	mg/kg	< 50	140	98	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	197	208	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	160	190	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	160	190	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	69	78	140	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.7	3.7	4.5
Lead	5	mg/kg	42	19	84	87
Sample Properties						
% Moisture	1	%	8.8	5.2	12	6.5

Client Sample ID			QC107	N18_0.5	N18_1.0	M18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080461	M24-No0080463	M24-No0080464	M24-No0080466
Date Sampled			Nov 26, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	0.037	0.009
Acenaphthylene	0.005	mg/kg	< 0.005	0.011	0.32	0.17
Anthracene	0.005	mg/kg	< 0.005	0.056	0.33	0.25
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.15	3.2	1.3
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.18	5.1	2.0
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.14	3.6	0.88
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	1.5	0.58
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.14	3.5	1.1
Chrysene	0.005	mg/kg	< 0.005	0.13	3.0	1.2
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	0.47	0.19
Fluoranthene	0.005	mg/kg	< 0.005	0.18	3.1	1.3
Fluorene	0.005	mg/kg	< 0.005	< 0.005	0.18	0.052
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	1.0	0.39
Naphthalene	0.005	mg/kg	< 0.005	0.026	0.43	0.097
Phenanthrene	0.005	mg/kg	< 0.005	0.11	1.2	0.57
Pyrene	0.005	mg/kg	< 0.005	0.14	3.8	1.6
Total PAH*	0.005	mg/kg	< 0.005	1.263	30.767	11.688
2-Fluorobiphenyl (surr.)	1	%	70	89	62	67
p-Terphenyl-d14 (surr.)	1	%	59	75	81	71

Client Sample ID			M18_1.0	M18_1.5	O18_0.5	O18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080467	M24-No0080468	M24-No0080469	M24-No0080470
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	42	< 20	< 20
TRH C15-C28	50	mg/kg	120	260	120	250
TRH C29-C36	50	mg/kg	120	170	95	150
TRH C10-C36 (Total)	50	mg/kg	240	472	215	400
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	200	380	200	360
TRH >C34-C40	100	mg/kg	100	110	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	300	490	200	360
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	0.4	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	1.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	0.6	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	1.8	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	75	70	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	1.5	< 0.5	< 0.5

Client Sample ID			M18_1.0	M18_1.5	O18_0.5	O18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080467	M24-No0080468	M24-No0080469	M24-No0080470
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	7.7	-	5.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	7.7	-	5.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	7.7	-	5.5
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	1.1	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	3.9	-	2.7
Benzo(a)pyrene	0.5	mg/kg	-	5.3	-	3.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	3.3	-	2.7
Benzo(g.h.i)perylene	0.5	mg/kg	-	2.2	-	2.9
Benzo(k)fluoranthene	0.5	mg/kg	-	4.3	-	2.8
Chrysene	0.5	mg/kg	-	3.8	-	3.3
Dibenz(a.h)anthracene	0.5	mg/kg	-	1.0	-	0.7
Fluoranthene	0.5	mg/kg	-	8.2	-	5.4
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	2.3	-	2.5
Naphthalene	0.5	mg/kg	-	6.0	-	< 0.5
Phenanthrene	0.5	mg/kg	-	3.2	-	1.8
Pyrene	0.5	mg/kg	-	9.4	-	5.7
Total PAH*	0.5	mg/kg	-	54	-	34
2-Fluorobiphenyl (surr.)	1	%	-	130	-	127
p-Terphenyl-d14 (surr.)	1	%	-	130	-	116
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	68	-	96
Tetrachloro-m-xylene (surr.)	1	%	-	133	-	134

Client Sample ID			M18_1.0	M18_1.5	O18_0.5	O18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080467	M24-No0080468	M24-No0080469	M24-No0080470
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	68	-	96
Tetrachloro-m-xylene (surr.)	1	%	-	133	-	134
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	119	-	120
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	4.8	-	3.1
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	< 5
Fluoride	100	mg/kg	-	130	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	5.6	4.3	8.9	12
Barium	10	mg/kg	-	110	-	160
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4	-	0.4
Chromium	5	mg/kg	-	13	-	16
Cobalt	5	mg/kg	-	15	-	15
Copper	5	mg/kg	-	80	-	350

Client Sample ID			M18_1.0	M18_1.5	O18_0.5	O18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080467	M24-No0080468	M24-No0080469	M24-No0080470
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	180	280	340	400
Manganese	5	mg/kg	-	250	-	370
Mercury	0.1	mg/kg	-	1.2	-	0.4
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	22	-	32
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	53	-	12
Zinc	5	mg/kg	-	170	-	340
Sample Properties						
% Moisture	1	%	12	9.8	19	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.014	-	0.007	-
Acenaphthylene	0.005	mg/kg	0.12	-	0.064	-
Anthracene	0.005	mg/kg	0.44	-	0.21	-
Benz(a)anthracene	0.005	mg/kg	1.5	-	0.91	-
Benzo(a)pyrene - low level	0.005	mg/kg	2.8	-	1.9	-
Benzo(b&j)fluoranthene	0.005	mg/kg	1.9	-	1.3	-
Benzo(g.h.i)perylene	0.005	mg/kg	1.3	-	0.88	-
Benzo(k)fluoranthene	0.005	mg/kg	1.6	-	1.3	-
Chrysene	0.005	mg/kg	1.8	-	1.3	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.34	-	0.22	-
Fluoranthene	0.005	mg/kg	2.0	-	1.0	-
Fluorene	0.005	mg/kg	0.091	-	0.048	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.80	-	0.68	-
Naphthalene	0.005	mg/kg	0.13	-	0.16	-
Phenanthrene	0.005	mg/kg	0.83	-	0.44	-
Pyrene	0.005	mg/kg	2.1	-	1.1	-
Total PAH*	0.005	mg/kg	17.765	-	11.519	-
2-Fluorobiphenyl (surr.)	1	%	81	-	81	-
p-Terphenyl-d14 (surr.)	1	%	55	-	56	-

Client Sample ID			QC111	QC112	QC113	QC114
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080472	M24-No0080473	M24-No0080474	M24-No0080475
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	65	67	87	76

Client Sample ID			QC111	QC112	QC113	QC114
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-No0080472	M24-No0080473	M24-No0080474	M24-No0080475
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			J15_0.5	J15_1.0	J15_1.5
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M24-No0080479	M24-No0080480	M24-No0080481
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	4400	1800	2000
TRH C29-C36	50	mg/kg	4500	1500	1800
TRH C10-C36 (Total)	50	mg/kg	8900	3300	3800
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	58	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	58	< 50	< 50
TRH >C16-C34	100	mg/kg	8200	3100	3600
TRH >C34-C40	100	mg/kg	1600	420	520
TRH >C10-C40 (total)*	100	mg/kg	9858	3520	4120
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	101	129	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	14
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	14
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	14
Acenaphthene	0.5	mg/kg	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	1.1
Anthracene	0.5	mg/kg	-	-	0.7
Benz(a)anthracene	0.5	mg/kg	-	-	4.4
Benzo(a)pyrene	0.5	mg/kg	-	-	11
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	5.0
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	2.6
Benzo(k)fluoranthene	0.5	mg/kg	-	-	6.4
Chrysene	0.5	mg/kg	-	-	4.9
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.1
Fluoranthene	0.5	mg/kg	-	-	6.6
Fluorene	0.5	mg/kg	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	3.1

Client Sample ID			J15_0.5	J15_1.0	J15_1.5
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M24-No0080479	M24-No0080480	M24-No0080481
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Naphthalene	0.5	mg/kg	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	1.8
Pyrene	0.5	mg/kg	-	-	9.4
Total PAH*	0.5	mg/kg	-	-	58
2-Fluorobiphenyl (surr.)	1	%	-	-	60
p-Terphenyl-d14 (surr.)	1	%	-	-	136
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	59
Tetrachloro-m-xylene (surr.)	1	%	-	-	128
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	59
Tetrachloro-m-xylene (surr.)	1	%	-	-	128

Client Sample ID			J15_0.5	J15_1.0	J15_1.5
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M24-No0080479	M24-No0080480	M24-No0080481
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit			
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5
Dinoseb	20	mg/kg	-	-	< 20
Phenol	0.5	mg/kg	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	76
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20
Semivolatile Organics					
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	9.3
Chromium (hexavalent)	1	mg/kg	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	< 5
Fluoride	100	mg/kg	-	-	< 100
Heavy Metals					
Arsenic	2	mg/kg	8.3	5.0	8.8
Barium	10	mg/kg	-	-	150
Beryllium	2	mg/kg	-	-	< 2
Cadmium	0.4	mg/kg	-	-	5.2
Chromium	5	mg/kg	-	-	37
Cobalt	5	mg/kg	-	-	16
Copper	5	mg/kg	-	-	160
Lead	5	mg/kg	320	100	260
Manganese	5	mg/kg	-	-	240
Mercury	0.1	mg/kg	-	-	0.5
Molybdenum	5	mg/kg	-	-	< 5
Nickel	5	mg/kg	-	-	34
Selenium	2	mg/kg	-	-	< 2
Silver	2	mg/kg	-	-	< 2
Tin	10	mg/kg	-	-	31
Zinc	5	mg/kg	-	-	2000
Sample Properties					
% Moisture	1	%	19	15	16

Client Sample ID			J15_0.5	J15_1.0	J15_1.5
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M24-No0080479	M24-No0080480	M24-No0080481
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons (Trace level)					
Acenaphthene	0.005	mg/kg	0.040	0.040	-
Acenaphthylene	0.005	mg/kg	0.25	0.060	-
Anthracene	0.005	mg/kg	0.47	0.070	-
Benz(a)anthracene	0.005	mg/kg	1.5	0.23	-
Benzo(a)pyrene - low level	0.005	mg/kg	1.6	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	1.9	0.18	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.61	0.080	-
Benzo(k)fluoranthene	0.005	mg/kg	1.5	0.15	-
Chrysene	0.005	mg/kg	2.0	0.21	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.19	< 0.005	-
Fluoranthene	0.005	mg/kg	1.9	0.34	-
Fluorene	0.005	mg/kg	0.063	0.010	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.35	0.040	-
Naphthalene	0.005	mg/kg	0.18	0.030	-
Phenanthrene	0.005	mg/kg	0.84	0.15	-
Pyrene	0.005	mg/kg	2.4	0.43	-
Total PAH*	0.005	mg/kg	15.793	2.02	-
2-Fluorobiphenyl (surr.)	1	%	54	106	-
p-Terphenyl-d14 (surr.)	1	%	83	108	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Dec 04, 2024	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Dec 04, 2024	14 Days
- Method: USEPA SW 846 8270			
Chromium (hexavalent)	Melbourne	Dec 04, 2024	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Dec 04, 2024	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
- Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE			
Heavy Metals	Melbourne	Dec 04, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 04, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Total Recoverable Hydrocarbons	Melbourne	Nov 28, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Nov 30, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1165428
Phone: 08 7223 5400
Fax:

Received: Nov 27, 2024 11:31 AM
Due: Dec 4, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	J12_0.5	Nov 25, 2024		Soil	M24-No0080419						X			X
2	J12_1.0	Nov 25, 2024		Soil	M24-No0080420	X		X			X	X	X	
3	J12_1.5	Nov 25, 2024		Soil	M24-No0080421	X		X			X	X	X	
4	K12_0.5	Nov 25, 2024		Soil	M24-No0080422	X		X			X	X	X	
5	K12_1.0	Nov 25, 2024		Soil	M24-No0080423						X			X
6	K12_1.5	Nov 25, 2024		Soil	M24-No0080424	X		X			X	X	X	
7	QC102	Nov 25, 2024		Water	M24-No0080425	X		X				X	X	
8	J13_0.5	Nov 25, 2024		Soil	M24-No0080426						X			X
9	J13_1.0	Nov 25, 2024		Soil	M24-No0080427	X		X			X	X	X	
10	J13_1.5	Nov 25, 2024		Soil	M24-No0080428	X		X			X	X	X	
11	J14_0.5	Nov 25, 2024		Soil	M24-No0080429	X		X			X	X	X	
12	J14_1.0	Nov 25, 2024		Soil	M24-No0080430	X		X			X	X	X	
13	J14_1.5	Nov 25, 2024		Soil	M24-No0080431						X			X
14	QC104	Nov 25, 2024		Soil	M24-No0080432	X		X			X	X	X	

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Company Name: Aecom Aust Pty Ltd Tasmania
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Hobart
Tasmania 7000

Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1165428
Phone: 08 7223 5400
Fax:

Received: Nov 27, 2024 11:31 AM
Due: Dec 4, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
15	K14_0.5	Nov 26, 2024		Soil	M24-No0080433						X			X
16	K14_1.0	Nov 26, 2024		Soil	M24-No0080434	X		X			X	X	X	
17	K14_1.5	Nov 26, 2024		Soil	M24-No0080435	X		X			X	X	X	
18	K15_0.5	Nov 26, 2024		Soil	M24-No0080436	X		X			X	X	X	
19	K15_1.0	Nov 26, 2024		Soil	M24-No0080437						X			X
20	K15_1.5	Nov 26, 2024		Soil	M24-No0080438	X		X			X	X	X	
21	K16_0.5	Nov 26, 2024		Soil	M24-No0080439						X			X
22	K16_1.0	Nov 26, 2024		Soil	M24-No0080440	X		X			X	X	X	
23	K16_1.5	Nov 26, 2024		Soil	M24-No0080441						X			X
24	QC106	Nov 26, 2024		Water	M24-No0080442	X		X				X	X	
25	I17_0.5	Nov 26, 2024		Soil	M24-No0080443						X			X
26	I17_1.0	Nov 26, 2024		Soil	M24-No0080444	X		X			X	X	X	
27	I17_1.5	Nov 26, 2024		Soil	M24-No0080445	X		X			X	X	X	
28	J17_0.5	Nov 26, 2024		Soil	M24-No0080446	X		X			X	X	X	
29	J17_1.0	Nov 26, 2024		Soil	M24-No0080447						X			X
30	J17_1.5	Nov 26, 2024		Soil	M24-No0080448	X		X			X	X	X	
31	J18_0.5	Nov 26, 2024		Soil	M24-No0080449						X			X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
32	J18_1.0	Nov 26, 2024		Soil	M24-No0080450	X		X			X	X	X	
33	J18_1.5	Nov 26, 2024		Soil	M24-No0080451	X		X			X	X	X	
34	K18_0.5	Nov 26, 2024		Soil	M24-No0080452	X		X			X	X	X	
35	K18_1.0	Nov 26, 2024		Soil	M24-No0080453	X		X			X	X	X	
36	K18_1.5	Nov 26, 2024		Soil	M24-No0080454						X			X
37	J16_0.5	Nov 26, 2024		Soil	M24-No0080455	X		X			X	X	X	
38	J16_1.0	Nov 26, 2024		Soil	M24-No0080456						X			X
39	J16_1.5	Nov 26, 2024		Soil	M24-No0080457	X		X			X	X	X	
40	K17_0.5	Nov 26, 2024		Soil	M24-No0080458						X			X
41	K17_1.0	Nov 26, 2024		Soil	M24-No0080459	X		X			X	X	X	
42	K17_1.5	Nov 26, 2024		Soil	M24-No0080460	X		X			X	X	X	
43	QC107	Nov 26, 2024		Soil	M24-No0080461	X		X			X	X	X	
44	QC110	Nov 27, 2024		Water	M24-No0080462	X		X				X	X	
45	N18_0.5	Nov 27, 2024		Soil	M24-No0080463	X		X			X	X	X	
46	N18_1.0	Nov 27, 2024		Soil	M24-No0080464	X		X			X	X	X	
47	N18_1.5	Nov 27, 2024		Soil	M24-No0080465		X							
48	M18_0.5	Nov 27, 2024		Soil	M24-No0080466	X		X			X	X	X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
49	M18_1.0	Nov 27, 2024		Soil	M24-No0080467	X		X			X	X	X	
50	M18_1.5	Nov 27, 2024		Soil	M24-No0080468						X			X
51	O18_0.5	Nov 27, 2024		Soil	M24-No0080469	X		X			X	X	X	
52	O18_1.0	Nov 27, 2024		Soil	M24-No0080470						X			X
53	O18_1.5	Nov 27, 2024		Soil	M24-No0080471		X							
54	QC111	Nov 27, 2024		Soil	M24-No0080472				X	X				
55	QC112	Nov 27, 2024		Soil	M24-No0080473				X	X				
56	QC113	Nov 27, 2024		Soil	M24-No0080474				X	X				
57	QC114	Nov 27, 2024		Soil	M24-No0080475				X	X				
58	QC101	Nov 25, 2024		Water	M24-No0080476		X							
59	QC105	Nov 26, 2024		Water	M24-No0080477		X							
60	QC109	Nov 27, 2024		Water	M24-No0080478		X							
61	J15_0.5	Nov 27, 2024		Soil	M24-No0080479	X		X			X	X	X	
62	J15_1.0	Nov 27, 2024		Soil	M24-No0080480	X		X			X	X	X	
63	J15_1.5	Nov 27, 2024		Soil	M24-No0080481						X			X
Test Counts						37	5	37	4	4	51	37	37	17

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Organochlorine Pesticides							
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	89			70-130	Pass	
TRH >C10-C16	%	87			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	105			70-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2.4-Dinitrophenol	%	34			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Barium	%	107			80-120	Pass	
Beryllium	%	104			80-120	Pass	
Cadmium	%	108			80-120	Pass	
Chromium	%	114			80-120	Pass	
Cobalt	%	109			80-120	Pass	
Copper	%	110			80-120	Pass	
Lead	%	113			80-120	Pass	
Manganese	%	115			80-120	Pass	
Mercury	%	105			80-120	Pass	
Molybdenum	%	112			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	%	107			80-120	Pass	
Selenium	%	98			80-120	Pass	
Silver	%	107			80-120	Pass	
Tin	%	111			80-120	Pass	
Zinc	%	108			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	89			70-130	Pass	
Acenaphthylene	%	82			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	72			70-130	Pass	
Benzo(a)pyrene	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	89			70-130	Pass	
Benzo(k)fluoranthene	%	73			70-130	Pass	
Chrysene	%	72			70-130	Pass	
Dibenz(a.h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	100			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	88			25-140	Pass	
2.4-Dichlorophenol	%	54			25-140	Pass	
2.4.5-Trichlorophenol	%	114			25-140	Pass	
2.4.6-Trichlorophenol	%	87			25-140	Pass	
2.6-Dichlorophenol	%	97			25-140	Pass	
4-Chloro-3-methylphenol	%	88			25-140	Pass	
Pentachlorophenol	%	71			25-140	Pass	
Tetrachlorophenols - Total	%	86			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	36			25-140	Pass	
2-Nitrophenol	%	78			25-140	Pass	
2.4-Dimethylphenol	%	60			25-140	Pass	
2-Methylphenol (o-Cresol)	%	66			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	73			25-140	Pass	
4-Nitrophenol	%	29			25-140	Pass	
Dinoseb	%	43			25-140	Pass	
Phenol	%	67			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	74			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	89			70-130	Pass	
Acenaphthylene	%	82			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	72			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	89			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	73			70-130	Pass	
Chrysene	%	72			70-130	Pass	
Dibenz(a.h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	100			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	119			80-120	Pass	
Barium	%	114			80-120	Pass	
Beryllium	%	106			80-120	Pass	
Cadmium	%	110			80-120	Pass	
Chromium	%	111			80-120	Pass	
Cobalt	%	109			80-120	Pass	
Copper	%	119			80-120	Pass	
Lead	%	110			80-120	Pass	
Manganese	%	119			80-120	Pass	
Mercury	%	105			80-120	Pass	
Molybdenum	%	115			80-120	Pass	
Nickel	%	114			80-120	Pass	
Selenium	%	110			80-120	Pass	
Silver	%	117			80-120	Pass	
Tin	%	112			80-120	Pass	
Zinc	%	116			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(a)pyrene	%	119			70-130	Pass	
Benzo(b&j)fluoranthene	%	89			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	78			70-130	Pass	
Chrysene	%	79			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	76			70-130	Pass	
Naphthalene	%	89			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	70			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	119			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	89			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	78			70-130	Pass	
Chrysene	%	79			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	76			70-130	Pass	
Naphthalene	%	89			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	70			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	110			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	110			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Barium	%	105			80-120	Pass	
Beryllium	%	102			80-120	Pass	
Cadmium	%	107			80-120	Pass	
Chromium	%	113			80-120	Pass	
Cobalt	%	108			80-120	Pass	
Copper	%	110			80-120	Pass	
Lead	%	112			80-120	Pass	
Manganese	%	115			80-120	Pass	
Mercury	%	105			80-120	Pass	
Molybdenum	%	113			80-120	Pass	
Nickel	%	106			80-120	Pass	
Selenium	%	97			80-120	Pass	
Silver	%	106			80-120	Pass	
Tin	%	109			80-120	Pass	
Zinc	%	107			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	90			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	111			70-130	Pass	
Acenaphthylene	%	118			70-130	Pass	
Anthracene	%	104			70-130	Pass	
Benz(a)anthracene	%	98			70-130	Pass	
Benzo(a)pyrene	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	108			70-130	Pass	
Benzo(k)fluoranthene	%	71			70-130	Pass	
Chrysene	%	101			70-130	Pass	
Dibenz(a.h)anthracene	%	116			70-130	Pass	
Fluoranthene	%	81			70-130	Pass	
Fluorene	%	121			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	112			70-130	Pass	
Naphthalene	%	112			70-130	Pass	
Phenanthrene	%	108			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	%	88			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	107			70-130	Pass	
4.4'-DDD	%	123			70-130	Pass	
4.4'-DDE	%	121			70-130	Pass	
4.4'-DDT	%	130			70-130	Pass	
a-HCH	%	110			70-130	Pass	
Aldrin	%	103			70-130	Pass	
b-HCH	%	111			70-130	Pass	
d-HCH	%	118			70-130	Pass	
Dieldrin	%	117			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	110			70-130	Pass	
Endosulfan sulphate	%	115			70-130	Pass	
Endrin	%	92			70-130	Pass	
Endrin aldehyde	%	97			70-130	Pass	
Endrin ketone	%	110			70-130	Pass	
g-HCH (Lindane)	%	111			70-130	Pass	
Heptachlor	%	123			70-130	Pass	
Heptachlor epoxide	%	112			70-130	Pass	
Hexachlorobenzene	%	111			70-130	Pass	
Methoxychlor	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	93			25-140	Pass	
2.4-Dichlorophenol	%	87			25-140	Pass	
2.4.5-Trichlorophenol	%	82			25-140	Pass	
2.4.6-Trichlorophenol	%	87			25-140	Pass	
2.6-Dichlorophenol	%	90			25-140	Pass	
4-Chloro-3-methylphenol	%	99			25-140	Pass	
Pentachlorophenol	%	67			25-140	Pass	
Tetrachlorophenols - Total	%	48			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	50			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	54			25-140	Pass	
2-Nitrophenol	%	83			25-140	Pass	
2.4-Dimethylphenol	%	119			25-140	Pass	
2-Methylphenol (o-Cresol)	%	103			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	107			25-140	Pass	
4-Nitrophenol	%	67			25-140	Pass	
Dinoseb	%	63			25-140	Pass	
Phenol	%	101			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	108			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	97			70-130	Pass	
TRH >C10-C16	%	95			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Barium	%	105			80-120	Pass	
Beryllium	%	106			80-120	Pass	
Cadmium	%	107			80-120	Pass	
Chromium	%	113			80-120	Pass	
Cobalt	%	107			80-120	Pass	
Copper	%	111			80-120	Pass	
Lead	%	113			80-120	Pass	
Manganese	%	116			80-120	Pass	
Mercury	%	105			80-120	Pass	
Molybdenum	%	113			80-120	Pass	
Nickel	%	107			80-120	Pass	
Selenium	%	98			80-120	Pass	
Silver	%	106			80-120	Pass	
Tin	%	111			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	77			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	77			70-130	Pass	
Toluene	%	99			70-130	Pass	
Ethylbenzene	%	82			70-130	Pass	
m&p-Xylenes	%	82			70-130	Pass	
Xylenes - Total*	%	83			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	116			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	105			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	90			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	111			70-130	Pass	
Acenaphthylene	%	118			70-130	Pass	
Anthracene	%	104			70-130	Pass	
Benz(a)anthracene	%	98			70-130	Pass	
Benzo(a)pyrene	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	108			70-130	Pass	
Benzo(k)fluoranthene	%	71			70-130	Pass	
Chrysene	%	101			70-130	Pass	
Dibenz(a.h)anthracene	%	116			70-130	Pass	
Fluoranthene	%	81			70-130	Pass	
Fluorene	%	121			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	112			70-130	Pass	
Naphthalene	%	112			70-130	Pass	
Phenanthrene	%	108			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	%	88			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	107			70-130	Pass	
4.4'-DDD	%	123			70-130	Pass	
4.4'-DDE	%	121			70-130	Pass	
4.4'-DDT	%	130			70-130	Pass	
a-HCH	%	110			70-130	Pass	
Aldrin	%	103			70-130	Pass	
b-HCH	%	111			70-130	Pass	
d-HCH	%	118			70-130	Pass	
Dieldrin	%	117			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	110			70-130	Pass	
Endosulfan sulphate	%	115			70-130	Pass	
Endrin	%	92			70-130	Pass	
Endrin aldehyde	%	97			70-130	Pass	
Endrin ketone	%	110			70-130	Pass	
g-HCH (Lindane)	%	111			70-130	Pass	
Heptachlor	%	123			70-130	Pass	
Heptachlor epoxide	%	112			70-130	Pass	
Hexachlorobenzene	%	111			70-130	Pass	
Methoxychlor	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	93			25-140	Pass	
2.4-Dichlorophenol	%	87			25-140	Pass	
2.4.5-Trichlorophenol	%	82			25-140	Pass	
2.4.6-Trichlorophenol	%	87			25-140	Pass	
2.6-Dichlorophenol	%	90			25-140	Pass	
4-Chloro-3-methylphenol	%	99			25-140	Pass	
Pentachlorophenol	%	67			25-140	Pass	
Tetrachlorophenols - Total	%	48			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	50			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	54			25-140	Pass	
2-Nitrophenol	%	83			25-140	Pass	
2.4-Dimethylphenol	%	119			25-140	Pass	
2-Methylphenol (o-Cresol)	%	103			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	107			25-140	Pass	
4-Nitrophenol	%	67			25-140	Pass	
Dinoseb	%	63			25-140	Pass	
Phenol	%	101			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	108			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	80			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	85			70-130	Pass	
TRH C6-C10	%	88			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
BTEX							
Benzene	%	83			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	79			70-130	Pass	
Xylenes - Total*	%	78			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	101			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	83			70-130	Pass	
TRH C6-C10	%	86			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	81			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	84			70-130	Pass	
m&p-Xylenes	%	83			70-130	Pass	
Xylenes - Total*	%	83			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	127			70-130	Pass	
TRH >C10-C16	%	120			70-130	Pass	
LCS - % Recovery							
Fluoride	%	72			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	89			70-130	Pass	
TRH >C10-C16	%	87			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	93			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-No0076987	NCP	%	72			70-130	Pass	
TRH >C10-C16	M24-No0076987	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M24-No0084352	NCP	%	109			70-130	Pass	
4.4'-DDD	M24-No0084352	NCP	%	101			70-130	Pass	
4.4'-DDE	M24-No0084352	NCP	%	116			70-130	Pass	
4.4'-DDT	M24-No0084352	NCP	%	101			70-130	Pass	
a-HCH	M24-No0084352	NCP	%	94			70-130	Pass	
Aldrin	M24-No0084352	NCP	%	108			70-130	Pass	
b-HCH	M24-No0084352	NCP	%	80			70-130	Pass	
d-HCH	M24-No0084352	NCP	%	113			70-130	Pass	
Dieldrin	M24-No0084352	NCP	%	99			70-130	Pass	
Endosulfan I	M24-No0084352	NCP	%	102			70-130	Pass	
Endosulfan II	M24-No0084352	NCP	%	86			70-130	Pass	
Endosulfan sulphate	M24-No0084352	NCP	%	113			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	M24-No0084352	NCP	%	110			70-130	Pass	
Endrin aldehyde	M24-No0084352	NCP	%	84			70-130	Pass	
Endrin ketone	M24-No0084352	NCP	%	91			70-130	Pass	
g-HCH (Lindane)	M24-No0084352	NCP	%	102			70-130	Pass	
Heptachlor	M24-No0084352	NCP	%	92			70-130	Pass	
Heptachlor epoxide	M24-No0084352	NCP	%	95			70-130	Pass	
Hexachlorobenzene	M24-No0084352	NCP	%	124			70-130	Pass	
Methoxychlor	M24-No0084352	NCP	%	112			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M24-No0079689	NCP	%	90			70-130	Pass	
Aroclor-1260	M24-No0079689	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	M24-No0084858	NCP	%	64			30-130	Pass	
2.4-Dinitrophenol	M24-No0084858	NCP	%	50			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Barium	M24-No0082009	NCP	%	92			75-125	Pass	
Lead	M24-No0082009	NCP	%	106			75-125	Pass	
Zinc	M24-No0082009	NCP	%	92			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0004867	NCP	%	101			70-130	Pass	
Acenaphthylene	M24-De0004867	NCP	%	103			70-130	Pass	
Anthracene	M24-De0004867	NCP	%	94			70-130	Pass	
Benz(a)anthracene	M24-De0004867	NCP	%	89			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0004867	NCP	%	101			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0004867	NCP	%	91			70-130	Pass	
Benzo(k)fluoranthene	M24-De0004867	NCP	%	108			70-130	Pass	
Chrysene	M24-De0004867	NCP	%	109			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0004867	NCP	%	76			70-130	Pass	
Fluoranthene	M24-De0004867	NCP	%	77			70-130	Pass	
Fluorene	M24-De0004867	NCP	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0004867	NCP	%	72			70-130	Pass	
Naphthalene	M24-De0004867	NCP	%	96			70-130	Pass	
Phenanthrene	M24-De0004867	NCP	%	75			70-130	Pass	
Pyrene	M24-De0004867	NCP	%	75			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M24-No0080426	CP	%	99			70-130	Pass	
Acenaphthylene	M24-No0080426	CP	%	94			70-130	Pass	
Anthracene	M24-No0080426	CP	%	100			70-130	Pass	
Benz(a)anthracene	M24-No0080426	CP	%	111			70-130	Pass	
Benzo(a)pyrene	M24-No0080426	CP	%	106			70-130	Pass	
Benzo(b&j)fluoranthene	M24-No0080426	CP	%	79			70-130	Pass	
Benzo(g.h.i)perylene	M24-No0080426	CP	%	78			70-130	Pass	
Benzo(k)fluoranthene	M24-No0080426	CP	%	74			70-130	Pass	
Chrysene	M24-No0080426	CP	%	101			70-130	Pass	
Dibenz(a.h)anthracene	M24-No0080426	CP	%	116			70-130	Pass	
Fluoranthene	M24-No0080426	CP	%	99			70-130	Pass	
Fluorene	M24-No0080426	CP	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-No0080426	CP	%	93			70-130	Pass	
Naphthalene	M24-No0080426	CP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	M24-No0080426	CP	%	101			70-130	Pass	
Pyrene	M24-No0080426	CP	%	107			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M24-No0080426	CP	%	70			30-130	Pass	
2.4-Dichlorophenol	M24-No0080426	CP	%	66			30-130	Pass	
2.4.5-Trichlorophenol	M24-No0080426	CP	%	44			30-130	Pass	
2.4.6-Trichlorophenol	M24-No0080426	CP	%	65			30-130	Pass	
2.6-Dichlorophenol	M24-No0080426	CP	%	46			30-130	Pass	
4-Chloro-3-methylphenol	M24-No0080426	CP	%	65			30-130	Pass	
Pentachlorophenol	M24-No0080426	CP	%	34			30-130	Pass	
Tetrachlorophenols - Total	M24-No0080426	CP	%	90			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-No0080426	CP	%	54			30-130	Pass	
2-Nitrophenol	M24-No0080426	CP	%	60			30-130	Pass	
2.4-Dimethylphenol	M24-No0080426	CP	%	65			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-No0080426	CP	%	80			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-No0080426	CP	%	79			30-130	Pass	
4-Nitrophenol	M24-No0080426	CP	%	48			30-130	Pass	
Dinoseb	M24-No0080426	CP	%	59			30-130	Pass	
Phenol	M24-No0080426	CP	%	85			30-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
Benzo(a)pyrene - low level	M24-No0080426	CP	%	106			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Beryllium	M24-No0080427	CP	%	94			75-125	Pass	
Cadmium	M24-No0080427	CP	%	108			75-125	Pass	
Chromium	M24-No0080427	CP	%	96			75-125	Pass	
Cobalt	M24-No0080427	CP	%	101			75-125	Pass	
Manganese	M24-No0080427	CP	%	86			75-125	Pass	
Mercury	M24-No0080427	CP	%	100			75-125	Pass	
Molybdenum	M24-No0080427	CP	%	112			75-125	Pass	
Nickel	M24-No0080427	CP	%	119			75-125	Pass	
Selenium	M24-No0080427	CP	%	89			75-125	Pass	
Silver	M24-No0080427	CP	%	104			75-125	Pass	
Tin	M24-No0080427	CP	%	91			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-No0080429	CP	%	101			70-130	Pass	
TRH C6-C10	M24-No0080429	CP	%	113			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-No0080429	CP	%	85			70-130	Pass	
Toluene	M24-No0080429	CP	%	82			70-130	Pass	
Ethylbenzene	M24-No0080429	CP	%	87			70-130	Pass	
m&p-Xylenes	M24-No0080429	CP	%	96			70-130	Pass	
o-Xylene	M24-No0080429	CP	%	104			70-130	Pass	
Xylenes - Total*	M24-No0080429	CP	%	98			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-No0080429	CP	%	82			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
				Result 1					
Cyanide (total)	M24-No0080431	CP	%	115			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-No0080437	CP	%	92			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-No0080447	CP	%	87			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M24-No0080458	CP	%	92			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-No0080458	CP	%	120			75-125	Pass	
Beryllium	M24-No0080458	CP	%	119			75-125	Pass	
Cadmium	M24-No0080458	CP	%	121			75-125	Pass	
Chromium	M24-No0080458	CP	%	119			75-125	Pass	
Cobalt	M24-No0080458	CP	%	117			75-125	Pass	
Copper	M24-No0080458	CP	%	113			75-125	Pass	
Mercury	M24-No0080458	CP	%	108			75-125	Pass	
Nickel	M24-No0080458	CP	%	124			75-125	Pass	
Selenium	M24-No0080458	CP	%	107			75-125	Pass	
Silver	M24-No0080458	CP	%	123			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-No0080460	CP	%	99			70-130	Pass	
TRH C6-C10	M24-No0080460	CP	%	100			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-No0080460	CP	%	76			70-130	Pass	
Toluene	M24-No0080460	CP	%	78			70-130	Pass	
Ethylbenzene	M24-No0080460	CP	%	78			70-130	Pass	
m&p-Xylenes	M24-No0080460	CP	%	84			70-130	Pass	
o-Xylene	M24-No0080460	CP	%	81			70-130	Pass	
Xylenes - Total*	M24-No0080460	CP	%	83			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-No0080460	CP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-No0080465	CP	%	129			70-130	Pass	
TRH C6-C10	M24-No0080465	CP	%	123			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-No0080465	CP	%	119			70-130	Pass	
Toluene	M24-No0080465	CP	%	129			70-130	Pass	
Ethylbenzene	M24-No0080465	CP	%	124			70-130	Pass	
m&p-Xylenes	M24-No0080465	CP	%	126			70-130	Pass	
o-Xylene	M24-No0080465	CP	%	129			70-130	Pass	
Xylenes - Total*	M24-No0080465	CP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-No0080465	CP	%	119			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
				Result 1					
Fluoride	M24-No0080468	CP	%	102			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M24-No0080470	CP	%	97			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-No0080426	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M24-No0080426	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0080427	CP	mg/kg	6.0	6.1	1.0	30%	Pass	
Barium	M24-No0080427	CP	mg/kg	290	290	1.0	30%	Pass	
Beryllium	M24-No0080427	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-No0080427	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-No0080427	CP	mg/kg	28	28	<1	30%	Pass	
Cobalt	M24-No0080427	CP	mg/kg	15	15	<1	30%	Pass	
Copper	M24-No0080427	CP	mg/kg	260	260	1.0	30%	Pass	
Lead	M24-No0080427	CP	mg/kg	530	530	<1	30%	Pass	
Manganese	M24-No0080427	CP	mg/kg	350	350	<1	30%	Pass	
Mercury	M24-No0080427	CP	mg/kg	1.6	1.6	<1	30%	Pass	
Molybdenum	M24-No0080427	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-No0080427	CP	mg/kg	30	29	<1	30%	Pass	
Selenium	M24-No0080427	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-No0080427	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-No0080427	CP	mg/kg	77	77	1.0	30%	Pass	
Zinc	M24-No0080427	CP	mg/kg	500	500	1.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-No0080428	CP	%	20	20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-No0080430	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-No0080430	CP	mg/kg	310	330	5.0	30%	Pass	
TRH C29-C36	M24-No0080430	CP	mg/kg	140	160	13	30%	Pass	
TRH >C10-C16	M24-No0080430	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-No0080430	CP	mg/kg	410	440	6.0	30%	Pass	
TRH >C34-C40	M24-No0080430	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-No0080430	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-No0080430	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-No0080430	CP	mg/kg	< 0.5	0.6	24	30%	Pass	
Benz(a)anthracene	M24-No0080430	CP	mg/kg	6.8	7.4	8.0	30%	Pass	
Benzo(a)pyrene	M24-No0080430	CP	mg/kg	2.4	3.4	34	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-No0080430	CP	mg/kg	3.1	2.6	15	30%	Pass	
Benzo(g.h.i)perylene	M24-No0080430	CP	mg/kg	2.3	2.2	6.0	30%	Pass	
Benzo(k)fluoranthene	M24-No0080430	CP	mg/kg	3.4	3.5	4.0	30%	Pass	
Chrysene	M24-No0080430	CP	mg/kg	4.9	5.1	4.0	30%	Pass	
Dibenz(a.h)anthracene	M24-No0080430	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-No0080430	CP	mg/kg	5.6	6.6	16	30%	Pass	
Fluorene	M24-No0080430	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-No0080430	CP	mg/kg	1.2	1.4	20	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M24-No0080430	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-No0080430	CP	mg/kg	2.3	3.0	27	30%	Pass	
Pyrene	M24-No0080430	CP	mg/kg	7.6	8.8	14	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-No0080430	CP	mg/kg	1.9	2.7	34	30%	Fail	Q15
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-No0080430	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-No0080430	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-No0080430	CP	mg/kg	0.39	0.49	24	30%	Pass	
Benz(a)anthracene	M24-No0080430	CP	mg/kg	5.5	6.0	8.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-No0080430	CP	mg/kg	2.5	2.1	15	30%	Pass	
Benzo(g.h.i)perylene	M24-No0080430	CP	mg/kg	1.8	1.7	6.0	30%	Pass	
Benzo(k)fluoranthene	M24-No0080430	CP	mg/kg	2.7	2.8	4.0	30%	Pass	
Chrysene	M24-No0080430	CP	mg/kg	4.0	4.1	4.0	30%	Pass	
Dibenz(a.h)anthracene	M24-No0080430	CP	mg/kg	0.31	0.22	34	30%	Fail	Q15
Fluoranthene	M24-No0080430	CP	mg/kg	4.5	5.3	16	30%	Pass	
Fluorene	M24-No0080430	CP	mg/kg	0.16	0.20	18	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-No0080430	CP	mg/kg	0.95	1.2	20	30%	Pass	
Naphthalene	M24-No0080430	CP	mg/kg	0.23	0.25	5.0	30%	Pass	
Phenanthrene	M24-No0080430	CP	mg/kg	1.8	2.4	27	30%	Pass	
Pyrene	M24-No0080430	CP	mg/kg	6.2	7.1	14	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080432	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080432	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080432	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080432	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080432	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080432	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080432	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080432	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080432	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080433	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080433	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080433	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080433	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080433	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080433	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080433	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080433	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080433	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0080436	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-No0080436	CP	mg/kg	280	240	15	30%	Pass	
Beryllium	M24-No0080436	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-No0080436	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-No0080436	CP	mg/kg	12	18	40	30%	Fail	Q15
Cobalt	M24-No0080436	CP	mg/kg	8.6	9.8	13	30%	Pass	
Copper	M24-No0080436	CP	mg/kg	17	16	6.0	30%	Pass	
Manganese	M24-No0080436	CP	mg/kg	110	100	4.0	30%	Pass	
Molybdenum	M24-No0080436	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-No0080436	CP	mg/kg	13	13	2.0	30%	Pass	
Selenium	M24-No0080436	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-No0080436	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-No0080436	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-No0080436	CP	mg/kg	84	77	8.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-No0080438	CP	%	13	14	7.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080439	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080439	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080439	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080439	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080439	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080439	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080439	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080439	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080439	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-No0080441	CP	mg/kg	< 100	120	22	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080443	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080443	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080443	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080443	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080443	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080443	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080443	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080443	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080443	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-No0080443	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0080447	CP	mg/kg	92	71	26	30%	Pass	
Barium	M24-No0080447	CP	mg/kg	180	170	3.0	30%	Pass	
Beryllium	M24-No0080447	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-No0080447	CP	mg/kg	9.1	8.7	4.0	30%	Pass	
Chromium	M24-No0080447	CP	mg/kg	33	25	27	30%	Pass	
Cobalt	M24-No0080447	CP	mg/kg	17	12	39	30%	Fail	Q15
Copper	M24-No0080447	CP	mg/kg	170	130	26	30%	Pass	
Lead	M24-No0080447	CP	mg/kg	550	650	16	30%	Pass	
Manganese	M24-No0080447	CP	mg/kg	360	270	29	30%	Pass	
Mercury	M24-No0080447	CP	mg/kg	0.4	0.4	8.0	30%	Pass	
Molybdenum	M24-No0080447	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-No0080447	CP	mg/kg	37	30	21	30%	Pass	
Selenium	M24-No0080447	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-No0080447	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-No0080447	CP	mg/kg	31	43	31	30%	Fail	Q15
Zinc	M24-No0080447	CP	mg/kg	3400	2800	17	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080450	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080450	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080450	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080450	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080450	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080450	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080450	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080450	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080450	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080453	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080453	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080453	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080453	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080453	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080453	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080453	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080453	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080453	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-No0080456	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M24-No0080456	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0080457	CP	mg/kg	4.1	4.1	<1	30%	Pass	
Barium	M24-No0080457	CP	mg/kg	140	140	<1	30%	Pass	
Beryllium	M24-No0080457	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-No0080457	CP	mg/kg	1.0	1.0	<1	30%	Pass	
Chromium	M24-No0080457	CP	mg/kg	24	24	<1	30%	Pass	
Cobalt	M24-No0080457	CP	mg/kg	11	11	<1	30%	Pass	
Copper	M24-No0080457	CP	mg/kg	29	29	<1	30%	Pass	
Lead	M24-No0080457	CP	mg/kg	37	37	<1	30%	Pass	
Manganese	M24-No0080457	CP	mg/kg	110	110	<1	30%	Pass	
Mercury	M24-No0080457	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-No0080457	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-No0080457	CP	mg/kg	14	14	<1	30%	Pass	
Selenium	M24-No0080457	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-No0080457	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-No0080457	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-No0080457	CP	mg/kg	410	410	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0080458	CP	mg/kg	2.4	2.4	3.0	30%	Pass	
Barium	M24-No0080458	CP	mg/kg	90	88	3.0	30%	Pass	
Beryllium	M24-No0080458	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-No0080458	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-No0080458	CP	mg/kg	29	29	2.0	30%	Pass	
Cobalt	M24-No0080458	CP	mg/kg	23	23	2.0	30%	Pass	
Copper	M24-No0080458	CP	mg/kg	63	61	3.0	30%	Pass	
Lead	M24-No0080458	CP	mg/kg	33	32	3.0	30%	Pass	
Manganese	M24-No0080458	CP	mg/kg	390	380	2.0	30%	Pass	
Mercury	M24-No0080458	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-No0080458	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-No0080458	CP	mg/kg	42	41	3.0	30%	Pass	
Selenium	M24-No0080458	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-No0080458	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-No0080458	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-No0080458	CP	mg/kg	67	66	2.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-No0080459	CP	%	14	13	7.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080460	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-No0080460	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080460	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-No0080460	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-No0080460	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-No0080460	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-No0080460	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-No0080460	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-No0080470	CP	mg/kg	3.7	6.0	48	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-No0080470	CP	mg/kg	2.9	3.0	3.0	30%	Pass	
Dibenz(a.h)anthracene	M24-No0080470	CP	mg/kg	0.7	1.4	74	30%	Fail	Q15
Fluorene	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-No0080470	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-No0080470	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-No0080470	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-No0080470	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-No0080470	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-No0080470	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-No0080470	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-No0080470	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-No0080470	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-No0080470	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-No0080470	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-No0080470	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-No0080470	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-No0080470	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-No0080470	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-No0080470	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-No0080470	CP	mg/kg	3.1	5.1	48	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-No0080470	CP	%	15	15	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-No0080470	CP	mg/kg	0.025	0.020	22	30%	Pass	
Benzo(g.h.i)perylene	M24-No0080470	CP	mg/kg	2.5	2.6	3.0	30%	Pass	
Benzo(k)fluoranthene	M24-No0080470	CP	mg/kg	2.4	3.4	36	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-No0080470	CP	mg/kg	0.57	1.2	74	30%	Fail	Q15
Naphthalene	M24-No0080470	CP	mg/kg	0.29	0.29	3.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(a)pyrene	M24-No0080471	CP	mg/kg	21	9.0	81	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-No0080471	CP	mg/kg	3.3	1.1	99	30%	Fail	Q15
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-No0080471	CP	mg/kg	21	9.0	81	30%	Fail	Q15
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	M24-No0080471	CP	mg/kg	3.3	1.1	99	30%	Fail	Q15
Naphthalene	M24-No0080471	CP	mg/kg	0.82	0.37	77	30%	Fail	Q15

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Site Number 1254

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Attention: **Robert Crowe**

Report **1165428-W**
Project name MACQUAIRE POINT
Project ID 60693007 7
Received Date Nov 27, 2024

Client Sample ID			**QC102**	**QC106**	**QC110**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**M24-No0080425**	**M24-No0080442**	**M24-No0080462**
Date Sampled			**Nov 25, 2024**	**Nov 26, 2024**	**Nov 27, 2024**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1
BTEX					
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	111	120	105
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons (Trace level)					
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			QC102	QC106	QC110
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M24-No0080425	M24-No0080442	M24-No0080462
Date Sampled			Nov 25, 2024	Nov 26, 2024	Nov 27, 2024
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons (Trace level)					
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	110	100	100
p-Terphenyl-d14 (surr.)	1	%	130	130	120
Heavy Metals					
Arsenic	0.001	mg/L	< 0.001	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Nov 28, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Nov 28, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Nov 28, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Nov 28, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Nov 28, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Nov 28, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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Company Name: Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1165428
Phone: 08 7223 5400
Fax:

Received: Nov 27, 2024 11:31 AM
Due: Dec 4, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	J12_0.5	Nov 25, 2024		Soil	M24-No0080419						X			X
2	J12_1.0	Nov 25, 2024		Soil	M24-No0080420	X		X			X	X	X	
3	J12_1.5	Nov 25, 2024		Soil	M24-No0080421	X		X			X	X	X	
4	K12_0.5	Nov 25, 2024		Soil	M24-No0080422	X		X			X	X	X	
5	K12_1.0	Nov 25, 2024		Soil	M24-No0080423						X			X
6	K12_1.5	Nov 25, 2024		Soil	M24-No0080424	X		X			X	X	X	
7	QC102	Nov 25, 2024		Water	M24-No0080425	X		X				X	X	
8	J13_0.5	Nov 25, 2024		Soil	M24-No0080426						X			X
9	J13_1.0	Nov 25, 2024		Soil	M24-No0080427	X		X			X	X	X	
10	J13_1.5	Nov 25, 2024		Soil	M24-No0080428	X		X			X	X	X	
11	J14_0.5	Nov 25, 2024		Soil	M24-No0080429	X		X			X	X	X	
12	J14_1.0	Nov 25, 2024		Soil	M24-No0080430	X		X			X	X	X	
13	J14_1.5	Nov 25, 2024		Soil	M24-No0080431						X			X
14	QC104	Nov 25, 2024		Soil	M24-No0080432	X		X			X	X	X	

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Project ID: 60693007 7

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
15	K14_0.5	Nov 26, 2024		Soil	M24-No0080433						X			X
16	K14_1.0	Nov 26, 2024		Soil	M24-No0080434	X		X			X	X	X	
17	K14_1.5	Nov 26, 2024		Soil	M24-No0080435	X		X			X	X	X	
18	K15_0.5	Nov 26, 2024		Soil	M24-No0080436	X		X			X	X	X	
19	K15_1.0	Nov 26, 2024		Soil	M24-No0080437						X			X
20	K15_1.5	Nov 26, 2024		Soil	M24-No0080438	X		X			X	X	X	
21	K16_0.5	Nov 26, 2024		Soil	M24-No0080439						X			X
22	K16_1.0	Nov 26, 2024		Soil	M24-No0080440	X		X			X	X	X	
23	K16_1.5	Nov 26, 2024		Soil	M24-No0080441						X			X
24	QC106	Nov 26, 2024		Water	M24-No0080442	X		X				X	X	
25	I17_0.5	Nov 26, 2024		Soil	M24-No0080443						X			X
26	I17_1.0	Nov 26, 2024		Soil	M24-No0080444	X		X			X	X	X	
27	I17_1.5	Nov 26, 2024		Soil	M24-No0080445	X		X			X	X	X	
28	J17_0.5	Nov 26, 2024		Soil	M24-No0080446	X		X			X	X	X	
29	J17_1.0	Nov 26, 2024		Soil	M24-No0080447						X			X
30	J17_1.5	Nov 26, 2024		Soil	M24-No0080448	X		X			X	X	X	
31	J18_0.5	Nov 26, 2024		Soil	M24-No0080449						X			X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
32	J18_1.0	Nov 26, 2024		Soil	M24-No0080450	X		X			X	X	X	
33	J18_1.5	Nov 26, 2024		Soil	M24-No0080451	X		X			X	X	X	
34	K18_0.5	Nov 26, 2024		Soil	M24-No0080452	X		X			X	X	X	
35	K18_1.0	Nov 26, 2024		Soil	M24-No0080453	X		X			X	X	X	
36	K18_1.5	Nov 26, 2024		Soil	M24-No0080454						X			X
37	J16_0.5	Nov 26, 2024		Soil	M24-No0080455	X		X			X	X	X	
38	J16_1.0	Nov 26, 2024		Soil	M24-No0080456						X			X
39	J16_1.5	Nov 26, 2024		Soil	M24-No0080457	X		X			X	X	X	
40	K17_0.5	Nov 26, 2024		Soil	M24-No0080458						X			X
41	K17_1.0	Nov 26, 2024		Soil	M24-No0080459	X		X			X	X	X	
42	K17_1.5	Nov 26, 2024		Soil	M24-No0080460	X		X			X	X	X	
43	QC107	Nov 26, 2024		Soil	M24-No0080461	X		X			X	X	X	
44	QC110	Nov 27, 2024		Water	M24-No0080462	X		X				X	X	
45	N18_0.5	Nov 27, 2024		Soil	M24-No0080463	X		X			X	X	X	
46	N18_1.0	Nov 27, 2024		Soil	M24-No0080464	X		X			X	X	X	
47	N18_1.5	Nov 27, 2024		Soil	M24-No0080465		X							
48	M18_0.5	Nov 27, 2024		Soil	M24-No0080466	X		X			X	X	X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
49	M18_1.0	Nov 27, 2024		Soil	M24-No0080467	X		X			X	X	X	
50	M18_1.5	Nov 27, 2024		Soil	M24-No0080468						X			X
51	O18_0.5	Nov 27, 2024		Soil	M24-No0080469	X		X			X	X	X	
52	O18_1.0	Nov 27, 2024		Soil	M24-No0080470						X			X
53	O18_1.5	Nov 27, 2024		Soil	M24-No0080471		X							
54	QC111	Nov 27, 2024		Soil	M24-No0080472				X	X				
55	QC112	Nov 27, 2024		Soil	M24-No0080473				X	X				
56	QC113	Nov 27, 2024		Soil	M24-No0080474				X	X				
57	QC114	Nov 27, 2024		Soil	M24-No0080475				X	X				
58	QC101	Nov 25, 2024		Water	M24-No0080476		X							
59	QC105	Nov 26, 2024		Water	M24-No0080477		X							
60	QC109	Nov 27, 2024		Water	M24-No0080478		X							
61	J15_0.5	Nov 27, 2024		Soil	M24-No0080479	X		X			X	X	X	
62	J15_1.0	Nov 27, 2024		Soil	M24-No0080480	X		X			X	X	X	
63	J15_1.5	Nov 27, 2024		Soil	M24-No0080481						X			X
Test Counts						37	5	37	4	4	51	37	37	17

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	114			70-130	Pass	
TRH >C10-C16	%	106			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	73			70-130	Pass	
Acenaphthylene	%	73			70-130	Pass	
Anthracene	%	73			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	%	75			70-130	Pass	
Benzo(a)pyrene - low level	%	75			70-130	Pass	
Benzo(b&j)fluoranthene	%	75			70-130	Pass	
Benzo(g.h.i)perylene	%	105			70-130	Pass	
Benzo(k)fluoranthene	%	75			70-130	Pass	
Chrysene	%	75			70-130	Pass	
Dibenz(a.h)anthracene	%	105			70-130	Pass	
Fluoranthene	%	75			70-130	Pass	
Fluorene	%	73			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	105			70-130	Pass	
Naphthalene	%	73			70-130	Pass	
Phenanthrene	%	73			70-130	Pass	
Pyrene	%	75			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	100			80-120	Pass	
Lead	%	96			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	101			70-130	Pass	
TRH C6-C10	%	107			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	108			70-130	Pass	
Toluene	%	104			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	116			70-130	Pass	
Xylenes - Total*	%	114			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-No0078200	NCP	%	83			70-130	Pass	
TRH C10-C14	M24-No0078201	NCP	%	82			70-130	Pass	
TRH C6-C10	M24-No0078200	NCP	%	88			70-130	Pass	
TRH >C10-C16	M24-No0078201	NCP	%	77			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-No0078200	NCP	%	73			70-130	Pass	
Toluene	M24-No0078200	NCP	%	71			70-130	Pass	
Ethylbenzene	M24-No0078200	NCP	%	74			70-130	Pass	
m&p-Xylenes	M24-No0078200	NCP	%	73			70-130	Pass	
o-Xylene	M24-No0078200	NCP	%	76			70-130	Pass	
Xylenes - Total*	M24-No0078200	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-No0078200	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Benzo(a)pyrene - low level	M24-No0071757	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	M24-No0080425	CP	%	98			75-125	Pass	
Lead	M24-No0080425	CP	%	92			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-No0078200	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M24-No0078200	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M24-No0078200	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M24-No0078200	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M24-No0078200	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M24-No0078200	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-No0082490	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	B24-No0072563	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0080425	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M24-No0080425	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0080462	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M24-No0080462	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0080462	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M24-No0080462	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M24-No0080462	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M24-No0080462	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M24-No0080462	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M24-No0080462	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0080462	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

#1166213
CM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

Timothy.martin@AECOM.com
Jacob.Muller@AECOM.com

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
* TRH C10 - C40

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level) *		IB105	TRH c6-c10 BTEXN								HOLD
	M17_0.5	S	27/11/24				X											
	M17_1.0						X											
	M17_1.5								X									
	L18_0.5						X											
	L18_1.0								X									
	L18_1.5						X											
	L17_0.5						X											
	L17_1.0						X											
	L17_1.5								X									
	N17_0.5						X											
	N17_1.0						X											
	N17_1.5								X									
	L16_0.5						X		X									
	L16_1.0						X											
	L16_1.5						X											
	QC115								X									
	QC116		27/11/24				Please forward to ALS											
	M15_0.5		28/11/24				X											
	M15_1.0	S	"				X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barnett	Date: 29/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 12:51 pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

4.1°C

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory**
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N: 241121AECV	**ANALYSIS REQUIRED Including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
	~~M15~~ M15_1.5	S	26/11/24				X												
	M14_0.5								X										
	M14_1.0						X												
	M14_1.5						X												
	M16_0.5						X												
	M16_1.0								X										
	M16_1.5						X												
	015_0.5						X												
	015_1.0								X										
	015_1.5						X												
	N15_0.5						X												
	N15_1.0						X												
	N15_1.5								X										
	N14_0.5								X										
	N14_1.0						X												
	N14_1.5						X												
	F15_0.5						X												
	F15_1.0						X												
	F16_0.5								X										

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 29/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 12:51 pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page 2 of 3

4.1°C

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory**
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N: 241121AECV	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	F16_1.0	S	28/11/24				X											
	QC117	W																X
	QC118						X											
	QC119						X											
	QC126						Please forward to ALS											
	QC121									X								
	QC122									X								

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan.	Date: 29/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 12:51pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 3 of 3

4.1°C

11/12/24 C.M

COPY 1/1

Timothy.martin@AECOM.com
Jacob.Muller@AECOM.com

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Burnie ALS
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: [illegible]	ANALYSIS REQUIRED including SUITES (note) - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

TRH C10-C40

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION															
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
	QC116	S	27/11/24						X											
	QC120	"	29/11/24				X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 29/11/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 12:51pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 1 of 1

4.1°C

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	MACQUAIRE POINT
Project ID:	60693007 7
Turnaround time:	5 Day
Date/Time received	Nov 29, 2024 12:51 PM
Eurofins reference	1166213

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.1 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1166213
Phone: 08 7223 5400
Fax:

Received: Nov 29, 2024 12:51 PM
Due: Dec 6, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	M17_0.5	Nov 27, 2024		Soil	M24-De0000137	X		X			X	X	X	
2	M17_1.0	Nov 27, 2024		Soil	M24-De0000138	X		X			X	X	X	
3	M17_1.5	Nov 27, 2024		Soil	M24-De0000139						X			X
4	L18_0.5	Nov 27, 2024		Soil	M24-De0000140	X		X			X	X	X	
5	L18_1.0	Nov 27, 2024		Soil	M24-De0000141						X			X
6	L18_1.5	Nov 27, 2024		Soil	M24-De0000142	X		X			X	X	X	
7	L17_0.5	Nov 27, 2024		Soil	M24-De0000143	X		X			X	X	X	
8	L17_1.0	Nov 27, 2024		Soil	M24-De0000144	X		X			X	X	X	
9	L17_1.5	Nov 27, 2024		Soil	M24-De0000145						X			X
10	N17_0.5	Nov 27, 2024		Soil	M24-De0000146	X		X			X	X	X	
11	N17_1.0	Nov 27, 2024		Soil	M24-De0000147	X		X			X	X	X	
12	N17_1.5	Nov 27, 2024		Soil	M24-De0000148						X			X
13	L16_0.5	Nov 27, 2024		Soil	M24-De0000149						X			X
14	L16_1.0	Nov 27, 2024		Soil	M24-De0000150	X		X			X	X	X	

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

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Project Name: MACQUAIRE POINT
Project ID: 60693007 7

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
15	L16_1.5	Nov 27, 2024		Soil	M24-De0000151	X		X			X	X	X	
16	QC115	Nov 27, 2024		Soil	M24-De0000152						X			X
17	M15_0.5	Nov 28, 2024		Soil	M24-De0000153	X		X			X	X	X	
18	M15_1.0	Nov 28, 2024		Soil	M24-De0000154	X		X			X	X	X	
19	M15_1.5	Nov 28, 2024		Soil	M24-De0000155	X		X			X	X	X	
20	M14_0.5	Nov 28, 2024		Soil	M24-De0000156						X			X
21	M14_1.0	Nov 28, 2024		Soil	M24-De0000157	X		X			X	X	X	
22	M14_1.5	Nov 28, 2024		Soil	M24-De0000158	X		X			X	X	X	
23	M16_0.5	Nov 28, 2024		Soil	M24-De0000159	X		X			X	X	X	
24	M16_1.0	Nov 28, 2024		Soil	M24-De0000160						X			X
25	M16_1.5	Nov 28, 2024		Soil	M24-De0000161	X		X			X	X	X	
26	O15_0.5	Nov 28, 2024		Soil	M24-De0000162	X		X			X	X	X	
27	O15_1.0	Nov 28, 2024		Soil	M24-De0000163						X			X
28	O15_1.5	Nov 28, 2024		Soil	M24-De0000164	X		X			X	X	X	
29	N15_0.5	Nov 28, 2024		Soil	M24-De0000165	X		X			X	X	X	
30	N15_1.0	Nov 28, 2024		Soil	M24-De0000166	X		X			X	X	X	
31	N15_1.5	Nov 28, 2024		Soil	M24-De0000167						X			X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Contact Name: Robert Crowe

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Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
32	N14_0.5	Nov 28, 2024		Soil	M24-De0000168						X			X
33	N14_1.0	Nov 28, 2024		Soil	M24-De0000169	X		X			X	X	X	
34	N14_1.5	Nov 28, 2024		Soil	M24-De0000170	X		X			X	X	X	
35	F15_0.5	Nov 28, 2024		Soil	M24-De0000171	X		X			X	X	X	
36	F15_1.0	Nov 28, 2024		Soil	M24-De0000172	X		X			X	X	X	
37	F16_0.5	Nov 28, 2024		Soil	M24-De0000173						X			X
38	F16_1.0	Nov 28, 2024		Soil	M24-De0000174	X		X			X	X	X	
39	QC118	Nov 28, 2024		Water	M24-De0000175	X		X				X	X	
40	QC119	Nov 28, 2024		Soil	M24-De0000176	X		X			X	X	X	
41	QC121	Nov 28, 2024		Soil	M24-De0000177				X	X				
42	QC122	Nov 28, 2024		Soil	M24-De0000178				X	X				
43	QC117	Nov 28, 2024		Water	M24-De0000179		X							
Test Counts						28	1	28	2	2	39	28	28	12

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Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1166213-S**
Project name MACQUAIRE POINT
Project ID 60693007 7
Received Date Nov 29, 2024

Client Sample ID			**M17_0.5**	**M17_1.0**	**M17_1.5**	**L18_0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-De0000137**	**M24-De0000138**	**M24-De0000139**	**M24-De0000140**
Date Sampled			**Nov 27, 2024**	**Nov 27, 2024**	**Nov 27, 2024**	**Nov 27, 2024**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	98	160
TRH C29-C36	50	mg/kg	< 50	58	68	100
TRH C10-C36 (Total)	50	mg/kg	< 50	58	166	260
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	150	230
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	150	230
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	84	78	75	73
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.008	0.019	-	0.23
Acenaphthylene	0.005	mg/kg	0.045	0.052	-	0.60
Anthracene	0.005	mg/kg	0.20	0.21	-	2.9
Benz(a)anthracene	0.005	mg/kg	0.77	1.0	-	7.4
Benzo(a)pyrene - low level	0.005	mg/kg	0.56	1.4	-	8.4
Benzo(b&j)fluoranthene	0.005	mg/kg	0.46	0.77	-	5.0
Benzo(g.h.i)perylene	0.005	mg/kg	0.40	0.60	-	4.3
Benzo(k)fluoranthene	0.005	mg/kg	0.37	0.58	-	4.3
Chrysene	0.005	mg/kg	0.71	1.00	-	7.0
Dibenz(a.h)anthracene	0.005	mg/kg	0.074	0.067	-	1.2
Fluoranthene	0.005	mg/kg	1.2	1.6	-	13
Fluorene	0.005	mg/kg	0.048	0.070	-	0.93

Client Sample ID			M17_0.5	M17_1.0	M17_1.5	L18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000137	M24-De0000138	M24-De0000139	M24-De0000140
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.26	0.36	-	2.7
Naphthalene	0.005	mg/kg	0.083	0.066	-	0.33
Phenanthrene	0.005	mg/kg	0.39	0.60	-	7.2
Pyrene	0.005	mg/kg	1.4	1.8	-	16
Total PAH*	0.005	mg/kg	6.978	10.194	-	81.49
2-Fluorobiphenyl (surr.)	1	%	77	72	-	69
p-Terphenyl-d14 (surr.)	1	%	109	101	-	79
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.5	3.4	2.4
Barium	10	mg/kg	-	-	110	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.6	-
Chromium	5	mg/kg	-	-	20	-
Cobalt	5	mg/kg	-	-	25	-
Copper	5	mg/kg	-	-	80	-
Lead	5	mg/kg	49	160	240	110
Manganese	5	mg/kg	-	-	260	-
Mercury	0.1	mg/kg	-	-	0.6	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	30	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	32	-
Zinc	5	mg/kg	-	-	360	-
Sample Properties						
% Moisture	1	%	15	14	15	16
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	7.9	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	7.9	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	7.9	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	1.7	-
Benz(a)anthracene	0.5	mg/kg	-	-	4.6	-
Benzo(a)pyrene	0.5	mg/kg	-	-	5.4	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	3.1	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	2.1	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	4.6	-
Chrysene	0.5	mg/kg	-	-	4.6	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.0	-
Fluoranthene	0.5	mg/kg	-	-	9.6	-
Fluorene	0.5	mg/kg	-	-	0.7	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	2.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	4.4	-
Pyrene	0.5	mg/kg	-	-	9.8	-
Total PAH*	0.5	mg/kg	-	-	54	-
2-Fluorobiphenyl (surr.)	1	%	-	-	55	-
p-Terphenyl-d14 (surr.)	1	%	-	-	58	-

Client Sample ID			M17_0.5	M17_1.0	M17_1.5	L18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000137	M24-De0000138	M24-De0000139	M24-De0000140
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	95	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	70	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	95	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	70	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			M17_0.5	M17_1.0	M17_1.5	L18_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000137	M24-De0000138	M24-De0000139	M24-De0000140
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	50	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	4.6	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			L18_1.0	L18_1.5	L17_0.5	L17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000141	M24-De0000142	M24-De0000143	M24-De0000144
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	73	60	170	90
TRH C29-C36	50	mg/kg	130	53	140	70
TRH C10-C36 (Total)	50	mg/kg	203	113	310	160
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	160	< 100	260	140
TRH >C34-C40	100	mg/kg	140	< 100	140	< 100
TRH >C10-C40 (total)*	100	mg/kg	300	< 100	400	140
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	96	102	98	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			L18_1.0	L18_1.5	L17_0.5	L17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000141	M24-De0000142	M24-De0000143	M24-De0000144
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.13	0.054	0.21
Acenaphthylene	0.005	mg/kg	-	0.14	0.25	0.34
Anthracene	0.005	mg/kg	-	0.56	0.67	1.5
Benz(a)anthracene	0.005	mg/kg	-	1.9	2.6	3.0
Benzo(a)pyrene - low level	0.005	mg/kg	-	2.5	4.0	3.9
Benzo(b&j)fluoranthene	0.005	mg/kg	-	1.5	2.3	2.4
Benzo(g.h.i)perylene	0.005	mg/kg	-	1.0	2.0	1.6
Benzo(k)fluoranthene	0.005	mg/kg	-	0.99	1.6	1.6
Chrysene	0.005	mg/kg	-	1.6	3.0	3.2
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.23	0.50	0.39
Fluoranthene	0.005	mg/kg	-	3.0	4.5	6.4
Fluorene	0.005	mg/kg	-	0.21	0.23	1.0
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.59	1.4	1.1
Naphthalene	0.005	mg/kg	-	0.12	0.11	1.1
Phenanthrene	0.005	mg/kg	-	1.2	1.6	3.9
Pyrene	0.005	mg/kg	-	4.2	6.1	8.1
Total PAH*	0.005	mg/kg	-	19.87	30.914	39.74
2-Fluorobiphenyl (surr.)	1	%	-	69	72	80
p-Terphenyl-d14 (surr.)	1	%	-	80	89	88
Heavy Metals						
Arsenic	2	mg/kg	3.5	3.6	< 2	2.3
Barium	10	mg/kg	120	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	14	-	-	-
Cobalt	5	mg/kg	15	-	-	-
Copper	5	mg/kg	90	-	-	-
Lead	5	mg/kg	200	180	120	89
Manganese	5	mg/kg	290	-	-	-
Mercury	0.1	mg/kg	0.5	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	22	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	38	-	-	-
Zinc	5	mg/kg	160	-	-	-
Sample Properties						
% Moisture	1	%	16	20	13	16
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	8.6	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	8.6	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	0.6	-	-	-
Anthracene	0.5	mg/kg	1.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	4.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	5.9	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.4	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.7	-	-	-

Client Sample ID			L18_1.0	L18_1.5	L17_0.5	L17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000141	M24-De0000142	M24-De0000143	M24-De0000144
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	4.6	-	-	-
Chrysene	0.5	mg/kg	3.7	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	-	-	-
Fluoranthene	0.5	mg/kg	8.0	-	-	-
Fluorene	0.5	mg/kg	0.9	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.1	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	5.3	-	-	-
Pyrene	0.5	mg/kg	9.3	-	-	-
Total PAH*	0.5	mg/kg	55	-	-	-
2-Fluorobiphenyl (surr.)	1	%	61	-	-	-
p-Terphenyl-d14 (surr.)	1	%	53	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	93	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	66	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-

Client Sample ID			L18_1.0	L18_1.5	L17_0.5	L17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000141	M24-De0000142	M24-De0000143	M24-De0000144
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	93	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	66	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	147	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	5.0	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-

Client Sample ID			L17_1.5	N17_0.5	N17_1.0	N17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000145	M24-De0000146	M24-De0000147	M24-De0000148
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	24
TRH C15-C28	50	mg/kg	210	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	130	98	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	340	98	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			L17_1.5	N17_0.5	N17_1.0	N17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000145	M24-De0000146	M24-De0000147	M24-De0000148
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	290	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	110	140	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	400	140	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	53	58	56	52
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.023	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	0.064	< 0.005	-
Anthracene	0.005	mg/kg	-	0.21	0.024	-
Benz(a)anthracene	0.005	mg/kg	-	0.83	0.10	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.3	0.10	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.79	0.065	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.49	0.048	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.52	0.045	-
Chrysene	0.005	mg/kg	-	0.68	0.063	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.058	0.008	-
Fluoranthene	0.005	mg/kg	-	1.6	0.17	-
Fluorene	0.005	mg/kg	-	0.069	0.006	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.34	0.042	-
Naphthalene	0.005	mg/kg	-	0.057	0.009	-
Phenanthrene	0.005	mg/kg	-	0.48	0.068	-
Pyrene	0.005	mg/kg	-	2.3	0.23	-
Total PAH*	0.005	mg/kg	-	9.811	0.978	-
2-Fluorobiphenyl (surr.)	1	%	-	70	61	-
p-Terphenyl-d14 (surr.)	1	%	-	87	82	-
Heavy Metals						
Arsenic	2	mg/kg	3.3	< 2	< 2	< 2
Barium	10	mg/kg	120	-	-	83
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	18	-	-	7.6
Cobalt	5	mg/kg	15	-	-	6.3
Copper	5	mg/kg	71	-	-	< 5
Lead	5	mg/kg	180	7.8	8.4	8.3
Manganese	5	mg/kg	320	-	-	94
Mercury	0.1	mg/kg	1.5	-	-	< 0.1
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	29	-	-	6.3
Selenium	2	mg/kg	< 2	-	-	< 2

Client Sample ID			L17_1.5	N17_0.5	N17_1.0	N17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000145	M24-De0000146	M24-De0000147	M24-De0000148
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	25	-	-	< 10
Zinc	5	mg/kg	190	-	-	21
Sample Properties						
% Moisture	1	%	20	5.1	11	18
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	8.6	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.6	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	8.6	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	1.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	5.5	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	5.7	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.2	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	2.2	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	4.6	-	-	< 0.5
Chrysene	0.5	mg/kg	5.8	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	1.2	-	-	< 0.5
Fluoranthene	0.5	mg/kg	11	-	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	2.7	-	-	< 0.5
Naphthalene	0.5	mg/kg	0.7	-	-	< 0.5
Phenanthrene	0.5	mg/kg	3.4	-	-	< 0.5
Pyrene	0.5	mg/kg	11	-	-	< 0.5
Total PAH*	0.5	mg/kg	59	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	52	-	-	76
p-Terphenyl-d14 (surr.)	1	%	57	-	-	61
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			L17_1.5	N17_0.5	N17_1.0	N17_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000145	M24-De0000146	M24-De0000147	M24-De0000148
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	87	-	-	132
Tetrachloro-m-xylene (surr.)	1	%	61	-	-	86
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	87	-	-	132
Tetrachloro-m-xylene (surr.)	1	%	61	-	-	86
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	142	-	-	54
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	4.5	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	100

Client Sample ID			L16_0.5	L16_1.0	L16_1.5	QC115
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000149	M24-De0000150	M24-De0000151	M24-De0000152
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	180	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	150	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	330	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	290	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	290	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	102	105	88	105
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.22	0.068	-
Acenaphthylene	0.005	mg/kg	-	0.28	0.30	-
Anthracene	0.005	mg/kg	-	1.1	1.3	-
Benz(a)anthracene	0.005	mg/kg	-	6.2	5.1	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	12	8.3	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	6.2	4.4	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	5.3	3.6	-
Benzo(k)fluoranthene	0.005	mg/kg	-	6.8	5.6	-
Chrysene	0.005	mg/kg	-	6.2	5.0	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	1.6	0.79	-
Fluoranthene	0.005	mg/kg	-	7.0	6.1	-
Fluorene	0.005	mg/kg	-	0.21	0.25	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	3.9	2.5	-
Naphthalene	0.005	mg/kg	-	0.29	0.26	-
Phenanthrene	0.005	mg/kg	-	2.9	1.7	-
Pyrene	0.005	mg/kg	-	7.1	5.8	-
Total PAH*	0.005	mg/kg	-	67.3	51.068	-
2-Fluorobiphenyl (surr.)	1	%	-	78	78	-
p-Terphenyl-d14 (surr.)	1	%	-	117	96	-
Heavy Metals						
Arsenic	2	mg/kg	5.1	11	7.2	5.4
Barium	10	mg/kg	140	-	-	160
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	22	-	-	37

Client Sample ID			L16_0.5	L16_1.0	L16_1.5	QC115
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000149	M24-De0000150	M24-De0000151	M24-De0000152
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	15	-	-	16
Copper	5	mg/kg	120	-	-	170
Lead	5	mg/kg	360	260	340	400
Manganese	5	mg/kg	300	-	-	320
Mercury	0.1	mg/kg	0.5	-	-	0.5
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	29	-	-	39
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	3.2	-	-	< 2
Tin	10	mg/kg	110	-	-	150
Zinc	5	mg/kg	160	-	-	160
Sample Properties						
% Moisture	1	%	8.3	12	20	24
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	9.3	-	-	16
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	9.3	-	-	16
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	9.3	-	-	16
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	0.7	-	-	1.0
Anthracene	0.5	mg/kg	0.6	-	-	2.5
Benz(a)anthracene	0.5	mg/kg	3.9	-	-	6.5
Benzo(a)pyrene	0.5	mg/kg	6.5	-	-	11
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.6	-	-	6.8
Benzo(g.h.i)perylene	0.5	mg/kg	3.0	-	-	6.8
Benzo(k)fluoranthene	0.5	mg/kg	4.5	-	-	7.0
Chrysene	0.5	mg/kg	4.6	-	-	7.5
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	-	-	2.0
Fluoranthene	0.5	mg/kg	6.9	-	-	8.8
Fluorene	0.5	mg/kg	< 0.5	-	-	0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.8	-	-	10
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	2.6	-	-	9.3
Pyrene	0.5	mg/kg	8.2	-	-	9.6
Total PAH*	0.5	mg/kg	50	-	-	89
2-Fluorobiphenyl (surr.)	1	%	54	-	-	86
p-Terphenyl-d14 (surr.)	1	%	57	-	-	68
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			L16_0.5	L16_1.0	L16_1.5	QC115
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000149	M24-De0000150	M24-De0000151	M24-De0000152
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	96	-	-	81
Tetrachloro-m-xylene (surr.)	1	%	73	-	-	99
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	96	-	-	81
Tetrachloro-m-xylene (surr.)	1	%	73	-	-	99
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	148	-	-	57
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20

Client Sample ID			L16_0.5	L16_1.0	L16_1.5	QC115
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000149	M24-De0000150	M24-De0000151	M24-De0000152
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	6.0	-	-	8.7
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100

Client Sample ID			M15_0.5	M15_1.0	M15_1.5	M14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000153	M24-De0000154	M24-De0000155	M24-De0000156
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	450	< 50
TRH C29-C36	50	mg/kg	82	210	1000	< 50
TRH C10-C36 (Total)	50	mg/kg	82	210	1450	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	140	1100	< 100
TRH >C34-C40	100	mg/kg	160	330	1200	< 100
TRH >C10-C40 (total)*	100	mg/kg	160	470	2300	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	115	104	112	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	0.032	0.030	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	0.075	0.072	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.12	0.10	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.11	0.074	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.062	0.063	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	0.10	0.069	< 0.005	-
Chrysene	0.005	mg/kg	0.061	0.050	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.013	0.019	< 0.005	-
Fluoranthene	0.005	mg/kg	0.083	0.071	< 0.005	-
Fluorene	0.005	mg/kg	0.009	0.018	< 0.005	-

Client Sample ID			M15_0.5	M15_1.0	M15_1.5	M14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000153	M24-De0000154	M24-De0000155	M24-De0000156
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.028	0.029	< 0.005	-
Naphthalene	0.005	mg/kg	0.007	0.007	< 0.005	-
Phenanthrene	0.005	mg/kg	0.050	0.059	< 0.005	-
Pyrene	0.005	mg/kg	0.11	0.10	< 0.005	-
Total PAH*	0.005	mg/kg	0.86	0.761	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	75	80	67	-
p-Terphenyl-d14 (surr.)	1	%	101	81	54	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	2.6
Barium	10	mg/kg	-	-	-	67
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	0.4
Chromium	5	mg/kg	-	-	-	8.6
Cobalt	5	mg/kg	-	-	-	13
Copper	5	mg/kg	-	-	-	68
Lead	5	mg/kg	11	14	9.2	44
Manganese	5	mg/kg	-	-	-	280
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	19
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	190
Sample Properties						
% Moisture	1	%	8.5	10	6.7	8.2
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	1.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	1.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	2.0
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	0.9
Benzo(a)pyrene	0.5	mg/kg	-	-	-	1.1
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	0.8
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	0.6
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	0.9
Chrysene	0.5	mg/kg	-	-	-	0.9
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	0.7
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	1.0
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	0.8
Total PAH*	0.5	mg/kg	-	-	-	7.7
2-Fluorobiphenyl (surr.)	1	%	-	-	-	87
p-Terphenyl-d14 (surr.)	1	%	-	-	-	66

Client Sample ID			M15_0.5	M15_1.0	M15_1.5	M14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000153	M24-De0000154	M24-De0000155	M24-De0000156
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	90
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	91
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	90
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	91
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			M15_0.5	M15_1.0	M15_1.5	M14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000153	M24-De0000154	M24-De0000155	M24-De0000156
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	55
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	1.0
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100

Client Sample ID			M14_1.0	M14_1.5	M16_0.5	M16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000157	M24-De0000158	M24-De0000159	M24-De0000160
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	200	< 50	99	500
TRH C29-C36	50	mg/kg	230	< 50	160	320
TRH C10-C36 (Total)	50	mg/kg	430	< 50	259	820
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	360	< 100	200	740
TRH >C34-C40	100	mg/kg	260	< 100	260	220
TRH >C10-C40 (total)*	100	mg/kg	620	< 100	460	960
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	91	102	103	133
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			M14_1.0	M14_1.5	M16_0.5	M16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000157	M24-De0000158	M24-De0000159	M24-De0000160
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.035	0.094	0.12	-
Acenaphthylene	0.005	mg/kg	0.44	0.48	0.76	-
Anthracene	0.005	mg/kg	1.5	1.7	2.2	-
Benz(a)anthracene	0.005	mg/kg	7.5	4.7	5.1	-
Benzo(a)pyrene - low level	0.005	mg/kg	12	6.6	5.9	-
Benzo(b&j)fluoranthene	0.005	mg/kg	6.8	4.5	2.8	-
Benzo(g.h.i)perylene	0.005	mg/kg	5.1	2.5	1.2	-
Benzo(k)fluoranthene	0.005	mg/kg	7.9	4.0	2.2	-
Chrysene	0.005	mg/kg	7.0	4.6	3.9	-
Dibenz(a.h)anthracene	0.005	mg/kg	1.1	0.84	0.47	-
Fluoranthene	0.005	mg/kg	8.8	7.6	6.6	-
Fluorene	0.005	mg/kg	0.23	0.69	0.92	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	3.6	2.0	0.98	-
Naphthalene	0.005	mg/kg	0.20	0.16	0.095	-
Phenanthrene	0.005	mg/kg	4.0	4.9	7.9	-
Pyrene	0.005	mg/kg	9.3	6.8	7.9	-
Total PAH*	0.005	mg/kg	75.505	52.164	49.045	-
2-Fluorobiphenyl (surr.)	1	%	79	78	65	-
p-Terphenyl-d14 (surr.)	1	%	94	103	82	-
Heavy Metals						
Arsenic	2	mg/kg	5.3	3.7	< 2	3.5
Barium	10	mg/kg	-	-	-	100
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	16
Cobalt	5	mg/kg	-	-	-	9.7
Copper	5	mg/kg	-	-	-	43
Lead	5	mg/kg	700	180	39	35
Manganese	5	mg/kg	-	-	-	170
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	15
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	75
Sample Properties						
% Moisture	1	%	22	18	12	16
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	38
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	38
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	38
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	5.0
Anthracene	0.5	mg/kg	-	-	-	4.7
Benz(a)anthracene	0.5	mg/kg	-	-	-	13
Benzo(a)pyrene	0.5	mg/kg	-	-	-	26
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	16
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	13

Client Sample ID			M14_1.0	M14_1.5	M16_0.5	M16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000157	M24-De0000158	M24-De0000159	M24-De0000160
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	14
Chrysene	0.5	mg/kg	-	-	-	14
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	5.4
Fluoranthene	0.5	mg/kg	-	-	-	19
Fluorene	0.5	mg/kg	-	-	-	1.8
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	24
Naphthalene	0.5	mg/kg	-	-	-	1.1
Phenanthrene	0.5	mg/kg	-	-	-	16
Pyrene	0.5	mg/kg	-	-	-	23
Total PAH*	0.5	mg/kg	-	-	-	200
2-Fluorobiphenyl (surr.)	1	%	-	-	-	85
p-Terphenyl-d14 (surr.)	1	%	-	-	-	71
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	99
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	91
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			M14_1.0	M14_1.5	M16_0.5	M16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000157	M24-De0000158	M24-De0000159	M24-De0000160
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	-	99
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	91
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	55
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	22
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100

Client Sample ID			M16_1.5	O15_0.5	O15_1.0	O15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000161	M24-De0000162	M24-De0000163	M24-De0000164
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	240	91	130	120
TRH C29-C36	50	mg/kg	160	170	170	93
TRH C10-C36 (Total)	50	mg/kg	400	261	300	213
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			M16_1.5	O15_0.5	O15_1.0	O15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000161	M24-De0000162	M24-De0000163	M24-De0000164
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	350	200	240	190
TRH >C34-C40	100	mg/kg	150	250	200	< 100
TRH >C10-C40 (total)*	100	mg/kg	500	450	440	190
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	113	118	115	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	1.3	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.19	0.017	-	0.036
Acenaphthylene	0.005	mg/kg	1.6	0.022	-	0.43
Anthracene	0.005	mg/kg	3.7	0.050	-	0.98
Benz(a)anthracene	0.005	mg/kg	12	0.16	-	6.3
Benzo(a)pyrene - low level	0.005	mg/kg	12	0.22	-	11
Benzo(b&j)fluoranthene	0.005	mg/kg	6.8	0.13	-	8.0
Benzo(g.h.i)perylene	0.005	mg/kg	5.8	0.11	-	5.5
Benzo(k)fluoranthene	0.005	mg/kg	5.9	0.12	-	8.5
Chrysene	0.005	mg/kg	8.6	0.14	-	6.7
Dibenz(a.h)anthracene	0.005	mg/kg	1.7	0.027	-	1.7
Fluoranthene	0.005	mg/kg	18	0.22	-	6.0
Fluorene	0.005	mg/kg	1.1	0.052	-	0.13
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	4.0	0.058	-	3.8
Naphthalene	0.005	mg/kg	1.2	0.12	-	0.25
Phenanthrene	0.005	mg/kg	8.4	0.13	-	1.8
Pyrene	0.005	mg/kg	22	0.30	-	6.4
Total PAH*	0.005	mg/kg	112.99	1.876	-	67.526
2-Fluorobiphenyl (surr.)	1	%	73	68	-	71
p-Terphenyl-d14 (surr.)	1	%	73	69	-	102
Heavy Metals						
Arsenic	2	mg/kg	2.5	< 2	3.5	3.2
Barium	10	mg/kg	-	-	84	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	23	-
Cobalt	5	mg/kg	-	-	11	-
Copper	5	mg/kg	-	-	72	-
Lead	5	mg/kg	65	7.9	480	140
Manganese	5	mg/kg	-	-	240	-
Mercury	0.1	mg/kg	-	-	0.5	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	16	-
Selenium	2	mg/kg	-	-	< 2	-

Client Sample ID			M16_1.5	O15_0.5	O15_1.0	O15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000161	M24-De0000162	M24-De0000163	M24-De0000164
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	36	-
Zinc	5	mg/kg	-	-	56	-
Sample Properties						
% Moisture	1	%	13	7.8	10	19
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	14	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	14	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	14	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.1	-
Anthracene	0.5	mg/kg	-	-	0.8	-
Benz(a)anthracene	0.5	mg/kg	-	-	5.1	-
Benzo(a)pyrene	0.5	mg/kg	-	-	9.1	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	6.2	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	4.9	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	6.0	-
Chrysene	0.5	mg/kg	-	-	6.2	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.9	-
Fluoranthene	0.5	mg/kg	-	-	4.9	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	8.1	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	2.0	-
Pyrene	0.5	mg/kg	-	-	5.6	-
Total PAH*	0.5	mg/kg	-	-	62	-
2-Fluorobiphenyl (surr.)	1	%	-	-	86	-
p-Terphenyl-d14 (surr.)	1	%	-	-	72	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			M16_1.5	O15_0.5	O15_1.0	O15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000161	M24-De0000162	M24-De0000163	M24-De0000164
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	95	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	96	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	95	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	96	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	56	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	8.2	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			N15_0.5	N15_1.0	N15_1.5	N14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000165	M24-De0000166	M24-De0000167	M24-De0000168
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	61	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	64	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	125	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	110	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	110	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	110	100	140
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.007	0.058	-	-
Acenaphthylene	0.005	mg/kg	< 0.005	0.39	-	-
Anthracene	0.005	mg/kg	0.006	0.84	-	-
Benz(a)anthracene	0.005	mg/kg	0.019	4.2	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.011	6.8	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.019	2.6	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.011	1.3	-	-
Benzo(k)fluoranthene	0.005	mg/kg	0.015	2.7	-	-
Chrysene	0.005	mg/kg	0.020	3.4	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.53	-	-
Fluoranthene	0.005	mg/kg	0.051	5.1	-	-
Fluorene	0.005	mg/kg	0.005	0.18	-	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.005	1.2	-	-
Naphthalene	0.005	mg/kg	< 0.005	0.13	-	-
Phenanthrene	0.005	mg/kg	0.012	2.8	-	-
Pyrene	0.005	mg/kg	0.048	6.0	-	-
Total PAH*	0.005	mg/kg	0.229	38.228	-	-
2-Fluorobiphenyl (surr.)	1	%	52	62	-	-
p-Terphenyl-d14 (surr.)	1	%	81	82	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	5.1	5.5	< 2
Barium	10	mg/kg	-	-	150	20
Beryllium	2	mg/kg	-	-	< 2	< 2
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	11	< 5

Client Sample ID			N15_0.5	N15_1.0	N15_1.5	N14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000165	M24-De0000166	M24-De0000167	M24-De0000168
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	-	12	10
Copper	5	mg/kg	-	-	48	96
Lead	5	mg/kg	9.0	26	240	< 5
Manganese	5	mg/kg	-	-	370	200
Mercury	0.1	mg/kg	-	-	0.9	< 0.1
Molybdenum	5	mg/kg	-	-	< 5	< 5
Nickel	5	mg/kg	-	-	15	12
Selenium	2	mg/kg	-	-	< 2	< 2
Silver	2	mg/kg	-	-	< 2	< 2
Tin	10	mg/kg	-	-	64	< 10
Zinc	5	mg/kg	-	-	100	32
Sample Properties						
% Moisture	1	%	8.4	10	15	9.6
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	2.6	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	2.9	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	3.1	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	1.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	2.0	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	1.2	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	1.1	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	1.6	< 0.5
Chrysene	0.5	mg/kg	-	-	1.6	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	-	1.5	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	1.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	1.4	< 0.5
Pyrene	0.5	mg/kg	-	-	1.7	< 0.5
Total PAH*	0.5	mg/kg	-	-	15	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	83	81
p-Terphenyl-d14 (surr.)	1	%	-	-	67	66
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			N15_0.5	N15_1.0	N15_1.5	N14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000165	M24-De0000166	M24-De0000167	M24-De0000168
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	146	150
Tetrachloro-m-xylene (surr.)	1	%	-	-	93	90
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	146	150
Tetrachloro-m-xylene (surr.)	1	%	-	-	93	90
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5	< 5
Dinoseb	20	mg/kg	-	-	< 20	< 20
Phenol	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	-	56	58
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	< 20

Client Sample ID			N15_0.5	N15_1.0	N15_1.5	N14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000165	M24-De0000166	M24-De0000167	M24-De0000168
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	1.7	0.29
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Cyanide (total)	5	mg/kg	-	-	< 5	< 5
Fluoride	100	mg/kg	-	-	< 100	< 100

Client Sample ID			N14_1.0	N14_1.5	F15_0.5	F15_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000169	M24-De0000170	M24-De0000171	M24-De0000172
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	160	< 50	50
TRH C29-C36	50	mg/kg	< 50	140	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	300	< 50	50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	260	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	360	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	141	144	118	108
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.026	0.060	0.005	< 0.005
Acenaphthylene	0.005	mg/kg	0.38	0.86	0.017	0.005
Anthracene	0.005	mg/kg	0.58	1.1	0.058	0.031
Benz(a)anthracene	0.005	mg/kg	3.0	7.9	0.20	0.094
Benzo(a)pyrene - low level	0.005	mg/kg	5.7	14	0.19	0.067
Benzo(b&j)fluoranthene	0.005	mg/kg	2.5	6.4	0.15	0.069
Benzo(g.h.i)perylene	0.005	mg/kg	1.6	3.0	0.084	0.026
Benzo(k)fluoranthene	0.005	mg/kg	2.4	6.3	0.11	0.056
Chrysene	0.005	mg/kg	2.4	6.4	0.14	0.081
Dibenz(a.h)anthracene	0.005	mg/kg	0.46	1.2	0.016	< 0.005
Fluoranthene	0.005	mg/kg	2.7	6.8	0.47	0.22
Fluorene	0.005	mg/kg	0.13	0.23	0.014	0.007

Client Sample ID			N14_1.0	N14_1.5	F15_0.5	F15_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000169	M24-De0000170	M24-De0000171	M24-De0000172
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	1.0	2.8	0.083	0.022
Naphthalene	0.005	mg/kg	0.13	0.34	0.019	0.015
Phenanthrene	0.005	mg/kg	0.96	2.9	0.14	0.073
Pyrene	0.005	mg/kg	3.6	9.0	0.53	0.26
Total PAH*	0.005	mg/kg	27.566	69.29	2.226	1.026
2-Fluorobiphenyl (surr.)	1	%	61	65	51	52
p-Terphenyl-d14 (surr.)	1	%	75	76	71	85
Heavy Metals						
Arsenic	2	mg/kg	3.2	7.7	3.0	2.2
Lead	5	mg/kg	56	270	18	16
Sample Properties						
% Moisture	1	%	11	15	13	14

Client Sample ID			F16_0.5	F16_1.0	QC119	QC121
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000173	M24-De0000174	M24-De0000176	M24-De0000177
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	109	103	99	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.008	0.006	-
Acenaphthylene	0.005	mg/kg	-	0.036	0.017	-
Anthracene	0.005	mg/kg	-	0.19	0.082	-
Benz(a)anthracene	0.005	mg/kg	-	0.74	0.21	-

Client Sample ID			F16_0.5	F16_1.0	QC119	QC121
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000173	M24-De0000174	M24-De0000176	M24-De0000177
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.65	0.24	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.37	0.16	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.21	0.094	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.32	0.11	-
Chrysene	0.005	mg/kg	-	0.62	0.19	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.038	0.016	-
Fluoranthene	0.005	mg/kg	-	1.1	0.46	-
Fluorene	0.005	mg/kg	-	0.041	0.018	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.18	0.084	-
Naphthalene	0.005	mg/kg	-	0.054	0.024	-
Phenanthrene	0.005	mg/kg	-	0.51	0.22	-
Pyrene	0.005	mg/kg	-	1.0	0.60	-
Total PAH*	0.005	mg/kg	-	6.067	2.531	-
2-Fluorobiphenyl (surr.)	1	%	-	59	51	-
p-Terphenyl-d14 (surr.)	1	%	-	79	79	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	-
Barium	10	mg/kg	86	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	0.8	-	-	-
Chromium	5	mg/kg	7.4	-	-	-
Cobalt	5	mg/kg	27	-	-	-
Copper	5	mg/kg	11	-	-	-
Lead	5	mg/kg	14	35	13	-
Manganese	5	mg/kg	2900	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	30	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	< 10	-	-	-
Zinc	5	mg/kg	170	-	-	-
Sample Properties						
% Moisture	1	%	19	12	13	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.7	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.0	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.3	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene	0.5	mg/kg	0.6	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	0.6	-	-	-
Chrysene	0.5	mg/kg	0.6	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			F16_0.5	F16_1.0	QC119	QC121
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000173	M24-De0000174	M24-De0000176	M24-De0000177
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	0.6	-	-	-
Total PAH*	0.5	mg/kg	3.0	-	-	-
2-Fluorobiphenyl (surr.)	1	%	82	-	-	-
p-Terphenyl-d14 (surr.)	1	%	66	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	150	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	95	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	150	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	95	-	-	-

Client Sample ID			F16_0.5	F16_1.0	QC119	QC121
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0000173	M24-De0000174	M24-De0000176	M24-De0000177
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Nov 28, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	54	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.52	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			QC122
Sample Matrix			Soil
Eurofins Sample No.			M24-De0000178
Date Sampled			Nov 28, 2024
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C10	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99

Client Sample ID			**QC122**
Sample Matrix			**Soil**
Eurofins Sample No.			**M24-De0000178**
Date Sampled			**Nov 28, 2024**
Test/Reference	LOR	Unit	
Volatile Organics			
Naphthalene[N02]	0.5	mg/kg	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 10, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 10, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 02, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Dec 02, 2024	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Dec 02, 2024	14 Days
- Method: USEPA SW 846 8270			
Chromium (hexavalent)	Melbourne	Dec 02, 2024	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Dec 02, 2024	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
Total Recoverable Hydrocarbons	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Dec 01, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1166213
Phone: 08 7223 5400
Fax:

Received: Nov 29, 2024 12:51 PM
Due: Dec 6, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	M17_0.5	Nov 27, 2024		Soil	M24-De0000137	X		X			X	X	X	
2	M17_1.0	Nov 27, 2024		Soil	M24-De0000138	X		X			X	X	X	
3	M17_1.5	Nov 27, 2024		Soil	M24-De0000139						X			X
4	L18_0.5	Nov 27, 2024		Soil	M24-De0000140	X		X			X	X	X	
5	L18_1.0	Nov 27, 2024		Soil	M24-De0000141						X			X
6	L18_1.5	Nov 27, 2024		Soil	M24-De0000142	X		X			X	X	X	
7	L17_0.5	Nov 27, 2024		Soil	M24-De0000143	X		X			X	X	X	
8	L17_1.0	Nov 27, 2024		Soil	M24-De0000144	X		X			X	X	X	
9	L17_1.5	Nov 27, 2024		Soil	M24-De0000145						X			X
10	N17_0.5	Nov 27, 2024		Soil	M24-De0000146	X		X			X	X	X	
11	N17_1.0	Nov 27, 2024		Soil	M24-De0000147	X		X			X	X	X	
12	N17_1.5	Nov 27, 2024		Soil	M24-De0000148						X			X
13	L16_0.5	Nov 27, 2024		Soil	M24-De0000149						X			X
14	L16_1.0	Nov 27, 2024		Soil	M24-De0000150	X		X			X	X	X	

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Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1166213
Phone: 08 7223 5400
Fax:

Received: Nov 29, 2024 12:51 PM
Due: Dec 6, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
15	L16_1.5	Nov 27, 2024		Soil	M24-De0000151	X		X			X	X	X	
16	QC115	Nov 27, 2024		Soil	M24-De0000152						X			X
17	M15_0.5	Nov 28, 2024		Soil	M24-De0000153	X		X			X	X	X	
18	M15_1.0	Nov 28, 2024		Soil	M24-De0000154	X		X			X	X	X	
19	M15_1.5	Nov 28, 2024		Soil	M24-De0000155	X		X			X	X	X	
20	M14_0.5	Nov 28, 2024		Soil	M24-De0000156						X			X
21	M14_1.0	Nov 28, 2024		Soil	M24-De0000157	X		X			X	X	X	
22	M14_1.5	Nov 28, 2024		Soil	M24-De0000158	X		X			X	X	X	
23	M16_0.5	Nov 28, 2024		Soil	M24-De0000159	X		X			X	X	X	
24	M16_1.0	Nov 28, 2024		Soil	M24-De0000160						X			X
25	M16_1.5	Nov 28, 2024		Soil	M24-De0000161	X		X			X	X	X	
26	O15_0.5	Nov 28, 2024		Soil	M24-De0000162	X		X			X	X	X	
27	O15_1.0	Nov 28, 2024		Soil	M24-De0000163						X			X
28	O15_1.5	Nov 28, 2024		Soil	M24-De0000164	X		X			X	X	X	
29	N15_0.5	Nov 28, 2024		Soil	M24-De0000165	X		X			X	X	X	
30	N15_1.0	Nov 28, 2024		Soil	M24-De0000166	X		X			X	X	X	
31	N15_1.5	Nov 28, 2024		Soil	M24-De0000167						X			X

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Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
32	N14_0.5	Nov 28, 2024		Soil	M24-De0000168						X			X
33	N14_1.0	Nov 28, 2024		Soil	M24-De0000169	X		X			X	X	X	
34	N14_1.5	Nov 28, 2024		Soil	M24-De0000170	X		X			X	X	X	
35	F15_0.5	Nov 28, 2024		Soil	M24-De0000171	X		X			X	X	X	
36	F15_1.0	Nov 28, 2024		Soil	M24-De0000172	X		X			X	X	X	
37	F16_0.5	Nov 28, 2024		Soil	M24-De0000173						X			X
38	F16_1.0	Nov 28, 2024		Soil	M24-De0000174	X		X			X	X	X	
39	QC118	Nov 28, 2024		Water	M24-De0000175	X		X				X	X	
40	QC119	Nov 28, 2024		Soil	M24-De0000176	X		X			X	X	X	
41	QC121	Nov 28, 2024		Soil	M24-De0000177				X	X				
42	QC122	Nov 28, 2024		Soil	M24-De0000178				X	X				
43	QC117	Nov 28, 2024		Water	M24-De0000179		X							
Test Counts						28	1	28	2	2	39	28	28	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	81			70-130	Pass	
TRH C6-C10	%	84			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	76			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
Xylenes - Total*	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	116			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	114			70-130	Pass	
4.4'-DDD	%	124			70-130	Pass	
4.4'-DDE	%	122			70-130	Pass	
4.4'-DDT	%	114			70-130	Pass	
a-HCH	%	99			70-130	Pass	
Aldrin	%	102			70-130	Pass	
b-HCH	%	114			70-130	Pass	
d-HCH	%	116			70-130	Pass	
Dieldrin	%	127			70-130	Pass	
Endosulfan I	%	114			70-130	Pass	
Endosulfan II	%	121			70-130	Pass	
Endosulfan sulphate	%	114			70-130	Pass	
Endrin	%	108			70-130	Pass	
Endrin aldehyde	%	81			70-130	Pass	
Endrin ketone	%	93			70-130	Pass	
g-HCH (Lindane)	%	110			70-130	Pass	
Heptachlor	%	87			70-130	Pass	
Heptachlor epoxide	%	114			70-130	Pass	
Hexachlorobenzene	%	120			70-130	Pass	
Methoxychlor	%	125			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	106			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Methyl-4.6-dinitrophenol	%	33			25-140	Pass	
2.4-Dinitrophenol	%	44			25-140	Pass	
LCS - % Recovery							
Fluoride	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	96			70-130	Pass	
TRH >C10-C16	%	94			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	116			80-120	Pass	
Barium	%	111			80-120	Pass	
Beryllium	%	118			80-120	Pass	
Cadmium	%	115			80-120	Pass	
Chromium	%	109			80-120	Pass	
Cobalt	%	119			80-120	Pass	
Copper	%	114			80-120	Pass	
Lead	%	118			80-120	Pass	
Manganese	%	117			80-120	Pass	
Mercury	%	102			80-120	Pass	
Molybdenum	%	112			80-120	Pass	
Nickel	%	110			80-120	Pass	
Selenium	%	106			80-120	Pass	
Silver	%	112			80-120	Pass	
Tin	%	110			80-120	Pass	
Zinc	%	113			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	119			70-130	Pass	
TRH >C10-C16	%	128			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	108			70-130	Pass	
TRH >C10-C16	%	104			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	70			70-130	Pass	
Cyanide (total)	%	121			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	70			70-130	Pass	
TRH >C10-C16	%	71			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	103			70-130	Pass	
TRH C6-C10	%	100			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	103			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	91			70-130	Pass	
m&p-Xylenes	%	88			70-130	Pass	
Xylenes - Total*	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(a)pyrene - low level	%	113			70-130	Pass	
Benzo(b&j)fluoranthene	%	94			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	74			70-130	Pass	
Dibenz(a.h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	71			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	84			70-130	Pass	
Pyrene	%	94			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(a)pyrene	%	113			70-130	Pass	
Benzo(b&j)fluoranthene	%	94			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	74			70-130	Pass	
Dibenz(a.h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	71			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	84			70-130	Pass	
Pyrene	%	94			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	97			70-130	Pass	
Anthracene	%	78			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene - low level	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	75			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	73			70-130	Pass	
Fluoranthene	%	78			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	97			70-130	Pass	
Anthracene	%	78			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	75			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	73			70-130	Pass	
Fluoranthene	%	78			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	97			25-140	Pass	
2.4-Dichlorophenol	%	66			25-140	Pass	
2.4.5-Trichlorophenol	%	119			25-140	Pass	
2.4.6-Trichlorophenol	%	95			25-140	Pass	
2.6-Dichlorophenol	%	108			25-140	Pass	
4-Chloro-3-methylphenol	%	100			25-140	Pass	
Pentachlorophenol	%	102			25-140	Pass	
Tetrachlorophenols - Total	%	106			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	31			25-140	Pass	
2-Nitrophenol	%	88			25-140	Pass	
2.4-Dimethylphenol	%	64			25-140	Pass	
2-Methylphenol (o-Cresol)	%	73			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	86			25-140	Pass	
4-Nitrophenol	%	44			25-140	Pass	
Dinoseb	%	35			25-140	Pass	
Phenol	%	101			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
m&p-Xylenes	%	77			70-130	Pass	
Xylenes - Total*	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene			%	114			70-130	Pass	
LCS - % Recovery									
Chromium (hexavalent)			%	105			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0000137	CP	%	72			70-130	Pass	
TRH C10-C14	M24-De0002938	NCP	%	114			70-130	Pass	
TRH C6-C10	M24-De0000137	CP	%	76			70-130	Pass	
TRH >C10-C16	M24-De0002938	NCP	%	115			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0000137	CP	%	90			70-130	Pass	
Toluene	M24-De0000137	CP	%	77			70-130	Pass	
Ethylbenzene	M24-De0000137	CP	%	79			70-130	Pass	
m&p-Xylenes	M24-De0000137	CP	%	77			70-130	Pass	
o-Xylene	M24-De0000137	CP	%	81			70-130	Pass	
Xylenes - Total*	M24-De0000137	CP	%	79			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0000137	CP	%	88			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthylene	M24-No0082207	NCP	%	77			70-130	Pass	
Anthracene	M24-No0082207	NCP	%	97			70-130	Pass	
Benz(a)anthracene	M24-No0082207	NCP	%	84			70-130	Pass	
Benzo(a)pyrene - low level	M24-No0082207	NCP	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	M24-No0082207	NCP	%	81			70-130	Pass	
Benzo(g.h.i)perylene	M24-No0082207	NCP	%	89			70-130	Pass	
Benzo(k)fluoranthene	M24-No0082207	NCP	%	93			70-130	Pass	
Chrysene	M24-No0082207	NCP	%	110			70-130	Pass	
Dibenz(a.h)anthracene	M24-No0082207	NCP	%	75			70-130	Pass	
Fluoranthene	M24-No0082207	NCP	%	92			70-130	Pass	
Fluorene	M24-No0082207	NCP	%	79			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-No0082207	NCP	%	76			70-130	Pass	
Naphthalene	M24-No0082207	NCP	%	74			70-130	Pass	
Phenanthrene	M24-No0082207	NCP	%	98			70-130	Pass	
Pyrene	M24-No0082207	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese	M24-De0008787	NCP	%	125			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthylene	M24-No0082129	NCP	%	102			70-130	Pass	
Anthracene	M24-No0082129	NCP	%	95			70-130	Pass	
Benz(a)anthracene	M24-No0082129	NCP	%	87			70-130	Pass	
Benzo(a)pyrene	M24-No0082129	NCP	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	M24-No0082129	NCP	%	77			70-130	Pass	
Benzo(g.h.i)perylene	M24-No0058119	NCP	%	92			70-130	Pass	
Benzo(k)fluoranthene	M24-No0082129	NCP	%	102			70-130	Pass	
Chrysene	M24-No0082129	NCP	%	112			70-130	Pass	
Dibenz(a.h)anthracene	M24-No0082129	NCP	%	73			70-130	Pass	
Fluoranthene	M24-No0082129	NCP	%	90			70-130	Pass	
Fluorene	M24-No0082129	NCP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	M24-No0082129	NCP	%	74			70-130	Pass	
Naphthalene	M24-No0082129	NCP	%	96			70-130	Pass	
Phenanthrene	M24-No0082129	NCP	%	82			70-130	Pass	
Pyrene	M24-No0082129	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M24-No0083786	NCP	%	121			70-130	Pass	
Aroclor-1260	M24-No0083786	NCP	%	112			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M24-No0082129	NCP	%	92			30-130	Pass	
2.4-Dichlorophenol	M24-No0082129	NCP	%	88			30-130	Pass	
2.4.5-Trichlorophenol	M24-No0082129	NCP	%	67			30-130	Pass	
2.4.6-Trichlorophenol	M24-No0082129	NCP	%	49			30-130	Pass	
2.6-Dichlorophenol	M24-No0082129	NCP	%	77			30-130	Pass	
4-Chloro-3-methylphenol	M24-No0082129	NCP	%	84			30-130	Pass	
Pentachlorophenol	M24-No0082129	NCP	%	54			30-130	Pass	
Tetrachlorophenols - Total	M24-No0082129	NCP	%	37			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-No0063906	NCP	%	58			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M24-No0065915	NCP	%	34			30-130	Pass	
2-Nitrophenol	M24-No0082129	NCP	%	76			30-130	Pass	
2.4-Dimethylphenol	M24-No0082129	NCP	%	93			30-130	Pass	
2.4-Dinitrophenol	M24-No0063906	NCP	%	42			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-No0082129	NCP	%	88			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-No0082129	NCP	%	46			30-130	Pass	
4-Nitrophenol	M24-No0082129	NCP	%	44			30-130	Pass	
Dinoseb	M24-No0082129	NCP	%	34			30-130	Pass	
Phenol	M24-No0082129	NCP	%	85			30-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M24-De0000449	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0000147	CP	%	112			75-125	Pass	
Barium	M24-De0000147	CP	%	114			75-125	Pass	
Beryllium	M24-De0000147	CP	%	106			75-125	Pass	
Cadmium	M24-De0000147	CP	%	112			75-125	Pass	
Chromium	M24-De0000147	CP	%	109			75-125	Pass	
Cobalt	M24-De0000147	CP	%	104			75-125	Pass	
Copper	M24-De0000147	CP	%	113			75-125	Pass	
Lead	M24-De0000147	CP	%	104			75-125	Pass	
Mercury	M24-De0000147	CP	%	96			75-125	Pass	
Molybdenum	M24-De0000147	CP	%	113			75-125	Pass	
Nickel	M24-De0000147	CP	%	105			75-125	Pass	
Selenium	M24-De0000147	CP	%	98			75-125	Pass	
Silver	M24-De0000147	CP	%	111			75-125	Pass	
Tin	M24-De0000147	CP	%	110			75-125	Pass	
Zinc	M24-De0000147	CP	%	105			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0000167	CP	%	90			70-130	Pass	
TRH C6-C10	M24-De0000167	CP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0000167	CP	%	86			70-130	Pass	
Toluene	M24-De0000167	CP	%	77			70-130	Pass	
Ethylbenzene	M24-De0000167	CP	%	79			70-130	Pass	
m&p-Xylenes	M24-De0000167	CP	%	90			70-130	Pass	
o-Xylene	M24-De0000167	CP	%	78			70-130	Pass	
Xylenes - Total*	M24-De0000167	CP	%	86			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0000167	CP	%	98			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0000167	CP	%	108			75-125	Pass	
Beryllium	M24-De0000167	CP	%	104			75-125	Pass	
Cadmium	M24-De0000167	CP	%	111			75-125	Pass	
Chromium	M24-De0000167	CP	%	109			75-125	Pass	
Cobalt	M24-De0000167	CP	%	103			75-125	Pass	
Copper	M24-De0000167	CP	%	90			75-125	Pass	
Mercury	M24-De0000167	CP	%	86			75-125	Pass	
Nickel	M24-De0000167	CP	%	112			75-125	Pass	
Selenium	M24-De0000167	CP	%	102			75-125	Pass	
Silver	M24-De0000167	CP	%	94			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M24-De0000168	CP	%	98			70-130	Pass	
4.4'-DDD	M24-De0000168	CP	%	122			70-130	Pass	
4.4'-DDE	M24-De0000168	CP	%	106			70-130	Pass	
4.4'-DDT	M24-De0000168	CP	%	106			70-130	Pass	
a-HCH	M24-De0000168	CP	%	95			70-130	Pass	
Aldrin	M24-De0000168	CP	%	93			70-130	Pass	
b-HCH	M24-De0000168	CP	%	91			70-130	Pass	
d-HCH	M24-De0000168	CP	%	95			70-130	Pass	
Dieldrin	M24-De0000168	CP	%	104			70-130	Pass	
Endosulfan I	M24-De0000168	CP	%	99			70-130	Pass	
Endosulfan II	M24-De0000168	CP	%	95			70-130	Pass	
Endosulfan sulphate	M24-De0000168	CP	%	96			70-130	Pass	
Endrin	M24-De0000168	CP	%	129			70-130	Pass	
Endrin aldehyde	M24-De0000168	CP	%	94			70-130	Pass	
Endrin ketone	M24-De0000168	CP	%	100			70-130	Pass	
g-HCH (Lindane)	M24-De0000168	CP	%	96			70-130	Pass	
Heptachlor	M24-De0000168	CP	%	116			70-130	Pass	
Heptachlor epoxide	M24-De0000168	CP	%	102			70-130	Pass	
Hexachlorobenzene	M24-De0000168	CP	%	98			70-130	Pass	
Methoxychlor	M24-De0000168	CP	%	94			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M24-De0000168	CP	%	91			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
4.4'-DDT	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-No0080470	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-No0080470	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-No0080470	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-No0082231	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Fluoride	M24-De0000139	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0000146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0000146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0000146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0000146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0000146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0000146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0000146	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0000146	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0000146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0000146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0000146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0000146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0000146	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0000146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0000146	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0000146	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0000146	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0000146	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0000146	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0000146	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0000146	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0000146	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0000147	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0000147	CP	mg/kg	26	26	2.0	30%	Pass	
Beryllium	M24-De0000147	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0000147	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0000147	CP	mg/kg	5.9	5.8	1.0	30%	Pass	
Cobalt	M24-De0000147	CP	mg/kg	13	12	3.0	30%	Pass	
Copper	M24-De0000147	CP	mg/kg	100	100	1.0	30%	Pass	
Lead	M24-De0000147	CP	mg/kg	8.4	8.4	1.0	30%	Pass	
Manganese	M24-De0000147	CP	mg/kg	280	270	2.0	30%	Pass	
Mercury	M24-De0000147	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0000147	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0000147	CP	mg/kg	15	15	2.0	30%	Pass	
Selenium	M24-De0000147	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0000147	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0000147	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0000147	CP	mg/kg	62	61	2.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0000156	CP	%	8.2	7.7	5.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0000166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M24-De0000166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0000166	CP	mg/kg	61	56	9.0	30%	Pass	
TRH C29-C36	M24-De0000166	CP	mg/kg	64	51	22	30%	Pass	
TRH C6-C10	M24-De0000166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M24-De0000166	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0000166	CP	mg/kg	110	< 100	13	30%	Pass	
TRH >C34-C40	M24-De0000166	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0000166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0000166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0000166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0000166	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0000166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0000166	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthylene	M24-De0000166	CP	mg/kg	0.39	0.40	3.0	30%	Pass	
Anthracene	M24-De0000166	CP	mg/kg	0.84	0.86	3.0	30%	Pass	
Benz(a)anthracene	M24-De0000166	CP	mg/kg	4.2	4.5	6.0	30%	Pass	
Benzo(a)pyrene - low level	M24-De0000166	CP	mg/kg	6.8	6.4	6.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0000166	CP	mg/kg	2.6	2.8	8.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0000166	CP	mg/kg	1.3	1.4	4.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0000166	CP	mg/kg	2.7	2.5	9.0	30%	Pass	
Chrysene	M24-De0000166	CP	mg/kg	3.4	3.4	1.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0000166	CP	mg/kg	0.53	0.49	8.0	30%	Pass	
Fluoranthene	M24-De0000166	CP	mg/kg	5.1	4.8	6.0	30%	Pass	
Fluorene	M24-De0000166	CP	mg/kg	0.18	0.18	2.0	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0000166	CP	mg/kg	1.2	1.2	2.0	30%	Pass	
Naphthalene	M24-De0000166	CP	mg/kg	0.13	0.14	6.0	30%	Pass	
Phenanthrene	M24-De0000166	CP	mg/kg	2.8	2.7	6.0	30%	Pass	
Pyrene	M24-De0000166	CP	mg/kg	6.0	5.6	7.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0000166	CP	mg/kg	5.1	5.8	12	30%	Pass	
Beryllium	M24-De0000166	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0000166	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0000166	CP	mg/kg	11	14	28	30%	Pass	
Cobalt	M24-De0000166	CP	mg/kg	14	18	28	30%	Pass	
Lead	M24-De0000166	CP	mg/kg	26	39	40	30%	Fail	Q15
Manganese	M24-De0000166	CP	mg/kg	270	330	20	30%	Pass	
Mercury	M24-De0000166	CP	mg/kg	< 0.1	0.1	83	30%	Fail	Q15
Molybdenum	M24-De0000166	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0000166	CP	mg/kg	22	26	14	30%	Pass	
Selenium	M24-De0000166	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0000166	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0000166	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0000166	CP	%	10	12	17	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0000166	CP	mg/kg	0.9	1.0	3.0	30%	Pass	
Benz(a)anthracene	M24-De0000166	CP	mg/kg	4.7	5.0	6.0	30%	Pass	
Benzo(a)pyrene	M24-De0000166	CP	mg/kg	7.5	7.1	6.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0000166	CP	mg/kg	2.9	3.1	8.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0000166	CP	mg/kg	1.5	1.5	4.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0000166	CP	mg/kg	3.1	2.8	9.0	30%	Pass	
Chrysene	M24-De0000166	CP	mg/kg	3.8	3.8	1.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0000166	CP	mg/kg	0.6	0.5	8.0	30%	Pass	
Fluoranthene	M24-De0000166	CP	mg/kg	5.7	5.4	6.0	30%	Pass	
Fluorene	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0000166	CP	mg/kg	1.3	1.3	2.0	30%	Pass	
Naphthalene	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0000166	CP	mg/kg	3.1	3.0	6.0	30%	Pass	
Pyrene	M24-De0000166	CP	mg/kg	6.7	6.2	7.0	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0000166	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0000166	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0000166	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0000166	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0000166	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0000166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0000166	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0000166	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0000166	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0000166	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0000166	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0000166	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0000166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0000166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0000167	CP	mg/kg	5.5	5.3	3.0	30%	Pass	
Barium	M24-De0000167	CP	mg/kg	150	150	<1	30%	Pass	
Beryllium	M24-De0000167	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0000167	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0000167	CP	mg/kg	11	11	2.0	30%	Pass	
Cobalt	M24-De0000167	CP	mg/kg	12	12	3.0	30%	Pass	
Copper	M24-De0000167	CP	mg/kg	48	49	2.0	30%	Pass	
Lead	M24-De0000167	CP	mg/kg	240	240	<1	30%	Pass	
Manganese	M24-De0000167	CP	mg/kg	370	380	4.0	30%	Pass	
Mercury	M24-De0000167	CP	mg/kg	0.9	0.9	1.0	30%	Pass	
Molybdenum	M24-De0000167	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0000167	CP	mg/kg	15	16	1.0	30%	Pass	
Selenium	M24-De0000167	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0000167	CP	mg/kg	< 2	< 2	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Tin	M24-De0000167	CP	mg/kg	64	63	1.0	30%	Pass	
Zinc	M24-De0000167	CP	mg/kg	100	100	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0000167	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M24-De0000167	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0000173	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M24-De0000173	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0000173	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0000173	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M24-De0000173	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M24-De0000173	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0000173	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0000173	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0000173	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0000173	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0000173	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0000173	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0000173	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0000173	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0000173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0000173	CP	%	19	18	7.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0000173	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Harry Bacalis	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Vivian Wang	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Sample Properties
Mele Singh	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1166213-W**
Project name MACQUAIRE POINT
Project ID 60693007 7
Received Date Nov 29, 2024

Client Sample ID			**QC118**
Sample Matrix			**Water**
Eurofins Sample No.			**M24-De0000175**
Date Sampled			**Nov 28, 2024**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	137
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001

Client Sample ID			QC118
Sample Matrix			**Water**
Eurofins Sample No.			**M24-De0000175**
Date Sampled			**Nov 28, 2024**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons (Trace level)			
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	111
p-Terphenyl-d14 (surr.)	1	%	113
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 02, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 02, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 02, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 02, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 02, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 02, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1166213
Phone: 08 7223 5400
Fax:

Received: Nov 29, 2024 12:51 PM
Due: Dec 6, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	M17_0.5	Nov 27, 2024		Soil	M24-De0000137	X		X			X	X	X	
2	M17_1.0	Nov 27, 2024		Soil	M24-De0000138	X		X			X	X	X	
3	M17_1.5	Nov 27, 2024		Soil	M24-De0000139						X			X
4	L18_0.5	Nov 27, 2024		Soil	M24-De0000140	X		X			X	X	X	
5	L18_1.0	Nov 27, 2024		Soil	M24-De0000141						X			X
6	L18_1.5	Nov 27, 2024		Soil	M24-De0000142	X		X			X	X	X	
7	L17_0.5	Nov 27, 2024		Soil	M24-De0000143	X		X			X	X	X	
8	L17_1.0	Nov 27, 2024		Soil	M24-De0000144	X		X			X	X	X	
9	L17_1.5	Nov 27, 2024		Soil	M24-De0000145						X			X
10	N17_0.5	Nov 27, 2024		Soil	M24-De0000146	X		X			X	X	X	
11	N17_1.0	Nov 27, 2024		Soil	M24-De0000147	X		X			X	X	X	
12	N17_1.5	Nov 27, 2024		Soil	M24-De0000148						X			X
13	L16_0.5	Nov 27, 2024		Soil	M24-De0000149						X			X
14	L16_1.0	Nov 27, 2024		Soil	M24-De0000150	X		X			X	X	X	

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Project Name: MACQUAIRE POINT
Project ID: 60693007 7

Order No.:
Report #: 1166213
Phone: 08 7223 5400
Fax:

Received: Nov 29, 2024 12:51 PM
Due: Dec 6, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
15	L16_1.5	Nov 27, 2024		Soil	M24-De0000151	X		X			X	X	X	
16	QC115	Nov 27, 2024		Soil	M24-De0000152						X			X
17	M15_0.5	Nov 28, 2024		Soil	M24-De0000153	X		X			X	X	X	
18	M15_1.0	Nov 28, 2024		Soil	M24-De0000154	X		X			X	X	X	
19	M15_1.5	Nov 28, 2024		Soil	M24-De0000155	X		X			X	X	X	
20	M14_0.5	Nov 28, 2024		Soil	M24-De0000156						X			X
21	M14_1.0	Nov 28, 2024		Soil	M24-De0000157	X		X			X	X	X	
22	M14_1.5	Nov 28, 2024		Soil	M24-De0000158	X		X			X	X	X	
23	M16_0.5	Nov 28, 2024		Soil	M24-De0000159	X		X			X	X	X	
24	M16_1.0	Nov 28, 2024		Soil	M24-De0000160						X			X
25	M16_1.5	Nov 28, 2024		Soil	M24-De0000161	X		X			X	X	X	
26	O15_0.5	Nov 28, 2024		Soil	M24-De0000162	X		X			X	X	X	
27	O15_1.0	Nov 28, 2024		Soil	M24-De0000163						X			X
28	O15_1.5	Nov 28, 2024		Soil	M24-De0000164	X		X			X	X	X	
29	N15_0.5	Nov 28, 2024		Soil	M24-De0000165	X		X			X	X	X	
30	N15_1.0	Nov 28, 2024		Soil	M24-De0000166	X		X			X	X	X	
31	N15_1.5	Nov 28, 2024		Soil	M24-De0000167						X			X

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	TRH C6-C10	BTEX and Naphthalene	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
32	N14_0.5	Nov 28, 2024		Soil	M24-De0000168						X			X
33	N14_1.0	Nov 28, 2024		Soil	M24-De0000169	X		X			X	X	X	
34	N14_1.5	Nov 28, 2024		Soil	M24-De0000170	X		X			X	X	X	
35	F15_0.5	Nov 28, 2024		Soil	M24-De0000171	X		X			X	X	X	
36	F15_1.0	Nov 28, 2024		Soil	M24-De0000172	X		X			X	X	X	
37	F16_0.5	Nov 28, 2024		Soil	M24-De0000173						X			X
38	F16_1.0	Nov 28, 2024		Soil	M24-De0000174	X		X			X	X	X	
39	QC118	Nov 28, 2024		Water	M24-De0000175	X		X				X	X	
40	QC119	Nov 28, 2024		Soil	M24-De0000176	X		X			X	X	X	
41	QC121	Nov 28, 2024		Soil	M24-De0000177				X	X				
42	QC122	Nov 28, 2024		Soil	M24-De0000178				X	X				
43	QC117	Nov 28, 2024		Water	M24-De0000179		X							
Test Counts						28	1	28	2	2	39	28	28	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	88			70-130	Pass	
TRH C10-C14	%	99			70-130	Pass	
TRH C6-C10	%	101			70-130	Pass	
TRH >C10-C16	%	95			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	105			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	%	76			70-130	Pass	
Ethylbenzene	%	92			70-130	Pass	
m&p-Xylenes	%	92			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	76			70-130	Pass	
Benz(a)anthracene	%	100			70-130	Pass	
Benzo(a)pyrene - low level	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	119			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	119			70-130	Pass	
Chrysene	%	107			70-130	Pass	
Dibenz(a.h)anthracene	%	86			70-130	Pass	
Fluoranthene	%	92			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	77			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	84			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Lead	%	111			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0010126	NCP	%	120			70-130	Pass	
TRH >C10-C16	M24-De0010126	NCP	%	115			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthylene	B24-De0004025	NCP	%	70			70-130	Pass	
Anthracene	B24-De0004025	NCP	%	96			70-130	Pass	
Benz(a)anthracene	B24-De0004025	NCP	%	70			70-130	Pass	
Benzo(a)pyrene - low level	B24-De0004025	NCP	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	B24-De0004025	NCP	%	83			70-130	Pass	
Benzo(g.h.i)perylene	B24-De0004025	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	B24-De0004025	NCP	%	87			70-130	Pass	
Chrysene	B24-De0004025	NCP	%	78			70-130	Pass	
Dibenz(a.h)anthracene	B24-De0004025	NCP	%	77			70-130	Pass	
Fluoranthene	B24-De0004025	NCP	%	76			70-130	Pass	
Fluorene	B24-De0004025	NCP	%	76			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B24-De0004025	NCP	%	102			70-130	Pass	
Naphthalene	B24-De0004025	NCP	%	84			70-130	Pass	
Phenanthrene	B24-De0004025	NCP	%	73			70-130	Pass	
Pyrene	B24-De0004025	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-No0086173	NCP	%	97			75-125	Pass	
Lead	M24-No0086173	NCP	%	107			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-No0083744	NCP	mg/L	0.03	0.03	11	30%	Pass	
TRH C6-C10	M24-No0083744	NCP	mg/L	0.25	0.27	4.0	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-No0083744	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M24-No0083744	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M24-No0083744	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M24-No0083744	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M24-No0083744	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M24-No0083744	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-No0083744	NCP	mg/L	0.03	0.03	15	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Acenaphthylene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Anthracene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Benz(a)anthracene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Benzo(a)pyrene - low level	M24-No0086385	NCP	mg/L	< 0.00001	rpt	rpt	30%	Pass	
Benzo(b&j)fluoranthene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Benzo(g.h.i)perylene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Benzo(k)fluoranthene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Chrysene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Dibenz(a.h)anthracene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Fluoranthene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Fluorene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Naphthalene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Phenanthrene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Pyrene	M24-No0086385	NCP	mg/L	rpt	rpt	rpt	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-No0086173	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M24-No0086173	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Harry Bacalis	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Mele Singh	Senior Analyst-Organic
Mele Singh	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 5 Day
Date/Time received Dec 4, 2024 4:35 AM
Eurofins reference 1168041

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10 degrees Celsius.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

✓ Split sample sent to requested external lab.

✗ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1168041-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 04, 2024

Client Sample ID			**N09_0.5**	**N09_1.0**	**N09_1.5**	**M12_0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-De0012165**	**M24-De0012166**	**M24-De0012167**	**M24-De0012168**
Date Sampled			**Dec 03, 2024**	**Dec 03, 2024**	**Dec 03, 2024**	**Dec 03, 2024**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	1700	< 50
TRH C29-C36	50	mg/kg	< 50	57	1000	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	57	2700	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	2600	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	2600	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	61	64	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			N09_0.5	N09_1.0	N09_1.5	M12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012165	M24-De0012166	M24-De0012167	M24-De0012168
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	129	-	-	-
p-Terphenyl-d14 (surr.)	1	%	137	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	137	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	145	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	-	-
Total PCB*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	137	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	145	-	-	-

Client Sample ID			N09_0.5	N09_1.0	N09_1.5	M12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012165	M24-De0012166	M24-De0012167	M24-De0012168
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	79	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.4	12	2.5	25
Barium	10	mg/kg	27	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	0.5	-	-	-
Chromium	5	mg/kg	6.2	-	-	-
Cobalt	5	mg/kg	9.8	-	-	-
Copper	5	mg/kg	81	-	-	-
Lead	5	mg/kg	21	230	110	70
Manganese	5	mg/kg	210	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	11	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	< 10	-	-	-
Zinc	5	mg/kg	120	-	-	-
Sample Properties						
% Moisture	1	%	7.1	13	24	22

Client Sample ID			N09_0.5	N09_1.0	N09_1.5	M12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012165	M24-De0012166	M24-De0012167	M24-De0012168
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.019	0.016	0.018
Acenaphthylene	0.005	mg/kg	-	0.13	0.25	0.020
Anthracene	0.005	mg/kg	-	0.25	0.66	0.073
Benz(a)anthracene	0.005	mg/kg	-	0.59	2.1	0.21
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.5	3.1	0.49
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.92	1.8	0.34
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.49	1.6	0.11
Benzo(k)fluoranthene	0.005	mg/kg	-	1.1	1.7	0.31
Chrysene	0.005	mg/kg	-	0.90	2.0	0.23
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.18	0.29	0.025
Fluoranthene	0.005	mg/kg	-	1.6	5.0	0.44
Fluorene	0.005	mg/kg	-	0.049	0.077	0.015
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.57	0.90	0.12
Naphthalene	0.005	mg/kg	-	< 0.005	0.10	0.016
Phenanthrene	0.005	mg/kg	-	0.71	0.88	0.18
Pyrene	0.005	mg/kg	-	2.1	5.4	0.54
Total PAH*	0.005	mg/kg	-	11.108	25.873	3.137
2-Fluorobiphenyl (surr.)	1	%	-	102	142	98
p-Terphenyl-d14 (surr.)	1	%	-	95	69	120

Client Sample ID			M12_1.0	M12_1.5	N12_0.5	N12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012169	M24-De0012170	M24-De0012171	M24-De0012172
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	21	< 20
TRH C15-C28	50	mg/kg	710	140	< 50	710
TRH C29-C36	50	mg/kg	480	62	< 50	170
TRH C10-C36 (Total)	50	mg/kg	1190	202	< 50	880
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	1100	190	< 100	810
TRH >C34-C40	100	mg/kg	120	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1220	190	< 100	810
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	70	75	93	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			M12_1.0	M12_1.5	N12_0.5	N12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012169	M24-De0012170	M24-De0012171	M24-De0012172
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.8	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.0	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	8.3	-	-	-
Acenaphthene	0.5	mg/kg	0.6	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	3.3	-	-	-
Benzo(a)pyrene	0.5	mg/kg	6.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.2	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	3.4	-	-	-
Chrysene	0.5	mg/kg	4.1	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	6.9	-	-	-
Fluorene	0.5	mg/kg	0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.9	-	-	-
Naphthalene	0.5	mg/kg	1.1	-	-	-
Phenanthrene	0.5	mg/kg	1.9	-	-	-
Pyrene	0.5	mg/kg	8.5	-	-	-
Total PAH*	0.5	mg/kg	44	-	-	-
2-Fluorobiphenyl (surr.)	1	%	135	-	-	-
p-Terphenyl-d14 (surr.)	1	%	138	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	67	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	101	-	-	-

Client Sample ID			M12_1.0	M12_1.5	N12_0.5	N12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012169	M24-De0012170	M24-De0012171	M24-De0012172
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	-	-
Total PCB*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	67	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	101	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	73	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	4.9	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	7.7	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	32	3.0	< 2	19
Barium	10	mg/kg	520	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	40	-	-	-
Cobalt	5	mg/kg	19	-	-	-
Copper	5	mg/kg	1400	-	-	-

Client Sample ID			M12_1.0	M12_1.5	N12_0.5	N12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012169	M24-De0012170	M24-De0012171	M24-De0012172
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	8000	79	29	310
Manganese	5	mg/kg	760	-	-	-
Mercury	0.1	mg/kg	0.9	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	50	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	2.1	-	-	-
Tin	10	mg/kg	830	-	-	-
Zinc	5	mg/kg	1300	-	-	-
Sample Properties						
% Moisture	1	%	24	16	20	12
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.038	< 0.005	0.019
Acenaphthylene	0.005	mg/kg	-	0.042	< 0.005	0.034
Anthracene	0.005	mg/kg	-	0.18	0.012	0.029
Benz(a)anthracene	0.005	mg/kg	-	0.87	0.021	0.19
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.7	0.045	0.18
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.82	0.029	0.21
Benzo(g.h.i)perylene	0.005	mg/kg	-	1.4	0.015	0.26
Benzo(k)fluoranthene	0.005	mg/kg	-	0.89	0.029	0.40
Chrysene	0.005	mg/kg	-	0.73	0.034	0.30
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.26	0.006	0.26
Fluoranthene	0.005	mg/kg	-	1.1	0.057	0.28
Fluorene	0.005	mg/kg	-	0.068	< 0.005	0.031
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.67	0.019	0.062
Naphthalene	0.005	mg/kg	-	0.091	< 0.005	0.032
Phenanthrene	0.005	mg/kg	-	0.31	0.030	0.10
Pyrene	0.005	mg/kg	-	1.6	0.065	0.30
Total PAH*	0.005	mg/kg	-	10.769	0.362	2.687
2-Fluorobiphenyl (surr.)	1	%	-	142	77	130
p-Terphenyl-d14 (surr.)	1	%	-	63	81	142

Client Sample ID			N12_1.5	L12_0.5	L12_1.0	L12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012173	M24-De0012174	M24-De0012175	M24-De0012176
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	140	< 50	300	600
TRH C29-C36	50	mg/kg	78	< 50	220	370
TRH C10-C36 (Total)	50	mg/kg	218	< 50	520	970
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			N12_1.5	L12_0.5	L12_1.0	L12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012173	M24-De0012174	M24-De0012175	M24-De0012176
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	210	< 100	490	910
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	100
TRH >C10-C40 (total)*	100	mg/kg	210	< 100	490	1010
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	65	69	54	58
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.8	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.1	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	6.3	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	0.6	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	2.6	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	4.8	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.5	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.0	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	2.9	< 0.5	-	-
Chrysene	0.5	mg/kg	3.6	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	4.3	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.6	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	1.3	< 0.5	-	-
Pyrene	0.5	mg/kg	5.7	< 0.5	-	-
Total PAH*	0.5	mg/kg	32	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	124	71	-	-
p-Terphenyl-d14 (surr.)	1	%	132	79	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-

Client Sample ID			N12_1.5	L12_0.5	L12_1.0	L12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012173	M24-De0012174	M24-De0012175	M24-De0012176
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	55	117	-	-
Tetrachloro-m-xylene (surr.)	1	%	143	50	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.2	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.2	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.2	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.2	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.2	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.2	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.2	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	55	117	-	-
Tetrachloro-m-xylene (surr.)	1	%	143	50	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-	-
Dinoseb	20	mg/kg	< 20	< 20	-	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	-

Client Sample ID			N12_1.5	L12_0.5	L12_1.0	L12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012173	M24-De0012174	M24-De0012175	M24-De0012176
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	72	38	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	3.7	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	-	-
Cyanide (total)	5	mg/kg	< 5	< 5	-	-
Fluoride	100	mg/kg	< 100	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	7.2	< 2	5.9	2.5
Barium	10	mg/kg	430	69	-	-
Beryllium	2	mg/kg	< 2	< 2	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	-
Chromium	5	mg/kg	21	41	-	-
Cobalt	5	mg/kg	18	29	-	-
Copper	5	mg/kg	300	32	-	-
Lead	5	mg/kg	200	< 5	550	200
Manganese	5	mg/kg	350	360	-	-
Mercury	0.1	mg/kg	0.3	< 0.1	-	-
Molybdenum	5	mg/kg	< 5	< 5	-	-
Nickel	5	mg/kg	30	78	-	-
Selenium	2	mg/kg	< 2	< 2	-	-
Silver	2	mg/kg	< 2	< 2	-	-
Tin	10	mg/kg	110	< 10	-	-
Zinc	5	mg/kg	180	58	-	-
Sample Properties						
% Moisture	1	%	23	8.3	21	20
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	-	0.028	0.11
Acenaphthylene	0.005	mg/kg	-	-	0.47	0.30
Anthracene	0.005	mg/kg	-	-	1.3	1.6
Benz(a)anthracene	0.005	mg/kg	-	-	5.3	5.0
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	7.2	9.9
Benzo(b&j)fluoranthene	0.005	mg/kg	-	-	4.3	5.3
Benzo(g.h.i)perylene	0.005	mg/kg	-	-	4.0	4.3
Benzo(k)fluoranthene	0.005	mg/kg	-	-	4.0	4.6
Chrysene	0.005	mg/kg	-	-	4.4	5.0
Dibenz(a.h)anthracene	0.005	mg/kg	-	-	0.91	1.1
Fluoranthene	0.005	mg/kg	-	-	8.7	9.8
Fluorene	0.005	mg/kg	-	-	0.26	0.51
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	-	2.0	2.4
Naphthalene	0.005	mg/kg	-	-	0.25	0.68
Phenanthrene	0.005	mg/kg	-	-	2.4	3.4
Pyrene	0.005	mg/kg	-	-	9.8	11
Total PAH*	0.005	mg/kg	-	-	55.318	65
2-Fluorobiphenyl (surr.)	1	%	-	-	144	141
p-Terphenyl-d14 (surr.)	1	%	-	-	65	59

Client Sample ID			O12_0.5	O12_1.0	O12_1.5	L10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012177	M24-De0012178	M24-De0012179	M24-De0012180
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	160	680	< 50	< 50
TRH C29-C36	50	mg/kg	130	670	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	290	1350	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	270	1300	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	250	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	270	1550	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	64	53	70
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	1.4	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.7	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.9	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	0.7	-	-
Benzo(a)pyrene	0.5	mg/kg	-	1.1	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	0.9	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	0.8	-	-
Chrysene	0.5	mg/kg	-	0.8	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	1.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	0.7	-	-
Pyrene	0.5	mg/kg	-	1.7	-	-
Total PAH*	0.5	mg/kg	-	8.7	-	-
2-Fluorobiphenyl (surr.)	1	%	-	143	-	-
p-Terphenyl-d14 (surr.)	1	%	-	125	-	-

Client Sample ID			O12_0.5	O12_1.0	O12_1.5	L10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012177	M24-De0012178	M24-De0012179	M24-De0012180
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	61	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	124	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	61	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	124	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			O12_0.5	O12_1.0	O12_1.5	L10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012177	M24-De0012178	M24-De0012179	M24-De0012180
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	70	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.75	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.1	63	6.2	< 2
Barium	10	mg/kg	-	130	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	11	-	-
Chromium	5	mg/kg	-	18	-	-
Cobalt	5	mg/kg	-	11	-	-
Copper	5	mg/kg	-	100	-	-
Lead	5	mg/kg	120	390	510	10
Manganese	5	mg/kg	-	410	-	-
Mercury	0.1	mg/kg	-	0.7	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	23	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	4.5	-	-
Tin	10	mg/kg	-	70	-	-
Zinc	5	mg/kg	-	3000	-	-
Sample Properties						
% Moisture	1	%	26	34	24	19
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.029	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	0.046	-	0.078	< 0.005
Anthracene	0.005	mg/kg	0.091	-	0.044	0.028
Benz(a)anthracene	0.005	mg/kg	0.22	-	0.51	0.036
Benzo(a)pyrene - low level	0.005	mg/kg	0.12	-	0.49	0.11
Benzo(b&j)fluoranthene	0.005	mg/kg	0.16	-	0.53	0.053
Benzo(g.h.i)perylene	0.005	mg/kg	0.24	-	0.60	0.030
Benzo(k)fluoranthene	0.005	mg/kg	0.16	-	0.66	0.059
Chrysene	0.005	mg/kg	0.28	-	0.70	0.076

Client Sample ID			O12_0.5	O12_1.0	O12_1.5	L10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012177	M24-De0012178	M24-De0012179	M24-De0012180
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	0.24	-	0.60	0.013
Fluoranthene	0.005	mg/kg	0.39	-	0.55	0.13
Fluorene	0.005	mg/kg	0.038	-	0.012	0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.051	-	0.19	0.040
Naphthalene	0.005	mg/kg	0.055	-	0.097	0.005
Phenanthrene	0.005	mg/kg	0.17	-	0.15	0.057
Pyrene	0.005	mg/kg	0.42	-	0.66	0.15
Total PAH*	0.005	mg/kg	2.71	-	5.871	0.792
2-Fluorobiphenyl (surr.)	1	%	131	-	126	121
p-Terphenyl-d14 (surr.)	1	%	138	-	147	133

Client Sample ID			L10_1.0	L10_1.5	L10_2.0	M10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012181	M24-De0012182	M24-De0012183	M24-De0012184
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	160	< 50	290	1400
TRH C29-C36	50	mg/kg	< 50	< 50	140	1200
TRH C10-C36 (Total)	50	mg/kg	160	< 50	430	2600
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	170	< 100	400	2500
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	290
TRH >C10-C40 (total)*	100	mg/kg	170	< 100	400	2790
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	0.6
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.7
4-Bromofluorobenzene (surr.)	1	%	61	57	75	55
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	6.2	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	6.2	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	6.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	0.7	-
Anthracene	0.5	mg/kg	-	-	2.2	-
Benz(a)anthracene	0.5	mg/kg	-	-	3.2	-

Client Sample ID			L10_1.0	L10_1.5	L10_2.0	M10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012181	M24-De0012182	M24-De0012183	M24-De0012184
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	4.3	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	3.4	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	1.1	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	2.9	-
Chrysene	0.5	mg/kg	-	-	3.8	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	0.7	-
Fluoranthene	0.5	mg/kg	-	-	6.5	-
Fluorene	0.5	mg/kg	-	-	0.9	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	1.9	-
Naphthalene	0.5	mg/kg	-	-	0.5	-
Phenanthrene	0.5	mg/kg	-	-	7.0	-
Pyrene	0.5	mg/kg	-	-	5.6	-
Total PAH*	0.5	mg/kg	-	-	45	-
2-Fluorobiphenyl (surr.)	1	%	-	-	134	-
p-Terphenyl-d14 (surr.)	1	%	-	-	120	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	142	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.2	-

Client Sample ID			L10_1.0	L10_1.5	L10_2.0	M10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012181	M24-De0012182	M24-De0012183	M24-De0012184
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.2	-
Total PCB*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	142	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	50	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	3.5	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	2.3	< 2	2.8	52
Barium	10	mg/kg	-	-	150	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	22	-
Cobalt	5	mg/kg	-	-	20	-
Copper	5	mg/kg	-	-	42	-
Lead	5	mg/kg	390	48	82	600
Manganese	5	mg/kg	-	-	510	-
Mercury	0.1	mg/kg	-	-	0.7	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	19	-

Client Sample ID			L10_1.0	L10_1.5	L10_2.0	M10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012181	M24-De0012182	M24-De0012183	M24-De0012184
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	52	-
Zinc	5	mg/kg	-	-	110	-
Sample Properties						
% Moisture	1	%	18	14	18	16
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.030	0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.067	0.015	-	0.058
Anthracene	0.005	mg/kg	0.35	0.033	-	0.084
Benz(a)anthracene	0.005	mg/kg	0.72	0.085	-	0.19
Benzo(a)pyrene - low level	0.005	mg/kg	0.42	0.069	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	0.48	0.062	-	0.20
Benzo(g.h.i)perylene	0.005	mg/kg	0.55	0.087	-	0.078
Benzo(k)fluoranthene	0.005	mg/kg	0.58	0.063	-	0.22
Chrysene	0.005	mg/kg	0.80	0.12	-	0.26
Dibenz(a.h)anthracene	0.005	mg/kg	0.55	0.087	-	0.025
Fluoranthene	0.005	mg/kg	1.5	0.14	-	0.30
Fluorene	0.005	mg/kg	0.12	0.019	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.16	0.015	-	0.088
Naphthalene	0.005	mg/kg	0.049	0.029	-	0.16
Phenanthrene	0.005	mg/kg	0.80	0.11	-	0.24
Pyrene	0.005	mg/kg	1.4	0.14	-	0.24
Total PAH*	0.005	mg/kg	8.576	1.079	-	2.143
2-Fluorobiphenyl (surr.)	1	%	128	129	-	135
p-Terphenyl-d14 (surr.)	1	%	138	140	-	118

Client Sample ID			M10_1.0	M10_1.5	N10_0.5	N10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012185	M24-De0012186	M24-De0012187	M24-De0012188
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	180	< 20	< 20
TRH C15-C28	50	mg/kg	470	860	< 50	430
TRH C29-C36	50	mg/kg	230	340	< 50	110
TRH C10-C36 (Total)	50	mg/kg	700	1380	< 50	540
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	250	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	214	< 50	< 50
TRH >C16-C34	100	mg/kg	630	1100	< 100	450
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	630	1350	< 100	450

Client Sample ID			M10_1.0	M10_1.5	N10_0.5	N10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012185	M24-De0012186	M24-De0012187	M24-De0012188
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	80	68	64	63
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	36	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	10	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	10	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	10	-	1.2	-
Acenaphthene	0.5	mg/kg	0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	0.8	-	< 0.5	-
Anthracene	0.5	mg/kg	1.2	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	5.0	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	7.2	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	4.5	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.4	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	4.8	-	< 0.5	-
Chrysene	0.5	mg/kg	6.4	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	1.2	-	< 0.5	-
Fluoranthene	0.5	mg/kg	7.8	-	< 0.5	-
Fluorene	0.5	mg/kg	0.9	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	4.1	-	< 0.5	-
Naphthalene	0.5	mg/kg	1.0	-	< 0.5	-
Phenanthrene	0.5	mg/kg	3.5	-	< 0.5	-
Pyrene	0.5	mg/kg	7.6	-	< 0.5	-
Total PAH*	0.5	mg/kg	59	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	131	-	129	-
p-Terphenyl-d14 (surr.)	1	%	121	-	140	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-

Client Sample ID			M10_1.0	M10_1.5	N10_0.5	N10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012185	M24-De0012186	M24-De0012187	M24-De0012188
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	54	-	60	-
Tetrachloro-m-xylene (surr.)	1	%	146	-	131	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.2	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	54	-	60	-
Tetrachloro-m-xylene (surr.)	1	%	146	-	131	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	147	-	126	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	5.7	-	0.054	-

Client Sample ID			M10_1.0	M10_1.5	N10_0.5	N10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012185	M24-De0012186	M24-De0012187	M24-De0012188
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	4.4	13	2.5	8.3
Barium	10	mg/kg	200	-	38	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	24	-	7.3	-
Cobalt	5	mg/kg	30	-	13	-
Copper	5	mg/kg	110	-	100	-
Lead	5	mg/kg	550	330	22	290
Manganese	5	mg/kg	380	-	260	-
Mercury	0.1	mg/kg	0.4	-	< 0.1	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	27	-	15	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	20	-	< 10	-
Zinc	5	mg/kg	130	-	81	-
Sample Properties						
% Moisture	1	%	21	18	7.3	14
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	9.8	-	0.12
Acenaphthylene	0.005	mg/kg	-	0.14	-	0.41
Anthracene	0.005	mg/kg	-	5.8	-	0.55
Benz(a)anthracene	0.005	mg/kg	-	4.2	-	2.0
Benzo(a)pyrene - low level	0.005	mg/kg	-	3.6	-	1.8
Benzo(b&j)fluoranthene	0.005	mg/kg	-	2.5	-	1.2
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.85	-	0.86
Benzo(k)fluoranthene	0.005	mg/kg	-	2.5	-	1.2
Chrysene	0.005	mg/kg	-	6.3	-	1.8
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.15	-	0.11
Fluoranthene	0.005	mg/kg	-	7.4	-	3.5
Fluorene	0.005	mg/kg	-	5.0	-	0.21
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.69	-	1.3
Naphthalene	0.005	mg/kg	-	35	-	0.43
Phenanthrene	0.005	mg/kg	-	10	-	2.3
Pyrene	0.005	mg/kg	-	6.3	-	4.0
Total PAH*	0.005	mg/kg	-	100.23	-	21.79
2-Fluorobiphenyl (surr.)	1	%	-	142	-	136
p-Terphenyl-d14 (surr.)	1	%	-	123	-	126

Client Sample ID			N10_1.5	N11_0.5	N11_1.0	N11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012189	M24-De0012190	M24-De0012191	M24-De0012192
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 200	< 20	100	< 20
TRH C15-C28	50	mg/kg	< 500	< 50	3200	300
TRH C29-C36	50	mg/kg	< 500	< 50	760	340
TRH C10-C36 (Total)	50	mg/kg	< 500	< 50	4060	640
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 500	< 50	250	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 500	< 50	245.9	< 50
TRH >C16-C34	100	mg/kg	< 1000	< 100	3300	630
TRH >C34-C40	100	mg/kg	< 1000	< 100	340	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 1000	< 100	3890	630
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	66	61	74	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	4.1	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	1.6
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	1.8
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	2.1
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	1.1
Benzo(a)pyrene	0.5	mg/kg	-	-	-	1.1
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	1.1
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	1.3
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	1.1
Chrysene	0.5	mg/kg	-	-	-	1.4
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	1.6
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	1.1
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	0.6
Pyrene	0.5	mg/kg	-	-	-	1.8
Total PAH*	0.5	mg/kg	-	-	-	12
2-Fluorobiphenyl (surr.)	1	%	-	-	-	131
p-Terphenyl-d14 (surr.)	1	%	-	-	-	139

Client Sample ID			N10_1.5	N11_0.5	N11_1.0	N11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012189	M24-De0012190	M24-De0012191	M24-De0012192
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	139
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	129
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	139
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	129
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			N10_1.5	N11_0.5	N11_1.0	N11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012189	M24-De0012190	M24-De0012191	M24-De0012192
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	121
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	0.81
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	8.9	< 2	5.6	3.1
Barium	10	mg/kg	-	-	-	120
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	13
Cobalt	5	mg/kg	-	-	-	14
Copper	5	mg/kg	-	-	-	33
Lead	5	mg/kg	3300	7.7	130	140
Manganese	5	mg/kg	-	-	-	370
Mercury	0.1	mg/kg	-	-	-	0.2
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	27
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	120
Sample Properties						
% Moisture	1	%	33	28	13	28
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.76	< 0.005	2.3	-
Acenaphthylene	0.005	mg/kg	0.29	< 0.005	5.8	-
Anthracene	0.005	mg/kg	0.67	< 0.005	14	-
Benz(a)anthracene	0.005	mg/kg	2.4	< 0.005	14	-
Benzo(a)pyrene - low level	0.005	mg/kg	4.5	< 0.005	21	-
Benzo(b&j)fluoranthene	0.005	mg/kg	3.0	< 0.005	11	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.11	< 0.005	5.5	-
Benzo(k)fluoranthene	0.005	mg/kg	2.9	< 0.005	12	-
Chrysene	0.005	mg/kg	2.7	< 0.005	15	-

Client Sample ID			N10_1.5	N11_0.5	N11_1.0	N11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012189	M24-De0012190	M24-De0012191	M24-De0012192
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	0.25	< 0.005	3.2	-
Fluoranthene	0.005	mg/kg	2.4	0.009	28	-
Fluorene	0.005	mg/kg	0.36	< 0.005	7.9	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.14	< 0.005	9.2	-
Naphthalene	0.005	mg/kg	0.63	< 0.005	6.0	-
Phenanthrene	0.005	mg/kg	2.4	< 0.005	45	-
Pyrene	0.005	mg/kg	3.2	0.009	29	-
Total PAH*	0.005	mg/kg	26.71	0.018	228.9	-
2-Fluorobiphenyl (surr.)	1	%	130	128	135	-
p-Terphenyl-d14 (surr.)	1	%	104	130	124	-

Client Sample ID			O14_0.5	O14_1.0	O14_1.5	M11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012193	M24-De0012194	M24-De0012195	M24-De0012196
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	33
TRH C15-C28	50	mg/kg	< 50	-	< 50	4400
TRH C29-C36	50	mg/kg	< 50	-	< 50	2200
TRH C10-C36 (Total)	50	mg/kg	< 50	-	< 50	6633
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	100
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	-	< 50	100
TRH >C16-C34	100	mg/kg	< 100	-	< 100	6100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	1000
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 100	7200
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54	-	56	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	25	67
Lead	5	mg/kg	5.4	-	460	470
Sample Properties						
% Moisture	1	%	16	16	27	14

Client Sample ID			O14_0.5	O14_1.0	O14_1.5	M11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012193	M24-De0012194	M24-De0012195	M24-De0012196
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	0.024	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	0.15	0.078
Anthracene	0.005	mg/kg	< 0.005	< 0.005	0.11	0.13
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	1.0	0.31
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	1.6	0.32
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	1.3	0.43
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	1.0	0.15
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	1.1	0.43
Chrysene	0.005	mg/kg	< 0.005	< 0.005	1.3	0.55
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	0.48	0.084
Fluoranthene	0.005	mg/kg	< 0.005	0.008	0.94	0.62
Fluorene	0.005	mg/kg	< 0.005	< 0.005	0.015	0.072
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	1.7	0.29
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	0.082	0.33
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	0.25	1.5
Pyrene	0.005	mg/kg	< 0.005	0.011	1.2	0.58
Total PAH*	0.005	mg/kg	< 0.005	0.019	12.251	5.874
2-Fluorobiphenyl (surr.)	1	%	133	62	131	132
p-Terphenyl-d14 (surr.)	1	%	136	69	137	113

Client Sample ID			M11_1.0	M11_1.5	QC123	QC127
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012197	M24-De0012198	M24-De0012199	M24-De0012200
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	350	< 20	< 20
TRH C15-C28	50	mg/kg	1100	3100	980	350
TRH C29-C36	50	mg/kg	450	380	830	240
TRH C10-C36 (Total)	50	mg/kg	1550	3830	1810	590
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	54	470	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	54	468.1	< 50	< 50
TRH >C16-C34	100	mg/kg	1400	2900	1600	550
TRH >C34-C40	100	mg/kg	200	< 100	560	110
TRH >C10-C40 (total)*	100	mg/kg	1654	3370	2160	660
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54	53	51	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	1.9	< 0.5	< 0.5

Client Sample ID			M11_1.0	M11_1.5	QC123	QC127
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012197	M24-De0012198	M24-De0012199	M24-De0012200
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	28	-	-	7.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	28	-	-	7.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	28	-	-	7.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	2.4	-	-	< 0.5
Anthracene	0.5	mg/kg	5.6	-	-	0.9
Benz(a)anthracene	0.5	mg/kg	14	-	-	5.0
Benzo(a)pyrene	0.5	mg/kg	20	-	-	4.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	13	-	-	3.5
Benzo(g.h.i)perylene	0.5	mg/kg	6.9	-	-	5.4
Benzo(k)fluoranthene	0.5	mg/kg	13	-	-	4.9
Chrysene	0.5	mg/kg	16	-	-	7.6
Dibenz(a.h)anthracene	0.5	mg/kg	3.3	-	-	0.7
Fluoranthene	0.5	mg/kg	24	-	-	6.1
Fluorene	0.5	mg/kg	4.0	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	9.6	-	-	2.1
Naphthalene	0.5	mg/kg	1.0	-	-	< 0.5
Phenanthrene	0.5	mg/kg	15	-	-	2.0
Pyrene	0.5	mg/kg	23	-	-	7.6
Total PAH*	0.5	mg/kg	170	-	-	51
2-Fluorobiphenyl (surr.)	1	%	135	-	-	148
p-Terphenyl-d14 (surr.)	1	%	132	-	-	112
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	137	-	-	96
Tetrachloro-m-xylene (surr.)	1	%	134	-	-	106

Client Sample ID			M11_1.0	M11_1.5	QC123	QC127
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012197	M24-De0012198	M24-De0012199	M24-De0012200
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	-	-	< 0.2
Aroclor-1221	0.1	mg/kg	< 0.2	-	-	< 0.2
Aroclor-1232	0.1	mg/kg	< 0.2	-	-	< 0.2
Aroclor-1242	0.1	mg/kg	< 0.2	-	-	< 0.2
Aroclor-1248	0.1	mg/kg	< 0.2	-	-	< 0.2
Aroclor-1254	0.1	mg/kg	< 0.2	-	-	< 0.2
Aroclor-1260	0.1	mg/kg	< 0.2	-	-	< 0.2
Total PCB*	0.1	mg/kg	< 0.2	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	137	-	-	96
Tetrachloro-m-xylene (surr.)	1	%	134	-	-	106
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	147	-	-	125
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	17	-	-	4.1
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	6.1	6.4	72	2.8
Barium	10	mg/kg	230	-	-	84
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	24	-	-	11
Cobalt	5	mg/kg	17	-	-	10
Copper	5	mg/kg	140	-	-	56

Client Sample ID			M11_1.0	M11_1.5	QC123	QC127
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012197	M24-De0012198	M24-De0012199	M24-De0012200
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	250	38	340	130
Manganese	5	mg/kg	380	-	-	160
Mercury	0.1	mg/kg	30	-	-	0.3
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	22	-	-	15
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	39	-	-	56
Zinc	5	mg/kg	220	-	-	91
Sample Properties						
% Moisture	1	%	18	19	13	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.98	0.042	-
Acenaphthylene	0.005	mg/kg	-	1.5	0.023	-
Anthracene	0.005	mg/kg	-	5.9	0.078	-
Benz(a)anthracene	0.005	mg/kg	-	13	0.24	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	12	0.20	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	8.8	0.29	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	4.6	0.27	-
Benzo(k)fluoranthene	0.005	mg/kg	-	11	0.28	-
Chrysene	0.005	mg/kg	-	14	0.42	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	2.1	0.077	-
Fluoranthene	0.005	mg/kg	-	26	0.65	-
Fluorene	0.005	mg/kg	-	6.7	0.038	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	7.8	0.23	-
Naphthalene	0.005	mg/kg	-	3.4	0.14	-
Phenanthrene	0.005	mg/kg	-	23	0.51	-
Pyrene	0.005	mg/kg	-	23	0.67	-
Total PAH*	0.005	mg/kg	-	163.78	4.158	-
2-Fluorobiphenyl (surr.)	1	%	-	136	130	-
p-Terphenyl-d14 (surr.)	1	%	-	125	136	-

Client Sample ID			N16_0.5	N16_1.0	N16_1.5	N13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012201	M24-De0012202	M24-De0012203	M24-De0012204
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	340	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	180	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	520	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			N16_0.5	N16_1.0	N16_1.5	N13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012201	M24-De0012202	M24-De0012203	M24-De0012204
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	< 100	490	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	490	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	88	88	57	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	15	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	15	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	15	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	1.4	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	5.8	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	12	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	5.3	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	3.9	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	5.6	< 0.5
Chrysene	0.5	mg/kg	-	-	7.8	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.0	< 0.5
Fluoranthene	0.5	mg/kg	-	-	12	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	3.3	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	3.5	< 0.5
Pyrene	0.5	mg/kg	-	-	14	< 0.5
Total PAH*	0.5	mg/kg	-	-	76	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	129	70
p-Terphenyl-d14 (surr.)	1	%	-	-	142	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			N16_0.5	N16_1.0	N16_1.5	N13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012201	M24-De0012202	M24-De0012203	M24-De0012204
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	57	145
Tetrachloro-m-xylene (surr.)	1	%	-	-	140	57
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.2	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.2	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.2	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.2	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.2	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.2	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.2	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.2	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	57	145
Tetrachloro-m-xylene (surr.)	1	%	-	-	140	57
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5	< 5
Dinoseb	20	mg/kg	-	-	< 20	< 20
Phenol	0.5	mg/kg	-	-	< 0.5	< 0.5

Client Sample ID			N16_0.5	N16_1.0	N16_1.5	N13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012201	M24-De0012202	M24-De0012203	M24-De0012204
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	-	-	83	33
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	9.7	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Cyanide (total)	5	mg/kg	-	-	< 5	< 5
Fluoride	100	mg/kg	-	-	120	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.1	2.6	< 2
Barium	10	mg/kg	-	-	96	26
Beryllium	2	mg/kg	-	-	< 2	< 2
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	8.8	< 5
Cobalt	5	mg/kg	-	-	13	9.4
Copper	5	mg/kg	-	-	89	83
Lead	5	mg/kg	< 5	6.1	240	6.1
Manganese	5	mg/kg	-	-	210	190
Mercury	0.1	mg/kg	-	-	0.7	< 0.1
Molybdenum	5	mg/kg	-	-	< 5	< 5
Nickel	5	mg/kg	-	-	18	11
Selenium	2	mg/kg	-	-	< 2	< 2
Silver	2	mg/kg	-	-	< 2	< 2
Tin	10	mg/kg	-	-	44	< 10
Zinc	5	mg/kg	-	-	130	42
Sample Properties						
% Moisture	1	%	2.7	3.5	19	4.8
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.010	< 0.005	-	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	-
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	-
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	-
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	-
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	-
Total PAH*	0.005	mg/kg	0.01	< 0.005	-	-
2-Fluorobiphenyl (surr.)	1	%	128	127	-	-
p-Terphenyl-d14 (surr.)	1	%	141	138	-	-

Client Sample ID			N13_1.0	N13_1.5	J10_0.5	J10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012205	M24-De0012206	M24-De0012208	M24-De0012209
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	92
TRH C15-C28	50	mg/kg	170	54	250	34000
TRH C29-C36	50	mg/kg	120	< 50	180	25000
TRH C10-C36 (Total)	50	mg/kg	290	54	430	59092
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	320
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	320
TRH >C16-C34	100	mg/kg	260	< 100	400	57000
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	6500
TRH >C10-C40 (total)*	100	mg/kg	260	< 100	400	63820
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	87	100	89	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	1.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	1.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.8
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	1.0
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	0.8
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	0.6
Chrysene	0.5	mg/kg	-	-	-	1.8
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	1.0
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	1.5
Pyrene	0.5	mg/kg	-	-	-	0.8
Total PAH*	0.5	mg/kg	-	-	-	8.0
2-Fluorobiphenyl (surr.)	1	%	-	-	-	137
p-Terphenyl-d14 (surr.)	1	%	-	-	-	127

Client Sample ID			N13_1.0	N13_1.5	J10_0.5	J10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012205	M24-De0012206	M24-De0012208	M24-De0012209
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	64
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	120
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.2
Total PCB*	0.1	mg/kg	-	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	-	-	64
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	120
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			N13_1.0	N13_1.5	J10_0.5	J10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012205	M24-De0012206	M24-De0012208	M24-De0012209
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	73
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	0.83
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	4.0	2.1	4.3	56
Barium	10	mg/kg	-	-	-	130
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	45
Chromium	5	mg/kg	-	-	-	21
Cobalt	5	mg/kg	-	-	-	13
Copper	5	mg/kg	-	-	-	410
Lead	5	mg/kg	25	60	210	1600
Manganese	5	mg/kg	-	-	-	410
Mercury	0.1	mg/kg	-	-	-	2.2
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	28
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	6.5
Tin	10	mg/kg	-	-	-	480
Zinc	5	mg/kg	-	-	-	16000
Sample Properties						
% Moisture	1	%	13	14	11	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.016	< 0.005	0.030	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	0.26	-
Anthracene	0.005	mg/kg	0.056	0.017	1.7	-
Benz(a)anthracene	0.005	mg/kg	0.076	0.026	6.3	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.16	0.049	3.9	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.098	0.027	5.3	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.058	0.016	2.5	-
Benzo(k)fluoranthene	0.005	mg/kg	0.10	0.035	4.0	-
Chrysene	0.005	mg/kg	0.13	0.050	3.7	-

Client Sample ID			N13_1.0	N13_1.5	J10_0.5	J10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012205	M24-De0012206	M24-De0012208	M24-De0012209
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	0.020	0.007	0.45	-
Fluoranthene	0.005	mg/kg	0.25	0.074	4.3	-
Fluorene	0.005	mg/kg	0.024	< 0.005	0.12	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.066	0.017	1.1	-
Naphthalene	0.005	mg/kg	0.013	0.010	0.16	-
Phenanthrene	0.005	mg/kg	0.12	0.054	1.7	-
Pyrene	0.005	mg/kg	0.28	0.083	3.8	-
Total PAH*	0.005	mg/kg	1.467	0.465	39.32	-
2-Fluorobiphenyl (surr.)	1	%	80	125	140	-
p-Terphenyl-d14 (surr.)	1	%	76	125	56	-

Client Sample ID			J10_1.5	J10_2.0	E08_0.5	G06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012210	M24-De0012211	M24-De0012212	M24-De0012213
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	76	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	76	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	120	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	120	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	98	78	81	59
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			J10_1.5	J10_2.0	E08_0.5	G06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012210	M24-De0012211	M24-De0012212	M24-De0012213
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	52	-
p-Terphenyl-d14 (surr.)	1	%	-	-	76	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	110	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	59	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			J10_1.5	J10_2.0	E08_0.5	G06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012210	M24-De0012211	M24-De0012212	M24-De0012213
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	110	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	59	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	28	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.3	< 2	< 2
Barium	10	mg/kg	-	-	14	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	< 5	-
Cobalt	5	mg/kg	-	-	16	-
Copper	5	mg/kg	-	-	87	-
Lead	5	mg/kg	23	150	< 5	< 5
Manganese	5	mg/kg	-	-	340	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	7.0	-

Client Sample ID			J10_1.5	J10_2.0	E08_0.5	G06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012210	M24-De0012211	M24-De0012212	M24-De0012213
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	53	-
Sample Properties						
% Moisture	1	%	6.9	12	5.3	5.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.009	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.010	0.052	-	< 0.005
Anthracene	0.005	mg/kg	0.006	0.067	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	0.072	0.37	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	0.072	0.26	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	0.065	0.28	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	0.092	0.39	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.072	0.29	-	< 0.005
Chrysene	0.005	mg/kg	0.12	0.47	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	0.092	0.39	-	< 0.005
Fluoranthene	0.005	mg/kg	0.066	0.47	-	< 0.005
Fluorene	0.005	mg/kg	< 0.005	0.030	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.023	0.096	-	< 0.005
Naphthalene	0.005	mg/kg	0.010	0.047	-	< 0.005
Phenanthrene	0.005	mg/kg	0.027	0.18	-	< 0.005
Pyrene	0.005	mg/kg	0.12	0.54	-	< 0.005
Total PAH*	0.005	mg/kg	0.847	3.941	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	129	129	-	82
p-Terphenyl-d14 (surr.)	1	%	142	142	-	98

Client Sample ID			G06_1.0	G06_1.3	F07_0.5	H06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012214	M24-De0012215	M24-De0012216	M24-De0012217
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	22	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	90	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	112	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	63	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	63	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			G06_1.0	G06_1.3	F07_0.5	H06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012214	M24-De0012215	M24-De0012216	M24-De0012217
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	72	97	52	118
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	-
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	-	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	52	80	-
p-Terphenyl-d14 (surr.)	1	%	-	69	73	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-

Client Sample ID			G06_1.0	G06_1.3	F07_0.5	H06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012214	M24-De0012215	M24-De0012216	M24-De0012217
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	124	126	-
Tetrachloro-m-xylene (surr.)	1	%	-	61	52	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	124	126	-
Tetrachloro-m-xylene (surr.)	1	%	-	61	52	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	-
Pentachlorophenol	1	mg/kg	-	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	-	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	-	< 5	< 5	-
Dinoseb	20	mg/kg	-	< 20	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	-	39	29	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	< 0.005	-

Client Sample ID			G06_1.0	G06_1.3	F07_0.5	H06_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012214	M24-De0012215	M24-De0012216	M24-De0012217
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	< 1	< 1	-
Cyanide (total)	5	mg/kg	-	< 5	< 5	-
Fluoride	100	mg/kg	-	< 100	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	26	15	-
Beryllium	2	mg/kg	-	< 2	< 2	-
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	-
Chromium	5	mg/kg	-	32	< 5	-
Cobalt	5	mg/kg	-	23	17	-
Copper	5	mg/kg	-	75	99	-
Lead	5	mg/kg	< 5	< 5	< 5	5.6
Manganese	5	mg/kg	-	420	370	-
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	-
Molybdenum	5	mg/kg	-	< 5	< 5	-
Nickel	5	mg/kg	-	35	6.0	-
Selenium	2	mg/kg	-	< 2	< 2	-
Silver	2	mg/kg	-	< 2	< 2	-
Tin	10	mg/kg	-	< 10	< 10	-
Zinc	5	mg/kg	-	39	58	-
Sample Properties						
% Moisture	1	%	6.4	5.4	4.5	5.3
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	-	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	-	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Fluorene	0.005	mg/kg	< 0.005	-	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	-	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	-	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	-	-	< 0.005
Total PAH*	0.005	mg/kg	< 0.005	-	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	85	-	-	88
p-Terphenyl-d14 (surr.)	1	%	100	-	-	104

Client Sample ID			H06_0.8	G07_0.6	G07_0.7	F08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012218	M24-De0012219	M24-De0012220	M24-De0012221
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	71	92	91	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Sample Properties						
% Moisture	1	%	2.7	7.8	2.1	10
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Anthracene	0.005	mg/kg	< 0.005	0.007	< 0.005	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	< 0.005	0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.007	< 0.005	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.007	< 0.005	< 0.005
Chrysene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	0.006	< 0.005	< 0.005
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	< 0.005
Pyrene	0.005	mg/kg	< 0.005	0.007	< 0.005	0.007
Total PAH*	0.005	mg/kg	< 0.005	0.034	< 0.005	0.012
2-Fluorobiphenyl (surr.)	1	%	93	79	102	83
p-Terphenyl-d14 (surr.)	1	%	140	118	114	82

Client Sample ID			F08_1.0	H08_0.5	H08_1.0	H08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012222	M24-De0012224	M24-De0012225	M24-De0012226
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	71	140
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	120
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	71	260
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	240
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	240
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	109	70	72	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	2.7
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	2.9
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	3.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	1.6
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	2.1
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	1.4
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	1.0
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	1.4
Chrysene	0.5	mg/kg	< 0.5	-	-	1.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	2.4
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	1.1
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	0.8
Pyrene	0.5	mg/kg	< 0.5	-	-	2.1
Total PAH*	0.5	mg/kg	< 0.5	-	-	15
2-Fluorobiphenyl (surr.)	1	%	63	-	-	141
p-Terphenyl-d14 (surr.)	1	%	67	-	-	123

Client Sample ID			F08_1.0	H08_0.5	H08_1.0	H08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012222	M24-De0012224	M24-De0012225	M24-De0012226
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	139	-	-	142
Tetrachloro-m-xylene (surr.)	1	%	67	-	-	140
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	139	-	-	142
Tetrachloro-m-xylene (surr.)	1	%	67	-	-	140
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1

Client Sample ID			F08_1.0	H08_0.5	H08_1.0	H08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012222	M24-De0012224	M24-De0012225	M24-De0012226
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	53	-	-	63
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	1.8
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	4.2	< 2	2.8
Barium	10	mg/kg	12	-	-	180
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	6.1	-	-	21
Cobalt	5	mg/kg	17	-	-	16
Copper	5	mg/kg	100	-	-	60
Lead	5	mg/kg	< 5	430	270	130
Manganese	5	mg/kg	350	-	-	400
Mercury	0.1	mg/kg	< 0.1	-	-	0.7
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	7.1	-	-	17
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	10
Zinc	5	mg/kg	58	-	-	120
Sample Properties						
% Moisture	1	%	4.9	15	6.4	13
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	0.019	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	0.14	-
Anthracene	0.005	mg/kg	-	0.019	0.29	-
Benz(a)anthracene	0.005	mg/kg	-	0.078	1.0	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.051	1.0	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.065	0.76	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.13	0.58	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.077	0.83	-
Chrysene	0.005	mg/kg	-	0.13	1.2	-

Client Sample ID			F08_1.0	H08_0.5	H08_1.0	H08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012222	M24-De0012224	M24-De0012225	M24-De0012226
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.13	0.28	-
Fluoranthene	0.005	mg/kg	-	0.11	1.9	-
Fluorene	0.005	mg/kg	-	< 0.005	0.074	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.016	0.73	-
Naphthalene	0.005	mg/kg	-	0.020	0.097	-
Phenanthrene	0.005	mg/kg	-	0.036	0.94	-
Pyrene	0.005	mg/kg	-	0.11	2.0	-
Total PAH*	0.005	mg/kg	-	0.972	11.84	-
2-Fluorobiphenyl (surr.)	1	%	-	123	130	-
p-Terphenyl-d14 (surr.)	1	%	-	133	137	-

Client Sample ID			H08_2.0	H08_2.5	H08_3.0	G08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012227	M24-De0012228	M24-De0012229	M24-De0012230
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	350	< 50	440	77
TRH C29-C36	50	mg/kg	210	< 50	160	130
TRH C10-C36 (Total)	50	mg/kg	560	< 50	600	207
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	510	< 100	560	190
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	510	< 100	560	190
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	78	101	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	5.2	5.6	< 2	< 2
Lead	5	mg/kg	87	150	8.6	< 5
Sample Properties						
% Moisture	1	%	11	25	16	5.9

Client Sample ID			H08_2.0	H08_2.5	H08_3.0	G08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012227	M24-De0012228	M24-De0012229	M24-De0012230
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.088	< 0.005	0.010	< 0.005
Acenaphthylene	0.005	mg/kg	0.44	0.032	0.37	< 0.005
Anthracene	0.005	mg/kg	0.76	0.043	0.10	< 0.005
Benz(a)anthracene	0.005	mg/kg	2.7	0.13	2.3	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	3.3	0.093	4.6	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	2.5	0.10	2.0	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	1.1	0.095	1.5	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	1.9	0.12	1.6	< 0.005
Chrysene	0.005	mg/kg	2.9	0.19	1.5	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	0.65	0.095	0.30	< 0.005
Fluoranthene	0.005	mg/kg	4.3	0.21	3.7	0.010
Fluorene	0.005	mg/kg	0.26	0.011	0.095	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	1.3	0.036	0.80	< 0.005
Naphthalene	0.005	mg/kg	0.26	0.035	0.12	< 0.005
Phenanthrene	0.005	mg/kg	2.4	0.10	0.40	< 0.005
Pyrene	0.005	mg/kg	5.4	0.19	4.8	0.010
Total PAH*	0.005	mg/kg	30.258	1.48	24.195	0.02
2-Fluorobiphenyl (surr.)	1	%	131	126	144	125
p-Terphenyl-d14 (surr.)	1	%	137	135	69	125

Client Sample ID			G08_1.0	G08_1.5	G08_2.0	G08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012231	M24-De0012232	M24-De0012233	M24-De0012234
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	53	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	53	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	83	60	85	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			G08_1.0	G08_1.5	G08_2.0	G08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012231	M24-De0012232	M24-De0012233	M24-De0012234
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	53	-	-	77
p-Terphenyl-d14 (surr.)	1	%	132	-	-	72
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	67	-	-	100
Tetrachloro-m-xylene (surr.)	1	%	133	-	-	54

Client Sample ID			G08_1.0	G08_1.5	G08_2.0	G08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012231	M24-De0012232	M24-De0012233	M24-De0012234
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	67	-	-	100
Tetrachloro-m-xylene (surr.)	1	%	133	-	-	54
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	90	-	-	42
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	4.1
Barium	10	mg/kg	80	-	-	58
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	22	-	-	9.0
Cobalt	5	mg/kg	17	-	-	27
Copper	5	mg/kg	92	-	-	100

Client Sample ID			G08_1.0	G08_1.5	G08_2.0	G08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012231	M24-De0012232	M24-De0012233	M24-De0012234
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Manganese	5	mg/kg	360	-	-	470
Mercury	0.1	mg/kg	< 0.1	-	-	< 0.1
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	34	-	-	27
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	< 10
Zinc	5	mg/kg	32	-	-	50
Sample Properties						
% Moisture	1	%	5.3	5.3	5.8	7.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	0.007	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	0.013	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.009	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.007	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.007	< 0.005	-
Chrysene	0.005	mg/kg	-	0.020	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	0.026	< 0.005	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	0.006	< 0.005	-
Phenanthrene	0.005	mg/kg	-	0.029	< 0.005	-
Pyrene	0.005	mg/kg	-	0.030	< 0.005	-
Total PAH*	0.005	mg/kg	-	0.154	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	-	82	67	-
p-Terphenyl-d14 (surr.)	1	%	-	109	113	-

Client Sample ID			G08_3.0	G08_3.5	F09_0.5	F09_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012235	M24-De0012236	M24-De0012237	M24-De0012238
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			G08_3.0	G08_3.5	F09_0.5	F09_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012235	M24-De0012236	M24-De0012237	M24-De0012238
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	95	71	137	80
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	50	-
p-Terphenyl-d14 (surr.)	1	%	-	-	75	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			G08_3.0	G08_3.5	F09_0.5	F09_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012235	M24-De0012236	M24-De0012237	M24-De0012238
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	119	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	126	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	119	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	126	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			G08_3.0	G08_3.5	F09_0.5	F09_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012235	M24-De0012236	M24-De0012237	M24-De0012238
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	-	-	86	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	88	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	21	-
Cobalt	5	mg/kg	-	-	23	-
Copper	5	mg/kg	-	-	76	-
Lead	5	mg/kg	< 5	< 5	8.6	5.8
Manganese	5	mg/kg	-	-	300	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	34	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	38	-
Sample Properties						
% Moisture	1	%	2.0	2.0	20	7.6
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	0.007
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.007
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.030
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	0.019
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.020
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	0.006
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.025
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	0.039
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.052
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.009
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	0.011
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.059
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	0.284
2-Fluorobiphenyl (surr.)	1	%	72	142	-	140
p-Terphenyl-d14 (surr.)	1	%	92	142	-	147

Client Sample ID			F09_1.5	F09_2.0	F09_2.5	F09_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012239	M24-De0012240	M24-De0012241	M24-De0012242
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	100
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	100
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	110
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	160
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	270
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	95	92	118
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	80
p-Terphenyl-d14 (surr.)	1	%	-	-	-	92

Client Sample ID			F09_1.5	F09_2.0	F09_2.5	F09_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012239	M24-De0012240	M24-De0012241	M24-De0012242
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	136
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	110
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	136
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	110
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			F09_1.5	F09_2.0	F09_2.5	F09_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012239	M24-De0012240	M24-De0012241	M24-De0012242
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	55
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	-	40
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	22
Cobalt	5	mg/kg	-	-	-	18
Copper	5	mg/kg	-	-	-	73
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	-	390
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	28
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	33
Sample Properties						
% Moisture	1	%	12	6.4	3.9	13
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-

Client Sample ID			F09_1.5	F09_2.0	F09_2.5	F09_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012239	M24-De0012240	M24-De0012241	M24-De0012242
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	148	82	141	-
p-Terphenyl-d14 (surr.)	1	%	142	100	143	-

Client Sample ID			F09_4.0	E07_0.5	E07_0.9	QC131
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012243	M24-De0012244	M24-De0012245	M24-De0012246
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	200	< 50	120
TRH C29-C36	50	mg/kg	< 50	140	< 50	71
TRH C10-C36 (Total)	50	mg/kg	< 50	340	< 50	191
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	320	< 100	180
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	320	< 100	180
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	100	119	82	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	< 2	26	< 2	4.6
Lead	5	mg/kg	< 5	360	< 5	150
Sample Properties						
% Moisture	1	%	13	10	3.8	11

Client Sample ID			F09_4.0	E07_0.5	E07_0.9	QC131
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012243	M24-De0012244	M24-De0012245	M24-De0012246
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.024	< 0.005	0.021
Acenaphthylene	0.005	mg/kg	< 0.005	0.16	< 0.005	0.13
Anthracene	0.005	mg/kg	< 0.005	0.12	< 0.005	0.11
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.52	< 0.005	0.46
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	1.5	< 0.005	0.93
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	1.1	< 0.005	0.53
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	0.52	< 0.005	0.41
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.70	< 0.005	0.48
Chrysene	0.005	mg/kg	< 0.005	0.62	< 0.005	0.43
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.29	< 0.005	0.19
Fluoranthene	0.005	mg/kg	< 0.005	0.76	< 0.005	0.66
Fluorene	0.005	mg/kg	< 0.005	0.027	< 0.005	0.053
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.60	< 0.005	0.41
Naphthalene	0.005	mg/kg	< 0.005	0.069	< 0.005	0.053
Phenanthrene	0.005	mg/kg	< 0.005	0.35	< 0.005	0.51
Pyrene	0.005	mg/kg	< 0.005	0.74	< 0.005	0.79
Total PAH*	0.005	mg/kg	< 0.005	8.1	< 0.005	6.167
2-Fluorobiphenyl (surr.)	1	%	94	65	96	136
p-Terphenyl-d14 (surr.)	1	%	105	55	144	134

Client Sample ID			QC133	QC134	QC135	QC136
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012247	M24-De0012248	M24-De0012249	M24-De0012250
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	60	82	83	88
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			QC137	M09_0.5	M09_1.0	M09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012251	M24-De0012252	M24-De0012253	M24-De0012254
Date Sampled			Dec 04, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	140	< 20
TRH C15-C28	50	mg/kg	-	< 50	3300	< 50
TRH C29-C36	50	mg/kg	-	< 50	1200	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50	4640	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	< 50	400	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	< 50	400	< 50
TRH >C16-C34	100	mg/kg	-	< 100	4000	< 100
TRH >C34-C40	100	mg/kg	-	< 100	710	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	5110	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	100	68	75	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	< 0.5	1.3
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	25	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	25	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	25	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.1	-
Anthracene	0.5	mg/kg	-	-	3.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	8.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	19	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	7.0	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	5.9	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	7.8	-
Chrysene	0.5	mg/kg	-	-	8.7	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	2.7	-
Fluoranthene	0.5	mg/kg	-	-	14	-
Fluorene	0.5	mg/kg	-	-	0.7	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	6.4	-
Naphthalene	0.5	mg/kg	-	-	0.6	-
Phenanthrene	0.5	mg/kg	-	-	7.2	-
Pyrene	0.5	mg/kg	-	-	18	-
Total PAH*	0.5	mg/kg	-	-	110	-
2-Fluorobiphenyl (surr.)	1	%	-	-	65	-
p-Terphenyl-d14 (surr.)	1	%	-	-	133	-

Client Sample ID			QC137	M09_0.5	M09_1.0	M09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012251	M24-De0012252	M24-De0012253	M24-De0012254
Date Sampled			Dec 04, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	100	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	124	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.2	-
Total PCB*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	100	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	124	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			QC137	M09_0.5	M09_1.0	M09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012251	M24-De0012252	M24-De0012253	M24-De0012254
Date Sampled			Dec 04, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	54	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	16	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	-	< 2	350	3.4
Barium	10	mg/kg	-	-	320	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	25	-
Cobalt	5	mg/kg	-	-	23	-
Copper	5	mg/kg	-	-	110	-
Lead	5	mg/kg	-	< 5	650	110
Manganese	5	mg/kg	-	-	470	-
Mercury	0.1	mg/kg	-	-	3.6	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	24	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	120	-
Zinc	5	mg/kg	-	-	500	-
Sample Properties						
% Moisture	1	%	-	17	18	18
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	-	0.32
Acenaphthylene	0.005	mg/kg	-	< 0.005	-	0.20
Anthracene	0.005	mg/kg	-	< 0.005	-	0.61
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	-	2.0
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	2.8
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	-	1.4
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	-	1.3
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	-	1.6
Chrysene	0.005	mg/kg	-	< 0.005	-	2.2

Client Sample ID			QC137	M09_0.5	M09_1.0	M09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012251	M24-De0012252	M24-De0012253	M24-De0012254
Date Sampled			Dec 04, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	-	0.63
Fluoranthene	0.005	mg/kg	-	< 0.005	-	3.2
Fluorene	0.005	mg/kg	-	< 0.005	-	0.34
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	-	1.5
Naphthalene	0.005	mg/kg	-	< 0.005	-	0.44
Phenanthrene	0.005	mg/kg	-	< 0.005	-	2.3
Pyrene	0.005	mg/kg	-	< 0.005	-	3.8
Total PAH*	0.005	mg/kg	-	< 0.005	-	24.64
2-Fluorobiphenyl (surr.)	1	%	-	127	-	125
p-Terphenyl-d14 (surr.)	1	%	-	133	-	143
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			F07_1.0	F09_1.6	F09_3.5	J08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012255	M24-De0012256	M24-De0012257	M24-De0012258
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	111	136	76	148
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			F07_1.0	F09_1.6	F09_3.5	J08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012255	M24-De0012256	M24-De0012257	M24-De0012258
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	83	-	-
p-Terphenyl-d14 (surr.)	1	%	-	134	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	83	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	98	-	-

Client Sample ID			F07_1.0	F09_1.6	F09_3.5	J08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012255	M24-De0012256	M24-De0012257	M24-De0012258
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	83	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	98	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	83	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	190	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.0	< 2	< 2
Barium	10	mg/kg	-	64	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	12	-	-
Cobalt	5	mg/kg	-	38	-	-
Copper	5	mg/kg	-	120	-	-

Client Sample ID			F07_1.0	F09_1.6	F09_3.5	J08_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012255	M24-De0012256	M24-De0012257	M24-De0012258
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	< 5	< 5	< 5	14
Manganese	5	mg/kg	-	1000	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	36	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	68	-	-
Sample Properties						
% Moisture	1	%	< 1	11	1.5	10
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Anthracene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	< 0.005	0.014
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	< 0.005	0.009
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	< 0.005	0.007
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	< 0.005	0.009
Chrysene	0.005	mg/kg	< 0.005	-	< 0.005	0.008
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	-	< 0.005	0.013
Fluorene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	< 0.005	0.006
Naphthalene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	-	< 0.005	0.007
Pyrene	0.005	mg/kg	< 0.005	-	< 0.005	0.018
Total PAH*	0.005	mg/kg	< 0.005	-	< 0.005	0.101
2-Fluorobiphenyl (surr.)	1	%	125	-	66	127
p-Terphenyl-d14 (surr.)	1	%	128	-	109	132

Client Sample ID			G06_2.0	F07_0.6	H06_0.7	H06_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012263	M24-De0012265	M24-De0012267	M24-De0012268
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			G06_2.0	F07_0.6	H06_0.7	H06_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012263	M24-De0012265	M24-De0012267	M24-De0012268
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	67	69	51
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	55	-
p-Terphenyl-d14 (surr.)	1	%	-	-	145	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			G06_2.0	F07_0.6	H06_0.7	H06_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012263	M24-De0012265	M24-De0012267	M24-De0012268
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	80	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	119	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	80	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	119	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			G06_2.0	F07_0.6	H06_0.7	H06_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0012263	M24-De0012265	M24-De0012267	M24-De0012268
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	-	-	50	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	17	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	33	-
Cobalt	5	mg/kg	-	-	23	-
Copper	5	mg/kg	-	-	29	-
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	410	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	78	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	41	-
Sample Properties						
% Moisture	1	%	5.6	9.5	3.9	5.4
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	62	59	-	114
p-Terphenyl-d14 (surr.)	1	%	74	110	-	94

Client Sample ID			E07_1.0
Sample Matrix			Soil
Eurofins Sample No.			M24-De0012273
Date Sampled			Dec 04, 2024
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Heavy Metals			
Arsenic	2	mg/kg	< 2
Lead	5	mg/kg	< 5
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.005	mg/kg	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005
Anthracene	0.005	mg/kg	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005
Chrysene	0.005	mg/kg	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005
Fluorene	0.005	mg/kg	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005
Naphthalene	0.005	mg/kg	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005
Pyrene	0.005	mg/kg	< 0.005
Total PAH*	0.005	mg/kg	< 0.005
2-Fluorobiphenyl (surr.)	1	%	58
p-Terphenyl-d14 (surr.)	1	%	98

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Dec 11, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Dec 11, 2024	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Dec 11, 2024	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Melbourne	Dec 11, 2024	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Dec 11, 2024	14 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	Dec 11, 2024	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)	Melbourne	Dec 11, 2024	28 Days
Phenols (Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Dec 11, 2024	14 Days
Phenols (non-Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Dec 11, 2024	14 Days
Semivolatile Organics - Method: USEPA SW 846 8270	Melbourne	Dec 11, 2024	14 Days
Chromium (hexavalent) - Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis	Melbourne	Dec 11, 2024	28 Days
Cyanide (total) - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA	Melbourne	Dec 11, 2024	14 Days
Fluoride - Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE	Melbourne	Dec 11, 2024	28 Days
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Dec 11, 2024	28 Days
Polycyclic Aromatic Hydrocarbons (Trace level) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)	Melbourne	Dec 11, 2024	14 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Dec 05, 2024	14 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Dec 06, 2024	14 Days

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1168041
Phone: 08 7223 5400
Fax:

Received: Dec 4, 2024 4:35 AM
Due: Dec 12, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	N09_0.5	Dec 03, 2024		Soil	M24-De0012165				X				X
2	N09_1.0	Dec 03, 2024		Soil	M24-De0012166	X		X	X	X		X	
3	N09_1.5	Dec 03, 2024		Soil	M24-De0012167	X		X	X	X		X	
4	M12_0.5	Dec 03, 2024		Soil	M24-De0012168	X		X	X	X		X	
5	M12_1.0	Dec 03, 2024		Soil	M24-De0012169				X				X
6	M12_1.5	Dec 03, 2024		Soil	M24-De0012170	X		X	X	X		X	
7	N12_0.5	Dec 03, 2024		Soil	M24-De0012171	X		X	X	X		X	
8	N12_1.0	Dec 03, 2024		Soil	M24-De0012172	X		X	X	X		X	
9	N12_1.5	Dec 03, 2024		Soil	M24-De0012173				X				X
10	L12_0.5	Dec 03, 2024		Soil	M24-De0012174				X				X
11	L12_1.0	Dec 03, 2024		Soil	M24-De0012175	X		X	X	X		X	
12	L12_1.5	Dec 03, 2024		Soil	M24-De0012176	X		X	X	X		X	
13	O12_0.5	Dec 03, 2024		Soil	M24-De0012177	X		X	X	X		X	
14	O12_1.0	Dec 03, 2024		Soil	M24-De0012178				X				X

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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1168041
Phone: 08 7223 5400
Fax:

Received: Dec 4, 2024 4:35 AM
Due: Dec 12, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	O12_1.5	Dec 03, 2024		Soil	M24-De0012179	X		X	X	X		X	
16	L10_0.5	Dec 03, 2024		Soil	M24-De0012180	X		X	X	X		X	
17	L10_1.0	Dec 03, 2024		Soil	M24-De0012181	X		X	X	X		X	
18	L10_1.5	Dec 03, 2024		Soil	M24-De0012182	X		X	X	X		X	
19	L10_2.0	Dec 03, 2024		Soil	M24-De0012183				X				X
20	M10_0.5	Dec 03, 2024		Soil	M24-De0012184	X		X	X	X		X	
21	M10_1.0	Dec 03, 2024		Soil	M24-De0012185				X				X
22	M10_1.5	Dec 03, 2024		Soil	M24-De0012186	X		X	X	X		X	
23	N10_0.5	Dec 03, 2024		Soil	M24-De0012187				X				X
24	N10_1.0	Dec 03, 2024		Soil	M24-De0012188	X		X	X	X		X	
25	N10_1.5	Dec 03, 2024		Soil	M24-De0012189	X		X	X	X		X	
26	N11_0.5	Dec 03, 2024		Soil	M24-De0012190	X		X	X	X		X	
27	N11_1.0	Dec 03, 2024		Soil	M24-De0012191	X		X	X	X		X	
28	N11_1.5	Dec 03, 2024		Soil	M24-De0012192				X				X
29	O14_0.5	Dec 03, 2024		Soil	M24-De0012193	X		X	X	X		X	
30	O14_1.0	Dec 03, 2024		Soil	M24-De0012194				X			X	
31	O14_1.5	Dec 03, 2024		Soil	M24-De0012195	X		X	X	X		X	

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Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
32	M11_0.5	Dec 03, 2024		Soil	M24-De0012196	X		X	X	X		X	
33	M11_1.0	Dec 03, 2024		Soil	M24-De0012197				X				X
34	M11_1.5	Dec 03, 2024		Soil	M24-De0012198	X		X	X	X		X	
35	QC123	Dec 03, 2024		Soil	M24-De0012199	X		X	X	X		X	
36	QC127	Dec 03, 2024		Soil	M24-De0012200				X				X
37	N16_0.5	Dec 03, 2024		Soil	M24-De0012201	X		X	X	X		X	
38	N16_1.0	Dec 03, 2024		Soil	M24-De0012202	X		X	X	X		X	
39	N16_1.5	Dec 03, 2024		Soil	M24-De0012203				X				X
40	N13_0.5	Dec 03, 2024		Soil	M24-De0012204				X				X
41	N13_1.0	Dec 03, 2024		Soil	M24-De0012205	X		X	X	X		X	
42	N13_1.5	Dec 03, 2024		Soil	M24-De0012206	X		X	X	X		X	
43	QC126	Dec 03, 2024		Water	M24-De0012207	X		X		X		X	
44	J10_0.5	Dec 03, 2024		Soil	M24-De0012208	X		X	X	X		X	
45	J10_1.0	Dec 03, 2024		Soil	M24-De0012209				X				X
46	J10_1.5	Dec 03, 2024		Soil	M24-De0012210	X		X	X	X		X	
47	J10_2.0	Dec 03, 2024		Soil	M24-De0012211	X		X	X	X		X	
48	E08_0.5	Dec 04, 2024		Soil	M24-De0012212				X				X

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1168041
Phone: 08 7223 5400
Fax:

Received: Dec 4, 2024 4:35 AM
Due: Dec 12, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
49	G06_0.5	Dec 04, 2024		Soil	M24-De0012213	X		X	X	X		X	
50	G06_1.0	Dec 04, 2024		Soil	M24-De0012214	X		X	X	X		X	
51	G06_1.3	Dec 04, 2024		Soil	M24-De0012215				X				X
52	F07_0.5	Dec 04, 2024		Soil	M24-De0012216				X				X
53	H06_0.5	Dec 04, 2024		Soil	M24-De0012217	X		X	X	X		X	
54	H06_0.8	Dec 04, 2024		Soil	M24-De0012218	X		X	X	X		X	
55	G07_0.6	Dec 04, 2024		Soil	M24-De0012219	X		X	X	X		X	
56	G07_0.7	Dec 04, 2024		Soil	M24-De0012220	X		X	X	X		X	
57	F08_0.5	Dec 04, 2024		Soil	M24-De0012221	X		X	X	X		X	
58	F08_1.0	Dec 04, 2024		Soil	M24-De0012222				X				X
59	QC130	Dec 04, 2024		Water	M24-De0012223	X		X		X		X	
60	H08_0.5	Dec 04, 2024		Soil	M24-De0012224	X		X	X	X		X	
61	H08_1.0	Dec 04, 2024		Soil	M24-De0012225	X		X	X	X		X	
62	H08_1.5	Dec 04, 2024		Soil	M24-De0012226				X				X
63	H08_2.0	Dec 04, 2024		Soil	M24-De0012227	X		X	X	X		X	
64	H08_2.5	Dec 04, 2024		Soil	M24-De0012228	X		X	X	X		X	
65	H08_3.0	Dec 04, 2024		Soil	M24-De0012229	X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
66	G08_0.5	Dec 04, 2024		Soil	M24-De0012230	X		X	X	X		X	
67	G08_1.0	Dec 04, 2024		Soil	M24-De0012231				X				X
68	G08_1.5	Dec 04, 2024		Soil	M24-De0012232	X		X	X	X		X	
69	G08_2.0	Dec 04, 2024		Soil	M24-De0012233	X		X	X	X		X	
70	G08_2.5	Dec 04, 2024		Soil	M24-De0012234				X				X
71	G08_3.0	Dec 04, 2024		Soil	M24-De0012235	X		X	X	X		X	
72	G08_3.5	Dec 04, 2024		Soil	M24-De0012236	X		X	X	X		X	
73	F09_0.5	Dec 04, 2024		Soil	M24-De0012237				X				X
74	F09_1.0	Dec 04, 2024		Soil	M24-De0012238	X		X	X	X		X	
75	F09_1.5	Dec 04, 2024		Soil	M24-De0012239	X		X	X	X		X	
76	F09_2.0	Dec 04, 2024		Soil	M24-De0012240	X		X	X	X		X	
77	F09_2.5	Dec 04, 2024		Soil	M24-De0012241	X		X	X	X		X	
78	F09_3.0	Dec 04, 2024		Soil	M24-De0012242				X				X
79	F09_4.0	Dec 04, 2024		Soil	M24-De0012243	X		X	X	X		X	
80	E07_0.5	Dec 04, 2024		Soil	M24-De0012244	X		X	X	X		X	
81	E07_0.9	Dec 04, 2024		Soil	M24-De0012245	X		X	X	X		X	
82	QC131	Dec 04, 2024		Soil	M24-De0012246	X		X	X	X		X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
83	QC133	Dec 04, 2024		Soil	M24-De0012247						X		
84	QC134	Dec 04, 2024		Soil	M24-De0012248						X		
85	QC135	Dec 04, 2024		Soil	M24-De0012249						X		
86	QC136	Dec 04, 2024		Soil	M24-De0012250						X		
87	QC137	Dec 04, 2024		Soil	M24-De0012251						X		
88	M09_0.5	Dec 03, 2024		Soil	M24-De0012252	X		X	X	X		X	
89	M09_1.0	Dec 03, 2024		Soil	M24-De0012253				X				X
90	M09_1.5	Dec 03, 2024		Soil	M24-De0012254	X		X	X	X		X	
91	F07_1.0	Dec 04, 2024		Soil	M24-De0012255	X		X	X	X		X	
92	F09_1.6	Dec 04, 2024		Soil	M24-De0012256				X				X
93	F09_3.5	Dec 04, 2024		Soil	M24-De0012257	X		X	X	X		X	
94	J08_0.5	Dec 04, 2024		Soil	M24-De0012258	X		X	X	X		X	
95	QC125	Dec 03, 2024		Water	M24-De0012259		X						
96	E08_0.6	Dec 04, 2024		Soil	M24-De0012260		X						
97	E08_0.7	Dec 04, 2024		Soil	M24-De0012261		X						
98	G06_0.9	Dec 04, 2024		Soil	M24-De0012262		X						
99	G06_2.0	Dec 04, 2024		Soil	M24-De0012263	X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
100	G06_2.1	Dec 04, 2024		Soil	M24-De0012264		X						
101	F07_0.6	Dec 04, 2024		Soil	M24-De0012265	X		X	X	X		X	
102	F07_0.7	Dec 04, 2024		Soil	M24-De0012266		X						
103	H06_0.7	Dec 04, 2024		Soil	M24-De0012267				X				X
104	H06_1.5	Dec 04, 2024		Soil	M24-De0012268	X		X	X	X		X	
105	G07_0.5	Dec 04, 2024		Soil	M24-De0012269		X						
106	G07_1.5	Dec 04, 2024		Soil	M24-De0012270		X						
107	F08_1.2	Dec 04, 2024		Soil	M24-De0012271		X						
108	QC129	Dec 04, 2024		Water	M24-De0012272		X						
109	E07_1.0	Dec 04, 2024		Soil	M24-De0012273	X		X		X		X	
110	E07_1.2	Dec 04, 2024		Soil	M24-De0012274		X						
Test Counts						67	11	67	91	67	5	68	26

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
a-HCH	mg/kg	< 0.05			0.05	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	98			80-120	Pass	
Barium	%	100			80-120	Pass	
Beryllium	%	95			80-120	Pass	
Cadmium	%	110			80-120	Pass	
Chromium	%	103			80-120	Pass	
Cobalt	%	100			80-120	Pass	
Copper	%	103			80-120	Pass	
Lead	%	105			80-120	Pass	
Manganese	%	104			80-120	Pass	
Mercury	%	89			80-120	Pass	
Molybdenum	%	104			80-120	Pass	
Nickel	%	103			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Selenium	%	97			80-120	Pass	
Silver	%	114			80-120	Pass	
Tin	%	103			80-120	Pass	
Zinc	%	99			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	87			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	86			25-140	Pass	
2.4-Dichlorophenol	%	57			25-140	Pass	
2.4.5-Trichlorophenol	%	97			25-140	Pass	
2.4.6-Trichlorophenol	%	73			25-140	Pass	
2.6-Dichlorophenol	%	87			25-140	Pass	
4-Chloro-3-methylphenol	%	89			25-140	Pass	
Pentachlorophenol	%	110			25-140	Pass	
Tetrachlorophenols - Total	%	101			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	31			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	34			25-140	Pass	
2-Nitrophenol	%	69			25-140	Pass	
2.4-Dimethylphenol	%	42			25-140	Pass	
2-Methylphenol (o-Cresol)	%	49			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	68			25-140	Pass	
4-Nitrophenol	%	65			25-140	Pass	
Dinoseb	%	59			25-140	Pass	
Phenol	%	122			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	79			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	103			70-130	Pass	
Anthracene	%	103			70-130	Pass	
Benz(a)anthracene	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	97			70-130	Pass	
Benzo(k)fluoranthene	%	90			70-130	Pass	
Chrysene	%	124			70-130	Pass	
Dibenz(a.h)anthracene	%	87			70-130	Pass	
Fluoranthene	%	103			70-130	Pass	
Fluorene	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	73			70-130	Pass	
Pyrene	%	97			70-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2.4-Dinitrophenol	%	83			25-140	Pass	
LCS - % Recovery							
Cyanide (total)	%	82			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Heavy Metals							
Arsenic	%	114			80-120	Pass	
Barium	%	106			80-120	Pass	
Beryllium	%	107			80-120	Pass	
Cadmium	%	107			80-120	Pass	
Chromium	%	114			80-120	Pass	
Cobalt	%	108			80-120	Pass	
Copper	%	105			80-120	Pass	
Lead	%	114			80-120	Pass	
Manganese	%	114			80-120	Pass	
Mercury	%	98			80-120	Pass	
Molybdenum	%	110			80-120	Pass	
Nickel	%	106			80-120	Pass	
Selenium	%	110			80-120	Pass	
Silver	%	110			80-120	Pass	
Tin	%	112			80-120	Pass	
Zinc	%	108			80-120	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	109			70-130	Pass	
Fluoride	%	112			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	121			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	88			70-130	Pass	
Benz(a)anthracene	%	90			70-130	Pass	
Benzo(a)pyrene	%	104			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	113			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	114			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	118			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	104			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	121			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	88			70-130	Pass	
Benz(a)anthracene	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	113			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	114			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluorene	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	118			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	102			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	108			80-120	Pass	
Barium	%	107			80-120	Pass	
Beryllium	%	102			80-120	Pass	
Cadmium	%	97			80-120	Pass	
Chromium	%	116			80-120	Pass	
Cobalt	%	108			80-120	Pass	
Copper	%	110			80-120	Pass	
Lead	%	115			80-120	Pass	
Manganese	%	118			80-120	Pass	
Mercury	%	94			80-120	Pass	
Molybdenum	%	113			80-120	Pass	
Nickel	%	110			80-120	Pass	
Selenium	%	102			80-120	Pass	
Silver	%	102			80-120	Pass	
Tin	%	112			80-120	Pass	
Zinc	%	108			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	108			70-130	Pass	
TRH C6-C10	%	111			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	93			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total*	%	98			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	79			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	101			70-130	Pass	
4.4'-DDD	%	87			70-130	Pass	
4.4'-DDE	%	86			70-130	Pass	
4.4'-DDT	%	84			70-130	Pass	
a-HCH	%	104			70-130	Pass	
Aldrin	%	77			70-130	Pass	
b-HCH	%	104			70-130	Pass	
d-HCH	%	102			70-130	Pass	
Dieldrin	%	78			70-130	Pass	
Endosulfan I	%	80			70-130	Pass	
Endosulfan II	%	81			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	%	73			70-130	Pass	
Endrin	%	72			70-130	Pass	
Endrin aldehyde	%	87			70-130	Pass	
Endrin ketone	%	87			70-130	Pass	
g-HCH (Lindane)	%	72			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	100			70-130	Pass	
Hexachlorobenzene	%	74			70-130	Pass	
Methoxychlor	%	86			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	106			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	100			70-130	Pass	
Benzo(k)fluoranthene	%	79			70-130	Pass	
Chrysene	%	99			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	101			70-130	Pass	
Fluorene	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	97			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	71			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	80			25-140	Pass	
2.4-Dichlorophenol	%	76			25-140	Pass	
2.4.5-Trichlorophenol	%	54			25-140	Pass	
2.4.6-Trichlorophenol	%	58			25-140	Pass	
2.6-Dichlorophenol	%	81			25-140	Pass	
4-Chloro-3-methylphenol	%	54			25-140	Pass	
Pentachlorophenol	%	109			25-140	Pass	
Tetrachlorophenols - Total	%	72			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	79			25-140	Pass	
2.4-Dimethylphenol	%	39			25-140	Pass	
2-Methylphenol (o-Cresol)	%	63			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	62			25-140	Pass	
4-Nitrophenol	%	53			25-140	Pass	
Dinoseb	%	33			25-140	Pass	
Phenol	%	65			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	97			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	100			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(k)fluoranthene	%	79			70-130	Pass	
Chrysene	%	99			70-130	Pass	
Dibenz(a.h)anthracene	%	100			70-130	Pass	
Fluoranthene	%	101			70-130	Pass	
Fluorene	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	93			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	71			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	100			70-130	Pass	
Benzo(k)fluoranthene	%	79			70-130	Pass	
Chrysene	%	99			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	101			70-130	Pass	
Fluorene	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	97			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	71			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	87			70-130	Pass	
4.4'-DDE	%	86			70-130	Pass	
4.4'-DDT	%	84			70-130	Pass	
a-HCH	%	104			70-130	Pass	
Aldrin	%	77			70-130	Pass	
b-HCH	%	104			70-130	Pass	
d-HCH	%	102			70-130	Pass	
Dieldrin	%	78			70-130	Pass	
Endosulfan I	%	80			70-130	Pass	
Endosulfan II	%	81			70-130	Pass	
Endosulfan sulphate	%	73			70-130	Pass	
Endrin	%	72			70-130	Pass	
Endrin aldehyde	%	87			70-130	Pass	
Endrin ketone	%	87			70-130	Pass	
g-HCH (Lindane)	%	72			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	100			70-130	Pass	
Hexachlorobenzene	%	74			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methoxychlor	%	86			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	106			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	80			25-140	Pass	
2.4-Dichlorophenol	%	76			25-140	Pass	
2.4.5-Trichlorophenol	%	54			25-140	Pass	
2.4.6-Trichlorophenol	%	58			25-140	Pass	
2.6-Dichlorophenol	%	81			25-140	Pass	
4-Chloro-3-methylphenol	%	54			25-140	Pass	
Pentachlorophenol	%	109			25-140	Pass	
Tetrachlorophenols - Total	%	72			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	79			25-140	Pass	
2.4-Dimethylphenol	%	39			25-140	Pass	
2-Methylphenol (o-Cresol)	%	63			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	62			25-140	Pass	
4-Nitrophenol	%	53			25-140	Pass	
Dinoseb	%	33			25-140	Pass	
Phenol	%	65			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	104			70-130	Pass	
Benzo(k)fluoranthene	%	79			70-130	Pass	
Chrysene	%	99			70-130	Pass	
Dibenz(a.h)anthracene	%	100			70-130	Pass	
Fluoranthene	%	101			70-130	Pass	
Fluorene	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	93			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	71			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	127			70-130	Pass	
TRH >C10-C16	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	106			70-130	Pass	
TRH >C10-C16	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	121			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	%	118			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	89			70-130	Pass	
Toluene	%	110			70-130	Pass	
Ethylbenzene	%	112			70-130	Pass	
m&p-Xylenes	%	113			70-130	Pass	
Xylenes - Total*	%	113			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	94			80-120	Pass	
Barium	%	101			80-120	Pass	
Beryllium	%	98			80-120	Pass	
Cadmium	%	112			80-120	Pass	
Chromium	%	112			80-120	Pass	
Cobalt	%	104			80-120	Pass	
Copper	%	104			80-120	Pass	
Lead	%	109			80-120	Pass	
Manganese	%	114			80-120	Pass	
Mercury	%	98			80-120	Pass	
Molybdenum	%	110			80-120	Pass	
Nickel	%	100			80-120	Pass	
Selenium	%	99			80-120	Pass	
Silver	%	110			80-120	Pass	
Tin	%	109			80-120	Pass	
Zinc	%	100			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	113			80-120	Pass	
Barium	%	105			80-120	Pass	
Beryllium	%	108			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	112			80-120	Pass	
Cobalt	%	108			80-120	Pass	
Copper	%	105			80-120	Pass	
Lead	%	111			80-120	Pass	
Manganese	%	113			80-120	Pass	
Mercury	%	98			80-120	Pass	
Molybdenum	%	110			80-120	Pass	
Nickel	%	104			80-120	Pass	
Selenium	%	110			80-120	Pass	
Silver	%	110			80-120	Pass	
Tin	%	114			80-120	Pass	
Zinc	%	107			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	130			70-130	Pass	
Acenaphthylene	%	123			70-130	Pass	
Anthracene	%	113			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(a)pyrene	%	118			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	79			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	121			70-130	Pass	
Dibenz(a.h)anthracene	%	110			70-130	Pass	
Fluoranthene	%	124			70-130	Pass	
Fluorene	%	125			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	114			70-130	Pass	
Naphthalene	%	113			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	118			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	130			70-130	Pass	
Acenaphthylene	%	123			70-130	Pass	
Anthracene	%	113			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	79			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	121			70-130	Pass	
Dibenz(a.h)anthracene	%	110			70-130	Pass	
Fluoranthene	%	124			70-130	Pass	
Fluorene	%	125			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	114			70-130	Pass	
Naphthalene	%	113			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Benzo(a)pyrene	%	93			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	122			70-130	Pass	
Acenaphthylene	%	106			70-130	Pass	
Anthracene	%	117			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	101			70-130	Pass	
Chrysene	%	103			70-130	Pass	
Dibenz(a.h)anthracene	%	98			70-130	Pass	
Fluoranthene	%	123			70-130	Pass	
Fluorene	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	105			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	%	106			70-130	Pass	
Anthracene	%	117			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	101			70-130	Pass	
Chrysene	%	103			70-130	Pass	
Dibenz(a.h)anthracene	%	98			70-130	Pass	
Fluoranthene	%	123			70-130	Pass	
Fluorene	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	125			70-130	Pass	
4.4'-DDD	%	106			70-130	Pass	
4.4'-DDE	%	125			70-130	Pass	
4.4'-DDT	%	125			70-130	Pass	
a-HCH	%	104			70-130	Pass	
Aldrin	%	125			70-130	Pass	
b-HCH	%	105			70-130	Pass	
d-HCH	%	126			70-130	Pass	
Dieldrin	%	119			70-130	Pass	
Endosulfan I	%	120			70-130	Pass	
Endosulfan II	%	112			70-130	Pass	
Endosulfan sulphate	%	123			70-130	Pass	
Endrin	%	126			70-130	Pass	
Endrin aldehyde	%	124			70-130	Pass	
Endrin ketone	%	116			70-130	Pass	
g-HCH (Lindane)	%	124			70-130	Pass	
Heptachlor	%	122			70-130	Pass	
Heptachlor epoxide	%	124			70-130	Pass	
Hexachlorobenzene	%	108			70-130	Pass	
Methoxychlor	%	119			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	78			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	51			25-140	Pass	
2.4-Dichlorophenol	%	68			25-140	Pass	
2.4.5-Trichlorophenol	%	121			25-140	Pass	
2.4.6-Trichlorophenol	%	79			25-140	Pass	
2.6-Dichlorophenol	%	123			25-140	Pass	
4-Chloro-3-methylphenol	%	68			25-140	Pass	
Pentachlorophenol	%	51			25-140	Pass	
Tetrachlorophenols - Total	%	96			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	40			25-140	Pass	
2-Methylphenol (o-Cresol)	%	89			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	52			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4-Nitrophenol	%	77			25-140	Pass	
Dinoseb	%	61			25-140	Pass	
Phenol	%	30			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	93			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	96			70-130	Pass	
Acenaphthylene	%	107			70-130	Pass	
Anthracene	%	77			70-130	Pass	
Benz(a)anthracene	%	118			70-130	Pass	
Benzo(b&j)fluoranthene	%	80			70-130	Pass	
Benzo(g.h.i)perylene	%	104			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	104			70-130	Pass	
Dibenz(a.h)anthracene	%	119			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	94			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	126			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	104			25-140	Pass	
2.4-Dichlorophenol	%	85			25-140	Pass	
2.4.5-Trichlorophenol	%	73			25-140	Pass	
2.4.6-Trichlorophenol	%	70			25-140	Pass	
2.6-Dichlorophenol	%	92			25-140	Pass	
4-Chloro-3-methylphenol	%	61			25-140	Pass	
Pentachlorophenol	%	48			25-140	Pass	
Tetrachlorophenols - Total	%	71			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	52			25-140	Pass	
2-Nitrophenol	%	95			25-140	Pass	
2.4-Dimethylphenol	%	87			25-140	Pass	
2-Methylphenol (o-Cresol)	%	86			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	87			25-140	Pass	
4-Nitrophenol	%	58			25-140	Pass	
Dinoseb	%	41			25-140	Pass	
Phenol	%	84			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	94			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	96			70-130	Pass	
Acenaphthylene	%	107			70-130	Pass	
Anthracene	%	77			70-130	Pass	
Benz(a)anthracene	%	118			70-130	Pass	
Benzo(b&j)fluoranthene	%	80			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	104			70-130	Pass	
Dibenz(a.h)anthracene	%	104			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	119			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	126			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	94			70-130	Pass	
TRH C6-C10	%	90			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	77			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
Xylenes - Total*	%	91			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	83			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	87			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	99			70-130	Pass	
Anthracene	%	86			70-130	Pass	
Benz(a)anthracene	%	87			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	83			70-130	Pass	
Benzo(g.h.i)perylene	%	126			70-130	Pass	
Benzo(k)fluoranthene	%	83			70-130	Pass	
Chrysene	%	83			70-130	Pass	
Dibenz(a.h)anthracene	%	83			70-130	Pass	
Fluoranthene	%	86			70-130	Pass	
Fluorene	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	88			70-130	Pass	
Pyrene	%	86			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	99			70-130	Pass	
Anthracene	%	86			70-130	Pass	
Benz(a)anthracene	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	%	83			70-130	Pass	
Benzo(g.h.i)perylene	%	126			70-130	Pass	
Benzo(k)fluoranthene	%	83			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	83			70-130	Pass	
Dibenz(a.h)anthracene	%	83			70-130	Pass	
Fluoranthene	%	86			70-130	Pass	
Fluorene	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	88			70-130	Pass	
Pyrene	%	86			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	104			70-130	Pass	
Acenaphthylene	%	99			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(a)pyrene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	85			70-130	Pass	
Chrysene	%	96			70-130	Pass	
Dibenz(a.h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	99			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	91			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	92			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	95			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	104			70-130	Pass	
Acenaphthylene	%	99			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	85			70-130	Pass	
Chrysene	%	96			70-130	Pass	
Dibenz(a.h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	99			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	91			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	92			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	98			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	88			70-130	Pass	
TRH C6-C10	%	86			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	78			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	%	77			70-130	Pass	
m&p-Xylenes	%	93			70-130	Pass	
Xylenes - Total*	%	94			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	83			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	93			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	71			70-130	Pass	
Benz(a)anthracene	%	87			70-130	Pass	
Benzo(a)pyrene	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	%	82			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	91			70-130	Pass	
Chrysene	%	73			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	94			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	74			70-130	Pass	
Pyrene	%	87			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	100			70-130	Pass	
4.4'-DDD	%	98			70-130	Pass	
4.4'-DDE	%	104			70-130	Pass	
4.4'-DDT	%	83			70-130	Pass	
a-HCH	%	109			70-130	Pass	
Aldrin	%	89			70-130	Pass	
b-HCH	%	114			70-130	Pass	
d-HCH	%	117			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	101			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	124			70-130	Pass	
Endrin	%	90			70-130	Pass	
Endrin aldehyde	%	90			70-130	Pass	
Endrin ketone	%	126			70-130	Pass	
g-HCH (Lindane)	%	99			70-130	Pass	
Heptachlor	%	81			70-130	Pass	
Heptachlor epoxide	%	101			70-130	Pass	
Hexachlorobenzene	%	111			70-130	Pass	
Methoxychlor	%	83			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	96			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	92			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4-Dichlorophenol	%	54			25-140	Pass	
2.4.5-Trichlorophenol	%	65			25-140	Pass	
2.4.6-Trichlorophenol	%	53			25-140	Pass	
2.6-Dichlorophenol	%	70			25-140	Pass	
4-Chloro-3-methylphenol	%	55			25-140	Pass	
Tetrachlorophenols - Total	%	37			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	101			25-140	Pass	
2-Nitrophenol	%	40			25-140	Pass	
2.4-Dimethylphenol	%	37			25-140	Pass	
2-Methylphenol (o-Cresol)	%	53			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	64			25-140	Pass	
Phenol	%	80			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	84			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	93			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	71			70-130	Pass	
Benz(a)anthracene	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	%	82			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	91			70-130	Pass	
Chrysene	%	73			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	94			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	74			70-130	Pass	
Pyrene	%	87			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	85			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	102			70-130	Pass	
TRH >C10-C16	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0016561	NCP	%	98			70-130	Pass	
TRH >C10-C16	M24-De0016561	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M24-De0007198	NCP	%	95			70-130	Pass	
4.4'-DDD	M24-De0007198	NCP	%	106			70-130	Pass	
4.4'-DDE	M24-De0007198	NCP	%	104			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDT	M24-De0007198	NCP	%	87			70-130	Pass	
a-HCH	M24-De0007198	NCP	%	83			70-130	Pass	
Aldrin	M24-De0007198	NCP	%	83			70-130	Pass	
b-HCH	M24-De0007198	NCP	%	71			70-130	Pass	
d-HCH	M24-De0007198	NCP	%	81			70-130	Pass	
Dieldrin	M24-De0007198	NCP	%	98			70-130	Pass	
Endosulfan I	M24-De0007198	NCP	%	84			70-130	Pass	
Endosulfan II	M24-De0007198	NCP	%	78			70-130	Pass	
Endosulfan sulphate	M24-De0007198	NCP	%	114			70-130	Pass	
Endrin	M24-De0007198	NCP	%	98			70-130	Pass	
Endrin aldehyde	M24-De0007198	NCP	%	105			70-130	Pass	
Endrin ketone	M24-De0007198	NCP	%	87			70-130	Pass	
g-HCH (Lindane)	M24-De0007198	NCP	%	95			70-130	Pass	
Heptachlor	M24-De0007198	NCP	%	86			70-130	Pass	
Heptachlor epoxide	M24-De0007198	NCP	%	105			70-130	Pass	
Hexachlorobenzene	M24-De0007198	NCP	%	83			70-130	Pass	
Methoxychlor	M24-De0007198	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M24-No0086269	NCP	%	98			70-130	Pass	
Aroclor-1260	M24-No0086269	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	M24-De0011798	NCP	%	48			30-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M24-De0011727	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-De0005647	NCP	%	67			30-130	Pass	
2.4-Dinitrophenol	M24-De0005647	NCP	%	66			30-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0012183	CP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Beryllium	M24-De0012186	CP	%	99			75-125	Pass	
Cadmium	M24-De0012186	CP	%	107			75-125	Pass	
Molybdenum	M24-De0012186	CP	%	116			75-125	Pass	
Selenium	M24-De0012186	CP	%	95			75-125	Pass	
Silver	M24-De0012186	CP	%	107			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012187	CP	%	105			70-130	Pass	
TRH C6-C10	M24-De0012187	CP	%	105			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012187	CP	%	81			70-130	Pass	
Toluene	M24-De0012187	CP	%	93			70-130	Pass	
Ethylbenzene	M24-De0012187	CP	%	99			70-130	Pass	
m&p-Xylenes	M24-De0012187	CP	%	100			70-130	Pass	
o-Xylene	M24-De0012187	CP	%	101			70-130	Pass	
Xylenes - Total*	M24-De0012187	CP	%	100			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0012187	CP	%	78			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0012197	CP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0012200	CP	%	77			75-125	Pass	
Beryllium	M24-De0012200	CP	%	87			75-125	Pass	
Cadmium	M24-De0012200	CP	%	107			75-125	Pass	
Chromium	M24-De0012200	CP	%	85			75-125	Pass	
Cobalt	M24-De0012200	CP	%	84			75-125	Pass	
Copper	M24-De0012200	CP	%	97			75-125	Pass	
Lead	M24-De0012200	CP	%	90			75-125	Pass	
Mercury	M24-De0012200	CP	%	111			75-125	Pass	
Molybdenum	M24-De0012200	CP	%	92			75-125	Pass	
Nickel	M24-De0012200	CP	%	84			75-125	Pass	
Selenium	M24-De0012200	CP	%	78			75-125	Pass	
Silver	M24-De0012200	CP	%	109			75-125	Pass	
Zinc	M24-De0012200	CP	%	109			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012201	CP	%	122			70-130	Pass	
TRH C6-C10	M24-De0012201	CP	%	120			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012201	CP	%	108			70-130	Pass	
Toluene	M24-De0012201	CP	%	117			70-130	Pass	
Ethylbenzene	M24-De0012201	CP	%	121			70-130	Pass	
m&p-Xylenes	M24-De0012201	CP	%	122			70-130	Pass	
o-Xylene	M24-De0012201	CP	%	121			70-130	Pass	
Xylenes - Total*	M24-De0012201	CP	%	122			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0012201	CP	%	102			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0012212	CP	%	95			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M24-De0012215	CP	%	123			70-130	Pass	
Acenaphthylene	M24-De0012215	CP	%	115			70-130	Pass	
Anthracene	M24-De0012215	CP	%	128			70-130	Pass	
Benz(a)anthracene	M24-De0012215	CP	%	110			70-130	Pass	
Benzo(a)pyrene	M24-De0012215	CP	%	120			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0012215	CP	%	102			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0012215	CP	%	94			70-130	Pass	
Benzo(k)fluoranthene	M24-De0012215	CP	%	118			70-130	Pass	
Chrysene	M24-De0012215	CP	%	126			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0012215	CP	%	127			70-130	Pass	
Fluoranthene	M24-De0012215	CP	%	113			70-130	Pass	
Fluorene	M24-De0012215	CP	%	129			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012215	CP	%	129			70-130	Pass	
Naphthalene	M24-De0012215	CP	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	M24-De0012215	CP	%	126			70-130	Pass	
Pyrene	M24-De0012215	CP	%	127			70-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
Benzo(a)pyrene - low level	M24-De0012215	CP	%	120			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0012215	CP	%	123			70-130	Pass	
Acenaphthylene	M24-De0012215	CP	%	115			70-130	Pass	
Anthracene	M24-De0012215	CP	%	128			70-130	Pass	
Benz(a)anthracene	M24-De0012215	CP	%	110			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0012215	CP	%	102			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0012215	CP	%	94			70-130	Pass	
Benzo(k)fluoranthene	M24-De0012215	CP	%	118			70-130	Pass	
Chrysene	M24-De0012215	CP	%	126			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0012215	CP	%	127			70-130	Pass	
Fluoranthene	M24-De0012215	CP	%	113			70-130	Pass	
Fluorene	M24-De0012215	CP	%	129			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012215	CP	%	129			70-130	Pass	
Naphthalene	M24-De0012215	CP	%	98			70-130	Pass	
Phenanthrene	M24-De0012215	CP	%	126			70-130	Pass	
Pyrene	M24-De0012215	CP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012230	CP	%	74			70-130	Pass	
TRH C6-C10	M24-De0012230	CP	%	73			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012230	CP	%	71			70-130	Pass	
Toluene	M24-De0012230	CP	%	72			70-130	Pass	
Ethylbenzene	M24-De0012230	CP	%	71			70-130	Pass	
m&p-Xylenes	M24-De0012230	CP	%	71			70-130	Pass	
o-Xylene	M24-De0012230	CP	%	73			70-130	Pass	
Xylenes - Total*	M24-De0012230	CP	%	72			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0012230	CP	%	73			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M24-De0012231	CP	%	70			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012233	CP	%	82			70-130	Pass	
TRH C6-C10	M24-De0012233	CP	%	82			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012233	CP	%	76			70-130	Pass	
Toluene	M24-De0012233	CP	%	77			70-130	Pass	
Ethylbenzene	M24-De0012233	CP	%	82			70-130	Pass	
m&p-Xylenes	M24-De0012233	CP	%	81			70-130	Pass	
o-Xylene	M24-De0012233	CP	%	82			70-130	Pass	
Xylenes - Total*	M24-De0012233	CP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	M24-De0012233	CP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0012238	CP	%	81			75-125	Pass	
Barium	M24-De0012238	CP	%	111			75-125	Pass	
Cadmium	M24-De0012238	CP	%	107			75-125	Pass	
Copper	M24-De0012238	CP	%	82			75-125	Pass	
Lead	M24-De0012238	CP	%	87			75-125	Pass	
Mercury	M24-De0012238	CP	%	86			75-125	Pass	
Molybdenum	M24-De0012238	CP	%	90			75-125	Pass	
Nickel	M24-De0012238	CP	%	84			75-125	Pass	
Selenium	M24-De0012238	CP	%	78			75-125	Pass	
Silver	M24-De0012238	CP	%	116			75-125	Pass	
Tin	M24-De0012238	CP	%	88			75-125	Pass	
Zinc	M24-De0012238	CP	%	77			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M24-De0012239	CP	%	92			70-130	Pass	
Acenaphthylene	M24-De0012239	CP	%	109			70-130	Pass	
Anthracene	M24-De0012239	CP	%	107			70-130	Pass	
Benz(a)anthracene	M24-De0012239	CP	%	96			70-130	Pass	
Benzo(a)pyrene	M24-De0012239	CP	%	128			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0012239	CP	%	118			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0012239	CP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M24-De0012239	CP	%	91			70-130	Pass	
Chrysene	M24-De0012239	CP	%	129			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0012239	CP	%	106			70-130	Pass	
Fluoranthene	M24-De0012239	CP	%	99			70-130	Pass	
Fluorene	M24-De0012239	CP	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012239	CP	%	110			70-130	Pass	
Naphthalene	M24-De0012239	CP	%	103			70-130	Pass	
Phenanthrene	M24-De0012239	CP	%	108			70-130	Pass	
Pyrene	M24-De0012239	CP	%	88			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M24-De0012239	CP	%	103			30-130	Pass	
2.4-Dichlorophenol	M24-De0012239	CP	%	91			30-130	Pass	
2.4.5-Trichlorophenol	M24-De0012239	CP	%	116			30-130	Pass	
2.4.6-Trichlorophenol	M24-De0012239	CP	%	91			30-130	Pass	
2.6-Dichlorophenol	M24-De0012239	CP	%	118			30-130	Pass	
4-Chloro-3-methylphenol	M24-De0012239	CP	%	108			30-130	Pass	
Pentachlorophenol	M24-De0012239	CP	%	111			30-130	Pass	
Tetrachlorophenols - Total	M24-De0012239	CP	%	55			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Nitrophenol	M24-De0012239	CP	%	108			30-130	Pass	
2.4-Dimethylphenol	M24-De0012239	CP	%	116			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-De0012239	CP	%	121			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012239	CP	%	77			30-130	Pass	
4-Nitrophenol	M24-De0012239	CP	%	114			30-130	Pass	
Dinoseb	M24-De0012239	CP	%	43			30-130	Pass	
Phenol	M24-De0012239	CP	%	89			30-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene - low level	M24-De0012239	CP	%	128			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0012239	CP	%	106			75-125	Pass	
Barium	M24-De0012239	CP	%	115			75-125	Pass	
Beryllium	M24-De0012239	CP	%	97			75-125	Pass	
Cadmium	M24-De0012239	CP	%	105			75-125	Pass	
Chromium	M24-De0012239	CP	%	90			75-125	Pass	
Cobalt	M24-De0012239	CP	%	88			75-125	Pass	
Copper	M24-De0012239	CP	%	107			75-125	Pass	
Lead	M24-De0012239	CP	%	99			75-125	Pass	
Manganese	M24-De0012239	CP	%	120			75-125	Pass	
Mercury	M24-De0012239	CP	%	97			75-125	Pass	
Molybdenum	M24-De0012239	CP	%	116			75-125	Pass	
Nickel	M24-De0012239	CP	%	109			75-125	Pass	
Selenium	M24-De0012239	CP	%	101			75-125	Pass	
Silver	M24-De0012239	CP	%	114			75-125	Pass	
Tin	M24-De0012239	CP	%	114			75-125	Pass	
Zinc	M24-De0012239	CP	%	99			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0012239	CP	%	92			70-130	Pass	
Acenaphthylene	M24-De0012239	CP	%	109			70-130	Pass	
Anthracene	M24-De0012239	CP	%	107			70-130	Pass	
Benz(a)anthracene	M24-De0012239	CP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0012239	CP	%	118			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0012239	CP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M24-De0012239	CP	%	91			70-130	Pass	
Chrysene	M24-De0012239	CP	%	129			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0012239	CP	%	106			70-130	Pass	
Fluoranthene	M24-De0012239	CP	%	99			70-130	Pass	
Fluorene	M24-De0012239	CP	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012239	CP	%	110			70-130	Pass	
Naphthalene	M24-De0012239	CP	%	103			70-130	Pass	
Phenanthrene	M24-De0012239	CP	%	108			70-130	Pass	
Pyrene	M24-De0012239	CP	%	88			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012240	CP	%	97			70-130	Pass	
TRH C6-C10	M24-De0012240	CP	%	95			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012240	CP	%	91			70-130	Pass	
Toluene	M24-De0012240	CP	%	87			70-130	Pass	
Ethylbenzene	M24-De0012240	CP	%	89			70-130	Pass	
m&p-Xylenes	M24-De0012240	CP	%	75			70-130	Pass	
o-Xylene	M24-De0012240	CP	%	88			70-130	Pass	
Xylenes - Total*	M24-De0012240	CP	%	79			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0012240	CP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012257	CP	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	M24-De0012257	CP	%	95			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012257	CP	%	87			70-130	Pass	
Toluene	M24-De0012257	CP	%	89			70-130	Pass	
Ethylbenzene	M24-De0012257	CP	%	91			70-130	Pass	
m&p-Xylenes	M24-De0012257	CP	%	92			70-130	Pass	
o-Xylene	M24-De0012257	CP	%	93			70-130	Pass	
Xylenes - Total*	M24-De0012257	CP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0012257	CP	%	88			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0012165	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0012165	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0012165	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0012165	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0012165	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0012165	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0012165	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin aldehyde	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0012165	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012165	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012165	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012165	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012165	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012165	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012165	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012165	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012165	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012165	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012165	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012165	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012165	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012165	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012165	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012165	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0012166	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0012166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0012166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0012166	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0012166	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0012166	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012166	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012169	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M24-De0012169	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0012169	CP	mg/kg	710	660	9.0	30%	Pass	
TRH C29-C36	M24-De0012169	CP	mg/kg	480	430	12	30%	Pass	
TRH C6-C10	M24-De0012169	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C10-C16	M24-De0012169	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0012169	CP	mg/kg	1100	1000	10	30%	Pass	
TRH >C34-C40	M24-De0012169	CP	mg/kg	120	120	5.0	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012169	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0012169	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0012169	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0012169	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0012169	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0012169	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012169	CP	mg/kg	0.6	< 0.5	45	30%	Fail	Q15
Acenaphthylene	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012169	CP	mg/kg	< 0.5	0.6	40	30%	Fail	Q15
Benz(a)anthracene	M24-De0012169	CP	mg/kg	3.3	2.9	11	30%	Pass	
Benzo(a)pyrene	M24-De0012169	CP	mg/kg	6.5	5.4	18	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012169	CP	mg/kg	3.5	2.8	22	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012169	CP	mg/kg	2.2	2.0	11	30%	Pass	
Benzo(k)fluoranthene	M24-De0012169	CP	mg/kg	3.4	2.9	17	30%	Pass	
Chrysene	M24-De0012169	CP	mg/kg	4.1	4.2	2.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012169	CP	mg/kg	< 0.5	0.6	18	30%	Pass	
Fluoranthene	M24-De0012169	CP	mg/kg	6.9	6.9	<1	30%	Pass	
Fluorene	M24-De0012169	CP	mg/kg	0.5	0.7	18	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012169	CP	mg/kg	1.9	2.0	4.0	30%	Pass	
Naphthalene	M24-De0012169	CP	mg/kg	1.1	0.6	65	30%	Fail	Q15
Phenanthrene	M24-De0012169	CP	mg/kg	1.9	2.1	9.0	30%	Pass	
Pyrene	M24-De0012169	CP	mg/kg	8.5	7.8	9.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0012169	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0012169	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012169	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012169	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012169	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012169	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012169	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012169	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012169	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012169	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012169	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012169	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012169	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012169	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012169	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012169	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012169	CP	mg/kg	4.9	4.1	18	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0012169	CP	mg/kg	7.7	7.1	7.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012172	CP	%	12	11	16	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012173	CP	mg/kg	0.6	0.9	44	30%	Fail	Q15
Benz(a)anthracene	M24-De0012173	CP	mg/kg	2.6	3.3	24	30%	Pass	
Benzo(a)pyrene	M24-De0012173	CP	mg/kg	4.8	6.4	28	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012173	CP	mg/kg	2.5	3.0	17	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012173	CP	mg/kg	2.0	2.3	15	30%	Pass	
Benzo(k)fluoranthene	M24-De0012173	CP	mg/kg	2.9	3.7	23	30%	Pass	
Chrysene	M24-De0012173	CP	mg/kg	3.6	4.7	24	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012173	CP	mg/kg	4.3	5.0	15	30%	Pass	
Fluorene	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012173	CP	mg/kg	1.6	2.2	30	30%	Pass	
Naphthalene	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012173	CP	mg/kg	1.3	1.7	26	30%	Pass	
Pyrene	M24-De0012173	CP	mg/kg	5.7	6.8	18	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0012173	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Aldrin	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0012173	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012173	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012173	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012173	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012173	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012173	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012173	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012173	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012173	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012173	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012173	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012173	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012173	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012173	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012173	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012173	CP	mg/kg	3.7	4.9	28	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0012173	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012176	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0012176	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012176	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0012176	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0012176	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0012176	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0012176	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0012176	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012176	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012176	CP	mg/kg	2.5	2.4	5.0	30%	Pass	
Barium	M24-De0012176	CP	mg/kg	280	290	3.0	30%	Pass	
Beryllium	M24-De0012176	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012176	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0012176	CP	mg/kg	16	16	<1	30%	Pass	
Cobalt	M24-De0012176	CP	mg/kg	11	11	<1	30%	Pass	
Copper	M24-De0012176	CP	mg/kg	67	66	1.0	30%	Pass	
Lead	M24-De0012176	CP	mg/kg	200	200	1.0	30%	Pass	
Manganese	M24-De0012176	CP	mg/kg	250	260	1.0	30%	Pass	
Mercury	M24-De0012176	CP	mg/kg	0.4	0.4	1.0	30%	Pass	
Molybdenum	M24-De0012176	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012176	CP	mg/kg	12	12	1.0	30%	Pass	
Selenium	M24-De0012176	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0012176	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012176	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0012176	CP	mg/kg	170	170	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012178	CP	mg/kg	0.7	1.7	82	30%	Fail	Q15
Benzo(a)pyrene	M24-De0012178	CP	mg/kg	1.1	1.0	13	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012178	CP	mg/kg	0.9	1.2	28	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012178	CP	mg/kg	< 0.5	0.8	69	30%	Fail	Q15
Benzo(k)fluoranthene	M24-De0012178	CP	mg/kg	0.8	1.0	14	30%	Pass	
Chrysene	M24-De0012178	CP	mg/kg	0.8	2.2	91	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012178	CP	mg/kg	1.5	4.1	93	30%	Fail	Q15
Fluorene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012178	CP	mg/kg	0.5	1.2	79	30%	Fail	Q15
Naphthalene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012178	CP	mg/kg	0.7	2.0	95	30%	Fail	Q15
Pyrene	M24-De0012178	CP	mg/kg	1.7	4.2	82	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
g-HCH (Lindane)	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0012178	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0012178	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012178	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012178	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012178	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012178	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012178	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012178	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012178	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012178	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012178	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012178	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012178	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012178	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012178	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012178	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012178	CP	mg/kg	0.75	0.66	13	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012182	CP	%	14	14	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012186	CP	mg/kg	13	14	5.0	30%	Pass	
Barium	M24-De0012186	CP	mg/kg	150	150	<1	30%	Pass	
Beryllium	M24-De0012186	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012186	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0012186	CP	mg/kg	10.0	10	3.0	30%	Pass	
Cobalt	M24-De0012186	CP	mg/kg	12	12	1.0	30%	Pass	
Lead	M24-De0012186	CP	mg/kg	330	330	<1	30%	Pass	
Manganese	M24-De0012186	CP	mg/kg	350	360	3.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	M24-De0012186	CP	mg/kg	0.9	0.9	2.0	30%	Pass	
Molybdenum	M24-De0012186	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012186	CP	mg/kg	96	97	2.0	30%	Pass	
Selenium	M24-De0012186	CP	mg/kg	3.1	3.5	13	30%	Pass	
Silver	M24-De0012186	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012186	CP	mg/kg	97	96	<1	30%	Pass	
Zinc	M24-De0012186	CP	mg/kg	390	390	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012188	CP	mg/kg	2.4	1.8	30	30%	Pass	
Benzo(a)pyrene	M24-De0012188	CP	mg/kg	2.1	2.7	26	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012188	CP	mg/kg	1.4	1.7	22	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012188	CP	mg/kg	1.0	1.1	10	30%	Pass	
Chrysene	M24-De0012188	CP	mg/kg	2.1	1.9	8.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012188	CP	mg/kg	1.5	1.3	14	30%	Pass	
Naphthalene	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012188	CP	mg/kg	2.7	0.9	97	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0012188	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0012188	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012188	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012188	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012188	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012188	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012188	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012188	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012188	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012188	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012188	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012188	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012188	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012188	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012188	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012188	CP	mg/kg	1.8	2.3	26	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthylene	M24-De0012188	CP	mg/kg	0.41	0.31	28	30%	Pass	
Benz(a)anthracene	M24-De0012188	CP	mg/kg	2.0	1.5	30	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012188	CP	mg/kg	1.2	1.5	22	30%	Pass	
Chrysene	M24-De0012188	CP	mg/kg	1.8	1.7	8.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012188	CP	mg/kg	0.11	0.090	19	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012188	CP	mg/kg	1.3	1.1	14	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012189	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0012189	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012189	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0012189	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0012189	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0012189	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0012189	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0012189	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012189	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012192	CP	%	28	24	16	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012195	CP	mg/kg	1.4	2.8	67	30%	Fail	Q15
Benzo(a)pyrene	M24-De0012195	CP	mg/kg	2.1	3.7	54	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0012195	CP	mg/kg	1.7	2.3	30	30%	Pass	
Fluorene	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
a-HCH	M24-De0012195	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0012195	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012195	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012195	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012195	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012195	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012195	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012195	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012195	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012195	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012195	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012195	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012195	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012195	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012195	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012195	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Benzo(b&j)fluoranthene	M24-De0012195	CP	mg/kg	1.3	1.7	30	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012196	CP	mg/kg	67	67	<1	30%	Pass	
Barium	M24-De0012196	CP	mg/kg	110	110	<1	30%	Pass	
Beryllium	M24-De0012196	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012196	CP	mg/kg	11	11	<1	30%	Pass	
Chromium	M24-De0012196	CP	mg/kg	27	27	2.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Cobalt	M24-De0012196	CP	mg/kg	9.5	9.5	1.0	30%	Pass	
Copper	M24-De0012196	CP	mg/kg	130	130	2.0	30%	Pass	
Lead	M24-De0012196	CP	mg/kg	470	470	<1	30%	Pass	
Manganese	M24-De0012196	CP	mg/kg	340	350	1.0	30%	Pass	
Mercury	M24-De0012196	CP	mg/kg	0.5	0.5	4.0	30%	Pass	
Molybdenum	M24-De0012196	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012196	CP	mg/kg	19	19	2.0	30%	Pass	
Selenium	M24-De0012196	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0012196	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012196	CP	mg/kg	55	55	<1	30%	Pass	
Zinc	M24-De0012196	CP	mg/kg	3800	3800	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0012197	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012199	CP	%	13	13	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012200	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0012200	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012200	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0012200	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0012200	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0012200	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0012200	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0012200	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012200	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0012200	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012200	CP	mg/kg	2.8	3.0	8.0	30%	Pass	
Barium	M24-De0012200	CP	mg/kg	84	93	10	30%	Pass	
Beryllium	M24-De0012200	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012200	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0012200	CP	mg/kg	11	12	8.0	30%	Pass	
Cobalt	M24-De0012200	CP	mg/kg	10	11	9.0	30%	Pass	
Copper	M24-De0012200	CP	mg/kg	56	61	10	30%	Pass	
Lead	M24-De0012200	CP	mg/kg	130	150	12	30%	Pass	
Manganese	M24-De0012200	CP	mg/kg	160	180	9.0	30%	Pass	
Mercury	M24-De0012200	CP	mg/kg	0.3	0.4	11	30%	Pass	
Molybdenum	M24-De0012200	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012200	CP	mg/kg	15	17	7.0	30%	Pass	
Selenium	M24-De0012200	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0012200	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012200	CP	mg/kg	56	63	12	30%	Pass	
Zinc	M24-De0012200	CP	mg/kg	91	99	8.0	30%	Pass	

Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012202	CP	%	3.5	3.6	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0012204	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M24-De0012204	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
a-HCH	M24-De0012210	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012210	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012210	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012210	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012210	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012210	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012210	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012210	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012210	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012210	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012210	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012210	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012210	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012210	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012210	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012210	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0012210	CP	mg/kg	0.12	0.87	150	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012213	CP	%	5.1	5.1	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012217	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0012217	CP	mg/kg	14	17	17	30%	Pass	
Beryllium	M24-De0012217	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012217	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Chromium	M24-De0012217	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M24-De0012217	CP	mg/kg	15	17	12	30%	Pass	
Copper	M24-De0012217	CP	mg/kg	95	100	7.0	30%	Pass	
Lead	M24-De0012217	CP	mg/kg	5.6	< 5	16	30%	Pass	
Manganese	M24-De0012217	CP	mg/kg	330	350	8.0	30%	Pass	
Mercury	M24-De0012217	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0012217	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012217	CP	mg/kg	6.4	8.1	24	30%	Pass	
Selenium	M24-De0012217	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0012217	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012217	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0012217	CP	mg/kg	50	55	9.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0012218	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0012218	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0012220	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0012220	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0012220	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0012220	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0012220	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0012220	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0012220	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0012220	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0012222	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0012224	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0012224	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0012224	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0012224	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0012224	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0012224	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
a-HCH	M24-De0012224	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012224	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012224	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012224	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012224	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012224	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012224	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012224	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012224	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012224	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012224	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012224	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012224	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012224	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012224	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012224	CP	mg/kg	0.051	0.047	8.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012224	CP	%	15	14	9.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012224	CP	mg/kg	< 0.005	0.007	80	30%	Fail	Q15
Acenaphthylene	M24-De0012224	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0012224	CP	mg/kg	0.019	0.023	19	30%	Pass	
Benz(a)anthracene	M24-De0012224	CP	mg/kg	0.078	0.080	3.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012224	CP	mg/kg	0.065	0.063	3.0	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Benzo(g.h.i)perylene	M24-De0012224	CP	mg/kg	0.13	0.14	4.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0012224	CP	mg/kg	0.077	0.074	4.0	30%	Pass	
Chrysene	M24-De0012224	CP	mg/kg	0.13	0.12	7.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012224	CP	mg/kg	0.13	0.14	4.0	30%	Pass	
Fluoranthene	M24-De0012224	CP	mg/kg	0.11	0.13	13	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012224	CP	mg/kg	0.016	0.016	<1	30%	Pass	
Naphthalene	M24-De0012224	CP	mg/kg	0.020	0.015	29	30%	Pass	
Phenanthrene	M24-De0012224	CP	mg/kg	0.036	0.059	48	30%	Fail	Q15
Pyrene	M24-De0012224	CP	mg/kg	0.11	0.13	16	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012234	CP	%	7.1	7.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0012238	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0012238	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0012238	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0012238	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0012238	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0012238	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012238	CP	mg/kg	< 0.5	0.7	180	30%	Fail	Q15
Benzo(a)pyrene	M24-De0012238	CP	mg/kg	< 0.5	0.5	190	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012238	CP	mg/kg	< 0.5	0.8	180	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012238	CP	mg/kg	< 0.5	2.2	190	30%	Fail	Q15
Fluorene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012238	CP	mg/kg	< 0.5	0.5	190	30%	Fail	Q15
Pyrene	M24-De0012238	CP	mg/kg	< 0.5	1.7	190	30%	Fail	Q15
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012238	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012238	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012238	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012238	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012238	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012238	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012238	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012238	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2.4-Dinitrophenol	M24-De0012238	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012238	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012238	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012238	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012238	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012238	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012238	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0012238	CP	mg/kg	51	50	1.0	30%	Pass	
Beryllium	M24-De0012238	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012238	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0012238	CP	mg/kg	15	16	2.0	30%	Pass	
Cobalt	M24-De0012238	CP	mg/kg	17	17	<1	30%	Pass	
Copper	M24-De0012238	CP	mg/kg	78	77	<1	30%	Pass	
Lead	M24-De0012238	CP	mg/kg	5.8	5.8	1.0	30%	Pass	
Manganese	M24-De0012238	CP	mg/kg	350	350	1.0	30%	Pass	
Mercury	M24-De0012238	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0012238	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012238	CP	mg/kg	23	23	<1	30%	Pass	
Selenium	M24-De0012238	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0012238	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012238	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0012238	CP	mg/kg	47	47	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0012239	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0012239	CP	mg/kg	27	30	10	30%	Pass	
Beryllium	M24-De0012239	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0012239	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0012239	CP	mg/kg	9.1	10	9.0	30%	Pass	
Cobalt	M24-De0012239	CP	mg/kg	13	14	7.0	30%	Pass	
Copper	M24-De0012239	CP	mg/kg	67	76	12	30%	Pass	
Lead	M24-De0012239	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0012239	CP	mg/kg	250	270	9.0	30%	Pass	
Mercury	M24-De0012239	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0012239	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0012239	CP	mg/kg	16	18	10	30%	Pass	
Selenium	M24-De0012239	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0012239	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0012239	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0012239	CP	mg/kg	34	38	14	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Fluoranthene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012241	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012241	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012241	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012241	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012241	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012241	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012241	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012241	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012241	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012241	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012241	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012241	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012241	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012241	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0012241	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0012242	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M24-De0012242	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0012244	CP	%	10	11	6.0	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0012256	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012265	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0012265	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012265	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0012265	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0012265	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0012265	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0012265	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0012265	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0012265	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0012265	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2.6-Dichlorophenol	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0012265	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0012265	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0012265	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0012265	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0012265	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0012265	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0012265	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0012265	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0012265	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0012265	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0012265	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0012265	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0012265	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0012267	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Sample Properties
Mele Singh	Senior Analyst-Organic
Caitlin Breeze	Senior Analyst-Inorganic
Dylan Jones	Senior Analyst-Organic
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1168041-W**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 04, 2024

Client Sample ID			**QC126**	**QC130**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M24-De0012207**	**M24-De0012223**
Date Sampled			**Dec 03, 2024**	**Dec 04, 2024**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	127	127
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001

Client Sample ID			QC126	QC130
Sample Matrix			Water	Water
Eurofins Sample No.			M24-De0012207	M24-De0012223
Date Sampled			Dec 03, 2024	Dec 04, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	59	60
p-Terphenyl-d14 (surr.)	1	%	66	69
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 05, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 05, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 05, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 05, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 05, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 05, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1168041
Phone: 08 7223 5400
Fax:

Received: Dec 4, 2024 4:35 AM
Due: Dec 12, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	N09_0.5	Dec 03, 2024		Soil	M24-De0012165				X				X
2	N09_1.0	Dec 03, 2024		Soil	M24-De0012166	X		X	X	X		X	
3	N09_1.5	Dec 03, 2024		Soil	M24-De0012167	X		X	X	X		X	
4	M12_0.5	Dec 03, 2024		Soil	M24-De0012168	X		X	X	X		X	
5	M12_1.0	Dec 03, 2024		Soil	M24-De0012169				X				X
6	M12_1.5	Dec 03, 2024		Soil	M24-De0012170	X		X	X	X		X	
7	N12_0.5	Dec 03, 2024		Soil	M24-De0012171	X		X	X	X		X	
8	N12_1.0	Dec 03, 2024		Soil	M24-De0012172	X		X	X	X		X	
9	N12_1.5	Dec 03, 2024		Soil	M24-De0012173				X				X
10	L12_0.5	Dec 03, 2024		Soil	M24-De0012174				X				X
11	L12_1.0	Dec 03, 2024		Soil	M24-De0012175	X		X	X	X		X	
12	L12_1.5	Dec 03, 2024		Soil	M24-De0012176	X		X	X	X		X	
13	O12_0.5	Dec 03, 2024		Soil	M24-De0012177	X		X	X	X		X	
14	O12_1.0	Dec 03, 2024		Soil	M24-De0012178				X				X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project ID: 60693007 7

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Phone: 08 7223 5400
Fax:

Received: Dec 4, 2024 4:35 AM
Due: Dec 12, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	O12_1.5	Dec 03, 2024		Soil	M24-De0012179	X		X	X	X		X	
16	L10_0.5	Dec 03, 2024		Soil	M24-De0012180	X		X	X	X		X	
17	L10_1.0	Dec 03, 2024		Soil	M24-De0012181	X		X	X	X		X	
18	L10_1.5	Dec 03, 2024		Soil	M24-De0012182	X		X	X	X		X	
19	L10_2.0	Dec 03, 2024		Soil	M24-De0012183				X				X
20	M10_0.5	Dec 03, 2024		Soil	M24-De0012184	X		X	X	X		X	
21	M10_1.0	Dec 03, 2024		Soil	M24-De0012185				X				X
22	M10_1.5	Dec 03, 2024		Soil	M24-De0012186	X		X	X	X		X	
23	N10_0.5	Dec 03, 2024		Soil	M24-De0012187				X				X
24	N10_1.0	Dec 03, 2024		Soil	M24-De0012188	X		X	X	X		X	
25	N10_1.5	Dec 03, 2024		Soil	M24-De0012189	X		X	X	X		X	
26	N11_0.5	Dec 03, 2024		Soil	M24-De0012190	X		X	X	X		X	
27	N11_1.0	Dec 03, 2024		Soil	M24-De0012191	X		X	X	X		X	
28	N11_1.5	Dec 03, 2024		Soil	M24-De0012192				X				X
29	O14_0.5	Dec 03, 2024		Soil	M24-De0012193	X		X	X	X		X	
30	O14_1.0	Dec 03, 2024		Soil	M24-De0012194				X			X	
31	O14_1.5	Dec 03, 2024		Soil	M24-De0012195	X		X	X	X		X	

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Contact Name: Robert Crowe

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
32	M11_0.5	Dec 03, 2024		Soil	M24-De0012196	X		X	X	X		X	
33	M11_1.0	Dec 03, 2024		Soil	M24-De0012197				X				X
34	M11_1.5	Dec 03, 2024		Soil	M24-De0012198	X		X	X	X		X	
35	QC123	Dec 03, 2024		Soil	M24-De0012199	X		X	X	X		X	
36	QC127	Dec 03, 2024		Soil	M24-De0012200				X				X
37	N16_0.5	Dec 03, 2024		Soil	M24-De0012201	X		X	X	X		X	
38	N16_1.0	Dec 03, 2024		Soil	M24-De0012202	X		X	X	X		X	
39	N16_1.5	Dec 03, 2024		Soil	M24-De0012203				X				X
40	N13_0.5	Dec 03, 2024		Soil	M24-De0012204				X				X
41	N13_1.0	Dec 03, 2024		Soil	M24-De0012205	X		X	X	X		X	
42	N13_1.5	Dec 03, 2024		Soil	M24-De0012206	X		X	X	X		X	
43	QC126	Dec 03, 2024		Water	M24-De0012207	X		X		X		X	
44	J10_0.5	Dec 03, 2024		Soil	M24-De0012208	X		X	X	X		X	
45	J10_1.0	Dec 03, 2024		Soil	M24-De0012209				X				X
46	J10_1.5	Dec 03, 2024		Soil	M24-De0012210	X		X	X	X		X	
47	J10_2.0	Dec 03, 2024		Soil	M24-De0012211	X		X	X	X		X	
48	E08_0.5	Dec 04, 2024		Soil	M24-De0012212				X				X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
49	G06_0.5	Dec 04, 2024		Soil	M24-De0012213	X		X	X	X		X	
50	G06_1.0	Dec 04, 2024		Soil	M24-De0012214	X		X	X	X		X	
51	G06_1.3	Dec 04, 2024		Soil	M24-De0012215				X				X
52	F07_0.5	Dec 04, 2024		Soil	M24-De0012216				X				X
53	H06_0.5	Dec 04, 2024		Soil	M24-De0012217	X		X	X	X		X	
54	H06_0.8	Dec 04, 2024		Soil	M24-De0012218	X		X	X	X		X	
55	G07_0.6	Dec 04, 2024		Soil	M24-De0012219	X		X	X	X		X	
56	G07_0.7	Dec 04, 2024		Soil	M24-De0012220	X		X	X	X		X	
57	F08_0.5	Dec 04, 2024		Soil	M24-De0012221	X		X	X	X		X	
58	F08_1.0	Dec 04, 2024		Soil	M24-De0012222				X				X
59	QC130	Dec 04, 2024		Water	M24-De0012223	X		X		X		X	
60	H08_0.5	Dec 04, 2024		Soil	M24-De0012224	X		X	X	X		X	
61	H08_1.0	Dec 04, 2024		Soil	M24-De0012225	X		X	X	X		X	
62	H08_1.5	Dec 04, 2024		Soil	M24-De0012226				X				X
63	H08_2.0	Dec 04, 2024		Soil	M24-De0012227	X		X	X	X		X	
64	H08_2.5	Dec 04, 2024		Soil	M24-De0012228	X		X	X	X		X	
65	H08_3.0	Dec 04, 2024		Soil	M24-De0012229	X		X	X	X		X	

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Company Name: Aecom Aust Pty Ltd Tasmania
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Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1168041
Phone: 08 7223 5400
Fax:

Received: Dec 4, 2024 4:35 AM
Due: Dec 12, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
66	G08_0.5	Dec 04, 2024		Soil	M24-De0012230	X		X	X	X		X	
67	G08_1.0	Dec 04, 2024		Soil	M24-De0012231				X				X
68	G08_1.5	Dec 04, 2024		Soil	M24-De0012232	X		X	X	X		X	
69	G08_2.0	Dec 04, 2024		Soil	M24-De0012233	X		X	X	X		X	
70	G08_2.5	Dec 04, 2024		Soil	M24-De0012234				X				X
71	G08_3.0	Dec 04, 2024		Soil	M24-De0012235	X		X	X	X		X	
72	G08_3.5	Dec 04, 2024		Soil	M24-De0012236	X		X	X	X		X	
73	F09_0.5	Dec 04, 2024		Soil	M24-De0012237				X				X
74	F09_1.0	Dec 04, 2024		Soil	M24-De0012238	X		X	X	X		X	
75	F09_1.5	Dec 04, 2024		Soil	M24-De0012239	X		X	X	X		X	
76	F09_2.0	Dec 04, 2024		Soil	M24-De0012240	X		X	X	X		X	
77	F09_2.5	Dec 04, 2024		Soil	M24-De0012241	X		X	X	X		X	
78	F09_3.0	Dec 04, 2024		Soil	M24-De0012242				X				X
79	F09_4.0	Dec 04, 2024		Soil	M24-De0012243	X		X	X	X		X	
80	E07_0.5	Dec 04, 2024		Soil	M24-De0012244	X		X	X	X		X	
81	E07_0.9	Dec 04, 2024		Soil	M24-De0012245	X		X	X	X		X	
82	QC131	Dec 04, 2024		Soil	M24-De0012246	X		X	X	X		X	

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
83	QC133	Dec 04, 2024		Soil	M24-De0012247						X		
84	QC134	Dec 04, 2024		Soil	M24-De0012248						X		
85	QC135	Dec 04, 2024		Soil	M24-De0012249						X		
86	QC136	Dec 04, 2024		Soil	M24-De0012250						X		
87	QC137	Dec 04, 2024		Soil	M24-De0012251						X		
88	M09_0.5	Dec 03, 2024		Soil	M24-De0012252	X		X	X	X		X	
89	M09_1.0	Dec 03, 2024		Soil	M24-De0012253				X				X
90	M09_1.5	Dec 03, 2024		Soil	M24-De0012254	X		X	X	X		X	
91	F07_1.0	Dec 04, 2024		Soil	M24-De0012255	X		X	X	X		X	
92	F09_1.6	Dec 04, 2024		Soil	M24-De0012256				X				X
93	F09_3.5	Dec 04, 2024		Soil	M24-De0012257	X		X	X	X		X	
94	J08_0.5	Dec 04, 2024		Soil	M24-De0012258	X		X	X	X		X	
95	QC125	Dec 03, 2024		Water	M24-De0012259		X						
96	E08_0.6	Dec 04, 2024		Soil	M24-De0012260		X						
97	E08_0.7	Dec 04, 2024		Soil	M24-De0012261		X						
98	G06_0.9	Dec 04, 2024		Soil	M24-De0012262		X						
99	G06_2.0	Dec 04, 2024		Soil	M24-De0012263	X		X	X	X		X	

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Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
100	G06_2.1	Dec 04, 2024		Soil	M24-De0012264		X						
101	F07_0.6	Dec 04, 2024		Soil	M24-De0012265	X		X	X	X		X	
102	F07_0.7	Dec 04, 2024		Soil	M24-De0012266		X						
103	H06_0.7	Dec 04, 2024		Soil	M24-De0012267				X				X
104	H06_1.5	Dec 04, 2024		Soil	M24-De0012268	X		X	X	X		X	
105	G07_0.5	Dec 04, 2024		Soil	M24-De0012269		X						
106	G07_1.5	Dec 04, 2024		Soil	M24-De0012270		X						
107	F08_1.2	Dec 04, 2024		Soil	M24-De0012271		X						
108	QC129	Dec 04, 2024		Water	M24-De0012272		X						
109	E07_1.0	Dec 04, 2024		Soil	M24-De0012273	X		X		X		X	
110	E07_1.2	Dec 04, 2024		Soil	M24-De0012274		X						
Test Counts						67	11	67	91	67	5	68	26

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	82			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	74			70-130	Pass	
Acenaphthylene	%	71			70-130	Pass	
Anthracene	%	102			70-130	Pass	
Benz(a)anthracene	%	105			70-130	Pass	
Benzo(a)pyrene - low level	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	97			70-130	Pass	
Benzo(g.h.i)perylene	%	98			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	81			70-130	Pass	
Chrysene	%	75			70-130	Pass	
Dibenz(a.h)anthracene	%	104			70-130	Pass	
Fluoranthene	%	83			70-130	Pass	
Fluorene	%	79			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	92			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
Phenanthrene	%	79			70-130	Pass	
Pyrene	%	89			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	101			80-120	Pass	
Lead	%	105			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	106			70-130	Pass	
TRH C6-C10	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	120			70-130	Pass	
Toluene	%	124			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
Xylenes - Total*	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0014355	NCP	%	80			70-130	Pass	
TRH >C10-C16	M24-De0014355	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	B24-De0004025	NCP	%	105			70-130	Pass	
Acenaphthylene	B24-De0004025	NCP	%	70			70-130	Pass	
Anthracene	B24-De0004025	NCP	%	96			70-130	Pass	
Benz(a)anthracene	B24-De0004025	NCP	%	70			70-130	Pass	
Benzo(a)pyrene - low level	B24-De0004025	NCP	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	B24-De0004025	NCP	%	83			70-130	Pass	
Benzo(g.h.i)perylene	B24-De0004025	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	B24-De0004025	NCP	%	87			70-130	Pass	
Chrysene	B24-De0004025	NCP	%	78			70-130	Pass	
Dibenz(a.h)anthracene	B24-De0004025	NCP	%	77			70-130	Pass	
Fluoranthene	B24-De0004025	NCP	%	76			70-130	Pass	
Fluorene	B24-De0004025	NCP	%	76			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B24-De0004025	NCP	%	102			70-130	Pass	
Naphthalene	B24-De0004025	NCP	%	84			70-130	Pass	
Phenanthrene	B24-De0004025	NCP	%	73			70-130	Pass	
Pyrene	B24-De0004025	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0011533	NCP	%	97			75-125	Pass	
Lead	M24-De0011533	NCP	%	99			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0012223	CP	%	103			70-130	Pass	
TRH C6-C10	M24-De0012223	CP	%	104			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0012223	CP	%	123			70-130	Pass	
Toluene	M24-De0012223	CP	%	130			70-130	Pass	
Ethylbenzene	M24-De0012223	CP	%	128			70-130	Pass	
m&p-Xylenes	M24-De0012223	CP	%	128			70-130	Pass	
o-Xylene	M24-De0012223	CP	%	128			70-130	Pass	
Xylenes - Total*	M24-De0012223	CP	%	128			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0012223	CP	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0012207	CP	mg/L	< 0.02	0.03	7.0	30%	Pass	
TRH C10-C14	M24-De0014550	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M24-De0014550	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M24-De0014550	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M24-De0012207	CP	mg/L	< 0.02	0.03	9.0	30%	Pass	
TRH >C10-C16	M24-De0014550	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M24-De0014550	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M24-De0014550	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0012207	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M24-De0012207	CP	mg/L	< 0.001	0.008	6.0	30%	Pass	
Ethylbenzene	M24-De0012207	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M24-De0012207	CP	mg/L	< 0.002	0.004	6.0	30%	Pass	
o-Xylene	M24-De0012207	CP	mg/L	< 0.001	0.001	9.0	30%	Pass	
Xylenes - Total*	M24-De0012207	CP	mg/L	< 0.003	0.005	6.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0012207	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene - low level	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	B24-De0004026	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0011533	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M24-De0011533	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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1

ANZ

FQM - Generic Chain of Custody Form

Timothy.Martin@AECOM.com
Jacob.Muller@AECOM.com

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	PHONE:	
RESULTS REQUIRED (Date):	QUOTE N(241121AECV	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.
TRH C10-C40

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) - PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
	J08_1.0	S	4/12/24						X										
	J08_1.5						X												
	J08_2.0						X												
	J08_2.5						X												
	I08_0.5						X												
	I08_1.0						X												
	I08_1.5						X												
	I08_2.0								X										
	I08_2.5	S	4/12/24				X												X
	QC139_	W	5/12/24						X										
	QC140	W					X												
	J09_0.5	S							X										
	J09_1.0						X												
	J09_1.5						X												
	J09_2.0								X										
	J11_0.5						X												
	J11_1.0						X												
	J11_1.5								X										
	J11_2.0						X												

RELINQUISHED BY:	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Andrew Christensen	Name: EUROFINS HOB	Name: AP	Con' Note No:
Of:	Of:	Of:	Transport Co:
Date: 06/12/2024	Date: 6/12	Date: ~~Date~~ time 3:55	
Time:	Time:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

DATE: 4/12/24
TIME: 12:45
COURIER: BIP
TEMPERATURE: 15.1°C
ATTEMPT TO CHILL: YES NO

#1169377 LH FH

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ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
	M13_0.5	S	5/12/24				X												
	M13_1.0								X										
	M13_1.5						X												
	I09_0.5						X												
	I09_1.0						X												
	I09_1.5						X												
	I09_2.0								X										
	I09_2.5						X												
	~~I09~~ L13_0.5						X												
	L13_1.0								X										
	L13_1.5						X												
	L14_0.5						X												
	L14_1.0						X												
	L14_1.5								X										
	L15_0.5						X		X										
	L15_1.0						X												
	L15_1.5						X												
	013_0.5						X												
	013_1.0						X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: ~~06/12/2024~~	Date: 06/12/2024	Name: EUROFINS HOB	Date: 6/12	Name:	Date:	Con' Note No:
Of: Andrew Christensen	Time:	Of: AP	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	013_1.5				5/12/24				X									
	QC141						X											
	QC142						Please forward to ALS											
	H09_0.5						X											
	H09_1.0						X											
	H09_1.5								X									
	H09_2.0						X											
	H09_2.5						X											
	H09_3.0								X									
	E09_0.5						X											
	E09_1.0								X									
	E09_1.5						X											
	E09_2.0						X											
	E09_2.5								X									
	E09_3.0						X											
	E09_3.5						X											
	E09_4.0						X											
	E09_4.5								X									
	G09_0.5						X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: EUROFINS HOB	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: AP	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highiy contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	G09_1.0	S	5/12/24				X											
	G09_1.5								X									
	G09_2.0						X											
	G09_2.5						X											
	G09_3.0						X											
	G09_3.5								X									
	G10_0.5						X											
	G10_1.0						X											
	G10_1.5						X											
	G10_2.0								X									
	G10_2.5						X											
	G10_3.0						X											
	G10_3.5						X											
	F10_0.5								X									
	F10_1.0						X											
	F10_1.5						X											
	F10_2.0						X											
	F10_2.5						X											
	F10_3.0								X									

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AP	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: EUROFINS HOB	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

5

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	
	E10_3.5	S	5/12/24				X												
	E10_0.5						X												
	E10_1.0						X												
	E10_1.5								X										
	E10_2.0						X												
	E10_2.5								X										
	E10_3.0						X												
	E10_3.5						X												
	QC143	S	6/12/24						X										
	QC144	S					Please forward to ALS											X	
	QC145	W																	
	QC146	W					X												
	L11_0.5	S					X												
	L11_1.0						X												
	L11_1.5								X										
	QC138									X									
	QC153									X									
	QC154									X									
	QC155									X									

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AP	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins HOB	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 5 of 9

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
	QC156	S	6/12/24							X									
	K11_0.5						X												
	K11_1.0						X												
	K11_1.5						X												
	K11_2.0								X										
	H10_0.5						X												
	H10_1.0						X												
	H10_1.5								X										
	H10_2.0						X												
	H10_2.5						X												
	H10_3.0								X										
	K10_0.5								X										
	K10_1.0						X												
	K10_1.5						X												
	K10_2.0								X										
	L08_0.5						X												
	L08_1.0								X										
	L08_1.5						X												
	L08_2.0						X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name:	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	L09_0.5	S	06/12/24						X											
	L09_1.0						X													
	L09_1.5						X													
	L09_2.0						X													
	K08_0.5						X													
	K08_1.0						X													
	K08_1.5						X													
	K08_2.0								X											
	K09_0.5						X													
	K09_1.0						X													
	K09_1.5								X											
	K09_2.0						X													
	K07_0.5						X													
	K07_1.0						X													
	K07_1.5								X											
	K07_2.0						X													
	L08_0.5						X													
	L08_1.0						X													
	L08_1.5						X													

RELINQUISHED BY:	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Andrew Christensen	Name:	Name:	Con' Note No:
Of:	Of: Eurofins Adel	Of:	Transport Co:
Date: 06/12/2024	Date: 6/12	Date:	
Time:	Time: 3:55	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N 241121AECV	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
	I10_2.5	S	06/12/24				X												
	QC149						X												
	QC152						Please forward TO ALS												
	H11_0.5						X												
	H11_1.0						X												
	H11_1.5						X												
	H11_2.0								X										
	H11_2.5						X												
	H11_3.0						X												
	G11_0.5								X										
	G11_1.0						X												
	G11_1.5						X												
	G11_2.0						X												
	G11_2.5						X												
	G11_3.0								X										
	G11_3.5						X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AS	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Mob	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

COC Page 9 of 9

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Q4AN(EV)-007-FM1

ANZ

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV

SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel

MOBILE: 0409536240 PHONE:

EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,

Destination Laboratory: Eurofins

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	E10_3.5	S	5/12/24				X											
	E10_0.5						X											
	E10_1.0						X											
	E10_1.5							X										
	E10_2.0						X											
	E10_2.5							X										
	E10_3.0						X											
	E10_3.5						X											
	QC143	S	6/12/24					X										
	QC144	S					Please forward to ALS											X
	QC145	W																
	QC146	W					X											
	L11_0.5	S					X											
	L11_1.0						X											
	L11_1.5							X										
	QC138								X									
	QC153								X									
	QC154								X									
	QC155								X									

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AP	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: eurofins HOB	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic

V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;

F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Soil Container Codes: Jar = Unpreserved glass jar

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Q4AN(EV)-007-FM1
FQM - Generic Chain of Custody Form (Q4AN(EV)-007-FM1)
Revision 1 June 15, 2016

9

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N 241121AECV	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	I10_2.5	S	06/12/24				X											
	QC149						X											
	QC152						Please forward TO ALS											
	H11_0.5						X											
	H11_1.0						X											
	H11_1.5						X											
	H11_2.0								X									
	H11_2.5						X											
	H11_3.0						X											
	G11_0.5								X									
	G11_1.0						X											
	G11_1.5						X											
	G11_2.0						X											
	G11_2.5						X											
	G11_3.0								X									
	G11_3.5						X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AF	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hob	Time: 9:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 9 of 9

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N(241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	L08_2.0	S	6/12/24				X											
	QC150		11				X											
	QC151						Please forward to ALS											
	QC153									X								
	QC154									X								
	I12_0.5								X									
	I12_1.0						X											
	I12_1.5						X											
	I12_2.0								X									
	I12_2.5						X											
	I11_0.5						X											
	I11_1.0						X											
	I11_1.5						X											
	I11_2.0								X									
	I11_2.5								X									
	I10_0.5						X											
	I10_1.0						X											
	I10_1.5						X											
	I10_2.0								X									

RELINQUISHED BY:	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Andrew Christensen	Name: [illegible]	Name:	Con' Note No:
Of:	Of: Eurofins Nob	Of:	Transport Co:
Date: 06/12/2024	Date: 6/12	Date:	
Time:	Time: 3:55	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. *Soil Container Codes:* Jar = Unpreserved glass jar

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 5 Day
Date/Time received Dec 6, 2024 3:55 PM
Eurofins reference 1169377

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10 degrees Celsius.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

✓ Split sample sent to requested external lab.

✗ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	J08_1.0	Dec 04, 2024		Soil	M24-De0021833					X				X
2	J08_1.5	Dec 04, 2024		Soil	M24-De0021834		X		X	X	X		X	
3	J08_2.0	Dec 04, 2024		Soil	M24-De0021835		X		X	X	X		X	
4	J08_2.5	Dec 04, 2024		Soil	M24-De0021836		X		X	X	X		X	
5	I08_0.5	Dec 04, 2024		Soil	M24-De0021837		X		X	X	X		X	
6	I08_1.0	Dec 04, 2024		Soil	M24-De0021838		X		X	X	X		X	
7	I08_1.5	Dec 04, 2024		Soil	M24-De0021839		X		X	X	X		X	
8	I08_2.0	Dec 04, 2024		Soil	M24-De0021840					X				X
9	I08_2.5	Dec 04, 2024		Soil	M24-De0021841		X		X	X	X		X	
10	QC140	Dec 05, 2024		Water	M24-De0021842		X		X		X		X	
11	J09_0.5	Dec 05, 2024		Soil	M24-De0021843					X				X
12	J09_1.0	Dec 05, 2024		Soil	M24-De0021844		X		X	X	X		X	
13	J09_1.5	Dec 05, 2024		Soil	M24-De0021845		X		X	X	X		X	

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
14	J09_2.0	Dec 05, 2024		Soil	M24-De0021846					X				X
15	J11_0.5	Dec 05, 2024		Soil	M24-De0021847		X		X	X	X		X	
16	J11_1.0	Dec 05, 2024		Soil	M24-De0021848		X		X	X	X		X	
17	J11_1.5	Dec 05, 2024		Soil	M24-De0021849					X				X
18	J11_2.0	Dec 05, 2024		Soil	M24-De0021850		X		X	X	X		X	
19	M13_0.5	Dec 05, 2024		Soil	M24-De0021851		X		X	X	X		X	
20	M13_1.0	Dec 05, 2024		Soil	M24-De0021852					X				X
21	M13_1.5	Dec 05, 2024		Soil	M24-De0021853		X		X	X	X		X	
22	I09_0.5	Dec 05, 2024		Soil	M24-De0021854		X		X	X	X		X	
23	I09_1.0	Dec 05, 2024		Soil	M24-De0021855		X		X	X	X		X	
24	I09_1.5	Dec 05, 2024		Soil	M24-De0021856		X		X	X	X		X	
25	I09_2.0	Dec 05, 2024		Soil	M24-De0021857					X				X
26	I09_2.5	Dec 05, 2024		Soil	M24-De0021858		X		X	X	X		X	
27	L13_0.5	Dec 05, 2024		Soil	M24-De0021859		X		X	X	X		X	
28	L13_1.0	Dec 05, 2024		Soil	M24-De0021860					X				X
29	L13_1.5	Dec 05, 2024		Soil	M24-De0021861		X		X	X	X		X	

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

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Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
30	L14_0.5	Dec 05, 2024		Soil	M24-De0021862		X		X	X	X		X	
31	L14_1.0	Dec 05, 2024		Soil	M24-De0021863		X		X	X	X		X	
32	L14_1.5	Dec 05, 2024		Soil	M24-De0021864					X				X
33	L15_0.5	Dec 05, 2024		Soil	M24-De0021865					X				X
34	L15_1.0	Dec 05, 2024		Soil	M24-De0021866		X		X	X	X		X	
35	L15_1.5	Dec 05, 2024		Soil	M24-De0021867		X		X	X	X		X	
36	O13_0.5	Dec 05, 2024		Soil	M24-De0021868		X		X	X	X		X	
37	O13_1.0	Dec 05, 2024		Soil	M24-De0021869		X		X	X	X		X	
38	O13_1.5	Dec 05, 2024		Soil	M24-De0021870					X				X
39	H09_0.5	Dec 05, 2024		Soil	M24-De0021871		X		X	X	X		X	
40	H09_1.0	Dec 05, 2024		Soil	M24-De0021872		X		X	X	X		X	
41	H09_1.5	Dec 05, 2024		Soil	M24-De0021873					X				X
42	H09_2.0	Dec 05, 2024		Soil	M24-De0021874		X		X	X	X		X	
43	H09_2.5	Dec 05, 2024		Soil	M24-De0021875		X		X	X	X		X	
44	H09_3.0	Dec 05, 2024		Soil	M24-De0021876					X				X
45	E09_0.5	Dec 05, 2024		Soil	M24-De0021877		X		X	X	X		X	

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
46	E09_1.0	Dec 05, 2024		Soil	M24-De0021878					X				X
47	E09_1.5	Dec 05, 2024		Soil	M24-De0021879		X		X	X	X		X	
48	E09_2.0	Dec 05, 2024		Soil	M24-De0021880		X		X	X	X		X	
49	E09_2.5	Dec 05, 2024		Soil	M24-De0021881					X				X
50	E09_3.5	Dec 05, 2024		Soil	M24-De0021882		X		X	X	X		X	
51	E09_4.0	Dec 05, 2024		Soil	M24-De0021883		X		X	X	X		X	
52	E09_4.5	Dec 05, 2024		Soil	M24-De0021884					X				X
53	G09_0.5	Dec 05, 2024		Soil	M24-De0021885		X		X	X	X		X	
54	G09_1.0	Dec 05, 2024		Soil	M24-De0021886		X		X	X	X		X	
55	G09_1.5	Dec 05, 2024		Soil	M24-De0021887					X				X
56	G09_2.0	Dec 05, 2024		Soil	M24-De0021888		X		X	X	X		X	
57	G09_2.5	Dec 05, 2024		Soil	M24-De0021889		X		X	X	X		X	
58	G09_3.0	Dec 05, 2024		Soil	M24-De0021890		X		X	X	X		X	
59	G09_3.5	Dec 05, 2024		Soil	M24-De0021891					X				X
60	G10_0.5	Dec 05, 2024		Soil	M24-De0021892		X		X	X	X		X	
61	G10_1.0	Dec 05, 2024		Soil	M24-De0021893		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
62	G10_1.5	Dec 05, 2024		Soil	M24-De0021894		X		X	X	X		X	
63	G10_2.0	Dec 05, 2024		Soil	M24-De0021895					X				X
64	G10_2.5	Dec 05, 2024		Soil	M24-De0021896		X		X	X	X		X	
65	G10_3.0	Dec 05, 2024		Soil	M24-De0021897		X		X	X	X		X	
66	G10_3.5	Dec 05, 2024		Soil	M24-De0021898		X		X	X	X		X	
67	F10_0.5	Dec 05, 2024		Soil	M24-De0021899					X				X
68	F10_1.0	Dec 05, 2024		Soil	M24-De0021900		X		X	X	X		X	
69	F10_1.5	Dec 05, 2024		Soil	M24-De0021901		X		X	X	X		X	
70	F10_2.0	Dec 05, 2024		Soil	M24-De0021902		X		X	X	X		X	
71	F10_2.5	Dec 05, 2024		Soil	M24-De0021903		X		X	X	X		X	
72	F10_3.0	Dec 05, 2024		Soil	M24-De0021904					X				X
73	F10_3.5	Dec 05, 2024		Soil	M24-De0021905		X		X	X	X		X	
74	E10_0.5	Dec 05, 2024		Soil	M24-De0021906		X		X	X	X		X	
75	E10_1.0	Dec 05, 2024		Soil	M24-De0021907		X		X	X	X		X	
76	E10_1.5	Dec 05, 2024		Soil	M24-De0021908					X				X
77	E10_2.0	Dec 05, 2024		Soil	M24-De0021909		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
78	E10_2.5	Dec 05, 2024		Soil	M24-De0021910					X				X
79	E10_3.0	Dec 05, 2024		Soil	M24-De0021911		X		X	X	X		X	
80	E10_3.5	Dec 05, 2024		Soil	M24-De0021912		X		X	X	X		X	
81	QC143	Dec 06, 2024		Soil	M24-De0021913					X				X
82	QC146	Dec 06, 2024		Water	M24-De0021914		X		X		X		X	
83	L11_0.5	Dec 06, 2024		Soil	M24-De0021915		X		X	X	X		X	
84	L11_1.0	Dec 06, 2024		Soil	M24-De0021916		X		X	X	X		X	
85	L11_1.5	Dec 06, 2024		Soil	M24-De0021917					X				X
86	K11_0.5	Dec 06, 2024		Soil	M24-De0021918		X		X	X	X		X	
87	K11_1.0	Dec 06, 2024		Soil	M24-De0021919		X		X	X	X		X	
88	K11_1.5	Dec 06, 2024		Soil	M24-De0021920		X		X	X	X		X	
89	K11_2.0	Dec 06, 2024		Soil	M24-De0021921					X				X
90	H10_0.5	Dec 06, 2024		Soil	M24-De0021922		X		X	X	X		X	
91	H10_1.0	Dec 06, 2024		Soil	M24-De0021923		X		X	X	X		X	
92	H10_1.5	Dec 06, 2024		Soil	M24-De0021924					X				X
93	H10_2.0	Dec 06, 2024		Soil	M24-De0021925		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
94	H10_2.5	Dec 06, 2024		Soil	M24-De0021926		X		X	X	X		X	
95	H10_3.0	Dec 06, 2024		Soil	M24-De0021927					X				X
96	K10_0.5	Dec 06, 2024		Soil	M24-De0021928					X				X
97	K10_1.0	Dec 06, 2024		Soil	M24-De0021929		X		X	X	X		X	
98	K10_1.5	Dec 06, 2024		Soil	M24-De0021930		X		X	X	X		X	
99	K10_2.0	Dec 06, 2024		Soil	M24-De0021931					X				X
100	L08_0.5	Dec 06, 2024		Soil	M24-De0021932		X		X	X	X		X	
101	L08_1.0	Dec 06, 2024		Soil	M24-De0021933					X				X
102	L08_1.5	Dec 06, 2024		Soil	M24-De0021934		X		X	X	X		X	
103	L08_2.0	Dec 06, 2024		Soil	M24-De0021935		X		X	X	X		X	
104	L09_0.5	Dec 06, 2024		Soil	M24-De0021936					X				X
105	L09_1.0	Dec 06, 2024		Soil	M24-De0021937		X		X	X	X		X	
106	L09_1.5	Dec 06, 2024		Soil	M24-De0021938		X		X	X	X		X	
107	L09_2.0	Dec 06, 2024		Soil	M24-De0021939		X		X	X	X		X	
108	K08_0.5	Dec 06, 2024		Soil	M24-De0021940		X		X	X	X		X	
109	K08_1.0	Dec 06, 2024		Soil	M24-De0021941		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
110	K08_1.5	Dec 06, 2024		Water	M24-De0021942		X		X		X		X	
111	K08_2.0	Dec 06, 2024		Soil	M24-De0021943					X				X
112	K09_0.5	Dec 06, 2024		Soil	M24-De0021944		X		X	X	X		X	
113	K09_1.0	Dec 06, 2024		Soil	M24-De0021945		X		X	X	X		X	
114	K09_1.5	Dec 06, 2024		Soil	M24-De0021946					X				X
115	K09_2.0	Dec 06, 2024		Soil	M24-De0021947		X		X	X	X		X	
116	K07_0.5	Dec 06, 2024		Soil	M24-De0021948		X		X	X	X		X	
117	K07_1.0	Dec 06, 2024		Soil	M24-De0021949		X		X	X	X		X	
118	K07_1.5	Dec 06, 2024		Soil	M24-De0021950					X				X
119	K07_2.0	Dec 06, 2024		Soil	M24-De0021951		X		X	X	X		X	
120	QC150	Dec 06, 2024		Soil	M24-De0021952		X		X	X	X		X	
121	I12_0.5	Dec 06, 2024		Soil	M24-De0021953					X				X
122	I12_1.0	Dec 06, 2024		Soil	M24-De0021954		X		X	X	X		X	
123	I12_1.5	Dec 06, 2024		Soil	M24-De0021955		X		X	X	X		X	
124	I12_2.0	Dec 06, 2024		Soil	M24-De0021956					X				X
125	I11_0.5	Dec 06, 2024		Soil	M24-De0021957		X		X	X	X		X	

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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Eurofins Environment Testing NZ Ltd
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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
126	I11_1.0	Dec 06, 2024		Soil	M24-De0021958		X		X	X	X		X	
127	I11_1.5	Dec 06, 2024		Soil	M24-De0021959		X		X	X	X		X	
128	I11_2.0	Dec 06, 2024		Soil	M24-De0021960					X				X
129	I11_2.5	Dec 06, 2024		Soil	M24-De0021961					X				X
130	I10_0.5	Dec 06, 2024		Soil	M24-De0021962		X		X	X	X		X	
131	I10_1.0	Dec 06, 2024		Soil	M24-De0021963		X		X	X	X		X	
132	I10_1.5	Dec 06, 2024		Soil	M24-De0021964		X		X	X	X		X	
133	I10_2.0	Dec 06, 2024		Soil	M24-De0021965					X				X
134	I10_2.5	Dec 06, 2024		Soil	M24-De0021966		X		X	X	X		X	
135	QC149	Dec 06, 2024		Soil	M24-De0021967		X		X	X	X		X	
136	H11_0.5	Dec 06, 2024		Soil	M24-De0021968		X		X	X	X		X	
137	H11_1.0	Dec 06, 2024		Soil	M24-De0021969		X		X	X	X		X	
138	H11_1.5	Dec 06, 2024		Soil	M24-De0021970		X		X	X	X		X	
139	H11_2.0	Dec 06, 2024		Soil	M24-De0021971					X				X
140	H11_2.5	Dec 06, 2024		Soil	M24-De0021972		X		X	X	X		X	
141	H11_3.0	Dec 06, 2024		Soil	M24-De0021973		X		X	X	X		X	

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
142	G11_0.5	Dec 06, 2024		Soil	M24-De0021974					X				X
143	G11_1.0	Dec 06, 2024		Soil	M24-De0021975		X		X	X	X		X	
144	G11_1.5	Dec 06, 2024		Soil	M24-De0021976		X		X	X	X		X	
145	G11_2.0	Dec 06, 2024		Soil	M24-De0021977		X		X	X	X		X	
146	G11_2.5	Dec 06, 2024		Soil	M24-De0021978		X		X	X	X		X	
147	G11_3.0	Dec 06, 2024		Soil	M24-De0021979					X				X
148	G11_3.5	Dec 06, 2024		Soil	M24-De0021980		X		X	X	X		X	
149	QC141	Dec 05, 2024		Soil	M24-De0021981		X		X	X	X		X	
150	QC139	Dec 05, 2024		Water	M24-De0021982	X								
151	QC145	Dec 06, 2024		Water	M24-De0021983	X								
152	QC153	Dec 06, 2024		Soil	M24-De0021984							X		
153	QC154	Dec 06, 2024		Soil	M24-De0021985							X		
154	QC155	Dec 06, 2024		Soil	M24-De0021986							X		
155	QC156	Dec 06, 2024		Soil	M24-De0021987							X		
156	QC147	Dec 06, 2024		Soil	M24-De0021988									X
157	QC148	Dec 06, 2024		Soil	M24-De0021989			X						

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
158	E09_3.0	Dec 05, 2024		Soil	M24-De0022292		X		X	X	X		X	
Test Counts						2	107	1	107	147	107	4	107	44

Aecom Aust Pty Ltd Tasmania
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1169377-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 06, 2024

Client Sample ID			**J08_1.0**	**J08_1.5**	**J08_2.0**	**J08_2.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-De0021833**	**M24-De0021834**	**M24-De0021835**	**M24-De0021836**
Date Sampled			**Dec 04, 2024**	**Dec 04, 2024**	**Dec 04, 2024**	**Dec 04, 2024**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	20
TRH C15-C28	50	mg/kg	75	470	< 50	120
TRH C29-C36	50	mg/kg	< 50	480	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	75	950	< 50	140
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	89
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	89
TRH >C16-C34	100	mg/kg	110	810	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	360	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	110	1170	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	113	113	109
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.8	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.1	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.4	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	0.7	-	-	-
Benzo(a)pyrene	0.5	mg/kg	0.6	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	0.6	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	0.6	-	-	-
Chrysene	0.5	mg/kg	0.9	-	-	-

Client Sample ID			J08_1.0	J08_1.5	J08_2.0	J08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021833	M24-De0021834	M24-De0021835	M24-De0021836
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	2.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	0.5	-	-	-
Pyrene	0.5	mg/kg	2.7	-	-	-
Total PAH*	0.5	mg/kg	9.1	-	-	-
2-Fluorobiphenyl (surr.)	1	%	56	-	-	-
p-Terphenyl-d14 (surr.)	1	%	81	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	95	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	77	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	95	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	77	-	-	-

Client Sample ID			J08_1.0	J08_1.5	J08_2.0	J08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021833	M24-De0021834	M24-De0021835	M24-De0021836
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	146	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.58	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	5.1	17	< 2	< 2
Barium	10	mg/kg	67	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	15	-	-	-
Cobalt	5	mg/kg	14	-	-	-
Copper	5	mg/kg	68	-	-	-
Lead	5	mg/kg	170	2300	44	6.7
Manganese	5	mg/kg	410	-	-	-
Mercury	0.1	mg/kg	0.2	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	21	-	-	-
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	12	-	-	-
Zinc	5	mg/kg	190	-	-	-
Sample Properties						
% Moisture	1	%	8.3	15	11	12

Client Sample ID			J08_1.0	J08_1.5	J08_2.0	J08_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021833	M24-De0021834	M24-De0021835	M24-De0021836
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.008	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	-	0.063	< 0.005	< 0.005
Anthracene	0.005	mg/kg	-	0.10	0.014	0.056
Benz(a)anthracene	0.005	mg/kg	-	1.1	0.082	0.020
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.5	< 0.005	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	1.1	< 0.005	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.59	< 0.005	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	1.1	< 0.005	< 0.005
Chrysene	0.005	mg/kg	-	0.90	0.091	0.014
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.20	< 0.005	< 0.005
Fluoranthene	0.005	mg/kg	-	1.2	0.21	< 0.005
Fluorene	0.005	mg/kg	-	0.035	0.014	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.46	< 0.005	< 0.005
Naphthalene	0.005	mg/kg	-	0.016	0.016	< 0.005
Phenanthrene	0.005	mg/kg	-	0.43	0.061	0.008
Pyrene	0.005	mg/kg	-	1.4	0.17	0.014
Total PAH*	0.005	mg/kg	-	10.202	0.658	0.112
2-Fluorobiphenyl (surr.)	1	%	-	57	141	54
p-Terphenyl-d14 (surr.)	1	%	-	69	134	109

Client Sample ID			I08_0.5	I08_1.0	I08_1.5	I08_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021837	M24-De0021838	M24-De0021839	M24-De0021840
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	710	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	490	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	1200	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	240	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	1340	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	72	87	80	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			I08_0.5	I08_1.0	I08_1.5	I08_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021837	M24-De0021838	M24-De0021839	M24-De0021840
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	2.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	2.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	2.5
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	0.8
Benz(a)anthracene	0.5	mg/kg	-	-	-	1.4
Benzo(a)pyrene	0.5	mg/kg	-	-	-	1.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	0.8
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	1.1
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	1.3
Chrysene	0.5	mg/kg	-	-	-	1.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	4.7
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	0.9
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	2.6
Pyrene	0.5	mg/kg	-	-	-	4.1
Total PAH*	0.5	mg/kg	-	-	-	21
2-Fluorobiphenyl (surr.)	1	%	-	-	-	52
p-Terphenyl-d14 (surr.)	1	%	-	-	-	137
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	51
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	139

Client Sample ID			I08_0.5	I08_1.0	I08_1.5	I08_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021837	M24-De0021838	M24-De0021839	M24-De0021840
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	51
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	139
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	119
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	1.2
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.4	9.9	3.1
Barium	10	mg/kg	-	-	-	350
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	27
Cobalt	5	mg/kg	-	-	-	12
Copper	5	mg/kg	-	-	-	78

Client Sample ID			I08_0.5	I08_1.0	I08_1.5	I08_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021837	M24-De0021838	M24-De0021839	M24-De0021840
Date Sampled			Dec 04, 2024	Dec 04, 2024	Dec 04, 2024	Dec 04, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	< 5	220	210	490
Manganese	5	mg/kg	-	-	-	180
Mercury	0.1	mg/kg	-	-	-	0.8
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	21
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	39
Zinc	5	mg/kg	-	-	-	140
Sample Properties						
% Moisture	1	%	8.9	14	19	20
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.13	0.008	-
Acenaphthylene	0.005	mg/kg	< 0.005	2.1	0.073	-
Anthracene	0.005	mg/kg	< 0.005	4.5	0.33	-
Benz(a)anthracene	0.005	mg/kg	0.17	24	0.53	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	32	0.69	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	18	0.47	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	18	0.34	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	18	0.65	-
Chrysene	0.005	mg/kg	0.071	20	0.79	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	3.4	0.089	-
Fluoranthene	0.005	mg/kg	< 0.005	28	0.92	-
Fluorene	0.005	mg/kg	< 0.005	1.1	0.040	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	8.8	0.19	-
Naphthalene	0.005	mg/kg	< 0.005	0.74	0.059	-
Phenanthrene	0.005	mg/kg	< 0.005	16	0.58	-
Pyrene	0.005	mg/kg	0.068	30	0.98	-
Total PAH*	0.005	mg/kg	0.309	224.77	6.739	-
2-Fluorobiphenyl (surr.)	1	%	139	68	58	-
p-Terphenyl-d14 (surr.)	1	%	137	66	73	-

Client Sample ID			I08_2.5	J09_0.5	J09_1.0	J09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021841	M24-De0021843	M24-De0021844	M24-De0021845
Date Sampled			Dec 04, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	440	270	70
TRH C29-C36	50	mg/kg	< 50	350	210	58
TRH C10-C36 (Total)	50	mg/kg	< 50	790	480	128
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			I08_2.5	J09_0.5	J09_1.0	J09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021841	M24-De0021843	M24-De0021844	M24-De0021845
Date Sampled			Dec 04, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	680	410	120
TRH >C34-C40	100	mg/kg	< 100	320	220	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	1000	630	120
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	100	80	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	26	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	26	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	26	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	1.8	-	-
Anthracene	0.5	mg/kg	-	2.2	-	-
Benz(a)anthracene	0.5	mg/kg	-	14	-	-
Benzo(a)pyrene	0.5	mg/kg	-	19	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	12	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	8.7	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	17	-	-
Chrysene	0.5	mg/kg	-	17	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	2.0	-	-
Fluoranthene	0.5	mg/kg	-	38	-	-
Fluorene	0.5	mg/kg	-	0.6	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	6.8	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	9.2	-	-
Pyrene	0.5	mg/kg	-	49	-	-
Total PAH*	0.5	mg/kg	-	200	-	-
2-Fluorobiphenyl (surr.)	1	%	-	63	-	-
p-Terphenyl-d14 (surr.)	1	%	-	57	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			I08_2.5	J09_0.5	J09_1.0	J09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021841	M24-De0021843	M24-De0021844	M24-De0021845
Date Sampled			Dec 04, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	86	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	85	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	86	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	85	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			I08_2.5	J09_0.5	J09_1.0	J09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021841	M24-De0021843	M24-De0021844	M24-De0021845
Date Sampled			Dec 04, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	-	146	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	16	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	2.4	4.4	3.2	< 2
Barium	10	mg/kg	-	130	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	13	-	-
Cobalt	5	mg/kg	-	13	-	-
Copper	5	mg/kg	-	87	-	-
Lead	5	mg/kg	73	220	62	48
Manganese	5	mg/kg	-	240	-	-
Mercury	0.1	mg/kg	-	0.9	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	16	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	43	-	-
Zinc	5	mg/kg	-	430	-	-
Sample Properties						
% Moisture	1	%	18	15	26	19
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	0.11	0.010
Acenaphthylene	0.005	mg/kg	0.010	-	0.77	0.064
Anthracene	0.005	mg/kg	0.045	-	3.5	0.18
Benz(a)anthracene	0.005	mg/kg	0.17	-	7.8	1.0
Benzo(a)pyrene - low level	0.005	mg/kg	0.24	-	8.3	1.1
Benzo(b&j)fluoranthene	0.005	mg/kg	0.17	-	5.2	0.73
Benzo(g.h.i)perylene	0.005	mg/kg	0.11	-	7.7	0.84
Benzo(k)fluoranthene	0.005	mg/kg	0.14	-	5.5	0.56
Chrysene	0.005	mg/kg	0.22	-	8.8	0.76
Dibenz(a.h)anthracene	0.005	mg/kg	0.035	-	1.4	0.042
Fluoranthene	0.005	mg/kg	0.24	-	12	2.5
Fluorene	0.005	mg/kg	0.008	-	0.56	0.066
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.057	-	4.1	0.29
Naphthalene	0.005	mg/kg	0.023	-	0.70	0.10
Phenanthrene	0.005	mg/kg	0.086	-	8.7	0.63
Pyrene	0.005	mg/kg	0.32	-	12	2.9
Total PAH*	0.005	mg/kg	1.874	-	87.14	11.772
2-Fluorobiphenyl (surr.)	1	%	58	-	148	100
p-Terphenyl-d14 (surr.)	1	%	67	-	65	100

Client Sample ID			J09_2.0	J11_0.5	J11_1.0	J11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021846	M24-De0021847	M24-De0021848	M24-De0021849
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	170	< 50	170
TRH C29-C36	50	mg/kg	< 50	220	< 50	160
TRH C10-C36 (Total)	50	mg/kg	< 50	390	< 50	330
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	320	< 100	290
TRH >C34-C40	100	mg/kg	< 100	190	< 100	110
TRH >C10-C40 (total)*	100	mg/kg	< 100	510	< 100	400
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	73	61	90	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	4.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	4.4
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	4.4
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	0.8
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	3.1
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	2.9
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	2.0
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	2.7
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	3.2
Chrysene	0.5	mg/kg	< 0.5	-	-	2.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	8.8
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	1.4
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	1.6
Pyrene	0.5	mg/kg	< 0.5	-	-	9.8
Total PAH*	0.5	mg/kg	< 0.5	-	-	39
2-Fluorobiphenyl (surr.)	1	%	62	-	-	79
p-Terphenyl-d14 (surr.)	1	%	72	-	-	73

Client Sample ID			J09_2.0	J11_0.5	J11_1.0	J11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021846	M24-De0021847	M24-De0021848	M24-De0021849
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	120	-	-	81
Tetrachloro-m-xylene (surr.)	1	%	139	-	-	126
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	120	-	-	81
Tetrachloro-m-xylene (surr.)	1	%	139	-	-	126
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1

Client Sample ID			J09_2.0	J11_0.5	J11_1.0	J11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021846	M24-De0021847	M24-De0021848	M24-De0021849
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	140	-	-	51
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.012	-	-	2.6
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	7.3	< 2	9.0
Barium	10	mg/kg	250	-	-	72
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	52	-	-	30
Cobalt	5	mg/kg	32	-	-	21
Copper	5	mg/kg	47	-	-	130
Lead	5	mg/kg	9.3	77	6.1	81
Manganese	5	mg/kg	1200	-	-	390
Mercury	0.1	mg/kg	< 0.1	-	-	0.3
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	37	-	-	42
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	11
Zinc	5	mg/kg	30	-	-	62
Sample Properties						
% Moisture	1	%	20	8.5	6.9	9.6
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	< 0.005	0.007	-
Benz(a)anthracene	0.005	mg/kg	-	0.53	0.11	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.34	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.40	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.36	< 0.005	-
Chrysene	0.005	mg/kg	-	0.62	0.19	-

Client Sample ID			J09_2.0	J11_0.5	J11_1.0	J11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021846	M24-De0021847	M24-De0021848	M24-De0021849
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	0.30	0.010	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	0.006	-
Phenanthrene	0.005	mg/kg	-	< 0.005	0.020	-
Pyrene	0.005	mg/kg	-	0.45	0.006	-
Total PAH*	0.005	mg/kg	-	3	0.349	-
2-Fluorobiphenyl (surr.)	1	%	-	57	145	-
p-Terphenyl-d14 (surr.)	1	%	-	102	109	-

Client Sample ID			J11_2.0	M13_0.5	M13_1.0	M13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021850	M24-De0021851	M24-De0021852	M24-De0021853
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	1400	320	140
TRH C29-C36	50	mg/kg	< 50	1500	170	96
TRH C10-C36 (Total)	50	mg/kg	< 50	2900	490	236
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	2700	460	220
TRH >C34-C40	100	mg/kg	< 100	830	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	3530	460	220
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	66	81	98	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	2.6	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	7.6	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	7.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	7.6	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.2	-
Anthracene	0.5	mg/kg	-	-	1.4	-
Benz(a)anthracene	0.5	mg/kg	-	-	4.6	-

Client Sample ID			J11_2.0	M13_0.5	M13_1.0	M13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021850	M24-De0021851	M24-De0021852	M24-De0021853
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	5.2	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	3.4	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	3.0	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	5.0	-
Chrysene	0.5	mg/kg	-	-	5.8	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	0.8	-
Fluoranthene	0.5	mg/kg	-	-	13	-
Fluorene	0.5	mg/kg	-	-	0.9	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	2.2	-
Naphthalene	0.5	mg/kg	-	-	1.1	-
Phenanthrene	0.5	mg/kg	-	-	5.6	-
Pyrene	0.5	mg/kg	-	-	14	-
Total PAH*	0.5	mg/kg	-	-	67	-
2-Fluorobiphenyl (surr.)	1	%	-	-	65	-
p-Terphenyl-d14 (surr.)	1	%	-	-	76	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	62	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	149	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			J11_2.0	M13_0.5	M13_1.0	M13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021850	M24-De0021851	M24-De0021852	M24-De0021853
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	62	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	149	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	52	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	4.1	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	2.5	31	12	15
Barium	10	mg/kg	-	-	780	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.4	-
Chromium	5	mg/kg	-	-	31	-
Cobalt	5	mg/kg	-	-	13	-
Copper	5	mg/kg	-	-	560	-
Lead	5	mg/kg	61	320	9200	740
Manganese	5	mg/kg	-	-	240	-
Mercury	0.1	mg/kg	-	-	1.7	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	36	-

Client Sample ID			J11_2.0	M13_0.5	M13_1.0	M13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021850	M24-De0021851	M24-De0021852	M24-De0021853
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	250	-
Zinc	5	mg/kg	-	-	920	-
Sample Properties						
% Moisture	1	%	11	11	20	22
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.037	0.058	-	0.014
Acenaphthylene	0.005	mg/kg	< 0.005	0.071	-	0.39
Anthracene	0.005	mg/kg	0.006	0.19	-	0.78
Benz(a)anthracene	0.005	mg/kg	0.075	0.43	-	2.3
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.47	-	2.8
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.62	-	2.4
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	0.45	-	2.4
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.54	-	3.0
Chrysene	0.005	mg/kg	0.021	0.66	-	3.3
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.069	-	0.64
Fluoranthene	0.005	mg/kg	0.057	0.84	-	3.6
Fluorene	0.005	mg/kg	0.009	0.064	-	0.078
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.18	-	1.6
Naphthalene	0.005	mg/kg	0.011	0.15	-	0.21
Phenanthrene	0.005	mg/kg	0.053	0.55	-	1.1
Pyrene	0.005	mg/kg	0.23	0.87	-	4.1
Total PAH*	0.005	mg/kg	0.499	6.212	-	28.712
2-Fluorobiphenyl (surr.)	1	%	144	58	-	57
p-Terphenyl-d14 (surr.)	1	%	58	64	-	100

Client Sample ID			I09_0.5	I09_1.0	I09_1.5	I09_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021854	M24-De0021855	M24-De0021856	M24-De0021857
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	69	120	170
TRH C29-C36	50	mg/kg	< 50	170	180	280
TRH C10-C36 (Total)	50	mg/kg	< 50	239	300	450
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	180	250	360
TRH >C34-C40	100	mg/kg	< 100	220	180	300
TRH >C10-C40 (total)*	100	mg/kg	< 100	400	430	660

Client Sample ID			I09_0.5	I09_1.0	I09_1.5	I09_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021854	M24-De0021855	M24-De0021856	M24-De0021857
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	61	144	76	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	2.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	2.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	3.0
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	1.7
Benzo(a)pyrene	0.5	mg/kg	-	-	-	1.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	1.7
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	1.6
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	1.9
Chrysene	0.5	mg/kg	-	-	-	2.1
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	5.9
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	0.9
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	1.4
Pyrene	0.5	mg/kg	-	-	-	6.1
Total PAH*	0.5	mg/kg	-	-	-	25
2-Fluorobiphenyl (surr.)	1	%	-	-	-	58
p-Terphenyl-d14 (surr.)	1	%	-	-	-	91
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			I09_0.5	I09_1.0	I09_1.5	I09_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021854	M24-De0021855	M24-De0021856	M24-De0021857
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	72
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	93
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	72
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	93
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	146
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	1.5

Client Sample ID			I09_0.5	I09_1.0	I09_1.5	I09_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021854	M24-De0021855	M24-De0021856	M24-De0021857
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	11	7.2	8.2
Barium	10	mg/kg	-	-	-	90
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	20
Cobalt	5	mg/kg	-	-	-	15
Copper	5	mg/kg	-	-	-	87
Lead	5	mg/kg	5.8	48	130	120
Manganese	5	mg/kg	-	-	-	410
Mercury	0.1	mg/kg	-	-	-	0.3
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	27
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	16
Zinc	5	mg/kg	-	-	-	190
Sample Properties						
% Moisture	1	%	12	13	11	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	0.097	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	0.14	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.22	1.4	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.19	1.7	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.17	0.92	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	0.81	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.12	0.83	-
Chrysene	0.005	mg/kg	< 0.005	0.21	1.1	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	0.077	-
Fluoranthene	0.005	mg/kg	0.014	0.28	2.1	-
Fluorene	0.005	mg/kg	< 0.005	0.008	0.068	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	0.28	-
Naphthalene	0.005	mg/kg	< 0.005	0.028	0.097	-
Phenanthrene	0.005	mg/kg	0.008	0.18	0.36	-
Pyrene	0.005	mg/kg	0.014	0.33	2.3	-
Total PAH*	0.005	mg/kg	0.036	1.736	12.279	-
2-Fluorobiphenyl (surr.)	1	%	53	50	55	-
p-Terphenyl-d14 (surr.)	1	%	116	103	97	-

Client Sample ID			I09_2.5	L13_0.5	L13_1.0	L13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021858	M24-De0021859	M24-De0021860	M24-De0021861
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	180	110	430	100
TRH C29-C36	50	mg/kg	< 50	80	280	76
TRH C10-C36 (Total)	50	mg/kg	180	190	710	176
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	230	170	640	170
TRH >C34-C40	100	mg/kg	< 100	< 100	170	< 100
TRH >C10-C40 (total)*	100	mg/kg	230	170	810	170
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	70	86	78	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	25	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	25	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	25	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.5	-
Anthracene	0.5	mg/kg	-	-	2.8	-
Benz(a)anthracene	0.5	mg/kg	-	-	13	-
Benzo(a)pyrene	0.5	mg/kg	-	-	18	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	11	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	6.1	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	18	-
Chrysene	0.5	mg/kg	-	-	16	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.8	-
Fluoranthene	0.5	mg/kg	-	-	34	-
Fluorene	0.5	mg/kg	-	-	1.2	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	5.0	-
Naphthalene	0.5	mg/kg	-	-	1.1	-
Phenanthrene	0.5	mg/kg	-	-	9.8	-
Pyrene	0.5	mg/kg	-	-	37	-
Total PAH*	0.5	mg/kg	-	-	180	-
2-Fluorobiphenyl (surr.)	1	%	-	-	79	-
p-Terphenyl-d14 (surr.)	1	%	-	-	71	-

Client Sample ID			I09_2.5	L13_0.5	L13_1.0	L13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021858	M24-De0021859	M24-De0021860	M24-De0021861
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	97	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	82	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	97	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	82	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			I09_2.5	L13_0.5	L13_1.0	L13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021858	M24-De0021859	M24-De0021860	M24-De0021861
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	137	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	15	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	2.9	2.1	12	< 2
Barium	10	mg/kg	-	-	130	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	19	-
Cobalt	5	mg/kg	-	-	13	-
Copper	5	mg/kg	-	-	340	-
Lead	5	mg/kg	43	180	790	20
Manganese	5	mg/kg	-	-	320	-
Mercury	0.1	mg/kg	-	-	0.6	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	34	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	46	-
Zinc	5	mg/kg	-	-	370	-
Sample Properties						
% Moisture	1	%	22	10	16	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.007	< 0.005	-	0.029
Acenaphthylene	0.005	mg/kg	0.022	< 0.005	-	0.27
Anthracene	0.005	mg/kg	0.032	< 0.005	-	0.84
Benz(a)anthracene	0.005	mg/kg	0.14	2.2	-	2.4
Benzo(a)pyrene - low level	0.005	mg/kg	0.013	3.4	-	2.6
Benzo(b&j)fluoranthene	0.005	mg/kg	0.041	2.0	-	2.5
Benzo(g.h.i)perylene	0.005	mg/kg	0.040	1.7	-	3.2
Benzo(k)fluoranthene	0.005	mg/kg	0.046	2.3	-	2.6
Chrysene	0.005	mg/kg	0.11	1.9	-	4.2

Client Sample ID			I09_2.5	L13_0.5	L13_1.0	L13_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021858	M24-De0021859	M24-De0021860	M24-De0021861
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.78
Fluoranthene	0.005	mg/kg	0.20	3.4	-	3.4
Fluorene	0.005	mg/kg	0.015	< 0.005	-	0.18
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.056	0.86	-	3.5
Naphthalene	0.005	mg/kg	0.024	< 0.005	-	0.21
Phenanthrene	0.005	mg/kg	0.081	0.66	-	1.4
Pyrene	0.005	mg/kg	0.20	4.0	-	3.8
Total PAH*	0.005	mg/kg	1.027	22.42	-	31.909
2-Fluorobiphenyl (surr.)	1	%	62	145	-	62
p-Terphenyl-d14 (surr.)	1	%	132	71	-	93

Client Sample ID			L14_0.5	L14_1.0	L14_1.5	L15_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021862	M24-De0021863	M24-De0021864	M24-De0021865
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	280	290	< 50
TRH C29-C36	50	mg/kg	< 50	190	260	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	470	550	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	440	510	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	440	510	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	98	93	96	113
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	13	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	13	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	13	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	0.6	< 0.5
Anthracene	0.5	mg/kg	-	-	1.1	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	5.8	< 0.5

Client Sample ID			L14_0.5	L14_1.0	L14_1.5	L15_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021862	M24-De0021863	M24-De0021864	M24-De0021865
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	9.1	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	6.1	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	5.7	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	9.0	< 0.5
Chrysene	0.5	mg/kg	-	-	6.4	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.7	< 0.5
Fluoranthene	0.5	mg/kg	-	-	12	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	4.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	0.6	< 0.5
Phenanthrene	0.5	mg/kg	-	-	3.3	< 0.5
Pyrene	0.5	mg/kg	-	-	12	< 0.5
Total PAH*	0.5	mg/kg	-	-	78	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	63	55
p-Terphenyl-d14 (surr.)	1	%	-	-	73	86
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	84	60
Tetrachloro-m-xylene (surr.)	1	%	-	-	102	109
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1

Client Sample ID			L14_0.5	L14_1.0	L14_1.5	L15_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021862	M24-De0021863	M24-De0021864	M24-De0021865
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	84	60
Tetrachloro-m-xylene (surr.)	1	%	-	-	102	109
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5	< 5
Dinoseb	20	mg/kg	-	-	< 20	< 20
Phenol	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	-	146	145
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	6.9	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Cyanide (total)	5	mg/kg	-	-	22	< 5
Fluoride	100	mg/kg	-	-	190	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	24	4.9	2.2
Barium	10	mg/kg	-	-	140	26
Beryllium	2	mg/kg	-	-	< 2	< 2
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	7.9	19
Cobalt	5	mg/kg	-	-	9.9	10
Copper	5	mg/kg	-	-	71	53
Lead	5	mg/kg	9.7	340	250	19
Manganese	5	mg/kg	-	-	210	260
Mercury	0.1	mg/kg	-	-	0.5	< 0.1
Molybdenum	5	mg/kg	-	-	< 5	< 5
Nickel	5	mg/kg	-	-	15	18

Client Sample ID			L14_0.5	L14_1.0	L14_1.5	L15_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021862	M24-De0021863	M24-De0021864	M24-De0021865
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	< 2
Silver	2	mg/kg	-	-	< 2	< 2
Tin	10	mg/kg	-	-	16	< 10
Zinc	5	mg/kg	-	-	140	94
Sample Properties						
% Moisture	1	%	12	34	24	9.9
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.041	-	-
Acenaphthylene	0.005	mg/kg	< 0.005	0.39	-	-
Anthracene	0.005	mg/kg	0.011	0.79	-	-
Benz(a)anthracene	0.005	mg/kg	0.036	4.4	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	5.8	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	4.4	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	2.8	-	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	3.4	-	-
Chrysene	0.005	mg/kg	0.028	6.7	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.51	-	-
Fluoranthene	0.005	mg/kg	0.064	7.3	-	-
Fluorene	0.005	mg/kg	< 0.005	0.34	-	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	1.3	-	-
Naphthalene	0.005	mg/kg	0.006	0.32	-	-
Phenanthrene	0.005	mg/kg	0.020	2.0	-	-
Pyrene	0.005	mg/kg	0.017	8.2	-	-
Total PAH*	0.005	mg/kg	0.182	48.691	-	-
2-Fluorobiphenyl (surr.)	1	%	149	57	-	-
p-Terphenyl-d14 (surr.)	1	%	58	86	-	-

Client Sample ID			L15_1.0	L15_1.5	O13_0.5	O13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021866	M24-De0021867	M24-De0021868	M24-De0021869
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	22	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	1100	< 50	120
TRH C29-C36	50	mg/kg	< 50	630	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	1730	< 50	120
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1600	< 100	160
TRH >C34-C40	100	mg/kg	< 100	260	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	1860	< 100	160

Client Sample ID			L15_1.0	L15_1.5	O13_0.5	O13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021866	M24-De0021867	M24-De0021868	M24-De0021869
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	120	122	60	62
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	6.0	14
Lead	5	mg/kg	12	96	75	230
Sample Properties						
% Moisture	1	%	12	13	12	32
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.20	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	0.006	0.31	< 0.005	0.16
Anthracene	0.005	mg/kg	0.008	3.4	0.026	0.55
Benz(a)anthracene	0.005	mg/kg	< 0.005	8.1	0.027	2.6
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	11	< 0.005	1.5
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	5.8	< 0.005	1.2
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	3.6	< 0.005	1.4
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	6.8	< 0.005	1.3
Chrysene	0.005	mg/kg	< 0.005	6.1	0.071	2.9
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	1.1	< 0.005	0.11
Fluoranthene	0.005	mg/kg	0.036	17	0.024	5.5
Fluorene	0.005	mg/kg	< 0.005	1.4	0.006	0.13
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	3.1	< 0.005	0.97
Naphthalene	0.005	mg/kg	< 0.005	0.15	0.031	0.12
Phenanthrene	0.005	mg/kg	0.021	6.7	0.089	1.3
Pyrene	0.005	mg/kg	0.040	17	0.043	6.6
Total PAH*	0.005	mg/kg	0.111	91.76	0.317	26.34
2-Fluorobiphenyl (surr.)	1	%	57	51	100	143
p-Terphenyl-d14 (surr.)	1	%	118	65	88	91

Client Sample ID			O13_1.5	H09_0.5	H09_1.0	H09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021870	M24-De0021871	M24-De0021872	M24-De0021873
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	29	< 20
TRH C15-C28	50	mg/kg	370	150	710	< 50
TRH C29-C36	50	mg/kg	260	460	530	< 50
TRH C10-C36 (Total)	50	mg/kg	630	610	1269	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			O13_1.5	H09_0.5	H09_1.0	H09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021870	M24-De0021871	M24-De0021872	M24-De0021873
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	110	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	110	< 50
TRH >C16-C34	100	mg/kg	590	410	1100	< 100
TRH >C34-C40	100	mg/kg	< 100	860	250	< 100
TRH >C10-C40 (total)*	100	mg/kg	590	1270	1460	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99	130	53	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	17	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	17	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	17	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	0.9	-	-	< 0.5
Anthracene	0.5	mg/kg	1.0	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	5.6	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	8.9	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	7.0	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	11	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	8.9	-	-	< 0.5
Chrysene	0.5	mg/kg	5.9	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	4.1	-	-	< 0.5
Fluoranthene	0.5	mg/kg	8.1	-	-	0.6
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	12	-	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	1.8	-	-	< 0.5
Pyrene	0.5	mg/kg	11	-	-	0.6
Total PAH*	0.5	mg/kg	86	-	-	1.2
2-Fluorobiphenyl (surr.)	1	%	55	-	-	65
p-Terphenyl-d14 (surr.)	1	%	73	-	-	78
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			O13_1.5	H09_0.5	H09_1.0	H09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021870	M24-De0021871	M24-De0021872	M24-De0021873
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	59	-	-	69
Tetrachloro-m-xylene (surr.)	1	%	100	-	-	141
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	59	-	-	69
Tetrachloro-m-xylene (surr.)	1	%	100	-	-	141
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5

Client Sample ID			O13_1.5	H09_0.5	H09_1.0	H09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021870	M24-De0021871	M24-De0021872	M24-De0021873
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	142	-	-	144
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	6.7	-	-	0.11
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	5.4	2.4	14	10
Barium	10	mg/kg	120	-	-	76
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	9.7	-	-	18
Cobalt	5	mg/kg	27	-	-	17
Copper	5	mg/kg	140	-	-	78
Lead	5	mg/kg	380	19	100	66
Manganese	5	mg/kg	230	-	-	350
Mercury	0.1	mg/kg	1.7	-	-	0.2
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	160	-	-	28
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	51	-	-	40
Zinc	5	mg/kg	370	-	-	120
Sample Properties						
% Moisture	1	%	25	8.3	18	9.0
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	0.081	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	0.048	-
Anthracene	0.005	mg/kg	-	< 0.005	0.25	-
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	0.56	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	0.38	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	0.37	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	0.37	-
Chrysene	0.005	mg/kg	-	< 0.005	0.62	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	< 0.005	1.0	-
Fluorene	0.005	mg/kg	-	< 0.005	0.17	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	0.17	-
Phenanthrene	0.005	mg/kg	-	< 0.005	0.57	-
Pyrene	0.005	mg/kg	-	< 0.005	1.2	-
Total PAH*	0.005	mg/kg	-	< 0.005	5.789	-

Client Sample ID			O13_1.5	H09_0.5	H09_1.0	H09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021870	M24-De0021871	M24-De0021872	M24-De0021873
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
2-Fluorobiphenyl (surr.)	1	%	-	147	100	-
p-Terphenyl-d14 (surr.)	1	%	-	131	58	-

Client Sample ID			H09_2.0	H09_2.5	H09_3.0	E09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021874	M24-De0021875	M24-De0021876	M24-De0021877
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	55	780	< 20
TRH C15-C28	50	mg/kg	150	270	2700	< 50
TRH C29-C36	50	mg/kg	260	< 50	930	< 50
TRH C10-C36 (Total)	50	mg/kg	410	325	4410	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	170	1300	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	170	1294.4	< 50
TRH >C16-C34	100	mg/kg	320	140	2900	< 100
TRH >C34-C40	100	mg/kg	310	< 100	790	< 100
TRH >C10-C40 (total)*	100	mg/kg	630	310	4990	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	96	88	114	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	5.6	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	71	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	71	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	71	-
Acenaphthene	0.5	mg/kg	-	-	18	-
Acenaphthylene	0.5	mg/kg	-	-	11	-
Anthracene	0.5	mg/kg	-	-	62	-
Benz(a)anthracene	0.5	mg/kg	-	-	57	-
Benzo(a)pyrene	0.5	mg/kg	-	-	50	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	36	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	16	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	31	-
Chrysene	0.5	mg/kg	-	-	48	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	6.4	-
Fluoranthene	0.5	mg/kg	-	-	120	-
Fluorene	0.5	mg/kg	-	-	49	-

Client Sample ID			H09_2.0	H09_2.5	H09_3.0	E09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021874	M24-De0021875	M24-De0021876	M24-De0021877
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	14	-
Naphthalene	0.5	mg/kg	-	-	9.5	-
Phenanthrene	0.5	mg/kg	-	-	190	-
Pyrene	0.5	mg/kg	-	-	120	-
Total PAH*	0.5	mg/kg	-	-	840	-
2-Fluorobiphenyl (surr.)	1	%	-	-	59	-
p-Terphenyl-d14 (surr.)	1	%	-	-	79	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	54	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	137	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	54	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	137	-

Client Sample ID			H09_2.0	H09_2.5	H09_3.0	E09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021874	M24-De0021875	M24-De0021876	M24-De0021877
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	0.9	-
Total cresols*	0.5	mg/kg	-	-	0.9	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	1.2	-
Phenol-d6 (surr.)	1	%	-	-	99	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	43	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	3.5	2.2	< 2	8.0
Barium	10	mg/kg	-	-	82	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	6.2	-
Cobalt	5	mg/kg	-	-	6.5	-
Copper	5	mg/kg	-	-	46	-
Lead	5	mg/kg	27	66	88	140
Manganese	5	mg/kg	-	-	320	-
Mercury	0.1	mg/kg	-	-	0.5	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	7.6	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	49	-
Sample Properties						
% Moisture	1	%	13	15	13	14

Client Sample ID			H09_2.0	H09_2.5	H09_3.0	E09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021874	M24-De0021875	M24-De0021876	M24-De0021877
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.008	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	0.075	< 0.005	-	0.040
Benz(a)anthracene	0.005	mg/kg	0.17	0.032	-	0.15
Benzo(a)pyrene - low level	0.005	mg/kg	0.10	< 0.005	-	0.082
Benzo(b&j)fluoranthene	0.005	mg/kg	0.11	< 0.005	-	0.11
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.13	< 0.005	-	0.11
Chrysene	0.005	mg/kg	0.13	0.090	-	0.12
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	0.28	0.020	-	0.24
Fluorene	0.005	mg/kg	0.042	0.051	-	0.008
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	0.034	0.12	-	0.018
Phenanthrene	0.005	mg/kg	0.16	0.014	-	0.092
Pyrene	0.005	mg/kg	0.39	0.042	-	0.28
Total PAH*	0.005	mg/kg	1.629	0.369	-	1.25
2-Fluorobiphenyl (surr.)	1	%	56	67	-	147
p-Terphenyl-d14 (surr.)	1	%	94	68	-	104

Client Sample ID			E09_1.0	E09_1.5	E09_2.0	E09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021878	M24-De0021879	M24-De0021880	M24-De0021881
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	113	120	116	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			E09_1.0	E09_1.5	E09_2.0	E09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021878	M24-De0021879	M24-De0021880	M24-De0021881
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.7	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	0.7	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chrysene	0.5	mg/kg	0.9	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	2.9	-	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Pyrene	0.5	mg/kg	2.8	-	-	< 0.5
Total PAH*	0.5	mg/kg	7.3	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	68	-	-	129
p-Terphenyl-d14 (surr.)	1	%	113	-	-	129
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	126	-	-	100
Tetrachloro-m-xylene (surr.)	1	%	144	-	-	76

Client Sample ID			E09_1.0	E09_1.5	E09_2.0	E09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021878	M24-De0021879	M24-De0021880	M24-De0021881
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	126	-	-	100
Tetrachloro-m-xylene (surr.)	1	%	144	-	-	76
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	52	-	-	118
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	5.6	< 2	17	< 2
Barium	10	mg/kg	97	-	-	46
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	17	-	-	26
Cobalt	5	mg/kg	18	-	-	17
Copper	5	mg/kg	62	-	-	59

Client Sample ID			E09_1.0	E09_1.5	E09_2.0	E09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021878	M24-De0021879	M24-De0021880	M24-De0021881
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	190	28	96	27
Manganese	5	mg/kg	460	-	-	350
Mercury	0.1	mg/kg	0.6	-	-	0.1
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	38	-	-	24
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	39	-	-	22
Zinc	5	mg/kg	100	-	-	43
Sample Properties						
% Moisture	1	%	12	8.1	14	8.7
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	0.006	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	0.016	-
Anthracene	0.005	mg/kg	-	0.23	0.063	-
Benz(a)anthracene	0.005	mg/kg	-	0.44	0.22	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.18	0.32	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.22	0.11	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	0.13	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.21	0.12	-
Chrysene	0.005	mg/kg	-	0.49	0.15	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	0.019	-
Fluoranthene	0.005	mg/kg	-	1.1	0.29	-
Fluorene	0.005	mg/kg	-	0.020	0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	0.049	-
Naphthalene	0.005	mg/kg	-	0.17	0.018	-
Phenanthrene	0.005	mg/kg	-	0.35	0.11	-
Pyrene	0.005	mg/kg	-	1.1	0.36	-
Total PAH*	0.005	mg/kg	-	4.51	1.986	-
2-Fluorobiphenyl (surr.)	1	%	-	138	62	-
p-Terphenyl-d14 (surr.)	1	%	-	101	62	-

Client Sample ID			E09_3.5	E09_4.0	E09_4.5	G09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021882	M24-De0021883	M24-De0021884	M24-De0021885
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	410
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	410
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	820
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			E09_3.5	E09_4.0	E09_4.5	G09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021882	M24-De0021883	M24-De0021884	M24-De0021885
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	710
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	260
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	970
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	80	107	124
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	70	-
p-Terphenyl-d14 (surr.)	1	%	-	-	92	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			E09_3.5	E09_4.0	E09_4.5	G09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021882	M24-De0021883	M24-De0021884	M24-De0021885
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	107	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	107	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			E09_3.5	E09_4.0	E09_4.5	G09_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021882	M24-De0021883	M24-De0021884	M24-De0021885
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	-	-	146	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	6.1
Barium	10	mg/kg	-	-	37	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	20	-
Cobalt	5	mg/kg	-	-	15	-
Copper	5	mg/kg	-	-	59	-
Lead	5	mg/kg	< 5	< 5	< 5	110
Manganese	5	mg/kg	-	-	1300	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	21	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	27	-
Sample Properties						
% Moisture	1	%	5.8	15	3.2	10
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.38
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	0.28
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.36
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	0.40
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	1.3
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	0.32
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	1.1
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	4.14
2-Fluorobiphenyl (surr.)	1	%	143	145	-	138
p-Terphenyl-d14 (surr.)	1	%	50	141	-	139

Client Sample ID			G09_1.0	G09_1.5	G09_2.0	G09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021886	M24-De0021887	M24-De0021888	M24-De0021889
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	100	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	80	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	180	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	180	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	180	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	115	133	97	131
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	1.6	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.9	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	2.1	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	1.1	-	-
Benzo(a)pyrene	0.5	mg/kg	-	1.1	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	1.2	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	1.2	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	1.6	-	-
Chrysene	0.5	mg/kg	-	1.3	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	1.2	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	1.3	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	1.5	-	-
Total PAH*	0.5	mg/kg	-	12	-	-
2-Fluorobiphenyl (surr.)	1	%	-	85	-	-
p-Terphenyl-d14 (surr.)	1	%	-	72	-	-

Client Sample ID			G09_1.0	G09_1.5	G09_2.0	G09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021886	M24-De0021887	M24-De0021888	M24-De0021889
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	94	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	115	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	94	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	115	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			G09_1.0	G09_1.5	G09_2.0	G09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021886	M24-De0021887	M24-De0021888	M24-De0021889
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	58	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.87	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	5.6	< 2	3.9	< 2
Barium	10	mg/kg	-	140	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	17	-	-
Cobalt	5	mg/kg	-	17	-	-
Copper	5	mg/kg	-	70	-	-
Lead	5	mg/kg	210	130	58	10
Manganese	5	mg/kg	-	290	-	-
Mercury	0.1	mg/kg	-	1.9	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	23	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	140	-	-
Sample Properties						
% Moisture	1	%	18	19	21	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	0.040	< 0.005
Anthracene	0.005	mg/kg	0.33	-	0.067	< 0.005
Benz(a)anthracene	0.005	mg/kg	1.1	-	0.34	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	1.4	-	0.38	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	1.1	-	0.27	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	0.37	-	0.14	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	1.3	-	0.26	< 0.005
Chrysene	0.005	mg/kg	1.0	-	0.33	< 0.005

Client Sample ID			G09_1.0	G09_1.5	G09_2.0	G09_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021886	M24-De0021887	M24-De0021888	M24-De0021889
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	0.032	< 0.005
Fluoranthene	0.005	mg/kg	2.4	-	0.57	< 0.005
Fluorene	0.005	mg/kg	< 0.005	-	0.012	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.46	-	0.12	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	-	0.021	< 0.005
Phenanthrene	0.005	mg/kg	0.54	-	0.19	< 0.005
Pyrene	0.005	mg/kg	2.6	-	0.58	< 0.005
Total PAH*	0.005	mg/kg	12.6	-	3.352	< 0.005
2-Fluorobiphenyl (surr.)	1	%	144	-	63	61
p-Terphenyl-d14 (surr.)	1	%	138	-	90	108

Client Sample ID			G09_3.0	G09_3.5	G10_0.5	G10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021890	M24-De0021891	M24-De0021892	M24-De0021893
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	28	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	63	150
TRH C29-C36	50	mg/kg	< 50	< 50	170	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	233	150
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	170	130
TRH >C34-C40	100	mg/kg	< 100	< 100	260	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	430	130
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	69	66	94	99
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			G09_3.0	G09_3.5	G10_0.5	G10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021890	M24-De0021891	M24-De0021892	M24-De0021893
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	71	-	-
p-Terphenyl-d14 (surr.)	1	%	-	81	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	142	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	76	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-

Client Sample ID			G09_3.0	G09_3.5	G10_0.5	G10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021890	M24-De0021891	M24-De0021892	M24-De0021893
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	142	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	76	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	147	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.017	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.9	2.9	< 2
Barium	10	mg/kg	-	310	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	22	-	-
Cobalt	5	mg/kg	-	43	-	-
Copper	5	mg/kg	-	130	-	-
Lead	5	mg/kg	8.9	17	42	120
Manganese	5	mg/kg	-	400	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	31	-	-

Client Sample ID			G09_3.0	G09_3.5	G10_0.5	G10_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021890	M24-De0021891	M24-De0021892	M24-De0021893
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	49	-	-
Sample Properties						
% Moisture	1	%	19	26	5.6	8.2
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	0.012
Acenaphthylene	0.005	mg/kg	< 0.005	-	0.027	0.057
Anthracene	0.005	mg/kg	< 0.005	-	0.13	0.10
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	0.19	0.46
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.21	0.46
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	0.13	0.36
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	0.14	0.25
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	0.18	0.33
Chrysene	0.005	mg/kg	< 0.005	-	0.19	0.67
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	0.023	0.062
Fluoranthene	0.005	mg/kg	< 0.005	-	0.29	0.52
Fluorene	0.005	mg/kg	< 0.005	-	0.035	0.053
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	0.058	0.15
Naphthalene	0.005	mg/kg	< 0.005	-	0.039	0.075
Phenanthrene	0.005	mg/kg	< 0.005	-	0.26	0.23
Pyrene	0.005	mg/kg	< 0.005	-	0.35	0.51
Total PAH*	0.005	mg/kg	< 0.005	-	2.252	4.299
2-Fluorobiphenyl (surr.)	1	%	56	-	58	121
p-Terphenyl-d14 (surr.)	1	%	113	-	74	57

Client Sample ID			G10_1.5	G10_2.0	G10_2.5	G10_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021894	M24-De0021895	M24-De0021896	M24-De0021897
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	73	990	< 20	< 20
TRH C15-C28	50	mg/kg	440	3800	< 50	< 50
TRH C29-C36	50	mg/kg	53	1200	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	566	5990	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	210	2000	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	210	2000	< 50	< 50
TRH >C16-C34	100	mg/kg	360	3900	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	680	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	570	6580	< 100	< 100

Client Sample ID			G10_1.5	G10_2.0	G10_2.5	G10_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021894	M24-De0021895	M24-De0021896	M24-De0021897
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	100	122	90	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	67	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	67	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	67	-	-
Acenaphthene	0.5	mg/kg	-	1.3	-	-
Acenaphthylene	0.5	mg/kg	-	6.2	-	-
Anthracene	0.5	mg/kg	-	6.8	-	-
Benz(a)anthracene	0.5	mg/kg	-	29	-	-
Benzo(a)pyrene	0.5	mg/kg	-	46	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	28	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	34	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	36	-	-
Chrysene	0.5	mg/kg	-	35	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	7.2	-	-
Fluoranthene	0.5	mg/kg	-	41	-	-
Fluorene	0.5	mg/kg	-	2.8	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	35	-	-
Naphthalene	0.5	mg/kg	-	2.3	-	-
Phenanthrene	0.5	mg/kg	-	21	-	-
Pyrene	0.5	mg/kg	-	49	-	-
Total PAH*	0.5	mg/kg	-	380	-	-
2-Fluorobiphenyl (surr.)	1	%	-	71	-	-
p-Terphenyl-d14 (surr.)	1	%	-	60	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			G10_1.5	G10_2.0	G10_2.5	G10_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021894	M24-De0021895	M24-De0021896	M24-De0021897
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	137	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	106	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.2	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.2	-	-
Total PCB*	0.1	mg/kg	-	< 0.2	-	-
Dibutylchlorendate (surr.)	1	%	-	137	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	106	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	0.5	-	-
Phenol-d6 (surr.)	1	%	-	144	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	35	-	-

Client Sample ID			G10_1.5	G10_2.0	G10_2.5	G10_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021894	M24-De0021895	M24-De0021896	M24-De0021897
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.3	4.3	< 2
Barium	10	mg/kg	-	130	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	23	-	-
Cobalt	5	mg/kg	-	16	-	-
Copper	5	mg/kg	-	140	-	-
Lead	5	mg/kg	77	120	350	16
Manganese	5	mg/kg	-	390	-	-
Mercury	0.1	mg/kg	-	0.4	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	27	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	39	-	-
Zinc	5	mg/kg	-	110	-	-
Sample Properties						
% Moisture	1	%	12	25	15	11
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.024	-	0.014	< 0.005
Acenaphthylene	0.005	mg/kg	0.073	-	0.036	< 0.005
Anthracene	0.005	mg/kg	0.13	-	0.11	< 0.005
Benz(a)anthracene	0.005	mg/kg	0.45	-	0.28	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	0.61	-	0.030	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	0.47	-	< 0.005	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	0.30	-	0.18	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.43	-	< 0.005	< 0.005
Chrysene	0.005	mg/kg	0.81	-	0.23	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	0.064	-	0.026	< 0.005
Fluoranthene	0.005	mg/kg	0.66	-	0.34	< 0.005
Fluorene	0.005	mg/kg	0.16	-	0.015	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.20	-	0.15	< 0.005
Naphthalene	0.005	mg/kg	0.15	-	0.039	< 0.005
Phenanthrene	0.005	mg/kg	0.49	-	0.17	< 0.005
Pyrene	0.005	mg/kg	0.71	-	0.38	< 0.005
Total PAH*	0.005	mg/kg	5.731	-	2	< 0.005
2-Fluorobiphenyl (surr.)	1	%	124	-	66	57
p-Terphenyl-d14 (surr.)	1	%	60	-	101	138

Client Sample ID			G10_3.5	F10_0.5	F10_1.0	F10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021898	M24-De0021899	M24-De0021900	M24-De0021901
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	180	520
TRH C15-C28	50	mg/kg	< 50	< 50	4800	2100
TRH C29-C36	50	mg/kg	< 50	< 50	1500	450
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	6480	3070
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	1100	1700
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	1100	1700
TRH >C16-C34	100	mg/kg	< 100	< 100	5100	2200
TRH >C34-C40	100	mg/kg	< 100	< 100	640	280
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	6840	4180
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	67	82	91	125
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	65	-	-
p-Terphenyl-d14 (surr.)	1	%	-	68	-	-

Client Sample ID			G10_3.5	F10_0.5	F10_1.0	F10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021898	M24-De0021899	M24-De0021900	M24-De0021901
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	95	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	99	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	95	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	99	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			G10_3.5	F10_0.5	F10_1.0	F10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021898	M24-De0021899	M24-De0021900	M24-De0021901
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	145	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.7	2.7	< 2	< 2
Barium	10	mg/kg	-	39	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	0.7	-	-
Chromium	5	mg/kg	-	13	-	-
Cobalt	5	mg/kg	-	17	-	-
Copper	5	mg/kg	-	74	-	-
Lead	5	mg/kg	20	16	< 5	< 5
Manganese	5	mg/kg	-	490	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	40	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	100	-	-
Sample Properties						
% Moisture	1	%	9.2	5.5	4.9	5.4
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	0.083
Acenaphthylene	0.005	mg/kg	< 0.005	-	0.027	0.030
Anthracene	0.005	mg/kg	< 0.005	-	0.033	0.040
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	0.13	0.062
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.11	0.094
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	0.055	0.021
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	0.11	0.083
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	0.056	0.025
Chrysene	0.005	mg/kg	< 0.005	-	0.16	0.092

Client Sample ID			G10_3.5	F10_0.5	F10_1.0	F10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021898	M24-De0021899	M24-De0021900	M24-De0021901
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	0.012	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	-	0.079	0.047
Fluorene	0.005	mg/kg	< 0.005	-	0.12	0.13
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	0.036	0.024
Naphthalene	0.005	mg/kg	< 0.005	-	0.014	0.017
Phenanthrene	0.005	mg/kg	< 0.005	-	0.15	0.11
Pyrene	0.005	mg/kg	< 0.005	-	0.21	0.093
Total PAH*	0.005	mg/kg	< 0.005	-	1.302	0.951
2-Fluorobiphenyl (surr.)	1	%	140	-	79	64
p-Terphenyl-d14 (surr.)	1	%	144	-	98	80

Client Sample ID			F10_2.0	F10_2.5	F10_3.0	F10_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021902	M24-De0021903	M24-De0021904	M24-De0021905
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	410	75	< 20	< 20
TRH C15-C28	50	mg/kg	2200	250	63	< 50
TRH C29-C36	50	mg/kg	530	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	3140	325	63	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	1000	190	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	1000	190	< 50	< 50
TRH >C16-C34	100	mg/kg	2100	160	< 100	< 100
TRH >C34-C40	100	mg/kg	220	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	3320	350	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	124	91	103	106
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			F10_2.0	F10_2.5	F10_3.0	F10_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021902	M24-De0021903	M24-De0021904	M24-De0021905
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	147	-
p-Terphenyl-d14 (surr.)	1	%	-	-	139	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	142	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	141	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			F10_2.0	F10_2.5	F10_3.0	F10_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021902	M24-De0021903	M24-De0021904	M24-De0021905
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	142	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	141	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	113	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	38	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	9.3	-
Cobalt	5	mg/kg	-	-	19	-
Copper	5	mg/kg	-	-	93	-
Lead	5	mg/kg	13	18	< 5	< 5
Manganese	5	mg/kg	-	-	310	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	22	-

Client Sample ID			F10_2.0	F10_2.5	F10_3.0	F10_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021902	M24-De0021903	M24-De0021904	M24-De0021905
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	43	-
Sample Properties						
% Moisture	1	%	8.9	7.8	6.8	12
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.013	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	0.29	0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.007	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.006	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.006	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.007	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	0.009	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	0.014	-	< 0.005
Fluorene	0.005	mg/kg	0.77	0.014	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.005	-	< 0.005
Naphthalene	0.005	mg/kg	0.40	0.013	-	< 0.005
Phenanthrene	0.005	mg/kg	0.72	0.014	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	0.011	-	< 0.005
Total PAH*	0.005	mg/kg	2.18	0.129	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	81	123	-	136
p-Terphenyl-d14 (surr.)	1	%	136	117	-	99

Client Sample ID			E10_0.5	E10_1.0	E10_1.5	E10_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021906	M24-De0021907	M24-De0021908	M24-De0021909
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	250	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	250	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	53	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	53	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	320	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	373	< 100	< 100	< 100

Client Sample ID			E10_0.5	E10_1.0	E10_1.5	E10_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021906	M24-De0021907	M24-De0021908	M24-De0021909
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	126	72	87	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	121	-
p-Terphenyl-d14 (surr.)	1	%	-	-	100	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			E10_0.5	E10_1.0	E10_1.5	E10_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021906	M24-De0021907	M24-De0021908	M24-De0021909
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	64	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	83	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	64	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	83	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	119	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-

Client Sample ID			E10_0.5	E10_1.0	E10_1.5	E10_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021906	M24-De0021907	M24-De0021908	M24-De0021909
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	3.4	4.0	< 2	< 2
Barium	10	mg/kg	-	-	27	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	34	-
Cobalt	5	mg/kg	-	-	20	-
Copper	5	mg/kg	-	-	82	-
Lead	5	mg/kg	120	63	< 5	< 5
Manganese	5	mg/kg	-	-	540	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	28	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	38	-
Sample Properties						
% Moisture	1	%	10	20	6.7	7.2
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.011	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.040	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	0.16	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	0.48	< 0.005	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	0.53	< 0.005	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	0.31	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	0.52	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.34	< 0.005	-	< 0.005
Chrysene	0.005	mg/kg	0.61	< 0.005	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	0.091	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	0.68	< 0.005	-	< 0.005
Fluorene	0.005	mg/kg	0.036	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.19	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	0.16	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	0.49	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	0.94	< 0.005	-	< 0.005
Total PAH*	0.005	mg/kg	5.588	< 0.005	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	65	134	-	143
p-Terphenyl-d14 (surr.)	1	%	79	85	-	144

Client Sample ID			E10_2.5	E10_3.0	E10_3.5	QC143
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021910	M24-De0021911	M24-De0021912	M24-De0021913
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	230	360	54	< 20
TRH C15-C28	50	mg/kg	920	1500	230	260
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	65
TRH C10-C36 (Total)	50	mg/kg	1150	1860	284	325
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	540	880	140	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	540	880	140	< 50
TRH >C16-C34	100	mg/kg	650	960	160	420
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1190	1840	300	420
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	133	122	102	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	2.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	3.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	3.3
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	1.7
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	2.2
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	1.6
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	0.7
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	1.6
Chrysene	0.5	mg/kg	< 0.5	-	-	1.6
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	4.8
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	0.9
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	1.7
Pyrene	0.5	mg/kg	< 0.5	-	-	3.5
Total PAH*	0.5	mg/kg	< 0.5	-	-	20
2-Fluorobiphenyl (surr.)	1	%	52	-	-	142
p-Terphenyl-d14 (surr.)	1	%	55	-	-	137

Client Sample ID			E10_2.5	E10_3.0	E10_3.5	QC143
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021910	M24-De0021911	M24-De0021912	M24-De0021913
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	53	-	-	59
Tetrachloro-m-xylene (surr.)	1	%	51	-	-	139
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	53	-	-	59
Tetrachloro-m-xylene (surr.)	1	%	51	-	-	139
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1

Client Sample ID			E10_2.5	E10_3.0	E10_3.5	QC143
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021910	M24-De0021911	M24-De0021912	M24-De0021913
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	112	-	-	92
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	1.8
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	7.7
Barium	10	mg/kg	23	-	-	250
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	17	-	-	20
Cobalt	5	mg/kg	20	-	-	11
Copper	5	mg/kg	68	-	-	14
Lead	5	mg/kg	< 5	< 5	< 5	72
Manganese	5	mg/kg	780	-	-	140
Mercury	0.1	mg/kg	< 0.1	-	-	0.2
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	25	-	-	9.2
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	< 10
Zinc	5	mg/kg	37	-	-	25
Sample Properties						
% Moisture	1	%	10	5.9	6.6	18
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	-	< 0.005	< 0.005	-

Client Sample ID			E10_2.5	E10_3.0	E10_3.5	QC143
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021910	M24-De0021911	M24-De0021912	M24-De0021913
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	-	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	-	145	141	-
p-Terphenyl-d14 (surr.)	1	%	-	144	142	-

Client Sample ID			L11_0.5	L11_1.0	L11_1.5	K11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021915	M24-De0021916	M24-De0021917	M24-De0021918
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	490	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	300	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	790	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	710	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	190	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	900	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	70	83	121	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			L11_0.5	L11_1.0	L11_1.5	K11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021915	M24-De0021916	M24-De0021917	M24-De0021918
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	51	-
p-Terphenyl-d14 (surr.)	1	%	-	-	137	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	53	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	141	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			L11_0.5	L11_1.0	L11_1.5	K11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021915	M24-De0021916	M24-De0021917	M24-De0021918
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	53	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	141	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	119	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	2.8	< 2	< 2	3.2
Barium	10	mg/kg	-	-	430	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	20	-
Cobalt	5	mg/kg	-	-	15	-
Copper	5	mg/kg	-	-	23	-
Lead	5	mg/kg	94	11	31	18
Manganese	5	mg/kg	-	-	190	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	13	-

Client Sample ID			L11_0.5	L11_1.0	L11_1.5	K11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021915	M24-De0021916	M24-De0021917	M24-De0021918
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	25	-
Sample Properties						
% Moisture	1	%	16	17	16	3.7
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.19	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.80	< 0.005	-	0.008
Anthracene	0.005	mg/kg	2.3	< 0.005	-	0.024
Benz(a)anthracene	0.005	mg/kg	15	< 0.005	-	0.086
Benzo(a)pyrene - low level	0.005	mg/kg	16	< 0.005	-	0.045
Benzo(b&j)fluoranthene	0.005	mg/kg	11	< 0.005	-	0.086
Benzo(g.h.i)perylene	0.005	mg/kg	6.4	< 0.005	-	0.23
Benzo(k)fluoranthene	0.005	mg/kg	11	< 0.005	-	0.20
Chrysene	0.005	mg/kg	12	< 0.005	-	0.10
Dibenz(a.h)anthracene	0.005	mg/kg	2.1	< 0.005	-	0.036
Fluoranthene	0.005	mg/kg	28	< 0.005	-	0.098
Fluorene	0.005	mg/kg	1.1	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	5.2	< 0.005	-	0.15
Naphthalene	0.005	mg/kg	0.44	< 0.005	-	0.012
Phenanthrene	0.005	mg/kg	12	< 0.005	-	0.042
Pyrene	0.005	mg/kg	27	< 0.005	-	0.098
Total PAH*	0.005	mg/kg	150.53	< 0.005	-	1.215
2-Fluorobiphenyl (surr.)	1	%	95	146	-	64
p-Terphenyl-d14 (surr.)	1	%	58	67	-	143

Client Sample ID			K11_1.0	K11_1.5	K11_2.0	H10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021919	M24-De0021920	M24-De0021921	M24-De0021922
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	460	110
TRH C29-C36	50	mg/kg	< 50	< 50	290	230
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	750	340
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	650	260
TRH >C34-C40	100	mg/kg	< 100	< 100	200	270
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	900	530

Client Sample ID			K11_1.0	K11_1.5	K11_2.0	H10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021919	M24-De0021920	M24-De0021921	M24-De0021922
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	88	130	95	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	2.1	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	16	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	16	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	16	-
Acenaphthene	0.5	mg/kg	-	-	3.7	-
Acenaphthylene	0.5	mg/kg	-	-	1.3	-
Anthracene	0.5	mg/kg	-	-	3.6	-
Benz(a)anthracene	0.5	mg/kg	-	-	10	-
Benzo(a)pyrene	0.5	mg/kg	-	-	11	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	7.6	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	5.6	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	12	-
Chrysene	0.5	mg/kg	-	-	11	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.7	-
Fluoranthene	0.5	mg/kg	-	-	25	-
Fluorene	0.5	mg/kg	-	-	5.6	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	4.1	-
Naphthalene	0.5	mg/kg	-	-	7.0	-
Phenanthrene	0.5	mg/kg	-	-	8.5	-
Pyrene	0.5	mg/kg	-	-	25	-
Total PAH*	0.5	mg/kg	-	-	140	-
2-Fluorobiphenyl (surr.)	1	%	-	-	53	-
p-Terphenyl-d14 (surr.)	1	%	-	-	64	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			K11_1.0	K11_1.5	K11_2.0	H10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021919	M24-De0021920	M24-De0021921	M24-De0021922
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	81	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	116	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	81	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	116	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	149	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	8.3	-

Client Sample ID			K11_1.0	K11_1.5	K11_2.0	H10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021919	M24-De0021920	M24-De0021921	M24-De0021922
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	20	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	110	3.8
Barium	10	mg/kg	-	-	94	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	330	-
Cobalt	5	mg/kg	-	-	18	-
Copper	5	mg/kg	-	-	82	-
Lead	5	mg/kg	< 5	< 5	290	50
Manganese	5	mg/kg	-	-	900	-
Mercury	0.1	mg/kg	-	-	0.5	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	34	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	15	-
Zinc	5	mg/kg	-	-	120	-
Sample Properties						
% Moisture	1	%	2.7	3.9	23	6.8
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	0.037
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.11
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.49
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	0.58
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.38
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	0.38
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.34
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	0.44
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.042
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.78
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	0.025
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.22
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	0.039
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	0.21
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.93
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	5.003
2-Fluorobiphenyl (surr.)	1	%	52	57	-	69
p-Terphenyl-d14 (surr.)	1	%	106	78	-	116

Client Sample ID			H10_1.0	H10_1.5	H10_2.0	H10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021923	M24-De0021924	M24-De0021925	M24-De0021926
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	170	300
TRH C15-C28	50	mg/kg	74	510	590	1600
TRH C29-C36	50	mg/kg	110	460	450	590
TRH C10-C36 (Total)	50	mg/kg	184	970	1210	2490
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	360	770
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	360	770
TRH >C16-C34	100	mg/kg	160	860	700	1600
TRH >C34-C40	100	mg/kg	< 100	210	690	320
TRH >C10-C40 (total)*	100	mg/kg	160	1070	1750	2690
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	126	96	145	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	0.9	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	1.0	-	-
Total PAH*	0.5	mg/kg	-	1.9	-	-
2-Fluorobiphenyl (surr.)	1	%	-	67	-	-
p-Terphenyl-d14 (surr.)	1	%	-	101	-	-

Client Sample ID			H10_1.0	H10_1.5	H10_2.0	H10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021923	M24-De0021924	M24-De0021925	M24-De0021926
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	101	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	80	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	101	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	80	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			H10_1.0	H10_1.5	H10_2.0	H10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021923	M24-De0021924	M24-De0021925	M24-De0021926
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	146	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	6.1	3.6	3.4	15
Barium	10	mg/kg	-	92	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	0.5	-	-
Chromium	5	mg/kg	-	20	-	-
Cobalt	5	mg/kg	-	32	-	-
Copper	5	mg/kg	-	94	-	-
Lead	5	mg/kg	170	43	94	1300
Manganese	5	mg/kg	-	490	-	-
Mercury	0.1	mg/kg	-	0.2	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	28	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	17	-	-
Zinc	5	mg/kg	-	78	-	-
Sample Properties						
% Moisture	1	%	8.6	14	10	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.019	-	0.14	0.31
Acenaphthylene	0.005	mg/kg	0.087	-	0.21	1.2
Anthracene	0.005	mg/kg	0.16	-	0.57	3.7
Benz(a)anthracene	0.005	mg/kg	0.55	-	1.8	10
Benzo(a)pyrene - low level	0.005	mg/kg	0.81	-	3.3	13
Benzo(b&j)fluoranthene	0.005	mg/kg	0.53	-	2.3	8.5
Benzo(g.h.i)perylene	0.005	mg/kg	0.40	-	1.7	10
Benzo(k)fluoranthene	0.005	mg/kg	0.59	-	1.9	11
Chrysene	0.005	mg/kg	0.75	-	1.9	10

Client Sample ID			H10_1.0	H10_1.5	H10_2.0	H10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021923	M24-De0021924	M24-De0021925	M24-De0021926
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	0.12	-	0.33	2.1
Fluoranthene	0.005	mg/kg	0.99	-	2.1	12
Fluorene	0.005	mg/kg	0.033	-	0.40	1.9
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.31	-	0.79	5.6
Naphthalene	0.005	mg/kg	0.094	-	0.52	1.1
Phenanthrene	0.005	mg/kg	0.40	-	1.6	11
Pyrene	0.005	mg/kg	1.0	-	2.6	13
Total PAH*	0.005	mg/kg	6.843	-	22.16	114.41
2-Fluorobiphenyl (surr.)	1	%	88	-	68	74
p-Terphenyl-d14 (surr.)	1	%	136	-	62	110

Client Sample ID			H10_3.0	K10_0.5	K10_1.0	K10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021927	M24-De0021928	M24-De0021929	M24-De0021930
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	550	39	< 20	< 20
TRH C15-C28	50	mg/kg	1300	390	53	140
TRH C29-C36	50	mg/kg	80	130	110	130
TRH C10-C36 (Total)	50	mg/kg	1930	559	163	270
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	1100	110	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	1100	110	< 50	< 50
TRH >C16-C34	100	mg/kg	830	410	110	230
TRH >C34-C40	100	mg/kg	< 100	140	190	< 100
TRH >C10-C40 (total)*	100	mg/kg	1930	660	300	230
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	139	132	79	125
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	1.2	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	1.5	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.8	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.7	-	-

Client Sample ID			H10_3.0	K10_0.5	K10_1.0	K10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021927	M24-De0021928	M24-De0021929	M24-De0021930
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	< 0.5	1.0	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	0.7	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	0.7	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.9	-	-
Chrysene	0.5	mg/kg	< 0.5	0.8	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	1.9	-	-
Fluorene	0.5	mg/kg	0.9	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	0.6	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	2.3	-	-
Total PAH*	0.5	mg/kg	1.5	9.0	-	-
2-Fluorobiphenyl (surr.)	1	%	119	62	-	-
p-Terphenyl-d14 (surr.)	1	%	144	82	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	100	96	-	-
Tetrachloro-m-xylene (surr.)	1	%	142	104	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-

Client Sample ID			H10_3.0	K10_0.5	K10_1.0	K10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021927	M24-De0021928	M24-De0021929	M24-De0021930
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	100	96	-	-
Tetrachloro-m-xylene (surr.)	1	%	142	104	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-	-
Dinoseb	20	mg/kg	< 20	< 20	-	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenol-d6 (surr.)	1	%	122	139	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.94	-	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	-	-
Cyanide (total)	5	mg/kg	< 5	< 5	-	-
Fluoride	100	mg/kg	< 100	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.5	< 2	7.7
Barium	10	mg/kg	140	93	-	-
Beryllium	2	mg/kg	< 2	< 2	-	-
Cadmium	0.4	mg/kg	< 0.4	0.4	-	-
Chromium	5	mg/kg	28	15	-	-
Cobalt	5	mg/kg	26	13	-	-
Copper	5	mg/kg	71	64	-	-
Lead	5	mg/kg	19	140	< 5	97
Manganese	5	mg/kg	360	270	-	-
Mercury	0.1	mg/kg	< 0.1	0.3	-	-
Molybdenum	5	mg/kg	< 5	< 5	-	-
Nickel	5	mg/kg	33	31	-	-

Client Sample ID			H10_3.0	K10_0.5	K10_1.0	K10_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021927	M24-De0021928	M24-De0021929	M24-De0021930
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	< 2	< 2	-	-
Silver	2	mg/kg	< 2	< 2	-	-
Tin	10	mg/kg	< 10	21	-	-
Zinc	5	mg/kg	38	150	-	-
Sample Properties						
% Moisture	1	%	21	5.9	4.6	6.9
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	-	< 0.005	0.021
Acenaphthylene	0.005	mg/kg	-	-	< 0.005	0.43
Anthracene	0.005	mg/kg	-	-	< 0.005	0.78
Benz(a)anthracene	0.005	mg/kg	-	-	< 0.005	3.7
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	5.6
Benzo(b&j)fluoranthene	0.005	mg/kg	-	-	< 0.005	3.2
Benzo(g.h.i)perylene	0.005	mg/kg	-	-	< 0.005	4.2
Benzo(k)fluoranthene	0.005	mg/kg	-	-	< 0.005	3.6
Chrysene	0.005	mg/kg	-	-	< 0.005	4.7
Dibenz(a.h)anthracene	0.005	mg/kg	-	-	< 0.005	0.81
Fluoranthene	0.005	mg/kg	-	-	< 0.005	4.7
Fluorene	0.005	mg/kg	-	-	< 0.005	0.075
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	-	< 0.005	2.0
Naphthalene	0.005	mg/kg	-	-	< 0.005	0.12
Phenanthrene	0.005	mg/kg	-	-	< 0.005	1.2
Pyrene	0.005	mg/kg	-	-	< 0.005	5.0
Total PAH*	0.005	mg/kg	-	-	< 0.005	40.136
2-Fluorobiphenyl (surr.)	1	%	-	-	143	58
p-Terphenyl-d14 (surr.)	1	%	-	-	141	73

Client Sample ID			K10_2.0	L08_0.5	L08_1.0	L08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021931	M24-De0021932	M24-De0021933	M24-De0021934
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	160	23
TRH C15-C28	50	mg/kg	190	< 50	910	190
TRH C29-C36	50	mg/kg	150	< 50	240	83
TRH C10-C36 (Total)	50	mg/kg	340	< 50	1310	296
TRH C6-C10	20	mg/kg	< 20	< 20	29	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	29	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	300	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	300	< 50
TRH >C16-C34	100	mg/kg	310	< 100	1200	320
TRH >C34-C40	100	mg/kg	< 100	< 100	110	< 100
TRH >C10-C40 (total)*	100	mg/kg	310	< 100	1610	320

Client Sample ID			K10_2.0	L08_0.5	L08_1.0	L08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021931	M24-De0021932	M24-De0021933	M24-De0021934
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	0.4	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55	91	67	111
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	6.2	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.2	-	0.9	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	6.2	-	1.4	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	0.5	-	0.8	-
Benz(a)anthracene	0.5	mg/kg	4.2	-	1.5	-
Benzo(a)pyrene	0.5	mg/kg	4.3	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.6	-	0.7	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.1	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	4.7	-	1.3	-
Chrysene	0.5	mg/kg	4.4	-	1.9	-
Dibenz(a.h)anthracene	0.5	mg/kg	0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	10	-	3.6	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.6	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	1.7	-	1.2	-
Pyrene	0.5	mg/kg	11	-	3.3	-
Total PAH*	0.5	mg/kg	48	-	14	-
2-Fluorobiphenyl (surr.)	1	%	101	-	58	-
p-Terphenyl-d14 (surr.)	1	%	100	-	126	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-

Client Sample ID			K10_2.0	L08_0.5	L08_1.0	L08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021931	M24-De0021932	M24-De0021933	M24-De0021934
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	67	-	67	-
Tetrachloro-m-xylene (surr.)	1	%	71	-	120	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	67	-	67	-
Tetrachloro-m-xylene (surr.)	1	%	71	-	120	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	100	-	88	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	3.7	-	0.39	-

Client Sample ID			K10_2.0	L08_0.5	L08_1.0	L08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021931	M24-De0021932	M24-De0021933	M24-De0021934
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	4.0	2.0	2.1	59
Barium	10	mg/kg	110	-	12	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	11	-	< 5	-
Cobalt	5	mg/kg	21	-	< 5	-
Copper	5	mg/kg	120	-	15	-
Lead	5	mg/kg	81	18	15	840
Manganese	5	mg/kg	490	-	17	-
Mercury	0.1	mg/kg	0.2	-	< 0.1	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	18	-	< 5	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	13	-	< 10	-
Zinc	5	mg/kg	110	-	8.1	-
Sample Properties						
% Moisture	1	%	14	14	15	23
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	-	1.9
Acenaphthylene	0.005	mg/kg	-	< 0.005	-	0.062
Anthracene	0.005	mg/kg	-	< 0.005	-	0.65
Benz(a)anthracene	0.005	mg/kg	-	0.008	-	0.89
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	1.8
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	-	1.6
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	-	1.9
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	-	1.4
Chrysene	0.005	mg/kg	-	0.077	-	1.7
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	-	0.25
Fluoranthene	0.005	mg/kg	-	0.015	-	1.8
Fluorene	0.005	mg/kg	-	< 0.005	-	1.2
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	-	0.78
Naphthalene	0.005	mg/kg	-	0.008	-	8.0
Phenanthrene	0.005	mg/kg	-	0.019	-	2.0
Pyrene	0.005	mg/kg	-	0.031	-	2.1
Total PAH*	0.005	mg/kg	-	0.158	-	28.032
2-Fluorobiphenyl (surr.)	1	%	-	145	-	70
p-Terphenyl-d14 (surr.)	1	%	-	111	-	95

Client Sample ID			L08_2.0	L09_0.5	L09_1.0	L09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021935	M24-De0021936	M24-De0021937	M24-De0021938
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	110	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	85	94	< 50	270
TRH C29-C36	50	mg/kg	< 50	340	58	320
TRH C10-C36 (Total)	50	mg/kg	195	434	58	590
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	120	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	120	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	320	< 100	490
TRH >C34-C40	100	mg/kg	< 100	490	< 100	380
TRH >C10-C40 (total)*	100	mg/kg	120	810	< 100	870
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93	80	101	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	0.7	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	0.9	-	-
Total PAH*	0.5	mg/kg	-	1.6	-	-
2-Fluorobiphenyl (surr.)	1	%	-	124	-	-
p-Terphenyl-d14 (surr.)	1	%	-	112	-	-

Client Sample ID			L08_2.0	L09_0.5	L09_1.0	L09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021935	M24-De0021936	M24-De0021937	M24-De0021938
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	98	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	128	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	98	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	128	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			L08_2.0	L09_0.5	L09_1.0	L09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021935	M24-De0021936	M24-De0021937	M24-De0021938
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	95	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	18	2.7	5.8
Barium	10	mg/kg	-	110	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	13	-	-
Cobalt	5	mg/kg	-	18	-	-
Copper	5	mg/kg	-	100	-	-
Lead	5	mg/kg	110	120	12	92
Manganese	5	mg/kg	-	370	-	-
Mercury	0.1	mg/kg	-	0.3	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	25	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	25	-	-
Zinc	5	mg/kg	-	300	-	-
Sample Properties						
% Moisture	1	%	28	7.9	8.5	5.2
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	0.008	0.010
Anthracene	0.005	mg/kg	< 0.005	-	0.028	0.061
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	0.051	0.17
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.065	0.36
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	0.053	0.16
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	0.028	0.26
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	0.068	0.16
Chrysene	0.005	mg/kg	< 0.005	-	0.061	0.19

Client Sample ID			L08_2.0	L09_0.5	L09_1.0	L09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021935	M24-De0021936	M24-De0021937	M24-De0021938
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	0.006	0.045
Fluoranthene	0.005	mg/kg	< 0.005	-	0.096	0.17
Fluorene	0.005	mg/kg	< 0.005	-	< 0.005	0.008
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	0.022	0.088
Naphthalene	0.005	mg/kg	0.38	-	0.047	0.028
Phenanthrene	0.005	mg/kg	< 0.005	-	0.055	0.11
Pyrene	0.005	mg/kg	< 0.005	-	0.10	0.21
Total PAH*	0.005	mg/kg	0.38	-	0.688	2.035
2-Fluorobiphenyl (surr.)	1	%	62	-	70	67
p-Terphenyl-d14 (surr.)	1	%	134	-	100	80

Client Sample ID			L09_2.0	K08_0.5	K08_1.0	K08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021939	M24-De0021940	M24-De0021941	M24-De0021942
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	230	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	180	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	410	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	360	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	360	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	97	104	86	114
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	3.4	< 2	6.8	< 2
Lead	5	mg/kg	27	110	92	11
Sample Properties						
% Moisture	1	%	8.1	3.7	6.7	19

Client Sample ID			L09_2.0	K08_0.5	K08_1.0	K08_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021939	M24-De0021940	M24-De0021941	M24-De0021942
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.016	< 0.005	0.008
Acenaphthylene	0.005	mg/kg	< 0.005	0.38	< 0.005	0.015
Anthracene	0.005	mg/kg	0.016	0.19	0.030	0.027
Benz(a)anthracene	0.005	mg/kg	0.22	1.7	0.14	0.17
Benzo(a)pyrene - low level	0.005	mg/kg	0.075	2.8	0.074	0.30
Benzo(b&j)fluoranthene	0.005	mg/kg	0.12	1.7	0.12	0.17
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	1.9	< 0.005	0.13
Benzo(k)fluoranthene	0.005	mg/kg	0.11	1.8	0.12	0.19
Chrysene	0.005	mg/kg	0.19	1.4	0.12	0.17
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.28	< 0.005	0.068
Fluoranthene	0.005	mg/kg	0.34	2.1	0.19	0.21
Fluorene	0.005	mg/kg	< 0.005	0.046	< 0.005	0.043
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.87	< 0.005	0.084
Naphthalene	0.005	mg/kg	0.008	0.15	0.024	0.028
Phenanthrene	0.005	mg/kg	0.046	0.44	0.071	0.14
Pyrene	0.005	mg/kg	0.44	2.4	0.26	0.23
Total PAH*	0.005	mg/kg	1.565	18.172	1.149	1.983
2-Fluorobiphenyl (surr.)	1	%	140	66	138	54
p-Terphenyl-d14 (surr.)	1	%	101	66	92	66
Benzo(a)pyrene TEQ (lower bound) *	0.001	mg/kg	-	-	-	
Benzo(a)pyrene TEQ (medium bound) *	0.001	mg/kg	-	-	-	0.43
Benzo(a)pyrene TEQ (upper bound) *	0.001		-	-	-	0.43

Client Sample ID			K08_2.0	K09_0.5	K09_1.0	K09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021943	M24-De0021944	M24-De0021945	M24-De0021946
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	120	190	64	670
TRH C29-C36	50	mg/kg	83	630	53	470
TRH C10-C36 (Total)	50	mg/kg	203	820	117	1140
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	190	580	110	1000
TRH >C34-C40	100	mg/kg	< 100	970	< 100	220
TRH >C10-C40 (total)*	100	mg/kg	190	1550	110	1220

Client Sample ID			K08_2.0	K09_0.5	K09_1.0	K09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021943	M24-De0021944	M24-De0021945	M24-De0021946
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	102	85	78	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	3.9	-	-	59
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	4.1	-	-	59
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	4.4	-	-	59
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	2.7
Anthracene	0.5	mg/kg	1.0	-	-	8.7
Benz(a)anthracene	0.5	mg/kg	2.2	-	-	28
Benzo(a)pyrene	0.5	mg/kg	3.0	-	-	42
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.1	-	-	21
Benzo(g.h.i)perylene	0.5	mg/kg	1.8	-	-	18
Benzo(k)fluoranthene	0.5	mg/kg	2.4	-	-	32
Chrysene	0.5	mg/kg	2.0	-	-	31
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	5.8
Fluoranthene	0.5	mg/kg	7.1	-	-	95
Fluorene	0.5	mg/kg	< 0.5	-	-	0.8
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.8	-	-	23
Naphthalene	0.5	mg/kg	< 0.5	-	-	1.5
Phenanthrene	0.5	mg/kg	3.4	-	-	19
Pyrene	0.5	mg/kg	5.6	-	-	75
Total PAH*	0.5	mg/kg	32	-	-	400
2-Fluorobiphenyl (surr.)	1	%	148	-	-	70
p-Terphenyl-d14 (surr.)	1	%	135	-	-	141
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			K08_2.0	K09_0.5	K09_1.0	K09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021943	M24-De0021944	M24-De0021945	M24-De0021946
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	147	-	-	139
Tetrachloro-m-xylene (surr.)	1	%	136	-	-	55
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	147	-	-	139
Tetrachloro-m-xylene (surr.)	1	%	136	-	-	55
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	84	-	-	111
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	2.4	-	-	34

Client Sample ID			K08_2.0	K09_0.5	K09_1.0	K09_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021943	M24-De0021944	M24-De0021945	M24-De0021946
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	6.8	6.0	8.9	2.0
Barium	10	mg/kg	170	-	-	110
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	39	-	-	20
Cobalt	5	mg/kg	24	-	-	22
Copper	5	mg/kg	120	-	-	86
Lead	5	mg/kg	73	150	100	92
Manganese	5	mg/kg	900	-	-	350
Mercury	0.1	mg/kg	0.1	-	-	0.1
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	27	-	-	22
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	33	-	-	13
Zinc	5	mg/kg	89	-	-	70
Sample Properties						
% Moisture	1	%	19	9.8	8.5	20
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	0.011	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	0.089	-
Anthracene	0.005	mg/kg	-	0.080	0.35	-
Benz(a)anthracene	0.005	mg/kg	-	0.61	0.75	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.49	1.1	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.32	1.1	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.31	1.1	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.43	1.5	-
Chrysene	0.005	mg/kg	-	0.82	0.81	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.081	0.39	-
Fluoranthene	0.005	mg/kg	-	1.1	1.5	-
Fluorene	0.005	mg/kg	-	< 0.005	0.024	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.32	2.1	-
Naphthalene	0.005	mg/kg	-	< 0.005	0.052	-
Phenanthrene	0.005	mg/kg	-	0.40	0.57	-
Pyrene	0.005	mg/kg	-	1.3	1.6	-
Total PAH*	0.005	mg/kg	-	6.261	13.046	-
2-Fluorobiphenyl (surr.)	1	%	-	53	113	-
p-Terphenyl-d14 (surr.)	1	%	-	137	99	-

Client Sample ID			K09_2.0	K07_0.5	K07_1.0	K07_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021947	M24-De0021948	M24-De0021949	M24-De0021950
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	200	350	630
TRH C29-C36	50	mg/kg	< 50	190	410	390
TRH C10-C36 (Total)	50	mg/kg	< 50	390	760	1020
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	350	680	980
TRH >C34-C40	100	mg/kg	< 100	< 100	250	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	350	930	980
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	68	84	119	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	4.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	4.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	4.5
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	0.8
Benz(a)anthracene	0.5	mg/kg	-	-	-	3.1
Benzo(a)pyrene	0.5	mg/kg	-	-	-	2.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	2.2
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	1.7
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	3.7
Chrysene	0.5	mg/kg	-	-	-	3.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	0.6
Fluoranthene	0.5	mg/kg	-	-	-	9.0
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	1.4
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	4.0
Pyrene	0.5	mg/kg	-	-	-	9.7
Total PAH*	0.5	mg/kg	-	-	-	43
2-Fluorobiphenyl (surr.)	1	%	-	-	-	57
p-Terphenyl-d14 (surr.)	1	%	-	-	-	79

Client Sample ID			K09_2.0	K07_0.5	K07_1.0	K07_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021947	M24-De0021948	M24-De0021949	M24-De0021950
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	80
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	85
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	80
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	85
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			K09_2.0	K07_0.5	K07_1.0	K07_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021947	M24-De0021948	M24-De0021949	M24-De0021950
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	6.6
Total cresols*	0.5	mg/kg	-	-	-	6.6
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	0.9
Phenol-d6 (surr.)	1	%	-	-	-	147
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	1.7
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	3.4	13	< 2	7.5
Barium	10	mg/kg	-	-	-	270
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	19
Cobalt	5	mg/kg	-	-	-	7.9
Copper	5	mg/kg	-	-	-	570
Lead	5	mg/kg	16	160	200	290
Manganese	5	mg/kg	-	-	-	270
Mercury	0.1	mg/kg	-	-	-	1.2
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	21
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	34
Tin	10	mg/kg	-	-	-	49
Zinc	5	mg/kg	-	-	-	1000
Sample Properties						
% Moisture	1	%	9.6	12	19	37
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	0.53	-
Anthracene	0.005	mg/kg	< 0.005	0.76	1.7	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	2.5	6.9	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	2.7	8.3	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	1.5	5.3	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	1.1	3.9	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	1.8	5.4	-
Chrysene	0.005	mg/kg	< 0.005	2.0	10	-

Client Sample ID			K09_2.0	K07_0.5	K07_1.0	K07_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021947	M24-De0021948	M24-De0021949	M24-De0021950
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	0.40	-
Fluoranthene	0.005	mg/kg	< 0.005	5.7	11	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	0.58	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.83	1.2	-
Naphthalene	0.005	mg/kg	< 0.005	0.27	0.44	-
Phenanthrene	0.005	mg/kg	< 0.005	1.4	3.9	-
Pyrene	0.005	mg/kg	< 0.005	4.6	11	-
Total PAH*	0.005	mg/kg	< 0.005	25.16	70.55	-
2-Fluorobiphenyl (surr.)	1	%	123	139	64	-
p-Terphenyl-d14 (surr.)	1	%	56	84	93	-

Client Sample ID			K07_2.0	QC150	I12_0.5	I12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021951	M24-De0021952	M24-De0021953	M24-De0021954
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	150	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	1400	450	140
TRH C29-C36	50	mg/kg	< 50	380	470	160
TRH C10-C36 (Total)	50	mg/kg	< 50	1930	920	300
TRH C6-C10	20	mg/kg	< 20	30	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	30	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	320	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	320	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1600	740	250
TRH >C34-C40	100	mg/kg	< 100	120	550	160
TRH >C10-C40 (total)*	100	mg/kg	< 100	2040	1290	410
BTEX						
Benzene	0.1	mg/kg	< 0.1	0.3	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	80	64	73	52
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	20	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	20	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	20	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.4	-
Anthracene	0.5	mg/kg	-	-	1.4	-
Benz(a)anthracene	0.5	mg/kg	-	-	11	-

Client Sample ID			K07_2.0	QC150	I12_0.5	I12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021951	M24-De0021952	M24-De0021953	M24-De0021954
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	14	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	9.6	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	8.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	13	-
Chrysene	0.5	mg/kg	-	-	13	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	2.2	-
Fluoranthene	0.5	mg/kg	-	-	26	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	6.3	-
Naphthalene	0.5	mg/kg	-	-	0.6	-
Phenanthrene	0.5	mg/kg	-	-	4.7	-
Pyrene	0.5	mg/kg	-	-	32	-
Total PAH*	0.5	mg/kg	-	-	140	-
2-Fluorobiphenyl (surr.)	1	%	-	-	114	-
p-Terphenyl-d14 (surr.)	1	%	-	-	131	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	114	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	129	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			K07_2.0	QC150	I12_0.5	I12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021951	M24-De0021952	M24-De0021953	M24-De0021954
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	114	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	129	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	83	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	11	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	5.3	< 2	50	2.3
Barium	10	mg/kg	-	-	550	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	16	-
Cobalt	5	mg/kg	-	-	11	-
Copper	5	mg/kg	-	-	180	-
Lead	5	mg/kg	240	17	380	140
Manganese	5	mg/kg	-	-	350	-
Mercury	0.1	mg/kg	-	-	1.6	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	20	-

Client Sample ID			K07_2.0	QC150	I12_0.5	I12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021951	M24-De0021952	M24-De0021953	M24-De0021954
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	130	-
Zinc	5	mg/kg	-	-	580	-
Sample Properties						
% Moisture	1	%	22	16	18	19
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.073	-	0.023
Acenaphthylene	0.005	mg/kg	< 0.005	0.021	-	0.12
Anthracene	0.005	mg/kg	0.066	0.35	-	0.43
Benz(a)anthracene	0.005	mg/kg	0.20	0.83	-	1.9
Benzo(a)pyrene - low level	0.005	mg/kg	0.051	0.34	-	0.76
Benzo(b&j)fluoranthene	0.005	mg/kg	0.12	0.78	-	0.84
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	0.23	-	1.9
Benzo(k)fluoranthene	0.005	mg/kg	0.14	0.80	-	1.2
Chrysene	0.005	mg/kg	0.22	1.5	-	2.7
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.083	-	0.38
Fluoranthene	0.005	mg/kg	0.36	1.7	-	2.9
Fluorene	0.005	mg/kg	0.035	0.14	-	0.035
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.12	-	3.5
Naphthalene	0.005	mg/kg	0.030	0.28	-	0.081
Phenanthrene	0.005	mg/kg	0.15	0.59	-	0.56
Pyrene	0.005	mg/kg	0.49	1.7	-	3.1
Total PAH*	0.005	mg/kg	1.862	9.537	-	20.429
2-Fluorobiphenyl (surr.)	1	%	145	121	-	109
p-Terphenyl-d14 (surr.)	1	%	107	148	-	94

Client Sample ID			I12_1.5	I12_2.0	I11_0.5	I11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021955	M24-De0021956	M24-De0021957	M24-De0021958
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	150	71	93
TRH C29-C36	50	mg/kg	< 50	160	210	85
TRH C10-C36 (Total)	50	mg/kg	< 50	310	281	178
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	270	210	160
TRH >C34-C40	100	mg/kg	< 100	< 100	240	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	270	450	160

Client Sample ID			I12_1.5	I12_2.0	I11_0.5	I11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021955	M24-De0021956	M24-De0021957	M24-De0021958
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	51	64	75	59
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	0.8	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.1	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.4	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	0.7	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	0.6	-	-
Chrysene	0.5	mg/kg	-	0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	1.2	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	1.0	-	-
Total PAH*	0.5	mg/kg	-	4.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	54	-	-
p-Terphenyl-d14 (surr.)	1	%	-	138	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			I12_1.5	I12_2.0	I11_0.5	I11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021955	M24-De0021956	M24-De0021957	M24-De0021958
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	61	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	140	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	61	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	140	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	120	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.58	-	-

Client Sample ID			I12_1.5	I12_2.0	I11_0.5	I11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021955	M24-De0021956	M24-De0021957	M24-De0021958
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.0	3.8	< 2	4.6
Barium	10	mg/kg	-	270	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	14	-	-
Cobalt	5	mg/kg	-	20	-	-
Copper	5	mg/kg	-	220	-	-
Lead	5	mg/kg	79	250	22	120
Manganese	5	mg/kg	-	410	-	-
Mercury	0.1	mg/kg	-	0.5	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	23	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	29	-	-
Zinc	5	mg/kg	-	710	-	-
Sample Properties						
% Moisture	1	%	22	20	19	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.040	-	0.011	0.007
Acenaphthylene	0.005	mg/kg	0.063	-	0.013	0.12
Anthracene	0.005	mg/kg	0.46	-	0.027	0.21
Benz(a)anthracene	0.005	mg/kg	1.1	-	0.13	0.64
Benzo(a)pyrene - low level	0.005	mg/kg	1.4	-	0.077	0.36
Benzo(b&j)fluoranthene	0.005	mg/kg	1.6	-	0.16	0.76
Benzo(g.h.i)perylene	0.005	mg/kg	1.4	-	0.049	0.41
Benzo(k)fluoranthene	0.005	mg/kg	1.6	-	0.19	0.89
Chrysene	0.005	mg/kg	1.0	-	0.092	0.81
Dibenz(a.h)anthracene	0.005	mg/kg	0.19	-	0.033	0.10
Fluoranthene	0.005	mg/kg	0.69	-	0.089	0.99
Fluorene	0.005	mg/kg	0.018	-	< 0.005	0.022
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.54	-	0.072	1.1
Naphthalene	0.005	mg/kg	0.058	-	0.009	0.044
Phenanthrene	0.005	mg/kg	0.37	-	0.029	0.34
Pyrene	0.005	mg/kg	0.97	-	0.12	1.1
Total PAH*	0.005	mg/kg	11.499	-	1.101	7.903
2-Fluorobiphenyl (surr.)	1	%	65	-	120	121
p-Terphenyl-d14 (surr.)	1	%	103	-	133	93

Client Sample ID			I11_1.5	I11_2.0	I11_2.5	I10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021959	M24-De0021960	M24-De0021961	M24-De0021962
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	30	930	100	< 20
TRH C15-C28	50	mg/kg	190	2100	830	230
TRH C29-C36	50	mg/kg	63	150	380	700
TRH C10-C36 (Total)	50	mg/kg	283	3180	1310	930
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	62	1800	200	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	62	1799.2	200	< 50
TRH >C16-C34	100	mg/kg	200	1400	1000	650
TRH >C34-C40	100	mg/kg	< 100	< 100	260	1100
TRH >C10-C40 (total)*	100	mg/kg	262	3200	1460	1750
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	113	89	128	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	0.8	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	2.9	19	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	2.9	19	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	2.9	19	-
Acenaphthene	0.5	mg/kg	-	1.8	1.3	-
Acenaphthylene	0.5	mg/kg	-	0.5	1.6	-
Anthracene	0.5	mg/kg	-	1.9	6.9	-
Benz(a)anthracene	0.5	mg/kg	-	3.8	14	-
Benzo(a)pyrene	0.5	mg/kg	-	1.5	14	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	1.1	6.4	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	1.2	6.2	-
Benzo(k)fluoranthene	0.5	mg/kg	-	1.7	8.9	-
Chrysene	0.5	mg/kg	-	3.5	13	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	0.6	1.3	-
Fluoranthene	0.5	mg/kg	-	6.6	41	-
Fluorene	0.5	mg/kg	-	3.0	1.7	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	0.8	5.9	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	4.6	11	-
Pyrene	0.5	mg/kg	-	10	41	-
Total PAH*	0.5	mg/kg	-	43	170	-
2-Fluorobiphenyl (surr.)	1	%	-	128	100	-
p-Terphenyl-d14 (surr.)	1	%	-	86	135	-

Client Sample ID			I11_1.5	I11_2.0	I11_2.5	I10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021959	M24-De0021960	M24-De0021961	M24-De0021962
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	142	127	-
Tetrachloro-m-xylene (surr.)	1	%	-	150	131	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	142	127	-
Tetrachloro-m-xylene (surr.)	1	%	-	150	131	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	-
Pentachlorophenol	1	mg/kg	-	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	-

Client Sample ID			I11_1.5	I11_2.0	I11_2.5	I10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021959	M24-De0021960	M24-De0021961	M24-De0021962
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	-	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	-	< 5	< 5	-
Dinoseb	20	mg/kg	-	< 20	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	-	105	72	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.3	12	-
Chromium (hexavalent)	1	mg/kg	-	< 1	< 1	-
Cyanide (total)	5	mg/kg	-	< 5	< 5	-
Fluoride	100	mg/kg	-	< 100	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.6	< 2	< 2
Barium	10	mg/kg	-	60	66	-
Beryllium	2	mg/kg	-	< 2	< 2	-
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	-
Chromium	5	mg/kg	-	10	7.5	-
Cobalt	5	mg/kg	-	13	8.4	-
Copper	5	mg/kg	-	39	22	-
Lead	5	mg/kg	51	75	77	14
Manganese	5	mg/kg	-	190	210	-
Mercury	0.1	mg/kg	-	0.2	0.2	-
Molybdenum	5	mg/kg	-	< 5	< 5	-
Nickel	5	mg/kg	-	15	9.4	-
Selenium	2	mg/kg	-	< 2	< 2	-
Silver	2	mg/kg	-	< 2	< 2	-
Tin	10	mg/kg	-	< 10	< 10	-
Zinc	5	mg/kg	-	50	33	-
Sample Properties						
% Moisture	1	%	24	16	15	9.9
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.36	-	-	< 0.005
Anthracene	0.005	mg/kg	1.0	-	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	1.6	-	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	2.7	-	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	0.75	-	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	1.0	-	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.60	-	-	< 0.005
Chrysene	0.005	mg/kg	1.8	-	-	< 0.005

Client Sample ID			I11_1.5	I11_2.0	I11_2.5	I10_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021959	M24-De0021960	M24-De0021961	M24-De0021962
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	-	< 0.005
Fluoranthene	0.005	mg/kg	3.3	-	-	< 0.005
Fluorene	0.005	mg/kg	0.29	-	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	2.2	-	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	-	-	< 0.005
Phenanthrene	0.005	mg/kg	2.4	-	-	< 0.005
Pyrene	0.005	mg/kg	4.0	-	-	< 0.005
Total PAH*	0.005	mg/kg	22	-	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	67	-	-	51
p-Terphenyl-d14 (surr.)	1	%	95	-	-	126

Client Sample ID			I10_1.0	I10_1.5	I10_2.0	I10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021963	M24-De0021964	M24-De0021965	M24-De0021966
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	120	140	270	180
TRH C15-C28	50	mg/kg	890	960	1100	560
TRH C29-C36	50	mg/kg	760	730	210	120
TRH C10-C36 (Total)	50	mg/kg	1770	1830	1580	860
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	350	370	600	390
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	350	370	600	390
TRH >C16-C34	100	mg/kg	1200	1300	920	460
TRH >C34-C40	100	mg/kg	780	680	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	2330	2350	1520	850
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	52	90	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	9.6	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	9.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	9.6	-
Acenaphthene	0.5	mg/kg	-	-	1.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.1	-
Anthracene	0.5	mg/kg	-	-	6.6	-
Benz(a)anthracene	0.5	mg/kg	-	-	7.1	-

Client Sample ID			I10_1.0	I10_1.5	I10_2.0	I10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021963	M24-De0021964	M24-De0021965	M24-De0021966
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	6.7	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	4.0	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	3.6	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	6.8	-
Chrysene	0.5	mg/kg	-	-	8.1	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	0.8	-
Fluoranthene	0.5	mg/kg	-	-	29	-
Fluorene	0.5	mg/kg	-	-	2.8	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	2.2	-
Naphthalene	0.5	mg/kg	-	-	0.7	-
Phenanthrene	0.5	mg/kg	-	-	19	-
Pyrene	0.5	mg/kg	-	-	29	-
Total PAH*	0.5	mg/kg	-	-	130	-
2-Fluorobiphenyl (surr.)	1	%	-	-	51	-
p-Terphenyl-d14 (surr.)	1	%	-	-	76	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	100	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	126	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			I10_1.0	I10_1.5	I10_2.0	I10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021963	M24-De0021964	M24-De0021965	M24-De0021966
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	100	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	126	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	142	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	5.4	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	6.9	8.1	7.6	< 2
Barium	10	mg/kg	-	-	210	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	21	-
Cobalt	5	mg/kg	-	-	38	-
Copper	5	mg/kg	-	-	80	-
Lead	5	mg/kg	420	560	160	54
Manganese	5	mg/kg	-	-	620	-
Mercury	0.1	mg/kg	-	-	0.3	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	42	-

Client Sample ID			I10_1.0	I10_1.5	I10_2.0	I10_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021963	M24-De0021964	M24-De0021965	M24-De0021966
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	13	-
Zinc	5	mg/kg	-	-	190	-
Sample Properties						
% Moisture	1	%	13	15	20	21
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.050	0.075	-	0.46
Acenaphthylene	0.005	mg/kg	0.20	0.33	-	0.32
Anthracene	0.005	mg/kg	0.47	0.70	-	1.1
Benz(a)anthracene	0.005	mg/kg	1.4	4.7	-	1.4
Benzo(a)pyrene - low level	0.005	mg/kg	3.3	7.1	-	1.2
Benzo(b&j)fluoranthene	0.005	mg/kg	2.1	4.8	-	0.93
Benzo(g.h.i)perylene	0.005	mg/kg	3.3	5.9	-	0.63
Benzo(k)fluoranthene	0.005	mg/kg	2.5	5.0	-	1.2
Chrysene	0.005	mg/kg	2.5	6.1	-	3.3
Dibenz(a.h)anthracene	0.005	mg/kg	0.46	1.0	-	0.18
Fluoranthene	0.005	mg/kg	1.9	5.3	-	3.4
Fluorene	0.005	mg/kg	0.26	0.38	-	0.89
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	1.7	3.0	-	0.72
Naphthalene	0.005	mg/kg	0.17	0.23	-	0.51
Phenanthrene	0.005	mg/kg	1.0	1.7	-	3.0
Pyrene	0.005	mg/kg	2.4	6.2	-	3.6
Total PAH*	0.005	mg/kg	23.71	52.515	-	22.84
2-Fluorobiphenyl (surr.)	1	%	67	125	-	67
p-Terphenyl-d14 (surr.)	1	%	82	134	-	87

Client Sample ID			QC149	H11_0.5	H11_1.0	H11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021967	M24-De0021968	M24-De0021969	M24-De0021970
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	70	< 20	430	480
TRH C15-C28	50	mg/kg	250	67	1200	1300
TRH C29-C36	50	mg/kg	64	160	64	73
TRH C10-C36 (Total)	50	mg/kg	384	227	1694	1853
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	170	< 50	890	1100
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	170	< 50	890	1100
TRH >C16-C34	100	mg/kg	320	170	770	830
TRH >C34-C40	100	mg/kg	< 100	260	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	490	430	1660	1930

Client Sample ID			QC149	H11_0.5	H11_1.0	H11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021967	M24-De0021968	M24-De0021969	M24-De0021970
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	70	78	73	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	7.3	2.5	8.6	11
Lead	5	mg/kg	220	21	350	150
Sample Properties						
% Moisture	1	%	14	14	19	20
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	0.12
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	0.26	0.094
Anthracene	0.005	mg/kg	0.54	< 0.005	0.45	0.27
Benz(a)anthracene	0.005	mg/kg	2.5	< 0.005	3.5	0.53
Benzo(a)pyrene - low level	0.005	mg/kg	2.0	< 0.005	5.7	1.1
Benzo(b&j)fluoranthene	0.005	mg/kg	1.6	< 0.005	3.7	0.70
Benzo(g.h.i)perylene	0.005	mg/kg	0.90	< 0.005	2.0	0.65
Benzo(k)fluoranthene	0.005	mg/kg	2.5	< 0.005	3.1	0.77
Chrysene	0.005	mg/kg	2.7	< 0.005	2.7	0.88
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	0.12
Fluoranthene	0.005	mg/kg	3.5	< 0.005	3.7	0.84
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	0.19
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.51	< 0.005	0.85	0.26
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	0.36	0.094
Phenanthrene	0.005	mg/kg	0.90	< 0.005	1.4	0.68
Pyrene	0.005	mg/kg	4.5	< 0.005	5.8	1.1
Total PAH*	0.005	mg/kg	22.15	< 0.005	33.52	8.398
2-Fluorobiphenyl (surr.)	1	%	60	146	96	123
p-Terphenyl-d14 (surr.)	1	%	138	102	82	84

Client Sample ID			H11_2.0	H11_2.5	H11_3.0	G11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021971	M24-De0021972	M24-De0021973	M24-De0021974
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	57	50	< 20	< 20
TRH C15-C28	50	mg/kg	200	670	< 50	260
TRH C29-C36	50	mg/kg	58	310	< 50	290
TRH C10-C36 (Total)	50	mg/kg	315	1030	< 50	550
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			H11_2.0	H11_2.5	H11_3.0	G11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021971	M24-De0021972	M24-De0021973	M24-De0021974
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	150	120	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	150	118.8	< 50	< 50
TRH >C16-C34	100	mg/kg	150	840	< 100	500
TRH >C34-C40	100	mg/kg	< 100	250	< 100	130
TRH >C10-C40 (total)*	100	mg/kg	300	1210	< 100	630
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	84	61	77	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	1.2	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	7.7
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	7.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	7.7
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	0.8
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	3.1
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	4.9
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	3.2
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	5.3
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	5.0
Chrysene	0.5	mg/kg	< 0.5	-	-	3.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	1.3
Fluoranthene	0.5	mg/kg	< 0.5	-	-	7.9
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	3.3
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	2.6
Pyrene	0.5	mg/kg	< 0.5	-	-	8.6
Total PAH*	0.5	mg/kg	< 0.5	-	-	50
2-Fluorobiphenyl (surr.)	1	%	123	-	-	142
p-Terphenyl-d14 (surr.)	1	%	131	-	-	130
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			H11_2.0	H11_2.5	H11_3.0	G11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021971	M24-De0021972	M24-De0021973	M24-De0021974
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	55	-	-	106
Tetrachloro-m-xylene (surr.)	1	%	126	-	-	101
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	55	-	-	106
Tetrachloro-m-xylene (surr.)	1	%	126	-	-	101
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5

Client Sample ID			H11_2.0	H11_2.5	H11_3.0	G11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021971	M24-De0021972	M24-De0021973	M24-De0021974
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	121	-	-	67
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	4.2
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.5	< 2	5.4
Barium	10	mg/kg	34	-	-	120
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	28	-	-	21
Cobalt	5	mg/kg	34	-	-	12
Copper	5	mg/kg	34	-	-	390
Lead	5	mg/kg	12	100	21	380
Manganese	5	mg/kg	200	-	-	340
Mercury	0.1	mg/kg	< 0.1	-	-	0.5
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	54	-	-	27
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	44
Zinc	5	mg/kg	54	-	-	200
Sample Properties						
% Moisture	1	%	24	14	25	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	5.1	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	1.4	< 0.005	-
Anthracene	0.005	mg/kg	-	13	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	11	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	2.9	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	5.8	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	2.5	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	7.3	< 0.005	-
Chrysene	0.005	mg/kg	-	15	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.31	< 0.005	-
Fluoranthene	0.005	mg/kg	-	29	< 0.005	-
Fluorene	0.005	mg/kg	-	7.8	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	1.9	< 0.005	-
Naphthalene	0.005	mg/kg	-	0.81	< 0.005	-
Phenanthrene	0.005	mg/kg	-	30	< 0.005	-
Pyrene	0.005	mg/kg	-	32	< 0.005	-
Total PAH*	0.005	mg/kg	-	165.82	< 0.005	-

Client Sample ID			H11_2.0	H11_2.5	H11_3.0	G11_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021971	M24-De0021972	M24-De0021973	M24-De0021974
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
2-Fluorobiphenyl (surr.)	1	%	-	134	139	-
p-Terphenyl-d14 (surr.)	1	%	-	137	82	-

Client Sample ID			G11_1.0	G11_1.5	G11_2.0	G11_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021975	M24-De0021976	M24-De0021977	M24-De0021978
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	22	< 20
TRH C15-C28	50	mg/kg	< 50	170	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	100	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	270	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	260	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	260	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	87	81	77	75
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	2.2	270	8.0	4.6
Lead	5	mg/kg	22	4900	290	140
Sample Properties						
% Moisture	1	%	6.5	18	18	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.12	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	0.34	0.11	0.14
Anthracene	0.005	mg/kg	< 0.005	2.0	0.23	0.47
Benz(a)anthracene	0.005	mg/kg	< 0.005	2.5	1.2	1.1
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	4.0	0.39	0.63
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	2.1	0.98	1.4
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	4.4	0.68	1.4
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	2.9	1.1	1.7
Chrysene	0.005	mg/kg	< 0.005	7.1	1.2	0.97

Client Sample ID			G11_1.0	G11_1.5	G11_2.0	G11_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021975	M24-De0021976	M24-De0021977	M24-De0021978
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	1.00	0.24	0.16
Fluoranthene	0.005	mg/kg	< 0.005	10	1.5	1.7
Fluorene	0.005	mg/kg	< 0.005	0.36	< 0.005	0.026
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	2.3	1.9	2.1
Naphthalene	0.005	mg/kg	< 0.005	0.17	0.041	0.048
Phenanthrene	0.005	mg/kg	< 0.005	5.4	0.35	0.68
Pyrene	0.005	mg/kg	< 0.005	11	1.6	1.8
Total PAH*	0.005	mg/kg	< 0.005	55.69	11.521	14.324
2-Fluorobiphenyl (surr.)	1	%	132	55	59	65
p-Terphenyl-d14 (surr.)	1	%	76	107	121	105

Client Sample ID			G11_3.0	G11_3.5	QC141	QC153
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021979	M24-De0021980	M24-De0021981	M24-De0021984
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	72	-
TRH C15-C28	50	mg/kg	280	50	620	-
TRH C29-C36	50	mg/kg	55	< 50	430	-
TRH C10-C36 (Total)	50	mg/kg	335	50	1122	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	220	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	220	-
TRH >C16-C34	100	mg/kg	390	< 100	810	-
TRH >C34-C40	100	mg/kg	< 100	< 100	400	-
TRH >C10-C40 (total)*	100	mg/kg	390	< 100	1430	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	90	66	78	51
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	9.8	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	9.8	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	9.8	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	0.9	-	-	-
Anthracene	0.5	mg/kg	3.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	5.7	-	-	-

Client Sample ID			G11_3.0	G11_3.5	QC141	QC153
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021979	M24-De0021980	M24-De0021981	M24-De0021984
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	6.1	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	8.0	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	3.2	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	8.2	-	-	-
Chrysene	0.5	mg/kg	6.6	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	1.0	-	-	-
Fluoranthene	0.5	mg/kg	17	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.9	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	8.3	-	-	-
Pyrene	0.5	mg/kg	15	-	-	-
Total PAH*	0.5	mg/kg	87	-	-	-
2-Fluorobiphenyl (surr.)	1	%	74	-	-	-
p-Terphenyl-d14 (surr.)	1	%	51	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	85	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	72	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-

Client Sample ID			G11_3.0	G11_3.5	QC141	QC153
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021979	M24-De0021980	M24-De0021981	M24-De0021984
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	85	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	72	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	106	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	4.9	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	4.0	< 2	21	-
Barium	10	mg/kg	62	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	28	-	-	-
Cobalt	5	mg/kg	7.5	-	-	-
Copper	5	mg/kg	33	-	-	-
Lead	5	mg/kg	76	74	130	-
Manganese	5	mg/kg	220	-	-	-
Mercury	0.1	mg/kg	0.7	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	11	-	-	-

Client Sample ID			G11_3.0	G11_3.5	QC141	QC153
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021979	M24-De0021980	M24-De0021981	M24-De0021984
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	< 2	-	-	-
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	< 10	-	-	-
Zinc	5	mg/kg	72	-	-	-
Sample Properties						
% Moisture	1	%	20	26	12	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.016	0.17	-
Acenaphthylene	0.005	mg/kg	-	0.073	0.10	-
Anthracene	0.005	mg/kg	-	0.35	0.24	-
Benz(a)anthracene	0.005	mg/kg	-	0.83	0.66	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.2	0.66	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.60	0.66	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.76	0.37	-
Benzo(k)fluoranthene	0.005	mg/kg	-	0.62	0.62	-
Chrysene	0.005	mg/kg	-	1.1	0.78	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.11	0.092	-
Fluoranthene	0.005	mg/kg	-	0.90	1.1	-
Fluorene	0.005	mg/kg	-	0.061	0.27	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.42	0.19	-
Naphthalene	0.005	mg/kg	-	0.045	0.26	-
Phenanthrene	0.005	mg/kg	-	0.74	0.94	-
Pyrene	0.005	mg/kg	-	1.2	1.1	-
Total PAH*	0.005	mg/kg	-	9.025	8.212	-
2-Fluorobiphenyl (surr.)	1	%	-	55	148	-
p-Terphenyl-d14 (surr.)	1	%	-	89	144	-
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			QC154	QC155	QC156	QC147
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021985	M24-De0021986	M24-De0021987	M24-De0021988
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	430
TRH C29-C36	50	mg/kg	-	-	-	210
TRH C10-C36 (Total)	50	mg/kg	-	-	-	640
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	580
TRH >C34-C40	100	mg/kg	-	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	-	-	580

Client Sample ID			QC154	QC155	QC156	QC147
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021985	M24-De0021986	M24-De0021987	M24-De0021988
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	75	74	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	-	-	3.1
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	11
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	11
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	11
Acenaphthene	0.5	mg/kg	-	-	-	2.4
Acenaphthylene	0.5	mg/kg	-	-	-	1.2
Anthracene	0.5	mg/kg	-	-	-	4.4
Benz(a)anthracene	0.5	mg/kg	-	-	-	5.4
Benzo(a)pyrene	0.5	mg/kg	-	-	-	7.2
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	4.7
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	3.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	5.5
Chrysene	0.5	mg/kg	-	-	-	6.2
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	1.4
Fluoranthene	0.5	mg/kg	-	-	-	10
Fluorene	0.5	mg/kg	-	-	-	6.1
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	5.3
Naphthalene	0.5	mg/kg	-	-	-	6.2
Phenanthrene	0.5	mg/kg	-	-	-	11
Pyrene	0.5	mg/kg	-	-	-	10
Total PAH*	0.5	mg/kg	-	-	-	91
2-Fluorobiphenyl (surr.)	1	%	-	-	-	53
p-Terphenyl-d14 (surr.)	1	%	-	-	-	145
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			QC154	QC155	QC156	QC147
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021985	M24-De0021986	M24-De0021987	M24-De0021988
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	136
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	65
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	136
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	65
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	133
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	7.2

Client Sample ID			QC154	QC155	QC156	QC147
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0021985	M24-De0021986	M24-De0021987	M24-De0021988
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	-	-	-	36
Barium	10	mg/kg	-	-	-	110
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	18
Cobalt	5	mg/kg	-	-	-	14
Copper	5	mg/kg	-	-	-	100
Lead	5	mg/kg	-	-	-	180
Manganese	5	mg/kg	-	-	-	220
Mercury	0.1	mg/kg	-	-	-	0.2
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	13
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	62
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-

Client Sample ID			E09_3.0
Sample Matrix			Soil
Eurofins Sample No.			M24-De0022292
Date Sampled			Dec 05, 2024
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	120
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	120
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	130
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	130
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1

Client Sample ID			E09_3.0
Sample Matrix			Soil
Eurofins Sample No.			M24-De0022292
Date Sampled			Dec 05, 2024
Test/Reference	LOR	Unit	
BTEX			
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	132
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Heavy Metals			
Arsenic	2	mg/kg	< 2
Lead	5	mg/kg	< 5
Sample Properties			
% Moisture	1	%	7.7
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.005	mg/kg	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005
Anthracene	0.005	mg/kg	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005
Chrysene	0.005	mg/kg	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005
Fluorene	0.005	mg/kg	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005
Naphthalene	0.005	mg/kg	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005
Pyrene	0.005	mg/kg	< 0.005
Total PAH*	0.005	mg/kg	< 0.005
2-Fluorobiphenyl (surr.)	1	%	117
p-Terphenyl-d14 (surr.)	1	%	60

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 13, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 16, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 12, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Dec 12, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Dec 12, 2024	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Dec 12, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Dec 12, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Dec 12, 2024	14 Days
- Method: USEPA SW 846 8270			
Chromium (hexavalent)	Melbourne	Dec 11, 2024	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Dec 11, 2024	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Dec 11, 2024	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
- Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE			
Heavy Metals	Melbourne	Dec 13, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Total Recoverable Hydrocarbons	Melbourne	Dec 16, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X
External Laboratory									

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	J08_1.0	Dec 04, 2024		Soil	M24-De0021833					X			X
2	J08_1.5	Dec 04, 2024		Soil	M24-De0021834		X		X	X	X		X	
3	J08_2.0	Dec 04, 2024		Soil	M24-De0021835		X		X	X	X		X	
4	J08_2.5	Dec 04, 2024		Soil	M24-De0021836		X		X	X	X		X	
5	I08_0.5	Dec 04, 2024		Soil	M24-De0021837		X		X	X	X		X	
6	I08_1.0	Dec 04, 2024		Soil	M24-De0021838		X		X	X	X		X	
7	I08_1.5	Dec 04, 2024		Soil	M24-De0021839		X		X	X	X		X	
8	I08_2.0	Dec 04, 2024		Soil	M24-De0021840					X				X
9	I08_2.5	Dec 04, 2024		Soil	M24-De0021841		X		X	X	X		X	
10	QC140	Dec 05, 2024		Water	M24-De0021842		X		X		X		X	
11	J09_0.5	Dec 05, 2024		Soil	M24-De0021843					X				X
12	J09_1.0	Dec 05, 2024		Soil	M24-De0021844		X		X	X	X		X	
13	J09_1.5	Dec 05, 2024		Soil	M24-De0021845		X		X	X	X		X	

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Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
14	J09_2.0	Dec 05, 2024		Soil	M24-De0021846					X				X
15	J11_0.5	Dec 05, 2024		Soil	M24-De0021847		X		X	X	X		X	
16	J11_1.0	Dec 05, 2024		Soil	M24-De0021848		X		X	X	X		X	
17	J11_1.5	Dec 05, 2024		Soil	M24-De0021849					X				X
18	J11_2.0	Dec 05, 2024		Soil	M24-De0021850		X		X	X	X		X	
19	M13_0.5	Dec 05, 2024		Soil	M24-De0021851		X		X	X	X		X	
20	M13_1.0	Dec 05, 2024		Soil	M24-De0021852					X				X
21	M13_1.5	Dec 05, 2024		Soil	M24-De0021853		X		X	X	X		X	
22	I09_0.5	Dec 05, 2024		Soil	M24-De0021854		X		X	X	X		X	
23	I09_1.0	Dec 05, 2024		Soil	M24-De0021855		X		X	X	X		X	
24	I09_1.5	Dec 05, 2024		Soil	M24-De0021856		X		X	X	X		X	
25	I09_2.0	Dec 05, 2024		Soil	M24-De0021857					X				X
26	I09_2.5	Dec 05, 2024		Soil	M24-De0021858		X		X	X	X		X	
27	L13_0.5	Dec 05, 2024		Soil	M24-De0021859		X		X	X	X		X	
28	L13_1.0	Dec 05, 2024		Soil	M24-De0021860					X				X
29	L13_1.5	Dec 05, 2024		Soil	M24-De0021861		X		X	X	X		X	

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Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
30	L14_0.5	Dec 05, 2024		Soil	M24-De0021862		X		X	X	X		X	
31	L14_1.0	Dec 05, 2024		Soil	M24-De0021863		X		X	X	X		X	
32	L14_1.5	Dec 05, 2024		Soil	M24-De0021864					X				X
33	L15_0.5	Dec 05, 2024		Soil	M24-De0021865					X				X
34	L15_1.0	Dec 05, 2024		Soil	M24-De0021866		X		X	X	X		X	
35	L15_1.5	Dec 05, 2024		Soil	M24-De0021867		X		X	X	X		X	
36	O13_0.5	Dec 05, 2024		Soil	M24-De0021868		X		X	X	X		X	
37	O13_1.0	Dec 05, 2024		Soil	M24-De0021869		X		X	X	X		X	
38	O13_1.5	Dec 05, 2024		Soil	M24-De0021870					X				X
39	H09_0.5	Dec 05, 2024		Soil	M24-De0021871		X		X	X	X		X	
40	H09_1.0	Dec 05, 2024		Soil	M24-De0021872		X		X	X	X		X	
41	H09_1.5	Dec 05, 2024		Soil	M24-De0021873					X				X
42	H09_2.0	Dec 05, 2024		Soil	M24-De0021874		X		X	X	X		X	
43	H09_2.5	Dec 05, 2024		Soil	M24-De0021875		X		X	X	X		X	
44	H09_3.0	Dec 05, 2024		Soil	M24-De0021876					X				X
45	E09_0.5	Dec 05, 2024		Soil	M24-De0021877		X		X	X	X		X	

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Company Name: Aecom Aust Pty Ltd Tasmania
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Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
46	E09_1.0	Dec 05, 2024		Soil	M24-De0021878					X				X
47	E09_1.5	Dec 05, 2024		Soil	M24-De0021879		X		X	X	X		X	
48	E09_2.0	Dec 05, 2024		Soil	M24-De0021880		X		X	X	X		X	
49	E09_2.5	Dec 05, 2024		Soil	M24-De0021881					X				X
50	E09_3.5	Dec 05, 2024		Soil	M24-De0021882		X		X	X	X		X	
51	E09_4.0	Dec 05, 2024		Soil	M24-De0021883		X		X	X	X		X	
52	E09_4.5	Dec 05, 2024		Soil	M24-De0021884					X				X
53	G09_0.5	Dec 05, 2024		Soil	M24-De0021885		X		X	X	X		X	
54	G09_1.0	Dec 05, 2024		Soil	M24-De0021886		X		X	X	X		X	
55	G09_1.5	Dec 05, 2024		Soil	M24-De0021887					X				X
56	G09_2.0	Dec 05, 2024		Soil	M24-De0021888		X		X	X	X		X	
57	G09_2.5	Dec 05, 2024		Soil	M24-De0021889		X		X	X	X		X	
58	G09_3.0	Dec 05, 2024		Soil	M24-De0021890		X		X	X	X		X	
59	G09_3.5	Dec 05, 2024		Soil	M24-De0021891					X				X
60	G10_0.5	Dec 05, 2024		Soil	M24-De0021892		X		X	X	X		X	
61	G10_1.0	Dec 05, 2024		Soil	M24-De0021893		X		X	X	X		X	

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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
62	G10_1.5	Dec 05, 2024		Soil	M24-De0021894		X		X	X	X		X	
63	G10_2.0	Dec 05, 2024		Soil	M24-De0021895					X				X
64	G10_2.5	Dec 05, 2024		Soil	M24-De0021896		X		X	X	X		X	
65	G10_3.0	Dec 05, 2024		Soil	M24-De0021897		X		X	X	X		X	
66	G10_3.5	Dec 05, 2024		Soil	M24-De0021898		X		X	X	X		X	
67	F10_0.5	Dec 05, 2024		Soil	M24-De0021899					X				X
68	F10_1.0	Dec 05, 2024		Soil	M24-De0021900		X		X	X	X		X	
69	F10_1.5	Dec 05, 2024		Soil	M24-De0021901		X		X	X	X		X	
70	F10_2.0	Dec 05, 2024		Soil	M24-De0021902		X		X	X	X		X	
71	F10_2.5	Dec 05, 2024		Soil	M24-De0021903		X		X	X	X		X	
72	F10_3.0	Dec 05, 2024		Soil	M24-De0021904					X				X
73	F10_3.5	Dec 05, 2024		Soil	M24-De0021905		X		X	X	X		X	
74	E10_0.5	Dec 05, 2024		Soil	M24-De0021906		X		X	X	X		X	
75	E10_1.0	Dec 05, 2024		Soil	M24-De0021907		X		X	X	X		X	
76	E10_1.5	Dec 05, 2024		Soil	M24-De0021908					X				X
77	E10_2.0	Dec 05, 2024		Soil	M24-De0021909		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
78	E10_2.5	Dec 05, 2024		Soil	M24-De0021910					X				X
79	E10_3.0	Dec 05, 2024		Soil	M24-De0021911		X		X	X	X		X	
80	E10_3.5	Dec 05, 2024		Soil	M24-De0021912		X		X	X	X		X	
81	QC143	Dec 06, 2024		Soil	M24-De0021913					X				X
82	QC146	Dec 06, 2024		Water	M24-De0021914		X		X		X		X	
83	L11_0.5	Dec 06, 2024		Soil	M24-De0021915		X		X	X	X		X	
84	L11_1.0	Dec 06, 2024		Soil	M24-De0021916		X		X	X	X		X	
85	L11_1.5	Dec 06, 2024		Soil	M24-De0021917					X				X
86	K11_0.5	Dec 06, 2024		Soil	M24-De0021918		X		X	X	X		X	
87	K11_1.0	Dec 06, 2024		Soil	M24-De0021919		X		X	X	X		X	
88	K11_1.5	Dec 06, 2024		Soil	M24-De0021920		X		X	X	X		X	
89	K11_2.0	Dec 06, 2024		Soil	M24-De0021921					X				X
90	H10_0.5	Dec 06, 2024		Soil	M24-De0021922		X		X	X	X		X	
91	H10_1.0	Dec 06, 2024		Soil	M24-De0021923		X		X	X	X		X	
92	H10_1.5	Dec 06, 2024		Soil	M24-De0021924					X				X
93	H10_2.0	Dec 06, 2024		Soil	M24-De0021925		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
94	H10_2.5	Dec 06, 2024		Soil	M24-De0021926		X		X	X	X		X	
95	H10_3.0	Dec 06, 2024		Soil	M24-De0021927					X				X
96	K10_0.5	Dec 06, 2024		Soil	M24-De0021928					X				X
97	K10_1.0	Dec 06, 2024		Soil	M24-De0021929		X		X	X	X		X	
98	K10_1.5	Dec 06, 2024		Soil	M24-De0021930		X		X	X	X		X	
99	K10_2.0	Dec 06, 2024		Soil	M24-De0021931					X				X
100	L08_0.5	Dec 06, 2024		Soil	M24-De0021932		X		X	X	X		X	
101	L08_1.0	Dec 06, 2024		Soil	M24-De0021933					X				X
102	L08_1.5	Dec 06, 2024		Soil	M24-De0021934		X		X	X	X		X	
103	L08_2.0	Dec 06, 2024		Soil	M24-De0021935		X		X	X	X		X	
104	L09_0.5	Dec 06, 2024		Soil	M24-De0021936					X				X
105	L09_1.0	Dec 06, 2024		Soil	M24-De0021937		X		X	X	X		X	
106	L09_1.5	Dec 06, 2024		Soil	M24-De0021938		X		X	X	X		X	
107	L09_2.0	Dec 06, 2024		Soil	M24-De0021939		X		X	X	X		X	
108	K08_0.5	Dec 06, 2024		Soil	M24-De0021940		X		X	X	X		X	
109	K08_1.0	Dec 06, 2024		Soil	M24-De0021941		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
110	K08_1.5	Dec 06, 2024		Water	M24-De0021942		X		X		X		X	
111	K08_2.0	Dec 06, 2024		Soil	M24-De0021943					X				X
112	K09_0.5	Dec 06, 2024		Soil	M24-De0021944		X		X	X	X		X	
113	K09_1.0	Dec 06, 2024		Soil	M24-De0021945		X		X	X	X		X	
114	K09_1.5	Dec 06, 2024		Soil	M24-De0021946					X				X
115	K09_2.0	Dec 06, 2024		Soil	M24-De0021947		X		X	X	X		X	
116	K07_0.5	Dec 06, 2024		Soil	M24-De0021948		X		X	X	X		X	
117	K07_1.0	Dec 06, 2024		Soil	M24-De0021949		X		X	X	X		X	
118	K07_1.5	Dec 06, 2024		Soil	M24-De0021950					X				X
119	K07_2.0	Dec 06, 2024		Soil	M24-De0021951		X		X	X	X		X	
120	QC150	Dec 06, 2024		Soil	M24-De0021952		X		X	X	X		X	
121	I12_0.5	Dec 06, 2024		Soil	M24-De0021953					X				X
122	I12_1.0	Dec 06, 2024		Soil	M24-De0021954		X		X	X	X		X	
123	I12_1.5	Dec 06, 2024		Soil	M24-De0021955		X		X	X	X		X	
124	I12_2.0	Dec 06, 2024		Soil	M24-De0021956					X				X
125	I11_0.5	Dec 06, 2024		Soil	M24-De0021957		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
126	I11_1.0	Dec 06, 2024		Soil	M24-De0021958		X		X	X	X		X	
127	I11_1.5	Dec 06, 2024		Soil	M24-De0021959		X		X	X	X		X	
128	I11_2.0	Dec 06, 2024		Soil	M24-De0021960					X				X
129	I11_2.5	Dec 06, 2024		Soil	M24-De0021961					X				X
130	I10_0.5	Dec 06, 2024		Soil	M24-De0021962		X		X	X	X		X	
131	I10_1.0	Dec 06, 2024		Soil	M24-De0021963		X		X	X	X		X	
132	I10_1.5	Dec 06, 2024		Soil	M24-De0021964		X		X	X	X		X	
133	I10_2.0	Dec 06, 2024		Soil	M24-De0021965					X				X
134	I10_2.5	Dec 06, 2024		Soil	M24-De0021966		X		X	X	X		X	
135	QC149	Dec 06, 2024		Soil	M24-De0021967		X		X	X	X		X	
136	H11_0.5	Dec 06, 2024		Soil	M24-De0021968		X		X	X	X		X	
137	H11_1.0	Dec 06, 2024		Soil	M24-De0021969		X		X	X	X		X	
138	H11_1.5	Dec 06, 2024		Soil	M24-De0021970		X		X	X	X		X	
139	H11_2.0	Dec 06, 2024		Soil	M24-De0021971					X				X
140	H11_2.5	Dec 06, 2024		Soil	M24-De0021972		X		X	X	X		X	
141	H11_3.0	Dec 06, 2024		Soil	M24-De0021973		X		X	X	X		X	

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Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
142	G11_0.5	Dec 06, 2024		Soil	M24-De0021974					X				X
143	G11_1.0	Dec 06, 2024		Soil	M24-De0021975		X		X	X	X		X	
144	G11_1.5	Dec 06, 2024		Soil	M24-De0021976		X		X	X	X		X	
145	G11_2.0	Dec 06, 2024		Soil	M24-De0021977		X		X	X	X		X	
146	G11_2.5	Dec 06, 2024		Soil	M24-De0021978		X		X	X	X		X	
147	G11_3.0	Dec 06, 2024		Soil	M24-De0021979					X				X
148	G11_3.5	Dec 06, 2024		Soil	M24-De0021980		X		X	X	X		X	
149	QC141	Dec 05, 2024		Soil	M24-De0021981		X		X	X	X		X	
150	QC139	Dec 05, 2024		Water	M24-De0021982	X								
151	QC145	Dec 06, 2024		Water	M24-De0021983	X								
152	QC153	Dec 06, 2024		Soil	M24-De0021984							X		
153	QC154	Dec 06, 2024		Soil	M24-De0021985							X		
154	QC155	Dec 06, 2024		Soil	M24-De0021986							X		
155	QC156	Dec 06, 2024		Soil	M24-De0021987							X		
156	QC147	Dec 06, 2024		Soil	M24-De0021988									X
157	QC148	Dec 06, 2024		Soil	M24-De0021989			X						

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
158	E09_3.0	Dec 05, 2024		Soil	M24-De0022292		X		X	X	X		X	
Test Counts						2	107	1	107	147	107	4	107	44

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
4-Nitrophenol	%	52			25-140	Pass	
Dinoseb	%	31			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	117			70-130	Pass	
TRH >C10-C16	%	118			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	114			70-130	Pass	
Anthracene	%	93			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	105			70-130	Pass	
Benzo(b&j)fluoranthene	%	100			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	111			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	83			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	114			70-130	Pass	
Anthracene	%	93			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	100			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	111			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	83			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Methyl-4.6-dinitrophenol	%	113			25-140	Pass	
2.4-Dinitrophenol	%	62			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	89			70-130	Pass	
TRH >C10-C16	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	80			70-130	Pass	
TRH >C10-C16	%	77			70-130	Pass	
LCS - % Recovery							
Fluoride	%	113			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	79			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	76			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	90			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	127			70-130	Pass	
Benz(a)anthracene	%	108			70-130	Pass	
Benzo(a)pyrene	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	%	87			70-130	Pass	
Benzo(g.h.i)perylene	%	88			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	86			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	90			25-140	Pass	
2.4-Dichlorophenol	%	45			25-140	Pass	
2.4.5-Trichlorophenol	%	103			25-140	Pass	
2.4.6-Trichlorophenol	%	104			25-140	Pass	
2.6-Dichlorophenol	%	70			25-140	Pass	
4-Chloro-3-methylphenol	%	76			25-140	Pass	
Pentachlorophenol	%	82			25-140	Pass	
Tetrachlorophenols - Total	%	70			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	47			25-140	Pass	
2-Nitrophenol	%	58			25-140	Pass	
2.4-Dimethylphenol	%	74			25-140	Pass	
2-Methylphenol (o-Cresol)	%	71			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	79			25-140	Pass	
Phenol	%	111			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	71			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	90			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	127			70-130	Pass	
Benz(a)anthracene	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	%	87			70-130	Pass	
Benzo(g.h.i)perylene	%	88			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	112			70-130	Pass	
TRH >C10-C16	%	111			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	105			25-140	Pass	
2.4-Dichlorophenol	%	58			25-140	Pass	
2.4.5-Trichlorophenol	%	48			25-140	Pass	
2.4.6-Trichlorophenol	%	52			25-140	Pass	
2.6-Dichlorophenol	%	73			25-140	Pass	
4-Chloro-3-methylphenol	%	38			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	57			25-140	Pass	
2.4-Dimethylphenol	%	37			25-140	Pass	
2-Methylphenol (o-Cresol)	%	82			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	68			25-140	Pass	
Phenol	%	105			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Barium	%	109			80-120	Pass	
Beryllium	%	113			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	115			80-120	Pass	
Cobalt	%	108			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	110			80-120	Pass	
Manganese	%	115			80-120	Pass	
Mercury	%	98			80-120	Pass	
Molybdenum	%	113			80-120	Pass	
Nickel	%	113			80-120	Pass	
Selenium	%	107			80-120	Pass	
Silver	%	109			80-120	Pass	
Tin	%	114			80-120	Pass	
Zinc	%	106			80-120	Pass	
LCS - % Recovery							
Fluoride	%	74			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	95			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	85			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	76			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	119			70-130	Pass	
Acenaphthylene	%	100			70-130	Pass	
Anthracene	%	73			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	%	112			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	117			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	112			70-130	Pass	
Naphthalene	%	108			70-130	Pass	
Phenanthrene	%	84			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	74			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	72			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	119			70-130	Pass	
Acenaphthylene	%	100			70-130	Pass	
Anthracene	%	73			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	112			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	117			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	112			70-130	Pass	
Naphthalene	%	108			70-130	Pass	
Phenanthrene	%	84			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Barium	%	110			80-120	Pass	
Beryllium	%	117			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	111			80-120	Pass	
Cobalt	%	110			80-120	Pass	
Copper	%	116			80-120	Pass	
Lead	%	117			80-120	Pass	
Manganese	%	110			80-120	Pass	
Mercury	%	108			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Molybdenum	%	109			80-120	Pass	
Nickel	%	113			80-120	Pass	
Selenium	%	107			80-120	Pass	
Silver	%	113			80-120	Pass	
Tin	%	112			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	104			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
Xylenes - Total*	%	105			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	88			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	103			70-130	Pass	
Acenaphthylene	%	97			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	80			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	
Benzo(k)fluoranthene	%	111			70-130	Pass	
Chrysene	%	128			70-130	Pass	
Dibenz(a.h)anthracene	%	111			70-130	Pass	
Fluoranthene	%	107			70-130	Pass	
Fluorene	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	117			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	77			70-130	Pass	
Pyrene	%	74			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	78			70-130	Pass	
TRH >C10-C16	%	77			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	114			70-130	Pass	
Acenaphthylene	%	121			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	%	98			70-130	Pass	
Benzo(g.h.i)perylene	%	87			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a.h)anthracene	%	89			70-130	Pass	
Fluoranthene	%	117			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluorene	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	98			70-130	Pass	
Naphthalene	%	124			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	112			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	86			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	114			70-130	Pass	
Acenaphthylene	%	121			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	98			70-130	Pass	
Benzo(g.h.i)perylene	%	87			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a.h)anthracene	%	89			70-130	Pass	
Fluoranthene	%	117			70-130	Pass	
Fluorene	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	98			70-130	Pass	
Naphthalene	%	124			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	112			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	73			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	100			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	77			70-130	Pass	
Toluene	%	93			70-130	Pass	
Ethylbenzene	%	93			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
Xylenes - Total*	%	92			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	93			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	129			70-130	Pass	
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	117			70-130	Pass	
Benz(a)anthracene	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	%	126			70-130	Pass	
Benzo(g.h.i)perylene	%	118			70-130	Pass	
Benzo(k)fluoranthene	%	77			70-130	Pass	
Chrysene	%	107			70-130	Pass	
Dibenz(a.h)anthracene	%	118			70-130	Pass	
Fluoranthene	%	99			70-130	Pass	
Fluorene	%	116			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	124			70-130	Pass	
Phenanthrene	%	116			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	112			70-130	Pass	
TRH >C10-C16	%	110			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	72			70-130	Pass	
Cyanide (total)	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	98			70-130	Pass	
TRH C6-C10	%	97			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	100			70-130	Pass	
Toluene	%	99			70-130	Pass	
Ethylbenzene	%	92			70-130	Pass	
m&p-Xylenes	%	88			70-130	Pass	
Xylenes - Total*	%	88			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	84			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	90			80-120	Pass	
Barium	%	90			80-120	Pass	
Beryllium	%	93			80-120	Pass	
Cadmium	%	112			80-120	Pass	
Chromium	%	96			80-120	Pass	
Cobalt	%	92			80-120	Pass	
Copper	%	96			80-120	Pass	
Lead	%	99			80-120	Pass	
Manganese	%	96			80-120	Pass	
Mercury	%	106			80-120	Pass	
Molybdenum	%	93			80-120	Pass	
Nickel	%	92			80-120	Pass	
Selenium	%	86			80-120	Pass	
Silver	%	117			80-120	Pass	
Tin	%	91			80-120	Pass	
Zinc	%	92			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	86			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	122			70-130	Pass	
TRH >C10-C16	%	121			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	127			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons							
TRH C6-C9	%	97			70-130	Pass	
TRH C6-C10	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	84			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	88			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	112			70-130	Pass	
TRH C6-C10	%	110			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	115			70-130	Pass	
Toluene	%	99			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	107			70-130	Pass	
Xylenes - Total*	%	108			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	123			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	97			70-130	Pass	
TRH C6-C10	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	77			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	85			70-130	Pass	
m&p-Xylenes	%	83			70-130	Pass	
Xylenes - Total*	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	91			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	114			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	96			70-130	Pass	
Benz(a)anthracene	%	80			70-130	Pass	
Benzo(a)pyrene	%	107			70-130	Pass	
Benzo(b&j)fluoranthene	%	107			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	116			70-130	Pass	
Chrysene	%	102			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a.h)anthracene	%	95			70-130	Pass	
Fluoranthene	%	78			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	85			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	101			70-130	Pass	
Pyrene	%	114			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	107			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	96			70-130	Pass	
Benz(a)anthracene	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	%	107			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	116			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a.h)anthracene	%	95			70-130	Pass	
Fluoranthene	%	78			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	85			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	101			70-130	Pass	
Pyrene	%	114			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	84			70-130	Pass	
TRH C10-C14	%	105			70-130	Pass	
TRH C6-C10	%	82			70-130	Pass	
TRH >C10-C16	%	105			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	82			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	78			70-130	Pass	
Xylenes - Total*	%	78			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	86			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	106			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	102			70-130	Pass	
Benzo(b&j)fluoranthene	%	92			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	88			70-130	Pass	
Chrysene	%	108			70-130	Pass	
Dibenz(a.h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	100			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	102			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	106			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	92			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	88			70-130	Pass	
Chrysene	%	108			70-130	Pass	
Dibenz(a.h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	100			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	95			70-130	Pass	
TRH >C10-C16	%	108			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	76			70-130	Pass	
TRH >C10-C16	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	110			70-130	Pass	
TRH C6-C10	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	118			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	119			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	102			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Barium	%	108			80-120	Pass	
Beryllium	%	111			80-120	Pass	
Cadmium	%	108			80-120	Pass	
Chromium	%	109			80-120	Pass	
Cobalt	%	104			80-120	Pass	
Copper	%	105			80-120	Pass	
Lead	%	106			80-120	Pass	
Manganese	%	110			80-120	Pass	
Mercury	%	97			80-120	Pass	
Molybdenum	%	110			80-120	Pass	
Nickel	%	108			80-120	Pass	
Selenium	%	108			80-120	Pass	
Silver	%	110			80-120	Pass	
Tin	%	113			80-120	Pass	
Zinc	%	104			80-120	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	79			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	79			70-130	Pass	
TRH >C10-C16	%	96			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	75			70-130	Pass	
4.4'-DDD	%	116			70-130	Pass	
4.4'-DDE	%	74			70-130	Pass	
4.4'-DDT	%	75			70-130	Pass	
a-HCH	%	102			70-130	Pass	
Aldrin	%	97			70-130	Pass	
b-HCH	%	103			70-130	Pass	
d-HCH	%	106			70-130	Pass	
Dieldrin	%	95			70-130	Pass	
Endosulfan I	%	99			70-130	Pass	
Endosulfan II	%	73			70-130	Pass	
Endosulfan sulphate	%	113			70-130	Pass	
Endrin	%	116			70-130	Pass	
Endrin aldehyde	%	77			70-130	Pass	
Endrin ketone	%	95			70-130	Pass	
g-HCH (Lindane)	%	108			70-130	Pass	
Heptachlor	%	113			70-130	Pass	
Heptachlor epoxide	%	87			70-130	Pass	
Hexachlorobenzene	%	101			70-130	Pass	
Methoxychlor	%	74			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	88			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	77			25-140	Pass	
2.4-Dichlorophenol	%	67			25-140	Pass	
2.4.5-Trichlorophenol	%	55			25-140	Pass	
2.4.6-Trichlorophenol	%	67			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.6-Dichlorophenol	%	61			25-140	Pass	
4-Chloro-3-methylphenol	%	57			25-140	Pass	
Tetrachlorophenols - Total	%	39			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	42			25-140	Pass	
2.4-Dimethylphenol	%	42			25-140	Pass	
2-Methylphenol (o-Cresol)	%	66			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	70			25-140	Pass	
Phenol	%	77			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Barium	%	110			80-120	Pass	
Beryllium	%	117			80-120	Pass	
Cadmium	%	110			80-120	Pass	
Chromium	%	112			80-120	Pass	
Cobalt	%	107			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	108			80-120	Pass	
Manganese	%	113			80-120	Pass	
Mercury	%	96			80-120	Pass	
Molybdenum	%	114			80-120	Pass	
Nickel	%	112			80-120	Pass	
Selenium	%	108			80-120	Pass	
Silver	%	112			80-120	Pass	
Tin	%	114			80-120	Pass	
Zinc	%	106			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	105			70-130	Pass	
Acenaphthylene	%	78			70-130	Pass	
Anthracene	%	120			70-130	Pass	
Benz(a)anthracene	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	83			70-130	Pass	
Chrysene	%	87			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	110			70-130	Pass	
Fluorene	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	70			70-130	Pass	
Naphthalene	%	103			70-130	Pass	
Phenanthrene	%	80			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	82			70-130	Pass	
Benz(a)anthracene	%	85			70-130	Pass	
Benzo(a)pyrene	%	105			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	89			70-130	Pass	
Benzo(k)fluoranthene	%	76			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	87			70-130	Pass	
Dibenz(a.h)anthracene	%	110			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	80			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	96			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	91			25-140	Pass	
2.4-Dichlorophenol	%	40			25-140	Pass	
2.4.5-Trichlorophenol	%	98			25-140	Pass	
2.4.6-Trichlorophenol	%	104			25-140	Pass	
2.6-Dichlorophenol	%	85			25-140	Pass	
4-Chloro-3-methylphenol	%	67			25-140	Pass	
Pentachlorophenol	%	77			25-140	Pass	
Tetrachlorophenols - Total	%	67			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	59			25-140	Pass	
2.4-Dimethylphenol	%	74			25-140	Pass	
2-Methylphenol (o-Cresol)	%	72			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	82			25-140	Pass	
Phenol	%	112			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	82			70-130	Pass	
Benz(a)anthracene	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	89			70-130	Pass	
Benzo(k)fluoranthene	%	76			70-130	Pass	
Chrysene	%	87			70-130	Pass	
Dibenz(a.h)anthracene	%	110			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	80			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	78			70-130	Pass	
TRH C6-C10	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	75			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	%	93			70-130	Pass	
Xylenes - Total*	%	94			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	92			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	84			70-130	Pass	
Anthracene	%	126			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(a)pyrene	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	86			70-130	Pass	
Chrysene	%	82			70-130	Pass	
Dibenz(a.h)anthracene	%	71			70-130	Pass	
Fluoranthene	%	88			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	77			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	95			70-130	Pass	
Pyrene	%	93			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	95			25-140	Pass	
2.4-Dichlorophenol	%	72			25-140	Pass	
2.4.5-Trichlorophenol	%	73			25-140	Pass	
2.4.6-Trichlorophenol	%	102			25-140	Pass	
2.6-Dichlorophenol	%	93			25-140	Pass	
4-Chloro-3-methylphenol	%	70			25-140	Pass	
Pentachlorophenol	%	47			25-140	Pass	
Tetrachlorophenols - Total	%	72			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	36			25-140	Pass	
2.4-Dimethylphenol	%	90			25-140	Pass	
2-Methylphenol (o-Cresol)	%	100			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	98			25-140	Pass	
Phenol	%	100			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	77			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	84			70-130	Pass	
Anthracene	%	126			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	86			70-130	Pass	
Chrysene	%	82			70-130	Pass	
Dibenz(a.h)anthracene	%	71			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluoranthene			%	88			70-130	Pass	
Fluorene			%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene			%	77			70-130	Pass	
Naphthalene			%	105			70-130	Pass	
Phenanthrene			%	95			70-130	Pass	
Pyrene			%	93			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M24-De0013851	NCP	%	109			70-130	Pass	
4.4'-DDD	M24-De0013851	NCP	%	105			70-130	Pass	
4.4'-DDE	M24-De0013851	NCP	%	126			70-130	Pass	
4.4'-DDT	M24-De0013851	NCP	%	102			70-130	Pass	
a-HCH	M24-De0013851	NCP	%	90			70-130	Pass	
Aldrin	M24-De0013851	NCP	%	90			70-130	Pass	
b-HCH	M24-De0013851	NCP	%	113			70-130	Pass	
d-HCH	M24-De0013851	NCP	%	124			70-130	Pass	
Dieldrin	M24-De0013851	NCP	%	96			70-130	Pass	
Endosulfan I	M24-De0013851	NCP	%	97			70-130	Pass	
Endosulfan II	M24-De0013851	NCP	%	123			70-130	Pass	
Endosulfan sulphate	M24-De0013851	NCP	%	103			70-130	Pass	
Endrin	M24-De0013851	NCP	%	126			70-130	Pass	
Endrin aldehyde	M24-De0013851	NCP	%	125			70-130	Pass	
Endrin ketone	M24-De0013851	NCP	%	101			70-130	Pass	
g-HCH (Lindane)	M24-De0013851	NCP	%	125			70-130	Pass	
Heptachlor	M24-De0013851	NCP	%	108			70-130	Pass	
Heptachlor epoxide	M24-De0013851	NCP	%	101			70-130	Pass	
Hexachlorobenzene	M24-De0013851	NCP	%	128			70-130	Pass	
Methoxychlor	M24-De0013851	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B24-De0016875	NCP	%	89			30-130	Pass	
2.4-Dichlorophenol	M24-De0016573	NCP	%	100			30-130	Pass	
2.4.5-Trichlorophenol	M24-De0016573	NCP	%	105			30-130	Pass	
2.4.6-Trichlorophenol	M24-De0016573	NCP	%	99			30-130	Pass	
2.6-Dichlorophenol	M24-De0016573	NCP	%	101			30-130	Pass	
4-Chloro-3-methylphenol	B24-De0016875	NCP	%	80			30-130	Pass	
Pentachlorophenol	M24-De0016573	NCP	%	127			30-130	Pass	
Tetrachlorophenols - Total	M24-De0016573	NCP	%	94			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-De0016573	NCP	%	91			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0016573	NCP	%	88			30-130	Pass	
2-Nitrophenol	M24-De0016573	NCP	%	105			30-130	Pass	
2.4-Dimethylphenol	M24-De0016573	NCP	%	101			30-130	Pass	
2.4-Dinitrophenol	M24-De0016573	NCP	%	87			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-De0016573	NCP	%	99			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0016573	NCP	%	96			30-130	Pass	
4-Nitrophenol	M24-De0016573	NCP	%	102			30-130	Pass	
Dinoseb	M24-De0016573	NCP	%	96			30-130	Pass	
Phenol	B24-De0016875	NCP	%	96			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Beryllium	M24-De0021838	CP	%	78			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	M24-De0021838	CP	%	96			75-125	Pass	
Chromium	M24-De0021838	CP	%	83			75-125	Pass	
Cobalt	M24-De0021838	CP	%	83			75-125	Pass	
Molybdenum	M24-De0021838	CP	%	78			75-125	Pass	
Nickel	M24-De0021838	CP	%	78			75-125	Pass	
Silver	M24-De0021838	CP	%	101			75-125	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M24-De0018769	NCP	%	101			70-130	Pass	
Aroclor-1260	M24-De0018769	NCP	%	112			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021840	CP	%	110			75-125	Pass	
Beryllium	M24-De0021840	CP	%	104			75-125	Pass	
Cadmium	M24-De0021840	CP	%	111			75-125	Pass	
Chromium	M24-De0021840	CP	%	88			75-125	Pass	
Cobalt	M24-De0021840	CP	%	110			75-125	Pass	
Molybdenum	M24-De0021840	CP	%	113			75-125	Pass	
Selenium	M24-De0021840	CP	%	97			75-125	Pass	
Silver	M24-De0021840	CP	%	106			75-125	Pass	
Tin	M24-De0021840	CP	%	118			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0021857	CP	%	96			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0021859	CP	%	86			70-130	Pass	
TRH C6-C10	M24-De0021859	CP	%	84			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0021859	CP	%	91			70-130	Pass	
Toluene	M24-De0021859	CP	%	80			70-130	Pass	
Ethylbenzene	M24-De0021859	CP	%	79			70-130	Pass	
m&p-Xylenes	M24-De0021859	CP	%	77			70-130	Pass	
o-Xylene	M24-De0021859	CP	%	76			70-130	Pass	
Xylenes - Total*	M24-De0021859	CP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0021859	CP	%	83			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021868	CP	%	111			75-125	Pass	
Beryllium	M24-De0021868	CP	%	105			75-125	Pass	
Cadmium	M24-De0021868	CP	%	112			75-125	Pass	
Chromium	M24-De0021868	CP	%	105			75-125	Pass	
Cobalt	M24-De0021868	CP	%	95			75-125	Pass	
Molybdenum	M24-De0021868	CP	%	112			75-125	Pass	
Selenium	M24-De0021868	CP	%	97			75-125	Pass	
Silver	M24-De0021868	CP	%	114			75-125	Pass	
Tin	M24-De0021868	CP	%	119			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021869	CP	%	90			75-125	Pass	
Beryllium	M24-De0021869	CP	%	102			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	M24-De0021869	CP	%	111			75-125	Pass	
Chromium	M24-De0021869	CP	%	112			75-125	Pass	
Cobalt	M24-De0021869	CP	%	111			75-125	Pass	
Copper	M24-De0021869	CP	%	106			75-125	Pass	
Molybdenum	M24-De0021869	CP	%	110			75-125	Pass	
Selenium	M24-De0021869	CP	%	93			75-125	Pass	
Silver	M24-De0021869	CP	%	113			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M24-De0021873	CP	%	107			70-130	Pass	
Acenaphthylene	M24-De0021873	CP	%	89			70-130	Pass	
Anthracene	M24-De0021873	CP	%	129			70-130	Pass	
Benz(a)anthracene	M24-De0021873	CP	%	105			70-130	Pass	
Benzo(a)pyrene	M24-De0021873	CP	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0021873	CP	%	80			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0021873	CP	%	110			70-130	Pass	
Benzo(k)fluoranthene	M24-De0021873	CP	%	107			70-130	Pass	
Chrysene	M24-De0021873	CP	%	121			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0021873	CP	%	81			70-130	Pass	
Fluoranthene	M24-De0021873	CP	%	95			70-130	Pass	
Fluorene	M24-De0021873	CP	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021873	CP	%	84			70-130	Pass	
Naphthalene	M24-De0021873	CP	%	104			70-130	Pass	
Phenanthrene	M24-De0021873	CP	%	79			70-130	Pass	
Pyrene	M24-De0021873	CP	%	91			70-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
Benzo(a)pyrene - low level	M24-De0021873	CP	%	83			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0021873	CP	%	107			70-130	Pass	
Acenaphthylene	M24-De0021873	CP	%	89			70-130	Pass	
Anthracene	M24-De0021873	CP	%	129			70-130	Pass	
Benz(a)anthracene	M24-De0021873	CP	%	105			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0021873	CP	%	80			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0021873	CP	%	110			70-130	Pass	
Benzo(k)fluoranthene	M24-De0021873	CP	%	107			70-130	Pass	
Chrysene	M24-De0021873	CP	%	121			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0021873	CP	%	81			70-130	Pass	
Fluoranthene	M24-De0021873	CP	%	95			70-130	Pass	
Fluorene	M24-De0021873	CP	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021873	CP	%	84			70-130	Pass	
Naphthalene	M24-De0021873	CP	%	104			70-130	Pass	
Phenanthrene	M24-De0021873	CP	%	79			70-130	Pass	
Pyrene	M24-De0021873	CP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0021879	CP	%	111			70-130	Pass	
TRH C6-C10	M24-De0021879	CP	%	107			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0021879	CP	%	98			70-130	Pass	
Toluene	M24-De0021879	CP	%	100			70-130	Pass	
Ethylbenzene	M24-De0021879	CP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	M24-De0021879	CP	%	102			70-130	Pass	
o-Xylene	M24-De0021879	CP	%	106			70-130	Pass	
Xylenes - Total*	M24-De0021879	CP	%	103			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0021879	CP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021879	CP	%	103			75-125	Pass	
Beryllium	M24-De0021879	CP	%	110			75-125	Pass	
Cadmium	M24-De0021879	CP	%	104			75-125	Pass	
Chromium	M24-De0021879	CP	%	112			75-125	Pass	
Cobalt	M24-De0021879	CP	%	105			75-125	Pass	
Copper	M24-De0021879	CP	%	89			75-125	Pass	
Lead	M24-De0021879	CP	%	121			75-125	Pass	
Manganese	M24-De0021879	CP	%	111			75-125	Pass	
Mercury	M24-De0021879	CP	%	90			75-125	Pass	
Molybdenum	M24-De0021879	CP	%	118			75-125	Pass	
Nickel	M24-De0021879	CP	%	106			75-125	Pass	
Selenium	M24-De0021879	CP	%	102			75-125	Pass	
Silver	M24-De0021879	CP	%	106			75-125	Pass	
Tin	M24-De0021879	CP	%	112			75-125	Pass	
Zinc	M24-De0021879	CP	%	114			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0021881	CP	%	74			70-130	Pass	
TRH >C10-C16	M24-De0021881	CP	%	74			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0021889	CP	%	126			70-130	Pass	
TRH C6-C10	M24-De0021889	CP	%	121			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0021889	CP	%	103			70-130	Pass	
Toluene	M24-De0021889	CP	%	108			70-130	Pass	
Ethylbenzene	M24-De0021889	CP	%	108			70-130	Pass	
m&p-Xylenes	M24-De0021889	CP	%	112			70-130	Pass	
o-Xylene	M24-De0021889	CP	%	114			70-130	Pass	
Xylenes - Total*	M24-De0021889	CP	%	113			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0021889	CP	%	98			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021899	CP	%	113			75-125	Pass	
Beryllium	M24-De0021899	CP	%	108			75-125	Pass	
Cadmium	M24-De0021899	CP	%	120			75-125	Pass	
Chromium	M24-De0021899	CP	%	106			75-125	Pass	
Cobalt	M24-De0021899	CP	%	101			75-125	Pass	
Copper	M24-De0021899	CP	%	114			75-125	Pass	
Manganese	M24-De0021899	CP	%	84			75-125	Pass	
Mercury	M24-De0021899	CP	%	103			75-125	Pass	
Molybdenum	M24-De0021899	CP	%	117			75-125	Pass	
Nickel	M24-De0021899	CP	%	111			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Selenium	M24-De0021899	CP	%	101			75-125	Pass	
Silver	M24-De0021899	CP	%	116			75-125	Pass	
Tin	M24-De0021899	CP	%	116			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0021908	CP	%	97			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021909	CP	%	106			75-125	Pass	
Barium	M24-De0021909	CP	%	101			75-125	Pass	
Beryllium	M24-De0021909	CP	%	106			75-125	Pass	
Cadmium	M24-De0021909	CP	%	106			75-125	Pass	
Chromium	M24-De0021909	CP	%	102			75-125	Pass	
Cobalt	M24-De0021909	CP	%	96			75-125	Pass	
Lead	M24-De0021909	CP	%	99			75-125	Pass	
Mercury	M24-De0021909	CP	%	93			75-125	Pass	
Molybdenum	M24-De0021909	CP	%	115			75-125	Pass	
Nickel	M24-De0021909	CP	%	100			75-125	Pass	
Selenium	M24-De0021909	CP	%	103			75-125	Pass	
Silver	M24-De0021909	CP	%	109			75-125	Pass	
Tin	M24-De0021909	CP	%	113			75-125	Pass	
Zinc	M24-De0021909	CP	%	83			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0021913	CP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0021920	CP	%	116			70-130	Pass	
TRH C6-C10	M24-De0021920	CP	%	112			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0021920	CP	%	124			70-130	Pass	
Toluene	M24-De0021920	CP	%	130			70-130	Pass	
Ethylbenzene	M24-De0021920	CP	%	128			70-130	Pass	
m&p-Xylenes	M24-De0021920	CP	%	102			70-130	Pass	
o-Xylene	M24-De0021920	CP	%	104			70-130	Pass	
Xylenes - Total*	M24-De0021920	CP	%	102			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0021920	CP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021920	CP	%	110			75-125	Pass	
Beryllium	M24-De0021920	CP	%	108			75-125	Pass	
Cadmium	M24-De0021920	CP	%	116			75-125	Pass	
Chromium	M24-De0021920	CP	%	119			75-125	Pass	
Cobalt	M24-De0021920	CP	%	119			75-125	Pass	
Lead	M24-De0021920	CP	%	105			75-125	Pass	
Mercury	M24-De0021920	CP	%	96			75-125	Pass	
Nickel	M24-De0021920	CP	%	118			75-125	Pass	
Selenium	M24-De0021920	CP	%	108			75-125	Pass	
Silver	M24-De0021920	CP	%	117			75-125	Pass	
Tin	M24-De0021920	CP	%	124			75-125	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0021921	CP	%	112			70-130	Pass	
TRH C6-C10	M24-De0021921	CP	%	108			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0021921	CP	%	84			70-130	Pass	
Toluene	M24-De0021921	CP	%	90			70-130	Pass	
Ethylbenzene	M24-De0021921	CP	%	90			70-130	Pass	
m&p-Xylenes	M24-De0021921	CP	%	88			70-130	Pass	
o-Xylene	M24-De0021921	CP	%	84			70-130	Pass	
Xylenes - Total*	M24-De0021921	CP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0021921	CP	%	92			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M24-De0025040	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Beryllium	M24-De0021930	CP	%	87			75-125	Pass	
Cadmium	M24-De0021930	CP	%	106			75-125	Pass	
Chromium	M24-De0021930	CP	%	77			75-125	Pass	
Cobalt	M24-De0021930	CP	%	83			75-125	Pass	
Mercury	M24-De0021930	CP	%	90			75-125	Pass	
Molybdenum	M24-De0021930	CP	%	91			75-125	Pass	
Selenium	M24-De0021930	CP	%	81			75-125	Pass	
Silver	M24-De0021930	CP	%	109			75-125	Pass	
Tin	M24-De0021930	CP	%	84			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0021940	CP	%	110			75-125	Pass	
Beryllium	M24-De0021940	CP	%	104			75-125	Pass	
Cadmium	M24-De0021940	CP	%	111			75-125	Pass	
Chromium	M24-De0021940	CP	%	88			75-125	Pass	
Cobalt	M24-De0021940	CP	%	110			75-125	Pass	
Molybdenum	M24-De0021940	CP	%	113			75-125	Pass	
Selenium	M24-De0021940	CP	%	97			75-125	Pass	
Silver	M24-De0021940	CP	%	106			75-125	Pass	
Tin	M24-De0021940	CP	%	118			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M24-De0021961	CP	%	83			70-130	Pass	
Fluoride	M24-De0021961	CP	%	81			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021834	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021834	CP	mg/kg	470	240	66	30%	Fail	Q15
TRH C29-C36	M24-De0021834	CP	mg/kg	480	350	31	30%	Fail	Q15
TRH >C10-C16	M24-De0021834	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021834	CP	mg/kg	810	490	50	30%	Fail	Q15
TRH >C34-C40	M24-De0021834	CP	mg/kg	360	270	29	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021834	CP	%	15	12	16	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021837	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021837	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021837	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021837	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021837	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021837	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021837	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021837	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021837	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021837	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0021837	CP	mg/kg	40	40	<1	30%	Pass	
Beryllium	M24-De0021837	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021837	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021837	CP	mg/kg	37	37	2.0	30%	Pass	
Cobalt	M24-De0021837	CP	mg/kg	31	30	2.0	30%	Pass	
Copper	M24-De0021837	CP	mg/kg	38	38	<1	30%	Pass	
Lead	M24-De0021837	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0021837	CP	mg/kg	640	640	1.0	30%	Pass	
Mercury	M24-De0021837	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021837	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021837	CP	mg/kg	110	110	<1	30%	Pass	
Selenium	M24-De0021837	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021837	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021837	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021837	CP	mg/kg	62	62	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021838	CP	mg/kg	3.4	3.5	2.0	30%	Pass	
Barium	M24-De0021838	CP	mg/kg	130	130	2.0	30%	Pass	
Beryllium	M24-De0021838	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021838	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021838	CP	mg/kg	9.1	9.3	2.0	30%	Pass	
Cobalt	M24-De0021838	CP	mg/kg	13	13	2.0	30%	Pass	
Copper	M24-De0021838	CP	mg/kg	80	81	1.0	30%	Pass	
Lead	M24-De0021838	CP	mg/kg	220	220	1.0	30%	Pass	
Manganese	M24-De0021838	CP	mg/kg	450	460	<1	30%	Pass	
Mercury	M24-De0021838	CP	mg/kg	1.0	1.0	3.0	30%	Pass	
Molybdenum	M24-De0021838	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021838	CP	mg/kg	19	20	2.0	30%	Pass	
Selenium	M24-De0021838	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021838	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021838	CP	mg/kg	100	110	2.0	30%	Pass	
Zinc	M24-De0021838	CP	mg/kg	500	500	1.0	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0021840	CP	mg/kg	1.4	1.1	28	30%	Pass	
Benzo(a)pyrene	M24-De0021840	CP	mg/kg	1.5	1.4	9.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021840	CP	mg/kg	0.8	0.9	10	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021840	CP	mg/kg	1.1	0.9	23	30%	Pass	
Benzo(k)fluoranthene	M24-De0021840	CP	mg/kg	1.3	1.1	13	30%	Pass	
Chrysene	M24-De0021840	CP	mg/kg	1.5	1.2	25	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021840	CP	mg/kg	4.7	2.6	58	30%	Fail	Q15
Fluorene	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021840	CP	mg/kg	0.9	1.0	4.0	30%	Pass	
Naphthalene	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0021840	CP	mg/kg	4.1	2.7	42	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0021840	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0021840	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0021840	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0021840	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
4-Chloro-3-methylphenol	M24-De0021840	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0021840	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0021840	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0021840	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0021840	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0021840	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0021840	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0021840	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0021840	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0021840	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0021840	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0021840	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021840	CP	mg/kg	1.2	1.1	9.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0021840	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021845	CP	%	19	20	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0021852	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021855	CP	%	13	11	14	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021858	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021858	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021858	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021858	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021858	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021858	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021858	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021858	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021858	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021860	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021860	CP	mg/kg	430	340	25	30%	Pass	
TRH C29-C36	M24-De0021860	CP	mg/kg	280	270	4.0	30%	Pass	
TRH >C10-C16	M24-De0021860	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021860	CP	mg/kg	640	540	17	30%	Pass	
TRH >C34-C40	M24-De0021860	CP	mg/kg	170	170	2.0	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021860	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021860	CP	mg/kg	1.5	1.2	23	30%	Pass	
Anthracene	M24-De0021860	CP	mg/kg	2.8	1.6	58	30%	Fail	Q15
Benz(a)anthracene	M24-De0021860	CP	mg/kg	13	9.5	33	30%	Fail	Q15
Benzo(a)pyrene	M24-De0021860	CP	mg/kg	18	13	28	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021860	CP	mg/kg	11	7.9	31	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-De0021860	CP	mg/kg	6.1	7.6	22	30%	Pass	
Benzo(k)fluoranthene	M24-De0021860	CP	mg/kg	18	12	37	30%	Fail	Q15
Chrysene	M24-De0021860	CP	mg/kg	16	11	33	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0021860	CP	mg/kg	1.8	2.0	10	30%	Pass	
Fluoranthene	M24-De0021860	CP	mg/kg	34	24	32	30%	Fail	Q15
Fluorene	M24-De0021860	CP	mg/kg	1.2	0.5	76	30%	Fail	Q15
Indeno(1.2.3-cd)pyrene	M24-De0021860	CP	mg/kg	5.0	5.7	13	30%	Pass	
Naphthalene	M24-De0021860	CP	mg/kg	1.1	0.8	26	30%	Pass	
Phenanthrene	M24-De0021860	CP	mg/kg	9.8	5.1	63	30%	Fail	Q15
Pyrene	M24-De0021860	CP	mg/kg	37	22	51	30%	Fail	Q15
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021860	CP	mg/kg	15	11	28	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthylene	M24-De0021860	CP	mg/kg	1.2	0.97	23	30%	Pass	
Anthracene	M24-De0021860	CP	mg/kg	2.4	1.3	58	30%	Fail	Q15
Benz(a)anthracene	M24-De0021860	CP	mg/kg	11	8.0	33	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0021860	CP	mg/kg	9.0	6.6	31	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-De0021860	CP	mg/kg	5.1	6.4	22	30%	Pass	
Benzo(k)fluoranthene	M24-De0021860	CP	mg/kg	15	10	37	30%	Fail	Q15
Chrysene	M24-De0021860	CP	mg/kg	13	9.5	33	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0021860	CP	mg/kg	1.5	1.7	10	30%	Pass	
Fluoranthene	M24-De0021860	CP	mg/kg	28	20	32	30%	Fail	Q15
Fluorene	M24-De0021860	CP	mg/kg	1.0	0.46	76	30%	Fail	Q15
Indeno(1.2.3-cd)pyrene	M24-De0021860	CP	mg/kg	4.2	4.8	13	30%	Pass	
Naphthalene	M24-De0021860	CP	mg/kg	0.88	0.68	26	30%	Pass	
Phenanthrene	M24-De0021860	CP	mg/kg	8.2	4.3	63	30%	Fail	Q15
Pyrene	M24-De0021860	CP	mg/kg	31	18	51	30%	Fail	Q15
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021862	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021862	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0021862	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0021862	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021862	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0021862	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0021862	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0021862	CP	mg/kg	0.011	0.026	81	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0021862	CP	mg/kg	0.028	0.043	42	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021862	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0021862	CP	mg/kg	0.006	0.009	40	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021865	CP	%	9.9	9.1	9.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021869	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021869	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021869	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021869	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021869	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021869	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021869	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021869	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021869	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021869	CP	mg/kg	14	14	4.0	30%	Pass	
Barium	M24-De0021869	CP	mg/kg	180	180	1.0	30%	Pass	
Beryllium	M24-De0021869	CP	mg/kg	2.5	2.6	7.0	30%	Pass	
Cadmium	M24-De0021869	CP	mg/kg	0.6	0.6	3.0	30%	Pass	
Chromium	M24-De0021869	CP	mg/kg	12	12	5.0	30%	Pass	
Cobalt	M24-De0021869	CP	mg/kg	19	19	2.0	30%	Pass	
Copper	M24-De0021869	CP	mg/kg	100	100	1.0	30%	Pass	
Lead	M24-De0021869	CP	mg/kg	230	230	1.0	30%	Pass	
Manganese	M24-De0021869	CP	mg/kg	180	190	5.0	30%	Pass	
Mercury	M24-De0021869	CP	mg/kg	0.4	0.4	2.0	30%	Pass	
Molybdenum	M24-De0021869	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Nickel	M24-De0021869	CP	mg/kg	48	49	3.0	30%	Pass	
Selenium	M24-De0021869	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021869	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021869	CP	mg/kg	19	19	2.0	30%	Pass	
Zinc	M24-De0021869	CP	mg/kg	210	220	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0021870	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021875	CP	%	15	18	19	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0021876	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0021876	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0021876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
3&4-Methylphenol (m&p-Cresol)	M24-De0021876	CP	mg/kg	0.9	1.0	1.0	30%	Pass	
Phenol	M24-De0021876	CP	mg/kg	1.2	1.3	10	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021877	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021877	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0021877	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0021877	CP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C16-C34	M24-De0021877	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0021877	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0021877	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021877	CP	mg/kg	0.082	0.21	86	30%	Fail	Q15
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021877	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0021877	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0021877	CP	mg/kg	0.040	0.047	16	30%	Pass	
Benz(a)anthracene	M24-De0021877	CP	mg/kg	0.15	0.17	9.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021877	CP	mg/kg	0.11	0.19	60	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-De0021877	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0021877	CP	mg/kg	0.12	0.15	28	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021877	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021877	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0021877	CP	mg/kg	0.018	0.031	53	30%	Fail	Q15
Phenanthrene	M24-De0021877	CP	mg/kg	0.092	0.12	27	30%	Pass	
Pyrene	M24-De0021877	CP	mg/kg	0.28	0.40	37	30%	Fail	Q15
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021878	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021878	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021878	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021878	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021878	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021878	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021878	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021878	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021878	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021879	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0021879	CP	mg/kg	66	71	8.0	30%	Pass	
Beryllium	M24-De0021879	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021879	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021879	CP	mg/kg	11	12	6.0	30%	Pass	
Cobalt	M24-De0021879	CP	mg/kg	8.3	9.0	8.0	30%	Pass	
Copper	M24-De0021879	CP	mg/kg	41	45	8.0	30%	Pass	
Lead	M24-De0021879	CP	mg/kg	28	30	7.0	30%	Pass	
Manganese	M24-De0021879	CP	mg/kg	170	180	6.0	30%	Pass	
Mercury	M24-De0021879	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021879	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021879	CP	mg/kg	12	13	8.0	30%	Pass	
Selenium	M24-De0021879	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021879	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021879	CP	mg/kg	12	13	7.0	30%	Pass	
Zinc	M24-De0021879	CP	mg/kg	43	47	8.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Hexachlorobenzene	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0021884	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0021884	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0021884	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0021884	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0021884	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0021884	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0021884	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0021884	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0021884	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0021884	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0021884	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0021884	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0021884	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0021884	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0021884	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0021884	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021884	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0021884	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021885	CP	%	10	11	13	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0021887	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021888	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021888	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021888	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021888	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021888	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021888	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021888	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021888	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021888	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021895	CP	%	25	24	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021898	CP	mg/kg	3.7	2.2	51	30%	Fail	Q15
Barium	M24-De0021898	CP	mg/kg	72	53	30	30%	Pass	
Beryllium	M24-De0021898	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021898	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021898	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M24-De0021898	CP	mg/kg	21	23	11	30%	Pass	
Copper	M24-De0021898	CP	mg/kg	7.1	7.8	11	30%	Pass	
Lead	M24-De0021898	CP	mg/kg	20	15	30	30%	Pass	
Manganese	M24-De0021898	CP	mg/kg	93	96	4.0	30%	Pass	
Mercury	M24-De0021898	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021898	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021898	CP	mg/kg	24	27	13	30%	Pass	
Selenium	M24-De0021898	CP	mg/kg	2.9	< 2	61	30%	Fail	Q15
Silver	M24-De0021898	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021898	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021898	CP	mg/kg	37	37	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021899	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0021899	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0021899	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021899	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0021899	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Phenanthrene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0021899	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0021899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0021899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0021899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0021899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0021899	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0021899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0021899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0021899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0021899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0021899	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0021899	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
4-Nitrophenol	M24-De0021899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0021899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0021899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021899	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021899	CP	mg/kg	2.7	2.6	4.0	30%	Pass	
Barium	M24-De0021899	CP	mg/kg	39	40	3.0	30%	Pass	
Beryllium	M24-De0021899	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021899	CP	mg/kg	0.7	0.7	1.0	30%	Pass	
Chromium	M24-De0021899	CP	mg/kg	13	13	2.0	30%	Pass	
Cobalt	M24-De0021899	CP	mg/kg	17	18	3.0	30%	Pass	
Copper	M24-De0021899	CP	mg/kg	74	76	3.0	30%	Pass	
Lead	M24-De0021899	CP	mg/kg	16	16	2.0	30%	Pass	
Manganese	M24-De0021899	CP	mg/kg	490	500	2.0	30%	Pass	
Mercury	M24-De0021899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021899	CP	mg/kg	40	41	3.0	30%	Pass	
Selenium	M24-De0021899	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021899	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021899	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021899	CP	mg/kg	100	100	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021900	CP	mg/kg	180	230	24	30%	Pass	
TRH C15-C28	M24-De0021900	CP	mg/kg	4800	4500	6.0	30%	Pass	
TRH C29-C36	M24-De0021900	CP	mg/kg	1500	1400	2.0	30%	Pass	
TRH >C10-C16	M24-De0021900	CP	mg/kg	1100	1100	<1	30%	Pass	
TRH >C16-C34	M24-De0021900	CP	mg/kg	5100	4900	6.0	30%	Pass	
TRH >C34-C40	M24-De0021900	CP	mg/kg	640	690	8.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0021900	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021900	CP	mg/kg	0.11	0.081	29	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021900	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0021900	CP	mg/kg	0.027	0.013	70	30%	Fail	Q15
Anthracene	M24-De0021900	CP	mg/kg	0.033	0.043	26	30%	Pass	
Benz(a)anthracene	M24-De0021900	CP	mg/kg	0.13	0.10	21	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021900	CP	mg/kg	0.055	0.056	2.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021900	CP	mg/kg	0.11	0.12	15	30%	Pass	
Benzo(k)fluoranthene	M24-De0021900	CP	mg/kg	0.056	0.061	9.0	30%	Pass	
Chrysene	M24-De0021900	CP	mg/kg	0.16	0.15	5.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021900	CP	mg/kg	0.012	0.015	22	30%	Pass	
Fluoranthene	M24-De0021900	CP	mg/kg	0.079	0.070	12	30%	Pass	
Fluorene	M24-De0021900	CP	mg/kg	0.12	0.13	15	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021900	CP	mg/kg	0.036	0.039	8.0	30%	Pass	
Naphthalene	M24-De0021900	CP	mg/kg	0.014	0.009	43	30%	Fail	Q15
Phenanthrene	M24-De0021900	CP	mg/kg	0.15	0.18	19	30%	Pass	
Pyrene	M24-De0021900	CP	mg/kg	0.21	0.20	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021901	CP	mg/kg	520	580	12	30%	Pass	
TRH C15-C28	M24-De0021901	CP	mg/kg	2100	2200	2.0	30%	Pass	
TRH C29-C36	M24-De0021901	CP	mg/kg	450	360	22	30%	Pass	
TRH >C10-C16	M24-De0021901	CP	mg/kg	1700	1700	2.0	30%	Pass	
TRH >C16-C34	M24-De0021901	CP	mg/kg	2200	2400	10	30%	Pass	
TRH >C34-C40	M24-De0021901	CP	mg/kg	280	260	7.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021905	CP	%	12	12	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021908	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M24-De0021908	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021908	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0021908	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M24-De0021908	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M24-De0021908	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021908	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0021908	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021908	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021908	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021908	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021908	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021908	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021908	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021908	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0021908	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021908	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0021908	CP	mg/kg	27	28	4.0	30%	Pass	
Beryllium	M24-De0021908	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021908	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021908	CP	mg/kg	34	34	2.0	30%	Pass	
Cobalt	M24-De0021908	CP	mg/kg	20	20	3.0	30%	Pass	
Copper	M24-De0021908	CP	mg/kg	82	85	4.0	30%	Pass	
Lead	M24-De0021908	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0021908	CP	mg/kg	540	550	2.0	30%	Pass	
Mercury	M24-De0021908	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021908	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021908	CP	mg/kg	28	30	5.0	30%	Pass	
Selenium	M24-De0021908	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021908	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021908	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021908	CP	mg/kg	38	39	4.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021909	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0021909	CP	mg/kg	26	27	1.0	30%	Pass	
Beryllium	M24-De0021909	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021909	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021909	CP	mg/kg	23	23	1.0	30%	Pass	
Cobalt	M24-De0021909	CP	mg/kg	22	22	1.0	30%	Pass	
Copper	M24-De0021909	CP	mg/kg	92	92	<1	30%	Pass	
Lead	M24-De0021909	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0021909	CP	mg/kg	640	630	1.0	30%	Pass	
Mercury	M24-De0021909	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021909	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021909	CP	mg/kg	29	29	<1	30%	Pass	
Selenium	M24-De0021909	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021909	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021909	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021909	CP	mg/kg	42	44	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021912	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021912	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021912	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021912	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021912	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021912	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021912	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021912	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021912	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021916	CP	%	17	15	8.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021919	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021919	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021919	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021919	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021919	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021919	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021919	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021919	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021919	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021919	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0021919	CP	mg/kg	17	14	22	30%	Pass	
Beryllium	M24-De0021919	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021919	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021919	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M24-De0021919	CP	mg/kg	14	16	14	30%	Pass	
Copper	M24-De0021919	CP	mg/kg	100	100	5.0	30%	Pass	
Lead	M24-De0021919	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0021919	CP	mg/kg	470	370	22	30%	Pass	
Mercury	M24-De0021919	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021919	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021919	CP	mg/kg	8.9	9.6	8.0	30%	Pass	
Selenium	M24-De0021919	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021919	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021919	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021919	CP	mg/kg	45	51	13	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021920	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021920	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0021920	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0021920	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021920	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0021920	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021920	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0021920	CP	mg/kg	16	16	1.0	30%	Pass	
Beryllium	M24-De0021920	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021920	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021920	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M24-De0021920	CP	mg/kg	16	16	2.0	30%	Pass	
Copper	M24-De0021920	CP	mg/kg	88	91	3.0	30%	Pass	
Lead	M24-De0021920	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0021920	CP	mg/kg	470	470	1.0	30%	Pass	
Mercury	M24-De0021920	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021920	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021920	CP	mg/kg	12	13	2.0	30%	Pass	
Selenium	M24-De0021920	CP	mg/kg	< 2	< 2	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Silver	M24-De0021920	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021920	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021920	CP	mg/kg	44	45	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021921	CP	mg/kg	< 20	23	17	30%	Pass	
TRH C15-C28	M24-De0021921	CP	mg/kg	460	580	24	30%	Pass	
TRH C29-C36	M24-De0021921	CP	mg/kg	290	270	6.0	30%	Pass	
TRH >C10-C16	M24-De0021921	CP	mg/kg	50	70	32	30%	Fail	Q15
TRH >C16-C34	M24-De0021921	CP	mg/kg	650	750	14	30%	Pass	
TRH >C34-C40	M24-De0021921	CP	mg/kg	200	170	14	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021921	CP	mg/kg	3.7	3.9	7.0	30%	Pass	
Acenaphthylene	M24-De0021921	CP	mg/kg	1.3	1.8	38	30%	Fail	Q15
Anthracene	M24-De0021921	CP	mg/kg	3.6	7.2	67	30%	Fail	Q15
Benz(a)anthracene	M24-De0021921	CP	mg/kg	10	11	10	30%	Pass	
Benzo(a)pyrene	M24-De0021921	CP	mg/kg	11	10	5.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021921	CP	mg/kg	7.6	8.9	16	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021921	CP	mg/kg	5.6	6.1	9.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0021921	CP	mg/kg	12	12	1.0	30%	Pass	
Chrysene	M24-De0021921	CP	mg/kg	11	12	12	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021921	CP	mg/kg	1.7	1.6	2.0	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021921	CP	mg/kg	4.1	4.4	7.0	30%	Pass	
Naphthalene	M24-De0021921	CP	mg/kg	7.0	5.9	18	30%	Pass	
Pyrene	M24-De0021921	CP	mg/kg	25	35	32	30%	Fail	Q15
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021921	CP	mg/kg	8.3	7.9	5.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021921	CP	mg/kg	2.8	3.0	7.0	30%	Pass	
Acenaphthylene	M24-De0021921	CP	mg/kg	0.96	1.4	38	30%	Fail	Q15
Anthracene	M24-De0021921	CP	mg/kg	2.8	5.6	67	30%	Fail	Q15
Benz(a)anthracene	M24-De0021921	CP	mg/kg	7.8	8.6	10	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021921	CP	mg/kg	5.8	6.9	16	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021921	CP	mg/kg	4.3	4.7	9.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0021921	CP	mg/kg	9.0	9.1	1.0	30%	Pass	
Chrysene	M24-De0021921	CP	mg/kg	8.3	9.4	12	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021921	CP	mg/kg	1.3	1.3	2.0	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021921	CP	mg/kg	3.1	3.4	7.0	30%	Pass	
Naphthalene	M24-De0021921	CP	mg/kg	5.4	4.5	18	30%	Pass	
Pyrene	M24-De0021921	CP	mg/kg	20	27	32	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0021924	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021926	CP	%	17	20	17	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021930	CP	mg/kg	7.7	7.9	2.0	30%	Pass	
Barium	M24-De0021930	CP	mg/kg	75	76	1.0	30%	Pass	
Beryllium	M24-De0021930	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021930	CP	mg/kg	0.8	0.8	1.0	30%	Pass	
Chromium	M24-De0021930	CP	mg/kg	14	14	1.0	30%	Pass	
Cobalt	M24-De0021930	CP	mg/kg	13	13	1.0	30%	Pass	
Copper	M24-De0021930	CP	mg/kg	88	88	<1	30%	Pass	
Lead	M24-De0021930	CP	mg/kg	97	96	2.0	30%	Pass	
Manganese	M24-De0021930	CP	mg/kg	390	390	1.0	30%	Pass	
Mercury	M24-De0021930	CP	mg/kg	0.4	0.4	1.0	30%	Pass	
Molybdenum	M24-De0021930	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021930	CP	mg/kg	17	16	1.0	30%	Pass	
Selenium	M24-De0021930	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021930	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021930	CP	mg/kg	21	20	3.0	30%	Pass	
Zinc	M24-De0021930	CP	mg/kg	620	630	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021933	CP	mg/kg	0.8	0.6	28	30%	Pass	
Benz(a)anthracene	M24-De0021933	CP	mg/kg	1.5	1.7	8.0	30%	Pass	
Benzo(a)pyrene	M24-De0021933	CP	mg/kg	< 0.5	0.6	19	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021933	CP	mg/kg	0.7	0.9	28	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0021933	CP	mg/kg	1.3	1.4	5.0	30%	Pass	
Chrysene	M24-De0021933	CP	mg/kg	1.9	2.2	13	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021933	CP	mg/kg	3.6	4.4	18	30%	Pass	
Fluorene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0021933	CP	mg/kg	1.2	1.2	3.0	30%	Pass	
Pyrene	M24-De0021933	CP	mg/kg	3.3	3.3	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Hexachlorobenzene	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0021933	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0021933	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0021933	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0021933	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0021933	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0021933	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0021933	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0021933	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0021933	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0021933	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0021933	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0021933	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0021933	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0021933	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0021933	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0021933	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021933	CP	mg/kg	0.39	0.47	19	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0021936	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021936	CP	%	7.9	7.9	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021937	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0021937	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0021937	CP	mg/kg	58	56	4.0	30%	Pass	
TRH >C10-C16	M24-De0021937	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0021937	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0021937	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021939	CP	mg/kg	3.4	3.9	14	30%	Pass	
Beryllium	M24-De0021939	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021939	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021939	CP	mg/kg	12	11	8.0	30%	Pass	
Cobalt	M24-De0021939	CP	mg/kg	11	14	24	30%	Pass	
Copper	M24-De0021939	CP	mg/kg	49	73	40	30%	Fail	Q15
Lead	M24-De0021939	CP	mg/kg	27	29	8.0	30%	Pass	
Manganese	M24-De0021939	CP	mg/kg	250	290	18	30%	Pass	
Mercury	M24-De0021939	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0021939	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021939	CP	mg/kg	20	21	3.0	30%	Pass	
Selenium	M24-De0021939	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021939	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021939	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021939	CP	mg/kg	83	90	9.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021943	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021943	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021943	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021943	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021943	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021943	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021943	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021943	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021943	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021947	CP	%	9.6	10	7.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021953	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021953	CP	mg/kg	1.4	2.7	61	30%	Fail	Q15
Naphthalene	M24-De0021953	CP	mg/kg	0.6	0.9	40	30%	Fail	Q15
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Naphthalene	M24-De0021953	CP	mg/kg	0.50	0.74	40	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021957	CP	%	19	18	5.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021960	CP	mg/kg	3.6	2.5	38	30%	Fail	Q15
Barium	M24-De0021960	CP	mg/kg	60	48	23	30%	Pass	
Beryllium	M24-De0021960	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021960	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021960	CP	mg/kg	10	8.5	20	30%	Pass	
Cobalt	M24-De0021960	CP	mg/kg	13	12	9.0	30%	Pass	
Copper	M24-De0021960	CP	mg/kg	39	52	28	30%	Pass	
Lead	M24-De0021960	CP	mg/kg	75	58	26	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Manganese	M24-De0021960	CP	mg/kg	190	160	17	30%	Pass	
Mercury	M24-De0021960	CP	mg/kg	0.2	0.1	73	30%	Fail	Q15
Molybdenum	M24-De0021960	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021960	CP	mg/kg	15	17	14	30%	Pass	
Selenium	M24-De0021960	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021960	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0021960	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0021960	CP	mg/kg	50	37	29	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021961	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021961	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021961	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021961	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021961	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021961	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021961	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021961	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021961	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0021966	CP	mg/kg	180	190	5.0	30%	Pass	
TRH C15-C28	M24-De0021966	CP	mg/kg	560	600	7.0	30%	Pass	
TRH C29-C36	M24-De0021966	CP	mg/kg	120	100	12	30%	Pass	
TRH >C10-C16	M24-De0021966	CP	mg/kg	390	400	3.0	30%	Pass	
TRH >C16-C34	M24-De0021966	CP	mg/kg	460	490	6.0	30%	Pass	
TRH >C34-C40	M24-De0021966	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021966	CP	mg/kg	0.6	0.6	5.0	30%	Pass	
Acenaphthylene	M24-De0021966	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0021966	CP	mg/kg	1.4	2.5	58	30%	Fail	Q15
Benzo(a)pyrene	M24-De0021966	CP	mg/kg	1.6	2.1	28	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0021966	CP	mg/kg	1.2	1.2	3.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021966	CP	mg/kg	0.8	0.9	13	30%	Pass	
Benzo(k)fluoranthene	M24-De0021966	CP	mg/kg	1.5	1.9	25	30%	Pass	
Chrysene	M24-De0021966	CP	mg/kg	4.1	4.1	1.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0021966	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0021966	CP	mg/kg	4.3	5.9	30	30%	Pass	
Fluorene	M24-De0021966	CP	mg/kg	1.1	1.4	22	30%	Pass	
Naphthalene	M24-De0021966	CP	mg/kg	0.6	0.8	24	30%	Pass	
Pyrene	M24-De0021966	CP	mg/kg	4.6	6.0	26	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0021966	CP	mg/kg	1.2	1.6	28	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0021966	CP	mg/kg	0.46	0.44	5.0	30%	Pass	
Acenaphthylene	M24-De0021966	CP	mg/kg	0.32	0.38	17	30%	Pass	
Anthracene	M24-De0021966	CP	mg/kg	1.1	2.0	58	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0021966	CP	mg/kg	0.93	0.97	3.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0021966	CP	mg/kg	0.63	0.72	13	30%	Pass	
Benzo(k)fluoranthene	M24-De0021966	CP	mg/kg	1.2	1.5	25	30%	Pass	
Chrysene	M24-De0021966	CP	mg/kg	3.3	3.2	1.0	30%	Pass	
Fluorene	M24-De0021966	CP	mg/kg	0.89	1.1	22	30%	Pass	
Naphthalene	M24-De0021966	CP	mg/kg	0.51	0.65	24	30%	Pass	
Pyrene	M24-De0021966	CP	mg/kg	3.6	4.7	26	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021967	CP	%	14	14	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021970	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021970	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021970	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0021970	CP	mg/kg	11	11	4.0	30%	Pass	
Barium	M24-De0021970	CP	mg/kg	150	130	15	30%	Pass	
Beryllium	M24-De0021970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0021970	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0021970	CP	mg/kg	20	16	19	30%	Pass	
Cobalt	M24-De0021970	CP	mg/kg	18	18	1.0	30%	Pass	
Copper	M24-De0021970	CP	mg/kg	100	110	5.0	30%	Pass	
Lead	M24-De0021970	CP	mg/kg	150	150	3.0	30%	Pass	
Manganese	M24-De0021970	CP	mg/kg	330	270	19	30%	Pass	
Mercury	M24-De0021970	CP	mg/kg	1.4	1.1	24	30%	Pass	
Molybdenum	M24-De0021970	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0021970	CP	mg/kg	23	22	5.0	30%	Pass	
Selenium	M24-De0021970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0021970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Zinc	M24-De0021970	CP	mg/kg	150	140	7.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0021974	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M24-De0021974	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0021977	CP	%	18	18	3.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0021980	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0021980	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0021980	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0021980	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0021980	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0021980	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0021980	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0021980	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0021980	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0022292	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0022292	CP	mg/kg	< 0.005	0.005	22	30%	Pass	
Fluorene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0022292	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0022292	CP	mg/kg	< 0.005	0.005	22	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Dylan Jones	Senior Analyst-Organic
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1169377-W**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 06, 2024

Client Sample ID			**QC140**	**QC146**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M24-De0021842**	**M24-De0021914**
Date Sampled			**Dec 05, 2024**	**Dec 06, 2024**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	114	107
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001

Client Sample ID			QC140	QC146
Sample Matrix			Water	Water
Eurofins Sample No.			M24-De0021842	M24-De0021914
Date Sampled			Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	103	103
p-Terphenyl-d14 (surr.)	1	%	113	112
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 10, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 10, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 10, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 10, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 10, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 10, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X
External Laboratory									

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	J08_1.0	Dec 04, 2024		Soil	M24-De0021833					X			X
2	J08_1.5	Dec 04, 2024		Soil	M24-De0021834		X		X	X	X		X	
3	J08_2.0	Dec 04, 2024		Soil	M24-De0021835		X		X	X	X		X	
4	J08_2.5	Dec 04, 2024		Soil	M24-De0021836		X		X	X	X		X	
5	I08_0.5	Dec 04, 2024		Soil	M24-De0021837		X		X	X	X		X	
6	I08_1.0	Dec 04, 2024		Soil	M24-De0021838		X		X	X	X		X	
7	I08_1.5	Dec 04, 2024		Soil	M24-De0021839		X		X	X	X		X	
8	I08_2.0	Dec 04, 2024		Soil	M24-De0021840					X				X
9	I08_2.5	Dec 04, 2024		Soil	M24-De0021841		X		X	X	X		X	
10	QC140	Dec 05, 2024		Water	M24-De0021842		X		X		X		X	
11	J09_0.5	Dec 05, 2024		Soil	M24-De0021843					X				X
12	J09_1.0	Dec 05, 2024		Soil	M24-De0021844		X		X	X	X		X	
13	J09_1.5	Dec 05, 2024		Soil	M24-De0021845		X		X	X	X		X	

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NATA# 1261
Site# 18217

Canberra
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Mitchell
ACT 2911
+61 2 6113 8091
NATA# 1261
Site# 25466

Brisbane
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QLD 4172
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NATA# 1261
Site# 20794 & 2780

Newcastle
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NATA# 2377
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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
14	J09_2.0	Dec 05, 2024		Soil	M24-De0021846					X				X
15	J11_0.5	Dec 05, 2024		Soil	M24-De0021847		X		X	X	X		X	
16	J11_1.0	Dec 05, 2024		Soil	M24-De0021848		X		X	X	X		X	
17	J11_1.5	Dec 05, 2024		Soil	M24-De0021849					X				X
18	J11_2.0	Dec 05, 2024		Soil	M24-De0021850		X		X	X	X		X	
19	M13_0.5	Dec 05, 2024		Soil	M24-De0021851		X		X	X	X		X	
20	M13_1.0	Dec 05, 2024		Soil	M24-De0021852					X				X
21	M13_1.5	Dec 05, 2024		Soil	M24-De0021853		X		X	X	X		X	
22	I09_0.5	Dec 05, 2024		Soil	M24-De0021854		X		X	X	X		X	
23	I09_1.0	Dec 05, 2024		Soil	M24-De0021855		X		X	X	X		X	
24	I09_1.5	Dec 05, 2024		Soil	M24-De0021856		X		X	X	X		X	
25	I09_2.0	Dec 05, 2024		Soil	M24-De0021857					X				X
26	I09_2.5	Dec 05, 2024		Soil	M24-De0021858		X		X	X	X		X	
27	L13_0.5	Dec 05, 2024		Soil	M24-De0021859		X		X	X	X		X	
28	L13_1.0	Dec 05, 2024		Soil	M24-De0021860					X				X
29	L13_1.5	Dec 05, 2024		Soil	M24-De0021861		X		X	X	X		X	

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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
30	L14_0.5	Dec 05, 2024		Soil	M24-De0021862		X		X	X	X		X	
31	L14_1.0	Dec 05, 2024		Soil	M24-De0021863		X		X	X	X		X	
32	L14_1.5	Dec 05, 2024		Soil	M24-De0021864					X				X
33	L15_0.5	Dec 05, 2024		Soil	M24-De0021865					X				X
34	L15_1.0	Dec 05, 2024		Soil	M24-De0021866		X		X	X	X		X	
35	L15_1.5	Dec 05, 2024		Soil	M24-De0021867		X		X	X	X		X	
36	O13_0.5	Dec 05, 2024		Soil	M24-De0021868		X		X	X	X		X	
37	O13_1.0	Dec 05, 2024		Soil	M24-De0021869		X		X	X	X		X	
38	O13_1.5	Dec 05, 2024		Soil	M24-De0021870					X				X
39	H09_0.5	Dec 05, 2024		Soil	M24-De0021871		X		X	X	X		X	
40	H09_1.0	Dec 05, 2024		Soil	M24-De0021872		X		X	X	X		X	
41	H09_1.5	Dec 05, 2024		Soil	M24-De0021873					X				X
42	H09_2.0	Dec 05, 2024		Soil	M24-De0021874		X		X	X	X		X	
43	H09_2.5	Dec 05, 2024		Soil	M24-De0021875		X		X	X	X		X	
44	H09_3.0	Dec 05, 2024		Soil	M24-De0021876					X				X
45	E09_0.5	Dec 05, 2024		Soil	M24-De0021877		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
46	E09_1.0	Dec 05, 2024		Soil	M24-De0021878					X				X
47	E09_1.5	Dec 05, 2024		Soil	M24-De0021879		X		X	X	X		X	
48	E09_2.0	Dec 05, 2024		Soil	M24-De0021880		X		X	X	X		X	
49	E09_2.5	Dec 05, 2024		Soil	M24-De0021881					X				X
50	E09_3.5	Dec 05, 2024		Soil	M24-De0021882		X		X	X	X		X	
51	E09_4.0	Dec 05, 2024		Soil	M24-De0021883		X		X	X	X		X	
52	E09_4.5	Dec 05, 2024		Soil	M24-De0021884					X				X
53	G09_0.5	Dec 05, 2024		Soil	M24-De0021885		X		X	X	X		X	
54	G09_1.0	Dec 05, 2024		Soil	M24-De0021886		X		X	X	X		X	
55	G09_1.5	Dec 05, 2024		Soil	M24-De0021887					X				X
56	G09_2.0	Dec 05, 2024		Soil	M24-De0021888		X		X	X	X		X	
57	G09_2.5	Dec 05, 2024		Soil	M24-De0021889		X		X	X	X		X	
58	G09_3.0	Dec 05, 2024		Soil	M24-De0021890		X		X	X	X		X	
59	G09_3.5	Dec 05, 2024		Soil	M24-De0021891					X				X
60	G10_0.5	Dec 05, 2024		Soil	M24-De0021892		X		X	X	X		X	
61	G10_1.0	Dec 05, 2024		Soil	M24-De0021893		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
62	G10_1.5	Dec 05, 2024		Soil	M24-De0021894		X		X	X	X		X	
63	G10_2.0	Dec 05, 2024		Soil	M24-De0021895					X				X
64	G10_2.5	Dec 05, 2024		Soil	M24-De0021896		X		X	X	X		X	
65	G10_3.0	Dec 05, 2024		Soil	M24-De0021897		X		X	X	X		X	
66	G10_3.5	Dec 05, 2024		Soil	M24-De0021898		X		X	X	X		X	
67	F10_0.5	Dec 05, 2024		Soil	M24-De0021899					X				X
68	F10_1.0	Dec 05, 2024		Soil	M24-De0021900		X		X	X	X		X	
69	F10_1.5	Dec 05, 2024		Soil	M24-De0021901		X		X	X	X		X	
70	F10_2.0	Dec 05, 2024		Soil	M24-De0021902		X		X	X	X		X	
71	F10_2.5	Dec 05, 2024		Soil	M24-De0021903		X		X	X	X		X	
72	F10_3.0	Dec 05, 2024		Soil	M24-De0021904					X				X
73	F10_3.5	Dec 05, 2024		Soil	M24-De0021905		X		X	X	X		X	
74	E10_0.5	Dec 05, 2024		Soil	M24-De0021906		X		X	X	X		X	
75	E10_1.0	Dec 05, 2024		Soil	M24-De0021907		X		X	X	X		X	
76	E10_1.5	Dec 05, 2024		Soil	M24-De0021908					X				X
77	E10_2.0	Dec 05, 2024		Soil	M24-De0021909		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
78	E10_2.5	Dec 05, 2024		Soil	M24-De0021910					X				X
79	E10_3.0	Dec 05, 2024		Soil	M24-De0021911		X		X	X	X		X	
80	E10_3.5	Dec 05, 2024		Soil	M24-De0021912		X		X	X	X		X	
81	QC143	Dec 06, 2024		Soil	M24-De0021913					X				X
82	QC146	Dec 06, 2024		Water	M24-De0021914		X		X		X		X	
83	L11_0.5	Dec 06, 2024		Soil	M24-De0021915		X		X	X	X		X	
84	L11_1.0	Dec 06, 2024		Soil	M24-De0021916		X		X	X	X		X	
85	L11_1.5	Dec 06, 2024		Soil	M24-De0021917					X				X
86	K11_0.5	Dec 06, 2024		Soil	M24-De0021918		X		X	X	X		X	
87	K11_1.0	Dec 06, 2024		Soil	M24-De0021919		X		X	X	X		X	
88	K11_1.5	Dec 06, 2024		Soil	M24-De0021920		X		X	X	X		X	
89	K11_2.0	Dec 06, 2024		Soil	M24-De0021921					X				X
90	H10_0.5	Dec 06, 2024		Soil	M24-De0021922		X		X	X	X		X	
91	H10_1.0	Dec 06, 2024		Soil	M24-De0021923		X		X	X	X		X	
92	H10_1.5	Dec 06, 2024		Soil	M24-De0021924					X				X
93	H10_2.0	Dec 06, 2024		Soil	M24-De0021925		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
94	H10_2.5	Dec 06, 2024		Soil	M24-De0021926		X		X	X	X		X	
95	H10_3.0	Dec 06, 2024		Soil	M24-De0021927					X				X
96	K10_0.5	Dec 06, 2024		Soil	M24-De0021928					X				X
97	K10_1.0	Dec 06, 2024		Soil	M24-De0021929		X		X	X	X		X	
98	K10_1.5	Dec 06, 2024		Soil	M24-De0021930		X		X	X	X		X	
99	K10_2.0	Dec 06, 2024		Soil	M24-De0021931					X				X
100	L08_0.5	Dec 06, 2024		Soil	M24-De0021932		X		X	X	X		X	
101	L08_1.0	Dec 06, 2024		Soil	M24-De0021933					X				X
102	L08_1.5	Dec 06, 2024		Soil	M24-De0021934		X		X	X	X		X	
103	L08_2.0	Dec 06, 2024		Soil	M24-De0021935		X		X	X	X		X	
104	L09_0.5	Dec 06, 2024		Soil	M24-De0021936					X				X
105	L09_1.0	Dec 06, 2024		Soil	M24-De0021937		X		X	X	X		X	
106	L09_1.5	Dec 06, 2024		Soil	M24-De0021938		X		X	X	X		X	
107	L09_2.0	Dec 06, 2024		Soil	M24-De0021939		X		X	X	X		X	
108	K08_0.5	Dec 06, 2024		Soil	M24-De0021940		X		X	X	X		X	
109	K08_1.0	Dec 06, 2024		Soil	M24-De0021941		X		X	X	X		X	

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Project ID: 60693007 7
Facility Code:

Order No.: 60693007 7
Report #: 1169377
Phone: 08 7223 5400
Fax:

Received: Dec 6, 2024 3:55 PM
Due: Dec 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
110	K08_1.5	Dec 06, 2024		Water	M24-De0021942		X		X		X		X	
111	K08_2.0	Dec 06, 2024		Soil	M24-De0021943					X				X
112	K09_0.5	Dec 06, 2024		Soil	M24-De0021944		X		X	X	X		X	
113	K09_1.0	Dec 06, 2024		Soil	M24-De0021945		X		X	X	X		X	
114	K09_1.5	Dec 06, 2024		Soil	M24-De0021946					X				X
115	K09_2.0	Dec 06, 2024		Soil	M24-De0021947		X		X	X	X		X	
116	K07_0.5	Dec 06, 2024		Soil	M24-De0021948		X		X	X	X		X	
117	K07_1.0	Dec 06, 2024		Soil	M24-De0021949		X		X	X	X		X	
118	K07_1.5	Dec 06, 2024		Soil	M24-De0021950					X				X
119	K07_2.0	Dec 06, 2024		Soil	M24-De0021951		X		X	X	X		X	
120	QC150	Dec 06, 2024		Soil	M24-De0021952		X		X	X	X		X	
121	I12_0.5	Dec 06, 2024		Soil	M24-De0021953					X				X
122	I12_1.0	Dec 06, 2024		Soil	M24-De0021954		X		X	X	X		X	
123	I12_1.5	Dec 06, 2024		Soil	M24-De0021955		X		X	X	X		X	
124	I12_2.0	Dec 06, 2024		Soil	M24-De0021956					X				X
125	I11_0.5	Dec 06, 2024		Soil	M24-De0021957		X		X	X	X		X	

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Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
126	I11_1.0	Dec 06, 2024		Soil	M24-De0021958		X		X	X	X		X	
127	I11_1.5	Dec 06, 2024		Soil	M24-De0021959		X		X	X	X		X	
128	I11_2.0	Dec 06, 2024		Soil	M24-De0021960					X				X
129	I11_2.5	Dec 06, 2024		Soil	M24-De0021961					X				X
130	I10_0.5	Dec 06, 2024		Soil	M24-De0021962		X		X	X	X		X	
131	I10_1.0	Dec 06, 2024		Soil	M24-De0021963		X		X	X	X		X	
132	I10_1.5	Dec 06, 2024		Soil	M24-De0021964		X		X	X	X		X	
133	I10_2.0	Dec 06, 2024		Soil	M24-De0021965					X				X
134	I10_2.5	Dec 06, 2024		Soil	M24-De0021966		X		X	X	X		X	
135	QC149	Dec 06, 2024		Soil	M24-De0021967		X		X	X	X		X	
136	H11_0.5	Dec 06, 2024		Soil	M24-De0021968		X		X	X	X		X	
137	H11_1.0	Dec 06, 2024		Soil	M24-De0021969		X		X	X	X		X	
138	H11_1.5	Dec 06, 2024		Soil	M24-De0021970		X		X	X	X		X	
139	H11_2.0	Dec 06, 2024		Soil	M24-De0021971					X				X
140	H11_2.5	Dec 06, 2024		Soil	M24-De0021972		X		X	X	X		X	
141	H11_3.0	Dec 06, 2024		Soil	M24-De0021973		X		X	X	X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
142	G11_0.5	Dec 06, 2024		Soil	M24-De0021974					X				X
143	G11_1.0	Dec 06, 2024		Soil	M24-De0021975		X		X	X	X		X	
144	G11_1.5	Dec 06, 2024		Soil	M24-De0021976		X		X	X	X		X	
145	G11_2.0	Dec 06, 2024		Soil	M24-De0021977		X		X	X	X		X	
146	G11_2.5	Dec 06, 2024		Soil	M24-De0021978		X		X	X	X		X	
147	G11_3.0	Dec 06, 2024		Soil	M24-De0021979					X				X
148	G11_3.5	Dec 06, 2024		Soil	M24-De0021980		X		X	X	X		X	
149	QC141	Dec 05, 2024		Soil	M24-De0021981		X		X	X	X		X	
150	QC139	Dec 05, 2024		Water	M24-De0021982	X								
151	QC145	Dec 06, 2024		Water	M24-De0021983	X								
152	QC153	Dec 06, 2024		Soil	M24-De0021984							X		
153	QC154	Dec 06, 2024		Soil	M24-De0021985							X		
154	QC155	Dec 06, 2024		Soil	M24-De0021986							X		
155	QC156	Dec 06, 2024		Soil	M24-De0021987							X		
156	QC147	Dec 06, 2024		Soil	M24-De0021988									X
157	QC148	Dec 06, 2024		Soil	M24-De0021989			X						

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Sample Detail						HOLD*	Arsenic	CANCELLED*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
158	E09_3.0	Dec 05, 2024		Soil	M24-De0022292		X		X	X	X		X	
Test Counts						2	107	1	107	147	107	4	107	44

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	107			70-130	Pass	
TRH C10-C14	%	89			70-130	Pass	
TRH C6-C10	%	109			70-130	Pass	
TRH >C10-C16	%	84			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	%	99			70-130	Pass	
Ethylbenzene	%	97			70-130	Pass	
m&p-Xylenes	%	101			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	104			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	112			70-130	Pass	
Acenaphthylene	%	103			70-130	Pass	
Anthracene	%	104			70-130	Pass	
Benz(a)anthracene	%	129			70-130	Pass	
Benzo(a)pyrene - low level	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	%	72			70-130	Pass	
Benzo(g.h.i)perylene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	71			70-130	Pass	
Chrysene	%	77			70-130	Pass	
Dibenz(a.h)anthracene	%	92			70-130	Pass	
Fluoranthene	%	92			70-130	Pass	
Fluorene	%	129			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	83			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
Phenanthrene	%	90			70-130	Pass	
Pyrene	%	87			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	84			80-120	Pass	
Lead	%	94			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0020846	NCP	%	96			70-130	Pass	
TRH C10-C14	M24-De0014938	NCP	%	95			70-130	Pass	
TRH C6-C10	M24-De0020846	NCP	%	98			70-130	Pass	
TRH >C10-C16	M24-De0014938	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0020846	NCP	%	85			70-130	Pass	
Toluene	M24-De0020846	NCP	%	96			70-130	Pass	
Ethylbenzene	M24-De0020846	NCP	%	92			70-130	Pass	
m&p-Xylenes	M24-De0020846	NCP	%	72			70-130	Pass	
o-Xylene	M24-De0020846	NCP	%	71			70-130	Pass	
Xylenes - Total*	M24-De0020846	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0020846	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0014527	NCP	%	86			75-125	Pass	
Lead	M24-De0014527	NCP	%	95			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0020886	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M24-De0024681	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M24-De0024681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M24-De0024681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M24-De0020886	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M24-De0024681	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M24-De0024681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M24-De0024681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0020886	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M24-De0020886	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M24-De0020886	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M24-De0020886	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M24-De0020886	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M24-De0020886	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0020886	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	M24-De0028115	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0006530	NCP	mg/L	< 0.001	**	10	30%	Pass	
Lead	M24-De0006530	NCP	mg/L	0.008	**	2.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Eurofins Environment Testing Australia Pty Ltd
6 Monterey Road
DANDENONG SOUTH VIC 3175
AUSTRALIA
Phone : +613 8564 5026
Mobile : +61 430 555 288

Email : Onur.Mehmet@eurofinsanz.com
Website : www.eurofins.com.au/environmental-testing

Thank you for your ongoing support with Eurofins.
To assist with your planning over the December–January period, kindly review the operating schedule by clicking the link below.
We appreciate your partnership throughout 2024 and look forward to working with you in 2025.



From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, December 11, 2024 11:19 AM
To: EnviroSampleVic <EnviroSampleVic@eurofins.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>
Subject: FW: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)
Importance: High

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Eurofins;

Further, can you also:

1. Please report **all PAHs for leachable concentration**; not the total (apologies for mis-use of terminology)
2. Please report B(a)P TEQ for all samples (whether we sample IB105 or not) using 16 Congeners.

Any questions, let me know. Cheers, Tim.

From: Martin, Tim
Sent: Tuesday, 10 December 2024 5:40 PM
To: EnviroSampleVic@eurofins.com
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; Onur.Mehmet@eurofinsanz.com
Subject: RE: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

Eurofins, we have reviewed the results of 1165428;

1. Please review the results of J14_0.5; which appear to be a factor of 10 higher than all other samples; please verify there is not an error in these elevated results.
2. Please conduct the following additional leachable concentration sampling (using TCLP method):

SAMPLE ID	Chromium (total) leachable concentration	Lead leachable concentration	B(a)P leachable concentration	~~Total~~ All PAHs leachable concentration
Required LOR	0.5	0.5	0.0005	0.0005 (TEQ)
J12_0.5			X	X
J12_1.0			X	X
J12_1.5			X	X
J13_0.5			X	X
J13_1.0			X	X
J14_0.5			X	X
QC104			X	X
J14_1.5		X	X	X
J15_1.5			X	X
J16_0.5			X	X
K12_1.0	X		X	X
K12_1.5			X	X
K14_1.0			X	X
K14_1.5			X	X
K15_1.5			X	X
M18_0.5			X	X
N18_1.0			X	X
O18_1.0			X	X

#1170315
OH
12/12/24

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com
Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: CatherineWilson@eurofins.com <CatherineWilson@eurofins.com>
Sent: Friday, 6 December 2024 9:24 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Martin, Tim <Timothy.Martin@aecom.com>
Subject: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

Please find attached results and invoice for your project in the subject header.

Note: For additional testing, Please email EnviroSampleVic@eurofins.com and your primary Analytical Services Manager.

Kind Regards

Catherine Wilson
Assistant Analytical Services Manager

Hours 2:00 PM - 10:00 PM

Eurofins Environment Testing Australia P/L
6 Monterey Road
Dandenong South VIC 3175
AUSTRALIA
Phone: +61 385 645 000
Email: CatherineWilson[mailtoenvirosamplevic@eurofins.com]@eurofins.com
Website:[http://]environment.eurofins.com.au

View our latest EnviroNotes



Outlook

RE: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Wed 11/12/24 11:33 AM
To Martin, Tim <Timothy.Martin@aecom.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>; EnviroSampleVic <EnviroSampleVic@eurofins.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

We will get these organised ASAP.

@EnviroSampleVic – These samples will require PAH trace levels in order to meet the criteria. Please log in a such. Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, 11 December 2024 11:26 AM
To: Onur Mehmet <Onur.Mehmet@eurofinsanz.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

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Will do – Apologies Savini;

Please see comments below for 1165428 additional sampling, any questions feel free to reply to this email or call me

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com
Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: Onur Mehmet <Onur.Mehmet@eurofinsanz.com>
Sent: Wednesday, 11 December 2024 11:24 AM
To: Martin, Tim <Timothy.Martin@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

Hi Tim,

Can you please include my colleague Savini into these emails.
She looks after our Tasmania reporting.

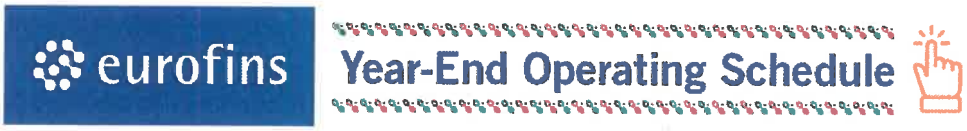
Regards,

Onur Mehmet
Senior Analytical Services Manager
(he,him)

Eurofins Environment Testing Australia Pty Ltd
6 Monterey Road
DANDENONG SOUTH VIC 3175
AUSTRALIA
Phone : +613 8564 5026
Mobile : +61 430 555 288

Email : Onur.Mehmet@eurofinsanz.com
Website : www.eurofins.com.au/environmental-testing

Thank you for your ongoing support with Eurofins.
To assist with your planning over the December–January period, kindly review the operating schedule by clicking the link below.
We appreciate your partnership throughout 2024 and look forward to working with you in 2025.



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Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>
Subject: FW: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)
Importance: High

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Eurofins;

Further, can you also:
1. Please report **all PAHs for leachable concentration**; not the total (apologies for mis-use of terminology)
2. Please report B(a)P TEQ for all samples (whether we sample lB105 or not) using 16 Congeners.

Any questions, let me know. Cheers, Tim.

From: Martin, Tim
Sent: Tuesday, 10 December 2024 5:40 PM
To: EnviroSampleVic@eurofins.com
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; Onur.Mehmet@eurofinsanz.com
Subject: RE: Eurofins Test Results, Invoice - Report 1165428 : Site MACQUAIRE POINT (60693007 7)

Eurofins, we have reviewed the results of 1165428;

1. Please review the results of J14_0.5; which appear to be a factor of 10 higher than all other samples; please verify there is not an error in these elevated results.
2. Please conduct the following additional leachable concentration sampling (using TCLP method):

SAMPLE ID	Chromium (total) leachable concentration	Lead leachable concentration	B(a)P leachable concentration	~~Total~~ All PAHs leachable concentration
Required LOR	0.5	0.5	0.0005	0.0005 (TEQ)
J12_0.5			X	X
J12_1.0			X	X
J12_1.5			X	X
J13_0.5			X	X
J13_1.0			X	X
J14_0.5			X	X
QC104			X	X
J14_1.5		X	X	X
J15_1.5			X	X
J16_0.5			X	X
K12_1.0	X		X	X
K12_1.5			X	X
K14_1.0			X	X
K14_1.5			X	X
K15_1.5			X	X
M18_0.5			X	X
N18_1.0			X	X
O18_1.0			X	X

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www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: MACQUAIRE POINT
Project ID: 60693007 7
Turnaround time: 5 Day
Date/Time received Dec 10, 2024 5:40 PM
Eurofins reference 1170315

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

X Split sample sent to requested external lab.

X Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

Global Leader - Results you can trust

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170315
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 5:40 PM
Due: Dec 18, 2024
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Chromium	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X
External Laboratory				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
1	J12_0.5	Nov 25, 2024		US Leachate	M24-De0029643			X	X
2	J12_1.0	Nov 25, 2024		US Leachate	M24-De0029644			X	X
3	J12_1.5	Nov 25, 2024		US Leachate	M24-De0029645			X	X
4	J13_0.5	Nov 25, 2024		US Leachate	M24-De0029646			X	X
5	J13_1.0	Nov 25, 2024		US Leachate	M24-De0029647			X	X
6	J14_0.5	Nov 25, 2024		US Leachate	M24-De0029648			X	X
7	QC104	Nov 25, 2024		US Leachate	M24-De0029649			X	X
8	J14_1.5	Nov 25, 2024		US Leachate	M24-De0029650		X	X	X
9	J15_1.5	Nov 25, 2024		US Leachate	M24-De0029651			X	X
10	J16_0.5	Nov 25, 2024		US Leachate	M24-De0029652			X	X
11	K12_1.0	Nov 25, 2024		US Leachate	M24-De0029653	X		X	X
12	K12_1.5	Nov 25, 2024		US Leachate	M24-De0029654			X	X
13	K14_1.0	Nov 25, 2024		US Leachate	M24-De0029655			X	X
14	K14_1.5	Nov 25, 2024		US Leachate	M24-De0029656			X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170315
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 5:40 PM
Due: Dec 18, 2024
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Chromium	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	K15_1.5	Nov 25, 2024		US Leachate	M24-De0029657			X	X
16	M18_0.5	Nov 25, 2024		US Leachate	M24-De0029658			X	X
17	N18_1.0	Nov 25, 2024		US Leachate	M24-De0029659			X	X
18	O18_1.0	Nov 25, 2024		US Leachate	M24-De0029660			X	X
Test Counts						1	1	18	18

Aecom Aust Pty Ltd Tasmania
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1170315-L**
Project name MACQUARIE POINT
Project ID 60693007 7
Received Date Dec 10, 2024

Client Sample ID			**J12_0.5**	**J12_1.0**	**J12_1.5**	**J13_0.5**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0029643**	**M24-De0029644**	**M24-De0029645**	**M24-De0029646**
Date Sampled			**Nov 25, 2024**	**Nov 25, 2024**	**Nov 25, 2024**	**Nov 25, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	0.00010
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	0.00030
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	0.00020
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	0.00010
Total PAH*	0.00001	mg/L	< 0.00001	0.0001	0.0003	0.0009
2-Fluorobiphenyl (surr.)	1	%	57	57	57	56
p-Terphenyl-d14 (surr.)	1	%	60	63	61	60
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.1	6.1	6.5	6.7
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.6	5.7	5.7	6.1
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.4	1.5

Client Sample ID			J13_1.0	J14_0.5	QC104	J14_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0029647	M24-De0029648	M24-De0029649	M24-De0029650
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.0010	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0021	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	56	58	59	56
p-Terphenyl-d14 (surr.)	1	%	59	58	60	62
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	6.8	6.7
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.8	5.8	6.0	5.8
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.5	1.5
Heavy Metals						
Lead	0.01	mg/L	-	-	-	0.09

Client Sample ID			J15_1.5	J16_0.5	K12_1.0	K12_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0029651	M24-De0029652	M24-De0029653	M24-De0029654
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			J15_1.5	J16_0.5	K12_1.0	K12_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0029651	M24-De0029652	M24-De0029653	M24-De0029654
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Naphthalene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	0.00010	0.00010	< 0.00001	0.00010
Pyrene	0.00001	mg/L	< 0.00001	0.00010	0.00010	0.00010
Total PAH*	0.00001	mg/L	0.0002	0.0004	0.0001	0.0003
2-Fluorobiphenyl (surr.)	1	%	57	55	56	56
p-Terphenyl-d14 (surr.)	1	%	58	59	60	58
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	6.9	6.8
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.9	6.0	5.7	5.7
pH (USA HCl addition)	0.1	pH Units	1.5	1.4	1.4	1.4
Heavy Metals						
Chromium	0.01	mg/L	-	-	< 0.01	-

Client Sample ID			K14_1.0	K14_1.5	K15_1.5	M18_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0029655	M24-De0029656	M24-De0029657	M24-De0029658
Date Sampled			Nov 25, 2024	Nov 25, 2024	Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00040	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00040	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Phenanthrene	0.00001	mg/L	0.00010	< 0.00001	0.00020	0.00010
Pyrene	0.00001	mg/L	0.00010	< 0.00001	0.00030	0.00010
Total PAH*	0.00001	mg/L	0.0021	< 0.00001	0.0009	0.0002
2-Fluorobiphenyl (surr.)	1	%	55	55	57	57
p-Terphenyl-d14 (surr.)	1	%	56	57	62	60
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.6	7.0	6.8	7.4
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	8.4	7.4	6.3	5.0
pH (USA HCl addition)	0.1	pH Units	1.3	1.4	1.4	1.4

Client Sample ID			N18_1.0	O18_1.0
Sample Matrix			US Leachate	US Leachate
Eurofins Sample No.			M24-De0029659	M24-De0029660
Date Sampled			Nov 25, 2024	Nov 25, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	0.00010
Pyrene	0.00001	mg/L	< 0.00001	0.00010
Total PAH*	0.00001	mg/L	< 0.00001	0.0003
2-Fluorobiphenyl (surr.)	1	%	56	58
p-Terphenyl-d14 (surr.)	1	%	59	65
USA Leaching Procedure				
Leachate Fluid[C01]		comment	1.0	1.0
pH (initial)	0.1	pH Units	7.3	7.5
pH (Leachate fluid)	0.1	pH Units	4.9	4.9
pH (off)	0.1	pH Units	5.5	5.1
pH (USA HCl addition)	0.1	pH Units	1.6	1.9

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 12, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 12, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
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Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170315
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 5:40 PM
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Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Chromium	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	J12_0.5	Nov 25, 2024		US Leachate	M24-De0029643			X	X
2	J12_1.0	Nov 25, 2024		US Leachate	M24-De0029644			X	X
3	J12_1.5	Nov 25, 2024		US Leachate	M24-De0029645			X	X
4	J13_0.5	Nov 25, 2024		US Leachate	M24-De0029646			X	X
5	J13_1.0	Nov 25, 2024		US Leachate	M24-De0029647			X	X
6	J14_0.5	Nov 25, 2024		US Leachate	M24-De0029648			X	X
7	QC104	Nov 25, 2024		US Leachate	M24-De0029649			X	X
8	J14_1.5	Nov 25, 2024		US Leachate	M24-De0029650		X	X	X
9	J15_1.5	Nov 25, 2024		US Leachate	M24-De0029651			X	X
10	J16_0.5	Nov 25, 2024		US Leachate	M24-De0029652			X	X
11	K12_1.0	Nov 25, 2024		US Leachate	M24-De0029653	X		X	X
12	K12_1.5	Nov 25, 2024		US Leachate	M24-De0029654			X	X
13	K14_1.0	Nov 25, 2024		US Leachate	M24-De0029655			X	X
14	K14_1.5	Nov 25, 2024		US Leachate	M24-De0029656			X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170315
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 5:40 PM
Due: Dec 18, 2024
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Chromium	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	K15_1.5	Nov 25, 2024		US Leachate	M24-De0029657			X	X
16	M18_0.5	Nov 25, 2024		US Leachate	M24-De0029658			X	X
17	N18_1.0	Nov 25, 2024		US Leachate	M24-De0029659			X	X
18	O18_1.0	Nov 25, 2024		US Leachate	M24-De0029660			X	X
Test Counts						1	1	18	18

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Chromium	mg/L	< 0.01			0.01	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Chromium	mg/L	< 0.01			0.01	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	95			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Chromium	%	96			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M24-De0036345	NCP	%	88			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Chromium	M24-De0036345	NCP	%	93			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M24-De0036345	NCP	mg/L	0.05	0.05	7.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Chromium	M24-De0036345	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Catherine Wilson	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

RE: Eurofins Test Results, Invoice - Report 1166213 : Site MACQUAIRE POINT (60693007 7)

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Wed 11/12/24 4:08 PM
To Martin, Tim <Timothy.Martin@aecom.com>; EnviroSampleVic <EnviroSampleVic@eurofins.com>
Cc Harry Bacalis <Harry.Bacalis@eurofinsanz.com>; Crowe, Robert <Robert.Crowe@aecom.com>; Sheridan Barrett <SheridanBarrett@eurofins.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

I will get that report amended to correct the project name for you ASAP and get the additional analysis underway ASAP.

@EnviroSampleVic – Please note that PAH trace levels are required for the leachate samples. Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, 11 December 2024 2:53 PM
To: EnviroSampleVic <EnviroSampleVic@eurofins.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Cc: Harry Bacalis <Harry.Bacalis@eurofinsanz.com>; Crowe, Robert <Robert.Crowe@aecom.com>; Sheridan Barrett <SheridanBarrett@eurofins.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1166213 : Site MACQUAIRE POINT (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Thanks Harry,

@Savini, please note that the Site is **Macquarie Point** (slight spelling error – please check and update all further reports (including 1165428 and this report 1166213).
Also, can I request the following additional sampling, **using TCLP method**:

SAMPLE ID	B(a)P leachable concentration	All PAHs leachable concentration
Required LOR	0.0005	0.0005 (TEQ)
L16_0.5	X	X
QC115	X	X
L16_1.0	X	X
L16_1.5	X	X
L17_0.5	X	X
L17_1.0	X	X
L17_1.5	X	X
L18_0.5	X	X
L18_1.0	X	X
L18_1.5	X	X
M14_1.0	X	X
M14_1.5	X	X
M16_0.5	X	X
M16_1.0	X	X
M16_1.5	X	X
M17_1.5	X	X
N14_1.0	X	X
N14_1.5	X	X
N15_1.0	X	X
N15_1.5	X	X
O15_1.0	X	X
O15_1.5	X	X

#1170851
13/12 LH

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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NZBN: 9429046024954

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: MACQUARIE POINT
Project ID: Not provided
Turnaround time: 10 Day
Date/Time received Dec 11, 2024 2:53 AM
Eurofins reference 1170851

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.1 degrees Celsius.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

✗ Split sample sent to requested external lab.

✗ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170851
Phone: 08 7223 5400
Fax:

Received: Dec 11, 2024 2:53 AM
Due: Dec 27, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	L16_0.5	Nov 27, 2024		US Leachate	M24-De0033674	X	X
2	QC115	Nov 27, 2024		US Leachate	M24-De0033675	X	X
3	L16_1.0	Nov 27, 2024		US Leachate	M24-De0033676	X	X
4	L16_1.5	Nov 27, 2024		US Leachate	M24-De0033677	X	X
5	L17_0.5	Nov 27, 2024		US Leachate	M24-De0033678	X	X
6	L17_1.0	Nov 27, 2024		US Leachate	M24-De0033679	X	X
7	L17_1.5	Nov 27, 2024		US Leachate	M24-De0033680	X	X
8	L18_0.5	Nov 27, 2024		US Leachate	M24-De0033681	X	X
9	L18_1.0	Nov 27, 2024		US Leachate	M24-De0033682	X	X
10	L18_1.5	Nov 27, 2024		US Leachate	M24-De0033683	X	X
11	M14_1.0	Nov 27, 2024		US Leachate	M24-De0033684	X	X
12	M14_1.5	Nov 27, 2024		US Leachate	M24-De0033685	X	X
13	M16_0.5	Nov 27, 2024		US Leachate	M24-De0033686	X	X
14	M16_1.0	Nov 27, 2024		US Leachate	M24-De0033687	X	X

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Project Name: MACQUARIE POINT
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Order No.:
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Phone: 08 7223 5400
Fax:

Received: Dec 11, 2024 2:53 AM
Due: Dec 27, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
15	M16_1.5	Nov 27, 2024		US Leachate	M24-De0033688	X	X
16	M17_1.5	Nov 27, 2024		US Leachate	M24-De0033689	X	X
17	N14_1.0	Nov 27, 2024		US Leachate	M24-De0033690	X	X
18	N14_1.5	Nov 27, 2024		US Leachate	M24-De0033691	X	X
19	N15_1.0	Nov 27, 2024		US Leachate	M24-De0033692	X	X
20	N15_1.5	Nov 27, 2024		US Leachate	M24-De0033693	X	X
21	O15_1.0	Nov 27, 2024		US Leachate	M24-De0033694	X	X
22	O15_1.5	Nov 27, 2024		US Leachate	M24-De0033695	X	X
Test Counts						22	22

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1170851-L**
Project name MACQUARIE POINT
Project ID 60693007 7
Received Date Dec 11, 2024

Client Sample ID			**L16_0.5**	**QC115**	**L16_1.0**	**L16_1.5**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0033674**	**M24-De0033675**	**M24-De0033676**	**M24-De0033677**
Date Sampled			**Nov 27, 2024**	**Nov 27, 2024**	**Nov 27, 2024**	**Nov 27, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	58	61	58	130
p-Terphenyl-d14 (surr.)	1	%	53	66	62	50
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.2	6.3	6.6	7.4
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.3	6.4	5.9	6.1
pH (USA HCl addition)	0.1	pH Units	1.6	1.6	1.5	1.3

Client Sample ID			L17_0.5	L17_1.0	L17_1.5	L18_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0033678	M24-De0033679	M24-De0033680	M24-De0033681
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.0010	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.0010	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.0010	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.0010	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	0.004	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	140	68	140	62
p-Terphenyl-d14 (surr.)	1	%	90	76	80	66
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.8	9.0	8.3	6.7
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.2	5.3	5.1	6.2
pH (USA HCl addition)	0.1	pH Units	1.4	1.1	1.2	1.5

Client Sample ID			L18_1.0	L18_1.5	M14_1.0	M14_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0033682	M24-De0033683	M24-De0033684	M24-De0033685
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			L18_1.0	L18_1.5	M14_1.0	M14_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0033682	M24-De0033683	M24-De0033684	M24-De0033685
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	58	59	59	140
p-Terphenyl-d14 (surr.)	1	%	52	64	64	80
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	6.7	8.6
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.0	6.2	5.5	5.5
pH (USA HCl addition)	0.1	pH Units	1.5	1.5	1.5	1.0

Client Sample ID			M16_0.5	M16_1.0	M16_1.5	M17_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0033686	M24-De0033687	M24-De0033688	M24-De0033689
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	0.0020	0.00040	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	0.0020	0.00020	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	0.0010	0.00010	0.00050
Fluorene	0.00001	mg/L	< 0.00001	0.0010	0.00050	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	0.0020	0.00030	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	0.0030	0.0017	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	0.0010	< 0.00001	0.00040
Total PAH*	0.00001	mg/L	< 0.00001	0.012	0.0032	0.0009
2-Fluorobiphenyl (surr.)	1	%	57	50	58	58
p-Terphenyl-d14 (surr.)	1	%	62	90	65	65
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	8.5	7.4	7.3
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.4	6.0	5.7	5.9
pH (USA HCl addition)	0.1	pH Units	1.5	1.3	1.5	1.4

Client Sample ID			N14_1.0	N14_1.5	N15_1.0	N15_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0033690	M24-De0033691	M24-De0033692	M24-De0033693
Date Sampled			Nov 27, 2024	Nov 27, 2024	Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	57	57	59	120
p-Terphenyl-d14 (surr.)	1	%	65	65	64	140
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.3	7.4	7.4	8.7
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	7.5	6.5	6.5	6.0
pH (USA HCl addition)	0.1	pH Units	1.5	1.6	1.4	1.3

Client Sample ID			O15_1.0	O15_1.5
Sample Matrix			US Leachate	US Leachate
Eurofins Sample No.			M24-De0033694	M24-De0033695
Date Sampled			Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001

Client Sample ID			O15_1.0	O15_1.5
Sample Matrix			US Leachate	US Leachate
Eurofins Sample No.			M24-De0033694	M24-De0033695
Date Sampled			Nov 27, 2024	Nov 27, 2024
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	120	59
p-Terphenyl-d14 (surr.)	1	%	130	67
USA Leaching Procedure				
Leachate Fluid[C01]		comment	1.0	1.0
pH (initial)	0.1	pH Units	9.0	7.5
pH (Leachate fluid)	0.1	pH Units	4.9	4.9
pH (off)	0.1	pH Units	5.0	5.7
pH (USA HCl addition)	0.1	pH Units	1.2	1.6

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 30, 2024	7 Days

- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)

eurofins

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170851
Phone: 08 7223 5400
Fax:

Received: Dec 11, 2024 2:53 AM
Due: Dec 27, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	L16_0.5	Nov 27, 2024		US Leachate	M24-De0033674	X	X
2	QC115	Nov 27, 2024		US Leachate	M24-De0033675	X	X
3	L16_1.0	Nov 27, 2024		US Leachate	M24-De0033676	X	X
4	L16_1.5	Nov 27, 2024		US Leachate	M24-De0033677	X	X
5	L17_0.5	Nov 27, 2024		US Leachate	M24-De0033678	X	X
6	L17_1.0	Nov 27, 2024		US Leachate	M24-De0033679	X	X
7	L17_1.5	Nov 27, 2024		US Leachate	M24-De0033680	X	X
8	L18_0.5	Nov 27, 2024		US Leachate	M24-De0033681	X	X
9	L18_1.0	Nov 27, 2024		US Leachate	M24-De0033682	X	X
10	L18_1.5	Nov 27, 2024		US Leachate	M24-De0033683	X	X
11	M14_1.0	Nov 27, 2024		US Leachate	M24-De0033684	X	X
12	M14_1.5	Nov 27, 2024		US Leachate	M24-De0033685	X	X
13	M16_0.5	Nov 27, 2024		US Leachate	M24-De0033686	X	X
14	M16_1.0	Nov 27, 2024		US Leachate	M24-De0033687	X	X

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT
Project ID: 60693007 7

Order No.:
Report #: 1170851
Phone: 08 7223 5400
Fax:

Received: Dec 11, 2024 2:53 AM
Due: Dec 27, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
15	M16_1.5	Nov 27, 2024		US Leachate	M24-De0033688	X	X
16	M17_1.5	Nov 27, 2024		US Leachate	M24-De0033689	X	X
17	N14_1.0	Nov 27, 2024		US Leachate	M24-De0033690	X	X
18	N14_1.5	Nov 27, 2024		US Leachate	M24-De0033691	X	X
19	N15_1.0	Nov 27, 2024		US Leachate	M24-De0033692	X	X
20	N15_1.5	Nov 27, 2024		US Leachate	M24-De0033693	X	X
21	O15_1.0	Nov 27, 2024		US Leachate	M24-De0033694	X	X
22	O15_1.5	Nov 27, 2024		US Leachate	M24-De0033695	X	X
Test Counts						22	22

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Harry Bacalis	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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ANZ

Q4AN(EV)-007-FM1

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Dis. As) PAH (trace level)	IB105	TRH c6-c10 BTEXN									HOLD	
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
✓	F11_0.5	S	09/12/24				X												* Extra Sample F11-3.5 Received - SB 11/12
✓	F11_1.0	↓					X												
✓	F11_1.5							X											
✓	F11_2.0						X												
✓	F11_2.5						X												
✓	F11_3.0						X												#171413
✓	E11_0.5						X												
✓	E11_1.0							X											
✓	E11_1.5						X												
✓	E11_2.0						X												
✓	E11_2.5						X												
✓	E11_3.0							X											
✓	E11_3.5						X												
✓	D11_0.5						X												
✓	D11_1.0						X												
✓	D11_1.5							X											
✓	D11_2.0						X												
✓	D11_2.5						X												
✓	D11_3.0	↓	↓				X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hilbart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

DATE: 12/12/24
TIME: 10:45
COURIER:
TEMPERATURE: 20.2°C
ATTEMPT TO CHILL: YES NO

PH

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N: 241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles															
	DIL 3.5	S	09/12/24						X												
	F12_0.5						X														
	F12_1.0						X														
	F12_1.5								X												
	F12_2.0						X														
	F12_2.5						X														
	F12_3.0						X														
	F12_3.5						X														
	E12_0.5								X												
	E12_1.0						X														
	E12_1.5						X														
	E12_2.0								X												
	E12_2.5						X														
	E12_3.0						X														
	E12_3.5						X														
	QC155						X														
	QC156						X														Formerly to AE5
	D12-0.5								X												
	D12-1.0	↓	↓				X														

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Shendan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
✓	D12_1.5	S	9/12/24			1	X												
✓	D12_2.0						X												
✓	D12_2.5								X										
✓	D12_3.0						X												
✓	D12_3.5						X												
✓	C12_0.5								X										
✓	C12_1.0						X												
✓	C12_1.5						X												
✓	C12_2.0								X										
✓	C12_2.5						X												
✓	D13_0.5						X												
✓	D13_1.0						[illegible]		X										
✓	D13_1.5						X												
✓	D13_2.0						X		-										
✓	D13_2.5								X										
✓	D13_3.0						X												
✓	D13_3.5						X												
✓	D14_0.5						X												
✓	D14_1.0	↓	↓			↓			X										

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52 pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	Eurofins ~~ALS~~ Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN											HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles															
	D14_1.5	S	04/12/24				X														
	D14_2.0						X														
	D14_2.5								X												
	D14_3.0						X														
	E14_0.5						X														
	E14_1.0						X														
	E14_1.5								X												
	E14_2.0						X														
	E14_2.5						X														
	E14_3.0						X														
	QC157						~~X~~		X												
	QC158						~~X~~		X												Forward to ALS
	F14_0.5						X														
	F14_1.0								X												
	F14_1.5						X														
	F14_2.0						X														
	F14_2.5								X												
	F14_3.0						X														
	QC159	W							X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
✓	116_0.5	S	10/12/24		Jar	1	X													
✓	116-1.0						X		X											
✓	116-1.5						X													
✓	113-0.5						X													
✓	113_1.0								X											
✓	113-1.5						X													
✓	114_0.5						X		X											
✓	114_1.0						X													
✓	114-1.5						X													
✓	413_0.5								X											
✓	413_1.0						X													
✓	413-1.5						X													
✓	G12_0.5						X		X											
✓	G12-1.0						X													
✓	G12-1.5						X		X											
✓	G12-2.0								X											
✓	G12-2.5						X													
✓	G12-3.0						X													
✓	G12-3.5						X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	ALS Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								TRH C6-C10	HOLD	
✓	QC163	S	10/12/24		Jar	1	X													
✓	QC164						X													Forward to ALS
✓	QC160	W	9/12/24															X		* QC160 and
✓	QC161																	X		QC161 received
✓	QC162					4													X	as soil trip blanks
✓	QC165		10/12/24							X										not water samples - 11/12 SE
✓	QC166																		X	
✓	G13_0.5	S					X													
✓	G13-1.0						X		X											
✓	G13_1.5						X													
✓	G13_2.0								X											
✓	G13_2.5						X													
✓	G13_3.0						X													
✓	QC167						X													
✓	QC168						X													Forward to ALS
✓	F13_0.5								X											
✓	F13_1.0						X													
✓	F13_1.5						X													
✓	F13_2.0								X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag
Soil Container Codes: Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN	Asbestos in Soil - Screening								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
✓	F13_2.5	S	10/12/24				X													
✓	F13_3.0	↓	↓						Y											
✓	F13_3.5						X													
✓	QC169						X													
✓	QC170						X													forward to ALS
✓	E13_0.5						X				X									
✓	ACM_E13_0.5								~~4~~		X									
✓	E13_1.0						X													
✓	E13_1.5						X													
✓	E13_2.0						X													
✓	E13_2.5								X											
✓	E13_3.0						X													
✓	E13_3.5						X													
✓	QC171						X													
✓	QC172						X													Forward to ALS
✓	G14_0.5								X											
✓	G14_1.0						X													
✓	G14_1.5						X													
✓	G14_2.0	↓	↓				X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ALS Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles															
✓	G14 - 2.5	S	10/12/24			1	X		X												
✓	G14 - 3.0						X		X												
✓	QC173						X														
✓	QC174						X														Forward to ALS.
✓	G15 - 0.5						X														
✓	G15 - 1.0								X												
✓	G15 - 1.5						X														
✓	G15 - 2.0						X														
✓	G15 - 2.5						X														
✓	G15 - 3.0								X												
✓	QC175						X														
✓	QC176						X														Forward to ALS
✓	H15 - 0.5						X														
✓	H15 - 1.0						X														
✓	H15 - 1.5								X												
✓	H15 - 2.0						X														
✓	H15 - 2.5								X												
✓	QC177								X												
✓	QC178								X												Forward to ALS

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ALS ~~ACS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
	H14-0.5	S	9/12/24		1x Jar	1	~~X~~		X											
	H14-1.0						~~X~~		X											
	H13-0.5						X													
	H12-0.5						~~X~~		X											
	H17-0.5		10/12/24						X											
	H17-1.0						X													
	H17-1.5						X													
	QC179								X											
	QC180								X											forwarded to ACS
	H18-0.5						X													
	H18-1.0								X											
	H18-1.5						X													
	QC181						X													
	QC182						X													Forwarded to ACS.
	H16-0.5						X													
	H16-1.0						~~X~~		X											
	H16-1.5						~~X~~		X											
	H16-2.0						X		~~X~~											
	QC183						X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Shenden	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240	PHONE:
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact. Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN							C6-C10	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
✓	QC184	S	10/12/24				x												
✓	QC185																x		
✓	QC186																x		
✓	QC187																x		

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. *Soil Container Codes:* Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
	DIL 3.5	S	09/12/24						X											
	F12_0.5						X													
	F12_1.0						X													
	F12_1.5								X											
	F12_2.0						X													
	F12_2.5						X													
	F12_3.0						X													
	F12_3.5						X													
	E12_0.5								X											
	E12_1.0						X													
	E12_1.5						X													
	E12_2.0								X											
	E12_2.5						X													
	E12_3.0						X													
	E12_3.5						X													
	QC155						X													
	QC156						X													Duplicate to 415
	D12-0.5								X											
	D12_1.0						X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Shenda	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: ~~Eurofins~~ ALS Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N(241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
LAB ID	SAMPLE ID.	MATRIX	DATE	Time	Type / Code	Total bottles														
	D14_1.5	S	09/12/24				X													
	D14_2.0						X													
	D14_2.5								X											
	D14_3.0						X													
	E14_0.5						X													
	E14_1.0						X													
	E14_1.5								X											
	E14_2.0						X													
	E14_2.5						X													
	E14_3.0						X													
	QC157						~~X~~		X											
	QC158						~~X~~		X											Forwarded to ALS
	F14_0.5						X													
	F14_1.0								X											
	F14_1.5						X													
	F14_2.0						X													
	F14_2.5								X											
	F14_3.0						X													
	QC159	W								X										

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

COPY

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	ALS Environmental
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN							TRH C6-C10	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
✓	QC163	S	10/12/24		Jar	1	X												
✓	QC164						X												Forward to ALS
✓	QC160	W	11/12/24														X		* QC160 and QC161 received as soil trip blanks not water samples - 11/12 SB
✓	QC161																X		
✓	QC162					4												X	
✓	QC165		10/12/24							X									
✓	QC166																	X	
✓	G13_0.5	S					X												
✓	G13_1.0						X		X										
✓	G13_1.5						X												
✓	G13_2.0								X										
✓	G13_2.5						X												
✓	G13_3.0						X												
✓	QC167						X												
✓	QC168						X												Forward to ALS
✓	F13_0.5								X										
✓	F13_1.0						X												
✓	F13_1.5						X												
✓	F13_2.0						X		X										

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Stanislav	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240	PHONE:
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN	Asbestos in Soil - Screen								HOLD	
✓	F13_2.5	S	10/12/24				X													
✓	F13_3.0	↓	↓						Y											
✓	F13_3.5						X													
✓	QC169						X													
✓	QC170						X													forward to ALS
✓	E13_0.5						X				X									
✓	ACM_E13_0.5								~~ALS~~		X									
✓	E13_1.0						Y													
✓	E13_1.5						X													
✓	E13_2.0						X													
✓	E13_2.5								X											
✓	E13_3.0						X													
✓	E13_3.5						X													
✓	QC171						X													
✓	QC172						X													Forward to ALS
✓	G14_0.5								X											
✓	G14_1.0						X													
✓	G14_1.5						X													
✓	G14_2.0	↓	↓				X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Soil Container Codes: Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	
	G14_2.5	S	10/12/24			1	~~X~~		X										
	G14_3.0						~~X~~		X										
	QC173						X												
	QC174						X												Forward to ALS
	G15_0.5						X												
	G15_1.0								X										
	G15_1.5						X												
	G15_2.0						X												
	G15_2.5						X												
	G15_3.0								X										
	QC175						X												
	QC176						X												Forward to ALS
	H15_0.5						X												
	H15_1.0						X												
	H15_1.5								X										
	H15_2.0						X												
	H15_2.5								X										
	QC177								X										
	QC178								X										Forward to ALS

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Shendan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ALS~~ ~~ACS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
	HU4-0.5	S	9/12/24		1x Jar	1	~~X~~		X										
	H14-1.0						~~X~~		X										
	H13-0.5						X												
	H12-0.5						~~X~~		X										
	H17-0.5		10/12/24						X										
	H17-1.0						X												
	H17-1.5						X												
	QC179								X										
	QC180								X										forwarded to ACS
	H18-0.5						X												
	H18-1.0								X										
	H18-1.5						X												
	QC181						X												
	QC182						X												Forwarded to ACS.
	H16-0.5						X												
	H16-1.0						~~X~~		X										
	H16-1.5						~~X~~		X										
	H16-2.0						X		~~X~~										
	QC183						X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Shendan	Date: 10/12/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

Outlook

RE: Eurofins Sample Receipt Advice - Report 1171413 : Site Macquarie Point (60693007 7)

From Martin, Tim <Timothy.Martin@aecom.com>
Date Tue 17/12/24 7:55 AM
To Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc Gerstel, Taya <taya.gerstel@aecom.com>; Christensen, Andrew <andrew.christensen@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>

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Morning Savini,

In addition to Supriya's request, can you also action:

Change analysis to IB105 suite:
- QC167
- F11_3.0
- F12_2.5
- D13_1.0
- E14_2.5
- G12_3.5
- E13_3.5
- G15_1.5

Include BTEXN:
- QC160
- QC161

Kind Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com

Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
✗	✓	✓	✓	✓

From: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Sent: Monday, 16 December 2024 4:27 PM
To: Lath, Supriya <Supriya.Lath@aecom.com>; Martin, Tim <Timothy.Martin@aecom.com>;
SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc: Gerstel, Taya <taya.gerstel@aecom.com>; Christensen, Andrew <andrew.christensen@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1171413 : Site Macquarie Point (60693007 7)

Hi Supriya,

We will get the below actioned ASAP.

@SH_AU_CAU001_EnviroSampleVic – Can you please action the below? Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Lath, Supriya <Supriya.Lath@aecom.com>
Sent: Monday, 16 December 2024 2:55 PM
To: Martin, Tim <Timothy.Martin@aecom.com>; SaviniSuduweli@eurofins.com
Cc: Gerstel, Taya <taya.gerstel@aecom.com>; Christensen, Andrew <andrew.christensen@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1171413 : Site Macquarie Point (60693007 7)

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Hi @Savini,
I'm responding on behalf of @Martin, Tim. Thanks for sending the SRN.

- QC187 not received – the field team have advised this trip blank (small glass vial) was included – Might be worth another look with the samples, otherwise let's keep an eye out in case it arrives in another batch.
- F11_3.5:
  - Analyse for TRH/BTEXN, PAHs (trace level), Lead, Arsenic, moisture
  - Please also update the 'Sample Date' to 9 Dec (instead of 10 Dec).
- QC159:
  - Analyse for TRH/BTEXN, PAHs (trace level), Lead, Arsenic
- QC165:
  - Please amend the analysis selected – analyse for TRH/BTEXN, PAHs (trace level), Lead, Arsenic

Any questions, let me know.

Regards,

Supriya Lath
Senior Environmental Scientist
M +61 466 297 377
supriya.lath@aecom.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 10 Day
Date/Time received Dec 10, 2024 4:52 PM
Eurofins reference 1171413

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 21.6 degrees Celsius.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

✓ Split sample sent to requested external lab.

✗ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory															

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	F11_0.5	Dec 09, 2024		Soil	M24-De0037743	X					X				X		X	X	
2	F11_1.0	Dec 09, 2024		Soil	M24-De0037744	X					X				X		X	X	
3	F11_1.5	Dec 09, 2024		Soil	M24-De0037745										X				X
4	F11_2.0	Dec 09, 2024		Soil	M24-De0037746	X					X				X		X	X	
5	F11_2.5	Dec 09, 2024		Soil	M24-De0037747	X					X				X		X	X	
6	F11_3.0	Dec 09, 2024		Soil	M24-De0037748										X				X
7	E11_0.5	Dec 09, 2024		Soil	M24-De0037749	X					X				X		X	X	
8	E11_1.0	Dec 09, 2024		Soil	M24-De0037750										X				X
9	E11_1.5	Dec 09, 2024		Soil	M24-De0037751	X					X				X		X	X	
10	E11_2.0	Dec 09, 2024		Soil	M24-De0037752	X					X				X		X	X	
11	E11_2.5	Dec 09, 2024		Soil	M24-De0037753	X					X				X		X	X	
12	E11_3.0	Dec 09, 2024		Soil	M24-De0037754										X				X
13	E11_3.5	Dec 09, 2024		Soil	M24-De0037755	X					X				X		X	X	
14	D11_0.5	Dec 09, 2024		Soil	M24-De0037756	X					X				X		X	X	

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	D11_1.0	Dec 09, 2024		Soil	M24-De0037757	X					X				X		X		X	
16	D11_1.5	Dec 09, 2024		Soil	M24-De0037758										X					X
17	D11_2.0	Dec 09, 2024		Soil	M24-De0037759	X					X				X		X		X	
18	D11_2.5	Dec 09, 2024		Soil	M24-De0037760	X					X				X		X		X	
19	D11_3.0	Dec 09, 2024		Soil	M24-De0037761	X					X				X		X		X	
20	D11_3.5	Dec 09, 2024		Soil	M24-De0037762										X					X
21	F12_0.5	Dec 09, 2024		Soil	M24-De0037763	X					X				X		X		X	
22	F12_1.0	Dec 09, 2024		Soil	M24-De0037764	X					X				X		X		X	
23	F12_1.5	Dec 09, 2024		Soil	M24-De0037765										X					X
24	F12_2.0	Dec 09, 2024		Soil	M24-De0037766	X					X				X		X		X	
25	F12_2.5	Dec 09, 2024		Soil	M24-De0037767										X					X
26	F12_3.0	Dec 09, 2024		Soil	M24-De0037768	X					X				X		X		X	
27	F12_3.5	Dec 09, 2024		Soil	M24-De0037769	X					X				X		X		X	
28	E12_0.5	Dec 09, 2024		Soil	M24-De0037770										X					X
29	E12_1.0	Dec 09, 2024		Soil	M24-De0037771	X					X				X		X		X	
30	E12_1.5	Dec 09, 2024		Soil	M24-De0037772	X					X				X		X		X	
31	E12_2.0	Dec 09, 2024		Soil	M24-De0037773										X					X

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	E12_2.5	Dec 09, 2024		Soil	M24-De0037774	X					X				X		X		X	
33	E12_3.0	Dec 09, 2024		Soil	M24-De0037775	X					X				X		X		X	
34	E12_3.5	Dec 09, 2024		Soil	M24-De0037776	X					X				X		X		X	
35	QC155	Dec 09, 2024		Soil	M24-De0037777	X					X				X		X		X	
36	D12_0.5	Dec 09, 2024		Soil	M24-De0037778										X					X
37	D12_1.0	Dec 09, 2024		Soil	M24-De0037779	X					X				X		X		X	
38	D12_1.5	Dec 09, 2024		Soil	M24-De0037780	X					X				X		X		X	
39	D12_2.0	Dec 09, 2024		Soil	M24-De0037781	X					X				X		X		X	
40	D12_2.5	Dec 09, 2024		Soil	M24-De0037782										X					X
41	D12_3.0	Dec 09, 2024		Soil	M24-De0037783	X					X				X		X		X	
42	D12_3.5	Dec 09, 2024		Soil	M24-De0037784	X					X				X		X		X	
43	C12_0.5	Dec 09, 2024		Soil	M24-De0037785										X					X
44	C12_1.0	Dec 09, 2024		Soil	M24-De0037786	X					X				X		X		X	
45	C12_1.5	Dec 09, 2024		Soil	M24-De0037787	X					X				X		X		X	
46	C12_2.0	Dec 09, 2024		Soil	M24-De0037788										X					X
47	C12_2.5	Dec 09, 2024		Soil	M24-De0037789	X					X				X		X		X	
48	D13_0.5	Dec 09, 2024		Soil	M24-De0037790	X					X				X		X		X	

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
49	D13_1.0	Dec 09, 2024		Soil	M24-De0037791										X					X
50	D13_1.5	Dec 09, 2024		Soil	M24-De0037792	X					X				X		X		X	
51	D13_2.0	Dec 09, 2024		Soil	M24-De0037793	X					X				X		X		X	
52	D13_2.5	Dec 09, 2024		Soil	M24-De0037794										X					X
53	D13_3.0	Dec 09, 2024		Soil	M24-De0037795	X					X				X		X		X	
54	D13_3.5	Dec 09, 2024		Soil	M24-De0037796	X					X				X		X		X	
55	D14_0.5	Dec 09, 2024		Soil	M24-De0037797	X					X				X		X		X	
56	D14_1.0	Dec 09, 2024		Soil	M24-De0037798										X					X
57	D14_1.5	Dec 09, 2024		Soil	M24-De0037799	X					X				X		X		X	
58	D14_2.0	Dec 09, 2024		Soil	M24-De0037800	X					X				X		X		X	
59	D14_2.5	Dec 09, 2024		Soil	M24-De0037801										X					X
60	D14_3.0	Dec 09, 2024		Soil	M24-De0037802	X					X				X		X		X	
61	E14_0.5	Dec 09, 2024		Soil	M24-De0037803	X					X				X		X		X	
62	E14_1.0	Dec 09, 2024		Soil	M24-De0037804	X					X				X		X		X	
63	E14_1.5	Dec 09, 2024		Soil	M24-De0037805										X					X
64	E14_2.0	Dec 09, 2024		Soil	M24-De0037806	X					X				X		X		X	
65	E14_2.5	Dec 09, 2024		Soil	M24-De0037807										X					X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
66	E14_3.0	Dec 09, 2024		Soil	M24-De0037808	X					X				X		X		X	
67	QC157	Dec 09, 2024		Soil	M24-De0037809										X					X
68	F14_0.5	Dec 09, 2024		Soil	M24-De0037810	X					X				X		X		X	
69	F14_1.0	Dec 09, 2024		Soil	M24-De0037811										X					X
70	F14_1.5	Dec 09, 2024		Soil	M24-De0037812	X					X				X		X		X	
71	F14_2.0	Dec 09, 2024		Soil	M24-De0037813	X					X				X		X		X	
72	F14_2.5	Dec 09, 2024		Soil	M24-De0037814										X					X
73	F14_3.0	Dec 09, 2024		Soil	M24-De0037815	X					X				X		X		X	
74	I16_0.5	Dec 10, 2024		Soil	M24-De0037816	X					X				X		X		X	
75	I16_1.0	Dec 10, 2024		Soil	M24-De0037817										X					X
76	I16_1.5	Dec 10, 2024		Soil	M24-De0037818	X					X				X		X		X	
77	I13_0.5	Dec 10, 2024		Soil	M24-De0037819	X					X				X		X		X	
78	I13_1.0	Dec 10, 2024		Soil	M24-De0037820										X					X
79	I13_1.5	Dec 10, 2024		Soil	M24-De0037821	X					X				X		X		X	
80	I14_0.5	Dec 10, 2024		Soil	M24-De0037822										X					X
81	I14_1.0	Dec 10, 2024		Soil	M24-De0037823	X					X				X		X		X	
82	I14_1.5	Dec 10, 2024		Soil	M24-De0037824	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
83	K13_0.5	Dec 10, 2024		Soil	M24-De0037825										X					X
84	K13_1.0	Dec 10, 2024		Soil	M24-De0037826	X					X				X		X		X	
85	K13_1.5	Dec 10, 2024		Soil	M24-De0037827	X					X				X		X		X	
86	G12_0.5	Dec 10, 2024		Soil	M24-De0037828										X					X
87	G12_1.0	Dec 10, 2024		Soil	M24-De0037829	X					X				X		X		X	
88	G12_1.5	Dec 10, 2024		Soil	M24-De0037830	X					X				X		X		X	
89	G12_2.0	Dec 10, 2024		Soil	M24-De0037831										X					X
90	G12_2.5	Dec 10, 2024		Soil	M24-De0037832	X					X				X		X		X	
91	G12_3.0	Dec 10, 2024		Soil	M24-De0037833	X					X				X		X		X	
92	G12_3.5	Dec 10, 2024		Soil	M24-De0037834										X					X
93	QC163	Dec 10, 2024		Soil	M24-De0037835	X					X				X		X		X	
94	QC160	Dec 09, 2024		Soil	M24-De0037836							X		X						
95	QC161	Oct 09, 2012		Soil	M24-De0037837							X		X						
96	QC165	Dec 10, 2024		Water	M24-De0037838	X					X		X	X		X		X		
97	G13_0.5	Dec 10, 2024		Soil	M24-De0037839	X					X				X		X		X	
98	G13_1.0	Dec 10, 2024		Soil	M24-De0037840	X					X				X		X		X	
99	G13_1.5	Dec 10, 2024		Soil	M24-De0037841	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
100	G13_2.0	Dec 10, 2024		Soil	M24-De0037842										X					X
101	G13_2.5	Dec 10, 2024		Soil	M24-De0037843	X					X				X		X		X	
102	G13_3.0	Dec 10, 2024		Soil	M24-De0037844	X					X				X		X		X	
103	QC167	Dec 10, 2024		Soil	M24-De0037845										X					X
104	F13_0.5	Dec 10, 2024		Soil	M24-De0037846										X					X
105	F13_1.0	Dec 10, 2024		Soil	M24-De0037847	X					X				X		X		X	
106	F13_1.5	Dec 10, 2024		Soil	M24-De0037848	X					X				X		X		X	
107	F13_2.0	Dec 10, 2024		Soil	M24-De0037849										X					X
108	F13_2.5	Dec 10, 2024		Soil	M24-De0037850	X					X				X		X		X	
109	F13_3.0	Dec 10, 2024		Soil	M24-De0037851										X					X
110	F13_3.5	Dec 10, 2024		Soil	M24-De0037852	X					X				X		X		X	
111	QC169	Dec 10, 2024		Soil	M24-De0037853	X					X				X		X		X	
112	E13_0.5	Dec 10, 2024		Soil	M24-De0037854	X	X				X				X		X		X	
113	ACM_E13_0.5	Dec 10, 2024		Building Materials	M24-De0037855			X												
114	E13_1.0	Dec 10, 2024		Soil	M24-De0037856	X					X				X		X		X	
115	E13_1.5	Dec 10, 2024		Soil	M24-De0037857	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
116	E13_2.0	Dec 10, 2024		Soil	M24-De0037858	X					X				X		X		X	
117	E13_2.5	Dec 10, 2024		Soil	M24-De0037859										X					X
118	E13_3.0	Dec 10, 2024		Soil	M24-De0037860	X					X				X		X		X	
119	E13_3.5	Dec 10, 2024		Soil	M24-De0037861										X					X
120	QC171	Dec 10, 2024		Soil	M24-De0037862	X					X				X		X		X	
121	G14_0.5	Dec 10, 2024		Soil	M24-De0037863										X					X
122	G14_1.0	Dec 10, 2024		Soil	M24-De0037864	X					X				X		X		X	
123	G14_1.5	Dec 10, 2024		Soil	M24-De0037865	X					X				X		X		X	
124	G14_2.0	Dec 10, 2024		Soil	M24-De0037866	X					X				X		X		X	
125	G14_2.5	Dec 10, 2024		Soil	M24-De0037867										X					X
126	G14_3.0	Dec 10, 2024		Soil	M24-De0037868										X					X
127	QC173	Dec 10, 2024		Soil	M24-De0037869	X					X				X		X		X	
128	G15_0.5	Dec 10, 2024		Soil	M24-De0037870	X					X				X		X		X	
129	G15_1.0	Dec 10, 2024		Soil	M24-De0037871										X					X
130	G15_1.5	Dec 10, 2024		Soil	M24-De0037872										X					X
131	G15_2.0	Dec 10, 2024		Soil	M24-De0037873	X					X				X		X		X	
132	G15_2.5	Dec 10, 2024		Soil	M24-De0037874	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
133	G15_3.0	Dec 10, 2024		Soil	M24-De0037875										X					X
134	QC175	Dec 10, 2024		Soil	M24-De0037876	X					X				X		X		X	
135	H15_0.5	Dec 10, 2024		Soil	M24-De0037877	X					X				X		X		X	
136	H15_1.0	Dec 10, 2024		Soil	M24-De0037878	X					X				X		X		X	
137	H15_1.5	Dec 10, 2024		Soil	M24-De0037879										X					X
138	H15_2.0	Dec 10, 2024		Soil	M24-De0037880	X					X				X		X		X	
139	H15_2.5	Dec 10, 2024		Soil	M24-De0037881										X					X
140	QC177	Dec 10, 2024		Soil	M24-De0037882										X					X
141	H14_0.5	Dec 10, 2024		Soil	M24-De0037883										X					X
142	H14_1.0	Dec 10, 2024		Soil	M24-De0037884										X					X
143	H13_0.5	Dec 10, 2024		Soil	M24-De0037885	X					X				X		X		X	
144	H12_0.5	Dec 10, 2024		Soil	M24-De0037886										X					X
145	H17_0.5	Dec 10, 2024		Soil	M24-De0037887										X					X
146	H17_1.0	Dec 10, 2024		Soil	M24-De0037888	X					X				X		X		X	
147	H17_1.5	Dec 10, 2024		Soil	M24-De0037889	X					X				X		X		X	
148	QC179	Dec 10, 2024		Soil	M24-De0037890										X					X
149	H18_0.5	Dec 10, 2024		Soil	M24-De0037891	X					X				X		X		X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
150	H18_1.0	Dec 10, 2024		Soil	M24-De0037892										X					X
151	H18_1.5	Dec 10, 2024		Soil	M24-De0037893	X					X				X		X		X	
152	QC181	Dec 10, 2024		Soil	M24-De0037894	X					X				X		X		X	
153	H16_0.5	Dec 10, 2024		Soil	M24-De0037895	X					X				X		X		X	
154	H16_1.0	Dec 10, 2024		Soil	M24-De0037896										X					X
155	H16_1.5	Dec 10, 2024		Soil	M24-De0037897										X					X
156	H16_2.0	Dec 10, 2024		Soil	M24-De0037898	X					X				X		X		X	
157	QC183	Dec 10, 2024		Soil	M24-De0037899	X					X				X		X		X	
158	QC184	Dec 10, 2024		Soil	M24-De0037900				X											
159	QC185	Dec 10, 2024		Soil	M24-De0037901							X								
160	QC186	Dec 10, 2024		Soil	M24-De0037902							X								
161	F11_3.5	Dec 09, 2024		Soil	M24-De0037903	X					X			X	X	X			X	
162	QC162	Oct 09, 2012		Water	M24-De0037904					X										
163	QC166	Dec 10, 2024		Water	M24-De0037905					X										
164	QC159	Oct 09, 2012		Water	M24-De0038146	X					X			X		X		X	X	
Test Counts						102	1	1	1	2	102	4	1	5	154	3	99	2	101	54

Certificate of Analysis

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Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025–Testing
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Attention:	Robert Crowe
Report	1171413-AID
Project Name	Macquarie Point
Project ID	60693007 7
Received Date	Dec 10, 2024
Date Reported	Dec 23, 2024

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004 and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Man-made vitreous fibre (MMVF)	Fibres exhibiting isotropic characteristics, including glass fibres, glass wool, rock wool, slag wool, ceramic fibres and bio-soluble fibres. NOTE: previously known as "synthetic mineral fibre" (SMF). Simple analytical procedures such as polarised light microscopy cannot detect or reliably identify asbestos in some types of commercial products containing asbestos, either because the fibres are below the resolution of optical microscopy or because the matrix material adheres too strongly to the fibres. For these types of products, electron microscopy may be necessary.
Subsampling Soil Samples	The sample submitted is dried and passed through a 10 mm sieve followed by a 2 mm sieve. All fibrous matter greater than 10 mm and greater than 2 mm and the material passing through the 2 mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 g to 60 g, then a subsampling routine based on ISO 3082:2017(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be subsampled for trace analysis, in accordance with AS 5370:2024*.*
Bonded asbestos-containing material (ACM)	The material is first examined, and any fibres are isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 5370:2024*. *NOTE: Even after disintegration, it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting (LOR)	The performance limitation of the AS 5370:2024* method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory limit of reporting, per se. Examination of large sample size (e.g., 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 5370:2024*, and hence, NATA Accreditation does not cover the performance of this service (non-NATA results are shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964-2004: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

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Project Name Macquarie Point
Project ID 60693007 7
Date Sampled Dec 10, 2024
Report 1171413-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
E13_0.5	24-De0037854	Dec 10, 2024	Approximate Sample 121g Sample consisted of: Coarse-grained soil and rocks	Chrysotile and amosite asbestos detected in fibre cement fragments and in the form of loose fibre bundles. Approximate raw weight of asbestos containing material = 0.012g* Total estimated asbestos content in the sample = 0.0012g* Total estimated asbestos concentration = 0.00099% w/w* No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
ACM_E13_0.5	24-De0037855	Dec 10, 2024	Approximate Sample 16g / 50 x 40 x 5mm Sample consisted of: Cement sheet	Chrysotile asbestos detected. Organic fibres detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Melbourne	Dec 17, 2024	Indefinite
Asbestos - LTM-ASB-8020	Melbourne	Dec 17, 2024	Indefinite

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory															

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	F11_0.5	Dec 09, 2024		Soil	M24-De0037743	X					X				X		X	X	
2	F11_1.0	Dec 09, 2024		Soil	M24-De0037744	X					X				X		X	X	
3	F11_1.5	Dec 09, 2024		Soil	M24-De0037745										X				X
4	F11_2.0	Dec 09, 2024		Soil	M24-De0037746	X					X				X		X	X	
5	F11_2.5	Dec 09, 2024		Soil	M24-De0037747	X					X				X		X	X	
6	F11_3.0	Dec 09, 2024		Soil	M24-De0037748										X				X
7	E11_0.5	Dec 09, 2024		Soil	M24-De0037749	X					X				X		X	X	
8	E11_1.0	Dec 09, 2024		Soil	M24-De0037750										X				X
9	E11_1.5	Dec 09, 2024		Soil	M24-De0037751	X					X				X		X	X	
10	E11_2.0	Dec 09, 2024		Soil	M24-De0037752	X					X				X		X	X	
11	E11_2.5	Dec 09, 2024		Soil	M24-De0037753	X					X				X		X	X	
12	E11_3.0	Dec 09, 2024		Soil	M24-De0037754										X				X
13	E11_3.5	Dec 09, 2024		Soil	M24-De0037755	X					X				X		X	X	
14	D11_0.5	Dec 09, 2024		Soil	M24-De0037756	X					X				X		X	X	

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Received: Dec 10, 2024 4:52 PM
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	D11_1.0	Dec 09, 2024		Soil	M24-De0037757	X					X				X		X		X	
16	D11_1.5	Dec 09, 2024		Soil	M24-De0037758										X					X
17	D11_2.0	Dec 09, 2024		Soil	M24-De0037759	X					X				X		X		X	
18	D11_2.5	Dec 09, 2024		Soil	M24-De0037760	X					X				X		X		X	
19	D11_3.0	Dec 09, 2024		Soil	M24-De0037761	X					X				X		X		X	
20	D11_3.5	Dec 09, 2024		Soil	M24-De0037762										X					X
21	F12_0.5	Dec 09, 2024		Soil	M24-De0037763	X					X				X		X		X	
22	F12_1.0	Dec 09, 2024		Soil	M24-De0037764	X					X				X		X		X	
23	F12_1.5	Dec 09, 2024		Soil	M24-De0037765										X					X
24	F12_2.0	Dec 09, 2024		Soil	M24-De0037766	X					X				X		X		X	
25	F12_2.5	Dec 09, 2024		Soil	M24-De0037767										X					X
26	F12_3.0	Dec 09, 2024		Soil	M24-De0037768	X					X				X		X		X	
27	F12_3.5	Dec 09, 2024		Soil	M24-De0037769	X					X				X		X		X	
28	E12_0.5	Dec 09, 2024		Soil	M24-De0037770										X					X
29	E12_1.0	Dec 09, 2024		Soil	M24-De0037771	X					X				X		X		X	
30	E12_1.5	Dec 09, 2024		Soil	M24-De0037772	X					X				X		X		X	
31	E12_2.0	Dec 09, 2024		Soil	M24-De0037773										X					X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	E12_2.5	Dec 09, 2024		Soil	M24-De0037774	X					X				X		X		X	
33	E12_3.0	Dec 09, 2024		Soil	M24-De0037775	X					X				X		X		X	
34	E12_3.5	Dec 09, 2024		Soil	M24-De0037776	X					X				X		X		X	
35	QC155	Dec 09, 2024		Soil	M24-De0037777	X					X				X		X		X	
36	D12_0.5	Dec 09, 2024		Soil	M24-De0037778										X					X
37	D12_1.0	Dec 09, 2024		Soil	M24-De0037779	X					X				X		X		X	
38	D12_1.5	Dec 09, 2024		Soil	M24-De0037780	X					X				X		X		X	
39	D12_2.0	Dec 09, 2024		Soil	M24-De0037781	X					X				X		X		X	
40	D12_2.5	Dec 09, 2024		Soil	M24-De0037782										X					X
41	D12_3.0	Dec 09, 2024		Soil	M24-De0037783	X					X				X		X		X	
42	D12_3.5	Dec 09, 2024		Soil	M24-De0037784	X					X				X		X		X	
43	C12_0.5	Dec 09, 2024		Soil	M24-De0037785										X					X
44	C12_1.0	Dec 09, 2024		Soil	M24-De0037786	X					X				X		X		X	
45	C12_1.5	Dec 09, 2024		Soil	M24-De0037787	X					X				X		X		X	
46	C12_2.0	Dec 09, 2024		Soil	M24-De0037788										X					X
47	C12_2.5	Dec 09, 2024		Soil	M24-De0037789	X					X				X		X		X	
48	D13_0.5	Dec 09, 2024		Soil	M24-De0037790	X					X				X		X		X	

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Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
49	D13_1.0	Dec 09, 2024		Soil	M24-De0037791										X					X
50	D13_1.5	Dec 09, 2024		Soil	M24-De0037792	X					X				X		X		X	
51	D13_2.0	Dec 09, 2024		Soil	M24-De0037793	X					X				X		X		X	
52	D13_2.5	Dec 09, 2024		Soil	M24-De0037794										X					X
53	D13_3.0	Dec 09, 2024		Soil	M24-De0037795	X					X				X		X		X	
54	D13_3.5	Dec 09, 2024		Soil	M24-De0037796	X					X				X		X		X	
55	D14_0.5	Dec 09, 2024		Soil	M24-De0037797	X					X				X		X		X	
56	D14_1.0	Dec 09, 2024		Soil	M24-De0037798										X					X
57	D14_1.5	Dec 09, 2024		Soil	M24-De0037799	X					X				X		X		X	
58	D14_2.0	Dec 09, 2024		Soil	M24-De0037800	X					X				X		X		X	
59	D14_2.5	Dec 09, 2024		Soil	M24-De0037801										X					X
60	D14_3.0	Dec 09, 2024		Soil	M24-De0037802	X					X				X		X		X	
61	E14_0.5	Dec 09, 2024		Soil	M24-De0037803	X					X				X		X		X	
62	E14_1.0	Dec 09, 2024		Soil	M24-De0037804	X					X				X		X		X	
63	E14_1.5	Dec 09, 2024		Soil	M24-De0037805										X					X
64	E14_2.0	Dec 09, 2024		Soil	M24-De0037806	X					X				X		X		X	
65	E14_2.5	Dec 09, 2024		Soil	M24-De0037807										X					X

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Company Name: Aecom Aust Pty Ltd Tasmania
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Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
66	E14_3.0	Dec 09, 2024		Soil	M24-De0037808	X					X				X		X		X	
67	QC157	Dec 09, 2024		Soil	M24-De0037809										X					X
68	F14_0.5	Dec 09, 2024		Soil	M24-De0037810	X					X				X		X		X	
69	F14_1.0	Dec 09, 2024		Soil	M24-De0037811										X					X
70	F14_1.5	Dec 09, 2024		Soil	M24-De0037812	X					X				X		X		X	
71	F14_2.0	Dec 09, 2024		Soil	M24-De0037813	X					X				X		X		X	
72	F14_2.5	Dec 09, 2024		Soil	M24-De0037814										X					X
73	F14_3.0	Dec 09, 2024		Soil	M24-De0037815	X					X				X		X		X	
74	I16_0.5	Dec 10, 2024		Soil	M24-De0037816	X					X				X		X		X	
75	I16_1.0	Dec 10, 2024		Soil	M24-De0037817										X					X
76	I16_1.5	Dec 10, 2024		Soil	M24-De0037818	X					X				X		X		X	
77	I13_0.5	Dec 10, 2024		Soil	M24-De0037819	X					X				X		X		X	
78	I13_1.0	Dec 10, 2024		Soil	M24-De0037820										X					X
79	I13_1.5	Dec 10, 2024		Soil	M24-De0037821	X					X				X		X		X	
80	I14_0.5	Dec 10, 2024		Soil	M24-De0037822										X					X
81	I14_1.0	Dec 10, 2024		Soil	M24-De0037823	X					X				X		X		X	
82	I14_1.5	Dec 10, 2024		Soil	M24-De0037824	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
83	K13_0.5	Dec 10, 2024		Soil	M24-De0037825										X					X
84	K13_1.0	Dec 10, 2024		Soil	M24-De0037826	X					X				X		X		X	
85	K13_1.5	Dec 10, 2024		Soil	M24-De0037827	X					X				X		X		X	
86	G12_0.5	Dec 10, 2024		Soil	M24-De0037828										X					X
87	G12_1.0	Dec 10, 2024		Soil	M24-De0037829	X					X				X		X		X	
88	G12_1.5	Dec 10, 2024		Soil	M24-De0037830	X					X				X		X		X	
89	G12_2.0	Dec 10, 2024		Soil	M24-De0037831										X					X
90	G12_2.5	Dec 10, 2024		Soil	M24-De0037832	X					X				X		X		X	
91	G12_3.0	Dec 10, 2024		Soil	M24-De0037833	X					X				X		X		X	
92	G12_3.5	Dec 10, 2024		Soil	M24-De0037834										X					X
93	QC163	Dec 10, 2024		Soil	M24-De0037835	X					X				X		X		X	
94	QC160	Dec 09, 2024		Soil	M24-De0037836							X		X						
95	QC161	Oct 09, 2012		Soil	M24-De0037837							X		X						
96	QC165	Dec 10, 2024		Water	M24-De0037838	X					X		X	X		X		X		
97	G13_0.5	Dec 10, 2024		Soil	M24-De0037839	X					X				X		X		X	
98	G13_1.0	Dec 10, 2024		Soil	M24-De0037840	X					X				X		X		X	
99	G13_1.5	Dec 10, 2024		Soil	M24-De0037841	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
100	G13_2.0	Dec 10, 2024		Soil	M24-De0037842										X					X
101	G13_2.5	Dec 10, 2024		Soil	M24-De0037843	X					X				X		X		X	
102	G13_3.0	Dec 10, 2024		Soil	M24-De0037844	X					X				X		X		X	
103	QC167	Dec 10, 2024		Soil	M24-De0037845										X					X
104	F13_0.5	Dec 10, 2024		Soil	M24-De0037846										X					X
105	F13_1.0	Dec 10, 2024		Soil	M24-De0037847	X					X				X		X		X	
106	F13_1.5	Dec 10, 2024		Soil	M24-De0037848	X					X				X		X		X	
107	F13_2.0	Dec 10, 2024		Soil	M24-De0037849										X					X
108	F13_2.5	Dec 10, 2024		Soil	M24-De0037850	X					X				X		X		X	
109	F13_3.0	Dec 10, 2024		Soil	M24-De0037851										X					X
110	F13_3.5	Dec 10, 2024		Soil	M24-De0037852	X					X				X		X		X	
111	QC169	Dec 10, 2024		Soil	M24-De0037853	X					X				X		X		X	
112	E13_0.5	Dec 10, 2024		Soil	M24-De0037854	X	X				X				X		X		X	
113	ACM_E13_0.5	Dec 10, 2024		Building Materials	M24-De0037855			X												
114	E13_1.0	Dec 10, 2024		Soil	M24-De0037856	X					X				X		X		X	
115	E13_1.5	Dec 10, 2024		Soil	M24-De0037857	X					X				X		X		X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
116	E13_2.0	Dec 10, 2024		Soil	M24-De0037858	X					X				X		X		X	
117	E13_2.5	Dec 10, 2024		Soil	M24-De0037859										X					X
118	E13_3.0	Dec 10, 2024		Soil	M24-De0037860	X					X				X		X		X	
119	E13_3.5	Dec 10, 2024		Soil	M24-De0037861										X					X
120	QC171	Dec 10, 2024		Soil	M24-De0037862	X					X				X		X		X	
121	G14_0.5	Dec 10, 2024		Soil	M24-De0037863										X					X
122	G14_1.0	Dec 10, 2024		Soil	M24-De0037864	X					X				X		X		X	
123	G14_1.5	Dec 10, 2024		Soil	M24-De0037865	X					X				X		X		X	
124	G14_2.0	Dec 10, 2024		Soil	M24-De0037866	X					X				X		X		X	
125	G14_2.5	Dec 10, 2024		Soil	M24-De0037867										X					X
126	G14_3.0	Dec 10, 2024		Soil	M24-De0037868										X					X
127	QC173	Dec 10, 2024		Soil	M24-De0037869	X					X				X		X		X	
128	G15_0.5	Dec 10, 2024		Soil	M24-De0037870	X					X				X		X		X	
129	G15_1.0	Dec 10, 2024		Soil	M24-De0037871										X					X
130	G15_1.5	Dec 10, 2024		Soil	M24-De0037872										X					X
131	G15_2.0	Dec 10, 2024		Soil	M24-De0037873	X					X				X		X		X	
132	G15_2.5	Dec 10, 2024		Soil	M24-De0037874	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
133	G15_3.0	Dec 10, 2024		Soil	M24-De0037875										X					X
134	QC175	Dec 10, 2024		Soil	M24-De0037876	X					X				X		X		X	
135	H15_0.5	Dec 10, 2024		Soil	M24-De0037877	X					X				X		X		X	
136	H15_1.0	Dec 10, 2024		Soil	M24-De0037878	X					X				X		X		X	
137	H15_1.5	Dec 10, 2024		Soil	M24-De0037879										X					X
138	H15_2.0	Dec 10, 2024		Soil	M24-De0037880	X					X				X		X		X	
139	H15_2.5	Dec 10, 2024		Soil	M24-De0037881										X					X
140	QC177	Dec 10, 2024		Soil	M24-De0037882										X					X
141	H14_0.5	Dec 10, 2024		Soil	M24-De0037883										X					X
142	H14_1.0	Dec 10, 2024		Soil	M24-De0037884										X					X
143	H13_0.5	Dec 10, 2024		Soil	M24-De0037885	X					X				X		X		X	
144	H12_0.5	Dec 10, 2024		Soil	M24-De0037886										X					X
145	H17_0.5	Dec 10, 2024		Soil	M24-De0037887										X					X
146	H17_1.0	Dec 10, 2024		Soil	M24-De0037888	X					X				X		X		X	
147	H17_1.5	Dec 10, 2024		Soil	M24-De0037889	X					X				X		X		X	
148	QC179	Dec 10, 2024		Soil	M24-De0037890										X					X
149	H18_0.5	Dec 10, 2024		Soil	M24-De0037891	X					X				X		X		X	

eurofins

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
150	H18_1.0	Dec 10, 2024		Soil	M24-De0037892										X					X
151	H18_1.5	Dec 10, 2024		Soil	M24-De0037893	X					X				X		X		X	
152	QC181	Dec 10, 2024		Soil	M24-De0037894	X					X				X		X		X	
153	H16_0.5	Dec 10, 2024		Soil	M24-De0037895	X					X				X		X		X	
154	H16_1.0	Dec 10, 2024		Soil	M24-De0037896										X					X
155	H16_1.5	Dec 10, 2024		Soil	M24-De0037897										X					X
156	H16_2.0	Dec 10, 2024		Soil	M24-De0037898	X					X				X		X		X	
157	QC183	Dec 10, 2024		Soil	M24-De0037899	X					X				X		X		X	
158	QC184	Dec 10, 2024		Soil	M24-De0037900				X											
159	QC185	Dec 10, 2024		Soil	M24-De0037901							X								
160	QC186	Dec 10, 2024		Soil	M24-De0037902							X								
161	F11_3.5	Dec 09, 2024		Soil	M24-De0037903	X					X			X	X	X			X	
162	QC162	Oct 09, 2012		Water	M24-De0037904					X										
163	QC166	Dec 10, 2024		Water	M24-De0037905					X										
164	QC159	Oct 09, 2012		Water	M24-De0038146	X					X			X		X		X	X	
Test Counts						102	1	1	1	2	102	4	1	5	154	3	99	2	101	54

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V** = **r** x **t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**). This estimate is not NATA-accredited.
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to “non-bonded / friable”.
AFM	Airborne Fibre Monitoring, e.g., by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total %w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w)**.
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos-containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to distinguish visibly and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004.. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess the degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021), ISBN: 9780616667079.
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012), .ISBN: 9780717665020
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
MMVF	Man-Made Vitreous Fibre - exhibiting isotropic characteristics, including glass fibres, glass wool, rock wool, slag wool, ceramic fibres and “bio-soluble fibres. NOTE: previously known as “synthetic mineral fibre” (SMF).
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
PCM	Phase Contrast Microscopy. This is used for fibre counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004..
Sampling	Unless otherwise stated, Eurofins are not responsible for sampling equipment or the sampling process.
SRA	Sample Receipt Advice.
Trace Analysis	An analytical procedure is used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according to AS 5370:2024* Sampling and qualitative identification of asbestos in bulk materials (ISO 22262-1:2012, MOD), formerly AS 4964-2004.. It may include (but is not limited to) actinolite, anthophyllite, or tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average %w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Hiren Patel	Senior Analyst-Asbestos

Authorised by:

Zoe Burke	Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1171413-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 10, 2024

Client Sample ID			**F11_0.5**	**F11_1.0**	**F11_1.5**	**F11_2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-De0037743**	**M24-De0037744**	**M24-De0037745**	**M24-De0037746**
Date Sampled			**Dec 09, 2024**	**Dec 09, 2024**	**Dec 09, 2024**	**Dec 09, 2024**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	51	51	160	< 50
TRH C29-C36	50	mg/kg	73	< 50	140	< 50
TRH C10-C36 (Total)	50	mg/kg	124	51	300	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	270	< 100
TRH >C34-C40	100	mg/kg	140	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	140	< 100	270	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	101	91	109	101
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005

Client Sample ID			F11_0.5	F11_1.0	F11_1.5	F11_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037743	M24-De0037744	M24-De0037745	M24-De0037746
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	55	58	-	63
p-Terphenyl-d14 (surr.)	1	%	72	78	-	75
Benzo(a)pyrene TEQ (lower bound) *	0.001	mg/kg		-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.001	mg/kg	0.006	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.001		0.012	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.3	< 2
Barium	10	mg/kg	-	-	78	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.5	-
Chromium	5	mg/kg	-	-	34	-
Cobalt	5	mg/kg	-	-	33	-
Copper	5	mg/kg	-	-	97	-
Lead	5	mg/kg	< 5	< 5	45	34
Manganese	5	mg/kg	-	-	540	-
Mercury	0.1	mg/kg	-	-	0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	130	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	170	-
Sample Properties						
% Moisture	1	%	9.9	13	13	12
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			F11_0.5	F11_1.0	F11_1.5	F11_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037743	M24-De0037744	M24-De0037745	M24-De0037746
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	63	-
p-Terphenyl-d14 (surr.)	1	%	-	-	87	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	119	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	122	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	119	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	122	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-

Client Sample ID			F11_0.5	F11_1.0	F11_1.5	F11_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037743	M24-De0037744	M24-De0037745	M24-De0037746
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	131	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	150	-

Client Sample ID			F11_2.5	F11_3.0	E11_0.5	E11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037747	M24-De0037748	M24-De0037749	M24-De0037750
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	170	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	180	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	350	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	300	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	180	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	480	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			F11_2.5	F11_3.0	E11_0.5	E11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037747	M24-De0037748	M24-De0037749	M24-De0037750
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
BTEX						
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	78	88	72	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	-	< 0.005	-
Anthracene	0.005	mg/kg	0.17	-	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	0.25	-	0.91	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.15	-	1.2	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.10	-	0.78	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	0.37	-
Benzo(k)fluoranthene	0.005	mg/kg	0.16	-	0.77	-
Chrysene	0.005	mg/kg	0.27	-	0.78	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	-
Fluoranthene	0.005	mg/kg	0.52	-	1.0	-
Fluorene	0.005	mg/kg	0.093	-	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	0.28	-
Naphthalene	0.005	mg/kg	0.37	-	< 0.005	-
Phenanthrene	0.005	mg/kg	0.83	-	0.45	-
Pyrene	0.005	mg/kg	0.52	-	1.1	-
Total PAH*	0.005	mg/kg	3.433	-	7.64	-
2-Fluorobiphenyl (surr.)	1	%	61	-	54	-
p-Terphenyl-d14 (surr.)	1	%	60	-	69	-
Heavy Metals						
Arsenic	2	mg/kg	2.3	< 2	4.0	< 2
Barium	10	mg/kg	-	110	-	43
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4	-	< 0.4
Chromium	5	mg/kg	-	23	-	31
Cobalt	5	mg/kg	-	22	-	19
Copper	5	mg/kg	-	51	-	110
Lead	5	mg/kg	930	30	110	< 5
Manganese	5	mg/kg	-	190	-	510
Mercury	0.1	mg/kg	-	< 0.1	-	< 0.1
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	23	-	32
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	< 10	-	< 10
Zinc	5	mg/kg	-	20	-	33
Sample Properties						
% Moisture	1	%	23	29	28	15

Client Sample ID			F11_2.5	F11_3.0	E11_0.5	E11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037747	M24-De0037748	M24-De0037749	M24-De0037750
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	-	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	64	-	58
p-Terphenyl-d14 (surr.)	1	%	-	65	-	59
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	83	-	69
Tetrachloro-m-xylene (surr.)	1	%	-	79	-	75

Client Sample ID			F11_2.5	F11_3.0	E11_0.5	E11_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037747	M24-De0037748	M24-De0037749	M24-De0037750
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	83	-	69
Tetrachloro-m-xylene (surr.)	1	%	-	79	-	75
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	74	-	66
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	< 5
Fluoride	100	mg/kg	-	< 100	-	< 100

Client Sample ID			E11_1.5	E11_2.0	E11_2.5	E11_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037751	M24-De0037752	M24-De0037753	M24-De0037754
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	38	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	210	70
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	248	70
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	130	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	130	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	110	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	240	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	58	95	83	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	81	50	53	-
p-Terphenyl-d14 (surr.)	1	%	62	68	74	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	-	30
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	8.3

Client Sample ID			E11_1.5	E11_2.0	E11_2.5	E11_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037751	M24-De0037752	M24-De0037753	M24-De0037754
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	-	-	17
Copper	5	mg/kg	-	-	-	91
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	-	490
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	20
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	39
Sample Properties						
% Moisture	1	%	2.8	1.5	5.9	7.7
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	90
p-Terphenyl-d14 (surr.)	1	%	-	-	-	91
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			E11_1.5	E11_2.0	E11_2.5	E11_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037751	M24-De0037752	M24-De0037753	M24-De0037754
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	67
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	73
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	67
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	73
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	76
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20

Client Sample ID			E11_1.5	E11_2.0	E11_2.5	E11_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037751	M24-De0037752	M24-De0037753	M24-De0037754
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100

Client Sample ID			E11_3.5	D11_0.5	D11_1.0	D11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037755	M24-De0037756	M24-De0037757	M24-De0037758
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	100	86	96	70
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	0.012	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.061	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.070	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.043	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	0.017	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.036	< 0.005	-
Chrysene	0.005	mg/kg	< 0.005	0.056	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	0.099	< 0.005	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-

Client Sample ID			E11_3.5	D11_0.5	D11_1.0	D11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037755	M24-De0037756	M24-De0037757	M24-De0037758
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.012	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	0.034	< 0.005	-
Pyrene	0.005	mg/kg	< 0.005	0.11	< 0.005	-
Total PAH*	0.005	mg/kg	< 0.005	0.555	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	56	56	60	-
p-Terphenyl-d14 (surr.)	1	%	80	75	77	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	-	17
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	21
Cobalt	5	mg/kg	-	-	-	12
Copper	5	mg/kg	-	-	-	21
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	-	500
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	13
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	36
Sample Properties						
% Moisture	1	%	5.9	7.4	6.8	11
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	80
p-Terphenyl-d14 (surr.)	1	%	-	-	-	126

Client Sample ID			E11_3.5	D11_0.5	D11_1.0	D11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037755	M24-De0037756	M24-De0037757	M24-De0037758
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	106
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	109
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	106
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	109
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			E11_3.5	D11_0.5	D11_1.0	D11_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037755	M24-De0037756	M24-De0037757	M24-De0037758
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	63
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100

Client Sample ID			D11_2.0	D11_2.5	D11_3.0	D11_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037759	M24-De0037760	M24-De0037761	M24-De0037762
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	60	112	100	101
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			D11_2.0	D11_2.5	D11_3.0	D11_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037759	M24-De0037760	M24-De0037761	M24-De0037762
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	0.011	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.007	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.006	< 0.005	-
Chrysene	0.005	mg/kg	< 0.005	0.012	0.013	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	0.013	0.010	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	0.012	0.010	-
Pyrene	0.005	mg/kg	< 0.005	0.014	0.016	-
Total PAH*	0.005	mg/kg	< 0.005	0.064	0.06	-
2-Fluorobiphenyl (surr.)	1	%	58	138	73	-
p-Terphenyl-d14 (surr.)	1	%	73	146	99	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	-	26
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	13
Cobalt	5	mg/kg	-	-	-	16
Copper	5	mg/kg	-	-	-	31
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	-	440
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	13
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	48
Sample Properties						
% Moisture	1	%	12	6.1	5.9	6.6
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			D11_2.0	D11_2.5	D11_3.0	D11_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037759	M24-De0037760	M24-De0037761	M24-De0037762
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	55
p-Terphenyl-d14 (surr.)	1	%	-	-	-	87
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	114
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	103
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			D11_2.0	D11_2.5	D11_3.0	D11_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037759	M24-De0037760	M24-De0037761	M24-De0037762
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	-	114
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	103
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	64
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	180

Client Sample ID			F12_0.5	F12_1.0	F12_1.5	F12_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037763	M24-De0037764	M24-De0037765	M24-De0037766
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	73	100
TRH C29-C36	50	mg/kg	< 50	< 50	81	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	154	100
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			F12_0.5	F12_1.0	F12_1.5	F12_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037763	M24-De0037764	M24-De0037765	M24-De0037766
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	130	160
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	130	160
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	108	67	50	56
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	0.008
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	0.012
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.11
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.28
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	0.24
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.20
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	0.12
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.26
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	0.36
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.071
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.42
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	0.031
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.11
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	0.020
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	0.29
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.53
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	3.062
2-Fluorobiphenyl (surr.)	1	%	61	58	-	70
p-Terphenyl-d14 (surr.)	1	%	82	74	-	97
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	10	2.4
Barium	10	mg/kg	-	-	81	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.6	-
Chromium	5	mg/kg	-	-	19	-
Cobalt	5	mg/kg	-	-	16	-
Copper	5	mg/kg	-	-	77	-
Lead	5	mg/kg	< 5	5.4	100	45
Manganese	5	mg/kg	-	-	350	-
Mercury	0.1	mg/kg	-	-	0.3	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	24	-
Selenium	2	mg/kg	-	-	< 2	-

Client Sample ID			F12_0.5	F12_1.0	F12_1.5	F12_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037763	M24-De0037764	M24-De0037765	M24-De0037766
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	19	-
Zinc	5	mg/kg	-	-	200	-
Sample Properties						
% Moisture	1	%	12	27	16	17
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	0.8	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	1.1	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.4	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	0.7	-
Benzo(a)pyrene	0.5	mg/kg	-	-	0.6	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	0.7	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	0.7	-
Chrysene	0.5	mg/kg	-	-	0.8	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	1.6	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	1.0	-
Pyrene	0.5	mg/kg	-	-	1.6	-
Total PAH*	0.5	mg/kg	-	-	7.7	-
2-Fluorobiphenyl (surr.)	1	%	-	-	52	-
p-Terphenyl-d14 (surr.)	1	%	-	-	75	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			F12_0.5	F12_1.0	F12_1.5	F12_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037763	M24-De0037764	M24-De0037765	M24-De0037766
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	83	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	91	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	83	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	91	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	128	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.49	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			F12_2.5	F12_3.0	F12_3.5	E12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037767	M24-De0037768	M24-De0037769	M24-De0037770
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	96	130	< 50	79
TRH C29-C36	50	mg/kg	< 50	62	< 50	530
TRH C10-C36 (Total)	50	mg/kg	96	192	< 50	609
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	120	180	< 100	410
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	940
TRH >C10-C40 (total)*	100	mg/kg	120	180	< 100	1350
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	115	64	126	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	-	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	-	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	-	52	59	-
p-Terphenyl-d14 (surr.)	1	%	-	74	101	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	2.7
Barium	10	mg/kg	95	-	-	23
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	19	-	-	12

Client Sample ID			F12_2.5	F12_3.0	F12_3.5	E12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037767	M24-De0037768	M24-De0037769	M24-De0037770
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	20	-	-	13
Copper	5	mg/kg	36	-	-	54
Lead	5	mg/kg	13	9.9	< 5	12
Manganese	5	mg/kg	480	-	-	330
Mercury	0.1	mg/kg	< 0.1	-	-	< 0.1
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	19	-	-	32
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	< 10
Zinc	5	mg/kg	21	-	-	64
Sample Properties						
% Moisture	1	%	22	21	6.7	9.8
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	143	-	-	62
p-Terphenyl-d14 (surr.)	1	%	109	-	-	67
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			F12_2.5	F12_3.0	F12_3.5	E12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037767	M24-De0037768	M24-De0037769	M24-De0037770
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	80	-	-	122
Tetrachloro-m-xylene (surr.)	1	%	125	-	-	101
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.2
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.2
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.2
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.2
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.2
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.2
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.2
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	80	-	-	122
Tetrachloro-m-xylene (surr.)	1	%	125	-	-	101
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	131	-	-	147
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20

Client Sample ID			F12_2.5	F12_3.0	F12_3.5	E12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037767	M24-De0037768	M24-De0037769	M24-De0037770
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	< 100

Client Sample ID			E12_1.0	E12_1.5	E12_2.0	E12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037771	M24-De0037772	M24-De0037773	M24-De0037774
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	130	71	< 50	< 50
TRH C29-C36	50	mg/kg	150	59	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	280	130	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	240	110	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	240	110	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63	64	89	60
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.34	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.36	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	0.29	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	0.37	-	< 0.005
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005

Client Sample ID			E12_1.0	E12_1.5	E12_2.0	E12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037771	M24-De0037772	M24-De0037773	M24-De0037774
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	0.39	-	< 0.005
Total PAH*	0.005	mg/kg	< 0.005	1.75	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	66	56	-	121
p-Terphenyl-d14 (surr.)	1	%	79	73	-	129
Heavy Metals						
Arsenic	2	mg/kg	8.3	< 2	< 2	< 2
Barium	10	mg/kg	-	-	150	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	10.0	-
Cobalt	5	mg/kg	-	-	14	-
Copper	5	mg/kg	-	-	42	-
Lead	5	mg/kg	74	9.0	< 5	< 5
Manganese	5	mg/kg	-	-	110	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	15	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	11	-
Sample Properties						
% Moisture	1	%	12	15	7.7	22
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	69	-
p-Terphenyl-d14 (surr.)	1	%	-	-	69	-

Client Sample ID			E12_1.0	E12_1.5	E12_2.0	E12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037771	M24-De0037772	M24-De0037773	M24-De0037774
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	81	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	87	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	81	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	87	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			E12_1.0	E12_1.5	E12_2.0	E12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037771	M24-De0037772	M24-De0037773	M24-De0037774
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	88	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			E12_3.0	E12_3.5	QC155	D12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037775	M24-De0037776	M24-De0037777	M24-De0037778
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	120	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	140	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	260	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	230	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	230	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54	85	53	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			E12_3.0	E12_3.5	QC155	D12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037775	M24-De0037776	M24-De0037777	M24-De0037778
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	117	131	105	-
p-Terphenyl-d14 (surr.)	1	%	136	91	135	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	11	< 2
Barium	10	mg/kg	-	-	-	55
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	26
Cobalt	5	mg/kg	-	-	-	24
Copper	5	mg/kg	-	-	-	25
Lead	5	mg/kg	< 5	< 5	81	8.1
Manganese	5	mg/kg	-	-	-	140
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	18
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	17
Sample Properties						
% Moisture	1	%	15	9.2	9.0	24
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			E12_3.0	E12_3.5	QC155	D12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037775	M24-De0037776	M24-De0037777	M24-De0037778
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	64
p-Terphenyl-d14 (surr.)	1	%	-	-	-	71
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	83
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	83
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			E12_3.0	E12_3.5	QC155	D12_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037775	M24-De0037776	M24-De0037777	M24-De0037778
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	-	83
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	83
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	87
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	230

Client Sample ID			D12_1.0	D12_1.5	D12_2.0	D12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037779	M24-De0037780	M24-De0037781	M24-De0037782
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			D12_1.0	D12_1.5	D12_2.0	D12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037779	M24-De0037780	M24-De0037781	M24-De0037782
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99	54	69	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	119	114	148	-
p-Terphenyl-d14 (surr.)	1	%	101	137	145	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.1	< 2	< 2
Barium	10	mg/kg	-	-	-	82
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	11
Cobalt	5	mg/kg	-	-	-	9.6
Copper	5	mg/kg	-	-	-	58
Lead	5	mg/kg	5.6	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	-	200
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	14
Selenium	2	mg/kg	-	-	-	< 2

Client Sample ID			D12_1.0	D12_1.5	D12_2.0	D12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037779	M24-De0037780	M24-De0037781	M24-De0037782
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	17
Sample Properties						
% Moisture	1	%	29	21	17	9.4
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	82
p-Terphenyl-d14 (surr.)	1	%	-	-	-	83
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			D12_1.0	D12_1.5	D12_2.0	D12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037779	M24-De0037780	M24-De0037781	M24-De0037782
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	86
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	102
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	86
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	102
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	88
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100

Client Sample ID			D12_3.0	D12_3.5	C12_0.5	C12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037783	M24-De0037784	M24-De0037785	M24-De0037786
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	160	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	210	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	370	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	310	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	150	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	460	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	85	68	60	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.006
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	0.006
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.006	-	0.006
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.006	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	0.006
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.008
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.010
Total PAH*	0.005	mg/kg	< 0.005	0.012	-	0.042
2-Fluorobiphenyl (surr.)	1	%	53	53	-	55
p-Terphenyl-d14 (surr.)	1	%	73	70	-	69
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	8.4	< 2
Barium	10	mg/kg	-	-	76	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.5	-
Chromium	5	mg/kg	-	-	14	-

Client Sample ID			D12_3.0	D12_3.5	C12_0.5	C12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037783	M24-De0037784	M24-De0037785	M24-De0037786
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	-	17	-
Copper	5	mg/kg	-	-	160	-
Lead	5	mg/kg	< 5	< 5	120	< 5
Manganese	5	mg/kg	-	-	280	-
Mercury	0.1	mg/kg	-	-	0.4	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	23	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	32	-
Zinc	5	mg/kg	-	-	550	-
Sample Properties						
% Moisture	1	%	9.2	15	12	17
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	1.2	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	1.5	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.7	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	0.9	-
Benzo(a)pyrene	0.5	mg/kg	-	-	0.9	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	0.7	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	0.6	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	0.8	-
Chrysene	0.5	mg/kg	-	-	1.0	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	2.1	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	0.6	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	1.0	-
Pyrene	0.5	mg/kg	-	-	2.0	-
Total PAH*	0.5	mg/kg	-	-	11	-
2-Fluorobiphenyl (surr.)	1	%	-	-	131	-
p-Terphenyl-d14 (surr.)	1	%	-	-	62	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			D12_3.0	D12_3.5	C12_0.5	C12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037783	M24-De0037784	M24-De0037785	M24-De0037786
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	110	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	92	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	110	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	92	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	129	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-

Client Sample ID			D12_3.0	D12_3.5	C12_0.5	C12_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037783	M24-De0037784	M24-De0037785	M24-De0037786
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.77	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			C12_1.5	C12_2.0	C12_2.5	D13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037787	M24-De0037788	M24-De0037789	M24-De0037790
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	110	75	90	141
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	< 0.005	0.008
Anthracene	0.005	mg/kg	< 0.005	-	< 0.005	0.025
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	0.12
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.005	0.12
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	< 0.005	0.075
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	< 0.005	0.044
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	< 0.005	0.084
Chrysene	0.005	mg/kg	< 0.005	-	< 0.005	0.13
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	0.010
Fluoranthene	0.005	mg/kg	< 0.005	-	< 0.005	0.15
Fluorene	0.005	mg/kg	< 0.005	-	< 0.005	0.006

Client Sample ID			C12_1.5	C12_2.0	C12_2.5	D13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037787	M24-De0037788	M24-De0037789	M24-De0037790
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	< 0.005	0.038
Naphthalene	0.005	mg/kg	< 0.005	-	< 0.005	0.012
Phenanthrene	0.005	mg/kg	< 0.005	-	< 0.005	0.064
Pyrene	0.005	mg/kg	< 0.005	-	< 0.005	0.21
Total PAH*	0.005	mg/kg	< 0.005	-	0.005	1.096
2-Fluorobiphenyl (surr.)	1	%	57	-	51	70
p-Terphenyl-d14 (surr.)	1	%	73	-	76	79
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	93	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	15	-	-
Cobalt	5	mg/kg	-	10	-	-
Copper	5	mg/kg	-	59	-	-
Lead	5	mg/kg	< 5	< 5	< 5	18
Manganese	5	mg/kg	-	160	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	17	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	23	-	-
Sample Properties						
% Moisture	1	%	16	3.9	6.7	7.3
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	148	-	-
p-Terphenyl-d14 (surr.)	1	%	-	93	-	-

Client Sample ID			C12_1.5	C12_2.0	C12_2.5	D13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037787	M24-De0037788	M24-De0037789	M24-De0037790
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	68	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	90	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	68	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	90	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-

Client Sample ID			C12_1.5	C12_2.0	C12_2.5	D13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037787	M24-De0037788	M24-De0037789	M24-De0037790
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	129	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	130	-	-

Client Sample ID			D13_1.0	D13_1.5	D13_2.0	D13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037791	M24-De0037792	M24-De0037793	M24-De0037794
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55	56	66	70
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			D13_1.0	D13_1.5	D13_2.0	D13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037791	M24-De0037792	M24-De0037793	M24-De0037794
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	-	< 0.005	0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	< 0.005	0.006	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	-	< 0.005	0.005	-
Pyrene	0.005	mg/kg	-	< 0.005	0.010	-
Total PAH*	0.005	mg/kg	-	< 0.005	0.026	-
2-Fluorobiphenyl (surr.)	1	%	-	128	58	-
p-Terphenyl-d14 (surr.)	1	%	-	128	79	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	67	-	-	1800
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	14	-	-	17
Cobalt	5	mg/kg	19	-	-	11
Copper	5	mg/kg	27	-	-	19
Lead	5	mg/kg	250	13	< 5	< 5
Manganese	5	mg/kg	460	-	-	310
Mercury	0.1	mg/kg	< 0.1	-	-	< 0.1
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	12	-	-	12
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	11	-	-	< 10
Zinc	5	mg/kg	15	-	-	6.4
Sample Properties						
% Moisture	1	%	20	26	30	22
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	< 0.5

Client Sample ID			D13_1.0	D13_1.5	D13_2.0	D13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037791	M24-De0037792	M24-De0037793	M24-De0037794
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	118	-	-	136
p-Terphenyl-d14 (surr.)	1	%	66	-	-	106
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	145	-	-	97
Tetrachloro-m-xylene (surr.)	1	%	60	-	-	114
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1

Client Sample ID			D13_1.0	D13_1.5	D13_2.0	D13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037791	M24-De0037792	M24-De0037793	M24-De0037794
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	145	-	-	97
Tetrachloro-m-xylene (surr.)	1	%	60	-	-	114
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	55	-	-	132
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	410	-	-	< 100

Client Sample ID			D13_3.0	D13_3.5	D14_0.5	D14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037795	M24-De0037796	M24-De0037797	M24-De0037798
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	230	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	340	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	570	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			D13_3.0	D13_3.5	D14_0.5	D14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037795	M24-De0037796	M24-De0037797	M24-De0037798
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	490	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	220	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	710	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	84	82	80	106
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	0.43	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	0.54	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	0.36	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	0.28	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	0.33	-
Chrysene	0.005	mg/kg	< 0.005	< 0.005	0.34	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	0.51	-
Fluorene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	0.25	-
Pyrene	0.005	mg/kg	< 0.005	< 0.005	0.55	-
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	3.59	-
2-Fluorobiphenyl (surr.)	1	%	58	58	69	-
p-Terphenyl-d14 (surr.)	1	%	70	71	80	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	-	41
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	5.7
Cobalt	5	mg/kg	-	-	-	7.5
Copper	5	mg/kg	-	-	-	48
Lead	5	mg/kg	< 5	< 5	51	< 5
Manganese	5	mg/kg	-	-	-	180
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	11
Selenium	2	mg/kg	-	-	-	< 2

Client Sample ID			D13_3.0	D13_3.5	D14_0.5	D14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037795	M24-De0037796	M24-De0037797	M24-De0037798
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	20
Sample Properties						
% Moisture	1	%	12	9.7	8.0	7.4
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	140
p-Terphenyl-d14 (surr.)	1	%	-	-	-	114
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			D13_3.0	D13_3.5	D14_0.5	D14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037795	M24-De0037796	M24-De0037797	M24-De0037798
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	115
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	123
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	115
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	123
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	128
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100

Client Sample ID			D14_1.5	D14_2.0	D14_2.5	D14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037799	M24-De0037800	M24-De0037801	M24-De0037802
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93	93	83	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Chrysene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Total PAH*	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	52	60	-	55
p-Terphenyl-d14 (surr.)	1	%	69	74	-	71
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	350	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	19	-

Client Sample ID			D14_1.5	D14_2.0	D14_2.5	D14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037799	M24-De0037800	M24-De0037801	M24-De0037802
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	-	51	-
Copper	5	mg/kg	-	-	19	-
Lead	5	mg/kg	14	5.5	< 5	< 5
Manganese	5	mg/kg	-	-	210	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	23	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	6.2	-
Sample Properties						
% Moisture	1	%	23	20	26	25
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	int	-
p-Terphenyl-d14 (surr.)	1	%	-	-	int	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			D14_1.5	D14_2.0	D14_2.5	D14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037799	M24-De0037800	M24-De0037801	M24-De0037802
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	92	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	114	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	92	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	114	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	56	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-

Client Sample ID			D14_1.5	D14_2.0	D14_2.5	D14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037799	M24-De0037800	M24-De0037801	M24-De0037802
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	730	-

Client Sample ID			E14_0.5	E14_1.0	E14_1.5	E14_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037803	M24-De0037804	M24-De0037805	M24-De0037806
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	860	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	1100	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	1960	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	73	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	73	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	1600	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	990	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	2663	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	57	97	84	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	< 0.005	0.35	-	0.30
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	0.46	-	0.36
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.37	-	0.29
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.42	-	0.31
Chrysene	0.005	mg/kg	< 0.005	0.33	-	0.28
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	< 0.005	0.48	-	0.35
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005

Client Sample ID			E14_0.5	E14_1.0	E14_1.5	E14_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037803	M24-De0037804	M24-De0037805	M24-De0037806
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	< 0.005	0.28	-	< 0.005
Pyrene	0.005	mg/kg	< 0.005	0.49	-	0.36
Total PAH*	0.005	mg/kg	< 0.005	3.18	-	2.25
2-Fluorobiphenyl (surr.)	1	%	106	65	-	60
p-Terphenyl-d14 (surr.)	1	%	136	77	-	69
Heavy Metals						
Arsenic	2	mg/kg	< 2	9.0	4.8	< 2
Barium	10	mg/kg	-	-	69	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.7	-
Chromium	5	mg/kg	-	-	15	-
Cobalt	5	mg/kg	-	-	8.9	-
Copper	5	mg/kg	-	-	100	-
Lead	5	mg/kg	< 5	140	75	640
Manganese	5	mg/kg	-	-	240	-
Mercury	0.1	mg/kg	-	-	0.2	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	28	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	28	-
Zinc	5	mg/kg	-	-	200	-
Sample Properties						
% Moisture	1	%	5.6	11	11	12
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	0.6	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	0.8	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	0.8	-
Total PAH*	0.5	mg/kg	-	-	2.2	-
2-Fluorobiphenyl (surr.)	1	%	-	-	131	-
p-Terphenyl-d14 (surr.)	1	%	-	-	72	-

Client Sample ID			E14_0.5	E14_1.0	E14_1.5	E14_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037803	M24-De0037804	M24-De0037805	M24-De0037806
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	56	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	84	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.2	-
Total PCB*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	56	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	84	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			E14_0.5	E14_1.0	E14_1.5	E14_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037803	M24-De0037804	M24-De0037805	M24-De0037806
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	119	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	290	-

Client Sample ID			E14_2.5	E14_3.0	QC157	F14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037807	M24-De0037808	M24-De0037809	M24-De0037810
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	30	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	920	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	950	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	1900	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	79	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	79	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	1600	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	760	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	2439	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	96	96	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			E14_2.5	E14_3.0	QC157	F14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037807	M24-De0037808	M24-De0037809	M24-De0037810
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	-	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	-	< 0.005	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	-	< 0.005
Chrysene	0.005	mg/kg	-	< 0.005	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	-	< 0.005	-	< 0.005
Fluorene	0.005	mg/kg	-	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	-	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	-	< 0.005	-	< 0.005
Pyrene	0.005	mg/kg	-	< 0.005	-	< 0.005
Total PAH*	0.005	mg/kg	-	< 0.005	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	-	143	-	58
p-Terphenyl-d14 (surr.)	1	%	-	146	-	78
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	6.6	< 2
Barium	10	mg/kg	180	-	67	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	1.0	-
Chromium	5	mg/kg	23	-	21	-
Cobalt	5	mg/kg	58	-	11	-
Copper	5	mg/kg	31	-	140	-
Lead	5	mg/kg	12	5.6	97	13
Manganese	5	mg/kg	450	-	290	-
Mercury	0.1	mg/kg	< 0.1	-	0.2	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	49	-	32	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	< 10	-	31	-
Zinc	5	mg/kg	11	-	270	-
Sample Properties						
% Moisture	1	%	21	19	11	5.6
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	1.0	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	1.3	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.6	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	0.6	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	0.8	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	0.7	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			E14_2.5	E14_3.0	QC157	F14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037807	M24-De0037808	M24-De0037809	M24-De0037810
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	0.8	-
Chrysene	0.5	mg/kg	< 0.5	-	0.7	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	1.2	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-	0.9	-
Pyrene	0.5	mg/kg	< 0.5	-	1.4	-
Total PAH*	0.5	mg/kg	< 0.5	-	7.1	-
2-Fluorobiphenyl (surr.)	1	%	66	-	93	-
p-Terphenyl-d14 (surr.)	1	%	72	-	93	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	77	-	85	-
Tetrachloro-m-xylene (surr.)	1	%	83	-	106	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	-

Client Sample ID			E14_2.5	E14_3.0	QC157	F14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037807	M24-De0037808	M24-De0037809	M24-De0037810
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	77	-	85	-
Tetrachloro-m-xylene (surr.)	1	%	83	-	106	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	70	-	124	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.69	-
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	150	-

Client Sample ID			F14_1.0	F14_1.5	F14_2.0	F14_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037811	M24-De0037812	M24-De0037813	M24-De0037814
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	300
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	190
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	490
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			F14_1.0	F14_1.5	F14_2.0	F14_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037811	M24-De0037812	M24-De0037813	M24-De0037814
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	430
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	150
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	580
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	68	67	91	99
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	-	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	-	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	-	139	60	-
p-Terphenyl-d14 (surr.)	1	%	-	76	66	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.1	20
Barium	10	mg/kg	29	-	-	630
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	8.5	-	-	21
Cobalt	5	mg/kg	15	-	-	9.9
Copper	5	mg/kg	66	-	-	250
Lead	5	mg/kg	< 5	10	720	390
Manganese	5	mg/kg	450	-	-	560
Mercury	0.1	mg/kg	< 0.1	-	-	1.3
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	25	-	-	20
Selenium	2	mg/kg	< 2	-	-	< 2

Client Sample ID			F14_1.0	F14_1.5	F14_2.0	F14_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037811	M24-De0037812	M24-De0037813	M24-De0037814
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	88
Zinc	5	mg/kg	32	-	-	700
Sample Properties						
% Moisture	1	%	4.6	6.6	10.0	22
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	13
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	13
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	13
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	0.9
Anthracene	0.5	mg/kg	< 0.5	-	-	1.4
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	6.6
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	9.2
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	5.3
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	8.4
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	8.9
Chrysene	0.5	mg/kg	< 0.5	-	-	8.2
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	1.3
Fluoranthene	0.5	mg/kg	< 0.5	-	-	14
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	5.4
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	3.9
Pyrene	0.5	mg/kg	< 0.5	-	-	16
Total PAH*	0.5	mg/kg	< 0.5	-	-	90
2-Fluorobiphenyl (surr.)	1	%	65	-	-	64
p-Terphenyl-d14 (surr.)	1	%	72	-	-	82
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			F14_1.0	F14_1.5	F14_2.0	F14_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037811	M24-De0037812	M24-De0037813	M24-De0037814
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	94	-	-	120
Tetrachloro-m-xylene (surr.)	1	%	86	-	-	122
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	94	-	-	120
Tetrachloro-m-xylene (surr.)	1	%	86	-	-	122
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	76	-	-	51
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	-	7.2
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	< 100	-	-	440

Client Sample ID			F14_3.0	I16_0.5	I16_1.0	I16_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037815	M24-De0037816	M24-De0037817	M24-De0037818
Date Sampled			Dec 09, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	730	520	150	69
TRH C29-C36	50	mg/kg	310	470	83	< 50
TRH C10-C36 (Total)	50	mg/kg	1040	990	233	69
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	51	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	51	< 50	< 50
TRH >C16-C34	100	mg/kg	950	870	300	140
TRH >C34-C40	100	mg/kg	130	250	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1080	1171	300	140
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54	64	88	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.054	0.026	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.24	0.031	-	< 0.005
Anthracene	0.005	mg/kg	1.0	0.35	-	0.35
Benz(a)anthracene	0.005	mg/kg	7.0	0.69	-	2.1
Benzo(a)pyrene - low level	0.005	mg/kg	12	0.45	-	3.7
Benzo(b&j)fluoranthene	0.005	mg/kg	8.8	0.90	-	1.9
Benzo(g.h.i)perylene	0.005	mg/kg	3.9	0.33	-	2.4
Benzo(k)fluoranthene	0.005	mg/kg	7.8	1.3	-	1.9
Chrysene	0.005	mg/kg	6.3	1.2	-	2.0
Dibenz(a.h)anthracene	0.005	mg/kg	0.75	0.085	-	< 0.005
Fluoranthene	0.005	mg/kg	8.5	1.7	-	2.0
Fluorene	0.005	mg/kg	0.14	0.19	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	3.3	0.23	-	0.89
Naphthalene	0.005	mg/kg	0.27	0.99	-	< 0.005
Phenanthrene	0.005	mg/kg	4.1	1.0	-	0.69
Pyrene	0.005	mg/kg	9.3	1.6	-	3.3
Total PAH*	0.005	mg/kg	73.454	11.072	-	21.23
2-Fluorobiphenyl (surr.)	1	%	59	73	-	146
p-Terphenyl-d14 (surr.)	1	%	63	65	-	61
Heavy Metals						
Arsenic	2	mg/kg	6.4	5.6	4.4	3.8
Barium	10	mg/kg	-	-	250	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	27	-

Client Sample ID			F14_3.0	I16_0.5	I16_1.0	I16_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037815	M24-De0037816	M24-De0037817	M24-De0037818
Date Sampled			Dec 09, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	-	16	-
Copper	5	mg/kg	-	-	82	-
Lead	5	mg/kg	570	170	350	380
Manganese	5	mg/kg	-	-	300	-
Mercury	0.1	mg/kg	-	-	1.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	26	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	55	-
Zinc	5	mg/kg	-	-	370	-
Sample Properties						
% Moisture	1	%	24	14	18	22
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	11	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	11	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	11	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	0.8	-
Anthracene	0.5	mg/kg	-	-	1.3	-
Benz(a)anthracene	0.5	mg/kg	-	-	5.6	-
Benzo(a)pyrene	0.5	mg/kg	-	-	7.1	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	5.4	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	3.9	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	6.2	-
Chrysene	0.5	mg/kg	-	-	5.8	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.4	-
Fluoranthene	0.5	mg/kg	-	-	10	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	3.9	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	4.1	-
Pyrene	0.5	mg/kg	-	-	11	-
Total PAH*	0.5	mg/kg	-	-	67	-
2-Fluorobiphenyl (surr.)	1	%	-	-	140	-
p-Terphenyl-d14 (surr.)	1	%	-	-	67	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			F14_3.0	I16_0.5	I16_1.0	I16_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037815	M24-De0037816	M24-De0037817	M24-De0037818
Date Sampled			Dec 09, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	90	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	90	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	90	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	90	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	126	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-

Client Sample ID			F14_3.0	I16_0.5	I16_1.0	I16_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037815	M24-De0037816	M24-De0037817	M24-De0037818
Date Sampled			Dec 09, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	5.8	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	150	-

Client Sample ID			I13_0.5	I13_1.0	I13_1.5	I14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037819	M24-De0037820	M24-De0037821	M24-De0037822
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	56	78	940	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	240	< 50
TRH C10-C36 (Total)	50	mg/kg	56	78	1180	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	180	1200	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	180	1200	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	68	81	74	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	0.083	-
Acenaphthylene	0.005	mg/kg	< 0.005	-	1.4	-
Anthracene	0.005	mg/kg	< 0.005	-	2.3	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	20	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	32	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	18	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	12	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	18	-
Chrysene	0.005	mg/kg	< 0.005	-	15	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	1.7	-
Fluoranthene	0.005	mg/kg	< 0.005	-	20	-
Fluorene	0.005	mg/kg	< 0.005	-	0.56	-

Client Sample ID			I13_0.5	I13_1.0	I13_1.5	I14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037819	M24-De0037820	M24-De0037821	M24-De0037822
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	9.9	-
Naphthalene	0.005	mg/kg	< 0.005	-	2.0	-
Phenanthrene	0.005	mg/kg	< 0.005	-	7.6	-
Pyrene	0.005	mg/kg	< 0.005	-	23	-
Total PAH*	0.005	mg/kg	< 0.005	-	183.543	-
2-Fluorobiphenyl (surr.)	1	%	68	-	64	-
p-Terphenyl-d14 (surr.)	1	%	69	-	67	-
Heavy Metals						
Arsenic	2	mg/kg	8.7	36	22	4.4
Barium	10	mg/kg	-	49	-	42
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	6.5	-	0.4
Chromium	5	mg/kg	-	14	-	7.8
Cobalt	5	mg/kg	-	17	-	16
Copper	5	mg/kg	-	240	-	120
Lead	5	mg/kg	16	110	810	55
Manganese	5	mg/kg	-	400	-	370
Mercury	0.1	mg/kg	-	0.3	-	0.4
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	26	-	16
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	16	-	< 10
Zinc	5	mg/kg	-	460	-	170
Sample Properties						
% Moisture	1	%	5.3	10	15	6.9
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	0.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	1.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	1.4
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	0.6
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	0.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	0.6
Chrysene	0.5	mg/kg	-	< 0.5	-	0.7
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	-	1.1
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	-	0.9
Total PAH*	0.5	mg/kg	-	< 0.5	-	4.6
2-Fluorobiphenyl (surr.)	1	%	-	147	-	142
p-Terphenyl-d14 (surr.)	1	%	-	133	-	132

Client Sample ID			I13_0.5	I13_1.0	I13_1.5	I14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037819	M24-De0037820	M24-De0037821	M24-De0037822
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	140	-	137
Tetrachloro-m-xylene (surr.)	1	%	-	136	-	136
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	140	-	137
Tetrachloro-m-xylene (surr.)	1	%	-	136	-	136
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1

Client Sample ID			I13_0.5	I13_1.0	I13_1.5	I14_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037819	M24-De0037820	M24-De0037821	M24-De0037822
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	113	-	88
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	0.68
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	< 5
Fluoride	100	mg/kg	-	300	-	< 100

Client Sample ID			I14_1.0	I14_1.5	K13_0.5	K13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037823	M24-De0037824	M24-De0037825	M24-De0037826
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	1200	< 50	450	63
TRH C29-C36	50	mg/kg	830	< 50	220	< 50
TRH C10-C36 (Total)	50	mg/kg	2030	< 50	670	63
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	1800	< 100	830	120
TRH >C34-C40	100	mg/kg	320	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	2120	< 100	830	120
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	104	90	96	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			I14_1.0	I14_1.5	K13_0.5	K13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037823	M24-De0037824	M24-De0037825	M24-De0037826
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.19	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	1.7	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	6.0	< 0.005	-	0.37
Benz(a)anthracene	0.005	mg/kg	28	0.37	-	1.8
Benzo(a)pyrene - low level	0.005	mg/kg	34	< 0.005	-	3.6
Benzo(b&j)fluoranthene	0.005	mg/kg	23	0.15	-	1.7
Benzo(g.h.i)perylene	0.005	mg/kg	21	< 0.005	-	2.2
Benzo(k)fluoranthene	0.005	mg/kg	28	0.22	-	1.9
Chrysene	0.005	mg/kg	33	0.20	-	1.9
Dibenz(a.h)anthracene	0.005	mg/kg	7.2	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	32	0.55	-	1.7
Fluorene	0.005	mg/kg	1.6	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	18	< 0.005	-	0.76
Naphthalene	0.005	mg/kg	1.5	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	16	0.11	-	0.83
Pyrene	0.005	mg/kg	42	0.61	-	3.1
Total PAH*	0.005	mg/kg	293.19	2.21	-	19.86
2-Fluorobiphenyl (surr.)	1	%	89	83	-	135
p-Terphenyl-d14 (surr.)	1	%	90	77	-	139
Heavy Metals						
Arsenic	2	mg/kg	3.7	< 2	< 2	19
Barium	10	mg/kg	-	-	30	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.4	-
Chromium	5	mg/kg	-	-	29	-
Cobalt	5	mg/kg	-	-	13	-
Copper	5	mg/kg	-	-	51	-
Lead	5	mg/kg	280	19	22	210
Manganese	5	mg/kg	-	-	260	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	34	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	140	-
Sample Properties						
% Moisture	1	%	12	20	9.3	27
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			I14_1.0	I14_1.5	K13_0.5	K13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037823	M24-De0037824	M24-De0037825	M24-De0037826
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	146	-
p-Terphenyl-d14 (surr.)	1	%	-	-	125	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	61	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	130	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			I14_1.0	I14_1.5	K13_0.5	K13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037823	M24-De0037824	M24-De0037825	M24-De0037826
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	61	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	130	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	93	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.27	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	210	-

Client Sample ID			K13_1.5	G12_0.5	G12_1.0	G12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037827	M24-De0037828	M24-De0037829	M24-De0037830
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	560	230
TRH C29-C36	50	mg/kg	< 50	< 50	400	240
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	960	470
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			K13_1.5	G12_0.5	G12_1.0	G12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037827	M24-De0037828	M24-De0037829	M24-De0037830
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	860	390
TRH >C34-C40	100	mg/kg	< 100	< 100	270	240
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	1130	630
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	80	101	112
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	-	0.66	< 0.005
Anthracene	0.005	mg/kg	< 0.005	-	1.6	0.61
Benz(a)anthracene	0.005	mg/kg	0.045	-	9.4	3.3
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	9.9	4.1
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	6.1	2.4
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	2.6	1.1
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	7.3	2.7
Chrysene	0.005	mg/kg	0.032	-	7.5	2.8
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	0.96	0.34
Fluoranthene	0.005	mg/kg	0.050	-	13	3.9
Fluorene	0.005	mg/kg	< 0.005	-	0.67	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	2.2	0.93
Naphthalene	0.005	mg/kg	< 0.005	-	0.32	< 0.005
Phenanthrene	0.005	mg/kg	0.021	-	7.8	2.3
Pyrene	0.005	mg/kg	0.058	-	13	4.2
Total PAH*	0.005	mg/kg	0.206	-	83.01	28.68
2-Fluorobiphenyl (surr.)	1	%	55	-	55	63
p-Terphenyl-d14 (surr.)	1	%	83	-	65	76
Heavy Metals						
Arsenic	2	mg/kg	2.3	< 2	8.7	2.3
Barium	10	mg/kg	-	20	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	6.5	-	-
Cobalt	5	mg/kg	-	11	-	-
Copper	5	mg/kg	-	60	-	-
Lead	5	mg/kg	120	< 5	320	130
Manganese	5	mg/kg	-	370	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	19	-	-
Selenium	2	mg/kg	-	< 2	-	-

Client Sample ID			K13_1.5	G12_0.5	G12_1.0	G12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037827	M24-De0037828	M24-De0037829	M24-De0037830
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	26	-	-
Sample Properties						
% Moisture	1	%	1.6	5.7	14	8.4
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	51	-	-
p-Terphenyl-d14 (surr.)	1	%	-	125	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			K13_1.5	G12_0.5	G12_1.0	G12_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037827	M24-De0037828	M24-De0037829	M24-De0037830
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	89	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	94	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	89	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	94	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	72	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	230	-	-

Client Sample ID			G12_2.0	G12_2.5	G12_3.0	G12_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037831	M24-De0037832	M24-De0037833	M24-De0037834
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	120
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	180
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	300
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	240
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	240
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	480
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	96	96	74	80
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	0.32	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.37	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	-	0.27	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	-	0.50	< 0.005	-
Fluorene	0.005	mg/kg	-	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	-	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	-	0.39	< 0.005	-
Pyrene	0.005	mg/kg	-	0.52	< 0.005	-
Total PAH*	0.005	mg/kg	-	2.37	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	-	69	58	-
p-Terphenyl-d14 (surr.)	1	%	-	83	59	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	2.4
Barium	10	mg/kg	41	-	-	84
Beryllium	2	mg/kg	< 2	-	-	< 2
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	5.0	-	-	9.4

Client Sample ID			G12_2.0	G12_2.5	G12_3.0	G12_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037831	M24-De0037832	M24-De0037833	M24-De0037834
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	12	-	-	8.0
Copper	5	mg/kg	75	-	-	33
Lead	5	mg/kg	12	8.8	< 5	91
Manganese	5	mg/kg	260	-	-	120
Mercury	0.1	mg/kg	< 0.1	-	-	0.4
Molybdenum	5	mg/kg	< 5	-	-	< 5
Nickel	5	mg/kg	11	-	-	9.9
Selenium	2	mg/kg	< 2	-	-	< 2
Silver	2	mg/kg	< 2	-	-	< 2
Tin	10	mg/kg	< 10	-	-	12
Zinc	5	mg/kg	41	-	-	56
Sample Properties						
% Moisture	1	%	9.2	5.6	8.5	17
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	5.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	5.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	5.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	0.8
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	0.6
Anthracene	0.5	mg/kg	< 0.5	-	-	1.8
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	3.7
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	3.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	1.8
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	1.4
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	2.6
Chrysene	0.5	mg/kg	< 0.5	-	-	3.8
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	0.6
Fluoranthene	0.5	mg/kg	0.5	-	-	5.9
Fluorene	0.5	mg/kg	< 0.5	-	-	1.4
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	2.2
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	4.4
Pyrene	0.5	mg/kg	0.5	-	-	6.4
Total PAH*	0.5	mg/kg	1.0	-	-	41
2-Fluorobiphenyl (surr.)	1	%	55	-	-	75
p-Terphenyl-d14 (surr.)	1	%	71	-	-	66
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			G12_2.0	G12_2.5	G12_3.0	G12_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037831	M24-De0037832	M24-De0037833	M24-De0037834
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	80	-	-	56
Tetrachloro-m-xylene (surr.)	1	%	95	-	-	65
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	80	-	-	56
Tetrachloro-m-xylene (surr.)	1	%	95	-	-	65
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	< 1
Pentachlorophenol	1	mg/kg	< 1	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	-	< 5
Dinoseb	20	mg/kg	< 20	-	-	< 20
Phenol	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenol-d6 (surr.)	1	%	59	-	-	68
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	< 20

Client Sample ID			G12_2.0	G12_2.5	G12_3.0	G12_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037831	M24-De0037832	M24-De0037833	M24-De0037834
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.22	-	-	2.9
Chromium (hexavalent)	1	mg/kg	< 1	-	-	< 1
Cyanide (total)	5	mg/kg	< 5	-	-	< 5
Fluoride	100	mg/kg	140	-	-	< 100

Client Sample ID			QC163	QC160	QC161	G13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037835	M24-De0037836	M24-De0037837	M24-De0037839
Date Sampled			Dec 10, 2024	Dec 09, 2024	Oct 09, 2012	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	-	< 20
TRH C10-C14	20	mg/kg	< 20	-	-	< 20
TRH C15-C28	50	mg/kg	540	-	-	< 50
TRH C29-C36	50	mg/kg	420	-	-	< 50
TRH C10-C36 (Total)	50	mg/kg	960	-	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-	< 20
TRH >C10-C16	50	mg/kg	< 50	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	-	-	< 50
TRH >C16-C34	100	mg/kg	860	-	-	< 100
TRH >C34-C40	100	mg/kg	320	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	1180	-	-	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55	54	56	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.34	-	-	< 0.005
Anthracene	0.005	mg/kg	1.2	-	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	5.2	-	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	5.8	-	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	2.7	-	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	3.5	-	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	2.7	-	-	< 0.005
Chrysene	0.005	mg/kg	3.9	-	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	0.57	-	-	< 0.005
Fluoranthene	0.005	mg/kg	4.1	-	-	< 0.005
Fluorene	0.005	mg/kg	0.28	-	-	< 0.005

Client Sample ID			QC163	QC160	QC161	G13_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037835	M24-De0037836	M24-De0037837	M24-De0037839
Date Sampled			Dec 10, 2024	Dec 09, 2024	Oct 09, 2012	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	1.3	-	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	-	-	< 0.005
Phenanthrene	0.005	mg/kg	4.1	-	-	< 0.005
Pyrene	0.005	mg/kg	7.9	-	-	< 0.005
Total PAH*	0.005	mg/kg	43.59	-	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	140	-	-	149
p-Terphenyl-d14 (surr.)	1	%	147	-	-	59
Heavy Metals						
Arsenic	2	mg/kg	13	-	-	< 2
Lead	5	mg/kg	360	-	-	< 5
Sample Properties						
% Moisture	1	%	12	-	-	2.8
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	< 0.5	-

Client Sample ID			G13_1.0	G13_1.5	G13_2.0	G13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037840	M24-De0037841	M24-De0037842	M24-De0037843
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	260	260	< 50
TRH C29-C36	50	mg/kg	< 50	310	260	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	570	520	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	470	440	< 100
TRH >C34-C40	100	mg/kg	< 100	340	250	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	810	690	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63	68	78	55
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			G13_1.0	G13_1.5	G13_2.0	G13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037840	M24-De0037841	M24-De0037842	M24-De0037843
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.010	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	0.12	0.90	-	< 0.005
Anthracene	0.005	mg/kg	0.26	0.94	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	0.48	6.7	-	0.52
Benzo(a)pyrene - low level	0.005	mg/kg	0.73	7.3	-	0.78
Benzo(b&j)fluoranthene	0.005	mg/kg	0.26	4.4	-	0.51
Benzo(g.h.i)perylene	0.005	mg/kg	0.19	3.6	-	0.23
Benzo(k)fluoranthene	0.005	mg/kg	0.24	5.5	-	0.48
Chrysene	0.005	mg/kg	0.31	7.4	-	0.45
Dibenz(a.h)anthracene	0.005	mg/kg	0.025	1.3	-	< 0.005
Fluoranthene	0.005	mg/kg	0.88	12	-	0.49
Fluorene	0.005	mg/kg	0.079	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.074	4.8	-	< 0.005
Naphthalene	0.005	mg/kg	0.038	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	0.61	4.5	-	0.15
Pyrene	0.005	mg/kg	1.2	13	-	0.55
Total PAH*	0.005	mg/kg	5.506	72.34	-	4.16
2-Fluorobiphenyl (surr.)	1	%	143	68	-	62
p-Terphenyl-d14 (surr.)	1	%	55	55	-	71
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.2	3.1	8.4
Barium	10	mg/kg	-	-	130	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	41	-
Cobalt	5	mg/kg	-	-	15	-
Copper	5	mg/kg	-	-	220	-
Lead	5	mg/kg	54	140	300	900
Manganese	5	mg/kg	-	-	250	-
Mercury	0.1	mg/kg	-	-	0.7	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	27	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	31	-
Zinc	5	mg/kg	-	-	300	-
Sample Properties						
% Moisture	1	%	13	13	17	20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	7.3	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	7.3	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	7.3	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	3.4	-
Benzo(a)pyrene	0.5	mg/kg	-	-	4.8	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	2.9	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	3.0	-

Client Sample ID			G13_1.0	G13_1.5	G13_2.0	G13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037840	M24-De0037841	M24-De0037842	M24-De0037843
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	3.9	-
Chrysene	0.5	mg/kg	-	-	3.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.0	-
Fluoranthene	0.5	mg/kg	-	-	3.8	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	4.1	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	2.2	-
Pyrene	0.5	mg/kg	-	-	4.2	-
Total PAH*	0.5	mg/kg	-	-	37	-
2-Fluorobiphenyl (surr.)	1	%	-	-	141	-
p-Terphenyl-d14 (surr.)	1	%	-	-	136	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	110	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	51	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			G13_1.0	G13_1.5	G13_2.0	G13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037840	M24-De0037841	M24-De0037842	M24-De0037843
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	110	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	51	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	129	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	4.0	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	13	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			G13_3.0	QC167	F13_0.5	F13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037844	M24-De0037845	M24-De0037846	M24-De0037847
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	45
TRH C15-C28	50	mg/kg	< 50	< 50	820	740
TRH C29-C36	50	mg/kg	< 50	< 50	2200	1800
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	3020	2585
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	120

Client Sample ID			G13_3.0	QC167	F13_0.5	F13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037844	M24-De0037845	M24-De0037846	M24-De0037847
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	120
TRH >C16-C34	100	mg/kg	< 100	< 100	2300	2000
TRH >C34-C40	100	mg/kg	< 100	< 100	2400	2000
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	4700	4120
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	95	72	74	68
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.006	-	-	0.020
Acenaphthylene	0.005	mg/kg	0.015	-	-	0.056
Anthracene	0.005	mg/kg	0.11	-	-	0.096
Benz(a)anthracene	0.005	mg/kg	0.46	-	-	0.87
Benzo(a)pyrene - low level	0.005	mg/kg	0.31	-	-	2.9
Benzo(b&j)fluoranthene	0.005	mg/kg	0.26	-	-	1.9
Benzo(g.h.i)perylene	0.005	mg/kg	0.19	-	-	0.69
Benzo(k)fluoranthene	0.005	mg/kg	0.28	-	-	2.2
Chrysene	0.005	mg/kg	0.36	-	-	1.2
Dibenz(a.h)anthracene	0.005	mg/kg	0.027	-	-	0.34
Fluoranthene	0.005	mg/kg	0.69	-	-	1.8
Fluorene	0.005	mg/kg	0.016	-	-	0.062
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.090	-	-	0.72
Naphthalene	0.005	mg/kg	0.039	-	-	0.009
Phenanthrene	0.005	mg/kg	0.34	-	-	0.36
Pyrene	0.005	mg/kg	0.94	-	-	2.4
Total PAH*	0.005	mg/kg	4.133	-	-	15.623
2-Fluorobiphenyl (surr.)	1	%	64	-	-	65
p-Terphenyl-d14 (surr.)	1	%	63	-	-	70
Heavy Metals						
Arsenic	2	mg/kg	7.1	2.2	2.1	< 2
Barium	10	mg/kg	-	120	29	-
Beryllium	2	mg/kg	-	< 2	< 2	-
Cadmium	0.4	mg/kg	-	1.0	< 0.4	-
Chromium	5	mg/kg	-	42	7.7	-
Cobalt	5	mg/kg	-	28	8.4	-
Copper	5	mg/kg	-	180	55	-
Lead	5	mg/kg	650	120	15	< 5
Manganese	5	mg/kg	-	470	160	-
Mercury	0.1	mg/kg	-	< 0.1	0.1	-
Molybdenum	5	mg/kg	-	< 5	< 5	-
Nickel	5	mg/kg	-	120	19	-
Selenium	2	mg/kg	-	< 2	< 2	-

Client Sample ID			G13_3.0	QC167	F13_0.5	F13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037844	M24-De0037845	M24-De0037846	M24-De0037847
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	< 2	< 2	-
Tin	10	mg/kg	-	16	< 10	-
Zinc	5	mg/kg	-	500	40	-
Sample Properties						
% Moisture	1	%	14	9.6	3.4	2.6
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	5.6	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	5.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	5.6	-
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	1.0	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	4.0	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	3.0	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	3.1	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	3.3	-
Chrysene	0.5	mg/kg	-	< 0.5	1.9	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	0.6	-
Fluoranthene	0.5	mg/kg	-	0.7	3.3	-
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	2.3	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	< 0.5	0.6	-
Pyrene	0.5	mg/kg	-	0.7	3.9	-
Total PAH*	0.5	mg/kg	-	1.4	27	-
2-Fluorobiphenyl (surr.)	1	%	-	70	66	-
p-Terphenyl-d14 (surr.)	1	%	-	75	76	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-

Client Sample ID			G13_3.0	QC167	F13_0.5	F13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037844	M24-De0037845	M24-De0037846	M24-De0037847
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	93	109	-
Tetrachloro-m-xylene (surr.)	1	%	-	87	120	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	93	109	-
Tetrachloro-m-xylene (surr.)	1	%	-	87	120	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	-
Pentachlorophenol	1	mg/kg	-	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	-	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	-	< 5	< 5	-
Dinoseb	20	mg/kg	-	< 20	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	-	73	56	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	3.9	-
Chromium (hexavalent)	1	mg/kg	-	< 1	< 1	-
Cyanide (total)	5	mg/kg	-	< 5	< 5	-
Fluoride	100	mg/kg	-	< 100	< 100	-

Client Sample ID			F13_1.5	F13_2.0	F13_2.5	F13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037848	M24-De0037849	M24-De0037850	M24-De0037851
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	180	76	62
TRH C29-C36	50	mg/kg	< 50	480	71	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	660	147	62
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	520	170	110
TRH >C34-C40	100	mg/kg	< 100	480	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	1000	170	110
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	91	108	92	71
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	< 0.005	-
Acenaphthylene	0.005	mg/kg	< 0.005	-	< 0.005	-
Anthracene	0.005	mg/kg	< 0.005	-	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	< 0.005	-	0.79	-
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.90	-
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	-	0.49	-
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	-	0.84	-
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	-	0.44	-
Chrysene	0.005	mg/kg	< 0.005	-	0.41	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	< 0.005	-
Fluoranthene	0.005	mg/kg	< 0.005	-	1.1	-
Fluorene	0.005	mg/kg	< 0.005	-	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	-	< 0.005	-
Naphthalene	0.005	mg/kg	< 0.005	-	< 0.005	-
Phenanthrene	0.005	mg/kg	< 0.005	-	0.35	-
Pyrene	0.005	mg/kg	< 0.005	-	1.8	-
Total PAH*	0.005	mg/kg	< 0.005	-	7.12	-
2-Fluorobiphenyl (surr.)	1	%	57	-	147	-
p-Terphenyl-d14 (surr.)	1	%	61	-	74	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	6.0	7.3	< 2
Barium	10	mg/kg	-	41	-	59
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4	-	< 0.4
Chromium	5	mg/kg	-	11	-	9.7

Client Sample ID			F13_1.5	F13_2.0	F13_2.5	F13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037848	M24-De0037849	M24-De0037850	M24-De0037851
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	11	-	12
Copper	5	mg/kg	-	58	-	65
Lead	5	mg/kg	7.3	41	79	44
Manganese	5	mg/kg	-	200	-	260
Mercury	0.1	mg/kg	-	0.1	-	< 0.1
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	22	-	14
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	14	-	< 10
Zinc	5	mg/kg	-	80	-	87
Sample Properties						
% Moisture	1	%	5.7	5.9	8.7	10
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	0.9	-	1.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.2	-	1.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.5	-	1.6
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	0.7
Benzo(a)pyrene	0.5	mg/kg	-	0.8	-	0.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	-	0.8	-	0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	0.7	-	0.6
Chrysene	0.5	mg/kg	-	0.6	-	0.8
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	1.0	-	1.8
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	0.7
Pyrene	0.5	mg/kg	-	1.2	-	1.8
Total PAH*	0.5	mg/kg	-	5.1	-	8.3
2-Fluorobiphenyl (surr.)	1	%	-	57	-	145
p-Terphenyl-d14 (surr.)	1	%	-	69	-	132
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			F13_1.5	F13_2.0	F13_2.5	F13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037848	M24-De0037849	M24-De0037850	M24-De0037851
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	100	-	138
Tetrachloro-m-xylene (surr.)	1	%	-	108	-	134
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	100	-	138
Tetrachloro-m-xylene (surr.)	1	%	-	108	-	134
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	44	-	82
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20

Client Sample ID			F13_1.5	F13_2.0	F13_2.5	F13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037848	M24-De0037849	M24-De0037850	M24-De0037851
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.80	-	0.69
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	< 5
Fluoride	100	mg/kg	-	150	-	290

Client Sample ID			F13_3.5	QC169	E13_0.5	E13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037852	M24-De0037853	M24-De0037854	M24-De0037856
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	370	57
TRH C29-C36	50	mg/kg	89	< 50	690	< 50
TRH C10-C36 (Total)	50	mg/kg	89	< 50	1060	57
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	850	100
TRH >C34-C40	100	mg/kg	140	< 100	670	< 100
TRH >C10-C40 (total)*	100	mg/kg	140	< 100	1520	100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	88	95	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.029	< 0.005	0.060	0.040
Acenaphthylene	0.005	mg/kg	0.064	< 0.005	0.019	0.066
Anthracene	0.005	mg/kg	0.27	< 0.005	0.19	0.35
Benz(a)anthracene	0.005	mg/kg	0.63	< 0.005	0.22	2.2
Benzo(a)pyrene - low level	0.005	mg/kg	0.47	< 0.005	0.090	1.4
Benzo(b&j)fluoranthene	0.005	mg/kg	0.40	< 0.005	0.090	1.2
Benzo(g.h.i)perylene	0.005	mg/kg	0.35	< 0.005	0.052	0.86
Benzo(k)fluoranthene	0.005	mg/kg	0.62	< 0.005	0.14	1.5
Chrysene	0.005	mg/kg	0.82	< 0.005	0.14	2.8
Dibenz(a.h)anthracene	0.005	mg/kg	0.078	< 0.005	0.009	0.46
Fluoranthene	0.005	mg/kg	0.86	< 0.005	0.22	2.8
Fluorene	0.005	mg/kg	0.19	< 0.005	0.19	0.12

Client Sample ID			F13_3.5	QC169	E13_0.5	E13_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037852	M24-De0037853	M24-De0037854	M24-De0037856
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.22	< 0.005	0.046	0.79
Naphthalene	0.005	mg/kg	0.72	< 0.005	0.75	0.083
Phenanthrene	0.005	mg/kg	0.53	< 0.005	0.27	1.4
Pyrene	0.005	mg/kg	1.1	< 0.005	0.25	3.2
Total PAH*	0.005	mg/kg	7.351	< 0.005	2.736	19.269
2-Fluorobiphenyl (surr.)	1	%	71	54	65	66
p-Terphenyl-d14 (surr.)	1	%	66	69	72	92
Benzo(a)pyrene TEQ (lower bound) *	0.001	mg/kg	-	-		-
Benzo(a)pyrene TEQ (medium bound) *	0.001	mg/kg	-	-	0.15	-
Benzo(a)pyrene TEQ (upper bound) *	0.001		-	-	0.15	-
Heavy Metals						
Arsenic	2	mg/kg	6.5	< 2	3.1	< 2
Lead	5	mg/kg	130	5.5	48	140
Sample Properties						
% Moisture	1	%	12	4.5	10	18

Client Sample ID			E13_1.5	E13_2.0	E13_2.5	E13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037857	M24-De0037858	M24-De0037859	M24-De0037860
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	62	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	60	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	122	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	84	71	53	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			E13_1.5	E13_2.0	E13_2.5	E13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037857	M24-De0037858	M24-De0037859	M24-De0037860
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	1.2	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	4.4	0.011	-	< 0.005
Anthracene	0.005	mg/kg	27	0.030	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	23	0.062	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	25	0.053	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	17	0.055	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	6.2	0.012	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	28	0.040	-	< 0.005
Chrysene	0.005	mg/kg	43	0.052	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	5.1	0.007	-	< 0.005
Fluoranthene	0.005	mg/kg	43	0.10	-	< 0.005
Fluorene	0.005	mg/kg	8.9	0.010	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	6.1	0.011	-	< 0.005
Naphthalene	0.005	mg/kg	3.0	0.012	-	< 0.005
Phenanthrene	0.005	mg/kg	43	0.11	-	< 0.005
Pyrene	0.005	mg/kg	42	0.080	-	< 0.005
Total PAH*	0.005	mg/kg	325.9	0.645	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	95	59	-	54
p-Terphenyl-d14 (surr.)	1	%	93	71	-	75
Heavy Metals						
Arsenic	2	mg/kg	2.3	< 2	< 2	< 2
Barium	10	mg/kg	-	-	110	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	50	-
Cobalt	5	mg/kg	-	-	51	-
Copper	5	mg/kg	-	-	59	-
Lead	5	mg/kg	67	31	5.7	< 5
Manganese	5	mg/kg	-	-	630	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	61	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	21	-
Sample Properties						
% Moisture	1	%	22	19	29	23
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			E13_1.5	E13_2.0	E13_2.5	E13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037857	M24-De0037858	M24-De0037859	M24-De0037860
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	58	-
p-Terphenyl-d14 (surr.)	1	%	-	-	138	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	61	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	88	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-

Client Sample ID			E13_1.5	E13_2.0	E13_2.5	E13_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037857	M24-De0037858	M24-De0037859	M24-De0037860
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	61	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	88	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	68	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-

Client Sample ID			E13_3.5	QC171	G14_0.5	G14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037861	M24-De0037862	M24-De0037863	M24-De0037864
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	290	< 20
TRH C15-C28	50	mg/kg	< 50	550	550	84
TRH C29-C36	50	mg/kg	< 50	300	980	140
TRH C10-C36 (Total)	50	mg/kg	< 50	850	1820	224
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	410	< 50

Client Sample ID			E13_3.5	QC171	G14_0.5	G14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037861	M24-De0037862	M24-De0037863	M24-De0037864
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	409	< 50
TRH >C16-C34	100	mg/kg	< 100	750	990	170
TRH >C34-C40	100	mg/kg	< 100	270	1900	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	1020	3300	170
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	83	89	109	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	1.0	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.18	-	< 0.005
Acenaphthylene	0.005	mg/kg	-	1.1	-	< 0.005
Anthracene	0.005	mg/kg	-	2.5	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	7.5	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	-	6.9	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	5.4	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	-	1.1	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	5.1	-	< 0.005
Chrysene	0.005	mg/kg	-	5.4	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.83	-	< 0.005
Fluoranthene	0.005	mg/kg	-	9.8	-	< 0.005
Fluorene	0.005	mg/kg	-	0.95	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	1.5	-	< 0.005
Naphthalene	0.005	mg/kg	-	0.33	-	< 0.005
Phenanthrene	0.005	mg/kg	-	9.1	-	< 0.005
Pyrene	0.005	mg/kg	-	8.7	-	< 0.005
Total PAH*	0.005	mg/kg	-	66.39	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	-	62	-	66
p-Terphenyl-d14 (surr.)	1	%	-	66	-	85
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	370	-	30	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	25	-	11	-
Cobalt	5	mg/kg	14	-	13	-
Copper	5	mg/kg	40	-	72	-
Lead	5	mg/kg	< 5	68	8.9	< 5
Manganese	5	mg/kg	670	-	250	-
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	24	-	29	-
Selenium	2	mg/kg	< 2	-	< 2	-

Client Sample ID			E13_3.5	QC171	G14_0.5	G14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037861	M24-De0037862	M24-De0037863	M24-De0037864
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	< 10	-	< 10	-
Zinc	5	mg/kg	12	-	52	-
Sample Properties						
% Moisture	1	%	25	18	3.0	7.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-	0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	0.9	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	0.9	-
Phenanthrene	0.5	mg/kg	< 0.5	-	1.3	-
Pyrene	0.5	mg/kg	< 0.5	-	1.0	-
Total PAH*	0.5	mg/kg	< 0.5	-	4.6	-
2-Fluorobiphenyl (surr.)	1	%	52	-	63	-
p-Terphenyl-d14 (surr.)	1	%	97	-	71	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-

Client Sample ID			E13_3.5	QC171	G14_0.5	G14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037861	M24-De0037862	M24-De0037863	M24-De0037864
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	106	-	91	-
Tetrachloro-m-xylene (surr.)	1	%	115	-	111	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.2	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	106	-	91	-
Tetrachloro-m-xylene (surr.)	1	%	115	-	111	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	57	-	148	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	0.43	-
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	280	-

Client Sample ID			G14_1.5	G14_2.0	G14_2.5	G14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037865	M24-De0037866	M24-De0037867	M24-De0037868
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	220	430	< 50	< 50
TRH C29-C36	50	mg/kg	180	340	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	400	770	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	370	670	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	300	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	370	970	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	73	101	87	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.031	0.090	-	-
Acenaphthylene	0.005	mg/kg	0.17	0.39	-	-
Anthracene	0.005	mg/kg	0.43	0.95	-	-
Benz(a)anthracene	0.005	mg/kg	2.9	7.2	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	4.4	11	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	2.4	6.6	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	1.3	4.1	-	-
Benzo(k)fluoranthene	0.005	mg/kg	2.9	6.3	-	-
Chrysene	0.005	mg/kg	2.4	5.5	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.47	1.1	-	-
Fluoranthene	0.005	mg/kg	3.8	9.4	-	-
Fluorene	0.005	mg/kg	0.17	0.26	-	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	1.1	3.3	-	-
Naphthalene	0.005	mg/kg	0.19	0.45	-	-
Phenanthrene	0.005	mg/kg	2.3	4.3	-	-
Pyrene	0.005	mg/kg	3.9	9.7	-	-
Total PAH*	0.005	mg/kg	28.861	70.64	-	-
2-Fluorobiphenyl (surr.)	1	%	60	63	-	-
p-Terphenyl-d14 (surr.)	1	%	68	69	-	-
Heavy Metals						
Arsenic	2	mg/kg	19	11	4.1	3.8
Barium	10	mg/kg	-	-	54	270
Beryllium	2	mg/kg	-	-	< 2	< 2
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	< 5	12

Client Sample ID			G14_1.5	G14_2.0	G14_2.5	G14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037865	M24-De0037866	M24-De0037867	M24-De0037868
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	-	5.2	11
Copper	5	mg/kg	-	-	8.5	29
Lead	5	mg/kg	520	860	83	120
Manganese	5	mg/kg	-	-	290	150
Mercury	0.1	mg/kg	-	-	0.1	2.2
Molybdenum	5	mg/kg	-	-	< 5	< 5
Nickel	5	mg/kg	-	-	5.2	12
Selenium	2	mg/kg	-	-	< 2	< 2
Silver	2	mg/kg	-	-	< 2	< 2
Tin	10	mg/kg	-	-	< 10	< 10
Zinc	5	mg/kg	-	-	20	54
Sample Properties						
% Moisture	1	%	18	12	15	20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	57	58
p-Terphenyl-d14 (surr.)	1	%	-	-	65	62
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			G14_1.5	G14_2.0	G14_2.5	G14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037865	M24-De0037866	M24-De0037867	M24-De0037868
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	78	81
Tetrachloro-m-xylene (surr.)	1	%	-	-	99	73
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	1.4
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	1.4
Dibutylchlorendate (surr.)	1	%	-	-	78	81
Tetrachloro-m-xylene (surr.)	1	%	-	-	99	73
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5	< 5
Dinoseb	20	mg/kg	-	-	< 20	< 20
Phenol	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	-	59	64
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	< 20

Client Sample ID			G14_1.5	G14_2.0	G14_2.5	G14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037865	M24-De0037866	M24-De0037867	M24-De0037868
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.033	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Cyanide (total)	5	mg/kg	-	-	< 5	< 5
Fluoride	100	mg/kg	-	-	130	260

Client Sample ID			QC173	G15_0.5	G15_1.0	G15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037869	M24-De0037870	M24-De0037871	M24-De0037872
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	580	< 50	< 50	390
TRH C29-C36	50	mg/kg	740	< 50	< 50	270
TRH C10-C36 (Total)	50	mg/kg	1320	< 50	< 50	660
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	1100	< 100	< 100	590
TRH >C34-C40	100	mg/kg	520	< 100	< 100	220
TRH >C10-C40 (total)*	100	mg/kg	1620	< 100	< 100	810
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	70	75	57
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.075	< 0.005	-	-
Acenaphthylene	0.005	mg/kg	0.38	< 0.005	-	-
Anthracene	0.005	mg/kg	0.99	< 0.005	-	-
Benz(a)anthracene	0.005	mg/kg	6.2	< 0.005	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	8.9	< 0.005	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	5.8	< 0.005	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	2.6	< 0.005	-	-
Benzo(k)fluoranthene	0.005	mg/kg	6.7	< 0.005	-	-
Chrysene	0.005	mg/kg	5.1	< 0.005	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	1.1	< 0.005	-	-
Fluoranthene	0.005	mg/kg	7.3	< 0.005	-	-
Fluorene	0.005	mg/kg	0.34	< 0.005	-	-

Client Sample ID			QC173	G15_0.5	G15_1.0	G15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037869	M24-De0037870	M24-De0037871	M24-De0037872
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	2.3	< 0.005	-	-
Naphthalene	0.005	mg/kg	0.40	< 0.005	-	-
Phenanthrene	0.005	mg/kg	4.6	< 0.005	-	-
Pyrene	0.005	mg/kg	7.3	< 0.005	-	-
Total PAH*	0.005	mg/kg	60.085	< 0.005	-	-
2-Fluorobiphenyl (surr.)	1	%	67	86	-	-
p-Terphenyl-d14 (surr.)	1	%	72	88	-	-
Heavy Metals						
Arsenic	2	mg/kg	20	< 2	7.9	< 2
Barium	10	mg/kg	-	-	51	190
Beryllium	2	mg/kg	-	-	< 2	< 2
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	9.5	23
Cobalt	5	mg/kg	-	-	6.4	21
Copper	5	mg/kg	-	-	17	80
Lead	5	mg/kg	800	< 5	32	340
Manganese	5	mg/kg	-	-	88	430
Mercury	0.1	mg/kg	-	-	< 0.1	0.6
Molybdenum	5	mg/kg	-	-	< 5	< 5
Nickel	5	mg/kg	-	-	11	23
Selenium	2	mg/kg	-	-	< 2	< 2
Silver	2	mg/kg	-	-	< 2	< 2
Tin	10	mg/kg	-	-	< 10	12
Zinc	5	mg/kg	-	-	44	160
Sample Properties						
% Moisture	1	%	10	2.8	6.3	19
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	13
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	13
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	13
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	1.0
Anthracene	0.5	mg/kg	-	-	< 0.5	3.2
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	10
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	8.9
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	5.9
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	4.8
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	9.4
Chrysene	0.5	mg/kg	-	-	< 0.5	11
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	1.4
Fluoranthene	0.5	mg/kg	-	-	0.9	16
Fluorene	0.5	mg/kg	-	-	< 0.5	0.6
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	4.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	0.5
Phenanthrene	0.5	mg/kg	-	-	0.6	11
Pyrene	0.5	mg/kg	-	-	0.9	16
Total PAH*	0.5	mg/kg	-	-	2.4	100
2-Fluorobiphenyl (surr.)	1	%	-	-	58	137
p-Terphenyl-d14 (surr.)	1	%	-	-	61	71

Client Sample ID			QC173	G15_0.5	G15_1.0	G15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037869	M24-De0037870	M24-De0037871	M24-De0037872
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	80	103
Tetrachloro-m-xylene (surr.)	1	%	-	-	93	108
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	80	103
Tetrachloro-m-xylene (surr.)	1	%	-	-	93	108
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	< 1

Client Sample ID			QC173	G15_0.5	G15_1.0	G15_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037869	M24-De0037870	M24-De0037871	M24-De0037872
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5	< 5
Dinoseb	20	mg/kg	-	-	< 20	< 20
Phenol	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	-	55	125
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.32	7.2
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Cyanide (total)	5	mg/kg	-	-	< 5	< 5
Fluoride	100	mg/kg	-	-	200	< 100

Client Sample ID			G15_2.0	G15_2.5	G15_3.0	QC175
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037873	M24-De0037874	M24-De0037875	M24-De0037876
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	280	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	130	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	410	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	550	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	550	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	70	63	89	6.0
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			G15_2.0	G15_2.5	G15_3.0	QC175
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037873	M24-De0037874	M24-De0037875	M24-De0037876
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	0.031	< 0.005	-	0.032
Benz(a)anthracene	0.005	mg/kg	0.13	< 0.005	-	0.059
Benzo(a)pyrene - low level	0.005	mg/kg	0.20	0.31	-	0.085
Benzo(b&j)fluoranthene	0.005	mg/kg	0.17	< 0.005	-	0.059
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	0.27	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	0.18	< 0.005	-	0.12
Chrysene	0.005	mg/kg	0.13	< 0.005	-	0.032
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Fluoranthene	0.005	mg/kg	0.26	0.29	-	0.094
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	< 0.005
Phenanthrene	0.005	mg/kg	0.048	< 0.005	-	0.040
Pyrene	0.005	mg/kg	0.33	0.34	-	0.12
Total PAH*	0.005	mg/kg	1.479	1.21	-	0.641
2-Fluorobiphenyl (surr.)	1	%	88	58	-	89
p-Terphenyl-d14 (surr.)	1	%	91	59	-	63
Heavy Metals						
Arsenic	2	mg/kg	< 2	5.4	2.6	< 2
Barium	10	mg/kg	-	-	330	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	12	-
Cobalt	5	mg/kg	-	-	8.0	-
Copper	5	mg/kg	-	-	34	-
Lead	5	mg/kg	52	600	350	30
Manganese	5	mg/kg	-	-	170	-
Mercury	0.1	mg/kg	-	-	0.9	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	9.6	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	12	-
Zinc	5	mg/kg	-	-	89	-
Sample Properties						
% Moisture	1	%	18	14	16	10
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	19	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	19	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	19	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	1.0	-
Anthracene	0.5	mg/kg	-	-	3.8	-
Benz(a)anthracene	0.5	mg/kg	-	-	11	-
Benzo(a)pyrene	0.5	mg/kg	-	-	13	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	11	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	8.5	-

Client Sample ID			G15_2.0	G15_2.5	G15_3.0	QC175
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037873	M24-De0037874	M24-De0037875	M24-De0037876
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	12	-
Chrysene	0.5	mg/kg	-	-	14	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	2.0	-
Fluoranthene	0.5	mg/kg	-	-	21	-
Fluorene	0.5	mg/kg	-	-	0.7	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	8.5	-
Naphthalene	0.5	mg/kg	-	-	0.5	-
Phenanthrene	0.5	mg/kg	-	-	10	-
Pyrene	0.5	mg/kg	-	-	23	-
Total PAH*	0.5	mg/kg	-	-	140	-
2-Fluorobiphenyl (surr.)	1	%	-	-	130	-
p-Terphenyl-d14 (surr.)	1	%	-	-	68	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	104	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	109	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.2	-
Total PCB*	0.1	mg/kg	-	-	< 0.2	-

Client Sample ID			G15_2.0	G15_2.5	G15_3.0	QC175
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037873	M24-De0037874	M24-De0037875	M24-De0037876
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	104	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	109	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	119	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	11	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	330	-

Client Sample ID			H15_0.5	H15_1.0	H15_1.5	H15_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037877	M24-De0037878	M24-De0037879	M24-De0037880
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	60	1100
TRH C29-C36	50	mg/kg	< 50	< 50	66	1100
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	126	2200
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			H15_0.5	H15_1.0	H15_1.5	H15_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037877	M24-De0037878	M24-De0037879	M24-De0037880
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	120	2000
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	730
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	120	2730
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	70	55	54	104
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	-	0.008
Acenaphthylene	0.005	mg/kg	< 0.005	< 0.005	-	0.015
Anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.043
Benz(a)anthracene	0.005	mg/kg	0.012	< 0.005	-	0.14
Benzo(a)pyrene - low level	0.005	mg/kg	0.010	< 0.005	-	0.15
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	< 0.005	-	0.13
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	< 0.005	-	0.20
Benzo(k)fluoranthene	0.005	mg/kg	0.016	< 0.005	-	0.14
Chrysene	0.005	mg/kg	0.010	< 0.005	-	0.34
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	< 0.005	-	0.048
Fluoranthene	0.005	mg/kg	0.007	< 0.005	-	0.45
Fluorene	0.005	mg/kg	< 0.005	< 0.005	-	0.026
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	< 0.005	-	0.14
Naphthalene	0.005	mg/kg	< 0.005	< 0.005	-	0.071
Phenanthrene	0.005	mg/kg	< 0.005	< 0.005	-	0.25
Pyrene	0.005	mg/kg	0.013	< 0.005	-	0.44
Total PAH*	0.005	mg/kg	0.068	< 0.005	-	2.591
2-Fluorobiphenyl (surr.)	1	%	89	144	-	147
p-Terphenyl-d14 (surr.)	1	%	72	92	-	147
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	9.9	35
Barium	10	mg/kg	-	-	37	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	1.0	-
Chromium	5	mg/kg	-	-	12	-
Cobalt	5	mg/kg	-	-	11	-
Copper	5	mg/kg	-	-	74	-
Lead	5	mg/kg	< 5	< 5	56	240
Manganese	5	mg/kg	-	-	270	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	23	-
Selenium	2	mg/kg	-	-	< 2	-

Client Sample ID			H15_0.5	H15_1.0	H15_1.5	H15_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037877	M24-De0037878	M24-De0037879	M24-De0037880
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	360	-
Sample Properties						
% Moisture	1	%	5.4	5.8	7.4	15
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	135	-
p-Terphenyl-d14 (surr.)	1	%	-	-	60	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			H15_0.5	H15_1.0	H15_1.5	H15_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037877	M24-De0037878	M24-De0037879	M24-De0037880
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	105	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	117	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	105	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	117	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	127	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.19	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	180	-

Client Sample ID			H15_2.5	QC177	H14_0.5	H14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037881	M24-De0037882	M24-De0037883	M24-De0037884
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	23	42	< 20	< 20
TRH C15-C28	50	mg/kg	510	780	94	< 50
TRH C29-C36	50	mg/kg	180	370	62	< 50
TRH C10-C36 (Total)	50	mg/kg	713	1192	156	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	59	99	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	59	99	< 50	< 50
TRH >C16-C34	100	mg/kg	640	1000	140	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	699	1099	140	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	53	142	117
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	6.7	3.2	46	130
Barium	10	mg/kg	37	30	50	26
Beryllium	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	1.9	1.2	< 0.4	< 0.4
Chromium	5	mg/kg	5.1	5.1	15	7.3
Cobalt	5	mg/kg	< 5	< 5	14	< 5
Copper	5	mg/kg	22	20	45	8.8
Lead	5	mg/kg	71	40	39	10
Manganese	5	mg/kg	280	210	210	53
Mercury	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	6.1	5.5	42	9.1
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	2	mg/kg	< 2	< 2	< 2	< 2
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	580	310	86	26
Sample Properties						
% Moisture	1	%	20	15	11	19
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	1.0	1.6	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.3	1.9	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.5	2.1	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			H15_2.5	QC177	H14_0.5	H14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037881	M24-De0037882	M24-De0037883	M24-De0037884
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	0.5	mg/kg	0.7	1.6	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	0.6	0.8	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.3	2.9	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	0.7	0.9	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	1.4	2.7	< 0.5	< 0.5
Chrysene	0.5	mg/kg	0.9	1.4	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	1.9	3.5	0.8	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.6	0.9	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	0.7	1.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	1.3	2.1	0.8	< 0.5
Total PAH*	0.5	mg/kg	10	18	1.6	< 0.5
2-Fluorobiphenyl (surr.)	1	%	61	64	140	131
p-Terphenyl-d14 (surr.)	1	%	68	63	65	140
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	142	110	135	149
Tetrachloro-m-xylene (surr.)	1	%	101	88	115	82
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1

Client Sample ID			H15_2.5	QC177	H14_0.5	H14_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037881	M24-De0037882	M24-De0037883	M24-De0037884
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1248	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.2	< 0.2	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	142	110	135	149
Tetrachloro-m-xylene (surr.)	1	%	101	88	115	82
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	143	147	127	121
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.51	0.71	0.32	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Cyanide (total)	5	mg/kg	< 5	< 5	< 5	< 5
Fluoride	100	mg/kg	210	< 100	180	240

Client Sample ID			H13_0.5	H12_0.5	H17_0.5	H17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037885	M24-De0037886	M24-De0037887	M24-De0037888
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	100	150	110	160
TRH C29-C36	50	mg/kg	360	430	< 50	91
TRH C10-C36 (Total)	50	mg/kg	460	580	110	251
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	290	380	< 100	230
TRH >C34-C40	100	mg/kg	740	790	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1030	1170	< 100	230
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	89	86	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	-	-	0.026
Acenaphthylene	0.005	mg/kg	< 0.005	-	-	0.23
Anthracene	0.005	mg/kg	0.027	-	-	0.74
Benz(a)anthracene	0.005	mg/kg	0.15	-	-	5.4
Benzo(a)pyrene - low level	0.005	mg/kg	0.11	-	-	4.0
Benzo(b&j)fluoranthene	0.005	mg/kg	0.048	-	-	3.2
Benzo(g.h.i)perylene	0.005	mg/kg	0.045	-	-	3.0
Benzo(k)fluoranthene	0.005	mg/kg	0.089	-	-	3.6
Chrysene	0.005	mg/kg	0.16	-	-	4.7
Dibenz(a.h)anthracene	0.005	mg/kg	0.014	-	-	1.2
Fluoranthene	0.005	mg/kg	0.052	-	-	5.3
Fluorene	0.005	mg/kg	< 0.005	-	-	0.26
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.011	-	-	2.4
Naphthalene	0.005	mg/kg	0.018	-	-	0.14
Phenanthrene	0.005	mg/kg	0.058	-	-	2.5
Pyrene	0.005	mg/kg	0.083	-	-	6.7
Total PAH*	0.005	mg/kg	0.865	-	-	43.396
2-Fluorobiphenyl (surr.)	1	%	62	-	-	73
p-Terphenyl-d14 (surr.)	1	%	74	-	-	109
Heavy Metals						
Arsenic	2	mg/kg	< 2	5.5	8.5	5.9
Barium	10	mg/kg	-	72	88	-
Beryllium	2	mg/kg	-	< 2	< 2	-
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	-
Chromium	5	mg/kg	-	11	23	-

Client Sample ID			H13_0.5	H12_0.5	H17_0.5	H17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037885	M24-De0037886	M24-De0037887	M24-De0037888
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Cobalt	5	mg/kg	-	10	12	-
Copper	5	mg/kg	-	41	54	-
Lead	5	mg/kg	17	57	200	280
Manganese	5	mg/kg	-	230	400	-
Mercury	0.1	mg/kg	-	0.3	< 0.1	-
Molybdenum	5	mg/kg	-	< 5	< 5	-
Nickel	5	mg/kg	-	22	24	-
Selenium	2	mg/kg	-	< 2	< 2	-
Silver	2	mg/kg	-	< 2	< 2	-
Tin	10	mg/kg	-	10	31	-
Zinc	5	mg/kg	-	76	260	-
Sample Properties						
% Moisture	1	%	9.1	9.1	17	11
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	1.2	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.5	0.7	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.7	1.3	-
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	0.8	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	0.9	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	0.6	0.7	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	0.8	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	1.0	0.8	-
Chrysene	0.5	mg/kg	-	0.8	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	-	1.5	0.9	-
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	0.6	< 0.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	0.8	0.5	-
Pyrene	0.5	mg/kg	-	1.7	0.9	-
Total PAH*	0.5	mg/kg	-	9.5	3.8	-
2-Fluorobiphenyl (surr.)	1	%	-	59	146	-
p-Terphenyl-d14 (surr.)	1	%	-	62	69	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-

Client Sample ID			H13_0.5	H12_0.5	H17_0.5	H17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037885	M24-De0037886	M24-De0037887	M24-De0037888
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	117	71	-
Tetrachloro-m-xylene (surr.)	1	%	-	101	83	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.2	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.2	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.2	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.2	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.2	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.2	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.2	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.2	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	117	71	-
Tetrachloro-m-xylene (surr.)	1	%	-	101	83	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	-
Pentachlorophenol	1	mg/kg	-	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	-	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	-	< 5	< 5	-
Dinoseb	20	mg/kg	-	< 20	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	-	141	128	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	-

Client Sample ID			H13_0.5	H12_0.5	H17_0.5	H17_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037885	M24-De0037886	M24-De0037887	M24-De0037888
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.80	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	< 1	< 1	-
Cyanide (total)	5	mg/kg	-	< 5	< 5	-
Fluoride	100	mg/kg	-	< 100	160	-

Client Sample ID			H17_1.5	QC179	H18_0.5	H18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037889	M24-De0037890	M24-De0037891	M24-De0037892
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	180	< 20	26	< 20
TRH C15-C28	50	mg/kg	3300	110	240	290
TRH C29-C36	50	mg/kg	1000	< 50	140	250
TRH C10-C36 (Total)	50	mg/kg	4480	110	406	540
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	450	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	449.4	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	3800	< 100	340	480
TRH >C34-C40	100	mg/kg	460	< 100	< 100	210
TRH >C10-C40 (total)*	100	mg/kg	4710	< 100	340	690
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	56	85	55	104
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	5.4	-	0.024	-
Acenaphthylene	0.005	mg/kg	18	-	0.037	-
Anthracene	0.005	mg/kg	40	-	0.26	-
Benz(a)anthracene	0.005	mg/kg	61	-	1.4	-
Benzo(a)pyrene - low level	0.005	mg/kg	38	-	0.75	-
Benzo(b&j)fluoranthene	0.005	mg/kg	28	-	1.2	-
Benzo(g.h.i)perylene	0.005	mg/kg	12	-	0.72	-
Benzo(k)fluoranthene	0.005	mg/kg	35	-	1.2	-
Chrysene	0.005	mg/kg	50	-	1.7	-
Dibenz(a.h)anthracene	0.005	mg/kg	8.1	-	0.33	-
Fluoranthene	0.005	mg/kg	67	-	1.9	-
Fluorene	0.005	mg/kg	54	-	0.13	-

Client Sample ID			H17_1.5	QC179	H18_0.5	H18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037889	M24-De0037890	M24-De0037891	M24-De0037892
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	13	-	0.64	-
Naphthalene	0.005	mg/kg	8.7	-	0.21	-
Phenanthrene	0.005	mg/kg	100	-	1.1	-
Pyrene	0.005	mg/kg	73	-	2.0	-
Total PAH*	0.005	mg/kg	611.2	-	13.601	-
2-Fluorobiphenyl (surr.)	1	%	68	-	81	-
p-Terphenyl-d14 (surr.)	1	%	89	-	114	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	5.5	< 2	3.9
Barium	10	mg/kg	-	56	-	240
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	< 0.4	-	1.3
Chromium	5	mg/kg	-	13	-	14
Cobalt	5	mg/kg	-	7.5	-	11
Copper	5	mg/kg	-	31	-	240
Lead	5	mg/kg	120	110	63	350
Manganese	5	mg/kg	-	260	-	270
Mercury	0.1	mg/kg	-	< 0.1	-	0.8
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	16	-	24
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	< 10	-	52
Zinc	5	mg/kg	-	250	-	850
Sample Properties						
% Moisture	1	%	12	16	12	18
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	14
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.8	-	14
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.3	-	14
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	0.9
Anthracene	0.5	mg/kg	-	< 0.5	-	1.0
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	7.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	9.4
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	0.9	-	6.2
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	4.7
Benzo(k)fluoranthene	0.5	mg/kg	-	1.0	-	6.6
Chrysene	0.5	mg/kg	-	0.6	-	8.0
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	1.8
Fluoranthene	0.5	mg/kg	-	1.0	-	12
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	5.2
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	3.0
Pyrene	0.5	mg/kg	-	0.8	-	13
Total PAH*	0.5	mg/kg	-	4.3	-	79
2-Fluorobiphenyl (surr.)	1	%	-	140	-	117
p-Terphenyl-d14 (surr.)	1	%	-	74	-	122

Client Sample ID			H17_1.5	QC179	H18_0.5	H18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037889	M24-De0037890	M24-De0037891	M24-De0037892
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	98	-	128
Tetrachloro-m-xylene (surr.)	1	%	-	90	-	93
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	98	-	128
Tetrachloro-m-xylene (surr.)	1	%	-	90	-	93
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1

Client Sample ID			H17_1.5	QC179	H18_0.5	H18_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037889	M24-De0037890	M24-De0037891	M24-De0037892
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	130	-	103
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	7.7
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	5.6
Fluoride	100	mg/kg	-	< 100	-	< 100

Client Sample ID			H18_1.5	QC181	H16_0.5	H16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037893	M24-De0037894	M24-De0037895	M24-De0037896
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	130	110	< 50	< 50
TRH C29-C36	50	mg/kg	70	55	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	200	165	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	170	140	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	170	140	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	69	65	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			H18_1.5	QC181	H16_0.5	H16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037893	M24-De0037894	M24-De0037895	M24-De0037896
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.009	< 0.005	-
Acenaphthylene	0.005	mg/kg	0.008	0.013	< 0.005	-
Anthracene	0.005	mg/kg	0.021	0.035	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	0.65	0.53	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	1.1	0.79	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.96	0.62	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	3.6	2.8	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	1.1	0.83	< 0.005	-
Chrysene	0.005	mg/kg	0.40	0.37	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.31	0.28	< 0.005	-
Fluoranthene	0.005	mg/kg	0.37	0.39	< 0.005	-
Fluorene	0.005	mg/kg	0.017	0.035	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	2.2	1.6	< 0.005	-
Naphthalene	0.005	mg/kg	0.021	0.027	< 0.005	-
Phenanthrene	0.005	mg/kg	0.25	0.23	< 0.005	-
Pyrene	0.005	mg/kg	0.48	0.49	< 0.005	-
Total PAH*	0.005	mg/kg	11.487	9.049	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	82	82	122	-
p-Terphenyl-d14 (surr.)	1	%	99	106	132	-
Heavy Metals						
Arsenic	2	mg/kg	6.1	4.6	< 2	< 2
Barium	10	mg/kg	-	-	-	14
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	< 5
Cobalt	5	mg/kg	-	-	-	11
Copper	5	mg/kg	-	-	-	62
Lead	5	mg/kg	180	550	< 5	< 5
Manganese	5	mg/kg	-	-	-	430
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	14
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	37
Sample Properties						
% Moisture	1	%	18	15	3.7	6.3
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			H18_1.5	QC181	H16_0.5	H16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037893	M24-De0037894	M24-De0037895	M24-De0037896
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	120
p-Terphenyl-d14 (surr.)	1	%	-	-	-	146
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	59
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	60
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			H18_1.5	QC181	H16_0.5	H16_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037893	M24-De0037894	M24-De0037895	M24-De0037896
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	-	-	59
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	60
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	123
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	250

Client Sample ID			H16_1.5	H16_2.0	QC183	QC185
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037897	M24-De0037898	M24-De0037899	M24-De0037901
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	39	120	74	-
TRH C15-C28	50	mg/kg	460	8600	3700	-
TRH C29-C36	50	mg/kg	330	5500	1500	-
TRH C10-C36 (Total)	50	mg/kg	829	14220	5274	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	67	500	190	-

Client Sample ID			H16_1.5	H16_2.0	QC183	QC185
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037897	M24-De0037898	M24-De0037899	M24-De0037901
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	67	495.7	181.1	-
TRH >C16-C34	100	mg/kg	700	12000	4700	-
TRH >C34-C40	100	mg/kg	< 100	5400	810	-
TRH >C10-C40 (total)*	100	mg/kg	767	17900	5700	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	66	60	81	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	4.3	8.9	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	10.0	2.7	-
Acenaphthylene	0.005	mg/kg	-	31	10	-
Anthracene	0.005	mg/kg	-	180	38	-
Benz(a)anthracene	0.005	mg/kg	-	330	120	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	280	73	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	240	51	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	120	46	-
Benzo(k)fluoranthene	0.005	mg/kg	-	250	77	-
Chrysene	0.005	mg/kg	-	400	96	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	51	19	-
Fluoranthene	0.005	mg/kg	-	480	130	-
Fluorene	0.005	mg/kg	-	85	27	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	110	44	-
Naphthalene	0.005	mg/kg	-	24	7.8	-
Phenanthrene	0.005	mg/kg	-	600	130	-
Pyrene	0.005	mg/kg	-	500	130	-
Total PAH*	0.005	mg/kg	-	3691	1001.5	-
2-Fluorobiphenyl (surr.)	1	%	-	98	74	-
p-Terphenyl-d14 (surr.)	1	%	-	144	138	-
Heavy Metals						
Arsenic	2	mg/kg	7.2	< 2	7.2	-
Barium	10	mg/kg	72	-	-	-
Beryllium	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	1.3	-	-	-
Chromium	5	mg/kg	17	-	-	-
Cobalt	5	mg/kg	7.7	-	-	-
Copper	5	mg/kg	35	-	-	-
Lead	5	mg/kg	63	72	770	-
Manganese	5	mg/kg	450	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	17	-	-	-
Selenium	2	mg/kg	< 2	-	-	-

Client Sample ID			H16_1.5	H16_2.0	QC183	QC185
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037897	M24-De0037898	M24-De0037899	M24-De0037901
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Silver	2	mg/kg	< 2	-	-	-
Tin	10	mg/kg	< 10	-	-	-
Zinc	5	mg/kg	350	-	-	-
Sample Properties						
% Moisture	1	%	13	11	7.7	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	1.8	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	2.0	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	2.3	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	1.1	-	-	-
Benzo(a)pyrene	0.5	mg/kg	1.1	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.2	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	0.6	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	2.5	-	-	-
Chrysene	0.5	mg/kg	1.6	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	2.8	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.7	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	1.2	-	-	-
Pyrene	0.5	mg/kg	2.0	-	-	-
Total PAH*	0.5	mg/kg	16	-	-	-
2-Fluorobiphenyl (surr.)	1	%	62	-	-	-
p-Terphenyl-d14 (surr.)	1	%	74	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			H16_1.5	H16_2.0	QC183	QC185
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037897	M24-De0037898	M24-De0037899	M24-De0037901
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	79	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	80	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	79	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	80	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Total cresols*	0.5	mg/kg	< 0.5	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	104	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	0.95	-	-	-
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	< 100	-	-	-

Client Sample ID			QC186	F11_3.5
Sample Matrix			Soil	Soil
Eurofins Sample No.			M24-De0037902	M24-De0037903
Date Sampled			Dec 10, 2024	Dec 09, 2024
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	-	< 20
TRH C10-C14	20	mg/kg	-	< 20
TRH C15-C28	50	mg/kg	-	< 50
TRH C29-C36	50	mg/kg	-	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20
TRH >C10-C16	50	mg/kg	-	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	< 50
TRH >C16-C34	100	mg/kg	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100
BTEX				
Benzene	0.1	mg/kg	-	< 0.1
Toluene	0.1	mg/kg	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1
Xylenes - Total*	0.3	mg/kg	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	-	< 0.5
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.005	mg/kg	-	< 0.005
Acenaphthylene	0.005	mg/kg	-	< 0.005
Anthracene	0.005	mg/kg	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	< 0.005
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005
Benzo(g.h.i)perylene	0.005	mg/kg	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005
Chrysene	0.005	mg/kg	-	< 0.005
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005
Fluoranthene	0.005	mg/kg	-	< 0.005
Fluorene	0.005	mg/kg	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005
Naphthalene	0.005	mg/kg	-	< 0.005
Phenanthrene	0.005	mg/kg	-	< 0.005
Pyrene	0.005	mg/kg	-	< 0.005
Total PAH*	0.005	mg/kg	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	-	55
p-Terphenyl-d14 (surr.)	1	%	-	59
Benzo(a)pyrene TEQ (lower bound) *	0.001	mg/kg	-	
Benzo(a)pyrene TEQ (medium bound) *	0.001	mg/kg	-	0.006
Benzo(a)pyrene TEQ (upper bound) *	0.001		-	0.012
Heavy Metals				
Arsenic	2	mg/kg	-	< 2
Lead	5	mg/kg	-	6.0

Client Sample ID			QC186	F11_3.5
Sample Matrix			Soil	Soil
Eurofins Sample No.			M24-De0037902	M24-De0037903
Date Sampled			Dec 10, 2024	Dec 09, 2024
Test/Reference	LOR	Unit		
Sample Properties				
% Moisture	1	%	-	25

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 20, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Dec 18, 2024	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Dec 17, 2024	14 Days
- Method: USEPA SW 846 8270			
Chromium (hexavalent)	Melbourne	Dec 20, 2024	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Dec 20, 2024	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Dec 20, 2024	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
- Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE			
Total Recoverable Hydrocarbons	Melbourne	Dec 14, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Dec 18, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																				
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**															
1	F11_0.5	Dec 09, 2024		Soil	M24-De0037743	X					X				X		X		X	
2	F11_1.0	Dec 09, 2024		Soil	M24-De0037744	X					X				X		X		X	
3	F11_1.5	Dec 09, 2024		Soil	M24-De0037745										X					X
4	F11_2.0	Dec 09, 2024		Soil	M24-De0037746	X					X				X		X		X	
5	F11_2.5	Dec 09, 2024		Soil	M24-De0037747	X					X				X		X		X	
6	F11_3.0	Dec 09, 2024		Soil	M24-De0037748										X					X
7	E11_0.5	Dec 09, 2024		Soil	M24-De0037749	X					X				X		X		X	
8	E11_1.0	Dec 09, 2024		Soil	M24-De0037750										X					X
9	E11_1.5	Dec 09, 2024		Soil	M24-De0037751	X					X				X		X		X	
10	E11_2.0	Dec 09, 2024		Soil	M24-De0037752	X					X				X		X		X	
11	E11_2.5	Dec 09, 2024		Soil	M24-De0037753	X					X				X		X		X	
12	E11_3.0	Dec 09, 2024		Soil	M24-De0037754										X					X
13	E11_3.5	Dec 09, 2024		Soil	M24-De0037755	X					X				X		X		X	
14	D11_0.5	Dec 09, 2024		Soil	M24-De0037756	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	D11_1.0	Dec 09, 2024		Soil	M24-De0037757	X					X				X		X		X	
16	D11_1.5	Dec 09, 2024		Soil	M24-De0037758										X					X
17	D11_2.0	Dec 09, 2024		Soil	M24-De0037759	X					X				X		X		X	
18	D11_2.5	Dec 09, 2024		Soil	M24-De0037760	X					X				X		X		X	
19	D11_3.0	Dec 09, 2024		Soil	M24-De0037761	X					X				X		X		X	
20	D11_3.5	Dec 09, 2024		Soil	M24-De0037762										X					X
21	F12_0.5	Dec 09, 2024		Soil	M24-De0037763	X					X				X		X		X	
22	F12_1.0	Dec 09, 2024		Soil	M24-De0037764	X					X				X		X		X	
23	F12_1.5	Dec 09, 2024		Soil	M24-De0037765										X					X
24	F12_2.0	Dec 09, 2024		Soil	M24-De0037766	X					X				X		X		X	
25	F12_2.5	Dec 09, 2024		Soil	M24-De0037767										X					X
26	F12_3.0	Dec 09, 2024		Soil	M24-De0037768	X					X				X		X		X	
27	F12_3.5	Dec 09, 2024		Soil	M24-De0037769	X					X				X		X		X	
28	E12_0.5	Dec 09, 2024		Soil	M24-De0037770										X					X
29	E12_1.0	Dec 09, 2024		Soil	M24-De0037771	X					X				X		X		X	
30	E12_1.5	Dec 09, 2024		Soil	M24-De0037772	X					X				X		X		X	
31	E12_2.0	Dec 09, 2024		Soil	M24-De0037773										X					X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	E12_2.5	Dec 09, 2024		Soil	M24-De0037774	X					X				X		X		X	
33	E12_3.0	Dec 09, 2024		Soil	M24-De0037775	X					X				X		X		X	
34	E12_3.5	Dec 09, 2024		Soil	M24-De0037776	X					X				X		X		X	
35	QC155	Dec 09, 2024		Soil	M24-De0037777	X					X				X		X		X	
36	D12_0.5	Dec 09, 2024		Soil	M24-De0037778										X					X
37	D12_1.0	Dec 09, 2024		Soil	M24-De0037779	X					X				X		X		X	
38	D12_1.5	Dec 09, 2024		Soil	M24-De0037780	X					X				X		X		X	
39	D12_2.0	Dec 09, 2024		Soil	M24-De0037781	X					X				X		X		X	
40	D12_2.5	Dec 09, 2024		Soil	M24-De0037782										X					X
41	D12_3.0	Dec 09, 2024		Soil	M24-De0037783	X					X				X		X		X	
42	D12_3.5	Dec 09, 2024		Soil	M24-De0037784	X					X				X		X		X	
43	C12_0.5	Dec 09, 2024		Soil	M24-De0037785										X					X
44	C12_1.0	Dec 09, 2024		Soil	M24-De0037786	X					X				X		X		X	
45	C12_1.5	Dec 09, 2024		Soil	M24-De0037787	X					X				X		X		X	
46	C12_2.0	Dec 09, 2024		Soil	M24-De0037788										X					X
47	C12_2.5	Dec 09, 2024		Soil	M24-De0037789	X					X				X		X		X	
48	D13_0.5	Dec 09, 2024		Soil	M24-De0037790	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
49	D13_1.0	Dec 09, 2024		Soil	M24-De0037791										X					X
50	D13_1.5	Dec 09, 2024		Soil	M24-De0037792	X					X				X		X		X	
51	D13_2.0	Dec 09, 2024		Soil	M24-De0037793	X					X				X		X		X	
52	D13_2.5	Dec 09, 2024		Soil	M24-De0037794										X					X
53	D13_3.0	Dec 09, 2024		Soil	M24-De0037795	X					X				X		X		X	
54	D13_3.5	Dec 09, 2024		Soil	M24-De0037796	X					X				X		X		X	
55	D14_0.5	Dec 09, 2024		Soil	M24-De0037797	X					X				X		X		X	
56	D14_1.0	Dec 09, 2024		Soil	M24-De0037798										X					X
57	D14_1.5	Dec 09, 2024		Soil	M24-De0037799	X					X				X		X		X	
58	D14_2.0	Dec 09, 2024		Soil	M24-De0037800	X					X				X		X		X	
59	D14_2.5	Dec 09, 2024		Soil	M24-De0037801										X					X
60	D14_3.0	Dec 09, 2024		Soil	M24-De0037802	X					X				X		X		X	
61	E14_0.5	Dec 09, 2024		Soil	M24-De0037803	X					X				X		X		X	
62	E14_1.0	Dec 09, 2024		Soil	M24-De0037804	X					X				X		X		X	
63	E14_1.5	Dec 09, 2024		Soil	M24-De0037805										X					X
64	E14_2.0	Dec 09, 2024		Soil	M24-De0037806	X					X				X		X		X	
65	E14_2.5	Dec 09, 2024		Soil	M24-De0037807										X					X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
66	E14_3.0	Dec 09, 2024		Soil	M24-De0037808	X					X				X		X		X	
67	QC157	Dec 09, 2024		Soil	M24-De0037809										X					X
68	F14_0.5	Dec 09, 2024		Soil	M24-De0037810	X					X				X		X		X	
69	F14_1.0	Dec 09, 2024		Soil	M24-De0037811										X					X
70	F14_1.5	Dec 09, 2024		Soil	M24-De0037812	X					X				X		X		X	
71	F14_2.0	Dec 09, 2024		Soil	M24-De0037813	X					X				X		X		X	
72	F14_2.5	Dec 09, 2024		Soil	M24-De0037814										X					X
73	F14_3.0	Dec 09, 2024		Soil	M24-De0037815	X					X				X		X		X	
74	I16_0.5	Dec 10, 2024		Soil	M24-De0037816	X					X				X		X		X	
75	I16_1.0	Dec 10, 2024		Soil	M24-De0037817										X					X
76	I16_1.5	Dec 10, 2024		Soil	M24-De0037818	X					X				X		X		X	
77	I13_0.5	Dec 10, 2024		Soil	M24-De0037819	X					X				X		X		X	
78	I13_1.0	Dec 10, 2024		Soil	M24-De0037820										X					X
79	I13_1.5	Dec 10, 2024		Soil	M24-De0037821	X					X				X		X		X	
80	I14_0.5	Dec 10, 2024		Soil	M24-De0037822										X					X
81	I14_1.0	Dec 10, 2024		Soil	M24-De0037823	X					X				X		X		X	
82	I14_1.5	Dec 10, 2024		Soil	M24-De0037824	X					X				X		X		X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Project Name: Macquarie Point
Project ID: 60693007 7

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Report #: 1171413
Phone: 08 7223 5400
Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
83	K13_0.5	Dec 10, 2024		Soil	M24-De0037825										X					X
84	K13_1.0	Dec 10, 2024		Soil	M24-De0037826	X					X				X		X		X	
85	K13_1.5	Dec 10, 2024		Soil	M24-De0037827	X					X				X		X		X	
86	G12_0.5	Dec 10, 2024		Soil	M24-De0037828										X					X
87	G12_1.0	Dec 10, 2024		Soil	M24-De0037829	X					X				X		X		X	
88	G12_1.5	Dec 10, 2024		Soil	M24-De0037830	X					X				X		X		X	
89	G12_2.0	Dec 10, 2024		Soil	M24-De0037831										X					X
90	G12_2.5	Dec 10, 2024		Soil	M24-De0037832	X					X				X		X		X	
91	G12_3.0	Dec 10, 2024		Soil	M24-De0037833	X					X				X		X		X	
92	G12_3.5	Dec 10, 2024		Soil	M24-De0037834										X					X
93	QC163	Dec 10, 2024		Soil	M24-De0037835	X					X				X		X		X	
94	QC160	Dec 09, 2024		Soil	M24-De0037836							X		X						
95	QC161	Oct 09, 2012		Soil	M24-De0037837							X		X						
96	QC165	Dec 10, 2024		Water	M24-De0037838	X					X		X	X		X		X		
97	G13_0.5	Dec 10, 2024		Soil	M24-De0037839	X					X				X		X		X	
98	G13_1.0	Dec 10, 2024		Soil	M24-De0037840	X					X				X		X		X	
99	G13_1.5	Dec 10, 2024		Soil	M24-De0037841	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
100	G13_2.0	Dec 10, 2024		Soil	M24-De0037842										X					X
101	G13_2.5	Dec 10, 2024		Soil	M24-De0037843	X					X				X		X		X	
102	G13_3.0	Dec 10, 2024		Soil	M24-De0037844	X					X				X		X		X	
103	QC167	Dec 10, 2024		Soil	M24-De0037845										X					X
104	F13_0.5	Dec 10, 2024		Soil	M24-De0037846										X					X
105	F13_1.0	Dec 10, 2024		Soil	M24-De0037847	X					X				X		X		X	
106	F13_1.5	Dec 10, 2024		Soil	M24-De0037848	X					X				X		X		X	
107	F13_2.0	Dec 10, 2024		Soil	M24-De0037849										X					X
108	F13_2.5	Dec 10, 2024		Soil	M24-De0037850	X					X				X		X		X	
109	F13_3.0	Dec 10, 2024		Soil	M24-De0037851										X					X
110	F13_3.5	Dec 10, 2024		Soil	M24-De0037852	X					X				X		X		X	
111	QC169	Dec 10, 2024		Soil	M24-De0037853	X					X				X		X		X	
112	E13_0.5	Dec 10, 2024		Soil	M24-De0037854	X	X				X				X		X		X	
113	ACM_E13_0.5	Dec 10, 2024		Building Materials	M24-De0037855			X												
114	E13_1.0	Dec 10, 2024		Soil	M24-De0037856	X					X				X		X		X	
115	E13_1.5	Dec 10, 2024		Soil	M24-De0037857	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
116	E13_2.0	Dec 10, 2024		Soil	M24-De0037858	X					X				X		X		X	
117	E13_2.5	Dec 10, 2024		Soil	M24-De0037859										X					X
118	E13_3.0	Dec 10, 2024		Soil	M24-De0037860	X					X				X		X		X	
119	E13_3.5	Dec 10, 2024		Soil	M24-De0037861										X					X
120	QC171	Dec 10, 2024		Soil	M24-De0037862	X					X				X		X		X	
121	G14_0.5	Dec 10, 2024		Soil	M24-De0037863										X					X
122	G14_1.0	Dec 10, 2024		Soil	M24-De0037864	X					X				X		X		X	
123	G14_1.5	Dec 10, 2024		Soil	M24-De0037865	X					X				X		X		X	
124	G14_2.0	Dec 10, 2024		Soil	M24-De0037866	X					X				X		X		X	
125	G14_2.5	Dec 10, 2024		Soil	M24-De0037867										X					X
126	G14_3.0	Dec 10, 2024		Soil	M24-De0037868										X					X
127	QC173	Dec 10, 2024		Soil	M24-De0037869	X					X				X		X		X	
128	G15_0.5	Dec 10, 2024		Soil	M24-De0037870	X					X				X		X		X	
129	G15_1.0	Dec 10, 2024		Soil	M24-De0037871										X					X
130	G15_1.5	Dec 10, 2024		Soil	M24-De0037872										X					X
131	G15_2.0	Dec 10, 2024		Soil	M24-De0037873	X					X				X		X		X	
132	G15_2.5	Dec 10, 2024		Soil	M24-De0037874	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
133	G15_3.0	Dec 10, 2024		Soil	M24-De0037875										X					X
134	QC175	Dec 10, 2024		Soil	M24-De0037876	X					X				X		X		X	
135	H15_0.5	Dec 10, 2024		Soil	M24-De0037877	X					X				X		X		X	
136	H15_1.0	Dec 10, 2024		Soil	M24-De0037878	X					X				X		X		X	
137	H15_1.5	Dec 10, 2024		Soil	M24-De0037879										X					X
138	H15_2.0	Dec 10, 2024		Soil	M24-De0037880	X					X				X		X		X	
139	H15_2.5	Dec 10, 2024		Soil	M24-De0037881										X					X
140	QC177	Dec 10, 2024		Soil	M24-De0037882										X					X
141	H14_0.5	Dec 10, 2024		Soil	M24-De0037883										X					X
142	H14_1.0	Dec 10, 2024		Soil	M24-De0037884										X					X
143	H13_0.5	Dec 10, 2024		Soil	M24-De0037885	X					X				X		X		X	
144	H12_0.5	Dec 10, 2024		Soil	M24-De0037886										X					X
145	H17_0.5	Dec 10, 2024		Soil	M24-De0037887										X					X
146	H17_1.0	Dec 10, 2024		Soil	M24-De0037888	X					X				X		X		X	
147	H17_1.5	Dec 10, 2024		Soil	M24-De0037889	X					X				X		X		X	
148	QC179	Dec 10, 2024		Soil	M24-De0037890										X					X
149	H18_0.5	Dec 10, 2024		Soil	M24-De0037891	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
150	H18_1.0	Dec 10, 2024		Soil	M24-De0037892										X					X
151	H18_1.5	Dec 10, 2024		Soil	M24-De0037893	X					X				X		X		X	
152	QC181	Dec 10, 2024		Soil	M24-De0037894	X					X				X		X		X	
153	H16_0.5	Dec 10, 2024		Soil	M24-De0037895	X					X				X		X		X	
154	H16_1.0	Dec 10, 2024		Soil	M24-De0037896										X					X
155	H16_1.5	Dec 10, 2024		Soil	M24-De0037897										X					X
156	H16_2.0	Dec 10, 2024		Soil	M24-De0037898	X					X				X		X		X	
157	QC183	Dec 10, 2024		Soil	M24-De0037899	X					X				X		X		X	
158	QC184	Dec 10, 2024		Soil	M24-De0037900				X											
159	QC185	Dec 10, 2024		Soil	M24-De0037901							X								
160	QC186	Dec 10, 2024		Soil	M24-De0037902							X								
161	F11_3.5	Dec 09, 2024		Soil	M24-De0037903	X					X			X	X	X			X	
162	QC162	Oct 09, 2012		Water	M24-De0037904					X										
163	QC166	Dec 10, 2024		Water	M24-De0037905					X										
164	QC159	Oct 09, 2012		Water	M24-De0038146	X					X			X		X		X	X	
Test Counts						102	1	1	1	2	102	4	1	5	154	3	99	2	101	54

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2.4-Dinitrophenol	%	33			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Barium	%	107			80-120	Pass	
Beryllium	%	114			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	117			80-120	Pass	
Cobalt	%	112			80-120	Pass	
Copper	%	115			80-120	Pass	
Lead	%	118			80-120	Pass	
Manganese	%	118			80-120	Pass	
Mercury	%	103			80-120	Pass	
Molybdenum	%	110			80-120	Pass	
Nickel	%	112			80-120	Pass	
Selenium	%	107			80-120	Pass	
Silver	%	110			80-120	Pass	
Tin	%	111			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	116			70-130	Pass	
TRH >C10-C16	%	117			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	104			70-130	Pass	
TRH C6-C10	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	112			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
m&p-Xylenes	%	107			70-130	Pass	
Xylenes - Total*	%	108			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	93			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	111			80-120	Pass	
Barium	%	111			80-120	Pass	
Beryllium	%	117			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	115			80-120	Pass	
Cobalt	%	111			80-120	Pass	
Copper	%	115			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	%	119			80-120	Pass	
Manganese	%	116			80-120	Pass	
Mercury	%	103			80-120	Pass	
Molybdenum	%	109			80-120	Pass	
Nickel	%	112			80-120	Pass	
Selenium	%	106			80-120	Pass	
Silver	%	111			80-120	Pass	
Tin	%	115			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	110			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene - low level	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	91			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	73			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	110			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	110			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	91			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	73			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	110			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	111			70-130	Pass	
4.4'-DDD	%	104			70-130	Pass	
4.4'-DDE	%	86			70-130	Pass	
4.4'-DDT	%	71			70-130	Pass	
a-HCH	%	90			70-130	Pass	
Aldrin	%	97			70-130	Pass	
b-HCH	%	101			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
d-HCH	%	94			70-130	Pass	
Dieldrin	%	124			70-130	Pass	
Endosulfan I	%	112			70-130	Pass	
Endosulfan II	%	101			70-130	Pass	
Endosulfan sulphate	%	100			70-130	Pass	
Endrin	%	124			70-130	Pass	
Endrin aldehyde	%	80			70-130	Pass	
Endrin ketone	%	103			70-130	Pass	
g-HCH (Lindane)	%	124			70-130	Pass	
Heptachlor	%	110			70-130	Pass	
Heptachlor epoxide	%	117			70-130	Pass	
Hexachlorobenzene	%	91			70-130	Pass	
Methoxychlor	%	70			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	89			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	88			25-140	Pass	
2.4-Dichlorophenol	%	63			25-140	Pass	
2.4.5-Trichlorophenol	%	71			25-140	Pass	
2.4.6-Trichlorophenol	%	83			25-140	Pass	
2.6-Dichlorophenol	%	68			25-140	Pass	
4-Chloro-3-methylphenol	%	91			25-140	Pass	
Pentachlorophenol	%	68			25-140	Pass	
Tetrachlorophenols - Total	%	78			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	37			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	34			25-140	Pass	
2-Nitrophenol	%	73			25-140	Pass	
2.4-Dimethylphenol	%	121			25-140	Pass	
2-Methylphenol (o-Cresol)	%	89			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	84			25-140	Pass	
4-Nitrophenol	%	36			25-140	Pass	
Dinoseb	%	46			25-140	Pass	
Phenol	%	81			25-140	Pass	
LCS - % Recovery							
Cyanide (total)	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	119			70-130	Pass	
Acenaphthylene	%	95			70-130	Pass	
Anthracene	%	113			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	104			70-130	Pass	
Benzo(g.h.i)perylene	%	96			70-130	Pass	
Benzo(k)fluoranthene	%	124			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	95			70-130	Pass	
Fluoranthene	%	85			70-130	Pass	
Fluorene	%	120			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	107			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	%	106			70-130	Pass	
Pyrene	%	97			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	90			70-130	Pass	
TRH >C10-C16	%	90			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	107			80-120	Pass	
Barium	%	107			80-120	Pass	
Beryllium	%	112			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	115			80-120	Pass	
Cobalt	%	113			80-120	Pass	
Copper	%	111			80-120	Pass	
Lead	%	118			80-120	Pass	
Manganese	%	115			80-120	Pass	
Mercury	%	104			80-120	Pass	
Molybdenum	%	114			80-120	Pass	
Nickel	%	112			80-120	Pass	
Selenium	%	104			80-120	Pass	
Silver	%	112			80-120	Pass	
Tin	%	110			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	95			70-130	Pass	
TRH C6-C10	%	91			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	102			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	79			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Barium	%	105			80-120	Pass	
Beryllium	%	106			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	116			80-120	Pass	
Cobalt	%	115			80-120	Pass	
Copper	%	111			80-120	Pass	
Lead	%	114			80-120	Pass	
Manganese	%	111			80-120	Pass	
Mercury	%	109			80-120	Pass	
Molybdenum	%	116			80-120	Pass	
Nickel	%	115			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Selenium	%	106			80-120	Pass	
Silver	%	113			80-120	Pass	
Tin	%	115			80-120	Pass	
Zinc	%	105			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	93			70-130	Pass	
TRH C10-C14	%	90			70-130	Pass	
TRH C6-C10	%	96			70-130	Pass	
TRH >C10-C16	%	92			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	
Toluene	%	82			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	84			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	84			70-130	Pass	
TRH >C10-C16	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	101			70-130	Pass	
TRH C6-C10	%	99			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	81			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	91			70-130	Pass	
m&p-Xylenes	%	85			70-130	Pass	
Xylenes - Total*	%	85			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	81			70-130	Pass	
TRH C6-C10	%	77			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	
Toluene	%	77			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	76			70-130	Pass	
Xylenes - Total*	%	78			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
LCS - % Recovery							
Heavy Metals							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	%	89			80-120	Pass	
Barium	%	83			80-120	Pass	
Beryllium	%	83			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	88			80-120	Pass	
Cobalt	%	85			80-120	Pass	
Copper	%	83			80-120	Pass	
Lead	%	91			80-120	Pass	
Manganese	%	83			80-120	Pass	
Mercury	%	100			80-120	Pass	
Molybdenum	%	86			80-120	Pass	
Nickel	%	81			80-120	Pass	
Selenium	%	86			80-120	Pass	
Silver	%	106			80-120	Pass	
Tin	%	81			80-120	Pass	
Zinc	%	87			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	87			70-130	Pass	
TRH >C10-C16	%	105			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	113			80-120	Pass	
Barium	%	114			80-120	Pass	
Beryllium	%	116			80-120	Pass	
Cadmium	%	111			80-120	Pass	
Chromium	%	116			80-120	Pass	
Cobalt	%	112			80-120	Pass	
Copper	%	118			80-120	Pass	
Lead	%	117			80-120	Pass	
Manganese	%	119			80-120	Pass	
Mercury	%	114			80-120	Pass	
Molybdenum	%	115			80-120	Pass	
Nickel	%	115			80-120	Pass	
Selenium	%	107			80-120	Pass	
Silver	%	114			80-120	Pass	
Tin	%	117			80-120	Pass	
Zinc	%	112			80-120	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	92			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene - low level	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(g.h.i)perylene	%	97			70-130	Pass	
Benzo(k)fluoranthene	%	107			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a.h)anthracene	%	107			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	89			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	%	73			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	83			70-130	Pass	
Pyrene	%	74			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(g.h.i)perylene	%	97			70-130	Pass	
Benzo(k)fluoranthene	%	107			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a.h)anthracene	%	107			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	73			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	83			70-130	Pass	
Pyrene	%	74			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	88			25-140	Pass	
2.4-Dichlorophenol	%	61			25-140	Pass	
2.4.5-Trichlorophenol	%	74			25-140	Pass	
2.4.6-Trichlorophenol	%	54			25-140	Pass	
2.6-Dichlorophenol	%	81			25-140	Pass	
4-Chloro-3-methylphenol	%	59			25-140	Pass	
Pentachlorophenol	%	122			25-140	Pass	
Tetrachlorophenols - Total	%	81			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	35			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	40			25-140	Pass	
2-Nitrophenol	%	83			25-140	Pass	
2.4-Dimethylphenol	%	58			25-140	Pass	
2-Methylphenol (o-Cresol)	%	75			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	70			25-140	Pass	
Dinoseb	%	62			25-140	Pass	
Phenol	%	79			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	105			70-130	Pass	
TRH >C10-C16	%	113			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Barium	%	109			80-120	Pass	
Beryllium	%	111			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	114			80-120	Pass	
Cobalt	%	109			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper	%	112			80-120	Pass	
Lead	%	116			80-120	Pass	
Manganese	%	114			80-120	Pass	
Mercury	%	100			80-120	Pass	
Molybdenum	%	108			80-120	Pass	
Nickel	%	109			80-120	Pass	
Selenium	%	107			80-120	Pass	
Silver	%	109			80-120	Pass	
Tin	%	114			80-120	Pass	
Zinc	%	108			80-120	Pass	
LCS - % Recovery							
Fluoride	%	115			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	100			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	79			70-130	Pass	
Toluene	%	92			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	110			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	71			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	%	91			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	111			70-130	Pass	
Acenaphthylene	%	114			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	77			70-130	Pass	
Benzo(a)pyrene	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	84			70-130	Pass	
Benzo(k)fluoranthene	%	111			70-130	Pass	
Chrysene	%	117			70-130	Pass	
Dibenz(a.h)anthracene	%	121			70-130	Pass	
Fluoranthene	%	96			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	112			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	91			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	111			70-130	Pass	
4.4'-DDD	%	108			70-130	Pass	
4.4'-DDE	%	110			70-130	Pass	
4.4'-DDT	%	87			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
a-HCH	%	104			70-130	Pass	
Aldrin	%	109			70-130	Pass	
b-HCH	%	105			70-130	Pass	
d-HCH	%	109			70-130	Pass	
Dieldrin	%	116			70-130	Pass	
Endosulfan I	%	107			70-130	Pass	
Endosulfan II	%	107			70-130	Pass	
Endosulfan sulphate	%	107			70-130	Pass	
Endrin	%	87			70-130	Pass	
Endrin aldehyde	%	74			70-130	Pass	
Endrin ketone	%	81			70-130	Pass	
g-HCH (Lindane)	%	106			70-130	Pass	
Heptachlor	%	121			70-130	Pass	
Heptachlor epoxide	%	114			70-130	Pass	
Methoxychlor	%	98			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	92			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	86			25-140	Pass	
2.4-Dichlorophenol	%	101			25-140	Pass	
2.4.5-Trichlorophenol	%	94			25-140	Pass	
2.4.6-Trichlorophenol	%	106			25-140	Pass	
2.6-Dichlorophenol	%	101			25-140	Pass	
4-Chloro-3-methylphenol	%	108			25-140	Pass	
Pentachlorophenol	%	91			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	97			25-140	Pass	
2-Nitrophenol	%	99			25-140	Pass	
2.4-Dimethylphenol	%	93			25-140	Pass	
2-Methylphenol (o-Cresol)	%	102			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	92			25-140	Pass	
Dinoseb	%	96			25-140	Pass	
Phenol	%	108			25-140	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	%	107			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	120			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	101			70-130	Pass	
Benzo(a)pyrene	%	107			70-130	Pass	
Benzo(b&j)fluoranthene	%	98			70-130	Pass	
Benzo(g.h.i)perylene	%	130			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	112			70-130	Pass	
Dibenz(a.h)anthracene	%	90			70-130	Pass	
Fluoranthene	%	106			70-130	Pass	
Fluorene	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	99			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	113			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	116			70-130	Pass	
4.4'-DDD	%	99			70-130	Pass	
4.4'-DDE	%	87			70-130	Pass	
4.4'-DDT	%	92			70-130	Pass	
a-HCH	%	96			70-130	Pass	
Aldrin	%	90			70-130	Pass	
b-HCH	%	98			70-130	Pass	
d-HCH	%	95			70-130	Pass	
Dieldrin	%	93			70-130	Pass	
Endosulfan I	%	95			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endosulfan sulphate	%	124			70-130	Pass	
Endrin	%	100			70-130	Pass	
Endrin aldehyde	%	93			70-130	Pass	
Endrin ketone	%	88			70-130	Pass	
g-HCH (Lindane)	%	92			70-130	Pass	
Heptachlor	%	93			70-130	Pass	
Heptachlor epoxide	%	129			70-130	Pass	
Hexachlorobenzene	%	92			70-130	Pass	
Methoxychlor	%	87			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	96			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	96			25-140	Pass	
2.4-Dichlorophenol	%	83			25-140	Pass	
2.4.5-Trichlorophenol	%	73			25-140	Pass	
2.4.6-Trichlorophenol	%	78			25-140	Pass	
2.6-Dichlorophenol	%	80			25-140	Pass	
4-Chloro-3-methylphenol	%	94			25-140	Pass	
Pentachlorophenol	%	54			25-140	Pass	
Tetrachlorophenols - Total	%	110			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	37			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	41			25-140	Pass	
2-Nitrophenol	%	89			25-140	Pass	
2.4-Dimethylphenol	%	82			25-140	Pass	
2-Methylphenol (o-Cresol)	%	100			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	103			25-140	Pass	
4-Nitrophenol	%	57			25-140	Pass	
Dinoseb	%	56			25-140	Pass	
Phenol	%	101			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	109			70-130	Pass	
TRH C6-C10	%	108			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
BTEX							
Benzene	%	83			70-130	Pass	
Toluene	%	93			70-130	Pass	
Ethylbenzene	%	106			70-130	Pass	
m&p-Xylenes	%	97			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	100			70-130	Pass	
Acenaphthylene	%	104			70-130	Pass	
Anthracene	%	81			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(b&j)fluoranthene	%	105			70-130	Pass	
Benzo(g.h.i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	120			70-130	Pass	
Chrysene	%	93			70-130	Pass	
Dibenz(a.h)anthracene	%	79			70-130	Pass	
Fluoranthene	%	76			70-130	Pass	
Fluorene	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	77			70-130	Pass	
Naphthalene	%	98			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	75			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	120			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	114			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene - low level	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	82			70-130	Pass	
Benzo(k)fluoranthene	%	108			70-130	Pass	
Chrysene	%	122			70-130	Pass	
Dibenz(a.h)anthracene	%	90			70-130	Pass	
Fluoranthene	%	93			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	92			70-130	Pass	
Naphthalene	%	107			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	111			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	120			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	114			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	82			70-130	Pass	
Benzo(k)fluoranthene	%	108			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	122			70-130	Pass	
Dibenz(a.h)anthracene	%	90			70-130	Pass	
Fluoranthene	%	93			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	92			70-130	Pass	
Naphthalene	%	107			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	111			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	103			25-140	Pass	
2.4-Dichlorophenol	%	85			25-140	Pass	
2.4.5-Trichlorophenol	%	73			25-140	Pass	
2.4.6-Trichlorophenol	%	79			25-140	Pass	
2.6-Dichlorophenol	%	95			25-140	Pass	
4-Chloro-3-methylphenol	%	73			25-140	Pass	
Pentachlorophenol	%	50			25-140	Pass	
Tetrachlorophenols - Total	%	69			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	41			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	38			25-140	Pass	
2-Nitrophenol	%	68			25-140	Pass	
2.4-Dimethylphenol	%	90			25-140	Pass	
2-Methylphenol (o-Cresol)	%	102			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	96			25-140	Pass	
4-Nitrophenol	%	31			25-140	Pass	
Dinoseb	%	49			25-140	Pass	
Phenol	%	98			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	116			70-130	Pass	
TRH >C10-C16	%	114			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	93			70-130	Pass	
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	73			70-130	Pass	
Benz(a)anthracene	%	77			70-130	Pass	
Benzo(a)pyrene - low level	%	114			70-130	Pass	
Benzo(b&j)fluoranthene	%	102			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	116			70-130	Pass	
Chrysene	%	79			70-130	Pass	
Dibenz(a.h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	91			70-130	Pass	
Phenanthrene	%	83			70-130	Pass	
Pyrene	%	76			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	93			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	73			70-130	Pass	
Benz(a)anthracene	%	77			70-130	Pass	
Benzo(a)pyrene	%	114			70-130	Pass	
Benzo(b&j)fluoranthene	%	102			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	116			70-130	Pass	
Chrysene	%	79			70-130	Pass	
Dibenz(a.h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	91			70-130	Pass	
Phenanthrene	%	83			70-130	Pass	
Pyrene	%	76			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	80			25-140	Pass	
2.4-Dichlorophenol	%	75			25-140	Pass	
2.4.5-Trichlorophenol	%	79			25-140	Pass	
2.4.6-Trichlorophenol	%	70			25-140	Pass	
2.6-Dichlorophenol	%	78			25-140	Pass	
4-Chloro-3-methylphenol	%	73			25-140	Pass	
Pentachlorophenol	%	106			25-140	Pass	
Tetrachlorophenols - Total	%	82			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	38			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	40			25-140	Pass	
2-Nitrophenol	%	83			25-140	Pass	
2.4-Dimethylphenol	%	63			25-140	Pass	
2-Methylphenol (o-Cresol)	%	74			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	75			25-140	Pass	
4-Nitrophenol	%	48			25-140	Pass	
Dinoseb	%	52			25-140	Pass	
Phenol	%	79			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	73			70-130	Pass	
TRH >C10-C16	%	75			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	92			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	85			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	77			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	111			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(a)pyrene - low level	%	117			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	94			70-130	Pass	
Dibenz(a.h)anthracene	%	98			70-130	Pass	
Fluoranthene	%	93			70-130	Pass	
Fluorene	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	77			70-130	Pass	
Pyrene	%	120			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	111			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(a)pyrene	%	117			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	103			70-130	Pass	
Chrysene	%	94			70-130	Pass	
Dibenz(a.h)anthracene	%	98			70-130	Pass	
Fluoranthene	%	93			70-130	Pass	
Fluorene	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	77			70-130	Pass	
Pyrene	%	120			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	%	76			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Barium	%	91			80-120	Pass	
Beryllium	%	83			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	97			80-120	Pass	
Cobalt	%	94			80-120	Pass	
Copper	%	98			80-120	Pass	
Lead	%	104			80-120	Pass	
Manganese	%	95			80-120	Pass	
Mercury	%	94			80-120	Pass	
Molybdenum	%	96			80-120	Pass	
Nickel	%	96			80-120	Pass	
Selenium	%	91			80-120	Pass	
Silver	%	99			80-120	Pass	
Tin	%	99			80-120	Pass	
Zinc	%	94			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	91			70-130	Pass	
TRH C6-C10	%	92			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	87			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	103			70-130	Pass	
Anthracene	%	83			70-130	Pass	
Benz(a)anthracene	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	%	78			70-130	Pass	
Benzo(g.h.i)perylene	%	88			70-130	Pass	
Benzo(k)fluoranthene	%	91			70-130	Pass	
Chrysene	%	93			70-130	Pass	
Dibenz(a.h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	81			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	105			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	92			80-120	Pass	
Barium	%	94			80-120	Pass	
Beryllium	%	82			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	85			80-120	Pass	
Cobalt	%	85			80-120	Pass	
Copper	%	93			80-120	Pass	
Lead	%	91			80-120	Pass	
Manganese	%	83			80-120	Pass	
Mercury	%	114			80-120	Pass	
Molybdenum	%	86			80-120	Pass	
Nickel	%	92			80-120	Pass	
Selenium	%	88			80-120	Pass	
Silver	%	114			80-120	Pass	
Tin	%	83			80-120	Pass	
Zinc	%	90			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037744	CP	%	104			75-125	Pass	
Barium	M24-De0037744	CP	%	100			75-125	Pass	
Beryllium	M24-De0037744	CP	%	94			75-125	Pass	
Cadmium	M24-De0037744	CP	%	98			75-125	Pass	
Chromium	M24-De0037744	CP	%	102			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cobalt	M24-De0037744	CP	%	100			75-125	Pass	
Lead	M24-De0037744	CP	%	110			75-125	Pass	
Manganese	M24-De0037744	CP	%	98			75-125	Pass	
Mercury	M24-De0037744	CP	%	95			75-125	Pass	
Molybdenum	M24-De0037744	CP	%	108			75-125	Pass	
Nickel	M24-De0037744	CP	%	107			75-125	Pass	
Selenium	M24-De0037744	CP	%	98			75-125	Pass	
Silver	M24-De0037744	CP	%	104			75-125	Pass	
Tin	M24-De0037744	CP	%	112			75-125	Pass	
Zinc	M24-De0037744	CP	%	103			75-125	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M24-De0033446	NCP	%	102			70-130	Pass	
Aroclor-1260	M24-De0033446	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2.4-Dinitrophenol	M24-De0038665	NCP	%	47			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037746	CP	%	75			70-130	Pass	
TRH >C10-C16	M24-De0037746	CP	%	72			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037748	CP	%	123			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M24-De0040857	NCP	%	70			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037756	CP	%	100			70-130	Pass	
TRH >C10-C16	M24-De0037756	CP	%	99			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037759	CP	%	77			70-130	Pass	
TRH C6-C10	M24-De0037759	CP	%	76			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037759	CP	%	77			70-130	Pass	
Toluene	M24-De0037759	CP	%	75			70-130	Pass	
Ethylbenzene	M24-De0037759	CP	%	72			70-130	Pass	
m&p-Xylenes	M24-De0037759	CP	%	76			70-130	Pass	
o-Xylene	M24-De0037759	CP	%	78			70-130	Pass	
Xylenes - Total*	M24-De0037759	CP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037759	CP	%	73			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037762	CP	%	81			75-125	Pass	
Barium	M24-De0037762	CP	%	83			75-125	Pass	
Beryllium	M24-De0037762	CP	%	85			75-125	Pass	
Cadmium	M24-De0037762	CP	%	102			75-125	Pass	
Chromium	M24-De0037762	CP	%	75			75-125	Pass	
Copper	M24-De0037762	CP	%	79			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	M24-De0037762	CP	%	80			75-125	Pass	
Mercury	M24-De0037762	CP	%	92			75-125	Pass	
Molybdenum	M24-De0037762	CP	%	78			75-125	Pass	
Nickel	M24-De0037762	CP	%	80			75-125	Pass	
Selenium	M24-De0037762	CP	%	77			75-125	Pass	
Silver	M24-De0037762	CP	%	104			75-125	Pass	
Tin	M24-De0037762	CP	%	83			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037762	CP	%	76			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0037766	CP	%	95			70-130	Pass	
Acenaphthylene	M24-De0037766	CP	%	112			70-130	Pass	
Anthracene	M24-De0037766	CP	%	126			70-130	Pass	
Benz(a)anthracene	M24-De0037766	CP	%	95			70-130	Pass	
Benzo(a)pyrene - low level	M24-De0037766	CP	%	123			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0037766	CP	%	122			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0037766	CP	%	120			70-130	Pass	
Benzo(k)fluoranthene	M24-De0037766	CP	%	103			70-130	Pass	
Chrysene	M24-De0037766	CP	%	107			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0037766	CP	%	130			70-130	Pass	
Fluoranthene	M24-De0037766	CP	%	121			70-130	Pass	
Fluorene	M24-De0037766	CP	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037766	CP	%	121			70-130	Pass	
Naphthalene	M24-De0037766	CP	%	123			70-130	Pass	
Phenanthrene	M24-De0037766	CP	%	124			70-130	Pass	
Pyrene	M24-De0037766	CP	%	101			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M24-De0037766	CP	%	95			70-130	Pass	
Acenaphthylene	M24-De0037766	CP	%	112			70-130	Pass	
Anthracene	M24-De0037766	CP	%	126			70-130	Pass	
Benz(a)anthracene	M24-De0037766	CP	%	95			70-130	Pass	
Benzo(a)pyrene	M24-De0037766	CP	%	123			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0037766	CP	%	122			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0037766	CP	%	120			70-130	Pass	
Benzo(k)fluoranthene	M24-De0037766	CP	%	103			70-130	Pass	
Chrysene	M24-De0037766	CP	%	107			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0037766	CP	%	130			70-130	Pass	
Fluoranthene	M24-De0037766	CP	%	121			70-130	Pass	
Fluorene	M24-De0037766	CP	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037766	CP	%	121			70-130	Pass	
Naphthalene	M24-De0037766	CP	%	123			70-130	Pass	
Phenanthrene	M24-De0037766	CP	%	124			70-130	Pass	
Pyrene	M24-De0037766	CP	%	101			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M24-De0037766	CP	%	116			30-130	Pass	
2.4-Dichlorophenol	M24-De0037766	CP	%	101			30-130	Pass	
2.4.5-Trichlorophenol	M24-De0037766	CP	%	88			30-130	Pass	
2.4.6-Trichlorophenol	M24-De0037766	CP	%	76			30-130	Pass	
2.6-Dichlorophenol	M24-De0037766	CP	%	100			30-130	Pass	
4-Chloro-3-methylphenol	M24-De0037766	CP	%	88			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pentachlorophenol	M24-De0037766	CP	%	38			30-130	Pass	
Tetrachlorophenols - Total	M24-De0037766	CP	%	59			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037766	CP	%	32			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037766	CP	%	31			30-130	Pass	
2-Nitrophenol	M24-De0037766	CP	%	62			30-130	Pass	
2.4-Dimethylphenol	M24-De0037766	CP	%	95			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-De0037766	CP	%	122			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037766	CP	%	114			30-130	Pass	
Dinoseb	M24-De0037766	CP	%	44			30-130	Pass	
Phenol	M24-De0037766	CP	%	111			30-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M24-De0037770	CP	%	78			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037792	CP	%	86			75-125	Pass	
Barium	M24-De0037792	CP	%	121			75-125	Pass	
Beryllium	M24-De0037792	CP	%	91			75-125	Pass	
Cadmium	M24-De0037792	CP	%	102			75-125	Pass	
Chromium	M24-De0037792	CP	%	93			75-125	Pass	
Cobalt	M24-De0037792	CP	%	92			75-125	Pass	
Copper	M24-De0037792	CP	%	103			75-125	Pass	
Lead	M24-De0037792	CP	%	116			75-125	Pass	
Mercury	M24-De0037792	CP	%	105			75-125	Pass	
Molybdenum	M24-De0037792	CP	%	117			75-125	Pass	
Nickel	M24-De0037792	CP	%	113			75-125	Pass	
Selenium	M24-De0037792	CP	%	86			75-125	Pass	
Silver	M24-De0037792	CP	%	110			75-125	Pass	
Tin	M24-De0037792	CP	%	118			75-125	Pass	
Zinc	M24-De0037792	CP	%	100			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037812	CP	%	98			75-125	Pass	
Barium	M24-De0037812	CP	%	102			75-125	Pass	
Beryllium	M24-De0037812	CP	%	99			75-125	Pass	
Cadmium	M24-De0037812	CP	%	99			75-125	Pass	
Chromium	M24-De0037812	CP	%	111			75-125	Pass	
Cobalt	M24-De0037812	CP	%	108			75-125	Pass	
Copper	M24-De0037812	CP	%	105			75-125	Pass	
Lead	M24-De0037812	CP	%	111			75-125	Pass	
Manganese	M24-De0037812	CP	%	117			75-125	Pass	
Mercury	M24-De0037812	CP	%	102			75-125	Pass	
Molybdenum	M24-De0037812	CP	%	105			75-125	Pass	
Nickel	M24-De0037812	CP	%	103			75-125	Pass	
Selenium	M24-De0037812	CP	%	96			75-125	Pass	
Silver	M24-De0037812	CP	%	104			75-125	Pass	
Tin	M24-De0037812	CP	%	108			75-125	Pass	
Zinc	M24-De0037812	CP	%	101			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037828	CP	%	86			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037839	CP	%	104			70-130	Pass	
TRH >C10-C16	M24-De0037839	CP	%	101			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037842	CP	%	75			70-130	Pass	
TRH C6-C10	M24-De0037842	CP	%	75			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037842	CP	%	78			70-130	Pass	
Toluene	M24-De0037842	CP	%	91			70-130	Pass	
Ethylbenzene	M24-De0037842	CP	%	88			70-130	Pass	
m&p-Xylenes	M24-De0037842	CP	%	86			70-130	Pass	
o-Xylene	M24-De0037842	CP	%	93			70-130	Pass	
Xylenes - Total*	M24-De0037842	CP	%	88			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037842	CP	%	107			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Benzo(a)pyrene - low level	M24-De0037846	CP	%	104			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M24-De0037846	CP	%	129			70-130	Pass	
Acenaphthylene	M24-De0037846	CP	%	126			70-130	Pass	
Anthracene	M24-De0037846	CP	%	107			70-130	Pass	
Benz(a)anthracene	M24-De0037846	CP	%	97			70-130	Pass	
Benzo(a)pyrene	M24-De0037846	CP	%	104			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0037846	CP	%	94			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0037846	CP	%	121			70-130	Pass	
Benzo(k)fluoranthene	M24-De0037846	CP	%	99			70-130	Pass	
Chrysene	M24-De0037846	CP	%	110			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0037846	CP	%	110			70-130	Pass	
Fluoranthene	M24-De0037846	CP	%	103			70-130	Pass	
Fluorene	M24-De0037846	CP	%	126			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037846	CP	%	92			70-130	Pass	
Naphthalene	M24-De0037846	CP	%	114			70-130	Pass	
Phenanthrene	M24-De0037846	CP	%	100			70-130	Pass	
Pyrene	M24-De0037846	CP	%	98			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M24-De0037846	CP	%	95			30-130	Pass	
2.4-Dichlorophenol	M24-De0037846	CP	%	80			30-130	Pass	
2.4.6-Trichlorophenol	M24-De0037846	CP	%	64			30-130	Pass	
2.6-Dichlorophenol	M24-De0037846	CP	%	75			30-130	Pass	
4-Chloro-3-methylphenol	M24-De0037846	CP	%	93			30-130	Pass	
Pentachlorophenol	M24-De0037846	CP	%	46			30-130	Pass	
Tetrachlorophenols - Total	M24-De0037846	CP	%	112			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037846	CP	%	31			30-130	Pass	
2-Nitrophenol	M24-De0037846	CP	%	82			30-130	Pass	
2.4-Dimethylphenol	M24-De0037846	CP	%	112			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-De0037846	CP	%	101			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
3&4-Methylphenol (m&p-Cresol)	M24-De0037846	CP	%	100			30-130	Pass	
4-Nitrophenol	M24-De0037846	CP	%	34			30-130	Pass	
Dinoseb	M24-De0037846	CP	%	38			30-130	Pass	
Phenol	M24-De0037846	CP	%	103			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037847	CP	%	83			70-130	Pass	
TRH C6-C10	M24-De0037847	CP	%	81			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037847	CP	%	80			70-130	Pass	
Toluene	M24-De0037847	CP	%	87			70-130	Pass	
Ethylbenzene	M24-De0037847	CP	%	88			70-130	Pass	
m&p-Xylenes	M24-De0037847	CP	%	90			70-130	Pass	
o-Xylene	M24-De0037847	CP	%	91			70-130	Pass	
Xylenes - Total*	M24-De0037847	CP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037847	CP	%	83			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037849	CP	%	74			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037854	CP	%	129			70-130	Pass	
TRH C6-C10	M24-De0037854	CP	%	126			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037854	CP	%	94			70-130	Pass	
Toluene	M24-De0037854	CP	%	102			70-130	Pass	
Ethylbenzene	M24-De0037854	CP	%	113			70-130	Pass	
m&p-Xylenes	M24-De0037854	CP	%	100			70-130	Pass	
o-Xylene	M24-De0037854	CP	%	96			70-130	Pass	
Xylenes - Total*	M24-De0037854	CP	%	98			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037854	CP	%	93			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037856	CP	%	101			75-125	Pass	
Beryllium	M24-De0037856	CP	%	109			75-125	Pass	
Cadmium	M24-De0037856	CP	%	102			75-125	Pass	
Chromium	M24-De0037856	CP	%	94			75-125	Pass	
Copper	M24-De0037856	CP	%	82			75-125	Pass	
Mercury	M24-De0037856	CP	%	88			75-125	Pass	
Molybdenum	M24-De0037856	CP	%	107			75-125	Pass	
Nickel	M24-De0037856	CP	%	107			75-125	Pass	
Selenium	M24-De0037856	CP	%	97			75-125	Pass	
Silver	M24-De0037856	CP	%	107			75-125	Pass	
Tin	M24-De0037856	CP	%	112			75-125	Pass	
Zinc	M24-De0037856	CP	%	77			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037860	CP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	M24-De0037860	CP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037863	CP	%	94			70-130	Pass	
TRH C6-C10	M24-De0037863	CP	%	109			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037863	CP	%	118			70-130	Pass	
Toluene	M24-De0037863	CP	%	101			70-130	Pass	
Ethylbenzene	M24-De0037863	CP	%	105			70-130	Pass	
m&p-Xylenes	M24-De0037863	CP	%	95			70-130	Pass	
o-Xylene	M24-De0037863	CP	%	129			70-130	Pass	
Xylenes - Total*	M24-De0037863	CP	%	106			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037863	CP	%	90			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M24-De0037871	CP	%	102			70-130	Pass	
4.4'-DDD	M24-De0037871	CP	%	106			70-130	Pass	
4.4'-DDE	M24-De0037871	CP	%	96			70-130	Pass	
4.4'-DDT	M24-De0037871	CP	%	83			70-130	Pass	
a-HCH	M24-De0037871	CP	%	107			70-130	Pass	
Aldrin	M24-De0037871	CP	%	91			70-130	Pass	
b-HCH	M24-De0037871	CP	%	120			70-130	Pass	
d-HCH	M24-De0037871	CP	%	106			70-130	Pass	
Dieldrin	M24-De0037871	CP	%	80			70-130	Pass	
Endosulfan I	M24-De0037871	CP	%	106			70-130	Pass	
Endosulfan II	M24-De0037871	CP	%	96			70-130	Pass	
Endosulfan sulphate	M24-De0037871	CP	%	97			70-130	Pass	
Endrin	M24-De0037871	CP	%	101			70-130	Pass	
Endrin aldehyde	M24-De0037871	CP	%	87			70-130	Pass	
Endrin ketone	M24-De0037871	CP	%	119			70-130	Pass	
g-HCH (Lindane)	M24-De0037871	CP	%	105			70-130	Pass	
Heptachlor	M24-De0037871	CP	%	91			70-130	Pass	
Heptachlor epoxide	M24-De0037871	CP	%	102			70-130	Pass	
Hexachlorobenzene	M24-De0037871	CP	%	106			70-130	Pass	
Methoxychlor	M24-De0037871	CP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037876	CP	%	100			75-125	Pass	
Barium	M24-De0037876	CP	%	112			75-125	Pass	
Beryllium	M24-De0037876	CP	%	95			75-125	Pass	
Cadmium	M24-De0037876	CP	%	103			75-125	Pass	
Chromium	M24-De0037876	CP	%	86			75-125	Pass	
Cobalt	M24-De0037876	CP	%	88			75-125	Pass	
Copper	M24-De0037876	CP	%	100			75-125	Pass	
Manganese	M24-De0037876	CP	%	96			75-125	Pass	
Mercury	M24-De0037876	CP	%	81			75-125	Pass	
Molybdenum	M24-De0037876	CP	%	104			75-125	Pass	
Nickel	M24-De0037876	CP	%	107			75-125	Pass	
Selenium	M24-De0037876	CP	%	94			75-125	Pass	
Silver	M24-De0037876	CP	%	105			75-125	Pass	
Tin	M24-De0037876	CP	%	105			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	M24-De0037876	CP	%	94			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037882	CP	%	81			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037887	CP	%	106			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0037896	CP	%	102			75-125	Pass	
Barium	M24-De0037896	CP	%	96			75-125	Pass	
Beryllium	M24-De0037896	CP	%	88			75-125	Pass	
Cadmium	M24-De0037896	CP	%	97			75-125	Pass	
Chromium	M24-De0037896	CP	%	97			75-125	Pass	
Cobalt	M24-De0037896	CP	%	89			75-125	Pass	
Copper	M24-De0037896	CP	%	77			75-125	Pass	
Lead	M24-De0037896	CP	%	101			75-125	Pass	
Mercury	M24-De0037896	CP	%	87			75-125	Pass	
Molybdenum	M24-De0037896	CP	%	102			75-125	Pass	
Nickel	M24-De0037896	CP	%	97			75-125	Pass	
Selenium	M24-De0037896	CP	%	96			75-125	Pass	
Silver	M24-De0037896	CP	%	103			75-125	Pass	
Tin	M24-De0037896	CP	%	110			75-125	Pass	
Zinc	M24-De0037896	CP	%	100			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M24-De0037896	CP	%	82			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037744	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037744	CP	mg/kg	19	18	3.0	30%	Pass	
Beryllium	M24-De0037744	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037744	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037744	CP	mg/kg	7.7	7.5	2.0	30%	Pass	
Cobalt	M24-De0037744	CP	mg/kg	11	11	2.0	30%	Pass	
Copper	M24-De0037744	CP	mg/kg	71	71	<1	30%	Pass	
Lead	M24-De0037744	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0037744	CP	mg/kg	270	270	<1	30%	Pass	
Mercury	M24-De0037744	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037744	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037744	CP	mg/kg	22	22	<1	30%	Pass	
Selenium	M24-De0037744	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037744	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037744	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037744	CP	mg/kg	36	36	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037745	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037745	CP	mg/kg	160	140	15	30%	Pass	
TRH C29-C36	M24-De0037745	CP	mg/kg	140	130	5.0	30%	Pass	
TRH >C10-C16	M24-De0037745	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037745	CP	mg/kg	270	250	10	30%	Pass	
TRH >C34-C40	M24-De0037745	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0037745	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037745	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037745	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037745	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037745	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037745	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037745	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037745	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037745	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037745	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037745	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037745	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037745	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037745	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037745	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037745	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037745	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037748	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037748	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037748	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037748	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037748	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037748	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037748	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037748	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037748	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037748	CP	%	29	25	17	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Phenanthrene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0037755	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037755	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037755	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037755	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037755	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037755	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037755	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037755	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037755	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037755	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037755	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037755	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037755	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037755	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037755	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037758	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037758	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037758	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037758	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037758	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037758	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037758	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037758	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037758	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037758	CP	%	11	12	12	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037758	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M24-De0037758	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037760	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037760	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037760	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037760	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037760	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037760	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037760	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037760	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037760	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037761	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037761	CP	mg/kg	28	29	5.0	30%	Pass	
Beryllium	M24-De0037761	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037761	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037761	CP	mg/kg	16	17	6.0	30%	Pass	
Cobalt	M24-De0037761	CP	mg/kg	17	17	4.0	30%	Pass	
Copper	M24-De0037761	CP	mg/kg	28	29	5.0	30%	Pass	
Lead	M24-De0037761	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0037761	CP	mg/kg	550	570	3.0	30%	Pass	
Mercury	M24-De0037761	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037761	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037761	CP	mg/kg	13	14	4.0	30%	Pass	
Selenium	M24-De0037761	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037761	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037761	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037761	CP	mg/kg	50	52	4.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037762	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037762	CP	mg/kg	26	27	6.0	30%	Pass	
Beryllium	M24-De0037762	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037762	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037762	CP	mg/kg	13	14	4.0	30%	Pass	
Cobalt	M24-De0037762	CP	mg/kg	16	17	3.0	30%	Pass	
Copper	M24-De0037762	CP	mg/kg	31	31	3.0	30%	Pass	
Lead	M24-De0037762	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0037762	CP	mg/kg	440	450	2.0	30%	Pass	
Mercury	M24-De0037762	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037762	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Nickel	M24-De0037762	CP	mg/kg	13	14	4.0	30%	Pass	
Selenium	M24-De0037762	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037762	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037762	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037762	CP	mg/kg	48	49	3.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0037764	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2.6-Dichlorophenol	M24-De0037764	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037768	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037768	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037768	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037768	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037768	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037768	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
o-Xylene	M24-De0037768	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037768	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037768	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037768	CP	%	21	20	6.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037778	CP	%	24	25	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0037785	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037788	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037788	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037788	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037788	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037788	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037788	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037788	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037788	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037788	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037788	CP	%	3.9	3.5	10	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037791	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037791	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037791	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037791	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037791	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037791	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0037791	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037791	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037791	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037791	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037791	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037791	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037791	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037791	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037791	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037791	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037791	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037791	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037791	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037791	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037791	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037791	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037791	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037792	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037792	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037792	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037792	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037792	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037792	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0037792	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037792	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0037794	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037798	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037798	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037798	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037798	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037798	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037798	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037798	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037798	CP	%	7.4	8.4	13	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037808	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037808	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037808	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037808	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037808	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037808	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037808	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037808	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037808	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037808	CP	%	19	18	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037811	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037811	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037811	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037811	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037811	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037811	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037811	CP	mg/kg	29	24	16	30%	Pass	
Beryllium	M24-De0037811	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037811	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037811	CP	mg/kg	8.5	7.3	15	30%	Pass	
Cobalt	M24-De0037811	CP	mg/kg	15	12	28	30%	Pass	
Copper	M24-De0037811	CP	mg/kg	66	61	9.0	30%	Pass	
Lead	M24-De0037811	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0037811	CP	mg/kg	450	380	16	30%	Pass	
Mercury	M24-De0037811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037811	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037811	CP	mg/kg	25	23	10	30%	Pass	
Selenium	M24-De0037811	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037811	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037811	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037811	CP	mg/kg	32	28	11	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037812	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037812	CP	mg/kg	20	19	1.0	30%	Pass	
Beryllium	M24-De0037812	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037812	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037812	CP	mg/kg	5.0	< 5	1.0	30%	Pass	
Cobalt	M24-De0037812	CP	mg/kg	8.4	8.1	3.0	30%	Pass	
Copper	M24-De0037812	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M24-De0037812	CP	mg/kg	10	10	2.0	30%	Pass	
Manganese	M24-De0037812	CP	mg/kg	31	31	1.0	30%	Pass	
Mercury	M24-De0037812	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037812	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037812	CP	mg/kg	5.1	< 5	2.0	30%	Pass	
Selenium	M24-De0037812	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037812	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037812	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037812	CP	mg/kg	14	14	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037818	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037818	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037818	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037818	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037818	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037818	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037818	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037818	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037818	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037820	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037825	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037825	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037825	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037825	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2.6-Dichlorophenol	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037825	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037825	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037825	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037825	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037825	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037825	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037825	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037825	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037825	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037825	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037825	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037825	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0037825	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M24-De0037825	CP	mg/kg	210	260	19	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037828	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037828	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037828	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037828	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037828	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037828	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037828	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037828	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037828	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037828	CP	%	5.7	5.9	3.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037831	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037835	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037835	CP	mg/kg	0.34	0.28	20	30%	Pass	
Anthracene	M24-De0037835	CP	mg/kg	1.2	1.1	10	30%	Pass	
Benz(a)anthracene	M24-De0037835	CP	mg/kg	5.2	5.2	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037835	CP	mg/kg	5.8	5.0	15	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037835	CP	mg/kg	2.7	3.1	16	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037835	CP	mg/kg	3.5	3.2	11	30%	Pass	
Benzo(k)fluoranthene	M24-De0037835	CP	mg/kg	2.7	3.2	17	30%	Pass	
Chrysene	M24-De0037835	CP	mg/kg	3.9	3.9	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037835	CP	mg/kg	0.57	0.57	1.0	30%	Pass	
Fluoranthene	M24-De0037835	CP	mg/kg	4.1	3.6	12	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Fluorene	M24-De0037835	CP	mg/kg	0.28	0.25	13	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037835	CP	mg/kg	1.3	1.3	4.0	30%	Pass	
Naphthalene	M24-De0037835	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0037835	CP	mg/kg	4.1	3.5	15	30%	Pass	
Pyrene	M24-De0037835	CP	mg/kg	7.9	7.1	12	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037835	CP	mg/kg	1.4	1.3	10	30%	Pass	
Benz(a)anthracene	M24-De0037835	CP	mg/kg	6.0	6.0	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037835	CP	mg/kg	6.6	5.7	15	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037835	CP	mg/kg	3.0	3.5	16	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037835	CP	mg/kg	4.0	3.6	11	30%	Pass	
Benzo(k)fluoranthene	M24-De0037835	CP	mg/kg	3.1	3.7	17	30%	Pass	
Chrysene	M24-De0037835	CP	mg/kg	4.4	4.4	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037835	CP	mg/kg	0.7	0.6	1.0	30%	Pass	
Fluoranthene	M24-De0037835	CP	mg/kg	4.6	4.1	12	30%	Pass	
Fluorene	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037835	CP	mg/kg	1.5	1.5	4.0	30%	Pass	
Naphthalene	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037835	CP	mg/kg	4.6	4.0	15	30%	Pass	
Pyrene	M24-De0037835	CP	mg/kg	9.0	8.0	12	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037835	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037835	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037835	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037835	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037835	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037835	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037835	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037835	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037835	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037835	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037835	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037835	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037835	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037835	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037841	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037841	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037841	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037841	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037841	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037841	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037841	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037841	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037841	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0037843	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2.6-Dichlorophenol	M24-De0037843	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
3&4-Methylphenol (m&p-Cresol)	M24-De0037843	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037844	CP	mg/kg	7.1	6.0	17	30%	Pass	
Barium	M24-De0037844	CP	mg/kg	210	200	4.0	30%	Pass	
Beryllium	M24-De0037844	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037844	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037844	CP	mg/kg	20	17	16	30%	Pass	
Cobalt	M24-De0037844	CP	mg/kg	17	17	<1	30%	Pass	
Copper	M24-De0037844	CP	mg/kg	270	260	4.0	30%	Pass	
Lead	M24-De0037844	CP	mg/kg	650	600	7.0	30%	Pass	
Manganese	M24-De0037844	CP	mg/kg	340	300	12	30%	Pass	
Molybdenum	M24-De0037844	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037844	CP	mg/kg	25	22	12	30%	Pass	
Selenium	M24-De0037844	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037844	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037844	CP	mg/kg	170	180	7.0	30%	Pass	
Zinc	M24-De0037844	CP	mg/kg	550	480	14	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037849	CP	%	5.9	6.4	7.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037853	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037853	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037853	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037853	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037853	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037853	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037853	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037853	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0037853	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
Phenol	M24-De0037853	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037856	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037856	CP	mg/kg	110	120	5.0	30%	Pass	
Beryllium	M24-De0037856	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037856	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037856	CP	mg/kg	19	19	1.0	30%	Pass	
Cobalt	M24-De0037856	CP	mg/kg	60	60	1.0	30%	Pass	
Copper	M24-De0037856	CP	mg/kg	64	66	2.0	30%	Pass	
Lead	M24-De0037856	CP	mg/kg	140	150	1.0	30%	Pass	
Manganese	M24-De0037856	CP	mg/kg	610	610	<1	30%	Pass	
Mercury	M24-De0037856	CP	mg/kg	0.4	0.4	1.0	30%	Pass	
Molybdenum	M24-De0037856	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037856	CP	mg/kg	29	30	3.0	30%	Pass	
Selenium	M24-De0037856	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037856	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037856	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037856	CP	mg/kg	71	72	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037859	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037859	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037859	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037859	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037859	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037859	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M24-De0037859	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037859	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037859	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037859	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037859	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037859	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037859	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037859	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037859	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037859	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037859	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037859	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037859	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037859	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037859	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037859	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037859	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037860	CP	%	23	25	6.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037863	CP	mg/kg	0.5	< 0.5	100	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037863	CP	mg/kg	0.9	< 0.5	110	30%	Fail	Q15
Fluorene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037863	CP	mg/kg	0.9	0.6	36	30%	Fail	Q15
Phenanthrene	M24-De0037863	CP	mg/kg	1.3	< 0.5	98	30%	Fail	Q15
Pyrene	M24-De0037863	CP	mg/kg	1.0	< 0.5	100	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037863	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037863	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037863	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037863	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037863	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037863	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037863	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037863	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037863	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037863	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037863	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037863	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037863	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037863	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037863	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037863	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037864	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037864	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037864	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037864	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037864	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037864	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037864	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037864	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037864	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0037867	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M24-De0037867	CP	mg/kg	130	150	12	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037870	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037870	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037870	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037870	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037870	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037870	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037870	CP	%	2.8	3.3	17	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037871	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037873	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037873	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037873	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037873	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037873	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037873	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037874	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037874	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037874	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037874	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037874	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037874	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037874	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037874	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037874	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037875	CP	mg/kg	2.6	2.5	5.0	30%	Pass	
Barium	M24-De0037875	CP	mg/kg	330	330	1.0	30%	Pass	
Beryllium	M24-De0037875	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037875	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037875	CP	mg/kg	12	12	<1	30%	Pass	
Cobalt	M24-De0037875	CP	mg/kg	8.0	8.1	<1	30%	Pass	
Copper	M24-De0037875	CP	mg/kg	34	33	1.0	30%	Pass	
Lead	M24-De0037875	CP	mg/kg	350	340	1.0	30%	Pass	
Manganese	M24-De0037875	CP	mg/kg	170	170	<1	30%	Pass	
Mercury	M24-De0037875	CP	mg/kg	0.9	0.9	4.0	30%	Pass	
Molybdenum	M24-De0037875	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037875	CP	mg/kg	9.6	9.6	<1	30%	Pass	
Selenium	M24-De0037875	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037875	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037875	CP	mg/kg	12	12	2.0	30%	Pass	
Zinc	M24-De0037875	CP	mg/kg	89	86	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037876	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037876	CP	mg/kg	110	110	4.0	30%	Pass	
Beryllium	M24-De0037876	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037876	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037876	CP	mg/kg	32	33	5.0	30%	Pass	
Cobalt	M24-De0037876	CP	mg/kg	16	17	4.0	30%	Pass	
Copper	M24-De0037876	CP	mg/kg	70	74	5.0	30%	Pass	
Lead	M24-De0037876	CP	mg/kg	30	30	1.0	30%	Pass	
Manganese	M24-De0037876	CP	mg/kg	370	380	3.0	30%	Pass	
Mercury	M24-De0037876	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037876	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037876	CP	mg/kg	23	24	6.0	30%	Pass	
Selenium	M24-De0037876	CP	mg/kg	< 2	< 2	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Silver	M24-De0037876	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037876	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037876	CP	mg/kg	23	24	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037879	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037879	CP	mg/kg	60	64	5.0	30%	Pass	
TRH C29-C36	M24-De0037879	CP	mg/kg	66	69	4.0	30%	Pass	
TRH >C10-C16	M24-De0037879	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037879	CP	mg/kg	120	120	2.0	30%	Pass	
TRH >C34-C40	M24-De0037879	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037880	CP	%	15	14	5.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037882	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037882	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037882	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037882	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037882	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037882	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037882	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037882	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037882	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0037886	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037890	CP	%	16	13	18	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037890	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037892	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037892	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037892	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037892	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037895	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037895	CP	mg/kg	17	17	3.0	30%	Pass	
Beryllium	M24-De0037895	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037895	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037895	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M24-De0037895	CP	mg/kg	9.9	9.9	<1	30%	Pass	
Copper	M24-De0037895	CP	mg/kg	99	96	2.0	30%	Pass	
Lead	M24-De0037895	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0037895	CP	mg/kg	190	190	1.0	30%	Pass	
Mercury	M24-De0037895	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037895	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037895	CP	mg/kg	10.0	9.8	2.0	30%	Pass	
Selenium	M24-De0037895	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037895	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037895	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037895	CP	mg/kg	35	34	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037896	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0037896	CP	mg/kg	14	14	<1	30%	Pass	
Beryllium	M24-De0037896	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037896	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037896	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M24-De0037896	CP	mg/kg	11	11	1.0	30%	Pass	
Copper	M24-De0037896	CP	mg/kg	62	61	3.0	30%	Pass	
Lead	M24-De0037896	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M24-De0037896	CP	mg/kg	430	430	<1	30%	Pass	
Mercury	M24-De0037896	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037896	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037896	CP	mg/kg	14	14	2.0	30%	Pass	
Selenium	M24-De0037896	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037896	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037896	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M24-De0037896	CP	mg/kg	37	37	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037897	CP	mg/kg	39	36	10	30%	Pass	
TRH C15-C28	M24-De0037897	CP	mg/kg	460	420	10	30%	Pass	
TRH C29-C36	M24-De0037897	CP	mg/kg	330	320	2.0	30%	Pass	
TRH >C10-C16	M24-De0037897	CP	mg/kg	67	60	10	30%	Pass	
TRH >C16-C34	M24-De0037897	CP	mg/kg	700	650	8.0	30%	Pass	
TRH >C34-C40	M24-De0037897	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037899	CP	mg/kg	2.7	2.9	6.0	30%	Pass	
Anthracene	M24-De0037899	CP	mg/kg	38	43	12	30%	Pass	
Benz(a)anthracene	M24-De0037899	CP	mg/kg	120	120	3.0	30%	Pass	
Benzo(a)pyrene - low level	M24-De0037899	CP	mg/kg	73	92	22	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037899	CP	mg/kg	51	60	15	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037899	CP	mg/kg	46	51	10	30%	Pass	
Benzo(k)fluoranthene	M24-De0037899	CP	mg/kg	77	96	22	30%	Pass	
Chrysene	M24-De0037899	CP	mg/kg	96	91	5.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037899	CP	mg/kg	19	21	12	30%	Pass	
Fluoranthene	M24-De0037899	CP	mg/kg	130	140	8.0	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Fluorene	M24-De0037899	CP	mg/kg	27	27	1.0	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037899	CP	mg/kg	44	45	2.0	30%	Pass	
Naphthalene	M24-De0037899	CP	mg/kg	7.8	8.5	9.0	30%	Pass	
Phenanthrene	M24-De0037899	CP	mg/kg	130	130	2.0	30%	Pass	
Pyrene	M24-De0037899	CP	mg/kg	130	150	15	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037899	CP	mg/kg	3.0	3.1	6.0	30%	Pass	
Anthracene	M24-De0037899	CP	mg/kg	41	47	12	30%	Pass	
Benz(a)anthracene	M24-De0037899	CP	mg/kg	130	130	3.0	30%	Pass	
Benzo(a)pyrene	M24-De0037899	CP	mg/kg	80	99	22	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037899	CP	mg/kg	56	65	15	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037899	CP	mg/kg	50	55	10	30%	Pass	
Benzo(k)fluoranthene	M24-De0037899	CP	mg/kg	83	100	22	30%	Pass	
Chrysene	M24-De0037899	CP	mg/kg	100	98	5.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037899	CP	mg/kg	20	23	12	30%	Pass	
Fluoranthene	M24-De0037899	CP	mg/kg	140	150	8.0	30%	Pass	
Fluorene	M24-De0037899	CP	mg/kg	29	29	1.0	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037899	CP	mg/kg	48	49	2.0	30%	Pass	
Naphthalene	M24-De0037899	CP	mg/kg	8.4	9.2	9.0	30%	Pass	
Phenanthrene	M24-De0037899	CP	mg/kg	140	140	2.0	30%	Pass	
Pyrene	M24-De0037899	CP	mg/kg	140	160	15	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037899	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
4-Nitrophenol	M24-De0037899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037899	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Harry Bacalis	Analytical Services Manager
Luke Holt	Senior Analyst-Inorganic
Caitlin Breeze	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties
Edward Lee	Senior Analyst-Organic
Vivian Wang	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

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Attention: **Robert Crowe**

Report **1171413-W**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 10, 2024

Client Sample ID			**QC165**	**QC159**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M24-De0037838**	**M24-De0038146**
Date Sampled			**Dec 10, 2024**	**Oct 09, 2012**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	104	133
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	-

Client Sample ID			QC165	QC159
Sample Matrix			Water	Water
Eurofins Sample No.			M24-De0037838	M24-De0038146
Date Sampled			Dec 10, 2024	Oct 09, 2012
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	-
Total PAH*	0.001	mg/L	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	75	-
p-Terphenyl-d14 (surr.)	1	%	53	-
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.00001	mg/L	-	< 0.00001
Acenaphthylene	0.00001	mg/L	-	< 0.00001
Anthracene	0.00001	mg/L	-	< 0.00001
Benz(a)anthracene	0.00001	mg/L	-	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	-	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	-	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	-	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	-	< 0.00001
Chrysene	0.00001	mg/L	-	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	-	< 0.00001
Fluoranthene	0.00001	mg/L	-	< 0.00001
Fluorene	0.00001	mg/L	-	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	-	< 0.00001
Naphthalene	0.00001	mg/L	-	< 0.00001
Phenanthrene	0.00001	mg/L	-	< 0.00001
Pyrene	0.00001	mg/L	-	< 0.00001
Total PAH*	0.00001	mg/L	-	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	-	75
p-Terphenyl-d14 (surr.)	1	%	-	98

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 19, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 18, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 19, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 19, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Dec 19, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 19, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Fax:

Received: Dec 10, 2024 4:52 PM
Due: Dec 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	Asbestos - AS4964*	Asbestos Absence /Presence	CANCELLED*	HOLD*	Lead	TRH C6-C10	Polycyclic Aromatic Hydrocarbons	BTEX and Naphthalene	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory															

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	F11_0.5	Dec 09, 2024		Soil	M24-De0037743	X					X				X		X	X	
2	F11_1.0	Dec 09, 2024		Soil	M24-De0037744	X					X				X		X	X	
3	F11_1.5	Dec 09, 2024		Soil	M24-De0037745										X				X
4	F11_2.0	Dec 09, 2024		Soil	M24-De0037746	X					X				X		X	X	
5	F11_2.5	Dec 09, 2024		Soil	M24-De0037747	X					X				X		X	X	
6	F11_3.0	Dec 09, 2024		Soil	M24-De0037748										X				X
7	E11_0.5	Dec 09, 2024		Soil	M24-De0037749	X					X				X		X	X	
8	E11_1.0	Dec 09, 2024		Soil	M24-De0037750										X				X
9	E11_1.5	Dec 09, 2024		Soil	M24-De0037751	X					X				X		X	X	
10	E11_2.0	Dec 09, 2024		Soil	M24-De0037752	X					X				X		X	X	
11	E11_2.5	Dec 09, 2024		Soil	M24-De0037753	X					X				X		X	X	
12	E11_3.0	Dec 09, 2024		Soil	M24-De0037754										X				X
13	E11_3.5	Dec 09, 2024		Soil	M24-De0037755	X					X				X		X	X	
14	D11_0.5	Dec 09, 2024		Soil	M24-De0037756	X					X				X		X	X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	D11_1.0	Dec 09, 2024		Soil	M24-De0037757	X					X				X		X		X	
16	D11_1.5	Dec 09, 2024		Soil	M24-De0037758										X					X
17	D11_2.0	Dec 09, 2024		Soil	M24-De0037759	X					X				X		X		X	
18	D11_2.5	Dec 09, 2024		Soil	M24-De0037760	X					X				X		X		X	
19	D11_3.0	Dec 09, 2024		Soil	M24-De0037761	X					X				X		X		X	
20	D11_3.5	Dec 09, 2024		Soil	M24-De0037762										X					X
21	F12_0.5	Dec 09, 2024		Soil	M24-De0037763	X					X				X		X		X	
22	F12_1.0	Dec 09, 2024		Soil	M24-De0037764	X					X				X		X		X	
23	F12_1.5	Dec 09, 2024		Soil	M24-De0037765										X					X
24	F12_2.0	Dec 09, 2024		Soil	M24-De0037766	X					X				X		X		X	
25	F12_2.5	Dec 09, 2024		Soil	M24-De0037767										X					X
26	F12_3.0	Dec 09, 2024		Soil	M24-De0037768	X					X				X		X		X	
27	F12_3.5	Dec 09, 2024		Soil	M24-De0037769	X					X				X		X		X	
28	E12_0.5	Dec 09, 2024		Soil	M24-De0037770										X					X
29	E12_1.0	Dec 09, 2024		Soil	M24-De0037771	X					X				X		X		X	
30	E12_1.5	Dec 09, 2024		Soil	M24-De0037772	X					X				X		X		X	
31	E12_2.0	Dec 09, 2024		Soil	M24-De0037773										X					X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	E12_2.5	Dec 09, 2024		Soil	M24-De0037774	X					X				X		X		X	
33	E12_3.0	Dec 09, 2024		Soil	M24-De0037775	X					X				X		X		X	
34	E12_3.5	Dec 09, 2024		Soil	M24-De0037776	X					X				X		X		X	
35	QC155	Dec 09, 2024		Soil	M24-De0037777	X					X				X		X		X	
36	D12_0.5	Dec 09, 2024		Soil	M24-De0037778										X					X
37	D12_1.0	Dec 09, 2024		Soil	M24-De0037779	X					X				X		X		X	
38	D12_1.5	Dec 09, 2024		Soil	M24-De0037780	X					X				X		X		X	
39	D12_2.0	Dec 09, 2024		Soil	M24-De0037781	X					X				X		X		X	
40	D12_2.5	Dec 09, 2024		Soil	M24-De0037782										X					X
41	D12_3.0	Dec 09, 2024		Soil	M24-De0037783	X					X				X		X		X	
42	D12_3.5	Dec 09, 2024		Soil	M24-De0037784	X					X				X		X		X	
43	C12_0.5	Dec 09, 2024		Soil	M24-De0037785										X					X
44	C12_1.0	Dec 09, 2024		Soil	M24-De0037786	X					X				X		X		X	
45	C12_1.5	Dec 09, 2024		Soil	M24-De0037787	X					X				X		X		X	
46	C12_2.0	Dec 09, 2024		Soil	M24-De0037788										X					X
47	C12_2.5	Dec 09, 2024		Soil	M24-De0037789	X					X				X		X		X	
48	D13_0.5	Dec 09, 2024		Soil	M24-De0037790	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
49	D13_1.0	Dec 09, 2024		Soil	M24-De0037791										X					X
50	D13_1.5	Dec 09, 2024		Soil	M24-De0037792	X					X				X		X		X	
51	D13_2.0	Dec 09, 2024		Soil	M24-De0037793	X					X				X		X		X	
52	D13_2.5	Dec 09, 2024		Soil	M24-De0037794										X					X
53	D13_3.0	Dec 09, 2024		Soil	M24-De0037795	X					X				X		X		X	
54	D13_3.5	Dec 09, 2024		Soil	M24-De0037796	X					X				X		X		X	
55	D14_0.5	Dec 09, 2024		Soil	M24-De0037797	X					X				X		X		X	
56	D14_1.0	Dec 09, 2024		Soil	M24-De0037798										X					X
57	D14_1.5	Dec 09, 2024		Soil	M24-De0037799	X					X				X		X		X	
58	D14_2.0	Dec 09, 2024		Soil	M24-De0037800	X					X				X		X		X	
59	D14_2.5	Dec 09, 2024		Soil	M24-De0037801										X					X
60	D14_3.0	Dec 09, 2024		Soil	M24-De0037802	X					X				X		X		X	
61	E14_0.5	Dec 09, 2024		Soil	M24-De0037803	X					X				X		X		X	
62	E14_1.0	Dec 09, 2024		Soil	M24-De0037804	X					X				X		X		X	
63	E14_1.5	Dec 09, 2024		Soil	M24-De0037805										X					X
64	E14_2.0	Dec 09, 2024		Soil	M24-De0037806	X					X				X		X		X	
65	E14_2.5	Dec 09, 2024		Soil	M24-De0037807										X					X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
66	E14_3.0	Dec 09, 2024		Soil	M24-De0037808	X					X				X		X		X	
67	QC157	Dec 09, 2024		Soil	M24-De0037809										X					X
68	F14_0.5	Dec 09, 2024		Soil	M24-De0037810	X					X				X		X		X	
69	F14_1.0	Dec 09, 2024		Soil	M24-De0037811										X					X
70	F14_1.5	Dec 09, 2024		Soil	M24-De0037812	X					X				X		X		X	
71	F14_2.0	Dec 09, 2024		Soil	M24-De0037813	X					X				X		X		X	
72	F14_2.5	Dec 09, 2024		Soil	M24-De0037814										X					X
73	F14_3.0	Dec 09, 2024		Soil	M24-De0037815	X					X				X		X		X	
74	I16_0.5	Dec 10, 2024		Soil	M24-De0037816	X					X				X		X		X	
75	I16_1.0	Dec 10, 2024		Soil	M24-De0037817										X					X
76	I16_1.5	Dec 10, 2024		Soil	M24-De0037818	X					X				X		X		X	
77	I13_0.5	Dec 10, 2024		Soil	M24-De0037819	X					X				X		X		X	
78	I13_1.0	Dec 10, 2024		Soil	M24-De0037820										X					X
79	I13_1.5	Dec 10, 2024		Soil	M24-De0037821	X					X				X		X		X	
80	I14_0.5	Dec 10, 2024		Soil	M24-De0037822										X					X
81	I14_1.0	Dec 10, 2024		Soil	M24-De0037823	X					X				X		X		X	
82	I14_1.5	Dec 10, 2024		Soil	M24-De0037824	X					X				X		X		X	

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
83	K13_0.5	Dec 10, 2024		Soil	M24-De0037825										X					X
84	K13_1.0	Dec 10, 2024		Soil	M24-De0037826	X					X				X		X		X	
85	K13_1.5	Dec 10, 2024		Soil	M24-De0037827	X					X				X		X		X	
86	G12_0.5	Dec 10, 2024		Soil	M24-De0037828										X					X
87	G12_1.0	Dec 10, 2024		Soil	M24-De0037829	X					X				X		X		X	
88	G12_1.5	Dec 10, 2024		Soil	M24-De0037830	X					X				X		X		X	
89	G12_2.0	Dec 10, 2024		Soil	M24-De0037831										X					X
90	G12_2.5	Dec 10, 2024		Soil	M24-De0037832	X					X				X		X		X	
91	G12_3.0	Dec 10, 2024		Soil	M24-De0037833	X					X				X		X		X	
92	G12_3.5	Dec 10, 2024		Soil	M24-De0037834										X					X
93	QC163	Dec 10, 2024		Soil	M24-De0037835	X					X				X		X		X	
94	QC160	Dec 09, 2024		Soil	M24-De0037836							X		X						
95	QC161	Oct 09, 2012		Soil	M24-De0037837							X		X						
96	QC165	Dec 10, 2024		Water	M24-De0037838	X					X		X	X		X		X		
97	G13_0.5	Dec 10, 2024		Soil	M24-De0037839	X					X				X		X		X	
98	G13_1.0	Dec 10, 2024		Soil	M24-De0037840	X					X				X		X		X	
99	G13_1.5	Dec 10, 2024		Soil	M24-De0037841	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
100	G13_2.0	Dec 10, 2024		Soil	M24-De0037842										X					X
101	G13_2.5	Dec 10, 2024		Soil	M24-De0037843	X					X				X		X		X	
102	G13_3.0	Dec 10, 2024		Soil	M24-De0037844	X					X				X		X		X	
103	QC167	Dec 10, 2024		Soil	M24-De0037845										X					X
104	F13_0.5	Dec 10, 2024		Soil	M24-De0037846										X					X
105	F13_1.0	Dec 10, 2024		Soil	M24-De0037847	X					X				X		X		X	
106	F13_1.5	Dec 10, 2024		Soil	M24-De0037848	X					X				X		X		X	
107	F13_2.0	Dec 10, 2024		Soil	M24-De0037849										X					X
108	F13_2.5	Dec 10, 2024		Soil	M24-De0037850	X					X				X		X		X	
109	F13_3.0	Dec 10, 2024		Soil	M24-De0037851										X					X
110	F13_3.5	Dec 10, 2024		Soil	M24-De0037852	X					X				X		X		X	
111	QC169	Dec 10, 2024		Soil	M24-De0037853	X					X				X		X		X	
112	E13_0.5	Dec 10, 2024		Soil	M24-De0037854	X	X				X				X		X		X	
113	ACM_E13_0.5	Dec 10, 2024		Building Materials	M24-De0037855			X												
114	E13_1.0	Dec 10, 2024		Soil	M24-De0037856	X					X				X		X		X	
115	E13_1.5	Dec 10, 2024		Soil	M24-De0037857	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
116	E13_2.0	Dec 10, 2024		Soil	M24-De0037858	X					X				X		X		X	
117	E13_2.5	Dec 10, 2024		Soil	M24-De0037859										X					X
118	E13_3.0	Dec 10, 2024		Soil	M24-De0037860	X					X				X		X		X	
119	E13_3.5	Dec 10, 2024		Soil	M24-De0037861										X					X
120	QC171	Dec 10, 2024		Soil	M24-De0037862	X					X				X		X		X	
121	G14_0.5	Dec 10, 2024		Soil	M24-De0037863										X					X
122	G14_1.0	Dec 10, 2024		Soil	M24-De0037864	X					X				X		X		X	
123	G14_1.5	Dec 10, 2024		Soil	M24-De0037865	X					X				X		X		X	
124	G14_2.0	Dec 10, 2024		Soil	M24-De0037866	X					X				X		X		X	
125	G14_2.5	Dec 10, 2024		Soil	M24-De0037867										X					X
126	G14_3.0	Dec 10, 2024		Soil	M24-De0037868										X					X
127	QC173	Dec 10, 2024		Soil	M24-De0037869	X					X				X		X		X	
128	G15_0.5	Dec 10, 2024		Soil	M24-De0037870	X					X				X		X		X	
129	G15_1.0	Dec 10, 2024		Soil	M24-De0037871										X					X
130	G15_1.5	Dec 10, 2024		Soil	M24-De0037872										X					X
131	G15_2.0	Dec 10, 2024		Soil	M24-De0037873	X					X				X		X		X	
132	G15_2.5	Dec 10, 2024		Soil	M24-De0037874	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
133	G15_3.0	Dec 10, 2024		Soil	M24-De0037875										X					X
134	QC175	Dec 10, 2024		Soil	M24-De0037876	X					X				X		X		X	
135	H15_0.5	Dec 10, 2024		Soil	M24-De0037877	X					X				X		X		X	
136	H15_1.0	Dec 10, 2024		Soil	M24-De0037878	X					X				X		X		X	
137	H15_1.5	Dec 10, 2024		Soil	M24-De0037879										X					X
138	H15_2.0	Dec 10, 2024		Soil	M24-De0037880	X					X				X		X		X	
139	H15_2.5	Dec 10, 2024		Soil	M24-De0037881										X					X
140	QC177	Dec 10, 2024		Soil	M24-De0037882										X					X
141	H14_0.5	Dec 10, 2024		Soil	M24-De0037883										X					X
142	H14_1.0	Dec 10, 2024		Soil	M24-De0037884										X					X
143	H13_0.5	Dec 10, 2024		Soil	M24-De0037885	X					X				X		X		X	
144	H12_0.5	Dec 10, 2024		Soil	M24-De0037886										X					X
145	H17_0.5	Dec 10, 2024		Soil	M24-De0037887										X					X
146	H17_1.0	Dec 10, 2024		Soil	M24-De0037888	X					X				X		X		X	
147	H17_1.5	Dec 10, 2024		Soil	M24-De0037889	X					X				X		X		X	
148	QC179	Dec 10, 2024		Soil	M24-De0037890										X					X
149	H18_0.5	Dec 10, 2024		Soil	M24-De0037891	X					X				X		X		X	

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
150	H18_1.0	Dec 10, 2024		Soil	M24-De0037892										X					X
151	H18_1.5	Dec 10, 2024		Soil	M24-De0037893	X					X				X		X		X	
152	QC181	Dec 10, 2024		Soil	M24-De0037894	X					X				X		X		X	
153	H16_0.5	Dec 10, 2024		Soil	M24-De0037895	X					X				X		X		X	
154	H16_1.0	Dec 10, 2024		Soil	M24-De0037896										X					X
155	H16_1.5	Dec 10, 2024		Soil	M24-De0037897										X					X
156	H16_2.0	Dec 10, 2024		Soil	M24-De0037898	X					X				X		X		X	
157	QC183	Dec 10, 2024		Soil	M24-De0037899	X					X				X		X		X	
158	QC184	Dec 10, 2024		Soil	M24-De0037900				X											
159	QC185	Dec 10, 2024		Soil	M24-De0037901							X								
160	QC186	Dec 10, 2024		Soil	M24-De0037902							X								
161	F11_3.5	Dec 09, 2024		Soil	M24-De0037903	X					X			X	X	X			X	
162	QC162	Oct 09, 2012		Water	M24-De0037904					X										
163	QC166	Dec 10, 2024		Water	M24-De0037905					X										
164	QC159	Oct 09, 2012		Water	M24-De0038146	X					X			X		X		X	X	
Test Counts						102	1	1	1	2	102	4	1	5	154	3	99	2	101	54

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons							
TRH C6-C9	%	91			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	79			70-130	Pass	
Toluene	%	81			70-130	Pass	
Ethylbenzene	%	85			70-130	Pass	
m&p-Xylenes	%	85			70-130	Pass	
Xylenes - Total*	%	85			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	85			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	130			70-130	Pass	
Acenaphthylene	%	100			70-130	Pass	
Anthracene	%	123			70-130	Pass	
Benz(a)anthracene	%	111			70-130	Pass	
Benzo(a)pyrene	%	106			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	101			70-130	Pass	
Benzo(k)fluoranthene	%	119			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	111			70-130	Pass	
Fluoranthene	%	108			70-130	Pass	
Fluorene	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	111			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	124			70-130	Pass	
Pyrene	%	128			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	130			70-130	Pass	
Acenaphthylene	%	100			70-130	Pass	
Anthracene	%	123			70-130	Pass	
Benz(a)anthracene	%	111			70-130	Pass	
Benzo(a)pyrene - low level	%	106			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	101			70-130	Pass	
Benzo(k)fluoranthene	%	119			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	111			70-130	Pass	
Fluoranthene	%	108			70-130	Pass	
Fluorene	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	111			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	124			70-130	Pass	
Pyrene	%	128			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Harry Bacalis	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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#1171417

14/12/24

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN							TRH C6-C10	HOLD	
	QC196	S	11/12/24		Tub	1			X										Forward to ALS
	QC197								X										
	G16-0.5								X										
	G16-1.0						X												
	G17-0.5						X												
	G17-1.0						X												
	QC198																	X	
	QC199																	X	Forward to ALS
	G18-0.5						X												
	G18-1.0								X										
	E16-0.2						X												
	E16-0.5								X										
	E16-1.0																	X	
	E15-0.5						X												
	E15-1.0								X										
	QC200																X		
	QC201																X		
	QC202																X		

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/11/24	Name: AP	Date: 12/12	Name:	Date:	Con' Note No:
Of: aecom	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 1 of 4

ANZ

Q4AN(EV)-007-FM1

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240	PHONE: Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	
	K6_0.5	S	11/12/24		Jar	1	X												
	K6_1.0								X										
	K6_1.5						X												
	K6_2.0								X										
	K6_2.5						X												
	Lab QC188						X												Forward to ALS
	QC189						X												
	J7_0.5						X												
	J7_1.0						X												
	J7_1.5						X												
	J7_2.0								X										
	J7_2.5						X												
	J6_0.5						X												
	J6_1.0								X										
	J6_1.5						X												
	J6_2.0						X												
	J6_2.5								X										
	I6_0.5						X												
	I6_1.0						X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/12/24	Name: dP	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

COC Page 1 of 4

13/12 10:15 FH

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE Nº 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
	H7-3.0	S	11/12/24		Jar	1			X										X	
	H7-3.5																		X	
	I15-0.5						X													
	I15-1.0								X											
	I15-1.5						X													
	QC194								X											
	QC195								X											Forward to ALS
	H13-1.0						X													
	H13-1.5						X													
	H13-2.0								X											
	H13-2.5						X													
	H12-1.0								X											
	H12-1.5						X													
	H12-2.0								X											
	H12-2.5						X													
	H12-3.0								X											
	H14-2.0								X											
	H14-2.5						X													
	H14-3.0								X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Tim	Date: 12/12/24	Name: EUROFINS HOB	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of:	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory** Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240	PHONE:
PROJECT NUMBER & TASK CO: 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	
	I16_1.5	S	11/12/24		Jar	1			X										
	I16_2.0						X												
	I16_2.5								X										
	I16_3.0						X												
	QC190						X												
	QC191						X												Found to AES
	I7_0.5						X												
	I7_1.0						X												
	I7_1.5								X										
	I7_2.0						X												
	I7_2.5						X												
	I7_3.0								X										
	QC192	W			2 vial, 1 metals,	4				X									
	QC193																	X	hold.
	H7_0.5	S			DW	1			X										
	H7_1.0								X										
	H7_1.5								X									X	
	H7_2.0																	X	
	H7_2.5								X									X	

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/12/24	Name: DS	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 4 of 4

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N(241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	K6_0.5	S	11/12/24		Jar	1	X													
	K6_1.0								X											
	K6_1.5						X													
	K6_2.0								X											
	K6_2.5						X													
	~~K6~~ QC188						X													
	QC189						X													Forward to ALS
	J7_0.5						X													
	J7_1.0						X													
	J7_1.5						X													
	J7_2.0								X											
	J7_2.5						X													
	J6_0.5						X													
	J6_1.0								X											
	J6_1.5						X													
	J6_2.0						X													
	J6_2.5								X											
	I6_0.5						X													
	I6_1.0						X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/12/24	Name: dP	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

13/12 10:15 FH

COC Page 1 of 4

ANZ

FQM - Generic Chain of Custody Form

COPY

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	**Destination Laboratory**
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	I16_1.5	S	11/12/24		Jar	1			X											
	I16_2.0						X													
	I16_2.5								X											
	I16_3.0						X													
	QC190						X													
	QC191						X													Forward to ALS
	I7_0.5						X													
	I7_1.0						X													
	I7_1.5								X											
	I7_2.0						X													
	I7_2.5						X													
	I7_3.0								X											
	QC192	W			2vial, Unpres,					X										
	QC193																		X	hold.
	H7_0.5	S			Jar	1			X											
	H7_1.0								X											
	H7_1.5								[illegible]										X	
	H7_2.0																		X	
	H7_2.5								[illegible]										X	

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/12/24	Name: AF	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:30.	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

COPY

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE Nº 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								TRH C6-C10	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
	QC196	S	11/12/24		Tub	1			X											
	QC197								X											Forward to ALS
	G16-0.5								X											
	G16-1.0						X													
	G17-0.5						X													
	G17-1.0						X													
	QC198																		X	
	QC199																		X	Forward to ALS
	G18-0.5						X													
	G18-1.0								X											
	E16-0.2						X													
	E16-0.5								X											
	E16-1.0																		X	
	E15-0.5						X													
	E15-1.0								X											
	QC200																	X		
	QC201																	X		
	QC202																	X		

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/11/24	Name: AP	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. *Soil Container Codes:* Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

COPY

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240	PHONE: Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	H7-3.0	S	11/12/24		Jar	1			X										X	
	H7-3.5																		X	
	I15-0.5						X													
	I15-1.0								X											
	I15-1.5						X													
	QC194								X											
	QC195								X											Forward to AIS
	H13-1.0						X													
	H13-1.5						X													
	H13-2.0								X											
	H13-2.5						Y													
	H12-1.0								X											
	H12-1.5						X													
	H12-2.0								X											
	H12-2.5						X													
	H12-3.0								X											
	H14-2.0								X											
	H14-2.5						X													
	H14-3.0								X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Tim	Date: 12/12/24	Name: EUROFINS HOB	Date: 12/12	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of:	Time: 9:50	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 10 Day
Date/Time received Dec 12, 2024 9:50 AM
Eurofins reference 1171417

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 21.6 degrees Celsius.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

✓ Split sample sent to requested external lab.

✗ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

Global Leader - Results you can trust

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	QC196	Dec 11, 2024		Soil	M24-De0037950				X				X
2	G16_0.5	Dec 11, 2024		Soil	M24-De0037951				X				X
3	G16_1.0	Dec 11, 2024		Soil	M24-De0037952	X		X	X	X		X	
4	G17_0.5	Dec 11, 2024		Soil	M24-De0037953	X		X	X	X		X	
5	G17_1.0	Dec 11, 2024		Soil	M24-De0037954	X		X	X	X		X	
6	G18_0.5	Dec 11, 2024		Soil	M24-De0037955	X		X	X	X		X	
7	G18_1.0	Dec 11, 2024		Soil	M24-De0037956				X				X
8	E16_0.2	Dec 11, 2024		Soil	M24-De0037957	X		X	X	X		X	
9	E16_0.5	Dec 11, 2024		Soil	M24-De0037958				X				X
10	E15_0.5	Dec 11, 2024		Soil	M24-De0037959	X		X	X	X		X	
11	E15_1.0	Dec 11, 2024		Soil	M24-De0037960				X				X
12	QC200	Dec 11, 2024		Soil	M24-De0037961						X		
13	QC201	Dec 11, 2024		Soil	M24-De0037962						X		
14	QC202	Dec 11, 2024		Soil	M24-De0037963						X		

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	K6_0.5	Dec 11, 2024		Soil	M24-De0037964	X		X	X	X		X	
16	K6_1.0	Dec 11, 2024		Soil	M24-De0037965				X				X
17	K6_1.5	Dec 11, 2024		Soil	M24-De0037966	X		X	X	X		X	
18	K6_2.0	Dec 11, 2024		Soil	M24-De0037967				X				X
19	K6_2.5	Dec 11, 2024		Soil	M24-De0037968	X		X	X	X		X	
20	QC188	Dec 11, 2024		Soil	M24-De0037969	X		X	X	X		X	
21	J7_0.5	Dec 11, 2024		Soil	M24-De0037970	X		X	X	X		X	
22	J7_1.0	Dec 11, 2024		Soil	M24-De0037971	X		X	X	X		X	
23	J7_1.5	Dec 11, 2024		Soil	M24-De0037972	X		X	X	X		X	
24	J7_2.0	Dec 11, 2024		Soil	M24-De0037973				X				X
25	J7_2.5	Dec 11, 2024		Soil	M24-De0037974	X		X	X	X		X	
26	J6_0.5	Dec 11, 2024		Soil	M24-De0037975	X		X	X	X		X	
27	J6_1.0	Dec 11, 2024		Soil	M24-De0037976				X				X
28	J6_1.5	Dec 11, 2024		Soil	M24-De0037977	X		X	X	X		X	
29	J6_2.0	Dec 11, 2024		Soil	M24-De0037978	X		X	X	X		X	
30	J6_2.5	Dec 11, 2024		Soil	M24-De0037979				X				X
31	I6_0.5	Dec 11, 2024		Soil	M24-De0037980	X		X	X	X		X	

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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ABN: 91 05 0159 898

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WA 6106
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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
32	I6_1.0	Dec 11, 2024		Soil	M24-De0037981	X		X	X	X		X	
33	I15_0.5	Dec 11, 2024		Soil	M24-De0037982	X		X	X	X		X	
34	I15_1.0	Dec 11, 2024		Soil	M24-De0037983				X				X
35	I15_1.5	Dec 11, 2024		Soil	M24-De0037984	X		X	X	X		X	
36	QC194	Dec 11, 2024		Soil	M24-De0037985				X				X
37	H13_1.0	Dec 11, 2024		Soil	M24-De0037986	X		X	X	X		X	
38	H13_1.5	Dec 11, 2024		Soil	M24-De0037987	X		X	X	X		X	
39	H13_2.0	Dec 11, 2024		Soil	M24-De0037988				X				X
40	H13_2.5	Dec 11, 2024		Soil	M24-De0037989	X		X	X	X		X	
41	H12_1.0	Dec 11, 2024		Soil	M24-De0037990				X				X
42	H12_1.5	Dec 11, 2024		Soil	M24-De0037991	X		X	X	X		X	
43	H12_2.0	Dec 11, 2024		Soil	M24-De0037992				X				X
44	H12_2.5	Dec 11, 2024		Soil	M24-De0037993	X		X	X	X		X	
45	H12_3.0	Dec 11, 2024		Soil	M24-De0037994				X				X
46	H14_2.0	Dec 11, 2024		Soil	M24-De0037995				X				X
47	H14_2.5	Dec 11, 2024		Soil	M24-De0037996	X		X	X	X		X	
48	H14_3.0	Dec 11, 2024		Soil	M24-De0037997				X				X

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
49	I16_1.5	Dec 11, 2024		Soil	M24-De0037998				X				X
50	I16_2.0	Dec 11, 2024		Soil	M24-De0037999	X		X	X	X		X	
51	I16_2.5	Dec 11, 2024		Soil	M24-De0038000				X				X
52	I16_3.0	Dec 11, 2024		Soil	M24-De0038001	X		X	X	X		X	
53	QC190	Dec 11, 2024		Soil	M24-De0038002	X		X	X	X		X	
54	I7_0.5	Dec 11, 2024		Soil	M24-De0038003	X		X	X	X		X	
55	I7_1.0	Dec 11, 2024		Soil	M24-De0038004	X		X	X	X		X	
56	I7_1.5	Dec 11, 2024		Soil	M24-De0038005				X				X
57	I7_2.0	Dec 11, 2024		Soil	M24-De0038006	X		X	X	X		X	
58	I7_2.5	Dec 11, 2024		Soil	M24-De0038007	X		X	X	X		X	
59	I7_3.0	Dec 11, 2024		Soil	M24-De0038008				X				X
60	QC192	Dec 11, 2024		Water	M24-De0038009						X		
61	H7_0.5	Dec 11, 2024		Soil	M24-De0038010				X				X
62	H7_1.0	Dec 11, 2024		Soil	M24-De0038011				X				X
63	QC198	Dec 11, 2024		Soil	M24-De0038012		X						
64	E16_1.0	Dec 11, 2024		Soil	M24-De0038013		X						
65	H7_3.0	Dec 11, 2024		Soil	M24-De0038014		X						

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Project Name: Macquarie Point
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Phone: 08 7223 5400
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
66	H7_3.5	Dec 11, 2024		Soil	M24-De0038015		X						
67	QC193	Dec 11, 2024		Water	M24-De0038016		X						
68	H7_1.5	Dec 11, 2024		Soil	M24-De0038017		X						
69	H7_2.0	Dec 11, 2024		Soil	M24-De0038018		X						
70	H7_2.5	Dec 11, 2024		Soil	M24-De0038019		X						
Test Counts						34	8	34	58	34	4	34	24

Aecom Aust Pty Ltd Tasmania
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1171417-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 12, 2024

Client Sample ID			**QC196**	**G16_0.5**	**G16_1.0**	**G17_0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-De0037950**	**M24-De0037951**	**M24-De0037952**	**M24-De0037953**
Date Sampled			**Dec 11, 2024**	**Dec 11, 2024**	**Dec 11, 2024**	**Dec 11, 2024**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 4000	< 20
TRH C10-C14	20	mg/kg	< 20	22	2000	< 20
TRH C15-C28	50	mg/kg	190	210	3200	57
TRH C29-C36	50	mg/kg	160	150	570	< 50
TRH C10-C36 (Total)	50	mg/kg	350	382	5770	57
TRH C6-C10	20	mg/kg	< 20	< 20	< 4000	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 4000	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	2200	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	1770	< 50
TRH >C16-C34	100	mg/kg	300	310	3300	< 100
TRH >C34-C40	100	mg/kg	130	130	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	430	440	5500	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 20	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 20	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 20	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	31	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	31	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	62	< 0.3
4-Bromofluorobenzene (surr.)	1	%	61	111	132	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	0.5	430	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	12	4.6	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	12	4.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	12	4.6	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	0.6	0.6	-	-
Anthracene	0.5	mg/kg	1.1	0.8	-	-
Benz(a)anthracene	0.5	mg/kg	5.2	2.8	-	-
Benzo(a)pyrene	0.5	mg/kg	8.3	3.2	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	5.8	2.1	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	3.3	1.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	6.0	2.3	-	-
Chrysene	0.5	mg/kg	5.9	2.4	-	-

Client Sample ID			QC196	G16_0.5	G16_1.0	G17_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037950	M24-De0037951	M24-De0037952	M24-De0037953
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	1.2	0.5	-	-
Fluoranthene	0.5	mg/kg	8.1	5.8	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.5	1.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	2.8	2.4	-	-
Pyrene	0.5	mg/kg	9.6	5.8	-	-
Total PAH*	0.5	mg/kg	61	32	-	-
2-Fluorobiphenyl (surr.)	1	%	75	78	-	-
p-Terphenyl-d14 (surr.)	1	%	87	69	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	76	84	-	-
Tetrachloro-m-xylene (surr.)	1	%	107	81	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	76	84	-	-
Tetrachloro-m-xylene (surr.)	1	%	107	81	-	-

Client Sample ID			QC196	G16_0.5	G16_1.0	G17_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037950	M24-De0037951	M24-De0037952	M24-De0037953
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-	-
Dinoseb	20	mg/kg	< 20	< 20	-	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenol-d6 (surr.)	1	%	133	107	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	6.5	2.9	-	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	-	-
Cyanide (total)	5	mg/kg	< 5	5.9	-	-
Fluoride	100	mg/kg	< 100	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	34	< 2	19	< 2
Barium	10	mg/kg	160	75	-	-
Beryllium	2	mg/kg	< 2	< 2	-	-
Cadmium	0.4	mg/kg	< 0.4	0.5	-	-
Chromium	5	mg/kg	15	17	-	-
Cobalt	5	mg/kg	14	15	-	-
Copper	5	mg/kg	71	61	-	-
Lead	5	mg/kg	180	41	72	8.3
Manganese	5	mg/kg	370	290	-	-
Mercury	0.1	mg/kg	0.6	< 0.1	-	-
Molybdenum	5	mg/kg	< 5	< 5	-	-
Nickel	5	mg/kg	17	24	-	-
Selenium	2	mg/kg	< 2	< 2	-	-
Silver	2	mg/kg	< 2	< 2	-	-
Tin	10	mg/kg	17	< 10	-	-
Zinc	5	mg/kg	190	120	-	-
Sample Properties						
% Moisture	1	%	21	9.3	17	9.2

Client Sample ID			QC196	G16_0.5	G16_1.0	G17_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037950	M24-De0037951	M24-De0037952	M24-De0037953
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	-	12	< 0.005
Acenaphthylene	0.005	mg/kg	-	-	3.2	< 0.005
Anthracene	0.005	mg/kg	-	-	29	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	-	23	0.58
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	26	0.71
Benzo(b&j)fluoranthene	0.005	mg/kg	-	-	20	0.44
Benzo(g.h.i)perylene	0.005	mg/kg	-	-	8.8	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	-	28	0.57
Chrysene	0.005	mg/kg	-	-	35	0.51
Dibenz(a.h)anthracene	0.005	mg/kg	-	-	1.7	< 0.005
Fluoranthene	0.005	mg/kg	-	-	73	0.94
Fluorene	0.005	mg/kg	-	-	42	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	-	5.8	< 0.005
Naphthalene	0.005	mg/kg	-	-	810	< 0.005
Phenanthrene	0.005	mg/kg	-	-	120	0.63
Pyrene	0.005	mg/kg	-	-	72	0.92
Total PAH*	0.005	mg/kg	-	-	1309.5	5.3
2-Fluorobiphenyl (surr.)	1	%	-	-	141	53
p-Terphenyl-d14 (surr.)	1	%	-	-	89	75

Client Sample ID			G17_1.0	G18_0.5	[G01]G18_1.0	E16_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037954	M24-De0037955	M24-De0037956	M24-De0037957
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	320	120	< 20
TRH C10-C14	20	mg/kg	< 20	4600	3800	37
TRH C15-C28	50	mg/kg	62	11000	9800	520
TRH C29-C36	50	mg/kg	< 50	3000	2900	230
TRH C10-C36 (Total)	50	mg/kg	62	18600	16500	787
TRH C6-C10	20	mg/kg	< 20	550	210	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	330	160	< 20
TRH >C10-C16	50	mg/kg	< 50	5800	4900	86
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	5380	4540	86
TRH >C16-C34	100	mg/kg	< 100	12000	11000	640
TRH >C34-C40	100	mg/kg	< 100	1300	1300	140
TRH >C10-C40 (total)*	100	mg/kg	< 100	19100	17200	866
BTEX						
Benzene	0.1	mg/kg	< 0.1	40	5.0	< 0.1
Toluene	0.1	mg/kg	< 0.1	62	13	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	13	3.4	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	75	19	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	33	9.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	110	28	< 0.3
4-Bromofluorobenzene (surr.)	1	%	87	142	79	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	420	360	< 0.5

Client Sample ID			G17_1.0	G18_0.5	[G01]G18_1.0	E16_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037954	M24-De0037955	M24-De0037956	M24-De0037957
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	56	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	56	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	56	-
Acenaphthene	0.5	mg/kg	-	-	33	-
Acenaphthylene	0.5	mg/kg	-	-	140	-
Anthracene	0.5	mg/kg	-	-	90	-
Benz(a)anthracene	0.5	mg/kg	-	-	54	-
Benzo(a)pyrene	0.5	mg/kg	-	-	37	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	22	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	15	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	55	-
Chrysene	0.5	mg/kg	-	-	57	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	3.4	-
Fluoranthene	0.5	mg/kg	-	-	150	-
Fluorene	0.5	mg/kg	-	-	110	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	15	-
Naphthalene	0.5	mg/kg	-	-	680	-
Phenanthrene	0.5	mg/kg	-	-	290	-
Pyrene	0.5	mg/kg	-	-	110	-
Total PAH*	0.5	mg/kg	-	-	1900	-
2-Fluorobiphenyl (surr.)	1	%	-	-	63	-
p-Terphenyl-d14 (surr.)	1	%	-	-	62	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	102	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	54	-

Client Sample ID			G17_1.0	G18_0.5	[G01]G18_1.0	E16_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037954	M24-De0037955	M24-De0037956	M24-De0037957
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.2	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.2	-
Total PCB*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	102	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	54	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 2	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 2	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 2	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 2	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 2	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 2	-
Pentachlorophenol	1	mg/kg	-	-	< 2	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 2	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 2	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	170	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	76	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	130	-
Total cresols*	0.5	mg/kg	-	-	210	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	48	-
Phenol-d6 (surr.)	1	%	-	-	20	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	420	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	29	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	8.3	3.7	< 2
Barium	10	mg/kg	-	-	77	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	0.5	-
Chromium	5	mg/kg	-	-	20	-
Cobalt	5	mg/kg	-	-	11	-
Copper	5	mg/kg	-	-	69	-

Client Sample ID			G17_1.0	G18_0.5	[G01]G18_1.0	E16_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037954	M24-De0037955	M24-De0037956	M24-De0037957
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	9.2	110	92	430
Manganese	5	mg/kg	-	-	270	-
Mercury	0.1	mg/kg	-	-	0.5	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	31	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	22	-
Zinc	5	mg/kg	-	-	130	-
Sample Properties						
% Moisture	1	%	8.5	41	22	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	21	-	< 0.005
Acenaphthylene	0.005	mg/kg	< 0.005	84	-	0.45
Anthracene	0.005	mg/kg	< 0.005	100	-	0.19
Benz(a)anthracene	0.005	mg/kg	0.26	31	-	0.45
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	27	-	0.97
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	14	-	0.60
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	7.6	-	0.80
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	10	-	0.57
Chrysene	0.005	mg/kg	0.27	25	-	0.67
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	1.7	-	0.21
Fluoranthene	0.005	mg/kg	0.58	85	-	0.92
Fluorene	0.005	mg/kg	< 0.005	60	-	0.12
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	4.6	-	0.82
Naphthalene	0.005	mg/kg	< 0.005	530	-	0.37
Phenanthrene	0.005	mg/kg	< 0.005	150	-	0.47
Pyrene	0.005	mg/kg	0.57	88	-	1.1
Total PAH*	0.005	mg/kg	1.68	1238.9	-	8.71
2-Fluorobiphenyl (surr.)	1	%	122	84	-	129
p-Terphenyl-d14 (surr.)	1	%	126	61	-	127

Client Sample ID			E16_0.5	E15_0.5	E15_1.0	QC200
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037958	M24-De0037959	M24-De0037960	M24-De0037961
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	170	210	-
TRH C29-C36	50	mg/kg	< 50	160	130	-
TRH C10-C36 (Total)	50	mg/kg	< 50	330	340	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	-

Client Sample ID			E16_0.5	E15_0.5	E15_1.0	QC200
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037958	M24-De0037959	M24-De0037960	M24-De0037961
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	280	300	-
TRH >C34-C40	100	mg/kg	< 100	140	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	420	300	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	85	59	94	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	3.7	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	3.7	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	3.7	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	3.4	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	3.6	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	2.1	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	1.8	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	1.0	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	2.4	-
Chrysene	0.5	mg/kg	< 0.5	-	3.2	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	0.7	-
Fluoranthene	0.5	mg/kg	< 0.5	-	7.3	-
Fluorene	0.5	mg/kg	< 0.5	-	0.7	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	1.2	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-	6.8	-
Pyrene	0.5	mg/kg	< 0.5	-	7.5	-
Total PAH*	0.5	mg/kg	< 0.5	-	42	-
2-Fluorobiphenyl (surr.)	1	%	69	-	136	-
p-Terphenyl-d14 (surr.)	1	%	76	-	81	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-

Client Sample ID			E16_0.5	E15_0.5	E15_1.0	QC200
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037958	M24-De0037959	M24-De0037960	M24-De0037961
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	98	-	139	-
Tetrachloro-m-xylene (surr.)	1	%	91	-	105	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	98	-	139	-
Tetrachloro-m-xylene (surr.)	1	%	91	-	105	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			E16_0.5	E15_0.5	E15_1.0	QC200
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037958	M24-De0037959	M24-De0037960	M24-De0037961
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	79	-	136	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	-	1.2	-
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.6	3.4	-
Barium	10	mg/kg	83	-	120	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	16	-	11	-
Cobalt	5	mg/kg	17	-	12	-
Copper	5	mg/kg	89	-	180	-
Lead	5	mg/kg	11	37	800	-
Manganese	5	mg/kg	210	-	210	-
Mercury	0.1	mg/kg	< 0.1	-	1.1	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	27	-	15	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	< 10	-	16	-
Zinc	5	mg/kg	39	-	50	-
Sample Properties						
% Moisture	1	%	1.5	6.7	42	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	0.075	-	-
Acenaphthylene	0.005	mg/kg	-	0.48	-	-
Anthracene	0.005	mg/kg	-	0.64	-	-
Benz(a)anthracene	0.005	mg/kg	-	1.4	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.3	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.81	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.89	-	-
Benzo(k)fluoranthene	0.005	mg/kg	-	1.1	-	-
Chrysene	0.005	mg/kg	-	1.4	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.29	-	-
Fluoranthene	0.005	mg/kg	-	2.5	-	-
Fluorene	0.005	mg/kg	-	0.45	-	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.77	-	-
Naphthalene	0.005	mg/kg	-	0.79	-	-
Phenanthrene	0.005	mg/kg	-	2.6	-	-
Pyrene	0.005	mg/kg	-	2.7	-	-
Total PAH*	0.005	mg/kg	-	18.195	-	-
2-Fluorobiphenyl (surr.)	1	%	-	54	-	-
p-Terphenyl-d14 (surr.)	1	%	-	52	-	-
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			QC201	QC202	K6_0.5	[G01]K6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037962	M24-De0037963	M24-De0037964	M24-De0037965
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	-	< 20	20
TRH C15-C28	50	mg/kg	-	-	63	830
TRH C29-C36	50	mg/kg	-	-	53	340
TRH C10-C36 (Total)	50	mg/kg	-	-	116	1190
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	-	< 50	57
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	-	< 50	56.3
TRH >C16-C34	100	mg/kg	-	-	100	1000
TRH >C34-C40	100	mg/kg	-	-	< 100	180
TRH >C10-C40 (total)*	100	mg/kg	-	-	100	1237
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	90	80	51	68
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5	0.7
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	18
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	18
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	18
Acenaphthene	0.5	mg/kg	-	-	-	0.6
Acenaphthylene	0.5	mg/kg	-	-	-	3.6
Anthracene	0.5	mg/kg	-	-	-	11
Benz(a)anthracene	0.5	mg/kg	-	-	-	13
Benzo(a)pyrene	0.5	mg/kg	-	-	-	12
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	6.8
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	5.2
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	10.0
Chrysene	0.5	mg/kg	-	-	-	11
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	2.0
Fluoranthene	0.5	mg/kg	-	-	-	35
Fluorene	0.5	mg/kg	-	-	-	4.2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	5.4
Naphthalene	0.5	mg/kg	-	-	-	1.3
Phenanthrene	0.5	mg/kg	-	-	-	30
Pyrene	0.5	mg/kg	-	-	-	28
Total PAH*	0.5	mg/kg	-	-	-	180
2-Fluorobiphenyl (surr.)	1	%	-	-	-	118
p-Terphenyl-d14 (surr.)	1	%	-	-	-	132

Client Sample ID			QC201	QC202	K6_0.5	[G01]K6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037962	M24-De0037963	M24-De0037964	M24-De0037965
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	131
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	143
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.2
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.2
Total PCB*	0.1	mg/kg	-	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	-	-	131
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	143
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1

Client Sample ID			QC201	QC202	K6_0.5	[G01]K6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037962	M24-De0037963	M24-De0037964	M24-De0037965
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	116
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	10
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	< 100
Heavy Metals						
Arsenic	2	mg/kg	-	-	8.4	3.0
Barium	10	mg/kg	-	-	-	110
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	9.0
Cobalt	5	mg/kg	-	-	-	10
Copper	5	mg/kg	-	-	-	20
Lead	5	mg/kg	-	-	610	29
Manganese	5	mg/kg	-	-	-	150
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	13
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	35
Sample Properties						
% Moisture	1	%	-	-	22	12
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	-	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	-	0.063	-
Anthracene	0.005	mg/kg	-	-	0.075	-
Benz(a)anthracene	0.005	mg/kg	-	-	0.32	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.44	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	-	0.26	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	-	0.38	-
Benzo(k)fluoranthene	0.005	mg/kg	-	-	0.27	-
Chrysene	0.005	mg/kg	-	-	0.40	-

Client Sample ID			QC201	QC202	K6_0.5	[G01]K6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037962	M24-De0037963	M24-De0037964	M24-De0037965
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	-	-	0.097	-
Fluoranthene	0.005	mg/kg	-	-	0.46	-
Fluorene	0.005	mg/kg	-	-	0.019	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	-	0.33	-
Naphthalene	0.005	mg/kg	-	-	0.025	-
Phenanthrene	0.005	mg/kg	-	-	0.19	-
Pyrene	0.005	mg/kg	-	-	0.54	-
Total PAH*	0.005	mg/kg	-	-	3.869	-
2-Fluorobiphenyl (surr.)	1	%	-	-	50	-
p-Terphenyl-d14 (surr.)	1	%	-	-	52	-
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	-

Client Sample ID			K6_1.5	K6_2.0	K6_2.5	QC188
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037966	M24-De0037967	M24-De0037968	M24-De0037969
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	600	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	280	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	880	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	790	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	140	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	930	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	80	66	70	52
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			K6_1.5	K6_2.0	K6_2.5	QC188
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037966	M24-De0037967	M24-De0037968	M24-De0037969
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	0.9	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	0.8	-	-
Total PAH*	0.5	mg/kg	-	1.7	-	-
2-Fluorobiphenyl (surr.)	1	%	-	149	-	-
p-Terphenyl-d14 (surr.)	1	%	-	85	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	88	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	84	-	-

Client Sample ID			K6_1.5	K6_2.0	K6_2.5	QC188
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037966	M24-De0037967	M24-De0037968	M24-De0037969
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	88	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	84	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	144	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.35	-	-
Chromium (hexavalent)	1	mg/kg	-	1.1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	7.1	< 2	8.3	5.4
Barium	10	mg/kg	-	140	-	-
Beryllium	2	mg/kg	-	< 2	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	25	-	-
Cobalt	5	mg/kg	-	20	-	-
Copper	5	mg/kg	-	74	-	-

Client Sample ID			K6_1.5	K6_2.0	K6_2.5	QC188
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037966	M24-De0037967	M24-De0037968	M24-De0037969
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	4900	62	180	300
Manganese	5	mg/kg	-	520	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	26	-	-
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	-	43	-	-
Sample Properties						
% Moisture	1	%	4.0	11	16	20
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.16	-	< 0.005	< 0.005
Acenaphthylene	0.005	mg/kg	0.86	-	< 0.005	0.024
Anthracene	0.005	mg/kg	1.8	-	< 0.005	0.11
Benz(a)anthracene	0.005	mg/kg	6.2	-	0.013	0.37
Benzo(a)pyrene - low level	0.005	mg/kg	6.9	-	0.017	0.54
Benzo(b&j)fluoranthene	0.005	mg/kg	4.2	-	< 0.005	0.41
Benzo(g.h.i)perylene	0.005	mg/kg	4.6	-	0.008	0.33
Benzo(k)fluoranthene	0.005	mg/kg	5.2	-	< 0.005	0.53
Chrysene	0.005	mg/kg	6.7	-	0.011	0.61
Dibenz(a.h)anthracene	0.005	mg/kg	1.4	-	< 0.005	0.077
Fluoranthene	0.005	mg/kg	11	-	0.020	0.56
Fluorene	0.005	mg/kg	0.62	-	< 0.005	0.018
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	4.2	-	< 0.005	0.25
Naphthalene	0.005	mg/kg	0.22	-	< 0.005	0.035
Phenanthrene	0.005	mg/kg	6.5	-	0.010	0.28
Pyrene	0.005	mg/kg	11	-	0.029	0.72
Total PAH*	0.005	mg/kg	71.56	-	0.108	4.864
2-Fluorobiphenyl (surr.)	1	%	121	-	135	66
p-Terphenyl-d14 (surr.)	1	%	123	-	130	70

Client Sample ID			J7_0.5	J7_1.0	J7_1.5	J7_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037970	M24-De0037971	M24-De0037972	M24-De0037973
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	220	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	130	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	350	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			J7_0.5	J7_1.0	J7_1.5	J7_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037970	M24-De0037971	M24-De0037972	M24-De0037973
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C16-C34	100	mg/kg	< 100	330	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	330	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	52	67	53	51
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	0.7
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	1.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.3
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	0.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	0.6
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	0.5
Total PAH*	0.5	mg/kg	-	-	-	2.2
2-Fluorobiphenyl (surr.)	1	%	-	-	-	65
p-Terphenyl-d14 (surr.)	1	%	-	-	-	77
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			J7_0.5	J7_1.0	J7_1.5	J7_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037970	M24-De0037971	M24-De0037972	M24-De0037973
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	135
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	116
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	135
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	116
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			J7_0.5	J7_1.0	J7_1.5	J7_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037970	M24-De0037971	M24-De0037972	M24-De0037973
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Phenol-d6 (surr.)	1	%	-	-	-	44
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	0.50
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	350
Heavy Metals						
Arsenic	2	mg/kg	3.6	2.2	7.8	2.5
Barium	10	mg/kg	-	-	-	71
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	5.2
Cobalt	5	mg/kg	-	-	-	7.5
Copper	5	mg/kg	-	-	-	170
Lead	5	mg/kg	59	26	62	160
Manganese	5	mg/kg	-	-	-	180
Mercury	0.1	mg/kg	-	-	-	0.6
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	17
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	19
Zinc	5	mg/kg	-	-	-	220
Sample Properties						
% Moisture	1	%	8.3	6.0	9.3	23
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	0.007	0.009	0.021	-
Anthracene	0.005	mg/kg	0.042	0.016	0.082	-
Benz(a)anthracene	0.005	mg/kg	0.14	0.081	0.26	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.19	0.10	0.32	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.11	0.070	0.21	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.094	0.069	0.20	-
Benzo(k)fluoranthene	0.005	mg/kg	0.12	0.090	0.27	-
Chrysene	0.005	mg/kg	0.16	0.13	0.39	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.024	0.009	0.029	-
Fluoranthene	0.005	mg/kg	0.17	0.18	0.40	-
Fluorene	0.005	mg/kg	0.008	0.008	0.023	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.062	0.056	0.13	-
Naphthalene	0.005	mg/kg	0.023	0.012	0.030	-
Phenanthrene	0.005	mg/kg	0.086	0.072	0.20	-
Pyrene	0.005	mg/kg	0.21	0.20	0.51	-
Total PAH*	0.005	mg/kg	1.446	1.102	3.075	-
2-Fluorobiphenyl (surr.)	1	%	70	73	75	-
p-Terphenyl-d14 (surr.)	1	%	86	101	78	-

Client Sample ID			J7_2.5	J6_0.5	J6_1.0	J6_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037974	M24-De0037975	M24-De0037976	M24-De0037977
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	56	730
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	630
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	56	1360
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	1200
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	590
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	1790
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	78	75	97	142
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	64	-
p-Terphenyl-d14 (surr.)	1	%	-	-	75	-

Client Sample ID			J7_2.5	J6_0.5	J6_1.0	J6_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037974	M24-De0037975	M24-De0037976	M24-De0037977
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	116	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	112	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	116	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	112	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			J7_2.5	J6_0.5	J6_1.0	J6_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037974	M24-De0037975	M24-De0037976	M24-De0037977
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	52	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.0	3.4	2.7
Barium	10	mg/kg	-	-	180	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	9.2	-
Cobalt	5	mg/kg	-	-	8.6	-
Copper	5	mg/kg	-	-	24	-
Lead	5	mg/kg	14	90	71	4800
Manganese	5	mg/kg	-	-	390	-
Mercury	0.1	mg/kg	-	-	0.6	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	9.6	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	< 10	-
Zinc	5	mg/kg	-	-	60	-
Sample Properties						
% Moisture	1	%	22	20	20	23
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.011	-	0.031
Acenaphthylene	0.005	mg/kg	< 0.005	0.071	-	0.57
Anthracene	0.005	mg/kg	< 0.005	0.19	-	2.3
Benz(a)anthracene	0.005	mg/kg	0.018	0.67	-	14
Benzo(a)pyrene - low level	0.005	mg/kg	0.020	0.54	-	13
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	0.41	-	21
Benzo(g.h.i)perylene	0.005	mg/kg	0.029	0.33	-	4.7
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	0.33	-	26
Chrysene	0.005	mg/kg	0.018	0.91	-	15

Client Sample ID			J7_2.5	J6_0.5	J6_1.0	J6_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037974	M24-De0037975	M24-De0037976	M24-De0037977
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	0.041	-	2.6
Fluoranthene	0.005	mg/kg	0.038	0.94	-	13
Fluorene	0.005	mg/kg	< 0.005	0.092	-	0.61
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	0.29	-	4.6
Naphthalene	0.005	mg/kg	0.005	0.64	-	0.71
Phenanthrene	0.005	mg/kg	0.007	0.39	-	5.2
Pyrene	0.005	mg/kg	0.035	1.5	-	17
Total PAH*	0.005	mg/kg	0.17	7.355	-	140.321
2-Fluorobiphenyl (surr.)	1	%	132	68	-	60
p-Terphenyl-d14 (surr.)	1	%	143	54	-	69

Client Sample ID			J6_2.0	J6_2.5	I6_0.5	I6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037978	M24-De0037979	M24-De0037980	M24-De0037981
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	95	55	63	250
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	230
TRH C10-C36 (Total)	50	mg/kg	95	55	63	480
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	410
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	180
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	590
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	144	137	107	143
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	3.2	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	3.4	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	3.7	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	1.0	-	-
Benz(a)anthracene	0.5	mg/kg	-	2.7	-	-

Client Sample ID			J6_2.0	J6_2.5	I6_0.5	I6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037978	M24-De0037979	M24-De0037980	M24-De0037981
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	2.3	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	2.1	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	0.9	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	2.6	-	-
Chrysene	0.5	mg/kg	-	2.8	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	6.0	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	0.9	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	3.3	-	-
Pyrene	0.5	mg/kg	-	5.4	-	-
Total PAH*	0.5	mg/kg	-	30	-	-
2-Fluorobiphenyl (surr.)	1	%	-	142	-	-
p-Terphenyl-d14 (surr.)	1	%	-	72	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	86	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	107	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-

Client Sample ID			J6_2.0	J6_2.5	I6_0.5	I6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037978	M24-De0037979	M24-De0037980	M24-De0037981
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	86	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	107	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	-
Pentachlorophenol	1	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
Total cresols*	0.5	mg/kg	-	< 0.5	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Phenol-d6 (surr.)	1	%	-	121	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	1.7	-	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Cyanide (total)	5	mg/kg	-	< 5	-	-
Fluoride	100	mg/kg	-	< 100	-	-
Heavy Metals						
Arsenic	2	mg/kg	28	< 2	3.2	15
Barium	10	mg/kg	-	70	-	-
Beryllium	2	mg/kg	-	2.3	-	-
Cadmium	0.4	mg/kg	-	< 0.4	-	-
Chromium	5	mg/kg	-	14	-	-
Cobalt	5	mg/kg	-	26	-	-
Copper	5	mg/kg	-	130	-	-
Lead	5	mg/kg	870	110	110	260
Manganese	5	mg/kg	-	370	-	-
Mercury	0.1	mg/kg	-	0.7	-	-
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	-	28	-	-

Client Sample ID			J6_2.0	J6_2.5	I6_0.5	I6_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037978	M24-De0037979	M24-De0037980	M24-De0037981
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	< 2	-	-
Silver	2	mg/kg	-	< 2	-	-
Tin	10	mg/kg	-	14	-	-
Zinc	5	mg/kg	-	79	-	-
Sample Properties						
% Moisture	1	%	23	27	17	28
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.011	-	0.068	< 0.005
Acenaphthylene	0.005	mg/kg	0.023	-	0.17	< 0.005
Anthracene	0.005	mg/kg	0.046	-	0.19	0.88
Benz(a)anthracene	0.005	mg/kg	0.22	-	1.4	3.5
Benzo(a)pyrene - low level	0.005	mg/kg	0.21	-	2.4	2.0
Benzo(b&j)fluoranthene	0.005	mg/kg	0.11	-	1.5	2.0
Benzo(g.h.i)perylene	0.005	mg/kg	0.016	-	1.6	0.27
Benzo(k)fluoranthene	0.005	mg/kg	0.10	-	1.3	2.0
Chrysene	0.005	mg/kg	0.17	-	1.0	2.6
Dibenz(a.h)anthracene	0.005	mg/kg	0.011	-	0.080	0.037
Fluoranthene	0.005	mg/kg	0.24	-	2.0	6.5
Fluorene	0.005	mg/kg	< 0.005	-	0.019	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.025	-	0.37	0.13
Naphthalene	0.005	mg/kg	0.024	-	0.097	0.15
Phenanthrene	0.005	mg/kg	0.10	-	0.61	2.0
Pyrene	0.005	mg/kg	0.33	-	2.5	7.2
Total PAH*	0.005	mg/kg	1.636	-	15.304	29.267
2-Fluorobiphenyl (surr.)	1	%	51	-	138	127
p-Terphenyl-d14 (surr.)	1	%	84	-	68	58

Client Sample ID			I15_0.5	[G01]I15_1.0	I15_1.5	QC194
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037982	M24-De0037983	M24-De0037984	M24-De0037985
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	27	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	360	530	58
TRH C29-C36	50	mg/kg	< 50	280	400	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	667	930	58
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	58	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	58	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	550	820	< 100
TRH >C34-C40	100	mg/kg	< 100	140	170	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	748	990	< 100

Client Sample ID			I15_0.5	[G01]I15_1.0	I15_1.5	QC194
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037982	M24-De0037983	M24-De0037984	M24-De0037985
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	140	84	97	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	0.6	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	1.1	-	0.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.6	-	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	0.6	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	2.6	-	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	2.5	-	0.5
Chrysene	0.5	mg/kg	-	1.8	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	2.3	-	0.6
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	1.2	-	0.6
Pyrene	0.5	mg/kg	-	1.6	-	0.6
Total PAH*	0.5	mg/kg	-	13	-	2.9
2-Fluorobiphenyl (surr.)	1	%	-	129	-	139
p-Terphenyl-d14 (surr.)	1	%	-	82	-	62
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			I15_0.5	[G01]I15_1.0	I15_1.5	QC194
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037982	M24-De0037983	M24-De0037984	M24-De0037985
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	114	-	89
Tetrachloro-m-xylene (surr.)	1	%	-	81	-	101
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.2	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.2	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.2	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.2	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.2	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.2	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.2	-	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.2	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	114	-	89
Tetrachloro-m-xylene (surr.)	1	%	-	81	-	101
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-	< 1
Pentachlorophenol	1	mg/kg	-	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	-	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	-	< 5
Dinoseb	20	mg/kg	-	< 20	-	< 20
Phenol	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	-	114	-	130
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.32	-	0.16

Client Sample ID			I15_0.5	[G01]I15_1.0	I15_1.5	QC194
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037982	M24-De0037983	M24-De0037984	M24-De0037985
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	< 1	-	< 1
Cyanide (total)	5	mg/kg	-	< 5	-	< 5
Fluoride	100	mg/kg	-	170	-	210
Heavy Metals						
Arsenic	2	mg/kg	20	4.2	5.5	4.3
Barium	10	mg/kg	-	61	-	53
Beryllium	2	mg/kg	-	< 2	-	< 2
Cadmium	0.4	mg/kg	-	0.5	-	0.6
Chromium	5	mg/kg	-	18	-	19
Cobalt	5	mg/kg	-	14	-	12
Copper	5	mg/kg	-	70	-	67
Lead	5	mg/kg	77	58	300	73
Manganese	5	mg/kg	-	310	-	350
Mercury	0.1	mg/kg	-	0.1	-	0.2
Molybdenum	5	mg/kg	-	< 5	-	< 5
Nickel	5	mg/kg	-	19	-	17
Selenium	2	mg/kg	-	< 2	-	< 2
Silver	2	mg/kg	-	< 2	-	< 2
Tin	10	mg/kg	-	< 10	-	< 10
Zinc	5	mg/kg	-	210	-	270
Sample Properties						
% Moisture	1	%	22	16	16	21
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.064	-	0.027	-
Acenaphthylene	0.005	mg/kg	0.051	-	0.46	-
Anthracene	0.005	mg/kg	0.042	-	3.6	-
Benz(a)anthracene	0.005	mg/kg	0.043	-	12	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.12	-	12	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.026	-	21	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.075	-	5.0	-
Benzo(k)fluoranthene	0.005	mg/kg	0.046	-	27	-
Chrysene	0.005	mg/kg	0.025	-	21	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	-	1.8	-
Fluoranthene	0.005	mg/kg	0.073	-	13	-
Fluorene	0.005	mg/kg	0.070	-	0.35	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.011	-	4.4	-
Naphthalene	0.005	mg/kg	0.061	-	0.56	-
Phenanthrene	0.005	mg/kg	0.078	-	4.0	-
Pyrene	0.005	mg/kg	0.085	-	15	-
Total PAH*	0.005	mg/kg	0.87	-	141.197	-
2-Fluorobiphenyl (surr.)	1	%	61	-	61	-
p-Terphenyl-d14 (surr.)	1	%	76	-	75	-

Client Sample ID			H13_1.0	H13_1.5	H13_2.0	H13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037986	M24-De0037987	M24-De0037988	M24-De0037989
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	67	260	200	110
TRH C29-C36	50	mg/kg	110	180	160	70
TRH C10-C36 (Total)	50	mg/kg	177	440	360	180
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	140	380	320	160
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	140	380	320	160
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	130	64	86	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	12	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	12	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	12	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	0.8	-
Anthracene	0.5	mg/kg	-	-	1.4	-
Benz(a)anthracene	0.5	mg/kg	-	-	5.7	-
Benzo(a)pyrene	0.5	mg/kg	-	-	8.1	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	4.6	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	3.3	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	5.0	-
Chrysene	0.5	mg/kg	-	-	6.2	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	1.4	-
Fluoranthene	0.5	mg/kg	-	-	12	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	4.1	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	4.0	-
Pyrene	0.5	mg/kg	-	-	11	-
Total PAH*	0.5	mg/kg	-	-	68	-
2-Fluorobiphenyl (surr.)	1	%	-	-	73	-
p-Terphenyl-d14 (surr.)	1	%	-	-	73	-

Client Sample ID			H13_1.0	H13_1.5	H13_2.0	H13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037986	M24-De0037987	M24-De0037988	M24-De0037989
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	138	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	77	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	138	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	77	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	-
Pentachlorophenol	1	mg/kg	-	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	-

Client Sample ID			H13_1.0	H13_1.5	H13_2.0	H13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037986	M24-De0037987	M24-De0037988	M24-De0037989
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	-	< 5	-
Dinoseb	20	mg/kg	-	-	< 20	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	104	-
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	6.6	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (total)	5	mg/kg	-	-	< 5	-
Fluoride	100	mg/kg	-	-	140	-
Heavy Metals						
Arsenic	2	mg/kg	3.9	7.1	23	5.0
Barium	10	mg/kg	-	-	310	-
Beryllium	2	mg/kg	-	-	< 2	-
Cadmium	0.4	mg/kg	-	-	< 0.4	-
Chromium	5	mg/kg	-	-	13	-
Cobalt	5	mg/kg	-	-	12	-
Copper	5	mg/kg	-	-	200	-
Lead	5	mg/kg	82	840	3500	240
Manganese	5	mg/kg	-	-	360	-
Mercury	0.1	mg/kg	-	-	1.4	-
Molybdenum	5	mg/kg	-	-	< 5	-
Nickel	5	mg/kg	-	-	20	-
Selenium	2	mg/kg	-	-	< 2	-
Silver	2	mg/kg	-	-	< 2	-
Tin	10	mg/kg	-	-	190	-
Zinc	5	mg/kg	-	-	420	-
Sample Properties						
% Moisture	1	%	16	24	19	21
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	0.060	-	0.059
Acenaphthylene	0.005	mg/kg	< 0.005	0.51	-	0.078
Anthracene	0.005	mg/kg	< 0.005	1.3	-	0.67
Benz(a)anthracene	0.005	mg/kg	0.021	9.5	-	2.0
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005	7.9	-	1.3
Benzo(b&j)fluoranthene	0.005	mg/kg	< 0.005	5.4	-	1.1
Benzo(g.h.i)perylene	0.005	mg/kg	< 0.005	5.3	-	0.80
Benzo(k)fluoranthene	0.005	mg/kg	< 0.005	8.4	-	1.2
Chrysene	0.005	mg/kg	0.021	8.2	-	1.8

Client Sample ID			H13_1.0	H13_1.5	H13_2.0	H13_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037986	M24-De0037987	M24-De0037988	M24-De0037989
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	2.0	-	0.35
Fluoranthene	0.005	mg/kg	0.035	9.0	-	2.4
Fluorene	0.005	mg/kg	< 0.005	0.70	-	0.37
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	< 0.005	4.2	-	0.67
Naphthalene	0.005	mg/kg	< 0.005	0.21	-	0.22
Phenanthrene	0.005	mg/kg	0.010	5.5	-	1.7
Pyrene	0.005	mg/kg	0.032	11	-	3.0
Total PAH*	0.005	mg/kg	0.119	79.18	-	17.717
2-Fluorobiphenyl (surr.)	1	%	96	88	-	89
p-Terphenyl-d14 (surr.)	1	%	60	130	-	123

Client Sample ID			H12_1.0	H12_1.5	H12_2.0	H12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037990	M24-De0037991	M24-De0037992	M24-De0037993
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	150	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	94	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	244	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	220	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	220	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	53	56	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	8.8	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.8	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	8.8	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	3.8	-	< 0.5	-

Client Sample ID			H12_1.0	H12_1.5	H12_2.0	H12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037990	M24-De0037991	M24-De0037992	M24-De0037993
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	6.5	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.9	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.0	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	4.5	-	< 0.5	-
Chrysene	0.5	mg/kg	3.8	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	0.8	-	< 0.5	-
Fluoranthene	0.5	mg/kg	5.4	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	2.3	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	1.8	-	< 0.5	-
Pyrene	0.5	mg/kg	6.6	-	< 0.5	-
Total PAH*	0.5	mg/kg	42	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	68	-	56	-
p-Terphenyl-d14 (surr.)	1	%	93	-	78	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	79	-	101	-
Tetrachloro-m-xylene (surr.)	1	%	98	-	111	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	-

Client Sample ID			H12_1.0	H12_1.5	H12_2.0	H12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037990	M24-De0037991	M24-De0037992	M24-De0037993
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	79	-	101	-
Tetrachloro-m-xylene (surr.)	1	%	98	-	111	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	121	-	50	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	5.4	-	< 0.005	-
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	240	-	250	-
Heavy Metals						
Arsenic	2	mg/kg	4.3	2.7	2.7	4.3
Barium	10	mg/kg	200	-	140	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	16	-	13	-
Cobalt	5	mg/kg	14	-	14	-
Copper	5	mg/kg	88	-	48	-
Lead	5	mg/kg	320	120	520	810
Manganese	5	mg/kg	310	-	280	-
Mercury	0.1	mg/kg	0.5	-	0.4	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	19	-	17	-

Client Sample ID			H12_1.0	H12_1.5	H12_2.0	H12_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037990	M24-De0037991	M24-De0037992	M24-De0037993
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	74	-	32	-
Zinc	5	mg/kg	280	-	73	-
Sample Properties						
% Moisture	1	%	17	17	20	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	-	0.010
Acenaphthylene	0.005	mg/kg	-	< 0.005	-	0.027
Anthracene	0.005	mg/kg	-	0.007	-	0.071
Benz(a)anthracene	0.005	mg/kg	-	0.053	-	0.37
Benzo(a)pyrene - low level	0.005	mg/kg	-	< 0.005	-	0.53
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005	-	0.81
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.016	-	0.78
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005	-	0.99
Chrysene	0.005	mg/kg	-	0.042	-	0.47
Dibenz(a.h)anthracene	0.005	mg/kg	-	< 0.005	-	0.10
Fluoranthene	0.005	mg/kg	-	0.056	-	0.47
Fluorene	0.005	mg/kg	-	< 0.005	-	0.036
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005	-	0.39
Naphthalene	0.005	mg/kg	-	0.008	-	0.047
Phenanthrene	0.005	mg/kg	-	0.017	-	0.31
Pyrene	0.005	mg/kg	-	0.086	-	0.47
Total PAH*	0.005	mg/kg	-	0.285	-	5.881
2-Fluorobiphenyl (surr.)	1	%	-	124	-	57
p-Terphenyl-d14 (surr.)	1	%	-	124	-	78

Client Sample ID			[G01]H12_3.0	H14_2.0	H14_2.5	H14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037994	M24-De0037995	M24-De0037996	M24-De0037997
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	170	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	180	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	350	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	290	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	170	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	460	< 100	< 100	< 100

Client Sample ID			[G01]H12_3.0	H14_2.0	H14_2.5	H14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037994	M24-De0037995	M24-De0037996	M24-De0037997
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	71	59	79	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	4.4	< 0.5	-	1.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	4.7	0.6	-	1.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	4.9	1.2	-	1.6
Acenaphthene	0.5	mg/kg	0.6	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	2.0	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	3.2	< 0.5	-	0.6
Benzo(a)pyrene	0.5	mg/kg	3.4	< 0.5	-	0.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.2	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	1.1	< 0.5	-	0.7
Benzo(k)fluoranthene	0.5	mg/kg	2.8	< 0.5	-	0.8
Chrysene	0.5	mg/kg	6.3	< 0.5	-	0.7
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	6.2	< 0.5	-	1.2
Fluorene	0.5	mg/kg	1.3	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.3	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	1.0	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	6.7	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	7.2	< 0.5	-	1.3
Total PAH*	0.5	mg/kg	46	< 0.5	-	6.1
2-Fluorobiphenyl (surr.)	1	%	134	61	-	68
p-Terphenyl-d14 (surr.)	1	%	63	74	-	82
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			[G01]H12_3.0	H14_2.0	H14_2.5	H14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037994	M24-De0037995	M24-De0037996	M24-De0037997
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	100	111	-	118
Tetrachloro-m-xylene (surr.)	1	%	79	109	-	122
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.2	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	100	111	-	118
Tetrachloro-m-xylene (surr.)	1	%	79	109	-	122
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	-	< 5
Dinoseb	20	mg/kg	< 20	< 20	-	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	121	50	-	56
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	2.6	< 0.005	-	0.65

Client Sample ID			[G01]H12_3.0	H14_2.0	H14_2.5	H14_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037994	M24-De0037995	M24-De0037996	M24-De0037997
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	< 1	-	< 1
Cyanide (total)	5	mg/kg	< 5	< 5	-	< 5
Fluoride	100	mg/kg	130	180	-	290
Heavy Metals						
Arsenic	2	mg/kg	12	46	170	4.0
Barium	10	mg/kg	230	30	-	190
Beryllium	2	mg/kg	< 2	< 2	-	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	20	8.5	-	14
Cobalt	5	mg/kg	17	8.5	-	18
Copper	5	mg/kg	110	34	-	66
Lead	5	mg/kg	410	14	23	190
Manganese	5	mg/kg	320	160	-	110
Mercury	0.1	mg/kg	2.4	< 0.1	-	0.6
Molybdenum	5	mg/kg	< 5	< 5	-	< 5
Nickel	5	mg/kg	23	15	-	15
Selenium	2	mg/kg	< 2	< 2	-	< 2
Silver	2	mg/kg	< 2	< 2	-	< 2
Tin	10	mg/kg	120	< 10	-	22
Zinc	5	mg/kg	420	33	-	170
Sample Properties						
% Moisture	1	%	23	6.5	26	19
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	-	< 0.005	-
Acenaphthylene	0.005	mg/kg	-	-	< 0.005	-
Anthracene	0.005	mg/kg	-	-	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	-	-	0.069	-
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	-	-	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	-	-	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	-	-	< 0.005	-
Chrysene	0.005	mg/kg	-	-	0.077	-
Dibenz(a.h)anthracene	0.005	mg/kg	-	-	< 0.005	-
Fluoranthene	0.005	mg/kg	-	-	0.073	-
Fluorene	0.005	mg/kg	-	-	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	-	< 0.005	-
Naphthalene	0.005	mg/kg	-	-	0.009	-
Phenanthrene	0.005	mg/kg	-	-	< 0.005	-
Pyrene	0.005	mg/kg	-	-	0.11	-
Total PAH*	0.005	mg/kg	-	-	0.338	-
2-Fluorobiphenyl (surr.)	1	%	-	-	148	-
p-Terphenyl-d14 (surr.)	1	%	-	-	137	-

Client Sample ID			I16_1.5	I16_2.0	I16_2.5	I16_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037998	M24-De0037999	M24-De0038000	M24-De0038001
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	180	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	52	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	180	52	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	220	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	220	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	55	69	63
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	10	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	10	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	10	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	1.2	-	< 0.5	-
Anthracene	0.5	mg/kg	1.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	6.0	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	7.0	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	5.1	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	3.9	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	8.1	-	< 0.5	-
Chrysene	0.5	mg/kg	8.4	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	1.0	-	< 0.5	-
Fluoranthene	0.5	mg/kg	14	-	0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.1	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	6.0	-	< 0.5	-
Pyrene	0.5	mg/kg	14	-	0.5	-
Total PAH*	0.5	mg/kg	79	-	1.0	-
2-Fluorobiphenyl (surr.)	1	%	133	-	83	-
p-Terphenyl-d14 (surr.)	1	%	51	-	103	-

Client Sample ID			I16_1.5	I16_2.0	I16_2.5	I16_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037998	M24-De0037999	M24-De0038000	M24-De0038001
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	64	-	135	-
Tetrachloro-m-xylene (surr.)	1	%	100	-	140	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.2	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.2	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.2	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	64	-	135	-
Tetrachloro-m-xylene (surr.)	1	%	100	-	140	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	-

Client Sample ID			I16_1.5	I16_2.0	I16_2.5	I16_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037998	M24-De0037999	M24-De0038000	M24-De0038001
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-	< 5	-
Dinoseb	20	mg/kg	< 20	-	< 20	-
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenol-d6 (surr.)	1	%	124	-	64	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	-
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	6.0	-	0.28	-
Chromium (hexavalent)	1	mg/kg	< 1	-	< 1	-
Cyanide (total)	5	mg/kg	< 5	-	< 5	-
Fluoride	100	mg/kg	< 100	-	< 100	-
Heavy Metals						
Arsenic	2	mg/kg	2.4	28	< 2	2.1
Barium	10	mg/kg	73	-	160	-
Beryllium	2	mg/kg	< 2	-	< 2	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	7.3	-	8.2	-
Cobalt	5	mg/kg	12	-	23	-
Copper	5	mg/kg	87	-	170	-
Lead	5	mg/kg	90	960	120	15
Manganese	5	mg/kg	230	-	500	-
Mercury	0.1	mg/kg	0.2	-	0.3	-
Molybdenum	5	mg/kg	< 5	-	< 5	-
Nickel	5	mg/kg	17	-	25	-
Selenium	2	mg/kg	< 2	-	< 2	-
Silver	2	mg/kg	< 2	-	< 2	-
Tin	10	mg/kg	11	-	13	-
Zinc	5	mg/kg	210	-	110	-
Sample Properties						
% Moisture	1	%	14	25	22	18
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	-	< 0.005	-	0.009
Acenaphthylene	0.005	mg/kg	-	< 0.005	-	< 0.005
Anthracene	0.005	mg/kg	-	0.012	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	0.088	-	0.021
Benzo(a)pyrene - low level	0.005	mg/kg	-	0.26	-	0.064
Benzo(b&j)fluoranthene	0.005	mg/kg	-	0.20	-	0.028
Benzo(g.h.i)perylene	0.005	mg/kg	-	0.19	-	0.018
Benzo(k)fluoranthene	0.005	mg/kg	-	0.24	-	0.042
Chrysene	0.005	mg/kg	-	0.13	-	0.020

Client Sample ID			I16_1.5	I16_2.0	I16_2.5	I16_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0037998	M24-De0037999	M24-De0038000	M24-De0038001
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Dibenz(a.h)anthracene	0.005	mg/kg	-	0.054	-	< 0.005
Fluoranthene	0.005	mg/kg	-	0.042	-	0.029
Fluorene	0.005	mg/kg	-	< 0.005	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	0.14	-	0.006
Naphthalene	0.005	mg/kg	-	0.011	-	< 0.005
Phenanthrene	0.005	mg/kg	-	0.020	-	0.007
Pyrene	0.005	mg/kg	-	0.068	-	0.036
Total PAH*	0.005	mg/kg	-	1.455	-	0.28
2-Fluorobiphenyl (surr.)	1	%	-	147	-	149
p-Terphenyl-d14 (surr.)	1	%	-	54	-	61

Client Sample ID			QC190	I7_0.5	I7_1.0	I7_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038002	M24-De0038003	M24-De0038004	M24-De0038005
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	35
TRH C15-C28	50	mg/kg	170	240	560	310
TRH C29-C36	50	mg/kg	270	200	460	71
TRH C10-C36 (Total)	50	mg/kg	440	440	1020	416
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	110
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	110
TRH >C16-C34	100	mg/kg	390	380	910	300
TRH >C34-C40	100	mg/kg	110	170	230	< 100
TRH >C10-C40 (total)*	100	mg/kg	500	550	1140	410
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	65	60	53	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			QC190	I7_0.5	I7_1.0	I7_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038002	M24-De0038003	M24-De0038004	M24-De0038005
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	1.2
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	0.9
Pyrene	0.5	mg/kg	-	-	-	1.1
Total PAH*	0.5	mg/kg	-	-	-	3.2
2-Fluorobiphenyl (surr.)	1	%	-	-	-	73
p-Terphenyl-d14 (surr.)	1	%	-	-	-	64
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	100
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	109
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			QC190	I7_0.5	I7_1.0	I7_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038002	M24-De0038003	M24-De0038004	M24-De0038005
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	100
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	109
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	50
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	0.23
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	360
Heavy Metals						
Arsenic	2	mg/kg	9.2	50	7.3	14
Barium	10	mg/kg	-	-	-	140
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	0.6
Chromium	5	mg/kg	-	-	-	27
Cobalt	5	mg/kg	-	-	-	18
Copper	5	mg/kg	-	-	-	120
Lead	5	mg/kg	110	120	170	410
Manganese	5	mg/kg	-	-	-	300
Mercury	0.1	mg/kg	-	-	-	0.4
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	30

Client Sample ID			QC190	I7_0.5	I7_1.0	I7_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038002	M24-De0038003	M24-De0038004	M24-De0038005
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	25
Zinc	5	mg/kg	-	-	-	260
Sample Properties						
% Moisture	1	%	19	9.4	16	17
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	0.020	0.031	0.078	-
Acenaphthylene	0.005	mg/kg	0.043	0.19	0.33	-
Anthracene	0.005	mg/kg	0.26	0.84	4.0	-
Benz(a)anthracene	0.005	mg/kg	0.56	2.0	11	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.37	2.6	11	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.37	1.7	7.1	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.28	1.0	5.5	-
Benzo(k)fluoranthene	0.005	mg/kg	0.49	2.1	8.8	-
Chrysene	0.005	mg/kg	0.66	2.9	18	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.045	0.30	1.7	-
Fluoranthene	0.005	mg/kg	0.93	3.5	15	-
Fluorene	0.005	mg/kg	0.14	0.21	0.95	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.17	0.89	4.5	-
Naphthalene	0.005	mg/kg	0.64	0.79	0.53	-
Phenanthrene	0.005	mg/kg	0.52	1.7	10	-
Pyrene	0.005	mg/kg	1.2	4.8	19	-
Total PAH*	0.005	mg/kg	6.698	25.551	117.488	-
2-Fluorobiphenyl (surr.)	1	%	71	70	66	-
p-Terphenyl-d14 (surr.)	1	%	74	59	86	-

Client Sample ID			I7_2.0	I7_2.5	I7_3.0	H7_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038006	M24-De0038007	M24-De0038008	M24-De0038010
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	29	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	1300	58	150
TRH C29-C36	50	mg/kg	< 50	630	< 50	72
TRH C10-C36 (Total)	50	mg/kg	< 50	1959	58	222
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	83	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	83	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	1700	< 100	190
TRH >C34-C40	100	mg/kg	< 100	440	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	2223	< 100	190

Client Sample ID			I7_2.0	I7_2.5	I7_3.0	H7_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038006	M24-De0038007	M24-De0038008	M24-De0038010
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	100	81	64	62
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	1.2	0.7
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	1.4	1.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.7	1.3
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	1.1	0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	0.9	0.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	0.6	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	0.9	0.5
Chrysene	0.5	mg/kg	-	-	1.1	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	-	2.0	1.0
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	1.0	< 0.5
Pyrene	0.5	mg/kg	-	-	2.0	1.2
Total PAH*	0.5	mg/kg	-	-	9.6	4.4
2-Fluorobiphenyl (surr.)	1	%	-	-	143	75
p-Terphenyl-d14 (surr.)	1	%	-	-	65	80
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			I7_2.0	I7_2.5	I7_3.0	H7_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038006	M24-De0038007	M24-De0038008	M24-De0038010
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	102	85
Tetrachloro-m-xylene (surr.)	1	%	-	-	124	121
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	102	85
Tetrachloro-m-xylene (surr.)	1	%	-	-	124	121
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	< 1	< 1
Pentachlorophenol	1	mg/kg	-	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	-	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	-	< 5	< 5
Dinoseb	20	mg/kg	-	-	< 20	< 20
Phenol	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	-	131	77
Total Non-Halogenated Phenol*	20	mg/kg	-	-	< 20	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	0.70	0.47

Client Sample ID			I7_2.0	I7_2.5	I7_3.0	H7_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M24-De0038006	M24-De0038007	M24-De0038008	M24-De0038010
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	-	-	< 1	< 1
Cyanide (total)	5	mg/kg	-	-	< 5	< 5
Fluoride	100	mg/kg	-	-	280	190
Heavy Metals						
Arsenic	2	mg/kg	3.1	2.9	< 2	14
Barium	10	mg/kg	-	-	63	56
Beryllium	2	mg/kg	-	-	< 2	< 2
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	11	15
Cobalt	5	mg/kg	-	-	11	11
Copper	5	mg/kg	-	-	88	65
Lead	5	mg/kg	140	74	65	97
Manganese	5	mg/kg	-	-	120	200
Mercury	0.1	mg/kg	-	-	0.3	1.4
Molybdenum	5	mg/kg	-	-	< 5	< 5
Nickel	5	mg/kg	-	-	14	20
Selenium	2	mg/kg	-	-	< 2	< 2
Silver	2	mg/kg	-	-	< 2	< 2
Tin	10	mg/kg	-	-	< 10	< 10
Zinc	5	mg/kg	-	-	43	97
Sample Properties						
% Moisture	1	%	17	18	23	15
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	1.8	-	-
Acenaphthylene	0.005	mg/kg	0.009	7.0	-	-
Anthracene	0.005	mg/kg	0.017	19	-	-
Benz(a)anthracene	0.005	mg/kg	0.086	41	-	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.21	31	-	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.039	19	-	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.056	15	-	-
Benzo(k)fluoranthene	0.005	mg/kg	0.036	29	-	-
Chrysene	0.005	mg/kg	0.055	35	-	-
Dibenz(a.h)anthracene	0.005	mg/kg	< 0.005	6.0	-	-
Fluoranthene	0.005	mg/kg	0.20	63	-	-
Fluorene	0.005	mg/kg	< 0.005	16	-	-
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.026	15	-	-
Naphthalene	0.005	mg/kg	0.027	1.5	-	-
Phenanthrene	0.005	mg/kg	0.040	84	-	-
Pyrene	0.005	mg/kg	0.23	70	-	-
Total PAH*	0.005	mg/kg	1.031	453.3	-	-
2-Fluorobiphenyl (surr.)	1	%	56	100	-	-
p-Terphenyl-d14 (surr.)	1	%	68	127	-	-

Client Sample ID			H7_1.0
Sample Matrix			Soil
Eurofins Sample No.			M24-De0038011
Date Sampled			Dec 11, 2024
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	106
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	72
p-Terphenyl-d14 (surr.)	1	%	75

Client Sample ID			H7_1.0
Sample Matrix			Soil
Eurofins Sample No.			M24-De0038011
Date Sampled			Dec 11, 2024
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-HCH	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-HCH	0.05	mg/kg	< 0.05
d-HCH	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	0.5	mg/kg	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	92
Tetrachloro-m-xylene (surr.)	1	%	91
Polychlorinated Biphenyls			
Aroclor-1016	0.1	mg/kg	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1
Total PCB*	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	92
Tetrachloro-m-xylene (surr.)	1	%	91
Phenols (Halogenated)			
2-Chlorophenol	0.5	mg/kg	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1
Pentachlorophenol	1	mg/kg	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10
Total Halogenated Phenol*	1	mg/kg	< 1

Client Sample ID			H7_1.0
Sample Matrix			**Soil**
Eurofins Sample No.			**M24-De0038011**
Date Sampled			**Dec 11, 2024**
Test/Reference	LOR	Unit	
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5
2-Nitrophenol	1.0	mg/kg	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4
Total cresols*	0.5	mg/kg	< 0.5
4-Nitrophenol	5	mg/kg	< 5
Dinoseb	20	mg/kg	< 20
Phenol	0.5	mg/kg	< 0.5
Phenol-d6 (surr.)	1	%	75
Total Non-Halogenated Phenol*	20	mg/kg	< 20
Semivolatile Organics			
Benzo(a)pyrene - low level	0.005	mg/kg	< 0.005
Chromium (hexavalent)	1	mg/kg	< 1
Cyanide (total)	5	mg/kg	< 5
Fluoride	100	mg/kg	250
Heavy Metals			
Arsenic	2	mg/kg	< 2
Barium	10	mg/kg	75
Beryllium	2	mg/kg	< 2
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	6.1
Cobalt	5	mg/kg	22
Copper	5	mg/kg	110
Lead	5	mg/kg	< 5
Manganese	5	mg/kg	260
Mercury	0.1	mg/kg	< 0.1
Molybdenum	5	mg/kg	< 5
Nickel	5	mg/kg	22
Selenium	2	mg/kg	< 2
Silver	2	mg/kg	< 2
Tin	10	mg/kg	< 10
Zinc	5	mg/kg	34
Sample Properties			
% Moisture	1	%	2.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Dec 17, 2024	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Dec 17, 2024	14 Days
- Method: USEPA SW 846 8270			
Chromium (hexavalent)	Melbourne	Dec 17, 2024	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Dec 19, 2024	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART A – CIC			
- Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE			
Heavy Metals	Melbourne	Dec 17, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 17, 2024	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Total Recoverable Hydrocarbons	Melbourne	Dec 14, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Dec 14, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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Tasmania 7000

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Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	QC196	Dec 11, 2024		Soil	M24-De0037950				X				X
2	G16_0.5	Dec 11, 2024		Soil	M24-De0037951				X				X
3	G16_1.0	Dec 11, 2024		Soil	M24-De0037952	X		X	X	X		X	
4	G17_0.5	Dec 11, 2024		Soil	M24-De0037953	X		X	X	X		X	
5	G17_1.0	Dec 11, 2024		Soil	M24-De0037954	X		X	X	X		X	
6	G18_0.5	Dec 11, 2024		Soil	M24-De0037955	X		X	X	X		X	
7	G18_1.0	Dec 11, 2024		Soil	M24-De0037956				X				X
8	E16_0.2	Dec 11, 2024		Soil	M24-De0037957	X		X	X	X		X	
9	E16_0.5	Dec 11, 2024		Soil	M24-De0037958				X				X
10	E15_0.5	Dec 11, 2024		Soil	M24-De0037959	X		X	X	X		X	
11	E15_1.0	Dec 11, 2024		Soil	M24-De0037960				X				X
12	QC200	Dec 11, 2024		Soil	M24-De0037961						X		
13	QC201	Dec 11, 2024		Soil	M24-De0037962						X		
14	QC202	Dec 11, 2024		Soil	M24-De0037963						X		

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	K6_0.5	Dec 11, 2024		Soil	M24-De0037964	X		X	X	X		X	
16	K6_1.0	Dec 11, 2024		Soil	M24-De0037965				X				X
17	K6_1.5	Dec 11, 2024		Soil	M24-De0037966	X		X	X	X		X	
18	K6_2.0	Dec 11, 2024		Soil	M24-De0037967				X				X
19	K6_2.5	Dec 11, 2024		Soil	M24-De0037968	X		X	X	X		X	
20	QC188	Dec 11, 2024		Soil	M24-De0037969	X		X	X	X		X	
21	J7_0.5	Dec 11, 2024		Soil	M24-De0037970	X		X	X	X		X	
22	J7_1.0	Dec 11, 2024		Soil	M24-De0037971	X		X	X	X		X	
23	J7_1.5	Dec 11, 2024		Soil	M24-De0037972	X		X	X	X		X	
24	J7_2.0	Dec 11, 2024		Soil	M24-De0037973				X				X
25	J7_2.5	Dec 11, 2024		Soil	M24-De0037974	X		X	X	X		X	
26	J6_0.5	Dec 11, 2024		Soil	M24-De0037975	X		X	X	X		X	
27	J6_1.0	Dec 11, 2024		Soil	M24-De0037976				X				X
28	J6_1.5	Dec 11, 2024		Soil	M24-De0037977	X		X	X	X		X	
29	J6_2.0	Dec 11, 2024		Soil	M24-De0037978	X		X	X	X		X	
30	J6_2.5	Dec 11, 2024		Soil	M24-De0037979				X				X
31	I6_0.5	Dec 11, 2024		Soil	M24-De0037980	X		X	X	X		X	

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
32	I6_1.0	Dec 11, 2024		Soil	M24-De0037981	X		X	X	X		X	
33	I15_0.5	Dec 11, 2024		Soil	M24-De0037982	X		X	X	X		X	
34	I15_1.0	Dec 11, 2024		Soil	M24-De0037983				X				X
35	I15_1.5	Dec 11, 2024		Soil	M24-De0037984	X		X	X	X		X	
36	QC194	Dec 11, 2024		Soil	M24-De0037985				X				X
37	H13_1.0	Dec 11, 2024		Soil	M24-De0037986	X		X	X	X		X	
38	H13_1.5	Dec 11, 2024		Soil	M24-De0037987	X		X	X	X		X	
39	H13_2.0	Dec 11, 2024		Soil	M24-De0037988				X				X
40	H13_2.5	Dec 11, 2024		Soil	M24-De0037989	X		X	X	X		X	
41	H12_1.0	Dec 11, 2024		Soil	M24-De0037990				X				X
42	H12_1.5	Dec 11, 2024		Soil	M24-De0037991	X		X	X	X		X	
43	H12_2.0	Dec 11, 2024		Soil	M24-De0037992				X				X
44	H12_2.5	Dec 11, 2024		Soil	M24-De0037993	X		X	X	X		X	
45	H12_3.0	Dec 11, 2024		Soil	M24-De0037994				X				X
46	H14_2.0	Dec 11, 2024		Soil	M24-De0037995				X				X
47	H14_2.5	Dec 11, 2024		Soil	M24-De0037996	X		X	X	X		X	
48	H14_3.0	Dec 11, 2024		Soil	M24-De0037997				X				X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
49	I16_1.5	Dec 11, 2024		Soil	M24-De0037998				X				X
50	I16_2.0	Dec 11, 2024		Soil	M24-De0037999	X		X	X	X		X	
51	I16_2.5	Dec 11, 2024		Soil	M24-De0038000				X				X
52	I16_3.0	Dec 11, 2024		Soil	M24-De0038001	X		X	X	X		X	
53	QC190	Dec 11, 2024		Soil	M24-De0038002	X		X	X	X		X	
54	I7_0.5	Dec 11, 2024		Soil	M24-De0038003	X		X	X	X		X	
55	I7_1.0	Dec 11, 2024		Soil	M24-De0038004	X		X	X	X		X	
56	I7_1.5	Dec 11, 2024		Soil	M24-De0038005				X				X
57	I7_2.0	Dec 11, 2024		Soil	M24-De0038006	X		X	X	X		X	
58	I7_2.5	Dec 11, 2024		Soil	M24-De0038007	X		X	X	X		X	
59	I7_3.0	Dec 11, 2024		Soil	M24-De0038008				X				X
60	QC192	Dec 11, 2024		Water	M24-De0038009						X		
61	H7_0.5	Dec 11, 2024		Soil	M24-De0038010				X				X
62	H7_1.0	Dec 11, 2024		Soil	M24-De0038011				X				X
63	QC198	Dec 11, 2024		Soil	M24-De0038012		X						
64	E16_1.0	Dec 11, 2024		Soil	M24-De0038013		X						
65	H7_3.0	Dec 11, 2024		Soil	M24-De0038014		X						

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
66	H7_3.5	Dec 11, 2024		Soil	M24-De0038015		X						
67	QC193	Dec 11, 2024		Water	M24-De0038016		X						
68	H7_1.5	Dec 11, 2024		Soil	M24-De0038017		X						
69	H7_2.0	Dec 11, 2024		Soil	M24-De0038018		X						
70	H7_2.5	Dec 11, 2024		Soil	M24-De0038019		X						
Test Counts						34	8	34	58	34	4	34	24

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Method Blank							
Fluoride	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	97			70-130	Pass	
TRH C6-C10	%	97			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	83			70-130	Pass	
Toluene	%	82			70-130	Pass	
Ethylbenzene	%	115			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
Xylenes - Total*	%	103			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	80			70-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2.4-Dinitrophenol	%	52			25-140	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	79			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	83			80-120	Pass	
Barium	%	84			80-120	Pass	
Beryllium	%	84			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	93			80-120	Pass	
Cobalt	%	93			80-120	Pass	
Copper	%	85			80-120	Pass	
Lead	%	88			80-120	Pass	
Manganese	%	86			80-120	Pass	
Mercury	%	110			80-120	Pass	
Molybdenum	%	81			80-120	Pass	
Nickel	%	83			80-120	Pass	
Selenium	%	82			80-120	Pass	
Silver	%	110			80-120	Pass	
Tin	%	83			80-120	Pass	
Zinc	%	82			80-120	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons							
TRH C10-C14	%	93			70-130	Pass	
TRH >C10-C16	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	80			70-130	Pass	
TRH C6-C10	%	76			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	80			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	80			70-130	Pass	
Xylenes - Total*	%	80			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	96			70-130	Pass	
TRH >C10-C16	%	91			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	109			70-130	Pass	
TRH C10-C14	%	91			70-130	Pass	
TRH C6-C10	%	109			70-130	Pass	
TRH >C10-C16	%	88			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	109			70-130	Pass	
Toluene	%	85			70-130	Pass	
Ethylbenzene	%	115			70-130	Pass	
m&p-Xylenes	%	109			70-130	Pass	
Xylenes - Total*	%	109			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	116			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	76			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	103			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	74			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	%	113			70-130	Pass	
Benzo(g.h.i)perylene	%	88			70-130	Pass	
Benzo(k)fluoranthene	%	98			70-130	Pass	
Chrysene	%	108			70-130	Pass	
Dibenz(a.h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	71			70-130	Pass	
Fluorene	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	99			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	74			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Barium	%	105			80-120	Pass	
Beryllium	%	100			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	114			80-120	Pass	
Cobalt	%	113			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	112			80-120	Pass	
Manganese	%	109			80-120	Pass	
Mercury	%	108			80-120	Pass	
Molybdenum	%	117			80-120	Pass	
Nickel	%	114			80-120	Pass	
Selenium	%	104			80-120	Pass	
Silver	%	112			80-120	Pass	
Tin	%	114			80-120	Pass	
Zinc	%	104			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	85			70-130	Pass	
Ethylbenzene	%	93			70-130	Pass	
m&p-Xylenes	%	110			70-130	Pass	
Xylenes - Total*	%	105			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	81			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	84			80-120	Pass	
Barium	%	81			80-120	Pass	
Beryllium	%	82			80-120	Pass	
Cadmium	%	102			80-120	Pass	
Chromium	%	88			80-120	Pass	
Cobalt	%	84			80-120	Pass	
Copper	%	82			80-120	Pass	
Lead	%	96			80-120	Pass	
Manganese	%	85			80-120	Pass	
Mercury	%	105			80-120	Pass	
Molybdenum	%	88			80-120	Pass	
Nickel	%	80			80-120	Pass	
Selenium	%	83			80-120	Pass	
Silver	%	108			80-120	Pass	
Tin	%	85			80-120	Pass	
Zinc	%	84			80-120	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	103			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	95			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(a)pyrene	%	111			70-130	Pass	
Benzo(b&j)fluoranthene	%	84			70-130	Pass	
Benzo(g.h.i)perylene	%	101			70-130	Pass	
Benzo(k)fluoranthene	%	86			70-130	Pass	
Chrysene	%	83			70-130	Pass	
Dibenz(a.h)anthracene	%	71			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	90			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	102			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	111			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	103			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	95			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	84			70-130	Pass	
Benzo(g.h.i)perylene	%	101			70-130	Pass	
Benzo(k)fluoranthene	%	86			70-130	Pass	
Chrysene	%	83			70-130	Pass	
Dibenz(a.h)anthracene	%	71			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	90			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	107			70-130	Pass	
TRH C6-C10	%	104			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	99			70-130	Pass	
Toluene	%	105			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
Xylenes - Total*	%	87			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	84			70-130	Pass	
LCS - % Recovery							
Fluoride	%	109			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	103			70-130	Pass	
Anthracene	%	83			70-130	Pass	
Benz(a)anthracene	%	92			70-130	Pass	
Benzo(a)pyrene	%	102			70-130	Pass	
Benzo(b&j)fluoranthene	%	78			70-130	Pass	
Benzo(g.h.i)perylene	%	88			70-130	Pass	
Benzo(k)fluoranthene	%	91			70-130	Pass	
Chrysene	%	93			70-130	Pass	
Dibenz(a.h)anthracene	%	91			70-130	Pass	
Fluoranthene	%	90			70-130	Pass	
Fluorene	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	81			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	100			70-130	Pass	
4.4'-DDD	%	128			70-130	Pass	
4.4'-DDE	%	90			70-130	Pass	
4.4'-DDT	%	72			70-130	Pass	
a-HCH	%	83			70-130	Pass	
Aldrin	%	89			70-130	Pass	
b-HCH	%	89			70-130	Pass	
d-HCH	%	93			70-130	Pass	
Dieldrin	%	94			70-130	Pass	
Endosulfan I	%	99			70-130	Pass	
Endosulfan II	%	110			70-130	Pass	
Endosulfan sulphate	%	90			70-130	Pass	
Endrin	%	127			70-130	Pass	
Endrin aldehyde	%	118			70-130	Pass	
Endrin ketone	%	90			70-130	Pass	
g-HCH (Lindane)	%	85			70-130	Pass	
Heptachlor	%	99			70-130	Pass	
Heptachlor epoxide	%	105			70-130	Pass	
Hexachlorobenzene	%	91			70-130	Pass	
Methoxychlor	%	88			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	95			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	84			25-140	Pass	
2.4-Dichlorophenol	%	67			25-140	Pass	
2.4.5-Trichlorophenol	%	67			25-140	Pass	
2.4.6-Trichlorophenol	%	59			25-140	Pass	
2.6-Dichlorophenol	%	81			25-140	Pass	
4-Chloro-3-methylphenol	%	72			25-140	Pass	
Pentachlorophenol	%	73			25-140	Pass	
Tetrachlorophenols - Total	%	107			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Cyclohexyl-4.6-dinitrophenol	%	61			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	41			25-140	Pass	
2-Nitrophenol	%	79			25-140	Pass	
2.4-Dimethylphenol	%	68			25-140	Pass	
2-Methylphenol (o-Cresol)	%	78			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	84			25-140	Pass	
4-Nitrophenol	%	63			25-140	Pass	
Dinoseb	%	57			25-140	Pass	
Phenol	%	100			25-140	Pass	
LCS - % Recovery							
Semivolatile Organics							
Benzo(a)pyrene - low level	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	90			70-130	Pass	
TRH C6-C10	%	84			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	97			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	97			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	87			70-130	Pass	
TRH >C10-C16	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	93			70-130	Pass	
TRH >C10-C16	%	97			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	81			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
Xylenes - Total*	%	92			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	105			70-130	Pass	
TRH >C10-C16	%	113			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	105			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluoride			%	109			70-130	Pass	
LCS - % Recovery									
Fluoride			%	91			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M24-De0030742	NCP	%	90			70-130	Pass	
4.4'-DDD	M24-De0030742	NCP	%	114			70-130	Pass	
4.4'-DDE	M24-De0030742	NCP	%	100			70-130	Pass	
4.4'-DDT	M24-De0030742	NCP	%	90			70-130	Pass	
a-HCH	M24-De0030742	NCP	%	77			70-130	Pass	
Aldrin	M24-De0030742	NCP	%	90			70-130	Pass	
b-HCH	M24-De0030742	NCP	%	73			70-130	Pass	
d-HCH	M24-De0030742	NCP	%	126			70-130	Pass	
Dieldrin	M24-De0030742	NCP	%	94			70-130	Pass	
Endosulfan I	M24-De0030742	NCP	%	92			70-130	Pass	
Endosulfan II	M24-De0030742	NCP	%	99			70-130	Pass	
Endosulfan sulphate	M24-De0030742	NCP	%	111			70-130	Pass	
Endrin	M24-De0030742	NCP	%	71			70-130	Pass	
Endrin aldehyde	M24-De0030742	NCP	%	88			70-130	Pass	
Endrin ketone	M24-De0030742	NCP	%	125			70-130	Pass	
g-HCH (Lindane)	M24-De0030742	NCP	%	75			70-130	Pass	
Heptachlor	M24-De0030742	NCP	%	120			70-130	Pass	
Heptachlor epoxide	M24-De0030742	NCP	%	96			70-130	Pass	
Hexachlorobenzene	M24-De0030742	NCP	%	94			70-130	Pass	
Methoxychlor	M24-De0030742	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M24-De0018561	NCP	%	117			70-130	Pass	
Aroclor-1260	M24-De0018561	NCP	%	106			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M24-De0024864	NCP	%	96			30-130	Pass	
4-Chloro-3-methylphenol	M24-De0024864	NCP	%	81			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
4-Nitrophenol	M24-De0024864	NCP	%	79			30-130	Pass	
Phenol	M24-De0024864	NCP	%	94			30-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M24-De0040857	NCP	%	70			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese	M24-De0038904	NCP	%	92			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037951	CP	%	108			70-130	Pass	
TRH >C10-C16	M24-De0037951	CP	%	111			70-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
Benzo(a)pyrene - low level	M24-De0037766	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0037766	NCP	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	M24-De0037766	NCP	%	112			70-130	Pass	
Anthracene	M24-De0037766	NCP	%	126			70-130	Pass	
Benz(a)anthracene	M24-De0037766	NCP	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0037766	NCP	%	122			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0037766	NCP	%	120			70-130	Pass	
Benzo(k)fluoranthene	M24-De0037766	NCP	%	103			70-130	Pass	
Chrysene	M24-De0037766	NCP	%	107			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0037766	NCP	%	130			70-130	Pass	
Fluoranthene	M24-De0037766	NCP	%	121			70-130	Pass	
Fluorene	M24-De0037766	NCP	%	93			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037766	NCP	%	121			70-130	Pass	
Naphthalene	M24-De0037766	NCP	%	123			70-130	Pass	
Phenanthrene	M24-De0037766	NCP	%	124			70-130	Pass	
Pyrene	M24-De0037766	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthylene	M24-De0038665	NCP	%	88			70-130	Pass	
Anthracene	M24-De0038665	NCP	%	127			70-130	Pass	
Benz(a)anthracene	M24-De0038665	NCP	%	113			70-130	Pass	
Benzo(a)pyrene	M24-De0038665	NCP	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0038665	NCP	%	107			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0038665	NCP	%	111			70-130	Pass	
Benzo(k)fluoranthene	M24-De0038665	NCP	%	115			70-130	Pass	
Chrysene	M24-De0038665	NCP	%	88			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0038665	NCP	%	81			70-130	Pass	
Fluoranthene	M24-De0038665	NCP	%	125			70-130	Pass	
Fluorene	M24-De0038665	NCP	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0038665	NCP	%	95			70-130	Pass	
Naphthalene	M24-De0038665	NCP	%	122			70-130	Pass	
Phenanthrene	M24-De0038665	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2.4-Dichlorophenol	M24-De0038665	NCP	%	73			30-130	Pass	
2.4.5-Trichlorophenol	M24-De0038665	NCP	%	92			30-130	Pass	
2.4.6-Trichlorophenol	M24-De0038665	NCP	%	103			30-130	Pass	
2.6-Dichlorophenol	M24-De0038665	NCP	%	86			30-130	Pass	
Pentachlorophenol	M24-De0038665	NCP	%	84			30-130	Pass	
Tetrachlorophenols - Total	M24-De0038665	NCP	%	85			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M24-De0038665	NCP	%	87			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0038665	NCP	%	55			30-130	Pass	
2-Nitrophenol	M24-De0038665	NCP	%	89			30-130	Pass	
2.4-Dimethylphenol	M24-De0038665	NCP	%	120			30-130	Pass	
2.4-Dinitrophenol	M24-De0038665	NCP	%	47			30-130	Pass	
2-Methylphenol (o-Cresol)	M24-De0038665	NCP	%	100			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0038665	NCP	%	97			30-130	Pass	
Dinoseb	M24-De0038665	NCP	%	64			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037964	CP	%	96			70-130	Pass	
TRH >C10-C16	M24-De0037964	CP	%	99			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	M24-De0037970	CP	%	106			75-125	Pass	
Barium	M24-De0037970	CP	%	114			75-125	Pass	
Beryllium	M24-De0037970	CP	%	95			75-125	Pass	
Cadmium	M24-De0037970	CP	%	98			75-125	Pass	
Chromium	M24-De0037970	CP	%	111			75-125	Pass	
Cobalt	M24-De0037970	CP	%	86			75-125	Pass	
Copper	M24-De0037970	CP	%	123			75-125	Pass	
Lead	M24-De0037970	CP	%	114			75-125	Pass	
Mercury	M24-De0037970	CP	%	107			75-125	Pass	
Molybdenum	M24-De0037970	CP	%	117			75-125	Pass	
Selenium	M24-De0037970	CP	%	97			75-125	Pass	
Silver	M24-De0037970	CP	%	108			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M24-De0037974	CP	%	74			70-130	Pass	
TRH >C10-C16	M24-De0037974	CP	%	86			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037977	CP	%	75			70-130	Pass	
TRH C6-C10	M24-De0037977	CP	%	87			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037977	CP	%	85			70-130	Pass	
Toluene	M24-De0037977	CP	%	73			70-130	Pass	
Ethylbenzene	M24-De0037977	CP	%	80			70-130	Pass	
m&p-Xylenes	M24-De0037977	CP	%	77			70-130	Pass	
o-Xylene	M24-De0037977	CP	%	87			70-130	Pass	
Xylenes - Total*	M24-De0037977	CP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037977	CP	%	75			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M24-De0037987	CP	%	113			70-130	Pass	
TRH C6-C10	M24-De0037987	CP	%	113			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0037987	CP	%	93			70-130	Pass	
Toluene	M24-De0037987	CP	%	115			70-130	Pass	
Ethylbenzene	M24-De0037987	CP	%	129			70-130	Pass	
m&p-Xylenes	M24-De0037987	CP	%	130			70-130	Pass	
o-Xylene	M24-De0037987	CP	%	105			70-130	Pass	
Xylenes - Total*	M24-De0037987	CP	%	122			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M24-De0037987	CP	%	106			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0037988	CP	%	95			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0038000	CP	%	100			75-125	Pass	
Barium	M24-De0038000	CP	%	115			75-125	Pass	
Beryllium	M24-De0038000	CP	%	79			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	M24-De0038000	CP	%	104			75-125	Pass	
Chromium	M24-De0038000	CP	%	93			75-125	Pass	
Cobalt	M24-De0038000	CP	%	89			75-125	Pass	
Lead	M24-De0038000	CP	%	77			75-125	Pass	
Mercury	M24-De0038000	CP	%	97			75-125	Pass	
Molybdenum	M24-De0038000	CP	%	120			75-125	Pass	
Nickel	M24-De0038000	CP	%	107			75-125	Pass	
Selenium	M24-De0038000	CP	%	96			75-125	Pass	
Silver	M24-De0038000	CP	%	109			75-125	Pass	
Tin	M24-De0038000	CP	%	112			75-125	Pass	
Zinc	M24-De0038000	CP	%	110			75-125	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M24-De0038010	CP	%	88			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M24-De0033301	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037955	CP	%	41	31	29	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037958	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037960	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037960	CP	mg/kg	210	250	17	30%	Pass	
TRH C29-C36	M24-De0037960	CP	mg/kg	130	150	17	30%	Pass	
TRH >C10-C16	M24-De0037960	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037960	CP	mg/kg	300	360	17	30%	Pass	
TRH >C34-C40	M24-De0037960	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037960	CP	mg/kg	0.5	0.5	3.0	30%	Pass	
Anthracene	M24-De0037960	CP	mg/kg	3.4	4.3	25	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037960	CP	mg/kg	0.7	0.8	7.0	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037960	CP	mg/kg	1.2	1.3	11	30%	Pass	
Naphthalene	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037960	CP	mg/kg	7.5	9.5	24	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endosulfan sulphate	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037960	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037960	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037960	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037960	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037960	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037960	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037960	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037960	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037960	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037960	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037960	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037960	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037960	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037960	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037960	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037960	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0037965	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037966	CP	%	4.0	4.0	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037967	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037967	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037967	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037967	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037967	CP	mg/kg	< 0.5	0.7	72	30%	Fail	Q15
Benzo(a)pyrene	M24-De0037967	CP	mg/kg	< 0.5	0.9	80	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0037967	CP	mg/kg	< 0.5	0.5	63	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037967	CP	mg/kg	< 0.5	0.9	83	30%	Fail	Q15
Chrysene	M24-De0037967	CP	mg/kg	< 0.5	0.8	66	30%	Fail	Q15
Dibenz(a.h)anthracene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037967	CP	mg/kg	0.9	1.5	57	30%	Fail	Q15
Fluorene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037967	CP	mg/kg	< 0.5	0.8	68	30%	Fail	Q15
Pyrene	M24-De0037967	CP	mg/kg	0.8	1.5	54	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037967	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037967	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037967	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037967	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037967	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037967	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037967	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037967	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037967	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037967	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037967	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037967	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037967	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037967	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037967	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037967	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037968	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037968	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037968	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037968	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037968	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037968	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037968	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037968	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037968	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037970	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037970	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037970	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037970	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037970	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037970	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037970	CP	mg/kg	3.6	3.6	2.0	30%	Pass	
Barium	M24-De0037970	CP	mg/kg	62	61	1.0	30%	Pass	
Beryllium	M24-De0037970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037970	CP	mg/kg	0.4	0.4	5.0	30%	Pass	
Chromium	M24-De0037970	CP	mg/kg	8.9	8.9	1.0	30%	Pass	
Cobalt	M24-De0037970	CP	mg/kg	26	25	1.0	30%	Pass	
Copper	M24-De0037970	CP	mg/kg	56	57	1.0	30%	Pass	
Lead	M24-De0037970	CP	mg/kg	59	59	1.0	30%	Pass	
Manganese	M24-De0037970	CP	mg/kg	1400	1400	<1	30%	Pass	
Mercury	M24-De0037970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037970	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037970	CP	mg/kg	40	41	1.0	30%	Pass	
Selenium	M24-De0037970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0037970	CP	mg/kg	80	78	2.0	30%	Pass	
Zinc	M24-De0037970	CP	mg/kg	99	99	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037972	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037972	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037972	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037972	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037972	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037972	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037972	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037972	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037972	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037973	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037973	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037973	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037973	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037973	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037973	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037973	CP	mg/kg	0.6	< 0.5	49	30%	Fail	Q15
Benzo(b&j)fluoranthene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037973	CP	mg/kg	0.6	< 0.5	48	30%	Fail	Q15
Benzo(k)fluoranthene	M24-De0037973	CP	mg/kg	0.5	< 0.5	39	30%	Fail	Q15
Chrysene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037973	CP	mg/kg	0.5	< 0.5	36	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037973	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037973	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037973	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037973	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037973	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037973	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037973	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037973	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037973	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037973	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037973	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037973	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
3&4-Methylphenol (m&p-Cresol)	M24-De0037973	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037973	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037973	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037973	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M24-De0037973	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037986	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037986	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037986	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037986	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037986	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037986	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037986	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037986	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037986	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0037986	CP	%	16	16	5.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037989	CP	mg/kg	5.0	4.9	2.0	30%	Pass	
Barium	M24-De0037989	CP	mg/kg	230	180	25	30%	Pass	
Beryllium	M24-De0037989	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037989	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0037989	CP	mg/kg	14	13	13	30%	Pass	
Cobalt	M24-De0037989	CP	mg/kg	18	17	6.0	30%	Pass	
Copper	M24-De0037989	CP	mg/kg	38	33	14	30%	Pass	
Lead	M24-De0037989	CP	mg/kg	240	190	24	30%	Pass	
Manganese	M24-De0037989	CP	mg/kg	210	190	10	30%	Pass	
Molybdenum	M24-De0037989	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037989	CP	mg/kg	23	22	2.0	30%	Pass	
Selenium	M24-De0037989	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037989	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Zinc	M24-De0037989	CP	mg/kg	110	94	12	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037993	CP	mg/kg	0.6	0.8	28	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037993	CP	mg/kg	1.0	0.8	21	30%	Pass	
Benzo(k)fluoranthene	M24-De0037993	CP	mg/kg	1.2	0.9	26	30%	Pass	
Chrysene	M24-De0037993	CP	mg/kg	0.6	0.6	1.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037993	CP	mg/kg	0.6	0.6	9.0	30%	Pass	
Fluorene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Indeno(1.2.3-cd)pyrene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037993	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037993	CP	mg/kg	0.6	0.6	13	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037993	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Dinoseb	M24-De0037993	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0037993	CP	mg/kg	0.53	0.70	28	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthylene	M24-De0037993	CP	mg/kg	0.027	0.028	4.0	30%	Pass	
Anthracene	M24-De0037993	CP	mg/kg	0.071	0.082	14	30%	Pass	
Benz(a)anthracene	M24-De0037993	CP	mg/kg	0.37	0.41	12	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037993	CP	mg/kg	0.81	0.66	21	30%	Pass	
Benzo(k)fluoranthene	M24-De0037993	CP	mg/kg	0.99	0.76	26	30%	Pass	
Chrysene	M24-De0037993	CP	mg/kg	0.47	0.47	1.0	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037993	CP	mg/kg	0.10	0.078	26	30%	Pass	
Fluoranthene	M24-De0037993	CP	mg/kg	0.47	0.51	9.0	30%	Pass	
Fluorene	M24-De0037993	CP	mg/kg	0.036	0.035	3.0	30%	Pass	
Naphthalene	M24-De0037993	CP	mg/kg	0.047	0.052	10	30%	Pass	
Phenanthrene	M24-De0037993	CP	mg/kg	0.31	0.30	2.0	30%	Pass	
Pyrene	M24-De0037993	CP	mg/kg	0.47	0.53	13	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0037994	CP	mg/kg	130	350	92	30%	Fail	Q15
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0037995	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0037995	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M24-De0037995	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M24-De0037995	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0037995	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M24-De0037995	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0037995	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0037995	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0037995	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0037995	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0037995	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0037995	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0037995	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0037995	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0037995	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0037995	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0037995	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0037995	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0037995	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0037995	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0037995	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0037995	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0037995	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0037998	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0037998	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0037998	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0037998	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0037998	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0037998	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0037998	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0037998	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0037998	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	M24-De0037998	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0037999	CP	mg/kg	28	21	26	30%	Pass	
Beryllium	M24-De0037999	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0037999	CP	mg/kg	11	8.3	29	30%	Pass	
Chromium	M24-De0037999	CP	mg/kg	16	12	26	30%	Pass	
Cobalt	M24-De0037999	CP	mg/kg	23	20	15	30%	Pass	
Copper	M24-De0037999	CP	mg/kg	160	130	22	30%	Pass	
Lead	M24-De0037999	CP	mg/kg	960	800	19	30%	Pass	
Mercury	M24-De0037999	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M24-De0037999	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0037999	CP	mg/kg	36	28	25	30%	Pass	
Selenium	M24-De0037999	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0037999	CP	mg/kg	2.3	< 2	140	30%	Fail	Q15
Tin	M24-De0037999	CP	mg/kg	74	58	25	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0038000	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M24-De0038000	CP	mg/kg	160	150	2.0	30%	Pass	
Beryllium	M24-De0038000	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M24-De0038000	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M24-De0038000	CP	mg/kg	8.2	8.2	<1	30%	Pass	
Cobalt	M24-De0038000	CP	mg/kg	23	24	2.0	30%	Pass	
Copper	M24-De0038000	CP	mg/kg	170	170	2.0	30%	Pass	
Lead	M24-De0038000	CP	mg/kg	120	120	3.0	30%	Pass	
Manganese	M24-De0038000	CP	mg/kg	500	500	<1	30%	Pass	
Mercury	M24-De0038000	CP	mg/kg	0.3	0.3	6.0	30%	Pass	
Molybdenum	M24-De0038000	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M24-De0038000	CP	mg/kg	25	24	3.0	30%	Pass	
Selenium	M24-De0038000	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M24-De0038000	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M24-De0038000	CP	mg/kg	13	13	3.0	30%	Pass	
Zinc	M24-De0038000	CP	mg/kg	110	100	3.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M24-De0038003	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M24-De0038003	CP	mg/kg	240	230	2.0	30%	Pass	
TRH C29-C36	M24-De0038003	CP	mg/kg	200	200	4.0	30%	Pass	
TRH >C10-C16	M24-De0038003	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M24-De0038003	CP	mg/kg	380	370	3.0	30%	Pass	
TRH >C34-C40	M24-De0038003	CP	mg/kg	170	180	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0038003	CP	mg/kg	0.9	0.9	<1	30%	Pass	
Benz(a)anthracene	M24-De0038003	CP	mg/kg	2.3	2.4	7.0	30%	Pass	
Benzo(a)pyrene	M24-De0038003	CP	mg/kg	2.9	1.8	45	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-De0038003	CP	mg/kg	1.1	1.2	5.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0038003	CP	mg/kg	2.3	1.8	20	30%	Pass	
Chrysene	M24-De0038003	CP	mg/kg	3.2	2.6	20	30%	Pass	
Dibenz(a.h)anthracene	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0038003	CP	mg/kg	3.8	3.1	21	30%	Pass	
Fluorene	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0038003	CP	mg/kg	1.0	0.8	24	30%	Pass	
Naphthalene	M24-De0038003	CP	mg/kg	0.9	0.8	6.0	30%	Pass	
Phenanthrene	M24-De0038003	CP	mg/kg	1.9	1.7	8.0	30%	Pass	
Pyrene	M24-De0038003	CP	mg/kg	5.3	4.4	20	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0038003	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0038003	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0038003	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0038003	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0038003	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0038003	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0038003	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0038003	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0038003	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0038003	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M24-De0038003	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0038003	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0038003	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0038003	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0038003	CP	mg/kg	0.031	0.029	7.0	30%	Pass	
Anthracene	M24-De0038003	CP	mg/kg	0.84	0.84	<1	30%	Pass	
Benz(a)anthracene	M24-De0038003	CP	mg/kg	2.0	2.2	7.0	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0038003	CP	mg/kg	1.7	1.1	42	30%	Fail	Q15
Benzo(g.h.i)perylene	M24-De0038003	CP	mg/kg	1.0	1.1	5.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0038003	CP	mg/kg	2.1	1.7	20	30%	Pass	
Chrysene	M24-De0038003	CP	mg/kg	2.9	2.4	20	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Fluoranthene	M24-De0038003	CP	mg/kg	3.5	2.8	21	30%	Pass	
Fluorene	M24-De0038003	CP	mg/kg	0.21	0.18	12	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0038003	CP	mg/kg	0.89	0.70	24	30%	Pass	
Naphthalene	M24-De0038003	CP	mg/kg	0.79	0.74	6.0	30%	Pass	
Phenanthrene	M24-De0038003	CP	mg/kg	1.7	1.6	8.0	30%	Pass	
Pyrene	M24-De0038003	CP	mg/kg	4.8	4.0	20	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0038006	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0038006	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0038006	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0038006	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0038006	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0038006	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0038006	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0038006	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0038006	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0038006	CP	%	17	17	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0038008	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M24-De0038008	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0038008	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0038008	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M24-De0038008	CP	mg/kg	1.1	0.8	36	30%	Fail	Q15
Benzo(a)pyrene	M24-De0038008	CP	mg/kg	0.9	0.8	16	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0038008	CP	mg/kg	0.6	0.6	12	30%	Pass	
Benzo(g.h.i)perylene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0038008	CP	mg/kg	0.9	0.8	12	30%	Pass	
Chrysene	M24-De0038008	CP	mg/kg	1.1	0.9	24	30%	Pass	
Dibenz(a.h)anthracene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M24-De0038008	CP	mg/kg	2.0	1.7	20	30%	Pass	
Fluorene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M24-De0038008	CP	mg/kg	1.0	0.7	45	30%	Fail	Q15
Pyrene	M24-De0038008	CP	mg/kg	2.0	1.4	36	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M24-De0038008	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M24-De0038008	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M24-De0038008	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M24-De0038008	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M24-De0038008	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M24-De0038008	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M24-De0038008	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M24-De0038008	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M24-De0038008	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M24-De0038008	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M24-De0038008	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M24-De0038008	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
3&4-Methylphenol (m&p-Cresol)	M24-De0038008	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M24-De0038008	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M24-De0038008	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M24-De0038008	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Benzo(a)pyrene - low level	M24-De0038008	CP	mg/kg	0.70	0.60	16	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties
Edward Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1171417-W**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 12, 2024

Client Sample ID			**QC192**
Sample Matrix			**Water**
Eurofins Sample No.			**M24-De0038009**
Date Sampled			**Dec 11, 2024**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103
Volatile Organics			
Naphthalene[N02]	0.01	mg/L	< 0.01

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 16, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 16, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons	Melbourne	Dec 16, 2024	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	QC196	Dec 11, 2024		Soil	M24-De0037950				X				X
2	G16_0.5	Dec 11, 2024		Soil	M24-De0037951				X				X
3	G16_1.0	Dec 11, 2024		Soil	M24-De0037952	X		X	X	X		X	
4	G17_0.5	Dec 11, 2024		Soil	M24-De0037953	X		X	X	X		X	
5	G17_1.0	Dec 11, 2024		Soil	M24-De0037954	X		X	X	X		X	
6	G18_0.5	Dec 11, 2024		Soil	M24-De0037955	X		X	X	X		X	
7	G18_1.0	Dec 11, 2024		Soil	M24-De0037956				X				X
8	E16_0.2	Dec 11, 2024		Soil	M24-De0037957	X		X	X	X		X	
9	E16_0.5	Dec 11, 2024		Soil	M24-De0037958				X				X
10	E15_0.5	Dec 11, 2024		Soil	M24-De0037959	X		X	X	X		X	
11	E15_1.0	Dec 11, 2024		Soil	M24-De0037960				X				X
12	QC200	Dec 11, 2024		Soil	M24-De0037961						X		
13	QC201	Dec 11, 2024		Soil	M24-De0037962						X		
14	QC202	Dec 11, 2024		Soil	M24-De0037963						X		

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Tasmania 7000

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Order No.: 60693007 7
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Received: Dec 12, 2024 9:50 AM
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Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	K6_0.5	Dec 11, 2024		Soil	M24-De0037964	X		X	X	X		X	
16	K6_1.0	Dec 11, 2024		Soil	M24-De0037965				X				X
17	K6_1.5	Dec 11, 2024		Soil	M24-De0037966	X		X	X	X		X	
18	K6_2.0	Dec 11, 2024		Soil	M24-De0037967				X				X
19	K6_2.5	Dec 11, 2024		Soil	M24-De0037968	X		X	X	X		X	
20	QC188	Dec 11, 2024		Soil	M24-De0037969	X		X	X	X		X	
21	J7_0.5	Dec 11, 2024		Soil	M24-De0037970	X		X	X	X		X	
22	J7_1.0	Dec 11, 2024		Soil	M24-De0037971	X		X	X	X		X	
23	J7_1.5	Dec 11, 2024		Soil	M24-De0037972	X		X	X	X		X	
24	J7_2.0	Dec 11, 2024		Soil	M24-De0037973				X				X
25	J7_2.5	Dec 11, 2024		Soil	M24-De0037974	X		X	X	X		X	
26	J6_0.5	Dec 11, 2024		Soil	M24-De0037975	X		X	X	X		X	
27	J6_1.0	Dec 11, 2024		Soil	M24-De0037976				X				X
28	J6_1.5	Dec 11, 2024		Soil	M24-De0037977	X		X	X	X		X	
29	J6_2.0	Dec 11, 2024		Soil	M24-De0037978	X		X	X	X		X	
30	J6_2.5	Dec 11, 2024		Soil	M24-De0037979				X				X
31	I6_0.5	Dec 11, 2024		Soil	M24-De0037980	X		X	X	X		X	

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Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
32	I6_1.0	Dec 11, 2024		Soil	M24-De0037981	X		X	X	X		X	
33	I15_0.5	Dec 11, 2024		Soil	M24-De0037982	X		X	X	X		X	
34	I15_1.0	Dec 11, 2024		Soil	M24-De0037983				X				X
35	I15_1.5	Dec 11, 2024		Soil	M24-De0037984	X		X	X	X		X	
36	QC194	Dec 11, 2024		Soil	M24-De0037985				X				X
37	H13_1.0	Dec 11, 2024		Soil	M24-De0037986	X		X	X	X		X	
38	H13_1.5	Dec 11, 2024		Soil	M24-De0037987	X		X	X	X		X	
39	H13_2.0	Dec 11, 2024		Soil	M24-De0037988				X				X
40	H13_2.5	Dec 11, 2024		Soil	M24-De0037989	X		X	X	X		X	
41	H12_1.0	Dec 11, 2024		Soil	M24-De0037990				X				X
42	H12_1.5	Dec 11, 2024		Soil	M24-De0037991	X		X	X	X		X	
43	H12_2.0	Dec 11, 2024		Soil	M24-De0037992				X				X
44	H12_2.5	Dec 11, 2024		Soil	M24-De0037993	X		X	X	X		X	
45	H12_3.0	Dec 11, 2024		Soil	M24-De0037994				X				X
46	H14_2.0	Dec 11, 2024		Soil	M24-De0037995				X				X
47	H14_2.5	Dec 11, 2024		Soil	M24-De0037996	X		X	X	X		X	
48	H14_3.0	Dec 11, 2024		Soil	M24-De0037997				X				X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
49	I16_1.5	Dec 11, 2024		Soil	M24-De0037998				X				X
50	I16_2.0	Dec 11, 2024		Soil	M24-De0037999	X		X	X	X		X	
51	I16_2.5	Dec 11, 2024		Soil	M24-De0038000				X				X
52	I16_3.0	Dec 11, 2024		Soil	M24-De0038001	X		X	X	X		X	
53	QC190	Dec 11, 2024		Soil	M24-De0038002	X		X	X	X		X	
54	I7_0.5	Dec 11, 2024		Soil	M24-De0038003	X		X	X	X		X	
55	I7_1.0	Dec 11, 2024		Soil	M24-De0038004	X		X	X	X		X	
56	I7_1.5	Dec 11, 2024		Soil	M24-De0038005				X				X
57	I7_2.0	Dec 11, 2024		Soil	M24-De0038006	X		X	X	X		X	
58	I7_2.5	Dec 11, 2024		Soil	M24-De0038007	X		X	X	X		X	
59	I7_3.0	Dec 11, 2024		Soil	M24-De0038008				X				X
60	QC192	Dec 11, 2024		Water	M24-De0038009						X		
61	H7_0.5	Dec 11, 2024		Soil	M24-De0038010				X				X
62	H7_1.0	Dec 11, 2024		Soil	M24-De0038011				X				X
63	QC198	Dec 11, 2024		Soil	M24-De0038012		X						
64	E16_1.0	Dec 11, 2024		Soil	M24-De0038013		X						
65	H7_3.0	Dec 11, 2024		Soil	M24-De0038014		X						

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NZBN: 9429046024954

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35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1171417
Phone: 08 7223 5400
Fax:

Received: Dec 12, 2024 9:50 AM
Due: Dec 30, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	HOLD*	Lead	Moisture Set	Eurofins Suite B1	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
66	H7_3.5	Dec 11, 2024		Soil	M24-De0038015		X						
67	QC193	Dec 11, 2024		Water	M24-De0038016		X						
68	H7_1.5	Dec 11, 2024		Soil	M24-De0038017		X						
69	H7_2.0	Dec 11, 2024		Soil	M24-De0038018		X						
70	H7_2.5	Dec 11, 2024		Soil	M24-De0038019		X						
Test Counts						34	8	34	58	34	4	34	24

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Volatile Organics							
Naphthalene	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	103			70-130	Pass	
TRH C6-C10	%	105			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
Naphthalene	%	86			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M24-De0028123	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M24-De0028123	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0028123	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M24-De0028123	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M24-De0028123	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M24-De0028123	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M24-De0028123	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M24-De0028123	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Naphthalene	M24-De0028123	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Outlook

RE: Eurofins Test Results, Invoice - Report 1168041 : Site Macquarie Point (60693007 7)

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Fri 13/12/24 4:32 PM
To Martin, Tim <Timothy.Martin@aecom.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc Lath, Supriya <Supriya.Lath@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

We will get that organised.

@SH_AU_CAU001\EnviroSampleVic – Please see below for additional analysis. Please note that PAH trace analysis is required. Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Friday, 13 December 2024 3:39 PM
To: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Cc: Lath, Supriya <Supriya.Lath@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1168041 : Site Macquarie Point (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Eurofins, we have reviewed the results of 1168041;

1. Please conduct the following additional leachable concentration sampling (using TCLP method)
2. For all PAHs, please use 16 Congeners for TEQ calcs:

SAMPLE ID	Arsenic leachable concentration	Cadmium leachable concentration	Lead leachable concentration	Mercury leachable concentration	Zinc leachable concentration	All PAHs leachable concentration
Required LOR	0.5	0.1	0.5	0.01	0.01	0.0005 (TEQ)
H08_1.5						X
H08_2.0						X
H08_3.0						X
J10_0.5						X
J10_1.0		X	X		X	
L10_2.0						X
L12_1.0						X
L12_1.5						X
M09_1.0	X					X
M09_1.5						X
M10_1.0				X		X
M10_1.5						X
M11_0.5						
M11_1.0						X
M11_1.5						X
M12_1.0			X			X
N09_1.5						X
N10_1.5			X			X
N11_1.0						X
N12_1.5						X
N16_1.5						X
QC127						X

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com
Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: Savini Suduweli <EET-ELVIS@eurofinsanz.com>
Sent: Friday, 13 December 2024 1:22 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Muller, Jacob <Jacob.Muller@aecom.com>; Martin, Tim <Timothy.Martin@aecom.com>
Subject: Eurofins Test Results, Invoice - Report 1168041 : Site Macquarie Point (60693007 7)

Hi Tim,

Please find attached results and invoice for your project in the subject header.

Kind regards,

Savini Suduweli Kondage
Analytical Services Manager

Eurofins Environment Testing
6 Monterey Road
DANDENONG SOUTH VIC 3175
AUSTRALIA
Phone: +61 385 645 051

eurofins | Environment Testing

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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 10 Day
Date/Time received Dec 17, 2024 4:32 PM
Eurofins reference 1172378

Sample Information

✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

✓ All samples have been received as described on the above COC.

✓ COC has been completed correctly.

✓ Attempt to chill was evident.

✓ Appropriately preserved sample containers have been used.

✓ All samples were received in good condition.

✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

✓ Appropriate sample containers have been used.

✓ Sample containers for volatile analysis received with zero headspace.

X Split sample sent to requested external lab.

X Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

NO ANALYSIS SCHEDULED FOR M11_0.5

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

Global Leader - Results you can trust

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1172378
Phone: 08 7223 5400
Fax:

Received: Dec 17, 2024 4:32 PM
Due: Jan 3, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Cadmium	Lead	Mercury	Zinc	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	H08_1.5	Dec 03, 2024		US Leachate	M24-De0045379						X	X
2	H08_2.0	Dec 03, 2024		US Leachate	M24-De0045380						X	X
3	H08_3.0	Dec 03, 2024		US Leachate	M24-De0045381						X	X
4	J10_0.5	Dec 03, 2024		US Leachate	M24-De0045382						X	X
5	J10_1.0	Dec 03, 2024		US Leachate	M24-De0045383		X	X		X	X	
6	L10_2.0	Dec 03, 2024		US Leachate	M24-De0045384						X	X
7	L12_1.0	Dec 03, 2024		US Leachate	M24-De0045385						X	X
8	L12_1.5	Dec 03, 2024		US Leachate	M24-De0045386						X	X
9	M09_1.0	Dec 03, 2024		US Leachate	M24-De0045387	X					X	X
10	M09_1.5	Dec 03, 2024		US Leachate	M24-De0045388						X	X
11	M10_1.0	Dec 03, 2024		US Leachate	M24-De0045389				X		X	X
12	M10_1.5	Dec 03, 2024		US Leachate	M24-De0045390						X	X
13	M11_1.0	Dec 03, 2024		US Leachate	M24-De0045391						X	X
14	M11_1.5	Dec 03, 2024		US Leachate	M24-De0045392						X	X

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1172378
Phone: 08 7223 5400
Fax:

Received: Dec 17, 2024 4:32 PM
Due: Jan 3, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Cadmium	Lead	Mercury	Zinc	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
15	M12_1.0	Dec 03, 2024		US Leachate	M24-De0045393			X			X	X
16	N09_1.5	Dec 03, 2024		US Leachate	M24-De0045394						X	X
17	N10_1.5	Dec 03, 2024		US Leachate	M24-De0045395			X			X	X
18	N11_1.0	Dec 03, 2024		US Leachate	M24-De0045396						X	X
19	N12_1.5	Dec 03, 2024		US Leachate	M24-De0045397						X	X
20	N16_1.5	Dec 03, 2024		US Leachate	M24-De0045398						X	X
21	QC127	Dec 03, 2024		US Leachate	M24-De0045399						X	X
Test Counts						1	1	3	1	1	21	20

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1172378-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 17, 2024

Client Sample ID			**H08_1.5**	**H08_2.0**	**H08_3.0**	**J10_0.5**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0045379**	**M24-De0045380**	**M24-De0045381**	**M24-De0045382**
Date Sampled			**Dec 03, 2024**	**Dec 03, 2024**	**Dec 03, 2024**	**Dec 03, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Acenaphthylene	0.00001	mg/L	0.00020	0.00040	< 0.00001	0.00010
Anthracene	0.00001	mg/L	< 0.00001	0.00020	< 0.00001	0.00010
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00020
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00040	0.00030
Fluorene	0.00001	mg/L	< 0.00001	0.00030	< 0.00001	0.00020
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	< 0.00001	0.0012	< 0.00001	0.00030
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00060	0.00070
Total PAH*	0.00001	mg/L	0.0002	0.0021	0.001	0.0025
2-Fluorobiphenyl (surr.)	1	%	59	56	56	60
p-Terphenyl-d14 (surr.)	1	%	64	59	62	63
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.9	8.7	8.4	8.5
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.7	5.9	5.3	5.8
pH (USA HCl addition)	0.1	pH Units	1.2	1.3	1.2	1.4

Client Sample ID			J10_1.0	L10_2.0	L12_1.0	L12_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0045383	M24-De0045384	M24-De0045385	M24-De0045386
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	-	0.0013	< 0.00001	0.00020
Acenaphthylene	0.00001	mg/L	-	0.00020	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	-	0.0018	0.00010	0.00060
Benz(a)anthracene	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	-	0.00010	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	-	0.0014	0.00020	0.00080
Fluorene	0.00001	mg/L	-	0.0036	0.00010	0.0013
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	-	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	-	0.00060	0.00010	0.00020
Phenanthrene	0.00001	mg/L	-	0.0056	0.00020	0.0024
Pyrene	0.00001	mg/L	-	0.0015	0.00060	0.0011
Total PAH*	0.00001	mg/L	-	0.0161	0.0013	0.0067
2-Fluorobiphenyl (surr.)	1	%	-	58	57	57
p-Terphenyl-d14 (surr.)	1	%	-	57	60	63
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.1	8.2	8.0	8.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.6	6.4	6.1	5.6
pH (USA HCl addition)	0.1	pH Units	1.2	1.2	1.2	1.2
Heavy Metals						
Cadmium	0.005	mg/L	0.11	-	-	-
Lead	0.01	mg/L	0.19	-	-	-
Zinc	0.01	mg/L	39	-	-	-

Client Sample ID			M09_1.0	M09_1.5	M10_1.0	M10_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0045387	M24-De0045388	M24-De0045389	M24-De0045390
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00010	0.00030	0.00040	0.0074
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00030
Anthracene	0.00001	mg/L	0.00010	0.00040	0.00020	0.0012
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00040	0.00080	0.00030	0.0014

Client Sample ID			M09_1.0	M09_1.5	M10_1.0	M10_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0045387	M24-De0045388	M24-De0045389	M24-De0045390
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Fluorene	0.00001	mg/L	0.00050	0.00050	0.00050	0.0038
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00020	0.00030	0.00020	0.013
Phenanthrene	0.00001	mg/L	0.00050	0.0013	0.00050	0.0078
Pyrene	0.00001	mg/L	0.00060	0.00090	0.00050	0.0012
Total PAH*	0.00001	mg/L	0.0024	0.0045	0.0026	0.0361
2-Fluorobiphenyl (surr.)	1	%	63	59	58	57
p-Terphenyl-d14 (surr.)	1	%	68	58	61	63
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.9	8.0	8.3	8.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.3	6.2	5.4	5.1
pH (USA HCl addition)	0.1	pH Units	1.1	1.1	1.2	1.2
Heavy Metals						
Arsenic	0.01	mg/L	0.46	-	-	-
Mercury	0.001	mg/L	-	-	< 0.001	-

Client Sample ID			M11_1.0	M11_1.5	M12_1.0	N09_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0045391	M24-De0045392	M24-De0045393	M24-De0045394
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	0.0028	0.00010	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00020	0.00010	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00050	0.0060	< 0.00001	0.00010
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0011	0.0063	0.00020	0.00010
Fluorene	0.00001	mg/L	0.00070	0.017	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	0.0090	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	0.0030	0.033	< 0.00001	0.00030
Pyrene	0.00001	mg/L	0.0010	0.0041	0.00040	0.00020
Total PAH*	0.00001	mg/L	0.0065	0.0783	0.0007	0.0009
2-Fluorobiphenyl (surr.)	1	%	57	56	57	58
p-Terphenyl-d14 (surr.)	1	%	59	60	61	68

Client Sample ID			M11_1.0	M11_1.5	M12_1.0	N09_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0045391	M24-De0045392	M24-De0045393	M24-De0045394
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.1	8.4	8.3	8.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.9	5.4	6.6	6.1
pH (USA HCl addition)	0.1	pH Units	1.2	1.3	1.3	1.3
Heavy Metals						
Lead	0.01	mg/L	-	-	0.02	-

Client Sample ID			N10_1.5	N11_1.0	N12_1.5	N16_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0045395	M24-De0045396	M24-De0045397	M24-De0045398
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00010	0.0046	0.00010	0.00010
Acenaphthylene	0.00001	mg/L	< 0.00001	0.0059	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	0.0051	0.0013	0.00010
Benz(a)anthracene	0.00001	mg/L	< 0.00001	0.00050	0.00020	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	0.00020	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	0.00020	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	0.00030	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00020	0.0045	0.00030	0.00030
Fluorene	0.00001	mg/L	0.00010	0.012	0.00020	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	0.0054	0.00010	< 0.00001
Phenanthrene	0.00001	mg/L	0.00020	0.021	0.00090	0.00030
Pyrene	0.00001	mg/L	0.00030	0.0047	0.0012	0.00030
Total PAH*	0.00001	mg/L	0.001	0.0645	0.0043	0.0013
2-Fluorobiphenyl (surr.)	1	%	59	60	59	55
p-Terphenyl-d14 (surr.)	1	%	65	66	70	62
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.2	8.3	8.1	8.2
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.3	5.4	5.5	5.4
pH (USA HCl addition)	0.1	pH Units	1.3	1.4	1.3	1.4
Heavy Metals						
Lead	0.01	mg/L	< 0.01	-	-	-

Client Sample ID			QC127
Sample Matrix			US Leachate
Eurofins Sample No.			M24-De0045399
Date Sampled			Dec 03, 2024
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	0.00010
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030
Fluorene	0.00001	mg/L	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001
Phenanthrene	0.00001	mg/L	0.00030
Pyrene	0.00001	mg/L	0.00030
Total PAH*	0.00001	mg/L	0.001
2-Fluorobiphenyl (surr.)	1	%	55
p-Terphenyl-d14 (surr.)	1	%	62
USA Leaching Procedure			
Leachate Fluid[C01]		comment	1.0
pH (initial)	0.1	pH Units	8.2
pH (Leachate fluid)	0.1	pH Units	5.0
pH (off)	0.1	pH Units	5.4
pH (USA HCl addition)	0.1	pH Units	1.4

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 18, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 18, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1172378
Phone: 08 7223 5400
Fax:

Received: Dec 17, 2024 4:32 PM
Due: Jan 3, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Arsenic	Cadmium	Lead	Mercury	Zinc	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X
External Laboratory							

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	H08_1.5	Dec 03, 2024		US Leachate	M24-De0045379						X	X
2	H08_2.0	Dec 03, 2024		US Leachate	M24-De0045380						X	X
3	H08_3.0	Dec 03, 2024		US Leachate	M24-De0045381						X	X
4	J10_0.5	Dec 03, 2024		US Leachate	M24-De0045382						X	X
5	J10_1.0	Dec 03, 2024		US Leachate	M24-De0045383		X	X		X	X	
6	L10_2.0	Dec 03, 2024		US Leachate	M24-De0045384						X	X
7	L12_1.0	Dec 03, 2024		US Leachate	M24-De0045385						X	X
8	L12_1.5	Dec 03, 2024		US Leachate	M24-De0045386						X	X
9	M09_1.0	Dec 03, 2024		US Leachate	M24-De0045387	X					X	X
10	M09_1.5	Dec 03, 2024		US Leachate	M24-De0045388						X	X
11	M10_1.0	Dec 03, 2024		US Leachate	M24-De0045389				X		X	X
12	M10_1.5	Dec 03, 2024		US Leachate	M24-De0045390						X	X
13	M11_1.0	Dec 03, 2024		US Leachate	M24-De0045391						X	X
14	M11_1.5	Dec 03, 2024		US Leachate	M24-De0045392						X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1172378
Phone: 08 7223 5400
Fax:

Received: Dec 17, 2024 4:32 PM
Due: Jan 3, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Cadmium	Lead	Mercury	Zinc	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X
15	M12_1.0	Dec 03, 2024		US Leachate	M24-De0045393			X			X	X
16	N09_1.5	Dec 03, 2024		US Leachate	M24-De0045394						X	X
17	N10_1.5	Dec 03, 2024		US Leachate	M24-De0045395			X			X	X
18	N11_1.0	Dec 03, 2024		US Leachate	M24-De0045396						X	X
19	N12_1.5	Dec 03, 2024		US Leachate	M24-De0045397						X	X
20	N16_1.5	Dec 03, 2024		US Leachate	M24-De0045398						X	X
21	QC127	Dec 03, 2024		US Leachate	M24-De0045399						X	X
Test Counts						1	1	3	1	1	21	20

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.01			0.01	Pass	
Cadmium	mg/L	< 0.005			0.005	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
Mercury	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	130			70-130	Pass	
Acenaphthylene	%	100			70-130	Pass	
Anthracene	%	123			70-130	Pass	
Benz(a)anthracene	%	111			70-130	Pass	
Benzo(a)pyrene - low level	%	106			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	101			70-130	Pass	
Benzo(k)fluoranthene	%	119			70-130	Pass	
Chrysene	%	93			70-130	Pass	
Dibenz(a.h)anthracene	%	111			70-130	Pass	
Fluoranthene	%	108			70-130	Pass	
Fluorene	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	111			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	124			70-130	Pass	
Pyrene	%	128			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	108			70-130	Pass	
Acenaphthylene	%	109			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene - low level	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	%	117			70-130	Pass	
Benzo(g.h.i)perylene	%	110			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	89			70-130	Pass	
Dibenz(a.h)anthracene	%	112			70-130	Pass	
Fluoranthene	%	117			70-130	Pass	
Fluorene	%	115			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	113			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	112			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	112			70-130	Pass	
Acenaphthylene	%	115			70-130	Pass	
Anthracene	%	112			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(a)pyrene - low level	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	130			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	117			70-130	Pass	
Dibenz(a.h)anthracene	%	119			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	114			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	110			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0045383	CP	%	91			75-125	Pass	
Cadmium	M24-De0045383	CP	%	95			75-125	Pass	
Lead	M24-De0045383	CP	%	89			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0045383	CP	mg/L	0.07	0.07	<1	30%	Pass	
Cadmium	M24-De0045383	CP	mg/L	0.11	0.12	2.0	30%	Pass	
Lead	M24-De0045383	CP	mg/L	0.19	0.19	2.0	30%	Pass	
Mercury	M24-De0045383	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M24-De0045383	CP	mg/L	39	39	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0055408	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M24-De0055408	NCP	mg/L	0.00010	0.00010	3.0	30%	Pass	
Anthracene	M24-De0055408	NCP	mg/L	0.00020	0.00020	6.0	30%	Pass	
Benz(a)anthracene	M24-De0055408	NCP	mg/L	< 0.00001	0.00010	49	30%	Fail	Q15
Benzo(a)pyrene - low level	M24-De0055408	NCP	mg/L	0.00020	0.00020	10	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0055408	NCP	mg/L	0.00010	0.00010	9.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0055408	NCP	mg/L	0.00010	0.00010	8.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0055408	NCP	mg/L	< 0.00001	0.00010	74	30%	Fail	Q15
Chrysene	M24-De0055408	NCP	mg/L	0.00020	0.00020	18	30%	Pass	
Dibenz(a.h)anthracene	M24-De0055408	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M24-De0055408	NCP	mg/L	0.00030	0.00040	33	30%	Fail	Q15
Fluorene	M24-De0055408	NCP	mg/L	0.00010	0.00020	23	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0055408	NCP	mg/L	0.00010	0.00010	10	30%	Pass	
Naphthalene	M24-De0055408	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	M24-De0055408	NCP	mg/L	0.00020	0.00030	11	30%	Pass	
Pyrene	M24-De0055408	NCP	mg/L	0.00010	0.00020	76	30%	Fail	Q15

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

1173784

RE: Eurofins Test Results, Invoice - Report 1169377 : Site Macquarie Point (60693007 7)

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Wed 18/12/24 3:16 PM
To Martin, Tim <Timothy.Martin@aecom.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

We will get that organised.

@SH_AU_CAU001_EnviroSampleVic – Can you please action the below? Please note trace level leachate analysis is required. Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, 18 December 2024 2:35 PM
To: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1169377 : Site Macquarie Point (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Savini,

Please allocate the additional sampling analysis as per below, of samples from 1169377:

SAMPLE ID	Arsenic leachable concentration	Lead leachable concentration	All PAHs leachable concentration
Required LOR	0.5	0.5	0.0005 (TEQ)
G10_2.0			X
G11_0.5			X
G11_1.5	X	X	X
G11_3.0			X
H09_3.0			X
H10_2.0			X
H10_2.5		X	X
H11_1.0			X
H11_2.5			X
I08_1.0			X
I10_1.0			X
I10_1.5			X
I10_2.0			X
QC149			X
I11_1.5			X
I11_2.0			X
I11_2.5			X
I12_0.5			X
J08_1.5		X	
J09_0.5			X
J09_1.0			X
J11_1.5			X
K07_0.5			X
K07_1.0			X
K07_1.5			X
K08_0.5			X
K08_2.0			X
K09_1.5			X
K10_1.5			X
K10_2.0			X
K11_2.0			X
QC147			X
L11_0.5			X
QC143			X
L13_0.5			X
L13_1.0			X
L13_1.5			X
L14_1.0			X
L14_1.5			X
L15_1.5			X
M13_1.0		X	X
M13_1.5			X
O13_1.5			X

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com

Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

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46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 10 Day
Date/Time received Dec 18, 2024 2:35 PM
Eurofins reference 1173784

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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46-48 Banksia Road
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WA 6106
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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
Fax:

Received: Dec 18, 2024 2:35 PM
Due: Jan 6, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	G10_2.0	Dec 05, 2024		US Leachate	M24-De0055402			X	X
2	G11_0.5	Dec 06, 2024		US Leachate	M24-De0055403			X	X
3	G11_1.5	Dec 06, 2024		US Leachate	M24-De0055404	X	X	X	X
4	G11_3.0	Dec 06, 2024		US Leachate	M24-De0055405			X	X
5	H09_3.0	Dec 05, 2024		US Leachate	M24-De0055406			X	X
6	H10_2.0	Dec 06, 2024		US Leachate	M24-De0055407			X	X
7	H10_2.5	Dec 06, 2024		US Leachate	M24-De0055408		X	X	X
8	H11_1.0	Dec 06, 2024		US Leachate	M24-De0055409			X	X
9	H11_2.5	Dec 06, 2024		US Leachate	M24-De0055410			X	X
10	I08_1.0	Dec 04, 2024		US Leachate	M24-De0055411			X	X
11	I10_1.0	Dec 06, 2024		US Leachate	M24-De0055412			X	X
12	I10_1.5	Dec 06, 2024		US Leachate	M24-De0055413			X	X
13	I10_2.0	Dec 06, 2024		US Leachate	M24-De0055414			X	X
14	QC149	Dec 06, 2024		US Leachate	M24-De0055415			X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

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Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	I11_1.5	Dec 06, 2024		US Leachate	M24-De0055416			X	X
16	I11_2.0	Dec 06, 2024		US Leachate	M24-De0055417			X	X
17	I11_2.5	Dec 06, 2024		US Leachate	M24-De0055418			X	X
18	I12_0.5	Dec 06, 2024		US Leachate	M24-De0055419			X	X
19	J09_1.0	Dec 05, 2024		US Leachate	M24-De0055422			X	X
20	K07_0.5	Dec 06, 2024		US Leachate	M24-De0055424			X	X
21	K07_1.0	Dec 06, 2024		US Leachate	M24-De0055425			X	X
22	K07_1.5	Dec 06, 2024		US Leachate	M24-De0055426			X	X
23	K08_0.5	Dec 06, 2024		US Leachate	M24-De0055427			X	X
24	K09_1.5	Dec 06, 2024		US Leachate	M24-De0055429			X	X
25	K10_1.5	Dec 06, 2024		US Leachate	M24-De0055430			X	X
26	K10_2.0	Dec 06, 2024		US Leachate	M24-De0055431			X	X
27	K11_2.0	Dec 06, 2024		US Leachate	M24-De0055432			X	X
28	QC147	Dec 06, 2024		US Leachate	M24-De0055433			X	X
29	L11_0.5	Dec 06, 2024		US Leachate	M24-De0055434			X	X
30	QC143	Dec 06, 2024		US Leachate	M24-De0055435			X	X
31	L13_0.5	Dec 05, 2024		US Leachate	M24-De0055436			X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
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Received: Dec 18, 2024 2:35 PM
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Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
32	L13_1.0	Dec 05, 2024		US Leachate	M24-De0055437			X	X
33	L13_1.5	Dec 05, 2024		US Leachate	M24-De0055438			X	X
34	L14_1.0	Dec 05, 2024		US Leachate	M24-De0055439			X	X
35	L14_1.5	Dec 05, 2024		US Leachate	M24-De0055440			X	X
36	M13_1.0	Dec 05, 2024		US Leachate	M24-De0055442		X	X	X
37	M13_1.5	Dec 05, 2024		US Leachate	M24-De0055443			X	X
38	O13_1.5	Dec 05, 2024		US Leachate	M24-De0055444			X	X
39	J08_1.5	Dec 05, 2024		US Leachate	M25-Ja0003564		X	X	
Test Counts						1	4	39	38

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1173784-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 18, 2024

Client Sample ID			**G10_2.0**	**G11_0.5**	**G11_1.5**	**G11_3.0**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0055402**	**M24-De0055403**	**M24-De0055404**	**M24-De0055405**
Date Sampled			**Dec 05, 2024**	**Dec 06, 2024**	**Dec 06, 2024**	**Dec 06, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00030	0.00010	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00070	0.00010	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0014	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.00090	0.00010	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00050	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.0022	0.00010	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	0.0012	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0078	0.0004	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	55	55	56	56
p-Terphenyl-d14 (surr.)	1	%	61	60	61	61
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.4	6.5	7.8	7.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.8	6.9	6.6	6.1
pH (USA HCl addition)	0.1	pH Units	1.1	1.3	1.0	1.2
Heavy Metals						
Arsenic	0.01	mg/L	-	-	0.05	-
Lead	0.01	mg/L	-	-	0.98	-

Client Sample ID			H09_3.0	H10_2.0	H10_2.5	H11_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055406	M24-De0055407	M24-De0055408	M24-De0055409
Date Sampled			Dec 05, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.013	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.0036	< 0.00001	0.00010	< 0.00001
Anthracene	0.00001	mg/L	0.0059	< 0.00001	0.00020	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00050	< 0.00001	0.00020	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0060	< 0.00001	0.00030	< 0.00001
Fluorene	0.00001	mg/L	0.016	< 0.00001	0.00010	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Naphthalene	0.00001	mg/L	0.0031	0.00010	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.025	0.00010	0.00020	< 0.00001
Pyrene	0.00001	mg/L	0.0049	< 0.00001	0.00010	< 0.00001
Total PAH*	0.00001	mg/L	0.0786	0.0002	0.0017	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	56	57	62	54
p-Terphenyl-d14 (surr.)	1	%	58	59	74	59
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.5	7.5	7.8	5.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.6	6.9	6.4	6.7
pH (USA HCl addition)	0.1	pH Units	1.1	1.1	1.2	1.3
Heavy Metals						
Lead	0.01	mg/L	-	-	0.31	-

Client Sample ID			H11_2.5	I08_1.0	I10_1.0	I10_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055410	M24-De0055411	M24-De0055412	M24-De0055413
Date Sampled			Dec 06, 2024	Dec 04, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.0069	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00080	0.00010	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.0049	0.00020	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00050	0.00060	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00030	0.00080	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00020	0.00050	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	0.00050	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	0.00040	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00040	0.00060	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0040	0.00090	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.0083	0.00010	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	0.00030	< 0.00001	< 0.00001

Client Sample ID			H11_2.5	I08_1.0	I10_1.0	I10_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055410	M24-De0055411	M24-De0055412	M24-De0055413
Date Sampled			Dec 06, 2024	Dec 04, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Naphthalene	0.00001	mg/L	0.0024	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.016	0.00060	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	0.0035	0.00090	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0484	0.0066	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	55	57	55	55
p-Terphenyl-d14 (surr.)	1	%	60	63	61	59
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.3	6.4	5.2	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.9	7.1	7.5	7.7
pH (USA HCl addition)	0.1	pH Units	1.3	1.2	1.3	1.3

Client Sample ID			I10_2.0	QC149	I11_1.5	I11_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055414	M24-De0055415	M24-De0055416	M24-De0055417
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Chrysene	0.00001	mg/L	0.00010	< 0.00001	0.00030	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00040	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.00020	0.00010
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.0012	< 0.00001
Pyrene	0.00001	mg/L	0.00050	< 0.00001	0.00010	< 0.00001
Total PAH*	0.00001	mg/L	0.001	< 0.00001	0.0033	0.0001
2-Fluorobiphenyl (surr.)	1	%	56	55	55	54
p-Terphenyl-d14 (surr.)	1	%	62	60	60	56
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.3	5.7	5.4	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	7.5	8.2	9.2	7.8
pH (USA HCl addition)	0.1	pH Units	1.4	1.2	1.5	1.3

Client Sample ID			I11_2.5	I12_0.5	J09_1.0	K07_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055418	M24-De0055419	M24-De0055422	M24-De0055424
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00070	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.0011	0.00040	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00090	0.00070	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00070	0.00060	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00040	0.00040	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00040	0.00040	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.0010	0.00050	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0044	0.00040	0.00010	< 0.00001
Fluorene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00020	0.00030	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.00020	0.00010	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	0.0041	0.00030	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0145	0.0043	0.0001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	55	55	55	54
p-Terphenyl-d14 (surr.)	1	%	59	58	59	58
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.2	6.1	6.0	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	8.1	7.4	8.0	6.8
pH (USA HCl addition)	0.1	pH Units	1.5	1.3	1.4	1.2

Client Sample ID			K07_1.0	K07_1.5	K08_0.5	K09_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055425	M24-De0055426	M24-De0055427	M24-De0055429
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00040	0.00020	< 0.00001	0.00020
Benz(a)anthracene	0.00001	mg/L	0.00070	0.00050	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.0011	0.0010	0.00020	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00080	0.00070	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00060	0.00050	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00060	0.00060	0.00010	< 0.00001
Chrysene	0.00001	mg/L	0.0010	0.00080	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	0.00010	0.00010	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0015	0.0010	0.00010	0.00030
Fluorene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00010
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00040	0.00030	0.00010	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	0.00050	0.00040	< 0.00001	0.00030

Client Sample ID			K07_1.0	K07_1.5	K08_0.5	K09_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055425	M24-De0055426	M24-De0055427	M24-De0055429
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	0.0014	0.0011	0.00010	0.00010
Total PAH*	0.00001	mg/L	0.0092	0.0072	0.0007	0.0011
2-Fluorobiphenyl (surr.)	1	%	53	54	56	55
p-Terphenyl-d14 (surr.)	1	%	57	59	60	61
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.0	6.4	6.4	6.1
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	7.8	7.5	8.2	5.5
pH (USA HCl addition)	0.1	pH Units	1.4	1.2	1.3	1.4

Client Sample ID			K10_1.5	K10_2.0	K11_2.0	QC147
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055430	M24-De0055431	M24-De0055432	M24-De0055433
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.0011	0.0015
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00020
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00040	0.0011
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010	0.00050	0.00070
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.0016	0.0020
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.00090	0.0033
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00060	0.0022
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	0.00060
Total PAH*	0.00001	mg/L	< 0.00001	0.0001	0.0054	0.0117
2-Fluorobiphenyl (surr.)	1	%	55	55	54	56
p-Terphenyl-d14 (surr.)	1	%	60	59	58	60
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.1	6.5	6.7	6.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	5.3	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.5	1.4

Client Sample ID			L11_0.5	QC143	L13_0.5	L13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055434	M24-De0055435	M24-De0055436	M24-De0055437
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00040
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	0.00010
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.00040	< 0.00001	< 0.00001	0.00010
Pyrene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0025	< 0.00001	< 0.00001	0.0008
2-Fluorobiphenyl (surr.)	1	%	55	55	55	56
p-Terphenyl-d14 (surr.)	1	%	59	64	63	60
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	6.7	6.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.4	1.5	1.5	1.5

Client Sample ID			L13_1.5	L14_1.0	L14_1.5	M13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055438	M24-De0055439	M24-De0055440	M24-De0055442
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	0.00020	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	0.00010	0.00010	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030	0.00040	< 0.00001	0.00010
Fluorene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	0.00030	0.00060	< 0.00001	0.00010

Client Sample ID			L13_1.5	L14_1.0	L14_1.5	M13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055438	M24-De0055439	M24-De0055440	M24-De0055442
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	0.00020	0.00020	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0009	0.0018	0.0003	0.0004
2-Fluorobiphenyl (surr.)	1	%	57	57	57	55
p-Terphenyl-d14 (surr.)	1	%	61	63	60	59
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.9	6.8	6.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	5.2	5.0	4.9
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.4	1.4
Heavy Metals						
Lead	0.01	mg/L	-	-	-	120

Client Sample ID			M13_1.5	O13_1.5	JO8_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055443	M24-De0055444	M25-Ja0003564
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons (Trace level)					
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	-
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	-
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	-
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	-
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010	-
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	-
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	-
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	-
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	-
Total PAH*	0.00001	mg/L	< 0.00001	0.0001	-
2-Fluorobiphenyl (surr.)	1	%	54	54	-
p-Terphenyl-d14 (surr.)	1	%	58	58	-
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	7.4	6.9
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.0	4.9	7.2
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.5
Heavy Metals					
Lead	0.01	mg/L	-	-	0.10

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 31, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Jan 07, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
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35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
Fax:

Received: Dec 18, 2024 2:35 PM
Due: Jan 6, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	G10_2.0	Dec 05, 2024		US Leachate	M24-De0055402			X	X
2	G11_0.5	Dec 06, 2024		US Leachate	M24-De0055403			X	X
3	G11_1.5	Dec 06, 2024		US Leachate	M24-De0055404	X	X	X	X
4	G11_3.0	Dec 06, 2024		US Leachate	M24-De0055405			X	X
5	H09_3.0	Dec 05, 2024		US Leachate	M24-De0055406			X	X
6	H10_2.0	Dec 06, 2024		US Leachate	M24-De0055407			X	X
7	H10_2.5	Dec 06, 2024		US Leachate	M24-De0055408		X	X	X
8	H11_1.0	Dec 06, 2024		US Leachate	M24-De0055409			X	X
9	H11_2.5	Dec 06, 2024		US Leachate	M24-De0055410			X	X
10	I08_1.0	Dec 04, 2024		US Leachate	M24-De0055411			X	X
11	I10_1.0	Dec 06, 2024		US Leachate	M24-De0055412			X	X
12	I10_1.5	Dec 06, 2024		US Leachate	M24-De0055413			X	X
13	I10_2.0	Dec 06, 2024		US Leachate	M24-De0055414			X	X
14	QC149	Dec 06, 2024		US Leachate	M24-De0055415			X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

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Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
Fax:

Received: Dec 18, 2024 2:35 PM
Due: Jan 6, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	I11_1.5	Dec 06, 2024		US Leachate	M24-De0055416			X	X
16	I11_2.0	Dec 06, 2024		US Leachate	M24-De0055417			X	X
17	I11_2.5	Dec 06, 2024		US Leachate	M24-De0055418			X	X
18	I12_0.5	Dec 06, 2024		US Leachate	M24-De0055419			X	X
19	J09_1.0	Dec 05, 2024		US Leachate	M24-De0055422			X	X
20	K07_0.5	Dec 06, 2024		US Leachate	M24-De0055424			X	X
21	K07_1.0	Dec 06, 2024		US Leachate	M24-De0055425			X	X
22	K07_1.5	Dec 06, 2024		US Leachate	M24-De0055426			X	X
23	K08_0.5	Dec 06, 2024		US Leachate	M24-De0055427			X	X
24	K09_1.5	Dec 06, 2024		US Leachate	M24-De0055429			X	X
25	K10_1.5	Dec 06, 2024		US Leachate	M24-De0055430			X	X
26	K10_2.0	Dec 06, 2024		US Leachate	M24-De0055431			X	X
27	K11_2.0	Dec 06, 2024		US Leachate	M24-De0055432			X	X
28	QC147	Dec 06, 2024		US Leachate	M24-De0055433			X	X
29	L11_0.5	Dec 06, 2024		US Leachate	M24-De0055434			X	X
30	QC143	Dec 06, 2024		US Leachate	M24-De0055435			X	X
31	L13_0.5	Dec 05, 2024		US Leachate	M24-De0055436			X	X

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ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
Fax:

Received: Dec 18, 2024 2:35 PM
Due: Jan 6, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
32	L13_1.0	Dec 05, 2024		US Leachate	M24-De0055437			X	X
33	L13_1.5	Dec 05, 2024		US Leachate	M24-De0055438			X	X
34	L14_1.0	Dec 05, 2024		US Leachate	M24-De0055439			X	X
35	L14_1.5	Dec 05, 2024		US Leachate	M24-De0055440			X	X
36	M13_1.0	Dec 05, 2024		US Leachate	M24-De0055442		X	X	X
37	M13_1.5	Dec 05, 2024		US Leachate	M24-De0055443			X	X
38	O13_1.5	Dec 05, 2024		US Leachate	M24-De0055444			X	X
39	JO8_1.5	Dec 05, 2024		US Leachate	M25-Ja0003564		X	X	
Test Counts						1	4	39	38

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.01			0.01	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	112			70-130	Pass	
Acenaphthylene	%	115			70-130	Pass	
Anthracene	%	112			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(a)pyrene - low level	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	130			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	117			70-130	Pass	
Dibenz(a.h)anthracene	%	119			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	114			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	110			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	88			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Lead	%	96			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0057819	NCP	%	102			75-125	Pass	
Lead	M24-De0057819	NCP	%	83			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0057819	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Lead	M24-De0057819	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0055408	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M24-De0055408	CP	mg/L	0.00010	0.00010	3.0	30%	Pass	
Anthracene	M24-De0055408	CP	mg/L	0.00020	0.00020	6.0	30%	Pass	
Benz(a)anthracene	M24-De0055408	CP	mg/L	< 0.00001	0.00010	49	30%	Fail	Q15
Benzo(a)pyrene - low level	M24-De0055408	CP	mg/L	0.00020	0.00020	10	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0055408	CP	mg/L	0.00010	0.00010	9.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0055408	CP	mg/L	0.00010	0.00010	8.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0055408	CP	mg/L	< 0.00001	0.00010	74	30%	Fail	Q15
Chrysene	M24-De0055408	CP	mg/L	0.00020	0.00020	18	30%	Pass	
Dibenz(a.h)anthracene	M24-De0055408	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M24-De0055408	CP	mg/L	0.00030	0.00040	33	30%	Fail	Q15
Fluorene	M24-De0055408	CP	mg/L	0.00010	0.00020	23	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0055408	CP	mg/L	0.00010	0.00010	10	30%	Pass	
Naphthalene	M24-De0055408	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	M24-De0055408	CP	mg/L	0.00020	0.00030	11	30%	Pass	
Pyrene	M24-De0055408	CP	mg/L	0.00010	0.00020	76	30%	Fail	Q15

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Accreditation Number 1261
Site Number 1254

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Attention: **Tim Martin**

Report **1173784-L-V2**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 18, 2024

Client Sample ID			**G10_2.0**	**G11_0.5**	**G11_1.5**	**G11_3.0**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0055402**	**M24-De0055403**	**M24-De0055404**	**M24-De0055405**
Date Sampled			**Dec 05, 2024**	**Dec 06, 2024**	**Dec 06, 2024**	**Dec 06, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00030	0.00010	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00070	0.00010	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0014	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.00090	0.00010	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00050	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.0022	0.00010	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	0.0012	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0078	0.0004	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	55	55	56	56
p-Terphenyl-d14 (surr.)	1	%	61	60	61	61
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.4	6.5	7.8	7.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.8	6.9	6.6	6.1
pH (USA HCl addition)	0.1	pH Units	1.1	1.3	1.0	1.2
Heavy Metals						
Arsenic	0.01	mg/L	-	-	0.05	-
Lead	0.01	mg/L	-	-	0.98	-

Client Sample ID			H09_3.0	H10_2.0	H10_2.5	H11_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055406	M24-De0055407	M24-De0055408	M24-De0055409
Date Sampled			Dec 05, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.013	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.0036	< 0.00001	0.00010	< 0.00001
Anthracene	0.00001	mg/L	0.0059	< 0.00001	0.00020	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00050	< 0.00001	0.00020	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0060	< 0.00001	0.00030	< 0.00001
Fluorene	0.00001	mg/L	0.016	< 0.00001	0.00010	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Naphthalene	0.00001	mg/L	0.0031	0.00010	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.025	0.00010	0.00020	< 0.00001
Pyrene	0.00001	mg/L	0.0049	< 0.00001	0.00010	< 0.00001
Total PAH*	0.00001	mg/L	0.0786	0.0002	0.0017	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	56	57	62	54
p-Terphenyl-d14 (surr.)	1	%	58	59	74	59
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.5	7.5	7.8	5.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.6	6.9	6.4	6.7
pH (USA HCl addition)	0.1	pH Units	1.1	1.1	1.2	1.3
Heavy Metals						
Lead	0.01	mg/L	-	-	0.31	-

Client Sample ID			H11_2.5	I08_1.0	I10_1.0	I10_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055410	M24-De0055411	M24-De0055412	M24-De0055413
Date Sampled			Dec 06, 2024	Dec 04, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.0069	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00080	0.00010	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.0049	0.00020	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00050	0.00060	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00030	0.00080	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00020	0.00050	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	0.00050	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	0.00040	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00040	0.00060	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0040	0.00090	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.0083	0.00010	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	0.00030	< 0.00001	< 0.00001

Client Sample ID			H11_2.5	I08_1.0	I10_1.0	I10_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055410	M24-De0055411	M24-De0055412	M24-De0055413
Date Sampled			Dec 06, 2024	Dec 04, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Naphthalene	0.00001	mg/L	0.0024	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.016	0.00060	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	0.0035	0.00090	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0484	0.0066	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	55	57	55	55
p-Terphenyl-d14 (surr.)	1	%	60	63	61	59
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.3	6.4	5.2	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.9	7.1	7.5	7.7
pH (USA HCl addition)	0.1	pH Units	1.3	1.2	1.3	1.3

Client Sample ID			I10_2.0	QC149	I11_1.5	I11_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055414	M24-De0055415	M24-De0055416	M24-De0055417
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00020	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Chrysene	0.00001	mg/L	0.00010	< 0.00001	0.00030	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00040	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.00020	0.00010
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.0012	< 0.00001
Pyrene	0.00001	mg/L	0.00050	< 0.00001	0.00010	< 0.00001
Total PAH*	0.00001	mg/L	0.001	< 0.00001	0.0033	0.0001
2-Fluorobiphenyl (surr.)	1	%	56	55	55	54
p-Terphenyl-d14 (surr.)	1	%	62	60	60	56
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.3	5.7	5.4	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	7.5	8.2	9.2	7.8
pH (USA HCl addition)	0.1	pH Units	1.4	1.2	1.5	1.3

Client Sample ID			I11_2.5	I12_0.5	J09_1.0	K07_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055418	M24-De0055419	M24-De0055422	M24-De0055424
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00070	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.0011	0.00040	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00090	0.00070	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00070	0.00060	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00040	0.00040	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00040	0.00040	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.0010	0.00050	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0044	0.00040	0.00010	< 0.00001
Fluorene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00020	0.00030	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.00020	0.00010	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	0.0041	0.00030	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0145	0.0043	0.0001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	55	55	55	54
p-Terphenyl-d14 (surr.)	1	%	59	58	59	58
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.2	6.1	6.0	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	8.1	7.4	8.0	6.8
pH (USA HCl addition)	0.1	pH Units	1.5	1.3	1.4	1.2

Client Sample ID			K07_1.0	K07_1.5	K08_0.5	K09_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055425	M24-De0055426	M24-De0055427	M24-De0055429
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00040	0.00020	< 0.00001	0.00020
Benz(a)anthracene	0.00001	mg/L	0.00070	0.00050	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.0011	0.0010	0.00020	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00080	0.00070	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	0.00060	0.00050	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00060	0.00060	0.00010	< 0.00001
Chrysene	0.00001	mg/L	0.0010	0.00080	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	0.00010	0.00010	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0015	0.0010	0.00010	0.00030
Fluorene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00010
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00040	0.00030	0.00010	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	0.00050	0.00040	< 0.00001	0.00030

Client Sample ID			K07_1.0	K07_1.5	K08_0.5	K09_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055425	M24-De0055426	M24-De0055427	M24-De0055429
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	0.0014	0.0011	0.00010	0.00010
Total PAH*	0.00001	mg/L	0.0092	0.0072	0.0007	0.0011
2-Fluorobiphenyl (surr.)	1	%	53	54	56	55
p-Terphenyl-d14 (surr.)	1	%	57	59	60	61
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.0	6.4	6.4	6.1
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	7.8	7.5	8.2	5.5
pH (USA HCl addition)	0.1	pH Units	1.4	1.2	1.3	1.4

Client Sample ID			K10_1.5	K10_2.0	K11_2.0	QC147
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055430	M24-De0055431	M24-De0055432	M24-De0055433
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.0011	0.0015
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00020
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00040	0.0011
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010	0.00050	0.00070
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.0016	0.0020
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.00090	0.0033
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00060	0.0022
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	0.00060
Total PAH*	0.00001	mg/L	< 0.00001	0.0001	0.0054	0.0117
2-Fluorobiphenyl (surr.)	1	%	55	55	54	56
p-Terphenyl-d14 (surr.)	1	%	60	59	58	60
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.1	6.5	6.7	6.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	5.3	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.5	1.4

Client Sample ID			L11_0.5	QC143	L13_0.5	L13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055434	M24-De0055435	M24-De0055436	M24-De0055437
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00040
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	0.00010
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00020	< 0.00001	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	0.00040	< 0.00001	< 0.00001	0.00010
Pyrene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0025	< 0.00001	< 0.00001	0.0008
2-Fluorobiphenyl (surr.)	1	%	55	55	55	56
p-Terphenyl-d14 (surr.)	1	%	59	64	63	60
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	6.7	6.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.4	1.5	1.5	1.5

Client Sample ID			L13_1.5	L14_1.0	L14_1.5	M13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055438	M24-De0055439	M24-De0055440	M24-De0055442
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	0.00020	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	0.00010	0.00010	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030	0.00040	< 0.00001	0.00010
Fluorene	0.00001	mg/L	< 0.00001	0.00010	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	0.00030	0.00060	< 0.00001	0.00010

Client Sample ID			L13_1.5	L14_1.0	L14_1.5	M13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055438	M24-De0055439	M24-De0055440	M24-De0055442
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	0.00020	0.00020	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.0009	0.0018	0.0003	0.0004
2-Fluorobiphenyl (surr.)	1	%	57	57	57	55
p-Terphenyl-d14 (surr.)	1	%	61	63	60	59
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.9	6.8	6.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	5.2	5.0	4.9
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.4	1.4
Heavy Metals						
Lead	0.01	mg/L	-	-	-	120

Client Sample ID			M13_1.5	O13_1.5	J08_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0055443	M24-De0055444	M25-Ja0003564
Date Sampled			Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons (Trace level)					
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	-
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	-
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	-
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	-
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010	-
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	-
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	-
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	-
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	-
Total PAH*	0.00001	mg/L	< 0.00001	0.0001	-
2-Fluorobiphenyl (surr.)	1	%	54	54	-
p-Terphenyl-d14 (surr.)	1	%	58	58	-
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	7.4	6.9
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.0	4.9	7.2
pH (USA HCl addition)	0.1	pH Units	1.4	1.4	1.5
Heavy Metals					
Lead	0.01	mg/L	-	-	0.10

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 31, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Jan 07, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
Fax:

Received: Dec 18, 2024 2:35 PM
Due: Jan 6, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	G10_2.0	Dec 05, 2024		US Leachate	M24-De0055402			X	X
2	G11_0.5	Dec 06, 2024		US Leachate	M24-De0055403			X	X
3	G11_1.5	Dec 06, 2024		US Leachate	M24-De0055404	X	X	X	X
4	G11_3.0	Dec 06, 2024		US Leachate	M24-De0055405			X	X
5	H09_3.0	Dec 05, 2024		US Leachate	M24-De0055406			X	X
6	H10_2.0	Dec 06, 2024		US Leachate	M24-De0055407			X	X
7	H10_2.5	Dec 06, 2024		US Leachate	M24-De0055408		X	X	X
8	H11_1.0	Dec 06, 2024		US Leachate	M24-De0055409			X	X
9	H11_2.5	Dec 06, 2024		US Leachate	M24-De0055410			X	X
10	I08_1.0	Dec 04, 2024		US Leachate	M24-De0055411			X	X
11	I10_1.0	Dec 06, 2024		US Leachate	M24-De0055412			X	X
12	I10_1.5	Dec 06, 2024		US Leachate	M24-De0055413			X	X
13	I10_2.0	Dec 06, 2024		US Leachate	M24-De0055414			X	X
14	QC149	Dec 06, 2024		US Leachate	M24-De0055415			X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1173784
Phone: 08 7223 5400
Fax:

Received: Dec 18, 2024 2:35 PM
Due: Jan 6, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	I11_1.5	Dec 06, 2024		US Leachate	M24-De0055416			X	X
16	I11_2.0	Dec 06, 2024		US Leachate	M24-De0055417			X	X
17	I11_2.5	Dec 06, 2024		US Leachate	M24-De0055418			X	X
18	I12_0.5	Dec 06, 2024		US Leachate	M24-De0055419			X	X
19	J09_1.0	Dec 05, 2024		US Leachate	M24-De0055422			X	X
20	K07_0.5	Dec 06, 2024		US Leachate	M24-De0055424			X	X
21	K07_1.0	Dec 06, 2024		US Leachate	M24-De0055425			X	X
22	K07_1.5	Dec 06, 2024		US Leachate	M24-De0055426			X	X
23	K08_0.5	Dec 06, 2024		US Leachate	M24-De0055427			X	X
24	K09_1.5	Dec 06, 2024		US Leachate	M24-De0055429			X	X
25	K10_1.5	Dec 06, 2024		US Leachate	M24-De0055430			X	X
26	K10_2.0	Dec 06, 2024		US Leachate	M24-De0055431			X	X
27	K11_2.0	Dec 06, 2024		US Leachate	M24-De0055432			X	X
28	QC147	Dec 06, 2024		US Leachate	M24-De0055433			X	X
29	L11_0.5	Dec 06, 2024		US Leachate	M24-De0055434			X	X
30	QC143	Dec 06, 2024		US Leachate	M24-De0055435			X	X
31	L13_0.5	Dec 05, 2024		US Leachate	M24-De0055436			X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
32	L13_1.0	Dec 05, 2024		US Leachate	M24-De0055437			X	X
33	L13_1.5	Dec 05, 2024		US Leachate	M24-De0055438			X	X
34	L14_1.0	Dec 05, 2024		US Leachate	M24-De0055439			X	X
35	L14_1.5	Dec 05, 2024		US Leachate	M24-De0055440			X	X
36	M13_1.0	Dec 05, 2024		US Leachate	M24-De0055442		X	X	X
37	M13_1.5	Dec 05, 2024		US Leachate	M24-De0055443			X	X
38	O13_1.5	Dec 05, 2024		US Leachate	M24-De0055444			X	X
39	J08_1.5	Dec 05, 2024		US Leachate	M25-Ja0003564		X	X	
Test Counts						1	4	39	38

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.01			0.01	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	112			70-130	Pass	
Acenaphthylene	%	115			70-130	Pass	
Anthracene	%	112			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(a)pyrene - low level	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	130			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	117			70-130	Pass	
Dibenz(a.h)anthracene	%	119			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	114			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	110			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	88			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Lead	%	96			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M24-De0057819	NCP	%	102			75-125	Pass	
Lead	M24-De0057819	NCP	%	83			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M24-De0057819	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Lead	M24-De0057819	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0055408	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M24-De0055408	CP	mg/L	0.00010	0.00010	3.0	30%	Pass	
Anthracene	M24-De0055408	CP	mg/L	0.00020	0.00020	6.0	30%	Pass	
Benz(a)anthracene	M24-De0055408	CP	mg/L	< 0.00001	0.00010	49	30%	Fail	Q15
Benzo(a)pyrene - low level	M24-De0055408	CP	mg/L	0.00020	0.00020	10	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0055408	CP	mg/L	0.00010	0.00010	9.0	30%	Pass	
Benzo(g.h.i)perylene	M24-De0055408	CP	mg/L	0.00010	0.00010	8.0	30%	Pass	
Benzo(k)fluoranthene	M24-De0055408	CP	mg/L	< 0.00001	0.00010	74	30%	Fail	Q15
Chrysene	M24-De0055408	CP	mg/L	0.00020	0.00020	18	30%	Pass	
Dibenz(a.h)anthracene	M24-De0055408	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M24-De0055408	CP	mg/L	0.00030	0.00040	33	30%	Fail	Q15
Fluorene	M24-De0055408	CP	mg/L	0.00010	0.00020	23	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0055408	CP	mg/L	0.00010	0.00010	10	30%	Pass	
Naphthalene	M24-De0055408	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	M24-De0055408	CP	mg/L	0.00020	0.00030	11	30%	Pass	
Pyrene	M24-De0055408	CP	mg/L	0.00010	0.00020	76	30%	Fail	Q15

Comments

Report 1173784-L-V2 (amendment to report 1173784-L) has been issued with corrected sample ID from JO8_1.5 to J08_1.5 for sample Ja003564.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

#1174332 = 30/12/24

RE: Eurofins Test Results, Invoice - Report 1171417 : Site Macquarie Point (60693007 7)

From Martin, Tim <Timothy.Martin@aecom.com>
Date Fri 20/12/24 8:44 PM
To Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>; EnviroSampleVic <EnviroSampleVic@eurofins.com>
Cc Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Eurofins,

Please note the table below and action additional sampling request, via TCLP, and report by 13 January 2025.

- Also, please re-run TPH + BTEXN for **G16_1.0**, in order to try and reduce LORs.

SAMPLE ID	TPH + BTEXN	Lead leachable concentration	All PAHs leachable concentration
Required LOR	C6-C9 (50 mg/kg) Benzene (1 mg/kg)	0.5	0.0005 (TEQ)
E15_1.0			X
G16_0.5			X
G16_1.0	X		X
G18_0.5			X
G18_1.0			X
H12_1.0			X
H12_3.0			X
H13_1.5			X
H13_2.0		X	X
QC196			X
I06_0.5			X
I06_1.0			X
I07_0.5			X
I07_1.0			X
I07_2.5			X
I15_1.5			X
I16_1.5			X
J06_1.5		X	X
J06_2.5			X
K06_1.0			X
K06_1.5		X	X

From: Savini Suduweli <EET-ELVIS@eurofinsanz.com>
Sent: Friday, 20 December 2024 4:41 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Martin, Tim <Timothy.Martin@aecom.com>
Subject: Eurofins Test Results, Invoice - Report 1171417 : Site Macquarie Point (60693007 7)

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 10 Day
Date/Time received Dec 20, 2024 8:44 PM
Eurofins reference 1174332

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1174332
Phone: 08 7223 5400
Fax:

Received: Dec 20, 2024 8:44 PM
Due: Jan 9, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure	Moisture Set	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	G16_1.0	Dec 11, 2024		Soil	M24-De0060189			X	X	
2	E15_1.0	Dec 11, 2024		US Leachate	M24-De0060190		X			X
3	G16_0.5	Dec 11, 2024		US Leachate	M24-De0060191		X			X
4	G16_1.0	Dec 11, 2024		US Leachate	M24-De0060192		X			X
5	G18_0.5	Dec 11, 2024		US Leachate	M24-De0060193		X			X
6	G18_1.0	Dec 11, 2024		US Leachate	M24-De0060194		X			X
7	H12_1.0	Dec 11, 2024		US Leachate	M24-De0060195		X			X
8	H12_3.0	Dec 11, 2024		US Leachate	M24-De0060196		X			X
9	H13_1.5	Dec 11, 2024		US Leachate	M24-De0060197		X			X
10	H13_2.0	Dec 11, 2024		US Leachate	M24-De0060198	X	X			X
11	QC196	Dec 11, 2024		US Leachate	M24-De0060199		X			X
12	I06_0.5	Dec 11, 2024		US Leachate	M24-De0060200		X			X
13	I06_1.0	Dec 11, 2024		US Leachate	M24-De0060201		X			X
14	I07_0.5	Dec 11, 2024		US Leachate	M24-De0060202		X			X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
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Phone: 08 7223 5400
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Received: Dec 20, 2024 8:44 PM
Due: Jan 9, 2025
Priority: 10 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure	Moisture Set	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
15	I07_1.0	Dec 11, 2024		US Leachate	M24-De0060203		X			X
16	I07_2.5	Dec 11, 2024		US Leachate	M24-De0060204		X			X
17	I15_1.5	Dec 11, 2024		US Leachate	M24-De0060205		X			X
18	I16_1.5	Dec 11, 2024		US Leachate	M24-De0060206		X			X
19	J06_1.5	Dec 11, 2024		US Leachate	M24-De0060207	X	X			X
20	J06_2.5	Dec 11, 2024		US Leachate	M24-De0060208		X			X
21	K06_1.0	Dec 11, 2024		US Leachate	M24-De0060209		X			X
22	K06_1.5	Dec 11, 2024		US Leachate	M24-De0060210	X	X			X
Test Counts						3	21	1	1	21

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1174332-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 20, 2024

Client Sample ID			**E15_1.0**	**G16_0.5**	**G16_1.0**	**G18_0.5**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0060190**	**M24-De0060191**	**M24-De0060192**	**M24-De0060193**
Date Sampled			**Dec 11, 2024**	**Dec 11, 2024**	**Dec 11, 2024**	**Dec 11, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.0040	0.023
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00040	0.23
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.0031	0.015
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	0.00030
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	0.00020
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.0028	0.0058
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.0093	0.059
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.53	0.83
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.013	0.044
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.0020	0.0041
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	0.5648	1.2114
2-Fluorobiphenyl (surr.)	1	%	112	114	115	115
p-Terphenyl-d14 (surr.)	1	%	132	138	131	128
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.4	5.1	5.2	8.6
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.5	6.2	5.5	12
pH (USA HCl addition)	0.1	pH Units	1.8	1.9	1.9	1.9

Client Sample ID			G18_1.0	H12_1.0	H12_3.0	H13_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060194	M24-De0060195	M24-De0060196	M24-De0060197
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.018	0.00010	0.00040	< 0.00001
Acenaphthylene	0.00001	mg/L	0.16	0.00030	0.0020	0.00010
Anthracene	0.00001	mg/L	0.012	0.00020	0.00090	0.00010
Benz(a)anthracene	0.00001	mg/L	0.00030	0.00010	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00020	0.00010	< 0.00001	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0050	0.00070	0.00040	0.00030
Fluorene	0.00001	mg/L	0.042	0.00020	0.0017	0.00020
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	1.6	0.0023	0.011	0.0014
Phenanthrene	0.00001	mg/L	0.038	0.00070	0.0018	0.00020
Pyrene	0.00001	mg/L	0.0039	0.00080	0.00050	0.00050
Total PAH*	0.00001	mg/L	1.8794	0.0055	0.0187	0.0029
2-Fluorobiphenyl (surr.)	1	%	109	109	120	126
p-Terphenyl-d14 (surr.)	1	%	123	127	125	133
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	10	9.9	9.5	8.8
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	11	6.0	6.4	5.4
pH (USA HCl addition)	0.1	pH Units	1.8	2.0	1.9	1.9

Client Sample ID			H13_2.0	QC196	I06_0.5	I06_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060198	M24-De0060199	M24-De0060200	M24-De0060201
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00010	0.00010	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030	0.00020	< 0.00001	0.00020
Fluorene	0.00001	mg/L	0.00010	0.00010	< 0.00001	0.00010
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.0010	0.00080	< 0.00001	0.00040
Phenanthrene	0.00001	mg/L	0.00030	0.00020	< 0.00001	0.00010

Client Sample ID			H13_2.0	QC196	I06_0.5	I06_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060198	M24-De0060199	M24-De0060200	M24-De0060201
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	0.00050	0.00040	< 0.00001	0.00040
Total PAH*	0.00001	mg/L	0.0026	0.0018	< 0.00001	0.0012
2-Fluorobiphenyl (surr.)	1	%	121	120	107	117
p-Terphenyl-d14 (surr.)	1	%	131	127	124	125
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.8	8.4	8.5	5.2
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.3	5.9	5.3	5.8
pH (USA HCl addition)	0.1	pH Units	1.9	2.1	2.1	1.6
Heavy Metals						
Lead	0.01	mg/L	2.3	-	-	-

Client Sample ID			I07_0.5	I07_1.0	I07_2.5	I15_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060202	M24-De0060203	M24-De0060204	M24-De0060205
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00030	< 0.00001	0.0023	0.00030
Acenaphthylene	0.00001	mg/L	0.00020	0.00010	0.0072	0.0013
Anthracene	0.00001	mg/L	0.00040	0.00010	0.014	0.00040
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	0.0011	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	0.00010
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	0.00010
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00020	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00050	0.00010
Chrysene	0.00001	mg/L	0.00010	< 0.00001	0.0015	0.00010
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00020	< 0.00001
Fluoranthene	0.00001	mg/L	0.00040	0.00030	0.017	0.00030
Fluorene	0.00001	mg/L	0.00060	0.00010	0.025	0.0011
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00020	< 0.00001
Naphthalene	0.00001	mg/L	0.0011	0.0011	0.0020	0.015
Phenanthrene	0.00001	mg/L	0.00050	0.00020	0.053	0.00080
Pyrene	0.00001	mg/L	0.00090	0.00040	0.017	0.00050
Total PAH*	0.00001	mg/L	0.0046	0.0023	0.1418	0.0202
2-Fluorobiphenyl (surr.)	1	%	121	58	62	61
p-Terphenyl-d14 (surr.)	1	%	129	62	63	66
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.5	5.5	5.6	6.2
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.2	5.0	6.2	5.0
pH (USA HCl addition)	0.1	pH Units	1.5	1.6	1.6	1.6

Client Sample ID			I16_1.5	J06_1.5	J06_2.5	K06_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060206	M24-De0060207	M24-De0060208	M24-De0060209
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00030	0.0030
Acenaphthylene	0.00001	mg/L	0.00010	0.00010	0.0016	0.017
Anthracene	0.00001	mg/L	0.00020	0.00040	0.00050	0.0076
Benz(a)anthracene	0.00001	mg/L	0.00010	0.00090	< 0.00001	0.00060
Benzo(a)pyrene - low level	0.00001	mg/L	0.00010	0.00080	< 0.00001	0.00010
Benzo(b&j)fluoranthene	0.00001	mg/L	0.00010	0.0022	< 0.00001	0.00010
Benzo(g.h.i)perylene	0.00001	mg/L	0.00010	0.0027	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	0.00010	0.0030	0.00010	0.00010
Chrysene	0.00001	mg/L	0.00020	0.0022	0.00010	0.00030
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	0.0014	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00030	0.0019	0.00030	0.0097
Fluorene	0.00001	mg/L	0.00010	0.00010	0.0012	0.018
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	0.0028	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00060	0.00060	0.016	0.0069
Phenanthrene	0.00001	mg/L	0.00030	0.00070	0.0011	0.039
Pyrene	0.00001	mg/L	0.00050	0.0028	0.00050	0.0069
Total PAH*	0.00001	mg/L	0.0028	0.0226	0.0217	0.1093
2-Fluorobiphenyl (surr.)	1	%	60	58	60	66
p-Terphenyl-d14 (surr.)	1	%	60	59	64	72
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.1	6.3	6.7	7.1
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.0	6.0	6.3	6.3
pH (USA HCl addition)	0.1	pH Units	1.5	1.5	1.6	1.7
Heavy Metals						
Lead	0.01	mg/L	-	5.1	-	-

Client Sample ID			K06_1.5
Sample Matrix			US Leachate
Eurofins Sample No.			M24-De0060210
Date Sampled			Dec 11, 2024
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	0.00030
Acenaphthylene	0.00001	mg/L	0.00020
Anthracene	0.00001	mg/L	0.0012
Benz(a)anthracene	0.00001	mg/L	0.00020
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	0.00020
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	0.0015
Fluorene	0.00001	mg/L	0.0011
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001

Client Sample ID			K06_1.5
Sample Matrix			US Leachate
Eurofins Sample No.			M24-De0060210
Date Sampled			Dec 11, 2024
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons (Trace level)			
Naphthalene	0.00001	mg/L	0.00040
Phenanthrene	0.00001	mg/L	0.0024
Pyrene	0.00001	mg/L	0.0016
Total PAH*	0.00001	mg/L	0.0091
2-Fluorobiphenyl (surr.)	1	%	117
p-Terphenyl-d14 (surr.)	1	%	145
USA Leaching Procedure			
Leachate Fluid[C01]		comment	1.0
pH (initial)	0.1	pH Units	7.3
pH (Leachate fluid)	0.1	pH Units	5.0
pH (off)	0.1	pH Units	5.7
pH (USA HCl addition)	0.1	pH Units	1.7
Heavy Metals			
Lead	0.01	mg/L	0.58

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 30, 2024	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Dec 30, 2024	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1174332
Phone: 08 7223 5400
Fax:

Received: Dec 20, 2024 8:44 PM
Due: Jan 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure	Moisture Set	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	G16_1.0	Dec 11, 2024		Soil	M24-De0060189			X	X	
2	E15_1.0	Dec 11, 2024		US Leachate	M24-De0060190		X			X
3	G16_0.5	Dec 11, 2024		US Leachate	M24-De0060191		X			X
4	G16_1.0	Dec 11, 2024		US Leachate	M24-De0060192		X			X
5	G18_0.5	Dec 11, 2024		US Leachate	M24-De0060193		X			X
6	G18_1.0	Dec 11, 2024		US Leachate	M24-De0060194		X			X
7	H12_1.0	Dec 11, 2024		US Leachate	M24-De0060195		X			X
8	H12_3.0	Dec 11, 2024		US Leachate	M24-De0060196		X			X
9	H13_1.5	Dec 11, 2024		US Leachate	M24-De0060197		X			X
10	H13_2.0	Dec 11, 2024		US Leachate	M24-De0060198	X	X			X
11	QC196	Dec 11, 2024		US Leachate	M24-De0060199		X			X
12	I06_0.5	Dec 11, 2024		US Leachate	M24-De0060200		X			X
13	I06_1.0	Dec 11, 2024		US Leachate	M24-De0060201		X			X
14	I07_0.5	Dec 11, 2024		US Leachate	M24-De0060202		X			X

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure	Moisture Set	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
15	I07_1.0	Dec 11, 2024		US Leachate	M24-De0060203		X			X
16	I07_2.5	Dec 11, 2024		US Leachate	M24-De0060204		X			X
17	I15_1.5	Dec 11, 2024		US Leachate	M24-De0060205		X			X
18	I16_1.5	Dec 11, 2024		US Leachate	M24-De0060206		X			X
19	J06_1.5	Dec 11, 2024		US Leachate	M24-De0060207	X	X			X
20	J06_2.5	Dec 11, 2024		US Leachate	M24-De0060208		X			X
21	K06_1.0	Dec 11, 2024		US Leachate	M24-De0060209		X			X
22	K06_1.5	Dec 11, 2024		US Leachate	M24-De0060210	X	X			X
Test Counts						3	21	1	1	21

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	108			70-130	Pass	
Acenaphthylene	%	109			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene - low level	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	%	117			70-130	Pass	
Benzo(g.h.i)perylene	%	110			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	89			70-130	Pass	
Dibenz(a.h)anthracene	%	112			70-130	Pass	
Fluoranthene	%	117			70-130	Pass	
Fluorene	%	115			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	113			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	112			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	91			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M24-De0045383	NCP	%	89			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0060210	CP	%	94			70-130	Pass	
Acenaphthylene	M24-De0060210	CP	%	90			70-130	Pass	
Anthracene	M24-De0060210	CP	%	105			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	M24-De0060210	CP	%	79			70-130	Pass	
Benzo(a)pyrene - low level	M24-De0060210	CP	%	70			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0060210	CP	%	94			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0060210	CP	%	82			70-130	Pass	
Benzo(k)fluoranthene	M24-De0060210	CP	%	122			70-130	Pass	
Chrysene	M24-De0060210	CP	%	103			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0060210	CP	%	96			70-130	Pass	
Fluoranthene	M24-De0060210	CP	%	110			70-130	Pass	
Fluorene	M24-De0060210	CP	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0060210	CP	%	96			70-130	Pass	
Naphthalene	M24-De0060210	CP	%	98			70-130	Pass	
Phenanthrene	M24-De0060210	CP	%	117			70-130	Pass	
Pyrene	M24-De0060210	CP	%	121			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M24-De0045383	NCP	mg/L	0.19	0.19	2.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene - low level	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	M24-De0060200	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Savini Suduweli	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1174332-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 20, 2024

Client Sample ID			R16G16_1.0
Sample Matrix			**Soil**
Eurofins Sample No.			**M24-De0060189**
Date Sampled			**Dec 11, 2024**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 1000
TRH C6-C10	20	mg/kg	< 1000
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 1000
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	0.8
Ethylbenzene	0.1	mg/kg	4.4
m&p-Xylenes	0.2	mg/kg	15
o-Xylene	0.1	mg/kg	3.8
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	53
Volatile Organics			
NaphthaleneN02	0.5	mg/kg	440
Sample Properties			
% Moisture	1	%	17

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 30, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Dec 30, 2024	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 30, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
% Moisture	Melbourne	Dec 30, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Sample Detail						Lead	USA Leaching Procedure	Moisture Set	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
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2	E15_1.0	Dec 11, 2024		US Leachate	M24-De0060190		X			X
3	G16_0.5	Dec 11, 2024		US Leachate	M24-De0060191		X			X
4	G16_1.0	Dec 11, 2024		US Leachate	M24-De0060192		X			X
5	G18_0.5	Dec 11, 2024		US Leachate	M24-De0060193		X			X
6	G18_1.0	Dec 11, 2024		US Leachate	M24-De0060194		X			X
7	H12_1.0	Dec 11, 2024		US Leachate	M24-De0060195		X			X
8	H12_3.0	Dec 11, 2024		US Leachate	M24-De0060196		X			X
9	H13_1.5	Dec 11, 2024		US Leachate	M24-De0060197		X			X
10	H13_2.0	Dec 11, 2024		US Leachate	M24-De0060198	X	X			X
11	QC196	Dec 11, 2024		US Leachate	M24-De0060199		X			X
12	I06_0.5	Dec 11, 2024		US Leachate	M24-De0060200		X			X
13	I06_1.0	Dec 11, 2024		US Leachate	M24-De0060201		X			X
14	I07_0.5	Dec 11, 2024		US Leachate	M24-De0060202		X			X

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email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Environment Testing NZ Ltd
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1174332
Phone: 08 7223 5400
Fax:

Received: Dec 20, 2024 8:44 PM
Due: Jan 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure	Moisture Set	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
15	I07_1.0	Dec 11, 2024		US Leachate	M24-De0060203		X			X
16	I07_2.5	Dec 11, 2024		US Leachate	M24-De0060204		X			X
17	I15_1.5	Dec 11, 2024		US Leachate	M24-De0060205		X			X
18	I16_1.5	Dec 11, 2024		US Leachate	M24-De0060206		X			X
19	J06_1.5	Dec 11, 2024		US Leachate	M24-De0060207	X	X			X
20	J06_2.5	Dec 11, 2024		US Leachate	M24-De0060208		X			X
21	K06_1.0	Dec 11, 2024		US Leachate	M24-De0060209		X			X
22	K06_1.5	Dec 11, 2024		US Leachate	M24-De0060210	X	X			X
Test Counts						3	21	1	1	21

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	78			70-130	Pass	
Toluene	%	76			70-130	Pass	
Ethylbenzene	%	80			70-130	Pass	
m&p-Xylenes	%	77			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0056635	NCP	%	79			70-130	Pass	
Toluene	M24-De0056635	NCP	%	86			70-130	Pass	
Ethylbenzene	M24-De0056635	NCP	%	95			70-130	Pass	
m&p-Xylenes	M24-De0056635	NCP	%	91			70-130	Pass	
o-Xylene	M24-De0056635	NCP	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0056000	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0056000	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0056000	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0056000	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0056000	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-De0058089	NCP	%	6.9	7.8	12	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
R16	The LORs have been raised due to the high concentration of one or more analytes

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

RE: Eurofins Test Results, Invoice - Report 1171413 : Site Macquarie Point (60693007 7)

From Harry Bacalis <Harry.Bacalis@eurofinsanz.com>
Date Tue 24/12/24 8:41 AM
To Martin, Tim <Timothy.Martin@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Cc Lath, Supriya <Supriya.Lath@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Thanks Tim

Harry – STD TAT

#1174347
30/12/24

Kind regards,

Harry Bacalis
Phone: +61 3 8564 5064
Mobile: +61 438 858 924
Email: Harry.Bacalis@eurofinsanz.com

Thank you for your ongoing support with Eurofins.
To assist with your planning over the December–January period, kindly review the operating schedule by clicking the link below.
We appreciate your partnership throughout 2024 and look forward to working with you in 2025.

eurofins **Year-End Operating Schedule**

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From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Monday, 23 December 2024 8:01 PM
To: Harry Bacalis <Harry.Bacalis@eurofinsanz.com>; Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Lath, Supriya <Supriya.Lath@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1171413 : Site Macquarie Point (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Harry,

Please submit the following samples under batch 1171413 for additional testing as requested in the table below:

- Please include Supriya.Lath@aecom.com on the results too.

SAMPLE ID	Include BTEXN results	All PAHs leachable concentration
Required LOR	Standard LORs	0.0005 (TEQ)
QC185	X	
QC186	X	
E13_1.5		X
QC171		X
F13_0.5		X
F13_1.0		X
F14_2.5		X
F14_3.0		X
G12_1.0		X
G12_1.5		X
G12_3.5		X
QC163		X
G13_1.5		X
G13_2.0		X
G14_1.5		X
G14_2.0		X
QC173		X
G15_1.5		X
G15_3.0		X
H16_2.0		X
QC183		X
H17_1.0		X
H17_1.5		X
H18_1.0		X
I13_1.5		X
I14_1.0		X
I16_1.0		X
I16_1.5		X
K13_1.0		X

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

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727 Collins Street, Melbourne, VIC 3008, Australia
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My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 10 Day
Date/Time received Dec 23, 2024 8:01 PM
Eurofins reference 1174347

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

QC185 & QC186 unable to analyse
Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1174347
Phone: 08 7223 5400
Fax:

Received: Dec 23, 2024 8:01 PM
Due: Jan 10, 2025
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	BTEX and Naphthalene	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QC185	Dec 09, 2024		Soil	M24-De0060249		X	
2	QC186	Dec 09, 2024		Soil	M24-De0060250		X	
3	E13_1.5	Dec 09, 2024		US Leachate	M24-De0060251	X		X
4	QC171	Dec 09, 2024		US Leachate	M24-De0060252	X		X
5	F13_0.5	Dec 09, 2024		US Leachate	M24-De0060253	X		X
6	F13_1.0	Dec 09, 2024		US Leachate	M24-De0060254	X		X
7	F14_2.5	Dec 09, 2024		US Leachate	M24-De0060255	X		X
8	F14_3.0	Dec 09, 2024		US Leachate	M24-De0060256	X		X
9	G12_1.0	Dec 09, 2024		US Leachate	M24-De0060257	X		X
10	G12_1.5	Dec 09, 2024		US Leachate	M24-De0060258	X		X
11	G12_3.5	Dec 09, 2024		US Leachate	M24-De0060259	X		X
12	QC163	Dec 09, 2024		US Leachate	M24-De0060260	X		X
13	G13_1.5	Dec 09, 2024		US Leachate	M24-De0060261	X		X
14	G13_2.0	Dec 09, 2024		US Leachate	M24-De0060262	X		X

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email: EnviroSales@eurofinsanz.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Sample Detail						USA Leaching Procedure	BTEX and Naphthalene	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X
15	G14_1.5	Dec 09, 2024		US Leachate	M24-De0060263	X		X
16	G14_2.0	Dec 09, 2024		US Leachate	M24-De0060264	X		X
17	QC173	Dec 09, 2024		US Leachate	M24-De0060265	X		X
18	G15_1.5	Dec 09, 2024		US Leachate	M24-De0060266	X		X
19	G15_3.0	Dec 09, 2024		US Leachate	M24-De0060267	X		X
20	H16_2.0	Dec 09, 2024		US Leachate	M24-De0060268	X		X
21	QC183	Dec 09, 2024		US Leachate	M24-De0060269	X		X
22	H17_1.0	Dec 09, 2024		US Leachate	M24-De0060270	X		X
23	H17_1.5	Dec 09, 2024		US Leachate	M24-De0060271	X		X
24	H18_1.0	Dec 09, 2024		US Leachate	M24-De0060272	X		X
25	I13_1.5	Dec 09, 2024		US Leachate	M24-De0060273	X		X
26	I14_1.0	Dec 09, 2024		US Leachate	M24-De0060274	X		X
27	I16_1.0	Dec 09, 2024		US Leachate	M24-De0060275	X		X
28	I16_1.5	Dec 09, 2024		US Leachate	M24-De0060276	X		X
29	K13_1.0	Dec 09, 2024		US Leachate	M24-De0060277	X		X
Test Counts						27	2	27

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NATA Accredited
Accreditation Number 1261
Site Number 1254

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NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1174347-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 23, 2024

Client Sample ID			**E13_1.5**	**QC171**	**F13_0.5**	**F13_1.0**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M24-De0060251**	**M24-De0060252**	**M24-De0060253**	**M24-De0060254**
Date Sampled			**Dec 09, 2024**	**Dec 09, 2024**	**Dec 09, 2024**	**Dec 09, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00040	0.00010	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.0014	0.00020	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00020	0.00020	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00050	0.00020	0.00010	0.00010
Fluorene	0.00001	mg/L	0.0014	0.00050	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00060	0.011	0.00070	0.00020
Phenanthrene	0.00001	mg/L	0.0027	0.00070	0.00010	< 0.00001
Pyrene	0.00001	mg/L	0.00060	0.00020	0.00020	0.00010
Total PAH*	0.00001	mg/L	0.008	0.0131	0.0011	0.0004
2-Fluorobiphenyl (surr.)	1	%	71	59	61	69
p-Terphenyl-d14 (surr.)	1	%	81	61	61	74
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.4	5.6	5.8	5.7
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.6	6.6	5.2	5.1
pH (USA HCl addition)	0.1	pH Units	1.5	1.4	1.5	1.5

Client Sample ID			F14_2.5	F14_3.0	G12_1.0	G12_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060255	M24-De0060256	M24-De0060257	M24-De0060258
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00010	< 0.00001	0.00010	0.00010
Anthracene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	0.00010
Fluorene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00020	0.00020	0.00010	0.00030
Phenanthrene	0.00001	mg/L	0.00010	0.00010	0.00040	0.00010
Pyrene	0.00001	mg/L	0.00010	< 0.00001	0.00010	< 0.00001
Total PAH*	0.00001	mg/L	0.0008	0.0003	0.001	0.0006
2-Fluorobiphenyl (surr.)	1	%	63	64	65	65
p-Terphenyl-d14 (surr.)	1	%	69	68	71	69
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.7	5.7	5.8	8.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.3	5.9	6.4	8.0
pH (USA HCl addition)	0.1	pH Units	1.5	1.5	1.6	1.5

Client Sample ID			G12_3.5	QC163	G13_1.5	G13_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060259	M24-De0060260	M24-De0060261	M24-De0060262
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.0015	< 0.00001	0.00010	0.00010
Acenaphthylene	0.00001	mg/L	0.00040	< 0.00001	0.00010	0.00010
Anthracene	0.00001	mg/L	0.0013	< 0.00001	0.00010	0.00010
Benz(a)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0016	< 0.00001	0.00040	0.00030
Fluorene	0.00001	mg/L	0.0023	< 0.00001	0.00030	0.00020
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00060	0.00010	0.025	0.00030
Phenanthrene	0.00001	mg/L	0.0036	0.00010	0.00060	0.00030

Client Sample ID			G12_3.5	QC163	G13_1.5	G13_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060259	M24-De0060260	M24-De0060261	M24-De0060262
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	0.0016	< 0.00001	0.00060	0.00050
Total PAH*	0.00001	mg/L	0.0131	0.0002	0.0272	0.002
2-Fluorobiphenyl (surr.)	1	%	69	67	85	62
p-Terphenyl-d14 (surr.)	1	%	76	74	98	65
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.2	7.9	8.4	8.3
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.2	7.6	5.4	5.5
pH (USA HCl addition)	0.1	pH Units	1.4	1.5	1.5	1.5

Client Sample ID			G14_1.5	G14_2.0	QC173	G15_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060263	M24-De0060264	M24-De0060265	M24-De0060266
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00020
Acenaphthylene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.0013
Anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00010
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00020	0.00010	0.00010	0.00020
Fluorene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	0.00050
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00050	0.00030	0.00030	0.014
Phenanthrene	0.00001	mg/L	0.00020	0.00020	0.00010	0.00050
Pyrene	0.00001	mg/L	0.00040	0.00020	0.00030	0.00030
Total PAH*	0.00001	mg/L	0.0017	0.0008	0.0008	0.0171
2-Fluorobiphenyl (surr.)	1	%	65	66	65	64
p-Terphenyl-d14 (surr.)	1	%	70	72	71	71
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.3	8.3	5.5	5.3
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.8	6.3	5.7	5.6
pH (USA HCl addition)	0.1	pH Units	1.8	2.0	1.5	1.6

Client Sample ID			G15_3.0	H16_2.0	QC183	H17_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060267	M24-De0060268	M24-De0060269	M24-De0060270
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.00010	0.0051	0.0059	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00020	0.031	0.039	< 0.00001
Anthracene	0.00001	mg/L	0.00050	0.011	0.0093	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00010	0.0032	0.00080	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	0.00010	0.0032	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	0.0027	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	0.00090	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	0.0020	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	0.00010	0.0022	0.00060	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	0.00030	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.00080	0.018	0.011	< 0.00001
Fluorene	0.00001	mg/L	0.00060	0.021	0.023	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	0.00080	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00060	0.024	0.063	< 0.00001
Phenanthrene	0.00001	mg/L	0.0012	0.060	0.052	< 0.00001
Pyrene	0.00001	mg/L	0.00090	0.014	0.0087	< 0.00001
Total PAH*	0.00001	mg/L	0.0052	0.1994	0.2133	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	63	61	110	115
p-Terphenyl-d14 (surr.)	1	%	68	64	129	139
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.2	5.3	5.4	5.7
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.2	5.2	5.5	6.4
pH (USA HCl addition)	0.1	pH Units	1.6	1.5	1.6	1.6

Client Sample ID			H17_1.5	H18_1.0	I13_1.5	I14_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060271	M24-De0060272	M24-De0060273	M24-De0060274
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			H17_1.5	H18_1.0	I13_1.5	I14_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060271	M24-De0060272	M24-De0060273	M24-De0060274
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	120	120	118	109
p-Terphenyl-d14 (surr.)	1	%	51	55	50	129
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.1	6.7	6.7	6.9
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.6	5.8	5.5	5.5
pH (USA HCl addition)	0.1	pH Units	1.6	1.6	1.6	1.5

Client Sample ID			I16_1.0	I16_1.5	K13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M24-De0060275	M24-De0060276	M24-De0060277
Date Sampled			Dec 09, 2024	Dec 09, 2024	Dec 09, 2024
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons (Trace level)					
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene - low level	0.00001	mg/L	< 0.00001	< 0.00001	0.00010
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	0.00010	0.00010
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010
Pyrene	0.00001	mg/L	< 0.00001	0.00010	0.00020
Total PAH*	0.00001	mg/L	< 0.00001	0.0002	0.0006
2-Fluorobiphenyl (surr.)	1	%	105	57	57
p-Terphenyl-d14 (surr.)	1	%	122	63	64
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.9	7.0	7.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0
pH (off)	0.1	pH Units	6.4	6.6	5.5
pH (USA HCl addition)	0.1	pH Units	1.6	1.7	2.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Dec 31, 2024	7 Days

- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
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Auckland	Auckland (Focus)	Christchurch	Tauranga
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1174347
Phone: 08 7223 5400
Fax:

Received: Dec 23, 2024 8:01 PM
Due: Jan 10, 2025
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	BTEX and Naphthalene	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QC185	Dec 09, 2024		Soil	M24-De0060249		X	
2	QC186	Dec 09, 2024		Soil	M24-De0060250		X	
3	E13_1.5	Dec 09, 2024		US Leachate	M24-De0060251	X		X
4	QC171	Dec 09, 2024		US Leachate	M24-De0060252	X		X
5	F13_0.5	Dec 09, 2024		US Leachate	M24-De0060253	X		X
6	F13_1.0	Dec 09, 2024		US Leachate	M24-De0060254	X		X
7	F14_2.5	Dec 09, 2024		US Leachate	M24-De0060255	X		X
8	F14_3.0	Dec 09, 2024		US Leachate	M24-De0060256	X		X
9	G12_1.0	Dec 09, 2024		US Leachate	M24-De0060257	X		X
10	G12_1.5	Dec 09, 2024		US Leachate	M24-De0060258	X		X
11	G12_3.5	Dec 09, 2024		US Leachate	M24-De0060259	X		X
12	QC163	Dec 09, 2024		US Leachate	M24-De0060260	X		X
13	G13_1.5	Dec 09, 2024		US Leachate	M24-De0060261	X		X
14	G13_2.0	Dec 09, 2024		US Leachate	M24-De0060262	X		X

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16	G14_2.0	Dec 09, 2024		US Leachate	M24-De0060264	X		X
17	QC173	Dec 09, 2024		US Leachate	M24-De0060265	X		X
18	G15_1.5	Dec 09, 2024		US Leachate	M24-De0060266	X		X
19	G15_3.0	Dec 09, 2024		US Leachate	M24-De0060267	X		X
20	H16_2.0	Dec 09, 2024		US Leachate	M24-De0060268	X		X
21	QC183	Dec 09, 2024		US Leachate	M24-De0060269	X		X
22	H17_1.0	Dec 09, 2024		US Leachate	M24-De0060270	X		X
23	H17_1.5	Dec 09, 2024		US Leachate	M24-De0060271	X		X
24	H18_1.0	Dec 09, 2024		US Leachate	M24-De0060272	X		X
25	I13_1.5	Dec 09, 2024		US Leachate	M24-De0060273	X		X
26	I14_1.0	Dec 09, 2024		US Leachate	M24-De0060274	X		X
27	I16_1.0	Dec 09, 2024		US Leachate	M24-De0060275	X		X
28	I16_1.5	Dec 09, 2024		US Leachate	M24-De0060276	X		X
29	K13_1.0	Dec 09, 2024		US Leachate	M24-De0060277	X		X
Test Counts						27	2	27

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	108			70-130	Pass	
Acenaphthylene	%	109			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene - low level	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	%	117			70-130	Pass	
Benzo(g.h.i)perylene	%	110			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	89			70-130	Pass	
Dibenz(a.h)anthracene	%	112			70-130	Pass	
Fluoranthene	%	117			70-130	Pass	
Fluorene	%	115			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	113			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	112			70-130	Pass	
Pyrene	%	116			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	M24-De0060271	CP	%	129			70-130	Pass	
Acenaphthylene	M24-De0060271	CP	%	103			70-130	Pass	
Anthracene	M24-De0060271	CP	%	88			70-130	Pass	
Benz(a)anthracene	M24-De0060271	CP	%	113			70-130	Pass	
Benzo(a)pyrene - low level	M24-De0060271	CP	%	119			70-130	Pass	
Benzo(b&j)fluoranthene	M24-De0060271	CP	%	105			70-130	Pass	
Benzo(g.h.i)perylene	M24-De0060271	CP	%	103			70-130	Pass	
Benzo(k)fluoranthene	M24-De0060271	CP	%	125			70-130	Pass	
Chrysene	M24-De0060271	CP	%	111			70-130	Pass	
Dibenz(a.h)anthracene	M24-De0060271	CP	%	109			70-130	Pass	
Fluoranthene	M24-De0060271	CP	%	99			70-130	Pass	
Fluorene	M24-De0060271	CP	%	118			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	M24-De0060271	CP	%	109			70-130	Pass	
Naphthalene	M24-De0060271	CP	%	80			70-130	Pass	
Phenanthrene	M24-De0060271	CP	%	103			70-130	Pass	
Pyrene	M24-De0060271	CP	%	98			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthylene	M24-De0060261	CP	mg/L	0.00010	< 0.00001	56	30%	Fail	Q15
Fluoranthene	M24-De0060261	CP	mg/L	0.00040	0.00070	61	30%	Fail	Q15
Fluorene	M24-De0060261	CP	mg/L	0.00030	0.00010	89	30%	Fail	Q15
Phenanthrene	M24-De0060261	CP	mg/L	0.00060	0.00030	61	30%	Fail	Q15
Pyrene	M24-De0060261	CP	mg/L	0.00060	0.0015	78	30%	Fail	Q15

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Mele Singh	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1174347-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Dec 23, 2024

Client Sample ID			**QC185**	**QC186**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M24-De0060249**	**M24-De0060250**
Date Sampled			**Dec 09, 2024**	**Dec 09, 2024**
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	130	108
Volatile Organics				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
BTEX and Naphthalene			
BTEX	Melbourne	Dec 30, 2024	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			

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15	G14_1.5	Dec 09, 2024		US Leachate	M24-De0060263	X		X
16	G14_2.0	Dec 09, 2024		US Leachate	M24-De0060264	X		X
17	QC173	Dec 09, 2024		US Leachate	M24-De0060265	X		X
18	G15_1.5	Dec 09, 2024		US Leachate	M24-De0060266	X		X
19	G15_3.0	Dec 09, 2024		US Leachate	M24-De0060267	X		X
20	H16_2.0	Dec 09, 2024		US Leachate	M24-De0060268	X		X
21	QC183	Dec 09, 2024		US Leachate	M24-De0060269	X		X
22	H17_1.0	Dec 09, 2024		US Leachate	M24-De0060270	X		X
23	H17_1.5	Dec 09, 2024		US Leachate	M24-De0060271	X		X
24	H18_1.0	Dec 09, 2024		US Leachate	M24-De0060272	X		X
25	I13_1.5	Dec 09, 2024		US Leachate	M24-De0060273	X		X
26	I14_1.0	Dec 09, 2024		US Leachate	M24-De0060274	X		X
27	I16_1.0	Dec 09, 2024		US Leachate	M24-De0060275	X		X
28	I16_1.5	Dec 09, 2024		US Leachate	M24-De0060276	X		X
29	K13_1.0	Dec 09, 2024		US Leachate	M24-De0060277	X		X
Test Counts						27	2	27

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	77			70-130	Pass	
Ethylbenzene	%	77			70-130	Pass	
m&p-Xylenes	%	77			70-130	Pass	
Xylenes - Total*	%	77			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
Naphthalene	%	78			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M24-De0056392	NCP	%	80			70-130	Pass	
Toluene	M24-De0056392	NCP	%	86			70-130	Pass	
Ethylbenzene	M24-De0056392	NCP	%	93			70-130	Pass	
m&p-Xylenes	M24-De0056392	NCP	%	94			70-130	Pass	
o-Xylene	M24-De0056392	NCP	%	96			70-130	Pass	
Xylenes - Total*	M24-De0056392	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
Naphthalene	M24-De0056392	NCP	%	102			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M24-De0057919	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M24-De0057919	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M24-De0057919	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M24-De0057919	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M24-De0057919	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M24-De0057919	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Naphthalene	M24-De0057919	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

1173784

RE: Eurofins Test Results, Invoice - Report 1169377 : Site Macquarie Point (60693007 7)

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Wed 18/12/24 3:16 PM
To Martin, Tim <Timothy.Martin@aecom.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

We will get that organised.

@SH_AU_CAU001_EnviroSampleVic – Can you please action the below? Please note trace level leachate analysis is required. Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, 18 December 2024 2:35 PM
To: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1169377 : Site Macquarie Point (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Savini,

Please allocate the additional sampling analysis as per below, of samples from 1169377:

Required LOR	0.5	0.5	0.0005 (TEQ)
G10_2.0			X
G11_0.5			X
G11_1.5	X	X	X
G11_3.0			X
H09_3.0			X
H10_2.0			X
H10_2.5		X	X
H11_1.0			X
H11_2.5			X
I08_1.0			X
I10_1.0			X
I10_1.5			X
I10_2.0			X
QC149			X
I11_1.5			X
I11_2.0			X
I11_2.5			X
I12_0.5			X
J08_1.5		X	
J09_0.5			X
J09_1.0			X
J11_1.5			X
K07_0.5			X
K07_1.0			X
K07_1.5			X
K08_0.5			X
K08_2.0			X
K09_1.5			X
K10_1.5			X
K10_2.0			X
K11_2.0			X
QC147			X
L11_0.5			X
QC143			X
L13_0.5			X
L13_1.0			X
L13_1.5			X
L14_1.0			X
L14_1.5			X
L15_1.5			X
M13_1.0		X	X
M13_1.5			X
O13_1.5			X

#1176785
13/1/25

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
LinkedIn | Twitter | Facebook | Instagram | aecom.com

Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

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www.eurofins.com.au EnviroSales@eurofinsanz.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 1 Day
Date/Time received Jan 13, 2025 2:35 PM
Eurofins reference 1176785

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1176785
Phone: 08 7223 5400
Fax:

Received: Jan 13, 2025 2:35 PM
Due: Jan 15, 2025
Priority: 1 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	J11_1.5	Dec 05, 2024		US Leachate	M25-Ja0012602	X	X
2	K08_2.0	Dec 05, 2024		US Leachate	M25-Ja0012603	X	X
3	L15_1.5	Dec 05, 2024		US Leachate	M25-Ja0012604	X	X
4	J09_0.5	Dec 05, 2024		US Leachate	M25-Ja0013910	X	X
Test Counts						4	4

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1176785-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Jan 13, 2025

Client Sample ID			**J11_1.5**	**K08_2.0**	**L15_1.5**	**J09_0.5**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M25-Ja0012602**	**M25-Ja0012603**	**M25-Ja0012604**	**M25-Ja0013910**
Date Sampled			**Dec 05, 2024**	**Dec 05, 2024**	**Dec 05, 2024**	**Dec 05, 2024**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	0.0011	< 0.00001	< 0.00001	0.00040
Acenaphthylene	0.00001	mg/L	0.00030	< 0.00001	< 0.00001	0.0015
Anthracene	0.00001	mg/L	0.0056	0.00010	0.00010	0.0023
Benz(a)anthracene	0.00001	mg/L	0.0012	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene - low level	0.00001	mg/L	0.0013	< 0.00001	< 0.00001	0.00020
Benzo(b&j)fluoranthene	0.00001	mg/L	0.0010	< 0.00001	< 0.00001	0.00010
Benzo(g.h.i)perylene	0.00001	mg/L	0.00060	< 0.00001	< 0.00001	0.00010
Benzo(k)fluoranthene	0.00001	mg/L	0.00090	< 0.00001	< 0.00001	0.00010
Chrysene	0.00001	mg/L	0.0015	< 0.00001	< 0.00001	0.00020
Dibenz(a.h)anthracene	0.00001	mg/L	0.00010	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	0.0096	0.00020	0.00020	0.0013
Fluorene	0.00001	mg/L	0.0051	0.00010	< 0.00001	0.0017
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	0.00040	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00040	0.00010	0.00030	0.00040
Phenanthrene	0.00001	mg/L	0.015	0.00030	0.00020	0.0067
Pyrene	0.00001	mg/L	0.0073	0.00030	0.00020	0.00090
Total PAH*	0.00001	mg/L	0.0514	0.0011	0.001	0.016
2-Fluorobiphenyl (surr.)	1	%	115	114	115	58
p-Terphenyl-d14 (surr.)	1	%	139	143	139	64
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.7	5.6	6.0	9.0
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	4.9
pH (off)	0.1	pH Units	5.3	6.5	5.7	6.3
pH (USA HCl addition)	0.1	pH Units	1.5	1.4	1.8	1.4

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Jan 14, 2025	7 Days

- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)

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email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1176785
Phone: 08 7223 5400
Fax:

Received: Jan 13, 2025 2:35 PM
Due: Jan 15, 2025
Priority: 1 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						USA Leaching Procedure	Polycyclic Aromatic Hydrocarbons (Trace level)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	J11_1.5	Dec 05, 2024		US Leachate	M25-Ja0012602	X	X
2	K08_2.0	Dec 05, 2024		US Leachate	M25-Ja0012603	X	X
3	L15_1.5	Dec 05, 2024		US Leachate	M25-Ja0012604	X	X
4	J09_0.5	Dec 05, 2024		US Leachate	M25-Ja0013910	X	X
Test Counts						4	4

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene - low level	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benzo(a)pyrene - low level	%	96			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Catherine Wilson	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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)utlook

rofins Sample Receipt Advice - Report 1171417 : Site Macquarie Point (60693007 7)

lartin, Tim <Timothy.Martin@aecom.com>
ue 14/01/25 10:39 AM
nur Mehmet <OnurMehmet@eurofins.com>; Savini Suduweli Kondage
Savini.SuduweliKondage@eurofinsanz.com>; EnviroSampleVic <EnviroSampleVic@eurofins.com>
rowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>

verified Sender: The sender of this email has not been verified. Review the content of the message carefully and ify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Savini

u please review 1171417, it seems the 4 samples were not taken off hold as requested and d as requested, per below email (17 dec).
actioned, please send through updated COA and Summary docs.
not, please advise if this can be actioned?

s,
Y MARTIN

Environmental Engineer, ANZ VSA
422 188 549
1800 868 654
artin@aecom.com

Square, Level 10, Tower Two
ns Street, Melbourne, VIC 3008, Australia
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ing days are:

day	Tuesday	Wednesday	Thursday	Friday
	✓	✓	✓	✓

artin, Tim
esday, 17 December 2024 8:28 AM
Supriya <Supriya.Lath@aecom.com>; SaviniSuduweli@eurofins.com
e, Robert <Robert.Crowe@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>; Christensen, <andrew.christensen@aecom.com>
RE: Eurofins Sample Receipt Advice - Report 1171417 : Site Macquarie Point (60693007 7)

Savini,

on to Supriya's request below, can you please action the following:

- QC198: for TRH/BTEXN, PAHs (trace level), Lead, Arsenic
- E16_1.0: for TRH/BTEXN, PAHs (trace level), Lead, Arsenic
- H07_2.0: for TRH/BTEXN, PAHs (trace level), Lead, Arsenic
- H07_3.0: for IB105 suite

- Update Sample IDs (insert 0 into sample IDs where <10):

#	Current Sample ID	Updated Sample ID
15	K6_0.5	K06_0.5
16	K6_1.0	K06_1.0
17	K6_1.5	K06_1.5
18	K6_2.0	K06_2.0
19	K6_2.5	K06_2.5
21	J7_0.5	J07_0.5
22	J7_1.0	J07_1.0
23	J7_1.5	J07_1.5
24	J7_2.0	J07_2.0
25	J7_2.5	J07_2.5
26	J6_0.5	J06_0.5
27	J6_1.0	J06_1.0
28	J6_1.5	J06_1.5
29	J6_2.0	J06_2.0
30	J6_2.5	J06_2.5
31	I6_0.5	I06_0.5
32	I6_1.0	I06_1.0
54	I7_0.5	I07_0.5
55	I7_1.0	I07_1.0
56	I7_1.5	I07_1.5
57	I7_2.0	I07_2.0
58	I7_2.5	I07_2.5
59	I7_3.0	I07_3.0
61	H7_0.5	H07_0.5
62	H7_1.0	H07_1.0
65	H7_3.0	H07_3.0
66	H7_3.5	H07_3.5
68	H7_1.5	H07_1.5
69	H7_2.0	H07_2.0
70	H7_2.5	H07_2.5

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 1 Day
Date/Time received Jan 14, 2025 10:39 AM
Eurofins reference 1177159

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1177159
Phone: 08 7223 5400
Fax:

Received: Jan 14, 2025 10:39 AM
Due: Jan 15, 2025
Priority: 1 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	QC198	Dec 11, 2024		Soil	M25-Ja0015150	X	X	X	X	X	
2	E16_1.0	Dec 11, 2024		Soil	M25-Ja0015151	X	X	X	X	X	
3	H07_2.0	Dec 11, 2024		Soil	M25-Ja0015152	X	X	X	X	X	
4	H07_3.0	Dec 11, 2024		Soil	M25-Ja0015153			X			X
Test Counts						3	3	4	3	3	1

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1177159-S**
Project name Macquarie Point
Project ID 60693007 7
Received Date Jan 14, 2025

Client Sample ID			**QC198**	**E16_1.0**	**H07_2.0**	**H07_3.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Ja0015150**	**M25-Ja0015151**	**M25-Ja0015152**	**M25-Ja0015153**
Date Sampled			**Dec 11, 2024**	**Dec 11, 2024**	**Dec 11, 2024**	**Dec 11, 2024**
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	115	113	84	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.005	mg/kg	< 0.005	< 0.005	< 0.005	-
Acenaphthylene	0.005	mg/kg	0.007	< 0.005	< 0.005	-
Anthracene	0.005	mg/kg	0.042	< 0.005	< 0.005	-
Benz(a)anthracene	0.005	mg/kg	0.12	< 0.005	< 0.005	-
Benzo(a)pyrene - low level	0.005	mg/kg	0.34	< 0.005	< 0.005	-
Benzo(b&j)fluoranthene	0.005	mg/kg	0.18	< 0.005	< 0.005	-
Benzo(g.h.i)perylene	0.005	mg/kg	0.14	< 0.005	< 0.005	-
Benzo(k)fluoranthene	0.005	mg/kg	0.20	< 0.005	< 0.005	-
Chrysene	0.005	mg/kg	0.12	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.005	mg/kg	0.019	< 0.005	< 0.005	-
Fluoranthene	0.005	mg/kg	0.22	< 0.005	< 0.005	-
Fluorene	0.005	mg/kg	0.007	< 0.005	< 0.005	-

Client Sample ID			QC198	E16_1.0	H07_2.0	H07_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Ja0015150	M25-Ja0015151	M25-Ja0015152	M25-Ja0015153
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	0.064	< 0.005	< 0.005	-
Naphthalene	0.005	mg/kg	0.080	< 0.005	< 0.005	-
Phenanthrene	0.005	mg/kg	0.096	< 0.005	< 0.005	-
Pyrene	0.005	mg/kg	0.23	< 0.005	< 0.005	-
Total PAH*	0.005	mg/kg	1.865	< 0.005	< 0.005	-
2-Fluorobiphenyl (surr.)	1	%	56	113	109	-
p-Terphenyl-d14 (surr.)	1	%	64	119	115	-
Benzo(a)pyrene TEQ (lower bound) *	0.001	mg/kg				-
Benzo(a)pyrene TEQ (medium bound) *	0.001	mg/kg	0.42	0.006	0.006	-
Benzo(a)pyrene TEQ (upper bound) *	0.001		0.42	0.012	0.012	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Barium	10	mg/kg	-	-	-	47
Beryllium	2	mg/kg	-	-	-	< 2
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	< 5
Cobalt	5	mg/kg	-	-	-	17
Copper	5	mg/kg	-	-	-	94
Lead	5	mg/kg	6.4	< 5	< 5	< 5
Manganese	5	mg/kg	-	-	-	280
Mercury	0.1	mg/kg	-	-	-	< 0.1
Molybdenum	5	mg/kg	-	-	-	< 5
Nickel	5	mg/kg	-	-	-	20
Selenium	2	mg/kg	-	-	-	< 2
Silver	2	mg/kg	-	-	-	< 2
Tin	10	mg/kg	-	-	-	< 10
Zinc	5	mg/kg	-	-	-	33
Sample Properties						
% Moisture	1	%	8.1	< 1	2.9	< 1
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			QC198	E16_1.0	H07_2.0	H07_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Ja0015150	M25-Ja0015151	M25-Ja0015152	M25-Ja0015153
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	116
p-Terphenyl-d14 (surr.)	1	%	-	-	-	120
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-HCH	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-HCH	0.05	mg/kg	-	-	-	< 0.05
d-HCH	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	0.5	mg/kg	-	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	136
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	120
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	-	136
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	120
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1

Client Sample ID			QC198	E16_1.0	H07_2.0	H07_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Ja0015150	M25-Ja0015151	M25-Ja0015152	M25-Ja0015153
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	117
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20
Semivolatile Organics						
Benzo(a)pyrene - low level	0.005	mg/kg	-	-	-	< 0.005
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride	100	mg/kg	-	-	-	150

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
BTEX	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Heavy Metals	Melbourne	Jan 14, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Jan 14, 2025	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenols (Halogenated)	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Jan 14, 2025	14 Days
- Method: USEPA SW 846 8270			
Chromium (hexavalent)	Melbourne	Jan 14, 2025	28 Days
- Method: LTM-INO-4230 Hexavalent Chromium by UV-Vis			
Cyanide (total)	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Jan 15, 2025	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE			
% Moisture	Melbourne	Jan 14, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1177159
Phone: 08 7223 5400
Fax:

Received: Jan 14, 2025 10:39 AM
Due: Jan 15, 2025
Priority: 1 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Arsenic	Lead	Moisture Set	Eurofins Suite B1	Polycyclic Aromatic Hydrocarbons (Trace level)	TAS EPA - Contaminated Soil Classification - Excluding TBT
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	QC198	Dec 11, 2024		Soil	M25-Ja0015150	X	X	X	X	X	
2	E16_1.0	Dec 11, 2024		Soil	M25-Ja0015151	X	X	X	X	X	
3	H07_2.0	Dec 11, 2024		Soil	M25-Ja0015152	X	X	X	X	X	
4	H07_3.0	Dec 11, 2024		Soil	M25-Ja0015153			X			X
Test Counts						3	3	4	3	3	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(a)pyrene - low level	mg/kg	< 0.005			0.005	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.005			0.005	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.005			0.005	Pass	
Chrysene	mg/kg	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.005			0.005	Pass	
Fluoranthene	mg/kg	< 0.005			0.005	Pass	
Fluorene	mg/kg	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.005			0.005	Pass	
Naphthalene	mg/kg	< 0.005			0.005	Pass	
Phenanthrene	mg/kg	< 0.005			0.005	Pass	
Pyrene	mg/kg	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	92			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	78			70-130	Pass	
m&p-Xylenes	%	76			70-130	Pass	
Xylenes - Total*	%	78			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	87			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	80			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
TRH C6-C10	%	77			70-130	Pass	
TRH >C10-C16	%	87			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	94			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	89			70-130	Pass	
Benz(a)anthracene	%	122			70-130	Pass	
Benzo(a)pyrene - low level	%	127			70-130	Pass	
Benzo(b&j)fluoranthene	%	92			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	114			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	128			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	102			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	99			70-130	Pass	
Naphthalene	%	103			70-130	Pass	
Phenanthrene	%	72			70-130	Pass	
Pyrene	%	75			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Barium	%	108			80-120	Pass	
Beryllium	%	97			80-120	Pass	
Cadmium	%	116			80-120	Pass	
Chromium	%	115			80-120	Pass	
Cobalt	%	110			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	112			80-120	Pass	
Manganese	%	117			80-120	Pass	
Mercury	%	114			80-120	Pass	
Molybdenum	%	112			80-120	Pass	
Nickel	%	107			80-120	Pass	
Selenium	%	103			80-120	Pass	
Silver	%	116			80-120	Pass	
Tin	%	112			80-120	Pass	
Zinc	%	104			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	124			70-130	Pass	
Acenaphthylene	%	127			70-130	Pass	
Anthracene	%	99			70-130	Pass	
Benz(a)anthracene	%	105			70-130	Pass	
Benzo(a)pyrene	%	117			70-130	Pass	
Benzo(b&j)fluoranthene	%	114			70-130	Pass	
Benzo(g.h.i)perylene	%	104			70-130	Pass	
Benzo(k)fluoranthene	%	110			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a.h)anthracene	%	117			70-130	Pass	
Fluoranthene	%	119			70-130	Pass	
Fluorene	%	123			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	116			70-130	Pass	
Naphthalene	%	115			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	117			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	114			70-130	Pass	
4.4'-DDD	%	125			70-130	Pass	
4.4'-DDE	%	119			70-130	Pass	
4.4'-DDT	%	114			70-130	Pass	
a-HCH	%	119			70-130	Pass	
Aldrin	%	114			70-130	Pass	
b-HCH	%	125			70-130	Pass	
d-HCH	%	127			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	%	124			70-130	Pass	
Endosulfan I	%	108			70-130	Pass	
Endosulfan II	%	86			70-130	Pass	
Endosulfan sulphate	%	112			70-130	Pass	
Endrin	%	127			70-130	Pass	
Endrin aldehyde	%	96			70-130	Pass	
Endrin ketone	%	102			70-130	Pass	
g-HCH (Lindane)	%	118			70-130	Pass	
Heptachlor	%	89			70-130	Pass	
Heptachlor epoxide	%	121			70-130	Pass	
Hexachlorobenzene	%	119			70-130	Pass	
Methoxychlor	%	107			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	96			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	114			25-140	Pass	
2.4-Dichlorophenol	%	100			25-140	Pass	
2.4.5-Trichlorophenol	%	102			25-140	Pass	
2.4.6-Trichlorophenol	%	110			25-140	Pass	
2.6-Dichlorophenol	%	101			25-140	Pass	
4-Chloro-3-methylphenol	%	129			25-140	Pass	
Pentachlorophenol	%	81			25-140	Pass	
Tetrachlorophenols - Total	%	126			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	81			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	81			25-140	Pass	
2-Nitrophenol	%	117			25-140	Pass	
2.4-Dimethylphenol	%	38			25-140	Pass	
2.4-Dinitrophenol	%	88			25-140	Pass	
2-Methylphenol (o-Cresol)	%	104			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	119			25-140	Pass	
4-Nitrophenol	%	102			25-140	Pass	
Dinoseb	%	94			25-140	Pass	
Phenol	%	125			25-140	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	82			70-130	Pass	
Cyanide (total)	%	124			70-130	Pass	
Fluoride	%	130			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Ja0014403	NCP	%	74			70-130	Pass	
Toluene	M25-Ja0014403	NCP	%	77			70-130	Pass	
Ethylbenzene	M25-Ja0014403	NCP	%	72			70-130	Pass	
m&p-Xylenes	M25-Ja0014403	NCP	%	71			70-130	Pass	
o-Xylene	M25-Ja0014403	NCP	%	73			70-130	Pass	
Xylenes - Total*	M25-Ja0014403	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Ja0014403	NCP	%	87			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Ja0014403	NCP	%	90			70-130	Pass	
TRH C10-C14	S25-Ja0008330	NCP	%	75			70-130	Pass	
TRH C6-C10	M25-Ja0014403	NCP	%	87			70-130	Pass	
TRH >C10-C16	S25-Ja0008330	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Benzo(a)pyrene - low level	M25-Ja0004744	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0014401	NCP	%	81			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Ja0015153	CP	%	76			75-125	Pass	
Barium	M25-Ja0014401	NCP	%	91			75-125	Pass	
Beryllium	S25-Ja0008547	NCP	%	89			75-125	Pass	
Cadmium	M25-Ja0015153	CP	%	103			75-125	Pass	
Chromium	M25-Ja0014401	NCP	%	90			75-125	Pass	
Cobalt	M25-Ja0014401	NCP	%	81			75-125	Pass	
Manganese	M25-Ja0014401	NCP	%	110			75-125	Pass	
Mercury	M25-Ja0015153	CP	%	90			75-125	Pass	
Molybdenum	M25-Ja0015153	CP	%	79			75-125	Pass	
Nickel	M25-Ja0013641	NCP	%	92			75-125	Pass	
Selenium	S25-Ja0008547	NCP	%	86			75-125	Pass	
Silver	M25-Ja0015153	CP	%	103			75-125	Pass	
Tin	M25-Ja0015153	CP	%	78			75-125	Pass	
Zinc	M25-Ja0014401	NCP	%	82			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M25-Ja0012056	NCP	%	93			70-130	Pass	
Cyanide (total)	M25-Ja0014349	NCP	%	80			70-130	Pass	
Fluoride	M25-Ja0015618	NCP	%	120			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Ja0014402	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Ja0014402	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Ja0014402	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Ja0014402	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Ja0014402	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Ja0014402	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Ja0014402	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Ja0014402	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S25-Ja0008121	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S25-Ja0008121	NCP	mg/kg	64	100	46	30%	Fail	Q15
TRH C29-C36	S25-Ja0008121	NCP	mg/kg	110	190	54	30%	Fail	Q15
TRH C6-C10	M25-Ja0014402	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S25-Ja0008121	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S25-Ja0008121	NCP	mg/kg	140	230	49	30%	Fail	Q15
TRH >C34-C40	S25-Ja0008121	NCP	mg/kg	110	220	66	30%	Fail	Q15

Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Ja0015159	NCP	%	16	15	2.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthylene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(a)pyrene - low level	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Fluorene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Phenanthrene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	M25-Ja0015153	CP	mg/kg	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Ja0015153	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Barium	M25-Ja0015153	CP	mg/kg	47	47	1.0	30%	Pass	
Beryllium	M25-Ja0015153	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M25-Ja0015153	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Ja0015153	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Cobalt	M25-Ja0015153	CP	mg/kg	17	18	2.0	30%	Pass	
Copper	M25-Ja0015153	CP	mg/kg	94	94	1.0	30%	Pass	
Lead	M25-Ja0015153	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M25-Ja0015153	CP	mg/kg	280	290	3.0	30%	Pass	
Mercury	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M25-Ja0015153	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M25-Ja0015153	CP	mg/kg	20	21	2.0	30%	Pass	
Selenium	M25-Ja0015153	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M25-Ja0015153	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M25-Ja0015153	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M25-Ja0015153	CP	mg/kg	33	34	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M25-Ja0015153	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M25-Ja0015153	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M25-Ja0015153	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Ja0015153	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M25-Ja0015153	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Ja0015153	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Ja0015153	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M25-Ja0015153	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Ja0010909	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M25-Ja0015153	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Ja0015153	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Ja0010909	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Ja0010909	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M25-Ja0010909	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M25-Ja0010909	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Ja0010909	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Ja0010909	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M25-Ja0010909	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M25-Ja0010909	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M25-Ja0010909	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M25-Ja0010909	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M25-Ja0015139	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M25-Ja0010919	NCP	mg/kg	390	380	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

#1179861

2/5/25

Re: Additional leachable concentration sampling request, Lead

From Christina Lowrie <Christina.Lowrie@eurofinsanz.com>

Date Mon 20/01/25 10:05 AM

To Martin, Tim <Timothy.Martin@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>

Cc Lath, Supriya <Supriya.Lath@aecom.com>; Crowe, Robert <Robert.Crowe@aecom.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

Apologies for the error, we will get those additional samples logged as well for TCLP Lead,

Hi SR, could you please help add to 1178592, thank you! 😊

Additional TCLP Leachability (Lead):

- Note that I've just send an email re: incorrect sample IDs for **M24-De0037998 to M24-De0038001** (should be I06_x.x instead of I16_x.x)
- I've provided the Lab sample # for those 2 samples I want lead leachability done, to avoid confusion.

Sample ID	Date	Lab Report #
F11_1.0	9/12/2024	1171413
F11_1.5	9/12/2024	1171413
F11_2.0	9/12/2024	1171413
G10_1.0	5/12/2024	1169377
G10_1.5	5/12/2024	1169377
G10_2.0	5/12/2024	1169377
G11_1.0	6/12/2024	1169377
G11_2.0	6/12/2024	1169377
G11_2.5	6/12/2024	1169377
G12_1.0	10/12/2024	1171413
G12_1.5	10/12/2024	1171413
G12_2.0	10/12/2024	1171413
G13_1.5	10/12/2024	1171413
G13_2.0	10/12/2024	1171413
G13_2.5	10/12/2024	1171413
H11_1.0	6/12/2024	1169377
H11_1.5	6/12/2024	1169377
H11_2.0	6/12/2024	1169377
H12_1.5	11/12/2024	1171417
H12_2.0	11/12/2024	1171417
H12_2.5	11/12/2024	1171417
H13_1.0	11/12/2024	1171417
H13_1.5	11/12/2024	1171417
H13_2.5	11/12/2024	1171417
H14_1.0	10/12/2024	1171413
H14_2.0	11/12/2024	1171417
H14_2.5	11/12/2024	1171417
I06_1.0	11/12/2024	1171417
I06_1.5	11/12/2024	1171417* Note: use sample **M24-De0037998**
I06_2.0	11/12/2024	1171417* Note: use sample **M24-De0037999**
I13_1.5	10/12/2024	1171413
J06_0.5	11/12/2024	1171417
J06_1.0	11/12/2024	1171417
J06_2.0	11/12/2024	1171417
J06_2.5	11/12/2024	1171417
J07_1.0	11/12/2024	1171417
J07_1.5	11/12/2024	1171417
J07_2.0	11/12/2024	1171417
K06_0.5	11/12/2024	1171417
K06_1.0	11/12/2024	1171417
K06_2.0	11/12/2024	1171417
K06_2.5	11/12/2024	1171417
K07_1.0	6/12/2024	1169377
K07_1.5	6/12/2024	1169377
K07_2.0	6/12/2024	1169377
L13_0.5	5/12/2024	1169377
L13_1.0	5/12/2024	1169377
L13_1.5	5/12/2024	1169377
M12_0.5	3/12/2024	1168041
M12_1.0	3/12/2024	1168041
M12_1.5	3/12/2024	1168041
M13_0.5	5/12/2024	1169377
M13_1.5	5/12/2024	1169377
M14_0.5	28/11/2024	1166213
M14_1.0	28/11/2024	1166213
M14_1.5	28/11/2024	1166213
N13_0.5	3/12/2024	1168041
N13_1.0	3/12/2024	1168041
N13_1.5	3/12/2024	1168041

Kind regards,

Christina Lowrie
Analytical Services Manager

Phone: +61 3 8564 5000
Mobile: +61 407 009 385

E-mail: Christina.Lowrie@eurofinsanz.com

My office hours are 9am to 5:00pm (Monday to Friday)
If you require sample receipt outside these hours please email envirosamplevic@eurofins.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 5 Day
Date/Time received Jan 16, 2025 2:41 PM
Eurofins reference 1179861

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1179861
Phone: 08 7223 5400
Fax:

Received: Jan 16, 2025 2:41 PM
Due: Jan 28, 2025
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	I06_1.5	Dec 11, 2024		US Leachate	M25-Ja0024501	X	X
2	I06_2.0	Dec 11, 2024		US Leachate	M25-Ja0024502	X	X
3	F11_1.0	Dec 09, 2024		US Leachate	M25-Ja0032810	X	X
4	F11_1.5	Dec 09, 2024		US Leachate	M25-Ja0032811	X	X
5	F11_2.0	Dec 09, 2024		US Leachate	M25-Ja0032812	X	X
6	G10_1.0	Dec 05, 2024		US Leachate	M25-Ja0032813	X	X
7	G10_1.5	Dec 05, 2024		US Leachate	M25-Ja0032814	X	X
8	G10_2.0	Dec 05, 2024		US Leachate	M25-Ja0032815	X	X
9	G11_1.0	Dec 06, 2024		US Leachate	M25-Ja0032816	X	X
10	G11_2.0	Dec 06, 2024		US Leachate	M25-Ja0032817	X	X
11	G11_2.5	Dec 06, 2024		US Leachate	M25-Ja0032818	X	X
12	G12_1.0	Dec 10, 2024		US Leachate	M25-Ja0032819	X	X
13	G12_1.5	Dec 10, 2024		US Leachate	M25-Ja0032820	X	X
14	G12_2.0	Dec 10, 2024		US Leachate	M25-Ja0032821	X	X

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1179861
Phone: 08 7223 5400
Fax:

Received: Jan 16, 2025 2:41 PM
Due: Jan 28, 2025
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
15	G13_1.5	Dec 10, 2024		US Leachate	M25-Ja0032822	X	X
16	G13_2.0	Dec 10, 2024		US Leachate	M25-Ja0032823	X	X
17	G13_2.5	Dec 10, 2024		US Leachate	M25-Ja0032824	X	X
18	H11_1.0	Dec 06, 2024		US Leachate	M25-Ja0032825	X	X
19	H11_1.5	Dec 06, 2024		US Leachate	M25-Ja0032826	X	X
20	H11_2.0	Dec 06, 2024		US Leachate	M25-Ja0032827	X	X
21	H12_1.5	Dec 11, 2024		US Leachate	M25-Ja0032828	X	X
22	H12_2.0	Dec 11, 2024		US Leachate	M25-Ja0032829	X	X
23	H12_2.5	Dec 11, 2024		US Leachate	M25-Ja0032830	X	X
24	H13_1.0	Dec 11, 2024		US Leachate	M25-Ja0032831	X	X
25	H13_1.5	Dec 11, 2024		US Leachate	M25-Ja0032832	X	X
26	H13_2.5	Dec 11, 2024		US Leachate	M25-Ja0032833	X	X
27	H14_1.0	Dec 10, 2024		US Leachate	M25-Ja0032834	X	X
28	H14_2.0	Dec 11, 2024		US Leachate	M25-Ja0032835	X	X
29	H14_2.5	Dec 11, 2024		US Leachate	M25-Ja0032836	X	X
30	I06_1.0	Dec 11, 2024		US Leachate	M25-Ja0032837	X	X
31	I13_1.5	Dec 10, 2024		US Leachate	M25-Ja0032838	X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
32	J06_0.5	Dec 11, 2024		US Leachate	M25-Ja0032839	X	X
33	J06_1.0	Dec 11, 2024		US Leachate	M25-Ja0032840	X	X
34	J06_2.0	Dec 11, 2024		US Leachate	M25-Ja0032841	X	X
35	J06_2.5	Dec 11, 2024		US Leachate	M25-Ja0032842	X	X
36	J07_1.0	Dec 11, 2024		US Leachate	M25-Ja0032843	X	X
37	J07_1.5	Dec 11, 2024		US Leachate	M25-Ja0032844	X	X
38	J07_2.0	Dec 11, 2024		US Leachate	M25-Ja0032845	X	X
39	K06_0.5	Dec 11, 2024		US Leachate	M25-Ja0032846	X	X
40	K06_1.0	Dec 11, 2024		US Leachate	M25-Ja0032847	X	X
41	K06_2.0	Dec 11, 2024		US Leachate	M25-Ja0032848	X	X
42	K06_2.5	Dec 11, 2024		US Leachate	M25-Ja0032849	X	X
43	K07_1.0	Dec 06, 2024		US Leachate	M25-Ja0032850	X	X
44	K07_1.5	Dec 06, 2024		US Leachate	M25-Ja0032851	X	X
45	K07_2.0	Dec 06, 2024		US Leachate	M25-Ja0032852	X	X
46	L13_0.5	Dec 05, 2024		US Leachate	M25-Ja0032853	X	X
47	L13_1.0	Dec 05, 2024		US Leachate	M25-Ja0032854	X	X
48	L13_1.5	Dec 05, 2024		US Leachate	M25-Ja0032855	X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1179861
Phone: 08 7223 5400
Fax:

Received: Jan 16, 2025 2:41 PM
Due: Jan 28, 2025
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
49	M12_0.5	Dec 03, 2024		US Leachate	M25-Ja0032856	X	X
50	M12_1.0	Dec 03, 2024		US Leachate	M25-Ja0032857	X	X
51	M12_1.5	Dec 03, 2024		US Leachate	M25-Ja0032858	X	X
52	M13_0.5	Dec 03, 2024		US Leachate	M25-Ja0032859	X	X
53	M14_0.5	Nov 28, 2024		US Leachate	M25-Ja0032860	X	X
54	M14_1.0	Nov 28, 2024		US Leachate	M25-Ja0032861	X	X
55	M14_1.5	Nov 28, 2024		US Leachate	M25-Ja0032862	X	X
56	N13_0.5	Dec 03, 2024		US Leachate	M25-Ja0032863	X	X
57	N13_1.0	Dec 03, 2024		US Leachate	M25-Ja0032864	X	X
58	N13_1.5	Dec 03, 2024		US Leachate	M25-Ja0032865	X	X
59	M13_1.5	Dec 03, 2024		US Leachate	M25-Ja0033782	X	
Test Counts						59	58

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1179861-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Jan 16, 2025

Client Sample ID			**I06_1.5**	**I06_2.0**	**F11_1.0**	**F11_1.5**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M25-Ja0024501**	**M25-Ja0024502**	**M25-Ja0032810**	**M25-Ja0032811**
Date Sampled			**Dec 11, 2024**	**Dec 11, 2024**	**Dec 09, 2024**	**Dec 09, 2024**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	0.01	0.04	< 0.01	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.8	5.8	8.9	8.6
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.4	6.1	5.2	5.2
pH (USA HCl addition)	0.1	pH Units	1.3	1.7	1.3	1.3

Client Sample ID			**F11_2.0**	**G10_1.0**	**G10_1.5**	**G10_2.0**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M25-Ja0032812**	**M25-Ja0032813**	**M25-Ja0032814**	**M25-Ja0032815**
Date Sampled			**Dec 09, 2024**	**Dec 05, 2024**	**Dec 05, 2024**	**Dec 05, 2024**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	0.03	0.01	0.03
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.5	8.5	8.4	8.2
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.3	5.3	6.3	5.5
pH (USA HCl addition)	0.1	pH Units	1.3	1.4	1.4	1.4

Client Sample ID			G11_1.0	G11_2.0	G11_2.5	G12_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032816	M25-Ja0032817	M25-Ja0032818	M25-Ja0032819
Date Sampled			Dec 06, 2024	Dec 06, 2024	Dec 06, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	0.01	< 0.01	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.1	9.1	8.6	8.4
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	8.4	6.3	6.6	6.5
pH (USA HCl addition)	0.1	pH Units	1.2	1.3	1.2	1.2

Client Sample ID			G12_1.5	G12_2.0	G13_1.5	G13_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032820	M25-Ja0032821	M25-Ja0032822	M25-Ja0032823
Date Sampled			Dec 10, 2024	Dec 10, 2024	Dec 10, 2024	Dec 10, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	< 0.01	< 0.01	0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.5	9.7	9.2	8.7
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	9.6	11	5.8	6.3
pH (USA HCl addition)	0.1	pH Units	1.3	1.3	1.3	1.2

Client Sample ID			G13_2.5	H11_1.0	H11_1.5	H11_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032824	M25-Ja0032825	M25-Ja0032826	M25-Ja0032827
Date Sampled			Dec 10, 2024	Dec 06, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	0.22	0.02	< 0.01	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.6	8.3	8.2	8.1
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.6	6.3	6.5	5.6
pH (USA HCl addition)	0.1	pH Units	1.3	1.3	1.3	1.2

Client Sample ID			H12_1.5	H12_2.0	H12_2.5	H13_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032828	M25-Ja0032829	M25-Ja0032830	M25-Ja0032831
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	0.05	0.48	0.04
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.8	7.8	7.6	5.1
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.5	5.9	5.7	5.4
pH (USA HCl addition)	0.1	pH Units	1.2	1.4	1.7	1.2

Client Sample ID			H13_1.5	H13_2.5	H14_1.0	H14_2.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032832	M25-Ja0032833	M25-Ja0032834	M25-Ja0032835
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 10, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	0.06	< 0.01	< 0.01	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.1	5.2	5.6	5.5
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.8	6.5	5.4	5.8
pH (USA HCl addition)	0.1	pH Units	1.3	1.3	1.3	1.3

Client Sample ID			H14_2.5	I06_1.0	I13_1.5	J06_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032836	M25-Ja0032837	M25-Ja0032838	M25-Ja0032839
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 10, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	< 0.01	0.02	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.3	6.1	6.1	6.2
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.7	6.4	6.0	5.5
pH (USA HCl addition)	0.1	pH Units	1.3	1.3	1.2	1.5

Client Sample ID			J06_1.0	J06_2.0	J06_2.5	J07_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032840	M25-Ja0032841	M25-Ja0032842	M25-Ja0032843
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	0.36	< 0.01	0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.3	7.1	5.1	5.2
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.5	6.1	6.3	5.5
pH (USA HCl addition)	0.1	pH Units	1.9	2.1	1.3	1.5

Client Sample ID			J07_1.5	J07_2.0	K06_0.5	K06_1.0
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032844	M25-Ja0032845	M25-Ja0032846	M25-Ja0032847
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	0.01	0.04	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.3	5.2	5.5	6.2
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	6.2	5.1	5.2	6.0
pH (USA HCl addition)	0.1	pH Units	1.4	1.3	1.3	1.3

Client Sample ID			K06_2.0	K06_2.5	K07_1.0	K07_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032848	M25-Ja0032849	M25-Ja0032850	M25-Ja0032851
Date Sampled			Dec 11, 2024	Dec 11, 2024	Dec 06, 2024	Dec 06, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	< 0.01	0.02	0.11	0.07
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	6.8	6.6
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.8	6.3	5.3	5.6
pH (USA HCl addition)	0.1	pH Units	1.3	1.3	1.3	1.2

Client Sample ID			K07_2.0	L13_0.5	L13_1.0	L13_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032852	M25-Ja0032853	M25-Ja0032854	M25-Ja0032855
Date Sampled			Dec 06, 2024	Dec 05, 2024	Dec 05, 2024	Dec 05, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	0.04	0.12	0.15	0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.7	7.2	6.7	6.7
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	5.8	5.2	5.1	5.2
pH (USA HCl addition)	0.1	pH Units	1.6	1.7	1.3	1.3

Client Sample ID			M12_0.5	M12_1.0	M12_1.5	M13_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032856	M25-Ja0032857	M25-Ja0032858	M25-Ja0032859
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	0.01	0.64	0.04	0.02
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.9	6.7	7.2	7.6
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	4.9	4.9
pH (off)	0.1	pH Units	4.9	6.1	5.8	6.2
pH (USA HCl addition)	0.1	pH Units	1.3	1.3	1.3	1.3

Client Sample ID			M14_0.5	M14_1.0	M14_1.5	N13_0.5
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032860	M25-Ja0032861	M25-Ja0032862	M25-Ja0032863
Date Sampled			Nov 28, 2024	Nov 28, 2024	Nov 28, 2024	Dec 03, 2024
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.01	mg/L	0.01	0.07	0.02	< 0.01
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.5	7.3	7.3	7.7
pH (Leachate fluid)	0.1	pH Units	4.9	5.0	4.9	4.9
pH (off)	0.1	pH Units	5.3	5.3	6.0	6.4
pH (USA HCl addition)	0.1	pH Units	1.3	1.2	1.2	1.2

Client Sample ID			N13_1.0	N13_1.5	M13_1.5
Sample Matrix			US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M25-Ja0032864	M25-Ja0032865	M25-Ja0033782
Date Sampled			Dec 03, 2024	Dec 03, 2024	Dec 03, 2024
Test/Reference	LOR	Unit			
Heavy Metals					
Lead	0.01	mg/L	< 0.01	0.02	0.01
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	-
pH (initial)	0.1	pH Units	8.0	8.4	-
pH (Leachate fluid)	0.1	pH Units	4.9	4.9	-
pH (off)	0.1	pH Units	8.2	6.1	-
pH (USA HCl addition)	0.1	pH Units	1.2	1.2	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Melbourne	Jan 23, 2025	28 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

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Fax:

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Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	I06_1.5	Dec 11, 2024		US Leachate	M25-Ja0024501	X	X
2	I06_2.0	Dec 11, 2024		US Leachate	M25-Ja0024502	X	X
3	F11_1.0	Dec 09, 2024		US Leachate	M25-Ja0032810	X	X
4	F11_1.5	Dec 09, 2024		US Leachate	M25-Ja0032811	X	X
5	F11_2.0	Dec 09, 2024		US Leachate	M25-Ja0032812	X	X
6	G10_1.0	Dec 05, 2024		US Leachate	M25-Ja0032813	X	X
7	G10_1.5	Dec 05, 2024		US Leachate	M25-Ja0032814	X	X
8	G10_2.0	Dec 05, 2024		US Leachate	M25-Ja0032815	X	X
9	G11_1.0	Dec 06, 2024		US Leachate	M25-Ja0032816	X	X
10	G11_2.0	Dec 06, 2024		US Leachate	M25-Ja0032817	X	X
11	G11_2.5	Dec 06, 2024		US Leachate	M25-Ja0032818	X	X
12	G12_1.0	Dec 10, 2024		US Leachate	M25-Ja0032819	X	X
13	G12_1.5	Dec 10, 2024		US Leachate	M25-Ja0032820	X	X
14	G12_2.0	Dec 10, 2024		US Leachate	M25-Ja0032821	X	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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NZBN: 9429046024954

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Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

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Fax:

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Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
15	G13_1.5	Dec 10, 2024		US Leachate	M25-Ja0032822	X	X
16	G13_2.0	Dec 10, 2024		US Leachate	M25-Ja0032823	X	X
17	G13_2.5	Dec 10, 2024		US Leachate	M25-Ja0032824	X	X
18	H11_1.0	Dec 06, 2024		US Leachate	M25-Ja0032825	X	X
19	H11_1.5	Dec 06, 2024		US Leachate	M25-Ja0032826	X	X
20	H11_2.0	Dec 06, 2024		US Leachate	M25-Ja0032827	X	X
21	H12_1.5	Dec 11, 2024		US Leachate	M25-Ja0032828	X	X
22	H12_2.0	Dec 11, 2024		US Leachate	M25-Ja0032829	X	X
23	H12_2.5	Dec 11, 2024		US Leachate	M25-Ja0032830	X	X
24	H13_1.0	Dec 11, 2024		US Leachate	M25-Ja0032831	X	X
25	H13_1.5	Dec 11, 2024		US Leachate	M25-Ja0032832	X	X
26	H13_2.5	Dec 11, 2024		US Leachate	M25-Ja0032833	X	X
27	H14_1.0	Dec 10, 2024		US Leachate	M25-Ja0032834	X	X
28	H14_2.0	Dec 11, 2024		US Leachate	M25-Ja0032835	X	X
29	H14_2.5	Dec 11, 2024		US Leachate	M25-Ja0032836	X	X
30	I06_1.0	Dec 11, 2024		US Leachate	M25-Ja0032837	X	X
31	I13_1.5	Dec 10, 2024		US Leachate	M25-Ja0032838	X	X

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1179861
Phone: 08 7223 5400
Fax:

Received: Jan 16, 2025 2:41 PM
Due: Jan 28, 2025
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
32	J06_0.5	Dec 11, 2024		US Leachate	M25-Ja0032839	X	X
33	J06_1.0	Dec 11, 2024		US Leachate	M25-Ja0032840	X	X
34	J06_2.0	Dec 11, 2024		US Leachate	M25-Ja0032841	X	X
35	J06_2.5	Dec 11, 2024		US Leachate	M25-Ja0032842	X	X
36	J07_1.0	Dec 11, 2024		US Leachate	M25-Ja0032843	X	X
37	J07_1.5	Dec 11, 2024		US Leachate	M25-Ja0032844	X	X
38	J07_2.0	Dec 11, 2024		US Leachate	M25-Ja0032845	X	X
39	K06_0.5	Dec 11, 2024		US Leachate	M25-Ja0032846	X	X
40	K06_1.0	Dec 11, 2024		US Leachate	M25-Ja0032847	X	X
41	K06_2.0	Dec 11, 2024		US Leachate	M25-Ja0032848	X	X
42	K06_2.5	Dec 11, 2024		US Leachate	M25-Ja0032849	X	X
43	K07_1.0	Dec 06, 2024		US Leachate	M25-Ja0032850	X	X
44	K07_1.5	Dec 06, 2024		US Leachate	M25-Ja0032851	X	X
45	K07_2.0	Dec 06, 2024		US Leachate	M25-Ja0032852	X	X
46	L13_0.5	Dec 05, 2024		US Leachate	M25-Ja0032853	X	X
47	L13_1.0	Dec 05, 2024		US Leachate	M25-Ja0032854	X	X
48	L13_1.5	Dec 05, 2024		US Leachate	M25-Ja0032855	X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

Order No.: 60693007 7
Report #: 1179861
Phone: 08 7223 5400
Fax:

Received: Jan 16, 2025 2:41 PM
Due: Jan 28, 2025
Priority: 5 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
49	M12_0.5	Dec 03, 2024		US Leachate	M25-Ja0032856	X	X
50	M12_1.0	Dec 03, 2024		US Leachate	M25-Ja0032857	X	X
51	M12_1.5	Dec 03, 2024		US Leachate	M25-Ja0032858	X	X
52	M13_0.5	Dec 03, 2024		US Leachate	M25-Ja0032859	X	X
53	M14_0.5	Nov 28, 2024		US Leachate	M25-Ja0032860	X	X
54	M14_1.0	Nov 28, 2024		US Leachate	M25-Ja0032861	X	X
55	M14_1.5	Nov 28, 2024		US Leachate	M25-Ja0032862	X	X
56	N13_0.5	Dec 03, 2024		US Leachate	M25-Ja0032863	X	X
57	N13_1.0	Dec 03, 2024		US Leachate	M25-Ja0032864	X	X
58	N13_1.5	Dec 03, 2024		US Leachate	M25-Ja0032865	X	X
59	M13_1.5	Dec 03, 2024		US Leachate	M25-Ja0033782	X	
Test Counts						59	58

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	84			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	100			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	102			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	104			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	103			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0032816	CP	%	86			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0032825	CP	%	104			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0032834	CP	%	104			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0032851	CP	%	99			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0032860	CP	%	103			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0032816	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0032825	CP	mg/L	0.02	0.02	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0032834	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0032842	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0032851	CP	mg/L	0.07	0.07	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0032860	CP	mg/L	0.01	0.01	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Savini Suduweli	Analytical Services Manager
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Outlook

FW: Eurofins Test Results, Invoice - Report 1179861 : Site Macquarie Point (60693007 7)

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Thu 30/01/25 5:59 PM
To SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>

1 attachment (228 KB)
Re: Additional leachable concentration sampling request, Lead;

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Harry,

Can you please ensure that the two highlighted samples are logged in today on a 1 day TAT? Thanks.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Thursday, 30 January 2025 4:16 PM
To: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; Onur Mehmet <Onur.Mehmet@eurofinsanz.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1179861 : Site Macquarie Point (60693007 7)
Importance: High

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Thanks Savini,

Can you please investigate:

- There seems to be 59 samples in the COA, and only 58 tested for leachability of lead using TCLP:
- M13_1.5 – it seems it was not tested for leachability of lead?
- J06_1.5 and M13_1.0 were not re-tested for lead leachability as requested (not on summary or in COA)

#11 30/01/2025

Please refer to the attached email for reference, and advise if this can be addressed urgently.

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia
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Please consider the environment before printing this email.

From: Savini Suduweli <EET-ELVIS@eurofinsanz.com>
Sent: Thursday, 30 January 2025 4:01 PM
To: Martin, Tim <Timothy.Martin@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: Eurofins Test Results, Invoice - Report 1179861 : Site Macquarie Point (60693007 7)

Hi Tim,

Please find attached results and invoice for your project in the subject header.

Kind regards,

Savini Suduweli Kondage
Analytical Services Manager

Eurofins Environment Testing
6 Monterey Road
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AUSTRALIA
Phone: +61 385 645 051
Mobile : +61 447 222 760
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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Tim Martin
Project name: Macquarie Point
Project ID: 60693007 7
Turnaround time: 1 Day
Date/Time received Jan 30, 2025 4:16 PM
Eurofins reference 1182411

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Tim Martin - Timothy.Martin@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Project Name: Macquarie Point
Project ID: 60693007 7

Order No.:
Report #: 1182411
Phone: 08 7223 5400
Fax:

Received: Jan 30, 2025 4:16 PM
Due: Jan 31, 2025
Priority: 1 Day
Contact Name: Tim Martin

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	J06_1.5	Dec 11, 2024		US Leachate	M25-Ja0050311	X	X
2	M13_1.0	Dec 11, 2024		US Leachate	M25-Ja0050312	X	X
Test Counts						2	2

eurofins | Environment Testing

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tim Martin**

Report **1182411-L**
Project name Macquarie Point
Project ID 60693007 7
Received Date Jan 30, 2025

Client Sample ID			**J06_1.5**	**M13_1.0**
Sample Matrix			**US Leachate**	**US Leachate**
Eurofins Sample No.			**M25-Ja0050311**	**M25-Ja0050312**
Date Sampled			**Dec 11, 2024**	**Dec 11, 2024**
Test/Reference	LOR	Unit		
Heavy Metals				
Lead	0.01	mg/L	5.2	39
USA Leaching Procedure				
Leachate Fluid[C01]		comment	1.0	1.0
pH (initial)	0.1	pH Units	6.0	6.4
pH (Leachate fluid)	0.1	pH Units	5.0	5.0
pH (off)	0.1	pH Units	5.9	5.1
pH (USA HCl addition)	0.1	pH Units	1.4	1.6

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Melbourne	Jan 30, 2025	28 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 7

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Contact Name: Tim Martin

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Sample Detail						Lead	USA Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	J06_1.5	Dec 11, 2024		US Leachate	M25-Ja0050311	X	X
2	M13_1.0	Dec 11, 2024		US Leachate	M25-Ja0050312	X	X
Test Counts						2	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Lead	mg/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	103			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	102			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M25-Ja0047091	NCP	%	100			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M25-Ja0047091	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Savini Suduweli	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal
Vivian Wang	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

5

Q4AN(EV)-007-FM1

ANZ

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: ALS
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
1	~~QC104~~ QC103	S	25/11/24				X												
2	QC108	S	"				X												

Environmental Division
Melbourne
Work Order Reference
EM2421016

Telephone : +61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chris A	Date: 29/11/24	Name: Sheridan Barrett	Date: 27/11/24	Name: Andrew	Date: 29.11.24	Con' Note No:
Of: Eurofins	Time:	Of: Eurofins Hobart	Time: 11:31am	Of: ALS	Time: 1105	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

COC Page 1 of 1

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2421016**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 2
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		

Dates

Date Samples Received	: 29-Nov-2024 11:05	Issue Date	: 30-Nov-2024
Client Requested Due Date	: 10-Dec-2024	Scheduled Reporting Date	: **10-Dec-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 13.3°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EP132B Ultratrace PAH's	SOIL - S-04 TRH/BTEXN
EM2421016-001	25-Nov-2024 00:00	QC103	✓	✓	✓	✓
EM2421016-002	25-Nov-2024 00:00	QC108	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Tim Martin

- *AU Certificate of Analysis - NATA (COA)	Email	Tim.Martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Tim.Martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Tim.Martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Tim.Martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	Tim.Martin@aecom.com
- Chromatogram (CHROM)	Email	Tim.Martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	Tim.Martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Tim.Martin@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(SOIL) EP132B: Polynuclear Aromatic Hydrocarbons

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2421016**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 29-Nov-2024
Site	: Macquarie Point	Issue Date	: 10-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL	No. of samples received	: 2
Order number	: 60693007 7	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2420318--003	Anonymous	**Arsenic**	7440-38-2	57.7 %	78.0-124%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)		*Sample Date*	*Extraction / Preparation*			*Analysis*		
			Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
QC103,	QC108	**25-Nov-2024**	**----**	----	----	**05-Dec-2024**	09-Dec-2024	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
QC103,	QC108	**25-Nov-2024**	**05-Dec-2024**	24-May-2025	✓	**05-Dec-2024**	24-May-2025	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
QC103,	QC108	**25-Nov-2024**	**02-Dec-2024**	09-Dec-2024	✓	**06-Dec-2024**	09-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071)								
QC103,	QC108	**25-Nov-2024**	**05-Dec-2024**	09-Dec-2024	✓	**06-Dec-2024**	14-Jan-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
QC103,	QC108	**25-Nov-2024**	**02-Dec-2024**	09-Dec-2024	✓	**06-Dec-2024**	09-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071)								
QC103,	QC108	**25-Nov-2024**	**05-Dec-2024**	09-Dec-2024	✓	**06-Dec-2024**	14-Jan-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC103, QC108	**25-Nov-2024**	**02-Dec-2024**	09-Dec-2024	✓	**06-Dec-2024**	09-Dec-2024	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132)							
QC103, QC108	**25-Nov-2024**	**04-Dec-2024**	09-Dec-2024	✓	**09-Dec-2024**	13-Jan-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	SOIL	In house: Referenced to USEPA 8270 GCMS Capiliary column, SIM mode.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids/ Acetylation	ORG17A-AC	SOIL	In house: Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to 1 mL with exchange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis.

QUALITY CONTROL REPORT

Work Order	: **EM2421016**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 29-Nov-2024
Order number	: 60693007 7	Date Analysis Commenced	: 02-Dec-2024
C-O-C number	: ----	Issue Date	: 10-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Rassem Ayoubi	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6234393)									
EM2420318-001	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	34	41	20.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.0	No Limit
EM2420637-001	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	7	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6235949)									
EM2420638-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	9.1	11.0	19.0	0% - 50%
EM2421020-030	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	38.4	36.1	6.2	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6235836)									
EM2421016-001	QC103	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2421073-019	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6235843)									
EM2421219-004	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	230	140	44.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	200	170	16.7	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2421297-010	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6235836)									
EM2421016-001	QC103	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2421073-019	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6235843)									
EM2421219-004	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	380	280	32.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2421297-010	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6235836)									
EM2421016-001	QC103	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2421073-019	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6234393)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	96.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	92.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6235836)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	88.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6235843)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	93.6	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	93.2	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	97.5	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6235836)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.7	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6235843)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	94.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	93.4	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	102	73.3	137
EP080: BTEXN (QCLot: 6235836)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	88.8	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	86.7	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	88.5	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	96.9	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	95.7	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 6231035)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	95.6	36.0	120
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	89.0	57.0	131
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	82.8	14.9	157
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	93.2	57.0	125
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	90.4	48.0	132
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	96.8	50.0	114
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	94.5	66.0	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 6231035) - continued								
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	94.5	43.0	125
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	10	µg/kg	<10	100 µg/kg	98.5	64.0	130
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	95.4	70.0	142
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	93.6	46.0	134
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	94.4	65.0	129
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	97.8	69.0	129
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	86.4	26.9	149
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	93.7	50.0	134
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	96.9	68.0	130
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	92.6	57.0	131
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	94.7	46.0	138
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	100 µg/kg	89.8	50.0	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	93.5	52.0	130
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	96.3	48.0	132
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	96.5	67.0	127
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	101	66.0	130

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6234393)							
EM2420318-003	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	# 57.7	78.0	124
EM2420318-003	Anonymous	EG005T: Lead	7439-92-1	250 mg/kg	102	80.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6235836)							
EM2421073-003	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	76.0	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6235843)							
EM2421016-001	QC103	EP071: C10 - C14 Fraction	----	790 mg/kg	92.6	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	88.8	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	91.4	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6235836)							
EM2421073-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	72.6	30.8	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6235843)							
EM2421016-001	QC103	EP071: >C10 - C16 Fraction	----	1080 mg/kg	93.0	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	88.3	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	93.9	66.8	138
EP080: BTEXN (QCLot: 6235836)							
EM2421073-003	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	90.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.7	57.1	131

CERTIFICATE OF ANALYSIS

Work Order	: **EM2421016**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 29-Nov-2024 11:05
Order number	: 60693007 7	Date Analysis Commenced	: 02-Dec-2024
C-O-C number	: ----	Issue Date	: 10-Dec-2024 17:03
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Rassem Ayoubi	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

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The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EG005-T : EM2420318 #3 Poor matrix spike recovery for total arsenic due to sample matrix. Confirmed by re-digestion and re-analysis.
- EP132: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP132: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC103	QC108	----	----	----
				Sampling date / time	25-Nov-2024 00:00	25-Nov-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2421016-001	EM2421016-002	--------	--------	--------
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**22.0**	**10.6**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**9**	<5	----	----	----
Lead	7439-92-1	5	mg/kg		**404**	**20**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**450**	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**360**	<100	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**810**	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**710**	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**200**	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**910**	<50	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC103	QC108	----	----	----
			Sampling date / time	25-Nov-2024 00:00	25-Nov-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2421016-001	EM2421016-002	--------	--------	--------
				Result	Result	----	----	----
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	<50	<10	----	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg	**350**	<10	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<50	<10	----	----	----
Acenaphthene	83-32-9	10	µg/kg	**130**	<10	----	----	----
Acenaphthylene	208-96-8	10	µg/kg	**2830**	**70**	----	----	----
Anthracene	120-12-7	10	µg/kg	**2600**	**280**	----	----	----
Benz(a)anthracene	56-55-3	10	µg/kg	**14000**	**600**	----	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg	**16200**	**540**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	10	µg/kg	**16500**	**630**	----	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg	**12000**	**340**	----	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	**8060**	**200**	----	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	**7940**	**230**	----	----	----
Chrysene	218-01-9	10	µg/kg	**12200**	**540**	----	----	----
Coronene	191-07-1	10	µg/kg	<50	<10	----	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	**1880**	**50**	----	----	----
Fluoranthene	206-44-0	10	µg/kg	**21000**	**1310**	----	----	----
Fluorene	86-73-7	10	µg/kg	**480**	**40**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	**7280**	**180**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	----	----	----
Naphthalene	91-20-3	10	µg/kg	**1130**	**20**	----	----	----
Perylene	198-55-0	10	µg/kg	**4690**	**130**	----	----	----
Phenanthrene	85-01-8	10	µg/kg	**9760**	**810**	----	----	----
Pyrene	129-00-0	10	µg/kg	**22200**	**1290**	----	----	----
^ **Sum of PAHs**	----	10	µg/kg	**161000**	**7260**	----	----	----
Benzo(a)pyrene TEQ (zero)	----	10	µg/kg	**22800**	**760**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC103	QC108	----	----	----
				Sampling date / time	25-Nov-2024 00:00	25-Nov-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2421016-001	EM2421016-002	--------	--------	--------
					Result	Result	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene TEQ (half LOR)	----	10	µg/kg		**22800**	**760**	**----**	**----**	**----**
Benzo(a)pyrene TEQ (LOR)	----	10	µg/kg		**22800**	**760**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**69.7**	**79.3**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**66.3**	**75.4**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**68.7**	**88.9**	**----**	**----**	**----**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	10	%		**Not Determined**	**88.0**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	10	%		**Not Determined**	**112**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	10	%		**Not Determined**	**116**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	27	131
Anthracene-d10	1719-06-8	35	139
4-Terphenyl-d14	1718-51-0	30	164

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(SOIL) EP132B: Polynuclear Aromatic Hydrocarbons

(SOIL) EP132T: Base/Neutral Extractable Surrogates

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2421150**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Page	: 1 of 3
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: JM/AC/TG		

Dates

Date Samples Received	: 02-Dec-2024 11:27	Issue Date	: 03-Dec-2024
Client Requested Due Date	: 12-Dec-2024	Scheduled Reporting Date	: **09-Dec-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 4	Temperature	: 9.1°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Preliminary results will be available on the scheduled reporting date listed in this report. However the final report with Ultratrace PAH's analysis will be complete on 12/12/24.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EP132B Ultratrace PAH's	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-04 TRH/BTEXN
EM2421150-001	27-Nov-2024 00:00	QC116	✓			✓	
EM2421150-002	28-Nov-2024 00:00	QC120	✓	✓	✓		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

JACOB MULLER

- *AU Certificate of Analysis - NATA (COA)	Email	jacob.muller@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jacob.muller@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jacob.muller@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jacob.muller@aecom.com
- Chain of Custody (CoC) (COC)	Email	jacob.muller@aecom.com
- Chromatogram (CHROM)	Email	jacob.muller@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	jacob.muller@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	jacob.muller@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	jacob.muller@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com

TIMOTHY MARTIN

- *AU Certificate of Analysis - NATA (COA)	Email	timothy.martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	timothy.martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	timothy.martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com
- Chromatogram (CHROM)	Email	timothy.martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	timothy.martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	timothy.martin@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	timothy.martin@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(SOIL) EP132B: Polynuclear Aromatic Hydrocarbons

11/12/24 COPY 1/1

Timothy.martin@aecom.com
Jacob.Muller@aecom.com

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~Eurofins~~ ALS
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK CO 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: ~~Eurofins~~	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.
#TRH C10-C40

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	# - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
1	QC116	S	27/11/24						X											
2	QC120	"	29/11/24				X													

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

Environmental Division
Melbourne
Work Order Reference
EM2421150

Telephone : + 61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chris A	Date: 2/12	Name: Sherrelan	Date: 29/11/24	Name:	Date:	Con' Note No:
Of: Eurofins	Time:	Of: Eurofins Hobart	Time: 12:51pm	Of:	Time:	Transport Co:

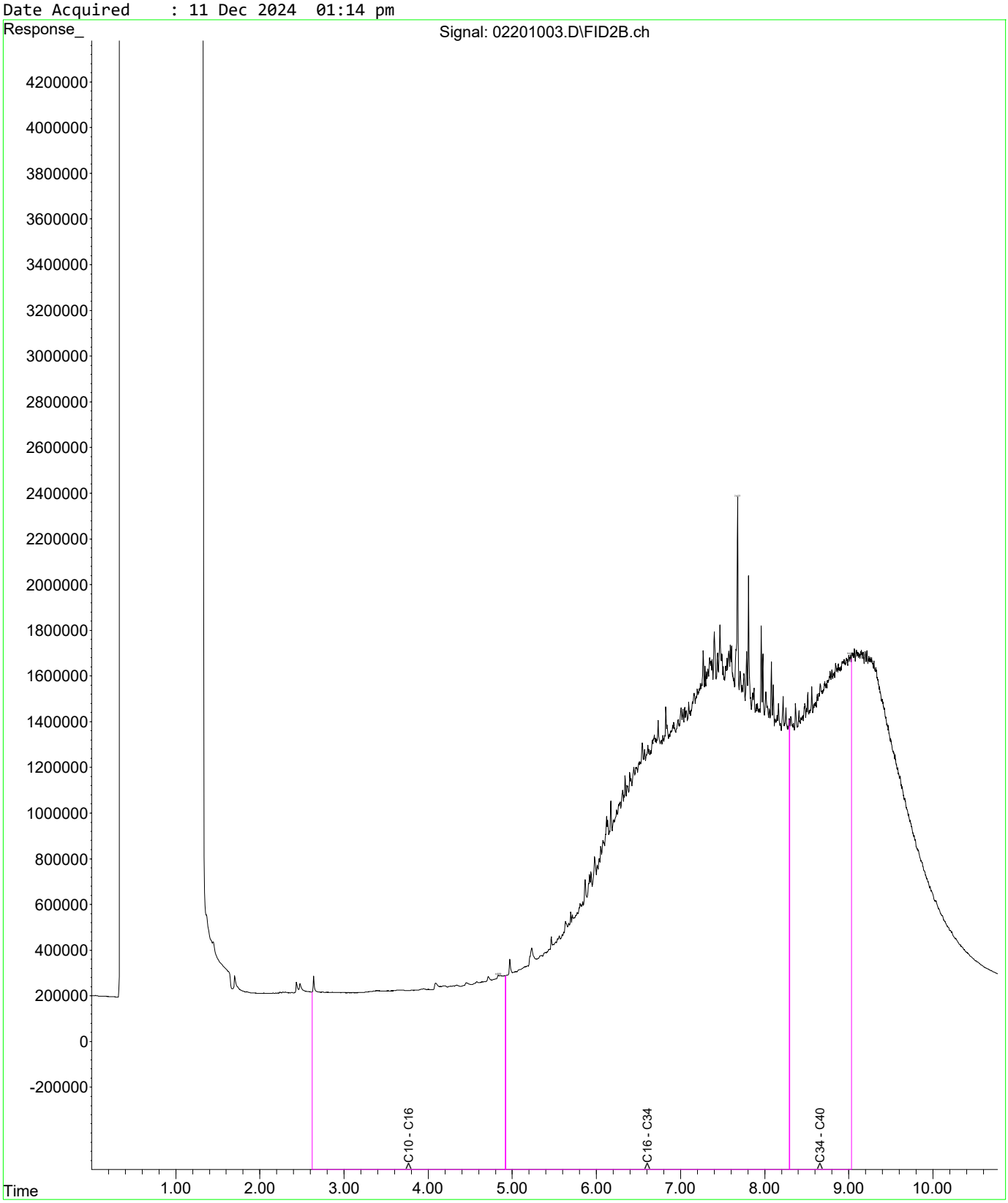
Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 1 of 1

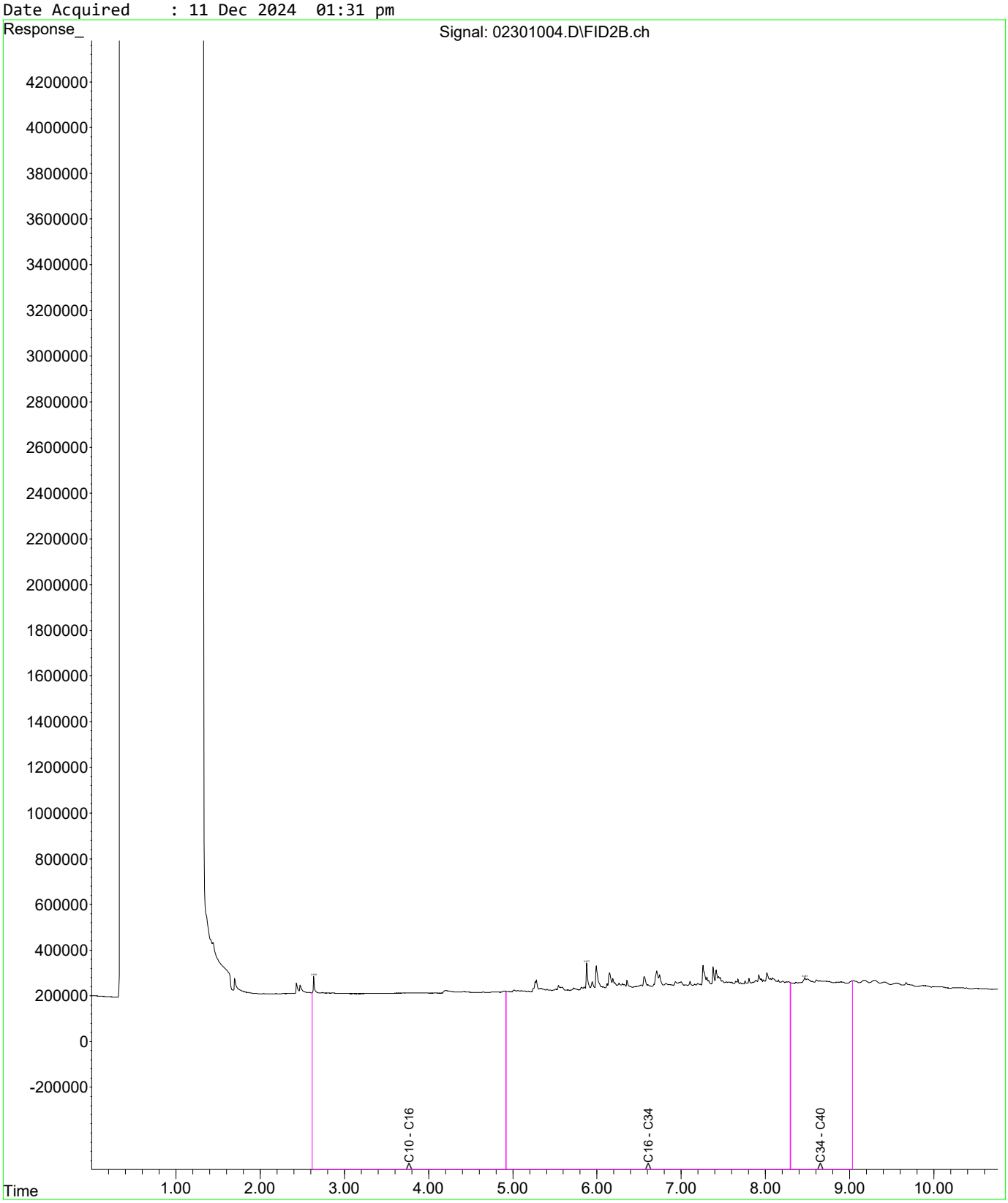
4.1°C

RICHARD BAER
ALS
02/12/24 — 11:27

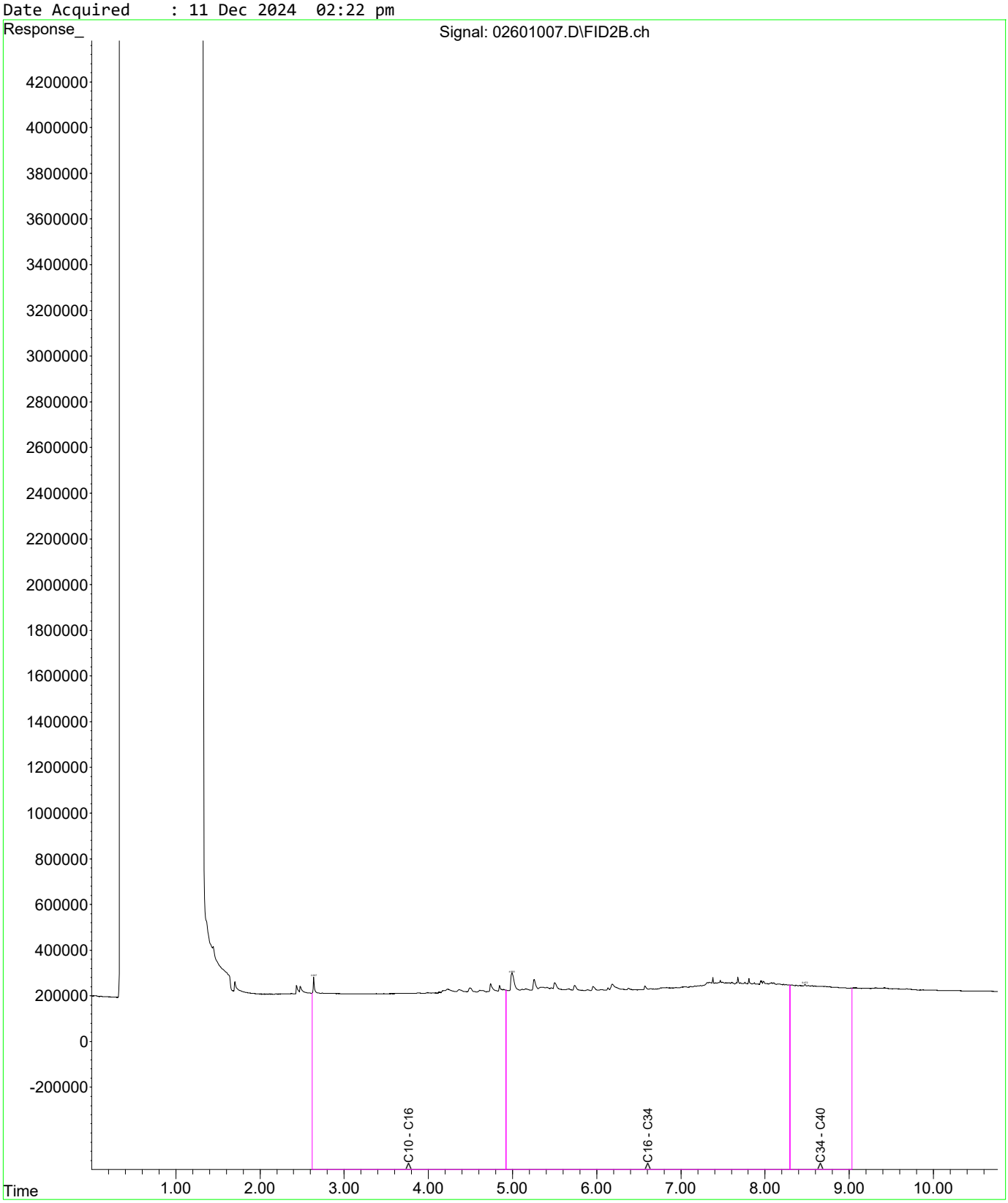
Fraction Scheme : NEPM Fractions
Data File : 02201003.D
Laboratory Number: EM2421657-001
Sample ID : QC124
Date Acquired : 11 Dec 2024 01:14 pm



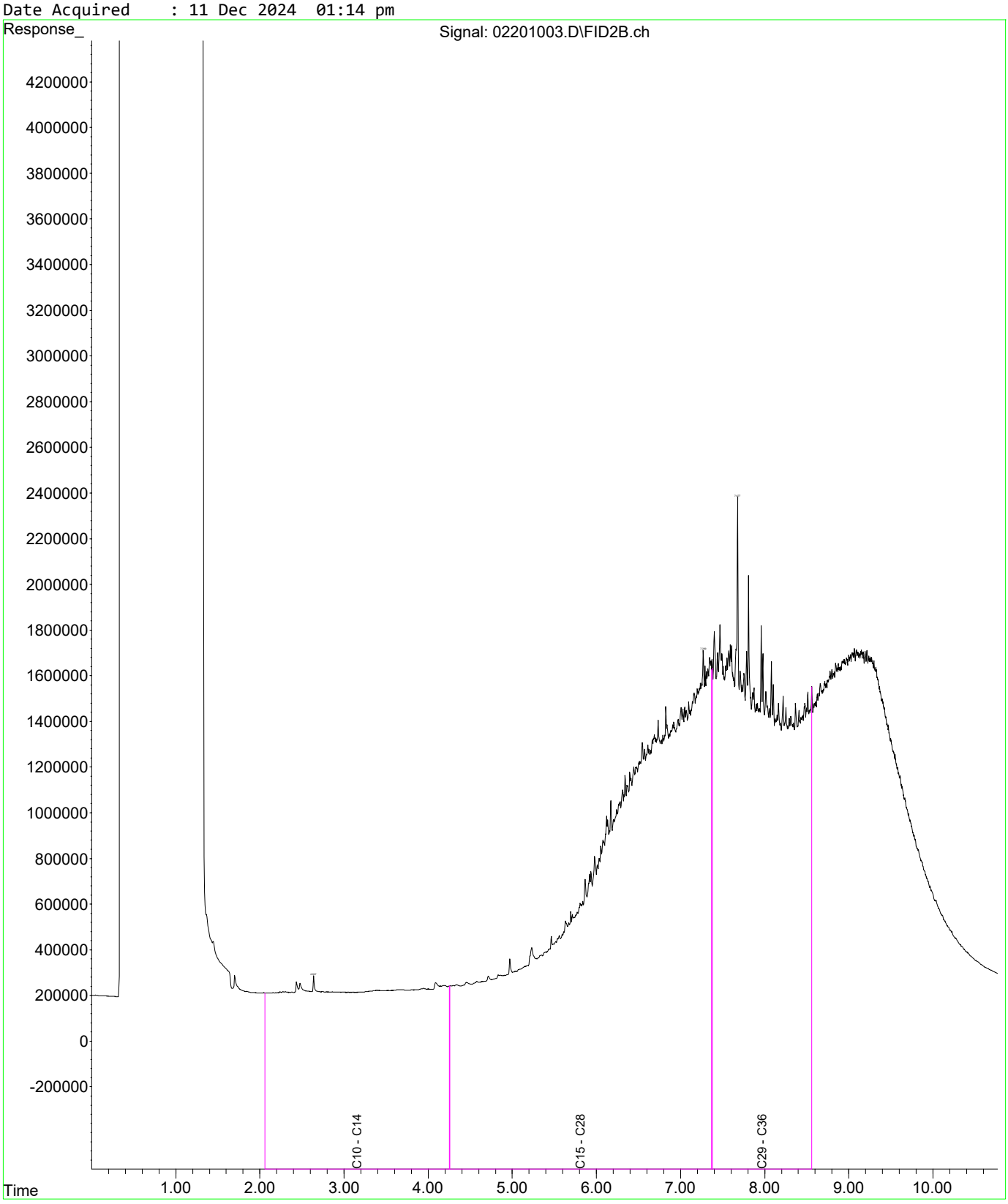
Fraction Scheme : NEPM Fractions
Data File : 02301004.D
Laboratory Number: EM2421657-002
Sample ID : QC128
Date Acquired : 11 Dec 2024 01:31 pm



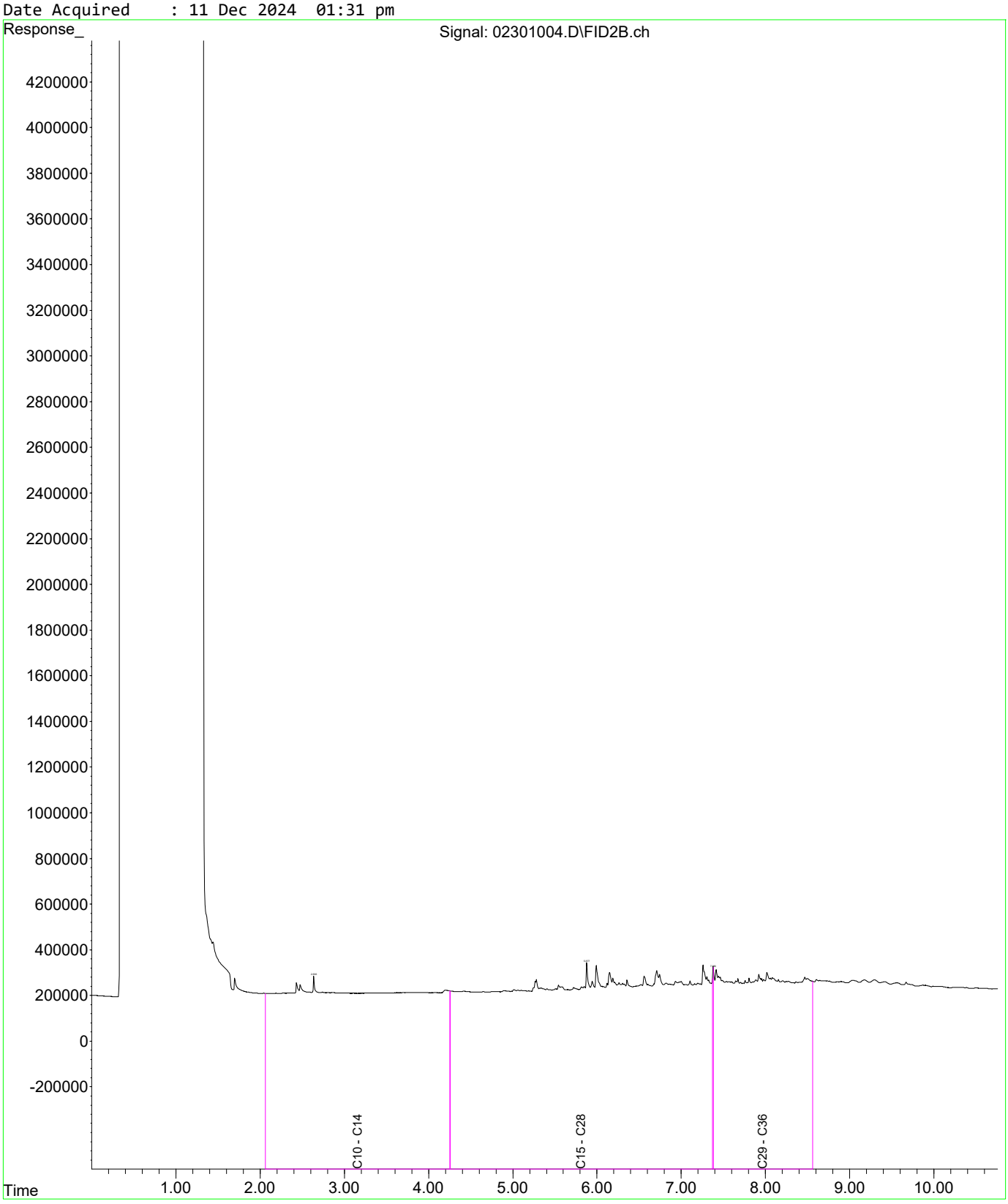
Fraction Scheme : NEPM Fractions
Data File : 02601007.D
Laboratory Number: EM2421657-003
Sample ID : QC132
Date Acquired : 11 Dec 2024 02:22 pm



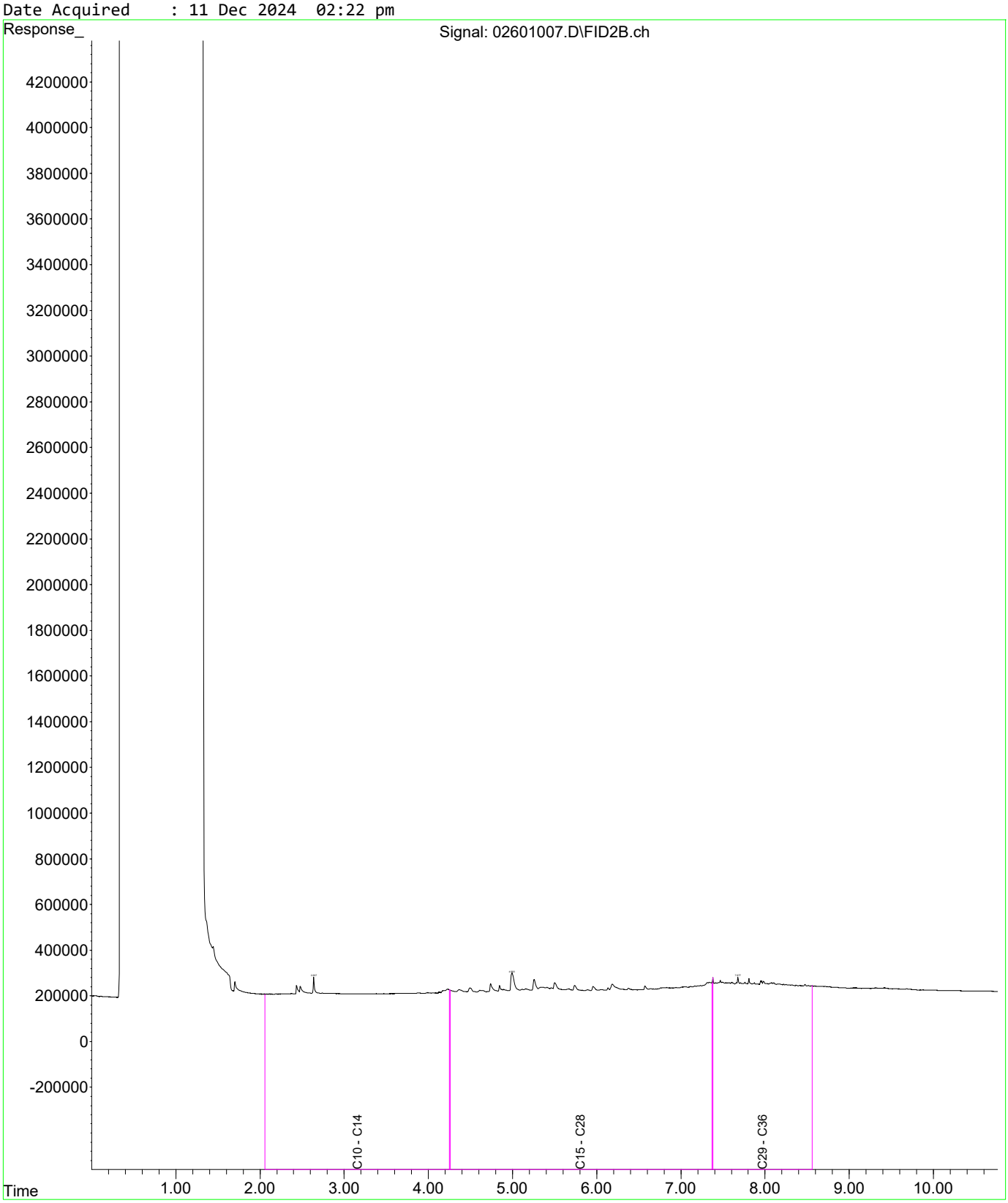
Fraction Scheme : Legacy Fractions
Data File : 02201003.D
Laboratory Number: EM2421657-001
Sample ID : QC124
Date Acquired : 11 Dec 2024 01:14 pm



Fraction Scheme : Legacy Fractions
Data File : 02301004.D
Laboratory Number: EM2421657-002
Sample ID : QC128
Date Acquired : 11 Dec 2024 01:31 pm



Fraction Scheme : Legacy Fractions
Data File : 02601007.D
Laboratory Number: EM2421657-003
Sample ID : QC132
Date Acquired : 11 Dec 2024 02:22 pm



Timothy.Martin@AECOM.com
Jacob.Muller@AECOM.com

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

7

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	ALS
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, ~~Tim.martin~~@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION															
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
✓	QC124	S	3/12/24				X													
✓	QC128	S	3/12/24						X											
✓	QC132	S	4/12/24				X													

Environmental Division
Melbourne
Work Order Reference
EM2421657

Telephone : + 61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chris A	Date: 6/12	Name: Sheridan Barnett	Date: 4/12/24	Name: BL	Date: 6/12	Con' Note No:
Of: Eurofins	Time:	Of: Eurofins Hobart	Time: 4:35pm	Of: ALS	Time: 1105	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 1 of 1

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2421657**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 06-Dec-2024
Site	: Macquaire Point	Issue Date	: 18-Dec-2024
Sampler	: AC, JM, TG	No. of samples received	: 3
Order number	: 60693007 7	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK040T-P: Total Fluoride by Auto Analyser	EM2421389--013	Anonymous	**Fluoride**	16984-48-8	66.6 %	70.0-130%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2421520--024	Anonymous	**Hexavalent Chromium**	18540-29-9	24.1 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2421520--024	Anonymous	**Hexavalent Chromium**	18540-29-9	32.8 %	58.0-114%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
PAH/Phenols (SIM)	EP075(SIM)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC124, QC128	**03-Dec-2024**	**----**	----	**----**	**11-Dec-2024**	17-Dec-2024	✓
Soil Glass Jar - Unpreserved (EA055) QC132	**04-Dec-2024**	**----**	----	**----**	**11-Dec-2024**	18-Dec-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC124, QC128	**03-Dec-2024**	**11-Dec-2024**	01-Jun-2025	✓	**12-Dec-2024**	01-Jun-2025	✓
Soil Glass Jar - Unpreserved (EG005T) QC132	**04-Dec-2024**	**11-Dec-2024**	02-Jun-2025	✓	**12-Dec-2024**	02-Jun-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC128	**03-Dec-2024**	**11-Dec-2024**	31-Dec-2024	✓	**12-Dec-2024**	31-Dec-2024	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G) QC128	**03-Dec-2024**	**11-Dec-2024**	31-Dec-2024	✓	**12-Dec-2024**	18-Dec-2024	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF) QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**13-Dec-2024**	25-Dec-2024	✓
EK040T-P: Total Fluoride by Auto Analyser							
Soil Glass Jar - Unpreserved (EK040T-P) QC128	**03-Dec-2024**	**11-Dec-2024**	31-Dec-2024	✓	**13-Dec-2024**	31-Dec-2024	✓
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G) QC128	**03-Dec-2024**	**16-Dec-2024**	17-Dec-2024	✓	**----**	----	----
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**11-Dec-2024**	20-Jan-2025	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**11-Dec-2024**	20-Jan-2025	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**12-Dec-2024**	20-Jan-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**12-Dec-2024**	20-Jan-2025	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS) QC124, QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**11-Dec-2024**	20-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075-TAS) QC132	**04-Dec-2024**	**11-Dec-2024**	18-Dec-2024	✓	**11-Dec-2024**	20-Jan-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC124, QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**11-Dec-2024**	17-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC132	**04-Dec-2024**	**11-Dec-2024**	18-Dec-2024	✓	**11-Dec-2024**	18-Dec-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC124, QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**11-Dec-2024**	17-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC132	**04-Dec-2024**	**11-Dec-2024**	18-Dec-2024	✓	**11-Dec-2024**	18-Dec-2024	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QC124, QC128	**03-Dec-2024**	**11-Dec-2024**	17-Dec-2024	✓	**11-Dec-2024**	17-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC132	**04-Dec-2024**	**11-Dec-2024**	18-Dec-2024	✓	**11-Dec-2024**	18-Dec-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL) QC128	**16-Dec-2024**	**17-Dec-2024**	23-Dec-2024	✓	**17-Dec-2024**	26-Jan-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	6	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	6	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	6	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride by Auto Analyser	EK040T-P	SOIL	In-house: Total fluoride is determined by an auto analyer ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

QUALITY CONTROL REPORT

Work Order	: **EM2421657**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 06-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 11-Dec-2024
C-O-C number	: ----	Issue Date	: 18-Dec-2024
Sampler	: AC, JM, TG		
Site	: Macquaire Point		
Quote number	: EN/004/23		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6248215)									
EM2421472-054	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	2	2	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	710	680	5.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	48	50	3.3	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	16	26	47.5	0% - 50%
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	62	68	9.7	0% - 20%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	23	23	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	13	10.4	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	244	242	1.2	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	16	18	13.0	No Limit
EM2421520-016	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	20	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	11	55.3	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6248215) - continued									
EM2421520-016	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	30	15	66.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	10	25.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	122	137	11.4	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	26	36	32.7	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	11	<5	78.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	44	47	7.2	No Limit
EK040T-P: Total Fluoride by Auto Analyser (QC Lot: 6248231)									
EM2421389-007	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	110	110	0.0	No Limit
EM2421562-010	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	280	270	4.1	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6251661)									
EM2421481-020	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	3.2	3.2	0.0	No Limit
EM2421600-025	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	15.8	15.8	0.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6248216)									
EM2421472-054	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2421520-016	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6248243)									
EM2421520-019	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2421609-005	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6252110)									
EM2421481-020	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	2	2	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 6248116)									
EM2421657-002	QC128	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6248115)									
EM2421657-002	QC128	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6248115) - continued									
EM2421657-002	QC128	EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 6248117)									
EM2421657-002	QC128	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6248117)									
EM2421657-002	QC128	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.4	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.1	4.2	3.4	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.1	4.3	4.3	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.1	2.2	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.2	2.3	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.5	1.6	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.7	1.8	7.9	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6248117) - continued									
EM2421657-002	QC128	EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.4	1.5	8.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6248057)									
EM2421657-002	QC128	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	2.56	2.79	8.4	0% - 20%
		EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	4.2	4.5	5.9	No Limit
		EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.4	0.0	No Limit
		EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.2	1.3	8.5	No Limit
		EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	4.2	4.4	5.7	No Limit
		EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	1.9	2.0	5.5	No Limit
		EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.5	1.6	9.1	No Limit
		EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	2.3	2.4	5.5	No Limit
		EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	3.9	4.2	7.6	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6248114)									
EM2421657-002	QC128	EP071: C15 - C28 Fraction	----	100	mg/kg	160	170	10.8	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	110	100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6250058)									
EM2420976-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6248114)									
EM2421657-002	QC128	EP071: >C16 - C34 Fraction	----	100	mg/kg	230	250	7.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6250058)									
EM2420976-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 6250058)									
EM2420976-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 6250058) - continued									
EM2420976-001	Anonymous	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6264683)									
EM2421657-002	QC128	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	0.28	0.32	15.7	No Limit
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	0.28	0.32	13.7	No Limit
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.24	0.27	11.8	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6248215)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	99.5	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	90.6	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	76.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	73.2	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	99.1	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	92.6	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	89.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.3	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	90.8	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	78.3	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	94.4	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	70.0	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	88.6	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.0	70.0	130
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6248231)								
EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	102	93.1	107
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6248216)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	83.6	69.0	128
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6248243)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	77.0	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6252110)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	108	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6248116)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	101	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 6248115)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	73.9	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	73.5	70.0	124
EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	72.0	69.1	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 6248115) - continued								
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	74.7	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	75.3	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	74.2	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	73.7	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	72.8	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	72.1	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	73.8	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	73.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	74.1	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	72.7	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	72.6	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	76.8	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	72.3	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.7	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.8	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 6248117)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	88.2	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	90.5	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	93.4	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	90.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	78.1	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	91.3	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.1	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	87.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	82.6	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	79.8	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	81.5	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	57.5	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6248117)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	95.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.5	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	96.9	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6248117) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	95.7	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	95.3	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.1	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	95.8	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	90.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	98.7	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	82.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.1	80.4	130
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	85.5	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	86.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	88.3	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6248057)								
EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	2 mg/kg	89.0	75.4	130
EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	2 mg/kg	89.6	73.3	130
EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	2 mg/kg	88.2	73.0	131
EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2 mg/kg	87.6	72.1	134
EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	2 mg/kg	90.6	74.4	131
EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2 mg/kg	88.3	75.3	132
EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	2 mg/kg	87.8	72.9	135
EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	2 mg/kg	88.1	75.0	133
EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	2 mg/kg	88.0	71.3	134
EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	4 mg/kg	87.5	75.8	133
EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2 mg/kg	86.3	69.6	133
EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	2 mg/kg	89.2	78.4	127
EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	2 mg/kg	87.9	72.0	135
EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	2 mg/kg	83.3	76.3	130
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	87.0	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6248114)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	101	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	103	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	97.6	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6250058)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6250058) - continued								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	82.9	58.6	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6248114)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	106	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	99.6	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	92.7	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6250058)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	83.6	59.3	128
EP080: BTEXN (QCLot: 6250058)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	90.5	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	81.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	86.8	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	87.6	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	92.7	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	91.4	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6264683)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	85.5	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	89.6	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	94.4	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	90.8	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	94.1	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	97.1	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	104	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	108	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	112	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	105	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	120	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	116	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	108	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	117	56.6	126
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	115	58.7	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6264683) - continued								
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	121	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	110	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6248215)							
EM2421520-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	106	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	105	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	98.1	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	110	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	104	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	107	80.0	120
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6248231)							
EM2421389-013	Anonymous	EK040T-P: Fluoride	16984-48-8	400 mg/kg	# 66.6	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6248216)							
EM2421520-001	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	97.8	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6248243)							
EM2421520-024	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 24.1	58.0	114
EM2421520-024	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 32.8	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6252110)							
EM2421657-002	QC128	EK026SF: Total Cyanide	57-12-5	20 mg/kg	102	70.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6248057)							
EM2421657-002	QC128	EP075-TAS: Pyrene	129-00-0	3 mg/kg	59.2	37.8	152
		EP075-TAS: Acenaphthene	83-32-9	3 mg/kg	81.6	42.6	138
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6248114)							
EM2421657-002	QC128	EP071: C10 - C14 Fraction	----	790 mg/kg	97.5	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	98.5	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	91.8	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6250058)							
EM2421600-030	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	68.2	33.4	124

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6248114)							
EM2421657-002	QC128	EP071: >C10 - C16 Fraction	----	1080 mg/kg	103	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	95.0	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	82.7	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6250058)							
EM2421600-030	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	65.4	30.8	120
EP080: BTEXN (QCLot: 6250058)							
EM2421600-030	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	100	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	93.6	57.1	131

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2421657**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Date Received	: 06-Dec-2024 11:45
Order number	: 60693007 7	Date Analysed	: 11-Dec-2024
C-O-C number	: ----	Date Issued	: 18-Dec-2024 14:14
No. of samples received	: 3		
No. of samples analysed	: 3	Quote number	: EN/004/23

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC128	**EM2421657-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.56 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC124	**EM2421657-001**	Arsenic	EG005T	5	*< 20 mg/kg*	**68 mg/kg**
QC124	**EM2421657-001**	Lead	EG005T	5	*< 300 mg/kg*	**324 mg/kg**
QC124	**EM2421657-001**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**4240 mg/kg**
QC124	**EM2421657-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.74 mg/kg**
QC128	**EM2421657-002**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**21.9 mg/kg**
QC128	**EM2421657-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.56 mg/kg**
QC132	**EM2421657-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.38 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	QC124 03-Dec-2024 15:00 EM2421657-001 MU	QC128 03-Dec-2024 15:00 EM2421657-002 MU	QC132 04-Dec-2024 15:00 EM2421657-003 MU	----	----
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	750	**68** ± 8	**7** ± 2	<5 --	----	----
Barium	EG005T	10	mg/kg		----	30000	----	**80** ± 8	----	----	----
Beryllium	EG005T	1	mg/kg		----	400	----	<1 --	----	----	----
Cadmium	EG005T	1	mg/kg		----	400	----	<1 --	----	----	----
Chromium	EG005T	2	mg/kg		----	5000	----	**6** ± 0.8	----	----	----
Cobalt	EG005T	2	mg/kg		----	1000	----	**7** ± 0.9	----	----	----
Copper	EG005T	5	mg/kg		----	7500	----	**46** ± 6	----	----	----
Lead	EG005T	5	mg/kg		----	3000	**324** ± 34	**264** ± 28	**74** ± 8	----	----
Manganese	EG005T	5	mg/kg		----	25000	----	**101** ± 10	----	----	----
Molybdenum	EG005T	2	mg/kg		----	4000	----	<2 --	----	----	----
Nickel	EG005T	2	mg/kg		----	3000	----	**18** ± 2	----	----	----
Selenium	EG005T	5	mg/kg		----	200	----	<5 --	----	----	----
Silver	EG005T	2	mg/kg		----	720	----	<2 --	----	----	----
Tin	EG005T	5	mg/kg		----	900	----	**14** ± 3	----	----	----
Zinc	EG005T	5	mg/kg		----	50000	----	**78** ± 9	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	110	----	**0.2** ± 0.02	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	2000	----	<0.5 --	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	2500	----	<1 --	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	10000	----	**90**	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	50	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	50	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	1000	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	2000	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	200	----	**21.9**	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID		QC124	QC128	QC132	----	----
				Sampling date/time	Guideline	03-Dec-2024 15:00	03-Dec-2024 15:00	04-Dec-2024 15:00	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	EM2421657-001 MU	EM2421657-002 MU	EM2421657-003 MU		
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**0.74**	**2.56**	**0.38**	**----**	**----**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	200	**10.7**	**----**	**0.38**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10	<10	<10	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**4240**	**270**	**110**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2	<0.2	<0.2	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	1000	<0.5	<0.5	<0.5	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5	<0.5	<0.5	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5	<0.5	<0.5	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID		QC124	QC128	QC132	-----	-----
				Sampling date/time	Guideline	03-Dec-2024 15:00	03-Dec-2024 15:00	04-Dec-2024 15:00	-----	-----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	EM2421657-001 MU	EM2421657-002 MU	EM2421657-003 MU		
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**68** ± 8	**7** ± 2	<5 --	----	----
Barium	EG005T	10	mg/kg	----	300	----	**80** ± 8	----	----	----
Beryllium	EG005T	1	mg/kg	----	2	----	<1 --	----	----	----
Cadmium	EG005T	1	mg/kg	----	3	----	<1 --	----	----	----
Chromium	EG005T	2	mg/kg	----	50	----	**6** ± 0.8	----	----	----
Cobalt	EG005T	2	mg/kg	----	100	----	**7** ± 0.9	----	----	----
Copper	EG005T	5	mg/kg	----	100	----	**46** ± 6	----	----	----
Lead	EG005T	5	mg/kg	----	300	**324** ± 34	**264** ± 28	**74** ± 8	----	----
Manganese	EG005T	5	mg/kg	----	500	----	**101** ± 10	----	----	----
Molybdenum	EG005T	2	mg/kg	----	10	----	<2 --	----	----	----
Nickel	EG005T	2	mg/kg	----	60	----	**18** ± 2	----	----	----
Selenium	EG005T	5	mg/kg	----	10	----	<5 --	----	----	----
Silver	EG005T	2	mg/kg	----	10	----	<2 --	----	----	----
Tin	EG005T	5	mg/kg	----	50	----	**14** ± 3	----	----	----
Zinc	EG005T	5	mg/kg	----	200	----	**78** ± 9	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	----	**0.2** ± 0.02	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	----	<0.5 --	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	----	<1 --	----	----	----
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	300	----	**90**	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	----	**21.9**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**0.74**	**2.56**	**0.38**	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC124**	**QC128**	**QC132**	**----**	**----**
				Sampling date/time			03-Dec-2024 15:00	03-Dec-2024 15:00	04-Dec-2024 15:00	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2421657-001** MU	**EM2421657-002** MU	**EM2421657-003** MU		
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg		----	20	**10.7**	**----**	**0.38**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	65	<10	<10	<10	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	1000	**4240**	**270**	**110**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	1	<0.2	<0.2	<0.2	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1	<0.5	<0.5	<0.5	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	3	<0.5	<0.5	<0.5	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	14	<0.5	<0.5	<0.5	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC124 03-Dec-2024 15:00 EM2421657-001 MU	QC128 03-Dec-2024 15:00 EM2421657-002 MU	QC132 04-Dec-2024 15:00 EM2421657-003 MU	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	**68** ± 8	**7** ± 2	<5 - -	----	----
Barium	EG005T	10	mg/kg	----	3000	----	**80** ± 8	----	----	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 - -	----	----	----
Cadmium	EG005T	1	mg/kg	----	40	----	<1 - -	----	----	----
Chromium	EG005T	2	mg/kg	----	500	----	**6** ± 0.8	----	----	----
Cobalt	EG005T	2	mg/kg	----	200	----	**7** ± 0.9	----	----	----
Copper	EG005T	5	mg/kg	----	2000	----	**46** ± 6	----	----	----
Lead	EG005T	5	mg/kg	----	1200	**324** ± 34	**264** ± 28	**74** ± 8	----	----
Manganese	EG005T	5	mg/kg	----	5000	----	**101** ± 10	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 - -	----	----	----
Nickel	EG005T	2	mg/kg	----	600	----	**18** ± 2	----	----	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 - -	----	----	----
Silver	EG005T	2	mg/kg	----	180	----	<2 - -	----	----	----
Tin	EG005T	5	mg/kg	----	500	----	**14** ± 3	----	----	----
Zinc	EG005T	5	mg/kg	----	14000	----	**78** ± 9	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	**0.2** ± 0.02	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 - -	----	----	----
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	3000	----	**90**	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	----	**21.9**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**0.74**	**2.56**	**0.38**	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC124 03-Dec-2024 15:00 EM2421657-001 MU	QC128 03-Dec-2024 15:00 EM2421657-002 MU	QC132 04-Dec-2024 15:00 EM2421657-003 MU	---- ----	---- ----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	40	**10.7**	**----**	**0.38**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10 --	<10 --	<10 --	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**4240**	**270**	**110**	**----**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	<0.2 --	<0.2 --	<0.2 --	**----**	**----**
Toluene	EP080	0.5	mg/kg	----	100	<0.5 --	<0.5 --	<0.5 --	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5 --	<0.5 --	<0.5 --	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5 --	<0.5 --	<0.5 --	**----**	**----**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2421657**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 06-Dec-2024 11:45
Order number	: 60693007 7	Date Analysis Commenced	: 11-Dec-2024
C-O-C number	: ----	Issue Date	: 18-Dec-2024 14:14
Sampler	: AC, JM, TG		
Site	: Macquaire Point		
Quote number	: EN/004/23		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG048G: EM2421520 #24 Poor matrix spike recovery for Hexavalent Chromium due to sample matrix interferences. Confirmed by re-analysis.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EK040T: EM2421389 #13 Poor matrix spike recovery for total fluoride due to sample matrix. Confirmed by re-extraction and re-analysis.
- EK040T-P: EM2421389 #13, Poor matrix spike recovery for total fluoride due to matrix effects.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC124	QC128	QC132	----	----
				Sampling date / time	03-Dec-2024 00:00	03-Dec-2024 00:00	04-Dec-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2421657-001	EM2421657-002	EM2421657-003	--------	--------
					Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		11.8	----	10.7	----	----
Moisture Content	----	1.0	%		----	22.8	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		68	7	<5	----	----
Barium	7440-39-3	10	mg/kg		----	80	----	----	----
Beryllium	7440-41-7	1	mg/kg		----	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg		----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		----	6	----	----	----
Cobalt	7440-48-4	2	mg/kg		----	7	----	----	----
Copper	7440-50-8	5	mg/kg		----	46	----	----	----
Lead	7439-92-1	5	mg/kg		324	264	74	----	----
Manganese	7439-96-5	5	mg/kg		----	101	----	----	----
Molybdenum	7439-98-7	2	mg/kg		----	<2	----	----	----
Nickel	7440-02-0	2	mg/kg		----	18	----	----	----
Selenium	7782-49-2	5	mg/kg		----	<5	----	----	----
Silver	7440-22-4	2	mg/kg		----	<2	----	----	----
Tin	7440-31-5	5	mg/kg		----	14	----	----	----
Zinc	7440-66-6	5	mg/kg		----	78	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	0.2	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		----	<0.5	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		----	<1	----	----	----
EK040T-P: Total Fluoride by Auto Analyser									
Fluoride	16984-48-8	40	mg/kg		----	90	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC124	QC128	QC132	----	----
				Sampling date / time	03-Dec-2024 00:00	03-Dec-2024 00:00	04-Dec-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2421657-001	EM2421657-002	EM2421657-003	--------	--------
					Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel) - Continued									
Initial pH	----	0.1	pH Unit		**----**	**7.4**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit		**----**	**1.2**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-		**----**	**1**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit		**----**	**5.0**	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		**----**	<0.1	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
beta-BHC	319-85-7	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
delta-BHC	319-86-8	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Heptachlor	76-44-8	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Aldrin	309-00-2	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Heptachlor epoxide	1024-57-3	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
^ **Total Chlordane (sum)**	----	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
trans-Chlordane	5103-74-2	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
alpha-Endosulfan	959-98-8	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
cis-Chlordane	5103-71-9	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Dieldrin	60-57-1	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
4.4`-DDE	72-55-9	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Endrin	72-20-8	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
beta-Endosulfan	33213-65-9	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
4.4`-DDD	72-54-8	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Endrin aldehyde	7421-93-4	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**
Endosulfan sulfate	1031-07-8	0.05	mg/kg		**----**	<0.05	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC124	QC128	QC132	----	----
				Sampling date / time	03-Dec-2024 00:00	03-Dec-2024 00:00	04-Dec-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2421657-001	EM2421657-002	EM2421657-003	--------	--------
					Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----	
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----	
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----	
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----	
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----	
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----	
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----	
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	----	----	
^ **Sum of Phenols**	----	0.5	mg/kg	----	<0.5	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	**1.4**	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----	

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC124	QC128	QC132	----	----
				Sampling date / time	03-Dec-2024 00:00	03-Dec-2024 00:00	04-Dec-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2421657-001	EM2421657-002	EM2421657-003	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		----	**4.1**	----	----	----
Pyrene	129-00-0	0.5	mg/kg		----	**4.1**	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	**2.1**	----	----	----
Chrysene	218-01-9	0.5	mg/kg		----	**2.2**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	**1.5**	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	**1.7**	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	**1.1**	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	**1.4**	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		----	**21.9**	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		----	**3.0**	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		----	**3.2**	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		----	**3.5**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**0.74**	**2.56**	**0.38**	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.05	mg/kg		**10.7**	----	**0.38**	----	----
Pyrene	129-00-0	0.5	mg/kg		**1.8**	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**1.8**	----	<0.5	----	----
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**0.5**	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**1.9**	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		**0.8**	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**0.6**	----	<0.5	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		**1.8**	----	<1.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC124	QC128	QC132	----	----
				Sampling date / time	03-Dec-2024 00:00	03-Dec-2024 00:00	04-Dec-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2421657-001	EM2421657-002	EM2421657-003	--------	--------
					Result	Result	Result	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Benzo(a)pyrene TEQ (zero)**	----	0.05	mg/kg		**1.06**	----	**0.38**	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.05	mg/kg		**1.56**	----	**1.09**	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.05	mg/kg		**1.31**	----	**0.74**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**0.8**	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		**2240**	**160**	**110**	----	----
C29 - C36 Fraction	----	100	mg/kg		**2000**	**110**	<100	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**4240**	**270**	**110**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		**70**	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		**3740**	**230**	**160**	----	----
>C34 - C40 Fraction	----	100	mg/kg		**1260**	<100	<100	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**5070**	**230**	**160**	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**70**	<50	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC124	QC128	QC132	----	----
				Sampling date / time	03-Dec-2024 00:00	03-Dec-2024 00:00	04-Dec-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2421657-001	EM2421657-002	EM2421657-003	--------	--------
					Result	Result	Result	----	----
EP080: BTEXN - Continued									
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**96.4**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**98.5**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**114**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	**88.7**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	**100**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	**78.4**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	**100**	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	**104**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	**97.1**	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**109**	**96.6**	**96.2**	----	----
Anthracene-d10	1719-06-8	0.025	%		**112**	**95.6**	**97.7**	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		**117**	**101**	**99.5**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.7**	**90.3**	**98.8**	----	----
Toluene-D8	2037-26-5	0.2	%		**67.5**	**72.3**	**83.5**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**77.2**	**76.7**	**91.0**	----	----

Analytical Results

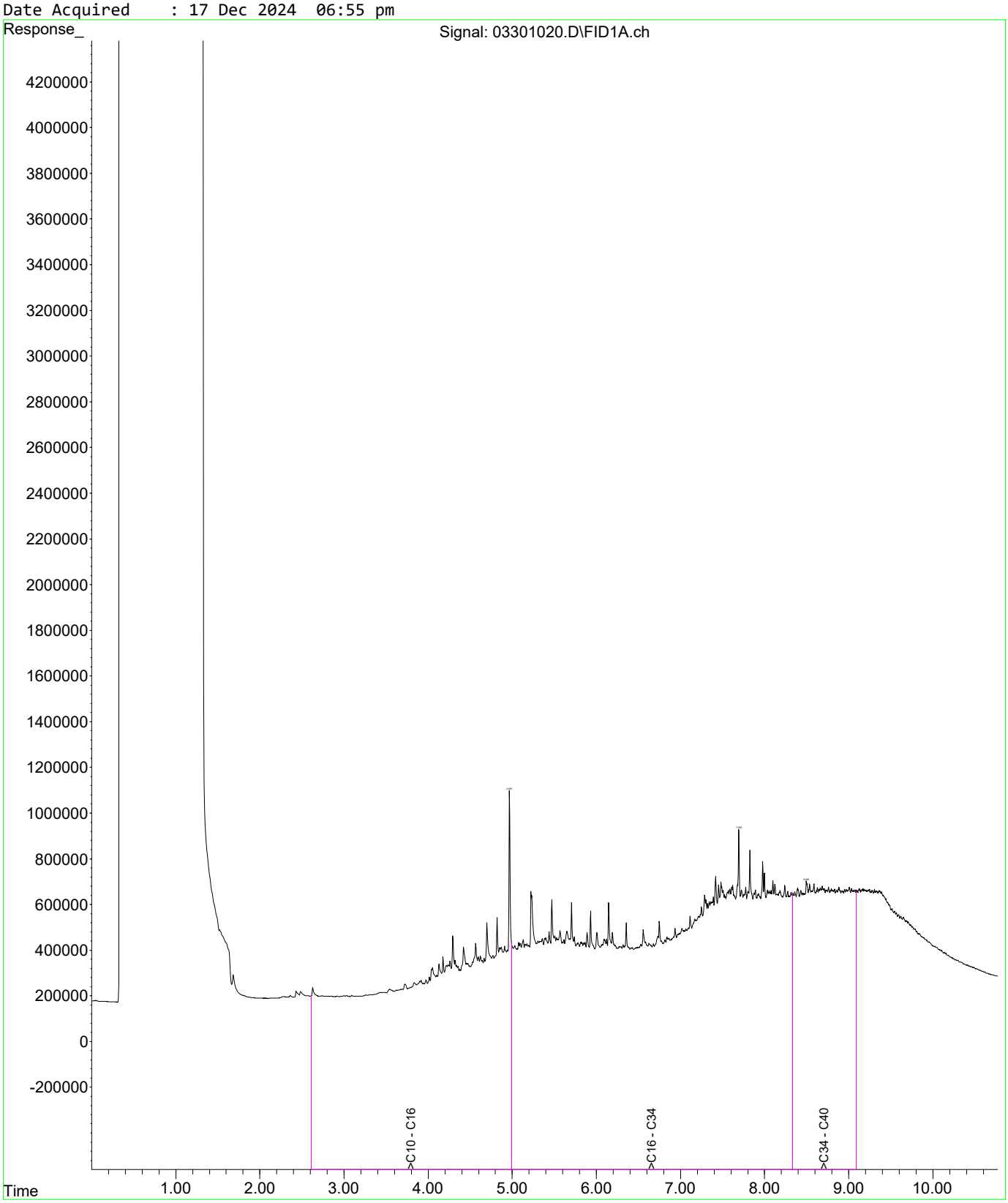
Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	QC128	----	----	----	----
				Sampling date / time	03-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2421657-002	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		<0.10	----	----	----	----
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	----	----	----	----
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	----	----	----	----
Acenaphthene	83-32-9	0.10	µg/L		<0.10	----	----	----	----
Fluorene	86-73-7	0.10	µg/L		<0.10	----	----	----	----
Phenanthrene	85-01-8	0.10	µg/L		**0.28**	----	----	----	----
Anthracene	120-12-7	0.10	µg/L		<0.10	----	----	----	----
Fluoranthene	206-44-0	0.10	µg/L		**0.28**	----	----	----	----
Pyrene	129-00-0	0.10	µg/L		**0.24**	----	----	----	----
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	----	----	----	----
Chrysene	218-01-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**0.80**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	----	----	----	----
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**58.1**	----	----	----	----
Anthracene-d10	1719-06-8	0.10	%		**53.0**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.10	%		**80.0**	----	----	----	----

Surrogate Control Limits

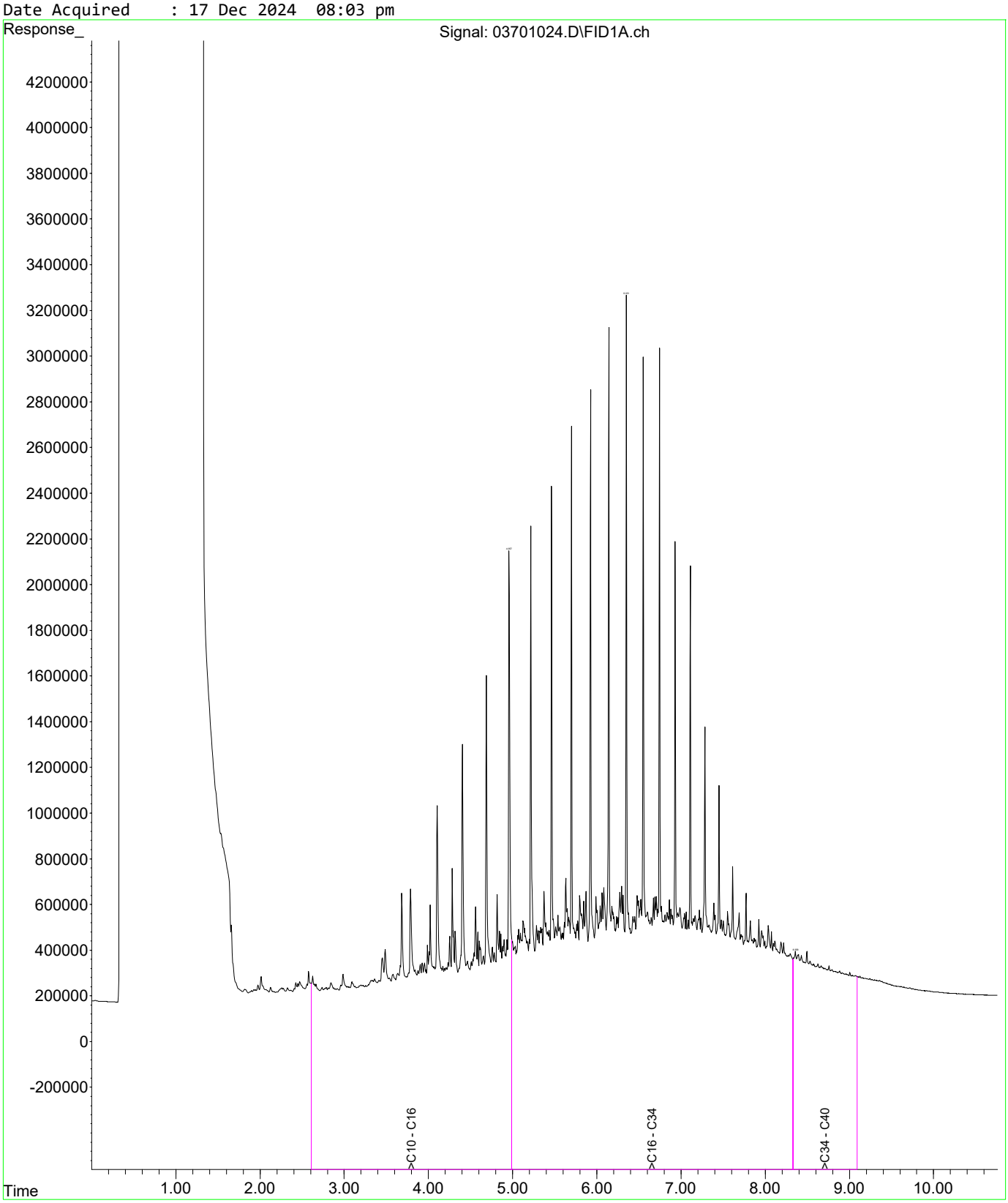
Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

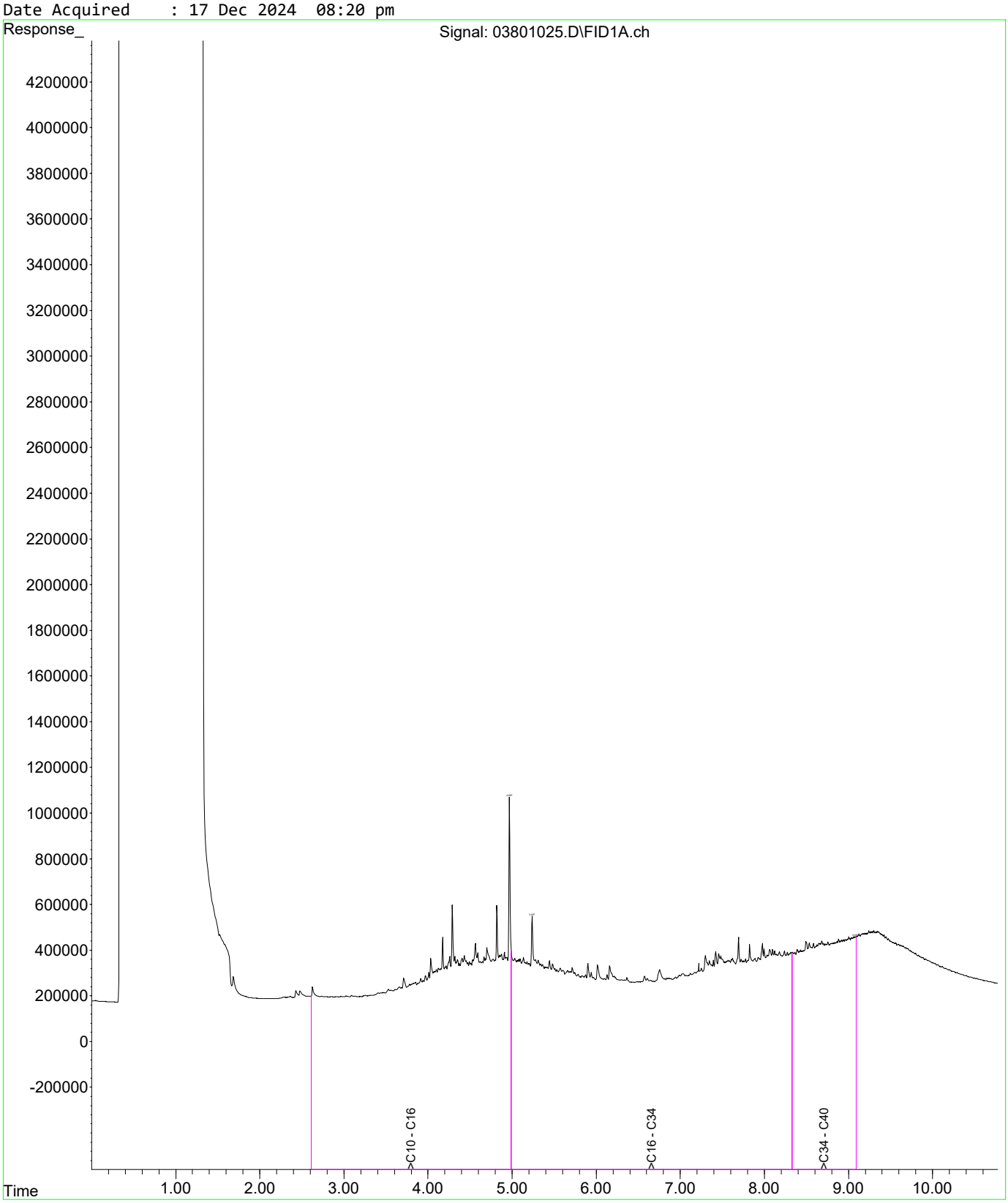
Fraction Scheme : NEPM Fractions
Data File : 03301020.D
Laboratory Number: EM2421846-001
Sample ID : QC142
Date Acquired : 17 Dec 2024 06:55 pm



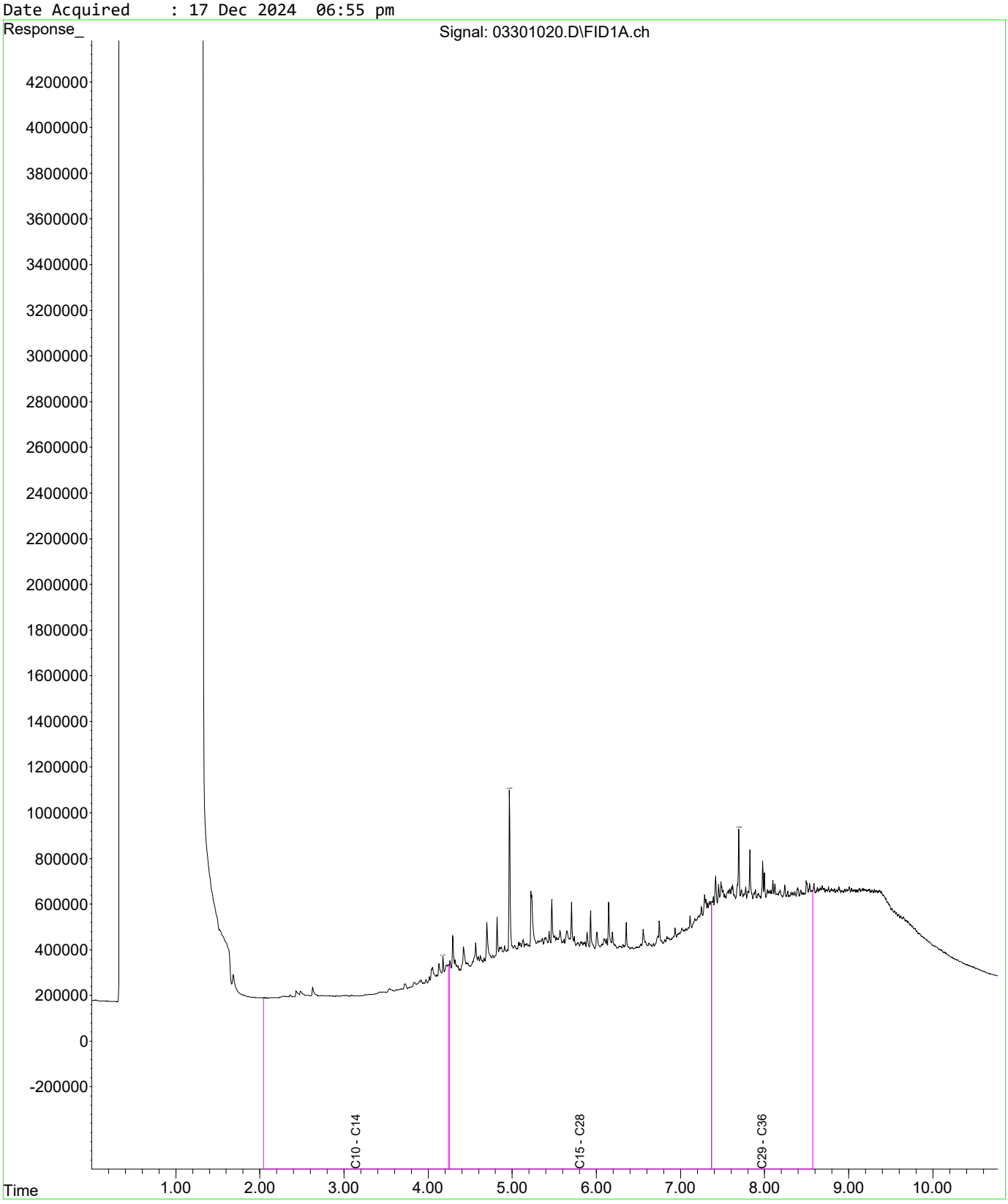
Fraction Scheme : NEPM Fractions
Data File : 03701024.D
Laboratory Number: EM2421846-003
Sample ID : QC151
Date Acquired : 17 Dec 2024 08:03 pm



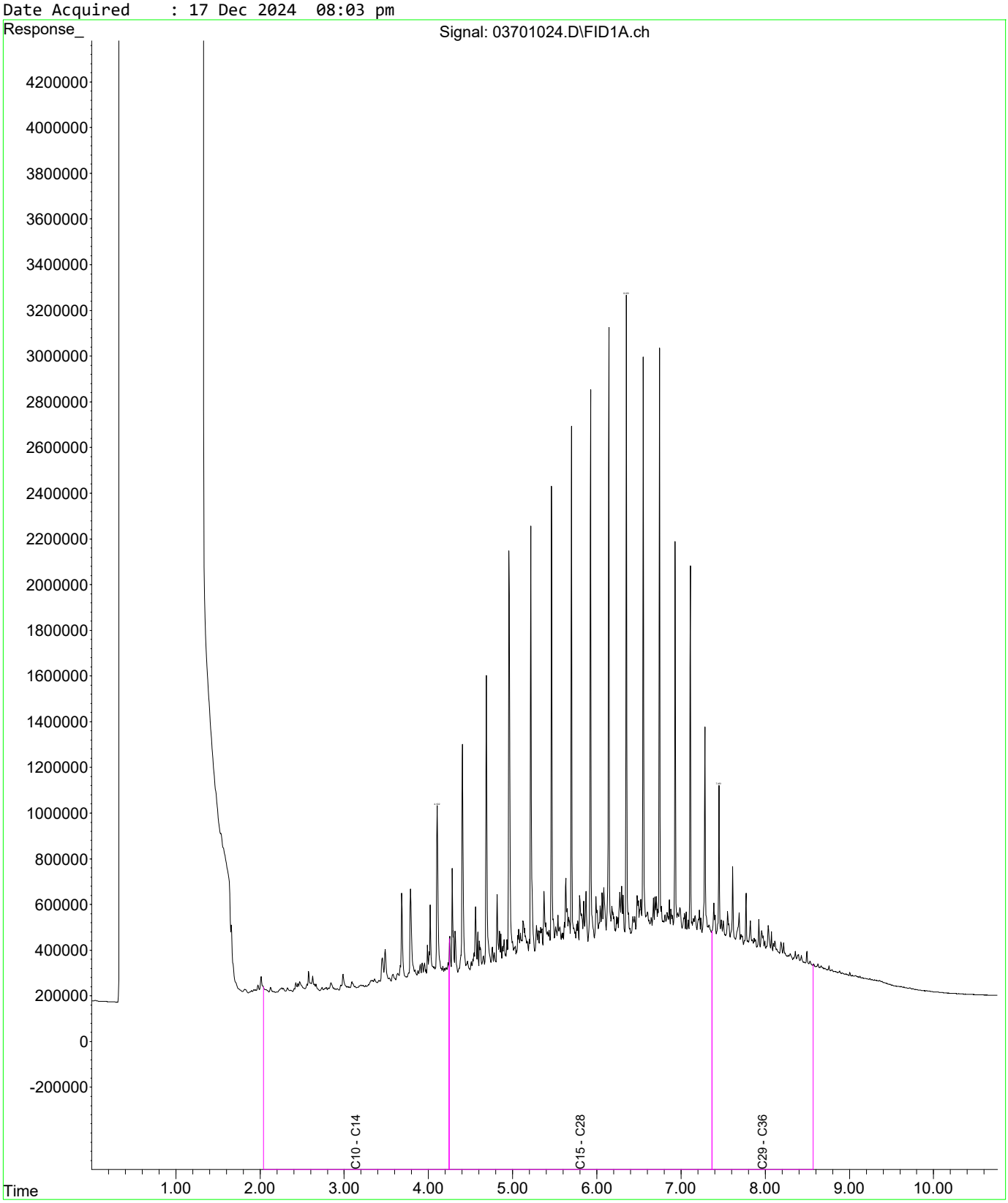
Fraction Scheme : NEPM Fractions
Data File : 03801025.D
Laboratory Number: EM2421846-004
Sample ID : QC152
Date Acquired : 17 Dec 2024 08:20 pm



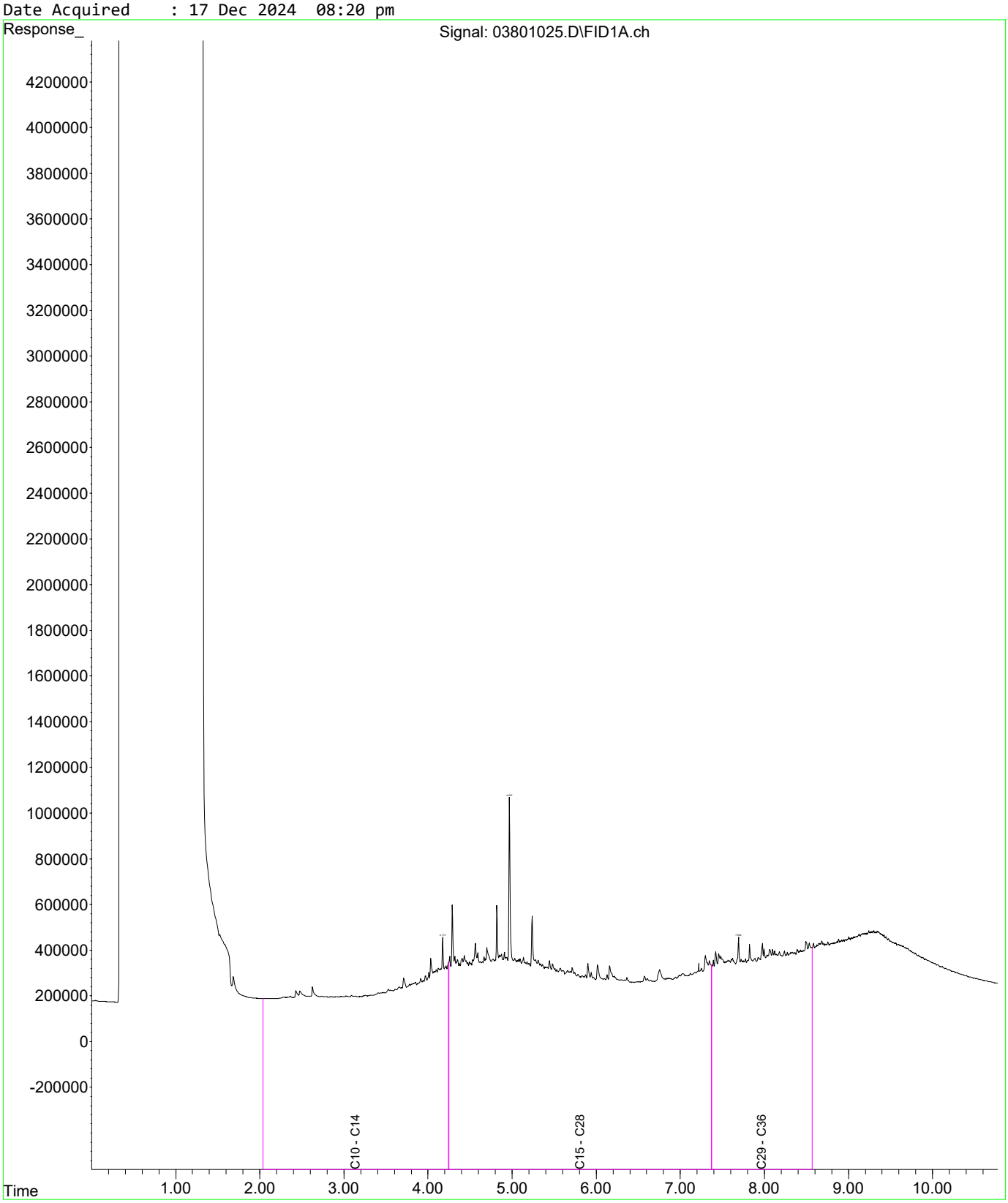
Fraction Scheme : Legacy Fractions
Data File : 03301020.D
Laboratory Number: EM2421846-001
Sample ID : QC142
Date Acquired : 17 Dec 2024 06:55 pm



Fraction Scheme : Legacy Fractions
Data File : 03701024.D
Laboratory Number: EM2421846-003
Sample ID : QC151
Date Acquired : 17 Dec 2024 08:03 pm



Fraction Scheme : Legacy Fractions
Data File : 03801025.D
Laboratory Number: EM2421846-004
Sample ID : QC152
Date Acquired : 17 Dec 2024 08:20 pm



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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs suspected"
Extra v

Environmental Division Melbourne
Work Order Reference
EM2421846
Telephone : + 61-3-8549 9600

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	013_1.5				5/12/24				X									
	QC141						X											
1	QC142						Please forward to ALS											
	H09_0.5						X											
	H09_1.0						X											
	H09_1.5								X									
	H09_2.0						X											
	H09_2.5						X											
	H09_3.0								X									
	E09_0.5						X											
	E09_1.0								X									
	E09_1.5						X											
	E09_2.0						X											
	E09_2.5								X									
	E09_3.0						X											
	E09_3.5						X											
	E09_4.0						X											
	E09_4.5								X									
	G09_0.5						X											

Relinquished by Chris A 10/12

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: EUROFINS HOB	Date: 6/12	Name: HC	Date: 10/12	Con' Note No:
Of:	Time:	Of: AP	Time: 3:55	Of: ALS	Time: 11:15	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. *Soil Container Codes:* Jar = Unpreserved glass jar

ALS 3 HH COPY

AECOM

Q4AN(EV)-007-FM1

ANZ

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK CO: 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	F10_3.5	S	5/12/24				X											
	E10_0.5						X											
	E10_1.0						X											
	E10_1.5								X									
	E10_2.0						X											
	E10_2.5								X									
	E10_3.0						X											
	E10_3.5						X											
	QC143	S	6/12/24						X									
2	QC144	S					Please forward to ALS											X
	QC145	W																
	QC146	W					X											
	L11_0.5	S					X											
	L11_1.0						X											
	L11_1.5								X									
	QC138									X								
	QC153									X								
	QC154									X								
	QC155									X								

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AP	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins HOB	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

ALS 3 PM

COPY

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Please forward to ALS

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
	LOS_2.0	S	6/12/24				X													
	QC150		11				X													
3	QC151																			
	QC153									X										
	QC154									X										
	I12_0.5								X											
	I12_1.0						X													
	I12_1.5						X													
	I12_2.0								X											
	I12_2.5						X													
	I11_0.5						X													
	I11_1.0						X													
	I11_1.5						X													
	I11_2.0								X											
	I11_2.5								X											
	I10_0.5						X													
	I10_1.0						X													
	I10_1.5						X													
	I10_2.0								X											

Received by NC 10/12 11:15

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name:	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Nob	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; I
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

9

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE Nt 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	H10_2.5	S	06/12/24				X												
	QC149						X												
4	QC152						Please forward TO ALS												
	H11_0.5						X												
	H11_1.0						X												
	H11_1.5						X												
	H11_2.0								X										
	H11_2.5						X												
	H11_3.0						X												
	G11_0.5								X										
	G11_1.0						X												
	G11_1.5						X												
	G11_2.0						X												
	G11_2.5						X												
	G11_3.0								X										
	G11_3.5						X												

RELINQUISHED BY	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Andrew Christensen	Name:	Name:	Con' Note No:
Of:	Of: Eurofins Hob	Of:	Transport Co:
Date: 06/12/2024	Date: 6/12	Date:	
Time:	Time: 3:55	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; I
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

Peter Ravlic

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Thursday, 12 December 2024 11:56 AM
To: Peter Ravlic
Cc: Crowe, Robert; Lath, Supriya
Subject: [EXTERNAL] - Reports to end-year, Macquarie Point

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Peter,

Just as an FYI, we've been forwarding samples from Eurofins for lab analysis, from our job down in Hobart.

- I'm aware that these samples are taking some time to reach ALS.
- To date, I've only seen SRNs for 7 of my 29 soil samples being sent your way.

As a reference; please see below regarding anticipated samples heading your way, and the anticipated sample analysis to be conducted.

- Any issues or clarifications, please don't hesitate to call me... just trying to make it as efficient for you as possible.
- As soon as COAs come in, I will endeavour to provide any follow-up TCLP leachable analysis.

	Sample ID	Initial Analysis Request	Received by ALS?	Additional TCLP Leachable sampling required? (all PAHs and TEQ results)?
	QC103	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM2421016	Yes
	QC108	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM2421016	-
	QC116	IB105: SOIL - P-20/1	EM2421150	Yes
	QC120	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM2421150	-
	QC124	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM24211657	TBA, awaiting COA
	QC128	IB105: SOIL - P-20/1	EM24211657	TBA, awaiting COA
	QC132	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM24211657	TBA, awaiting COA
1	QC142	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
2	QC144	IB105: SOIL - P-20/1	Awaiting SRN	
	QC148	IB105: SOIL - P-20/1	Awaiting SRN	
3	QC151	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	

QC152	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC156	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC158	IB105: SOIL - P-20/1	Awaiting SRN	
QC164	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC168	IB105: SOIL - P-20/1	Awaiting SRN	
QC170	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC172	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC174	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC176	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC178	IB105: SOIL - P-20/1	Awaiting SRN	
QC180	IB105: SOIL - P-20/1	Awaiting SRN	
QC182	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC184	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC189	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC191	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC195	IB105: SOIL - P-20/1	Awaiting SRN	
QC197	IB105: SOIL - P-20/1	Awaiting SRN	
QC199	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia

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Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs suspected"
Extra v

Environmental Division Melbourne
Work Order Reference
EM2421846
Telephone : + 61-3-8549 9600

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	013_1.5				5/12/24				X									
	QC141						X											
1	QC142						Please forward to ALS											
	H09_0.5						X											
	H09_1.0						X											
	H09_1.5								X									
	H09_2.0						X											
	H09_2.5						X											
	H09_3.0								X									
	E09_0.5						X											
	E09_1.0								X									
	E09_1.5						X											
	E09_2.0						X											
	E09_2.5								X									
	E09_3.0						X											
	E09_3.5						X											
	E09_4.0						X											
	E09_4.5								X									
	G09_0.5						X											

Relinquished by Chris A 10/12

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: EUROFINS HOB	Date: 6/12	Name: HC	Date: 10/12	Con' Note No:
Of:	Time:	Of: AP	Time: 3:55	Of: ALS	Time: 11:15	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

ALS 3 HH COPY

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO 241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD
	F10-3.5	S	5/12/24				X											
	E10_0.5						X											
	E10_1.0						X											
	E10-1.5								X									
	E10_2.0						X											
	E10-2.5								X									
	E10_3.0						X											
	E10-3.5						X											
	QC143	S	6/12/24						X									
2	QC144	S					Please forward to ALS											
	QC145	W																X
	QC146	W					X											
	L11_0.5	S					X											
	L11_1.0						X											
	L11_1.5								X									
	QC138									X								
	QC153									X								
	QC154									X								
	QC155									X								

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name: AP	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins HOB	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
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F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ALS 3 PM

COPY

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N(241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB10S	TRH c6-c10 BTEXN											HOLD
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles															
	L08_2.0	S	6/12/24				X														
	QC150		11				X														
3	QC151						Please forward all to ALS														
	QC153									X											
	QC154									X											
	I12_0.5								X												
	I12_1.0						X														
	I12_1.5						X														
	I12_2.0								X												
	I12_2.5						X														
	I11_0.5						X														
	I11_1.0						X														
	I11_1.5						X														
	I11_2.0								X												
	I11_2.5								X												
	I10_0.5						X														
	I10_1.0						X														
	I10_1.5						X														
	I10_2.0								X												

Received by NC 10/12 11:15

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Andrew Christensen	Date: 06/12/2024	Name:	Date: 6/12	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hob	Time: 3:55	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; I
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N(241121AECV	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	I10_2.5	S	06/12/24				X												
	QC149						X												
4	QC152						Please forward TO ALS												
	H11_0.5						X												
	H11_1.0						X												
	H11_1.5						X												
	H11_2.0								X										
	H11_2.5						X												
	H11_3.0						X												
	G11_0.5								X										
	G11_1.0						X												
	G11_1.5						X												
	G11_2.0						X												
	G11_2.5						X												
	G11_3.0								X										
	G11_3.5						X												

RELINQUISHED BY:	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Andrew Christensen	Name:	Name:	Con' Note No:
Of:	Of: Eurofins Mob	Of:	Transport Co:
Date: 06/12/2024	Date: 6/12	Date:	
Time:	Time: 9:55	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2421846**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 10-Dec-2024
Site	: Macquarie Point	Issue Date	: 19-Dec-2024
Sampler	: AC, JM, TG	No. of samples received	: 4
Order number	: 60693007 7	No. of samples analysed	: 4

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	EM2421824--002	Anonymous	**Hexavalent Chromium**	18540-29-9	43.7 %	58.0-114%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
PAH/Phenols (SIM)	EP075(SIM)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC142	**05-Dec-2024**	**----**	----	----	**17-Dec-2024**	19-Dec-2024	✓
Soil Glass Jar - Unpreserved (EA055) QC144, QC151, QC152	**06-Dec-2024**	**----**	----	----	**17-Dec-2024**	20-Dec-2024	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC142	**05-Dec-2024**	**18-Dec-2024**	03-Jun-2025	✓	**18-Dec-2024**	03-Jun-2025	✓
Soil Glass Jar - Unpreserved (EG005T) QC144, QC151, QC152	**06-Dec-2024**	**18-Dec-2024**	04-Jun-2025	✓	**18-Dec-2024**	04-Jun-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC142	**05-Dec-2024**	**18-Dec-2024**	02-Jan-2025	✓	**18-Dec-2024**	02-Jan-2025	✓
Soil Glass Jar - Unpreserved (EG035T) QC144, QC151, QC152	**06-Dec-2024**	**18-Dec-2024**	03-Jan-2025	✓	**18-Dec-2024**	03-Jan-2025	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G) QC144	**06-Dec-2024**	**17-Dec-2024**	03-Jan-2025	✓	**18-Dec-2024**	24-Dec-2024	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF) QC144	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**19-Dec-2024**	31-Dec-2024	✓
EK040T-P: Total Fluoride by Auto Analyser							
Soil Glass Jar - Unpreserved (EK040T-P) QC144	**06-Dec-2024**	**17-Dec-2024**	03-Jan-2025	✓	**18-Dec-2024**	03-Jan-2025	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QC144	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	26-Jan-2025	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC144	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**18-Dec-2024**	26-Jan-2025	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC144	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	26-Jan-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC144	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	26-Jan-2025	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS) QC142	**05-Dec-2024**	**17-Dec-2024**	19-Dec-2024	✓	**17-Dec-2024**	26-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075-TAS) QC144, QC151, QC152	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	26-Jan-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC142	**05-Dec-2024**	**17-Dec-2024**	19-Dec-2024	✓	**17-Dec-2024**	19-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC144, QC151, QC152	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	20-Dec-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC142	**05-Dec-2024**	**17-Dec-2024**	19-Dec-2024	✓	**17-Dec-2024**	19-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC144, QC151, QC152	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	20-Dec-2024	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QC142	**05-Dec-2024**	**17-Dec-2024**	19-Dec-2024	✓	**17-Dec-2024**	19-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC144, QC151, QC152	**06-Dec-2024**	**17-Dec-2024**	20-Dec-2024	✓	**17-Dec-2024**	20-Dec-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride by Auto Analyser	EK040T-P	SOIL	In-house: Total fluoride is determined by an auto analyer ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

QUALITY CONTROL REPORT

Work Order	: **EM2421846**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 10-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 17-Dec-2024
C-O-C number	: ----	Issue Date	: 19-Dec-2024
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6263633)									
EM2421846-001	QC142	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	80	80	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	13	9.5	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	10	12	18.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	22	24	11.1	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	14	15	8.3	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	88	93	5.7	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	109	101	7.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	295	288	2.4	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	24	31	26.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	260	302	15.0	0% - 20%
EM2421861-077	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	70	29.2	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	31	33.5	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	2	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6263633) - continued									
EM2421861-077	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	4	5	28.2	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	6	26.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	10	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	8	15	54.0	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	6	19.8	No Limit
EK040T-P: Total Fluoride by Auto Analyser (QC Lot: 6263387)									
EM2421778-011	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	<40	0.0	No Limit
EM2422137-015	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	100	60	46.7	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6265272)									
EM2421487-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	6.3	6.3	0.0	No Limit
EM2422183-002	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	22.7	23.6	4.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6263634)									
EM2421846-001	QC142	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.0	No Limit
EM2421861-077	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6263429)									
EM2421824-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2421824-010	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6266580)									
EM2422136-003	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EM2421861-005	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 6263105)									
EM2421846-002	QC144	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6263104)									
EM2421846-002	QC144	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6263104) - continued									
EM2421846-002	QC144	EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 6263106)									
EM2421846-002	QC144	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6263106)									
EM2421846-002	QC144	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6263106) - continued									
EM2421846-002	QC144	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6263095)									
EM2421846-002	QC144	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	0.14	0.48	107	No Limit
		EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.0	69.7	No Limit
		EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	0.8	48.5	No Limit
		EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.2	80.8	No Limit
		EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6263090)									
EM2421846-001	QC142	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6263103)									
EM2421846-002	QC144	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6263090)									
EM2421846-001	QC142	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6263103)									
EM2421846-002	QC144	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6263090)									
EM2421846-001	QC142	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 6263090) - continued									
EM2421846-001	QC142	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6263633)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	93.6	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	94.9	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	87.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	67.7	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	99.5	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	90.3	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	86.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	87.3	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	88.5	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	74.2	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	93.3	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	87.1	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	92.0	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	77.4	70.0	130
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6263387)								
EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	102	93.1	107
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6263634)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	85.8	69.0	128
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6263429)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	79.6	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6266580)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	109	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6263105)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	110	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 6263104)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	76.9	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	101	70.0	124
EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.1	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 6263104) - continued								
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	75.2	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	74.5	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	112	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	81.3	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	113	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	118	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.0	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	91.5	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	118	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	104	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 6263106)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	91.3	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	93.3	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	97.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	92.4	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	78.6	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.2	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	90.2	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	89.6	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	83.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	81.5	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	80.4	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	48.1	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6263106)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	98.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	97.4	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6263106) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.2	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	99.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	99.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	101	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	97.6	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	104	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	91.7	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	95.4	80.4	130
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	84.1	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	85.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	84.5	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6263095)								
EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	2 mg/kg	92.2	75.4	130
EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	2 mg/kg	93.5	73.3	130
EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	2 mg/kg	89.2	73.0	131
EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2 mg/kg	89.0	72.1	134
EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	2 mg/kg	89.3	74.4	131
EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2 mg/kg	92.3	75.3	132
EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	2 mg/kg	88.7	72.9	135
EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	2 mg/kg	94.1	75.0	133
EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	2 mg/kg	88.8	71.3	134
EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	4 mg/kg	89.3	75.8	133
EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2 mg/kg	92.2	69.6	133
EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	2 mg/kg	92.5	78.4	127
EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	2 mg/kg	87.4	72.0	135
EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	2 mg/kg	76.5	76.3	130
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	88.3	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6263090)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	92.8	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6263103)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	97.7	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	99.8	82.0	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6263103) - continued								
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	95.4	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6263090)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	88.6	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6263103)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	111	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	95.0	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	97.1	73.3	137
EP080: BTEXN (QCLot: 6263090)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	95.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	93.6	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	95.1	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	99.8	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	83.7	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6263633)							
EM2421846-001	QC142	EG005T: Arsenic	7440-38-2	50 mg/kg	99.5	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.3	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	96.0	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	104	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.4	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	99.5	80.0	120
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6263387)							
EM2421846-002	QC144	EK040T-P: Fluoride	16984-48-8	400 mg/kg	72.0	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6263634)							
EM2421846-001	QC142	EG035T: Mercury	7439-97-6	0.5 mg/kg	86.8	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6263429)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6263429) - continued							
EM2421824-002	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 43.7	58.0	114
EM2421824-002	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	71.9	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6266580)							
EM2421846-002	QC144	EK026SF: Total Cyanide	57-12-5	20 mg/kg	102	70.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6263095)							
EM2421846-002	QC144	EP075-TAS: Pyrene	129-00-0	3 mg/kg	92.2	37.8	152
		EP075-TAS: Acenaphthene	83-32-9	3 mg/kg	69.8	42.6	138
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6263090)							
EM2421846-002	QC144	EP080: C6 - C9 Fraction	----	28 mg/kg	83.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6263103)							
EM2421846-002	QC144	EP071: C10 - C14 Fraction	----	790 mg/kg	99.3	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	102	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	97.1	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6263090)							
EM2421846-002	QC144	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	79.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6263103)							
EM2421846-002	QC144	EP071: >C10 - C16 Fraction	----	1080 mg/kg	112	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	96.9	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	90.5	66.8	138
EP080: BTEXN (QCLot: 6263090)							
EM2421846-002	QC144	EP080: Benzene	71-43-2	2 mg/kg	86.7	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	94.9	57.1	131

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2421846**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Date Received	: 10-Dec-2024 11:15
Order number	: 60693007 7	Date Analysed	: 17-Dec-2024
C-O-C number	: ----	Date Issued	: 19-Dec-2024 16:34
No. of samples received	: 4		
No. of samples analysed	: 4	Quote number	: EN/004/23

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.

This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.

This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.

Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC142	**EM2421846-001**	Zinc	EG005T	5	*< 200 mg/kg*	**260 mg/kg**
QC142	**EM2421846-001**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1970 mg/kg**
QC142	**EM2421846-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**1.12 mg/kg**
QC144	**EM2421846-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.14 mg/kg**
QC151	**EM2421846-003**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**2620 mg/kg**
QC151	**EM2421846-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.76 mg/kg**
QC152	**EM2421846-004**	Copper	EG005T	5	*< 100 mg/kg*	**121 mg/kg**
QC152	**EM2421846-004**	Zinc	EG005T	5	*< 200 mg/kg*	**245 mg/kg**
QC152	**EM2421846-004**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**1.63 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	QC142 05-Dec-2024 15:00 EM2421846-001 MU	QC144 06-Dec-2024 15:00 EM2421846-002 MU	QC151 06-Dec-2024 15:00 EM2421846-003 MU	QC152 06-Dec-2024 15:00 EM2421846-004 MU	---- ----
EG005(ED093)T: Total Metals by ICP-AES											
Barium	EG005T	10	mg/kg		----	30000	----	**170** ± 20	----	----	----
Beryllium	EG005T	1	mg/kg		----	400	----	<1 - -	----	----	----
Cobalt	EG005T	2	mg/kg		----	1000	----	**13** ± 1	----	----	----
Manganese	EG005T	5	mg/kg		----	25000	----	**89** ± 9	----	----	----
Molybdenum	EG005T	2	mg/kg		----	4000	----	<2 - -	----	----	----
Selenium	EG005T	5	mg/kg		----	200	----	<5 - -	----	----	----
Silver	EG005T	2	mg/kg		----	720	----	<2 - -	----	----	----
Tin	EG005T	5	mg/kg		----	900	----	**11** ± 3	----	----	----
Arsenic	EG005T	5	mg/kg		----	750	**14** ± 2	<5 - -	<5 - -	**7** ± 2	----
Cadmium	EG005T	1	mg/kg		----	400	<1 - -	<1 - -	<1 - -	<1 - -	----
Chromium	EG005T	2	mg/kg		----	5000	**12** ± 2	**10** ± 1	<2 - -	**15** ± 2	----
Copper	EG005T	5	mg/kg		----	7500	**88** ± 11	**18** ± 2	**15** ± 2	**121** ± 15	----
Lead	EG005T	5	mg/kg		----	3000	**109** ± 12	**57** ± 6	**16** ± 2	**261** ± 27	----
Nickel	EG005T	2	mg/kg		----	3000	**22** ± 2	**10** ± 1	**4** ± 0.5	**22** ± 2	----
Zinc	EG005T	5	mg/kg		----	50000	**260** ± 27	**18** ± 3	**12** ± 3	**245** ± 26	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	110	**0.1** ± 0.01	<0.1 - -	<0.1 - -	**0.5** ± 0.05	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	2000	----	<0.5 - -	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	2500	----	<1 - -	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	10000	----	<40	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	50	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	50	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	1000	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	2000	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	200	----	<0.5	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC142 05-Dec-2024 15:00 EM2421846-001 MU	QC144 06-Dec-2024 15:00 EM2421846-002 MU	QC151 06-Dec-2024 15:00 EM2421846-003 MU	QC152 06-Dec-2024 15:00 EM2421846-004 MU	---- ----
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**1.12**	**0.14**	**0.76**	**1.63**	**----**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	200	**15.9**	**----**	**15.5**	**15.0**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	<10 --	**27** ± 6	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**1970**	<50	**2620**	**930**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	<0.2 --	**0.3** ± 0.1	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	QC142 05-Dec-2024 15:00 EM2421846-001	MU	QC144 06-Dec-2024 15:00 EM2421846-002	MU	QC151 06-Dec-2024 15:00 EM2421846-003	MU	QC152 06-Dec-2024 15:00 EM2421846-004	MU	---- ----	
EG005(ED093)T: Total Metals by ICP-AES																
Barium	EG005T	10	mg/kg		----	300	----		**170**	± 20	----		----		----	
Beryllium	EG005T	1	mg/kg		----	2	----		<1	- -	----		----		----	
Cobalt	EG005T	2	mg/kg		----	100	----		**13**	± 1	----		----		----	
Manganese	EG005T	5	mg/kg		----	500	----		**89**	± 9	----		----		----	
Molybdenum	EG005T	2	mg/kg		----	10	----		<2	- -	----		----		----	
Selenium	EG005T	5	mg/kg		----	10	----		<5	- -	----		----		----	
Silver	EG005T	2	mg/kg		----	10	----		<2	- -	----		----		----	
Tin	EG005T	5	mg/kg		----	50	----		**11**	± 3	----		----		----	
Arsenic	EG005T	5	mg/kg		----	20	**14**	± 2	<5	- -	<5	- -	**7**	± 2	----	
Cadmium	EG005T	1	mg/kg		----	3	<1	- -	<1	- -	<1	- -	<1	- -	----	
Chromium	EG005T	2	mg/kg		----	50	**12**	± 2	**10**	± 1	<2	- -	**15**	± 2	----	
Copper	EG005T	5	mg/kg		----	100	**88**	± 11	**18**	± 2	**15**	± 2	**121**	± 15	----	
Lead	EG005T	5	mg/kg		----	300	**109**	± 12	**57**	± 6	**16**	± 2	**261**	± 27	----	
Nickel	EG005T	2	mg/kg		----	60	**22**	± 2	**10**	± 1	**4**	± 0.5	**22**	± 2	----	
Zinc	EG005T	5	mg/kg		----	200	**260**	± 27	**18**	± 3	**12**	± 3	**245**	± 26	----	
EG035T: Total Recoverable Mercury by FIMS																
Mercury	EG035T	0.1	mg/kg		----	1	**0.1**	± 0.01	<0.1	- -	<0.1	- -	**0.5**	± 0.05	----	
EG048: Hexavalent Chromium (Alkaline Digest)																
Hexavalent Chromium	EG048G	0.5	mg/kg		----	1	----		<0.5	- -	----		----		----	
EK026SF: Total CN by Segmented Flow Analyser																
Total Cyanide	EK026SF	1	mg/kg		----	32	----		<1	- -	----		----		----	
EK040T-P: Total Fluoride by Auto Analyser																
Fluoride	EK040T-P	40	mg/kg		----	300	----		<40		----		----		----	
EP066: Polychlorinated Biphenyls (PCB)																
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	2	----		<0.1		----		----		----	
EP068A: Organochlorine Pesticides (OC)																
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	2	----		<0.05		----		----		----	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	2	----		<0.05		----		----		----	
EP075(SIM)A: Phenolic Compounds																
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	25	----		<0.5		----		----		----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons																
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	20	----		<0.5		----		----		----	
EP075B: Polynuclear Aromatic Hydrocarbons																

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC142 05-Dec-2024 15:00 EM2421846-001 MU	QC144 06-Dec-2024 15:00 EM2421846-002 MU	QC151 06-Dec-2024 15:00 EM2421846-003 MU	QC152 06-Dec-2024 15:00 EM2421846-004 MU	---- ----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**1.12**	**0.14**	**0.76**	**1.63**	**----**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	20	**15.9**	**----**	**15.5**	**15.0**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	65	<10 --	<10 --	**27** ± 6	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**1970**	<50	**2620**	**930**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	1	<0.2 --	<0.2 --	**0.3** ± 0.1	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg	----	1	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	3	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg	----	14	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC142 05-Dec-2024 15:00 EM2421846-001 MU	QC144 06-Dec-2024 15:00 EM2421846-002 MU	QC151 06-Dec-2024 15:00 EM2421846-003 MU	QC152 06-Dec-2024 15:00 EM2421846-004 MU	---- ---- ----
EG005(ED093)T: Total Metals by ICP-AES										
Barium	EG005T	10	mg/kg	----	3000	----	**170** ± 20	----	----	----
Beryllium	EG005T	1	mg/kg	----	40	----	<1 --	----	----	----
Cobalt	EG005T	2	mg/kg	----	200	----	**13** ± 1	----	----	----
Manganese	EG005T	5	mg/kg	----	5000	----	**89** ± 9	----	----	----
Molybdenum	EG005T	2	mg/kg	----	1000	----	<2 --	----	----	----
Selenium	EG005T	5	mg/kg	----	50	----	<5 --	----	----	----
Silver	EG005T	2	mg/kg	----	180	----	<2 --	----	----	----
Tin	EG005T	5	mg/kg	----	500	----	**11** ± 3	----	----	----
Arsenic	EG005T	5	mg/kg	----	200	**14** ± 2	<5 --	<5 --	**7** ± 2	----
Cadmium	EG005T	1	mg/kg	----	40	<1 --	<1 --	<1 --	<1 --	----
Chromium	EG005T	2	mg/kg	----	500	**12** ± 2	**10** ± 1	<2 --	**15** ± 2	----
Copper	EG005T	5	mg/kg	----	2000	**88** ± 11	**18** ± 2	**15** ± 2	**121** ± 15	----
Lead	EG005T	5	mg/kg	----	1200	**109** ± 12	**57** ± 6	**16** ± 2	**261** ± 27	----
Nickel	EG005T	2	mg/kg	----	600	**22** ± 2	**10** ± 1	**4** ± 0.5	**22** ± 2	----
Zinc	EG005T	5	mg/kg	----	14000	**260** ± 27	**18** ± 3	**12** ± 3	**245** ± 26	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	**0.1** ± 0.01	<0.1 --	<0.1 --	**0.5** ± 0.05	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	<0.5 --	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	<1 --	----	----	----
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	3000	----	<40	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	<0.05	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	----	<0.5	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC142 05-Dec-2024 15:00 EM2421846-001 MU	QC144 06-Dec-2024 15:00 EM2421846-002 MU	QC151 06-Dec-2024 15:00 EM2421846-003 MU	QC152 06-Dec-2024 15:00 EM2421846-004 MU	---- ----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**1.12**	**0.14**	**0.76**	**1.63**	**----**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	40	**15.9**	**----**	**15.5**	**15.0**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10 --	<10 --	**27** ± 6	<10 --	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**1970**	<50	**2620**	**930**	**----**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	5	<0.2 --	<0.2 --	**0.3** ± 0.1	<0.2 --	**----**
Toluene	EP080	0.5	mg/kg	----	100	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5 --	<0.5 --	<0.5 --	<0.5 --	**----**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2421846**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 10-Dec-2024 11:15
Order number	: 60693007 7	Date Analysis Commenced	: 17-Dec-2024
C-O-C number	: ----	Issue Date	: 19-Dec-2024 16:33
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG048G: EM2421824 #2, Poor insoluble matrix spike recovery for Hexavalent Chromium due to sample matrix interferences. Confirmed by re-extraction and re-analysis.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC142	QC144	QC151	QC152	----
				Sampling date / time	05-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit		EM2421846-001	EM2421846-002	EM2421846-003	EM2421846-004	--------
					Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**12.8**	**17.1**	**16.4**	**14.2**	**----**
EG005(ED093)T: Total Metals by ICP-AES									
Barium	7440-39-3	10	mg/kg		**----**	**170**	**----**	**----**	**----**
Beryllium	7440-41-7	1	mg/kg		**----**	<1	**----**	**----**	**----**
Cobalt	7440-48-4	2	mg/kg		**----**	**13**	**----**	**----**	**----**
Manganese	7439-96-5	5	mg/kg		**----**	**89**	**----**	**----**	**----**
Molybdenum	7439-98-7	2	mg/kg		**----**	<2	**----**	**----**	**----**
Selenium	7782-49-2	5	mg/kg		**----**	<5	**----**	**----**	**----**
Silver	7440-22-4	2	mg/kg		**----**	<2	**----**	**----**	**----**
Tin	7440-31-5	5	mg/kg		**----**	**11**	**----**	**----**	**----**
Arsenic	7440-38-2	5	mg/kg		**14**	<5	<5	**7**	**----**
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	**----**
Chromium	7440-47-3	2	mg/kg		**12**	**10**	<2	**15**	**----**
Copper	7440-50-8	5	mg/kg		**88**	**18**	**15**	**121**	**----**
Lead	7439-92-1	5	mg/kg		**109**	**57**	**16**	**261**	**----**
Nickel	7440-02-0	2	mg/kg		**22**	**10**	**4**	**22**	**----**
Zinc	7440-66-6	5	mg/kg		**260**	**18**	**12**	**245**	**----**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**0.1**	<0.1	<0.1	**0.5**	**----**
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		**----**	<0.5	**----**	**----**	**----**
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		**----**	<1	**----**	**----**	**----**
EK040T-P: Total Fluoride by Auto Analyser									
Fluoride	16984-48-8	40	mg/kg		**----**	<40	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		**----**	<0.1	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC142	QC144	QC151	QC152	----
			Sampling date / time	05-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit	EM2421846-001	EM2421846-002	EM2421846-003	EM2421846-004	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC142	QC144	QC151	QC152	----
				Sampling date / time	05-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit		EM2421846-001	EM2421846-002	EM2421846-003	EM2421846-004	--------
					Result	Result	Result	Result	----
EP075(SIM)A: Phenolic Compounds - Continued									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	<2	----	----	----
^ **Sum of Phenols**	----	0.5	mg/kg		----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC142	QC144	QC151	QC152	----
				Sampling date / time	05-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit		EM2421846-001	EM2421846-002	EM2421846-003	EM2421846-004	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	0.6	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	1.2	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		1.12	0.14	0.76	1.63	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.05	mg/kg		15.9	----	15.5	15.0	----
Pyrene	129-00-0	0.5	mg/kg		2.9	----	3.6	2.7	----
Phenanthrene	85-01-8	0.5	mg/kg		2.3	----	1.1	1.3	----
Naphthalene	91-20-3	0.5	mg/kg		0.5	----	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		0.6	----	<0.5	0.8	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		3.0	----	3.6	2.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		1.1	----	1.5	1.2	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		0.8	----	<0.5	1.1	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		2.2	----	2.9	2.4	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	mg/kg		1.56	----	1.26	2.11	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.05	mg/kg		2.06	----	1.82	2.61	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.05	mg/kg		1.81	----	1.54	2.36	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		1.4	----	2.0	1.4	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC142	QC144	QC151	QC152	----
				Sampling date / time	05-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit		EM2421846-001	EM2421846-002	EM2421846-003	EM2421846-004	--------
					Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	**27**	<10	----
C10 - C14 Fraction	----	50	mg/kg		**100**	<50	**310**	**100**	----
C15 - C28 Fraction	----	100	mg/kg		**1100**	<100	**1850**	**540**	----
C29 - C36 Fraction	----	100	mg/kg		**770**	<100	**460**	**290**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**1970**	<50	**2620**	**930**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	**34**	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	**34**	<10	----
>C10 - C16 Fraction	----	50	mg/kg		**300**	<50	**590**	**290**	----
>C16 - C34 Fraction	----	100	mg/kg		**1500**	<100	**1910**	**580**	----
>C34 - C40 Fraction	----	100	mg/kg		**560**	<100	**170**	**270**	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**2360**	<50	**2670**	**1140**	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		**300**	<50	**590**	**290**	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	**0.3**	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	**0.3**	<0.2	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**87.1**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**88.6**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC142	QC144	QC151	QC152	----
			Sampling date / time	05-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	06-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit	EM2421846-001	EM2421846-002	EM2421846-003	EM2421846-004	--------
				Result	Result	Result	Result	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	**112**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	**76.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	**88.5**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	----	**71.8**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	**89.3**	----	----	----
Anthracene-d10	1719-06-8	0.5	%	----	**97.9**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	**108**	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.025	%	**119**	**86.7**	**102**	**86.2**	----
Anthracene-d10	1719-06-8	0.025	%	**113**	**88.1**	**93.7**	**88.7**	----
4-Terphenyl-d14	1718-51-0	0.025	%	**117**	**91.1**	**106**	**92.0**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**72.9**	**73.6**	**63.8**	**70.3**	----
Toluene-D8	2037-26-5	0.2	%	**85.4**	**83.6**	**68.1**	**79.7**	----
4-Bromofluorobenzene	460-00-4	0.2	%	**94.4**	**95.5**	**66.5**	**88.6**	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

REBATCH REQUEST

Workorder / Client code / Project:	ALS Workorder EM2421016, Client AECOMAU, Project 60693007
Project Manager:	ROBERT CROWNE ***Please include this rebatch PM plus all report recipients as per original workorder***
Date samples rec'd:	29/11/24 11:05AM
Date Instructions rec'd:	Tuesday, December 10, 2024 9:54 PM
Rebatch due date:	WEDNESDAY 18/12/24 — FTAT approved?
Due date surcharge:	**N/A**

CS Contact: ATHAUDA

Additional Information:

PLEASE SEND REPORT TO TIMOTHY MARTIN & SUPRIYA LATH

Client aware of any holding time issues

MS: 8529 BN 12/12

Sample information								Analysis						
								Standard					Leach					
New Lab ID	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Managed Moisture						ASLP BaP	EP075(SIM)B-LL				Shortest Holding time expiry
1	QC103	25/11/2024 0:00	EM2421016	1	MS 8106	Soil glass	YES						X	X				02-Dec-24
																		07-Jan-00
																		07-Jan-00
																		07-Jan-00
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																		07-Jan-00
							TOTAL											

Environmental Division
Melbourne
Work Order Reference
EM2421847

Telephone : +61-3-8549 9600

EM 21847.

Ciara Barr

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Tuesday, 10 December 2024 9:54 PM
To: Peter Ravlic
Cc: Crowe, Robert; Lath, Supriya
Subject: [EXTERNAL] - FW: RESULTS for ALS Workorder : EM2421016 | Your Reference: 60693007
Attachments: EM2421016_0_COA.pdf; EM2421016_0_QC.pdf; EM2421016_0_QCI.pdf; EM2421016a.60693007.EQEDD_V2.zip; EM2421016_COC.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Peter,

Can you please complete additional sampling of QC103 for leachable concentrations for B(a)P and Total PAHs.
We require trace-level LOR of 0.0005 mg/L for assessment against IB105 criteria.

Kind Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia

LinkedIn | Twitter | Facebook | Instagram | aecom.com
Please consider the environment before printing this email.
My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Tuesday, 10 December 2024 5:14 PM
To: Martin, Tim <Timothy.Martin@aecom.com>
Subject: RESULTS for ALS Workorder : EM2421016 | Your Reference: 60693007

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2421847**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 29-Nov-2024
Site	: Macquarie Point	Issue Date	: 17-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL	No. of samples received	: 1
Order number	: 60693007 7	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)						
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
QC103	13-Dec-2024	09-Dec-2024	**4**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
QC103	**25-Nov-2024**	**13-Dec-2024**	09-Dec-2024	×	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
QC103	**13-Dec-2024**	**14-Dec-2024**	20-Dec-2024	✓	**16-Dec-2024**	23-Jan-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

QUALITY CONTROL REPORT

Work Order	: **EM2421847**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 29-Nov-2024
Order number	: 60693007 7	Date Analysis Commenced	: 13-Dec-2024
C-O-C number	: ----	Issue Date	: 17-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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Where moisture determination has been performed, results are reported on a dry weight basis.

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Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6259859)									
EM2421847-001	QC103	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	0.122	0.133	8.4	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	0.16	0.19	12.6	No Limit
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	0.16	0.18	11.2	No Limit
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.16	0.21	23.3	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	0.10	0.12	15.5	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	0.12	0.14	9.9	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	0.10	0.12	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6259859)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	61.5	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	62.8	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	64.6	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	60.6	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	65.5	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	74.1	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	78.5	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	86.3	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	94.6	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	92.4	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	105	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	91.8	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	87.4	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	92.4	56.6	126
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	92.9	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	103	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	89.6	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2421847**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 29-Nov-2024 11:05
Order number	: 60693007 7	Date Analysis Commenced	: 13-Dec-2024
C-O-C number	: ----	Issue Date	: 17-Dec-2024 13:15
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Tahlia Freeman	Instrument Operator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

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When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- This is a rebatch of EM2421016.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC103	----	----	----	----
				Sampling date / time	25-Nov-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2421847-001	--------	--------	--------	--------
					Result	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**8.7**	**----**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit		**1.3**	**----**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-		**1**	**----**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit		**5.3**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	QC103	----	----	----	----
				Sampling date / time	25-Nov-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2421847-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		<0.10	----	----	----	----
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	----	----	----	----
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	----	----	----	----
Acenaphthene	83-32-9	0.10	µg/L		<0.10	----	----	----	----
Fluorene	86-73-7	0.10	µg/L		<0.10	----	----	----	----
Phenanthrene	85-01-8	0.10	µg/L		**0.16**	----	----	----	----
Anthracene	120-12-7	0.10	µg/L		<0.10	----	----	----	----
Fluoranthene	206-44-0	0.10	µg/L		**0.16**	----	----	----	----
Pyrene	129-00-0	0.10	µg/L		**0.16**	----	----	----	----
Benz(a)anthracene	56-55-3	0.10	µg/L		**0.10**	----	----	----	----
Chrysene	218-01-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		**0.12**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(a)pyrene	50-32-8	0.050	µg/L		**0.122**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		**0.10**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**0.92**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		**0.14**	----	----	----	----
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**63.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.10	%		**58.7**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.10	%		**81.2**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422063**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 02-Dec-2024 11:27
Order number	: 60693007 7	Date Analysis Commenced	: 16-Dec-2024
C-O-C number	: ----	Issue Date	: 19-Dec-2024 15:40
Sampler	: JM/AC/TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- Surrogate Control Limits

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Signatories

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Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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Where moisture determination has been performed, results are reported on a dry weight basis.

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^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- This is a rebatch of EM2421150
- EP075(SIM)B-: Particular sample EM2422063_01 has LOR raised for Naphthalene due to potential laboratory background.
- EN33a-G: EM2421657-002 Due to limited sample for leach analysis, a scaled down amount of 50g into 1000mL was used.
- EN33a-G: EM2422063-001 Due to limited sample for leach analysis, a scaled down amount of 50g into 1000mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC116	----	----	----	----
				Sampling date / time	27-Nov-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422063-001	--------	--------	--------	--------
					Result	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**8.9**	**----**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit		**1.2**	**----**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-		**1**	**----**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit		**5.9**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	QC116	----	----	----	----
				Sampling date / time	27-Nov-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422063-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		<0.15	----	----	----	----
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	----	----	----	----
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	----	----	----	----
Acenaphthene	83-32-9	0.10	µg/L		<0.10	----	----	----	----
Fluorene	86-73-7	0.10	µg/L		<0.10	----	----	----	----
Phenanthrene	85-01-8	0.10	µg/L		<0.10	----	----	----	----
Anthracene	120-12-7	0.10	µg/L		<0.10	----	----	----	----
Fluoranthene	206-44-0	0.10	µg/L		<0.10	----	----	----	----
Pyrene	129-00-0	0.10	µg/L		<0.10	----	----	----	----
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	----	----	----	----
Chrysene	218-01-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		<0.10	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	----	----	----	----
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**76.5**	----	----	----	----
Anthracene-d10	1719-06-8	0.10	%		**74.8**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.10	%		**84.0**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

QUALITY CONTROL REPORT

Work Order	: **EM2422063**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 02-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 16-Dec-2024
C-O-C number	: ----	Issue Date	: 19-Dec-2024
Sampler	: JM/AC/TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

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Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
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# = Indicates failed QC

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Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6264683)									
EM2421657-002	Anonymous	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	0.28	0.32	15.7	No Limit
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	0.28	0.32	13.7	No Limit
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	0.24	0.27	11.8	No Limit
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6264683)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	85.5	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	89.6	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	94.4	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	90.8	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	94.1	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	97.1	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	104	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	108	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	112	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	105	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	120	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	116	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	108	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	117	56.6	126
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	115	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	121	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	110	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422063**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 02-Dec-2024
Site	: Macquarie Point	Issue Date	: 19-Dec-2024
Sampler	: JM/AC/TG	No. of samples received	: 1
Order number	: 60693007 7	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)						
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
QC116	16-Dec-2024	11-Dec-2024	**5**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
QC116	**27-Nov-2024**	**16-Dec-2024**	11-Dec-2024	×	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
QC116	**16-Dec-2024**	**17-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	26-Jan-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

REBATCH REQUEST

Workorder / Client code / Project:	ALS Workorder EM2421150, Client AECOMAU, Project 60693007 7		**CS Contact: Peter Ravlic**
Project Manager:	***Please include this rebatch PM plus all report recipients as per original workorder***		Additional Information:
Date samples rec'd:	2/12/2024 11:27am		
Date Instructions rec'd:	12/12/2924 11:07am		
Rebatch due date:	Thursday, 19 December 2024	FTAT approved?	
Due date surcharge:	**N/A**		

Sample information								Analysis									
								Standard					Leach				
New Lab ID	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Managed Moisture						TCLP	PAHs on leach (EP075(SIM))-LL				Shortest Holding time expiry
	QC116	27/11/2024 0:00	EM2421150	1	MS: 8170	Soil glass							X	X				11-Dec-24

Ciara Barr

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Thursday, 12 December 2024 11:07 AM
To: Peter Ravlic
Cc: Crowe, Robert; Lath, Supriya
Subject: [EXTERNAL] - RE: RESULTS & EDD for ALS Workorder : EM2421150 | Your Reference: 60693007 7

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Peter,

Can you please conduct the following additional sampling on QC116, similar to my request for QC103 (EM2421016):

- All PAHs leachable concentration (trace level, via TCLP) and TEQ results using 16 Congeners.

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia

LinkedIn | Twitter | Facebook | Instagram | aecom.com
Please consider the environment before printing this email.
My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Wednesday, 11 December 2024 12:23 PM
To: Martin, Tim <Timothy.Martin@aecom.com>
Subject: RESULTS & EDD for ALS Workorder : EM2421150 | Your Reference: 60693007 7

Deliverables for ALS Workorder EM2421150

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422180**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: Soil Samples	Date Samples Received	: 15-Dec-2024 12:03
Order number	: Macquarie Point 60693007 7	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: ----	Issue Date	: 23-Dec-2024 17:04
Sampler	: ----		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2422281 #3 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EP075-TAS: EM2422260_003 Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP068: EM2422180_001 Higher matrix spike recovery due to matrix effects.
- EG048G: EM2421996 #46, Poor matrix spike recovery for hexavalent chromium (soluble and insoluble) due to matrix effects.
- EP068: EM2422180_001 Unable to determine Aldrin recovery due to matrix interference.
- EK040T-P: EM2422180 #1, Poor matrix spike recovery for Total Fluoride due to matrix effects.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422180-001	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**25.8**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**36**	----	----	----	----
Barium	7440-39-3	10	mg/kg		**130**	----	----	----	----
Beryllium	7440-41-7	1	mg/kg		<1	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**115**	----	----	----	----
Cobalt	7440-48-4	2	mg/kg		**17**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**73**	----	----	----	----
Lead	7439-92-1	5	mg/kg		**242**	----	----	----	----
Manganese	7439-96-5	5	mg/kg		**443**	----	----	----	----
Molybdenum	7439-98-7	2	mg/kg		<2	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**33**	----	----	----	----
Selenium	7782-49-2	5	mg/kg		<5	----	----	----	----
Silver	7440-22-4	2	mg/kg		<2	----	----	----	----
Tin	7440-31-5	5	mg/kg		**7**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**80**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**1.8**	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		<0.5	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		**4820**	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser									
Fluoride	16984-48-8	40	mg/kg		<40	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422180-001	--------	--------	--------	--------
					Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.08	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422180-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
^ **Sum of Phenols**	----	0.5	mg/kg		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		**7.3**	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**2.7**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		**6.4**	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		**13.9**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**15.9**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**8.7**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**35.3**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**32.3**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**17.3**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		**15.9**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**18.7**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**6.3**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**14.1**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422180-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**8.2**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**2.1**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**9.7**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**215**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**21.5**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**21.5**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**21.5**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**13.7**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		**190**	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**820**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**370**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**1380**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**220**	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**1020**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**170**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**1410**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**210**	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422180-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		**6**	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**75.0**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**90.2**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**124**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**87.0**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**98.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**94.3**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**107**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**108**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**107**	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**82.4**	----	----	----	----
Anthracene-d10	1719-06-8	0.025	%		**89.7**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		**84.8**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**89.9**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**84.1**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422180-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**89.0**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2422180**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN		
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: timothy.martin@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: +61 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Soil Samples	Date Received	: 15-Dec-2024 12:03
Order number	: Macquarie Point 60693007 7	Date Analysed	: 18-Dec-2024
C-O-C number	: ----	Date Issued	: 23-Dec-2024 17:04
No. of samples received	: 1		
No. of samples analysed	: 1	Quote number	: EN/004/23

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC148	**EM2422180-001**	Total Cyanide	EK026SF	1	*< 1,000 mg/kg*	**4820 mg/kg**
QC148	**EM2422180-001**	Benzo(a)pyrene	EP075(SIM)	0.5	*< 2 mg/kg*	**14.1 mg/kg**
QC148	**EM2422180-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**215 mg/kg**
QC148	**EM2422180-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**13.7 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC148	**EM2422180-001**	Arsenic	EG005T	5	*< 20 mg/kg*	**36 mg/kg**
QC148	**EM2422180-001**	Chromium	EG005T	2	*< 50 mg/kg*	**115 mg/kg**
QC148	**EM2422180-001**	Mercury	EG035T	0.1	*< 1 mg/kg*	**1.8 mg/kg**
QC148	**EM2422180-001**	Total Cyanide	EK026SF	1	*< 32 mg/kg*	**4820 mg/kg**
QC148	**EM2422180-001**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1380 mg/kg**
QC148	**EM2422180-001**	Benzo(a)pyrene	EP075(SIM)	0.5	*< 0.08 mg/kg*	**14.1 mg/kg**
QC148	**EM2422180-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**215 mg/kg**
QC148	**EM2422180-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**13.7 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC148	**EM2422180-001**	Total Cyanide	EK026SF	1	*< 2,500 mg/kg*	**4820 mg/kg**
QC148	**EM2422180-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 200 mg/kg*	**215 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time* / Guideline Lower Limit	Guideline Upper Limit	**QC148** 06-Dec-2024 15:00 **EM2422180-001** MU	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**36** ± 5	----	----	----	----
Barium	EG005T	10	mg/kg	----	30000	**130** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg	----	400	<1 - -	----	----	----	----
Chromium	EG005T	2	mg/kg	----	5000	**115** ± 13	----	----	----	----
Cobalt	EG005T	2	mg/kg	----	1000	**17** ± 2	----	----	----	----
Copper	EG005T	5	mg/kg	----	7500	**73** ± 9	----	----	----	----
Lead	EG005T	5	mg/kg	----	3000	**242** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg	----	25000	**443** ± 44	----	----	----	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg	----	3000	**33** ± 3	----	----	----	----
Selenium	EG005T	5	mg/kg	----	200	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg	----	720	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg	----	900	**7** ± 2	----	----	----	----
Zinc	EG005T	5	mg/kg	----	50000	**80** ± 9	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**1.8** ± 0.2	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**4820** ± 482	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	10000	<40	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075(SIM)	0.5	mg/kg	----	20	**14.1**	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC148**	**----**	**----**	**----**	**----**
				Sampling date/time			06-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422180-001** MU				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	200	**215**	**----**	**----**	**----**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	20	**13.7**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	1000	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	10000	**1380**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	50	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1000	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	1080	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	1800	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC148**	----	----	----	----
				Sampling date/time			06-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422180-001** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	20	**36** ± 5	----	----	----	----
Barium	EG005T	10	mg/kg		----	300	**130** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	2	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	3	<1 - -	----	----	----	----
Chromium	EG005T	2	mg/kg		----	50	**115** ± 13	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	100	**17** ± 2	----	----	----	----
Copper	EG005T	5	mg/kg		----	100	**73** ± 9	----	----	----	----
Lead	EG005T	5	mg/kg		----	300	**242** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg		----	500	**443** ± 44	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	10	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg		----	60	**33** ± 3	----	----	----	----
Selenium	EG005T	5	mg/kg		----	10	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg		----	10	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg		----	50	**7** ± 2	----	----	----	----
Zinc	EG005T	5	mg/kg		----	200	**80** ± 9	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	1	**1.8** ± 0.2	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	1	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	32	**4820** ± 482	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	300	<40	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	2	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	2	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	2	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	25	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075(SIM)	0.5	mg/kg		----	0.08	**14.1**	----	----	----	----
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	20	**215**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC148**	**----**	**----**	**----**	**----**
				Sampling date/time			06-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422180-001** MU				
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	0.08	**13.7**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	65	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	1000	**1380**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	1	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	3	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	14	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC148**	----	----	----	----
				Sampling date/time			06-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422180-001** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg		----	200	**36** ± 5	----	----	----	----
Barium	EG005T	10	mg/kg		----	3000	**130** ± 10	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	40	<1 - -	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	40	<1 - -	----	----	----	----
Chromium	EG005T	2	mg/kg		----	500	**115** ± 13	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	200	**17** ± 2	----	----	----	----
Copper	EG005T	5	mg/kg		----	2000	**73** ± 9	----	----	----	----
Lead	EG005T	5	mg/kg		----	1200	**242** ± 25	----	----	----	----
Manganese	EG005T	5	mg/kg		----	5000	**443** ± 44	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	1000	<2 - -	----	----	----	----
Nickel	EG005T	2	mg/kg		----	600	**33** ± 3	----	----	----	----
Selenium	EG005T	5	mg/kg		----	50	<5 - -	----	----	----	----
Silver	EG005T	2	mg/kg		----	180	<2 - -	----	----	----	----
Tin	EG005T	5	mg/kg		----	500	**7** ± 2	----	----	----	----
Zinc	EG005T	5	mg/kg		----	14000	**80** ± 9	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	30	**1.8** ± 0.2	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	200	<0.5 - -	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	1000	**4820** ± 482	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	3000	<40	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	20	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	20	<0.05	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	200	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	500	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075(SIM)	0.5	mg/kg		----	2	**14.1**	----	----	----	----
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	40	**215**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC148**	**----**	**----**	**----**	**----**
				Sampling date/time			06-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422180-001** MU				
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	**13.7**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	**1380**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	100	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	100	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	180	<0.5	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EM2422180**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: Soil Samples	Date Samples Received	: 15-Dec-2024
Order number	: Macquarie Point 60693007 7	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: ----	Issue Date	: 23-Dec-2024
Sampler	: ----		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6269889)									
EM2422281-003	Anonymous	EG005T: Chromium	7440-47-3	2	mg/kg	69	# 87	22.7	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	237	# 462	64.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	78	# 107	30.6	0% - 20%
EM2422150-021	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	1	1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	170	160	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	6	7	17.9	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	6	21.1	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	9	21.9	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	32	49	42.6	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	6	7	0.0	No Limit
EM2422281-003	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	120	100	25.7	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6269889) - continued									
EM2422281-003	Anonymous	EG005T: Cobalt	7440-48-4	2	mg/kg	14	13	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	37	38	2.7	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	42	29	37.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	48	34	34.0	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	<5	<5	0.0	No Limit
EK040T-P: Total Fluoride by Auto Analyser (QC Lot: 6269637)									
EM2422281-004	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	90	60	31.8	No Limit
EM2421969-035	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	460	480	4.3	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6270369)									
EM2422101-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	18.4	18.6	1.0	0% - 50%
EM2422281-008	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	25.3	21.6	15.8	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6269890)									
EM2422150-021	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2422281-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.9	0.6	35.3	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6270297)									
EM2421996-043	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6273309)									
EM2421969-035	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EM2422234-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1 (2)*	mg/kg	5	5	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 6266993)									
EM2422180-001	QC148	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6266994)									
EM2422180-001	QC148	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6266994) - continued									
EM2422180-001	QC148	EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 6266992)									
EM2422312-026	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2422180-001	QC148	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6266992)									
EM2422312-026	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6266992) - continued									
EM2422312-026	Anonymous	EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2422180-001	QC148	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	7.3	6.3	13.9	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	2.7	2.2	21.5	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	6.4	6.1	5.5	0% - 50%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	13.9	13.4	3.2	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	15.9	13.6	15.3	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	8.7	7.3	17.6	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	35.3	31.4	11.7	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	32.3	28.5	12.4	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	17.3	15.8	8.9	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	15.9	14.2	11.0	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	18.7	15.8	16.7	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.3	5.6	11.6	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	14.1	11.8	17.6	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.2	6.8	18.5	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.1	1.8	17.6	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	9.7	8.0	19.1	0% - 50%
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6269129)									
EM2422180-001	QC148	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	13.7	13.7	0.0	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6266991)									
EM2422312-026	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6266991) - continued									
EM2422312-026	Anonymous	EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2422180-001	QC148	EP071: C15 - C28 Fraction	----	100	mg/kg	820	680	19.1	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	300	21.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	190	200	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6268318)									
EM2422101-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2422322-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6266991)									
EM2422312-026	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2422180-001	QC148	EP071: >C16 - C34 Fraction	----	100	mg/kg	1020	840	19.5	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	170	140	20.1	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	220	220	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6268318)									
EM2422101-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2422322-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 6268318)									
EM2422101-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2422322-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269889)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	82.3	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	86.8	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	80.7	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	57.4	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	83.7	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	86.2	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	85.1	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	81.5	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	84.2	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	75.3	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	79.7	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	75.4	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	81.8	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	74.5	70.0	130
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6269637)								
EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269890)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	95.3	69.0	128
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6270297)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	82.4	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6273309)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	114	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6266993)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	116	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 6266994)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	76.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	70.0	124
EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.6	69.1	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 6266994) - continued								
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	74.2	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	73.6	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	112	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	79.6	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	128	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	83.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	118	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	124	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 6266992)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	91.5	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	92.2	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	91.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	90.1	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	78.8	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	88.8	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.3	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	91.8	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	82.0	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	93.7	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	95.1	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	56.6	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6266992)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	97.9	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	91.9	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	96.5	83.6	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6266992) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	102	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	102	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	105	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	93.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	101	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	89.9	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	95.4	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	87.4	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	87.0	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.4	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	88.4	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269129)								
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	81.0	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6266991)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	97.6	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	99.5	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	100	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6268318)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	84.5	58.6	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6266991)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	100	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	97.8	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	102	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6268318)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.9	59.3	128
EP080: BTEXN (QCLot: 6268318)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	84.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.2	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	88.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	86.4	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	87.1	68.7	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 6268318) - continued								
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	94.4	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269889)							
EM2422150-022	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	95.1	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	90.5	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	95.5	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	93.1	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	88.8	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	96.9	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	91.8	80.0	120
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6269637)							
EM2422180-001	QC148	EK040T-P: Fluoride	16984-48-8	400 mg/kg	# 32.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269890)							
EM2422150-022	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	104	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6270297)							
EM2421996-046	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 38.1	58.0	114
EM2421996-046	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 50.3	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6273309)							
EM2421997-023	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	127	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6266993)							
EM2422150-022	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	116	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 6266994)							
EM2422180-001	QC148	EP068: gamma-BHC - (Lindane)	58-89-9	0.5 mg/kg	108	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	98.6	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	# Not Determined	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	116	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	# 148	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	96.3	20.0	133

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075(SIM)A: Phenolic Compounds (QCLot: 6266992)							
EM2422150-022	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	79.7	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	82.4	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	46.5	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	84.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	36.2	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6266992)							
EM2422150-022	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	85.9	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	91.7	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6266991)							
EM2422150-021	Anonymous	EP071: C10 - C14 Fraction	----	790 mg/kg	93.4	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	95.7	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	96.2	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6268318)							
EM2422101-004	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.6	33.4	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6266991)							
EM2422150-021	Anonymous	EP071: >C10 - C16 Fraction	----	1080 mg/kg	95.9	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	94.1	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	98.6	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6268318)							
EM2422101-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	61.8	30.8	120
EP080: BTEXN (QCLot: 6268318)							
EM2422101-004	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	72.5	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	83.4	57.1	131

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422180**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Telephone	: +6138549 9645
Project	: Soil Samples	Date Samples Received	: 15-Dec-2024
Site	: ----	Issue Date	: 23-Dec-2024
Sampler	: ----	No. of samples received	: 1
Order number	: Macquarie Point 60693007 7	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2422281--003	Anonymous	**Chromium**	7440-47-3	22.7 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2422281--003	Anonymous	**Manganese**	7439-96-5	64.3 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2422281--003	Anonymous	**Zinc**	7440-66-6	30.6 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK040T-P: Total Fluoride by Auto Analyser	EM2422180--001	QC148	**Fluoride**	16984-48-8	32.3 %	70.0-130%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2421996--046	Anonymous	**Hexavalent Chromium**	18540-29-9	38.1 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2421996--046	Anonymous	**Hexavalent Chromium**	18540-29-9	50.3 %	58.0-114%	**Recovery less than lower data quality objective**
EP068A: Organochlorine Pesticides (OC)	EM2422180--001	QC148	**Endrin**	72-20-8	148 %	33.0-146%	**Recovery greater than upper data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Control Samples (LCS)						
Total Fluoride by Auto Analyser	EK040T-P	0	20	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC148	**06-Dec-2024**	**----**	----	----	**18-Dec-2024**	20-Dec-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC148	06-Dec-2024	19-Dec-2024	04-Jun-2025	✓	19-Dec-2024	04-Jun-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC148	06-Dec-2024	19-Dec-2024	03-Jan-2025	✓	20-Dec-2024	03-Jan-2025	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G) QC148	06-Dec-2024	19-Dec-2024	03-Jan-2025	✓	23-Dec-2024	26-Dec-2024	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF) QC148	06-Dec-2024	19-Dec-2024	20-Dec-2024	✓	23-Dec-2024	02-Jan-2025	✓
EK040T-P: Total Fluoride by Auto Analyser							
Soil Glass Jar - Unpreserved (EK040T-P) QC148	06-Dec-2024	19-Dec-2024	03-Jan-2025	✓	20-Dec-2024	03-Jan-2025	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	20-Dec-2024	27-Jan-2025	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	19-Dec-2024	27-Jan-2025	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	19-Dec-2024	27-Jan-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	19-Dec-2024	27-Jan-2025	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	19-Dec-2024	27-Jan-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	18-Dec-2024	20-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	20-Dec-2024	27-Jan-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	18-Dec-2024	20-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071) QC148	06-Dec-2024	18-Dec-2024	20-Dec-2024	✓	20-Dec-2024	27-Jan-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC148	**06-Dec-2024**	**18-Dec-2024**	20-Dec-2024	✓	**18-Dec-2024**	20-Dec-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	20	**15.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	0	20	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride by Auto Analyser	EK040T-P	SOIL	In-house: Total fluoride is determined by an auto analyer ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2422180**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: timothy.martin@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: +61 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: ----	Page	: 1 of 2
Order number	: ----	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 15-Dec-2024 12:03	Issue Date	: 15-Dec-2024
Client Requested Due Date	: 27-Dec-2024	Scheduled Reporting Date	: **27-Dec-2024**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 0

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised, that no analysis has been requested on the provided Chain of Custody (COC). The ANALYSIS-TBA task has been logged as a place holder until analysis instructions have been supplied by the client. Standard disposal timeframes apply from receipt of samples. Administrative fee plus applicable freight fees will be charged on the shown due date. If you would like to discuss this please contact Client Services.**
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - ANALYSIS-TBA Analysis not yet defined (Solid)
EM2422180-001	06-Dec-2024 00:00	QC148	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com

SUPRIYA LATH

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	supriya.lath@aecom.com
- A4 - AU Tax Invoice (INV)	Email	supriya.lath@aecom.com
- Chain of Custody (CoC) (COC)	Email	supriya.lath@aecom.com

TIMOTHY MARTIN

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- A4 - AU Tax Invoice (INV)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2422180**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: timothy.martin@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: +61 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Soil Samples	Page	: 1 of 3
Order number	: ----	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 15-Dec-2024 12:03	Issue Date	: 17-Dec-2024
Client Requested Due Date	: 23-Dec-2024	Scheduled Reporting Date	: **23-Dec-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - P-20/1 TAS EPA 105 (no TBT)
EM2422180-001	06-Dec-2024 00:00	QC148	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com

SUPRIYA LATH

- *AU Certificate of Analysis - NATA (COA)	Email	supriya.lath@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	supriya.lath@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	supriya.lath@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	supriya.lath@aecom.com
- A4 - AU Tax Invoice (INV)	Email	supriya.lath@aecom.com
- Chain of Custody (CoC) (COC)	Email	supriya.lath@aecom.com
- Chromatogram (CHROM)	Email	supriya.lath@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	supriya.lath@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	supriya.lath@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	supriya.lath@aecom.com

TIMOTHY MARTIN

- *AU Certificate of Analysis - NATA (COA)	Email	timothy.martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	timothy.martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	timothy.martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- A4 - AU Tax Invoice (INV)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com
- Chromatogram (CHROM)	Email	timothy.martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	timothy.martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	timothy.martin@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	timothy.martin@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	timothy.martin@aecom.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, 11 December 2024 3:02 PM
To: SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>; Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>; April Pottinger <April.Pottinger@eurofinsanz.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1169377 : Site Macquaire Point (60693007 7)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Sheridan

Thanks for taking my call regarding the missing samples; as discussed I've put some notes below – but hoping you can confirm those highlighted below were actually received (as they are listed in the summary PDF).
So other notes to update for SRN 1169377.

Sample Date:

- All samples dates are listed as 4 December; this is incorrect and should be updated per the COC provided.
- Samples range from 4 Dec to 6 Dec.

Extra Samples:

- QC147: IB105 suite
- QC148: Please forward to ALS

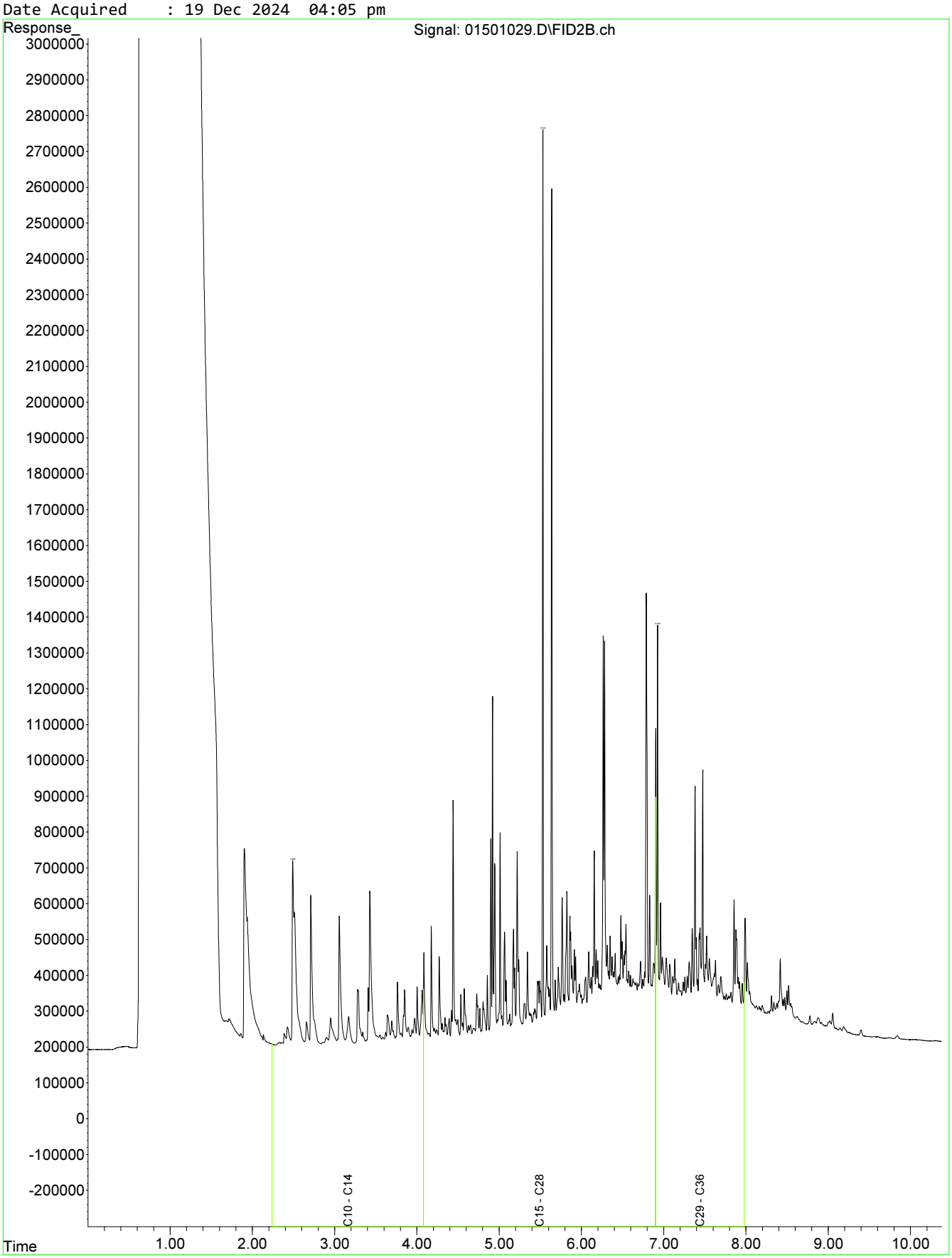
6/12

Relinquished by
Chris A 12/12/24
Received by Scott (ALS)
12/12/24 1135

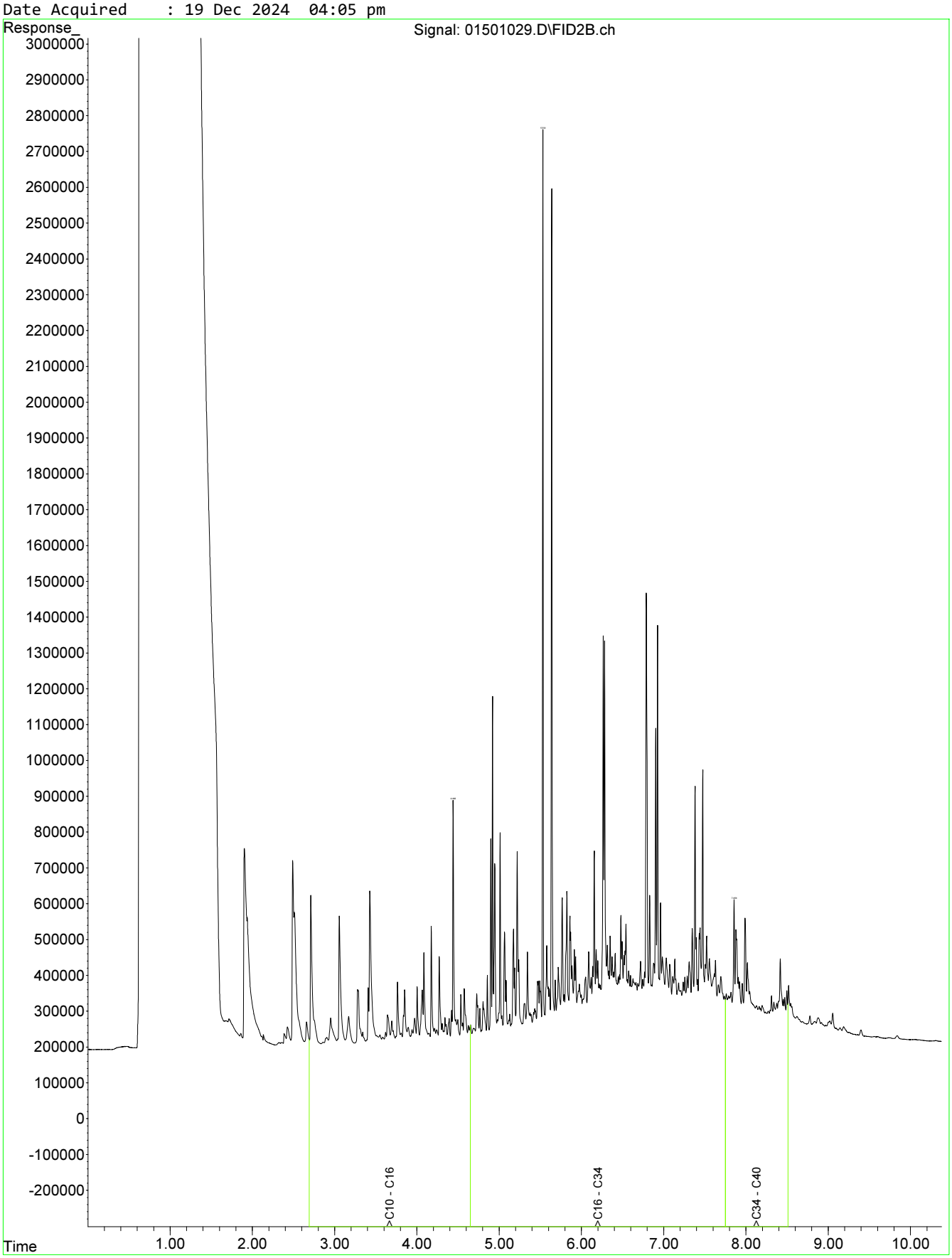
Environmental Division
Melbourne
Work Order Reference
EM2422180

Telephone : +61-3-8549 9600

Fraction Scheme : Legacy Fractions
Data File : 01501029.D
Laboratory Number: EM2422180-001
Sample ID : QC148
Date Acquired : 19 Dec 2024 04:05 pm



Fraction Scheme : NEPM Fraction
Data File : 01501029.D
Laboratory Number: EM2422180-001
Sample ID : QC148
Date Acquired : 19 Dec 2024 04:05 pm



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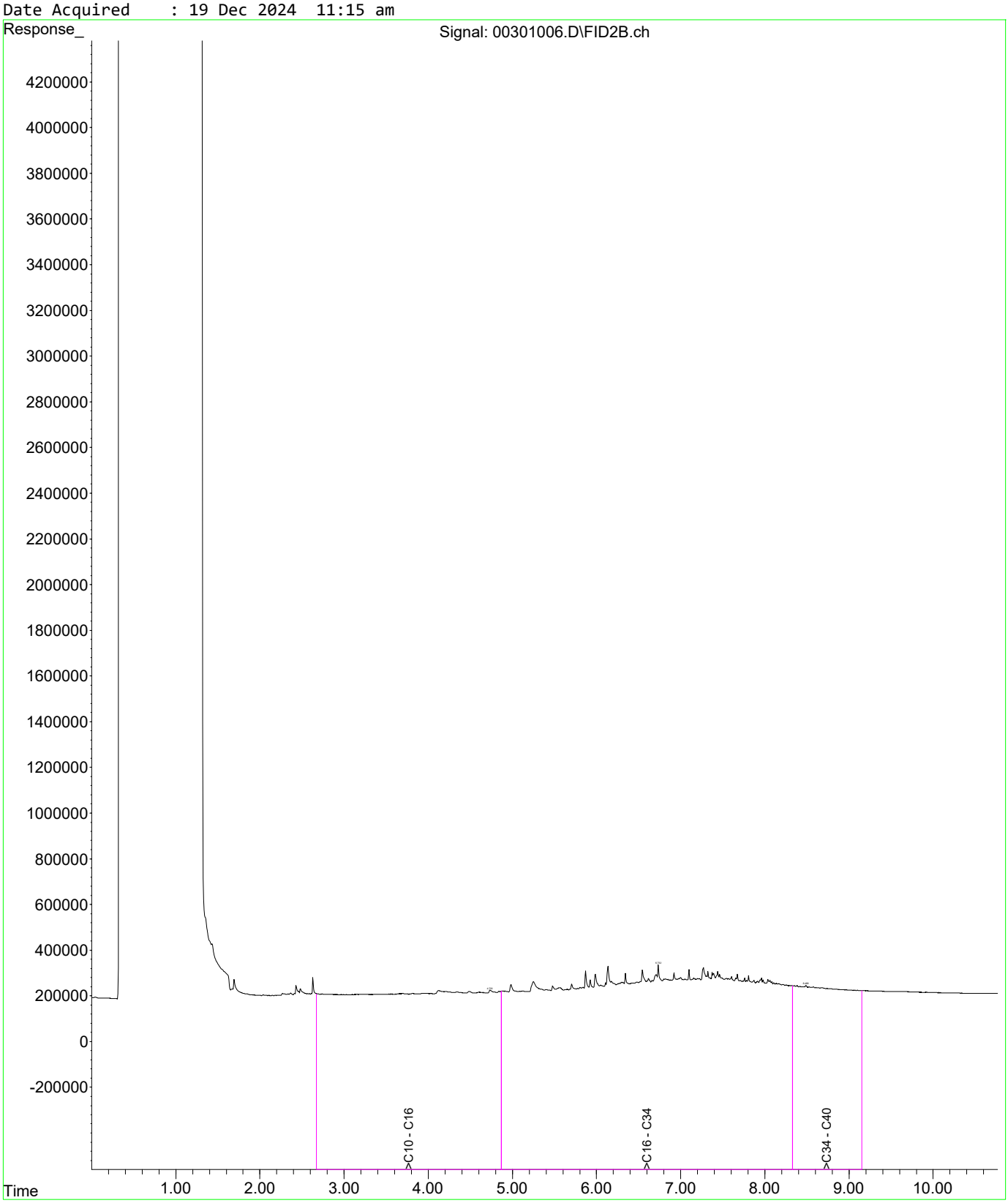
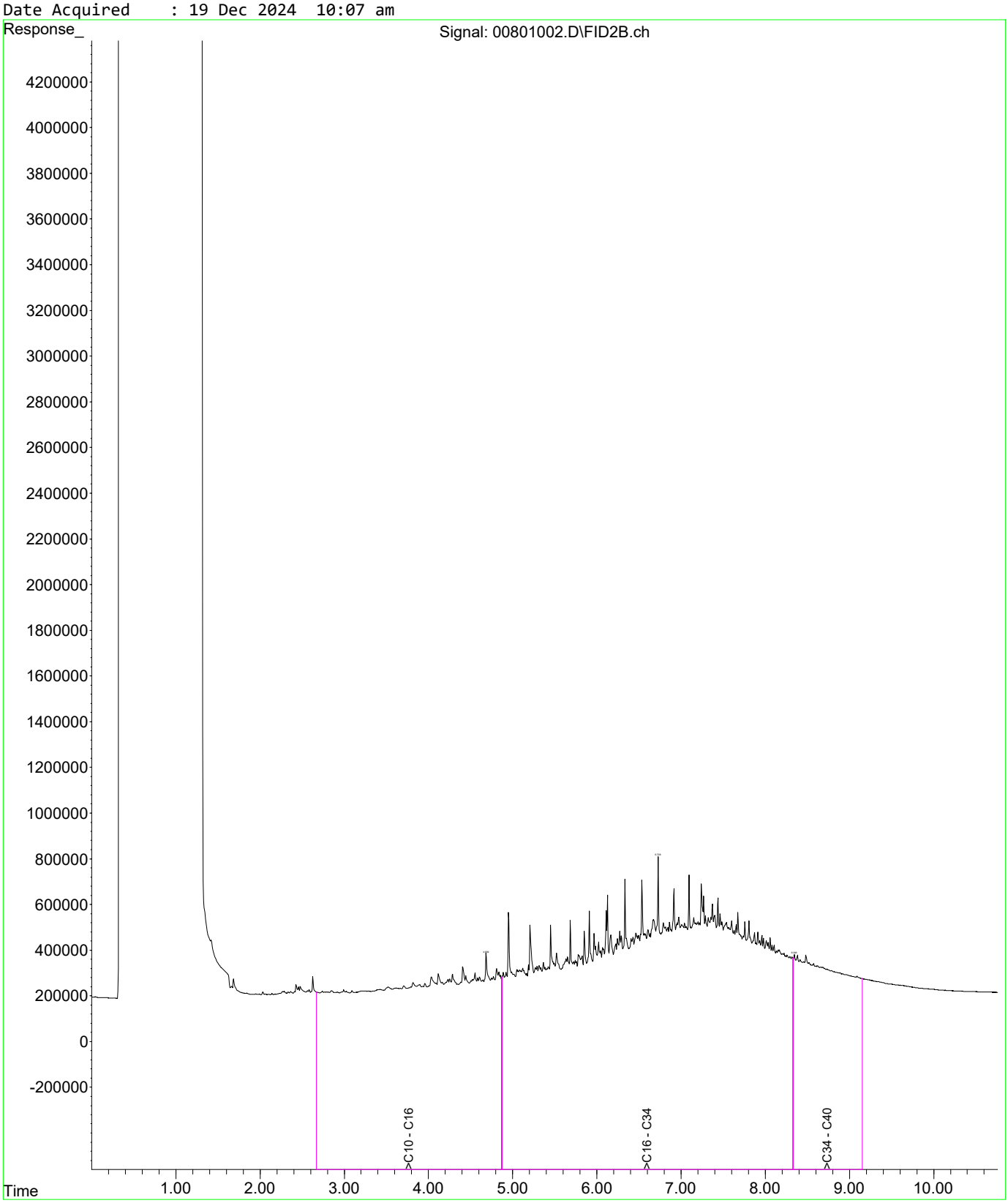
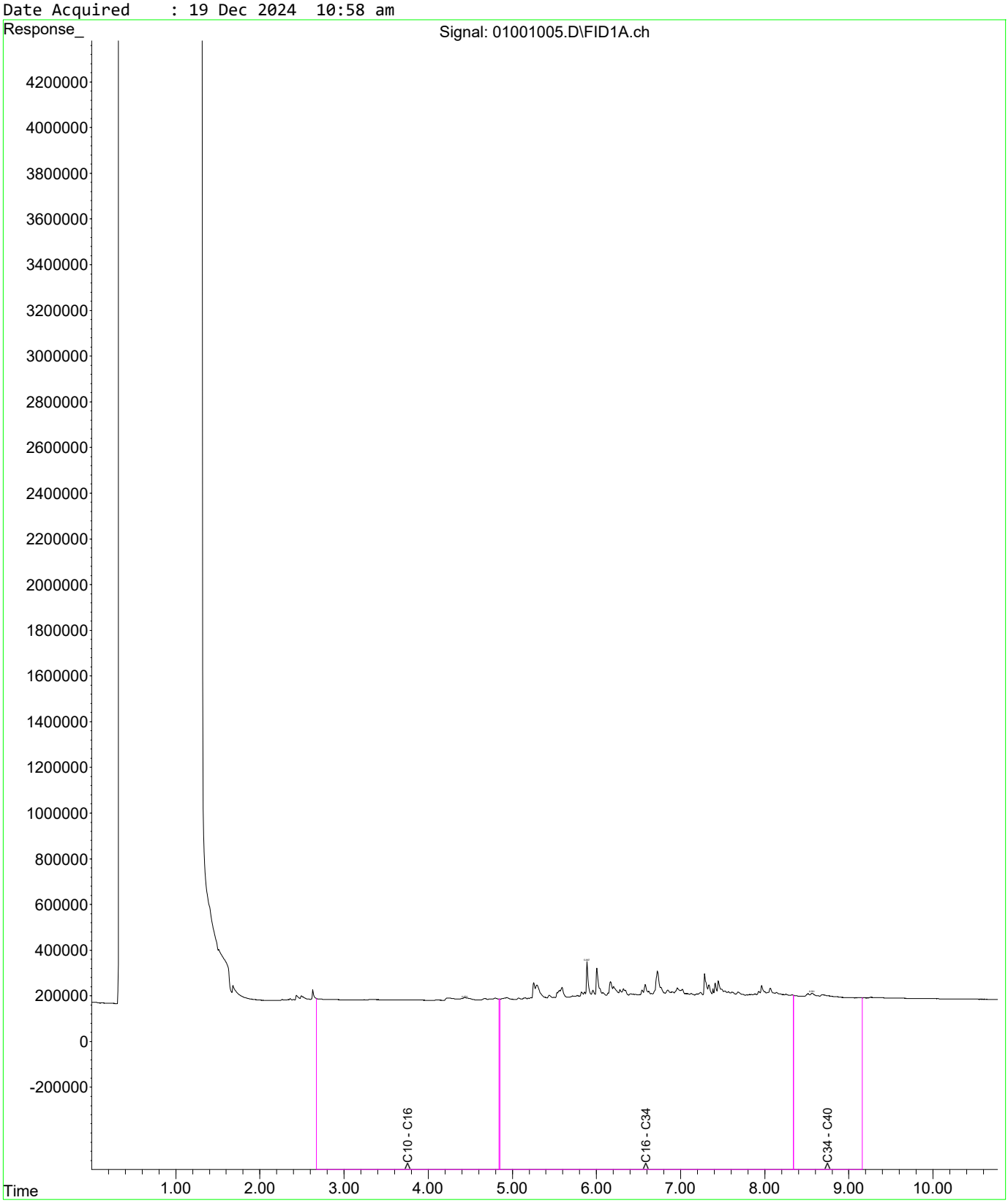
Data File : 00301006.D
Laboratory Number: EM2422260-001
Sample ID : QC180
Date Acquired : 19 Dec 2024 11:15 am



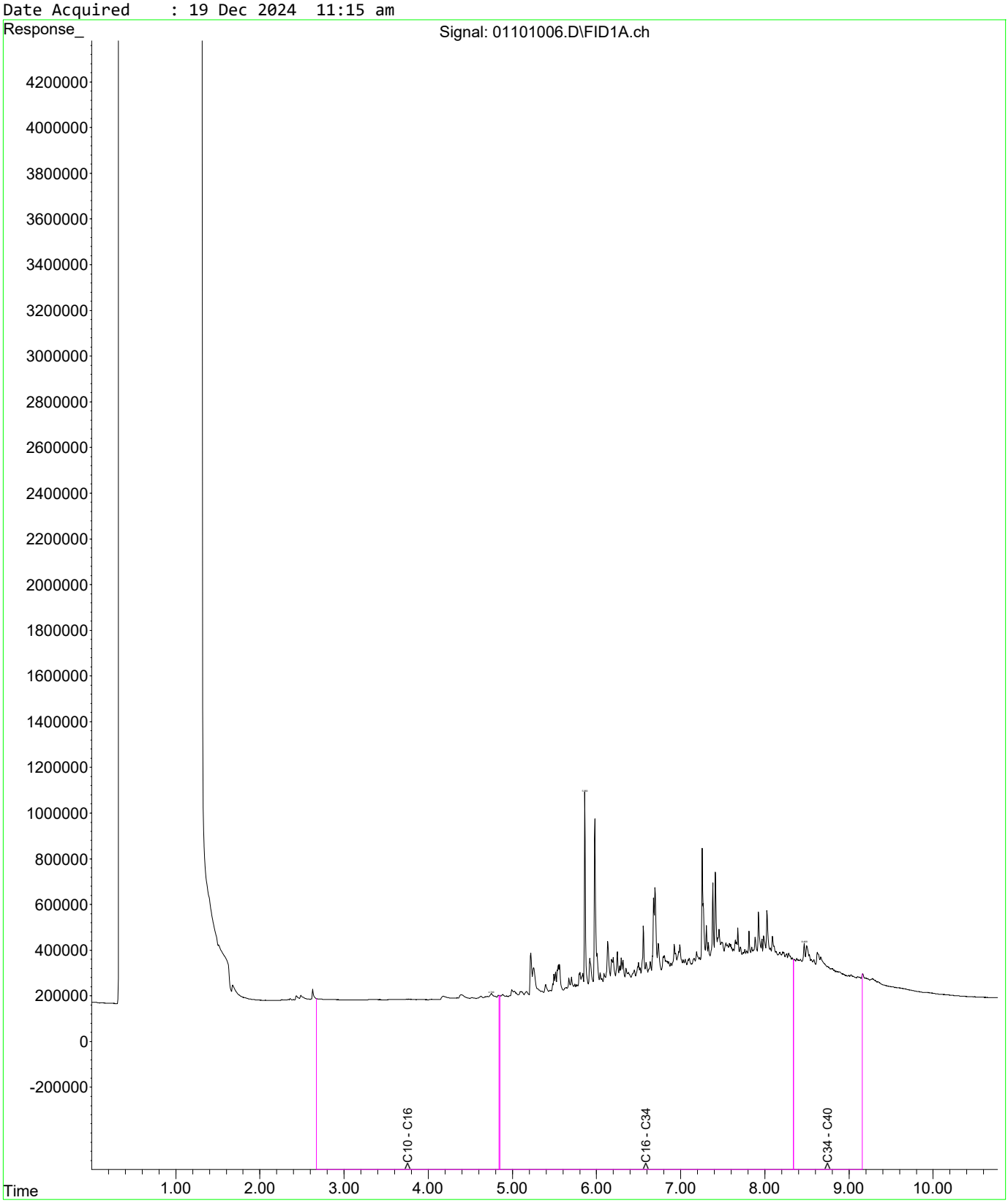
Fraction Scheme : NEPM Fractions
Data File : 00801002.D
Laboratory Number: EM2422260-005
Sample ID : QC178
Date Acquired : 19 Dec 2024 10:07 am



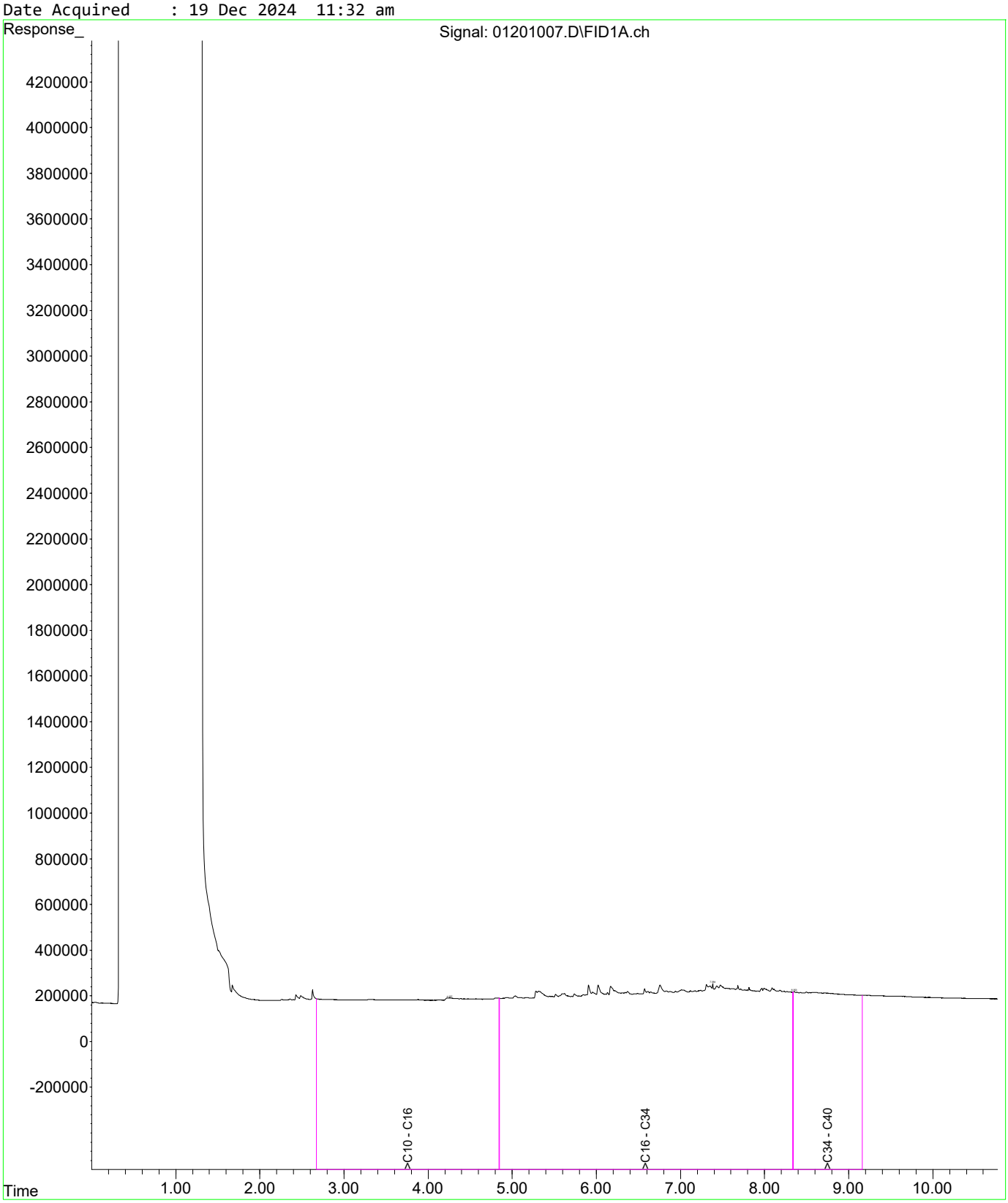
Fraction Scheme : NEPM Fractions
Data File : 01001005.D
Laboratory Number: EM2422260-007
Sample ID : QC172
Date Acquired : 19 Dec 2024 10:58 am



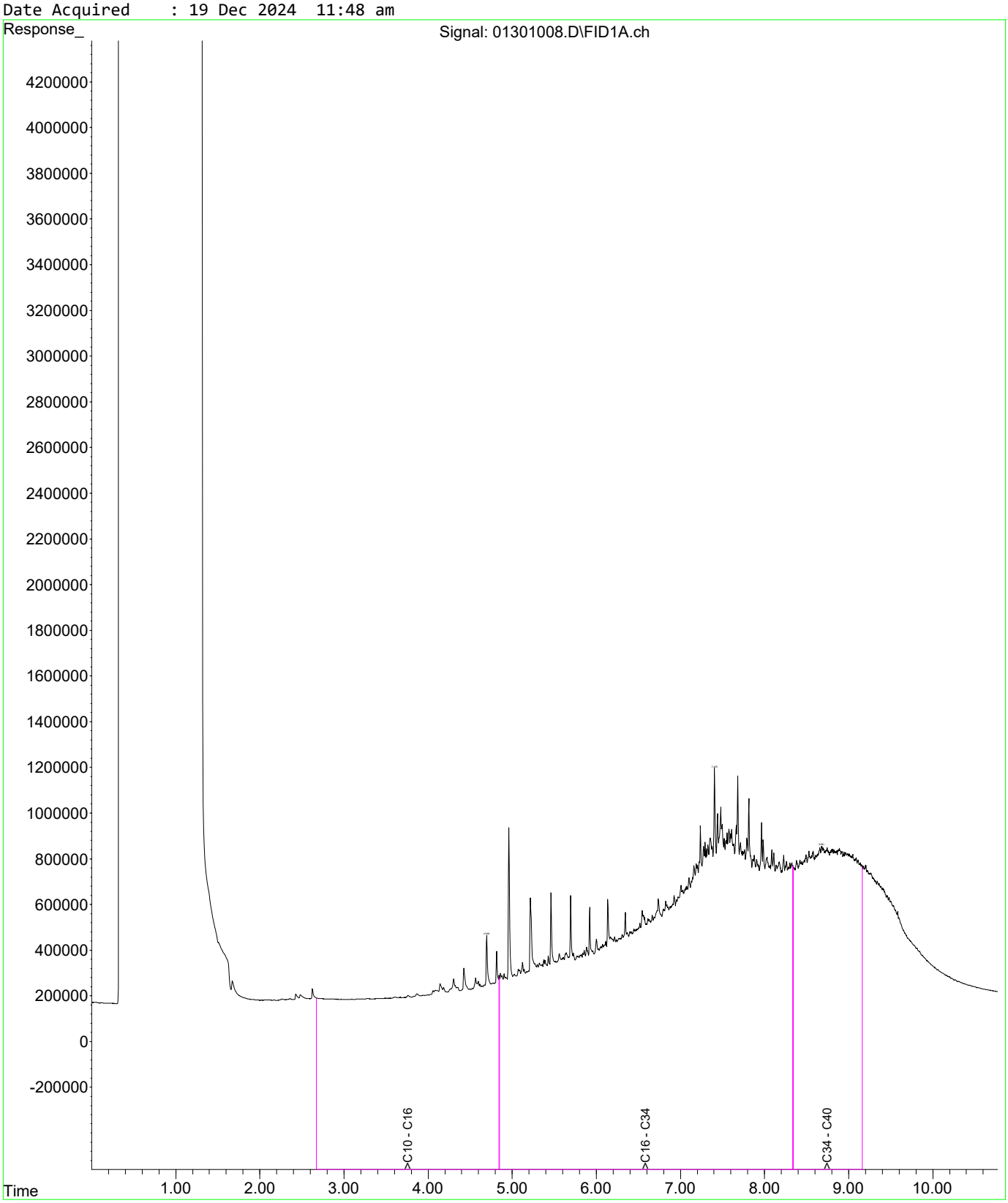
Fraction Scheme : NEPM Fractions
Data File : 01101006.D
Laboratory Number: EM2422260-008
Sample ID : QC164
Date Acquired : 19 Dec 2024 11:15 am



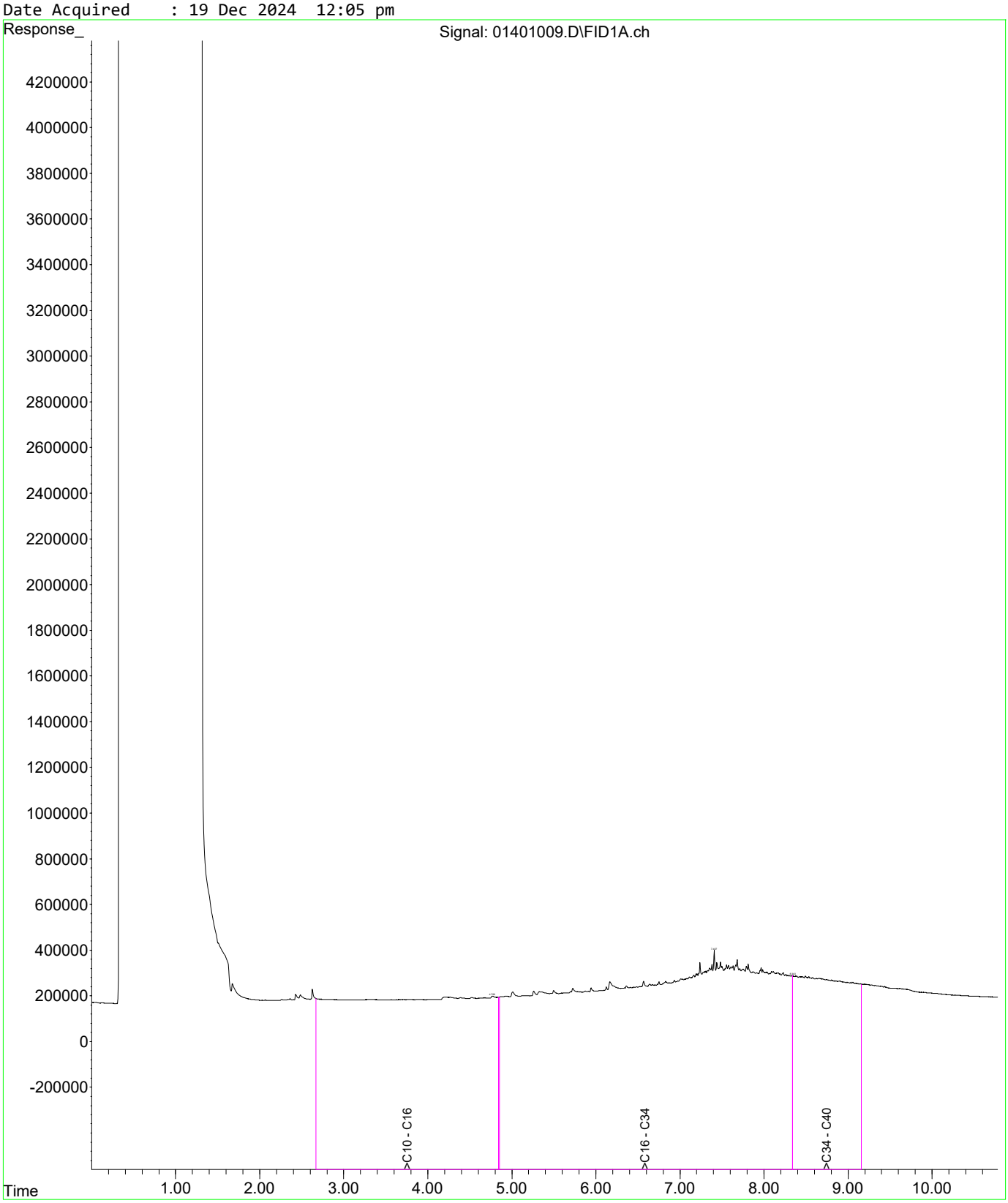
Fraction Scheme : NEPM Fractions
Data File : 01201007.D
Laboratory Number: EM2422260-009
Sample ID : QC168
Date Acquired : 19 Dec 2024 11:32 am



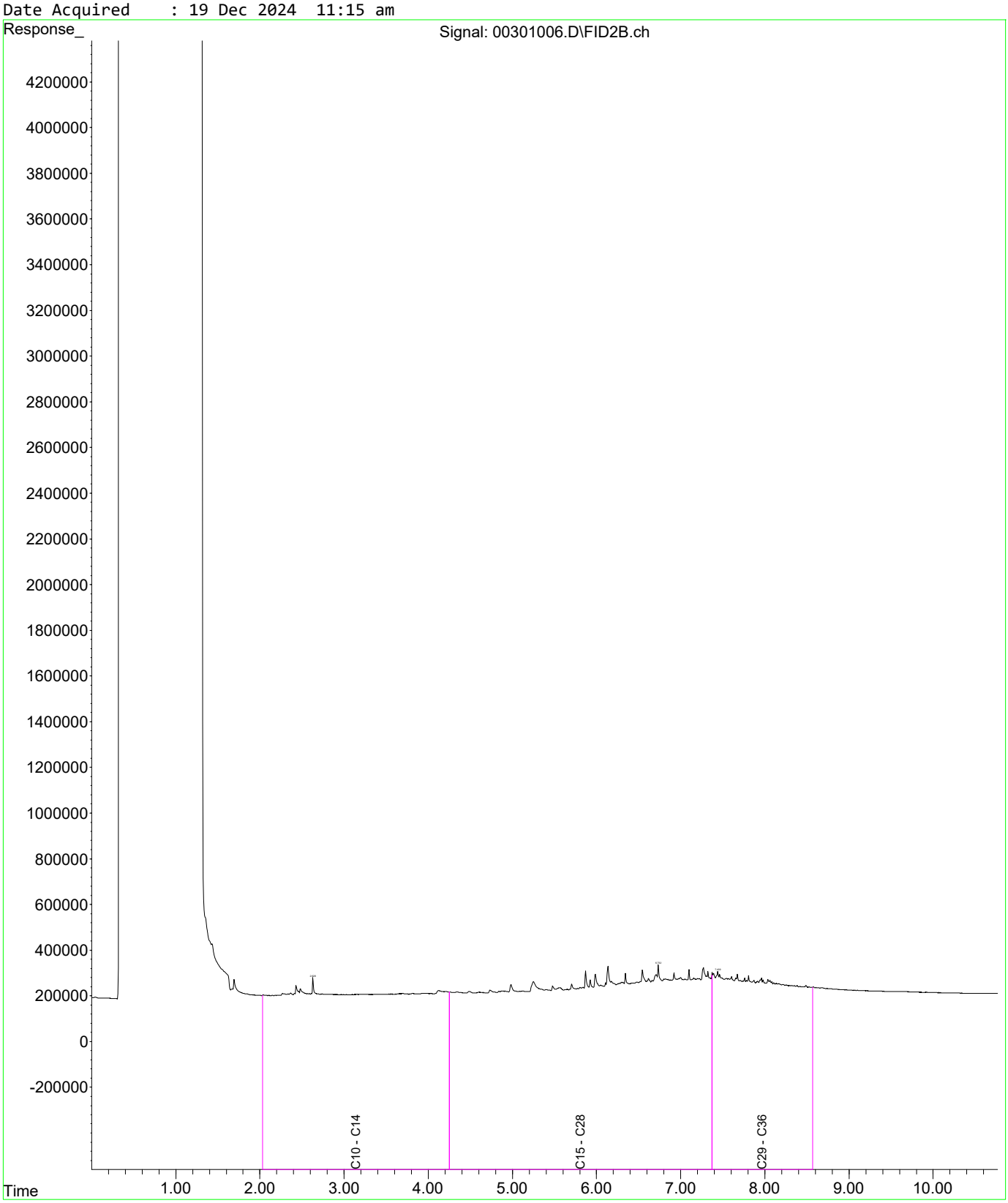
Fraction Scheme : NEPM Fractions
Data File : 01301008.D
Laboratory Number: EM2422260-010
Sample ID : QC158
Date Acquired : 19 Dec 2024 11:48 am



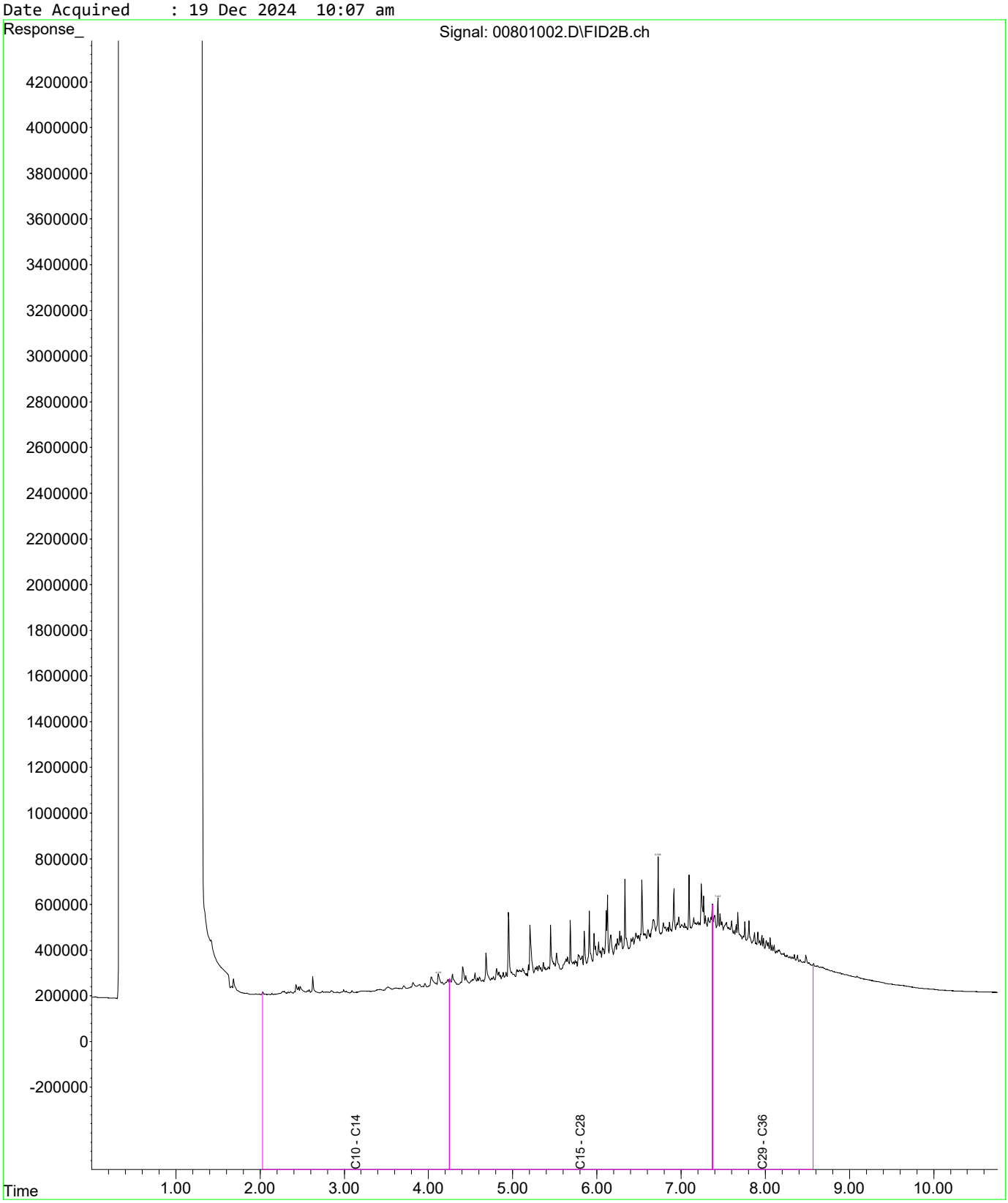
Fraction Scheme : NEPM Fractions
Data File : 01401009.D
Laboratory Number: EM2422260-011
Sample ID : QC156
Date Acquired : 19 Dec 2024 12:05 pm



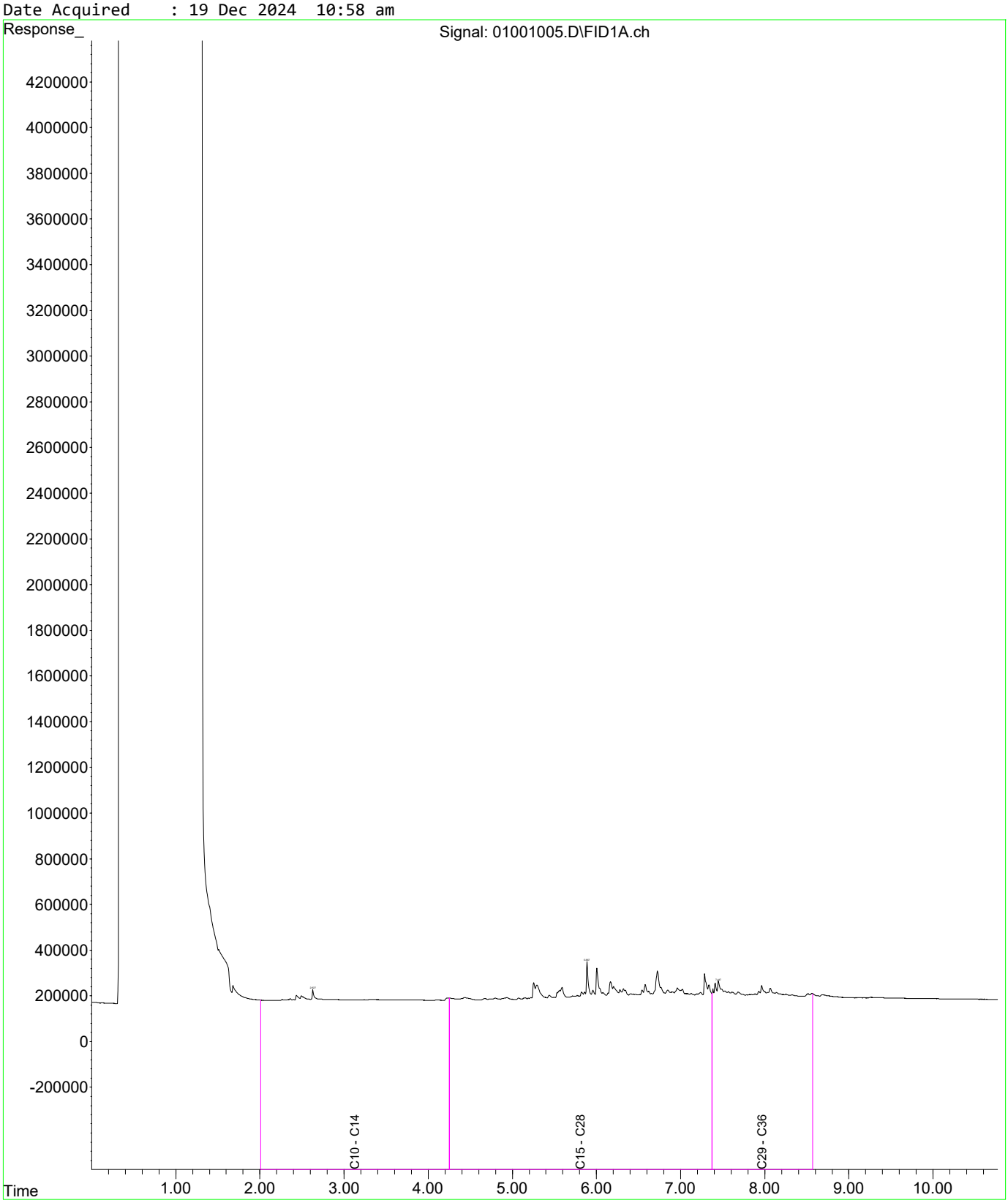
Fraction Scheme : Legacy Fractions
Data File : 00301006.D
Laboratory Number: EM2422260-001
Sample ID : QC180
Date Acquired : 19 Dec 2024 11:15 am



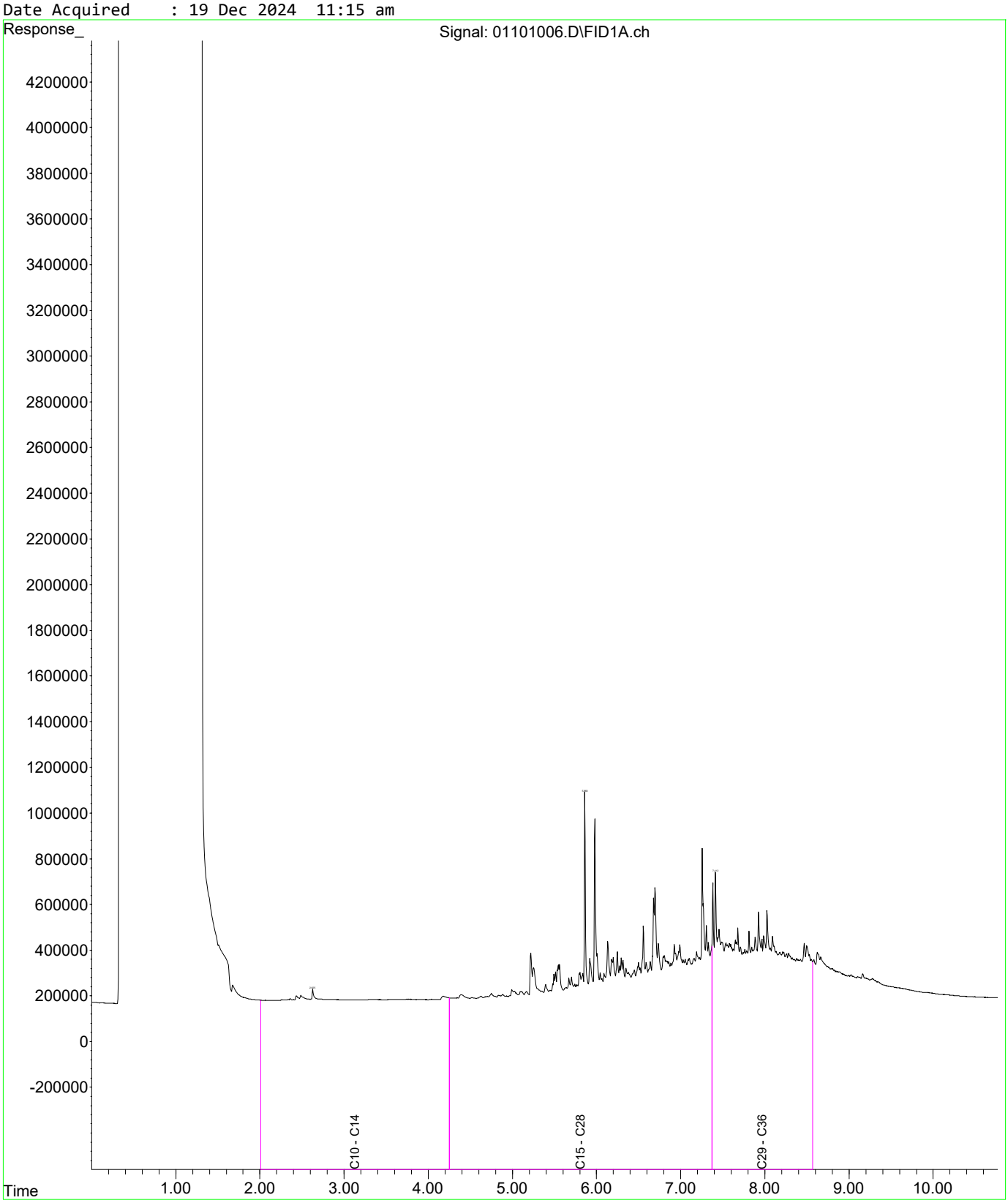
Fraction Scheme : Legacy Fractions
Data File : 00801002.D
Laboratory Number: EM2422260-005
Sample ID : QC178
Date Acquired : 19 Dec 2024 10:07 am



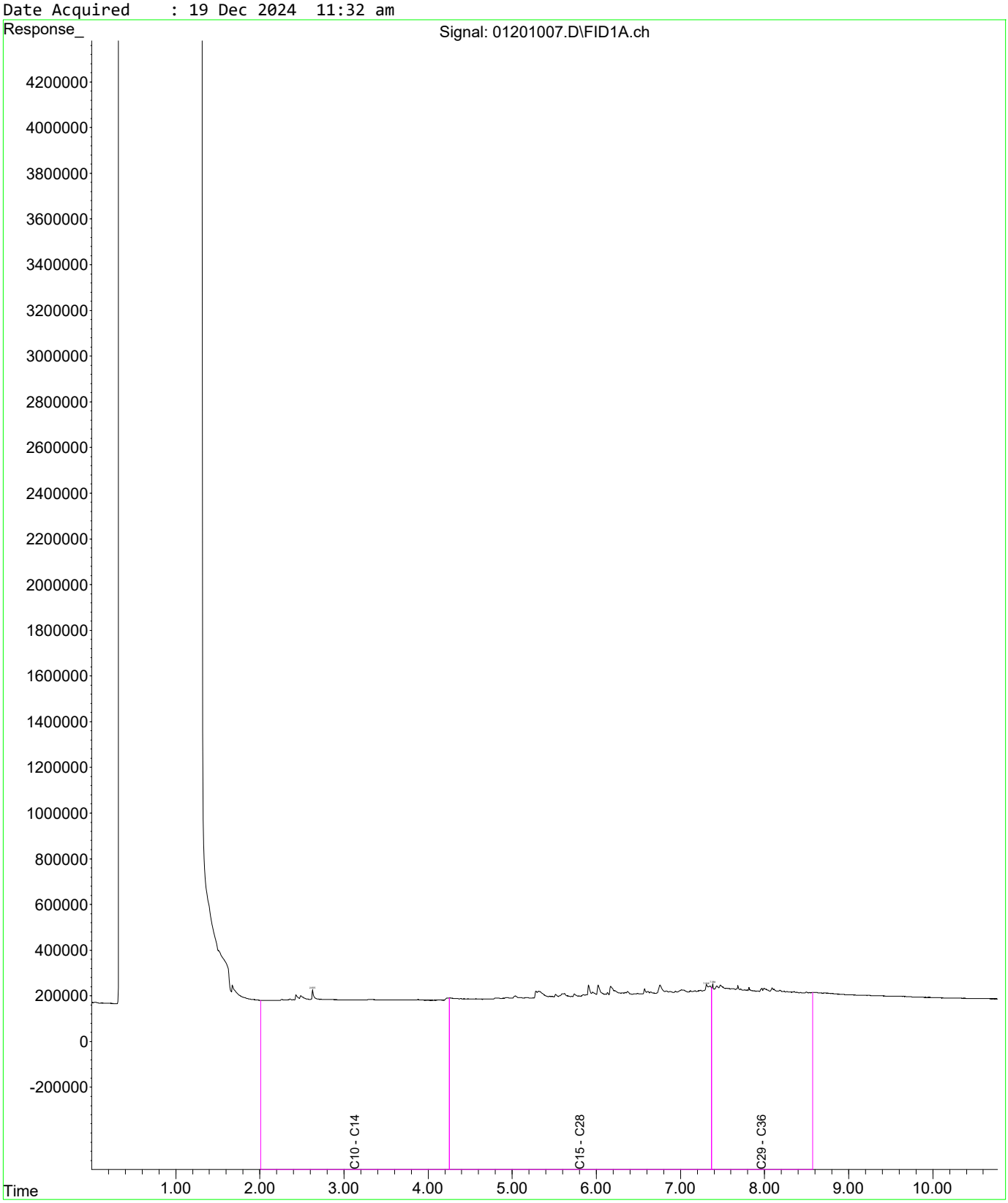
Fraction Scheme : Legacy Fractions
Data File : 01001005.D
Laboratory Number: EM2422260-007
Sample ID : QC172
Date Acquired : 19 Dec 2024 10:58 am



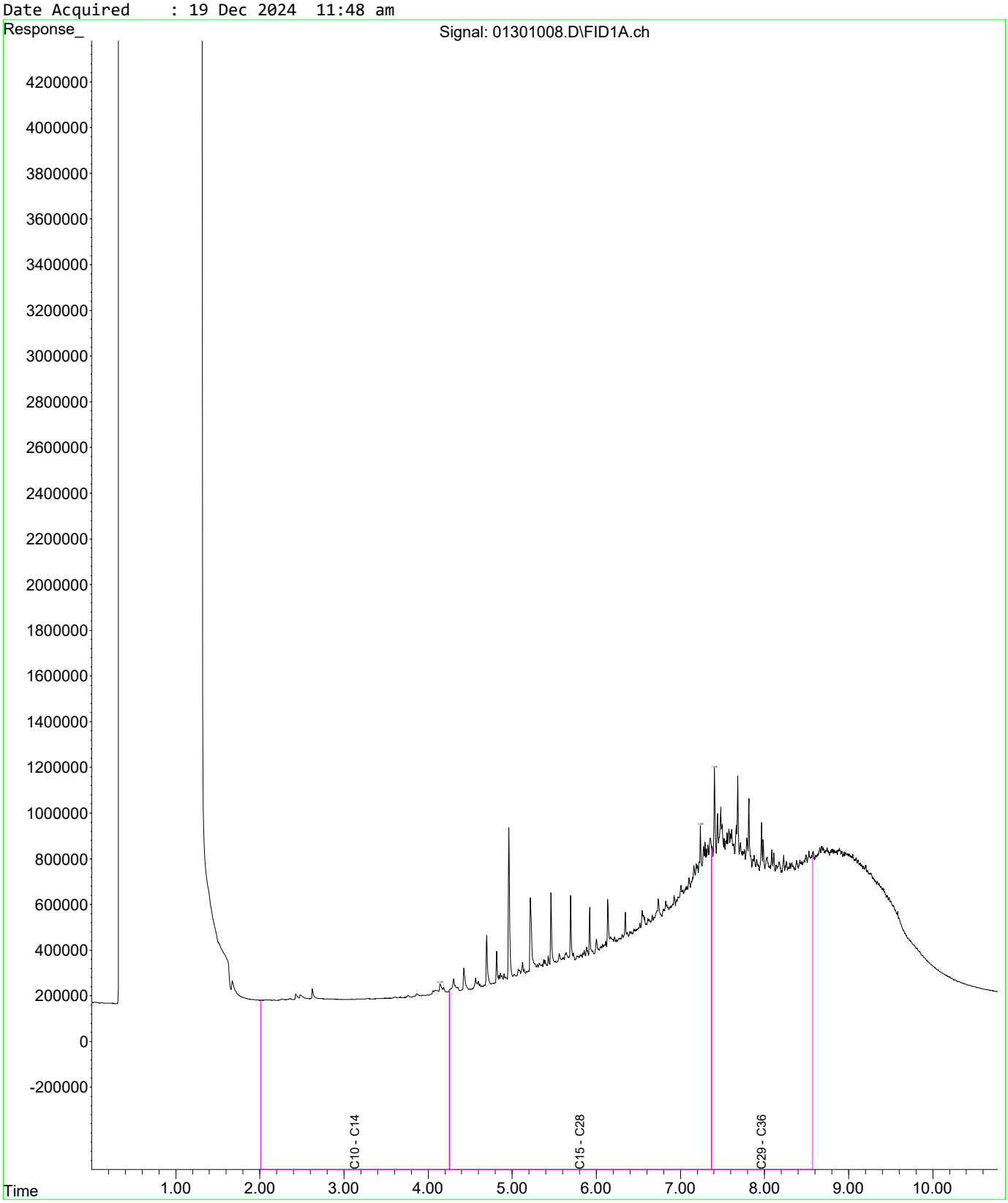
Fraction Scheme : Legacy Fractions
Data File : 01101006.D
Laboratory Number: EM2422260-008
Sample ID : QC164
Date Acquired : 19 Dec 2024 11:15 am



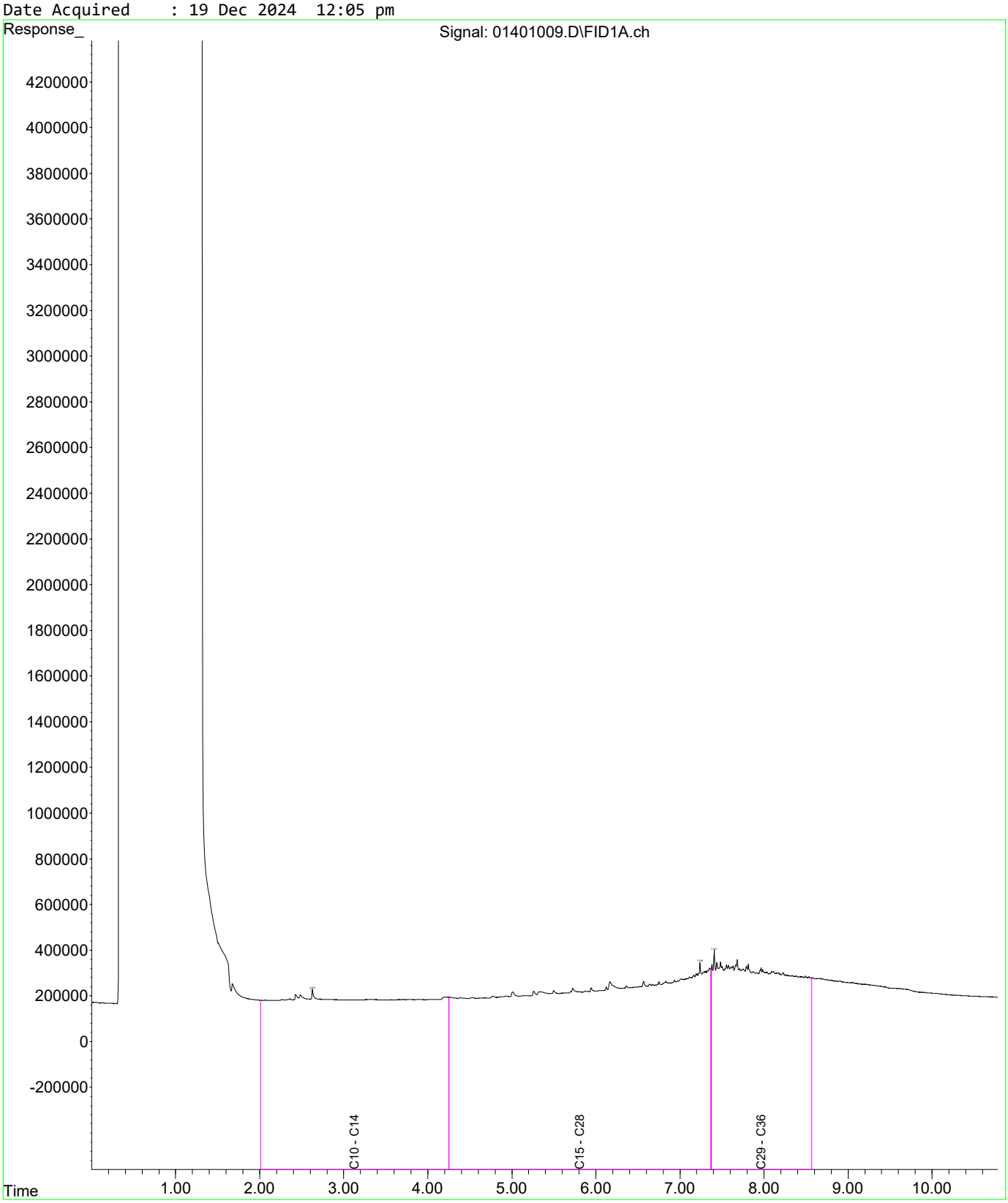
Fraction Scheme : Legacy Fractions
Data File : 01201007.D
Laboratory Number: EM2422260-009
Sample ID : QC168
Date Acquired : 19 Dec 2024 11:32 am



Fraction Scheme : Legacy Fractions
Data File : 01301008.D
Laboratory Number: EM2422260-010
Sample ID : QC158
Date Acquired : 19 Dec 2024 11:48 am



Fraction Scheme : Legacy Fractions
Data File : 01401009.D
Laboratory Number: EM2422260-011
Sample ID : QC156
Date Acquired : 19 Dec 2024 12:05 pm



ANZ

FQM - Generic Chain of Custody Form

COPY

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ALS ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples

Environmental Division Melbourne
Work Order Reference
EM2422260

Telephone : + 61-3-8549 9600

	LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									
		SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION														
	✓	H14-0.5	S	9/12/24		1x Jar	1	~~X~~		X										
	✓	H14-1.0						~~X~~		X										
	✓	H13-0.5						X												
	✓	H12-0.5						~~X~~		X										
	✓	H17-0.5		10/12/24						X										
	✓	H17-1.0						✓												
	✓	H17-1.5						X												
	✓	QC179								X										
1	✓	QC180								X										forward to ACS
	✓	H18.0.5						X												
	✓	H18.1.0								X										
	✓	H18-1.5						X												
	✓	QC181						X												
2	✓	QC182						X												forward to ACS
	✓	H16-0.5						X												
	✓	H16-1.0						~~X~~		X										
	✓	H16-1.5						~~X~~		X										
	✓	H16-2.0						X		~~X~~										
	✓	QC183						X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name: Scott	Date: 13/12/24	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of: ALS	Time: 1020	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COPY

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ABS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles															
	G14-2.5	S	10/12/24			1	x		x												
	G14-3.0						x		x												
	QC173						x														
3	QC174						x														Forward to ALS
	G15-0.5						x														
	G15-1.0								x												
	G15-1.5						x														
	G15-2.0						x														
	G15-2.5						x														
	G15-3.0								x												
	QC175						x														
4	QC176						x														Forward to ALS
	H15-0.5						x														
	H15-1.0						x														
	H15-1.5								x												
	H15-2.0						x														
	H15-2.5								x												
	QC177								x												
5	QC178								x												Forward to ALS

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name: Scott	Date: 13/12/24	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of: AES	Time: 1020	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN	Asbestos in Soil - Screening									HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles															
	F13_2.5	S	10/12/24				X														
	F13_3.0								X												
	F13_3.5						X														
	QC169						X														
6	QC170						X														forward to ALS
	E13_0.5						X				X										
	ACM_E13_0.5								X		X										
	E13_1.0						X														
	E13_1.5						X														
	E13_2.0						X														
	E13_2.5								X												
	E13_3.0						X														
	E13_3.5						X														
	QC171						X														
7	QC172						X														Forward to ALS
	G14_0.5								X												
	G14_1.0						X														
	G14_1.5						X														
	G14_2.0						X														

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name: Scott	Date: 13/12/24	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of: ALS	Time: 1020	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

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CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								TRH C6-C10	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
✓	QC163	S	10/12/24		Tub	1	X													
✓	QC164						X													Forward to ALS
✓	QC160	W	11/12/24															X		~~QC160~~ and QC161 received as soil trip blanks not water samples - 11/12 SL
✓	QC161																	X		
✓	QC162					4													X	
✓	QC165		10/12/24							X										
✓	QC166																		X	
✓	G13_0.5	S					X		X											
✓	G13_1.0						X		X											
✓	G13_1.5						X													
✓	G13_2.0								X											
✓	G13_2.5						X													
✓	G13_3.0						X													
✓	QC167						X													
✓	QC168						X													Forward to ALS
✓	F13-0.5								X											
✓	F13_1.0						X													
✓	F13_1.5						X													
✓	F13_2.0						X		X											

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Stenidan	Date: 10/12/24	Name: Scott	Date: 13/12/24	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of: ALS	Time: 1020	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	~~Eurofins~~ ALS
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	Eurofins
RESULTS REQUIRED (Date):	QUOTE Nº 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	D14_1.5	S	09/12/24				X														
	D14_2.0						X														
	D14_2.5								X												
	D14_3.0						X														
	E14_0.5						X														
	E14_1.0						X														
	E14_1.5								X												
	E14_2.0						X														
	E14_2.5						X														
	E14_3.0						X														
	QC157						~~X~~		X												
18	QC158						~~X~~		X												Forward to ALS
	F14_0.5						X														
	F14_1.0								X												
	F14_1.5						X														
	F14_2.0						X														
	F14_2.5								X												
	F14_3.0						X														
	QC159	W							X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan	Date: 10/12/24	Name: Scott	Date: 13/12/24	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of: ALS	Time: 1020	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK CO: 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
	DIL 3.5	S	09/12/24						X											
	F12_0.5						X													
	F12_1.0						X													
	F12_1.5								X											
	F12_2.0						X													
	F12_2.5						X													
	F12_3.0						X													
	F12_3.5						X													
	E12_0.5								X											
	E12_1.0						X													
	E12_1.5						X													
	E12_2.0								X											
	E12_2.5						X													
	E12_3.0						X													
	E12_3.5						X													
	QC155						X													
	QC156						X													forward to ALS
	D12-0.5								X											
	D12_1.0						X													

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Shenden	Date: 10/12/24	Name: Scott	Date: 13/12/24	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:52pm	Of: ALS	Time: 1020	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2422260**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Page	: 1 of 3
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: AC, JM, TG		

Dates

Date Samples Received	: 13-Dec-2024 10:20	Issue Date	: 16-Dec-2024
Client Requested Due Date	: 23-Dec-2024	Scheduled Reporting Date	: **23-Dec-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 3	Temperature	: 11.2°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 11 / 11

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EP075-TAS Benzo(a)pyrene and other PAHs - Waste	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-04 TRH/BTEXN
EM2422260-001	10-Dec-2024 00:00	QC180	✓			✓	
EM2422260-002	10-Dec-2024 00:00	QC182	✓	✓	✓		✓
EM2422260-003	10-Dec-2024 00:00	QC174	✓	✓	✓		✓
EM2422260-004	10-Dec-2024 00:00	QC176	✓	✓	✓		✓
EM2422260-005	10-Dec-2024 00:00	QC178	✓			✓	
EM2422260-006	10-Dec-2024 00:00	QC170	✓	✓	✓		✓
EM2422260-007	10-Dec-2024 00:00	QC172	✓	✓	✓		✓
EM2422260-008	10-Dec-2024 00:00	QC164	✓	✓	✓		✓
EM2422260-009	10-Dec-2024 00:00	QC168	✓	✓	✓		✓
EM2422260-010	09-Dec-2024 00:00	QC158	✓			✓	
EM2422260-011	09-Dec-2024 00:00	QC156	✓	✓	✓		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com

Tim Martin

- *AU Certificate of Analysis - NATA (COA)	Email	Tim.Martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Tim.Martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Tim.Martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Tim.Martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	Tim.Martin@aecom.com
- Chromatogram (CHROM)	Email	Tim.Martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	Tim.Martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Tim.Martin@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	Tim.Martin@aecom.com

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422260**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 13-Dec-2024
Site	: Macquarie Point	Issue Date	: 23-Dec-2024
Sampler	: AC, JM, TG	No. of samples received	: 11
Order number	: 60693007 7	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2422322--001	Anonymous	**Lead**	7439-92-1	98.8 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2422322--001	Anonymous	**Zinc**	7440-66-6	29.3 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	EM2422260--003	QC174	**Pyrene**	129-00-0	31.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	EM2422260--003	QC174	**Fluoranthene**	206-44-0	31.0 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	EM2422260--003	QC174	**Benzo(a)pyrene**	50-32-8	33.7 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK040T-P: Total Fluoride by Auto Analyser	EM2422180--001	Anonymous	**Fluoride**	16984-48-8	32.3 %	70.0-130%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2422260--005	QC178	**Hexavalent Chromium**	18540-29-9	56.4 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2422260--005	QC178	**Hexavalent Chromium**	18540-29-9	54.2 %	58.0-114%	**Recovery less than lower data quality objective**
EP075(SIM)A: Phenolic Compounds	EM2422260--005	QC178	**2-Chlorophenol**	95-57-8	75.2 %	78.9-123%	**Recovery less than lower data quality objective**
EP075(SIM)A: Phenolic Compounds	EM2422260--005	QC178	**4-Chloro-3-methylphenol**	59-50-7	60.3 %	61.5-120%	**Recovery less than lower data quality objective**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	EM2422260--005	QC178	**Acenaphthene**	83-32-9	73.0 %	77.2-116%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Control Samples (LCS)						
Total Fluoride by Auto Analyser	EK040T-P	1	21	4.76	5.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Total Fluoride by Auto Analyser	EK040T-P	1	21	4.76	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QC158, QC156	**09-Dec-2024**	**----**	----	----	**18-Dec-2024**	23-Dec-2024	✓
Soil Glass Jar - Unpreserved (EA055)							
QC180, QC182, QC174, QC176, QC178, QC170, QC172, QC164, QC168	**10-Dec-2024**	**----**	----	----	**18-Dec-2024**	24-Dec-2024	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QC158, QC156	**09-Dec-2024**	**19-Dec-2024**	07-Jun-2025	✓	**19-Dec-2024**	07-Jun-2025	✓
Soil Glass Jar - Unpreserved (EG005T)							
QC180, QC182, QC174, QC176, QC178, QC170, QC172, QC164, QC168	**10-Dec-2024**	**19-Dec-2024**	08-Jun-2025	✓	**19-Dec-2024**	08-Jun-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QC158	**09-Dec-2024**	**19-Dec-2024**	06-Jan-2025	✓	**20-Dec-2024**	06-Jan-2025	✓
Soil Glass Jar - Unpreserved (EG035T)							
QC180, QC178, QC168	**10-Dec-2024**	**19-Dec-2024**	07-Jan-2025	✓	**20-Dec-2024**	07-Jan-2025	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
QC158	**09-Dec-2024**	**19-Dec-2024**	06-Jan-2025	✓	**22-Dec-2024**	26-Dec-2024	✓
Soil Glass Jar - Unpreserved (EG048G)							
QC180, QC178, QC168	**10-Dec-2024**	**19-Dec-2024**	07-Jan-2025	✓	**22-Dec-2024**	26-Dec-2024	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
QC158	**09-Dec-2024**	**19-Dec-2024**	23-Dec-2024	✓	**23-Dec-2024**	02-Jan-2025	✓
Soil Glass Jar - Unpreserved (EK026SF)							
QC180, QC178, QC168	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**23-Dec-2024**	02-Jan-2025	✓
EK040T-P: Total Fluoride by Auto Analyser							
Soil Glass Jar - Unpreserved (EK040T-P)							
QC158	**09-Dec-2024**	**19-Dec-2024**	06-Jan-2025	✓	**20-Dec-2024**	06-Jan-2025	✓
Soil Glass Jar - Unpreserved (EK040T-P)							
QC180, QC178, QC168	**10-Dec-2024**	**19-Dec-2024**	07-Jan-2025	✓	**20-Dec-2024**	07-Jan-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QC158	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP066) QC180	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP066) QC178	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP066) QC168	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	28-Jan-2025	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC158	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP068) QC180, QC178	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP068) QC168	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	28-Jan-2025	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC158	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC180	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC178	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC168	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	28-Jan-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC158	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC180	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC178	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC168	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	28-Jan-2025	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS) QC158, QC156	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075-TAS) QC180, QC182, QC176, QC178, QC170, QC172, QC164, QC168	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
Soil Glass Jar - Unpreserved (EP075-TAS) QC174	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	28-Jan-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC158, QC156	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	23-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC180, QC182, QC176, QC178, QC170, QC172, QC164, QC168	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC174	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071) QC174	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	28-Jan-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC158, QC156	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	23-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC180, QC182, QC176, QC178, QC170, QC172, QC164, QC168	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC174	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071) QC174	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**20-Dec-2024**	28-Jan-2025	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QC158, QC156	**09-Dec-2024**	**18-Dec-2024**	23-Dec-2024	✓	**19-Dec-2024**	23-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC180, QC182, QC176, QC178, QC170, QC172, QC164, QC168	**10-Dec-2024**	**18-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP080) QC174	**10-Dec-2024**	**19-Dec-2024**	24-Dec-2024	✓	**19-Dec-2024**	24-Dec-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	4	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	4	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	3	21	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	6	**33.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	16	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	4	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	4	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	21	**4.76**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	6	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	16	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	4	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	4	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	2	21	**9.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	6	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	2	16	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	21	**4.76**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride by Auto Analyser	EK040T-P	SOIL	In-house: Total fluoride is determined by an auto analyer ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

QUALITY CONTROL REPORT

Work Order	: **EM2422260**	Page	: 1 of 17
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 13-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: ----	Issue Date	: 23-Dec-2024
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6269911)									
EM2422260-001	QC180	EG005T: Nickel	7440-02-0	2	mg/kg	16	14	9.5	No Limit
EM2422322-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	180	32.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	7.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	17	21.3	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	14	15	7.4	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	35	45	24.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	81	85	4.8	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	202	# 68	98.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	70	94	30.2	0% - 50%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	20	15	29.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	102	# 76	29.3	0% - 20%
EM2422260-001	QC180	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	80	25.1	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	13	10.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	10	20.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6269911) - continued									
EM2422260-001	QC180	EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	36	46	22.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	91	97	6.6	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	287	308	6.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	6	7	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	201	202	0.0	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6271599)									
EM2422260-003	QC174	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	140	140	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	30	32	7.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	15	12	25.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	28	24	13.6	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	29	26	11.1	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	325	307	5.5	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	407	376	7.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	349	368	5.3	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	60	75	22.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	469	482	2.8	0% - 20%
EK040T-P: Total Fluoride by Auto Analyser (QC Lot: 6269637)									
EM2422281-004	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	90	60	31.8	No Limit
EM2421969-035	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	460	480	4.3	0% - 50%
EK040T-P: Total Fluoride by Auto Analyser (QC Lot: 6272028)									
EM2422260-009	QC168	EK040T-P: Fluoride	16984-48-8	40	mg/kg	70	60	17.9	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6270364)									
EM2422260-001	QC180	EA055: Moisture Content	----	0.1 (1.0)*	%	14.5	14.8	2.0	0% - 50%
EM2422260-011	QC156	EA055: Moisture Content	----	0.1	%	11.2	13.0	14.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6269910)									
EM2422260-001	QC180	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6271600)									
EM2422260-009	QC168	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.1	139	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6271505)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6271505) - continued									
EM2422260-001	QC180	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2422281-006	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6273309)									
EM2421969-035	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EM2422234-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1 (2)*	mg/kg	5	5	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 6266973)									
EM2422260-001	QC180	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 6271587)									
EM2422260-009	QC168	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6266972)									
EM2422260-001	QC180	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6271588)									
EM2422260-009	QC168	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6271588) - continued									
EM2422260-009	QC168	EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 6266974)									
EM2422260-001	QC180	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 6271585)									
EM2422061-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 6271585) - continued									
EM2422061-001	Anonymous	EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6266974)									
EM2422260-001	QC180	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.3	<0.5	91.7	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.3	0.8	90.7	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.0	0.7	90.3	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.8	<0.5	46.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.9	0.5	48.2	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.3	0.9	41.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.6	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6271585)									
EM2422061-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6271585) - continued									
EM2422061-001	Anonymous	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6269065)									
EM2422260-001	QC180	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	0.65	0.42	43.9	0% - 50%
		EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	2.0	0.8	87.9	No Limit
		EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	1.3	<0.5	91.3	No Limit
		EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	2.5	0.9	88.8	No Limit
		EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	0.7	<0.5	34.1	No Limit
		EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	0.9	<0.5	54.1	No Limit
		EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	1.9	1.2	41.6	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6271595)									
EM2422260-003	QC174	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	6.54	# 4.65	33.7	0% - 20%
		EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	12.4	# 9.0	31.2	0% - 20%
		EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	8.1	5.1	46.0	0% - 50%
		EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.2	2.3	34.6	No Limit
		EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	12.8	# 9.4	31.0	0% - 20%
		EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.9	0.6	36.8	No Limit
		EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	5.2	3.5	39.2	0% - 50%
		EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.9	2.7	35.4	No Limit
		EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	6.7	4.7	35.6	0% - 50%
		EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	2.3	1.4	46.5	No Limit
		EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	1.3	0.9	38.4	No Limit
		EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	10.2	7.4	32.9	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6266929)									
EM2422260-001	QC180	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6266975)									
EM2422260-001	QC180	EP071: C15 - C28 Fraction	----	100	mg/kg	180	160	12.7	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6271179)									
EM2422260-003	QC174	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6271586)									
EM2422061-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6266929)									
EM2422260-001	QC180	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6266975)									
EM2422260-001	QC180	EP071: >C16 - C34 Fraction	----	100	mg/kg	250	220	11.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6271179)									
EM2422260-003	QC174	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6271586)									
EM2422061-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6266929)									
EM2422260-001	QC180	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 6271179)									
EM2422260-003	QC174	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269911)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.1	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	93.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	93.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	63.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	97.0	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	87.1	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	92.7	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	90.7	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	86.0	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	74.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	85.5	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	75.0	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	85.7	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	77.7	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6271599)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	98.5	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	94.7	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	100	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.4	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	91.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.0	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	98.3	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	92.2	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	98.8	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	84.2	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	84.0	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	81.9	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6269637)								
EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6272028)								
EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	334 mg/kg	102	93.1	107
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269910)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	92.2	69.0	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6271600)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	91.4	69.0	128
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6271505)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	88.3	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6273309)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	114	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6266973)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	68.0	133
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6271587)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	93.7	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 6266972)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.8	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	70.0	124
EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.9	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.6	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	62.4	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 6266972) - continued								
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	95.1	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.9	55.5	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 6271588)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	70.0	124
EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.4	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	79.3	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	75.8	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	77.6	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	83.6	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	76.4	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	79.8	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 6266974)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	97.3	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	98.1	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	100	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	95.6	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	83.6	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	91.9	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	79.8	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 6266974) - continued								
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	88.1	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	84.4	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	84.8	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	43.3	10.0	118
EP075(SIM)A: Phenolic Compounds (QCLot: 6271585)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	96.0	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	95.6	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	98.2	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	97.5	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	69.9	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	93.0	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	88.9	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	91.2	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	89.3	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	86.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	88.7	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	82.9	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6266974)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	100	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	102	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	98.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	105	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	107	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	103	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	109	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	92.6	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	109	80.4	130
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	92.0	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	92.6	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	93.8	65.8	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6271585)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	91.8	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	93.6	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	94.2	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	93.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	96.1	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	99.7	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	103	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	97.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	96.4	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.0	80.4	130
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	91.4	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	91.8	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269065)								
EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	2 mg/kg	86.1	75.4	130
EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	2 mg/kg	86.3	73.3	130
EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	2 mg/kg	82.4	73.0	131
EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2 mg/kg	79.4	72.1	134
EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	2 mg/kg	83.3	74.4	131
EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2 mg/kg	85.7	75.3	132
EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	2 mg/kg	79.9	72.9	135
EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	2 mg/kg	83.8	75.0	133
EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	2 mg/kg	79.7	71.3	134
EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	4 mg/kg	78.5	75.8	133
EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2 mg/kg	82.8	69.6	133
EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	2 mg/kg	86.5	78.4	127
EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	2 mg/kg	81.8	72.0	135
EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	2 mg/kg	82.7	76.3	130
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	78.0	77.5	134
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6271595)								
EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	2 mg/kg	95.9	75.4	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6271595) - continued								
EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	2 mg/kg	94.9	73.3	130
EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	2 mg/kg	88.5	73.0	131
EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2 mg/kg	91.1	72.1	134
EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	2 mg/kg	91.3	74.4	131
EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2 mg/kg	95.5	75.3	132
EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	2 mg/kg	91.8	72.9	135
EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	2 mg/kg	97.2	75.0	133
EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	2 mg/kg	91.4	71.3	134
EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	4 mg/kg	91.0	75.8	133
EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2 mg/kg	95.7	69.6	133
EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	2 mg/kg	94.9	78.4	127
EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	2 mg/kg	88.0	72.0	135
EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	2 mg/kg	89.3	76.3	130
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	89.7	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6266929)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	108	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6266975)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	105	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	103	82.4	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6271179)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	105	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6271586)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	96.1	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	96.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	94.8	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6266929)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	105	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6266975)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	107	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	104	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	96.6	73.3	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6271179)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6271179) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	103	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6271586)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	95.8	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	95.4	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	85.8	73.3	137
EP080: BTEXN (QCLot: 6266929)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	102	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	108	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	101	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	104	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	104	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	101	61.8	123
EP080: BTEXN (QCLot: 6271179)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	93.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	106	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	103	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	106	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	105	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	79.9	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269911)							
EM2422260-005	QC178	EG005T: Arsenic	7440-38-2	50 mg/kg	94.9	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.0	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	88.6	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	91.1	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.8	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	86.7	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269911) - continued							
EM2422260-005	QC178	EG005T: Zinc	7440-66-6	250 mg/kg	97.0	80.0	120
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6269637)							
EM2422180-001	Anonymous	EK040T-P: Fluoride	16984-48-8	400 mg/kg	# 32.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269910)							
EM2422260-005	QC178	EG035T: Mercury	7439-97-6	0.5 mg/kg	96.0	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6271505)							
EM2422260-005	QC178	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 56.4	58.0	114
EM2422260-005	QC178	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 54.2	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6273309)							
EM2421997-023	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	127	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6266973)							
EM2422260-010	QC158	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	94.2	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 6266972)							
EM2422260-005	QC178	EP068: gamma-BHC - (Lindane)	58-89-9	0.5 mg/kg	99.9	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	97.1	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	94.3	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	112	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	86.6	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	81.6	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 6266974)							
EM2422260-005	QC178	EP075(SIM): Phenol	108-95-2	3 mg/kg	77.9	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	# 75.2	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	64.1	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	# 60.3	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	30.1	15.3	139
EP075(SIM)A: Phenolic Compounds (QCLot: 6271585)							
EM2422061-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	85.4	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	87.2	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	61.0	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	76.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	89.8	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6266974)							
EM2422260-005	QC178	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	# 73.0	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	66.8	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6271585)							
EM2422061-002	Anonymous						

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6271585) - continued							
EM2422061-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	84.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	92.9	65.5	136
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269065)							
EM2422260-005	QC178	EP075-TAS: Pyrene	129-00-0	3 mg/kg	65.5	37.8	152
		EP075-TAS: Acenaphthene	83-32-9	3 mg/kg	70.8	42.6	138
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6266929)							
EM2422260-002	QC182	EP080: C6 - C9 Fraction	----	28 mg/kg	75.2	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6266975)							
EM2422260-002	QC182	EP071: C10 - C14 Fraction	----	790 mg/kg	105	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	105	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	103	78.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6271586)							
EM2422061-002	Anonymous	EP071: C10 - C14 Fraction	----	790 mg/kg	96.7	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	96.7	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	95.1	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6266929)							
EM2422260-002	QC182	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	73.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6266975)							
EM2422260-002	QC182	EP071: >C10 - C16 Fraction	----	1080 mg/kg	107	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	104	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	96.5	66.8	138
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6271586)							
EM2422061-002	Anonymous	EP071: >C10 - C16 Fraction	----	1080 mg/kg	96.2	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	95.6	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	87.3	66.8	138
EP080: BTEXN (QCLot: 6266929)							
EM2422260-002	QC182	EP080: Benzene	71-43-2	2 mg/kg	86.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	90.9	57.1	131

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2422260**	Page	: 1 of 20
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Date Received	: 13-Dec-2024 10:20
Order number	: 60693007 7	Date Analysed	: 18-Dec-2024
C-O-C number	: ----	Date Issued	: 23-Dec-2024 16:26
No. of samples received	: 11		
No. of samples analysed	: 11	Quote number	: EN/004/23

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.

This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.

This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.

Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC174	**EM2422260-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**6.54 mg/kg**
QC174	**EM2422260-003**	Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	*< 40 mg/kg*	**73.5 mg/kg**
QC172	**EM2422260-007**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**2.84 mg/kg**
QC164	**EM2422260-008**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**7.04 mg/kg**
QC164	**EM2422260-008**	Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	*< 40 mg/kg*	**80.5 mg/kg**

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Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC180	**EM2422260-001**	Zinc	EG005T	5	*< 200 mg/kg*	**201 mg/kg**
QC180	**EM2422260-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.65 mg/kg**
QC182	**EM2422260-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.50 mg/kg**
QC174	**EM2422260-003**	Arsenic	EG005T	5	*< 20 mg/kg*	**29 mg/kg**
QC174	**EM2422260-003**	Lead	EG005T	5	*< 300 mg/kg*	**407 mg/kg**
QC174	**EM2422260-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**6.54 mg/kg**
QC174	**EM2422260-003**	Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	*< 20 mg/kg*	**73.5 mg/kg**
QC176	**EM2422260-004**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.12 mg/kg**
QC178	**EM2422260-005**	Zinc	EG005T	5	*< 200 mg/kg*	**203 mg/kg**
QC178	**EM2422260-005**	Hexavalent Chromium	EG048G	0.5	*< 1 mg/kg*	<2.5 mg/kg
QC178	**EM2422260-005**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**1230 mg/kg**
QC178	**EM2422260-005**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.74 mg/kg**
QC172	**EM2422260-007**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**2.84 mg/kg**
QC172	**EM2422260-007**	Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	*< 20 mg/kg*	**37.0 mg/kg**
QC164	**EM2422260-008**	Lead	EG005T	5	*< 300 mg/kg*	**356 mg/kg**
QC164	**EM2422260-008**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**7.04 mg/kg**
QC164	**EM2422260-008**	Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	*< 20 mg/kg*	**80.5 mg/kg**
QC168	**EM2422260-009**	Copper	EG005T	5	*< 100 mg/kg*	**502 mg/kg**
QC168	**EM2422260-009**	Nickel	EG005T	2	*< 60 mg/kg*	**99 mg/kg**
QC168	**EM2422260-009**	Zinc	EG005T	5	*< 200 mg/kg*	**486 mg/kg**
QC168	**EM2422260-009**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.96 mg/kg**
QC158	**EM2422260-010**	Copper	EG005T	5	*< 100 mg/kg*	**136 mg/kg**
QC158	**EM2422260-010**	C10 - C36 Fraction (sum)	EP071	50	*< 1,000 mg/kg*	**2080 mg/kg**
QC158	**EM2422260-010**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.54 mg/kg**
QC156	**EM2422260-011**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.08 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	QC180 10-Dec-2024 15:00 EM2422260-001	MU	QC182 10-Dec-2024 15:00 EM2422260-002	MU	QC174 10-Dec-2024 15:00 EM2422260-003	MU	QC176 10-Dec-2024 15:00 EM2422260-004	MU	QC178 10-Dec-2024 15:00 EM2422260-005	MU
EG005(ED093)T: Total Metals by ICP-AES																
Arsenic	EG005T	5	mg/kg		----	750	<5	--	<5	--	**29**	± 4	<5	--	<5	--
Barium	EG005T	10	mg/kg		----	30000	**70**	± 7	----		----		----		**30**	± 3
Beryllium	EG005T	1	mg/kg		----	400	<1	--	----		----		----		<1	--
Cadmium	EG005T	1	mg/kg		----	400	<1	--	----		----		----		<1	--
Chromium	EG005T	2	mg/kg		----	5000	**12**	± 1	----		----		----		**5**	± 0.6
Cobalt	EG005T	2	mg/kg		----	1000	**8**	± 0.9	----		----		----		**3**	± 0.5
Copper	EG005T	5	mg/kg		----	7500	**36**	± 4	----		----		----		**14**	± 2
Lead	EG005T	5	mg/kg		----	3000	**91**	± 10	**57**	± 6	**407**	± 42	**17**	± 2	**31**	± 4
Manganese	EG005T	5	mg/kg		----	25000	**287**	± 29	----		----		----		**245**	± 24
Molybdenum	EG005T	2	mg/kg		----	4000	<2	--	----		----		----		<2	--
Nickel	EG005T	2	mg/kg		----	3000	**16**	± 2	----		----		----		**5**	± 0.5
Selenium	EG005T	5	mg/kg		----	200	<5	--	----		----		----		<5	--
Silver	EG005T	2	mg/kg		----	720	<2	--	----		----		----		<2	--
Tin	EG005T	5	mg/kg		----	900	**6**	± 2	----		----		----		<5	--
Zinc	EG005T	5	mg/kg		----	50000	**201**	± 21	----		----		----		**203**	± 22
EG035T: Total Recoverable Mercury by FIMS																
Mercury	EG035T	0.1	mg/kg		----	110	<0.1	--	----		----		----		<0.1	--
EG048: Hexavalent Chromium (Alkaline Digest)																
Hexavalent Chromium	EG048G	0.5	mg/kg		----	2000	<0.5	--	----		----		----		<2.5	--
EK026SF: Total CN by Segmented Flow Analyser																
Total Cyanide	EK026SF	1	mg/kg		----	2500	<1	--	----		----		----		<1	--
EK040T-P: Total Fluoride by Auto Analyser																
Fluoride	EK040T-P	40	mg/kg		----	10000	**90**		----		----		----		<40	
EP066: Polychlorinated Biphenyls (PCB)																
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	50	<0.1		----		----		----		<0.1	
EP068A: Organochlorine Pesticides (OC)																
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	50	<0.05		----		----		----		<0.22	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	1000	<0.05		----		----		----		<0.22	
EP075(SIM)A: Phenolic Compounds																
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	2000	<0.5		----		----		----		<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons																

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC180 10-Dec-2024 15:00 EM2422260-001 MU	QC182 10-Dec-2024 15:00 EM2422260-002 MU	QC174 10-Dec-2024 15:00 EM2422260-003 MU	QC176 10-Dec-2024 15:00 EM2422260-004 MU	QC178 10-Dec-2024 15:00 EM2422260-005 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	**9.9**	**----**	**----**	**----**	**13.4**
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	**0.65**	**0.50**	**6.54**	**0.12**	**0.74**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	200	**----**	**2.50**	**73.5**	**0.12**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	<10 --	<10 --	<10 --	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	**180**	<50	**690**	<50	**1230**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	<0.2 --	<0.2 --	<0.2 --	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC180 10-Dec-2024 15:00 EM2422260-001 MU	QC182 10-Dec-2024 15:00 EM2422260-002 MU	QC174 10-Dec-2024 15:00 EM2422260-003 MU	QC176 10-Dec-2024 15:00 EM2422260-004 MU	QC178 10-Dec-2024 15:00 EM2422260-005 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	<5 --	<5 --	**29** ± 4	<5 --	<5 --
Barium	EG005T	10	mg/kg	----	300	**70** ± 7	----	----	----	**30** ± 3
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	----	----	<1 --
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	----	----	<1 --
Chromium	EG005T	2	mg/kg	----	50	**12** ± 1	----	----	----	**5** ± 0.6
Cobalt	EG005T	2	mg/kg	----	100	**8** ± 0.9	----	----	----	**3** ± 0.5
Copper	EG005T	5	mg/kg	----	100	**36** ± 4	----	----	----	**14** ± 2
Lead	EG005T	5	mg/kg	----	300	**91** ± 10	**57** ± 6	**407** ± 42	**17** ± 2	**31** ± 4
Manganese	EG005T	5	mg/kg	----	500	**287** ± 29	----	----	----	**245** ± 24
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	----	----	<2 --
Nickel	EG005T	2	mg/kg	----	60	**16** ± 2	----	----	----	**5** ± 0.5
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	----	----	<5 --
Silver	EG005T	2	mg/kg	----	10	<2 --	----	----	----	<2 --
Tin	EG005T	5	mg/kg	----	50	**6** ± 2	----	----	----	<5 --
Zinc	EG005T	5	mg/kg	----	200	**201** ± 21	----	----	----	**203** ± 22
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	<0.1 --	----	----	----	<0.1 --
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	----	----	<2.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	<1 --	----	----	----	<1 --
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	300	**90**	----	----	----	<40
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	<0.22
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	----	<0.22
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**9.9**	----	----	----	**13.4**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	QC180 10-Dec-2024 15:00	QC182 10-Dec-2024 15:00	QC174 10-Dec-2024 15:00	QC176 10-Dec-2024 15:00	QC178 10-Dec-2024 15:00
							EM2422260-001 MU	EM2422260-002 MU	EM2422260-003 MU	EM2422260-004 MU	EM2422260-005 MU
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		**0.65**	**0.50**	**6.54**	**0.12**	**0.74**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	20		**----**	**2.50**	**73.5**	**0.12**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10 --	<10 --	<10 --	<10 --	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		**180**	<50	**690**	<50	**1230**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	1		<0.2 --	<0.2 --	<0.2 --	<0.2 --	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1		<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC180 10-Dec-2024 15:00 EM2422260-001 MU	QC182 10-Dec-2024 15:00 EM2422260-002 MU	QC174 10-Dec-2024 15:00 EM2422260-003 MU	QC176 10-Dec-2024 15:00 EM2422260-004 MU	QC178 10-Dec-2024 15:00 EM2422260-005 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	<5 --	<5 --	**29** ± 4	<5 --	<5 --
Barium	EG005T	10	mg/kg	----	3000	**70** ± 7	----	----	----	**30** ± 3
Beryllium	EG005T	1	mg/kg	----	40	<1 --	----	----	----	<1 --
Cadmium	EG005T	1	mg/kg	----	40	<1 --	----	----	----	<1 --
Chromium	EG005T	2	mg/kg	----	500	**12** ± 1	----	----	----	**5** ± 0.6
Cobalt	EG005T	2	mg/kg	----	200	**8** ± 0.9	----	----	----	**3** ± 0.5
Copper	EG005T	5	mg/kg	----	2000	**36** ± 4	----	----	----	**14** ± 2
Lead	EG005T	5	mg/kg	----	1200	**91** ± 10	**57** ± 6	**407** ± 42	**17** ± 2	**31** ± 4
Manganese	EG005T	5	mg/kg	----	5000	**287** ± 29	----	----	----	**245** ± 24
Molybdenum	EG005T	2	mg/kg	----	1000	<2 --	----	----	----	<2 --
Nickel	EG005T	2	mg/kg	----	600	**16** ± 2	----	----	----	**5** ± 0.5
Selenium	EG005T	5	mg/kg	----	50	<5 --	----	----	----	<5 --
Silver	EG005T	2	mg/kg	----	180	<2 --	----	----	----	<2 --
Tin	EG005T	5	mg/kg	----	500	**6** ± 2	----	----	----	<5 --
Zinc	EG005T	5	mg/kg	----	14000	**201** ± 21	----	----	----	**203** ± 22
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	<0.1 --	----	----	----	<0.1 --
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5 --	----	----	----	<2.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	<1 --	----	----	----	<1 --
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	3000	**90**	----	----	----	<40
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05	----	----	----	<0.22
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05	----	----	----	<0.22
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**9.9**	----	----	----	**13.4**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC180 10-Dec-2024 15:00 EM2422260-001	MU	QC182 10-Dec-2024 15:00 EM2422260-002	MU	QC174 10-Dec-2024 15:00 EM2422260-003	MU	QC176 10-Dec-2024 15:00 EM2422260-004	MU	QC178 10-Dec-2024 15:00 EM2422260-005	MU
EP075B: Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**0.65**		**0.50**		**6.54**		**0.12**		**0.74**	
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	40	**----**		**2.50**		**73.5**		**0.12**		**----**	
EP080/071: Total Petroleum Hydrocarbons															
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10	--	<10	--	<10	--	<10	--	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**180**		<50		**690**		<50		**1230**	
EP080: BTEXN															
Benzene	EP080	0.2	mg/kg	----	5	<0.2	--	<0.2	--	<0.2	--	<0.2	--	<0.2	--
Toluene	EP080	0.5	mg/kg	----	100	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC170 10-Dec-2024 15:00 EM2422260-006 MU	QC172 10-Dec-2024 15:00 EM2422260-007 MU	QC164 10-Dec-2024 15:00 EM2422260-008 MU	QC168 10-Dec-2024 15:00 EM2422260-009 MU	QC158 09-Dec-2024 15:00 EM2422260-010 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	<5 --	<5 --	**11** ± 2	<5 --	**5** ± 2
Barium	EG005T	10	mg/kg	----	30000	----	----	----	**100** ± 10	**60** ± 6
Beryllium	EG005T	1	mg/kg	----	400	----	----	----	<1 --	<1 --
Cadmium	EG005T	1	mg/kg	----	400	----	----	----	**1** ± 0.2	<1 --
Chromium	EG005T	2	mg/kg	----	5000	----	----	----	**29** ± 3	**17** ± 2
Cobalt	EG005T	2	mg/kg	----	1000	----	----	----	**26** ± 3	**9** ± 1
Copper	EG005T	5	mg/kg	----	7500	----	----	----	**502** ± 60	**136** ± 16
Lead	EG005T	5	mg/kg	----	3000	<5 --	**61** ± 7	**356** ± 37	**140** ± 15	**82** ± 9
Manganese	EG005T	5	mg/kg	----	25000	----	----	----	**395** ± 39	**253** ± 25
Molybdenum	EG005T	2	mg/kg	----	4000	----	----	----	<2 --	<2 --
Nickel	EG005T	2	mg/kg	----	3000	----	----	----	**99** ± 10	**24** ± 2
Selenium	EG005T	5	mg/kg	----	200	----	----	----	<5 --	<5 --
Silver	EG005T	2	mg/kg	----	720	----	----	----	<2 --	<2 --
Tin	EG005T	5	mg/kg	----	900	----	----	----	**42** ± 7	**28** ± 5
Zinc	EG005T	5	mg/kg	----	50000	----	----	----	**486** ± 50	**168** ± 18
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	----	----	----	**0.6** ± 0.06	<0.1 --
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	----	----	----	<0.5 --	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	----	----	----	<1 --	<1 --
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	10000	----	----	----	**70**	**170**
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	----	----	----	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	----	----	----	<0.05	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	----	----	----	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	----	----	----	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200	----	----	----	**5.3**	**6.8**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC170 10-Dec-2024 15:00 EM2422260-006 MU	QC172 10-Dec-2024 15:00 EM2422260-007 MU	QC164 10-Dec-2024 15:00 EM2422260-008 MU	QC168 10-Dec-2024 15:00 EM2422260-009 MU	QC158 09-Dec-2024 15:00 EM2422260-010 MU
EP075B: Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20	<0.05	**2.84**	**7.04**	**0.96**	**0.54**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	200	<0.05	**37.0**	**80.5**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons										
C6 - C9 Fraction	EP080	10	mg/kg	----	1000	<10 --	<10 --	<10 --	<10 --	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000	<50	**150**	**870**	**130**	**2080**
EP080: BTEXN										
Benzene	EP080	0.2	mg/kg	----	50	<0.2 --	<0.2 --	<0.2 --	<0.2 --	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000	<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080	<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800	<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	QC170 10-Dec-2024 15:00 EM2422260-006 MU	QC172 10-Dec-2024 15:00 EM2422260-007 MU	QC164 10-Dec-2024 15:00 EM2422260-008 MU	QC168 10-Dec-2024 15:00 EM2422260-009 MU	QC158 09-Dec-2024 15:00 EM2422260-010 MU
EG005(ED093)T: Total Metals by ICP-AES											
Arsenic	EG005T	5	mg/kg	----	20		<5 --	<5 --	**11** ± 2	<5 --	**5** ± 2
Barium	EG005T	10	mg/kg	----	300		----	----	----	**100** ± 10	**60** ± 6
Beryllium	EG005T	1	mg/kg	----	2		----	----	----	<1 --	<1 --
Cadmium	EG005T	1	mg/kg	----	3		----	----	----	**1** ± 0.2	<1 --
Chromium	EG005T	2	mg/kg	----	50		----	----	----	**29** ± 3	**17** ± 2
Cobalt	EG005T	2	mg/kg	----	100		----	----	----	**26** ± 3	**9** ± 1
Copper	EG005T	5	mg/kg	----	100		----	----	----	**502** ± 60	**136** ± 16
Lead	EG005T	5	mg/kg	----	300		<5 --	**61** ± 7	**356** ± 37	**140** ± 15	**82** ± 9
Manganese	EG005T	5	mg/kg	----	500		----	----	----	**395** ± 39	**253** ± 25
Molybdenum	EG005T	2	mg/kg	----	10		----	----	----	<2 --	<2 --
Nickel	EG005T	2	mg/kg	----	60		----	----	----	**99** ± 10	**24** ± 2
Selenium	EG005T	5	mg/kg	----	10		----	----	----	<5 --	<5 --
Silver	EG005T	2	mg/kg	----	10		----	----	----	<2 --	<2 --
Tin	EG005T	5	mg/kg	----	50		----	----	----	**42** ± 7	**28** ± 5
Zinc	EG005T	5	mg/kg	----	200		----	----	----	**486** ± 50	**168** ± 18
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg	----	1		----	----	----	**0.6** ± 0.06	<0.1 --
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1		----	----	----	<0.5 --	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg	----	32		----	----	----	<1 --	<1 --
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg	----	300		----	----	----	**70**	**170**
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2		----	----	----	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2		----	----	----	<0.05	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2		----	----	----	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25		----	----	----	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20		----	----	----	**5.3**	**6.8**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	QC170 10-Dec-2024 15:00 EM2422260-006	MU	QC172 10-Dec-2024 15:00 EM2422260-007	MU	QC164 10-Dec-2024 15:00 EM2422260-008	MU	QC168 10-Dec-2024 15:00 EM2422260-009	MU	QC158 09-Dec-2024 15:00 EM2422260-010	MU
EP075B: Polynuclear Aromatic Hydrocarbons																
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08		<0.05		**2.84**		**7.04**		**0.96**		**0.54**	
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	20		<0.05		**37.0**		**80.5**		**----**		**----**	
EP080/071: Total Petroleum Hydrocarbons																
C6 - C9 Fraction	EP080	10	mg/kg	----	65		<10	--	<10	--	<10	--	<10	--	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000		<50		**150**		**870**		**130**		**2080**	
EP080: BTEXN																
Benzene	EP080	0.2	mg/kg	----	1		<0.2	--	<0.2	--	<0.2	--	<0.2	--	<0.2	--
Toluene	EP080	0.5	mg/kg	----	1		<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	3		<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	14		<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC170 10-Dec-2024 15:00 EM2422260-006 MU	QC172 10-Dec-2024 15:00 EM2422260-007 MU	QC164 10-Dec-2024 15:00 EM2422260-008 MU	QC168 10-Dec-2024 15:00 EM2422260-009 MU	QC158 09-Dec-2024 15:00 EM2422260-010 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	200	<5 --	<5 --	**11** ± 2	<5 --	**5** ± 2
Barium	EG005T	10	mg/kg	----	3000	----	----	----	**100** ± 10	**60** ± 6
Beryllium	EG005T	1	mg/kg	----	40	----	----	----	<1 --	<1 --
Cadmium	EG005T	1	mg/kg	----	40	----	----	----	**1** ± 0.2	<1 --
Chromium	EG005T	2	mg/kg	----	500	----	----	----	**29** ± 3	**17** ± 2
Cobalt	EG005T	2	mg/kg	----	200	----	----	----	**26** ± 3	**9** ± 1
Copper	EG005T	5	mg/kg	----	2000	----	----	----	**502** ± 60	**136** ± 16
Lead	EG005T	5	mg/kg	----	1200	<5 --	**61** ± 7	**356** ± 37	**140** ± 15	**82** ± 9
Manganese	EG005T	5	mg/kg	----	5000	----	----	----	**395** ± 39	**253** ± 25
Molybdenum	EG005T	2	mg/kg	----	1000	----	----	----	<2 --	<2 --
Nickel	EG005T	2	mg/kg	----	600	----	----	----	**99** ± 10	**24** ± 2
Selenium	EG005T	5	mg/kg	----	50	----	----	----	<5 --	<5 --
Silver	EG005T	2	mg/kg	----	180	----	----	----	<2 --	<2 --
Tin	EG005T	5	mg/kg	----	500	----	----	----	**42** ± 7	**28** ± 5
Zinc	EG005T	5	mg/kg	----	14000	----	----	----	**486** ± 50	**168** ± 18
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	30	----	----	----	**0.6** ± 0.06	<0.1 --
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	----	----	----	<0.5 --	<0.5 --
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	1000	----	----	----	<1 --	<1 --
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	3000	----	----	----	**70**	**170**
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	----	----	----	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	----	----	----	<0.05	<0.05
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	----	----	----	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	----	----	----	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	----	----	----	**5.3**	**6.8**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC170 10-Dec-2024 15:00 EM2422260-006	MU	QC172 10-Dec-2024 15:00 EM2422260-007	MU	QC164 10-Dec-2024 15:00 EM2422260-008	MU	QC168 10-Dec-2024 15:00 EM2422260-009	MU	QC158 09-Dec-2024 15:00 EM2422260-010	MU
EP075B: Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	<0.05		**2.84**		**7.04**		**0.96**		**0.54**	
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	40	<0.05		**37.0**		**80.5**		**----**		**----**	
EP080/071: Total Petroleum Hydrocarbons															
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10	--	<10	--	<10	--	<10	--	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	<50		**150**		**870**		**130**		**2080**	
EP080: BTEXN															
Benzene	EP080	0.2	mg/kg	----	5	<0.2	--	<0.2	--	<0.2	--	<0.2	--	<0.2	--
Toluene	EP080	0.5	mg/kg	----	100	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC156**	----	----	----	----
				Sampling date/time			09-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422260-011** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
Arsenic	EG005T	5	mg/kg		----	750	<5 - -	----	----	----	----
Lead	EG005T	5	mg/kg		----	3000	**68** ± 7	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	20	**0.08**	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	*Sample ID* / *Sampling date/time*	Guideline Lower Limit	Guideline Upper Limit	**QC156** 09-Dec-2024 15:00 **EM2422260-011** MU	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	200		**0.08**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		<10	----	----	----	----
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		**420**	----	----	----	----
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		<0.2	----	----	----	----
Toluene	EP080	0.5	mg/kg	----	1000		<0.5	----	----	----	----
Ethylbenzene	EP080	0.5	mg/kg	----	1080		<0.5	----	----	----	----
Total Xylenes	EP080	0.5	mg/kg	----	1800		<0.5	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC156**	----	----	----	----
				Sampling date/time			09-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422260-011** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
Arsenic	EG005T	5	mg/kg		----	20	<5 - -	----	----	----	----
Lead	EG005T	5	mg/kg		----	300	**68** ± 7	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	0.08	**0.08**	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC156**	**----**	**----**	**----**	**----**
				Sampling date/time			09-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422260-011** MU				
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg		----	20	**0.08**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	65	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	1000	**420**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	1	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	1	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	3	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	14	<0.5	**----**	**----**	**----**	**----**

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC156**	----	----	----	----
				Sampling date/time			09-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422260-011** MU				
EG005(ED093)T: Total Metals by ICP-AES											
Barium	EG005T	10	mg/kg		----	----	----	----	----	----	----
Beryllium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Cadmium	EG005T	1	mg/kg		----	----	----	----	----	----	----
Chromium	EG005T	2	mg/kg		----	----	----	----	----	----	----
Cobalt	EG005T	2	mg/kg		----	----	----	----	----	----	----
Copper	EG005T	5	mg/kg		----	----	----	----	----	----	----
Manganese	EG005T	5	mg/kg		----	----	----	----	----	----	----
Molybdenum	EG005T	2	mg/kg		----	----	----	----	----	----	----
Nickel	EG005T	2	mg/kg		----	----	----	----	----	----	----
Selenium	EG005T	5	mg/kg		----	----	----	----	----	----	----
Silver	EG005T	2	mg/kg		----	----	----	----	----	----	----
Tin	EG005T	5	mg/kg		----	----	----	----	----	----	----
Zinc	EG005T	5	mg/kg		----	----	----	----	----	----	----
Arsenic	EG005T	5	mg/kg		----	200	<5 - -	----	----	----	----
Lead	EG005T	5	mg/kg		----	1200	**68** ± 7	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS											
Mercury	EG035T	0.1	mg/kg		----	----	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)											
Hexavalent Chromium	EG048G	0.5	mg/kg		----	----	----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser											
Total Cyanide	EK026SF	1	mg/kg		----	----	----	----	----	----	----
EK040T-P: Total Fluoride by Auto Analyser											
Fluoride	EK040T-P	40	mg/kg		----	----	----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)											
Total Polychlorinated biphenyls	EP066	0.1	mg/kg		----	----	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)											
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg		----	----	----	----	----	----	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg		----	----	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds											
Sum of Phenols	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg		----	----	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg		----	2	**0.08**	----	----	----	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

				Sample ID	Guideline	Guideline	**QC156**	**----**	**----**	**----**	**----**
				Sampling date/time			09-Dec-2024 15:00	----	----	----	----
Compound	*Method*	*LOR*	*Unit*		Lower Limit	Upper Limit	**EM2422260-011** MU				
EP075B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg		----	40	**0.08**	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg		----	650	<10	**----**	**----**	**----**	**----**
C10 - C36 Fraction (sum)	EP071	50	mg/kg		----	5000	**420**	**----**	**----**	**----**	**----**
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg		----	5	<0.2	**----**	**----**	**----**	**----**
Toluene	EP080	0.5	mg/kg		----	100	<0.5	**----**	**----**	**----**	**----**
Ethylbenzene	EP080	0.5	mg/kg		----	100	<0.5	**----**	**----**	**----**	**----**
Total Xylenes	EP080	0.5	mg/kg		----	180	<0.5	**----**	**----**	**----**	**----**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422260**	Page	: 1 of 18
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 13-Dec-2024 10:20
Order number	: 60693007 7	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: ----	Issue Date	: 23-Dec-2024 16:26
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG048G: EM2422260 #5, Sample required dilution prior to Hexavalent Chromium analysis due to matrix interferences. LOR value has been adjusted accordingly.
- EG048G: EM2422260 #5, Poor matrix spike recovery for Hexavalent Chromium due to sample matrix interferences. Confirmed by re-analysis.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2422322 #1 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EP068: Particular sample EM2422260_005 required dilution prior to analysis due to matrix interferences. LOR values have been adjusted accordingly.
- EP075-TAS: EM2422260_003 Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP075SIM: EM2422260_005 Poor matrix spike recovery due to matrix effects.
- EK040T-P: EM2422180 #1, Poor matrix spike recovery for Total Fluoride due to matrix effects.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC180	QC182	QC174	QC176	QC178
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-001	EM2422260-002	EM2422260-003	EM2422260-004	EM2422260-005
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**----**	**10.5**	**15.4**	**16.5**	**----**
Moisture Content	----	1.0	%		**14.5**	**----**	**----**	**----**	**11.7**
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	**29**	<5	<5
Barium	7440-39-3	10	mg/kg		**70**	**----**	**----**	**----**	**30**
Beryllium	7440-41-7	1	mg/kg		<1	**----**	**----**	**----**	<1
Cadmium	7440-43-9	1	mg/kg		<1	**----**	**----**	**----**	<1
Chromium	7440-47-3	2	mg/kg		**12**	**----**	**----**	**----**	**5**
Cobalt	7440-48-4	2	mg/kg		**8**	**----**	**----**	**----**	**3**
Copper	7440-50-8	5	mg/kg		**36**	**----**	**----**	**----**	**14**
Lead	7439-92-1	5	mg/kg		**91**	**57**	**407**	**17**	**31**
Manganese	7439-96-5	5	mg/kg		**287**	**----**	**----**	**----**	**245**
Molybdenum	7439-98-7	2	mg/kg		<2	**----**	**----**	**----**	<2
Nickel	7440-02-0	2	mg/kg		**16**	**----**	**----**	**----**	**5**
Selenium	7782-49-2	5	mg/kg		<5	**----**	**----**	**----**	<5
Silver	7440-22-4	2	mg/kg		<2	**----**	**----**	**----**	<2
Tin	7440-31-5	5	mg/kg		**6**	**----**	**----**	**----**	<5
Zinc	7440-66-6	5	mg/kg		**201**	**----**	**----**	**----**	**203**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	**----**	**----**	**----**	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		<0.5	**----**	**----**	**----**	<2.5
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		<1	**----**	**----**	**----**	<1
EK040T-P: Total Fluoride by Auto Analyser									
Fluoride	16984-48-8	40	mg/kg		**90**	**----**	**----**	**----**	<40
EP066: Polychlorinated Biphenyls (PCB)									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC180	QC182	QC174	QC176	QC178
			Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422260-001	EM2422260-002	EM2422260-003	EM2422260-004	EM2422260-005
				Result	Result	Result	Result	Result
EP066: Polychlorinated Biphenyls (PCB) - Continued								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	<0.22
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	<0.22
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	<0.22
gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	----	----	----	<0.22
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	<0.22
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	<0.22
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	<0.22
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	<0.22
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	<0.22
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	<0.22
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	<0.22
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	<0.22
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.22
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	<0.22
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	<0.22
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	<0.22
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	<0.22
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	<0.22
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	<0.22
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	<0.22
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	<0.22
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	<0.22

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC180	QC182	QC174	QC176	QC178
			Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422260-001	EM2422260-002	EM2422260-003	EM2422260-004	EM2422260-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	<0.22
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	<2
^ **Sum of Phenols**	----	0.5	mg/kg	<0.5	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**1.3**	----	----	----	**1.0**
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**2.3**	----	----	----	**2.6**
Pyrene	129-00-0	0.5	mg/kg	**2.0**	----	----	----	**1.8**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**0.8**	----	----	----	**1.4**
Chrysene	218-01-9	0.5	mg/kg	**0.9**	----	----	----	**1.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC180	QC182	QC174	QC176	QC178
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-001	EM2422260-002	EM2422260-003	EM2422260-004	EM2422260-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**1.3**	----	----	----	**3.0**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**0.6**	----	----	----	**0.5**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	**0.7**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	**0.7**
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**9.9**	----	----	----	**13.4**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**1.0**	----	----	----	**1.3**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**1.2**	----	----	----	**1.5**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.5**	----	----	----	**1.8**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**0.65**	**0.50**	**6.54**	**0.12**	**0.74**
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.05	mg/kg		----	**2.50**	**73.5**	**0.12**	----
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	**12.4**	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	**8.1**	<0.5	----
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	**0.8**	**3.2**	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	**12.8**	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	**0.9**	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	**5.2**	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	**1.2**	**3.9**	<0.5	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		----	<1.0	**10.2**	<1.0	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.05	mg/kg		----	**0.59**	**9.54**	**0.12**	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.05	mg/kg		----	**1.25**	**9.54**	**0.83**	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.05	mg/kg		----	**0.92**	**9.54**	**0.48**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	**6.7**	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC180	QC182	QC174	QC176	QC178
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-001	EM2422260-002	EM2422260-003	EM2422260-004	EM2422260-005
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	**2.3**	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	**1.3**	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	**60**
C15 - C28 Fraction	----	100	mg/kg		**180**	<100	**330**	<100	**790**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	**360**	<100	**380**
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**180**	<50	**690**	<50	**1230**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	**120**
>C16 - C34 Fraction	----	100	mg/kg		**250**	<100	**600**	<100	**1040**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**180**	<100	**130**
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**250**	<50	**780**	<50	**1290**
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	<50	<50	**120**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC180	QC182	QC174	QC176	QC178
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-001	EM2422260-002	EM2422260-003	EM2422260-004	EM2422260-005
					Result	Result	Result	Result	Result
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		106	----	----	----	108
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		75.8	----	----	----	79.5
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		92.3	----	----	----	104
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		84.8	----	----	----	76.2
2-Chlorophenol-D4	93951-73-6	0.5	%		94.5	----	----	----	80.4
2.4.6-Tribromophenol	118-79-6	0.5	%		69.6	----	----	----	54.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		93.4	----	----	----	76.8
Anthracene-d10	1719-06-8	0.5	%		97.9	----	----	----	109
4-Terphenyl-d14	1718-51-0	0.5	%		95.1	----	----	----	81.6
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		89.1	84.2	117	83.8	73.3
Anthracene-d10	1719-06-8	0.025	%		84.7	86.7	125	88.5	71.2
4-Terphenyl-d14	1718-51-0	0.025	%		94.6	91.2	127	91.5	81.3
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		88.6	87.9	69.1	86.6	83.0
Toluene-D8	2037-26-5	0.2	%		81.1	83.1	82.9	85.5	73.8
4-Bromofluorobenzene	460-00-4	0.2	%		90.8	103	102	109	78.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC170	QC172	QC164	QC168	QC158
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	09-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-006	EM2422260-007	EM2422260-008	EM2422260-009	EM2422260-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		5.0	20.3	15.3	----	----
Moisture Content	----	1.0	%		----	----	----	12.7	12.2
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	11	<5	5
Barium	7440-39-3	10	mg/kg		----	----	----	100	60
Beryllium	7440-41-7	1	mg/kg		----	----	----	<1	<1
Cadmium	7440-43-9	1	mg/kg		----	----	----	1	<1
Chromium	7440-47-3	2	mg/kg		----	----	----	29	17
Cobalt	7440-48-4	2	mg/kg		----	----	----	26	9
Copper	7440-50-8	5	mg/kg		----	----	----	502	136
Lead	7439-92-1	5	mg/kg		<5	61	356	140	82
Manganese	7439-96-5	5	mg/kg		----	----	----	395	253
Molybdenum	7439-98-7	2	mg/kg		----	----	----	<2	<2
Nickel	7440-02-0	2	mg/kg		----	----	----	99	24
Selenium	7782-49-2	5	mg/kg		----	----	----	<5	<5
Silver	7440-22-4	2	mg/kg		----	----	----	<2	<2
Tin	7440-31-5	5	mg/kg		----	----	----	42	28
Zinc	7440-66-6	5	mg/kg		----	----	----	486	168
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	----	0.6	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		----	----	----	<0.5	<0.5
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		----	----	----	<1	<1
EK040T-P: Total Fluoride by Auto Analyser									
Fluoride	16984-48-8	40	mg/kg		----	----	----	70	170
EP066: Polychlorinated Biphenyls (PCB)									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC170	QC172	QC164	QC168	QC158
			Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	09-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422260-006	EM2422260-007	EM2422260-008	EM2422260-009	EM2422260-010
				Result	Result	Result	Result	Result
EP066: Polychlorinated Biphenyls (PCB) - Continued								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	<0.05
gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	----	----	----	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC170	QC172	QC164	QC168	QC158
			Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	09-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422260-006	EM2422260-007	EM2422260-008	EM2422260-009	EM2422260-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	<2	<2
^ **Sum of Phenols**	----	0.5	mg/kg	----	----	----	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	**0.7**	**1.0**
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	**1.2**	**1.3**
Pyrene	129-00-0	0.5	mg/kg	----	----	----	**1.2**	**1.4**
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	**0.6**	**0.7**
Chrysene	218-01-9	0.5	mg/kg	----	----	----	**0.5**	**0.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC170	QC172	QC164	QC168	QC158
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	09-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-006	EM2422260-007	EM2422260-008	EM2422260-009	EM2422260-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	----	----	**0.6**	**0.6**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	----	----	<0.5	**0.5**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		----	----	----	**5.3**	**6.8**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		----	----	----	**0.6**	**0.8**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		----	----	----	**0.9**	**1.1**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		----	----	----	**1.2**	**1.3**
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		<0.05	**2.84**	**7.04**	**0.96**	**0.54**
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.05	mg/kg		<0.05	**37.0**	**80.5**	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	**5.8**	**15.4**	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	**5.2**	**7.0**	----	----
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	**0.5**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	**1.0**	**2.9**	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	**6.6**	**15.3**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	**0.8**	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	**2.9**	**6.1**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	**1.1**	**3.3**	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		<1.0	**4.5**	**10.4**	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.05	mg/kg		<0.05	**3.86**	**10.1**	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.05	mg/kg		**0.76**	**4.36**	**10.1**	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.05	mg/kg		**0.38**	**4.11**	**10.1**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	**4.3**	**8.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC170	QC172	QC164	QC168	QC158
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	09-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422260-006	EM2422260-007	EM2422260-008	EM2422260-009	EM2422260-010
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Anthracene	120-12-7	0.5	mg/kg		<0.5	**1.9**	**2.0**	**----**	**----**
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	**0.9**	**1.3**	**----**	**----**
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	**150**	**480**	**130**	**1060**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	**390**	<100	**1020**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**150**	**870**	**130**	**2080**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	**100**
>C16 - C34 Fraction	----	100	mg/kg		<100	**200**	**780**	**190**	**1800**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	**170**	<100	**690**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**200**	**950**	**190**	**2590**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	**100**
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC170	QC172	QC164	QC168	QC158
			Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	09-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422260-006	EM2422260-007	EM2422260-008	EM2422260-009	EM2422260-010
				Result	Result	Result	Result	Result
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	93.2	107
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	99.2	83.4
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	----	----	87.5	77.4
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	----	----	90.5	89.4
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	95.3	96.6
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	83.5	45.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	92.7	93.8
Anthracene-d10	1719-06-8	0.5	%	----	----	----	114	104
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	92.2	95.0
EP075T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.025	%	82.0	82.7	83.1	85.0	81.3
Anthracene-d10	1719-06-8	0.025	%	86.7	88.8	87.4	85.5	86.0
4-Terphenyl-d14	1718-51-0	0.025	%	89.8	89.4	90.0	89.6	92.5
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	91.6	81.5	85.6	98.6	91.4
Toluene-D8	2037-26-5	0.2	%	87.3	79.2	79.7	96.4	88.2
4-Bromofluorobenzene	460-00-4	0.2	%	108	100	96.8	115	104

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC156	----	----	----	----
				Sampling date / time	09-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422260-011	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**11.2**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	----	----	----	----
Lead	7439-92-1	5	mg/kg		**68**	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**0.08**	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.05	mg/kg		**0.08**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		<1.0	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	mg/kg		**0.08**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.05	mg/kg		**0.79**	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.05	mg/kg		**0.44**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC156	----	----	----	----
				Sampling date / time	09-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422260-011	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**210**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**210**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**420**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**370**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**110**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**480**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**77.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.025	%		**78.4**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		**82.0**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									

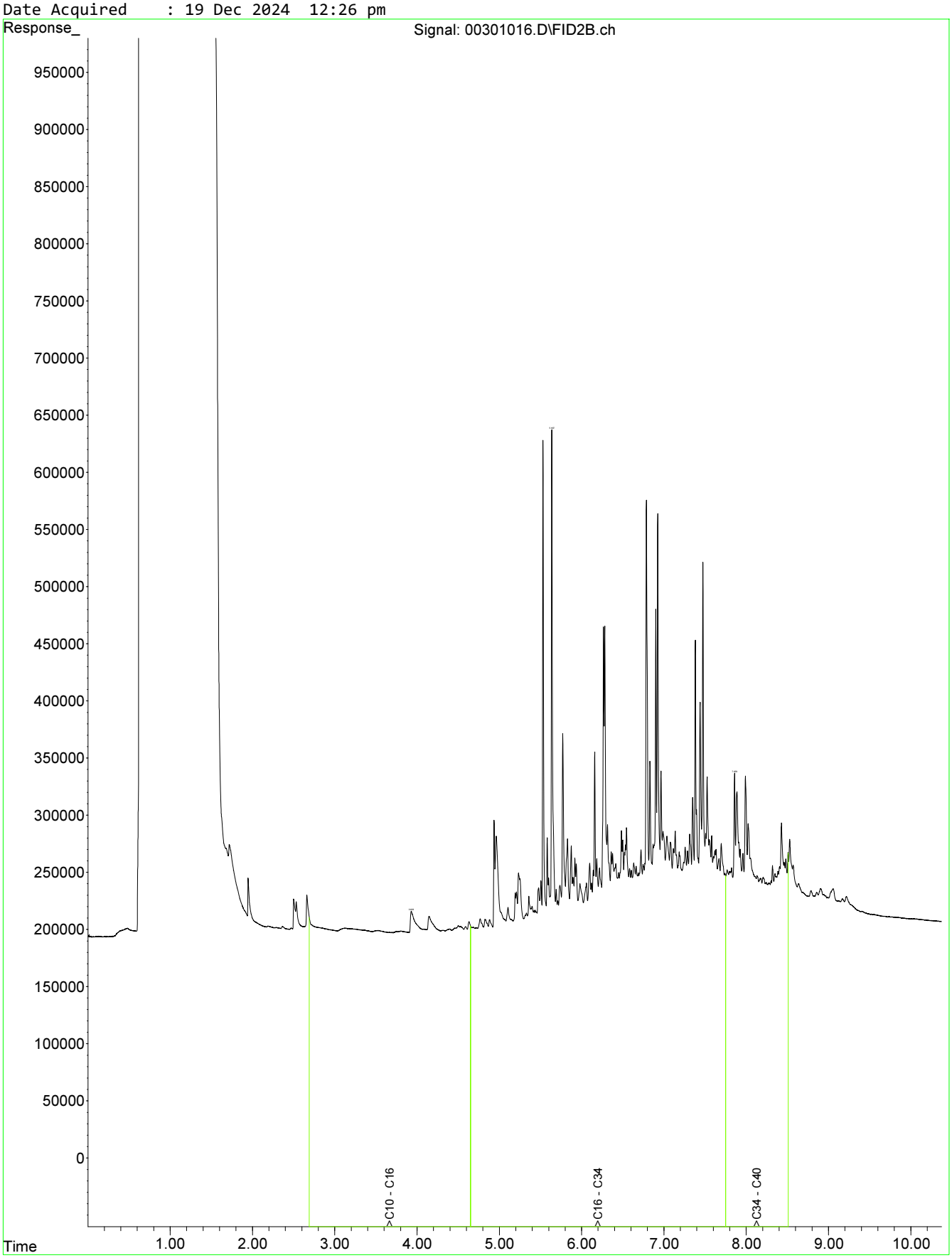
Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC156	----	----	----	----
				Sampling date / time	09-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422260-011	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**82.5**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**79.2**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**95.9**	**----**	**----**	**----**	**----**

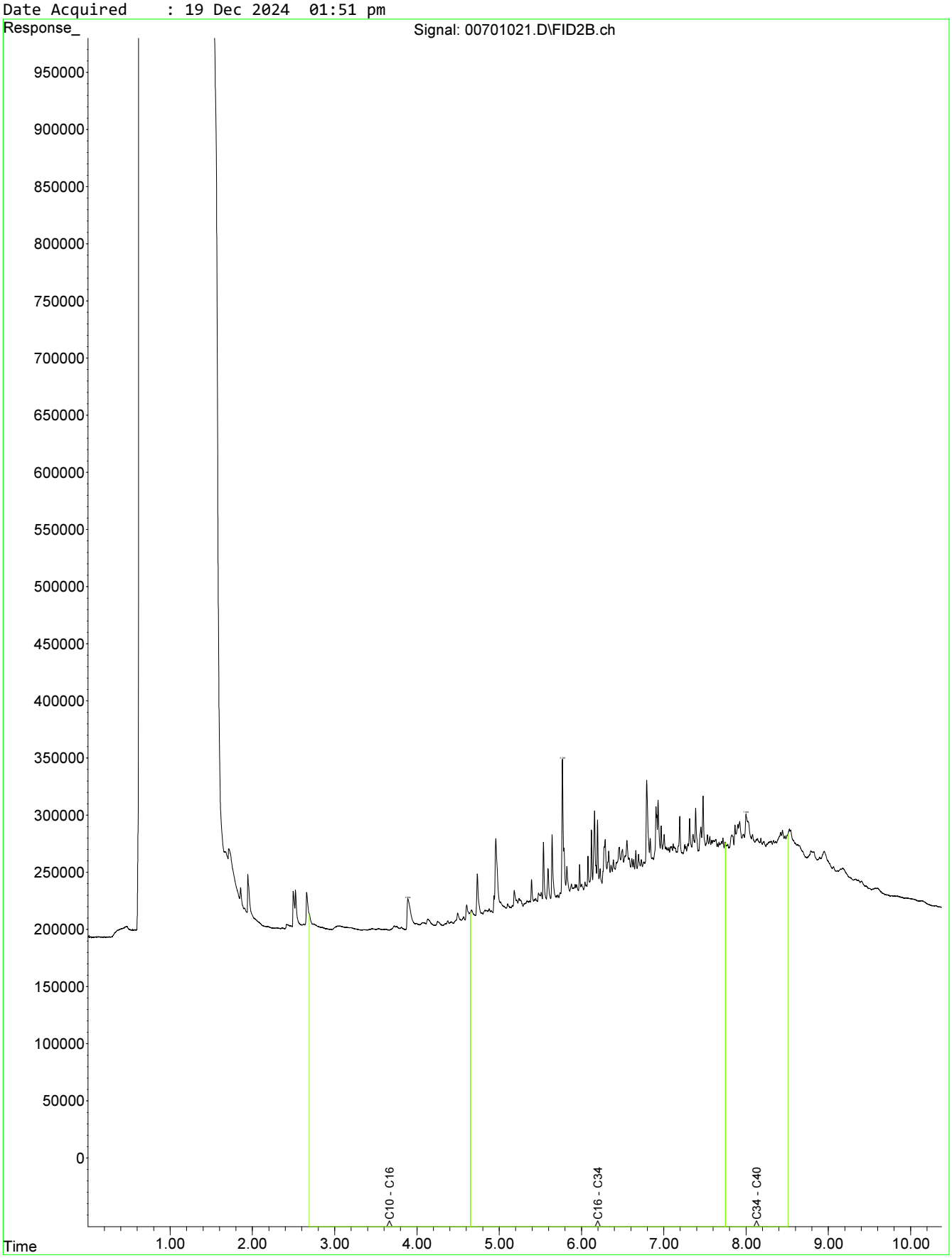
Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

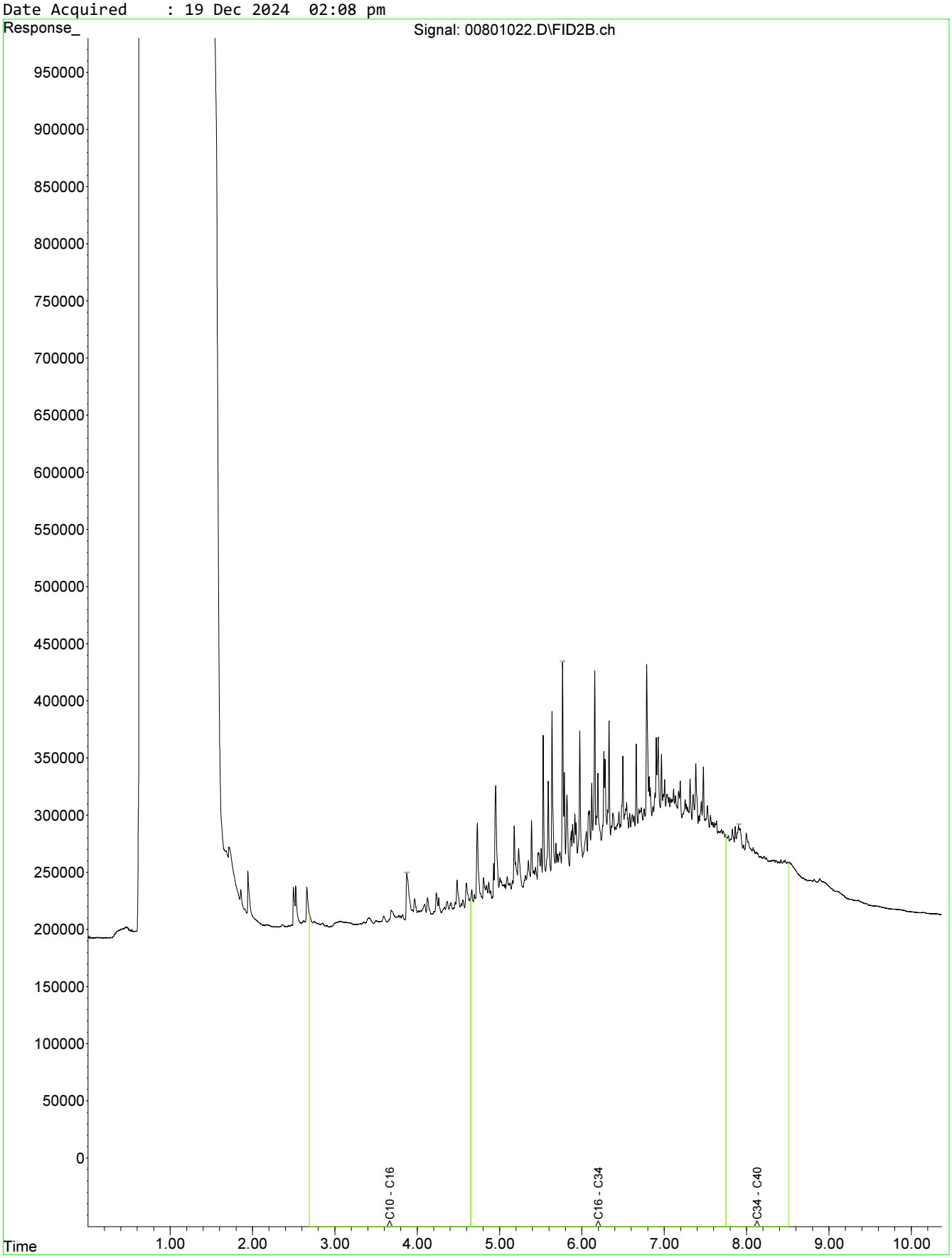
Fraction Scheme : NEPM Fraction
Data File : 00301016.D
Laboratory Number: EM2422322-001
Sample ID : QC197
Date Acquired : 19 Dec 2024 12:26 pm



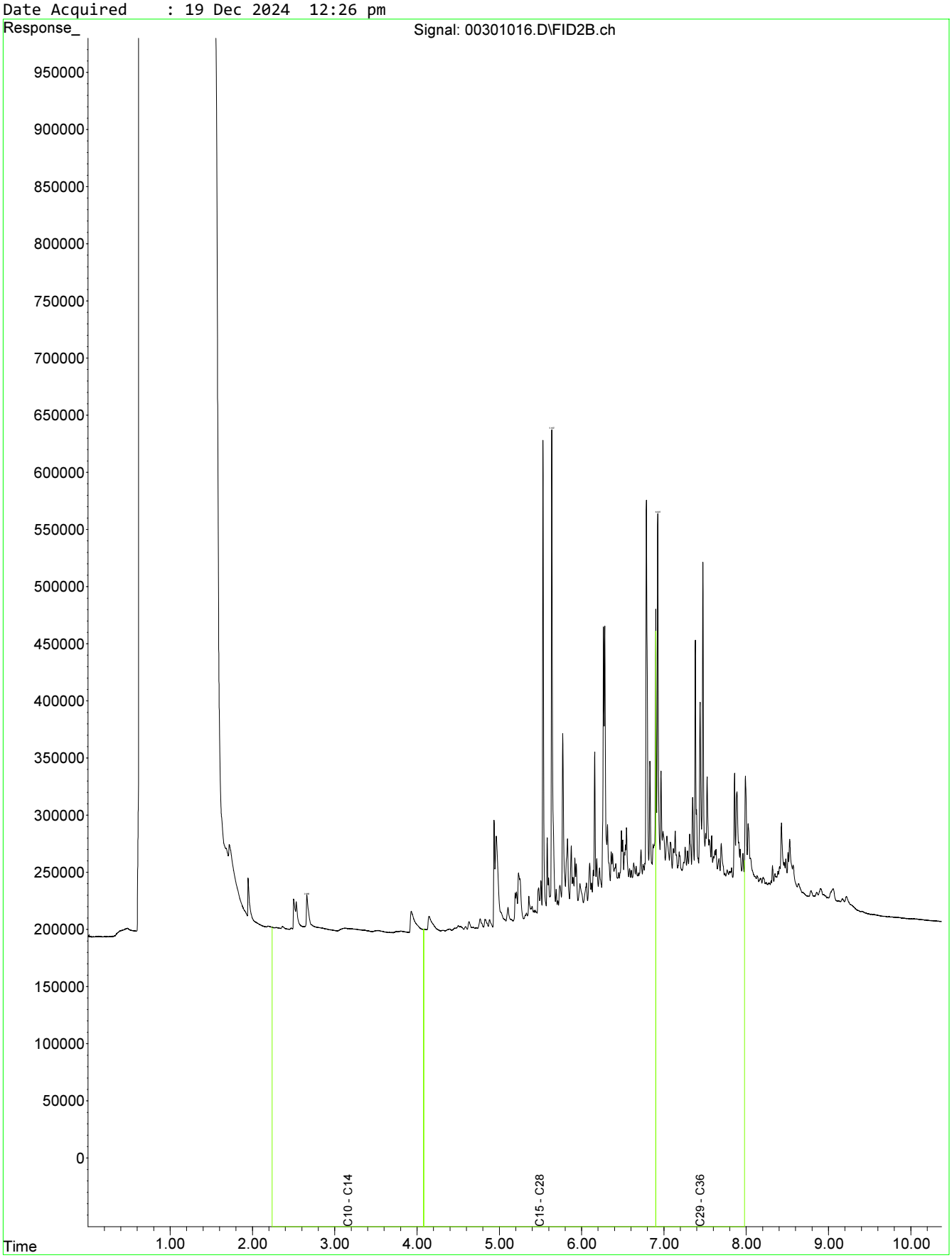
Fraction Scheme : NEPM Fraction
Data File : 00701021.D
Laboratory Number: EM2422322-003
Sample ID : QC189
Date Acquired : 19 Dec 2024 01:51 pm



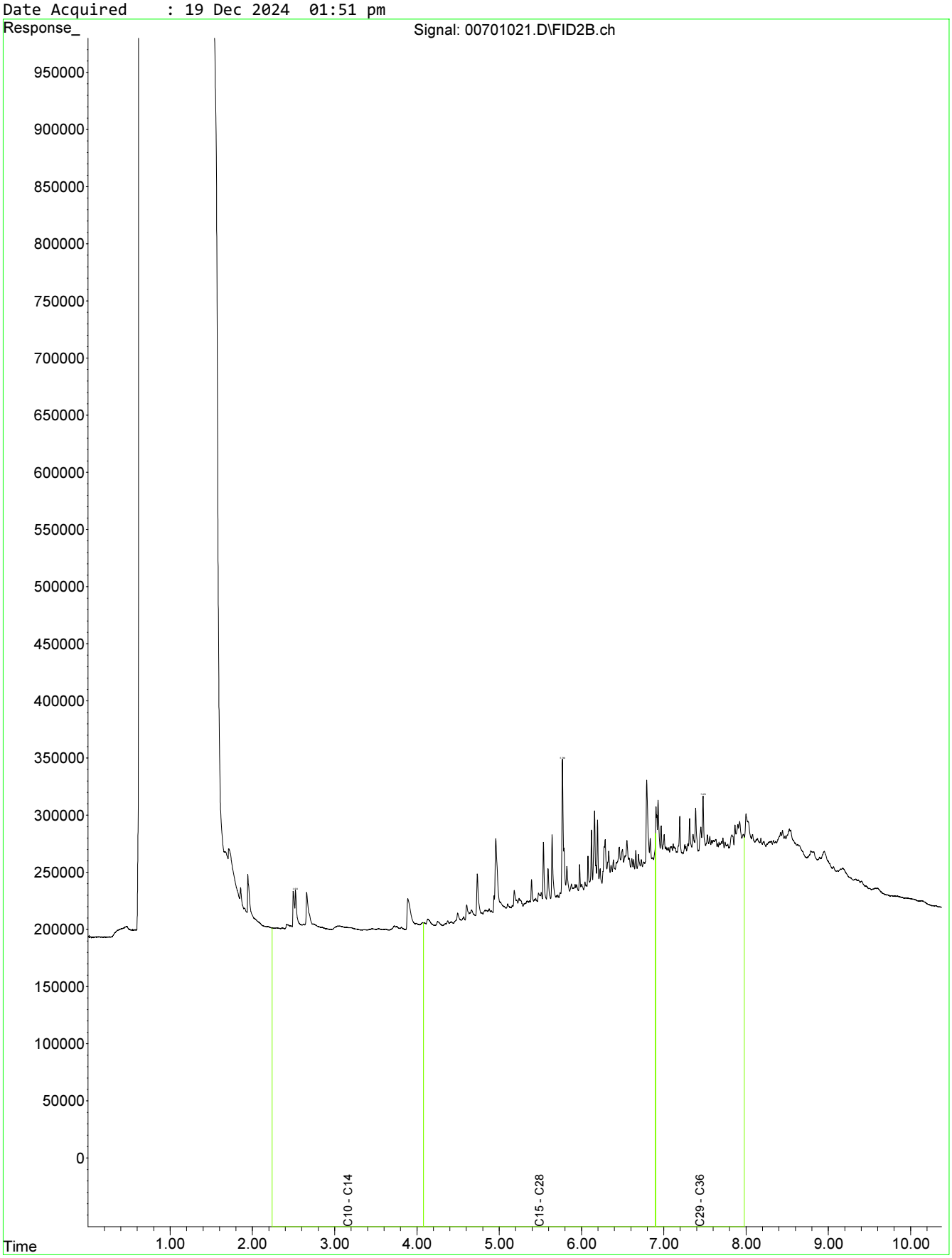
Fraction Scheme : NEPM Fraction
Data File : 00801022.D
Laboratory Number: EM2422322-004
Sample ID : QC195
Date Acquired : 19 Dec 2024 02:08 pm



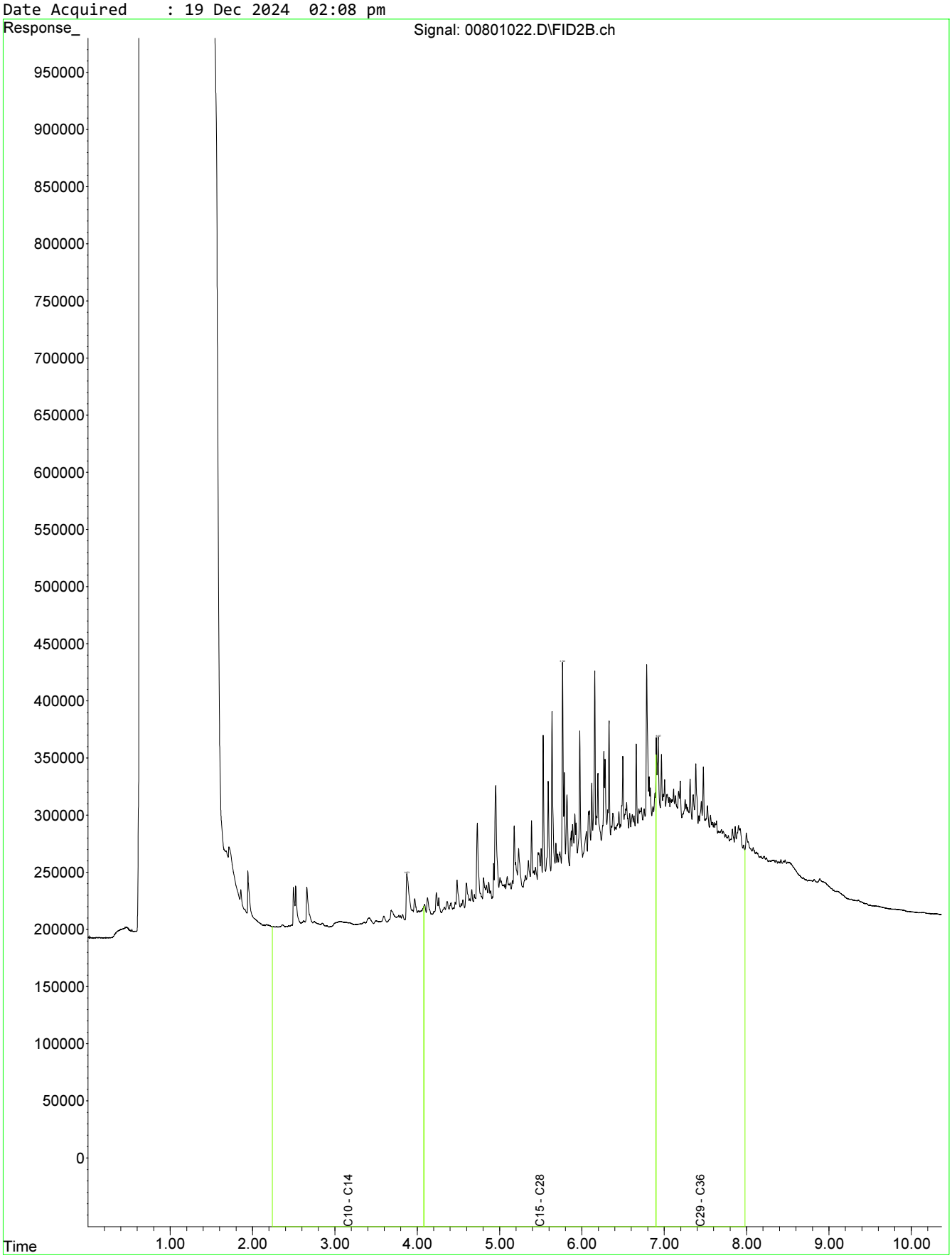
Fraction Scheme : Legacy Fractions
Data File : 00301016.D
Laboratory Number: EM2422322-001
Sample ID : QC197
Date Acquired : 19 Dec 2024 12:26 pm



Fraction Scheme : Legacy Fractions
Data File : 00701021.D
Laboratory Number: EM2422322-003
Sample ID : QC189
Date Acquired : 19 Dec 2024 01:51 pm



Fraction Scheme : Legacy Fractions
Data File : 00801022.D
Laboratory Number: EM2422322-004
Sample ID : QC195
Date Acquired : 19 Dec 2024 02:08 pm



ANZ

FQM - Generic Chain of Custody Form

COPY

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE Nt 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN							TRH (C6-C10)	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	QL196	S	11/12/24		Tub	1													
1	QL197								X										
	G16_0.5								X										Forwarded to ALS
	G16_1.0								X										
	G17_0.5						X												
	G17_1.0						X												
	QL198						X												
2	QL199																	X	
	G18_0.5																	X	Forward to ALS
	G18_1.0						X												
	E16_0.2								X										
	E16_0.5						X												
	E16_1.0								X										
	E15_0.5						X											X	
	E15_1.0								X										
	QL200																	X	
	QL201																	X	
	QL202																	X	

Environmental Division
Melbourne
Work Order Reference
EM2422322

Telephone : +61-3-8549 9600

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Tanya	Date: 12/11/24	Name: dP	Date: 12/12	Name: Scott	Date: 16/12/24	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of: ALS	Time: 1140	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

SH 17/12

ANZ

FQM - Generic Chain of Custody Form

COPY ALS (8)

Q4AN(EV)-007-FM1

CONSULTANT: AECOM		ADDRESS / OFFICE:	
PROJECT MANAGER (PM): Rob Crowe		SITE: Macquaire Point	
PROJECT NUMBER & TASK COI 60693007 7		P.O. NO.: 60693007 7	
RESULTS REQUIRED (Date):		QUOTE N(241121AECV	

SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel

MOBILE: 0409536240 PHONE:

EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,

Destination Laboratory
Eurofins

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN										HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	K6_0.5	S	11/12/24		Jar	1	X														
	K6_1.0								X												
	K6_1.5						X														
	K6_2.0								X												
	K6_2.5						X														
	~~K6~~ QC188						X														
3	QC189						X														
	J7_0.5						X														Forward to ALS
	J7_1.0						X														
	J7_1.5						X														
	J7_2.0								X												
	J7_2.5						X														
	J6_0.5						X														Relinquished by Chris P 16/12
	J6_1.0								X												
	J6_1.5						X														
	J6_2.0								X												
	J6_2.5						X														
	I6_0.5								X												
	I6_1.0						X														

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Tanner	Date: 12/12/24	Name: dP	Date: 12/12	Name: NL	Date: 16/12	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time: 11:40	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

13/12 10:15 FH

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FQM - Generic Chain of Custody Form

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A OM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water) / CONTAINER INFORMATION

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
	H7-3.0	S	11/12/24		Jar	1													X	
	H7-3.5																		X	
	I15-0.5						X													
	I15-1.0								X											
	I15-1.5						X													
	QC194								X											
4	QC195								X											Forward to ALS
	H13-1.0						X													
	H13-1.5						X													
	H13-2.0								X											
	H13-2.5						X													
	H12-1.0								X											
	H12-1.5						X													
	H12-2.0								X											
	H12-2.5						X													
	H12-3.0								X											
	H14-2.0								X											
	H14-2.5						X													
	H14-3.0								X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Tim	Date: 12/12/24	Name: EUROFINS HOB	Date: 12/12	Name: Scott	Date: 16/12/24	Con' Note No:
Of: crewm	Time:	Of: [illegible]	Time: 9:50	Of: ALS	Time: 1146	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

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A OM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE Nº 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water) / CONTAINER INFORMATION

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
	I16_1.5	S	11/12/24		Jar	1			X											
	I16_2.0						X													
	I16_2.5								X											
	I16_3.0						X													
	QC190						X													
S	QC191						X													
	I7_0.5						X													Forward to ACS
	I7_1.0						X													
	I7_1.5						X													
	I7_2.0								X											
	I7_2.5						X													
	I7_3.0						X													
	QC192	W			2vial, 1metals,	4			X											
	QC193									X										
	H7_0.5	S			Jar	1													X	hold.
	H7_1.0								X											
	H7_1.5								X											
	H7_2.0								[illegible]										X	
	H7_2.5																		X	
									[illegible]										X	

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/12/24	Name: [illegible]	Date: 12/12	Name: Scott	Date: 16/12/24	Con' Note No:
Of: aecom	Time:	Of: eurofins Hob	Time: 9:50	Of: ALS	Time: 1146	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Soil Container Codes: Jar = Unpreserved glass jar

Peter Ravlic

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Thursday, 12 December 2024 11:56 AM
To: Peter Ravlic
Cc: Crowe, Robert; Lath, Supriya
Subject: [EXTERNAL] - Reports to end-year, Macquarie Point

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Peter,

Just as an FYI, we've been forwarding samples from Eurofins for lab analysis, from our job down in Hobart.

- I'm aware that these samples are taking some time to reach ALS.
- To date, I've only seen SRNs for 7 of my 29 soil samples being sent your way.

As a reference; please see below regarding anticipated samples heading your way, and the anticipated sample analysis to be conducted.

- Any issues or clarifications, please don't hesitate to call me... just trying to make it as efficient for you as possible.
- As soon as COAs come in, I will endeavour to provide any follow-up TCLP leachable analysis.

Sample ID	Initial Analysis Request	Received by ALS?	Additional TCLP Leachable sampling required? (all PAHs and TEQ results)?
QC103	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM2421016	Yes
QC108	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM2421016	-
QC116	IB105: SOIL - P-20/1	EM2421150	Yes
QC120	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM2421150	-
QC124	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM24211657	TBA, awaiting COA
QC128	IB105: SOIL - P-20/1	EM24211657	TBA, awaiting COA
QC132	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	EM24211657	TBA, awaiting COA
QC142	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC144	IB105: SOIL - P-20/1	Awaiting SRN	
QC148	IB105: SOIL - P-20/1	Awaiting SRN	
QC151	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	

QC152	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC156	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC158	IB105: SOIL - P-20/1	Awaiting SRN	
QC164	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC168	IB105: SOIL - P-20/1	Awaiting SRN	
QC170	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC172	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC174	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC176	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC178	IB105: SOIL - P-20/1	Awaiting SRN	
QC180	IB105: SOIL - P-20/1	Awaiting SRN	
QC182	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC184	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC189	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC191	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	
QC195	IB105: SOIL - P-20/1	Awaiting SRN	
QC197	IB105: SOIL - P-20/1	Awaiting SRN	
QC199	CoPCs: Metals, TPH+BTEXN, all PAHs (trace level) with B(a)P TEQs	Awaiting SRN	

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia

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Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

ANZ

FQM - Generic Chain of Custody Form

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Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NI 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN							TRH (6-40)	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	QC196	S	11/12/24		Tub	1			X										
1	QC197								X										
	G16_0.5								X										Forward to ALS
	G16_1.0						X												
	G17_0.5						X												
	G17_1.0						X												
	QC198																	X	
2	QC199																	X	Forward to ALS
	G18_0.5						X												
	G18_1.0								X										
	E16_0.2						X												
	E16_0.5								X									X	
	E16_1.0						X												
	E15_0.5								X									X	
	E15_1.0																		
	QC200																		
	QC201																		
	QC202	↓	↓		↓	↓													

Environmental Division
Melbourne
Work Order Reference
EM2422322

Telephone : +61-3-8549 9600

RELINQUISHED BY	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Tony M	Name: DP	Name: Scott	
Of: AECOM	Of: Eurofins HOB	Of: ALS	Con' Note No:
Date: 12/11/24	Date: 12/12	Date: 16/12/24	Transport Co:
Time:	Time: 9:50	Time: 1146	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

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FQM - Generic Chain of Custody Form

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Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE N 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN								HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	K6_0.5	S	11/12/24		JW	1	X												
	K6_1.0								X										
	K6_1.5						X												
	K6_2.0								X										
	K6_2.5						X												
	~~K6~~ QC188						X												
3	QC189						X												
	J7_0.5						X												Forward to ALS
	J7_1.0						X												
	J7_1.5						X												
	J7_2.0						X												
	J7_2.5								X										
	J6_0.5						X												Relinquished by Chris N 16/12
	J6_1.0						X												
	J6_1.5								X										
	J6_2.0						X												
	J6_2.5						X												
	I6_0.5								X										
	I6_1.0						X												
							X												

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya G	Date: 12/12/24	Name: dP	Date: 12/12	Name: NL	Date: 16/12	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hob	Time: 9:50	Of:	Time: 11:40	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

13/12 10:15 FH

ANZ

FQM - Generic Chain of Custody Form

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Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	Eurofins
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TC Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE Nº 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN									HOLD	
	H7-3.0	S	11/12/24		Jar	1			X										X	
	H7-3.5																		X	
	I15-0.5						X													
	I15-1.0								X											
	I15-1.5						X													
	QC194								X											
4	QC195								X											Ecw and to ALS
	H13-1.0						X													
	H13-1.5						X													
	H13-2.0								X											
	H13-2.5						Y													
	H12-1.0								X											
	H12-1.5						X													
	H12-2.0								X											
	H12-2.5						X													
	H12-3.0								X											
	H14-2.0								X											
	H14-2.5						X													
	H14-3.0								X											

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Taya	Date: 12/12/24	Name: EUROFINS HOB	Date: 12/12	Name: Scott	Date: 16/12/24	Con' Note No:
Of: AECOM	Time:	Of:	Time: 9:50	Of: ALS	Time: 1146	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquaire Point	MOBILE: 0409536240 PHONE:	
PROJECT NUMBER & TASK COI 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO: 241121AECV	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	B1 - TRH/BTEXN Metals (Pb, As) PAH (trace level)		IB105	TRH c6-c10 BTEXN	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	I16_1.5	S	11/12/24		Jar	1			X			
	I16_2.0						X					
	I16_2.5								X			
	I16_3.0						X					
	QC190						X					
S	QC191						X					
	I7_0.5						X					Forward to ALS
	I7_1.0						X					
	I7_1.5						X					
	I7_2.0								X			
	I7_2.5						X					
	I7_3.0						X					
	QC192	W			2 vial, Metals,				X			
	QC193									X		
	H7_0.5	S			Jar	1					X	hold.
	H7_1.0								X			
	H7_1.5								X			
	H7_2.0								X		X	
	H7_2.5								X		X	

RELINQUISHED BY	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Taya	Name: DS	Name: Scott	Con' Note No:
Of: AECOM	Of: Eurofins Hob	Of: ALS	Transport Co:
Date: 12/12/24	Date: 12/12	Date: 16/12/24	
Time:	Time: 9:50	Time: 1146	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. *Soil Container Codes:* Jar = Unpreserved glass jar

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2422322**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 2
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		

Dates

Date Samples Received	: 16-Dec-2024 11:46	Issue Date	: 17-Dec-2024
Client Requested Due Date	: 23-Dec-2024	Scheduled Reporting Date	: **23-Dec-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 20.1°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 5 / 5

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EP075-TAS Benzo(a)pyrene and other PAHs - Waste	SOIL - P-20/1 TAS EPA 105 (no TBT)	SOIL - S-04 TRH/BTEXN
EM2422322-001	11-Dec-2024 00:00	QC197	✓			✓	
EM2422322-002	11-Dec-2024 00:00	QC199	✓	✓	✓		✓
EM2422322-003	11-Dec-2024 00:00	QC189	✓	✓	✓		✓
EM2422322-004	11-Dec-2024 00:00	QC195	✓			✓	
EM2422322-005	11-Dec-2024 00:00	QC191	✓	✓	✓		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	robert.crowe@aecom.com

Tim Martin

- *AU Certificate of Analysis - NATA (COA)	Email	Tim.Martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	Tim.Martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	Tim.Martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	Tim.Martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	Tim.Martin@aecom.com
- Chromatogram (CHROM)	Email	Tim.Martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	Tim.Martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	Tim.Martin@aecom.com
- EPA Waste Classification & Categorisation Guideline Report (COA_GL_EPA_WASTE)	Email	Tim.Martin@aecom.com

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422322**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 16-Dec-2024
Site	: Macquarie Point	Issue Date	: 23-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL	No. of samples received	: 5
Order number	: 60693007 7	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2422322--001	QC197	**Lead**	7439-92-1	98.8 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2422322--001	QC197	**Zinc**	7440-66-6	29.3 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK040T-P: Total Fluoride by Auto Analyser	EM2422289--004	Anonymous	**Fluoride**	16984-48-8	36.8 %	70.0-130%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2422260--005	Anonymous	**Hexavalent Chromium**	18540-29-9	56.4 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2422349--001	Anonymous	**Hexavalent Chromium**	18540-29-9	35.6 %	58.0-114%	**Recovery less than lower data quality objective**
EG048: Hexavalent Chromium (Alkaline Digest)	EM2422260--005	Anonymous	**Hexavalent Chromium**	18540-29-9	54.2 %	58.0-114%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Control Samples (LCS)						
Total Fluoride by Auto Analyser	EK040T-P	0	11	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	Due for extraction	Evaluation	***Date analysed***	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**----**	----	----	**18-Dec-2024**	25-Dec-2024	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**19-Dec-2024**	09-Jun-2025	✓	**19-Dec-2024**	09-Jun-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QC197, QC195	**11-Dec-2024**	**19-Dec-2024**	08-Jan-2025	✓	**20-Dec-2024**	08-Jan-2025	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
QC197, QC195	**11-Dec-2024**	**19-Dec-2024**	08-Jan-2025	✓	**22-Dec-2024**	26-Dec-2024	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
QC197, QC195	**11-Dec-2024**	**19-Dec-2024**	25-Dec-2024	✓	**23-Dec-2024**	02-Jan-2025	✓
EK040T-P: Total Fluoride by Auto Analyser							
Soil Glass Jar - Unpreserved (EK040T-P)							
QC197, QC195	**11-Dec-2024**	**19-Dec-2024**	08-Jan-2025	✓	**20-Dec-2024**	08-Jan-2025	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
QC197, QC195	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
QC197, QC195	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QC197, QC195	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QC197, QC195	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**19-Dec-2024**	27-Jan-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**18-Dec-2024**	25-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**18-Dec-2024**	25-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**20-Dec-2024**	27-Jan-2025	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC197, QC199, QC189, QC195, QC191	**11-Dec-2024**	**18-Dec-2024**	25-Dec-2024	✓	**18-Dec-2024**	25-Dec-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	15	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	4	22	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	0	11	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	4	22	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Fluoride by Auto Analyser	EK040T-P	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Total Fluoride by Auto Analyser	EK040T-P	SOIL	In-house: Total fluoride is determined by an auto analyer ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Total Fluoride	EK040T-PR	SOIL	In house: Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

QUALITY CONTROL REPORT

Work Order	: **EM2422322**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 16-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: ----	Issue Date	: 23-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6269911)									
EM2422260-001	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	16	14	9.5	No Limit
EM2422322-001	QC197	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	130	180	32.8	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	14	13	7.8	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	17	21.3	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	14	15	7.4	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	35	45	24.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	81	85	4.8	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	202	# 68	98.8	0% - 20%
		EG005T: Manganese	7439-96-5	5	mg/kg	70	94	30.2	0% - 50%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	20	15	29.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	102	# 76	29.3	0% - 20%
EM2422260-001	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	80	25.1	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	13	10.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	10	20.3	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6269911) - continued									
EM2422260-001	Anonymous	EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	36	46	22.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	91	97	6.6	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	287	308	6.9	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Tin	7440-31-5	5	mg/kg	6	7	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	201	202	0.0	0% - 20%
EK040T-P: Total Fluoride by Auto Analyser (QC Lot: 6269639)									
EM2422289-003	Anonymous	EK040T-P: Fluoride	16984-48-8	40	mg/kg	70	80	14.2	No Limit
EM2422322-004	QC195	EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	<40	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6270365)									
EM2422322-001	QC197	EA055: Moisture Content	----	0.1 (1.0)*	%	19.0	19.9	4.5	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6269910)									
EM2422260-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6271505)									
EM2422260-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2422281-006	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 6271506)									
EM2422322-004	QC195	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6273311)									
EM2422281-008	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 6269093)									
EM2422322-001	QC197	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6269092)									
EM2422322-001	QC197	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 6269092) - continued									
EM2422322-001	QC197	EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 6269094)									
EM2422322-001	QC197	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6269094)									
EM2422322-001	QC197	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.8	0.6	33.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	3.6	3.0	17.6	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.1	0.9	25.6	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	8.3	6.1	30.5	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	8.6	6.3	30.7	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.6	3.4	29.1	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.7	3.5	27.7	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.5	3.5	25.6	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.4	2.3	38.9	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6269094) - continued									
EM2422322-001	QC197	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.7	1.9	32.3	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.9	0.6	41.1	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.3	2.3	35.7	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6269088)									
EM2422322-001	QC197	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	5.05	4.30	16.0	0% - 20%
		EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	8.1	7.0	14.7	0% - 50%
		EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	3.2	3.1	0.0	No Limit
		EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.5	2.1	15.4	No Limit
		EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	8.0	6.8	15.3	0% - 50%
		EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.6	0.5	0.0	No Limit
		EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	4.1	3.6	13.4	No Limit
		EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	3.1	2.6	17.4	No Limit
		EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	4.6	3.9	16.7	No Limit
		EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	1.1	0.9	12.6	No Limit
		EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	0.9	0.7	20.9	No Limit
		EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	7.2	6.3	12.5	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6268318)									
EM2422101-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2422322-001	QC197	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6269095)									
EM2422322-001	QC197	EP071: C15 - C28 Fraction	----	100	mg/kg	150	110	34.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	120	<100	17.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6268318)									
EM2422101-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2422322-001	QC197	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6269095)									
EM2422322-001	QC197	EP071: >C16 - C34 Fraction	----	100	mg/kg	240	170	36.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6268318)									
EM2422101-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 6268318) - continued									
EM2422101-001	Anonymous	EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2422322-001	QC197	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269911)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.1	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	93.5	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	93.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	63.5	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	97.0	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	87.1	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	92.7	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	90.7	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	86.0	70.0	130
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2.19 mg/kg	74.9	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	85.5	70.0	130
EG005T: Selenium	7782-49-2	5	mg/kg	<5	----	----	----	----
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	75.0	70.0	130
EG005T: Tin	7440-31-5	5	mg/kg	<5	5.33 mg/kg	85.7	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	77.7	70.0	130
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6269639)								
EK040T-P: Fluoride	16984-48-8	40	mg/kg	<40	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269910)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	92.2	69.0	128
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6271505)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	88.3	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6271506)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	77.5	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6273311)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	112	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6269093)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	109	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 6269092)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	105	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	72.2	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 6269092) - continued								
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	70.0	124
EP068: gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	120	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	116	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	106	68.0	122
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	105	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	115	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	73.7	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	77.6	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	77.9	55.5	132
EP075(SIM)A: Phenolic Compounds (QCLot: 6269094)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	101	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	101	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	98.9	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	88.4	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	99.7	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	95.3	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	98.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	91.2	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	89.2	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	91.6	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	48.3	10.0	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269094)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	104	85.7	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269094) - continued								
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	104	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	106	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	102	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	107	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	110	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	108	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	109	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	111	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	102	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.4	130
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	82.2	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	83.5	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	81.8	65.8	127
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269088)								
EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	2 mg/kg	89.6	75.4	130
EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	2 mg/kg	88.9	73.3	130
EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	2 mg/kg	83.4	73.0	131
EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2 mg/kg	84.9	72.1	134
EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	2 mg/kg	85.5	74.4	131
EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2 mg/kg	89.1	75.3	132
EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	2 mg/kg	85.4	72.9	135
EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	2 mg/kg	90.4	75.0	133
EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	2 mg/kg	85.1	71.3	134
EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	4 mg/kg	84.2	75.8	133
EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2 mg/kg	89.0	69.6	133
EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	2 mg/kg	89.0	78.4	127
EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	2 mg/kg	83.0	72.0	135
EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	2 mg/kg	83.9	76.3	130
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	83.6	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6268318)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	84.5	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6269095)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6269095) - continued								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	93.5	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	95.8	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	96.1	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6268318)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.9	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6269095)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	96.0	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	94.2	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	96.3	73.3	137
EP080: BTEXN (QCLot: 6268318)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	84.4	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.2	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	88.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	86.4	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	87.1	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	94.4	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6269911)							
EM2422260-005	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	94.9	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.0	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	88.6	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	91.1	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	91.8	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	86.7	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	97.0	80.0	120
EK040T-P: Total Fluoride by Auto Analyser (QCLot: 6269639)							
EM2422289-004	Anonymous	EK040T-P: Fluoride	16984-48-8	400 mg/kg	# 36.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269910)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6269910) - continued							
EM2422260-005	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	96.0	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6271505)							
EM2422260-005	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 56.4	58.0	114
EM2422260-005	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 54.2	58.0	114
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 6271506)							
EM2422349-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 35.6	58.0	114
EM2422349-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	68.9	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6273311)							
EM2422281-009	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	106	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 6269093)							
EM2422322-004	QC195	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	130	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 6269092)							
EM2422322-004	QC195	EP068: gamma-BHC - (Lindane)	58-89-9	0.5 mg/kg	114	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	83.3	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	103	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	121	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	98.0	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	61.8	20.0	133
EP075(SIM)A: Phenolic Compounds (QCLot: 6269094)							
EM2422322-004	QC195	EP075(SIM): Phenol	108-95-2	3 mg/kg	91.0	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	92.5	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	83.4	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	79.9	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	56.2	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269094)							
EM2422322-004	QC195	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	95.6	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	77.5	65.5	136
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6269088)							
EM2422322-004	QC195	EP075-TAS: Pyrene	129-00-0	3 mg/kg	47.9	37.8	152
		EP075-TAS: Acenaphthene	83-32-9	3 mg/kg	71.4	42.6	138
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6268318)							
EM2422101-004	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	62.6	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6269095)							
EM2422322-002	QC199	EP071: C10 - C14 Fraction	----	790 mg/kg	96.6	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	98.4	75.6	122

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6269095) - continued							
EM2422322-002	QC199	EP071: C29 - C36 Fraction	----	1410 mg/kg	98.2	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6268318)							
EM2422101-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	61.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6269095)							
EM2422322-002	QC199	EP071: >C10 - C16 Fraction	----	1080 mg/kg	99.2	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	96.4	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	101	66.8	138
EP080: BTEXN (QCLot: 6268318)							
EM2422101-004	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	72.5	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	83.4	57.1	131

Automated Guideline Comparison Report

EPA Tasmania Information Bulletin No. 105 - Table 2: Soil Hazard Categorisation

Work Order	: **EM2422322**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE		
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Date Received	: 16-Dec-2024 11:46
Order number	: 60693007 7	Date Analysed	: 18-Dec-2024
C-O-C number	: ----	Date Issued	: 23-Dec-2024 16:38
No. of samples received	: 5		
No. of samples analysed	: 5	Quote number	: EN/004/23

General Comments

This guideline comparison report **only** provides comparison of reported result against limit thresholds for the 'Fill Material', 'Low Level Contaminated Soil', and 'Contaminated Soil' categories in Table 2 of EPA Tasmania Information Bulletin No. 105.
This guideline comparison report is **NOT** a compliance report. Classification of soils requires consideration of a number of other factors including preliminary site investigation, sampling density and statistical calculations and measurement uncertainty.
This guideline comparison report only provides comparison data for parameters, specifically listed within Table2 of the EPA Tasmania Information Bulletin No. 105, that are analysed by ALS.
Only results in the 'Analytical Results' section have been compared to the guideline.

Additional information pertinent to this report will be found in the following separate attachments: Certificate of Analysis, Quality Control Report, QA/QC Compliance Assessment to Assist with Quality Review and Sample Receipt Notification.

Summary of Thresholds Reached or Exceeded

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC197	**EM2422322-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 40 mg/kg*	**51.9 mg/kg**
QC197	**EM2422322-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 2 mg/kg*	**5.05 mg/kg**

TAS EPA Bulletin No. 105 (2012)

Table 2: Maximum Total Concentration: Fill Material - Level 1

Client Sample ID	ALS Sample ID	Compound	Method	LOR	Limits	Result
QC197	**EM2422322-001**	Arsenic	EG005T	5	*< 20 mg/kg*	**35 mg/kg**
QC197	**EM2422322-001**	Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	*< 20 mg/kg*	**51.9 mg/kg**
QC197	**EM2422322-001**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**5.05 mg/kg**
QC199	**EM2422322-002**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.92 mg/kg**
QC189	**EM2422322-003**	Lead	EG005T	5	*< 300 mg/kg*	**366 mg/kg**
QC189	**EM2422322-003**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.88 mg/kg**
QC195	**EM2422322-004**	Zinc	EG005T	5	*< 200 mg/kg*	**210 mg/kg**
QC195	**EM2422322-004**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**1.29 mg/kg**
QC191	**EM2422322-005**	Benzo(a)pyrene	EP075-TAS	0.05	*< 0.08 mg/kg*	**0.14 mg/kg**

Analytical Results

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	Method	LOR	Unit	Guideline Lower Limit	Guideline Upper Limit	QC197 11-Dec-2024 15:00 EM2422322-001 MU	QC199 11-Dec-2024 15:00 EM2422322-002 MU	QC189 11-Dec-2024 15:00 EM2422322-003 MU	QC195 11-Dec-2024 15:00 EM2422322-004 MU	QC191 11-Dec-2024 15:00 EM2422322-005 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	750	**35** ± 5	<5 --	**6** ± 2	<5 --	<5 --
Barium	EG005T	10	mg/kg	----	30000	**130** ± 10	----	----	**40** ± 4	----
Beryllium	EG005T	1	mg/kg	----	400	<1 --	----	----	<1 --	----
Cadmium	EG005T	1	mg/kg	----	400	<1 --	----	----	<1 --	----
Chromium	EG005T	2	mg/kg	----	5000	**14** ± 2	----	----	**12** ± 1	----
Cobalt	EG005T	2	mg/kg	----	1000	**14** ± 2	----	----	**8** ± 1	----
Copper	EG005T	5	mg/kg	----	7500	**81** ± 10	----	----	**42** ± 5	----
Lead	EG005T	5	mg/kg	----	3000	**202** ± 21	**10** ± 1	**366** ± 38	**42** ± 5	**32** ± 4
Manganese	EG005T	5	mg/kg	----	25000	**70** ± 7	----	----	**240** ± 24	----
Molybdenum	EG005T	2	mg/kg	----	4000	<2 --	----	----	<2 --	----
Nickel	EG005T	2	mg/kg	----	3000	**14** ± 1	----	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	200	<5 --	----	----	<5 --	----
Silver	EG005T	2	mg/kg	----	720	<2 --	----	----	<2 --	----
Tin	EG005T	5	mg/kg	----	900	**20** ± 4	----	----	<5 --	----
Zinc	EG005T	5	mg/kg	----	50000	**102** ± 11	----	----	**210** ± 22	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	110	**0.4** ± 0.04	----	----	<0.1 --	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	2000	<0.5 --	----	----	<0.5 --	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	2500	**2** ± 0.2	----	----	**1** ± 0.1	----
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	10000	<40	----	----	<40	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	50	<0.1	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	50	<0.05	----	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	1000	<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	2000	<0.5	----	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Contaminated Soil: Table 2: Maximum Total Concentration: Contaminated Soil - Level 3

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time*	QC197 11-Dec-2024 15:00 EM2422322-001 MU	QC199 11-Dec-2024 15:00 EM2422322-002 MU	QC189 11-Dec-2024 15:00 EM2422322-003 MU	QC195 11-Dec-2024 15:00 EM2422322-004 MU	QC191 11-Dec-2024 15:00 EM2422322-005 MU
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued											
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	200		**51.9**	**----**	**----**	**17.6**	**----**
EP075B: Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	20		**5.05**	**0.92**	**0.88**	**1.29**	**0.14**
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	200		**----**	**9.72**	**7.08**	**----**	**0.14**
EP080/071: Total Petroleum Hydrocarbons											
C6 - C9 Fraction	EP080	10	mg/kg	----	1000		<10 --	<10 --	<10 --	<10 --	<10 --
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	10000		**270**	<50	**240**	**500**	<50
EP080: BTEXN											
Benzene	EP080	0.2	mg/kg	----	50		<0.2 --	<0.2 --	<0.2 --	<0.2 --	<0.2 --
Toluene	EP080	0.5	mg/kg	----	1000		<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Ethylbenzene	EP080	0.5	mg/kg	----	1080		<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --
Total Xylenes	EP080	0.5	mg/kg	----	1800		<0.5 --	<0.5 --	<0.5 --	<0.5 --	<0.5 --

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time* QC197 11-Dec-2024 15:00 EM2422322-001 MU	QC199 11-Dec-2024 15:00 EM2422322-002 MU	QC189 11-Dec-2024 15:00 EM2422322-003 MU	QC195 11-Dec-2024 15:00 EM2422322-004 MU	QC191 11-Dec-2024 15:00 EM2422322-005 MU
EG005(ED093)T: Total Metals by ICP-AES										
Arsenic	EG005T	5	mg/kg	----	20	**35** ± 5	<5 --	**6** ± 2	<5 --	<5 --
Barium	EG005T	10	mg/kg	----	300	**130** ± 10	----	----	**40** ± 4	----
Beryllium	EG005T	1	mg/kg	----	2	<1 --	----	----	<1 --	----
Cadmium	EG005T	1	mg/kg	----	3	<1 --	----	----	<1 --	----
Chromium	EG005T	2	mg/kg	----	50	**14** ± 2	----	----	**12** ± 1	----
Cobalt	EG005T	2	mg/kg	----	100	**14** ± 2	----	----	**8** ± 1	----
Copper	EG005T	5	mg/kg	----	100	**81** ± 10	----	----	**42** ± 5	----
Lead	EG005T	5	mg/kg	----	300	**202** ± 21	**10** ± 1	**366** ± 38	**42** ± 5	**32** ± 4
Manganese	EG005T	5	mg/kg	----	500	**70** ± 7	----	----	**240** ± 24	----
Molybdenum	EG005T	2	mg/kg	----	10	<2 --	----	----	<2 --	----
Nickel	EG005T	2	mg/kg	----	60	**14** ± 1	----	----	**12** ± 1	----
Selenium	EG005T	5	mg/kg	----	10	<5 --	----	----	<5 --	----
Silver	EG005T	2	mg/kg	----	10	<2 --	----	----	<2 --	----
Tin	EG005T	5	mg/kg	----	50	**20** ± 4	----	----	<5 --	----
Zinc	EG005T	5	mg/kg	----	200	**102** ± 11	----	----	**210** ± 22	----
EG035T: Total Recoverable Mercury by FIMS										
Mercury	EG035T	0.1	mg/kg	----	1	**0.4** ± 0.04	----	----	<0.1 --	----
EG048: Hexavalent Chromium (Alkaline Digest)										
Hexavalent Chromium	EG048G	0.5	mg/kg	----	1	<0.5 --	----	----	<0.5 --	----
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	EK026SF	1	mg/kg	----	32	**2** ± 0.2	----	----	**1** ± 0.1	----
EK040T-P: Total Fluoride by Auto Analyser										
Fluoride	EK040T-P	40	mg/kg	----	300	<40	----	----	<40	----
EP066: Polychlorinated Biphenyls (PCB)										
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	2	<0.1	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)										
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	2	<0.05	----	----	<0.05	----
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	2	<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds										
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	25	<0.5	----	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons										
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	20	**51.9**	----	----	**17.6**	----

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Fill Material: Table 2: Maximum Total Concentration: Fill Material - Level 1

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC197 11-Dec-2024 15:00 EM2422322-001	MU	QC199 11-Dec-2024 15:00 EM2422322-002	MU	QC189 11-Dec-2024 15:00 EM2422322-003	MU	QC195 11-Dec-2024 15:00 EM2422322-004	MU	QC191 11-Dec-2024 15:00 EM2422322-005	MU
EP075B: Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	0.08	**5.05**		**0.92**		**0.88**		**1.29**		**0.14**	
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	20	**----**		**9.72**		**7.08**		**----**		**0.14**	
EP080/071: Total Petroleum Hydrocarbons															
C6 - C9 Fraction	EP080	10	mg/kg	----	65	<10	--	<10	--	<10	--	<10	--	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	1000	**270**		<50		**240**		**500**		<50	
EP080: BTEXN															
Benzene	EP080	0.2	mg/kg	----	1	<0.2	--	<0.2	--	<0.2	--	<0.2	--	<0.2	--
Toluene	EP080	0.5	mg/kg	----	1	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	3	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	14	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	*Sample ID* / *Sampling date/time* QC197 11-Dec-2024 15:00 EM2422322-001	MU	QC199 11-Dec-2024 15:00 EM2422322-002	MU	QC189 11-Dec-2024 15:00 EM2422322-003	MU	QC195 11-Dec-2024 15:00 EM2422322-004	MU	QC191 11-Dec-2024 15:00 EM2422322-005	MU
EG005(ED093)T: Total Metals by ICP-AES															
Arsenic	EG005T	5	mg/kg	----	200	**35**	± 5	<5	- -	**6**	± 2	<5	- -	<5	- -
Barium	EG005T	10	mg/kg	----	3000	**130**	± 10	----		----		**40**	± 4	----	
Beryllium	EG005T	1	mg/kg	----	40	<1	- -	----		----		<1	- -	----	
Cadmium	EG005T	1	mg/kg	----	40	<1	- -	----		----		<1	- -	----	
Chromium	EG005T	2	mg/kg	----	500	**14**	± 2	----		----		**12**	± 1	----	
Cobalt	EG005T	2	mg/kg	----	200	**14**	± 2	----		----		**8**	± 1	----	
Copper	EG005T	5	mg/kg	----	2000	**81**	± 10	----		----		**42**	± 5	----	
Lead	EG005T	5	mg/kg	----	1200	**202**	± 21	**10**	± 1	**366**	± 38	**42**	± 5	**32**	± 4
Manganese	EG005T	5	mg/kg	----	5000	**70**	± 7	----		----		**240**	± 24	----	
Molybdenum	EG005T	2	mg/kg	----	1000	<2	- -	----		----		<2	- -	----	
Nickel	EG005T	2	mg/kg	----	600	**14**	± 1	----		----		**12**	± 1	----	
Selenium	EG005T	5	mg/kg	----	50	<5	- -	----		----		<5	- -	----	
Silver	EG005T	2	mg/kg	----	180	<2	- -	----		----		<2	- -	----	
Tin	EG005T	5	mg/kg	----	500	**20**	± 4	----		----		<5	- -	----	
Zinc	EG005T	5	mg/kg	----	14000	**102**	± 11	----		----		**210**	± 22	----	
EG035T: Total Recoverable Mercury by FIMS															
Mercury	EG035T	0.1	mg/kg	----	30	**0.4**	± 0.04	----		----		<0.1	- -	----	
EG048: Hexavalent Chromium (Alkaline Digest)															
Hexavalent Chromium	EG048G	0.5	mg/kg	----	200	<0.5	- -	----		----		<0.5	- -	----	
EK026SF: Total CN by Segmented Flow Analyser															
Total Cyanide	EK026SF	1	mg/kg	----	1000	**2**	± 0.2	----		----		**1**	± 0.1	----	
EK040T-P: Total Fluoride by Auto Analyser															
Fluoride	EK040T-P	40	mg/kg	----	3000	<40		----		----		<40		----	
EP066: Polychlorinated Biphenyls (PCB)															
Total Polychlorinated biphenyls	EP066	0.1	mg/kg	----	20	<0.1		----		----		<0.1		----	
EP068A: Organochlorine Pesticides (OC)															
Sum of Aldrin + Dieldrin	EP068	0.05	mg/kg	----	20	<0.05		----		----		<0.05		----	
Sum of DDD + DDE + DDT	EP068	0.05	mg/kg	----	200	<0.05		----		----		<0.05		----	
EP075(SIM)A: Phenolic Compounds															
Sum of Phenols	EP075(SIM)	0.5	mg/kg	----	500	<0.5		----		----		<0.5		----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															
Sum of polycyclic aromatic hydrocarbons	EP075(SIM)	0.5	mg/kg	----	40	**51.9**		----		----		**17.6**		----	

Classification and Management of Contaminated Soil for Disposal

Table 2 Maximum total conc. - Low Level Contaminated Soil: Table 2: Maximum Total Concentration: Low Level Contaminated Soil - Level 2

Sub-Matrix: **SOIL**

Compound	*Method*	*LOR*	*Unit*	Guideline Lower Limit	Guideline Upper Limit	QC197 11-Dec-2024 15:00 EM2422322-001	MU	QC199 11-Dec-2024 15:00 EM2422322-002	MU	QC189 11-Dec-2024 15:00 EM2422322-003	MU	QC195 11-Dec-2024 15:00 EM2422322-004	MU	QC191 11-Dec-2024 15:00 EM2422322-005	MU
EP075B: Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene	EP075-TAS	0.05	mg/kg	----	2	**5.05**		**0.92**		**0.88**		**1.29**		**0.14**	
Sum of polycyclic aromatic hydrocarbons	EP075-TAS	0.05	mg/kg	----	40	**----**		**9.72**		**7.08**		**----**		**0.14**	
EP080/071: Total Petroleum Hydrocarbons															
C6 - C9 Fraction	EP080	10	mg/kg	----	650	<10	--	<10	--	<10	--	<10	--	<10	--
C10 - C36 Fraction (sum)	EP071	50	mg/kg	----	5000	**270**		<50		**240**		**500**		<50	
EP080: BTEXN															
Benzene	EP080	0.2	mg/kg	----	5	<0.2	--	<0.2	--	<0.2	--	<0.2	--	<0.2	--
Toluene	EP080	0.5	mg/kg	----	100	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Ethylbenzene	EP080	0.5	mg/kg	----	100	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Total Xylenes	EP080	0.5	mg/kg	----	180	<0.5	--	<0.5	--	<0.5	--	<0.5	--	<0.5	--

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422322**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 16-Dec-2024 11:46
Order number	: 60693007 7	Date Analysis Commenced	: 18-Dec-2024
C-O-C number	: ----	Issue Date	: 23-Dec-2024 16:38
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG048G: EM2422260 #5, Poor matrix spike recovery for Hexavalent Chromium due to sample matrix interferences. Confirmed by re-analysis.
- EG048G: EM2422349 #1 poor matrix spike recovery for Hexavalent Chromium due to matrix effects. Confirmed by re-preparation and re-analysis.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2422322 #1 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EK040T-P : EM2422289-004 Poor matrix spike recovery for Total Fluoride due to matrix effects.
- EK040T-P: EM242289 #4, Poor matrix spike recovery for Total Fluoride due to matrix effects.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC197	QC199	QC189	QC195	QC191
			Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422322-001	EM2422322-002	EM2422322-003	EM2422322-004	EM2422322-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**----**	**8.9**	**15.7**	**----**	**21.9**
Moisture Content	----	1.0	%	**19.0**	**----**	**----**	**29.6**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**35**	<5	**6**	<5	<5
Barium	7440-39-3	10	mg/kg	**130**	**----**	**----**	**40**	**----**
Beryllium	7440-41-7	1	mg/kg	<1	**----**	**----**	<1	**----**
Cadmium	7440-43-9	1	mg/kg	<1	**----**	**----**	<1	**----**
Chromium	7440-47-3	2	mg/kg	**14**	**----**	**----**	**12**	**----**
Cobalt	7440-48-4	2	mg/kg	**14**	**----**	**----**	**8**	**----**
Copper	7440-50-8	5	mg/kg	**81**	**----**	**----**	**42**	**----**
Lead	7439-92-1	5	mg/kg	**202**	**10**	**366**	**42**	**32**
Manganese	7439-96-5	5	mg/kg	**70**	**----**	**----**	**240**	**----**
Molybdenum	7439-98-7	2	mg/kg	<2	**----**	**----**	<2	**----**
Nickel	7440-02-0	2	mg/kg	**14**	**----**	**----**	**12**	**----**
Selenium	7782-49-2	5	mg/kg	<5	**----**	**----**	<5	**----**
Silver	7440-22-4	2	mg/kg	<2	**----**	**----**	<2	**----**
Tin	7440-31-5	5	mg/kg	**20**	**----**	**----**	<5	**----**
Zinc	7440-66-6	5	mg/kg	**102**	**----**	**----**	**210**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.4**	**----**	**----**	<0.1	**----**
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	**----**	**----**	<0.5	**----**
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**2**	**----**	**----**	**1**	**----**
EK040T-P: Total Fluoride by Auto Analyser								
Fluoride	16984-48-8	40	mg/kg	<40	**----**	**----**	<40	**----**
EP066: Polychlorinated Biphenyls (PCB)								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC197	QC199	QC189	QC195	QC191
			Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422322-001	EM2422322-002	EM2422322-003	EM2422322-004	EM2422322-005
				Result	Result	Result	Result	Result
EP066: Polychlorinated Biphenyls (PCB) - Continued								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	<0.05	----
gamma-BHC - (Lindane)	58-89-9	0.05	mg/kg	<0.05	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC197	QC199	QC189	QC195	QC191
				Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422322-001	EM2422322-002	EM2422322-003	EM2422322-004	EM2422322-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	<2	----
^ **Sum of Phenols**	----	0.5	mg/kg		<0.5	----	----	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		**0.8**	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		**3.6**	----	----	**1.1**	----
Anthracene	120-12-7	0.5	mg/kg		**1.1**	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		**8.3**	----	----	**3.1**	----
Pyrene	129-00-0	0.5	mg/kg		**8.6**	----	----	**3.0**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**4.6**	----	----	**1.7**	----
Chrysene	218-01-9	0.5	mg/kg		**4.7**	----	----	**1.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC197	QC199	QC189	QC195	QC191
				Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422322-001	EM2422322-002	EM2422322-003	EM2422322-004	EM2422322-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**4.5**	----	----	**2.5**	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**3.4**	----	----	**1.3**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**2.7**	----	----	**0.9**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.9**	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**3.3**	----	----	**1.0**	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**51.9**	----	----	**17.6**	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**7.9**	----	----	**2.1**	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**7.9**	----	----	**2.3**	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**7.9**	----	----	**2.6**	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		**5.05**	**0.92**	**0.88**	**1.29**	**0.14**
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.05	mg/kg		----	**9.72**	**7.08**	----	**0.14**
Pyrene	129-00-0	0.5	mg/kg		----	**2.1**	**1.2**	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	**1.0**	<0.5	----	<0.5
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	**0.5**	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	**2.2**	**1.2**	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	**0.9**	**0.5**	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	**0.7**	----	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		----	**1.5**	**1.4**	----	<1.0
^ **Benzo(a)pyrene TEQ (zero)**	----	0.05	mg/kg		----	**1.19**	**1.15**	----	**0.14**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.05	mg/kg		----	**1.74**	**1.65**	----	**0.85**
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.05	mg/kg		----	**1.47**	**1.40**	----	**0.50**
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	**1.1**	**0.7**	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC197	QC199	QC189	QC195	QC191
			Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422322-001	EM2422322-002	EM2422322-003	EM2422322-004	EM2422322-005
				Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**150**	<100	**130**	**320**	<100
C29 - C36 Fraction	----	100	mg/kg	**120**	<100	**110**	**180**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**270**	<50	**240**	**500**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**240**	<100	**200**	**440**	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**240**	<50	**200**	**440**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC197	QC199	QC189	QC195	QC191
			Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00	11-Dec-2024 00:00
Compound	CAS Number	LOR	Unit	EM2422322-001	EM2422322-002	EM2422322-003	EM2422322-004	EM2422322-005
				Result	Result	Result	Result	Result
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	85.8	----	----	94.4	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	89.2	----	----	88.8	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	91.8	----	----	94.7	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	88.4	----	----	90.2	----
2-Chlorophenol-D4	93951-73-6	0.5	%	97.8	----	----	100	----
2.4.6-Tribromophenol	118-79-6	0.5	%	76.1	----	----	72.6	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	96.0	----	----	94.4	----
Anthracene-d10	1719-06-8	0.5	%	111	----	----	103	----
4-Terphenyl-d14	1718-51-0	0.5	%	99.7	----	----	94.2	----
EP075T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.025	%	81.3	78.2	78.3	81.2	79.9
Anthracene-d10	1719-06-8	0.025	%	88.0	84.0	83.4	83.2	84.5
4-Terphenyl-d14	1718-51-0	0.025	%	88.2	85.2	86.4	89.8	87.0
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	87.3	82.5	92.5	69.6	88.1
Toluene-D8	2037-26-5	0.2	%	83.8	78.6	88.4	62.5	84.1
4-Bromofluorobenzene	460-00-4	0.2	%	91.5	83.8	91.9	61.9	88.9

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

REBATCH REQUEST

Workorder / Client code / Project:	ALS Workorder EM2421846, Client AECOMAU, Project 60693007 7		
Project Manager:	Robert Crowe ***Please include this rebatch PM plus all report recipients as per original workorder***		
Date samples rec'd:	10/12/2024 11:56am		
Date Instructions rec'd:	18/12/2024 16:14		
Rebatch due date:	Monday, 30 December 2024	FTAT approved?	
Due date surcharge:	**N/A**		

CS Contact: Peter Ravlic

Additional Information:

Sample information								Analysis								
								Standard					Leach			
New Lab ID	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Managed Moisture						**TCLP Leach**	**EP075(SIM)B-LL-on leach**		**Shortest Holding time expiry**
1	QC144	6/12/2024 0:00	EM2421846	2	MS: 8525-8526	Soil glass	NO						X	X		20-Dec-24
2	QC152	6/12/2024 0:00	EM2421846	4	MS: 8525-8526	Soil glass	NO						X	X		20-Dec-24
							TOTAL									

MS: _____

Environmental Division
Melbourne
Work Order Reference
EM2422444

Telephone : +61-3-8549 9600

Ciara Barr

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Wednesday, 18 December 2024 4:14 PM
To: Peter Ravlic
Cc: Crowe, Robert; Lath, Supriya
Subject: [EXTERNAL] - FW: SRN for ALS Workorder : EM2421846 | Your Reference: 60693007 7
Attachments: EM2421846_COC.pdf; EM2421846_COC_1.pdf; EM2421846_0_SRN_241213175701.pdf

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Peter,

Please conduct additional analysis for leachable PAH (via method EP075(SIM)B-LL using TCLP) for QC144 and QC152, from batch EM2421846.

Regards, Tim

From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Wednesday, 18 December 2024 2:05 PM
To: Martin, Tim <Timothy.Martin@aecom.com>
Subject: SRN for ALS Workorder : EM2421846 | Your Reference: 60693007 7

Deliverables for ALS Workorder EM2421846

Project: 60693007 7

Dear TIMOTHY MARTIN,

Please find enclosed the following deliverables for **EM2421846**:

- EM2421846_COC.pdf
- EM2421846_COC_1.pdf
- EM2421846_0_SRN_241213175701.pdf

Report Recipients

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2422444**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Page	: 1 of 2
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: AC, JM, TG		

Dates

Date Samples Received	: 10-Dec-2024 11:15	Issue Date	: 19-Dec-2024
Client Requested Due Date	: 30-Dec-2024	Scheduled Reporting Date	: **30-Dec-2024**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2421846.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075(SIM)B-LL Low Level PAH by EP075(SIM)B-LL
EM2422444-001	06-Dec-2024 00:00	QC144	✓	✓
EM2422444-002	06-Dec-2024 00:00	QC152	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIMOTHY MARTIN

- *AU Certificate of Analysis - NATA (COA)	Email	timothy.martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	timothy.martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	timothy.martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	timothy.martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	timothy.martin@aecom.com

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422444**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 10-Dec-2024
Site	: Macquarie Point	Issue Date	: 27-Dec-2024
Sampler	: AC, JM, TG	No. of samples received	: 2
Order number	: 60693007 7	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
QC144, QC152	**06-Dec-2024**	**20-Dec-2024**	20-Dec-2024	✓	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
QC144, QC152	**20-Dec-2024**	**23-Dec-2024**	27-Dec-2024	✓	**23-Dec-2024**	01-Feb-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

QUALITY CONTROL REPORT

Work Order	: **EM2422444**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 10-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 20-Dec-2024
C-O-C number	: ----	Issue Date	: 27-Dec-2024
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6278453)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	82.0	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	86.9	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	91.8	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	89.1	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	94.0	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	95.2	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	95.7	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	98.1	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	103	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	99.0	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	114	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	110	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	97.8	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	107	56.6	126
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	107	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	121	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	95.8	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422444**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 10-Dec-2024 11:15
Order number	: 60693007 7	Date Analysis Commenced	: 20-Dec-2024
C-O-C number	: ----	Issue Date	: 27-Dec-2024 17:05
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- This is a rebatch of EM2421846.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC144	QC152	----	----	----
				Sampling date / time	06-Dec-2024 00:00	06-Dec-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2422444-001	EM2422444-002	--------	--------	--------
					Result	Result	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**7.5**	**7.4**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit		**1.4**	**1.4**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-		**1**	**1**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit		**4.9**	**5.3**	**----**	**----**	**----**

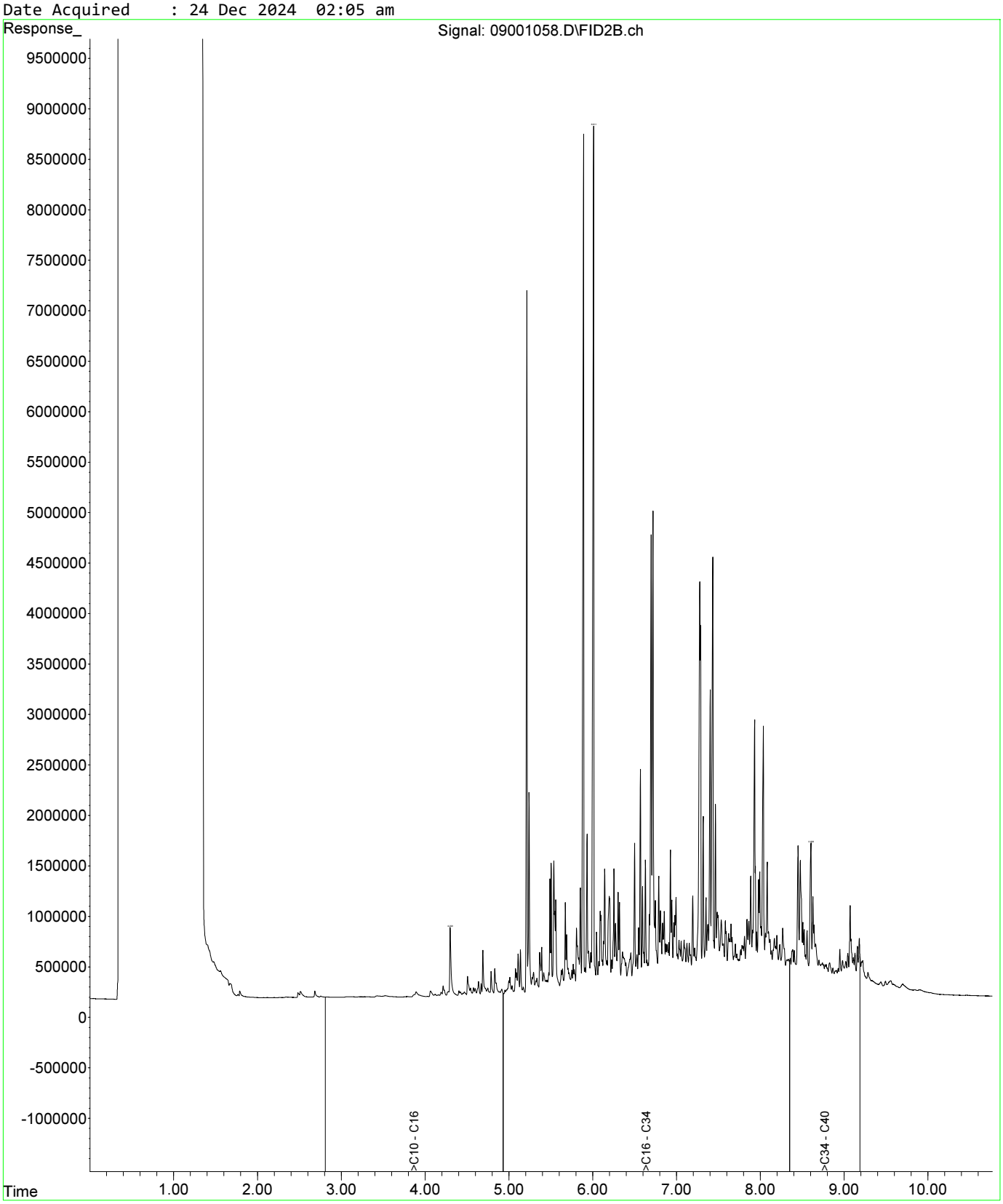
Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	QC144	QC152	----	----	----
				Sampling date / time	06-Dec-2024 00:00	06-Dec-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2422444-001	EM2422444-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		<0.10	**0.49**	----	----	----
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	**0.19**	----	----	----
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	**0.74**	----	----	----
Acenaphthene	83-32-9	0.10	µg/L		<0.10	**0.24**	----	----	----
Fluorene	86-73-7	0.10	µg/L		<0.10	**0.69**	----	----	----
Phenanthrene	85-01-8	0.10	µg/L		<0.10	**1.86**	----	----	----
Anthracene	120-12-7	0.10	µg/L		<0.10	**0.30**	----	----	----
Fluoranthene	206-44-0	0.10	µg/L		<0.10	**0.45**	----	----	----
Pyrene	129-00-0	0.10	µg/L		<0.10	**0.38**	----	----	----
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	<0.10	----	----	----
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	----	----	----
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	----	----	----
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		<0.10	**5.15**	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	----	----	----
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**58.7**	**87.7**	----	----	----
Anthracene-d10	1719-06-8	0.10	%		**66.6**	**71.1**	----	----	----
4-Terphenyl-d14	1718-51-0	0.10	%		**73.7**	**93.6**	----	----	----

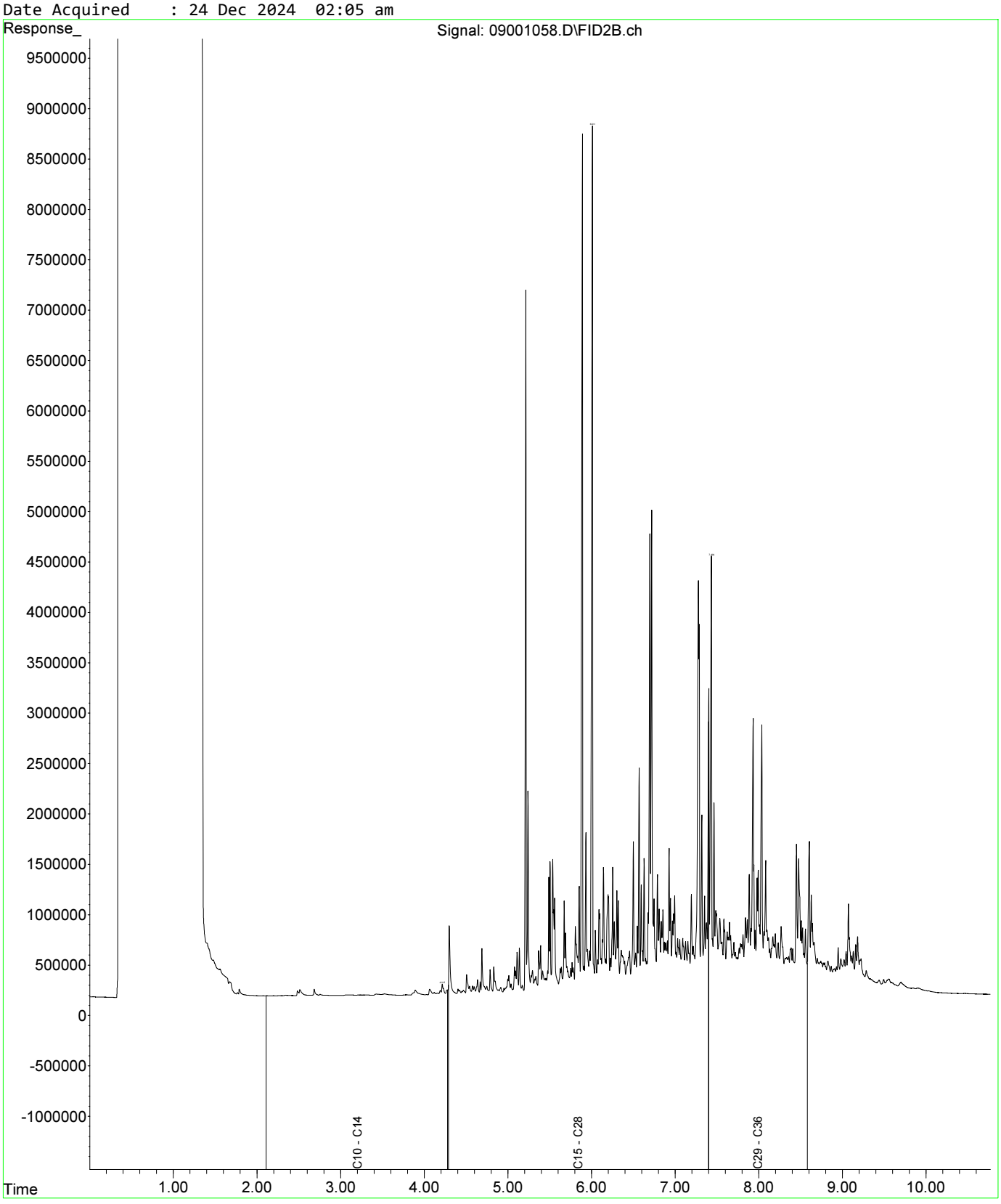
Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

Fraction Scheme : NEPM Fraction
Data File : 09001058.D
Laboratory Number: EM2422568-001
Sample ID : QC184
Date Acquired : 24 Dec 2024 02:05 am



Fraction Scheme : Legacy Fractions
Data File : 09001058.D
Laboratory Number: EM2422568-001
Sample ID : QC184
Date Acquired : 24 Dec 2024 02:05 am



(10) +TC 1/12

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Jacob Muller Andrew Christensen Taya Gerstel	Destination Laboratory: ~~ALS~~ Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Macquarie Point	MOBILE: 0409536240	PHONE:
PROJECT NUMBER & TASK CODE: 60693007 7	P.O. NO.: 60693007 7	EMAIL REPORT TO: Robert.crowe@aecom.com, Tim.martin@aecom.com,	
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

* PAH
EP075-TA5

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Container Total bottles	* TRH/BTEXN Metals (Pb, As) PAH (trace level)	IB105	TRH c6-c10 BTEXN	C6-C10	HOLD
✓	QC184	S	10/12/24				X			X	
✓	QC185									X	
✓	QC186									X	
✓	QC187									X	

Environmental Division
Melbourne
Work Order Reference
EM2422568

Telephone : +61-3-8549 9600

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Chris A	Date: 19/12	Name: Sheridan	Date: 10/12/24	Name: Scott ALS	Date: 19/12/24	Con' Note No:
Of: Eurofins	Time: 9.00	Of: Eurofins Hobart	Time: 4:52pm	Of:	Time: 1110	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

COC Page of

Outlook

(10) HC 2/2

RE: Macquarie Point Lab batches - End of year reporting

From Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Date Tue 17/12/24 1:10 PM
To Martin, Tim <Timothy.Martin@aecom.com>; SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Tim,

We will get those amendments made ASAP.

@SH_AU_CAU001_EnviroSampleVic -Can you please action the below? Thank you.

Kind Regards,

Savini Suduweli
Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : Savini.Suduwelikondage@eurofinsanz.com

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Tuesday, 17 December 2024 11:39 AM
To: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: RE: Macquarie Point Lab batches - End of year reporting

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hey Savini; thank you so much for reviewing the summary of QCs below.

QC156: This was to be forwarded to ALS (from batch #1171413).
- Coincidentally, we submitted separate samples with Sample IDs QC155 and QC156 in batch #1169377 also (which were trip blanks).

QC184: This was incorrectly identified for Eurofins sampling.

Per our phone call, can you please action the following:

1. Update the Sample IDs of QC155 and QC156 (under batch #1169377) to be **QC155-1** and **QC155-2** respectively.
2. Can you please send QC184 to ALS for the same analysis.

Kind Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2422568**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 2
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		

Dates

Date Samples Received	: 19-Dec-2024 11:10	Issue Date	: 19-Dec-2024
Client Requested Due Date	: 03-Jan-2025	Scheduled Reporting Date	: **03-Jan-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 12.2°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EP075-TAS Benzo(a)pyrene and other PAHs - Waste	SOIL - S-04 TRH/BTEXN
EM2422568-001	10-Dec-2024 00:00	QC184	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIMOTHY MARTIN

- *AU Certificate of Analysis - NATA (COA)	Email	timothy.martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	timothy.martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	timothy.martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com
- Chromatogram (CHROM)	Email	timothy.martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	timothy.martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	timothy.martin@aecom.com

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422568**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 19-Dec-2024
Site	: ----	Issue Date	: 30-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL	No. of samples received	: 1
Order number	: 60693007 7	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC184	**10-Dec-2024**	**----**	----	**----**	**23-Dec-2024**	24-Dec-2024	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC184	**10-Dec-2024**	**24-Dec-2024**	08-Jun-2025	✓	**24-Dec-2024**	08-Jun-2025	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075-TAS) QC184	**10-Dec-2024**	**23-Dec-2024**	24-Dec-2024	✓	**25-Dec-2024**	01-Feb-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC184	**10-Dec-2024**	**23-Dec-2024**	24-Dec-2024	✓	**23-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071) QC184	**10-Dec-2024**	**23-Dec-2024**	24-Dec-2024	✓	**24-Dec-2024**	01-Feb-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC184	**10-Dec-2024**	**23-Dec-2024**	24-Dec-2024	✓	**23-Dec-2024**	24-Dec-2024	✓
Soil Glass Jar - Unpreserved (EP071) QC184	**10-Dec-2024**	**23-Dec-2024**	24-Dec-2024	✓	**24-Dec-2024**	01-Feb-2025	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QC184	**10-Dec-2024**	**23-Dec-2024**	24-Dec-2024	✓	**23-Dec-2024**	24-Dec-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Benzo(a)pyrene and other PAHs - Waste Classification (TAS requirements)	EP075-TAS	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids - VIC EPA Screen	ORG17-EM	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

QUALITY CONTROL REPORT

Work Order	: **EM2422568**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 19-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6280137)									
EM2421853-001	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	16	6	89.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	71	75	5.4	0% - 50%
EM2422598-002	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	12	16.2	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6279446)									
EM2422333-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	1.7	1.7	0.0	No Limit
EM2422627-002	Anonymous	EA055: Moisture Content	----	0.1	%	12.9	10.6	19.8	0% - 20%
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6279311)									
EM2422568-001	QC184	EP075-TAS: Benzo(a)pyrene	50-32-8	0.05 (0.13)*	mg/kg	66.8	62.8	6.1	0% - 20%
		EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	139	130	6.4	0% - 20%
		EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	98.9	92.8	6.4	0% - 20%
		EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	3.5	2.4	34.9	No Limit
		EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	32.7	30.7	6.3	0% - 20%
		EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	7.5	6.1	20.3	0% - 50%
		EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	146	139	5.0	0% - 20%
		EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	8.4	8.0	5.3	0% - 50%
		EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	64.2	60.5	5.8	0% - 20%
		EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	38.1	35.7	6.6	0% - 20%
		EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	73.9	71.5	3.4	0% - 20%
		EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	29.2	29.2	0.0	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6279311) - continued									
EM2422568-001	QC184	EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	16.2	14.0	14.2	0% - 20%
		EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	1.0	0.8	23.7	No Limit
		EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	105	98.4	6.3	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6278646)									
EM2422690-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2422619-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6278748)									
EM2422643-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2422591-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6278646)									
EM2422690-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2422619-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6278748)									
EM2422643-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2422591-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6278646)									
EM2422690-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2422619-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 6278646) - continued									
EM2422619-003	Anonymous	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6280137)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.0	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	90.5	70.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 6279311)								
EP075-TAS: Pyrene	129-00-0	0.5	mg/kg	<0.5	2 mg/kg	106	75.4	130
EP075-TAS: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	2 mg/kg	104	73.3	130
EP075-TAS: Naphthalene	91-20-3	0.5	mg/kg	<0.5	2 mg/kg	98.9	73.0	131
EP075-TAS: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2 mg/kg	103	72.1	134
EP075-TAS: Fluorene	86-73-7	0.5	mg/kg	<0.5	2 mg/kg	100	74.4	131
EP075-TAS: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2 mg/kg	105	75.3	132
EP075-TAS: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	2 mg/kg	104	72.9	135
EP075-TAS: Chrysene	218-01-9	0.5	mg/kg	<0.5	2 mg/kg	106	75.0	133
EP075-TAS: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	2 mg/kg	103	71.3	134
EP075-TAS: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1.0	4 mg/kg	101	75.8	133
EP075-TAS: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2 mg/kg	105	69.6	133
EP075-TAS: Anthracene	120-12-7	0.5	mg/kg	<0.5	2 mg/kg	104	78.4	127
EP075-TAS: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	2 mg/kg	98.3	72.0	135
EP075-TAS: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	2 mg/kg	92.5	76.3	130
EP075-TAS: Benzo(a)pyrene	50-32-8	0.05	mg/kg	<0.05	2 mg/kg	101	77.5	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6278646)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	90.2	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6278748)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	790 mg/kg	106	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2730 mg/kg	106	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1410 mg/kg	99.8	82.4	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6278646)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	89.4	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6278748)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1080 mg/kg	108	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3640 mg/kg	102	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	270 mg/kg	99.3	73.3	137

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 6278646)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	91.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	91.1	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	95.7	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	97.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	80.2	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6280137)							
EM2421853-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	112	78.0	124
		EG005T: Lead	7439-92-1	250 mg/kg	96.2	80.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6278646)							
EM2422619-006	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	61.7	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6278748)							
EM2422591-002	Anonymous	EP071: C10 - C14 Fraction	----	790 mg/kg	105	71.2	125
		EP071: C15 - C28 Fraction	----	2730 mg/kg	105	75.6	122
		EP071: C29 - C36 Fraction	----	1410 mg/kg	100	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6278646)							
EM2422619-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	60.4	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6278748)							
EM2422591-002	Anonymous	EP071: >C10 - C16 Fraction	----	1080 mg/kg	107	72.2	128
		EP071: >C16 - C34 Fraction	----	3640 mg/kg	102	76.5	119
		EP071: >C34 - C40 Fraction	----	270 mg/kg	103	66.8	138
EP080: BTEXN (QCLot: 6278646)							
EM2422619-006	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	78.9	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	79.6	57.1	131

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422568**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 19-Dec-2024 11:10
Order number	: 60693007 7	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024 15:13
Sampler	: Andrew Christensen, JACOB MULLER, TAYA GERSTEL		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC184	----	----	----	----
				Sampling date / time	10-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422568-001	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		17.0	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	----	----	----	----
Lead	7439-92-1	5	mg/kg		175	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	0.05	mg/kg		66.8	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.05	mg/kg		830	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		139	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		98.9	----	----	----	----
Naphthalene	91-20-3	0.5	mg/kg		3.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		32.7	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		7.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		146	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		8.4	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		64.2	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		38.1	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1.0	mg/kg		105	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	mg/kg		97.4	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.05	mg/kg		97.4	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.05	mg/kg		97.4	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		73.9	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		29.2	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		16.2	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC184	----	----	----	----
				Sampling date / time	10-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422568-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**2360**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**1140**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**3500**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**130**	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**3150**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**540**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**3820**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**130**	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.025	%		**90.1**	----	----	----	----
Anthracene-d10	1719-06-8	0.025	%		**99.7**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.025	%		**107**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC184	----	----	----	----
				Sampling date / time	10-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422568-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**86.7**	**----**	**----**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%		**75.0**	**----**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**85.1**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	35	126
Anthracene-d10	1719-06-8	40	135
4-Terphenyl-d14	1718-51-0	42	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

REBATCH REQUEST

Workorder / Client code / Project:	ALS Workorder EM2422180, Client AECOMAU, Project Soil Samples
Project Manager:	Timothy Martin ***Please include this rebatch PM plus all report recipients as per original workorder***
Date samples rec'd:	~~15/12/2024 12:03pm~~ 20/12/24 @ 09:36.
Date Instructions rec'd:	~~18/12/2024 16:17~~
Rebatch due date:	Monday, 30 December 2024
Due date surcharge:	N/A

CS Contact: Peter Ravlic

Additional Information:

MS: 8973 BN 23/12

Sample information

New Lab ID	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Managed Moisture
1	QC148	6/12/2024 0:00	EM2422180	1	MS: 8679	Soil glass	NO
							TOTAL

Analysis

Standard					Leach					Shortest Holding time expiry
					TCLP Leach	PAH5	EP075(SIM)B-LIonleach			
					X	X				20-Dec-24

Environmental Division
Melbourne
Work Order Reference
EM2422713

Telephone : +61-3-8549 9600

EM

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2422713**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: timothy.martin@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: +61 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: Soil Samples	Page	: 1 of 3
Order number	: Macquarie Point 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 15-Dec-2024 12:03	Issue Date	: 23-Dec-2024
Client Requested Due Date	: 06-Jan-2025	Scheduled Reporting Date	: **06-Jan-2025**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2422180.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075(SIM)B-LL Low Level PAH by EP075(SIM)B-LL
EM2422713-001	06-Dec-2024 00:00	QC148	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

SUPRIYA LATH

- *AU Certificate of Analysis - NATA (COA)	Email	supriya.lath@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	supriya.lath@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	supriya.lath@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	supriya.lath@aecom.com
- Chain of Custody (CoC) (COC)	Email	supriya.lath@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	supriya.lath@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	supriya.lath@aecom.com

TIMOTHY MARTIN

- *AU Certificate of Analysis - NATA (COA)	Email	timothy.martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	timothy.martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	timothy.martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- A4 - AU Tax Invoice (INV)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	timothy.martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	timothy.martin@aecom.com

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422713**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Telephone	: +6138549 9645
Project	: Soil Samples	Date Samples Received	: 15-Dec-2024
Site	: ----	Issue Date	: 07-Jan-2025
Sampler	: ----	No. of samples received	: 1
Order number	: Macquarie Point 60693007 7	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)						
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
QC148	30-Dec-2024	20-Dec-2024	**10**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	6	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
QC148	**06-Dec-2024**	**30-Dec-2024**	20-Dec-2024	×	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
QC148	**30-Dec-2024**	**31-Dec-2024**	06-Jan-2025	✓	**31-Dec-2024**	09-Feb-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	6	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

QUALITY CONTROL REPORT

Work Order	: **EM2422713**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: Soil Samples	Date Samples Received	: 15-Dec-2024
Order number	: Macquarie Point 60693007 7	Date Analysis Commenced	: 30-Dec-2024
C-O-C number	: ----	Issue Date	: 07-Jan-2025
Sampler	: ----		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6289209)									
EM2422713-001	QC148	EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	<0.050	0.0	No Limit
		EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	12.0	11.2	6.9	0% - 20%
		EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	4.96	4.64	6.6	0% - 20%
		EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	6.48	6.05	6.8	0% - 20%
		EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	16.8	16.0	5.2	0% - 20%
		EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	39.0	37.4	4.1	0% - 20%
		EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	51.6	50.5	2.2	0% - 20%
		EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	10.4	10.2	2.2	0% - 20%
		EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	9.07	8.83	2.7	0% - 20%
		EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	6.51	6.30	3.3	0% - 20%
		EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	0.28	0.28	0.0	No Limit
		EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	0.24	0.23	0.0	No Limit
		EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6289209)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	72.0	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	77.0	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	82.7	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	75.9	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	82.3	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	79.2	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	84.8	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	86.2	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	89.7	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	80.1	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	95.3	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	86.5	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	87.6	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	88.5	56.6	126
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	87.6	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	98.1	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	83.3	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422713**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR TIMOTHY MARTIN	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: Soil Samples	Date Samples Received	: 15-Dec-2024 12:03
Order number	: Macquarie Point 60693007 7	Date Analysis Commenced	: 30-Dec-2024
C-O-C number	: ----	Issue Date	: 07-Jan-2025 16:22
Sampler	: ----		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- This is a rebatch of EM2422180.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422713-001	--------	--------	--------	--------
					Result	----	----	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**5.9**	**----**	**----**	**----**	**----**
After HCl pH	----	0.1	pH Unit		**1.3**	**----**	**----**	**----**	**----**
Extraction Fluid Number	----	1	-		**1**	**----**	**----**	**----**	**----**
Final pH	----	0.1	pH Unit		**5.1**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	QC148	----	----	----	----
				Sampling date / time	06-Dec-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2422713-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**12.0**	----	----	----	----
2-Methylnaphthalene	91-57-6	0.10	µg/L		**4.96**	----	----	----	----
Acenaphthylene	208-96-8	0.10	µg/L		**6.48**	----	----	----	----
Acenaphthene	83-32-9	0.10	µg/L		**16.8**	----	----	----	----
Fluorene	86-73-7	0.10	µg/L		**39.0**	----	----	----	----
Phenanthrene	85-01-8	0.10	µg/L		**51.6**	----	----	----	----
Anthracene	120-12-7	0.10	µg/L		**10.4**	----	----	----	----
Fluoranthene	206-44-0	0.10	µg/L		**9.07**	----	----	----	----
Pyrene	129-00-0	0.10	µg/L		**6.51**	----	----	----	----
Benz(a)anthracene	56-55-3	0.10	µg/L		**0.28**	----	----	----	----
Chrysene	218-01-9	0.10	µg/L		**0.24**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	----	----	----	----
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**152**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	----	----	----	----
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**80.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.10	%		**71.1**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.10	%		**88.3**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

REBATCH REQUEST

Workorder / Client code / Project:	ALS Workorder EM2422260 + EM2422322 + EM2422568, Client AECOMAU, Project 60693007	**CS Contact: Harrison Dent**	
Project Manager:	Robert Crowe ***Please include this rebatch PM plus all report recipients as per original workorder***	Additional Information:	
Date samples rec'd:	13/12/2024 10:20		
Date Instructions rec'd:	23/12/2024 20:27		
Rebatch due date:	Wednesday, 10 January 2024	FTAT approved?	
Due date surcharge:	**N/A**		

Sample information								Analysis									
								Standard					Leach				
New Lab ID	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Managed Moisture					EN33 - TCLP - EP075(SIM)B-LL PAH					Shortest Holding time expiry
	QC174	10/12/2024 0:00	EM2422260	003	MS: 8714-8715	Soil glass	NO					X					24-Dec-24
	QC172	10/12/2024 0:00	EM2422260	007	MS: 8714-8715	Soil glass	NO					X					24-Dec-24
	QC164	10/12/2024 0:00	EM2422260	008	MS: 8714-8715	Soil glass	NO					X					24-Dec-24
	QC197	11/12/2024 0:00	EM2422322	001	MS: 8755-8756	Soil glass	NO					X					25-Dec-24
	QC184	10/12/2024 0:00	EM2422568	001	MS: 8885	Soil glass	NO					X					24-Dec-24
							TOTAL										

Environmental Division
Melbourne
Work Order Reference
EM2422754

Telephone : + 61-3-8549 9600

Beka Liu

From: Martin, Tim <Timothy.Martin@aecom.com>
Sent: Monday, 23 December 2024 8:27 PM
To: ALS Enviro Melbourne
Cc: Peter Ravlic; Crowe, Robert; Lath, Supriya
Subject: [EXTERNAL] - FW: RESULTS & EDD for ALS Workorder : EM2422260 | Your Reference: 60693007 7

Importance: High

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

ALS, please conduct the following additional analysis for **leachable PAH (via method EP075(SIM)B-LL using TCLP)** for:

- Similar analysis as requested for my other batches; refer to EM2422713, EM2422444, EM2422063...

Batch EM2422260:

- **QC164**
- **QC172**
- **QC174**

Batch EM2422232:

- **QC197**

Batch EM2422568

- **QC184**

Analysis required by 13 January 2025.

Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia

LinkedIn | Twitter | Facebook | Instagram | aecom.com

Please consider the environment before printing this email.

My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: Martin, Tim
Sent: Monday, 23 December 2024 8:16 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: RE: RESULTS & EDD for ALS Workorder : EM2422260 | Your Reference: 60693007 7

Peter,

Please conduct additional analysis for leachable PAH (via method EP075(SIM)B-LL using TCLP) for QC164, QC172 and QC174, from batch EM2422260.

Kind Regards,

TIMOTHY MARTIN

Principal Environmental Engineer, ANZ VSA
Mobile: 0422 188 549
Office: 1800 868 654
timothy.martin@aecom.com

AECOM
Collins Square, Level 10, Tower Two
727 Collins Street, Melbourne, VIC 3008, Australia

LinkedIn | Twitter | Facebook | Instagram | aecom.com
Please consider the environment before printing this email.
My working days are:

Monday	Tuesday	Wednesday	Thursday	Friday
X	✓	✓	✓	✓

From: angel-no-reply@alsglobal.com <angel-no-reply@alsglobal.com>
Sent: Monday, 23 December 2024 4:55 PM
To: Martin, Tim <Timothy.Martin@aecom.com>
Subject: RESULTS & EDD for ALS Workorder : EM2422260 | Your Reference: 60693007 7

Deliverables for ALS Workorder EM2422260

Project: 60693007 7

Dear TIMOTHY MARTIN,

Please find enclosed the following deliverables for **EM2422260**:

- EM2422260_0_COA.pdf
- EM2422260-Leg_20241220115825.pdf
- EM2422260-NEP_20241220115825.pdf
- 60693007 7.ESDAT_EM2422260_0.Chemistry2e.CSV
- 60693007 7.ESDAT_EM2422260_0.Header.XML
- 60693007 7.ESDAT_EM2422260_0.Sample2e.CSV
- EM2422260_0_QC.pdf

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2422754**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 7	Page	: 1 of 2
Order number	: 60693007 7	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: AC, JM, TG		

Dates

Date Samples Received	: 13-Dec-2024 10:20	Issue Date	: 24-Dec-2024
Client Requested Due Date	: 10-Jan-2025	Scheduled Reporting Date	: **10-Jan-2025**

Delivery Details

Mode of Delivery	: Samples On Hand	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 5 / 5

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2422260.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EN33a-G TCLP Leachate - Glass Leaching Vessel	SOIL - EP075(SIM)B-LL Low Level PAH by EP075(SIM)B-LL
EM2422754-001	10-Dec-2024 00:00	QC174	✓	✓
EM2422754-002	10-Dec-2024 00:00	QC172	✓	✓
EM2422754-003	10-Dec-2024 00:00	QC164	✓	✓
EM2422754-004	11-Dec-2024 00:00	QC197	✓	✓
EM2422754-005	10-Dec-2024 00:00	QC184	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

TIMOTHY MARTIN

- *AU Certificate of Analysis - NATA (COA)	Email	timothy.martin@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	timothy.martin@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	timothy.martin@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	timothy.martin@aecom.com
- Chain of Custody (CoC) (COC)	Email	timothy.martin@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	timothy.martin@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	timothy.martin@aecom.com

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2422754**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 13-Dec-2024
Site	: Macquarie Point	Issue Date	: 06-Jan-2025
Sampler	: AC, JM, TG	No. of samples received	: 5
Order number	: 60693007 7	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)						
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
QC174, QC172, QC164, QC184	30-Dec-2024	24-Dec-2024	**6**	----	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics)						
QC197	30-Dec-2024	25-Dec-2024	**5**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Analytical Methods	Method	Count		Rate (%)		Quality Control Specification
		QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)							
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
QC174, QC172, QC164, QC184	**10-Dec-2024**	**30-Dec-2024**	24-Dec-2024	×	**----**	----	----
Non-Volatile Leach: 14 day HT(e.g. SV organics) (EN33a-G)							
QC197	**11-Dec-2024**	**30-Dec-2024**	25-Dec-2024	×	**----**	----	----

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
QC172, QC164, QC197, QC184	**30-Dec-2024**	**31-Dec-2024**	06-Jan-2025	✓	**02-Jan-2025**	09-Feb-2025	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)B-LL)							
QC174	**30-Dec-2024**	**31-Dec-2024**	06-Jan-2025	✓	**03-Jan-2025**	09-Feb-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	5	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
PAHs (GC/MS - SIM) Low-Level	EP075(SIM)B-LL	SOIL	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes - Glass Leaching Vessel	EN33a-G	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

QUALITY CONTROL REPORT

Work Order	: **EM2422754**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 13-Dec-2024
Order number	: 60693007 7	Date Analysis Commenced	: 30-Dec-2024
C-O-C number	: ----	Issue Date	: 06-Jan-2025
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6289209)								
EP075(SIM)B-LL: Naphthalene	91-20-3	0.1	µg/L	<0.10	5 µg/L	72.0	41.8	106
EP075(SIM)B-LL: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.10	5 µg/L	77.0	47.9	111
EP075(SIM)B-LL: Acenaphthylene	208-96-8	0.1	µg/L	<0.10	5 µg/L	82.7	49.5	120
EP075(SIM)B-LL: Acenaphthene	83-32-9	0.1	µg/L	<0.10	5 µg/L	75.9	50.3	111
EP075(SIM)B-LL: Fluorene	86-73-7	0.1	µg/L	<0.10	5 µg/L	82.3	53.1	116
EP075(SIM)B-LL: Phenanthrene	85-01-8	0.1	µg/L	<0.10	5 µg/L	79.2	53.3	118
EP075(SIM)B-LL: Anthracene	120-12-7	0.1	µg/L	<0.10	5 µg/L	84.8	53.2	120
EP075(SIM)B-LL: Fluoranthene	206-44-0	0.1	µg/L	<0.10	5 µg/L	86.2	52.9	122
EP075(SIM)B-LL: Pyrene	129-00-0	0.1	µg/L	<0.10	5 µg/L	89.7	55.0	121
EP075(SIM)B-LL: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.10	5 µg/L	80.1	50.0	121
EP075(SIM)B-LL: Chrysene	218-01-9	0.1	µg/L	<0.10	5 µg/L	95.3	45.8	124
EP075(SIM)B-LL: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.10	5 µg/L	86.5	53.9	131
EP075(SIM)B-LL: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.10	5 µg/L	87.6	50.5	128
EP075(SIM)B-LL: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.050	5 µg/L	88.5	56.6	126
EP075(SIM)B-LL: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.10	5 µg/L	87.6	58.7	126
EP075(SIM)B-LL: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.10	5 µg/L	98.1	58.7	128
EP075(SIM)B-LL: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.10	5 µg/L	83.3	57.0	126

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

CERTIFICATE OF ANALYSIS

Work Order	: **EM2422754**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 7	Date Samples Received	: 13-Dec-2024 10:20
Order number	: 60693007 7	Date Analysis Commenced	: 30-Dec-2024
C-O-C number	: ----	Issue Date	: 06-Jan-2025 10:05
Sampler	: AC, JM, TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- This is a rebatch of EM2422260.
- EN33a-G: EM242627-001,002 Due to limited sample for leach analysis, a scaled down amount of 50g into 1000mL was used.
- EN33a-G: EM242754-001,002,003,004,005 Due to limited sample for leach analysis, a scaled down amount of 50g into 1000mL was used.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC174	QC172	QC164	QC197	QC184
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	11-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422754-001	EM2422754-002	EM2422754-003	EM2422754-004	EM2422754-005
					Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)									
Initial pH	----	0.1	pH Unit		**6.3**	**6.4**	**6.3**	**6.2**	**6.0**
After HCl pH	----	0.1	pH Unit		**1.2**	**1.2**	**1.2**	**1.3**	**1.3**
Extraction Fluid Number	----	1	-		**1**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit		**6.1**	**6.1**	**6.0**	**5.9**	**5.8**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Sample ID	QC174	QC172	QC164	QC197	QC184
				Sampling date / time	10-Dec-2024 00:00	10-Dec-2024 00:00	10-Dec-2024 00:00	11-Dec-2024 00:00	10-Dec-2024 00:00
Compound	CAS Number	LOR	Unit		EM2422754-001	EM2422754-002	EM2422754-003	EM2422754-004	EM2422754-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.10	µg/L		**0.21**	**0.58**	<0.10	**1.45**	**24.9**
2-Methylnaphthalene	91-57-6	0.10	µg/L		<0.10	**0.69**	<0.10	**1.57**	**10.3**
Acenaphthylene	208-96-8	0.10	µg/L		<0.10	**0.80**	<0.10	**2.23**	**25.8**
Acenaphthene	83-32-9	0.10	µg/L		**0.44**	**0.43**	<0.10	**0.73**	**5.18**
Fluorene	86-73-7	0.10	µg/L		**0.96**	**1.05**	**0.19**	**3.00**	**19.5**
Phenanthrene	85-01-8	0.10	µg/L		**0.52**	**1.66**	**0.44**	**5.51**	**63.2**
Anthracene	120-12-7	0.10	µg/L		**0.20**	**0.33**	**0.12**	**1.02**	**12.5**
Fluoranthene	206-44-0	0.10	µg/L		**0.24**	**0.31**	**0.21**	**0.87**	**13.7**
Pyrene	129-00-0	0.10	µg/L		**0.18**	**0.22**	**0.16**	**0.61**	**10.0**
Benz(a)anthracene	56-55-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	**0.58**
Chrysene	218-01-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	**0.53**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	**0.17**
Benzo(k)fluoranthene	207-08-9	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	50-32-8	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	**0.159**
Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz(a.h)anthracene	53-70-3	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(g.h.i)perylene	191-24-2	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	<0.10
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.10	µg/L		**2.75**	**5.38**	**1.12**	**15.4**	**176**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.10	µg/L		<0.10	<0.10	<0.10	<0.10	**0.24**
EP075(SIM)V: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.10	%		**77.4**	**80.1**	**78.9**	**75.9**	**78.9**
Anthracene-d10	1719-06-8	0.10	%		**65.6**	**70.0**	**75.2**	**67.1**	**70.5**
4-Terphenyl-d14	1718-51-0	0.10	%		**90.3**	**78.0**	**84.2**	**74.4**	**80.2**

Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)V: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	36	114
Anthracene-d10	1719-06-8	51	119
4-Terphenyl-d14	1718-51-0	49	127

Appendix F

Field Records

ANZ

FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
Date of Fieldwork:	27/11/24	**PM Name:**	Rob Crowe
Time Arrive:	7:00	**Time Depart:**	17:00

Administration

Personnel On-Site:	JM
Contractors (Inducted, Downtime):	SWD Craig/Rob

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

- 7:00 - onsite
- 7:15 - prestart
- 9:30 - set up drill M18, N18, O18
- 10:00 - break
- 10:10 - core L18 crack in sub on drill head JM offsite to prepare ESKY and drop samples to Eurofins, collect more rinsate water and ESKYs
- 11:30 back onsite
- 13:00 want on drills to return, pre label jars with job number

16:36 drill L18, L17, M17, L16, N17
16:45 pack up
17:00 field notes | offsite
17:15 collect ice

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature

27/11/24
Date

Distribution: Project Central File

AECOM

ANZ

Q4AN(EV)-002-FM1

FQM - Daily Activity Report

Project Name:	Maquarie Point Development	Project Number:	60693007
Project Location:	41 Evans Street Hobart	Client:	MPDC
Date of Fieldwork:	28/11/24	PM Name:	Rob Crowe
Time Arrive:	7:00	Time Depart:	16:45

Administration

Personnel On-Site:	Jacob Muller
Contractors (Inducted, Downtime):	SWD Craig/Rob

Tasks Undertaken

Describe tasks and time of activities undertaken; observations, communications with PM, clients and subcontractors etc.
☐Cross out unused portions of the site notes ☐ Indicate QA/QC samples collected & note on tracking sheet
☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors
Indicate Weather Conditions:

- 7:00 - onsite
- 7:15 - pre start
- 11:00 - drill M15, M16, N15, O15, M14, N14
- 11:30 - breack
- 12:00 - begins coring O14, core barrel sheared
- 12:45 - walk over to western corner and inspect access to locations not requiring core barrel
- 13:45 - walk rig over to new locations
- 14:15 - Drill F15/16
- 15:00 - lunch
- 16:00 Drill F15/F16
- 16:15 sub broken, follow up if new sub is over at office, not delivered yet Craig to track down
- 16:40 Jm do COC/QAQC paperwork and DAR
- 17:00 Jm pick up ice

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature — Date: 28/11/24

Distribution: Project Central File

AECOM

ANZ

FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
Date of Fieldwork:	3/12/24	**PM Name:**	Rob Crowe
Time Arrive:	6:30	**Time Depart:**	

Administration

Personnel On-Site:	J.M
Contractors (Inducted, Downtime):	SWD Graham, michael, T

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐ Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

6:30 - JM onsite to bollard off car parks and pick up ute
7:00 SWD/ Andrew onsite
7:30 induction + site walk over
8:30 Set up
12:00 drill car park location
12:30 lunch
14:00 confirm drilling car park area, walk over of NDD locations
15:00 x2 SWD attpt to NDD locations with andrew, JM with sonic rig
15:30 move onto J10, Andrew log and JM prepare COC
16:15 drill last location
16:30 SWD pack up
16:45 AC go to lab to pick up Jars, JM finish paperwork

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature

3/12/24
Date

Distribution: Project Central File

ANZ

Q4AN(EV)-002-FM1

FQM - Daily Activity Report

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
Date of Fieldwork:		**PM Name:**	Rob Crowe
Time Arrive:	7:00	**Time Depart:**	14:45

Administration

Personnel On-Site:	Jm Ac
Contractors (Inducted, Downtime):	SWD - Michael / Graham / T

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

6:45 Jm pick up ICE
7:00 - onsite
7:15 - toolbox
7:45 - Set up
11:00 - Drill E08 / F07 / G06 / H06

Shallow refusal encountered, discussed with PM, no need to sample fresh dolerite

12:00 - finish bores in north and Road way move back onsite

16:00 Drill bores onsite
16:30 Ac offsite to lab
17:00 Jm Log JO8
17:~~00~~ Jm finish paperwork and move bollards onto drill sites in car park

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature

4/12/24
Date

Distribution: Project Central File

AECOM

ANZ

FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Maquarie Point Development	Project Number:	60693007
Project Location:	41 Evans Street Hobart	Client:	MPDC
Date of Fieldwork:	5/12/24	PM Name:	Rob Crowe
Time Arrive:	7:00	Time Depart:	

Administration

Personnel On-Site:	Jacob.M / Andrew.C
Contractors (Inducted, Downtime):	SWO Graham, Michael, T

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐ Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions

6:45 pick up
7:00 onsite
7:15 pre start
11:00 drill accessible car park locations
12:00 move onto black cap area and Continue drilling
12:30 lunch
16:30 drill in north area
Jim talk to black cap regarding locations in their compound & confirm sewer location
17:00 - finish COC, pack up and collect ICE

HSE Actions

Describe any HSE actions or observations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
Date of Fieldwork:	06/12/24	**PM Name:**	Rob Crowe
Time Arrive:	7:06	**Time Depart:**	

Administration

Personnel On-Site:	Jacob M / Andrew C
Contractors (Inducted, Downtime):	SWD Graham, ~~Nicole~~ Michael, T

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

7:00 - onsite
7:15 - Prestart
8:30 - Drill final carpark location
9:15 - Move into Blackcap carpark and continue drilling
12:00 - Lunch
12:30 - Resume drilling in main area
15:15 - Jacob leaves
15:20 - Finish drilling
15:30 - Complete COCs
15:45 - Drop of samples and pick up more soil Jars
14:15 - Drop supplies back at compound, finish paperwork, leave site

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature

Date

Distribution: Project Central File

ANZ

FQM - Daily Activity Report

AE

Q4AN(EV)-0

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
Date of Fieldwork:	09/12/2024	**PM Name:**	Rob Crowe
Time Arrive:	7:00 am	**Time Depart:**	

Administration

Personnel On-Site:	Andrew Taya
Contractors (Inducted, Downtime):	South West Drilling, Grethame, Michael, T

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

7:00 - Arrive on site
7:30 - Begin drilling
8:45 - Taya arrives on site
11:30 - Begin NDD
12:30 - Lunch
13:00 - Resume drilling and NDD
16:00 - Finish drilling
17:30 - leave site

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Date

ANZ

AECOM

FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
Date of Fieldwork:	10/12/24	**PM Name:**	Rob Crowe
Time Arrive:	0700	**Time Depart:**	

Administration

Personnel On-Site:	TH, AC
Contractors (Inducted, Downtime):	SWD

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

0700 - 0730 : onsite, pre-start set-up.
0730 - 1230 : drill 116, 114, 113, G13, G12 G13, E13, F13
1230 - 1300 : lunch
1300 - 1600 : drill G14, G15, H17, ~~H16~~ H15, ~~H18~~, H16, H18
1600 - 1630 : soft samples, pack down
1630 - 1700 : deep samples at Eurofins, pick up more materials
1900 : leave eurofins, Mobilise home.

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

Fieldwork Staff Signature _____ Date _____

Distribution: Project Central File

AECOM

ANZ

FQM - Gas Monitoring Calibration Record

Q4AN(EV)-003-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
PM Name:	Rob Crowe	**Fieldwork Staff Name:**	JM AC TG

This calibration record is intended to prompt fieldwork staff to calibrate various gas instruments (PID, LEL, Landfill gas meters) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Ergip
Make and Model:	Rikken GX
Serial Number:	0028
For PID - Lamp Photon Energy (eV):	10.6

CALIBRATION

Calibration (Span) Gas:	Isobutylene	Methane 2.5%
Batch Number:	10464-10	10954-11
Expiry Date:	2028	2026
Concentration (ppm or % v/v):	100 ppm	2.5%

CALIBRATE WITH SPAN GAS

Calibration Date:	3/12/24	4/12/24	5/12/24	3/12/24	4/12/24	5/12/24
Calibration Time:	7:36	7:51	7:20	7:38	7:55	7:25
Fresh Air Calibration Reading (ppm or % v/v):	0	0	0	0%	0%	0
Calibration Reading (ppm or % v/v):	100	100	100	50%	50%	50%

CORRECTION FACTOR

The project HSEP provides the target compound/s of interest and should include the appropriate correction factor to be used for the PID.

Target Compound/s:	Isobutylene	Methane
Correction Factor:	1	2.5%

BUMP TEST WITH SPAN GAS

Time:	7:37	7:51	7:41	7:20	7:56	7:26
Bump Test Reading (ppm):	95.6	100.6	50%	100.9	50%	51%

ALARM LEVELS

The project HSEP provides actions levels for the target compound/s of interest and the instrument should be set up with high and low level alarms based on the action level concentrations where required.

High Level Alarm (ppm or % v/v):	100	100	5%	5%	5
Low Level Alarm (ppm or % v/v):	50	50	1%	1%	1%

TEST ALARMS BY BUMP TEST

Time:	7:37	7:51	7:41	7:20	7:56	7:26
Alarms Activated at Low Level (Y/N):	Y	Y	Y	Y	Y	Y

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Fieldwork Staff Signature

5/12/24

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Gas Monitoring Calibration Record

Q4AN(EV)-003-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
PM Name:	Rob Crowe	**Fieldwork Staff Name:**	JM AC TG

This calibration record is intended to prompt fieldwork staff to calibrate various gas instruments (PID, LEL, Landfill gas meters) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Envip
Make and Model:	Altair GX
Serial Number:	0028
For PID - Lamp Photon Energy (eV):	10.6

CALIBRATION

Calibration (Span) Gas:	Isobutylene	methane 2.5%
Batch Number:	10464 - 10	10954 - 11
Expiry Date:	2028	2026
Concentration (ppm or % v/v):	100 ppm	2.5%

CALIBRATE WITH SPAN GAS

Calibration Date:	6/12/24			6/12/24		
Calibration Time:	7:15			7:24		
Fresh Air Calibration Reading (ppm or % v/v):	0			0		
Calibration Reading (ppm or % v/v):	100.8			50%		

CORRECTION FACTOR

The project HSEP provides the target compound/s of interest and should include the appropriate correction factor to be used for the PID.

Target Compound/s:	Isobutylene	50% LEL
Correction Factor:	1	

BUMP TEST WITH SPAN GAS

Time:	7:16			7:26		
Bump Test Reading (ppm):	105.8			50%		

ALARM LEVELS

The project HSEP provides actions levels for the target compound/s of interest and the instrument should be set up with high and low level alarms based on the action level concentrations where required.

High Level Alarm (ppm or % v/v):	100	5%
Low Level Alarm (ppm or % v/v):	50	1%

TEST ALARMS BY BUMP TEST

Time:	7:16			7:24		
Alarms Activated at Low Level (Y/N):	Y			Y		

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Fieldwork Staff Signature

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Gas Monitoring Calibration Record

Q4AN(EV)-003-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
PM Name:	Rob Crowe	**Fieldwork Staff Name:**	JM AC TG

This calibration record is intended to prompt fieldwork staff to calibrate various gas instruments (PID, LEL, Landfill gas meters) daily before the start of fieldworks.

INSTRUMENT DETAILS		
Supplier:	Engip	
Make and Model:	Riken Keiki GX-6000	
Serial Number:	39801376 PN	
For PID - Lamp Photon Energy (eV):		

CALIBRATION		
Calibration (Span) Gas:	Iso butylene	Methane
Batch Number:	10464-10	10954-11
Expiry Date:	2028	2026
Concentration (ppm or % v/v):	100 ppm	2.5%

CALIBRATE WITH SPAN GAS					
Calibration Date:	09/12/24	09/12/24			
Calibration Time:	7:03	7:05			
Fresh Air Calibration Reading (ppm or % v/v):	0	0			
Calibration Reading (ppm or % v/v):	~~54~~ 100 ppm	540 %			

CORRECTION FACTOR	
The project HSEP provides the target compound/s of interest and should include the appropriate correction factor to be used for the PID.	
Target Compound/s:	
Correction Factor:	

BUMP TEST WITH SPAN GAS					
Time:					
Bump Test Reading (ppm):					

ALARM LEVELS	
The project HSEP provides actions levels for the target compound/s of interest and the instrument should be set up with high and low level alarms based on the action level concentrations where required.	
High Level Alarm (ppm or % v/v):	
Low Level Alarm (ppm or % v/v):	

TEST ALARMS BY BUMP TEST					
Time:					
Alarms Activated at Low Level (Y/N):					

COMMENTS
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Fieldwork Staff Signature _____ **Date** _____

Distribution: Project Central File

AECOM

ANZ

FQM - Gas Monitoring Calibration Record

Q4AN(EV)-003-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
PM Name:	Rob Crowe	**Fieldwork Staff Name:**	JM AC TG

This calibration record is intended to prompt fieldwork staff to calibrate various gas instruments (PID, LEL, Landfill gas meters) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Envirp
Make and Model:	RKI GX 6000
Serial Number:	5016 , 0028
For PID - Lamp Photon Energy (eV):	

CALIBRATION

Calibration (Span) Gas:	Isobutylene	Methane, Oxygen
Batch Number:	10464-410	10454-11
Expiry Date:	NOV 2025	SEP 2026
Concentration (ppm or % v/v):	100 PPM	50% LEL 19% O2.

CALIBRATE WITH SPAN GAS

Calibration Date:					
Calibration Time:					
Fresh Air Calibration Reading (ppm or % v/v):					
Calibration Reading (ppm or % v/v):					

CORRECTION FACTOR

The project HSEP provides the target compound/s of interest and should include the appropriate correction factor to be used for the PID.

Target Compound/s:	Isobutylene		methane / oxygen	
Correction Factor:	5016	0028	5016	0025

BUMP TEST WITH SPAN GAS

10/12/24

Time:	7:12				
Bump Test Reading (ppm):	93.4	104.7	47, 19.2	42, 17.8	

ALARM LEVELS

The project HSEP provides actions levels for the target compound/s of interest and the instrument should be set up with high and low level alarms based on the action level concentrations where required.

High Level Alarm (ppm or % v/v):	
Low Level Alarm (ppm or % v/v):	

TEST ALARMS BY BUMP TEST

Time:					
Alarms Activated at Low Level (Y/N):					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Fieldwork Staff Signature _____ **Date** _____

Distribution: Project Central File

AECOM

ANZ

FQM - Gas Monitoring Calibration Record

Q4AN(EV)-003-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
PM Name:	Rob Crowe	**Fieldwork Staff Name:**	JM AC TG

This calibration record is intended to prompt fieldwork staff to calibrate various gas instruments (PID, LEL, Landfill gas meters) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Enguip
Make and Model:	RKI GX-6000
Serial Number:	5016 | 0028
For PID - Lamp Photon Energy (eV):	

CALIBRATION

Calibration (Span) Gas:	Iso-butylene	Methane, O_2
Batch Number:	10464-40	10954-11
Expiry Date:	Nov 2028	Sep 2026
Concentration (ppm or % v/v):	100 ppm	50% LEL, 18%

CALIBRATE WITH SPAN GAS

Calibration Date:					
Calibration Time:					
Fresh Air Calibration Reading (ppm or % v/v):					
Calibration Reading (ppm or % v/v):					

CORRECTION FACTOR

The project HSEP provides the target compound/s of interest and should include the appropriate correction factor to be used for the PID.

Target Compound/s:	
Correction Factor:	

BUMP TEST WITH SPAN GAS

	11/12/24	0714		5016	0028
Time: 5016	Iso	0028		CH_4 O_2	CH_4 O_2
Bump Test Reading (ppm):	114.4	101.4		51%, 18.5	41%, 17.7

ALARM LEVELS

The project HSEP provides actions levels for the target compound/s of interest and the instrument should be set up with high and low level alarms based on the action level concentrations where required.

High Level Alarm (ppm or % v/v):	
Low Level Alarm (ppm or % v/v):	

TEST ALARMS BY BUMP TEST

Time:					
Alarms Activated at Low Level (Y/N):					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Fieldwork Staff Signature _____ **Date** _____

Distribution: Project Central File

AECOM

ANZ

FQM - Gas Monitoring Calibration Record

Q4AN(EV)-003-FM1

Project Name:	Maquarie Point Development	**Project Number:**	60693007
Project Location:	41 Evans Street Hobart	**Client:**	MPDC
PM Name:	Rob Crowe	**Fieldwork Staff Name:**	JM AC TG

This calibration record is intended to prompt fieldwork staff to calibrate various gas instruments (PID, LEL, Landfill gas meters) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Enquip
Make and Model:	RKI GX-6000
Serial Number:	5016 | 0028
For PID - Lamp Photon Energy (eV):	

CALIBRATION

Calibration (Span) Gas:	Iso-butylene	Methane, O_2
Batch Number:	10464-40	10954-11
Expiry Date:	Nov 2028	Sep 2026
Concentration (ppm or % v/v):	100 ppm	50% LEL, 18%

CALIBRATE WITH SPAN GAS

Calibration Date:					
Calibration Time:					
Fresh Air Calibration Reading (ppm or % v/v):					
Calibration Reading (ppm or % v/v):					

CORRECTION FACTOR

The project HSEP provides the target compound/s of interest and should include the appropriate correction factor to be used for the PID.

Target Compound/s:	
Correction Factor:	

BUMP TEST WITH SPAN GAS

	11/12/24	0714		5016	0028
Time: 5016	~~Iso~~ Iso	0028		CH_4 O_2	CH_4 O_2
Bump Test Reading (ppm):	114.4	101.4		51%, 18.5	41%, 17.7

ALARM LEVELS

The project HSEP provides actions levels for the target compound/s of interest and the instrument should be set up with high and low level alarms based on the action level concentrations where required.

High Level Alarm (ppm or % v/v):	
Low Level Alarm (ppm or % v/v):	

TEST ALARMS BY BUMP TEST

Time:					
Alarms Activated at Low Level (Y/N):					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Fieldwork Staff Signature _____ **Date** _____

Distribution: Project Central File

Appendix G

ProUCL Outputs

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.19/05/2025 12:33:16 PM
From File	inputs_250507.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TPH C10-C36 TCC - Anthropogenic Fill

General Statistics

Total Number of Observations	429	Number of Distinct Observations	188
Number of Detects	249	Number of Non-Detects	180
Number of Distinct Detects	187	Number of Distinct Non-Detects	2
Minimum Detect	50	Minimum Non-Detect	50
Maximum Detect	59092	Maximum Non-Detect	500
Variance Detects	14967256	Percent Non-Detects	41.96%
Mean Detects	1016	SD Detects	3869
Median Detects	400	CV Detects	3.808
Skewness Detects	13.83	Kurtosis Detects	206.9
Mean of Logged Detects	6.034	SD of Logged Detects	1.158

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.206	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.401	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0566	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	610.9	KM Standard Error of Mean	144.2
KM SD	2980	95% KM (BCA) UCL	911.6
95% KM (t) UCL	848.5	95% KM (Percentile Bootstrap) UCL	882.3
95% KM (z) UCL	848	95% KM Bootstrap t UCL	1311
90% KM Chebyshev UCL	1043	95% KM Chebyshev UCL	1239
97.5% KM Chebyshev UCL	1511	99% KM Chebyshev UCL	2045

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	4.016E+28	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.803	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.154	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.0606	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.682	k star (bias corrected MLE)	0.676
Theta hat (MLE)	1490	Theta star (bias corrected MLE)	1503
nu hat (MLE)	339.5	nu star (bias corrected)	336.7
Mean (detects)	1016		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.01			Mean	589.7		
59					Maximum	59092			Median	120		
60					SD	2987			CV	5.066		
61					k hat (MLE)	0.159			k star (bias corrected MLE)	0.159		
62					Theta hat (MLE)	3720			Theta star (bias corrected MLE)	3710		
63					nu hat (MLE)	136			nu star (bias corrected)	136.4		
64					Adjusted Level of Significance (β)	0.0494						
65					Approximate Chi Square Value (136.38, α)	110.4			Adjusted Chi Square Value (136.38, β)	110.3		
66					95% Gamma Approximate UCL (use when n>=50)	728.5			95% Gamma Adjusted UCL (use when n<50)	729		
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69					Mean (KM)	610.9			SD (KM)	2980		
70					Variance (KM)	8879468			SE of Mean (KM)	144.2		
71					k hat (KM)	0.042			k star (KM)	0.0433		
72					nu hat (KM)	36.06			nu star (KM)	37.14		
73					theta hat (KM)	14536			theta star (KM)	14113		
74					80% gamma percentile (KM)	47.48			90% gamma percentile (KM)	756.8		
75					95% gamma percentile (KM)	3056			99% gamma percentile (KM)	14037		
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78					Approximate Chi Square Value (37.14, α)	24.19			Adjusted Chi Square Value (37.14, β)	24.15		
79					95% Gamma Approximate KM-UCL (use when n>=50)	938			95% Gamma Adjusted KM-UCL (use when n<50)	939.3		
80												
81	**Lognormal GOF Test on Detected Observations Only**											
82					Shapiro Wilk Approximate Test Statistic	0.973			**Shapiro Wilk GOF Test**			
83					5% Shapiro Wilk P Value	0.029			Detected Data Not Lognormal at 5% Significance Level			
84					Lilliefors Test Statistic	0.0422			**Lilliefors GOF Test**			
85					5% Lilliefors Critical Value	0.0566			Detected Data appear Lognormal at 5% Significance Level			
86	**Detected Data appear Approximate Lognormal at 5% Significance Level**											
87												
88	**Lognormal ROS Statistics Using Imputed Non-Detects**											
89					Mean in Original Scale	603.9			Mean in Log Scale	4.828		
90					SD in Original Scale	2985			SD in Log Scale	1.791		
91					95% t UCL (assumes normality of ROS data)	841.5			95% Percentile Bootstrap UCL	883.5		
92					95% BCA Bootstrap UCL	1054			95% Bootstrap t UCL	1258		
93					95% H-UCL (Log ROS)	794.8						
94												
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
96					KM Mean (logged)	5.145			KM Geo Mean	171.6		
97					KM SD (logged)	1.368			95% Critical H Value (KM-Log)	2.42		
98					KM Standard Error of Mean (logged)	0.0662			95% H-UCL (KM -Log)	512.8		
99					KM SD (logged)	1.368			95% Critical H Value (KM-Log)	2.42		
100					KM Standard Error of Mean (logged)	0.0662						
101												
102	**DL/2 Statistics**											
103	**DL/2 Normal**								**DL/2 Log-Transformed**			
104					Mean in Original Scale	600.7			Mean in Log Scale	4.858		
105					SD in Original Scale	2985			SD in Log Scale	1.645		
106					95% t UCL (Assumes normality)	838.3			95% H-Stat UCL	616.9		
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Detected Data appear Approximate Lognormal Distributed at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
111												
112	**Suggested UCL to Use**											
113					KM H-UCL	512.8						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												
120	**Arsenic TCC - Anthropogenic Fill**											
121												
122	**General Statistics**											
123					Total Number of Observations	429			Number of Distinct Observations	100		
124					Number of Detects	267			Number of Non-Detects	162		
125					Number of Distinct Detects	100			Number of Distinct Non-Detects	1		
126					Minimum Detect	2			Minimum Non-Detect	2		
127					Maximum Detect	350			Maximum Non-Detect	2		
128					Variance Detects	1058			Percent Non-Detects	37.76%		
129					Mean Detects	13.16			SD Detects	32.53		
130					Median Detects	5.1			CV Detects	2.473		
131					Skewness Detects	7.007			Kurtosis Detects	59.71		
132					Mean of Logged Detects	1.831			SD of Logged Detects	0.966		
133												
134	**Normal GOF Test on Detects Only**											
135					Shapiro Wilk Test Statistic	0.348			**Normal GOF Test on Detected Observations Only**			
136					5% Shapiro Wilk P Value	0			Detected Data Not Normal at 5% Significance Level			
137					Lilliefors Test Statistic	0.366			**Lilliefors GOF Test**			
138					5% Lilliefors Critical Value	0.0546			Detected Data Not Normal at 5% Significance Level			
139	**Detected Data Not Normal at 5% Significance Level**											
140												
141	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
142					KM Mean	8.944			KM Standard Error of Mean	1.266		
143					KM SD	26.18			95% KM (BCA) UCL	11.13		
144					95% KM (t) UCL	11.03			95% KM (Percentile Bootstrap) UCL	11.13		
145					95% KM (z) UCL	11.03			95% KM Bootstrap t UCL	12.14		
146					90% KM Chebyshev UCL	12.74			95% KM Chebyshev UCL	14.46		
147					97.5% KM Chebyshev UCL	16.85			99% KM Chebyshev UCL	21.54		
148												
149	**Gamma GOF Tests on Detected Observations Only**											
150					A-D Test Statistic	25.83			**Anderson-Darling GOF Test**			
151					5% A-D Critical Value	0.794			Detected Data Not Gamma Distributed at 5% Significance Level			
152					K-S Test Statistic	0.248			**Kolmogorov-Smirnov GOF**			
153					5% K-S Critical Value	0.0581			Detected Data Not Gamma Distributed at 5% Significance Level			
154	**Detected Data Not Gamma Distributed at 5% Significance Level**											
155												
156	**Gamma Statistics on Detected Data Only**											
157					k hat (MLE)	0.796			k star (bias corrected MLE)	0.79		
158					Theta hat (MLE)	16.52			Theta star (bias corrected MLE)	16.66		
159					nu hat (MLE)	425.2			nu star (bias corrected)	421.8		
160					Mean (detects)	13.16						
161												
162	**Gamma ROS Statistics using Imputed Non-Detects**											
163	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
164	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
165	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

166	This is especially true when the sample size is small.											
167	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
168					Minimum	0.01				Mean		8.192
169					Maximum	350				Median		2.8
170					SD	26.43				CV		3.226
171					k hat (MLE)	0.261				k star (bias corrected MLE)		0.261
172					Theta hat (MLE)	31.39				Theta star (bias corrected MLE)		31.42
173					nu hat (MLE)	223.9				nu star (bias corrected)		223.7
174					Adjusted Level of Significance (β)	0.0494						
175					Approximate Chi Square Value (223.71, α)	190.1				Adjusted Chi Square Value (223.71, β)		190
176					95% Gamma Approximate UCL (use when n>=50)	9.641				95% Gamma Adjusted UCL (use when n<50)		9.646
177												
178	**Estimates of Gamma Parameters using KM Estimates**											
179					Mean (KM)	8.944				SD (KM)		26.18
180					Variance (KM)	685.4				SE of Mean (KM)		1.266
181					k hat (KM)	0.117				k star (KM)		0.117
182					nu hat (KM)	100.1				nu star (KM)		100.8
183					theta hat (KM)	76.64				theta star (KM)		76.15
184					80% gamma percentile (KM)	7.652				90% gamma percentile (KM)		25.19
185					95% gamma percentile (KM)	51.17				99% gamma percentile (KM)		130.9
186												
187	**Gamma Kaplan-Meier (KM) Statistics**											
188					Approximate Chi Square Value (100.76, α)	78.6				Adjusted Chi Square Value (100.76, β)		78.54
189					95% Gamma Approximate KM-UCL (use when n>=50)	11.46				95% Gamma Adjusted KM-UCL (use when n<50)		11.47
190												
191	**Lognormal GOF Test on Detected Observations Only**											
192					Shapiro Wilk Approximate Test Statistic	0.86				**Shapiro Wilk GOF Test**		
193					5% Shapiro Wilk P Value	0				Detected Data Not Lognormal at 5% Significance Level		
194					Lilliefors Test Statistic	0.128				**Lilliefors GOF Test**		
195					5% Lilliefors Critical Value	0.0546				Detected Data Not Lognormal at 5% Significance Level		
196	**Detected Data Not Lognormal at 5% Significance Level**											
197												
198	**Lognormal ROS Statistics Using Imputed Non-Detects**											
199					Mean in Original Scale	8.473				Mean in Log Scale		0.944
200					SD in Original Scale	26.34				SD in Log Scale		1.452
201					95% t UCL (assumes normality of ROS data)	10.57				95% Percentile Bootstrap UCL		10.75
202					95% BCA Bootstrap UCL	11.2				95% Bootstrap t UCL		11.64
203					95% H-UCL (Log ROS)	8.796						
204												
205	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
206					KM Mean (logged)	1.401				KM Geo Mean		4.061
207					KM SD (logged)	0.94				95% Critical H Value (KM-Log)		2.059
208					KM Standard Error of Mean (logged)	0.0455				95% H-UCL (KM -Log)		6.936
209					KM SD (logged)	0.94				95% Critical H Value (KM-Log)		2.059
210					KM Standard Error of Mean (logged)	0.0455						
211												
212	**DL/2 Statistics**											
213	**DL/2 Normal**									**DL/2 Log-Transformed**		
214					Mean in Original Scale	8.566				Mean in Log Scale		1.14
215					SD in Original Scale	26.32				SD in Log Scale		1.171
216					95% t UCL (Assumes normality)	10.66				95% H-Stat UCL		7.041
217	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
218												
219	**Nonparametric Distribution Free UCL Statistics**											
220	**Data do not follow a Discernible Distribution at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
221												
222	**Suggested UCL to Use**											
223	95% KM (Chebyshev) UCL					14.46						
224												
225	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
226	Recommendations are based upon data size, data distribution, and skewness.											
227	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
228	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
229												
230	**Cadmium TCC - Anthropogenic Fill**											
231												
232	**General Statistics**											
233	Total Number of Observations					138	Number of Distinct Observations					12
234	Number of Detects					24	Number of Non-Detects					114
235	Number of Distinct Detects					12	Number of Distinct Non-Detects					1
236	Minimum Detect					0.4	Minimum Non-Detect					0.4
237	Maximum Detect					45	Maximum Non-Detect					0.4
238	Variance Detects					92.85	Percent Non-Detects					82.61%
239	Mean Detects					4.383	SD Detects					9.636
240	Median Detects					0.6	CV Detects					2.198
241	Skewness Detects					3.628	Kurtosis Detects					14.6
242	Mean of Logged Detects					0.195	SD of Logged Detects					1.43
243												
244	**Normal GOF Test on Detects Only**											
245	Shapiro Wilk Test Statistic					0.475	**Shapiro Wilk GOF Test**					
246	5% Shapiro Wilk Critical Value					0.916	Detected Data Not Normal at 5% Significance Level					
247	Lilliefors Test Statistic					0.352	**Lilliefors GOF Test**					
248	5% Lilliefors Critical Value					0.177	Detected Data Not Normal at 5% Significance Level					
249	**Detected Data Not Normal at 5% Significance Level**											
250												
251	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
252	KM Mean					1.093	KM Standard Error of Mean					0.366
253	KM SD					4.214	95% KM (BCA) UCL					1.829
254	95% KM (t) UCL					1.7	95% KM (Percentile Bootstrap) UCL					1.762
255	95% KM (z) UCL					1.695	95% KM Bootstrap t UCL					2.768
256	90% KM Chebyshev UCL					2.192	95% KM Chebyshev UCL					2.69
257	97.5% KM Chebyshev UCL					3.381	99% KM Chebyshev UCL					4.738
258												
259	**Gamma GOF Tests on Detected Observations Only**											
260	A-D Test Statistic					3.28	**Anderson-Darling GOF Test**					
261	5% A-D Critical Value					0.807	Detected Data Not Gamma Distributed at 5% Significance Level					
262	K-S Test Statistic					0.354	**Kolmogorov-Smirnov GOF**					
263	5% K-S Critical Value					0.188	Detected Data Not Gamma Distributed at 5% Significance Level					
264	**Detected Data Not Gamma Distributed at 5% Significance Level**											
265												
266	**Gamma Statistics on Detected Data Only**											
267	k hat (MLE)					0.496	k star (bias corrected MLE)					0.462
268	Theta hat (MLE)					8.84	Theta star (bias corrected MLE)					9.495
269	nu hat (MLE)					23.8	nu star (bias corrected)					22.16
270	Mean (detects)					4.383						
271												
272	**Gamma ROS Statistics using Imputed Non-Detects**											
273	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
274	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
275	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

276	This is especially true when the sample size is small.											
277	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
278					Minimum	0.01			Mean	0.771		
279					Maximum	45			Median	0.01		
280					SD	4.284			CV	5.56		
281					k hat (MLE)	0.208			k star (bias corrected MLE)	0.209		
282					Theta hat (MLE)	3.699			Theta star (bias corrected MLE)	3.693		
283					nu hat (MLE)	57.5			nu star (bias corrected)	57.59		
284					Adjusted Level of Significance (β)	0.0483						
285					Approximate Chi Square Value (57.59, α)	41.14			Adjusted Chi Square Value (57.59, β)	41		
286					95% Gamma Approximate UCL (use when n>=50)	1.079			95% Gamma Adjusted UCL (use when n<50)	1.082		
287												
288	**Estimates of Gamma Parameters using KM Estimates**											
289					Mean (KM)	1.093			SD (KM)	4.214		
290					Variance (KM)	17.76			SE of Mean (KM)	0.366		
291					k hat (KM)	0.0673			k star (KM)	0.0706		
292					nu hat (KM)	18.56			nu star (KM)	19.49		
293					theta hat (KM)	16.25			theta star (KM)	15.47		
294					80% gamma percentile (KM)	0.399			90% gamma percentile (KM)	2.374		
295					95% gamma percentile (KM)	6.292			99% gamma percentile (KM)	20.51		
296												
297	**Gamma Kaplan-Meier (KM) Statistics**											
298					Approximate Chi Square Value (19.49, α)	10.48			Adjusted Chi Square Value (19.49, β)	10.41		
299					95% Gamma Approximate KM-UCL (use when n>=50)	2.033			95% Gamma Adjusted KM-UCL (use when n<50)	2.047		
300												
301	**Lognormal GOF Test on Detected Observations Only**											
302					Shapiro Wilk Test Statistic	0.757			**Shapiro Wilk GOF Test**			
303					5% Shapiro Wilk Critical Value	0.916			Detected Data Not Lognormal at 5% Significance Level			
304					Lilliefors Test Statistic	0.317			**Lilliefors GOF Test**			
305					5% Lilliefors Critical Value	0.177			Detected Data Not Lognormal at 5% Significance Level			
306	**Detected Data Not Lognormal at 5% Significance Level**											
307												
308	**Lognormal ROS Statistics Using Imputed Non-Detects**											
309					Mean in Original Scale	0.781			Mean in Log Scale	-4.748		
310					SD in Original Scale	4.283			SD in Log Scale	3.329		
311					95% t UCL (assumes normality of ROS data)	1.385			95% Percentile Bootstrap UCL	1.381		
312					95% BCA Bootstrap UCL	1.835			95% Bootstrap t UCL	2.38		
313					95% H-UCL (Log ROS)	9.099						
314												
315	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
316					KM Mean (logged)	-0.723			KM Geo Mean	0.485		
317					KM SD (logged)	0.72			95% Critical H Value (KM-Log)	1.968		
318					KM Standard Error of Mean (logged)	0.0626			95% H-UCL (KM -Log)	0.71		
319					KM SD (logged)	0.72			95% Critical H Value (KM-Log)	1.968		
320					KM Standard Error of Mean (logged)	0.0626						
321												
322	**DL/2 Statistics**											
323	**DL/2 Normal**								**DL/2 Log-Transformed**			
324					Mean in Original Scale	0.928			Mean in Log Scale	-1.296		
325					SD in Original Scale	4.257			SD in Log Scale	0.903		
326					95% t UCL (Assumes normality)	1.528			95% H-Stat UCL	0.484		
327	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
328												
329	**Nonparametric Distribution Free UCL Statistics**											
330	**Data do not follow a Discernible Distribution at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
331												
332	**Suggested UCL to Use**											
333	95% KM (Chebyshev) UCL					2.69						
334												
335	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
336	Recommendations are based upon data size, data distribution, and skewness.											
337	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
338	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
339												
340	**Chromium (total) TCC - Anthropogenic Fill**											
341												
342	**General Statistics**											
343	Total Number of Observations					138	Number of Distinct Observations					50
344	Number of Detects					132	Number of Non-Detects					6
345	Number of Distinct Detects					49	Number of Distinct Non-Detects					1
346	Minimum Detect					5.2	Minimum Non-Detect					5
347	Maximum Detect					530	Maximum Non-Detect					5
348	Variance Detects					2778	Percent Non-Detects					4.348%
349	Mean Detects					24.91	SD Detects					52.71
350	Median Detects					18	CV Detects					2.116
351	Skewness Detects					8.317	Kurtosis Detects					73.29
352	Mean of Logged Detects					2.858	SD of Logged Detects					0.634
353												
354	**Normal GOF Test on Detects Only**											
355	Shapiro Wilk Test Statistic					0.249	**Normal GOF Test on Detected Observations Only**					
356	5% Shapiro Wilk P Value					0	Detected Data Not Normal at 5% Significance Level					
357	Lilliefors Test Statistic					0.363	**Lilliefors GOF Test**					
358	5% Lilliefors Critical Value					0.0775	Detected Data Not Normal at 5% Significance Level					
359	**Detected Data Not Normal at 5% Significance Level**											
360												
361	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
362	KM Mean					24.04	KM Standard Error of Mean					4.402
363	KM SD					51.52	95% KM (BCA) UCL					32.71
364	95% KM (t) UCL					31.33	95% KM (Percentile Bootstrap) UCL					31.77
365	95% KM (z) UCL					31.28	95% KM Bootstrap t UCL					59.14
366	90% KM Chebyshev UCL					37.25	95% KM Chebyshev UCL					43.23
367	97.5% KM Chebyshev UCL					51.53	99% KM Chebyshev UCL					67.84
368												
369	**Gamma GOF Tests on Detected Observations Only**											
370	A-D Test Statistic					9.766	**Anderson-Darling GOF Test**					
371	5% A-D Critical Value					0.77	Detected Data Not Gamma Distributed at 5% Significance Level					
372	K-S Test Statistic					0.217	**Kolmogorov-Smirnov GOF**					
373	5% K-S Critical Value					0.0827	Detected Data Not Gamma Distributed at 5% Significance Level					
374	**Detected Data Not Gamma Distributed at 5% Significance Level**											
375												
376	**Gamma Statistics on Detected Data Only**											
377	k hat (MLE)					1.547	k star (bias corrected MLE)					1.516
378	Theta hat (MLE)					16.1	Theta star (bias corrected MLE)					16.42
379	nu hat (MLE)					408.3	nu star (bias corrected)					400.3
380	Mean (detects)					24.91						
381												
382	**Gamma ROS Statistics using Imputed Non-Detects**											
383	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
384	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
385	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

386	This is especially true when the sample size is small.											
387	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
388					Minimum	0.01			Mean			23.82
389					Maximum	530			Median			17
390					SD	51.79			CV			2.174
391					k hat (MLE)	0.916			k star (bias corrected MLE)			0.901
392					Theta hat (MLE)	26.01			Theta star (bias corrected MLE)			26.45
393					nu hat (MLE)	252.8			nu star (bias corrected)			248.6
394					Adjusted Level of Significance (β)	0.0483						
395					Approximate Chi Square Value (248.61, α)	213.1			Adjusted Chi Square Value (248.61, β)			212.8
396					95% Gamma Approximate UCL (use when n>=50)	27.79			95% Gamma Adjusted UCL (use when n<50)			27.84
397												
398	**Estimates of Gamma Parameters using KM Estimates**											
399					Mean (KM)	24.04			SD (KM)			51.52
400					Variance (KM)	2654			SE of Mean (KM)			4.402
401					k hat (KM)	0.218			k star (KM)			0.218
402					nu hat (KM)	60.11			nu star (KM)			60.13
403					theta hat (KM)	110.4			theta star (KM)			110.3
404					80% gamma percentile (KM)	33.03			90% gamma percentile (KM)			72.65
405					95% gamma percentile (KM)	121.1			99% gamma percentile (KM)			252.5
406												
407	**Gamma Kaplan-Meier (KM) Statistics**											
408					Approximate Chi Square Value (60.13, α)	43.3			Adjusted Chi Square Value (60.13, β)			43.15
409					95% Gamma Approximate KM-UCL (use when n>=50)	33.39			95% Gamma Adjusted KM-UCL (use when n<50)			33.5
410												
411	**Lognormal GOF Test on Detected Observations Only**											
412					Shapiro Wilk Approximate Test Statistic	0.885			**Shapiro Wilk GOF Test**			
413					5% Shapiro Wilk P Value	1.665E-15			Detected Data Not Lognormal at 5% Significance Level			
414					Lilliefors Test Statistic	0.106			**Lilliefors GOF Test**			
415					5% Lilliefors Critical Value	0.0775			Detected Data Not Lognormal at 5% Significance Level			
416	**Detected Data Not Lognormal at 5% Significance Level**											
417												
418	**Lognormal ROS Statistics Using Imputed Non-Detects**											
419					Mean in Original Scale	24.01			Mean in Log Scale			2.796
420					SD in Original Scale	51.72			SD in Log Scale			0.686
421					95% t UCL (assumes normality of ROS data)	31.3			95% Percentile Bootstrap UCL			31.87
422					95% BCA Bootstrap UCL	36.54			95% Bootstrap t UCL			59.67
423					95% H-UCL (Log ROS)	23.23						
424												
425	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
426					KM Mean (logged)	2.804			KM Geo Mean			16.51
427					KM SD (logged)	0.668			95% Critical H Value (KM-Log)			1.932
428					KM Standard Error of Mean (logged)	0.0571			95% H-UCL (KM -Log)			23.04
429					KM SD (logged)	0.668			95% Critical H Value (KM-Log)			1.932
430					KM Standard Error of Mean (logged)	0.0571						
431												
432	**DL/2 Statistics**											
433	**DL/2 Normal**								**DL/2 Log-Transformed**			
434					Mean in Original Scale	23.93			Mean in Log Scale			2.774
435					SD in Original Scale	51.75			SD in Log Scale			0.736
436					95% t UCL (Assumes normality)	31.23			95% H-Stat UCL			23.79
437	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
438												
439	**Nonparametric Distribution Free UCL Statistics**											
440	**Data do not follow a Discernible Distribution at 5% Significance Level**											

441												
442	**Suggested UCL to Use**											
443				95% KM (Chebyshev) UCL		43.23						
444												
445	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
446	Recommendations are based upon data size, data distribution, and skewness.											
447	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
448	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
449												
450	**Lead TCC - Anthropogenic Fill**											
451												
452	**General Statistics**											
453				Total Number of Observations		429		Number of Distinct Observations		160		
454				Number of Detects		369		Number of Non-Detects		60		
455				Number of Distinct Detects		159		Number of Distinct Non-Detects		1		
456				Minimum Detect		5.4		Minimum Non-Detect		5		
457				Maximum Detect		8000		Maximum Non-Detect		5		
458				Variance Detects		405141		Percent Non-Detects		13.99%		
459				Mean Detects		252.4		SD Detects		636.5		
460				Median Detects		96		CV Detects		2.521		
461				Skewness Detects		7.882		Kurtosis Detects		77.07		
462				Mean of Logged Detects		4.475		SD of Logged Detects		1.457		
463												
464	**Normal GOF Test on Detects Only**											
465				Shapiro Wilk Test Statistic		0.364		**Normal GOF Test on Detected Observations Only**				
466				5% Shapiro Wilk P Value		0		Detected Data Not Normal at 5% Significance Level				
467				Lilliefors Test Statistic		0.349		**Lilliefors GOF Test**				
468				5% Lilliefors Critical Value		0.0465		Detected Data Not Normal at 5% Significance Level				
469	**Detected Data Not Normal at 5% Significance Level**											
470												
471	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
472				KM Mean		217.8		KM Standard Error of Mean		28.8		
473				KM SD		595.7		95% KM (BCA) UCL		277.6		
474				95% KM (t) UCL		265.3		95% KM (Percentile Bootstrap) UCL		268.3		
475				95% KM (z) UCL		265.2		95% KM Bootstrap t UCL		289.5		
476				90% KM Chebyshev UCL		304.2		95% KM Chebyshev UCL		343.4		
477				97.5% KM Chebyshev UCL		397.7		99% KM Chebyshev UCL		504.4		
478												
479	**Gamma GOF Tests on Detected Observations Only**											
480				A-D Test Statistic		7.941		**Anderson-Darling GOF Test**				
481				5% A-D Critical Value		0.814		Detected Data Not Gamma Distributed at 5% Significance Level				
482				K-S Test Statistic		0.115		**Kolmogorov-Smirnov GOF**				
483				5% K-S Critical Value		0.0498		Detected Data Not Gamma Distributed at 5% Significance Level				
484	**Detected Data Not Gamma Distributed at 5% Significance Level**											
485												
486	**Gamma Statistics on Detected Data Only**											
487				k hat (MLE)		0.587		k star (bias corrected MLE)		0.584		
488				Theta hat (MLE)		430.2		Theta star (bias corrected MLE)		432.4		
489				nu hat (MLE)		433		nu star (bias corrected)		430.8		
490				Mean (detects)		252.4						
491												
492	**Gamma ROS Statistics using Imputed Non-Detects**											
493	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
494	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
495	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

496	This is especially true when the sample size is small.											
497	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
498					Minimum	0.01			Mean	217.1		
499					Maximum	8000			Median	75		
500					SD	596.7			CV	2.748		
501					k hat (MLE)	0.314			k star (bias corrected MLE)	0.314		
502					Theta hat (MLE)	690.4			Theta star (bias corrected MLE)	691.8		
503					nu hat (MLE)	269.8			nu star (bias corrected)	269.3		
504					Adjusted Level of Significance (β)	0.0494						
505					Approximate Chi Square Value (269.28, α)	232.3			Adjusted Chi Square Value (269.28, β)	232.2		
506					95% Gamma Approximate UCL (use when n>=50)	251.7			95% Gamma Adjusted UCL (use when n<50)	251.8		
507												
508	**Estimates of Gamma Parameters using KM Estimates**											
509					Mean (KM)	217.8			SD (KM)	595.7		
510					Variance (KM)	354899			SE of Mean (KM)	28.8		
511					k hat (KM)	0.134			k star (KM)	0.134		
512					nu hat (KM)	114.7			nu star (KM)	115.2		
513					theta hat (KM)	1629			theta star (KM)	1622		
514					80% gamma percentile (KM)	214.9			90% gamma percentile (KM)	633.9		
515					95% gamma percentile (KM)	1223			99% gamma percentile (KM)	2973		
516												
517	**Gamma Kaplan-Meier (KM) Statistics**											
518					Approximate Chi Square Value (115.25, α)	91.46			Adjusted Chi Square Value (115.25, β)	91.39		
519					95% Gamma Approximate KM-UCL (use when n>=50)	274.5			95% Gamma Adjusted KM-UCL (use when n<50)	274.7		
520												
521	**Lognormal GOF Test on Detected Observations Only**											
522					Shapiro Wilk Approximate Test Statistic	0.966			**Shapiro Wilk GOF Test**			
523					5% Shapiro Wilk P Value	9.4088E-6			Detected Data Not Lognormal at 5% Significance Level			
524					Lilliefors Test Statistic	0.0538			**Lilliefors GOF Test**			
525					5% Lilliefors Critical Value	0.0465			Detected Data Not Lognormal at 5% Significance Level			
526	**Detected Data Not Lognormal at 5% Significance Level**											
527												
528	**Lognormal ROS Statistics Using Imputed Non-Detects**											
529					Mean in Original Scale	217.7			Mean in Log Scale	4.014		
530					SD in Original Scale	596.5			SD in Log Scale	1.791		
531					95% t UCL (assumes normality of ROS data)	265.2			95% Percentile Bootstrap UCL	269.6		
532					95% BCA Bootstrap UCL	283.6			95% Bootstrap t UCL	287.8		
533					95% H-UCL (Log ROS)	351.8						
534												
535	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
536					KM Mean (logged)	4.074			KM Geo Mean	58.78		
537					KM SD (logged)	1.676			95% Critical H Value (KM-Log)	2.72		
538					KM Standard Error of Mean (logged)	0.081			95% H-UCL (KM -Log)	298.2		
539					KM SD (logged)	1.676			95% Critical H Value (KM-Log)	2.72		
540					KM Standard Error of Mean (logged)	0.081						
541												
542	**DL/2 Statistics**											
543					**DL/2 Normal**				**DL/2 Log-Transformed**			
544					Mean in Original Scale	217.5			Mean in Log Scale	3.977		
545					SD in Original Scale	596.6			SD in Log Scale	1.831		
546					95% t UCL (Assumes normality)	265			95% H-Stat UCL	367.6		
547	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
548												
549	**Nonparametric Distribution Free UCL Statistics**											
550	**Data do not follow a Discernible Distribution at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
551												
552	**Suggested UCL to Use**											
553	95% KM (Chebyshev) UCL					343.4						
554												
555	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
556	Recommendations are based upon data size, data distribution, and skewness.											
557	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
558	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
559												
560	**Tin TCC - Anthropogenic Fill**											
561												
562	**General Statistics**											
563	Total Number of Observations					138	Number of Distinct Observations					44
564	Number of Detects					70	Number of Non-Detects					68
565	Number of Distinct Detects					44	Number of Distinct Non-Detects					1
566	Minimum Detect					10	Minimum Non-Detect					10
567	Maximum Detect					830	Maximum Non-Detect					10
568	Variance Detects					13049	Percent Non-Detects					49.28%
569	Mean Detects					62.2	SD Detects					114.2
570	Median Detects					32	CV Detects					1.837
571	Skewness Detects					5.292	Kurtosis Detects					32.05
572	Mean of Logged Detects					3.56	SD of Logged Detects					0.924
573												
574	**Normal GOF Test on Detects Only**											
575	Shapiro Wilk Test Statistic					0.435	**Normal GOF Test on Detected Observations Only**					
576	5% Shapiro Wilk P Value					0	Detected Data Not Normal at 5% Significance Level					
577	Lilliefors Test Statistic					0.324	**Lilliefors GOF Test**					
578	5% Lilliefors Critical Value					0.106	Detected Data Not Normal at 5% Significance Level					
579	**Detected Data Not Normal at 5% Significance Level**											
580												
581	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
582	KM Mean					36.48	KM Standard Error of Mean					7.278
583	KM SD					84.89	95% KM (BCA) UCL					49.61
584	95% KM (t) UCL					48.53	95% KM (Percentile Bootstrap) UCL					49.53
585	95% KM (z) UCL					48.45	95% KM Bootstrap t UCL					64.78
586	90% KM Chebyshev UCL					58.31	95% KM Chebyshev UCL					68.2
587	97.5% KM Chebyshev UCL					81.93	99% KM Chebyshev UCL					108.9
588												
589	**Gamma GOF Tests on Detected Observations Only**											
590	A-D Test Statistic					3.712	**Anderson-Darling GOF Test**					
591	5% A-D Critical Value					0.78	Detected Data Not Gamma Distributed at 5% Significance Level					
592	K-S Test Statistic					0.185	**Kolmogorov-Smirnov GOF**					
593	5% K-S Critical Value					0.109	Detected Data Not Gamma Distributed at 5% Significance Level					
594	**Detected Data Not Gamma Distributed at 5% Significance Level**											
595												
596	**Gamma Statistics on Detected Data Only**											
597	k hat (MLE)					1.012	k star (bias corrected MLE)					0.978
598	Theta hat (MLE)					61.49	Theta star (bias corrected MLE)					63.62
599	nu hat (MLE)					141.6	nu star (bias corrected)					136.9
600	Mean (detects)					62.2						
601												
602	**Gamma ROS Statistics using Imputed Non-Detects**											
603	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
604	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
605	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

606	This is especially true when the sample size is small.											
607	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
608					Minimum	0.01			Mean			31.56
609					Maximum	830			Median			10
610					SD	86.87			CV			2.753
611					k hat (MLE)	0.19			k star (bias corrected MLE)			0.19
612					Theta hat (MLE)	166.5			Theta star (bias corrected MLE)			165.9
613					nu hat (MLE)	52.32			nu star (bias corrected)			52.51
614					Adjusted Level of Significance (β)	0.0483						
615					Approximate Chi Square Value (52.51, α)	36.87			Adjusted Chi Square Value (52.51, β)			36.73
616					95% Gamma Approximate UCL (use when n>=50)	44.95			95% Gamma Adjusted UCL (use when n<50)			45.12
617												
618	**Estimates of Gamma Parameters using KM Estimates**											
619					Mean (KM)	36.48			SD (KM)			84.89
620					Variance (KM)	7206			SE of Mean (KM)			7.278
621					k hat (KM)	0.185			k star (KM)			0.185
622					nu hat (KM)	50.97			nu star (KM)			51.19
623					theta hat (KM)	197.5			theta star (KM)			196.7
624					80% gamma percentile (KM)	46.09			90% gamma percentile (KM)			110.2
625					95% gamma percentile (KM)	191.6			99% gamma percentile (KM)			418.6
626												
627	**Gamma Kaplan-Meier (KM) Statistics**											
628					Approximate Chi Square Value (51.19, α)	35.76			Adjusted Chi Square Value (51.19, β)			35.63
629					95% Gamma Approximate KM-UCL (use when n>=50)	52.22			95% Gamma Adjusted KM-UCL (use when n<50)			52.42
630												
631	**Lognormal GOF Test on Detected Observations Only**											
632					Shapiro Wilk Approximate Test Statistic	0.927			**Shapiro Wilk GOF Test**			
633					5% Shapiro Wilk P Value	4.3328E-4			Detected Data Not Lognormal at 5% Significance Level			
634					Lilliefors Test Statistic	0.09			**Lilliefors GOF Test**			
635					5% Lilliefors Critical Value	0.106			Detected Data appear Lognormal at 5% Significance Level			
636	**Detected Data appear Approximate Lognormal at 5% Significance Level**											
637												
638	**Lognormal ROS Statistics Using Imputed Non-Detects**											
639					Mean in Original Scale	33.52			Mean in Log Scale			2.335
640					SD in Original Scale	86.19			SD in Log Scale			1.545
641					95% t UCL (assumes normality of ROS data)	45.67			95% Percentile Bootstrap UCL			46.25
642					95% BCA Bootstrap UCL	52.47			95% Bootstrap t UCL			59.45
643					95% H-UCL (Log ROS)	48.98						
644												
645	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
646					KM Mean (logged)	2.941			KM Geo Mean			18.93
647					KM SD (logged)	0.907			95% Critical H Value (KM-Log)			2.115
648					KM Standard Error of Mean (logged)	0.0777			95% H-UCL (KM -Log)			33.63
649					KM SD (logged)	0.907			95% Critical H Value (KM-Log)			2.115
650					KM Standard Error of Mean (logged)	0.0777						
651												
652	**DL/2 Statistics**											
653	**DL/2 Normal**								**DL/2 Log-Transformed**			
654					Mean in Original Scale	34.01			Mean in Log Scale			2.599
655					SD in Original Scale	86			SD in Log Scale			1.178
656					95% t UCL (Assumes normality)	46.14			95% H-Stat UCL			34.16
657	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
658												
659	**Nonparametric Distribution Free UCL Statistics**											
660	**Detected Data appear Approximate Lognormal Distributed at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
661												
662	**Suggested UCL to Use**											
663					KM H-UCL	33.63						
664												
665	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
666	Recommendations are based upon data size, data distribution, and skewness.											
667	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
668	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
669												
670	**Zinc TCC - Anthropogenic Fill**											
671												
672	**General Statistics**											
673					Total Number of Observations	191			Number of Distinct Observations	107		
674					Number of Detects	140			Number of Non-Detects	51		
675					Number of Distinct Detects	72			Number of Distinct Non-Detects	35		
676					Minimum Detect	6.2			Minimum Non-Detect	201		
677					Maximum Detect	200			Maximum Non-Detect	16000		
678					Variance Detects	3160			Percent Non-Detects	26.7%		
679					Mean Detects	80.58			SD Detects	56.21		
680					Median Detects	62			CV Detects	0.698		
681					Skewness Detects	0.681			Kurtosis Detects	-0.775		
682					Mean of Logged Detects	4.101			SD of Logged Detects	0.823		
683												
684	**Normal GOF Test on Detects Only**											
685					Shapiro Wilk Test Statistic	0.882			**Normal GOF Test on Detected Observations Only**			
686					5% Shapiro Wilk P Value	0			Detected Data Not Normal at 5% Significance Level			
687					Lilliefors Test Statistic	0.142			**Lilliefors GOF Test**			
688					5% Lilliefors Critical Value	0.0753			Detected Data Not Normal at 5% Significance Level			
689	**Detected Data Not Normal at 5% Significance Level**											
690												
691	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
692					KM Mean	80.58			KM Standard Error of Mean	4.751		
693					KM SD	56.01			95% KM (BCA) UCL	88.7		
694					95% KM (t) UCL	88.43			95% KM (Percentile Bootstrap) UCL	88.29		
695					95% KM (z) UCL	88.39			95% KM Bootstrap t UCL	89.38		
696					90% KM Chebyshev UCL	94.83			95% KM Chebyshev UCL	101.3		
697					97.5% KM Chebyshev UCL	110.2			99% KM Chebyshev UCL	127.8		
698												
699	**Gamma GOF Tests on Detected Observations Only**											
700					A-D Test Statistic	1.1			**Anderson-Darling GOF Test**			
701					5% A-D Critical Value	0.767			Detected Data Not Gamma Distributed at 5% Significance Level			
702					K-S Test Statistic	0.0731			**Kolmogorov-Smirnov GOF**			
703					5% K-S Critical Value	0.0803			Detected data appear Gamma Distributed at 5% Significance Level			
704	**Detected data follow Appr. Gamma Distribution at 5% Significance Level**											
705												
706	**Gamma Statistics on Detected Data Only**											
707					k hat (MLE)	1.882			k star (bias corrected MLE)	1.847		
708					Theta hat (MLE)	42.81			Theta star (bias corrected MLE)	43.63		
709					nu hat (MLE)	527			nu star (bias corrected)	517.1		
710					Mean (detects)	80.58						
711												
712	**Gamma ROS Statistics using Imputed Non-Detects**											
713	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
714	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
715	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

716	This is especially true when the sample size is small.											
717	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
718					Minimum	6.2			Mean	77.7		
719					Maximum	200			Median	67.98		
720					SD	49.31			CV	0.635		
721					k hat (MLE)	2.391			k star (bias corrected MLE)	2.357		
722					Theta hat (MLE)	32.5			Theta star (bias corrected MLE)	32.97		
723					nu hat (MLE)	913.2			nu star (bias corrected)	900.2		
724					Adjusted Level of Significance (β)	0.0487						
725					Approximate Chi Square Value (900.20, α)	831.6			Adjusted Chi Square Value (900.20, β)	831.1		
726					95% Gamma Approximate UCL (use when n>=50)	84.12			95% Gamma Adjusted UCL (use when n<50)	84.17		
727												
728	**Estimates of Gamma Parameters using KM Estimates**											
729					Mean (KM)	80.58			SD (KM)	56.01		
730					Variance (KM)	3137			SE of Mean (KM)	4.751		
731					k hat (KM)	2.07			k star (KM)	2.041		
732					nu hat (KM)	790.6			nu star (KM)	779.5		
733					theta hat (KM)	38.93			theta star (KM)	39.49		
734					80% gamma percentile (KM)	120.3			90% gamma percentile (KM)	156		
735					95% gamma percentile (KM)	189.9			99% gamma percentile (KM)	265.1		
736												
737	**Gamma Kaplan-Meier (KM) Statistics**											
738					Approximate Chi Square Value (779.54, α)	715.7			Adjusted Chi Square Value (779.54, β)	715.3		
739					95% Gamma Approximate KM-UCL (use when n>=50)	87.76			95% Gamma Adjusted KM-UCL (use when n<50)	87.81		
740												
741	**Lognormal GOF Test on Detected Observations Only**											
742					Shapiro Wilk Approximate Test Statistic	0.942			**Shapiro Wilk GOF Test**			
743					5% Shapiro Wilk P Value	7.5746E-6			Detected Data Not Lognormal at 5% Significance Level			
744					Lilliefors Test Statistic	0.0765			**Lilliefors GOF Test**			
745					5% Lilliefors Critical Value	0.0753			Detected Data Not Lognormal at 5% Significance Level			
746	**Detected Data Not Lognormal at 5% Significance Level**											
747												
748	**Lognormal ROS Statistics Using Imputed Non-Detects**											
749					Mean in Original Scale	75.95			Mean in Log Scale	4.101		
750					SD in Original Scale	49.75			SD in Log Scale	0.722		
751					95% t UCL (assumes normality of ROS data)	81.9			95% Percentile Bootstrap UCL	81.66		
752					95% BCA Bootstrap UCL	81.98			95% Bootstrap t UCL	82.64		
753					95% H-UCL (Log ROS)	86.79						
754												
755	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
756					KM Mean (logged)	4.101			KM Geo Mean	60.38		
757					KM SD (logged)	0.821			95% Critical H Value (KM-Log)	2.026		
758					KM Standard Error of Mean (logged)	0.0696			95% H-UCL (KM -Log)	95.38		
759					KM SD (logged)	0.821			95% Critical H Value (KM-Log)	2.026		
760					KM Standard Error of Mean (logged)	0.0696						
761												
762	**DL/2 Statistics**											
763	**DL/2 Normal**								**DL/2 Log-Transformed**			
764					Mean in Original Scale	188.6			Mean in Log Scale	4.472		
765					SD in Original Scale	623.6			SD in Log Scale	1.044		
766					95% t UCL (Assumes normality)	263.1			95% H-Stat UCL	178.4		
767	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
768												
769	**Nonparametric Distribution Free UCL Statistics**											
770	**Detected Data appear Approximate Gamma Distributed at 5% Significance Level**											

771												
772	**Suggested UCL to Use**											
773				95% KM Approximate Gamma UCL		87.76		95% GROS Approximate Gamma UCL				84.12
774												
775	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
776	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
777												
778	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
779	Recommendations are based upon data size, data distribution, and skewness.											
780	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
781	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
782												
783	**Benzo(a)pyrene TCC - Anthropogenic Fill**											
784												
785	**General Statistics**											
786				Total Number of Observations		430		Number of Distinct Observations				157
787				Number of Detects		293		Number of Non-Detects				137
788				Number of Distinct Detects		157		Number of Distinct Non-Detects				1
789				Minimum Detect		0.005		Minimum Non-Detect				0.005
790				Maximum Detect		50		Maximum Non-Detect				0.005
791				Variance Detects		54.63		Percent Non-Detects				31.86%
792				Mean Detects		4.309		SD Detects				7.391
793				Median Detects		1.4		CV Detects				1.715
794				Skewness Detects		3.374		Kurtosis Detects				13.72
795				Mean of Logged Detects		0.129		SD of Logged Detects				1.924
796												
797	**Normal GOF Test on Detects Only**											
798				Shapiro Wilk Test Statistic		0.598		**Normal GOF Test on Detected Observations Only**				
799				5% Shapiro Wilk P Value		0		Detected Data Not Normal at 5% Significance Level				
800				Lilliefors Test Statistic		0.28		**Lilliefors GOF Test**				
801				5% Lilliefors Critical Value		0.0522		Detected Data Not Normal at 5% Significance Level				
802	**Detected Data Not Normal at 5% Significance Level**											
803												
804	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
805				KM Mean		2.938		KM Standard Error of Mean				0.31
806				KM SD		6.413		95% KM (BCA) UCL				3.453
807				95% KM (t) UCL		3.449		95% KM (Percentile Bootstrap) UCL				3.437
808				95% KM (z) UCL		3.448		95% KM Bootstrap t UCL				3.511
809				90% KM Chebyshev UCL		3.867		95% KM Chebyshev UCL				4.288
810				97.5% KM Chebyshev UCL		4.873		99% KM Chebyshev UCL				6.02
811												
812	**Gamma GOF Tests on Detected Observations Only**											
813				A-D Test Statistic		2.522		**Anderson-Darling GOF Test**				
814				5% A-D Critical Value		0.827		Detected Data Not Gamma Distributed at 5% Significance Level				
815				K-S Test Statistic		0.0856		**Kolmogorov-Smirnov GOF**				
816				5% K-S Critical Value		0.0561		Detected Data Not Gamma Distributed at 5% Significance Level				
817	**Detected Data Not Gamma Distributed at 5% Significance Level**											
818												
819	**Gamma Statistics on Detected Data Only**											
820				k hat (MLE)		0.48		k star (bias corrected MLE)				0.477
821				Theta hat (MLE)		8.981		Theta star (bias corrected MLE)				9.031
822				nu hat (MLE)		281.2		nu star (bias corrected)				279.6
823				Mean (detects)		4.309						
824												
825	**Gamma ROS Statistics using Imputed Non-Detects**											

	A	B	C	D	E	F	G	H	I	J	K	L
826	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
827	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
828	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
829	This is especially true when the sample size is small.											
830	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
831					Minimum	0.005				Mean	2.94	
832					Maximum	50				Median	0.345	
833					SD	6.419				CV	2.184	
834					k hat (MLE)	0.283				k star (bias corrected MLE)	0.283	
835					Theta hat (MLE)	10.38				Theta star (bias corrected MLE)	10.4	
836					nu hat (MLE)	243.5				nu star (bias corrected)	243.2	
837					Adjusted Level of Significance (β)	0.0494						
838					Approximate Chi Square Value (243.18, α)	208.1				Adjusted Chi Square Value (243.18, β)	208	
839					95% Gamma Approximate UCL (use when n>=50)	3.436				95% Gamma Adjusted UCL (use when n<50)	3.437	
840												
841	**Estimates of Gamma Parameters using KM Estimates**											
842					Mean (KM)	2.938				SD (KM)	6.413	
843					Variance (KM)	41.12				SE of Mean (KM)	0.31	
844					k hat (KM)	0.21				k star (KM)	0.21	
845					nu hat (KM)	180.5				nu star (KM)	180.6	
846					theta hat (KM)	14				theta star (KM)	13.99	
847					80% gamma percentile (KM)	3.968				90% gamma percentile (KM)	8.885	
848					95% gamma percentile (KM)	14.94				99% gamma percentile (KM)	31.5	
849												
850	**Gamma Kaplan-Meier (KM) Statistics**											
851					Approximate Chi Square Value (180.60, α)	150.5				Adjusted Chi Square Value (180.60, β)	150.4	
852					95% Gamma Approximate KM-UCL (use when n>=50)	3.525				95% Gamma Adjusted KM-UCL (use when n<50)	3.527	
853												
854	**Lognormal GOF Test on Detected Observations Only**											
855					Shapiro Wilk Approximate Test Statistic	0.961				**Shapiro Wilk GOF Test**		
856					5% Shapiro Wilk P Value	4.2217E-6				Detected Data Not Lognormal at 5% Significance Level		
857					Lilliefors Test Statistic	0.0625				**Lilliefors GOF Test**		
858					5% Lilliefors Critical Value	0.0522				Detected Data Not Lognormal at 5% Significance Level		
859	**Detected Data Not Lognormal at 5% Significance Level**											
860												
861	**Lognormal ROS Statistics Using Imputed Non-Detects**											
862					Mean in Original Scale	2.945				Mean in Log Scale	-1.258	
863					SD in Original Scale	6.417				SD in Log Scale	2.687	
864					95% t UCL (assumes normality of ROS data)	3.455				95% Percentile Bootstrap UCL	3.493	
865					95% BCA Bootstrap UCL	3.52				95% Bootstrap t UCL	3.527	
866					95% H-UCL (Log ROS)	17.44						
867												
868	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
869					KM Mean (logged)	-1.6				KM Geo Mean	0.202	
870					KM SD (logged)	2.985				95% Critical H Value (KM-Log)	4.18	
871					KM Standard Error of Mean (logged)	0.144				95% H-UCL (KM -Log)	31.68	
872					KM SD (logged)	2.985				95% Critical H Value (KM-Log)	4.18	
873					KM Standard Error of Mean (logged)	0.144						
874												
875	**DL/2 Statistics**											
876	**DL/2 Normal**									**DL/2 Log-Transformed**		
877					Mean in Original Scale	2.937				Mean in Log Scale	-1.821	
878					SD in Original Scale	6.42				SD in Log Scale	3.267	
879					95% t UCL (Assumes normality)	3.448				95% H-Stat UCL	68.21	
880	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											

881												
882	**Nonparametric Distribution Free UCL Statistics**											
883	**Data do not follow a Discernible Distribution at 5% Significance Level**											
884												
885	**Suggested UCL to Use**											
886	95% KM (Chebyshev) UCL				4.288							
887												
888	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
889	Recommendations are based upon data size, data distribution, and skewness.											
890	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
891	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
892												
893	**Sum of PAHs TCC - Anthropogenic Fill**											
894												
895	**General Statistics**											
896	Total Number of Observations				430			Number of Distinct Observations				302
897	Number of Detects				323			Number of Non-Detects				107
898	Number of Distinct Detects				302			Number of Distinct Non-Detects				2
899	Minimum Detect				0.005			Minimum Non-Detect				0.005
900	Maximum Detect				840			Maximum Non-Detect				0.5
901	Variance Detects				5716			Percent Non-Detects				24.88%
902	Mean Detects				36.46			SD Detects				75.61
903	Median Detects				10.1			CV Detects				2.074
904	Skewness Detects				5.558			Kurtosis Detects				45.2
905	Mean of Logged Detects				1.997			SD of Logged Detects				2.229
906												
907	**Normal GOF Test on Detects Only**											
908	Shapiro Wilk Test Statistic				0.512			**Normal GOF Test on Detected Observations Only**				
909	5% Shapiro Wilk P Value				0			Detected Data Not Normal at 5% Significance Level				
910	Lilliefors Test Statistic				0.315			**Lilliefors GOF Test**				
911	5% Lilliefors Critical Value				0.0497			Detected Data Not Normal at 5% Significance Level				
912	**Detected Data Not Normal at 5% Significance Level**											
913												
914	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
915	KM Mean				27.4			KM Standard Error of Mean				3.25
916	KM SD				67.29			95% KM (BCA) UCL				33.11
917	95% KM (t) UCL				32.75			95% KM (Percentile Bootstrap) UCL				33.15
918	95% KM (z) UCL				32.74			95% KM Bootstrap t UCL				34.23
919	90% KM Chebyshev UCL				37.15			95% KM Chebyshev UCL				41.56
920	97.5% KM Chebyshev UCL				47.69			99% KM Chebyshev UCL				59.74
921												
922	**Gamma GOF Tests on Detected Observations Only**											
923	A-D Test Statistic				2.267			**Anderson-Darling GOF Test**				
924	5% A-D Critical Value				0.844			Detected Data Not Gamma Distributed at 5% Significance Level				
925	K-S Test Statistic				0.0788			**Kolmogorov-Smirnov GOF**				
926	5% K-S Critical Value				0.0541			Detected Data Not Gamma Distributed at 5% Significance Level				
927	**Detected Data Not Gamma Distributed at 5% Significance Level**											
928												
929	**Gamma Statistics on Detected Data Only**											
930	k hat (MLE)				0.41			k star (bias corrected MLE)				0.408
931	Theta hat (MLE)				88.98			Theta star (bias corrected MLE)				89.36
932	nu hat (MLE)				264.7			nu star (bias corrected)				263.6
933	Mean (detects)				36.46							
934												
935	**Gamma ROS Statistics using Imputed Non-Detects**											

	A	B	C	D	E	F	G	H	I	J	K	L
936	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
937	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
938	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
939	This is especially true when the sample size is small.											
940	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
941					Minimum	0.005				Mean	27.39	
942					Maximum	840				Median	3.33	
943					SD	67.38				CV	2.46	
944					k hat (MLE)	0.242				k star (bias corrected MLE)	0.241	
945					Theta hat (MLE)	113.4				Theta star (bias corrected MLE)	113.4	
946					nu hat (MLE)	207.8				nu star (bias corrected)	207.6	
947					Adjusted Level of Significance (β)	0.0494						
948					Approximate Chi Square Value (207.65, α)	175.3				Adjusted Chi Square Value (207.65, β)	175.2	
949					95% Gamma Approximate UCL (use when n>=50)	32.44				95% Gamma Adjusted UCL (use when n<50)	32.46	
950												
951	**Estimates of Gamma Parameters using KM Estimates**											
952					Mean (KM)	27.4				SD (KM)	67.29	
953					Variance (KM)	4529				SE of Mean (KM)	3.25	
954					k hat (KM)	0.166				k star (KM)	0.166	
955					nu hat (KM)	142.5				nu star (KM)	142.9	
956					theta hat (KM)	165.3				theta star (KM)	164.9	
957					80% gamma percentile (KM)	32.23				90% gamma percentile (KM)	82.17	
958					95% gamma percentile (KM)	147.6				99% gamma percentile (KM)	333.8	
959												
960	**Gamma Kaplan-Meier (KM) Statistics**											
961					Approximate Chi Square Value (142.87, α)	116.2				Adjusted Chi Square Value (142.87, β)	116.2	
962					95% Gamma Approximate KM-UCL (use when n>=50)	33.67				95% Gamma Adjusted KM-UCL (use when n<50)	33.69	
963												
964	**Lognormal GOF Test on Detected Observations Only**											
965					Shapiro Wilk Approximate Test Statistic	0.952				**Shapiro Wilk GOF Test**		
966					5% Shapiro Wilk P Value	8.031E-11				Detected Data Not Lognormal at 5% Significance Level		
967					Lilliefors Test Statistic	0.0625				**Lilliefors GOF Test**		
968					5% Lilliefors Critical Value	0.0497				Detected Data Not Lognormal at 5% Significance Level		
969	**Detected Data Not Lognormal at 5% Significance Level**											
970												
971	**Lognormal ROS Statistics Using Imputed Non-Detects**											
972					Mean in Original Scale	27.42				Mean in Log Scale	0.827	
973					SD in Original Scale	67.36				SD in Log Scale	2.889	
974					95% t UCL (assumes normality of ROS data)	32.78				95% Percentile Bootstrap UCL	33.06	
975					95% BCA Bootstrap UCL	33.94				95% Bootstrap t UCL	33.84	
976					95% H-UCL (Log ROS)	263.2						
977												
978	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
979					KM Mean (logged)	0.31				KM Geo Mean	1.363	
980					KM SD (logged)	3.564				95% Critical H Value (KM-Log)	4.863	
981					KM Standard Error of Mean (logged)	0.175				95% H-UCL (KM -Log)	1801	
982					KM SD (logged)	3.564				95% Critical H Value (KM-Log)	4.863	
983					KM Standard Error of Mean (logged)	0.175						
984												
985	**DL/2 Statistics**											
986	**DL/2 Normal**						**DL/2 Log-Transformed**					
987					Mean in Original Scale	27.42				Mean in Log Scale	0.523	
988					SD in Original Scale	67.36				SD in Log Scale	3.407	
989					95% t UCL (Assumes normality)	32.77				95% H-Stat UCL	1206	
990	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											

	A	B	C	D	E	F	G	H	I	J	K	L
991												
992	**Nonparametric Distribution Free UCL Statistics**											
993	**Data do not follow a Discernible Distribution at 5% Significance Level**											
994												
995	**Suggested UCL to Use**											
996	95% KM (Chebyshev) UCL					41.56						
997												
998	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
999	Recommendations are based upon data size, data distribution, and skewness.											
1000	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
1001	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
1002												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.19/05/2025 12:34:31 PM
From File	inputs_250507_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead LCC - Anthropogenic Fill

General Statistics

Total Number of Observations	60	Number of Distinct Observations	20
Number of Detects	39	Number of Non-Detects	21
Number of Distinct Detects	20	Number of Distinct Non-Detects	1
Minimum Detect	0.01	Minimum Non-Detect	0.01
Maximum Detect	2.3	Maximum Non-Detect	0.01
Variance Detects	0.164	Percent Non-Detects	35%
Mean Detects	0.179	SD Detects	0.406
Median Detects	0.04	CV Detects	2.263
Skewness Detects	4.219	Kurtosis Detects	20.37
Mean of Logged Detects	-2.958	SD of Logged Detects	1.462

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.464	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.939	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.338	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.14	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.12	KM Standard Error of Mean	0.0435
KM SD	0.333	95% KM (BCA) UCL	0.201
95% KM (t) UCL	0.193	95% KM (Percentile Bootstrap) UCL	0.199
95% KM (z) UCL	0.192	95% KM Bootstrap t UCL	0.299
90% KM Chebyshev UCL	0.251	95% KM Chebyshev UCL	0.31
97.5% KM Chebyshev UCL	0.392	99% KM Chebyshev UCL	0.553

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.733	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.812	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.206	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.149	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.511	k star (bias corrected MLE)	0.489
Theta hat (MLE)	0.351	Theta star (bias corrected MLE)	0.367
nu hat (MLE)	39.87	nu star (bias corrected)	38.13
Mean (detects)	0.179		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.01				Mean		0.12
59					Maximum	2.3				Median		0.015
60					SD	0.336				CV		2.796
61					k hat (MLE)	0.456				k star (bias corrected MLE)		0.444
62					Theta hat (MLE)	0.263				Theta star (bias corrected MLE)		0.27
63					nu hat (MLE)	54.69				nu star (bias corrected)		53.29
64					Adjusted Level of Significance (β)	0.046						
65					Approximate Chi Square Value (53.29, α)	37.52				Adjusted Chi Square Value (53.29, β)		37.19
66					95% Gamma Approximate UCL (use when n>=50)	0.17				95% Gamma Adjusted UCL (use when n<50)		0.172
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69					Mean (KM)	0.12				SD (KM)		0.333
70					Variance (KM)	0.111				SE of Mean (KM)		0.0435
71					k hat (KM)	0.13				k star (KM)		0.135
72					nu hat (KM)	15.61				nu star (KM)		16.16
73					theta hat (KM)	0.922				theta star (KM)		0.891
74					80% gamma percentile (KM)	0.119				90% gamma percentile (KM)		0.349
75					95% gamma percentile (KM)	0.673				99% gamma percentile (KM)		1.635
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78					Approximate Chi Square Value (16.16, α)	8.078				Adjusted Chi Square Value (16.16, β)		7.937
79					95% Gamma Approximate KM-UCL (use when n>=50)	0.24				95% Gamma Adjusted KM-UCL (use when n<50)		0.244
80												
81	**Lognormal GOF Test on Detected Observations Only**											
82					Shapiro Wilk Test Statistic	0.907				**Shapiro Wilk GOF Test**		
83					5% Shapiro Wilk Critical Value	0.939				Detected Data Not Lognormal at 5% Significance Level		
84					Lilliefors Test Statistic	0.135				**Lilliefors GOF Test**		
85					5% Lilliefors Critical Value	0.14				Detected Data appear Lognormal at 5% Significance Level		
86	**Detected Data appear Approximate Lognormal at 5% Significance Level**											
87												
88	**Lognormal ROS Statistics Using Imputed Non-Detects**											
89					Mean in Original Scale	0.117				Mean in Log Scale		-4.229
90					SD in Original Scale	0.336				SD in Log Scale		2.199
91					95% t UCL (assumes normality of ROS data)	0.19				95% Percentile Bootstrap UCL		0.193
92					95% BCA Bootstrap UCL	0.246				95% Bootstrap t UCL		0.281
93					95% H-UCL (Log ROS)	0.551						
94												
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
96					KM Mean (logged)	-3.534				KM Geo Mean		0.0292
97					KM SD (logged)	1.404				95% Critical H Value (KM-Log)		3.08
98					KM Standard Error of Mean (logged)	0.184				95% H-UCL (KM -Log)		0.137
99					KM SD (logged)	1.404				95% Critical H Value (KM-Log)		3.08
100					KM Standard Error of Mean (logged)	0.184						
101												
102	**DL/2 Statistics**											
103	**DL/2 Normal**									**DL/2 Log-Transformed**		
104					Mean in Original Scale	0.118				Mean in Log Scale		-3.777
105					SD in Original Scale	0.336				SD in Log Scale		1.626
106					95% t UCL (Assumes normality)	0.191				95% H-Stat UCL		0.175
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Detected Data appear Approximate Lognormal Distributed at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
111												
112	**Suggested UCL to Use**											
113					KM H-UCL	0.137						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												
120	**Benzo(a)pyrene LCC - Anthropogenic Fill**											
121												
122	**General Statistics**											
123					Total Number of Observations	120			Number of Distinct Observations		11	
124					Number of Detects	20			Number of Non-Detects		100	
125					Number of Distinct Detects	10			Number of Distinct Non-Detects		1	
126					Minimum Detect	0.1			Minimum Non-Detect		0.01	
127					Maximum Detect	1.3			Maximum Non-Detect		0.01	
128					Variance Detects	0.151			Percent Non-Detects		83.33%	
129					Mean Detects	0.425			SD Detects		0.389	
130					Median Detects	0.25			CV Detects		0.916	
131					Skewness Detects	1.082			Kurtosis Detects		-0.209	
132					Mean of Logged Detects	-1.255			SD of Logged Detects		0.921	
133												
134	**Normal GOF Test on Detects Only**											
135					Shapiro Wilk Test Statistic	0.801			**Shapiro Wilk GOF Test**			
136					5% Shapiro Wilk Critical Value	0.905			Detected Data Not Normal at 5% Significance Level			
137					Lilliefors Test Statistic	0.276			**Lilliefors GOF Test**			
138					5% Lilliefors Critical Value	0.192			Detected Data Not Normal at 5% Significance Level			
139	**Detected Data Not Normal at 5% Significance Level**											
140												
141	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
142					KM Mean	0.0792			KM Standard Error of Mean		0.0205	
143					KM SD	0.219			95% KM (BCA) UCL		0.116	
144					95% KM (t) UCL	0.113			95% KM (Percentile Bootstrap) UCL		0.114	
145					95% KM (z) UCL	0.113			95% KM Bootstrap t UCL		0.128	
146					90% KM Chebyshev UCL	0.141			95% KM Chebyshev UCL		0.169	
147					97.5% KM Chebyshev UCL	0.207			99% KM Chebyshev UCL		0.283	
148												
149	**Gamma GOF Tests on Detected Observations Only**											
150					A-D Test Statistic	1.036			**Anderson-Darling GOF Test**			
151					5% A-D Critical Value	0.76			Detected Data Not Gamma Distributed at 5% Significance Level			
152					K-S Test Statistic	0.189			**Kolmogorov-Smirnov GOF**			
153					5% K-S Critical Value	0.198			Detected data appear Gamma Distributed at 5% Significance Level			
154	**Detected data follow Appr. Gamma Distribution at 5% Significance Level**											
155												
156	**Gamma Statistics on Detected Data Only**											
157					k hat (MLE)	1.394			k star (bias corrected MLE)		1.218	
158					Theta hat (MLE)	0.305			Theta star (bias corrected MLE)		0.349	
159					nu hat (MLE)	55.75			nu star (bias corrected)		48.72	
160					Mean (detects)	0.425						
161												
162	**Gamma ROS Statistics using Imputed Non-Detects**											
163	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
164	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
165	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

166	This is especially true when the sample size is small.											
167	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
168					Minimum	0.01				Mean		0.0792
169					Maximum	1.3				Median		0.01
170					SD	0.22				CV		2.776
171					k hat (MLE)	0.43				k star (bias corrected MLE)		0.425
172					Theta hat (MLE)	0.184				Theta star (bias corrected MLE)		0.186
173					nu hat (MLE)	103.3				nu star (bias corrected)		102.1
174					Adjusted Level of Significance (β)	0.048						
175					Approximate Chi Square Value (102.07, α)	79.76				Adjusted Chi Square Value (102.07, β)		79.52
176					95% Gamma Approximate UCL (use when n>=50)	0.101				95% Gamma Adjusted UCL (use when n<50)		0.102
177												
178	**Estimates of Gamma Parameters using KM Estimates**											
179					Mean (KM)	0.0792				SD (KM)		0.219
180					Variance (KM)	0.0479				SE of Mean (KM)		0.0205
181					k hat (KM)	0.131				k star (KM)		0.133
182					nu hat (KM)	31.4				nu star (KM)		31.95
183					theta hat (KM)	0.605				theta star (KM)		0.595
184					80% gamma percentile (KM)	0.0774				90% gamma percentile (KM)		0.23
185					95% gamma percentile (KM)	0.445				99% gamma percentile (KM)		1.086
186												
187	**Gamma Kaplan-Meier (KM) Statistics**											
188					Approximate Chi Square Value (31.95, α)	20.03				Adjusted Chi Square Value (31.95, β)		19.92
189					95% Gamma Approximate KM-UCL (use when n>=50)	0.126				95% Gamma Adjusted KM-UCL (use when n<50)		0.127
190												
191	**Lognormal GOF Test on Detected Observations Only**											
192					Shapiro Wilk Test Statistic	0.88				**Shapiro Wilk GOF Test**		
193					5% Shapiro Wilk Critical Value	0.905				Detected Data Not Lognormal at 5% Significance Level		
194					Lilliefors Test Statistic	0.172				**Lilliefors GOF Test**		
195					5% Lilliefors Critical Value	0.192				Detected Data appear Lognormal at 5% Significance Level		
196	**Detected Data appear Approximate Lognormal at 5% Significance Level**											
197												
198	**Lognormal ROS Statistics Using Imputed Non-Detects**											
199					Mean in Original Scale	0.0836				Mean in Log Scale		-4.561
200					SD in Original Scale	0.219				SD in Log Scale		2.191
201					95% t UCL (assumes normality of ROS data)	0.117				95% Percentile Bootstrap UCL		0.117
202					95% BCA Bootstrap UCL	0.125				95% Bootstrap t UCL		0.128
203					95% H-UCL (Log ROS)	0.237						
204												
205	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
206					KM Mean (logged)	-4.047				KM Geo Mean		0.0175
207					KM SD (logged)	1.301				95% Critical H Value (KM-Log)		2.525
208					KM Standard Error of Mean (logged)	0.122				95% H-UCL (KM -Log)		0.0551
209					KM SD (logged)	1.301				95% Critical H Value (KM-Log)		2.525
210					KM Standard Error of Mean (logged)	0.122						
211												
212	**DL/2 Statistics**											
213	**DL/2 Normal**									**DL/2 Log-Transformed**		
214					Mean in Original Scale	0.075				Mean in Log Scale		-4.625
215					SD in Original Scale	0.221				SD in Log Scale		1.557
216					95% t UCL (Assumes normality)	0.108				95% H-Stat UCL		0.0492
217	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
218												
219	**Nonparametric Distribution Free UCL Statistics**											
220	**Detected Data appear Approximate Gamma Distributed at 5% Significance Level**											

221												
222						**Suggested UCL to Use**							
223					95% KM Approximate Gamma UCL	0.126			95% GROS Approximate Gamma UCL	0.101		
224												
225					When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test							
226					When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL							
227												
228					Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.							
229					Recommendations are based upon data size, data distribution, and skewness.							
230					These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).							
231					However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.							
232												
233												
234	**Benzo(a)pyrene TEQ(LOR) LCC - Anthropogenic Fill**											
235												
236						**General Statistics**							
237					Total Number of Observations	120			Number of Distinct Observations	77		
238									Number of Missing Observations	0		
239					Minimum	0.0244			Mean	0.131		
240					Maximum	1.866			Median	0.0259		
241					SD	0.307			Std. Error of Mean	0.028		
242					Coefficient of Variation	2.348			Skewness	3.74		
243												
244						**Normal GOF Test**						
245					Shapiro Wilk Test Statistic	0.409			**Shapiro Wilk GOF Test**			
246					5% Shapiro Wilk P Value	0			Data Not Normal at 5% Significance Level			
247					Lilliefors Test Statistic	0.402			**Lilliefors GOF Test**			
248					5% Lilliefors Critical Value	0.0812			Data Not Normal at 5% Significance Level			
249						**Data Not Normal at 5% Significance Level**							
250												
251						**Assuming Normal Distribution**							
252						**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**		
253					95% Student's-t UCL	0.177			95% Adjusted-CLT UCL (Chen-1995)	0.187		
254									95% Modified-t UCL (Johnson-1978)	0.179		
255												
256						**Gamma GOF Test**						
257					A-D Test Statistic	23.83			**Anderson-Darling Gamma GOF Test**			
258					5% A-D Critical Value	0.81			Data Not Gamma Distributed at 5% Significance Level			
259					K-S Test Statistic	0.348			**Kolmogorov-Smirnov Gamma GOF Test**			
260					5% K-S Critical Value	0.0886			Data Not Gamma Distributed at 5% Significance Level			
261						**Data Not Gamma Distributed at 5% Significance Level**							
262												
263						**Gamma Statistics**						
264					k hat (MLE)	0.592			k star (bias corrected MLE)	0.583		
265					Theta hat (MLE)	0.221			Theta star (bias corrected MLE)	0.224		
266					nu hat (MLE)	142.1			nu star (bias corrected)	139.9		
267					MLE Mean (bias corrected)	0.131			MLE Sd (bias corrected)	0.171		
268									Approximate Chi Square Value (0.05)	113.6		
269					Adjusted Level of Significance	0.048			Adjusted Chi Square Value	113.3		
270												
271						**Assuming Gamma Distribution**							
272					95% Approximate Gamma UCL (use when n>=50))	0.161			95% Adjusted Gamma UCL (use when n<50)	0.161		
273												
274						**Lognormal GOF Test**						
275					Shapiro Wilk Test Statistic	0.622			**Shapiro Wilk Lognormal GOF Test**			

276				5% Shapiro Wilk P Value		0		Data Not Lognormal at 5% Significance Level				
277				Lilliefors Test Statistic		0.291		**Lilliefors Lognormal GOF Test**				
278				5% Lilliefors Critical Value		0.0812		Data Not Lognormal at 5% Significance Level				
279	**Data Not Lognormal at 5% Significance Level**											
280												
281	**Lognormal Statistics**											
282				Minimum of Logged Data		-3.714		Mean of logged Data				-3.08
283				Maximum of Logged Data		0.624		SD of logged Data				1.116
284												
285	**Assuming Lognormal Distribution**											
286				95% H-UCL		0.109		90% Chebyshev (MVUE) UCL				0.117
287				95% Chebyshev (MVUE) UCL		0.132		97.5% Chebyshev (MVUE) UCL				0.152
288				99% Chebyshev (MVUE) UCL		0.192						
289												
290	**Nonparametric Distribution Free UCL Statistics**											
291	**Data do not follow a Discernible Distribution (0.05)**											
292												
293	**Nonparametric Distribution Free UCLs**											
294				95% CLT UCL		0.177		95% Jackknife UCL				0.177
295				95% Standard Bootstrap UCL		0.177		95% Bootstrap-t UCL				0.197
296				95% Hall's Bootstrap UCL		0.187		95% Percentile Bootstrap UCL				0.179
297				95% BCA Bootstrap UCL		0.188						
298				90% Chebyshev(Mean, Sd) UCL		0.215		95% Chebyshev(Mean, Sd) UCL				0.253
299				97.5% Chebyshev(Mean, Sd) UCL		0.306		99% Chebyshev(Mean, Sd) UCL				0.41
300												
301	**Suggested UCL to Use**											
302				95% Chebyshev (Mean, Sd) UCL		0.253						
303												
304	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
305	Recommendations are based upon data size, data distribution, and skewness.											
306	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
307	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
308												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.17/05/2025 2:55:11 PM
From File	inputs_250507_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)pyrene TCC - Dolerite

General Statistics

Total Number of Observations	46	Number of Distinct Observations	5
Number of Detects	5	Number of Non-Detects	41
Number of Distinct Detects	5	Number of Distinct Non-Detects	1
Minimum Detect	0.005	Minimum Non-Detect	0.005
Maximum Detect	3.5	Maximum Non-Detect	0.005
Variance Detects	2.267	Percent Non-Detects	89.13%
Mean Detects	0.821	SD Detects	1.506
Median Detects	0.22	CV Detects	1.834
Skewness Detects	2.179	Kurtosis Detects	4.791
Mean of Logged Detects	-2.253	SD of Logged Detects	2.726

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.641	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.762	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.418	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.343	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0937	KM Standard Error of Mean	0.0843
KM SD	0.511	95% KM (BCA) UCL	0.255
95% KM (t) UCL	0.235	95% KM (Percentile Bootstrap) UCL	0.246
95% KM (z) UCL	0.232	95% KM Bootstrap t UCL	0.989
90% KM Chebyshev UCL	0.347	95% KM Chebyshev UCL	0.461
97.5% KM Chebyshev UCL	0.62	99% KM Chebyshev UCL	0.933

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.341	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.225	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.379	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.33	k star (bias corrected MLE)	0.265
Theta hat (MLE)	2.485	Theta star (bias corrected MLE)	3.092
nu hat (MLE)	3.303	nu star (bias corrected)	2.654
Mean (detects)	0.821		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.005				Mean		0.0981
59					Maximum	3.5				Median		0.01
60					SD	0.516				CV		5.262
61					k hat (MLE)	0.334				k star (bias corrected MLE)		0.327
62					Theta hat (MLE)	0.294				Theta star (bias corrected MLE)		0.3
63					nu hat (MLE)	30.74				nu star (bias corrected)		30.07
64					Adjusted Level of Significance (β)	0.0448						
65					Approximate Chi Square Value (30.07, α)	18.54				Adjusted Chi Square Value (30.07, β)		18.25
66					95% Gamma Approximate UCL (use when n>=50)	0.159				95% Gamma Adjusted UCL (use when n<50)		0.162
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69					Mean (KM)	0.0937				SD (KM)		0.511
70					Variance (KM)	0.262				SE of Mean (KM)		0.0843
71					k hat (KM)	0.0335				k star (KM)		0.0459
72					nu hat (KM)	3.086				nu star (KM)		4.218
73					theta hat (KM)	2.792				theta star (KM)		2.043
74					80% gamma percentile (KM)	0.0092				90% gamma percentile (KM)		0.127
75					95% gamma percentile (KM)	0.481				99% gamma percentile (KM)		2.107
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78					Approximate Chi Square Value (4.22, α)	0.81				Adjusted Chi Square Value (4.22, β)		0.764
79					95% Gamma Approximate KM-UCL (use when n>=50)	0.488				95% Gamma Adjusted KM-UCL (use when n<50)		0.517
80	95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)											
81												
82	**Lognormal GOF Test on Detected Observations Only**											
83					Shapiro Wilk Test Statistic	0.927				**Shapiro Wilk GOF Test**		
84					5% Shapiro Wilk Critical Value	0.762				Detected Data appear Lognormal at 5% Significance Level		
85					Lilliefors Test Statistic	0.216				**Lilliefors GOF Test**		
86					5% Lilliefors Critical Value	0.343				Detected Data appear Lognormal at 5% Significance Level		
87	**Detected Data appear Lognormal at 5% Significance Level**											
88												
89	**Lognormal ROS Statistics Using Imputed Non-Detects**											
90					Mean in Original Scale	0.0893				Mean in Log Scale		-16.82
91					SD in Original Scale	0.518				SD in Log Scale		8.401
92					95% t UCL (assumes normality of ROS data)	0.217				95% Percentile Bootstrap UCL		0.237
93					95% BCA Bootstrap UCL	0.381				95% Bootstrap t UCL		1.438
94					95% H-UCL (Log ROS)	1.942E+15						
95												
96	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
97					KM Mean (logged)	-4.967				KM Geo Mean		0.00696
98					KM SD (logged)	1.243				95% Critical H Value (KM-Log)		2.599
99					KM Standard Error of Mean (logged)	0.205				95% H-UCL (KM -Log)		0.0244
100					KM SD (logged)	1.243				95% Critical H Value (KM-Log)		2.599
101					KM Standard Error of Mean (logged)	0.205						
102												
103	**DL/2 Statistics**											
104	**DL/2 Normal**									**DL/2 Log-Transformed**		
105					Mean in Original Scale	0.0914				Mean in Log Scale		-5.585
106					SD in Original Scale	0.517				SD in Log Scale		1.43
107					95% t UCL (Assumes normality)	0.22				95% H-Stat UCL		0.0191
108	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
109												
110	**Nonparametric Distribution Free UCL Statistics**											

111	**Detected Data appear Gamma Distributed at 5% Significance Level**											
112												
113	**Suggested UCL to Use**											
114	Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)				0.517							
115												
116	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
117	Recommendations are based upon data size, data distribution, and skewness.											
118	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
119	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
120												
121	**Sum of PAHs TCC - Dolerite**											
122												
123	**General Statistics**											
124				Total Number of Observations	46			Number of Distinct Observations	7			
125				Number of Detects	6			Number of Non-Detects	40			
126				Number of Distinct Detects	6			Number of Distinct Non-Detects	2			
127				Minimum Detect	0.005			Minimum Non-Detect	0.005			
128				Maximum Detect	41			Maximum Non-Detect	0.5			
129				Variance Detects	271.4			Percent Non-Detects	86.96%			
130				Mean Detects	7.424			SD Detects	16.47			
131				Median Detects	0.577			CV Detects	2.219			
132				Skewness Detects	2.433			Kurtosis Detects	5.935			
133				Mean of Logged Detects	-1.169			SD of Logged Detects	3.39			
134												
135	**Normal GOF Test on Detects Only**											
136				Shapiro Wilk Test Statistic	0.541			**Shapiro Wilk GOF Test**				
137				5% Shapiro Wilk Critical Value	0.788			Detected Data Not Normal at 5% Significance Level				
138				Lilliefors Test Statistic	0.454			**Lilliefors GOF Test**				
139				5% Lilliefors Critical Value	0.325			Detected Data Not Normal at 5% Significance Level				
140	**Detected Data Not Normal at 5% Significance Level**											
141												
142	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
143				KM Mean	0.974			KM Standard Error of Mean	0.966			
144				KM SD	5.978			95% KM (BCA) UCL	2.744			
145				95% KM (t) UCL	2.596			95% KM (Percentile Bootstrap) UCL	2.743			
146				95% KM (z) UCL	2.562			95% KM Bootstrap t UCL	37.2			
147				90% KM Chebyshev UCL	3.871			95% KM Chebyshev UCL	5.183			
148				97.5% KM Chebyshev UCL	7.004			99% KM Chebyshev UCL	10.58			
149												
150	**Gamma GOF Tests on Detected Observations Only**											
151				A-D Test Statistic	0.389			**Anderson-Darling GOF Test**				
152				5% A-D Critical Value	0.792			Detected data appear Gamma Distributed at 5% Significance Level				
153				K-S Test Statistic	0.237			**Kolmogorov-Smirnov GOF**				
154				5% K-S Critical Value	0.362			Detected data appear Gamma Distributed at 5% Significance Level				
155	**Detected data appear Gamma Distributed at 5% Significance Level**											
156												
157	**Gamma Statistics on Detected Data Only**											
158				k hat (MLE)	0.227			k star (bias corrected MLE)	0.225			
159				Theta hat (MLE)	32.67			Theta star (bias corrected MLE)	33.03			
160				nu hat (MLE)	2.727			nu star (bias corrected)	2.697			
161				Mean (detects)	7.424							
162												
163	**Gamma ROS Statistics using Imputed Non-Detects**											
164	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
165	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											

166	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
167	This is especially true when the sample size is small.											
168	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
169					Minimum	0.005				Mean	0.977	
170					Maximum	41				Median	0.01	
171					SD	6.044				CV	6.186	
172					k hat (MLE)	0.181				k star (bias corrected MLE)	0.184	
173					Theta hat (MLE)	5.403				Theta star (bias corrected MLE)	5.324	
174					nu hat (MLE)	16.64				nu star (bias corrected)	16.88	
175					Adjusted Level of Significance (β)	0.0448						
176					Approximate Chi Square Value (16.88, α)	8.589				Adjusted Chi Square Value (16.88, β)	8.397	
177					95% Gamma Approximate UCL (use when n>=50)	1.92				95% Gamma Adjusted UCL (use when n<50)	1.964	
178												
179	**Estimates of Gamma Parameters using KM Estimates**											
180					Mean (KM)	0.974				SD (KM)	5.978	
181					Variance (KM)	35.74				SE of Mean (KM)	0.966	
182					k hat (KM)	0.0265				k star (KM)	0.0393	
183					nu hat (KM)	2.442				nu star (KM)	3.616	
184					theta hat (KM)	36.7				theta star (KM)	24.78	
185					80% gamma percentile (KM)	0.0492				90% gamma percentile (KM)	1.023	
186					95% gamma percentile (KM)	4.625				99% gamma percentile (KM)	23.16	
187												
188	**Gamma Kaplan-Meier (KM) Statistics**											
189					Approximate Chi Square Value (3.62, α)	0.576				Adjusted Chi Square Value (3.62, β)	0.541	
190					95% Gamma Approximate KM-UCL (use when n>=50)	6.113				95% Gamma Adjusted KM-UCL (use when n<50)	6.513	
191	95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)											
192												
193	**Lognormal GOF Test on Detected Observations Only**											
194					Shapiro Wilk Test Statistic	0.964				**Shapiro Wilk GOF Test**		
195					5% Shapiro Wilk Critical Value	0.788				Detected Data appear Lognormal at 5% Significance Level		
196					Lilliefors Test Statistic	0.165				**Lilliefors GOF Test**		
197					5% Lilliefors Critical Value	0.325				Detected Data appear Lognormal at 5% Significance Level		
198	**Detected Data appear Lognormal at 5% Significance Level**											
199												
200	**Lognormal ROS Statistics Using Imputed Non-Detects**											
201					Mean in Original Scale	0.968				Mean in Log Scale	-14.23	
202					SD in Original Scale	6.045				SD in Log Scale	7.87	
203					95% t UCL (assumes normality of ROS data)	2.465				95% Percentile Bootstrap UCL	2.726	
204					95% BCA Bootstrap UCL	4.46				95% Bootstrap t UCL	39.78	
205					95% H-UCL (Log ROS)	4.438E+13						
206												
207	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
208					KM Mean (logged)	-4.724				KM Geo Mean	0.00888	
209					KM SD (logged)	1.802				95% Critical H Value (KM-Log)	3.311	
210					KM Standard Error of Mean (logged)	0.297				95% H-UCL (KM -Log)	0.11	
211					KM SD (logged)	1.802				95% Critical H Value (KM-Log)	3.311	
212					KM Standard Error of Mean (logged)	0.297						
213												
214	**DL/2 Statistics**											
215	**DL/2 Normal**									**DL/2 Log-Transformed**		
216					Mean in Original Scale	1.035				Mean in Log Scale	-4.161	
217					SD in Original Scale	6.035				SD in Log Scale	2.571	
218					95% t UCL (Assumes normality)	2.529				95% H-Stat UCL	2.284	
219	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
220												

	A	B	C	D	E	F	G	H	I	J	K	L
221	**Nonparametric Distribution Free UCL Statistics**											
222	**Detected Data appear Gamma Distributed at 5% Significance Level**											
223												
224	**Suggested UCL to Use**											
225	Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)					6.513						
226												
227	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
228	Recommendations are based upon data size, data distribution, and skewness.											
229	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
230	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
231												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.19/05/2025 12:35:04 PM
From File	inputs_250507_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)pyrene TEQ(LOR) TCC - Anthropogenic Fill and Weathered Dolerite

General Statistics

Total Number of Observations	476	Number of Distinct Observations	333
Number of Detects	322	Number of Non-Detects	154
Number of Distinct Detects	322	Number of Distinct Non-Detects	11
Minimum Detect	0.0126	Minimum Non-Detect	0.0122
Maximum Detect	71.98	Maximum Non-Detect	0.0124
Variance Detects	102.2	Percent Non-Detects	32.35%
Mean Detects	5.553	SD Detects	10.11
Median Detects	1.487	CV Detects	1.821
Skewness Detects	3.562	Kurtosis Detects	15.49
Mean of Logged Detects	0.137	SD of Logged Detects	2.168

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.578	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.292	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0498	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3.761	KM Standard Error of Mean	0.399
KM SD	8.698	95% KM (BCA) UCL	4.454
95% KM (t) UCL	4.419	95% KM (Percentile Bootstrap) UCL	4.448
95% KM (z) UCL	4.417	95% KM Bootstrap t UCL	4.471
90% KM Chebyshev UCL	4.959	95% KM Chebyshev UCL	5.501
97.5% KM Chebyshev UCL	6.254	99% KM Chebyshev UCL	7.734

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.557	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.843	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0697	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.0541	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.415	k star (bias corrected MLE)	0.413
Theta hat (MLE)	13.39	Theta star (bias corrected MLE)	13.45
nu hat (MLE)	267.1	nu star (bias corrected)	266
Mean (detects)	5.553		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.01				Mean		3.76
59					Maximum	71.98				Median		0.269
60					SD	8.708				CV		2.316
61					k hat (MLE)	0.259				k star (bias corrected MLE)		0.259
62					Theta hat (MLE)	14.49				Theta star (bias corrected MLE)		14.51
63					nu hat (MLE)	247				nu star (bias corrected)		246.8
64					Adjusted Level of Significance (β)	0.0495						
65					Approximate Chi Square Value (246.75, α)	211.4				Adjusted Chi Square Value (246.75, β)		211.3
66					95% Gamma Approximate UCL (use when n>=50)	4.389				95% Gamma Adjusted UCL (use when n<50)		4.391
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69					Mean (KM)	3.761				SD (KM)		8.698
70					Variance (KM)	75.66				SE of Mean (KM)		0.399
71					k hat (KM)	0.187				k star (KM)		0.187
72					nu hat (KM)	178				nu star (KM)		178.2
73					theta hat (KM)	20.12				theta star (KM)		20.09
74					80% gamma percentile (KM)	4.777				90% gamma percentile (KM)		11.36
75					95% gamma percentile (KM)	19.71				99% gamma percentile (KM)		42.94
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78					Approximate Chi Square Value (178.16, α)	148.3				Adjusted Chi Square Value (178.16, β)		148.2
79					95% Gamma Approximate KM-UCL (use when n>=50)	4.518				95% Gamma Adjusted KM-UCL (use when n<50)		4.521
80												
81	**Lognormal GOF Test on Detected Observations Only**											
82					Shapiro Wilk Approximate Test Statistic	0.94				**Shapiro Wilk GOF Test**		
83					5% Shapiro Wilk P Value	0				Detected Data Not Lognormal at 5% Significance Level		
84					Lilliefors Test Statistic	0.0631				**Lilliefors GOF Test**		
85					5% Lilliefors Critical Value	0.0498				Detected Data Not Lognormal at 5% Significance Level		
86	**Detected Data Not Lognormal at 5% Significance Level**											
87												
88	**Lognormal ROS Statistics Using Imputed Non-Detects**											
89					Mean in Original Scale	3.762				Mean in Log Scale		-1.439
90					SD in Original Scale	8.707				SD in Log Scale		3.014
91					95% t UCL (assumes normality of ROS data)	4.42				95% Percentile Bootstrap UCL		4.431
92					95% BCA Bootstrap UCL	4.469				95% Bootstrap t UCL		4.53
93					95% H-UCL (Log ROS)	39.92						
94												
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
96					KM Mean (logged)	-1.333				KM Geo Mean		0.264
97					KM SD (logged)	2.773				95% Critical H Value (KM-Log)		4.026
98					KM Standard Error of Mean (logged)	0.127				95% H-UCL (KM -Log)		20.57
99					KM SD (logged)	2.773				95% Critical H Value (KM-Log)		4.026
100					KM Standard Error of Mean (logged)	0.127						
101												
102	**DL/2 Statistics**											
103	**DL/2 Normal**									**DL/2 Log-Transformed**		
104					Mean in Original Scale	3.759				Mean in Log Scale		-1.557
105					SD in Original Scale	8.708				SD in Log Scale		3.032
106					95% t UCL (Assumes normality)	4.417				95% H-Stat UCL		37.68
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Data do not follow a Discernible Distribution at 5% Significance Level**											

111												
112	**Suggested UCL to Use**											
113				95% KM (Chebyshev) UCL		5.501						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												
120	**Lead TCC - Anthropogenic Fill and Weathered Dolerite**											
121												
122	**General Statistics**											
123				Total Number of Observations		519		Number of Distinct Observations			177	
124				Number of Detects		416		Number of Non-Detects			103	
125				Number of Distinct Detects		176		Number of Distinct Non-Detects			1	
126				Minimum Detect		5.4		Minimum Non-Detect			5	
127				Maximum Detect		8000		Maximum Non-Detect			5	
128				Variance Detects		362660		Percent Non-Detects			19.85%	
129				Mean Detects		243.5		SD Detects			602.2	
130				Median Detects		98		CV Detects			2.473	
131				Skewness Detects		8.292		Kurtosis Detects			85.95	
132				Mean of Logged Detects		4.494		SD of Logged Detects			1.427	
133												
134	**Normal GOF Test on Detects Only**											
135				Shapiro Wilk Test Statistic		0.361		**Normal GOF Test on Detected Observations Only**				
136				5% Shapiro Wilk P Value		0		Detected Data Not Normal at 5% Significance Level				
137				Lilliefors Test Statistic		0.346		**Lilliefors GOF Test**				
138				5% Lilliefors Critical Value		0.0438		Detected Data Not Normal at 5% Significance Level				
139	**Detected Data Not Normal at 5% Significance Level**											
140												
141	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
142				KM Mean		196.2		KM Standard Error of Mean			24.03	
143				KM SD		546.8		95% KM (BCA) UCL			237.8	
144				95% KM (t) UCL		235.8		95% KM (Percentile Bootstrap) UCL			236.8	
145				95% KM (z) UCL		235.7		95% KM Bootstrap t UCL			256.4	
146				90% KM Chebyshev UCL		268.3		95% KM Chebyshev UCL			300.9	
147				97.5% KM Chebyshev UCL		346.2		99% KM Chebyshev UCL			435.3	
148												
149	**Gamma GOF Tests on Detected Observations Only**											
150				A-D Test Statistic		7.769		**Anderson-Darling GOF Test**				
151				5% A-D Critical Value		0.811		Detected Data Not Gamma Distributed at 5% Significance Level				
152				K-S Test Statistic		0.107		**Kolmogorov-Smirnov GOF**				
153				5% K-S Critical Value		0.0466		Detected Data Not Gamma Distributed at 5% Significance Level				
154	**Detected Data Not Gamma Distributed at 5% Significance Level**											
155												
156	**Gamma Statistics on Detected Data Only**											
157				k hat (MLE)		0.615		k star (bias corrected MLE)			0.612	
158				Theta hat (MLE)		396		Theta star (bias corrected MLE)			397.8	
159				nu hat (MLE)		511.6		nu star (bias corrected)			509.2	
160				Mean (detects)		243.5						
161												
162	**Gamma ROS Statistics using Imputed Non-Detects**											
163	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
164	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
165	For such situations, GROS method may yield incorrect values of UCLs and BTVs											

166	This is especially true when the sample size is small.											
167	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
168					Minimum	0.01				Mean	195.2	
169					Maximum	8000				Median	67	
170					SD	547.7				CV	2.806	
171					k hat (MLE)	0.271				k star (bias corrected MLE)	0.271	
172					Theta hat (MLE)	719.9				Theta star (bias corrected MLE)	720.7	
173					nu hat (MLE)	281.4				nu star (bias corrected)	281.1	
174					Adjusted Level of Significance (β)	0.0495						
175					Approximate Chi Square Value (281.12, α)	243.3				Adjusted Chi Square Value (281.12, β)	243.2	
176					95% Gamma Approximate UCL (use when n>=50)	225.5				95% Gamma Adjusted UCL (use when n<50)	225.6	
177												
178	**Estimates of Gamma Parameters using KM Estimates**											
179					Mean (KM)	196.2				SD (KM)	546.8	
180					Variance (KM)	299037				SE of Mean (KM)	24.03	
181					k hat (KM)	0.129				k star (KM)	0.129	
182					nu hat (KM)	133.6				nu star (KM)	134.1	
183					theta hat (KM)	1524				theta star (KM)	1518	
184					80% gamma percentile (KM)	186.3				90% gamma percentile (KM)	566.2	
185					95% gamma percentile (KM)	1108				99% gamma percentile (KM)	2732	
186												
187	**Gamma Kaplan-Meier (KM) Statistics**											
188					Approximate Chi Square Value (134.13, α)	108.4				Adjusted Chi Square Value (134.13, β)	108.3	
189					95% Gamma Approximate KM-UCL (use when n>=50)	242.8				95% Gamma Adjusted KM-UCL (use when n<50)	242.9	
190												
191	**Lognormal GOF Test on Detected Observations Only**											
192					Shapiro Wilk Approximate Test Statistic	0.966				**Shapiro Wilk GOF Test**		
193					5% Shapiro Wilk P Value	9.9743E-7				Detected Data Not Lognormal at 5% Significance Level		
194					Lilliefors Test Statistic	0.0535				**Lilliefors GOF Test**		
195					5% Lilliefors Critical Value	0.0438				Detected Data Not Lognormal at 5% Significance Level		
196	**Detected Data Not Lognormal at 5% Significance Level**											
197												
198	**Lognormal ROS Statistics Using Imputed Non-Detects**											
199					Mean in Original Scale	196.1				Mean in Log Scale	3.856	
200					SD in Original Scale	547.4				SD in Log Scale	1.847	
201					95% t UCL (assumes normality of ROS data)	235.7				95% Percentile Bootstrap UCL	238.2	
202					95% BCA Bootstrap UCL	252.2				95% Bootstrap t UCL	250.1	
203					95% H-UCL (Log ROS)	329.7						
204												
205	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
206					KM Mean (logged)	3.921				KM Geo Mean	50.47	
207					KM SD (logged)	1.718				95% Critical H Value (KM-Log)	2.778	
208					KM Standard Error of Mean (logged)	0.0755				95% H-UCL (KM -Log)	272.4	
209					KM SD (logged)	1.718				95% Critical H Value (KM-Log)	2.778	
210					KM Standard Error of Mean (logged)	0.0755						
211												
212	**DL/2 Statistics**											
213	**DL/2 Normal**									**DL/2 Log-Transformed**		
214					Mean in Original Scale	195.7				Mean in Log Scale	3.784	
215					SD in Original Scale	547.5				SD in Log Scale	1.916	
216					95% t UCL (Assumes normality)	235.3				95% H-Stat UCL	354.7	
217	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
218												
219	**Nonparametric Distribution Free UCL Statistics**											
220	**Data do not follow a Discernible Distribution at 5% Significance Level**											

	A	B	C	D	E	F	G	H	I	J	K	L
221												
222	**Suggested UCL to Use**											
223	95% KM (Chebyshev) UCL					300.9						
224												
225	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
226	Recommendations are based upon data size, data distribution, and skewness.											
227	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
228	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
229												

Appendix G-6: Soil, Groundwater and Soil Vapour Investigation 2025

Revision 3 – 01-Feb-2026
Prepared for – Macquarie Point Development Corporation – ABN: 92 657 409 841

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

Soil, Groundwater and Soil Vapour Investigation 2025

18-Dec-2025
Macquarie Point Development Project

Soil, Groundwater and Soil Vapour Investigation 2025

Client: Macquarie Point Development Corporation

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List of Acronyms

AASS	Actual Acid Sulfate Soil
ACM	Asbestos Containing Material
AECOM	AECOM Australia Pty Ltd
AHD	Australian Height Datum
AHO	Aboriginal Heritage Officer
AHT	Aboriginal Heritage Tasmania
ANC	Acid Neutralising Capacity
ANZG	Australian and New Zealand Guidelines
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999
ASS	Acid Sulfate Soil
AST	Aboveground Storage Tank
Austral	Austral Tasmania Pty Ltd
bgl	below ground level
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
BYDA	Before You Dig Australia
CASS	Coastal Acid Sulfate Soil
CASS BPMG	*Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soil*, 2010
CEMP	Construction Environmental Management Plan
CoC	Chain of Custody
CoPC	Chemicals of Potential Concern
CoPEC	Chemicals of Potential Ecological Concern
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CRS	Chromium Reducible Sulfur
CSM	Conceptual Site Model
DIER	Department of Infrastructure Energy and Resources
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DPIPWE	Department of Primary Industries, Parks, Water and the Environment
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Electrical Conductivity
E. coli	*Escherichia coli*
EPA	Environment Protection Authority
ERS	Environment Reference Standard
GHD	GHD Group Pty Ltd

GME	Groundwater Monitoring Event
ha	hectare
HCC	Hobart City Council
HSL	Health Screening Levels
L	Litres
L/s	Litres per second
LDPE	Low-Density Polyethylene
LNAPL	Light Non-Aqueous Phase Liquid
LOR	Limit of Reporting
m	metres
mg/kg	milligrams per kilogram
mg/L	milligrams per Litre
mm	millimetres
MPDC	Macquarie Point Development Corporation
mS/cm	MilliSiemens per centimetre
mV	milliVolts
NAPL	Non-Aqueous Phase Liquid
NATA	National Association of Testing Authorities
NDD	Non-Destructive Digging
NSW	New South Wales
OCP	Organochlorine Pesticides
ORP	Oxygen Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soils
PEV	Protected Environmental Value
pH_F	Field pH
pH_{FOX}	Oxidised field pH
PID	Photo-Ionisation Detector
PPE	Personal Protective Equipment
ppm	parts per million
PSI	Preliminary Site Investigation
QA	Quality Assurance
QC	Quality Control
RC	Remediation Criteria
RIS	Reduced Inorganic Sulfur
RPD	Relative Percent Difference
SAQP	Sampling and Analysis Quality Plan
SEMP	Site Environmental Management Plan

SPOCAS	Suspension Peroxide Oxidation Combined Acidity and Sulfur
SPoWQM	State Policy on Water Quality Management 1997
SPS	Sewage Pumping Station
SRN	Sample Receipt Notification
SVOC	Semi-Volatile Organic Compound
SWL	Standing Water Level
SWMS	Safe Work Method Statement
TAA	Titratable Actual Acidity
TASSMG	Tasmanian Acid Sulfate Soil Management Guidelines
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UPVC	Unplasticised Polyvinyl Chloride
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WHSP	Work Health and Safety Plan
WWTP	Wastewater Treatment Plant

Executive Summary

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point Site in Hobart, Tasmania (the Site).

The Site is currently undergoing an Environmental Audit under Division 2, Section 39F(1) of the *Macquarie Point Development Act 2012* (last amended 1 July 2023), which states:

Redevelopment of a part of the Site may not occur until an accredited environmental auditor has certified that the remediation of the part of the Site has occurred to a standard that is satisfactory for the purposes of the proposed redevelopment.

As part of ongoing assessment and investigation of the Site, and to provide recent and up-to-date information on the Site's environmental condition to the Environmental Auditor in assessing the suitability of the proposed future development, AECOM completed a soil, groundwater and soil vapour investigation at the Site in May and June 2025, in order to:

- Repair or replace gaps in the soil vapour and groundwater monitoring networks identified in February 2025 (AECOM, 2025c).
- Collect additional data to:
  - Update and refresh knowledge on the condition of Site groundwater and soil vapour and assess if any changes in condition have occurred in the period since previous assessments, or due to the updated Site development planning, which would result in unacceptable potential risks to current or future users or the Site or surrounding areas.
  - Conduct additional groundwater and soil vapour assessment of the Gateway area, as recommended in *Remediation Validation Report – The Gateway* (AECOM, 2025a).
  - Review and reassess potential risks to off-Site ecological receptors, last evaluated in *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020a), and determine if any unacceptable risk to off-Site receptors is present.
  - Assess Light Non-Aqueous Phase Liquid (LNAPL) plume status and stability, last evaluated in *Assessment of LNAPL Remediation End-Points* (AECOM, 2021b), including potential mobility of LNAPL Plume B in the southeast corner of the Site identified in 2025 (AECOM, 2025c).
  - Further investigate possible Potential Acid Sulfate Soil (PASS) in unsaturated fill (AECOM, 2025b).
  - Provide sufficient information to determine and implement suitable remediation, mitigations or management measures during Site development and ongoing use, to be documented in the Site Environmental Management Plan (SEMP) (AECOM, 2024b).

This report has been prepared to present the outcomes of this assessment.

Scope of Work Completed

The following activities were completed as part of this assessment:

- Drilling and installation at 43 locations, in order to:
  - Install 19 new groundwater monitoring wells.
  - Install 14 new soil vapour monitoring wells.
  - Advance and sample 10 soil bores for the assessment of PASS in unsaturated soil.

  Soil samples were also collected and analysed from groundwater and soil vapour wells installed.
- Installation of two sub-slab vapour pins above LNAPL Plume B.
- Relocation, repair and/or redevelopment and resurveying of 25 groundwater wells which were previously unable to be located or were identified as damaged.

- A Site-wide Groundwater Monitoring Event (GME), including:
  - Gauging of 87 wells on- and off-Site.
  - Development and sampling of 56 groundwater wells using low-flow sampling methods.
  - LNAPL transmissivity testing on three groundwater wells with sufficient LNAPL present.
- A soil vapour sampling event at 18 locations consisting of 16 soil vapour bores installed between 1 and 2.5 m bgl, and two sub-slab pins.
- Preparation of this report.

Results of Assessment

Protected Environmental Values

On the basis of soil, groundwater and soil vapour analytical results for CoPC, **Table E1** below provides a summary of the conclusions made with reference to the Tier 1 assessment undertaken against identified PEVs.

Table E1 Protected Environmental Values - Tier 1 Assessment Summary

Applicable PEVs [1]	PEV Precluded? [2]	Comment
Soil		
Maintenance of Modified and Highly Modified Ecosystems	Yes	Concentrations of a combination of metals (copper, chromium, nickel, zinc), TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction, total xylenes, naphthalene and benzo(a)pyrene were reported above the adopted Tier 1 assessment criteria for both Modified and Highly Modified Ecosystems.
Human Health – Direct Contact – Low Density Residential	Yes	Concentrations of a combination of metals (chromium, lead), TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction and PAHs (benzo(a)pyrene, Sum of PAHs) were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Medium/ High Density Residential	Yes	Concentrations of a combination of chromium, TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction and PAHs (benzo(a)pyrene, Sum of PAHs), were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Recreation / Open Space	Yes	Concentrations of a combination of chromium, TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction and PAHs (benzo(a)pyrene, Sum of PAHs) were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Commercial / Industrial	Yes	Concentrations of a combination of TRH >C16-C34 fraction and benzo(a)pyrene were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Intrusive Maintenance Workers	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from soil) – Residential	Yes	Concentrations of TRH C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene, total xylenes and naphthalene were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from soil) –	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.

Applicable PEVs [1]	PEV Precluded? [2]	Comment
Recreational/ Open Space		
Human Health – Vapour Intrusion (from soil) – Commercial / Industrial	Yes	Concentrations of TRH C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene, and naphthalene were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from soil) – Intrusive Maintenance Workers	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Buildings and structures	Yes	Field pH (pH_F) measured as part of the PASS assessment was reported above the adopted Tier 1 assessment criteria.
Aesthetics	Yes	Anthropogenic materials (including brick, concrete, metal, ceramic, wood, slag and glass fragments), hydrocarbon odours and/or staining (green staining, LNAPL sheen and/or tar residue) were observed.
Traditional Owner Cultural Values	Yes	Precluded PEVs related to ecosystem protection, recreational use and aesthetics are also considered to preclude Traditional Owner cultural values.
Groundwater		
Ecosystem Protection (Marine)	Yes	Concentrations of a combination of metals (copper, manganese, zinc), PFOS, cyanide, ammonia, TRH >C10-C40 fraction (sum), TPH >C10-C36 fraction (sum), ethylbenzene, total xylenes, PAHs (naphthalene, anthracene, phenanthrene), phenols (phenol, 2-Methylphenol (o-Cresol), 2,4-Dimethylphenol) were reported above the adopted Tier 1 assessment criteria. It is noted that risks to offsite ecological receptors will be assessed and reported in a separate report.
Human Health – Drinking Water	Yes	Concentrations of a combination of metals (cadmium, manganese), PFAS (PFOS, sum of PFHxS + PFOS) cyanide, nitrate, benzene, ethylbenzene, o-xylene, PAHs (naphthalene, sum of PAHs), phenols (2-Methylphenol (o-Cresol), Total Cresols, 2,4-Dimethylphenol, and sulphate as SO4 were reported above the adopted Tier 1 assessment criteria.
Human Health – Recreation (Secondary Contact)	Yes	Concentrations of benzene, naphthalene, sum of PAHs, PFOS and cyanide total were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) – Residential	Yes	Concentrations of TRH >C6-C10 (minus BTEX) (F1) and TRH >C10-C16 (minus naphthalene) (F2) were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) – Recreation / Open Space	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.

Applicable PEVs [1]	PEV Precluded? [2]	Comment
Human Health – Vapour Intrusion (from groundwater) – Commercial / Industrial	Yes	Concentrations of TRH >C10-C16 (minus naphthalene) (F2) were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) – Intrusive Maintenance Workers	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) - Explosive Hazard	Yes	Concentrations of methane were reported above the adopted Tier 1 assessment criteria.
Primary Industries Criteria – Irrigation	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Primary Industries Criteria – Stock Watering	Yes	Concentrations of cadmium, sulfate as SO4, PFOS, and sum of PFHxS + PFOS were reported above the adopted Tier 1 assessment criteria.
Buildings and structures	Yes	Concentrations of a chloride and sulfate were reported above the adopted Tier 1 assessment criteria.
Aesthetics	Yes	A hydrocarbon odour and/or measurable LNAPL / LNAPL sheen was noted.
Traditional Owner Cultural Values	Yes	Precluded PEVs related to ecosystem protection, recreational use and aesthetics are also considered to preclude Traditional Owner cultural values.
Soil Vapour		
Human Health – Residential (Sand)	Yes	Concentrations of benzene, naphthalene and TPH >C8-C10 aromatic fraction were reported above the adopted Tier 1 assessment criteria.
Human Health – Recreational / Open Space (Sand)	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Commercial / Industrial (Sand)	Yes	Concentrations of benzene, naphthalene and TPH >C8-C10 aromatic fraction were reported above the adopted Tier 1 assessment criteria.
Human Health - Intrusive Maintenance Worker	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Safety Action Levels for Subsurface Methane Near Foundations	Yes	Concentrations of methane were reported above the adopted Tier 1 assessment criteria.

Notes: 1 – PEVs applicable to the Site and adjacent area based on the potential future land use planned for the Macquarie Point development and consideration of current and potential future receptors; 2 – PEVs precluded based on concentrations of CoPC being reported above Tier 1 assessment criteria for soil and groundwater, or other observed features (i.e., anthropogenic materials in soil).

Given some soil and groundwater PEVs are considered as potentially precluded due to concentrations of CoPC being reported above Tier 1 assessment criteria, further assessment has been conducted against Site Derived RC has been undertaken (refer **Section 7.2.2**), to inform potential measures recommended for the protection of human health.

No RC have been adopted for soil vapour, and exceedances of the adopted criteria in this media have been used to inform mitigation/management requirements. Based on detected vapour concentrations, mitigation or management is considered required for:

- Commercial / Industrial development of the Site – benzene, naphthalene, and TPH >C8-C10 aromatic fraction.
- Potential explosive methane intrusion – all areas excluding the Escarpment, Audit Area 4 East, and Regatta Point. If any building or structure with a footprint extending to other areas is proposed in these areas however (i.e., the Multipurpose Stadium), methane mitigation will be required to be extended to these areas.

Assessment of potential off-Site risks to aquatic ecological receptors will be undertaken as a separate report.

Site Derived Remediation Criteria

On the basis of soil and groundwater analytical results, **Table E2** below provides a summary of the screening against Site Derived RC to inform potential assessment, remediation or management measures required at the Site.

Table E2 Site Specific Remediation Criteria – Summary

Future Use Scenarios [1]	Further Assessment or Remediation Required? [2]	Comment
Soil		
Potential Future Residents (building with a basement car park)	No	TRH >C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene, total xylenes and naphthalene were reported above the Site Derived RC in soil samples collected from 13 locations as part of this investigation. Given each of these are outside the proposed future residential building footprints, which are limited to Regatta Point to the north of the Site, detected exceedances are not considered to present an unacceptable vapour intrusion risk to future development.
Potential Future Residents (low-rise slab-on-grade)	No	
Potential Future Residents (slab-on-grade with unknown construction or multi-storey building)	No	
Potential Future Recreational Open Space Users	No	Concentrations of CoPC were reported below the Site Derived RC.
Potential Future Commercial/Light Industrial Workers (working within a basement)	No	A combination of TRH >C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene and naphthalene were reported above the Site Derived RC at seven locations: • Four locations associated with LNAPL Plumes A1 and A2 (SV32, MW183, MW184, and MW185) • Four locations within the former gasworks area of the Site (MW196, MW198, SV43 and SV44). While exceedances of these RC criteria near LNAPL are not considered to indicate a risk of vapour intrusion, based on direct sampling of soil vapour in the vicinity, the reported exceedances of benzene and naphthalene in soil in the former gasworks area are considered to represent a potential vapour intrusion risk and will require mitigation as part of future development.
Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)		
Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building)		

Future Use Scenarios [1]	Further Assessment or Remediation Required? [2]	Comment
Potential Future Maintenance Workers	No	Concentrations of CoPC were reported below the Site Derived RC.
Groundwater		
Potential Future Residents (slab-on-grade with unknown construction or multi-storey building)	No	Concentrations of CoPC were reported below the Site Derived RC.
Potential Future Residents (building with a basement car park)	No	
Potential Future Residents (low-rise slab-on-grade)	No	
Potential Future Recreational Open Space Users	No	
Potential Future Commercial/Light Industrial Workers (working within a basement)	No	
Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)	No	
Potential Future Commercial Workers (slab-on-grade with unknown construction or multi-storey building)	No	
Potential Future Maintenance Workers	No	

Notes: 1 – Future use scenarios applicable to Macquarie Point and the surrounding area based on the potential future land use planned and consideration of current and potential future receptors; 2 – Based on concentrations of CoPC being reported above the Site Derived RC for soil and groundwater.

While no remediation of soil or groundwater is considered required for future development, mitigation to prevent potential vapour intrusion by TRH, benzene and naphthalene is considered required for any buildings and structures which include the former gasworks area within their footprint.

LNAPL Plume Stability

Measurable LNAPL was observed in LNAPL Plume B wells MW03, PW02, and S8. It is noted that measurable LNAPL (5 mm) was briefly observed in MW185 prior to development, however only a sheen was noted in this well throughout the remainder of the June 2025 investigation.

Field observations and mobility testing indicate that LNAPL plumes A1, A2, A3 and B are considered to be very low in mobility, however at least one further round of groundwater monitoring and LNAPL mobility testing is considered required to provide additional temporal data on LNAPL plume presence and mobility following the recent earthworks across the Site.

The status of the LNAPL remediation end-points provided in the LNAPL RAP (AECOM, 2017) were previously assessed as met in AECOM (2021b). Further review of these endpoints based on the results of the June 2025 investigation, indicated that the three remediation end-points for LNAPL remediation continue to be met, and it is further considered that:

- Further LNAPL remediation is not practicable and is unlikely to materially change the extent, risks, or longevity of LNAPL on Site groundwater.
- LNAPL plumes are stable and unlikely to migrate.
- With the controls and requirements documented in the SEMP, LNAPL does not represent a risk to human or ecological receptors, noting that update and review of the evaluation of risks to off-Site ecological receptors is currently being undertaken.

As such, it is considered that no further remediation of LNAPL is required. The locations of LNAPL, and controls and mitigations, currently documented in the SEMP should be maintained to allow management without unacceptable levels of risk during future Site operation and management.

Acid Sulfate Soil

Results of ASS sampling in soil have been assessed and reported separately, in context of the overall understanding of PASS at the Site, in *Acid Sulfate Soil Investigation* (AECOM, 2025h).

Recommendations

Further Assessment and Remediation

Based on the results of the June 2025 investigation, it is considered that further soil, groundwater or soil vapour assessment and remediation at the Site would not likely change the risk to on-Site and off-Site receptors following implementation of risk mitigation measures into future development design and construction at the Site. Therefore, there is no recommendation for further assessment or remediation on this basis.

The data collected in this investigation should be considered in any other assessments of the Site, where relevant, and incorporated into the next review and update of the SEMP (AECOM, 2024b).

Management Measures

Management measures recommended at the Site are below:

- Development of the Site should be restricted to the land uses considered in this investigation. Proposed development for each use should be limited to the areas delineated on **Figure F1**.
- The Site management measures used to derive the RC and documented in the SEMP should be maintained for future development.
- Management and mitigations measures for potential vapour intrusion are considered required for future development for:
    - Methane above criteria in groundwater and soil vapour in the southern and eastern portions of the Site. Methane mitigation is not considered required in Regatta Point, the Escarpment, or Audit Area 4 East, with the exception of structures (such as the proposed stadium) which include areas of elevated methane in their footprint.
    - Benzene, naphthalene, and TRH in the former gasworks area (the Gateway), and any buildings or structures which include this area in their footprint.
    - Air monitoring for benzene should be undertaken for any intrusive maintenance works in the former gasworks area, if further monitoring is not undertaken to confirm results.

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point Site in Hobart, Tasmania (the Site).

The Site is currently undergoing an Environmental Audit under Division 2, Section 39F(1) of the *Macquarie Point Development Act 2012* (last amended 1 July 2023), which states:

Redevelopment of a part of the site may not occur until an accredited environmental auditor has certified that the remediation of the part of the site has occurred to a standard that is satisfactory for the purposes of the proposed redevelopment.

As part of ongoing assessment and investigation of the Site, and to provide recent and up-to-date information on the Site's environmental condition to the Environmental Auditor in assessing the suitability of the proposed future development, AECOM completed a soil, groundwater and soil vapour investigation at the Site in May-June 2025 (reported herein).

The Site layout is presented **Figure F1** (**Appendix A**).

1.1 Background

The Site has been delineated into eight sub-areas (including Regatta Point added in 2023) for the purposes of environmental assessment and remediation. Between 2019 and 2021, Site Suitability Statements have been issued by the Site Environmental Auditor for four of the eight areas (the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, and the Precinct North). **Figure 1** below shows the location of each assessment area in context of the Site.



Figure 1 Site Assessment Areas

The Royal Engineers Building and Land, to the west of Macquarie Point, is included in the overall planned development of the area, however no changes in use are planned and it is not intended to include this area in the Environmental Audit at this time.

Since issue of these Site Suitability Statements, numerous remediation programs and changes in Site surface cover and elevation have occurred, and the overall proposed development of the Site has been updated with issue of the *Mac Point Precinct Plan* (MPDC, 2024) as described in **Section 2.3**. The existing Site Suitability Statements refer to the previous proposed development and require reassessment and review to allow for the changes in proposed development.

Site-wide groundwater and soil vapour monitoring was last conducted in 2019, and the data collected from these events is also considered to be less representative of Site conditions as time passes. Inspection of the groundwater and soil vapour bores at and surrounding the Site undertaken in February 2025 (AECOM, 2025c) also identified damage or destruction to existing monitoring points previously installed, and repair or replacement of monitoring points is considered required to allow sufficient data to be collected to characterise current Site conditions.

1.2 Objectives

The overall goal of environmental investigations, assessments and remediation of the Site is to identify and remove or mitigate potentially unacceptable risks from soil or groundwater contamination to current or future users or ecological receptors, either on or adjacent to the Site, with sufficient level and quality of information to allow preparation of a Site Suitability Statement by an independent Environmental Auditor as accredited by Section 39F(3) of the *Macquarie Point Development Corporation Act 2012.*

The objectives of the soil, groundwater and soil vapour investigation are to:

- Repair or replace gaps in the soil vapour and groundwater monitoring networks identified in February 2025 (AECOM, 2025c).
- Collect additional data to:
  - Update and refresh knowledge on the condition of Site groundwater and soil vapour and assess if any changes in condition have occurred in the period since previous assessments, or due to the updated Site development planning, which would result in unacceptable potential risks to current or future users or the Site or surrounding areas.
  - Conduct additional groundwater and soil vapour assessment of the Gateway area, as recommended in *Remediation Validation Report – The Gateway* (AECOM, 2025a).
  - Review and reassess potential risks to off-Site ecological receptors, last evaluated in *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020a).
  - Assess Light Non-Aqueous Phase Liquid (LNAPL) plume status and stability, last evaluated in *Assessment of LNAPL Remediation End-Points* (AECOM, 2021b), including potential mobility of LNAPL Plume B in the southeast corner of the Site identified in 2025 (AECOM, 2025c).
  - Further investigate possible Potential Acid Sulfate Soil (PASS) in unsaturated fill (AECOM, 2025b).
  - Provide sufficient information to determine and implement suitable remediation, mitigations or management measures during Site development and ongoing use, to be documented in the Site Environmental Management Plan (SEMP) (AECOM, 2024b).

1.3 Scope

The scope of work that was undertaken can be summarised as follows:

- A Site inspection to confirm the condition and accessibility of the existing groundwater monitoring well network and the proposed drilling locations.

- Underground service location and clearance of all proposed drilling locations, including review of available Site plans and Before You Dig Australia (BYDA) plans, and engagement of a qualified underground service locator.
- A total of 45 drilling locations were advanced using a sonic core drill rig, including:
  - 19 Groundwater Monitoring Wells (MW103A, MW120A, MW182, MW183, MW184, MW185, MW186, MW187, MW188, MW189, MW190, MW191, MW192, MW193, MW194, MW196, MW197, MW198 and NR2A).
  - 16 soil vapour monitoring points, including 14 soil vapour wells (SV31, SV32, SV33, SV34, SV35, SV36, SV39, SV40, SV41, SV42, SV43, SV44, SV45 and SV46) and two sub-slab soil vapour monitoring pins (SV37 and SV38).
  - 10 soil bores for the assessment of PASS (BH-004A, BH-004N, BH-004S, BH-004E, BH-004W, ABH-004A, ABH-004N, ABH-004S, ABH-004E, and ABH-004W).
- Repair and/or recovery of 25 pre-existing groundwater monitoring wells, including:
  - Missing/damaged bolt replacement at BG1, BH2_PS, MW122, MW129, MW131_GHD – MW133_GHD, MW148, MW150, MW155 and MW163.
  - Damaged gatic replacement at SV18, MW102, MW121, MW130_GHD (lid & bolt replacement only) and MW36.
  - Clearing of overlying surface material (gravel/asphalt) and installation of new gatic at RN2, TW02 and MW177.
  - Clearing down-well obstructions at MW128A and re-development of MW128A and MW128B to clear potential further debris from the base of each well following recent building demolition activity.
  - Facilitating the removal of heavy items blocking access to underlying wells (MW124A & B, MW149 and MW162)
- Development of 21 groundwater monitoring wells, including the 19 newly installed groundwater wells and two pre-existing wells (MW128A and MW128B) following removal of down-well obstructions / sedimentation at the base of each well.
- Gauging of groundwater level at 87 groundwater monitoring wells, including 19 new and 68 pre-existing groundwater monitoring wells.
- Purging and sampling of 56 groundwater monitoring wells using peristaltic pump low-flow sampling methods, including the 19 newly installed groundwater monitoring wells and 37 selected pre-existing wells.
- Surveying of 19 newly installed groundwater monitoring wells and three repaired groundwater monitoring wells due to a change in top of casing (MW128A, MW128B and TW02)
- LNAPL transmissivity testing at three groundwater monitoring wells (MW03, PW02 and S8).

The scope of work was undertaken in accordance with the *Soil, Groundwater and Soil Vapour Investigation 2025 Sampling and Analysis Quality Plan* (AECOM, 2025d), except as noted in **Section 5.0**.

2.0 Site Details and Background

2.1 Site Details

Details of the Site are summarised in **Table 1** below.

Table 1 Site Details

Item	Description
Macquarie Point Site	
Site Address	10 Evans Street, Hobart, Tasmania
Site Area	Approximately 9.3 ha
Current Site Owners	State of Tasmania (Crown Land)
Title Details	Macquarie Point contains the following land title references: • The majority of Macquarie Point is within land title 113521/1 (formerly CT 114462/1) • A portion of the southwest area (within the Gateway area) is within land title 129483/1
Current Zoning (1)	The Hobart City Council (HCC, 2023) *Sullivans Cove Planning Scheme 1997* notes that the Macquarie Point Site falls within the *Macquarie Point Mixed Use Zone* and is subject to the following use areas: • Commercial and Institutional • Mixed Use • Open Space.
Current Uses	• Macquarie Point is currently used for a number of commercial activities, included office and event space, and commercial/industrial equipment storage. • The Goods Shed, a historical warehouse structure now subject to intermittent use including public events, is located on the southern boundary of Macquarie Point. • An occupied office building (8A Evans Street) is located on the western boundary of Macquarie Point. • The “Red Shed”, located in the south eastern portion of Macquarie Point, is currently used by a microbrewer and includes a public bar. • A warehouse (the SeaRoad Shed) was located in the south-east corner of Macquarie Point but was demolished in 2023. A large slab (the SeaRoad Slab) remains in place and has been used for intermittent storage of construction equipment. • Small retail outlets are located in the area adjacent to the Red Shed (Red Square) which is also used regularly for markets, music and other outdoor events with food vans. • A public car park is present in the south eastern and eastern portion of Macquarie Point. • A roadway (the Northern Vehicular Access) is present on the northern portion of Macquarie Point. • Portions of the northern and north eastern areas of the Site are leased to the Tasmanian Water and Sewerage Corporation (TasWater) and used for equipment storage and soil stockpiling as part of construction of a Sewage

	Pumping Station (SPS) off-Site to the east, which is expected to be complete with all stockpiles removed in September 2025.
Closest Surface Water Body	• Sullivans Cove, approximately 150 m to the south. • River Derwent, approximately 280 m south-east (inferred direction of groundwater flow) and 25 m to the north-east.
Regatta Point	
Address	Located adjacent to McVilly Drive, Queens Domain. A street address is not allocated for this area.
Area	Approximately 0.7 ha
Current Land Owners	The land comprised within Regatta Point is under the authority of: • Department of Natural Resources and Environment Tasmania (DNRET) Property Services (Potential Property ID 2513934), under Crown lease. Regatta Point is currently being transferred to the control of the Corporation.
Title Details	Title details are not available for the public reserve (Potential Property ID 2513934).
Current Zoning	The Hobart City Council (HCC, 2023) *Sullivans Cove Planning Scheme 1997* notes that the Regatta Point Site falls within the *Macquarie Point Wharf & River Zone B* and is subject to the following use areas: • Commercial • Mixed Use • Open Space.
Current Uses	The following is noted with regard to current Regatta Point use and features: • A public reserve in the southern portion of Regatta Point is used for public open space and recreation. Carparking and access to the River Derwent (via two marine jetties and two boat ramps) are present in this area, and accessible via McVilly Drive. • A pumphouse (under Crown Licence) is present in this area. It is not known if this pumphouse is operational, what use is authorised under its licence, or what historical uses it may have had. • A small two-storey building of unknown use is in this area. • A disused rail line and corridor passes to the west of Regatta Point.
Closest Surface Water Bodies	• The River Derwent is located to the east, immediately adjacent to Regatta Point. • Sullivans Cove is located approximately 560 m to the south at the closest point. • Recreational fishing restrictions apply in the waters adjacent to Regatta Point.

2.2 Chemicals of Potential Concern

Prior to European settlement, Hobart and the surrounding areas, including the Site, were occupied and inhabited by the Muwinina people.

Since first European settlement circa 1804, the Site has been subject to land reclamation events, farming, quarrying and various construction and industrial activities, including but not limited to progressive land reclamation events, rail and freight operations, gasworks, and bulk fuel storage.

Based on the known Site history, **Table 2** below presents a summary of the Chemicals of Potential Concern (CoPC) that may be present based on known historical activities or uncovered during investigation of the Site.

Table 2 Chemicals of Potential Concern Summary

Area	Historical Land Uses	Chemicals of Potential Concern
Goods Shed and Yard	• Freight storage and handling. • Vehicle Maintenance. • Fuel Storage and Handling. • Land Reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Chlorinated solvents associated with vehicle maintenance activities. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
The Escarpment	• Locomotive refuelling comprising fuel storage and transfer facilities. • Railway maintenance workshop. • Rail corridor and fuel transfer infrastructure historically located within the area. • Concrete batching plant. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Chlorinated solvents associated with locomotive maintenance activities and the storage of hazardous materials. • Heavy metals, chlorinated solvents and hydrocarbons associated with workshop and maintenance areas. • Phosphorus and sulphur associated with locomotive washing. • ACM sourced from historical structures (i.e. cladding). • Hydrocarbons associated with the truck wash. • Metals, chlorinated solvents and hydrocarbons sourced from the historical incineration of paint/ solvents. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
The Promenade and Underground Carpark	• Locomotive refuelling comprising fuel storage and transfer facilities. • Locomotive maintenance. • Freight storage and handling. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel (diesel) storage and transfer activities. • LNAPL has been detected on groundwater • Chlorinated solvents associated with locomotive maintenance activities. • Metals, asbestos and PAHs sourced from materials used to backfill Roundhouse structures. • Metals[1] inferred to be due to historic land reclamation have been detected in fill

Area	Historical Land Uses	Chemicals of Potential Concern
The Precinct North	• Freight storage and handling. • Fuel storage and handing • Land reclamation	• TPHs, BTEXN, PAHs, and phenolic compounds associated with historical fuel (diesel) storage and transfer activities. • Chlorinated solvents associated with locomotive maintenance activities. • LNAPL has been detected on groundwater. • Metals[1] inferred to be due to historic land reclamation have been detected in fill. • PFAS associate with bulk off-Site fuel handing. While review of historical information has not identified the use of products containing PFAS, there is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations or for training purposes during bulk fuel storage in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in the 1970s.
The Precinct South	• Freight storage and handling. • Fuel storage and handling • Land reclamation	• TPHs, BTEXN, PAHs, phenolic compounds, and lead associated with historical fuel storage and transfer activities undertaken adjacent to the Site's eastern boundary. • LNAPL has been detected on groundwater. • Metals[1] inferred to be due to historic land reclamation have been detected in fill. • PFAS associate with bulk off-Site fuel handing. While review of historical information has not identified the use of products containing PFAS, there is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations or for training purposes during bulk fuel storage in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in the 1970s.

Area	Historical Land Uses	Chemicals of Potential Concern
The Gateway	• Former Hobart Gasworks. • Locomotive refuelling comprising fuel storage and transfer facilities. • Railway maintenance workshop. • Land reclamation	• TPHs, PAHs, BTEXN and phenols sourced from coal tar and tar oils, or from historical fuel storage and transfer activities. • Metals, chlorinated solvents and hydrocarbons associated with workshop and maintenance areas. • Phosphorus and sulphur associated with locomotive washing. • ACM sourced from historical structures (i.e. cladding). • Chlorinated solvents associated with locomotive maintenance activities and the storage of hazardous materials. • Complex cyanides, free cyanides and metals sourced from spent oxides. • TPHs, PAHs and metals sourced from coke, coke breeze, ash and clinker residues. • TPHs and BTEX associated with light and drip oils. • DNAPL has been detected in soil. Two former areas of DNAPL, called Tar Plume A and Tar Plume B, were treated via *in situ solidification* (ISS) in 2024 (AECOM, 2025a). • Phenols, nitrates, sulphates, sulphides, ammonia and PAHs sourced from ammoniacal recovery wastes. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
Audit Area 4 East	• Rail corridor and fuel transfer infrastructure historically located within the area. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Buried ACM has been identified in a section of Audit Area 4 East and is currently temporally capped with a concrete layer. • Metals[1] inferred to be due to historic land reclamation have been detected in fill
Regatta Point	• Public boating, yachting, and port activities. • Rail corridor • Fuel pipeline • Land reclamation • Metals	• Metals, TPH/TRH, PAH, BTEXN, phenolic compounds, SVOC, VOCs, TBT, OCPs, cyanide, ammonia and ACM have all been identified as potential CoPC in Regatta Point based on current and historical uses. No field assessment has been conducted to date. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.

Notes: TPHs – total petroleum hydrocarbons; TRH – total recoverable hydrocarbons; PAHs – polycyclic aromatic hydrocarbons; BTEXN – benzene, toluene, ethylbenzene, xylene, naphthalene; ACM – asbestos containing material; VOC – volatile organic compounds; SVOC – semi VOC; TBT – tributyltin; OCP – organochlorinated pesticides; PFAS – Per- and Poly-Fluoroalkyl

Substances; LNAPL – Light Non-Aqueous Phase Hydrocarbons; DNAPL – Dense Non-Aqueous Phase Hydrocarbons; 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel and zinc

In addition, PASS has been identified in saturated estuarine materials, inferred to be former river/sea bed buried by land reclamation, and may be present in unsaturated fill in some areas. Soil methane has also been detected at potentially hazardous levels, and may be due to degradation of hydrocarbon impacts from fuel handling and storage, and/or organic material in buried natural materials.

2.2.1 Identified NAPL or Former NAPL Areas

Previous investigations at the Site have identified non-aqueous phase liquids (NAPL), consisting of LNAPL and DNAPL, which are summarised in **Table 3** below.

Table 3 Known Existing or Former NAPL Areas

Plume ID	Location	Inferred Contamination Source
LNAPL		
LNAPL Plume A1	Roundhouse Refuelling Area in the Promenade and Underground Carpark, central portion of the Site	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities associated with spills during refuelling activities and potentially leaks from a historical Aboveground Storage Tank (AST) which is known to have been previously present at this location. Remediation of this LNAPL plume was undertaken between 2015 and 2017 (AECOM, 2021b) via total fluids extraction (TFE). At completion, further recovery of LNAPL from this plume was assessed as not practicable.
LNAPL Plume A2	Roundhouse Refuelling Area in the Promenade and Underground Carpark, central portion of the Site	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities associated with spills during refuelling activities and potentially leaks from ASTs. Remediation of this LNAPL plume was undertaken between 2015 and 2017 (AECOM, 2021b) via TFE. At completion, further recovery of LNAPL from this plume was assessed as not practicable.
Former LNAPL Plume A3	Roundhouse Refuelling Area in the Promenade and Underground Carpark on the boundary with the Precinct North, central portion of the Site	Historical documents reference localised LNAPL at this location. Similar to Plume A1, LNAPL is likely associated with locomotive refuelling activities in the Roundhouse Refuelling Area. The LNAPL is understood to have comprised of predominantly diesel fuel, as well as fuel oils associated with diesel engine operation (e.g. lubricants, engine oils etc.) and is likely to be associated with isolated spills. Remediation of this LNAPL plume was undertaken between 2015 and 2017 (AECOM, 2021b) via TFE. At completion, further recovery of LNAPL from this plume was assessed as not practicable. No LNAPL has been detected in wells in this area since 2017.

Plume ID	Location	Inferred Contamination Source
LNAPL Plume B	SeaRoad Shed Slab in the Precinct South, south-east portion of the Site	LNAPL (comprising predominantly diesel with lube oil) has been identified at the water table and is understood to be associated with historical fuel handling and storage activities, in proximity to the SeaRoad Shed. Remediation of this LNAPL plume was undertaken between 2015 and 2017 (AECOM, 2021b) via TFE. At completion, further recovery of LNAPL from this plume was assessed as not practicable.
DNAPL		
Former Tar Plume A	Former gasworks area in the Gateway, south-west corner of the Site	Coal tar DNAPL, likely derived from a horizontal retort/oil reformer which was present in this location during gasworks operation, was observed primarily from 4 m below ground level (m bgl) extending to underlaying dolerite bedrock, and may extend off-Site to the south and west. DNAPL within the Site boundaries, excluding areas in the exclusion zone surrounding a high voltage power cable, were solidified in 2024 and is no longer considered mobile.
Former Tar Plume B	Former gasworks area in the Gateway, south-west corner of the Site	Coal tar DNAPL was observed within a buried vertical tank base. The walls of this tank remained in place and contained DNAPL, which was solidified in 2024 and is no longer considered mobile.
Tar Plume C	Former gasworks area in the Gateway, west boundary of the Site	Coal tar DNAPL was observed below a buried concrete slab and above shallow dolerite, and is considered likely derived from a vertical retort which was present in this location during gasworks operation. DNAPL has been observed between 1.4 and 1.6 m bgl, and is not considered to be in contact with groundwater. The exclusion zone associated with a high voltage power cable prohibits activities which could disturb DNAPL in this area.
Tar Plume D	Former gasworks area in the Gateway, west boundary of the Site	Tar staining, odours and relatively high PID readings (598 ppm) were reported between 3.5 and 4.7 m bgl in this area, and DNAPL present may be resting on the buried base of a former gasholder which appears to be present at 4.7 m bgl. DNAPL is not considered to be in contact with groundwater in this area, and the exclusion zone associated with a high voltage power cable prohibits activities which could disturb DNAPL in this area.

Notes: Chemicals of Potential Concern (CoPC) associated with each of the LNAPL plumes include TPH, PAHs and metals including lead. bgl – below ground level; PID – photoionisation detector.

2.3 Future Development

The Precinct Plan (MPDC, 2024) outlines the concept for the Site which comprises mixed use precincts including, but not limited to, those summarised in **Table 4** below.

Table 4 Precinct Plan - Proposed Development Precincts

Precinct	Land Use
Aboriginal culturally informed zone	Open space
Multipurpose stadium and associated concourse zone	Open space and commercial
Royal Engineers building and land	Open space and commercial
Complementary integrated mixed use zone, including restraints, cafes, hotels, medical facilities and commercial office space	Open space and commercial
Antarctic facilities zone including commercial spaces and connections with the complementary integrated mixed use zone	Commercial and underground car parking
Residential development and public foreshore zone accommodating a variety of tenures and housing opportunities, along with a new public promenade and food and beverage offerings	Medium to high density residential, commercial and open space
A transport corridor and roadway linking Regatta Point to the main areas of the Site	Open space / vehicle traffic / foot traffic
A vegetated area along the northern boundary of the Site, where the escarpment below the Hobart Cenotaph would prevent development or construction	Open space

Subsurface utilities and maintenance activities are anticipated to occur in all Site areas.

The concept layout of the Site in the Precinct Plan is shown on **Figure F1**.

In addition, as part of development:

- Excavation of the Multipurpose Stadium and Associated Concourse Zone is planned to a final surface elevation of 3 metres Australian Height Datum (mAHD). Additional excavation may occur below this elevation to allow for support structures to facilitate a level playing field without soft patches in the future stadium.
- A single storey underground carpark, with a proposed base at 1.8 mAHD, may be constructed in the Antarctic Facilities Zone.
- Excavation of the north-west corner of the Site to 4.8 mAHD is planned for the construction of practice wickets.
- The Goods Shed will be relocated from the southern area of the Site, to north of the Multipurpose Stadium and Associated Concourse Zone.

2.4 Geology

2.4.1 Regional

The *Engineering Geology Greater Hobart Area, Map 1* (Hofto, 1990), describes the Site as being underlain by a combination of reclaimed land, Quaternary aged sediments and Dolerite of Jurassic age. Micaceous quartz sandstone and white felspathic sandstone and micaceous mudstone of Triassic age are located to the north and west of the Site.

2.4.2 Local (Site-Wide)

The Site has been subject to significant filling from the early 1800s to the 1900s (Austral, 2013) with up to 600 m of land reclaimed from the original 1800s' shoreline. Fill material has been encountered across the Site to depths of up to approximately 12 m bgl.

Fill material has been described as generally containing a combination of clays, sands, gravels, cobbles and bricks. The thickness of fill is variable across the Site (0.2 – 12 m bgl), and generally increases from north to south across the Site consistent with historical land reclamation activities.

Deeper fill material generally consists of silty sands, similar to the underlying natural estuarine/ marine estuarine deposits, indicating that the deeper fill material may be associated with reworked natural material or dredged material.

Two main natural soil types have been encountered at the Site including estuarine/ marine deposits (silty sands) and weathered Dolerite including clays, gravels and cobbles.

Estuarine/ marine deposits have generally been encountered in the south-eastern portion of the Site, ranging in depth from 3.7 – 15.6 m bgl. Weathered Dolerite generally underlays the estuarine/ marine deposits (with the exception of the northern portion of the Site where the estuarine/ marine deposits are absent). Weathered Dolerite has been encountered at near surface to 1.4 m bgl in the northern portion of the Site, and from 11.2 to 19.0 m bgl in the southeastern portion of the Site.

Dolerite bedrock underlies the fill and natural soils at the Site. Dolerite has been encountered at near surface in the northern portion of the Site, and slopes down in a southerly and south easterly direction and has been encountered at depths up to 25 m bgl. The Dolerite has been described as high strength and slightly to highly fractured (Douglas Partners, 2015).

Hunter Island, a bedrock high, is located to the south of the Site and is inferred to influence groundwater flow direction.

The Site is mapped as having a low probability (6-70%) of Potential Acid Sulfate Soils (PASS), as indicated on LISTmap's Coastal Acid Sulfate Soils (CASS) (0 – 20 m AHD) layer. PASS has been detected in saturated estuarine materials beneath the Site, and may potentially be present in some areas of unsaturated fill. An assessment of PASS was included as part of this investigation, as detailed later in **Section 7.4**.

2.5 Hydrogeology

2.5.1 Regional

Groundwater flow is inferred to be in a general easterly direction toward the River Derwent and is encountered in coastal deposits, alluvial sediment, sandstone and in fractured Dolerite [Department of Infrastructure Energy and Resources (DIER), *Southeast Tasmania Groundwater Map*, 2006].

Average groundwater yield generally ranges from 0.77 to 1.24 litres per second (L/s) in the varying aquifer types, and salinity ranges from 70 – 11,200 milligrams per litre (mg/L) (DIER, 2006).

2.5.2 Local (Site-Wide)

The Site is underlain by a single aquifer unit (within multiple lithological units) extending to depths greater than 25.0 m bgl (the maximum depth assessed). Groundwater has generally been encountered in fill material in the central, southern and eastern portions of the Site, extending into underlying natural material including estuarine/ marine deposits, weathered Dolerite and fractured Dolerite.

Based on previous Site-wide GMEs undertaken in 2019 (AECOM, 2020b), the groundwater flow direction in the shallow portion of the aquifer (screened to up to 10 m bgl) was inferred to be generally to the south and southeast, towards the River Derwent and/or Sullivans Cove, with a slight north easterly flow component in the far northern portion of the Site, potentially influenced by the Hobart Rivulet which traverses the northern Site boundary and discharges to the River Derwent to the northeast.

Since 2019, several remediation and re-surfacing activities have been undertaken on-Site which have resulted in significant changes to the Site surface. A recent Site-wide groundwater gauging event was undertaken in February 2025 for accessible and serviceable wells across the Site and surrounding areas, noting several wells were destroyed or otherwise damaged (by Site activities and remediation) and were not suitable for monitoring (AECOM, 2025c). Based on the gauging results from June 2025 discussed in this report, groundwater flow in the shallow portion of the aquifer at the Site was inferred to be generally to the south, with groundwater entering the Site from the east and west, noting groundwater gradients are steeper in the north and relatively flat in the central portion of the Site, consistent with previous investigations. Groundwater elevation contours for shallow groundwater (i.e., wells screened above the top of the aquifer to less than 10 m bgl are shown on **Figure F3** (**Appendix A**).

Evidence of tidal influence on groundwater levels has previously been identified to the south of the Site within the inferred groundwater flow path at MW151, where tidal variation of approximately 0.1 m has been noted. Tidal influence (i.e. increasing standing water level [SWL] variations) has been noted to increase toward Sullivans Cove. Tidal influence was also observed at Regatta Point during the 2025 Regatta Point Detailed Site Investigation (DSI) (AECOM, 2025e).

In June 2025, Total Dissolved Solids (TDS) concentrations for shallow groundwater on Site were generally low (<2,500 mg/L), indicating there was likely limited estuarine/ marine water intrusion on Site within shallow groundwater (<10.0 m bgl), however higher TDS is noted in the northern portion of the Site at Regatta Point (measured up to 28,000 mg/L in MW180), the eastern portion of the Site (measured up to 12,000 mg/L at TW02) and off-Site, to the south (measured up to 20,000 mg/L at MW153) where higher interaction with estuarine/ marine water is inferred to occur (refer to **Table T6a**, **Appendix B**). Marine water intrusion was also observed at Regatta Point during the Regatta Point DSI (AECOM, 2025e).

Hydraulic conductivity testing undertaken on the southern portion of the Site (AECOM, 2016a) has estimated the hydraulic conductivity of the different lithological units as follows:

- Fill Material – 0.52 m/day
- Alluvial/ Marine Deposits – 0.59 m/day
- Slope Deposits – 0.26 m/day
- Bedrock – 5.3 x 10^{-3} m/day.

2.5.3 Groundwater Use

No groundwater is currently in use on Site, or planned for use in future. Use of groundwater at the Site is restricted by the Site Environmental Management Plan (SEMP) (AECOM, 2024b), and is not anticipated to occur for any purpose other than environmental monitoring.

A search of the Tasmanian Groundwater Information Access Portal (https://wrt.tas.gov.au/groundwater-info/) conducted in November 2024 in a 2 km radius surrounding the Site, identified one bore (Feature ID 2864) located approximately 2 km north-north-west of the Site (refer **Appendix D**). This bore, of depth 54 m, was drilled in 1983 by Tasmania Department of Mines, and reported groundwater at 40 m bgl. Based on the age, depth to groundwater, and originator of this bore, distance and direction from the Site, and the presence of reticulated water supply in the Hobart area, it is not considered likely that extractive use of groundwater occurs from this bore, or that groundwater would be affected by Site conditions if extraction is occurring. No other bores were detected within 2 km of the Site.

3.0 Assessment Criteria

3.1 Spatial and Temporal Suitability of Monitoring Networks

The adopted guidance for assessment of the monitoring networks for groundwater and soil vapour are presented below.

3.1.1 Groundwater

Appendix B2 of the ASC NEPM states that the groundwater bore network should cover an appropriate study area to:

- Delineate the lateral and vertical extent of contamination and the groundwater flow system for the geological units of interest
- Assess the risks to relevant receptors.

The appropriate number of bores, locations, depths and screened intervals are noted to be Site-specific. However, the ASC NEPM requires as a minimum:

- One up-gradient bore (per aquifer or geological unit of interest) to establish the quality of groundwater entering the Site.
- Two or three bores to monitor groundwater quality down-gradient and lateral (cross-gradient) to each contaminant source.

Groundwater assessment should also be sufficient to understand any seasonal or longer-term variability in groundwater flow direction and rate of plume advance/retreat.

3.1.2 Soil Vapour

The section of Table 4 of the *Petroleum hydrocarbon vapour intrusion assessment: Australian Guidance* (CRC CARE, 2013) which advises on sample locations for future buildings is shown as **Plate 1** below. This table provides guidance on the quantity and depth of soil vapour bores to assess potential future buildings based on the source of contamination (i.e. LNAPL, dissolved phase or soil contamination).

Scenario Evaluated in PVI Assessment	On-Site Sources						Off-Site Sources (Note 3)			
	LNAPL		Dissolved Phase		Soil		LNAPL		Dissolved Phase	
	Minimum number of locations (Note 1)	Depth (m bgl) (Note 2)	Minimum number of locations (Note 1)	Depth (m bgl) (Note 2)	Minimum number of locations (Note 1)	Depth (m bgl) (Note 2)	Minimum number of locations (Note 1)	Depth (m bgl) (Note 2)	Minimum number of locations (Note 1)	Depth (m bgl) (Note 2)
Assessment of future buildings										
Property access granted - locations should be above maximum concentrations and relevant to location of proposed building										
small building and building with crawl-space	2	1.5	2	1.5	1 (or number of soil sources)	1.5 **	2	1.5	2	1.5
big building or size not known *	3	3	3	3		3 **	3	3	2	3
building with basement to depth X	3	X	3	X		X	3	X	3	X

Notes for Table 4:

Note 1 The sampling locations and number of samples collected should be based on the CSM, in particular the extent of the contamination and location of receptors (where there is the potential for human exposure). As PVI assessments are commonly undertaken based on maximum impacts the locations should focus on areas of maximum impact in groundwater and/or vadose zone. The maximum number of samples that may be appropriate for a site will depend on the nature and extent of contamination, building size and if there are any requirements to calculate statistics. Where the building size (or continuous slab) is large, targeting a location in the middle of the slab (or where oxygen migration is expected to be limited) is recommended wherever possible. It is expected that for most sites no more than 6 sample locations are required per receptor building.

Note 2 The depth of samples required assumes that the groundwater contamination or LNAPL is below these depths. Where more shallow groundwater or LNAPL is present then the samples should be collected as close as practical to the source\groundwater table (above the capillary fringe). It is also noted that the minimum depths presented in this table are those required to be collected and considered in the PVI assessment. Additional depths may be included (as nested wells at each location) to demonstrate biodegradation (where relevant). The relevance of additional depths depends on the CSM (and in particular the potential presence of large slabs/buildings to affect the potential for biodegradation). For example, a soil vapour sample at 0.5m in open ground on which a house with a crawl space will be constructed is relevant to assess if biodegradation has occurred sufficiently, however, such a sample is not relevant if a large slab is to be constructed on the site. If the slab size is not of importance to the potential for biodegradation (refer to **Appendix B2**) then it may be relevant to installed nested wells that include more shallow wells (e.g. 1.5 m and 0.5 m depths). If the slab size is of potential importance (refer to **Appendix B2**) and may affect the potential for biodegradation then nested wells may be installed, for example, to A) also collect vapour data near the source to enable the refinement of the decision that slab size is important; B) also collect data closer to the surface (i.e. 0.5 m and/or 1.5 m depth) so that if sufficient evidence is provided that the slab size is not of importance data is available to support biodegradation; C) define the vertical extent/processes at and below a proposed basement depth (particularly where the source is deep. Examples of nested wells in these situations may be 5 m, 3 m and 1.5 m depths; or adjacent to source at 4 m, 3 m and 1 m. Note that where a building with a basement extends into (or is proposed to extend into) the groundwater source, the collection of soil gas data will not assist in the assessment of PVI risks (refer to **Section 5.2**).

Note 3 The number of sample locations presented relate to a single property or two neighbouring/adjacent properties (with equal potential for PVI risk). The number of off-site properties that require consideration will depend on the CSM and the determination of the zone of influence. It is expected that as a minimum, off-site properties closest to the site (where off-site concentrations are highest) will be evaluated unless PVI risks are screened out as per **Section 4**.

* Building/slab size that is of importance should be determined on the basis of site specific information and the approach as outlined in **Appendix B2**. Note that this is based on a continuous slab. The presence of gaps (such as those that are present between different/adjoining slabs), pavers, or garden beds provides sufficient pathways for oxygen to migrate beneath pavements and should not be included in the consideration of a continuous slab.

** Depth of sample targeting soil contamination should be as recommended or at the depth of the soil contamination.

ss Sub-slab soil gas sample

\# While it is preferred that sub-slab data is collected from beneath an existing building, it is recognised that even when building access is available the collection of a sub-slab sample may not always be possible or practical to collect. In this situation the collection of soil gas samples directly adjacent to the building at depths as outlined under the category of no building access should be considered.

Plate 1 Potential Vapour Intrusion (PVI) Assessment for Future Buildings (CRC CARE, 2013)

Margin of Safety (MOS) is identified in CRC CARE, 2013 as a guidance source to assess a suitable number of soil gas monitoring rounds that is required based on the soil gas concentration relative to the relevant screening level guideline.

MOS is calculated using the method shown on **Plate 2** below, while **Plate 3** shows the suggested monitoring frequency based on the calculated MOS.

$$MOS = \frac{[\text{relevant screening level guideline}]}{[\text{soil gas concentration}]} \text{ OR } \frac{[\text{target risk}]}{[\text{calculated inhalation risk}]}$$

Plate 2 Margin of Safety (Source: CRC CARE, 2013)

Soil Gas Results	Number of sampling rounds or other actions required
MOS > 10 and CSM/ lines of evidence[1]	1 sampling event (with sound QA/QC) is adequate.
MOS >10 and limited supporting CSM/lines of evidence[1]	2 sampling events (with sound QA/QC) required over different conditions depending on CSM (e.g. seasons, depth to groundwater).
MOS >1 and <10	2-3 sampling events (with sound QA/QC) required over a minimum of 2 different conditions depending on CSM (e.g. seasons, depth to groundwater).
MOS >0.1 and <1	3-4 sampling events (with sound QA/QC) required over a minimum of 2 different conditions depending on CSM (e.g. seasons, depth to groundwater).
MOS < 0.1	Risk mitigation required to be considered/implemented (any additional sampling should be validation sampling). An additional confirmation round of sampling may be undertaken to assist in this process.

[1] CSM/lines of evidence – the understanding of the situation at the site (including evaluation of data that supports biodegradation) adds weight to the conclusions from the soil gas sampling

Plate 3 Number of Sampling Rounds or Other Actions Required by MOS (Source: CRC CARE, 2013)

3.2 Tier 1 Screening Criteria

Protected Environmental Values (PEVs) are defined in Clause 4.1 of the Tasmanian Government *State Policy on Water Quality Management* (1997) (the SPoWQM) as:

…the value or use for which it has been determined that a given area of the environment should be protected. There can, and often will be, more than one protected environmental value for a given area.

PEVs applicable at the Site, and the adopted criteria to assess if these are precluded, are defined in **Section 3.2.1** and **3.2.2** below. Tier 1 criteria have been adopted to assess if these PEVs are precluded, in the absence of mitigation or management measures.

While some PEVs may be theoretically precluded based on Tier 1 criteria, risk-based assessment for human health has been further undertaken using the Site specific Remediation Criteria (RC) (**Section 3.3**). Assessment of potential impacts to off-Site ecological receptors was undertaken in 2020 (AECOM, 2020a), and reviewed with new data, including data collected as part of this assessment, in 2025 (AECOM, 2025g)

3.2.1 Soil

In the absence of specific Tasmanian guidance regarding the PEVs of land, the Victorian Environment Reference Standard (the ERS), (EPA Victoria, 2022) has been referenced to identify potential PEVs at

the Site relating to land. The ERS replaces and supersedes Victorian *State Environment Protection Policy - Prevention and Management of Contamination of Land* (PMCL SEPP), which has been previously used in assessment of the Site.

The proposed development of the Site includes retail, commercial, and open space uses. No natural ecosystems are present on the Site, and based on the urban setting and the current and proposed future uses of the land, production of food, flora, and fibre are not considered likely to occur and are not considered as PEVs under the Victorian framework adopted.

As such, the following PEVs are considered relevant for the Site.:

- Land dependant ecosystems and species - Modified and Highly Modified Ecosystems
- Human Health
- Buildings and Structures
- Aesthetics.

A summary of the adopted assessment criteria for each land PEV is provided in **Table 5**.

Table 5 Adopted Tier 1 Screening Criteria - Soil

Protected Environmental Value		Adopted Assessment Criteria	Rationale
Land Dependant Ecosystems and Species	Modified Ecosystems	• ASC NEPM (2013) EIL, Urban residential and public open space • ASC NEPM (2013) ESL, Urban residential and public open space (coarse soil type) • PFAS NEMP (2025) – Ecological Indirect Exposure, intensely developed Sites	• No terrestrial ecological receptors are currently present at the Site and it is unlikely that they will be present following development as the Site will be finished with hardstand. • For the purpose of assessing all PEVs, ecological screening criteria have been adopted. It is noted that EILs and ESLs apply to the top 2 m of soil. As no existing ecologies exist on the Site, and maintenance of a surface layer (covering >75% of the Site surface) is included as a requirement of the SEMP, PFAS soil criteria for ecosystem protection have been adopted for indirect contact, and modified to 0.14 mg/kg. • Ambient background concentration (ABC) has been conservatively excluded from ecological criteria.
	Highly Modified Ecosystems	• ASC NEPM (2013) EIL, Commercial and Industrial • ASC NEPM (2013) ESL, Commercial and Industrial (coarse soil type) • PFAS NEMP (2025) – Ecological Indirect Exposure, intensely developed Sites	
Human Health		**Low Density Residential** • ASC NEPM (2013) HIL A • CRC CARE (2011) Vapour Intrusion HSL A (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL A (for soil <1.0 m bgl) • PFAS NEPM (2025) HIL A **Medium/High Density Residential** • ASC NEPM (2013) HIL B • CRC CARE (2011) Vapour Intrusion HSL B (Sand) • US EPA RSLs (2020)	• Soil HSLs for vapour intrusion and direct contact for TRH fractions have been developed based on typical petroleum mixtures. HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, which have significantly different composition to petroleum mixtures. The HSL (infinite) values presented in Appendix F of CRC CARE, 2011 have been adopted in accordance with CRC CARE guidance because these do not

Protected Environmental Value	Adopted Assessment Criteria	Rationale
	• CRC CARE (2011) Direct Contact HSL B (for soil <1.0 m bgl) • PFAS NEPM (2025) HIL B **Recreation/Open Space** • ASC NEPM (2013) HIL C • CRC CARE (2011) Vapour Intrusion HSL C (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL C (for soil <1.0 m bgl) • PFAS NEPM (2025) HIL C **Commercial/Industrial** • ASC NEPM (2013) HIL D • CRC CARE Vapour Intrusion HSL D (Sand) • US EPA RSLs (2020) • CRC CARE (2011) Direct Contact HSL D (for soil <1.0 m bgl) • PFAS NEPM (2025) HIL D **Shallow Trench Worker** • CRC CARE (2011) Vapour Intrusion Shallow Trench Worker (Sand: 0-<2m) • CRC CARE (2011) Direct Contact Shallow Trench Worker (for soil < 1.0 m bgl)	depend on assumptions regarding the mixture composition. • While it is noted that petroleum products do exist at the Site, given the varying types of hydrocarbon impact (i.e. gasworks, diesel, and petrol) the HSL infinite values have been adopted to allow assessment of a range of potential hydrocarbon sources. • Fill material consists of sand, clays, gravels and rubble. For the purpose of screening the vapour intrusion pathway, as a conservative approach, sand has been selected as the predominant material type. • All soil samples have been screened against CRC CARE Vapour Intrusion criteria for the relevant depths the samples were collected from. • In accordance with ASC NEPM (2013), direct contact criteria have been applied to the top 3 m of soil. If deeper soils are disturbed during civil works the material will need to be placed back at the depth that it was excavated or classified for reuse.
Buildings and Structures	• Australian Standards Pilling – Design and Installation (AS 2159-2009)	• Contamination must not cause the land to adversely affect the integrity of structures and building materials.
Aesthetics	• ERS • NEPM Management Limits	• Aesthetic issues, including the quantity, type and distribution of foreign materials or odours, must not adversely affect the use of the land.

Notes: HSL – Health Screening Level; HIL – Health Investigation Level; ESL – Ecological Screening Level; EIL – Ecological Investigation level; CEC- Cation Exchange Capacity; AS 2159-2009 – Australian Standard, Piling – Design and installation; CRC CARE – Corporative Research Council for Contamination Assessments and Remediation of the Environment; US EPA RSLs – United States Environmental Protection Agency Regional Screening Levels, November 2020; NEMP - PFAS National Environmental Management Plan Version 2.0 - January 2020.

3.2.2 Groundwater

The PEVs of groundwater which are identified for Tasmanian waters in the SPoWQM are:

- Drinking Water
- Irrigation
- Industry
- Stock
- Ecosystem Protection

Table 6 below identifies PEVs on the basis of groundwater TDS concentrations.

Table 6 Protected Environmental Values of Groundwater (SPoWQM, 1997)

Protected Environmental Values	Groundwater TDS Category (mg/L)			
	A Less than 1,000	B 1,000 – 3,500	C 3,500 – 13,000	D >13,000
Drinking Water	✓			
Irrigation	✓	✓		
Industry	✓	✓	✓	
Stock	✓	✓	✓	
Ecosystem Protection	✓	✓	✓	✓

Notes: ✓ - Denotes a PEV which can be achieved given the level of dissolved solids

Laboratory-analysed TDS in Site groundwater recorded during this sampling event ranged between 170 and 28,000 mg/L, with an average value of 2,095 mg/L and a median of 840 mg/L (refer to **Table T6a**, **Appendix B)**. Based on these results, Site groundwater has been conservatively assessed as Category A, and all PEVs have been considered.

In addition to the above-mentioned groundwater PEVs, recreation (primary and secondary contact), aesthetics, buildings and structures, and human health (via the vapour intrusion pathway) have also been considered as PEVs for the Site.

The assessment criteria adopted as Tier 1 screening criteria for groundwater PEVs are provided on **Table 7** below.

Table 7 Adopted Tier 1 Screening Criteria - Groundwater

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Drinking Water	• NHMRC Australian Drinking Water Guidelines (amended 2025) Aesthetic • NHMRC Australian Drinking Water Guidelines (amended June 2025) Human Health. • PFAS NEMP (2025). It is noted that recent June 2025 updates to the NHMRC Australian Drinking Water Guidelines for PFAS compounds supersede the PFAS NEMP 3.0 (2025) criteria where applicable. Where no NHMRC guideline values are available, screening values have been adopted from the following sources: • WHO (2017) Guidelines for Drinking-Water Quality: Fourth Edition Incorporating the First Addendum • US EPA RSLs (2020) Tap Water Quality •	• Whilst it is noted that groundwater at the Site is unlikely to be extracted for drinking water purposes, this PEV has been conservatively considered.
Irrigation	• ANZECC (2000) Short Term Trigger Values (STVs) for Irrigation Water	• STVs have been adopted on the basis of the surrounding land use, where ongoing irrigation of plants and garden beds is unlikely to occur. STVs can be tolerated for up to 20 years of irrigation.
Industry	• Due to the wide and varied potential industrial uses of groundwater, water quality requirements for use in industrial processes are assessed on an industry-specific basis. As such, no Tier 1 criteria for use of groundwater by industry have been adopted for this assessment.	• Groundwater at the Site is unlikely to be used for industrial purposes. In the absence of any standard or reliable criteria to apply for this PEV without a specific planned industrial use, this PEV has not been considered.
Stock	• ANZECC (2000) Livestock Drinking Water Quality	• Based on the Site setting, it is unlikely that groundwater would be used for stock watering purposes. However, for the purpose of assessing this PEV, the ANZECC (2000) guidance has been adopted.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Ecosystem Protection	• ANZG (2018) 90% level of ecosystem protection (marine water) • ANZG (2018) 95% level of ecosystem protection (marine water) for bioaccumulative CoPC • The PFAS NEMP (2025) Interim Marine 95% (slightly to moderately disturbed) level of ecosystem protection (interim marine) Where no high reliability guideline values are available in ANZG (2018), screening values have been adopted from the following sources: • ANZG (2018) low to moderate reliability trigger values (marine) • ANZG (2018) 90% level of ecosystem protection (marine water) draft guidelines released for public comment on 29 June 2020. • US EPA (2013) Ambient Water Quality Criteria (chronic – Marine) • US EPA (2006) Region 3 Mid-Atlantic Biological Technical Assistance Group (BTAG) Screening Benchmarks (marine). • There are currently no relevant Australian guidelines for TRH/TPH in groundwater. Therefore, for the purpose of this assessment, the RIVM (2001) Dutch Intervention Values (DIV) for TRH/TPH have been adopted. It is noted that risk from petroleum hydrocarbon mixtures are screened based on the individual risk-driving compounds (BTEX, PAH) under ANZG (2018) marine water criteria as listed above.	• The nearest surface water ecosystems that may receive groundwater discharge, i.e. River Derwent and Sullivans Cove, would be characterised as a moderately to highly disturbed (i.e. active port area) marine environment according to the ANZECC (2000) definitions. As such, the assessment criteria based on 90% level of ecosystem protection (marine) have been adopted, with the exception of identified bioaccumulative CoPC where the 95% level of ecosystem protection (interim marine) has been conservatively adopted, consisting of: - PFAS - Mercury - PAHs (anthracene, phenanthrene, fluoranthene, and benzo(a)pyrene)
Recreation (Primary Contact)	• NHMRC (2008) Guidelines for Managing Risk in Recreational Water • PFAS NEMP (2025)	• NHMRC (2008) recommends applying Australian Drinking Water Guidelines - *Health* (NHMRC, 2018), adjusted for a 10 fold decrease in ingestion of water.
Recreation (Secondary contact)		• Primary Contact Recreation criteria have been conservatively adopted to assess secondary contact.
Aesthetics	• NHMRC Australian Drinking Water Guidelines (amended 2018) Aesthetic	• This may relate to aesthetic issues associated with the presence of objectionable odours, colours, taints, visible floating material, foam, oil or grease or ‘dirty’ water.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Buildings and Structures	• Australian Standard (AS) 2159 – 2009	• Building and structures assessment is on the basis of concrete piles in a mild exposure classification scenario in high permeability soils. • In addition to a pH of 5.5, sulphate and chloride concentrations of 1,000 mg/L and 6,000 mg/L respectively has been adopted to assess potential impacts to concrete piles.
Human Health - Vapour Intrusion	CRC CARE (2011) Groundwater Health Screening Levels (HSLs) for vapour intrusion including: • Residential - HSL A/B (sand, depth to groundwater 2.0 – <4.0 m bgl) • Recreation/ Open Space - HSL C (sand, depth to groundwater 2.0 – <4.0 m bgl) • Commercial/ Industrial - HSL D (sand, depth to groundwater 2.0 – <4.0 m bgl) • Intrusive Maintenance Worker- HSL: (sand, depth to groundwater 2.0 – <4.0 m bgl) The British Geological Survey (BGS) (UKRI, 2024) value for assessing the explosive hazard risk of methane intrusion from groundwater has been adopted as a screening value.	• Groundwater HSLs for vapour intrusion for TRH fractions have been developed based on typical petroleum mixtures and consider the solubility limits of petroleum mixtures. HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, which have significantly different composition to petroleum mixtures. The HSL (infinite) values presented in Appendix F of CRC CARE, 2011 have been adopted in accordance with CRC CARE guidance because these do not depend on assumptions regarding the mixture composition. • HSLs associated with depths to groundwater of between 2.0 and <4.0 m bgl in sand lithology were selected to assess groundwater analytical results on the basis of the depth to water of approximately 2 m bgl across the Site. • The BGS methane criteria assumes all methane in water will outgas to form an explosive atmosphere.

3.2.3 Soil Vapour

For the purpose of assessing the risks posed to current and future human-health based on the proposed future land uses by Potential Vapour Intrusion (PVI), analytical results will be compared against the residential, recreation/open space and commercial screening criteria provided on **Table 8** below.

Table 8 Adopted Tier 1 Screening Criteria – Soil Vapour

Adopted Assessment Criteria	Rationale
CRC CARE HSLs, 2011 (Appendix F)	• Vapour concentrations will be assessed against residential (HSL A/B), recreation/ open space (HSL C) and commercial (HSL D) criteria. • Fill material consists of gravels, and cobbles and sand, and as such, sand has been conservatively selected as the predominant material type. • TRH HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, which have different ratios of aromatic and aliphatic hydrocarbons. While LNAPL Plume B is sourced from a petroleum source, given the potential for gasworks wastes to be present in Audit Area 3 as a result of land reclamation, the HSL (infinite) values presented in Appendix F of CRC CARE (2011) will be adopted in accordance with CRC CARE guidance as a conservative approach. • It is noted in Section 9 of CRC CARE (2011) that vapour intrusion in high-density residential buildings is based on occupation of the ground floor, and HSL-B should be applied only if residents occupy ground floor apartments. If the ground floor consists of commercial properties or the building contains a communal basement carpark, HSL-D will be used.
CRC CARE (2013) Action Levels for Subsurface Methane near foundations	Methane detections in soil bores and sub-slab vapour wells will be compared against the action levels for subsurface methane near foundations provided in CRC CARE (2013).

Results of air samples will be assessed against the adopted criteria and Margin of Safety (MOS) assessment, as discussed in *Technical Report 23 - Petroleum hydrocarbon vapour intrusion assessment: Australian Guidance* (CRC CARE, 2013) will be undertaken to determine if a suitable number of monitoring rounds has been undertaken based on concentrations versus adopted criteria.

3.3 Remediation Criteria

AECOM has derived Site-specific Remediation Criteria (RC) in order to inform remediation and management works required at the Site for the protection of human health (AECOM, 2016b). Review of the RC for the updated proposed development of the Site conducted in 2025 (AECOM, 2025f) concluded that the AECOM (2016b) RC are appropriate for assessment of potential human health risks which may arise from the land uses proposed in the Precinct Plan (MPDC, 2024).

Potential risks to ecological receptors were not considered in the RC and have been separately assessed AECOM (2020a) and AECOM (2025g), noting that the only potential ecological receptors identified for the Site are off-Site aquatic receptors via groundwater migrations. AECOM (2020a) concluded that, based on multiple lines of evidence, Site groundwater was not likely to represent any unacceptable risk to off-Site ecological receptors.

The RC consider the following scenarios and land uses based on the initially proposed development of Macquarie Point (MPDC, 2015), which are considered applicable to the currently proposed future development based on the review of RC (AECOM, 2025f)*:*

- High density residential development (slab-on-grade buildings and buildings with a communal basement car park)
- Recreation / open space

- Multi-storey car park
- Commercial/light industrial (slab-on-grade buildings and working within a basement car park).

The risk-based Site RC are derived based on generic, conservative exposure assumptions protective of on-Site and off-Site human health under the above-mentioned potential future land use conditions at the Site, and incorporated the following key assumptions:

- NAPL impacts at the Site will be remediated to the extent practicable and therefore risks associated with exposure to NAPL, and volatile contaminants derived from NAPL were not considered in the derivation of the RC. Risks from residual NAPL present at the Site have been assessed separately (AECOM, 2021b), however, the outcomes of the AECOM, 2021b report will be further informed and updated as required, based on additional data collected as part of this investigation.
- Intrusive maintenance work at up to 1 m bgl may be undertaken in all land uses.
- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of maintenance workers) to have direct contact with soils.
- A reticulated water supply will be available, based on the urban setting of the Site, and abstraction of groundwater for any purposes other than remediation or monitoring, or temporary extraction during construction, will not be required. Potential exposure to contaminants in groundwater during any construction, remediation, or monitoring will be managed by task specific safety documentation informed by the SEMP.
- A Site Environment Management Plan will be prepared and put in place to maintain/manage surface cover.
- With regard to basements:
    - Use of any future basements is assumed to be limited to car parking. If basements are constructed for other purposes, a risk assessment specific to the intended use should be conducted.
    - Where basements are associated with future residential or commercial buildings, it is assumed that these will be communal areas for multiple properties, for example, as part of a strata scheme that is managed by a body corporate. Private basements will therefore not be associated with individual residences.
    - Where there is access to a basement car park, it is assumed that any groundwater seepage collects in floor drains and a physical barrier is present, and therefore, groundwater will not be directly contacted by basement users, with the exception of maintenance workers. It is assumed that individual tenants will not be involved in the maintenance of any associated services, including drainage pumps or sumps.
- For potential future multi-storey car park users, the most sensitive receptor in this scenario would be considered to be a parking attendant present at the Site for a typical eight hour working day. It is considered that RC derived for potential future commercial/light industrial workers (working within a basement) would be protective of all other basement users. This includes multi-storey car park users and residential tenants who access basement car parks and are likely to have lower frequency and duration of exposure, therefore the multi-storey car park users scenario is not evaluated separately in this assessment.
- Adjacent off-Site land uses include open space, commercial/industrial, and residential areas. As these potential land uses have been considered on-Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary), as:
    - Extractive groundwater use is not known to occur within 2km of the Site, based on review of registered groundwater bores undertaken (refer to **Section 2.5.3**), and the urban setting and reticulated water supply indicate that groundwater extraction and use is unlikely to occur

  - No basements are known to be present in the surrounding buildings, and are considered unlikely due to the additional costs which would be required for basement construction, based on shallow groundwater elevation, hydraulically downgradient of the Site.

- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan (CEMP). The CEMP should be prepared during the planning stage for any future remediation and/or development activities.
- A separate assessment of the potential risks to on-Site visitors was not undertaken as it was considered that the chronic exposure duration assessment of commercial/light industrial workers or residents is sufficiently protective of the shorter exposure duration visitor scenario.

These assumptions, including controls and requirements for future development, are currently documented as requirements of the Site Environment Management Plan (the SEMP) (AECOM, 2024b), and should be maintained in this document.

3.4 Acid Sulfate Soil

3.4.1 pH Field Screening

Field screening of soil pH will be undertaken as a preliminary detection method for ASS and PASS to allow selection of appropriate locations for quantitative laboratory analysis, and reported the following outputs:

- Field pH (pH_F)
- Oxidised field pH (pH_{FOX})
- Reaction rate, a qualitative rating of how vigorously samples react to peroxide, as described in the *National acid sulfate soils sampling and identification methods manual* (Sullivan et al, 2018)
- The difference between pH_F and pH_{FOX} (ΔpH) is also an important indicator of possible levels of unoxidized materials present in samples.

Appendix B of the *Tasmanian Acid Sulfate Soil Management Guidelines* (the TASSMG) (DPIPWE, 2009) identifies a combination of three factors which are considered to result in a positive field sulfide identification:

- A reaction with hydrogen peroxide
- A high ΔpH
- The actual value of $pH_{FOX.}$

TASSMG also noted that pH field screening is considered indicative only and not quantitative or suitable to rely upon for definitive identification of ASS or PASS, or determination of management requirements. Any results of pH field screening must be confirmed with quantitative laboratory analysis.

3.4.2 CRS and SPOCAS

The action criteria for coarse texture material from Appendix B of the TASSMG will be conservatively adopted for assessment of Actual Acid Sulfate Soil (AASS) or PASS from Chromium Reducible Sulfur or Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS) analytical results, as soil beneath the Site generally consisted of sand or clay with sand/silt inclusions. Based on the proposed development plans, the criteria for >1,000 tonnes of soil disturbed have been adopted.

The adopted ASS action criteria are:

- Sulfur trail ≥ 0.03 %S oxidisable
- Acid trail ≥ 18 mol H+/tonne.

3.5 NAPL

3.5.1 LNAPL Remediation Endpoints

LNAPL has been historically detected at the Site in four areas – LNAPL Plumes A1, A2 and B, and former LNAPL Plume A3, as described in **Section 2.2.1**.

Remediation of LNAPL was previously undertaken between 2000 and 2001 (prior to the formation of, and control of the Site by, the Corporation) and 2015 and 2017. The *LNAPL Remediation Action Plan* (RAP) (AECOM, 2017) was prepared to provide a framework and methodology to remove LNAPL from the Site, and defined three end-points whereby LNAPL remediation would no longer be practicable, consisting of:

1. LNAPL recovery rates have reached asymptotic levels, and demonstrate marginal recovery rates, such as less than 5% of initial recovery volumes. Further recoverability of residual LNAPL is demonstrated to be impractical within the constraints of the adopted technology, reasonable timeframes and with consideration of the net environmental benefit.
2. The residual LNAPL plumes are shown to be stable or decreasing, including demonstration that LNAPL is not observed in wells where LNAPL has historically been absent.
3. No unacceptable risks to current and future human-health or environmental receptors based on the proposed future land uses.

3.5.2 LNAPL Mobility

LNAPL Plumes A1, A2 and B, and former LNAPL Plume A3 are present on aquifers in fill material in the central and south-eastern portions of the Site. Based on the recorded lithology, perched or confined conditions are not considered likely to be present, and as such, LNAPL mobility will be assessed by one of the following methods:

- If sufficient (>0.15 m) LNAPL is present in a well, an LNAPL baildown test will be conducted and LNAPL transmissivity calculated using the American Petroleum Institute (API) *LNAPL Transmissivity Workbook: A Tool for Baildown Test Analysis* (2012).

  Evaluation of LNAPL Remediation Technologies for Achieving Project Goals (ITRC, 2009), notes that in previous observed operating hydraulic and pneumatic remediation systems, LNAPL transmissivity has generally been reduced to between 0.009 to 0.074 m^2/day at the point at which there has been assessed further LNAPL recovery will generally be inefficient, will take long periods to marginally affect LNAPL transmissivity, and will have little benefit in terms of reduction of LNAPL mass, migration potential, or longevity of the plume.

- If insufficient LNAPL is present for baildown testing, LNAPL will be removed from the well and rebound recorded after 24 hours have passed. LNAPL mobility will be qualitatively assessed on the criteria presented in **Table 9** below.

Table 9 Qualitative LNAPL Mobility Assessment

Rebound after 24 Hours	LNAPL Mobility
>80%	Potential to be mobile
20-80%	Low potential to be mobile
<20%	Unlikely to be mobile

Qualitative assessment of rebound will also consider other factors such as the accuracy of interface probes at low thicknesses and potential residual LNAPL in the packing sand surrounding the well which may not be able to be removed by bailing in a short time period.

3.5.3 Solubility

Groundwater concentrations of TRH and BTEXN can form a line of evidence for the presence/absence of NAPL (either LNAPL or DNAPL), even if not directly observed in groundwater extracted or by field measure such as an oil/water interface probe.

In order to assess the presence or absence of free-phase NAPL in groundwater, the following criteria have been adopted:

- The ASC NEPM provides solubility limits for typical petroleum hydrocarbon mixtures on Table 1A(4), as part of the derivation of HSLs. These limits have been calculated for fuel hydrocarbons and are not considered applicable to other hydrocarbon sources (i.e., gasworks wastes in the Gateway area of the Site).
- CRC CARE (2011) provides solubility limits for pure substances as part of derivation of HILs. In the absence of specific solubility limits for identification of DNAPL (i.e., gasworks impacts), the pure substance solubilities have been used in assessment of groundwater in former gasworks areas of the Site (the Gateway).

4.0 Data Quality Objectives

The *National Environment Protection (Assessment of Site Contamination) Measure 1999* (ASC NEPM, Schedule B [2]) *Guideline On Site Characterisation* [as amended 2013], specifies that the nature and quality of the data produced in an investigation will be determined by the Data Quality Objectives (DQOs). As referenced by the ASC NEPM, the DQO process is detailed in the United States Environmental Protection Agency (US EPA) *Guidance on Systematic Planning Using the Data Quality Objectives Process* (2006a), EPA QA/G-4 (EPA/240/B-06/001).

The seven-step process of establishing appropriate DQOs as defined by the US EPA and the approach adopted relative to these seven steps is presented in **Appendix F**. The DQO process was used for the development of the fieldwork program during the preparation of the Sampling and Analysis Quality Plan (SAQP) to address Quality Assurance/Quality Control (QA/QC) measures adopted during the project.

4.1 Quality Assurance / Quality Control

A QA/QC program was developed to confirm that data collected are sufficiently accurate, precise and reproducible for the purposes of the assessment program. The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. **Table 10** below summarises the QA/QC for this investigation.

Table 10 Aspects of the QA/QC Program

Aspect	Description
Use of Experienced Personnel	Field work was undertaken by trained AECOM personnel with previous experience in contaminated Site assessment. Field personnel were familiar with: • Field sampling techniques • AECOM and Site-specific health and safety protocols.
Field Methodology	Field activities were conducted in accordance with the procedures provided in SAQP (AECOM, 2025d).
Equipment Calibration	Where applicable, field equipment were calibrated daily prior to use in the field. Certificates of calibration in accordance with manufacturer requirements were provided from equipment suppliers as part of hire/procurement.
Record Keeping	Date, field personnel details, observations and findings of field activities including (but not limited to) service clearance, soil logging, soil sampling, groundwater level and water quality measurements, groundwater sampling, and equipment calibration details were recorded on project-specific data sheets.
Sample Collection	Non-dedicated sampling equipment (e.g. trowel, groundwater sampling pump, water level meter and water quality meter) were decontaminated prior to mobilisation to Site and between sampling locations. Dedicated sampling equipment (e.g. tubing, filters, sample containers) were used for the collection of soil, groundwater and QA/QC samples.
Duplicates	Field duplicate (inter and intra-laboratory) samples will be collected at a rate of one each for every 20 primary samples, for each sample media, with the exception of: • Field duplicates of PFAS samples were collected at a rate of one every 10 primary samples, in accordance with the PFAS NEMP (HEPA, 2025). • No duplicate samples were collected for ASS samples. pH Field Screening is qualitative and no duplicate samples will be collected. Data quality of CRS analysis will be assessed by an alternative analytical method (SPOCAS) at a rate of one SPOCAS per 10 CRS analyses conducted.
Sample Labelling	A unique sample identification number was used for each sample to specify the sample origin (monitoring well number and date).

Aspect	Description
Chain of Custody	Standard AECOM Chain of Custody (CoC) procedures were adopted for sample transfers. CoC documentation includes sample numbers; date of sampling/ collection; analyses required; and release and receipt of parties accepting sample custody.
Sample Storage	Samples were collected in appropriate sample containers supplied by the analytical laboratory. Where required, sample containers were prepared with preservation solutions based on the analyte of interest. Samples were placed in cool storage prior to transfer to the laboratory. ASS samples were transferred to the analytical laboratory or frozen on-Site within 24 hours of collection.
Decontamination	All non-dedicated field equipment used in the sampling process were subject to appropriate decontamination procedures, generally consisting of a non-phosphate detergent solution (Liquinox 90) wash followed by a deionised, distilled, or clean water rinse. The decontamination procedures were performed prior to first use on-Site and between each sampling location. It is assumed that portable equipment hired from environmental equipment suppliers were received in clean and workable condition.

The quality of the data collected were assessed on a range of factors including:

- Documentation and data completeness
- Reference to relevant guidance documents
- Consistency of methodology
- Data quality including comparability, representativeness, and accuracy for data collection and analysis.

4.1.1 Data Quality Indicators

The Data Quality Indicators (DQIs) adopted to assess the precision and accuracy of the data include are as follows:

- Assessment of the reproducibility of the data by calculation of the Relative Percent Difference (RPD) for laboratory and field duplicate samples. This will provide an indication of the precision and accuracy of the data. The RPD is calculated from the absolute difference between results of the duplicate pair divided by the mean value of the duplicate pair as presented below:

  RPD (%) = 100 x (D1-D2) / ((D1+D2) / 2)

  Where: D1 = primary sample analysis

  D2 = duplicate sample analysis
- Assessment of the analytical results for laboratory quality control samples. This will provide an indication of the accuracy of the data.
- Collection of rinsate blanks (at a rate of one per day of sampling, per set of sampling equipment) to provide an indication of accuracy related to potential for cross contamination of samples during sampling.
- Collection of field blanks (at a rate of one per day of sampling) to assess ambient conditions during sampling. Field blanks will be kept on hold unless rinsate results report detections above the laboratory LOR.
- Analysis of trip blanks (at a rate of one per esky) to provide an indication of accuracy related to potential for cross contamination of samples during transport.

Assessment criteria for data quality indicators for sampling undertaken during the investigation are listed below in **Table 11**.

Table 11 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate blanks	Less than the laboratory limit of reporting (LOR)
Intra and inter laboratory field duplicates (1)	RPDs less than: • 30% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR) • 200% for low level laboratory duplicates (i.e. 1 to 10 x LOR)
Trip blanks	Less than the laboratory LOR
Field blanks	Less than the laboratory LOR
Laboratory duplicates (2)	RPDs Less than: • 20% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR)
Matrix spikes (3, 4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Laboratory control samples (4)	Recoveries between 70-130%.
Surrogate spikes	See Note 5

Notes:

1. *Potential exceptions to these criteria may occur where the concentrations are close to the LOR. This typical RPD range is obtained from AS 4482.1-2005 Guide to the investigation and sampling of Sites with potentially contaminated soil. Variation can be expected to be higher for organic analysis than for inorganics.*
2. *If the concentrations are close to the LOR, then higher RPDs may be accepted. Variation can be expected to be higher for organic analysis than for inorganics (AS 4482.1-2005).*
3. *Assumes that samples are homogeneous and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.*
4. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
5. *Recoveries for surrogates are test dependent and are based on US EPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in US EPA Method SW846.*

4.1.2 Corrective Actions

Analytical data that fail to meet the predetermined DQIs and acceptable limits of accuracy and precision will be managed using one or more of the following corrective actions (where possible) on a case-by-case basis:

- Reanalyse suspect samples, provided sample or extract is within holding time
- Evaluate and amend sampling and/or analytical procedures
- Resampling and reanalysis
- Accept the data as an estimate with an acknowledged level of bias and imprecision
- Discard the data.

In the event that data of questionable reliability are used, restrictions and limitations associated with the use of such data will be clearly identified. Failure to meet the DQIs will be reported and the significance to the outcome of the sampling and investigation works will be assessed.

4.2 Data Quality Validation Assessment

Analytical data validation is the process of assessing whether the data are in compliance with prescribed analytical method performance and AECOM project specifications. The primary objectives of this process are to review whether the groundwater results are of an acceptable quality and representative of conditions encountered at the Site. The data validation process should identify any limitations with respect to the results reported for all CoPC.

The process involves checking analytical procedure compliance and assessing the accuracy and precision of analytical data from a range of quality control measurements that are generated from both the field sampling and analytical programs.

The analytical data quality validation report is presented in **Appendix F** and a summary of considerations is provided in the following sections.

4.2.1 Soil

Laboratory QA/QC measures for soil sampling were considered to be acceptable for interpretive use. The following should be considered:

- Rinsate Blank QC313 reported an exceedance at 0.02 mg/L for Ammonia (as N). This is marginally above the laboratory LOR (0.01 mg/L) and a potential small positive bias in the results is unlikely to affect the interpretation of results.
- Field duplicate RPDs in soils for TRH/TPH, BTEXN and PAHs/phenols indicate potential variations associated with fill material, however, as approximately 97% of the RPDs were within acceptable limits, precision was considered to be adequate for interpretive use. The highest concentration of any inter- or intra-laboratory duplicate sample combination has been adopted for interpretive use.
- Soil samples received by laboratories were noted to be chilled with ice, although some samples were received above the acceptable temperature range of 0 – 6°C, at temperatures between 7.3 – 10.2°C (batches 1225146, 1229786, EM2510162 and EM2509944), however this was not considered to affect the interpretation of the results due to the following:
    - For batches 1225146, 1229786 and EM2510162, there was insufficient cooling time between sample collection and laboratory drop-off on the same day.
    - For batches EM2510162 and EM2509944 (interlaboratory duplicate samples QC203 and QC204), RPD exceedances were within acceptable limits and volatile CoPC concentrations were below LOR between primary / intra laboratory duplicate pairs (MW194_3.0 / QC103 and MW184_1.0 / QC101) that were received below 6°C.
- LORs were greater than adopted criteria for:
    - PAHs (benzo(a)pyrene and dibenz(a,h)anthracene) for human health (direct contact) for low/medium/high residential and recreational/open space uses. As residential use is not proposed in the areas soil samples were collected, and the future development of the Site includes a barrier between soil and direct contact with Site users, these LORs are not considered to affect the overall outcomes of assessment.
    - TRH (>C10-C16 (minus naphthalene) for human health (vapour intrusion) for residential users. As residential use is not proposed in any of the areas where soil samples were collected, the LOR is not considered to affect the overall outcomes of assessment.

4.2.2 Groundwater

Laboratory QA/QC measures for groundwater sampling were considered to be acceptable for interpretive use. The following should be considered:

- Rinsate Blank QC314 reported an exceedance at 0.02 mg/L for Ammonia (as N). This is marginally above the laboratory LOR (<0.02 mg/L) and a potential small positive bias in the results is unlikely to affect the interpretation of results.
- Field duplicate RPDs in groundwater for PAHs, PFAS, Methane and TRH indicate potential variations associated with sample heterogeneity, VOC instability and/or laboratory methods, however, as approximately 96.5% of the RPDs were within acceptable limits, precision was

considered to be adequate for interpretive use. The highest concentration of any inter- or intra-laboratory duplicate sample combination has been adopted for interpretive use.

- Groundwater samples received by laboratories were noted to be chilled with ice, although two batches of secondary interlaboratory duplicate samples were received above the acceptable temperature range of 0 – 6°C, at temperatures between 7.1 – 7.9°C (batches EM2512174 and EM2512123). This was not considered to affect suitability for interpretive use on the following basis:
  - For batch EM2512174, there were no RPD exceedances between primary sample MW16 (batch 1236601) and secondary interlaboratory sample QC207 (batch EM2512174) except for VOCs TRH C6-C10 and methane. However, these RPD exceedances were also reflected at a similar range between primary sample MW16 and intra-laboratory duplicate sample QC107 (batch 1241421 – originally received as part of batch 1236601) which were received below 6°C, therefore the RPD exceedance cannot be directly attributed to receipt temperature differences.
  - For batch EM2512123, there were no RPD exceedances (particularly between reported VOC concentrations) between primary sample MW186 (batch 1240646) and its respective inter-laboratory duplicate sample QC210 (EM2512123).
- Holding times were exceeded by 1 day for primary sample batch 1240646. It is considered that the potential for analyte degradation (particularly VOCs) caused by a holding time exceedance of only 1 day is likely to be minimal given all other preservation benchmarks were met (appropriate preservatives were in the sample bottles, samples were immediately placed on ice and received at the laboratory below 6°C within the holding time), and therefore it is considered unlikely to affect the suitability of the samples in this batch for interpretive use.
- Holding times were exceeded by 2 – 9 days in secondary interlaboratory duplicate sample batches EM2512123 and EM2512174 (depending on the analyte). Although there is the potential for analytes to have degraded over time and not be truly representative of field conditions and that this potential under reporting should be taken into consideration when interpreting data for these analytes, these holding time exceedances are not considered to adversely affect the suitability of this batch for interpretive use on the following basis:
  - There were few RPD exceedances between associated primary and intra- and interlaboratory duplicate sample pairs, and any exceedances were reflected in both primary / intra-laboratory and primary / interlaboratory sample combinations.
  - The highest reported concentration of any primary / intra- and interlaboratory duplicate sample combination has been adopted for interpretation.
- LORs were greater than adopted criteria for:
  - PAHs (naphthalene, benzo(a)pyrene, benz(a)anthracene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene, sum of PAHs) and phenolic compounds (4,6-dintro-2-methylphenol [dinitro-o-cresol]), 2-cyclohexyl-4,6-dinitrophenol, dinoseb, 2-chlorophenol, 2,4-dichlorophenol) for drinking water (health and/or aesthetics). No extractive groundwater bores have been identified within 2 km of the Site, and extraction of groundwater for drinking purposes is not considered likely to occur now or in the future based on the urban setting and available reticulated water supply, and these LORs are not considered to present a data gap or any risk to human receptors.
  - PAHs (benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene) and phenol (4,6-dintro-2-methylphenol [dinitro-o-cresol]) for recreational (primary/secondary contact) users. All these CoPC are low mobility or immobile in groundwater, based on the organic carbon-water partitioning ranges presented in the ASC NEPM, and are not considered to have sufficient mobility to migrate to the inferred points of groundwater discharge (Sullivan's Cove / the River Derwent) where they may come into contact with potential receptors, and these LORs are not considered to present a data gap or any risk to human receptors.

4.2.3 Soil vapour

Laboratory QA/QC measures for soil vapour sampling were considered to be acceptable for interpretive use. The following should be considered:

- Soil vapour intra-laboratory duplicate sample was not collected during the field program due to three of the 23 supplied canisters (including two spares and one duplicate canister) delivered with an initial pressure below the minimum laboratory-recommended threshold of -25 mmHg, indicating a potential leak during transit. Replacement canisters were immediately dispatched by the interstate laboratory but did not arrive prior to the completion of the field program. Laboratory data should be based on the precision and accuracy of laboratory statement of QA/QC performance. As a conservative approach (requiring management of vapour infiltration in future buildings and structures) has been adopted, repeat sampling is not proposed.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data are considered to be suitable for interpretative use.

5.0 Changes To Scope of Work

The scope of work was undertaken in general accordance with the SAQP (AECOM, 2025d), however in some cases, unforeseen issues were encountered during the field program, which prompted a change to the scope of work. Notable changes to the SAQP scope are summarised in **Table 12** below.

Table 12 Changes to the Scope of Work

SAQP Scope	Change to Scope	Impact on Investigation Outcomes
Well Repair / Access Reinstatement Based on the February 2025 Site inspection, the following 24 wells required repair / access reinstated: • Bolt replacement (BG1, MW155, MW163, BH2_PS, MW100, MW122, MW129, MW148, MW123B, MW135_GHD) • Gatic replacement (MW121, MW36, RN2, TW02, MW102, MW130_GHD) • Uncovered / access reinstated (MW124A & B, MW149, MW103, NR2, MW162, TW01, S9)	All listed wells were repaired and /or made accessible with the following exceptions: • MW100: bolts were not replaced as unique bolt type was unavailable at the time. Well otherwise in good condition in an un-trafficked area, with unbolted gatic lid firmly in place within gatic rim. • NR2, TW01, MW103 and S9 were deemed lost and potentially damaged or decommissioned following an extensive search using a metal detector, shallow probing using hand tools, and surveyor locating using GPS coordinates. NR2 and TW01 were lost within the TasWater zone of sewer construction earthworks that were active at the time of the investigation. • MW135_GHD was inaccessible within the TasPorts area throughout the investigation. Additional wells were repaired as follows: • MW177 was buried with no gatic beneath the gravel carpark in the TasWater lease area. The well was located using a surveyor, exposed and a new gatic was installed. • MW128B was cleared of an obstruction that was lodged down the well casing. • Bolts were replaced in MW131_GHD, MW132_GHD, MW133_GHD and MW150	**Minimal Impact:** All accessible wells reinstated to good condition for inclusion in the dataset. Inaccessible wells were replaced by newly drilled wells to provide representative sampling locations for those respective areas of the Site.

SAQP Scope	Change to Scope	Impact on Investigation Outcomes
Monitoring Well Installation A total of 18 groundwater monitoring wells were proposed to be installed (MW120A, MW182, MW183, MW184, MW185, MW186, MW187, MW188, MW189, MW190, MW191, MW192, MW193, MW194, MW195, MW196, MW197 and MW198). It is noted that there was an allowance to install an additional three replacement groundwater monitoring wells depending on the condition of the existing monitoring well network at the time of the investigation.	The following groundwater monitoring wells were not drilled and installed: • MW195 – the well was proposed to replace obstructed well MW128A in the Gateway area. This well was no longer required following successful clearing of the obstruction within MW128A during the investigation. Although not technically a change to scope, it is noted that the following additional groundwater monitoring wells were installed as part of the allowance for additional replacement groundwater monitoring wells to be drilled and installed: • MW103A – to replace lost well MW103. • NR2A – to replace lost well NR2.	**Minimal Impact:** All locations targeted in the SAQP were covered by replacement or re-instated wells.
Proposed Drilling Locations Figure F3 in the SAQP (AECOM, 2025d) outlines the proposed locations of the new groundwater monitoring well, soil vapour bores and PASS soil bores.	All proposed locations were positioned as scoped, with the following exceptions: • MW188 and MW193 were moved approximately 20 m further to the south to compensate for lost well S9, which previously delineated the south-western edge of the adjacent LNAPL plume, and to avoid subsurface services identified within the roadway at the proposed locations during service identification and clearance prior to drilling. • Due to restricted drill rig accessibility at the original proposed location, MW120A was moved approximately 10 m east. • Due to the recent construction of a new truck waste water dumping point and other critical underground services in the area, MW189 was moved approximately 10 m south-west of the original location. • SV39 and MW198 were identified by Aboriginal Heritage Tasmania (AHT) as close to, a registered Aboriginal Heritage Site, and requiring a permit. MW198 was moved approximately 15 m south-east. SV39 was installed at the proposed location due to a communication error (discussed below the table).	**Minimal Impact:** The modified positioning of select wells provided either similar or enhanced spatial data coverage to meet the objectives of the investigation, as: • MW188 and MW193 were intended to provide additional delineation around LNAPL Plume B, located to the east of the proposed and actual locations of these wells. The new locations are cross- or down-hydraulic gradient of LNAPL and fulfil this purpose. • MW120A was located down gradient of former well MW120, and in a suitable location to assess groundwater entering the Site from the north-west. • The updated location of MW189 is considered suitable for the intended purpose of monitoring groundwater interaction at the Site boundary adjacent to the Sewage Treatment Plant, located off-Site to the east. • MW198 was intended to be within the footprint of the stadium and former gasworks land use. The updated location fits both these parameters. SV39 is discussed below this table.

SAQP Scope	Change to Scope	Impact on Investigation Outcomes
TasPorts Access 13 off-Site groundwater monitoring wells located east of the Site in TasPorts land were scoped to be gauged as part of the investigation (C1, MW123A & B, MW135_GHD, MW136_GHD, PC05, PC08, PC10, PC11, PC12, PC13, PC14 and PC15). Eight of these wells were scoped to be sampled and analysed for CoPC (MW135_GHD, PC05, PC08, PC10, PC11, PC12, PC14 & PC15)	AECOM did not receive permission from TasPorts to access their land to gauge or sample wells, and groundwater monitoring data from this area (including groundwater elevation, LNAPL presence/thickness and CoPC concentrations) were not included in this investigation.	**Minimal Impact** Data from wells on TasPorts land would assist in understanding the groundwater flow and potential contaminant transport to the east of the Site, and to delineate the extent of LNAPL Plume B. However, previous access to these wells to gauge in November 2019 (AECOM, 2020b) and February 2025 (AECOM, 2025c) indicated that groundwater may flow into the Site from TasPorts, or there may be localised interruption to groundwater flow from a buried seawall installed during historic land reclamation which runs along the eastern boundary of the Site.

SAQP Scope	Change to Scope	Impact on Investigation Outcomes
Groundwater Analytical Scope A total of 68 groundwater monitoring wells were scoped to be sampled and analysed for CoPC as part of this investigation.	A total of 56 groundwater monitoring wells were sampled and analysed. The following 17 wells were omitted from the groundwater sampling and analytical scope: • TasPorts wells **MW135_GHD, PC05, PC08, PC10, PC11, PC12, PC14 & PC15** (discussed above) • **MW145:** Well casing filled with concrete, appears to have been decommissioned. • **NR2 & TW01**: lost within the TasWater zone of sewer construction earthworks. • **MW185 & MW187:** LNAPL sheen in groundwater • **S9:** lost & potentially damaged or decommissioned • **MW129:** targeting lower aquifer – mistakenly included in the SAQP. • **MW195:** not drilled due to reinstatement/unblocking of MW128A. • **MW181:** dry well. The following additional five wells were added to the scope: • **NR2A:** Replacement well for lost well NR2. • **MW132_GHD:** Sampled by mistake. Initially thought to be MW131_GHD. • **MW194:** Groundwater sampling and analysis mistakenly omitted from SAQP scope. • **MW128A:** Sampled due to successful unblocking/reinstatement of well. • **RS6:** Upper-aquifer replacement well for adjacent lower-aquifer well MW129 mistakenly scoped for sampling and analysis.	**Minimal Impact:** • **MW145:** Upgradient groundwater conditions are characterised by adjacent well NR1. • **NR2 & TW01:** Adjacent wells **NR2A** (NR2 replacement) and **MW167** are considered to provide sufficient coverage of this area. • **MW185 & MW187:** LNAPL expected in these wells, consistent with historical data from the area. • **S9:** Newly installed well MW193 is considered to sufficiently cover this data point. • **MW129:** Replacement well **RS6** sufficiently covers this datapoint. • **MW195:** Unblocked well **MW128A** sufficiently covers this datapoint. • **MW181:** MW181 targets localised perched water. Source-pathway-receptor linkage remains assessable via immediately adjacent well MW179, which targets deeper groundwater that discharges to the nearest receptor (Derwent River). • **MW194:** As adjacent well BG1 was screened across both the upper surface fill layer and into shallow dolerite bedrock, the inclusion of MW194 enabled the assessment of up-gradient groundwater exclusively within the underlying dolerite bedrock at this location. • **MW132_GHD:** The accidental addition of this groundwater data point serves to enhance the dataset.

SAQP Scope	Change to Scope	Impact on Investigation Outcomes
Consideration of the Mobility or Organic Chemicals in the Aquifer Up to nine wells were scoped to have additional samples collected and filtered using a 5 µm filter to assess the concentration of dissolved plus mobile colloidal phase organic compounds while filtering out the larger non-mobile particulate sediment fraction.	Neither the sampling equipment suppliers or laboratories were able to source 5 µm filters for this investigation, however the largest available filter size of 1 µm was available and provided for use for this component of the investigation.	**Minimal Impact** The literature summarised in *The Essential Handbook of Ground-Water Sampling* (Nielsen and Nielsen, 2006) identified that mobile colloid phases in groundwater include particulates in the range from 0.005 µm up to 10 µm. Given that the upper aquifer predominantly resides within sand (>50 µm grain size) with fill and a minor clay component (<2 µm grain size) at most groundwater monitoring well most locations, both 1 µm and 5 µm are considered sufficient to filter out most non-mobile sediment fractions for the purposes of this initial assessment. It is noted that methods are currently in the process of development with the laboratories to further enhance accuracy and reliability of non-mobile sediment separation processes, so further confirmation testing in future may be warranted.
A total of 19 soil vapour monitoring locations were scoped to be sampled, including three pre-existing locations (SV07, SV18 and SV25) and each of the 16 locations installed as part of this investigation (SV31 – SV46).	All soil vapour monitoring locations were sampled except for SV44 (located at the south-eastern end of the Gateway area), due to the presence of water within the implant tubing, which prevented sampling.	**Minimal:** SV44 was installed immediately adjacent to 'Tar Plume B', which was treated via ISS in 2024, in order to assess potential vapour generation from the solidified DNAPL which remains *in situ* within a tank base. While SV44 could not be sampled, six soil vapour wells across the Gateway area (SV39 – SV43 and SV45) provide coverage across the majority of the Gateway area including areas immediately adjacent to both untreated and treated gasworks DNAPL, and the SEMP currently requires installation of a vapour barrier as part of future development for buildings on the Site. The CoPC which this future vapour barrier should protect against can be informed by the contaminants detected within other soil vapour wells within the Gateway area.

SAQP Scope	Change to Scope	Impact on Investigation Outcomes
Soil vapour QC samples including one inter-laboratory duplicate and one intra-laboratory duplicate were scoped to be included in the investigation.	Some of the soil vapour canisters had lost an unacceptable amount of vacuum during interstate transit to the Site prior to the sampling event, and due to courier issues, additional canisters that were immediately ordered from the laboratory did not make it to the Site before the end of the field program. Unfortunately, the number of spare canisters provided in the initial delivery (to counter potential issues like this) did not cover the entire scope of analysis including all QC samples. Therefore, to ensure that all soil vapour bore locations (aside from SV44 noted above) and the shroud leak test indicator sample could be collected, duplicate canister samples were excluded.	**Minimal:** Although field sampling repeatability was not able to be assessed for soil vapour sampling in this case, it is not considered to adversely impact the outcome of the investigation, as the outcome of the investigation recommends that protection measures be applied (i.e., a vapour barrier in structures). It is noted that the relative percent difference calculations for all internal laboratory split duplicate samples were well within acceptable limits.

As noted in changes to proposed drilling locations on **Table 12** two locations (SV39 and MW198) were identified by AHT as being in the vicinity of a registered Aboriginal heritage site, although not within the boundaries of the registered area. However, AHT advised that a permit under the Aboriginal Heritage Act 1975 was considered required for these locations as, at the time of consultation, AHT was awaiting archaeological site records with the potential to modify the extent of the area of sensitivity.

MW198 was moved approximately 15 m south east and the new location was confirmed by AHT as not considered to require a permit. However, due to an error in communication, SV39 was advanced to 1.15 m bgl by hand auger and a soil vapour well implant installed. The disturbed soil is considered likely to be historic fill material, likely dating back to historic gasworks operations, based on observed soil being consistent with fill from elsewhere in the gasworks footprint, and observed slag waste in soil.

When identified, the installation of SV39 was reported to AHT on 1 July 2025. Details of the bore and soil disturbed, including bore log, location, depth, and photographs of the soil cutting removed, were also supplied, and the soil cuttings have been retained and stored on Site, with the stratigraphy intact. AHT acknowledged notification, and have not provided any further communication or requests regarding SV39 at the time of issue of this report.

6.0 Field Observations

This DSI considers assessments undertaken within the Macquarie Point Site area (refer to **Figure F1, Appendix A**), in accordance with the scope detailed in the SAQP (AECOM, 2025d) except as noted earlier in **Section 5.0.**

The data considered to inform the investigation are from samples collected during field assessments completed between 26 May 2025 to 27 June 2025.

The following sections provide a summary of the field observations noted throughout the soil, groundwater and soil vapour investigation.

6.1 Soil

Soil investigation locations are presented in **Figure F2** (**Appendix A**) section. Soil conditions were logged and sampled from a total of 43 drilling locations, including:

- 19 Groundwater Monitoring Wells (MW103A, MW120A, MW182, MW183, MW184, MW185, MW186, MW187, MW188, MW189, MW190, MW191, MW192, MW193, MW194, MW196, MW197, MW198 and NR2A).
- 14 soil vapour bores (SV31, SV32, SV33, SV34, SV35, SV36, SV39, SV40, SV41, SV42, SV43, SV44, SV45 and SV46). Soil was not logged or sampled from sub-slab soil vapour pins SV37 and SV38, as implants were installed immediately below the existing concrete slab.
- 10 soil bores for the assessment of Potential Acid Sulphate Soil (PASS) (BH-004A, BH-004N, BH-004S, BH-004E, BH-004W, ABH-004A, ABH-004N, ABH-004S, ABH-004E, and ABH-004W).

6.1.1 Lithology

Bore logs from each of the 43 drilling locations are presented in **Appendix D**. A summary of Geological observations at each drilling location from the investigation can be summarised as follows:

Table 13 Summary of Lithology

Feature		Approx. Depth Range (m bgl)	Observed Location
Surface	Asphalt	0 – 0.1	Asphalt was observed at the surface of drilling locations located across the central-eastern and south-eastern portions of the Site (MW188, MW192, MW193, SV34, SV36, SV46, BH004N/S/E/W and ABH004N/S/E/W).
	Concrete	0 – 0.4	Concrete slab was observed at the surface of Escarpment location MW194 at the far northern boundary of the Site, and where the two sub-slab soil vapour pins (SV37 & SV38) were installed at the far south-eastern corner of the Site in the Precinct South area.
	Gravel / Sandy Clayey Gravel	0 – 0.3	All other drilling locations across the following areas: • The Precinct North, northern and western portion (MW187, MW190, SV33, SV35) • Gateway Area, central and western portion (MW196 – MW198, SV39 – SV45) • The Promenade and Underground Carpark Area (MW182, MW183, MW184, MW185, MW186, MW191, SV31, SV32) • The Escarpment (MW120A, MW103A) • Audit Area 4 East (MW189, NR2A)
Fill		0.5 – 6+	Fill material comprising varying proportions of sand, gravel and clay was observed at all groundwater monitoring well,

Feature	Approx. Depth Range (m bgl)	Observed Location
		soil vapour bore and PASS soil bore drilling locations, to depths ranging from approximately 0.5 m in the northern portions of the Site to approximately 4 – 6+ metres below ground level (m bgl) across the central and southern portions of the Site. Within this fill layer, anthropogenic materials including varying portions of brick, concrete, metal, ceramic, wood, slag and glass fragments was observed at 31 of the 45 drilling locations (MW182, MW183, MW187, MW188, MW190, MW191, MW192, MW193, MW196, MW197, MW198, NR2A, SV31, SV32, SV33, SV35, SV39, SV40, SV41, SV45, SV46, ABH-004A/E/N/S/W and BH004A/E/N/S/W). Large boulders were observed at SV34 to its total depth of 2.6 m bgl in the Precinct North area, potentially associated with a former sea wall. These observations are consistent with known historical land reclamation activity that occurred across the central and southern portions of the Site.
Sand	3 – 6+	The upper fill layer interfaced with a fine to medium grained sand at the base of most drilling locations across the central and southern down-gradient portions of the Site (MW182, MW183, MW184, MW185, MW187, MW190, MW196, MW197, MW198 & NR2A)
Dolerite	0.5 – 5+	Dolerite bedrock was encountered below the sand layer at approximately 5 m bgl at drilling locations located in central-northern portion of the Site (NR2A, MW103A, MW182, MW183, MW184, MW185 & MW191). At the northern-most drilling locations MW120A, MW191, MW194 and MW189, located adjacent to the natural topographic rise, Dolerite bedrock was encountered immediately below shallow fill at approximately 0.5 to 1.5 m bgl.

6.1.2 Evidence of Soil Impact

Observed evidence of soil impact are summarised in **Table 14** below. Bore logs from each of the 43 drilling locations are presented in **Appendix D**.

Table 14 Observations of Potential Impact

Assessment Area	Location	Depth Range (m bgl)	Impacted Layer(s)	Olfactory	Visual	Maximum PID (ppm)
The Promenade and Underground Carpark	MW183	0.2 – 4.8	Fill and underlying sand	Hydrocarbon odour	Green staining	25
	MW184	4 – 4.1	Fill	None	None	32.4
	MW185	1.8 – 4.1	Fill	Hydrocarbon odour	None	57.6
	MW186	3.2 – 4	Fill	Hydrocarbon odour	LNAPL Sheen	1.1

Assessment Area	Location	Depth Range (m bgl)	Impacted Layer(s)	Olfactory	Visual	Maximum PID (ppm)
The Precinct South	MW188	3 – 4.1	Fill	Organic odour	Green staining	0
	ABH-004W	3.2 – 4.0	Fill	Hydrocarbon odour	None	0
The Precinct North	MW190	3.5 – 6	Fill and underlying sand	Hydrocarbon odour	Green staining	22
The Gateway	MW196	2.2 – 3	Sand	Slight hydrocarbon odour	None	3.7
	MW197	1.5 – 6	Fill and underlying sand	Slight hydrocarbon odour	None	1.9
	MW198	1.1 – 5.5	Fill and underlying sand	Hydrocarbon odour	None	12.2
	SV41	0.4 – 0.9	Fill	Strong hydrocarbon odour	None	108
	SV42	0.2 – 2.15	Fill	Hydrocarbon odour	None	34.2
	SV43	2 – 2.25	Fill	Strong chlorinated hydrocarbon odour	Tar, black staining	192
	SV44	0 – 2.15	Fill	Hydrocarbon odour	Tar, black staining at 2 – 2.15 m bgl	523
	SV45	1.5 – 2.15	Sand	Slight hydrocarbon odour	None	1.5
Audit Area 4 East	NR2A	1.3 – 5.6	Fill and underlying sand	Hydrocarbon odour	Green staining	0.5

6.2 Groundwater

6.2.1 Groundwater Monitoring Well Installation and Development

Groundwater monitoring well installations details are presented in **Appendix D**. Groundwater observations during monitoring well installation and development can be summarised as follows:

- Groundwater was encountered between approximately 1 – 5 m bgl across the Site, generally grading from deep to shallow from north / north-west to the south-east of the Site.
- The targeted upper groundwater aquifer sat within porous fill material and underlying natural sand at most well locations across the central and southern portions of the Site, with the exception of MW120A, MW103A, MW189, MW191 and MW194 located near the natural topographic rise to the north of the Site, where groundwater was initially encountered at varying depths within weathered/fractured zones of the dolerite bedrock.
- MW120A was drilled through predominantly fresh dolerite to a depth of 9 m bgl, where a potentially groundwater-bearing weathered zone was noted at 7.3 – 8 m bgl. MW120A was dry for over two

weeks following installation, however toward the end of the groundwater monitoring event (GME) a small amount had slowly recharged at the base which was subsequently sampled.

- Following installation, a minimum of three bore volumes were pumped from each groundwater monitoring well (except for MW120A) using a twister pump and metal bailer for surging and drilling sediment removal. Unblocked pre-existing wells MW128A & B were also developed prior to sampling due to potential introduction of demolition cobbles/debris into the casing.

6.2.2 Groundwater Elevation

Groundwater gauging results are presented in **Table T1** (**Appendix B**), and groundwater elevation contours are presented on **Figure F3** (**Appendix A**). Groundwater gauging and elevation observations can be summarised as follows:

- Consistent with historical monitoring events, LNAPL-corrected groundwater elevation ranged from 4.684 mAHD at BG1 located at the base of the sharp topographic rise to the north of the Site, to 0.423 mAHD at off-Site well MW152, located in the University of Tasmania carpark to the south-east of the Site. As groundwater level was not likely stable at the time of observation in MW120A, groundwater elevation data from this well was not considered as part of this investigation.
- Groundwater elevation contours generally followed the pattern of topographic elevation across the Site, indicating a relatively steep up-gradient flow direction to the south-east, prior to flattening out to a very gentle gradient across the central and south-eastern down-gradient areas. Groundwater flow direction followed the steep north-easterly slope towards Regatta Point further around the headland to the far north of the Site.

  A potential northerly and easterly component of groundwater flow in the Escarpment, which was noted in February 2025 (AECOM, 2025c) was not observed during groundwater gauging. This flow component was attributed at the time to being a potential result of lack of access to wells in the Escarpment in February 2025, and based on the results of the June gauging round, and historic observations of Site groundwater flow, this is considered to be likely and it is inferred that no northerly or easterly flow is present in the Escarpment.
- A slight localised groundwater elevation mound was observed at MW167 at the far eastern boundary of the Site, that appeared to counter a steep south-easterly flow direction from upgradient wells to the north-west:
  - It is noted that groundwater shifted in elevation by 0.47 m from 1.684 mAHD when initially gauged on 16 June 2025, to 1.214 mAHD when sampled on 20 June 2025. No significant change in groundwater elevation was observed in adjacent surrounding wells.
  - It is noted that at the time of the GME, TasWater were actively removing soil from a large deep excavation approximately 20 m north-east of this well as part of a regional sewer expansion project, therefore groundwater elevation (and flow direction) in this area may not reflect typical conditions and may require further confirmation in future monitoring events.
- A further slight localised groundwater elevation mound was noted at MW164 at the far south-eastern boundary that appeared to counter the overall south-easterly flow direction.
- As the TasPorts wells could not be access during this investigation, groundwater contours and flow direction could not be confirmed to the east of the Site. Previous gauging events in 2019 (AECOM, 2020b) and earlier in 2025 (AECOM, 2025c) had indicated that there may be flow onto the Site from TasPorts, or that a buried seawall installed during historic land reclamation may have a localised influence on groundwater flow.

Overall, groundwater elevation and inferred flow directions were consistent with previous assessments.

6.2.3 Groundwater Quality Field Parameters

Groundwater quality data collected from the June 2025 investigation is provided in **Table T2** (**Appendix B**) and summarised in **Table 15** below.

Table 15 Summary – Groundwater Quality Field Parameters

Parameter	pH (pH units)	EC (µS/cm)[1]	TDS (mg/L)[2]	ORP (mV)[3]	DO (mg/L)
Minimum	6.36 (MW101)	355 (MW16)	231 (MW16)	-142.8 (MW130_GHD)	0.07 (MW197)
Maximum	11.95 (MW123A)	51,340 (TW02)	33,371 (TW02)	377 (MW128A)	6.48 (BG1)
Average	NA	3,476	2,259	143.4	0.87

Note: 1 – MicroSiemens per centimetre; 2 – TDS calculated by multiplying EC by 0.65; 3 – ORP corrected for standard hydrogen electrode; NA – calculating an average pH value is not applicable as pH is measured on a logarithmic scale.

Due to a broken Oxygen Reduction Potential (ORP) probe, groundwater quality field parameters were later collected *in-situ* at the same depth following sampling once a replacement water quality meter arrived at BG1, MW102, MW121, MW122, MW127A, MW148, MW152, MW155, MW159, MW178, MW180, MW182, MW191, MW192, MW194, RN2 and TW02. The *in-situ* results have been reported in **Table T2** for these wells and in **Table 15** above. The original water quality measurements (with inaccurate ORP readings) were recorded to assess groundwater stabilisation during purging are presented in the field sheets in **Appendix H**.

Water quality meters were bump-tested and calibrated as required at a minimum of once per day prior to sampling, and where potentially anomalous results were observed. Calibration records are presented in **Appendix G**.

6.2.3.1 pH

pH measurements mostly ranged between 6.36 (MW101) and 8.07 (MW120A), indicating slightly acidic to slightly basic conditions across most of the upper aquifer. Moderately basic to highly basic conditions were reported at MW197 (9.37) and MW123A (11.95), which are noted to be within close proximity to each other to the south and south-east of the Gateway area. It is noted that pH was last recorded at MW123A as 6.83 and 6.56 in August and November 2019, respectively (AECOM, 2020b).

No pH of <5, which would be considered a potential indicator of ASS, was detected.

6.2.3.2 Electrical Conductivity and Total Dissolved Solids

The EC of groundwater depends on the presence of dissolved ions in the groundwater and is multiplied by a factor of 0.65 to determine TDS, which is used to understand PEVs of groundwater applicable to the Site. The measured field EC and TDS indicated a broad range of fresh to saline (Fetter, 1994*)* aquifer conditions across the Site.

Laboratory-measured TDS ranged between 170 mg/L (at MW16) to 28,000 mg/L (at MW180).

6.2.3.3 Oxygen Reduction Potential and Dissolved Oxygen

ORP is a measure of the relative tendency of a solution to accept the transfer of electrons and may be used to assess the likely presence of aerobic respiration. Low ORP (<720 mV (CRC CARE, 2010)) values indicate reducing conditions and an anaerobic environment. Levels of DO and ORP in the groundwater environment may be used as initial indicators for natural attenuation.

The range of ORP measured in groundwater across the Site (-142.8 to 377 mV) indicate anaerobic conditions, which corresponds with the relatively low DO range measured in groundwater across the Site (0.07 to 6.48 mg/L). The lowest to highest ORP readings generally corresponded with the lowest to highest DO readings measured across the groundwater monitoring well network.

6.2.4 Evidence of Groundwater Impact

Visual and/or olfactory observations of impact noted during groundwater well development and/or sampling can be summarised in **Table 16** below. Measurable LNAPL was observed in three wells in the vicinity of LNAPL Plume B in the Precinct South area (MW03, PW02, and S8). It is noted that measurable LNAPL was also observed briefly in a fourth well (MW185) immediately prior to development, however only a sheen was observed in this well throughout the remainder of the June 2025 field investigation program following development.

Table 16 Observations of Groundwater Impact

Area	Well ID	Odour	LNAPL / Sheen	Other
Off-Site	MW130_GHD	Hydrocarbon Odour	-	-
The Promenade and Underground Carpark	MW183	Hydrocarbon odour noted during development. Not noted during sampling.	Sheen noted during development and sampling.	-
	MW184	'Egg' odour noted during development. Not noted during sampling.	None noted	None noted
	MW185	Hydrocarbon odour noted during development.	5 mm yellow medium-viscosity LNAPL noted immediately prior to development. LNAPL sheen observed during and following development. Not sampled due to LNAPL observation prior to development and LNAPL sheen later confirmed during the sampling round.	None noted
	MW186	Hydrocarbon odour during development. Not noted during sampling.	Slight sheen noted during development. Not noted during sampling.	None noted
The Precinct North	MW187	Hydrocarbon odour during development. Not noted during sampling.	Sheen noted during development. Not noted during sampling.	None noted
The Precinct South	MW03	Hydrocarbon Odour during gauging and transmissivity testing	70 mm LNAPL recorded during gauging. 20 mm dark brown, medium viscosity LNAPL recorded prior to transmissivity test.	None noted

Area	Well ID	Odour	LNAPL / Sheen	Other
	PW02	Hydrocarbon Odour during gauging and transmissivity testing	42 mm LNAPL recorded during gauging. 62 mm dark brown, medium viscosity LNAPL recorded prior to transmissivity test.	None noted
	S8	Hydrocarbon Odour during gauging and transmissivity testing	81 mm LNAPL recorded during gauging 62 mm dark brown, medium viscosity LNAPL recorded prior to transmissivity test.	None noted
	MW154	None noted	LNAPL globules in bailer	None noted
The Gateway	MW128A	Hydrocarbon odour noted during development. Not noted during sampling.	Sheen noted during development. Not noted during sampling.	None noted
	MW196	Hydrocarbon odour noted during development. Not noted during sampling.	Sheen noted during development. Not noted during sampling.	None noted
	MW197	Hydrocarbon odour noted during development. ‘Chemical’ odour noted during sampling.	Sheen noted during development. Not noted during sampling.	None noted
	MW198	No odour noted during development. ‘Chemical’ odour noted during sampling.	None noted	None noted
Audit Area 4 East	NR2A	None noted	Slight sheen noted during development. Not noted during sampling.	None noted

6.3 Soil Vapour

Soil vapour sampling field records are presented in the **Tables T3 and T4** (**Appendix B**), and are summarised below.

6.3.1 Leak Testing

Leak testing results are presented in **Table T3** (**Appendix B**) and can be summarised as follows:

- All samples passed the shut-in test.
- All initial canister pressures ranged from -26 to -30 mmHg, which was within the acceptable range as prescribed by the laboratory.
- Final sample pressures ranged from -4 to -6 mmHg, which is within the recommended range.
- The difference in pressure recorded at the completion of sampling and by the laboratory upon receipt ranged from -1.94 to +1.96 mmHg, which resulted in a calculated percentage difference of between -11% (an apparent increase in vacuum) and 8% (a decrease in vacuum). A decrease in vacuum can be indicative of leakage during transit, which may cause a low bias (with fresh air influx) or high bias (if VOC influx occurred prior to sampling (i.e., during transport or storage)) to the results, however none of the canisters exceeded the maximum relative vacuum loss % threshold of 10%. Given the low range of pressure difference, and that apparent increases in vacuum were also recorded at a similar scale and distribution to the decreases, they are likely within the range of error and imprecision between pressure gauges, and not considered to adversely impact the integrity of the results.
- The concentration of isopropanol leak test indicator gas within each sample ranged from <0.01 to 0.77% of the concentration within the shroud, which is well below the maximum threshold of 10%. This indicates that reported concentrations are considered to be representative of targeted sub-surface soil vapour conditions.

6.3.2 Field Parameters

The field parameters collected during sampling are presented in **Table T4** (**Appendix B**) and can be summarised as follows:

- PID readings ranged between 0 – 481.7 ppm. The highest PID readings were noted at SV41 (481.7 ppm) and SV43 (84.2 ppm), indicating presence of volatile hydrocarbons within the Gateway area. It is noted that a low PID reading can be expected in the vicinity of LNAPL plumes comprised of non-volatile hydrocarbon fractions (e.g. diesel, oil) – as was the case at soil vapour bores SV07, SV31, SV32, SV33, SV37 and SV38 (located in the vicinity of LNAPL plumes A1, A2, A3 and B), which ranged from 0 – 15.2 ppm.
- Methane (CH_4) readings ranged between 0 – 77.9 % v/v. The highest readings were noted at SV18 (17.7 % v/v), SV25 (62.4 % v/v), SV32 (15.5 % v/v) and SV34 (77.9 % v/v). Elevated methane can be indicative of biodegradative activity.
- Carbon dioxide (CO_2) reading ranged from 0 – 17.5 % v/v. The highest CO_2 readings were noted at SV18 (10.7 % v/v), SV31 (15.1 % v/v), SV34 (17.5 % v/v), SV39 (10.7 % v/v) and SV46 (11.5 % v/v). Increased CO_2 can be indicative of biodegradative activity.
- Oxygen ranged from 20.5 % v/v (near atmospheric levels) to <1 % v/v. Substantial oxygen depletion <10% v/v was noted at all soil vapour sampling locations except SV36 (20.5 % v/v), SV37 (16.5 % v/v), SV40 (19.1 % v/v), and SV41 (17.4 % v/v). Oxygen depletion can be indicative of biodegradative activity.
- Initial pre-sampling field parameters were comparable to post-sampling field parameters at all sample locations, indicating that soil vapour samples are likely representative of targeted sub-surface conditions, with no evidence of fresh air influx via preferential pathways surrounding each soil vapour bore throughout the purging and sampling process.

7.0 Results and Discussion

All soil, groundwater, and soil vapour samples were analysed by laboratories accredited by NATA for the analyses selected. Soil and groundwater laboratory analytical reports are provided in **Appendix E**.

7.1 Adequacy of Monitoring Networks

The spatial and temporal adequacy of groundwater and soil vapour monitoring networks is assessed below. It is noted that soil data was collected as part of the advancement of soil vapour and groundwater wells, and the adequacy of soil sampling will be considered as part of broader assessments of each area and include consideration of other available soil data.

7.1.1 Groundwater

The groundwater well network at the Site consists of:

- 76 wells on the Site (including Regatta Point).
- 12 wells off-Site, located to the south (inferred direction of groundwater discharge) along Evans Street and in a carpark of the University of Tasmania.

An additional 8 wells are known to be present on TasPorts land to the east, but access to these wells was not granted for this investigation.

The overarching aim of the groundwater network is to provide sufficient information to delineate the lateral and vertical extent of contamination, and the groundwater flow system, and allow assessment of the risks to relevant receptors. The goals of the June 2025 groundwater investigation (AECOM, 2025d) were to collect groundwater data from sufficient locations to :

- Monitor groundwater flow and direction, and collect data on the general condition of groundwater at the Site.
- Delineate and assess key sources of contamination
  - LNAPL plumes A1, A2, former LNAPL plume A3 and LNAPL plume B.
  - Gasworks DNAPL (Tar Plumes A, B, C and D).
- Coverage of areas requiring further assessment in the Gateway area (AECOM, 2025a).

Existing groundwater well locations were also selected and sampled to assess historic Site features identified as potential sources of contamination.

Table 17, below, assesses the groundwater monitoring conducted as part of this assessment against these goals.

Table 17 Groundwater Monitoring - Spatial Adequacy

Requirement	Actions / Locations	Sufficient to Address Requirement?
Monitoring groundwater flow, direction, and condition	Gauging of 88 locations was conducted at the locations, listed on **Table T1** and shown on **Figure F3**. The following is assessed on the suitability of the groundwater network: • Approximate spacing between wells ranges from ~15 m in the south-eastern corner, where LNAPL Plume B is present, to ~130 m along the northern boundary. Spacing is considered adequate for assessment as areas of where greater spacing has occurred (the northern and, to a lesser extent, the western boundary) have not had indicators of potential source areas of groundwater impact detected in soil bores advanced to and below the water table in these areas, and no requirement for assessment of groundwater has been identified in the previous DSI/CUTEP reports for these areas. • Groundwater well locations MW120A, MW121, MW145, MW177A, MW194, and NR1 are considered suitable for assessment of background groundwater concentrations as these locations are on the Site boundary adjacent to regional groundwater, and inferred upgradient of Site areas identified as potential sources of impact to groundwater. It is noted that the following wells are present on up-gradient Site boundary locations, and are considered suitable for assessment of ground water entering the Site, but have considerations which may render them unsuitable for use as background wells: - The well screen in BG1 crosses both fill and dolerite, and water in this well may have contributions from both aquifers. - MW101, MW128A, and MW128B are installed within the former gasworks area, which extends off-Site and upgradient, and may have impacts from off-Site sources. - Wells along the eastern boundary may have impacts from historic land uses or TasWater/TasPorts activities in neighbouring sites. While no off-Site wells are located and available for sampling to the north, or west due to access not being granted by land owners (east), services and high-traffic roadways (west) or the dolerite hill (north), wells on the Site boundary in these directions are considered suitable for assessment of groundwater entering the Site. • Inferred down-gradient groundwater towards potential off-Site receptors and the overall inferred discharge of groundwater is assessed by:	Yes

Requirement	Actions / Locations	Sufficient to Address Requirement?
	- South (towards Sullivans Cove) ▪ On-Site wells along the southern boundary: MW196, MW197, MW129, RS6, MW124A, MW124B, MW125A, MW125B, MW193, MW60, MW126A, MW126B ▪ Off-Site wells along Evans Street and in the University of Tasmania carpark: MW123A, MW123B, MW130_GHD, MW131_GHD, MW133_GHD, MW150, MW151, MW152, MW153 - North-east (towards the River Derwent) ▪ On-Site wells on Regatta Point: MW178, MW179, MW180, MW181 On-Site groundwater wells targeting specific contamination are discussed below, however, sampling to collect data was collected from 55 groundwater wells, including groundwater on or near the Site boundary from the following locations: • North – MW120A, BG1, MW194, NR1, MW160, MW161 (all on-Site) (6 total) • East - MW159, MW189, NR2A, MW167, TW02, RH2, MW192, MW163, MW164, MW6, MW03, PW02, MW05, MW16 (all on-Site) (14 total) • South - On-Site: MW126A, MW60, MW125A, MW124A, MW149, MW129, RS6, MW197, MW196 (9 total) - Off-Site: MW150, MW151, MW152, MW153, MW133_GHD, MW132_GHD, MW123A, (7 total) • West – MW128A, MW101, MW121, MW120A (all on-Site) (4 total). The gauging and sampling program included locations within the Site and along the Site boundaries and is considered sufficient to assess groundwater condition and assess groundwater entering and discharging from the Site.	
LNAPL Plumes A1 and A2, and Former LNAPL Plume A3 Delineation	LNAPL Plumes A1 and A2, and former LNAPL Plume A3, will be monitored/delineated by the following locations: • Within the plumes: MW183, MW185, MW187 • Up-gradient: BG1, MW191, MW103, MW36, MW121, MW120A • Cross-gradient: MW173, MW186, MW182, MW184 • Down-gradient: MW175, MW176, MW146, RN4, MW144, TW02, RN2 The number and orientation of existing or proposed wells exceeds the requirements in the ASC NEPM and delineates LNAPL and former LNAPL plumes historic extents, and new proposed wells intersect the inferred locations of LNAPL and delineate in all directions.	Yes

Requirement	Actions / Locations	Sufficient to Address Requirement?
LNAPL Plume B Delineation	LNAPL Plume B will be monitored/delineated by the following locations: • Within the plume: MW03, PW02, MW05, S8, MW154, PC13 • Cross-gradient: MW135_GHD, MW136_GHD, MW6, MW164, MW188[1], PC12 • Down-gradient: MW16, MW126A, MW126B, MW60, MW193[1], S9 Access was not granted to off-Site wells in the inferred up-gradient direction (east) on TasPorts land. Well PC13 on TasPorts land was gauged in February 2025 and had 0.01 m of LNAPL present, and it is considered that LNAPL Plume B extends areas off-Site, and is co-sourced in these areas as the historic bulk fuel storage, the identified likely source of LNAPL, also occurred on this off-Site land. Groundwater wells MW6, MW163,and MW164 are located on the Site boundary with TasPorts, where groundwater is inferred to the entering the Site, and are considered suitable for assessment of groundwater entering the Site.	Yes
Gasworks DNAPL (Tar Plume A, B, C and D) Delineation	Gasworks DNAPL will be monitored/delineated by the following locations: • Up-gradient: MW121, MW128A, MW128B • Cross-gradient: MW198, MW102, MW173 • Down-gradient: MW195, MW196, MW123A, MW123B, MW130_GHD, MW129, RS6, MW133_GHD It is noted that MW121 is not directly upgradient of DNAPL. During previous investigation programs, the area inferred to be directly up-gradient of DNAPL, west of the Site along Davey St / Tasman Highway, has not had any suitable locations for groundwater wells due to subsurface services, established trees, and traffic. DNAPL is also inferred to extend off-Site upgradient to the west into other land within the footprint of historical gasworks operations. MW121 is considered suitable for assessment of background groundwater condition, however, as this location is on the Site boundary upgradient of potential Site sources of impact, and outside and not downgradient of any gasworks uses.	Yes
Areas where further groundwater assessment was identified as required in the Gateway (AECOM, 2025a)	• Locations where validation samples could not be collected, due to dolerite or groundwater intrusion at the base of remediation excavations, in the areas surrounding: - Tar Plume B – MW197, MW100 - Brick Pit 1 – MW196, MW123A, MW123B	Yes

Requirement	Actions / Locations	Sufficient to Address Requirement?
	- Brick Pit 2 - MW195 • Tar Plumes – See Gasworks DNAPL delineation, above. • Groundwater emanating from the Gateway which may pathway for contamination to off-Site receptors – MW123A, MW123B, MW128A, MW128B, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW129, RS6	

For temporal adequacy of groundwater monitoring,14 GMEs (including June 2025) have been conducted at the Site and/or on Regatta Point, summarised on **Table 18** below.

Table 18 Site GMEs - 2015 to 2025

#	Sample Dates	Wells Sampled
1	13 to 16 January 2015	BG1, BH1-PS, M3, MW103, MW103, NR3, BH2_PS, RN4, MW23, MW100, RS6, R2, MW36, MW101, MW102, NR2, RN2, MW6, MW13, MW16, MW60, S4, S6, S8, S9, MW55, PW01D, PW01D, PW01S, PW01S, MW103, NR1, R3
2	17 to 20 August 2015	MW126A, MW126B, S9, MW127A, MW127B, MW124A, MW124B, , MW125A, MW125B, MW122, MW129, RS6, MW120, MW123A, MW123B, MW101, BG1, MW121, MW128A, MW128B
3	1 to 3 February 2016	MW130, MW132, MW136, MW138, NR1, MW142, MW125A, MW125B, MW126A, MW126B, S9, MW127A, MW127B, MW129, RS6, MW101, MW128A, MW128B, BG1, MW120, MW121, NR2, MW123A, MW123B, MW131_GHD, MW132_GHD, MW133_GHD, MW124A, MW124B, RN4, MW122
4	18 to 21 July 2016	MW130_GHD, MW132_GHD, S4, MW130, MW147, MW138, MW140, MW144, R2, MW103, NR2, TW03, MW142, R3, MW6, MW16, MW60, MW125A, MW125B, MW126A, MW126B, MW132, MW100, MW129, RN2, MW123A, MW123B, MW131_GHD, MW133_GHD, RN4, MW122, RS6, MW124A, MW124B, MW146, S9, MW127A, MW127B, MW136, MW101, BG1, MW120, MW121, MW145, NR1
5	9 May 2017	MW148, MW149, BH2_PS, MW124A, MW124B, MW127A, MW127B, MW122, MW129, RS6
6	18 to 20 July 2017	MW148, MW149, MW123A, MW123B, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW124A, MW124B, MW142, MW146, R3, MW6, MW16, MW60, MW125A, MW125B, MW126A, MW126B, S9, MW130, MW132, MW147, MW127A, MW127B, MW100, MW122, MW129, MW135, MW136, MW144, R2, MW101, MW128A, MW128B, BG1, MW121, MW145, MW103, NR1, NR2, TW03, RN4, S4, RS6, NR4, RN2
7	26 to 28 February 2018	MW16, MW125A, MW125B, MW126A, MW126B, MW127A, MW127B, MW149, MW150, MW151, MW152, MW153, TW03, MW123A, MW123B, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW124A, MW124B, S9, MW103, RN2, MW142, MW146, RN4, MW130, RS6, MW135, MW144, BG1, NR2
8	27 to 29 August 2018	MW142, MW146, MW16, MW126A, MW126B, MW150, MW154, MW123A, MW123B, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, S9, MW151, MW152, MW153, MW155, MW156, MW124A, MW124B, RS6, MW162
9	12 to 15 August 2019	MW162, RN4, MW122, BG1, MW159, MW160, MW161, MW150, MW151, MW152, MW153, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW36, MW145, NR1, MW154, MW156, MW163, MW164, PW02, TW03, MW123A, MW6, MW13, MW16, MW126A, S4, S9, MW155, MW157, MW158, MW166, MW167, MW171, RS6, RN2
10	11 to 18 November 2019	MW156, MW158, MW162, RN4, RS6, MW36, MW150, MW151, MW152, MW153, MW171, MW123A, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW159, MW160, MW161, MW154, MW166, MW167, MW6, MW13, MW16, MW126A, S4, MW157, MW164, TW02, TW03, MW125A, S9, NR2, MW155, MW163, MW122, NR1

#	Sample Dates	Wells Sampled
11	30 November to 2 December 2022	MW174, , MW122, RS6, MW150, MW173, MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, MW100, MW102, MW123A, MW123B, MW127A, MW127B, MW36
12	29 November to 6 December 2023	MW146, RN4, MW162, MW175, MW176, MW55, MW127A, MW127B, MW150, MW151, MW152, MW153, MW164, MW125A, MW125B, MW163, MW124A, MW124B, MW60, MW126A, MW126B, S4, MW154, MW155, MW6, MW16, S6
13	25 to 26 September 2024	MW180, MW159, MW160, MW161, MW177, MW178, MW179
14	12 to 25 June 2025	BG1, BH2_PS, MW101, MW102, MW120A, MW121, MW122, MW123A, MW125A, MW126A, MW127A, MW128A, MW130_GHD, MW132_GHD, MW133_GHD, MW148, MW150, MW151, MMW152, MW153, MW155, MW159, MW16, MW160, MW161, MW164, MW167, MW173, MW178, MW179, MW180, MW182, MW183, MW184, MW186, MW188, MW189, MW90, MW191, MW192, MW193, MW194, MW196, MW197, MW198, MW36, MW55, MW6, MW60, NR1, NR3A, RN2, RN4, RS6, TW02

Data from earlier GMEs, dating back to 1996, is also available, however details of the purpose, methodology, and quality checks for earlier events is not readily available, and this data is treated as lower reliability, and may not be relevant to Site condition due to the time which has passed since it was collected.

GMEs have covered a wide range of time periods and seasons on the Site, and are considered suitable to provide information on potential seasonal changes or variations.

7.1.2 Soil Vapour

The soil vapour monitoring well network at the Site consists of:

- 17 soil vapour bores, with implants installed between 1 and 2 m bgl.
- 2 sub-slab pins, installed in the SeaRoad Shed slab in the south-east corner of the Site.

Soil vapour assessment has been conducted where potential vapour intrusion (PVI) risks have been identified based on soil and groundwater investigation at the following key areas:

- LNAPL Plumes A1 and A2, and former LNAPL Plume A3, as well as general bulk fuel storage and railway activities in the central portion of the Site.
- LNAPL Plume B in the south-eastern portion of the Site, as well as historic bulk fuel storage in this area and off-Site to the east.
- Locations where soil investigations indicated potential vapour intrusion (PVI) risks based on soil concentrations.

In addition, previous assessments have also identified soil methane may represent a risk to future construction, and that PVI assessment is required in the Gateway area to assess risks associated with former gasworks operations (AECOM, 2025a).

Soil vapour monitoring points have been compared to the advice on sample locations for future buildings from Table 4 of the *Petroleum hydrocarbon vapour intrusion assessment: Australian Guidance* (CRC CARE, 2013) (**Section 3.1.2**), noting:

- All areas have been assessed as “Big building or size not known”.
- All sources have been considered on-Site.
- Previous PVI assessment has been conducted in some areas, and historic data from lost or destroyed soil vapour monitoring points will be considered in broader assessments

- Locations for soil vapour assessment points have been selected based on previously identified sources of PVI, based on field observations (i.e., presence of LNAPL), and soil and groundwater analytical results.
- The guidance provided in CRC CARE (2013) is specific for petroleum hydrocarbons and does not specifically consider other sources of PVI, such as soil methane or DNAPL. The following has been considered for assessment of these PVI sources:
  - *Contaminated Land Guidelines – Assessment and Management of Hazardous Ground Gases* (EPA NSW, 2020) provides guidance on methane assessment. While not specifying any number of monitoring locations, Table 19 in Appendix 4 of this document does provide general guidance around locating bores in source zones.
  - DNAPL has been treated as soil and dissolved phase, as DNAPL is denser than groundwater and is present either below groundwater (where any vapour emissions must pass through groundwater) or as a soil impact. The more conservative number of required monitoring points has been adopted.

Based on the assessment of soil vapour point numbers, and the targeting of monitoring points to previously identified PVI source areas, the selected monitoring is considered spatially suitable.

Table 19 Assessment of Number of Soil Vapour Monitoring Points

Area	PVI Source	Number of monitoring points	
		Recommended (CRC CARE, 2013)	Actual / Proposed / Historic
Antarctic Facilities Zone	Soil	2 (number of soil sources)	5 – SV18, SV35, SV14[1], SV19[1], SV17[1]
	Dissolved phase	2	
Complementary Integrated Mixed Use Zone	LNAPL Plume B	3	8 – SV07, SV38, SV37, SV29[1], SV05[1], SV06[1], SV08[1], SV30[1]
	Soil	3 (number of soil sources including LNAPL area)	13 – SV46, SV25, SV38, SV37, SV07, SV23[1], SV24[1], SV29[1], SV05[1], SV06[1], SV08[1], SV30[1], SV04[1]
	Dissolved phase	2	
Multipurpose Stadium and Associated Concourse Zone	LNAPL Plume A1	3	5 - SV31, SV20[1], SV21_B[1], SV22[1], SV11[1]
	LNAPL Plume A2	3	4 - SV32, SV27[1], SV28[1], SV12[1]
	Former LNAPL Plume A3	3	SV33, SV13[1], SV16[1], SV15[1], SV11[1]
	Soil	8 (number of soil sources including LNAPL areas)	26 - SV31, SV32, SV33, SV34, SV46, SV36, SV44, SV45, SV18, SV01[1], SV02[1], SV03[1], SV11[1], SV12[1], SV13[1], SV15[1], SV16[1], SV17[1], SV20[1], SV21_B[1], SV22[1], SV23[1], SV24[1], SV26[1], SV27[1], SV28[1]
	Dissolved Phase	2	
The Gateway (Aboriginally Informed Cultural Zone / Multipurpose	DNAPL	4 (treated DNAPL as a soil impact and based on the number of source areas)	6 - SV39, SV40, SV41, SV42, SV43, SV44

Area	PVI Source	Number of monitoring points	
		Recommended (CRC CARE, 2013)	Actual / Proposed / Historic
Stadium and Associated Concourse Zone)	Soil	6 (number of source areas including DNAPL plumes and former brick pits)	7 - SV39, SV40, SV41, SV42, SV43, SV45
	Dissolved Phase	2	

Notes: 1. Lost or destroyed historic monitoring point

It is noted that soil vapour bore SV44, installed immediately adjacent to ISS-treated Tar Plume B, could not be sampled due to water in the implant tubing. Six soil other vapour bores were installed within the former Gateway area, and include locations immediately adjacent to both untreated and treated gasworks DNAPL. It has been assumed for the purpose of future assessment and mitigation requirements that the results for these locations, including locations not within the proposed Multipurpose Stadium footprint, indicate the potential vapour impacts which may be present and have been assessed as such.

Based on the above review, it is considered that the soil vapour monitoring network is spatially adequate to assess and update potential PVI risks. Temporal adequacy of soil vapour data has been considered against MOS criteria in **Section 7.2.3.1**.

7.2 Adopted Tier 1 Assessment Criteria

7.2.1 Soil

The analytical results for soil samples collected and analysed as part of the investigation were compared to the adopted Tier 1 assessment criteria as presented in **Table T5a – T5d** (**Appendix B**). A summary of the soil analytical results which exceeded the adopted Tier 1 assessment criteria are presented in **Table 20** below. **Figures F4a - F4b** (**Appendix A**) show locations where concentrations of CoPC exceeded Tier 1 assessment criteria in soil samples.

Table 20 Soil - Summary of Exceedances of Tier 1 Assessment Criteria

PEV		CoPC	Criteria (mg/kg)	Range of Reported Concentrations (mg/kg)	Number of Exceedances
Human Health Criteria – Direct Contact	Low Density Residential [1]	Chromium	100	<2 – 3,400	1 of 51 primary results
		Lead	300	<5 – 480	1 of 51 primary results
		TRH >C10-C16 fraction	1,700	<50 – 8,400	3 of 51 primary results
		TRH >C16-C34 fraction	1,300	<100 – 21,000	6 of 51 primary results
		TRH >C34-C40 fraction	1,300	<100 – 5,900	1 of 51 primary results
		Benzo(a)pyrene	3	<0.5 – 53	7 of 51 primary results
		Benzo(a)pyrene TEQ calc (Half)	3	<0.5 – 74	10 of 51 primary results
		Benzo(a)pyrene TEQ calc (Zero)	3	<0.5 – 74	9 of 51 primary results
		Benzo(a)pyrene TEQ calc(PQL)	3	<0.5 – 74	10 of 51 primary results
		Sum of PAHs	300	<0.5 – 3,700	4 of 51 primary results
	Medium/ High Density Residential	Chromium	500	<2 – 3,400	1 of 51 primary results
		TRH >C10-C16 fraction	2,200	<50 – 8,400	3 of 51 primary results
		TRH >C16-C34 fraction	1,600	<100 – 21,000	4 of 51 primary results
		TRH >C34-C40 fraction	1,600	<100 – 5,900	1 of 51 primary results
		Benzo(a)pyrene	4	<0.5 – 53	7 of 51 primary results
		Benzo(a)pyrene TEQ calc (Half)	4	<0.5 – 74	7 of 51 primary results
		Benzo(a)pyrene TEQ calc (Zero)	4	<0.5 – 74	7 of 51 primary results
		Benzo(a)pyrene TEQ calc(PQL)	4	<0.5 – 74	7 of 51 primary results
		Sum of PAHs	400	<0.5 – 3,700	2 of 51 primary results
	Recreation / Open Space	Chromium	300	<2 – 3,400	1 of 51 primary results
		TRH >C10-C16 fraction	2,000	<50 – 8,400	3 of 51 primary results
		TRH >C16-C34 fraction	1,500	<100 – 21,000	6 of 51 primary results

PEV		CoPC	Criteria (mg/kg)	Range of Reported Concentrations (mg/kg)	Number of Exceedances
		TRH >C34-C40 fraction	1,500	<100 – 5,900	1 of 51 primary results
		Benzo(a)pyrene	3	<0.5 – 53	7 of 51 primary results
		Benzo(a)pyrene TEQ calc (Half)	3	<0.5 – 74	10 of 51 primary results
		Benzo(a)pyrene TEQ calc (Zero)	3	<0.5 – 74	9 of 51 primary results
		Benzo(a)pyrene TEQ calc(PQL)	3	<0.5 – 74	10 of 51 primary results
		Sum of PAHs	300	<0.5 – 3,700	4 of 51 primary results
	Commercial / Industrial	TRH >C16-C34 fraction	7600	<100 – 21,000	1 of 51 primary results
		Benzo(a)pyrene	40	<0.5 – 53	2 of 51 primary results
	Intrusive Maintenance Worker	Concentrations of CoPC were reported below the adopted assessment criteria.			
Human Health Criteria – Vapour Intrusion [2]	Residential HSLs A and B [1]	TRH >C6-C10 (minus BTEX) (F1)	11.5 (0 – 1m) 19.1 (1 – 2m) 32.4 (2 – 4m) 61.2 (>4m)	<50 – 330	1 of 51 primary results
		TRH >C10-C16 (minus Naphthalene) (F2)	25 (0 – 1m) 55.3 (1 – 2m) 106 (2 – 4m) 211 (>4m)	<50 – 8,400	15 of 51 primary results
		Benzene	0.5	<0.1 – 38	2 of 51 primary results
		Total Xylenes	40 (0 – 1m) 60 (1 – 2m) 95 (2 – 4m) 170 (>4m)	<0.1 – 210	1 of 51 primary results
		Naphthalene	3 (0 – 1m) 9 (1 – 2m) 20 (2 – 4m) 40 (>4m)	<0.5 – 1,900	3 of 51 primary samples

PEV		CoPC	Criteria (mg/kg)	Range of Reported Concentrations (mg/kg)	Number of Exceedances
	Recreational/ Open Space HSL C	Concentrations of CoPC were reported below the adopted assessment criteria.			
	Commercial / Industrial HSL D	TRH >C6-C10 (minus BTEX) (F1)	66.6 (0 -1m) 97.5 (1 - 2m) 177 (2 – 4m) 359 (>4m)	<50 – 330	1 of 55 analytical results
		TRH >C10-C16 (minus Naphthalene) (F2)	137 (0 – 1m) 261 (1 – 2m) 573 (2 – 4m) 1,240 (>4m)	<50 – 8,400	9 of 55 analytical results
		Benzene	3	<0.1 – 38	1 of 51 primary results
		Naphthalene	10 (0 – 1m) 40 (1 – 2m) 100 (2 – 4m) 230 (>4m)	<0.5 – 1,900	3 of 51 primary samples
	Intrusive Maintenance Worker	Concentrations of CoPC were reported below the adopted assessment criteria.			
Ecological Criteria [3]	Modified Ecosystems	Copper	60	<5 – 180	21 of 51 primary results
		Nickel	30	<2 – 100	11 of 51 primary results
		Zinc	70	9.1 – 990	23 of 51 primary results
		TRH >C10-C16 fraction	120	<50 – 9,400	13 of 51 primary results
		TRH >C16-C34 fraction	300	<100 – 21,000	17 of 51 primary results
		TRH >C34-C40 fraction	2,800	<50 – 36,300	1 of 51 primary results
		Total Xylenes	45	<0.3 – 210	2 of 51 primary results
		Naphthalene	170	<0.5 – 1,900	2 of 51 primary results
		Benzo(a)pyrene	0.7	<0.5 – 53	11 of 51 primary results

PEV		CoPC	Criteria (mg/kg)	Range of Reported Concentrations (mg/kg)	Number of Exceedances
	Highly Modified Ecosystems	Copper	85	<5 – 180	6 of 51 primary results
		Nickel	55	<2 – 100	1 of 51 primary results
		Zinc	110	9.1 – 990	18 of 51 primary results
		TRH >C10-C16 fraction	170	<50 – 9,400	12 of 51 primary results
		TRH >C16-C34 fraction	1,700	<100 – 21,000	4 of 51 primary results
		TRH >C34-C40 fraction	3,300	<50 – 36,300	1 of 51 primary results
		Total Xylenes	95	<0.3 – 210	1 of 51 primary results
		Naphthalene	370	<0.5 – 1,900	2 of 51 primary results
		Benzo(a)pyrene	1.4	<0.5 – 53	5 of 51 primary results
Other Criteria	Buildings and Structures	This PEV has been assessed based on groundwater data screening for this PEV (refer to **Section 7.2.2**) and the pH field screening undertaken as part of the PASS assessment (discussed herein). Analysis of sulfate or chloride was not undertaken in these samples as part of the investigation scope. Field pH (pH_F) measured in 61 soil samples collected above the water table from 10 soil bores located within the future building footprints ranged between 7.4 and 9.5 (i.e. neutral to strongly alkaline). A total of 57 of these 61 samples reported a field pH (pH_F) of 8.0 or greater, which is outside the range typically considered suitable for building and structures (pH 5.5 to 8.0).			
	Aesthetics	Anthropogenic materials including brick, concrete, metal, ceramic, wood, slag and glass fragments.	Noted at 31 of 45 drilling locations (refer to **Section 6.1.2**).		
		Olfactory	A hydrocarbon odour was noted at 14 of 45 drilling locations (refer to **Table 14**).		
		Visual	Either green staining, LNAPL sheen, and/or black tar residue was noted at seven of 45 drilling locations (refer to **Table 14**).		
	Traditional Owner Cultural Values	Assessment of PEVs related to ecosystem protection, recreational use and aesthetics are considered to provide an initial screening for this PEV, noting that other considerations beyond CoPC concentrations may apply for this PEV. Aboriginal heritage areas have been identified within the Site boundary.			

Notes: *[1] Low-Density Residential use is not planned for the Macquarie Point, however, soil results have been compared to Low-Density Residential criteria (in addition to other relevant PEVs) for completeness; [2] Vapour intrusion screening criteria are variable with the depth of the sample and are detailed in* ***Table T5c*** *(****Appendix B****); [3] Terrestrial ecological receptors are not present at the Site, however, soil results have been compared to ecosystems criteria for completeness; mg/kg – milligrams/kilogram.*

On the basis of the Tier 1 assessment of soil samples collected during this assessment, the following is noted:

- Concentrations of CoPC, namely; PAHs, TRH, total xylenes, naphthalene, and metals (chromium, copper, lead, nickel and zinc) were reported in soil above the adopted criteria for the following PEVs:
  - Maintenance of Modified and Highly Modified Ecosystems
  - Residential (Low Density and Medium/High Density)
  - Recreation/ Open Space
  - Commercial/ Industrial
- Concentrations of naphthalene, benzene, total xylenes, TRH >C_{10}-C_{16} minus naphthalene (F2) and TRH C_6-C_{10} less BTEX (F1) were reported above the adopted vapour intrusion criteria for Residential and Commercial/ Industrial uses.
- Impacts identified in soils are considered to be associated with a combination of:
  - The presence of gasworks wastes (slag/ coal/ coke/ ash);
  - The importation of impacted fill placed during land reclamation; and
  - Point source contamination from fuel handling and storage activities undertaken within, and adjacent to, the Site (e.g. spills).
- Concentrations of CoPC were reported below the Tier 1 assessment criteria for Intrusive Maintenance Workers.
- The presence of aesthetic impacts including anthropogenic materials, hydrocarbon odours, and staining/LNAPL/tar residues precludes the PEV of Aesthetics.

The SEMP documents mitigations to prevent contact with soil and reduce risks associated with detected Tier 1 exceedances and aesthetic impacts. Potential health risks to future Site users are further assessed via the Site derived RC, discussed in **Section 7.3**. The SEMP also includes maintenance of surface barriers to prevent contact with Site soil, and if these controls are applied and maintained, no exposure pathway from soil impact to ecological receptors (on- or off-Site) is considered to have the potential to be complete.

7.2.2 Groundwater

The analytical results for groundwater samples collected and analysed as part of the investigation were compared to the adopted Tier 1 assessment criteria are presented in **Tables T6a – T6e** (**Appendix B**).

A summary of the groundwater analytical results which exceeded the adopted Tier 1 assessment criteria is presented in **Table 21** below. **Figures F5a – F5c** (**Appendix A**) show locations with CoPC above Tier 1 assessment criteria in groundwater samples.

Table 21 Groundwater - Summary of Exceedances of Tier 1 Assessment Criteria

PEV		CoPC	Criteria (µg/L)[6]	Range of Reported Concentrations[6]	Number of Exceedances[5]
Human Health Criteria – Drinking Water [1]	Health	Cadmium (Filtered)	0.002 mg/L	<0.0001 – 0.012 mg/L	1 of 55 primary results
		Manganese (filtered)	0.5 mg/L	<0.001 – 4 mg/L	33 of 55 primary results
		Cyanide Total	80	<4 – 1,500	11 of 55 primary results
		Nitrate (as N)	11.2 mg/L	<0.02 – 70 mg/L	2 of 55 primary results
		Benzene	1	<1 – 650	6 of 55 primary results
		Ethylbenzene	300	<1 – 390	1 of 55 primary results
		o-Xylene	190	<1 – 280	1 of 55 primary results
		Naphthalene	0.17	<1 – 490	9 of 55 primary results [3]
		Sum of PAHs	0.01	<1 – 560	21 of 55 primary results
		2-Methylphenol (o-Cresol)	930	<1 – 1,700	1 of 55 primary results
		Total Cresols	1,500	<10 – 2,200	1 of 55 primary results
		2,4-Dimethylphenol	360	<1 – 1,100	1 of 55 primary results
		Perfluorooctane sulfonic acid (PFOS)	0.008	<0.001 – 0.3	6 of 10 primary results
		Sum (PFHxS + PFOS)	0.07	0.001 – 0.31	1 of 10 primary results
		Sulfate as SO_4	500 mg/L	<5 – 2,100 mg/L	2 of 55 primary results
	Aesthetics	Total Dissolved Solids	600 mg/L	170 – 28,000 mg/L	45 of 55 primary results
		Toluene	25	<1 – 59	3 of 55 primary results
		Ethylbenzene	3	<1 – 390	2 of 55 primary results
		Total Xylenes	20	<2 – 43	2 of 55 primary results
		Manganese	0.1 mg/L	<0.001 – 4 mg/L	44 of 55 primary results
		Nitrate (as N)	10 mg/L	<0.02 – 70 mg/L	2 of 55 primary results

PEV		CoPC	Criteria (µg/L)[6]	Range of Reported Concentrations[6]	Number of Exceedances[5]
		Chloride	250 mg/L	8.9 – 14,000 mg/L	13 of 55 primary results
		Sodium	180 mg/L	12 – 7,400 mg/L	20 of 55 primary results
		Sulfate as SO_4	250 mg/L	<5 – 2,100 mg/L	8 of 55 primary results
Human Health Criteria – Recreation [1]	Primary [1] and Secondary Contact	Benzene	10	<0.1 – 650	4 of 55 primary results
		Naphthalene	1.7	<1 – 490	9 of 55 primary results
		Sum of PAHs	0.1	<1 – 560	21 of 55 primary results
		Perfluorooctane sulfonic acid (PFOS)	0.08	<0.001 – 0.3	1 of 55 primary results
		Cyanide Total	800	<4 – 1,500	1 of 55 primary results
Human Health Criteria – Vapour Intrusion	Residential HSLs A and B [2]	TRH >C6-C10 (minus BTEX) (F1)	640	<20 – 750	1 of 55 primary results
		TRH >C10-C16 (minus Naphthalene) (F2)	760	<50 – 7,250	3 of 55 primary results
	Recreation / Open Space HSL C	Concentrations of CoPC were reported below the adopted assessment criteria.			
	Commercial / Industrial HSL D	TRH >C10-C16 (minus Naphthalene) (F2)	4,800	<50 – 7,250	1 of 55 primary results
	Intrusive Maintenance Workers	Concentrations of CoPC were reported below the adopted assessment criteria.			
	All uses (potentially explosive vapour intrusion)	Methane	1,600	<50 – 24,000	20 of 55 primary results
Ecological Criteria	Ecosystem Protection (90%)	TRH >C10-C40 fraction (sum)	600	<100 – 9,500	7 of 55 primary results
		TPH >C10-C36 fraction (sum)	600	<50 – 11,400	6 of 55 primary results
		Ethylbenzene	5	<1 – 390	2 of 55 primary results

PEV		CoPC	Criteria (µg/L)[6]	Range of Reported Concentrations[6]	Number of Exceedances[5]
		Total Xylenes	19	<2 – 43	2 of 55 primary results
		Naphthalene	90	<1 – 490	2 of 55 primary results
		Anthracene	0.01	<1 – 15	8 of 55 primary results [3]
		Phenanthrene	0.6	<1 – 29.4	11 of 55 primary results [3]
		Fluoranthene	1	<1 – 5	9 of 55 primary results
		Phenol	520	<1 – 600	1 of 55 primary results
		2-Methylphenol (o-Cresol)	1,020	<1 – 1,700	1 of 55 primary results
		2,4-Dimethylphenol	2	<1 – 1,100	2 of 55 primary results
		Perfluorooctane sulfonic acid (PFOS)	0.13 [4]	<0.001 – 0.3	1 of 10 primary results
		Copper (Filtered)	0.003 mg/L	<0.001 – 0.036 mg/L	12 of 55 primary results
		Manganese (Filtered)	0.08 mg/L	<0.001 – 4 mg/L	46 of 55 primary results
		Zinc (Filtered)	0.023 mg/L	<0.005 – 0.38 mg/L	5 of 55 primary results
		Cyanide (Free)	0.007 mg/L	<0.004 – 0.031 mg/L	3 of 55 primary samples
		Ammonia (as N)	1.2 mg/L	<0.01 – 46 mg/L	27 of 55 primary results
Primary Industries Criteria [1]	Irrigation	Concentrations of CoPC were reported below the adopted assessment criteria.			
	Stock Watering	Cadmium (Filtered)	0.01 mg/L	<0.0001 – 0.012 mg/L	1 of 55 primary results
		Sulfate as SO_4	2,000 mg/L	<5 – 2,100 mg/L	1 of 55 primary results
		Perfluorooctane sulfonic acid (PFOS)	0.07	<0.001 – 0.3	1 of 55 primary results
		Sum (PFHxS + PFOS)	0.07	0.001 – 0.31	1 of 55 primary results
Other Criteria	Buildings and Structures	Chloride	6,000 mg/L	8.9 – 14,000 mg/L	3 of 55 primary results
		Sulfate as SO_4	1,000 mg/L	<5 – 2,100 mg/L	1 of 55 primary results

PEV		CoPC	Criteria (µg/L)[6]	Range of Reported Concentrations[6]	Number of Exceedances[5]
	Aesthetics	A hydrocarbon odour and/or measurable LNAPL / LNAPL sheen was noted in 11 groundwater monitoring wells (refer to **Section 6.3.4**).			
	Traditional Owner Cultural Values	Assessment of PEVs related to ecosystem protection, recreational use and aesthetics are considered to be applicable to this PEV, noting that other considerations beyond CoPC concentrations may apply. Aboriginal heritage areas have been identified within Regatta Point.			
	NAPL solubility limits	Naphthalene	170	<5 – 350	2 of 55 primary results

***Notes**: [1] Although the PEVs of Drinking Water (Health and Aesthetic), Primary Recreation Contact, Irrigation and Stock Watering are considered unlikely to be realised, they have been assessed for completeness; [2] Low-Density Residential use is not planned for the Macquarie Point development area, however, groundwater results have been compared to Low-Density Residential criteria for completeness, noting the CRC CARE (2011) Residential HSLs A and B for vapour intrusion apply to both Low- and High-Density Residential use scenarios. [3] It is noted that the adopted criteria is below the laboratory LOR, therefore exceedances are reported as detectable concentrations above the LOR. [4] PFAS NEMP 3.0 (2025) Interim Marine 95% Species Protection adopted to account for bioaccumulation potential. [5] Filtered and unfiltered groundwater samples collected from the same location at the same time have been considered as only one primary result. [6] All concentrations reported in µg/L unless otherwise stated.*

On the basis of the Tier 1 assessment of groundwater samples collected during this assessment, the following is noted:

- Concentrations of CoPC, namely; PAHs, TRH, BTEXN, total xylenes, naphthalene, and metals (cadmium, copper, manganese, zinc), cyanide, nitrate as N, o-cresol, total cresols, 2,4-dimethylphenol, PFOS, Sum (PFHxS+PFOS), and Sulfate as SO_4 were reported in groundwater above the adopted criteria for the following PEVs:
  - Drinking Water and Aesthetics
  - Recreation (Primary and Secondary Contact)
  - Stock Watering
  - Buildings and Structures
- Concentrations of TRH >C_{10}-C_{16} minus naphthalene (F2) and TRH C_6-C_{10} less BTEX (F1) were reported above the adopted vapour intrusion criteria for Residential and Commercial/ Industrial use. On-Site exceedances of the residential use criteria did not occur in or near areas where residential use is proposed (Regatta Point), however:
  - Exceedances of the Commercial/Industrial vapour intrusion criteria for TRH >C10-C16 (minus naphthalene) in MW197 is further assessed via the RC.
  - Exceedance of the Residential vapour intrusion criteria were reported for TRH >C10-C16 (minus naphthalene) in MW130_GHD, located off-Site and down-gradient on Evans Street towards residential apartments. Historic sampling of this well has reported exceedances of this criteria, however speciation of results has not reported any exceedance of criteria for aromatic or aliphatic congener ranges, and this detection is not considered to indicate a risk to off-Site users on this basis.

- Concentrations of methane in groundwater were detected above the adopted criteria across the central, southern and eastern portions of the Site, and are considered to correlate with locations where saturated natural soil has been buried by land reclamation. While the adopted criteria conservatively assess risk by assuming all dissolved methane may volatilise, the detected methane in soil vapour (discussed in **Section 7.2.3**) corroborates that methane generation may represent a risk to future development. Methane has not been detected in groundwater in the Escarpment, Audit Area 4 East, or Regatta Point, or in any locations upgradient of these areas, and is not considered required unless building or structures with footprints which extend to other parts of these Sites are constructed in these areas.
- The presence of LNAPL, sheen, and odours are considered to preclude Aesthetic PEVs. It is noted that the concentration of naphthalene in MW197, on the southern boundary of the Gateway, and MW130_GHD, located off-Site along Evans Street, exceeded the ASC NEPM solubility limits for LNAPL. No NAPL (LNAPL or DNAPL) was detected in this well when gauging, and MW130_GHD is hydraulically down-gradient of the former gasworks area of the Site, which is considered the likely source of impacts in this well. As such, the pure substance solubility limits from CRC CARE (2011) are considered more appropriate than the ASC NEPM solubility limits, which are derived for fuel hydrocarbon mixtures, for assessment of the presence or absence of NAPL in this well. The detected concentration of naphthalene was below the pure solubility limit, and it is not considered that NAPL is likely to be present in this well.
- Impacts identified in groundwater are considered to be associated with a combination of:
  - Historic industrial activities.
  - The importation of impacted fill placed during land reclamation; and
  - Point source contamination from fuel handling and storage activities undertaken within, and adjacent to, the Site (e.g. spills).
- Concentrations of CoPC were reported below the Tier 1 assessment criteria for Intrusive Maintenance Workers.
- The concentrations of CoPC and potentially precluded PEVs are generally consistent with the previous Site-wide GMEs conducted in August and November 2019 (AECOM, 2020b). PFAS was not considered in the AECOM, 2020b assessment, however reported concentrations from the June 2025 investigation were consistent with previous groundwater assessments conducted between 2015 and 2017 (AECOM, 2016a, 2016c, 2016d and 2018).

The SEMP documents mitigations to prevent extraction of groundwater and reduce risks associated with these exceedances. Potential health risks to future Site users or off-Site users are further assessed via the Site derived RC, discussed in **Section 7.3**.

Risks to off-Site ecological receptors from contaminants in groundwater emanating from the Site have been assessed in AECOM (2020a) and updated in AECOM (2025g), which concluded based on a weight of evidence approach that unacceptable risks were not likely to be present.

7.2.3 Soil Vapour

The analytical results for soil vapour samples collected and analysed as part of the investigation were compared to the adopted Tier 1 assessment criteria as presented in **Table T7a** (**Appendix B**). A summary of the groundwater analytical results which exceeded the adopted Tier 1 assessment criteria is presented in **Table 22** below. **Figure F6** (**Appendix A**) shows locations with CoPC above Tier 1 assessment criteria in soil vapour samples.

Table 22 Soil Vapour - Summary of Exceedances of Tier 1 Assessment Criteria

PEV		CoPC	Criteria (µg/m^3)	Range of Reported Concentrations (µg/m^3)	Number of Exceedances
Human Health Criteria	HSL A/B Residential (Sand) [1]	Benzene	995 (0 – 1m) 2,900 (1 – 2m)	<2.3 – 290,000	2 of 19 primary results
		Naphthalene	778 (0 – 1m) 2,970 (1 – 2m)	<9.9 – 44,000	3 of 19 primary results
		TPH >C8-C10 Aromatic Fraction	46,400 (0 – 1m) 157,000 (1 – 2m)	<94 – 250,000 mg/m^3	1 of 19 primary results
	HSL C Recreational / Open Space (Sand) [1]	Concentrations of CoPC were reported below the adopted assessment criteria.			
	HSL D Commercial / Industrial (Sand) [1]	Benzene	3,720 (0 – 1m) 12,300 (1 – 2m)	<2.3 – 290,000	2 of 19 primary results
		Naphthalene	2,940 (0 – 1m) 12,800 (1 – 2m)	<9.9 – 44,000	1 of 19 primary results
		TPH >C8-C10 Aromatic Fraction	174,000 (0 – 1m) 674,000 (1 – 2m)	<94 – 250,000 mg/m^3	1 of 19 primary results
	Intrusive Maintenance Worker	Concentrations of CoPC were reported below the adopted assessment criteria.			
Action Levels for Subsurface Methane near foundations		Methane	1.25 % v/v	<0.01 – 75.2% v/v	11 of 19 primary results

***Notes**: [1] Fill material at the Site consists of gravels, cobbles and sand, and as such, sand has been conservatively selected as the predominant material type.[2] All units are in µg/m^3 unless otherwise stated throughout the table.*

On the basis of the Tier 1 assessment of soil vapour samples collected during this assessment, the following is noted:

- Concentrations of CoPC, namely; benzene, naphthalene and TRH >C8-C10 aromatic fraction were reported in soil vapour in SV41 and SV43 above the adopted criteria for Residential, Commercial/Industrial, and Intrusive Maintenance Worker uses. Both these soil vapour bores are located in the former gasworks area of the Site (the Gateway), and gasworks wastes in soil or groundwater are inferred to be the source of the exceedances. As not RC have been derived for soil vapour, the exceedance of adopted criteria for Commercial/Industrial uses are considered to indicate that mitigation to prevent vapour intrusion in any future structures which will over these locations is required.

It is noted that SV44, located immediately adjacent to solidified gasworks waste Tar Plume B, could not be sampled due to water within the soil vapour bore. As a conservative measure, it should be assumed that the exceedances reported in other gasworks locations (i.e., SV41 and SV43) be applied to this location as well.

- Methane in soil vapour represents a hazard to future buildings and structures across the Site, and vapour mitigation measures to prevent methane intrusion and explosion hazard (via accumulation in underground spaces) will be required to be documented in the SEMP for future development.
- Results of soil vapour assessment, including detected COPC and concentrations, are generally consistent with previous assessments (AECOM, 2021c).
- The proposed development of the Site includes large continuous structures, such as the Multipurpose Stadium and Associated Concourse, which cover and extend from areas where methane or other potentially hazardous vapours have been detected. The potential exists for vapour to migrate along the base of any such large structures and preferential pathways created by underground services, and as such any requirement for vapour protection must extend to the entirety of any structure which covers areas of potential vapour intrusion.

7.2.3.1 Margin of Safety

Margin of Safety (MOS) is identified in CRC CARE, 2013 as a method to assess a suitable number of soil gas monitoring rounds that is required based on the soil gas concentration relative to the relevant screening level guideline.

7.2.3.1.1 Calculated MOS

MOS is calculated using the methods shown on **Plate 2** (refer to **Section 3.1.2**), while **Plate 3** (refer to **Section 3.1.2**) shows the suggested monitoring frequency based on the calculated MOS.

Calculated MOS for all soil vapour, sub-slab and ambient air samples collected at the Site as part of the investigation are attached as **Table T7b** (**Appendix B**).

A summary of the sample locations where the calculated MOS was less than 10 is provided in **Table 23** below. All other calculated MOS were greater than 10.

The required and actual numbers of monitoring rounds, based on MOS, are discussed in **Section 7.2.3.1.2**.

Table 23 Summary of Margin of Safety (MOS) Outcomes

Sample Location	Date	Sample Depth (m bgl)	Analyte	MOS	No. of Sampling Rounds[1]
HSL A/B – Residential					
SV18	24-Jun-25	2.1	Naphthalene	1.9	2-3
SV35	20-Jun-25	2.5	Aliphatic >C_8-C_{10}	7.6	2-3
SV41	25-Jun-25	1	**Benzene**	**0.01**	**Risk Mitigation**
			Naphthalene	**0.1**	**3-4**
			Aliphatic >C_8-C_{10}	4.9	2-3
			Aromatic >C_8-C_{10}	**0.6**	**3-4**
			Aromatic >C_{10}-C_{12}	4.3	3-4
SV43	27-Jun-25	1.85	**Benzene**	**0.04**	**Risk Mitigation**
			Naphthalene	**0.5**	**3-4**
			Aromatic >C_8-C_{10}	4.8	2-3
HSL C – Recreational / Open Space					
SV41	25-Jun-25	1	Benzene	8.2	2-3
HSL D – Commercial / Industrial					
SV41	25-Jun-25	1	**Benzene**	**0.04**	**Risk Mitigation**
			Naphthalene	**0.3**	**3-4**
			Aromatic >C_8-C_{10}	2.7	2-3
SV43	25-Jun-25	1.85	**Benzene**	**0.2**	**3-4**
			Naphthalene	2.0	2-3
HSL – Intrusive Maintenance Worker					
SV41	25-Jun-25	1	Benzene	2.6	2-3
SV43	27-Jun-25	1.85	Benzene	9.9	2-3
			Benzene	9.9	2-3

Sample Location	Date	Sample Depth (m bgl)	Analyte	MOS	No. of Sampling Rounds[1]
Action Levels Subsurface – Near Foundation					
SV07	23-Jun-25	1	Methane	0.2	3-4
SV18	24-Jun-25	2.1	Methane	0.05	Risk Mitigation
SV25	23-Jun-25	1.6	Methane	0.04	Risk Mitigation
SV31	17-Jun-25	2.5	Methane	0.34	3-4
SV32	18-Jun-25	2.5	Methane	0.12	3-4
SV33	18-Jun-25	2.5	Methane	0.24	3-4
SV34	24-Jun-25	2.5	Methane	0.02	Risk Mitigation
SV35	20-Jun-25	2.5	Methane	0.23	3-4
SV36	18-Jun-25	2.5	Methane	0.54	3-4
SV38	24-Jun-25	0.2	Methane	0.56	3-4
SV46	23-Jun-25	1.45	Methane	0.20	3-4

Notes: *1. Number of sampling rounds required by CRC CARE, 2013. Grey shading with bold text indicates exceedance of adopted assessment criteria.*

7.2.3.1.2 Further Sampling Frequency and Risk Mitigation Requirements

It noted that the soil vapour sampling events detailed in the following reports have occurred at the Site:

- Round 1 – August 2018, documented in AECOM report *Audit Area 3 (SeaRoad Shed) – Soil Vapour and Indoor Air Investigation, 29 March 2019* (AECOM, 2019b).
- Rounds 2 & 3 – August & November 2019, documented AECOM report *Soil Vapour and Indoor Air Investigations 2019, Macquarie Point Development Project, 22 October 2020* (AECOM, 2021c).
- Round 4 – June 2025, as detailed in this report.

Sampling events have been conducted across a range of seasons are generally considered suitable to account for seasonal variation, noting that soil vapour in the former gasworks area (the Gateway) has only been directly sampled in winter.

It is therefore proposed that no further soil vapour sampling be conducted at the Site. The presence and concentrations of methane in soil vapour, and in groundwater as discussed in **Section 7.2.2**, are considered to indicate that risk mitigation is required as part of the future development of the Site and that, while further soil vapour sampling may refine understanding of soil vapour, it will not affect the overall mitigation and management requirements.

In addition, while soil vapour monitoring in summer has not been undertaken in new soil vapour bores installed in June 2025 (consisting of SV31 to SV46), additional monitoring to capture seasonal variation is not proposed as:

- SV31 to SV38, and SV46, were installed to replace lost or destroyed soil vapour bores which were sampled over a range of seasons. As such, further sampling is not considered required at these locations.
- SV39 to SV45, installed in the former gasworks area in the Gateway, have only been sampled in winter (June 2025). Increased vapour concentrations may be present with elevated temperature or any fluctuation in groundwater level, which can expose soil contamination to air, in summer months, and as such any future vapour mitigations for this area will:

- Conservatively allow for any exceedance of adopted criteria to be applied to the area as a whole.
- If concentrations are required as part of the assessment of the effectiveness of a mitigation measure (i.e., a selective permeable barrier or similar), a safety margin of 2x should be applied to reported concentrations to allow for any variation with seasons.
- MOS assessment identified that further sampling rounds would be required to determine the reliability of results for benzene in this area for intrusive maintenance workers. If further monitoring is not conducted, air monitoring for benzene should be included as a requirement for intrusive works in this area.

7.3 Site Derived Remediation Criteria

Soil and groundwater analytical results have been compared to Site derived RC to inform potential remediation and/or management works required at the Site for the protection of human health as described in **Section 3.3**.

7.3.1 Soil

The analytical results for soil samples collected and analysed as part of the investigation were compared to the Site Derived RC for soil as presented in **Table T5d** (**Appendix B**). A summary of the soil analytical results which exceeded the Site Derived RC are presented **Table 24** below**. Figure F4d** (**Appendix A**) shows the locations where CoPC were reported above the Site Derived RC in soil samples.

Table 24 Soil - Summary of Exceedances of Site Derived Remediation Criteria

Future Use	CoPC	Criteria (mg/kg)	Range of Reported Concentrations (mg/kg)	Number of Exceedances
Potential Future Commercial Light Industrial Workers (low-rise slab-on-grade)	Benzene	3	<0.1 – 38	1 of 51 primary results
	Naphthalene	160	<0.5 – 1,900	2 of 51 primary results
Potential Future Comm/Light Ind Workers (working within a basement)	>C6-C10 (minus BTEX) (F1)	130	<10 – 330	1 of 51 primary results
	>C10-C16 (minus Naphthalene) (F2)	770	<50 – 8,400	4 of 51 primary results
	Benzene	3	<0.1 – 38	1 of 51 primary results
	Naphthalene	97	<0.5 – 1,900	2 of 51 primary results
Potential Future Commercial (unknown construction or multi-storey building)	>C6-C10 (minus BTEX) (F1)	66.6 (0-1m) 97.5 (1-2m) 177 (2-4m) 359 (>4m)	<10 – 330	1 of 51 primary results
	>C10-C16 (minus Naphthalene) (F2)	137 (0-1m) 261 (1-2m) 573 (2-4m) 1,240 (>4m)	<50 – 8,400	9 of 51 primary results
	Benzene	3	<0.1 – 38	1 of 51 primary results
	Naphthalene	10 (0-1m) 40 (1-2m) 100 (2-4m) 230 (>4m)	<0.5 – 1,900	3 of 51 primary results
Potential Future Maintenance Workers	Concentrations of CoPC were reported below the adopted assessment criteria.			
Potential Future Recreational Open Space Users	Concentrations of CoPC were reported below the adopted assessment criteria.			

Future Use	CoPC	Criteria (mg/kg)	Range of Reported Concentrations (mg/kg)	Number of Exceedances
Potential Future Residents (unknown construction or multi-storey building)	>C6-C10 (minus BTEX) (F1)	11.5 (0-1m) 19.1 (1-2m) 32.4 (2-4m) 61.2 (>4m)	<10 – 330	1 of 51 primary results
	>C10-C16 (minus Naphthalene) (F2)	25 (0-1m) 55.3 (1-2m) 106 (2-4m) 211 (>4m)	<50 – 8,400	15 of 51 primary results
	Benzene	0.5	<0.1 – 38	2 of 51 primary results
	Total Xylenes	40 (0-1m) 60 (1-2m) 95 (2-4m) 170 (>4m)	<0.3 – 210	1 of 51 primary results
	Naphthalene	3 (0-1m) 9 (1-2m) 20 (2-4m) 40 (>4m)	<0.5 – 1,900	3 of 51 primary results
Potential Future Residents (low rise slab-on-grade)	>C6-C10 (minus BTEX) (F1)	27	<10 – 330	1 of 51 primary results
	>C10-C16 (minus Naphthalene) (F2)	130	<50 – 8,400	13 of 51 primary results
	Benzene	0.5	<0.1 – 38	2 of 51 primary results
	Total Xylenes	67	<0.3 – 210	2 of 51 primary results
	Naphthalene	13	<0.5 – 1,900	3 of 51 primary results
Potential Future Residents (building with a basement car park)	>C6-C10 (minus BTEX) (F1)	36	<10 – 330	1 of 51 primary results
	>C10-C16 (minus Naphthalene) (F2)	170	<50 – 8,400	12 of 51 primary results
	Benzene	0.5	<0.1 – 38	2 of 51 primary results
	Total Xylenes	93	<0.3 – 210	1 of 51 primary results
	Naphthalene	20	<0.5 – 1,900	3 of 51 primary results

The following is noted with regards to exceedances of the RC in soil:

- Residential use is not proposed for any of the areas where soil samples were collected as part of this assessment, and exceedance of the Residential use RC are not considered to indicate any requirements for remediation.
- Exceedances of the Commercial/Industrial RC were detected for benzene, naphthalene, TRH >C6-C10 (minus BTEX) and TRH >C10-C16 (minus naphthalene). The RC for these CoPC have been adopted to be protective of potential vapour generated from soil, and are assessed as follows:
  - TRH >C10-C16 (minus naphthalene) exceedances were reported in soil from MW183, MW184, MW185 and SV32, located in the vicinity of known or former LNAPL at the Site (discussed in **Section 7.5**). Direct sampling of soil vapour conducted as part of this event (**Section 6.3**) in SV31 (adjacent to MW183) and SV32 (adjacent to MW185) did not report any concentrations indicating potential risks to commercial/industrial uses, which was consistent with historic soil vapour assessment in this area (AECOM, 2021c), and no further remediation or mitigations are considered required.
  - TRH >C6-C10 (minus BTEX), TRH >C10-C16 (minus naphthalene), benzene, and/or naphthalene exceedances were reported in soil from MW196, MW198, SV43, and SV44, located in the former gasworks area of the Site (the Gateway). No potentially hazardous vapours were detected during direct sampling of soil vapour from SV45, located immediately adjacent to MW198 (**Section 6.3**), and it is not considered that the soil results at MW198 indicate a risk to future development or any requirement for remediation or mitigations.

    Direct soil vapour samples from SV43 (which is in the vicinity of MW196) detected concentrations of benzene and naphthalene above adopted criteria, however, and soil vapour could not be sampled from SV44 due to water in the line. As protection and mitigation of vapour intrusion is considered required for any future development of the Site due to other impacts (methane), it is considered that this protection should also be designed and installed to address potential BTEXN and TRH intrusion.
- No exceedances of RC for open space land use, or for future intrusive maintenance workers, was detected in any soil samples collected.

7.3.2 Groundwater

The analytical results for groundwater samples collected and analysed as part of the investigation were compared to the Site Derived RC for groundwater are presented in **Table T6d** (**Appendix B**).

No exceedances of the Site derived RC were detected in groundwater during sampling in June 2025, and no requirement for groundwater remediation is considered identified as a result.

7.4 Acid Sulfate Soil

The results of ASS sampling, based on the TASSMG guidance discussed in **Section 3.4**, of pH field screen tests conducted on 81 soil samples, collected in June 2025 adjacent to and surrounding previous ASS investigation bores ABH-004 and BH-004, are presented on **Table T8** in the **Tables** section.

These results has been further assessed, and interpreted in the context of PASS at the Site as a whole, in the latest version of the *Acid Sulfate Soil Investigation* (AECOM, 2025h).

7.5 LNAPL Presence and Mobility

7.5.1 LNAPL Presence

As mentioned earlier in field observations **Section 6.2.4**, measurable LNAPL was observed in LNAPL Plume B wells MW03, PW02, and S8. It is noted that measurable LNAPL (5 mm) was briefly observed in MW185 prior to development, however only a sheen was noted in this well throughout the remainder of the June 2025 investigation.

Groundwater wells and soil vapour wells delineating and/or assessing LNAPL and former LNAPL plumes are listed on **Table 25** and **Table 26** below, with a summary of LNAPL observations and sampling status at each location

Table 25 LNAPL Plume Groundwater Assessment Wells

Well ID	Purpose	LNAPL Observations)	Groundwater Sampled?
MW36	Delineate LNAPL Plume A2 to the west	None	Yes
MW146	Delineate LNAPL Plume A2 to the east	None	No
MW155	Delineate Former LNAPL Plume A3 to the east	None	Yes
MW176	Delineate LNAPL Plume A2 to the south-east	None	No
MW177	Delineate LNAPL Plume A1 to the east / Former LNAPL Plume A3 to the north-east	None	No
MW182	Delineate LNAPL Plume A1 to the north-east	None	Yes
MW183	Target LNAPL Plume A1 location	Hydrocarbon odour and green staining in soil. Yellow LNAPL noted in groundwater when the well was developed, and sheen and/or hydrocarbon odour noted during development and sampling.	Yes
MW184	Delineate LNAPL Plume A1 to the south / LNAPL Plume A2 to the north	“Egg” odour noted during development.	Yes
MW185	Target LNAPL Plume A2 location	Hydrocarbon odour in soil and noted during development. Sheen present when sampling attempted.	No
MW186	Delineate LNAPL Plume A2 to the south	Hydrocarbon odour and LNAPL sheen in soil, and noted during development. No odour/sheen during sampling.	Yes
MW187	Target Former LNAPL Plume A3 location	Hydrocarbon odour and sheen during development.	No
MW190	Delineate LNAPL Plume A1 to the north-east	Hydrocarbon odour and green staining in soil.	Yes
MW191	Delineate LNAPL Plume A1 to the west / LNAPL Plume A2 to the north-west	None	Yes
MW6	Delineate LNAPL Plume B to the north	None	Yes
MW03	Intersect LNAPL Plume B	70 mm of LNAPL present during gauging.	No
MW05	Delineate LNAPL Plume B to the south-east	None	No
MW126A	Delineate LNAPL Plume B to the south.	None	Yes
MW154	Delineate LNAPL Plume B to the south.	None	No

Well ID	Purpose	LNAPL Observations)	Groundwater Sampled?
MW16	Delineate LNAPL Plume B to the south	None	Yes
MW188	Delineate LNAPL Plume B to the west	Organic odour and green staining in soil	Yes
MW193	Delineate LNAPL Plume B to the south-west	None	Yes
MW60	Delineate LNAPL Plume B to the south.	None	Yes
PW02	Intersect LNAPL Plume B	42 mm of LNAPL present during gauging	No
S8	Intersect LNAPL Plume B	81 mm of LNAPL present during gauging.	No

Table 26 LNAPL Plume Soil Vapour Assessment Bores

Soil Vapour Bore ID	LNAPL Plume
SV31	LNAPL Plume A1
SV32	LNAPL Plume A2
SV33	Former LNAPL Plume A3
SV07	LNAPL Plume B
SV37	LNAPL Plume B
SV38	North of LNAPL Plume B (previous extent prior to remediation)

The following is noted from observations of LNAPL presence or indicators in the vicinity of the former LNAPL plumes:

- Measurable LNAPL was detected only in groundwater wells MW3 (70 mm), PW02 (42 mm) and S8 (81 mm), each within LNAPL Plume B, when initially gauged on 16 June 2025. When these wells were returned to for LNAPL transmissivity testing on 20 and 26 June, however, detectable thickness had decreased to 20 mm in MW3 and PW03, and 62 mm in S8.
- No measurable LNAPL was detected in wells in the vicinity of LNAPL Plumes A1 or A2, or former LNAPL Plume A3.
- LNAPL sheen and/or hydrocarbon odours were noted on soil during installation of MW186, and hydrocarbon odours and/or staining were noted during installation of MW183, MW185, MW190, and SV31.
- LNAPL sheen was observed in MW185 (targeting LNAPL Plume A2) and MW187 (targeting Former LNAPL Plume A3), and LNAPL was noted in groundwater removed from MW185 during development on 13 June 2025. However, no measurable LNAPL was present in these wells up to three weeks following installation.
- No LNAPL was observed in well MW183, which was targeting the historic location of LNAPL Plume A1, or in the wells installed to delineate the former extent of this LNAPL Plume (MW177, MW182, MW184, MW190 and MW191).
- No soil vapour concentrations of TRH or BTEXN which would indicate a potentially unacceptable risk to future Site uses were detected in soil vapour wells near LNAPL plumes. Methane concentrations in bores was above the adopted criteria, and may be contributed to by degradation of LNAPL.

  However, based on widespread groundwater concentrations of dissolved methane and detections of methane in excess of adopted criteria in locations which are not in the vicinity of LNAPL plumes, it is considered that the anerobic breakdown of other materials in soil, most likely organic matter in

former river- and seabed covered by land reclamation, is the primary source of methane in the Site soil.

7.5.2 LNAPL Transmissivity Testing

Where measurable LNAPL was observed (MW3, PW02 and S8), LNAPL transmissivity testing was conducted as part of this investigation. LNAPL transmissivity testing field data is attached in **Appendix I** and are summarised in **Table 27** below.

Table 27 LNAPL Transmissivity Test Outcomes

Well ID	Initial LNAPL Thickness at Start of Test (mm)	Volume LNAPL Removed (mL)	LNAPL Thickness Rebound % after 24 hours	Calculated LNAPL Transmissivity (m^2/day) [1]	Inferred Mobility Based on Rebound after 24 Hours
MW3	20	50	0%	N/A	Unlikely to be mobile
PW02	20	85	100%	N/A	Potential to be mobile
S8	62	250	<32% [2]	N/A	Unlikely to be mobile

***Notes**: 1. Although LNAPL thicknesses were insufficient to conduct LNAPL transmissivity testing with reasonable confidence (<0.15m), transmissivity rate calculations were attempted for indicative purposes. 2. LNAPL thickness was not able to be measured 24 hours from test commencement due to Site closure, however the final LNAPL thickness was measured 6 days later. This thickness was 32% of the initial thickness, therefore it is inferred that LNAPL thickness at 24 hours was less than 32%. N/A: LNAPL recovery was too low over the first 24 hours to calculate an LNAPL transmissivity value using the API (2012) transmissivity workbook.*

To provide additional assessment of potential LNAPL inflow from the aquifer, the volume of LNAPL in each well prior to removal was calculated using the following equations:

$$V_{Well} = \frac{T_{LNAPL}}{1000} \times \pi \left(\frac{d_{well}}{2}\right)^2$$

Equation 1 LNAPL in Well

$$V_{Bore} = \frac{T_{LNAPL}}{1000} \times \pi S_y \left(\left(\frac{d_{bore}}{2}\right)^2 - \left(\frac{d_{well}}{2}\right)^2\right)$$

Equation 2 LNAPL in Bore

$$V_{LNAPL} = \frac{T_{LNAPL}}{1000} \times \pi \left(\left(\frac{d_{well}}{2}\right)^2 + S_y \left(\left(\frac{d_{bore}}{2}\right)^2 - \left(\frac{d_{well}}{2}\right)^2\right)\right)$$

Equation 3 LNAPL in Well and in Bore

Where:

V_{Well} Volume of LNAPL in the well (L)

V_{Bore} Volume of LNAPL in bedding sand in the bore around the well casing (L)

V_{LNAPL} Volume of LNAPL in the well and bedding sand (L)

T_{LNAPL} Initial thickness of LNAPL in the well (prior to removal) (m)

d_{well} Diameter of the well (m)

d_{bore} Diameter of the bore the well was installed in (m)

S_y Specific yield of LNAPL the material in the bore surrounding the well casing (dimensionless). A value of 0.175 was assumed for bedding sand (API, 2012).

Table 28, below, presents the volume removed and calculated volume present prior to transmissivity testing for each bore.

Table 28 LNAPL Removed vs Initial LNAPL Present

Well	T_{LNAPL} (m)	Diameter (m)		LNAPL Volume (L)			
	D_{well}	D_{well}	D_{bore}	V_{well}	V_{bore}	V_{LNAPL}	Extracted
MW3	0.020	0.050	0.150	0.04	0.02	0.06	0.050
PW02	0.020	0.075	0.203[1]	0.09	0.10	0.19	0.085
S8	0.062	0.050	0.150[2]	0.12	0.06	0.18	0.050

Notes: *1. PW02 has a recorded bore volume of 8". 2. The bore diameter of S8 is not recorded on the available log sheet from installation in 2014. A radius of 0.150 m has been assumed as a typical value for a 50mm diameter well.*

The following has been assessed regarding LNAPL transmissivity:

- As discussed earlier in **Section 3.5**, insufficient LNAPL thickness (i.e. <0.15m) was observed to conduct reliable bail-down testing, therefore a qualitative assessment of rebound over 24 hours was conducted on MW3, PW02 and S8. However, for completeness, LNAPL rebound was recorded at regular intervals sufficient to attempt calculation of an LNAPL transmissivity rate. However, calculations could not be conducted due to the low recharge and overall thickness in each well.
- No LNAPL was detectable in MW3 in the first hour following removal. While 6 mm of LNAPL was detected in the well 3.5 hours after initial extraction, and 12 mm was detected after 5.5 hours, no LNAPL was detected the following day, 24 hour after the test was conducted. Further recovery is not considered to be practicable on this basis.
- In S8, LNAPL was not detectable in the well 2 hours from the commencement of the test, which is the final available data point in the initial 24-hour test period. This well was not accessible for 6 days following removal due to Site tenant activities for the DarkMOFO festival, but when next accessible 32% of the initial thickness had returned to the well.

  Mobile LNAPL would typically rebound to measurable thickness within the first two hours of a bail-down test, and the volume removed from S8 in the initial test was insufficient to remove LNAPL from bedding sand in the casing around the well. Based on these factors, it is considered that the observed rebound was LNAPL in the casing entering the well, and not indicative of any rebound from the formation. The lack of observed rebound in the first two hours, and low level of rebound compared to initial thickness, would indicate a very low rate of LNAPL recharge to this well and that further LNAPL extraction is not practicable.
- 50% of the initial LNAPL thickness returned to PW02 within 30 minutes of extraction, and 100% within 24 hours. However, the volume removed during the test only represented the available volume in the well (V_{well}), and would not have included residual LNAPL in bedding sand or drawn from the surrounding aquifer. While some recharge from the formation appears to have occurred in the 24 hours following extraction, it is considered that the low LNAPL thickness in PW02, and low recharge in downgradient wells MW3 and S8, indicate that it is unlikely to be sustained or indicate LNAPL in this well is practicable to remediation or mobile on the aquifer.

Overall, based on the results of LNAPL gauging and removal, further active remediation of MW3, PW02, and S8 is considered unlikely to be practicable.

7.5.3 Review of LNAPL Remediation End-Points

The status of the LNAPL remediation end-points (**Section 3.5.1)**, provided in the LNAPL RAP (AECOM, 2017) were previously assessed in *Assessment of LNAPL End-Points* (AECOM, 2021b) as met and that further remediation of LNAPL was not practicable or likely to meaningfully affect the status and longevity of LNAPL plumes or the environmental risks associated with them.

A review and refresh of the data regarding LNAPL presence and mobility, and assessment of any new or updated data collected since the previous assessment of the practicability of LNAPL remediation, has been undertaken as:

- Approximately five years had passed since the last direct data collection for LNAPL Plumes A1 and A2, and Former LNAPL Plume A3, and since that time additional soil excavation and remediation

has been undertaken at the Site, including removal of surface cover and hydrocarbon impacted soil above each plume.

- At LNAPL Plume B:
  - LNAPL thicknesses exceeding previously observed maximums were detected in two wells (PW02 and S8) in December 2023. LNAPL transmissivity testing of these wells concluded that LNAPL did not recharge into these wells at sufficient rate for remediation to be practicable, and that LNAPL was not likely to be mobile (AECOM, 2024).
  - In February 2025 (AECOM, 2025c), LNAPL was detected for the first time in MW154, south of the historic extent of LNAPL Plume B.

Inspection of the groundwater well and soil vapour bore network at the Site in February 2025 identified that many monitoring locations previously used for LNAPL assessment were lost, destroyed, or otherwise unsuitable for future investigations (AECOM, 2025c). New groundwater and soil vapour wells (as listed on **Table 17** in **Section 7.1**) have been installed as part of the field activities discussed in this report to provide additional monitoring of LNAPL wells.

Figure 2 and **Figure 3**, below, show the current and historic groundwater wells near LNAPL plumes for reference. The LNAPL remediation end-points are reviewed in **Section 7.5.3.1 to 7.5.3.4** below.

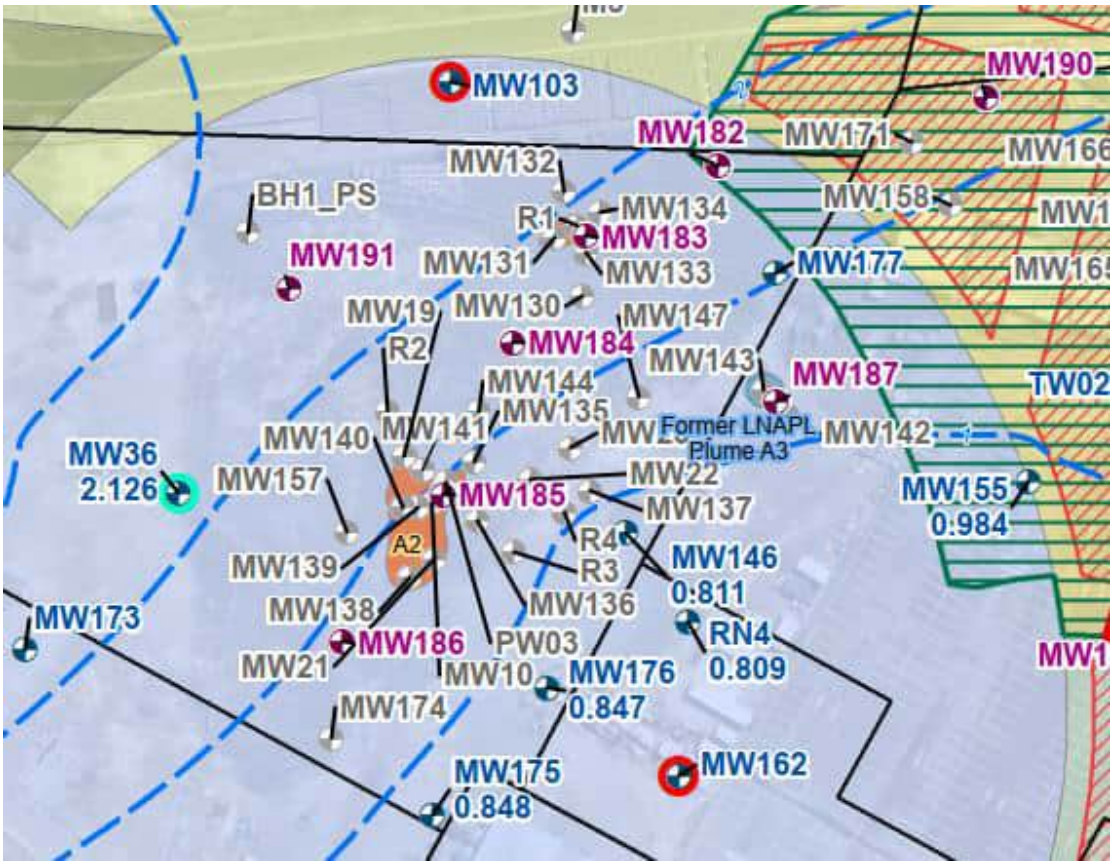

Figure 2 LNAPL Plumes A1, A2 and Former LNAPL Plume A3 – Current and Former Monitoring Wells

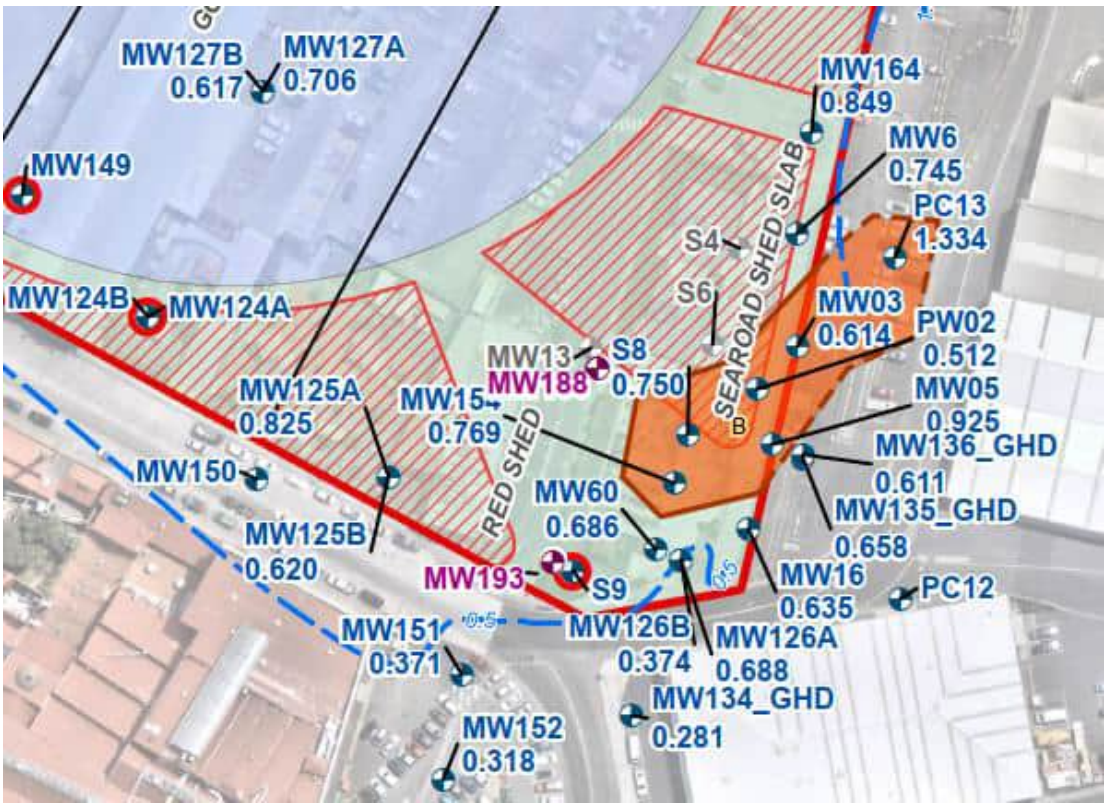

Figure 3 LNAPL Plumes B – Current and Former Monitoring Wells

7.5.3.1 Remediation End-Point 1

LNAPL recovery rates have reached asymptotic levels, and demonstrate marginal recovery rates, such as less than 5% of initial recovery volumes. Further recoverability of residual LNAPL is demonstrated to be impractical within the constraints of the adopted technology, reasonable timeframes and with consideration of the net environmental benefit.

The *Review of LNAPL End-Points* (AECOM, 2021b) concluded that asymptotic and marginal LNAPL recovery rates had been achieved by the previous remediation efforts, and that further LNAPL recovery was not practicable within the constraints of the adopted technology, reasonable timeframes and with consideration of the net environmental benefit.

While no LNAPL recovery has been undertaken at the Site since 2017, it is considered that this conclusion is still valid as:

- LNAPL is no longer detectable in LNAPL Plumes A1 and A2, or Former LNAPL Plume B, or in surrounding wells. Concentrations of TRH and BTEXN in the vicinity of former LNAPL areas, or elsewhere on the Site, are below the saturation limits for petroleum compounds in groundwater provided in the ASC NEPM, and do not indicate that free-phase LNAPL is likely to be present on groundwater in large quantities in the vicinity of the LNAPL plumes, although indicators of some presence in soil and groundwater (such as sheen and odours) were noted.
- LNAPL thickness in LNAPL Plume B wells is low and transmissivity testing conducted in March 2024 (AECOM, 2024a) and as part of this assessment (**Section 7.5.2**) indicated that recovery via hydraulic or pneumatic methods is not likely to achieve effective and practicable recovery rates.
- LNAPL recovery by pneumatic or hydraulic methods is not considered practicable at the Site LNAPL Plumes as:
    - TFE was assessed as reaching the limits of practicability in AECOM (2021b). Detectable LNAPL extent and thicknesses are consistent or have decreased since that assessment and

are considered to indicate that LNAPL recovery rates are likely to be lower than when TFE ceased in 2017.

- LNAPL transmissivity rates are indicative that, based on review of historic system operations, further remediation via pneumatic or hydraulic techniques would be inefficient, will take long periods to marginally affect LNAPL transmissivity, and will have little benefit in terms of reduction of LNAPL mass, migration potential, or longevity of the plume (ITRC, 2009).
- Removal of LNAPL via vapour recovery is unlikely to be practicable or affect residual plume extent or characteristics. Vapour recovery typically assists in remediation by stripping volatile constituents and leaving low solubility and volatility LNAPL in the ground.

  The inferred source of LNAPL in all plumes is diesel, which typically has a lower overall proportion of volatile components, and as LNAPL impacts to groundwater are inferred to have occurred >20 years ago (>50 years for LNAPL Plume B), it is considered that the majority of volatile components which could have been removed has occurred naturally. Fingerprinting of LNAPL (AECOM, 2021b), which indicated weathered diesel, and relatively low TRH in soil vapour concentrations (see **Section 7.2.3**) in the vicinity of the LNAPL plumes support this assessment.

- Alternative methods for LNAPL removal considered in the LNAPL RAP (AECOM, 2017) and reviewed in AECOM (2021b) included excavation of LNAPL plumes, and *in situ* chemical oxidation (ISCO).
  - Excavation of LNAPL impacted material was considered impracticable as it would introduce additional health and safety risks associated with excavation below the water table, and was unlikely to restore any PEVs associated with groundwater as other CoPC, which are not derived from LNAPL, would preclude those uses.

    Excavation is considered to remain impractical for the reasons above. In addition, PASS has been detected in saturated soil on the Site. The TASSMG (DPIPWE, 2009) directs that disturbance of PASS should be minimised where possible, and while some disturbance of PASS is included in future development plans, disturbance of PASS via excavation to remove LNAPL would not restore PEVs.
  - ISCO is not suitable for the removal of LNAPL, and would be ineffective where LNAPL remains on groundwater at LNAPL Plume B. While ISCO could potentially be considered as a polishing technique for LNAPL Plumes A1 and A2, and Former LNAPL Plume A3, soil, groundwater, and soil vapour concentrations do not indicate unacceptable risk to future Site users from this area, ISCO is unlikely to produce any meaningful change in the conditions of the Site. ISCO can also increase some vapour concentrations in the short to medium term, as residual NAPL and TRH is oxidised, and may increase potential risks to future development.

Based on the available and historic data, it is considered that LNAPL Remediation End-Point 1 is still met, and that further LNAPL recovery is not practicable.

7.5.3.2 Remediation End-Point 2

The residual LNAPL plume is shown to be stable or decreasing, including demonstration that LNAPL is not observed in wells where LNAPL has historically been absent.

In June 2025, LNAPL was not detectable by oil/water interface probe in any well in the vicinity of LNAPL Plumes A1 and A2, or former LNAPL Plume A3, although LNAPL indicators such as sheen and odours were recorded. LNAPL Plume B was detected by LNAPL of between 20 and 81 mm thickness when gauged initially and prior to baildown testing.

While LNAPL Plume A1 (in well R1) and LNAPL Plume A2 (in wells MW19, MW22, MW23, MW135, MW138 and MW140) were detectable in 2019, the extents were considered stable and decreasing, with inconsistent fluctuations in LNAPL thickness observed in post-remediation gauging (especially with regards to LNAPL Plume A2). Former LNAPL Plume A3 was last detected in July 2017, when 0.009 m of LNAPL was observed in MW143.

The absence of detectable LNAPL in A1, A2 and A3 is considered likely to be due to a range of causes, including:

- Soil excavation and removal as part of remediation in this area in 2020 (AECOM, 2021a), which included the removal of surface cover (bitumen) and hydrocarbon impacted soil in the vicinity of these plumes. The removal of hydrocarbon impacted soil would have included a source of LNAPL to the plumes, from residual contamination in soil.
- The removal of the bitumen surface covering may have also allowed increased access by surface water (rain) to the LNAPL plumes and increased the rate of dilution into groundwater. It is not considered that the plumes as a whole are likely to have migrated, as:
    - Groundwater concentrations across the Site were screened against the saturated solubility limits for petroleum hydrocarbons from the ASC NEPM, and the pure substance solubility limits from CRC CARE (2011) on **Table T6e**. No exceedances of either criteria were detected in any wells sampled, which included wells delineating the plumes and down-hydraulic gradient.
    - Hydraulic groundwater gradients and flow direction are consistent with observations in 2019, during the last Site-wide gauging event. The surface of groundwater remains relatively flat and unlikely to induce significant groundwater flow across the centre of the Site, where LNAPL Plumes A1, A2, and A3 have been historical detected, and removal of surface coverage has not introduced any steep hydraulic gradients which would lead to LNAPL plume migrations.
- While the volume of LNAPL released to form these plumes, or present prior to remediation, has not been calculated, the low recoverability (as demonstrated by the completion of practicable TFE extraction and calculated LNAPL transmissivity following remediation) and lack of any detected confining or perching conditions in the fill lithology of the aquifer would indicate that the bulk of LNAPL is likely to have been removed, and only limited residual amounts remained.

As the previous wells which delineated these plumes have been lost or destroyed, Mann-Kendall trend analysis cannot be conducted to assess concentration changes in downgradient wells which could assess plume stability. However, based on the lack of observable LNAPL, and the concentrations of BTEXN and TPH well below ASC NEPM solubility limits, it is considered that all three plumes (A1, A2, and A3) are no longer present on the Site and are likely to have dissipated, although some trace LNAPL may remain in soil and groundwater in the vicinity.

LNAPL Plume B remains present within the Site boundaries and is undelineated off-Site to the east, onto TasPorts land. As discussed in **Section 7.5.2**, LNAPL in wells within LNAPL Plume B is considered to be stable, unpracticable to further remediation, and unlikely to be migrating, based on LNAPL transmissivity testing conducted in June 2025. However, there have been two observations since AECOM (2021b) was issued which warrant further discussion:

- In December LNAPL thicknesses exceeding previously observed pre-remediation maximums were detected in two wells (PW02 and S8) in December 2023. LNAPL was also observed in MW03 and MW05 in the same gauging event, below pre-remediation thickness.

  However, repeat gauging and LNAPL transmissivity testing of these wells in March 2024 concluded that:

    - Limited LNAPL recharge occurred in any of the wells where LNAPL was detected and bailed in 2024 (S8, PW02 and MW05). LNAPL detected in MW03 in December 2023 was not present in March 2024.
    - LNAPL transmissivity could not be calculated for MW5, and was considered to indicate poor recoverability. The LNAPL transmissivity rates calculated for PW02 (0.002 to 0.020 m^2/day) and S8 (0.0004 to 0.009 m^2/day) indicated future LNAPL removal was not likely to be effective in remediation of the area.
    - The fluctuations in LNAPL thickness, including values greater than the reported historical ranges, were considered to have potentially been induced by nearby excavation and were not considered to indicate migration of LNAPL Plume B.

In June 2025, LNAPL was detected in PW02, S8, and MW5, but was not present in MW3. The assessment of recoverability (**Section 7.5.2**) indicated that LNAPL recoverability continued to be unlikely to be practicable.

- In February 2025 (AECOM, 2025c), 0.031 m of LNAPL was detected for the first time in MW154, approximately 10 m south and hydraulically downgradient of well S8, which currently and historically contains LNAPL associated with LNAPL Plume B.

  LNAPL was not detected when MW154 was revisited in June 2025, although globules were noted on the probe while gauging. While this well was not sampled, hydraulically down- or cross-gradient wells MW16, MW60, MW126A, and MW193 were sampled. From assessment of these results:

  - LNAPL or dissolved BTEXN was not detected in any of the four cross or down-gradient wells. No TRH was detected in MW60 (south and down-gradient) or MW193 (cross-gradient).
    - No TRH or BTEX has been detected in MW60 in five recorded sampling events since 2015.
    - MW193 was installed in June 2025 and has only had one sampling event.
  - TRH was detected at low concentrations in MW16 and MW126A. However, Mann-Kendall trend analysis of TRH concentrations in these wells using available historic data (dating back to 2015 and attached in **Appendix J**) indicated that:
    - TRH C6-10 (excluding BTEX) has not been detected above LOR in MW126A, while trends for TRH >C10-C16 (excluding naphthalene) and overall TRH >C10-C40 are stable.
    - No trends could be assessed for TRH C6-C10 (excluding BTEX) or for TRH >C10-C16 (excluding naphthalene) in MW126A. Concentrations of TRH >C10-C40 are stable.

  Based on the above data, it is considered that the observed LNAPL in MW154 in February 2025 does not indicate potential migration of LNAPL Plume B, as LNAPL observed was limited in thickness and did not persist in the well, LNAPL upgradient is not considered to be mobile (see **Section 7.5.2**) and no increasing TRH concentration trends have been observed hydraulically down-gradient.

Based on the above, it is considered that LNAPL Plume B remains stable and unlikely to migrate. While some fluctuations in LNAPL thickness have occurred since issue of AECOM (2021b), remediation work (including excavation of soil to the water table) occurred to the west of the plume in 2023 and may have introduced localised groundwater movement with LNAPL. It is considered that these do not indicate any long term migration of the plume.

The current and previously assessed status of each of these plumes is summarised on **Table 29** below.

Based on the available and historic data, it is considered that LNAPL Remediation End-Point 2 is still met, and that residual LNAPL plumes are stable and decreasing, and unlikely to migrate.

Table 29 Summary of LNAPL Plume Stability

Plume ID	Description and Status	
	November 2019 (AECOM, 2021b)	June 2025
LNAPL Plume A1	LNAPL was detectable in one well only (0.043m in R1), and the plume was considered delineated by MW131 to MW134.	The previous groundwater wells used to assess this plume were lost/destroyed by soil work between 2019 and 2025. A replacement well to assess the plume (MW183) and delineation wells MW177, MW182, MW184, MW187, MW191 and MW103A have been installed since 2019. No LNAPL was detected in any wells within or surrounding the former extent of LNAPL Plume A1, although yellow LNAPL was noted during development of MW183 but did not return when the well was sampled. No groundwater concentrations indicative of LNAPL presence were detected in sampling in June 2025. As such, this LNAPL plume may be dissipated and no longer present on the Site.
LNAPL Plume A2	Since the operation of TFE commenced in LNAPL Plume A2, the extent of the plume has varied, however, overall the extent of the plume has decreased. The occurrence of LNAPL at MW10, MW21, MW22, MW23, MW135, MW138, MW139, and PW03, has been inconsistent overtime. In November 2019, the plume was delineated by MW57 MW137, MW144, MW146, R2 and R3. Plume A2 was previously delineated to the south by MW21 and MW138. However, during gauging in November 2019, 0.017 m of LNAPL was detected in MW138 for the first time since the system shutdown. The presence of LNAPL in this well was inconsistent during previous gauging events. While the southern extent of the plume at MW138 was not fully delineated during the last monitoring round, given the inconsistent presence of LNAPL at this location, associated with temporal variations within the heterogeneous fill and a low thickness of LNAPL detected within the well, it is considered unlikely that the plume would extend past the plume extent inferred in 2019	The majority of the previous groundwater wells used to assess this plume were lost/destroyed by soil work between 2019 and 2025. A replacement well to assess the plume (MW185) and delineation wells MW36, MW146, MW176, MW184, MW186, MW187, and MW1191 remain present or have been installed since 2019. No LNAPL was detected in any wells within or surrounding the former extent of LNAPL Plume A2, and no groundwater concentrations indicative of LNAPL presence were detected in sampling in June 2025. As such, this LNAPL plume may be dissipated and no longer present on the Site.

Plume ID	Description and Status	
	November 2019 (AECOM, 2021b)	June 2025
LNAPL Plume A3	LNAPL has not been measured at either MW142 or MW143 since July 2017. Therefore, it is considered that LNAPL Plume A3 is stable.	The previous groundwater wells used to assess this plume were lost/destroyed by soil work between 2019 and 2025. A replacement well to assess the plume (MW187) and delineation wells MW146, MW155, and MW184, remain present or have been installed since 2019. No LNAPL was detected in any wells within or surrounding the former extent of LNAPL Plume A3, and no groundwater concentrations indicative of LNAPL presence were detected in sampling in June 2025. As such, this LNAPL plume is considered dissipated and no longer present on the Site.
LNAPL Plume B	The plume appears to have remained stable since August 2018 and has reduced in size since the pre-TFE measurements. The plume is delineated by S6, S8, MW6, MW16, MW135_GHD and MW154. The inferred source of LNAPL Plume B, historic bulk fuel terminals, was located both within the Site boundary and in the TasPorts Site adjacent, and potential exists for LNAPL impacts have occurred in the TasPorts area from this historical use. Limited access has been granted by TasPorts to the Corporation to off-Site wells MW135_GHD and PC13 for gauging works only and LNAPL has not been present. Further LNAPL delineation in the TasPorts area has not been possible, and assessment of the stability and practicability of further remediation of LNAPL Plume B on the Site has been conducted with respect to the available data. LNAPL impacts within TasPorts land are considered the responsibility of TasPorts to assess and manage.	The plume has remained stable, with some minor fluctuations of thin LNAPL at the edges, since November 2019, and is delineated north by MW6 and MW164, east by MW188, and south by MW16, MW60, MW126A, MW126B, and MW193. LNAPL on-Site is limited to wells MW03, MW05, S8 and PW02, with intermittent and unsustained LNAPL observed in MW154. However, the detected LNAPL has low thickness and, where able to be measured, low LNAPL transmissivity has been below the level where remediation is considered practicable, and is not considered to represent a risk of migration Limited access has been granted to wells on TasPorts land to the east. LNAPL (0.010 m thick) was detected in PC13 in TasPorts land in February 2025 when access was granted to gauge and inspect wells, and is considered to indicate LNAPL sourced from historic use of the off-Site area and to be TasPort's responsibility to assess and manage. TasPorts was informed of the detection via email following the gauging event.

7.5.3.3 Remediation End-Point 3

No unacceptable risks to current and future human-health or environmental receptors based on the proposed future land uses.

No unacceptable risk to human health or environmental receptors were considered present from LNAPL in the assessment completed in AECOM,2021b.

It is noted that the SEMP contains controls for future Site development to prevent direct contact of future Site users with soil. Risks from impacted soil via vapour intrusion are considered by assessment of soil vapour which is addressed separately.

Based on review of the data collected since the AECOM, 2021b report:

- Groundwater risks
  - The presence of LNAPL or residual LNAPL on groundwater represents a potentially unacceptable risk to human health and ecology if disturbed or handled in the future. The SEMP contains documentation of the location of LNAPL, and controls/restrictions for future work in these areas.

    While LNAPL Plume B extends off-Site to the east, onto TasPorts land, based on the historical use of this area as fuel and oil storage, on both sides of the property boundary, it is considered that LNAPL in this area is co-sourced from TasPorts land and management and remediation of LNAPL is the responsibility of TasPorts. TasPorts has been informed of the presence of LNAPL.
  - All PEVs for groundwater are considered precluded by the presence of LNAPL. Controls and restrictions for contact with groundwater during future development are documented in the SEMP and will be applied to future Site activities and management.
  - Concentrations of methane in groundwater in the vicinity of the LNAPL plumes have been detected in excess of the adopted criteria, and may indicate a potentially unacceptable risk of methane intrusion into buildings and structures. However, methane in groundwater is widespread across the Site, and while the potential exists for a portion of methane to be sourced from anaerobic degradation of LNAPL, it is also considered likely to relate to former sea- and river-bed covered during historic land reclamation.

    The SEMP currently contains a requirement for vapour protection to be installed in buildings and structures for some areas, and will be updated to include this requirement for all areas where potentially hazardous methane concentrations are present beneath buildings and structures.
  - Concentrations of LNAPL related CoPC (TRH, BTEXN, and metals) in groundwater surrounding and down-gradient of LNAPL plumes were below the Site Specific RC for all uses (see **Figure F4d** and **Table T6d**) and residual LNAPL in Plumes A1, A2, and A3, and LNAPL in Plume B, are not considered to represent a risk to on- or off-Site human receptors if the controls inherent to the RC and documented in the SEMP are applied.
  - AECOM (2020a) and AECOM (2025g) concluded that groundwater emanating from the Site boundary, and hence emanating from the LNAPL plume, is unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors at Sullivans Cove and the River Derwent.
- Soil vapour risks:
  - Based on analytical data from soil vapour wells over and adjacent to LNAPL plumes, or the former location of LNAPL plumes, no potentially unacceptable risks associated with soil vapour for TPH or BTEXN have been detected.
  - Concentrations of methane in soil vapour have been detected in soil vapour wells above or adjacent to LNAPL plumes. As discussed above for groundwater, methane is not considered to arise from LNAPL alone, and the SEMP will be updated with a requirement that vapour intrusion and explosive hazard mitigation be included in all structures proposed over areas of potential methane intrusion.

Based on the assessment above and the assumption that the SEMP is accordingly updated and implemented, LNAPL does not represent an unacceptable risk to human health or ecological receptors, and it is considered that LNAPL Remediation End-Point 3 is still met.

It is noted that additional assessment to update the evaluation of potential risks to off-Site ecological receptors is underway, and if a potentially unacceptable risk from LNAPL is identified, this conclusion may require reassessment.

7.5.3.4 Overall Assessment of End-Points

Based on the assessment above, the three remediation end-points for LNAPL are met and it is considered that:

- Further LNAPL remediation is not practicable and is unlikely to materially change the extent, risks, or longevity of LNAPL on Site groundwater.
- LNAPL plumes are stable and unlikely to migrate.
- With the controls and requirements documented in the SEMP, LNAPL does not represent an unacceptable risk to human or ecological receptors, noting that update and review of the evaluation of potential risks to off-Site ecological receptors is currently being undertaken.

As such, it is considered that no further remediation of LNAPL is required. The locations of LNAPL, and controls and mitigations, currently documented in the SEMP should be maintained to allow management without unacceptable levels of risk during future Site operation and management.

8.0 Conclusions and Recommendations

8.1 Work Completed

The scope of work completed is summarised as follows:

- A Site inspection was conducted to confirm the condition and accessibility of the existing groundwater monitoring well network and the proposed drilling locations.
- Underground service location and clearance was completed for all proposed drilling locations, including review of available Site plans and Before You Dig Australia (BYDA) plans, and engagement of a qualified underground service locator.
- A total of 45 drilling locations were advanced using a sonic core drill rig, including:
  - 19 Groundwater Monitoring Wells (MW103A, MW120A, MW182, MW183, MW184, MW185, MW186, MW187, MW188, MW189, MW190, MW191, MW192, MW193, MW194, MW196, MW197, MW198 and NR2A).
  - 16 soil vapour monitoring points, including 14 soil vapour bores (SV31, SV32, SV33, SV34, SV35, SV36, SV39, SV40, SV41, SV42, SV43, SV44, SV45 and SV46) and two sub-slab soil vapour monitoring pins (SV37 and SV38).
  - 10 soil bores for the assessment of PASS (BH-004A, BH-004N, BH-004S, BH-004E, BH-004W, ABH-004A, ABH-004N, ABH-004S, ABH-004E, and ABH-004W).
- Repair and/or recovery of 25 pre-existing groundwater monitoring wells, including:
  - Missing/damaged bolt replacement at BG1, BH2_PS, MW122, MW129, MW131_GHD – MW133_GHD, MW148, MW150, MW155 and MW163.
  - Damaged gatic replacement at SV18, MW102, MW121, MW130_GHD (lid & bolt replacement only) and MW36.
  - Clearing of overlying surface material (gravel/asphalt) and installation of new gatic at RN2, TW02 and MW177.
  - Clearing down-well obstructions at MW128A and re-development of MW128A and MW128B to clear potential further debris from the base of each well following recent building demolition activity.
  - Facilitating the removal of heavy items blocking access to underlying wells (MW124A & B, MW149 and MW162)
- Development of 21 groundwater monitoring wells, including the 19 newly installed groundwater wells and two pre-existing wells (MW128A and MW128B) following removal of a down-well obstruction / sedimentation at the base of each well
- Gauging of groundwater level at 87 groundwater monitoring wells, including 19 new and 68 pre-existing groundwater monitoring wells.
- Purging and sampling of 56 groundwater monitoring wells using peristaltic pump low-flow sampling methods, including the 19 newly installed groundwater monitoring wells and 37 selected pre-existing wells.
- Surveying of 19 newly installed groundwater monitoring wells and three repaired groundwater monitoring wells due to a change in top of casing (MW128A, MW128B and TW02).
- Collection of soil vapour samples using Summa Canisters from 18 locations (SV07, SV18, SV25, SV31, SV32, SV33, SV34, SV35, SV36, SV37, SV38, SV39, SV40, SV41, SV42, SV43, SV45 and SV46).
- LNAPL transmissivity testing at three groundwater monitoring wells (MW03, PW02 and S8).

The scope of work was undertaken in accordance with the *Soil, Groundwater and Soil Vapour Investigation 2025 Sampling and Analysis Quality Plan* (AECOM, 2025d), except as noted in **Section 5.0**.

8.2 Conclusions

8.2.1 Protected Environmental Values

On the basis of soil, groundwater and soil vapour analytical results for CoPC, **Table 30** below provides a summary of the conclusions made with reference to the Tier 1 assessment undertaken against identified PEVs.

It is noted that on the basis of the range of TDS concentrations in shallow groundwater for the dataset considered at and surrounding the Site, groundwater has been conservatively considered to be representative of Category A in accordance with the SPoWQM.

Table 30 Protected Environmental Values - Tier 1 Assessment Summary

Applicable PEVs [1]	PEV Precluded? [2]	Comment
Soil		
Maintenance of Modified and Highly Modified Ecosystems	Yes	Concentrations of a combination of metals (copper, chromium, nickel, zinc), TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction, total xylenes, naphthalene and benzo(a)pyrene were reported above the adopted Tier 1 assessment criteria for both Modified and Highly Modified Ecosystems.
Human Health – Direct Contact – Low Density Residential	Yes	Concentrations of a combination of metals (chromium, lead), TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction and PAHs (benzo(a)pyrene, Sum of PAHs) were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Medium/ High Density Residential	Yes	Concentrations of a combination of chromium, TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction and PAHs (benzo(a)pyrene, Sum of PAHs), were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Recreation / Open Space	Yes	Concentrations of a combination of chromium, TRH >C10-C16 fraction, TRH >C16-C34 fraction, TRH C34-C40 fraction and PAHs (benzo(a)pyrene, Sum of PAHs) were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Commercial / Industrial	Yes	Concentrations of a combination of TRH >C16-C34 fraction and benzo(a)pyrene were reported above the adopted Tier 1 assessment criteria.
Human Health – Direct Contact – Intrusive Maintenance Workers	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from soil) – Residential	Yes	Concentrations of TRH C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene, total xylenes and naphthalene were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from soil) – Recreational/ Open Space	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.

Applicable PEVs [1]	PEV Precluded? [2]	Comment
Human Health – Vapour Intrusion (from soil) – Commercial / Industrial	Yes	Concentrations of TRH C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene, and naphthalene were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from soil) – Intrusive Maintenance Workers	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Buildings and structures	Yes	Field pH (pH_F) measured as part of the PASS assessment was reported above the adopted Tier 1 assessment criteria.
Aesthetics	Yes	Anthropogenic materials (including brick, concrete, metal, ceramic, wood, slag and glass fragments), hydrocarbon odours and/or staining (green staining, LNAPL sheen and/or tar residue) were observed.
Traditional Owner Cultural Values	Yes	Precluded PEVs related to ecosystem protection, recreational use and aesthetics are also considered to preclude Traditional Owner cultural values.
Groundwater		
Ecosystem Protection (Marine)	Yes	Concentrations of a combination of metals (copper, manganese, zinc), PFOS, cyanide, ammonia, TRH >C10-C40 fraction (sum), TPH >C10-C36 fraction (sum), ethylbenzene, total xylenes, PAHs (naphthalene, anthracene, phenanthrene), phenols (phenol, 2-Methylphenol (o-Cresol), 2,4-Dimethylphenol) were reported above the adopted Tier 1 assessment criteria. It is noted that risks to offsite ecological receptors will be assessed and reported in a separate report.
Human Health – Drinking Water	Yes	Concentrations of a combination of metals (cadmium, manganese), PFAS (PFOS, sum of PFHxS + PFOS) cyanide, nitrate, benzene, ethylbenzene, o-xylene, PAHs (naphthalene, sum of PAHs), phenols (2-Methylphenol (o-Cresol), Total Cresols, 2,4-Dimethylphenol, and sulphate as SO4 were reported above the adopted Tier 1 assessment criteria.
Human Health – Recreation (Secondary Contact)	Yes	Concentrations of benzene, naphthalene, sum of PAHs, PFOS and cyanide total were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) – Residential	Yes	Concentrations of TRH >C6-C10 (minus BTEX) (F1) and TRH >C10-C16 (minus naphthalene) (F2) were reported above the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) – Recreation / Open Space	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) – Commercial / Industrial	Yes	Concentrations of TRH >C10-C16 (minus naphthalene) (F2) were reported above the adopted Tier 1 assessment criteria.

Applicable PEVs [1]	PEV Precluded? [2]	Comment
Human Health – Vapour Intrusion (from groundwater) – Intrusive Maintenance Workers	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Vapour Intrusion (from groundwater) - Explosive Hazard	Yes	Concentrations of methane were reported above the adopted Tier 1 assessment criteria.
Primary Industries Criteria – Irrigation	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Primary Industries Criteria – Stock Watering	Yes	Concentrations of cadmium, sulfate as SO4, PFOS, and sum of PFHxS + PFOS were reported above the adopted Tier 1 assessment criteria.
Buildings and structures	Yes	Concentrations of a chloride and sulfate were reported above the adopted Tier 1 assessment criteria.
Aesthetics	Yes	A hydrocarbon odour and/or measurable LNAPL / LNAPL sheen was noted.
Traditional Owner Cultural Values	Yes	Precluded PEVs related to ecosystem protection, recreational use and aesthetics are also considered to preclude Traditional Owner cultural values.
Soil Vapour		
Human Health – Residential (Sand)	Yes	Concentrations of benzene, naphthalene and TPH >C8-C10 aromatic fraction were reported above the adopted Tier 1 assessment criteria.
Human Health – Recreational / Open Space (Sand)	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Human Health – Commercial / Industrial (Sand)	Yes	Concentrations of benzene, naphthalene and TPH >C8-C10 aromatic fraction were reported above the adopted Tier 1 assessment criteria.
Human Health - Intrusive Maintenance Worker	No	Concentrations of CoPC were reported below the adopted Tier 1 assessment criteria.
Safety Action Levels for Subsurface Methane Near Foundations	Yes	Concentrations of methane were reported above the adopted Tier 1 assessment criteria.

Notes: 1 – PEVs applicable to the Site and adjacent area based on the potential future land use planned for the Macquarie Point development and consideration of current and potential future receptors; 2 – PEVs precluded based on concentrations of CoPC being reported above Tier 1 assessment criteria for soil and groundwater, or other observed features (i.e., anthropogenic materials in soil).

Given some soil and groundwater PEVs are considered as potentially precluded due to concentrations of CoPC being reported above Tier 1 assessment criteria, further assessment has been conducted against Site Derived RC has been undertaken (refer **Section 7.2.2**), to inform potential measures recommended for the protection of human health.

No RC have been adopted for soil vapour, and exceedances of the adopted criteria in this media have been used to inform mitigation/management requirements. Based on detected vapour concentrations, mitigation or management is considered required for:

- Commercial / Industrial development of the Site – benzene, naphthalene, and TPH >C8-C10 aromatic fraction.

- Potential explosive methane intrusion – all areas excluding the Escarpment, Audit Area 4 East, and Regatta Point. If any building or structure with a footprint extending to other areas is proposed in these areas however (i.e., the Multipurpose Stadium), methane mitigation will be required to be extended to these areas.

Assessment of potential off-Site risks to aquatic ecological receptors will be undertaken as a separate report.

8.2.2 Site Specific Remediation Criteria

On the basis of soil and groundwater analytical results, **Table 31** below provides a summary of the screening against Site Derived RC to inform potential assessment, remediation or management measures required at the Site.

Table 31 Site Specific Remediation Criteria – Summary

Future Use Scenarios [1]	Further Assessment or Remediation Required? [2]	Comment
Soil		
Potential Future Residents (building with a basement car park)	No	TRH >C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene, total xylenes and naphthalene were reported above the Site Derived RC in soil samples collected from 13 locations as part of this investigation. Given each of these are outside the proposed future residential building footprints, which are limited to Regatta Point to the north of the Site, detected exceedances are not considered to present an unacceptable vapour intrusion risk to future development.
Potential Future Residents (low-rise slab-on-grade)	No	
Potential Future Residents (slab-on-grade with unknown construction or multi-storey building)	No	
Potential Future Recreational Open Space Users	No	Concentrations of CoPC were reported below the Site Derived RC.
Potential Future Commercial/Light Industrial Workers (working within a basement)	No (Mitigation / Management Required)	A combination of TRH >C6-C10 (minus BTEX) (F1), TRH >C10-C16 (minus Naphthalene) (F2), benzene and naphthalene were reported above the Site Derived RC at seven locations: • Four locations associated with LNAPL Plumes A1 and A2 (SV32, MW183, MW184, and MW185) • Four locations within the former gasworks area of the Site (MW196, MW198, SV43 and SV44). While exceedances of these RC criteria near LNAPL are not considered to indicate a risk of vapour intrusion, based on direct sampling of soil vapour in the vicinity, the reported exceedances of benzene and naphthalene in soil in the former gasworks area are considered to represent a potential vapour intrusion risk and will require mitigation as part of future development.
Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)		
Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building)		
Potential Future Maintenance Workers	No	Concentrations of CoPC were reported below the Site Derived RC.

Future Use Scenarios [1]	Further Assessment or Remediation Required? [2]	Comment
Groundwater		
Potential Future Residents (slab-on-grade with unknown construction or multi-storey building)	No	Concentrations of CoPC were reported below the Site Derived RC.
Potential Future Residents (building with a basement car park)	No	
Potential Future Residents (low-rise slab-on-grade)	No	
Potential Future Recreational Open Space Users	No	
Potential Future Commercial/Light Industrial Workers (working within a basement)	No	
Potential Future Commercial/Light Industrial Workers (low-rise slab-on-grade)	No	
Potential Future Commercial Workers (slab-on-grade with unknown construction or multi-storey building)	No	
Potential Future Maintenance Workers	No	

Notes: 1 – Future use scenarios applicable to Macquarie Point and the surrounding area based on the potential future land use planned and consideration of current and potential future receptors; 2 – Based on concentrations of CoPC being reported above the Site Derived RC for soil and groundwater.

While no remediation of soil or groundwater is considered required for future development, mitigation to prevent potential vapour intrusion by TRH, benzene and naphthalene is considered required for any buildings and structures which include former gasworks areas within their footprint.

8.2.3 LNAPL Impacts and Remediation End-Points

Measurable LNAPL was observed in LNAPL Plume B wells MW03, PW02, and S8. It is noted that measurable LNAPL (5 mm) was briefly observed in MW185 prior to development, however only a sheen was noted in this well throughout the remainder of the June 2025 investigation.

Field observations and mobility testing indicate that LNAPL plumes A1, A2, A3 and B are considered to be very low in mobility, however at least one further round of groundwater monitoring and LNAPL mobility testing is considered required to provide additional temporal data on LNAPL plume presence and mobility following the recent earthworks across the Site.

The status of the LNAPL remediation end-points provided in the LNAPL RAP (AECOM, 2017) were previously assessed as met in AECOM (2021b). Further review of these endpoints based on the results of the June 2025 investigation, indicated that the three remediation end-points for LNAPL remediation continue to be met, and it is further considered that:

- Further LNAPL remediation is not practicable and is unlikely to materially change the extent, risks, or longevity of LNAPL on Site groundwater.
- LNAPL plumes are stable and unlikely to migrate.

- With the controls and requirements documented in the SEMP, LNAPL does not represent a risk to human or ecological receptors, noting that update and review of the evaluation of risks to off-Site ecological receptors is currently being undertaken.

As such, it is considered that no further remediation of LNAPL is required. The locations of LNAPL, and controls and mitigations, currently documented in the SEMP should be maintained to allow management without unacceptable levels of risk during future Site operation and management.

8.2.4 Acid Sulfate Soil

Results of ASS sampling in soil were assessed and are reported separately in *Acid Sulfate Soil Investigations* (AECOM, 2025h).

8.3 Recommendations

8.3.1 Further Assessment and Remediation

Based on the results of the June 2025 investigation, it is considered that further soil, groundwater or soil vapour assessment and remediation at the Site would not likely change the risk to on-Site and off-Site receptors following implementation of risk mitigation measures into future development design and construction at the Site. Therefore, there is no recommendation for further assessment or remediation on this basis.

The data collected in this investigation should be considered in any other assessments of the Site, where relevant, and incorporated into the next review and update of the SEMP (AECOM, 2024b).

8.3.2 Management Measures

Management measures recommended at the Site are below:

- Development of the Site should be restricted to the land uses considered in this investigation. Proposed development for each use should be limited to the areas delineated on **Figure F1**.
- The Site management measures used to derive the RC and documented in the SEMP should be maintained for future development.
- Management and mitigations measures for potential vapour intrusion are considered required for future development for:
    - Methane above criteria in groundwater and soil vapour in the southern and eastern portions of the Site. Methane mitigation is not considered required in Regatta Point, the Escarpment, or Audit Area 4 East, with the exception of structures (such as the proposed stadium) which include areas of elevated methane in their footprint.
    - Benzene, naphthalene, and TRH in the former gasworks area (the Gateway), and any buildings or structures which include this area in their footprint.
    - Air monitoring for benzene should be undertaken for any intrusive maintenance works in the former gasworks area, if further monitoring is not undertaken to confirm results.

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Appendix A

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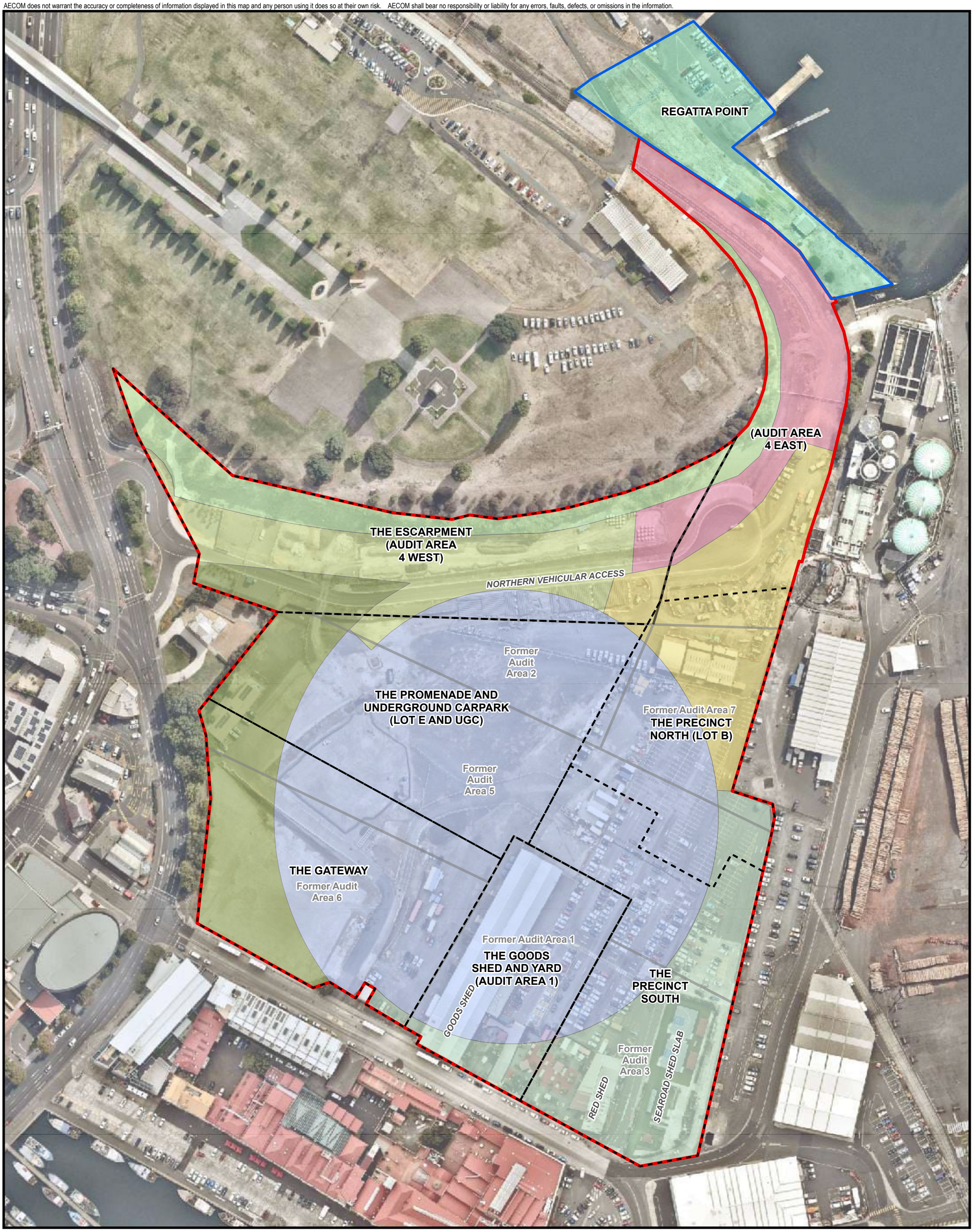

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Legend

- Regatta Point Boundary
- Assessment Area
- Former Audit Areas
- Site Boundary

Proposed Future Land Use

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE SETTING AND LAYOUT

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure
F1

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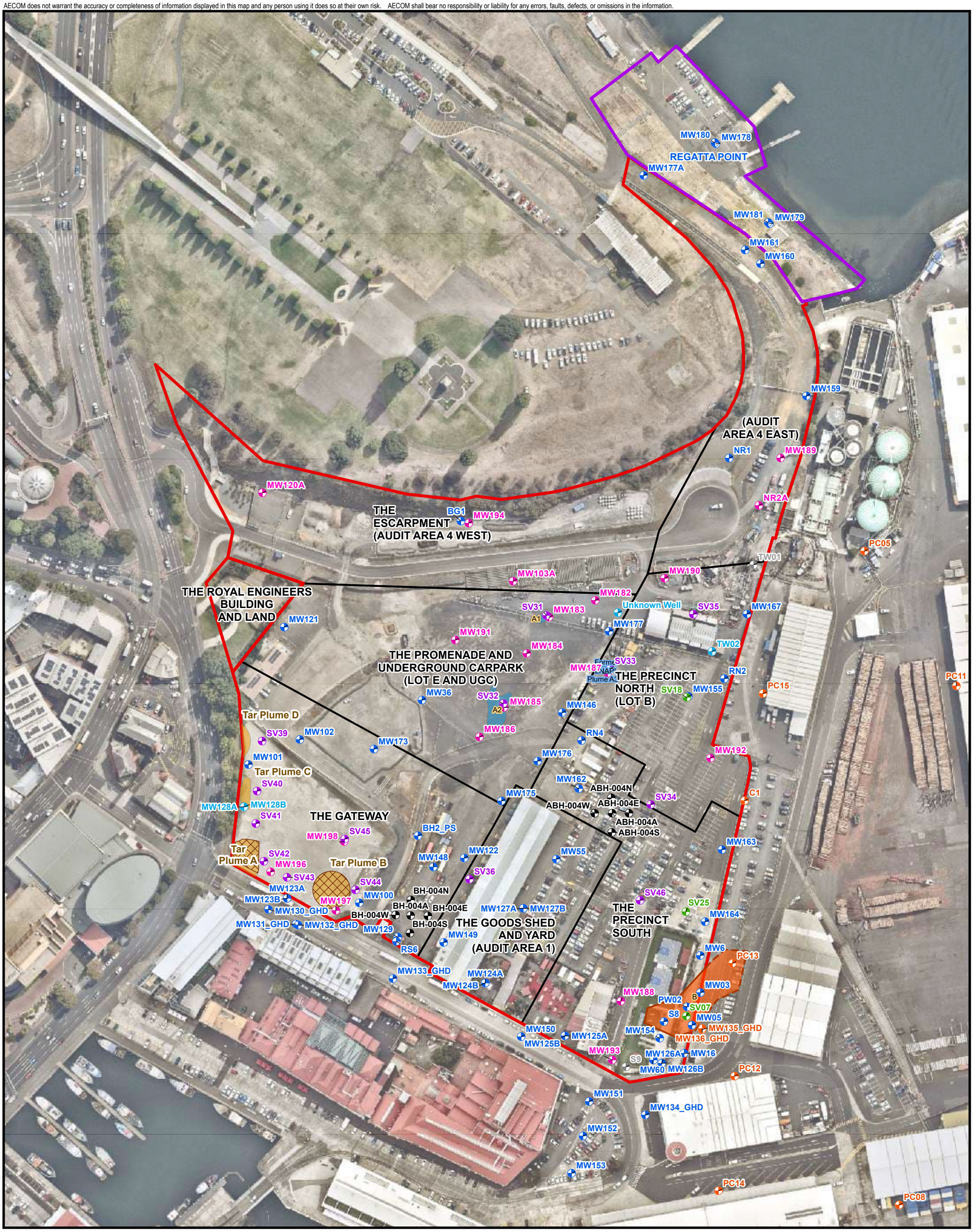

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Legend

- New Groundwater Well
- Existing Groundwater Well
- New Soil Vapour Well
- Existing Soil Vapour Well
- Lost/Destroyed Well
- PASS Soil Bore
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

INVESTIGATION LOCATIONS

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure
F2

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

A3 size

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REGATTA POINT
MW180 0.478
MW178 0.482
MW177A 2.502
MW179 1.411
MW181 1.839
MW161
MW160 1.412
MW159 2.169
(AUDIT AREA 4 EAST)
MW189 2.109
NR1 2.782
NR2A 1.020
MW120A
4.684 BG1
MW194 3.971
THE ESCARPMENT (AUDIT AREA 4 WEST)
MW103A 3.585
PC05
TW01
MW190 1.209
MW182 1.253
MW183 1.217
Unknown Well
MW167 1.684
THE ROYAL ENGINEERS BUILDING AND LAND
MW121 3.957
MW191 1.841
MW184 1.280
MW177 1.132
TW02 0.643
THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)
Former NAPL Plume A2
MW187 1.046
THE PRECINCT NORTH (LOT B)
RN2 1.036
0.979
MW155
PC15
MW185 0.985
MW36 1.778
MW146 0.951
Tar Plume D
MW102 3.456
MW173 2.211
RN4 0.875
MW192 0.904
3.619 MW101
MW186 1.462
MW176 0.956
Tar Plume C
MW162 0.930
MW128A 3.684
MW128B 3.648
THE GATEWAY
MW175 0.952
C1
MW198 0.959
BH2_PS 0.947
MW163 0.901
Tar Plume A
MW196 1.200
Tar Plume B
0.911 MW122
MW148 0.840
0.826 MW55
THE GOODS SHED AND YARD (AUDIT AREA 1)
MW123A 1.231
MW123B 0.808
MW197
MW100 0.845
MW127B
MW127A 0.787
0.750 MW130_GHD
MW131_GHD
MW132_GHD 0.746
0.736
THE PRECINCT SOUTH
MW164 1.208
RS6
MW129 0.740
MW149 0.770
0.789
0.826 MW6
PC13
MW133_GHD 0.702
MW124A
MW124B 0.753
0.772
MW188 0.786
0.749 MW03
PW02
0.842
0.902 S8
MW05
MW150 0.782
MW125B
MW125A
0.902 0.793
MW136_GHD
MW135_GHD
MW154
0.685 MW16
0.758 0.861
MW60
MW126A
MW193 0.732
S9 0.637
MW126B
PC12
MW151 0.427
MW134_GHD 0.427
MW152 0.423
MW153 0.457
PC14

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 09 Sep 2025

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 25 50 100
metres
1:1,900 (when printed at A3)

Legend
- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Groundwater Contours
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary
- Groundwater Contour Elevation (mAHD)
- 4.59782
- 0.423804

GROUNDWATER ELEVATION CONTOURS

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure
F3

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

A3 size

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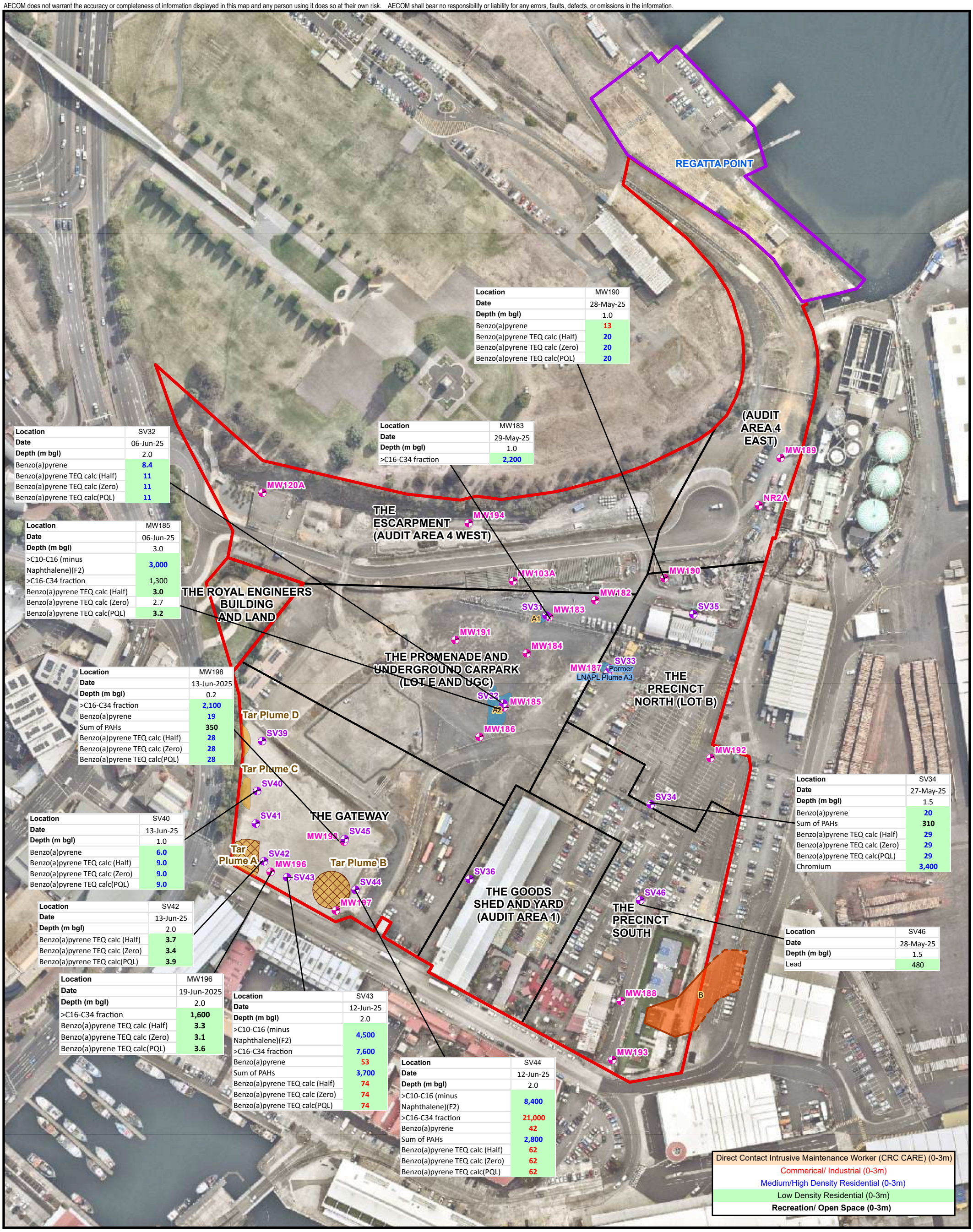

Location	MW190
Date	28-May-25
Depth (m bgl)	1.0
Benzo(a)pyrene	13
Benzo(a)pyrene TEQ calc (Half)	20
Benzo(a)pyrene TEQ calc (Zero)	20
Benzo(a)pyrene TEQ calc(PQL)	20

Location	MW183
Date	29-May-25
Depth (m bgl)	1.0
>C16-C34 fraction	2,200

Location	SV32
Date	06-Jun-25
Depth (m bgl)	2.0
Benzo(a)pyrene	8.4
Benzo(a)pyrene TEQ calc (Half)	11
Benzo(a)pyrene TEQ calc (Zero)	11
Benzo(a)pyrene TEQ calc(PQL)	11

Location	MW185
Date	06-Jun-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	3,000
>C16-C34 fraction	1,300
Benzo(a)pyrene TEQ calc (Half)	3.0
Benzo(a)pyrene TEQ calc (Zero)	2.7
Benzo(a)pyrene TEQ calc(PQL)	3.2

Location	MW198
Date	13-Jun-2025
Depth (m bgl)	0.2
>C16-C34 fraction	2,100
Benzo(a)pyrene	19
Sum of PAHs	350
Benzo(a)pyrene TEQ calc (Half)	28
Benzo(a)pyrene TEQ calc (Zero)	28
Benzo(a)pyrene TEQ calc(PQL)	28

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
Benzo(a)pyrene	20
Sum of PAHs	310
Benzo(a)pyrene TEQ calc (Half)	29
Benzo(a)pyrene TEQ calc (Zero)	29
Benzo(a)pyrene TEQ calc(PQL)	29
Chromium	3,400

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
Benzo(a)pyrene	6.0
Benzo(a)pyrene TEQ calc (Half)	9.0
Benzo(a)pyrene TEQ calc (Zero)	9.0
Benzo(a)pyrene TEQ calc(PQL)	9.0

Location	SV42
Date	13-Jun-25
Depth (m bgl)	2.0
Benzo(a)pyrene TEQ calc (Half)	3.7
Benzo(a)pyrene TEQ calc (Zero)	3.4
Benzo(a)pyrene TEQ calc(PQL)	3.9

Location	SV46
Date	28-May-25
Depth (m bgl)	1.5
Lead	480

Location	MW196
Date	19-Jun-2025
Depth (m bgl)	2.0
>C16-C34 fraction	1,600
Benzo(a)pyrene TEQ calc (Half)	3.3
Benzo(a)pyrene TEQ calc (Zero)	3.1
Benzo(a)pyrene TEQ calc(PQL)	3.6

Location	SV43
Date	12-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	4,500
>C16-C34 fraction	7,600
Benzo(a)pyrene	53
Sum of PAHs	3,700
Benzo(a)pyrene TEQ calc (Half)	74
Benzo(a)pyrene TEQ calc (Zero)	74
Benzo(a)pyrene TEQ calc(PQL)	74

Location	SV44
Date	12-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	8,400
>C16-C34 fraction	21,000
Benzo(a)pyrene	42
Sum of PAHs	2,800
Benzo(a)pyrene TEQ calc (Half)	62
Benzo(a)pyrene TEQ calc (Zero)	62
Benzo(a)pyrene TEQ calc(PQL)	62

Direct Contact Intrusive Maintenance Worker (CRC CARE) (0-3m)
Commerical/ Industrial (0-3m)
Medium/High Density Residential (0-3m)
Low Density Residential (0-3m)
Recreation/ Open Space (0-3m)

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 09 Sep 2025

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

SOIL ANALYTICAL RESULTS – TIER 1 ASSESSMENT - DIRECT CONTACT

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure

F4a

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A3 size

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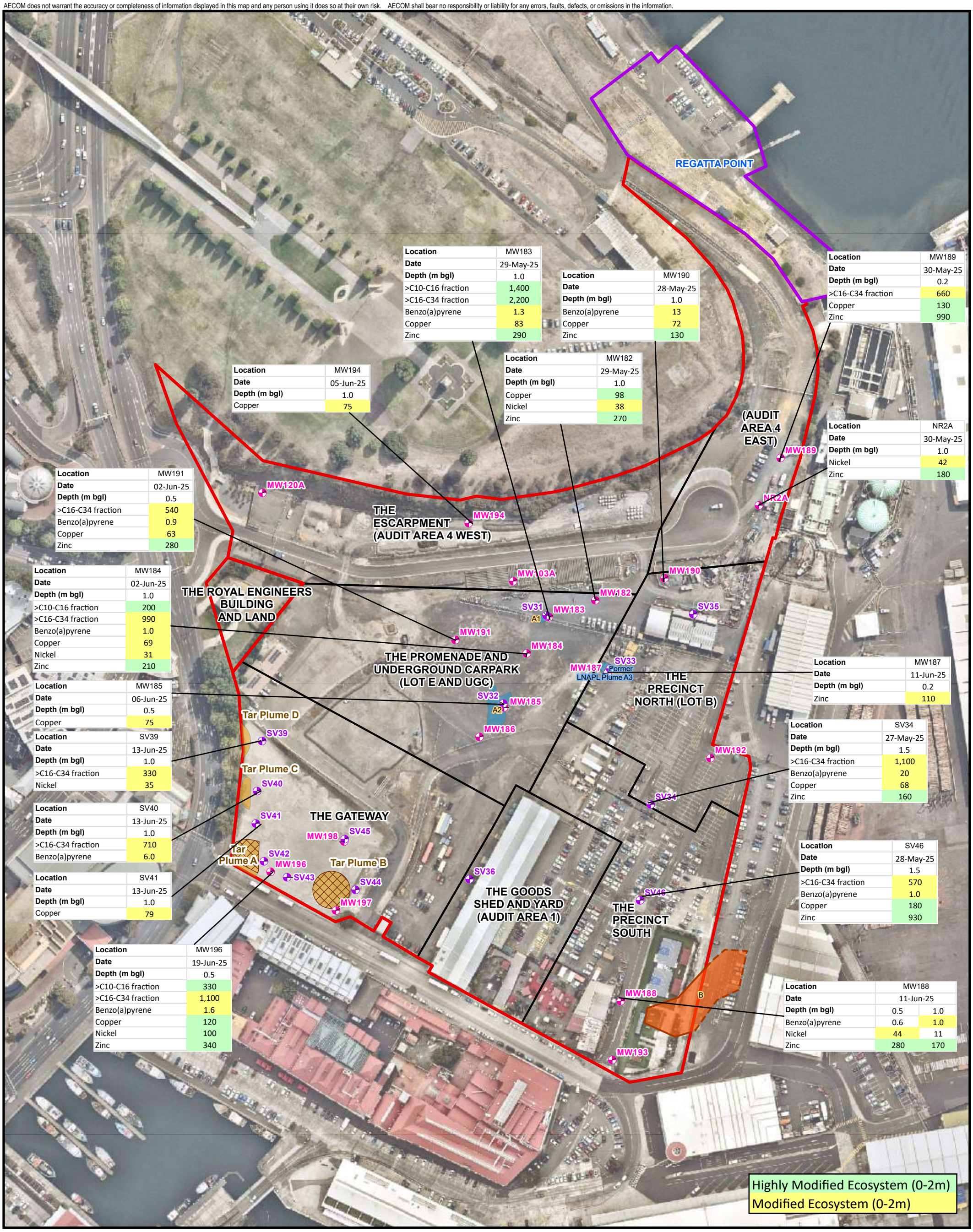

Location	MW183
Date	29-May-25
Depth (m bgl)	1.0
>C10-C16 fraction	1,400
>C16-C34 fraction	2,200
Benzo(a)pyrene	1.3
Copper	83
Zinc	290

Location	MW190
Date	28-May-25
Depth (m bgl)	1.0
Benzo(a)pyrene	13
Copper	72
Zinc	130

Location	MW189
Date	30-May-25
Depth (m bgl)	0.2
>C16-C34 fraction	660
Copper	130
Zinc	990

Location	MW194
Date	05-Jun-25
Depth (m bgl)	1.0
Copper	75

Location	MW182
Date	29-May-25
Depth (m bgl)	1.0
Copper	98
Nickel	38
Zinc	270

Location	NR2A
Date	30-May-25
Depth (m bgl)	1.0
Nickel	42
Zinc	180

Location	MW191
Date	02-Jun-25
Depth (m bgl)	0.5
>C16-C34 fraction	540
Benzo(a)pyrene	0.9
Copper	63
Zinc	280

Location	MW184
Date	02-Jun-25
Depth (m bgl)	1.0
>C10-C16 fraction	200
>C16-C34 fraction	990
Benzo(a)pyrene	1.0
Copper	69
Nickel	31
Zinc	210

Location	MW187
Date	11-Jun-25
Depth (m bgl)	0.2
Zinc	110

Location	MW185
Date	06-Jun-25
Depth (m bgl)	0.5
Copper	75

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
>C16-C34 fraction	1,100
Benzo(a)pyrene	20
Copper	68
Zinc	160

Location	SV39
Date	13-Jun-25
Depth (m bgl)	1.0
>C16-C34 fraction	330
Nickel	35

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
>C16-C34 fraction	710
Benzo(a)pyrene	6.0

Location	SV41
Date	13-Jun-25
Depth (m bgl)	1.0
Copper	79

Location	SV46
Date	28-May-25
Depth (m bgl)	1.5
>C16-C34 fraction	570
Benzo(a)pyrene	1.0
Copper	180
Zinc	930

Location	MW196
Date	19-Jun-25
Depth (m bgl)	0.5
>C10-C16 fraction	330
>C16-C34 fraction	1,100
Benzo(a)pyrene	1.6
Copper	120
Nickel	100
Zinc	340

Location	MW188	
Date	11-Jun-25	
Depth (m bgl)	0.5	1.0
Benzo(a)pyrene	0.6	1.0
Nickel	44	11
Zinc	280	170

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 09 Sep 2025

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

SOIL ANALYTICAL RESULTS – TIER 1 ASSESSMENT - ECOSYSTEM

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure

F4b

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A3 size

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REGATTA POINT

Location	MW183	
Date	29-May-25	
Depth (m bgl)	1.0	3.0
>C10-C16 (minus Naphthalene)(F2)	1,400	640

Location	MW190
Date	28-May-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	150

(AUDIT AREA 4 EAST)

MW189

MW120A

NR2A

THE ESCARPMENT (AUDIT AREA 4 WEST)

MW194

Location	MW184
Date	02-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	200

MW103A

MW190

THE ROYAL ENGINEERS BUILDING AND LAND

MW182

SV31

A1

MW183

SV35

Location	MW185
Date	06-Jun-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	1,700

MW191

MW184

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

MW187

SV33

Former LNAPL Plume A3

Location	SV32
Date	06-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	600

Location	MW186
Date	10-Jun-25
Depth (m bgl)	3.5
>C10-C16 (minus Naphthalene)(F2)	410

SV32

A2

MW185

THE PRECINCT NORTH (LOT B)

Tar Plume D

SV39

MW186

MW192

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	65.3

Tar Plume C

SV40

SV34

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
>C10-C16 (minus Naphthalene)(F2)	96.9

Location	SV42
Date	13-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	315.3

SV41

THE GATEWAY

MW198

SV45

Tar Plume A

SV42

MW196

Tar Plume B

SV36

Location	MW196	
Date	19-Jun-25	
Depth (m bgl)	0.5	2.0
>C10-C16 (minus Naphthalene)(F2)	330	488

SV43

SV44

THE GOODS SHED AND YARD (AUDIT AREA 1)

SV46

THE PRECINCT SOUTH

MW197

Location	SV43
Date	12-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	4,500
Total Xylenes	210
Naphthalene	1,900

MW188

B

Location	MW198
Date	13-Jun-25
Depth (m bgl)	0.2
>C10-C16 (minus Naphthalene)(F2)	284
Benzene	0.9
Naphthalene	32

MW193

Location	SV44
Date	12-Jun-25
Depth (m bgl)	2.0
C6-C10 fraction (minus BTEX)(F1)	330
>C10-C16 (minus Naphthalene)(F2)	8,400
Benzene	38
Naphthalene	1,100

CRC CARE 2011 HSL A&B (SAND)

CRC CARE 2011 HSL D (SAND)

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 09 Sep 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

SOIL ANALYTICAL RESULTS – TIER 1 ASSESSMENT - VAPOUR INTRUSION

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure

F4c

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A3 size

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REGATTA POINT

Location	SV32
Date	6-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	600

Location	MW183	
Date	29-May-25	
Depth (m bgl)	1.0	3.0
>C10-C16 (minus Naphthalene)(F2)	1,400	640

(AUDIT AREA 4 EAST)

MW189

Location	MW184
Date	02-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	200

MW120A

NR2A

THE ESCARPMENT (AUDIT AREA 4 WEST)

MW194

MW103A

MW190

MW182

THE ROYAL ENGINEERS BUILDING AND LAND

SV31 A1

MW183

SV35

MW191

MW184

Location	MW185
Date	06-Jun-25
Depth (m bgl)	3.0
>C10-C16 (minus Naphthalene)(F2)	1,700

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

MW187

SV33

Former LNAPL Plume A3

THE PRECINCT NORTH (LOT B)

SV32 A2

MW185

Tar Plume D

MW186

Location	MW186
Date	10-Jun-25
Depth (m bgl)	3.5
>C10-C16 (minus Naphthalene)(F2)	410

SV39

Location	SV40
Date	13-Jun-25
Depth (m bgl)	1.0
>C10-C16 (minus Naphthalene)(F2)	65.3

MW192

Tar Plume C

SV40

SV34

Location	SV34
Date	27-May-25
Depth (m bgl)	1.5
>C10-C16 (minus Naphthalene)(F2)	96.9

SV41

THE GATEWAY

MW198

SV45

Location	SV41
Date	13-Jun-25
Depth (m bgl)	1.0
Naphthalene	3.0

Tar Plume A

SV42

MW196

SV43

Tar Plume B

SV44

SV36

MW197

THE GOODS SHED AND YARD (AUDIT AREA 1)

SV46

THE PRECINCT SOUTH

Location	SV42
Date	13-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	315.3

Location	MW196	
Date	29-May-25	
Depth (m bgl)	0.5	2.0
>C10-C16 (minus Naphthalene)(F2)	330	488

MW188

B

MW193

Location	SV43
Date	12-Jun-25
Depth (m bgl)	2.0
>C10-C16 (minus Naphthalene)(F2)	4,500
Total Xylenes	210
Naphthalene	1,900

Location	MW198
Date	13-Jun-25
Depth (m bgl)	0.2
>C10-C16 (minus Naphthalene)(F2)	284
Benzene	0.9
Naphthalene	32

Location	SV44
Date	12-Jun-25
Depth (m bgl)	2.0
C6-C10 fraction (minus BTEX)(F1)	330
>C10-C16 (minus Naphthalene)(F2)	8,400
Benzene	38
Naphthalene	1,100

Potential Future Commercial Light Industrial Workers (low-rise slab-on-grade)
Potential Future Comm/Light Ind Workers (working within a basement)
Potential Future Residents (building with a basement car park)
Potential Future Residents (low rise slab-on-grade)
Potential Future Residents (unknown construction, or multi-storey building)
Potential Future Comm (unknown construction or multi-storey building)

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 09 Sep 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

1:2,000 (when printed at A3)

Legend

- New Groundwater Well
- New Soil Vapour Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/kg unless otherwise noted.

SOIL ANALYTICAL RESULTS – REMEDIATION CRITERIA

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure

F4d

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A3 size

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Drinking Water (Aesthetics)
Drinking Water (Health)
Recreation (Primary / Secondary Contact)

Location	MW120A
Date	25-Jun-25
Benzene (µg/L)	170
Toluene (µg/L)	59
Naphthalene (µg/L)	2
Chloride	760
Sodium	590
Sulfate as SO4	350
Total Dissolved Solids	2,000
Sum of PAHs (µg/L)	2
PFOS (µg/L)	0.024

Location	MW180
Date	18-Jun-25
Cadmium (filtered)	0.012
Chloride	14,000
Sodium	7,400
Sulfate as SO4	2,100
Total Dissolved Solids	28,000

Location	NR1
Date	17-Jun-25
Manganese (filtered)	2.3
Sodium	280
Total Dissolved Solids	720
Sum of PAHs (µg/L)	3

Location	MW178
Date	17-Jun-25
Sodium	200
Total Dissolved Solids	660

Location	MW189
Date	18-Jun-25
Manganese (filtered)	1.4
Total Dissolved Solids	610

Location	MW179
Date	17-Jun-25
Manganese (filtered)	0.59
Sodium	190

Location	MW159
Date	20-Jun-25
Manganese (filtered)	0.94
Total Dissolved Solids	780

Location	MW121
Date	18-Jun-25
Total Dissolved Solids	830
PFOS (µg/L)	0.019

Location	MW191
Date	18-Jun-25
Manganese (filtered)	0.49
Total Dissolved Solids	1,100

Location	MW182
Date	17-Jun-25
Manganese (filtered)	1.1
Total Dissolved Solids	1,000

Location	TW02
Date	17-Jun-25
Naphthalene (µg/L)	48
Manganese (filtered)	0.97
Cyanide Total	100
Chloride	13,000
Sodium	6,900
Total Dissolved Solids	12,000
Sum of PAHs (µg/L)	68

Location	NR2A
Date	20-Jun-25
Manganese (filtered)	0.59
Total Dissolved Solids	800
Sum of PAHs (µg/L)	14

Location	MW36
Date	18-Jun-25
Manganese (filtered)	2.1
Sulfate as SO4	360
Total Dissolved Solids	1,100

Location	MW184
Date	18-Jun-25
Manganese (filtered)	0.25
Cyanide Total	170
Sodium	290
Total Dissolved Solids	1,100

Location	MW183
Date	17-Jun-25
Manganese (filtered)	0.58
Sodium	190
Total Dissolved Solids	680

Location	MW167
Date	20-Jun-25
Chloride	320
Sodium	310
Total Dissolved Solids	1,500

Location	MW194
Date	17-Jun-25
Chloride	270
Sulfate as SO4	460
Total Dissolved Solids	1,500
PFOS (µg/L)	0.017

Location	MW190
Date	17-Jun-25
Manganese (filtered)	0.13
Total Dissolved Solids	720
Sum of PAHs (µg/L)	3

Location	MW186
Date	25-Jun-25
Manganese (filtered)	1.6
Cyanide Total	96
Total Dissolved Solids	710

Location	BG1
Date	17-Jun-25
Sodium	200
Sulfate as SO4	320
Total Dissolved Solids	1,300
PFOS (µg/L)	0.014

Location	RN2
Date	18-Jun-25
Manganese (filtered)	0.63
Chloride	850
Sodium	590
Total Dissolved Solids	2,800
Sum of PAHs (µg/L)	60

Location	MW102
Date	18-Jun-25
Manganese (filtered)	0.63
Cyanide Total	520
Total Dissolved Solids	1,300

Location	MW155
Date	19-Jun-25
Naphthalene (µg/L)	3
Manganese (filtered)	1.7
Chloride	3,000
Sodium	1,300
Total Dissolved Solids	5,700
Sum of PAHs (µg/L)	6

Location	MW101
Date	24-Jun-25
Benzene (µg/L)	2
Manganese (filtered)	0.95
Cyanide Total	230

Location	RN4
Date	18-Jun-25
Manganese (filtered)	1.4
Chloride	280
Sodium	240
Total Dissolved Solids	1,100

Location	MW173
Date	18-Jun-25
Manganese (filtered)	0.29
Cyanide Total	190
Total Dissolved Solids	950

Location	MW192
Date	18-Jun-25
Manganese (filtered)	0.60
Total Dissolved Solids	840

Location	MW128A
Date	25-Jun-25
Benzene (µg/L)	4
Total Xylenes (µg/L)	24
Cyanide Total	1,500
Nitrate (as N)	70
Sulfate as SO4	780
Total Dissolved Solids	2,300

Location	MW122
Date	19-Jun-25
Manganese (filtered)	2.9
Sodium	200
Total Dissolved Solids	1,400

Location	MW198
Date	25-Jun-25
Naphthalene (µg/L)	3
Manganese (filtered)	4.0
Cyanide Total	650
Nitrate (as N)	17
Sulfate as SO4	480
Total Dissolved Solids	1,300
Sum of PAHs (µg/L)	3

Location	MW55
Date	19-Jun-25
Manganese (filtered)	1.1
Chloride	450
Sodium	460
Total Dissolved Solids	2,500

Location	MW164
Date	23-Jun-25
Manganese (filtered)	1.3
Sum of PAHs (µg/L)	4

Location	MW196
Date	25-Jun-25
Manganese (filtered)	0.37
Cyanide Total	160
Sulfate as SO4	260
Total Dissolved Solids	780

Location	MW6
Date	23-Jun-25
Manganese (filtered)	0.52
Sum of PAHs (µg/L)	6
PFOS (µg/L)	0.012

Location	BH2_PS
Date	19-Jun-25
Manganese (filtered)	0.68
Sodium	200
Total Dissolved Solids	1,400

Location	MW148
Date	19-Jun-25
Manganese (filtered)	1.7
Total Dissolved Solids	1,200

Location	MW188
Date	24-Jun-25
Manganese (filtered)	0.91
Total Dissolved Solids	1,000
Sum of PAHs (µg/L)	7

Location	MW130_GHD
Date	12-Jun-25
Benzene (µg/L)	650
Toluene (µg/L)	52
Ethylbenzene (µg/L)	390
o-Xylene	280
Naphthalene (µg/L)	260
Manganese (filtered)	1.5
Total Dissolved Solids	990

Location	MW133_GHD
Date	12-Jun-25
Naphthalene (µg/L)	4
Manganese (filtered)	1.2
Total Dissolved Solids	750
Sum of PAHs (µg/L)	85

Location	MW16
Date	23-Jun-25
PFOS (µg/L)	0.30
Sum (PFHxS + PFOS) (µg/L)	0.308
Manganese (filtered)	0.41
Sum of PAHs (µg/L)	6
PFOS (µg/L)	0.3

Location	MW150
Date	12-Jun-25
Manganese (filtered)	0.26
Total Dissolved Solids	720
Sum of PAHs (µg/L)	5

Location	MW193
Date	24-Jun-25
Manganese (filtered)	1.00
Total Dissolved Solids	750

Location	MW132_GHD
Date	12-Jun-25
Benzene (µg/L)	250
Ethylbenzene (µg/L)	9
Naphthalene (µg/L)	11
Manganese (filtered)	2.2
Total Dissolved Solids	860
Sum of PAHs (µg/L)	120

Location	MW197
Date	25-Jun-25
Benzene (µg/L)	120
Toluene (µg/L)	52
Total Xylenes (µg/L)	43
Naphthalene (µg/L)	490
2-Methylphenol (o-Cresol) (µg/L)	1,700
Total Cresols (µg/L)	2,200
2,4-Dimethylphenol (µg/L)	1,100
Manganese (filtered)	0.11
Cyanide Total	230
Sum of PAHs (µg/L)	560

Location	MW125A
Date	24-Jun-25
Manganese (filtered)	0.67
Sum of PAHs (µg/L)	10

Location	MW152
Date	19-Jun-25
Naphthalene (µg/L)	2
Manganese (filtered)	0.40
Chloride	1,400
Sodium	1,200
Total Dissolved Solids	4,800
Sum of PAHs (µg/L)	21

Location	MW127A
Date	19-Jun-25
Manganese (filtered)	2.7
Chloride	660
Sodium	410
Total Dissolved Solids	2,400

Location	MW151
Date	19-Jun-25
Manganese (filtered)	1.5
Chloride	2,000
Sodium	1,000
Total Dissolved Solids	4,200
Sum of PAHs (µg/L)	4

Location	MW153
Date	12-Jun-25
Manganese (filtered)	0.25
Chloride	12,000
Sodium	5,600
Total Dissolved Solids	20,000

Location	MW126A
Date	24-Jun-25
Manganese (filtered)	0.57
Cyanide Total	160
Total Dissolved Solids	1,000
Sum of PAHs (µg/L)	72

Location	MW60
Date	24-Jun-25
Manganese (filtered)	0.67
Total Dissolved Solids	960

MW180 MW178 REGATTA POINT MW177A MW181 MW179 MW161 MW160 MW189 MW159 NR2A MW167 MW155 PC11 PC15 MW122 MW192 MW55 C1 MW164 MW6 PC13 MW03 MW05 MW135_GHD MW136_GHD MW16 MW126A MW60 MW151 MW152 MW153 MW163 MW139 NR1 MW120A BG1 MW194 THE ESCARPMENT (AUDIT AREA 4 WEST) THE ROYAL ENGINEERS BUILDING AND LAND MW121 MW191 MW184 MW103A MW182 MW183 A1 MW177 Unknown Well TW01 MW190 TW02 THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC) Former LNAPL Plume A3 MW187 RN2 MW36 MW185 A2 MW146 THE PRECINCT NORTH (LOT B) Tar Plume D MW102 MW173 MW186 RN4 MW176 MW101 Tar Plume C MW192 MW162 MW128A MW128B MW175 C1 THE GATEWAY BH2_PS MW198 MW163 Tar Plume A MW196 Tar Plume B MW148 MW122 MW55 MW123A MW123B MW130_GHD MW131_GHD MW132_GHD MW197 MW100 MW129 MW149 RS6 THE GOODS SHED AND YARD (AUDIT AREA MW127A MW127 MW164 MW133_GHD MW124A MW124B MW6 PC13 MW03 MW188 PW02 B S8 MW05 MW135_GHD MW154 MW136_GHD MW150 MW125A MW125B MW193 MW126A MW16 MW151 MW152 MW153 PC08

PROJECT ID	60321835
CREATED BY	PK
LAST MODIFIED	PK 09 Sep 2025

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 30 60 120
metres
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Legend
- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/L unless otherwise noted.

GROUNDWATER ANALYTICAL RESULTS – TIER 1 ASSESSMENT - DRINKING WATER AND RECREATION

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure
F5a

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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Buildings and Structures (AS2159)
Ecosystem Protection (90%)
Irrigation
Stock Watering

Location	MW180
Date	18-Jun-25
Zinc (filtered)	0.38
Chloride	14,000
Sulfate as SO4	***2,100***

Location	MW178
Date	18-Jun-25
Copper (filtered)	0.006
Zinc (filtered)	0.031

Location	MW179
Date	17-Jun-25
>C10-C40 fraction (sum) (µ	630
C10-C36 fraction (sum)	650
Manganese (filtered)	0.59

Location	MW182
Date	17-Jun-25
Manganese (filtered)	1.1
Zinc (filtered)	0.031

Location	NR1
Date	17-Jun-25
>C10-C40 fraction (sum) (µ	2,190
C10-C36 fraction (sum)	2,110
Manganese (filtered)	2.3

Location	MW183
Date	17-Jun-25
>C10-C40 fraction (sum) (µg/L)	760
>C10-C36 fraction (sum) (µg/L)	790
Manganese (filtered)	0.58

Location	NR2A
Date	20-Jun-25
Fluoranthene (µg/L)	2
Manganese (filtered)	0.59

Location	MW121
Date	18-Jun-25
Copper (filtered)	0.020

Location	MW120A
Date	25-Jun-25
2,4-Dimethylphenol (µg/L)	26

Location	MW194
Date	17-Jun-25
Copper (filtered)	0.019

Location	MW159
Date	20-Jun-25
Manganese (filtered)	0.94

Location	MW36
Date	18-Jun-25
Copper (filtered)	0.011
Manganese (filtered)	2.1

Location	MW190
Date	17-Jun-25
Manganese (filtered)	0.13

Location	MW184
Date	18-Jun-25
Manganese (filtered)	0.25

Location	MW189
Date	18-Jun-25
Manganese (filtered)	1.4

Location	MW102
Date	18-Jun-25
Copper (filtered)	0.009
Manganese (filtered)	0.63
Ammonia (as N)	9.9

Location	MW191
Date	18-Jun-25
Copper (filtered)	0.010
Manganese (filtered)	0.49

Location	MW101
Date	24-Jun-25
Manganese (filtered)	0.95
Cyanide (Free)	0.014

Location	MW173
Date	18-Jun-25
Manganese (filtered)	0.29

Location	MW167
Date	20-Jun-25
Copper (filtered)	0.012
Manganese (filtered)	0.084
Zinc (filtered)	0.24

Location	MW186
Date	25-Jun-25
>C10-C40 fraction (sum) (µg/L)	810
Manganese (filtered)	1.6

Location	TW02
Date	17-Jun-25
Phenanthrene (µg/L)	7
Manganese (filtered)	0.97
Chloride	13,000

Location	MW128A
Date	25-Jun-25
Copper (filtered)	0.036
Manganese (filtered)	0.083
Cyanide (Free)	0.031
Ammonia (as N)	8.4

Location	RN2
Date	18-Jun-25
Anthracene (µg/L)	4
Phenanthrene (µg/L)	19
Fluoranthene (µg/L)	3
Manganese (filtered)	0.63
Ammonia (as N)	12

Location	BH2_PS
Date	19-Jun-25
Manganese (filtered)	0.68

Location	MW198
Date	25-Jun-25
Manganese (filtered)	4.0
Cyanide (Free)	0.020
Ammonia (as N)	18

Location	RN4
Date	18-Jun-25
Manganese (filtered)	1.4
Ammonia (as N)	9.2

Location	MW196
Date	25-Jun-25
Copper (filtered)	0.004
Manganese (filtered)	0.37
Zinc (filtered)	0.040
Ammonia (as N)	3.4

Location	MW192
Date	18-Jun-25
Manganese (filtered)	0.60
Ammonia (as N)	41

Location	MW123A
Date	12-Jun-25
Copper (filtered)	0.018

Location	MW55
Date	19-Jun-25
Manganese (filtered)	1.1
Ammonia (as N)	39

Location	MW122
Date	19-Jun-25
Copper (filtered)	0.006
Manganese (filtered)	2.9

Location	MW197
Date	25-Jun-25
>C10-C40 fraction (sum) (µg/L)	9,500
C10-C36 fraction (sum)	11,400
Total Xylenes (µg/L)	43
Naphthalene (µg/L)	490
Anthracene (µg/L)	3
Phenanthrene (µg/L)	10
Fluoranthene (µg/L)	2
Phenol (µg/L)	600
2-Methylphenol (o-Cresol) (µg/L)	1,700
2,4-Dimethylphenol (µg/L)	1,100
Manganese (filtered)	0.11
Ammonia (as N)	3.3

Location	MW127A
Date	19-Jun-25
Manganese (filtered)	2.7
Ammonia (as N)	29

Location	MW164
Date	23-Jun-25
Fluoranthene (µg/L)	2
Manganese (filtered)	1.3
Ammonia (as N)	2.1

Location	RS6
Date	19-Jun-25
Manganese (filtered)	0.45
Ammonia (as N)	4.2

Location	MW193
Date	24-Jun-25
Manganese (filtered)	1.00
Ammonia (as N)	29

Location	MW6
Date	23-Jun-25
Phenanthrene (µg/L)	2
Manganese (filtered)	0.52
Ammonia (as N)	14

Location	MW148
Date	19-Jun-25
Manganese (filtered)	1.7
Ammonia (as N)	3.8

Location	MW16
Date	23-Jun-25
Phenanthrene (µg/L)	2
PFOS (µg/L)	***0.30***
Sum (PFHxS + PFOS) (µg/L)	***0.308***
Manganese (filtered)	0.41
Ammonia (as N)	2.8

Location	MW133_GHD
Date	12-Jun-25
Anthracene (µg/L)	7
Phenanthrene (µg/L)	18
Fluoranthene (µg/L)	3
Manganese (filtered)	1.2
Ammonia (as N)	7.0

Location	MW150
Date	12-Jun-25
Manganese (filtered)	0.26
Ammonia (as N)	28

Location	MW130_GHD
Date	12-Jun-25
>C10-C40 fraction (sum) (µg/L)	1,700
C10-C36 fraction (sum)	1,900
Ethylbenzene (µg/L)	390
Naphthalene (µg/L)	260
Anthracene (µg/L)	3
Phenanthrene (µg/L)	14
Fluoranthene (µg/L)	2
Manganese (filtered)	1.5
Ammonia (as N)	17

Location	MW151
Date	19-Jun-25
Manganese (filtered)	1.5
Ammonia (as N)	21

Location	MW188
Date	24-Jun-25
Anthracene (µg/L)	2
Phenanthrene (µg/L)	2
Manganese (filtered)	0.91
Ammonia (as N)	33

Location	MW60
Date	24-Jun-25
Manganese (filtered)	0.67
Ammonia (as N)	32

Location	MW132_GHD
Date	12-Jun-25
>C10-C40 fraction (sum) (µg/L)	860
C10-C36 fraction (sum)	920
Ethylbenzene (µg/L)	9
Anthracene (µg/L)	6
Fluoranthene (µg/L)	2
Manganese (filtered)	2.2
Ammonia (as N)	22

Location	MW152
Date	19-Jun-25
Phenanthrene (µg/L)	2
Manganese (filtered)	0.40
Ammonia (as N)	43

Location	MW125A
Date	24-Jun-25
Anthracene (µg/L)	2
Phenanthrene (µg/L)	2
Fluoranthene (µg/L)	2
Manganese (filtered)	0.67
Ammonia (as N)	6.4

Location	MW126A
Date	24-Jun-25
Anthracene (µg/L)	11
Phenanthrene (µg/L)	13
Fluoranthene (µg/L)	3
Manganese (filtered)	0.57
Ammonia (as N)	46

Location	MW153
Date	12-Jun-25
Manganese (filtered)	0.25
Ammonia (as N)	5.2
Chloride	12,000

MW180 MW178 REGATTA POINT MW177A MW181 MW179 MW161 MW160 MW159 NR1 MW189 (AUDIT AREA 4 EAST) NR2A MW120A THE ESCARPMENT (AUDIT AREA 4 WEST) BG1 MW194 TW01 MW190 MW103A MW182 THE ROYAL ENGINEERS BUILDING AND LAND MW121 MW183 A1 Unknown Well MW177 MW167 MW191 MW184 TW02 THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC) Former LNAPL Plume A3 MW187 RN2 MW36 MW185 A2 MW155 PC15 THE PRECINCT NORTH (LOT B) MW146 Tar Plume D MW102 MW173 MW186 RN4 MW101 MW176 MW192 Tar Plume C MW162 MW128A MW128B MW175 C1 THE GATEWAY MW198 BH2_PS MW148 MW122 MW55 Tar Plume A MW196 Tar Plume B THE GOODS SHED AND YARD (AUDIT AREA 1) MW123A MW123B MW197 MW100 MW130_GHD MW127A MW127B MW164 MW131_GHD MW132_GHD RS6 MW129 MW193 MW6 MW133_GHD MW124A MW124B MW03 MW188 PW02 B S8 MW05 MW154 MW135_GHD MW136_GHD MW150 MW125A MW125B MW193 MW126A MW16 S9 MW60 MW126B PC12 THE PRECINCT SOUTH MW151 MW152 MW153 PC14 PC08

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 09 Sep 2025

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 30 60 120
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Legend
- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in mg/L unless otherwise noted.

GROUNDWATER ANALYTICAL RESULTS – TIER 1 ASSESSMENT - BUILDING, ECOSYSTEMS, IRRIGATION, STOCK WATERING

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure F5b

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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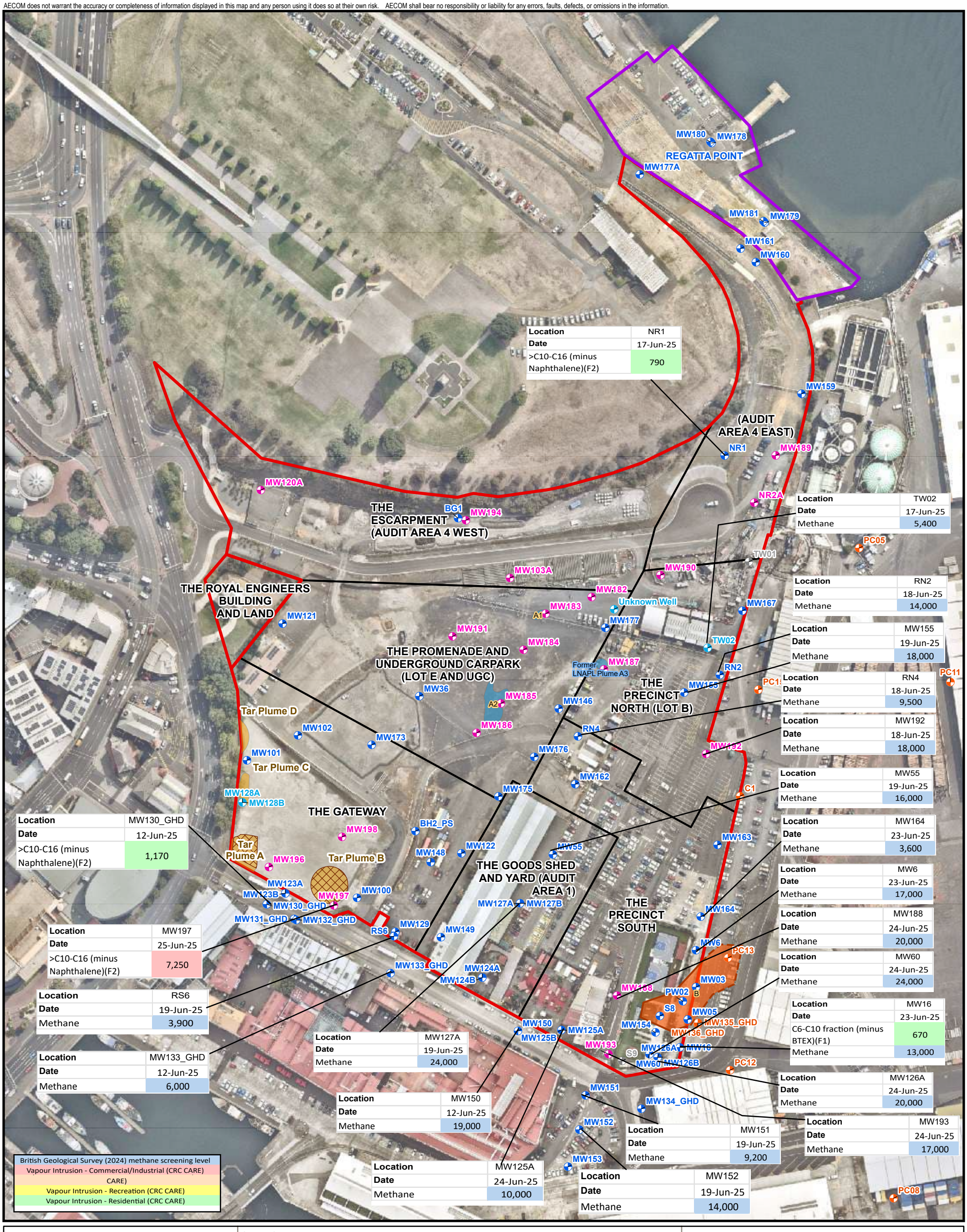

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

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Legend

- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Note - All concentrations in µg/L unless otherwise noted.

GROUNDWATER ANALYTICAL RESULTS – TIER 1 ASSESSMENT - VAPOUR INTRUSION

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure

F5c

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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REGATTA POINT

(AUDIT AREA 4 EAST)

THE ESCARPMENT (AUDIT AREA 4 WEST)

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

THE PRECINCT NORTH (LOT B)

THE GATEWAY

THE GOODS SHED AND YARD (AUDIT AREA 1)

THE PRECINCT SOUTH

Former LNAPL Plume A3

Tar Plume A

Tar Plume B

Tar Plume C

Tar Plume D

Location	SV31
Date	17-Jun-25
Depth (m bgl)	2.5
Methane	3.7

Location	SV35
Date	20-Jun-25
Depth (m bgl)	2.5
Methane	5.46

Location	SV33
Date	18-Jun-25
Depth (m bgl)	2.5
Methane	5.11

Location	SV32
Date	18-Jun-25
Depth (m bgl)	2.5
Methane	10.4

Location	SV18
Date	24-Jun-25
Depth (m bgl)	2.1
Methane	23.5

Location	SV34
Date	24-Jun-25
Depth (m bgl)	2.5
Methane	75.2

Location	SV41
Date	25-Jun-25
Depth (m bgl)	1.0
TPH >C8-C10 Aromatic Fraction (µg/m3)	250,000
Benzene (µg/m3)	290,000
Naphthalene (µg/m3)	44,000

Location	SV46
Date	23-Jun-25
Depth (m bgl)	1.45
Methane	6.15

Location	SV43
Date	27-Jun-25
Depth (m bgl)	1.85
Benzene (µg/m3)	77,000
Naphthalene (µg/m3)	6,500

Location	SV25
Date	23-Jun-25
Depth (m bgl)	1.6
Methane	35.1

Location	SV36
Date	18-Jun-25
Depth (m bgl)	2.5
Methane	2.31

Location	SV38
Date	24-Jun-25
Depth (m bgl)	0.2
Methane	2.23

Location	SV07
Date	23-Jun-25
Depth (m bgl)	0.5
Methane	6.38

CRC CARE 2013 Action Levels
Subsurface - Near Foundation
CRC CARE 2011 Appendix F
HSL A/B Residential (sand)
CRC CARE 2011 Appendix F
HSL D Commercial/ Industrial (sand)

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 05 Sep 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

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Legend

- New Soil Vapour Well
- Existing Soil Vapour Well
- Lost/Destroyed Well
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- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
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- Site Boundary

Note - All concentrations in %v/v unless otherwise noted.

TIER 1 ASSESSMENT - SOIL VAPOUR CRITERIA

Macquarie Point Development Corporation

Soil, Groundwater and Soil Vapour Investigation 2025

Macquarie Point, Hobart, TAS

Figure F6

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Table T1 - Groundwater Gauging Summary

Area	Well ID	Date Gauged	Easting[1]	Northing[1]	Top of Casing (m AHD)	Depth to LNAPL (m bTOC)	Depth to Groundwater (m bTOC)	LNAPL Thickness (m)	Approximate Well Depth (m bgl)	SWL (m AHD)[2]	LNAPL-Corrected GW Elevation (mAHD)	Comments
Audit Area 4 East	MW145	16/06/2025	527626.9	5252642.5	7.907	-	-	-	-	-	-	PVC stickup on concrete embankment slope. Casing filled with concrete up to 10 cm bTOC
Audit Area 4 East	MW159	16/06/2025	527693.2	5252690.0	5.757	-	3.588	-	7.58	2.169	2.169	GC, NO
Audit Area 4 East	MW160	16/06/2025	527666.7	5252766.4	7.306	-	5.894	-	9.48	1.412	1.412	GC, NO
Audit Area 4 East	MW161	16/06/2025	527657.8	5252774.3	7.634	-	5.795	-	6.45	1.839	1.839	GC, NO
Audit Area 4 East	MW189	16/06/2025	527678.3	5252654.1	5.233	-	3.124	-	6.55	2.109	2.109	GC, NO
Audit Area 4 East	NR1	16/06/2025	527648.6	5252654.0	8.295	-	5.513	-	8.00	2.782	2.782	GC, NO, 6% LEL
Audit Area 4 East	NR2A	16/06/2025	527665.8	5252626.7	5.073	-	4.053	-	5.92	1.020	1.020	GC, NO
Offsite	MW123A	13/06/2025	527393.3	5252399.7	3.223	-	1.992	-	3.65	1.231	1.231	GC, NO, 2 x bolts missing
Offsite	MW123B	13/06/2025	527393.2	5252399.7	3.278	-	2.816	-	17.45	0.462	0.462	GC, NO, 2 x bolts missing
Offsite	MW130_GHD	12/06/2025	527382.5	5252393.4	2.728	-	1.978	-	4.71	0.750	0.750	Grass in gatic, new gatic lid installed
Offsite	MW131_GHD	12/06/2025	527398.4	5252384.9	2.611	-	1.865	-	9.66	0.746	0.746	GC, NO, Datalogger
Offsite	MW131_GHD	13/06/2025	527398.4	5252384.9	2.611	-	1.973	-	9.66	0.638	0.638	GC, NO
Offsite	MW132_GHD	12/06/2025	527399.6	5252384.3	2.631	-	1.850	-	3.89	0.781	0.781	GC, NO, 2 x bolts missing
Offsite	MW133_GHD	12/06/2025	527454.4	5252353.4	3.127	-	2.425	-	4.45	0.702	0.702	GC, NO, Datalogger
Offsite	MW134_GHD	16/06/2025	527600.2	5252274.6	3.057	-	2.630	-	5.99	0.427	0.427	LEL Over
Offsite	MW150	13/06/2025	527528.5	5252319.8	3.265	-	2.483	-	4.39	0.782	0.782	GC, NO, H2O in gatic above TOC, 2 x bolts missing
Offsite	MW151	12/06/2025	527567.7	5252282.4	2.553	-	2.126	-	4.87	0.427	0.427	GC, NO
Offsite	MW152	12/06/2025	527564.2	5252262.4	2.563	-	2.140	-	4.98	0.423	0.423	GC, NO, 1% LEL
Offsite	MW153	12/06/2025	527557.5	5252240.9	2.449	-	1.992	-	4.42	0.457	0.457	GC, NO
Regatta Point	MW177A	16/06/2025	527598.8	5252815.9	9.497	-	6.995	-	7.15	2.502	2.502	GC, NO
Regatta Point	MW178	16/06/2025	527641.0	5252835.6	1.282	-	0.804	-	4.85	0.478	0.478	GC, NO
Regatta Point	MW179	16/06/2025	527671.8	5252789.5	2.273	-	1.686	-	5.39	0.587	0.587	GC, NO
Regatta Point	MW180	16/06/2025	527640.3	5252836.4	1.243	-	0.761	-	1.89	0.482	0.482	GC, NO
Regatta Point	MW181	16/06/2025	527671.1	5252790.2	2.261	-	-	-	0.85	-	-	GC, NO, dry
The Escarpment	BG1	16/06/2025	527493.6	5252617.7	7.492	-	2.808	-	3.44	4.684	4.684	Data Logger
The Escarpment	MW103A	16/06/2025	527523.8	5252582.9	6.299	-	2.714	-	5.00	3.585	3.585	GC, NO
The Escarpment	MW120A	25/06/2025	527379.0	5252634.0	7.942	-	7.988	-	8.51	-0.046	-0.046	GC, NO, well dry for two weeks following installation (5 June), very slowly recharging
The Escarpment	MW194	16/06/2025	527498.2	5252616.5	7.465	-	3.494	-	5.96	3.971	3.971	GC, NO
The Gateway	BH2_PS	16/06/2025	527483.8	5252435.9	5.286	-	4.339	-	7.03	0.947	0.947	GC, NO
The Gateway	MW100	13/06/2025	527434.9	5252397.1	4.006	-	3.161	-	11.50	0.845	0.845	GC, NO
The Gateway	MW101	13/06/2025	527370.9	5252477.0	5.317	-	1.698	-	3.60	3.619	3.619	GC, NO
The Gateway	MW102	13/06/2025	527400.6	5252491.5	5.778	-	2.322	-	4.49	3.456	3.456	No gatic lid, dirt in gatic, NO
The Gateway	MW122	13/06/2025	527495.6	5252423.0	3.933	-	3.022	-	4.00	0.911	0.911	GC, NO
The Gateway	MW128A	13/06/2025	527368.3	5252452.6	5.207	-	1.523	-	2.98	3.684	3.684	GC, NO
The Gateway	MW128B	13/06/2025	527368.4	5252452.6	5.229	-	1.581	-	3.50	3.648	3.648	GC, NO
The Gateway	MW129	13/06/2025	527457.2	5252377.3	3.800	-	3.060	-	16.00	0.740	0.740	GC, NO
The Gateway	MW148	13/06/2025	527477.7	5252417.8	3.786	-	2.946	-	4.90	0.840	0.840	GC, NO
The Gateway	MW173	16/06/2025	527443.4	5252486.0	5.928	-	3.717	-	4.92	2.211	2.211	GC
The Gateway	MW196	25/06/2025	527383.7	5252415.0	3.299	-	2.099	-	6.03	1.200	1.200	
The Gateway	MW197	25/06/2025	527421.4	5252392.7	3.290	-	2.482	-	5.90	0.808	0.808	
The Gateway	MW198	16/06/2025	527426.2	5252432.5	3.201	-	2.242	-	5.21	0.959	0.959	GC, NO
The Gateway	RS6	13/06/2025	527456.3	5252374.8	3.792	-	3.003	-	5.50	0.789	0.789	GC, NO
The Goods Shed Yard	MW124A	13/06/2025	527507.7	5252350.8	3.767	-	2.995	-	5.00	0.772	0.772	GC, NO, Over LEL
The Goods Shed Yard	MW124B	13/06/2025	527507.7	5252350.8	3.738	-	2.985	-	11.30	0.753	0.753	GC, NO
The Goods Shed Yard	MW127A	13/06/2025	527529.6	5252394.0	3.896	-	3.109	-	4.70	0.787	0.787	GC, NO, Over LEL
The Goods Shed Yard	MW127B	13/06/2025	527529.7	5252394.0	3.866	-	3.130	-	16.80	0.736	0.736	GC, Organic odour, 77% LEL
The Goods Shed Yard	MW149	13/06/2025	527483.7	5252374.2	4.024	-	3.254	-	4.70	0.770	0.770	GC, NO
The Goods Shed Yard	MW55	13/06/2025	527548.7	5252422.3	3.789	-	2.963	-	5.00	0.826	0.826	GC, NO, Over LEL
The Precinct North	MW155	16/06/2025	527625.0	5252516.4	3.929	-	2.950	-	4.51	0.979	0.979	GC, NO, NS, 44% LEL
The Precinct North	MW167	16/06/2025	527658.9	5252563.9	4.164	-	2.480	-	4.83	1.684	1.684	GC, NO
The Precinct North	MW187	16/06/2025	527578.4	5252529.9	4.258	-	3.212	-	9.35	1.046	1.046	GC, NO, HC Sheen
The Precinct North	MW190	16/06/2025	527611.3	5252584.7	4.703	-	3.494	-	4.93	1.209	1.209	GC, NO
The Precinct North	MW192	16/06/2025	527637.7	5252480.8	3.601	-	2.697	-	5.89	0.904	0.904	GC, NO, NS
The Precinct North	RN2	16/06/2025	527645.8	5252526.6	4.182	-	3.146	-	5.36	1.036	1.036	GC, NO, NS, Over LEL
The Precinct North	TW02	16/06/2025	527638.7	5252542.4	4.086	-	3.443	-	5.76	0.643	0.643	NO, New TOC, screen measures at 2.88 to 5.76 mBTOC
The Precinct South	MW05	16/06/2025	527625.6	5252326.2	2.663	-	1.870	-	4.33	0.793	0.793	HC odour, GC
The Precinct South	MW05	26/06/2025	527625.6	5252326.2	2.663	-	1.955	-	4.33	0.708	0.708	HC odour, Slime on probe
The Precinct South	MW125A	16/06/2025	527553.7	5252320.3	3.306	-	2.445	-	5.99	0.861	0.861	GC, NO
The Precinct South	MW125B	16/06/2025	527553.7	5252320.3	3.309	-	2.551	-	15.28	0.758	0.758	GC, NO
The Precinct South	MW126A	16/06/2025	527609.6	5252304.5	2.857	-	2.131	-	5.13	0.726	0.726	GC, NO
The Precinct South	MW126B	16/06/2025	527609.6	5252304.5	2.831	-	2.194	-	18.88	0.637	0.637	GC, NO
The Precinct South	MW154	16/06/2025	527608.4	5252319.0	2.827	-	1.925	-	3.80	0.902	0.902	H2O above TOC, 45% LEL
The Precinct South	MW154	26/06/2025	527608.4	5252319.0	2.827	-	2.087	-	3.82	0.740	0.740	Over LEL, Globules in bailer
The Precinct South	MW16	16/06/2025	527622.6	5252310.2	2.630	-	1.945	-	4.91	0.685	0.685	85% LEL
The Precinct South	MW162	16/06/2025	527561.7	5252463.1	4.079	-	3.149	-	4.73	0.930	0.930	GC, 6% LEL
The Precinct South	MW163	16/06/2025	527644.4	5252427.9	2.837	-	1.936	-	3.82	0.901	0.901	H2O above TOC, Over LEL
The Precinct South	MW164	16/06/2025	527634.7	5252386.2	2.685	-	1.477	-	3.86	1.208	1.208	GC, NO, NS, 28% LEL
The Precinct South	MW188	16/06/2025	527586.0	5252340.3	3.080	-	2.294	-	4.95	0.786	0.786	GC, NO, Over LEL
The Precinct South	MW193	16/06/2025	527581.1	5252306.3	2.924	-	2.192	-	5.48	0.732	0.732	GC, NO, Over LEL
The Precinct South	MW3	16/06/2025	527630.0	5252344.5	2.596	1.830	1.900	0.070	-	0.696	0.749	Over LEL, Brown NAPL on probe, HC odour
The Precinct South	MW6	16/06/2025	527631.9	5252366.7	2.896	-	2.070	-	4.89	0.826	0.826	Over LEL, Level logger
The Precinct South	MW60	16/06/2025	527604.8	5252306.3	2.864	-	2.033	-	2.95	0.831	0.831	GC, NO
The Precinct South	PW02	16/06/2025	527624.3	5252337.0	2.723	1.871	1.913	0.042	-	0.810	0.842	15% LEL, Brown NAPL on probe, HC odour
The Precinct South	RN4	16/06/2025	527563.3	5252490.9	4.045	-	3.170	-	5.17	0.875	0.875	GC, NO, NS, 32% LEL
The Precinct South	S8	16/06/2025	527610.9	5252328.5	2.830	1.909	1.990	0.081	-	0.840	0.902	Over LEL. Brown NAPL on probe, HC odour
The Precinct South	S9	16/06/2025	-	-	-	-	-	-	-	-	-	Lost under garden bed
The Promenade and Underground Carpark	MW121	13/06/2025	527391.6	5252556.4	6.957	-	3.000	-	5.00	3.957	3.957	No gatic lid, dirt in gatic, NO
The Promenade and Underground Carpark	MW146	16/06/2025	527552.1	5252507.1	4.186	-	3.235	-	5.49	0.951	0.951	GC, 24% LEL
The Promenade and Underground Carpark	MW175	13/06/2025	527517.1	5252456.4	3.904	-	2.952	-	4.00	0.952	0.952	GC, NO, 100mm PVC
The Promenade and Underground Carpark	MW176	16/06/2025	527537.9	5252479.3	4.036	-	3.080	-	4.58	0.956	0.956	GC, NO, NS
The Promenade and Underground Carpark	MW177	16/06/2025	527579.2	5252554.5	4.529	-	3.397	-	3.77	1.132	1.132	100mm well casing
The Promenade and Underground Carpark	MW182	16/06/2025	527571.3	5252571.9	4.858	-	3.605	-	5.62	1.253	1.253	GC, NO
The Promenade and Underground Carpark	MW183	16/06/2025	527544.5	5252562.2	5.052	-	3.835	-	5.82	1.217	1.217	GC, 53% LEL
The Promenade and Underground Carpark	MW184	16/06/2025	527531.7	5252541.2	4.864	-	3.584	-	5.85	1.280	1.280	GC, NO, NS
The Promenade and Underground Carpark	MW185	16/06/2025	527518.6	5252510.0	4.638	-	3.653	-	5.80	0.985	0.985	GC, HC sheen, Over LEL
The Promenade and Underground Carpark	MW186	16/06/2025	527504.4	5252492.9	4.832	-	3.370	-	5.91	1.462	1.462	GC, HC odour, NS, 18% LEL
The Promenade and Underground Carpark	MW191	13/06/2025	527490.4	5252549.0	5.659	-	3.818	-	4.58	1.841	1.841	GC, NO, 8% LEL
The Promenade and Underground Carpark	MW36	16/06/2025	527525.3	5252509.0	5.647	-	3.869	-	6.57	1.778	1.778	Gatic Missing

Notes:

m bgl - metres below ground level
TOC - top of casing
AHD - Australian Height Datum
SWL - Standing Water Level
GC - Good condition
NO - No odour
HC - Hydrocarbon
LEL - Lower explosive limit
H20 - Water
NS - no sheen
NAPL - non-aqueous phase liquid

[1] *The Easting and Northing coordinates presented are the MGA94 Coordinates*

[2] *SWL values in wells containing LNAPL have been corrected for the depression of the LNAPL/water interface in the well by multiplying the apparent LNAPL thickness in the well an LNAPL specific gravity of 0.76*

Table T2 - Groundwater Field Water Quality Parameters

Area	Well ID	Date Sampled	Easting[1]	Northing[1]	Stabilised Water Quality Parameters							Comments
					Dissolved Oxygen (mg/L)	EC (µS/cm)	Total Dissolved Solids (mg/L)	pH	Field ORP (mV)	Corrected ORP (mV)	Temperature (°C)	
Audit Area 4 East	MW159	20/06/2025	527693.2	5252690.0	0.62	915	595	7.37	78.4	278.4	15.8	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
Audit Area 4 East	MW160	17/06/2025	527666.7	5252766.4	3.96	807	525	7.40	36.0	236.0	16.0	No colour, no turbidity, no odour
Audit Area 4 East	MW161	19/06/2025	527657.8	5252774.3	3.55	837	544	7.36	51.9	251.9	15.8	No colour, no turbidity, no odour
Audit Area 4 East	MW189	18/06/2025	527678.3	5252654.1	0.17	726	472	6.98	-91.5	108.5	15.0	No colour, no turbidity, no odour, no sediment
Audit Area 4 East	NR1	17/06/2025	527648.6	5252654.0	0.28	1322	859	7.05	-140.0	60.0	16.6	No colour, no turbidity, no odour
Audit Area 4 East	NR2A	20/06/2025	527665.8	5252626.7	0.09	1017	661	7.10	-96.0	104.0	17.2	Light grey, low turbidity, no odour
Offsite	MW123A	13/06/2025	527393.3	5252399.7	1.53	783	509	11.95	-111.8	88.2	14.2	Light brown, medium turbidity, no odour
Offsite	MW130_GHD	12/06/2025	527382.5	5252393.4	0.50	1273	827	7.01	-342.8	-142.8	17.2	No colour, no turbidity, HC odour
Offsite	MW131_GHD	13/06/2025	527398.4	5252384.9	0.13	938	610	6.93	-49.0	151.0	16.6	No colour, low turbidity, no odour
Offsite	MW132_GHD	12/06/2025	527399.6	5252384.3	0.33	1149	747	6.94	-141.7	58.3	17.3	Light grey, no turbidity, chemical odour
Offsite	MW133_GHD	12/06/2025	527454.4	5252353.4	0.36	1053	684	6.76	-132.6	67.4	17.4	No colour, no turbidity, no odour, no sediment
Offsite	MW150	13/06/2025	527528.5	5252319.8	0.09	1164	757	6.75	-143.2	56.8	16.2	Light grey, no to low turbidity, no odour, black sediment
Offsite	MW151	19/06/2025	527567.7	5252282.4	0.14	7794	5066	6.76	-143.1	56.9	15.4	Light grey, no turbidity, no odour, no sediment
Offsite	MW152	19/06/2025	527564.2	5252262.4	0.69	7825	5086	6.89	-118.9	81.1	16.3	Yellow, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
Offsite	MW153	12/06/2025	527557.5	5252240.9	0.24	20930	13605	7.04	-247.0	-47.0	16.8	Clear, low turbidity, no odour
Regatta Point	MW178	17/06/2025	527641.0	5252835.6	2.19	877	570	7.63	94.0	294.0	16.5	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
Regatta Point	MW179	17/06/2025	527671.8	5252789.5	2.06	916	595	7.62	52.0	252.0	15.4	No colour, low turbidity, no odour
Regatta Point	MW180	18/06/2025	527640.3	5252836.4	4.10	30160	19604	7.28	126.3	326.3	13.6	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Escarpment	BG1	17/06/2025	527493.6	5252617.7	6.48	1941	1262	6.82	121.8	321.8	12.3	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Escarpment	MW120A	25/06/2025	527379.0	5252634.0	3.22	3130	2035	8.07	31.3	231.3	13.8	Grey, low turbidity, no odour. No purging occurred due to low water level and very slow recharge since installation on 5 June 2025.
The Escarpment	MW194	17/06/2025	527498.2	5252616.5	2.09	1539	1000	7.10	96.5	296.5	14.5	Grey, low turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Gateway	BH2_PS	19/06/2025	527483.8	5252435.9	0.91	1481	963	6.71	76.0	276.0	17.0	No colour, no turbidity, no odour, excessive bubbles in tubing
The Gateway	MW101	24/06/2025	527370.9	5252477.0	0.39	635	413	6.36	-25.0	175.0	14.5	No colour, no turbidity, no odour
The Gateway	MW102	18/06/2025	527400.6	5252491.5	0.40	1404	913	6.76	62.4	262.4	17.1	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Gateway	MW122	19/06/2025	527495.6	5252423.0	0.42	1201	781	6.71	-54.0	146.0	17.9	Clear, low to no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Gateway	MW128A	25/06/2025	527368.3	5252452.6	2.63	2326	1512	6.93	177.3	377.3	13.9	Yellow, low turbidity, no odour
The Gateway	MW148	19/06/2025	527477.7	5252417.8	0.49	1186	771	6.66	-62.9	137.1	16.6	Grey, no turbidity, no odour, no sediment. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Gateway	MW173	18/06/2025	527443.4	5252486.0	0.13	1074	698	6.97	39.4	239.4	17.6	No colour, no turbidity, no odour
The Gateway	MW196	25/06/2025	527383.7	5252415.0	0.25	899	584	6.51	-6.9	193.1	13.5	Yellow, low turbidity, no odour
The Gateway	MW197	25/06/2025	527421.4	5252392.7	0.07	793	515	9.37	-146.8	53.2	15.4	Light yellow, medium turbidity, chemical odour
The Gateway	MW198	25/06/2025	527426.2	5252432.5	0.16	2284	1485	6.72	20.5	220.5	14.3	No colour, low turbidity, no odour
The Gateway	RS6	19/06/2025	527456.3	5252374.8	0.08	1098	714	7.09	-107.7	92.3	17.3	Light grey, low turbidity, no odour
The Goods Shed and Yard	MW127A	19/06/2025	527529.6	5252394.0	0.80	2946	1915	6.88	-102.7	97.3	16.5	Grey, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Goods Shed and Yard	MW55	19/06/2025	527548.7	5252422.3	0.52	3289	2138	6.85	-125.2	74.8	16.4	No colour, no turbidity, no odour, excessive bubbles in tubing
The Precinct North	MW155	19/06/2025	527625.0	5252516.4	0.61	10110	6572	6.93	-126.2	73.8	17.0	Grey, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Precinct North	MW167	20/06/2025	527658.9	5252563.9	0.51	2345	1524	6.84	60.0	260.0	15.9	No colour, no turbidity, no odour, no sediment
The Precinct North	MW190	17/06/2025	527611.3	5252584.7	0.21	1158	753	6.85	4.6	204.6	15.7	Light grey, low turbidity, no odour
The Precinct North	MW192	18/06/2025	527637.7	5252480.8	0.60	1053	684	7.16	-118.6	81.4	17.1	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Precinct North	RN2	18/06/2025	527645.8	5252526.6	0.46	2961	1925	7.41	-149.8	50.2	17.6	Yellow, low turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Precinct North	TW02	17/06/2025	527638.7	5252542.4	0.45	51340	33371	7.15	-179.6	20.4	15.4	Light brown, low to medium turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Precinct South	MW125A	24/06/2025	527553.7	5252320.3	0.29	686	446	6.71	-94.8	105.2	15.8	Yellow, low turbidity, no odour, suspended sediments
The Precinct South	MW126A	24/06/2025	527609.6	5252304.5	0.38	1716	1115	6.66	-140.7	59.3	16.2	Brown , no turbidity, no odour, suspended brown sediment
The Precinct South	MW16	23/06/2025	527622.6	5252310.2	0.33	355	231	6.83	-125.4	74.6	17.5	Brown to grey, low turbidity, no odour, suspended sediment
The Precinct South	MW164	23/06/2025	527634.7	5252386.2	0.57	668	434	6.86	-120.1	79.9	16.8	No colour, low turbidity, no odour
The Precinct South	MW188	24/06/2025	527586.0	5252340.3	0.32	1402	911	6.72	-129.6	70.4	16.7	Dark grey, low turbidity, no odour
The Precinct South	MW193	24/06/2025	527581.1	5252306.3	0.25	1257	817	6.78	-122.3	77.7	16.6	Dark grey, medium turbidity, no odour
The Precinct South	MW6	23/06/2025	527631.9	5252366.7	0.50	904	588	6.92	-135.9	64.1	16.6	Grey, low turbidity, no odour
The Precinct South	MW60	24/06/2025	527604.8	5252306.3	0.26	1533	996	6.73	-136.5	63.5	16.4	Brown, low turbidity, no odour
The Precinct South	RN4	18/06/2025	527563.3	5252490.9	0.12	2160	1404	6.92	-152.5	47.5	17.1	Grey, low turbidity, no odour
The Promenade and Underground Carpark	MW121	18/06/2025	527391.6	5252556.4	0.56	929	604	6.94	33.3	233.3	15.9	Yellow, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Promenade and Underground Carpark	MW182	17/06/2025	527571.3	5252571.9	0.46	1091	709	7.27	72.7	272.7	15.8	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Promenade and Underground Carpark	MW183	17/06/2025	527544.5	5252562.2	0.30	1183	769	6.82	-117.9	82.1	15.3	No colour, no turbidity, no odour
The Promenade and Underground Carpark	MW184	18/06/2025	527531.7	5252541.2	0.11	1258	818	7.38	-184.1	15.9	16.6	No colour, no to low turbidity, no odour
The Promenade and Underground Carpark	MW186	25/06/2025	527504.4	5252492.9	0.48	979	636	6.77	-97.8	102.2	15.6	Grey, moderate turbidity, no odour
The Promenade and Underground Carpark	MW191	18/06/2025	527490.4	5252549.0	0.92	1145	744	7.00	83.4	283.4	16.7	Clear, low turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
The Promenade and Underground Carpark	MW36	18/06/2025	527525.3	5252509.0	0.17	16.25	11	6.66	34.8	234.8	17.3	light yellow, low turbidity, no odour

Notes:

EC - Electrical Conductivity (milliSiemens per centimetre)

TDS calculated by multiplying electrical conductivity by 0.65

ORP - Oxidation Reduction Potential (milliVolts)

Redox potential converted from Ag/AgCl electrode to Standard Hydrogen Electrode (SHE) electrode by adding +200 mV

[1] *The Easting and Northing coordinates presented are the MGA94 Coordinates*

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Table T3
Soil Vapour Leak Test Results

Location ID	Field ID	Canister ID	Regulator ID	Cleanliness Certificate	Lab Batch	Sample Type	Sample Date	Vacuum Line Test		Shut in Test Passed	Canister Pressure					Isopropanol Leak Test					
								Initial Vacuum	Final Vacuum at 1 min		Initial Canister Pressure ("Hg)	Final Canister Pressure ("Hg)	Laboratory Receipt Pressure ("Hg)	Relative Vacuum Loss (%)	Potential Low Bias due to Loss in Transit (%)	Initial Shroud PID (ppm)	Final Shroud PID (ppm)	Average Shroud PID (ppm)	PID-based Shroud Isopropanol Concentration[1] (µg/m3)	Isopropanol Concentration in Primary Sample Canister (µg/m3)	Primary Sample / Shroud Concentration Relative Percent[2] %
SV07	SV07	SC13596	SG1025	✓	ME373630	Primary	23/06/2025	-30	-30	Y	-28	-6	-5.1	4%	4%	114	107	110.5	1,249,364	430	0.02%
SV18	SV18	SC1027	SG1009	✓	ME373630	Primary	24/06/2025	-28	-28	Y	-28	-6	-5.1	4%	4%	115	-	115	1,300,243	230	0.01%
SV25	SV25	SC18432	SG1008	✓	ME373630	Primary	23/06/2025	-28	-28	Y	-26	-6	-7.96	-11%	-10%	118	105	111.5	1,260,670	810	0.03%
SV31	SV31	SC1051	SG1005	✓	ME373630	Primary	17/06/2025	-18	-18	Y	-29	-6	-5.3	3%	3%	140	80	110	1,243,711	970	0.04%
SV32	SV32	SC3704	SG1020	✓	ME373630	Primary	18/06/2025	-16	-16	Y	-29	-5	-5.51	-2%	-2%	200	170	185	2,091,695	150	0.01%
SV33	SV33	SC1102	SG1019	✓	ME373630	Primary	18/06/2025	-18	-18	Y	-29	-4	-3.26	3%	3%	200	160	180	2,035,163	47	0.00%
SV34	SV34	SC18238	SG1017	✓	ME373630	Primary	24/06/2025	-28	-28	Y	-28	-6	-6.53	-2%	-2%	112	110	111	1,255,017	210	0.01%
SV35	SV35	SC3700	SG0010	✓	ME373630	Primary	20/06/2025	-28	-28	Y	-28	-5	-3.06	8%	8%	167	108	137.5	1,554,638	110	0.00%
SV36	SV36	SC1061	SG1016	✓	ME373630	Primary	18/06/2025	-18	-18	Y	-29	-5	-3.88	4%	5%	200	140	170	1,922,098	4,000	0.15%
SV37	SV37	SC13631	SG1018	✓	ME373630	Primary	24/06/2025	-28	-28	Y	-28	-6	-5.1	4%	4%	122	110	116	1,311,550	1,900	0.07%
SV38	SV38	SC14157	SG1000	✓	ME373630	Primary	24/06/2025	-29	-29	Y	-29	-6	-6.12	-1%	-1%	116	108	112	1,266,324	1,400	0.05%
SV39	SV39	SC18442	SG1027	✓	ME373630	Primary	24/06/2025	-30	-30	Y	-29	-6	-5.3	3%	3%	113	104	108.5	1,226,751	72	0.00%
SV40	SV40	SC18433	SG1011	✓	ME373630	Primary	24/06/2025	-30	-30	Y	-29	-6	-5.71	1%	1%	106	106	106	1,198,485	110	0.00%
SV41	SV41	SC13616	SG1015	✓	ME373630	Primary	25/06/2025	-29	-29	Y	-28	-6	-5.51	2%	2%	113	110	111.5	1,260,670	20,000	0.77%
SV42	SV42	SC14108	SG0074	✓	ME373630	Primary	25/06/2025	-28	-28	Y	-26	-6	-6.73	-4%	-4%	127.6	105	116.3	1,314,941	53	0.00%
SV43	SV43	SC13597	SG1033	✓	ME373630	Primary	37/06/2025	-30	-30	Y	-30	-6	-5.71	1%	1%	102.9	100.3	101.6	1,148,736	5,100	0.20%
SV45	SV45	SC18439	SG1002	✓	ME373630	Primary	25/06/2025	-29	-29	Y	-28	-6	-4.28	7%	8%	117.3	110.5	113.9	1,287,806	770	0.03%
SV46	SV46	SC3610	SG1014	✓	ME373630	Primary	23/06/2025	-28	-28	Y	-28	-6	-6.53	-2%	-2%	113	110	111.5	1,260,670	19,000	0.73%
QC600	SV42_SHROUD	SC1083	SG1033	✓	ME373630	Isopropanol	25/06/2025	-26	-26	Y	-26	-6	-6.12	-1%	-1%	127.6	105	116.3	1,314,941	**2,600,000**	-

1 - Average shroud PID is converted to an isopropanol concentration (ppm) using a response correction factor of 4.6, specific to the 10.6 eV MiniRae 3000 PID used in the field (SIAFA Tech Note TN-106). This value is further coverted from ppm to µg/m3 for isopropanol, assuming a sample temperature of 25 °C at 1 atmosphere.
2 - The relative percent is based on the isopropanol concentration in the primary sample as a percentage of the representative shroud isopropanol concentration reported in the QC600 (SV42_SHROUD) shroud canister sample (2,600,000 µg/m3). It is noted that the corresponding PID-based average shroud isopropanol concentration calculation is approximately 50% lower at this sample location (SV42), indicating a low bias in the PID-based shroud isopropanol concentration calculations.

20,000 Isopropanol concentration was reported below the laboratory LOR. The LOR was therefore adopted for the purpose of the leak test calculations.

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Table T4: Soil Vapour Field Parameters

Sample ID	Sample Date	Pre Sampling				Post Sampling				Comments
		PID (ppm)	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	PID (ppm)	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	
SV07	23/06/2025	0	0.1	8.5	7.6	0	0.1	8.4	7.8	
SV18	24/06/2025	7.9	17.7	10.7	0.2	6.9	17.6	10.6	0.3	
SV25	23/06/2025	16.4	62.4	8.4	0.1	23.4	62.1	8.5	0.2	
SV31	17/06/2025	15.2	2.8	14.3	1.1	13.7	2.8	15.1	0.2	
SV32	18/06/2025	11.3	15.7	9.9	0.5	12.8	15.5	10	0.6	
SV33	18/06/2025	0.6	0.1	5.9	9.5	1.6	0.1	6.3	9.2	
SV34	24/06/2025	0	76.6	15.5	0.1	0	77.9	17.5	0.4	
SV35	20/06/2025	12.8	5.5	3.4	0.3	37.4	5.4	3.4	0.2	
SV36	18/06/2025	0.1	0.1	0	20.3	0.1	0.1	0	20.5	
SV37	24/06/2025	1.1	0.1	2.2	16.6	0.6	0.1	2.2	16.5	
SV38	24/06/2025	9.8	1.9	9.8	0.2	7.1	2.1	9.9	0.3	
SV39	24/06/2025	0.9	0	10.7	9.1	0.4	0	10.7	9.3	
SV40	24/06/2025	0	0	1.4	18.7	0	0	1.3	19.1	
SV41	25/06/2025	470.6	2.4	0.2	17.4	481.7	1.5	0.2	18.6	
SV42	25/06/2025	0.6	0	3.1	8.1	0.3	0	3.1	8.2	
SV43	27/06/2025	84.2	0	0.5	0.3	60.6	0	0.5	0.3	
SV44	27/06/2025	-	-	-	-	-	-	-	-	Not sampled. Water in tubing.
SV45	25/06/2025	7.8	0	0.2	5.2	7.8	0	0.2	6.5	
SV46	23/06/2025	0.3	6.4	11.5	0.2	0	6.3	11.5	0	

Legend:

CH_4: methane
CO_2: carbon dioxide
O_2: oxygen
PID: photo ionisation detector
LFG: landfill gas
ppm: parts per million
% v/v: percent volume per volume

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code								ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004E	ABH-004E	ABH-004E	ABH-004E	ABH-004E	ABH-004E	ABH-004E	ABH-004E	ABH-004E
Depth								0.2	0.5	1	1.5	2	2.5	2.5	3	3.5	4	0.2	0.5	0.5	1	1.5	2	2.5	2.5	3	3.5
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								1225146	1225146	1225146	1225146	1225146	1237090	1225146	1237090	1225146	1225146	1225146	1225146	1237090	1225146	1225146	1225146	1237090	1225146	1225146	1225146
Field ID								ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	ABH004A_2.0	ABH004A_2.0	ABH004A_2.5	ABH004A_2.5	ABH004A_3.0	ABH004A_3.5	ABH004A_4.0	ABH004E_0.2	ABH004E_0.5	ABH004E_0.5	ABH004E_1.0	ABH004E_1.5	ABH004E_2.0	ABH004E_2.5	ABH004E_3.0	ABH004E_3.5
Date								27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker	Commercial/ Industrial	Medium/High Density Residential	Low Density Residential	Recreation / Open Space																				
			0-3m	0-3m	0-3m	0-3m	0-3m	>=0m, <3m																				
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C14 fraction	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	0.5						18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.5						110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5						1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a,h,i)perylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																											
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																											
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																											
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	-	19	-	39	-	-	-	-	13	-	-	-	-	32	-	-

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code								ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004E	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004N	ABH-004S	ABH-004S	ABH-004S	ABH-004S	ABH-004S
Depth								0.2	0.5	1	1.5	4	0.2	0.5	1	1.5	2	2.5	2.5	3	3.5	4	0.2	0.5	1	1.5
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								1225146	1225146	1225146	1225146	1225146	1225146	1225146	1237090	1225146	1225146	1225146	1237090	1225146	1225146	1225146	1225146	1225146	1225146	1237090	1225146
Field ID								ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	ABH004E_4.0	ABH004N_0.2	ABH004N_0.5	ABH004N_0.5	ABH004N_0.5	ABH004N_1.0	ABH004N_1.5	ABH004N_2.0	ABH004N_2.5	ABH004N_2.5	ABH004N_3.0	ABH004N_3.5	ABH004N_4.0	ABH004S_0.2	ABH004S_0.5	ABH004S_1.0	ABH004S_1.0	ABH004S_1.5
Date								27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker 0-3m	Commercial/ Industrial 0-3m	Medium/High Density Residential 0-3m	Low Density Residential 0-3m	Recreation / Open Space 0-3m	Recreation / Open Space >=0m, <3m																				
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C14 fraction	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	0.5						18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.5						110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5						1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-Fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																											
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5		400,000	60,000	7,400	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																											
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																											
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	-	-	-	8.3	-	-	-	37	-	-	-	-	-	20	-

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

			Direct Contact Intrusive Maintenance Worker	Commercial/ Industrial	Medium/High Density Residential	Low Density Residential	Recreation / Open Space	
Chemical Group	Unit	EQL	0-3m	0-3m	0-3m	0-3m	0-3m	>=0m, <3m
Location Code			ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004S	ABH-004S
Depth			0.2	0.5	1	1.5	2	2
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number			1225146	1225146	1225146	1225146	1225146	1237090
Field ID			ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	ABH004S_2.0	ABH004S_2.0
Date			27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025
Total Recoverable Hydrocarbons								
C6-C10 fraction	mg/kg	10						
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000
>C10-C16 fraction	mg/kg	50						
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500
>C10-C40 fraction (sum)	mg/kg	50						
Total Petroleum Hydrocarbons								
C6-C9 fraction	mg/kg	10						
C10-C14 fraction	mg/kg	20						
C15-C28 fraction	mg/kg	50						
C29-C36 fraction	mg/kg	50						
C10-C36 fraction (sum)	mg/kg	50						
Monocyclic Aromatic Hydrocarbons								
Benzene	mg/kg	0.1	1,100	430	140	140	120	120
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300
m&p-Xylene	mg/kg	0.2						
o-Xylene	mg/kg	0.1		2,800	650	650	650	650
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000
Total BTEX	mg/kg	0.2						
Naphthalene (BTEXN)	mg/kg	0.5						
Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3	
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3	
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3	
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900
Acenaphthylene	mg/kg	0.5						
Acenaphthene	mg/kg	0.5						3,600
Anthracene	mg/kg	0.5						18,000
Fluorene	mg/kg	0.5						2,400
Phenanthrene	mg/kg	0.5						
Fluoranthene	mg/kg	0.5						2,400
Benz(a)anthracene	mg/kg	0.5						1.1
Benzo(k)fluoranthene	mg/kg	0.5						11
Benzo(b&j)fluoranthene	mg/kg	0.5						
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11
Chrysene	mg/kg	0.5						110
Pyrene	mg/kg	0.5						1,800
Benzo(a,h,i)perylene	mg/kg	0.5						
Dibenz(a,h)anthracene	mg/kg	0.5						0.11
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300
Phenolic Compounds								
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4						
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000
2-Nitrophenol	mg/kg	0.5						
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300
2,6-Dichlorophenol	mg/kg	0.5						
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1
Pentachlorophenol	mg/kg	1		660	130	100	120	120
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130
4-Nitrophenol	mg/kg	5						
Dinoseb	mg/kg	20		820	63	63	63	63
Tetrachlorophenols	mg/kg	10						
Sum of Phenols (halogenated)	mg/kg	1						
Sum of Phenols (non-halogenated)	mg/kg	20						
Per- and Poly-fluoroalkyl Substances								
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001						
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001						
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1	
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001						
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001						
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001						
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005						
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001						
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001						
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001						
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10
Perfluorononanoic acid (PFNA)	mg/kg	0.0001						
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001						
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001						
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001						
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001						
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001						
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002						
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005						
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005						
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005						
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005						
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002						
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002						
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001						
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005						
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001						
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001						
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1	
Sum of PFAS	mg/kg	0.0002						
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002						
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001						
Metals								
Arsenic	mg/kg	2		3,000	500	100	300	300
Cadmium	mg/kg	0.4		900	150	20	90	90
Chromium	mg/kg	2		3,600	500	100	300	300
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000
Lead	mg/kg	5		1,500	1,200	300	600	600
Mercury	mg/kg	0.1		730	120	40	80	80
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000
Cyanides								
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240
Cyanide Total	mg/kg	1						240
Weak Acid Dissociable Cyanide	mg/kg	1						
Nutrients								
Ammonia (as N)	mg/kg	5						
Physio-Chemical Parameters								
Moisture Content (dried @ 103°C)	%	1						

			Location Code	ABH-004A	ABH-004A	ABH-004A	ABH-004A	ABH-004S	ABH-004S	ABH-004S	ABH-004S	ABH-004S	ABH-004W	ABH-004W	ABH-004W	ABH-004W	ABH-004W	ABH-004W	ABH-004W	ABH-004W	ABH-004W	ABH-004W
			Depth	0.2	0.5	1	1.5	2	2	2.5	3	3.5	4	0.2	0.5	1	1.5	2	2.5	2.5	3	3.5	4
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
			Lab Report Number	1225146	1225146	1225146	1225146	1225146	1237090	1225146	1225146	1225146	1225146	1225146	1225146	1225146	1225146	1237090	1225146	1225146	1237090	1225146	1225146
			Field ID	ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	ABH004S_2.0	ABH004S_2.0	ABH004S_2.5	ABH004S_3.0	ABH004S_3.5	ABH004S_4.0	ABH004W_0.2	ABH004W_0.5	ABH004W_1.0	ABH004W_1.5	ABH004W_1.5	ABH004W_2.0	ABH004W_2.5	ABH004W_2.5	ABH004W_3.0	ABH004W_3.5	ABH004W_4.0
			Date	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025	27 May 2025
Total Recoverable Hydrocarbons																							
C6-C10 fraction	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 fraction	mg/kg	50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction	mg/kg	100		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction	mg/kg	100		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum)	mg/kg	50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																							
C6-C9 fraction	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C14 fraction	mg/kg	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction	mg/kg	50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction	mg/kg	50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)	mg/kg	50		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																							
Benzene	mg/kg	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	mg/kg	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylenes	mg/kg	0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total BTEX	mg/kg	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																							
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PAHs	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds																							
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																							
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																							
Arsenic	mg/kg	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																							
Cyanide (Free)	mg/kg	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																							
Ammonia (as N)	mg/kg	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																							
Moisture Content (dried @ 103°C)	%	1		-	-	-	-	-	32	-	-	-	-	-	-	-	-	17	-	-	26	-	-

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code								ABH-004A	ABH-004A	ABH-004A	ABH-004A	BH-004A	BH-004A	BH-004A	BH-004A	BH-004A	BH-004A	BH-004A	BH-004A	BH-004A	BH-004E	BH-004E	BH-004E	BH-004E	BH-004E	BH-004E	BH-004E
Depth								0.2	0.5	1	1.5	0.2	0.5	1	2	2	3	4	4	5	0.2	0.2	0.5	1	2	3	4	5
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								1225146	1225146	1225146	1225146	1231576	1231576	1231576	1231576	1237090	1231576	1231576	1237090	1231576	1231576	1237090	1231576	1231576	1231576	1231576	1231576	1231576
Field ID								ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	BH004A_0.2	BH004A_0.5	BH004A_1.0	BH004A_2.0	BH004A_2.0	BH004A_3.0	BH004A_4.0	BH004A_4.0	BH004A_5.0	BH004E_0.2	BH004E_0.2	BH004E_0.5	BH004E_1.0	BH004E_2.0	BH004E_3.0	BH004E_4.0	BH004E_5.0
Date								27 May 2025	27 May 2025	27 May 2025	27 May 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker	Commercial/ Industrial	Medium/High Density Residential	Low Density Residential	Recreation / Open Space																					
			0-3m	0-3m	0-3m	0-3m	0-3m	>=0m, <3m																					
Total Recoverable Hydrocarbons																												
C6-C10 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																												
C6-C9 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C14 fraction	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																												
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																												
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	0.5						18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.5						110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5						1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds																												
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																												
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																												
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																												
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																												
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																												
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	-	-	-	26	-	-	13	-	-	3.1	-	-	-	-	-	-

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code								ABH-004A	ABH-004A	ABH-004A	ABH-004A	BH-004N	BH-004N	BH-004N	BH-004N	BH-004N	BH-004N	BH-004N	BH-004N	BH-004N	BH-004S	BH-004S	BH-004S	BH-004S	BH-004S	BH-004S
Depth								0.2	0.5	1	1.5	0.2	0.5	1	1	2	3	3	4	5	0.2	0.5	1	1	2	3	4
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								1225146	1225146	1225146	1225146	1231576	1231576	1231576	1237090	1231576	1231576	1237090	1231576	1231576	1231576	1231576	1231576	1237090	1231576	1231576	1237090	1231576
Field ID								ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	BH004N_0.2	BH004N_0.5	BH004N_1.0	BH004N_1.0	BH004N_2.0	BH004N_3.0	BH004N_3.0	BH004N_4.0	BH004N_5.0	BH004S_0.2	BH004S_0.5	BH004S_1.0	BH004S_1.0	BH004S_2.0	BH004S_3.0	BH004S_3.0	BH004S_4.0
Date								27 May 2025	27 May 2025	27 May 2025	27 May 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	10 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker 0-3m	Commercial/ Industrial 0-3m	Medium/High Density Residential 0-3m	Low Density Residential 0-3m	Recreation / Open Space 0-3m	Recreation / Open Space >=0m, <3m																				
Total Recoverable Hydrocarbons																												
C6-C10 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																												
C6-C9 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C14 fraction	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																												
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	mg/kg	0.1		2,800	650	650	550	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																												
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	0.5						18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.5						110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5						1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds																												
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																												
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																												
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																												
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																												
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																												
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	-	-	-	6.7	-	-	16	-	-	-	-	11	-	-	22	-

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code							ABH-004A	ABH-004A	ABH-004A	ABH-004A	BH-004S	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	BH-004W	MW103A	MW103A	MW120A	MW120A	MW182
Depth							0.2	0.5	1	1.5	5	0.2	0.5	1	1	2	2	3	4	4	5	6	0.5	3	0.2	2	1
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							1225146	1225146	1225146	1225146	1231576	1231576	1231576	1231576	1237090	1231576	1237090	1231576	1231576	1237090	1231576	1231576	1227083	1227083	1229786	1229786	1227083
Field ID							ABH004A 0.2	ABH004A 0.5	ABH004A 1.0	ABH004A 1.5	BH0045 5.0	BH004W 0.2	BH004W 0.5	BH004W 1.0	BH004W 1.0	BH004W 2.0	BH004W 2.0	BH004W 3.0	BH004W 4.0	BH004W 4.0	BH004W 5.0	BH004W 6.0	MW103A 0.5	MW103A 3.0	MW120A 0.2	MW120A 2.0	MW182 1.0
Date							27 May 2025	27 May 2025	27 May 2025	27 May 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	11 Jun 2025	29 May 2025	29 May 2025	05 Jun 2025	05 Jun 2025	29 May 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker 0-3m	Commercial/ Industrial 0-3m	Medium/High Density Residential 0-3m	Low Density Residential 0-3m	Recreation / Open Space 0-3m	Recreation / Open Space >=0m, <3m																			
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50
>C10-C16 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	<100	<100	110
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	<100	<100	110
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20
C10-C14 fraction	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20
C15-C28 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50
C29-C36 fraction	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	81
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	81
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
m&p-Xylene	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.2	1.2	1.2	1.2
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5						18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5						110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5						1,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-
Metals																											
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<2	51
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	<0.4	<0.4	<0.4	1.3
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	9.5	25	20	21
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	71	49	80	98
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	130
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	0.2
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	21	21	23	39
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	30	15	43	270
Cyanides																											
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																											
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	-	-	-	26	-	15	-	-	40	-	-	17	5.6	2.5	33

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code							ABH-004A	ABH-004A	ABH-004A	ABH-004A	MW182	MW183	MW183	MW184	MW184	MW184	MW184	MW185	MW185	MW185	MW186	MW186	MW187	MW187	MW188	MW188	MW188
Depth							0.2	0.5	1	1.5	3	1	3	1	1	1	3	0.5	3	3	3	3.5	0.2	2	0.5	0.5	0.5
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D
Lab Report Number							1225146	1225146	1225146	1225146	1227083	1227083	1227083	1227989	1227989	EM2509944	1227989	1229786	1229786	1229786	1231626	1231626	1231626	1231626	1227989	1227989	EM2512074
Field ID							ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	MW182_3.0	MW183_1.0	MW183_3.0	MW184_1.0	QC101	QC201	MW184_3.0	MW185_0.5	MW185_3.0	QC104	MW186_3.0	MW186_3.5	MW187_0.2	MW187_2.0	MW188_0.5	QC102	QC202
Date							27 May 2025	27 May 2025	27 May 2025	27 May 2025	29 May 2025	29 May 2025	29 May 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	06 Jun 2025	06 Jun 2025	06 Jun 2025	10 Jun 2025	10 Jun 2025	11 Jun 2025	11 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker 0-3m	Commercial/ Industrial 0-3m	Medium/High Density Residential 0-3m	Low Density Residential 0-3m	Recreation / Open Space 0-3m	Recreation / Open Space >=0m, <3m																			
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10							-	-	-	-	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<50	1,400	640	200	110	<50	59	<50	1,700	3,000	<50	410	<50	<50	<50	-
>C10-C16 fraction	mg/kg	50							-	-	-	-	<50	1,400	640	200	110	<50	59	<50	1,700	3,000	<50	410	<50	<50	<50	-
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	<100	2,200	1,600	990	560	<100	270	230	630	1,300	<100	250	<100	<100	160	<100	-
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	<100	240	170	360	200	<100	110	500	<100	<100	<100	<100	<100	<100	<100	-
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	<100	3,840	2,410	1,550	870	<50	439	730	2,330	4,300	<100	660	<100	<100	160	<100	-
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10							-	-	-	-	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20	-
C10-C14 fraction	mg/kg	20							-	-	-	-	<20	640	310	92	52	<50	<20	<20	1,000	1,800	<20	160	<20	<20	<20	-
C15-C28 fraction	mg/kg	50							-	-	-	-	<50	2,500	1,600	750	380	<100	210	94	1,300	2,400	<50	480	<50	<50	100	54
C29-C36 fraction	mg/kg	50							-	-	-	-	<50	530	430	530	340	<100	140	310	130	130	<50	<50	<50	<50	91	51
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	<50	3,670	2,340	1,372	772	<50	350	404	2,430	4,330	<50	640	<50	<50	191	105
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
m&p-Xylene	mg/kg	0.2							-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	0.7	2.1	1.1	1.6	1.4	0.6	1.6	0.6	3.0	2.6	0.6	0.6	0.6	1.5	1.0	1.4	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	<0.5	1.9	0.8	1.3	1.1	<0.5	1.3	<0.5	2.7	2.3	<0.5	<0.5	<0.5	1.2	0.7	1.2	-
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	1.2	2.4	1.4	1.9	1.7	1.2	1.9	1.2	3.2	2.8	1.2	1.2	1.2	1.8	1.3	1.7	-
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.5	-
Acenaphthylene	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	<0.5	1.1	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	2.9	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	1.0	-
Anthracene	mg/kg	0.5						18,000	-	-	-	-	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Fluorene	mg/kg	0.5						2,400	-	-	-	-	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.1	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	-
Phenanthrene	mg/kg	0.5							-	-	-	-	<0.5	1.5	0.6	2.4	1.1	<0.5	0.8	<0.5	2.5	3.2	<0.5	<0.5	<0.5	<0.5	1.4	0.8	-
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	<0.5	1.6	0.5	2.9	1.4	<0.5	1.9	<0.5	3.0	3.5	<0.5	<0.5	<0.5	1.0	2.7	2.0	-
Benz(a)anthracene	mg/kg	0.5						1,1	-	-	-	-	0.7	1.2	0.6	1.3	1.0	<0.5	1.0	<0.5	1.5	1.4	<0.5	<0.5	<0.5	0.9	0.6	0.9	-
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	0.5	1.5	0.6	0.8	1.1	<0.5	0.6	<0.5	2.1	1.8	<0.5	<0.5	<0.5	0.7	<0.5	0.9	-
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	<0.5	1.7	0.7	0.8	0.9	<0.5	0.7	<0.5	1.2	1.1	<0.5	<0.5	<0.5	0.7	<0.5	1.1	-
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	<0.5	1.3	0.6	1.0	0.8	<0.5	1.1	<0.5	2.1	1.8	<0.5	<0.5	<0.5	1.0	0.6	0.8	-
Chrysene	mg/kg	0.5						110	-	-	-	-	0.6	1.1	<0.5	1.2	0.7	<0.5	0.9	<0.5	2.0	1.9	<0.5	<0.5	<0.5	0.6	0.7	0.9	-
Pyrene	mg/kg	0.5						1,800	-	-	-	-	0.7	1.8	0.7	3.4	1.6	<0.5	1.8	<0.5	3.2	3.7	<0.5	<0.5	<0.5	1.2	2.6	2.1	-
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	<0.5	0.9	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.8	<0.5	<0.5	<0.5	0.6	<0.5	0.8	-
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1,1	-	-	-	-	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	-
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	2.5	15	6.3	15	8.6	<0.5	8.8	<0.5	25	22	<0.5	<0.5	<0.5	6.7	11	12	-
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0002
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.0002
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0002
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-
Metals																											
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	6.9	11	7.3	8.5	7.3	10	3.8	2.3	3.0	3.2	<2	<2	3.5	<2	47	40	-
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	<0.4	0.4	<0.4	0.5	0.5	<1	<0.4	<0.4	0.5	0.4	<0.4	<0.4	<0.4	<0.4	0.8	0.9	-
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	27	21	37	18	14	16	22	10	8.7	9.6	19	13	8.4	27	14	11	-
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	68	83	78	69	66	63	58	75	38	36	55	49	41	66	46	32	-
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	170	150	61	66	67	56	130	27	170	170	16	12	54	47	78	59	-
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	0.5	0.2	0.2	0.1	0.2	<0.1	0.7	<0.1	1.5	0.7	<0.1	<0.1	0.1	0.2	<0.1	<0.1	-
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	32	22	39	31	35	29	23	12	7.3	10	20	14	14	22	44	27	-
Zinc	mg/kg	5		400,000	60,000	7,400	30,000	30,000	-	-	-	-	170	290	83	210	210	174	120	50	870	900	33	28	110	38	280	350	-
Cyanides																											
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																											
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physio-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	18	18	12	6.5	8.3	8.0	18	8.0	24	27	16	16	7.4	17	7.0	13	8.4

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code							ABH-004A	ABH-004A	ABH-004A	ABH-004A	MW188	MW189	MW189	MW190	MW190	MW191	MW191	MW192	MW193	MW193	MW194	MW194	MW194	MW194	MW196	MW196	MW197
Depth							0.2	0.5	1	1.5	1	0.2	2	1	3	0.5	3	2	0.5	1	1	3	3	3	0.5	2	2
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal
Lab Report Number							1225146	1225146	1225146	1225146	1227989	1227083	1227083	1227083	1227083	1227083	1227989	1227083	1228034	1228034	1229786	1229786	1229786	EM2510162	1234941	1234941	1234941
Field ID							ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	MW188_1.0	MW189_0.2	MW189_2.0	MW190_1.0	MW190_3.0	MW191_0.5	MW191_3.0	MW192_2.0	MW193_0.5	MW193_1.0	MW194_1.0	MW194_3.0	QC103	QC203	MW196_0.5	MW196_2.0	MW197_2.0
Date							27 May 2025	27 May 2025	27 May 2025	27 May 2025	02 Jun 2025	30 May 2025	30 May 2025	28 May 2025	28 May 2025	02 Jun 2025	02 Jun 2025	28 May 2025	03 Jun 2025	03 Jun 2025	05 Jun 2025	05 Jun 2025	05 Jun 2025	05 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker 0-3m	Commercial/ Industrial 0-3m	Medium/High Density Residential 0-3m	Low Density Residential 0-3m	Recreation / Open Space 0-3m	Recreation / Open Space >=0m, <3m																			
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10							-	-	-	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<50	<50	<50	<50	150	<50	<50	<50	<50	<50	<50	<50	<50	330	488	<50
>C10-C16 fraction	mg/kg	50							-	-	-	-	<50	<50	<50	<50	150	<50	<50	<50	<50	<50	<50	<50	<50	330	490	<50
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	<100	660	<100	260	110	540	<100	<100	<100	120	<100	<100	<100	1,100	1,600	<100
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	<100	190	<100	<100	<100	150	<100	<100	<100	<100	<100	<100	<100	560	520	<100
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	<100	850	<100	260	260	690	<100	<100	<100	120	<100	<100	<100	1,990	2,610	<100
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10							-	-	-	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20
C10-C14 fraction	mg/kg	20							-	-	-	-	<20	<50	<20	<20	84	<20	<20	<20	<20	<20	<20	<20	<50	190	300	<20
C15-C28 fraction	mg/kg	50							-	-	-	-	<50	350	<50	190	150	340	<50	<50	<50	100	<50	<50	<100	900	1,400	<50
C29-C36 fraction	mg/kg	50							-	-	-	-	<50	450	<50	110	<50	330	<50	<50	<50	<50	<50	<50	<100	550	610	<50
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	<50	800	<50	300	234	670	<50	<50	<50	100	<50	<50	<50	1,640	2,310	<50
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	0.2	<0.1
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	0.4	<0.1
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1
m&p-Xylene	mg/kg	0.2							-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	0.4	<0.2
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	0.1	<0.1
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.3	0.5	<0.3
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	2.0	<0.5
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	1.7	0.6	0.6	20	0.6	1.4	0.6	1.0	0.6	0.6	0.6	0.6	0.6	2.5	3.3	0.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	1.5	<0.5	<0.5	20	<0.5	1.1	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	3.1	<0.5
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	2.0	1.2	1.2	20	1.2	1.7	1.2	1.3	1.2	1.2	1.2	1.2	1.2	2.8	3.6	1.2
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	2.4	<0.5
Acenaphthylene	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.3	5.2	<0.5
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5						18,000	-	-	-	-	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	1.6	<0.5
Fluorene	mg/kg	0.5						2,400	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	6.6	<0.5	0.9	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	3.2	<0.5
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	1.6	0.7	<0.5	18	<0.5	1.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	4.2	6.9	<0.5
Benz(a)anthracene	mg/kg	0.5						1,1	-	-	-	-	1.2	<0.5	<0.5	13	<0.5	0.9	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	2.2	<0.5
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	1.4	<0.5	<0.5	14	<0.5	0.6	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	2.4	<0.5
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	1.2	<0.5	<0.5	13	<0.5	0.6	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	2.1	2.8	<0.5
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	1.0	<0.5	<0.5	13	<0.5	0.9	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	2.2	<0.5
Chrysene	mg/kg	0.5						110	-	-	-	-	1.4	<0.5	<0.5	11	<0.5	1.1	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	2.2	<0.5
Pyrene	mg/kg	0.5						1,800	-	-	-	-	1.6	0.7	<0.5	22	<0.5	1.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	3.9	6.3	<0.5
Benzo(a,h,i)perylene	mg/kg	0.5							-	-	-	-	0.8	<0.5	<0.5	9.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	1.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1,1	-	-	-	-	0.6	<0.5	<0.5	9.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	1.2	<0.5
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	11	1.4	<0.5	140	<0.5	8.0	<0.5	4.7	<0.5	<0.5	<0.5	<0.5	<0.5	26	40	<0.5
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	<0.4	<0.4
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	2.1	<0.5
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	3.1	<0.2
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	3.1	<0.5
2-Nitrophenol	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	1.5	<0.5
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20
4-Nitrophenol	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20
Tetrachlorophenols	mg/kg	10							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<10
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20
Per- and Poly-fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	0.0001[#1]	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	<0.025	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	<0.025	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	<0.025	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	<0.01	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	<0.01	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	<0.01	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	0.0001	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	<0.05	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	<0.01	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	<0.005	-	-	-	-	-	-	<0.0001	0.0001	-	-	-	-	-	-	-
Metals																											
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	28	33	2.5	2.3	5.6	16	<2	3.1	3.1	18	<2	<2	<2	<5	6.7	3.0	3.3
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	<0.4	3.1	<0.4	<0.4	<0.4	1.1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4	<0.4	<0.4
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	22	18	24	7.1	12	13	22	19	9.4	7.4	14	16	17	14	19	15	12
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	45	130	73	72	79	63	43	33	41	21	75	75	78	73	120	19	100
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	130	130	50	130	100	120	<5	230	5.1	14	<5	<5	<5	<5	200	47	21
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	0.3	0.2	<0.1	0.4	0.9	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	11	19	22	17	20	17	19	26	29	7.2	21	22	23	20	100	18	13
Zinc	mg/kg	5		400,000	60,000	7,400	30,000	30,000	-	-	-	-	170	990	44	130	100	280	25	68	25	19	30	29	31	25	340	61	110
Cyanides																											
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
Cyanide Total	mg/kg	1						240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
Nutrients																											
Ammonia (as N)	mg/kg	5							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5
Physio-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	14	15	17	16	24	16	7.2	15	5.5	7.3	2.4	1.2	2.1	2.4	21	23	10.0

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code							ABH-004A	ABH-004A	ABH-004A	ABH-004A	MW197	MW198	MW198	NR2A	NR2A	SV31	SV32	SV33	SV34	SV35	SV36	SV39	SV40	SV41	SV42	SV42	SV42
Depth							0.2	0.5	1	1.5	3.5	0.2	2	1	4	2.5	2	2	1.5	2.5	2	1	1	1	2	2	2
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D
Lab Report Number							1225146	1225146	1225146	1225146	1234941	1232541	1232541	1227083	1227083	1227083	1229786	1231626	1225146	1227083	1231626	1232541	1232541	1232541	1232541	1232541	EM2510874
Field ID							ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	MW197_3.5	MW198_0.2	MW198_2.0	NR2A_1.0	NR2A_4.0	SV31_2.5	SV32_2.0	SV33_2.0	SV34_1.5	SV35_2.5	SV36_2.0	SV39_1.0	SV40_1.0	SV41_1.0	SV42_2.0	QC106	QC206
Date							27 May 2025	27 May 2025	27 May 2025	27 May 2025	18 Jun 2025	13 Jun 2025	13 Jun 2025	30 May 2025	30 May 2025	29 May 2025	06 Jun 2025	11 Jun 2025	27 May 2025	28 May 2025	10 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker	Commercial/ Industrial	Medium/High Density Residential	Low Density Residential	Recreation / Open Space																				
			0-3m	0-3m	0-3m	0-3m	0-3m	>=0m, <3m																			
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10							-	-	-	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<50	284	<50	<50	<50	<50	600	<50	96.9	<50	<50	65.3	<50	315.3	64	320
>C10-C16 fraction	mg/kg	50							-	-	-	-	<50	340	<50	<50	<50	<50	600	<50	99	<50	<50	67	<50	320	64	320
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	<100	2,100	110	120	<100	<100	550	<100	1,100	<100	<100	330	710	<100	980	240	1,000
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	<100	350	<100	<100	<100	<100	380	<100	160	<100	<100	<100	<100	210	<100	140
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	<100	2,790	110	120	<100	<100	1,530	<100	1,359	<100	<100	330	777	<100	1,510	304	1,460
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10							-	-	-	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10
C10-C14 fraction	mg/kg	20							-	-	-	-	<20	210	<20	<20	<20	<20	240	<20	53	<20	<20	38	<20	180	33	160
C15-C28 fraction	mg/kg	50							-	-	-	-	<50	1,700	98	66	<50	<50	680	<50	900	<50	<50	270	810	<50	950	220	950
C29-C36 fraction	mg/kg	50							-	-	-	-	<50	760	<50	75	<50	81	460	<50	340	<50	<50	96	180	<50	280	66	290
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	<50	2,670	98	141	<50	81	1,380	<50	1,293	<50	<50	366	828	<50	1,410	319	1,400
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	<0.1	0.9	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.2
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	<0.1	0.9	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.5
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.5
m&p-Xylene	mg/kg	0.2							-	-	-	-	<0.2	0.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.5
o-Xylene	mg/kg	0.1		2,800	650	650	550	650	-	-	-	-	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.5
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	<0.3	1.0	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.5
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	<0.5	56	5.0	<0.5	<0.5	<0.5	<0.5	<0.5	2.1	<0.5	<0.5	1.7	7.1	4.7	<0.5	<1
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	0.6	28	1.3	1.1	0.6	0.6	11	0.6	29	1.7	0.6	0.6	9.0	0.6	2.5	0.6	3.7
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	<0.5	28	1.0	0.8	<0.5	<0.5	11	<0.5	29	1.4	<0.5	<0.5	9.0	<0.5	2.2	<0.5	3.4
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	1.2	28	1.6	1.4	1.2	1.2	11	1.2	29	1.9	1.2	1.2	9.0	1.2	2.7	1.2	3.9
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	<0.5	32	6.7	<0.5	<0.5	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	0.6	2.5	3.0	2.6	<0.5	<0.5
Acenaphthylene	mg/kg	0.5							-	-	-	-	<0.5	12	1.9	<0.5	<0.5	<0.5	1.6	<0.5	0.9	<0.5	<0.5	<0.5	1.2	<0.5	2.1	<0.5	4.4
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	<0.5	1.5	<0.5	<0.5	<0.5	<0.5	2.1	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5						18,000	-	-	-	-	<0.5	18	2.6	<0.5	<0.5	<0.5	2.8	<0.5	17	<0.5	<0.5	<0.5	3.3	<0.5	0.7	<0.5	0.8
Fluorene	mg/kg	0.5						2,400	-	-	-	-	<0.5	12	2.0	<0.5	<0.5	<0.5	0.6	<0.5	13	<0.5	<0.5	<0.5	1.0	0.6	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5							-	-	-	-	0.7	51	7.0	<0.5	<0.5	<0.5	3.8	<0.5	70	<0.5	0.6	0.6	8.0	0.9	1.5	<0.5	1.4
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	0.6	51	4.1	0.9	<0.5	0.5	9.0	<0.5	47	1.8	<0.5	1.1	18	<0.5	5.7	0.7	5.7
Benz(a)anthracene	mg/kg	0.5						1,1	-	-	-	-	<0.5	24	1.8	<0.5	<0.5	<0.5	5.3	<0.5	19	1.7	<0.5	<0.5	8.2	<0.5	1.8	<0.5	1.9
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	1.2	13	0.7	0.6	1.4	1.2	8.3	<0.5	18	0.9	<0.5	1.2	5.3	<0.5	1.2	<0.5	1.1
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	<0.5	13	0.7	<0.5	<0.5	<0.5	3.6	<0.5	17	1.0	<0.5	<0.5	5.3	<0.5	1.4	<0.5	3.4
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	<0.5	19	0.7	0.7	<0.5	<0.5	8.4	<0.5	20	1.0	<0.5	<0.5	6.0	<0.5	1.7	<0.5	2.6
Chrysene	mg/kg	0.5						110	-	-	-	-	<0.5	24	1.5	0.6	<0.5	<0.5	7.5	<0.5	22	1.2	<0.5	<0.5	7.9	<0.5	1.6	<0.5	1.7
Pyrene	mg/kg	0.5						1,800	-	-	-	-	0.6	62	4.2	1.0	<0.5	0.6	9.1	<0.5	44	1.9	<0.5	1.4	14	<0.5	7.2	1.3	6.3
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	<0.5	9.2	<0.5	<0.5	<0.5	<0.5	3.7	<0.5	8.1	0.7	<0.5	<0.5	2.1	<0.5	0.7	<0.5	1.6
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	<0.5	2.7	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	2.9	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1,1	-	-	-	-	<0.5	6.0	<0.5	<0.5	<0.5	<0.5	3.3	<0.5	6.8	<0.5	<0.5	<0.5	2.0	<0.5	0.5	<0.5	1.4
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	1.9	350	34	3.8	<0.5	1.1	70	<0.5	310	10	<0.5	3.7	86	4.5	29	2.0	32.3
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	<0.4	0.9	<0.4	-	-	-	-	-	-	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	<0.5	1.7	0.6	-	-	-	-	-	-	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	<0.2	0.4	<0.2	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	<0.5	1.3	<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<0.5
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<0.5
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<0.5
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<0.5
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<2
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	<20	<20	<20	<20	<20	<20	<20	-
4-Nitrophenol	mg/kg	5							-	-	-	-	<5	<5	<5	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	<20	<20	<20	<20	<20	<20	<20	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	<10	<10	<10	-	-	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	<20	<20	<20	-	-	-	-	-	-	<20	<20	<20	<20	<20	<20	<20	-
Per- and Poly-fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001		20	2	0.003	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001		50	20	0.06	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																											
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	3.9	2.7	<2	6.4	<2	15	2.4	<2	<20	<2	<2	2.7	12	<2	<2	<3	<5
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	<0.4	0.8	<0.4	0.5	<0.4	0.9	<0.4	<0.4	<4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	42	23	<5	18	15	27	18	8.7	3,400	7.7	<5	20	49	17	13	15	24
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	37	74	14	49	35	97	44	9.4	69	22	<5	20	7.2	79	61	71	73
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	85	150	33	60	32	120	100	24	170	42	5.6	14	8.8	<5	5.9	5.0	<5
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	0.2	0.5	0.1	0.1	<0.1	0.3	0.2	<0.1	2.2	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	28	27	5.7	42	20	33	27	8.9	<50	7.4	<5	35	20	23	23	28	28
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000	-	-	-	-	64	220	9.8	180	23	210	50	16	160	71	9.1	9.1	11	28	36	41	20
Cyanides																											
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	17	<5	<5	<5	<5	<5	<5	<1
Cyanide Total	mg/kg	1						240	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	300	110	<5	<5	<5	<5	<5	2
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	<5	<5	<5	-	-	-	-	-	-	11	<5	<5	<5	<5	<5	<5	<1
Nutrients																											
Ammonia (as N)	mg/kg	5							-	-	-	-	170	<5	36	-	-	-	-	-	-	23	58	800	5.1	<5	<5	<20
Physio-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	27	11	19	11	18	15	23	18	18	17	9.8	28	18	15	20	20	25.4

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5a
Soil Analytical Results - Tier 1 Assessment Criteria - Direct Contact

Location Code								ABH-004A	ABH-004A	ABH-004A	ABH-004A	SV43	SV44	SV45	SV46
Depth								0.2	0.5	1	1.5	2	2	2	1.5
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								1225146	1225146	1225146	1225146	1232541	1232541	1234941	1227083
Field ID								ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5	SV43_2.0	SV44_2.0	SV45_2.0	SV46_1.5
Date								27 May 2025	27 May 2025	27 May 2025	27 May 2025	12 Jun 2025	12 Jun 2025	18 Jun 2025	28 May 2025
Chemical Group	Unit	EQL	Direct Contact Intrusive Maintenance Worker	Commercial/ Industrial	Medium/High Density Residential	Low Density Residential	Recreation / Open Space								
			0-3m	0-3m	0-3m	0-3m	0-3m	>=0m, <3m							
Total Recoverable Hydrocarbons															
C6-C10 fraction	mg/kg	10							-	-	-	-	<14,000	530	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	<14,000	330	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	32,000	10,000	2,200	1,700	2,000	2,000	-	-	-	-	4,500	8,400	<50	<50
>C10-C16 fraction	mg/kg	50							-	-	-	-	5,600	9,400	<50	<50
>C16-C34 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	7,600	21,000	<100	570
>C34-C40 fraction	mg/kg	100	24,000	7,600	1,600	1,300	1,500	1,500	-	-	-	-	900	5,900	<100	<100
>C10-C40 fraction (sum)	mg/kg	50							-	-	-	-	14,100	36,300	<100	570
Total Petroleum Hydrocarbons																
C6-C9 fraction	mg/kg	10							-	-	-	-	<14,000	340	<20	<20
C10-C14 fraction	mg/kg	20							-	-	-	-	5,100	7,800	<20	<20
C15-C28 fraction	mg/kg	50							-	-	-	-	7,700	18,000	<50	400
C29-C36 fraction	mg/kg	50							-	-	-	-	1,600	7,900	<50	230
C10-C36 fraction (sum)	mg/kg	50							-	-	-	-	14,400	33,700	<50	630
Monocyclic Aromatic Hydrocarbons																
Benzene	mg/kg	0.1	1,100	430	140	140	120	120	-	-	-	-	<20	38	<0.1	<0.1
Toluene	mg/kg	0.1	283,000	99,000	21,000	21,000	18,000	18,000	-	-	-	-	<20	70	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	85,000	27,000	5,900	5,900	5,300	5,300	-	-	-	-	<20	9.3	<0.1	<0.1
m&p-Xylene	mg/kg	0.2							-	-	-	-	150	60	<0.2	<0.2
o-Xylene	mg/kg	0.1		2,800	650	650	650	650	-	-	-	-	62	27	<0.1	<0.1
Total Xylenes	mg/kg	0.3	230,000	81,000	17,000	17,000	15,000	15,000	-	-	-	-	210	88	<0.3	<0.3
Total BTEX	mg/kg	0.2							-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5							-	-	-	-	1,100	1,000	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		40	4	3	3		-	-	-	-	74	62	0.6	1.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		40	4	3	3		-	-	-	-	74	62	<0.5	1.4
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5		40	4	3	3		-	-	-	-	74	62	1.2	1.9
Naphthalene	mg/kg	0.5	29,000	11,000	2,200	2,200	1,900	1,900	-	-	-	-	1,900	1,100	<0.5	<0.5
Acenaphthylene	mg/kg	0.5							-	-	-	-	5.7	190	<0.5	<0.5
Acenaphthene	mg/kg	0.5						3,600	-	-	-	-	23	38	<0.5	<0.5
Anthracene	mg/kg	0.5						18,000	-	-	-	-	210	180	<0.5	<0.5
Fluorene	mg/kg	0.5						2,400	-	-	-	-	190	160	<0.5	<0.5
Phenanthrene	mg/kg	0.5							-	-	-	-	460	400	<0.5	<0.5
Fluoranthene	mg/kg	0.5						2,400	-	-	-	-	290	240	<0.5	1.3
Benz(a)anthracene	mg/kg	0.5						1.1	-	-	-	-	76	76	<0.5	1.2
Benzo(k)fluoranthene	mg/kg	0.5						11	-	-	-	-	35	30	<0.5	1.0
Benzo(b&j)fluoranthene	mg/kg	0.5							-	-	-	-	34	30	<0.5	1.0
Benzo(a)pyrene	mg/kg	0.5		40	4	3	3	0.11	-	-	-	-	53	42	<0.5	1.0
Chrysene	mg/kg	0.5						110	-	-	-	-	72	88	<0.5	1.5
Pyrene	mg/kg	0.5						1,800	-	-	-	-	260	220	<0.5	1.6
Benzo(g,h,i)perylene	mg/kg	0.5							-	-	-	-	22	19	<0.5	0.8
Dibenz(a,h)anthracene	mg/kg	0.5						0.11	-	-	-	-	3.3	3.6	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5						1.1	-	-	-	-	20	19	<0.5	0.5
Sum of PAHs	mg/kg	0.5		4,000	400	300	300	300	-	-	-	-	3,700	2,800	<0.5	9.9
Phenolic Compounds																
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4							-	-	-	-	1.8	190	<0.4	-
Phenol	mg/kg	0.5		240,000	45,000	3,000	40,000	40,000	-	-	-	-	10.0	160	<0.5	-
2-Chlorophenol	mg/kg	0.5		5,800	390	390	390	390	-	-	-	-	<0.5	<0.5	<0.5	-
2-Methylphenol (o-Cresol)	mg/kg	0.2		41,000	3,200	3,200	3,200	3,200	-	-	-	-	2.3	90	<0.2	-
Total Cresols	mg/kg	0.5		25,000	4,700	400	4,000	4,000	-	-	-	-	4.1	280	<0.5	-
2-Nitrophenol	mg/kg	0.5							-	-	-	-	<1	<1	<1	-
2,4-Dichlorophenol	mg/kg	0.5		2,500	190	190	190	190	-	-	-	-	<0.5	<0.5	<0.5	-
2,4-Dimethylphenol	mg/kg	0.5		16,000	1,300	1,300	1,300	1,300	-	-	-	-	7.4	220	<0.5	-
2,6-Dichlorophenol	mg/kg	0.5							-	-	-	-	<0.5	<0.5	<0.5	-
4-Chloro-3-methylphenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	<1	<1	<1	-
2,4,6-Trichlorophenol	mg/kg	0.5		210	49	49	49	49	-	-	-	-	<1	<1	<1	-
2,4,5-Trichlorophenol	mg/kg	0.5		82,000	6,300	6,300	6,300	6,300	-	-	-	-	<1	<1	<1	-
4,6-Dinitro-2-methylphenol	mg/kg	5		66	5.1	5.1	5.1	5.1	-	-	-	-	<5	<5	<5	-
Pentachlorophenol	mg/kg	1		660	130	100	120	120	-	-	-	-	<1	<1	<1	-
2,4-Dinitrophenol	mg/kg	5		1,600	130	130	130	130	-	-	-	-	<5	<5	<5	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20		1,600	130	130	130	130	-	-	-	-	<20	<20	<20	-
4-Nitrophenol	mg/kg	5							-	-	-	-	<5	<5	<5	-
Dinoseb	mg/kg	20		820	63	63	63	63	-	-	-	-	<20	<20	<20	-
Tetrachlorophenols	mg/kg	10							-	-	-	-	<10	<10	<10	-
Sum of Phenols (halogenated)	mg/kg	1							-	-	-	-	<1	<1	<1	-
Sum of Phenols (non-halogenated)	mg/kg	20							-	-	-	-	22	660	<20	-
Per- and Poly-fluoroalkyl Substances																
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001						1,300	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001	20	2	0.003	1			-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001	20	2	0.003	1	1		-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005							-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	50	20	0.06	10	10		-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002							-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005							-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005							-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002							-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005							-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
10:2 fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001		20	2	0.003	1		-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002							-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002							-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001							-	-	-	-	-	-	-	-
Metals																
Arsenic	mg/kg	2		3,000	500	100	300	300	-	-	-	-	4.3	3.2	<2	7.2
Cadmium	mg/kg	0.4		900	150	20	90	90	-	-	-	-	<0.4	0.7	<0.4	<0.4
Chromium	mg/kg	2		3,600	500	100	300	300	-	-	-	-	46	19	19	11
Copper	mg/kg	5		240,000	30,000	6,000	17,000	17,000	-	-	-	-	20	50	16	180
Lead	mg/kg	5		1,500	1,200	300	600	600	-	-	-	-	12	72	14	480
Mercury	mg/kg	0.1		730	120	40	80	80	-	-	-	-	<0.1	0.6	<0.1	0.7
Nickel	mg/kg	2		6,000	1,200	400	1,200	1,200	-	-	-	-	53	31	26	26
Zinc	mg/kg	5		400,000	40,000	7,400	30,000	30,000	-	-	-	-	31	130	12	930
Cyanides																
Cyanide (Free)	mg/kg	1		1,500	300	250	240	240	-	-	-	-	5.6	<5	<5	-
Cyanide Total	mg/kg	1						240	-	-	-	-	480	<5	<5	-
Weak Acid Dissociable Cyanide	mg/kg	1							-	-	-	-	10	<5	<5	-
Nutrients																
Ammonia (as N)	mg/kg	5							-	-	-	-	300	82	870	-
Physio-Chemical Parameters																
Moisture Content (dried @ 103°C)	%	1							-	-	-	-	23	21	19	25

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5b
Soil Analytical Results - Tier 1 Assessment Criteria - Ecosystems

Location Code					MW103A	MW103A	MW120A	MW120A	MW182	MW182	MW183	MW183	MW184	MW184	MW184	MW184	MW185	MW185	MW185	MW186	MW186	MW187	MW187	MW188	MW188	MW188
Depth					0.5	3	0.2	2	1	3	1	3	1	Field_D	Interlab_D	3	0.5	3	3	3	3.5	0.2	2	0.5	0.5	0.5
Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D
Lab Report Number					1227083	1227083	1229786	1229786	1227083	1227083	1227083	1227083	1227989	1227989	EM2509944	1227989	1229786	1229786	1229786	1231626	1231626	1231626	1231626	1227989	1227989	EM2512074
Field ID					MW103A_0.5	MW103A_3.0	MW120A_0.2	MW120A_2.0	MW182_1.0	MW182_3.0	MW183_1.0	MW183_3.0	MW184_1.0	QC101	QC201	MW184_3.0	MW185_0.5	MW185_3.0	QC104	MW186_3.0	MW186_3.5	MW187_0.2	MW187_2.0	MW188_0.5	QC102	QC202
Date					29 May 2025	29 May 2025	05 Jun 2025	05 Jun 2025	29 May 2025	29 May 2025	29 May 2025	29 May 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	06 Jun 2025	06 Jun 2025	06 Jun 2025	10 Jun 2025	10 Jun 2025	11 Jun 2025	11 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025
Chemical Group	Unit	EQL	Highly Modified Ecosystem 0 - 2m	Modified Ecosystem 0 - 2m																						
Total Recoverable Hydrocarbons																										
C6-C10 fraction	mg/kg	10	215	180	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50			<50	<50	<50	<50	<50	<50	1,400	640	200	110	<50	59	<50	1,700	3,000	<50	410	<50	<50	<50	<50	-
>C10-C16 fraction	mg/kg	50	170	120	<50	<50	<50	<50	<50	<50	1,400	640	200	110	<50	59	<50	1,700	3,000	<50	410	<50	<50	<50	<50	-
>C16-C34 fraction	mg/kg	100	1,700	300	<100	200	<100	<100	<100	110	<100	2,200	1,600	990	560	<100	270	230	630	1,300	<100	250	<100	<100	160	<100	-
>C34-C40 fraction	mg/kg	100	3,300	2,800	<100	<100	<100	<100	<100	<100	240	170	360	200	<100	110	500	<100	<100	<100	<100	<100	<100	<100	<100	-
>C10-C40 fraction (sum)	mg/kg	50			<100	<100	<100	<100	110	<100	3,840	2,410	1,550	870	<50	439	730	2,330	4,300	<100	660	<100	<100	160	<100	-
Total Petroleum Hydrocarbons																										
C6-C9 fraction	mg/kg	10			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
C10-C14 fraction	mg/kg	20			<20	<20	<20	<20	<20	<20	640	310	92	52	<50	<20	<20	1,000	1,800	<20	160	<20	<20	<20	<20	-
C15-C28 fraction	mg/kg	50			<50	<50	<50	<50	<50	<50	2,500	1,600	750	380	<100	210	94	1,300	2,400	<50	480	<50	<50	100	54	-
C29-C36 fraction	mg/kg	50			<50	<50	<50	<50	81	<50	530	430	530	340	<100	140	310	130	130	<50	<50	<50	<50	91	51	-
C10-C36 fraction (sum)	mg/kg	50			<50	<50	<50	<50	81	<50	3,670	2,340	1,372	772	<50	350	404	2,430	4,330	<50	640	<50	<50	191	105	-
Monocyclic Aromatic Hydrocarbons																										
Benzene	mg/kg	0.1	75	50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Toluene	mg/kg	0.1	135	85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Ethylbenzene	mg/kg	0.1	165	70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
m&p-Xylene	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
o-Xylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Total Xylenes	mg/kg	0.3	95	45	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.2			-	-	-	-	-	-	-	-	-	-	<0.7	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Polynuclear Aromatic Hydrocarbons																										
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5			0.6	0.6	0.6	0.6	0.6	0.7	2.1	1.1	1.6	1.4	0.6	1.6	0.6	3.0	2.6	0.6	0.6	0.6	1.5	1.0	1.4	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	0.8	1.3	1.1	<0.5	1.3	<0.5	2.7	2.3	<0.5	<0.5	<0.5	1.2	0.7	1.2	-
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5			1.2	1.2	1.2	1.2	1.2	1.2	2.4	1.4	1.9	1.7	1.2	1.9	1.2	3.2	2.8	1.2	1.2	1.2	1.8	1.3	1.7	-
Naphthalene	mg/kg	0.5	370	170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5	0.5	-
Acenaphthylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Acenaphthene	mg/kg	0.5			<0.5	1.1	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.9	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	1.0	-
Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Fluorene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.1	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	-
Phenanthrene	mg/kg	0.5			<0.5	1.5	<0.5	<0.5	<0.5	<0.5	1.5	0.6	2.4	1.1	<0.5	0.8	<0.5	2.5	3.2	<0.5	<0.5	<0.5	<0.5	1.4	0.8	-
Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	0.5	2.9	1.4	<0.5	1.9	<0.5	3.0	3.5	<0.5	<0.5	<0.5	1.0	2.7	2.0	-
Benz(a)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.2	0.6	1.3	1.0	<0.5	1.0	<0.5	1.5	1.4	<0.5	<0.5	<0.5	0.9	0.6	0.9	-
Benzo(k)fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	0.5	1.5	0.6	0.8	1.1	<0.5	0.6	<0.5	2.1	1.8	<0.5	<0.5	<0.5	0.7	<0.5	0.9	-
Benzo(b&j)fluoranthene	mg/kg	0.5			<0.5	1.7	<0.5	<0.5	<0.5	<0.5	1.7	0.7	0.8	0.9	<0.5	0.7	<0.5	1.2	1.1	<0.5	<0.5	<0.5	0.7	<0.5	1.1	-
Benzo(a)pyrene	mg/kg	0.5	1.4	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	0.6	1.0	0.8	<0.5	1.1	<0.5	2.1	1.8	<0.5	<0.5	<0.5	1.0	0.6	0.8	-
Chrysene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.1	<0.5	1.2	0.7	<0.5	0.9	<0.5	2.0	1.9	<0.5	<0.5	<0.5	0.6	0.7	0.9	-
Pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.8	0.7	3.4	1.6	<0.5	1.8	<0.5	3.2	3.7	<0.5	<0.5	<0.5	1.2	2.6	2.1	-
Benzo(c,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.8	<0.5	<0.5	<0.5	0.6	0.8	<0.5	-
Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	-
Sum of PAHs	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	2.5	15	6.3	15	8.6	<0.5	8.8	<0.5	25	22	<0.5	<0.5	<0.5	6.7	11	12	-
Phenolic Compounds																										
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cresols	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dinoseb	mg/kg	20			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachlorophenols	mg/kg	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (halogenated)	mg/kg	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Per- and Poly-fluoroalkyl Substances																										
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001	0.14	0.003	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.001
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.003	0.003	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorononanoic acid (PFNA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0002
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0005
Sum (PFHxS + PFOS)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.0002
Sum of PFAS	mg/kg	0.0002			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.0002
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002			-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.0002
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001			-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-
Metals																										
Arsenic	mg/kg	2	170	100	<2	<2	<2	<2	51	6.9	11	7.3	8.5	7.3	10	3.8	2.3	3.0	3.2	<2	<2	3.5	<2	47	40	-
Cadmium	mg/kg	0.4			<0.4	<0.4	<0.4	<0.4	1.3	<0.4	0.4	<0.4	0.5	0.5	<1	<0.4	<0.4	0.5	0.4	<0.4	<0.4	<0.4	<0.4	0.8	0.9	-
Chromium	mg/kg	2			<5	9.5	25	20	21	27	21	37	18	14	16	22	10	8.7	9.6	19	13	8.4	27	14	11	-
Copper	mg/kg	5	85	60	34	71	49	80	98	68	83	78	69	66	63	58	75	38	35	55	49	41	66	46	32	-
Lead	mg/kg	5	1,800	1,100	<5	<5	<5	<5	130	170	150	61	66	67	56	130	27	170	170	16	12	54	47	78	59	-
Mercury	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	0.2	0.5	0.2	0.2	0.1	0.2	<0.1	0.7	<0.1	1.5	0.7	<0.1	<0.1	0.1	0.2	<0.1	<0.1	-
Nickel	mg/kg	2	55	30	<5	21	21	23	38	32	22	39	31	35	29	23	12	7.3	10	20	14	14	22	44	27	-
Zinc	mg/kg	5	110	70	8.7	30	15	43	270	170	290	83	210	210	174	120	50	870	900	33	28	110	38	280	350	-
Cyanides																										
Cyanide (Free)	mg/kg	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	mg/kg	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nutrients																										
Ammonia (as N)	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters																										
Moisture Content (dried @ 103°C)	%	1			<1	17	5.6	2.5	33	18	18	12	6.5	8.3	8.0	18	8.0	24	27	16	16	7.4	17	7.0	13	8.4

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5b
Soil Analytical Results - Tier 1 Assessment Criteria - Ecosystems

					Location Code	MW188	MW189	MW189	MW190	MW190	MW191	MW191	MW192	MW193	MW193	MW194	MW194	MW194	MW194	MW196	MW196	MW197	MW197	MW198	MW198	NR2A	NR2A
					Depth	1	0.2	2	1	3	0.5	3	2	0.5	1	1	3	3	3	0.5	2	2	3.5	0.2	2	1	4
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	1227989	1227083	1227083	1227083	1227083	1227989	1227989	1227083	1228034	1228034	1229786	1229786	1229786	EM2510162	1234941	1234941	1234941	1234941	1232541	1232541	1227083	1227083
					Field ID	MW188_1.0	MW189_0.2	MW189_2.0	MW190_1.0	MW190_3.0	MW191_0.5	MW191_3.0	MW192_2.0	MW193_0.5	MW193_1.0	MW194_1.0	MW194_3.0	QC103	QC203	MW196_0.5	MW196_2.0	MW197_2.0	MW197_3.5	MW198_0.2	MW198_2.0	NR2A_1.0	NR2A_4.0
					Date	02 Jun 2025	30 May 2025	30 May 2025	28 May 2025	28 May 2025	02 Jun 2025	02 Jun 2025	28 May 2025	03 Jun 2025	03 Jun 2025	05 Jun 2025	05 Jun 2025	05 Jun 2025	05 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025	18 Jun 2025	13 Jun 2025	13 Jun 2025	30 May 2025	30 May 2025
Chemical Group	Unit	EQL	Highly Modified Ecosystem 0 - 2m	Modified Ecosystem 0 - 2m																							
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10	215	180		<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50				<50	<50	<50	<50	150	<50	<50	<50	<50	<50	<50	<50	<50	<50	330	488	<50	<50	284	<50	<50	<50
>C10-C16 fraction	mg/kg	50	170	120		<50	<50	<50	<50	150	<50	<50	<50	<50	<50	<50	<50	<50	<50	330	490	<50	<50	340	<50	<50	<50
>C16-C34 fraction	mg/kg	100	1,700	300		<100	660	<100	260	110	540	<100	<100	<100	<100	120	<100	<100	<100	1,100	1,600	<100	<100	2,100	110	120	<100
>C34-C40 fraction	mg/kg	100	3,300	2,800		<100	190	<100	<100	<100	150	<100	<100	<100	<100	<100	<100	<100	<100	560	520	<100	<100	350	<100	<100	<100
>C10-C40 fraction (sum)	mg/kg	50				<100	850	<100	260	260	690	<100	<100	<100	<100	120	<100	<100	<50	1,990	2,610	<100	<100	2,790	110	120	<100
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	mg/kg	20				<20	<20	<20	<20	84	<20	<20	<20	<20	<20	<20	<20	<20	<50	190	300	<20	<20	210	<20	<20	<20
C15-C28 fraction	mg/kg	50				<50	350	<50	190	150	340	<50	<50	<50	<50	100	<50	<50	<100	900	1,400	<50	<50	1,700	98	66	<50
C29-C36 fraction	mg/kg	50				<50	450	<50	110	<50	330	<50	<50	<50	<50	<50	<50	<50	<100	550	610	<50	<50	760	<50	75	<50
C10-C36 fraction (sum)	mg/kg	50				<50	800	<50	300	234	670	<50	<50	<50	<50	100	<50	<50	<50	1,640	2,310	<50	<50	2,670	98	141	<50
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	75	50		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	0.2	<0.1	<0.1	0.9	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	135	85		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	0.4	<0.1	<0.1	0.9	0.2	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	165	70		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m&p-Xylene	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	0.4	<0.2	<0.2	0.7	<0.2	<0.2	<0.2
o-Xylene	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	95	45		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.3	0.5	<0.3	<0.3	1.0	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.2				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	2.0	<0.5	<0.5	56	5.0	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5				1.7	0.6	0.6	20	0.6	1.4	0.6	1.0	0.6	0.6	0.6	0.6	0.6	0.6	2.5	3.3	0.6	0.6	28	1.3	1.1	0.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5				1.5	<0.5	<0.5	20	<0.5	1.1	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	3.1	<0.5	<0.5	28	1.0	0.8	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5				2.0	1.2	1.2	20	1.2	1.7	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	2.8	3.6	1.2	1.2	28	1.6	1.4	1.2
Naphthalene	mg/kg	0.5	370	170		<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	2.4	<0.5	<0.5	32	6.7	<0.5	<0.5
Acenaphthylene	mg/kg	0.5				<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.3	5.2	<0.5	<0.5	12	1.9	<0.5	<0.5
Acenaphthene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	18	2.6	<0.5	<0.5
Fluorene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	2.0	<0.5	<0.5
Phenanthrene	mg/kg	0.5				<0.5	<0.5	<0.5	6.6	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	3.2	<0.5	0.7	51	7.0	<0.5	<0.5
Fluoranthene	mg/kg	0.5				1.6	0.7	<0.5	18	<0.5	1.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.2	6.9	<0.5	0.6	51	4.1	0.9	<0.5
Benz(a)anthracene	mg/kg	0.5				1.2	<0.5	<0.5	13	<0.5	0.9	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	2.2	<0.5	<0.5	24	1.8	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5				1.4	<0.5	<0.5	14	<0.5	0.6	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	2.4	<0.5	<0.5	13	0.7	0.6	<0.5
Benzo(b&j)fluoranthene	mg/kg	0.5				1.2	<0.5	<0.5	13	<0.5	0.6	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.1	2.8	<0.5	<0.5	13	0.7	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	1.4	0.7		1.0	<0.5	<0.5	13	<0.5	0.9	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	2.2	<0.5	<0.5	19	0.7	0.7	<0.5
Chrysene	mg/kg	0.5				1.4	<0.5	<0.5	11	<0.5	1.1	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	2.2	<0.5	<0.5	24	1.5	0.6	<0.5
Pyrene	mg/kg	0.5				1.6	0.7	<0.5	22	<0.5	1.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.9	6.3	<0.5	0.6	62	4.2	1.0	<0.5
Benzo(c,h,i)perylene	mg/kg	0.5				0.8	<0.5	<0.5	9.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	1.5	<0.5	<0.5	9.2	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5				<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5				0.6	<0.5	<0.5	9.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	1.2	<0.5	<0.5	6.0	<0.5	<0.5	<0.5
Sum of PAHs	mg/kg	0.5				11	1.4	<0.5	140	<0.5	8.0	<0.5	4.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	26	40	<0.5	1.9	350	34	3.8	<0.5
Phenolic Compounds																											
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	<0.4	<0.4	<0.4	<0.4	0.9	<0.4	-	-
Phenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	2.1	<0.5	<0.5	1.7	0.6	-	-	-
2-Chlorophenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
2-Methylphenol (o-Cresol)	mg/kg	0.2				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	3.1	<0.2	<0.2	0.4	<0.2	-	-	-
Total Cresols	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	3.1	<0.5	<0.5	1.3	<0.5	-	-	-
2-Nitrophenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-
2,4-Dichlorophenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
2,4-Dimethylphenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	1.5	<0.5	<0.5	<0.5	<0.5	-	-	-
2,6-Dichlorophenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-
Pentachlorophenol	mg/kg	1				-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-
2,4-Dinitrophenol	mg/kg	5				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20				-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20	<20	-	-	-
4-Nitrophenol	mg/kg	5				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-
Dinoseb	mg/kg	20				-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20	<20	-	-	-
Tetrachlorophenols	mg/kg	10				-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<10	<10	<10	<10	-	-	-
Sum of Phenols (halogenated)	mg/kg	1				-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-
Sum of Phenols (non-halogenated)	mg/kg	20				-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<20	<20	-	-	-
Per- and Poly-fluoroalkyl Substances																											
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001	0.14	0.003		<0.005	-	-	-	-	-	-	-	<0.0001	0.0001[1]	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005				<0.005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.003	0.003		<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002				<0.005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005				<0.005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005				<0.005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005				<0.005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005				<0.005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002				<0.01	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002				<0.01	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005				<0.01	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0001	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002				<0.05	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002				<0.01	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001				<0.005	-	-	-	-	-	-	-	<0.0003	0.0001	-	-	-	-	-	-	-	-	-	-	-	-
Metals																											
Arsenic	mg/kg	2	170	100		28	33	2.5	2.3	5.6	16	<2	3.1	3.1	18	<2	<2	<2	<5	6.7	3.0	3.3	3.9	2.7	<2	6.4	<2
Cadmium	mg/kg	0.4				<0.4	3.1	<0.4	<0.4	<0.4	1.1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4	<0.4	<0.4	<0.4	0.8	<0.4	0.5	<0.4
Chromium	mg/kg	2				22	18	24	7.1	12	13	22	19	9.4	7.4	14	16	17	14	19	15	12	42	23	<5	18	15
Copper	mg/kg	5	85	60		45	130	73	72	29	63	43	33	41	21	75	75	78	73	120	19	100	37	74	14	49	35
Lead	mg/kg	5	1,800	1,100		130	130	50	130	100	120	<5	230	5.1	14	<5	<5	<5	<5	200	47	21	85	150	33	60	32
Mercury	mg/kg	0.1				0.3	0.2	<0.1	0.4	0.9	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	0.2	0.5	0.1	0.1	<0.1
Nickel	mg/kg	2	55	30		11	19	22	17	20	17	19	26	29	7.2	21	22	23	20	100	18	13	28	27	5.7	42	20
Zinc	mg/kg	5	110	70		170	990	44	130	100	280	25	68	25	19	30	29	31	25	340	61	110	64	220	9.8	180	23
Cyanides																											
Cyanide (Free)	mg/kg	1				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-
Cyanide Total	mg/kg	1				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-
Weak Acid Dissociable Cyanide	mg/kg	1				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	-	-	-
Nutrients																											
Ammonia (as N)	mg/kg	5				-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	170	<5	36	-	-	-
Physico-Chemical Parameters																											
Moisture Content (dried @ 103°C)	%	1				14	15	17	16	24	16	7.2	15	5.5	7.3	2.4	1.2	2.1	2.4	21	23	10.0	27	11	19	11	18

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branch

Table T5b
Soil Analytical Results - Tier 1 Assessment Criteria - Ecosystems

					Location Code	SV31	SV32	SV33	SV34	SV35	SV36	SV39	SV40	SV41	SV42	SV42	SV42	SV43	SV44	SV45	SV46
					Depth	2.5	2	2	1.5	2.5	2	1	1	1	2	2	2	2	2	2	1.5
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal
					Lab Report Number	1227083	1229786	1231626	1225146	1227083	1231626	1232541	1232541	1232541	1232541	1232541	EM2510874	1232541	1232541	1234941	1227083
					Field ID	SV31_2.5	SV32_2.0	SV33_2.0	SV34_1.5	SV35_2.5	SV36_2.0	SV39_1.0	SV40_1.0	SV41_1.0	SV42_2.0	QC106	QC206	SV43_2.0	SV44_2.0	SV45_2.0	SV46_1.5
					Date	29 May 2025	06 Jun 2025	11 Jun 2025	27 May 2025	28 May 2025	10 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	12 Jun 2025	12 Jun 2025	18 Jun 2025	28 May 2025
Chemical Group	Unit	EQL	Highly Modified Ecosystem 0 - 2m	Modified Ecosystem 0 - 2m																	
Total Recoverable Hydrocarbons																					
C6-C10 fraction	mg/kg	10	215	180	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<4,000	530	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<4,000	330	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50			<50	600	<50	96.9	<50	<50	<50	65.3	<50	315.3	64	320	4,500	8,400	<50	<50
>C10-C16 fraction	mg/kg	50	170	120	<50	600	<50	99	<50	<50	<50	67	<50	320	64	320	5,600	9,400	<50	<50
>C16-C34 fraction	mg/kg	100	1,700	300	<100	550	<100	1,100	<100	<100	330	710	<100	980	240	1,000	7,600	21,000	<100	570
>C34-C40 fraction	mg/kg	100	3,300	2,800	<100	380	<100	160	<100	<100	<100	<100	<100	210	<100	140	900	5,900	<100	<100
>C10-C40 fraction (sum)	mg/kg	50			<100	1,530	<100	1,359	<100	<100	330	777	<100	1,510	304	1,460	14,100	36,300	<100	570
Total Petroleum Hydrocarbons																					
C6-C9 fraction	mg/kg	10			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<4,000	340	<20	<20
C10-C14 fraction	mg/kg	20			<20	240	<20	53	<20	<20	<20	38	<20	180	33	160	5,100	7,800	<20	<20
C15-C28 fraction	mg/kg	50			<50	680	<50	900	<50	<50	270	610	<50	950	220	950	7,700	18,000	<50	400
C29-C36 fraction	mg/kg	50			81	460	<50	340	<50	<50	96	180	<50	280	66	290	1,600	7,900	<50	230
C10-C36 fraction (sum)	mg/kg	50			81	1,380	<50	1,293	<50	<50	366	828	<50	1,410	319	1,400	14,400	33,700	<50	630
Monocyclic Aromatic Hydrocarbons																					
Benzene	mg/kg	0.1	75	50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.2	<20	38	<0.1	<0.1
Toluene	mg/kg	0.1	135	85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.5	<20	70	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	165	70	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.5	<20	9.3	<0.1	<0.1
m&p-Xylene	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.5	150	60	<0.2	<0.2
o-Xylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.5	62	27	<0.1	<0.1
Total Xylenes	mg/kg	0.3	95	45	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.5	210	88	<0.3	<0.3
Total BTEX	mg/kg	0.2			-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5			<0.5	<0.5	<0.5	2.1	<0.5	<0.5	<0.5	1.7	7.1	4.7	<0.5	<1	1,100	1,000	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																					
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5			0.6	11	0.6	29	1.7	0.6	0.6	9.0	0.6	2.5	0.6	3.7	74	62	0.6	1.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5			<0.5	11	<0.5	29	1.4	<0.5	<0.5	9.0	<0.5	2.2	<0.5	3.4	74	62	<0.5	1.4
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5			1.2	11	1.2	29	1.9	1.2	1.2	9.0	1.2	2.7	1.2	3.9	74	62	1.2	1.9
Naphthalene	mg/kg	0.5	370	170	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	0.6	2.5	3.0	2.6	<0.5	<0.5	1,900	1,100	<0.5	<0.5
Acenaphthylene	mg/kg	0.5			<0.5	1.6	<0.5	0.9	<0.5	<0.5	<0.5	1.2	<0.5	2.1	<0.5	4.4	5.7	190	<0.5	<0.5
Acenaphthene	mg/kg	0.5			<0.5	2.1	<0.5	1.1	<0.5	<0.5	<0.5	3.3	<0.5	<0.5	<0.5	<0.5	23	38	<0.5	<0.5
Anthracene	mg/kg	0.5			<0.5	2.8	<0.5	17	<0.5	<0.5	<0.5	3.3	<0.5	0.7	<0.5	0.8	210	180	<0.5	<0.5
Fluorene	mg/kg	0.5			<0.5	0.6	<0.5	13	<0.5	<0.5	<0.5	1.0	0.6	<0.5	<0.5	<0.5	190	160	<0.5	<0.5
Phenanthrene	mg/kg	0.5			<0.5	3.8	<0.5	70	<0.5	<0.5	0.6	8.0	0.9	1.5	<0.5	1.4	460	400	<0.5	<0.5
Fluoranthene	mg/kg	0.5			0.5	9.0	<0.5	47	1.8	<0.5	1.1	18	<0.5	5.7	0.7	5.7	290	240	<0.5	1.3
Benz(a)anthracene	mg/kg	0.5			<0.5	5.3	<0.5	19	1.7	<0.5	<0.5	8.2	<0.5	1.8	<0.5	1.9	76	76	<0.5	1.2
Benzo(k)fluoranthene	mg/kg	0.5			<0.5	8.3	<0.5	18	0.9	<0.5	<0.5	5.3	<0.5	1.2	<0.5	1.1	35	30	<0.5	1.0
Benzo(b&j)fluoranthene	mg/kg	0.5			<0.5	3.6	<0.5	17	1.0	<0.5	<0.5	5.3	<0.5	1.4	<0.5	3.4	34	30	<0.5	1.0
Benzo(a)pyrene	mg/kg	0.5	1.4	0.7	<0.5	8.4	<0.5	20	1.0	<0.5	<0.5	6.0	<0.5	1.7	<0.5	2.6	53	42	<0.5	1.0
Chrysene	mg/kg	0.5			<0.5	7.5	<0.5	22	1.2	<0.5	<0.5	7.9	<0.5	1.6	<0.5	1.7	72	88	<0.5	1.5
Pyrene	mg/kg	0.5			0.6	9.1	<0.5	44	1.9	<0.5	1.4	14	<0.5	7.2	1.3	6.3	260	220	<0.5	1.6
Benzo(c,h,i)perylene	mg/kg	0.5			<0.5	3.7	<0.5	8.1	0.7	<0.5	<0.5	2.1	<0.5	0.7	<0.5	1.6	22	19	<0.5	0.8
Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	0.8	<0.5	2.9	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	3.3	3.6	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5			<0.5	3.3	<0.5	6.8	<0.5	<0.5	<0.5	2.0	<0.5	0.5	<0.5	1.4	20	19	<0.5	0.5
Sum of PAHs	mg/kg	0.5			1.1	70	<0.5	310	10	<0.5	3.7	86	4.5	29	2.0	32.3	3,700	2,800	<0.5	9.9
Phenolic Compounds																					
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4			-	-	-	-	-	-	<0.4	<0.4	<0.4	<0.4	<0.4	<1	1.8	190	<0.4	-
Phenol	mg/kg	0.5			-	-	-	-	-	-	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	10.0	160	<0.5	-
2-Chlorophenol	mg/kg	0.5			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
2-Methylphenol (o-Cresol)	mg/kg	0.2			-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	2.3	90	<0.2	-
Total Cresols	mg/kg	0.5			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	4.1	280	<0.5	-
2-Nitrophenol	mg/kg	0.5			-	-	-	-	-	-	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	-
2,4-Dichlorophenol	mg/kg	0.5			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
2,4-Dimethylphenol	mg/kg	0.5			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	7.4	220	<0.5	-
2,6-Dichlorophenol	mg/kg	0.5			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
4-Chloro-3-methylphenol	mg/kg	0.5			-	-	-	-	-	-	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	-
2,4,6-Trichlorophenol	mg/kg	0.5			-	-	-	-	-	-	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	-
2,4,5-Trichlorophenol	mg/kg	0.5			-	-	-	-	-	-	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	-
4,6-Dinitro-2-methylphenol	mg/kg	5			-	-	-	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	-
Pentachlorophenol	mg/kg	1			-	-	-	-	-	-	<1	<1	<1	<1	<1	<2	<1	<1	<1	-
2,4-Dinitrophenol	mg/kg	5			-	-	-	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	-
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20			-	-	-	-	-	-	<20	<20	<20	<20	<20	-	<20	<20	<20	-
4-Nitrophenol	mg/kg	5			-	-	-	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	-
Dinoseb	mg/kg	20			-	-	-	-	-	-	<20	<20	<20	<20	<20	-	<20	<20	<20	-
Tetrachlorophenols	mg/kg	10			-	-	-	-	-	-	<10	<10	<10	<10	<10	-	<10	<10	<10	-
Sum of Phenols (halogenated)	mg/kg	1			-	-	-	-	-	-	<1	<1	<1	<1	<1	-	<1	<1	<1	-
Sum of Phenols (non-halogenated)	mg/kg	20			-	-	-	-	-	-	<20	<20	<20	<20	<20	-	22	660	<20	-
Per- and Poly-fluoroalkyl Substances																					
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0001	0.14	0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.0005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0001	0.003	0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.0001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																					
Arsenic	mg/kg	2	170	100	15	2.4	<2	<20	<2	<2	2.7	12	<2	<2	<2	<5	4.3	3.2	<2	7.2
Cadmium	mg/kg	0.4			0.9	<0.4	<0.4	<4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4	0.7	<0.4	<0.4
Chromium	mg/kg	2			27	18	8.7	3,400	7.7	<5	20	49	17	13	15	24	46	19	19	11
Copper	mg/kg	5	85	60	97	44	9.4	68	22	<5	20	7.2	79	61	71	73	20	50	16	180
Lead	mg/kg	5	1,800	1,100	120	100	24	170	42	5.6	14	8.8	<5	5.9	5.0	<5	12	72	14	480
Mercury	mg/kg	0.1			0.3	0.2	<0.1	2.2	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	0.7
Nickel	mg/kg	2	55	30	33	27	8.9	<50	7.4	<5	35	20	23	23	28	28	53	31	26	26
Zinc	mg/kg	5	110	70	210	50	16	160	71	9.1	9.1	11	28	36	41	30	31	130	12	930
Cyanides																					
Cyanide (Free)	mg/kg	1			-	-	-	-	-	-	17	<5	<5	<5	<5	<1	5.6	<5	<5	-
Cyanide Total	mg/kg	1			-	-	-	-	-	-	300	110	<5	<5	<5	2	480	<5	<5	-
Weak Acid Dissociable Cyanide	mg/kg	1			-	-	-	-	-	-	11	<5	<5	<5	<5	<1	10	<5	<5	-
Nutrients																					
Ammonia (as N)	mg/kg	5			-	-	-	-	-	-	23	58	800	5.1	<5	<20	300	82	870	-
Physico-Chemical Parameters																					
Moisture Content (dried @ 103°C)	%	1			15	23	18	18	17	9.8	28	18	15	20	20	25.4	23	21	19	25

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branch

Table T5c
Soil Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

Location Code																MW103A	MW103A	MW120A	MW120A	MW182	MW182	MW183	MW183	MW184	MW184	MW184	MW184	MW185	MW185
Depth																0.5	3	0.2	2	1	3	1	3	1	1	1	3	0.5	3
Sample Type																Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal
Lab Report Number																1227083	1227083	1229786	1229786	1227083	1227083	1227083	1227083	1227989	1227989	EM2509944	1227989	1229786	1229786
Field ID																MW103A_0.5	MW103A_3.0	MW120A_0.2	MW120A_2.0	MW182_1.0	MW182_3.0	MW183_1.0	MW183_3.0	MW184_1.0	QC101	QC201	MW184_3.0	MW185_0.5	MW185_3.0
Date																29 May 2025	29 May 2025	05 Jun 2025	05 Jun 2025	29 May 2025	29 May 2025	29 May 2025	29 May 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	06 Jun 2025	06 Jun 2025
			CRC CARE 2011 HSL A&B (SAND)				*CRC CARE 2011 HSL C (SAND)*				CRC CARE 2011 HSL D (SAND)				CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker																
Chemical Group	Unit	EQL	0 - 1m	1 - 2m	2 - 4m	>4m	*0 - 1m*	*1 - 2m*	*2 - 4m*	*>4m*	0 - 1m	1 - 2m	2 - 4m	>4m	0 - 2m	2 - 4m	>4m														
Total Recoverable Hydrocarbons																														
C6-C10 fraction	mg/kg	10																<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	11.5	19.1	32.4	61.2	*6,980*	*12,100*	*18,200*	*29,200*	66.6	97.5	177	359	8,800	18,000	41,000	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	25	55.3	106	211	*18,600*	*50,100*	*93,800*	*184,000*	137	261	573	1,240	21,000	100,000	290,000	<50	<50	<50	<50	<50	<50	1,400	640	200	110	<50	59	<50	1,700
>C10-C16 fraction	mg/kg	50																<50	<50	<50	<50	<50	<50	1,400	640	200	110	<50	59	<50	1,700
>C16-C34 fraction	mg/kg	100																<100	<100	<100	<100	110	<100	2,200	1,600	990	560	<100	270	230	630
>C34-C40 fraction	mg/kg	100																<100	<100	<100	<100	<100	<100	240	170	360	200	<100	110	500	<100
>C10-C40 fraction (sum)	mg/kg	50																<100	<100	<100	<100	110	<100	3,840	2,410	1,550	870	<50	439	730	2,330
Total Petroleum Hydrocarbons																														
C6-C9 fraction	mg/kg	10																<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20
C10-C14 fraction	mg/kg	20																<20	<20	<20	<20	<20	<20	640	310	92	52	<50	<20	<20	1,000
C15-C28 fraction	mg/kg	50																<50	<50	<50	<50	<50	<50	2,500	1,600	750	380	<100	210	94	1,300
C29-C36 fraction	mg/kg	50																<50	<50	<50	<50	81	<50	530	430	530	340	<100	140	310	130
C10-C36 fraction (sum)	mg/kg	50																<50	<50	<50	<50	81	<50	3,670	2,340	1,372	772	<50	350	404	2,430
Monocyclic Aromatic Hydrocarbons																														
Benzene	mg/kg	0.1	0.5	0.5	0.5	0.5	*440*	*440*	*440*	*440*	3	3	3	3	75	160	420	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	160	220	310	540	*122,000*	*183,000*	*265,000*	*456,000*	950	1,200	1,800	3,100	114,000	470	1,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	55	80	130	240	*44,500*	*71,600*	*112,000*	*202,000*	340	450	720	1,400	4,200	260,000	700,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1
m&p-Xylene	mg/kg	0.2																<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
o-Xylene	mg/kg	0.1																<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	40	60	95	170	*31,300*	*51,300*	*80,900*	*147,000*	240	320	520	1,000	29,000	82,000	230,000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.2																-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5																<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																														
Naphthalene	mg/kg	0.5	3	9	20	40	*1,660*	*8,500*	*16,900*	*33,700*	10	40	100	230	2,900	18,000	54,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5c
Soil Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

Location Code															MW185	MW186	MW186	MW187	MW187	MW188	MW188	MW188	MW188	MW189	MW189	MW190	MW190	MW191
Depth															3	3	3.5	0.2	2	0.5	0.5	0.5	1	0.2	2	1	3	0.5
Sample Type															Field_D	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number															1229786	1231626	1231626	1231626	1231626	1227989	1227989	EM2512074	1227989	1227083	1227083	1227083	1227083	1227989
Field ID															QC104	MW186_3.0	MW186_3.5	MW187_0.2	MW187_2.0	MW188_0.5	QC102	QC202	MW188_1.0	MW189_0.2	MW189_2.0	MW190_1.0	MW190_3.0	MW191_0.5
Date															06 Jun 2025	10 Jun 2025	10 Jun 2025	11 Jun 2025	11 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	30 May 2025	30 May 2025	28 May 2025	28 May 2025	02 Jun 2025
			CRC CARE 2011 HSL A&B (SAND)				CRC CARE 2011 HSL C (SAND)				CRC CARE 2011 HSL D (SAND)				CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker													
Chemical Group	Unit	EQL	0 - 1m	1 - 2m	2 - 4m	>4m	0 - 1m	1 - 2m	2 - 4m	>4m	0 - 1m	1 - 2m	2 - 4m	>4m	0 - 2m	2 - 4m	>4m											
Total Recoverable Hydrocarbons																												
C6-C10 fraction	mg/kg	10																<20	<20	<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	11.5	19.1	32.4	61.2	*6,980*	*12,100*	*18,200*	*29,200*	66.6	97.5	177	359	8,800	18,000	41,000	<20	<20	<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	25	55.3	106	211	*18,600*	*50,100*	*93,800*	*184,000*	137	261	573	1,240	21,000	100,000	290,000	3,000	<50	410	<50	<50	<50	<50	-	<50	<50	<50	<50	150	<50
>C10-C16 fraction	mg/kg	50																3,000	<50	410	<50	<50	<50	<50	-	<50	<50	<50	<50	150	<50
>C16-C34 fraction	mg/kg	100																1,300	<100	250	<100	<100	160	<100	-	<100	660	<100	260	110	540
>C34-C40 fraction	mg/kg	100																<100	<100	<100	<100	<100	<100	<100	-	<100	190	<100	<100	<100	150
>C10-C40 fraction (sum)	mg/kg	50																4,300	<100	660	<100	<100	160	<100	-	<100	850	<100	260	260	690
Total Petroleum Hydrocarbons																												
C6-C9 fraction	mg/kg	10																<20	<20	<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20	<20
C10-C14 fraction	mg/kg	20																1,800	<20	160	<20	<20	<20	<20	-	<20	<20	<20	<20	84	<20
C15-C28 fraction	mg/kg	50																2,400	<50	480	<50	<50	100	54	-	<50	350	<50	190	150	340
C29-C36 fraction	mg/kg	50																130	<50	<50	<50	<50	91	51	-	<50	450	<50	110	<50	330
C10-C36 fraction (sum)	mg/kg	50																4,330	<50	640	<50	<50	191	105	-	<50	800	<50	300	234	670
Monocyclic Aromatic Hydrocarbons																												
Benzene	mg/kg	0.1	0.5	0.5	0.5	0.5	*440*	*440*	*440*	*440*	3	3	3	3	75	160	420	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	160	220	310	540	*122,000*	*183,000*	*265,000*	*456,000*	950	1,200	1,800	3,100	114,000	470	1,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	55	80	130	240	*44,500*	*71,600*	*112,000*	*202,000*	340	450	720	1,400	4,200	260,000	700,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m&p-Xylene	mg/kg	0.2																<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-Xylene	mg/kg	0.1																<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	40	60	95	170	*31,300*	*51,300*	*80,900*	*147,000*	240	320	520	1,000	29,000	82,000	230,000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.2																-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5																<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																												
Naphthalene	mg/kg	0.5	3	9	20	40	*1,660*	*8,500*	*16,900*	*33,700*	10	40	100	230	2,900	18,000	54,000	0.6	<0.5	<0.5	<0.5	<0.5	0.5	0.5	-	<0.5	<0.5	<0.5	0.6	<0.5	<0.5

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5c
Soil Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

| | | | CRC CARE 2011 HSL A&B (SAND) | | | | CRC CARE 2011 HSL C (SAND) | | | | CRC CARE 2011 HSL D (SAND) | | | | CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker | | | |

Table T5c
Soil Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

Location Code															NR2A	NR2A	SV31	SV32	SV33	SV34	SV35	SV36	SV39	SV40	SV41	SV42	SV42	SV42
Depth															1	4	2.5	2	2	1.5	2.5	2	1	1	1	2	2	2
Sample Type															Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D
Lab Report Number															1227083	1227083	1227083	1229786	1231626	1225146	1227083	1231626	1232541	1232541	1232541	1232541	1232541	EM2510874
Field ID															NR2A_1.0	NR2A_4.0	SV31_2.5	SV32_2.0	SV33_2.0	SV34_1.5	SV35_2.5	SV36_2.0	SV39_1.0	SV40_1.0	SV41_1.0	SV42_2.0	QC106	QC206
Date															30 May 2025	30 May 2025	29 May 2025	06 Jun 2025	11 Jun 2025	27 May 2025	28 May 2025	10 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025
			CRC CARE 2011 HSL A&B (SAND)				*CRC CARE 2011 HSL C (SAND)*				CRC CARE 2011 HSL D (SAND)				CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker													
Chemical Group	Unit	EQL	0 - 1m	1 - 2m	2 - 4m	>4m	*0 - 1m*	*1 - 2m*	*2 - 4m*	*>4m*	0 - 1m	1 - 2m	2 - 4m	>4m	0 - 2m	2 - 4m	>4m											
Total Recoverable Hydrocarbons																												
C6-C10 fraction	mg/kg	10																<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	11.5	19.1	32.4	61.2	*6,980*	*12,100*	*18,200*	*29,200*	66.6	97.5	177	359	8,800	18,000	41,000	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	25	55.3	106	211	*18,600*	*50,100*	*93,800*	*184,000*	137	261	573	1,240	21,000	100,000	290,000	<50	<50	<50	600	<50	96.9	<50	<50	<50	65.3	<50	315.3	64	320
>C10-C16 fraction	mg/kg	50																<50	<50	<50	600	<50	99	<50	<50	<50	67	<50	320	64	320
>C16-C34 fraction	mg/kg	100																120	<100	<100	550	<100	1,100	<100	<100	330	710	<100	980	240	1,000
>C34-C40 fraction	mg/kg	100																<100	<100	<100	380	<100	160	<100	<100	<100	<100	<100	210	<100	140
>C10-C40 fraction (sum)	mg/kg	50																120	<100	<100	1,530	<100	1,359	<100	<100	330	777	<100	1,510	304	1,460
Total Petroleum Hydrocarbons																												
C6-C9 fraction	mg/kg	10																<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10
C10-C14 fraction	mg/kg	20																<20	<20	<20	240	<20	53	<20	<20	<20	38	<20	180	33	160
C15-C28 fraction	mg/kg	50																66	<50	<50	680	<50	900	<50	<50	270	610	<50	950	220	950
C29-C36 fraction	mg/kg	50																75	<50	81	460	<50	340	<50	<50	96	180	<50	280	66	290
C10-C36 fraction (sum)	mg/kg	50																141	<50	81	1,380	<50	1,293	<50	<50	366	828	<50	1,410	319	1,400
Monocyclic Aromatic Hydrocarbons																												
Benzene	mg/kg	0.1	0.5	0.5	0.5	0.5	*440*	*440*	*440*	*440*	3	3	3	3	75	160	420	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.2
Toluene	mg/kg	0.1	160	220	310	540	*122,000*	*183,000*	*265,000*	*456,000*	950	1,200	1,800	3,100	114,000	470	1,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.5
Ethylbenzene	mg/kg	0.1	55	80	130	240	*44,500*	*71,600*	*112,000*	*202,000*	340	450	720	1,400	4,200	260,000	700,000	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.5
m&p-Xylene	mg/kg	0.2																<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.5
o-Xylene	mg/kg	0.1																<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.5
Total Xylenes	mg/kg	0.3	40	60	95	170	*31,300*	*51,300*	*80,900*	*147,000*	240	320	520	1,000	29,000	82,000	230,000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.5
Total BTEX	mg/kg	0.2																-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2
Naphthalene (BTEXN)	mg/kg	0.5																<0.5	<0.5	<0.5	<0.5	<0.5	2.1	<0.5	<0.5	<0.5	1.7	7.1	4.7	<0.5	<1
Polynuclear Aromatic Hydrocarbons																												
Naphthalene	mg/kg	0.5	3	9	20	40	*1,660*	*8,500*	*16,900*	*33,700*	10	40	100	230	2,900	18,000	54,000	<0.5	<0.5	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	0.6	2.5	3.0	2.6	<0.5	<0.5

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5c
Soil Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

																	Location Code	SV43	SV44	SV45	SV46
																	Depth	2	2	2	1.5
																	Sample Type	Normal	Normal	Normal	Normal
																	Lab Report Number	1232541	1232541	1234941	1227083
																	Field ID	SV43_2.0	SV44_2.0	SV45_2.0	SV46_1.5
																	Date	12 Jun 2025	12 Jun 2025	18 Jun 2025	28 May 2025
			CRC CARE 2011 HSL A&B (SAND)				*CRC CARE 2011 HSL C (SAND)*				CRC CARE 2011 HSL D (SAND)				CRC CARE 2011 Vapour Intrusion - Intrusive Maintenance Worker					
Chemical Group	Unit	EQL	0 - 1m	1 - 2m	2 - 4m	>4m	*0 - 1m*	*1 - 2m*	*2 - 4m*	*>4m*	0 - 1m	1 - 2m	2 - 4m	>4m	0 - 2m	2 - 4m	>4m				
Total Recoverable Hydrocarbons																					
C6-C10 fraction	mg/kg	10																<4,000	530	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	11.5	19.1	32.4	61.2	*6,980*	*12,100*	*18,200*	*29,200*	66.6	97.5	177	359	8,800	18,000	41,000	<4,000	330	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	25	55.3	106	211	*18,600*	*50,100*	*93,800*	*184,000*	137	261	573	1,240	21,000	100,000	290,000	4,500	8,400	<50	<50
>C10-C16 fraction	mg/kg	50																5,600	9,400	<50	<50
>C16-C34 fraction	mg/kg	100																7,600	21,000	<100	570
>C34-C40 fraction	mg/kg	100																900	5,900	<100	<100
>C10-C40 fraction (sum)	mg/kg	50																14,100	36,300	<100	570
Total Petroleum Hydrocarbons																					
C6-C9 fraction	mg/kg	10																<4,000	340	<20	<20
C10-C14 fraction	mg/kg	20																5,100	7,800	<20	<20
C15-C28 fraction	mg/kg	50																7,700	18,000	<50	400
C29-C36 fraction	mg/kg	50																1,600	7,900	<50	230
C10-C36 fraction (sum)	mg/kg	50																14,400	33,700	<50	630
Monocyclic Aromatic Hydrocarbons																					
Benzene	mg/kg	0.1	0.5	0.5	0.5	0.5	*440*	*440*	*440*	*440*	3	3	3	3	75	160	420	<20	38	<0.1	<0.1
Toluene	mg/kg	0.1	160	220	310	540	*122,000*	*183,000*	*265,000*	*456,000*	950	1,200	1,800	3,100	114,000	470	1,000	<20	70	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	55	80	130	240	*44,500*	*71,600*	*112,000*	*202,000*	340	450	720	1,400	4,200	260,000	700,000	<20	9.3	<0.1	<0.1
m&p-Xylene	mg/kg	0.2																150	60	<0.2	<0.2
o-Xylene	mg/kg	0.1																62	27	<0.1	<0.1
Total Xylenes	mg/kg	0.3	40	60	95	170	*31,300*	*51,300*	*80,900*	*147,000*	240	320	520	1,000	29,000	82,000	230,000	210	88	<0.3	<0.3
Total BTEX	mg/kg	0.2																-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5																1,100	1,000	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																					
Naphthalene	mg/kg	0.5	3	9	20	40	*1,660*	*8,500*	*16,900*	*33,700*	10	40	100	230	2,900	18,000	54,000	1,900	1,100	<0.5	<0.5

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5d
Soil Analytical Results - Remediation Criteria

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Table T5d
Soil Analytical Results - Remediation Criteria

Location Code											MW186	MW186	MW187	MW187	MW188	MW188	MW188	MW188	MW189	MW189	MW190	MW190	MW191	MW191	MW192	MW193	MW193
Depth											3	3.5	0.2	2	0.5	0.5	0.5	1	0.2	2	1	3	0.5	3	2	0.5	1
Sample Type											Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number											1231626	1231626	1231626	1231626	1227989	1227989	EM2512074	1227989	1227083	1227083	1227083	1227083	1227989	1227989	1227083	1228034	1228034
Field ID											MW186_3.0	MW186_3.5	MW187_0.2	MW187_2.0	MW188_0.5	QC102	QC202	MW188_1.0	MW189_0.2	MW189_2.0	MW190_1.0	MW190_3.0	MW191_0.5	MW191_3.0	MW192_2.0	MW193_0.5	MW193_1.0
Date											10 Jun 2025	10 Jun 2025	11 Jun 2025	11 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	02 Jun 2025	30 May 2025	30 May 2025	28 May 2025	28 May 2025	02 Jun 2025	02 Jun 2025	28 May 2025	03 Jun 2025	03 Jun 2025
Chemical Group	Unit	LOR	Potential Future Commercial Light Industrial Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (building with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown construction, or multi-storey building) 0-1m	1-2m	2-4m	>4m	Potential Future Comm (unknown construction or multi-storey building) 0-1m	1-2m	2-4m	>4m													
Total Recoverable Hydrocarbons																											
C6-C10 fraction	mg/kg	10																									
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	340	130	110,000	NL	36	27	11.5	19.1	32.4	61.2	66.6	97.5	177	359											
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	NL	770	110,000	NL	*170*	130	25	55.3	106	211	137	261	573	1240											
>C10-C16 fraction	mg/kg	50																									
>C16-C34 fraction	mg/kg	100																									
>C34-C40 fraction	mg/kg	100																									
>C10-C40 fraction (sum)	mg/kg	50																									
Total Petroleum Hydrocarbons																											
C6-C9 fraction	mg/kg	10																									
C10-C14 fraction	mg/kg	20																									
C15-C28 fraction	mg/kg	50																									
C29-C36 fraction	mg/kg	50																									
C10-C36 fraction (sum)	mg/kg	50																									
Metals																											
Arsenic	mg/kg	2																									
Cadmium	mg/kg	0.4																									
Chromium	mg/kg	2																									
Copper	mg/kg	5																									
Lead	mg/kg	5			620																						
Mercury	mg/kg	0.1																									
Nickel	mg/kg	2																									
Zinc	mg/kg	5																									
Monocyclic Aromatic Hydrocarbons																											
Benzene	mg/kg	0.1	3	3	170	360	*0.5*	0.5	0.5	0.5	0.5	0.5	3	3	3	3											
Toluene	mg/kg	0.1	2,500	1400	660,000	NL	290	200	160	220	310	540	950	1200	1800	3100											
Ethylbenzene	mg/kg	0.1	990	110	290,000	NL	*120*	81	55	80	130	240	340	450	720	1400											
m&p-Xylene	mg/kg	0.2																									
o-Xylene	mg/kg	0.1																									
Total Xylenes	mg/kg	0.3	830	430	530,000	NL	*93*	67	40	60	95	170	240	320	520	1000											
Total BTEX	mg/kg	0.2																									
Naphthalene (B/TEXN)	mg/kg	0.5																									
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5																									
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5																									
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5																									
Naphthalene	mg/kg	0.5	160	97	38,000	NL	*20*	13	3	9	20	40	10	40	100	230											
Acenaphthylene	mg/kg	0.5																									
Acenaphthene	mg/kg	0.5																									
Anthracene	mg/kg	0.5																									
Fluorene	mg/kg	0.5																									
Phenanthrene	mg/kg	0.5																									
Fluoranthene	mg/kg	0.5																									
Benz(a)anthracene	mg/kg	0.5																									
Benzo(k)fluoranthene	mg/kg	0.5																									
Benzo(b&j)fluoranthene	mg/kg	0.5																									
Benzo(e)pyrene	mg/kg	0.5			110																						
Chrysene	mg/kg	0.5																									
Pyrene	mg/kg	0.5																									
Benzo(g,h,i)perylene	mg/kg	0.5																									
Dibenz(a,h)anthracene	mg/kg	0.5																									
Indeno(1,2,3-cd)pyrene	mg/kg	0.5																									
Sum of PAHs	mg/kg	0.5																									

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5d
Soil Analytical Results - Remediation Criteria

Location Code											MW194	MW194	MW194	MW194	MW196	MW196	MW197	MW197	MW198	MW198	NR2A	NR2A	SV31
Depth											1	3	3	3	0.5	2	2	3.5	0.2	2	1	4	2.5
Sample Type											Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number											1229786	1229786	1229786	EM2510162	1234941	1234941	1234941	1234941	1232541	1232541	1227083	1227083	1227083
Field ID											MW194_1.0	MW194_3.0	QC103	QC203	MW196_0.5	MW196_2.0	MW197_2.0	MW197_3.5	MW198_0.2	MW198_2.0	NR2A_1.0	NR2A_4.0	SV31_2.5
Date											05 Jun 2025	05 Jun 2025	05 Jun 2025	05 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025	18 Jun 2025	13 Jun 2025	13 Jun 2025	30 May 2025	30 May 2025	29 May 2025
Chemical Group	Unit	LOR	Potential Future Commercial Light Industrial Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (building with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown construction, or multi-storey building)				Potential Future Comm (unknown construction or multi-storey building)											
									0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m								
Total Recoverable Hydrocarbons																							
C6-C10 fraction	mg/kg	10															<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	340	130	110,000	NL	36	27	11.5	19.1	32.4	61.2	66.6	97.5	177	359	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	NL	770	110,000	NL	*170*	130	25	55.3	106	211	137	261	573	1240	<50	<50	<50	<50	330	488	<50	<50
>C10-C16 fraction	mg/kg	50															<50	<50	<50	<50	330	490	<50	<50
>C16-C34 fraction	mg/kg	100															120	<100	<100	<100	1,100	1,600	<100	<100
>C34-C40 fraction	mg/kg	100															<100	<100	<100	<100	560	520	<100	<100
>C10-C40 fraction (sum)	mg/kg	50															120	<100	<100	<50	1,990	2,610	<100	<100
Total Petroleum Hydrocarbons																							
C6-C9 fraction	mg/kg	10															<20	<20	<20	<10	<20	<20	<20
C10-C14 fraction	mg/kg	20															<20	<20	<20	<50	190	300	<20
C15-C28 fraction	mg/kg	50															100	<50	<50	<100	900	1,400	<50
C29-C36 fraction	mg/kg	50															<50	<50	<50	<100	550	610	<50
C10-C36 fraction (sum)	mg/kg	50															100	<50	<50	<50	1,640	2,310	<50
Metals																							
Arsenic	mg/kg	2															<3	<2	<2	<2	<5	6.7	3.0
Cadmium	mg/kg	0.4															<0.4	<0.4	<0.4	<0.4	<1	<0.4	<0.4
Chromium	mg/kg	2															14	16	17	14	19	15	12
Copper	mg/kg	5															75	75	78	73	120	19	100
Lead	mg/kg	5			620												<5	<5	<5	<5	200	47	21
Mercury	mg/kg	0.1															<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1
Nickel	mg/kg	2															21	22	23	20	100	18	13
Zinc	mg/kg	5															30	29	31	25	340	61	110
Monocyclic Aromatic Hydrocarbons																							
Benzene	mg/kg	0.1	3	3	170	360	*0.5*	0.5	0.5	0.5	0.5	0.5	3	3	3	3	<0.1	<0.1	<0.1	<0.2	<0.1	0.2	<0.1
Toluene	mg/kg	0.1	2,500	1400	660,000	NL	290	200	160	220	310	540	950	1200	1800	3100	<0.1	<0.1	<0.1	<0.5	<0.1	0.4	<0.1
Ethylbenzene	mg/kg	0.1	990	110	290,000	NL	*220*	81	55	80	130	240	340	450	720	1400	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1
m&p-Xylene	mg/kg	0.2															<0.2	<0.2	<0.2	<0.5	<0.2	0.4	<0.2
o-Xylene	mg/kg	0.1															<0.1	<0.1	<0.1	<0.5	<0.1	0.1	<0.1
Total Xylenes	mg/kg	0.3	830	430	530,000	NL	*93*	67	40	60	95	170	240	320	520	1000	<0.1	<0.1	<0.3	<0.5	<0.3	0.5	<0.3
Total BTEX	mg/kg	0.2															-	-	-	<0.2	-	-	-
Naphthalene (B1EXN)	mg/kg	0.5															<0.5	<0.5	<0.5	<1	<0.5	2.0	<0.5
Polynuclear Aromatic Hydrocarbons																							
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															0.6	0.6	0.6	0.6	2.5	3.3	0.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	2.3	3.1	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5															1.2	1.2	1.2	1.2	2.8	3.6	1.2
Naphthalene	mg/kg	0.5	160	97	38,000	NL	*20*	13	3	9	20	40	10	40	100	230	<0.5	<0.5	<0.5	<0.5	1.5	2.4	<0.5
Acenaphthylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	3.3	5.2	<0.5
Acenaphthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5
Fluorene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	2.3	3.2	<0.5
Fluoranthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	4.2	6.9	<0.5
Benz(a)anthracene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	1.5	2.2	<0.5
Benzo(k)fluoranthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	1.8	2.4	<0.5
Benzo(b&j)fluoranthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	2.1	2.8	<0.5
Benzo(a)pyrene	mg/kg	0.5			110												<0.5	<0.5	<0.5	<0.5	1.6	2.2	<0.5
Chrysene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	1.4	2.2	<0.5
Pyrene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	3.9	6.3	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	1.0	1.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	1.0	1.2	<0.5
Sum of PAHs	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	26	40	<0.5

Location Code											SV32	SV33	SV34	SV35									
Depth											2	2	1.5	2.5									
Sample Type											Normal	Normal	Normal	Normal									
Lab Report Number											1229786	1231626	1225146	1227083									
Field ID											SV32_2.0	SV33_2.0	SV34_1.5	SV35_2.5									
Date											06 Jun 2025	11 Jun 2025	27 May 2025	28 May 2025									
Chemical Group	Unit	LOR																					
Total Recoverable Hydrocarbons																							
C6-C10 fraction	mg/kg	10									<20	<20	<20	<20									
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10									<20	<20	<20	<20									
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50									600	<50	96.9	<50									
>C10-C16 fraction	mg/kg	50									600	<50	99	<50									
>C16-C34 fraction	mg/kg	100									550	<100	1,100	<100									
>C34-C40 fraction	mg/kg	100									380	<100	160	<100									
>C10-C40 fraction (sum)	mg/kg	50									1,530	<100	1,359	<100									
Total Petroleum Hydrocarbons																							
C6-C9 fraction	mg/kg	10									<20	<20	<20	<20									
C10-C14 fraction	mg/kg	20									240	<20	53	<20									
C15-C28 fraction	mg/kg	50									680	<50	900	<50									
C29-C36 fraction	mg/kg	50									460	<50	340	<50									
C10-C36 fraction (sum)	mg/kg	50									1,380	<50	1,293	<50									
Metals																							
Arsenic	mg/kg	2									15	2.4	<2	<20	<2								
Cadmium	mg/kg	0.4									0.9	<0.4	<0.4	<4	<0.4								
Chromium	mg/kg	2									27	18	8.7	3,400	7.7								
Copper	mg/kg	5									97	44	9.4	68	22								
Lead	mg/kg	5									120	100	24	170	42								
Mercury	mg/kg	0.1									0.3	0.2	<0.1	2.2	0.4								
Nickel	mg/kg	2									33	27	8.9	<50	7.4								
Zinc	mg/kg	5									210	50	16	160	71								
Monocyclic Aromatic Hydrocarbons																							
Benzene	mg/kg	0.1									<0.1	<0.1	<0.1	<0.1	<0.1								
Toluene	mg/kg	0.1									<0.1	<0.1	<0.1	<0.1	<0.1								
Ethylbenzene	mg/kg	0.1									<0.1	<0.1	<0.1	<0.1	<0.1								
m&p-Xylene	mg/kg	0.2									<0.2	<0.2	<0.2	<0.2	<0.2								
o-Xylene	mg/kg	0.1									<0.1	<0.1	<0.1	<0.1	<0.1								
Total Xylenes	mg/kg	0.3									<0.3	<0.3	<0.3	<0.3	<0.3								
Total BTEX	mg/kg	0.2									-	-	-	-	-								
Naphthalene (B1EXN)	mg/kg	0.5									<0.5	<0.5	<0.5	2.1	<0.5								
Polynuclear Aromatic Hydrocarbons																							
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5									11	0.6	29	1.7									
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5									11	<0.5	29	1.4									
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5									11	1.2	29	1.9									
Naphthalene	mg/kg	0.5									2.1	<0.5	4.9	<0.5									
Acenaphthylene	mg/kg	0.5									1.6	<0.5	0.9	<0.5									
Acenaphthene	mg/kg	0.5									2.1	<0.5	1.1	<0.5									
Anthracene	mg/kg	0.5									2.8	<0.5	17	<0.5									
Fluorene	mg/kg	0.5									0.6	<0.5	13	<0.5									
Phenanthrene	mg/kg	0.5									3.8	<0.5	70	<0.5									
Fluoranthene	mg/kg	0.5									9.0	<0.5	47	1.8									
Benz(a)anthracene	mg/kg	0.5									5.3	<0.5	19	1.7									
Benzo(k)fluoranthene	mg/kg	0.5									8.3	<0.5	18	0.9									
Benzo(b&j)fluoranthene	mg/kg	0.5									3.6	<0.5	17	1.0									
Benzo(a)pyrene	mg/kg	0.5									8.4	<0.5	20	1.0									
Chrysene	mg/kg	0.5									7.5	<0.5	22	1.2									
Pyrene	mg/kg	0.5									9.1	<0.5	44	1.9									
Benzo(g,h,i)perylene	mg/kg	0.5									3.7	<0.5	8.1	0.7									
Dibenz(a,h)anthracene	mg/kg	0.5									0.8	<0.5	2.9	<0.5									
Indeno(1,2,3-cd)pyrene	mg/kg	0.5									3.3	<0.5	6.8	<0.5									
Sum of PAHs	mg/kg	0.5									70	<0.5	310	10									

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T5d
Soil Analytical Results - Remediation Criteria

Location Code															SV36	SV39	SV40	SV41	SV42	SV42	SV42	SV43	SV44	SV45	SV46
Depth															2	1	1	1	2	2	2	2	2	2	1.5
Sample Type															Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal
Lab Report Number															1231626	1232541	1232541	1232541	1232541	1232541	EM2510874	1232541	1232541	1234941	1227083
Field ID															SV36_2.0	SV39_1.0	SV40_1.0	SV41_1.0	SV42_2.0	QC106	QC206	SV43_2.0	SV44_2.0	SV45_2.0	SV46_1.5
Date															10 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	13 Jun 2025	12 Jun 2025	12 Jun 2025	18 Jun 2025	28 May 2025
Chemical Group	Unit	LOR	Potential Future Commercial Light Industrial Workers (low-rise slab-on-grade)	Potential Future Comm/Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (building with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown construction, or multi-storey building)				Potential Future Comm (unknown construction or multi-storey building)												
									0-1m	1-2m	2-4m	>4m	0-1m	1-2m	2-4m	>4m									
Total Recoverable Hydrocarbons																									
C6-C10 fraction	mg/kg	10													<20	<20	<20	<20	<20	<20	<10	<4,000	530	<20	<20
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	340	130	110,000	NL	*36*	27	11.5	19.1	32.4	61.2	66.6	97.5	177	359	<20	<20	<20	<20	<20	<30	<10	<4,000	330	<20	<20
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	NL	770	110,000	NL	*170*	130	25	55.3	106	211	137	261	573	1240	<50	<50	65.3	<50	*315.3*	64	320	*4,500*	*8,400*	<50	<50
>C10-C16 fraction	mg/kg	50															<50	<50	67	<50	320	64	320	5,600	9,400	<50	<50
>C16-C34 fraction	mg/kg	100															<100	330	710	<100	980	240	1,000	7,600	21,000	<100	570
>C34-C40 fraction	mg/kg	100															<100	<100	<100	<100	210	<100	140	900	5,900	<100	<100
>C10-C40 fraction (sum)	mg/kg	50															<100	330	777	<100	1,510	304	1,460	14,100	36,300	<100	570
Total Petroleum Hydrocarbons																									
C6-C9 fraction	mg/kg	10															<20	<20	<20	<20	<20	<20	<10	<4,000	340	<20	<20
C10-C14 fraction	mg/kg	20															<20	<20	38	<20	180	33	160	5,100	7,800	<20	<20
C15-C28 fraction	mg/kg	50															<50	270	610	<50	950	220	950	7,700	18,000	<50	400
C29-C36 fraction	mg/kg	50															<50	96	180	<50	280	66	290	1,600	7,900	<50	230
C10-C36 fraction (sum)	mg/kg	50															<50	366	828	<50	1,410	319	1,400	14,400	33,700	<50	630
Metals																									
Arsenic	mg/kg	2															<3	2.7	12	<2	<2	<2	<5	4.3	3.2	<2	7.2
Cadmium	mg/kg	0.4															<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4	0.7	<0.4	<0.4
Chromium	mg/kg	2															<5	20	49	17	13	15	24	46	19	19	11
Copper	mg/kg	5															<5	20	7.2	79	61	71	73	20	50	16	180
Lead	mg/kg	5			620												5.6	14	8.8	<5	5.9	5.0	<5	12	72	14	480
Mercury	mg/kg	0.1															<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	0.7
Nickel	mg/kg	2															<5	35	20	23	23	28	28	53	31	26	26
Zinc	mg/kg	5															9.1	9.1	11	28	36	41	30	31	130	12	930
Monocyclic Aromatic Hydrocarbons																									
Benzene	mg/kg	0.1	3	3	170	360	*0.5*	0.5	0.5	0.5	0.5	0.5	3	3	3	3	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.2	<20	*38*	<0.1	<0.1
Toluene	mg/kg	0.1	2,500	1400	660,000	NL	290	200	160	220	310	540	950	1200	1800	3100	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.5	<20	70	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	990	110	290,000	NL	*120*	81	55	80	130	240	340	450	720	1400	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.5	<20	9.3	<0.1	<0.1
m&p-Xylene	mg/kg	0.2															<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.5	150	60	<0.2	<0.2
o-Xylene	mg/kg	0.1															<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.5	62	27	<0.1	<0.1
Total Xylenes	mg/kg	0.3	830	430	530,000	NL	*93*	67	40	60	95	170	240	320	520	1000	<0.1	<0.3	0.6	<0.3	<0.3	<0.3	<0.5	220	*88*	<0.3	<0.3
Total BTEX	mg/kg	0.2															-	-	-	-	-	-	<0.2	-	-	-	-
Naphthalene (BTEXN)	mg/kg	0.5															<0.5	<0.5	1.7	<0.5	4.7	<0.5	<5	1,100	1,000	<0.5	<0.5
Polynuclear Aromatic Hydrocarbons																									
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5															0.6	0.6	9.0	0.6	2.5	0.6	3.7	74	62	0.6	1.6
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5															<0.5	<0.5	9.0	<0.5	2.2	<0.5	3.4	74	62	<0.5	1.4
Benzo(a)pyrene TEQ calc(POL)	mg/kg	0.5															1.2	1.2	9.0	1.2	2.7	1.2	3.9	74	62	1.2	1.9
Naphthalene	mg/kg	0.5	160	97	38,000	NL	*20*	13	3	9	20	40	10	40	100	230	<0.5	0.6	2.5	3.0	2.6	<0.5	<0.5	*1,900*	*1,100*	<0.5	<0.5
Acenaphthylene	mg/kg	0.5															<0.5	<0.5	1.2	<0.5	2.1	<0.5	4.4	5.7	190	<0.5	<0.5
Acenaphthene	mg/kg	0.5															<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	23	38	<0.5	<0.5
Anthracene	mg/kg	0.5															<0.5	<0.5	3.3	<0.5	0.7	<0.5	0.8	210	180	<0.5	<0.5
Fluorene	mg/kg	0.5															<0.5	<0.5	1.0	0.6	<0.5	<0.5	<0.5	190	160	<0.5	<0.5
Phenanthrene	mg/kg	0.5															<0.5	0.6	8.0	0.9	1.5	<0.5	1.4	460	400	<0.5	<0.5
Fluoranthene	mg/kg	0.5															<0.5	1.1	18	<0.5	5.7	0.7	5.7	290	240	<0.5	1.3
Benz(a)anthracene	mg/kg	0.5															<0.5	<0.5	8.2	<0.5	1.8	<0.5	1.9	76	76	<0.5	1.2
Benzo(k)fluoranthene	mg/kg	0.5															<0.5	<0.5	5.3	<0.5	1.2	<0.5	1.1	35	30	<0.5	1.0
Benzo(b&j)fluoranthene	mg/kg	0.5															<0.5	<0.5	5.3	<0.5	1.4	<0.5	3.4	34	30	<0.5	1.0
Benzo(a)pyrene	mg/kg	0.5			110												<0.5	<0.5	6.0	<0.5	1.7	<0.5	2.6	53	42	<0.5	1.0
Chrysene	mg/kg	0.5															<0.5	<0.5	7.9	<0.5	1.6	<0.5	1.7	72	88	<0.5	1.5
Pyrene	mg/kg	0.5															<0.5	1.4	14	<0.5	7.2	1.3	6.3	260	220	<0.5	1.6
Benzo(g,h,i)perylene	mg/kg	0.5															<0.5	<0.5	2.1	<0.5	0.7	<0.5	1.6	22	19	<0.5	0.8
Dibenz(a,h)anthracene	mg/kg	0.5															<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	3.3	3.6	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5															<0.5	<0.5	2.0	<0.5	0.5	<0.5	1.4	20	19	<0.5	0.5
Sum of PAHs	mg/kg	0.5															<0.5	3.7	86	4.5	29	2.0	32.3	3,700	2,800	<0.5	9.9

Comments
#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

					Location Code	MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167	MW167	MW173	MW182	MW183
					Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
					Lab Report Number	1240646	1235243	1232587	1235243	1235243	1235243	1232587	1235243	1235243	1236601	1236601	1235189	1235189	1234988	1234320	1234320
					Field ID	MW120A	MW148	MW150	MW151	MW151_FILTERED	MW152	MW153	MW155	MW155_FILTERED	MW164	MW164_FILTERED	MW167	MW167_FILTERED	MW173	MW182	MW183
					Date	25 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	23 Jun 2025	23 Jun 2025	20 Jun 2025	20 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025
Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)																
Total Recoverable Hydrocarbons																					
C6-C10 fraction	µg/L	20				280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				260	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	260
>C10-C16 fraction	µg/L	50				290	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	260
>C16-C34 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	500
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100				290	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	760
Total Recoverable Hydrocarbons - Silica Gel																					
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
Total Petroleum Hydrocarbons																					
C6-C9 fraction	µg/L	20				280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50				300	<50	<50	<50	<50	60	<50	<50	<50	<50	<50	<50	<50	<50	<50	90
C15-C28 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	700
C29-C36 fraction	µg/L	50				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50				300	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	790
Total Petroleum Hydrocarbons - Silica Gel																					
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
Petroleum Hydrocarbon Speciation																					
>C6 - C8 Aliphatic	µg/L	20				-	-	-	<20	-	-	-	<20	-	<20	-	<20	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	<20	-	-	-	<20	-	<20	-	<20	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	<1	-	-	-	<1	-	<1	-	<1	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	<1	-	-	-	<1	-	<1	-	<1	-	-	-	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	<10	-	-	-	<10	-	<10	-	<10	-	-	-	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-	-	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	-
Monocyclic Aromatic Hydrocarbons																					
Benzene	µg/L	1		1 [#5]	10 [#6]	170	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1	<1
Toluene	µg/L	1	25	800 [#5]	8,000 [#6]	59	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1	<1
Ethylbenzene	µg/L	1	3	300 [#5]	3,000 [#6]	<5 [^3]	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1	<1
m&p-Xylene	µg/L	2				<10 [^1]	<2	<2	<2	-	5	<2	<2	-	<2	-	<2	-	<2	<2	<2
o-Xylene	µg/L	1		190 [#7]	1,900 [#8]	13	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1	<1
Total Xylenes	µg/L	2	20	600 [#5]	6,000 [#6]	13	<3	<3	<3	-	5	<3	<3	-	<3	-	<3	-	<3	<3	<3
Total BTEX	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				30	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases																					
Methane	µg/L	10				<50	50	19,000	9,200	-	14,000	360	18,000	-	3,600	-	<50	-	<50	<50	360
Polynuclear Aromatic Hydrocarbons																					
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1		0.17 [#7]	1.7 [#8]	2	<1	<1	<1	<1	2	<1	3	4	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1		530 [#7]	5,300 [#8]	<1	<1	3	4	3	13	<1	2	2	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1		1,800 [#7]	18,000 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1		290 [#7]	2,900 [#8]	<1	<1	2	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1		800 [#7]	8,000 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1		0.03 [#7]	0.3 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1		2.5 [#7]	25 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.01 [#5]	0.1 [#6]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1		25 [#7]	250 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1		120 [#7]	1,200 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1		0.025 [#7]	0.25 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1		0.25 [#7]	2.5 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5		0.01 [#5]	0.1 [#6]	2	<1	5	4	3	21	<1	5	6	4	<1	<1	<1	<1	<1	<1
Phenolic Compounds																					
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<6	<6	<6	-	<6	<6	<6	-	<6	-	<6	-	<6	<6	<6
Phenol	µg/L	1		5,800 [#7]	58,000 [#8]	<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3	<3
2-Chlorophenol	µg/L	1	0.1	300 [#5]	3,000 [#6]	<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		930 [#7]	9,300 [#8]	<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3	<3
Total Cresols	µg/L	10		1,500 [#7]	15,000 [#8]	<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
2-Nitrophenol	µg/L	1				<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
2,4-Dichlorophenol	µg/L	1	0.3	200 [#5]	2,000 [#6]	<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3	<3
2,4-Dimethylphenol	µg/L	1		360 [#7]	3,600 [#8]	26	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3	<3
2,6-Dichlorophenol	µg/L	1				<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1		1,400 [#7]	14,000 [#8]	<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1	2	20 [#5]	200 [#6]	<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1		1,200 [#7]	12,000 [#8]	<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30		1.5 [#7]	15 [#8]	<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30	<30
Pentachlorophenol	µg/L	2		10 [#5]	100 [#6]	<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
2,4-Dinitrophenol	µg/L	30		39 [#7]	390 [#8]	<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100		23 [#7]	230 [#8]	<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100	<100
4-Nitrophenol	µg/L	30				<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30	<30
Dinoseb	µg/L	100		15 [#7]	150 [#8]	<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100	<100
Tetrachlorophenols	µg/L	30				<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10				<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100	<100

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)	Location Code	MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167	MW167	MW173	MW182	MW183
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	1240646	1235243	1232587	1235243	1235243	1235243	1232587	1235243	1235243	1236601	1236601	1235189	1235189	1234988	1234320	1234320
						Field ID	MW120A	MW148	MW150	MW151	MW151_FILTERED	MW152	MW153	MW155	MW155_FILTERED	MW164	MW164_FILTERED	MW167	MW167_FILTERED	MW173	MW182	MW183
						Date	25 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	23 Jun 2025	23 Jun 2025	20 Jun 2025	20 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025
Per- and Poly-fluoroalkyl Substances																						
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001		1 [#5]	10 [#6]		<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001					0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001		0.03 [#5]	0.3 [#6]		0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.008 [#5]	0.08 [#6]		0.024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.001					0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.001					0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.001		0.2 [#5]	2 [#6]		0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.001		0.07 [#11]	2 [#11]		0.028	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.002					0.048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	µg/L	0.002					0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001					0.034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PFHxDA	µg/L	0.005					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																						
Arsenic (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]		<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	0.001	-	0.003	-	<0.001	-	<0.001	0.002	0.002
Cadmium (filtered)	mg/L	0.0001		0.002 [#5]	0.02 [#6]		<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	-	<0.0002	-	0.0002	-	<0.0002	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.05 [#8]	0.5		<0.001	0.002	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	<0.001	-	<0.001	<0.001	<0.001
Copper (filtered)	mg/L	0.001	1	2 [#5]	20 [#6]		0.003	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	0.012	-	0.002	<0.001	<0.001
Lead (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]		<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	0.002	-	<0.001	<0.001	<0.001
Manganese (filtered)	mg/L	0.001	0.1	0.5 [#5]	5 [#6]		0.079	1.7	0.26	1.5	-	0.40	0.25	1.7	-	1.3	-	0.084	-	0.29	1.1	0.58
Mercury (filtered)	mg/L	0.0001		0.001 [#5]	0.01 [#6]		<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001	-	<0.0001	-	<0.0001	-	<0.0001	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.39 [#7]	3.9 [#8]		0.002	0.001	<0.001	0.001	-	<0.001	<0.001	<0.001	-	0.002	-	0.009	-	0.003	0.003	0.002
Selenium (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	3				0.013	<0.005	0.006	<0.005	-	<0.005	<0.005	<0.005	-	<0.005	-	0.24	-	<0.005	0.031	0.006
Alkalinity																						
Hydroxide Alkalinity as CaCO3	mg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1					<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1					67	830	340	850	-	2,000	820	460	-	340	-	690	-	620	720	520
Total Alkalinity as CaCO3	mg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																						
Cyanide (Free)	mg/L	0.004					<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	<0.005	-	<0.005	-	<0.005	<0.005	<0.005
Cyanide Total	µg/L	4		80 [#5]	800 [#6]		6	28	<5	8	-	18	<5	5	-	28	-	<5	-	190	<5	9
Weak Acid Dissociable Cyanide	mg/L	0.004					<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	0.005	-	<0.005	-	<0.005	<0.005	<0.005
Nutrients																						
Ammonia (as N)	mg/L	0.01					<0.01	3.8	28	21	-	43	5.2	0.13	-	2.1	-	0.17	-	<0.01	0.10	0.32
Nitrate (as N)	mg/L	0.02	10	11.2 [#3]	112 [#3]		<0.02	0.04	0.06	<0.02	-	0.05	0.45	<0.2	-	0.03	-	1.6	-	2.2	0.04	0.02
Major Ions																						
Chloride	mg/L	1	250				760	45	220	2,000	-	1,400	12,000	3,000	-	14	-	320	-	23	28	34
Calcium	mg/L	0.5					120	170	110	200	-	74	250	460	-	57	-	170	-	100	180	55
Calcium (filtered)	mg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5					44	40	33	180	-	160	680	96	-	22	-	24	-	50	44	29
Magnesium (filtered)	mg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5					39	20	27	56	-	100	220	63	-	14	-	8.5	-	6.0	23	10
Potassium (filtered)	mg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5	180				590	94	43	1,000	-	1,200	5,600	1,300	-	72	-	310	-	96	110	190
Sodium (filtered)	mg/L	0.5	180				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	250	500 [#5]	5,000 [#6]		350	110	<5	130	-	120	120	10	-	46	-	200	-	88	100	100
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Anions	meq/L	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters																						
Total Dissolved Solids	mg/L	10	600				2,000	1,200	720	4,200	-	4,800	20,000	5,700	-	300	-	1,500	-	950	1,000	680
Electrical conductivity (lab)	µS/cm	10					3,300	1,800	1,100	7,400	-	7,000	29,000	9,200	-	630	-	2,300	-	1,500	1,200	1,000

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Environmental Standards
#4 NHMRC ADWG (amended 2025) Aesthetic
#5 NHMRC ADWG (amended 2025) Human Health
#6 NHMRC ADWG (amended 2025) Human Health (AF x 10)
#7 US EPA RSL 2025 - Tap Water Quality
#8 US EPA RSL 2025 - Tap Water Quality (AF x 10)
#9 WHO (2011) Drinking Water Guidelines
#10 WHO (2011) Drinking Water Guidelines (AF x 10)
#11 PFAS NEMP 3.0 (2025) Drinking Water Quality Guideline

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)	MW184	MW186	MW186	MW186	MW188	MW189	MW190	MW191	MW192	MW193	MW193	MW193	MW194	MW196	MW197	MW198	NR2A
Location Code						MW184	MW186	MW186	MW186	MW188	MW189	MW190	MW191	MW192	MW193	MW193	MW193	MW194	MW196	MW197	MW198	NR2A
Sample Type						Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
Lab Report Number						1234988	1240646	1240646	EM2512123	1237216	1234988	1234320	1234988	1234988	1237216	1237216	EM2511596	1234320	1240646	1240646	1240646	1235189
Field ID						MW184	MW186	QC110	QC210	MW188	MW189	MW190	MW191	MW192	MW193	QC109	QC209	MW194	MW196	MW197	MW198	NR2A
Date						18 Jun 2025	25 Jun 2025	25 Jun 2025	25 Jun 2025	24 Jun 2025	18 Jun 2025	17 Jun 2025	18 Jun 2025	18 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	17 Jun 2025	25 Jun 2025	25 Jun 2025	25 Jun 2025	20 Jun 2025
Total Recoverable Hydrocarbons																						
C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	260	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	50	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				<50	210	160	150	<50	330	<50	<50	<50	<50	<50	<100	<50	<50	7,250	<50	<50
>C10-C16 fraction	µg/L	50				<50	210	160	150	<50	330	<50	<50	<50	<50	<50	<100	<50	<50	7,600	<50	<50
>C16-C34 fraction	µg/L	100				<100	300	200	180	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	1,900	<100	<100
>C34-C40 fraction	µg/L	100				<100	300	200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100				<100	810	560	330	<100	330	<100	<100	<100	<100	<100	<100	<100	<100	9,500	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																						
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
Total Petroleum Hydrocarbons																						
C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	250	<20	<20
C10-C14 fraction	µg/L	50				<50	80	60	80	<50	140	<50	<50	<50	<50	<50	<50	<50	<50	8,200	<50	<50
C15-C28 fraction	µg/L	100				<100	400	300	230	<100	200	<100	<100	<100	<100	<100	<100	<100	<100	3,200	<100	<100
C29-C36 fraction	µg/L	50				<100	100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<50	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50				<100	580	360	310	<100	340	<100	<100	<100	<100	<100	<50	<100	<100	11,400	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																						
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
Petroleum Hydrocarbon Speciation																						
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
Monocyclic Aromatic Hydrocarbons																						
Benzene	µg/L	1		1 [#5]	10 [#6]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	120	<1	<1
Toluene	µg/L	1	25	800 [#5]	8,000 [#6]	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	52	<1	<1
Ethylbenzene	µg/L	1	3	300 [#5]	3,000 [#6]	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<5 [^1]	<1	<1
m&p-Xylene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	24	<2	<2
o-Xylene	µg/L	1		190 [#7]	1,900 [#8]	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	19	<1	<1
Total Xylenes	µg/L	2	20	600 [#5]	6,000 [#6]	<3	<3	<3	<2	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	43	<3	<3
Total BTEX	µg/L	1				-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	350	<10	<10
Hydrocarbon Gases																						
Methane	µg/L	10				390	110	90	59	20,000	<50	<50	<50	18,000	17,000	16,000	3,550	<50	240	500	<50	1,500
Polynuclear Aromatic Hydrocarbons																						
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Naphthalene	µg/L	1		0.17 [#7]	1.7 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	490	3	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	23	<1	<1
Acenaphthene	µg/L	1		530 [#7]	5,300 [#8]	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	18	<1	2
Anthracene	µg/L	1		1,800 [#7]	18,000 [#8]	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	3	<1	<1
Fluorene	µg/L	1		290 [#7]	2,900 [#8]	<1	<1	<1	<1.0	1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	15	<1	4
Phenanthrene	µg/L	1				<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	10	<1	<1
Fluoranthene	µg/L	1		800 [#7]	8,000 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	2	<1	2
Benz(a)anthracene	µg/L	1		0.03 [#7]	0.3 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1		2.5 [#7]	25 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.01 [#5]	0.1 [#6]	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Chrysene	µg/L	1		25 [#7]	250 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Pyrene	µg/L	1		120 [#7]	1,200 [#8]	<1	<1	<1	<1.0	<1	<1	3	<1	<1	<1	<1	<1.0	<1	<1	2	<1	2
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1		0.025 [#7]	0.25 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1		0.25 [#7]	2.5 [#8]	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5		0.01 [#5]	0.1 [#6]	<1	<1	<1	<0.5	7	<1	3	<1	<1	<1	<1	<0.5	<1	<1	560	3	10
Phenolic Compounds																						
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<6	<6	<2.0	<6	<6	<6	<6	<6	<6	<6	<2.0	<6	<6	530	<6	<6
Phenol	µg/L	1		5,800 [#7]	58,000 [#8]	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	600	<3	<3
2-Chlorophenol	µg/L	1	0.1	300 [#5]	3,000 [#6]	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		930 [#7]	9,300 [#8]	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	1,700	<3	<3
Total Cresols	µg/L	10		1,500 [#7]	15,000 [#8]	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	2,200	<10	<10
2-Nitrophenol	µg/L	1				<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	1	0.3	200 [#5]	2,000 [#6]	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3
2,4-Dimethylphenol	µg/L	1		360 [#7]	3,600 [#8]	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	1,100	<3	<3
2,6-Dichlorophenol	µg/L	1				<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1		1,400 [#7]	14,000 [#8]	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1	2	20 [#5]	200 [#6]	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1		1,200 [#7]	12,000 [#8]	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30		1.5 [#7]	15 [#8]	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
Pentachlorophenol	µg/L	2		10 [#5]	100 [#6]	<10	<10	<10	<2.0	<10	<10	<10	<10	<10	<10	<10	<2.0	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	30		39 [#7]	390 [#8]	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100		23 [#7]	230 [#8]	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	30				<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
Dinoseb	µg/L	100		15 [#7]	150 [#8]	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100
Tetrachlorophenols	µg/L	30				<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10				<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	3,900	<100	<100

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)	Location Code	MW184	MW186	MW186	MW186	MW188	MW189	MW190	MW191	MW192	MW193	MW193	MW193	MW194	MW196	MW197	MW198	NR2A
						Sample Type	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	1234988	1240646	1240646	EM2512123	1237216	1234988	1234320	1234988	1234988	1237216	1237216	EM2511596	1234320	1240646	1240646	1240646	1235189
						Field ID	MW184	MW186	QC110	QC210	MW188	MW189	MW190	MW191	MW192	MW193	QC109	QC209	MW194	MW196	MW197	MW198	NR2A
						Date	18 Jun 2025	25 Jun 2025	25 Jun 2025	25 Jun 2025	24 Jun 2025	18 Jun 2025	17 Jun 2025	18 Jun 2025	18 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	17 Jun 2025	25 Jun 2025	25 Jun 2025	25 Jun 2025	20 Jun 2025
Per- and Poly-fluoroalkyl Substances							-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001		1 [#5]	10 [#6]		-	-	-	-	0.001	-	-	-	-	<0.001	-	-	0.002	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001		0.03 [#5]	0.3 [#6]		-	-	-	-	0.001	-	-	-	-	<0.001	-	-	0.004 [#2]	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.008 [#5]	0.08 [#6]		-	-	-	-	<0.001	-	-	-	-	0.002 [#2]	-	-	0.017 [#2]	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.005					-	-	-	-	0.006	-	-	-	-	<0.005	-	-	0.051	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.001					-	-	-	-	0.005	-	-	-	-	0.002	-	-	0.014	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.001					-	-	-	-	0.004	-	-	-	-	0.002	-	-	0.016	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001					-	-	-	-	0.001	-	-	-	-	<0.001	-	-	0.010	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.001		0.2 [#5]	2 [#6]		-	-	-	-	0.002 [#2]	-	-	-	-	0.003 [#2]	-	-	0.015	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	0.003	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005					-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001					-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.001		0.07 [#11]	2 [#11]		-	-	-	-	0.001	-	-	-	-	0.002	-	-	0.021	-	-	-	-
Sum of PFAS	µg/L	0.002					-	-	-	-	0.02	-	-	-	-	0.009	-	-	0.132	-	-	-	-
Sum of WA DWER PFAS (n=10)*	µg/L	0.002					-	-	-	-	0.02	-	-	-	-	0.009	-	-	0.129	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001					-	-	-	-	0.003	-	-	-	-	0.005	-	-	0.036	-	-	-	-
PFHxDA	µg/L	0.005					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																							
Arsenic (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.004	<0.001	<0.001	0.001	0.002	<0.001	0.006	<0.001	<0.001
Cadmium (filtered)	mg/L	0.0001		0.002 [#5]	0.02 [#6]		<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.05 [#9]	0.5		<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001
Copper (filtered)	mg/L	0.001	1	2 [#5]	20 [#6]		<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.010	<0.001	<0.001	<0.001	<0.001	0.019	0.004	0.003	<0.001	0.003
Lead (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (filtered)	mg/L	0.001	0.1	0.5 [#5]	5 [#6]		0.25	1.6	1.6	1.44	0.91	1.4	0.13	0.49	0.60	1.00	1.1	1.00	0.031	0.37	0.11	4.0	0.59
Mercury (filtered)	mg/L	0.0001		0.001 [#5]	0.01 [#6]		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.39 [#7]	3.9 [#8]		<0.001	0.001	0.002	0.001	0.011	0.001	0.001	0.002	<0.001	0.002	0.002	0.002	0.002	0.038	0.008	0.004	0.001
Selenium (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]		-	-	-	-	-	0.003	-	-	-	-	-	-	<0.001	-	-	-	-
Zinc (filtered)	mg/L	0.005	3				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	0.009	<0.005	<0.005	<0.005	<0.005	0.008	0.040	<0.005	0.006	0.006
Alkalinity																							
Hydroxide Alkalinity as CaCO3	mg/L	1					-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1					<10	<10	<10	<1	<10	<10	<10	<10	<10	<10	<10	<1	<10	<10	<10	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1					740	380	450	570	1,300	380	490	730	640	1,000	1,100	849	470	220	270	49	630
Total Alkalinity as CaCO3	mg/L	1					-	-	-	570	-	-	-	-	-	-	-	849	-	-	-	-	-
Cyanides																							
Cyanide (Free)	mg/L	0.004					<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	0.006	0.020	<0.005
Cyanide Total	µg/L	4		80 [#5]	800 [#6]		170	96	96	76	8	<5	20	12	21	7	11	6	30	160	230	650	<5
Weak Acid Dissociable Cyanide	mg/L	0.004					<0.005	0.008	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	0.006	0.028	0.040	<0.005
Nutrients																							
Ammonia (as N)	mg/L	0.01					0.57	0.20	0.19	0.23	33	0.04	0.15	0.21	41	29	29	28.0	<0.01	3.4	3.3	18	0.25
Nitrate (as N)	mg/L	0.02	10	11.2 [#3]	112 [#3]		<0.02	0.03	0.10	-	<0.02	0.22	3.4	4.0	0.10	<0.02	0.03	-	3.0	0.64	0.05	17	0.16
Major Ions																							
Chloride	mg/L	1	250				35	42	42	38	29	9.3	38	36	130	20	19	19	270	86	25	35	26
Calcium	mg/L	0.5					34	140	140	-	170	76	130	100	77	150	150	-	190	96	30	250	100
Calcium (filtered)	mg/L	0.5					-	-	-	153	-	-	-	-	-	-	-	154	-	-	-	-	-
Magnesium	mg/L	0.5					26	43	44	-	73	16	32	53	29	49	48	-	140	22	4.9	45	29
Magnesium (filtered)	mg/L	0.5					-	-	-	44	-	-	-	-	-	-	-	47	-	-	-	-	-
Potassium	mg/L	0.5					18	7.6	7.7	-	43	5.2	11	9.6	36	35	34	-	10	12	2.5	9.1	9.1
Potassium (filtered)	mg/L	0.5					-	-	-	8	-	-	-	-	-	-	-	32	-	-	-	-	-
Sodium	mg/L	0.5	180				290	100	100	-	68	98	98	140	100	62	60	-	180	110	99	120	140
Sodium (filtered)	mg/L	0.5	180				-	-	-	96	-	-	-	-	-	-	-	61	-	-	-	-	-
Sulfate as SO4	mg/L	5	250	500 [#5]	5,000 [#6]		100	120	120	-	8.9	92	140	110	<5	9.2	8.0	-	460	260	51	480	33
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1					-	-	-	111	-	-	-	-	-	-	-	7	-	-	-	-	-
Total Anions	meq/L	0.01					-	-	-	14.8	-	-	-	-	-	-	-	17.6	-	-	-	-	-
Total Cations	meq/L	0.01					-	-	-	15.6	-	-	-	-	-	-	-	15.0	-	-	-	-	-
Ionic Balance	%	0.01					-	-	-	2.84	-	-	-	-	-	-	-	8.02	-	-	-	-	-
Physico-Chemical Parameters																							
Total Dissolved Solids	mg/L	10	600				1,100	710	610	819	1,000	610	720	1,100	840	750	780	798	1,500	780	480	1,300	800
Electrical conductivity (lab)	µS/cm	10					1,800	1,100	1,100	-	1,600	1,000	1,100	1,600	1,400	1,400	1,400	-	2,000	1,000	520	1,600	1,400

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched
#3 Exceeds instrument calibration range

Environmental Standards
#4 NHMRC ADWG (amended 2025) Aesthetic
#5 NHMRC ADWG (amended 2025) Human Health
#6 NHMRC ADWG (amended 2025) Human Health (AF x 10)
#7 US EPA RSL 2025 - Tap Water Quality
#8 US EPA RSL 2025 - Tap Water Quality (AF x 10)
#9 WHO (2011) Drinking Water Guidelines
#10 WHO (2011) Drinking Water Guidelines (AF x 10)
#11 PFAS NEMP 3.0 (2025) Drinking Water Quality Guideline

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)	NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16	MW16	MW60	MW60	MW125A	MW126A
Location Code						NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16	MW16	MW60	MW60	MW125A	MW126A
Sample Type						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D	Interlab_D	Interlab_D	Normal	Normal	Normal	Normal
Lab Report Number						1235189	1234320	1232587	1235243	1234988	1236601	1236601	1236601	1241421	1241421	EM2512174	EM2512174	1237216	1237216	1237216	1237216
Field ID						NR2A_FILTERED	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16_FILTERED	QC107	QC107_FILTERED	QC207	QC207_FILTERED	MW60	MW60_FILTERED	MW125A	MW126A
Date						20 Jun 2025	17 Jun 2025	12 Jun 2025	19 Jun 2025	18 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025
Total Recoverable Hydrocarbons																					
C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	670	750	450	<20	490	400	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	670	750	450	<20	490	400	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				<50	<50	<50	<50	110	<50	<50	<50	260	<50	240	-	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50				<50	<50	<50	<50	110	<50	<50	<50	260	<50	240	-	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	140	-	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100				<100	<100	<100	<100	110	<100	<100	<100	260	<100	380	-	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																					
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	<50	-	-	<50	-	<100	<50	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	<100	<100	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	<100	<100	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	<100	<100	-	-	-
Total Petroleum Hydrocarbons																					
C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	490	570	310	<20	440	350	<20	<20	<20	<20
C10-C14 fraction	µg/L	50				<50	<50	<50	<50	<50	<50	<50	<50	230	<50	260	-	<50	<50	<50	<50
C15-C28 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	180	-	<100	<100	<100	<100
C29-C36 fraction	µg/L	50				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	-	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50				<100	<100	<100	<100	<100	<100	<100	<100	230	<100	440	-	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																					
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	<50	-	-	<50	-	<50	<50	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	<100	<100	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<100	<100	-	-	<100	-	<50	<100	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	<100	<100	-	-	<100	-	<50	<100	-	-	-
Petroleum Hydrocarbon Speciation																					
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	<20	440	-	-	<20	-	-	<20	-	-	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	<20	170	-	-	<20	-	-	<20	-	-	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	<50	<50	-	-	<50	-	-	<50	-	-	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	-	<100	-	-	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	-	<100	-	-	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	-	<100	-	-	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	<1	<1	-	-	<1	-	-	<1	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	<1	1	-	-	<1	-	-	<1	-	-	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	<10	50	-	-	<10	-	-	<10	-	-	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	<50	<50	-	-	<50	-	-	<50	-	-	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	<100	-	-	<100	-	-	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	<0.1	-	-	<0.1	-	-	<0.1	-	-	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	<0.1	-	-	<0.1	-	-	<0.1	-	-	-
Monocyclic Aromatic Hydrocarbons																					
Benzene	µg/L	1		1 [#5]	10 [#6]	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	-	<1	<1
Toluene	µg/L	1	25	800 [#5]	8,000 [#6]	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<2	<2	<1	-	<1	<1
Ethylbenzene	µg/L	1	3	300 [#5]	3,000 [#6]	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<2	<2	<1	-	<1	<1
m&p-Xylene	µg/L	2				-	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2
o-Xylene	µg/L	1		190 [#7]	1,900 [#8]	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<2	<2	<1	-	<1	<1
Total Xylenes	µg/L	2	20	600 [#5]	6,000 [#6]	-	<3	<3	<3	<3	<3	<3	-	<3	<3	<2	<2	<3	-	<3	<3
Total BTEX	µg/L	1				-	-	-	-	-	-	-	-	-	-	<1	<1	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	60	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<10	<10	<10	<10
Hydrocarbon Gases																					
Methane	µg/L	10				-	5,400	<50	<50	9,500	17,000	13,000	-	8,300 [#3]	-	3,270	-	24,000	-	10,000	20,000
Polynuclear Aromatic Hydrocarbons																					
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-
Naphthalene	µg/L	1		0.17 [#7]	1.7 [#8]	<1	48	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Acenaphthene	µg/L	1		530 [#7]	5,300 [#8]	3	9	<1	<1	<1	2	2	2	<1	<1	<1.0	<1.0	<1	<1	2	10
Anthracene	µg/L	1		1,800 [#7]	18,000 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	2	11
Fluorene	µg/L	1		290 [#7]	2,900 [#8]	7	4	<1	<1	<1	<1	2	2	<1	<1	<1.0	<1.0	<1	<1	1	8
Phenanthrene	µg/L	1				<1	7	<1	<1	<1	2	2	2	<1	<1	<1.0	<1.0	<1	<1	2	13
Fluoranthene	µg/L	1		800 [#7]	8,000 [#8]	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	2	3
Benz(a)anthracene	µg/L	1		0.03 [#7]	0.3 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1		2.5 [#7]	25 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.01 [#5]	0.1 [#6]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1
Chrysene	µg/L	1		25 [#7]	250 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Pyrene	µg/L	1		120 [#7]	1,200 [#8]	2	<1	<1	<1	<1	2	<1	<1	<1	<1	<1.0	<1.0	<1	<1	1	2
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1		0.025 [#7]	0.25 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1		0.25 [#7]	2.5 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5		0.01 [#5]	0.1 [#6]	14	68	<1	<1	<1	6	6	6	<1	<1	<0.5	<0.5	<1	<1	10	47
Phenolic Compounds																					
3/4-Methylphenol (m/p-cresol)	µg/L	2				-	<6	<6	<6	<6	<6	<6	-	<6	-	<2.0	-	<6	-	<6	<6
Phenol	µg/L	1		5,800 [#7]	58,000 [#8]	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0	-	<3	-	<3	<3
2-Chlorophenol	µg/L	1	0.1	300 [#5]	3,000 [#6]	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0	-	<3	-	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		930 [#7]	9,300 [#8]	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0	-	<3	-	<3	<3
Total Cresols	µg/L	10		1,500 [#7]	15,000 [#8]	-	<10	<10	<10	<10	<10	<10	-	<10	-	-	-	<10	-	<10	<10
2-Nitrophenol	µg/L	1				-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0	-	<10	-	<10	<10
2,4-Dichlorophenol	µg/L	1	0.3	200 [#5]	2,000 [#6]	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0	-	<3	-	<3	<3
2,4-Dimethylphenol	µg/L	1		360 [#7]	3,600 [#8]	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0	-	<3	-	<3	<3
2,6-Dichlorophenol	µg/L	1				-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0	-	<3	-	<3	<3
4-Chloro-3-methylphenol	µg/L	1		1,400 [#7]	14,000 [#8]	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0	-	<10	-	<10	<10
2,4,6-Trichlorophenol	µg/L	1	2	20 [#5]	200 [#6]	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0	-	<10	-	<10	<10
2,4,5-Trichlorophenol	µg/L	1		1,200 [#7]	12,000 [#8]	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0	-	<10	-	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30		1.5 [#7]	15 [#8]	-	<30	<30	<30	<30	<30	<30	-	<30	-	-	-	<30	-	<30	<30
Pentachlorophenol	µg/L	2		10 [#5]	100 [#6]	-	<10	<10	<10	<10	<10	<10	-	<10	-	<2.0	-	<10	-	<10	<10
2,4-Dinitrophenol	µg/L	30		39 [#7]	390 [#8]	-	<30	<30	<30	<30	<30	<30	-	<30	-	-	-	<30	-	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100		23 [#7]	230 [#8]	-	<100	<100	<100	<100	<100	<100	-	<100	-	-	-	<100	-	<100	<100
4-Nitrophenol	µg/L	30				-	<30	<30	<30	<30	<30	<30	-	<30	-	-	-	<30	-	<30	<30
Dinoseb	µg/L	100		15 [#7]	150 [#8]	-	<100	<100	<100	<100	<100	<100	-	<100	-	-	-	<100	-	<100	<100
Tetrachlorophenols	µg/L	30				-	<30	<30	<30	<30	<30	<30	-	<30	-	-	-	<30	-	<30	<30
Sum of Phenols (halogenated)	µg/L	10				-	<10	<10	<10	<10	<10	<10	-	<10	-	-	-	<10	-	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				-	<100	<100	<100	<100	<100	<100	-	<100	-	-	-	<100	-	<100	<100

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

	Location Code	NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16	MW16	MW16	MW60	MW60	MW125A	MW126A
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D	Interlab_D	Interlab_D	Normal	Normal	Normal	Normal	Normal
	Lab Report Number	1235189	1234320	1232587	1235243	1234988	1236601	1236601	1236601	1241421	1241421	EM2512174	EM2512174	1237216	1237216	1237216	1237216
	Field ID	NR2A_FILTERED	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16_FILTERED	QC107	QC107_FILTERED	QC207	QC207_FILTERED	MW60	MW60_FILTERED	MW125A	MW126A
	Date	20 Jun 2025	17 Jun 2025	12 Jun 2025	19 Jun 2025	18 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025
Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)														
Per- and Poly-fluoroalkyl Substances						-	-	-	-	-				-	-	-		-	-	
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				-	-	-	-	-	<0.005	<0.001	<0.001	<0.02	-	-	-	0.008	-	-	<0.001
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001		1 [#5]	10 [#6]	-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	0.005	-	-	0.002
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				-	-	-	-	-	<0.001	0.002 [#2]	0.011 [#2]	<0.02	-	-	-	0.003 [#2]	-	-	0.002 [#2]
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001		0.03 [#5]	0.3 [#6]	-	-	-	-	-	0.003 [#2]	0.008 [#2]	0.007 [#2]	0.01	-	-	-	0.005 [#2]	-	-	0.003 [#2]
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				-	-	-	-	-	<0.001	0.008	0.029 [#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.008 [#5]	0.08 [#6]	-	-	-	-	-	0.012 [#2]	0.30 [#2]	0.23 [#2]	0.30	-	-	-	0.006 [#2]	-	-	0.003 [#2]
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				-	-	-	-	-	<0.001	0.001	0.026 [#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorobutanoic acid (PFBA)	µg/L	0.005				-	-	-	-	-	0.012	<0.005	<0.005	<0.10	-	-	-	0.009	-	-	0.007
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				-	-	-	-	-	0.028	0.004	0.037	<0.02	-	-	-	0.007	-	-	0.006
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				-	-	-	-	-	0.027	0.002	0.002	<0.02	-	-	-	0.007	-	-	0.005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				-	-	-	-	-	0.002 [#2]	0.001 [#2]	0.003 [#2]	<0.02	-	-	-	0.004	-	-	0.003
Perfluorooctanoic acid (PFOA)	µg/L	0.001		0.2 [#5]	2 [#6]	-	-	-	-	-	0.005 [#2]	0.014 [#2]	0.013 [#2]	0.02	-	-	-	0.015 [#2]	-	-	0.010 [#2]
Perfluorononanoic acid (PFNA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	0.002 [#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	0.001 [#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.05	-	-	-	<0.001	-	-	<0.001
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				-	-	-	-	-	<0.005	<0.005	<0.005	<0.02	-	-	-	<0.005	-	-	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002				-	-	-	-	-	<0.005	<0.005	<0.005	<0.02	-	-	-	<0.005	-	-	<0.005
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				-	-	-	-	-	<0.005	<0.005	<0.005	<0.02	-	-	-	<0.005	-	-	<0.005
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.05	-	-	-	<0.001	-	-	<0.001
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	0.003	<0.001	<0.05	-	-	-	<0.001	-	-	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	0.003	<0.001	<0.05	-	-	-	<0.001	-	-	<0.001
Sum (PFHxS + PFOS)	µg/L	0.001		0.07 [#11]	2 [#11]	-	-	-	-	-	0.015	0.308	0.237	0.31	-	-	-	0.011	-	-	0.006
Sum of PFAS	µg/L	0.002				-	-	-	-	-	0.089	0.346	0.361	0.33	-	-	-	0.069	-	-	0.041
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				-	-	-	-	-	0.089	0.332	0.292	0.33	-	-	-	0.058	-	-	0.039
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				-	-	-	-	-	0.02	0.322	-	-	-	-	-	0.026	-	-	0.016
PFHxDA	µg/L	0.005				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																					
Arsenic (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	-	0.005	0.010	0.001	0.001	<0.001	0.003	-	<0.001	-	0.002	-	0.002	-	<0.001	<0.001
Cadmium (filtered)	mg/L	0.0001		0.002 [#5]	0.02 [#6]	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	-	<0.0001	-	<0.0002	-	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.05 [#8]	0.5	-	0.002	0.009	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	<0.001
Copper (filtered)	mg/L	0.001	1	2 [#5]	20 [#6]	-	<0.001	0.018	0.003	<0.001	<0.001	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	<0.001
Lead (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	<0.001
Manganese (filtered)	mg/L	0.001	0.1	0.5 [#5]	5 [#6]	-	0.97	<0.005	0.68	1.4	0.52	0.41	-	0.37	-	0.410	-	0.67	-	0.67	0.57
Mercury (filtered)	mg/L	0.0001		0.001 [#5]	0.01 [#6]	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	-	<0.0001	-	<0.0001	-	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.39 [#7]	3.9 [#8]	-	0.008	0.005	0.003	<0.001	0.002	<0.001	-	<0.001	-	<0.001	-	0.003	-	0.001	0.003
Selenium (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	3			-	<0.005	<0.005	0.010	<0.005	<0.005	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	<0.005
Alkalinity																					
Hydroxide Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				-	<10	150	<10	<10	<10	<10	-	<10	-	<1	-	<10	-	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1				-	870	<20	920	780	560	220	-	140	-	193	-	1,500	-	350	1,100
Total Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	-	-	193	-	-	-	-	-
Cyanides																					
Cyanide (Free)	mg/L	0.004				-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	-	<0.004	-	<0.005	-	<0.005	<0.005
Cyanide Total	µg/L	4		80 [#5]	800 [#6]	-	100	13	22	57	13	15	-	11	-	11	-	38	-	9	160
Weak Acid Dissociable Cyanide	mg/L	0.004				-	0.014	0.013	0.005	<0.005	<0.005	<0.005	-	<0.005	-	<0.004	-	<0.005	-	<0.005	<0.005
Nutrients																					
Ammonia (as N)	mg/L	0.01				-	0.20	0.30	<0.01	9.2	14	2.8	-	2.8	-	2.55	-	32	-	6.4	46
Nitrate (as N)	mg/L	0.02	10	11.2 [#3]	112 [#3]	-	<0.2	2.5	4.2	0.04	<0.02	<0.02	-	<0.02	-	-	-	<0.02	-	0.08	<0.02
Major Ions																					
Chloride	mg/L	1	250			-	13,000	25	33	280	50	9.8	-	8.9	-	9	-	39	-	21	41
Calcium	mg/L	0.5				-	550	30	160	110	96	57	-	51	-	-	-	180	-	95	180
Calcium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-	55	-	-	-	-	-
Magnesium	mg/L	0.5				-	81	<0.5	40	33	28	7.8	-	7.3	-	-	-	79	-	23	89
Magnesium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-
Potassium	mg/L	0.5				-	56	28	20	22	23	5.9	-	5.4	-	-	-	45	-	14	53
Potassium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-
Sodium	mg/L	0.5	180			-	6,900	86	200	240	90	13	-	12	-	-	-	71	-	53	79
Sodium (filtered)	mg/L	0.5	180			-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-
Sulfate as SO4	mg/L	5	250	500 [#5]	5,000 [#6]	-	37	11	140	6.7	6.3	13	-	<5	-	-	-	<5	-	5.9	23
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-
Total Anions	meq/L	0.01				-	-	-	-	-	-	-	-	-	-	4.11	-	-	-	-	-
Total Cations	meq/L	0.01				-	-	-	-	-	-	-	-	-	-	3.88	-	-	-	-	-
Ionic Balance	%	0.01				-	-	-	-	-	-	-	-	-	-	2.83	-	-	-	-	-
Physico-Chemical Parameters																					
Total Dissolved Solids	mg/L	10	600			-	12,000	420	1,400	1,100	480	170	-	180	-	217	-	960	-	530	1,000
Electrical conductivity (lab)	µS/cm	10				-	29,000	750	2,000	1,900	960	350	-	330	-	-	-	1,600	-	780	1,900

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched
#3 Exceeds instrument calibration range

Environmental Standards
#4 NHMRC ADWG (amended 2025) Aesthetic
#5 NHMRC ADWG (amended 2025) Human Health
#6 NHMRC ADWG (amended 2025) Human Health (AF x 10)
#7 US EPA RSL 2025 - Tap Water Quality
#8 US EPA RSL 2025 - Tap Water Quality (AF x 10)
#9 WHO (2011) Drinking Water Guidelines
#10 WHO (2011) Drinking Water Guidelines (AF x 10)
#11 PFAS NEMP 3.0 (2025) Drinking Water Quality Guideline

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)	MW126A	MW126A	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
Location Code						MW126A	MW126A	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
Sample Type						Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number						1237216	EM2511596	1232587	1232587	1232587	1235243	1235243	1235243	1235243	1234988	1237216	1234988	1240646	1234320	1234988
Field ID						QC108	QC208	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
Date						24 Jun 2025	24 Jun 2025	12 Jun 2025	12 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025	24 Jun 2025	18 Jun 2025	25 Jun 2025	17 Jun 2025	18 Jun 2025
Total Recoverable Hydrocarbons																				
C6-C10 fraction	µg/L	20				<20	<20	2,100	560	<20	<20	<20	<20	<20	<20	<20	<20	50	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	620	280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				<50	<100	1,170	640	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50				<50	<100	1,400	660	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100				100	140	300	200	<100	200	<100	<100	<100	100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100				100	140	1,700	860	<100	200	<100	<100	<100	100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																				
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																				
C6-C9 fraction	µg/L	20				<20	<20	1,600	500	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	<20
C10-C14 fraction	µg/L	50				<50	<50	1,100	320	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100				100	180	800	600	<100	200	<100	<100	<100	200	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50				100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50				200	180	1,900	920	<100	200	<100	<100	<100	200	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																				
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbon Speciation																				
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																				
Benzene	µg/L	1		1 [#5]	10 [#6]	<1	<1	650	250	<1	<1	<1	<1	<1	<1	2	<1	4	<1	<1
Toluene	µg/L	1	25	800 [#5]	8,000 [#6]	<1	<2	52	2	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
Ethylbenzene	µg/L	1	3	300 [#5]	3,000 [#6]	<1	<2	390	9	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1
m&p-Xylene	µg/L	2				<2	<2	110	6	5	<2	<2	<2	<2	<2	<2	<2	16	<2	<2
o-Xylene	µg/L	1		190 [#7]	1,900 [#8]	<1	<2	280	9	1	<1	<1	<1	<1	<1	<1	<1	8	<1	<1
Total Xylenes	µg/L	2	20	600 [#5]	6,000 [#6]	<3	<2	<3	15	6	<3	<3	<3	<3	<3	<3	<3	24	<3	<3
Total BTEX	µg/L	1				-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	<5	230	20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases																				
Methane	µg/L	10				14,000	5,860	1,100	1,100	6,000	16,000	24,000	50	3,900	<50	150	<50	<50	<50	<50
Polynuclear Aromatic Hydrocarbons																				
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1		0.17 [#7]	1.7 [#8]	<1	<1.0	260	11	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1.0	3	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1		530 [#7]	5,300 [#8]	15	17.7	46	57	36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1		1,800 [#7]	18,000 [#8]	15	4.0	3	6	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1		290 [#7]	2,900 [#8]	10	12.9	11	33	15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				21	29.4	14	<1	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1		800 [#7]	8,000 [#8]	5	4.7	2	2	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1		0.03 [#7]	0.3 [#8]	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1		2.5 [#7]	25 [#8]	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.01 [#5]	0.1 [#6]	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1		25 [#7]	250 [#8]	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1		120 [#7]	1,200 [#8]	2	3.4	2	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1		0.025 [#7]	0.25 [#8]	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1		0.25 [#7]	2.5 [#8]	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5		0.01 [#5]	0.1 [#6]	68	72.1	340	120	85	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenolic Compounds																				
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<2.0	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Phenol	µg/L	1		5,800 [#7]	58,000 [#8]	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-Chlorophenol	µg/L	1	0.1	300 [#5]	3,000 [#6]	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		930 [#7]	9,300 [#8]	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Total Cresols	µg/L	10		1,500 [#7]	15,000 [#8]	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	µg/L	1				<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	1	0.3	200 [#5]	2,000 [#6]	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,4-Dimethylphenol	µg/L	1		360 [#7]	3,600 [#8]	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,6-Dichlorophenol	µg/L	1				<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1		1,400 [#7]	14,000 [#8]	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1	2	20 [#5]	200 [#6]	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1		1,200 [#7]	12,000 [#8]	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30		1.5 [#7]	15 [#8]	<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Pentachlorophenol	µg/L	2		10 [#5]	100 [#6]	<10	<2.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	30		39 [#7]	390 [#8]	<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100		23 [#7]	230 [#8]	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	30				<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Dinoseb	µg/L	100		15 [#7]	150 [#8]	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tetrachlorophenols	µg/L	30				<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10				<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

	Location Code	MW126A	MW126A	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
	Sample Type	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Lab Report Number	1237216	EM2511596	1232587	1232587	1232587	1235243	1235243	1235243	1235243	1234988	1237216	1234988	1240646	1234320	1234988
	Field ID	QC108	QC208	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
	Date	24 Jun 2025	24 Jun 2025	12 Jun 2025	12 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025	24 Jun 2025	18 Jun 2025	25 Jun 2025	17 Jun 2025	18 Jun 2025
Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)														
Per- and Poly-fluoroalkyl Substances								-	-	-	-	-	-	-	-	-			
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				0.007	<0.01	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001		1 [#5]	10 [#6]	0.005	0.005	-	-	-	-	-	-	-	-	-	-	0.003	0.004
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				0.002 [#2]	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001		0.03 [#5]	0.3 [#6]	0.003 [#2]	0.005	-	-	-	-	-	-	-	-	-	-	0.007 [#2]	0.001 [#2]
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.008 [#5]	0.08 [#6]	0.003 [#2]	0.004	-	-	-	-	-	-	-	-	-	-	0.014 [#2]	0.019 [#2]
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorobutanoic acid (PFBA)	µg/L	0.005				0.008	<0.01	-	-	-	-	-	-	-	-	-	-	0.046	0.010
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				0.006	0.004	-	-	-	-	-	-	-	-	-	-	0.015	0.006
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				0.006	0.005	-	-	-	-	-	-	-	-	-	-	0.017	0.002
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				0.003	0.002	-	-	-	-	-	-	-	-	-	-	0.009	0.001
Perfluorooctanoic acid (PFOA)	µg/L	0.001		0.2 [#5]	2 [#6]	0.009 [#2]	0.007	-	-	-	-	-	-	-	-	-	-	0.013	0.004 [#2]
Perfluorononanoic acid (PFNA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	0.002	0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				<0.001	<0.005	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				<0.005	<0.002	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002				<0.005	<0.002	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				<0.005	<0.002	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				<0.001	<0.005	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				<0.001	<0.005	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Sum (PFHxS + PFOS)	µg/L	0.001		0.07 [#11]	2 [#11]	0.006	0.009	-	-	-	-	-	-	-	-	-	-	0.021	0.02
Sum of PFAS	µg/L	0.002				0.052	0.032	-	-	-	-	-	-	-	-	-	-	0.126	0.048
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				0.043	0.032	-	-	-	-	-	-	-	-	-	-	0.124	0.047
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				0.015	-	-	-	-	-	-	-	-	-	-	-	0.034	0.024
PFHxDA	µg/L	0.005				-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-
Metals																			
Arsenic (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002
Cadmium (filtered)	mg/L	0.0001		0.002 [#5]	0.02 [#6]	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.05 [#9]	0.5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Copper (filtered)	mg/L	0.001	1	2 [#5]	20 [#6]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.003	0.011	<0.001	0.009	0.036	0.009	0.020
Lead (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (filtered)	mg/L	0.001	0.1	0.5 [#5]	5 [#6]	0.61	0.475	1.5	2.2	1.2	1.1	2.7	2.9	0.45	2.1	0.95	0.63	0.083	0.019	0.035
Mercury (filtered)	mg/L	0.0001		0.001 [#5]	0.01 [#6]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.39 [#7]	3.9 [#8]	0.003	0.003	0.007	0.003	0.001	0.001	0.001	0.006	0.002	0.012	0.041	0.022	0.011	0.001	0.002
Selenium (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	3			<0.005	<0.005	<0.005	0.009	0.007	<0.005	<0.005	0.015	<0.005	0.012	<0.005	0.006	0.017	<0.005	0.005
Alkalinity																			
Hydroxide Alkalinity as CaCO3	mg/L	1				-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				<10	<1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1				1,000	1,150	740	800	1,000	1,400	1,100	920	640	460	860	830	45	670	520
Total Alkalinity as CaCO3	mg/L	1				-	1,150	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																			
Cyanide (Free)	mg/L	0.004				<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	0.031	<0.005	<0.005
Cyanide Total	µg/L	4		80 [#5]	800 [#6]	150	160	14	10	<5	63	49	20	7	50	230	520	1,500	24	8
Weak Acid Dissociable Cyanide	mg/L	0.004				<0.005	<0.004	0.014	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.019	0.008	0.15	<0.005	<0.005
Nutrients																			
Ammonia (as N)	mg/L	0.01				45	39.0	17	22	7.0	39	29	0.50	4.2	<0.01	0.71	9.9	8.4	<0.01	<0.01
Nitrate (as N)	mg/L	0.02	10	11.2 [#3]	112 [#3]	<0.02	-	0.89	0.02	<0.02	<0.2	<0.02	0.08	3.6	4.9	<0.02	0.12	70	2.5	4.6
Major Ions																			
Chloride	mg/L	1	250			41	37	99	77	48	450	660	39	47	69	30	41	130	220	18
Calcium	mg/L	0.5				170	-	190	150	160	130	190	140	140	160	110	180	440	150	62
Calcium (filtered)	mg/L	0.5				-	171	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5				89	-	31	35	43	52	64	48	38	56	29	63	72	140	33
Magnesium (filtered)	mg/L	0.5				-	82	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5				52	-	8.3	8.7	16	45	40	21	8.6	6.8	4.5	8.9	9.7	10	8.7
Potassium (filtered)	mg/L	0.5				-	48	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5	180			78	-	93	96	60	460	410	200	39	85	39	88	150	200	130
Sodium (filtered)	mg/L	0.5	180			-	76	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	250	500 [#5]	5,000 [#6]	<5	-	130	120	<5	5.5	<5	97	22	360	150	210	780	320	88
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Anions	meq/L	0.01				-	24.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	0.01				-	19.8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01				-	9.72	-	-	-	-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters																			
Total Dissolved Solids	mg/L	10	600			1,000	1,110	990	860	750	2,500	2,400	1,400	750	1,100	580	1,300	2,300	1,300	830
Electrical conductivity (lab)	µS/cm	10				1,900	-	1,500	1,400	1,300	3,900	3,900	2,100	1,200	1,600	790	2,100	2,400	1,900	1,400

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched
#3 Exceeds instrument calibration range

Environmental Standards
#4 NHMRC ADWG (amended 2025) Aesthetic
#5 NHMRC ADWG (amended 2025) Human Health
#6 NHMRC ADWG (amended 2025) Human Health (AF x 10)
#7 US EPA RSL 2025 - Tap Water Quality
#8 US EPA RSL 2025 - Tap Water Quality (AF x 10)
#9 WHO (2011) Drinking Water Guidelines
#10 WHO (2011) Drinking Water Guidelines (AF x 10)
#11 PFAS NEMP 3.0 (2025) Drinking Water Quality Guideline

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Location Code						NR1	RN2	MW178	MW179	MW180	MW159	MW159	MW160	MW161	MW161
Sample Type						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number						1234320	1234988	1234320	1234320	1234988	1235189	1235189	1234320	1235243	1235243
Field ID						NR1	RN2	MW178	MW179	MW180	MW159	MW159_FILTERED	MW160	MW161	MW161_FILTERED
Date						17 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025	18 Jun 2025	20 Jun 2025	20 Jun 2025	17 Jun 2025	19 Jun 2025	19 Jun 2025
Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)										
Total Recoverable Hydrocarbons															
C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				790	170	<50	130	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50				790	170	<50	130	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100				1,400	400	<100	500	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100				2,190	570	<100	630	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel															
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
Total Petroleum Hydrocarbons															
C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50				310	60	<50	50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100				1,800	500	<100	600	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50				2,110	560	<100	650	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel															
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<100	-	-	<100	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	<100	-	-	<100	-
Petroleum Hydrocarbon Speciation															
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	<20	-	-	<20	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	<20	-	-	<20	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	<1	-	-	<1	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	<1	-	-	<1	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	<10	-	-	<10	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	-	-	<0.1	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	-	-	<0.1	-
Monocyclic Aromatic Hydrocarbons															
Benzene	µg/L	1		1 [#5]	10 [#6]	<1	<1	<1	<1	<1	<1	-	<1	<1	-
Toluene	µg/L	1	25	800 [#5]	8,000 [#6]	<1	<1	<1	<1	<1	<1	-	<1	<1	-
Ethylbenzene	µg/L	1	3	300 [#5]	3,000 [#6]	<1	<1	<1	<1	<1	<1	-	<1	<1	-
m&p-Xylene	µg/L	2				<2	<2	<2	<2	<2	<2	-	<2	<2	-
o-Xylene	µg/L	1		190 [#7]	1,900 [#8]	<1	<1	<1	<1	<1	<1	-	<1	<1	-
Total Xylenes	µg/L	2	20	600 [#5]	6,000 [#6]	<3	<3	<3	<3	<3	<3	-	<3	<3	-
Total BTEX	µg/L	1				-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases															
Methane	µg/L	10				150	14,000	470	<50	<50	<50	-	<50	<50	-
Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1		0.17 [#7]	1.7 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1		530 [#7]	5,300 [#8]	1	14	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1		1,800 [#7]	18,000 [#8]	<1	4	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1		290 [#7]	2,900 [#8]	2	17	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	19	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1		800 [#7]	8,000 [#8]	<1	3	<1	<1	<1	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1		0.03 [#7]	0.3 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1		2.5 [#7]	25 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.01 [#5]	0.1 [#6]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1		25 [#7]	250 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1		120 [#7]	1,200 [#8]	<1	3	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1		0.025 [#7]	0.25 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1		0.25 [#7]	2.5 [#8]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5		0.01 [#5]	0.1 [#6]	3	60	<1	<1	<1	<1	<1	<1	<1	<1
Phenolic Compounds															
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<6	<6	<6	<6	<6	-	<6	<6	-
Phenol	µg/L	1		5,800 [#7]	58,000 [#8]	<3	<3	<3	<3	<3	<3	-	<3	<3	-
2-Chlorophenol	µg/L	1	0.1	300 [#5]	3,000 [#6]	<3	<3	<3	<3	<3	<3	-	<3	<3	-
2-Methylphenol (o-Cresol)	µg/L	1		930 [#7]	9,300 [#8]	<3	<3	<3	<3	<3	<3	-	<3	<3	-
Total Cresols	µg/L	10		1,500 [#7]	15,000 [#8]	<10	<10	<10	<10	<10	<10	-	<10	<10	-
2-Nitrophenol	µg/L	1				<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4-Dichlorophenol	µg/L	1	0.3	200 [#5]	2,000 [#6]	<3	<3	<3	<3	<3	<3	-	<3	<3	-
2,4-Dimethylphenol	µg/L	1		360 [#7]	3,600 [#8]	<3	<3	<3	<3	<3	<3	-	<3	<3	-
2,6-Dichlorophenol	µg/L	1				<3	<3	<3	<3	<3	<3	-	<3	<3	-
4-Chloro-3-methylphenol	µg/L	1		1,400 [#7]	14,000 [#8]	<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4,6-Trichlorophenol	µg/L	1	2	20 [#5]	200 [#6]	<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4,5-Trichlorophenol	µg/L	1		1,200 [#7]	12,000 [#8]	<10	<10	<10	<10	<10	<10	-	<10	<10	-
4,6-Dinitro-2-methylphenol	µg/L	30		1.5 [#7]	15 [#8]	<30	<30	<30	<30	<30	<30	-	<30	<30	-
Pentachlorophenol	µg/L	2		10 [#5]	100 [#6]	<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4-Dinitrophenol	µg/L	30		39 [#7]	390 [#8]	<30	<30	<30	<30	<30	<30	-	<30	<30	-
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100		23 [#7]	230 [#8]	<100	<100	<100	<100	<100	<100	-	<100	<100	-
4-Nitrophenol	µg/L	30				<30	<30	<30	<30	<30	<30	-	<30	<30	-
Dinoseb	µg/L	100		15 [#7]	150 [#8]	<100	<100	<100	<100	<100	<100	-	<100	<100	-
Tetrachlorophenols	µg/L	30				<30	<30	<30	<30	<30	<30	-	<30	<30	-
Sum of Phenols (halogenated)	µg/L	10				<10	<10	<10	<10	<10	<10	-	<10	<10	-
Sum of Phenols (non-halogenated)	µg/L	100				<100	<100	<100	<100	<100	<100	-	<100	<100	-

Table T6a
Groundwater Analytical Results - Tier 1 Assessment Criteria - Drinking Water and Recreation

Chemical Group	Unit	EQL	Drinking Water (Aesthetics) [#4]	Drinking Water (Health)	Recreation (Primary / Secondary Contact)	NR1	RN2	MW178	MW179	MW180	MW159	MW159	MW160	MW161	MW161
Location Code						NR1	RN2	MW178	MW179	MW180	MW159	MW159	MW160	MW161	MW161
Sample Type						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number						1234320	1234988	1234320	1234320	1234988	1235189	1235189	1234320	1235243	1235243
Field ID						NR1	RN2	MW178	MW179	MW180	MW159	MW159_FILTERED	MW160	MW161	MW161_FILTERED
Date						17 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025	18 Jun 2025	20 Jun 2025	20 Jun 2025	17 Jun 2025	19 Jun 2025	19 Jun 2025
Per- and Poly-fluoroalkyl Substances															
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001		1 [#5]	10 [#6]	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001		0.03 [#5]	0.3 [#6]	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.008 [#5]	0.08 [#6]	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.001		0.2 [#5]	2 [#6]	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.001		0.07 [#11]	2 [#11]	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
PFHxDA	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
Metals															
Arsenic (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	0.002	0.003	0.002	0.004	0.002	0.001	-	0.004	0.004	-
Cadmium (filtered)	mg/L	0.0001		0.002 [#5]	0.02 [#6]	<0.0002	<0.0002	<0.0002	<0.0002	0.012	<0.0002	-	<0.0002	<0.0002	-
Chromium (filtered)	mg/L	0.001		0.05 [#9]	0.5	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-
Copper (filtered)	mg/L	0.001	1	2 [#5]	20 [#6]	<0.001	<0.001	0.006	<0.001	0.002	0.003	-	0.002	0.002	-
Lead (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-
Manganese (filtered)	mg/L	0.001	0.1	0.5 [#5]	5 [#6]	2.3	0.63	0.012	0.59	<0.005	0.94	-	<0.005	<0.005	-
Mercury (filtered)	mg/L	0.0001		0.001 [#5]	0.01 [#6]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-
Nickel (filtered)	mg/L	0.001		0.39 [#7]	3.9 [#8]	<0.001	0.003	<0.001	0.002	0.001	0.001	-	<0.001	<0.001	-
Selenium (filtered)	mg/L	0.001		0.01 [#5]	0.1 [#6]	-	-	0.003	0.002	<0.001	<0.001	-	0.002	0.002	-
Zinc (filtered)	mg/L	0.005	3			<0.005	0.006	0.031	<0.005	0.38	<0.005	-	<0.005	<0.005	-
Alkalinity															
Hydroxide Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				<10	<10	<10	<10	<10	<10	-	<10	<10	-
Bicarbonate Alkalinity as CaCO3	mg/L	1				790	1,100	410	450	190	450	-	390	410	-
Total Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	-	-
Cyanides															
Cyanide (Free)	mg/L	0.004				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-
Cyanide Total	µg/L	4		80 [#5]	800 [#6]	<5	19	<5	<5	9	<5	-	<5	<5	-
Weak Acid Dissociable Cyanide	mg/L	0.004				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-
Nutrients															
Ammonia (as N)	mg/L	0.01				0.06	12	<0.01	0.58	0.03	0.03	-	0.01	0.01	-
Nitrate (as N)	mg/L	0.02	10	11.2 [#3]	112 [#3]	3.2	<0.02	5.2	0.64	0.53	9.2	-	5.5	8.0	-
Major Ions															
Chloride	mg/L	1	250			13	850	140	18	14,000	77	-	21	22	-
Calcium	mg/L	0.5				45	160	41	67	400	51	-	32	36	-
Calcium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5				25	36	40	29	980	30	-	25	23	-
Magnesium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5				6.5	31	14	10	260	6.1	-	5.0	6.0	-
Potassium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5	180			280	590	200	190	7,400	140	-	140	120	-
Sodium (filtered)	mg/L	0.5	180			-	-	-	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	250	500 [#5]	5,000 [#6]	9.6	28	77	38	2,100	84	-	43	55	-
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	-	-	-	-	-	-	-	-	-
Total Anions	meq/L	0.01				-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	0.01				-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01				-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters															
Total Dissolved Solids	mg/L	10	600			720	2,800	660	500	28,000	780	-	530	560	-
Electrical conductivity (lab)	µS/cm	10				1,200	4,000	1,100	770	41,000	1,300	-	740	810	-

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched
#3 Exceeds instrument calibration range

Environmental Standards
#4 NHMRC ADWG (amended 2025) Aesthetic
#5 NHMRC ADWG (amended 2025) Human Health
#6 NHMRC ADWG (amended 2025) Human Health (AF x 10)
#7 US EPA RSL 2025 - Tap Water Quality
#8 US EPA RSL 2025 - Tap Water Quality (AF x 10)
#9 WHO (2011) Drinking Water Guidelines
#10 WHO (2011) Drinking Water Guidelines (AF x 10)
#11 PFAS NEMP 3.0 (2025) Drinking Water Quality Guideline

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]	*Stock Watering*[#9]	Location Code	Sample Type	Lab Report Number	Field ID	Date
							MW120A	Normal	1240646	MW120A	25 Jun 2025
							MW148	Normal	1235243	MW148	19 Jun 2025
							MW150	Normal	1232587	MW150	12 Jun 2025
							MW151	Normal	1235243	MW151	19 Jun 2025
							MW151	Normal	1235243	MW151_FILTERED	19 Jun 2025
							MW152	Normal	1235243	MW152	19 Jun 2025
							MW153	Normal	1232587	MW153	12 Jun 2025
							MW155	Normal	1235243	MW155	19 Jun 2025
							MW155	Normal	1235243	MW155_FILTERED	19 Jun 2025
							MW164	Normal	1236601	MW164	23 Jun 2025
							MW164	Normal	1236601	MW164_FILTERED	23 Jun 2025
							MW167	Normal	1235189	MW167	20 Jun 2025
							MW167	Normal	1235189	MW167_FILTERED	20 Jun 2025
							MW173	Normal	1234988	MW173	18 Jun 2025
							MW182	Normal	1234320	MW182	17 Jun 2025
Total Recoverable Hydrocarbons											
C6-C10 fraction	µg/L	20					280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20					40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50					260	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50					290	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100		600[#10]			290	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel											
>C10-C16 fraction (Silica Gel)	µg/L	50					-	-	-	<50	-	-	-	<50	-	<50	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
Total Petroleum Hydrocarbons											
C6-C9 fraction	µg/L	20					280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50					300	<50	<50	<50	<50	60	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50		600[#10]			300	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel											
C10-C14 fraction (Silica Gel)	µg/L	50					-	-	-	<50	-	-	-	<50	-	<50	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
Petroleum Hydrocarbons Speciation											
>C6 - C8 Aliphatic	µg/L	20					-	-	-	<20	-	-	-	<20	-	<20	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20					-	-	-	<20	-	-	-	<20	-	<20	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50					-	-	-	<50	-	-	-	<50	-	<50	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
>C16-C21 Aliphatic	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
>C21-C36 Aliphatic	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
>C5 - C7 Aromatic	µg/L	1					-	-	-	<1	-	-	-	<1	-	<1	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1					-	-	-	<1	-	-	-	<1	-	<1	-	-	-	-
>C8 - C10 Aromatic	µg/L	10					-	-	-	<10	-	-	-	<10	-	<10	-	-	-	-
>C10 - C12 Aromatic	µg/L	50					-	-	-	<50	-	-	-	<50	-	<50	-	-	-	-
>C12 - C16 Aromatic	µg/L	100					-	-	-	<100	-	-	-	<100	-	<100	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1					-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1					-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-
Monocyclic Aromatic Hydrocarbons											
Benzene	µg/L	1		900			170	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1
Toluene	µg/L	1		180			59	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1
Ethylbenzene	µg/L	1		5			<1[#1]	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1
m&p-Xylene	µg/L	2					<10[#1]	<2	<2	<2	-	5	<2	<2	-	<2	-	<2	-	<2	<2
o-Xylene	µg/L	1		350			13	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1	<1
Total Xylenes	µg/L	2		19[#11]			13	<3	<3	<3	-	5	<3	<3	-	<3	-	<3	-	<3	<3
Total BTEX	µg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5					30	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases											
Methane	µg/L	10					<50	50	19,000	9,200	-	14,000	360	18,000	-	3,600	-	<50	-	<50	<50
Polynuclear Aromatic Hydrocarbons											
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1		90			2	<1	<1	<1	<1	2	<1	3	4	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1					<1	<1	3	4	3	13	<1	2	2	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1		0.4[#4]			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1					<1	<1	2	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1		2[#4]			<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1		1.4[#4]			<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.2[#4]			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5					2	<1	5	4	3	21	<1	5	6	4	<1	<1	<1	<1	<1
Phenolic Compounds											
3/4-Methylphenol (m/p-cresol)	µg/L	2					<6	<6	<6	<6	-	<6	<6	<6	-	<6	-	<6	-	<6	<6
Phenol	µg/L	1		520			<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3
2-Chlorophenol	µg/L	1		340			<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		1,020[#11]			<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3
Total Cresols	µg/L	10					<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
2-Nitrophenol	µg/L	1		2			<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
2,4-Dichlorophenol	µg/L	1		120			<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3
2,4-Dimethylphenol	µg/L	1		2			26	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3
2,6-Dichlorophenol	µg/L	1		34			<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3	<3
4-Chloro-3-methylphenol	µg/L	1					<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
2,4,6-Trichlorophenol	µg/L	1		3			<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
2,4,5-Trichlorophenol	µg/L	1		4			<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30					<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30
Pentachlorophenol	µg/L	2		33			<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
2,4-Dinitrophenol	µg/L	30		45			<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100					<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100
4-Nitrophenol	µg/L	30		58			<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30
Dinoseb	µg/L	100					<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100
Tetrachlorophenols	µg/L	30					<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30	<30
Sum of Phenols (halogenated)	µg/L	10					<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100					<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100	<100

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection [#6]	Irrigation [#8]	*Stock Watering* [#9]	MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167	MW167	MW173	MW182
Location Code							MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167	MW167	MW173	MW182
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							1240646	1235243	1232587	1235243	1235243	1235243	1232587	1235243	1235243	1236601	1236601	1235189	1235189	1234988	1234320
Field ID							MW120A	MW148	MW150	MW151	MW151_FILTERED	MW152	MW153	MW155	MW155_FILTERED	MW164	MW164_FILTERED	MW167	MW167_FILTERED	MW173	MW182
Date							25 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	23 Jun 2025	23 Jun 2025	20 Jun 2025	20 Jun 2025	18 Jun 2025	17 Jun 2025
Total Recoverable Hydrocarbons																					
Per- and Poly-fluoroalkyl Substances								-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001					0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001				*0.07*	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.13[#5]		*0.07*	0.024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.001					0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.001					0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.001		220[#5]		*0.56*	0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid	µg/L	0.002					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005					<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001					<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.001				*0.07*	0.028	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.002					0.048	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	µg/L	0.002					0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001					0.034	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PFHxDA	µg/L	0.005						-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																					
Arsenic (filtered)	mg/L	0.001		0.036	2	*0.5*	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	0.001	-	0.003	-	<0.001	-	<0.001	0.002
Cadmium (filtered)	mg/L	0.0001		0.014	0.05	*0.01*	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	-	<0.0002	-	0.0002	-	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.02	1	*1*	<0.001	0.002	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	<0.001	-	<0.001	<0.001
Copper (filtered)	mg/L	0.001		0.003	5	*0.4*	0.003	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	0.012	-	0.002	<0.001
Lead (filtered)	mg/L	0.001		0.0066	5	*0.1*	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	0.002	-	<0.001	<0.001
Manganese (filtered)	mg/L	0.001		0.08	10		0.079	1.7	0.26	1.5	-	0.40	0.25	1.7	-	1.3	-	0.084	-	0.29	1.1
Mercury (filtered)	mg/L	0.0001		0.0004[#4]	0.002	*0.002*	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001	-	<0.0001	-	<0.0001	-	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.2	2	*1*	0.002	0.001	<0.001	0.001	-	<0.001	<0.001	<0.001	-	0.002	-	0.009	-	0.003	0.003
Selenium (filtered)	mg/L	0.001		0.003	0.05	*0.02*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005		0.023	5	*20*	0.013	<0.005	0.006	<0.005	-	<0.005	<0.005	<0.005	-	<0.005	-	0.24	-	<0.005	0.031
Alkalinity																					
Hydroxide Alkalinity as CaCO3	mg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1					<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1					67	830	340	850	-	2,000	820	460	-	340	-	690	-	620	720
Total Alkalinity as CaCO3	mg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																					
Cyanide (Free)	mg/L	0.004		0.007			<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	<0.005	-	<0.005	-	<0.005	<0.005
Cyanide Total	µg/L	4					6	28	<5	8	-	18	<5	5	-	28	-	<5	-	190	<5
Weak Acid Dissociable Cyanide	mg/L	0.004					<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	-	0.005	-	<0.005	-	<0.005	<0.005
Nutrients																					
Ammonia (as N)	mg/L	0.01		1.2			<0.01	3.8	28	21	-	43	5.2	0.13	-	2.1	-	0.17	-	<0.01	0.10
Nitrate (as N)	mg/L	0.02					<0.02	0.04	0.06	<0.02	-	0.05	0.45	<0.2	-	0.03	-	1.6	-	2.2	0.04
Major Ions																					
Chloride	mg/L	1	6,000				760	45	220	2,000	-	1,400	12,000	3,000	-	14	-	320	-	23	28
Calcium	mg/L	0.5				*1,000*	120	170	110	200	-	74	250	460	-	57	-	170	-	100	180
Calcium (filtered)	mg/L	0.5				*1,000*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5					44	40	33	180	-	160	680	96	-	22	-	24	-	50	44
Magnesium (filtered)	mg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5					39	20	27	56	-	100	220	63	-	14	-	8.5	-	6.0	23
Potassium (filtered)	mg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5					590	94	43	1,000	-	1,200	5,600	1,300	-	72	-	310	-	96	110
Sodium (filtered)	mg/L	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	1,000			*2,000*	350	110	<5	130	-	120	120	10	-	46	-	200	-	88	100
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Anions	meq/L	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters																					
Total Dissolved Solids	mg/L	10					2,000	1,200	720	4,200	-	4,800	20,000	5,700	-	300	-	1,500	-	950	1,000
Electrical conductivity (lab)	µS/cm	10					3,300	1,800	1,100	7,400	-	7,000	29,000	9,200	-	630	-	2,300	-	1,500	1,200

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Environmental Standards
#4 ANZG (2018) Aquatic Marine Water Ecosystems (95%) Very High Reliability adopted to account for bioaccumulation potential
#5 PFAS NEMP 3.0 (2050) Interim Marine 95% Species Protection adopted to account for bioaccumulation potential
#6 ANZG (2018) Aquatic Marine Water Ecosystems (90%) Very High Reliability adopted unless otherwise marked
#7 Australian Standard (AS) 2159 – 2009
#8 ANZECC (2000) Agriculture, Parks & Gardens - STV
#9 ANZECC (2000) Stock Watering
#10 RIVM (2001) Dutch Intervention Value
#11 R3 BTAG Marine Benchmarks

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]	MW183 Normal 1234320 MW183 17 Jun 2025	MW184 Normal 1234988 MW184 18 Jun 2025	MW186 Normal 1240646 MW186 25 Jun 2025	MW186 Field_D 1240646 QC110 25 Jun 2025	MW186 Interlab_D EM2512123 QC210 25 Jun 2025	MW188 Normal 1237216 MW188 24 Jun 2025	MW189 Normal 1234988 MW189 18 Jun 2025	MW190 Normal 1234320 MW190 17 Jun 2025	MW191 Normal 1234988 MW191 18 Jun 2025	MW192 Normal 1234988 MW192 18 Jun 2025	MW193 Normal 1237216 MW193 24 Jun 2025	MW193 Field_D 1237216 QC109 24 Jun 2025	MW193 Interlab_D EM2511596 QC209 24 Jun 2025	MW194 Normal 1234320 MW194 17 Jun 2025	MW196 Normal 1240646 MW196 25 Jun 2025	MW197 Normal 1240646 MW197 25 Jun 2025	MW198 Normal 1240646 MW198 25 Jun 2025	NR2A Normal 1235189 NR2A 20 Jun 2025
Total Recoverable Hydrocarbons																								
C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	260	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	50	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				260	<50	210	160	150	<50	330	<50	<50	<50	<50	<50	<100	<50	<50	7,250	<50	<50
>C10-C16 fraction	µg/L	50				260	<50	210	160	150	<50	330	<50	<50	<50	<50	<50	<100	<50	<50	7,600	<50	<50
>C16-C34 fraction	µg/L	100				500	<100	300	200	180	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	1,900	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	300	200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100		600[#10]		760	<100	810	560	330	<100	330	<100	<100	<100	<100	<100	<100	<100	<100	9,500	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																								
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
Total Petroleum Hydrocarbons																								
C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	250	<20	<20
C10-C14 fraction	µg/L	50				90	<50	80	60	80	<50	140	<50	<50	<50	<50	<50	<50	<50	<50	8,200	<50	<50
C15-C28 fraction	µg/L	100				700	<100	400	300	230	<100	200	<100	<100	<100	<100	<100	<100	<100	<100	3,200	<100	<100
C29-C36 fraction	µg/L	50				<100	<100	100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<50	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50		600[#10]		790	<100	580	360	310	<100	340	<100	<100	<100	<100	<100	<50	<100	<100	11,400	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																								
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
Petroleum Hydrocarbons Speciation																								
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
Monocyclic Aromatic Hydrocarbons																								
Benzene	µg/L	1		900		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	120	<1	<1
Toluene	µg/L	1		180		<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	52	<1	<1
Ethylbenzene	µg/L	1		5		<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<2*	<1	<1
m&p-Xylene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	24	<2	<2
o-Xylene	µg/L	1		350		<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	19	<1	<1
Total Xylenes	µg/L	2		19[#11]		<3	<3	<3	<3	<2	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3	43	<3	<3
Total BTEX	µg/L	1				-	-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	350	<10	<10
Hydrocarbon Gases																								
Methane	µg/L	10				360	390	110	90	59	20,000	<50	<50	<50	18,000	17,000	16,000	3,550	<50	240	500	<50	1,500
Polynuclear Aromatic Hydrocarbons																								
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Naphthalene	µg/L	1		90		<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	490	3	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	23	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	18	<1	2
Anthracene	µg/L	1		0.4[#4]		<1	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	3	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1.0	1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	15	<1	4
Phenanthrene	µg/L	1		2[#4]		<1	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	10	<1	<1
Fluoranthene	µg/L	1		1.4[#4]		<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	2	<1	2
Benz(a)anthracene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.2[#4]		<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Pyrene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	3	<1	<1	<1	<1	<1.0	<1	<1	2	<1	2
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1				<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5				<1	<1	<1	<1	<0.5	7	<1	3	<1	<1	<1	<1	<0.5	<1	<1	560	3	10
Phenolic Compounds																								
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<6	<6	<6	<2.0	<6	<6	<6	<6	<6	<6	<6	<2.0	<6	<6	530	<6	<6
Phenol	µg/L	1		520		<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	600	<3	<3
2-Chlorophenol	µg/L	1		340		<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		1,020[#11]		<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	1,700	<3	<3
Total Cresols	µg/L	10				<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	2,200	<10	<10
2-Nitrophenol	µg/L	1		2		<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	1		120		<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3
2,4-Dimethylphenol	µg/L	1		2		<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	1,100	<3	<3
2,6-Dichlorophenol	µg/L	1		34		<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1				<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1		3		<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1		4		<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30				<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
Pentachlorophenol	µg/L	2		33		<10	<10	<10	<10	<2.0	<10	<10	<10	<10	<10	<10	<10	<2.0	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	30		45		<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100				<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	30		58		<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
Dinoseb	µg/L	100				<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100
Tetrachlorophenols	µg/L	30				<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10				<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	3,900	<100	<100

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection [#6]	Irrigation [#8]	MW183 Normal 1234320 MW183 17 Jun 2025	MW184 Normal 1234988 MW184 18 Jun 2025	MW186 Normal 1240646 MW186 25 Jun 2025	MW186 Field_D 1240646 QC110 25 Jun 2025	MW186 Interlab_D EM2512123 QC210 25 Jun 2025	MW188 Normal 1237216 MW188 24 Jun 2025	MW189 Normal 1234988 MW189 18 Jun 2025	MW190 Normal 1234320 MW190 17 Jun 2025	MW191 Normal 1234988 MW191 18 Jun 2025	MW192 Normal 1234988 MW192 18 Jun 2025	MW193 Normal 1237216 MW193 24 Jun 2025	MW193 Field_D 1237216 QC109 24 Jun 2025	MW193 Interlab_D EM2511596 QC209 24 Jun 2025	MW194 Normal 1234320 MW194 17 Jun 2025	MW196 Normal 1240646 MW196 25 Jun 2025	MW197 Normal 1240646 MW197 25 Jun 2025	MW198 Normal 1240646 MW198 25 Jun 2025	NR2A Normal 1235189 NR2A 20 Jun 2025
Total Recoverable Hydrocarbons																							
Per- and Poly-fluoroalkyl Substances						-	-	-	-	-		-	-	-	-	-	-	-		-	-	-	-
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001				-	-	-	-	-	0.001	-	-	-	-	<0.001	-	-	0.002	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001				-	-	-	-	-	0.001	-	-	-	-	<0.001	-	-	0.004[#5]	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.13[#5]		-	-	-	-	-	<0.001	-	-	-	-	0.002[#2]	-	-	0.017[#2]	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.005				-	-	-	-	-	0.006	-	-	-	-	<0.005	-	-	0.051	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				-	-	-	-	-	0.005	-	-	-	-	0.002	-	-	0.014	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				-	-	-	-	-	0.004	-	-	-	-	0.002	-	-	0.016	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				-	-	-	-	-	0.001	-	-	-	-	<0.001	-	-	0.010	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.001		220[#5]		-	-	-	-	-	0.002[#2]	-	-	-	-	0.003[#2]	-	-	0.015	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	0.003	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid	µg/L	0.002				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				-	-	-	-	-	<0.005	-	-	-	-	<0.005	-	-	<0.005	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	<0.001	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.001				-	-	-	-	-	0.001	-	-	-	-	0.002	-	-	0.021	-	-	-	-
Sum of PFAS	µg/L	0.002				-	-	-	-	-	0.02	-	-	-	-	0.009	-	-	0.132	-	-	-	-
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				-	-	-	-	-	0.02	-	-	-	-	0.009	-	-	0.129	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				-	-	-	-	-	0.003	-	-	-	-	0.005	-	-	0.036	-	-	-	-
PFHxDA	µg/L	0.005				-	-	-	-	-		-	-	-	-	-	-	-		-	-	-	-
Metals																							
Arsenic (filtered)	mg/L	0.001		0.036	2	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.004	<0.001	<0.001	0.001	0.002	<0.001	0.006	<0.001	<0.001
Cadmium (filtered)	mg/L	0.0001		0.014	0.05	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.02	1	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001
Copper (filtered)	mg/L	0.001		0.003	5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.010	<0.001	<0.001	<0.001	<0.001	0.019	0.004	0.003	<0.001	0.003
Lead (filtered)	mg/L	0.001		0.0066	5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (filtered)	mg/L	0.001		0.08	10	0.58	0.25	1.6	1.6	1.44	0.91	1.4	0.13	0.49	0.60	1.00	1.1	1.00	0.031	0.37	0.11	4.0	0.59
Mercury (filtered)	mg/L	0.0001		0.0004[#4]	0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.2	2	0.002	<0.001	0.001	0.002	0.001	0.011	0.001	0.001	0.002	<0.001	0.002	0.002	0.002	0.002	0.038	0.008	0.004	0.001
Selenium (filtered)	mg/L	0.001		0.003	0.05	-	-	-	-	-	-	0.003	-	-	-	-	-	-	<0.001	-	-	-	-
Zinc (filtered)	mg/L	0.005		0.023	5	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	0.009	<0.005	<0.005	<0.005	<0.005	0.008	0.040	<0.005	0.006	0.006
Alkalinity																							
Hydroxide Alkalinity as CaCO3	mg/L	1				-	-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				<10	<10	<10	<10	<1	<10	<10	<10	<10	<10	<10	<10	<1	<10	<10	<10	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1				520	740	380	450	570	1,300	380	490	730	640	1,000	1,100	849	470	220	270	49	630
Total Alkalinity as CaCO3	mg/L	1				-	-	-	-	570	-	-	-	-	-	-	-	849	-	-	-	-	-
Cyanides																							
Cyanide (Free)	mg/L	0.004		0.007		<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.005	0.006	0.020	<0.005
Cyanide Total	µg/L	4				9	170	96	96	76	8	<5	20	12	21	7	11	6	30	160	230	650	<5
Weak Acid Dissociable Cyanide	mg/L	0.004				<0.005	<0.005	0.008	<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	0.006	0.028	0.040	<0.005
Nutrients																							
Ammonia (as N)	mg/L	0.01		1.2		0.32	0.57	0.20	0.19	0.23	33	0.04	0.15	0.21	41	29	29	28.0	<0.01	3.4	3.3	18	0.25
Nitrate (as N)	mg/L	0.02				0.02	<0.02	0.03	0.10	-	<0.02	0.22	3.4	4.0	0.10	<0.02	0.03	-	3.0	0.64	0.05	17	0.16
Major Ions																							
Chloride	mg/L	1	6,000			34	35	42	42	38	29	9.3	38	36	130	20	19	19	270	86	25	35	26
Calcium	mg/L	0.5				55	34	140	140	-	170	76	130	100	77	150	150	-	190	96	30	250	100
Calcium (filtered)	mg/L	0.5				-	-	-	-	153	-	-	-	-	-	-	-	154	-	-	-	-	-
Magnesium	mg/L	0.5				29	26	43	44	-	73	16	32	53	29	49	48	-	140	22	4.9	45	29
Magnesium (filtered)	mg/L	0.5				-	-	-	-	44	-	-	-	-	-	-	-	47	-	-	-	-	-
Potassium	mg/L	0.5				10	18	7.6	7.7	-	43	5.2	11	9.6	36	35	34	-	10	12	2.5	9.1	9.1
Potassium (filtered)	mg/L	0.5				-	-	-	-	8	-	-	-	-	-	-	-	32	-	-	-	-	-
Sodium	mg/L	0.5				190	290	100	100	-	68	98	98	140	100	62	60	-	180	110	99	120	140
Sodium (filtered)	mg/L	0.5				-	-	-	-	96	-	-	-	-	-	-	-	61	-	-	-	-	-
Sulfate as SO4	mg/L	5	1,000			100	100	120	120	-	8.9	92	140	110	<5	9.2	8.0	-	460	260	51	480	33
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	-	-	-	111	-	-	-	-	-	-	-	7	-	-	-	-	-
Total Anions	meq/L	0.01				-	-	-	-	14.8	-	-	-	-	-	-	-	17.6	-	-	-	-	-
Total Cations	meq/L	0.01				-	-	-	-	15.6	-	-	-	-	-	-	-	15.0	-	-	-	-	-
Ionic Balance	%	0.01				-	-	-	-	2.84	-	-	-	-	-	-	-	8.02	-	-	-	-	-
Physico-Chemical Parameters																							
Total Dissolved Solids	mg/L	10				680	1,100	710	610	819	1,000	610	720	1,100	840	750	780	798	1,500	780	480	1,300	800
Electrical conductivity (lab)	µS/cm	10				1,000	1,800	1,100	1,100	-	1,600	1,000	1,100	1,600	1,400	1,400	1,400	-	2,000	1,000	520	1,600	1,400

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branc
#3 Exceeds instrument calibration range

Environmental Standards
#4 ANZG (2018) Aquatic Marine Water Ecosystems (95%) Very High Reliability adopted to account for bioaccumulation potential
#5 PFAS NEMP 3.0 (2050) Interim Marine 95% Species Protection adopted to account for bioaccumulation potential
#6 ANZG (2018) Aquatic Marine Water Ecosystems (90%) Very High Reliability adopted unless otherwise marked
#7 Australian Standard (AS) 2159 – 2009
#8 ANZECC (2000) Agriculture, Parks & Gardens - STV
#9 ANZECC (2000) Stock Watering
#10 RIVM (2001) Dutch Intervention Value
#11 R3 BTAG Marine Benchmarks

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]	NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16	MW16	MW60	MW60	MW125A	MW126A
						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal
						1235189	1234320	1232587	1235243	1234988	1236601	1236601	1241421	EM2512174	1236601	1241421	EM2512174	1237216	1237216	1237216	1237216
						NR2A_FILTERED	TW02	MW123A	BH2_PS	RN4	MW6	MW16	QC107	QC207	MW16_FILTERED	QC107_FILTERED	QC207_FILTERED	MW60	MW60_FILTERED	MW125A	MW126A
						20 Jun 2025	17 Jun 2025	12 Jun 2025	19 Jun 2025	18 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025
Total Recoverable Hydrocarbons																					
C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	670	450	490	750	<20	400	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	670	450	490	750	<20	400	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				<50	<50	<50	<50	110	<50	<50	260	240	<50	<50	-	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50				<50	<50	<50	<50	110	<50	<50	260	240	<50	<50	-	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	140	<100	<100	-	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100		600[#10]		<100	<100	<100	<100	110	<100	<100	260	380	<100	<100	-	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																					
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	<50	-	-	-	<50	<100	<50	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	<100	<100	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	<100	<100	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	<100	<100	-	-	-
Total Petroleum Hydrocarbons																					
C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	490	310	440	570	<20	350	<20	<20	<20	<20
C10-C14 fraction	µg/L	50				<50	<50	<50	<50	<50	<50	<50	230	260	<50	<50	-	<50	<50	<50	<50
C15-C28 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	180	<100	<100	-	<100	<100	<100	<100
C29-C36 fraction	µg/L	50				<100	<100	<100	<100	<100	<100	<100	<100	<50	<100	<100	-	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50		600[#10]		<100	<100	<100	<100	<100	<100	<100	230	440	<100	<100	-	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																					
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	<100	<100	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<100	<100	-	-	-	<100	<50	<100	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	<100	<100	-	-	-	<100	<50	<100	-	-	-
Petroleum Hydrocarbons Speciation																					
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	<20	440	-	-	-	<20	-	<20	-	-	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	<20	170	-	-	-	<20	-	<20	-	-	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	<50	<50	-	-	-	<50	-	<50	-	-	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	-	<100	-	-	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	-	<100	-	-	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	-	<100	-	-	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	<1	<1	-	-	-	<1	-	<1	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	<1	1	-	-	-	<1	-	<1	-	-	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	<10	50	-	-	-	<10	-	<10	-	-	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	<50	<50	-	-	-	<50	-	<50	-	-	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	<100	<100	-	-	-	<100	-	<100	-	-	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	-	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	-	-
Monocyclic Aromatic Hydrocarbons																					
Benzene	µg/L	1		900		-	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	-	<1	<1
Toluene	µg/L	1		180		-	<1	<1	<1	<1	<1	<1	<1	<2	-	<1	<2	<1	-	<1	<1
Ethylbenzene	µg/L	1		5		-	<1	<1	<1	<1	<1	<1	<1	<2	-	<1	<2	<1	-	<1	<1
m&p-Xylene	µg/L	2				-	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	-	<2	<2
o-Xylene	µg/L	1		350		-	<1	<1	<1	<1	<1	<1	<1	<2	-	<1	<2	<1	-	<1	<1
Total Xylenes	µg/L	2		19[#11]		-	<3	<3	<3	<3	<3	<3	<3	<2	-	<3	<2	<3	-	<3	<3
Total BTEX	µg/L	1				-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	60	<10	<10	<10	<10	<10	<10	<5	<10	<10	<5	<10	<10	<10	<10
Hydrocarbon Gases																					
Methane	µg/L	10				-	5,400	<50	<50	9,500	17,000	13,000	8,300[#9]	3,270	-	-	-	24,000	-	10,000	20,000
Polynuclear Aromatic Hydrocarbons																					
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-
Naphthalene	µg/L	1		90		<1	48	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Acenaphthene	µg/L	1				3	9	<1	<1	<1	2	2	<1	<1.0	2	<1	<1.0	<1	<1	2	10
Anthracene	µg/L	1		0.4[#4]		<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	2	11
Fluorene	µg/L	1				7	4	<1	<1	<1	<1	2	<1	<1.0	2	<1	<1.0	<1	<1	1	8
Phenanthrene	µg/L	1		2[#4]		<1	7	<1	<1	<1	2	2	<1	<1.0	2	<1	<1.0	<1	<1	2	13
Fluoranthene	µg/L	1		1.4[#4]		2	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	2	3
Benz(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.2[#4]		<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<0.5	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Pyrene	µg/L	1				2	<1	<1	<1	<1	2	<1	<1	<1.0	<1	<1	<1.0	<1	<1	1	2
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1.0	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5				14	68	<1	<1	<1	6	6	<1	<0.5	6	<1	<0.5	<1	<1	10	47
Phenolic Compounds																					
3/4-Methylphenol (m/p-cresol)	µg/L	2				-	<6	<6	<6	<6	<6	<6	<6	<2.0	-	-	-	<6	-	<6	<6
Phenol	µg/L	1		520		-	<3	<3	<3	<3	<3	<3	<3	<1.0	-	-	-	<3	-	<3	<3
2-Chlorophenol	µg/L	1		340		-	<3	<3	<3	<3	<3	<3	<3	<1.0	-	-	-	<3	-	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		1,020[#11]		-	<3	<3	<3	<3	<3	<3	<3	<1.0	-	-	-	<3	-	<3	<3
Total Cresols	µg/L	10				-	<10	<10	<10	<10	<10	<10	<10	-	-	-	-	<10	-	<10	<10
2-Nitrophenol	µg/L	1		2		-	<10	<10	<10	<10	<10	<10	<10	<1.0	-	-	-	<10	-	<10	<10
2,4-Dichlorophenol	µg/L	1		120		-	<3	<3	<3	<3	<3	<3	<3	<1.0	-	-	-	<3	-	<3	<3
2,4-Dimethylphenol	µg/L	1		2		-	<3	<3	<3	<3	<3	<3	<3	<1.0	-	-	-	<3	-	<3	<3
2,6-Dichlorophenol	µg/L	1		34		-	<3	<3	<3	<3	<3	<3	<3	<1.0	-	-	-	<3	-	<3	<3
4-Chloro-3-methylphenol	µg/L	1				-	<10	<10	<10	<10	<10	<10	<10	<1.0	-	-	-	<10	-	<10	<10
2,4,6-Trichlorophenol	µg/L	1		3		-	<10	<10	<10	<10	<10	<10	<10	<1.0	-	-	-	<10	-	<10	<10
2,4,5-Trichlorophenol	µg/L	1		4		-	<10	<10	<10	<10	<10	<10	<10	<1.0	-	-	-	<10	-	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30				-	<30	<30	<30	<30	<30	<30	<30	-	-	-	-	<30	-	<30	<30
Pentachlorophenol	µg/L	2		33		-	<10	<10	<10	<10	<10	<10	<10	<2.0	-	-	-	<10	-	<10	<10
2,4-Dinitrophenol	µg/L	30		45		-	<30	<30	<30	<30	<30	<30	<30	-	-	-	-	<30	-	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100				-	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	<100	-	<100	<100
4-Nitrophenol	µg/L	30		58		-	<30	<30	<30	<30	<30	<30	<30	-	-	-	-	<30	-	<30	<30
Dinoseb	µg/L	100				-	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	<100	-	<100	<100
Tetrachlorophenols	µg/L	30				-	<30	<30	<30	<30	<30	<30	<30	-	-	-	-	<30	-	<30	<30
Sum of Phenols (halogenated)	µg/L	10				-	<10	<10	<10	<10	<10	<10	<10	-	-	-	-	<10	-	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				-	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	<100	-	<100	<100

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16	MW16	MW60	MW60	MW125A	MW126A
Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal
1235189	1234320	1232587	1235243	1234988	1236601	1236601	1241421	EM2512174	1236601	1241421	EM2512174	1237216	1237216	1237216	1237216
NR2A_FILTERED	TW02	MW123A	BH2_PS	RN4	MW6	MW16	QC107	QC207	MW16_FILTERED	QC107_FILTERED	QC207_FILTERED	MW60	MW60_FILTERED	MW125A	MW126A
20 Jun 2025	17 Jun 2025	12 Jun 2025	19 Jun 2025	18 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]														
Total Recoverable Hydrocarbons																			
Per- and Poly-fluoroalkyl Substances						-	-	-	-	-					-			-	
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				-	-	-	-	-	<0.005	<0.001	<0.001	<0.02	-	-	-	0.008	-	-	<0.001
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	0.005	-	-	0.002
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				-	-	-	-	-	<0.001	0.002[#2]	0.011[#2]	<0.02	-	-	-	0.003[#2]	-	-	0.002[#2]
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001				-	-	-	-	-	0.003[#2]	0.008[#2]	0.007[#2]	0.01	-	-	-	0.005[#2]	-	-	0.003[#2]
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				-	-	-	-	-	<0.001	0.008	0.029[#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.13[#5]		-	-	-	-	-	0.012[#2]	*0.30*[#2]	*0.23*[#2]	*0.30*	-	-	-	0.006[#2]	-	-	0.003[#2]
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				-	-	-	-	-	<0.001	0.001	0.026[#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorobutanoic acid (PFBA)	µg/L	0.005				-	-	-	-	-	0.012	<0.005	<0.005	<0.10	-	-	-	0.009	-	-	0.007
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				-	-	-	-	-	0.028	0.004	0.037	<0.02	-	-	-	0.007	-	-	0.006
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				-	-	-	-	-	0.027	0.002	0.002	<0.02	-	-	-	0.007	-	-	0.005
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				-	-	-	-	-	0.003[#2]	0.001[#2]	0.003[#2]	<0.02	-	-	-	0.004	-	-	0.003
Perfluorooctanoic acid (PFOA)	µg/L	0.001		220[#5]		-	-	-	-	-	0.005[#2]	0.014[#2]	0.013[#2]	0.02	-	-	-	0.015[#2]	-	-	0.010[#2]
Perfluorononanoic acid (PFNA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	0.002[#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	0.001[#2]	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.02	-	-	-	<0.001	-	-	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.05	-	-	-	<0.001	-	-	<0.001
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				-	-	-	-	-	<0.005	<0.005	<0.005	<0.02	-	-	-	<0.005	-	-	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid	µg/L	0.002				-	-	-	-	-	<0.005	<0.005	<0.005	<0.02	-	-	-	<0.005	-	-	<0.005
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				-	-	-	-	-	<0.005	<0.005	<0.005	<0.02	-	-	-	<0.005	-	-	<0.005
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	<0.001	<0.001	<0.05	-	-	-	<0.001	-	-	<0.001
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				-	-	-	-	-	<0.005	<0.005	<0.005	<0.05	-	-	-	<0.005	-	-	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	0.003	<0.001	<0.05	-	-	-	<0.001	-	-	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				-	-	-	-	-	<0.001	0.003	<0.001	<0.05	-	-	-	<0.001	-	-	<0.001
Sum (PFHxS + PFOS)	µg/L	0.001				-	-	-	-	-	0.015	*0.308*	*0.237*	*0.31*	-	-	-	0.011	-	-	0.006
Sum of PFAS	µg/L	0.002				-	-	-	-	-	0.089	0.346	0.361	0.33	-	-	-	0.069	-	-	0.041
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				-	-	-	-	-	0.089	0.332	0.292	0.33	-	-	-	0.058	-	-	0.039
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				-	-	-	-	-	0.02	0.322	-	-	-	-	-	0.026	-	-	0.016
PFHxDA	µg/L	0.005				-	-	-	-	-			-		-	-	-		-	-	
Metals																			
Arsenic (filtered)	mg/L	0.001		0.036	2	-	0.005	0.010	0.001	0.001	<0.001	0.003	<0.001	0.002	-	-	-	0.002	-	<0.001	<0.001
Cadmium (filtered)	mg/L	0.0001		0.014	0.05	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	-	-	-	<0.0002	-	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.02	1	-	0.002	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	<0.001	-	<0.001	<0.001
Copper (filtered)	mg/L	0.001		0.003	5	-	<0.001	0.018	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	<0.001	-	<0.001	<0.001
Lead (filtered)	mg/L	0.001		0.0066	5	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	<0.001	-	<0.001	<0.001
Manganese (filtered)	mg/L	0.001		0.08	10	-	0.97	<0.005	0.68	1.4	0.52	0.41	0.37	0.410	-	-	-	0.67	-	0.67	0.57
Mercury (filtered)	mg/L	0.0001		0.0004[#4]	0.002	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	<0.0001	-	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.2	2	-	0.008	0.005	0.003	<0.001	0.002	<0.001	<0.001	<0.001	-	-	-	0.003	-	0.001	0.003
Selenium (filtered)	mg/L	0.001		0.003	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005		0.023	5	-	<0.005	<0.005	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	<0.005	-	<0.005	<0.005
Alkalinity																			
Hydroxide Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				-	<10	150	<10	<10	<10	<10	<10	<1	-	-	-	<10	-	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1				-	870	<20	920	780	560	220	140	193	-	-	-	1,500	-	350	1,100
Total Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	193	-	-	-	-	-	-	-
Cyanides																			
Cyanide (Free)	mg/L	0.004		0.007		-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	-	-	-	<0.005	-	<0.005	<0.005
Cyanide Total	µg/L	4				-	100	13	22	57	13	15	11	11	-	-	-	38	-	9	160
Weak Acid Dissociable Cyanide	mg/L	0.004				-	0.014	0.013	0.005	<0.005	<0.005	<0.005	<0.005	<0.004	-	-	-	<0.005	-	<0.005	<0.005
Nutrients																			
Ammonia (as N)	mg/L	0.01		1.2		-	0.20	0.30	<0.01	9.2	14	2.8	2.8	2.55	-	-	-	32	-	6.4	46
Nitrate (as N)	mg/L	0.02				-	<0.2	2.5	4.2	0.04	<0.02	<0.02	<0.02	-	-	-	-	<0.02	-	0.08	<0.02
Major Ions																			
Chloride	mg/L	1	6,000			-	13,000	25	33	280	50	9.8	8.9	9	-	-	-	39	-	21	41
Calcium	mg/L	0.5				-	550	30	160	110	96	57	51	-	-	-	-	180	-	95	180
Calcium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	55	-	-	-	-	-	-	-
Magnesium	mg/L	0.5				-	81	<0.5	40	33	28	7.8	7.3	-	-	-	-	79	-	23	89
Magnesium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
Potassium	mg/L	0.5				-	56	28	20	22	23	5.9	5.4	-	-	-	-	45	-	14	53
Potassium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
Sodium	mg/L	0.5				-	6,900	86	200	240	90	13	12	-	-	-	-	71	-	53	79
Sodium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	1,000			-	37	11	140	6.7	6.3	13	<5	-	-	-	-	<5	-	5.9	23
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-
Total Anions	meq/L	0.01				-	-	-	-	-	-	-	-	4.11	-	-	-	-	-	-	-
Total Cations	meq/L	0.01				-	-	-	-	-	-	-	-	3.88	-	-	-	-	-	-	-
Ionic Balance	%	0.01				-	-	-	-	-	-	-	-	2.83	-	-	-	-	-	-	-
Physico-Chemical Parameters																			
Total Dissolved Solids	mg/L	10				-	12,000	420	1,400	1,100	480	170	180	217	-	-	-	960	-	530	1,000
Electrical conductivity (lab)	µS/cm	10				-	29,000	750	2,000	1,900	960	350	330	-	-	-	-	1,600	-	780	1,900

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branc
#3 Exceeds instrument calibration range

Environmental Standards
#4 ANZG (2018) Aquatic Marine Water Ecosystems (95%) Very High Reliability adopted to account for bioaccumulation potential
#5 PFAS NEMP 3.0 (2050) Interim Marine 95% Species Protection adopted to account for bioaccumulation potential
#6 ANZG (2018) Aquatic Marine Water Ecosystems (90%) Very High Reliability adopted unless otherwise marked
#7 Australian Standard (AS) 2159 – 2009
#8 ANZECC (2000) Agriculture, Parks & Gardens - STV
#9 ANZECC (2000) Stock Watering
#10 RIVM (2001) Dutch Intervention Value
#11 R3 BTAG Marine Benchmarks

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]	MW126A Field_D 1237216 QC108 24 Jun 2025	MW126A Interlab_D EM2511596 QC208 24 Jun 2025	MW130_GHD Normal 1232587 MW130_GHD 12 Jun 2025	MW132_GHD Normal 1232587 MW132_GHD 12 Jun 2025	MW133_GHD Normal 1232587 MW133_GHD 12 Jun 2025	MW55 Normal 1235243 MW55 19 Jun 2025	MW127A Normal 1235243 MW127A 19 Jun 2025	MW122 Normal 1235243 MW122 19 Jun 2025	RS6 Normal 1235243 RS6 19 Jun 2025	MW36 Normal 1234988 MW36 18 Jun 2025	MW101 Normal 1237216 MW101 24 Jun 2025	MW102 Normal 1234988 MW102 18 Jun 2025	MW128A Normal 1240646 MW128A 25 Jun 2025	BG1 Normal 1234320 BG1 17 Jun 2025	MW121 Normal 1234988 MW121 18 Jun 2025
Total Recoverable Hydrocarbons																				
C6-C10 fraction	µg/L	20				<20	<20	2,100	560	<20	<20	<20	<20	<20	<20	<20	<20	50	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	620	280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				<50	<100	1,170	640	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50				<50	<100	1,400	660	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100				100	140	300	200	<100	200	<100	<100	<100	100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100		600[#10]		100	140	1,700	860	<100	200	<100	<100	<100	100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																				
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																				
C6-C9 fraction	µg/L	20				<20	<20	1,600	500	<20	<20	<20	<20	<20	<20	<20	<20	30	<20	<20
C10-C14 fraction	µg/L	50				<50	<50	1,100	320	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100				100	180	800	600	<100	200	<100	<100	<100	200	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50				100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50		600[#10]		200	180	1,900	920	<100	200	<100	<100	<100	200	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																				
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons Speciation																				
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																				
Benzene	µg/L	1		900		<1	<1	650	250	<1	<1	<1	<1	<1	<1	2	<1	4	<1	<1
Toluene	µg/L	1		180		<1	<2	52	2	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
Ethylbenzene	µg/L	1		5		<1	<2	390	9	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1
m&p-Xylene	µg/L	2				<2	<2	110	6	5	<2	<2	<2	<2	<2	<2	<2	16	<2	<2
o-Xylene	µg/L	1		350		<1	<2	280	9	1	<1	<1	<1	<1	<1	<1	<1	8	<1	<1
Total Xylenes	µg/L	2		19[#11]		<3	<2	<3	15	6	<3	<3	<3	<3	<3	<3	<3	24	<3	<3
Total BTEX	µg/L	1				-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	<5	230	20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases																				
Methane	µg/L	10				14,000	5,860	1,100	1,100	6,000	16,000	24,000	50	3,900	<50	150	<50	<50	<50	<50
Polynuclear Aromatic Hydrocarbons																				
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1		90		<1	<1.0	260	11	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1.0	3	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				15	17.7	46	57	36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1		0.4[#4]		15	4.0	3	6	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				10	12.9	11	33	15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1		2[#4]		21	29.4	14	<1	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1		1.4[#4]		5	4.7	2	2	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.2[#4]		<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				2	3.4	2	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1				<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5				68	72.1	340	120	85	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenolic Compounds																				
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<2.0	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Phenol	µg/L	1		520		<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-Chlorophenol	µg/L	1		340		<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1		1,020[#11]		<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Total Cresols	µg/L	10				<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	µg/L	1		2		<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	1		120		<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,4-Dimethylphenol	µg/L	1		2		<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,6-Dichlorophenol	µg/L	1		34		<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1				<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1		3		<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1		4		<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30				<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Pentachlorophenol	µg/L	2		33		<10	<2.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	30		45		<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100				<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	30		58		<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Dinoseb	µg/L	100				<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tetrachlorophenols	µg/L	30				<30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10				<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100				<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

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Total Recoverable Hydrocarbons																				
Per- and Poly-fluoroalkyl Substances								-	-	-	-	-	-	-	-	-	-	-		
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				0.007	<0.01	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001				0.005	0.005	-	-	-	-	-	-	-	-	-	-	-	0.003	0.004
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				0.002[#2]	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001				0.003[#2]	0.005	-	-	-	-	-	-	-	-	-	-	-	0.007[#2]	0.001[#2]
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.13[#5]		0.003[#2]	0.004	-	-	-	-	-	-	-	-	-	-	-	0.014[#2]	0.019[#2]
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorobutanoic acid (PFBA)	µg/L	0.005				0.008	<0.01	-	-	-	-	-	-	-	-	-	-	-	0.046	0.010
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				0.006	0.004	-	-	-	-	-	-	-	-	-	-	-	0.015	0.006
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				0.006	0.005	-	-	-	-	-	-	-	-	-	-	-	0.017	0.002
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				0.003	0.002	-	-	-	-	-	-	-	-	-	-	-	0.009	0.001
Perfluorooctanoic acid (PFOA)	µg/L	0.001		220[#5]		0.009[#2]	0.007	-	-	-	-	-	-	-	-	-	-	-	0.013	0.004[#2]
Perfluorononanoic acid (PFNA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	0.002	0.001
Perfluorodecanoic acid (PFDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				<0.001	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				<0.001	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				<0.005	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid	µg/L	0.002				<0.005	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				<0.005	<0.002	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				<0.001	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				<0.001	<0.005	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Sum (PFHxS + PFOS)	µg/L	0.001				0.006	0.009	-	-	-	-	-	-	-	-	-	-	-	0.021	0.02
Sum of PFAS	µg/L	0.002				0.052	0.032	-	-	-	-	-	-	-	-	-	-	-	0.126	0.048
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				0.043	0.032	-	-	-	-	-	-	-	-	-	-	-	0.124	0.047
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				0.015	-	-	-	-	-	-	-	-	-	-	-	-	0.034	0.024
PFHxDA	µg/L	0.005					<0.005													
Metals																				
Arsenic (filtered)	mg/L	0.001		0.036	2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	0.002	0.002
Cadmium (filtered)	mg/L	0.0001		0.014	0.05	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium (filtered)	mg/L	0.001		0.02	1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.01
Copper (filtered)	mg/L	0.001		0.003	5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.003	0.011	<0.001	0.009	0.036	0.009	0.020
Lead (filtered)	mg/L	0.001		0.0066	5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (filtered)	mg/L	0.001		0.08	10	0.61	0.475	1.5	2.2	1.2	1.1	2.7	2.9	0.45	2.1	0.95	0.63	0.083	0.019	0.035
Mercury (filtered)	mg/L	0.0001		0.0004[#4]	0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (filtered)	mg/L	0.001		0.2	2	0.003	0.003	0.007	0.003	0.001	0.001	0.001	0.006	0.002	0.012	0.041	0.022	0.011	0.001	0.002
Selenium (filtered)	mg/L	0.001		0.003	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005		0.023	5	<0.005	<0.005	<0.005	0.009	0.007	<0.005	<0.005	0.015	<0.005	0.012	<0.005	0.006	0.017	<0.005	0.005
Alkalinity																				
Hydroxide Alkalinity as CaCO3	mg/L	1				-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				<10	<1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bicarbonate Alkalinity as CaCO3	mg/L	1				1,000	1,150	740	800	1,000	1,400	1,100	920	640	460	860	830	45	670	520
Total Alkalinity as CaCO3	mg/L	1				-	1,150	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																				
Cyanide (Free)	mg/L	0.004		0.007		<0.005	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	0.031	<0.005	<0.005
Cyanide Total	µg/L	4				150	160	14	10	<5	63	49	20	7	50	230	520	1,500	24	8
Weak Acid Dissociable Cyanide	mg/L	0.004				<0.005	<0.004	0.014	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.019	0.008	0.15	<0.005	<0.005
Nutrients																				
Ammonia (as N)	mg/L	0.01		1.2		45	39.0	17	22	7.0	39	29	0.50	4.2	<0.01	0.71	9.9	8.4	<0.01	<0.01
Nitrate (as N)	mg/L	0.02				<0.02	-	0.89	0.02	<0.02	<0.2	<0.02	0.08	3.6	4.9	<0.02	0.12	70	2.5	4.6
Major Ions																				
Chloride	mg/L	1	6,000			41	37	99	77	48	450	660	39	47	69	30	41	130	220	18
Calcium	mg/L	0.5				170	-	190	150	160	130	190	140	140	160	110	180	440	150	62
Calcium (filtered)	mg/L	0.5				-	171	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5				89	-	31	35	43	52	64	48	38	56	29	63	72	140	33
Magnesium (filtered)	mg/L	0.5				-	82	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5				52	-	8.3	8.7	16	45	40	21	8.6	6.8	4.5	8.9	9.7	10	8.7
Potassium (filtered)	mg/L	0.5				-	48	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5				78	-	93	96	60	460	410	200	39	85	39	88	150	200	130
Sodium (filtered)	mg/L	0.5				-	76	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	1,000			<5	-	130	120	<5	5.5	<5	97	22	360	150	210	780	320	88
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Anions	meq/L	0.01				-	24.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	0.01				-	19.8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01				-	9.72	-	-	-	-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters																				
Total Dissolved Solids	mg/L	10				1,000	1,110	990	860	750	2,500	2,400	1,400	750	1,100	580	1,300	2,300	1,300	830
Electrical conductivity (lab)	µS/cm	10				1,900	-	1,500	1,400	1,300	3,900	3,900	2,100	1,200	1,600	790	2,100	2,400	1,900	1,400

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branc
#3 Exceeds instrument calibration range

Environmental Standards
#4 ANZG (2018) Aquatic Marine Water Ecosystems (95%) Very High Reliability adopted to account for bioaccumulation potential
#5 PFAS NEMP 3.0 (2050) Interim Marine 95% Species Protection adopted to account for bioaccumulation potential
#6 ANZG (2018) Aquatic Marine Water Ecosystems (90%) Very High Reliability adopted unless otherwise marked
#7 Australian Standard (AS) 2159 – 2009
#8 ANZECC (2000) Agriculture, Parks & Gardens - STV
#9 ANZECC (2000) Stock Watering
#10 RIVM (2001) Dutch Intervention Value
#11 R3 BTAG Marine Benchmarks

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

						NR1	RN2	MW178	MW179	MW180	MW159	MW159	MW160	MW161	MW161
						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						1234320	1234988	1234320	1234320	1234988	1235189	1235189	1234320	1235243	1235243
						NR1	RN2	MW178	MW179	MW180	MW159	MW159_FILTERED	MW160	MW161	MW161_FILTERED
						17 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025	18 Jun 2025	20 Jun 2025	20 Jun 2025	17 Jun 2025	19 Jun 2025	19 Jun 2025
Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]										
Total Recoverable Hydrocarbons															
C6-C10 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50				790	170	<50	130	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50				790	170	<50	130	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100				1,400	400	<100	500	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100		600[#9]		2,190	570	<100	630	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel															
>C10-C16 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100				-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C34-C40 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
Total Petroleum Hydrocarbons															
C6-C9 fraction	µg/L	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50				310	60	<50	50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100				1,800	500	<100	600	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50		600[#9]		2,110	560	<100	650	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel															
C10-C14 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
C15-C28 fraction (Silica Gel)	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
C29-C36 fraction (Silica Gel)	µg/L	50				-	-	-	-	-	<100	-	-	<100	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50				-	-	-	-	-	<100	-	-	<100	-
Petroleum Hydrocarbons Speciation															
>C6 - C8 Aliphatic	µg/L	20				-	-	-	-	-	<20	-	-	<20	-
>C8 - C10 Aliphatic	µg/L	20				-	-	-	-	-	<20	-	-	<20	-
>C10 - C12 Aliphatic	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
>C12 - C16 Aliphatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C16-C21 Aliphatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C21-C36 Aliphatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
>C5 - C7 Aromatic	µg/L	1				-	-	-	-	-	<1	-	-	<1	-
>C7 - C8 Aromatic Toluene	µg/L	1				-	-	-	-	-	<1	-	-	<1	-
>C8 - C10 Aromatic	µg/L	10				-	-	-	-	-	<10	-	-	<10	-
>C10 - C12 Aromatic	µg/L	50				-	-	-	-	-	<50	-	-	<50	-
>C12 - C16 Aromatic	µg/L	100				-	-	-	-	-	<100	-	-	<100	-
> C16-C21 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	-	-	<0.1	-
> C21-C35 Aromatic	mg/L	0.1				-	-	-	-	-	<0.1	-	-	<0.1	-
Monocyclic Aromatic Hydrocarbons															
Benzene	µg/L	1		900		<1	<1	<1	<1	<1	<1	-	<1	<1	-
Toluene	µg/L	1		180		<1	<1	<1	<1	<1	<1	-	<1	<1	-
Ethylbenzene	µg/L	1		5		<1	<1	<1	<1	<1	<1	-	<1	<1	-
m&p-Xylene	µg/L	2				<2	<2	<2	<2	<2	<2	-	<2	<2	-
o-Xylene	µg/L	1		350		<1	<1	<1	<1	<1	<1	-	<1	<1	-
Total Xylenes	µg/L	2		19[#11]		<3	<3	<3	<3	<3	<3	-	<3	<3	-
Total BTEX	µg/L	1				-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5				<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases															
Methane	µg/L	10				150	14,000	470	<50	<50	<50	-	<50	<50	-
Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5				-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1		90		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				1	14	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1		0.4[#4]		<1	4	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				2	17	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1		2[#4]		<1	19	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1		1.4[#4]		<1	3	<1	<1	<1	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5		0.2[#4]		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				<1	3	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5				3	60	<1	<1	<1	<1	<1	<1	<1	<1
Phenolic Compounds															
3/4-Methylphenol (m/p-cresol)	µg/L	2				<6	<6	<6	<6	<6	<6	-	<6	<6	-
Phenol	µg/L	1		520		<3	<3	<3	<3	<3	<3	-	<3	<3	-
2-Chlorophenol	µg/L	1		340		<3	<3	<3	<3	<3	<3	-	<3	<3	-
2-Methylphenol (o-Cresol)	µg/L	1		1,020[#11]		<3	<3	<3	<3	<3	<3	-	<3	<3	-
Total Cresols	µg/L	10				<10	<10	<10	<10	<10	<10	-	<10	<10	-
2-Nitrophenol	µg/L	1		2		<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4-Dichlorophenol	µg/L	1		120		<3	<3	<3	<3	<3	<3	-	<3	<3	-
2,4-Dimethylphenol	µg/L	1		2		<3	<3	<3	<3	<3	<3	-	<3	<3	-
2,6-Dichlorophenol	µg/L	1		34		<3	<3	<3	<3	<3	<3	-	<3	<3	-
4-Chloro-3-methylphenol	µg/L	1				<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4,6-Trichlorophenol	µg/L	1		3		<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4,5-Trichlorophenol	µg/L	1		4		<10	<10	<10	<10	<10	<10	-	<10	<10	-
4,6-Dinitro-2-methylphenol	µg/L	30				<30	<30	<30	<30	<30	<30	-	<30	<30	-
Pentachlorophenol	µg/L	2		33		<10	<10	<10	<10	<10	<10	-	<10	<10	-
2,4-Dinitrophenol	µg/L	30		45		<30	<30	<30	<30	<30	<30	-	<30	<30	-
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100				<100	<100	<100	<100	<100	<100	-	<100	<100	-
4-Nitrophenol	µg/L	30		58		<30	<30	<30	<30	<30	<30	-	<30	<30	-
Dinoseb	µg/L	100				<100	<100	<100	<100	<100	<100	-	<100	<100	-
Tetrachlorophenols	µg/L	30				<30	<30	<30	<30	<30	<30	-	<30	<30	-
Sum of Phenols (halogenated)	µg/L	10				<10	<10	<10	<10	<10	<10	-	<10	<10	-
Sum of Phenols (non-halogenated)	µg/L	100				<100	<100	<100	<100	<100	<100	-	<100	<100	-

Table T6b
Groundwater Analytical Results - Tier 1 Assessment Criteria - Buildings, Ecology, Irrigation and Stock Watering

Chemical Group	Unit	EQL	Buildings and Structures (AS2159)[#7]	Ecosystem Protection[#6]	Irrigation[#8]	NR1 Normal 1234320 NR1 17 Jun 2025	RN2 Normal 1234988 RN2 18 Jun 2025	MW178 Normal 1234320 MW178 17 Jun 2025	MW179 Normal 1234320 MW179 17 Jun 2025	MW180 Normal 1234988 MW180 18 Jun 2025	MW159 Normal 1235189 MW159 20 Jun 2025	MW159 Normal 1235189 MW159_FILTERED 20 Jun 2025	MW160 Normal 1234320 MW160 17 Jun 2025	MW161 Normal 1235243 MW161 19 Jun 2025	MW161 Normal 1235243 MW161_FILTERED 19 Jun 2025
Total Recoverable Hydrocarbons															
Per- and Poly-fluoroalkyl Substances						-	-	-	-	-	-	-	-	-	-
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001		0.13[#5]		-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.001		220[#5]		-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
Sum of PFAS	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	µg/L	0.002				-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001				-	-	-	-	-	-	-	-	-	-
PFHxDA	µg/L	0.005				-	-	-	-	-	-	-	-	-	-
Metals															
Arsenic (filtered)	mg/L	0.001		0.036	2	0.002	0.003	0.002	0.004	0.002	0.001	-	0.004	0.004	-
Cadmium (filtered)	mg/L	0.0001		0.014	0.05	<0.0002	<0.0002	<0.0002	<0.0002	*0.012*	<0.0002	-	<0.0002	<0.0002	-
Chromium (filtered)	mg/L	0.001		0.02	1	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-
Copper (filtered)	mg/L	0.001		0.003	5	<0.001	<0.001	0.006	<0.001	0.002	0.003	-	0.002	0.002	-
Lead (filtered)	mg/L	0.001		0.0066	5	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-
Manganese (filtered)	mg/L	0.001		0.08	10	2.3	0.63	0.012	0.59	<0.005	0.94	-	<0.005	<0.005	-
Mercury (filtered)	mg/L	0.0001		0.0004[#4]	0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-
Nickel (filtered)	mg/L	0.001		0.2	2	<0.001	0.003	<0.001	0.002	0.001	0.001	-	<0.001	<0.001	-
Selenium (filtered)	mg/L	0.001		0.003	0.05	-	-	0.003	0.002	<0.001	<0.001	-	0.002	0.002	-
Zinc (filtered)	mg/L	0.005		0.023	5	<0.005	0.006	0.031	<0.005	0.38	<0.005	-	<0.005	<0.005	-
Alkalinity															
Hydroxide Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1				<10	<10	<10	<10	<10	<10	-	<10	<10	-
Bicarbonate Alkalinity as CaCO3	mg/L	1				790	1,100	410	450	190	450	-	390	410	-
Total Alkalinity as CaCO3	mg/L	1				-	-	-	-	-	-	-	-	-	-
Cyanides															
Cyanide (Free)	mg/L	0.004		0.007		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-
Cyanide Total	µg/L	4				<5	19	<5	<5	9	<5	-	<5	<5	-
Weak Acid Dissociable Cyanide	mg/L	0.004				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-
Nutrients															
Ammonia (as N)	mg/L	0.01		1.2		0.06	12	<0.01	0.58	0.03	0.03	-	0.01	0.01	-
Nitrate (as N)	mg/L	0.02				3.2	<0.02	5.2	0.64	0.53	9.2	-	5.5	8.0	-
Major Ions															
Chloride	mg/L	1	6,000			13	850	140	18	14,000	77	-	21	22	-
Calcium	mg/L	0.5				45	160	41	67	400	51	-	32	36	-
Calcium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5				25	36	40	29	980	30	-	25	23	-
Magnesium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5				6.5	31	14	10	260	6.1	-	5.0	6.0	-
Potassium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5				280	590	200	190	7,400	140	-	140	120	-
Sodium (filtered)	mg/L	0.5				-	-	-	-	-	-	-	-	-	-
Sulfate as SO4	mg/L	5	1,000			9.6	28	77	38	*2,100*	84	-	43	55	-
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1				-	-	-	-	-	-	-	-	-	-
Total Anions	meq/L	0.01				-	-	-	-	-	-	-	-	-	-
Total Cations	meq/L	0.01				-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01				-	-	-	-	-	-	-	-	-	-
Physico-Chemical Parameters															
Total Dissolved Solids	mg/L	10				720	2,800	660	500	28,000	780	-	530	560	-
Electrical conductivity (lab)	µS/cm	10				1,200	4,000	1,100	770	41,000	1,300	-	740	810	-

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branc
#3 Exceeds instrument calibration range

Environmental Standards
#4 ANZG (2018) Aquatic Marine Water Ecosystems (95%) Very High Reliability adopted to account for bioaccumulation potential
#5 PFAS NEMP 3.0 (2050) Interim Marine 95% Species Protection adopted to account for bioaccumulation potential
#6 ANZG (2018) Aquatic Marine Water Ecosystems (90%) Very High Reliability adopted unless otherwise marked
#7 Australian Standard (AS) 2159 – 2009
#8 ANZECC (2000) Agriculture, Parks & Gardens - STV
#9 ANZECC (2000) Stock Watering
#10 RIVM (2001) Dutch Intervention Value
#11 R3 BTAG Marine Benchmarks

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6c
Groundwater Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

Chemical Group	Unit	EQL	British Geological Survey (2024) methane screening level	Vapour Intrusion - Commercial/Industrial (CRC CARE)	Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)	Vapour Intrusion - Recreation (CRC CARE)	Vapour Intrusion - Residential (CRC CARE)	MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167
Location Code								MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number								1240646	1235243	1232587	1235243	1235243	1235243	1232587	1235243	1235243	1236601	1236601	1235189
Field ID								MW120A	MW148	MW150	MW151	MW151_FILTERED	MW152	MW153	MW155	MW155_FILTERED	MW164	MW164_FILTERED	MW167
Date								25 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	23 Jun 2025	23 Jun 2025	20 Jun 2025
Total Recoverable Hydrocarbons																			
C6-C10 fraction	µg/L	20						280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20		4,100	NL	NL	640	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50		4,800	NL	NL	760	260	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50						290	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100						290	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																			
>C10-C16 fraction (Silica Gel)	µg/L	50						-	-	-	<50	-	-	-	<50	-	<50	-	<50
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100						-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
>C34-C40 fraction (Silica Gel)	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
Total Petroleum Hydrocarbons																			
C6-C9 fraction	µg/L	20						280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50						300	<50	<50	<50	<50	60	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50						300	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																			
C10-C14 fraction (Silica Gel)	µg/L	50						-	-	-	<50	-	-	-	<50	-	<50	-	<50
C15-C28 fraction (Silica Gel)	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
C29-C36 fraction (Silica Gel)	µg/L	50						-	-	-	<100	-	-	-	<100	-	<100	-	<100
C10-C36 fraction (sum)(Silica Gel)	µg/L	50						-	-	-	<100	-	-	-	<100	-	<100	-	<100
Petroleum Hydrocarbons Speciation																			
>C6 - C8 Aliphatic	µg/L	20						-	-	-	<20	-	-	-	<20	-	<20	-	<20
>C8 - C10 Aliphatic	µg/L	20						-	-	-	<20	-	-	-	<20	-	<20	-	<20
>C10 - C12 Aliphatic	µg/L	50						-	-	-	<50	-	-	-	<50	-	<50	-	<50
>C12 - C16 Aliphatic	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
>C16-C21 Aliphatic	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
>C21-C36 Aliphatic	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
>C5 - C7 Aromatic	µg/L	1						-	-	-	<1	-	-	-	<1	-	<1	-	<1
>C7 - C8 Aromatic Toluene	µg/L	1						-	-	-	<1	-	-	-	<1	-	<1	-	<1
>C8 - C10 Aromatic	µg/L	10						-	-	-	<10	-	-	-	<10	-	<10	-	<10
>C10 - C12 Aromatic	µg/L	50						-	-	-	<50	-	-	-	<50	-	<50	-	<50
>C12 - C16 Aromatic	µg/L	100						-	-	-	<100	-	-	-	<100	-	<100	-	<100
> C16-C21 Aromatic	mg/L	0.1						-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1
> C21-C35 Aromatic	mg/L	0.1						-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1
Monocyclic Aromatic Hydrocarbons																			
Benzene	µg/L	1		4,900	NL	NL	800	170	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1
Toluene	µg/L	1		NL	NL	NL	NL	59	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1
Ethylbenzene	µg/L	1		NL	NL	NL	NL	<5[#1]	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1
m&p-Xylene	µg/L	2						<10[#1]	<2	<2	<2	-	5	<2	<2	-	<2	-	<2
o-Xylene	µg/L	1						13	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1
Total Xylenes	µg/L	2		NL	NL	NL	NL	13	<3	<3	<3	-	5	<3	<3	-	<3	-	<3
Total BTEX	µg/L	1						-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5						30	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Polynuclear Aromatic Hydrocarbons																			
Naphthalene	µg/L	1		NL	NL	NL	NL	2	<1	<1	<1	<1	2	<1	3	4	<1	<1	<1
Hydrocarbon Gases																			
Methane	µg/L	10	1,600					<50	50	19,000	9,200	-	14,000	360	18,000	-	3,600	-	<50

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6c
Groundwater Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

Chemical Group	Unit	EQL	British Geological Survey (2024) methane screening level	Vapour Intrusion - Commercial/Industrial (CRC CARE)	Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)	Vapour Intrusion - Recreation (CRC CARE)	MW167 Normal 1235189 MW167_FILTERED 20 Jun 2025	MW173 Normal 1234988 MW173 18 Jun 2025	MW182 Normal 1234320 MW182 17 Jun 2025	MW183 Normal 1234320 MW183 17 Jun 2025	MW184 Normal 1234988 MW184 18 Jun 2025	MW186 Normal 1240646 MW186 25 Jun 2025	MW186 Field_D 1240646 QC110 25 Jun 2025	MW186 Interlab_D EM2512123 QC210 25 Jun 2025	MW188 Normal 1237216 MW188 24 Jun 2025	MW189 Normal 1234988 MW189 18 Jun 2025	MW190 Normal 1234320 MW190 17 Jun 2025	MW191 Normal 1234988 MW191 18 Jun 2025	MW192 Normal 1234988 MW192 18 Jun 2025	MW193 Normal 1237216 MW193 24 Jun 2025
Total Recoverable Hydrocarbons																				
C6-C10 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20		4,100	NL	NL	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50		4,800	NL	NL	<50	<50	<50	260	<50	210	160	150	<50	330	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50					<50	<50	<50	260	<50	210	160	150	<50	330	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100					<100	<100	<100	500	<100	300	200	180	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	300	200	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100					<100	<100	<100	760	<100	810	560	330	<100	330	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																				
>C10-C16 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																				
C6-C9 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50					<50	<50	<50	90	<50	80	60	80	<50	140	<50	<50	<50	<50
C15-C28 fraction	µg/L	100					<100	<100	<100	700	<100	400	300	230	<100	200	<100	<100	<100	<100
C29-C36 fraction	µg/L	50					<100	<100	<100	<100	<100	100	<100	<50	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50					<100	<100	<100	790	<100	580	360	310	<100	340	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																				
C10-C14 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons Speciation																				
>C6 - C8 Aliphatic	µg/L	20					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21 Aliphatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C36 Aliphatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C5 - C7 Aromatic	µg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aromatic	µg/L	10					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aromatic	µg/L	50					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aromatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																				
Benzene	µg/L	1		4,900	NL	NL	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1		NL	NL	NL	-	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	1		NL	NL	NL	-	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	2					-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	µg/L	1					-	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
Total Xylenes	µg/L	2		NL	NL	NL	-	<3	<3	<3	<3	<3	<3	<2	<3	<3	<3	<3	<3	<3
Total BTEX	µg/L	1					-	-	-	-	-	-	-	<1	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5					<10	<10	<10	<10	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10
Polynuclear Aromatic Hydrocarbons																				
Naphthalene	µg/L	1		NL	NL	NL	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1
Hydrocarbon Gases																				
Methane	µg/L	10	1,600				-	<50	<50	360	390	110	90	59	20,000	<50	<50	<50	18,000	17,000

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6c
Groundwater Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

Chemical Group	Unit	EQL	British Geological Survey (2024) methane screening level	Vapour Intrusion - Commercial/Industrial (CRC CARE)	Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)	Vapour Intrusion - Recreation (CRC CARE)	MW193 Field_D 1237216 QC109 24 Jun 2025	MW193 Interlab_D EM2511596 QC209 24 Jun 2025	MW194 Normal 1234320 MW194 17 Jun 2025	MW196 Normal 1240646 MW196 25 Jun 2025	MW197 Normal 1240646 MW197 25 Jun 2025	MW198 Normal 1240646 MW198 25 Jun 2025	NR2A Normal 1235189 NR2A 20 Jun 2025	NR2A Normal 1235189 NR2A_FILTERED 20 Jun 2025	TW02 Normal 1234320 TW02 17 Jun 2025	MW123A Normal 1232587 MW123A 12 Jun 2025	BH2_PS Normal 1235243 BH2_PS 19 Jun 2025	RN4 Normal 1234988 RN4 18 Jun 2025	MW6 Normal 1236601 MW6 23 Jun 2025	MW16 Normal 1236601 MW16 23 Jun 2025
Total Recoverable Hydrocarbons																				
C6-C10 fraction	µg/L	20					<20	<20	<20	<20	260	<20	<20	<20	<20	<20	<20	<20	<20	670
C6-C10 fraction (minus BTEX)(F1)	µg/L	20		4,100	NL	NL	<20	<20	<20	<20	50	<20	<20	<20	<20	<20	<20	<20	<20	670
>C10-C16 (minus Naphthalene)(F2)	µg/L	50		4,800	NL	NL	<50	<100	<50	<50	7,250	<50	<50	<50	<50	<50	<50	110	<50	<50
>C10-C16 fraction	µg/L	50					<50	<100	<50	<50	7,600	<50	<50	<50	<50	<50	<50	110	<50	<50
>C16-C34 fraction	µg/L	100					<100	<100	<100	<100	1,900	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100					<100	<100	<100	<100	9,500	<100	<100	<100	<100	<100	<100	110	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																				
>C10-C16 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	<50	-	-	-	-	-	<50	<50
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
>C34-C40 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
Total Petroleum Hydrocarbons																				
C6-C9 fraction	µg/L	20					<20	<20	<20	<20	250	<20	<20	<20	<20	<20	<20	<20	<20	490
C10-C14 fraction	µg/L	50					<50	<50	<50	<50	8,200	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100					<100	<100	<100	<100	3,200	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50					<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50					<100	<50	<100	<100	11,400	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																				
C10-C14 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	<50	-	-	-	-	-	<50	<50
C15-C28 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
C29-C36 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
C10-C36 fraction (sum)(Silica Gel)	µg/L	50					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
Petroleum Hydrocarbons Speciation																				
>C6 - C8 Aliphatic	µg/L	20					-	-	-	-	-	-	<20	-	-	-	-	-	<20	440
>C8 - C10 Aliphatic	µg/L	20					-	-	-	-	-	-	<20	-	-	-	-	-	<20	170
>C10 - C12 Aliphatic	µg/L	50					-	-	-	-	-	-	<50	-	-	-	-	-	<50	<50
>C12 - C16 Aliphatic	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
>C16-C21 Aliphatic	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
>C21-C36 Aliphatic	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
>C5 - C7 Aromatic	µg/L	1					-	-	-	-	-	-	<1	-	-	-	-	-	<1	<1
>C7 - C8 Aromatic Toluene	µg/L	1					-	-	-	-	-	-	<1	-	-	-	-	-	<1	1
>C8 - C10 Aromatic	µg/L	10					-	-	-	-	-	-	<10	-	-	-	-	-	<10	50
>C10 - C12 Aromatic	µg/L	50					-	-	-	-	-	-	<50	-	-	-	-	-	<50	<50
>C12 - C16 Aromatic	µg/L	100					-	-	-	-	-	-	<100	-	-	-	-	-	<100	<100
> C16-C21 Aromatic	mg/L	0.1					-	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1
> C21-C35 Aromatic	mg/L	0.1					-	-	-	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1
Monocyclic Aromatic Hydrocarbons																				
Benzene	µg/L	1		4,900	NL	NL	<1	<1	<1	1	120	<1	<1	-	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1		NL	NL	NL	<1	<2	<1	<1	52	<1	<1	-	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	1		NL	NL	NL	<1	<2	<1	<1	<5[#1]	<1	<1	-	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	2					<2	<2	<2	<2	24	<2	<2	-	<2	<2	<2	<2	<2	<2
o-Xylene	µg/L	1					<1	<2	<1	<1	19	<1	<1	-	<1	<1	<1	<1	<1	<1
Total Xylenes	µg/L	2		NL	NL	NL	<3	<2	<3	<3	43	<3	<3	-	<3	<3	<3	<3	<3	<3
Total BTEX	µg/L	1					-	<1	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5					<10	<5	<10	<10	350	<10	<10	<10	60	<10	<10	<10	<10	<10
Polynuclear Aromatic Hydrocarbons																				
Naphthalene	µg/L	1		NL	NL	NL	<1	<1.0	<1	<1	490	3	<1	<1	48	<1	<1	<1	<1	<1
Hydrocarbon Gases																				
Methane	µg/L	10	1,600				16,000	3,550	<50	240	500	<50	1,500	-	5,400	<50	<50	9,500	17,000	13,000

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6c
Groundwater Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

							MW16	MW16	MW16	MW16	MW16	MW60	MW60	MW125A	MW126A	MW126A	MW126A	MW130_GHD	MW132_GHD
							Normal	Field_D	Field_D	Interlab_D	Interlab_D	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
							1236601	1241421	1241421	EM2512174	EM2512174	1237216	1237216	1237216	1237216	1237216	EM2511596	1232587	1232587
							MW16_FILTERED	QC107	QC107_FILTERED	QC207	QC207_FILTERED	MW60	MW60_FILTERED	MW125A	MW126A	QC108	QC208	MW130_GHD	MW132_GHD
							23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	12 Jun 2025	12 Jun 2025
Chemical Group	Unit	EQL	British Geological Survey (2024) methane screening level	Vapour Intrusion - Commercial/Industrial (CRC CARE)	Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)	Vapour Intrusion - Recreation (CRC CARE)													
Total Recoverable Hydrocarbons																			
C6-C10 fraction	µg/L	20					750	450	<20	490	400	<20	<20	<20	<20	<20	<20	2,100	560
C6-C10 fraction (minus BTEX)(F1)	µg/L	20		4,100	NL	NL	750	450	<20	490	400	<20	<20	<20	<20	<20	<20	620	280
>C10-C16 (minus Naphthalene)(F2)	µg/L	50		4,800	NL	NL	<50	260	<50	240	-	<50	<50	<50	<50	<50	<100	1,170	640
>C10-C16 fraction	µg/L	50					<50	260	<50	240	-	<50	<50	<50	<50	<50	<100	1,400	660
>C16-C34 fraction	µg/L	100					<100	<100	<100	140	-	<100	<100	<100	<100	100	140	300	200
>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100					<100	260	<100	380	-	<100	<100	<100	<100	100	140	1,700	860
Total Recoverable Hydrocarbons - Silica Gel																			
>C10-C16 fraction (Silica Gel)	µg/L	50					-	-	<50	-	<100	<50	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100					-	-	-	-	<100	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100					-	-	<100	-	<100	<100	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100					-	-	<100	-	<100	<100	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100					-	-	<100	-	<100	<100	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																			
C6-C9 fraction	µg/L	20					570	310	<20	440	350	<20	<20	<20	<20	<20	<20	1,600	500
C10-C14 fraction	µg/L	50					<50	230	<50	260	-	<50	<50	<50	<50	<50	<50	1,100	320
C15-C28 fraction	µg/L	100					<100	<100	<100	180	-	<100	<100	<100	<100	100	180	800	600
C29-C36 fraction	µg/L	50					<100	<100	<100	<50	-	<100	<100	<100	<100	100	<50	<100	<100
C10-C36 fraction (sum)	µg/L	50					<100	230	<100	440	-	<100	<100	<100	<100	200	180	1,900	920
Total Petroleum Hydrocarbons - Silica Gel																			
C10-C14 fraction (Silica Gel)	µg/L	50					-	-	<50	-	<50	<50	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100					-	-	<100	-	<100	<100	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50					-	-	<100	-	<50	<100	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50					-	-	<100	-	<50	<100	-	-	-	-	-	-	-
Petroleum Hydrocarbons Speciation																			
>C6 - C8 Aliphatic	µg/L	20					-	-	-	<20	-	<20	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20					-	-	-	<20	-	<20	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50					-	-	-	<50	-	<50	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100					-	-	-	<100	-	<100	-	-	-	-	-	-	-
>C16-C21 Aliphatic	µg/L	100					-	-	-	<100	-	<100	-	-	-	-	-	-	-
>C21-C36 Aliphatic	µg/L	100					-	-	-	<100	-	<100	-	-	-	-	-	-	-
>C5 - C7 Aromatic	µg/L	1					-	-	-	<1	-	<1	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1					-	-	-	<1	-	<1	-	-	-	-	-	-	-
>C8 - C10 Aromatic	µg/L	10					-	-	-	<10	-	<10	-	-	-	-	-	-	-
>C10 - C12 Aromatic	µg/L	50					-	-	-	<50	-	<50	-	-	-	-	-	-	-
>C12 - C16 Aromatic	µg/L	100					-	-	-	<100	-	<100	-	-	-	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1					-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1					-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																			
Benzene	µg/L	1		4,900	NL	NL	-	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	650	250
Toluene	µg/L	1		NL	NL	NL	-	<1	<1	<2	<2	<1	-	<1	<1	<1	<2	52	2
Ethylbenzene	µg/L	1		NL	NL	NL	-	<1	<1	<2	<2	<1	-	<1	<1	<1	<2	390	9
m&p-Xylene	µg/L	2					-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	110	6
o-Xylene	µg/L	1					-	<1	<1	<2	<2	<1	-	<1	<1	<1	<2	280	9
Total Xylenes	µg/L	2		NL	NL	NL	-	<3	<3	<2	<2	<3	-	<3	<3	<3	<2	<3	15
Total BTEX	µg/L	1					-	-	-	<1	<1	-	-	-	-	-	<1	-	-
Naphthalene (BTEXN)	µg/L	5					<10	<10	<10	<5	<5	<10	<10	<10	<10	<10	<5	230	20
Polynuclear Aromatic Hydrocarbons																			
Naphthalene	µg/L	1		NL	NL	NL	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1	<1.0	260	11
Hydrocarbon Gases																			
Methane	µg/L	10	1,600				-	8,300[#3]	-	3,270	-	24,000	-	10,000	20,000	14,000	5,860	1,100	1,100

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6c
Groundwater Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

							MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						LOR	1232587	1235243	1235243	1235243	1235243	1234988	1237216	1234988	1240646	1234320	1234988
							MW133_GHD	MW55	MW127A	MW122	RS6	MW36	MW101	MW102	MW128A	BG1	MW121
							12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025	24 Jun 2025	18 Jun 2025	25 Jun 2025	17 Jun 2025	18 Jun 2025
Chemical Group	Unit	EQL	British Geological Survey (2024) methane screening level	Vapour Intrusion - Commercial/Industrial (CRC CARE)	Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)	Vapour Intrusion - Recreation (CRC CARE)											
Total Recoverable Hydrocarbons																	
C6-C10 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	50	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20		4,100	NL	NL	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50		4,800	NL	NL	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100					<100	200	<100	<100	<100	100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100					<100	200	<100	<100	<100	100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																	
>C10-C16 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																	
C6-C9 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	30	<20	<20
C10-C14 fraction	µg/L	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100					<100	200	<100	<100	<100	200	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50					<100	200	<100	<100	<100	200	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																	
C10-C14 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50					-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons Speciation																	
>C6 - C8 Aliphatic	µg/L	20					-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20					-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50					-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
>C16-C21 Aliphatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
>C21-C36 Aliphatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
>C5 - C7 Aromatic	µg/L	1					-	-	-	-	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1					-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aromatic	µg/L	10					-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aromatic	µg/L	50					-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aromatic	µg/L	100					-	-	-	-	-	-	-	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1					-	-	-	-	-	-	-	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1					-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																	
Benzene	µg/L	1		4,900	NL	NL	<1	<1	<1	<1	<1	<1	2	<1	4	<1	<1
Toluene	µg/L	1		NL	NL	NL	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
Ethylbenzene	µg/L	1		NL	NL	NL	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1
m&p-Xylene	µg/L	2					5	<2	<2	<2	<2	<2	<2	<2	16	<2	<2
o-Xylene	µg/L	1					1	<1	<1	<1	<1	<1	<1	<1	8	<1	<1
Total Xylenes	µg/L	2		NL	NL	NL	6	<3	<3	<3	<3	<3	<3	<3	24	<3	<3
Total BTEX	µg/L	1					-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Polynuclear Aromatic Hydrocarbons																	
Naphthalene	µg/L	1		NL	NL	NL	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hydrocarbon Gases																	
Methane	µg/L	10	1,600				6,000	16,000	24,000	50	3,900	<50	150	<50	<50	<50	<50

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6c
Groundwater Analytical Results - Tier 1 Assessment Criteria - Vapour Intrusion

							NR1	RN2	MW178	MW179	MW180	MW159	MW159	MW160	MW161	MW161
							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						L	1234320	1234988	1234320	1234320	1234988	1235189	1235189	1234320	1235243	1235243
							NR1	RN2	MW178	MW179	MW180	MW159	MW159_FILTERED	MW160	MW161	MW161_FILTERED
							17 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025	18 Jun 2025	20 Jun 2025	20 Jun 2025	17 Jun 2025	19 Jun 2025	19 Jun 2025
Chemical Group	Unit	EQL	British Geological Survey (2024) methane screening level	Vapour Intrusion - Commercial/Industrial (CRC CARE)	Vapour Intrusion - Intrusive Maintenance Worker (CRC CARE)	Vapour Intrusion - Recreation (CRC CARE)										
Total Recoverable Hydrocarbons																
C6-C10 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20		4,100	NL	NL	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50		4,800	NL	NL	790	170	<50	130	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50					790	170	<50	130	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100					1,400	400	<100	500	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100					2,190	570	<100	630	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																
>C10-C16 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	<50	-	-	<50	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100					-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
>C34-C40 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
Total Petroleum Hydrocarbons																
C6-C9 fraction	µg/L	20					<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50					310	60	<50	50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100					1,800	500	<100	600	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50					2,110	560	<100	650	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																
C10-C14 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	<50	-	-	<50	-
C15-C28 fraction (Silica Gel)	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
C29-C36 fraction (Silica Gel)	µg/L	50					-	-	-	-	-	<100	-	-	<100	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50					-	-	-	-	-	<100	-	-	<100	-
Petroleum Hydrocarbons Speciation																
>C6 - C8 Aliphatic	µg/L	20					-	-	-	-	-	<20	-	-	<20	-
>C8 - C10 Aliphatic	µg/L	20					-	-	-	-	-	<20	-	-	<20	-
>C10 - C12 Aliphatic	µg/L	50					-	-	-	-	-	<50	-	-	<50	-
>C12 - C16 Aliphatic	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
>C16-C21 Aliphatic	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
>C21-C36 Aliphatic	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
>C5 - C7 Aromatic	µg/L	1					-	-	-	-	-	<1	-	-	<1	-
>C7 - C8 Aromatic Toluene	µg/L	1					-	-	-	-	-	<1	-	-	<1	-
>C8 - C10 Aromatic	µg/L	10					-	-	-	-	-	<10	-	-	<10	-
>C10 - C12 Aromatic	µg/L	50					-	-	-	-	-	<50	-	-	<50	-
>C12 - C16 Aromatic	µg/L	100					-	-	-	-	-	<100	-	-	<100	-
> C16-C21 Aromatic	mg/L	0.1					-	-	-	-	-	<0.1	-	-	<0.1	-
> C21-C35 Aromatic	mg/L	0.1					-	-	-	-	-	<0.1	-	-	<0.1	-
Monocyclic Aromatic Hydrocarbons																
Benzene	µg/L	1		4,900	NL	NL	<1	<1	<1	<1	<1	<1	-	<1	<1	-
Toluene	µg/L	1		NL	NL	NL	<1	<1	<1	<1	<1	<1	-	<1	<1	-
Ethylbenzene	µg/L	1		NL	NL	NL	<1	<1	<1	<1	<1	<1	-	<1	<1	-
m&p-Xylene	µg/L	2					<2	<2	<2	<2	<2	<2	-	<2	<2	-
o-Xylene	µg/L	1					<1	<1	<1	<1	<1	<1	-	<1	<1	-
Total Xylenes	µg/L	2		NL	NL	NL	<3	<3	<3	<3	<3	<3	-	<3	<3	-
Total BTEX	µg/L	1					-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Polynuclear Aromatic Hydrocarbons																
Naphthalene	µg/L	1		NL	NL	NL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hydrocarbon Gases																
Methane	µg/L	10	1,600				150	14,000	470	<50	<50	<50	-	<50	<50	-

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6d
Groundwater Analytical Results - Remediation Criteria

Chemical Group	Unit	EQL	Potential Future Comm (uknown constr or multi-storey bldg)	Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm_Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (bldg with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr, or multi-storey bldg)	MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167	MW167	MW173
Location Code											MW120A	MW148	MW150	MW151	MW151	MW152	MW153	MW155	MW155	MW164	MW164	MW167	MW167	MW173
Sample Type											Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number											1240646	1235243	1232587	1235243	1235243	1235243	1232587	1235243	1235243	1236601	1236601	1235189	1235189	1234988
Field ID											MW120A	MW148	MW150	MW151	MW151_FILTERED	MW152	MW153	MW155	MW155_FILTERED	MW164	MW164_FILTERED	MW167	MW167_FILTERED	MW173
Date											25 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	23 Jun 2025	23 Jun 2025	20 Jun 2025	20 Jun 2025	18 Jun 2025
Total Recoverable Hydrocarbons																								
C6-C10 fraction	µg/L	20									280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	NL	NL	79,000	NL	NL	*NL*	30,000	30,000	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	260	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50									290	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100									290	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																								
>C10-C16 fraction (Silica Gel)	µg/L	50									-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
Total Petroleum Hydrocarbons																								
C6-C9 fraction	µg/L	20									280	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50									300	<50	<50	<50	<50	60	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 fraction	µg/L	50									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50									300	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																								
C10-C14 fraction (Silica Gel)	µg/L	50									-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-
C15-C28 fraction (Silica Gel)	µg/L	100									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
C29-C36 fraction (Silica Gel)	µg/L	50									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
Petroleum Hydrocarbon Speciation																								
>C6 - C8 Aliphatic	µg/L	20	NL	NL	16,000,000	NL	NL	*NL*	NL	NL	-	-	-	<20	-	-	-	<20	-	<20	-	<20	-	-
>C8 - C10 Aliphatic	µg/L	20	NL	NL	79,000	NL	NL	*NL*	NL	NL	-	-	-	<20	-	-	-	<20	-	<20	-	<20	-	-
>C10 - C12 Aliphatic	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-
>C12 - C16 Aliphatic	µg/L	100	NL	NL	67,000	NL	NL	*NL*	NL	NL	-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
>C16-C21 Aliphatic	µg/L	100									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
>C21-C36 Aliphatic	µg/L	100									-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
>C5 - C7 Aromatic	µg/L	1									-	-	-	<1	-	-	-	<1	-	<1	-	<1	-	-
>C7 - C8 Aromatic Toluene	µg/L	1									-	-	-	<1	-	-	-	<1	-	<1	-	<1	-	-
>C8 - C10 Aromatic	µg/L	10	NL	NL	360,000	NL	NL	*NL*	30,000	30,000	-	-	-	<10	-	-	-	<10	-	<10	-	<10	-	-
>C10 - C12 Aromatic	µg/L	50	NL	NL	190,000	NL	NL	*NL*	NL	NL	-	-	-	<50	-	-	-	<50	-	<50	-	<50	-	-
>C12 - C16 Aromatic	µg/L	100	NL	NL	160,000	NL	NL	*NL*	NL	NL	-	-	-	<100	-	-	-	<100	-	<100	-	<100	-	-
> C16-C21 Aromatic	mg/L	0.1									-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-
> C21-C35 Aromatic	mg/L	0.1									-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	-	-
Monocyclic Aromatic Hydrocarbons																								
Benzene	µg/L	1	5,000	9,000	5,000	NL	NL	*6,000*	800	800	170	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1
Toluene	µg/L	1	NL	NL	5,500,000	NL	NL	*NL*	NL	NL	59	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1
Ethylbenzene	µg/L	1	NL	NL	1,600,000	NL	NL	*NL*	NL	NL	<5[#1]	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1
m&p-Xylene	µg/L	2									<10[#1]	<2	<2	<2	-	5	<2	<2	-	<2	-	<2	-	<2
o-Xylene	µg/L	1									13	<1	<1	<1	-	<1	<1	<1	-	<1	-	<1	-	<1
Total Xylenes	µg/L	2	NL	NL	2,800,000	NL	NL	*NL*	NL	NL	13	<3	<3	<3	-	5	<3	<3	-	<3	-	<3	-	<3
Total BTEX	µg/L	1									-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5									30	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases																								
Methane	µg/L	10									<50	50	19,000	9,200	-	14,000	360	18,000	-	3,600	-	<50	-	<50
Polynuclear Aromatic Hydrocarbons																								
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5									-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1	12,000	28,000	6,000	NL	NL	*7,000*	3,000	2,000	2	<1	<1	<1	<1	2	<1	3	4	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1									<1	<1	3	4	3	13	<1	2	2	<1	<1	<1	<1	<1
Anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1									<1	<1	2	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1									<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5			50						<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5									2	<1	5	4	3	21	<1	5	6	4	<1	<1	<1	<1
Phenolic Compounds																								
3/4-Methylphenol (m/p-cresol)	µg/L	2									<6	<6	<6	<6	-	<6	<6	<6	-	<6	-	<6	-	<6
Phenol	µg/L	1									<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3
2-Chlorophenol	µg/L	1									<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3
2-Methylphenol (o-Cresol)	µg/L	1			4,300,000						<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3
Total Cresols	µg/L	10									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
2-Nitrophenol	µg/L	1									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
2,4-Dichlorophenol	µg/L	1									<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3
2,4-Dimethylphenol	µg/L	1			1,300,000						26	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3
2,6-Dichlorophenol	µg/L	1									<3	<3	<3	<3	-	<3	<3	<3	-	<3	-	<3	-	<3
4-Chloro-3-methylphenol	µg/L	1									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
2,4,6-Trichlorophenol	µg/L	1									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
2,4,5-Trichlorophenol	µg/L	1									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
4,6-Dinitro-2-methylphenol	µg/L	30									<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30
Pentachlorophenol	µg/L	2									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
2,4-Dinitrophenol	µg/L	30									<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100									<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100
4-Nitrophenol	µg/L	30									<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30
Dinoseb	µg/L	100									<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100
Tetrachlorophenols	µg/L	30									<30	<30	<30	<30	-	<30	<30	<30	-	<30	-	<30	-	<30
Sum of Phenols (halogenated)	µg/L	10									<10	<10	<10	<10	-	<10	<10	<10	-	<10	-	<10	-	<10
Sum of Phenols (non-halogenated)	µg/L	100									<100	<100	<100	<100	-	<100	<100	<100	-	<100	-	<100	-	<100

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6d
Groundwater Analytical Results - Remediation Criteria

Chemical Group	Unit	EQL	Potential Future Comm (uknown constr or multi-storey bldg)	Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm_Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (bldg with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr, or multi-storey bldg)
Location Code			MW182	MW183	MW184	MW186	MW186	MW186	MW188	MW189
Sample Type			Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
Lab Report Number			1234320	1234320	1234988	1240646	1240646	EM2512123	1237216	1234988
Field ID			MW182	MW183	MW184	MW186	QC110	QC210	MW188	MW189
Date			17 Jun 2025	17 Jun 2025	18 Jun 2025	25 Jun 2025	25 Jun 2025	25 Jun 2025	24 Jun 2025	18 Jun 2025
Total Recoverable Hydrocarbons										
C6-C10 fraction	µg/L	20								
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	NL	NL	79,000	NL	NL	*NL*	30,000	30,000
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL
>C10-C16 fraction	µg/L	50								
>C16-C34 fraction	µg/L	100								
>C34-C40 fraction	µg/L	100								
>C10-C40 fraction (sum)	µg/L	100								
Total Recoverable Hydrocarbons - Silica Gel										
>C10-C16 fraction (Silica Gel)	µg/L	50								
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100								
>C16-C34 fraction (Silica Gel)	µg/L	100								
>C34-C40 fraction (Silica Gel)	µg/L	100								
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100								
Total Petroleum Hydrocarbons										
C6-C9 fraction	µg/L	20								
C10-C14 fraction	µg/L	50								
C15-C28 fraction	µg/L	100								
C29-C36 fraction	µg/L	50								
C10-C36 fraction (sum)	µg/L	50								
Total Petroleum Hydrocarbons - Silica Gel										
C10-C14 fraction (Silica Gel)	µg/L	50								
C15-C28 fraction (Silica Gel)	µg/L	100								
C29-C36 fraction (Silica Gel)	µg/L	50								
C10-C36 fraction (sum)(Silica Gel)	µg/L	50								
Petroleum Hydrocarbon Speciation										
>C6 - C8 Aliphatic	µg/L	20	NL	NL	16,000,000	NL	NL	*NL*	NL	NL
>C8 - C10 Aliphatic	µg/L	20	NL	NL	79,000	NL	NL	*NL*	NL	NL
>C10 - C12 Aliphatic	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL
>C12 - C16 Aliphatic	µg/L	100	NL	NL	67,000	NL	NL	*NL*	NL	NL
>C16-C21 Aliphatic	µg/L	100								
>C21-C36 Aliphatic	µg/L	100								
>C5 - C7 Aromatic	µg/L	1								
>C7 - C8 Aromatic Toluene	µg/L	1								
>C8 - C10 Aromatic	µg/L	10	NL	NL	360,000	NL	NL	*NL*	30,000	30,000
>C10 - C12 Aromatic	µg/L	50	NL	NL	190,000	NL	NL	*NL*	NL	NL
>C12 - C16 Aromatic	µg/L	100	NL	NL	160,000	NL	NL	*NL*	NL	NL
> C16-C21 Aromatic	mg/L	0.1								
> C21-C35 Aromatic	mg/L	0.1								
Monocyclic Aromatic Hydrocarbons										
Benzene	µg/L	1	5,000	9,000	5,000	NL	NL	*6,000*	800	800
Toluene	µg/L	1	NL	NL	5,500,000	NL	NL	*NL*	NL	NL
Ethylbenzene	µg/L	1	NL	NL	1,600,000	NL	NL	*NL*	NL	NL
m&p-Xylene	µg/L	2								
o-Xylene	µg/L	1								
Total Xylenes	µg/L	2	NL	NL	2,800,000	NL	NL	*NL*	NL	NL
Total BTEX	µg/L	1								
Naphthalene (BTEXN)	µg/L	5								
Hydrocarbon Gases										
Methane	µg/L	10								
Polynuclear Aromatic Hydrocarbons										
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5								
Naphthalene	µg/L	1	12,000	28,000	6,000	NL	NL	*7,000*	3,000	2,000
Acenaphthylene	µg/L	1								
Acenaphthene	µg/L	1								
Anthracene	µg/L	1								
Fluorene	µg/L	1								
Phenanthrene	µg/L	1								
Fluoranthene	µg/L	1								
Benz(a)anthracene	µg/L	1								
Benzo(k)fluoranthene	µg/L	1								
Benzo(b&j)fluoranthene	µg/L	1								
Benzo(a)pyrene	µg/L	0.5			50					
Chrysene	µg/L	1								
Pyrene	µg/L	1								
Benzo(g,h,i)perylene	µg/L	1								
Dibenz(a,h)anthracene	µg/L	1								
Indeno(1,2,3-cd)pyrene	µg/L	1								
Sum of PAHs	µg/L	0.5								
Phenolic Compounds										
3/4-Methylphenol (m/p-cresol)	µg/L	2								
Phenol	µg/L	1								
2-Chlorophenol	µg/L	1								
2-Methylphenol (o-Cresol)	µg/L	1			4,300,000					
Total Cresols	µg/L	10								
2-Nitrophenol	µg/L	1								
2,4-Dichlorophenol	µg/L	1								
2,4-Dimethylphenol	µg/L	1			1,300,000					
2,6-Dichlorophenol	µg/L	1								
4-Chloro-3-methylphenol	µg/L	1								
2,4,6-Trichlorophenol	µg/L	1								
2,4,5-Trichlorophenol	µg/L	1								
4,6-Dinitro-2-methylphenol	µg/L	30								
Pentachlorophenol	µg/L	2								
2,4-Dinitrophenol	µg/L	30								
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100								
4-Nitrophenol	µg/L	30								
Dinoseb	µg/L	100								
Tetrachlorophenols	µg/L	30								
Sum of Phenols (halogenated)	µg/L	10								
Sum of Phenols (non-halogenated)	µg/L	100								

Chemical Group	MW189	MW190	MW191	MW192	MW193	MW193	MW193	MW194	MW196
Location Code	MW189	MW190	MW191	MW192	MW193	MW193	MW193	MW194	MW196
Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal
Lab Report Number	1234988	1234320	1234988	1234988	1237216	1237216	EM2511596	1234320	1240646
Field ID	MW189	MW190	MW191	MW192	MW193	QC109	QC209	MW194	MW196
Date	18 Jun 2025	17 Jun 2025	18 Jun 2025	18 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	17 Jun 2025	25 Jun 2025
Total Recoverable Hydrocarbons									
C6-C10 fraction	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	<50	260	210	160	150	<50	330	<50	<50	<50	<50	<50	<100	<50	<50
>C10-C16 fraction	<50	260	210	160	150	<50	330	<50	<50	<50	<50	<50	<100	<50	<50
>C16-C34 fraction	<100	500	300	200	180	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40 fraction	<100	<100	300	200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	<100	760	810	560	330	<100	330	<100	<100	<100	<100	<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel									
>C10-C16 fraction (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons									
C6-C9 fraction	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	<50	90	80	60	80	<50	140	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 fraction	<100	700	400	300	230	<100	200	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 fraction	<100	<100	100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<50	<100	<100
C10-C36 fraction (sum)	<100	790	580	360	310	<100	340	<100	<100	<100	<100	<100	<50	<100	<100
Total Petroleum Hydrocarbons - Silica Gel									
C10-C14 fraction (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbon Speciation									
>C6 - C8 Aliphatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21 Aliphatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C36 Aliphatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C5 - C7 Aromatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aromatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aromatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aromatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C16-C21 Aromatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> C21-C35 Aromatic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons									
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1
Toluene	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1
Ethylbenzene	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1
m&p-Xylene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1
Total Xylenes	<3	<3	<3	<3	<2	<3	<3	<3	<3	<3	<3	<3	<2	<3	<3
Total BTEX	-	-	-	-	<1	-	-	-	-	-	-	-	<1	-	-
Naphthalene (BTEXN)	<10	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<5	<10	<10
Hydrocarbon Gases									
Methane	<50	360	390	110	90	59	20,000	<50	<50	<50	18,000	17,000	16,000	3,550	<50	240
Polynuclear Aromatic Hydrocarbons									
Benzo(a)pyrene TEQ calc (Zero)	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	-	-
Naphthalene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Acenaphthylene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Acenaphthene	<1	<1	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1.0	<1	<1
Anthracene	<1	<1	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1.0	<1	<1
Fluorene	<1	<1	<1	<1	<1	<1.0	1	<1	<1	<1	<1	<1	<1.0	<1	<1
Phenanthrene	<1	<1	<1	<1	<1	<1.0	2	<1	<1	<1	<1	<1	<1.0	<1	<1
Fluoranthene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Benz(a)anthracene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Benzo(k)fluoranthene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Benzo(b&j)fluoranthene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Benzo(a)pyrene	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5	<1	<1
Chrysene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Pyrene	<1	<1	<1	<1	<1	<1.0	<1	<1	3	<1	<1	<1	<1.0	<1	<1
Benzo(g,h,i)perylene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Dibenz(a,h)anthracene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Indeno(1,2,3-cd)pyrene	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1.0	<1	<1
Sum of PAHs	<1	<1	<1	<1	<1	<0.5	7	<1	3	<1	<1	<1	<0.5	<1	<1
Phenolic Compounds									
3/4-Methylphenol (m/p-cresol)	<6	<6	<6	<6	<6	<2.0	<6	<6	<6	<6	<6	<6	<2.0	<6	<6
Phenol	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<1.0	<3	<3
2-Chlorophenol	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<1.0	<3	<3
2-Methylphenol (o-Cresol)	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<1.0	<3	<3
Total Cresols	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	<10
2-Nitrophenol	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<1.0	<10	<10
2,4-Dichlorophenol	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<1.0	<3	<3
2,4-Dimethylphenol	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<1.0	<3	<3
2,6-Dichlorophenol	<3	<3	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<1.0	<3	<3
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<1.0	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<1.0	<10	<10
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<1.0	<10	<10
4,6-Dinitro-2-methylphenol	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	<30
Pentachlorophenol	<10	<10	<10	<10	<10	<2.0	<10	<10	<10	<10	<10	<10	<2.0	<10	<10
2,4-Dinitrophenol	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	<100
4-Nitrophenol	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	<30
Dinoseb	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	<100
Tetrachlorophenols	<30	<30	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	<30
Sum of Phenols (halogenated)	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	<10
Sum of Phenols (non-halogenated)	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	<100

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6d
Groundwater Analytical Results - Remediation Criteria

Chemical Group	Unit	EQL	Potential Future Comm (uknown constr or multi-storey bldg)	Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm_Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (bldg with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr, or multi-storey bldg)	MW197	MW198	NR2A	NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16
Location Code											MW197	MW198	NR2A	NR2A	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16	MW16	MW16	MW16
Sample Type											Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D	Interlab_D
Lab Report Number											1240646	1240646	1235189	1235189	1234320	1232587	1235243	1234988	1236601	1236601	1236601	1241421	1241421	EM2512174
Field ID											MW197	MW198	NR2A	NR2A_FILTERED	TW02	MW123A	BH2_PS	RN4	MW6	MW16	MW16_FILTERED	QC107	QC107_FILTERED	QC207
Date											25 Jun 2025	25 Jun 2025	20 Jun 2025	20 Jun 2025	17 Jun 2025	12 Jun 2025	19 Jun 2025	18 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025	23 Jun 2025
Total Recoverable Hydrocarbons																								
C6-C10 fraction	µg/L	20									260	<20	<20	<20	<20	<20	<20	<20	<20	670	750	450	<20	490
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	NL	NL	79,000	NL	NL	*NL*	30,000	30,000	50	<20	<20	<20	<20	<20	<20	<20	<20	670	750	450	<20	490
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	7,250	<21	<50	<50	<50	<50	<50	<50	110	<50	<50	<50	260	<50	240
>C10-C16 fraction	µg/L	50									7,600	<22	<50	<50	<50	<50	<50	<50	110	<50	<50	<50	260	<50	240
>C16-C34 fraction	µg/L	100									1,900	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	140
>C34-C40 fraction	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100									9,500	<100	<100	<100	<100	<100	<100	<100	110	<100	<100	<100	260	<100	380
Total Recoverable Hydrocarbons - Silica Gel																								
>C10-C16 fraction (Silica Gel)	µg/L	50									-	-	<50	-	-	-	-	-	<50	<50	-	-	<50	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
>C34-C40 fraction (Silica Gel)	µg/L	100									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
Total Petroleum Hydrocarbons																								
C6-C9 fraction	µg/L	20									250	<20	<20	<20	<20	<20	<20	<20	<20	490	570	310	<20	440
C10-C14 fraction	µg/L	50									8,200	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	230	<50	260
C15-C28 fraction	µg/L	100									3,200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	180
C29-C36 fraction	µg/L	50									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50
C10-C36 fraction (sum)	µg/L	50									11,400	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	230	<100	440
Total Petroleum Hydrocarbons - Silica Gel																								
C10-C14 fraction (Silica Gel)	µg/L	50									-	-	<50	-	-	-	-	-	<50	<50	-	-	<50	-
C15-C28 fraction (Silica Gel)	µg/L	100									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
C29-C36 fraction (Silica Gel)	µg/L	50									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
Petroleum Hydrocarbon Speciation																								
>C6 - C8 Aliphatic	µg/L	20	NL	NL	16,000,000	NL	NL	*NL*	NL	NL	-	-	<20	-	-	-	-	-	<20	440	-	-	<20	-
>C8 - C10 Aliphatic	µg/L	20	NL	NL	79,000	NL	NL	*NL*	NL	NL	-	-	<20	-	-	-	-	-	<20	170	-	-	<20	-
>C10 - C12 Aliphatic	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	-	-	<50	-	-	-	-	-	<50	<50	-	-	<50	-
>C12 - C16 Aliphatic	µg/L	100	NL	NL	67,000	NL	NL	*NL*	NL	NL	-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
>C16-C21 Aliphatic	µg/L	100									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
>C21-C36 Aliphatic	µg/L	100									-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
>C5 - C7 Aromatic	µg/L	1									-	-	<1	-	-	-	-	-	<1	<1	-	-	<1	-
>C7 - C8 Aromatic Toluene	µg/L	1									-	-	<1	-	-	-	-	-	<1	1	-	-	<1	-
>C8 - C10 Aromatic	µg/L	10	NL	NL	360,000	NL	NL	*NL*	30,000	30,000	-	-	<10	-	-	-	-	-	<10	50	-	-	<10	-
>C10 - C12 Aromatic	µg/L	50	NL	NL	190,000	NL	NL	*NL*	NL	NL	-	-	<50	-	-	-	-	-	<50	<50	-	-	<50	-
>C12 - C16 Aromatic	µg/L	100	NL	NL	160,000	NL	NL	*NL*	NL	NL	-	-	<100	-	-	-	-	-	<100	<100	-	-	<100	-
> C16-C21 Aromatic	mg/L	0.1									-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	<0.1	-
> C21-C35 Aromatic	mg/L	0.1									-	-	<0.1	-	-	-	-	-	<0.1	<0.1	-	-	<0.1	-
Monocyclic Aromatic Hydrocarbons																								
Benzene	µg/L	1	5,000	9,000	5,000	NL	NL	*6,000*	800	800	120	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
Toluene	µg/L	1	NL	NL	5,500,000	NL	NL	*NL*	NL	NL	52	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<2
Ethylbenzene	µg/L	1	NL	NL	1,600,000	NL	NL	*NL*	NL	NL	<5[#1]	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<2
m&p-Xylene	µg/L	2									24	<2	<2	-	<2	<2	<2	<2	<2	<2	-	<2	<2	<2
o-Xylene	µg/L	1									19	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<2
Total Xylenes	µg/L	2	NL	NL	2,800,000	NL	NL	*NL*	NL	NL	43	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	<3	<2
Total BTEX	µg/L	1									-	-	-	-	-	-	-	-	-	-	-	-	-	<1
Naphthalene (BTEXN)	µg/L	5									350	<10	<10	<10	60	<10	<10	<10	<10	<10	<10	<10	<10	<5
Hydrocarbon Gases																								
Methane	µg/L	10									500	<50	1,500	-	5,400	<50	<50	9,500	17,000	13,000	-	8,300[#3]	-	3,270
Polynuclear Aromatic Hydrocarbons																								
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5									-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
Naphthalene	µg/L	1	12,000	28,000	6,000	NL	NL	*7,000*	3,000	2,000	490	3	<1	<1	48	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Acenaphthylene	µg/L	1									23	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Acenaphthene	µg/L	1									18	<1	2	3	9	<1	<1	<1	2	2	2	<1	<1	<1.0
Anthracene	µg/L	1									3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Fluorene	µg/L	1									15	<1	4	7	4	<1	<1	<1	<1	2	2	<1	<1	<1.0
Phenanthrene	µg/L	1									10	<1	<1	<1	7	<1	<1	<1	2	2	2	<1	<1	<1.0
Fluoranthene	µg/L	1									2	<1	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Benz(a)anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Benzo(k)fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Benzo(b&j)fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Benzo(a)pyrene	µg/L	0.5			50						<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
Chrysene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Pyrene	µg/L	1									2	<1	2	2	<1	<1	<1	<1	2	<1	<1	<1	<1	<1.0
Benzo(g,h,i)perylene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Dibenz(a,h)anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Indeno(1,2,3-cd)pyrene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0
Sum of PAHs	µg/L	0.5									560	3	10	14	68	<1	<1	<1	6	6	6	<1	<1	<0.5
Phenolic Compounds																								
3/4-Methylphenol (m/p-cresol)	µg/L	2									530	<6	<6	-	<6	<6	<6	<6	<6	<6	-	<6	-	<2.0
Phenol	µg/L	1									600	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0
2-Chlorophenol	µg/L	1									<3	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0
2-Methylphenol (o-Cresol)	µg/L	1			4,300,000						1,700	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0
Total Cresols	µg/L	10									2,200	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	-
2-Nitrophenol	µg/L	1									<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0
2,4-Dichlorophenol	µg/L	1									<3	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0
2,4-Dimethylphenol	µg/L	1			1,300,000						1,100	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0
2,6-Dichlorophenol	µg/L	1									<3	<3	<3	-	<3	<3	<3	<3	<3	<3	-	<3	-	<1.0
4-Chloro-3-methylphenol	µg/L	1									<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0
2,4,6-Trichlorophenol	µg/L	1									<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0
2,4,5-Trichlorophenol	µg/L	1									<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	<1.0
4,6-Dinitro-2-methylphenol	µg/L	30									<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	-	-
Pentachlorophenol	µg/L	2									<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	<2.0
2,4-Dinitrophenol	µg/L	30									<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	-	-
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100									<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	-	-
4-Nitrophenol	µg/L	30									<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	-	-
Dinoseb	µg/L	100									<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	-	-
Tetrachlorophenols	µg/L	30									<30	<30	<30	-	<30	<30	<30	<30	<30	<30	-	<30	-	-
Sum of Phenols (halogenated)	µg/L	10									<10	<10	<10	-	<10	<10	<10	<10	<10	<10	-	<10	-	-
Sum of Phenols (non-halogenated)	µg/L	100									3,900	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	-	-

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6d
Groundwater Analytical Results - Remediation Criteria

Location Code	MW16	MW60	MW60	MW125A	MW126A	MW126A	MW126A	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36
Sample Type	Interlab_D	Normal	Normal	Normal	Normal	Field_D	Interlab_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number	EM2512174	1237216	1237216	1237216	1237216	1237216	EM2511596	1232587	1232587	1232587	1235243	1235243	1235243	1235243	1234988
Field ID	QC207_FILTERED	MW60	MW60_FILTERED	MW125A	MW126A	QC108	QC208	MW130_GHD	MW132_GHD	MW133_GHD	MW55	MW127A	MW122	RS6	MW36
Date	23 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	12 Jun 2025	12 Jun 2025	12 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	19 Jun 2025	18 Jun 2025

Chemical Group	Unit	EQL	Potential Future Comm (uknown constr or multi-storey bldg)	Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm_Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (bldg with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr, or multi-storey bldg)																
Total Recoverable Hydrocarbons																										
C6-C10 fraction	µg/L	20									400	<20	<20	<20	<20	<20	<20	2,100	560	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	NL	NL	79,000	NL	NL	*NL*	30,000	30,000	400	<20	<20	<20	<20	<20	<20	620	280	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	-	<50	<50	<50	<50	<50	<50	1,170	640	<50	<50	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50									-	<50	<50	<50	<50	<50	<100	1,400	660	<50	<50	<50	<50	<50	<50
>C16-C34 fraction	µg/L	100									-	<100	<100	<100	<100	100	140	300	200	<100	200	<100	<100	<100	100
>C34-C40 fraction	µg/L	100									-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100									-	<100	<100	<100	<100	100	140	1,700	860	<100	200	<100	<100	<100	100
Total Recoverable Hydrocarbons - Silica Gel																										
>C10-C16 fraction (Silica Gel)	µg/L	50									<100	<50	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100									<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100									<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
>C34-C40 fraction (Silica Gel)	µg/L	100									<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100									<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																										
C6-C9 fraction	µg/L	20									350	<20	<20	<20	<20	<20	<20	1,600	500	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50									-	<50	<50	<50	<50	<50	<50	1,100	320	<50	<50	<50	<50	<50	<50
C15-C28 fraction	µg/L	100									-	<100	<100	<100	<100	100	180	800	600	<100	200	<100	<100	<100	200
C29-C36 fraction	µg/L	50									-	<100	<100	<100	<100	100	<50	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50									-	<100	<100	<100	<100	200	180	1,900	920	<100	200	<100	<100	<100	200
Total Petroleum Hydrocarbons - Silica Gel																										
C10-C14 fraction (Silica Gel)	µg/L	50									<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28 fraction (Silica Gel)	µg/L	100									<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36 fraction (Silica Gel)	µg/L	50									<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50									<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Petroleum Hydrocarbon Speciation																										
>C6 - C8 Aliphatic	µg/L	20	NL	NL	16,000,000	NL	NL	*NL*	NL	NL	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aliphatic	µg/L	20	NL	NL	79,000	NL	NL	*NL*	NL	NL	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aliphatic	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aliphatic	µg/L	100	NL	NL	67,000	NL	NL	*NL*	NL	NL	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
>C16-C21 Aliphatic	µg/L	100									-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
>C21-C36 Aliphatic	µg/L	100									-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
>C5 - C7 Aromatic	µg/L	1									-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
>C7 - C8 Aromatic Toluene	µg/L	1									-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
>C8 - C10 Aromatic	µg/L	10	NL	NL	360,000	NL	NL	*NL*	30,000	30,000	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-
>C10 - C12 Aromatic	µg/L	50	NL	NL	190,000	NL	NL	*NL*	NL	NL	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-
>C12 - C16 Aromatic	µg/L	100	NL	NL	160,000	NL	NL	*NL*	NL	NL	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
> C16-C21 Aromatic	mg/L	0.1									-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
> C21-C35 Aromatic	mg/L	0.1									-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Monocyclic Aromatic Hydrocarbons																										
Benzene	µg/L	1	5,000	9,000	5,000	NL	NL	*6,000*	800	800	<1	<1	-	<1	<1	<1	<1	650	250	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1	NL	NL	5,500,000	NL	NL	*NL*	NL	NL	<2	<1	-	<1	<1	<1	<2	52	2	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	1	NL	NL	1,600,000	NL	NL	*NL*	NL	NL	<2	<1	-	<1	<1	<1	<2	390	9	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	2									<2	<2	-	<2	<2	<2	<2	110	6	5	<2	<2	<2	<2	<2
o-Xylene	µg/L	1									<2	<1	-	<1	<1	<1	<2	280	9	1	<1	<1	<1	<1	<1
Total Xylenes	µg/L	2	NL	NL	2,800,000	NL	NL	*NL*	NL	NL	<2	<3	-	<3	<3	<3	<2	<3	15	6	<3	<3	<3	<3	<3
Total BTEX	µg/L	1									<1	-	-	-	-	-	<1	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5									<5	<10	<10	<10	<10	<10	<5	230	20	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases																										
Methane	µg/L	10									-	24,000	-	10,000	20,000	14,000	5,860	1,100	1,100	6,000	16,000	24,000	50	3,900	<50
Polynuclear Aromatic Hydrocarbons																										
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5									<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1	12,000	28,000	6,000	NL	NL	*7,000*	3,000	2,000	<1.0	<1	<1	<1	<1	<1	<1.0	260	11	4	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	3	8	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1									<1.0	<1	<1	2	10	15	17.7	46	57	36	<1	<1	<1	<1	<1
Anthracene	µg/L	1									<1.0	<1	<1	2	11	15	4.0	3	6	7	<1	<1	<1	<1	<1
Fluorene	µg/L	1									<1.0	<1	<1	1	8	10	12.9	11	33	15	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1									<1.0	<1	<1	2	13	21	29.4	14	<1	18	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1									<1.0	<1	<1	2	3	5	4.7	2	2	3	<1	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5			50						<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1									<1.0	<1	<1	1	2	2	3.4	2	2	2	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1									<1.0	<1	<1	<1	<1	<1	<1.0	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5									<0.5	<1	<1	10	47	68	72.1	340	120	85	<1	<1	<1	<1	<1
Phenolic Compounds																										
3/4-Methylphenol (m/p-cresol)	µg/L	2									-	<6	-	<6	<6	<6	<2.0	<6	<6	<6	<6	<6	<6	<6	<6
Phenol	µg/L	1									-	<3	-	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3
2-Chlorophenol	µg/L	1									-	<3	-	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1			4,300,000						-	<3	-	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3
Total Cresols	µg/L	10									-	<10	-	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	µg/L	1									-	<10	-	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	1									-	<3	-	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3
2,4-Dimethylphenol	µg/L	1			1,300,000						-	<3	-	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3
2,6-Dichlorophenol	µg/L	1									-	<3	-	<3	<3	<3	<1.0	<3	<3	<3	<3	<3	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1									-	<10	-	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1									-	<10	-	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1									-	<10	-	<10	<10	<10	<1.0	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30									-	<30	-	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	<30
Pentachlorophenol	µg/L	2									-	<10	-	<10	<10	<10	<2.0	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	30									-	<30	-	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100									-	<100	-	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	30									-	<30	-	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	<30
Dinoseb	µg/L	100									-	<100	-	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100
Tetrachlorophenols	µg/L	30									-	<30	-	<30	<30	<30	-	<30	<30	<30	<30	<30	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10									-	<10	-	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100									-	<100	-	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6d
Groundwater Analytical Results - Remediation Criteria

Chemical Group	Unit	EQL	Potential Future Comm (uknown constr or multi-storey bldg)	Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm_Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (bldg with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr, or multi-storey bldg)	MW101	MW102	MW128A	BG1	MW121	NR1	RN2	MW178	MW179	MW180	MW159
Location Code											MW101	MW102	MW128A	BG1	MW121	NR1	RN2	MW178	MW179	MW180	MW159
Sample Type											Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number											1237216	1234988	1240646	1234320	1234988	1234320	1234988	1234320	1234320	1234988	1235189
Field ID											MW101	MW102	MW128A	BG1	MW121	NR1	RN2	MW178	MW179	MW180	MW159
Date											24 Jun 2025	18 Jun 2025	25 Jun 2025	17 Jun 2025	18 Jun 2025	17 Jun 2025	18 Jun 2025	17 Jun 2025	17 Jun 2025	18 Jun 2025	20 Jun 2025
Total Recoverable Hydrocarbons																					
C6-C10 fraction	µg/L	20									<20	<20	50	<20	<20	<20	<20	<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	NL	NL	79,000	NL	NL	*NL*	30,000	30,000	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	<50	<50	<50	<50	<50	790	170	<50	130	<50	<50
>C10-C16 fraction	µg/L	50									<50	<50	<50	<50	<50	790	170	<50	130	<50	<50
>C16-C34 fraction	µg/L	100									<100	<100	<100	<100	<100	1,400	400	<100	500	<100	<100
>C34-C40 fraction	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100									<100	<100	<100	<100	<100	2,190	570	<100	630	<100	<100
Total Recoverable Hydrocarbons - Silica Gel																					
>C10-C16 fraction (Silica Gel)	µg/L	50									-	-	-	-	-	-	-	-	-	-	<50
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	<100
>C34-C40 fraction (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	<100
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	<100
Total Petroleum Hydrocarbons																					
C6-C9 fraction	µg/L	20									<20	<20	30	<20	<20	<20	<20	<20	<20	<20	<20
C10-C14 fraction	µg/L	50									<50	<50	<50	<50	<50	310	60	<50	50	<50	<50
C15-C28 fraction	µg/L	100									<100	<100	<100	<100	<100	1,800	500	<100	600	<100	<100
C29-C36 fraction	µg/L	50									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50									<100	<100	<100	<100	<100	2,110	560	<100	650	<100	<100
Total Petroleum Hydrocarbons - Silica Gel																					
C10-C14 fraction (Silica Gel)	µg/L	50									-	-	-	-	-	-	-	-	-	-	<50
C15-C28 fraction (Silica Gel)	µg/L	100									-	-	-	-	-	-	-	-	-	-	<100
C29-C36 fraction (Silica Gel)	µg/L	50									-	-	-	-	-	-	-	-	-	-	<100
C10-C36 fraction (sum)(Silica Gel)	µg/L	50									-	-	-	-	-	-	-	-	-	-	<100
Petroleum Hydrocarbon Speciation																					
>C6 - C8 Aliphatic	µg/L	20	NL	NL	16,000,000	NL	NL	*NL*	NL	NL	-	-	-	-	-	-	-	-	-	-	<20
>C8 - C10 Aliphatic	µg/L	20	NL	NL	79,000	NL	NL	*NL*	NL	NL	-	-	-	-	-	-	-	-	-	-	<20
>C10 - C12 Aliphatic	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	-	-	-	-	-	-	-	-	-	-	<50
>C12 - C16 Aliphatic	µg/L	100	NL	NL	67,000	NL	NL	*NL*	NL	NL	-	-	-	-	-	-	-	-	-	-	<100
>C16-C21 Aliphatic	µg/L	100									-	-	-	-	-	-	-	-	-	-	<100
>C21-C36 Aliphatic	µg/L	100									-	-	-	-	-	-	-	-	-	-	<100
>C5 - C7 Aromatic	µg/L	1									-	-	-	-	-	-	-	-	-	-	<1
>C7 - C8 Aromatic Toluene	µg/L	1									-	-	-	-	-	-	-	-	-	-	<1
>C8 - C10 Aromatic	µg/L	10	NL	NL	360,000	NL	NL	*NL*	30,000	30,000	-	-	-	-	-	-	-	-	-	-	<10
>C10 - C12 Aromatic	µg/L	50	NL	NL	190,000	NL	NL	*NL*	NL	NL	-	-	-	-	-	-	-	-	-	-	<50
>C12 - C16 Aromatic	µg/L	100	NL	NL	160,000	NL	NL	*NL*	NL	NL	-	-	-	-	-	-	-	-	-	-	<100
> C16-C21 Aromatic	mg/L	0.1									-	-	-	-	-	-	-	-	-	-	<0.1
> C21-C35 Aromatic	mg/L	0.1									-	-	-	-	-	-	-	-	-	-	<0.1
Monocyclic Aromatic Hydrocarbons																					
Benzene	µg/L	1	5,000	9,000	5,000	NL	NL	*6,000*	800	800	2	<1	4	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1	NL	NL	5,500,000	NL	NL	*NL*	NL	NL	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	1	NL	NL	1,600,000	NL	NL	*NL*	NL	NL	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	2									<2	<2	16	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	µg/L	1									<1	<1	8	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	µg/L	2	NL	NL	2,800,000	NL	NL	*NL*	NL	NL	<3	<3	24	<3	<3	<3	<3	<3	<3	<3	<3
Total BTEX	µg/L	1									-	-	-	-	-	-	-	-	-	-	-
Naphthalene (BTEXN)	µg/L	5									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hydrocarbon Gases																					
Methane	µg/L	10									150	<50	<50	<50	<50	150	14,000	470	<50	<50	<50
Polynuclear Aromatic Hydrocarbons																					
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5									-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	1	12,000	28,000	6,000	NL	NL	*7,000*	3,000	2,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1									<1	<1	<1	<1	<1	1	14	<1	<1	<1	<1
Anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	4	<1	<1	<1	<1
Fluorene	µg/L	1									<1	<1	<1	<1	<1	2	17	<1	<1	<1	<1
Phenanthrene	µg/L	1									<1	<1	<1	<1	<1	<1	19	<1	<1	<1	<1
Fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1
Benz(a)anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5			50						<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1									<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1									<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of PAHs	µg/L	0.5									<1	<1	<1	<1	<1	3	60	<1	<1	<1	<1
Phenolic Compounds																					
3/4-Methylphenol (m/p-cresol)	µg/L	2									<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Phenol	µg/L	1									<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-Chlorophenol	µg/L	1									<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2-Methylphenol (o-Cresol)	µg/L	1			4,300,000						<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Total Cresols	µg/L	10									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	µg/L	1									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	1									<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,4-Dimethylphenol	µg/L	1			1,300,000						<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,6-Dichlorophenol	µg/L	1									<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
4-Chloro-3-methylphenol	µg/L	1									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	1									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	1									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	µg/L	30									<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Pentachlorophenol	µg/L	2									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	30									<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	30									<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Dinoseb	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tetrachlorophenols	µg/L	30									<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Sum of Phenols (halogenated)	µg/L	10									<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sum of Phenols (non-halogenated)	µg/L	100									<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T6d
Groundwater Analytical Results - Remediation Criteria

Chemical Group	Unit	EQL	Potential Future Comm (uknown constr or multi-storey bldg)	Potential Future Comm_Light Ind Workers (low-rise slab-on-grade)	Potential Future Comm_Light Ind Workers (working within a basement)	Potential Future Maintenance Workers	Potential Future Recreational Open Space Users	*Potential Future Residents (bldg with a basement car park)*	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (unknown constr, or multi-storey bldg)				
Location Code											MW159	MW160	MW161	MW161
Sample Type											Normal	Normal	Normal	Normal
Lab Report Number											1235189	1234320	1235243	1235243
Field ID											MW159_FILTERED	MW160	MW161	MW161_FILTERED
Date											20 Jun 2025	17 Jun 2025	19 Jun 2025	19 Jun 2025
Total Recoverable Hydrocarbons														
C6-C10 fraction	µg/L	20									<20	<20	<20	<20
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	NL	NL	79,000	NL	NL	*NL*	30,000	30,000	<20	<20	<20	<20
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	<50	<50	<50	<50
>C10-C16 fraction	µg/L	50									<50	<50	<50	<50
>C16-C34 fraction	µg/L	100									<100	<100	<100	<100
>C34-C40 fraction	µg/L	100									<100	<100	<100	<100
>C10-C40 fraction (sum)	µg/L	100									<100	<100	<100	<100
Total Recoverable Hydrocarbons - Silica Gel														
>C10-C16 fraction (Silica Gel)	µg/L	50									-	-	<50	-
>C10-C16 (minus Naphthalene)(F2) (Silica Gel)	µg/L	100									-	-	-	-
>C16-C34 fraction (Silica Gel)	µg/L	100									-	-	<100	-
>C34-C40 fraction (Silica Gel)	µg/L	100									-	-	<100	-
>C10-C40 fraction (sum) (Silica Gel)	µg/L	100									-	-	<100	-
Total Petroleum Hydrocarbons														
C6-C9 fraction	µg/L	20									<20	<20	<20	<20
C10-C14 fraction	µg/L	50									<50	<50	<50	<50
C15-C28 fraction	µg/L	100									<100	<100	<100	<100
C29-C36 fraction	µg/L	50									<100	<100	<100	<100
C10-C36 fraction (sum)	µg/L	50									<100	<100	<100	<100
Total Petroleum Hydrocarbons - Silica Gel														
C10-C14 fraction (Silica Gel)	µg/L	50									-	-	<50	-
C15-C28 fraction (Silica Gel)	µg/L	100									-	-	<100	-
C29-C36 fraction (Silica Gel)	µg/L	50									-	-	<100	-
C10-C36 fraction (sum)(Silica Gel)	µg/L	50									-	-	<100	-
Petroleum Hydrocarbon Speciation														
>C6 - C8 Aliphatic	µg/L	20	NL	NL	16,000,000	NL	NL	*NL*	NL	NL	-	-	<20	-
>C8 - C10 Aliphatic	µg/L	20	NL	NL	79,000	NL	NL	*NL*	NL	NL	-	-	<20	-
>C10 - C12 Aliphatic	µg/L	50	NL	NL	40,000	NL	NL	*NL*	NL	NL	-	-	<50	-
>C12 - C16 Aliphatic	µg/L	100	NL	NL	67,000	NL	NL	*NL*	NL	NL	-	-	<100	-
>C16-C21 Aliphatic	µg/L	100									-	-	<100	-
>C21-C36 Aliphatic	µg/L	100									-	-	<100	-
>C5 - C7 Aromatic	µg/L	1									-	-	<1	-
>C7 - C8 Aromatic Toluene	µg/L	1									-	-	<1	-
>C8 - C10 Aromatic	µg/L	10	NL	NL	360,000	NL	NL	*NL*	30,000	30,000	-	-	<10	-
>C10 - C12 Aromatic	µg/L	50	NL	NL	190,000	NL	NL	*NL*	NL	NL	-	-	<50	-
>C12 - C16 Aromatic	µg/L	100	NL	NL	160,000	NL	NL	*NL*	NL	NL	-	-	<100	-
> C16-C21 Aromatic	mg/L	0.1									-	-	<0.1	-
> C21-C35 Aromatic	mg/L	0.1									-	-	<0.1	-
Monocyclic Aromatic Hydrocarbons														
Benzene	µg/L	1	5,000	9,000	5,000	NL	NL	*6,000*	800	800	-	<1	<1	-
Toluene	µg/L	1	NL	NL	5,500,000	NL	NL	*NL*	NL	NL	-	<1	<1	-
Ethylbenzene	µg/L	1	NL	NL	1,600,000	NL	NL	*NL*	NL	NL	-	<1	<1	-
m&p-Xylene	µg/L	2									-	<2	<2	-
o-Xylene	µg/L	1									-	<1	<1	-
Total Xylenes	µg/L	2	NL	NL	2,800,000	NL	NL	*NL*	NL	NL	-	<3	<3	-
Total BTEX	µg/L	1									-	-	-	-
Naphthalene (BTEXN)	µg/L	5									<10	<10	<10	<10
Hydrocarbon Gases														
Methane	µg/L	10									-	<50	<50	-
Polynuclear Aromatic Hydrocarbons														
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5									-	-	-	-
Naphthalene	µg/L	1	12,000	28,000	6,000	NL	NL	*7,000*	3,000	2,000	<1	<1	<1	<1
Acenaphthylene	µg/L	1									<1	<1	<1	<1
Acenaphthene	µg/L	1									<1	<1	<1	<1
Anthracene	µg/L	1									<1	<1	<1	<1
Fluorene	µg/L	1									<1	<1	<1	<1
Phenanthrene	µg/L	1									<1	<1	<1	<1
Fluoranthene	µg/L	1									<1	<1	<1	<1
Benz(a)anthracene	µg/L	1									<1	<1	<1	<1
Benzo(k)fluoranthene	µg/L	1									<1	<1	<1	<1
Benzo(b&j)fluoranthene	µg/L	1									<1	<1	<1	<1
Benzo(a)pyrene	µg/L	0.5			50						<1	<1	<1	<1
Chrysene	µg/L	1									<1	<1	<1	<1
Pyrene	µg/L	1									<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1									<1	<1	<1	<1
Dibenz(a,h)anthracene	µg/L	1									<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	µg/L	1									<1	<1	<1	<1
Sum of PAHs	µg/L	0.5									<1	<1	<1	<1
Phenolic Compounds														
3/4-Methylphenol (m/p-cresol)	µg/L	2									-	<6	<6	-
Phenol	µg/L	1									-	<3	<3	-
2-Chlorophenol	µg/L	1									-	<3	<3	-
2-Methylphenol (o-Cresol)	µg/L	1			4,300,000						-	<3	<3	-
Total Cresols	µg/L	10									-	<10	<10	-
2-Nitrophenol	µg/L	1									-	<10	<10	-
2,4-Dichlorophenol	µg/L	1									-	<3	<3	-
2,4-Dimethylphenol	µg/L	1			1,300,000						-	<3	<3	-
2,6-Dichlorophenol	µg/L	1									-	<3	<3	-
4-Chloro-3-methylphenol	µg/L	1									-	<10	<10	-
2,4,6-Trichlorophenol	µg/L	1									-	<10	<10	-
2,4,5-Trichlorophenol	µg/L	1									-	<10	<10	-
4,6-Dinitro-2-methylphenol	µg/L	30									-	<30	<30	-
Pentachlorophenol	µg/L	2									-	<10	<10	-
2,4-Dinitrophenol	µg/L	30									-	<30	<30	-
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100									-	<100	<100	-
4-Nitrophenol	µg/L	30									-	<30	<30	-
Dinoseb	µg/L	100									-	<100	<100	-
Tetrachlorophenols	µg/L	30									-	<30	<30	-
Sum of Phenols (halogenated)	µg/L	10									-	<10	<10	-
Sum of Phenols (non-halogenated)	µg/L	100									-	<100	<100	-

Comments
#1 The LORs have been raised due to matrix interference
#2 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#3 Exceeds instrument calibration range

Statistics
* A Non Detect Multiplier of 0.5 has been applied.

Table T63
Groundwater Analytical Results - NAPL Solubility Limits

					Total Recoverable Hydrocarbons							Monocyclic Aromatic Hydrocarbons							
					C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Total BTEX	Naphthalene (BTEXN)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					20	20	50	50	100	100	100	1	1	1	2	1	2	1	5
ASC NEPM - Solubility Limits for Petroleum Hydrocarbons					9000	9000	3000					59000	61000	3900	2100	2100	2100		170
CRC CARE (2011) - Solubility Limits for Pure Compounds						110000	30000					1750000	526000	169000			198000		31000
Location Code	Sample Type	Lab Report Number	Field ID	Date															
BG1	Normal	1234320	BG1	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
BH2_PS	Normal	1235243	BH2_PS	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW101	Normal	1237216	MW101	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	2	<1	<1	<2	<1	<3	-	<10
MW102	Normal	1234988	MW102	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW120A	Normal	1240646	MW120A	25 Jun 2025	280	40	260	290	<100	<100	290	170	59	<5[#2]	<10[#2]	13	13	-	30
MW121	Normal	1234988	MW121	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW122	Normal	1235243	MW122	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW123A	Normal	1232587	MW123A	12 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW125A	Normal	1237216	MW125A	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW126A	Normal	1237216	MW126A	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW127A	Normal	1235243	MW127A	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW128A	Normal	1240646	MW128A	25 Jun 2025	50	<20	<50	<50	<100	<100	<100	4	1	3	16	8	24	-	<10
MW130_GHD	Normal	1232587	MW130_GHD	12 Jun 2025	2,100	620	1,170	1,400	300	<100	1,700	650	52	390	110	280	<3	-	230
MW132_GHD	Normal	1232587	MW132_GHD	12 Jun 2025	560	280	640	660	200	<100	860	250	2	9	6	9	15	-	20
MW133_GHD	Normal	1232587	MW133_GHD	12 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	5	1	6	-	<10
MW148	Normal	1235243	MW148	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW150	Normal	1232587	MW150	12 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW151	Normal	1235243	MW151	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW151	Normal	1235243	MW151_FILTERED	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW152	Normal	1235243	MW152	19 Jun 2025	<20	<20	50	50	<100	<100	<100	<1	<1	<1	5	<1	5	-	<10
MW153	Normal	1232587	MW153	12 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW155	Normal	1235243	MW155	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW155	Normal	1235243	MW155_FILTERED	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW159	Normal	1235189	MW159	20 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW159	Normal	1235189	MW159_FILTERED	20 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW16	Normal	1236601	MW16	23 Jun 2025	670	670	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW16	Normal	1236601	MW16_FILTERED	23 Jun 2025	750	750	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW160	Normal	1234320	MW160	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW161	Normal	1235243	MW161	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW161	Normal	1235243	MW161_FILTERED	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW164	Normal	1236601	MW164	23 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW164	Normal	1236601	MW164_FILTERED	23 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW167	Normal	1235189	MW167	20 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW167	Normal	1235189	MW167_FILTERED	20 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
MW173	Normal	1234988	MW173	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW178	Normal	1234320	MW178	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW179	Normal	1234320	MW179	17 Jun 2025	<20	<20	130	130	500	<100	630	<1	<1	<1	<2	<1	<3	-	<10
MW180	Normal	1234988	MW180	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW182	Normal	1234320	MW182	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW183	Normal	1234320	MW183	17 Jun 2025	<20	<20	260	260	500	<100	760	<1	<1	<1	<2	<1	<3	-	<10
MW184	Normal	1234988	MW184	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW186	Normal	1240646	MW186	25 Jun 2025	<20	<20	210	210	300	300	810	<1	<1	<1	<2	<1	<3	-	<10
MW188	Normal	1237216	MW188	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW189	Normal	1234988	MW189	18 Jun 2025	<20	<20	330	330	<100	<100	330	<1	<1	<1	<2	<1	<3	-	<10
MW190	Normal	1234320	MW190	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW191	Normal	1234988	MW191	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW192	Normal	1234988	MW192	18 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW193	Normal	1237216	MW193	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW194	Normal	1234320	MW194	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW196	Normal	1240646	MW196	25 Jun 2025	<20	<20	<50	<50	<100	<100	<100	1	<1	<1	<2	<1	<3	-	<10
MW197	Normal	1240646	MW197	25 Jun 2025	260	50	7,250	7,600	1,900	<100	9,500	120	52	<5[#2]	24	19	43	-	350
MW198	Normal	1240646	MW198	25 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW36	Normal	1234988	MW36	18 Jun 2025	<20	<20	<50	<50	100	<100	100	<1	<1	<1	<2	<1	<3	-	<10
MW55	Normal	1235243	MW55	19 Jun 2025	<20	<20	<50	<50	200	<100	200	<1	<1	<1	<2	<1	<3	-	<10
MW6	Normal	1236601	MW6	23 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW60	Normal	1237216	MW60	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
MW60	Normal	1237216	MW60_FILTERED	24 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
NR1	Normal	1234320	NR1	17 Jun 2025	<20	<20	790	790	1,400	<100	2,190	<1	<1	<1	<2	<1	<3	-	<10
NR2A	Normal	1235189	NR2A	20 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
NR2A	Normal	1235189	NR2A_FILTERED	20 Jun 2025	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	<10
RN2	Normal	1234988	RN2	18 Jun 2025	<20	<20	170	170	400	<100	570	<1	<1	<1	<2	<1	<3	-	<10
RN4	Normal	1234988	RN4	18 Jun 2025	<20	<20	110	110	<100	<100	110	<1	<1	<1	<2	<1	<3	-	<10
RS6	Normal	1235243	RS6	19 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	<10
TW02	Normal	1234320	TW02	17 Jun 2025	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	60

Table T7a
Soil Vapour Analytical Results - Tier 1 Assessment Criteria

Chemical Group	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation	VI_MacPoint CRC CARE 2011 Appendix F HSL A/B Residential (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand)		Location Code	Depth	Sample Type	Lab Report Number	Field ID	Date
				0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	1.15 - 2 m	2 - 4 m					
Total Recoverable Hydrocarbons																			
>C6-C10 fraction	µg/m3	0													SV07	0.5	Normal	ME373630	SV07 SC13596	23 Jun 2025
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0													SV18	2.1	Normal	ME373630	SV18 SC1027	24 Jun 2025
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0													SV25	1.6	Normal	ME373630	SV25 SC18432	23 Jun 2025
>C10-C12 Fraction	µg/m3	0													SV31	2.5	Normal	ME373630	SV31 SC1051	17 Jun 2025
Monocyclic Aromatic Hydrocarbons															SV32	2.5	Normal	ME373630	SV32 SC3704	18 Jun 2025
Benzene	µg/m3	0		995	2,900	5,660	356,000	2,370,000	4,750,000	3,720	12,300	29,800	762,000	5,080,000	SV33	2.5	Normal	ME373630	SV33 SC1102	18 Jun 2025
Toluene	µg/m3	0		1,280,000	3,760,000	7,350,000	463,000,000	3,090,000,000	6,170,000,000	4,790,000	16,000,000	38,700,000	991,000,000	6,600,000,000	SV34	2.5	Normal	ME373630	SV34 SC18238	24 Jun 2025
Ethylbenzene	µg/m3	0		334,000	1,080,000	2,160,000	140,000,000	931,000,000	1,860,000,000	1,250,000	4,620,000	11,500,000	299,000,000	1,990,000,000	SV35	2.5	Normal	ME373630	SV35 SC3700	20 Jun 2025
m&p-Xylene	µg/m3	0													SV36	2.5	Normal	ME373630	SV36 SC1061	18 Jun 2025
o-Xylene	µg/m3	0													SV37	0.2	Normal	ME373630	SV37 SC13631	24 Jun 2025
Polynuclear Aromatic Hydrocarbons															SV38	0.2	Normal	ME373630	SV38 SC14157	24 Jun 2025
Naphthalene	µg/m3	0		778	2,970	6,140	409,000	2,730,000	5,460,000	2,940	12,800	32,900	876,000	5,840,000						
TPH - Speciated																				
Aliphatic >C5-C6	µg/m3	0													330	1,200	4,600	640	2,400	<94
Aliphatic >C6-C8	mg/m³	0													0.43	4.8	17	1.6	30	<0.094
Aliphatic >C8-C10	mg/m³	0		233	880	1,820	121,000	805,000	1,610,000	881	3,790	9,740	259,000	1,720,000	0.15	61	51	40	140	0.25
Aliphatic >C10-C12	mg/m³	0													0.45	120	39	59	100	0.81
Aromatic >C5-C7	µg/m3	0													<2.5	52	10	3.4	<6.3	<2.3
Aromatic >C7-C8	mg/m³	0													0.0067	0.020	<0.0034	0.0045	<0.0076	<0.0028
Aromatic >C8-C10	µg/m3	0		46,400	157,000	318,000	20,700,000	138,000,000	276,000,000	174,000	674,000	1,690,000	44,300,000	295,000,000	<99	1,500	940	940	1,200	<94
Aromatic >C10-C12	µg/m3	0		46,600	176,000	363,000	24,200,000	161,000,000	322,000,000	176,000	759,000	1,950,000	51,700,000	345,000,000	<99	10,000	9,300	6,700	6,200	440
Alcohols																				
2-Propanol	µg/m3	0													430	230	810	970	150	<47
Other																				
Carbon Dioxide	%v/v	0.01													8.3	11	5.9	17	7.0	7.0
Oxygen	%v/v	0.5													6.9	<0.5	<0.5	1.1	8.4	7.5
Methane	%v/v	0.01	1.25												6.38	23.5	35.1	3.70	10.4	5.11
Pressure																				
Pressure - As received	No unit	0													12.1	12.1	10.7	12.0	11.9	13.0
Vacuum before Analysis	No unit	0													5.10	5.10	7.96	5.30	5.51	3.26

Chemical Group	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation	VI_MacPoint CRC CARE 2011 Appendix F HSL A/B Residential (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand)		Location Code	Depth	Sample Type	Lab Report Number	Field ID	Date
				0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	1.15 - 2 m	2 - 4 m						
Total Recoverable Hydrocarbons																				
>C6-C10 fraction	µg/m3	0													SV32	2.5	Normal	ME373630	SV32 SC3704	18 Jun 2025
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0													SV33	2.5	Normal	ME373630	SV33 SC1102	18 Jun 2025
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0													SV34	2.5	Normal	ME373630	SV34 SC18238	24 Jun 2025
>C10-C12 Fraction	µg/m3	0													SV35	2.5	Normal	ME373630	SV35 SC3700	20 Jun 2025
Monocyclic Aromatic Hydrocarbons															SV36	2.5	Normal	ME373630	SV36 SC1061	18 Jun 2025
Benzene	µg/m3	0													SV37	0.2	Normal	ME373630	SV37 SC13631	24 Jun 2025
Toluene	µg/m3	0													SV38	0.2	Normal	ME373630	SV38 SC14157	24 Jun 2025
Ethylbenzene	µg/m3	0																		
m&p-Xylene	µg/m3	0																		
o-Xylene	µg/m3	0																		
Polynuclear Aromatic Hydrocarbons																				
Naphthalene	µg/m3	0																		
TPH - Speciated																				
Aliphatic >C5-C6	µg/m3	0													850	66,000	71,000	44,000	170,000	480
Aliphatic >C6-C8	mg/m³	0													840	66,000	71,000	44,000	170,000	480
Aliphatic >C8-C10	mg/m³	0													660	120,000	39,000	57,000	97,000	1,500
Aliphatic >C10-C12	mg/m³	0													670	120,000	39,000	57,000	97,000	1,500
Aromatic >C5-C7	µg/m3	0																		
Aromatic >C7-C8	mg/m³	0																		
Aromatic >C8-C10	µg/m3	0													<99	1,500	940	940	1,200	<94
Aromatic >C10-C12	µg/m3	0													<99	10,000	9,300	6,700	6,200	440
Alcohols																				
2-Propanol	µg/m3	0													430	230	810	970	150	<47
Other																				
Carbon Dioxide	%v/v	0.01													8.3	11	5.9	17	7.0	7.0
Oxygen	%v/v	0.5													6.9	<0.5	<0.5	1.1	8.4	7.5
Methane	%v/v	0.01	1.25												6.38	23.5	35.1	3.70	10.4	5.11
Pressure																				
Pressure - As received	No unit	0													12.1	12.1	10.7	12.0	11.9	13.0
Vacuum before Analysis	No unit	0													5.10	5.10	7.96	5.30	5.51	3.26

Chemical Group	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation	VI_MacPoint CRC CARE 2011 Appendix F HSL A/B Residential (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand)		Location Code	Depth	Sample Type	Lab Report Number	Field ID	Date
				0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	1.15 - 2 m	2 - 4 m						
Total Recoverable Hydrocarbons																				
>C6-C10 fraction	µg/m3	0													SV38	0.2	Normal	ME373630	SV38 SC14157	24 Jun 2025
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0																		
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0																		
>C10-C12 Fraction	µg/m3	0																		
Monocyclic Aromatic Hydrocarbons																				
Benzene	µg/m3	0													<2.6					
Toluene	µg/m3	0													12					
Ethylbenzene	µg/m3	0													<3.1					
m&p-Xylene	µg/m3	0													13					
o-Xylene	µg/m3	0													3.8					
Polynuclear Aromatic Hydrocarbons																				
Naphthalene	µg/m3	0													<11					
TPH - Speciated																				
Aliphatic >C5-C6	µg/m3	0													2,900					
Aliphatic >C6-C8	mg/m³	0													13					
Aliphatic >C8-C10	mg/m³	0													7.9					
Aliphatic >C10-C12	mg/m³	0													0.41					
Aromatic >C5-C7	µg/m3	0													<2.6					
Aromatic >C7-C8	mg/m³	0													0.012					
Aromatic >C8-C10	µg/m3	0													170					
Aromatic >C10-C12	µg/m3	0													<100					
Alcohols																				
2-Propanol	µg/m3	0													1,400					
Other																				
Carbon Dioxide	%v/v	0.01													9.2					
Oxygen	%v/v	0.5													2.6					
Methane	%v/v	0.01	1.25												2.23					
Pressure																				
Pressure - As received	No unit	0													11.6					
Vacuum before Analysis	No unit	0													6.12					

Table T7a
Soil Vapour Analytical Results - Tier 1 Assessment Criteria

Chemical Group	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation	VI_MacPoint CRC CARE 2011 Appendix F HSL A/B Residential (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL C Recreational/ Open Space (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSL D Commercial/ Industrial (sand)			VI_MacPoint CRC CARE 2011 Appendix F HSLs Intrusive Maintenance Worker (sand)		Location Code	Depth	Sample Type	Lab Report Number	Field ID	Date
				0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	0 - 1 m	1 - 2 m	2 - 4m	1.15 - 2 m	2 - 4 m					
Total Recoverable Hydrocarbons																			
>C6-C10 fraction	µg/m3	0													<140	190	3,100,000	440	-	200,000	5,200	1,400
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0													<140	170	2,600,000	390	-	94,000	4,800	1,400
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0													520	230	80,000	230	-	10,000	1,300	680
>C10-C12 Fraction	µg/m3	0													530	230	120,000	330	-	17,000	1,300	690
Monocyclic Aromatic Hydrocarbons																			
Benzene	µg/m3	0		995	2,900	5,660	356,000	2,370,000	4,750,000	3,720	12,300	29,800	762,000	5,080,000	<3.6	4.9	290,000	18	-	77,000	230	11
Toluene	µg/m3	0		1,280,000	3,760,000	7,350,000	463,000,000	3,090,000,000	6,170,000,000	4,790,000	16,000,000	38,700,000	991,000,000	6,600,000,000	<4.3	5.3	34,000	8.4	-	2,800	110	4.1
Ethylbenzene	µg/m3	0		334,000	1,080,000	2,160,000	140,000,000	931,000,000	1,860,000,000	1,250,000	4,620,000	11,500,000	299,000,000	1,990,000,000	<4.3	<3.1	53,000	4.2	-	1,200	36	<3.2
m&p-Xylene	µg/m3	0													<9.4	<6.6	120,000	12	-	22,000	77	<6.9
o-Xylene	µg/m3	0													<4.3	<3.1	41,000	4.2	-	8,000	28	<3.2
Polynuclear Aromatic Hydrocarbons																			
Naphthalene	µg/m3	0		778	2,970	6,140	409,000	2,730,000	5,460,000	2,940	12,800	32,900	876,000	5,840,000	<15	<11	44,000	99	-	6,500	22	11
TPH - Speciated																			
Aliphatic >C5-C6	µg/m3	0													190	200	590,000	110	-	<10,000	6,000	6,900
Aliphatic >C6-C8	mg/m³	0													<0.14	<0.1	2,100	0.13	-	51	2.6	0.55
Aliphatic >C8-C10	mg/m³	0		233	880	1,820	121,000	805,000	1,610,000	881	3,790	9,740	259,000	1,720,000	<0.14	<0.1	180	0.16	-	18	1.3	0.52
Aliphatic >C10-C12	mg/m³	0													0.41	0.19	86	<0.11	-	13	0.82	0.77
Aromatic >C5-C7	µg/m3	0													<3.6	4.9	290,000	18	-	77,000	230	11
Aromatic >C7-C8	mg/m³	0													<0.0043	0.0053	34	0.0084	-	2.8	0.11	0.0041
Aromatic >C8-C10	µg/m3	0		46,400	157,000	318,000	20,700,000	138,000,000	276,000,000	174,000	674,000	1,690,000	44,300,000	295,000,000	<140	<100	250,000	<110	-	33,000	310	<110
Aromatic >C10-C12	µg/m3	0		46,600	176,000	363,000	24,200,000	161,000,000	322,000,000	176,000	759,000	1,950,000	51,700,000	345,000,000	<140	<100	<41,000	250	-	<10,000	450	<110
Alcohols																			
2-Propanol	µg/m3	0													<72	110	<20,000	<53	2,600,000	<5,100	770	19,000
Other																			
Carbon Dioxide	%v/v	0.01													11	2.0	0.17	1.8	-	0.46	0.10	10
Oxygen	%v/v	0.5													8.2	17	17	12	-	<0.5	6.4	0.9
Methane	%v/v	0.01	1.25												<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	6.15
Pressure																			
Pressure - As received	No unit	0													12.0	11.8	11.9	11.3	11.6	11.8	12.5	11.4
Vacuum before Analysis	No unit	0													5.30	5.71	5.51	6.73	6.12	5.71	4.28	6.53
															SV39	SV40	SV41	SV42	SV42	SV43	SV45	SV46
															1	0.75	1	1.85	1.85	1.85	2	1.45
															Normal	Normal	Normal	Normal	Field_B	Normal	Normal	Normal
															ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630
															SV39 SC18442	SV40 SC18433	SV41 SC13616	SV42 SC14108	SV42_SHROUD SC1083	SV43 SC13597	SV45 SC18439	SV46 SC3610
															24 Jun 2025	24 Jun 2025	25 Jun 2025	25 Jun 2025	25 Jun 2025	27 Jun 2025	25 Jun 2025	23 Jun 2025

Table T7b
Soil Vapour Analytical Results - Margin of Safety (MOS) Calculations

Monitoring Zone																					
Location Code						SV07	SV18	SV25	SV31	SV32	SV33	SV34	SV35	SV36	SV37	SV38	SV39	SV40	SV41	SV42	SV43	SV45	SV46
Depth						1	2.1	1.6	2.5	2.5	2.5	2.5	2.5	2.5	0.2	0.2	1	0.75	1	1.85	1.85	2	1.45
Sample Type						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number						ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630	ME373630
Field ID						SV07 SC13596	SV18 SC1027	SV25 SC18432	SV31 SC1051	SV32 SC3704	SV33 SC1102	SV34 SC18238	SV35 SC3700	SV36 SC1061	SV37 SC13631	SV38 SC14157	SV39 SC18442	SV40 SC18433	SV41 SC13616	SV42 SC14108	SV43 SC13597	SV45 SC18439	SV46 SC3610
Date						23 Jun 2025	24 Jun 2025	23 Jun 2025	17 Jun 2025	18 Jun 2025	18 Jun 2025	24 Jun 2025	20 Jun 2025	18 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	24 Jun 2025	25 Jun 2025	25 Jun 2025	27 Jun 2025	25 Jun 2025	23 Jun 2025
Chemical Group	Unit	EQL	CRC CARE 2011 Appendix F HSL A/B Residential (sand) 0 - 1 m	1 - 2 m	2 - 4m																		
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0	180,000	642,000	1,310,000	764.3	19.8	9.0	29.8	7.7	2,729.2	211.3	5.0	5,038.5	112.5	8.2	4,585.7	1,058.8	0.2	1,646.2	6.8	272.9	458.6
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0	130,000	556,000	1,170,000	842.4	9.8	14.3	20.5	12.1	780.0	688.2	6.9	900.0	433.3	228.1	1,069.2	565.2	7.0	2,417.4	55.6	900.0	817.6
Benzene	µg/m3	0	995	2,900	5,660	1,160.0	108.8	290.0	1,664.7	898.4	2,460.9	68.2	283.0	2,358.3	398.0	382.7	805.6	203.1	0.01	161.1	0.04	24.6	263.6
Toluene	µg/m3	0	1,280,000	3,760,000	7,350,000	561,194.0	367,500.0	1,105,882.4	1,633,333.3	967,105.3	2,625,000.0	128,947.4	432,352.9	1,148,437.5	193,939.4	106,666.7	874,418.6	241,509.4	110.6	447,619.0	1,342.9	66,818.2	917,073.2
Ethylbenzene	µg/m3	0	334,000	1,080,000	2,160,000	360,000.0	120,000.0	284,210.5	348,387.1	284,210.5	771,428.6	18,000.0	218,181.8	771,428.6	111,333.3	107,741.9	251,162.8	107,741.9	20.4	257,142.9	900.0	60,000.0	337,500.0
Naphthalene	µg/m3	0	778	2,970	6,140	297.0	1.9	156.3	113.7	227.4	620.2	19.8	255.8	620.2	77.8	70.7	198.0	70.7	0.1	30.0	0.5	279.1	270.0
Aliphatic >C8-C10	mg/m³	0	233	880	1,820	5,866.7	29.8	17.3	45.5	13.0	7,280.0	1,011.1	7.6	19,361.7	277.4	29.5	6,285.7	2,330.0	4.9	5,500.0	48.9	1,400.0	1,692.3
Aromatic >C8-C10	µg/m3	0	46,400	157,000	318,000	1,585.9	212.0	167.0	338.3	265.0	3,383.0	151.4	159.0	3,383.0	421.8	272.9	1,121.4	464.0	0.6	1,427.3	4.8	1,025.8	1,427.3
Aromatic >C10-C12	µg/m3	0	46,600	176,000	363,000	1,777.8	36.3	18.9	54.2	58.5	825.0	648.2	22.7	2,268.8	470.7	466.0	1,257.1	466.0	4.3	704.0	17.6	806.7	1,600.0
	Unit	EQL	CARE 2011 Appendix F HSL C Recreational/ Open Space 0 - 1 m	1 - 2 m	2 - 4m																		
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0	NL	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0	860,000,000	NL	NL	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,866,666.7	1,508,771.9	NA	3,739,130.4	NA	NA	NA	NA	NA
Benzene	µg/m3	0	356,000	2,370,000	4,750,000	948,000.0	91,346.2	237,000.0	1,397,058.8	753,968.3	2,065,217.4	57,228.9	237,500.0	1,979,166.7	142,400.0	136,923.1	658,333.3	72,653.1	8.2	131,666.7	30.8	20,652.2	215,454.5
Toluene	µg/m3	0	463,000,000	3,090,000,000	6,170,000,000	461,194,029.9	308,500,000.0	908,823,529.4	1,371,111,111.1	811,842,105.3	2,203,571,428.6	108,245,614.0	362,941,176.5	964,062,500.0	70,151,515.2	38,583,333.3	718,604,651.2	87,358,490.6	90,882.4	367,857,142.9	1,103,571.4	56,090,909.1	753,658,536.6
Ethylbenzene	µg/m3	0	140,000,000	931,000,000	1,860,000,000	310,333,333.3	103,333,333.3	245,000,000.0	300,000,000.0	244,736,842.1	664,285,714.3	15,500,000.0	187,878,787.9	664,285,714.3	46,666,666.7	45,161,290.3	216,511,627.9	45,161,290.3	17,566.0	221,666,666.7	775,833.3	51,666,666.7	290,937,500.0
Naphthalene	µg/m3	0	409,000	2,730,000	5,460,000	273,000.0	1,706.3	143,684.2	101,111.1	202,222.2	551,515.2	17,612.9	227,500.0	551,515.2	40,900.0	37,181.8	182,000.0	37,181.8	62.0	27,575.8	420.0	248,181.8	248,181.8
Aliphatic >C8-C10	mg/m³	0	121,000	805,000	1,610,000	5,366,666.7	26,393.4	15,784.3	40,250.0	11,500.0	6,440,000.0	894,444.4	6,708.3	17,127,659.6	144,047.6	15,316.5	5,750,000.0	1,210,000.0	4,472.2	5,031,250.0	44,722.2	1,238,461.5	1,548,076.9
Aromatic >C8-C10	µg/m3	0	20,700,000	138,000,000	276,000,000	1,393,939.4	184,000.0	146,808.5	293,617.0	230,000.0	2,936,170.2	131,428.6	138,000.0	2,936,170.2	188,181.8	121,764.7	985,714.3	207,000.0	552.0	1,254,545.5	4,181.8	890,322.6	1,254,545.5
Aromatic >C10-C12	µg/m3	0	24,200,000	161,000,000	322,000,000	1,626,262.6	32,200.0	17,311.8	48,059.7	51,935.5	731,818.2	575,000.0	20,125.0	2,012,500.0	244,444.4	242,000.0	1,150,000.0	242,000.0	3,926.8	644,000.0	16,100.0	715,555.6	1,463,636.4
	Unit	EQL	CRC CARE 2011 Appendix F HSL D Commercial/ 0 - 1 m	1 - 2 m	2 - 4m																		
>C6-C10 fraction (minus BTEX)(F1)	µg/m3	0	680,000	2,760,000	7,000,000	3,285.7	106.1	38.9	159.1	41.2	14,583.3	1,129.0	26.9	26,923.1	425.0	30.9	19,714.3	4,000.0	1.1	7,076.9	29.4	1,458.3	1,971.4
>C10-C16 (minus Naphthalene)(F2)	µg/m3	0	500,000	2,410,000	6,280,000	3,651.5	52.3	61.8	110.2	64.7	4,186.7	3,694.1	36.9	4,830.8	1,666.7	877.2	4,634.6	2,173.9	30.1	10,478.3	241.0	4,830.8	3,544.1
Benzene	µg/m3	0	3,720	12,300	29,800	4,920.0	573.1	1,230.0	8,764.7	4,730.2	12,956.5	359.0	1,490.0	12,416.7	1,488.0	1,430.8	3,416.7	759.2	0.04	683.3	0.2	129.6	1,118.2
Toluene	µg/m3	0	4,790,000	16,000,000	38,700,000	2,388,059.7	1,935,000.0	4,705,882.4	8,600,000.0	5,092,105.3	13,821,428.6	678,947.4	2,276,470.6	6,046,875.0	725,757.6	399,166.7	3,720,930.2	903,773.6	470.6	1,904,761.9	5,714.3	351,818.2	3,902,439.0
Ethylbenzene	µg/m3	0	1,250,000	4,620,000	11,500,000	1,540,000.0	638,888.9	1,215,789.5	1,854,838.7	1,513,157.9	4,107,142.9	95,833.3	1,161,616.2	4,107,142.9	416,666.7	403,225.8	1,074,418.6	403,225.8	87.2	1,100,000.0	3,850.0	319,444.4	1,443,750.0
Naphthalene	µg/m3	0	2,940	12,800	32,900	1,280.0	10.3	673.7	609.3	1,218.5	3,323.2	106.1	1,370.8	3,323.2	294.0	267.3	853.3	267.3	0.3	129.3	2.0	1,495.5	1,163.6
Aliphatic >C8-C10	mg/m³	0	881	3,790	9,740	25,266.7	159.7	74.3	243.5	69.6	38,960.0	5,411.1	40.6	103,617.0	1,048.8	111.5	27,071.4	8,810.0	21.1	23,687.5	210.6	7,492.3	7,288.5
Aromatic >C8-C10	µg/m3	0	174,000	674,000	1,690,000	6,808.1	1,126.7	717.0	1,797.9	1,408.3	17,978.7	804.8	845.0	17,978.7	1,581.8	1,023.5	4,814.3	1,740.0	2.7	6,127.3	20.4	5,451.6	6,127.3
Aromatic >C10-C12	µg/m3	0	176,000	759,000	1,950,000	7,666.7	195.0	81.6	291.0	314.5	4,431.8	3,482.1	121.9	12,187.5	1,777.8	1,760.0	5,421.4	1,760.0	18.5	3,036.0	75.9	4,333.3	6,900.0
	Unit	EQL	VI_MacPoint CRC CARE 2011 1.15 - 2 m	2 - 4 m																			
Benzene	µg/m3	0	762,000	5,080,000		304,800.0	97,692.3	76,200.0	1,494,117.6	806,349.2	2,208,695.7	61,204.8	254,000.0	2,116,666.7	NA	NA	211,666.7	NA	2.6	42,333.3	9.9	22,087.0	69,272.7
Toluene	µg/m3	0	991,000,000	6,600,000,000		147,910,447.8	330,000,000.0	291,470,588.2	1,466,666,666.7	868,421,052.6	2,357,142,857.1	115,789,473.7	388,235,294.1	1,031,250,000.0	NA	NA	230,465,116.3	NA	29,147.1	117,976,190.5	353,928.6	60,000,000.0	241,707,317.1
Ethylbenzene	µg/m3	0	299,000,000	1,990,000,000		99,666,666.7	110,555,555.6	78,684,210.5	320,967,741.9	261,842,105.3	710,714,285.7	16,583,333.3	201,010,101.0	710,714,285.7	NA	NA	69,534,883.7	NA	5,641.5	71,190,476.2	249,166.7	55,277,777.8	93,437,500.0
Naphthalene	µg/m3	0	876,000	5,840,000		87,600.0	1,825.0	46,105.3	108,148.1	216,296.3	589,899.0	18,838.7	243,333.3	589,899.0	NA	NA	58,400.0	NA	19.9	8,848.5	134.8	265,454.5	79,636.4
Aliphatic >C8-C10	mg/m³	0	259,000	1,720,000		1,726,666.7	28,196.7	5,078.4	43,000.0	12,285.7	6,880,000.0	955,555.6	7,166.7	18,297,872.3	NA	NA	1,850,000.0	NA	1,438.9	1,618,750.0	14,388.9	1,323,076.9	498,076.9
Aromatic >C8-C10	µg/m3	0	44,300,000	295,000,000		447,474.7	196,666.7	47,127.7	313,829.8	245,833.3	3,138,297.9	140,476.2	147,500.0	3,138,297.9	NA	NA	316,428.6	NA	177.2	402,727.3	1,342.4	951,612.9	402,727.3
Aromatic >C10-C12	µg/m3	0	51,700,000	345,000,000		522,222.2	34,500.0	5,559.1	51,492.5	55,645.2	784,090.9	616,071.4	21,562.5	2,156,250.0	NA	NA	369,285.7	NA	1,261.0	206,800.0	5,170.0	766,666.7	470,000.0
	Unit	EQL	CRC CARE 2013 Action Levels Subsurface - Near Foundation																				
Methane	%v/v	0.01	1:25			0.20	0.05	0.04	0.34	0.12	0.24	0.02	0.23	0.54	125.00	0.56	125.00	125.00	125.00	125.00	125.00	125.00	0.20

					pH Field Screen											Sample Properties					Chromium Reducible Sulfide (CRS)																		Suspension Peroxide Oxidation Combined Acidity and Sulfur											
																					Actual Acidity (NLM-3.2)			Potential Acidity - CRS		Acid Neutralising Capacity (ANCbt)				Net Acidity (including ANC)			Net Acidity (excluding ANC)				Potential Acidity (S_{POS})		Acid Neutralising Capacity (ANCE)			Net Acidity (excluding ANC)[4]			Net Acidity (including ANC)				
					pH_F	pH_{Ox}	ΔpH	Reaction Rate[1]						Moisture Content (dried @ 103°C)	<2mm Fraction	>2mm Fraction	Analysed Material	Extraneous Material	Sh (KCl) (NLM-3.1)	Titratable Actual Acidity (NLM-3.2)	Titratable Actual Acidity - Sulfidic (NLM-3.2)	Chromium Reducible Sulfur		Acid Neutralising Capacity - ANCbt (NLM-5.2)	Acid Neutralising Capacity - s-ANCbt (NLM-5.2)	Acid Neutralising Capacity - s-ANCbt (NLM-5.2)	ANC Fineness Factor	CRS Suite - Net Acidity - NAS SG (excluding ANC)	CRS Suite - s-Net Acidity - NASG (including ANC) (Sulfur Units)	CRS Suite - Liming Rate - NASG (including ANC)	s-Net Acidity without s-ANCE	s-Net Acidity without ANCE	CRS Suite - Liming Rate - NASG (excluding ANC)	ANC_{NAT} / Net Acidity (excluding ANC)	Peroxide Oxidisable Sulfur	Peroxide Oxidisable Sulfur	Acid Neutralising Capacity - Acidity units	Acid Neutralising Capacity (equivalent 5% pyrite	Liming Rate	SPOCAS - Net Acidity - NASG SG (Excluding ANC)	SPOCAS Suite - s-Net Acidity - NASG SG	SPOCAS Suite - s-Net Acidity (including ANC) (Sulfur Units)	SPOCAS - Net Acidity - NASG (excluding ANC)	SPOCAS Suite - s-Net Acidity (including ANC) (Sulfur Units)	SPOCAS Suite - Liming Rate - NASG (including ANC)	ANCE / Net Acidity (excluding ANC)[4]
														Moisture Content (dried @ 103°C)	<2mm Fraction	>2mm Fraction	Analysed Material	Extraneous Material	Sh (KCl) (NLM-3.1)	Titratable Actual Acidity (NLM-3.2)	Titratable Actual Acidity - Sulfidic (NLM-3.2)	Chromium Reducible Sulfur		Acid Neutralising Capacity - ANCbt (NLM-5.2)	Acid Neutralising Capacity - s-ANCbt (NLM-5.2)	Acid Neutralising Capacity - s-ANCbt (NLM-5.2)	ANC Fineness Factor	CRS Suite - Net Acidity - NAS SG (excluding ANC)	CRS Suite - s-Net Acidity - NASG (including ANC) (Sulfur Units)	CRS Suite - Liming Rate - NASG (including ANC)	s-Net Acidity without s-ANCE	s-Net Acidity without ANCE	CRS Suite - Liming Rate - NASG (excluding ANC)	ANC_{NAT} / Net Acidity (excluding ANC)	Peroxide Oxidisable Sulfur	Peroxide Oxidisable Sulfur	Acid Neutralising Capacity - Acidity units	Acid Neutralising Capacity (equivalent 5% pyrite	Liming Rate	SPOCAS - Net Acidity - NASG SG (Excluding ANC)	SPOCAS Suite - s-Net Acidity - NASG SG	SPOCAS Suite - s-Net Acidity (including ANC) (Sulfur Units)	SPOCAS - Net Acidity - NASG (excluding ANC)	SPOCAS Suite - s-Net Acidity (including ANC) (Sulfur Units)	SPOCAS Suite - Liming Rate - NASG (including ANC)	ANCE / Net Acidity (excluding ANC)[4]
														%	g	g	%	%	pH Unit	MOL H+/T	%TPYRITE	% S		% CACO3	MOL H+/T	% S	-	MOL H+/T	% S	kg CACO3/t	MOL H+/T	% S	kg CACO3/t	mole H+/t	% S			mole H+/t	%S	kg CaCO3/t	mole H+/t	% S	mole H+/t	% S		mole H+/t	% S	
				Limit of Reporting (LOR)	0.1	0.1		-						1	0.005	0.005	0.1	0.1		2	0.003	3	0.005	0.01	2	0.02		10	0.02	1	10	0.02	1	2	0.005	10			2	0.005	10			2	0.005	10			
				Criteria	<4	<3 3-4 4-5	>1	N/A																																									
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Numbe	Sample_Depth_Avg						Recorded Lithology	Below Watertable?	Field Screen Interpretation	Additional Analysis																																								
ABH004A_0.2	ABH004A	27/05/2025	1225146	0.2	9.3	9.4	-0.1	4	FILL - Gravelly sand, grey	No	Unlikely to be PASS																																							
ABH004A_0.5	ABH004A	27/05/2025	1225146	0.5	8.8	8.1	0.7	4	FILL - Clay, dark brown, anthropogenic fragments	No	Unlikely to be PASS																																							
ABH004A_1	ABH004A	27/05/2025	1225146	1.0	8.0	5.0	3.0	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate PASS																																							
ABH004A_1.5	ABH004A	27/05/2025	1225146	1.5	8.0	4.8	3.2	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate PASS																																							
ABH004A_2	ABH004A	27/05/2025	1225146 / 1237090	2.0	8.2	2.4	5.8	4	FILL - Clay, dark brown, anthropogenic fragments	No	Stong indication of PASS	CRS/SPOCAS		19	24	130	16	84	8.7	<2	<0.003	380	0.6	3.2	640	1	1.5	<10[#2]	<0.02[#2]	-	380	0.6	-	1.7	430	0.7	435[#3]	0.705[#3]	Not provided	430	0.7	140	0.23	11	
ABH004A_2.5	ABH004A	27/05/2025	1225146 / 1237090	2.5	7.8	3.2	4.6	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate PASS	CRS		39	13	<0.005	100	<0.1	8	<2	<0.003	89	0.14	4.7	940	1.5	1.5	<10	<0.02	<1	89	0.14	6.7	10.6											
ABH004A_3	ABH004A	27/05/2025	1225146	3.0	8.0	6.5	1.5	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate PASS																																							
ABH004A_3.5	ABH004A	27/05/2025	1225146	3.5	8.5	6.2	2.3	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate PASS																																							
ABH004A_4	ABH004A	27/05/2025	1225146	4.0	8.2	3.2	5.0	4	FILL - Clay, dark brown, anthropogenic fragments	Yes	May indicate PASS																																							
ABH004E_0.2	ABH004E	27/05/2025	1225146	0.2	9.4	8.7	0.7	4	FILL - Gravelly sand, grey to dark grey	No	Unlikely to be PASS																																							
ABH004E_0.5	ABH004E	27/05/2025	1225146 / 1237090	0.5	9.4	7.1	2.3	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate PASS	CRS		13	24	70	26	74	8.4	<2	<0.003	70	0.11	2.5	490	0.78	1.5	<10	<0.02	<1	70	0.11	5.3	7.0											
ABH004E_1	ABH004E	27/05/2025	1225146	1.0	9.2	7.7	1.5	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate PASS																																							
ABH004E_1.5	ABH004E	27/05/2025	1225146	1.5	9.0	8.0	1.0	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate PASS																																							
ABH004E_2	ABH004E	27/05/2025	1225146	2.0	8.8	8.1	0.7	4	FILL - Sandy, gravelly clay, dark brown	No	Unlikely to be PASS																																							
ABH004E_2.5	ABH004E	27/05/2025	1225146 / 1237090	2.5	8.1	6.4	1.7	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate PASS	CRS		32	30	<0.005	100	<0.1	8.5	<2	<0.003	80	0.13	4.2	830	1.3	1.5	<10	<0.02	<1	80	0.13	6	10.4											
ABH004E_3	ABH004E	27/05/2025	1225146	3.0	8.5	7.2	1.3	4	FILL - Sandy, gravelly clay, dark brown	Yes	May indicate PASS																																							
ABH004E_3.5	ABH004E	27/05/2025	1225146	3.5	8.2	6.7	1.5	4	FILL - Sandy, gravelly clay, dark brown	Yes	May indicate PASS																																							
ABH004E_4	ABH004E	27/05/2025	1225146	4.0	8.2	5.0	3.2	4	FILL - Sandy, gravelly clay, dark brown	Yes	May indicate PASS																																							
ABH004N_0.2	ABH004N	27/05/2025	1225146	0.2	9.4	8.7	0.7	4	FILL - Sandy gravel, red-grained grey	No	Unlikely to be PASS																																							
ABH004N_0.5	ABH004N	27/05/2025	1225146 / 1237090	0.5	8.4	7.2	1.2	4	FILL - Gravelly sand, dark brown	No	May indicate PASS	CRS		8.3	57	34	63	37	8.8	<2	<0.003	53	0.085	12	2,500	4	1.5	<10	<0.02	<1	53	0.08	4	47.2											
ABH004N_1	ABH004N	27/05/2025	1225146	1.0	8.6	7.2	1.4	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	May indicate PASS																																							
ABH004N_1.5	ABH004N	27/05/2025	1225146	1.5	8.3	8.1	0.2	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	Unlikely to be PASS																																							
ABH004N_2	ABH004N	27/05/2025	1225146	2.0	8.3	8.4	-0.1	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	Unlikely to be PASS																																							
ABH004N_2.5	ABH004N	27/05/2025	1225146 / 1237090	2.5	7.8	3.1	4.7	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	May indicate PASS	CRS		37	26	<0.005	100	<0.1	7.8	<2	<0.003	640	1	2.3	470	0.75	1.5	330	0.52	25	640	1	48	0.7											
ABH004N_3	ABH004N	27/05/2025	1225146	3.0	8.2	4.0	4.2	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	May indicate PASS																																							
ABH004N_3.5	ABH004N	27/05/2025	1225146	3.5	8.4	3.7	4.7	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	Yes	May indicate PASS																																							
ABH004N_4	ABH004N	27/05/2025	1225146	4.0	8.3	7.4	0.9	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	Yes	Unlikely to be PASS																																							
ABH004S_0.2	ABH004S	27/05/2025	1225146	0.2	9.4	9.1	0.3	4	FILL - Gravelly sand	No	Unlikely to be PASS																																							
ABH004S_0.5	ABH004S	27/05/2025	1225146	0.5	8.1	6.4	1.7	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS																																							
ABH004S_1	ABH004S	27/05/2025	1225146 / 1237090	1.0	8.1	4.3	3.8	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS	CRS		20	34	<0.005	100	<0.1	8.4	<2	<0.003	260	0.42	3.1	620	1	1.5	<10	<0.02	<1	260	0.42	19	2.4											
ABH004S_1.5	ABH004S	27/05/2025	1225146	1.5	8.6	7.5	1.1	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS																																							
ABH004S_2	ABH004S	27/05/2025	1225146 / 1237090	2.0	8.3	3.5	4.8	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS	CRS		32	24	<0.005	100	<0.1	8.2	<2	<0.003	71	0.11	2.6	510	0.82	1.5	<10	<0.02	<1	71	0.11	5.3	7.2											
ABH004S_2.5	ABH004S	27/05/2025	1225146	2.5	8.6	7.6	1.0	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS																																							
ABH004S_3	ABH004S	27/05/2025	1225146	3.0	8.6	7.2	1.4	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS																																							
ABH004S_3.5	ABH004S	27/05/2025	1225146	3.5	8.3	6.4	1.9	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS																																							
ABH004S_4	ABH004S	27/05/2025	1225146	4.0	8.5	7.2	1.3	4	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	May indicate PASS																																							
ABH004W_0.2	ABH004W	27/05/2025	1225146	0.2	9.5	8.8	0.7	4	FILL - Gravelly Sand, grey-brown	No	Unlikely to be PASS																																							
ABH004W_0.5	ABH004W	27/05/2025	1225146	0.5	8.7	6.8	1.9	4	FILL - Clay, Black with gravels	No	Unlikely to be PASS																																							
ABH004W_1	ABH004W	27/05/2025	1225146	1.0	8.3	4.5	3.8	4	FILL - Clay, Black with gravels	No	May indicate PASS																																							
ABH004W_1.5	ABH004W	27/05/2025	1225146 / 1237090	1.5	8.2	2.5	5.7	4	FILL - Clay, Black with orange traces, gravels	No	Stong indication of PASS	CRS		17	62	<0.005	100	<0.1	8.4	<2	<0.003	260	0.42	1.9	390	0.62	1.5	<10	<0.02	<1	260	0.42	20	1.5											
ABH004W_2	ABH004W	27/05/2025	1225146	2.0	8.5	2.6	5.9	4	FILL - Clay, sandy, black/brown, anthropogenic traces	No	Stong indication of PASS																																							
ABH004W_2.5	ABH004W	27/05/2025	1225146 / 1237090	2.5	8.2	2.4	5.8	4	FILL - Clay, sandy, black/brown, anthropogenic traces	No	Stong indication of PASS	CRS		26	62	9.4	87	13	7.8	<2	<0.003	670	1.1	2.6	520	0.84	1.5	320	0.51	24	670	1.1	50	0.8											
ABH004W_3	ABH004W	27/05/2025	1225146	3.0	8.8	7.1	1.7	4	FILL - Clay, sandy, black/brown, anthropogenic traces	No	May indicate PASS																																							
ABH004W_3.5	ABH004W	27/05/2025	1225146	3.5	8.8	7.2	1.6	4	FILL - Clay, sandy, black/brown, anthropogenic traces	Yes	May indicate PASS																																							
ABH004W_4	ABH004W	27/05/2025	1225146	4.0	8.5	4.7	3.8	4	FILL - Clay, sandy, black/brown, anthropogenic traces	Yes	May indicate PASS																																							
BH004A_0.2	BH-004A	11 Jun 2025	1231576	0.2	8.7	8.6	0.1	4.0	FILL - Clayey gravelly sand, dark brown, brick fragments	No	Unlikely to be PASS																																							
BH004A_0.5	BH-004A	11 Jun 2025	1231576	0.5	7.8	7.1	0.7	4.0	FILL - Clayey gravelly sand, dark brown, brick fragments	No	Unlikely to be PASS																																							
BH004A_1.0	BH-004A	11 Jun 2025	1231576	1.0	8.6	8.1	0.5	4.0	FILL - Gravelly sand, brown to orange	No	Unlikely to be PASS																																							
BH004A_2.0	BH-004A	11 Jun 2025	1231576 / 1237090	2.0	8.4	7	1.4	4.0	FILL - Gravelly sand, brown to orange	No	May indicate PASS	CRS		26	42	<0.005	100	<0.1	8.3	<2	<0.003	5.5	0.009	1.8	360	0.57	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004A_3.0	BH-004A	11 Jun 2025	1231576	3.0	8.5	8.4	0.1	4.0	FILL - Gravelly sand, brown to orange. Sandstone boulder from 3 to 4 m	No	Unlikely to be PASS																																							
BH004A_4.0	BH-004A	11 Jun 2025	1231576 / 1237090	4.0	11	8.1	2.9	4.0	FILL - Sandy gravels, grey, crushed concrete, dolerite, sandstone	Yes	May indicate PASS	CRS		13	30	17	64	36	9.1	<2	<0.003	50	0.079	1.9	370	0.6	1.5	<10	<0.02	<1	50	0.08	3.7	7.4											
BH004A_5.0	BH-004A	11 Jun 2025	1231576	5.0	12	7.4	4.6	4.0	FILL - Sandy gravels, grey, crushed concrete, dolerite, sandstone	Yes	May indicate PASS																																							
BH004E_0.2	BH-004E	10 Jun 2025	1231576 / 1237090	0.2	8.6	7.4	1.2	4.0	FILL - Gravelly sand, dark grey	No	May indicate PASS	CRS		3.1	23	61	27	73	8.8	<2	<0.003	12	0.019	1.8	370	0.59	1.5	<10	<0.02	<1	12	0.02	<1	30.8											
BH004E_0.5	BH-004E	10 Jun 2025	1231576	0.5	8.5	7.7	0.8	4.0	FILL - Gravelly sand, dark grey	No	Unlikely to be PASS																																							
BH004E_1.0	BH-004E	10 Jun 2025	1231576	1.0	8.7	7.9	0.8	4.0	FILL - clay, dark brown, trace sand	No	Unlikely to be PASS																																							
BH004E_2.0	BH-004E	10 Jun 2025	1231576	2.0	8.7	8.1	0.6	4.0	FILL - Clay, brown, red and white silty inclusions	No	Unlikely to be PASS																																							
BH004E_3.0	BH-004E	10 Jun 2025	1231576	3.0	8.7	9	-0.3	4.0	FILL - Clayey gravelly sand, dark brown, some concrete fragments at 3.6	No	Unlikely to be PASS																																							
BH004E_4.0	BH-004E	10 Jun 2025	1231576	4.0	9.8	8.3	1.5	4.0	FILL - Gravels, grey	Yes[#1]	May indicate PASS																																							
BH004E_5.0	BH-004E	10 Jun 2025	1231576	5.0	8.1	4.1	4	4.0	FILL - Gravelly sand, dark grey	Yes[#1]	Moderate indicator of PASS																																							
BH004N_0.2	BH-004N	10 Jun 2025	1231576	0.2	9.2	8	1.2	4.0	FILL - Gravelly, sandy clay, dark brown, some cobble of limestone and siltstone	No	May indicate PASS																																							
BH004N_0.5	BH-004N	10 Jun 2025	1231576	0.5	7.4	7.4	0	4.0	FILL - Gravelly, sandy clay, dark brown, some cobble of limestone and siltstone	No	Unlikely to be PASS																																							
BH004N_1.0	BH-004N	10 Jun 2025	1231576 / 1237090	1.0	8.1	5.6	2.5	4.0	FILL - Gravelly, sandy clay, dark brown, some cobble of limestone and siltstone. Some slag at 1.6, some bricks at 1.8	No	May indicate PASS	CRS		6.7	15	43	26	74	7.3	<2	<0.003	8.9	0.014	1	200	0.32	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004N_2.0	BH-004N	10 Jun 2025	1231576	2.0	8.2	7.8	0.4	4.0	FILL - Sandy clay, grey to brown, some iron nodules, sand, ceramic fragments and shells	No	Unlikely to be PASS																																							
BH004N_3.0	BH-004N	10 Jun 2025	1231576 / 1237090	3.0	8.6	7.2	1.4	4.0	NATURAL - Sand, grey, shell fragments	No	May indicate PASS	CRS		16	34	8.7	79	21	8.4	<2	<0.003	<3	<0.005	1.4	270	0.44	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004N_4.0	BH-004N	10 Jun 2025	1231576	4.0	8.4	2.9	5.5	4.0	NATURAL - Sand, grey, shell fragments	Yes[#1]	Stong indication of PASS																																							
BH004N_5.0	BH-004N	10 Jun 2025	1231576	5.0	8.8	3.9	4.9	4.0	NATURAL - Sand, grey, shell fragments	Yes[#1]	Moderate indicator of PASS																																							
BH004S_0.2	BH-004S	11 Jun 2025	1231576	0.2	8.8	8.6	0.2	4.0	FILL - Gravelly saand, some brick,metals, glass fragments	No	Unlikely to be PASS																																							
BH004S_0.5	BH-004S	11 Jun 2025	1231576	0.5	8.7	7.7	1	4.0	FILL - Gravelly saand, some brick,metals, glass fragments	No	Unlikely to be PASS																																							
BH004S_1.0	BH-004S	11 Jun 2025	1231576 / 1237090	1.0	8.1	7	1.1	4.0	FILL - Gravelly saand, some brick,metals, glass fragments. Slag cobbles at 1.6 m bgl	No	May indicate PASS	CRS		11	42	18	70	30	8.5	<2	<0.003	<3	<0.005	2	390	0.63	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004S_2.0	BH-004S	11 Jun 2025	1231576	2.0	8.4	8.2	0.2	4.0	FILL - Gravelly saand, some brick,metals, glass fragments	No	Unlikely to be PASS																																							
BH004S_3.0	BH-004S	11 Jun 2025	1231576 / 1237090	3.0	8.3	6.8	1.5	1.0	FILL - Clay, brown, white silty intrusions, copper fragment, iron deposits	No	May indicate PASS	CRS		22	37	9.8	79	21	8.4	<2	<0.003	5	0.008	1.2	230	0.37	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004S_4.0	BH-004S	11 Jun 2025	1231576	4.0	8.4	7.1	1.3	1.0	FILL - Sand, some sheets, bark, brick fragments	Yes[#1]	May indicate PASS																																							
BH004S_5.0	BH-004S	11 Jun 2025	1231576	5.0	8.2	2	6.2	4.0	FILL - Sand, some sheets, bark, brick fragments	Yes[#1]	Stong indication of PASS																																							
BH004W_0.2	BH-004W	11 Jun 2025	1231576	0.2	8.7	8.2	0.5	4.0	FILL - Gravelly sand, some slag cobbles	No	Unlikely to be PASS																																							
BH004W_0.5	BH-004W	11 Jun 2025	1231576	0.5	8.4	8.2	0.2	4.0	FILL - Gravelly sand, some slag cobbles. Brick, glass and ceramic fragments from 0.6 m bgl	No	Unlikely to be PASS																																							
BH004W_1.0	BH-004W	11 Jun 2025	1231576 / 1237090	1.0	8.1	6	2.1	4.0	FILL - Gravelly sand, some slag cobbles. Brick, glass and ceramic fragments from 0.6 m bgl	No	May indicate PASS	CRS		26	19	16	54	46	8.2	<2	<0.003	7.7	0.012	6.1	1,200	2	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004W_2.0	BH-004W	11 Jun 2025	1231576 / 1237090	2.0	9	7.1	1.9	4.0	FILL - Gravelly sand, some slag cobbles. Brick, glass and ceramic fragments, and increasing clay content. Rusted metal sheeting at 1.1 m bgl	No	May indicate PASS	CRS		15	27	27	50	50	8.7	<2	<0.003	<3	<0.005	1.8	360	0.58	1.5	<10	<0.02	<1	<10	<0.02	<1	-											
BH004W_3.0	BH-004W	11 Jun 2025	1231576	3.0	8.7	7.7	1	4.0	FILL - Clay, brown, with white silty inclusions, red brick and glasss fragments, sand inclusions	No	Unlikely to be PASS																																							
BH004W_4.0	BH-004W	11 Jun 2025	1231576 / 1237090	4.0	8.4	2.5	5.9	4.0	FILL - Clay, brown, with white silty inclusions, red brick and glasss fragments, sand inclusions	Yes	Stong indication of PASS	CRS/SPOCAS		40	48	<0.005	100	<0.1	8.3	<2	<0.003	550	0.88	1.6	320	0.52	1.5	337[#2]	0.53[#2]	-	550	0.88	-	0.6	650	1	165[#3]	0.195[#3]	Not provided	650	1	540	0.87	41	
BH004W_5.0	BH-004W	11 Jun 2025	1231576	5.0	8.4	4.4	4	4.0	FILL - Sand, grey, with some ceramics, shells, sulfur odour, orange cobbles	Yes	May indicate PASS																																							
BH004W_6.0	BH-004W	11 Jun 2025	1231576	6.0	8.3	5.8	2.5	4.0	FILL - Sand, grey, with some ceramics, shells, sulfur odour, orange cobbles	Yes	Unlikely to be PASS																																							

Notes
1. Groundwater not noted on bore log. Based on depth to water in nearby wells RN4, MW55, and MW176, and in BH004W and BH-004A
2. Net acidity (including ANC) not reported by laboratory and calculated using ANC fineness factor of 1.5
3. ANC not reported by laboratory, and calculated based on reported net acidities with and without ANC, allowing a finess factor of 1.5

Appendix C

Bore Search



Disclaimer and Copyright. Map data is compiled from a variety of sources and hence its accuracy is variable. If you wish to make decisions based on this data you should consult with professional advisers. Topographic map base layer is sourced from the LIST (https://www.thelist.tas.gov.au). Apart from any use permitted under the Copyright Act 1968, no part of this report may be copied without the permission of the General Manager, Agriculture and Water Business Unit, Department of Natural Resources and Environment Tasmania, PO Box 41, Hobart, TAS 7001.

Identification

Feature id: 2864 **Feature type:** Bore

Location

Locality: Hobart
Easting: 526814.000 **Datum:** GDA94
Northing: 5254583.000 **Accuracy:** 200
Ground level (m ASL):

Construction

Date drilled: 21/02/1983
Drilling company: Mines Department (=Tasmania Department of Mines)
Depth (metres): 54.00
Initial yield (L/sec): 0.23
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	54.0	54.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
NA				

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

Geological / Hydrogeological Information

Lithological Log

From (m)	To (m)	Lithological description
0.0	3.0	soil and boulders
3.0	54.0	dolerite

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
21/02/1983	40.0		0.23

Main aquifer geology: Jurassic Dolerite
Final TDS (mg/L): 1800

Standing Water Levels

Standing water levels

Date	SWL (metres)
NA	

Current status

Last recorded statuses

Type	Value	Date recorded
function	Unknown	21/02/1983

Identification

Feature id: 3252 **Feature type:** Bore

Location

Locality: Sandy Bay
Easting: 526914.000 **Datum:** GDA94
Northing: 5250033.000 **Accuracy:** 50
Ground level (m ASL):

Construction

Date drilled: 18/08/1987
Drilling company: Gerald Spaulding Drillers Pty Ltd
Depth (metres): 48.80
Initial yield (L/sec): 4.54
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	48.8	203.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	42.7		152.00	unplasticised polyvinylchloride uPVC

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

Geological / Hydrogeological Information

Lithological Log

From (m)	To (m)	Lithological description
0.0	0.6	dolerite fill
0.6	9.2	yellow clay
9.2	18.3	decomposed basalt (clay)
18.3	24.4	broken basalt
24.4	48.8	decomposed basalt

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
18/08/1987	24.4	36.6	4.54

Main aquifer geology: Tertiary Basalt
Final TDS (mg/L):

Standing Water Levels

Standing water levels

Date	SWL (metres)
NA	

Current status

Last recorded statuses

Type	Value	Date recorded
function	functioning	18/08/1987

Identification

Feature id: 3325 **Feature type:** Bore

Location

Locality: Sandy Bay
Easting: 526714.000 **Datum:** GDA94
Northing: 5249858.000 **Accuracy:** 50
Ground level (m ASL):

Construction

Date drilled: 01/01/1967
Drilling company: Unknown duplicate
Depth (metres):
Initial yield (L/sec):
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
			Unknown

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
NA				

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

Geological / Hydrogeological Information

Lithological Log

From (m)	To (m)	Lithological description
NA		

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
NA			

Main aquifer geology: Tertiary Sediments
Final TDS (mg/L): 2463

Standing Water Levels

Standing water levels

Date	SWL (metres)
NA	

Current status

Last recorded statuses

Type	Value	Date recorded
function	Unknown	01/11/1996

Appendix D

Bore Logs

SOIL BOREHOLE ABH-004A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252448.90 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527581.00 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine to medium grained, fine to medium gravels (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M			0	ABH004A_0.5
				1							0	ABH004A_1.0
											0	ABH004A_1.5
				2							0	ABH004A_2.0
											0	ABH004A_2.5
				3							0	ABH004A_3.0
											0	ABH004A_3.5
				4							0	ABH004A_4.0
							End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004E

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252448.95 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527590.68 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey from 0.02-0.3 mbgl, dark grey from 0.3-0.5 mbgl, medium grained sand, fine to coarse gravels (<6cm), loose, no odour				0.4	ABH004E_0.2
											0	ABH004E_0.5
							FILL: Sandy Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M				
							Grey green layer 0.8-1 mbgl	M			0	ABH004E_1.0
				1							0	ABH004E_1.5
											0	ABH004E_2.0
				2							0	ABH004E_2.5
							Pale brown layer 2.8-2.9 mbgl	W			0	ABH004E_3.0
				3							0	ABH004E_3.5
											0	ABH004E_4.0
				4			End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004N

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252457.79 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527580.52 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine-medium grained, fine to medium gravel (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M			0	ABH004A_0.5
							FILL: Gravelly SAND; dark brown, fine-med grained sand and gravel	D				
							FILL: Sandy Gravelly CLAY; dark brown, stiff, fine - coarse grained gravel (2mm-6cm), medium to coarse grained sand, well graded with some cobbles (<20cm), fabric, organic matter, glass, no odour, no staining, brick	D/M			0	ABH004A_1.0
				1							0	ABH004A_1.5
											0	ABH004A_2.0
				2			Pale grey, green colour at 2m-2.1 mbgl	M				
											0	ABH004A_2.5
				3							0	ABH004A_3.0
											0	ABH004A_3.5
							Slag at 4m	W			0	ABH004A_4.0
				4			End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004S

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252437.81 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527580.77 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine to medium grained, fine to medium gravel (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm to stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M			0	ABH004A_0.5
				1							0	ABH004A_1.0
											0	ABH004A_1.5
				2							0	ABH004A_2.0
											0	ABH004A_2.5
				3							0	ABH004A_3.0
											0	ABH004A_3.5
				4							0	ABH004A_4.0
							End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004W

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252448.90 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527570.87 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine-medium grained, fine to medium gravel (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D			0	ABH004A_0.5
							FILL: CLAY; LP, black, with gravels, fine-medium grained (2mm-20mm), well graded, fine to medium gravel (<1cm), loose	D				
							With some cobbles (60-80mm)	D			0	ABH004A_1.0
				1			FILL: Gravelly CLAY; L-MP, black with orange trace, fine-medium grained (2mm-20mm), well graded, loose, firm	M				
							FILL: Sandy CLAY; L-HP, black/brown, with gravels and cobbles, medium grained gravel, loose, stiff, (nails, glass present), brick fragments				0	ABH004A_1.5
				2							0	ABH004A_2.0
											0	ABH004A_2.5
				3							0	ABH004A_3.0
							FILL: Sandy CLAY; with gravels, medium grained sands, medium-coarse gravel, black, firm, with wire, fabric, organic material, HC odour	W			0	ABH004A_3.5
				4							0	ABH004A_4.0
							End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE BH-004A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**5.00 m**
Coordinates:	**5252389.80 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**11-6-25**		**527464.57 mE**
Date Finished:	**11-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT					
							FILL: Clayey Gravelly SAND; dark brown, fine to medium grained sand, fine to coarse gravels, LP clay, with some sandstone cobbles (>7cm), with some brick fragments	D			0	BH004A_0.2
											0	BH004A_0.5
							FILL: Gravelly SAND; fine to coarse grained sand, pale brown to orange, fine to coarse gravels, with some sandstone cobbles (>7cm)	D			0	BH004A_1.0
				1								
							with MP dark brown Clay from 1.9m	D			0	BH004A_2.0
				2								
											0	BH004A_3.0
				3			Encountered sandstone boulder at 3m. Core loss from 3-4m	D				
					CORE LOSS							
											0	BH004A_4.0
				4			FILL: Sandy GRAVEL; grey, fine to coarse grained sands, fine to coarse gravels, angular, with crushed concrete, dolerite and sandstone cobbles	W				
											0	BH004A_5.0
				5			End of Hole at 5.0mbgl, target depth					

SOIL BOREHOLE BH-004E

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**5.00 m**
Coordinates:	**5252389.59 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**10-6-25**		**527474.58 mE**
Date Finished:	**10-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT					
							FILL: Gravelly SAND; dark grey, fine to medium grained sand, fine to coarse gravels, no odour, no staining	D			0	BH004E_0.2
											0	BH004E_0.5
				1							0	BH004E_1.0
							FILL: CLAY; dark brown, MP, traces of fine to medium grained sand	M				
							FILL: Gravelly SAND; dark grey, fine to medium grained sand, fine to coarse gravels	M				
				2							0	BH004E_2.0
							FILL: Sandy CLAY; brown, MP, firm, red and white silty inclusions, fine to coarse grained sand	M				
				3							0	BH004E_3.0
							FILL: Clayey gravelly SAND; fine to medium grained sand, fine to medium gravels, dark brown	W				
							With some loose concrete fragments	W				
				4							0	BH004E_4.0
							FILL: GRAVELS; angular, medium (>2cm), grey	W				
							FILL: Gravelly SAND; with trace clay, fine to medium grained sand, fine to coarse gravels, dark grey	W				
				5							0	BH004E_5.0
							End of Hole at 5.0mbgl, target depth					

SOIL BOREHOLE BH-004N

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**5.00 m**
Date Started:	**10-6-25**	Coordinates:	**5252398.79 mN 527464.69 mE**
Date Finished:	**10-6-25**	Permit No:	**N/A**
Relative Level:	**mRL**	Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT					
							FILL: Gravelly sandy CLAY; dark brown, L-MP, fine to coarse grained sand, fine to coarse gravels, with some limestone and siltstone cobbles (>7cm)	D		☒	0	BH004N_0.2
										☒	0	BH004N_0.5
				1						☒	0	BH004N_1.0
							With some slag at 1.6 m bgl	D				
							With some bricks at 1.8 m bgl	D				
				2						☒	0	BH004N_2.0
							FILL: Sandy CLAY; grey to brown, MP, orange mottling, with white and red silty inclusions, iron nodules, fine to medium grained sands, with some ceramic and shells. (one ceramic fragment noted @ 2.9mbgl), no odour, no staining	D				
				3						☒	0	BH004N_3.0
							SAND; grey, no odour, no staining, fine to medium grained sands, with shell fragments	D				
				4						☒	0	BH004N_4.0
				5						☒	0	BH004N_5.0
							End of Hole at 5.0mbgl, target depth					

SOIL BOREHOLE BH-004S

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**NDD, Sonic**
Checked By:	**TG**	Total Depth:	**5.00 m**
Coordinates:	**5252379.64 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**11-6-25**		**527464.22 mE**
Date Finished:	**11-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD to 1 m bgl				0			ASPHALT					
							FILL: Gravelly SAND; brown, fine to coarse grained sand, fine to coarse gravels, angular to sub-angular, well graded with some brick fragments, metal, glass, no odour, no staining, traces of LP brown clay	D		☒	0	BH004S_0.2
										☒	0	BH004S_0.5
				1						☒	0	BH004S_1.0
							with some pale brown to orange sands, fine to coarse grained cobbles (<10cm)	D				
							with some slag cobbles at 1.5 m	D				
				2						☒	0	BH004S_2.0
							Becoming MP Clay, brown, with some weathered white shells	D				
							FILL: CLAY; brown, L-MP, mottled dark brown-black, with some white silty intrusions, red iron deposits, bright green oxidised copper fragment	D				
				3						☒	0	BH004S_3.0
				4			Becoming black clay with sand, fine to medium grained	D		☒	0	BH004S_4.0
120mm Sonic core							SAND; grey, fine to medium grained sands, with some shells, large bark (<20cm) piece @ 4.8m, red brick fragments (<2cm)	D				
				5			End of Hole at 5.0mbgl, target depth			☒	0	BH004S_5.0

SOIL BOREHOLE BH-004W

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**NDD, Sonic**
Checked By:	**TG**	Total Depth:	**6.00 m**
Coordinates:	**5252390.09 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**11-6-25**		**527455.90 mE**
Date Finished:	**11-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

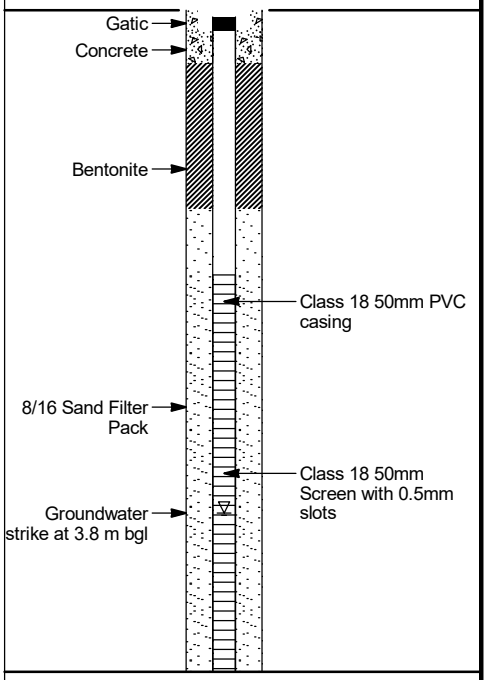
Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD to 1.2 m bgl				0			ASPHALT					
							FILL: Gravelly SAND; brown, fine to coarse grained sand, fine to coarse gravels, angular, well graded with some slag cobbles	D		⋈	0	BH004W_0.2
										⋈	0	BH004W_0.5
							With some bricks, glass, and ceramics	D				
							Becoming darker brown, minor LP clay, brick fragments	M				
				1						⋈	0	BH004W_1.0
							rusted metal sheeting	M				
							Increasing clay content, becoming light brown	M				
				2						⋈	0	BH004W_2.0
							CLAY; brown, MP, with some fine gravels, white silty inclusions, red brick fragments, mottled black, grey, orange, minor fine to medium sands, glass fragments	M				
				3						⋈	0	BH004W_3.0
				4						⋈	0	BH004W_4.0
120mm Sonic core							SAND; grey, fine to coarse grained sands, with some ceramics, shells, sulfur odour with some rounded orange cobbles (>7cm)	M				
				5						⋈	0	BH004W_5.0
				6						⋈	0	BH004W_6.0
							End of Hole at 6.0mbgl, target depth					

MONITORING WELL MW103A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**5.00 m**
Date Started:	**29/05/2025**	Casing Size:	**50 mm**
Date Finished:	**29/05/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527523.80 mE**
			5252582.96 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.1	MW103A_0.2			FILL: Sandy Clayey GRAVEL; dark brown, fine to coarse gravels, fine-medium sand, loose, no odour, no staining, well graded	D	0
		0.1	MW103A_0.5			FILL: GRAVEL; grey, medium grained, poorly graded, no odour, no staining	D	
		0	MW103A_1.0			DOLERITE; Extremely weathered, light brown	D	1
		0	MW103A_2.0					2
		0.2	MW103A_3.0					3
		0.1	MW103A_4.0			3.8-4.2m: dry to moist	D/M	4
						End of Hole at 5.0mbgl. Target depth		5
								6
								7
								8
								9

WELL CONSTRUCTION DETAILS

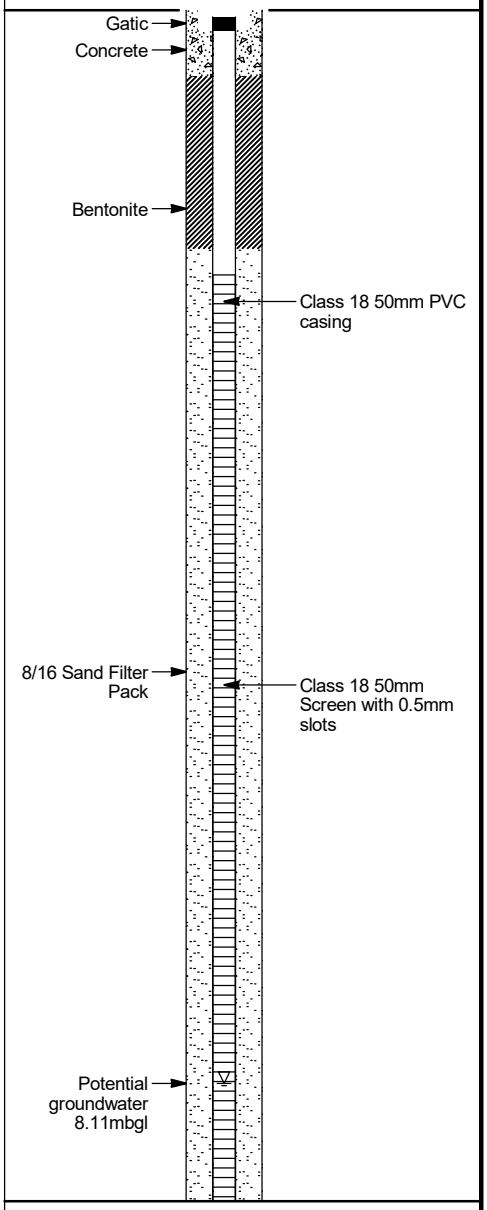


MONITORING WELL MW120A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**9.00 m**
Date Started:	**5/06/2025**	Casing Size:	**50 mm**
Date Finished:	**5/06/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527378.99 mE**
			5252634.02 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.1	MW120A_0.2			FILL: Sandy GRAVEL; fine to coarse, dark grey/grey, fine-medium brown sand, with some LP brown clay, dry, loosely packed	D	0
		0.1	MW120A_0.5			DOLERITE; fresh, grey	D	
		0	MW120A_1.0					1
		0	MW120A_2.0					2
		0.0	MW120A_3.0					3
		1.2	MW120A_4.0					4
		0.0	MW120A_5.0					5
		0.0	MW120A_6.0			DOLERITE; weathered, grey, with some clay, L-MP, grey	D	6
						DOLERITE; fresh, grey	D	
		1.1	MW120A_7.0			DOLERITE; weathered, grey, with some clay, L-MP, grey	D	7
						CLAY; LP, grey	D	
						DOLERITE; fresh, grey	D	
						CLAY; LP, grey	D	
						DOLERITE; weathered, grey, with some clay, L-MP, grey	M	8
						DOLERITE; fresh, grey	D	
						End of Hole at 9.0mbgl, target depth		9

WELL CONSTRUCTION DETAILS

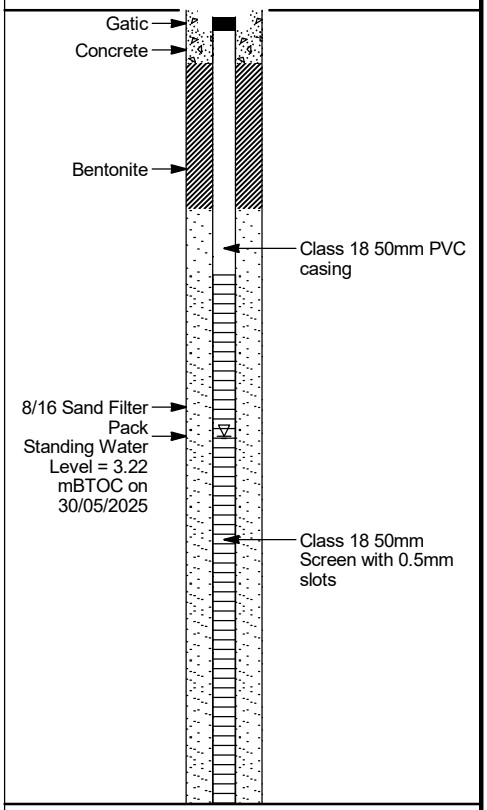


MONITORING WELL MW182

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**29/05/2025**	Casing Size:	**50 mm**
Date Finished:	**29/05/2025**	Top of Casing:	**mAHD**
Coordinates:	**527571.24 mE**	Drill Type:	**Sonic**
	5252571.87 mN	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Permit No:	**N/A**	Drill Fluid:	**N/A**

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.0	MW182_0.2			FILL: GRAVEL; grey, medium to coarse, angular, geofab underlay	D	0
	0.0	MW182_0.5			FILL: Sandy clayey GRAVEL; dark brown, fine-coarse grained gravels, fine-med sands, with some cobbles, brick fragments, no odour	D	
	0.0	MW182_1.0					1
	0.0	MW182_2.0			FILL: Sandy gravelly CLAY; fine-coarse grained gravels, fine to med sand, dark brown, loose, brick fragments, ceramic, glass, no odour, no staining	D	2
					White silty inclusions	D	
	0.0	MW182_3.0					3
	0.0	MW182_4.0					4
					SAND; dark brown, fine to medium grained, no odour, no staining	D	
					Layer of organic material	W	5
					DOLERITE	W	
					End of Hole at 6.0mbgl, target depth		6
							7
							8
							9

WELL CONSTRUCTION DETAILS

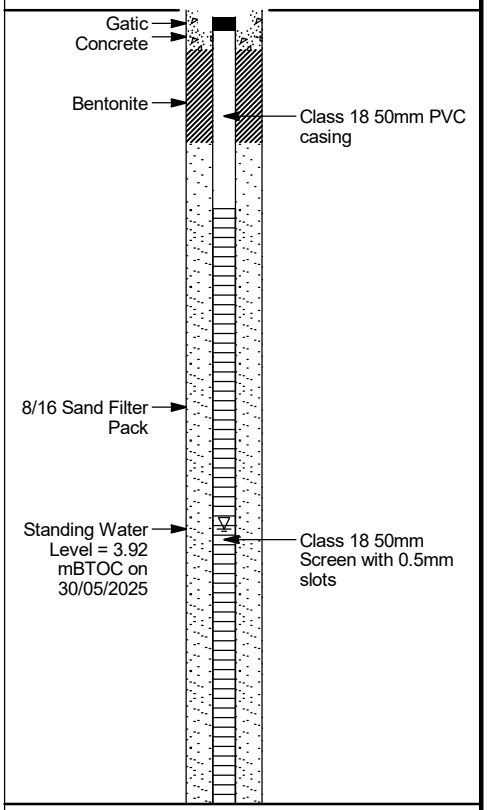


MONITORING WELL MW183

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**29/05/2025**	Casing Size:	**50 mm**
Date Finished:	**29/05/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527544.51 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252562.19 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW183_0.2			FILL: GRAVEL; grey, medium to coarse grained, with some cobbles	D	0
		0.0	MW183_0.5			FILL: Sandy gravelly CLAY; fine-coarse grained gravels and sands, minor silts, well graded, cobbles, metal fragments, boulders, grass, brick fragments, plastic, HC odour, dark brown	D	
		4.8	MW183_1.0					1
		0.0	MW183_2.0					2
						FILL: Clayey GRAVEL; coarse grained, angular, cobbles, grey, green staining, HC odour	D	
		5.8	MW183_3.0					3
		25	MW183_4.0					4
						SAND; grey/green, fine to medium grained, trace clay, HC odour, wet	W	
						DOLERITE; extremely weathered, grey/brown, white silty inclusions, dolerite gravel intermixed with clay, dry, no odour, no staining	D	5
						End of Hole at 6.0mbgl, target depth		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

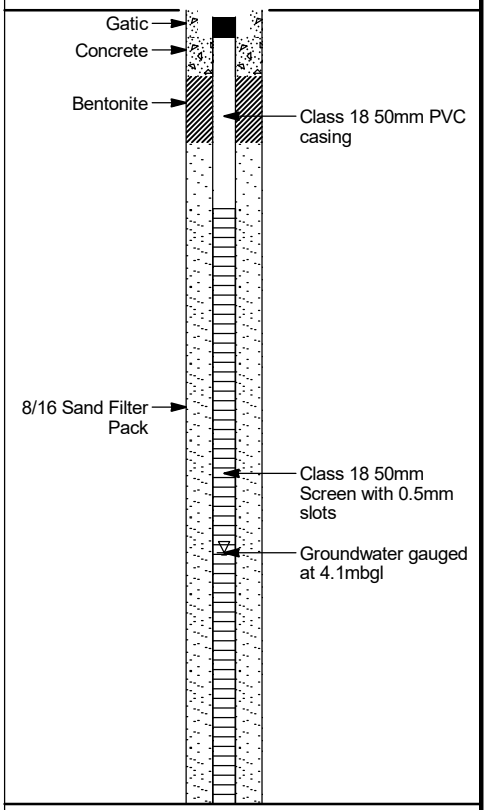


MONITORING WELL MW184

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**2/06/2025**	Casing Size:	**50 mm**
Date Finished:	**2/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527531.66 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252541.23 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.0	MW184_0.2			FILL: Sandy GRAVEL; fine-coarse, grey, sub-angular, sand is fine-coarse, brown, dry, loosely packed, with some cobbles up to 12cm	D	0
	0.1	MW184_0.5			Sand becoming grey/brown	D	
	0.7	MW184_1.0, QC101, QC201			Sand becoming black	D	1
	0.3	MW184_2.0			FILL: Gravelly SAND; fine-medium, brown, fine-coarse grey gravel, with some cobbles up to 10cm, dry	D	2
					Between 2.1 and 3mbgl there was full core loss		
	0.5	MW184_3.0			FILL: Gravelly clayey SAND; fine-medium, black, fine-coarse grey gravel, large quantity of cobbles up to 15cm, moist	M	3
	32.4	MW184_4.0			FILL: Sandy CLAY; MP, grey, with some coarse gravel, trace cobbles up to 8cm, very soft, moist	M	4
					SAND; grey, fine to medium, trace cobbles 6-8cm, trace organic shell + sea life, wet, very soft	W	
					Gravelly sandy COBBLES; 2-12cm, grey, sand is fine to medium grained, grey, dry, with some clay	W	5
					DOLERITE; weathered, yellowish with green inside rocks, dry, crumbly	W	
					End of Hole at 6.0mbgl, target depth		6
							7
							8
							9

WELL CONSTRUCTION DETAILS

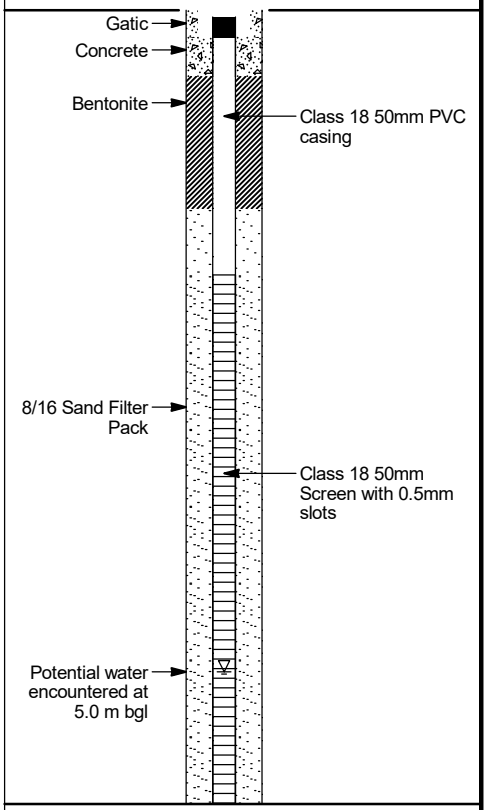


MONITORING WELL MW185

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**6/06/2025**	Casing Size:	**50 mm**
Date Finished:	**6/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527518.55 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252510.06 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.0	MW185_0.2			FILL: Sandy GRAVELS; fine to coarse, angular to sub-angular, brown, traces of HP clay, brown, fine to coarse sands, with brick fragments and geofab	D	0
	0.0	MW185_0.5			FILL: Sandy GRAVELS; fine to coarse, angular gravels, grey, with some large cobbles (70-100mm), fine to coarse sands, metal fragments	D	
	0.7	MW185_1.0			Becoming dark brown	D	1
					FILL: CLAY; black, with some fine to medium gravels, L-MP clay, with some yellow fine to coarse grained sands	D	
	1.0	MW185_2.0			FILL: CLAY; black, with some fine to medium gravels, L-MP clay, with some yellow fine to coarse sands	D	2
					Becoming more mottled green	D	
					Becoming black, mottled green/white	D	
	11.3	MW185_3.0, QC104, QC204					3
	57.6	MW185_4.0			Becoming dark grey, mottled yellow to white to green, large cobbles	D	4
					FILL: Clayey SAND; fine to med sand, with some HP clay, brown, sands, black to green clay	W	
					Core loss		5
					SAND; grey, wet, fine to medium grained + bark/wood fragments	W	
					DOLERITE; weathered, medium to large cobbles, dark grey to black to green, sea life + shell fragments, HC odour, moist, pale brown mottling	W	6
					End of Hole at 6.0mbgl, target depth		7
							8
							9

WELL CONSTRUCTION DETAILS

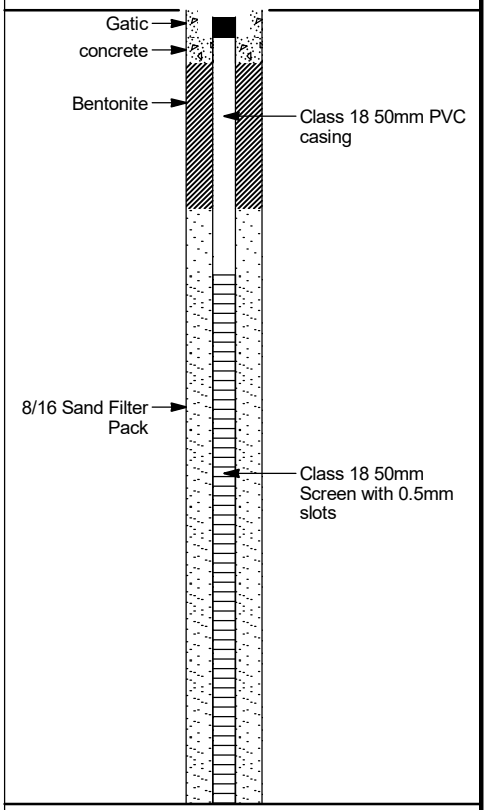


MONITORING WELL MW186

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**10/06/2025**	Casing Size:	**50 mm**
Date Finished:	**10/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527504.39 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252492.98 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	1.5	MW186_0.2			FILL: Sandy GRAVELS; brown, fine to coarse grained sands, fine to coarse gravels, angular, cobbles	M	0
	0.9	MW186_0.5			FILL: Gravelly CLAY; dark brown/grey to black, fine to coarse gravels, angular, L-MP, large cobbles (>5cm), with some geofab, metals, bricks, shells, wood, glass	D/M	
	1.0	MW186_1.0					1
	0.7	MW186_2.0					2
					Sandy CLAY; MP, firm, dark brown with light brown mottling, fine sands, some fine to medium gravels	D/M	
					Gravelly CLAY; dark brown, fine to coarse gravels, shells, brick, wire	M/W	
	0.6	MW186_3.0					3
					Sheen, HC odour (3.2-4.0m)	W	
	1.1	MW186_3.5, QC105, QC205					4
					Sandy GRAVEL; dark grey to brown, fine to coarse grained gravels, angular, dolerite cobbles (5cm), plus coarse sands, shell fragments	W	5
					End of Hole at 6mbgl, target depth		6
							7
							8
							9

WELL CONSTRUCTION DETAILS

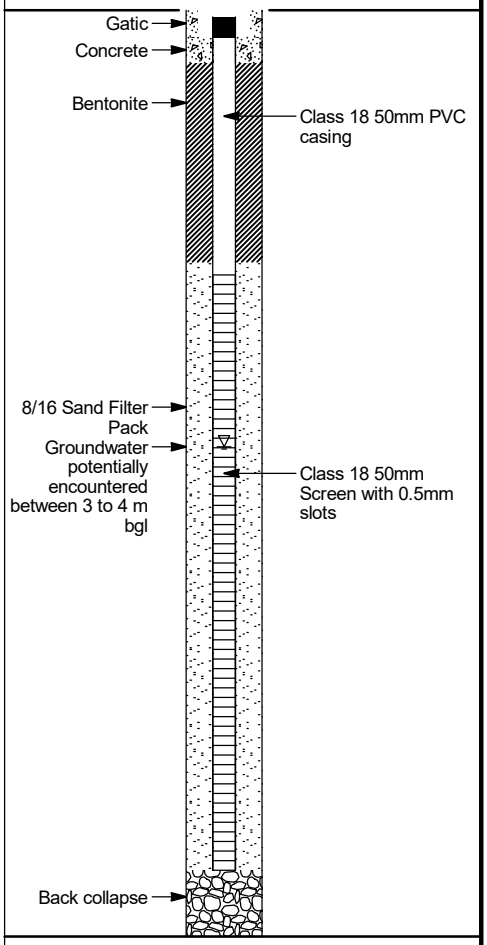


MONITORING WELL MW187

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**7.00 m**
Date Started:	**11/06/2025**	Casing Size:	**50 mm**
Date Finished:	**11/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527578.41 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252529.86 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW187_0.2			FILL: Clayey GRAVELS; fine to coarse gravels, dark brown-grey, angular, LP clay, dolerite cobbles (<10cm), with large asphalt piece (<15cm)	D	0
		0.0	MW187_0.5					
		0.0	MW187_1.0					1
						Becomes moist with wooden pieces	D	
						Gravelly CLAY; MP, brown, fine to coarse gravels, angular	D	
		0.0	MW187_2.0					2
						Becoming moist	M	
		0.0	MW187_3.0			Core loss due to singular boulder loaded in sonic core, encountered groundwater between 3-4m, sand encountered between 4-5m	W	3
								4
						SAND; fine grained, with trace clay, dark grey, soft	W	5
						CLAY; stiff, grey mottled dark green and white, shells	W	6
						SAND; dark grey, fine to coarse grained, with shells, pipe, metal, glass	W	
						Becoming fine to medium grained sand	W	
						End of Hole at 7.0mbgl, target depth reached		7
								8
								9

WELL CONSTRUCTION DETAILS

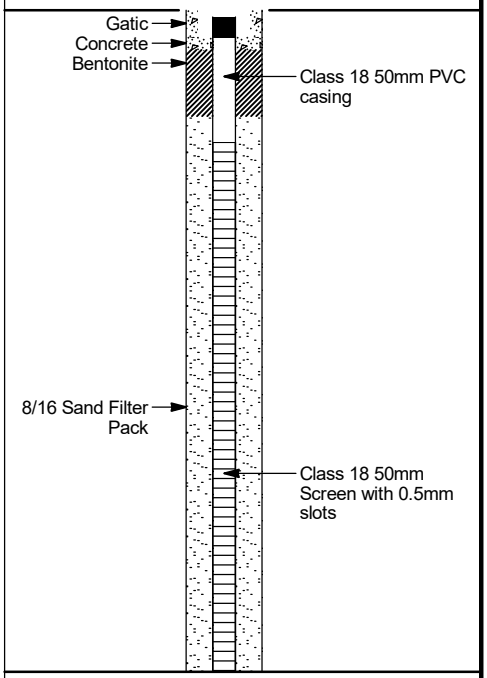


MONITORING WELL MW188

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**5.00 m**
Date Started:	**2/06/2025**	Casing Size:	**50 mm**
Date Finished:	**2/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527586.03 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252340.32 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW188_0.2			ASPHALT	D	0
		0.0	MW188_0.5, QC102, QC202			FILL: Sandy GRAVEL; fine-coarse, grey, sub-angular, coarse sand, dark brown, dry, loosely packed		
						Becoming grey/brown with some clay	D	
		0.0	MW188_1.0					1
						Becoming pale brown/pale orange	D	
						FILL: Gravelly sandy CLAY; L-MP, black, medium to coarse grey gravel, trace glass fragment, dry, very soft	D	
						Becoming moist	M	
						FILL: CLAY; M-HP, grey/black, with some brick fragments, with some fine to medium grey gravel, moist, soft	M	2
						Becoming wet	W	
						FILL: SAND; fine to medium, black/grey, trace shells, wet, very soft	W	
						Becoming clayey SAND; trace brick, glass, and tanbark, trace medium grey gravel	W	3
						Green staining visible between 4.0-4.1 mbgl in section of Clayey SAND from , one large 12cm grey cobble	M	4
						End of Hole at 5mbgl, Target depth reached		5
								6
								7
								8
								9

WELL CONSTRUCTION DETAILS

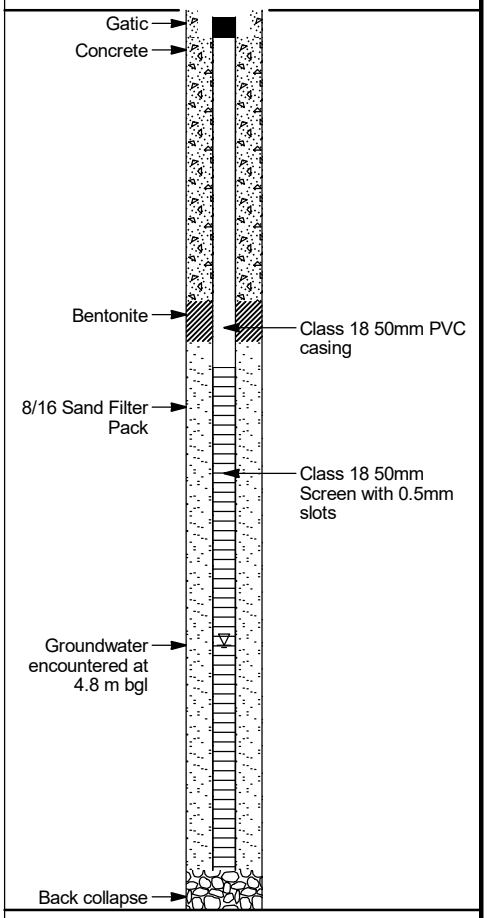


MONITORING WELL MW189

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.80 m**
Date Started:	**30/05/2025**	Casing Size:	**50 mm**
Date Finished:	**30/05/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic, Air Hammer**
Coordinates:	**527678.25 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic, GEOPROBE**
	5252654.13 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.1	MW189_0.2			FILL: GRAVEL; fine to medium grained, grey	D	0
		0.0	MW189_0.5			FILL: Gravelly silty SAND; dark brown, fine to coarse grained sand, fine to coarse grained gravel, no odour, no staining	D	
		1.9	MW189_1.0			DOLERITE; extremely weathered, grey brown	D	1
		0.1	MW189_2.0					2
						DOLERITE; grey, fresh	D	
		0.0	MW189_3.0					3
								4
Air Hammer						DOLERITE; grey, wet, fresh	W	5
								6
						End of Hole at 6.8mbgl		7
								8
								9

WELL CONSTRUCTION DETAILS

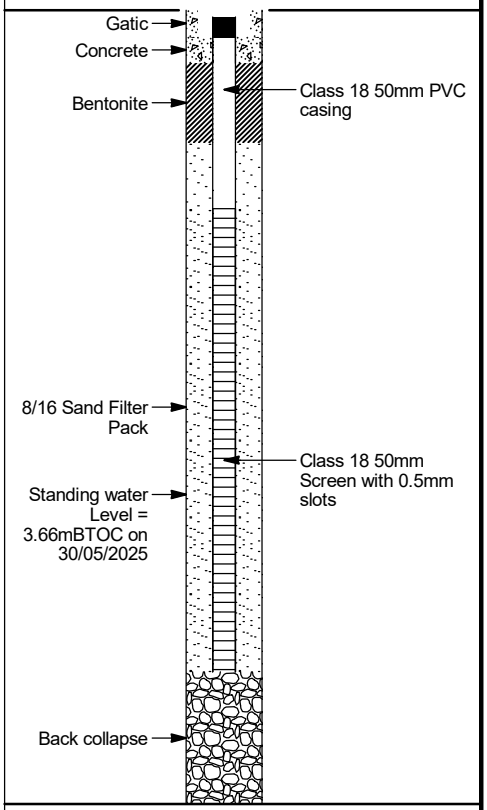


MONITORING WELL MW190

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**28/05/2025**	Casing Size:	**50 mm**
Date Finished:	**28/05/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527611.27 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252584.64 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW190_0.2			FILL: GRAVEL; grey, medium to coarse, angu-/lar	D	0
		0.0	MW190_0.5			FILL: Gravelly, sandy CLAY; dark brown, fine-medium grained sands, fine-coarse grained gravels with cobbles, brick fragments, ceramics	D	
		0.0	MW190_1.0					1
		0.1	MW190_2.0					2
		7	MW190_3.0					3
						FILL: Sandy CLAY; mottled grey, green, orange, LP, fine grained sand, brick fragments, cobbles, HC odour, green staining	W	
		22	MW190_4.0			SAND; dark grey-brown, fine-medium grained HC odour	M	4
								5
						End of Hole at 6mbgl, target depth reached, collapsed to 5m		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

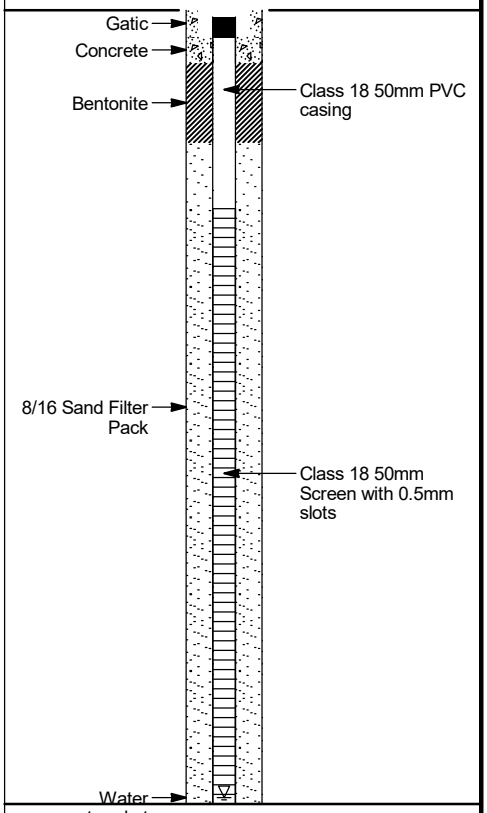


MONITORING WELL MW191

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**2/06/2025**	Casing Size:	**50 mm**
Date Finished:	**2/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527490.38 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252549.01 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW191_0.2			FILL: Sandy GRAVEL; fine-coarse, grey-black, sub-angular, fine-coarse grained sand with some cobbles up to 10cm, dry, loosely packed	D	0
		0.0	MW191_0.5				D	
						0.3-0.6 mbgl: sand colour grading from brown / to black	D	
		0.0	MW191_1.0			FILL: Sandy gravelly CLAY; M-HP, mottled dark brown, light brown, with some green staining, with some brick cobbles and gravel, dry, very soft, with some grey cobbles up to 13cm	D	1
						DOLERITE; white to brown	D	
		0.0	MW191_2.0			Becoming highly weathered - increased clay content		2
						2.2-2.3 mbgl: inclusion of white silt with green mottling	D	
						2.6 to 2.62 mbgl: inclusion of white silt with grey mottling	D	
		0.0	MW191_3.0					3
						3.6 to 3.8 mbgl: Fresh dolerite layer	D	
		0.0	MW191_4.0					4
		0.0	MW191_5.0			4.8 to 5.0 mbgl: Fresh dolerite layer	D	5
						with some sand, coarse, brown	D	
						End of Hole at 6mbgl, target depth		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

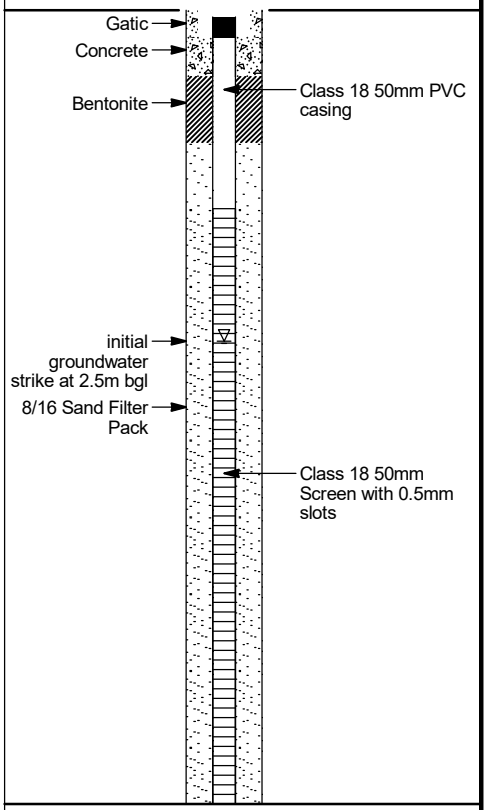


MONITORING WELL MW192

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**28/05/2025**	Casing Size:	**50 mm**
Date Finished:	**28/05/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527637.77 mE**
			5252480.76 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW192_0.2			ASPHALT	D	0
		0.0	MW192_0.5			FILL: Sandy GRAVEL; brown, fine to coarse grained gravel (<6cm), fine-medium grained sand, loose, angular, no odour, with cobbles and boulders	D	
		0.0	MW192_1.0			FILL: Sandy Clayey GRAVEL; fine to coarse, well graded, fine-medium grained sand, dark brown, with cobbles and boulders, loose brick fragments		1
		0.0	MW192_2.0					2
						FILL: Sandy Gravelly CLAY; dark brown, soft, fine to medium sand, fine-coarse grained gravel, angular with some cobbles, minor silt, glass, metal and brick fragments, shells, slight organic odours	D	
		0.0	MW192_3.0					3
		0.0	MW192_4.0					4
								5
						End of Hole at 6mbgl, target depth		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

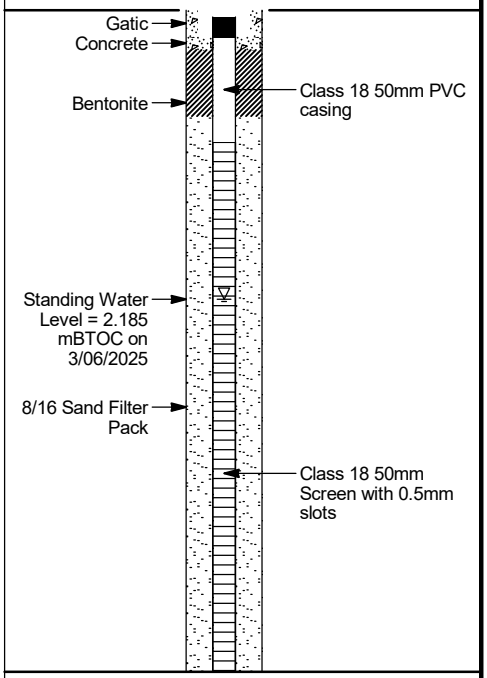


MONITORING WELL MW193

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**5.00 m**
Date Started:	**3/06/2025**	Casing Size:	**50 mm**
Date Finished:	**3/06/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527581.06 mE**
			5252306.33 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW193_0.2			ASPHALT	D	0
		0.0	MW193_0.5			FILL: Sandy GRAVEL; fine-coarse grained, grey, sub-angular, fine-coarse grained sand, trace cobbles up to 10cm, dry	D	
		0.0	MW193_1.0			FILL: Gravelly SAND; fine-medium, black/grey, fine-coarse grained gravel, trace cobbles up to 7cm, with some brick fragments, dry	D	1
							D	
						FILL: Gravelly CLAY; MP, black, fine-coarse grey gravel, with some brick fragments, dry, soft	D	
							W	
						FILL: Gravelly SAND; fine-medium, pale brown, grey to pale brown fine-coarse gravels, with some cobbles up to 8cm, dry	W	2
						Becoming dark brown	M	
						Becoming brown, with some clay		
						FILL: Gravelly sandy CLAY; LP, brown/pale brown, medium grey gravels, trace brick fragments, wet, very soft		
						with some pale brown cobbles up to 7cm		3
						FILL; CLAY; L-MP, black, with some grey, coarse gravel, trace glass and brick fragments, moist, soft	M	
						increased gravel content, fine-medium grained, trace rubber, brick and bark		
						Some light grey discolouration down to 4.2mbgl	M	4
						End of Hole at 5mbgl, target depth		5
								6
								7
								8
								9

WELL CONSTRUCTION DETAILS

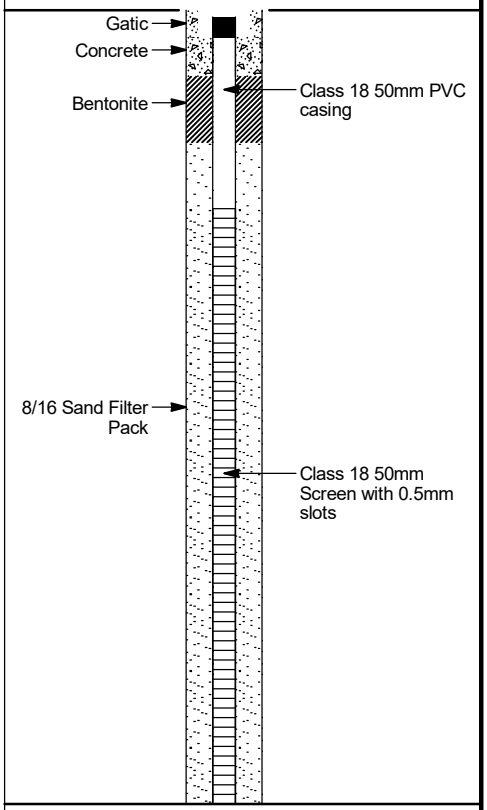


MONITORING WELL MW194

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**5/06/2025**	Casing Size:	**50 mm**
Date Finished:	**5/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527498.15 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252616.49 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.0	MW194_0.2			CONCRETE	D	0
	0.0	MW194_0.5			DOLERITE; fresh, grey	D	
	0.0	MW194_1.0					1
					DOLERITE; weathered, brown, with some clay	D	
					DOLERITE; fresh, grey	D	
	0.0	MW194_2.0					2
	0.0	MW194_3.0, QC103, QC203					3
					DOLERITE; weathered, grey, with clay	D	
					CLAY; L-MP, grey, with some dolerite, coarse gravel/cobbles	M	
					DOLERITE; weathered, grey, with clay	M	
	0.0	MW194_4.0					4
					DOLERITE; fresh, grey	D	
					With some grey, L-MP clay, Wet	W	5
					CLAY; L-MP, grey, with grey weathered dolerite, coarse gravel/cobbles, wet	W	
					DOLERITE; fresh, grey, moist Becoming dry	M D	
					End of Hole at 6mbgl, target depth		6
							7
							8
							9

WELL CONSTRUCTION DETAILS

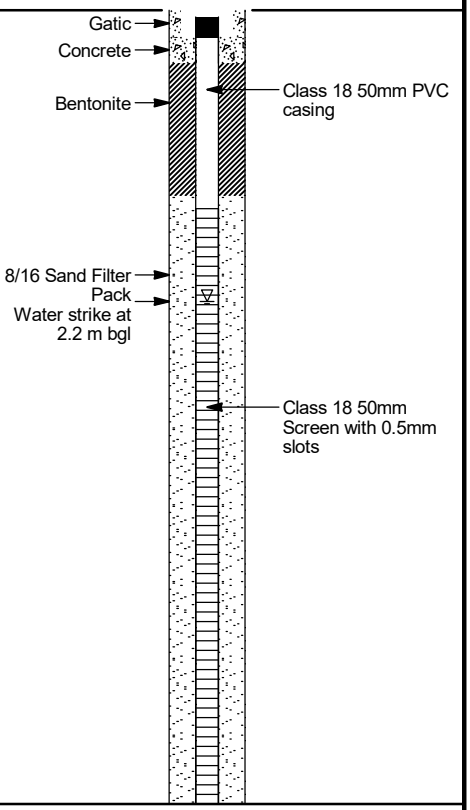


MONITORING WELL MW196

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**19/06/2025**	Casing Size:	**50 mm**
Date Finished:	**19/06/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527383.70 mE**
			5252415.03 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	MW196_0.2			FILL: Sandy GRAVEL; grey, fine to coarse gravels, angular, fine to coarse grained sands, crushed concrete	M	0
		0.0	MW196_0.5				D	
		0.0	MW196_1.0			FILL: Sandy CLAY; dark brown, L-MP, stiff, fine to medium grained sands, some fine to coarse angular gravels, brick and ceramic fragments, some angular cobbles		1
		3.7	MW196_2.0					2
						SAND; dark brown, fine to medium grained sands, crushed shell fragments, some angular cobbles, between 2.2 to 3.0 mbgl, slight HC odour	M	3
								4
								5
						End of Hole at 6 mbgl, target depth		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

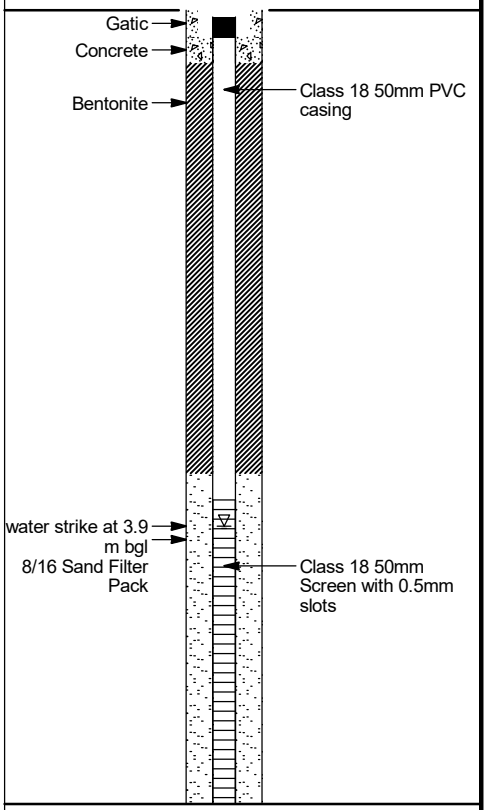


MONITORING WELL MW197

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**18/06/2025**	Casing Size:	**50 mm**
Date Finished:	**18/06/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527421.44 mE**
			5252392.71 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.0		MW197_0.2			FILL: Sandy GRAVEL; grey, fine to coarse gravels, angular, fine to coarse grained sands, well sorted	M	0
	0.1		MW197_0.5					
	0.3		MW197_1.0			FILL: Gravelly CLAY; brown, MP, soft to firm, fine to coarse gravels, angular, minor fine to coarse grained sands	M	1
	1.5					Slight HC odour from 1.5 to 2.2 mbgl		
	1.9		MW197_2.0			Perched water within former tank base, atop clay layer from 2.0 to 2.2 mbgl	W	2
						CLAY; grey, MP, soft, traces f-m grained sands, some fine to medium gravels, angular, slight HC odour	M	
	1.7		MW197_2.9					3
						Concrete slab, base of former tank 3.0 to 3.25 mbgl	D	
	1.1		MW197_3.5			CLAY; dark grey, MP, soft, traces fine to medium grained sands, slight HC odour	W	
	0.4		MW197_4.0			SAND; dark grey, fine to medium grained, some shell fragments, slight HC odour	W	4
								5
						End of Hole at 6mbgl, target depth		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

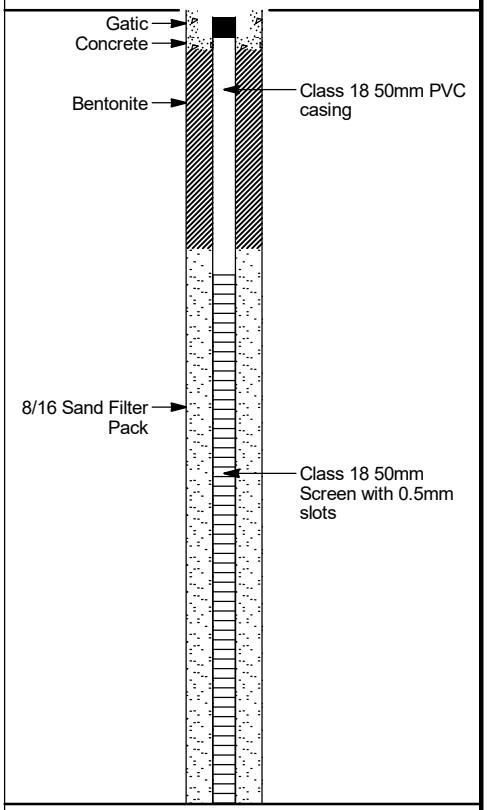


MONITORING WELL MW198

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**13/06/2025**	Casing Size:	**50 mm**
Date Finished:	**13/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527426.20 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252432.54 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
							0
	5.8	MW198_0.2			FILL: Sandy GRAVEL; grey, fine to coarse gravels, angular, fine-coarse sands, HC odour	D D	
	3.1	MW198_0.5			FILL: Gravelly sandy CLAY; L-MP, brown, fine to coarse sands, orange, fine to coarse gravels, angular, with some cobbles (<10cm), brick fragments, plastic, metal pieces		
	1.0	MW198_1.0				D D	1
					FILL: SAND; orange to brown, fine to medium grained sand		
					FILL: Sandy CLAY; light orange-brown, L-MP, with black and grey mottling, fine grained sand, stiff		
	12.2	MW198_2.0			Changing to dark brown, firm, HC odour	D	2
	1.3	MW198_3.0			SAND; fine to coarse grained, grey, with some gravels, medium to coarse, sub-angular to rounded, shells, cobbles (<8cm)	W	3
					Becoming light brown, with some black sands, HC odour	W	4
					Becoming grey, fine to medium grained, with some gravels, medium to coarse gravels, shells, wood, organic material	W	
120mm Sonic core					With some HP clay, black, v soft	W	5
					With some dolerite gravels, coarse (<4cm)		
					Gravelly CLAY; grey, LP, dolerite gravels, cobbles (<10cm), weathered dolerite	M	
					DOLERITE; grey, weathered	D/M	6
					End of Hole at 6mbgl, target depth		
							7
							8
							9

WELL CONSTRUCTION DETAILS

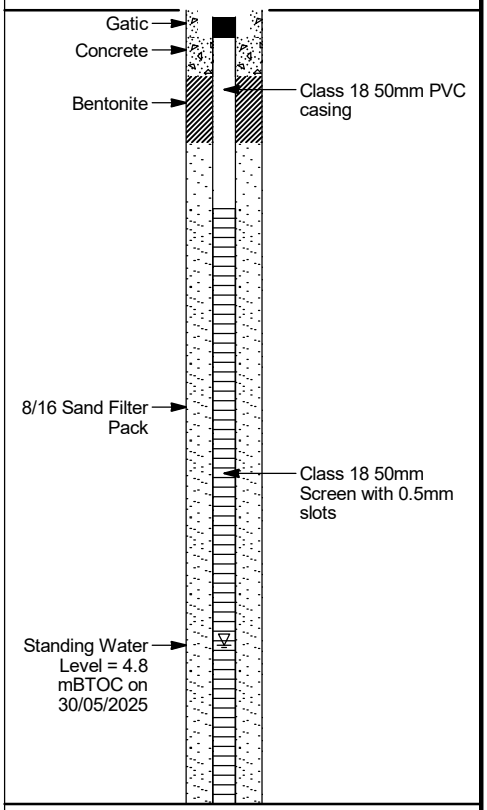


MONITORING WELL NR2A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**6.00 m**
Date Started:	**30/05/2025**	Casing Size:	**50 mm**
Date Finished:	**30/05/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527665.75 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252626.70 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	NR2A_0.2			FILL: GRAVEL; fine-medium grained, grey	D	0
						FILL: Gravelly silty CLAY; dark brown, fine to coarse grained gravels, white silty inclusions, brick fragments, cobbles, no odour, no staining	D	
		0.0	NR2A_1.0					1
						FILL: Sandy gravelly CLAY; dark brown, with orange mottling, M-HP, green staining at 4-4.8m, HC odour @ 4-5.3m, medium to coarse grained gravels, fine-coarse grained sand	D	
		0.0	NR2A_2.0					2
						core loss between 2.5m-3m	D	
		0.0	NR2A_3.0					3
		0.5	NR2A_4.0					4
							M	
							W	5
						SAND; dark brown, fine to medium grained, trace clay, HC odour	W	
						DOLERITE; extremely weathered, light brown, no odour	D	
						End of Hole at 6mbgl, target depth		6
								7
								8
								9

WELL CONSTRUCTION DETAILS

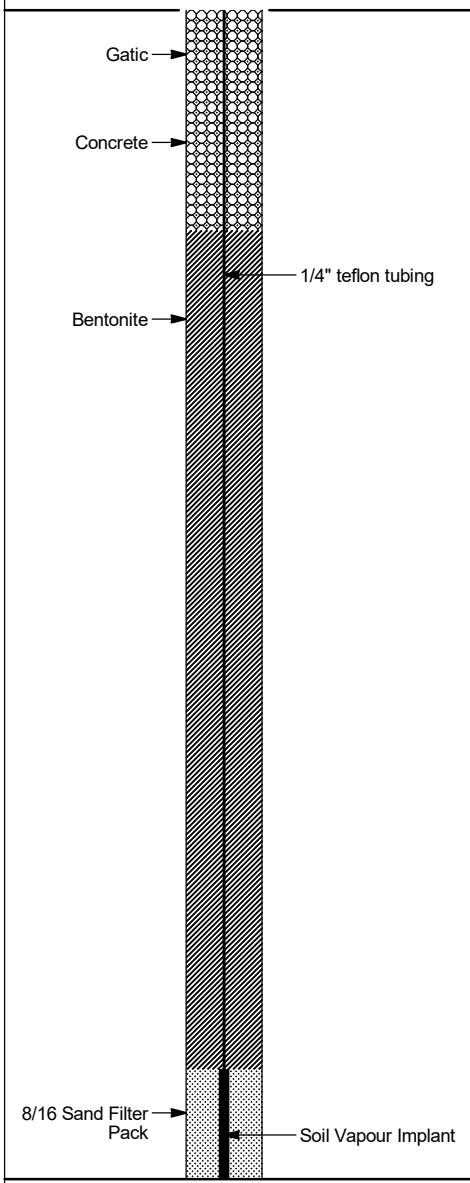


SOIL VAPOUR BORE SV31

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.65 m**
Date Started:	**29/05/2025**	Casing Size:	**N/A mm**
Date Finished:	**29/05/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527543.02 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252563.14 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
		0.0	SV31_0.2			FILL: GRAVEL; grey, medium to coarse grained, with some cobbles and geofab	D	0
		0.0	SV31_0.5			Sandy gravelly CLAY; dark brown, fine to coarse grained gravels and sand, minor silt, some cobbles, fabric, ceramic, glass, grass	D	
		0.1	SV31_1.0					1
						Core loss 1.2m-2m	D	
		0.0	SV31_2.0					2
120mm Sonic core		0.0	SV31_2.5			HC odour with some green, grey staining, white silty inclusions, iron nodules	M	
						End of Hole at 2.65mbgl, target depth		

BORE CONSTRUCTION DETAILS

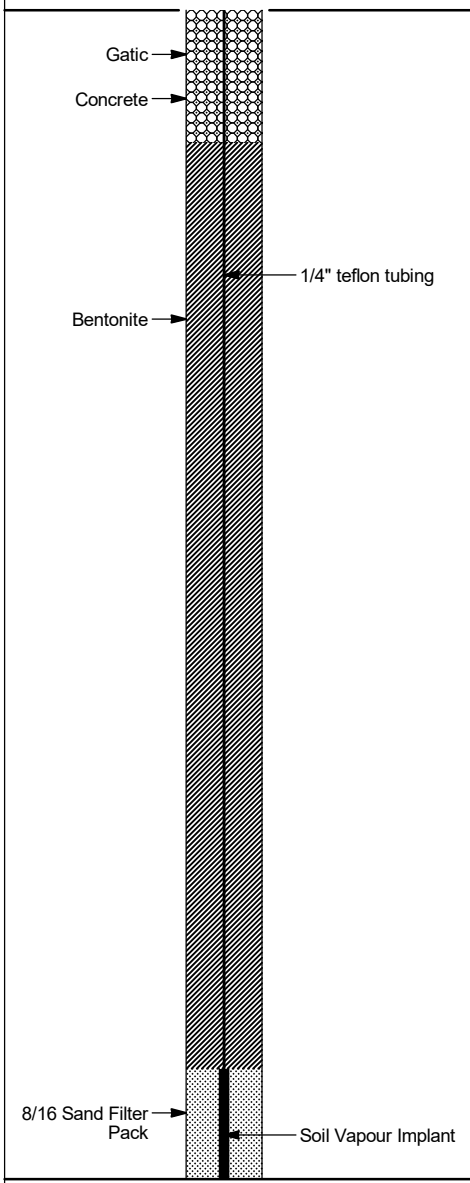


SOIL VAPOUR BORE SV32

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.65 m**
Date Started:	**6/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**6/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527518.11 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252512.24 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
							0
	0.1	SV32_0.2			Sandy GRAVEL; fine to coarse, brown, sub-angular to angular,, trace clay, high P, brown, fine-coarse sands, with some brick fragments	D	
	0.3	SV32_0.5					
					Becoming grey sands, with some cobbles up to 7cm	D	
	0.4	SV32_1.0			Becoming pale brown	D	
							1
					FILL: CLAY; L-MP, black, with some fine to medium grey gravel and fine-coarse yellow sands	D	
	2.9	SV32_2.0			FILL: Clayey GRAVEL; fine-coarse, angular, pale grey/grey, low p, pale brown clay, with some cobbles up to 8cm	D	
							2
120mm Sonic core					CLAY; HP, grey with some green mottling, with some fine to medium grey gravel	D	
					End of Hole at 2.65mbgl, target depth		

BORE CONSTRUCTION DETAILS

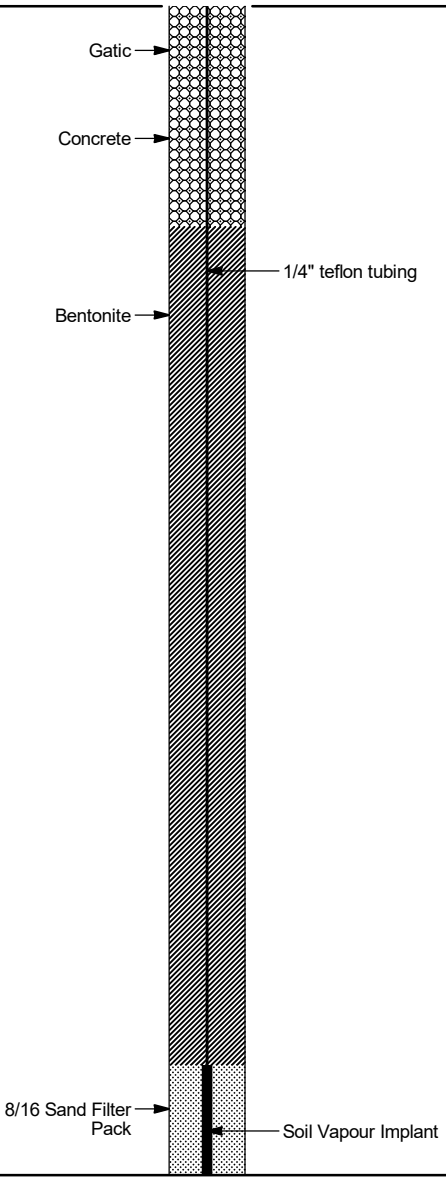


SOIL VAPOUR BORE SV33

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.65 m**
Date Started:	**10/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**10/06/2025**	Top of Casing:	**mAHD**
Coordinates:	**527579.84 mE**	Drill Type:	**Sonic**
	5252532.45 mN	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Permit No:	**N/A**	Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0.0	SV33_0.2			FILL: Clayey GRAVEL; fine to coarse gravels, dark brown to grey, angular, large cobbles (<10cm), L-MP clay, dark brown, with some loose asphalt fragments (0.8cm)	D	0
		0.0	SV33_0.5					
		0.0	SV33_1.0					
						CLAY; MP, brown, minor fine grained sand	D	1
		0.0	SV33_2.0			Grading to Clay, brown, MP, minor fine grained sands	D	2
		0.0	SV33_2.5					
						CLAY; M-HP, grey to dark brown, red to brown mottling, with some angular gravels	D	
						End of Hole at 2.65mbgl, target depth		

BORE CONSTRUCTION DETAILS

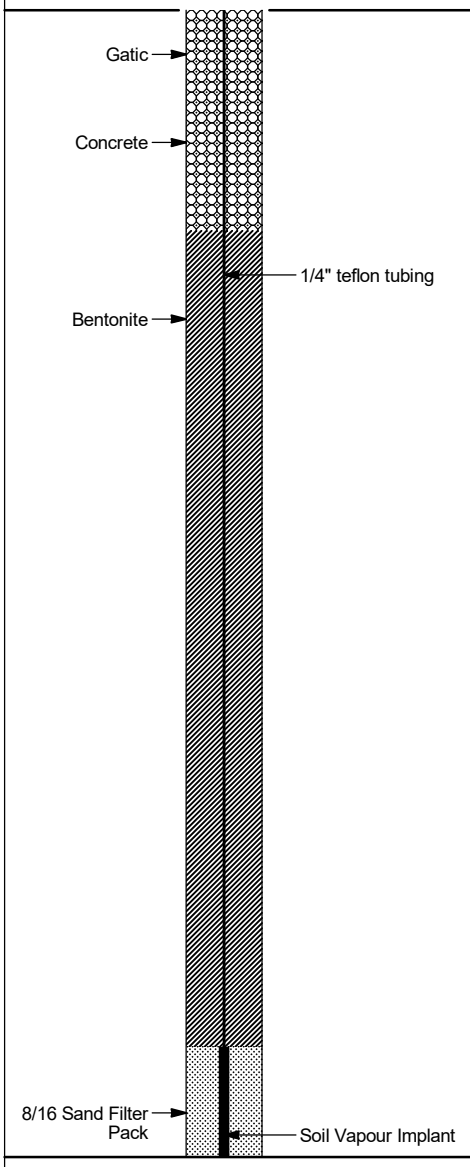


SOIL VAPOUR BORE SV34

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.60 m**
Date Started:	**27/05/2025**	Casing Size:	**N/A mm**
Date Finished:	**27/05/2025**	Top of Casing:	**mAHD**
Coordinates:	**527603.26 mE**	Drill Type:	**Sonic**
	5252453.95 mN	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Permit No:	**N/A**	Drill Fluid:	**N/A**

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.0	SV34_0.2			ASPHALT FILL: Gravelly SAND; grey, fine to medium grained, fine-med gravel (<2cm), loose, no odour	D	0
	1.4	SV34_0.5			FILL: Boulders (dolerite), no drill returns	D	
	0.0	SV34_1.0					1
	0.4	SV34_1.5			FILL: Gravelly CLAY; dark brown, firm, fine to medium gravel, minor fine to medium grained sand, no odour	D	
					FILL: Boulders, no drill returns	D	2
					End of Hole at 2.6mbgl, target depth		

BORE CONSTRUCTION DETAILS

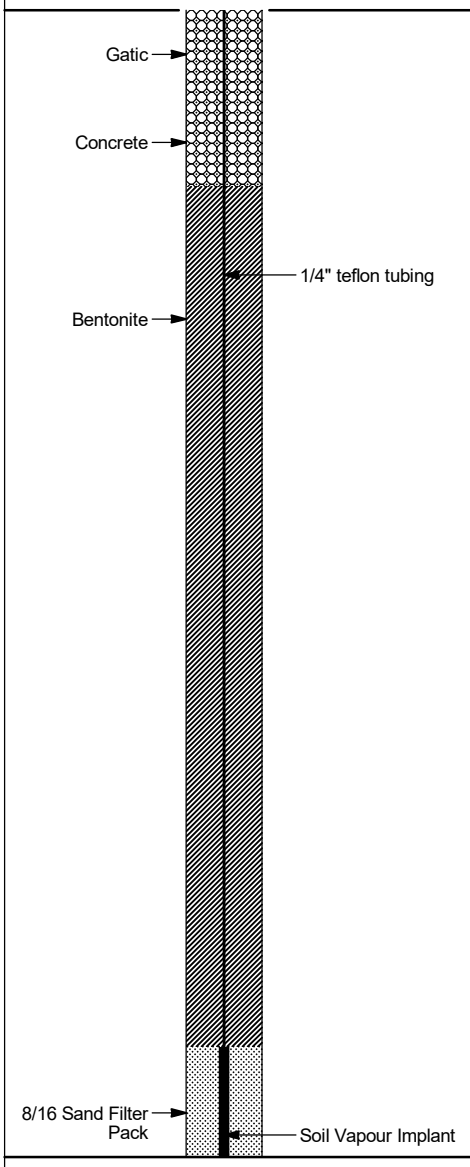


SOIL VAPOUR BORE SV35

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.60 m**
Date Started:	**28/05/2025**	Casing Size:	**N/A mm**
Date Finished:	**28/05/2025**	Top of Casing:	**mAHD**
Coordinates:	**527627.85 mE**	Drill Type:	**Sonic**
	5252563.86 mN	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Permit No:	**N/A**	Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core						FILL: GRAVEL; grey, medium to coarse, angular	D	0
		0.0	SV35_0.5			FILL: Silty gravelly CLAY; black/brown, fine to medium grained gravels, with ceramics, no odour, no staining	D	
		0.0	SV35_1.0					1
		0.0	SV35_2.0			Core loss 1.8-2m, no returns	D	
						FILL: Silty SAND; fine-medium grained sand, with some fine-medium gravel, loose, no odour, no staining	D	2
		0.0	SV35_2.6					
						End of Hole at 2.6mbgl, target depth		

BORE CONSTRUCTION DETAILS

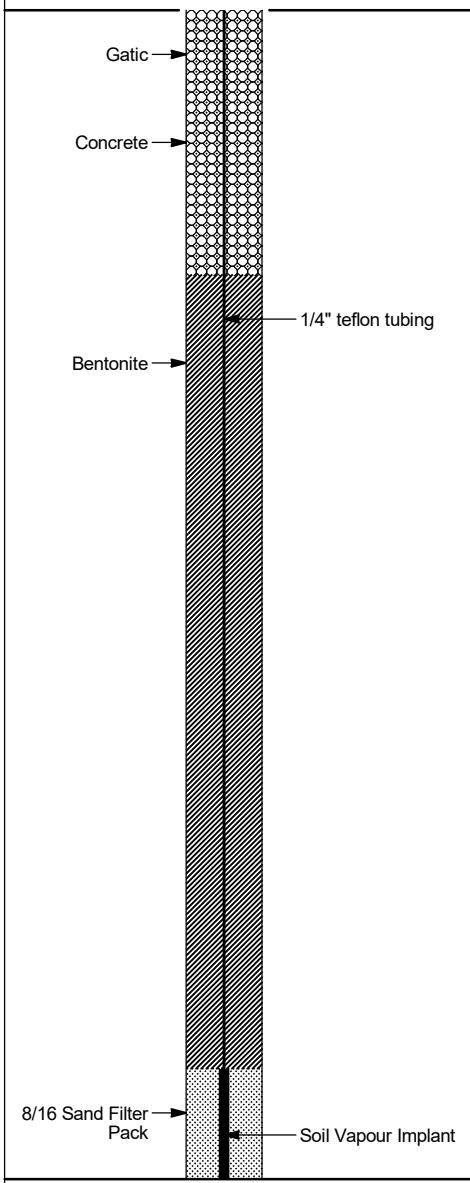


SOIL VAPOUR BORE SV36

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**2.65 m**
Coordinates:	**527498.62 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**10/06/2025**	Casing Size:	**N/A mm**
	5252410.80 mN	Drill Fluid:	**N/A**
Date Finished:	**10/06/2025**	Permit No:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
						ASPHALT	D	0
		0.3	SV36_0.2			FILL: Gravelly clayey SAND; fine to coarse sand, dark brown, fine to coarse gravels, angular, with large cobbles (>5cm)	D	
		0.0	SV36_0.5			FILL: Gravelly CLAY; brown, MP, fine to coarse gravels, trace fine to medium grained sand	M	
						FILL: Gravelly SAND; pale brown, fine-medium grained sands, fine to coarse gravels, angular, large limestone cobbles (>5cm)	D	1
		0.0	SV36_2.0					2
120mm Sonic core						End of Hole at 2.65mbgl, target depth		

BORE CONSTRUCTION DETAILS

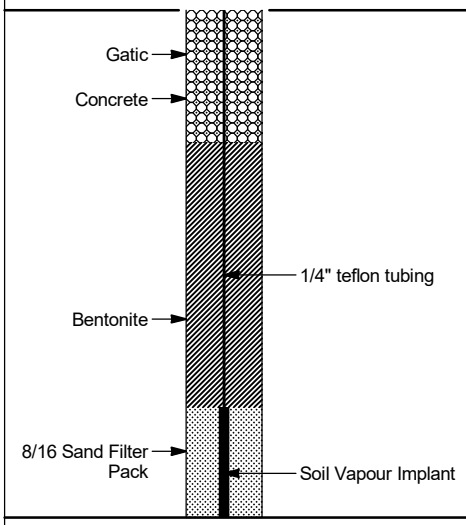


SOIL VAPOUR BORE SV39

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**1.15 m**
Date Started:	**13/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**13/06/2025**	Top of Casing:	**mAHD**
		Coordinates:	**527378.77 mE**
			5252490.58 mN
		Permit No:	**N/A**
		Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
						FILL: Gravelly SAND; grey, fine to coarse grained sand, fine to coarse gravels, angular	D	0
						FILL: Sandy CLAY; L-MP, brown, fine to coarse grained sands, with some fine to medium gravels	D	
						FILL: Gravelly SAND; black, fine to coarse grained sand, fine to medium gravels, white, angular, with some slag pieces (<4cm)	D	
120mm Sonic core		1.5	SV39_0.5			Increasing white to orange gravels, changing colour to white	D	
			SV39_1.0			becoming black, increasing slag content (<6cm)	D	1
						End of Hole at 1.15mbgl, target depth		2

BORE CONSTRUCTION DETAILS

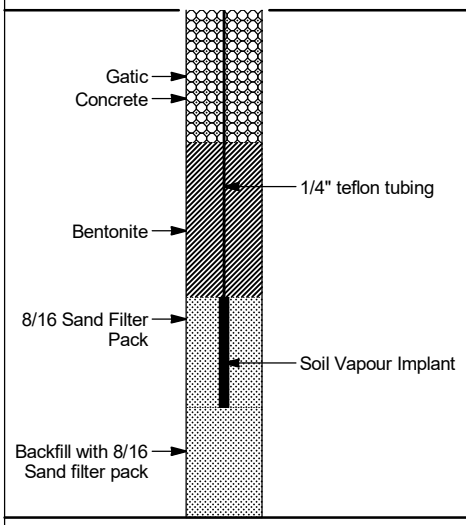


SOIL VAPOUR BORE SV40

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**1.15 m**
Date Started:	**13/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**13/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527375.89 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252461.70 mN	Drill Fluid:	**Water**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	1.9	SV40_0.2			FILL: Sandy GRAVELS; fine to coarse gravels, angular, brown to grey, fine to coarse sands, cobbles (<8cm)	D	0
	2.1	SV40_0.5			With some L-MP clay, brown, metal piece (10cm), HC odour	D	
	10.8	SV40_1.0			Increasing clay content, becoming moist to wet	M/W	1
					End of Hole at 1.15mbgl, target depth		2

BORE CONSTRUCTION DETAILS

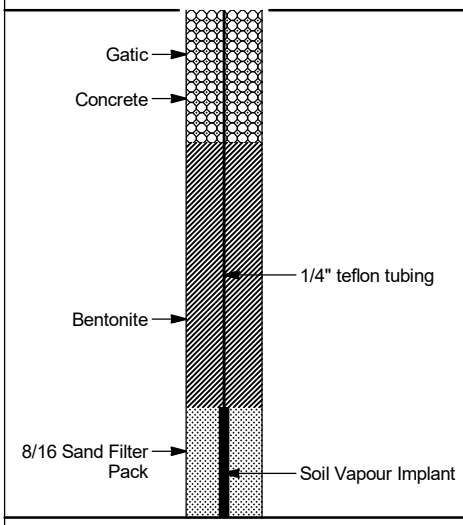


SOIL VAPOUR BORE SV41

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**1.15 m**
Date Started:	**13/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**13/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527375.16 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252442.93 mN	Drill Fluid:	**Water**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
					FILL: Sandy GRAVEL; fine to coarse gravels, fine to coarse sands, cobbles (<10cm)	D	0
	34.6	SV41_0.5			FILL: Gravelly SAND; grey, fine to coarse sands, fine to coarse gravels, cobbles (<10cm), HC odour	D	
120mm Sonic core	108	SV41_0.8					
					FILL: CLAY; black, with some fine to medium gravels and fine to medium sands, glass, dry to moist, strong HC odour	D/M	
	3.9	SV41_1.0			FILL: Gravelly SAND; grey, fine to coarse sands, fine to coarse gravels, cobbles (<10cm)	D	1
					End of Hole at 1.15mbgl, target depth		2

BORE CONSTRUCTION DETAILS

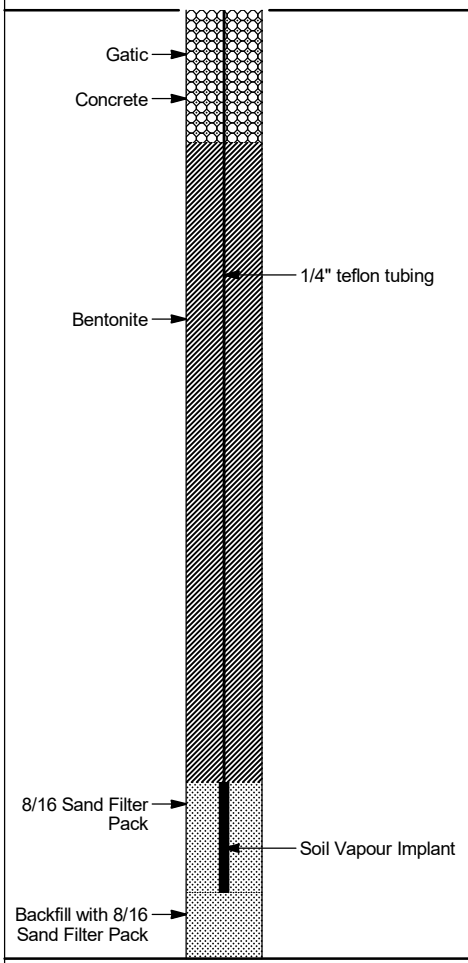


SOIL VAPOUR BORE SV42

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.15 m**
Date Started:	**13/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**13/06/2025**	Top of Casing:	**mAHD**
Coordinates:	**527379.85 mE**	Drill Type:	**Sonic**
	5252421.12 mN	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Permit No:	**N/A**	Drill Fluid:	**N/A**

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	1.8	SV42_0.2			FILL: Sandy GRAVEL; grey, fine to coarse gravels, fine to coarse sands, cobbles (<10cm)	D	0
					FILL: Gravelly SAND; brown, fine to coarse grained sand, fine to coarse gravels, with some L-MP clay, cobbles (<10cm), HC odour	D	
	15.5	SV42_0.5					
	34.2	SV42_1.0					1
	4.6	SV42_2.0, QC106, QC206			Becoming moist to wet	M/W	2
					End of Hole at 2.15mbgl, target depth		

BORE CONSTRUCTION DETAILS

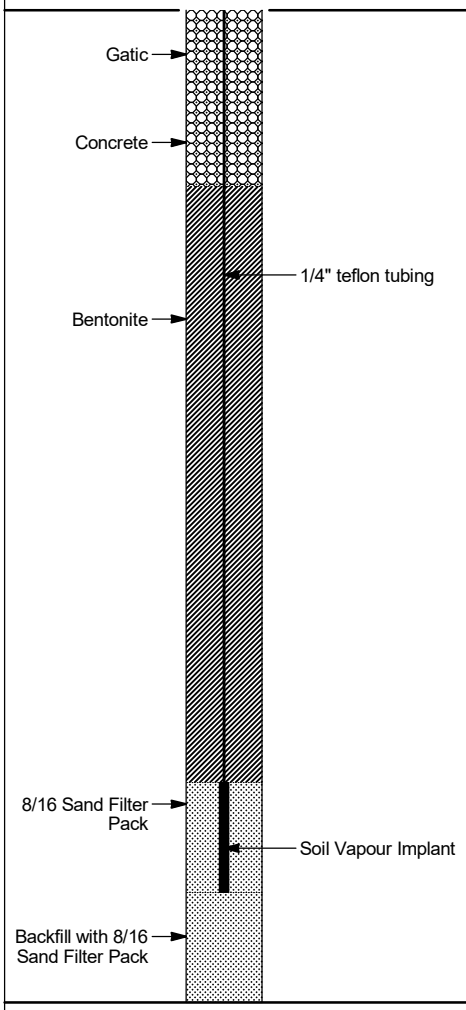


SOIL VAPOUR BORE SV43

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.25 m**
Date Started:	**13/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**13/06/2025**	Top of Casing:	**mAHD**
Coordinates:	**527393.21 mE**	Drill Type:	**Sonic**
	5252411.88 mN	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Permit No:	**N/A**	Drill Fluid:	**Water**

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	0.4	SV43_0.2			Sandy GRAVEL; grey, fine to coarse, angular with fine to coarse sand, loose	D	0
	1.3	SV43_0.5			Clayey SAND; brown, fine to coarse, LP clay with gravel, fine to coarse, angular, dense	D	
	0.9	SV43_1.0			With subangular gravels and cobbles	D	1
	192	SV43_2.0			With some tar, black staining, strong HC odour	D	2
					End of Hole at 2.25mbgl, target depth		

BORE CONSTRUCTION DETAILS

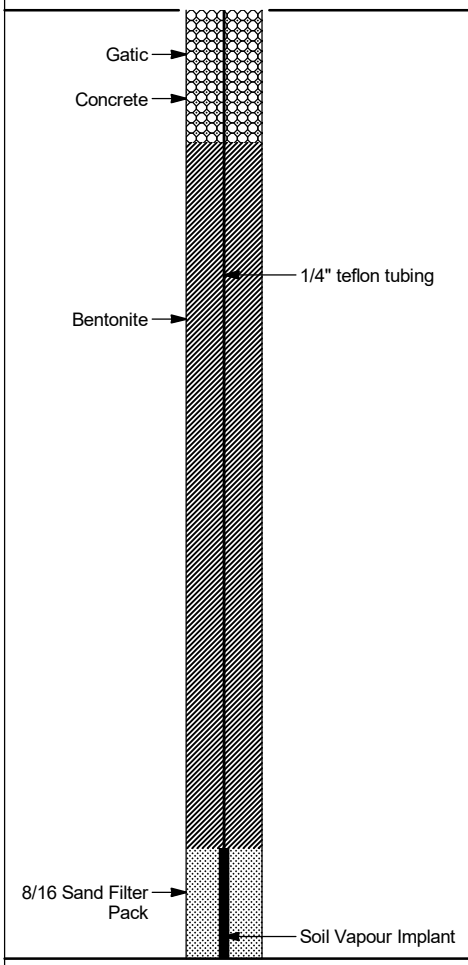


SOIL VAPOUR BORE SV44

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.15 m**
Date Started:	**12/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**12/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527432.72 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252404.63 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core	14.7	SV44_0.2			FILL: Gravelly SAND; dark grey, fine to coarse grained sands, fine to coarse gravels, angular, HC odour, with some LP clay, cobbles (<10cm)	D	0
	282	SV44_0.5					
	523	SV44_1.0					1
					Becoming black	M	
	93.6	SV44_2.0			With some tar, black staining, strong HC odour	M	2
					End of Hole at 2.15mbgl, target depth		

BORE CONSTRUCTION DETAILS

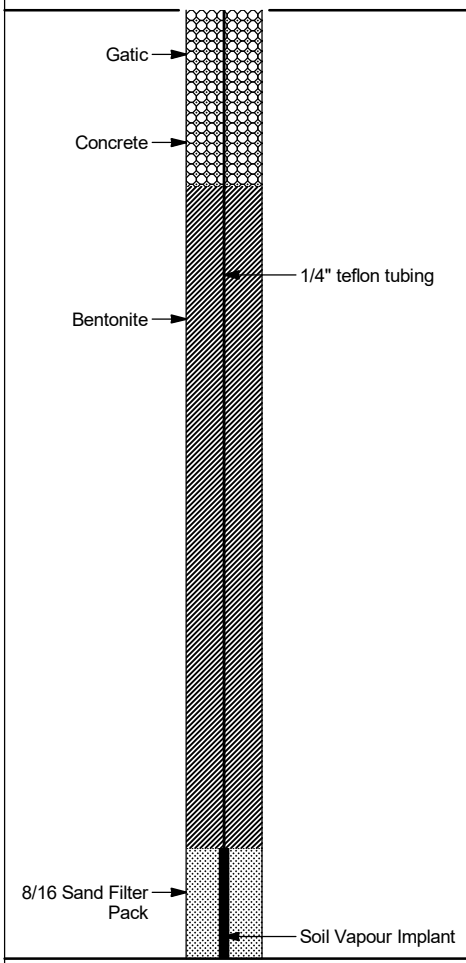


SOIL VAPOUR BORE SV45

Drilling Contractor:	**South Western Drilling**	Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
		Project No:	**60693007**	Location:	**10 Evans Street, Hobart Tasmania**
Logged By:	**RB/TG**	Bore Size:	**120 mm**	Top of Casing:	**mAHD**
Checked By:	**TG**	Total Depth:	**2.15 m**	Coordinates:	**527426.51 mE**
Date Started:	**18/06/2025**	Casing Size:	**N/A mm**		**5252433.96 mN**
Date Finished:	**18/06/2025**			Permit No:	**N/A**
				Drill Type:	**Sonic**
				Drill Model:	**Fraste MRS XL Max 275 Sonic**
				Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
120mm Sonic core		0	SV45_0.2			FILL: Sandy GRAVEL; grey, fine to coarse gravels (<7cm), angular, fine to coarse grained sands, well sorted, crushed concrete and dolerite angular cobbles	M	0
		0	SV45_0.5			FILL: Clayey sandy GRAVEL; brown, fine to medium gravels (<3cm), angular, fine to medium grained sands, minor clay, soft, metal, concrete, reo bar and brick fragments	D	
		0	SV45_1.0			Sandy CLAY; grey to brown with orange to brown mottling, M-HP, stiff, minor fine to medium grained sands	D	1
		1.5	SV45_2.0			Pockets of fine grained clayey sands, slight HC odour	D	2
						End of Hole at 2.15 mbgl, target depth		

BORE CONSTRUCTION DETAILS

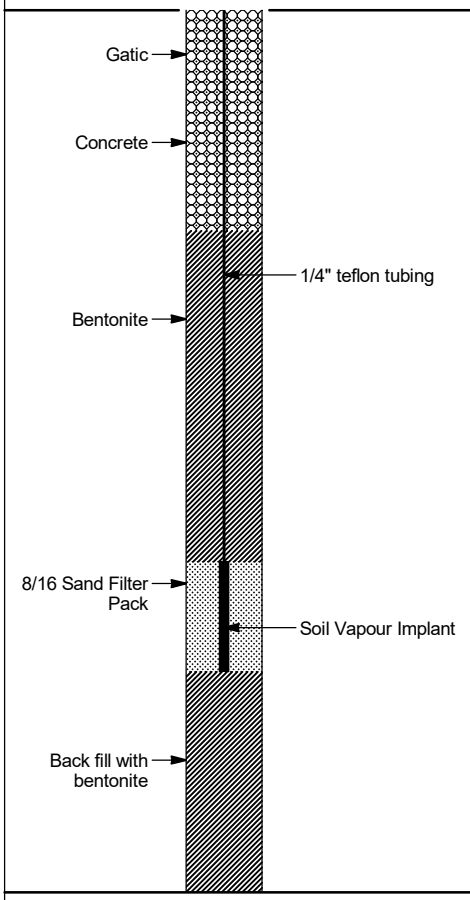


SOIL VAPOUR BORE SV46

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**2.00 m**
Date Started:	**12/06/2025**	Casing Size:	**N/A mm**
Date Finished:	**12/06/2025**		
Top of Casing:	**mAHD**	Drill Type:	**Sonic**
Coordinates:	**527597.11 mE**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
	5252398.56 mN	Drill Fluid:	**N/A**
Permit No:	**N/A**		

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
						CONCRETE		0
		0.0	SV46_0.2					
						FILL: Sandy GRAVEL; grey-brown, fine to medium (<2cm), fine-medium sand, loose, no odour	D	
		0.0	SV46_0.5					
						FILL: Silty gravelly CLAY; dark brown, soft, fineto coarse gravel, angular, minor fine grained sand, some cobbles, fragments of brick, ceramic, metal, and slag, no odour	D	
		0.0	SV46_1.0					1
		0.0	SV46_1.5					
120mm Sonic core							M/W	
						End of Hole at 2.0mbgl, target depth		2

BORE CONSTRUCTION DETAILS



Appendix E

Laboratory Reports

CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**		
Level 10, 727 Collins Street			
Melbourne, VIC 3008	**Results email:**	robert.crowe@aecom.com	
PHONE NO: 9653 1234		richard.bowers@aecom.com	
MOBILE NO: 0427 821 002	**Quote Number:**	260502AECV	
PROJECT ID: 60693007 / 12	**Project Name:**	Macquarie Point	
Project Manager: Robert Crowe	**Data Format:**	Esdat and PDF	
SAMPLER: RB / EM / TG / LL			

TURNAROUND REQUIREMENTS (mark Due date or 'X')

Standard	X	Non Stand (Due date):

COC:	1	2	3	4	5	6	7	8	9	10
OF:	1	2	3	4	5	6	7	8	9	10

RELINQUISHED BY: Richard Bowers
DATE/TIME: 27/05/2025

RECEIVED BY: Sterdar Eurofins Hobart
DATE/TIME: 27/5 9:18AM

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen icebricks present upon receipt? Yes No N/A

Sample Temperature on Receipt 10.2°C

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY:
DATE/TIME:

COMMENTS:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.
Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

ANALYSIS REQUEST

LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	Soil: 1 x 250ml Glass Soil Jar	Soil: 1 x 500g PASS Sample Bag	Soil: 500ml Inorganics (Unpreserved)	Soil: 40ml VOC Vial	Soil: 200ml Amber Glass	Soil: 40ml VOC Vial (5 µm field filtered)	Soil: 200ml Amber Glass (5 µm field filtered)	Soil: 500ml Semi-Volatile Amber	Soil: 60ml Metals Plastic	Soil: 60ml Cyanide/CrVI+	Soil: 60ml Preserved Inorganics	Soil: 500ml PFAS bottle	TOTAL BOTTLES	Soil: 1 x 250ml Jar	Soil: 1 x 250ml Jar	Soil: 1x 500g Acid Sulphate Soil Bag	Water: 1x 500ml Inorganics, 1x 200mL Semi-Volatiles Amber, 4x 40mL Vials, 1x 60mL Metals, 1x 60mL Cyanide/CrVI+, 1x 60mL Preserved Inorganics	Water: 1 x 200mL Amber Glass, 3 x 40mL Vials, 1 x 200ml Amber Glass (5 µm field filtered), 1 x 40ml Vial (5 µm field filtered)	Water: 1 x 500ml PFAS Bottle	Trip Blank: 1 x 40ml Vial (soil)	Trip Blank: 1 x 40ml Vial (water)	HOLD
✓	ABH004W_0.2	27/5/25		S		1											1								
✓	ABH004W_0.5	27/5/25		S		1											1								
✓	ABH004W_1.0	27/5/25		S		1											1								
✓	ABH004W_1.5	27/5/25		S		1											1								
✓	ABH004W_2.0	27/5/25		S		1											1								
✓	ABH004W_2.5	27/5/25		S		1											1								
✓	ABH004W_3.0	27/5/25		S		1											1								
✓	ABH004W_3.5	27/5/25		S		1											1								
✓	ABH004W_4.0	27/5/25		S		1											1								
✓	ABH004S_0.2	27/5/25		S		1											1								
✓	ABH004S_0.5	27/5/25		S		1											1								
✓	ABH004S_1.0	27/5/25		S		1											1								
✓	ABH004S_1.5	27/5/25		S		1											1								
✓	ABH004S_2.0	27/5/25		S		1											1								
✓	ABH004S_2.5	27/5/25		S		1											1								
✓	ABH004S_3.0	27/5/25		S		1											1								
✓	ABH004S_3.5	27/5/25		S		1											1								
✓	ABH004S_4.0	27/5/25		S		1											1								
✓	ABH004E_0.2	27/5/25		S		1											1								
✓	ABH004E_0.5	27/5/25		S		1											1								

ANALYSIS SUITES

General Soil Suite:
TRH, BTEXN, PAH, 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)

Gasworks Soil Suite:
Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Speciated)

General Water Suite:
TRH/BTEXN/PAH/Phenols/8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) plus Manganese, Cations/Anions #3 (incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane

Eco Risk Organics Suite:
TRH Aliphatic / Aromatic Speciation
TRH (C6-C40 (silica gel cleanup)
TRH (C6-C40) - on 5 µm field filtered sample
PAH - on 5 µm field filtered sample

PFAS:
Full suite - 30 compounds, trace level

Trip Blank Suite:
TRH C6-C9, BTEXN

Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc

Report #1225146 28/5

| | | |

RE: Eurofins Sample Receipt Advice - Report 1225146 : Site Macquarie Poin...

BR

Bowers, Richard <Richard.Bowers@aecom.com>
To Sheridan Barrett
Cc SH_AU_CAU001_EnviroSampleVic; Crowe, Robert

2:53 PM

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

Can you please update the following sample ID from this batch (1225146):

- Please update QC01 to QC501

Kind regards,

Richard Bowers

Principal Environmental Scientist, ANZ VSA
M +61 427 821 002
richard.bowers@aecom.com

AECOM
Wurundjeri and Bunurong Country
Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, VIC 3008, Australia
T +61 3 9653 1234
aecom.com
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From: Sheridan Barrett <EET-ELVIS@eurofinsanz.com>
Sent: Wednesday, 28 May 2025 12:10 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1225146 : Site Macquarie Point (60693007 / 12)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

Mobile: +61 438 384 921
E-mail: sheridan.barrett@eurofinsanz.com
Website: www.eurofins.com.au

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www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	May 27, 2025 9:18 PM
Eurofins reference	1225146

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Please note the temperature reading listed is the temperature recorded on arrival to Eurofins Hobart Office.
Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	ABH004W_0.2	May 27, 2025		Soil	M25-My0079645			X		
2	ABH004W_0.5	May 27, 2025		Soil	M25-My0079646			X		
3	ABH004W_1.0	May 27, 2025		Soil	M25-My0079647			X		
4	ABH004W_1.5	May 27, 2025		Soil	M25-My0079648			X		
5	ABH004W_2.0	May 27, 2025		Soil	M25-My0079649			X		
6	ABH004W_2.5	May 27, 2025		Soil	M25-My0079650			X		
7	ABH004W_3.0	May 27, 2025		Soil	M25-My0079651			X		
8	ABH004W_3.5	May 27, 2025		Soil	M25-My0079652			X		
9	ABH004W_4.0	May 27, 2025		Soil	M25-My0079653			X		
10	ABH004S_0.2	May 27, 2025		Soil	M25-My0079654			X		
11	ABH004S_0.5	May 27, 2025		Soil	M25-My0079655			X		
12	ABH004S_1.0	May 27, 2025		Soil	M25-My0079656			X		
13	ABH004S_1.5	May 27, 2025		Soil	M25-My0079657			X		

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
14	ABH004S_2.0	May 27, 2025		Soil	M25-My0079658			X		
15	ABH004S_2.5	May 27, 2025		Soil	M25-My0079659			X		
16	ABH004S_3.0	May 27, 2025		Soil	M25-My0079660			X		
17	ABH004S_3.5	May 27, 2025		Soil	M25-My0079661			X		
18	ABH004S_4.0	May 27, 2025		Soil	M25-My0079662			X		
19	ABH004E_0.2	May 27, 2025		Soil	M25-My0079663			X		
20	ABH004E_0.5	May 27, 2025		Soil	M25-My0079664			X		
21	ABH004E_1.0	May 27, 2025		Soil	M25-My0079665			X		
22	ABH004E_1.5	May 27, 2025		Soil	M25-My0079666			X		
23	ABH004E_2.0	May 27, 2025		Soil	M25-My0079667			X		
24	ABH004E_2.5	May 27, 2025		Soil	M25-My0079668			X		
25	ABH004E_3.0	May 27, 2025		Soil	M25-My0079669			X		
26	ABH004E_3.5	May 27, 2025		Soil	M25-My0079670			X		
27	ABH004E_4.0	May 27, 2025		Soil	M25-My0079671			X		
28	ABH004N_0.2	May 27, 2025		Soil	M25-My0079672			X		
29	ABH004N_0.5	May 27, 2025		Soil	M25-My0079673			X		

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
30	ABH004N_1.0	May 27, 2025		Soil	M25-My0079674			X		
31	ABH004N_1.5	May 27, 2025		Soil	M25-My0079675			X		
32	ABH004N_2.0	May 27, 2025		Soil	M25-My0079676			X		
33	ABH004N_2.5	May 27, 2025		Soil	M25-My0079677			X		
34	ABH004N_3.0	May 27, 2025		Soil	M25-My0079678			X		
35	ABH004N_3.5	May 27, 2025		Soil	M25-My0079679			X		
36	ABH004N_4.0	May 27, 2025		Soil	M25-My0079680			X		
37	ABH004A_0.2	May 27, 2025		Soil	M25-My0079681			X		
38	ABH004A_0.5	May 27, 2025		Soil	M25-My0079682			X		
39	ABH004A_1.0	May 27, 2025		Soil	M25-My0079683			X		
40	ABH004A_1.5	May 27, 2025		Soil	M25-My0079684			X		
41	ABH004A_2.0	May 27, 2025		Soil	M25-My0079685			X		
42	ABH004A_2.5	May 27, 2025		Soil	M25-My0079686			X		
43	ABH004A_3.0	May 27, 2025		Soil	M25-My0079687			X		
44	ABH004A_3.5	May 27, 2025		Soil	M25-My0079688			X		
45	ABH004A_4.0	May 27, 2025		Soil	M25-My0079689			X		

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
46	SV34_1.5	May 27, 2025		Soil	M25-My0079690		X		X	
47	QC501	May 27, 2025		Soil	M25-My0079691					X
48	SV34_0.2	May 27, 2025		Soil	M25-My0079692	X				
49	SV34_0.5	May 27, 2025		Soil	M25-My0079693	X				
50	SV34_1.0	May 27, 2025		Soil	M25-My0079694	X				
Test Counts						3	1	45	1	1

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Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1225146-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date May 27, 2025

Client Sample ID			**ABH004W_0.2**	**ABH004W_0.5**	**ABH004W_1.0**	**ABH004W_1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-My0079645**	**M25-My0079646**	**M25-My0079647**	**M25-My0079648**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.5	8.7	8.3	8.2
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.8	6.8	4.5	2.5
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**ABH004W_2.0**	**ABH004W_2.5**	**ABH004W_3.0**	**ABH004W_3.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-My0079649**	**M25-My0079650**	**M25-My0079651**	**M25-My0079652**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.5	8.2	8.8	8.8
pH-FOX (Field pH Peroxide test)	0.1	pH Units	2.6	2.4	7.1	7.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**ABH004W_4.0**	**ABH004S_0.2**	**ABH004S_0.5**	**ABH004S_1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-My0079653**	**M25-My0079654**	**M25-My0079655**	**M25-My0079656**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.5	9.4	8.1	8.3
pH-FOX (Field pH Peroxide test)	0.1	pH Units	4.7	9.1	6.4	4.3
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004S_1.5	ABH004S_2.0	ABH004S_2.5	ABH004S_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079657	M25-My0079658	M25-My0079659	M25-My0079660
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.6	8.3	8.6	8.6
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.5	3.5	7.6	7.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004S_3.5	ABH004S_4.0	ABH004E_0.2	ABH004E_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079661	M25-My0079662	M25-My0079663	M25-My0079664
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.3	8.5	9.4	8.7
pH-FOX (Field pH Peroxide test)	0.1	pH Units	6.4	7.2	8.7	7.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004E_1.0	ABH004E_1.5	ABH004E_2.0	ABH004E_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079665	M25-My0079666	M25-My0079667	M25-My0079668
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.2	9.0	8.8	8.1
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.7	8.0	8.1	6.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004E_3.0	ABH004E_3.5	ABH004E_4.0	ABH004N_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079669	M25-My0079670	M25-My0079671	M25-My0079672
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.5	8.2	8.2	9.4
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.2	6.7	5.0	8.7
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004N_0.5	ABH004N_1.0	ABH004N_1.5	ABH004N_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079673	M25-My0079674	M25-My0079675	M25-My0079676
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.4	8.6	8.3	8.3
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.2	7.2	8.1	8.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004N_2.5	ABH004N_3.0	ABH004N_3.5	ABH004N_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079677	M25-My0079678	M25-My0079679	M25-My0079680
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	7.8	8.2	8.4	8.3
pH-FOX (Field pH Peroxide test)	0.1	pH Units	3.1	4.0	3.7	7.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079681	M25-My0079682	M25-My0079683	M25-My0079684
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.3	8.8	8.0	8.0
pH-FOX (Field pH Peroxide test)	0.1	pH Units	9.4	8.1	5.0	4.8
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004A_2.0	ABH004A_2.5	ABH004A_3.0	ABH004A_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079685	M25-My0079686	M25-My0079687	M25-My0079688
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.2	7.8	8.0	8.5
pH-FOX (Field pH Peroxide test)	0.1	pH Units	2.4	3.2	6.5	6.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004A_4.0	SV34_1.5	QC501
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-My0079689	M25-My0079690	M25-My0079691
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit			
Acid Sulfate Soils Field pH Test					
pH-F (Field pH test)	0.1	pH Units	8.2	-	-
pH-FOX (Field pH Peroxide test)	0.1	pH Units	3.2	-	-
Reaction Ratings[S05]		comment	4.0	-	-
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	-	< 20	< 20
TRH C10-C14	20	mg/kg	-	53	-
TRH C15-C28	50	mg/kg	-	900	-
TRH C29-C36	50	mg/kg	-	340	-
TRH C10-C36 (Total)	50	mg/kg	-	1293	-
TRH C6-C10	20	mg/kg	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	< 20
TRH >C10-C16	50	mg/kg	-	99	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	96.9	-
TRH >C16-C34	100	mg/kg	-	1100	-
TRH >C34-C40	100	mg/kg	-	160	-
TRH >C10-C40 (total)*	100	mg/kg	-	1359	-
BTEX					
Benzene	0.1	mg/kg	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	94	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	-	2.1	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	29	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	29	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	29	-
Acenaphthene	0.5	mg/kg	-	1.1	-
Acenaphthylene	0.5	mg/kg	-	0.9	-
Anthracene	0.5	mg/kg	-	17	-
Benz(a)anthracene	0.5	mg/kg	-	19	-
Benzo(a)pyrene	0.5	mg/kg	-	20	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	17	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	8.1	-
Benzo(k)fluoranthene	0.5	mg/kg	-	18	-
Chrysene	0.5	mg/kg	-	22	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	2.9	-
Fluoranthene	0.5	mg/kg	-	47	-
Fluorene	0.5	mg/kg	-	13	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	6.8	-
Naphthalene	0.5	mg/kg	-	4.9	-
Phenanthrene	0.5	mg/kg	-	70	-
Pyrene	0.5	mg/kg	-	44	-
Total PAH*	0.5	mg/kg	-	310	-
2-Fluorobiphenyl (surr.)	1	%	-	103	-
p-Terphenyl-d14 (surr.)	1	%	-	94	-

Client Sample ID			ABH004A_4.0	SV34_1.5	QC501
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-My0079689	M25-My0079690	M25-My0079691
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	2	mg/kg	-	< 20	-
Cadmium	0.4	mg/kg	-	< 4	-
Chromium	5	mg/kg	-	3400	-
Copper	5	mg/kg	-	68	-
Lead	5	mg/kg	-	170	-
Mercury	0.1	mg/kg	-	2.2	-
Nickel	5	mg/kg	-	< 50	-
Zinc	5	mg/kg	-	160	-
Sample Properties					
% Moisture	1	%	-	18	-
Volatile Organics					
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	Jun 03, 2025	7 Days
- Method: LTM-GEN-7060			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	May 29, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	May 28, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780			X		
External Laboratory					

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	ABH004W_0.2	May 27, 2025		Soil	M25-My0079645			X		
2	ABH004W_0.5	May 27, 2025		Soil	M25-My0079646			X		
3	ABH004W_1.0	May 27, 2025		Soil	M25-My0079647			X		
4	ABH004W_1.5	May 27, 2025		Soil	M25-My0079648			X		
5	ABH004W_2.0	May 27, 2025		Soil	M25-My0079649			X		
6	ABH004W_2.5	May 27, 2025		Soil	M25-My0079650			X		
7	ABH004W_3.0	May 27, 2025		Soil	M25-My0079651			X		
8	ABH004W_3.5	May 27, 2025		Soil	M25-My0079652			X		
9	ABH004W_4.0	May 27, 2025		Soil	M25-My0079653			X		
10	ABH004S_0.2	May 27, 2025		Soil	M25-My0079654			X		
11	ABH004S_0.5	May 27, 2025		Soil	M25-My0079655			X		
12	ABH004S_1.0	May 27, 2025		Soil	M25-My0079656			X		
13	ABH004S_1.5	May 27, 2025		Soil	M25-My0079657			X		

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
14	ABH004S_2.0	May 27, 2025		Soil	M25-My0079658			X		
15	ABH004S_2.5	May 27, 2025		Soil	M25-My0079659			X		
16	ABH004S_3.0	May 27, 2025		Soil	M25-My0079660			X		
17	ABH004S_3.5	May 27, 2025		Soil	M25-My0079661			X		
18	ABH004S_4.0	May 27, 2025		Soil	M25-My0079662			X		
19	ABH004E_0.2	May 27, 2025		Soil	M25-My0079663			X		
20	ABH004E_0.5	May 27, 2025		Soil	M25-My0079664			X		
21	ABH004E_1.0	May 27, 2025		Soil	M25-My0079665			X		
22	ABH004E_1.5	May 27, 2025		Soil	M25-My0079666			X		
23	ABH004E_2.0	May 27, 2025		Soil	M25-My0079667			X		
24	ABH004E_2.5	May 27, 2025		Soil	M25-My0079668			X		
25	ABH004E_3.0	May 27, 2025		Soil	M25-My0079669			X		
26	ABH004E_3.5	May 27, 2025		Soil	M25-My0079670			X		
27	ABH004E_4.0	May 27, 2025		Soil	M25-My0079671			X		
28	ABH004N_0.2	May 27, 2025		Soil	M25-My0079672			X		
29	ABH004N_0.5	May 27, 2025		Soil	M25-My0079673			X		

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
30	ABH004N_1.0	May 27, 2025		Soil	M25-My0079674			X		
31	ABH004N_1.5	May 27, 2025		Soil	M25-My0079675			X		
32	ABH004N_2.0	May 27, 2025		Soil	M25-My0079676			X		
33	ABH004N_2.5	May 27, 2025		Soil	M25-My0079677			X		
34	ABH004N_3.0	May 27, 2025		Soil	M25-My0079678			X		
35	ABH004N_3.5	May 27, 2025		Soil	M25-My0079679			X		
36	ABH004N_4.0	May 27, 2025		Soil	M25-My0079680			X		
37	ABH004A_0.2	May 27, 2025		Soil	M25-My0079681			X		
38	ABH004A_0.5	May 27, 2025		Soil	M25-My0079682			X		
39	ABH004A_1.0	May 27, 2025		Soil	M25-My0079683			X		
40	ABH004A_1.5	May 27, 2025		Soil	M25-My0079684			X		
41	ABH004A_2.0	May 27, 2025		Soil	M25-My0079685			X		
42	ABH004A_2.5	May 27, 2025		Soil	M25-My0079686			X		
43	ABH004A_3.0	May 27, 2025		Soil	M25-My0079687			X		
44	ABH004A_3.5	May 27, 2025		Soil	M25-My0079688			X		
45	ABH004A_4.0	May 27, 2025		Soil	M25-My0079689			X		

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
46	SV34_1.5	May 27, 2025		Soil	M25-My0079690		X		X	
47	QC501	May 27, 2025		Soil	M25-My0079691					X
48	SV34_0.2	May 27, 2025		Soil	M25-My0079692	X				
49	SV34_0.5	May 27, 2025		Soil	M25-My0079693	X				
50	SV34_1.0	May 27, 2025		Soil	M25-My0079694	X				
Test Counts						3	1	45	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	126			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	84			70-130	Pass	
TRH C6-C10	%	123			70-130	Pass	
TRH >C10-C16	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	114			70-130	Pass	
m&p-Xylenes	%	117			70-130	Pass	
Xylenes - Total*	%	117			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	74			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	81			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	108			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(a)pyrene	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	%	74			70-130	Pass	
Benzo(g.h.i)perylene	%	122			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	71			70-130	Pass	
Fluorene	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	99			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	73			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	118			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	116			80-120	Pass	
Copper	%	115			80-120	Pass	
Lead	%	110			80-120	Pass	
Mercury	%	101			80-120	Pass	
Nickel	%	112			80-120	Pass	
Zinc	%	115			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-My0082974	NCP	%	96			70-130	Pass	
TRH C10-C14	M25-My0087711	NCP	%	74			70-130	Pass	
TRH C6-C10	M25-My0082974	NCP	%	94			70-130	Pass	
TRH >C10-C16	M25-My0087711	NCP	%	75			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-My0082974	NCP	%	77			70-130	Pass	
Toluene	M25-My0082974	NCP	%	83			70-130	Pass	
Ethylbenzene	M25-My0082974	NCP	%	83			70-130	Pass	
m&p-Xylenes	M25-My0082974	NCP	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	M25-My0082974	NCP	%	83			70-130	Pass	
Xylenes - Total*	M25-My0082974	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-My0082974	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-My0079449	NCP	%	104			70-130	Pass	
Acenaphthylene	M25-My0079449	NCP	%	96			70-130	Pass	
Anthracene	M25-My0079449	NCP	%	99			70-130	Pass	
Benz(a)anthracene	M25-My0079449	NCP	%	93			70-130	Pass	
Benzo(a)pyrene	M25-My0079449	NCP	%	112			70-130	Pass	
Benzo(b&j)fluoranthene	M25-My0079449	NCP	%	97			70-130	Pass	
Benzo(g.h.i)perylene	M25-My0079449	NCP	%	99			70-130	Pass	
Benzo(k)fluoranthene	M25-My0079449	NCP	%	95			70-130	Pass	
Chrysene	M25-My0079449	NCP	%	106			70-130	Pass	
Dibenz(a.h)anthracene	M25-My0079449	NCP	%	109			70-130	Pass	
Fluoranthene	M25-My0079449	NCP	%	106			70-130	Pass	
Fluorene	M25-My0079449	NCP	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-My0079449	NCP	%	108			70-130	Pass	
Naphthalene	M25-My0079449	NCP	%	124			70-130	Pass	
Phenanthrene	M25-My0079449	NCP	%	94			70-130	Pass	
Pyrene	M25-My0079449	NCP	%	107			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-My0082985	NCP	%	116			75-125	Pass	
Cadmium	M25-My0082985	NCP	%	102			75-125	Pass	
Chromium	M25-My0082985	NCP	%	114			75-125	Pass	
Copper	M25-My0082985	NCP	%	116			75-125	Pass	
Lead	M25-My0082985	NCP	%	116			75-125	Pass	
Mercury	M25-My0082985	NCP	%	104			75-125	Pass	
Nickel	M25-My0082985	NCP	%	114			75-125	Pass	
Zinc	M25-My0082985	NCP	%	118			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079650	CP	pH Units	8.2	8.3	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079650	CP	pH Units	2.4	2.4	pass	30%	Pass	
Reaction Ratings	M25-My0079650	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079663	CP	pH Units	9.4	9.4	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079663	CP	pH Units	8.7	8.9	pass	30%	Pass	
Reaction Ratings	M25-My0079663	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079666	CP	pH Units	9.0	9.1	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079666	CP	pH Units	8.0	8.2	pass	30%	Pass	
Reaction Ratings	M25-My0079666	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079668	CP	pH Units	8.1	8.2	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079668	CP	pH Units	6.4	6.3	pass	30%	Pass	
Reaction Ratings	M25-My0079668	CP	comment	4.0	4.0	pass	30%	Pass	

Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079675	CP	pH Units	8.3	8.3	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079675	CP	pH Units	8.1	7.9	pass	30%	Pass	
Reaction Ratings	M25-My0079675	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079685	CP	pH Units	8.2	8.2	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079685	CP	pH Units	2.4	2.7	pass	30%	Pass	
Reaction Ratings	M25-My0079685	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-My0084166	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M25-My0089579	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-My0089579	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M25-My0089579	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M25-My0084166	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M25-My0089579	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M25-My0089579	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M25-My0089579	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-My0084166	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-My0084166	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-My0084166	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-My0083011	NCP	mg/kg	16	15	6.0	30%	Pass	
Cadmium	M25-My0083011	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-My0083011	NCP	mg/kg	91	88	3.0	30%	Pass	
Copper	M25-My0083011	NCP	mg/kg	29	27	8.0	30%	Pass	
Lead	M25-My0083011	NCP	mg/kg	24	26	7.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	M25-My0083011	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-My0083011	NCP	mg/kg	150	140	5.0	30%	Pass	
Zinc	M25-My0083011	NCP	mg/kg	110	120	5.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-My0082561	NCP	%	9.0	8.8	2.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-SPOCAS
Joseph Edouard	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X — Non Stand (Due date):	Custody Seal Intact? Yes No N/A
Melbourne, VIC 3008	Results email:		Free ice / Frozen Icebricks present upon receipt? Yes No N/A
PHONE NO: 9653 1234	robert.crowe@aecom.com	COC: 1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 1.4 °C
MOBILE NO: 0427 821 002	Richard.Bowers@aecom.com	OF: 1 2 3 4 5 6 7 8	
PROJECT ID: 60693007 / 12	Quote Number: 260602AECV	RELINQUISHED BY:	RELINQUISHED BY: / RECEIVED BY: Sheridan - Eurofins Hobart.
Project Manager: Robert Crowe	Project Name: Macquarie Point	Richard Bowers	
SAMPLER: RB / EM / TG / LL	Data Format: Excel and PDF	DATE/TIME: 30/05/2025	DATE/TIME: / DATE/TIME:

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

Samples received 30/5 - COC received 2/6 @ 11:22am Temp = 1.4°C

Report #127083 SB 2/6/25

SOIL

				SAMPLE CONTAINERS						ANALYSIS REQUEST										
				General Soil Suite & Gasworks Soil Suite (combined)	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + Gasworks Suite	Soil Trip Blank		General Soil Suite	Gasworks Soil Suite	PASS Suite			Rinsate & Field Blank General Suite	Rinsate & Field Blank General Suite + Gasworks Suite	Trip Blank			
				1	1	4	8	1												
LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S/W)	1 x 250ml Clear Soil Jar	1 x 200g PASS Sample Bag	1x 250mL Semi-Volatiles Amber 40mL Vials 2x 60mL Metals	1x 250mL Semi-Volatiles Amber 4x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/Other 2x 60mL Preserved Inorganics	1x 40mL Soil Vial	TOTAL BOTTLES	TRH (F1) PAH (16 EPA) 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Cyanide (Total, Free & WAD) Asbestos (ID in Soil) Phenols (Speciated)	pH (Field Screen, NATA)	Chromium Reducible Sulphur (CRS)	SPOCAS	TRH (F1) PAH (16 EPA) Phenols (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	TRH (F1) PAH (16 EPA) 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg) Cyanide (Total, Free & WAD) Asbestos (ID in Soil) Phenols (Speculated)	TRH (C6-C9) BTEX (F1)	HOLD	COMMENTS: Additional Information	Comments on likely contaminates, dilutions, samples for QC analysis, specific preparation etc
✓	MW192_0.2	28/5/25	S	X					1									X		
✓	MW192_0.5	28/5/25	S	X					1									X		
✓	MW192_1.0	28/5/25	S	X					1									X		
✓	MW192_2.0	28/5/25	S	X					1	X										
✓	MW192_3.0	28/5/25	S	X					1									X		
✓	MW192_4.0	28/5/25	S	X					1									X		
✓	SV46_0.2	28/5/25	S	X					1									X		
✓	SV46_0.5	28/5/25	S	X					1									X		
✓	SV46_1.0	28/5/25	S	X					1									X		
✓	SV46_1.5	28/5/25	S	X					1	X								X		
✓	SV35_0.2	28/5/25	S	X					1											
✓	SV35_0.5	28/5/25	S	X					1									X		
✓	SV35_1.0	28/5/25	S	X					1									X		
* ✓	SV35_2.0	28/5/25	S	X					1									X		
* ✓	SV35_2.5	28/5/25	S	X					1	X								X		
✓	MW190_0.2	28/5/25	S	X					1									X		
✓	MW190_0.5	28/5/25	S	X					1									X		
✓	MW190_1.0	28/5/25	S	X					1	X										
✓	MW190_2.0	28/5/25	S	X					1									X		
✓	MW190_3.0	28/5/25	S	X					1	X										
✓	MW190_4.0	28/5/25	S	X					1									X		
✓	QC02	27/5/25	W			X			4						X					
✓	QC03	27/5/25	W			X			4									X		
✓	QC04	28/5/25	W			X			4						X					
✓	QC05	28/5/25	W			X			4									X		

✓	QC06	28/5/25		S					X	1								X							
✓	QC07	29/5/25		W			X			4							X								
✓	QC08	29/5/25		W			X			4										X					
✓	QC09	30/5/25		W			X			4							X								
✓	QC10	30/5/25		W			X			4										X					
✓	QC11	30/5/25		S					X	1									X						
✓	QC12	30/5/25		S					X	1									X						
✓	MW182_0.2	29/5/25		S	X					1										X					
✓	MW182_0.5	29/5/25		S	X					1										X					
✓	MW182_1.0	29/5/25		S	X					1	X														
✓	MW182_2.0	29/5/25		S	X					1										X					
✓	MW182_3.0	29/5/25		S	X					1	X														
✓	MW182_4.0	29/5/25		S	X					1										X					
✓	MW183_0.2	29/5/25		S	X					1										X					
✓	MW183_0.5	29/5/25		S	X					1										X					
✓	MW183_1.0	29/5/25		S	X					1	X														
✓	MW183_2.0	29/5/25		S	X					1										X					
✓	MW183_3.0	29/5/25		S	X					1	X														
✓	MW183_4.0	29/5/25		S	X					1										X					
✓	SV31_0.2	29/5/25		S	X					1										X					
✓	SV31_0.5	29/5/25		S	X					1										X					
✓	SV31_1.0	29/5/25		S	X					1										X					
* ✓	SV31_2.0	29/5/25		S	X					1										X	Received as SV35-2.0 29/5/25 SB					
* ✓	SV31_2.5	29/5/25		S	X					1	X										Received as SV35-2.5 29/5/25 SB					
✓	MW103A_0.2	29/5/25		S	X					1										X					
✓	MW103A_0.5	29/5/25		S	X					1	X														
✓	MW103A_1.0	29/5/25		S	X					1										X					
✓	MW103A_2.0	29/5/25		S	X					1										X					
✓	MW103A_3.0	29/5/25		S	X					1	X														
✓	MW103A_4.0	29/5/25		S	X					1										X					
✓	NR2A_0.2	30/5/25		S	X					1										X					
✓	NR2A_0.5	30/5/25		S	X					1										X					
✓	NR2A_1.0	30/5/25		S	X					1	X														
✓	NR2A_2.0	30/5/25		S	X					1										X					
✓	NR2A_3.0	30/5/25		S	X					1										X					
✓	NR2A_4.0	30/5/25		S	X					1	X														
✓	MW189_0.2	30/5/25		S	X					1	X														
✓	MW189_0.5	30/5/25		S	X					1										X					
✓	MW189_1.0	30/5/25		S	X					1										X					
✓	MW189_2.0	30/5/25		S	X					1	X														

From: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Sent: Monday, 2 June 2025 3:22 PM
To: Bowers, Richard <Richard.Bowers@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Meszaros, Elliot <Elliot.Meszaros@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Mac Point - Soil Batch 2 - 30 May 2025
Importance: High

Hi Richard,

In the batch of samples dropped off on Friday 30th May, there are a couple of samples with 2x jars each, but different sampling dates:

- SV35_2.0 - 28/05/2025
- SV35_2.0 - 29/05/2025
- SV35_2.5 - 28/05/2025
- SV35_2.5 - 29/05/2025

Based on your COC and other samples in that batch. I believe the samples dated 29/05/2025 are potentially mislabelled, as we did not received samples SV31_2.0 and SV31_2.5.

I have attached photos of each sample pair. Could you please confirm how you wish to proceed with these samples?

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

RE: Mac Point - Soil Batch 2 - 30 May 2025

BR

Bowers, Richard <Richard.Bowers@aecom.com>
To Sheridan Barrett
Cc Crowe, Robert; Meszaros, Elliot; Savini Suduweli Kondage; Grigg, Maggie

3:49 PM

You replied to this message on 2/06/2025 3:57 PM.
This message is part of a tracked conversation. Click here to find all related messages or to open the original flagged message.

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

Thanks for picking up on this.
I can confirm that you are correct in your assessment – the "SV35" samples from the 29th are in fact the "missing" SV31 samples of the same depths listed on the COC.

Please update the following sample IDs:

- **SV35_2.0** (collected 29/05/2025) to **SV31_2.0**
- **SV35_2.5** (collected 29/05/2025) to **SV31_2.5**

Kind regards,

Richard Bowers

Principal Environmental Scientist, ANZ VSA
M +61 427 821 002
richard.bowers@aecom.com

AECOM
Wurundjeri and Bunurong Country
Collins Square, Level 10, Tower Two
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Melbourne, VIC 3008, Australia
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RE: Eurofins Sample Receipt Advice - Report 1227083 : Site Macquarie Poin...

BR

Bowers, Richard <Richard.Bowers@aecom.com>
To Sheridan Barrett
Cc Crowe, Robert; SH_AU_CAU001_EnviroSampleVic

2:51 PM

Hi Sheridan,

Apologies for the additional confusion, but can you please update the following sample IDs from this batch (1227083):

Original Field ID	Updated Field ID
QC02	QC301
QC03	QC401
QC04	QC302
QC05	QC402
QC06	QC502
QC07	QC303
QC08	QC403
QC09	QC304
QC10	QC404
QC11	QC503
QC12	QC504

Kind regards,

Richard Bowers

Principal Environmental Scientist, ANZ VSA
M +61 427 821 002
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From: Sheridan Barrett <EET-ELVIS@eurofinsanz.com>
Sent: Monday, 2 June 2025 6:06 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1227083 : Site Macquarie Point (60693007 / 12)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

Mobile: +61 438 384 921
E-mail: sheridan.barrett@eurofinsanz.com

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Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

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WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 2, 2025 11:22 AM
Eurofins reference	1227083

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 1.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample SV31_2.0 received as SV35_2.0, and SV31_2.5 received as SV35_2.5. Sample IDs updated as discussed.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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Welshpool
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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1227083
Phone: 08 7223 5400
Fax:

Received: Jun 2, 2025 11:22 AM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X
External Laboratory				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
1	MW192_0.2	May 28, 2025		Soil	M25-Jn0002440	X			
2	MW192_0.5	May 28, 2025		Soil	M25-Jn0002441	X			
3	MW192_1.0	May 28, 2025		Soil	M25-Jn0002442	X			
4	MW192_2.0	May 28, 2025		Soil	M25-Jn0002443		X	X	
5	MW192_3.0	May 28, 2025		Soil	M25-Jn0002444	X			
6	MW192_4.0	May 28, 2025		Soil	M25-Jn0002445	X			
7	SV46_0.2	May 28, 2025		Soil	M25-Jn0002446	X			
8	SV46_0.5	May 28, 2025		Soil	M25-Jn0002447	X			
9	SV46_1.0	May 28, 2025		Soil	M25-Jn0002448	X			
10	SV46_1.5	May 28, 2025		Soil	M25-Jn0002449		X	X	
11	SV35_0.2	May 28, 2025		Soil	M25-Jn0002450	X			
12	SV35_0.5	May 28, 2025		Soil	M25-Jn0002451	X			
13	SV35_1.0	May 28, 2025		Soil	M25-Jn0002452	X			
14	SV35_2.0	May 28, 2025		Soil	M25-Jn0002453	X			

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ABN: 50 005 085 521

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Received: Jun 2, 2025 11:22 AM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	SV35_2.5	May 28, 2025		Soil	M25-Jn0002454		X	X	
16	MW190_0.2	May 28, 2025		Soil	M25-Jn0002455	X			
17	MW190_0.5	May 28, 2025		Soil	M25-Jn0002456	X			
18	MW190_1.0	May 28, 2025		Soil	M25-Jn0002457		X	X	
19	MW190_2.0	May 28, 2025		Soil	M25-Jn0002458	X			
20	MW190_3.0	May 28, 2025		Soil	M25-Jn0002459		X	X	
21	MW190_4.0	May 28, 2025		Soil	M25-Jn0002460	X			
22	QC301	May 27, 2025		Water	M25-Jn0002461			X	
23	QC401	May 27, 2025		Water	M25-Jn0002462	X			
24	QC302	May 28, 2025		Water	M25-Jn0002463			X	
25	QC402	May 28, 2025		Water	M25-Jn0002464	X			
26	QC502	May 28, 2025		Soil	M25-Jn0002465				X
27	QC303	May 29, 2025		Water	M25-Jn0002466			X	
28	QC403	May 29, 2025		Water	M25-Jn0002467	X			
29	QC304	May 30, 2025		Water	M25-Jn0002468			X	
30	QC404	May 30, 2025		Water	M25-Jn0002469	X			
31	QC503	May 30, 2025		Soil	M25-Jn0002470				X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Project ID: 60693007 / 12

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Received: Jun 2, 2025 11:22 AM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
32	QC504	May 30, 2025		Soil	M25-Jn0002471				X
33	MW182_0.2	May 29, 2025		Soil	M25-Jn0002472	X			
34	MW182_1.0	May 29, 2025		Soil	M25-Jn0002473		X	X	
35	MW182_2.0	May 29, 2025		Soil	M25-Jn0002474	X			
36	MW182_3.0	May 29, 2025		Soil	M25-Jn0002475		X	X	
37	MW182_4.0	May 29, 2025		Soil	M25-Jn0002476	X			
38	MW183_0.2	May 29, 2025		Soil	M25-Jn0002477	X			
39	MW183_0.5	May 29, 2025		Soil	M25-Jn0002478	X			
40	MW183_1.0	May 29, 2025		Soil	M25-Jn0002479		X	X	
41	MW183_2.0	May 29, 2025		Soil	M25-Jn0002480	X			
42	MW183_3.0	May 29, 2025		Soil	M25-Jn0002481		X	X	
43	MW183_4.0	May 29, 2025		Soil	M25-Jn0002482	X			
44	SV31_0.2	May 29, 2025		Soil	M25-Jn0002483	X			
45	SV31_0.5	May 29, 2025		Soil	M25-Jn0002484	X			
46	SV31_1.0	May 29, 2025		Soil	M25-Jn0002485	X			
47	SV31_2.0	May 29, 2025		Soil	M25-Jn0002486	X			
48	SV31_2.5	May 29, 2025		Soil	M25-Jn0002487		X	X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
49	MW103A_0.2	May 29, 2025		Soil	M25-Jn0002488	X			
50	MW103A_0.5	May 29, 2025		Soil	M25-Jn0002489		X	X	
51	MW103A_1.0	May 29, 2025		Soil	M25-Jn0002490	X			
52	MW103A_2.0	May 29, 2025		Soil	M25-Jn0002491	X			
53	MW103A_3.0	May 29, 2025		Soil	M25-Jn0002492		X	X	
54	MW103A_4.0	May 29, 2025		Soil	M25-Jn0002493	X			
55	NR2A_0.2	May 30, 2025		Soil	M25-Jn0002494	X			
56	NR2A_0.5	May 30, 2025		Soil	M25-Jn0002495	X			
57	NR2A_1.0	May 30, 2025		Soil	M25-Jn0002496		X	X	
58	NR2A_2.0	May 30, 2025		Soil	M25-Jn0002497	X			
59	NR2A_3.0	May 30, 2025		Soil	M25-Jn0002498	X			
60	NR2A_4.0	May 30, 2025		Soil	M25-Jn0002499		X	X	
61	MW189_0.2	May 30, 2025		Soil	M25-Jn0002500		X	X	
62	MW189_0.5	May 30, 2025		Soil	M25-Jn0002501	X			
63	MW189_1.0	May 30, 2025		Soil	M25-Jn0002502	X			
64	MW189_2.0	May 30, 2025		Soil	M25-Jn0002503		X	X	
65	MW182_0.5	May 29, 2025		Soil	M25-Jn0002547	X			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Sample Detail	HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X
Test Counts	42	16	20	3

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1227083-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 02, 2025

Client Sample ID			**MW192_2.0**	**SV46_1.5**	**SV35_2.5**	**MW190_1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0002443**	**M25-Jn0002449**	**M25-Jn0002454**	**M25-Jn0002457**
Date Sampled			**May 28, 2025**	**May 28, 2025**	**May 28, 2025**	**May 28, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	400	< 50	190
TRH C29-C36	50	mg/kg	< 50	230	< 50	110
TRH C10-C36 (Total)	50	mg/kg	< 50	630	< 50	300
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	570	< 100	260
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	570	< 100	260
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93	79	89	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.7	1.4	1.4	20
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.0	1.6	1.7	20
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.3	1.9	1.9	20
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.3
Benz(a)anthracene	0.5	mg/kg	0.8	1.2	1.7	13
Benzo(a)pyrene	0.5	mg/kg	0.5	1.0	1.0	13
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	0.7	1.0	1.0	13
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	0.8	0.7	9.9
Benzo(k)fluoranthene	0.5	mg/kg	0.6	1.0	0.9	14
Chrysene	0.5	mg/kg	0.7	1.5	1.2	11

Client Sample ID			MW192_2.0	SV46_1.5	SV35_2.5	MW190_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002443	M25-Jn0002449	M25-Jn0002454	M25-Jn0002457
Date Sampled			May 28, 2025	May 28, 2025	May 28, 2025	May 28, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.0
Fluoranthene	0.5	mg/kg	0.6	1.3	1.8	18
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	0.5	< 0.5	9.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	6.6
Pyrene	0.5	mg/kg	0.8	1.6	1.9	22
Total PAH*	0.5	mg/kg	4.7	9.9	10	140
2-Fluorobiphenyl (surr.)	1	%	81	88	95	134
p-Terphenyl-d14 (surr.)	1	%	86	88	118	96
Heavy Metals						
Arsenic	2	mg/kg	3.1	7.2	< 2	2.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	11	7.7	7.1
Copper	5	mg/kg	33	180	22	72
Lead	5	mg/kg	230	480	42	130
Mercury	0.1	mg/kg	< 0.1	0.7	0.4	0.4
Nickel	5	mg/kg	26	26	7.4	17
Zinc	5	mg/kg	68	930	71	130
Sample Properties						
% Moisture	1	%	15	25	17	16

Client Sample ID			MW190_3.0	QC502	QC503	QC504
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002459	M25-Jn0002465	M25-Jn0002470	M25-Jn0002471
Date Sampled			May 28, 2025	May 28, 2025	May 30, 2025	May 30, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	84	-	-	-
TRH C15-C28	50	mg/kg	150	-	-	-
TRH C29-C36	50	mg/kg	< 50	-	-	-
TRH C10-C36 (Total)	50	mg/kg	234	-	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	150	-	-	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	150	-	-	-
TRH >C16-C34	100	mg/kg	110	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
TRH >C10-C40 (total)*	100	mg/kg	260	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	124	97	92

Client Sample ID			MW190_3.0	QC502	QC503	QC504
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002459	M25-Jn0002465	M25-Jn0002470	M25-Jn0002471
Date Sampled			May 28, 2025	May 28, 2025	May 30, 2025	May 30, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	93	-	-	-
p-Terphenyl-d14 (surr.)	1	%	104	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	5.6	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	12	-	-	-
Copper	5	mg/kg	29	-	-	-
Lead	5	mg/kg	100	-	-	-
Mercury	0.1	mg/kg	0.9	-	-	-
Nickel	5	mg/kg	20	-	-	-
Zinc	5	mg/kg	100	-	-	-
Sample Properties						
% Moisture	1	%	24	-	-	-
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5

Client Sample ID			MW182_1.0	MW182_3.0	MW183_1.0	MW183_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002473	M25-Jn0002475	M25-Jn0002479	M25-Jn0002481
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	640	310
TRH C15-C28	50	mg/kg	< 50	< 50	2500	1600
TRH C29-C36	50	mg/kg	81	< 50	530	430
TRH C10-C36 (Total)	50	mg/kg	81	< 50	3670	2340
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	1400	640
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	1400	640
TRH >C16-C34	100	mg/kg	110	< 100	2200	1600
TRH >C34-C40	100	mg/kg	< 100	< 100	240	170
TRH >C10-C40 (total)*	100	mg/kg	110	< 100	3840	2410
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	59	61	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	1.9	0.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.7	2.1	1.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	2.4	1.4
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	1.1	0.9
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.7	1.2	0.6
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	1.3	0.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	1.7	0.7
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	0.9	0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.5	1.5	0.6
Chrysene	0.5	mg/kg	< 0.5	0.6	1.1	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	1.6	0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	0.9	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	0.7	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	1.5	0.6
Pyrene	0.5	mg/kg	< 0.5	0.7	1.8	0.7
Total PAH*	0.5	mg/kg	< 0.5	2.5	15	6.3
2-Fluorobiphenyl (surr.)	1	%	84	102	92	101
p-Terphenyl-d14 (surr.)	1	%	91	93	137	122

Client Sample ID			MW182_1.0	MW182_3.0	MW183_1.0	MW183_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002473	M25-Jn0002475	M25-Jn0002479	M25-Jn0002481
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	51	6.9	11	7.3
Cadmium	0.4	mg/kg	1.3	< 0.4	0.4	< 0.4
Chromium	5	mg/kg	21	27	21	37
Copper	5	mg/kg	98	68	83	78
Lead	5	mg/kg	130	170	150	61
Mercury	0.1	mg/kg	0.2	0.5	0.2	0.2
Nickel	5	mg/kg	38	32	22	39
Zinc	5	mg/kg	270	170	290	83
Sample Properties						
% Moisture	1	%	33	18	18	12

Client Sample ID			SV31_2.5	MW103A_0.5	MW103A_3.0	NR2A_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002487	M25-Jn0002489	M25-Jn0002492	M25-Jn0002496
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 30, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	66
TRH C29-C36	50	mg/kg	81	< 50	< 50	75
TRH C10-C36 (Total)	50	mg/kg	81	< 50	< 50	141
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	120
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	120
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	55	73	57	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	1.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.4
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			SV31_2.5	MW103A_0.5	MW103A_3.0	NR2A_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002487	M25-Jn0002489	M25-Jn0002492	M25-Jn0002496
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 30, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	0.5	< 0.5	< 0.5	0.9
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	0.6	< 0.5	< 0.5	1.0
Total PAH*	0.5	mg/kg	1.1	< 0.5	< 0.5	3.8
2-Fluorobiphenyl (surr.)	1	%	97	76	115	87
p-Terphenyl-d14 (surr.)	1	%	104	89	125	102
Heavy Metals						
Arsenic	2	mg/kg	15	< 2	< 2	6.4
Cadmium	0.4	mg/kg	0.9	< 0.4	< 0.4	0.5
Chromium	5	mg/kg	27	< 5	9.5	18
Copper	5	mg/kg	97	34	71	49
Lead	5	mg/kg	120	< 5	< 5	60
Mercury	0.1	mg/kg	0.3	< 0.1	< 0.1	0.1
Nickel	5	mg/kg	33	< 5	21	42
Zinc	5	mg/kg	210	8.7	30	180
Sample Properties						
% Moisture	1	%	15	< 1	17	11

Client Sample ID			NR2A_4.0	MW189_0.2	MW189_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002499	M25-Jn0002500	M25-Jn0002503
Date Sampled			May 30, 2025	May 30, 2025	May 30, 2025
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	350	< 50
TRH C29-C36	50	mg/kg	< 50	450	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	800	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	660	< 100
TRH >C34-C40	100	mg/kg	< 100	190	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	850	< 100

Client Sample ID			NR2A_4.0	MW189_0.2	MW189_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0002499	M25-Jn0002500	M25-Jn0002503
Date Sampled			May 30, 2025	May 30, 2025	May 30, 2025
Test/Reference	LOR	Unit			
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	65	51	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	0.7	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	0.7	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	1.4	< 0.5
2-Fluorobiphenyl (surr.)	1	%	82	90	97
p-Terphenyl-d14 (surr.)	1	%	93	109	100
Heavy Metals					
Arsenic	2	mg/kg	< 2	33	2.5
Cadmium	0.4	mg/kg	< 0.4	3.1	< 0.4
Chromium	5	mg/kg	15	18	24
Copper	5	mg/kg	35	130	73
Lead	5	mg/kg	32	130	50
Mercury	0.1	mg/kg	< 0.1	0.2	< 0.1
Nickel	5	mg/kg	20	19	22
Zinc	5	mg/kg	23	990	44
Sample Properties					
% Moisture	1	%	18	15	17

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 02, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1227083
Phone: 08 7223 5400
Fax:

Received: Jun 2, 2025 11:22 AM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	MW192_0.2	May 28, 2025		Soil	M25-Jn0002440	X			
2	MW192_0.5	May 28, 2025		Soil	M25-Jn0002441	X			
3	MW192_1.0	May 28, 2025		Soil	M25-Jn0002442	X			
4	MW192_2.0	May 28, 2025		Soil	M25-Jn0002443		X	X	
5	MW192_3.0	May 28, 2025		Soil	M25-Jn0002444	X			
6	MW192_4.0	May 28, 2025		Soil	M25-Jn0002445	X			
7	SV46_0.2	May 28, 2025		Soil	M25-Jn0002446	X			
8	SV46_0.5	May 28, 2025		Soil	M25-Jn0002447	X			
9	SV46_1.0	May 28, 2025		Soil	M25-Jn0002448	X			
10	SV46_1.5	May 28, 2025		Soil	M25-Jn0002449		X	X	
11	SV35_0.2	May 28, 2025		Soil	M25-Jn0002450	X			
12	SV35_0.5	May 28, 2025		Soil	M25-Jn0002451	X			
13	SV35_1.0	May 28, 2025		Soil	M25-Jn0002452	X			
14	SV35_2.0	May 28, 2025		Soil	M25-Jn0002453	X			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1227083
Phone: 08 7223 5400
Fax:

Received: Jun 2, 2025 11:22 AM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	SV35_2.5	May 28, 2025		Soil	M25-Jn0002454		X	X	
16	MW190_0.2	May 28, 2025		Soil	M25-Jn0002455	X			
17	MW190_0.5	May 28, 2025		Soil	M25-Jn0002456	X			
18	MW190_1.0	May 28, 2025		Soil	M25-Jn0002457		X	X	
19	MW190_2.0	May 28, 2025		Soil	M25-Jn0002458	X			
20	MW190_3.0	May 28, 2025		Soil	M25-Jn0002459		X	X	
21	MW190_4.0	May 28, 2025		Soil	M25-Jn0002460	X			
22	QC301	May 27, 2025		Water	M25-Jn0002461			X	
23	QC401	May 27, 2025		Water	M25-Jn0002462	X			
24	QC302	May 28, 2025		Water	M25-Jn0002463			X	
25	QC402	May 28, 2025		Water	M25-Jn0002464	X			
26	QC502	May 28, 2025		Soil	M25-Jn0002465				X
27	QC303	May 29, 2025		Water	M25-Jn0002466			X	
28	QC403	May 29, 2025		Water	M25-Jn0002467	X			
29	QC304	May 30, 2025		Water	M25-Jn0002468			X	
30	QC404	May 30, 2025		Water	M25-Jn0002469	X			
31	QC503	May 30, 2025		Soil	M25-Jn0002470				X

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NATA# 1261
Site# 18217

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NATA# 1261
Site# 25466

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NATA# 1261
Site# 20794 & 2780

Newcastle
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
32	QC504	May 30, 2025		Soil	M25-Jn0002471				X
33	MW182_0.2	May 29, 2025		Soil	M25-Jn0002472	X			
34	MW182_1.0	May 29, 2025		Soil	M25-Jn0002473		X	X	
35	MW182_2.0	May 29, 2025		Soil	M25-Jn0002474	X			
36	MW182_3.0	May 29, 2025		Soil	M25-Jn0002475		X	X	
37	MW182_4.0	May 29, 2025		Soil	M25-Jn0002476	X			
38	MW183_0.2	May 29, 2025		Soil	M25-Jn0002477	X			
39	MW183_0.5	May 29, 2025		Soil	M25-Jn0002478	X			
40	MW183_1.0	May 29, 2025		Soil	M25-Jn0002479		X	X	
41	MW183_2.0	May 29, 2025		Soil	M25-Jn0002480	X			
42	MW183_3.0	May 29, 2025		Soil	M25-Jn0002481		X	X	
43	MW183_4.0	May 29, 2025		Soil	M25-Jn0002482	X			
44	SV31_0.2	May 29, 2025		Soil	M25-Jn0002483	X			
45	SV31_0.5	May 29, 2025		Soil	M25-Jn0002484	X			
46	SV31_1.0	May 29, 2025		Soil	M25-Jn0002485	X			
47	SV31_2.0	May 29, 2025		Soil	M25-Jn0002486	X			
48	SV31_2.5	May 29, 2025		Soil	M25-Jn0002487		X	X	

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
49	MW103A_0.2	May 29, 2025		Soil	M25-Jn0002488	X			
50	MW103A_0.5	May 29, 2025		Soil	M25-Jn0002489		X	X	
51	MW103A_1.0	May 29, 2025		Soil	M25-Jn0002490	X			
52	MW103A_2.0	May 29, 2025		Soil	M25-Jn0002491	X			
53	MW103A_3.0	May 29, 2025		Soil	M25-Jn0002492		X	X	
54	MW103A_4.0	May 29, 2025		Soil	M25-Jn0002493	X			
55	NR2A_0.2	May 30, 2025		Soil	M25-Jn0002494	X			
56	NR2A_0.5	May 30, 2025		Soil	M25-Jn0002495	X			
57	NR2A_1.0	May 30, 2025		Soil	M25-Jn0002496		X	X	
58	NR2A_2.0	May 30, 2025		Soil	M25-Jn0002497	X			
59	NR2A_3.0	May 30, 2025		Soil	M25-Jn0002498	X			
60	NR2A_4.0	May 30, 2025		Soil	M25-Jn0002499		X	X	
61	MW189_0.2	May 30, 2025		Soil	M25-Jn0002500		X	X	
62	MW189_0.5	May 30, 2025		Soil	M25-Jn0002501	X			
63	MW189_1.0	May 30, 2025		Soil	M25-Jn0002502	X			
64	MW189_2.0	May 30, 2025		Soil	M25-Jn0002503		X	X	
65	MW182_0.5	May 29, 2025		Soil	M25-Jn0002547	X			

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Sample Detail	HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X
Test Counts	42	16	20	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	114			80-120	Pass	
Cadmium	%	102			80-120	Pass	
Chromium	%	114			80-120	Pass	
Copper	%	114			80-120	Pass	
Lead	%	113			80-120	Pass	
Mercury	%	108			80-120	Pass	
Nickel	%	115			80-120	Pass	
Zinc	%	116			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	80			70-130	Pass	
TRH >C10-C16	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	114			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	%	113			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	123			70-130	Pass	
Toluene	%	99			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	98			70-130	Pass	
Xylenes - Total*	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	80			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	125			70-130	Pass	
TRH C6-C10	%	127			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	105			70-130	Pass	
Toluene	%	120			70-130	Pass	
Ethylbenzene	%	120			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
Xylenes - Total*	%	107			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	117			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	79			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	96			70-130	Pass	
Benz(a)anthracene	%	74			70-130	Pass	
Benzo(a)pyrene	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	75			70-130	Pass	
Benzo(k)fluoranthene	%	112			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	86			70-130	Pass	
Fluoranthene	%	75			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	92			70-130	Pass	
Pyrene	%	78			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0007386	NCP	%	112			70-130	Pass	
TRH C10-C14	M25-Jn0010463	NCP	%	75			70-130	Pass	
TRH C6-C10	M25-Jn0007386	NCP	%	112			70-130	Pass	
TRH >C10-C16	M25-Jn0010463	NCP	%	74			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0007386	NCP	%	90			70-130	Pass	
Toluene	M25-Jn0007386	NCP	%	87			70-130	Pass	
Ethylbenzene	M25-Jn0007386	NCP	%	106			70-130	Pass	
m&p-Xylenes	M25-Jn0007386	NCP	%	103			70-130	Pass	
o-Xylene	M25-Jn0007386	NCP	%	104			70-130	Pass	
Xylenes - Total*	M25-Jn0007386	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0007386	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0011337	NCP	%	101			70-130	Pass	
Acenaphthylene	M25-Jn0011337	NCP	%	93			70-130	Pass	
Anthracene	M25-Jn0011337	NCP	%	90			70-130	Pass	
Benz(a)anthracene	M25-Jn0011337	NCP	%	102			70-130	Pass	
Benzo(a)pyrene	M25-Jn0011337	NCP	%	93			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0011337	NCP	%	90			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0011337	NCP	%	98			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0011337	NCP	%	76			70-130	Pass	
Chrysene	M25-Jn0011337	NCP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0011337	NCP	%	114			70-130	Pass	
Fluoranthene	M25-Jn0011337	NCP	%	90			70-130	Pass	
Fluorene	M25-Jn0011337	NCP	%	125			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0011337	NCP	%	117			70-130	Pass	
Naphthalene	M25-Jn0011337	NCP	%	120			70-130	Pass	
Phenanthrene	M25-Jn0011337	NCP	%	87			70-130	Pass	
Pyrene	M25-Jn0011337	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Zinc	M25-Jn0000294	NCP	%	90			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Cadmium	M25-Jn0002459	CP	%	85			75-125	Pass	
Chromium	M25-Jn0002459	CP	%	75			75-125	Pass	
Lead	M25-Jn0002459	CP	%	93			75-125	Pass	
Mercury	M25-Jn0002459	CP	%	102			75-125	Pass	
Nickel	M25-Jn0002459	CP	%	79			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0002500	CP	%	115			75-125	Pass	
Cadmium	M25-Jn0002500	CP	%	108			75-125	Pass	
Chromium	M25-Jn0002500	CP	%	110			75-125	Pass	
Copper	M25-Jn0002500	CP	%	119			75-125	Pass	
Lead	M25-Jn0002500	CP	%	121			75-125	Pass	
Mercury	M25-Jn0002500	CP	%	97			75-125	Pass	
Nickel	M25-Jn0002500	CP	%	105			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benz(a)anthracene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Jn0007867	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0002457	CP	mg/kg	2.3	2.5	10	30%	Pass	
Cadmium	M25-Jn0002457	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0002457	CP	mg/kg	7.1	6.7	7.0	30%	Pass	
Copper	M25-Jn0002457	CP	mg/kg	72	77	7.0	30%	Pass	
Lead	M25-Jn0002457	CP	mg/kg	130	130	4.0	30%	Pass	
Mercury	M25-Jn0002457	CP	mg/kg	0.4	0.3	23	30%	Pass	
Nickel	M25-Jn0002457	CP	mg/kg	17	15	10	30%	Pass	
Zinc	M25-Jn0002457	CP	mg/kg	130	120	4.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0002459	CP	mg/kg	5.6	5.6	<1	30%	Pass	
Cadmium	M25-Jn0002459	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0002459	CP	mg/kg	12	12	<1	30%	Pass	
Copper	M25-Jn0002459	CP	mg/kg	29	29	<1	30%	Pass	
Lead	M25-Jn0002459	CP	mg/kg	100	100	<1	30%	Pass	
Mercury	M25-Jn0002459	CP	mg/kg	0.9	0.9	<1	30%	Pass	
Nickel	M25-Jn0002459	CP	mg/kg	20	20	<1	30%	Pass	
Zinc	M25-Jn0002459	CP	mg/kg	100	100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0002487	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-Jn0002487	CP	mg/kg	< 50	67	35	30%	Fail	Q15
TRH C29-C36	M25-Jn0002487	CP	mg/kg	81	68	17	30%	Pass	
TRH >C10-C16	M25-Jn0002487	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M25-Jn0002487	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M25-Jn0002487	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Jn0002487	CP	%	15	16	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0002499	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M25-Jn0002499	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0002499	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0002499	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0002499	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0002499	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0002499	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0002499	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0002499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0002499	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M25-Jn0002499	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0002499	CP	mg/kg	15	15	<1	30%	Pass	
Copper	M25-Jn0002499	CP	mg/kg	35	40	13	30%	Pass	
Lead	M25-Jn0002499	CP	mg/kg	32	39	19	30%	Pass	
Mercury	M25-Jn0002499	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0002499	CP	mg/kg	20	19	6.0	30%	Pass	
Zinc	M25-Jn0002499	CP	mg/kg	23	25	8.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0002500	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	M25-Jn0002500	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0002500	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0002500	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0002500	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0002500	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0002500	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0002500	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0002500	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0002500	CP	mg/kg	33	33	2.0	30%	Pass	
Cadmium	M25-Jn0002500	CP	mg/kg	3.1	3.1	1.0	30%	Pass	
Chromium	M25-Jn0002500	CP	mg/kg	18	18	1.0	30%	Pass	
Copper	M25-Jn0002500	CP	mg/kg	130	130	1.0	30%	Pass	
Lead	M25-Jn0002500	CP	mg/kg	130	130	2.0	30%	Pass	
Mercury	M25-Jn0002500	CP	mg/kg	0.2	0.2	<1	30%	Pass	
Nickel	M25-Jn0002500	CP	mg/kg	19	19	1.0	30%	Pass	
Zinc	M25-Jn0002500	CP	mg/kg	990	1000	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Volatile
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Site Number 1254

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Attention: **Robert Crowe**

Report **1227083-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 02, 2025

Client Sample ID			QC301	QC302	QC303	QC304
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0002461	M25-Jn0002463	M25-Jn0002466	M25-Jn0002468
Date Sampled			May 27, 2025	May 28, 2025	May 29, 2025	May 30, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	124	122	119	125
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			QC301	QC302	QC303	QC304
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0002461	M25-Jn0002463	M25-Jn0002466	M25-Jn0002468
Date Sampled			May 27, 2025	May 28, 2025	May 29, 2025	May 30, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	124	107	56	117
p-Terphenyl-d14 (surr.)	1	%	73	91	107	87
Heavy Metals						
Arsenic	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1227083
Phone: 08 7223 5400
Fax:

Received: Jun 2, 2025 11:22 AM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	MW192_0.2	May 28, 2025		Soil	M25-Jn0002440	X			
2	MW192_0.5	May 28, 2025		Soil	M25-Jn0002441	X			
3	MW192_1.0	May 28, 2025		Soil	M25-Jn0002442	X			
4	MW192_2.0	May 28, 2025		Soil	M25-Jn0002443		X	X	
5	MW192_3.0	May 28, 2025		Soil	M25-Jn0002444	X			
6	MW192_4.0	May 28, 2025		Soil	M25-Jn0002445	X			
7	SV46_0.2	May 28, 2025		Soil	M25-Jn0002446	X			
8	SV46_0.5	May 28, 2025		Soil	M25-Jn0002447	X			
9	SV46_1.0	May 28, 2025		Soil	M25-Jn0002448	X			
10	SV46_1.5	May 28, 2025		Soil	M25-Jn0002449		X	X	
11	SV35_0.2	May 28, 2025		Soil	M25-Jn0002450	X			
12	SV35_0.5	May 28, 2025		Soil	M25-Jn0002451	X			
13	SV35_1.0	May 28, 2025		Soil	M25-Jn0002452	X			
14	SV35_2.0	May 28, 2025		Soil	M25-Jn0002453	X			

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Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	SV35_2.5	May 28, 2025		Soil	M25-Jn0002454		X	X	
16	MW190_0.2	May 28, 2025		Soil	M25-Jn0002455	X			
17	MW190_0.5	May 28, 2025		Soil	M25-Jn0002456	X			
18	MW190_1.0	May 28, 2025		Soil	M25-Jn0002457		X	X	
19	MW190_2.0	May 28, 2025		Soil	M25-Jn0002458	X			
20	MW190_3.0	May 28, 2025		Soil	M25-Jn0002459		X	X	
21	MW190_4.0	May 28, 2025		Soil	M25-Jn0002460	X			
22	QC301	May 27, 2025		Water	M25-Jn0002461			X	
23	QC401	May 27, 2025		Water	M25-Jn0002462	X			
24	QC302	May 28, 2025		Water	M25-Jn0002463			X	
25	QC402	May 28, 2025		Water	M25-Jn0002464	X			
26	QC502	May 28, 2025		Soil	M25-Jn0002465				X
27	QC303	May 29, 2025		Water	M25-Jn0002466			X	
28	QC403	May 29, 2025		Water	M25-Jn0002467	X			
29	QC304	May 30, 2025		Water	M25-Jn0002468			X	
30	QC404	May 30, 2025		Water	M25-Jn0002469	X			
31	QC503	May 30, 2025		Soil	M25-Jn0002470				X

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Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
32	QC504	May 30, 2025		Soil	M25-Jn0002471				X
33	MW182_0.2	May 29, 2025		Soil	M25-Jn0002472	X			
34	MW182_1.0	May 29, 2025		Soil	M25-Jn0002473		X	X	
35	MW182_2.0	May 29, 2025		Soil	M25-Jn0002474	X			
36	MW182_3.0	May 29, 2025		Soil	M25-Jn0002475		X	X	
37	MW182_4.0	May 29, 2025		Soil	M25-Jn0002476	X			
38	MW183_0.2	May 29, 2025		Soil	M25-Jn0002477	X			
39	MW183_0.5	May 29, 2025		Soil	M25-Jn0002478	X			
40	MW183_1.0	May 29, 2025		Soil	M25-Jn0002479		X	X	
41	MW183_2.0	May 29, 2025		Soil	M25-Jn0002480	X			
42	MW183_3.0	May 29, 2025		Soil	M25-Jn0002481		X	X	
43	MW183_4.0	May 29, 2025		Soil	M25-Jn0002482	X			
44	SV31_0.2	May 29, 2025		Soil	M25-Jn0002483	X			
45	SV31_0.5	May 29, 2025		Soil	M25-Jn0002484	X			
46	SV31_1.0	May 29, 2025		Soil	M25-Jn0002485	X			
47	SV31_2.0	May 29, 2025		Soil	M25-Jn0002486	X			
48	SV31_2.5	May 29, 2025		Soil	M25-Jn0002487		X	X	

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Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
49	MW103A_0.2	May 29, 2025		Soil	M25-Jn0002488	X			
50	MW103A_0.5	May 29, 2025		Soil	M25-Jn0002489		X	X	
51	MW103A_1.0	May 29, 2025		Soil	M25-Jn0002490	X			
52	MW103A_2.0	May 29, 2025		Soil	M25-Jn0002491	X			
53	MW103A_3.0	May 29, 2025		Soil	M25-Jn0002492		X	X	
54	MW103A_4.0	May 29, 2025		Soil	M25-Jn0002493	X			
55	NR2A_0.2	May 30, 2025		Soil	M25-Jn0002494	X			
56	NR2A_0.5	May 30, 2025		Soil	M25-Jn0002495	X			
57	NR2A_1.0	May 30, 2025		Soil	M25-Jn0002496		X	X	
58	NR2A_2.0	May 30, 2025		Soil	M25-Jn0002497	X			
59	NR2A_3.0	May 30, 2025		Soil	M25-Jn0002498	X			
60	NR2A_4.0	May 30, 2025		Soil	M25-Jn0002499		X	X	
61	MW189_0.2	May 30, 2025		Soil	M25-Jn0002500		X	X	
62	MW189_0.5	May 30, 2025		Soil	M25-Jn0002501	X			
63	MW189_1.0	May 30, 2025		Soil	M25-Jn0002502	X			
64	MW189_2.0	May 30, 2025		Soil	M25-Jn0002503		X	X	
65	MW182_0.5	May 29, 2025		Soil	M25-Jn0002547	X			

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Sample Detail	HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X
Test Counts	42	16	20	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	120			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	101			70-130	Pass	
TRH C6-C10	%	122			70-130	Pass	
TRH >C10-C16	%	97			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	108			70-130	Pass	
Toluene	%	108			70-130	Pass	
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	100			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	110			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	116			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(a)pyrene	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	%	92			70-130	Pass	
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	90			70-130	Pass	
Chrysene	%	82			70-130	Pass	
Dibenz(a.h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	72			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	114			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	114			80-120	Pass	
Cadmium	%	109			80-120	Pass	
Chromium	%	115			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	118			80-120	Pass	
Mercury	%	116			80-120	Pass	
Nickel	%	112			80-120	Pass	
Zinc	%	111			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0007882	NCP	%	113			70-130	Pass	
TRH C10-C14	M25-Jn0002947	NCP	%	124			70-130	Pass	
TRH C6-C10	M25-Jn0007882	NCP	%	113			70-130	Pass	
TRH >C10-C16	M25-Jn0002947	NCP	%	123			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0007882	NCP	%	111			70-130	Pass	
Toluene	M25-Jn0007882	NCP	%	110			70-130	Pass	
Ethylbenzene	M25-Jn0007882	NCP	%	100			70-130	Pass	
m&p-Xylenes	M25-Jn0007882	NCP	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	M25-Jn0007882	NCP	%	106			70-130	Pass	
Xylenes - Total*	M25-Jn0007882	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0007882	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0002463	CP	%	102			70-130	Pass	
Acenaphthylene	M25-Jn0002463	CP	%	104			70-130	Pass	
Anthracene	M25-Jn0002463	CP	%	76			70-130	Pass	
Benz(a)anthracene	M25-Jn0002463	CP	%	84			70-130	Pass	
Benzo(a)pyrene	M25-Jn0002463	CP	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0002463	CP	%	72			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0002463	CP	%	88			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0002463	CP	%	86			70-130	Pass	
Chrysene	M25-Jn0002463	CP	%	70			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0002463	CP	%	78			70-130	Pass	
Fluoranthene	M25-Jn0002463	CP	%	112			70-130	Pass	
Fluorene	M25-Jn0002463	CP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0002463	CP	%	82			70-130	Pass	
Naphthalene	M25-Jn0002463	CP	%	98			70-130	Pass	
Phenanthrene	M25-Jn0002463	CP	%	104			70-130	Pass	
Pyrene	M25-Jn0002463	CP	%	116			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0002466	CP	%	101			75-125	Pass	
Cadmium	M25-Jn0002466	CP	%	97			75-125	Pass	
Chromium	M25-Jn0002466	CP	%	103			75-125	Pass	
Copper	M25-Jn0002466	CP	%	100			75-125	Pass	
Lead	M25-Jn0002466	CP	%	96			75-125	Pass	
Mercury	M25-Jn0002466	CP	%	96			75-125	Pass	
Nickel	M25-Jn0002466	CP	%	99			75-125	Pass	
Zinc	M25-Jn0002466	CP	%	100			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0007883	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0002461	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0002461	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0002461	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0007883	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0002461	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0002461	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0002461	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0007883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0007883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0007883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0007883	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0007883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0007883	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0007883	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0002461	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0002466	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M25-Jn0002466	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0002466	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M25-Jn0002466	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M25-Jn0002466	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0002466	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0002466	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M25-Jn0002466	CP	mg/L	< 0.005	0.016	23	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Pg 1/2

CHAIN OF CUSTODY

| | | |

Pg 2/2

CHAIN OF CUSTODY

| | | |

Please forward to ALS

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: Level 10, 727 Collins Street, Melbourne, VIC	SAMPLER: RB / EM / TG / LL	**Destination Laboratory**
PROJECT MANAGER (PM): Robert Crowe	SITE: Macquarie Point	MOBILE: 0410 153648 PHONE:	**ALS**
PROJECT NUMBER & TASK CODE: 60693007 / 12	P.O. NO.:	EMAIL REPORT TO: robert.crowe@aecom.com, richard.bowers@aecom.com, esdat+aecom-au@esdatlabsync.net	
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL
Please us Project ID '60321835_MacPoint'
Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees during further transit between labs as required.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		General Soil Suite: TRH, BTEXN, PAH, 8 Metals (As, Cd, Ch, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite: Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Speciated)	General Water Suite: TRH/BTEXN/PAH/Phenols/8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) plus Manganese, Cations/Anions #3 (Incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane	Eco Risk Organics Suite: TRH Aliphatic / Aromatic Speciation TRH (C6-C40 (silica gel cleanup) TRH (C6-C40) - on 5 µm field filtered sample PAH - on 5 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	Trip Blank Suite: TRH C6-C9, BTEXN			HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles										
	QC201	S	2/6/25		1 Jar	1	X									
	QC202	S	2/6/25		1 Jar	1	X				X					

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007/12
Turnaround time:	5 Day
Date/Time received	Jun 3, 2025 10:52 AM
Eurofins reference	1227989

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
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WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007/12

Order No.:
Report #: 1227989
Phone: 08 7223 5400
Fax:

Received: Jun 3, 2025 10:52 AM
Due: Jun 11, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254	X		X	X	X	X
External Laboratory		X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	MW184_1.0	Jun 02, 2025		Soil	M25-Jn0008251			X	X		
2	MW184_3.0	Jun 02, 2025		Soil	M25-Jn0008252			X	X		
3	MW191_0.5	Jun 02, 2025		Soil	M25-Jn0008253			X	X		
4	MW191_3.0	Jun 02, 2025		Soil	M25-Jn0008254			X	X		
5	MW188_0.5	Jun 02, 2025		Soil	M25-Jn0008255			X	X		X
6	MW188_1.0	Jun 02, 2025		Soil	M25-Jn0008256			X	X		X
7	QC101	Jun 02, 2025		Soil	M25-Jn0008257			X	X		
8	QC102	Jun 02, 2025		Soil	M25-Jn0008258			X	X		X
9	QC305	Jun 02, 2025		Water	M25-Jn0008259				X		X
10	QC405	Jun 02, 2025		Water	M25-Jn0008260				X		X
11	QC505	Jun 02, 2025		Soil	M25-Jn0008261			X		X	
12	MW184_0.2	Jun 02, 2025		Soil	M25-Jn0008262	X					
13	MW184_0.5	Jun 02, 2025		Soil	M25-Jn0008263	X					
14	MW184_2.0	Jun 02, 2025		Soil	M25-Jn0008264	X					

eurofins

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007/12

Order No.:
Report #: 1227989
Phone: 08 7223 5400
Fax:

Received: Jun 3, 2025 10:52 AM
Due: Jun 11, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
15	MW184_4.0	Jun 02, 2025		Soil	M25-Jn0008265	X					
16	MW191_0.2	Jun 02, 2025		Soil	M25-Jn0008266	X					
17	MW191_1.0	Jun 02, 2025		Soil	M25-Jn0008267	X					
18	MW191_2.0	Jun 02, 2025		Soil	M25-Jn0008268	X					
19	MW191_4.0	Jun 02, 2025		Soil	M25-Jn0008269	X					
20	MW191_5.0	Jun 02, 2025		Soil	M25-Jn0008270	X					
21	MW188_0.2	Jun 02, 2025		Soil	M25-Jn0008271	X					
22	QC201	Jun 02, 2025		Soil	M25-Jn0008272		X				
23	QC202	Jun 02, 2025		Soil	M25-Jn0008273		X				
Test Counts						10	2	9	10	1	5

Aecom Austraila Pty Ltd
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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1227989-S**
Project name Macquarie Point
Project ID 60693007/12
Received Date Jun 03, 2025

Client Sample ID			**MW184_1.0**	**MW184_3.0**	**MW191_0.5**	**MW191_3.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0008251**	**M25-Jn0008252**	**M25-Jn0008253**	**M25-Jn0008254**
Date Sampled			**Jun 02, 2025**	**Jun 02, 2025**	**Jun 02, 2025**	**Jun 02, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	92	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	750	210	340	< 50
TRH C29-C36	50	mg/kg	530	140	330	< 50
TRH C10-C36 (Total)	50	mg/kg	1372	350	670	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	200	59	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	200	59	< 50	< 50
TRH >C16-C34	100	mg/kg	990	270	540	< 100
TRH >C34-C40	100	mg/kg	360	110	150	< 100
TRH >C10-C40 (total)*	100	mg/kg	1550	439	690	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	51	84	58
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	1.3	1.3	1.1	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.6	1.6	1.4	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.9	1.9	1.7	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.7	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	1.3	1.0	0.9	< 0.5
Benzo(a)pyrene	0.5	mg/kg	1.0	1.1	0.9	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	0.8	0.7	0.6	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	0.8	0.6	0.6	< 0.5
Chrysene	0.5	mg/kg	1.2	0.9	1.1	< 0.5

Client Sample ID			MW184_1.0	MW184_3.0	MW191_0.5	MW191_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008251	M25-Jn0008252	M25-Jn0008253	M25-Jn0008254
Date Sampled			Jun 02, 2025	Jun 02, 2025	Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	2.9	1.9	1.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	2.4	0.8	0.9	< 0.5
Pyrene	0.5	mg/kg	3.4	1.8	1.5	< 0.5
Total PAH*	0.5	mg/kg	15	8.8	8.0	< 0.5
2-Fluorobiphenyl (surr.)	1	%	81	147	137	81
p-Terphenyl-d14 (surr.)	1	%	84	105	101	96
Heavy Metals						
Arsenic	2	mg/kg	8.5	3.8	16	< 2
Cadmium	0.4	mg/kg	0.5	< 0.4	1.1	< 0.4
Chromium	5	mg/kg	18	22	13	22
Copper	5	mg/kg	69	58	63	43
Lead	5	mg/kg	66	130	120	< 5
Mercury	0.1	mg/kg	0.1	0.7	0.2	< 0.1
Nickel	5	mg/kg	31	23	17	19
Zinc	5	mg/kg	210	120	280	25
Sample Properties						
% Moisture	1	%	6.5	18	16	7.2

Client Sample ID			MW188_0.5	MW188_1.0	QC101	QC102
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008255	M25-Jn0008256	M25-Jn0008257	M25-Jn0008258
Date Sampled			Jun 02, 2025	Jun 02, 2025	Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	52	< 20
TRH C15-C28	50	mg/kg	100	< 50	380	54
TRH C29-C36	50	mg/kg	91	< 50	340	51
TRH C10-C36 (Total)	50	mg/kg	191	< 50	772	105
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	110	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	110	< 50
TRH >C16-C34	100	mg/kg	160	< 100	560	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	200	< 100
TRH >C10-C40 (total)*	100	mg/kg	160	< 100	870	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54	54	62	64

Client Sample ID			MW188_0.5	MW188_1.0	QC101	QC102
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008255	M25-Jn0008256	M25-Jn0008257	M25-Jn0008258
Date Sampled			Jun 02, 2025	Jun 02, 2025	Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.7	1.5	1.1	1.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.0	1.7	1.4	1.4
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.3	2.0	1.7	1.7
Acenaphthene	0.5	mg/kg	0.9	< 0.5	< 0.5	1.0
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	0.6	1.2	1.0	0.9
Benzo(a)pyrene	0.5	mg/kg	0.6	1.0	0.8	0.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	1.2	0.9	1.1
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	0.8	< 0.5	0.8
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	1.4	1.1	0.9
Chrysene	0.5	mg/kg	0.7	1.4	0.7	0.9
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	2.7	1.6	1.4	2.0
Fluorene	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	0.6	< 0.5	0.6
Naphthalene	0.5	mg/kg	0.5	< 0.5	< 0.5	0.5
Phenanthrene	0.5	mg/kg	1.4	< 0.5	1.1	0.8
Pyrene	0.5	mg/kg	2.6	1.6	1.6	2.1
Total PAH*	0.5	mg/kg	11	11	8.6	12
2-Fluorobiphenyl (surr.)	1	%	93	127	79	97
p-Terphenyl-d14 (surr.)	1	%	103	131	99	110
Heavy Metals						
Arsenic	2	mg/kg	47	28	7.3	40
Cadmium	0.4	mg/kg	0.8	< 0.4	0.5	0.9
Chromium	5	mg/kg	14	22	14	11
Copper	5	mg/kg	46	45	66	32
Lead	5	mg/kg	78	130	67	59
Mercury	0.1	mg/kg	< 0.1	0.3	0.2	< 0.1
Nickel	5	mg/kg	44	11	35	27
Zinc	5	mg/kg	280	170	210	350
Sample Properties						
% Moisture	1	%	7.0	14	8.3	13
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluoropentanoic acid (PFPeA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorohexanoic acid (PFHxA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluoroheptanoic acid (PFHpA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorononanoic acid (PFNA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorodecanoic acid (PFDA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluoroundecanoic acid (PFUnDA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorododecanoic acid (PFDoDA)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorotridecanoic acid (PFTrDA)[N15]	5	ug/kg	< 5	< 5	-	< 5
Perfluorotetradecanoic acid (PFTeDA)[N11]	5	ug/kg	< 5	< 5	-	< 5
13C4-PFBA (surr.)	1	%	97	90	-	91

Client Sample ID			MW188_0.5	MW188_1.0	QC101	QC102
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008255	M25-Jn0008256	M25-Jn0008257	M25-Jn0008258
Date Sampled			Jun 02, 2025	Jun 02, 2025	Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
13C5-PFPeA (surr.)	1	%	99	102	-	101
13C5-PFHxA (surr.)	1	%	85	85	-	84
13C4-PFHpA (surr.)	1	%	88	83	-	87
13C8-PFOA (surr.)	1	%	98	91	-	93
13C5-PFNA (surr.)	1	%	90	80	-	83
13C6-PFDA (surr.)	1	%	81	80	-	89
13C2-PFUnDA (surr.)	1	%	89	82	-	83
13C2-PFDoDA (surr.)	1	%	93	89	-	102
13C2-PFTeDA (surr.)	1	%	67	65	-	87
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)[N11]	5	ug/kg	< 5	< 5	-	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	5	ug/kg	< 5	< 5	-	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	5	ug/kg	< 5	< 5	-	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	5	ug/kg	< 5	< 5	-	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	5	ug/kg	< 5	< 5	-	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	10	ug/kg	< 10	< 10	-	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	10	ug/kg	< 10	< 10	-	< 10
13C8-FOSA (surr.)	1	%	63	64	-	68
D3-N-MeFOSA (surr.)	1	%	100	89	-	93
D5-N-EtFOSA (surr.)	1	%	105	101	-	110
D7-N-MeFOSE (surr.)	1	%	98	89	-	93
D9-N-EtFOSE (surr.)	1	%	89	85	-	96
D5-N-EtFOSAA (surr.)	1	%	75	102	-	81
D3-N-MeFOSAA (surr.)	1	%	107	121	-	97
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorononanesulfonic acid (PFNS)[N15]	5	ug/kg	< 5	< 5	-	< 5
Perfluoropropanesulfonic acid (PFPrS)[N15]	5	ug/kg	< 5	< 5	-	< 5
Perfluoropentanesulfonic acid (PFPeS)[N15]	5	ug/kg	< 5	< 5	-	< 5
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluoroheptanesulfonic acid (PFHpS)[N15]	5	ug/kg	< 5	< 5	-	< 5
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	< 5	-	< 5
Perfluorodecanesulfonic acid (PFDS)[N15]	5	ug/kg	< 5	< 5	-	< 5
13C3-PFBS (surr.)	1	%	77	80	-	78
18O2-PFHxS (surr.)	1	%	88	77	-	81
13C8-PFOS (surr.)	1	%	77	72	-	82
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	5	ug/kg	< 5	< 5	-	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	< 10	-	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	5	ug/kg	< 5	< 5	-	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	5	ug/kg	< 5	< 5	-	< 5
13C2-4:2 FTSA (surr.)	1	%	128	97	-	119
13C2-6:2 FTSA (surr.)	1	%	109	85	-	101

Client Sample ID			MW188_0.5	MW188_1.0	QC101	QC102
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008255	M25-Jn0008256	M25-Jn0008257	M25-Jn0008258
Date Sampled			Jun 02, 2025	Jun 02, 2025	Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
13C2-8:2 FTSA (surr.)	1	%	107	86	-	105
13C2-10:2 FTSA (surr.)	1	%	100	90	-	128
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	-	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	-	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	-	< 50

Client Sample ID			QC505
Sample Matrix			Soil
Eurofins Sample No.			M25-Jn0008261
Date Sampled			Jun 02, 2025
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	107
Volatile Organics			
Naphthalene[N02]	0.5	mg/kg	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007/12

Order No.:
Report #: 1227989
Phone: 08 7223 5400
Fax:

Received: Jun 3, 2025 10:52 AM
Due: Jun 11, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254	X		X	X	X	X
External Laboratory		X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	MW184_1.0	Jun 02, 2025		Soil	M25-Jn0008251			X	X		
2	MW184_3.0	Jun 02, 2025		Soil	M25-Jn0008252			X	X		
3	MW191_0.5	Jun 02, 2025		Soil	M25-Jn0008253			X	X		
4	MW191_3.0	Jun 02, 2025		Soil	M25-Jn0008254			X	X		
5	MW188_0.5	Jun 02, 2025		Soil	M25-Jn0008255			X	X		X
6	MW188_1.0	Jun 02, 2025		Soil	M25-Jn0008256			X	X		X
7	QC101	Jun 02, 2025		Soil	M25-Jn0008257			X	X		
8	QC102	Jun 02, 2025		Soil	M25-Jn0008258			X	X		X
9	QC305	Jun 02, 2025		Water	M25-Jn0008259				X		X
10	QC405	Jun 02, 2025		Water	M25-Jn0008260				X		X
11	QC505	Jun 02, 2025		Soil	M25-Jn0008261			X		X	
12	MW184_0.2	Jun 02, 2025		Soil	M25-Jn0008262	X					
13	MW184_0.5	Jun 02, 2025		Soil	M25-Jn0008263	X					
14	MW184_2.0	Jun 02, 2025		Soil	M25-Jn0008264	X					

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
15	MW184_4.0	Jun 02, 2025		Soil	M25-Jn0008265	X					
16	MW191_0.2	Jun 02, 2025		Soil	M25-Jn0008266	X					
17	MW191_1.0	Jun 02, 2025		Soil	M25-Jn0008267	X					
18	MW191_2.0	Jun 02, 2025		Soil	M25-Jn0008268	X					
19	MW191_4.0	Jun 02, 2025		Soil	M25-Jn0008269	X					
20	MW191_5.0	Jun 02, 2025		Soil	M25-Jn0008270	X					
21	MW188_0.2	Jun 02, 2025		Soil	M25-Jn0008271	X					
22	QC201	Jun 02, 2025		Soil	M25-Jn0008272		X				
23	QC202	Jun 02, 2025		Soil	M25-Jn0008273		X				
Test Counts						10	2	9	10	1	5

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/kg	< 5			5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5			5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5			5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5			5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5			5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5			5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5			5	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 5			5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5			5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5			5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5			5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5			5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5			5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10			10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10			10	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5			5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5			5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5			5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5			5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5			5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5			5	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	109			70-130	Pass	
TRH C6-C10	%	109			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	83			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total*	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	79			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	96			70-130	Pass	
Benz(a)anthracene	%	73			70-130	Pass	
Benzo(a)pyrene	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	%	97			70-130	Pass	
Benzo(g.h.i)perylene	%	75			70-130	Pass	
Benzo(k)fluoranthene	%	95			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	86			70-130	Pass	
Fluoranthene	%	75			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	92			70-130	Pass	
Pyrene	%	78			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	84			70-130	Pass	
TRH >C10-C16	%	81			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Cadmium	%	99			80-120	Pass	
Chromium	%	102			80-120	Pass	
Copper	%	103			80-120	Pass	
Lead	%	104			80-120	Pass	
Mercury	%	102			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	113			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	84			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	83			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	93			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	94			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	84			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	81			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	93			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	102			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	87			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	62			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	95			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	91			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	83			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	77			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	89			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	77			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	90			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	78			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	81			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	98			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	89			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	84			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	82			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	70			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	88			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	91			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	74			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	82			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	91			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	96			50-150	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	81			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0013046	NCP	%	74			70-130	Pass	
TRH C10-C14	M25-Jn0000296	NCP	%	90			70-130	Pass	
TRH C6-C10	M25-Jn0013046	NCP	%	74			70-130	Pass	
TRH >C10-C16	M25-Jn0000296	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0013046	NCP	%	71			70-130	Pass	
Toluene	M25-Jn0013046	NCP	%	74			70-130	Pass	
Ethylbenzene	M25-Jn0013046	NCP	%	75			70-130	Pass	
m&p-Xylenes	M25-Jn0013046	NCP	%	74			70-130	Pass	
o-Xylene	M25-Jn0013046	NCP	%	76			70-130	Pass	
Xylenes - Total*	M25-Jn0013046	NCP	%	75			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0013046	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0007444	NCP	%	74			70-130	Pass	
Acenaphthylene	M25-Jn0007444	NCP	%	86			70-130	Pass	
Anthracene	M25-Jn0007444	NCP	%	109			70-130	Pass	
Benz(a)anthracene	M25-Jn0007444	NCP	%	74			70-130	Pass	
Benzo(a)pyrene	M25-Jn0007444	NCP	%	128			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0007444	NCP	%	99			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0007444	NCP	%	101			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0007444	NCP	%	125			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	M25-Jn0007444	NCP	%	90			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0007444	NCP	%	128			70-130	Pass	
Fluoranthene	M25-Jn0007444	NCP	%	78			70-130	Pass	
Fluorene	M25-Jn0007444	NCP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0007444	NCP	%	129			70-130	Pass	
Naphthalene	M25-Jn0007444	NCP	%	90			70-130	Pass	
Phenanthrene	M25-Jn0007444	NCP	%	90			70-130	Pass	
Pyrene	M25-Jn0007444	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-My0091234	NCP	%	85			75-125	Pass	
Cadmium	M25-My0091234	NCP	%	114			75-125	Pass	
Chromium	M25-My0091234	NCP	%	91			75-125	Pass	
Copper	M25-My0091234	NCP	%	91			75-125	Pass	
Lead	M25-My0091234	NCP	%	92			75-125	Pass	
Mercury	M25-My0091234	NCP	%	111			75-125	Pass	
Nickel	M25-My0091234	NCP	%	88			75-125	Pass	
Zinc	M25-My0091234	NCP	%	83			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0005524	NCP	%	87			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0005524	NCP	%	90			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0005524	NCP	%	99			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0005524	NCP	%	96			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0005524	NCP	%	92			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0005524	NCP	%	91			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0005524	NCP	%	105			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0005524	NCP	%	111			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0005524	NCP	%	82			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0005524	NCP	%	81			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0005524	NCP	%	93			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0005524	NCP	%	91			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0005524	NCP	%	92			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0005524	NCP	%	83			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0005524	NCP	%	98			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0005524	NCP	%	84			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0005524	NCP	%	97			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0005524	NCP	%	90			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0005524	NCP	%	87			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0005524	NCP	%	110			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0005524	NCP	%	98			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0005524	NCP	%	89			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0005524	NCP	%	83			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0005524	NCP	%	65			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0005524	NCP	%	99			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0005524	NCP	%	114			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0005524	NCP	%	89			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0005524	NCP	%	91			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0005524	NCP	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0005524	NCP	%	119			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0007347	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M25-Jn0008251	CP	mg/kg	92	73	24	30%	Pass	
TRH C29-C36	M25-Jn0008251	CP	mg/kg	530	410	27	30%	Pass	
TRH C6-C10	M25-Jn0007347	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M25-Jn0008251	CP	mg/kg	200	150	28	30%	Pass	
TRH >C34-C40	M25-Jn0008251	CP	mg/kg	360	320	13	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0007347	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0007347	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0007347	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0007347	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0007347	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0007347	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0007347	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0007862	NCP	mg/kg	< 2	2.0	28	30%	Pass	
Cadmium	M25-Jn0007862	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0007862	NCP	mg/kg	15	17	14	30%	Pass	
Copper	M25-Jn0007862	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M25-Jn0007862	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	M25-Jn0007862	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0007862	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M25-Jn0007862	NCP	mg/kg	5.1	5.8	12	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0008252	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-Jn0008252	CP	mg/kg	210	230	8.0	30%	Pass	
TRH C29-C36	M25-Jn0008252	CP	mg/kg	140	150	4.0	30%	Pass	
TRH >C10-C16	M25-Jn0008252	CP	mg/kg	59	< 50	28	30%	Pass	
TRH >C16-C34	M25-Jn0008252	CP	mg/kg	270	300	9.0	30%	Pass	
TRH >C34-C40	M25-Jn0008252	CP	mg/kg	110	< 100	12	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0008252	CP	mg/kg	1.0	0.9	12	30%	Pass	
Benzo(a)pyrene	M25-Jn0008252	CP	mg/kg	1.1	1.1	1.0	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0008252	CP	mg/kg	0.7	0.7	2.0	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0008252	CP	mg/kg	0.6	0.6	4.0	30%	Pass	
Chrysene	M25-Jn0008252	CP	mg/kg	0.9	0.7	26	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0008252	CP	mg/kg	1.9	1.6	15	30%	Pass	
Fluorene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0008252	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0008252	CP	mg/kg	0.8	0.7	7.0	30%	Pass	
Pyrene	M25-Jn0008252	CP	mg/kg	1.8	1.7	11	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Jn0008252	CP	%	18	20	6.0	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0007448	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0007448	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0007448	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0007448	NCP	ug/kg	< 5	< 5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-PFAS
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Site Number 1254

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Attention: **Robert Crowe**

Report **1227989-W**
Project name Macquarie Point
Project ID 60693007/12
Received Date Jun 03, 2025

Client Sample ID			**QC305**	**QC405**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M25-Jn0008259**	**M25-Jn0008260**
Date Sampled			**Jun 02, 2025**	**Jun 02, 2025**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	100	105
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001

Client Sample ID			QC305	QC405
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0008259	M25-Jn0008260
Date Sampled			Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	110	110
p-Terphenyl-d14 (surr.)	1	%	94	73
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	96	94
13C5-PFPeA (surr.)	1	%	91	95
13C5-PFHxA (surr.)	1	%	80	77
13C4-PFHpA (surr.)	1	%	81	77
13C8-PFOA (surr.)	1	%	99	94
13C5-PFNA (surr.)	1	%	120	108
13C6-PFDA (surr.)	1	%	71	74
13C2-PFUnDA (surr.)	1	%	97	97
13C2-PFDoDA (surr.)	1	%	77	78
13C2-PFTeDA (surr.)	1	%	45	56
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05

Client Sample ID			QC305	QC405
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0008259	M25-Jn0008260
Date Sampled			Jun 02, 2025	Jun 02, 2025
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances				
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	81	82
D3-N-MeFOSA (surr.)	1	%	78	111
D5-N-EtFOSA (surr.)	1	%	88	137
D7-N-MeFOSE (surr.)	1	%	29	39
D9-N-EtFOSE (surr.)	1	%	72	85
D5-N-EtFOSAA (surr.)	1	%	80	76
D3-N-MeFOSAA (surr.)	1	%	86	95
Perfluoroalkyl sulfonic acids (PFSAs)				
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	84	87
18O2-PFHxS (surr.)	1	%	91	93
13C8-PFOS (surr.)	1	%	102	88
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	76	84
13C2-6:2 FTSA (surr.)	1	%	168	145
13C2-8:2 FTSA (surr.)	1	%	90	93
13C2-10:2 FTSA (surr.)	1	%	88	99
PFASs Summations				
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Project Name: Macquarie Point
Project ID: 60693007/12

Order No.:
Report #: 1227989
Phone: 08 7223 5400
Fax:

Received: Jun 3, 2025 10:52 AM
Due: Jun 11, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254	X		X	X	X	X
External Laboratory		X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	MW184_1.0	Jun 02, 2025		Soil	M25-Jn0008251			X	X		
2	MW184_3.0	Jun 02, 2025		Soil	M25-Jn0008252			X	X		
3	MW191_0.5	Jun 02, 2025		Soil	M25-Jn0008253			X	X		
4	MW191_3.0	Jun 02, 2025		Soil	M25-Jn0008254			X	X		
5	MW188_0.5	Jun 02, 2025		Soil	M25-Jn0008255			X	X		X
6	MW188_1.0	Jun 02, 2025		Soil	M25-Jn0008256			X	X		X
7	QC101	Jun 02, 2025		Soil	M25-Jn0008257			X	X		
8	QC102	Jun 02, 2025		Soil	M25-Jn0008258			X	X		X
9	QC305	Jun 02, 2025		Water	M25-Jn0008259				X		X
10	QC405	Jun 02, 2025		Water	M25-Jn0008260				X		X
11	QC505	Jun 02, 2025		Soil	M25-Jn0008261			X		X	
12	MW184_0.2	Jun 02, 2025		Soil	M25-Jn0008262	X					
13	MW184_0.5	Jun 02, 2025		Soil	M25-Jn0008263	X					
14	MW184_2.0	Jun 02, 2025		Soil	M25-Jn0008264	X					

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
15	MW184_4.0	Jun 02, 2025		Soil	M25-Jn0008265	X					
16	MW191_0.2	Jun 02, 2025		Soil	M25-Jn0008266	X					
17	MW191_1.0	Jun 02, 2025		Soil	M25-Jn0008267	X					
18	MW191_2.0	Jun 02, 2025		Soil	M25-Jn0008268	X					
19	MW191_4.0	Jun 02, 2025		Soil	M25-Jn0008269	X					
20	MW191_5.0	Jun 02, 2025		Soil	M25-Jn0008270	X					
21	MW188_0.2	Jun 02, 2025		Soil	M25-Jn0008271	X					
22	QC201	Jun 02, 2025		Soil	M25-Jn0008272		X				
23	QC202	Jun 02, 2025		Soil	M25-Jn0008273		X				
Test Counts						10	2	9	10	1	5

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	103			70-130	Pass	
TRH C10-C14	%	116			70-130	Pass	
TRH C6-C10	%	124			70-130	Pass	
TRH >C10-C16	%	113			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	109			70-130	Pass	
Toluene	%	104			70-130	Pass	
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	90			70-130	Pass	
LCS - % Recovery							
Heavy Metals							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	%	96			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	95			80-120	Pass	
Lead	%	93			80-120	Pass	
Mercury	%	91			80-120	Pass	
Nickel	%	95			80-120	Pass	
Zinc	%	97			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	114			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	111			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	130			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	131			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	118			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	138			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	130			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	145			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	125			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	106			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	131			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	114			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	132			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	98			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	96			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	112			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	116			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	128			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	111			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	106			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	140			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	109			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	114			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	109			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	99			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	87			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	105			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	126			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	98			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	115			50-150	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	110			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	116			70-130	Pass	
Benz(a)anthracene	%	76			70-130	Pass	
Benzo(a)pyrene	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	%	92			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	90			70-130	Pass	
Chrysene	%	82			70-130	Pass	
Dibenz(a.h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	72			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	98			70-130	Pass	
Pyrene	%	114			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0002948	NCP	%	118			70-130	Pass	
TRH C10-C14	M25-Jn0007145	NCP	%	104			70-130	Pass	
TRH C6-C10	M25-Jn0002948	NCP	%	105			70-130	Pass	
TRH >C10-C16	M25-Jn0007145	NCP	%	98			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0002948	NCP	%	109			70-130	Pass	
Toluene	M25-Jn0002948	NCP	%	116			70-130	Pass	
Ethylbenzene	M25-Jn0002948	NCP	%	111			70-130	Pass	
m&p-Xylenes	M25-Jn0002948	NCP	%	116			70-130	Pass	
o-Xylene	M25-Jn0002948	NCP	%	114			70-130	Pass	
Xylenes - Total*	M25-Jn0002948	NCP	%	115			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0002948	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0002463	NCP	%	102			70-130	Pass	
Acenaphthylene	M25-Jn0002463	NCP	%	104			70-130	Pass	
Anthracene	M25-Jn0002463	NCP	%	76			70-130	Pass	
Benz(a)anthracene	M25-Jn0002463	NCP	%	84			70-130	Pass	
Benzo(a)pyrene	M25-Jn0002463	NCP	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0002463	NCP	%	72			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0002463	NCP	%	88			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0002463	NCP	%	86			70-130	Pass	
Chrysene	M25-Jn0002463	NCP	%	70			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0002463	NCP	%	78			70-130	Pass	
Fluoranthene	M25-Jn0002463	NCP	%	112			70-130	Pass	
Fluorene	M25-Jn0002463	NCP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0002463	NCP	%	82			70-130	Pass	
Naphthalene	M25-Jn0002463	NCP	%	98			70-130	Pass	
Phenanthrene	M25-Jn0002463	NCP	%	104			70-130	Pass	
Pyrene	M25-Jn0002463	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0015276	NCP	%	105			75-125	Pass	
Cadmium	M25-Jn0015276	NCP	%	98			75-125	Pass	
Chromium	M25-Jn0015276	NCP	%	99			75-125	Pass	
Copper	M25-Jn0015276	NCP	%	94			75-125	Pass	
Lead	M25-Jn0015276	NCP	%	96			75-125	Pass	
Mercury	M25-Jn0015276	NCP	%	97			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	M25-Jn0015276	NCP	%	88			75-125	Pass	
Zinc	M25-Jn0015276	NCP	%	100			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0007077	NCP	%	115			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0007077	NCP	%	90			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0007077	NCP	%	114			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0005534	NCP	%	126			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0005534	NCP	%	117			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0007077	NCP	%	101			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0007077	NCP	%	126			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0007077	NCP	%	139			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0007077	NCP	%	117			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0007077	NCP	%	66			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0007077	NCP	%	119			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0007077	NCP	%	106			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0007077	NCP	%	109			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0007077	NCP	%	102			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0007077	NCP	%	89			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0007077	NCP	%	110			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0007077	NCP	%	112			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0007077	NCP	%	120			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0007077	NCP	%	88			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0007077	NCP	%	119			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0007077	NCP	%	109			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0007077	NCP	%	97			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0007077	NCP	%	100			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0007077	NCP	%	114			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0007077	NCP	%	102			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0007077	NCP	%	75			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0007077	NCP	%	102			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0007269	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0004892	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0004892	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0004892	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0007269	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0004892	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0004892	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0004892	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0007269	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0007269	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0007269	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0007269	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0007269	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0007269	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0007269	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0002461	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0015276	NCP	mg/L	0.003	0.004	2.0	30%	Pass	
Cadmium	M25-Jn0015276	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0015276	NCP	mg/L	0.015	0.016	4.0	30%	Pass	
Copper	M25-Jn0015276	NCP	mg/L	0.037	0.038	1.0	30%	Pass	
Lead	M25-Jn0015276	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0015276	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0015276	NCP	mg/L	0.11	0.11	3.0	30%	Pass	
Zinc	M25-Jn0015276	NCP	mg/L	0.037	0.041	9.0	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0006821	NCP	ug/L	0.13	0.13	1.0	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0006821	NCP	ug/L	0.14	0.15	8.0	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0006821	NCP	ug/L	0.39	0.37	5.0	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0006821	NCP	ug/L	1.4	1.4	4.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0006821	NCP	ug/L	1.3	1.3	2.0	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0006821	NCP	ug/L	0.03	0.03	17	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0006821	NCP	ug/L	0.25	0.23	8.0	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0006821	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0006821	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0006821	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0006821	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0006821	NCP	ug/L	0.06	0.07	12	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0006821	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0006821	NCP	ug/L	0.03	0.03	3.0	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0006821	NCP	ug/L	0.07	0.07	3.0	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0006821	NCP	ug/L	0.83	0.84	2.0	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0006821	NCP	ug/L	0.03	0.03	15	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0006821	NCP	ug/L	0.80	0.91	13	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0006821	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0006821	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-PFAS
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street Melbourne, VIC 3008	LABORATORY:		
PHONE NO: 9653 1234	Results email: robert.crowe@aecom.com		
MOBILE NO: 0427 821 002	robert.crowe@aecom.com		
PROJECT ID: 60693007 / 12	Quote Number:	250502AECV	
Project Manager: Robert Crowe	Project Name:	Macquarie Point	
SAMPLER: RB / EM / TG / LL	Data Format:	Esdat and PDF	

TURNAROUND REQUIREMENTS (mark Due date or 'X'):

Standard	X	Non Stand (Due date):

COC:	1	2	3	4	5	6	7	8
OF:	1	2	3	4	5	6	7	8

RELINQUISHED BY: Elliot Mesquita
DATE/TIME: 30/05/2025

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen icebricks present upon receipt? Yes No N/A
Sample Temperature on Receipt: 2.8°C

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY: Sheridan Eurofins Hobart @ 11:18Am. 04/06/25 Temp. 2.8°C
DATE/TIME:

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

SOIL

SAMPLE CONTAINERS

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S, W)	General Soil Suite & Gasworks Soil Suite (combined) 1	PFAS 1	PASS Suite 1	Soil Rinsate / Field Blank: General Suite 4	Soil Rinsate / Field Blank: General Suite + PFAS 5	Soil Rinsate / Field Blank: General Suite + Gasworks Suite 8	Soil Trip Blank 1	TOTAL BOTTLES
				1 x 250ml Glass Soil Jar	1x PFAS soil jar	1 x 500g PASS Sample Bag	1x 200mL Semi-Volatiles Amber 2x 40mL Vials 1x 60mL Metals	1x 200mL Semi-Volatiles Amber 2x 40mL Vials 1x 60mL Metals 1 X 500mL PFAS bottle	1x 200mL Semi-Volatiles Amber 4x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/CN+ 1x 60mL Preserved Inorganics	1x 40mL Soil Vial	
✓	MW193_0.2	3/6/25	S	X	X						1
✓	MW193_0.5	3/6/25	S	X	X						1
✓	MW193_1.0	3/6/25	S	X	X						1
✓	QC306	3/6/25	W					X			5
✓	QC496	3/6/25	W					X			5
✓	QC596	3/6/25	S							X	1

ANALYSIS REQUEST

LAB ID	SAMPLE ID	General Soil Suite	Gasworks Soil Suite	PFAS	PASS Suite			Rinsate & Field Blank General Suite	Rinsate & Field Blank General Suite + Gasworks Suite	Trip Blank	HOLD
		TRH BTEXN PAH 8 Metals (As, Cd, Cr, Co, Pb, Ni, Zn, Hg)	Cyanide (Total, Free & WAD) Ammonia as N Phenols (Speciated)	PFAS: Full suite - 30 compounds, trace level	pH (Field Screen, NATA)	Chromium Reducible Sulphur (CRS)	SPOCAS	TRH BTEXN PAH 8 Metals (As, Cd, Cr, Co, Pb, Ni, Zn, Hg)	TRH BTEXN PAH 8 Metals (As, Cd, Cr, Co, Pb, Ni, Zn, Hg) Cyanide (Total, Free & WAD) Ammonia as N Phenols (Speciated)	TRH(C6-C9) BTEXN	
✓	MW193_0.2										X
✓	MW193_0.5	X		X							
✓	MW193_1.0	X		X							
✓	QC306			X				X			
✓	QC496										X
✓	QC596									X	

COMMENTS

Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc

Report #1228034 SB 4/6

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 4, 2025 11:18 AM
Eurofins reference	1228034

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 2.8 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1228034
Phone: 08 7223 5400
Fax:

Received: Jun 4, 2025 11:18 AM
Due: Jun 12, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	MW193_0.2	Jun 03, 2025		Soil	M25-Jn0008627	X				
2	MW193_0.5	Jun 03, 2025		Soil	M25-Jn0008628		X	X		X
3	MW193_1.0	Jun 03, 2025		Soil	M25-Jn0008629		X	X		X
4	QC306	Jun 03, 2025		Water	M25-Jn0008630			X		X
5	QC406	Jun 03, 2025		Water	M25-Jn0008631	X				
6	QC506	Jun 03, 2025		Soil	M25-Jn0008632				X	
Test Counts						2	2	3	1	3

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1228034-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 04, 2025

Client Sample ID			**MW193_0.5**	**MW193_1.0**	**QC506**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0008628**	**M25-Jn0008629**	**M25-Jn0008632**
Date Sampled			**Jun 03, 2025**	**Jun 03, 2025**	**Jun 03, 2025**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	95	83	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-

Client Sample ID			MW193_0.5	MW193_1.0	QC506
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008628	M25-Jn0008629	M25-Jn0008632
Date Sampled			Jun 03, 2025	Jun 03, 2025	Jun 03, 2025
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	76	107	-
p-Terphenyl-d14 (surr.)	1	%	69	85	-
Heavy Metals					
Arsenic	2	mg/kg	3.1	18	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-
Chromium	5	mg/kg	9.4	7.4	-
Copper	5	mg/kg	41	21	-
Lead	5	mg/kg	5.1	14	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-
Nickel	5	mg/kg	29	7.2	-
Zinc	5	mg/kg	25	19	-
Sample Properties					
% Moisture	1	%	5.5	7.3	-
PFASs Summations					
Sum (PFHxS + PFOS)*	0.1	ug/kg	< 0.1	0.1	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.1	ug/kg	< 0.1	0.1	-
Sum of PFASs (n=30)*	0.5	ug/kg	< 0.5	< 0.5	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.1	ug/kg	< 0.1	0.1	-
Sum of WA DWER PFAS (n=10)*	0.5	ug/kg	< 0.5	< 0.5	-
Perfluoroalkyl sulfonamido substances- Trace					
Perfluorooctane sulfonamide (FOSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
13C8-FOSA (surr.)	1	%	128	129	-
D3-N-MeFOSA (surr.)	1	%	113	131	-
D5-N-EtFOSA (surr.)	1	%	112	136	-
D7-N-MeFOSE (surr.)	1	%	83	91	-
D9-N-EtFOSE (surr.)	1	%	105	120	-
D5-N-EtFOSAA (surr.)	1	%	59	11	-
D3-N-MeFOSAA (surr.)	1	%	47	10	-

Client Sample ID			MW193_0.5	MW193_1.0	QC506
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0008628	M25-Jn0008629	M25-Jn0008632
Date Sampled			Jun 03, 2025	Jun 03, 2025	Jun 03, 2025
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace					
Perfluorobutanoic acid (PFBA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
Perfluoropentanoic acid (PFPeA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorohexanoic acid (PFHxA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorooctanoic acid (PFOA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorononanoic acid (PFNA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorodecanoic acid (PFDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
13C4-PFBA (surr.)	1	%	112	112	-
13C5-PFPeA (surr.)	1	%	109	103	-
13C5-PFHxA (surr.)	1	%	107	108	-
13C4-PFHpA (surr.)	1	%	96	99	-
13C8-PFOA (surr.)	1	%	90	94	-
13C5-PFNA (surr.)	1	%	106	102	-
13C6-PFDA (surr.)	1	%	120	113	-
13C2-PFUnDA (surr.)	1	%	125	107	-
13C2-PFDoDA (surr.)	1	%	155	126	-
13C2-PFTeDA (surr.)	1	%	122	103	-
Perfluoroalkyl sulfonic acids (PFSAs)- Trace					
Perfluorobutanesulfonic acid (PFBS)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.1	ug/kg	< 0.1	[N09]0.1	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-
13C3-PFBS (surr.)	1	%	114	128	-
18O2-PFHxS (surr.)	1	%	102	118	-
13C8-PFOS (surr.)	1	%	104	101	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-
13C2-4:2 FTSA (surr.)	1	%	59	42	-
13C2-6:2 FTSA (surr.)	1	%	83	78	-
13C2-8:2 FTSA (surr.)	1	%	117	108	-
13C2-10:2 FTSA (surr.)	1	%	156	105	-
Volatile Organics					
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 04, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1228034
Phone: 08 7223 5400
Fax:

Received: Jun 4, 2025 11:18 AM
Due: Jun 12, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	MW193_0.2	Jun 03, 2025		Soil	M25-Jn0008627	X				
2	MW193_0.5	Jun 03, 2025		Soil	M25-Jn0008628		X	X		X
3	MW193_1.0	Jun 03, 2025		Soil	M25-Jn0008629		X	X		X
4	QC306	Jun 03, 2025		Water	M25-Jn0008630			X		X
5	QC406	Jun 03, 2025		Water	M25-Jn0008631	X				
6	QC506	Jun 03, 2025		Soil	M25-Jn0008632				X	
Test Counts						2	2	3	1	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 0.5			0.5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 0.5			0.5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 0.5			0.5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 0.5			0.5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 0.5			0.5	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 0.5			0.5	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/kg	< 0.5			0.5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 0.1			0.1	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 0.1			0.1	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 0.1			0.1	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 0.1			0.1	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 0.1			0.1	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 0.1			0.1	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 0.1			0.1	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 0.1			0.1	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 0.1			0.1	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 0.1			0.1	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 0.1			0.1	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 0.1			0.1	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 0.1			0.1	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 0.1			0.1	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 0.1			0.1	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 0.1			0.1	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 0.1			0.1	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 0.1			0.1	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 0.1			0.1	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 0.5			0.5	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 0.1			0.1	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	113			70-130	Pass	
TRH C6-C10	%	112			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	118			70-130	Pass	
Toluene	%	107			70-130	Pass	
Ethylbenzene	%	111			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	83			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	106			70-130	Pass	
Anthracene	%	81			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	%	74			70-130	Pass	
Benzo(a)pyrene	%	124			70-130	Pass	
Benzo(b&j)fluoranthene	%	89			70-130	Pass	
Benzo(g.h.i)perylene	%	98			70-130	Pass	
Benzo(k)fluoranthene	%	105			70-130	Pass	
Chrysene	%	108			70-130	Pass	
Dibenz(a.h)anthracene	%	100			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	82			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	101			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	85			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	104			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	114			80-120	Pass	
Lead	%	110			80-120	Pass	
Mercury	%	112			80-120	Pass	
Nickel	%	116			80-120	Pass	
Zinc	%	109			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	86			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	102			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	58			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	72			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	104			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	97			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	89			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	90			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	79			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	101			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	98			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	91			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	93			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	98			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	68			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	113			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	92			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	108			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	93			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	82			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	107			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	93			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	93			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	83			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	87			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorodecanesulfonic acid (PFDS)	%	76			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	83			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	112			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	86			50-150	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	72			70-130	Pass	
TRH >C10-C16	%	74			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0011671	NCP	%	93			70-130	Pass	
TRH C10-C14	M25-Jn0011983	NCP	%	76			70-130	Pass	
TRH C6-C10	M25-Jn0011671	NCP	%	94			70-130	Pass	
TRH >C10-C16	M25-Jn0011983	NCP	%	75			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0011671	NCP	%	116			70-130	Pass	
Toluene	M25-Jn0011671	NCP	%	101			70-130	Pass	
Ethylbenzene	M25-Jn0011671	NCP	%	94			70-130	Pass	
m&p-Xylenes	M25-Jn0011671	NCP	%	101			70-130	Pass	
o-Xylene	M25-Jn0011671	NCP	%	99			70-130	Pass	
Xylenes - Total*	M25-Jn0011671	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0011671	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	N25-My0084357	NCP	%	119			70-130	Pass	
Acenaphthylene	N25-My0084357	NCP	%	73			70-130	Pass	
Anthracene	N25-My0084357	NCP	%	107			70-130	Pass	
Benz(a)anthracene	N25-My0084357	NCP	%	101			70-130	Pass	
Benzo(a)pyrene	N25-My0084357	NCP	%	111			70-130	Pass	
Benzo(b&j)fluoranthene	N25-My0084357	NCP	%	80			70-130	Pass	
Benzo(g.h.i)perylene	N25-My0084357	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	N25-My0084357	NCP	%	97			70-130	Pass	
Chrysene	N25-My0084357	NCP	%	100			70-130	Pass	
Dibenz(a.h)anthracene	N25-My0084357	NCP	%	100			70-130	Pass	
Fluoranthene	N25-My0084357	NCP	%	97			70-130	Pass	
Fluorene	N25-My0084357	NCP	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	N25-My0084357	NCP	%	110			70-130	Pass	
Naphthalene	N25-My0084357	NCP	%	118			70-130	Pass	
Phenanthrene	N25-My0084357	NCP	%	114			70-130	Pass	
Pyrene	N25-My0084357	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0013660	NCP	%	95			75-125	Pass	
Cadmium	M25-Jn0013660	NCP	%	95			75-125	Pass	
Chromium	M25-Jn0013660	NCP	%	99			75-125	Pass	
Copper	M25-Jn0013660	NCP	%	109			75-125	Pass	
Lead	M25-Jn0012572	NCP	%	104			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury	M25-Jn0013660	NCP	%	101			75-125	Pass	
Nickel	M25-Jn0013660	NCP	%	85			75-125	Pass	
Zinc	M25-Jn0012572	NCP	%	87			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0019361	NCP	%	103			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0019361	NCP	%	98			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0019361	NCP	%	84			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0019361	NCP	%	82			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0019361	NCP	%	111			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0019361	NCP	%	89			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0019361	NCP	%	127			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0019361	NCP	%	102			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0019361	NCP	%	94			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0019361	NCP	%	109			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0019361	NCP	%	102			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0016262	NCP	%	97			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0019361	NCP	%	102			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0019361	NCP	%	99			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0019361	NCP	%	90			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0019361	NCP	%	112			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0019361	NCP	%	91			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0019361	NCP	%	106			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0019361	NCP	%	96			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0019361	NCP	%	97			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0019361	NCP	%	113			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0019361	NCP	%	88			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0016262	NCP	%	86			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0019361	NCP	%	105			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0016675	NCP	%	103			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0019361	NCP	%	104			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0019361	NCP	%	93			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0016262	NCP	%	120			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0019361	NCP	%	91			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0019361	NCP	%	112			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0014661	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M25-Jn0015606	NCP	mg/kg	2600	2700	2.0	30%	Pass	
TRH C15-C28	M25-Jn0015606	NCP	mg/kg	4800	4900	2.0	30%	Pass	
TRH C29-C36	M25-Jn0015606	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M25-Jn0014661	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M25-Jn0015606	NCP	mg/kg	3700	3800	2.0	30%	Pass	
TRH >C16-C34	M25-Jn0015606	NCP	mg/kg	3400	3400	2.0	30%	Pass	
TRH >C34-C40	M25-Jn0015606	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0014661	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0014661	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0014661	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0014661	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0014661	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0014661	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0014661	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Jn0014709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0013660	NCP	mg/kg	2.7	2.3	14	30%	Pass	
Cadmium	M25-Jn0013660	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0013660	NCP	mg/kg	62	52	18	30%	Pass	
Copper	M25-Jn0013660	NCP	mg/kg	13	11	16	30%	Pass	
Lead	M25-Jn0013660	NCP	mg/kg	8.5	7.2	16	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	M25-Jn0013660	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0013660	NCP	mg/kg	79	67	17	30%	Pass	
Zinc	M25-Jn0013660	NCP	mg/kg	38	33	15	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	N25-Jn0004385	NCP	%	5.0	4.9	3.0	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0008628	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0008628	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-PFAS
Joseph Edouard	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Site Number 1254

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Attention: **Robert Crowe**

Report **1228034-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 04, 2025

Client Sample ID			**QC306**
Sample Matrix			**Water**
Eurofins Sample No.			**M25-Jn0008630**
Date Sampled			**Jun 03, 2025**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001

Client Sample ID			QC306
Sample Matrix			Water
Eurofins Sample No.			M25-Jn0008630
Date Sampled			Jun 03, 2025
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	145
p-Terphenyl-d14 (surr.)	1	%	91
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	< 0.001
Zinc	0.005	mg/L	< 0.005
PFASs Summations			
Sum (PFHxS + PFOS)*	0.001	ug/L	< 0.001
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	< 0.001
Sum of PFASs (n=30)*	0.005	ug/L	< 0.005
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	< 0.001
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	< 0.005
Perfluoroalkyl sulfonamido substances- Trace			
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005
13C8-FOSA (surr.)	1	%	100
D3-N-MeFOSA (surr.)	1	%	133
D5-N-EtFOSA (surr.)	1	%	110
D7-N-MeFOSE (surr.)	1	%	75
D9-N-EtFOSE (surr.)	1	%	64
D5-N-EtFOSAA (surr.)	1	%	104
D3-N-MeFOSAA (surr.)	1	%	100
Perfluoroalkyl carboxylic acids (PFCAs) - Trace			
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	< 0.005
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	< 0.001
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	< 0.001
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	< 0.001
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	< 0.001
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001

Client Sample ID			QC306
Sample Matrix			Water
Eurofins Sample No.			M25-Jn0008630
Date Sampled			Jun 03, 2025
Test/Reference	LOR	Unit	
Perfluoroalkyl carboxylic acids (PFCAs) - Trace			
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001
13C4-PFBA (surr.)	1	%	58
13C5-PFPeA (surr.)	1	%	71
13C5-PFHxA (surr.)	1	%	96
13C4-PFHpA (surr.)	1	%	133
13C8-PFOA (surr.)	1	%	132
13C5-PFNA (surr.)	1	%	106
13C6-PFDA (surr.)	1	%	111
13C2-PFUnDA (surr.)	1	%	104
13C2-PFDoDA (surr.)	1	%	103
13C2-PFTeDA (surr.)	1	%	83
Perfluoroalkyl sulfonic acids (PFSAs)- Trace			
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 0.001
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	< 0.001
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	< 0.001
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001
13C3-PFBS (surr.)	1	%	99
18O2-PFHxS (surr.)	1	%	113
13C8-PFOS (surr.)	1	%	120
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001
13C2-4:2 FTSA (surr.)	1	%	92
13C2-6:2 FTSA (surr.)	1	%	194
13C2-8:2 FTSA (surr.)	1	%	160
13C2-10:2 FTSA (surr.)	1	%	118

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 05, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 05, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 05, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 05, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 05, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 04, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 05, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1228034
Phone: 08 7223 5400
Fax:

Received: Jun 4, 2025 11:18 AM
Due: Jun 12, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	MW193_0.2	Jun 03, 2025		Soil	M25-Jn0008627	X				
2	MW193_0.5	Jun 03, 2025		Soil	M25-Jn0008628		X	X		X
3	MW193_1.0	Jun 03, 2025		Soil	M25-Jn0008629		X	X		X
4	QC306	Jun 03, 2025		Water	M25-Jn0008630			X		X
5	QC406	Jun 03, 2025		Water	M25-Jn0008631	X				
6	QC506	Jun 03, 2025		Soil	M25-Jn0008632				X	
Test Counts						2	2	3	1	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	124			70-130	Pass	
TRH C10-C14	%	76			70-130	Pass	
TRH C6-C10	%	115			70-130	Pass	
TRH >C10-C16	%	75			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	109			70-130	Pass	
Toluene	%	105			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total*	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	84			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	96			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	%	94			70-130	Pass	
Anthracene	%	84			70-130	Pass	
Benz(a)anthracene	%	128			70-130	Pass	
Benzo(a)pyrene	%	114			70-130	Pass	
Benzo(b&j)fluoranthene	%	116			70-130	Pass	
Benzo(g.h.i)perylene	%	112			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	106			70-130	Pass	
Dibenz(a.h)anthracene	%	106			70-130	Pass	
Fluoranthene	%	123			70-130	Pass	
Fluorene	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	112			70-130	Pass	
Naphthalene	%	121			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	113			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	95			80-120	Pass	
Lead	%	93			80-120	Pass	
Mercury	%	91			80-120	Pass	
Nickel	%	95			80-120	Pass	
Zinc	%	97			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	96			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	97			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	98			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	118			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	96			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	90			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	84			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	91			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	89			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	99			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	89			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	84			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	87			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	109			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	74			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	99			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	93			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	99			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	85			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	92			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	119			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	95			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	89			50-150	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanesulfonic acid (PFHpS)			%	94			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)			%	90			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)			%	73			50-150	Pass	
LCS - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace									
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)			%	86			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)			%	98			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)			%	90			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)			%	101			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0007319	NCP	%	127			70-130	Pass	
TRH C10-C14	M25-Jn0016245	NCP	%	106			70-130	Pass	
TRH C6-C10	M25-Jn0007319	NCP	%	126			70-130	Pass	
TRH >C10-C16	M25-Jn0016245	NCP	%	106			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0007319	NCP	%	120			70-130	Pass	
Toluene	M25-Jn0007319	NCP	%	120			70-130	Pass	
Ethylbenzene	M25-Jn0007319	NCP	%	109			70-130	Pass	
m&p-Xylenes	M25-Jn0007319	NCP	%	112			70-130	Pass	
o-Xylene	M25-Jn0007319	NCP	%	114			70-130	Pass	
Xylenes - Total*	M25-Jn0007319	NCP	%	112			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0007319	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0002463	NCP	%	102			70-130	Pass	
Acenaphthylene	M25-Jn0002463	NCP	%	104			70-130	Pass	
Anthracene	M25-Jn0002463	NCP	%	76			70-130	Pass	
Benz(a)anthracene	M25-Jn0002463	NCP	%	84			70-130	Pass	
Benzo(a)pyrene	M25-Jn0002463	NCP	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0002463	NCP	%	72			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0002463	NCP	%	88			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0002463	NCP	%	86			70-130	Pass	
Chrysene	M25-Jn0002463	NCP	%	70			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0002463	NCP	%	78			70-130	Pass	
Fluoranthene	M25-Jn0002463	NCP	%	112			70-130	Pass	
Fluorene	M25-Jn0002463	NCP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0002463	NCP	%	82			70-130	Pass	
Naphthalene	M25-Jn0002463	NCP	%	98			70-130	Pass	
Phenanthrene	M25-Jn0002463	NCP	%	104			70-130	Pass	
Pyrene	M25-Jn0002463	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0015276	NCP	%	105			75-125	Pass	
Cadmium	M25-Jn0015276	NCP	%	98			75-125	Pass	
Chromium	M25-Jn0015276	NCP	%	99			75-125	Pass	
Copper	M25-Jn0015276	NCP	%	94			75-125	Pass	
Lead	M25-Jn0015276	NCP	%	96			75-125	Pass	
Mercury	M25-Jn0015276	NCP	%	97			75-125	Pass	
Nickel	M25-Jn0015276	NCP	%	88			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	M25-Jn0015276	NCP	%	100			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0007250	NCP	%	90			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0007250	NCP	%	91			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0007250	NCP	%	53			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0007250	NCP	%	59			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0007250	NCP	%	90			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0007250	NCP	%	91			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0007250	NCP	%	100			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0007250	NCP	%	86			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0007250	NCP	%	86			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0007250	NCP	%	95			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0007250	NCP	%	96			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0007250	NCP	%	98			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0007250	NCP	%	99			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0007250	NCP	%	74			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0007250	NCP	%	114			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0007250	NCP	%	86			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0007250	NCP	%	106			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0007250	NCP	%	85			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0007250	NCP	%	73			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0007250	NCP	%	126			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0007250	NCP	%	96			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0007250	NCP	%	66			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0007250	NCP	%	73			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0007250	NCP	%	82			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0007250	NCP	%	103			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0007250	NCP	%	83			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0007318	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0006842	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0006842	NCP	mg/L	0.1	0.2	51	30%	Fail	Q15
TRH C29-C36	M25-Jn0008630	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0007318	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0006842	NCP	mg/L	< 0.05	0.06	50	30%	Fail	Q15
TRH >C16-C34	M25-Jn0006842	NCP	mg/L	0.2	0.3	49	30%	Fail	Q15
TRH >C34-C40	M25-Jn0006842	NCP	mg/L	0.3	0.4	38	30%	Fail	Q15
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0007318	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0007318	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0007318	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0007318	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0007318	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0007318	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0007318	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0011831	NCP	mg/L	0.002	0.002	<1	30%	Pass	
Acenaphthylene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0011831	NCP	mg/L	0.003	0.003	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0011831	NCP	mg/L	0.025	0.023	8.0	30%	Pass	
Phenanthrene	M25-Jn0011831	NCP	mg/L	0.002	0.002	<1	30%	Pass	
Pyrene	M25-Jn0011831	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0015276	NCP	mg/L	0.003	0.004	2.0	30%	Pass	
Cadmium	M25-Jn0015276	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0015276	NCP	mg/L	0.015	0.016	4.0	30%	Pass	
Copper	M25-Jn0015276	NCP	mg/L	0.037	0.038	1.0	30%	Pass	
Lead	M25-Jn0015276	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0015276	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0015276	NCP	mg/L	0.11	0.11	3.0	30%	Pass	
Zinc	M25-Jn0015276	NCP	mg/L	0.037	0.041	9.0	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0007249	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0012768	NCP	ug/L	7.7	Dil 13.23814	n/a	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0012768	NCP	ug/L	31	Dil 18.53012	n/a	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0012768	NCP	ug/L	34	Dil 63.65983	n/a	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0012768	NCP	ug/L	26	Dil 3.8865	n/a	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0007249	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-PFAS
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X — Non Stand (Due date):	Custody Seal Intact? Yes No N/A
Melbourne, VIC 3008	Results email:		Free Ice / frozen Icebricks present upon receipt? Yes No N/A
PHONE NO: 9653 1234	robert.crowe@aecom.com	COC: 1 2 3 4 5 6 7 8	Sample Temperature on Receipt °C
MOBILE NO: 0427 821 002	robert.crowe@aecom.com; eliot.meszaros@aecom.com; australia.au@eurofinsetsc.com	OF: 1 2 3 4 5 6 7 8	
PROJECT ID: 60693007 / 12	Quote Number: 250502AECV	RELINQUISHED BY:	RELINQUISHED BY: / RECEIVED BY:
Project Manager: Robert Crowe	Project Name: Macquarie Point	Eliot Meszaros	DATE/TIME: / DATE/TIME:
SAMPLER: RB / EM / TG / LL	Data Format: Excel and PDF	DATE/TIME: 06/06/2025	

NOTES:

Please use Project ID '60321835_MacPoint'

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Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please Forward QC203 and QC204 to ALS with printed ALS COC

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SOIL

SAMPLE CONTAINERS

	General Soil Suite & Gasworks Soil Suite (combined)	PFAS	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + PFAS	Soil Rinsate / Field Blank: General Suite + Gasworks Suite	Soil Trip Blank	TOTAL BOTTLES
	1	1	1	4	5	8	1	
	1 x 250ml Glass Soil Jar	1 x PFAS soil jar	1 x 90g PASS Sample Bag	1x 250mL Semi-Volatiles Amber 1x 40mL Vials 1x 60mL Metals	1x 250mL Semi-Volatiles Amber 1x 40mL Vials 1x 60mL Metals 1x 500mL PFAS bottle	1x 250mL Semi-Volatiles Amber 1x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/Chr 1x 60mL Preserved Inorganics	1x 40mL Soil Vial	

ANALYSIS REQUEST

	General Soil Suite	Gasworks Soil Suite	PFAS	PASS Suite			Rinsate & Field Blank: General Suite	Rinsate & Field Blank: General Suite + Gasworks Suite	Trip Blank	HOLD	COMMENTS: Additional Information	COMMENTS: Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
LAB ID / SAMPLE ID / DATE / TIME / MATRIX (S, W)	TRH / BTEXN / PAH / Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Cyanide (Total), Free & WAD); Ammonia as N; Nitrate (Speciated)	PFAS: Full suite - 30 compounds, trace level	PAH: PAH Field Screen, (NATA)	Chromium Reducible Sulphur (CRS)	OPOCAS	TRH / BTEXN / PAH / Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	TRH / BTEXN / PAH / Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg); Cyanide (Total, Free & WAD); Ammonia as N; Nitrate (Speciated)	TRH/CSC(8) / MTBE/H			
MW194_0.5 / 5/6/25 / S	X									X		
MW194_1.0 / 5/6/25 / S	X											
MW194_2.0 / 5/6/25 / S	X									X		
MW194_3.0 / 5/6/25 / S	X											
MW194_4.0 / 5/6/25 / S	X									X		
QC103 / 5/6/25 / S	X											
QC307 / 5/6/25 / W			X				X					
QC407 / 5/6/25 / W			X							X		
QC507 / 5/6/25 / S									X			
MW120A_0.2 / 5/6/25 / S	X	X	X									
MW120A_0.5 / 5/6/25 / S	X	X								X		
MW120A_1.0 / 5/6/25 / S	X	X								X		
MW120A_2.0 / 5/6/25 / S	X	X	X									
MW120A_3.0 / 5/6/25 / S	X	X								X		
MW120A_4.0 / 5/6/25 / S	X	X								X		
MW120A_5.0 / 5/6/25 / S	X	X								X		
MW120A_6.0 / 5/6/25 / S	X	X								X		
MW120A_7.0 / 5/6/25 / S	X	X								X		
QC308 / 5/6/25 / W			X				X					
QC408 / 5/6/25 / W			X							X		
QC508 / 5/6/25 / S									X			
MW185_0.2 / 5/6/25 / S	X									X		
MW185_0.5 / 5/6/25 / S	X											
MW185_1.0 / 5/6/25 / S	X									X		
MW185_2.0 / 5/6/25 / S	X									X		

#1229786

Received by Eurofins Hobart @ 2:45pm, 6/6/25
temp 10°C.

pg 2 / 2

| | | |

ANZ

Q4AN(EV)-007-FM1

FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS / OFFICE: Level 10, 727 Collins Street, Melbourne, VIC	SAMPLER: RB / EM / TC / LL	Destination Laboratory: ALS
PROJECT MANAGER (PM): Robert Crowe	SITE: Macquarie Point	MOBILE: 0410 153 648 PHONE:	
PROJECT NUMBER & TASK CODE: 60693007 / 12	P.O. NO.:	EMAIL REPORT TO: robert.crowe@aecom.com, richard.bowers@aecom.com, eedat+aecom-au@esdatlabsync.net	
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Please us Project ID '60321835_MacPoint'
Please immediately freeze all PASS sample bags upon receipt.

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	General Soil Suite: TRH, BTEXN, PAH, 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite: Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Speciated)	General Water Suite: TRH/BTEXN/PAH/Phenols/8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) plus Manganese, Cations/Anions #3 (incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane	Eco Risk Organics Suite: TRH Aliphatic / Aromatic Speciation; TRH (C6-C40 (silica gel cleanup) TRH (C6-C40) - on 5 µm field filtered sample PAH - on 5 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	Trip Blank Suite: TRH C6-C9, BTEXN			HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	QC203	S	5/6/25		1 Jar	1	X									#1229786
	QC204	S	6/6/25		1 Jar		X									

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: TC	Date: 6/6/25	Name:	Date:	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag
Soil Container Codes: Jar = Unpreserved glass jar

COC Page 1 of 1

RE: Eurofins Sample Receipt Advice - Report 1229786 : Site Macquarie Point (606...

CR
Crowe, Robert <Robert.Crowe@aecom.com>
To SH_AU_CAU001_EnviroSampleVic
Cc Bowers, Richard; Sheridan Barrett

10:59 AM

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Good morning,

Thanks for sending this through. Could the following change please be made to the requested analysis:

- Please remove PFAS analysis from Sample No.9 - QC308.

Cheers,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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Collins Square, Level 10, Tower Two
727 Collins Street
Melbourne, Victoria, 3008, Australia
T +61 3 9653 1234
aecom.com

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From: James Dobar <EET-ELVIS@eurofinsanz.com>
Sent: Saturday, 7 June 2025 11:55 AM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1229786 : Site Macquarie Point (60693007 / 12)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

James Dobar
Sample Receipt

Eurofins Environment Testing Australia P/L
6 Monterey Road
Dandenong South 3175
AUSTRALIA
View our latest EnviroNotes

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

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46-48 Banksia Road
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WA 6106
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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 6, 2025 2:45 PM
Eurofins reference	1229786

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1229786
Phone: 08 7223 5400
Fax:

Received: Jun 6, 2025 2:45 PM
Due: Jun 16, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X		X	X	X	X
External Laboratory		X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	MW194_1.0	Jun 05, 2025		Soil	M25-Jn0020125			X	X		
2	MW194_3.0	Jun 05, 2025		Soil	M25-Jn0020126			X	X		
3	QC103	Jun 05, 2025		Soil	M25-Jn0020127			X	X		
4	QC307	Jun 05, 2025		Water	M25-Jn0020128				X		X
5	QC507	Jun 05, 2025		Soil	M25-Jn0020129					X	
6	MW120A_0.2	Jun 05, 2025		Soil	M25-Jn0020130			X	X		X
7	MW120A_2.0	Jun 05, 2025		Soil	M25-Jn0020131			X	X		X
8	QC308	Jun 06, 2025		Water	M25-Jn0020132				X		
9	QC508	Jun 06, 2025		Soil	M25-Jn0020133					X	
10	MW185_0.5	Jun 06, 2025		Soil	M25-Jn0020134			X	X		
11	MW185_3.0	Jun 06, 2025		Soil	M25-Jn0020135			X	X		
12	QC104	Jun 06, 2025		Soil	M25-Jn0020136			X	X		
13	SV32_2.0	Jun 06, 2025		Soil	M25-Jn0020137			X	X		
14	MW194_0.5	Jun 05, 2025		Soil	M25-Jn0020138	X					

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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NZBN: 9429046024954

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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1229786
Phone: 08 7223 5400
Fax:

Received: Jun 6, 2025 2:45 PM
Due: Jun 16, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
15	MW194_2.0	Jun 05, 2025		Soil	M25-Jn0020139	X					
16	MW194_4.0	Jun 05, 2025		Soil	M25-Jn0020140	X					
17	QC407	Jun 05, 2025		Water	M25-Jn0020141	X					
18	MW120A_0.5	Jun 05, 2025		Soil	M25-Jn0020142	X					
19	MW120A_1.0	Jun 05, 2025		Soil	M25-Jn0020143	X					
20	MW120A_3.0	Jun 05, 2025		Soil	M25-Jn0020144	X					
21	MW120A_4.0	Jun 05, 2025		Soil	M25-Jn0020145	X					
22	MW120A_5.0	Jun 05, 2025		Soil	M25-Jn0020146	X					
23	MW120A_6.0	Jun 05, 2025		Soil	M25-Jn0020147	X					
24	MW120A_7.0	Jun 06, 2025		Soil	M25-Jn0020148	X					
25	QC408	Jun 06, 2025		Water	M25-Jn0020149	X					
26	MW185_0.2	Jun 06, 2025		Soil	M25-Jn0020150	X					
27	MW185_1.0	Jun 06, 2025		Soil	M25-Jn0020151	X					
28	MW185_2.0	Jun 06, 2025		Soil	M25-Jn0020152	X					
29	MW185_4.0	Jun 06, 2025		Soil	M25-Jn0020153	X					
30	SV32_0.2	Jun 06, 2025		Soil	M25-Jn0020154	X					
31	SV32_0.5	Jun 06, 2025		Soil	M25-Jn0020155	X					

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1229786
Phone: 08 7223 5400
Fax:

Received: Jun 6, 2025 2:45 PM
Due: Jun 16, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
32	SV32_1.0	Jun 06, 2025		Soil	M25-Jn0020156	X					
33	QC203	Jun 06, 2025		Soil	M25-Jn0020157		X				
34	QC204	Jun 06, 2025		Soil	M25-Jn0020158		X				
Test Counts						19	2	9	11	2	3

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1229786-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 06, 2025

Client Sample ID			**MW194_1.0**	**MW194_3.0**	**QC103**	**QC507**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0020125**	**M25-Jn0020126**	**M25-Jn0020127**	**M25-Jn0020129**
Date Sampled			**Jun 05, 2025**	**Jun 05, 2025**	**Jun 05, 2025**	**Jun 05, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	100	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	100	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	120	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	120	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	108	91	130	117
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-

Client Sample ID			MW194_1.0	MW194_3.0	QC103	QC507
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020125	M25-Jn0020126	M25-Jn0020127	M25-Jn0020129
Date Sampled			Jun 05, 2025	Jun 05, 2025	Jun 05, 2025	Jun 05, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	70	56	65	-
p-Terphenyl-d14 (surr.)	1	%	58	107	54	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	14	16	17	-
Copper	5	mg/kg	75	75	78	-
Lead	5	mg/kg	< 5	< 5	< 5	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	21	22	23	-
Zinc	5	mg/kg	30	29	31	-
Sample Properties						
% Moisture	1	%	2.4	1.2	2.1	-
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			MW120A_0.2	MW120A_2.0	QC508	MW185_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020130	M25-Jn0020131	M25-Jn0020133	M25-Jn0020134
Date Sampled			Jun 05, 2025	Jun 05, 2025	Jun 06, 2025	Jun 06, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	94
TRH C29-C36	50	mg/kg	< 50	< 50	-	310
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	404
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	230
TRH >C34-C40	100	mg/kg	< 100	< 100	-	500
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	730
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			MW120A_0.2	MW120A_2.0	QC508	MW185_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020130	M25-Jn0020131	M25-Jn0020133	M25-Jn0020134
Date Sampled			Jun 05, 2025	Jun 05, 2025	Jun 06, 2025	Jun 06, 2025
Test/Reference	LOR	Unit				
BTEX						
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	71	85	120	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	66	64	-	63
p-Terphenyl-d14 (surr.)	1	%	51	51	-	54
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	-	2.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	25	20	-	10
Copper	5	mg/kg	49	80	-	75
Lead	5	mg/kg	< 5	< 5	-	27
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	21	23	-	12
Zinc	5	mg/kg	15	43	-	50
Sample Properties						
% Moisture	1	%	5.6	2.5	-	8.0
Volatile Organics						
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5	-
PFASs Summations						
Sum (PFHxS + PFOS)*	0.1	ug/kg	< 0.1	< 0.1	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.1	ug/kg	< 0.1	< 0.1	-	-
Sum of PFASs (n=30)*	0.5	ug/kg	< 0.5	< 0.5	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.1	ug/kg	< 0.1	< 0.1	-	-
Sum of WA DWER PFAS (n=10)*	0.5	ug/kg	< 0.5	< 0.5	-	-

Client Sample ID			MW120A_0.2	MW120A_2.0	QC508	MW185_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020130	M25-Jn0020131	M25-Jn0020133	M25-Jn0020134
Date Sampled			Jun 05, 2025	Jun 05, 2025	Jun 06, 2025	Jun 06, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
13C8-FOSA (surr.)	1	%	121	104	-	-
D3-N-MeFOSA (surr.)	1	%	73	69	-	-
D5-N-EtFOSA (surr.)	1	%	102	106	-	-
D7-N-MeFOSE (surr.)	1	%	86	80	-	-
D9-N-EtFOSE (surr.)	1	%	121	112	-	-
D5-N-EtFOSAA (surr.)	1	%	22	21	-	-
D3-N-MeFOSAA (surr.)	1	%	26	16	-	-
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
Perfluoropentanoic acid (PFPeA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorohexanoic acid (PFHxA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorooctanoic acid (PFOA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorononanoic acid (PFNA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorodecanoic acid (PFDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
13C4-PFBA (surr.)	1	%	111	115	-	-
13C5-PFPeA (surr.)	1	%	115	109	-	-
13C5-PFHxA (surr.)	1	%	102	98	-	-
13C4-PFHpA (surr.)	1	%	111	105	-	-
13C8-PFOA (surr.)	1	%	108	104	-	-
13C5-PFNA (surr.)	1	%	112	107	-	-
13C6-PFDA (surr.)	1	%	124	118	-	-
13C2-PFUnDA (surr.)	1	%	122	128	-	-
13C2-PFDoDA (surr.)	1	%	96	98	-	-
13C2-PFTeDA (surr.)	1	%	90	103	-	-
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.1	ug/kg	< 0.1	< 0.1	-	-

Client Sample ID			MW120A_0.2	MW120A_2.0	QC508	MW185_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020130	M25-Jn0020131	M25-Jn0020133	M25-Jn0020134
Date Sampled			Jun 05, 2025	Jun 05, 2025	Jun 06, 2025	Jun 06, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
13C3-PFBS (surr.)	1	%	102	95	-	-
18O2-PFHxS (surr.)	1	%	91	90	-	-
13C8-PFOS (surr.)	1	%	97	82	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.5	ug/kg	< 0.5	< 0.5	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.1	ug/kg	< 0.1	< 0.1	-	-
13C2-4:2 FTSA (surr.)	1	%	99	115	-	-
13C2-6:2 FTSA (surr.)	1	%	134	113	-	-
13C2-8:2 FTSA (surr.)	1	%	91	79	-	-
13C2-10:2 FTSA (surr.)	1	%	59	58	-	-

Client Sample ID			MW185_3.0	QC104	SV32_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020135	M25-Jn0020136	M25-Jn0020137
Date Sampled			Jun 06, 2025	Jun 06, 2025	Jun 06, 2025
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	1000	1800	240
TRH C15-C28	50	mg/kg	1300	2400	680
TRH C29-C36	50	mg/kg	130	130	460
TRH C10-C36 (Total)	50	mg/kg	2430	4330	1380
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	1700	3000	600
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	1700	3000	600
TRH >C16-C34	100	mg/kg	630	1300	550
TRH >C34-C40	100	mg/kg	< 100	< 100	380
TRH >C10-C40 (total)*	100	mg/kg	2330	4300	1530
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	130	125	138
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID			MW185_3.0	QC104	SV32_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0020135	M25-Jn0020136	M25-Jn0020137
Date Sampled			Jun 06, 2025	Jun 06, 2025	Jun 06, 2025
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.7	2.3	11
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	3.0	2.6	11
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	3.2	2.8	11
Acenaphthene	0.5	mg/kg	2.9	< 0.5	2.1
Acenaphthylene	0.5	mg/kg	1.6	< 0.5	1.6
Anthracene	0.5	mg/kg	< 0.5	0.5	2.8
Benz(a)anthracene	0.5	mg/kg	1.5	1.4	5.3
Benzo(a)pyrene	0.5	mg/kg	2.1	1.8	8.4
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.2	1.1	3.6
Benzo(g.h.i)perylene	0.5	mg/kg	0.9	0.8	3.7
Benzo(k)fluoranthene	0.5	mg/kg	2.1	1.8	8.3
Chrysene	0.5	mg/kg	2.0	1.9	7.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	0.8
Fluoranthene	0.5	mg/kg	3.0	3.5	9.0
Fluorene	0.5	mg/kg	0.6	1.1	0.6
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.0	0.8	3.3
Naphthalene	0.5	mg/kg	< 0.5	0.6	< 0.5
Phenanthrene	0.5	mg/kg	2.5	3.2	3.8
Pyrene	0.5	mg/kg	3.2	3.7	9.1
Total PAH*	0.5	mg/kg	25	22	70
2-Fluorobiphenyl (surr.)	1	%	60	60	55
p-Terphenyl-d14 (surr.)	1	%	51	53	62
Heavy Metals					
Arsenic	2	mg/kg	3.0	3.2	2.4
Cadmium	0.4	mg/kg	0.5	0.4	< 0.4
Chromium	5	mg/kg	8.7	9.6	18
Copper	5	mg/kg	38	35	44
Lead	5	mg/kg	170	170	100
Mercury	0.1	mg/kg	1.5	0.7	0.2
Nickel	5	mg/kg	7.3	10	27
Zinc	5	mg/kg	870	900	50
Sample Properties					
% Moisture	1	%	24	27	23

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 11, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 07, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1229786
Phone: 08 7223 5400
Fax:

Received: Jun 6, 2025 2:45 PM
Due: Jun 16, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X		X	X	X	X
External Laboratory		X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	MW194_1.0	Jun 05, 2025		Soil	M25-Jn0020125			X	X		
2	MW194_3.0	Jun 05, 2025		Soil	M25-Jn0020126			X	X		
3	QC103	Jun 05, 2025		Soil	M25-Jn0020127			X	X		
4	QC307	Jun 05, 2025		Water	M25-Jn0020128				X		X
5	QC507	Jun 05, 2025		Soil	M25-Jn0020129					X	
6	MW120A_0.2	Jun 05, 2025		Soil	M25-Jn0020130			X	X		X
7	MW120A_2.0	Jun 05, 2025		Soil	M25-Jn0020131			X	X		X
8	QC308	Jun 06, 2025		Water	M25-Jn0020132				X		
9	QC508	Jun 06, 2025		Soil	M25-Jn0020133					X	
10	MW185_0.5	Jun 06, 2025		Soil	M25-Jn0020134			X	X		
11	MW185_3.0	Jun 06, 2025		Soil	M25-Jn0020135			X	X		
12	QC104	Jun 06, 2025		Soil	M25-Jn0020136			X	X		
13	SV32_2.0	Jun 06, 2025		Soil	M25-Jn0020137			X	X		
14	MW194_0.5	Jun 05, 2025		Soil	M25-Jn0020138	X					

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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46-48 Banksia Road
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Eurofins Environment Testing NZ Ltd
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Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1229786
Phone: 08 7223 5400
Fax:

Received: Jun 6, 2025 2:45 PM
Due: Jun 16, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
15	MW194_2.0	Jun 05, 2025		Soil	M25-Jn0020139	X					
16	MW194_4.0	Jun 05, 2025		Soil	M25-Jn0020140	X					
17	QC407	Jun 05, 2025		Water	M25-Jn0020141	X					
18	MW120A_0.5	Jun 05, 2025		Soil	M25-Jn0020142	X					
19	MW120A_1.0	Jun 05, 2025		Soil	M25-Jn0020143	X					
20	MW120A_3.0	Jun 05, 2025		Soil	M25-Jn0020144	X					
21	MW120A_4.0	Jun 05, 2025		Soil	M25-Jn0020145	X					
22	MW120A_5.0	Jun 05, 2025		Soil	M25-Jn0020146	X					
23	MW120A_6.0	Jun 05, 2025		Soil	M25-Jn0020147	X					
24	MW120A_7.0	Jun 06, 2025		Soil	M25-Jn0020148	X					
25	QC408	Jun 06, 2025		Water	M25-Jn0020149	X					
26	MW185_0.2	Jun 06, 2025		Soil	M25-Jn0020150	X					
27	MW185_1.0	Jun 06, 2025		Soil	M25-Jn0020151	X					
28	MW185_2.0	Jun 06, 2025		Soil	M25-Jn0020152	X					
29	MW185_4.0	Jun 06, 2025		Soil	M25-Jn0020153	X					
30	SV32_0.2	Jun 06, 2025		Soil	M25-Jn0020154	X					
31	SV32_0.5	Jun 06, 2025		Soil	M25-Jn0020155	X					

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
32	SV32_1.0	Jun 06, 2025		Soil	M25-Jn0020156	X					
33	QC203	Jun 06, 2025		Soil	M25-Jn0020157		X				
34	QC204	Jun 06, 2025		Soil	M25-Jn0020158		X				
Test Counts						19	2	9	11	2	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 0.5			0.5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 0.5			0.5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 0.5			0.5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 0.5			0.5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 0.5			0.5	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 0.5			0.5	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/kg	< 0.5			0.5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 0.1			0.1	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 0.1			0.1	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 0.1			0.1	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 0.1			0.1	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 0.1			0.1	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 0.1			0.1	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 0.1			0.1	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 0.1			0.1	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 0.1			0.1	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 0.1			0.1	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 0.1			0.1	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 0.1			0.1	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 0.1			0.1	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 0.1			0.1	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 0.1			0.1	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 0.1			0.1	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 0.1			0.1	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 0.1			0.1	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 0.1			0.1	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 0.5			0.5	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 0.1			0.1	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	94			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Chromium	%	96			80-120	Pass	
Copper	%	97			80-120	Pass	
Lead	%	101			80-120	Pass	
Mercury	%	90			80-120	Pass	
Nickel	%	97			80-120	Pass	
Zinc	%	95			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	97			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	102			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	93			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	140			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	82			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	92			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	96			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	93			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	86			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	95			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	91			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	87			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	92			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	96			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	77			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	105			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	94			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	102			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	100			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	89			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	110			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	84			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	85			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	83			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	86			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	79			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	94			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	108			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	102			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	104			50-150	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons							
TRH C6-C9	%	127			70-130	Pass	
TRH C10-C14	%	84			70-130	Pass	
TRH C6-C10	%	123			70-130	Pass	
TRH >C10-C16	%	82			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	114			70-130	Pass	
Toluene	%	115			70-130	Pass	
Ethylbenzene	%	91			70-130	Pass	
m&p-Xylenes	%	124			70-130	Pass	
Xylenes - Total*	%	122			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	86			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	105			70-130	Pass	
Acenaphthylene	%	104			70-130	Pass	
Anthracene	%	97			70-130	Pass	
Benz(a)anthracene	%	75			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	87			70-130	Pass	
Benzo(g.h.i)perylene	%	91			70-130	Pass	
Benzo(k)fluoranthene	%	104			70-130	Pass	
Chrysene	%	106			70-130	Pass	
Dibenz(a.h)anthracene	%	79			70-130	Pass	
Fluoranthene	%	85			70-130	Pass	
Fluorene	%	83			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	93			70-130	Pass	
Naphthalene	%	98			70-130	Pass	
Phenanthrene	%	81			70-130	Pass	
Pyrene	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0020125	CP	%	110			70-130	Pass	
TRH C10-C14	M25-Jn0020125	CP	%	77			70-130	Pass	
TRH C6-C10	M25-Jn0020125	CP	%	110			70-130	Pass	
TRH >C10-C16	M25-Jn0020125	CP	%	84			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0020125	CP	%	90			70-130	Pass	
Toluene	M25-Jn0020125	CP	%	97			70-130	Pass	
Ethylbenzene	M25-Jn0020125	CP	%	105			70-130	Pass	
m&p-Xylenes	M25-Jn0020125	CP	%	103			70-130	Pass	
o-Xylene	M25-Jn0020125	CP	%	104			70-130	Pass	
Xylenes - Total*	M25-Jn0020125	CP	%	103			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0020125	CP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0028151	NCP	%	87			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	M25-Jn0028151	NCP	%	90			70-130	Pass	
Anthracene	M25-Jn0028151	NCP	%	107			70-130	Pass	
Benz(a)anthracene	M25-Jn0028151	NCP	%	114			70-130	Pass	
Benzo(a)pyrene	M25-Jn0028151	NCP	%	126			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0028151	NCP	%	99			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0028151	NCP	%	108			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0028151	NCP	%	123			70-130	Pass	
Chrysene	M25-Jn0028151	NCP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0028151	NCP	%	104			70-130	Pass	
Fluoranthene	M25-Jn0028151	NCP	%	87			70-130	Pass	
Fluorene	M25-Jn0028151	NCP	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0028151	NCP	%	130			70-130	Pass	
Naphthalene	M25-Jn0028151	NCP	%	89			70-130	Pass	
Phenanthrene	M25-Jn0028151	NCP	%	129			70-130	Pass	
Pyrene	M25-Jn0028151	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0019562	NCP	%	76			75-125	Pass	
Cadmium	M25-Jn0019562	NCP	%	104			75-125	Pass	
Chromium	M25-Jn0019562	NCP	%	85			75-125	Pass	
Copper	M25-Jn0019562	NCP	%	82			75-125	Pass	
Lead	M25-Jn0017918	NCP	%	109			75-125	Pass	
Mercury	M25-Jn0019562	NCP	%	102			75-125	Pass	
Nickel	M25-Jn0019562	NCP	%	83			75-125	Pass	
Zinc	M25-Jn0019562	NCP	%	87			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0020130	CP	%	110			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0020130	CP	%	101			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0020130	CP	%	91			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0020130	CP	%	94			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0020130	CP	%	83			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0020130	CP	%	93			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0020130	CP	%	94			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0020130	CP	%	95			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0020130	CP	%	96			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0020130	CP	%	104			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0020130	CP	%	102			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0020130	CP	%	88			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0020130	CP	%	102			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0020130	CP	%	103			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0020130	CP	%	88			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0020130	CP	%	110			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0020130	CP	%	97			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0020130	CP	%	106			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0020130	CP	%	98			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0020130	CP	%	95			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0020130	CP	%	118			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0020130	CP	%	93			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0020130	CP	%	96			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0020130	CP	%	90			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0020130	CP	%	95			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0020130	CP	%	95			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0020130	CP	%	95			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0020130	CP	%	83			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0020130	CP	%	99			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0020130	CP	%	106			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0020125	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M25-Jn0020125	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0020125	CP	mg/kg	14	15	1.0	30%	Pass	
Copper	M25-Jn0020125	CP	mg/kg	75	76	2.0	30%	Pass	
Lead	M25-Jn0020125	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	M25-Jn0020125	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0020125	CP	mg/kg	21	22	2.0	30%	Pass	
Zinc	M25-Jn0020125	CP	mg/kg	30	30	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0020131	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M25-Jn0020131	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-Jn0020131	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M25-Jn0020131	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M25-Jn0020131	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M25-Jn0020131	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M25-Jn0020131	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M25-Jn0020131	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0020131	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0020131	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0020131	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0020131	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0020131	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0020131	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Jn0020131	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0020131	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M25-Jn0020131	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0020131	CP	mg/kg	20	19	8.0	30%	Pass	
Copper	M25-Jn0020131	CP	mg/kg	80	70	13	30%	Pass	
Lead	M25-Jn0020131	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	M25-Jn0020131	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0020131	CP	mg/kg	23	20	11	30%	Pass	
Zinc	M25-Jn0020131	CP	mg/kg	43	37	15	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Jn0020131	CP	%	2.5	3.3	28	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0020131	CP	ug/kg	< 0.5	< 0.5	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0020131	CP	ug/kg	< 0.1	< 0.1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

Mary Makarios	Analytical Services Manager
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-PFAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Site Number 1254

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Attention: **Robert Crowe**

Report **1229786-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 06, 2025

Client Sample ID			**QC307**	**QC308**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M25-Jn0020128**	**M25-Jn0020132**
Date Sampled			**Jun 05, 2025**	**Jun 06, 2025**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	119	124
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001

Client Sample ID			QC307	QC308
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0020128	M25-Jn0020132
Date Sampled			Jun 05, 2025	Jun 06, 2025
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	66	56
p-Terphenyl-d14 (surr.)	1	%	96	96
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005
PFASs Summations				
Sum (PFHxS + PFOS)*	0.001	ug/L	< 0.001	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	< 0.001	-
Sum of PFASs (n=30)*	0.005	ug/L	< 0.005	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	< 0.001	-
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	< 0.005	-
Perfluoroalkyl sulfonamido substances- Trace				
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	-
13C8-FOSA (surr.)	1	%	57	-
D3-N-MeFOSA (surr.)	1	%	46	-
D5-N-EtFOSA (surr.)	1	%	47	-
D7-N-MeFOSE (surr.)	1	%	26	-
D9-N-EtFOSE (surr.)	1	%	30	-
D5-N-EtFOSAA (surr.)	1	%	79	-
D3-N-MeFOSAA (surr.)	1	%	62	-
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	< 0.005	-
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	< 0.001	-
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	< 0.001	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	< 0.001	-
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	< 0.001	-
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	< 0.001	-
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	-

Client Sample ID			QC307	QC308
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0020128	M25-Jn0020132
Date Sampled			Jun 05, 2025	Jun 06, 2025
Test/Reference	LOR	Unit		
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	-
13C4-PFBA (surr.)	1	%	11	-
13C5-PFPeA (surr.)	1	%	41	-
13C5-PFHxA (surr.)	1	%	57	-
13C4-PFHpA (surr.)	1	%	60	-
13C8-PFOA (surr.)	1	%	63	-
13C5-PFNA (surr.)	1	%	64	-
13C6-PFDA (surr.)	1	%	60	-
13C2-PFUnDA (surr.)	1	%	64	-
13C2-PFDoDA (surr.)	1	%	50	-
13C2-PFTeDA (surr.)	1	%	34	-
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 0.001	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	< 0.001	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	[N09]< 0.001	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	-
13C3-PFBS (surr.)	1	%	61	-
18O2-PFHxS (surr.)	1	%	73	-
13C8-PFOS (surr.)	1	%	75	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	-
13C2-4:2 FTSA (surr.)	1	%	41	-
13C2-6:2 FTSA (surr.)	1	%	91	-
13C2-8:2 FTSA (surr.)	1	%	59	-
13C2-10:2 FTSA (surr.)	1	%	48	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 10, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 10, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 10, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 10, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 10, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 07, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1229786
Phone: 08 7223 5400
Fax:

Received: Jun 6, 2025 2:45 PM
Due: Jun 16, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X		X	X	X	X
External Laboratory		X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	MW194_1.0	Jun 05, 2025		Soil	M25-Jn0020125			X	X		
2	MW194_3.0	Jun 05, 2025		Soil	M25-Jn0020126			X	X		
3	QC103	Jun 05, 2025		Soil	M25-Jn0020127			X	X		
4	QC307	Jun 05, 2025		Water	M25-Jn0020128				X		X
5	QC507	Jun 05, 2025		Soil	M25-Jn0020129					X	
6	MW120A_0.2	Jun 05, 2025		Soil	M25-Jn0020130			X	X		X
7	MW120A_2.0	Jun 05, 2025		Soil	M25-Jn0020131			X	X		X
8	QC308	Jun 06, 2025		Water	M25-Jn0020132				X		
9	QC508	Jun 06, 2025		Soil	M25-Jn0020133					X	
10	MW185_0.5	Jun 06, 2025		Soil	M25-Jn0020134			X	X		
11	MW185_3.0	Jun 06, 2025		Soil	M25-Jn0020135			X	X		
12	QC104	Jun 06, 2025		Soil	M25-Jn0020136			X	X		
13	SV32_2.0	Jun 06, 2025		Soil	M25-Jn0020137			X	X		
14	MW194_0.5	Jun 05, 2025		Soil	M25-Jn0020138	X					

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
15	MW194_2.0	Jun 05, 2025		Soil	M25-Jn0020139	X					
16	MW194_4.0	Jun 05, 2025		Soil	M25-Jn0020140	X					
17	QC407	Jun 05, 2025		Water	M25-Jn0020141	X					
18	MW120A_0.5	Jun 05, 2025		Soil	M25-Jn0020142	X					
19	MW120A_1.0	Jun 05, 2025		Soil	M25-Jn0020143	X					
20	MW120A_3.0	Jun 05, 2025		Soil	M25-Jn0020144	X					
21	MW120A_4.0	Jun 05, 2025		Soil	M25-Jn0020145	X					
22	MW120A_5.0	Jun 05, 2025		Soil	M25-Jn0020146	X					
23	MW120A_6.0	Jun 05, 2025		Soil	M25-Jn0020147	X					
24	MW120A_7.0	Jun 06, 2025		Soil	M25-Jn0020148	X					
25	QC408	Jun 06, 2025		Water	M25-Jn0020149	X					
26	MW185_0.2	Jun 06, 2025		Soil	M25-Jn0020150	X					
27	MW185_1.0	Jun 06, 2025		Soil	M25-Jn0020151	X					
28	MW185_2.0	Jun 06, 2025		Soil	M25-Jn0020152	X					
29	MW185_4.0	Jun 06, 2025		Soil	M25-Jn0020153	X					
30	SV32_0.2	Jun 06, 2025		Soil	M25-Jn0020154	X					
31	SV32_0.5	Jun 06, 2025		Soil	M25-Jn0020155	X					

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Sample Detail						HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X	X	X	X
32	SV32_1.0	Jun 06, 2025		Soil	M25-Jn0020156	X					
33	QC203	Jun 06, 2025		Soil	M25-Jn0020157		X				
34	QC204	Jun 06, 2025		Soil	M25-Jn0020158		X				
Test Counts						19	2	9	11	2	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	110			70-130	Pass	
TRH C10-C14	%	111			70-130	Pass	
TRH C6-C10	%	113			70-130	Pass	
TRH >C10-C16	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	122			70-130	Pass	
Toluene	%	115			70-130	Pass	
Ethylbenzene	%	108			70-130	Pass	
m&p-Xylenes	%	110			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	72			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	%	79			70-130	Pass	
Anthracene	%	74			70-130	Pass	
Benz(a)anthracene	%	77			70-130	Pass	
Benzo(a)pyrene	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(g.h.i)perylene	%	77			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	77			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	70			70-130	Pass	
Fluorene	%	76			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	80			70-130	Pass	
Naphthalene	%	70			70-130	Pass	
Phenanthrene	%	74			70-130	Pass	
Pyrene	%	77			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	105			80-120	Pass	
Cadmium	%	107			80-120	Pass	
Chromium	%	112			80-120	Pass	
Copper	%	99			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	97			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	101			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	103			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	104			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	97			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	131			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	88			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	101			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	101			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	104			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	96			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	104			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	102			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	94			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	100			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	101			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	95			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	116			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	102			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	106			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	101			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	96			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	91			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	92			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	100			50-150	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanesulfonic acid (PFHpS)			%	93			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)			%	97			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)			%	83			50-150	Pass	
LCS - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace									
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)			%	95			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)			%	146			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)			%	101			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)			%	107			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0019355	NCP	%	113			70-130	Pass	
TRH C10-C14	M25-Jn0017882	NCP	%	103			70-130	Pass	
TRH C6-C10	M25-Jn0019355	NCP	%	114			70-130	Pass	
TRH >C10-C16	M25-Jn0017882	NCP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0019355	NCP	%	98			70-130	Pass	
Toluene	M25-Jn0019355	NCP	%	94			70-130	Pass	
Ethylbenzene	M25-Jn0019355	NCP	%	85			70-130	Pass	
m&p-Xylenes	M25-Jn0019355	NCP	%	86			70-130	Pass	
o-Xylene	M25-Jn0019355	NCP	%	86			70-130	Pass	
Xylenes - Total*	M25-Jn0019355	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-Jn0019355	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0017861	NCP	%	128			70-130	Pass	
Acenaphthylene	M25-Jn0017861	NCP	%	128			70-130	Pass	
Anthracene	M25-Jn0017861	NCP	%	94			70-130	Pass	
Benz(a)anthracene	M25-Jn0017861	NCP	%	70			70-130	Pass	
Benzo(a)pyrene	M25-Jn0017861	NCP	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0017861	NCP	%	88			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0017861	NCP	%	78			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0017861	NCP	%	94			70-130	Pass	
Chrysene	M25-Jn0017861	NCP	%	108			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0017861	NCP	%	76			70-130	Pass	
Fluoranthene	M25-Jn0017861	NCP	%	108			70-130	Pass	
Fluorene	M25-Jn0017861	NCP	%	118			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0017861	NCP	%	86			70-130	Pass	
Naphthalene	M25-Jn0017861	NCP	%	108			70-130	Pass	
Phenanthrene	M25-Jn0017861	NCP	%	108			70-130	Pass	
Pyrene	M25-Jn0017861	NCP	%	102			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0020275	NCP	%	99			75-125	Pass	
Cadmium	M25-Jn0020275	NCP	%	93			75-125	Pass	
Chromium	M25-Jn0020275	NCP	%	107			75-125	Pass	
Copper	M25-Jn0020275	NCP	%	97			75-125	Pass	
Lead	M25-Jn0020275	NCP	%	93			75-125	Pass	
Mercury	M25-Jn0020275	NCP	%	103			75-125	Pass	
Nickel	M25-Jn0020275	NCP	%	99			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	M25-Jn0020275	NCP	%	98			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0019202	NCP	%	102			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0019202	NCP	%	106			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0019202	NCP	%	87			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0019202	NCP	%	127			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0019202	NCP	%	87			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0019202	NCP	%	89			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0019202	NCP	%	102			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0019202	NCP	%	104			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0019202	NCP	%	90			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0019202	NCP	%	105			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0019202	NCP	%	101			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0019202	NCP	%	89			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0019202	NCP	%	100			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0019202	NCP	%	104			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0019202	NCP	%	97			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0019202	NCP	%	120			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0019202	NCP	%	97			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0019202	NCP	%	113			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0019202	NCP	%	100			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0019202	NCP	%	89			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0019202	NCP	%	72			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0019202	NCP	%	83			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0019202	NCP	%	92			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0019202	NCP	%	87			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0019202	NCP	%	95			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0019202	NCP	%	89			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0019202	NCP	%	91			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0019202	NCP	%	95			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0019202	NCP	%	97			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0019202	NCP	%	103			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0019371	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0016580	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0016580	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0016580	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0019371	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0016580	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0016580	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0016580	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0019371	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0019371	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0019371	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0019371	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0019371	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0019371	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0019371	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0017862	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0020275	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M25-Jn0020275	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0020275	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M25-Jn0020275	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M25-Jn0020275	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0020275	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0020275	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M25-Jn0020275	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0028720	NCP	ug/L	< 0.001	0.002	79	30%	Fail	Q15
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0028720	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0028720	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Mary Makarios	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-PFAS
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:
Level 10, 727 Collins Street	
Melbourne, VIC 3008	Results email:
PHONE NO: 9653 1234	robert.crowe@aecom.com
MOBILE NO: 0427 821 002	richard.bowers@aecom.com
PROJECT ID: 60683007 / 12	Quote Number: 250582AECV
Project Manager: Robert Crowe	Project Name: Macquarie Point
SAMPLER: RB / EM / TG / LL	Data Format: Esdat and PDF

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

TURNAROUND REQUIREMENTS (mark Due date or 'X')

Standard: X — Non Stand (Due date):

COC: 1 2 3 4 5 6 7 8

OF: 1 2 3 4 5 6 7 8

RELINQUISHED BY: Elliot Mewstone
DATE/TIME: 9/06/2025

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen icebricks present upon receipt? Yes No N/A

Sample Temperature on Receipt: 5.6°C

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY: Brendan Eurofins Hobart 12/6/25 @3:16pm.
DATE/TIME:

Report #123157 SB 12/6

SOIL

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S, W)	SAMPLE CONTAINERS: General Soil Suite & Gasworks Soil Suite (combined) 1 x 250ml Glass Soil Jar	PFAS 1 x PFAS soil jar	PASS Suite 1 x 90g PASS Sample Bag	Soil Rinsate / Field Blank: General Suite 1x 250mL Sterile Amber 2x 40mL Vials 1x 60mL Metals	Soil Rinsate / Field Blank: General Suite + PFAS 1x 250mL Sterile Amber 2x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/Cr6+ 1x 60mL Preserved Inorganics 1 X 500mL PFAS bottle	Soil Rinsate / Field Blank: General Suite + Gasworks Suite 1x 250mL Sterile Amber 2x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/Cr6+ 1x 60mL Preserved Inorganics	Soil Trip Blank 1x 40mL Soil Vial	TOTAL BOTTLES	ANALYSIS REQUEST: General Soil Suite TRH BTEXN PAH 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite 9 metals (Total, Free & WAD) Cyanide (Total, Free & WAD) Phenols (Speciated)	PFAS PFAS: Full suite - 30 compounds, trace level	PASS Suite pH Wheti Screen, (NATA)	Chromium Reducible Sulphur (CRS)	SPOCAS	Rinsate & Field Blank General Suite TRH BTEXN PAH 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Rinsate & Field Blank General Suite + Gasworks Suite TRH BTEXN PAH 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg) Ammonia as N Phenols (Speciated)	Trip Blank TRHC6-C9 BTEXN	HOLD	COMMENTS: Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
✓	BH004E_0.2	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004E_0.5	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004E_1.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004E_2.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004E_3.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004E_4.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004E_5.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_0.2	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_0.5	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_1.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_2.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_3.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_4.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004N_5.0	10/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025
✓	BH004A_0.2	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004A_0.5	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004A_1.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004A_2.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004A_3.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004A_4.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004A_5.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004W_0.2	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004W_0.5	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004W_1.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004W_2.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004W_3.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004W_4.0	11/6/25	S			1					1				X								Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025

✓	BH004W_5.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
*	BH004W_6.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_0.2	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_0.5	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_1.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_2.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_3.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_4.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_5.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	QC310	11/6/25		W				1				4						X					
✓	QC410	11/6/25		W				1				4									X		
✓	QC510	11/6/25		S							1	1								X			

* Sample BH004W_6.0 was received as BH004A_6.0. Logged as per COC. please confirm sample ID. -SS 12/6/25

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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 12, 2025 3:16 PM
Eurofins reference	1231576

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample bag BH004W_6.0 received as BH004A_6.0. Logged as per COC. Please confirm sample ID.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231576
Phone: 0422 692 187
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH004E_0.2	Jun 10, 2025		Soil	M25-Jn0032565	X
2	BH004E_0.5	Jun 10, 2025		Soil	M25-Jn0032566	X
3	BH004E_1.0	Jun 10, 2025		Soil	M25-Jn0032567	X
4	BH004E_2.0	Jun 10, 2025		Soil	M25-Jn0032568	X
5	BH004E_3.0	Jun 10, 2025		Soil	M25-Jn0032569	X
6	BH004E_4.0	Jun 10, 2025		Soil	M25-Jn0032570	X
7	BH004E_5.0	Jun 10, 2025		Soil	M25-Jn0032571	X
8	BH004N_0.2	Jun 10, 2025		Soil	M25-Jn0032572	X
9	BH004N_0.5	Jun 10, 2025		Soil	M25-Jn0032573	X
10	BH004N_1.0	Jun 10, 2025		Soil	M25-Jn0032574	X
11	BH004N_2.0	Jun 10, 2025		Soil	M25-Jn0032575	X
12	BH004N_3.0	Jun 10, 2025		Soil	M25-Jn0032576	X
13	BH004N_4.0	Jun 10, 2025		Soil	M25-Jn0032577	X
14	BH004N_5.0	Jun 10, 2025		Soil	M25-Jn0032578	X

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231576
Phone: 0422 692 187
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
15	BH004A_0.2	Jun 11, 2025		Soil	M25-Jn0032579	X
16	BH004A_0.5	Jun 11, 2025		Soil	M25-Jn0032580	X
17	BH004A_1.0	Jun 11, 2025		Soil	M25-Jn0032581	X
18	BH004A_2.0	Jun 11, 2025		Soil	M25-Jn0032582	X
19	BH004A_3.0	Jun 11, 2025		Soil	M25-Jn0032583	X
20	BH004A_4.0	Jun 11, 2025		Soil	M25-Jn0032584	X
21	BH004A_5.0	Jun 11, 2025		Soil	M25-Jn0032585	X
22	BH004W_0.2	Jun 11, 2025		Soil	M25-Jn0032586	X
23	BH004W_0.5	Jun 11, 2025		Soil	M25-Jn0032587	X
24	BH004W_1.0	Jun 11, 2025		Soil	M25-Jn0032588	X
25	BH004W_2.0	Jun 11, 2025		Soil	M25-Jn0032589	X
26	BH004W_3.0	Jun 11, 2025		Soil	M25-Jn0032590	X
27	BH004W_4.0	Jun 11, 2025		Soil	M25-Jn0032591	X
28	BH004W_5.0	Jun 11, 2025		Soil	M25-Jn0032592	X
29	BH004W_6.0	Jun 11, 2025		Soil	M25-Jn0032593	X
30	BH004S_0.2	Jun 11, 2025		Soil	M25-Jn0032594	X
31	BH004S_0.5	Jun 11, 2025		Soil	M25-Jn0032595	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
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34	BH004S_3.0	Jun 11, 2025		Soil	M25-Jn0032598	X
35	BH004S_4.0	Jun 11, 2025		Soil	M25-Jn0032599	X
36	BH004S_5.0	Jun 11, 2025		Soil	M25-Jn0032600	X
Test Counts						36

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NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1231576-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 12, 2025

Client Sample ID			**BH004E_0.2**	**BH004E_0.5**	**BH004E_1.0**	**BH004E_2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032565**	**M25-Jn0032566**	**M25-Jn0032567**	**M25-Jn0032568**
Date Sampled			**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.6	8.5	8.7	8.7
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.4	7.7	7.9	8.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH004E_3.0**	**BH004E_4.0**	**BH004E_5.0**	**BH004N_0.2**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032569**	**M25-Jn0032570**	**M25-Jn0032571**	**M25-Jn0032572**
Date Sampled			**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.7	9.8	8.1	9.2
pH-FOX (Field pH Peroxide test)	0.1	pH Units	9.0	8.3	4.1	8.0
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH004N_0.5**	**BH004N_1.0**	**BH004N_2.0**	**BH004N_3.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032573**	**M25-Jn0032574**	**M25-Jn0032575**	**M25-Jn0032576**
Date Sampled			**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	7.4	8.1	8.2	8.6
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.4	5.6	7.8	7.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004N_4.0	BH004N_5.0	BH004A_0.2	BH004A_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032577	M25-Jn0032578	M25-Jn0032579	M25-Jn0032580
Date Sampled			Jun 10, 2025	Jun 10, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.4	8.8	8.7	7.8
pH-FOX (Field pH Peroxide test)	0.1	pH Units	2.9	3.9	8.6	7.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004A_1.0	BH004A_2.0	BH004A_3.0	BH004A_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032581	M25-Jn0032582	M25-Jn0032583	M25-Jn0032584
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.6	8.4	8.5	11
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.1	7.0	8.4	8.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004A_5.0	BH004W_0.2	BH004W_0.5	BH004W_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032585	M25-Jn0032586	M25-Jn0032587	M25-Jn0032588
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	12	8.7	8.4	8.1
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.4	8.2	8.2	6.0
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004W_2.0	BH004W_3.0	BH004W_4.0	BH004W_5.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032589	M25-Jn0032590	M25-Jn0032591	M25-Jn0032592
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.0	8.7	8.4	8.4
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.1	7.7	2.5	4.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004W_6.0	BH004S_0.2	BH004S_0.5	BH004S_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032593	M25-Jn0032594	M25-Jn0032595	M25-Jn0032596
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.3	8.8	8.7	8.1
pH-FOX (Field pH Peroxide test)	0.1	pH Units	5.8	8.6	7.7	7.0
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004S_2.0	BH004S_3.0	BH004S_4.0	BH004S_5.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032597	M25-Jn0032598	M25-Jn0032599	M25-Jn0032600
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.4	8.3	8.4	8.2
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.2	6.8	7.1	2.0
Reaction Ratings[S05]		comment	4.0	1.0	1.0	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	Jun 23, 2025	7 Days
- Method: LTM-GEN-7060			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Received: Jun 12, 2025 3:16 PM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH004E_0.2	Jun 10, 2025		Soil	M25-Jn0032565	X
2	BH004E_0.5	Jun 10, 2025		Soil	M25-Jn0032566	X
3	BH004E_1.0	Jun 10, 2025		Soil	M25-Jn0032567	X
4	BH004E_2.0	Jun 10, 2025		Soil	M25-Jn0032568	X
5	BH004E_3.0	Jun 10, 2025		Soil	M25-Jn0032569	X
6	BH004E_4.0	Jun 10, 2025		Soil	M25-Jn0032570	X
7	BH004E_5.0	Jun 10, 2025		Soil	M25-Jn0032571	X
8	BH004N_0.2	Jun 10, 2025		Soil	M25-Jn0032572	X
9	BH004N_0.5	Jun 10, 2025		Soil	M25-Jn0032573	X
10	BH004N_1.0	Jun 10, 2025		Soil	M25-Jn0032574	X
11	BH004N_2.0	Jun 10, 2025		Soil	M25-Jn0032575	X
12	BH004N_3.0	Jun 10, 2025		Soil	M25-Jn0032576	X
13	BH004N_4.0	Jun 10, 2025		Soil	M25-Jn0032577	X
14	BH004N_5.0	Jun 10, 2025		Soil	M25-Jn0032578	X

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Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
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36	BH004S_5.0	Jun 11, 2025		Soil	M25-Jn0032600	X
Test Counts						36

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032575	CP	pH Units	8.2	8.2	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032575	CP	pH Units	7.8	7.8	pass	30%	Pass	
Reaction Ratings	M25-Jn0032575	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032585	CP	pH Units	12	12	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032585	CP	pH Units	7.4	7.7	pass	30%	Pass	
Reaction Ratings	M25-Jn0032585	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032586	CP	pH Units	8.7	8.8	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032586	CP	pH Units	8.2	8.3	pass	30%	Pass	
Reaction Ratings	M25-Jn0032586	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032591	CP	pH Units	8.4	8.6	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032591	CP	pH Units	2.5	2.3	pass	30%	Pass	
Reaction Ratings	M25-Jn0032591	CP	comment	4.0	4.0	pass	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Catherine Wilson	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**	
Level 10, 727 Collins Street		
Melbourne, VIC 3008	**Results email:**	
PHONE NO: 9653 1234	robert.crowe@aecom.com	
MOBILE NO: 0427 821 002	richard.bowers@aecom.com	
PROJECT ID: 60653007 / 12	**Quote Number:**	280662AECU
Project Manager: Robert Crowe	**Project Name:**	Macquarie Point
SAMPLER: RB / EM / TG / LL	**Data Format:**	Esdat and PDF

TURNAROUND REQUIREMENTS (mark Due date or 'X')

Standard	X	Non Stand (Due date):

COC: 1 2 3 4 5 6 7 8

OF: 1 2 3 4 5 6 7 8

RELINQUISHED BY: Taya Dinatal

DATE/TIME: 12/06/2025

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen icepacks present upon receipt? Yes No N/A

Sample Temperature on Receipt: 6.7°C

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY: Sheridan Eurofins Hobart 12/6/2025 @ 3:16pm

DATE/TIME:

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

SOIL

SAMPLE CONTAINERS

General Soil Suite & Gasworks Soil Suite (combined)	PFAS	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + PFAS	Soil Rinsate / Field Blank: General Suite + Gasworks Suite	Soil Trip Blank	TOTAL BOTTLES
1	1	1	4	5	8	1	

ANALYSIS REQUEST

General Soil Suite	Gasworks Soil Suite	PFAS	PASS Suite			Rinsate & Field Blank General Suite	Rinsate & Field Blank General Suite + Gasworks Suite	Trip Blank	HOLD
TRH BTEXN 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Cyanide (Total, Free & WAD) Phenols (Speciated) Phenols (Speciated)	PFAS Full suite - 30 compounds, trace level	pH Field Screen, WATP)	Chromium Reducible Sulfur (CRS)	SPOCAS	TRH BTEXN 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	TRH BTEXN PAH 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg) Cyanide (Free & WAD) Ammonia as N Phenols (Speciated)	TRH/HS-C8/ BTEXN	

LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	1 x 250ml Glass Soil Jar	1x PFAS Soil Jar	1 x 500g PASS Sample Bag	1x 250mL Semi-Volatiles Amber Jar (Cyanide), 1x 60mL Vial, 1x 60mL Metals	1x 250mL Semi-Volatiles Amber Jar (Cyanide), 1x 60mL Vial, 1x 60mL Metals, 1 X 500mL PFAS bottle	1x 250mL Semi-Volatiles Amber Jar (Cyanide), 1x 60mL Vial, 1x 60mL Metals, 1x 60mL Cyanide/CrVI+, 1x 60mL Preserved Inorganics	1x 40mL Soil Vial	TOTAL BOTTLES	TRH BTEXN 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Cyanide (Total, Free & WAD) Phenols (Speciated) Phenols (Speciated)	PFAS Full suite - 30 compounds, trace level	pH Field Screen, WATP)	Chromium Reducible Sulfur (CRS)	SPOCAS	TRH BTEXN 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	TRH BTEXN PAH 9 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg) Cyanide (Free & WAD) Ammonia as N Phenols (Speciated)	TRH/HS-C8/ BTEXN	HOLD	Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
✓	MW186_0.2	10/6/25		S	1						1													X		
✓	MW186_0.5	10/6/25		S	1						1													X		
✓	MW186_1.0	10/6/25		S	1						1													X		
✓	MW186_2.0	10/6/25		S	1						1													X		
✓	MW186_3.0	10/6/25		S	1						1	X												X		
✓	MW186_3.5	10/6/25		S	1						1	X												X		
✓	QC105	10/6/25		S	1						1													X		
✓	QC205	10/6/25		S	1						1													X		
✓	SV36_0.2	10/6/25		S	1						1													X		
✓	SV36_0.5	10/6/25		S	1						1													X		
✓	SV36_1.0	10/6/25		S	1						1													X		
✓	SV36_2.0	10/6/25		S	1						1	X												X		
✓	QC309	10/6/25		W				1			4							X								
✓	QC409	10/6/25		W				1			4													X		
✓	QCSW	10/6/25		S						1	1												X			
✓	SV33_0.2	11/6/25		S	1						1													X		
✓	SV33_0.5	11/6/25		S	1						1													X		
✓	SV33_1.0	11/6/25		S	1						1													X		
✓	SV33_2.0	11/6/25		S	1						1	X												X		
✓	MW187_0.2	11/6/25		S	1						1	X														
✓	MW187_0.5	11/6/25		S	1						1													X		
✓	MW187_1.0	11/6/25		S	1						1													X		
✓	MW187_2.0	11/6/25		S	1						1	X														
✓	MW187_3.0	11/6/25		S	1						1													X		

Report #1231626 SB 12/6/25

* extra sample received SV33_2.5 placed on hold please confirm analysis -SB 12/6.

Re: Eurofins Sample Receipt Advice - Report 1231626 : Site Macquarie Point (606...

GT

Gerstel, Taya <taya.gerstel@aecom.com>
To Bowers, Richard; Sheridan Barrett
Cc Crowe, Robert

11:36 AM

You replied to this message on 13/06/2025 11:37 AM.
If there are problems with how this message is displayed, click here to view it in a web browser.

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

Please keep SV33_2.5 on hold.

Thanks,
Taya Gerstel
She/Her/Hers

Graduate Environmental Scientist, ENV, ANZ
D +61 491 303 617
taya.gerstel@aecom.com
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Collins Square
Level 10, Tower 2, 727 Collins Street
Melbourne, VIC, 3008, Australia
T 03 9653 1234
aecom.com
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From: Bowers, Richard <Richard.Bowers@aecom.com>
Sent: Friday, June 13, 2025 6:59 AM
To: Gerstel, Taya <taya.gerstel@aecom.com>
Subject: FW: Eurofins Sample Receipt Advice - Report 1231626 : Site Macquarie Point (60693007 / 12)

FYI

Richard Bowers

Principal Environmental Scientist, ANZ VSA
M +61 427 821 002
richard.bowers@aecom.com

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From: Sheridan Barrett <EET-ELVIS@eurofinsanz.com>
Sent: Thursday, 12 June 2025 6:04 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1231626 : Site Macquarie Point (60693007 / 12)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Extra soil sample SV33_2.5 received. Placed on hold. Please confirm analysis.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

Mobile: +61 438 384 921
E-mail: sheridan.barrett@eurofinsanz.com
Website: www.eurofins.com.au

Office hours: Monday to Friday 10am to 5pm

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Outlook

RE: Eurofins Sample Receipt Advice - Report 1231626 : Site Macquarie Point (60693007 / 12)

From Crowe, Robert <Robert.Crowe@aecom.com>
Date Fri 13/6/25 10:55 AM
To SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>
Cc Bowers, Richard <Richard.Bowers@aecom.com>

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Good morning, Sheridan,

Could samples QC310, QC410 and QC510 from this batch be moved to batch 1231626, which was collected and submitted at the same time?

From a reporting/assessment point of view, the QC data will be associated with the samples in batch 1231626, and is not needed to be associated with the PASS samples.

Thanks,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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727 Collins Street
Melbourne, Victoria, 3008, Australia
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From: Crowe, Robert
Sent: Friday, 13 June 2025 10:17 AM
To: EnviroSampleVic@eurofinsanz.com
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1231626 : Site Macquarie Point (60693007 / 12)

Thanks Sheridan,

Please place sample SV33_2.5 on hold.

Cheers,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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From: Sheridan Barrett <EET-ELVIS@eurofinsanz.com>
Sent: Thursday, 12 June 2025 6:04 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1231626 : Site Macquarie Point (60693007 / 12)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Extra soil sample SV33_2.5 received. Placed on hold. Please confirm analysis.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

Mobile: +61 438 384 921
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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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ABN: 91 05 0159 898

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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 12, 2025 3:16 PM
Eurofins reference	1231626

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Extra soil sample SV33_2.5 received. Placed on hold. Please confirm analysis.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231626
Phone: 08 7223 5400
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC310	Jun 11, 2025		Water	M25-Jn0032601			X	
2	QC510	Jun 11, 2025		Soil	M25-Jn0032602				X
3	QC410	Jun 11, 2025		Water	M25-Jn0032603	X			
4	MW186_3.0	Jun 10, 2025		Soil	M25-Jn0032959		X	X	
5	MW186_3.5	Jun 10, 2025		Soil	M25-Jn0032960		X	X	
6	SV36_2.0	Jun 10, 2025		Soil	M25-Jn0032961		X	X	
7	QC309	Jun 10, 2025		Water	M25-Jn0032962			X	
8	QC509	Jun 10, 2025		Soil	M25-Jn0032963				X
9	SV33_2.0	Jun 11, 2025		Soil	M25-Jn0032964		X	X	
10	MW187_0.2	Jun 11, 2025		Soil	M25-Jn0032965		X	X	
11	MW187_2.0	Jun 11, 2025		Soil	M25-Jn0032966		X	X	
12	MW186_0.2	Jun 10, 2025		Soil	M25-Jn0032967	X			
13	MW186_0.5	Jun 10, 2025		Soil	M25-Jn0032968	X			
14	MW186_1.0	Jun 10, 2025		Soil	M25-Jn0032969	X			

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231626
Phone: 08 7223 5400
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	MW186_2.0	Jun 10, 2025		Soil	M25-Jn0032970	X			
16	QC105	Jun 10, 2025		Soil	M25-Jn0032971	X			
17	QC205	Jun 10, 2025		Soil	M25-Jn0032972	X			
18	SV36_0.2	Jun 10, 2025		Soil	M25-Jn0032973	X			
19	SV36_0.5	Jun 10, 2025		Soil	M25-Jn0032974	X			
20	SV36_1.0	Jun 10, 2025		Soil	M25-Jn0032975	X			
21	QC409	Jun 10, 2025		Water	M25-Jn0032976	X			
22	SV33_0.2	Jun 11, 2025		Soil	M25-Jn0032977	X			
23	SV33_0.5	Jun 11, 2025		Soil	M25-Jn0032978	X			
24	SV33_1.0	Jun 11, 2025		Soil	M25-Jn0032979	X			
25	MW187_0.5	Jun 11, 2025		Soil	M25-Jn0032980	X			
26	MW187_1.0	Jun 11, 2025		Soil	M25-Jn0032981	X			
27	MW187_3.0	Jun 11, 2025		Soil	M25-Jn0032982	X			
28	SV33_2.5	Jun 11, 2025		Soil	M25-Jn0032983	X			
Test Counts						18	6	8	2

Quality Assurance/Quality Control Review

Summary :

Quality Control Frequency - Solid

- 0 Duplicate frequency non-compliant
- 0 Laboratory matrix spike frequency non-compliant
- 0 Method Blank frequency non-compliant
- 0 Laboratory Control Spikes frequency non-compliant

Quality Control Frequency - Water

- 0 Duplicate frequency non-compliant
- 0 Laboratory matrix spike frequency non-compliant
- 0 Method Blank frequency non-compliant
- 0 Laboratory Control Spikes frequency non-compliant

Quality Control Outlier - Solid

- 0 Duplicate outlier
- 0 Laboratory matrix spike outlier
- 0 Method Blank outlier
- 0 Laboratory Control Spikes outlier

Quality Control Outlier - Water

- 0 Duplicate outlier
- 0 Laboratory matrix spike outlier
- 0 Method Blank outlier
- 0 Laboratory Control Spikes outlier

Holding Time Outlier - Solid

- No samples analysed out of holding time.

Holding Time Outlier - Water

- No samples analysed out of holding time.

Quality Control Analyte Summary Compliance

The table below is the actual occurrence of QC performed on the batch of samples within this report and as defined below

Quality Control Parameter Frequency Compliance follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) April 2011, Schedule B3, Guideline on Laboratory Analysis of Potentially Contaminated Soils and US EPA SW-846 Chapter 1: 'Quality Control'. It comprises the following when a laboratory process batch is deemed to consist of up to 20 samples that are similar in terms of matrix and test procedure, and are processed as one unit for QC purposes. If more than 20 samples are being processed, they are considered as more than one batch. Method blank - One method blank per process batch. Laboratory duplicate: There should be at least one duplicate per process batch or two duplicates if the process batch exceeds 10 samples. Laboratory control sample (LCS): There should be at least one LCS per process batch. Matrix spikes - There should be one matrix spike per matrix type per process batch.

For Per- and Polyfluoroalkyl Substances (PFAS) analysis, as outlined in US EPA Quality Systems Manual (QSM 6.0 or later versions) Table B-24. Per-and Polyfluoroalkyl Substances (PFAS) Analysis by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS), follow strict Data Validation procedures to ensure accuracy, precision, and reliability as per US DoD's Environmental Data Quality Workgroup Data Validation Guidelines Module 6 . Acceptance criteria and frequency for Initial Calibration Verification (ICV), Continuing Calibration Verification (CCV), Laboratory Control Sample (LCS), Method Blank (MB), Surrogate Recovery (for Isotopically Labelled Standards for Extracted Internal Standards and Non-extracted Internal Standards (if applicable for Method 1633)) and duplicates follow the NEPM requirements or additional prerequisites listed in PFAS National Environmental Management Plan 3.0, 2025.

Matrix : Solid

Analysis	QC Type	Samples Analysed	QC Sample Reported	Frequency Criteria		Within Acceptance Limits
				Expected	Achieved	
Total Recoverable Hydrocarbons	Laboratory Duplicates	8	2	1	✓	✓
	Laboratory Matrix Spikes	8	2	1	✓	✓
	Method Blanks	8	1	1	✓	✓
	Laboratory Control Samples	8	2	1	✓	✓
BTEX	Laboratory Duplicates	8	1	1	✓	✓
	Laboratory Matrix Spikes	8	1	1	✓	✓
	Method Blanks	8	1	1	✓	✓
	Laboratory Control Samples	8	1	1	✓	✓
Polycyclic Aromatic Hydrocarbons	Laboratory Duplicates	6	1	1	✓	✓
	Laboratory Matrix Spikes	6	1	1	✓	✓
	Method Blanks	6	1	1	✓	✓
	Laboratory Control Samples	6	1	1	✓	✓
Heavy Metals	Laboratory Duplicates	6	1	1	✓	✓
	Laboratory Matrix Spikes	6	1	1	✓	✓
	Method Blanks	6	1	1	✓	✓
	Laboratory Control Samples	6	1	1	✓	✓
Sample Properties	Laboratory Duplicates	6	1	1	✓	✓
	Laboratory Matrix Spikes	6	N/A	-	-	-
	Method Blanks	6	N/A	-	-	-
	Laboratory Control Samples	6	N/A	-	-	-

Matrix : Water

Analysis	QC Type	Samples Analysed	QC Sample Reported	Frequency Criteria		Within Acceptance Limits
				Expected	Achieved	
Total Recoverable Hydrocarbons	Laboratory Duplicates	2	1	1	✓	✓
	Laboratory Matrix Spikes	2	1	1	✓	✓
	Method Blanks	2	1	1	✓	✓
	Laboratory Control Samples	2	1	1	✓	✓
BTEX	Laboratory Duplicates	2	1	1	✓	✓
	Laboratory Matrix Spikes	2	1	1	✓	✓
	Method Blanks	2	1	1	✓	✓
	Laboratory Control Samples	2	1	1	✓	✓

Analysis	QC Type	Samples Analysed	QC Sample Reported	Frequency Criteria		Within Acceptance Limits
				Expected	Achieved	
Polycyclic Aromatic Hydrocarbons	Laboratory Duplicates	2	1	1	✓	✓
	Laboratory Matrix Spikes	2	1	1	✓	✓
	Method Blanks	2	1	1	✓	✓
	Laboratory Control Samples	2	1	1	✓	✓
Heavy Metals	Laboratory Duplicates	2	1	1	✓	✓
	Laboratory Matrix Spikes	2	1	1	✓	✓
	Method Blanks	2	1	1	✓	✓
	Laboratory Control Samples	2	1	1	✓	✓

Analysis Holding Time Compliance
Matrix : Solid

	Analysis Holding	Date Sampled	Date Extracted	Date Analysed	Compliant
TRH C6-C9					
25-Jn0032602	14 Days	11/06/2025	13/06/2025	18/06/2025	✓
25-Jn0032959, 25-Jn0032960, 25-Jn0032961		10/06/2025	13/06/2025	14/06/2025	✓
25-Jn0032963		10/06/2025	13/06/2025	18/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	13/06/2025	14/06/2025	✓
BTEX					
25-Jn0032602	14 Days	11/06/2025	13/06/2025	18/06/2025	✓
25-Jn0032959, 25-Jn0032960, 25-Jn0032961		10/06/2025	13/06/2025	14/06/2025	✓
25-Jn0032963		10/06/2025	13/06/2025	18/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	13/06/2025	14/06/2025	✓
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
25-Jn0032959, 25-Jn0032960, 25-Jn0032961	14 Days	10/06/2025	12/06/2025	14/06/2025	✓
25-Jn0032964		11/06/2025	12/06/2025	12/06/2025	✓
25-Jn0032965, 25-Jn0032966		11/06/2025	12/06/2025	14/06/2025	✓
TRH C6-C10					
25-Jn0032602	14 Days	11/06/2025	13/06/2025	18/06/2025	✓
25-Jn0032963		10/06/2025	13/06/2025	18/06/2025	✓
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
25-Jn0032959, 25-Jn0032960, 25-Jn0032961	14 Days	10/06/2025	12/06/2025	13/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	12/06/2025	13/06/2025	✓
Polycyclic Aromatic Hydrocarbons					
25-Jn0032959, 25-Jn0032960, 25-Jn0032961	14 Days	10/06/2025	12/06/2025	13/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	12/06/2025	13/06/2025	✓
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
25-Jn0032959, 25-Jn0032960, 25-Jn0032961	14 Days	10/06/2025	13/06/2025	13/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	13/06/2025	13/06/2025	✓
Metals M8					
25-Jn0032959, 25-Jn0032960, 25-Jn0032961	28 Days	10/06/2025	13/06/2025	16/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	13/06/2025	16/06/2025	✓
% Moisture					
25-Jn0032959, 25-Jn0032960, 25-Jn0032961	14 Days	10/06/2025	12/06/2025	16/06/2025	✓
25-Jn0032964, 25-Jn0032965, 25-Jn0032966		11/06/2025	12/06/2025	16/06/2025	✓

Matrix : Water

	Analysis Holding	Date Sampled	Date Extracted	Date Analysed	Compliant
TRH C6-C9					
25-Jn0032601	14 Days	11/06/2025	13/06/2025	14/06/2025	✓
25-Jn0032962		10/06/2025	13/06/2025	14/06/2025	✓
BTEX					
25-Jn0032601	14 Days	11/06/2025	13/06/2025	14/06/2025	✓
25-Jn0032962		10/06/2025	13/06/2025	14/06/2025	✓
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
25-Jn0032601	7 Days	11/06/2025	12/06/2025	14/06/2025	✓
25-Jn0032962		10/06/2025	12/06/2025	14/06/2025	✓
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
25-Jn0032601	7 Days	11/06/2025	12/06/2025	13/06/2025	✓
25-Jn0032962		10/06/2025	12/06/2025	13/06/2025	✓
Polycyclic Aromatic Hydrocarbons					
25-Jn0032601	7 Days	11/06/2025	12/06/2025	13/06/2025	✓
25-Jn0032962		10/06/2025	12/06/2025	13/06/2025	✓

	Analysis Holding	Date Sampled	Date Extracted	Date Analysed	Compliant
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
25-Jn0032601	7 Days	11/06/2025	13/06/2025	13/06/2025	✓
25-Jn0032962		10/06/2025	13/06/2025	13/06/2025	✓
Metals M8					
25-Jn0032601	28 Days	11/06/2025	13/06/2025	16/06/2025	✓
25-Jn0032962		10/06/2025	13/06/2025	16/06/2025	✓

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Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1231626-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 12, 2025

Client Sample ID			**QC510**	**MW186_3.0**	**MW186_3.5**	**SV36_2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032602**	**M25-Jn0032959**	**M25-Jn0032960**	**M25-Jn0032961**
Date Sampled			**Jun 11, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	160	< 20
TRH C15-C28	50	mg/kg	-	< 50	480	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50	640	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	< 50	410	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	< 50	410	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C16-C34	100	mg/kg	-	< 100	250	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	660	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	95	84	55
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5

Client Sample ID			QC510	MW186_3.0	MW186_3.5	SV36_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032602	M25-Jn0032959	M25-Jn0032960	M25-Jn0032961
Date Sampled			Jun 11, 2025	Jun 10, 2025	Jun 10, 2025	Jun 10, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	129	149	97
p-Terphenyl-d14 (surr.)	1	%	-	122	75	122
Heavy Metals						
Arsenic	2	mg/kg	-	< 2	< 2	< 2
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	19	13	< 5
Copper	5	mg/kg	-	55	49	< 5
Lead	5	mg/kg	-	16	12	5.6
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	-	20	14	< 5
Zinc	5	mg/kg	-	33	28	9.1
Sample Properties						
% Moisture	1	%	-	16	16	9.8

Client Sample ID			QC509	SV33_2.0	MW187_0.2	MW187_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032963	M25-Jn0032964	M25-Jn0032965	M25-Jn0032966
Date Sampled			Jun 10, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	< 50	< 50	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	148	77	80	59

Client Sample ID			QC509	SV33_2.0	MW187_0.2	MW187_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032963	M25-Jn0032964	M25-Jn0032965	M25-Jn0032966
Date Sampled			Jun 10, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	1.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	1.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	1.8
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	0.9
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	1.0
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	< 0.5	0.7
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	0.6
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	0.7
Chrysene	0.5	mg/kg	-	< 0.5	< 0.5	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	< 0.5	1.0
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	< 0.5	1.2
Total PAH*	0.5	mg/kg	-	< 0.5	< 0.5	6.7
2-Fluorobiphenyl (surr.)	1	%	-	63	116	75
p-Terphenyl-d14 (surr.)	1	%	-	63	124	136
Heavy Metals						
Arsenic	2	mg/kg	-	< 2	3.5	< 2
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	8.7	8.4	27
Copper	5	mg/kg	-	9.4	41	66
Lead	5	mg/kg	-	24	54	47
Mercury	0.1	mg/kg	-	< 0.1	0.1	0.2
Nickel	5	mg/kg	-	8.9	14	22
Zinc	5	mg/kg	-	16	110	38
Sample Properties						
% Moisture	1	%	-	18	7.4	17

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 13, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 12, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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WA 6106
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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231626
Phone: 08 7223 5400
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC310	Jun 11, 2025		Water	M25-Jn0032601			X	
2	QC510	Jun 11, 2025		Soil	M25-Jn0032602				X
3	QC410	Jun 11, 2025		Water	M25-Jn0032603	X			
4	MW186_3.0	Jun 10, 2025		Soil	M25-Jn0032959		X	X	
5	MW186_3.5	Jun 10, 2025		Soil	M25-Jn0032960		X	X	
6	SV36_2.0	Jun 10, 2025		Soil	M25-Jn0032961		X	X	
7	QC309	Jun 10, 2025		Water	M25-Jn0032962			X	
8	QC509	Jun 10, 2025		Soil	M25-Jn0032963				X
9	SV33_2.0	Jun 11, 2025		Soil	M25-Jn0032964		X	X	
10	MW187_0.2	Jun 11, 2025		Soil	M25-Jn0032965		X	X	
11	MW187_2.0	Jun 11, 2025		Soil	M25-Jn0032966		X	X	
12	MW186_0.2	Jun 10, 2025		Soil	M25-Jn0032967	X			
13	MW186_0.5	Jun 10, 2025		Soil	M25-Jn0032968	X			
14	MW186_1.0	Jun 10, 2025		Soil	M25-Jn0032969	X			

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	MW186_2.0	Jun 10, 2025		Soil	M25-Jn0032970	X			
16	QC105	Jun 10, 2025		Soil	M25-Jn0032971	X			
17	QC205	Jun 10, 2025		Soil	M25-Jn0032972	X			
18	SV36_0.2	Jun 10, 2025		Soil	M25-Jn0032973	X			
19	SV36_0.5	Jun 10, 2025		Soil	M25-Jn0032974	X			
20	SV36_1.0	Jun 10, 2025		Soil	M25-Jn0032975	X			
21	QC409	Jun 10, 2025		Water	M25-Jn0032976	X			
22	SV33_0.2	Jun 11, 2025		Soil	M25-Jn0032977	X			
23	SV33_0.5	Jun 11, 2025		Soil	M25-Jn0032978	X			
24	SV33_1.0	Jun 11, 2025		Soil	M25-Jn0032979	X			
25	MW187_0.5	Jun 11, 2025		Soil	M25-Jn0032980	X			
26	MW187_1.0	Jun 11, 2025		Soil	M25-Jn0032981	X			
27	MW187_3.0	Jun 11, 2025		Soil	M25-Jn0032982	X			
28	SV33_2.5	Jun 11, 2025		Soil	M25-Jn0032983	X			
Test Counts						18	6	8	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	101			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
Naphthalene	%	72			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
BTEX							
Benzene	%	77			70-130	Pass	
Toluene	%	70			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	90			70-130	Pass	
TRH >C10-C16	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	88			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	%	98			70-130	Pass	
Benzo(g.h.i)perylene	%	74			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	
Chrysene	%	83			70-130	Pass	
Dibenz(a.h)anthracene	%	72			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	81			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	78			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	108			80-120	Pass	
Cadmium	%	106			80-120	Pass	
Chromium	%	106			80-120	Pass	
Copper	%	114			80-120	Pass	
Lead	%	107			80-120	Pass	
Mercury	%	100			80-120	Pass	
Nickel	%	111			80-120	Pass	
Zinc	%	109			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0034219	NCP	%	85			70-130	Pass	
TRH C6-C10	M25-Jn0034219	NCP	%	91			70-130	Pass	
Naphthalene	M25-Jn0034219	NCP	%	70			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0034219	NCP	%	79			70-130	Pass	
Toluene	M25-Jn0034219	NCP	%	88			70-130	Pass	
Ethylbenzene	M25-Jn0034219	NCP	%	86			70-130	Pass	
m&p-Xylenes	M25-Jn0034219	NCP	%	100			70-130	Pass	
o-Xylene	M25-Jn0034219	NCP	%	95			70-130	Pass	
Xylenes - Total*	M25-Jn0034219	NCP	%	98			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0033329	NCP	%	122			70-130	Pass	
Acenaphthylene	M25-Jn0033329	NCP	%	92			70-130	Pass	
Anthracene	M25-Jn0033329	NCP	%	117			70-130	Pass	
Benz(a)anthracene	M25-Jn0033329	NCP	%	114			70-130	Pass	
Benzo(a)pyrene	M25-Jn0033329	NCP	%	113			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0033329	NCP	%	92			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0033329	NCP	%	99			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0033329	NCP	%	93			70-130	Pass	
Chrysene	M25-Jn0033329	NCP	%	113			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0033329	NCP	%	101			70-130	Pass	
Fluoranthene	M25-Jn0033329	NCP	%	116			70-130	Pass	
Fluorene	M25-Jn0033329	NCP	%	117			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0033329	NCP	%	98			70-130	Pass	
Naphthalene	M25-Jn0033329	NCP	%	122			70-130	Pass	
Phenanthrene	M25-Jn0033329	NCP	%	127			70-130	Pass	
Pyrene	M25-Jn0033329	NCP	%	115			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0033612	NCP	%	102			75-125	Pass	
Cadmium	M25-Jn0033612	NCP	%	107			75-125	Pass	
Chromium	M25-Jn0033612	NCP	%	106			75-125	Pass	
Copper	M25-Jn0019283	NCP	%	95			75-125	Pass	
Lead	M25-Jn0033929	NCP	%	88			75-125	Pass	
Mercury	M25-Jn0033612	NCP	%	100			75-125	Pass	
Nickel	M25-Jn0033612	NCP	%	106			75-125	Pass	
Zinc	M25-Jn0019283	NCP	%	122			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M25-Jn0032965	CP	%	80			70-130	Pass	
TRH >C10-C16	M25-Jn0032965	CP	%	79			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0031359	NCP	mg/kg	4.8	4.3	10	30%	Pass	
Cadmium	M25-Jn0031359	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0031359	NCP	mg/kg	42	36	15	30%	Pass	
Copper	M25-Jn0031359	NCP	mg/kg	16	13	19	30%	Pass	
Lead	M25-Jn0031359	NCP	mg/kg	23	21	10	30%	Pass	
Mercury	M25-Jn0031359	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0031359	NCP	mg/kg	31	28	13	30%	Pass	
Zinc	M25-Jn0031359	NCP	mg/kg	31	26	18	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0032964	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-Jn0032964	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M25-Jn0032964	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M25-Jn0032964	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M25-Jn0032964	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M25-Jn0032964	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Jn0032964	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Jn0032965	CP	%	7.4	7.8	6.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1231626-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 12, 2025

Client Sample ID			**QC310**	**QC309**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M25-Jn0032601**	**M25-Jn0032962**
Date Sampled			**Jun 11, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	102	101
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001

Client Sample ID			QC310	QC309
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0032601	M25-Jn0032962
Date Sampled			Jun 11, 2025	Jun 10, 2025
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	61	52
p-Terphenyl-d14 (surr.)	1	%	70	62
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 13, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 13, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 13, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 13, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 13, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 13, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Eurofins Environment Testing Australia Pty Ltd
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231626
Phone: 08 7223 5400
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC310	Jun 11, 2025		Water	M25-Jn0032601			X	
2	QC510	Jun 11, 2025		Soil	M25-Jn0032602				X
3	QC410	Jun 11, 2025		Water	M25-Jn0032603	X			
4	MW186_3.0	Jun 10, 2025		Soil	M25-Jn0032959		X	X	
5	MW186_3.5	Jun 10, 2025		Soil	M25-Jn0032960		X	X	
6	SV36_2.0	Jun 10, 2025		Soil	M25-Jn0032961		X	X	
7	QC309	Jun 10, 2025		Water	M25-Jn0032962			X	
8	QC509	Jun 10, 2025		Soil	M25-Jn0032963				X
9	SV33_2.0	Jun 11, 2025		Soil	M25-Jn0032964		X	X	
10	MW187_0.2	Jun 11, 2025		Soil	M25-Jn0032965		X	X	
11	MW187_2.0	Jun 11, 2025		Soil	M25-Jn0032966		X	X	
12	MW186_0.2	Jun 10, 2025		Soil	M25-Jn0032967	X			
13	MW186_0.5	Jun 10, 2025		Soil	M25-Jn0032968	X			
14	MW186_1.0	Jun 10, 2025		Soil	M25-Jn0032969	X			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231626
Phone: 08 7223 5400
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
15	MW186_2.0	Jun 10, 2025		Soil	M25-Jn0032970	X			
16	QC105	Jun 10, 2025		Soil	M25-Jn0032971	X			
17	QC205	Jun 10, 2025		Soil	M25-Jn0032972	X			
18	SV36_0.2	Jun 10, 2025		Soil	M25-Jn0032973	X			
19	SV36_0.5	Jun 10, 2025		Soil	M25-Jn0032974	X			
20	SV36_1.0	Jun 10, 2025		Soil	M25-Jn0032975	X			
21	QC409	Jun 10, 2025		Water	M25-Jn0032976	X			
22	SV33_0.2	Jun 11, 2025		Soil	M25-Jn0032977	X			
23	SV33_0.5	Jun 11, 2025		Soil	M25-Jn0032978	X			
24	SV33_1.0	Jun 11, 2025		Soil	M25-Jn0032979	X			
25	MW187_0.5	Jun 11, 2025		Soil	M25-Jn0032980	X			
26	MW187_1.0	Jun 11, 2025		Soil	M25-Jn0032981	X			
27	MW187_3.0	Jun 11, 2025		Soil	M25-Jn0032982	X			
28	SV33_2.5	Jun 11, 2025		Soil	M25-Jn0032983	X			
Test Counts						18	6	8	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	86			70-130	Pass	
TRH C10-C14	%	77			70-130	Pass	
TRH C6-C10	%	89			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	76			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	80			70-130	Pass	
Toluene	%	84			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	89			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	99			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	95			80-120	Pass	
Copper	%	92			80-120	Pass	
Lead	%	103			80-120	Pass	
Mercury	%	87			80-120	Pass	
Nickel	%	94			80-120	Pass	
Zinc	%	100			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	72			70-130	Pass	
Acenaphthylene	%	72			70-130	Pass	
Anthracene	%	74			70-130	Pass	
Benz(a)anthracene	%	74			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	74			70-130	Pass	
Benzo(g.h.i)perylene	%	74			70-130	Pass	
Benzo(k)fluoranthene	%	77			70-130	Pass	
Chrysene	%	87			70-130	Pass	
Dibenz(a.h)anthracene	%	73			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	73			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	72			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0035774	NCP	%	83			70-130	Pass	
TRH C10-C14	M25-Jn0036660	NCP	%	76			70-130	Pass	
TRH C6-C10	M25-Jn0035774	NCP	%	83			70-130	Pass	
TRH >C10-C16	M25-Jn0036660	NCP	%	75			70-130	Pass	
Naphthalene	M25-Jn0035774	NCP	%	84			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0035774	NCP	%	75			70-130	Pass	
Toluene	M25-Jn0035774	NCP	%	73			70-130	Pass	
Ethylbenzene	M25-Jn0035774	NCP	%	88			70-130	Pass	
m&p-Xylenes	M25-Jn0035774	NCP	%	76			70-130	Pass	
o-Xylene	M25-Jn0035774	NCP	%	96			70-130	Pass	
Xylenes - Total*	M25-Jn0035774	NCP	%	83			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0027618	NCP	%	78			70-130	Pass	
Acenaphthylene	M25-Jn0027618	NCP	%	81			70-130	Pass	
Anthracene	M25-Jn0027618	NCP	%	83			70-130	Pass	
Benz(a)anthracene	M25-Jn0027618	NCP	%	97			70-130	Pass	
Benzo(a)pyrene	M25-Jn0027618	NCP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0027618	NCP	%	80			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0027618	NCP	%	84			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0027618	NCP	%	97			70-130	Pass	
Chrysene	M25-Jn0027618	NCP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0027618	NCP	%	79			70-130	Pass	
Fluoranthene	M25-Jn0027618	NCP	%	99			70-130	Pass	
Fluorene	M25-Jn0027618	NCP	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0027618	NCP	%	84			70-130	Pass	
Naphthalene	M25-Jn0027618	NCP	%	101			70-130	Pass	
Phenanthrene	M25-Jn0027618	NCP	%	94			70-130	Pass	
Pyrene	M25-Jn0027618	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0033657	NCP	%	94			75-125	Pass	
Cadmium	M25-Jn0033657	NCP	%	95			75-125	Pass	
Chromium	M25-Jn0033657	NCP	%	93			75-125	Pass	
Copper	M25-Jn0033657	NCP	%	93			75-125	Pass	
Lead	M25-Jn0033657	NCP	%	93			75-125	Pass	
Mercury	M25-Jn0033657	NCP	%	91			75-125	Pass	
Nickel	M25-Jn0033657	NCP	%	93			75-125	Pass	
Zinc	M25-Jn0033657	NCP	%	93			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0035776	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0032319	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0032319	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0032319	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0035776	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0032319	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0035776	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0032319	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0032319	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0035776	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0035776	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0035776	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0035776	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0035776	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0035776	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(b&j)fluoranthene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0032319	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0033657	NCP	mg/L	0.007	0.007	9.0	30%	Pass	
Cadmium	M25-Jn0033657	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0033657	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M25-Jn0033657	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M25-Jn0033657	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0033657	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0033657	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M25-Jn0033657	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street	**LABORATORY:** Eurofins		
Melbourne, VIC 3008	**Results email:**		
PHONE NO: 9663 1234	robert.crowe@aecom.com		
MOBILE NO: 0427 621 002	richard.bowers@aecom.com		
PROJECT ID: 60693007 / 12	**Quote Number:**	250682AECV	
Project Manager: Robert Crowe	**Project Name:**	Macquarie Point	
SAMPLER: RB / EM / TG / LL	**Data Format:**	Excel and PDF	

TURNAROUND REQUIREMENTS (mark Due date or 'X')

Standard	X	Non Stand (Due date):	

COC:	1	2	3	4	5	6	7	8
OF:	1	2	3	4	5	6	7	8

RELINQUISHED BY: Taya Gestal
DATE/TIME: 13/06/2025

RECEIVED BY: Shendan Eurofins Hobart 13/6/2025 @ 4:55pm
DATE/TIME:

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen icebricks present upon receipt? Yes No N/A
Sample Temperature on Receipt 5.7°C

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY:
DATE/TIME:

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

SOIL

SAMPLE CONTAINERS

General Soil Suite & Gasworks Soil Suite (combined)	PFAS	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + PFAS	Soil Rinsate / Field Blank: General Suite + Gasworks Suite	Soil Trip Blank	TOTAL BOTTLES
1	1	1	4	5	8	1	

ANALYSIS REQUEST

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S/W)	1x 250ml Glass Soil Jar	1x PFAS soil jar	1x 60g PASS Sample Bag	2x 200mL Semi-Volatiles Amber 2x 40mL Vials 1x 60mL Metals 1 X 500mL PFAS bottle	2x 200mL Semi-Volatiles Amber 4x 40mL Vials 2x 60mL Cyanide/Chlor- 1x 60mL Preserved Inorganics	1x 200mL Semi-Volatiles Amber 4x 40mL Vials 2x 60mL Metals 1x 60mL Cyanide/Chlor- 1x 60mL Preserved Inorganics	1x 40mL Soil Vial	TOTAL BOTTLES	General Soil Suite TRH BTEX/N PAH 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite Cyanide (Total, Free & WAD) Ammonia as N Phenols (Speciated)	PFAS PFAS, Full suite - 30 compounds, trace level	PASS Suite pH Field Screen (NATA)	Chromium Reducible Sulphur (CRS)	SPOCAS	Rinsate & Field Blank General Suite TRH BTEX/N PAH 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Rinsate & Field Blank General Suite + Gasworks Suite TRH BTEX/N PAH 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg) Cyanide (Total, Free & WAD) Ammonia as N Phenols (Speciated)	Trip Blank TRH/BTEX/N BTEX/N	HOLD	COMMENTS Additional Information	Comments on likely contamination, dilutions, samples for QC analysis, specific preparation etc
✓	SV44_0.2	12/6/25	S	2							2									X	Additional soil collected ✓	
✓	SV44_0.5	12/6/25	S	2							2									X	Additional soil collected ✓	
✓	SV44_1.0	12/6/25	S	2							2									X	Additional soil collected ✓	
✓	SV44_2.0	12/6/25	S	2							2	X	X								Additional soil collected ✓	
✓	QC312	12/6/25	W						1		8							X				
✓	QC412	12/6/25	W						1		8									X		
✓	QC512	12/6/25	S							1	1								X			
✓	SV43_0.2	12/6/25	S	1							1									X		
✓	SV43_0.5	12/6/25	S	1							1									X		
✓	SV43_1.0	12/6/25	S	1							1									X		
✓	SV43_2.0	12/6/25	S	1							1	X	X									
✓	SV42_0.2	13/6/25	S	1							1									X		
✓	SV42_0.5	13/6/25	S	1							1									X		
✓	SV42_1.0	13/6/25	S	1							1									X		
✓	SV42_2.0	13/6/25	S	1							1	X	X									
✓	QC106	13/6/25	S	1							1	X	X									
✓	QC206	13/6/25	S	1							1	X	X								Forward to ALS for Analysis	
✓	SV41_0.5	13/6/25	S	1							1									X		
✓	SV41_0.8	13/6/25	S	1							1									X		
✓	SV41_1.0	13/6/25	S	1							1	X	X									
✓	SV40_0.2	13/6/25	S	1							1									X		
✓	SV40_0.5	13/6/25	S	1							1									X		
✓	SV40_1.0	13/6/25	S	1							1	X	X									
✓	QC313	13/6/25	W						1		8							X				
✓	QC413	13/6/25	W						1		8									X		
✓	QC513	13/6/25	S							1	1								X			
✓	SV39_0.2	13/6/25	S	1							1									X		

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✓	SV39_0.5	13/6/25		S	1							1										X			
✓	SV39_1.0	13/6/25		S	1							1	X	X											
✓	MW198_0.2	13/6/25		S	1							1	X	X											
✓	MW198_0.5	13/6/25		S	1							1										X			
✓	MW198_1.0	13/6/25		S	1							1										X			
✓	MW198_2.0	13/6/25		S	1							1	X	X											
✓	MW198_3.0	13/6/25		S	1							1										X			

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Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 13, 2025 4:55 PM
Eurofins reference	1232541

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232541
Phone: 08 7223 5400
Fax:

Received: Jun 13, 2025 4:55 PM
Due: Jun 20, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X		X	X	X
External Laboratory						X			

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	SV44_2.0	Jun 12, 2025		Soil	M25-Jn0039072	X	X	X	X			X	X	
2	QC312	Jun 12, 2025		Water	M25-Jn0039073	X	X	X	X				X	
3	QC512	Jun 12, 2025		Soil	M25-Jn0039074									X
4	SV43_2.0	Jun 12, 2025		Soil	M25-Jn0039075	X	X	X	X			X	X	
5	SV42_2.0	Jun 13, 2025		Soil	M25-Jn0039076	X	X	X	X			X	X	
6	QC106	Jun 13, 2025		Soil	M25-Jn0039077	X	X	X	X			X	X	
7	SV41_1.0	Jun 13, 2025		Soil	M25-Jn0039078	X	X	X	X			X	X	
8	SV40_1.0	Jun 13, 2025		Soil	M25-Jn0039079	X	X	X	X			X	X	
9	QC313	Jun 13, 2025		Water	M25-Jn0039080	X	X	X	X				X	
10	QC513	Jun 13, 2025		Soil	M25-Jn0039081									X
11	SV39_1.0	Jun 13, 2025		Soil	M25-Jn0039082	X	X	X	X			X	X	
12	MW198_0.2	Jun 13, 2025		Soil	M25-Jn0039083	X	X	X	X			X	X	
13	MW198_2.0	Jun 13, 2025		Soil	M25-Jn0039084	X	X	X	X			X	X	
14	SV44_0.2	Jun 12, 2025		Soil	M25-Jn0039085					X				

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232541
Phone: 08 7223 5400
Fax:

Received: Jun 13, 2025 4:55 PM
Due: Jun 20, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X		X	X	X
15	SV44_0.5	Jun 12, 2025		Soil	M25-Jn0039086					X				
16	SV44_1.0	Jun 12, 2025		Soil	M25-Jn0039087					X				
17	QC412	Jun 12, 2025		Water	M25-Jn0039088					X				
18	SV43_0.2	Jun 12, 2025		Soil	M25-Jn0039089					X				
19	SV43_0.5	Jun 12, 2025		Soil	M25-Jn0039090					X				
20	SV43_1.0	Jun 12, 2025		Soil	M25-Jn0039091					X				
21	SV42_0.2	Jun 12, 2025		Soil	M25-Jn0039092					X				
22	SV42_0.5	Jun 12, 2025		Soil	M25-Jn0039093					X				
23	SV42_1.0	Jun 12, 2025		Soil	M25-Jn0039094					X				
24	SV41_0.5	Jun 13, 2025		Soil	M25-Jn0039095					X				
25	SV41_0.8	Jun 13, 2025		Soil	M25-Jn0039096					X				
26	SV40_0.2	Jun 13, 2025		Soil	M25-Jn0039097					X				
27	SV40_0.5	Jun 13, 2025		Soil	M25-Jn0039098					X				
28	QC413	Jun 13, 2025		Water	M25-Jn0039099					X				
29	SV39_0.2	Jun 13, 2025		Soil	M25-Jn0039100					X				
30	SV39_0.5	Jun 13, 2025		Soil	M25-Jn0039101					X				
31	MW198_0.5	Jun 13, 2025		Soil	M25-Jn0039102					X				

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Eurofins Environment Testing Australia Pty Ltd
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232541
Phone: 08 7223 5400
Fax:

Received: Jun 13, 2025 4:55 PM
Due: Jun 20, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X		X	X	X
32	MW198_1.0	Jun 13, 2025		Soil	M25-Jn0039103					X				
33	MW198_3.0	Jun 13, 2025		Soil	M25-Jn0039104					X				
34	QC206	Jun 13, 2025		Soil	M25-Jn0039105						X			
Test Counts						11	11	11	11	20	1	9	11	2

Aecom Austraila Pty Ltd
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1232541-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 13, 2025

Client Sample ID			**SV44_2.0**	**QC512**	[R16]**SV43_2.0**	**SV42_2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0039072**	**M25-Jn0039074**	**M25-Jn0039075**	**M25-Jn0039076**
Date Sampled			**Jun 12, 2025**	**Jun 12, 2025**	**Jun 12, 2025**	**Jun 13, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	340	< 20	< 4000	< 20
TRH C10-C14	20	mg/kg	7800	-	5100	180
TRH C15-C28	50	mg/kg	18000	-	7700	950
TRH C29-C36	50	mg/kg	7900	-	1600	280
TRH C10-C36 (Total)	50	mg/kg	33700	-	14400	1410
TRH C6-C10	20	mg/kg	530	< 20	< 4000	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	330	< 20	< 4000	< 20
TRH >C10-C16	50	mg/kg	9400	-	5600	320
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	8400	-	4500	315.3
Naphthalene[N02]	0.5	mg/kg	1000	< 0.5	1100	4.7
TRH >C16-C34	100	mg/kg	21000	-	7600	980
TRH >C34-C40	100	mg/kg	5900	-	900	210
TRH >C10-C40 (total)*	100	mg/kg	36300	-	14100	1510
BTEX						
Benzene	0.1	mg/kg	38	< 0.1	< 20	< 0.1
Toluene	0.1	mg/kg	70	< 0.1	< 20	< 0.1
Ethylbenzene	0.1	mg/kg	9.3	< 0.1	< 20	< 0.1
m&p-Xylenes	0.2	mg/kg	60	< 0.2	150	< 0.2
o-Xylene	0.1	mg/kg	27	< 0.1	62	< 0.1
Xylenes - Total*	0.3	mg/kg	88	< 0.3	210	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99	128	50	73
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	62	-	74	2.2
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	62	-	74	2.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	62	-	74	2.7
Acenaphthene	0.5	mg/kg	38	-	23	< 0.5
Acenaphthylene	0.5	mg/kg	190	-	5.7	2.1
Anthracene	0.5	mg/kg	180	-	210	0.7
Benz(a)anthracene	0.5	mg/kg	76	-	76	1.8
Benzo(a)pyrene	0.5	mg/kg	42	-	53	1.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	30	-	34	1.4
Benzo(g.h.i)perylene	0.5	mg/kg	19	-	22	0.7
Benzo(k)fluoranthene	0.5	mg/kg	30	-	35	1.2
Chrysene	0.5	mg/kg	88	-	72	1.6
Dibenz(a.h)anthracene	0.5	mg/kg	3.6	-	3.3	< 0.5

Client Sample ID			SV44_2.0	QC512	[R16]SV43_2.0	SV42_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0039072	M25-Jn0039074	M25-Jn0039075	M25-Jn0039076
Date Sampled			Jun 12, 2025	Jun 12, 2025	Jun 12, 2025	Jun 13, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	240	-	290	5.7
Fluorene	0.5	mg/kg	160	-	190	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	19	-	20	0.5
Naphthalene	0.5	mg/kg	1100	-	1900	2.6
Phenanthrene	0.5	mg/kg	400	-	460	1.5
Pyrene	0.5	mg/kg	220	-	260	7.2
Total PAH*	0.5	mg/kg	2800	-	3700	29
2-Fluorobiphenyl (surr.)	1	%	81	-	126	72
p-Terphenyl-d14 (surr.)	1	%	87	-	106	90
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	220	-	7.4	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	90	-	2.3	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	190	-	1.8	< 0.4
Total cresols*	0.5	mg/kg	280	-	4.1	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	< 5	< 5
Dinoseb	20	mg/kg	< 20	-	< 20	< 20
Phenol	0.5	mg/kg	160	-	10.0	< 0.5
Phenol-d6 (surr.)	1	%	127	-	136	148
Total Non-Halogenated Phenol*	20	mg/kg	660	-	22	< 20
Ammonia (as N)	5	mg/kg	82	-	300	5.1
Cyanide (free)	5	mg/kg	< 5	-	5.6	< 5
Cyanide (total)	5	mg/kg	< 5	-	480	< 5
Cyanide (weak acid dissoc.)	5	mg/kg	< 5	-	10	< 5
Heavy Metals						
Arsenic	2	mg/kg	3.2	-	4.3	< 2
Cadmium	0.4	mg/kg	0.7	-	< 0.4	< 0.4
Chromium	5	mg/kg	19	-	46	13
Copper	5	mg/kg	50	-	20	61
Lead	5	mg/kg	72	-	12	5.9
Mercury	0.1	mg/kg	0.6	-	< 0.1	< 0.1
Nickel	5	mg/kg	31	-	53	23
Zinc	5	mg/kg	130	-	31	36
Sample Properties						
% Moisture	1	%	21	-	23	20

Client Sample ID			QC106	SV41_1.0	SV40_1.0	QC513
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0039077	M25-Jn0039078	M25-Jn0039079	M25-Jn0039081
Date Sampled			Jun 13, 2025	Jun 13, 2025	Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	33	< 20	38	-
TRH C15-C28	50	mg/kg	220	< 50	610	-
TRH C29-C36	50	mg/kg	66	< 50	180	-
TRH C10-C36 (Total)	50	mg/kg	319	< 50	828	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	64	< 50	67	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	64	< 50	65.3	-
Naphthalene[N02]	0.5	mg/kg	< 0.5	7.1	1.7	< 0.5
TRH >C16-C34	100	mg/kg	240	< 100	710	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	304	< 100	777	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	0.3	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	0.5	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	0.7	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	0.4	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	0.2	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	0.6	< 0.3
4-Bromofluorobenzene (surr.)	1	%	56	80	96	134
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	9.0	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	9.0	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	9.0	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	1.2	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	3.3	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	8.2	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	6.0	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	5.3	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	2.1	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	5.3	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	7.9	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	0.8	-
Fluoranthene	0.5	mg/kg	0.7	< 0.5	18	-
Fluorene	0.5	mg/kg	< 0.5	0.6	1.0	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	2.0	-
Naphthalene	0.5	mg/kg	< 0.5	3.0	2.5	-
Phenanthrene	0.5	mg/kg	< 0.5	0.9	8.0	-
Pyrene	0.5	mg/kg	1.3	< 0.5	14	-
Total PAH*	0.5	mg/kg	2.0	4.5	86	-
2-Fluorobiphenyl (surr.)	1	%	63	51	68	-
p-Terphenyl-d14 (surr.)	1	%	121	57	66	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-

Client Sample ID			QC106	SV41_1.0	SV40_1.0	QC513
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0039077	M25-Jn0039078	M25-Jn0039079	M25-Jn0039081
Date Sampled			Jun 13, 2025	Jun 13, 2025	Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	-
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	-
Dinoseb	20	mg/kg	< 20	< 20	< 20	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	0.5	-
Phenol-d6 (surr.)	1	%	144	130	53	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	-
Ammonia (as N)	5	mg/kg	< 5	800	58	-
Cyanide (free)	5	mg/kg	< 5	< 5	< 5	-
Cyanide (total)	5	mg/kg	< 5	< 5	110	-
Cyanide (weak acid dissoc.)	5	mg/kg	< 5	< 5	< 5	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	12	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	15	17	49	-
Copper	5	mg/kg	71	79	7.2	-
Lead	5	mg/kg	5.0	< 5	8.8	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	28	23	20	-
Zinc	5	mg/kg	41	28	11	-
Sample Properties						
% Moisture	1	%	20	15	18	-

Client Sample ID			SV39_1.0	MW198_0.2	MW198_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0039082	M25-Jn0039083	M25-Jn0039084
Date Sampled			Jun 13, 2025	Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	210	< 20
TRH C15-C28	50	mg/kg	270	1700	98
TRH C29-C36	50	mg/kg	96	760	< 50
TRH C10-C36 (Total)	50	mg/kg	366	2670	98

Client Sample ID			SV39_1.0	MW198_0.2	MW198_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0039082	M25-Jn0039083	M25-Jn0039084
Date Sampled			Jun 13, 2025	Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	340	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	284	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	56	5.0
TRH >C16-C34	100	mg/kg	330	2100	110
TRH >C34-C40	100	mg/kg	< 100	350	< 100
TRH >C10-C40 (total)*	100	mg/kg	330	2790	110
BTEX					
Benzene	0.1	mg/kg	< 0.1	0.9	0.1
Toluene	0.1	mg/kg	< 0.1	0.9	0.2
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	0.7	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	0.3	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	1.0	< 0.3
4-Bromofluorobenzene (surr.)	1	%	119	101	100
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	28	1.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	28	1.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	28	1.6
Acenaphthene	0.5	mg/kg	< 0.5	1.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	12	1.9
Anthracene	0.5	mg/kg	< 0.5	18	2.6
Benz(a)anthracene	0.5	mg/kg	< 0.5	24	1.8
Benzo(a)pyrene	0.5	mg/kg	< 0.5	19	0.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	13	0.7
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	9.2	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	13	0.7
Chrysene	0.5	mg/kg	< 0.5	24	1.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	2.7	< 0.5
Fluoranthene	0.5	mg/kg	1.1	51	4.1
Fluorene	0.5	mg/kg	< 0.5	12	2.0
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	6.0	< 0.5
Naphthalene	0.5	mg/kg	0.6	32	6.7
Phenanthrene	0.5	mg/kg	0.6	51	7.0
Pyrene	0.5	mg/kg	1.4	62	4.2
Total PAH*	0.5	mg/kg	3.7	350	34
2-Fluorobiphenyl (surr.)	1	%	149	67	55
p-Terphenyl-d14 (surr.)	1	%	55	70	107
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1

Client Sample ID			SV39_1.0	MW198_0.2	MW198_2.0
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0039082	M25-Jn0039083	M25-Jn0039084
Date Sampled			Jun 13, 2025	Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit			
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	0.4	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	0.9	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	1.3	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	1.7	0.6
Phenol-d6 (surr.)	1	%	126	149	149
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20
Ammonia (as N)	5	mg/kg	23	< 5	36
Cyanide (free)	5	mg/kg	17	< 5	< 5
Cyanide (total)	5	mg/kg	300	< 5	< 5
Cyanide (weak acid dissoc.)	5	mg/kg	11	< 5	< 5
Heavy Metals					
Arsenic	2	mg/kg	2.7	2.7	< 2
Cadmium	0.4	mg/kg	< 0.4	0.8	< 0.4
Chromium	5	mg/kg	20	23	< 5
Copper	5	mg/kg	20	74	14
Lead	5	mg/kg	14	150	33
Mercury	0.1	mg/kg	< 0.1	0.5	0.1
Nickel	5	mg/kg	35	27	5.7
Zinc	5	mg/kg	9.1	220	9.8
Sample Properties					
% Moisture	1	%	28	11	19

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Ammonia (as N)	Melbourne	Jun 17, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (free)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
% Moisture	Melbourne	Jun 16, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232541
Phone: 0422 692 187
Fax:

Received: Jun 13, 2025 4:55 PM
Due: Jun 20, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X		X	X	X
External Laboratory						X			

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	SV44_2.0	Jun 12, 2025		Soil	M25-Jn0039072	X	X	X	X			X	X	
2	QC312	Jun 12, 2025		Water	M25-Jn0039073	X	X	X	X				X	
3	QC512	Jun 12, 2025		Soil	M25-Jn0039074									X
4	SV43_2.0	Jun 12, 2025		Soil	M25-Jn0039075	X	X	X	X			X	X	
5	SV42_2.0	Jun 13, 2025		Soil	M25-Jn0039076	X	X	X	X			X	X	
6	QC106	Jun 13, 2025		Soil	M25-Jn0039077	X	X	X	X			X	X	
7	SV41_1.0	Jun 13, 2025		Soil	M25-Jn0039078	X	X	X	X			X	X	
8	SV40_1.0	Jun 13, 2025		Soil	M25-Jn0039079	X	X	X	X			X	X	
9	QC313	Jun 13, 2025		Water	M25-Jn0039080	X	X	X	X				X	
10	QC513	Jun 13, 2025		Soil	M25-Jn0039081									X
11	SV39_1.0	Jun 13, 2025		Soil	M25-Jn0039082	X	X	X	X			X	X	
12	MW198_0.2	Jun 13, 2025		Soil	M25-Jn0039083	X	X	X	X			X	X	
13	MW198_2.0	Jun 13, 2025		Soil	M25-Jn0039084	X	X	X	X			X	X	
14	SV44_0.2	Jun 12, 2025		Soil	M25-Jn0039085					X				

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X		X	X	X
15	SV44_0.5	Jun 12, 2025		Soil	M25-Jn0039086					X				
16	SV44_1.0	Jun 12, 2025		Soil	M25-Jn0039087					X				
17	QC412	Jun 12, 2025		Water	M25-Jn0039088					X				
18	SV43_0.2	Jun 12, 2025		Soil	M25-Jn0039089					X				
19	SV43_0.5	Jun 12, 2025		Soil	M25-Jn0039090					X				
20	SV43_1.0	Jun 12, 2025		Soil	M25-Jn0039091					X				
21	SV42_0.2	Jun 12, 2025		Soil	M25-Jn0039092					X				
22	SV42_0.5	Jun 12, 2025		Soil	M25-Jn0039093					X				
23	SV42_1.0	Jun 12, 2025		Soil	M25-Jn0039094					X				
24	SV41_0.5	Jun 13, 2025		Soil	M25-Jn0039095					X				
25	SV41_0.8	Jun 13, 2025		Soil	M25-Jn0039096					X				
26	SV40_0.2	Jun 13, 2025		Soil	M25-Jn0039097					X				
27	SV40_0.5	Jun 13, 2025		Soil	M25-Jn0039098					X				
28	QC413	Jun 13, 2025		Water	M25-Jn0039099					X				
29	SV39_0.2	Jun 13, 2025		Soil	M25-Jn0039100					X				
30	SV39_0.5	Jun 13, 2025		Soil	M25-Jn0039101					X				
31	MW198_0.5	Jun 13, 2025		Soil	M25-Jn0039102					X				

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X		X	X	X
32	MW198_1.0	Jun 13, 2025		Soil	M25-Jn0039103					X				
33	MW198_3.0	Jun 13, 2025		Soil	M25-Jn0039104					X				
34	QC206	Jun 13, 2025		Soil	M25-Jn0039105						X			
Test Counts						11	11	11	11	20	1	9	11	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Ammonia (as N)	mg/kg	< 5			5	Pass	
Cyanide (free)	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Cyanide (free)	mg/kg	< 5			5	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Cyanide (weak acid dissoc.)	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C6-C10	%	108			70-130	Pass	
Naphthalene	%	91			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	72			70-130	Pass	
Toluene	%	122			70-130	Pass	
Ethylbenzene	%	106			70-130	Pass	
m&p-Xylenes	%	100			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	104			70-130	Pass	
Acenaphthylene	%	103			70-130	Pass	
Anthracene	%	108			70-130	Pass	
Benz(a)anthracene	%	114			70-130	Pass	
Benzo(a)pyrene	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	%	113			70-130	Pass	
Benzo(g.h.i)perylene	%	104			70-130	Pass	
Benzo(k)fluoranthene	%	98			70-130	Pass	
Chrysene	%	105			70-130	Pass	
Dibenz(a.h)anthracene	%	80			70-130	Pass	
Fluoranthene	%	126			70-130	Pass	
Fluorene	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	90			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	113			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	116			25-140	Pass	
2.4-Dichlorophenol	%	80			25-140	Pass	
2.4.5-Trichlorophenol	%	52			25-140	Pass	
2.4.6-Trichlorophenol	%	68			25-140	Pass	
2.6-Dichlorophenol	%	107			25-140	Pass	
4-Chloro-3-methylphenol	%	83			25-140	Pass	
Pentachlorophenol	%	68			25-140	Pass	
Tetrachlorophenols - Total	%	91			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	38			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	38			25-140	Pass	
2-Nitrophenol	%	84			25-140	Pass	
2.4-Dimethylphenol	%	95			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methylphenol (o-Cresol)	%	98			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	118			25-140	Pass	
4-Nitrophenol	%	46			25-140	Pass	
Dinoseb	%	34			25-140	Pass	
Phenol	%	99			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	72			70-130	Pass	
Cyanide (free)	%	117			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	85			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	85			80-120	Pass	
Copper	%	93			80-120	Pass	
Lead	%	112			80-120	Pass	
Mercury	%	98			80-120	Pass	
Nickel	%	87			80-120	Pass	
Zinc	%	108			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	91			70-130	Pass	
TRH C10-C14	%	123			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
TRH >C10-C16	%	113			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	86			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	80			70-130	Pass	
Xylenes - Total*	%	79			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	109			70-130	Pass	
TRH C6-C10	%	110			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	125			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	96			70-130	Pass	
TRH C6-C10	%	91			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	82			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	81			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes			%	86			70-130	Pass	
Xylenes - Total*			%	85			70-130	Pass	
LCS - % Recovery									
Cyanide (free)			%	112			70-130	Pass	
Cyanide (total)			%	93			70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons									
TRH C10-C14			%	123			70-130	Pass	
TRH >C10-C16			%	129			70-130	Pass	
LCS - % Recovery									
Cyanide (total)			%	120			70-130	Pass	
Cyanide (weak acid dissoc.)			%	120			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0050363	NCP	%	116			70-130	Pass	
TRH C10-C14	M25-Jn0048448	NCP	%	80			70-130	Pass	
TRH C6-C10	M25-Jn0050363	NCP	%	116			70-130	Pass	
TRH >C10-C16	M25-Jn0048448	NCP	%	76			70-130	Pass	
Naphthalene	M25-Jn0050363	NCP	%	100			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0050363	NCP	%	96			70-130	Pass	
Toluene	M25-Jn0050363	NCP	%	125			70-130	Pass	
Ethylbenzene	M25-Jn0050363	NCP	%	115			70-130	Pass	
m&p-Xylenes	M25-Jn0050363	NCP	%	123			70-130	Pass	
o-Xylene	M25-Jn0050363	NCP	%	124			70-130	Pass	
Xylenes - Total*	M25-Jn0050363	NCP	%	124			70-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0049164	NCP	%	100			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0039077	CP	%	128			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0039077	CP	%	92			75-125	Pass	
Cadmium	M25-Jn0039077	CP	%	92			75-125	Pass	
Chromium	M25-Jn0039077	CP	%	108			75-125	Pass	
Copper	M25-Jn0039077	CP	%	105			75-125	Pass	
Lead	M25-Jn0039077	CP	%	98			75-125	Pass	
Mercury	M25-Jn0039077	CP	%	90			75-125	Pass	
Nickel	M25-Jn0039077	CP	%	104			75-125	Pass	
Zinc	M25-Jn0039077	CP	%	91			75-125	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0039084	CP	%	70			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0045559	NCP	mg/kg	1200	1100	9.0	30%	Pass	
TRH C15-C28	M25-Jn0045559	NCP	mg/kg	2400	2100	13	30%	Pass	
TRH C29-C36	M25-Jn0045559	NCP	mg/kg	150	140	8.0	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0055124	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M25-Jn0045559	NCP	mg/kg	2000	1800	10	30%	Pass	
Naphthalene	M25-Jn0055124	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH >C16-C34	M25-Jn0045559	NCP	mg/kg	1600	1400	13	30%	Pass	
TRH >C34-C40	M25-Jn0045559	NCP	mg/kg	110	< 100	7.0	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0055124	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0055124	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0055124	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0055124	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0055124	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0055124	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0044249	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0044249	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0044249	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M25-Jn0044249	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0044249	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0044249	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0044249	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M25-Jn0044249	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0044249	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0044249	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0044249	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M25-Jn0044249	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M25-Jn0044249	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M25-Jn0044249	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0042485	NCP	mg/kg	77	81	5.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0039077	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M25-Jn0039077	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0039077	CP	mg/kg	15	17	10	30%	Pass	
Copper	M25-Jn0039077	CP	mg/kg	71	66	8.0	30%	Pass	
Lead	M25-Jn0039077	CP	mg/kg	5.0	7.5	40	30%	Fail	Q15
Mercury	M25-Jn0039077	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0039077	CP	mg/kg	28	25	9.0	30%	Pass	
Zinc	M25-Jn0039077	CP	mg/kg	41	31	27	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Jn0039077	CP	%	20	21	6.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.
R16	The LORs have been raised due to the high concentration of one or more analytes

Authorised by:

Savini Suduweli	Analytical Services Manager
Luke Holt	Senior Analyst-Inorganic
Mele Singh	Senior Analyst-Volatile
Caitlin Breeze	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Mele Singh	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Emily Rosenberg	Senior Analyst-Metal
Carroll Lee	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Aecom Austraila Pty Ltd
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1232541-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 13, 2025

Client Sample ID			**QC312**	**QC313**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M25-Jn0039073**	**M25-Jn0039080**
Date Sampled			**Jun 12, 2025**	**Jun 13, 2025**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	108	109
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001

Client Sample ID			QC312	QC313
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0039073	M25-Jn0039080
Date Sampled			Jun 12, 2025	Jun 13, 2025
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	121	131
p-Terphenyl-d14 (surr.)	1	%	143	101
Phenols (Halogenated)				
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	114	107
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	< 0.01	0.02
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Ammonia (as N)	Melbourne	Jun 17, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (free)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232541
Phone: 0422 692 187
Fax:

Received: Jun 13, 2025 4:55 PM
Due: Jun 20, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X		X	X	X
External Laboratory						X			

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	SV44_2.0	Jun 12, 2025		Soil	M25-Jn0039072	X	X	X	X			X	X	
2	QC312	Jun 12, 2025		Water	M25-Jn0039073	X	X	X	X				X	
3	QC512	Jun 12, 2025		Soil	M25-Jn0039074									X
4	SV43_2.0	Jun 12, 2025		Soil	M25-Jn0039075	X	X	X	X			X	X	
5	SV42_2.0	Jun 13, 2025		Soil	M25-Jn0039076	X	X	X	X			X	X	
6	QC106	Jun 13, 2025		Soil	M25-Jn0039077	X	X	X	X			X	X	
7	SV41_1.0	Jun 13, 2025		Soil	M25-Jn0039078	X	X	X	X			X	X	
8	SV40_1.0	Jun 13, 2025		Soil	M25-Jn0039079	X	X	X	X			X	X	
9	QC313	Jun 13, 2025		Water	M25-Jn0039080	X	X	X	X				X	
10	QC513	Jun 13, 2025		Soil	M25-Jn0039081									X
11	SV39_1.0	Jun 13, 2025		Soil	M25-Jn0039082	X	X	X	X			X	X	
12	MW198_0.2	Jun 13, 2025		Soil	M25-Jn0039083	X	X	X	X			X	X	
13	MW198_2.0	Jun 13, 2025		Soil	M25-Jn0039084	X	X	X	X			X	X	
14	SV44_0.2	Jun 12, 2025		Soil	M25-Jn0039085					X				

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Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232541
Phone: 0422 692 187
Fax:

Received: Jun 13, 2025 4:55 PM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X		X	X	X
15	SV44_0.5	Jun 12, 2025		Soil	M25-Jn0039086					X				
16	SV44_1.0	Jun 12, 2025		Soil	M25-Jn0039087					X				
17	QC412	Jun 12, 2025		Water	M25-Jn0039088					X				
18	SV43_0.2	Jun 12, 2025		Soil	M25-Jn0039089					X				
19	SV43_0.5	Jun 12, 2025		Soil	M25-Jn0039090					X				
20	SV43_1.0	Jun 12, 2025		Soil	M25-Jn0039091					X				
21	SV42_0.2	Jun 12, 2025		Soil	M25-Jn0039092					X				
22	SV42_0.5	Jun 12, 2025		Soil	M25-Jn0039093					X				
23	SV42_1.0	Jun 12, 2025		Soil	M25-Jn0039094					X				
24	SV41_0.5	Jun 13, 2025		Soil	M25-Jn0039095					X				
25	SV41_0.8	Jun 13, 2025		Soil	M25-Jn0039096					X				
26	SV40_0.2	Jun 13, 2025		Soil	M25-Jn0039097					X				
27	SV40_0.5	Jun 13, 2025		Soil	M25-Jn0039098					X				
28	QC413	Jun 13, 2025		Water	M25-Jn0039099					X				
29	SV39_0.2	Jun 13, 2025		Soil	M25-Jn0039100					X				
30	SV39_0.5	Jun 13, 2025		Soil	M25-Jn0039101					X				
31	MW198_0.5	Jun 13, 2025		Soil	M25-Jn0039102					X				

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Received: Jun 13, 2025 4:55 PM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Split - External Lab*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X		X	X	X
32	MW198_1.0	Jun 13, 2025		Soil	M25-Jn0039103					X				
33	MW198_3.0	Jun 13, 2025		Soil	M25-Jn0039104					X				
34	QC206	Jun 13, 2025		Soil	M25-Jn0039105						X			
Test Counts						11	11	11	11	20	1	9	11	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
Naphthalene	%	99			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	98			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	95			70-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	33			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	31			25-140	Pass	
2.4-Dinitrophenol	%	33			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	104			70-130	Pass	
Cyanide (total)	%	117			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	100			80-120	Pass	
Cadmium	%	100			80-120	Pass	
Chromium	%	101			80-120	Pass	
Copper	%	100			80-120	Pass	
Lead	%	98			80-120	Pass	
Mercury	%	103			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	101			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	72			70-130	Pass	
TRH >C10-C16	%	75			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	97			70-130	Pass	
Anthracene	%	110			70-130	Pass	
Benz(a)anthracene	%	124			70-130	Pass	
Benzo(a)pyrene	%	112			70-130	Pass	
Benzo(b&j)fluoranthene	%	108			70-130	Pass	
Benzo(g.h.i)perylene	%	76			70-130	Pass	
Benzo(k)fluoranthene	%	116			70-130	Pass	
Chrysene	%	92			70-130	Pass	
Dibenz(a.h)anthracene	%	92			70-130	Pass	
Fluoranthene	%	112			70-130	Pass	
Fluorene	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	98			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	118			70-130	Pass	
Pyrene	%	122			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	102			25-140	Pass	
2.4-Dichlorophenol	%	78			25-140	Pass	
2.4.5-Trichlorophenol	%	61			25-140	Pass	
2.4.6-Trichlorophenol	%	61			25-140	Pass	
2.6-Dichlorophenol	%	106			25-140	Pass	
4-Chloro-3-methylphenol	%	77			25-140	Pass	
Pentachlorophenol	%	41			25-140	Pass	
Tetrachlorophenols - Total	%	83			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	80			25-140	Pass	
2.4-Dimethylphenol	%	96			25-140	Pass	
2-Methylphenol (o-Cresol)	%	72			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	77			25-140	Pass	
Dinoseb	%	33			25-140	Pass	
Phenol	%	42			25-140	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0039073	CP	%	105			70-130	Pass	
TRH C6-C10	M25-Jn0039073	CP	%	104			70-130	Pass	
Naphthalene	M25-Jn0039073	CP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0039073	CP	%	106			70-130	Pass	
Toluene	M25-Jn0039073	CP	%	101			70-130	Pass	
Ethylbenzene	M25-Jn0039073	CP	%	102			70-130	Pass	
m&p-Xylenes	M25-Jn0039073	CP	%	101			70-130	Pass	
o-Xylene	M25-Jn0039073	CP	%	100			70-130	Pass	
Xylenes - Total*	M25-Jn0039073	CP	%	100			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	M25-Jn0027742	NCP	%	108			70-130	Pass	
Acenaphthylene	M25-Jn0027742	NCP	%	108			70-130	Pass	
Anthracene	M25-Jn0027742	NCP	%	116			70-130	Pass	
Benz(a)anthracene	M25-Jn0027742	NCP	%	84			70-130	Pass	
Benzo(a)pyrene	M25-Jn0027742	NCP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0027742	NCP	%	99			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0027742	NCP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0027742	NCP	%	120			70-130	Pass	
Chrysene	M25-Jn0027742	NCP	%	104			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0027742	NCP	%	74			70-130	Pass	
Fluoranthene	M25-Jn0027742	NCP	%	94			70-130	Pass	
Fluorene	M25-Jn0027742	NCP	%	102			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0027742	NCP	%	84			70-130	Pass	
Naphthalene	M25-Jn0027742	NCP	%	90			70-130	Pass	
Phenanthrene	M25-Jn0027742	NCP	%	94			70-130	Pass	
Pyrene	M25-Jn0027742	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0027742	NCP	%	76			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0027742	NCP	%	50			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0027742	NCP	%	43			30-130	Pass	
2.4.6-Trichlorophenol	M25-Jn0027742	NCP	%	100			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0027742	NCP	%	72			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0027742	NCP	%	54			30-130	Pass	
Pentachlorophenol	M25-Jn0027742	NCP	%	52			30-130	Pass	
Tetrachlorophenols - Total	M25-Jn0027742	NCP	%	83			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0027742	NCP	%	38			30-130	Pass	
2-Nitrophenol	M25-Jn0027742	NCP	%	56			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0027742	NCP	%	88			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0027742	NCP	%	58			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0027742	NCP	%	66			30-130	Pass	
Dinoseb	M25-Jn0027742	NCP	%	43			30-130	Pass	
Phenol	M25-Jn0027742	NCP	%	42			30-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	S25-Jn0040204	NCP	%	91			70-130	Pass	
Cyanide (total)	M25-Jn0046829	NCP	%	98			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0045073	NCP	%	97			75-125	Pass	
Cadmium	M25-Jn0045073	NCP	%	100			75-125	Pass	
Chromium	M25-Jn0045073	NCP	%	99			75-125	Pass	
Copper	M25-Jn0045073	NCP	%	98			75-125	Pass	
Lead	M25-Jn0045073	NCP	%	95			75-125	Pass	
Mercury	M25-Jn0045073	NCP	%	107			75-125	Pass	
Nickel	M25-Jn0045073	NCP	%	98			75-125	Pass	
Zinc	M25-Jn0045073	NCP	%	101			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0040589	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0048188	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0048188	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0048188	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0040589	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0048188	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0040589	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0048188	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0048188	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0040589	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0040589	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0040589	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0040589	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0040589	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0040589	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0036926	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0036926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0036926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0036926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0036926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0036926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0036926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0036926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0036926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0036926	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0036926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0036926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0036926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0036926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Methylphenol (o-Cresol)	M25-Jn0036926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0036926	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0036926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0036926	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0036926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0039073	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Cyanide (total)	M25-Jn0039073	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0045073	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M25-Jn0045073	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0045073	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M25-Jn0045073	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M25-Jn0045073	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0045073	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0045073	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M25-Jn0045073	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Savini Suduweli	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mele Singh	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**	**TURNAROUND REQUIREMENTS (mark Due date or 'X')**	**FOR LABORATORY USE ONLY (Circle)**
Level 10, 727 Collins Street		Standard: X — Non Stand (Due date):	Custody Seal Intact? Yes / No / (N/A)
Melbourne, VIC 3008	**Results email:**		Free ice / frozen icebricks present upon receipt? (Yes) / No / N/A
PHONE NO: 9663 1234		COC: 1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 4.5°C
MOBILE NO: 0427 621 002		OP: 1 2 3 4 5 6 7 8	
PROJECT ID: 60693007 / 12	**Quote Number:** 250602AECV	**RELINQUISHED BY:**	**RELINQUISHED BY:** / **RECEIVED BY:** Sheridan Eurofins Hobart 19/6/2025 @ 5:02pm
Project Manager: Robert Crowe	**Project Name:** Macquarie Point	Richard Bowers	DATE/TIME: / DATE/TIME:
SAMPLER: RB / BM / TG / LL	**Data Format:** Esdat and PDF	DATE/TIME: 30/05/2025	

NOTES:

Please use Project ID '60321836_MacPoint'
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

SOIL

				SAMPLE CONTAINERS								ANALYSIS REQUEST											
				General Soil Suite & Gasworks Soil Suite (combined)	PFAS	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + PFAS	Soil Rinsate / Field Blank: General Suite + Gasworks Suite	Soil Trip Blank		General Soil Suite	Gasworks Soil Suite	PFAS	PASS Suite			Rinsate & Field Blank General Suite	Rinsate & Field Blank General Suite + Gasworks Suite	Trip Blank			
				1	1	1	4	5	8	1													
LAB ID	**SAMPLE ID**	**DATE / TIME**		**MATRIX (S, W)**	1 x 250ml Glass Soil Jar	1x PFAS soil jar	1 x 500g PASS Sample Bag	1x 250mL Sterii-Vistabliss Amber 1x 125mL Poly 1x 60mL Metals	1x 250mL Sterii-Vistabliss Amber 1x 60mL Metals 1x 60mL PFAS bottle 1x 500mL PFAS bottle	1x 250mL Sterii-Vistabliss Amber 1x 60mL Metals 1x 60mL Cyanide/Colli- 1x 60mL Preserved Inorganics	1x 40mL Soil Vial	TOTAL BOTTLES	TRH (C6-C36) BTEXN PAH 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Cyanide (Total, Free & WAD) Chromium (VI) & III Phenols (Speciated)	PFAS Full suite - 30 compounds, trace level	pH (Field Screen, NATA)	Chromium Reducible Sulfur (CRS)	SPOCAS	TRH (C6-C36) BTEXN PAH 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	TRH (C6-C36) BTEXN PAH 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg) Cyanide (Total, Free & WAD) Chromium (VI) & III Phenols (Speciated)	TRH(C6-C9) BTEXN	HOLD	**COMMENTS** Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
✓	SV46_0.2	18/6/25		S	X							1										X	Report #1234941 SB 2016	
✓	SV46_0.5	18/6/25		S	X							1										X		
✓	SV46_1.0	18/6/25		S	X							1										X		
✓	SV46_2.0	18/6/25		S	X							1	X	X										
✓	MW197_0.2	18/6/25		S	X							1										X		
✓	MW197_0.5	18/6/25		S	X							1										X		
✓	MW197_1.0	18/6/25		S	X							1										X		
✓	MW197_2.0	18/6/25		S	X							1	X	X										
✓	MW197_2.9	18/6/25		S	X							1										X		
✓	MW197_3.5	18/6/25		S	X							1	X	X										
✓	MW197_4.0	18/6/25		S	X							1										X		
✓	MW196_0.2	19/6/25		S	X							1										X		
✓	MW196_0.5	19/6/25		S	X							1	X	X										
✓	MW196_1.0	19/6/25		S	X							1										X		
✓	MW196_2.0	19/6/25		S	X							1	X	X										
✓	QC317	18/6/25		W						X		8								X				
✓	QC417	18/6/25		W						X		8										X		
✓	QC319	18/6/25		W						X		8								X				
✓	QC419	19/6/25		W						X		8										X		
✓	QC519	19/6/25		W							X	1									X		* QC519 trip blank received as soil not water. SB 19/6	

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Penrose	Mount Wellington	Rolleston	Gate Pa
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 19, 2025 5:02 PM
Eurofins reference	1234941

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.5 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample QC519 trip blank received as soil not water.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234941
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:02 PM
Due: Jun 26, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	SV45_2.0	Jun 18, 2025		Soil	M25-Jn0056436	X	X	X	X		X	X	
2	MW197_2.0	Jun 18, 2025		Soil	M25-Jn0056437	X	X	X	X		X	X	
3	MW197_3.5	Jun 18, 2025		Soil	M25-Jn0056438	X	X	X	X		X	X	
4	MW196_0.5	Jun 19, 2025		Soil	M25-Jn0056439	X	X	X	X		X	X	
5	MW196_2.0	Jun 19, 2025		Soil	M25-Jn0056440	X	X	X	X		X	X	
6	QC317	Jun 19, 2025		Water	M25-Jn0056441	X	X	X	X			X	
7	QC419	Jun 19, 2025		Water	M25-Jn0056442	X	X	X	X			X	
8	QC519	Jun 19, 2025		Soil	M25-Jn0056443								X
9	SV45_0.2	Jun 18, 2025		Soil	M25-Jn0056444					X			
10	SV45_0.5	Jun 18, 2025		Soil	M25-Jn0056445					X			
11	SV45_1.0	Jun 18, 2025		Soil	M25-Jn0056446					X			
12	MW197_0.2	Jun 18, 2025		Soil	M25-Jn0056447					X			
13	MW197_0.5	Jun 18, 2025		Soil	M25-Jn0056448					X			
14	MW197_1.0	Jun 18, 2025		Soil	M25-Jn0056449					X			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234941
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:02 PM
Due: Jun 26, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	MW197_2.9	Jun 18, 2025		Soil	M25-Jn0056450					X			
16	MW197_4.0	Jun 18, 2025		Soil	M25-Jn0056451					X			
17	MW196_0.2	Jun 19, 2025		Soil	M25-Jn0056452					X			
18	MW196_1.0	Jun 19, 2025		Soil	M25-Jn0056453					X			
19	QC417	Jun 19, 2025		Water	M25-Jn0056454					X			
20	QC319	Jun 19, 2025		Water	M25-Jn0056455					X			
Test Counts						7	7	7	7	12	5	7	1

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1234941-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 19, 2025

Client Sample ID			**SV45_2.0**	**MW197_2.0**	**MW197_3.5**	**MW196_0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0056436**	**M25-Jn0056437**	**M25-Jn0056438**	**M25-Jn0056439**
Date Sampled			**Jun 18, 2025**	**Jun 18, 2025**	**Jun 18, 2025**	**Jun 19, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	190
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	900
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	550
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	1640
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	330
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	330
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	1100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	560
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	1990
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	82	78	68	76
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.3
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	2.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	2.8
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3.3
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.1
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.0
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.8
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.4
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			SV45_2.0	MW197_2.0	MW197_3.5	MW196_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0056436	M25-Jn0056437	M25-Jn0056438	M25-Jn0056439
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	0.6	4.2
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.0
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	0.7	2.3
Pyrene	0.5	mg/kg	< 0.5	< 0.5	0.6	3.9
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	1.9	26
2-Fluorobiphenyl (surr.)	1	%	56	50	86	52
p-Terphenyl-d14 (surr.)	1	%	63	118	97	53
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	78	58	52	84
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Ammonia (as N)	5	mg/kg	870	< 5	170	< 5
Cyanide (free)	5	mg/kg	< 5	< 5	< 5	< 5
Cyanide (total)	5	mg/kg	< 5	< 5	< 5	< 5
Cyanide (weak acid dissoc.)	5	mg/kg	< 5	< 5	< 5	< 5
Heavy Metals						
Arsenic	2	mg/kg	< 2	3.3	3.9	6.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	12	42	19
Copper	5	mg/kg	16	100	37	120
Lead	5	mg/kg	14	21	85	200
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.2	0.2
Nickel	5	mg/kg	26	13	28	100
Zinc	5	mg/kg	12	110	64	340
Sample Properties						
% Moisture	1	%	19	10.0	27	21

Client Sample ID			MW196_2.0	QC519
Sample Matrix			Soil	Soil
Eurofins Sample No.			M25-Jn0056440	M25-Jn0056443
Date Sampled			Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	300	-
TRH C15-C28	50	mg/kg	1400	-
TRH C29-C36	50	mg/kg	610	-
TRH C10-C36 (Total)	50	mg/kg	2310	-
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	490	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	488	-
Naphthalene[N02]	0.5	mg/kg	2.0	< 0.5
TRH >C16-C34	100	mg/kg	1600	-
TRH >C34-C40	100	mg/kg	520	-
TRH >C10-C40 (total)*	100	mg/kg	2610	-
BTEX				
Benzene	0.1	mg/kg	0.2	< 0.1
Toluene	0.1	mg/kg	0.4	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	0.4	< 0.2
o-Xylene	0.1	mg/kg	0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	0.5	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	104
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	3.1	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	3.3	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	3.6	-
Acenaphthene	0.5	mg/kg	< 0.5	-
Acenaphthylene	0.5	mg/kg	5.2	-
Anthracene	0.5	mg/kg	1.1	-
Benz(a)anthracene	0.5	mg/kg	2.2	-
Benzo(a)pyrene	0.5	mg/kg	2.2	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.8	-
Benzo(g.h.i)perylene	0.5	mg/kg	1.5	-
Benzo(k)fluoranthene	0.5	mg/kg	2.4	-
Chrysene	0.5	mg/kg	2.2	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-
Fluoranthene	0.5	mg/kg	6.9	-
Fluorene	0.5	mg/kg	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.2	-
Naphthalene	0.5	mg/kg	2.4	-
Phenanthrene	0.5	mg/kg	3.2	-
Pyrene	0.5	mg/kg	6.3	-
Total PAH*	0.5	mg/kg	40	-
2-Fluorobiphenyl (surr.)	1	%	83	-
p-Terphenyl-d14 (surr.)	1	%	52	-
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-

Client Sample ID			MW196_2.0	QC519
Sample Matrix			Soil	Soil
Eurofins Sample No.			M25-Jn0056440	M25-Jn0056443
Date Sampled			Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit		
Phenols (Halogenated)				
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	1.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	3.1	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-
Total cresols*	0.5	mg/kg	3.1	-
4-Nitrophenol	5	mg/kg	< 5	-
Dinoseb	20	mg/kg	< 20	-
Phenol	0.5	mg/kg	2.1	-
Phenol-d6 (surr.)	1	%	83	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-
Ammonia (as N)	5	mg/kg	< 5	-
Cyanide (free)	5	mg/kg	< 5	-
Cyanide (total)	5	mg/kg	< 5	-
Cyanide (weak acid dissoc.)	5	mg/kg	< 5	-
Heavy Metals				
Arsenic	2	mg/kg	3.0	-
Cadmium	0.4	mg/kg	< 0.4	-
Chromium	5	mg/kg	15	-
Copper	5	mg/kg	19	-
Lead	5	mg/kg	47	-
Mercury	0.1	mg/kg	0.2	-
Nickel	5	mg/kg	18	-
Zinc	5	mg/kg	61	-
Sample Properties				
% Moisture	1	%	23	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 21, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Ammonia (as N)	Melbourne	Jun 21, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (free)	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 21, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
% Moisture	Melbourne	Jun 20, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234941
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:02 PM
Due: Jun 26, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	SV45_2.0	Jun 18, 2025		Soil	M25-Jn0056436	X	X	X	X		X	X	
2	MW197_2.0	Jun 18, 2025		Soil	M25-Jn0056437	X	X	X	X		X	X	
3	MW197_3.5	Jun 18, 2025		Soil	M25-Jn0056438	X	X	X	X		X	X	
4	MW196_0.5	Jun 19, 2025		Soil	M25-Jn0056439	X	X	X	X		X	X	
5	MW196_2.0	Jun 19, 2025		Soil	M25-Jn0056440	X	X	X	X		X	X	
6	QC317	Jun 19, 2025		Water	M25-Jn0056441	X	X	X	X			X	
7	QC419	Jun 19, 2025		Water	M25-Jn0056442	X	X	X	X			X	
8	QC519	Jun 19, 2025		Soil	M25-Jn0056443								X
9	SV45_0.2	Jun 18, 2025		Soil	M25-Jn0056444					X			
10	SV45_0.5	Jun 18, 2025		Soil	M25-Jn0056445					X			
11	SV45_1.0	Jun 18, 2025		Soil	M25-Jn0056446					X			
12	MW197_0.2	Jun 18, 2025		Soil	M25-Jn0056447					X			
13	MW197_0.5	Jun 18, 2025		Soil	M25-Jn0056448					X			
14	MW197_1.0	Jun 18, 2025		Soil	M25-Jn0056449					X			

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	MW197_2.9	Jun 18, 2025		Soil	M25-Jn0056450					X			
16	MW197_4.0	Jun 18, 2025		Soil	M25-Jn0056451					X			
17	MW196_0.2	Jun 19, 2025		Soil	M25-Jn0056452					X			
18	MW196_1.0	Jun 19, 2025		Soil	M25-Jn0056453					X			
19	QC417	Jun 19, 2025		Water	M25-Jn0056454					X			
20	QC319	Jun 19, 2025		Water	M25-Jn0056455					X			
Test Counts						7	7	7	7	12	5	7	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Cyanide (total)	mg/kg	< 5			5	Pass	
Method Blank							
Heavy Metals							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Ammonia (as N)	mg/kg	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	81			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	128			70-130	Pass	
Anthracene	%	95			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(a)pyrene	%	101			70-130	Pass	
Benzo(b&j)fluoranthene	%	72			70-130	Pass	
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	99			70-130	Pass	
Chrysene	%	105			70-130	Pass	
Dibenz(a.h)anthracene	%	74			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	91			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	121			70-130	Pass	
Phenanthrene	%	116			70-130	Pass	
Pyrene	%	77			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	107			25-140	Pass	
2.4-Dichlorophenol	%	48			25-140	Pass	
2.4.5-Trichlorophenol	%	50			25-140	Pass	
2.4.6-Trichlorophenol	%	93			25-140	Pass	
4-Chloro-3-methylphenol	%	65			25-140	Pass	
Pentachlorophenol	%	71			25-140	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	74			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	77			25-140	Pass	
2-Nitrophenol	%	89			25-140	Pass	
2.4-Dimethylphenol	%	65			25-140	Pass	
2.4-Dinitrophenol	%	34			25-140	Pass	
2-Methylphenol (o-Cresol)	%	87			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	67			25-140	Pass	
Dinoseb	%	94			25-140	Pass	
Phenol	%	67			25-140	Pass	
LCS - % Recovery							
Cyanide (total)	%	84			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	118			80-120	Pass	
Cadmium	%	102			80-120	Pass	
Chromium	%	119			80-120	Pass	
Copper	%	97			80-120	Pass	
Lead	%	106			80-120	Pass	
Mercury	%	107			80-120	Pass	
Nickel	%	97			80-120	Pass	
Zinc	%	117			80-120	Pass	
LCS - % Recovery							
Ammonia (as N)	%	109			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	97			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	98			70-130	Pass	
Xylenes - Total*	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0058876	NCP	%	102			70-130	Pass	
TRH C10-C14	M25-Jn0057595	NCP	%	79			70-130	Pass	
TRH >C10-C16	M25-Jn0057595	NCP	%	79			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0058876	NCP	%	116			70-130	Pass	
Toluene	M25-Jn0058876	NCP	%	116			70-130	Pass	
Ethylbenzene	M25-Jn0058876	NCP	%	116			70-130	Pass	
m&p-Xylenes	M25-Jn0058876	NCP	%	114			70-130	Pass	
o-Xylene	M25-Jn0058876	NCP	%	116			70-130	Pass	
Xylenes - Total*	M25-Jn0058876	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
Pentachlorophenol	M25-Jn0028151	NCP	%	55			30-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0028151	NCP	%	31			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0028151	NCP	%	42			30-130	Pass	
2.4-Dinitrophenol	M25-Jn0028151	NCP	%	55			30-130	Pass	
Dinoseb	M25-Jn0028151	NCP	%	50			30-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0055114	NCP	%	89			70-130	Pass	
Cyanide (total)	M25-Jn0057023	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0054567	NCP	%	114			75-125	Pass	
Cadmium	M25-Jn0054567	NCP	%	105			75-125	Pass	
Chromium	M25-Jn0054567	NCP	%	110			75-125	Pass	
Copper	M25-Jn0054567	NCP	%	117			75-125	Pass	
Lead	M25-Jn0054567	NCP	%	121			75-125	Pass	
Mercury	M25-Jn0054567	NCP	%	105			75-125	Pass	
Nickel	M25-Jn0054567	NCP	%	114			75-125	Pass	
Zinc	M25-Jn0054567	NCP	%	111			75-125	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
4-Nitrophenol	M25-Jn0056799	NCP	%	70			30-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0056438	CP	%	103			70-130	Pass	
Acenaphthylene	M25-Jn0056438	CP	%	96			70-130	Pass	
Anthracene	M25-Jn0056438	CP	%	94			70-130	Pass	
Benz(a)anthracene	M25-Jn0056438	CP	%	109			70-130	Pass	
Benzo(a)pyrene	M25-Jn0056438	CP	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0056438	CP	%	77			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0056438	CP	%	123			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0056438	CP	%	95			70-130	Pass	
Chrysene	M25-Jn0056438	CP	%	112			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0056438	CP	%	114			70-130	Pass	
Fluoranthene	M25-Jn0056438	CP	%	120			70-130	Pass	
Fluorene	M25-Jn0056438	CP	%	118			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0056438	CP	%	119			70-130	Pass	
Naphthalene	M25-Jn0056438	CP	%	111			70-130	Pass	
Phenanthrene	M25-Jn0056438	CP	%	94			70-130	Pass	
Pyrene	M25-Jn0056438	CP	%	120			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0056438	CP	%	105			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0056438	CP	%	88			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0056438	CP	%	64			30-130	Pass	
2.4.6-Trichlorophenol	M25-Jn0056438	CP	%	65			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0056438	CP	%	95			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0056438	CP	%	73			30-130	Pass	
Tetrachlorophenols - Total	M25-Jn0056438	CP	%	83			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Nitrophenol	M25-Jn0056438	CP	%	86			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0056438	CP	%	108			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0056438	CP	%	102			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
3&4-Methylphenol (m&p-Cresol)	M25-Jn0056438	CP	%	109			30-130	Pass	
Phenol	M25-Jn0056438	CP	%	105			30-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0059148	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0059148	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-Jn0059148	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-Jn0059148	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-Jn0059148	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-Jn0059148	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-Jn0059148	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M25-Jn0057016	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0054567	NCP	mg/kg	4.0	3.9	4.0	30%	Pass	
Cadmium	M25-Jn0054567	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-Jn0054567	NCP	mg/kg	41	39	3.0	30%	Pass	
Copper	M25-Jn0054567	NCP	mg/kg	24	23	3.0	30%	Pass	
Lead	M25-Jn0054567	NCP	mg/kg	10	9.7	3.0	30%	Pass	
Mercury	M25-Jn0054567	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-Jn0054567	NCP	mg/kg	21	20	3.0	30%	Pass	
Zinc	M25-Jn0054567	NCP	mg/kg	30	29	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0056437	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-Jn0056437	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M25-Jn0056437	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	M25-Jn0056437	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M25-Jn0056437	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M25-Jn0056437	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0056437	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0056437	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0056437	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M25-Jn0056437	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0056437	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0056437	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0056437	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	M25-Jn0056437	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0056437	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0056437	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0056437	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M25-Jn0056437	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M25-Jn0056437	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M25-Jn0056437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-Jn0056439	CP	%	21	21	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0056440	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Sample Properties



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Attention: **Robert Crowe**

Report **1234941-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 19, 2025

Client Sample ID			**QC317**	**QC419**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M25-Jn0056441**	**M25-Jn0056442**
Date Sampled			**Jun 19, 2025**	**Jun 19, 2025**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	102	102
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001

Client Sample ID			QC317	QC419
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0056441	M25-Jn0056442
Date Sampled			Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	59	59
p-Terphenyl-d14 (surr.)	1	%	150	77
Phenols (Halogenated)				
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	117	121
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	< 0.01	< 0.01
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Ammonia (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (free)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234941
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:02 PM
Due: Jun 26, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X
External Laboratory								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	SV45_2.0	Jun 18, 2025		Soil	M25-Jn0056436	X	X	X	X		X	X	
2	MW197_2.0	Jun 18, 2025		Soil	M25-Jn0056437	X	X	X	X		X	X	
3	MW197_3.5	Jun 18, 2025		Soil	M25-Jn0056438	X	X	X	X		X	X	
4	MW196_0.5	Jun 19, 2025		Soil	M25-Jn0056439	X	X	X	X		X	X	
5	MW196_2.0	Jun 19, 2025		Soil	M25-Jn0056440	X	X	X	X		X	X	
6	QC317	Jun 19, 2025		Water	M25-Jn0056441	X	X	X	X			X	
7	QC419	Jun 19, 2025		Water	M25-Jn0056442	X	X	X	X			X	
8	QC519	Jun 19, 2025		Soil	M25-Jn0056443								X
9	SV45_0.2	Jun 18, 2025		Soil	M25-Jn0056444					X			
10	SV45_0.5	Jun 18, 2025		Soil	M25-Jn0056445					X			
11	SV45_1.0	Jun 18, 2025		Soil	M25-Jn0056446					X			
12	MW197_0.2	Jun 18, 2025		Soil	M25-Jn0056447					X			
13	MW197_0.5	Jun 18, 2025		Soil	M25-Jn0056448					X			
14	MW197_1.0	Jun 18, 2025		Soil	M25-Jn0056449					X			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Moisture Set	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X
15	MW197_2.9	Jun 18, 2025		Soil	M25-Jn0056450					X			
16	MW197_4.0	Jun 18, 2025		Soil	M25-Jn0056451					X			
17	MW196_0.2	Jun 19, 2025		Soil	M25-Jn0056452					X			
18	MW196_1.0	Jun 19, 2025		Soil	M25-Jn0056453					X			
19	QC417	Jun 19, 2025		Water	M25-Jn0056454					X			
20	QC319	Jun 19, 2025		Water	M25-Jn0056455					X			
Test Counts						7	7	7	7	12	5	7	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	107			70-130	Pass	
TRH C10-C14	%	83			70-130	Pass	
TRH C6-C10	%	107			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
Naphthalene	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	104			70-130	Pass	
Toluene	%	108			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
m&p-Xylenes	%	109			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	99			70-130	Pass	
Cyanide (total)	%	104			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	99			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium			%	98			80-120	Pass	
Chromium			%	99			80-120	Pass	
Copper			%	97			80-120	Pass	
Lead			%	98			80-120	Pass	
Mercury			%	88			80-120	Pass	
Nickel			%	98			80-120	Pass	
Zinc			%	98			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0051415	NCP	%	89			70-130	Pass	
TRH C10-C14	M25-Jn0058111	NCP	%	79			70-130	Pass	
TRH C6-C10	M25-Jn0051415	NCP	%	88			70-130	Pass	
TRH >C10-C16	M25-Jn0058111	NCP	%	71			70-130	Pass	
Naphthalene	M25-Jn0051415	NCP	%	85			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0051415	NCP	%	85			70-130	Pass	
Toluene	M25-Jn0051415	NCP	%	86			70-130	Pass	
Ethylbenzene	M25-Jn0051415	NCP	%	87			70-130	Pass	
m&p-Xylenes	M25-Jn0051415	NCP	%	87			70-130	Pass	
o-Xylene	M25-Jn0051415	NCP	%	88			70-130	Pass	
Xylenes - Total*	M25-Jn0051415	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jn0054317	NCP	%	107			75-125	Pass	
Cadmium	M25-Jn0054317	NCP	%	109			75-125	Pass	
Chromium	M25-Jn0054317	NCP	%	108			75-125	Pass	
Copper	M25-Jn0054317	NCP	%	107			75-125	Pass	
Lead	M25-Jn0054317	NCP	%	106			75-125	Pass	
Mercury	M25-Jn0054317	NCP	%	96			75-125	Pass	
Nickel	M25-Jn0054317	NCP	%	106			75-125	Pass	
Zinc	M25-Jn0054317	NCP	%	108			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0056643	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0054078	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0054078	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0054078	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0056643	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0054078	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0056643	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0054078	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0054078	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0056643	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0056643	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M25-Jn0056611	NCP	mg/L	0.021	0.020	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0054317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M25-Jn0054317	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0054317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M25-Jn0054317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M25-Jn0054317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-Jn0054317	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0054317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M25-Jn0054317	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Organic
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Wednesday, 25 June 2025 11:57 AM
To: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1231576 : Site Macquarie Point (60693007 / 12)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Thanks Sheridan,

The results for this batch came through last night. Could you please line up analysis for the NASSG suites for Chromium Reducible Sulfur (CRS), Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS), and Acid Neutralising Capacity (ANC) be conducted on samples from this batch, and from batch 1225146, as per the table below:

Field ID	Batch	Sample Date	Additional Analysis		
			CRS	SPOCAS	ANC
ABH004A_2	1225146	27-May-25	X	X	X
ABH004A_2.5	1225146	27-May-25	X		X
ABH004W_1.5	1225146	27-May-25	X		X
ABH004W_2.5	1225146	27-May-25	X		X
ABH004S_1	1225146	27-May-25	X		X
ABH004S_2	1225146	27-May-25	X		X
ABH004E_0.5	1225146	27-May-25	X		X
ABH004E_2.5	1225146	27-May-25	X		X
ABH004N_0.5	1225146	27-May-25	X		X
ABH004N_2.5	1225146	27-May-25	X		X
BH004A_2.0	1231576	11-Jun-25	X		X
BH004A_4.0	1231576	11-Jun-25	X		X
BH004E_0.2	1231576	10-Jun-25	X		X
BH004N_1.0	1231576	10-Jun-25	X		X
BH004N_3.0	1231576	10-Jun-25	X		X
BH004S_1.0	1231576	11-Jun-25	X		X
BH004S_3.0	1231576	11-Jun-25	X		X
BH004W_1.0	1231576	11-Jun-25	X		X
BH004W_2.0	1231576	11-Jun-25	X		X
BH004W_4.0	1231576	11-Jun-25	X	X	X

1237090

Thanks for the confirmation that the samples were frozen as well – assumed this was the case. It would probably be handy to note on future CoCs, particularly when samples are received at the analytical lab in Brisbane – not something which has ever been questioned, but would be a useful additional data point if any unusual data discrepancies come through in the future.

Cheers, and please let me know if you need any additional information or details,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

eurofins | Environment Testing

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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 25, 2025 11:57 AM
Eurofins reference	1237090

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237090
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 11:57 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	ABH004A_2.0	May 27, 2025		Soil	B25-Jn0072060	X	X	X
2	ABH004A_2.5	May 27, 2025		Soil	B25-Jn0072061		X	X
3	ABH004W_1.5	May 27, 2025		Soil	B25-Jn0072062		X	X
4	ABH004W_2.5	May 27, 2025		Soil	B25-Jn0072063		X	X
5	ABH004S_1.0	May 27, 2025		Soil	B25-Jn0072064		X	X
6	ABH004S_2.0	May 27, 2025		Soil	B25-Jn0072065		X	X
7	ABH004E_0.5	May 27, 2025		Soil	B25-Jn0072066		X	X
8	ABH004E_2.5	May 27, 2025		Soil	B25-Jn0072067		X	X
9	ABH004N_0.5	May 27, 2025		Soil	B25-Jn0072068		X	X
10	ABH004N_2.5	May 27, 2025		Soil	B25-Jn0072069		X	X
11	BH004A_2.0	Jun 11, 2025		Soil	B25-Jn0072070		X	X
12	BH004A_4.0	Jun 11, 2025		Soil	B25-Jn0072071		X	X
13	BH004E_0.2	Jun 10, 2025		Soil	B25-Jn0072072		X	X
14	BH004N_1.0	Jun 10, 2025		Soil	B25-Jn0072073		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237090
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 11:57 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
15	BH004N_3.0	Jun 10, 2025		Soil	B25-Jn0072074		X	X
16	BH004S_1.0	Jun 11, 2025		Soil	B25-Jn0072075		X	X
17	BH004S_3.0	Jun 11, 2025		Soil	B25-Jn0072076		X	X
18	BH004W_1.0	Jun 11, 2025		Soil	B25-Jn0072077		X	X
19	BH004W_2.0	Jun 11, 2025		Soil	B25-Jn0072078		X	X
20	BH004W_4.0	Jun 11, 2025		Soil	B25-Jn0072079	X	X	X
Test Counts						2	20	20

Aecom Austraila Pty Ltd
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1237090-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 25, 2025

Client Sample ID			**ABH004A_2.0**	**ABH004A_2.5**	**ABH004W_1.5**	**ABH004W_2.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B25-Jn0072060**	**B25-Jn0072061**	**B25-Jn0072062**	**B25-Jn0072063**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.7	8.0	8.4	7.8
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	5.9	-	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	-	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2	-	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2	-	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	-	-	-
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	0.030	N/A	N/A	N/A
Peroxide Extractable Sulfur	0.005	% S	0.73	-	-	-
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	0.70	-	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	430	-	-	-
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	0.31	-	-	-
Calcium - Peroxide	0.005	% Ca	0.91	-	-	-
Calcium - Acid Reacted	0.005	% Ca	0.59	-	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.48	-	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	300	-	-	-
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	0.020	-	-	-
Magnesium - Peroxide	0.005	% Mg	0.060	-	-	-
Magnesium - Acid Reacted	0.005	% Mg	0.039	-	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.051	-	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	32	-	-	-

Client Sample ID			ABH004A_2.0	ABH004A_2.5	ABH004W_1.5	ABH004W_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072060	B25-Jn0072061	B25-Jn0072062	B25-Jn0072063
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	N/A	-	-	-
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	N/A	-	-	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	n/a	-	-	-
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.2	4.7	1.9	2.6
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.0	1.5	0.62	0.84
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	640	940	390	520
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	140	-	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	0.23	-	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	11	-	-	-
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	N/A	< 0.02	< 0.02	0.51
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	N/A	< 10	< 10	320
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	N/A	< 1	< 1	24
Extraneous Material						
<2mm Fraction	0.005	g	24	13	62	62
>2mm Fraction	0.005	g	130	< 0.005	< 0.005	9.4
Analysed Material	0.1	%	16	100	100	87
Extraneous Material	0.1	%	84	< 0.1	< 0.1	13
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	N/A	0.14	0.42	1.1
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	N/A	89	260	670
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	N/A	6.7	20	50
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.60	0.14	0.42	1.1
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	380	89	260	670
Sample Properties						
% Moisture	1	%	19	39	17	26

Client Sample ID			ABH004S_1.0	ABH004S_2.0	ABH004E_0.5	ABH004E_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072064	B25-Jn0072065	B25-Jn0072066	B25-Jn0072067
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.4	8.2	8.4	8.5
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0

Client Sample ID			ABH004S_1.0	ABH004S_2.0	ABH004E_0.5	ABH004E_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072064	B25-Jn0072065	B25-Jn0072066	B25-Jn0072067
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.1	2.6	2.5	4.2
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.0	0.82	0.78	1.3
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	620	510	490	830
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	34	24	24	30
>2mm Fraction	0.005	g	< 0.005	< 0.005	70	< 0.005
Analysed Material	0.1	%	100	100	26	100
Extraneous Material	0.1	%	< 0.1	< 0.1	74	< 0.1
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.42	0.11	0.11	0.13
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	260	71	70	80
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	19	5.3	5.3	6.0
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.42	0.11	0.11	0.13
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	260	71	70	80
Sample Properties						
% Moisture	1	%	20	32	13	32

Client Sample ID			ABH004N_0.5	ABH004N_2.5	BH004A_2.0	BH004A_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072068	B25-Jn0072069	B25-Jn0072070	B25-Jn0072071
Date Sampled			May 27, 2025	May 27, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	7.8	8.3	9.1
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	12	2.3	1.8	1.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	4.0	0.75	0.57	0.60
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	2500	470	360	370

Client Sample ID			ABH004N_0.5	ABH004N_2.5	BH004A_2.0	BH004A_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072068	B25-Jn0072069	B25-Jn0072070	B25-Jn0072071
Date Sampled			May 27, 2025	May 27, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	0.52	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	330	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	25	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	57	26	42	30
>2mm Fraction	0.005	g	34	< 0.005	< 0.005	17
Analysed Material	0.1	%	63	100	100	64
Extraneous Material	0.1	%	37	< 0.1	< 0.1	36
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.08	1.0	< 0.02	0.08
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	53	640	< 10	50
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	4.0	48	< 1	3.7
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.085	1.0	0.009	0.079
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	53	640	5.5	50
Sample Properties						
% Moisture	1	%	8.3	37	26	13

Client Sample ID			BH004E_0.2	BH004N_1.0	BH004N_3.0	BH004S_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072072	B25-Jn0072073	B25-Jn0072074	B25-Jn0072075
Date Sampled			Jun 10, 2025	Jun 10, 2025	Jun 10, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	7.3	8.4	8.5
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.8	1.0	1.4	2.0
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.59	0.32	0.44	0.63
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	370	200	270	390
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1

Client Sample ID			BH004E_0.2	BH004N_1.0	BH004N_3.0	BH004S_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072072	B25-Jn0072073	B25-Jn0072074	B25-Jn0072075
Date Sampled			Jun 10, 2025	Jun 10, 2025	Jun 10, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	23	15	34	42
>2mm Fraction	0.005	g	61	43	8.7	18
Analysed Material	0.1	%	27	26	79	70
Extraneous Material	0.1	%	73	74	21	30
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	12	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.019	0.014	< 0.005	< 0.005
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	12	8.9	< 3	< 3
Sample Properties						
% Moisture	1	%	3.1	6.7	16	11

Client Sample ID			BH004S_3.0	BH004W_1.0	BH004W_2.0	BH004W_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072076	B25-Jn0072077	B25-Jn0072078	B25-Jn0072079
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.4	8.2	8.7	8.3
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	-	-	2.6
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	-	-	0.79
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	-	-	490
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	-	-	490
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	-	-	0.79
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	0.060
Peroxide Extractable Sulfur	0.005	% S	-	-	-	1.1
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	-	-	1.0
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	-	-	650
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	-	-	0.45
Calcium - Peroxide	0.005	% Ca	-	-	-	0.64
Calcium - Acid Reacted	0.005	% Ca	-	-	-	0.19
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.15
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	96

Client Sample ID			BH004S_3.0	BH004W_1.0	BH004W_2.0	BH004W_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072076	B25-Jn0072077	B25-Jn0072078	B25-Jn0072079
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	-	-	0.060
Magnesium - Peroxide	0.005	% Mg	-	-	-	0.090
Magnesium - Acid Reacted	0.005	% Mg	-	-	-	0.034
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.044
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	28
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	-	N/A
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	-	N/A
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	-	n/a
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.2	6.1	1.8	1.6
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.37	2.0	0.58	0.52
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	230	1200	360	320
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	-	540
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	-	0.87
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	-	41
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	N/A
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	N/A
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	N/A
Extraneous Material						
<2mm Fraction	0.005	g	37	19	27	48
>2mm Fraction	0.005	g	9.8	16	27	< 0.005
Analysed Material	0.1	%	79	54	50	100
Extraneous Material	0.1	%	21	46	50	< 0.1
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	N/A
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	< 10	< 10	< 10	N/A
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1	< 1	N/A
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.008	0.012	< 0.005	0.88
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	5.0	7.7	< 3	550
Sample Properties						
% Moisture	1	%	22	26	15	40

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
SPOCAS Suite			
SPOCAS Suite	Brisbane	Jun 27, 2025	6 Week
- Method: LTM-GEN-7050 Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS) in Soil			
Chromium Suite - NASSG (Excluding ANC)	Brisbane	Jun 27, 2025	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
Extraneous Material	Brisbane	Jun 27, 2025	6 Week
- Method: LTM-GEN-7050/7070			
% Moisture	Brisbane	Jun 26, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237090
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 11:57 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	ABH004A_2.0	May 27, 2025		Soil	B25-Jn0072060	X	X	X
2	ABH004A_2.5	May 27, 2025		Soil	B25-Jn0072061		X	X
3	ABH004W_1.5	May 27, 2025		Soil	B25-Jn0072062		X	X
4	ABH004W_2.5	May 27, 2025		Soil	B25-Jn0072063		X	X
5	ABH004S_1.0	May 27, 2025		Soil	B25-Jn0072064		X	X
6	ABH004S_2.0	May 27, 2025		Soil	B25-Jn0072065		X	X
7	ABH004E_0.5	May 27, 2025		Soil	B25-Jn0072066		X	X
8	ABH004E_2.5	May 27, 2025		Soil	B25-Jn0072067		X	X
9	ABH004N_0.5	May 27, 2025		Soil	B25-Jn0072068		X	X
10	ABH004N_2.5	May 27, 2025		Soil	B25-Jn0072069		X	X
11	BH004A_2.0	Jun 11, 2025		Soil	B25-Jn0072070		X	X
12	BH004A_4.0	Jun 11, 2025		Soil	B25-Jn0072071		X	X
13	BH004E_0.2	Jun 10, 2025		Soil	B25-Jn0072072		X	X
14	BH004N_1.0	Jun 10, 2025		Soil	B25-Jn0072073		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

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Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 11:57 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
15	BH004N_3.0	Jun 10, 2025		Soil	B25-Jn0072074		X	X
16	BH004S_1.0	Jun 11, 2025		Soil	B25-Jn0072075		X	X
17	BH004S_3.0	Jun 11, 2025		Soil	B25-Jn0072076		X	X
18	BH004W_1.0	Jun 11, 2025		Soil	B25-Jn0072077		X	X
19	BH004W_2.0	Jun 11, 2025		Soil	B25-Jn0072078		X	X
20	BH004W_4.0	Jun 11, 2025		Soil	B25-Jn0072079	X	X	X
Test Counts						2	20	20

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	98			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	111			80-120	Pass	
LCS - % Recovery							
Extractable Sulfur							
HCl Extractable Sulfur	%	114			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	%	94			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B25-Jn0072060	CP	pH Units	8.7	8.7	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072060	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072060	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B25-Jn0072060	CP	pH Units	5.9	6.0	2.0	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B25-Jn0072060	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B25-Jn0072060	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B25-Jn0072060	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B25-Jn0072060	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B25-Jn0072060	CP	% S	0.030	0.030	4.0	30%	Pass	
Peroxide Extractable Sulfur	B25-Jn0072060	CP	% S	0.73	0.73	1.0	20%	Pass	
HCl Extractable Sulfur	B25-Jn0072060	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B25-Jn0072060	CP	% S	0.70	0.70	1.0	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B25-Jn0072060	CP	mol H+/t	430	440	1.0	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B25-Jn0072060	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B25-Jn0072060	CP	% Ca	0.31	0.32	1.0	30%	Pass	
Calcium - Peroxide	B25-Jn0072060	CP	% Ca	0.91	0.91	1.0	20%	Pass	
Calcium - Acid Reacted	B25-Jn0072060	CP	% Ca	0.59	0.60	1.0	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B25-Jn0072060	CP	% S	0.48	0.48	1.0	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B25-Jn0072060	CP	mol H+/t	300	300	1.0	30%	Pass	

Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B25-Jn0072060	CP	% Mg	0.020	0.020	1.0	30%	Pass	
Magnesium - Peroxide	B25-Jn0072060	CP	% Mg	0.060	0.060	1.0	20%	Pass	
Magnesium - Acid Reacted	B25-Jn0072060	CP	% Mg	0.039	0.039	1.0	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B25-Jn0072060	CP	% S	0.051	0.052	1.0	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B25-Jn0072060	CP	mol H+/t	32	32	1.0	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B25-Jn0072060	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B25-Jn0072060	CP	mol H+/t	n/a	n/a	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	B25-Jn0072060	CP	factor	1.5	1.5	<1	30%	Pass	
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B25-Jn0072060	CP	% CaCO3	3.2	3.1	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B25-Jn0072060	CP	% S	1.0	0.98	4.0	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B25-Jn0072060	CP	mol H+/t	140	150	1.0	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B25-Jn0072060	CP	% S	0.23	0.23	1.0	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B25-Jn0072060	CP	kg CaCO3/t	11	11	1.0	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B25-Jn0072060	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B25-Jn0072060	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072060	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B25-Jn0072060	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	B25-Jn0072060	CP	% S	0.60	0.60	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	B25-Jn0072060	CP	mol H+/t	380	370	<1	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B25-Jn0072061	CP	pH Units	8.0	8.0	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072061	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072061	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B25-Jn0072061	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B25-Jn0072061	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B25-Jn0072061	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	

Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B25-Jn0072061	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B25-Jn0072061	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B25-Jn0072061	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B25-Jn0072061	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B25-Jn0072061	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B25-Jn0072061	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B25-Jn0072061	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B25-Jn0072061	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B25-Jn0072061	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	B25-Jn0072061	CP	factor	1.5	1.5	<1	30%	Pass	
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B25-Jn0072061	CP	% CaCO3	4.7	4.9	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B25-Jn0072061	CP	% S	1.5	1.6	4.0	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B25-Jn0072061	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B25-Jn0072061	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B25-Jn0072061	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B25-Jn0072061	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	

Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072061	CP	% S	0.14	0.15	5.0	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072061	CP	mol H+/t	89	94	5.0	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B25-Jn0072061	CP	kg CaCO3/t	6.7	7.0	5.0	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	B25-Jn0072061	CP	% S	0.14	0.15	5.0	20%	Pass	
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	B25-Jn0072061	CP	mol H+/t	89	94	5.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B25-Jn0072062	CP	%	17	22	24	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B25-Jn0072073	CP	%	6.7	8.2	20	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B25-Jn0072074	CP	pH Units	8.4	8.5	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072074	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072074	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B25-Jn0072074	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B25-Jn0072074	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B25-Jn0072074	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B25-Jn0072074	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B25-Jn0072074	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B25-Jn0072074	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B25-Jn0072074	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B25-Jn0072074	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	

Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B25-Jn0072074	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B25-Jn0072074	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B25-Jn0072074	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B25-Jn0072074	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	B25-Jn0072074	CP	factor	1.5	1.5	<1	30%	Pass	
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B25-Jn0072074	CP	% CaCO3	1.4	1.4	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B25-Jn0072074	CP	% S	0.44	0.45	4.0	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B25-Jn0072074	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B25-Jn0072074	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B25-Jn0072074	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B25-Jn0072074	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072074	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072074	CP	mol H+/t	< 10	< 10	<1	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B25-Jn0072074	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	B25-Jn0072074	CP	% S	< 0.005	< 0.005	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	B25-Jn0072074	CP	mol H+/t	< 3	< 3	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Catherine Wilson	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Please forward to ALS

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: Level 10, 727 Collins Street, Melbourne, VIC	SAMPLER: RB / EM / TG / LL	Destination Laboratory
PROJECT MANAGER (PM): Robert Crowe	SITE: Macquarie Point	MOBILE: 0410 153 648 PHONE:	ALS
PROJECT NUMBER & TASK CODE: 60693007 / 12	P.O. NO.:	EMAIL REPORT TO: robert.crowe@aecom.com, richard.bowers@aecom.com, esdat+aecom-au@esdatlabsync.net	
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Please us Project ID '60321835_MacPoint'
Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees during further transit between labs as required.

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		General Soil Suite: TRH, BTEXN, PAH, 8 Metals (As, Cd, Ch, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite: Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Speciated)	General Water Suite: TRH/BTEXN/PAH/Phenols/8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) plus Manganese, Cations/Anions #3 (incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane	Eco Risk Organics Suite: TRH Aliphatic / Aromatic Speciation TRH (C6-C40 (silica gel cleanup) TRH (C6-C40) - on 5 µm field filtered sample PAH - on 5 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	Trip Blank Suite: TRH C6-C9, BTEXN			HOLD	
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles										
1	QC201	S	2/6/25		1 Jar	1	X									
2	QC202	S	2/6/25		1 Jar	1	X				X					

Environmental Division Melbourne
Work Order Reference
EM2509944

Telephone : +61-3-8549 9600

Received: 5/6 13:00 Carrier: Hand
C/note:
Temp: 7-3 °C Seal: Y/N
Ice / Icepacks / N/A

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page of

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2509944**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 2
Order number	: 60693007 /12	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: EM		

Dates

Date Samples Received	: 05-Jun-2025 12:02	Issue Date	: 06-Jun-2025
Client Requested Due Date	: 13-Jun-2025	Scheduled Reporting Date	: **13-Jun-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 7.3°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Sample(s) received in non-ALS container(s).**
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (30 analytes)	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2509944-001	02-Jun-2025 00:00	QC201	✓		✓
EM2509944-002	02-Jun-2025 00:00	QC202	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com
ESDAT+AECOM		
- EDI Format - ESDAT (ESDAT)	Email	esdat+aecom.au@esdatlabsync.net
RICHARD BOWERS		
- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com
ROBERT CROWE		
- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2509944**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 05-Jun-2025 12:02
Order number	: 60693007 /12	Date Analysis Commenced	: 07-Jun-2025
C-O-C number	: ----	Issue Date	: 13-Jun-2025 14:08
Sampler	: EM		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231X: Poor matrix spike recovery for sample EM2509405_03 due to matrix interferences.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per USEPA 1633 limits where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC201	QC202	----	----	----
			Sampling date / time	02-Jun-2025 00:00	02-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2509944-001	EM2509944-002	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**8.0**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**16**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**63**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**56**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**29**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**174**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC201	QC202	----	----	----
				Sampling date / time	02-Jun-2025 00:00	02-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2509944-001	EM2509944-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC201	QC202	----	----	----
				Sampling date / time	02-Jun-2025 00:00	02-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2509944-001	EM2509944-002	--------	--------	--------
					Result	Result	----	----	----
EP080: BTEXN - Continued									
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**88.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**72.1**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**83.9**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**96.3**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**104**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**96.0**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**91.5**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**81.3**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**87.6**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	**120**	----	----	----
13C8-PFOA	----	0.0002	%		----	**95.8**	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

QUALITY CONTROL REPORT

Work Order	: **EM2509944**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 05-Jun-2025
Order number	: 60693007 /12	Date Analysis Commenced	: 07-Jun-2025
C-O-C number	: ----	Issue Date	: 13-Jun-2025
Sampler	: EM		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6637515)									
EM2509735-015	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	19	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	16.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	8	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EM2509941-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	52	51	3.3	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	52	54	4.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	17	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	10	29.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	24	23	4.2	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6638175)									
EM2509885-032	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	14.6	14.8	1.2	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6637516)									
EM2509735-015	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2509941-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6637416)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6637416) - continued									
EM2509944-001	QC201	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2510077-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6632425)									
EM2509949-016	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2509719-062	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6637417)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6637417) - continued									
EM2509944-001	QC201	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2510077-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6632425)									
EM2509949-016	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2509719-062	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6637417)									
EM2509944-001	QC201	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2510077-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6632425)									
EM2509949-016	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2509719-062	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6637515)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	92.8	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	81.8	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	85.9	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	86.5	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	91.7	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	76.4	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6637516)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	77.0	69.0	128
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6637416)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	98.7	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	91.7	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	94.6	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.2	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	94.1	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	89.6	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	99.1	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	93.3	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	101	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	86.0	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	90.6	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	82.1	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	89.2	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	89.3	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	94.7	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6632425)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	93.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6637417)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	810 mg/kg	100.0	80.0	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6637417) - continued								
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2880 mg/kg	99.2	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1460 mg/kg	104	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6632425)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	90.0	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6637417)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1120 mg/kg	98.9	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3800 mg/kg	101	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	113	80.0	120
EP080: BTEXN (QCLot: 6632425)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	87.1	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	92.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	93.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	95.6	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	112	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6637515)							
EM2509735-016	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	106	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	100	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	99.1	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.9	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	116	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	99.4	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	100	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6637516)							
EM2509735-016	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	79.4	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6637416)							
EM2509949-013	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	85.2	77.2	116

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6637416) - continued							
EM2509949-013	Anonymous	EP075(SIM): Pyrene	129-00-0	3 mg/kg	90.1	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6632425)							
EM2509719-063	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	66.3	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6637417)							
EM2509944-001	QC201	EP071: C10 - C14 Fraction	----	810 mg/kg	96.4	70.0	130
		EP071: C15 - C28 Fraction	----	2880 mg/kg	95.2	70.0	130
		EP071: C29 - C36 Fraction	----	1460 mg/kg	99.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6632425)							
EM2509719-063	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	63.2	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6637417)							
EM2509944-001	QC201	EP071: >C10 - C16 Fraction	----	1120 mg/kg	95.3	70.0	130
		EP071: >C16 - C34 Fraction	----	3800 mg/kg	97.0	70.0	130
		EP071: >C34 - C40 Fraction	----	260 mg/kg	110	70.0	130
EP080: BTEXN (QCLot: 6632425)							
EM2509719-063	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	77.4	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	83.7	57.1	131

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2509944**	Page	: 1 of 5
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 05-Jun-2025
Site	: Macquarie Point	Issue Date	: 13-Jun-2025
Sampler	: EM	No. of samples received	: 2
Order number	: 60693007 /12	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QC201	**02-Jun-2025**	**----**	----	----	**10-Jun-2025**	16-Jun-2025	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QC201	**02-Jun-2025**	**10-Jun-2025**	29-Nov-2025	✓	**11-Jun-2025**	29-Nov-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QC201	**02-Jun-2025**	**10-Jun-2025**	30-Jun-2025	✓	**12-Jun-2025**	30-Jun-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QC201	**02-Jun-2025**	**11-Jun-2025**	16-Jun-2025	✓	**12-Jun-2025**	21-Jul-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
QC201	**02-Jun-2025**	**07-Jun-2025**	16-Jun-2025	✓	**10-Jun-2025**	16-Jun-2025	✓
Soil Glass Jar - Unpreserved (EP071)							
QC201	**02-Jun-2025**	**11-Jun-2025**	16-Jun-2025	✓	**12-Jun-2025**	21-Jul-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
QC201	**02-Jun-2025**	**07-Jun-2025**	16-Jun-2025	✓	**10-Jun-2025**	16-Jun-2025	✓
Soil Glass Jar - Unpreserved (EP071)							
QC201	**02-Jun-2025**	**11-Jun-2025**	16-Jun-2025	✓	**12-Jun-2025**	21-Jul-2025	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC201	**02-Jun-2025**	**07-Jun-2025**	16-Jun-2025	✓	**10-Jun-2025**	16-Jun-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. A portion of homogenised sample is extracted along with isotope dilution standards (where commercially available) in a solution of ammonium acetate in acetonitrile/methanol. Where relevant, interferences from co-extracted organics are removed using dispersive clean-up media (dSPE). A portion of extract is combined with an equal volume of reagent water and filtered for instrumental analysis.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: Level 16, 727 Collins Street, Melbourne, VIC	SAMPLER: RB / EM / TG / LL	Destination Laboratory ALS
PROJECT MANAGER (PM): Robert Crowe	SITE: Macquarie Point	MOBILE: 0410 153 648 PHONE:	
PROJECT NUMBER & TASK CODE: 60693007 / 12	P.O. NO.:	EMAIL REPORT TO: robert.crowe@aecom.com, richard.bowers@aecom.com, esdat+aecom-au@esdatlabsync.net	
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Please us Project ID '60321835_MacPoint'
Please immediately freeze all PASS sample bags upon receipt.

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

	SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		General Soil Suite: TRH, BTEXN, PAH, 8 Metals (As, Cd, Ch, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite: Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Speciated)	General Water Suite: TRH/BTEXN/PAH/Phenols/8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) plus Manganese, Cations/Anions #3 (incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane	Eco Risk Organics Suite: TRH Aliphatic / Aromatic Speciation TRH (C6-C40 (silica gel cleanup) TRH (C6-C40) - on 5 µm field filtered sample PAH - on 5 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	Trip Blank Suite: TRH C6-C9, BTEXN			HOLD	#1229786
	ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles										
1		QC203	S	5/6/25		1 Jar	1	X									
2		QC204	S	6/6/25		1 Jar		X									

Environmental Division
Melbourne
Work Order Reference
EM2510162

Telephone : +61-3-8549 9600

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: TG	Date: 6/6/25	Name:	Date:	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = [illegible] glass jar

KATE (ALS)

C/note: 10.6.25 11.20
Temp: 9.2 °C Seal: Y N
Ice / Icebricks / NA

Carrier:

COC Page 1 of 1

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2510162**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007 / 12	Page	: 1 of 2
Order number	: 60693007 / 12	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Macquarie Point		
Sampler	: EM/TG		

Dates

Date Samples Received	: 10-Jun-2025 11:20	Issue Date	: 10-Jun-2025
Client Requested Due Date	: 17-Jun-2025	Scheduled Reporting Date	: **17-Jun-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 3	Temperature	: 9.2°C - Ice Bricks present
Receipt Detail	: 3x hard eskies received	No. of samples received / analysed	: 2 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2510162-001	05-Jun-2025 00:00	QC203		✓	✓
EM2510162-002	06-Jun-2025 00:00	QC204	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ESDAT+ AECOM-AU

- EDI Format - ESDAT (ESDAT)	Email	esdat+aecom-au@esdatlabsync.net

RICHARD BOWERS

- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2510162**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 / 12	Date Samples Received	: 10-Jun-2025 11:20
Order number	: 60693007 / 12	Date Analysis Commenced	: 11-Jun-2025
C-O-C number	: ----	Issue Date	: 16-Jun-2025 13:39
Sampler	: EM/TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC203	----	----	----	----
			Sampling date / time	05-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2510162-001	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**2.4**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**14**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**73**	----	----	----	----
Lead	7439-92-1	5	mg/kg	<5	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**20**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**25**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC203	----	----	----	----
				Sampling date / time	05-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2510162-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC203	----	----	----	----
				Sampling date / time	05-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2510162-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**80.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**80.3**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**69.0**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**87.0**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**96.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**84.1**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**85.6**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**72.0**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**85.4**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2510162**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007 / 12	Date Samples Received	: 10-Jun-2025
Order number	: 60693007 / 12	Date Analysis Commenced	: 11-Jun-2025
C-O-C number	: ----	Issue Date	: 16-Jun-2025
Sampler	: EM/TG		
Site	: Macquarie Point		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6640707)									
EM2510127-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	7	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	6	0.0	No Limit
EM2510127-012	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	5	25.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	52	58	11.1	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	40	36	8.7	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6641031)									
EM2510148-001	Anonymous	EA055: Moisture Content	----	0.1	%	16.6	17.0	2.7	0% - 20%
EM2510162-001	QC203	EA055: Moisture Content	----	0.1 (1.0)*	%	2.4	2.6	10.8	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6640708)									
EM2510127-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2510127-012	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6641009)									
EM2510127-002	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2510162-001	QC203	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6640606)									
EM2510148-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2510184-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6641011)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6641011) - continued									
EM2510127-002	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2510162-001	QC203	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6640606)									
EM2510148-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2510184-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6641011)									
EM2510127-002	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2510162-001	QC203	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6640606)									
EM2510148-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2510184-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6640707)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	94.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	66.9	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.9	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	88.3	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	94.8	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	77.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6640708)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.8	69.0	128
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6641009)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	88.2	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	83.6	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	85.1	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	83.0	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	86.6	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	83.6	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	87.9	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	90.1	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	86.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	93.6	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	84.6	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	88.1	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	77.4	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	82.3	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	82.1	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	86.4	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6640606)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	93.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6641011)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	810 mg/kg	87.5	80.0	120

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6641011) - continued								
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2880 mg/kg	88.8	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1460 mg/kg	89.7	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6640606)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	93.6	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6641011)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1120 mg/kg	88.6	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3800 mg/kg	87.8	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	87.0	80.0	120
EP080: BTEXN (QCLot: 6640606)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	86.0	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	89.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	93.2	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	97.4	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	98.9	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	94.5	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6640707)							
EM2510127-003	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	103	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	100	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	101	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	102	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	97.7	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6640708)							
EM2510127-003	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	115	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6641009)							
EM2510127-003	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	79.9	77.2	116

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6641009) - continued							
EM2510127-003	Anonymous	EP075(SIM): Pyrene	129-00-0	3 mg/kg	86.3	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6640606)							
EM2510148-002	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	60.6	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6641011)							
EM2510127-004	Anonymous	EP071: C10 - C14 Fraction	----	810 mg/kg	85.2	70.0	130
		EP071: C15 - C28 Fraction	----	2880 mg/kg	86.4	70.0	130
		EP071: C29 - C36 Fraction	----	1460 mg/kg	88.0	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6640606)							
EM2510148-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	59.9	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6641011)							
EM2510127-004	Anonymous	EP071: >C10 - C16 Fraction	----	1120 mg/kg	86.2	70.0	130
		EP071: >C16 - C34 Fraction	----	3800 mg/kg	85.6	70.0	130
		EP071: >C34 - C40 Fraction	----	260 mg/kg	86.8	70.0	130
EP080: BTEXN (QCLot: 6640606)							
EM2510148-002	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	64.4	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	65.5	57.1	131

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2510162**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60693007 / 12	Date Samples Received	: 10-Jun-2025
Site	: Macquarie Point	Issue Date	: 16-Jun-2025
Sampler	: EM/TG	No. of samples received	: 2
Order number	: 60693007 / 12	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QC203	**05-Jun-2025**	**----**	----	----	**11-Jun-2025**	19-Jun-2025	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QC203	**05-Jun-2025**	**11-Jun-2025**	02-Dec-2025	✓	**12-Jun-2025**	02-Dec-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QC203	**05-Jun-2025**	**11-Jun-2025**	03-Jul-2025	✓	**12-Jun-2025**	03-Jul-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QC203	**05-Jun-2025**	**11-Jun-2025**	19-Jun-2025	✓	**12-Jun-2025**	21-Jul-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
QC203	**05-Jun-2025**	**11-Jun-2025**	19-Jun-2025	✓	**11-Jun-2025**	19-Jun-2025	✓
Soil Glass Jar - Unpreserved (EP071)							
QC203	**05-Jun-2025**	**11-Jun-2025**	19-Jun-2025	✓	**13-Jun-2025**	21-Jul-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
QC203	**05-Jun-2025**	**11-Jun-2025**	19-Jun-2025	✓	**11-Jun-2025**	19-Jun-2025	✓
Soil Glass Jar - Unpreserved (EP071)							
QC203	**05-Jun-2025**	**11-Jun-2025**	19-Jun-2025	✓	**13-Jun-2025**	21-Jul-2025	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC203	**05-Jun-2025**	**11-Jun-2025**	19-Jun-2025	✓	**11-Jun-2025**	19-Jun-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Forward to ALS

COPY

CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY: Eurofins	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X	Custody Seal intact? Yes No N/A
Melbourne, VIC 3008	Results email:	Non Stand (Due date):	Free ice / frozen icebricks present upon receipt? Yes No N/A
PHONE NO: 9653 1234		COC: 1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 5.7°C
MOBILE NO: 0427 621 002		DF: 1 2 3 4 5 6 7 8	
PROJECT ID: 60602007 / 12	Quote Number: 250625AECV	RELINQUISHED BY: Taye Dastel DATE/TIME: 13/06/2025	RELINQUISHED BY: DATE/TIME:
Project Manager: Robert Crowe	Project Name: Macquarie Point		RECEIVED BY: Shendar Eurofins Hobart 13/6/2025 @ 4:55pm DATE/TIME
SAMPLER: RB / EM / TG / LL	Data Format: Esdat and PDF		

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

SOIL

SAMPLE CONTAINERS

	General Soil Suite & Geomatrix Soil Suite (combined)	PFAS	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + PFAS	Soil Rinsate / Field Blank: General Suite + Geomatrix Suite	Soil Trip Blank	TOTAL BOTTLES
	1	1	1	4	5	8	1	

ANALYSIS REQUEST

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S, W)	1x 250ml Glass Soil Jar	1x PFAS soil jar	1x 100g PASS Sample Bag	1x 200mL Sterr Winkler Amber 2x 40mL Vials 1x 60mL Matrix 1x 500mL PASS bottle	1x 200mL Sterr Winkler Amber 2x 40mL Vials 1x 60mL Matrix 1x 500mL Preserved Inorganics	1x 200mL Sterr Winkler Amber 4x 40mL Vials 1x 60mL Matrix 1x 500mL Preserved Inorganics	1x 40mL Soil Vial	TOTAL BOTTLES	General Soil Suite: TRH, BTEXN, PAH, 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Geomatrix Soil Suite: Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Unfiltered)	PFAS: Full suite - 30 perfluoralkyl, precursor	PASS Suite: pH Field Screen, NATA	PASS Suite: Chromium Reducible Sulphur (SRS)	PASS Suite: SPOCAS	Rinsate & Field Blank: General Suite: TRH, BTEXN, PAH, 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Rinsate & Field Blank: Geomatrix Suite: TRH, BTEXN, 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg), Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Unfiltered)	Trip Blank: TRH/BTEXN	HOLD	COMMENTS: Additional information	Comments on likely contamination, dilutions, samples for QC analysis, specific preparation etc
✓	SV44_0.2	12/6/25	S	2							2											Additional soil collected ✓	
✓	SV44_0.5	12/6/25	S	2							2												
✓	SV44_1.0	12/6/25	S	2							2												
✓	SV44_2.0	12/6/25	S	2							2	X	X										
✓	QC312	12/6/25	W						1		8												
✓	QC412	12/6/25	W						1		8												
✓	QC512	12/6/25	S							1	1												
✓	SV43_0.2	12/6/25	S	1							1												
✓	SV43_0.5	12/6/25	S	1							1												
✓	SV43_1.0	12/6/25	S	1							1												
✓	SV43_2.0	12/6/25	S	1							1	X	X										
✓	SV42_0.2	13/6/25	S	1							1												
✓	SV42_0.5	13/6/25	S	1							1										X		
✓	SV42_1.0	13/6/25	S	1							1										X		
✓	SV42_2.0	13/6/25	S	1							1	X	X										
✓	QC106	13/6/25	S	1							1	X	X										
✓ (1)	QC208	13/6/25	S	1							1	X	X									Forward to ALS for Analysis	
✓	SV41_0.5	13/6/25	S	1							1										X		
✓	SV41_0.8	13/6/25	S	1							1										X		
✓	SV41_1.0	13/6/25	S	1							1	X	X										
✓	SV40_0.2	13/6/25	S	1							1										X		
✓	SV40_0.5	13/6/25	S	1							1										X		
✓	SV40_1.0	13/6/25	S	1							1	X	X										
✓	QC313	13/6/25	W						1		8								X				
✓	QC413	13/6/25	W						1		8										X		
✓	QC513	13/6/25	S							1	1									X			
✓	SV38_0.2	13/6/25	S	1							1										X		

Environmental Division
Melbourne
Work Order Reference
EM2510874

Telephone : +61-3-8549 9600

Report #1232541 SB 16/6/25

Received: 18/6 11:20 Carrier: Hannah
C/note: 4.2°C Seal: Y (N)
Temp: Ice / Icebricks / NA

pg 1/2

COPY

✓	SV39_0.5	13/6/25		0	1							1									x		
✓	SV39_1.0	13/6/25		0	1							1	x	x									
✓	MW186_0.2	13/6/25		0	1							1	x	x									
✓	MW198_0.5	13/6/25		0	1							1									x		
✓	MW198_1.0	13/6/25		0	1							1									x		
✓	MW198_2.0	13/6/25		0	1							1	x	x									
✓	MW198_3.0	13/6/25		0	1							1									x		

Hannah

1

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2510874**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60893007/12	Page	: 1 of 2
Order number	: ----	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: TG		

Dates

Date Samples Received	: 18-Jun-2025 11:20	Issue Date	: 18-Jun-2025
Client Requested Due Date	: 25-Jun-2025	Scheduled Reporting Date	: **25-Jun-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 4.2°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - CYANIDE Cyanide - Free, WAD & Total	SOIL - EA055-103 Moisture Content	SOIL - EK055 (solids) Ammonia as N	SOIL - EP075 SIM SIM - Phenols/PAH	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-04 TRH/BTEXN
EM2510874-001	13-Jun-2025 00:00	QC206	✓	✓	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

RICHARD BOWERS

- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2510874**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60893007/12	Date Samples Received	: 18-Jun-2025 11:20
Order number	: 60893007/12	Date Analysis Commenced	: 20-Jun-2025
C-O-C number	: ----	Issue Date	: 25-Jun-2025 15:38
Sampler	: TG		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: EM2510871 #2, Poor matrix spike recovery for chromium due to sample matrix. Confirmed by re-extraction and re-analysis. The following results were observed for chromium 96 mg/kg and 151 mg/kg.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC206	----	----	----	----
				Sampling date / time	13-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2510874-001	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**25.4**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		**24**	----	----	----	----
Copper	7440-50-8	5	mg/kg		**73**	----	----	----	----
Lead	7439-92-1	5	mg/kg		<5	----	----	----	----
Nickel	7440-02-0	2	mg/kg		**28**	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**30**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	1	mg/kg		<1	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		**2**	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		<1	----	----	----	----
EK055: Ammonia as N									
Ammonia as N	7664-41-7	20	mg/kg		<20	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		**0.6**	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC206	----	----	----	----
				Sampling date / time	13-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2510874-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		**4.4**	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		**1.4**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		**0.8**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		**5.7**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		**6.3**	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**1.9**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		**1.7**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**3.4**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**1.1**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**2.6**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**1.4**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**1.6**	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		**32.3**	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		**3.4**	----	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**3.7**	----	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**3.9**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC206	----	----	----	----
				Sampling date / time	13-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2510874-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		**160**	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**950**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**290**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**1400**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		**320**	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**1000**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**140**	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**1460**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		**320**	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**84.8**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.1**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**103**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC206	----	----	----	----
				Sampling date / time	13-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2510874-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**108**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**119**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**113**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**86.3**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**85.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**95.8**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

QUALITY CONTROL REPORT

Work Order	: **EM2510874**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60893007/12	Date Samples Received	: 18-Jun-2025
Order number	: 60893007/12	Date Analysis Commenced	: 20-Jun-2025
C-O-C number	: ----	Issue Date	: 25-Jun-2025
Sampler	: TG		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 6667067)									
EM2510871-001	Anonymous	EG005T: Chromium	7440-47-3	2	mg/kg	93	113	19.9	0% - 20%
EM2510871-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	54	53	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	22	28	21.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	5	6	18.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	28	21	28.8	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6670573)									
EM2510929-001	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	17.6	17.2	2.1	0% - 50%
EM2510929-010	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	16.4	17.4	5.8	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6667068)									
EM2510871-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 6668759)									
EM2510874-001	QC206	EK025SF: Free Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6668758)									
EM2510874-001	QC206	EK026SF: Total Cyanide	57-12-5	1	mg/kg	2	4	70.5	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 6668760)									
EM2510874-001	QC206	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.0	No Limit
EK055: Ammonia as N (QC Lot: 6667586)									
EM2510874-001	QC206	EK055: Ammonia as N	7664-41-7	20	mg/kg	<20	<20	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 6665297)									
EM2510725-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EM2511010-004	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6665297)									
EM2510725-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 6665297) - continued									
EM2510725-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2511010-004	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6663296)									
EM2510687-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6665298)									
EM2510725-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	120	18.4	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	330	500	39.2	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2511010-004	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	120	17.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	200	250	19.5	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6663296)									
EM2510687-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6665298)									
EM2510725-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	300	430	37.7	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	480	700	36.3	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2511010-004	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	240	290	20.5	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6665298) - continued									
EM2511010-004	Anonymous	EP071: >C34 - C40 Fraction	----	100	mg/kg	110	140	22.5	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 6663296)									
EM2510687-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6667067)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	94.7	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	81.8	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	91.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	87.3	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	96.2	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	76.4	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6667068)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	96.9	69.0	128
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6668759)								
EK025SF: Free Cyanide	----	1	mg/kg	<1	20 mg/kg	75.2	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6668758)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	90.9	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6668760)								
EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	20 mg/kg	79.6	70.0	130
EK055: Ammonia as N (QCLot: 6667586)								
EK055: Ammonia as N	7664-41-7	20	mg/kg	<20	25 mg/kg	87.4	83.0	109
EP075(SIM)A: Phenolic Compounds (QCLot: 6665297)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	86.6	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	97.0	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	94.1	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	81.0	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	72.3	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	82.6	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	84.4	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	85.7	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	92.1	71.5	121
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	79.2	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	104	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	40.1	10.0	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6665297)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	106	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	89.9	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	102	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.9	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	104	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	101	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	104	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	108	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	89.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	106	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	92.7	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	116	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	87.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	82.6	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	84.0	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	82.3	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6663296)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	96.0	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6665298)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	810 mg/kg	109	80.0	120
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2880 mg/kg	108	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1460 mg/kg	107	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6663296)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	94.0	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6665298)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1120 mg/kg	112	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3800 mg/kg	106	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	260 mg/kg	114	80.0	120
EP080: BTEXN (QCLot: 6663296)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	89.9	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	95.0	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	96.0	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	102	64.8	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 6663296) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	106	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	97.4	61.8	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 6667067)							
EM2510871-002	Anonymous	EG005T: Chromium	7440-47-3	50 mg/kg	# 63.6	79.0	121
EM2510871-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	88.8	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.2	79.7	116
		EG005T: Copper	7440-50-8	250 mg/kg	96.6	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	89.0	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	108	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	95.4	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6667068)							
EM2510871-002	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	104	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6668758)							
EM2510687-014	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	99.0	70.0	130
EK055: Ammonia as N (QCLot: 6667586)							
EM2511048-001	Anonymous	EK055: Ammonia as N	7664-41-7	100 mg/kg	88.9	80.0	110
EP075(SIM)A: Phenolic Compounds (QCLot: 6665297)							
EM2510725-002	Anonymous	EP075(SIM): Phenol	108-95-2	3 mg/kg	102	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	94.5	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	59.8	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	95.8	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	32.7	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6665297)							
EM2510725-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	95.5	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	95.9	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6663296)							
EM2510687-014	Anonymous	EP080: C6 - C9 Fraction	----	28 mg/kg	81.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6665298)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6665298) - continued							
EM2510725-007	Anonymous	EP071: C10 - C14 Fraction	----	810 mg/kg	106	70.0	130
		EP071: C15 - C28 Fraction	----	2880 mg/kg	106	70.0	130
		EP071: C29 - C36 Fraction	----	1460 mg/kg	105	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6663296)							
EM2510687-014	Anonymous	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	78.2	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6665298)							
EM2510725-007	Anonymous	EP071: >C10 - C16 Fraction	----	1120 mg/kg	110	70.0	130
		EP071: >C16 - C34 Fraction	----	3800 mg/kg	104	70.0	130
		EP071: >C34 - C40 Fraction	----	260 mg/kg	114	70.0	130
EP080: BTEXN (QCLot: 6663296)							
EM2510687-014	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	80.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	89.8	57.1	131

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2510874**	Page	: 1 of 7
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60893007/12	Date Samples Received	: 18-Jun-2025
Site	: ----	Issue Date	: 25-Jun-2025
Sampler	: TG	No. of samples received	: 1
Order number	: 60893007/12	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2510871--002	Anonymous	**Chromium**	7440-47-3	63.6 %	79.0-121%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)						
Free Cyanide by Segmented Flow Analyser	EK025SF	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QC206	**13-Jun-2025**	**----**	----	----	**24-Jun-2025**	27-Jun-2025	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QC206	**13-Jun-2025**	**23-Jun-2025**	10-Dec-2025	✓	**23-Jun-2025**	10-Dec-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QC206	**13-Jun-2025**	**23-Jun-2025**	11-Jul-2025	✓	**23-Jun-2025**	11-Jul-2025	✓
EK025SF: Free CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK025SF)							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	07-Jul-2025	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	07-Jul-2025	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK028SF)							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	07-Jul-2025	✓
EK055: Ammonia as N							
Soil Glass Jar - Unpreserved (EK055)							
QC206	**13-Jun-2025**	**----**	----	----	**23-Jun-2025**	11-Jul-2025	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	02-Aug-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	02-Aug-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
QC206	**13-Jun-2025**	**20-Jun-2025**	27-Jun-2025	✓	**20-Jun-2025**	27-Jun-2025	✓
Soil Glass Jar - Unpreserved (EP071)							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	02-Aug-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
QC206	**13-Jun-2025**	**20-Jun-2025**	27-Jun-2025	✓	**20-Jun-2025**	27-Jun-2025	✓
Soil Glass Jar - Unpreserved (EP071)							
QC206	**13-Jun-2025**	**23-Jun-2025**	27-Jun-2025	✓	**24-Jun-2025**	02-Aug-2025	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC206	**13-Jun-2025**	**20-Jun-2025**	27-Jun-2025	✓	**20-Jun-2025**	27-Jun-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Buchi Ammonia	EK055	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free Cyanide by Segmented Flow Analyser	EK025SF	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	5	**40.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Buchi Ammonia	EK055	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free Cyanide by Segmented Flow Analyser	EK025SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Buchi Ammonia	EK055	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free Cyanide by Segmented Flow Analyser	EK025SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Buchi Ammonia	EK055	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free Cyanide by Segmented Flow Analyser	EK025SF	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Metals by ICP-AES	EG005T	2	5	**40.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
WAD Cyanide by Segmented Flow Analyser	EK028SF	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

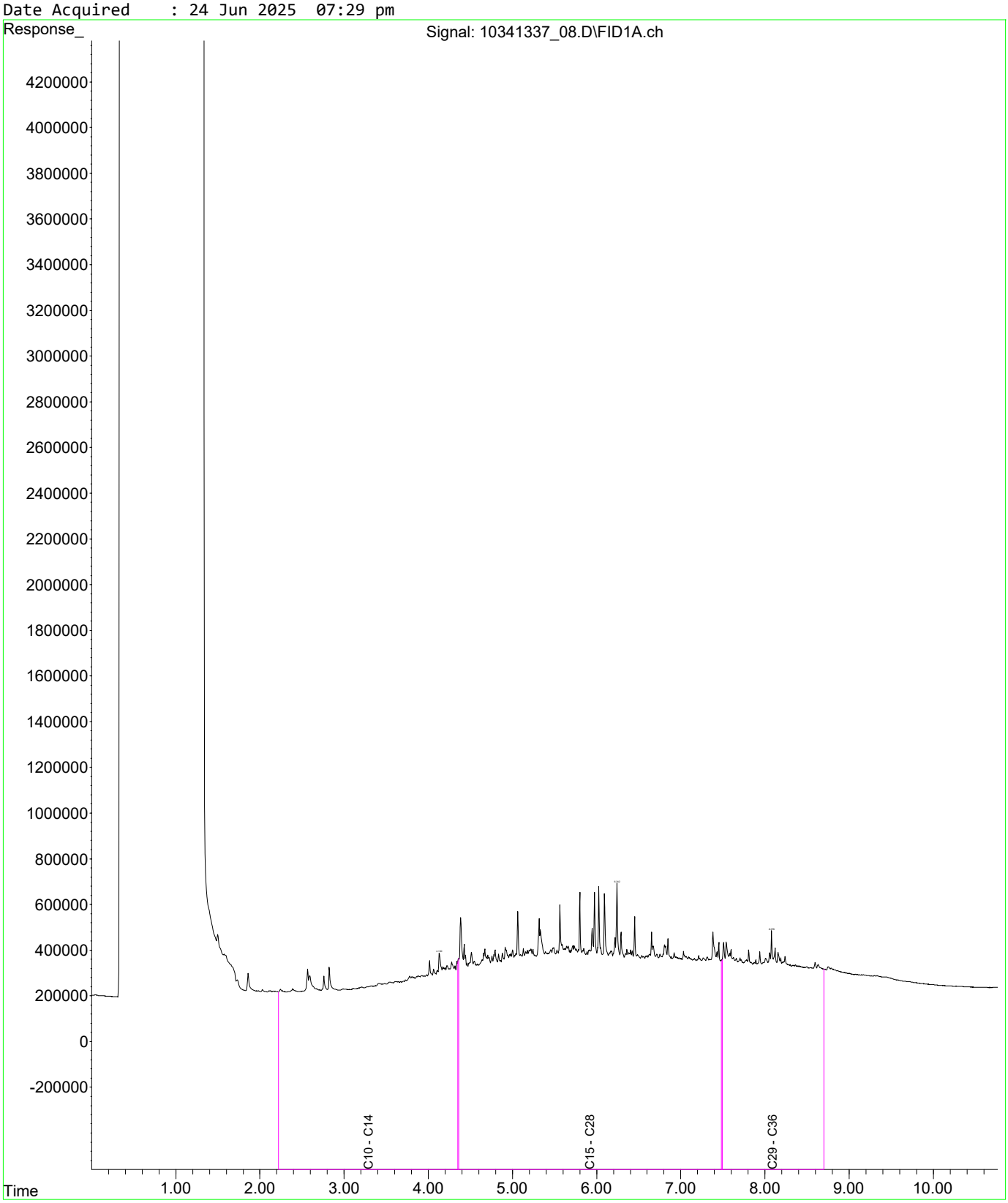
The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Free Cyanide by Segmented Flow Analyser	EK025SF	SOIL	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (caustic leach of a soil) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour. This is measured at 600nm. This method is compliant with NEPM Schedule B(3).
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
WAD Cyanide by Segmented Flow Analyser	EK028SF	SOIL	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Buchi Ammonia	EK055	SOIL	In house: Referenced to APHA 4500-NH3 B&G, H Samples are steam distilled (Buchi) prior to analysis and quantified using titration, FIA or Discrete Analyser.

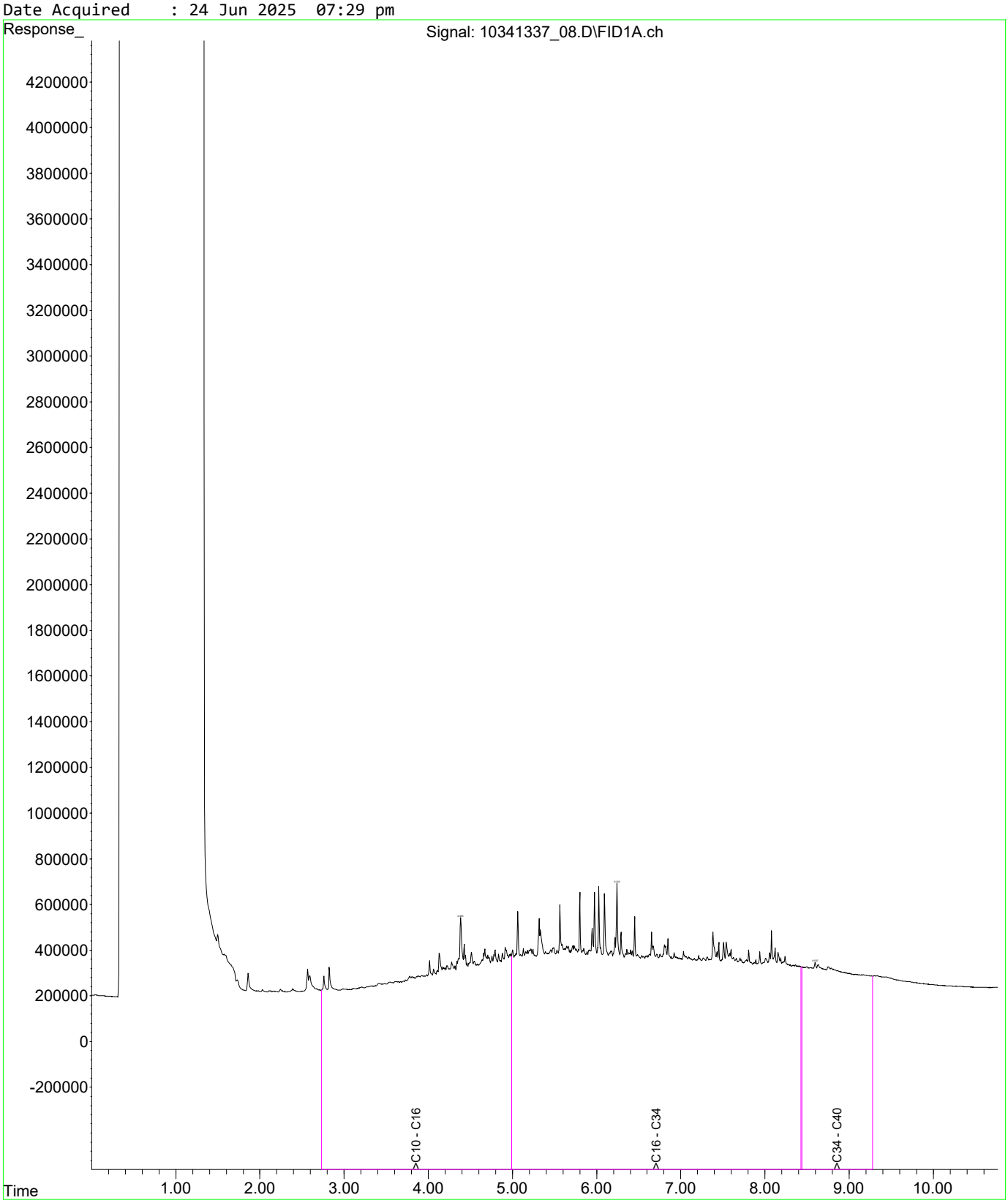
Analytical Methods	Method	Matrix	Method Descriptions
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Fraction Scheme : Legacy Fractions
Data File : 10341337_08.D
Laboratory Number: EM2510874-001
Sample ID : QC206
Date Acquired : 24 Jun 2025 07:29 pm



Fraction Scheme : NEPM Fractions
Data File : 10341337_08.D
Laboratory Number: EM2510874-001
Sample ID : QC206
Date Acquired : 24 Jun 2025 07:29 pm



REBATCH REQUEST

Workorder / Client code / Project:	ALS Workorder EM2509944, Client AECOMAU, Project 60693007		**CS Contact: Peter Ravlic**
Project Manager:	Richard Bowers ***Please include this rebatch PM plus all report recipients as per original workorder***		Additional Information:
Date samples rec'd:	5/06/2025 12:02		
Date Instructions rec'd:	4/07/2025 5:24pm		
Rebatch due date:	Monday, 14 July 2025	FTAT approved?	
Due date surcharge:			

	Sample information							Analysis										
								Standard					Leach					
New Lab ID	Client ID	Sampling Date / Time	Previous Work Order Reference	Previous ALS ID	Tray Number(s)	Container	Managed Moisture	PFAS-EP231X										Shortest Holding time expiry
1	QC202	2/06/2025 0:00	EM2509944	2	MPS: 671	Soil HDPE	YES	X										29-Nov-25
							TOTAL											

Environmental Division
Melbourne
Work Order Reference
EM2512074

Telephone : + 61-3-8549 9600

Ciara Barr

From: Bowers, Richard <Richard.Bowers@aecom.com>
Sent: Friday, 4 July 2025 5:24 PM
To: ALS Enviro Melbourne; Crowe, Robert
Cc: Peter Ravlic
Subject: [EXTERNAL] - RE: - RE: - Changes to Requested Analysis - EM2509944 and EM2510162

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

Apologies for the further complication on this, but could we please undertake PFAS analysis on soil sample EM2509944-002 (QC202), as initially indicated on the COC?
We do not require the other 'General Soil Suite' analysis originally requested for this sample, given those analytes are now mostly out of holding time.

Kind regards,

Richard Bowers

Principal Environmental Scientist, ANZ VSA
M +61 427 821 002
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From: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Sent: Wednesday, 11 June 2025 5:19 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>; ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Cc: Peter Ravlic <peter.ravlic@alsglobal.com>; Bowers, Richard <Richard.Bowers@aecom.com>
Subject: RE: - RE: - Changes to Requested Analysis - EM2509944 and EM2510162

Hey Robert,
Thanks for checking and apologies for the confusion, there was a miscommunication on our end and analysis wasn't actually in progress yet, only minimal prep was started so we stopped at that point so no analysis will be reported and no charge for c.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2512074**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: richard.bowers@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: +61 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007	Page	: 1 of 2
Order number	: 60693007 /12	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: EM		

Dates

Date Samples Received	: 05-Jun-2025 12:02	Issue Date	: 07-Jul-2025
Client Requested Due Date	: 11-Jul-2025	Scheduled Reporting Date	: **11-Jul-2025**

Delivery Details

Mode of Delivery	: Sampled By ALS	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- This is a rebatch of EM2509944
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (30 analytes)
EM2512074-001	02-Jun-2025 00:00	QC202	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com
ESDAT+AECOM		
- EDI Format - ESDAT (ESDAT)	Email	esdat+aecom.au@esdatlabsync.net
RICHARD BOWERS		
- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- A4 - AU Tax Invoice (INV)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com
ROBERT CROWE		
- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **EM2512074**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 05-Jun-2025 12:02
Order number	: 60693007 /12	Date Analysis Commenced	: 08-Jul-2025
C-O-C number	: ----	Issue Date	: 10-Jul-2025 17:27
Sampler	: EM		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X: Poor matrix spike recovery for sample EM2511831-008 due to sample matrix interference.
- This is a rebatch of EM2509944
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per USEPA 1633 limits where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC202	----	----	----	----
				Sampling date / time	02-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512074-001	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		**8.4**	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.0005	mg/kg		<0.0005	----	----	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC202	----	----	----	----
				Sampling date / time	02-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512074-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	----	----	----	----
EP231S: PFAS Surrogate									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC202	----	----	----	----
				Sampling date / time	02-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512074-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231S: PFAS Surrogate - Continued									
13C4-PFOS	----	0.0002	%		**118**	**----**	**----**	**----**	**----**
13C8-PFOA	----	0.0002	%		**104**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

QUALITY CONTROL REPORT

Work Order	: **EM2512074**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 05-Jun-2025
Order number	: 60693007 /12	Date Analysis Commenced	: 08-Jul-2025
C-O-C number	: ----	Issue Date	: 10-Jul-2025
Sampler	: EM		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 6704473)									
EM2512000-044	Anonymous	EA055: Moisture Content	----	0.1 (1.0)*	%	20.2	16.9	17.9	0% - 20%
EM2512074-001	QC202	EA055: Moisture Content	----	0.1	%	8.4	7.5	10.7	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6706189)									
EM2511637-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002 (0.0020)*	mg/kg	<0.0020	<0.0020	0.0	No Limit
		EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EM2511831-054	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002 (0.0020)*	mg/kg	<0.0020	<0.0020	0.0	No Limit
		EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6706189) - continued									
EM2511831-054	Anonymous	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6706189)									
EM2511637-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EM2511831-054	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002 (0.0010)*	mg/kg	<0.0010	<0.0010	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6706189)									
EM2511637-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6706189) - continued									
EM2511637-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EM2511831-054	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6706189)									
EM2511637-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EM2511831-054	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 6706189)									
EM2511637-001	Anonymous	EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EM2511831-054	Anonymous	EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231P: PFAS Sums (QC Lot: 6706189) - continued									
EM2511831-054	Anonymous	EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6706189)								
EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.0005	mg/kg	<0.0005	0.00125 mg/kg	93.6	70.0	130
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00111 mg/kg	95.3	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	102	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00114 mg/kg	87.1	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	93.6	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	96.9	68.0	136
EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.3	69.0	125
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00121 mg/kg	99.2	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6706189)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	94.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.6	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.1	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.6	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.3	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.3	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.1	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.7	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.4	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.5	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	91.7	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6706189)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	83.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	91.8	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	89.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.0	61.0	139

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6706189)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	93.1	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00119 mg/kg	95.3	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	105	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00121 mg/kg	99.0	70.0	130
EP231P: PFAS Sums (QCLot: 6706189)								
EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6706189)							
EM2511831-008	Anonymous	EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.00125 mg/kg	84.3	70.0	130
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00111 mg/kg	91.3	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00118 mg/kg	95.2	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00114 mg/kg	87.3	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	75.3	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	91.9	68.0	136
		EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.00125 mg/kg	# 67.0	69.0	125
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00121 mg/kg	# 35.7	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6706189)							
EM2511831-008	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	92.7	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	94.6	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	87.5	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	92.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	98.0	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	81.6	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	80.6	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	99.4	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	108	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# Not Determined	66.0	139

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6706189) - continued							
EM2511831-008	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	91.6	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6706189)							
EM2511831-008	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	75.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	86.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	87.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	93.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	93.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	83.5	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	77.3	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6706189)							
EM2511831-008	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	101	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00119 mg/kg	88.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	100	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00121 mg/kg	# 48.2	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2512074**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Telephone	: +6138549 9645
Project	: 60693007	Date Samples Received	: 05-Jun-2025
Site	: ----	Issue Date	: 10-Jul-2025
Sampler	: EM	No. of samples received	: 1
Order number	: 60693007 /12	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EM2511831--008	Anonymous	**Perfluorononane sulfonic acid (PFNS)**	68259-12-1	67.0 %	69.0-125%	**Recovery less than lower data quality objective**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2511831--008	Anonymous	**Perfluorodecane sulfonic acid (PFDS)**	335-77-3	35.7 %	59.0-134%	**Recovery less than lower data quality objective**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2511831--008	Anonymous	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	48.2 %	70.0-130%	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Lab Split: Managed Moisture for Dry Weight Det. (EA055) QC202	**02-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	29-Nov-2025	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) QC202	**02-Jun-2025**	**09-Jul-2025**	29-Nov-2025	✓	**09-Jul-2025**	18-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) QC202	**02-Jun-2025**	**09-Jul-2025**	29-Nov-2025	✓	**09-Jul-2025**	18-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) QC202	**02-Jun-2025**	**09-Jul-2025**	29-Nov-2025	✓	**09-Jul-2025**	18-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) QC202	**02-Jun-2025**	**09-Jul-2025**	29-Nov-2025	✓	**09-Jul-2025**	18-Aug-2025	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) QC202	**02-Jun-2025**	**09-Jul-2025**	29-Nov-2025	✓	**09-Jul-2025**	18-Aug-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. A portion of homogenised sample is extracted along with isotope dilution standards (where commercially available) in a solution of ammonium acetate in acetonitrile/methanol. Where relevant, interferences from co-extracted organics are removed using dispersive clean-up media (dSPE). A portion of extract is combined with an equal volume of reagent water and filtered for instrumental analysis.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATOR** Eurofins	**TURNAROUND REQUIREMENTS** (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X	Custody Seal Intact? Yes / No / N/A
Melbourne, VIC 3008	**Results email:**		Free ice / frozen icebricks present upon receipt? Yes / No / N/A
PHONE NO: 9653 1234	eurofin+aecom-au@eurofinsmvyc.net	1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 5.7°C
MOBILE NO: 0427 821 002	robert.crowe@aecom.com; richard.bowes@aecom.com	1 2 3 4 5 6 7 8	
PROJECT ID: 60693007 / 12	**Quote Number:** 250502AECV		RELINQUISHED BY: / RECEIVED BY: Sheridan Eurofins Hobart
Project Manager: Robert Crowe	**Project Name:** Macquarie Point		DATE/TIME: / DATE/TIME: 13/6/2025 @ 6:15pm
SAMPLER: RB / EM / TG / LL	**Data Format:** Excel and PDF		

NOTES:

Please use Project ID '60321836_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

					WATER												
					SAMPLE CONTAINERS					ANALYSIS REQUEST					COMMENTS	
					General Water Suite	General Water Suite + Eco Risk Suite	PFAS	Trip Blank		General Water Suite	Eco Risk Suite	PFAS	Trip Blank		Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
					9	3	1	1									
	LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	1x 500mL Inorganics; 1x 250mL Bore Volatiles Amber; 4x 40mL Vials; 1x 250mL Metals; 1x 250mL Cyanide/Cr6+; 1x 60mL Preserved Inorganics	In addition to General Water Suite Bottles: 1x 250mL Semi Volatile Amber - Filtered to 5µm & 40mL Vials - Filtered to 5µm	1x 500mL PFAS bottle	1x 40mL Water Vial	TOTAL BOTTLES	TRH / BTEX(N) / PAH / Phenols (Phenols (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) Benzo(a)pyrene #5 (incl TDS) Cyanide (Total, Free & WAD) Hardness as N Methane	TRH Aliphatic / Aromatic Speciation PAH (DEC-08) silica gel cleanup TRH (DEC-08) silica gel cleanup on filtered sample PAH - on 5 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	OHCS-OP, BTEXN	HOLD		
	✓	MW153	12/6/25		W	X				9	X						* Sample MW133-GHD received as MW133. Sample MW132-GHD received as MW132. Sample QC515 received as QC514 -SB 16/6.
*	✓	MW133_GHD	12/6/25		W	X				9	X						
*	✓	MW132_GHD	12/6/25		W	X				9	X						
	✓	MW130_GHD	12/6/25		W	X				9	X						
	✓	MW160	13/6/25		W	X				9	X						
	✓	MW131_GHD	13/6/25		W	X				9					X		
	✓	MW123A	13/6/25		W	X				9	X						
	✓	QC311	12/6/25		W	X				9	X						
	✓	QC411	12/6/25		W	X				9					X		
	✓	QC511	12/6/25		W				X	1				X			
	✓	QC314	13/6/25		W	X				9	X						
	✓	QC414	13/6/25		W	X				9					X		
*	✓	QC515	13/6/25		W				X	1				X			

Report #1232587 16/6/25 SB-

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

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Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 13, 2025 6:15 PM
Eurofins reference	1232587

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample MW133_GHD received as MW133. Sample MW132_GHD received as MW132. Sample QC515 received as QC514. Logged as per COC. Please confirm sample IDs.
Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232587
Phone: 08 7223 5400
Fax:

Received: Jun 13, 2025 6:15 PM
Due: Jun 23, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese	Methane	Eurofins Suite B11B	Eurofins Suite B7A	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	MW153	Jun 12, 2025		Water	M25-Jn0040583	X	X	X		X	X	X	X	
2	MW133_GHD	Jun 12, 2025		Water	M25-Jn0040584	X	X	X		X	X	X	X	
3	MW132_GHD	Jun 12, 2025		Water	M25-Jn0040585	X	X	X		X	X	X	X	
4	MW130_GHD	Jun 12, 2025		Water	M25-Jn0040586	X	X	X		X	X	X	X	
5	MW150	Jun 12, 2025		Water	M25-Jn0040587	X	X	X		X	X	X	X	
6	MW123A	Jun 12, 2025		Water	M25-Jn0040588	X	X	X		X	X	X	X	
7	QC311	Jun 12, 2025		Water	M25-Jn0040589	X	X	X		X	X	X	X	
8	QC511	Jun 12, 2025		Water	M25-Jn0040590									X
9	QC314	Jun 13, 2025		Water	M25-Jn0040591	X	X	X		X	X	X	X	
10	QC515	Jun 13, 2025		Water	M25-Jn0040592									X
11	MW131_GHD	Jun 12, 2025		Water	M25-Jn0040593				X					
12	QC411	Jun 12, 2025		Water	M25-Jn0040594				X					
13	QC414	Jun 13, 2025		Water	M25-Jn0040595				X					
Test Counts						8	8	8	3	8	8	8	8	2

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1232587-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 13, 2025

Client Sample ID			**MW153**	**MW133_GHD**	**MW132_GHD**	**MW130_GHD**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0040583**	**M25-Jn0040584**	**M25-Jn0040585**	**M25-Jn0040586**
Date Sampled			**Jun 12, 2025**	**Jun 12, 2025**	**Jun 12, 2025**	**Jun 12, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	0.50	1.6
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	0.32	1.1
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	0.6	0.8
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	0.92	1.9
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	0.56	2.1
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	0.28	0.62
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	0.66	1.4
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	0.64	1.17
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	0.02	0.23
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	0.2	0.3
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	0.86	1.7
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	0.25	0.65
Toluene	0.001	mg/L	< 0.001	< 0.001	0.002	0.052
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	0.009	0.39
m&p-Xylenes	0.002	mg/L	< 0.002	0.005	0.006	0.11
o-Xylene	0.001	mg/L	< 0.001	0.001	0.009	0.28
Xylenes - Total*	0.003	mg/L	< 0.003	0.006	0.015	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103	107	125	104
Dissolved Gases						
Methane	0.05	mg/L	0.36	6.0	1.1	1.1
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.036	0.057	0.046
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	0.008	0.003
Anthracene	0.001	mg/L	< 0.001	0.007	0.006	0.003
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	0.003	0.002	0.002

Client Sample ID			MW153	MW133_GHD	MW132_GHD	MW130_GHD
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0040583	M25-Jn0040584	M25-Jn0040585	M25-Jn0040586
Date Sampled			Jun 12, 2025	Jun 12, 2025	Jun 12, 2025	Jun 12, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.001	mg/L	< 0.001	0.015	0.033	0.011
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	0.004	0.011	0.26
Phenanthrene	0.001	mg/L	< 0.001	0.018	< 0.001	0.014
Pyrene	0.001	mg/L	< 0.001	0.002	0.002	0.002
Total PAH*	0.001	mg/L	< 0.001	0.085	0.12	0.34
2-Fluorobiphenyl (surr.)	1	%	142	52	145	52
p-Terphenyl-d14 (surr.)	1	%	87	91	101	105
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	117	121	117	117
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	5.2	7.0	22	17
Chloride	1	mg/L	12000	48	77	99
Conductivity (at 25 °C)	10	uS/cm	29000	1300	1400	1500
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005	0.010	0.014
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	0.010	0.014
Nitrate (as N)	0.02	mg/L	0.45	< 0.02	0.02	0.89
Sulphate (as SO4)	5	mg/L	120	< 5	120	130
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	20000	750	860	990
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	820	1000	800	740
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10

Client Sample ID			MW153	MW133_GHD	MW132_GHD	MW130_GHD
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0040583	M25-Jn0040584	M25-Jn0040585	M25-Jn0040586
Date Sampled			Jun 12, 2025	Jun 12, 2025	Jun 12, 2025	Jun 12, 2025
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	250	160	150	190
Magnesium	0.5	mg/L	680	43	35	31
Potassium	0.5	mg/L	220	16	8.7	8.3
Sodium	0.5	mg/L	5600	60	96	93
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.25	1.2	2.2	1.5
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.001	0.003	0.007
Zinc (filtered)	0.005	mg/L	< 0.005	0.007	0.009	< 0.005

Client Sample ID			MW150	MW123A	QC311	QC511
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0040587	M25-Jn0040588	M25-Jn0040589	M25-Jn0040590
Date Sampled			Jun 12, 2025	Jun 12, 2025	Jun 12, 2025	Jun 12, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	107	108	105	109
Dissolved Gases						
Methane	0.05	mg/L	19	< 0.05	< 0.05	-

Client Sample ID			MW150	MW123A	QC311	QC511
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0040587	M25-Jn0040588	M25-Jn0040589	M25-Jn0040590
Date Sampled			Jun 12, 2025	Jun 12, 2025	Jun 12, 2025	Jun 12, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.003	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	0.002	< 0.001	< 0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Total PAH*	0.001	mg/L	0.005	< 0.001	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	145	149	138	-
p-Terphenyl-d14 (surr.)	1	%	91	98	84	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Phenol-d6 (surr.)	1	%	117	100	117	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Ammonia (as N)	0.01	mg/L	28	0.30	< 0.01	-
Chloride	1	mg/L	220	25	< 1	-
Conductivity (at 25 °C)	10	uS/cm	1100	750	< 10	-
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Cyanide (total)	0.005	mg/L	< 0.005	0.013	< 0.005	-

Client Sample ID			MW150	MW123A	QC311	QC511
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0040587	M25-Jn0040588	M25-Jn0040589	M25-Jn0040590
Date Sampled			Jun 12, 2025	Jun 12, 2025	Jun 12, 2025	Jun 12, 2025
Test/Reference	LOR	Unit				
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	0.013	< 0.005	-
Nitrate (as N)	0.02	mg/L	0.06	2.5	< 0.02	-
Sulphate (as SO4)	5	mg/L	< 5	11	< 5	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	720	420	< 10	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	340	< 20	< 20	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	150	< 10	-
Alkali Metals						
Calcium	0.5	mg/L	110	30	< 0.5	-
Magnesium	0.5	mg/L	33	< 0.5	< 0.5	-
Potassium	0.5	mg/L	27	28	< 0.5	-
Sodium	0.5	mg/L	43	86	< 0.5	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.010	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	0.009	< 0.001	-
Copper (filtered)	0.001	mg/L	< 0.001	0.018	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Manganese (filtered)	0.005	mg/L	0.26	< 0.005	< 0.005	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Nickel (filtered)	0.001	mg/L	< 0.001	0.005	< 0.001	-
Zinc (filtered)	0.005	mg/L	0.006	< 0.005	< 0.005	-

Client Sample ID			QC314	QC514
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0040591	M25-Jn0040592
Date Sampled			Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002

Client Sample ID			QC314	QC514
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0040591	M25-Jn0040592
Date Sampled			Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit		
BTEX				
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	109	108
Dissolved Gases				
Methane	0.05	mg/L	< 0.05	-
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	-
Total PAH*	0.001	mg/L	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	145	-
p-Terphenyl-d14 (surr.)	1	%	115	-
Phenols (Halogenated)				
2-Chlorophenol	0.003	mg/L	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	-
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	-
Phenol	0.003	mg/L	< 0.003	-
Phenol-d6 (surr.)	1	%	121	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	-

Client Sample ID			QC314	QC514
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0040591	M25-Jn0040592
Date Sampled			Jun 13, 2025	Jun 13, 2025
Test/Reference	LOR	Unit		
Ammonia (as N)	0.01	mg/L	< 0.01	-
Chloride	1	mg/L	< 1	-
Conductivity (at 25 °C)	10	uS/cm	< 10	-
Cyanide (free)	0.005	mg/L	< 0.005	-
Cyanide (total)	0.005	mg/L	< 0.005	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	-
Nitrate (as N)	0.02	mg/L	0.02	-
Sulphate (as SO4)	5	mg/L	< 5	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	< 10	-
Alkalinity (speciated)				
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	< 20	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	-
Alkali Metals				
Calcium	0.5	mg/L	< 0.5	-
Magnesium	0.5	mg/L	< 0.5	-
Potassium	0.5	mg/L	< 0.5	-
Sodium	0.5	mg/L	< 0.5	-
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	-
Copper (filtered)	0.001	mg/L	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	-
Manganese (filtered)	0.005	mg/L	< 0.005	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-
Nickel (filtered)	0.001	mg/L	< 0.001	-
Zinc (filtered)	0.005	mg/L	< 0.005	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 17, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 19, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Dissolved Gases	Melbourne	Jun 17, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jun 19, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 17, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 17, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 17, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 17, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1232587
Phone: 0422 692 187
Fax:

Received: Jun 13, 2025 6:15 PM
Due: Jun 23, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	MW153	Jun 12, 2025		Water	M25-Jn0040583	X	X	X		X	X	X	X	
2	MW133_GHD	Jun 12, 2025		Water	M25-Jn0040584	X	X	X		X	X	X	X	
3	MW132_GHD	Jun 12, 2025		Water	M25-Jn0040585	X	X	X		X	X	X	X	
4	MW130_GHD	Jun 12, 2025		Water	M25-Jn0040586	X	X	X		X	X	X	X	
5	MW150	Jun 12, 2025		Water	M25-Jn0040587	X	X	X		X	X	X	X	
6	MW123A	Jun 12, 2025		Water	M25-Jn0040588	X	X	X		X	X	X	X	
7	QC311	Jun 12, 2025		Water	M25-Jn0040589	X	X	X		X	X	X	X	
8	QC511	Jun 12, 2025		Water	M25-Jn0040590									X
9	QC314	Jun 13, 2025		Water	M25-Jn0040591	X	X	X		X	X	X	X	
10	QC514	Jun 13, 2025		Water	M25-Jn0040592									X
11	MW131_GHD	Jun 12, 2025		Water	M25-Jn0040593				X					
12	QC411	Jun 12, 2025		Water	M25-Jn0040594				X					
13	QC414	Jun 13, 2025		Water	M25-Jn0040595				X					
Test Counts						8	8	8	3	8	8	8	8	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
Naphthalene	%	99			70-130	Pass	
LCS - % Recovery							
BTEX							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	%	98			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	95			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
Pentachlorophenol	%	55			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	39			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	41			25-140	Pass	
4-Nitrophenol	%	38			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	95			70-130	Pass	
Chloride	%	105			70-130	Pass	
Cyanide (weak acid dissoc.)	%	118			70-130	Pass	
Sulphate (as SO4)	%	108			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	104			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	90			80-120	Pass	
Magnesium	%	94			80-120	Pass	
Potassium	%	92			80-120	Pass	
Sodium	%	92			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	100			80-120	Pass	
Cadmium (filtered)	%	101			80-120	Pass	
Chromium (filtered)	%	99			80-120	Pass	
Copper (filtered)	%	100			80-120	Pass	
Lead (filtered)	%	100			80-120	Pass	
Manganese (filtered)	%	100			80-120	Pass	
Mercury (filtered)	%	97			80-120	Pass	
Nickel (filtered)	%	99			80-120	Pass	
Zinc (filtered)	%	100			80-120	Pass	
LCS - % Recovery							
Chloride	%	106			70-130	Pass	
Sulphate (as SO4)	%	99			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	88			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	104			70-130	Pass	
Benz(a)anthracene	%	84			70-130	Pass	
Benzo(a)pyrene	%	70			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	112			70-130	Pass	
Dibenz(a.h)anthracene	%	87			70-130	Pass	
Fluoranthene	%	80			70-130	Pass	
Fluorene	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	78			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	74			25-140	Pass	
2.4-Dichlorophenol	%	60			25-140	Pass	
2.4.5-Trichlorophenol	%	68			25-140	Pass	
2.4.6-Trichlorophenol	%	64			25-140	Pass	
2.6-Dichlorophenol	%	58			25-140	Pass	
4-Chloro-3-methylphenol	%	79			25-140	Pass	
Tetrachlorophenols - Total	%	54			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Nitrophenol	%	72			25-140	Pass	
2.4-Dimethylphenol	%	64			25-140	Pass	
2-Methylphenol (o-Cresol)	%	46			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	41			25-140	Pass	
Dinoseb	%	37			25-140	Pass	
Phenol	%	31			25-140	Pass	
LCS - % Recovery							
Chloride	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	82			70-130	Pass	
TRH >C10-C16	%	74			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	102			70-130	Pass	
LCS - % Recovery							
Chloride	%	104			70-130	Pass	
Cyanide (total)	%	127			70-130	Pass	
Sulphate (as SO4)	%	102			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	118			70-130	Pass	
LCS - % Recovery							
Chloride	%	104			70-130	Pass	
Conductivity (at 25 °C)	%	94			70-130	Pass	
Sulphate (as SO4)	%	97			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0039073	NCP	%	105			70-130	Pass	
TRH C6-C10	M25-Jn0039073	NCP	%	104			70-130	Pass	
Naphthalene	M25-Jn0039073	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0039073	NCP	%	106			70-130	Pass	
Toluene	M25-Jn0039073	NCP	%	101			70-130	Pass	
Ethylbenzene	M25-Jn0039073	NCP	%	102			70-130	Pass	
m&p-Xylenes	M25-Jn0039073	NCP	%	101			70-130	Pass	
o-Xylene	M25-Jn0039073	NCP	%	100			70-130	Pass	
Xylenes - Total*	M25-Jn0039073	NCP	%	100			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Dissolved Gases				Result 1					
Methane	M25-Jn0037745	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
Pentachlorophenol	M25-Jn0051662	NCP	%	46			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	M25-Jn0051662	NCP	%	45			30-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0038194	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jn0004889	NCP	%	87			75-125	Pass	
Magnesium	M25-Jn0004889	NCP	%	93			75-125	Pass	
Potassium	M25-Jn0004889	NCP	%	91			75-125	Pass	
Sodium	M25-Jn0004889	NCP	%	88			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jn0049935	NCP	%	104			75-125	Pass	
Cadmium (filtered)	M25-Jn0049935	NCP	%	102			75-125	Pass	
Chromium (filtered)	M25-Jn0049935	NCP	%	98			75-125	Pass	
Copper (filtered)	M25-Jn0049935	NCP	%	92			75-125	Pass	
Lead (filtered)	M25-Jn0049935	NCP	%	93			75-125	Pass	
Manganese (filtered)	M25-Jn0040583	CP	%	61			75-125	Fail	Q08
Mercury (filtered)	M25-Jn0049935	NCP	%	89			75-125	Pass	
Nickel (filtered)	M25-Jn0049935	NCP	%	94			75-125	Pass	
Zinc (filtered)	M25-Jn0049935	NCP	%	94			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M25-Jn0037741	NCP	%	87			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0040588	CP	%	102			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0040589	CP	%	88			70-130	Pass	
Acenaphthylene	M25-Jn0040589	CP	%	94			70-130	Pass	
Anthracene	M25-Jn0040589	CP	%	100			70-130	Pass	
Benz(a)anthracene	M25-Jn0040589	CP	%	84			70-130	Pass	
Benzo(a)pyrene	M25-Jn0040589	CP	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0040589	CP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0040589	CP	%	78			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0040589	CP	%	102			70-130	Pass	
Chrysene	M25-Jn0040589	CP	%	128			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0040589	CP	%	70			70-130	Pass	
Fluoranthene	M25-Jn0040589	CP	%	84			70-130	Pass	
Fluorene	M25-Jn0040589	CP	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0040589	CP	%	70			70-130	Pass	
Naphthalene	M25-Jn0040589	CP	%	88			70-130	Pass	
Phenanthrene	M25-Jn0040589	CP	%	92			70-130	Pass	
Pyrene	M25-Jn0040589	CP	%	80			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0040589	CP	%	54			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0040589	CP	%	42			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0040589	CP	%	40			30-130	Pass	
2.4.6-Trichlorophenol	M25-Jn0040589	CP	%	33			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0040589	CP	%	31			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0040589	CP	%	76			30-130	Pass	
Tetrachlorophenols - Total	M25-Jn0040589	CP	%	36			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0040589	CP	%	42			30-130	Pass	
2-Nitrophenol	M25-Jn0040589	CP	%	42			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0040589	CP	%	50			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0040589	CP	%	44			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0040589	CP	%	38			30-130	Pass	
Dinoseb	M25-Jn0040589	CP	%	35			30-130	Pass	
Phenol	M25-Jn0040589	CP	%	32			30-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M25-Jn0040591	CP	%	90			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0040583	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M25-Jn0040583	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M25-Jn0040583	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0040583	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0040583	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0040583	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0040583	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0040583	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0040583	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0040583	CP	mg/L	0.36	0.51	34	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0038193	NCP	mg/L	0.13	0.23	1.0	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0037744	NCP	uS/cm	10000	10000	1.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0042530	NCP	mg/L	2600	2700	2.2	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0037222	NCP	mg/L	130	120	11	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0037222	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0037217	NCP	mg/L	20	19	5.0	30%	Pass	
Magnesium	M25-Jn0037217	NCP	mg/L	50	49	3.0	30%	Pass	
Potassium	M25-Jn0037217	NCP	mg/L	6.3	5.9	6.0	30%	Pass	
Sodium	M25-Jn0037217	NCP	mg/L	89	88	1.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0049935	NCP	mg/L	0.003	0.003	3.0	30%	Pass	
Cadmium (filtered)	M25-Jn0049935	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0049935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0049935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-Jn0049935	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-Jn0040583	CP	mg/L	0.25	0.24	4.0	30%	Pass	
Mercury (filtered)	M25-Jn0049935	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0049935	NCP	mg/L	0.007	0.007	2.0	30%	Pass	
Zinc (filtered)	M25-Jn0049935	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0040584	CP	mg/L	48	54	11	30%	Pass	
Sulphate (as SO4)	M25-Jn0040584	CP	mg/L	< 5	< 5	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0040587	CP	mg/L	19	17	9.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M25-Jn0040587	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0040588	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0040588	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0040588	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0040588	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0040588	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0040588	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0040588	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0040588	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0040588	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0040588	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0040588	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0040588	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0040588	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0040588	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0040588	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0040588	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0040588	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0040588	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0040588	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0040588	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0040588	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0040588	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0040588	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0040588	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0040588	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0040589	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M25-Jn0040589	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M25-Jn0040589	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0040589	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0040589	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0040589	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0040589	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0040589	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0040589	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0040589	CP	mg/L	< 1	< 1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street Melbourne, VIC 3008	LABORATOR Eurofins	TURNAROUND REQUIREMENTS (mark Due date or 'X')	
		Standard	X
PHONE NO: 9653 1234	Results email:		
MOBILE NO: 0427 821 002			1 2 3 4 5 6 7 8
PROJECT ID: 60693007 / 12	Quote Number: 350502AECV		1 2 3 4 5 6 7 8
Project Manager: Robert Crowe	Project Name: Macquarie Point		
SAMPLER: RB / EM / TG / LL	Data Format: Esdat and PDF		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen icebricks present upon receipt?	Yes	No	N/A
Sample Temperature on Receipt	4.9°C		

RELINQUISHED BY:	RECEIVED BY: Sheridan Eurofins Hobart 18/6/2025 @ 5:39pm
DATE/TIME	DATE/TIME

NOTES:

Please use Project ID '60321838_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	SAMPLE CONTAINERS: General Water Suite (3)	SAMPLE CONTAINERS: General Water Suite + Eco Risk Suite (3)	SAMPLE CONTAINERS: PFAS (1)	SAMPLE CONTAINERS: Trip Blank (1)	TOTAL BOTTLES	ANALYSIS REQUEST: General Water Suite	ANALYSIS REQUEST: Eco Risk Suite	ANALYSIS REQUEST: PFAS	ANALYSIS REQUEST: Trip Blank	HOLD	COMMENTS: Additional Information	COMMENTS: Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
					1x 500mL Inorganics 1x 200mL Semi Volatiles Amber 1x 40mL Vials 1x 40mL Metals 1x 60mL Cyanide/Cyf- 1x 60mL Preserved Inorganics	1x addition to General Water Suite Bottles: 1x 200mL Semi Volatile Amber - Filtered to 5µm 2x 40mL Vials - Filtered to 5µm	1x 500mL PFAS bottle	1x 40mL Water Vial		TRH / BTEXN / PAH / Phenolic 3 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) Manganese Calcium/Aluminium #3 (incl TDS) Cyanide (Total, Free & WAD) Ammonia as N Methane	TRH Aliphatic / Aromatic Speciation TRH (C6-C40) (silica gel cleaning) TRH (C6-C40) - on 5 µm field filtered sample PAH - on 5 µm field filtered sample	PFAS Full suite - 30 compounds, trace level	TRH(C6-C9) BTEXN		Report #1234320 SB 19/6	
✓	MW179	17/6/25		W	X				9	X						
✓	NR1	17/6/25		W	X				9	X						
✓	MW160	17/6/25		W	X				9	X						
✓	MW183	17/6/25		W	X				9	X						
✓	MW190	17/6/25		W	X				9	X						
✓	TW02	17/6/25		W	X				9	X						
✓	MW178	17/6/25		W	X				9	X						
✓	BG1	17/6/25		W	X		x		10	X		x				
✓	MW194	17/6/25		W	X		x		10			x				
✓	MW182	17/6/25		W	x				9	x						
✓	QC315	17/6/25		W	X				9	X					* 500mL PFAS bottle also received for samples QC315 and QC415 SB 18/6.	
✓	QC415	17/6/25		W	X				9					X		
✓	QC515	17/6/25		W				X	1				X			
✓	QC516	17/6/25		W				x	1				x			

Sheridan Barrett

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Thursday, 19 June 2025 1:23 PM
To: Sheridan Barrett; Lee, Laura
Cc: Bowers, Richard; Gerstel, Taya
Subject: RE: Coc for project 60693007

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

All groundwater metals bottles have been field filtered.

Cheers,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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From: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Sent: Thursday, 19 June 2025 12:49 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>; Lee, Laura <Laura.Lee@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

Hi Robert,

Wonderful, thank you for confirming that.

I also just have one more thing to confirm – all the metals bottles received with this batch have the “dissolved field filtered (0.45 microns)” box ticked. However, the COC does not specify if filtered or total metals analysis is required.

Would these metals bottles have been field filtered? and require filtered metals analysis?

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd

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E-mail: sheridan.barrett@eurofinsanz.com
Website: www.eurofins.com.au

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Please note my office hours are 10am to 5pm Monday to Friday.

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---

From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Thursday, 19 June 2025 12:05 PM
To: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>; Lee, Laura <Laura.Lee@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

Yes, please proceed with the PFAS analysis on MW194.

Thanks,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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From: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Sent: Thursday, 19 June 2025 11:37 AM

To: Crowe, Robert <Robert.Crowe@aecom.com>; Lee, Laura <Laura.Lee@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

Hi Robert,

I have added the extra analyses for sample MW194, as requested below.
I just wanted to confirm if you were still after the PFAS full trace level analysis on this sample as well as per the COC?

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

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E-mail: sheridan.barrett@eurofinsanz.com
Website: www.eurofins.com.au

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Thursday, 19 June 2025 10:17 AM
To: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>; Lee, Laura <Laura.Lee@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

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Thanks – much appreciated

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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From: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Sent: Thursday, 19 June 2025 10:13 AM
To: Crowe, Robert <Robert.Crowe@aecom.com>; Lee, Laura <Laura.Lee@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

Good morning Robert,

Certainly, I will get that updated for you.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

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282A Argyle Street
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Mobile: +61 438 384 921
E-mail: sheridan.barrett@eurofinsanz.com
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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Thursday, 19 June 2025 9:51 AM
To: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>; Lee, Laura <Laura.Lee@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

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Morning Sheridan,

Could you update the requested analysis on sample MW194 in this batch to include the general suite:

- TRH / BTEXN / PAH / Phenols
- 8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)
- Manganese
- Cations/Anions #3 (incl TDS)
- Cyanide (Total, Free & WAD)
- Ammonia as N
- Methane

Thank you,

Robert Crowe
He/him/his

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robert.crowe@aecom.com

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From: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Sent: Wednesday, 18 June 2025 5:49 PM
To: Lee, Laura <Laura.Lee@aecom.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: RE: Coc for project 60693007

Hi Laura,

Wonderful, thank you for sending that through.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
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Please note my office hours are 10am to 5pm Monday to Friday.

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From: Lee, Laura <Laura.Lee@aecom.com>
Sent: Wednesday, 18 June 2025 5:39 PM
To: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>; Bowers, Richard <Richard.Bowers@aecom.com>; Gerstel, Taya <taya.gerstel@aecom.com>
Subject: Coc for project 60693007

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

Please find attached the COC for the samples dropped this afternoon.

Thank you,

Laura Lee

Professional Environmental Scientist, ANZ VSA

M +61 436 410 120
laura.lee@aecom.com

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Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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ABN: 91 05 0159 898

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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 18, 2025 5:39 PM
Eurofins reference	1234320

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.9 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234320
Phone: 08 7223 5400
Fax:

Received: Jun 18, 2025 5:39 PM
Due: Jun 26, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X
External Laboratory										

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	MW179	Jun 17, 2025		Water	M25-Jn0051413	X	X	X		X	X	X	X		
2	NR1	Jun 17, 2025		Water	M25-Jn0051414	X	X	X		X	X	X	X		
3	MW160	Jun 17, 2025		Water	M25-Jn0051415	X	X	X		X	X	X	X		
4	MW183	Jun 17, 2025		Water	M25-Jn0051416	X	X	X		X	X	X	X		
5	MW190	Jun 17, 2025		Water	M25-Jn0051417	X	X	X		X	X	X	X		
6	TW02	Jun 17, 2025		Water	M25-Jn0051418	X	X	X		X	X	X	X		
7	MW178	Jun 17, 2025		Water	M25-Jn0051419	X	X	X		X	X	X	X		
8	BG1	Jun 17, 2025		Water	M25-Jn0051420	X	X	X		X	X	X	X		X
9	MW194	Jun 17, 2025		Water	M25-Jn0051421	X	X	X		X	X	X	X		X
10	MW182	Jun 17, 2025		Water	M25-Jn0051422	X	X	X		X	X	X	X		
11	QC315	Jun 17, 2025		Water	M25-Jn0051423	X	X	X		X	X	X	X		
12	QC415	Jun 17, 2025		Water	M25-Jn0051424				X						
13	QC515	Jun 17, 2025		Water	M25-Jn0051425									X	
14	QC516	Jun 17, 2025		Water	M25-Jn0051426									X	

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NZBN: 9429046024954

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X
Test Counts	11	11	11	1	11	11	11	11	2	2

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1234320-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 18, 2025

Client Sample ID			**MW179**	**NR1**	**MW160**	**MW183**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0051413**	**M25-Jn0051414**	**M25-Jn0051415**	**M25-Jn0051416**
Date Sampled			**Jun 17, 2025**	**Jun 17, 2025**	**Jun 17, 2025**	**Jun 17, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.05	0.31	< 0.05	0.09
TRH C15-C28	0.1	mg/L	0.6	1.8	< 0.1	0.7
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.65	2.11	< 0.1	0.79
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.13	0.79	< 0.05	0.26
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	0.13	0.79	< 0.05	0.26
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	0.5	1.4	< 0.1	0.5
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.63	2.19	< 0.1	0.76
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	85	91	97	93
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	0.15	< 0.05	0.36
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			MW179	NR1	MW160	MW183
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051413	M25-Jn0051414	M25-Jn0051415	M25-Jn0051416
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	115	81	101	98
p-Terphenyl-d14 (surr.)	1	%	109	96	122	84
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	137	123	70	84
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	0.58	0.06	0.01	0.32
Chloride	1	mg/L	18	13	21	34
Conductivity (at 25 °C)	10	uS/cm	770	1200	740	1000
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005	< 0.005	0.009
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	0.64	3.2	5.5	0.02
Sulphate (as SO4)	5	mg/L	38	9.6	43	100
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	500	720	530	680
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	450	790	390	520
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10

Client Sample ID			MW179	NR1	MW160	MW183
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051413	M25-Jn0051414	M25-Jn0051415	M25-Jn0051416
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	67	45	32	55
Magnesium	0.5	mg/L	29	25	25	29
Potassium	0.5	mg/L	10	6.5	5.0	10
Sodium	0.5	mg/L	190	280	140	190
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.004	0.002	0.004	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.002	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.59	2.3	< 0.005	0.58
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	< 0.001	< 0.001	0.002
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	0.006

Client Sample ID			MW190	TW02	MW178	BG1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051417	M25-Jn0051418	M25-Jn0051419	M25-Jn0051420
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	0.06	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	99	100	99	96
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	5.4	0.47	< 0.05

Client Sample ID			MW190	TW02	MW178	BG1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051417	M25-Jn0051418	M25-Jn0051419	M25-Jn0051420
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.009	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	0.004	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	0.048	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.007	< 0.001	< 0.001
Pyrene	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	0.003	0.068	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	101	87	117	100
p-Terphenyl-d14 (surr.)	1	%	115	98	126	126
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	84	70	129	129
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	0.15	0.20	< 0.01	< 0.01
Chloride	1	mg/L	38	13000	140	220
Conductivity (at 25 °C)	10	uS/cm	1100	29000	1100	1900
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	0.020	0.10	< 0.005	0.024

Client Sample ID			MW190	TW02	MW178	BG1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051417	M25-Jn0051418	M25-Jn0051419	M25-Jn0051420
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	0.014	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	3.4	< 0.2	5.2	2.5
Sulphate (as SO4)	5	mg/L	140	37	77	320
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	720	12000	660	1300
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	490	870	410	670
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	130	550	41	150
Magnesium	0.5	mg/L	32	81	40	140
Potassium	0.5	mg/L	11	56	14	10
Sodium	0.5	mg/L	98	6900	200	200
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.001	0.005	0.002	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.002	< 0.001	0.006	0.009
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.13	0.97	0.012	0.019
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001	0.008	< 0.001	0.001
Zinc (filtered)	0.005	mg/L	0.007	< 0.005	0.031	< 0.005
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	-	-	-	0.021
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	-	-	-	0.034
Sum of PFASs (n=30)*	0.005	ug/L	-	-	-	0.126
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	-	-	-	0.027
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	-	-	-	0.124
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	-	-	-	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	-	-	-	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	-	-	-	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	-	-	-	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	-	-	-	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	-	-	-	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	-	-	-	< 0.005
13C8-FOSA (surr.)	1	%	-	-	-	116
D3-N-MeFOSA (surr.)	1	%	-	-	-	125
D5-N-EtFOSA (surr.)	1	%	-	-	-	140
D7-N-MeFOSE (surr.)	1	%	-	-	-	139
D9-N-EtFOSE (surr.)	1	%	-	-	-	156
D5-N-EtFOSAA (surr.)	1	%	-	-	-	121
D3-N-MeFOSAA (surr.)	1	%	-	-	-	109

Client Sample ID			MW190	TW02	MW178	BG1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051417	M25-Jn0051418	M25-Jn0051419	M25-Jn0051420
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	-	-	-	0.046
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	-	-	-	0.015
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	-	-	-	0.017
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	-	-	-	0.009
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	-	-	-	0.013
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	-	-	-	0.002
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	-	-	-	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	-	-	-	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	-	-	-	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	-	-	-	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	-	-	-	< 0.001
13C4-PFBA (surr.)	1	%	-	-	-	97
13C5-PFPeA (surr.)	1	%	-	-	-	89
13C5-PFHxA (surr.)	1	%	-	-	-	95
13C4-PFHpA (surr.)	1	%	-	-	-	96
13C8-PFOA (surr.)	1	%	-	-	-	59
13C5-PFNA (surr.)	1	%	-	-	-	88
13C6-PFDA (surr.)	1	%	-	-	-	95
13C2-PFUnDA (surr.)	1	%	-	-	-	100
13C2-PFDoDA (surr.)	1	%	-	-	-	119
13C2-PFTeDA (surr.)	1	%	-	-	-	169
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	-	-	-	0.003
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	-	-	-	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	-	-	-	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	-	-	-	< 0.001
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	-	-	-	[N09]0.007
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	-	-	-	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	-	-	-	[N09]0.014
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	-	-	-	< 0.001
13C3-PFBS (surr.)	1	%	-	-	-	93
18O2-PFHxS (surr.)	1	%	-	-	-	58
13C8-PFOS (surr.)	1	%	-	-	-	102
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	-	-	-	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	-	-	-	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	-	-	-	< 0.001
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	-	-	-	< 0.001
13C2-4:2 FTSA (surr.)	1	%	-	-	-	142
13C2-6:2 FTSA (surr.)	1	%	-	-	-	117
13C2-8:2 FTSA (surr.)	1	%	-	-	-	104
13C2-10:2 FTSA (surr.)	1	%	-	-	-	117

Client Sample ID			MW194	MW182	QC315	QC515
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051421	M25-Jn0051422	M25-Jn0051423	M25-Jn0051425
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	95	93	100	96
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	97	89	122	-
p-Terphenyl-d14 (surr.)	1	%	115	96	129	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-

Client Sample ID			MW194	MW182	QC315	QC515
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051421	M25-Jn0051422	M25-Jn0051423	M25-Jn0051425
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Phenol-d6 (surr.)	1	%	132	77	70	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Ammonia (as N)	0.01	mg/L	< 0.01	0.10	< 0.01	-
Chloride	1	mg/L	270	28	< 1	-
Conductivity (at 25 °C)	10	uS/cm	2000	1200	< 10	-
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Cyanide (total)	0.005	mg/L	0.030	< 0.005	< 0.005	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Nitrate (as N)	0.02	mg/L	3.0	0.04	< 0.02	-
Sulphate (as SO4)	5	mg/L	460	100	< 5	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	1500	1000	< 10	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	470	720	< 20	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	-
Alkali Metals						
Calcium	0.5	mg/L	190	180	< 0.5	-
Magnesium	0.5	mg/L	140	44	< 0.5	-
Potassium	0.5	mg/L	10	23	< 0.5	-
Sodium	0.5	mg/L	180	110	< 0.5	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.002	0.002	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Copper (filtered)	0.001	mg/L	0.019	< 0.001	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Manganese (filtered)	0.005	mg/L	0.031	1.1	< 0.005	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Nickel (filtered)	0.001	mg/L	0.002	0.003	< 0.001	-
Zinc (filtered)	0.005	mg/L	0.008	0.031	< 0.005	-

Client Sample ID			MW194	MW182	QC315	QC515
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051421	M25-Jn0051422	M25-Jn0051423	M25-Jn0051425
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	0.021	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	0.036	-	-	-
Sum of PFASs (n=30)*	0.005	ug/L	0.132	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	0.032	-	-	-
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	0.129	-	-	-
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	-	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	-	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	-	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	-	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	-	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	-	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	-	-	-
13C8-FOSA (surr.)	1	%	96	-	-	-
D3-N-MeFOSA (surr.)	1	%	77	-	-	-
D5-N-EtFOSA (surr.)	1	%	67	-	-	-
D7-N-MeFOSE (surr.)	1	%	73	-	-	-
D9-N-EtFOSE (surr.)	1	%	55	-	-	-
D5-N-EtFOSAA (surr.)	1	%	83	-	-	-
D3-N-MeFOSAA (surr.)	1	%	90	-	-	-
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	0.051	-	-	-
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	0.014	-	-	-
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	0.016	-	-	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	0.010	-	-	-
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	0.015	-	-	-
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	0.003	-	-	-
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	-	-	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	-	-	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	-	-	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	-	-	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	-	-	-
13C4-PFBA (surr.)	1	%	93	-	-	-
13C5-PFPeA (surr.)	1	%	86	-	-	-
13C5-PFHxA (surr.)	1	%	94	-	-	-
13C4-PFHpA (surr.)	1	%	92	-	-	-
13C8-PFOA (surr.)	1	%	57	-	-	-
13C5-PFNA (surr.)	1	%	83	-	-	-
13C6-PFDA (surr.)	1	%	90	-	-	-
13C2-PFUnDA (surr.)	1	%	83	-	-	-
13C2-PFDoDA (surr.)	1	%	64	-	-	-
13C2-PFTeDA (surr.)	1	%	59	-	-	-

Client Sample ID			MW194	MW182	QC315	QC515
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0051421	M25-Jn0051422	M25-Jn0051423	M25-Jn0051425
Date Sampled			Jun 17, 2025	Jun 17, 2025	Jun 17, 2025	Jun 17, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	0.002	-	-	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	-	-	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001	-	-	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001	-	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	[N09]0.004	-	-	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	-	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	[N09]0.017	-	-	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	-	-	-
13C3-PFBS (surr.)	1	%	87	-	-	-
18O2-PFHxS (surr.)	1	%	55	-	-	-
13C8-PFOS (surr.)	1	%	97	-	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	-	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	-
13C2-4:2 FTSA (surr.)	1	%	113	-	-	-
13C2-6:2 FTSA (surr.)	1	%	109	-	-	-
13C2-8:2 FTSA (surr.)	1	%	104	-	-	-
13C2-10:2 FTSA (surr.)	1	%	74	-	-	-

Client Sample ID			QC516
Sample Matrix			Water
Eurofins Sample No.			M25-Jn0051426
Date Sampled			Jun 17, 2025
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
Naphthalene[N02]	0.01	mg/L	< 0.01
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	97

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 20, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 20, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Dissolved Gases	Melbourne	Jun 20, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 20, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 20, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 20, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jun 20, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 20, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 20, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 20, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 19, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

Description	Testing Site	Extracted	Holding Time
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 20, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234320
Phone: 0422 692 187
Fax:

Received: Jun 18, 2025 5:39 PM
Due: Jun 26, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	MW179	Jun 17, 2025		Water	M25-Jn0051413	X	X	X		X	X	X	X		
2	NR1	Jun 17, 2025		Water	M25-Jn0051414	X	X	X		X	X	X	X		
3	MW160	Jun 17, 2025		Water	M25-Jn0051415	X	X	X		X	X	X	X		
4	MW183	Jun 17, 2025		Water	M25-Jn0051416	X	X	X		X	X	X	X		
5	MW190	Jun 17, 2025		Water	M25-Jn0051417	X	X	X		X	X	X	X		
6	TW02	Jun 17, 2025		Water	M25-Jn0051418	X	X	X		X	X	X	X		
7	MW178	Jun 17, 2025		Water	M25-Jn0051419	X	X	X		X	X	X	X		
8	BG1	Jun 17, 2025		Water	M25-Jn0051420	X	X	X		X	X	X	X		X
9	MW194	Jun 17, 2025		Water	M25-Jn0051421	X	X	X		X	X	X	X		X
10	MW182	Jun 17, 2025		Water	M25-Jn0051422	X	X	X		X	X	X	X		
11	QC315	Jun 17, 2025		Water	M25-Jn0051423	X	X	X		X	X	X	X		
12	QC415	Jun 17, 2025		Water	M25-Jn0051424				X						
13	QC515	Jun 17, 2025		Water	M25-Jn0051425									X	
14	QC516	Jun 17, 2025		Water	M25-Jn0051426									X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X
Test Counts	11	11	11	1	11	11	11	11	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Cyanide (free)	mg/L	< 0.005			0.005	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2.4-Dinitrophenol	%	41			25-140	Pass	
4-Nitrophenol	%	66			25-140	Pass	
LCS - % Recovery							
Conductivity (at 25 °C)	%	96			70-130	Pass	
Cyanide (total)	%	122			70-130	Pass	
Sulphate (as SO4)	%	102			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	97			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	117			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	102			80-120	Pass	
Cadmium (filtered)	%	107			80-120	Pass	
Chromium (filtered)	%	95			80-120	Pass	
Copper (filtered)	%	99			80-120	Pass	
Lead (filtered)	%	104			80-120	Pass	
Mercury (filtered)	%	92			80-120	Pass	
Nickel (filtered)	%	100			80-120	Pass	
Zinc (filtered)	%	97			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	78			70-130	Pass	
TRH >C10-C16	%	78			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	94			70-130	Pass	
LCS - % Recovery							
Sulphate (as SO4)	%	102			70-130	Pass	
LCS - % Recovery							
Chloride	%	106			70-130	Pass	
Cyanide (weak acid dissoc.)	%	100			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	86			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
Naphthalene	%	105			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
BTEX							
Benzene	%	80			70-130	Pass	
Toluene	%	84			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
Xylenes - Total*	%	87			70-130	Pass	
LCS - % Recovery							
Chloride	%	102			70-130	Pass	
Sulphate (as SO4)	%	79			70-130	Pass	
LCS - % Recovery							
Sulphate (as SO4)	%	105			70-130	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	77			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	71			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	82			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	59			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	76			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	70			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	89			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	91			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	87			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	83			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	69			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	73			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	76			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	80			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	53			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	90			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	79			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	78			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	70			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	80			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	87			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	66			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	74			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	90			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	81			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	50			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	75			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	88			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	72			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	70			50-150	Pass	
LCS - % Recovery							
Cyanide (free)	%	115			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	106			70-130	Pass	
Anthracene	%	100			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	%	72			70-130	Pass	
Benzo(g.h.i)perylene	%	74			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a.h)anthracene	%	80			70-130	Pass	
Fluoranthene	%	86			70-130	Pass	
Fluorene	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	76			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	94			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	86			25-140	Pass	
2.4-Dichlorophenol	%	78			25-140	Pass	
2.4.5-Trichlorophenol	%	108			25-140	Pass	
2.4.6-Trichlorophenol	%	94			25-140	Pass	
2.6-Dichlorophenol	%	88			25-140	Pass	
4-Chloro-3-methylphenol	%	94			25-140	Pass	
Pentachlorophenol	%	59			25-140	Pass	
Tetrachlorophenols - Total	%	102			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	39			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	59			25-140	Pass	
2-Nitrophenol	%	104			25-140	Pass	
2.4-Dimethylphenol	%	40			25-140	Pass	
2-Methylphenol (o-Cresol)	%	48			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	44			25-140	Pass	
Dinoseb	%	67			25-140	Pass	
Phenol	%	40			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	81			70-130	Pass	
LCS - % Recovery							
Chloride	%	82			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	102			80-120	Pass	
Magnesium	%	98			80-120	Pass	
Potassium	%	95			80-120	Pass	
Sodium	%	101			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0051413	CP	%	105			70-130	Pass	
TRH C10-C14	M25-Jn0045423	NCP	%	92			70-130	Pass	
TRH C6-C10	M25-Jn0051413	CP	%	104			70-130	Pass	
TRH >C10-C16	M25-Jn0045423	NCP	%	92			70-130	Pass	
Naphthalene	M25-Jn0051413	CP	%	81			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0051413	CP	%	106			70-130	Pass	
Toluene	M25-Jn0051413	CP	%	108			70-130	Pass	
Ethylbenzene	M25-Jn0051413	CP	%	109			70-130	Pass	
m&p-Xylenes	M25-Jn0051413	CP	%	109			70-130	Pass	
o-Xylene	M25-Jn0051413	CP	%	108			70-130	Pass	
Xylenes - Total*	M25-Jn0051413	CP	%	109			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0051413	CP	%	81			70-130	Pass	
Acenaphthylene	M25-Jn0051413	CP	%	89			70-130	Pass	
Anthracene	M25-Jn0051413	CP	%	83			70-130	Pass	
Benz(a)anthracene	M25-Jn0051413	CP	%	87			70-130	Pass	
Benzo(a)pyrene	M25-Jn0051413	CP	%	70			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0051413	CP	%	74			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0051413	CP	%	72			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0051413	CP	%	73			70-130	Pass	
Chrysene	M25-Jn0051413	CP	%	112			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0051413	CP	%	97			70-130	Pass	
Fluoranthene	M25-Jn0051413	CP	%	75			70-130	Pass	
Fluorene	M25-Jn0051413	CP	%	75			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0051413	CP	%	92			70-130	Pass	
Naphthalene	M25-Jn0051413	CP	%	89			70-130	Pass	
Phenanthrene	M25-Jn0051413	CP	%	80			70-130	Pass	
Pyrene	M25-Jn0051413	CP	%	73			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0051413	CP	%	73			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0051413	CP	%	62			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0051413	CP	%	86			30-130	Pass	
2.4.6-Trichlorophenol	M25-Jn0051413	CP	%	81			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0051413	CP	%	71			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0051413	CP	%	88			30-130	Pass	
Pentachlorophenol	M25-Jn0051413	CP	%	81			30-130	Pass	
Tetrachlorophenols - Total	M25-Jn0051413	CP	%	85			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0051413	CP	%	62			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0051413	CP	%	55			30-130	Pass	
2-Nitrophenol	M25-Jn0051413	CP	%	79			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0051413	CP	%	41			30-130	Pass	
2.4-Dinitrophenol	M25-Jn0051413	CP	%	43			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0051413	CP	%	49			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0051413	CP	%	46			30-130	Pass	
4-Nitrophenol	M25-Jn0051413	CP	%	40			30-130	Pass	
Dinoseb	M25-Jn0051413	CP	%	62			30-130	Pass	
Phenol	M25-Jn0051413	CP	%	34			30-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M25-Jn0051413	CP	%	106			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jn0054449	NCP	%	110			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Potassium	M25-Jn0051413	CP	%	117			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jn0051413	CP	%	111			75-125	Pass	
Cadmium (filtered)	M25-Jn0051413	CP	%	115			75-125	Pass	
Chromium (filtered)	M25-Jn0051413	CP	%	97			75-125	Pass	
Copper (filtered)	M25-Jn0051413	CP	%	100			75-125	Pass	
Lead (filtered)	M25-Jn0051413	CP	%	101			75-125	Pass	
Nickel (filtered)	M25-Jn0051413	CP	%	102			75-125	Pass	
Zinc (filtered)	M25-Jn0051413	CP	%	100			75-125	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0051414	CP	%	117			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0051415	CP	%	89			70-130	Pass	
TRH C6-C10	M25-Jn0051415	CP	%	88			70-130	Pass	
Naphthalene	M25-Jn0051415	CP	%	85			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0051415	CP	%	85			70-130	Pass	
Toluene	M25-Jn0051415	CP	%	86			70-130	Pass	
Ethylbenzene	M25-Jn0051415	CP	%	87			70-130	Pass	
m&p-Xylenes	M25-Jn0051415	CP	%	87			70-130	Pass	
o-Xylene	M25-Jn0051415	CP	%	88			70-130	Pass	
Xylenes - Total*	M25-Jn0051415	CP	%	87			70-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0051419	CP	%	127			70-130	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0051421	CP	%	84			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0051421	CP	%	81			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0051421	CP	%	89			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0051421	CP	%	64			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0051421	CP	%	74			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0051421	CP	%	78			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0051421	CP	%	77			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0051421	CP	%	68			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0051421	CP	%	75			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0051421	CP	%	99			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0051421	CP	%	79			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0051421	CP	%	74			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0051421	CP	%	85			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0051421	CP	%	79			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0051421	CP	%	52			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0051421	CP	%	90			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0051421	CP	%	71			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0051421	CP	%	77			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0051421	CP	%	65			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0051421	CP	%	78			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0051421	CP	%	85			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0051421	CP	%	75			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0051421	CP	%	69			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0051421	CP	%	79			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0051421	CP	%	66			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0051421	CP	%	52			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0051421	CP	%	54			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0051421	CP	%	73			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0051421	CP	%	75			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0051421	CP	%	76			50-150	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Magnesium	M25-Jn0051422	CP	%	116			75-125	Pass	
Potassium	M25-Jn0051422	CP	%	110			75-125	Pass	
Sodium	M25-Jn0051422	CP	%	119			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jn0051422	CP	%	118			75-125	Pass	
Cadmium (filtered)	M25-Jn0051422	CP	%	111			75-125	Pass	
Chromium (filtered)	M25-Jn0051422	CP	%	99			75-125	Pass	
Copper (filtered)	M25-Jn0051422	CP	%	101			75-125	Pass	
Lead (filtered)	M25-Jn0051422	CP	%	101			75-125	Pass	
Mercury (filtered)	M25-Jn0051422	CP	%	92			75-125	Pass	
Nickel (filtered)	M25-Jn0051422	CP	%	101			75-125	Pass	
Zinc (filtered)	M25-Jn0051422	CP	%	97			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M25-Jn0051423	CP	%	93			70-130	Pass	
Sulphate (as SO4)	M25-Jn0051423	CP	%	104			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0054667	NCP	mg/L	0.01	0.02	13	30%	Pass	
Chloride	M25-Jn0058479	NCP	mg/L	75	88	16	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0051413	CP	uS/cm	770	780	1.0	30%	Pass	
Cyanide (total)	M25-Jn0051413	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Sulphate (as SO4)	M25-Jn0058479	NCP	mg/L	19	19	2.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0051906	NCP	mg/L	3800	3700	4.4	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0051413	CP	mg/L	450	460	1.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0051413	CP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0054449	NCP	mg/L	220	220	1.0	30%	Pass	
Magnesium	M25-Jn0054449	NCP	mg/L	240	240	1.0	30%	Pass	
Potassium	M25-Jn0054449	NCP	mg/L	8.6	8.8	2.0	30%	Pass	
Sodium	M25-Jn0054449	NCP	mg/L	630	640	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0058443	NCP	mg/L	0.002	0.001	14	30%	Pass	
Cadmium (filtered)	M25-Jn0058443	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0058443	NCP	mg/L	0.024	0.025	7.0	30%	Pass	
Copper (filtered)	M25-Jn0058443	NCP	mg/L	0.017	0.016	1.0	30%	Pass	
Lead (filtered)	M25-Jn0058443	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-Jn0051413	CP	mg/L	0.59	0.58	1.0	30%	Pass	
Mercury (filtered)	M25-Jn0058443	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0058443	NCP	mg/L	0.003	0.003	<1	30%	Pass	
Zinc (filtered)	M25-Jn0058443	NCP	mg/L	0.047	0.054	14	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0051414	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M25-Jn0051414	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M25-Jn0051414	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0051414	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0051414	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0051414	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0051414	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0051414	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0051414	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0051414	CP	mg/L	0.15	0.15	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0054667	NCP	mg/L	0.01	**	13	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0051416	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0051416	CP	mg/L	0.09	0.08	11	30%	Pass	
TRH C15-C28	M25-Jn0051416	CP	mg/L	0.7	0.5	31	30%	Fail	Q15
TRH C29-C36	M25-Jn0051416	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0051416	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0051416	CP	mg/L	0.26	0.19	29	30%	Pass	
Naphthalene	M25-Jn0051416	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0051416	CP	mg/L	0.5	0.4	34	30%	Fail	Q15
TRH >C34-C40	M25-Jn0051416	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0051416	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0051416	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0051416	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0051416	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0051416	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0051416	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0051416	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0051416	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0051416	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0051416	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0051416	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0051416	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0051416	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0051416	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0051416	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0051418	CP	mg/L	12000	14000	15	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0051420	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0051420	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0051420	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0051420	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0051420	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0051420	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0051420	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0051420	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0051420	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0051420	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0051420	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0051420	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0051420	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0051420	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0051420	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0051420	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0051420	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0051420	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0051420	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0051420	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0051420	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0051420	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0051420	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0051420	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0051420	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0051420	CP	ug/L	0.046	0.046	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0051420	CP	ug/L	0.015	0.016	9.0	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0051420	CP	ug/L	0.017	0.017	3.0	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0051420	CP	ug/L	0.009	0.009	1.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0051420	CP	ug/L	0.013	0.013	3.0	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0051420	CP	ug/L	0.002	0.002	6.0	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0051420	CP	ug/L	0.003	0.003	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0051420	CP	ug/L	0.007	0.008	1.0	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0051420	CP	ug/L	0.014	0.015	6.0	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0051420	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0051420	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0051422	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0051422	CP	mg/L	28	29	4.0	30%	Pass	
Sulphate (as SO4)	M25-Jn0051422	CP	mg/L	100	110	7.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0051422	CP	mg/L	180	180	1.0	30%	Pass	
Magnesium	M25-Jn0051422	CP	mg/L	44	44	<1	30%	Pass	
Potassium	M25-Jn0051422	CP	mg/L	23	22	1.0	30%	Pass	
Sodium	M25-Jn0051422	CP	mg/L	110	110	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0051422	CP	mg/L	0.002	0.002	3.0	30%	Pass	
Cadmium (filtered)	M25-Jn0051422	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0051422	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0051422	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-Jn0051422	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-Jn0051422	CP	mg/L	1.1	1.1	2.0	30%	Pass	
Mercury (filtered)	M25-Jn0051422	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0051422	CP	mg/L	0.003	0.003	5.0	30%	Pass	
Zinc (filtered)	M25-Jn0051422	CP	mg/L	0.031	0.031	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (at 25 °C)	M25-Jn0051423	CP	uS/cm	< 10	< 10	<1	30%	Pass	
Cyanide (total)	M25-Jn0051423	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0051423	CP	mg/L	< 20	< 20	<1	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0051423	CP	mg/L	< 10	< 10	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Carroll Lee	Senior Analyst-PFAS
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATOR Eurofins		TURNAROUND REQUIREMENTS (mark Due date or 'X')								
Level 10, 727 Collins Street			Standard	X							
Melbourne, VIC 3008	Results email:										
PHONE NO: 9653 1234	ewdatreceipt-au@eurofinsaecoc.net			1	2	3	4	5	6	7	8
MOBILE NO: 0427 821 002	robert.crowe@aecom.com; richard.bowers@aecom.com			1	2	3	4	5	6	7	8
PROJECT ID: 60693007 / 12	Quote Number:	250602AECV									
Project Manager: Robert Crowe	Project Name:	Macquarie Point									
SAMPLER: RB / EM / TG / LL	Data Format:	Excel and PDF									

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen icebricks present upon receipt?	Yes	No	N/A
Sample Temperature on Receipt		°C	

RELINQUISHED BY:	RECEIVED BY:
	Sheridan Eurofins Hobart 19/6/2025 @ 5:45pm
DATE/TIME:	DATE/TIME:

NOTES:

Please use Project ID '60321836_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

				WATER											
				SAMPLE CONTAINERS					ANALYSIS REQUEST					COMMENTS	
				General Water Suite	General Water Suite + Eco Risk Suite	PFAS	Trip Blank		General Water Suite	Eco Risk Suite	PFAS	Trip Blank		Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
				9	3	1	1								
LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	1x 500mL Inorganics 1x 250mL Ammo-Acetates Amber 2x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/COx 1x 60mL Filtered/Inorganics	In addition to General Water Suite Bottles: 1x 250mL Sml Volatile Amber - Filtered to Sym 2x 40mL Vials - Filtered to Sym	1x 500mL PFAS bottle	1x 40mL Water Vial	TOTAL BOTTLES	TRH / BTEX(N) / PAH / Phenols Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) Manganese Cations/Anions #9 (incl TDS) Chloride (Free) / Fluoride & (VAC) Ammonia as N Methane	TRH (Aliphatic / Aromatic Separation TRH (C6-C40) (unfiltered sample TRH (C6-C40) - on 0 µm field filtered sample PAH - on 0 µm field filtered sample	PFAS: Full suite - 32 compounds, trace level	TRH(C6-C9) BTEX(N)	HOLD		
✓	MW173	18/6/25		W	X				9	X							
✓	RN4	18/6/25		W	X				9	X							
✓	MW36	18/6/25		W	X				9	X							
✓	MW184	18/6/25		W	X				9	X							
✓	MW189	18/6/25		W	X				9	X							
✓	RN2	18/6/25		W	X				9	x							
✓	MW192	18/6/25		W	X				9	X							
✓	MW191	18/6/25		W	X				9	X							
✓	MW121	18/6/25		W	X		x		10	X		x					
✓	MW102	18/6/25		W	x				9	X							
✓	MW180	18/6/25		W	X				9	X							
✓	QC316	18/6/25		W	X		x		10	X		x					
✓	QC416	18/6/25		W	x		x		10					x			
✓	QC517	18/6/25		W				X	1				X				
✓	QC518	18/6/25		W				x	1				x				

Report #1234988 SB 20/6/25

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www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 19, 2025 5:45 PM
Eurofins reference	1234988

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234988
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:45 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	MW173	Jun 18, 2025		Water	M25-Jn0056605	X	X	X		X	X	X	X		
2	RN4	Jun 18, 2025		Water	M25-Jn0056606	X	X	X		X	X	X	X		
3	MW36	Jun 18, 2025		Water	M25-Jn0056607	X	X	X		X	X	X	X		
4	MW184	Jun 18, 2025		Water	M25-Jn0056608	X	X	X		X	X	X	X		
5	MW189	Jun 18, 2025		Water	M25-Jn0056609	X	X	X		X	X	X	X		
6	RN2	Jun 18, 2025		Water	M25-Jn0056610	X	X	X		X	X	X	X		
7	MW192	Jun 18, 2025		Water	M25-Jn0056611	X	X	X		X	X	X	X		
8	MW191	Jun 18, 2025		Water	M25-Jn0056612	X	X	X		X	X	X	X		
9	MW121	Jun 18, 2025		Water	M25-Jn0056613	X	X	X		X	X	X	X		X
10	MW102	Jun 18, 2025		Water	M25-Jn0056614	X	X	X		X	X	X	X		
11	MW180	Jun 18, 2025		Water	M25-Jn0056615	X	X	X		X	X	X	X		
12	QC316	Jun 18, 2025		Water	M25-Jn0056616	X	X	X		X	X	X	X		X
13	QC416	Jun 18, 2025		Water	M25-Jn0056617				X						
14	QC517	Jun 18, 2025		Water	M25-Jn0056618									X	

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234988
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:45 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
15	QC518	Jun 18, 2025		Water	M25-Jn0056619									X	
Test Counts						12	12	12	1	12	12	12	12	2	2

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1234988-W-V2**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 19, 2025

Client Sample ID			**MW173**	**RN4**	**MW36**	**MW184**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0056605**	**M25-Jn0056606**	**M25-Jn0056607**	**M25-Jn0056608**
Date Sampled			**Jun 18, 2025**	**Jun 18, 2025**	**Jun 18, 2025**	**Jun 18, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	0.2	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	0.2	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	0.11	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	0.11	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.11	0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103	104	103	102
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	9.5	< 0.05	0.39
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			MW173	RN4	MW36	MW184
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056605	M25-Jn0056606	M25-Jn0056607	M25-Jn0056608
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	66	70	70	70
p-Terphenyl-d14 (surr.)	1	%	136	147	93	80
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	142	138	131	52
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	< 0.01	9.2	< 0.01	0.57
Chloride	1	mg/L	23	280	69	35
Conductivity (at 25 °C)	10	uS/cm	1500	1900	1600	1800
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	0.19	0.057	0.050	0.17
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	2.2	0.04	4.9	< 0.02
Sulphate (as SO4)	5	mg/L	88	6.7	360	100
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	950	1100	1100	1100
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	620	780	460	740
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10

Client Sample ID			MW173	RN4	MW36	MW184
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056605	M25-Jn0056606	M25-Jn0056607	M25-Jn0056608
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	100	110	160	34
Magnesium	0.5	mg/L	50	33	56	26
Potassium	0.5	mg/L	6.0	22	6.8	18
Sodium	0.5	mg/L	96	240	85	290
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.001	0.006	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.002	< 0.001	0.011	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.29	1.4	2.1	0.25
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.003	< 0.001	0.012	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	0.012	< 0.005

Client Sample ID			MW189	RN2	MW192	MW191
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056609	M25-Jn0056610	M25-Jn0056611	M25-Jn0056612
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.14	0.06	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.2	0.5	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.34	0.56	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.33	0.17	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	0.33	0.17	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	0.4	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.33	0.57	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	85	83	80	104
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	14	18	< 0.05

Client Sample ID			MW189	RN2	MW192	MW191
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056609	M25-Jn0056610	M25-Jn0056611	M25-Jn0056612
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.014	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	0.004	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	0.017	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.019	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	0.060	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	63	52	66	59
p-Terphenyl-d14 (surr.)	1	%	115	143	143	77
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	114	149	138	107
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	0.04	12	41	0.21
Chloride	1	mg/L	9.3	850	130	36
Conductivity (at 25 °C)	10	uS/cm	1000	4000	1400	1600
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	< 0.005	0.019	0.021	0.012

Client Sample ID			MW189	RN2	MW192	MW191
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056609	M25-Jn0056610	M25-Jn0056611	M25-Jn0056612
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	0.22	< 0.02	0.10	4.0
Sulphate (as SO4)	5	mg/L	92	28	< 5	110
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	610	2800	840	1100
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	380	1100	640	730
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	76	160	77	100
Magnesium	0.5	mg/L	16	36	29	53
Potassium	0.5	mg/L	5.2	31	36	9.6
Sodium	0.5	mg/L	98	590	100	140
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.003	0.004	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.001	< 0.001	< 0.001	0.010
Lead (filtered)	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	1.4	0.63	0.60	0.49
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001	0.003	< 0.001	0.002
Selenium (filtered)	0.001	mg/L	0.003	-	-	-
Zinc (filtered)	0.005	mg/L	< 0.005	0.006	< 0.005	0.009

Client Sample ID			MW121	MW102	MW180	QC316
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056613	M25-Jn0056614	M25-Jn0056615	M25-Jn0056616
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			MW121	MW102	MW180	QC316
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056613	M25-Jn0056614	M25-Jn0056615	M25-Jn0056616
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	92	103	103	101
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	66	52	145	70
p-Terphenyl-d14 (surr.)	1	%	87	147	122	147
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			MW121	MW102	MW180	QC316
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056613	M25-Jn0056614	M25-Jn0056615	M25-Jn0056616
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	124	121	56	52
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	< 0.01	9.9	0.03	< 0.01
Chloride	1	mg/L	18	41	14000	< 1
Conductivity (at 25 °C)	10	uS/cm	1400	2100	41000	< 10
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	0.008	0.52	0.009	< 0.005
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	0.008	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	4.6	0.12	0.53	< 0.02
Sulphate (as SO4)	5	mg/L	88	210	2100	< 5
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	830	1300	28000	< 10
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	520	830	190	< 20
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	62	180	400	< 0.5
Magnesium	0.5	mg/L	33	63	980	< 0.5
Potassium	0.5	mg/L	8.7	8.9	260	< 0.5
Sodium	0.5	mg/L	130	88	7400	< 0.5
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.002	< 0.001	0.002	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	0.012	< 0.0002
Chromium (filtered)	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.020	0.009	0.002	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.035	0.63	< 0.005	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.022	0.001	< 0.001
Selenium (filtered)	0.001	mg/L	-	-	< 0.001	-
Zinc (filtered)	0.005	mg/L	0.005	0.006	0.38	< 0.005
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	0.02	-	-	< 0.001
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	0.024	-	-	< 0.001
Sum of PFASs (n=30)*	0.005	ug/L	0.048	-	-	< 0.005
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	0.023	-	-	< 0.001
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	0.047	-	-	< 0.005
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005

Client Sample ID			MW121	MW102	MW180	QC316
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056613	M25-Jn0056614	M25-Jn0056615	M25-Jn0056616
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances- Trace						
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
13C8-FOSA (surr.)	1	%	99	-	-	101
D3-N-MeFOSA (surr.)	1	%	99	-	-	101
D5-N-EtFOSA (surr.)	1	%	99	-	-	101
D7-N-MeFOSE (surr.)	1	%	101	-	-	89
D9-N-EtFOSE (surr.)	1	%	100	-	-	88
D5-N-EtFOSAA (surr.)	1	%	110	-	-	90
D3-N-MeFOSAA (surr.)	1	%	109	-	-	83
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	0.010	-	-	< 0.005
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	0.006	-	-	< 0.001
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	0.002	-	-	< 0.001
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	0.001	-	-	< 0.001
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	[N09]0.004	-	-	< 0.001
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	0.001	-	-	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
13C4-PFBA (surr.)	1	%	67	-	-	75
13C5-PFPeA (surr.)	1	%	57	-	-	81
13C5-PFHxA (surr.)	1	%	71	-	-	79
13C4-PFHpA (surr.)	1	%	79	-	-	90
13C8-PFOA (surr.)	1	%	97	-	-	99
13C5-PFNA (surr.)	1	%	101	-	-	95
13C6-PFDA (surr.)	1	%	104	-	-	103
13C2-PFUnDA (surr.)	1	%	95	-	-	105
13C2-PFDoDA (surr.)	1	%	95	-	-	105
13C2-PFTeDA (surr.)	1	%	99	-	-	101
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	0.004	-	-	< 0.001
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	[N09]0.001	-	-	< 0.001
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	[N09]0.019	-	-	< 0.001
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
13C3-PFBS (surr.)	1	%	101	-	-	89
18O2-PFHxS (surr.)	1	%	112	-	-	109
13C8-PFOS (surr.)	1	%	118	-	-	97

Client Sample ID			MW121	MW102	MW180	QC316
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0056613	M25-Jn0056614	M25-Jn0056615	M25-Jn0056616
Date Sampled			Jun 18, 2025	Jun 18, 2025	Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
13C2-4:2 FTSA (surr.)	1	%	101	-	-	59
13C2-6:2 FTSA (surr.)	1	%	135	-	-	89
13C2-8:2 FTSA (surr.)	1	%	145	-	-	78
13C2-10:2 FTSA (surr.)	1	%	121	-	-	79

Client Sample ID			QC517	QC518
Sample Matrix			Water	Water
Eurofins Sample No.			M25-Jn0056618	M25-Jn0056619
Date Sampled			Jun 18, 2025	Jun 18, 2025
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	84	86

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Dissolved Gases	Melbourne	Jun 23, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jul 10, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 23, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 20, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

Description	Testing Site	Extracted	Holding Time
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1234988
Phone: 0422 692 187
Fax:

Received: Jun 19, 2025 5:45 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X
External Laboratory										

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	MW173	Jun 18, 2025		Water	M25-Jn0056605	X	X	X		X	X	X	X		
2	RN4	Jun 18, 2025		Water	M25-Jn0056606	X	X	X		X	X	X	X		
3	MW36	Jun 18, 2025		Water	M25-Jn0056607	X	X	X		X	X	X	X		
4	MW184	Jun 18, 2025		Water	M25-Jn0056608	X	X	X		X	X	X	X		
5	MW189	Jun 18, 2025		Water	M25-Jn0056609	X	X	X		X	X	X	X		
6	RN2	Jun 18, 2025		Water	M25-Jn0056610	X	X	X		X	X	X	X		
7	MW192	Jun 18, 2025		Water	M25-Jn0056611	X	X	X		X	X	X	X		
8	MW191	Jun 18, 2025		Water	M25-Jn0056612	X	X	X		X	X	X	X		
9	MW121	Jun 18, 2025		Water	M25-Jn0056613	X	X	X		X	X	X	X		X
10	MW102	Jun 18, 2025		Water	M25-Jn0056614	X	X	X		X	X	X	X		
11	MW180	Jun 18, 2025		Water	M25-Jn0056615	X	X	X		X	X	X	X		
12	QC316	Jun 18, 2025		Water	M25-Jn0056616	X	X	X		X	X	X	X		X
13	QC416	Jun 18, 2025		Water	M25-Jn0056617				X						
14	QC517	Jun 18, 2025		Water	M25-Jn0056618									X	

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Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X
15	QC518	Jun 18, 2025		Water	M25-Jn0056619									X	
Test Counts						12	12	12	1	12	12	12	12	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Selenium (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	96			70-130	Pass	
TRH C6-C10	%	95			70-130	Pass	
Naphthalene	%	72			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	112			70-130	Pass	
Acenaphthylene	%	130			70-130	Pass	
Anthracene	%	122			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	84			70-130	Pass	
Benzo(k)fluoranthene	%	112			70-130	Pass	
Chrysene	%	96			70-130	Pass	
Dibenz(a.h)anthracene	%	72			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	126			70-130	Pass	
Pyrene	%	106			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	102			25-140	Pass	
2.4-Dichlorophenol	%	102			25-140	Pass	
2.4.5-Trichlorophenol	%	98			25-140	Pass	
2.4.6-Trichlorophenol	%	93			25-140	Pass	
2.6-Dichlorophenol	%	112			25-140	Pass	
4-Chloro-3-methylphenol	%	90			25-140	Pass	
Pentachlorophenol	%	55			25-140	Pass	
Tetrachlorophenols - Total	%	123			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	30			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	%	31			25-140	Pass	
2-Nitrophenol	%	80			25-140	Pass	
2.4-Dimethylphenol	%	76			25-140	Pass	
2-Methylphenol (o-Cresol)	%	90			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	93			25-140	Pass	
Dinoseb	%	44			25-140	Pass	
Phenol	%	44			25-140	Pass	
LCS - % Recovery							
Conductivity (at 25 °C)	%	92			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	102			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	125			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	95			80-120	Pass	
Cadmium (filtered)	%	109			80-120	Pass	
Chromium (filtered)	%	97			80-120	Pass	
Copper (filtered)	%	99			80-120	Pass	
Lead (filtered)	%	101			80-120	Pass	
Mercury (filtered)	%	97			80-120	Pass	
Nickel (filtered)	%	99			80-120	Pass	
Zinc (filtered)	%	95			80-120	Pass	
LCS - % Recovery							
Sulphate (as SO4)	%	113			70-130	Pass	
LCS - % Recovery							
Chloride	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	102			70-130	Pass	
TRH >C10-C16	%	101			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	98			70-130	Pass	
Sulphate (as SO4)	%	112			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	120			70-130	Pass	
TRH >C10-C16	%	121			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	90			70-130	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	90			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	78			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	79			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	90			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	84			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	78			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	80			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	102			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	88			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	90			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanoic acid (PFHpA)	%	82			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	88			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	87			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	87			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	67			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	93			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	93			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	93			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	76			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	89			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	75			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	80			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	76			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	95			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	87			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	51			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	84			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	87			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	92			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	92			50-150	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	120			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	107			70-130	Pass	
TRH C6-C10	%	107			70-130	Pass	
Naphthalene	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	104			70-130	Pass	
Toluene	%	108			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
m&p-Xylenes	%	109			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Chloride	%	103			70-130	Pass	
Cyanide (weak acid dissoc.)	%	101			70-130	Pass	
Sulphate (as SO4)	%	110			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	95			80-120	Pass	
Magnesium	%	95			80-120	Pass	
Potassium	%	102			80-120	Pass	
Sodium	%	94			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	119			70-130	Pass	
TRH C6-C10	%	120			70-130	Pass	
Naphthalene	%	82			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery									
BTEX									
Benzene			%	119			70-130	Pass	
Toluene			%	118			70-130	Pass	
Ethylbenzene			%	120			70-130	Pass	
m&p-Xylenes			%	119			70-130	Pass	
Xylenes - Total*			%	119			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0051415	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0051415	NCP	%	85			70-130	Pass	
Toluene	M25-Jn0051415	NCP	%	86			70-130	Pass	
Ethylbenzene	M25-Jn0051415	NCP	%	87			70-130	Pass	
m&p-Xylenes	M25-Jn0051415	NCP	%	87			70-130	Pass	
o-Xylene	M25-Jn0051415	NCP	%	88			70-130	Pass	
Xylenes - Total*	M25-Jn0051415	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0059024	NCP	%	98			70-130	Pass	
Acenaphthylene	M25-Jn0059024	NCP	%	118			70-130	Pass	
Anthracene	M25-Jn0059024	NCP	%	106			70-130	Pass	
Benz(a)anthracene	M25-Jn0059024	NCP	%	98			70-130	Pass	
Benzo(a)pyrene	M25-Jn0059024	NCP	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0059024	NCP	%	78			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0059024	NCP	%	74			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0059024	NCP	%	106			70-130	Pass	
Chrysene	M25-Jn0059024	NCP	%	116			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0059024	NCP	%	116			70-130	Pass	
Fluoranthene	M25-Jn0059024	NCP	%	108			70-130	Pass	
Fluorene	M25-Jn0059024	NCP	%	128			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0059024	NCP	%	94			70-130	Pass	
Naphthalene	M25-Jn0059024	NCP	%	82			70-130	Pass	
Phenanthrene	M25-Jn0059024	NCP	%	124			70-130	Pass	
Pyrene	M25-Jn0059024	NCP	%	108			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0059024	NCP	%	108			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0059024	NCP	%	106			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0059024	NCP	%	102			30-130	Pass	
2.4.6-Trichlorophenol	M25-Jn0059024	NCP	%	94			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0059024	NCP	%	114			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0059024	NCP	%	105			30-130	Pass	
Pentachlorophenol	M25-Jn0059024	NCP	%	67			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0059024	NCP	%	57			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0059024	NCP	%	49			30-130	Pass	
2-Nitrophenol	M25-Jn0059024	NCP	%	81			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0059024	NCP	%	62			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0059024	NCP	%	106			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0059024	NCP	%	116			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4-Nitrophenol	M25-Jn0059024	NCP	%	31			30-130	Pass	
Dinoseb	M25-Jn0059024	NCP	%	63			30-130	Pass	
Phenol	M25-Jn0059024	NCP	%	84			30-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0058583	NCP	%	91			70-130	Pass	
Chloride	M25-Jn0056793	NCP	%	79			70-130	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058338	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jn0055246	NCP	%	91			75-125	Pass	
Magnesium	M25-Jn0055246	NCP	%	90			75-125	Pass	
Potassium	M25-Jn0055246	NCP	%	91			75-125	Pass	
Sodium	M25-Jn0055246	NCP	%	88			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M25-Jn0056609	CP	%	100			70-130	Pass	
TRH >C10-C16	M25-Jn0056609	CP	%	99			70-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M25-Jn0056808	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jn0056613	CP	%	101			75-125	Pass	
Cadmium (filtered)	M25-Jn0056613	CP	%	103			75-125	Pass	
Chromium (filtered)	M25-Jn0056613	CP	%	100			75-125	Pass	
Copper (filtered)	M25-Jn0056613	CP	%	98			75-125	Pass	
Lead (filtered)	M25-Jn0056613	CP	%	100			75-125	Pass	
Manganese (filtered)	M25-Jn0056613	CP	%	97			75-125	Pass	
Mercury (filtered)	M25-Jn0056613	CP	%	98			75-125	Pass	
Nickel (filtered)	M25-Jn0056613	CP	%	99			75-125	Pass	
Selenium (filtered)	M25-Jn0056613	CP	%	116			75-125	Pass	
Zinc (filtered)	M25-Jn0056613	CP	%	101			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0056323	NCP	%	100			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0056323	NCP	%	92			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0056323	NCP	%	92			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0056323	NCP	%	104			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0056323	NCP	%	98			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0056323	NCP	%	96			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0056323	NCP	%	90			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0045423	NCP	%	82			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0056323	NCP	%	110			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0056323	NCP	%	98			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0056323	NCP	%	96			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorooctanoic acid (PFOA)	M25-Jn0056323	NCP	%	104			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0056323	NCP	%	92			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0056323	NCP	%	92			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0056323	NCP	%	74			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0056323	NCP	%	104			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0056323	NCP	%	100			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0056323	NCP	%	110			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0056323	NCP	%	78			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0056323	NCP	%	86			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0056323	NCP	%	68			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0056323	NCP	%	86			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0056323	NCP	%	86			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0056323	NCP	%	84			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0056323	NCP	%	83			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0056323	NCP	%	68			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0056323	NCP	%	92			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0045423	NCP	%	94			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0056323	NCP	%	110			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0056323	NCP	%	106			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0056643	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0056643	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0056643	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0058585	NCP	mg/L	0.02	0.02	17	30%	Pass	
Chloride	M25-Jn0058332	NCP	mg/L	450	450	<1	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0058050	NCP	uS/cm	1400	890	6.0	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058337	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Sulphate (as SO4)	M25-Jn0058332	NCP	mg/L	5.5	5.3	4.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0065095	NCP	mg/L	5300	4900	8.2	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0058050	NCP	mg/L	630	570	10	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0058050	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0055246	NCP	mg/L	6.3	6.4	1.0	30%	Pass	
Magnesium	M25-Jn0055246	NCP	mg/L	1.4	1.5	2.0	30%	Pass	
Potassium	M25-Jn0055246	NCP	mg/L	3.1	3.0	3.0	30%	Pass	
Sodium	M25-Jn0055246	NCP	mg/L	15	15	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0055393	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M25-Jn0055393	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0055393	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0055393	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-Jn0055393	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	M25-Jn0055393	NCP	mg/L	0.0001	rep 0.00011	<1	30%	Pass	
Nickel (filtered)	M25-Jn0055393	NCP	mg/L	0.006	0.006	7.0	30%	Pass	
Zinc (filtered)	M25-Jn0055393	NCP	mg/L	0.020	0.021	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0056643	NCP	mg/L	< 0.02	**	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0056643	NCP	mg/L	< 0.001	**	<1	30%	Pass	
Toluene	M25-Jn0056643	NCP	mg/L	< 0.001	**	<1	30%	Pass	
Ethylbenzene	M25-Jn0056643	NCP	mg/L	< 0.001	**	<1	30%	Pass	
m&p-Xylenes	M25-Jn0056643	NCP	mg/L	< 0.002	**	<1	30%	Pass	
o-Xylene	M25-Jn0056643	NCP	mg/L	< 0.001	**	<1	30%	Pass	
Xylenes - Total*	M25-Jn0056643	NCP	mg/L	< 0.003	**	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0062729	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Chloride	M25-Jn0058332	NCP	mg/L	450	**	<1	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0049929	NCP	uS/cm	12000	12000	<1	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058337	NCP	mg/L	< 0.005	**	25	30%	Pass	
Sulphate (as SO4)	M25-Jn0058332	NCP	mg/L	5.5	**	4.0	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0049929	NCP	mg/L	1000	870	14	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0049929	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0056611	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0056611	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0056611	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0056611	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0056611	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0056611	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0056611	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0056611	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0056611	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0056611	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0056611	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0056611	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0056611	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0056611	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0056611	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0056611	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0056611	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0056611	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0056611	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M25-Jn0056611	CP	mg/L	0.021	0.020	2.0	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0056612	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0056612	CP	mg/L	100	100	<1	30%	Pass	
Magnesium	M25-Jn0056612	CP	mg/L	53	53	<1	30%	Pass	
Potassium	M25-Jn0056612	CP	mg/L	9.6	9.6	<1	30%	Pass	
Sodium	M25-Jn0056612	CP	mg/L	140	110	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0056613	CP	mg/L	830	590	5.9	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0056613	CP	mg/L	0.002	0.002	5.0	30%	Pass	
Cadmium (filtered)	M25-Jn0056613	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0056613	CP	mg/L	0.001	< 0.001	57	30%	Fail	Q15
Copper (filtered)	M25-Jn0056613	CP	mg/L	0.020	0.019	3.0	30%	Pass	
Lead (filtered)	M25-Jn0056613	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Manganese (filtered)	M25-Jn0056613	CP	mg/L	0.035	0.034	3.0	30%	Pass	
Mercury (filtered)	M25-Jn0056613	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0056613	CP	mg/L	0.002	0.002	8.0	30%	Pass	
Selenium (filtered)	M25-Jn0056613	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	M25-Jn0056613	CP	mg/L	0.005	< 0.005	22	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0045422	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0045422	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0049943	NCP	ug/L	0.060	0.057	6.0	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0049943	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0049943	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0056614	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0056614	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0056614	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0056614	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0056614	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0056614	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0056614	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0056614	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0056614	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0056614	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0056614	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0056614	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0056614	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0056614	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0056614	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0056614	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0056614	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0056614	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0056614	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0056614	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0056614	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0056614	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
4-Nitrophenol	M25-Jn0056614	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0056614	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0056614	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Comments

Report 1234988-W-V2 (amendment to report 1234988-W) has been issued with revised results for selenium on samples MW180, MW189.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-PFAS
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street Melbourne, VIC 3008	LABORATOR: Eurofins	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
	Results email:	Standard X	Free ice / frozen icebricks present upon receipt? Yes No N/A
PHONE NO: 9653 1234	[illegible]	1 2 3 4 5 6 7 8	Sample Temperature on Receipt 4.9°C
MOBILE NO: 0427 821 002	[illegible]	1 2 3 4 5 6 7 8	
PROJECT ID: 60663007 / 12	Quote Number: 260602AECV		RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:
Project Manager: Robert Crowe	Project Name: Macquarie Point		
SAMPLER: RB / EM / TG / LL	Data Format: Esdat and PDF		

Sheridan Eurofins Hobart 20/6/2025 @ 4:26pm

NOTES:

Please use Project ID '60321836_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S, W)	SAMPLE CONTAINERS: General Water Suite (9)	General Water Suite + Eco Risk Suite (3)	PFAS (1)	Trip Blank (1)	TOTAL BOTTLES	ANALYSIS REQUEST: General Water Suite	Eco Risk Suite	PFAS	Trip Blank	HOLD
✓	NR2A	20/6/25	W	X	x			12	X	x			
✓	MW167	20/6/25	W	X	x			12	X	x			
✓	MW159	20/6/25	W	X	x			12	X	x			
✓	QC320	20/6/25	W	X				9	X				
✓	QC420	20/6/25	W	x				9					x
✓	QC522	20/6/25	W				x	1				x	

COMMENTS

Additional information: Report #1235189 SB 2016

Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc

* please note for samples NR2A, MW167 and MW159, the sample bags contain 1x 200mL Amber and 2x vials labelled "Filtered". these have been field filtered by client. Samples have been logged as MW167, MW167_FILTERED, NR2A, NR2A_Filtered, and MW159, MW159_FILTERED.

- SB 2016

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

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46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Australia Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 20, 2025 4:26 PM
Eurofins reference	1235189

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.9 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

For samples including the Eco Risk Suite, the field filtered vials (x2) and field filtered amber (x1) have been logged as a separate sample. This will allow you to distinguish between the filtered and non-filtered results.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Australia Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1235189
Phone: 0422 692 187
Fax:

Received: Jun 20, 2025 4:26 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**													
1	NR2A	Jun 20, 2025		Water	M25-Jn0058050	X	X	X		X	X		X	X	X		X	
2	NR2A_FILTERED	Jun 20, 2025		Water	M25-Jn0058051							X				X		
3	MW167	Jun 20, 2025		Water	M25-Jn0058052	X	X	X		X	X		X	X	X		X	
4	MW167_FILTERED	Jun 20, 2025		Water	M25-Jn0058053							X				X		
5	MW159	Jun 20, 2025		Water	M25-Jn0058054	X	X	X		X	X		X	X	X		X	
6	MW159_FILTERED	Jun 20, 2025		Water	M25-Jn0058055							X				X		
7	QC320	Jun 20, 2025		Water	M25-Jn0058056	X	X	X		X	X			X			X	
8	QC420	Jun 20, 2025		Water	M25-Jn0058057				X									
9	QC522	Jun 20, 2025		Water	M25-Jn0058058													X
Test Counts						4	4	4	1	4	4	3	3	4	3	3	4	1

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1235189-W-V2**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 20, 2025

Client Sample ID			**NR2A**	**NR2A_FILTERED**	**MW167**	**MW167_FILTERED**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0058050**	**M25-Jn0058051**	**M25-Jn0058052**	**M25-Jn0058053**
Date Sampled			**Jun 20, 2025**	**Jun 20, 2025**	**Jun 20, 2025**	**Jun 20, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	-
Toluene	0.001	mg/L	< 0.001	-	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	-
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	113	-	105	-
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	< 0.02	-	< 0.02	-
TRH >C8-C10 Aliphatic	0.02	mg/L	< 0.02	-	< 0.02	-
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	< 0.001	-	< 0.001	-
TRH >C7-C8 Aromatic	0.001	mg/L	< 0.001	-	< 0.001	-
TRH >C8-C10 Aromatic	0.01	mg/L	< 0.01	-	< 0.01	-
Dissolved Gases						
Methane	0.05	mg/L	1.5	-	< 0.05	-

Client Sample ID			NR2A	NR2A_FILTERED	MW167	MW167_FILTERED
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058050	M25-Jn0058051	M25-Jn0058052	M25-Jn0058053
Date Sampled			Jun 20, 2025	Jun 20, 2025	Jun 20, 2025	Jun 20, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.002	0.003	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Fluorene	0.001	mg/L	0.004	0.007	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Total PAH*	0.001	mg/L	0.010	0.014	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	73	87	105	80
p-Terphenyl-d14 (surr.)	1	%	119	84	89	61
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	-	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	-	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	-	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	-	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	-	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	-	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	-	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	-	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	-	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	-	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	-	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	-	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	-	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	-	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	-	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	-	< 0.1	-
Phenol	0.003	mg/L	< 0.003	-	< 0.003	-
Phenol-d6 (surr.)	1	%	131	-	56	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	-	< 0.1	-
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	< 0.05	-	< 0.05	-
TRH >C12-C16 Aliphatic	0.1	mg/L	< 0.1	-	< 0.1	-
TRH >C16-C21 Aliphatic	0.1	mg/L	< 0.1	-	< 0.1	-
TRH >C21-C35 Aliphatic	0.1	mg/L	< 0.1	-	< 0.1	-

Client Sample ID			NR2A	NR2A_FILTERED	MW167	MW167_FILTERED
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058050	M25-Jn0058051	M25-Jn0058052	M25-Jn0058053
Date Sampled			Jun 20, 2025	Jun 20, 2025	Jun 20, 2025	Jun 20, 2025
Test/Reference	LOR	Unit				
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	< 0.05	-	< 0.05	-
TRH >C12-C16 Aromatic	0.1	mg/L	< 0.1	-	< 0.1	-
TRH >C16-C21 Aromatic	0.1	mg/L	< 0.1	-	< 0.1	-
TRH >C21-C35 Aromatic	0.1	mg/L	< 0.1	-	< 0.1	-
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	-	< 0.05	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	< 0.1	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	< 0.1	-
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	-	< 0.1	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	-	< 0.05	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	< 0.1	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	< 0.1	-
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	-	< 0.1	-
Ammonia (as N)	0.01	mg/L	0.25	-	0.17	-
Chloride	1	mg/L	26	-	320	-
Conductivity (at 25 °C)	10	uS/cm	1400	-	2300	-
Cyanide (free)	0.005	mg/L	< 0.005	-	< 0.005	-
Cyanide (total)	0.005	mg/L	< 0.005	-	< 0.005	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	-	< 0.005	-
Nitrate (as N)	0.02	mg/L	0.16	-	1.6	-
Sulphate (as SO4)	5	mg/L	33	-	200	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	800	-	1500	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	630	-	690	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	-	< 10	-
Alkali Metals						
Calcium	0.5	mg/L	100	-	170	-
Magnesium	0.5	mg/L	29	-	24	-
Potassium	0.5	mg/L	9.1	-	8.5	-
Sodium	0.5	mg/L	140	-	310	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	-	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	< 0.001	-
Copper (filtered)	0.001	mg/L	0.003	-	0.012	-
Lead (filtered)	0.001	mg/L	< 0.001	-	0.002	-
Manganese (filtered)	0.005	mg/L	0.59	-	0.084	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	< 0.0001	-
Nickel (filtered)	0.001	mg/L	0.001	-	0.009	-
Zinc (filtered)	0.005	mg/L	0.006	-	0.24	-

Client Sample ID			MW159	MW159_FILTERED	QC320	QC522
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058054	M25-Jn0058055	M25-Jn0058056	M25-Jn0058058
Date Sampled			Jun 20, 2025	Jun 20, 2025	Jun 20, 2025	Jun 20, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	111	-	82	84
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	< 0.02	-	-	-
TRH >C8-C10 Aliphatic	0.02	mg/L	< 0.02	-	-	-
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	< 0.001	-	-	-
TRH >C7-C8 Aromatic	0.001	mg/L	< 0.001	-	-	-
TRH >C8-C10 Aromatic	0.01	mg/L	< 0.01	-	-	-
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	-	< 0.05	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	-

Client Sample ID			MW159	MW159_FILTERED	QC320	QC522
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058054	M25-Jn0058055	M25-Jn0058056	M25-Jn0058058
Date Sampled			Jun 20, 2025	Jun 20, 2025	Jun 20, 2025	Jun 20, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
2-Fluorobiphenyl (surr.)	1	%	80	77	80	-
p-Terphenyl-d14 (surr.)	1	%	71	140	87	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	-	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	-	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	-	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	-	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	-	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	-	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	-	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	-	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	-	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	-	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	-	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	-	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	-	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	-	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	-	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	-	< 0.1	-
Phenol	0.003	mg/L	< 0.003	-	< 0.003	-
Phenol-d6 (surr.)	1	%	124	-	145	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	-	< 0.1	-
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	< 0.05	-	-	-
TRH >C12-C16 Aliphatic	0.1	mg/L	< 0.1	-	-	-
TRH >C16-C21 Aliphatic	0.1	mg/L	< 0.1	-	-	-
TRH >C21-C35 Aliphatic	0.1	mg/L	< 0.1	-	-	-
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	< 0.05	-	-	-
TRH >C12-C16 Aromatic	0.1	mg/L	< 0.1	-	-	-
TRH >C16-C21 Aromatic	0.1	mg/L	< 0.1	-	-	-
TRH >C21-C35 Aromatic	0.1	mg/L	< 0.1	-	-	-
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	-	-	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-

Client Sample ID			MW159	MW159_FILTERED	QC320	QC522
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058054	M25-Jn0058055	M25-Jn0058056	M25-Jn0058058
Date Sampled			Jun 20, 2025	Jun 20, 2025	Jun 20, 2025	Jun 20, 2025
Test/Reference	LOR	Unit				
Ammonia (as N)	0.01	mg/L	0.03	-	< 0.01	-
Chloride	1	mg/L	77	-	< 1	-
Conductivity (at 25 °C)	10	uS/cm	1300	-	< 10	-
Cyanide (free)	0.005	mg/L	< 0.005	-	< 0.005	-
Cyanide (total)	0.005	mg/L	< 0.005	-	< 0.005	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	-	< 0.005	-
Nitrate (as N)	0.02	mg/L	9.2	-	< 0.02	-
Sulphate (as SO4)	5	mg/L	84	-	< 5	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	780	-	< 10	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	450	-	< 20	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	-	< 10	-
Alkali Metals						
Calcium	0.5	mg/L	51	-	< 0.5	-
Magnesium	0.5	mg/L	30	-	< 0.5	-
Potassium	0.5	mg/L	6.1	-	< 0.5	-
Sodium	0.5	mg/L	140	-	< 0.5	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.001	-	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	< 0.001	-
Copper (filtered)	0.001	mg/L	0.003	-	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	-	< 0.001	-
Manganese (filtered)	0.005	mg/L	0.94	-	< 0.005	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	< 0.0001	-
Nickel (filtered)	0.001	mg/L	0.001	-	< 0.001	-
Selenium (filtered)	0.001	mg/L	< 0.001	-	-	-
Zinc (filtered)	0.005	mg/L	< 0.005	-	< 0.005	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Dissolved Gases	Melbourne	Jun 23, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jul 10, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 23, 2025	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			

Description	Testing Site	Extracted	Holding Time
Sulphate (as SO4)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 23, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1235189
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Fax:

Received: Jun 20, 2025 4:26 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**													
1	NR2A	Jun 20, 2025		Water	M25-Jn0058050	X	X	X		X	X		X	X	X		X	
2	NR2A_FILTERED	Jun 20, 2025		Water	M25-Jn0058051							X				X		
3	MW167	Jun 20, 2025		Water	M25-Jn0058052	X	X	X		X	X		X	X	X		X	
4	MW167_FILTERED	Jun 20, 2025		Water	M25-Jn0058053							X				X		
5	MW159	Jun 20, 2025		Water	M25-Jn0058054	X	X	X		X	X		X	X	X		X	
6	MW159_FILTERED	Jun 20, 2025		Water	M25-Jn0058055							X				X		
7	QC320	Jun 20, 2025		Water	M25-Jn0058056	X	X	X		X	X			X			X	
8	QC420	Jun 20, 2025		Water	M25-Jn0058057				X									
9	QC522	Jun 20, 2025		Water	M25-Jn0058058													X
Test Counts						4	4	4	1	4	4	3	3	4	3	3	4	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	113			70-130	Pass	
TRH C10-C14	%	118			70-130	Pass	
TRH C6-C10	%	115			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	118			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	112			70-130	Pass	
Toluene	%	117			70-130	Pass	
Ethylbenzene	%	121			70-130	Pass	
m&p-Xylenes	%	113			70-130	Pass	
Xylenes - Total*	%	112			70-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2.4-Dimethylphenol	%	60			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	107			70-130	Pass	
Chloride	%	98			70-130	Pass	
Conductivity (at 25 °C)	%	93			70-130	Pass	
Cyanide (total)	%	106			70-130	Pass	
Sulphate (as SO4)	%	105			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	97			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	130			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	98			80-120	Pass	
Magnesium	%	102			80-120	Pass	
Potassium	%	103			80-120	Pass	
Sodium	%	103			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	114			70-130	Pass	
TRH >C10-C16	%	113			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	113			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	114			70-130	Pass	
LCS - % Recovery							
Cyanide (weak acid dissoc.)	%	108			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	109			70-130	Pass	
Acenaphthylene	%	123			70-130	Pass	
Anthracene	%	86			70-130	Pass	
Benz(a)anthracene	%	130			70-130	Pass	
Benzo(a)pyrene	%	112			70-130	Pass	
Benzo(b&j)fluoranthene	%	114			70-130	Pass	
Benzo(g.h.i)perylene	%	104			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	123			70-130	Pass	
Dibenz(a.h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	109			70-130	Pass	
Fluorene	%	97			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	103			70-130	Pass	
Phenanthrene	%	130			70-130	Pass	
Pyrene	%	109			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	118			25-140	Pass	
2.4-Dichlorophenol	%	128			25-140	Pass	
2.4.5-Trichlorophenol	%	94			25-140	Pass	
2.4.6-Trichlorophenol	%	119			25-140	Pass	
2.6-Dichlorophenol	%	103			25-140	Pass	
4-Chloro-3-methylphenol	%	97			25-140	Pass	
Pentachlorophenol	%	74			25-140	Pass	
Tetrachlorophenols - Total	%	123			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	59			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	49			25-140	Pass	
2-Nitrophenol	%	108			25-140	Pass	
2-Methylphenol (o-Cresol)	%	72			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	71			25-140	Pass	
Dinoseb	%	70			25-140	Pass	
Phenol	%	34			25-140	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0059031	NCP	%	108			70-130	Pass	
TRH C6-C10	M25-Jn0059031	NCP	%	108			70-130	Pass	
TRH >C10-C16	M25-Jn0061775	NCP	%	95			70-130	Pass	
Naphthalene	M25-Jn0059031	NCP	%	93			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0059031	NCP	%	121			70-130	Pass	
Toluene	M25-Jn0059031	NCP	%	124			70-130	Pass	
Ethylbenzene	M25-Jn0059031	NCP	%	125			70-130	Pass	
m&p-Xylenes	M25-Jn0059031	NCP	%	119			70-130	Pass	
o-Xylene	M25-Jn0059031	NCP	%	116			70-130	Pass	
Xylenes - Total*	M25-Jn0059031	NCP	%	118			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0066998	NCP	%	100			70-130	Pass	
Acenaphthylene	M25-Jn0066998	NCP	%	84			70-130	Pass	
Anthracene	M25-Jn0066998	NCP	%	88			70-130	Pass	
Benz(a)anthracene	M25-Jn0066998	NCP	%	96			70-130	Pass	
Benzo(a)pyrene	M25-Jn0066998	NCP	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0066998	NCP	%	86			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0066998	NCP	%	87			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0066998	NCP	%	86			70-130	Pass	
Chrysene	M25-Jn0066998	NCP	%	70			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0066998	NCP	%	81			70-130	Pass	
Fluoranthene	M25-Jn0066998	NCP	%	82			70-130	Pass	
Fluorene	M25-Jn0066998	NCP	%	78			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0066998	NCP	%	92			70-130	Pass	
Naphthalene	M25-Jn0066998	NCP	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	M25-Jn0066998	NCP	%	104			70-130	Pass	
Pyrene	M25-Jn0066998	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0066998	NCP	%	58			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0066998	NCP	%	30			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0066998	NCP	%	41			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0066998	NCP	%	48			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0066998	NCP	%	48			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0066998	NCP	%	32			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0066998	NCP	%	58			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0066998	NCP	%	58			30-130	Pass	
Phenol	M25-Jn0066998	NCP	%	54			30-130	Pass	
Spike - % Recovery									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1					
TRH >C10-C16 (after silica gel clean-up)	M25-Jn0061775	NCP	%	102			70-130	Pass	
Spike - % Recovery									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1					
TRH C10-C14 (after silica gel clean-up)	M25-Jn0061775	NCP	%	107			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M25-Jn0056793	NCP	%	79			70-130	Pass	
Cyanide (total)	M25-Jn0058338	NCP	%	88			70-130	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058338	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2.4.6-Trichlorophenol	M25-Jn0059024	NCP	%	94			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0059024	NCP	%	114			30-130	Pass	
Pentachlorophenol	M25-Jn0059024	NCP	%	67			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	M25-Jn0059024	NCP	%	49			30-130	Pass	
2-Nitrophenol	M25-Jn0059024	NCP	%	81			30-130	Pass	
4-Nitrophenol	M25-Jn0059024	NCP	%	31			30-130	Pass	
Dinoseb	M25-Jn0059024	NCP	%	63			30-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jn0058052	CP	%	102			75-125	Pass	
Magnesium	M25-Jn0058052	CP	%	100			75-125	Pass	
Potassium	M25-Jn0058052	CP	%	100			75-125	Pass	
Sodium	M25-Jn0058052	CP	%	94			75-125	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0058056	CP	%	117			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0059004	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M25-Jn0059004	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M25-Jn0059004	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0059004	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0059004	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH >C10-C16 (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34 (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40 (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH C10-C14 (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28 (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36 (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C10-C36 (Total) (after silica gel clean-up)	M25-Jn0001923	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0058332	NCP	mg/L	450	450	<1	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0058050	CP	uS/cm	1400	890	6.0	30%	Pass	
Cyanide (total)	M25-Jn0058337	NCP	mg/L	0.020	0.017	12	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058337	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Sulphate (as SO4)	M25-Jn0058332	NCP	mg/L	5.5	5.3	4.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0057574	NCP	mg/L	3200	3700	14	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0058050	CP	mg/L	630	570	10	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0058050	CP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0058052	CP	mg/L	170	160	1.0	30%	Pass	
Magnesium	M25-Jn0058052	CP	mg/L	24	24	1.0	30%	Pass	
Potassium	M25-Jn0058052	CP	mg/L	8.5	8.4	1.0	30%	Pass	
Sodium	M25-Jn0058052	CP	mg/L	310	310	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0058054	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0058054	CP	mg/L	0.03	0.02	22	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0058056	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0058056	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0058056	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0058056	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0058056	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0058056	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0058056	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0058056	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0058056	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0058056	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0058056	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0058056	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0058056	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0058056	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0058056	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0058056	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0058056	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0058056	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0058056	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0058056	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0058056	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0058056	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0058056	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0058056	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0058056	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Comments

Report 1235189-W-V2 (amendment to report 1235189-W) has been issued with additional results for selenium on sample MW159.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street Melbourne, VIC 3008	LABORATOR Eurofins	TURNAROUND REQUIREMENTS (mark Due date or 'X')	
		Standard	X
	Results email:		
PHONE NO: 9653 1234	esdat@aecom.eu@eurofinsmc.net	1	2 3 4 5 6 7 8
MOBILE NO: 0427 821 002	robert.crowe@aecom.com, richard.browne@aecom.com	1	2 3 4 5 6 7 8
PROJECT ID: 60693007 / 12	Quote Number:	250502AECV	
Project Manager: Robert Crowe	Project Name:	Macquarie Point	
SAMPLER: RB / EM / TG / LL	Data Format:	Esdat and PDF	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen icebricks present upon receipt?	Yes	No	N/A
Sample Temperature on Receipt	4.2 °C		

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:

Sheridan
Eurofins Hobart
20/6/2025
@ 4:26pm.

NOTES:

Please use Project ID '60321835_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

LAB ID	SAMPLE ID	DATE / TIME		WATER (S W)	SAMPLE CONTAINERS: General Water Suite (9)	General Water Suite + Eco Risk Suite (3)	PFAS (1)	Trip Blank (1)	TOTAL BOTTLES	ANALYSIS REQUEST: General Water Suite	Eco Risk Suite	PFAS	Trip Blank	HOLD
✓	MW151	19/6/25		W	X	x			12	X	x			
✓	RS6	19/6/25		W	X				9	X				
✓	BH2_PS	19/6/25		W	X				9	X				
✓	MW55	19/6/25		W	X				9	X				
✓	MW152	19/6/25		W	X				9	X				
✓	MW127A	19/6/25		W	X				9	x				
✓	MW155	19/6/25		W	X	x			12	X	x			
✓	MW122	19/6/25		W	X				9	X				
✓	MW148	19/6/25		W	X				9	X				
✓	MW161	19/6/25		W	x	x			12	X	x			
✓	QC318	19/6/25		W	X	x			12	X	x			
✓	QC418	19/6/25		W	x	x			12					x
✓	QC520	19/6/25		W				X	1				X	
✓	QC521	19/6/25		W				x	1				x	

COMMENTS

Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
Report #1235243 SB 20/6	

* please note for samples MW151, MW155 and MW161, the sample bags contain 1x200mL amber and 2xvials labelled as "FILTERED". These have been field filtered by client. So that the client can distinguish between filtered and non-filtered results samples have been logged as MW151, MW151_FILTERED, MW155, MW155_FILTERED, MW161, MW161_FILTERED -SB 20/6

* no field filtered amber and vials received for samples QC318 and QC418 -SB 20/6

eurofins | Environment Testing

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Eurofins Environment Testing Australia Pty Ltd

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Penrose	Mount Wellington	Rolleston	Gate Pa
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 20, 2025 4:26 PM
Eurofins reference	1235243

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

For samples including the Eco Risk Suite, the field filtered vials (x2) and field filtered amber (x1) have been logged as a separate sample. This will allow you to distinguish between the filtered and non-filtered results. NOTE: No field filtered amber or field filtered vials received for samples QC318 and QC418.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1235243
Phone: 0422 692 187
Fax:

Received: Jun 20, 2025 4:26 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory													

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	MW151	Jun 19, 2025		Water	M25-Jn0058328	X	X	X		X	X		X	X	X		X	
2	MW151_FILTERED	Jun 19, 2025		Water	M25-Jn0058329							X				X		
3	RS6	Jun 19, 2025		Water	M25-Jn0058330	X	X	X		X	X			X			X	
4	BH2_PS	Jun 19, 2025		Water	M25-Jn0058331	X	X	X		X	X			X			X	
5	MW55	Jun 19, 2025		Water	M25-Jn0058332	X	X	X		X	X			X			X	
6	MW152	Jun 19, 2025		Water	M25-Jn0058333	X	X	X		X	X			X			X	
7	MW127A	Jun 19, 2025		Water	M25-Jn0058334	X	X	X		X	X			X			X	
8	MW155	Jun 19, 2025		Water	M25-Jn0058335	X	X	X		X	X		X	X	X		X	
9	MW155_FILTERED	Jun 19, 2025		Water	M25-Jn0058336							X				X		
10	MW122	Jun 19, 2025		Water	M25-Jn0058337	X	X	X		X	X			X			X	
11	MW148	Jun 19, 2025		Water	M25-Jn0058338	X	X	X		X	X			X			X	
12	MW161	Jun 19, 2025		Water	M25-Jn0058339	X	X	X		X	X		X	X	X		X	
13	MW161_FILTE	Jun 19, 2025		Water	M25-Jn0058340							X				X		

eurofins

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
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Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1235243
Phone: 0422 692 187
Fax:

Received: Jun 20, 2025 4:26 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X
	RED																	
14	QC318	Jun 19, 2025		Water	M25-Jn0058341	X	X	X		X	X		X	X	X		X	
15	QC418	Jun 19, 2025		Water	M25-Jn0058342				X									
16	QC520	Jun 19, 2025		Water	M25-Jn0058343													X
17	QC521	Jun 19, 2025		Water	M25-Jn0058344													X
Test Counts						11	11	11	1	11	11	3	4	11	4	3	11	2

Aecom Austraila Pty Ltd
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Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1235243-W-V2**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 20, 2025

Client Sample ID			**MW151**	**MW151_FILTERED**	**RS6**	**BH2_PS**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0058328**	**M25-Jn0058329**	**M25-Jn0058330**	**M25-Jn0058331**
Date Sampled			**Jun 19, 2025**	**Jun 19, 2025**	**Jun 19, 2025**	**Jun 19, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	100	-	99	103
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	< 0.02	-	-	-
TRH >C8-C10 Aliphatic	0.02	mg/L	< 0.02	-	-	-
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	< 0.001	-	-	-
TRH >C7-C8 Aromatic	0.001	mg/L	< 0.001	-	-	-
TRH >C8-C10 Aromatic	0.01	mg/L	< 0.01	-	-	-
Dissolved Gases						
Methane	0.05	mg/L	9.2	-	3.9	< 0.05

Client Sample ID			MW151	MW151_FILTERED	RS6	BH2_PS
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058328	M25-Jn0058329	M25-Jn0058330	M25-Jn0058331
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.004	0.003	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	0.004	0.003	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	91	66	63	77
p-Terphenyl-d14 (surr.)	1	%	119	136	105	108
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	-	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	-	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	-	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	-	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	-	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	-	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	-	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	-	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	131	-	131	124
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	-	< 0.1	< 0.1
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	< 0.05	-	-	-
TRH >C12-C16 Aliphatic	0.1	mg/L	< 0.1	-	-	-
TRH >C16-C21 Aliphatic	0.1	mg/L	< 0.1	-	-	-
TRH >C21-C35 Aliphatic	0.1	mg/L	< 0.1	-	-	-

Client Sample ID			MW151	MW151_FILTERED	RS6	BH2_PS
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058328	M25-Jn0058329	M25-Jn0058330	M25-Jn0058331
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	< 0.05	-	-	-
TRH >C12-C16 Aromatic	0.1	mg/L	< 0.1	-	-	-
TRH >C16-C21 Aromatic	0.1	mg/L	< 0.1	-	-	-
TRH >C21-C35 Aromatic	0.1	mg/L	< 0.1	-	-	-
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	-	-	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	-	-	-
Ammonia (as N)	0.01	mg/L	21	-	4.2	< 0.01
Chloride	1	mg/L	2000	-	47	33
Conductivity (at 25 °C)	10	uS/cm	7400	-	1200	2000
Cyanide (free)	0.005	mg/L	< 0.005	-	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	0.008	-	0.007	0.022
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	-	< 0.005	0.005
Nitrate (as N)	0.02	mg/L	< 0.02	-	3.6	4.2
Sulphate (as SO4)	5	mg/L	130	-	22	140
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	4200	-	750	1400
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	850	-	640	920
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	-	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	200	-	140	160
Magnesium	0.5	mg/L	180	-	38	40
Potassium	0.5	mg/L	56	-	8.6	20
Sodium	0.5	mg/L	1000	-	39	200
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	-	< 0.001	0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	-	0.003	0.003
Lead (filtered)	0.001	mg/L	< 0.001	-	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	1.5	-	0.45	0.68
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001	-	0.002	0.003
Zinc (filtered)	0.005	mg/L	< 0.005	-	< 0.005	0.010

Client Sample ID			MW55	MW152	MW127A	MW155
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058332	M25-Jn0058333	M25-Jn0058334	M25-Jn0058335
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	0.06	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	0.005	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	0.005	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	102	103	101	108
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	-	-	-	< 0.02
TRH >C8-C10 Aliphatic	0.02	mg/L	-	-	-	< 0.02
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	-	-	-	< 0.001
TRH >C7-C8 Aromatic	0.001	mg/L	-	-	-	< 0.001
TRH >C8-C10 Aromatic	0.01	mg/L	-	-	-	< 0.01
Dissolved Gases						
Methane	0.05	mg/L	16	14	24	18
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.013	< 0.001	0.002
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	0.004	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	0.002	< 0.001	0.003
Phenanthrene	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	0.021	< 0.001	0.005

Client Sample ID			MW55	MW152	MW127A	MW155
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058332	M25-Jn0058333	M25-Jn0058334	M25-Jn0058335
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
2-Fluorobiphenyl (surr.)	1	%	77	73	66	70
p-Terphenyl-d14 (surr.)	1	%	115	133	105	122
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	131	56	114	124
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	-	-	-	< 0.05
TRH >C12-C16 Aliphatic	0.1	mg/L	-	-	-	< 0.1
TRH >C16-C21 Aliphatic	0.1	mg/L	-	-	-	< 0.1
TRH >C21-C35 Aliphatic	0.1	mg/L	-	-	-	< 0.1
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	-	-	-	< 0.05
TRH >C12-C16 Aromatic	0.1	mg/L	-	-	-	< 0.1
TRH >C16-C21 Aromatic	0.1	mg/L	-	-	-	< 0.1
TRH >C21-C35 Aromatic	0.1	mg/L	-	-	-	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	-	-	-	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	-	-	-	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	-	-	-	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1

Client Sample ID			MW55	MW152	MW127A	MW155
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058332	M25-Jn0058333	M25-Jn0058334	M25-Jn0058335
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Ammonia (as N)	0.01	mg/L	39	43	29	0.13
Chloride	1	mg/L	450	1400	660	3000
Conductivity (at 25 °C)	10	uS/cm	3900	7000	3900	9200
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	0.063	0.018	0.049	0.005
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	< 0.2	0.05	< 0.02	< 0.2
Sulphate (as SO4)	5	mg/L	5.5	120	< 5	10
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	2500	4800	2400	5700
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	1400	2000	1100	460
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	130	74	190	460
Magnesium	0.5	mg/L	52	160	64	96
Potassium	0.5	mg/L	45	100	40	63
Sodium	0.5	mg/L	460	1200	410	1300
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	1.1	0.40	2.7	1.7
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001	< 0.001	0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005

Client Sample ID			MW155_FILTERED	MW122	MW148	MW161
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058336	M25-Jn0058337	M25-Jn0058338	M25-Jn0058339
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			MW155_FILTERED	MW122	MW148	MW161
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058336	M25-Jn0058337	M25-Jn0058338	M25-Jn0058339
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	104	99	106
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	-	-	-	< 0.02
TRH >C8-C10 Aliphatic	0.02	mg/L	-	-	-	< 0.02
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	-	-	-	< 0.001
TRH >C7-C8 Aromatic	0.001	mg/L	-	-	-	< 0.001
TRH >C8-C10 Aromatic	0.01	mg/L	-	-	-	< 0.01
Dissolved Gases						
Methane	0.05	mg/L	-	0.05	0.05	< 0.05
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.002	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	0.004	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	0.006	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	63	80	70	114
p-Terphenyl-d14 (surr.)	1	%	126	133	84	66
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	-	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	-	< 0.01	< 0.01	< 0.01

Client Sample ID			MW155_FILTERED	MW122	MW148	MW161
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058336	M25-Jn0058337	M25-Jn0058338	M25-Jn0058339
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	-	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	-	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	-	124	131	114
Total Non-Halogenated Phenol*	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	-	-	-	< 0.05
TRH >C12-C16 Aliphatic	0.1	mg/L	-	-	-	< 0.1
TRH >C16-C21 Aliphatic	0.1	mg/L	-	-	-	< 0.1
TRH >C21-C35 Aliphatic	0.1	mg/L	-	-	-	< 0.1
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	-	-	-	< 0.05
TRH >C12-C16 Aromatic	0.1	mg/L	-	-	-	< 0.1
TRH >C16-C21 Aromatic	0.1	mg/L	-	-	-	< 0.1
TRH >C21-C35 Aromatic	0.1	mg/L	-	-	-	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	-	-	-	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	-	-	-	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	-	-	-	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
Ammonia (as N)	0.01	mg/L	-	0.50	3.8	0.01
Chloride	1	mg/L	-	39	45	22
Conductivity (at 25 °C)	10	uS/cm	-	2100	1800	810
Cyanide (free)	0.005	mg/L	-	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	-	0.020	0.028	< 0.005
Cyanide (weak acid dissoc.)	0.005	mg/L	-	< 0.005	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	-	0.08	0.04	8.0
Sulphate (as SO4)	5	mg/L	-	97	110	55
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	-	1400	1200	560
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	-	920	830	410
Carbonate Alkalinity (as CaCO3)	10	mg/L	-	< 10	< 10	< 10

Client Sample ID			MW155_FILTERED	MW122	MW148	MW161
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058336	M25-Jn0058337	M25-Jn0058338	M25-Jn0058339
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	-	140	170	36
Magnesium	0.5	mg/L	-	48	40	23
Potassium	0.5	mg/L	-	21	20	6.0
Sodium	0.5	mg/L	-	200	94	120
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	-	< 0.001	< 0.001	0.004
Cadmium (filtered)	0.0002	mg/L	-	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	-	< 0.001	0.002	< 0.001
Copper (filtered)	0.001	mg/L	-	0.006	< 0.001	0.002
Lead (filtered)	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	-	2.9	1.7	< 0.005
Mercury (filtered)	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	-	0.006	0.001	< 0.001
Selenium (filtered)	0.001	mg/L	-	-	-	0.002
Zinc (filtered)	0.005	mg/L	-	0.015	< 0.005	< 0.005

Client Sample ID			MW161_FILTERED	QC318	QC520	QC521
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058340	M25-Jn0058341	M25-Jn0058343	M25-Jn0058344
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	99	101	100
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	-	< 0.02	-	-
TRH >C8-C10 Aliphatic	0.02	mg/L	-	< 0.02	-	-

Client Sample ID			MW161_FILTERED	QC318	QC520	QC521
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058340	M25-Jn0058341	M25-Jn0058343	M25-Jn0058344
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	-	< 0.001	-	-
TRH >C7-C8 Aromatic	0.001	mg/L	-	< 0.001	-	-
TRH >C8-C10 Aromatic	0.01	mg/L	-	< 0.01	-	-
Dissolved Gases						
Methane	0.05	mg/L	-	< 0.05	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	-	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	149	149	-	-
p-Terphenyl-d14 (surr.)	1	%	87	98	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	-	< 0.003	-	-
2.4-Dichlorophenol	0.003	mg/L	-	< 0.003	-	-
2.4.5-Trichlorophenol	0.01	mg/L	-	< 0.01	-	-
2.4.6-Trichlorophenol	0.01	mg/L	-	< 0.01	-	-
2.6-Dichlorophenol	0.003	mg/L	-	< 0.003	-	-
4-Chloro-3-methylphenol	0.01	mg/L	-	< 0.01	-	-
Pentachlorophenol	0.01	mg/L	-	< 0.01	-	-
Tetrachlorophenols - Total	0.03	mg/L	-	< 0.03	-	-
Total Halogenated Phenol*	0.01	mg/L	-	< 0.01	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	-	< 0.1	-	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	< 0.03	-	-
2-Nitrophenol	0.01	mg/L	-	< 0.01	-	-
2.4-Dimethylphenol	0.003	mg/L	-	< 0.003	-	-
2.4-Dinitrophenol	0.03	mg/L	-	< 0.03	-	-
2-Methylphenol (o-Cresol)	0.003	mg/L	-	< 0.003	-	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	< 0.006	-	-
Total cresols*	0.01	mg/L	-	< 0.01	-	-
4-Nitrophenol	0.03	mg/L	-	< 0.03	-	-
Dinoseb	0.1	mg/L	-	< 0.1	-	-
Phenol	0.003	mg/L	-	< 0.003	-	-
Phenol-d6 (surr.)	1	%	-	124	-	-
Total Non-Halogenated Phenol*	0.1	mg/L	-	< 0.1	-	-

Client Sample ID			MW161_FILTERED	QC318	QC520	QC521
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0058340	M25-Jn0058341	M25-Jn0058343	M25-Jn0058344
Date Sampled			Jun 19, 2025	Jun 19, 2025	Jun 19, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	-	< 0.05	-	-
TRH >C12-C16 Aliphatic	0.1	mg/L	-	< 0.1	-	-
TRH >C16-C21 Aliphatic	0.1	mg/L	-	< 0.1	-	-
TRH >C21-C35 Aliphatic	0.1	mg/L	-	< 0.1	-	-
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	-	< 0.05	-	-
TRH >C12-C16 Aromatic	0.1	mg/L	-	< 0.1	-	-
TRH >C16-C21 Aromatic	0.1	mg/L	-	< 0.1	-	-
TRH >C21-C35 Aromatic	0.1	mg/L	-	< 0.1	-	-
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	-	< 0.05	-	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	-	< 0.1	-	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	-	< 0.05	-	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
Ammonia (as N)	0.01	mg/L	-	< 0.01	-	-
Chloride	1	mg/L	-	< 1	-	-
Conductivity (at 25 °C)	10	uS/cm	-	< 10	-	-
Cyanide (free)	0.005	mg/L	-	< 0.005	-	-
Cyanide (total)	0.005	mg/L	-	< 0.005	-	-
Cyanide (weak acid dissoc.)	0.005	mg/L	-	< 0.005	-	-
Nitrate (as N)	0.02	mg/L	-	< 0.02	-	-
Sulphate (as SO4)	5	mg/L	-	< 5	-	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	-	< 10	-	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	-	< 20	-	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	-	< 10	-	-
Alkali Metals						
Calcium	0.5	mg/L	-	< 0.5	-	-
Magnesium	0.5	mg/L	-	< 0.5	-	-
Potassium	0.5	mg/L	-	< 0.5	-	-
Sodium	0.5	mg/L	-	< 0.5	-	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	-	< 0.001	-	-
Cadmium (filtered)	0.0002	mg/L	-	< 0.0002	-	-
Chromium (filtered)	0.001	mg/L	-	< 0.001	-	-
Copper (filtered)	0.001	mg/L	-	< 0.001	-	-
Lead (filtered)	0.001	mg/L	-	< 0.001	-	-
Manganese (filtered)	0.005	mg/L	-	< 0.005	-	-
Mercury (filtered)	0.0001	mg/L	-	< 0.0001	-	-
Nickel (filtered)	0.001	mg/L	-	< 0.001	-	-
Zinc (filtered)	0.005	mg/L	-	< 0.005	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Dissolved Gases	Melbourne	Jun 23, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jul 10, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 23, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 23, 2025	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			

Description	Testing Site	Extracted	Holding Time
Sulphate (as SO4)	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 23, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 23, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 23, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1235243
Phone: 0422 692 187
Fax:

Received: Jun 20, 2025 4:26 PM
Due: Jun 27, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**													
1	MW151	Jun 19, 2025		Water	M25-Jn0058328	X	X	X		X	X		X	X	X		X	
2	MW151_FILTERED	Jun 19, 2025		Water	M25-Jn0058329							X				X		
3	RS6	Jun 19, 2025		Water	M25-Jn0058330	X	X	X		X	X			X			X	
4	BH2_PS	Jun 19, 2025		Water	M25-Jn0058331	X	X	X		X	X			X			X	
5	MW55	Jun 19, 2025		Water	M25-Jn0058332	X	X	X		X	X			X			X	
6	MW152	Jun 19, 2025		Water	M25-Jn0058333	X	X	X		X	X			X			X	
7	MW127A	Jun 19, 2025		Water	M25-Jn0058334	X	X	X		X	X			X			X	
8	MW155	Jun 19, 2025		Water	M25-Jn0058335	X	X	X		X	X		X	X	X		X	
9	MW155_FILTERED	Jun 19, 2025		Water	M25-Jn0058336							X				X		
10	MW122	Jun 19, 2025		Water	M25-Jn0058337	X	X	X		X	X			X			X	
11	MW148	Jun 19, 2025		Water	M25-Jn0058338	X	X	X		X	X			X			X	
12	MW161	Jun 19, 2025		Water	M25-Jn0058339	X	X	X		X	X		X	X	X		X	
13	MW161_FILTE	Jun 19, 2025		Water	M25-Jn0058340							X				X		

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Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X
	RED																	
14	QC318	Jun 19, 2025		Water	M25-Jn0058341	X	X	X		X	X		X	X	X		X	
15	QC418	Jun 19, 2025		Water	M25-Jn0058342				X									
16	QC520	Jun 19, 2025		Water	M25-Jn0058343													X
17	QC521	Jun 19, 2025		Water	M25-Jn0058344													X
Test Counts						11	11	11	1	11	11	3	4	11	4	3	11	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Selenium (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	96			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	114			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	123			70-130	Pass	
LCS - % Recovery							
Chloride	%	98			70-130	Pass	
Conductivity (at 25 °C)	%	93			70-130	Pass	
Cyanide (total)	%	106			70-130	Pass	
Cyanide (weak acid dissoc.)	%	104			70-130	Pass	
Sulphate (as SO4)	%	109			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	94			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	118			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	90			80-120	Pass	
Magnesium	%	92			80-120	Pass	
Potassium	%	93			80-120	Pass	
Sodium	%	90			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	95			80-120	Pass	
Cadmium (filtered)	%	109			80-120	Pass	
Chromium (filtered)	%	97			80-120	Pass	
Copper (filtered)	%	99			80-120	Pass	
Lead (filtered)	%	101			80-120	Pass	
Mercury (filtered)	%	97			80-120	Pass	
Nickel (filtered)	%	99			80-120	Pass	
Zinc (filtered)	%	95			80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Dissolved Gases							
Methane	%	102			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	104			70-130	Pass	
Anthracene	%	126			70-130	Pass	
Benz(a)anthracene	%	100			70-130	Pass	
Benzo(a)pyrene	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	94			70-130	Pass	
Benzo(g.h.i)perylene	%	82			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	80			70-130	Pass	
Dibenz(a.h)anthracene	%	80			70-130	Pass	
Fluoranthene	%	100			70-130	Pass	
Fluorene	%	104			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	86			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	110			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	98			25-140	Pass	
2.4-Dichlorophenol	%	74			25-140	Pass	
2.4.5-Trichlorophenol	%	99			25-140	Pass	
2.4.6-Trichlorophenol	%	66			25-140	Pass	
2.6-Dichlorophenol	%	100			25-140	Pass	
4-Chloro-3-methylphenol	%	75			25-140	Pass	
Pentachlorophenol	%	56			25-140	Pass	
Tetrachlorophenols - Total	%	102			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	39			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	37			25-140	Pass	
2-Nitrophenol	%	70			25-140	Pass	
2.4-Dimethylphenol	%	60			25-140	Pass	
2-Methylphenol (o-Cresol)	%	80			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	74			25-140	Pass	
Dinoseb	%	52			25-140	Pass	
Phenol	%	52			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	107			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	72			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	73			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	125			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14 (after silica gel clean-up)	%	126			70-130	Pass	
LCS - % Recovery							
Sulphate (as SO4)	%	113			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	75			70-130	Pass	
TRH >C10-C16	%	76			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	107			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	70			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	74			70-130	Pass	
LCS - % Recovery							
Chloride	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0051415	NCP	%	89			70-130	Pass	
TRH >C10-C16	M25-Jn0066460	NCP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0051415	NCP	%	85			70-130	Pass	
Toluene	M25-Jn0051415	NCP	%	86			70-130	Pass	
Ethylbenzene	M25-Jn0051415	NCP	%	87			70-130	Pass	
m&p-Xylenes	M25-Jn0051415	NCP	%	87			70-130	Pass	
o-Xylene	M25-Jn0051415	NCP	%	88			70-130	Pass	
Xylenes - Total*	M25-Jn0051415	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0066998	NCP	%	100			70-130	Pass	
Acenaphthylene	M25-Jn0066998	NCP	%	84			70-130	Pass	
Anthracene	M25-Jn0066998	NCP	%	88			70-130	Pass	
Benz(a)anthracene	M25-Jn0066998	NCP	%	96			70-130	Pass	
Benzo(a)pyrene	M25-Jn0066998	NCP	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0066998	NCP	%	86			70-130	Pass	
Benzo(g.h.i)perylene	M25-Jn0066998	NCP	%	87			70-130	Pass	
Benzo(k)fluoranthene	M25-Jn0066998	NCP	%	86			70-130	Pass	
Chrysene	M25-Jn0066998	NCP	%	70			70-130	Pass	
Dibenz(a.h)anthracene	M25-Jn0066998	NCP	%	81			70-130	Pass	
Fluoranthene	M25-Jn0066998	NCP	%	82			70-130	Pass	
Fluorene	M25-Jn0066998	NCP	%	78			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0066998	NCP	%	92			70-130	Pass	
Naphthalene	M25-Jn0066998	NCP	%	92			70-130	Pass	
Phenanthrene	M25-Jn0066998	NCP	%	104			70-130	Pass	
Pyrene	M25-Jn0066998	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0066998	NCP	%	58			30-130	Pass	
2.4-Dichlorophenol	M25-Jn0066998	NCP	%	30			30-130	Pass	
2.4.5-Trichlorophenol	M25-Jn0066998	NCP	%	41			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4-Chloro-3-methylphenol	M25-Jn0066998	NCP	%	48			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0066998	NCP	%	48			30-130	Pass	
2.4-Dimethylphenol	M25-Jn0066998	NCP	%	32			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0066998	NCP	%	58			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0066998	NCP	%	58			30-130	Pass	
Phenol	M25-Jn0066998	NCP	%	54			30-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jn0055246	NCP	%	91			75-125	Pass	
Magnesium	M25-Jn0055246	NCP	%	90			75-125	Pass	
Potassium	M25-Jn0055246	NCP	%	91			75-125	Pass	
Sodium	M25-Jn0055246	NCP	%	88			75-125	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jn0058330	CP	%	119			70-130	Pass	
Chloride	M25-Jn0056793	NCP	%	79			70-130	Pass	
Cyanide (total)	M25-Jn0058330	CP	%	99			70-130	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058330	CP	%	82			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2.4.6-Trichlorophenol	M25-Jn0059024	NCP	%	94			30-130	Pass	
2.6-Dichlorophenol	M25-Jn0059024	NCP	%	114			30-130	Pass	
Pentachlorophenol	M25-Jn0059024	NCP	%	67			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	M25-Jn0059024	NCP	%	49			30-130	Pass	
2-Nitrophenol	M25-Jn0059024	NCP	%	81			30-130	Pass	
4-Nitrophenol	M25-Jn0059024	NCP	%	31			30-130	Pass	
Dinoseb	M25-Jn0059024	NCP	%	63			30-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M25-Jn0056808	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jn0058337	CP	%	103			75-125	Pass	
Cadmium (filtered)	M25-Jn0058337	CP	%	101			75-125	Pass	
Chromium (filtered)	M25-Jn0058337	CP	%	99			75-125	Pass	
Copper (filtered)	M25-Jn0058337	CP	%	95			75-125	Pass	
Lead (filtered)	M25-Jn0058337	CP	%	98			75-125	Pass	
Mercury (filtered)	M25-Jn0058337	CP	%	96			75-125	Pass	
Nickel (filtered)	M25-Jn0058337	CP	%	96			75-125	Pass	
Zinc (filtered)	M25-Jn0058337	CP	%	93			75-125	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0058338	CP	%	88			70-130	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058338	CP	%	85			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0056643	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0063153	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0063153	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0056643	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0056643	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0056643	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0058328	CP	mg/L	21	22	1.0	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0058050	NCP	uS/cm	1400	890	6.0	30%	Pass	
Cyanide (total)	M25-Jn0058328	CP	mg/L	0.008	0.009	9.0	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058328	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0058114	NCP	mg/L	3700	4000	6.6	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0058050	NCP	mg/L	630	570	10	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0058050	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0056612	NCP	mg/L	100	100	<1	30%	Pass	
Magnesium	M25-Jn0056612	NCP	mg/L	53	53	<1	30%	Pass	
Potassium	M25-Jn0056612	NCP	mg/L	9.6	9.6	<1	30%	Pass	
Sodium	M25-Jn0056612	NCP	mg/L	140	110	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0056613	NCP	mg/L	0.002	0.002	5.0	30%	Pass	
Cadmium (filtered)	M25-Jn0056613	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0056613	NCP	mg/L	0.001	< 0.001	57	30%	Fail	Q15
Copper (filtered)	M25-Jn0056613	NCP	mg/L	0.020	0.019	3.0	30%	Pass	
Lead (filtered)	M25-Jn0056613	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	M25-Jn0056613	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0056613	NCP	mg/L	0.002	0.002	8.0	30%	Pass	
Zinc (filtered)	M25-Jn0056613	NCP	mg/L	0.005	< 0.005	22	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0054907	NCP	mg/L	0.28	0.30	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0058054	NCP	mg/L	0.03	0.02	22	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0058331	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0058331	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0058331	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0058331	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0058331	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0058331	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(a)pyrene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0058331	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0058331	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0058331	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0058331	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0058331	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0058331	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0058331	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0058331	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0058331	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0058331	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0058331	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0058331	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0058331	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0058331	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0058331	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0058331	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0058331	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0058331	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0058331	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0058332	CP	mg/L	450	450	<1	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0058332	CP	uS/cm	3900	3000	<1	30%	Pass	
Sulphate (as SO4)	M25-Jn0058332	CP	mg/L	5.5	5.3	4.0	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0058332	CP	mg/L	1400	1200	10	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0058332	CP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0058056	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0058056	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0058056	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0058056	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0058056	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0058056	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0058056	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0058056	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0058056	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0058056	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0058056	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0058056	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0058056	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0058056	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0058056	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0058056	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0058056	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0058056	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0058056	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0063421	NCP	mg/L	810	72	11	30%	Pass	
Sulphate (as SO4)	M25-Jn0063421	NCP	mg/L	490	50	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0058335	CP	mg/L	5700	5000	13	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M25-Jn0058337	CP	mg/L	0.020	0.017	12	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0058337	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0058337	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M25-Jn0058337	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0058337	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0058337	CP	mg/L	0.006	0.005	6.0	30%	Pass	
Lead (filtered)	M25-Jn0058337	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-Jn0058337	CP	mg/L	2.9	2.9	2.0	30%	Pass	
Mercury (filtered)	M25-Jn0058337	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0058337	CP	mg/L	0.006	0.006	<1	30%	Pass	
Selenium (filtered)	M25-Jn0058337	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	M25-Jn0058337	CP	mg/L	0.015	0.020	27	30%	Pass	

Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0058339	CP	mg/L	36	35	2.0	30%	Pass	
Magnesium	M25-Jn0058339	CP	mg/L	23	23	1.0	30%	Pass	
Potassium	M25-Jn0058339	CP	mg/L	6.0	5.9	3.0	30%	Pass	
Sodium	M25-Jn0058339	CP	mg/L	120	120	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0058341	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	

Comments

Report 1235243-W-V2 (amendment to report 1235243-W) has been issued with additional results for selenium on sample MW161.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**	**TURNAROUND REQUIREMENTS (mark Due date or 'X')**	**FOR LABORATORY USE ONLY (Circle)**
Level 10, 727 Collins Street		Standard: X	Custody Seal intact? Yes / No / (N/A)
Melbourne, VIC 3008	**Results email:**		Free ice / frozen icebricks present upon receipt? (Yes) / No / N/A
PHONE NO: 9653 1234	robtmaccrowe@exchlabnews.net	1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 5.1 °C
MOBILE NO: 0427 821 002	robert.crowe@aecom.com; richard.bowers@aecom.com	1 2 3 4 5 6 7 8	
PROJECT ID: 60653007 / 12	**Quote Number:** 250802AECV		**RELINQUISHED BY:** Sheridan — **RECEIVED BY:** Eurofins Hobart
Project Manager: Robert Crowe	**Project Name:** Macquarie Point		DATE/TIME: — DATE/TIME: COC received 25/6/2025 @ 10:28AM.
SAMPLER: RB / EM / TG / LL	**Data Format:** Excel and PDF		

NOTES:

Please use Project ID '60321836_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

SAMPLE CONTAINERS

General Water Suite	General Water Suite + Eco Risk Suite	PFAS	Trip Blank
9	3	1	1

ANALYSIS REQUEST

LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	1x 500mL Amber/Orange Unpreserved Acbm 1x 40mL Vials 1x 60mL Clear Jar-Cr+ 1x 60mL Preserved Inorganics	In addition to General Water Suite Bottles: 1x 250mL Sent Waste Acidic - Filtered to 2um 2x 40mL Vials - Filtered to 0.2um	1x 500mL PFAS bottle	1x 40mL Water Vial	TOTAL BOTTLES	TRH (STEDX) / TRH / Phenols / Metals (As, Cd, Cr, Cu, Fe, Pb, Zn, Ni) / Hexavalent Chromium / Manganese / Cadmium/Arsenic (ID (incl TDS) / Chloride / Nitrate (as N) / Ammonia (as N) / Methane	TRH Aliphatic / Aromatic Speciation / TRH (GC-GAD Silica gel cleanup) / TRH (GC-GAD) - on 0.2um field filtered sample / Metals - on 0.2um field filtered sample	PFAS Full suite - 30 compounds, trace level	TRH(C6-C9) BTEXN	HOLD	COMMENTS: Additional information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc.
✓	MW8	23/6/25		W	X	X	X		13	X	X	X			*NO field filtered Amber or field filtered vials received for sample MW6	-SB 25/6
✓	MW164	23/6/25		W	X	X			12	X	X					
✓	MW16	23/6/25		W	X	X	X		13	X	X	X				
✓	QC321	23/6/25		W	X		X		10	X		X				
✓	QC421	23/6/25		W	X		X		10					X		
✓	QC823	23/6/25		W				X	1				X			
✓	QC824	23/6/25		W				X	1				X			
															*Extra samples received QC107 and QC207. Both contain field filtered ambers and field filtered vials for eco risk suite. All have been placed on hold please confirm analysis.	-SB 25/6.
															*Samples MW164, MW16, QC107 and QC207 contain 1x 200mL Amber and 2x vials that are labelled as "FILTERED". These have been field filtered by client and are logged in as separate samples.	-SB 25/6.

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 25, 2025 10:28 AM
Eurofins reference	1236601

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.1 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

No field filtered amber or field filtered vials received for MW6. Extra samples QC107 and QC207 received - both include general water suite bottles, plus field filtered amber and vials for Eco risk suite, and a PFAS bottle. Both QC107 and QC207 have been placed on hold. Please confirm analysis.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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46-48 Banksia Road
Welshpool
WA 6106
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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1236601
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 10:28 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	MW6	Jun 23, 2025		Water	M25-Jn0068788	X	X	X			X	X		X	X	X			X		X
2	MW164	Jun 23, 2025		Water	M25-Jn0068789	X	X	X			X	X		X	X	X			X		
3	MW164_FILTERED	Jun 23, 2025		Water	M25-Jn0068790								X				X				
4	MW16	Jun 23, 2025		Water	M25-Jn0068791	X	X	X			X	X		X	X	X			X		X
5	MW16_FILTERED	Jun 23, 2025		Water	M25-Jn0068792								X				X				
6	QC321	Jun 23, 2025		Water	M25-Jn0068793	X	X	X		X		X			X			X			X
7	QC421	Jun 23, 2025		Water	M25-Jn0068794				X												
8	QC523	Jun 23, 2025		Water	M25-Jn0068795															X	
9	QC524	Jun 23, 2025		Water	M25-Jn0068796															X	
10	QC107	Jun 23, 2025		Water	M25-Jn0068797				X												
11	QC107_FILTERED	Jun 23, 2025		Water	M25-Jn0068798				X												
12	QC207	Jun 23, 2025		Water	M25-Jn0068799				X												

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

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Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	QC207_FILTERED	Jun 23, 2025		Water	M25-Jn0068800				X												
Test Counts						4	4	4	5	1	3	4	2	3	4	3	2	1	3	2	3

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1236601-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 25, 2025

Client Sample ID			**MW6**	**MW164**	**MW164_FILTERED**	**MW16**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0068788**	**M25-Jn0068789**	**M25-Jn0068790**	**M25-Jn0068791**
Date Sampled			**Jun 23, 2025**	**Jun 23, 2025**	**Jun 23, 2025**	**Jun 23, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.49
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.67
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.67
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	-	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	111	111	-	78
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	< 0.02	< 0.02	-	0.44
TRH >C8-C10 Aliphatic	0.02	mg/L	< 0.02	< 0.02	-	0.17
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
TRH >C7-C8 Aromatic	0.001	mg/L	< 0.001	< 0.001	-	0.001
TRH >C8-C10 Aromatic	0.01	mg/L	< 0.01	< 0.01	-	0.05
Dissolved Gases						
Methane	0.05	mg/L	17	3.6	-	13

Client Sample ID			MW6	MW164	MW164_FILTERED	MW16
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068788	M25-Jn0068789	M25-Jn0068790	M25-Jn0068791
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.002	< 0.001	< 0.001	0.002
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.002
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	0.002	< 0.001	< 0.001	0.002
Pyrene	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Total PAH*	0.001	mg/L	0.006	0.004	< 0.001	0.006
2-Fluorobiphenyl (surr.)	1	%	131	138	128	52
p-Terphenyl-d14 (surr.)	1	%	105	115	119	86
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	-	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
Phenol-d6 (surr.)	1	%	117	117	-	110
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH >C12-C16 Aliphatic	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C16-C21 Aliphatic	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C21-C35 Aliphatic	0.1	mg/L	< 0.1	< 0.1	-	< 0.1

Client Sample ID			MW6	MW164	MW164_FILTERED	MW16
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068788	M25-Jn0068789	M25-Jn0068790	M25-Jn0068791
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH >C12-C16 Aromatic	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C16-C21 Aromatic	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C21-C35 Aromatic	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
Ammonia (as N)	0.01	mg/L	14	2.1	-	2.8
Chloride	1	mg/L	50	14	-	9.8
Conductivity (at 25 °C)	10	uS/cm	960	630	-	350
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	-	< 0.005
Cyanide (total)	0.005	mg/L	0.013	0.028	-	0.015
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	0.005	-	< 0.005
Nitrate (as N)	0.02	mg/L	< 0.02	0.03	-	< 0.02
Sulphate (as SO4)	5	mg/L	6.3	46	-	13
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	480	300	-	170
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	560	340	-	220
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	-	< 10
Alkali Metals						
Calcium	0.5	mg/L	96	57	-	57
Magnesium	0.5	mg/L	28	22	-	7.8
Potassium	0.5	mg/L	23	14	-	5.9
Sodium	0.5	mg/L	90	72	-	13
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.003	-	0.003
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	-	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Manganese (filtered)	0.005	mg/L	0.52	1.3	-	0.41
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	-	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.002	-	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	-	< 0.005
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	0.015	-	-	0.308
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	0.02	-	-	0.322
Sum of PFASs (n=30)*	0.005	ug/L	0.089	-	-	0.346
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	0.017	-	-	0.314
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	0.089	-	-	0.332

Client Sample ID			MW6	MW164	MW164_FILTERED	MW16
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068788	M25-Jn0068789	M25-Jn0068790	M25-Jn0068791
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
13C8-FOSA (surr.)	1	%	101	-	-	85
D3-N-MeFOSA (surr.)	1	%	87	-	-	80
D5-N-EtFOSA (surr.)	1	%	97	-	-	89
D7-N-MeFOSE (surr.)	1	%	71	-	-	56
D9-N-EtFOSE (surr.)	1	%	70	-	-	54
D5-N-EtFOSAA (surr.)	1	%	156	-	-	153
D3-N-MeFOSAA (surr.)	1	%	153	-	-	130
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	0.012	-	-	< 0.005
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	0.028	-	-	0.004
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	0.027	-	-	0.002
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	[N09]0.002	-	-	[N09]0.001
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	[N09]0.005	-	-	[N09]0.014
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
13C4-PFBA (surr.)	1	%	76	-	-	75
13C5-PFPeA (surr.)	1	%	73	-	-	94
13C5-PFHxA (surr.)	1	%	87	-	-	97
13C4-PFHpA (surr.)	1	%	108	-	-	106
13C8-PFOA (surr.)	1	%	125	-	-	128
13C5-PFNA (surr.)	1	%	115	-	-	108
13C6-PFDA (surr.)	1	%	127	-	-	110
13C2-PFUnDA (surr.)	1	%	120	-	-	108
13C2-PFDoDA (surr.)	1	%	90	-	-	78
13C2-PFTeDA (surr.)	1	%	110	-	-	99
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	-	-	0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.005	-	-	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001	-	-	[N09]0.002
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	[N09]0.003	-	-	[N09]0.008
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	-	-	0.008
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	[N09]0.012	-	-	[N09]0.30
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	-	-	< 0.001

Client Sample ID			MW6	MW164	MW164_FILTERED	MW16
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068788	M25-Jn0068789	M25-Jn0068790	M25-Jn0068791
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
13C3-PFBS (surr.)	1	%	183	-	-	113
18O2-PFHxS (surr.)	1	%	130	-	-	119
13C8-PFOS (surr.)	1	%	128	-	-	103
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	-	-	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	0.003
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	-	0.003
13C2-4:2 FTSA (surr.)	1	%	155	-	-	145
13C2-6:2 FTSA (surr.)	1	%	132	-	-	125
13C2-8:2 FTSA (surr.)	1	%	107	-	-	124
13C2-10:2 FTSA (surr.)	1	%	139	-	-	99

Client Sample ID			MW16_FILTERED	QC321	QC523	QC524
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068792	M25-Jn0068793	M25-Jn0068795	M25-Jn0068796
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	0.57	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C6-C10	0.02	mg/L	0.75	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	0.75	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	93	101	104
Dissolved Gases						
Methane	0.05	mg/L	-	< 0.05	-	-

Client Sample ID			MW16_FILTERED	QC321	QC523	QC524
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068792	M25-Jn0068793	M25-Jn0068795	M25-Jn0068796
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.002	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluorene	0.001	mg/L	0.002	< 0.001	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-	-
Phenanthrene	0.001	mg/L	0.002	< 0.001	-	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Total PAH*	0.001	mg/L	0.006	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	124	59	-	-
p-Terphenyl-d14 (surr.)	1	%	105	94	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	-	< 0.003	-	-
2.4-Dichlorophenol	0.003	mg/L	-	< 0.003	-	-
2.4.5-Trichlorophenol	0.01	mg/L	-	< 0.01	-	-
2.4.6-Trichlorophenol	0.01	mg/L	-	< 0.01	-	-
2.6-Dichlorophenol	0.003	mg/L	-	< 0.003	-	-
4-Chloro-3-methylphenol	0.01	mg/L	-	< 0.01	-	-
Pentachlorophenol	0.01	mg/L	-	< 0.01	-	-
Tetrachlorophenols - Total	0.03	mg/L	-	< 0.03	-	-
Total Halogenated Phenol*	0.01	mg/L	-	< 0.01	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	-	< 0.1	-	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	< 0.03	-	-
2-Nitrophenol	0.01	mg/L	-	< 0.01	-	-
2.4-Dimethylphenol	0.003	mg/L	-	< 0.003	-	-
2.4-Dinitrophenol	0.03	mg/L	-	< 0.03	-	-
2-Methylphenol (o-Cresol)	0.003	mg/L	-	< 0.003	-	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	< 0.006	-	-
Total cresols*	0.01	mg/L	-	< 0.01	-	-
4-Nitrophenol	0.03	mg/L	-	< 0.03	-	-
Dinoseb	0.1	mg/L	-	< 0.1	-	-
Phenol	0.003	mg/L	-	< 0.003	-	-
Phenol-d6 (surr.)	1	%	-	114	-	-
Total Non-Halogenated Phenol*	0.1	mg/L	-	< 0.1	-	-
Ammonia (as N)	0.01	mg/L	-	< 0.01	-	-
Chloride	1	mg/L	-	< 1	-	-
Conductivity (at 25 °C)	10	uS/cm	-	< 10	-	-
Cyanide (free)	0.005	mg/L	-	< 0.005	-	-

Client Sample ID			MW16_FILTERED	QC321	QC523	QC524
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068792	M25-Jn0068793	M25-Jn0068795	M25-Jn0068796
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Cyanide (total)	0.005	mg/L	-	< 0.005	-	-
Cyanide (weak acid dissoc.)	0.005	mg/L	-	< 0.005	-	-
Nitrate (as N)	0.02	mg/L	-	< 0.02	-	-
Sulphate (as SO4)	5	mg/L	-	< 5	-	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	-	< 10	-	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	-	< 20	-	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	-	< 10	-	-
Alkali Metals						
Calcium	0.5	mg/L	-	< 0.5	-	-
Magnesium	0.5	mg/L	-	< 0.5	-	-
Potassium	0.5	mg/L	-	< 0.5	-	-
Sodium	0.5	mg/L	-	< 0.5	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	-	-
Cadmium	0.0002	mg/L	-	< 0.0002	-	-
Chromium	0.001	mg/L	-	< 0.001	-	-
Copper	0.001	mg/L	-	< 0.001	-	-
Lead	0.001	mg/L	-	< 0.001	-	-
Manganese	0.005	mg/L	-	< 0.005	-	-
Mercury	0.0001	mg/L	-	< 0.0001	-	-
Nickel	0.001	mg/L	-	< 0.001	-	-
Zinc	0.005	mg/L	-	< 0.005	-	-
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	-	< 0.001	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	-	< 0.001	-	-
Sum of PFASs (n=30)*	0.005	ug/L	-	< 0.005	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	-	< 0.001	-	-
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	-	< 0.005	-	-
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	-	< 0.005	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	-	< 0.005	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	-	< 0.005	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	-	< 0.005	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	-	< 0.005	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	-	< 0.005	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	-	< 0.005	-	-
13C8-FOSA (surr.)	1	%	-	96	-	-
D3-N-MeFOSA (surr.)	1	%	-	89	-	-
D5-N-EtFOSA (surr.)	1	%	-	99	-	-
D7-N-MeFOSE (surr.)	1	%	-	74	-	-
D9-N-EtFOSE (surr.)	1	%	-	75	-	-
D5-N-EtFOSAA (surr.)	1	%	-	89	-	-
D3-N-MeFOSAA (surr.)	1	%	-	85	-	-

Client Sample ID			MW16_FILTERED	QC321	QC523	QC524
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0068792	M25-Jn0068793	M25-Jn0068795	M25-Jn0068796
Date Sampled			Jun 23, 2025	Jun 23, 2025	Jun 23, 2025	Jun 23, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	-	< 0.005	-	-
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	-	< 0.001	-	-
13C4-PFBA (surr.)	1	%	-	102	-	-
13C5-PFPeA (surr.)	1	%	-	56	-	-
13C5-PFHxA (surr.)	1	%	-	60	-	-
13C4-PFHpA (surr.)	1	%	-	72	-	-
13C8-PFOA (surr.)	1	%	-	84	-	-
13C5-PFNA (surr.)	1	%	-	112	-	-
13C6-PFDA (surr.)	1	%	-	96	-	-
13C2-PFUnDA (surr.)	1	%	-	84	-	-
13C2-PFDoDA (surr.)	1	%	-	80	-	-
13C2-PFTeDA (surr.)	1	%	-	67	-	-
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	-	< 0.001	-	-
13C3-PFBS (surr.)	1	%	-	81	-	-
18O2-PFHxS (surr.)	1	%	-	100	-	-
13C8-PFOS (surr.)	1	%	-	103	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	-	< 0.005	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	-	-
13C2-4:2 FTSA (surr.)	1	%	-	61	-	-
13C2-6:2 FTSA (surr.)	1	%	-	88	-	-
13C2-8:2 FTSA (surr.)	1	%	-	101	-	-
13C2-10:2 FTSA (surr.)	1	%	-	106	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Dissolved Gases	Melbourne	Jun 26, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	Jun 26, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 26, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 26, 2025	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 26, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			

Description	Testing Site	Extracted	Holding Time
Nitrate (as N)	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 26, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 26, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B7A			
Metals M8	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 25, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 26, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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WA 6106
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Eurofins Environment Testing NZ Ltd
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1236601
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 10:28 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	MW6	Jun 23, 2025		Water	M25-Jn0068788	X	X	X			X	X		X	X	X		X		X
2	MW164	Jun 23, 2025		Water	M25-Jn0068789	X	X	X			X	X		X	X	X		X		
3	MW164_FILTERED	Jun 23, 2025		Water	M25-Jn0068790								X				X			
4	MW16	Jun 23, 2025		Water	M25-Jn0068791	X	X	X			X	X		X	X	X			X		X
5	MW16_FILTERED	Jun 23, 2025		Water	M25-Jn0068792								X				X			
6	QC321	Jun 23, 2025		Water	M25-Jn0068793	X	X	X		X		X			X			X		X
7	QC421	Jun 23, 2025		Water	M25-Jn0068794				X											
8	QC523	Jun 23, 2025		Water	M25-Jn0068795														X	
9	QC524	Jun 23, 2025		Water	M25-Jn0068796														X	
10	QC107	Jun 23, 2025		Water	M25-Jn0068797				X											
11	QC107_FILTERED	Jun 23, 2025		Water	M25-Jn0068798				X											
12	QC207	Jun 23, 2025		Water	M25-Jn0068799				X											

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese	Manganese (filtered)	Methane	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	QC207_FILTERED	Jun 23, 2025		Water	M25-Jn0068800				X												
Test Counts						4	4	4	5	1	3	4	2	3	4	3	2	1	3	2	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	128			70-130	Pass	
TRH >C10-C16	%	128			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	119			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	128			70-130	Pass	
LCS - % Recovery							
Chloride	%	85			70-130	Pass	
Cyanide (weak acid dissoc.)	%	88			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	111			80-120	Pass	
Cadmium (filtered)	%	110			80-120	Pass	
Chromium (filtered)	%	112			80-120	Pass	
Copper (filtered)	%	112			80-120	Pass	
Lead (filtered)	%	107			80-120	Pass	
Manganese (filtered)	%	114			80-120	Pass	
Mercury (filtered)	%	113			80-120	Pass	
Nickel (filtered)	%	109			80-120	Pass	
Zinc (filtered)	%	114			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	106			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	97			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	97			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	102			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	94			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	94			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	105			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoropentanoic acid (PFPeA)	%	102			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	103			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	106			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	107			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	106			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	106			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	96			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	108			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	93			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	118			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	83			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	87			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	63			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	84			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	86			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	83			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	78			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	82			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	91			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	134			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	100			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	101			50-150	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	128			70-130	Pass	
TRH >C10-C16	%	119			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	74			70-130	Pass	
TRH >C10-C16	%	70			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	123			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	124			70-130	Pass	
LCS - % Recovery							
Cyanide (weak acid dissoc.)	%	103			70-130	Pass	
LCS - % Recovery							
Chloride	%	85			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0068789	CP	%	93			70-130	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0068789	CP	%	71			70-130	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorooctane sulfonamide (FOSA)	M25-Jn0068791	CP	%	110			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0068791	CP	%	103			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0068791	CP	%	100			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0068791	CP	%	104			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0068791	CP	%	98			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0068791	CP	%	112			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0068791	CP	%	92			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0068791	CP	%	85			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0068791	CP	%	103			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0068791	CP	%	102			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0068791	CP	%	109			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0068791	CP	%	105			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0068791	CP	%	103			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0068791	CP	%	105			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0068791	CP	%	114			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0068791	CP	%	99			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0068791	CP	%	124			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0068791	CP	%	88			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0068791	CP	%	110			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0068791	CP	%	89			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0068791	CP	%	78			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0068791	CP	%	92			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0068791	CP	%	130			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0068791	CP	%	90			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0068791	CP	%	93			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0059004	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0063426	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0063426	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0063426	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0059004	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0063426	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0059004	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0063426	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0063426	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0059004	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0059004	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0059004	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0069494	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0069494	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0069494	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0069494	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0069494	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0069494	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0069494	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0069494	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0069494	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0069494	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0069494	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0069494	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0069494	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0069494	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0069494	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0069494	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0069494	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0069494	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0069494	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0074787	NCP	mg/L	10	9.7	5.0	30%	Pass	
Conductivity (at 25 °C)	M25-Jn0067315	NCP	uS/cm	900	890	1.0	30%	Pass	
Cyanide (total)	M25-Jn0068788	CP	mg/L	0.013	0.013	2.0	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0068788	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Sulphate (as SO4)	M25-Jn0074761	NCP	mg/L	4500	4400	2.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0068788	CP	mg/L	480	470	2.1	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0067315	NCP	mg/L	250	230	6.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0067315	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0071101	NCP	mg/L	57	58	2.0	30%	Pass	
Magnesium	M25-Jn0071101	NCP	mg/L	390	400	3.0	30%	Pass	
Potassium	M25-Jn0071101	NCP	mg/L	55	54	<1	30%	Pass	
Sodium	M25-Jn0071101	NCP	mg/L	2100	2500	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0068001	NCP	mg/L	0.002	0.002	10	30%	Pass	
Cadmium (filtered)	M25-Jn0068001	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0068001	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0068001	NCP	mg/L	0.002	0.002	2.0	30%	Pass	
Lead (filtered)	M25-Jn0068001	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	M25-Jn0068001	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0068001	NCP	mg/L	0.003	0.003	2.0	30%	Pass	
Zinc (filtered)	M25-Jn0068001	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0068788	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0068788	NCP	ug/L	0.012	0.012	2.0	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0068788	CP	ug/L	0.028	0.015	59	30%	Fail	Q15
Perfluorohexanoic acid (PFHxA)	M25-Jn0068788	NCP	ug/L	0.027	0.027	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0068788	CP	ug/L	0.002	0.003	4.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0068788	CP	ug/L	0.005	0.006	14	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorododecanoic acid (PFDoDA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0068788	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0068788	NCP	ug/L	0.003	0.003	10	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0068788	CP	ug/L	0.012	0.012	2.0	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0068788	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0059034	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0067066	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0059034	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0067066	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0067066	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Potassium	M25-Jn0066043	NCP	mg/L	310	310	1.0	30%	Pass	
Sodium	M25-Jn0066043	NCP	mg/L	1400	1300	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0068789	CP	mg/L	0.003	0.003	1.0	30%	Pass	
Cadmium (filtered)	M25-Jn0068789	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0068789	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0068789	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-Jn0068789	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-Jn0068789	CP	mg/L	1.3	1.3	1.0	30%	Pass	
Mercury (filtered)	M25-Jn0068789	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0068789	CP	mg/L	0.002	0.002	5.0	30%	Pass	
Zinc (filtered)	M25-Jn0068789	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0071563	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0074714	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0071563	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0074714	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0074714	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0075411	NCP	mg/L	0.11	0.10	9.0	30%	Pass	
TRH >C10-C16	M25-Jn0071767	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0075411	NCP	mg/L	0.07	0.07	4.0	30%	Pass	
TRH >C16-C34	M25-Jn0071767	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0071767	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Potassium	M25-Jn0067302	NCP	mg/L	26	26	<1	30%	Pass	
Sodium	M25-Jn0067302	NCP	mg/L	49	49	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0067297	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M25-Jn0067297	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0067297	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0067297	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-Jn0067297	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	M25-Jn0067297	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0067297	NCP	mg/L	0.004	0.004	<1	30%	Pass	
Zinc (filtered)	M25-Jn0067297	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0074768	NCP	ug/L	0.78	0.79	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0074768	NCP	ug/L	Dil 1.242	Dil 1.2812	n/a	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0074768	NCP	ug/L	Dil 4.0895	Dil 3.9808	n/a	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0074768	NCP	ug/L	0.47	0.46	2.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0077104	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0074768	NCP	ug/L	0.006	0.005	9.0	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0074768	NCP	ug/L	Dil 2.944	Dil 2.8907	n/a	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0074768	NCP	ug/L	Conf 0.0689	Conf 0.0747	n/a	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0074768	NCP	ug/L	Dil 2.3601	Dil 2.2803	n/a	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0074768	NCP	ug/L	Dil 2.6433	Dil 2.6414	n/a	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0077104	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0074768	NCP	ug/L	Dil 1.6124	Dil 1.9648	n/a	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0077104	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0074768	NCP	ug/L	Conf 0.0084	Conf 0.0089	n/a	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0074768	NCP	ug/L	0.010	0.010	8.0	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0077104	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0074768	NCP	ug/L	0.007	0.006	21	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0065767	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0063416	NCP	mg/L	0.10	0.08	24	30%	Pass	
Naphthalene	M25-Jn0065767	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0063416	NCP	mg/L	0.3	0.3	1.0	30%	Pass	
TRH >C34-C40	M25-Jn0063416	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0076312	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0063422	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-Jn0076312	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-Jn0063422	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0063422	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Potassium	M25-Jn0067321	NCP	mg/L	110	110	3.0	30%	Pass	
Sodium	M25-Jn0067321	NCP	mg/L	380	400	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-Jn0067285	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M25-Jn0067285	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-Jn0067285	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M25-Jn0067285	NCP	mg/L	0.003	0.003	8.0	30%	Pass	
Lead	M25-Jn0067285	NCP	mg/L	0.001	0.001	5.0	30%	Pass	
Manganese	M25-Jn0067285	NCP	mg/L	0.075	0.076	1.0	30%	Pass	
Mercury	M25-Jn0067285	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-Jn0067285	NCP	mg/L	0.008	0.009	3.0	30%	Pass	
Zinc	M25-Jn0067285	NCP	mg/L	0.036	0.040	12	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorooctanoic acid (PFOA)	M25-Jn0074768	NCP	ug/L	0.83	0.75	11	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0074768	NCP	ug/L	Dil 13.4977	Dil 13.8799	n/a	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0074768	NCP	ug/L	Dil 12.0468	Dil 13.4107	n/a	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0074768	NCP	ug/L	0.18	0.18	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0069502	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M25-Jn0069502	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-Jn0069495	NCP	mg/L	0.08	0.08	2.0	30%	Pass	
Naphthalene	M25-Jn0069495	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Harry Bacalis	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Carroll Lee	Senior Analyst-PFAS
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-PFAS
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Sheha Prakash	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:		TURNAROUND REQUIREMENTS (mark Due date or "X")									FOR LABORATORY USE ONLY (Circle)	
Level 10, 727 Collins Street			Standard	X								Custody Seal Intact?	Yes No N/A
Melbourne, VIC 3008	Results email:											Free ice / frozen icebricks present upon receipt?	Yes No N/A
PHONE NO: 9653 1234	[redacted]		1	2	3	4	5	6	7	8		Sample Temperature on Receipt	4.7°C
MOBILE NO: 0427 821 002	robert.crowe@aecom.com; richard.bowring@aecom.com		1	2	3	4	5	6	7	8			
PROJECT ID: 60593007 / 12	Quote Number:	280602AECV										RELINQUISHED BY:	RECEIVED BY: Sheridan Eurofins Hobart.
Project Manager: Robert Crowe	Project Name:	Macquarie Point										DATE/TIME	DATE/TIME: 26/5/2025 @10:55am.
SAMPLER: RB / EM / TG / LL	Data Format:	Esdat and PDF											

NOTES:

Please use Project ID '60321835_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

					WATER												COMMENTS	
					SAMPLE CONTAINERS					ANALYSIS REQUEST							Additional information	Comments on likely contamination, dilutions samples for QC analyses, specific preparation etc
					General Water Suite	General Water Suite + Eco Risk Suite	PFAS	Trip Blank		General Water Suite	Eco Risk Suite	PFAS	Trip Blank					
					9	3	1	1									Report #1237216 SB 26/6	
LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	1x 500mL Inorganics 1x 250mL Trace Metals Amber 4x 40mL Vials 1x 40mL Metals 1x 40mL Cyanide/Phenol/ACO 1x 60mL Chromium Hexavalent	1x addition to General Water Suite Bottles: 1x 250mL Semi Volatile Amber - Filtered to 5µm 2x 40mL Vials - Filtered to 5µm	1x 500mL PFAS bottle	1x 40mL Water Vial	TOTAL BOTTLES	TRH / BTEX(N) / PAH / Phenols / Cresols / Hg / Metals: (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) Naphthalene Cations/Anions #2 (incl TDS) Cyanide (Total & Free) & SVOC) Ammonia as N Methane	TRH Aliphatics / Aromatic Speciation TRH (C6-C40) (silica gel cleanup) TRH (C6-C40) - on 5 µm filtered filtered sample PAH - on 5 µm field filtered samples	PFAS: Full suite - 30 components, trace level	Biocides (C6-C9) BTEXN	HOLD		
✓	MW103	24/6/25		W	X		X		10	X		X						
✓	MW60	24/6/25		W	X	X	X		13	X	X	X						
✓	MW126A	24/6/25		W	X		X		10	X		X						
✓	MW101	24/6/25		W	X				8	X								
✓	MW125A	24/6/25		W	X		X		10	X		X					* No PFAS bottle received for sample MW125A -SB 26/6/2025.	
✓	MW188	24/6/25		W	X		X		10	X		X						
✓	QC108	24/6/25		W	X		X		10	X		X						
✓	QC109	24/6/25		W	X				8	X								
✓	QC322	24/6/25		W	X		X		10	X		X						
✓	QC422	24/6/25		W	X		X		10					X				
✓	QCS28	24/6/25		W				X	10				X					
✓	QCS26	24/6/25		W				X	10				X					
✓	QCS27	24/6/25		W				X	1				X					
																	* Sample MW60 contains 1x200mL amber and 2x vials that have been field filtered. These have been logged as a separate sample "MW60-FILTERED" -SB 26/6.	

Forward TO ALS MELBOURNE

CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X	Custody Seal Intact? Yes No N/A
Melbourne, VIC 3008	Results email:		Free ice / frozen icebricks present upon receipt? Yes No N/A
PHONE NO: 9653 1234		1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 4.7°C
MOBILE NO: 0427 821 002		1 2 3 4 5 6 7 8	
PROJECT ID: 60693007 / 12	Quote Number: 250502AECV		RELINQUISHED BY: / DATE/TIME:
Project Manager: Robert Crowe	Project Name: Macquarie Point		RECEIVED BY: Shendar Eurofins Hobart 26/6/2025 @ 10:29AM. / DATE/TIME:
SAMPLER: RS / EM / TG / LL	Data Format: Esdat and PDF		

NOTES:

Please use Project ID '60321836_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

				WATER										COMMENTS	
				SAMPLE CONTAINERS					ANALYSIS REQUEST					Additional information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
				General Water Suite	General Water Suite + Eco Risk Suite	PFAS	Trip Blank		General Water Suite	Eco Risk Suite	PFAS	Trip Blank			
				9	3	1	1							Report # 1237216 SB 26/6.	
LAB ID	SAMPLE ID	DATE	TIME	MATRIX (S, W)	1x 500mL Inorganics (Nutrients, Cyanide, Sulfide, Anion, Alkalinity) 1x 40mL VOA (HCl preserved) 1x 500mL Metals (HNO3) 1x 500mL Phenolics/Inorganics	1x 250mL Semi Volatile Amber - Filtered to 5µm 2x 40mL Vials - Filtered to 5µm	1x 500mL PFAS bottle	1x 40mL Water Vial	TOTAL BOTTLES	TRH / BTEXN / PAH / Phenols / Speciated PAH, Cr6, Cr3, Cu, Ni, Pb, Zn, Hg) Manganese Cyanide (Total & Free) Chloride (Total & Free) & NH3) Ammonia as N Methanol	TRH (Aliphatic / Aromatic Speciation TRH (C6-C40) (silica gel cleaned) TRH (C6-C40) on 0.µm filtered sample PAH - on 0.1 µm filtered filtered sample	PFAS: Full suite - 30 compounds, trace level	TRH/C6-C9 BTEXN	HOLD		
	QC208	24/6/25		W	X		X		10	X		X		Please forward to ALS Melbourne	
	QC209	24/6/25		W	X				9	X				Please forward to ALS Melbourne	

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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 26, 2025 10:55 AM
Eurofins reference	1237216

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 4.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

No PFAS bottle received for sample MW125A. For sample MW60 the filtered amber and filtered vials have been logged as a separate sample (MW60_FILTERED).

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237216
Phone: 0422 692 187
Fax:

Received: Jun 26, 2025 10:55 AM
Due: Jul 3, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Split - External Lab*	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X		X	X	X	X	X	X	X	X
External Laboratory							X								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	MW193	Jun 24, 2025		Water	M25-Jn0072830	X	X	X		X	X				X			X		X
2	MW60	Jun 24, 2025		Water	M25-Jn0072831	X	X	X		X	X			X	X	X		X		X
3	MW60_FILTERED	Jun 24, 2025		Water	M25-Jn0072832								X				X			
4	MW126A	Jun 24, 2025		Water	M25-Jn0072833	X	X	X		X	X				X			X		X
5	MW101	Jun 24, 2025		Water	M25-Jn0072834	X	X	X		X	X				X			X		
6	MW125A	Jun 24, 2025		Water	M25-Jn0072835	X	X	X		X	X				X			X		
7	MW188	Jun 24, 2025		Water	M25-Jn0072836	X	X	X		X	X				X			X		X
8	QC108	Jun 24, 2025		Water	M25-Jn0072837	X	X	X		X	X				X			X		X
9	QC109	Jun 24, 2025		Water	M25-Jn0072838	X	X	X		X	X				X			X		
10	QC322	Jun 24, 2025		Water	M25-Jn0072839	X	X	X		X	X				X			X		X
11	QC422	Jun 24, 2025		Water	M25-Jn0072840				X											
12	QC525	Jun 24, 2025		Water	M25-Jn0072841														X	
13	QC526	Jun 24, 2025		Water	M25-Jn0072842														X	

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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ABN: 91 05 0159 898

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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

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Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
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Order No.: 60693007 / 12
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Phone: 0422 692 187
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Received: Jun 26, 2025 10:55 AM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Split - External Lab*	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X		X	X	X	X	X	X	X	X
14	QC527	Jun 24, 2025		Water	M25-Jn0072843														X	
15	QC208	Jun 24, 2025		Water	M25-Jn0073214							X								
16	QC209	Jun 24, 2025		Water	M25-Jn0073215							X								
Test Counts						9	9	9	1	9	9	2	1	1	9	1	1	9	3	6

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1237216-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 26, 2025

Client Sample ID			**MW193**	**MW60**	**MW60_FILTERED**	**MW126A**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-Jn0072830**	**M25-Jn0072831**	**M25-Jn0072832**	**M25-Jn0072833**
Date Sampled			**Jun 24, 2025**	**Jun 24, 2025**	**Jun 24, 2025**	**Jun 24, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	-	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	108	64	-	109
Dissolved Gases						
Methane	0.05	mg/L	17	24	-	20
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.010
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.011
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			MW193	MW60	MW60_FILTERED	MW126A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072830	M25-Jn0072831	M25-Jn0072832	M25-Jn0072833
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.003
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.008
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.013
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.002
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.047
2-Fluorobiphenyl (surr.)	1	%	81	64	79	60
p-Terphenyl-d14 (surr.)	1	%	55	84	101	65
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	-	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	-	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
Phenol-d6 (surr.)	1	%	71	20	-	20
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
Ammonia (as N)	0.01	mg/L	29	32	-	46
Chloride	1	mg/L	20	39	-	41
Conductivity (at 25 °C)	10	uS/cm	1400	1600	-	1900
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	-	< 0.005
Cyanide (total)	0.005	mg/L	0.007	0.038	-	0.16
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	-	< 0.005
Nitrate (as N)	0.02	mg/L	< 0.02	< 0.02	-	< 0.02
Sulphate (as SO4)	5	mg/L	9.2	< 5	-	23
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	750	960	-	1000
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	1000	1500	-	1100
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	-	< 10

Client Sample ID			MW193	MW60	MW60_FILTERED	MW126A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072830	M25-Jn0072831	M25-Jn0072832	M25-Jn0072833
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	150	180	-	180
Magnesium	0.5	mg/L	49	79	-	89
Potassium	0.5	mg/L	35	45	-	53
Sodium	0.5	mg/L	62	71	-	79
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.002	-	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	-	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Manganese (filtered)	0.005	mg/L	1.00	0.67	-	0.57
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	-	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.003	-	0.003
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	-	< 0.005
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	0.002	0.011	-	0.006
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	0.005	0.026	-	0.016
Sum of PFASs (n=30)*	0.005	ug/L	0.009	0.069	-	0.041
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	0.005	0.021	-	0.013
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	0.009	0.058	-	0.039
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
13C8-FOSA (surr.)	1	%	12	83	-	94
D3-N-MeFOSA (surr.)	1	%	13	35	-	40
D5-N-EtFOSA (surr.)	1	%	13	28	-	36
D7-N-MeFOSE (surr.)	1	%	12	27	-	28
D9-N-EtFOSE (surr.)	1	%	11	24	-	30
D5-N-EtFOSAA (surr.)	1	%	75	90	-	125
D3-N-MeFOSAA (surr.)	1	%	79	98	-	132
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	< 0.005	0.009	-	0.007
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	0.002	0.007	-	0.006
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	0.002	0.007	-	0.005
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	< 0.001	0.004	-	0.003
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	[N09]0.003	[N09]0.015	-	[N09]0.010
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001

Client Sample ID			MW193	MW60	MW60_FILTERED	MW126A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072830	M25-Jn0072831	M25-Jn0072832	M25-Jn0072833
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
13C4-PFBA (surr.)	1	%	85	76	-	77
13C5-PFPeA (surr.)	1	%	148	72	-	73
13C5-PFHxA (surr.)	1	%	96	99	-	104
13C4-PFHpA (surr.)	1	%	101	120	-	125
13C8-PFOA (surr.)	1	%	110	110	-	125
13C5-PFNA (surr.)	1	%	143	91	-	114
13C6-PFDA (surr.)	1	%	118	78	-	97
13C2-PFUnDA (surr.)	1	%	105	64	-	81
13C2-PFDoDA (surr.)	1	%	77	41	-	50
13C2-PFTeDA (surr.)	1	%	51	18	-	24
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 0.001	0.005	-	0.002
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001	0.008	-	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001	[N09]0.003	-	[N09]0.002
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	< 0.001	[N09]0.005	-	[N09]0.003
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	[N09]0.002	[N09]0.006	-	[N09]0.003
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
13C3-PFBS (surr.)	1	%	105	108	-	115
18O2-PFHxS (surr.)	1	%	120	95	-	100
13C8-PFOS (surr.)	1	%	108	83	-	100
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.005
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	< 0.001
13C2-4:2 FTSA (surr.)	1	%	113	68	-	75
13C2-6:2 FTSA (surr.)	1	%	147	85	-	118
13C2-8:2 FTSA (surr.)	1	%	132	145	-	112
13C2-10:2 FTSA (surr.)	1	%	114	47	-	89
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	-	< 0.02	-	-
TRH >C8-C10 Aliphatic	0.02	mg/L	-	< 0.02	-	-
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	-	< 0.001	-	-
TRH >C7-C8 Aromatic	0.001	mg/L	-	< 0.001	-	-
TRH >C8-C10 Aromatic	0.01	mg/L	-	< 0.01	-	-
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	-	< 0.05	-	-
TRH >C12-C16 Aliphatic	0.1	mg/L	-	< 0.1	-	-
TRH >C16-C21 Aliphatic	0.1	mg/L	-	< 0.1	-	-
TRH >C21-C35 Aliphatic	0.1	mg/L	-	< 0.1	-	-

Client Sample ID			MW193	MW60	MW60_FILTERED	MW126A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072830	M25-Jn0072831	M25-Jn0072832	M25-Jn0072833
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	-	< 0.05	-	-
TRH >C12-C16 Aromatic	0.1	mg/L	-	< 0.1	-	-
TRH >C16-C21 Aromatic	0.1	mg/L	-	< 0.1	-	-
TRH >C21-C35 Aromatic	0.1	mg/L	-	< 0.1	-	-
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	-	< 0.05	-	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	-	< 0.1	-	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	-	< 0.05	-	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	-	< 0.1	-	-

Client Sample ID			MW101	MW125A	MW188	QC108
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072834	M25-Jn0072835	M25-Jn0072836	M25-Jn0072837
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.2
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
BTEX						
Benzene	0.001	mg/L	0.002	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	107	108	108	106
Dissolved Gases						
Methane	0.05	mg/L	0.15	10	20	14

Client Sample ID			MW101	MW125A	MW188	QC108
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072834	M25-Jn0072835	M25-Jn0072836	M25-Jn0072837
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.002	0.002	0.015
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	0.002	0.002	0.015
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	0.002	< 0.001	0.005
Fluorene	0.001	mg/L	< 0.001	0.001	0.001	0.010
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.002	0.002	0.021
Pyrene	0.001	mg/L	< 0.001	0.001	< 0.001	0.002
Total PAH*	0.001	mg/L	< 0.001	0.010	0.007	0.068
2-Fluorobiphenyl (surr.)	1	%	83	50	54	58
p-Terphenyl-d14 (surr.)	1	%	69	101	99	87
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	72	23	23	25
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	0.71	6.4	33	45
Chloride	1	mg/L	30	21	29	41
Conductivity (at 25 °C)	10	uS/cm	790	780	1600	1900
Cyanide (free)	0.005	mg/L	0.014	< 0.005	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	0.23	0.009	0.008	0.15

Client Sample ID			MW101	MW125A	MW188	QC108
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072834	M25-Jn0072835	M25-Jn0072836	M25-Jn0072837
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Cyanide (weak acid dissoc.)	0.005	mg/L	0.019	< 0.005	< 0.005	< 0.005
Nitrate (as N)	0.02	mg/L	< 0.02	0.08	< 0.02	< 0.02
Sulphate (as SO4)	5	mg/L	150	5.9	8.9	< 5
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	580	530	1000	1000
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	860	350	1300	1000
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	110	95	170	170
Magnesium	0.5	mg/L	29	23	73	89
Potassium	0.5	mg/L	4.5	14	43	52
Sodium	0.5	mg/L	39	53	68	78
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.95	0.67	0.91	0.61
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.041	0.001	0.011	0.003
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	-	-	0.001	0.006
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	-	-	0.003	0.015
Sum of PFASs (n=30)*	0.005	ug/L	-	-	0.02	0.052
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	-	-	0.002	0.012
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	-	-	0.02	0.043
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
13C8-FOSA (surr.)	1	%	-	-	56	90
D3-N-MeFOSA (surr.)	1	%	-	-	26	33
D5-N-EtFOSA (surr.)	1	%	-	-	22	29
D7-N-MeFOSE (surr.)	1	%	-	-	19	23
D9-N-EtFOSE (surr.)	1	%	-	-	18	23
D5-N-EtFOSAA (surr.)	1	%	-	-	83	105
D3-N-MeFOSAA (surr.)	1	%	-	-	56	118

Client Sample ID			MW101	MW125A	MW188	QC108
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072834	M25-Jn0072835	M25-Jn0072836	M25-Jn0072837
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	-	-	0.006	0.008
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	-	-	0.005	0.006
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	-	-	0.004	0.006
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	-	-	0.001	0.003
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	-	-	[N09]0.002	[N09]0.009
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
13C4-PFBA (surr.)	1	%	-	-	73	75
13C5-PFPeA (surr.)	1	%	-	-	84	70
13C5-PFHxA (surr.)	1	%	-	-	113	99
13C4-PFHpA (surr.)	1	%	-	-	126	126
13C8-PFOA (surr.)	1	%	-	-	106	122
13C5-PFNA (surr.)	1	%	-	-	82	108
13C6-PFDA (surr.)	1	%	-	-	61	93
13C2-PFUnDA (surr.)	1	%	-	-	52	73
13C2-PFDoDA (surr.)	1	%	-	-	35	43
13C2-PFTeDA (surr.)	1	%	-	-	20	22
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	-	-	0.001	0.005
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	-	-	< 0.001	0.007
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	-	-	< 0.001	[N09]0.002
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	-	-	0.001	[N09]0.003
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	-	-	< 0.001	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	-	-	< 0.001	[N09]0.003
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	-	-	< 0.001	< 0.001
13C3-PFBS (surr.)	1	%	-	-	95	98
18O2-PFHxS (surr.)	1	%	-	-	94	95
13C8-PFOS (surr.)	1	%	-	-	68	96
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	-	-	< 0.005	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.005
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	-	-	< 0.001	< 0.001
13C2-4:2 FTSA (surr.)	1	%	-	-	74	70
13C2-6:2 FTSA (surr.)	1	%	-	-	88	116
13C2-8:2 FTSA (surr.)	1	%	-	-	152	104
13C2-10:2 FTSA (surr.)	1	%	-	-	67	77

Client Sample ID			QC109	QC322	QC525	QC526
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072838	M25-Jn0072839	M25-Jn0072841	M25-Jn0072842
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	< 0.05	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	114	106	107	106
Dissolved Gases						
Methane	0.05	mg/L	16	< 0.05	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	-	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	57	53	-	-
p-Terphenyl-d14 (surr.)	1	%	69	78	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	-	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	-	-

Client Sample ID			QC109	QC322	QC525	QC526
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072838	M25-Jn0072839	M25-Jn0072841	M25-Jn0072842
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	-	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	-	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	-	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	-	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	-	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	-	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	-	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	-	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	-	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	-	-
Total cresols*	0.01	mg/L	< 0.01	< 0.01	-	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	-	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	-	-
Phenol	0.003	mg/L	< 0.003	< 0.003	-	-
Phenol-d6 (surr.)	1	%	21	22	-	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	-	-
Ammonia (as N)	0.01	mg/L	29	< 0.01	-	-
Chloride	1	mg/L	19	< 1	-	-
Conductivity (at 25 °C)	10	uS/cm	1400	< 10	-	-
Cyanide (free)	0.005	mg/L	< 0.005	< 0.005	-	-
Cyanide (total)	0.005	mg/L	0.011	< 0.005	-	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	< 0.005	-	-
Nitrate (as N)	0.02	mg/L	0.03	< 0.02	-	-
Sulphate (as SO4)	5	mg/L	8.0	< 5	-	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	780	< 10	-	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	1100	< 20	-	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	-	-
Alkali Metals						
Calcium	0.5	mg/L	150	< 0.5	-	-
Magnesium	0.5	mg/L	48	< 0.5	-	-
Potassium	0.5	mg/L	34	< 0.5	-	-
Sodium	0.5	mg/L	60	< 0.5	-	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Manganese (filtered)	0.005	mg/L	1.1	< 0.005	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Nickel (filtered)	0.001	mg/L	0.002	< 0.001	-	-
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	-	-

Client Sample ID			QC109	QC322	QC525	QC526
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072838	M25-Jn0072839	M25-Jn0072841	M25-Jn0072842
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	-	< 0.001	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	-	< 0.001	-	-
Sum of PFASs (n=30)*	0.005	ug/L	-	< 0.005	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	-	< 0.001	-	-
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	-	< 0.005	-	-
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	-	< 0.005	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	-	< 0.005	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	-	< 0.005	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	-	< 0.005	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	-	< 0.005	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	-	< 0.005	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	-	< 0.005	-	-
13C8-FOSA (surr.)	1	%	-	85	-	-
D3-N-MeFOSA (surr.)	1	%	-	47	-	-
D5-N-EtFOSA (surr.)	1	%	-	43	-	-
D7-N-MeFOSE (surr.)	1	%	-	35	-	-
D9-N-EtFOSE (surr.)	1	%	-	41	-	-
D5-N-EtFOSAA (surr.)	1	%	-	101	-	-
D3-N-MeFOSAA (surr.)	1	%	-	86	-	-
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	-	< 0.005	-	-
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	-	< 0.001	-	-
13C4-PFBA (surr.)	1	%	-	129	-	-
13C5-PFPeA (surr.)	1	%	-	137	-	-
13C5-PFHxA (surr.)	1	%	-	136	-	-
13C4-PFHpA (surr.)	1	%	-	137	-	-
13C8-PFOA (surr.)	1	%	-	144	-	-
13C5-PFNA (surr.)	1	%	-	122	-	-
13C6-PFDA (surr.)	1	%	-	89	-	-
13C2-PFUnDA (surr.)	1	%	-	62	-	-
13C2-PFDoDA (surr.)	1	%	-	51	-	-
13C2-PFTeDA (surr.)	1	%	-	21	-	-

Client Sample ID			QC109	QC322	QC525	QC526
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-Jn0072838	M25-Jn0072839	M25-Jn0072841	M25-Jn0072842
Date Sampled			Jun 24, 2025	Jun 24, 2025	Jun 24, 2025	Jun 24, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	-	< 0.001	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	-	< 0.001	-	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	-	< 0.001	-	-
13C3-PFBS (surr.)	1	%	-	113	-	-
18O2-PFHxS (surr.)	1	%	-	112	-	-
13C8-PFOS (surr.)	1	%	-	110	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	-	< 0.005	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	-	-
13C2-4:2 FTSA (surr.)	1	%	-	89	-	-
13C2-6:2 FTSA (surr.)	1	%	-	150	-	-
13C2-8:2 FTSA (surr.)	1	%	-	109	-	-
13C2-10:2 FTSA (surr.)	1	%	-	70	-	-

Client Sample ID			QC527
Sample Matrix			Water
Eurofins Sample No.			M25-Jn0072843
Date Sampled			Jun 24, 2025
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
Naphthalene[N02]	0.01	mg/L	< 0.01
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	108

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Dissolved Gases	Melbourne	Jun 27, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jun 27, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jun 27, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jun 27, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jun 26, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

Description	Testing Site	Extracted	Holding Time
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jun 27, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Jun 27, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 27, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 27, 2025	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237216
Phone: 0422 692 187
Fax:

Received: Jun 26, 2025 10:55 AM
Due: Jul 3, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Split - External Lab*	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X		X	X	X	X	X	X	X	X
External Laboratory							X								

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	MW193	Jun 24, 2025		Water	M25-Jn0072830	X	X	X		X	X				X			X		X
2	MW60	Jun 24, 2025		Water	M25-Jn0072831	X	X	X		X	X			X	X	X		X		X
3	MW60_FILTERED	Jun 24, 2025		Water	M25-Jn0072832								X				X			
4	MW126A	Jun 24, 2025		Water	M25-Jn0072833	X	X	X		X	X				X			X		X
5	MW101	Jun 24, 2025		Water	M25-Jn0072834	X	X	X		X	X				X			X		
6	MW125A	Jun 24, 2025		Water	M25-Jn0072835	X	X	X		X	X				X			X		
7	MW188	Jun 24, 2025		Water	M25-Jn0072836	X	X	X		X	X				X			X		X
8	QC108	Jun 24, 2025		Water	M25-Jn0072837	X	X	X		X	X				X			X		X
9	QC109	Jun 24, 2025		Water	M25-Jn0072838	X	X	X		X	X				X			X		
10	QC322	Jun 24, 2025		Water	M25-Jn0072839	X	X	X		X	X				X			X		X
11	QC422	Jun 24, 2025		Water	M25-Jn0072840				X											
12	QC525	Jun 24, 2025		Water	M25-Jn0072841														X	
13	QC526	Jun 24, 2025		Water	M25-Jn0072842														X	

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237216
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Received: Jun 26, 2025 10:55 AM
Due: Jul 3, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Split - External Lab*	Polycyclic Aromatic Hydrocarbons	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X		X	X	X	X	X	X	X	X
14	QC527	Jun 24, 2025		Water	M25-Jn0072843														X	
15	QC208	Jun 24, 2025		Water	M25-Jn0073214							X								
16	QC209	Jun 24, 2025		Water	M25-Jn0073215							X								
Test Counts						9	9	9	1	9	9	2	1	1	9	1	1	9	3	6

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (free)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	89			70-130	Pass	
TRH C6-C10	%	89			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	80			70-130	Pass	
Toluene	%	82			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	84			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	
LCS - % Recovery							
Chloride	%	85			70-130	Pass	
Cyanide (total)	%	100			70-130	Pass	
Cyanide (weak acid dissoc.)	%	100			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	100			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	95			80-120	Pass	
Magnesium	%	100			80-120	Pass	
Potassium	%	97			80-120	Pass	
Sodium	%	97			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	107			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	97			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	98			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	80			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	105			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	102			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	98			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluoropentanoic acid (PFPeA)	%	104			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	100			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	100			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	106			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	106			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	104			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	110			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	130			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	94			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	113			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	85			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	94			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	70			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	93			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	83			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	81			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	87			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	84			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	90			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	137			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	100			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	94			50-150	Pass	
LCS - % Recovery							
Ammonia (as N)	%	78			70-130	Pass	
Chloride	%	92			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	125			70-130	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	72			50-150	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	119			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	119			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	99			70-130	Pass	
TRH >C10-C16	%	99			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	116			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	82			70-130	Pass	
Chloride	%	89			70-130	Pass	
Cyanide (free)	%	91			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	99			80-120	Pass	
Cadmium (filtered)	%	107			80-120	Pass	
Chromium (filtered)	%	101			80-120	Pass	
Copper (filtered)	%	101			80-120	Pass	
Lead (filtered)	%	112			80-120	Pass	
Manganese (filtered)	%	100			80-120	Pass	
Mercury (filtered)	%	107			80-120	Pass	
Nickel (filtered)	%	101			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	97			80-120	Pass	
Cadmium (filtered)	%	104			80-120	Pass	
Chromium (filtered)	%	101			80-120	Pass	
Copper (filtered)	%	99			80-120	Pass	
Lead (filtered)	%	108			80-120	Pass	
Manganese (filtered)	%	101			80-120	Pass	
Mercury (filtered)	%	104			80-120	Pass	
Nickel (filtered)	%	100			80-120	Pass	
Zinc (filtered)	%	98			80-120	Pass	
LCS - % Recovery							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ammonia (as N)			%	96			70-130	Pass	
LCS - % Recovery									
Dissolved Gases									
Methane			%	123			70-130	Pass	
LCS - % Recovery									
Chloride			%	77			70-130	Pass	
Sulphate (as SO4)			%	96			70-130	Pass	
LCS - % Recovery									
Conductivity (at 25 °C)			%	99			70-130	Pass	
Sulphate (as SO4)			%	100			70-130	Pass	
LCS - % Recovery									
Ammonia (as N)			%	82			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-Jn0074668	NCP	%	121			70-130	Pass	
TRH C10-C14	M25-Jn0074801	NCP	%	103			70-130	Pass	
TRH C6-C10	M25-Jn0074668	NCP	%	122			70-130	Pass	
TRH >C10-C16	M25-Jn0074801	NCP	%	104			70-130	Pass	
Naphthalene	M25-Jn0074668	NCP	%	91			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jn0074668	NCP	%	121			70-130	Pass	
Toluene	M25-Jn0074668	NCP	%	120			70-130	Pass	
Ethylbenzene	M25-Jn0074668	NCP	%	122			70-130	Pass	
m&p-Xylenes	M25-Jn0074668	NCP	%	118			70-130	Pass	
o-Xylene	M25-Jn0074668	NCP	%	121			70-130	Pass	
Xylenes - Total*	M25-Jn0074668	NCP	%	119			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M25-Jn0076520	NCP	%	94			70-130	Pass	
Sulphate (as SO4)	M25-Jn0075886	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jn0075552	NCP	%	104			75-125	Pass	
Magnesium	M25-Jn0075552	NCP	%	109			75-125	Pass	
Potassium	M25-Jn0075552	NCP	%	104			75-125	Pass	
Sodium	M25-Jn0075552	NCP	%	105			75-125	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M25-Jn0072831	CP	%	100			70-130	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-Jn0072831	CP	%	102			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0072831	CP	%	91			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0072831	CP	%	89			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0072831	CP	%	98			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0072831	CP	%	100			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0072831	CP	%	88			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0072831	CP	%	87			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-Jn0072831	CP	%	81			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-Jn0072831	CP	%	87			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0072831	CP	%	101			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0072831	CP	%	97			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0072831	CP	%	95			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0072831	CP	%	94			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0072831	CP	%	102			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0072831	CP	%	56			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0072831	CP	%	102			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0072831	CP	%	100			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0072831	CP	%	107			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0072831	CP	%	60			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0072831	CP	%	94			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0072831	CP	%	92			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0072831	CP	%	85			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0072831	CP	%	92			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0072831	CP	%	101			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0072831	CP	%	101			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0072831	CP	%	53			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0072831	CP	%	90			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0072831	CP	%	78			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0072831	CP	%	92			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0072831	CP	%	102			50-150	Pass	
Spike - % Recovery									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1					
TRH >C10-C16 (after silica gel clean-up)	M25-Jn0079254	NCP	%	106			70-130	Pass	
Spike - % Recovery									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1					
TRH C10-C14 (after silica gel clean-up)	M25-Jn0079254	NCP	%	104			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
				Result 1					
Ammonia (as N)	M25-Jn0072834	CP	%	98			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jn0072835	CP	%	107			75-125	Pass	
Cadmium (filtered)	M25-Jn0072835	CP	%	110			75-125	Pass	
Chromium (filtered)	M25-Jn0072835	CP	%	108			75-125	Pass	
Copper (filtered)	M25-Jn0072835	CP	%	103			75-125	Pass	
Lead (filtered)	M25-Jn0072835	CP	%	112			75-125	Pass	
Mercury (filtered)	M25-Jn0072835	CP	%	85			75-125	Pass	
Nickel (filtered)	M25-Jn0072835	CP	%	104			75-125	Pass	
Zinc (filtered)	M25-Jn0072835	CP	%	104			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0076312	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0076312	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0076312	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0076312	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0076312	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0076312	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0076312	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (at 25 °C)	M25-Jn0072830	CP	uS/cm	1400	1400	1.0	30%	Pass	
Cyanide (total)	M25-Jn0072830	CP	mg/L	0.007	0.007	1.0	30%	Pass	
Cyanide (weak acid dissoc.)	M25-Jn0072830	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0072830	CP	mg/L	1000	910	11	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0072830	CP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-Jn0075552	NCP	mg/L	15	17	15	30%	Pass	
Magnesium	M25-Jn0075552	NCP	mg/L	17	17	1.0	30%	Pass	
Potassium	M25-Jn0075552	NCP	mg/L	25	25	2.0	30%	Pass	
Sodium	M25-Jn0075552	NCP	mg/L	120	130	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-Jn0074768	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-Jn0074768	NCP	ug/L	0.78	0.79	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-Jn0068788	NCP	ug/L	0.027	0.027	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-Jn0068788	NCP	ug/L	0.002	0.003	4.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-Jn0077104	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-Jn0074768	NCP	ug/L	0.006	0.005	9.0	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-Jn0068788	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-Jn0077104	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-Jn0077104	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-Jn0068788	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-Jn0074768	NCP	ug/L	0.010	0.010	8.0	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-Jn0074768	NCP	ug/L	0.18	0.18	2.0	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-Jn0074768	NCP	ug/L	0.007	0.006	21	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-Jn0074768	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0072831	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M25-Jn0072831	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M25-Jn0072831	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0072831	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0072831	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0072831	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0072831	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0072831	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0072831	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (at 25 °C)	M25-Jn0072831	CP	uS/cm	1600	1700	2.0	30%	Pass	

Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0072831	CP	mg/L	1500	1600	2.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-Jn0072831	CP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluoropentanoic acid (PFPeA)	M25-Jn0066685	NCP	ug/L	0.003	0.003	6.0	30%	Pass	
Duplicate									
Aliphatic TRH Speciation - >C6 - C10				Result 1	Result 2	RPD			
TRH >C6-C8 Aliphatic	M25-Jn0072831	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C8-C10 Aliphatic	M25-Jn0072831	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Aromatic TRH Speciation - >C5 - C10				Result 1	Result 2	RPD			
TRH >C5-C7 (Benzene) Aromatic	M25-Jn0072831	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
TRH >C7-C8 Aromatic	M25-Jn0072831	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
TRH >C8-C10 Aromatic	M25-Jn0072831	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH >C10-C16 (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34 (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40 (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH C10-C14 (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28 (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36 (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C10-C36 (Total) (after silica gel clean-up)	M25-Jn0079253	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0072833	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0072833	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0072833	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0072833	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0072833	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0072833	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0072833	CP	mg/L	20	20	2.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0072833	CP	mg/L	0.010	0.016	53	30%	Fail	Q15
Acenaphthylene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0072833	CP	mg/L	0.011	0.015	30	30%	Pass	
Benz(a)anthracene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0072833	CP	mg/L	0.003	0.006	58	30%	Fail	Q15

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Fluorene	M25-Jn0072833	CP	mg/L	0.008	0.011	35	30%	Fail	Q15
Indeno(1.2.3-cd)pyrene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0072833	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0072833	CP	mg/L	0.013	0.023	54	30%	Fail	Q15
Pyrene	M25-Jn0072833	CP	mg/L	0.002	0.003	54	30%	Fail	Q15
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0072833	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0072833	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0072833	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0072833	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0072833	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0072833	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0072833	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0072833	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0072833	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0072833	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0072833	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0072833	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0072833	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0072833	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0072833	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0072833	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0072833	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0072833	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-Jn0072833	CP	mg/L	46	46	1.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0072833	CP	mg/L	1000	960	4.3	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0072834	CP	mg/L	0.15	0.20	28	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-Jn0072835	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M25-Jn0072835	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-Jn0072835	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-Jn0072835	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-Jn0072835	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-Jn0072835	CP	mg/L	0.67	0.67	<1	30%	Pass	
Mercury (filtered)	M25-Jn0072835	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-Jn0072835	CP	mg/L	0.001	0.001	2.0	30%	Pass	
Zinc (filtered)	M25-Jn0072835	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-Jn0072837	CP	mg/L	41	41	1.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M25-Jn0072839	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-Jn0072839	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-Jn0072839	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M25-Jn0072839	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M25-Jn0072839	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-Jn0072839	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0072839	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0072839	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-Jn0072839	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-Jn0072839	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-Jn0072839	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-Jn0072839	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-Jn0072839	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-Jn0072839	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-Jn0072839	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-Jn0072839	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-Jn0072839	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-Jn0072839	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-Jn0072839	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-Jn0072839	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-Jn0072839	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0072839	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0072839	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-Jn0072839	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-Jn0072839	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-Jn0072839	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-PFAS
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Mele Singh	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street Melbourne, VIC 3008	LABORATORY:	TURNAROUND REQUIREMENTS (mark Due date or 'X')	Standard: X
PHONE NO: 9653 1234	Results email: [illegible]		1 2 3 4 5 6 7 8
MOBILE NO: 0427 821 002	[illegible]		1 2 3 4 5 6 7 8
PROJECT ID: 60593007 / 12	Quote Number:	250582AECV	
Project Manager: Robert Crowe	Project Name:	Macquarie Point	
SAMPLER: RB / EM / TG / LL	Data Format:	Esdat and PDF	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen icebricks present upon receipt?	Yes	No	N/A
Sample Temperature on Receipt	5.4 °C		

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:

Sheridan Eurofins Hobart 4/7/25 @ 2:12pm

NOTES:

Please use Project ID '60321835_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (G, W)	SAMPLE CONTAINERS: General Water Suite (9)	General Water Suite + Eco Risk Suite (3)	PFAS (1)	Trip Blank (1)	TOTAL BOTTLES	ANALYSIS REQUEST: General Water Suite	Eco Risk Suite	PFAS	Trip Blank	HOLD	COMMENTS: Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
				1x 500mL Inorganics 1x 200mL Semi-Volatiles Amber 1x 40mL Vials 1x 60mL Metals 1x 60mL Cyanide/Cr6+ 1x 60mL Preserved Inorganics	In addition to General Water Suite Bottles: 1x 200mL Semi-Volatile Amber - Filtered to 5µm 1x 40mL Vials - Filtered to 5µm	1x 500mL PFAS bottle	1x 40mL Water Vial		TRH / BTEXN / PAH / Phenols 3 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) Manganese Calcium/Anions #6 (incl TDS) Cyanide (Total, Free & WAD) Ammonia as N Methane	TRH Aliphatic / Aromatic Speciation TRH (C6-C40) (Aqua gel cleaning) TRH (C6-C40) - on 5 µm field filtered sample PAH - on 5 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	TRH(C6-C9) BTEXN		Report #1240646 SB 4/7/25	
✓	MW190	25/6/25		X				9	X						
✓	MW197	25/6/25		X				9	X						
✓	MW198	25/6/25		X				9	X						
✓	MW186	25/6/25		X				9					X		
✓	MW120A	25/6/25		X		X		10	X		X				
✓	MW128A	25/6/25		X				9	X						
✓	QC323	25/6/25		X		X		10	X		X				
✓	QC423	25/6/25		X		X		10					X		
✓	QC528	25/6/25					X	1				X			
✓	QC529	25/6/25					X	1				X			
✓	QC110	25/6/25		X				9	X						

FORWARD TO ALS

CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**	**TURNAROUND REQUIREMENTS (mark Due date or 'X')**	
Level 10, 727 Collins Street		Standard	X
Melbourne, VIC 3008	**Results email:**		
PHONE NO: 9653 1234	[redacted]	1 2 3 4 5 6 7 8	
MOBILE NO: 0427 821 002	[redacted]	1 2 3 4 5 6 7 8	
PROJECT ID: 60693007 / 12	**Quote Number:**	250502AECV	
Project Manager: Robert Crowe	**Project Name:**	Macquarie Point	
SAMPLER: RB / EM / TG / LL	**Data Format:**	Excel and PDF	

FOR LABORATORY USE ONLY (Circle)			
Custody Seal Intact?	Yes	No	N/A
Free ice / frozen icebricks present upon receipt?	Yes	No	N/A
Sample Temperature on Receipt	5.4°C		

RELINQUISHED BY:	RECEIVED BY:
	Sheridan Eurofins Hobart
DATE/TIME:	DATE/TIME: 4/7/25 @ 2:12pm

NOTES:

Please use Project ID '60321838_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

					SAMPLE CONTAINERS					ANALYSIS REQUEST					COMMENTS	
LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	General Water Suite 1x 500mL Pet/HNO3 1x 250mL Sand-Vial/Ascorbic Acid/Ur 1x 40mL VOA 1x 100mL Metals 1x 60mL Cyanide/OH- 1x 60mL Phenol-not-frozen/ice	General Water Suite + Eco Risk Suite In addition to General Water Suite Bottles: 1x 125mL Sand-Vial/Ascorbic Acid/Urea - Filtered to 0.45um 1x 40mL Metals - Filtered to 0.45um	PFAS 1x 500mL PFAS bottle	Trip Blank 1x 40mL Water Vial	TOTAL BOTTLES	General Water Suite TRH (BTEX) / PAH / Phenols Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) Cations/Anions pS (incl TDS) Cyanide (Total, Free & WAD) Phenols (non-HR) Methane	Eco Risk Suite TRH (Aliphatic / Aromatic Speciation TRH (C6-C10) - on 0.45um filtered sample TRH (C6-C10) - on 0.45um field filtered sample PAH - on 0.45um field filtered sample	PFAS PFAS: Full suite - 30 compounds, Water Matrix	Trip Blank TRH/BTEX SVOC/PAH	HOLD	Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
					9	3	1	1								
✓	QC210	25/6/25			X				9	X						

Report #1240646 SB 4/7/25

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

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+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jul 4, 2025 2:12 PM
Eurofins reference	1240646

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
NB	Necessary sampling information not provided, the Laboratory will not be responsible for compromised results should testing be performed outside recommended holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1240646
Phone: 0422 692 187
Fax:

Received: Jul 4, 2025 2:12 PM
Due: Jul 11, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Split - External Lab*	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X		X	X	X	X
External Laboratory							X				

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID										
1	MW196	Jun 25, 2025		Water	M25-Jl0013167	X	X	X		X	X		X	X		
2	MW197	Jun 25, 2025		Water	M25-Jl0013168	X	X	X		X	X		X	X		
3	MW198	Jun 25, 2025		Water	M25-Jl0013169	X	X	X		X	X		X	X		
4	MW186	Jun 25, 2025		Water	M25-Jl0013170	X	X	X		X	X		X	X		
5	MW120A	Jun 25, 2025		Water	M25-Jl0013171	X	X	X		X	X		X	X		X
6	MW128A	Jun 25, 2025		Water	M25-Jl0013172	X	X	X		X	X		X	X		
7	QC323	Jun 25, 2025		Water	M25-Jl0013173	X	X	X		X	X		X	X		X
8	QC423	Jun 25, 2025		Water	M25-Jl0013174				X							
9	QC528	Jun 25, 2025		Water	M25-Jl0013175										X	
10	QC529	Jun 25, 2025		Water	M25-Jl0013176										X	
11	QC110	Jun 25, 2025		Water	M25-Jl0013177	X	X	X		X	X		X	X		
12	QC210	Jun 25, 2025		Water	M25-Jl0013178							X				
Test Counts						8	8	8	1	8	8	1	8	8	2	2

Aecom Austraila Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1240646-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jul 04, 2025

Client Sample ID			**MW196**	**MW197**	**MW198**	**MW186**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M25-JI0013167**	**M25-JI0013168**	**M25-JI0013169**	**M25-JI0013170**
Date Sampled			**Jun 25, 2025**	**Jun 25, 2025**	**Jun 25, 2025**	**Jun 25, 2025**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	0.25	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	8.2	< 0.05	0.08
TRH C15-C28	0.1	mg/L	< 0.1	3.2	< 0.1	0.4
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	11.4	< 0.1	0.58
TRH C6-C10	0.02	mg/L	< 0.02	0.26	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	0.05	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	7.6	< 0.05	0.21
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	< 0.05	7.25	< 0.05	0.21
Naphthalene[N02]	0.01	mg/L	< 0.01	0.35	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	1.9	< 0.1	0.3
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.3
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	9.5	< 0.1	0.81
BTEX						
Benzene	0.001	mg/L	0.001	0.12	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	0.052	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	[G01]< 0.005	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	0.024	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	0.019	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	0.043	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	104	104	102	100
Dissolved Gases						
Methane	0.05	mg/L	0.24	0.50	< 0.05	0.11
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	0.018	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	0.023	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001

Client Sample ID			MW196	MW197	MW198	MW186
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0013167	M25-JI0013168	M25-JI0013169	M25-JI0013170
Date Sampled			Jun 25, 2025	Jun 25, 2025	Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.001	mg/L	< 0.001	0.015	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	0.49	0.003	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.010	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	0.56	0.003	< 0.001
2-Fluorobiphenyl (surr.)	1	%	55	98	52	59
p-Terphenyl-d14 (surr.)	1	%	102	133	102	129
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	1.1	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	1.7	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	0.53	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	2.2	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	0.60	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	38	63	34	30
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	3.9	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	3.4	3.3	18	0.20
Chloride	1	mg/L	86	25	35	42
Conductivity (at 25 °C)	10	uS/cm	1000	520	1600	1100
Cyanide (free)	0.005	mg/L	< 0.005	0.006	0.020	< 0.005
Cyanide (total)	0.005	mg/L	0.16	0.23	0.65	0.096
Cyanide (weak acid dissoc.)	0.005	mg/L	0.006	0.028	0.040	0.008
Nitrate (as N)	0.02	mg/L	0.64	0.05	17	0.03
Sulphate (as SO4)	5	mg/L	260	51	480	120
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	780	480	1300	710
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	220	270	49	380
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Alkali Metals						
Calcium	0.5	mg/L	96	30	250	140
Magnesium	0.5	mg/L	22	4.9	45	43
Potassium	0.5	mg/L	12	2.5	9.1	7.6
Sodium	0.5	mg/L	110	99	120	100

Client Sample ID			MW196	MW197	MW198	MW186
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0013167	M25-JI0013168	M25-JI0013169	M25-JI0013170
Date Sampled			Jun 25, 2025	Jun 25, 2025	Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.006	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.004	0.003	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.37	0.11	4.0	1.6
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.038	0.008	0.004	0.001
Zinc (filtered)	0.005	mg/L	0.040	< 0.005	0.006	< 0.005

Client Sample ID			MW120A	MW128A	QC323	QC528
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0013171	M25-JI0013172	M25-JI0013173	M25-JI0013175
Date Sampled			Jun 25, 2025	Jun 25, 2025	Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	0.28	0.03	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.30	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	0.3	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	0.28	0.05	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	0.04	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.29	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	0.26	< 0.05	< 0.05	-
Naphthalene[N02]	0.01	mg/L	0.03	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	0.29	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	0.17	0.004	< 0.001	< 0.001
Toluene	0.001	mg/L	0.059	0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	[G01]< 0.005	0.003	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	[G01]< 0.01	0.016	< 0.002	< 0.002
o-Xylene	0.001	mg/L	0.013	0.008	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	0.013	0.024	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103	103	101	105
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-

Client Sample ID			MW120A	MW128A	QC323	QC528
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0013171	M25-JI0013172	M25-JI0013173	M25-JI0013175
Date Sampled			Jun 25, 2025	Jun 25, 2025	Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Naphthalene	0.001	mg/L	0.002	< 0.001	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Total PAH*	0.001	mg/L	0.002	< 0.001	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	56	51	72	-
p-Terphenyl-d14 (surr.)	1	%	138	137	121	-
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	0.026	< 0.003	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Phenol-d6 (surr.)	1	%	34	35	32	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Ammonia (as N)	0.01	mg/L	< 0.01	8.4	< 0.01	-
Chloride	1	mg/L	760	130	< 1	-
Conductivity (at 25 °C)	10	uS/cm	3300	2400	< 10	-
Cyanide (free)	0.005	mg/L	< 0.005	0.031	< 0.005	-
Cyanide (total)	0.005	mg/L	0.006	1.5	< 0.005	-
Cyanide (weak acid dissoc.)	0.005	mg/L	< 0.005	0.15	< 0.005	-
Nitrate (as N)	0.02	mg/L	< 0.02	70	< 0.02	-
Sulphate (as SO4)	5	mg/L	350	780	< 5	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	2000	2300	< 10	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	67	45	< 20	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	-

Client Sample ID			MW120A	MW128A	QC323	QC528
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0013171	M25-JI0013172	M25-JI0013173	M25-JI0013175
Date Sampled			Jun 25, 2025	Jun 25, 2025	Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	120	440	< 0.5	-
Magnesium	0.5	mg/L	44	72	< 0.5	-
Potassium	0.5	mg/L	39	9.7	< 0.5	-
Sodium	0.5	mg/L	590	150	< 0.5	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Copper (filtered)	0.001	mg/L	0.003	0.036	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Manganese (filtered)	0.005	mg/L	0.079	0.083	< 0.005	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Nickel (filtered)	0.001	mg/L	0.002	0.011	< 0.001	-
Zinc (filtered)	0.005	mg/L	0.013	0.017	< 0.005	-
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	0.028	-	< 0.001	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	0.034	-	< 0.001	-
Sum of PFASs (n=30)*	0.005	ug/L	0.048	-	< 0.005	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	0.03	-	< 0.001	-
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	0.04	-	< 0.005	-
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
13C8-FOSA (surr.)	1	%	107	-	102	-
D3-N-MeFOSA (surr.)	1	%	135	-	32	-
D5-N-EtFOSA (surr.)	1	%	169	-	20	-
D7-N-MeFOSE (surr.)	1	%	103	-	38	-
D9-N-EtFOSE (surr.)	1	%	95	-	40	-
D5-N-EtFOSAA (surr.)	1	%	158	-	149	-
D3-N-MeFOSAA (surr.)	1	%	127	-	94	-
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	0.005	-	< 0.001	-
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	0.001	-	< 0.001	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	0.006	-	< 0.001	-
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-

Client Sample ID			MW120A	MW128A	QC323	QC528
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0013171	M25-JI0013172	M25-JI0013173	M25-JI0013175
Date Sampled			Jun 25, 2025	Jun 25, 2025	Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
13C4-PFBA (surr.)	1	%	82	-	82	-
13C5-PFPeA (surr.)	1	%	75	-	138	-
13C5-PFHxA (surr.)	1	%	94	-	125	-
13C4-PFHpA (surr.)	1	%	107	-	129	-
13C8-PFOA (surr.)	1	%	108	-	136	-
13C5-PFNA (surr.)	1	%	112	-	134	-
13C6-PFDA (surr.)	1	%	33	-	125	-
13C2-PFUnDA (surr.)	1	%	26	-	92	-
13C2-PFDoDA (surr.)	1	%	41	-	69	-
13C2-PFTeDA (surr.)	1	%	94	-	32	-
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	0.008	-	< 0.001	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	0.004	-	< 0.001	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	-	< 0.001	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	0.024	-	< 0.001	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	-	< 0.001	-
13C3-PFBS (surr.)	1	%	148	-	132	-
18O2-PFHxS (surr.)	1	%	121	-	138	-
13C8-PFOS (surr.)	1	%	121	-	122	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	-	< 0.005	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	-	< 0.001	-
13C2-4:2 FTSA (surr.)	1	%	154	-	93	-
13C2-6:2 FTSA (surr.)	1	%	107	-	64	-
13C2-8:2 FTSA (surr.)	1	%	149	-	123	-
13C2-10:2 FTSA (surr.)	1	%	104	-	104	-

Client Sample ID			QC529	QC110
Sample Matrix			Water	Water
Eurofins Sample No.			M25-JI0013176	M25-JI0013177
Date Sampled			Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	-	0.06
TRH C15-C28	0.1	mg/L	-	0.3
TRH C29-C36	0.1	mg/L	-	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	-	0.36
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02

Client Sample ID			QC529	QC110
Sample Matrix			Water	Water
Eurofins Sample No.			M25-JI0013176	M25-JI0013177
Date Sampled			Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	-	0.16
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	-	0.16
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	-	0.2
TRH >C34-C40	0.1	mg/L	-	0.2
TRH >C10-C40 (total)*	0.1	mg/L	-	0.56
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	104	102
Dissolved Gases				
Methane	0.05	mg/L	-	0.09
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	-	< 0.001
Acenaphthylene	0.001	mg/L	-	< 0.001
Anthracene	0.001	mg/L	-	< 0.001
Benz(a)anthracene	0.001	mg/L	-	< 0.001
Benzo(a)pyrene	0.001	mg/L	-	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	-	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	< 0.001
Chrysene	0.001	mg/L	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	-	< 0.001
Fluoranthene	0.001	mg/L	-	< 0.001
Fluorene	0.001	mg/L	-	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	< 0.001
Naphthalene	0.001	mg/L	-	< 0.001
Phenanthrene	0.001	mg/L	-	< 0.001
Pyrene	0.001	mg/L	-	< 0.001
Total PAH*	0.001	mg/L	-	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	65
p-Terphenyl-d14 (surr.)	1	%	-	130
Phenols (Halogenated)				
2-Chlorophenol	0.003	mg/L	-	< 0.003
2.4-Dichlorophenol	0.003	mg/L	-	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	-	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	-	< 0.01
2.6-Dichlorophenol	0.003	mg/L	-	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	-	< 0.01
Pentachlorophenol	0.01	mg/L	-	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	-	< 0.03
Total Halogenated Phenol*	0.01	mg/L	-	< 0.01

Client Sample ID			QC529	QC110
Sample Matrix			Water	Water
Eurofins Sample No.			M25-JI0013176	M25-JI0013177
Date Sampled			Jun 25, 2025	Jun 25, 2025
Test/Reference	LOR	Unit		
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	-	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	< 0.03
2-Nitrophenol	0.01	mg/L	-	< 0.01
2.4-Dimethylphenol	0.003	mg/L	-	< 0.003
2.4-Dinitrophenol	0.03	mg/L	-	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	-	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	< 0.006
Total cresols*	0.01	mg/L	-	< 0.01
4-Nitrophenol	0.03	mg/L	-	< 0.03
Dinoseb	0.1	mg/L	-	< 0.1
Phenol	0.003	mg/L	-	< 0.003
Phenol-d6 (surr.)	1	%	-	35
Total Non-Halogenated Phenol*	0.1	mg/L	-	< 0.1
Ammonia (as N)	0.01	mg/L	-	0.19
Chloride	1	mg/L	-	42
Conductivity (at 25 °C)	10	uS/cm	-	1100
Cyanide (free)	0.005	mg/L	-	< 0.005
Cyanide (total)	0.005	mg/L	-	0.096
Cyanide (weak acid dissoc.)	0.005	mg/L	-	< 0.005
Nitrate (as N)	0.02	mg/L	-	0.10
Sulphate (as SO4)	5	mg/L	-	120
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	-	610
Alkalinity (speciated)				
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	-	450
Carbonate Alkalinity (as CaCO3)	10	mg/L	-	< 10
Alkali Metals				
Calcium	0.5	mg/L	-	140
Magnesium	0.5	mg/L	-	44
Potassium	0.5	mg/L	-	7.7
Sodium	0.5	mg/L	-	100
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	-	< 0.001
Cadmium (filtered)	0.0002	mg/L	-	< 0.0002
Chromium (filtered)	0.001	mg/L	-	0.001
Copper (filtered)	0.001	mg/L	-	< 0.001
Lead (filtered)	0.001	mg/L	-	< 0.001
Manganese (filtered)	0.005	mg/L	-	1.6
Mercury (filtered)	0.0001	mg/L	-	< 0.0001
Nickel (filtered)	0.001	mg/L	-	0.002
Zinc (filtered)	0.005	mg/L	-	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 04, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jul 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Dissolved Gases	Melbourne	Jul 04, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jul 04, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jul 04, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jul 04, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jul 04, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jul 04, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Alkalinity (speciated)	Melbourne	Jul 04, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jul 04, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jul 04, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

Description	Testing Site	Extracted	Holding Time
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jul 04, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1240646
Phone: 0422 692 187
Fax:

Received: Jul 4, 2025 2:12 PM
Due: Jul 11, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	HOLD*	Manganese (filtered)	Methane	Split - External Lab*	Eurofins Suite B11B	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X		X	X	X	X
External Laboratory												X				
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	MW196	Jun 25, 2025		Water	M25-Jl0013167	X	X	X		X	X		X	X		
2	MW197	Jun 25, 2025		Water	M25-Jl0013168	X	X	X		X	X		X	X		
3	MW198	Jun 25, 2025		Water	M25-Jl0013169	X	X	X		X	X		X	X		
4	MW186	Jun 25, 2025		Water	M25-Jl0013170	X	X	X		X	X		X	X		
5	MW120A	Jun 25, 2025		Water	M25-Jl0013171	X	X	X		X	X		X	X		X
6	MW128A	Jun 25, 2025		Water	M25-Jl0013172	X	X	X		X	X		X	X		
7	QC323	Jun 25, 2025		Water	M25-Jl0013173	X	X	X		X	X		X	X		X
8	QC423	Jun 25, 2025		Water	M25-Jl0013174				X							
9	QC528	Jun 25, 2025		Water	M25-Jl0013175										X	
10	QC529	Jun 25, 2025		Water	M25-Jl0013176										X	
11	QC110	Jun 25, 2025		Water	M25-Jl0013177	X	X	X		X	X		X	X		
12	QC210	Jun 25, 2025		Water	M25-Jl0013178							X				
Test Counts						8	8	8	1	8	8	1	8	8	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cyanide (free)	mg/L	< 0.005			0.005	Pass	
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	83			70-130	Pass	
TRH >C10-C16	%	80			70-130	Pass	
Naphthalene	%	74			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	103			70-130	Pass	
Acenaphthylene	%	109			70-130	Pass	
Anthracene	%	82			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	%	95			70-130	Pass	
Benzo(g.h.i)perylene	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	126			70-130	Pass	
Chrysene	%	106			70-130	Pass	
Dibenz(a.h)anthracene	%	86			70-130	Pass	
Fluoranthene	%	119			70-130	Pass	
Fluorene	%	125			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
Phenanthrene	%	104			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	74			25-140	Pass	
2.4-Dichlorophenol	%	69			25-140	Pass	
2.4.5-Trichlorophenol	%	61			25-140	Pass	
2.4.6-Trichlorophenol	%	48			25-140	Pass	
2.6-Dichlorophenol	%	59			25-140	Pass	
4-Chloro-3-methylphenol	%	62			25-140	Pass	
Pentachlorophenol	%	31			25-140	Pass	
Tetrachlorophenols - Total	%	40			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	84			25-140	Pass	
2-Nitrophenol	%	85			25-140	Pass	
2.4-Dimethylphenol	%	31			25-140	Pass	
2-Methylphenol (o-Cresol)	%	57			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	53			25-140	Pass	
4-Nitrophenol	%	33			25-140	Pass	
Dinoseb	%	60			25-140	Pass	
Phenol	%	35			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	97			70-130	Pass	
Chloride	%	106			70-130	Pass	
Conductivity (at 25 °C)	%	95			70-130	Pass	
Cyanide (free)	%	116			70-130	Pass	
Cyanide (weak acid dissoc.)	%	122			70-130	Pass	
Sulphate (as SO4)	%	103			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	96			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	78			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	96			80-120	Pass	
Magnesium	%	95			80-120	Pass	
Potassium	%	98			80-120	Pass	
Sodium	%	109			80-120	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	95			70-130	Pass	
Anthracene	%	114			70-130	Pass	
Benz(a)anthracene	%	118			70-130	Pass	
Benzo(a)pyrene	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	%	110			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	102			70-130	Pass	
Benzo(k)fluoranthene	%	99			70-130	Pass	
Chrysene	%	91			70-130	Pass	
Dibenz(a.h)anthracene	%	100			70-130	Pass	
Fluoranthene	%	103			70-130	Pass	
Fluorene	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	95			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	98			25-140	Pass	
2.4-Dichlorophenol	%	90			25-140	Pass	
2.4.5-Trichlorophenol	%	85			25-140	Pass	
2.4.6-Trichlorophenol	%	81			25-140	Pass	
2.6-Dichlorophenol	%	102			25-140	Pass	
4-Chloro-3-methylphenol	%	73			25-140	Pass	
Pentachlorophenol	%	41			25-140	Pass	
Tetrachlorophenols - Total	%	76			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	64			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	50			25-140	Pass	
2-Nitrophenol	%	99			25-140	Pass	
2.4-Dimethylphenol	%	38			25-140	Pass	
2.4-Dinitrophenol	%	38			25-140	Pass	
2-Methylphenol (o-Cresol)	%	68			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	62			25-140	Pass	
Dinoseb	%	57			25-140	Pass	
Phenol	%	32			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	90			70-130	Pass	
Chloride	%	95			70-130	Pass	
Sulphate (as SO4)	%	100			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	108			80-120	Pass	
Cadmium (filtered)	%	108			80-120	Pass	
Chromium (filtered)	%	110			80-120	Pass	
Copper (filtered)	%	109			80-120	Pass	
Lead (filtered)	%	104			80-120	Pass	
Manganese (filtered)	%	111			80-120	Pass	
Mercury (filtered)	%	112			80-120	Pass	
Nickel (filtered)	%	109			80-120	Pass	
Zinc (filtered)	%	107			80-120	Pass	
LCS - % Recovery							
Chloride	%	119			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	114			70-130	Pass	
Sulphate (as SO4)	%	95			70-130	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	89			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	90			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	109			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	80			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	89			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	95			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	87			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	90			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	114			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	128			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	88			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	95			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	124			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	90			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	90			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	111			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	82			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	78			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	69			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	84			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	91			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	101			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	96			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	58			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	97			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	94			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	95			50-150	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	96			70-130	Pass	
TRH C6-C10	%	96			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	99			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	106			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
Xylenes - Total*	%	107			70-130	Pass	
LCS - % Recovery							
Cyanide (total)	%	127			70-130	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	82			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	104			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	82			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	88			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	97			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	82			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	112			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	81			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	87			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	77			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	82			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	73			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	107			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	88			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	57			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	99			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	94			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	97			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	93			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	81			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	84			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	88			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	89			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	91			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	79			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	55			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	94			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	120			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	110			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	82			50-150	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	129			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-JI0013082	NCP	%	109			70-130	Pass	
TRH C10-C14	M25-JI0007444	NCP	%	118			70-130	Pass	
TRH C6-C10	M25-JI0013082	NCP	%	108			70-130	Pass	
TRH >C10-C16	M25-JI0007444	NCP	%	113			70-130	Pass	
Naphthalene	M25-JI0013082	NCP	%	77			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-JI0013082	NCP	%	111			70-130	Pass	
Toluene	M25-JI0013082	NCP	%	114			70-130	Pass	
Ethylbenzene	M25-JI0013082	NCP	%	115			70-130	Pass	
m&p-Xylenes	M25-JI0013082	NCP	%	117			70-130	Pass	
o-Xylene	M25-JI0013082	NCP	%	118			70-130	Pass	
Xylenes - Total*	M25-JI0013082	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Dissolved Gases				Result 1					
Methane	M25-JI0005403	NCP	%	115			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	M25-JI0008091	NCP	%	92			70-130	Pass	
Acenaphthylene	M25-JI0008091	NCP	%	92			70-130	Pass	
Anthracene	M25-JI0008091	NCP	%	80			70-130	Pass	
Benz(a)anthracene	M25-JI0008091	NCP	%	77			70-130	Pass	
Benzo(a)pyrene	M25-JI0008091	NCP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	M25-JI0008091	NCP	%	73			70-130	Pass	
Benzo(g.h.i)perylene	M25-JI0008091	NCP	%	81			70-130	Pass	
Benzo(k)fluoranthene	M25-JI0008091	NCP	%	114			70-130	Pass	
Chrysene	M25-JI0008091	NCP	%	83			70-130	Pass	
Dibenz(a.h)anthracene	M25-JI0008091	NCP	%	81			70-130	Pass	
Fluoranthene	M25-JI0008091	NCP	%	94			70-130	Pass	
Fluorene	M25-JI0008091	NCP	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-JI0008091	NCP	%	79			70-130	Pass	
Naphthalene	M25-JI0008091	NCP	%	86			70-130	Pass	
Phenanthrene	M25-JI0008091	NCP	%	86			70-130	Pass	
Pyrene	M25-JI0008091	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-JI0008091	NCP	%	35			30-130	Pass	
2.4-Dichlorophenol	M25-JI0008091	NCP	%	41			30-130	Pass	
2.4.5-Trichlorophenol	M25-JI0008091	NCP	%	36			30-130	Pass	
2.4.6-Trichlorophenol	M25-JI0008091	NCP	%	36			30-130	Pass	
2.6-Dichlorophenol	M25-JI0008091	NCP	%	36			30-130	Pass	
4-Chloro-3-methylphenol	M25-JI0008091	NCP	%	40			30-130	Pass	
Pentachlorophenol	M25-JI0008091	NCP	%	34			30-130	Pass	
Tetrachlorophenols - Total	M25-JI0008091	NCP	%	40			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M25-JI0008091	NCP	%	45			30-130	Pass	
2-Nitrophenol	M25-JI0008091	NCP	%	52			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-JI0008091	NCP	%	38			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-JI0008091	NCP	%	31			30-130	Pass	
Dinoseb	M25-JI0008091	NCP	%	35			30-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-JI0014599	NCP	%	93			70-130	Pass	
Chloride	M25-JI0014098	NCP	%	126			70-130	Pass	
Sulphate (as SO4)	M25-JI0012693	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-JI0012661	NCP	%	100			75-125	Pass	
Magnesium	M25-JI0012661	NCP	%	104			75-125	Pass	
Potassium	M25-JI0012661	NCP	%	105			75-125	Pass	
Sodium	M25-JI0013167	CP	%	110			75-125	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (free)	M25-JI0013168	CP	%	112			70-130	Pass	
Cyanide (total)	M25-JI0013168	CP	%	106			70-130	Pass	
Cyanide (weak acid dissoc.)	M25-JI0013168	CP	%	98			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-JI0013168	CP	%	108			75-125	Pass	
Cadmium (filtered)	M25-JI0013168	CP	%	106			75-125	Pass	
Chromium (filtered)	M25-JI0013168	CP	%	109			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper (filtered)	M25-JI0013168	CP	%	105			75-125	Pass	
Lead (filtered)	M25-JI0013168	CP	%	95			75-125	Pass	
Manganese (filtered)	M25-JI0013168	CP	%	98			75-125	Pass	
Mercury (filtered)	M25-JI0013168	CP	%	77			75-125	Pass	
Nickel (filtered)	M25-JI0013168	CP	%	105			75-125	Pass	
Zinc (filtered)	M25-JI0013168	CP	%	110			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-JI0013173	CP	%	90			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-JI0013173	CP	%	96			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-JI0013173	CP	%	94			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-JI0013173	CP	%	86			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-JI0013173	CP	%	94			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-JI0013173	CP	%	87			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-JI0013173	CP	%	116			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-JI0013173	CP	%	91			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-JI0013173	CP	%	88			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-JI0013173	CP	%	86			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-JI0013173	CP	%	88			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-JI0013173	CP	%	79			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-JI0013173	CP	%	98			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-JI0013173	CP	%	88			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-JI0013173	CP	%	55			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-JI0013173	CP	%	96			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-JI0013173	CP	%	97			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-JI0013173	CP	%	99			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-JI0013173	CP	%	94			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-JI0013173	CP	%	87			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-JI0013173	CP	%	83			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-JI0013173	CP	%	89			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-JI0013173	CP	%	90			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-JI0013173	CP	%	90			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-JI0013173	CP	%	78			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-JI0013173	CP	%	50			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-JI0013173	CP	%	99			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-JI0013173	CP	%	104			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-JI0013173	CP	%	105			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-JI0013173	CP	%	87			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-JI0013081	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-JI0013167	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M25-JI0013167	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M25-JI0013167	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-JI0013081	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-JI0013167	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-JI0013081	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-JI0013167	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-JI0013167	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-JI0013081	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-JI0013081	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-JI0013081	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-JI0013081	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-JI0013081	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-JI0013081	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M25-Jn0082507	NCP	mg/L	1.8	1.9	7.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-JI0013167	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-JI0013167	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-JI0013167	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-JI0013167	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-JI0013167	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-JI0013167	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-JI0013167	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-JI0013167	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-JI0013167	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-JI0013167	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-JI0013167	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-JI0013167	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-JI0013167	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-JI0013167	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-JI0013167	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-JI0013167	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-JI0013167	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-JI0013167	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-JI0013167	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-JI0021759	NCP	mg/L	4.0	4.3	8.0	30%	Pass	
Conductivity (at 25 °C)	M25-JI0014989	NCP	uS/cm	670	680	2.0	30%	Pass	
Cyanide (free)	M25-JI0013167	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Cyanide (total)	M25-JI0013167	CP	mg/L	0.16	0.17	1.0	30%	Pass	
Cyanide (weak acid dissoc.)	M25-JI0013167	CP	mg/L	0.006	0.006	2.0	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M25-JI0009755	NCP	mg/L	290	300	4.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M25-JI0009755	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-JI0012661	NCP	mg/L	94	94	<1	30%	Pass	
Magnesium	M25-JI0012661	NCP	mg/L	320	330	2.0	30%	Pass	
Potassium	M25-JI0012661	NCP	mg/L	30	31	3.0	30%	Pass	
Sodium	M25-JI0012661	NCP	mg/L	2400	2500	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-JI0013168	CP	mg/L	0.006	0.006	<1	30%	Pass	
Cadmium (filtered)	M25-JI0013168	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-JI0013168	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-JI0013168	CP	mg/L	0.003	0.003	<1	30%	Pass	
Lead (filtered)	M25-JI0013168	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-JI0013168	CP	mg/L	0.11	0.11	4.0	30%	Pass	
Mercury (filtered)	M25-JI0013168	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-JI0013168	CP	mg/L	0.008	0.007	5.0	30%	Pass	
Zinc (filtered)	M25-JI0013168	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-JI0013171	CP	ug/L	0.005	0.005	4.0	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-JI0013171	CP	ug/L	0.001	0.002	33	30%	Fail	Q15
Perfluoroheptanoic acid (PFHpA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-JI0013171	CP	ug/L	0.006	0.004	27	30%	Pass	
Perfluorononanoic acid (PFNA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-JI0013171	CP	ug/L	0.008	0.009	9.0	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-JI0013171	CP	ug/L	0.004	0.003	36	30%	Fail	Q15
Perfluoroheptanesulfonic acid (PFHpS)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-JI0013171	CP	ug/L	0.024	0.014	51	30%	Fail	Q15
Perfluorodecanesulfonic acid (PFDS)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-JI0013171	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-JI0013171	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Chloride	M25-JI0013177	CP	mg/L	42	42	<1	30%	Pass	
Sulphate (as SO4)	M25-JI0013177	CP	mg/L	120	120	5.0	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-JI0013177	CP	mg/L	610	660	7.6	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	No
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-PFAS
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Jean Veilleuse	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Bowers, Richard <Richard.Bowers@aecom.com>
Sent: Friday, 4 July 2025 7:16 PM
To: Harry Bacalis <harrybacalis@eurofins.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: Mac Point Lab Results - Batches 1234320, 1236601, 1234941 and 1231576

#1241421
LS 7/7

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Harry,

Thanks for providing all the soil and groundwater results provided to date from our Mac Point project in Hobart, Tasmania (Aecom job number 60693007). Could you please undertake the following actions as soon as you can, as indicated in the table below?

Batch	Medium	Sample Date	Requested Action
1234320	Water	17 June 2025	• Please analyse sample QC315 for PFAS Full Suite – 30 compounds, trace level
1236601	Water	23 June 2025	We note that additional samples QC107 And QC207 were received but not originally marked on the COC. These should both have a total of 13 bottles each as per the COC for samples marked for 'General Suite + Eco Suite' and 'PFAS' analysis, including 2 x VOC vials and 1 x 200mL amber labelled as 'filtered'. Please analyse additional sample QC107 for: • General Water Suite • Eco Risk Suite – conduct this on the 2 x VOC vials and 1 x 200mL amber labelled 'filtered' only • PFAS Full Suite – 30 compounds, trace level Please forward additional sample QC207 to ALS Springvale and request the same analysis as stated above for QC107
1234941	Soil	18-19 June 2025	• Results not yet received • Please update the sampled date of samples QC317 and QC417 to 18 June 2025. These were incorrectly dated 19 June 2025 on the original COC. • QC319 was requested for the 'General Suite + Gasworks Suite' analysis on the COC, and QC419 was requested for 'hold', however it is noted that these requests were around the opposite way on the Eurofins sample receipt summary, and we have therefore received results for QC419 instead of QC319 as originally requested. Can you please confirm if there was a typo on your end, and if the results received for QC419 are actually the results for QC319 as originally requested on the COC? If not, can you please urgently analyse QC319 as originally requested?
1231576	PASS	11 June 2025	• Results not yet received – can you please follow up

Note that the components of each analytical suite referred to in the table above is detailed in the original COC provided in each respective batch.

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Austraila Pty Ltd Tasmania
Contact name: Richard Bowers
Project name: 60693007 / 12
Project ID: Macquarie Point
Turnaround time: 5 Day
Date/Time received Jul 4, 2025 7:16 PM
Eurofins reference 1241421

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Richard Bowers - richard.bowers@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Environment Testing NZ Ltd
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Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: 60693007 / 12
Project ID: Macquarie Point

Order No.: 60693007 / 12
Report #: 1241421
Phone: 0422 692 187
Fax:

Received: Jul 4, 2025 7:16 PM
Due: Jul 14, 2025
Priority: 5 Day
Contact Name: Richard Bowers

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	Manganese (filtered)	Methane	Split - External Lab*	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Eurofins Suite B4	Eurofins Suite B7A	Eurofins Suite B7A (filtered metals)	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X		X	X	X	X	X	X	X
External Laboratory							X							

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID											
1	QC207	Jun 23, 2025		Water	M25-Jl0019196							X						
2	QC207_FILTERED	Jun 23, 2025		Water	M25-Jl0019197							X						
3	QC315	Jun 17, 2025		Water	M25-Jl0019198													X
4	QC107	Jun 23, 2025		Water	M25-Jl0019199		X	X	X	X	X			X			X	X
5	QC107_FILTERED	Jun 23, 2025		Water	M25-Jl0019200							X		X	X			
6	QC319	Jun 19, 2025		Water	M25-Jl0019201	X	X	X	X								X		
Test Counts						1	2	2	2	1	1	2	1	1	1	1	1	1	2

AECOM Australia Pty Ltd
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Richard Bowers**

Report **1241421-W**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jul 04, 2025

Client Sample ID			QC315	QC107	QC107_FILTERED	QC319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0019198	M25-JI0019199	M25-JI0019200	M25-JI0019201
Date Sampled			Jun 17, 2025	Jun 23, 2025	Jun 23, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	< 0.001	0.237	-	-
Sum of PFASs (n=30)*	0.005	ug/L	< 0.005	0.361	-	-
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	< 0.005	0.292	-	-
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
13C8-FOSA (surr.)	1	%	78	71	-	-
D3-N-MeFOSA (surr.)	1	%	82	66	-	-
D5-N-EtFOSA (surr.)	1	%	104	51	-	-
D7-N-MeFOSE (surr.)	1	%	33	36	-	-
D9-N-EtFOSE (surr.)	1	%	40	43	-	-
D5-N-EtFOSAA (surr.)	1	%	79	63	-	-
D3-N-MeFOSAA (surr.)	1	%	134	101	-	-
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	< 0.001	0.037	-	-
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	< 0.001	0.002	-	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	< 0.001	[N09]0.003	-	-
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	< 0.001	[N09]0.013	-	-
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	< 0.001	[N09]0.002	-	-
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	< 0.001	[N09]0.001	-	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	< 0.001	< 0.001	-	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
13C4-PFBA (surr.)	1	%	55	142	-	-

Client Sample ID			QC315	QC107	QC107_FILTERED	QC319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0019198	M25-JI0019199	M25-JI0019200	M25-JI0019201
Date Sampled			Jun 17, 2025	Jun 23, 2025	Jun 23, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
13C5-PFPeA (surr.)	1	%	65	80	-	-
13C5-PFHxA (surr.)	1	%	104	110	-	-
13C4-PFHpA (surr.)	1	%	109	103	-	-
13C8-PFOA (surr.)	1	%	83	80	-	-
13C5-PFNA (surr.)	1	%	81	136	-	-
13C6-PFDA (surr.)	1	%	133	105	-	-
13C2-PFUnDA (surr.)	1	%	97	75	-	-
13C2-PFDoDA (surr.)	1	%	56	35	-	-
13C2-PFTeDA (surr.)	1	%	17	20	-	-
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	< 0.001	[N09]0.026	-	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	< 0.001	< 0.001	-	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	< 0.001	[N09]0.011	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	< 0.001	[N09]0.007	-	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	< 0.001	[N09]0.029	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	[N09]< 0.001	[N09]0.23	-	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	< 0.001	< 0.001	-	-
13C3-PFBS (surr.)	1	%	124	130	-	-
18O2-PFHxS (surr.)	1	%	104	83	-	-
13C8-PFOS (surr.)	1	%	115	112	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	< 0.005	< 0.005	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	< 0.001	< 0.001	-	-
13C2-4:2 FTSA (surr.)	1	%	101	112	-	-
13C2-6:2 FTSA (surr.)	1	%	123	106	-	-
13C2-8:2 FTSA (surr.)	1	%	104	77	-	-
13C2-10:2 FTSA (surr.)	1	%	56	27	-	-
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	-	0.31	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	-	0.23	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	-	0.23	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	-	0.45	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	0.45	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	-	0.26	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)*[N01]	0.05	mg/L	-	0.26	< 0.05	< 0.05
Naphthalene[N02]	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
TRH >C16-C34	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	-	0.26	< 0.1	< 0.1

Client Sample ID			QC315	QC107	QC107_FILTERED	QC319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0019198	M25-JI0019199	M25-JI0019200	M25-JI0019201
Date Sampled			Jun 17, 2025	Jun 23, 2025	Jun 23, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	98	125	108
Dissolved Gases						
Methane	0.05	mg/L	-	[A03]8.3	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	63	70	66
p-Terphenyl-d14 (surr.)	1	%	-	87	136	103
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	-	< 0.003	-	< 0.003
2.4-Dichlorophenol	0.003	mg/L	-	< 0.003	-	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	-	< 0.01	-	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	-	< 0.01	-	< 0.01
2.6-Dichlorophenol	0.003	mg/L	-	< 0.003	-	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	-	< 0.01	-	< 0.01
Pentachlorophenol	0.01	mg/L	-	< 0.01	-	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	-	< 0.03	-	< 0.03
Total Halogenated Phenol*	0.01	mg/L	-	< 0.01	-	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	-	< 0.1	-	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	< 0.03	-	< 0.03
2-Nitrophenol	0.01	mg/L	-	< 0.01	-	< 0.01
2.4-Dimethylphenol	0.003	mg/L	-	< 0.003	-	< 0.003
2.4-Dinitrophenol	0.03	mg/L	-	< 0.03	-	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	-	< 0.003	-	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	< 0.006	-	< 0.006
Total cresols*	0.01	mg/L	-	< 0.01	-	< 0.01

Client Sample ID			QC315	QC107	QC107_FILTERED	QC319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0019198	M25-JI0019199	M25-JI0019200	M25-JI0019201
Date Sampled			Jun 17, 2025	Jun 23, 2025	Jun 23, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
4-Nitrophenol	0.03	mg/L	-	< 0.03	-	< 0.03
Dinoseb	0.1	mg/L	-	< 0.1	-	< 0.1
Phenol	0.003	mg/L	-	< 0.003	-	< 0.003
Phenol-d6 (surr.)	1	%	-	56	-	98
Total Non-Halogenated Phenol*	0.1	mg/L	-	< 0.1	-	< 0.1
Ammonia (as N)	0.01	mg/L	-	2.8	-	< 0.01
Chloride	1	mg/L	-	8.9	-	-
Conductivity (at 25 °C)	10	uS/cm	-	330	-	-
Cyanide (free)	0.005	mg/L	-	< 0.005	-	< 0.005
Cyanide (total)	0.005	mg/L	-	0.011	-	< 0.005
Cyanide (weak acid dissoc.)	0.005	mg/L	-	< 0.005	-	< 0.005
Nitrate (as N)	0.02	mg/L	-	< 0.02	-	-
Sulphate (as SO4)	5	mg/L	-	< 5	-	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	-	180	-	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	-	140	-	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	-	< 10	-	-
Alkali Metals						
Calcium	0.5	mg/L	-	51	-	-
Magnesium	0.5	mg/L	-	7.3	-	-
Potassium	0.5	mg/L	-	5.4	-	-
Sodium	0.5	mg/L	-	12	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	-	-	< 0.001
Arsenic (filtered)	0.001	mg/L	-	< 0.001	-	-
Cadmium	0.0002	mg/L	-	-	-	< 0.0002
Cadmium (filtered)	0.0002	mg/L	-	< 0.0002	-	-
Chromium	0.001	mg/L	-	-	-	< 0.001
Chromium (filtered)	0.001	mg/L	-	< 0.001	-	-
Copper	0.001	mg/L	-	-	-	< 0.001
Copper (filtered)	0.001	mg/L	-	< 0.001	-	-
Lead	0.001	mg/L	-	-	-	< 0.001
Lead (filtered)	0.001	mg/L	-	< 0.001	-	-
Manganese (filtered)	0.005	mg/L	-	0.37	-	-
Mercury	0.0001	mg/L	-	-	-	< 0.0001
Mercury (filtered)	0.0001	mg/L	-	< 0.0001	-	-
Nickel	0.001	mg/L	-	-	-	< 0.001
Nickel (filtered)	0.001	mg/L	-	< 0.001	-	-
Zinc	0.005	mg/L	-	-	-	< 0.005
Zinc (filtered)	0.005	mg/L	-	< 0.005	-	-
Aliphatic TRH Speciation - >C6 - C10						
TRH >C6-C8 Aliphatic	0.02	mg/L	-	-	< 0.02	-
TRH >C8-C10 Aliphatic	0.02	mg/L	-	-	< 0.02	-
Aromatic TRH Speciation - >C5 - C10						
TRH >C5-C7 (Benzene) Aromatic	0.001	mg/L	-	-	< 0.001	-
TRH >C7-C8 Aromatic	0.001	mg/L	-	-	< 0.001	-
TRH >C8-C10 Aromatic	0.01	mg/L	-	-	< 0.01	-

Client Sample ID			QC315	QC107	QC107_FILTERED	QC319
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-JI0019198	M25-JI0019199	M25-JI0019200	M25-JI0019201
Date Sampled			Jun 17, 2025	Jun 23, 2025	Jun 23, 2025	Jun 19, 2025
Test/Reference	LOR	Unit				
Aliphatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aliphatic	0.05	mg/L	-	-	< 0.05	-
TRH >C12-C16 Aliphatic	0.1	mg/L	-	-	< 0.1	-
TRH >C16-C21 Aliphatic	0.1	mg/L	-	-	< 0.1	-
TRH >C21-C35 Aliphatic	0.1	mg/L	-	-	< 0.1	-
Aromatic TRH Speciation - >C10 - C35						
TRH >C10-C12 Aromatic	0.05	mg/L	-	-	< 0.05	-
TRH >C12-C16 Aromatic	0.1	mg/L	-	-	< 0.1	-
TRH >C16-C21 Aromatic	0.1	mg/L	-	-	< 0.1	-
TRH >C21-C35 Aromatic	0.1	mg/L	-	-	< 0.1	-
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	-	-	< 0.05	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	-	-	< 0.1	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	-	-	< 0.1	-
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	-	-	< 0.1	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	-	-	< 0.05	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	-	-	< 0.1	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	-	-	< 0.1	-
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	-	-	< 0.1	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
PFASs Summations	Melbourne	Jul 10, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Melbourne	Jul 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Melbourne	Jul 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Melbourne	Jul 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Melbourne	Jul 10, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Eurofins Suite B7A (filtered metals)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 08, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 07, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 08, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 07, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 08, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jul 08, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jul 08, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Jul 10, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Dissolved Gases	Melbourne	Jul 07, 2025	14 Days
- Method: in-house method LTM-ORG-2070 by Headspace GC-FID			
Cyanide (free)	Melbourne	Jul 07, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Jul 07, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (weak acid dissoc.)	Melbourne	Jul 07, 2025	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Heavy Metals (filtered)	Melbourne	Jul 10, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11B			
Ammonia (as N)	Melbourne	Jul 07, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Chloride	Melbourne	Jul 07, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Conductivity (at 25 °C)	Melbourne	Jul 07, 2025	28 Days
- Method: LTM-INO-4030 Conductivity			
Nitrate (as N)	Melbourne	Jul 07, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jul 07, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jul 07, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			

Description	Testing Site	Extracted	Holding Time
Alkalinity (speciated)	Melbourne	Jul 07, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Alkali Metals	Melbourne	Jul 07, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B7A			
Metals M8	Melbourne	Jul 07, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Aliphatic / Aromatic TRH Speciation (CWG)			
Aliphatic TRH Speciation - >C6 - C10	Melbourne	Jul 10, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C5 - C10	Melbourne	Jul 10, 2025	14 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aliphatic TRH Speciation - >C10 - C35	Melbourne	Jul 10, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
Aromatic TRH Speciation - >C10 - C35	Melbourne	Jul 10, 2025	7 Days
- Method: LTM-ORG-2010 Determination of Total Recoverable Hydrocarbon			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jul 08, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jul 08, 2025	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			

eurofins

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Project Name: 60693007 / 12
Project ID: Macquarie Point

Order No.: 60693007 / 12
Report #: 1241421
Phone: 0422 692 187
Fax:

Received: Jul 4, 2025 7:16 PM
Due: Jul 14, 2025
Priority: 5 Day
Contact Name: Richard Bowers

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Ammonia (as N)	Cyanide (free)	Cyanide (total)	Cyanide (weak acid dissoc.)	Manganese (filtered)	Methane	Split - External Lab*	Aliphatic / Aromatic TRH Speciation (CWG)	Eurofins Suite B11B	TRH (after Silica Gel cleanup)	Eurofins Suite B4	Eurofins Suite B7A	Eurofins Suite B7A (filtered metals)	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X		X	X	X	X	X	X	X
External Laboratory												X							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	QC207	Jun 23, 2025		Water	M25-Jl0019196							X							
2	QC207_FILTERED	Jun 23, 2025		Water	M25-Jl0019197							X							
3	QC315	Jun 17, 2025		Water	M25-Jl0019198														X
4	QC107	Jun 23, 2025		Water	M25-Jl0019199		X	X	X	X	X			X				X	X
5	QC107_FILTERED	Jun 23, 2025		Water	M25-Jl0019200								X		X	X			
6	QC319	Jun 19, 2025		Water	M25-Jl0019201	X	X	X	X								X		
Test Counts						1	2	2	2	1	1	2	1	1	1	1	1	1	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Conductivity (at 25 °C)	uS/cm	< 10			10	Pass	
Cyanide (total)	mg/L	< 0.005			0.005	Pass	
Cyanide (weak acid dissoc.)	mg/L	< 0.005			0.005	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Aliphatic TRH Speciation - >C6 - C10							
TRH >C6-C8 Aliphatic	mg/L	< 0.02			0.02	Pass	
TRH >C8-C10 Aliphatic	mg/L	< 0.02			0.02	Pass	
Method Blank							
Aromatic TRH Speciation - >C5 - C10							
TRH >C5-C7 (Benzene) Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C7-C8 Aromatic	mg/L	< 0.001			0.001	Pass	
TRH >C8-C10 Aromatic	mg/L	< 0.01			0.01	Pass	
Method Blank							
Aliphatic TRH Speciation - >C10 - C35							
TRH >C10-C12 Aliphatic	mg/L	< 0.05			0.05	Pass	
TRH >C12-C16 Aliphatic	mg/L	< 0.1			0.1	Pass	
TRH >C16-C21 Aliphatic	mg/L	< 0.1			0.1	Pass	
TRH >C21-C35 Aliphatic	mg/L	< 0.1			0.1	Pass	
Method Blank							
Aromatic TRH Speciation - >C10 - C35							
TRH >C10-C12 Aromatic	mg/L	< 0.05			0.05	Pass	
TRH >C12-C16 Aromatic	mg/L	< 0.1			0.1	Pass	
TRH >C16-C21 Aromatic	mg/L	< 0.1			0.1	Pass	
TRH >C21-C35 Aromatic	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	78			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	74			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	82			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	100			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	104			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	83			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	98			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	92			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	89			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	76			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	99			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	82			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	73			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	71			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	120			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	84			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	77			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	105			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	69			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	81			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	51			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	86			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	88			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	79			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	87			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	128			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	84			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	95			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	93			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	77			50-150	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C10-C14	%	76			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	102			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	127			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	120			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	94			70-130	Pass	
Benz(a)anthracene	%	100			70-130	Pass	
Benzo(a)pyrene	%	126			70-130	Pass	
Benzo(b&j)fluoranthene	%	110			70-130	Pass	
Benzo(g.h.i)perylene	%	101			70-130	Pass	
Benzo(k)fluoranthene	%	117			70-130	Pass	
Chrysene	%	107			70-130	Pass	
Dibenz(a.h)anthracene	%	128			70-130	Pass	
Fluoranthene	%	99			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	96			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	117			70-130	Pass	
Pyrene	%	112			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	120			25-140	Pass	
2.4-Dichlorophenol	%	122			25-140	Pass	
2.4.5-Trichlorophenol	%	97			25-140	Pass	
2.4.6-Trichlorophenol	%	113			25-140	Pass	
2.6-Dichlorophenol	%	97			25-140	Pass	
4-Chloro-3-methylphenol	%	96			25-140	Pass	
Pentachlorophenol	%	81			25-140	Pass	
Tetrachlorophenols - Total	%	46			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	103			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	101			25-140	Pass	
2-Nitrophenol	%	108			25-140	Pass	
2.4-Dimethylphenol	%	31			25-140	Pass	
2.4-Dinitrophenol	%	84			25-140	Pass	
2-Methylphenol (o-Cresol)	%	74			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	66			25-140	Pass	
4-Nitrophenol	%	35			25-140	Pass	
Dinoseb	%	117			25-140	Pass	
Phenol	%	32			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	95			70-130	Pass	
Chloride	%	99			70-130	Pass	
Conductivity (at 25 °C)	%	102			70-130	Pass	
Cyanide (total)	%	84			70-130	Pass	
Cyanide (weak acid dissoc.)	%	101			70-130	Pass	
Sulphate (as SO4)	%	102			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	93			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Carbonate Alkalinity (as CaCO3)	%	72			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	100			80-120	Pass	
Magnesium	%	107			80-120	Pass	
Potassium	%	105			80-120	Pass	
Sodium	%	105			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	97			80-120	Pass	
Cadmium (filtered)	%	96			80-120	Pass	
Chromium (filtered)	%	102			80-120	Pass	
Copper (filtered)	%	97			80-120	Pass	
Lead (filtered)	%	95			80-120	Pass	
Manganese (filtered)	%	99			80-120	Pass	
Mercury (filtered)	%	106			80-120	Pass	
Nickel (filtered)	%	102			80-120	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	111			70-130	Pass	
TRH C6-C10	%	112			70-130	Pass	
Naphthalene	%	83			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	110			70-130	Pass	
Toluene	%	111			70-130	Pass	
Ethylbenzene	%	112			70-130	Pass	
m&p-Xylenes	%	114			70-130	Pass	
Xylenes - Total*	%	114			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	74			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	70			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	101			80-120	Pass	
Cadmium	%	100			80-120	Pass	
Chromium	%	103			80-120	Pass	
Copper	%	99			80-120	Pass	
Lead	%	99			80-120	Pass	
Mercury	%	97			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	99			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances- Trace				Result 1					
Perfluorooctane sulfonamide (FOSA)	M25-JI0027819	NCP	%	78			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-JI0027819	NCP	%	71			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-JI0027819	NCP	%	87			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-JI0027819	NCP	%	101			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-JI0027819	NCP	%	86			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-JI0027819	NCP	%	82			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-JI0027819	NCP	%	71			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1					
Perfluorobutanoic acid (PFBA)	M25-JI0027819	NCP	%	138			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M25-JI0027819	NCP	%	80			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M25-JI0027819	NCP	%	68			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-JI0027819	NCP	%	96			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M25-JI0027819	NCP	%	87			50-150	Pass	
Perfluorononanoic acid (PFNA)	M25-JI0027819	NCP	%	66			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M25-JI0027819	NCP	%	70			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-JI0027819	NCP	%	51			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-JI0027819	NCP	%	78			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-JI0027819	NCP	%	82			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-JI0027819	NCP	%	81			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M25-JI0027819	NCP	%	64			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-JI0027819	NCP	%	65			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-JI0027819	NCP	%	60			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-JI0027819	NCP	%	82			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-JI0027819	NCP	%	77			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-JI0027819	NCP	%	71			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M25-JI0027819	NCP	%	61			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-JI0027819	NCP	%	129			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-JI0027819	NCP	%	80			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-JI0027819	NCP	%	82			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-JI0027819	NCP	%	76			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-JI0027819	NCP	%	77			50-150	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-JI0015073	NCP	%	110			70-130	Pass	
TRH C10-C14	M25-JI0021796	NCP	%	93			70-130	Pass	
TRH C6-C10	M25-JI0015073	NCP	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	M25-Jl0021796	NCP	%	92			70-130	Pass	
Naphthalene	M25-Jl0015073	NCP	%	71			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-Jl0015073	NCP	%	112			70-130	Pass	
Toluene	M25-Jl0015073	NCP	%	113			70-130	Pass	
Ethylbenzene	M25-Jl0015073	NCP	%	113			70-130	Pass	
m&p-Xylenes	M25-Jl0015073	NCP	%	114			70-130	Pass	
o-Xylene	M25-Jl0015073	NCP	%	115			70-130	Pass	
Xylenes - Total*	M25-Jl0015073	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Dissolved Gases				Result 1					
Methane	B25-Jl0016196	NCP	%	95			70-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M25-Jl0014584	NCP	%	103			70-130	Pass	
Chloride	M25-Jl0021339	NCP	%	90			70-130	Pass	
Cyanide (total)	B25-Jl0010444	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M25-Jl0019199	CP	%	102			75-125	Pass	
Magnesium	M25-Jl0019199	CP	%	107			75-125	Pass	
Potassium	M25-Jl0019199	CP	%	103			75-125	Pass	
Sodium	M25-Jl0019199	CP	%	100			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M25-Jl0026323	NCP	%	98			75-125	Pass	
Cadmium (filtered)	M25-Jl0026323	NCP	%	101			75-125	Pass	
Chromium (filtered)	M25-Jl0026323	NCP	%	102			75-125	Pass	
Copper (filtered)	M25-Jl0026323	NCP	%	99			75-125	Pass	
Lead (filtered)	M25-Jl0026323	NCP	%	98			75-125	Pass	
Manganese (filtered)	M25-Jl0026323	NCP	%	81			75-125	Pass	
Mercury (filtered)	M25-Jl0026323	NCP	%	78			75-125	Pass	
Nickel (filtered)	M25-Jl0026323	NCP	%	99			75-125	Pass	
Zinc (filtered)	M25-Jl0026323	NCP	%	100			75-125	Pass	
Spike - % Recovery									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1					
TRH >C10-C16 (after silica gel clean-up)	M25-Jn0079254	NCP	%	106			70-130	Pass	
Spike - % Recovery									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1					
TRH C10-C14 (after silica gel clean-up)	M25-Jn0079254	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-Jl0019453	NCP	%	103			75-125	Pass	
Cadmium	M25-Jl0019453	NCP	%	104			75-125	Pass	
Chromium	M25-Jl0019453	NCP	%	105			75-125	Pass	
Copper	M25-Jl0019453	NCP	%	101			75-125	Pass	
Lead	M25-Jl0019453	NCP	%	101			75-125	Pass	
Mercury	M25-Jl0019453	NCP	%	105			75-125	Pass	
Nickel	M25-Jl0019453	NCP	%	103			75-125	Pass	
Zinc	M25-Jl0019453	NCP	%	104			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl sulfonamido substances- Trace				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	M25-JI0019440	NCP	ug/L	0.013	0.004	97	30%	Fail	Q15
Perfluorononanoic acid (PFNA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	M25-JI0027818	NCP	ug/L	0.001	0.001	12	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M25-JI0019440	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M25-JI0027818	NCP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M25-JI0027818	NCP	ug/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-JI0019453	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-JI0021759	NCP	mg/L	0.06	0.05	21	30%	Pass	
TRH C29-C36	M25-JI0021759	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-JI0019453	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-JI0021759	NCP	mg/L	0.11	0.09	21	30%	Pass	
Naphthalene	M25-JI0019453	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C34-C40	M25-JI0021759	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-JI0019453	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-JI0019453	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	B25-JI0016213	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-JI0022279	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M25-JI0022279	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M25-JI0022279	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M25-JI0022279	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M25-JI0022279	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M25-JI0022279	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M25-JI0022279	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M25-JI0022279	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M25-JI0022279	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M25-JI0022279	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M25-JI0022279	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M25-JI0022279	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M25-JI0022279	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M25-JI0022279	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M25-JI0022279	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
3&4-Methylphenol (m&p-Cresol)	M25-JI0022279	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M25-JI0022279	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M25-JI0022279	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M25-JI0022279	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M25-JI0014583	NCP	mg/L	0.05	0.05	10	30%	Pass	
Chloride	M25-JI0019199	CP	mg/L	8.9	9.1	2.0	30%	Pass	
Conductivity (at 25 °C)	M25-JI0021338	NCP	uS/cm	980	990	1.0	30%	Pass	
Cyanide (total)	M25-JI0010187	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Cyanide (weak acid dissoc.)	S25-JI0017947	NCP	mg/L	0.005	0.005	4.0	30%	Pass	
Sulphate (as SO4)	M25-JI0019199	CP	mg/L	< 5	< 5	<1	30%	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-JI0015170	NCP	mg/L	4700	4900	3.1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M25-JI0019199	CP	mg/L	51	51	1.0	30%	Pass	
Magnesium	M25-JI0019199	CP	mg/L	7.3	7.3	<1	30%	Pass	
Potassium	M25-JI0019199	CP	mg/L	5.4	5.3	3.0	30%	Pass	
Sodium	M25-JI0019199	CP	mg/L	12	12	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M25-JI0026323	NCP	mg/L	0.074	0.072	3.0	30%	Pass	
Cadmium (filtered)	M25-JI0026323	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M25-JI0026323	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M25-JI0026323	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M25-JI0026323	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M25-JI0026323	NCP	mg/L	0.19	0.19	3.0	30%	Pass	
Mercury (filtered)	M25-JI0026323	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M25-JI0026323	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	M25-JI0026323	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-JI0015207	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-JI0024227	NCP	mg/L	0.07	0.10	35	30%	Fail	Q15
Naphthalene	M25-JI0030499	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-JI0024227	NCP	mg/L	0.2	0.3	60	30%	Fail	Q15
TRH >C34-C40	M25-JI0024227	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-JI0030499	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-JI0030499	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-JI0030499	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-JI0015207	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-JI0015207	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-JI0030499	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH >C10-C16 (after silica gel clean-up)	B25-JI0005626	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C34-C40 (after silica gel clean-up)	B25-JI0005626	NCP	mg/L	0.7	0.9	22	30%	Pass	
Duplicate									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH C10-C14 (after silica gel clean-up)	B25-JI0005626	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C10	M25-JI0014577	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-JI0015075	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Naphthalene	M25-JI0014577	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH >C16-C34	M25-JI0015075	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M25-JI0015075	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-JI0014577	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-JI0014577	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-JI0014577	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-JI0014577	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-JI0014577	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-JI0014577	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M25-JI0019453	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M25-JI0019453	NCP	mg/L	< 0.001	0.001	4.0	30%	Pass	
Copper	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M25-JI0019453	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M25-JI0019453	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M25-JI0019453	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
A03	Exceeds instrument calibration range
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Jean Veilleuse	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-PFAS
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Forward TO ALS MELBOURNE

CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X	Custody Seal Intact? Yes No N/A
Melbourne, VIC 3008	Results email:		Free ice / frozen icebricks present upon receipt? Yes No N/A
PHONE NO: 9663 1234		1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 4.7°C
MOBILE NO: 0427 821 002		1 2 3 4 5 6 7 8	
PROJECT ID: 60603007 / 12	Quote Number:	250502ABCV	RELINQUISHED BY: Brendan Eurofins Hobart 26/6/2025 @ 10:29AM.
Project Manager: Robert Crowe	Project Name:	Macquarie Point	DATE/TIME:
SAMPLER: RB / EM / TO / LL	Data Format:	Esdat and PDF	RECEIVED BY: DATE/TIME:

NOTES:

Please use Project ID '60521836_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

					WATER										COMMENTS	
					SAMPLE CONTAINERS					ANALYSIS REQUEST						
					General Water Suite	General Water Suite + Blue Risk Suite	PFAS	Trip Blank		General Water Suite	Blue Risk Suite	PFAS	Trip Blank		Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
					9	3	1	1								
LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	1x 500mL Unpreserved, 1x 250mL Sulfuric Preserved, 1x 250mL Nitric Preserved, 1x 60mL Unpreserved, 1x 60mL Thiosulfate Preserved, 1x 60mL Ascorbic Preserved	In addition to General Water Suite Bottles: 1x 250mL Zero Headspace Amber - Filtered to 5µm, 2x 40mL Vials - Filtered to 5µm	1x 500mL PFAS bottle	1x 40mL Water Vial	TOTAL BOTTLES	TRH / BTEX / TPH / Phenols / Metals 8A, Cd, Cr, Cu, Ni, Pb, Zn, Hg / Cyanide (Total, Free) & WAD / Chloride / Nitrate as N / Ammonia	TRH / Aliphatic / Aromatic Speciation / OCP, OPP, PCB / Total Phenol / TRH (C6-C40) - on 0.45 µm field filtered sample / PAH - on 0.45 µm field filtered sample	PFAS: Full suite - 30 compounds, trace level	TRH (C6-C9) BTEXN	HOLD		
1	QC208	24/6/25		W	X		X		10	X		X			Please forward to ALS Melbourne	
2	QC209	24/6/25		W	X				8	X		X			Please forward to ALS Melbourne	

Report # 1237216 SB 26/6.

Environmental Division
Melbourne
Work Order Reference
EM2511596

Telephone : +61-3-8549 9600

RICHARD B AE2 AL
30/06/25 - 11:25

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2511596**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60321835_MacPoint	Page	: 1 of 3
Order number	: 60693007/12	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: RB		

Dates

Date Samples Received	: 30-Jun-2025 11:25	Issue Date	: 02-Jul-2025
Client Requested Due Date	: 09-Jul-2025	Scheduled Reporting Date	: **09-Jul-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 4.7°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Free CN by Segmented Flow Analyser : EK025SF		
QC208	- Clear Plastic Bottle - Natural	- Black Opaque Plastic Bottle - NaOH
QC209	- Clear Plastic Bottle - Natural	- Black Opaque Plastic Bottle - NaOH
Total Cyanide by Segmented Flow Analyser : EK026SF		
QC208	- Clear Plastic Bottle - Natural	- Black Opaque Plastic Bottle - NaOH
QC209	- Clear Plastic Bottle - Natural	- Black Opaque Plastic Bottle - NaOH
Weak Acid Dissociable Cyanide by Segmented Flow Analyser : EK028SF		
QC208	- Clear Plastic Bottle - Natural	- Black Opaque Plastic Bottle - NaOH
QC209	- Clear Plastic Bottle - Natural	- Black Opaque Plastic Bottle - NaOH

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - Cyanide Cyanide (Total, Free & WAD - WA)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG020F Dissolved Metals by ICP/MS	WATER - EP033 - Methane Methane in Water	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - W-02 8 Metals	WATER - W-24 TRH/BTEXN/PAH/Phenols
EM2511596-001	24-Jun-2025 00:00	QC208	✓	✓	✓	✓	✓	✓	✓
EM2511596-002	24-Jun-2025 00:00	QC209	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EP231X-LL PFAS - Full Suite (31 analytes) Low Level
EM2511596-001	24-Jun-2025 00:00	QC208	✓	✓
EM2511596-002	24-Jun-2025 00:00	QC209	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com
ESDAT+ AECOM-AU		
- EDI Format - ESDAT (ESDAT)	Email	esdat+aecom-au@esdatlabsync.net
RICHARD BOWERS		
- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com
ROBERT CROWE		
- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

CERTIFICATE OF ANALYSIS

Work Order	: **EM2511596**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60321835_MacPoint	Date Samples Received	: 30-Jun-2025 11:25
Order number	: 60693007/12	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 08-Jul-2025 14:26
Sampler	: RB		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- EP231X: Sample EM2511596_01 Poor matrix spike recovery due to matrix effects.
- EK028SF : EM2511596 #2 Poor matrix spike recovery for weak acid dissociable cyanide due to sample matrix. Confirmed by re-preparation and re-analysis.
- EP071,EPO75(SIM): ALS requires 100ml of sample to analyse water samples for standard, semi-volatile, organic parameters. Where larger volume bottles have been submitted 100ml of sample has been subsampled. Solvent rinsing of the sample bottle, which is part of ALS's normal procedure, cannot be conducted prior to extraction in these instances.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**1110**	**798**	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**1150**	**849**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**1150**	**849**	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**3**	**7**	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**37**	**19**	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**171**	**154**	----	----	----
Magnesium	7439-95-4	1	mg/L		**82**	**47**	----	----	----
Sodium	7440-23-5	1	mg/L		**76**	**61**	----	----	----
Potassium	7440-09-7	1	mg/L		**48**	**32**	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	**0.001**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.003**	**0.002**	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.475**	**1.00**	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EK025SF: Free CN by Segmented Flow Analyser - Continued									
Free Cyanide	----	0.004	mg/L		<0.004	<0.004	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.160**	**0.006**	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	<0.004	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**39.0**	**28.0**	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**24.1**	**17.6**	----	----	----
ø Total Cations	----	0.01	meq/L		**19.8**	**15.0**	----	----	----
ø Ionic Balance	----	0.01	%		**9.72**	**8.02**	----	----	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		**5860**	**3550**	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		**17.7**	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		**12.9**	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		**29.4**	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		**4.0**	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		**4.7**	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		**3.4**	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		**72.1**	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		**180**	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		**180**	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		**140**	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		**140**	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	----	----	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		**0.005**	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.005**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		**0.004**	----	----	----	----
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.002	µg/L		<0.002	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		**0.004**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		**0.005**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		**0.002**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		**0.007**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	----	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.032**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.009**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.032**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**31.6**	**34.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**82.1**	**91.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**86.9**	**81.1**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**80.0**	**86.8**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**80.8**	**82.2**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**81.7**	**86.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**102**	**102**	----	----	----
Toluene-D8	2037-26-5	2	%		**93.5**	**93.4**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC208	QC209	----	----	----
				Sampling date / time	24-Jun-2025 00:00	24-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2511596-001	EM2511596-002	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	2	%		**109**	**109**	**----**	**----**	**----**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**99.5**	**----**	**----**	**----**	**----**
13C8-PFOA	----	0.002	%		**98.4**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

QUALITY CONTROL REPORT

Work Order	: **EM2511596**	Page	: 1 of 13
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60321835_MacPoint	Date Samples Received	: 30-Jun-2025
Order number	: 60693007/12	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 08-Jul-2025
Sampler	: RB		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 6687990)									
EM2511357-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	22100	22700	2.7	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 6690401)									
EM2511596-002	QC209	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	849	850	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	849	850	0.0	0% - 20%
EM2511667-005	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	50	49	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	50	49	0.0	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 6689993)									
EM2511685-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	10800	10500	2.5	0% - 20%
EM2511596-001	QC208	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	3	3	0.0	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 6689994)									
EM2511680-008	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	70	69	0.0	0% - 20%
EM2511596-001	QC208	ED045G: Chloride	16887-00-6	1	mg/L	37	36	0.0	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 6691946)									
EM2511596-002	QC209	ED093F: Calcium	7440-70-2	1	mg/L	154	153	0.7	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	47	46	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	61	61	0.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	32	32	0.0	0% - 20%
EM2511667-008	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	12	12	0.0	0% - 50%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED093F: Dissolved Major Cations (QC Lot: 6691946) - continued									
EM2511667-008	Anonymous	ED093F: Magnesium	7439-95-4	1	mg/L	5	5	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	7	7	0.0	No Limit
		ED093F: Potassium	7440-09-7	1	mg/L	1	2	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 6691945)									
EM2511667-005	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.038	0.038	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EM2511412-012	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.003	0.002	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.011	0.012	0.0	0% - 50%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.075	0.074	0.0	0% - 50%
EG035F: Dissolved Mercury by FIMS (QC Lot: 6691944)									
EM2511704-007	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2511412-012	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 6687838)									
EM2511596-001	QC208	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6687835)									
EM2511621-003	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	0.006	0.006	0.0	No Limit
EM2511185-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 6687837)									
EM2511596-001	QC208	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 6696710)									
EM2511596-001	QC208	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	39.0	37.6	3.6	0% - 20%
EM2511701-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.05	0.05	0.0	No Limit
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 6697805)									
EB2523024-001	Anonymous	EP033: Methane	74-82-8	10	µg/L	11.8 mg/L	13200	11.0	0% - 20%
EM2511852-002	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6686266)									
EM2511621-004	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6690821)									
EM2511527-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	100	100	0.0	No Limit
EM2511621-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	180	180	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6686266)									
EM2511621-004	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6690821)									
EM2511527-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	100	90	0.0	No Limit
EM2511621-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	170	170	0.0	No Limit
EP080: BTEXN (QC Lot: 6690821)									
EM2511527-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2511621-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6700132)									
EM2511566-001	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.008	0.008	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6700132) - continued									
EM2511566-001	Anonymous	EP231X-LL: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6700132)									
EM2511566-001	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	0.005	0.005	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	0.006	0.004	53.1	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6700132)									
EM2511566-001	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6700132)									
EM2511566-001	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6700132) - continued									
EM2511566-001	Anonymous	EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 6700132)									
EM2511566-001	Anonymous	EP231X-LL: Sum of PFAS	----	0.002	µg/L	0.023	0.021	9.1	0% - 50%
		EP231X-LL: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L	0.012	0.012	0.0	No Limit
		EP231X-LL: Sum of PFAS (WA DER List)	----	0.002	µg/L	0.023	0.021	9.1	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 6687990)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	96.0	91.0	110
				<10	2330 mg/L	106	80.7	119
ED037P: Alkalinity by PC Titrator (QCLot: 6690401)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	105	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6689993)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	103	90.0	110
				<1	25 mg/L	107	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 6689994)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	102	90.0	110
				<1	10 mg/L	97.8	90.0	110
ED093F: Dissolved Major Cations (QCLot: 6691946)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	109	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	104	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	100	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	96.0	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 6691945)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	100	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	99.6	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.4	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.7	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.5	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	94.7	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.3	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	101	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 6691944)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	85.6	71.6	116
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6687838)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	96.3	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6687835)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	89.1	77.7	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6687837)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	105	82.6	119
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6696710)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	105	90.0	110
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 6697805)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	94.7	86.0	114
EP075(SIM)A: Phenolic Compounds (QCLot: 6686265)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	10 µg/L	38.5	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	10 µg/L	91.7	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	10 µg/L	82.6	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	20 µg/L	75.1	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	10 µg/L	108	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	10 µg/L	95.7	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	10 µg/L	104	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	10 µg/L	102	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	10 µg/L	98.8	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	10 µg/L	98.2	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	10 µg/L	104	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	20 µg/L	96.7	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6686265)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	10 µg/L	93.8	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	10 µg/L	103	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	10 µg/L	99.9	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	10 µg/L	101	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	10 µg/L	103	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	10 µg/L	98.3	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	10 µg/L	98.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	10 µg/L	98.6	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	10 µg/L	96.2	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	10 µg/L	91.3	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	10 µg/L	114	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	10 µg/L	108	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	10 µg/L	115	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	10 µg/L	109	54.4	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6686265) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	10 µg/L	109	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	10 µg/L	113	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6686266)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4421 µg/L	89.1	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15219 µg/L	93.4	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7904 µg/L	91.1	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6690821)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	103	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6686266)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6085 µg/L	90.5	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	20300 µg/L	92.3	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1456 µg/L	86.8	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6690821)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	103	66.2	132
EP080: BTEXN (QCLot: 6690821)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	103	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	96.1	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	107	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	112	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	114	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	105	68.3	131
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6700132)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	70.8	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.0222 µg/L	88.6	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.0235 µg/L	75.8	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.0228 µg/L	84.9	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.0238 µg/L	89.0	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.0232 µg/L	85.3	65.0	140
EP231X-LL: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.002	µg/L	<0.002	0.025 µg/L	88.6	69.0	127
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.0241 µg/L	87.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6700132)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	120	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	88.8	72.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Acceptable Limits (%)
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6700132) - continued								
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	86.0	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	83.1	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	81.7	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	83.2	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	75.1	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	88.8	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	91.6	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	75.6	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	81.0	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	92.4	70.0	130
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6700132)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	90.6	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	88.7	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	88.2	70.0	130
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	86.7	70.0	130
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	86.5	70.0	130
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	92.1	65.0	136
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	85.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6700132)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.0234 µg/L	89.4	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.0238 µg/L	85.5	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.024 µg/L	91.7	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.0242 µg/L	95.9	70.0	130
EP231P: PFAS Sums (QCLot: 6700132)								
EP231X-LL: Sum of PFAS	----	0.002	µg/L	<0.002	----	----	----	----
EP231X-LL: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.002	µg/L	<0.002	----	----	----	----
EP231X-LL: Sum of PFAS (WA DER List)	----	0.002	µg/L	<0.002	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6689993)							
EM2511596-002	QC209	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	97.4	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 6689994)							
EM2511596-002	QC209	ED045G: Chloride	16887-00-6	400 mg/L	111	70.0	142
EG020F: Dissolved Metals by ICP-MS (QCLot: 6691945)							
EM2511483-005	Anonymous	EG020A-F: Arsenic	7440-38-2	0.1 mg/L	99.3	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.025 mg/L	102	74.6	118
		EG020A-F: Chromium	7440-47-3	0.1 mg/L	102	71.0	135
		EG020A-F: Copper	7440-50-8	0.1 mg/L	102	76.0	130
		EG020A-F: Lead	7439-92-1	0.1 mg/L	99.3	75.0	133
		EG020A-F: Manganese	7439-96-5	0.1 mg/L	104	64.0	134
		EG020A-F: Nickel	7440-02-0	0.1 mg/L	99.6	73.0	131
		EG020A-F: Zinc	7440-66-6	0.1 mg/L	104	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 6691944)							
EM2511596-001	QC208	EG035F: Mercury	7439-97-6	0.01 mg/L	78.0	70.0	120
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6687838)							
EM2511596-002	QC209	EK025SF: Free Cyanide	----	0.2 mg/L	81.4	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6687835)							
EM2511185-002	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	84.9	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6687837)							
EM2511596-002	QC209	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	# 38.2	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6696710)							
EM2511596-002	QC209	EK055G: Ammonia as N	7664-41-7	1 mg/L	# Not Determined	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 6697805)							
EM2511596-001	QC208	EP033: Methane	74-82-8	28.48 µg/L	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6690821)							
EM2511621-002	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	84.6	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6690821)							
EM2511621-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	82.7	34.0	122
EP080: BTEXN (QCLot: 6690821)							
EM2511621-002	Anonymous	EP080: Benzene	71-43-2	20 µg/L	99.4	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	96.6	60.4	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6700132)							
EM2511596-001	QC208	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	# 44.7	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0222 µg/L	92.4	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0235 µg/L	74.6	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0228 µg/L	90.4	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0238 µg/L	94.0	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0232 µg/L	79.5	65.0	140
		EP231X-LL: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.025 µg/L	75.2	69.0	127
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0241 µg/L	73.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6700132)							
EM2511596-001	QC208	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	95.5	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	86.3	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	85.4	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	88.3	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	92.6	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	83.2	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	75.2	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	82.8	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	79.4	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	68.7	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	72.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	84.1	70.0	130
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6700132)							
EM2511596-001	QC208	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	83.8	67.0	137
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	77.3	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	80.7	70.0	130
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	78.4	70.0	130
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	77.0	70.0	130
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	70.3	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	# 57.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6700132)							
EM2511596-001	QC208	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0234 µg/L	93.3	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0238 µg/L	82.4	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.024 µg/L	84.2	67.0	138

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6700132) - continued							
EM2511596-001	QC208	EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0242 µg/L	# 67.8	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2511596**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60321835_MacPoint	Date Samples Received	: 30-Jun-2025
Site	: ----	Issue Date	: 08-Jul-2025
Sampler	: RB	No. of samples received	: 2
Order number	: 60693007/12	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK028SF: Weak Acid Dissociable CN by Segmented F	EM2511596--002	QC209	**Weak Acid Dissociable Cyanide**	----	38.2 %	70.0-130%	**Recovery less than lower data quality objective**
EK055G: Ammonia as N by Discrete Analyser	EM2511596--002	QC209	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP033: C1 - C4 Hydrocarbon Gases	EM2511596--001	QC208	**Methane**	74-82-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2511596--001	QC208	**Perfluoropropane sulfonic acid (PFPrS)**	423-41-6	44.7 %	70.0-130%	**Recovery less than lower data quality objective**
EP231C: Perfluoroalkyl Sulfonamides	EM2511596--001	QC208	**N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)**	2991-50-6	57.1 %	61.0-135%	**Recovery less than lower data quality objective**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2511596--001	QC208	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	67.8 %	70.0-130%	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK025SF: Free CN by Segmented Flow Analyser							
Clear Plastic Bottle - Natural							
QC208,	QC209	----	----	----	02-Jul-2025	25-Jun-2025	**7**
EK026SF: Total CN by Segmented Flow Analyser							
Clear Plastic Bottle - Natural							
QC208,	QC209	----	----	----	02-Jul-2025	25-Jun-2025	**7**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Clear Plastic Bottle - Natural							
QC208,	QC209	----	----	----	02-Jul-2025	25-Jun-2025	**7**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS) - Continued						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)		*Sample Date*	*Extraction / Preparation*			*Analysis*		
			Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Clear Plastic Bottle - Natural (EA015H)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**01-Jul-2025**	01-Jul-2025	✓
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**03-Jul-2025**	08-Jul-2025	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	22-Jul-2025	✓
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	22-Jul-2025	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	22-Jul-2025	✓
EG020F: Dissolved Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	21-Dec-2025	✓
EG035F: Dissolved Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**03-Jul-2025**	22-Jul-2025	✓
EK025SF: Free CN by Segmented Flow Analyser								
Clear Plastic Bottle - Natural (EK025SF)								
QC208,	QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	25-Jun-2025	×

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Clear Plastic Bottle - Natural (EK026SF)							
QC208, QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	25-Jun-2025	×
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Clear Plastic Bottle - Natural (EK028SF)							
QC208, QC209	**24-Jun-2025**	**----**	----	----	**02-Jul-2025**	25-Jun-2025	×
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
QC208, QC209	**24-Jun-2025**	**----**	----	----	**05-Jul-2025**	22-Jul-2025	✓
EP033: C1 - C4 Hydrocarbon Gases							
Clear glass VOC vial - HCl (EP033)							
QC208, QC209	**24-Jun-2025**	**----**	----	----	**04-Jul-2025**	08-Jul-2025	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC208, QC209	**24-Jun-2025**	**01-Jul-2025**	01-Jul-2025	✓	**02-Jul-2025**	10-Aug-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC208, QC209	**24-Jun-2025**	**01-Jul-2025**	01-Jul-2025	✓	**02-Jul-2025**	10-Aug-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC208, QC209	**24-Jun-2025**	**01-Jul-2025**	01-Jul-2025	✓	**03-Jul-2025**	10-Aug-2025	✓
Clear glass VOC vial - HCl (EP080)							
QC208, QC209	**24-Jun-2025**	**02-Jul-2025**	08-Jul-2025	✓	**02-Jul-2025**	08-Jul-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC208, QC209	**24-Jun-2025**	**01-Jul-2025**	01-Jul-2025	✓	**03-Jul-2025**	10-Aug-2025	✓
Clear glass VOC vial - HCl (EP080)							
QC208, QC209	**24-Jun-2025**	**02-Jul-2025**	08-Jul-2025	✓	**02-Jul-2025**	08-Jul-2025	✓
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080)							
QC208, QC209	**24-Jun-2025**	**02-Jul-2025**	08-Jul-2025	✓	**02-Jul-2025**	08-Jul-2025	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL)							
QC208	**24-Jun-2025**	**06-Jul-2025**	21-Dec-2025	✓	**06-Jul-2025**	21-Dec-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-LL)							
QC208	**24-Jun-2025**	**06-Jul-2025**	21-Dec-2025	✓	**06-Jul-2025**	21-Dec-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL)							
QC208	**24-Jun-2025**	**06-Jul-2025**	21-Dec-2025	✓	**06-Jul-2025**	21-Dec-2025	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL)							
QC208	**24-Jun-2025**	**06-Jul-2025**	21-Dec-2025	✓	**06-Jul-2025**	21-Dec-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL)							
QC208	**24-Jun-2025**	**06-Jul-2025**	21-Dec-2025	✓	**06-Jul-2025**	21-Dec-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	5	**40.00**	**7.50**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Ammonia as N by Discrete analyser	EK055G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

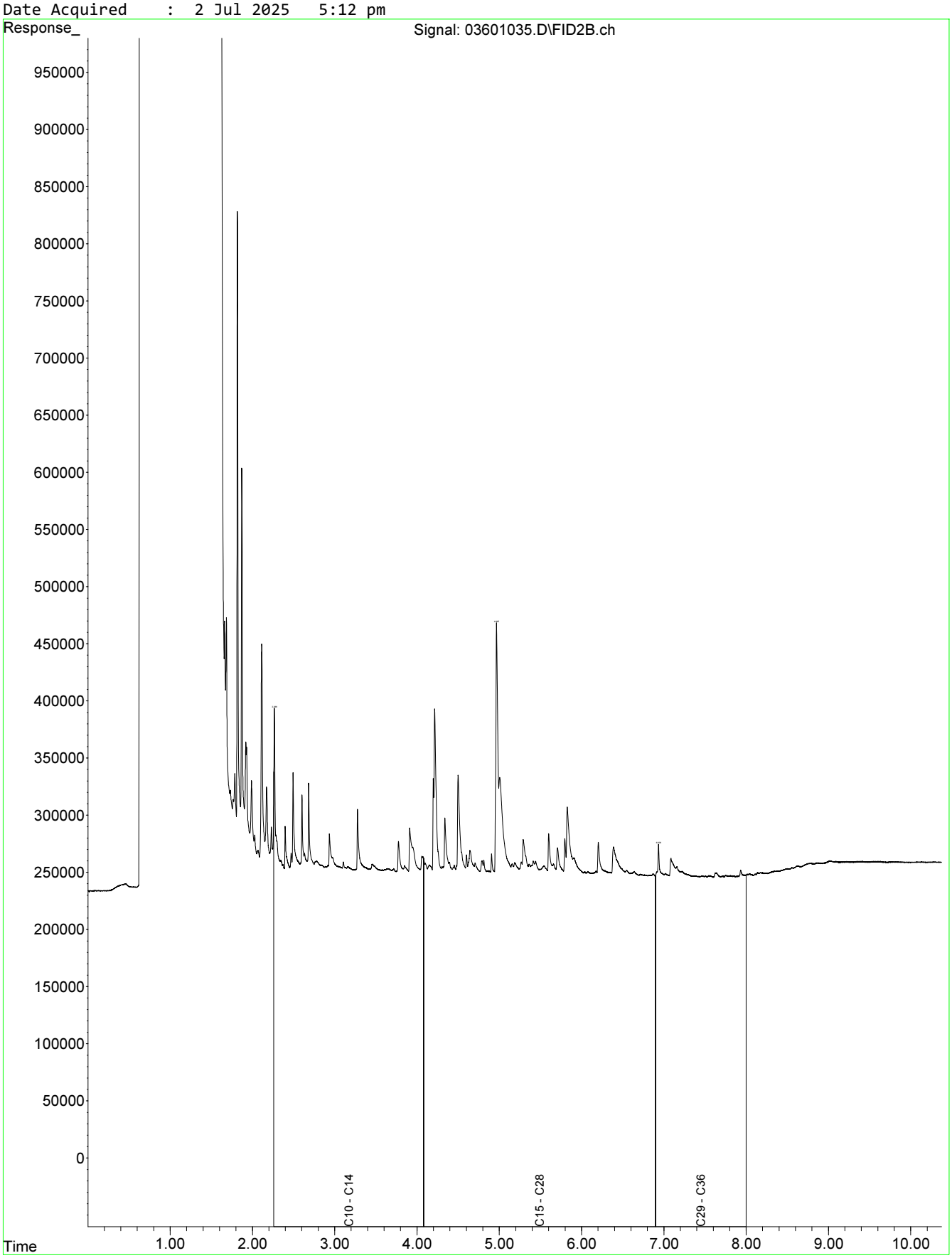
Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030E. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

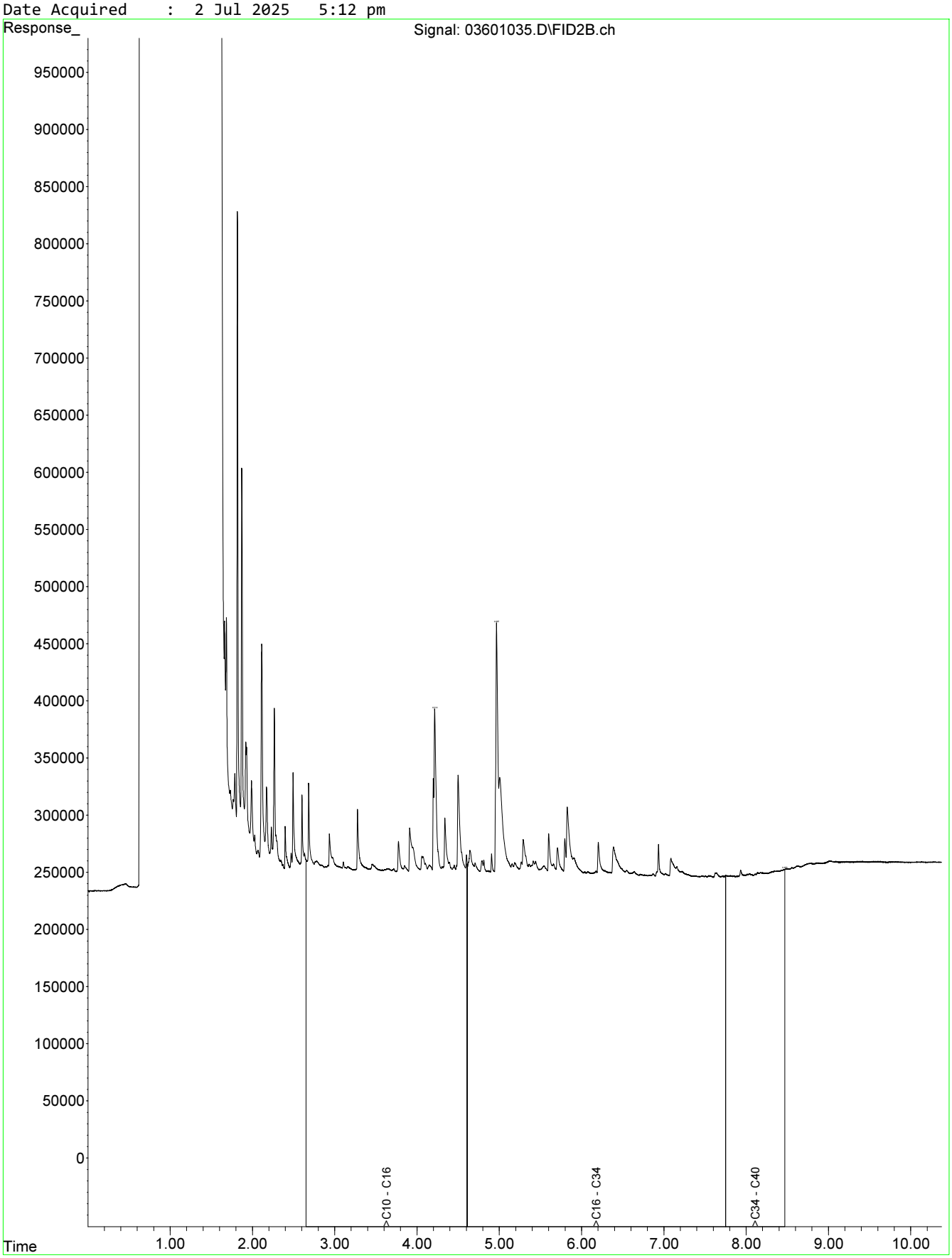
Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Fraction Scheme : Legacy
Data File : 03601035.D
Laboratory Number: EM2511596-001
Sample ID : QC208
Date Acquired : 2 Jul 2025 5:12 pm



Fraction Scheme : NEPM Fractions
Data File : 03601035.D
Laboratory Number: EM2511596-001
Sample ID : QC208
Date Acquired : 2 Jul 2025 5:12 pm



FORWARD TO ALS

CHAIN OF CUSTODY

CONSULTANT: AECOM	LABORATORY:	TURNAROUND REQUIREMENTS (mark Due date or 'X')	FOR LABORATORY USE ONLY (Circle)
Level 10, 727 Collins Street		Standard: X	Custody Seal Intact? Yes / No / (NA)
Melbourne, VIC 3008	Results email:		Free ice / frozen icebricks present upon receipt? (Yes) / No / N/A
PHONE NO: 9653 1234		1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 5.4C
MOBILE NO: 0427 821 002		1 2 3 4 5 6 7 8	RELINQUISHED BY: Brendon DATE/TIME: 4/7/25 @ 2:57pm
PROJECT ID: 60623007 / 12	Quote Number: 25/0823AECV		RECEIVED BY: Eurofins Hobart DATE/TIME:
Project Manager: Robert Crowe	Project Name: Macquarie Point		
SAMPLER: RB / EM / TG / LL	Data Format: Radat and PDF		

NOTES:

Please see Project ID '60321536_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

				WATER											
				SAMPLE CONTAINERS					ANALYSIS REQUEST						
				General Water Bottle	General Water Bottle + Non Risk Bottle	PFAS	Trip Blank								
				9	3	1	1								
LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S, W)	½ 1Lt, Inorganics ½ 250mL Non-Volatiles Amber ½ 40mL VOA ½ 40mL Cyanide/Oils ½ 60mL Preserved Organics	In addition to General Water Bottle Bottles: ½ 250mL Sand Volatile Amber - Filtered to 5µm ½ 125mL Clear - Filtered to 5µm	½ 500mL PFAS bottle	½ 40mL Water Vial	TOTAL BOTTLES	Metals (As, Cd, Cr, Ni, Pb, Zn, Hg) Cyanide (Total) Free & WAD Hardness as CaCO3 Sulfides	TRH F Bands / Aromatic Separation TRH (C6-C10) + btex (Full Filtered sample TRH (C6-C40) + btex (Full Filtered sample PAH - 16 + 8 (Full filtered sample	PFAS Full suite - 30 compounds, Trace level	TRIGGER (TRIGGER)	HOLD	COMMENTS Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
1 ✓	OC210	25/6/25		X				9	X						

Report #1240646 SB 4/7/25

Environmental Division
Melbourne
Work Order Reference
EM2512123

Telephone : +61-3-8549 9600

Received by NL 7/7 11-40

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2512123**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: robert.crowe@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60321835_MacPoint	Page	: 1 of 3
Order number	:	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: RB		

Dates

Date Samples Received	: 07-Jul-2025 11:40	Issue Date	: 07-Jul-2025
Client Requested Due Date	: 16-Jul-2025	Scheduled Reporting Date	: **16-Jul-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 7.1°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Free CN by Segmented Flow Analyser : EK025SF		
QC210	- Clear Plastic Bottle - NaOH	- Black Opaque Plastic Bottle - NaOH
Total Cyanide by Segmented Flow Analyser : EK026SF		
QC210	- Clear Plastic Bottle - NaOH	- Black Opaque Plastic Bottle - NaOH
Weak Acid Dissociable Cyanide by Segmented Flow Analyser : EK028SF		
QC210	- Clear Plastic Bottle - NaOH	- Black Opaque Plastic Bottle - NaOH

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - CN-FWT Cyanide-Free,WAD & Total	WATER - EG020F Dissolved Metals by ICP/MS	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EP033 - Methane Methane in Water	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - W-02 8 Metals	WATER - W-24 TRH/BTEXN/PAH/Phenols
EM2512123-001	25-Jun-2025 00:00	QC210	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA015H Total Dissolved Solids - Standard Level
EM2512123-001	25-Jun-2025 00:00	QC210	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EA015H: Total Dissolved Solids (High Level)							
QC210	Clear Plastic Bottle - Natural	----	02-Jul-2025	07-Jul-2025	×	----	----
EP071: TRH - Semivolatile Fraction							
QC210	Amber Glass Bottle - Unpreserve	02-Jul-2025	11-Aug-2025	07-Jul-2025	×	----	----
EP075(SIM): PAH/Phenols (GC/MS - SIM)							

QC210	Amber Glass Bottle - Unpreserve	02-Jul-2025	11-Aug-2025	07-Jul-2025	✘	----	----

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

ESDAT+ AECOM-AU

- EDI Format - ESDAT (ESDAT)	Email	esdat+aecom-au@esdatlabsync.net

RICHARD BOWERS

- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- A4 - AU Tax Invoice (INV)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com
- Purchase Order Request Letter (PO_Request)	Email	robert.crowe@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

CERTIFICATE OF ANALYSIS

Work Order	: **EM2512123**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60321835_MacPoint	Date Samples Received	: 07-Jul-2025 11:40
Order number	: 60321835_MacPoint	Date Analysis Commenced	: 08-Jul-2025
C-O-C number	: ----	Issue Date	: 11-Jul-2025 17:09
Sampler	: RB		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- EP071,EP075(SIM): ALS requires 100ml of sample to analyse water samples for standard, semi-volatile, organic parameters. Where larger volume bottles have been submitted 100ml of sample has been subsampled. Solvent rinsing of the sample bottle, which is part of ALS's normal procedure, cannot be conducted prior to extraction in these instances.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC210	----	----	----	----
				Sampling date / time	25-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512123-001	--------	--------	--------	--------
					Result	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**819**	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**570**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**570**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**111**	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**38**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**153**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**44**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**96**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**8**	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		**0.001**	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.001**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**1.44**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC210	----	----	----	----
				Sampling date / time	25-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512123-001	--------	--------	--------	--------
					Result	----	----	----	----
EK025SF: Free CN by Segmented Flow Analyser - Continued									
Free Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.076**	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.23**	----	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**14.8**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**15.6**	----	----	----	----
ø Ionic Balance	----	0.01	%		**2.84**	----	----	----	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		**59**	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	----	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	----	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	----	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	----	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	----	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	----	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	----	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC210	----	----	----	----
				Sampling date / time	25-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512123-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		**80**	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		**230**	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		**310**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC210	----	----	----	----
				Sampling date / time	25-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512123-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		**150**	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		**180**	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		**330**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		**150**	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**22.0**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**56.0**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**71.6**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**67.5**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**70.4**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**70.7**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**103**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**98.8**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC210	----	----	----	----
				Sampling date / time	25-Jun-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2512123-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	2	%		**110**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

QUALITY CONTROL REPORT

Work Order	: **EM2512123**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Contact	: Peter Ravlic
Address	: COLLINS SQUARE LEVEL 10, TOWER TWO 727 COLLINS STREET MELBOURNE VIC, AUSTRALIA 3004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 03 9653 1234	Telephone	: +6138549 9645
Project	: 60321835_MacPoint	Date Samples Received	: 07-Jul-2025
Order number	: 60321835_MacPoint	Date Analysis Commenced	: 08-Jul-2025
C-O-C number	: ----	Issue Date	: 11-Jul-2025
Sampler	: RB		
Site	: ----		
Quote number	: EN/004/23		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 6705015)									
EM2512083-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	3480	3600	3.4	0% - 20%
EM2511985-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	6550	5960	9.4	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 6703273)									
EM2512124-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	562	563	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	562	563	0.0	0% - 20%
EM2512080-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1	<1	0.0	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1	<1	0.0	No Limit
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 6704487)									
EM2512094-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	76	77	1.7	0% - 20%
EM2512016-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	2260	2240	1.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 6704491)									
EM2512111-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	1140	1140	0.4	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 6703525)									
EM2512095-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	41	40	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	37	36	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	5	5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED093F: Dissolved Major Cations (QC Lot: 6703525) - continued									
EM2512095-001	Anonymous	ED093F: Potassium	7440-09-7	1	mg/L	<1	<1	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 6703524)									
EM2512063-004	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 6703523)									
EM2512060-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2511685-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001 (0.0005)*	mg/L	0.0404	0.0414	2.3	0% - 20%
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 6703251)									
EM2512100-001	Anonymous	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6703249)									
EM2511913-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 6703250)									
EM2512100-001	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 6706381)									
EM2512148-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.14	0.12	14.9	0% - 50%
EM2512036-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.02	0.03	0.0	No Limit
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 6707226)									
EM2512123-001	QC210	EP033: Methane	74-82-8	10	µg/L	59	63	5.8	No Limit
ES2520723-010	Anonymous	EP033: Methane	74-82-8	10	µg/L	69	66	3.6	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6706477)									
EM2510977-019	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6706477)									
EM2510977-019	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 6706477)									
EM2510977-019	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 6706477) - continued									
EM2510977-019	Anonymous	EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 6705015)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	94.8	91.0	110
				<10	2330 mg/L	107	80.7	119
ED037P: Alkalinity by PC Titrator (QCLot: 6703273)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	111	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6704487)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	104	90.0	110
				<1	25 mg/L	105	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 6704491)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	102	90.0	110
				<1	10 mg/L	97.0	90.0	110
ED093F: Dissolved Major Cations (QCLot: 6703525)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	110	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	102	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	99.9	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 6703524)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.0	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.9	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	98.4	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	93.6	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.2	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	95.9	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.8	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	102	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 6703523)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	91.6	71.6	116
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6703251)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	92.1	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6703249)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	85.2	77.7	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6703250)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	95.3	82.6	119
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6706381)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	96.5	90.0	110
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 6707226)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	102	86.0	114
EP075(SIM)A: Phenolic Compounds (QCLot: 6703315)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	29.2	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	75.5	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	66.4	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	58.7	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	76.8	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	73.0	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	77.2	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	78.8	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	74.6	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	79.6	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	77.1	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	69.7	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6703315)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	74.5	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	79.3	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	80.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	83.5	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	88.6	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	88.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	91.7	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	92.1	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	91.8	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	94.4	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	91.0	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	94.8	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	91.3	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	91.9	54.4	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6703315) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	92.2	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	92.6	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6703314)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4421 µg/L	66.6	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15219 µg/L	71.8	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7904 µg/L	71.0	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6706477)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	95.7	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6703314)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6085 µg/L	67.5	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	20300 µg/L	71.6	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1456 µg/L	69.8	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6706477)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	93.3	66.2	132
EP080: BTEXN (QCLot: 6706477)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	95.4	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	98.6	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	97.1	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	98.2	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	97.8	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6704487)							
EM2512016-002	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	# Not Determined	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 6704491)							
EM2512117-001	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	# Not Determined	70.0	142

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG020F: Dissolved Metals by ICP-MS (QCLot: 6703524)							
EM2512063-004	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	106	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	110	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	114	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	108	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	109	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	115	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	111	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	114	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 6703523)							
EM2511928-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	93.5	70.0	120
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6703251)							
EM2512123-001	QC210	EK025SF: Free Cyanide	----	0.2 mg/L	90.4	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6703249)							
EM2512010-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	# Not Determined	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6703250)							
EM2512123-001	QC210	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	73.8	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6706381)							
EM2512048-001	Anonymous	EK055G: Ammonia as N	7664-41-7	100 mg/L	107	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 6707226)							
ES2520723-001	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6706477)							
EM2511743-008	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	74.3	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6706477)							
EM2511743-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	67.5	34.0	122
EP080: BTEXN (QCLot: 6706477)							
EM2511743-008	Anonymous	EP080: Benzene	71-43-2	20 µg/L	95.9	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	97.5	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2512123**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR ROBERT CROWE	Telephone	: +6138549 9645
Project	: 60321835_MacPoint	Date Samples Received	: 07-Jul-2025
Site	: ----	Issue Date	: 11-Jul-2025
Sampler	: RB	No. of samples received	: 1
Order number	: 60321835_MacPoint	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	EM2512016--002	Anonymous	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED045G: Chloride by Discrete Analyser	EM2512117--001	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK026SF: Total CN by Segmented Flow Analyser	EM2512010--001	Anonymous	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP033: C1 - C4 Hydrocarbon Gases	ES2520723--001	Anonymous	**Methane**	74-82-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA015: Total Dissolved Solids dried at 180 ± 5 °C						
Clear Plastic Bottle - Natural						
QC210	----	----	----	08-Jul-2025	02-Jul-2025	**6**
EP075(SIM)A: Phenolic Compounds						
Amber Glass Bottle - Unpreserved						
QC210	08-Jul-2025	02-Jul-2025	**6**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC210	08-Jul-2025	02-Jul-2025	**6**	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC210	08-Jul-2025	02-Jul-2025	**6**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Amber Glass Bottle - Unpreserved						
QC210	08-Jul-2025	02-Jul-2025	**6**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP) - Continued						
TRH - Semivolatile Fraction	EP071	0	6	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	6	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	02-Jul-2025	×
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	09-Jul-2025	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	23-Jul-2025	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	23-Jul-2025	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	23-Jul-2025	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	22-Dec-2025	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC210	**25-Jun-2025**	**----**	----	**----**	**09-Jul-2025**	23-Jul-2025	✓
EK025SF: Free CN by Segmented Flow Analyser							
Clear Plastic Bottle - NaOH (EK025SF)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	09-Jul-2025	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026SF: Total CN by Segmented Flow Analyser							
Clear Plastic Bottle - NaOH (EK026SF)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	09-Jul-2025	✓
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Clear Plastic Bottle - NaOH (EK028SF)							
QC210	**25-Jun-2025**	**----**	----	**----**	**08-Jul-2025**	09-Jul-2025	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
QC210	**25-Jun-2025**	**----**	----	**----**	**10-Jul-2025**	23-Jul-2025	✓
EP033: C1 - C4 Hydrocarbon Gases							
Clear glass VOC vial - HCl (EP033)							
QC210	**25-Jun-2025**	**----**	----	**----**	**09-Jul-2025**	09-Jul-2025	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC210	**25-Jun-2025**	**08-Jul-2025**	02-Jul-2025	×	**10-Jul-2025**	17-Aug-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC210	**25-Jun-2025**	**08-Jul-2025**	02-Jul-2025	×	**10-Jul-2025**	17-Aug-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC210	**25-Jun-2025**	**08-Jul-2025**	02-Jul-2025	×	**10-Jul-2025**	17-Aug-2025	✓
Clear glass VOC vial - HCl (EP080)							
QC210	**25-Jun-2025**	**09-Jul-2025**	09-Jul-2025	✓	**09-Jul-2025**	09-Jul-2025	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC210	**25-Jun-2025**	**08-Jul-2025**	02-Jul-2025	×	**10-Jul-2025**	17-Aug-2025	✓
Clear glass VOC vial - HCl (EP080)							
QC210	**25-Jun-2025**	**09-Jul-2025**	09-Jul-2025	✓	**09-Jul-2025**	09-Jul-2025	✓
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080)							
QC210	**25-Jun-2025**	**09-Jul-2025**	09-Jul-2025	✓	**09-Jul-2025**	09-Jul-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	6	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	4	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	17	**11.76**	**7.50**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Chloride by Discrete Analyser	ED045G	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	6	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

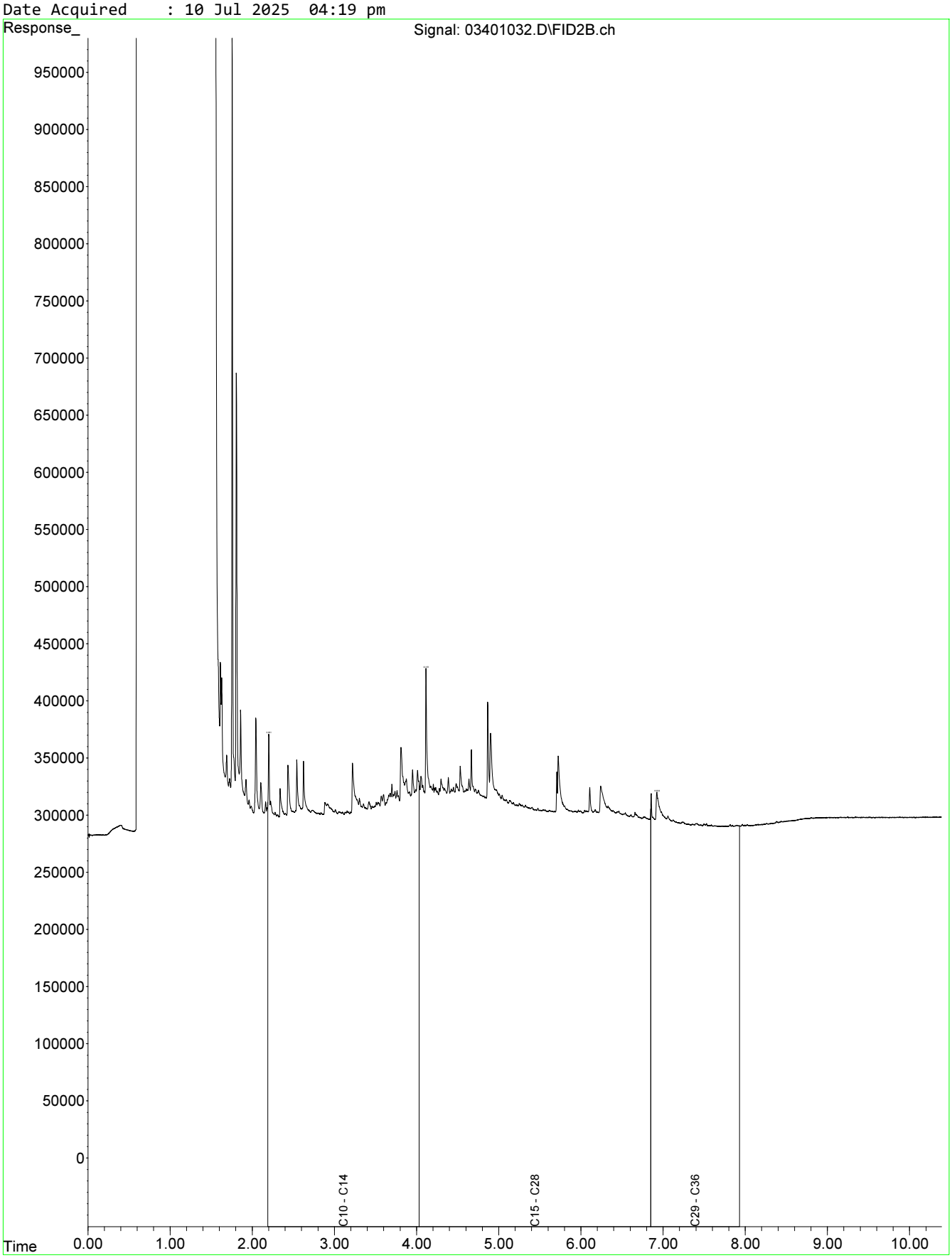
Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030E. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

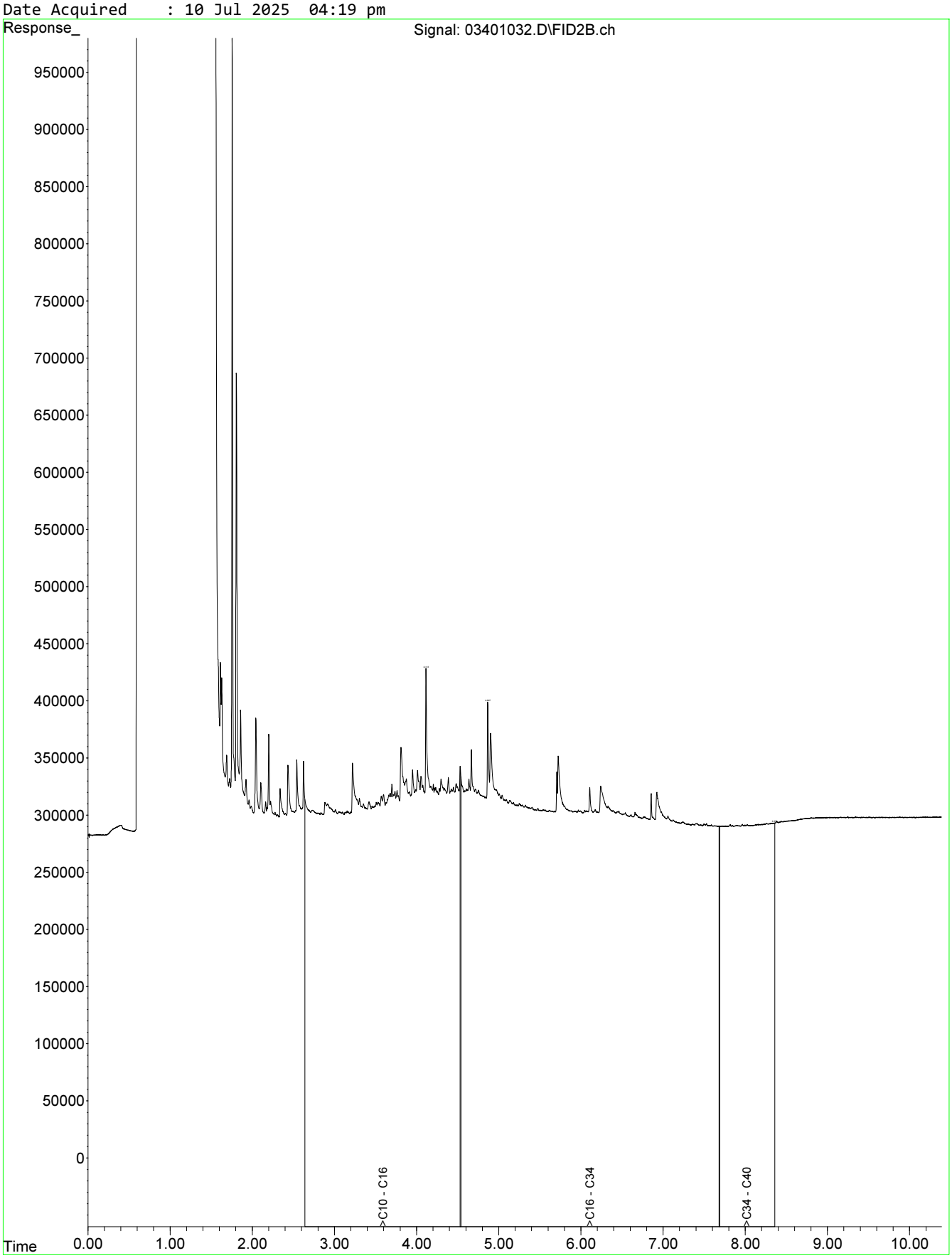
Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Fraction Scheme : Legacy
Data File : 03401032.D
Laboratory Number: EM2512123-001
Sample ID : QC210
Date Acquired : 10 Jul 2025 04:19 pm



Fraction Scheme : NEPM Fractions
Data File : 03401032.D
Laboratory Number: EM2512123-001
Sample ID : QC210
Date Acquired : 10 Jul 2025 04:19 pm



Received: 8/7, 11:40 Carrier:
C/note:
Temp: 7-9°C Seal: Y
Ice / Icebricks / NA

#1241421
LS 7/7

Environmental Division
Melbourne
Work Order Reference
EM2512174

Telephone : +61-3-8549 9600
AU 8/7

From: Bowers, Richard <Richard.Bowers@aecom.com>
Sent: Friday, 4 July 2025 7:16 PM
To: Harry Bacalis <harrybacalis@eurofins.com>
Cc: Crowe, Robert <Robert.Crowe@aecom.com>
Subject: Mac Point Lab Results - Batches 1234320, 1236601, 1234941 and 1231576

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of th replying, opening attachments or clicking links.

Hi Harry,

Thanks for providing all the soil and groundwater results provided to date from our Mac Point project in Hobart, Tasmania (Aecom job number 60693007). Could you please undertake the following actions as soon as you can, as indicated in the table below?

Batch	Medium	Sample Date	Requested Action
1234320	Water	17 June 2025	• Please analyse sample QC315 for PFAS Full Suite – 30 compounds, trace level
1236601	Water	23 June 2025	We note that additional samples QC107 And QC207 were received but not originally marked on the COC. These should both have a total of 13 bottles each as per the COC for samples marked for 'General Suite + Eco Suite' and 'PFAS' analysis, including 2 x VOC vials and 1 x 200mL amber labelled as 'filtered'. Please analyse additional sample QC107 for: • General Water Suite • Eco Risk Suite – conduct this on the 2 x VOC vials and 1 x 200mL amber labelled 'filtered' only • PFAS Full Suite – 30 compounds, trace level Please forward additional sample QC207 to ALS Springvale and request the same analysis as stated above for QC107
1234941	Soil	18-19 June 2025	• Results not yet received • Please update the sampled date of samples QC317 and QC417 to 18 June 2025. These were incorrectly dated 19 June 2025 on the original COC. • QC319 was requested for the 'General Suite + Gasworks Suite' analysis on the COC, and QC419 was requested for 'hold', however it is noted that these requests were around the opposite way on the Eurofins sample receipt summary, and we have therefore received results for QC419 instead of QC319 as originally requested. Can you please confirm if there was a typo on your end, and if the results received for QC419 are actually the results for QC319 as originally requested on the COC? If not, can you please urgently analyse QC319 as originally requested?
1231576	PASS	11 June 2025	• Results not yet received – can you please follow up

Note that the components of each analytical suite referred to in the table above is detailed in the original COC provided in each respective batch.

CHAIN OF CUSTODY

CONSULTANT: AECOM Level 10, 727 Collins Street Melbourne, VIC 3008	**LABORATORY:**	**TURNAROUND REQUIREMENTS** (mark Due date or 'X')	
		Standard	X
	Results email:		
PHONE NO: 9653 1234	[illegible]	1	2 3 4 5 6 7 8
MOBILE NO: 0427 821 002	robert.crowe@aecom.com, richard.bowers@aecom.com	1	2 3 4 5 6 7 8
PROJECT ID: 60693007 / 12	**Quote Number:**	250502AECV	
Project Manager: Robert Crowe	**Project Name:**	Macquarie Point	
SAMPLER: RB / EM / TG / LL	**Data Format:**	Esdat and PDF	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen icebricks present upon receipt?	Yes	No	N/A
Sample Temperature on Receipt			C

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME	DATE/TIME

NOTES:

Please use Project ID '60321835_MacPoint'

Please ensure all samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

WATER

LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	SAMPLE CONTAINERS: General Water Suite (9) — 1x 500mL Inorganics, 1x 200mL Semi-Volatiles Amber, 4x 40mL Vials, 1x 60mL Metals, 1x 60mL Cyanide/Cr6+, 1x 60mL Preserved Inorganics	SAMPLE CONTAINERS: General Water Suite + Eco Risk Suite (3) — In addition to General Water Suite Bottles: 1x 200mL Semi Volatile Amber - Filtered to 5µm, 2x 40mL Vials - Filtered to 5µm	SAMPLE CONTAINERS: PFAS (1) — 1x 500mL PFAS bottle	SAMPLE CONTAINERS: Trip Blank (1) — 1x 40mL Water Vial	TOTAL BOTTLES	ANALYSIS REQUEST: General Water Suite — TRH / BTEXN / PAH / Phenols, 8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), Manganese, Calcium/Anions #3 (incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane	ANALYSIS REQUEST: Eco Risk Suite — TRH Aliphatic / Aromatic Speciation, TRH (C6-C40 (silica gel cleanup), TRH (C6-C40) - on 1 µm field filtered sample, PAH - on 1 µm field filtered sample	ANALYSIS REQUEST: PFAS — PFAS Full suite - 30 compounds, low level	ANALYSIS REQUEST: Trip Blank — TRH(C6-C9) BTEXN	HOLD	COMMENTS: Additional Information	COMMENTS: Comments on likely contamination, dilutions, samples for QC analysis, specific preparation etc
	QC207	23/6/25		W	X	X	X		13	X	X	X			Please report Eco Risk analysis on filtered QC207 samples as "QC207_FILTERED"	

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2512174**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: richard.bowers@aecom.com	E-mail	: peter.ravlic@alsglobal.com
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Facsimile	: +61 03 9654 7117	Facsimile	: +61-3-8549 9626
Project	: 60693007/12_MacPoint	Page	: 1 of 3
Order number	: 60693007/12	Quote number	: EP2023AECOMAU0010 (EN/004/23)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Hobart		
Sampler	: RB/EM/TG/LL		

Dates

Date Samples Received	: 08-Jul-2025 11:40	Issue Date	: 08-Jul-2025
Client Requested Due Date	: 15-Jul-2025	Scheduled Reporting Date	: **15-Jul-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 7.9 - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - CN-FWT Cyanide-Free,WAD & Total	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EP033 - Methane Methane in Water	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - W-02 8 Metals	WATER - W-24 TRH/BTEXN/PAH/Phenols
EM2512174-001	23-Jun-2025 00:00	QC207	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP075 SIM PAH only SIM - PAH only	WATER - EP231X-INJ PFAS - Full Suite (31 analytes)	WATER - TPH SG TRH (C6-C40) Silica Gel Cleanup
EM2512174-001	23-Jun-2025 00:00	QC207		✓	
EM2512174-002	23-Jun-2025 00:00	QC207_FILTERED	✓		✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
ED037-P: Alkalinity by Auto Titrator							
QC207	Clear Plastic Bottle - Natural	----	07-Jul-2025	08-Jul-2025	×	----	----
EK025SF: Free CN by Segmented Flow Analyser							
QC207	Opaque plastic bottle - NaOH	----	07-Jul-2025	08-Jul-2025	×	----	----
EK026SF: Total Cyanide by Segmented Flow Analyser							
QC207	Opaque plastic bottle - NaOH	----	07-Jul-2025	08-Jul-2025	×	----	----
EK028SF: Weak Acid Dissociable Cyanide by Segmented Flow Analyser							
QC207	Opaque plastic bottle - NaOH	----	07-Jul-2025	08-Jul-2025	×	----	----
EP033: C1 - C4 Gases							
QC207	Amber VOC Vial - HCl	----	07-Jul-2025	08-Jul-2025	×	----	----
EP071: TRH - Semivolatile Fraction							

QC207	Amber Glass Bottle - Unpreserve	30-Jun-2025	09-Aug-2025	08-Jul-2025	✘	----	----
EP071SG: TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup							
QC207_FILTERED	Amber Glass Bottle - Unpreserve	30-Jun-2025	09-Aug-2025	08-Jul-2025	✘	----	----
EP075(SIM): PAH/Phenols (GC/MS - SIM)							
QC207_FILTERED	Amber Glass Bottle - Unpreserve	30-Jun-2025	09-Aug-2025	08-Jul-2025	✘	----	----
QC207	Amber Glass Bottle - Unpreserve	30-Jun-2025	09-Aug-2025	08-Jul-2025	✘	----	----
EP080: TRH Volatiles/BTEX							
QC207_FILTERED	Amber VOC Vial - HCl	07-Jul-2025	07-Jul-2025	08-Jul-2025	✘	----	----
QC207	Amber VOC Vial - HCl	07-Jul-2025	07-Jul-2025	08-Jul-2025	✘	----	----

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

RICHARD BOWERS

- *AU Certificate of Analysis - NATA (COA)	Email	richard.bowers@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.bowers@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.bowers@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richard.bowers@aecom.com
- A4 - AU Tax Invoice (INV)	Email	richard.bowers@aecom.com
- Chain of Custody (CoC) (COC)	Email	richard.bowers@aecom.com
- Chromatogram (CHROM)	Email	richard.bowers@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	richard.bowers@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.bowers@aecom.com

ROBERT CROWE

- *AU Certificate of Analysis - NATA (COA)	Email	robert.crowe@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	robert.crowe@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	robert.crowe@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	robert.crowe@aecom.com
- Chain of Custody (CoC) (COC)	Email	robert.crowe@aecom.com
- Chromatogram (CHROM)	Email	robert.crowe@aecom.com
- EDI Format - AECOM_EQEDD_V2 (AECOM_EQEDD_V2)	Email	robert.crowe@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	robert.crowe@aecom.com

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

CERTIFICATE OF ANALYSIS

Work Order	: **EM2512174**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/12_MacPoint	Date Samples Received	: 08-Jul-2025 11:40
Order number	: 60693007/12	Date Analysis Commenced	: 08-Jul-2025
C-O-C number	: ----	Issue Date	: 11-Jul-2025 22:50
Sampler	: RB/EM/TG/LL		
Site	: Hobart		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- EP071/EP071SG/EP075(SIM): ALS requires 100ml of sample to analyse water samples for standard, semi-volatile, organic parameters. Where larger volume bottles have been submitted 100ml of sample has been subsampled. Solvent rinsing of the sample bottle, which is part of ALS's normal procedure, cannot be conducted prior to extraction in these instances.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231X-INJ: The direct injection LCMSMS method may be used where the sample matrix is not suitable for Solid Phase Extraction (e.g. significant particulate load) or where only a single sample container is received.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		**217**	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**193**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**193**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		<1	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		**9**	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		**55**	----	----	----	----
Magnesium	7439-95-4	1	mg/L		**7**	----	----	----	----
Sodium	7440-23-5	1	mg/L		**10**	----	----	----	----
Potassium	7440-09-7	1	mg/L		**5**	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		**0.002**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.410**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EK025SF: Free CN by Segmented Flow Analyser - Continued									
Free Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.011**	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**2.55**	----	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**4.11**	----	----	----	----
ø Total Cations	----	0.01	meq/L		**3.88**	----	----	----	----
ø Ionic Balance	----	0.01	%		**2.83**	----	----	----	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		**3270**	----	----	----	----
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup									
C10 - C14 Fraction	----	50	µg/L		----	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	<50	----	----	----
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup									
>C10 - C16 Fraction	----	100	µg/L		----	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	<100	----	----	----
>C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	<100	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	----	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	----	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	----	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	----	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	----	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	----	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		**440**	**350**	----	----	----
C10 - C14 Fraction	----	50	µg/L		**260**	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		**180**	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		**440**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		**490**	**400**	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		**490**	**400**	----	----	----
>C10 - C16 Fraction	----	100	µg/L		**240**	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		**140**	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		**380**	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		**240**	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		<0.02	----	----	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.01**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.30**	----	----	----	----
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L		<0.10	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.33**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.31**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.33**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**34.6**	**34.0**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**87.6**	**81.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**72.6**	**80.2**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC207	QC207_FILTERED	----	----	----
				Sampling date / time	23-Jun-2025 00:00	23-Jun-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2512174-001	EM2512174-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**70.8**	**65.9**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%		**80.6**	**79.9**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**74.0**	**73.3**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**92.7**	**88.2**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%		**99.6**	**92.6**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**107**	**103**	**----**	**----**	**----**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**130**	**----**	**----**	**----**	**----**
13C8-PFOA	----	0.02	%		**112**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EP033: C1 - C4 Hydrocarbon Gases

QUALITY CONTROL REPORT

Work Order	: **EM2512174**	Page	: 1 of 12
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Contact	: Peter Ravlic
Address	: SUITE 6 13-17 CASTRAY ESPLANADE HOBART 7004	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 03 9653 1234	Telephone	: +6138549 9645
Project	: 60693007/12_MacPoint	Date Samples Received	: 08-Jul-2025
Order number	: 60693007/12	Date Analysis Commenced	: 08-Jul-2025
C-O-C number	: ----	Issue Date	: 11-Jul-2025
Sampler	: RB/EM/TG/LL		
Site	: Hobart		
Quote number	: EN/004/23		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 6705704)									
EM2512147-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	184	184	0.0	0% - 50%
ED037P: Alkalinity by PC Titrator (QC Lot: 6706967)									
EM2512168-035	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	608	606	0.3	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	608	606	0.3	0% - 20%
EM2512168-017	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1510	1520	1.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1510	1520	1.0	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 6706359)									
EM2512142-005	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	<1	0.0	No Limit
EM2512080-003	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	235	240	2.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 6706360)									
EM2512142-004	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	9	9	0.0	No Limit
EM2512080-003	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	6	6	0.0	No Limit
ED093F: Dissolved Major Cations (QC Lot: 6707742)									
EM2512081-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	32	33	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	15	16	0.0	0% - 50%
		ED093F: Sodium	7440-23-5	1	mg/L	219	230	5.0	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED093F: Dissolved Major Cations (QC Lot: 6707742) - continued									
EM2512081-002	Anonymous	ED093F: Potassium	7440-09-7	1	mg/L	41	44	5.9	0% - 20%
EM2512159-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	87	87	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	99	101	1.5	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	1080	1080	0.1	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	16	16	0.0	0% - 50%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 6707745)									
EM2512094-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001 (0.0010)*	mg/L	<0.0010	<0.0010	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.024	0.024	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.028	0.027	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 6707746)									
EM2512114-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 6707539)									
EM2512174-001	QC207	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6707536)									
EM2512065-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 6707538)									
EM2512174-001	QC207	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 6706378)									
EM2511833-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.52	0.53	2.4	0% - 20%
EM2512063-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	23.5	24.2	2.9	0% - 20%
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 6710839)									
EP2510847-006	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EP2510847-011	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6706477)									
EM2510977-019	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6706477)									
EM2510977-019	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 6706477)									
EM2510977-019	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 6706477) - continued									
EM2510977-019	Anonymous	EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6711365)									
EM2511869-001	Anonymous	EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	0.08	0.0	No Limit
		EP231X-INJ: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6711365)									
EM2511869-001	Anonymous	EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.10	<0.10	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6711365)									
EM2511869-001	Anonymous	EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6711365) - continued									
EM2511869-001	Anonymous	EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6711365)									
EM2511869-001	Anonymous	EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 6711365)									
EM2511869-001	Anonymous	EP231X-INJ: Sum of PFAS	----	0.01	µg/L	0.17	0.18	5.7	0% - 50%
		EP231X-INJ: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	0.12	8.7	0% - 50%
		EP231X-INJ: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.12	0.13	8.0	0% - 50%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 6705704)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	97.6	91.0	110
				<10	2330 mg/L	118	80.7	119
ED037P: Alkalinity by PC Titrator (QCLot: 6706967)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	108	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6706359)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	108	90.0	110
				<1	25 mg/L	110	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 6706360)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	104	90.0	110
				<1	10 mg/L	99.1	90.0	110
ED093F: Dissolved Major Cations (QCLot: 6707742)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	110	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	93.4	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	91.1	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	89.2	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 6707745)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	103	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	93.3	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.2	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	99.6	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	100	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	96.7	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	101	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	106	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 6707746)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	109	71.6	116
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6707539)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	97.2	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6707536)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	89.8	77.7	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6707538)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	103	82.6	119
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6706378)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	96.0	90.0	110
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 6710839)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	99.8	86.0	114
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup (QCLot: 6706171)								
EP071SG: C10 - C14 Fraction	----	50	µg/L	<50	4840 µg/L	55.7	38.6	119
EP071SG: C15 - C28 Fraction	----	100	µg/L	<100	15400 µg/L	72.2	36.8	130
EP071SG: C29 - C36 Fraction	----	50	µg/L	<50	8450 µg/L	65.1	53.1	128
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup (QCLot: 6706171)								
EP071SG: >C10 - C16 Fraction	----	100	µg/L	<100	6590 µg/L	59.9	49.0	132
EP071SG: >C16 - C34 Fraction	----	100	µg/L	<100	20400 µg/L	71.0	59.0	134
EP071SG: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	71.7	52.6	102
EP075(SIM)A: Phenolic Compounds (QCLot: 6706169)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	50.1	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	88.1	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	87.2	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	81.1	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	83.3	34.4	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	87.1	44.4	112
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	86.7	45.3	115
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	85.4	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	87.0	46.6	117
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	85.6	38.2	122
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	87.1	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	48.3	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6706169)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	87.6	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	87.9	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	90.9	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	92.8	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	94.4	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	94.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	95.6	50.3	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6706169) - continued								
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	98.5	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	93.2	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	96.0	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	97.4	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	96.8	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	95.3	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	97.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	96.9	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	98.2	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6706170)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4421 µg/L	76.4	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15219 µg/L	80.2	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7904 µg/L	78.8	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6706477)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	95.7	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6706170)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6085 µg/L	76.5	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	20300 µg/L	79.8	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1456 µg/L	80.7	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6706477)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	93.3	66.2	132
EP080: BTEXN (QCLot: 6706477)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	95.4	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	101	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	98.6	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	97.1	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	98.2	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	97.8	68.3	131
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6711365)								
EP231X-INJ: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L	<0.02	0.5 µg/L	97.4	70.0	130
EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.444 µg/L	98.2	72.0	130
EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.471 µg/L	100	71.0	127
EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.457 µg/L	95.8	68.0	131

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6711365) - continued								
EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.477 µg/L	88.3	69.0	134
EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.465 µg/L	103	65.0	140
EP231X-INJ: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L	<0.02	0.5 µg/L	100	69.0	127
EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.482 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6711365)								
EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.10	2.5 µg/L	94.9	73.0	129
EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.5 µg/L	97.2	72.0	129
EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.5 µg/L	97.4	72.0	129
EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.5 µg/L	101	72.0	130
EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.5 µg/L	89.9	71.0	133
EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.5 µg/L	102	69.0	130
EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.5 µg/L	91.5	71.0	129
EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.5 µg/L	96.2	69.0	133
EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.5 µg/L	89.8	72.0	134
EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.5 µg/L	110	65.0	144
EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	1.25 µg/L	98.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6711365)								
EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.5 µg/L	96.0	67.0	137
EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	1.25 µg/L	103	68.0	141
EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	1.25 µg/L	93.4	70.0	130
EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	1.25 µg/L	98.2	70.0	130
EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	1.25 µg/L	103	70.0	130
EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.5 µg/L	108	65.0	136
EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.5 µg/L	97.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6711365)								
EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.469 µg/L	96.8	63.0	143
EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.476 µg/L	99.1	64.0	140
EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.48 µg/L	98.5	67.0	138
EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.483 µg/L	103	70.0	130
EP231P: PFAS Sums (QCLot: 6711365)								
EP231X-INJ: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231P: PFAS Sums (QCLot: 6711365) - continued								
EP231X-INJ: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X-INJ: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6706359)							
EM2512080-002	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	# Not Determined	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 6706360)							
EM2512080-002	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	116	70.0	142
EG020F: Dissolved Metals by ICP-MS (QCLot: 6707745)							
EM2512094-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	104	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	95.9	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	99.2	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	101	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	98.9	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	99.4	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	102	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	108	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 6707746)							
EM2512105-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	104	70.0	120
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6707536)							
EM2512065-002	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	84.2	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6706378)							
EM2511833-002	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	92.1	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 6710839)							
EP2510847-007	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	94.9	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6706477)							
EM2511743-008	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	74.3	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6706477)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6706477) - continued							
EM2511743-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	67.5	34.0	122
EP080: BTEXN (QCLot: 6706477)							
EM2511743-008	Anonymous	EP080: Benzene	71-43-2	20 µg/L	95.9	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	97.5	60.4	132
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6711365)							
EM2512174-001	QC207	EP231X-INJ: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.5 µg/L	71.9	70.0	130
		EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.444 µg/L	110	72.0	130
		EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.471 µg/L	81.1	71.0	127
		EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.457 µg/L	89.1	68.0	131
		EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.477 µg/L	93.6	69.0	134
		EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.465 µg/L	94.1	65.0	140
		EP231X-INJ: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.5 µg/L	121	69.0	127
		EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.482 µg/L	142	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6711365)							
EM2512174-001	QC207	EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	2.5 µg/L	74.9	73.0	129
		EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.5 µg/L	97.6	72.0	129
		EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.5 µg/L	104	72.0	129
		EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.5 µg/L	102	72.0	130
		EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.5 µg/L	92.8	71.0	133
		EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.5 µg/L	88.9	69.0	130
		EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.5 µg/L	93.7	71.0	129
		EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.5 µg/L	99.8	69.0	133
		EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.5 µg/L	96.9	72.0	134
		EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.5 µg/L	120	65.0	144
		EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	1.25 µg/L	108	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6711365)							
EM2512174-001	QC207	EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.5 µg/L	105	67.0	137
		EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	1.25 µg/L	105	68.0	141
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	1.25 µg/L	95.3	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	1.25 µg/L	105	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	1.25 µg/L	106	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.5 µg/L	108	65.0	136

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6711365) - continued							
EM2512174-001	QC207	EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.5 µg/L	95.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6711365)							
EM2512174-001	QC207	EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.469 µg/L	107	63.0	143
		EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.476 µg/L	114	64.0	140
		EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.48 µg/L	99.8	67.0	138
		EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.483 µg/L	93.0	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2512174**	Page	: 1 of 10
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR RICHARD BOWERS	Telephone	: +6138549 9645
Project	: 60693007/12_MacPoint	Date Samples Received	: 08-Jul-2025
Site	: Hobart	Issue Date	: 11-Jul-2025
Sampler	: RB/EM/TG/LL	No. of samples received	: 2
Order number	: 60693007/12	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	EM2512080--002	Anonymous	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA015: Total Dissolved Solids dried at 180 ± 5 °C						
Clear Plastic Bottle - Natural						
QC207	----	----	----	08-Jul-2025	30-Jun-2025	**8**
ED037P: Alkalinity by PC Titrator						
Clear Plastic Bottle - Natural						
QC207	----	----	----	10-Jul-2025	07-Jul-2025	**3**
EK025SF: Free CN by Segmented Flow Analyser						
Opaque plastic bottle - NaOH						
QC207	----	----	----	10-Jul-2025	07-Jul-2025	**3**
EK026SF: Total CN by Segmented Flow Analyser						
Opaque plastic bottle - NaOH						
QC207	----	----	----	10-Jul-2025	07-Jul-2025	**3**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser						
Opaque plastic bottle - NaOH						
QC207	----	----	----	10-Jul-2025	07-Jul-2025	**3**
EP033: C1 - C4 Hydrocarbon Gases						
Amber VOC Vial - HCl						
QC207	----	----	----	10-Jul-2025	07-Jul-2025	**3**
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup						
Amber Glass Bottle - Unpreserved						
QC207_FILTERED	09-Jul-2025	30-Jun-2025	**9**	----	----	----
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup						
Amber Glass Bottle - Unpreserved						
QC207_FILTERED	09-Jul-2025	30-Jun-2025	**9**	----	----	----
EP075(SIM)A: Phenolic Compounds						
Amber Glass Bottle - Unpreserved						
QC207	09-Jul-2025	30-Jun-2025	**9**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC207, QC207_FILTERED	09-Jul-2025	30-Jun-2025	**9**	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC207		09-Jul-2025	30-Jun-2025	**9**	----	----	----
Amber VOC Vial - HCl							
QC207,	QC207_FILTERED	09-Jul-2025	07-Jul-2025	**2**	09-Jul-2025	07-Jul-2025	**2**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved							
QC207		09-Jul-2025	30-Jun-2025	**9**	----	----	----
Amber VOC Vial - HCl							
QC207,	QC207_FILTERED	09-Jul-2025	07-Jul-2025	**2**	09-Jul-2025	07-Jul-2025	**2**
EP080: BTEXN							
Amber VOC Vial - HCl							
QC207,	QC207_FILTERED	09-Jul-2025	07-Jul-2025	**2**	09-Jul-2025	07-Jul-2025	**2**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Analytical Methods	Method	Count		Rate (%)		Quality Control Specification
		QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	12	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Free CN by Segmented Flow Analyser	EK025SF	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	12	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H)							
QC207	23-Jun-2025	----	----	----	08-Jul-2025	30-Jun-2025	×
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	07-Jul-2025	×
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
QC207	23-Jun-2025	----	----	----	09-Jul-2025	21-Jul-2025	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
QC207	23-Jun-2025	----	----	----	09-Jul-2025	21-Jul-2025	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
QC207	23-Jun-2025	----	----	----	09-Jul-2025	21-Jul-2025	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC207	23-Jun-2025	----	----	----	09-Jul-2025	20-Dec-2025	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	21-Jul-2025	✓
EK025SF: Free CN by Segmented Flow Analyser							
Opaque plastic bottle - NaOH (EK025SF)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	07-Jul-2025	×
EK026SF: Total CN by Segmented Flow Analyser							
Opaque plastic bottle - NaOH (EK026SF)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	07-Jul-2025	×
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Opaque plastic bottle - NaOH (EK028SF)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	07-Jul-2025	×
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	21-Jul-2025	✓
EP033: C1 - C4 Hydrocarbon Gases							
Amber VOC Vial - HCl (EP033)							
QC207	23-Jun-2025	----	----	----	10-Jul-2025	07-Jul-2025	×
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup							
Amber Glass Bottle - Unpreserved (EP071SG)							
QC207_FILTERED	23-Jun-2025	09-Jul-2025	30-Jun-2025	×	11-Jul-2025	18-Aug-2025	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup							
Amber Glass Bottle - Unpreserved (EP071SG)							
QC207_FILTERED	**23-Jun-2025**	**09-Jul-2025**	30-Jun-2025	×	**11-Jul-2025**	18-Aug-2025	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC207	**23-Jun-2025**	**09-Jul-2025**	30-Jun-2025	×	**10-Jul-2025**	18-Aug-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC207, QC207_FILTERED	**23-Jun-2025**	**09-Jul-2025**	30-Jun-2025	×	**10-Jul-2025**	18-Aug-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC207	**23-Jun-2025**	**09-Jul-2025**	30-Jun-2025	×	**10-Jul-2025**	18-Aug-2025	✓
Amber VOC Vial - HCl (EP080)							
QC207, QC207_FILTERED	**23-Jun-2025**	**09-Jul-2025**	07-Jul-2025	×	**09-Jul-2025**	07-Jul-2025	×
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC207	**23-Jun-2025**	**09-Jul-2025**	30-Jun-2025	×	**10-Jul-2025**	18-Aug-2025	✓
Amber VOC Vial - HCl (EP080)							
QC207, QC207_FILTERED	**23-Jun-2025**	**09-Jul-2025**	07-Jul-2025	×	**09-Jul-2025**	07-Jul-2025	×
EP080: BTEXN							
Amber VOC Vial - HCl (EP080)							
QC207, QC207_FILTERED	**23-Jun-2025**	**09-Jul-2025**	07-Jul-2025	×	**09-Jul-2025**	07-Jul-2025	×
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X-INJ)							
QC207	**23-Jun-2025**	**10-Jul-2025**	20-Dec-2025	✓	**10-Jul-2025**	20-Dec-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-INJ)							
QC207	**23-Jun-2025**	**10-Jul-2025**	20-Dec-2025	✓	**10-Jul-2025**	20-Dec-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-INJ)							
QC207	**23-Jun-2025**	**10-Jul-2025**	20-Dec-2025	✓	**10-Jul-2025**	20-Dec-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-INJ)							
QC207	**23-Jun-2025**	**10-Jul-2025**	20-Dec-2025	✓	**10-Jul-2025**	20-Dec-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-INJ)							
QC207	**23-Jun-2025**	**10-Jul-2025**	20-Dec-2025	✓	**10-Jul-2025**	20-Dec-2025	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	12	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	7	**28.57**	**7.50**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	12	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	11	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

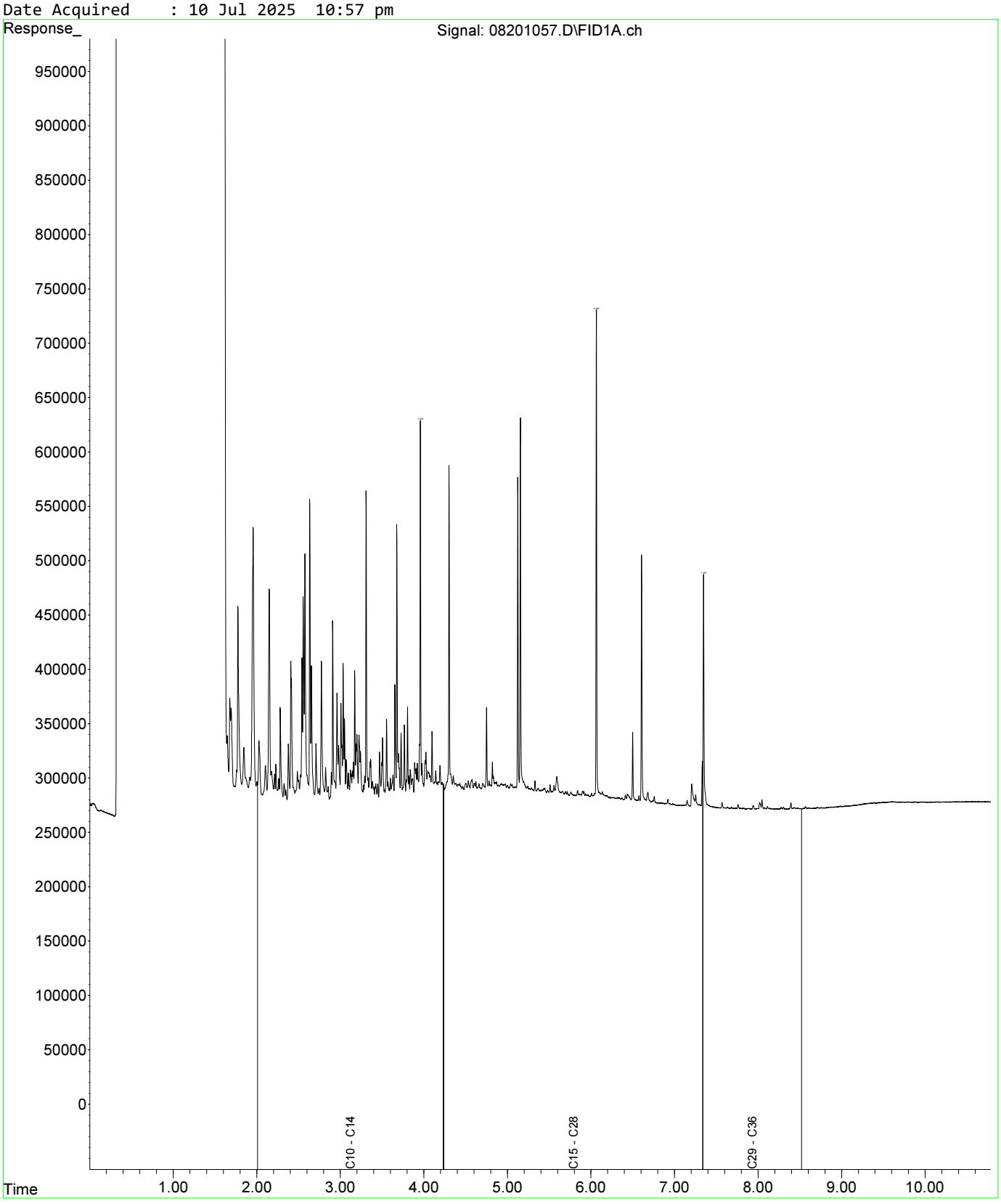
Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030E. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	EP071SG	WATER	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM Schedule B(3).
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

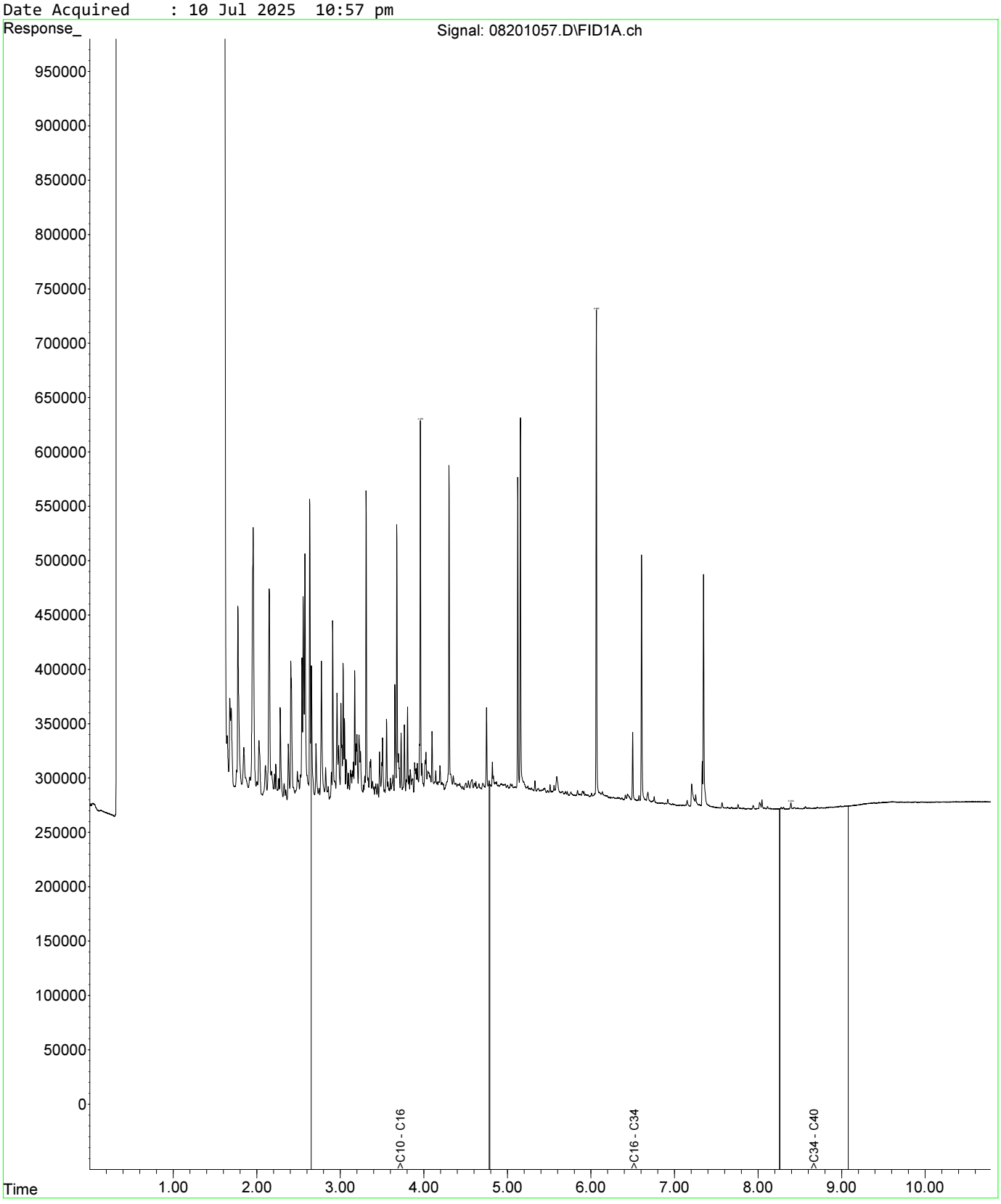
Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	WATER	In house: Direct injection analysis of fresh waters after dilution (1:1) with mobile phase solvent. Analysis by LC-Electrospray-MS-MS, Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers.

Preparation Methods	Method	Matrix	Method Descriptions
Preparation for PFAS in water.	EP231-PR	WATER	Method presumes direct injection without workup. Preparation includes addition of internal standard and surrogate, and filtration prior to analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Fraction Scheme : Legacy Fractions
Data File : 08201057.D
Laboratory Number: EM2512174-001
Sample ID : QC207
Date Acquired : 10 Jul 2025 10:57 pm



Fraction Scheme : NEPM Fraction
Data File : 08201057.D
Laboratory Number: EM2512174-001
Sample ID : QC207
Date Acquired : 10 Jul 2025 10:57 pm



SGS

Canister Chain of Custody Record

Dispatch samples to: Unit 10/585 Blackburn Road, Notting Hill, Victoria 3168, Australia

Attn: Sample Reception - Contact Ph: +613 9574 3311
Email: au.samplereceipt.melbourne@sgs.com

CLIENT NAME: Aecom
CLIENT ADDRESS: Melbourne
ABN:
CONTACT: Robert Crowe
SAMPLED BY: Richard Bowers
PROJECT REF: 60693007 task 12

CONTACT PHONE No:
CONTACT FAX No:
RESULTS REQUIRED BY: 5 Days
EMAIL ADDRESS: robert.crowe@aecom.com & richard.bowers@aecom.com
LAB QUOTE NUMBER: ME371965
PURCHASE ORDER NUMB 60693007 task 12

Client Sample ID (Field Location)	Canister #	Back up Carbon Tube #	Soil Gas Train/ Mass Flow Controller #	Purge Volume (mL)	Leak Test Passed	PID (ppm)	Bore Vacuum During Sampling ("Hg)	Carbon Tube Sample Volume	Date of Collection	Collection Time		Canister Pressure/Vacuum ("Hg)		Analysis Requested				
										Time on	Time Off	Inital	Final	BTEXN	TPH and aliphatic/ aromatic speciation	PVI Indicator Gases (O2, CO2, CH4)	Isopropanol	
SV31	SC1051		SG1005	745	Yes	13.7	0		17/06/2025	15:57	16:08	-29	-6	X	X	X	X	
SV36	SC1061		SG1016	795	Yes	0.1	0		18/06/2025	10:02	10:20	-29	-5	X	X	X	X	
SV32	SC3704		SG1020	545	Yes	12.8	0		18/06/2025	15:06	15:35	-29	-5	X	X	X	X	
SV33	SC1102		SG1019	545	Yes	1.6	0		18/06/2025	16:11	16:33	-29	-4	X	X	X	X	
SV35	SC3700		SG0010	745	Yes	37.4	0		20/06/2025	11:48	12:00	-28	-5	X	X	X	X	
SV46	SC3610		SG1014	734	Yes	0	0		23/06/2025	12:55	13:12	-28	-6	X	X	X	X	
SV40	SC18433		SG1011	405	Yes	0	0		24/06/2025	14:43	15:10	-29	-6	X	X	X	X	
SV41	SC13616		SG1015	582.5	Yes	481.7	0		25/06/2025	8:51	9:32	-28	-6	X	X	X	X	
SV42	SC14108		SG0074	582.5	Yes	0.3	0		25/06/2025	10:30	10:39	-26	-6	X	X	X	X	
SV42_SHROUD	SC1083		SG1033	NA	NA	127	NA		25/06/2025	10:30	10:39	-26	-6				X	
SV45	SC18439		SG1002	760	Yes	7.8	0		25/06/2025	12:10	12:30	-28	-6	X	X	X	X	
SV43	SC13597		SG1033	542.75	Yes	60.6	0		27/06/2025	10:21	10:44	-30	-6	X	X	X	X	
SV25	SC18432		SG1008	734	Yes	23.4	0		23/06/2025	14:35	14:56	-26	-6	X	X	X	X	
SV07	SC13596		SG1025	760	Yes	0	0		23/06/2025	16:28	16:52	-28	-6	X	X	X	X	
SV37	SC13631		SG1018	355	Yes	0.6	0		24/06/2025	8:41	9:10	-28	-6	X	X	X	X	
SV38	SC14157		SG1000	355	Yes	7.1	0		24/06/2025	9:31	9:56	-29	-6	X	X	X	X	
SV34	SC18238		SG1017	760	Yes	0	0		24/06/2025	11:08	11:24	-28	-6	X	X	X	X	
SV18	SC1027		SG1009	760	Yes	6.9	0		24/06/2025	12:22	12:32	-28	-6	X	X	X	X	
SV39	SC18442		SG1027	760	Yes	0.4	0		24/06/2025	13:58	14:19	-29	-6	X	X	X	X	

RELEASED BY: (Name) (Signature) (Date / Time)
Richard Bowers 27/06/2025
RECEIVED BY: (Name) (Signature) (Date / Time)
MJ 2/7 3PM

Notes:
PID in SV42_SHROUD sample represents the VOC concentration in the shroud from isopropanol (concentration not corrected for isopropanol).

Sample train number SG0090 failed the leak test and was not used.

SGS EHS Melbourne COC
ME373630

SGS Notting Hill Bottle Map for Air Samples

Temperature	Amb	Ice Brick		Ice		Ice Pack		Esky 2	Bag		Box		Orange Case	3
Name + Date	MJ 2/7													

	Sample ID	Tray #	Canister			Other	Gas Bag	Isocyanate Tube	1.4 Canister (TO15)	6L Canister (TO15)	Thermal Radiello Tube (TO17_RAD)	ATD Tube (TO17)	Radiello Tube (MA5_RAD)	Waterloo Sampler (MA5_WL_LU)	Carbon Tube (MA5_ST)	XAD Tube (MA5_ST)	Silica Gel Tube (MA5_ST)	Puffs (TO13)	Number of labels to be printed per sample ID
						Sample Type													
1	As per COC	VOC	X						1										
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

1 x 19 SAMPLES

Comments: 2x extra canisters - SC18402 & SC3688 received.

SAMPLE RECEIPT ADVICE

ME373630

CLIENT DETAILS

Contact	Robert Crowe
Client	AECOM Australia Pty Ltd
Address	Collins Square, Level 10, Tower Two 727 Collins Street Melbourne VIC 3008
Telephone	0422 692 187
Facsimile	+61 3 9654 7117
Email	robert.crowe@aecom.com
Project	**60693007 task 12**
Order Number	**60693007 task 12**
Samples	19

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
Samples Received	Wed 2/7/2025
Report Due	Wed 9/7/2025
SGS Reference	**ME373630**

SUBMISSION DETAILS

This is to confirm that 19 samples were received on Wednesday 2/7/2025. Results are expected to be ready by COB Wednesday 9/7/2025. Please quote SGS reference ME373630 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	19 Canisters	Date documentation received	2/7/2025
Type of documentation received	COC	Turnaround time requested	Standard
Number of eskies/boxes received	2 Esky, 3 Orange case	Sample temperature upon receipt	Ambient

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SAMPLE RECEIPT ADVICE

ME373630

CLIENT DETAILS

Client AECOM Australia Pty Ltd

Project 60693007 task 12

SUMMARY OF ANALYSIS

No.	Sample ID	Aliphatic and Aromatic TPH in Air	General Gases MA-1105	Receipt Pressure/Vacuum of Canisters	TO-15 in Air	TO-15 TPH
001	SV31 SC1051	8	3	2	7	4
002	SV36 SC1061	8	3	2	7	4
003	SV32 SC3704	8	3	2	7	4
004	SV33 SC1102	8	3	2	7	4
005	SV35 SC3700	8	3	2	7	4
006	SV46 SC3610	8	3	2	7	4
007	SV40 SC18433	8	3	2	7	4
008	SV41 SC13616	8	3	2	7	4
009	SV42 SC14108	8	3	2	7	4
010	SV42_SHROUD SC1083	-	-	2	1	-
011	SV45 SC18439	8	3	2	7	4
012	SV43 SC13597	8	3	2	7	4
013	SV25 SC18432	8	3	2	7	4
014	SV07 SC13596	8	3	2	7	4
015	SV37 SC13631	8	3	2	7	4
016	SV38 SC14157	8	3	2	7	4
017	SV34 SC18238	8	3	2	7	4
018	SV18 SC1027	8	3	2	7	4
019	SV39 SC18442	8	3	2	7	4

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CERTIFICATE OF CLEANLINESS

Accreditation No. 2562

CLIENT DETAILS

Contact	Robert Crowe
Client	AECOM Australia Pty Ltd
Address	Collins Square, Level 10, Tower Two 727 Collins Street Melbourne VIC 3008
Telephone	0422 692 187
Facsimile	+61 3 9654 7117
Email	robert.crowe@aecom.com
Project	**Supply of Canisters**
Order Number	**TBA**
Samples	23

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME371965 R0**
Date Received	23 Apr 2025
Date Reported	03 Jun 2025

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562 (14420).

SIGNATORIES

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name ME371965.001 Canister sc18442	ME371965.002 Canister sc1061	ME371965.003 Canister sc18439	ME371965.004 Canister sc14108
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025						
Acetone	µg/m³	20	<20	<20	<20	<20
Acetonitrile	µg/m³	20	<20	<20	<20	<20
Acrolein	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Acrylonitrile	µg/m³	3.6	<3.6	<3.6	<3.6	<3.6
tert-Amyl Methyl Ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Benzene	µg/m³	1	<1	<1	<1	<1
Bromodichloromethane	µg/m³	2	<2	<2	<2	<2
Bromoform	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
Bromomethane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,3-Butadiene	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
2-Butanone (Methyl Ethyl Ketone)	µg/m³	1	<1	<1	<1	<1
tert-Butyl Alcohol	µg/m³	1	<1	<1	<1	<1
n-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
sec-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
tert-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Carbon Disulfide	µg/m³	20	<20	<20	<20	<20
Carbon Tetrachloride	µg/m³	2	<2	<2	<2	<2
Chlorobenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroethane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroform	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Chloromethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chloroprene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
3-Chloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chlorotoluene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
alpha-Chlorotoluene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Cumene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Cyclohexane	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Cymene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Dibromochloromethane	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dibromoethane (EDB)	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dichlorobenzene	µg/m³	2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,4-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,1-Dichloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,2-Dichloroethane	µg/m³	2	<2	<2	<2	<2
1,1-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
cis-1,2-Dichloroethene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
trans-1,2-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichloropropane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
cis-1,3-Dichloropropene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
trans-1,3-Dichloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Diisopropyl Ether	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,4-Dioxane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethanol	µg/m³	20	<20	<20	<20	<20
Ethyl Acetate	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Ethyl Benzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethyl tert-Butyl Ether	µg/m³	1	<1	<1	<1	<1
4-Ethyltoluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Freon 11	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 113	µg/m³	2	<2	<2	<2	<2
Freon 114	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 12	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Heptane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Hexachlorobutadiene	µg/m³	4	<4	<4	<4	<4
Hexane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
m,p-Xylene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
Methyl Methacrylate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Methyl tert-butyl ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name ME371965.001 Canister sc18442	ME371965.002 Canister sc1061	ME371965.003 Canister sc18439	ME371965.004 Canister sc14108
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025 (continued)						
4-Methyl-2-pentanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Methylene Chloride	µg/m³	20	<20	<20	<20	<20
Naphthalene	µg/m³	4.2	<4.2	<4.2	<4.2	<4.2
2-Propanol	µg/m³	20	<20	<20	<20	<20
Propene	µg/m³	2	<2	<2	<2	<2
Propylbenzene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Styrene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,1,1,2-Tetrachloroethane	µg/m³	2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Tetrachloroethene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
Tetrahydrofuran	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Toluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trichlorobenzene	µg/m³	7.2	<7.2	<7.2	<7.2	<7.2
1,1,1-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,1,2-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Trichloroethene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,2,4-Trimethylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,3,5-Trimethylbenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2,2,4-Trimethylpentane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Vinyl Acetate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Vinyl Bromide	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Vinyl Chloride	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Xylene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Xylenes	µg/m³	3.8	<3.8	<3.8	<3.8	<3.8

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name ME371965.005 Canister sc1051	ME371965.006 Canister sc1102	ME371965.007 Canister sc3704	ME371965.008 Canister sc13616
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025						
Acetone	µg/m³	20	<20	<20	<20	<20
Acetonitrile	µg/m³	20	<20	<20	<20	<20
Acrolein	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Acrylonitrile	µg/m³	3.6	<3.6	<3.6	<3.6	<3.6
tert-Amyl Methyl Ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Benzene	µg/m³	1	<1	<1	<1	<1
Bromodichloromethane	µg/m³	2	<2	<2	<2	<2
Bromoform	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
Bromomethane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,3-Butadiene	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
2-Butanone (Methyl Ethyl Ketone)	µg/m³	1	<1	<1	<1	<1
tert-Butyl Alcohol	µg/m³	1	<1	<1	<1	<1
n-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
sec-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
tert-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Carbon Disulfide	µg/m³	20	<20	<20	<20	<20
Carbon Tetrachloride	µg/m³	2	<2	<2	<2	<2
Chlorobenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroethane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroform	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Chloromethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chloroprene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
3-Chloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chlorotoluene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
alpha-Chlorotoluene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Cumene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Cyclohexane	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Cymene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Dibromochloromethane	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dibromoethane (EDB)	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dichlorobenzene	µg/m³	2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,4-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,1-Dichloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,2-Dichloroethane	µg/m³	2	<2	<2	<2	<2
1,1-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
cis-1,2-Dichloroethene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
trans-1,2-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichloropropane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
cis-1,3-Dichloropropene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
trans-1,3-Dichloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Diisopropyl Ether	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,4-Dioxane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethanol	µg/m³	20	<20	<20	<20	<20
Ethyl Acetate	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Ethyl Benzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethyl tert-Butyl Ether	µg/m³	1	<1	<1	<1	<1
4-Ethyltoluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Freon 11	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 113	µg/m³	2	<2	<2	<2	<2
Freon 114	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 12	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Heptane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Hexachlorobutadiene	µg/m³	4	<4	<4	<4	<4
Hexane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
m,p-Xylene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
Methyl Methacrylate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Methyl tert-butyl ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name ME371965.005 Canister sc1051	ME371965.006 Canister sc1102	ME371965.007 Canister sc3704	ME371965.008 Canister sc13616
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025 (continued)						
4-Methyl-2-pentanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Methylene Chloride	µg/m³	20	<20	<20	<20	<20
Naphthalene	µg/m³	4.2	<4.2	<4.2	<4.2	<4.2
2-Propanol	µg/m³	20	<20	<20	<20	<20
Propene	µg/m³	2	<2	<2	<2	<2
Propylbenzene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Styrene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,1,1,2-Tetrachloroethane	µg/m³	2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Tetrachloroethene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
Tetrahydrofuran	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Toluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trichlorobenzene	µg/m³	7.2	<7.2	<7.2	<7.2	<7.2
1,1,1-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,1,2-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Trichloroethene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,2,4-Trimethylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,3,5-Trimethylbenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2,2,4-Trimethylpentane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Vinyl Acetate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Vinyl Bromide	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Vinyl Chloride	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Xylene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Xylenes	µg/m³	3.8	<3.8	<3.8	<3.8	<3.8

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name ME371965.009 Canister sc3700	ME371965.010 Canister sc13597	ME371965.011 Canister sc18433	ME371965.012 Canister sc18402
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025						
Acetone	µg/m³	20	<20	<20	<20	<20
Acetonitrile	µg/m³	20	<20	<20	<20	<20
Acrolein	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Acrylonitrile	µg/m³	3.6	<3.6	<3.6	<3.6	<3.6
tert-Amyl Methyl Ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Benzene	µg/m³	1	<1	<1	<1	<1
Bromodichloromethane	µg/m³	2	<2	<2	<2	<2
Bromoform	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
Bromomethane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,3-Butadiene	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
2-Butanone (Methyl Ethyl Ketone)	µg/m³	1	<1	<1	<1	<1
tert-Butyl Alcohol	µg/m³	1	<1	<1	<1	<1
n-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
sec-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
tert-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Carbon Disulfide	µg/m³	20	<20	<20	<20	<20
Carbon Tetrachloride	µg/m³	2	<2	<2	<2	<2
Chlorobenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroethane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroform	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Chloromethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chloroprene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
3-Chloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chlorotoluene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
alpha-Chlorotoluene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Cumene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Cyclohexane	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Cymene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Dibromochloromethane	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dibromoethane (EDB)	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dichlorobenzene	µg/m³	2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,4-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,1-Dichloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,2-Dichloroethane	µg/m³	2	<2	<2	<2	<2
1,1-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
cis-1,2-Dichloroethene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
trans-1,2-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichloropropane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
cis-1,3-Dichloropropene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
trans-1,3-Dichloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Diisopropyl Ether	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,4-Dioxane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethanol	µg/m³	20	<20	<20	<20	<20
Ethyl Acetate	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Ethyl Benzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethyl tert-Butyl Ether	µg/m³	1	<1	<1	<1	<1
4-Ethyltoluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Freon 11	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 113	µg/m³	2	<2	<2	<2	<2
Freon 114	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 12	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Heptane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Hexachlorobutadiene	µg/m³	4	<4	<4	<4	<4
Hexane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
m,p-Xylene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
Methyl Methacrylate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Methyl tert-butyl ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2

Parameter	Units	LOR	Sample Number: ME371965.009 Sample Matrix: Canister Sample Name: sc3700	ME371965.010 Canister sc13597	ME371965.011 Canister sc18433	ME371965.012 Canister sc18402
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025 (continued)						
4-Methyl-2-pentanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Methylene Chloride	µg/m³	20	<20	<20	<20	<20
Naphthalene	µg/m³	4.2	<4.2	<4.2	<4.2	<4.2
2-Propanol	µg/m³	20	<20	<20	<20	<20
Propene	µg/m³	2	<2	<2	<2	<2
Propylbenzene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Styrene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,1,1,2-Tetrachloroethane	µg/m³	2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Tetrachloroethene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
Tetrahydrofuran	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Toluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trichlorobenzene	µg/m³	7.2	<7.2	<7.2	<7.2	<7.2
1,1,1-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,1,2-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Trichloroethene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,2,4-Trimethylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,3,5-Trimethylbenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2,2,4-Trimethylpentane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Vinyl Acetate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Vinyl Bromide	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Vinyl Chloride	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Xylene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Xylenes	µg/m³	3.8	<3.8	<3.8	<3.8	<3.8

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name ME371965.013 Canister sc1027	ME371965.014 Canister sc1083	ME371965.015 Canister sc14157	ME371965.016 Canister sc13610
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025						
Acetone	µg/m³	20	<20	<20	<20	<20
Acetonitrile	µg/m³	20	<20	<20	<20	<20
Acrolein	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Acrylonitrile	µg/m³	3.6	<3.6	<3.6	<3.6	<3.6
tert-Amyl Methyl Ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Benzene	µg/m³	1	<1	<1	<1	<1
Bromodichloromethane	µg/m³	2	<2	<2	<2	<2
Bromoform	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
Bromomethane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,3-Butadiene	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
2-Butanone (Methyl Ethyl Ketone)	µg/m³	1	<1	<1	<1	<1
tert-Butyl Alcohol	µg/m³	1	<1	<1	<1	<1
n-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
sec-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
tert-Butylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Carbon Disulfide	µg/m³	20	<20	<20	<20	<20
Carbon Tetrachloride	µg/m³	2	<2	<2	<2	<2
Chlorobenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroethane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Chloroform	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Chloromethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chloroprene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
3-Chloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
2-Chlorotoluene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
alpha-Chlorotoluene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Cumene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Cyclohexane	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Cymene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Dibromochloromethane	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dibromoethane (EDB)	µg/m³	2.4	<2.4	<2.4	<2.4	<2.4
1,2-Dichlorobenzene	µg/m³	2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,4-Dichlorobenzene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
1,1-Dichloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,2-Dichloroethane	µg/m³	2	<2	<2	<2	<2
1,1-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
cis-1,2-Dichloroethene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
trans-1,2-Dichloroethene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2-Dichloropropane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
cis-1,3-Dichloropropene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
trans-1,3-Dichloropropene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Diisopropyl Ether	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
1,4-Dioxane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethanol	µg/m³	20	<20	<20	<20	<20
Ethyl Acetate	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Ethyl Benzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Ethyl tert-Butyl Ether	µg/m³	1	<1	<1	<1	<1
4-Ethyltoluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Freon 11	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 113	µg/m³	2	<2	<2	<2	<2
Freon 114	µg/m³	0.6	<0.6	<0.6	<0.6	<0.6
Freon 12	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Heptane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Hexachlorobutadiene	µg/m³	4	<4	<4	<4	<4
Hexane	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2-Hexanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
m,p-Xylene	µg/m³	2.6	<2.6	<2.6	<2.6	<2.6
Methyl Methacrylate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Methyl tert-butyl ether	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2

Parameter	Units	LOR	Sample Number: ME371965.013 Sample Matrix: Canister Sample Name: sc1027	ME371965.014 Canister sc1083	ME371965.015 Canister sc14157	ME371965.016 Canister sc13610
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025 (continued)						
4-Methyl-2-pentanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Methylene Chloride	µg/m³	20	<20	<20	<20	<20
Naphthalene	µg/m³	4.2	<4.2	<4.2	<4.2	<4.2
2-Propanol	µg/m³	20	<20	<20	<20	<20
Propene	µg/m³	2	<2	<2	<2	<2
Propylbenzene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Styrene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,1,1,2-Tetrachloroethane	µg/m³	2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Tetrachloroethene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
Tetrahydrofuran	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Toluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trichlorobenzene	µg/m³	7.2	<7.2	<7.2	<7.2	<7.2
1,1,1-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,1,2-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Trichloroethene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,2,4-Trimethylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,3,5-Trimethylbenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2,2,4-Trimethylpentane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Vinyl Acetate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Vinyl Bromide	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Vinyl Chloride	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Xylene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Xylenes	µg/m³	3.8	<3.8	<3.8	<3.8	<3.8

Parameter	Units	LOR	Sample Number Sample Matrix Sample Name	ME371965.017 Canister sc3688	ME371965.018 Canister sc18238	ME371965.019 Canister sc13631	ME371965.020 Canister sc18432
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025							
Acetone	µg/m³	20		<20	<20	<20	<20
Acetonitrile	µg/m³	20		<20	<20	<20	<20
Acrolein	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
Acrylonitrile	µg/m³	3.6		<3.6	<3.6	<3.6	<3.6
tert-Amyl Methyl Ether	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
Benzene	µg/m³	1		<1	<1	<1	<1
Bromodichloromethane	µg/m³	2		<2	<2	<2	<2
Bromoform	µg/m³	2.4		<2.4	<2.4	<2.4	<2.4
Bromomethane	µg/m³	1.8		<1.8	<1.8	<1.8	<1.8
1,3-Butadiene	µg/m³	0.6		<0.6	<0.6	<0.6	<0.6
2-Butanone (Methyl Ethyl Ketone)	µg/m³	1		<1	<1	<1	<1
tert-Butyl Alcohol	µg/m³	1		<1	<1	<1	<1
n-Butylbenzene	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
sec-Butylbenzene	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
tert-Butylbenzene	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
Carbon Disulfide	µg/m³	20		<20	<20	<20	<20
Carbon Tetrachloride	µg/m³	2		<2	<2	<2	<2
Chlorobenzene	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
Chloroethane	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
Chloroform	µg/m³	1.8		<1.8	<1.8	<1.8	<1.8
Chloromethane	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
2-Chloroprene	µg/m³	2.2		<2.2	<2.2	<2.2	<2.2
3-Chloropropene	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
2-Chlorotoluene	µg/m³	1.8		<1.8	<1.8	<1.8	<1.8
alpha-Chlorotoluene	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
Cumene	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
Cyclohexane	µg/m³	0.8		<0.8	<0.8	<0.8	<0.8
o-Cymene	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
Dibromochloromethane	µg/m³	2.4		<2.4	<2.4	<2.4	<2.4
1,2-Dibromoethane (EDB)	µg/m³	2.4		<2.4	<2.4	<2.4	<2.4
1,2-Dichlorobenzene	µg/m³	2		<2	<2	<2	<2
1,3-Dichlorobenzene	µg/m³	2.6		<2.6	<2.6	<2.6	<2.6
1,4-Dichlorobenzene	µg/m³	2.6		<2.6	<2.6	<2.6	<2.6
1,1-Dichloroethane	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
1,2-Dichloroethane	µg/m³	2		<2	<2	<2	<2
1,1-Dichloroethene	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
cis-1,2-Dichloroethene	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
trans-1,2-Dichloroethene	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
1,2-Dichloropropane	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
cis-1,3-Dichloropropene	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
trans-1,3-Dichloropropene	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
Diisopropyl Ether	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
1,4-Dioxane	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
Ethanol	µg/m³	20		<20	<20	<20	<20
Ethyl Acetate	µg/m³	1.6		<1.6	<1.6	<1.6	<1.6
Ethyl Benzene	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
Ethyl tert-Butyl Ether	µg/m³	1		<1	<1	<1	<1
4-Ethyltoluene	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
Freon 11	µg/m³	0.6		<0.6	<0.6	<0.6	<0.6
Freon 113	µg/m³	2		<2	<2	<2	<2
Freon 114	µg/m³	0.6		<0.6	<0.6	<0.6	<0.6
Freon 12	µg/m³	0.8		<0.8	<0.8	<0.8	<0.8
Heptane	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
Hexachlorobutadiene	µg/m³	4		<4	<4	<4	<4
Hexane	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
2-Hexanone	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2
m,p-Xylene	µg/m³	2.6		<2.6	<2.6	<2.6	<2.6
Methyl Methacrylate	µg/m³	1.4		<1.4	<1.4	<1.4	<1.4
Methyl tert-butyl ether	µg/m³	1.2		<1.2	<1.2	<1.2	<1.2

Parameter	Units	LOR	Sample Number: ME371965.017 Sample Matrix: Canister Sample Name: sc3688	ME371965.018 Canister sc18238	ME371965.019 Canister sc13631	ME371965.020 Canister sc18432
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025 (continued)						
4-Methyl-2-pentanone	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Methylene Chloride	µg/m³	20	<20	<20	<20	<20
Naphthalene	µg/m³	4.2	<4.2	<4.2	<4.2	<4.2
2-Propanol	µg/m³	20	<20	<20	<20	<20
Propene	µg/m³	2	<2	<2	<2	<2
Propylbenzene	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Styrene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,1,1,2-Tetrachloroethane	µg/m³	2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Tetrachloroethene	µg/m³	2.2	<2.2	<2.2	<2.2	<2.2
Tetrahydrofuran	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
Toluene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
1,2,4-Trichlorobenzene	µg/m³	7.2	<7.2	<7.2	<7.2	<7.2
1,1,1-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,1,2-Trichloroethane	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Trichloroethene	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
1,2,4-Trimethylbenzene	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
1,3,5-Trimethylbenzene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
2,2,4-Trimethylpentane	µg/m³	1.8	<1.8	<1.8	<1.8	<1.8
Vinyl Acetate	µg/m³	1.4	<1.4	<1.4	<1.4	<1.4
Vinyl Bromide	µg/m³	1.6	<1.6	<1.6	<1.6	<1.6
Vinyl Chloride	µg/m³	0.8	<0.8	<0.8	<0.8	<0.8
o-Xylene	µg/m³	1.2	<1.2	<1.2	<1.2	<1.2
Xylenes	µg/m³	3.8	<3.8	<3.8	<3.8	<3.8

Parameter	Units	LOR	Sample Number: ME371965.021 Sample Matrix: Canister Sample Name: sc13596	ME371965.022 T-Piece TP008	ME371965.023 T-Piece TP002
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025					
Acetone	µg/m³	20	<20	-	-
Acetonitrile	µg/m³	20	<20	-	-
Acrolein	µg/m³	1.4	<1.4	-	-
Acrylonitrile	µg/m³	3.6	<3.6	-	-
tert-Amyl Methyl Ether	µg/m³	1.2	<1.2	-	-
Benzene	µg/m³	1	<1	-	-
Bromodichloromethane	µg/m³	2	<2	-	-
Bromoform	µg/m³	2.4	<2.4	-	-
Bromomethane	µg/m³	1.8	<1.8	-	-
1,3-Butadiene	µg/m³	0.6	<0.6	-	-
2-Butanone (Methyl Ethyl Ketone)	µg/m³	1	<1	-	-
tert-Butyl Alcohol	µg/m³	1	<1	-	-
n-Butylbenzene	µg/m³	1.6	<1.6	-	-
sec-Butylbenzene	µg/m³	1.6	<1.6	-	-
tert-Butylbenzene	µg/m³	1.6	<1.6	-	-
Carbon Disulfide	µg/m³	20	<20	-	-
Carbon Tetrachloride	µg/m³	2	<2	-	-
Chlorobenzene	µg/m³	1.2	<1.2	-	-
Chloroethane	µg/m³	1.2	<1.2	-	-
Chloroform	µg/m³	1.8	<1.8	-	-
Chloromethane	µg/m³	1.4	<1.4	-	-
2-Chloroprene	µg/m³	2.2	<2.2	-	-
3-Chloropropene	µg/m³	1.4	<1.4	-	-
2-Chlorotoluene	µg/m³	1.8	<1.8	-	-
alpha-Chlorotoluene	µg/m³	1.4	<1.4	-	-
Cumene	µg/m³	1.6	<1.6	-	-
Cyclohexane	µg/m³	0.8	<0.8	-	-
o-Cymene	µg/m³	1.6	<1.6	-	-
Dibromochloromethane	µg/m³	2.4	<2.4	-	-
1,2-Dibromoethane (EDB)	µg/m³	2.4	<2.4	-	-
1,2-Dichlorobenzene	µg/m³	2	<2	-	-
1,3-Dichlorobenzene	µg/m³	2.6	<2.6	-	-
1,4-Dichlorobenzene	µg/m³	2.6	<2.6	-	-
1,1-Dichloroethane	µg/m³	1.4	<1.4	-	-
1,2-Dichloroethane	µg/m³	2	<2	-	-
1,1-Dichloroethene	µg/m³	1.2	<1.2	-	-
cis-1,2-Dichloroethene	µg/m³	1.6	<1.6	-	-
trans-1,2-Dichloroethene	µg/m³	1.2	<1.2	-	-
1,2-Dichloropropane	µg/m³	1.6	<1.6	-	-
cis-1,3-Dichloropropene	µg/m³	1.2	<1.2	-	-
trans-1,3-Dichloropropene	µg/m³	1.4	<1.4	-	-
Diisopropyl Ether	µg/m³	1.4	<1.4	-	-
1,4-Dioxane	µg/m³	1.2	<1.2	-	-
Ethanol	µg/m³	20	<20	-	-
Ethyl Acetate	µg/m³	1.6	<1.6	-	-
Ethyl Benzene	µg/m³	1.2	<1.2	-	-
Ethyl tert-Butyl Ether	µg/m³	1	<1	-	-
4-Ethyltoluene	µg/m³	1.2	<1.2	-	-
Freon 11	µg/m³	0.6	<0.6	-	-
Freon 113	µg/m³	2	<2	-	-
Freon 114	µg/m³	0.6	<0.6	-	-
Freon 12	µg/m³	0.8	<0.8	-	-
Heptane	µg/m³	1.4	<1.4	-	-
Hexachlorobutadiene	µg/m³	4	<4	-	-
Hexane	µg/m³	1.2	<1.2	-	-
2-Hexanone	µg/m³	1.2	<1.2	-	-
m,p-Xylene	µg/m³	2.6	<2.6	-	-
Methyl Methacrylate	µg/m³	1.4	<1.4	-	-
Methyl tert-butyl ether	µg/m³	1.2	<1.2	-	-

Parameter	Units	LOR	Sample Number ME371965.021 Sample Matrix Canister Sample Name sc13596	ME371965.022 T-Piece TP008	ME371965.023 T-Piece TP002
TO-15 in Air TO-15 Certification Method: TO15_CERT Tested: 3/6/2025 (continued)					
4-Methyl-2-pentanone	µg/m³	1.2	<1.2	-	-
Methylene Chloride	µg/m³	20	<20	-	-
Naphthalene	µg/m³	4.2	<4.2	-	-
2-Propanol	µg/m³	20	<20	-	-
Propene	µg/m³	2	<2	-	-
Propylbenzene	µg/m³	1.4	<1.4	-	-
Styrene	µg/m³	1.2	<1.2	-	-
1,1,1,2-Tetrachloroethane	µg/m³	2	<2	-	-
1,1,2,2-Tetrachloroethane	µg/m³	1.4	<1.4	-	-
Tetrachloroethene	µg/m³	2.2	<2.2	-	-
Tetrahydrofuran	µg/m³	0.8	<0.8	-	-
Toluene	µg/m³	1.2	<1.2	-	-
1,2,4-Trichlorobenzene	µg/m³	7.2	<7.2	-	-
1,1,1-Trichloroethane	µg/m³	1.6	<1.6	-	-
1,1,2-Trichloroethane	µg/m³	1.6	<1.6	-	-
Trichloroethene	µg/m³	1.8	<1.8	-	-
1,2,4-Trimethylbenzene	µg/m³	1.6	<1.6	-	-
1,3,5-Trimethylbenzene	µg/m³	1.2	<1.2	-	-
2,2,4-Trimethylpentane	µg/m³	1.8	<1.8	-	-
Vinyl Acetate	µg/m³	1.4	<1.4	-	-
Vinyl Bromide	µg/m³	1.6	<1.6	-	-
Vinyl Chloride	µg/m³	0.8	<0.8	-	-
o-Xylene	µg/m³	1.2	<1.2	-	-
Xylenes	µg/m³	3.8	<3.8	-	-

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula：*the absolute difference of the two results divided by the average of the two results as a percentage.* Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

No QC samples were reported for this job.

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
TO15-Cert	This method includes the preparation of the canisters and certification of cleanliness. This method is based on the USEPA TO-14 “Determination of Volatile Organic Compounds (VOCs) in Ambient Air using specially prepared canisters with subsequent analysis by Gas Chromatography” and USEPA TO-15 “Determination of Volatile Organic Compounds (VOCs) in Air collected in specially-prepared canisters and analysed by Gas Chromatography/ Mass Spectrometry (GC/MS).

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
		QFL	QC result is below the lower tolerance
**	Indicative data, theoretical holding time exceeded.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Email	robert.crowe@aecom.com
Project	**60693007 task 12**
Order Number	**60693007 task 12**
Samples	19

LABORATORY DETAILS

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SGS Reference	**ME373630 R0**
Date Received	2/7/2025
Date Reported	9/7/2025

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562 (14420).

Sampling performed by client

SIGNATORIES

Adam ATKINSON
Australian Chemistry Manager

Receipt Pressure/Vacuum of Canisters [TO-15] Tested: 9/7/2025

PARAMETER	UOM	LOR	SV31 SC1051 CANISTER - 17/6/25 16:08 ME373630.001	SV36 SC1061 CANISTER - 18/6/25 10:20 ME373630.002	SV32 SC3704 CANISTER - 18/6/25 15:35 ME373630.003	SV33 SC1102 CANISTER - 18/6/25 16:33 ME373630.004	SV35 SC3700 CANISTER - 20/6/25 12:00 ME373630.005
Receipt Pressure (PSIA)*	No unit	-	12.0	12.7	11.9	13.0	13.1
Receipt Vacuum (inch Hg below std atmospheric	No unit	-	5.30	3.88	5.51	3.26	3.06

PARAMETER	UOM	LOR	SV46 SC3610 CANISTER - 23/6/25 13:12 ME373630.006	SV40 SC18433 CANISTER - 24/6/25 15:10 ME373630.007	SV41 SC13616 CANISTER - 25/6/25 9:32 ME373630.008	SV42 SC14108 CANISTER - 25/6/25 10:39 ME373630.009	SV42_SHROUD SC1083 CANISTER - 25/6/25 10:39 ME373630.010
Receipt Pressure (PSIA)*	No unit	-	11.4	11.8	11.9	11.3	11.6
Receipt Vacuum (inch Hg below std atmospheric	No unit	-	6.53	5.71	5.51	6.73	6.12

PARAMETER	UOM	LOR	SV45 SC18439 CANISTER - 25/6/25 12:30 ME373630.011	SV43 SC13597 CANISTER - 27/6/25 10:44 ME373630.012	SV25 SC18432 CANISTER - 23/6/25 14:56 ME373630.013	SV07 SC13596 CANISTER - 23/6/25 16:52 ME373630.014	SV37 SC13631 CANISTER - 24/6/25 9:10 ME373630.015
Receipt Pressure (PSIA)*	No unit	-	12.5	11.8	10.7	12.1	12.1
Receipt Vacuum (inch Hg below std atmospheric	No unit	-	4.28	5.71	7.96	5.10	5.10

PARAMETER	UOM	LOR	SV38 SC14157 CANISTER - 24/6/25 9:56 ME373630.016	SV34 SC18238 CANISTER - 24/6/25 11:24 ME373630.017	SV18 SC1027 CANISTER - 24/6/25 12:32 ME373630.018	SV39 SC18442 CANISTER - 24/6/25 14:19 ME373630.019
Receipt Pressure (PSIA)*	No unit	-	11.6	11.4	12.1	12.0
Receipt Vacuum (inch Hg below std atmospheric	No unit	-	6.12	6.53	5.10	5.30

TO-15 in Air [TO15] Tested: 9/7/2025

PARAMETER	UOM	LOR	SV31 SC1051 CANISTER - 17/6/25 16:08 ME373630.001	SV36 SC1061 CANISTER - 18/6/25 10:20 ME373630.002	SV32 SC3704 CANISTER - 18/6/25 15:35 ME373630.003	SV33 SC1102 CANISTER - 18/6/25 16:33 ME373630.004	SV35 SC3700 CANISTER - 20/6/25 12:00 ME373630.005
Benzene	µg/m³	-	3.4	<2.4	<6.3	<2.3	20
Toluene	µg/m³	-	4.5	6.4	<7.6	<2.8	17
Ethyl Benzene	µg/m³	-	6.2	<2.8	<7.6	<2.8	9.9
m,p-Xylene	µg/m³	-	17	6.5	22	<6.1	28
o-Xylene	µg/m³	-	6.8	<2.8	<7.6	<2.8	7.0
Naphthalene	µg/m³	-	54	<9.9	<27	<9.9	<24
Isopropanol	µg/m³	-	970	4000	150	<47	<110

PARAMETER	UOM	LOR	SV46 SC3610 CANISTER - 23/6/25 13:12 ME373630.006	SV40 SC18433 CANISTER - 24/6/25 15:10 ME373630.007	SV41 SC13616 CANISTER - 25/6/25 9:32 ME373630.008	SV42 SC14108 CANISTER - 25/6/25 10:39 ME373630.009	SV42_SHROUD SC1083 CANISTER - 25/6/25 10:39 ME373630.010
Benzene	µg/m³	-	11	4.9	290000	18	-
Toluene	µg/m³	-	4.1	5.3	34000	8.4	-
Ethyl Benzene	µg/m³	-	<3.2	<3.1	53000	4.2	-
m,p-Xylene	µg/m³	-	<6.9	<6.6	120000	12	-
o-Xylene	µg/m³	-	<3.2	<3.1	41000	4.2	-
Naphthalene	µg/m³	-	11	<11	44000	99	-
Isopropanol	µg/m³	-	19000	110	<20000	<53	2600000

PARAMETER	UOM	LOR	SV45 SC18439 CANISTER - 25/6/25 12:30 ME373630.011	SV43 SC13597 CANISTER - 27/6/25 10:44 ME373630.012	SV25 SC18432 CANISTER - 23/6/25 14:56 ME373630.013	SV07 SC13596 CANISTER - 23/6/25 16:52 ME373630.014	SV37 SC13631 CANISTER - 24/6/25 9:10 ME373630.015
Benzene	µg/m³	-	230	77000	10	<2.5	<2.5
Toluene	µg/m³	-	110	2800	<3.4	6.7	6.6
Ethyl Benzene	µg/m³	-	36	1200	3.8	<3	<3
m,p-Xylene	µg/m³	-	77	22000	17	<6.4	<6.4
o-Xylene	µg/m³	-	28	8000	4.8	<3	<3
Naphthalene	µg/m³	-	22	6500	19	<10	<10
Isopropanol	µg/m³	-	770	<5100	810	430	1900

PARAMETER	UOM	LOR	SV38 SC14157 CANISTER - 24/6/25 9:56 ME373630.016	SV34 SC18238 CANISTER - 24/6/25 11:24 ME373630.017	SV18 SC1027 CANISTER - 24/6/25 12:32 ME373630.018	SV39 SC18442 CANISTER - 24/6/25 14:19 ME373630.019
Benzene	µg/m³	-	<2.6	83	52	<3.6
Toluene	µg/m³	-	12	57	20	<4.3
Ethyl Benzene	µg/m³	-	<3.1	120	18	<4.3
m,p-Xylene	µg/m³	-	13	55	38	<9.4
o-Xylene	µg/m³	-	3.8	33	35	<4.3
Naphthalene	µg/m³	-	<11	310	3200	<15
Isopropanol	µg/m³	-	1400	210	230	<72

TO-15 TPH [TO15_TPH] Tested: 9/7/2025

PARAMETER	UOM	LOR	SV31 SC1051 CANISTER - 17/6/25 16:08 ME373630.001	SV36 SC1061 CANISTER - 18/6/25 10:20 ME373630.002	SV32 SC3704 CANISTER - 18/6/25 15:35 ME373630.003	SV33 SC1102 CANISTER - 18/6/25 16:33 ME373630.004	SV35 SC3700 CANISTER - 20/6/25 12:00 ME373630.005
C6-C10	mg/m³	-	44	0.28	170	0.48	260
C6-C10 (less BTEX) (F1)	mg/m³	-	44	0.26	170	0.48	260
>C10-C12	mg/m³	-	57	1.3	97	1.5	170
>C10-C12 (less naphthalene) (F2)	mg/m³	-	57	1.3	97	1.5	170

PARAMETER	UOM	LOR	SV46 SC3610 CANISTER - 23/6/25 13:12 ME373630.006	SV40 SC18433 CANISTER - 24/6/25 15:10 ME373630.007	SV41 SC13616 CANISTER - 25/6/25 9:32 ME373630.008	SV42 SC14108 CANISTER - 25/6/25 10:39 ME373630.009	SV45 SC18439 CANISTER - 25/6/25 12:30 ME373630.011
C6-C10	mg/m³	-	1.4	0.19	3100	0.44	5.2
C6-C10 (less BTEX) (F1)	mg/m³	-	1.4	0.17	2600	0.39	4.8
>C10-C12	mg/m³	-	0.69	0.23	120	0.33	1.3
>C10-C12 (less naphthalene) (F2)	mg/m³	-	0.68	0.23	80	0.23	1.3

PARAMETER	UOM	LOR	SV43 SC13597 CANISTER - 27/6/25 10:44 ME373630.012	SV25 SC18432 CANISTER - 23/6/25 14:56 ME373630.013	SV07 SC13596 CANISTER - 23/6/25 16:52 ME373630.014	SV37 SC13631 CANISTER - 24/6/25 9:10 ME373630.015	SV38 SC14157 CANISTER - 24/6/25 9:56 ME373630.016
C6-C10	mg/m³	-	200	71	0.85	1.6	22
C6-C10 (less BTEX) (F1)	mg/m³	-	94	71	0.84	1.6	22
>C10-C12	mg/m³	-	17	39	0.67	0.31	0.57
>C10-C12 (less naphthalene) (F2)	mg/m³	-	10	39	0.66	0.30	0.57

PARAMETER	UOM	LOR	SV34 SC18238 CANISTER - 24/6/25 11:24 ME373630.017	SV18 SC1027 CANISTER - 24/6/25 12:32 ME373630.018	SV39 SC18442 CANISTER - 24/6/25 14:19 ME373630.019
C6-C10	mg/m³	-	6.5	66	<0.14
C6-C10 (less BTEX) (F1)	mg/m³	-	6.2	66	<0.14
>C10-C12	mg/m³	-	2.0	120	0.53
>C10-C12 (less naphthalene) (F2)	mg/m³	-	1.7	120	0.52

Aliphatic and Aromatic TPH in Air [TO15_TPH] Tested: 9/7/2025

PARAMETER	UOM	LOR	SV31 SC1051 CANISTER - 17/6/25 16:08 ME373630.001	SV36 SC1061 CANISTER - 18/6/25 10:20 ME373630.002	SV32 SC3704 CANISTER - 18/6/25 15:35 ME373630.003	SV33 SC1102 CANISTER - 18/6/25 16:33 ME373630.004	SV35 SC3700 CANISTER - 20/6/25 12:00 ME373630.005
C5-C6 Aliphatic	mg/m³	-	0.64	1.5	2.4	<0.094	5.2
>C6-C8 Aliphatic	mg/m³	-	1.6	0.12	30	<0.094	32
>C8-C10 Aliphatic	mg/m³	-	40	<0.094	140	0.25	240
>C10-C12 Aliphatic	mg/m³	-	59	1.2	100	0.81	180
C5-C7 Aromatic	mg/m³	-	0.0034	<0.0024	<0.0063	<0.0023	0.020
>C7-C8 Aromatic	mg/m³	-	0.0045	0.0064	<0.0076	<0.0028	0.017
>C8-C10 Aromatic	mg/m³	-	0.94	<0.094	1.2	<0.094	2.0
>C10-C12 Aromatic	mg/m³	-	6.7	0.16	6.2	0.44	16

PARAMETER	UOM	LOR	SV46 SC3610 CANISTER - 23/6/25 13:12 ME373630.006	SV40 SC18433 CANISTER - 24/6/25 15:10 ME373630.007	SV41 SC13616 CANISTER - 25/6/25 9:32 ME373630.008	SV42 SC14108 CANISTER - 25/6/25 10:39 ME373630.009	SV45 SC18439 CANISTER - 25/6/25 12:30 ME373630.011
C5-C6 Aliphatic	mg/m³	-	6.9	0.20	590	0.11	6.0
>C6-C8 Aliphatic	mg/m³	-	0.55	<0.1	2100	0.13	2.6
>C8-C10 Aliphatic	mg/m³	-	0.52	<0.1	180	0.16	1.3
>C10-C12 Aliphatic	mg/m³	-	0.77	0.19	86	<0.11	0.82
C5-C7 Aromatic	mg/m³	-	0.011	0.0049	290	0.018	0.23
>C7-C8 Aromatic	mg/m³	-	0.0041	0.0053	34	0.0084	0.11
>C8-C10 Aromatic	mg/m³	-	<0.11	<0.1	250	<0.11	0.31
>C10-C12 Aromatic	mg/m³	-	<0.11	<0.1	<41	0.25	0.45

PARAMETER	UOM	LOR	SV43 SC13597 CANISTER - 27/6/25 10:44 ME373630.012	SV25 SC18432 CANISTER - 23/6/25 14:56 ME373630.013	SV07 SC13596 CANISTER - 23/6/25 16:52 ME373630.014	SV37 SC13631 CANISTER - 24/6/25 9:10 ME373630.015	SV38 SC14157 CANISTER - 24/6/25 9:56 ME373630.016
C5-C6 Aliphatic	mg/m³	-	<10	4.6	0.33	0.84	2.9
>C6-C8 Aliphatic	mg/m³	-	51	17	0.43	0.53	13
>C8-C10 Aliphatic	mg/m³	-	18	51	0.15	0.84	7.9
>C10-C12 Aliphatic	mg/m³	-	13	39	0.45	0.29	0.41
C5-C7 Aromatic	mg/m³	-	77	0.010	<0.0025	<0.0025	<0.0026
>C7-C8 Aromatic	mg/m³	-	2.8	<0.0034	0.0067	0.0066	0.012
>C8-C10 Aromatic	mg/m³	-	33	0.94	<0.099	0.11	0.17
>C10-C12 Aromatic	mg/m³	-	<10	9.3	<0.099	<0.099	<0.1

PARAMETER	UOM	LOR	SV34 SC18238 CANISTER - 24/6/25 11:24 ME373630.017	SV18 SC1027 CANISTER - 24/6/25 12:32 ME373630.018	SV39 SC18442 CANISTER - 24/6/25 14:19 ME373630.019
C5-C6 Aliphatic	mg/m³	-	2.2	1.2	0.19
>C6-C8 Aliphatic	mg/m³	-	2.6	4.8	<0.14
>C8-C10 Aliphatic	mg/m³	-	1.8	61	<0.14
>C10-C12 Aliphatic	mg/m³	-	1.4	120	0.41
C5-C7 Aromatic	mg/m³	-	0.083	0.052	<0.0036
>C7-C8 Aromatic	mg/m³	-	0.057	0.020	<0.0043
>C8-C10 Aromatic	mg/m³	-	2.1	1.5	<0.14
>C10-C12 Aromatic	mg/m³	-	0.56	10	<0.14

General Gases MA-1105 [MA1105] Tested: 3/7/2025

PARAMETER	UOM	LOR	SV31 SC1051 CANISTER - 17/6/25 16:08 ME373630.001	SV36 SC1061 CANISTER - 18/6/25 10:20 ME373630.002	SV32 SC3704 CANISTER - 18/6/25 15:35 ME373630.003	SV33 SC1102 CANISTER - 18/6/25 16:33 ME373630.004	SV35 SC3700 CANISTER - 20/6/25 12:00 ME373630.005
Oxygen	%v/v	0.5	1.1	14	8.4	7.5	2.1
Carbon Dioxide	%v/v	0.01	17	4.6	7.0	7.0	3.5
Methane	%v/v	0.01	3.70	2.31	10.4	5.11	5.46

PARAMETER	UOM	LOR	SV46 SC3610 CANISTER - 23/6/25 13:12 ME373630.006	SV40 SC18433 CANISTER - 24/6/25 15:10 ME373630.007	SV41 SC13616 CANISTER - 25/6/25 9:32 ME373630.008	SV42 SC14108 CANISTER - 25/6/25 10:39 ME373630.009	SV45 SC18439 CANISTER - 25/6/25 12:30 ME373630.011
Oxygen	%v/v	0.5	0.9	17	17	12	6.4
Carbon Dioxide	%v/v	0.01	10	2.0	0.17	1.8	0.10
Methane	%v/v	0.01	6.15	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	SV43 SC13597 CANISTER - 27/6/25 10:44 ME373630.012	SV25 SC18432 CANISTER - 23/6/25 14:56 ME373630.013	SV07 SC13596 CANISTER - 23/6/25 16:52 ME373630.014	SV37 SC13631 CANISTER - 24/6/25 9:10 ME373630.015	SV38 SC14157 CANISTER - 24/6/25 9:56 ME373630.016
Oxygen	%v/v	0.5	<0.5	<0.5	6.9	13	2.6
Carbon Dioxide	%v/v	0.01	0.46	5.9	8.3	1.7	9.2
Methane	%v/v	0.01	<0.01	35.1	6.38	<0.01	2.23

PARAMETER	UOM	LOR	SV34 SC18238 CANISTER - 24/6/25 11:24 ME373630.017	SV18 SC1027 CANISTER - 24/6/25 12:32 ME373630.018	SV39 SC18442 CANISTER - 24/6/25 14:19 ME373630.019
Oxygen	%v/v	0.5	<0.5	<0.5	8.2
Carbon Dioxide	%v/v	0.01	19	11	11
Methane	%v/v	0.01	75.2	23.5	<0.01

METHOD	METHODOLOGY SUMMARY
MA-1105	This method is intended for the analysis of light hydrocarbons and permanent gases in low pressure gas, by micro gas chromatography (µGC) coupled with thermal conductivity detectors. Low pressure samples are analysed using an Agilent 490 Micro GC, (a 4-channel system). The sample is drawn through the inlet by the instrument's vacuum pump. The sample is then directed via separate paths through each of the four modules (containing different GC columns), the target analytes are separated and then passed through into the thermal conductivity detector. Based on ASTM D1945 Methodology.
TO-15	"This method is intended for the analysis of Volatile Organic Compounds (VOCs) for ambient air or soil gas, sampled onto canisters and analysed by gas chromatography mass spectrometry (GCMS) coupled with the Markes sample introduction units. This method is based on the USEPA Method TO-15.
TO-15	This method involves GC-MS analysis of the air sample collected in evacuated canisters. In the lab, a portion of sample is pre-screened if from an unknown source or is suspected to be high. Once the pre-screening is complete the sample is passed onto a sorbent trap, and is desorbed to the GC where the analytes are separated, and are then passed into the MS where fragmentation of the molecules occurs, to produce mass spectra of each analyte. The data is recorded on a Total Ion Chromatogram (TIC) from which each analyte detected can be individually identified (using the Mass Spectra) and quantitated against standards.
TO15-CWG	This method is intended for the analysis of total petroleum hydrocarbon (TPH) fractions for ambient air or soil gas, sampled onto canisters and analysed by gas chromatography mass spectrometry (GCMS) coupled with the Markes sample introduction units. This method is based on the USEPA Method TO-15.
TO15-CWG	This method involves GC-MS analysis of the air sample collected in evacuated canisters. In the lab, a portion of sample is pre-screened if from an unknown source or is suspected to be high. Once the pre-screening is complete the sample is passed onto a sorbent trap, and is desorbed to the GC where the analytes are separated, and are then passed into the MS where fragmentation of the molecules occurs, to produce mass spectra of each analyte. The data is recorded on a Total Ion Chromatogram (TIC) from which each analyte detected can be individually identified (using the Mass Spectra) and quantitated against standards.
TO15-TPH	This method is intended for the analysis of total petroleum hydrocarbon (TPH) fractions for ambient air or soil gas, sampled onto canisters and analysed by gas chromatography mass spectrometry (GCMS) coupled with the Markes sample introduction units. This method is based on the USEPA Method TO-15.
TO15-TPH	This method involves GC-MS analysis of the air sample collected in evacuated canisters. In the lab, a portion of sample is pre-screened if from an unknown source or is suspected to be high. Once the pre-screening is complete the sample is passed onto a sorbent trap, and is desorbed to the GC where the analytes are separated, and are then passed into the MS where fragmentation of the molecules occurs, to produce mass spectra of each analyte. The data is recorded on a Total Ion Chromatogram (TIC) from which each analyte detected can be individually identified (using the Mass Spectra) and quantitated against standards.
TO15-Vacuum	Canisters returned containing samples have the receipt pressure measured using Model 4600A Dynamic Diluter.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		
***	Indicates that both * and ** apply.				

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

ME373630 R0

CLIENT DETAILS

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Email	robert.crowe@aecom.com
Project	**60693007 task 12**
Order Number	**60693007 task 12**
Samples	19

LABORATORY DETAILS

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Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME373630 R0**
Date Received	02 Jul 2025
Date Reported	09 Jul 2025

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Melbourne EH&S laboratory).

SAMPLE SUMMARY

Sample counts by matrix	19 Canisters	Date documentation received	2/7/2025
Type of documentation received	COC	Turnaround time requested	Standard
Number of eskies/boxes received	2 Esky, 3 Orange ca	Sample temperature upon receipt	Ambient

HOLDING TIME SUMMARY

ME373630 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Aliphatic and Aromatic TPH in Air

Method: TO15_TPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SV31 SC1051	ME373630.001	LB091740	17 Jun 2025	02 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	09 Jul 2025
SV36 SC1061	ME373630.002	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV32 SC3704	ME373630.003	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV33 SC1102	ME373630.004	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV35 SC3700	ME373630.005	LB091740	20 Jun 2025	02 Jul 2025	20 Jul 2025	09 Jul 2025	20 Jul 2025	09 Jul 2025
SV46 SC3610	ME373630.006	LB091740	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV40 SC18433	ME373630.007	LB091740	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV41 SC13616	ME373630.008	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV42 SC14108	ME373630.009	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV42_SHROUD SC1083	ME373630.010	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV45 SC18439	ME373630.011	LB091741	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV43 SC13597	ME373630.012	LB091741	27 Jun 2025	02 Jul 2025	27 Jul 2025	09 Jul 2025	27 Jul 2025	09 Jul 2025
SV25 SC18432	ME373630.013	LB091741	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV07 SC13596	ME373630.014	LB091741	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV37 SC13631	ME373630.015	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV38 SC14157	ME373630.016	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV34 SC18238	ME373630.017	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV18 SC1027	ME373630.018	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV39 SC18442	ME373630.019	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025

General Gases MA-1105

Method: MA1105

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SV31 SC1051	ME373630.001	LB091475	17 Jun 2025	02 Jul 2025	17 Jul 2025	03 Jul 2025	17 Jul 2025	08 Jul 2025
SV36 SC1061	ME373630.002	LB091475	18 Jun 2025	02 Jul 2025	18 Jul 2025	03 Jul 2025	18 Jul 2025	08 Jul 2025
SV32 SC3704	ME373630.003	LB091475	18 Jun 2025	02 Jul 2025	18 Jul 2025	03 Jul 2025	18 Jul 2025	08 Jul 2025
SV33 SC1102	ME373630.004	LB091475	18 Jun 2025	02 Jul 2025	18 Jul 2025	03 Jul 2025	18 Jul 2025	08 Jul 2025
SV35 SC3700	ME373630.005	LB091475	20 Jun 2025	02 Jul 2025	20 Jul 2025	03 Jul 2025	20 Jul 2025	08 Jul 2025
SV46 SC3610	ME373630.006	LB091475	23 Jun 2025	02 Jul 2025	23 Jul 2025	03 Jul 2025	23 Jul 2025	08 Jul 2025
SV40 SC18433	ME373630.007	LB091475	24 Jun 2025	02 Jul 2025	24 Jul 2025	03 Jul 2025	24 Jul 2025	08 Jul 2025
SV41 SC13616	ME373630.008	LB091475	25 Jun 2025	02 Jul 2025	25 Jul 2025	03 Jul 2025	25 Jul 2025	08 Jul 2025
SV42 SC14108	ME373630.009	LB091475	25 Jun 2025	02 Jul 2025	25 Jul 2025	03 Jul 2025	25 Jul 2025	08 Jul 2025
SV45 SC18439	ME373630.011	LB091475	25 Jun 2025	02 Jul 2025	25 Jul 2025	03 Jul 2025	25 Jul 2025	08 Jul 2025
SV43 SC13597	ME373630.012	LB091475	27 Jun 2025	02 Jul 2025	27 Jul 2025	03 Jul 2025	27 Jul 2025	08 Jul 2025
SV25 SC18432	ME373630.013	LB091475	23 Jun 2025	02 Jul 2025	23 Jul 2025	03 Jul 2025	23 Jul 2025	08 Jul 2025
SV07 SC13596	ME373630.014	LB091475	23 Jun 2025	02 Jul 2025	23 Jul 2025	03 Jul 2025	23 Jul 2025	08 Jul 2025
SV37 SC13631	ME373630.015	LB091475	24 Jun 2025	02 Jul 2025	24 Jul 2025	03 Jul 2025	24 Jul 2025	08 Jul 2025
SV38 SC14157	ME373630.016	LB091475	24 Jun 2025	02 Jul 2025	24 Jul 2025	03 Jul 2025	24 Jul 2025	08 Jul 2025
SV34 SC18238	ME373630.017	LB091475	24 Jun 2025	02 Jul 2025	24 Jul 2025	03 Jul 2025	24 Jul 2025	08 Jul 2025
SV18 SC1027	ME373630.018	LB091475	24 Jun 2025	02 Jul 2025	24 Jul 2025	03 Jul 2025	24 Jul 2025	08 Jul 2025
SV39 SC18442	ME373630.019	LB091475	24 Jun 2025	02 Jul 2025	24 Jul 2025	03 Jul 2025	24 Jul 2025	08 Jul 2025

TO-15 in Air

Method: TO15

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SV31 SC1051	ME373630.001	LB091740	17 Jun 2025	02 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	09 Jul 2025
SV36 SC1061	ME373630.002	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV32 SC3704	ME373630.003	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV33 SC1102	ME373630.004	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV35 SC3700	ME373630.005	LB091740	20 Jun 2025	02 Jul 2025	20 Jul 2025	09 Jul 2025	20 Jul 2025	09 Jul 2025
SV46 SC3610	ME373630.006	LB091740	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV40 SC18433	ME373630.007	LB091740	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV41 SC13616	ME373630.008	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV42 SC14108	ME373630.009	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV42_SHROUD SC1083	ME373630.010	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV45 SC18439	ME373630.011	LB091741	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV43 SC13597	ME373630.012	LB091741	27 Jun 2025	02 Jul 2025	27 Jul 2025	09 Jul 2025	27 Jul 2025	09 Jul 2025
SV25 SC18432	ME373630.013	LB091741	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV07 SC13596	ME373630.014	LB091741	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV37 SC13631	ME373630.015	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV38 SC14157	ME373630.016	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV34 SC18238	ME373630.017	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV18 SC1027	ME373630.018	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025

HOLDING TIME SUMMARY

ME373630 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TO-15 in Air (continued)

Method: TO15

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SV39 SC18442	ME373630.019	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025

TO-15 TPH

Method: TO15_TPH

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
SV31 SC1051	ME373630.001	LB091740	17 Jun 2025	02 Jul 2025	17 Jul 2025	09 Jul 2025	17 Jul 2025	09 Jul 2025
SV36 SC1061	ME373630.002	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV32 SC3704	ME373630.003	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV33 SC1102	ME373630.004	LB091740	18 Jun 2025	02 Jul 2025	18 Jul 2025	09 Jul 2025	18 Jul 2025	09 Jul 2025
SV35 SC3700	ME373630.005	LB091740	20 Jun 2025	02 Jul 2025	20 Jul 2025	09 Jul 2025	20 Jul 2025	09 Jul 2025
SV46 SC3610	ME373630.006	LB091740	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV40 SC18433	ME373630.007	LB091740	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV41 SC13616	ME373630.008	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV42 SC14108	ME373630.009	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV42_SHROUD SC1083	ME373630.010	LB091740	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV45 SC18439	ME373630.011	LB091741	25 Jun 2025	02 Jul 2025	25 Jul 2025	09 Jul 2025	25 Jul 2025	09 Jul 2025
SV43 SC13597	ME373630.012	LB091741	27 Jun 2025	02 Jul 2025	27 Jul 2025	09 Jul 2025	27 Jul 2025	09 Jul 2025
SV25 SC18432	ME373630.013	LB091741	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV07 SC13596	ME373630.014	LB091741	23 Jun 2025	02 Jul 2025	23 Jul 2025	09 Jul 2025	23 Jul 2025	09 Jul 2025
SV37 SC13631	ME373630.015	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV38 SC14157	ME373630.016	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV34 SC18238	ME373630.017	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV18 SC1027	ME373630.018	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025
SV39 SC18442	ME373630.019	LB091741	24 Jun 2025	02 Jul 2025	24 Jul 2025	09 Jul 2025	24 Jul 2025	09 Jul 2025

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No surrogates were required for this job.

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Aliphatic and Aromatic TPH in Air

Method: TO15_TPH

Sample Number	Parameter	Units	LOR	Result
LB091740.001	C5-C6 Aliphatic	mg/m³	-	<0.040
	>C6-C8 Aliphatic	mg/m³	-	<0.040
	>C8-C10 Aliphatic	mg/m³	-	<0.040
	>C10-C12 Aliphatic	mg/m³	-	<0.040
	C5-C7 Aromatic	mg/m³	-	<0.0010
	>C7-C8 Aromatic	mg/m³	-	<0.0012
	>C8-C10 Aromatic	mg/m³	-	<0.040
	>C10-C12 Aromatic	mg/m³	-	<0.040
LB091741.001	C5-C6 Aliphatic	mg/m³	-	<0.040
	>C6-C8 Aliphatic	mg/m³	-	<0.040
	>C8-C10 Aliphatic	mg/m³	-	<0.040
	>C10-C12 Aliphatic	mg/m³	-	<0.040
	C5-C7 Aromatic	mg/m³	-	<0.0010
	>C7-C8 Aromatic	mg/m³	-	<0.0012
	>C8-C10 Aromatic	mg/m³	-	<0.040
	>C10-C12 Aromatic	mg/m³	-	<0.040

TO-15 in Air

Method: TO15

Sample Number	Parameter	Units	LOR	Result
LB091740.001	Benzene	µg/m³	-	<1.0
	Ethyl Benzene	µg/m³	-	<1.2
	m,p-Xylene	µg/m³	-	<2.6
	Naphthalene	µg/m³	-	<4.2
	Isopropanol	µg/m³	-	<20
	Toluene	µg/m³	-	<1.2
	o-Xylene	µg/m³	-	<1.2
LB091741.001	Benzene	µg/m³	-	<1.0
	Ethyl Benzene	µg/m³	-	<1.2
	m,p-Xylene	µg/m³	-	<2.6
	Naphthalene	µg/m³	-	<4.2
	Isopropanol	µg/m³	-	<20
	Toluene	µg/m³	-	<1.2
	o-Xylene	µg/m³	-	<1.2

TO-15 TPH

Method: TO15_TPH

Sample Number	Parameter	Units	LOR	Result
LB091740.001	C6-C10	mg/m³	-	<0.040
	C6-C10 (less BTEX) (F1)	mg/m³	-	<0.040
	>C10-C12	mg/m³	-	<0.040
	>C10-C12 (less naphthalene) (F2)	mg/m³	-	<0.040
LB091741.001	C6-C10	mg/m³	-	<0.040
	C6-C10 (less BTEX) (F1)	mg/m³	-	<0.040
	>C10-C12	mg/m³	-	<0.040
	>C10-C12 (less naphthalene) (F2)	mg/m³	-	<0.040

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR
Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may give a different calculated RPD.

Aliphatic and Aromatic TPH in Air

Method: TO15_TPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373630.008	LB091740.012	C5-C6 Aliphatic	mg/m³	-	590	670	30	13
		>C6-C8 Aliphatic	mg/m³	-	2100	2400	30	13
		>C8-C10 Aliphatic	mg/m³	-	180	220	30	17
		>C10-C12 Aliphatic	mg/m³	-	86	110	30	26
		C5-C7 Aromatic	mg/m³	-	290	330	30	13
		>C7-C8 Aromatic	mg/m³	-	34	42	30	21
		>C8-C10 Aromatic	mg/m³	-	250	320	30	22
ME373630.012	LB091741.006	>C6-C8 Aliphatic	mg/m³	-	51	52	30	1
		>C8-C10 Aliphatic	mg/m³	-	18	19	30	6
		>C10-C12 Aliphatic	mg/m³	-	13	15	30	12
		C5-C7 Aromatic	mg/m³	-	77	76	30	1
		>C7-C8 Aromatic	mg/m³	-	2.8	2.9	30	0
		>C8-C10 Aromatic	mg/m³	-	33	34	30	0

General Gases MA-1105

Method: MA1105

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373630.001	LB091475.003	Oxygen	%v/v	0.5	1.1	1.1	76	1
		Methane	%v/v	0.01	3.70	3.78	10	2
		Carbon Dioxide	%v/v	0.01	17	17	10	0
ME373630.012	LB091475.014	Oxygen	%v/v	0.5	<0.5	<0.5	200	0
		Methane	%v/v	0.01	<0.01	<0.01	200	0
		Carbon Dioxide	%v/v	0.01	0.46	0.46	12	1

TO-15 in Air

Method: TO15

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373630.008	LB091740.012	Benzene	µg/m³	-	290000	330000	30	13
		Ethyl Benzene	µg/m³	-	53000	67000	30	23
		m,p-Xylene	µg/m³	-	120000	150000	30	18
		Naphthalene	µg/m³	-	44000	55000	30	22
		Toluene	µg/m³	-	34000	42000	30	21
		o-Xylene	µg/m³	-	41000	51000	30	23
ME373630.012	LB091741.006	Benzene	µg/m³	-	77000	76000	30	1
		Ethyl Benzene	µg/m³	-	1200	1200	30	3
		m,p-Xylene	µg/m³	-	22000	22000	30	1
		Naphthalene	µg/m³	-	6500	6400	30	1
		Toluene	µg/m³	-	2800	2900	30	0
		o-Xylene	µg/m³	-	8000	8100	30	1

TO-15 TPH

Method: TO15_TPH

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
ME373630.008	LB091740.012	C6-C10	mg/m³	-	3100	3600	30	14
		C6-C10 (less BTEX) (F1)	mg/m³	-	2600	3000	30	14
		>C10-C12	mg/m³	-	120	130	30	8
		>C10-C12 (less naphthalene) (F2)	mg/m³	-	80	79	30	0
ME373630.012	LB091741.006	C6-C10	mg/m³	-	200	210	30	4
		C6-C10 (less BTEX) (F1)	mg/m³	-	94	100	30	10
		>C10-C12	mg/m³	-	17	18	30	6
		>C10-C12 (less naphthalene) (F2)	mg/m³	-	10	11	30	12

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

General Gases MA-1105

Method: MA1105

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091475.001	Methane	%v/v	0.01	96.1	95.71	60 - 140	100
	Carbon Dioxide	%v/v	0.01	1.0	0.98	60 - 140	102

TO-15 in Air

Method: TO15

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB091740.002	Benzene	µg/m³	-	38	32.4	60 - 140	118
LB091741.002	Benzene	µg/m³	-	38	32.4	60 - 140	118

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spikes were required for this job.

MATRIX SPIKE DUPLICATES

ME373630 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	Majority of surrogate recoveries are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
⑪	Majority of spike recoveries are within acceptance criteria.
†	Refer to relevant report comments for further information.

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source: ME06032025[Untitled]_20250603103443 65.pdf page: 1 SGS Ref: ME371965_INT

SGS Melbourne EHS
ME371965 INT
Received: 23–Apr–2025

Canister and Flow Controller Supply Form

	Soil Gas Sampling Train ID	Leak Tested [1]	Certification Batch ID [4]
1	SG1025	Y	250528B
2	SG1024	Y	250528B
3	SG1029	Y	250528E
4	SG1027	Y	250528E
5	SG1009	Y	250528E
6	SG0010	Y	250528E
7	SG1000	Y	250528E
8	SG1017	Y	250528E
9	SG0090	Y	250528E
10	SG1011	Y	250429D
11	SG1015	Y	250530A
12	SG1002	Y	250530A
13	SG1016	Y	250530A
14	SG1020	Y	250530A
15	SG1005	Y	250530A
16	SG1019	Y	250530A
17	SG1018	Y	250530A
18	SG1008	Y	250530A
19	SG0074	Y	250429D
20	SG1033	Y	250429D

Date	3/06/2025
Analyst	DS
Job Number	ME371965

[1] When a flow controller is attached to an evacuated canister, no change in pressure should be observed for at least 1 minute.

[2] Pressure on evacuation recorded on certification.

[3] Before canisters leave the Laboratory they must be tested for vacuum, this pressure to be recorded.

[4] Batch ID's can be found in soil gas train certification folder

	Canister ID	Certified	Pressure on evacuation [2]	Pressure on supply [3]
1	sc18442	Y	<100mTorr	<30"Hg
2	sc1061	Y	<100mTorr	<30"Hg
3	sc18439	Y	<100mTorr	<30"Hg
4	sc14108	Y	<100mTorr	<30"Hg
5	sc1051	Y	<100mTorr	<30"Hg
6	sc1102	Y	<100mTorr	<30"Hg
7	sc3704	Y	<100mTorr	<30"Hg
8	sc13616	Y	<100mTorr	<30"Hg
9	sc3700	Y	<100mTorr	<30"Hg
10	sc13597	Y	<100mTorr	<30"Hg
11	sc18433	Y	<100mTorr	<30"Hg
12	sc18402	Y	<100mTorr	<30"Hg
13	sc1027	Y	<100mTorr	<30"Hg
14	sc1083	Y	<100mTorr	<30"Hg
15	sc14157	Y	<100mTorr	<30"Hg

Number of Female QT Valves
21

Number of Male QT Valves
1

Miscelaneous Items (please Specify)
Pump convertor
T-piece (TP002)
T-piece (TP008)
Purge Valve(PV004)
Single Gauge

16	sc13610	Y	<100mTorr	<30"Hg
17	sc3688	Y	<100mTorr	<30"Hg
18	sc18238	Y	<100mTorr	<30"Hg
19	sc13631	Y	<100mTorr	<30"Hg
20	sc18432	Y	<100mTorr	<30"Hg
21	sc13596	Y	<100mTorr	<30"Hg

Hand Pump ID's (if supplied)
HP3007

Quantitation Report (QT Reviewed)

Data Path : D:\MASSHUNTER\GCMS\1\DATA\2025\E250526A\
Data File : E250526A_TO15_SS_059.D
Acq On : 28 May 2025 02:22
Operator :
Sample : ch25 sc18442 v500
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 28 09:01:29 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Wed May 28 08:41:15 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.		
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35) cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38) 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert- Amyl Methyl Ether^	0.000		0	N.D.		
46) Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MASSHUNTER\GCMS\1\DATA\2025\E250526A\
Data File : E250526A_TO15_SS_059.D
Acq On : 28 May 2025 02:22
Operator :
Sample : ch25 sc18442 v500
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 28 09:01:29 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Wed May 28 08:41:15 2025
Response via : Initial Calibration

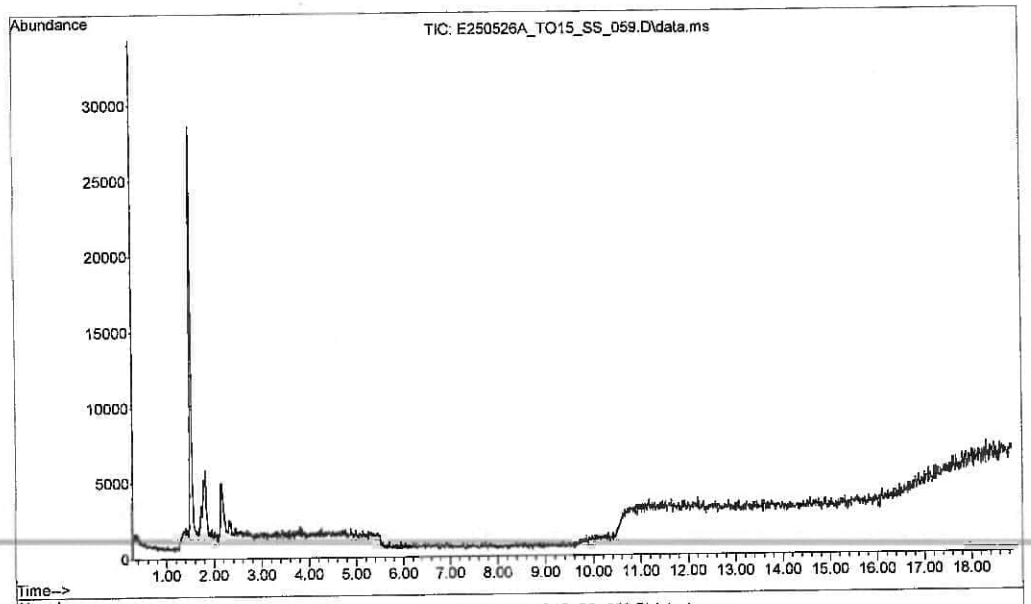
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57) Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67) Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85) 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

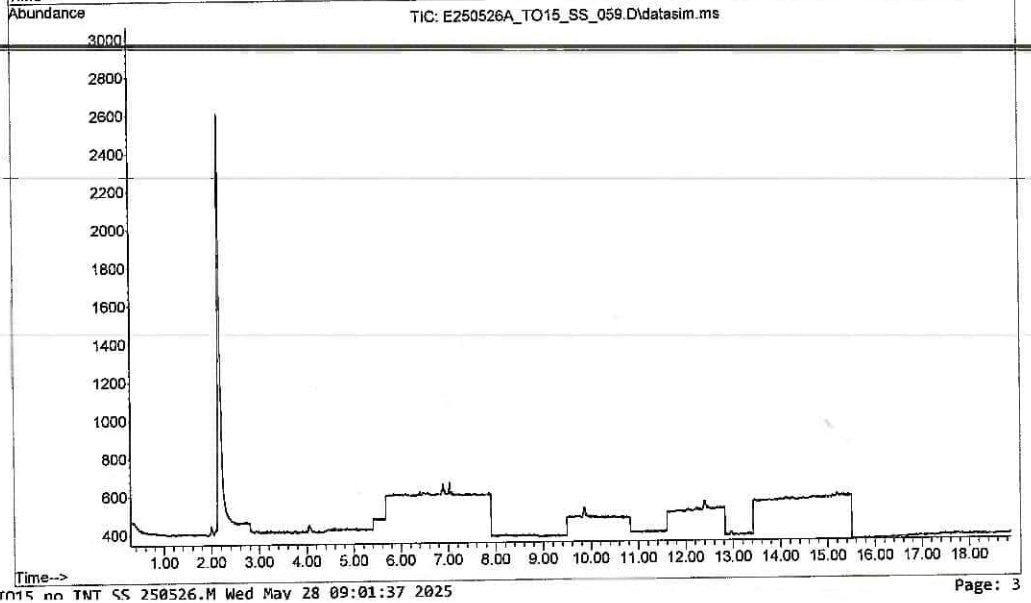
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MASSHUNTER\GCMS\1\DATA\2025\E250526A\
Data File : E250526A_TO15_SS_059.D
Acq On : 28 May 2025 02:22
Operator :
Sample : ch25 sc18442 v500
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 28 09:01:29 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Wed May 28 08:41:15 2025
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\2025\E250526A\
Data File : E250526A_TO15_SS_025.D
Acq On : 27 May 2025 03:54
Operator :
Sample : ch04 sc1061 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 13:22:21 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Tue May 27 13:18:57 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Target Compounds					Qvalue
1) Propene	0.000		0	N.D.	
2] Freon 12	0.000		0	N.D.	
3) Freon 114	0.000		0	N.D.	
4) Chloromethane	0.000		0	N.D.	
5] Vinyl Chloride	0.000		0	N.D.	
6) 1,3-Butadiene	0.000		0	N.D.	
7) Bromomethane	0.000		0	N.D.	
8) Chloroethane	0.000		0	N.D.	
9) 2-Methylbutane^	0.000		0	N.D.	
10) Vinyl Bromide	0.000		0	N.D.	
11) Freon 11	0.000		0	N.D.	
12) Pentane	0.000		0	N.D.	
13) Ethanol	0.000		0	N.D.	d
14) Acrolein	0.000		0	N.D.	
15) Acetone	0.000		0	N.D.	
16) Freon 113	0.000		0	N.D.	
17] 1,1-Dichloroethene	0.000		0	N.D.	
18) 2-Propanol	0.000		0	N.D.	
19) Acetonitrile^	0.000		0	N.D.	
20) Carbon Disulfide	0.000		0	N.D.	
21] 3-Chloropropene	0.000		0	N.D.	d
22) tert-butyl Alcohol	0.000		0	N.D.	
23) Methylene Chloride	0.000		0	N.D.	
24] trans-1,2-Dichloroethene	0.000		0	N.D.	
25) Acrylonitrile^	0.000		0	N.D.	
26) Methyl tert-Butyl Ether	0.000		0	N.D.	
27) Hexane	0.000		0	N.D.	
28) Vinyl Acetate	0.000		0	N.D.	
29) Diisopropyl Ether^	0.000		0	N.D.	
30] 1,1-Dichloroethane	0.000		0	N.D.	
31) 2-Chloroprene^	0.000		0	N.D.	
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.	
33) Ethyl Acetate	0.000		0	N.D.	
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.	
35) cis-1,2-Dichloroethene	0.000		0	N.D.	
36] Chloroform	0.000		0	N.D.	
37) Tetrahydrofuran	0.000		0	N.D.	
38) 1,1,1-Trichloroethane	0.000		0	N.D.	
39) Cyclohexane	0.000		0	N.D.	
40] Carbon Tetrachloride	0.000		0	N.D.	
41] 1,2-Dichloroethane	0.000		0	N.D.	
42] Benzene	0.000		0	N.D.	
43) 2,2,4-Trimethylpentane	0.000		0	N.D.	
44) Heptane	0.000		0	N.D.	
45) tert- Amyl Methyl Ether^	0.000		0	N.D.	
46) Trichloroethene	0.000		0	N.D.	
47] 1,2-Dichloropropane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) Bromodichloromethane	0.000		0	N.D.	
51] cis-1,3-Dichloropropene	0.000		0	N.D.	
52) 4-Methyl-2-pentanone	0.000		0	N.D.	
53] Toluene	0.000		0	N.D.	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\2025\E250526A\
Data File : E250526A_TO15_SS_025.D
Acq On : 27 May 2025 03:54
Operator :
Sample : ch04 sc1061 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 13:22:21 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Tue May 27 13:18:57 2025
Response via : Initial Calibration

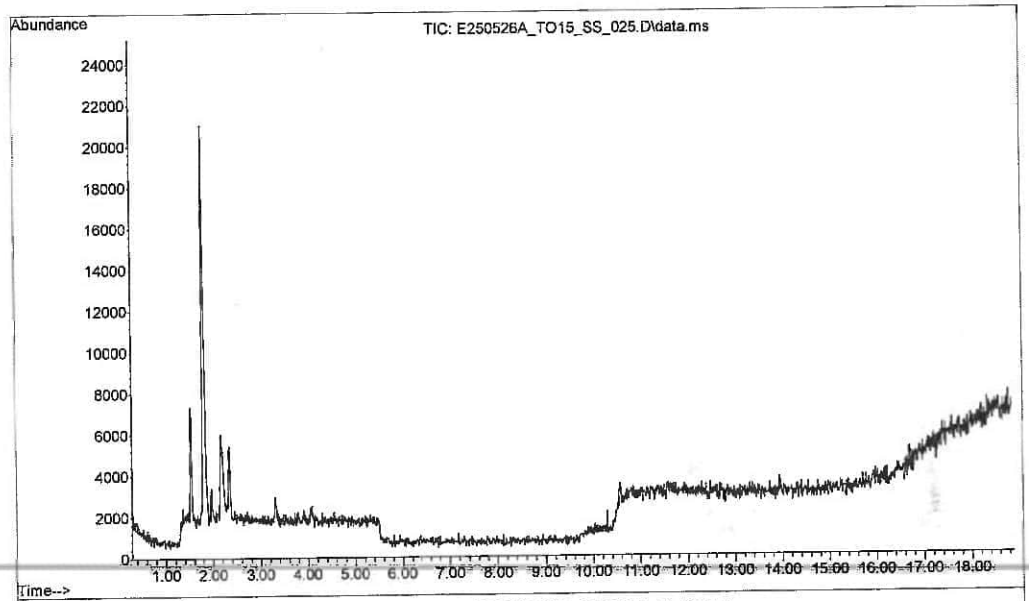
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
54) Octane^	0.000		0	N.D.	
55] trans-1,3-Dichloropropene	0.000		0	N.D.	
56] 1,1,2-Trichloroethane	0.000		0	N.D.	
57) Tetrachloroethene	0.000		0	N.D.	
58) 2-Hexanone	0.000		0	N.D.	
59) Dibromochloromethane	0.000		0	N.D.	
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
61] Chlorobenzene	0.000		0	N.D.	
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.	
63] Ethyl benzene	0.000		0	N.D.	
64] m,p-Xylene	0.000		0	N.D.	
65) Nonane	0.000		0	N.D.	
66] o-Xylene	0.000		0	N.D.	
67) Styrene	0.000		0	N.D.	
68) Bromoform	0.000		0	N.D.	
69) Cumene	0.000		0	N.D.	
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71] Propylbenzene	0.000		0	N.D.	
72) 2-Chlorotoluene	0.000		0	N.D.	
73) 4-Ethyltoluene	0.000		0	N.D.	
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.	
75) tert-Butylbenzene^	0.000		0	N.D.	
76) Decane^	0.000		0	N.D.	
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.	
78) sec-Butylbenzene^	0.000		0	N.D.	
79] 1,3-Dichlorobenzene	0.000		0	N.D.	
80] 1,4-Dichlorobenzene	0.000		0	N.D.	
81] alpha-Chlorotoluene	0.000		0	N.D.	
82) o-Cymene^	0.000		0	N.D.	
83) p-Diethylbenzene^	0.000		0	N.D.	
84) n-Butylbenzene^	0.000		0	N.D.	
85) 1,2-Dichlorobenzene	0.000		0	N.D.	
86) Undecane^	0.000		0	N.D.	
87) Dodecane^	0.000		0	N.D.	
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.	
89) Hexachlorobutadiene	0.000		0	N.D.	
90] Naphthalene	0.000		0	N.D.	

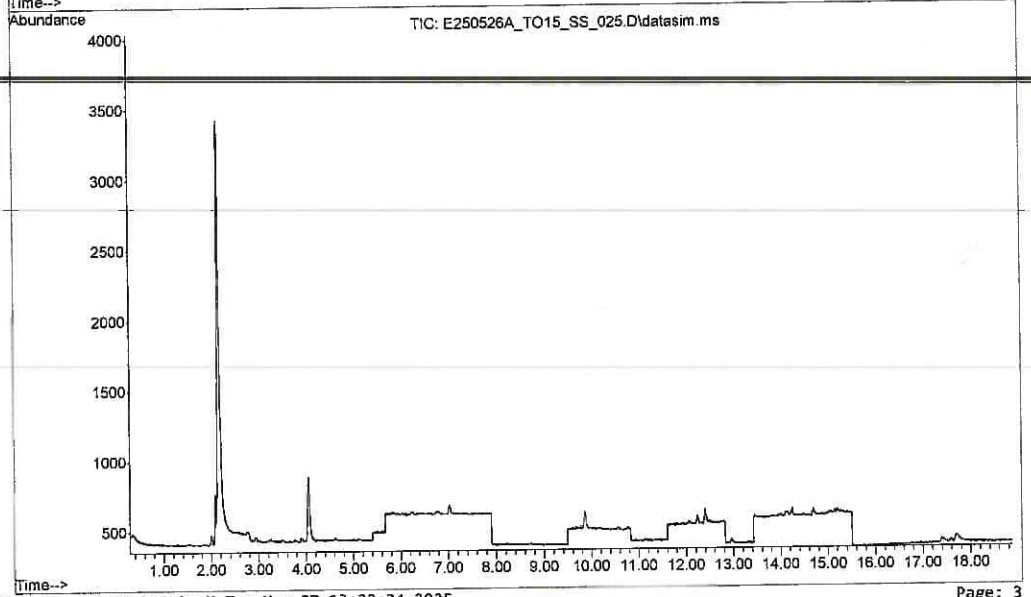
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\2025\E250526A\
Data File : E250526A_TO15_SS_025.D
Acq On : 27 May 2025 03:54
Operator :
Sample : ch04 sc1061 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 13:22:21 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Tue May 27 13:18:57 2025
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_070.D
Acq On : 30 May 2025 12:34
Operator : MA
Sample : ch04 sc18439 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 02 08:46:13 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_070.D
Acq On : 30 May 2025 12:34
Operator : MA
Sample : ch04 sc18439 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

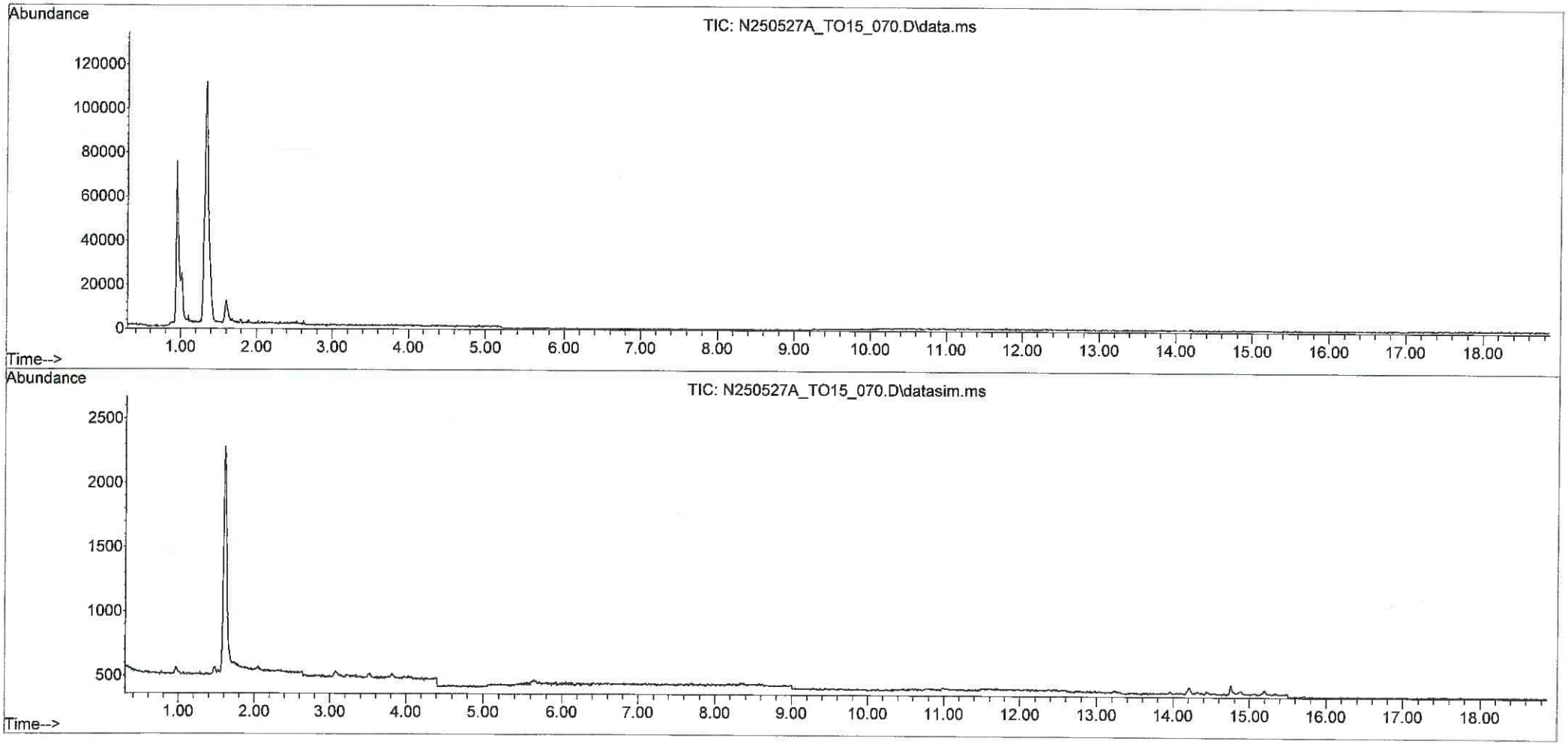
Quant Time: Jun 02 08:46:13 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54)	Octane^	0.000		0	N.D.		
55]	trans-1,3-Dichloropropene	0.000		0	N.D.		
56]	1,1,2-Trichloroethane	0.000		0	N.D.		
57]	Tetrachloroethene	0.000		0	N.D.	d	
58)	2-Hexanone	0.000		0	N.D.		
59)	Dibromochloromethane	0.000		0	N.D.		
60)	1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61]	Chlorobenzene	0.000		0	N.D.		
62)	1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63]	Ethyl benzene	0.000		0	N.D.		
64]	m,p-Xylene	0.000		0	N.D.		
65)	Nonane	0.000		0	N.D.		
66]	o-Xylene	0.000		0	N.D.		
67]	Styrene	0.000		0	N.D.		
68)	Bromoform	0.000		0	N.D.		
69)	Cumene	0.000		0	N.D.		
70]	1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71]	Propylbenzene	0.000		0	N.D.		
72)	2-Chlorotoluene	0.000		0	N.D.		
73)	4-Ethyltoluene	0.000		0	N.D.		
74]	1,3,5-Trimethylbenzene	0.000		0	N.D.		
75)	tert-Butylbenzene^	0.000		0	N.D.		
76)	Decane^	0.000		0	N.D.		
77]	1,2,4-Trimethylbenzene	0.000		0	N.D.		
78)	sec-Butylbenzene^	0.000		0	N.D.		
79]	1,3-Dichlorobenzene	0.000		0	N.D.		
80]	1,4-Dichlorobenzene	0.000		0	N.D.		
81]	alpha-Chlorotoluene	0.000		0	N.D.		
82)	o-Cymene^	0.000		0	N.D.		
83)	p-Diethylbenzene^	0.000		0	N.D.		
84)	n-Butylbenzene^	0.000		0	N.D.		
85]	1,2-Dichlorobenzene	0.000		0	N.D.		
86]	Undecane^	0.000		0	N.D.		
87]	Dodecane^	0.000		0	N.D.		
88]	1,2,4-Trichlorobenzene	0.000		0	N.D.		
89)	Hexachlorobutadiene	0.000		0	N.D.		
90]	Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_070.D
Acq On : 30 May 2025 12:34
Operator : MA
Sample : ch04 sc18439 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 02 08:46:13 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_074.D
Acq On : 30 May 2025 14:30
Operator : MA
Sample : ch08 sc14108 v500
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 02 08:47:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.	d	
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_074.D
Acq On : 30 May 2025 14:30
Operator : MA
Sample : ch08 sc14108 v500
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 02 08:47:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

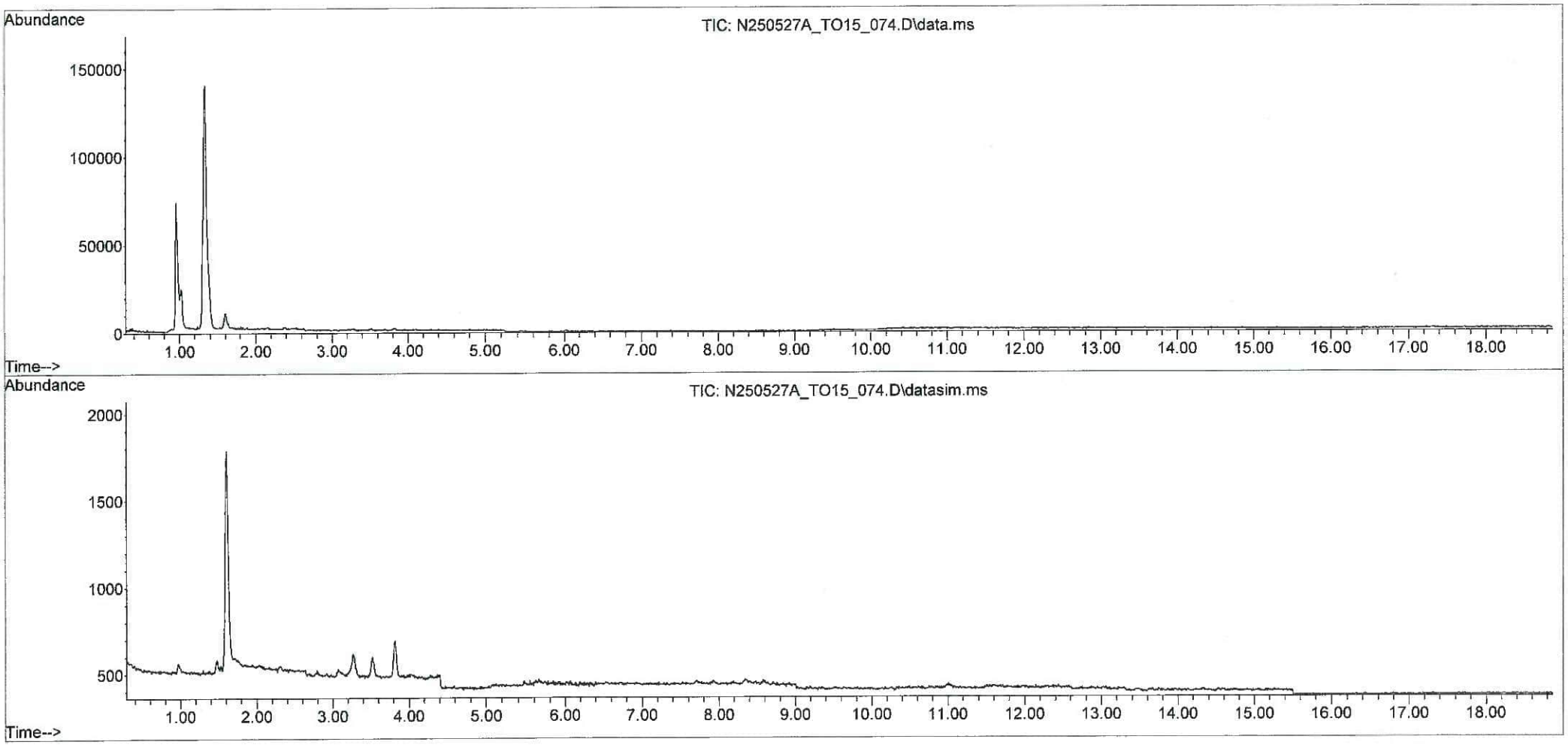
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_074.D
Acq On : 30 May 2025 14:30
Operator : MA
Sample : ch08 sc14108 v500
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 02 08:47:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_071.D
Acq On : 30 May 2025 13:03
Operator : MA
Sample : ch05 sc1051 v500
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 08:46:30 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.	d	
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.	d	
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_071.D
Acq On : 30 May 2025 13:03
Operator : MA
Sample : ch05 sc1051 v500
Misc :
ALS Vial : 5 Sample Multiplier: 1

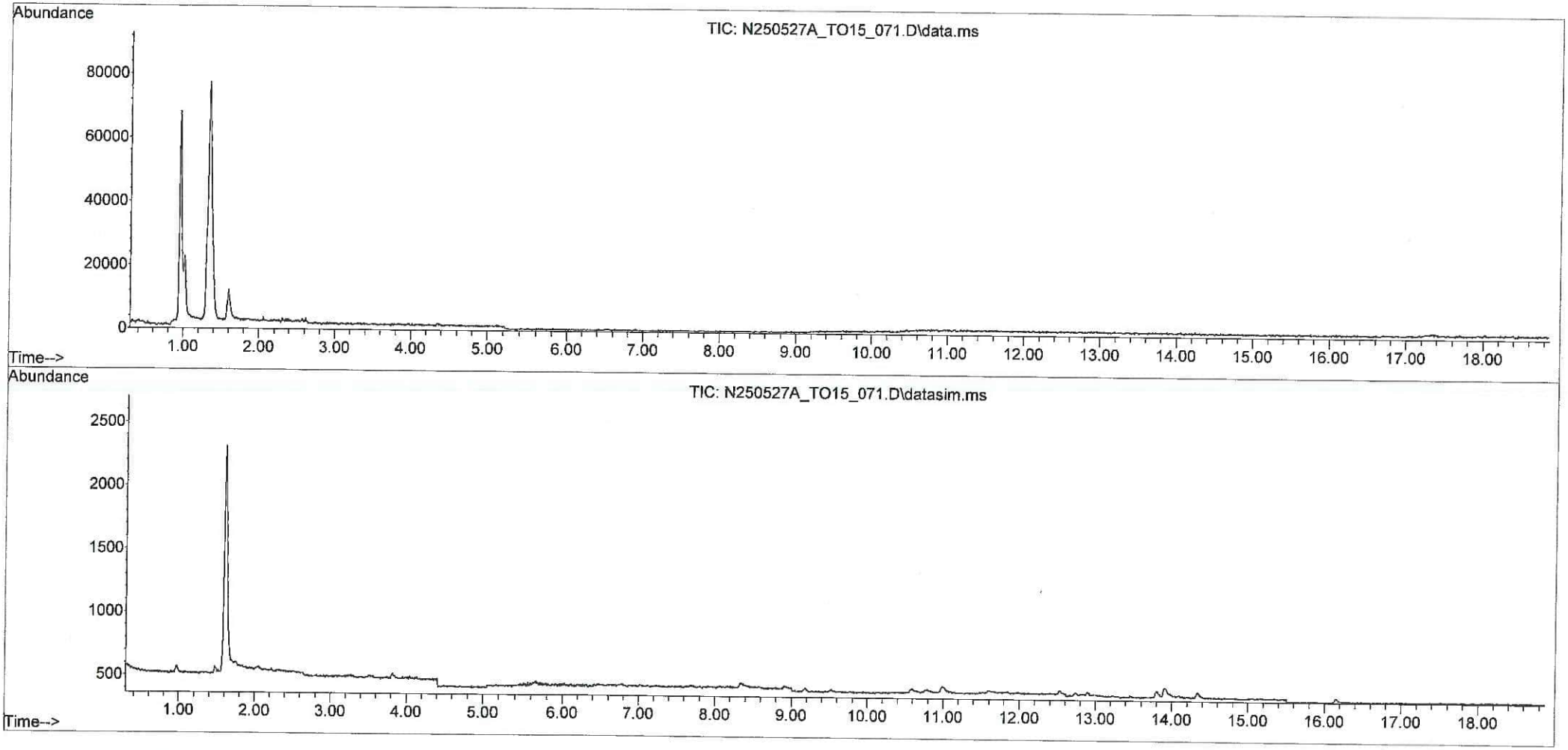
Quant Time: Jun 02 08:46:30 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.	d	
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.	d	
80] 1,4-Dichlorobenzene	0.000		0	N.D.	d	
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_071.D
Acq On : 30 May 2025 13:03
Operator : MA
Sample : ch05 sc1051 v500
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 08:46:30 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_072.D
Acq On : 30 May 2025 13:32
Operator : MA
Sample : ch06 sc1102 v500
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 02 08:46:52 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_072.D
Acq On : 30 May 2025 13:32
Operator : MA
Sample : ch06 sc1102 v500
Misc :
ALS Vial : 6 Sample Multiplier: 1

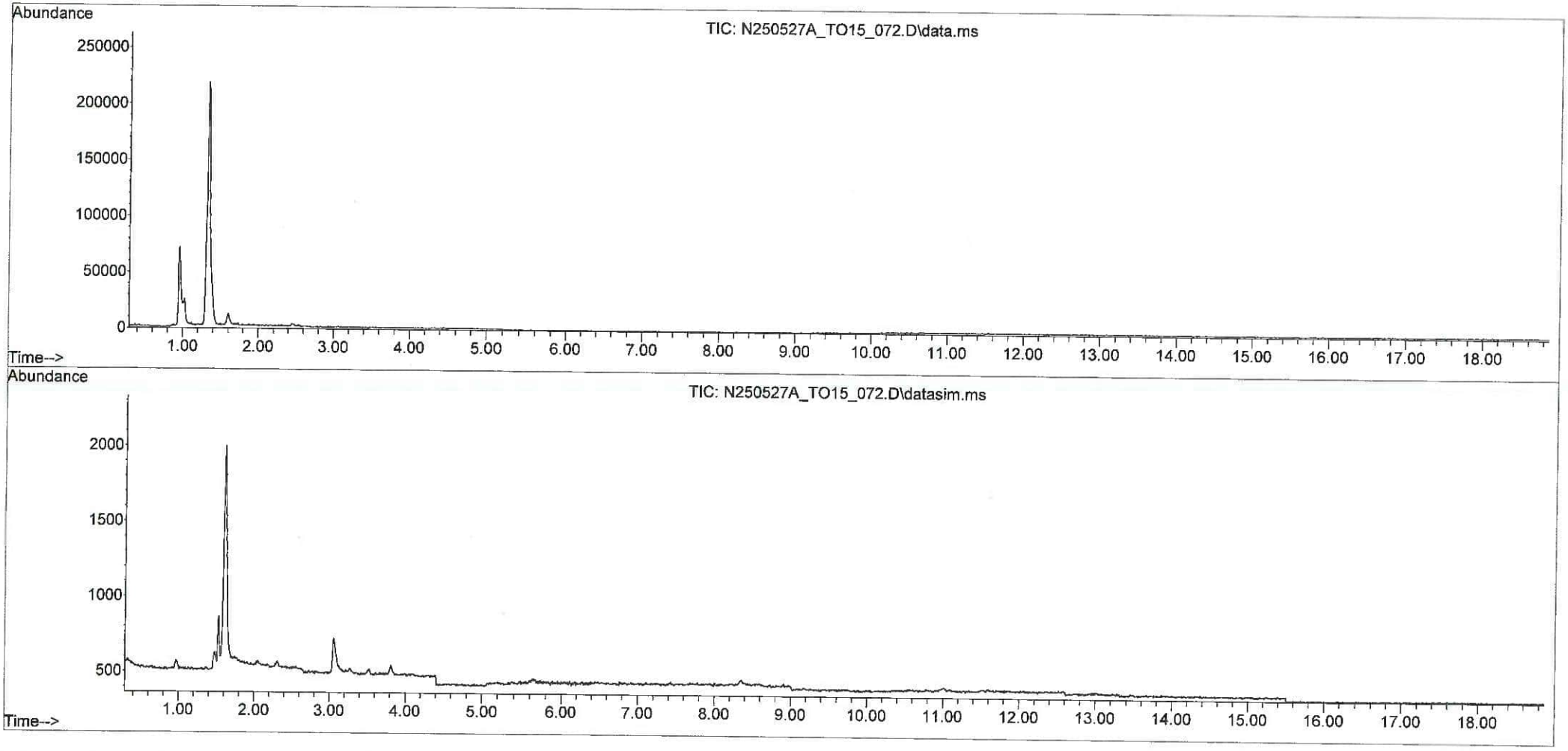
Quant Time: Jun 02 08:46:52 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_072.D
Acq On : 30 May 2025 13:32
Operator : MA
Sample : ch06 sc1102 v500
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 02 08:46:52 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_078.D
Acq On : 30 May 2025 16:26
Operator : MA
Sample : ch13 sc3704 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 02 08:48:26 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_078.D
Acq On : 30 May 2025 16:26
Operator : MA
Sample : ch13 sc3704 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 02 08:48:26 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

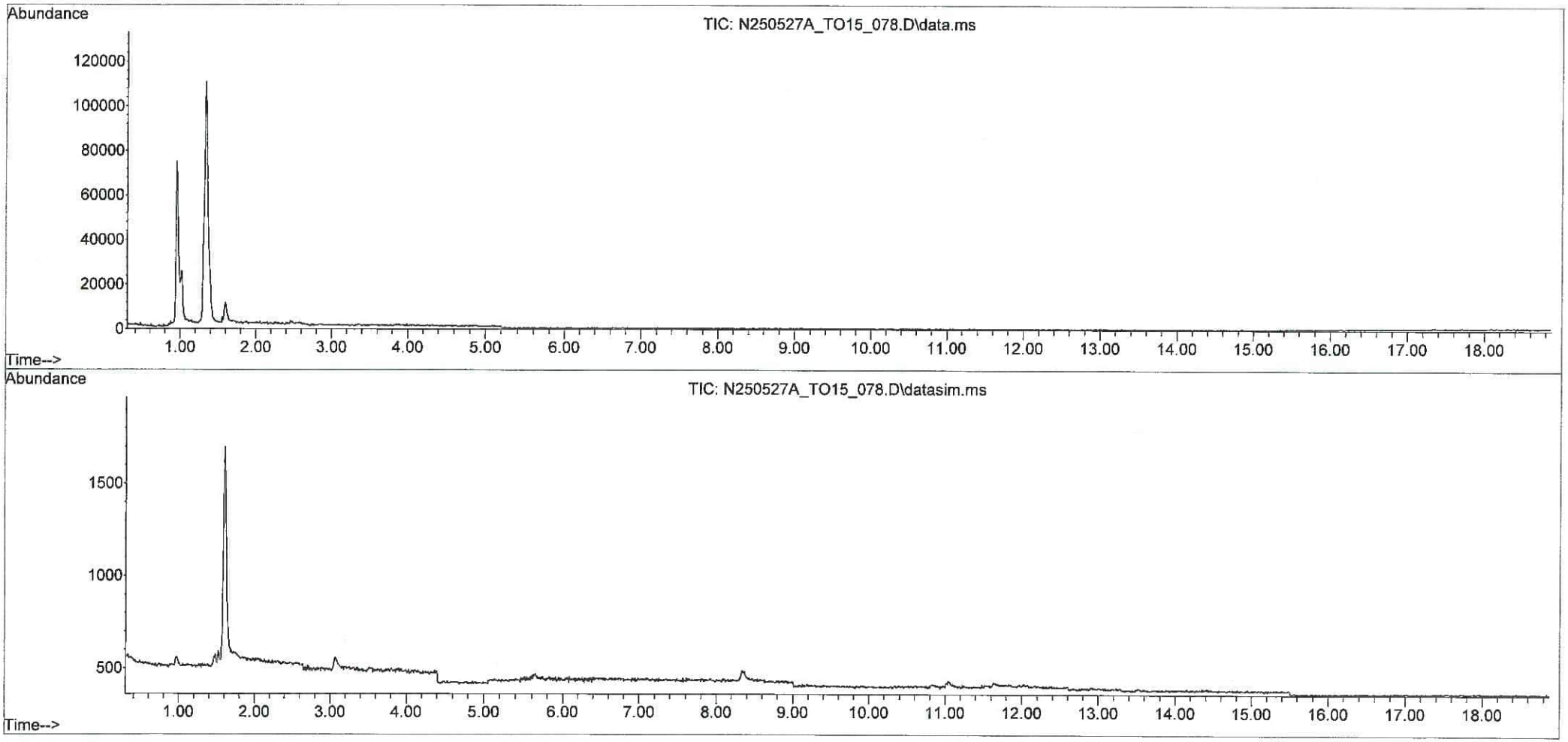
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54)	Octane^	0.000		0	N.D.		
55]	trans-1,3-Dichloropropene	0.000		0	N.D.		
56]	1,1,2-Trichloroethane	0.000		0	N.D.		
57]	Tetrachloroethene	0.000		0	N.D.		
58)	2-Hexanone	0.000		0	N.D.		
59)	Dibromochloromethane	0.000		0	N.D.		
60)	1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61]	Chlorobenzene	0.000		0	N.D.		
62)	1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63]	Ethyl benzene	0.000		0	N.D.		
64]	m,p-Xylene	0.000		0	N.D.		
65)	Nonane	0.000		0	N.D.		
66]	o-Xylene	0.000		0	N.D.		
67]	Styrene	0.000		0	N.D.		
68)	Bromoform	0.000		0	N.D.		
69)	Cumene	0.000		0	N.D.		
70]	1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71]	Propylbenzene	0.000		0	N.D.		
72)	2-Chlorotoluene	0.000		0	N.D.		
73)	4-Ethyltoluene	0.000		0	N.D.		
74]	1,3,5-Trimethylbenzene	0.000		0	N.D.		
75)	tert-Butylbenzene^	0.000		0	N.D.		
76)	Decane^	0.000		0	N.D.		
77]	1,2,4-Trimethylbenzene	0.000		0	N.D.		
78)	sec-Butylbenzene^	0.000		0	N.D.		
79]	1,3-Dichlorobenzene	0.000		0	N.D.		
80]	1,4-Dichlorobenzene	0.000		0	N.D.		
81]	alpha-Chlorotoluene	0.000		0	N.D.		
82)	o-Cymene^	0.000		0	N.D.		
83)	p-Diethylbenzene^	0.000		0	N.D.		
84)	n-Butylbenzene^	0.000		0	N.D.		
85]	1,2-Dichlorobenzene	0.000		0	N.D.		
86)	Undecane^	0.000		0	N.D.		
87)	Dodecane^	0.000		0	N.D.		
88]	1,2,4-Trichlorobenzene	0.000		0	N.D.		
89)	Hexachlorobutadiene	0.000		0	N.D.		
90]	Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_078.D
Acq On : 30 May 2025 16:26
Operator : MA
Sample : ch13 sc3704 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 02 08:48:26 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_076.D
Acq On : 30 May 2025 15:28
Operator : MA
Sample : ch10 sc13616 v500
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 02 08:47:52 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.	d	
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_076.D
Acq On : 30 May 2025 15:28
Operator : MA
Sample : ch10 sc13616 v500
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 02 08:47:52 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

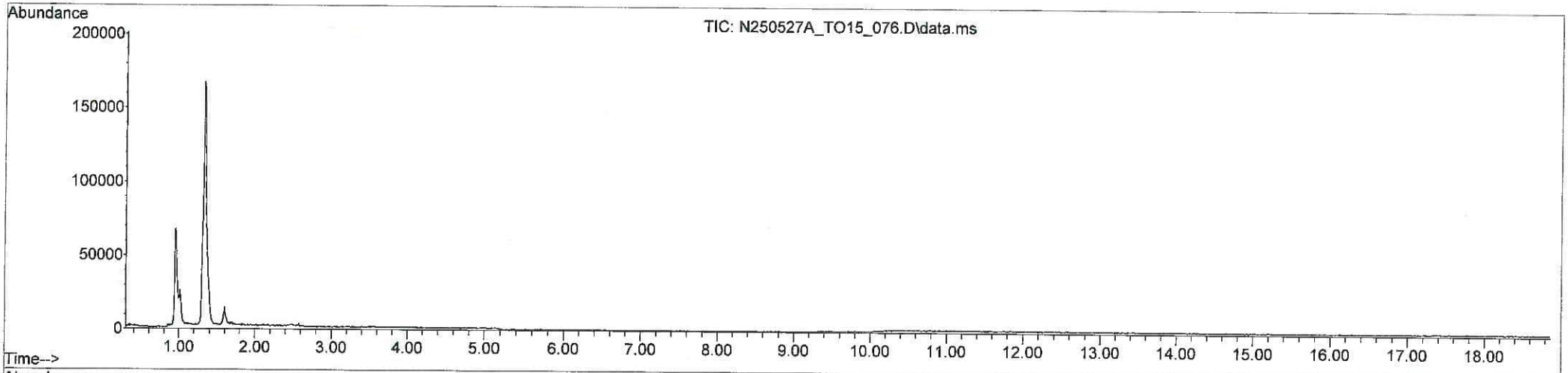
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54)	Octane^	0.000		0	N.D.		
55)	trans-1,3-Dichloropropene	0.000		0	N.D.		
56)	1,1,2-Trichloroethane	0.000		0	N.D.		
57)	Tetrachloroethene	0.000		0	N.D.		
58)	2-Hexanone	0.000		0	N.D.		
59)	Dibromochloromethane	0.000		0	N.D.		
60)	1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61)	Chlorobenzene	0.000		0	N.D.		
62)	1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63)	Ethyl benzene	0.000		0	N.D.		
64)	m,p-Xylene	0.000		0	N.D.		
65)	Nonane	0.000		0	N.D.		
66)	o-Xylene	0.000		0	N.D.		
67)	Styrene	0.000		0	N.D.		
68)	Bromoform	0.000		0	N.D.		
69)	Cumene	0.000		0	N.D.		
70)	1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71)	Propylbenzene	0.000		0	N.D.		
72)	2-Chlorotoluene	0.000		0	N.D.		
73)	4-Ethyltoluene	0.000		0	N.D.		
74)	1,3,5-Trimethylbenzene	0.000		0	N.D.		
75)	tert-Butylbenzene^	0.000		0	N.D.		
76)	Decane^	0.000		0	N.D.		
77)	1,2,4-Trimethylbenzene	0.000		0	N.D.		
78)	sec-Butylbenzene^	0.000		0	N.D.		
79)	1,3-Dichlorobenzene	0.000		0	N.D.		
80)	1,4-Dichlorobenzene	0.000		0	N.D.		
81)	alpha-Chlorotoluene	0.000		0	N.D.		
82)	o-Cymene^	0.000		0	N.D.		
83)	p-Diethylbenzene^	0.000		0	N.D.		
84)	n-Butylbenzene^	0.000		0	N.D.		
85)	1,2-Dichlorobenzene	0.000		0	N.D.		
86)	Undecane^	0.000		0	N.D.		
87)	Dodecane^	0.000		0	N.D.		
88)	1,2,4-Trichlorobenzene	0.000		0	N.D.		
89)	Hexachlorobutadiene	0.000		0	N.D.		
90)	Naphthalene	0.000		0	N.D.		

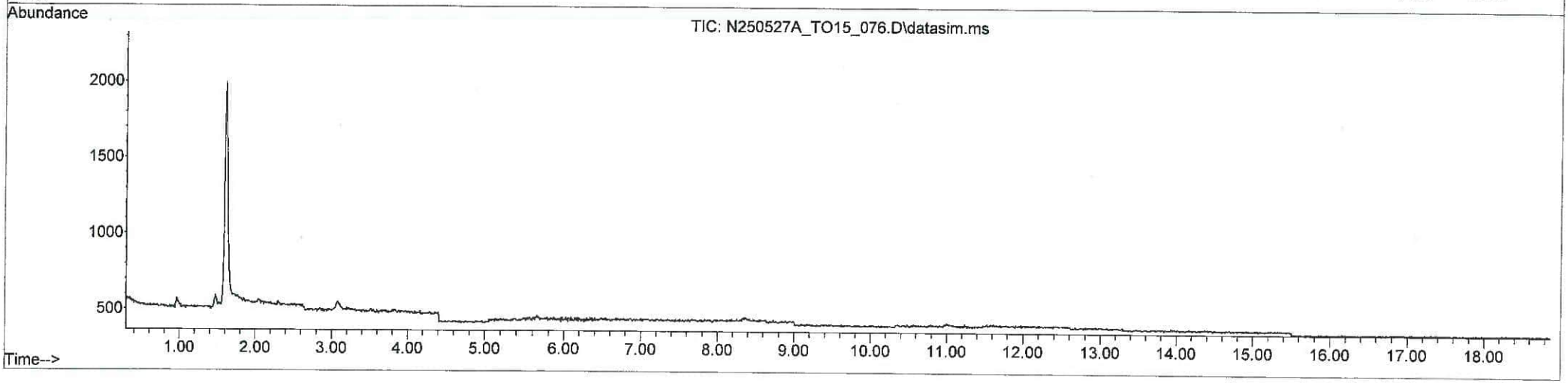
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_076.D
Acq On : 30 May 2025 15:28
Operator : MA
Sample : ch10 sc13616 v500
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 02 08:47:52 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_073.D
Acq On : 30 May 2025 14:01
Operator : MA
Sample : ch07 sc3700 v500
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 08:47:08 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_073.D
Acq On : 30 May 2025 14:01
Operator : MA
Sample : ch07 sc3700 v500
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 08:47:08 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

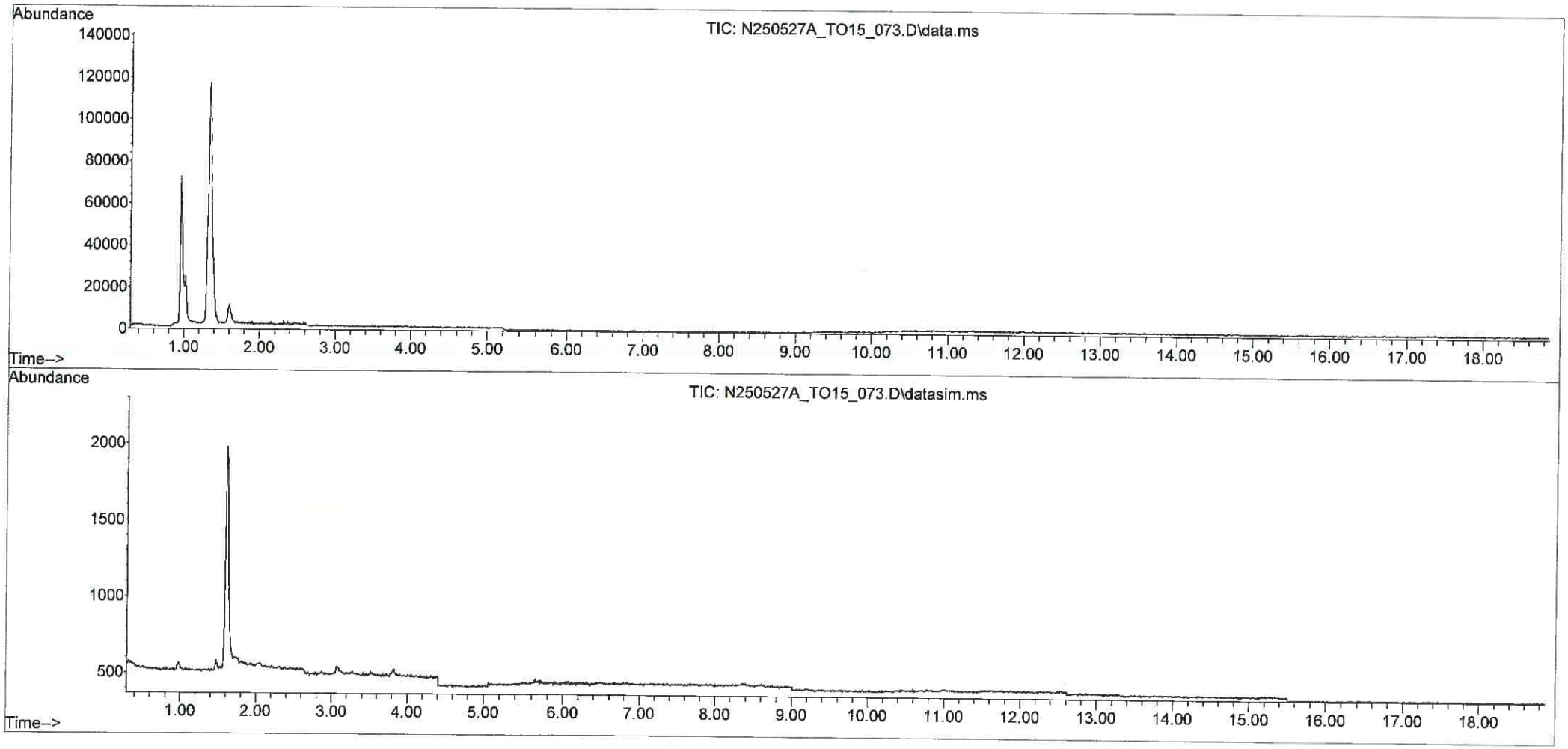
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_073.D
Acq On : 30 May 2025 14:01
Operator : MA
Sample : ch07 sc3700 v500
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 08:47:08 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_077.D
Acq On : 30 May 2025 15:57
Operator : MA
Sample : ch12 sc13597 v500
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 02 08:48:10 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.	d	
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.	d	
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

ata Path : D:\MassHunter\GCMS\1\data\N250527A\
ata File : N250527A_TO15_077.D
cq On : 30 May 2025 15:57
perator : MA
ample : ch12 sc13597 v500
lisc :
LS Vial : 12 Sample Multiplier: 1

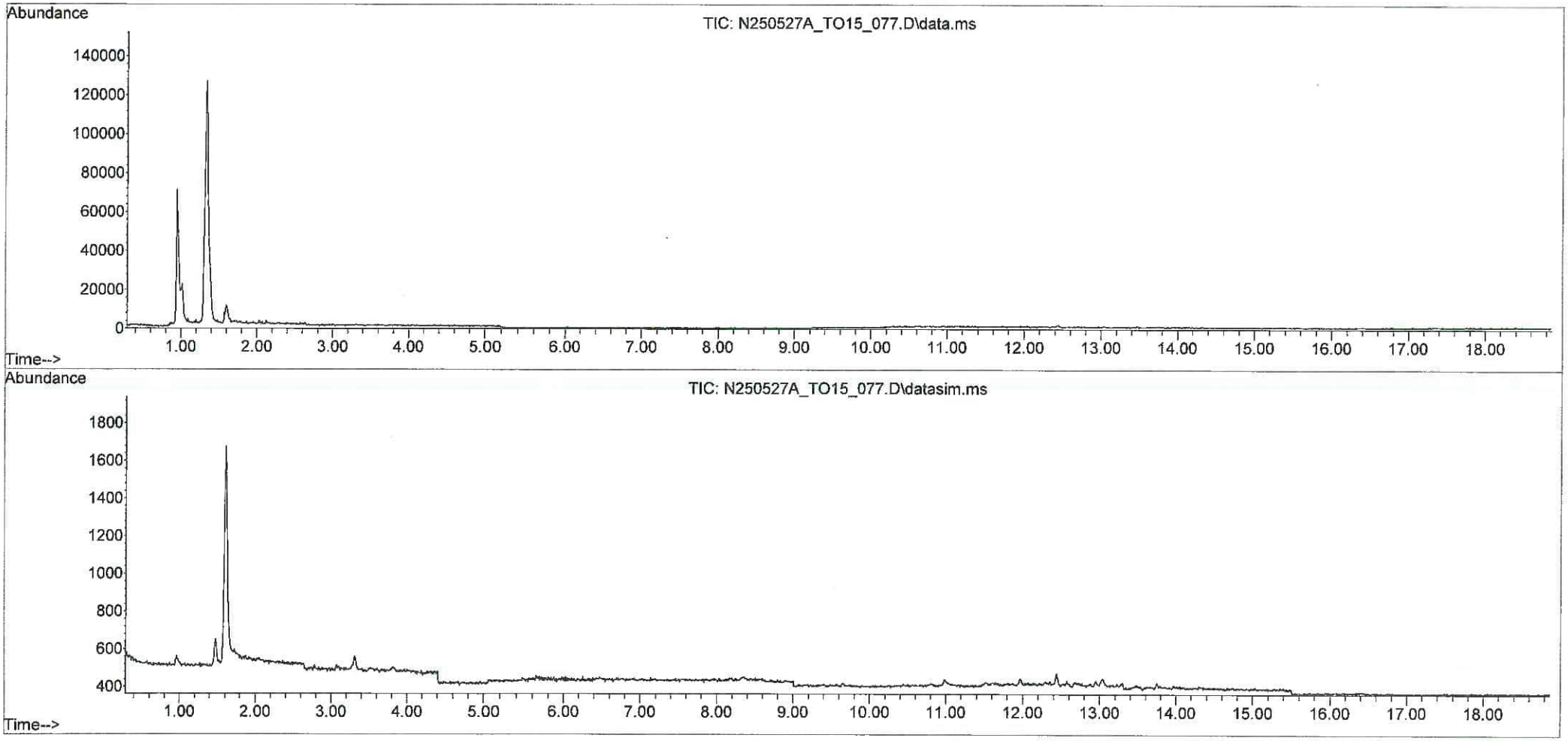
)uant Time: Jun 02 08:48:10 2025
)uant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
)uant Title : USEPA TO-15H
)Last Update : Thu May 29 13:56:19 2025
lesponse via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_077.D
Acq On : 30 May 2025 15:57
Operator : MA
Sample : ch12 sc13597 v500
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 02 08:48:10 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_075.D
Acq On : 30 May 2025 14:59
Operator : MA
Sample : ch09 sc18433 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 08:47:37 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_075.D
Acq On : 30 May 2025 14:59
Operator : MA
Sample : ch09 sc18433 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

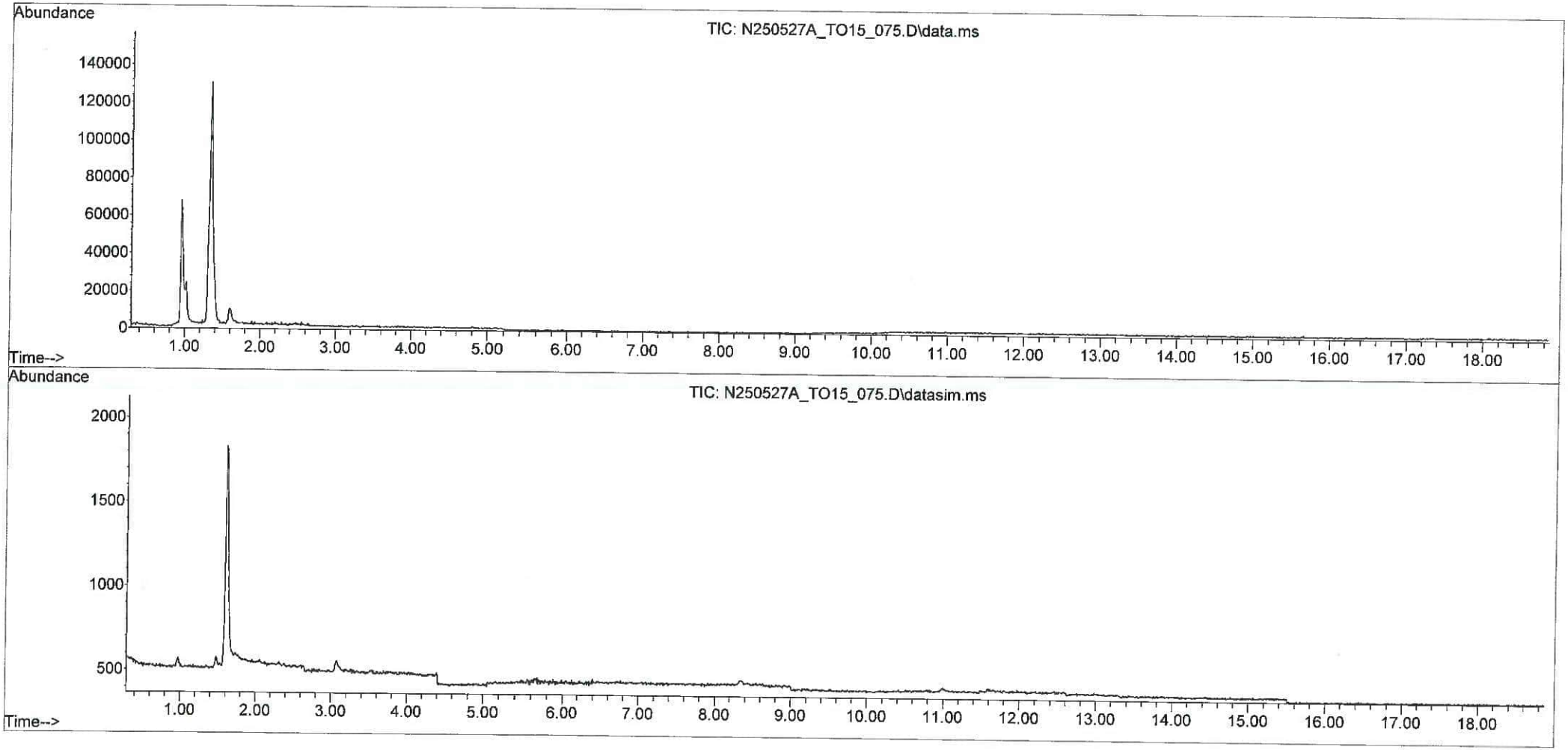
Quant Time: Jun 02 08:47:37 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_075.D
Acq On : 30 May 2025 14:59
Operator : MA
Sample : ch09 sc18433 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 08:47:37 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MASSHUNTER\GCMS\1\DATA\N250527A\
Data File : N250527A_TO15_089.D
Acq On : 31 May 2025 09:57
Operator : MA
Sample : ch09 sc18402 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 09:59:11 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0		N.D.	
2] Freon 12	0.000		0		N.D.	
3) Freon 114	0.000		0		N.D.	d
4) Chloromethane	0.000		0		N.D.	
5] Vinyl Chloride	0.000		0		N.D.	
6) 1,3-Butadiene	0.000		0		N.D.	
7) Bromomethane	0.000		0		N.D.	
8) Chloroethane	0.000		0		N.D.	
9) 2-Methylbutane^	0.000		0		N.D.	
10) Vinyl Bromide	0.000		0		N.D.	d
11) Freon 11	0.000		0		N.D.	
12) Pentane	0.000		0		N.D.	
13) Ethanol	0.000		0		N.D.	
14) Acrolein	0.000		0		N.D.	
15) Acetone	0.000		0		N.D.	
16) Freon 113	0.000		0		N.D.	
17] 1,1-Dichloroethene	0.000		0		N.D.	
18) 2-Propanol	0.000		0		N.D.	
19) Acetonitrile^	0.000		0		N.D.	
20) Carbon Disulfide	0.000		0		N.D.	
21] 3-Chloropropene	0.000		0		N.D.	
22) tert-Butyl Alcohol	0.000		0		N.D.	d
23) Methylene Chloride	0.000		0		N.D.	
24] trans-1,2-Dichloroethene	0.000		0		N.D.	
25) Acrylonitrile^	0.000		0		N.D.	
26) Methyl tert-Butyl Ether	0.000		0		N.D.	
27) Hexane	0.000		0		N.D.	
28) Vinyl Acetate	0.000		0		N.D.	
29) Diisopropyl Ether^	0.000		0		N.D.	
30] 1,1-Dichloroethane	0.000		0		N.D.	
31) 2-Chloroprene^	0.000		0		N.D.	
32) 2-Butanone (Methyl Eth...	0.000		0		N.D.	
33) Ethyl Acetate	0.000		0		N.D.	
34) Ethyl tert-Butyl Ether^	0.000		0		N.D.	
35] cis-1,2-Dichloroethene	0.000		0		N.D.	
36] Chloroform	0.000		0		N.D.	
37) Tetrahydrofuran	0.000		0		N.D.	
38] 1,1,1-Trichloroethane	0.000		0		N.D.	
39) Cyclohexane	0.000		0		N.D.	
40] Carbon Tetrachloride	0.000		0		N.D.	
41] 1,2-Dichloroethane	0.000		0		N.D.	
42] Benzene	0.000		0		N.D.	
43) 2,2,4-Trimethylpentane	0.000		0		N.D.	
44) Heptane	0.000		0		N.D.	
45) tert-Amyl Methyl Ether^	0.000		0		N.D.	
46] Trichloroethene	0.000		0		N.D.	
47] 1,2-Dichloropropane	0.000		0		N.D.	d
48) Methyl Methacrylate	0.000		0		N.D.	
49) 1,4-Dioxane	0.000		0		N.D.	
50) Bromodichloromethane	0.000		0		N.D.	
51] cis-1,3-Dichloropropene	0.000		0		N.D.	
52) 4-Methyl-2-pentanone	0.000		0		N.D.	
53] Toluene	0.000		0		N.D.	d

Quantitation Report (QT Reviewed)

ata Path : D:\MASSHUNTER\GCMS\1\DATA\N250527A\
ata File : N250527A_TO15_089.D
cq On : 31 May 2025 09:57
perator : MA
ample : ch09 sc18402 v500
isc :
LS Vial : 9 Sample Multiplier: 1

uant Time: Jun 02 09:59:11 2025
uant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
uant Title : USEPA TO-15H
Last Update : Thu May 29 13:56:19 2025
esponse via : Initial Calibration

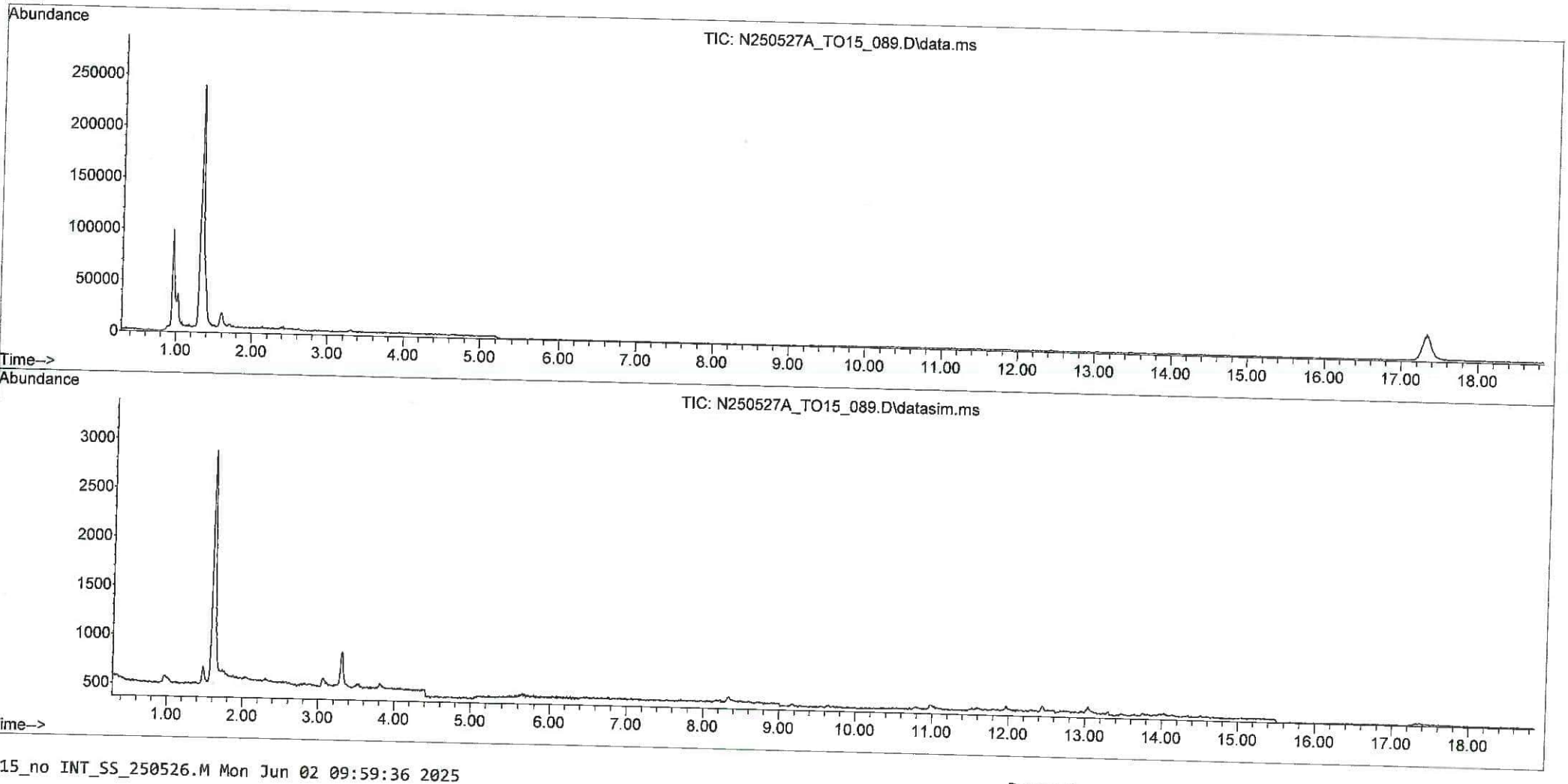
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D. d		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MASSHUNTER\GCMS\1\DATA\N250527A\
Data File : N250527A_TO15_089.D
Acq On : 31 May 2025 09:57
Operator : MA
Sample : ch09 sc18402 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 09:59:11 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_092.D
Acq On : 02 Jun 2025 10:13
Operator : MA
Sample : ch13 sc1027 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 02 12:08:31 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.	d	
42] Benzene	0.000		0	N.D.	d	
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_092.D
Acq On : 02 Jun 2025 10:13
Operator : MA
Sample : ch13 sc1027 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 02 12:08:31 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

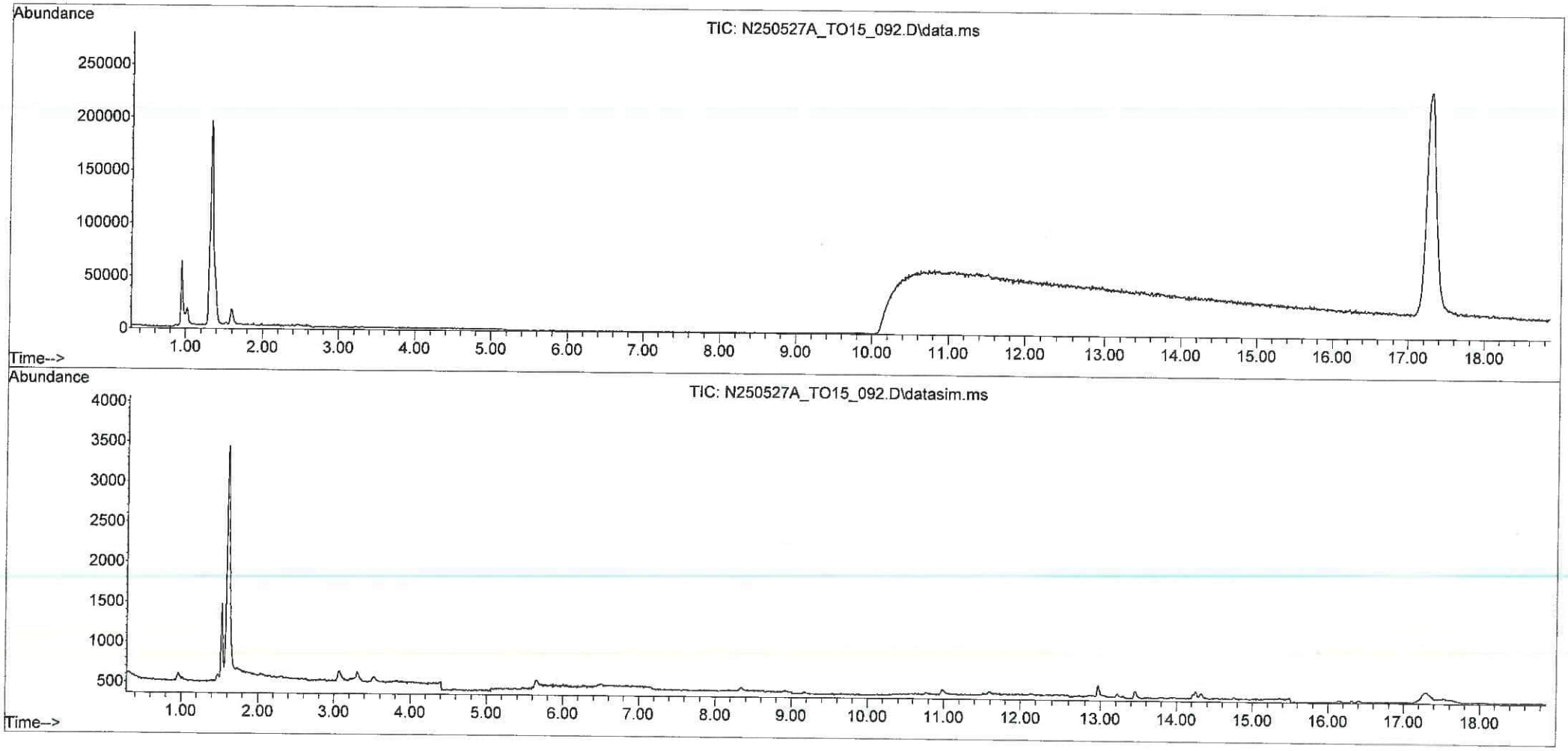
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.	d	
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.	d	
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.	d	
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_092.D
Acq On : 02 Jun 2025 10:13
Operator : MA
Sample : ch13 sc1027 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 02 12:08:31 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Data Path : D:\MassHunter\GCMS\1\data\2025\E250526A\
Data File : E250526A_TO15_SS_138.D
Acq On : 02 Jun 2025 09:26
Operator :
Sample : ch16 sc1083 v500
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 02 11:53:27 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Wed May 28 08:41:15 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
Target Compounds				Qvalue
1) Propene	0.000		0	N.D.
2] Freon 12	0.000		0	N.D.
3) Freon 114	0.000		0	N.D.
4) Chloromethane	0.000		0	N.D.
5] Vinyl Chloride	0.000		0	N.D.
6) 1,3-Butadiene	0.000		0	N.D.
7) Bromomethane	0.000		0	N.D.
8) Chloroethane	0.000		0	N.D.
9) 2-Methylbutane^	0.000		0	N.D.
10) Vinyl Bromide	0.000		0	N.D.
11) Freon 11	0.000		0	N.D.
12) Pentane	0.000		0	N.D.
13) Ethanol	0.000		0	N.D.
14) Acrolein	0.000		0	N.D.
15) Acetone	0.000		0	N.D.
16) Freon 113	0.000		0	N.D.
17] 1,1-Dichloroethene	0.000		0	N.D.
18) 2-Propanol	0.000		0	N.D.
19) Acetonitrile^	0.000		0	N.D.
20) Carbon Disulfide	0.000		0	N.D.
21] 3-Chloropropene	0.000		0	N.D.
22) tert-butyl Alcohol	0.000		0	N.D.
23) Methylene Chloride	0.000		0	N.D.
24] trans-1,2-Dichloroethene	0.000		0	N.D.
25) Acrylonitrile^	0.000		0	N.D.
26) Methyl tert-Butyl Ether	0.000		0	N.D.
27) Hexane	0.000		0	N.D.
28) Vinyl Acetate	0.000		0	N.D.
29) Diisopropyl Ether^	0.000		0	N.D.
30] 1,1-Dichloroethane	0.000		0	N.D.
31) 2-Chloroprene^	0.000		0	N.D.
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.
33) Ethyl Acetate	0.000		0	N.D.
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.
35) cis-1,2-Dichloroethene	0.000		0	N.D.
36] Chloroform	0.000		0	N.D.
37) Tetrahydrofuran	0.000		0	N.D.
38) 1,1,1-Trichloroethane	0.000		0	N.D.
39) Cyclohexane	0.000		0	N.D.
40] Carbon Tetrachloride	0.000		0	N.D.
41] 1,2-Dichloroethane	0.000		0	N.D.
42] Benzene	0.000		0	N.D.
43) 2,2,4-Trimethylpentane	0.000		0	N.D.
44) Heptane	0.000		0	N.D.
45) tert- Amyl Methyl Ether^	0.000		0	N.D.
46) Trichloroethene	0.000		0	N.D.
47] 1,2-Dichloropropane	0.000		0	N.D.
48) Methyl Methacrylate	0.000		0	N.D.
49) 1,4-Dioxane	0.000		0	N.D.
50) Bromodichloromethane	0.000		0	N.D.
51] cis-1,3-Dichloropropene	0.000		0	N.D.
52) 4-Methyl-2-pentanone	0.000		0	N.D.
53] Toluene	0.000		0	N.D.

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\2025\E250526A\
Data File : E250526A_TO15_SS_138.D
Acq On : 02 Jun 2025 09:26
Operator :
Sample : ch16 sc1083 v500
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 02 11:53:27 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Wed May 28 08:41:15 2025
Response via : Initial Calibration

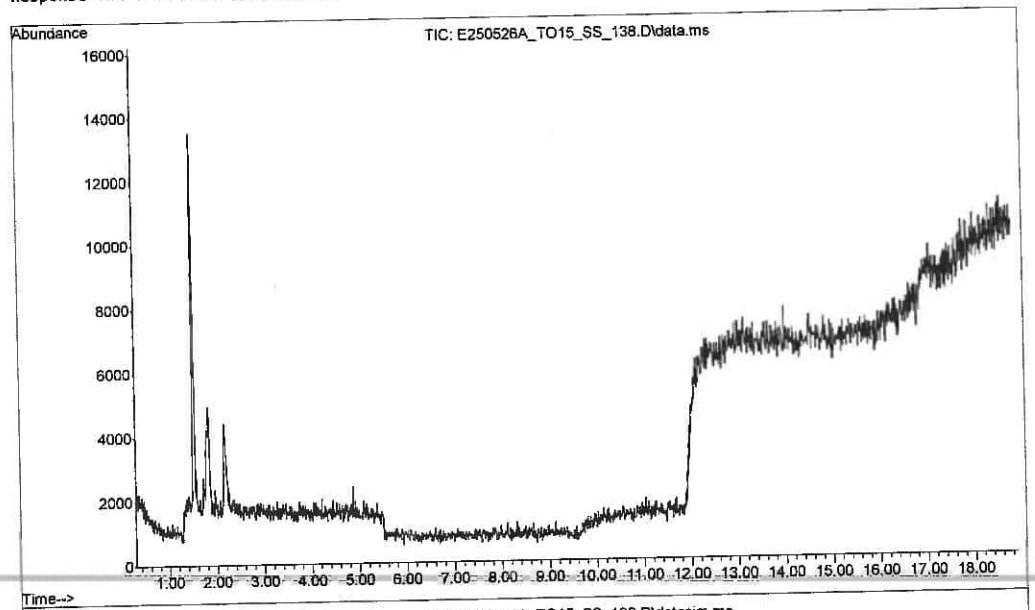
Compound	R.T.	QIon	Response	Conc Units Dev(Min)
54) Octane^	0.000		0	N.D.
55] trans-1,3-Dichloropropene	0.000		0	N.D.
56] 1,1,2-Trichloroethane	0.000		0	N.D.
57) Tetrachloroethene	0.000		0	N.D.
58) 2-Hexanone	0.000		0	N.D.
59) Dibromochloromethane	0.000		0	N.D.
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.
61] Chlorobenzene	0.000		0	N.D.
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.
63] Ethyl benzene	0.000		0	N.D.
64] m,p-Xylene	0.000		0	N.D.
65) Nonane	0.000		0	N.D.
66] o-Xylene	0.000		0	N.D.
67) Styrene	0.000		0	N.D.
68) Bromoform	0.000		0	N.D.
69) Cumene	0.000		0	N.D.
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.
71] Propylbenzene	0.000		0	N.D.
72) 2-Chlorotoluene	0.000		0	N.D.
73) 4-Ethyltoluene	0.000		0	N.D.
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.
75) tert-Butylbenzene^	0.000		0	N.D.
76) Decane^	0.000		0	N.D.
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.
78) sec-Butylbenzene^	0.000		0	N.D.
79] 1,3-Dichlorobenzene	0.000		0	N.D.
80] 1,4-Dichlorobenzene	0.000		0	N.D.
81] alpha-Chlorotoluene	0.000		0	N.D.
82) o-Cymene^	0.000		0	N.D.
83) p-Diethylbenzene^	0.000		0	N.D.
84) n-Butylbenzene^	0.000		0	N.D.
85) 1,2-Dichlorobenzene	0.000		0	N.D.
86) Undecane^	0.000		0	N.D.
87) Dodecane^	0.000		0	N.D.
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.
89) Hexachlorobutadiene	0.000		0	N.D.
90] Naphthalene	0.000		0	N.D.

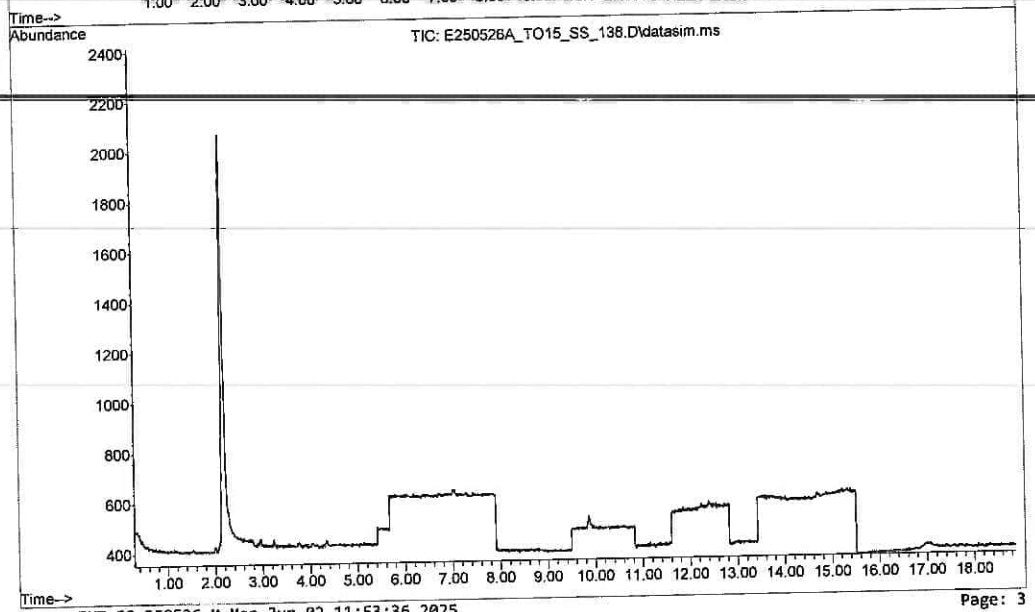
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\2025\E250526A\
Data File : E250526A_TO15_SS_138.D
Acq On : 02 Jun 2025 09:26
Operator :
Sample : ch16 sc1083 v500
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 02 11:53:27 2025
Quant Method : D:\MassHunter\GCMS\1\methods\DA Methods\TO15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Wed May 28 08:41:15 2025
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_096.D
Acq On : 02 Jun 2025 12:59
Operator : MA
Sample : ch05 sc14157 v500
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 14:25:58 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.	d	
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.	d	
42] Benzene	0.000		0	N.D.	d	
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.	d	
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_096.D
Acq On : 02 Jun 2025 12:59
Operator : MA
Sample : ch05 sc14157 v500
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 14:25:58 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

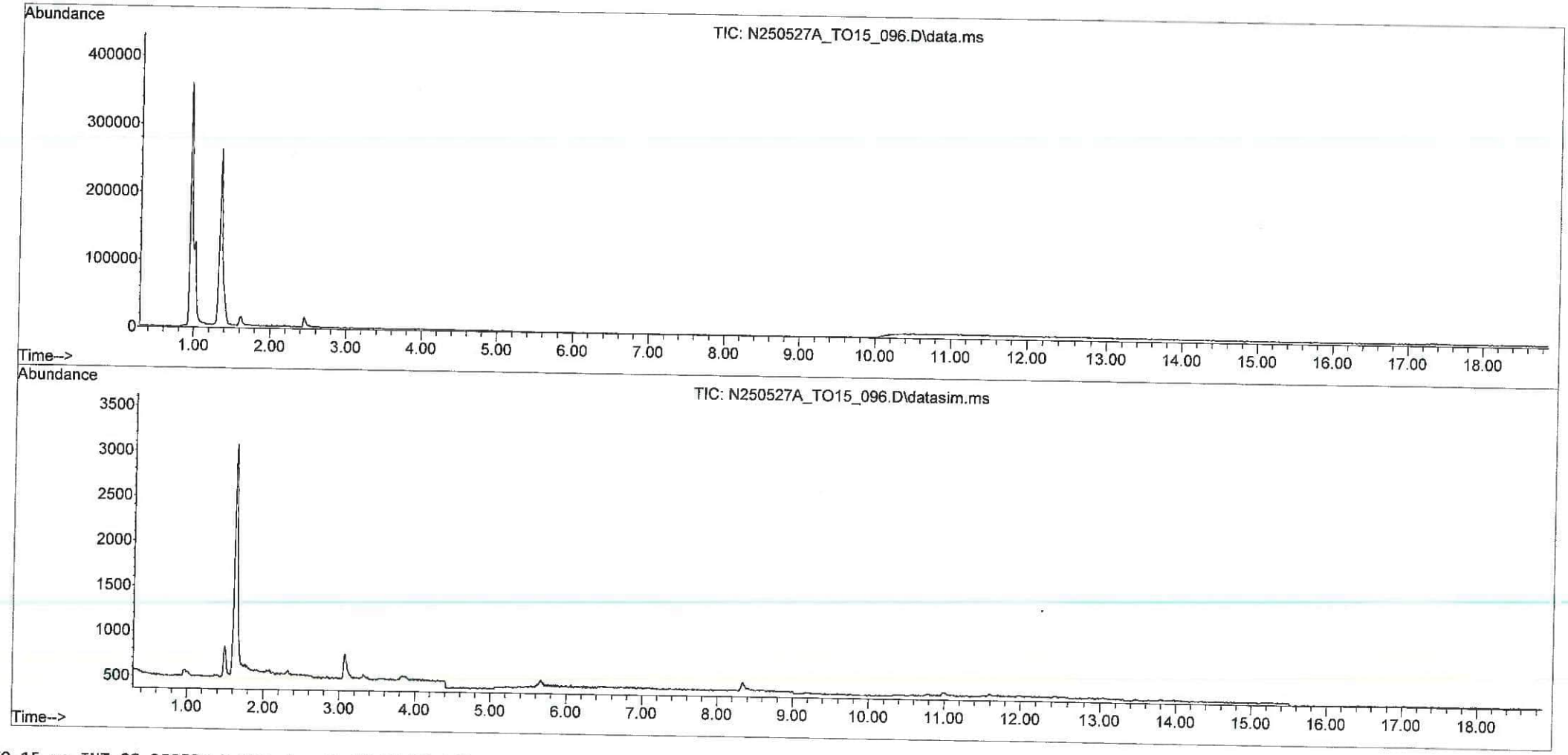
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_096.D
Acq On : 02 Jun 2025 12:59
Operator : MA
Sample : ch05 sc14157 v500
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 14:25:58 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_097.D
Acq On : 02 Jun 2025 13:28
Operator : MA
Sample : ch06 sc13610 v500
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 02 14:26:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.	d	
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.	d	
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_097.D
Acq On : 02 Jun 2025 13:28
Operator : MA
Sample : ch06 sc13610 v500
Misc :
ALS Vial : 6 Sample Multiplier: 1

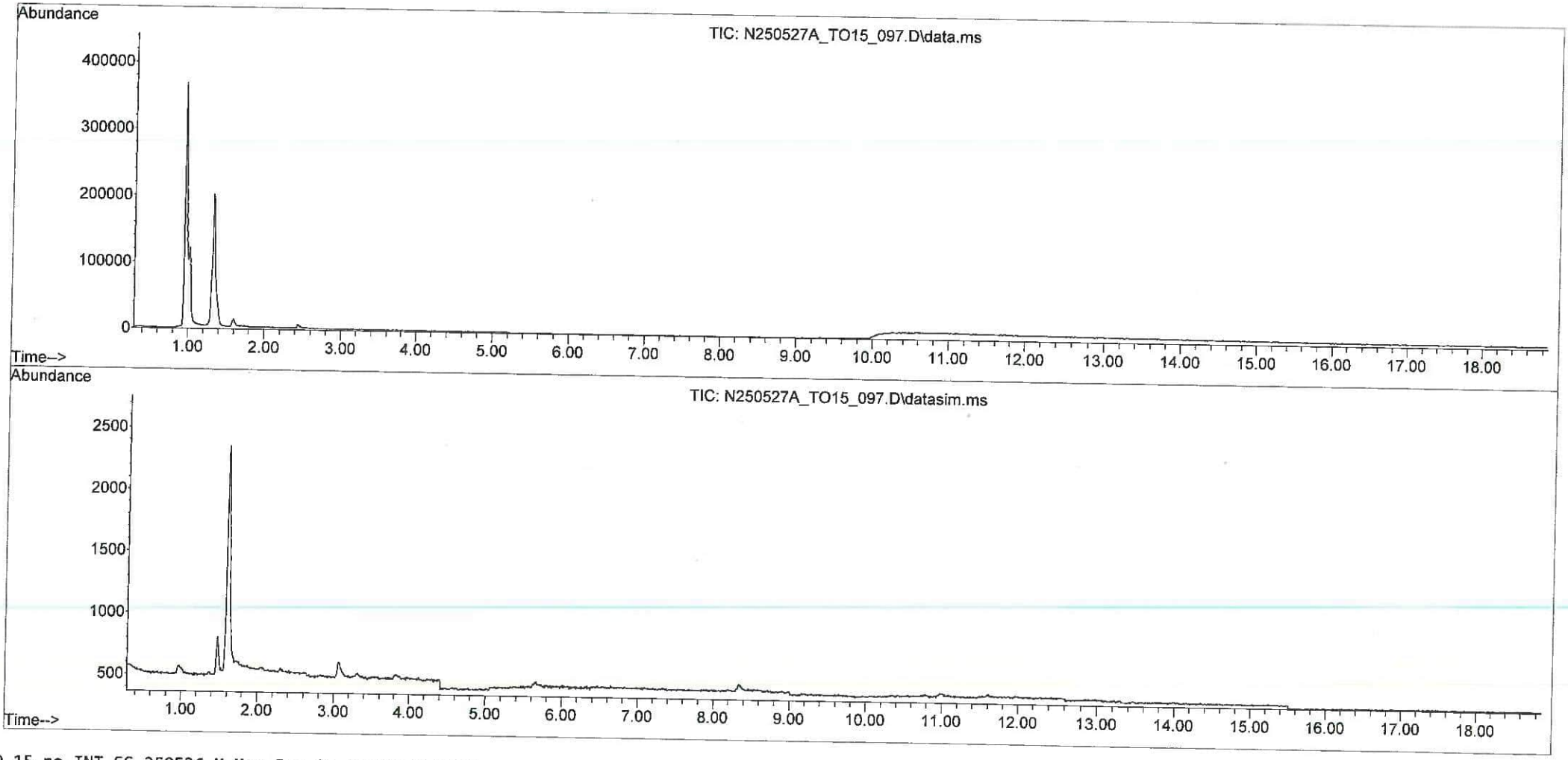
Quant Time: Jun 02 14:26:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_097.D
Acq On : 02 Jun 2025 13:28
Operator : MA
Sample : ch06 sc13610 v500
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 02 14:26:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_098.D
Acq On : 02 Jun 2025 13:57
Operator : MA
Sample : ch07 sc3688 v500
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 14:26:41 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.	d	
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.	d	
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.	d	
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.	d	
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_098.D
Acq On : 02 Jun 2025 13:57
Operator : MA
Sample : ch07 sc3688 v500
Misc :
ALS Vial : 7 Sample Multiplier: 1

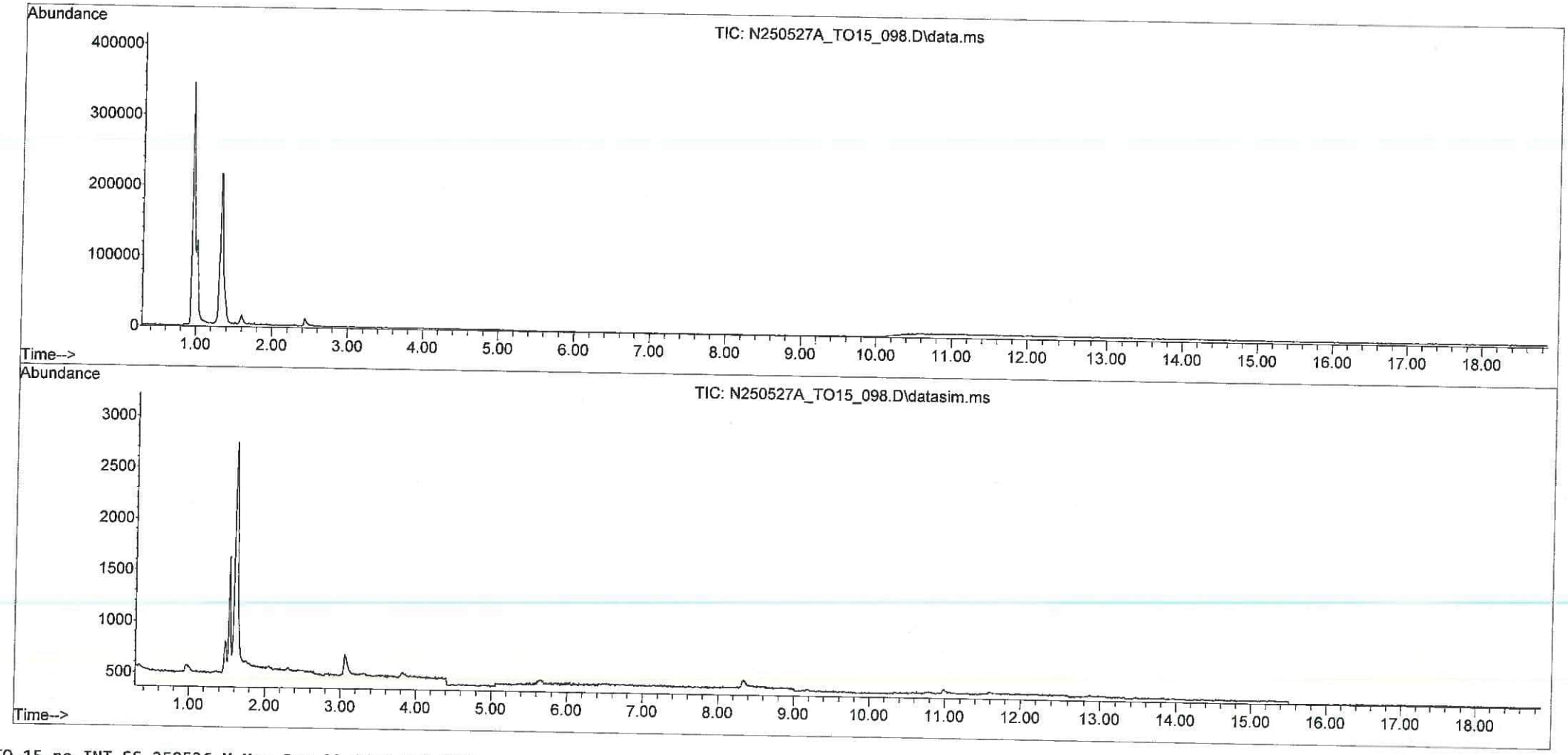
Quant Time: Jun 02 14:26:41 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_098.D
Acq On : 02 Jun 2025 13:57
Operator : MA
Sample : ch07 sc3688 v500
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 14:26:41 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_111.D
Acq On : 02 Jun 2025 20:13
Operator : MA
Sample : ch04 sc18238 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 03 08:17:56 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.	d	
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.	d	
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_111.D
Acq On : 02 Jun 2025 20:13
Operator : MA
Sample : ch04 sc18238 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

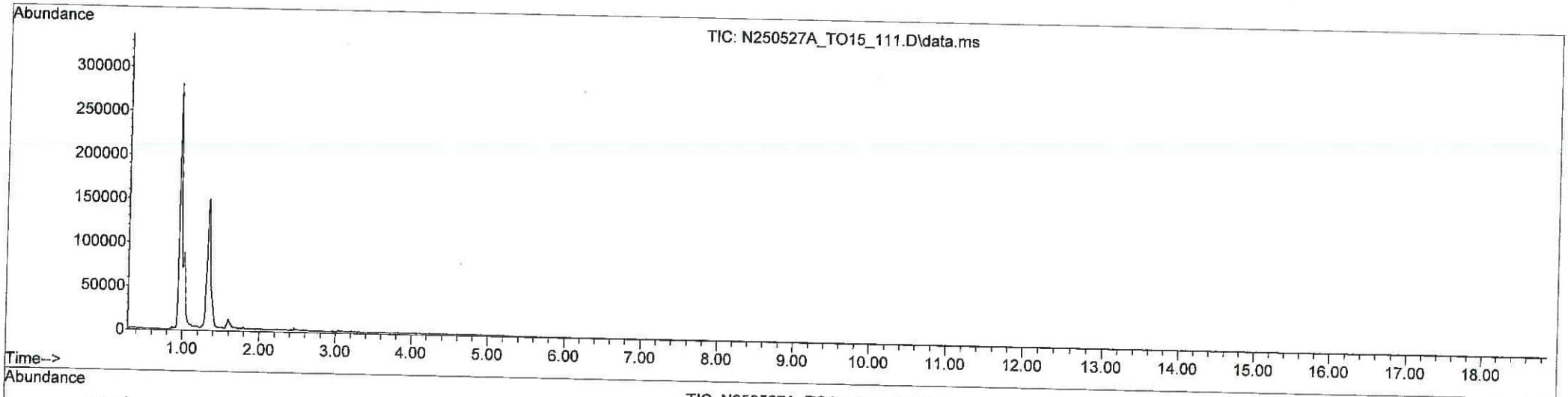
Quant Time: Jun 03 08:17:56 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

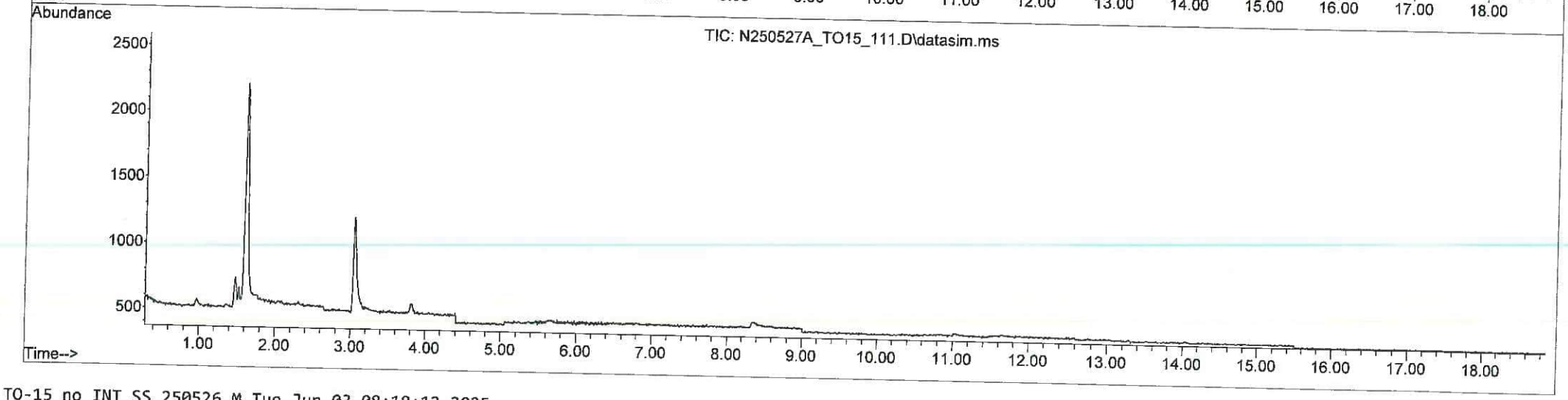
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0		N.D.	
55] trans-1,3-Dichloropropene	0.000		0		N.D.	
56] 1,1,2-Trichloroethane	0.000		0		N.D.	
57] Tetrachloroethene	0.000		0		N.D.	
58) 2-Hexanone	0.000		0		N.D.	
59) Dibromochloromethane	0.000		0		N.D.	
60) 1,2-Dibromoethane (EDB)	0.000		0		N.D.	
61] Chlorobenzene	0.000		0		N.D.	
62) 1,1,1,2-Tetrachloroeth...	0.000		0		N.D.	
63] Ethyl benzene	0.000		0		N.D.	
64] m,p-Xylene	0.000		0		N.D.	
65) Nonane	0.000		0		N.D.	
66] o-Xylene	0.000		0		N.D.	
67] Styrene	0.000		0		N.D.	
68) Bromoform	0.000		0		N.D.	
69) Cumene	0.000		0		N.D.	
70] 1,1,2,2-Tetrachloroethane	0.000		0		N.D.	
71] Propylbenzene	0.000		0		N.D.	
72) 2-Chlorotoluene	0.000		0		N.D.	
73) 4-Ethyltoluene	0.000		0		N.D.	
74] 1,3,5-Trimethylbenzene	0.000		0		N.D.	
75) tert-Butylbenzene^	0.000		0		N.D.	
76) Decane^	0.000		0		N.D.	
77] 1,2,4-Trimethylbenzene	0.000		0		N.D.	
78) sec-Butylbenzene^	0.000		0		N.D.	
79] 1,3-Dichlorobenzene	0.000		0		N.D.	
80] 1,4-Dichlorobenzene	0.000		0		N.D.	
81] alpha-Chlorotoluene	0.000		0		N.D.	
82) o-Cymene^	0.000		0		N.D.	
83) p-Diethylbenzene^	0.000		0		N.D.	
84) n-Butylbenzene^	0.000		0		N.D.	
85] 1,2-Dichlorobenzene	0.000		0		N.D.	
86) Undecane^	0.000		0		N.D.	
87) Dodecane^	0.000		0		N.D.	
88] 1,2,4-Trichlorobenzene	0.000		0		N.D.	
89) Hexachlorobutadiene	0.000		0		N.D.	
90] Naphthalene	0.000		0		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_111.D
Acq On : 02 Jun 2025 20:13
Operator : MA
Sample : ch04 sc18238 v500
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 03 08:17:56 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_110.D
Acq On : 02 Jun 2025 19:44
Operator : MA
Sample : ch13 sc13631 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 03 08:17:39 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.	d	
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.	d	
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_110.D
Acq On : 02 Jun 2025 19:44
Operator : MA
Sample : ch13 sc13631 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

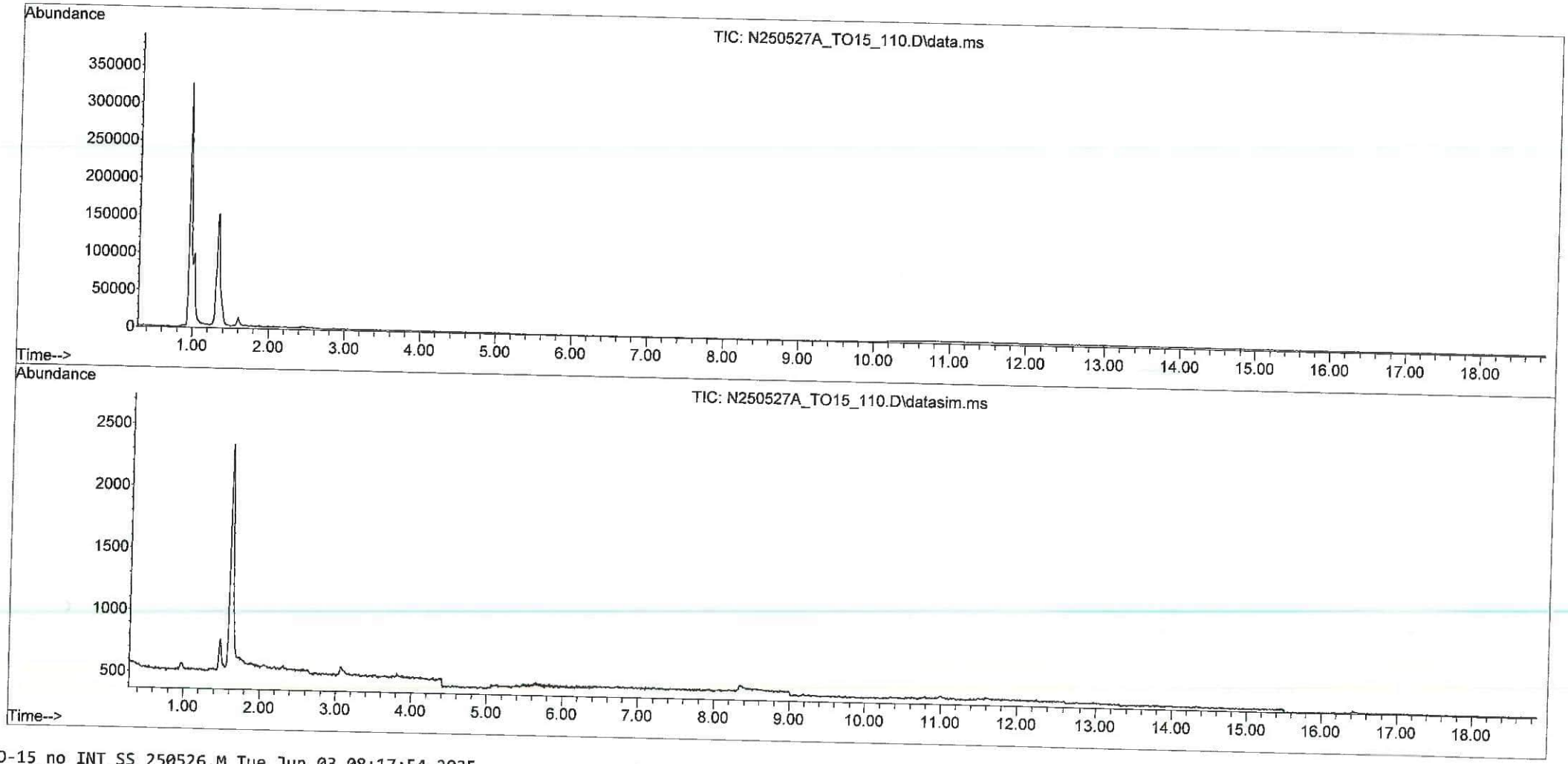
Quant Time: Jun 03 08:17:39 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_110.D
Acq On : 02 Jun 2025 19:44
Operator : MA
Sample : ch13 sc13631 v500
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 03 08:17:39 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_109.D
Acq On : 02 Jun 2025 19:15
Operator : MA
Sample : ch12 sc18432 v500
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 03 08:16:47 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.		
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.		
22) tert-Butyl Alcohol	0.000		0	N.D.	d	
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.	d	
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_109.D
Acq On : 02 Jun 2025 19:15
Operator : MA
Sample : ch12 sc18432 v500
Misc :
ALS Vial : 12 Sample Multiplier: 1

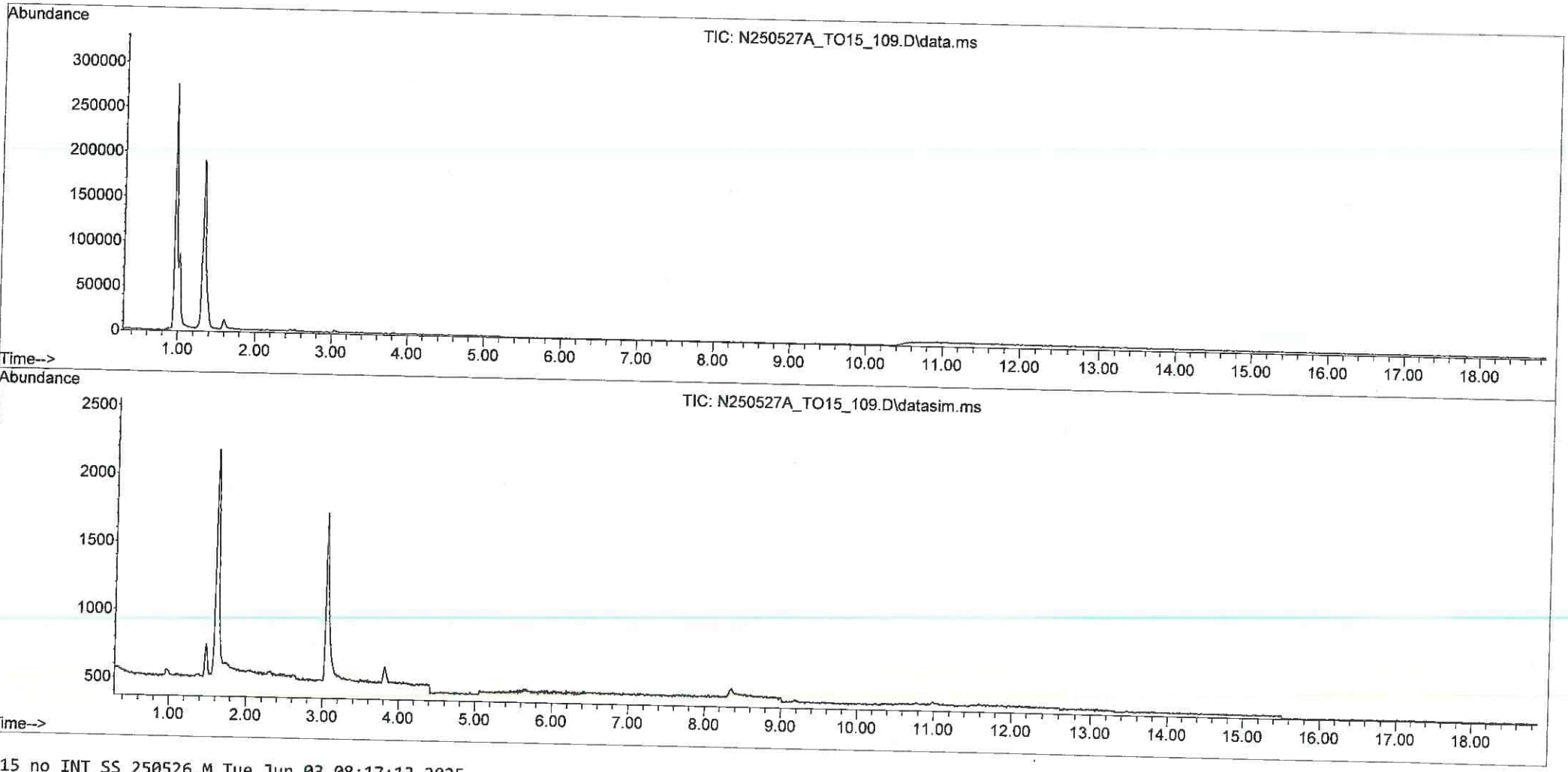
Quant Time: Jun 03 08:16:47 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\data\N250527A\
Data File : N250527A_TO15_109.D
Acq On : 02 Jun 2025 19:15
Operator : MA
Sample : ch12 sc18432 v500
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 03 08:16:47 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\
Data File : SnapCopy.D
Acq On : 02 Jun 2025 14:55
Operator : MA
Sample : ch09 sc13596 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 15:13:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Propene	0.000		0	N.D.		
2] Freon 12	0.000		0	N.D.		
3) Freon 114	0.000		0	N.D.	d	
4) Chloromethane	0.000		0	N.D.		
5] Vinyl Chloride	0.000		0	N.D.		
6) 1,3-Butadiene	0.000		0	N.D.		
7) Bromomethane	0.000		0	N.D.		
8) Chloroethane	0.000		0	N.D.		
9) 2-Methylbutane^	0.000		0	N.D.		
10) Vinyl Bromide	0.000		0	N.D.		
11) Freon 11	0.000		0	N.D.		
12) Pentane	0.000		0	N.D.		
13) Ethanol	0.000		0	N.D.	d	
14) Acrolein	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Freon 113	0.000		0	N.D.		
17] 1,1-Dichloroethene	0.000		0	N.D.		
18) 2-Propanol	0.000		0	N.D.		
19) Acetonitrile^	0.000		0	N.D.		
20) Carbon Disulfide	0.000		0	N.D.		
21] 3-Chloropropene	0.000		0	N.D.	d	
22) tert-Butyl Alcohol	0.000		0	N.D.		
23) Methylene Chloride	0.000		0	N.D.		
24] trans-1,2-Dichloroethene	0.000		0	N.D.		
25) Acrylonitrile^	0.000		0	N.D.		
26) Methyl tert-Butyl Ether	0.000		0	N.D.		
27) Hexane	0.000		0	N.D.		
28) Vinyl Acetate	0.000		0	N.D.		
29) Diisopropyl Ether^	0.000		0	N.D.		
30] 1,1-Dichloroethane	0.000		0	N.D.		
31) 2-Chloroprene^	0.000		0	N.D.		
32) 2-Butanone (Methyl Eth...	0.000		0	N.D.		
33) Ethyl Acetate	0.000		0	N.D.		
34) Ethyl tert-Butyl Ether^	0.000		0	N.D.		
35] cis-1,2-Dichloroethene	0.000		0	N.D.		
36] Chloroform	0.000		0	N.D.		
37) Tetrahydrofuran	0.000		0	N.D.		
38] 1,1,1-Trichloroethane	0.000		0	N.D.		
39) Cyclohexane	0.000		0	N.D.		
40] Carbon Tetrachloride	0.000		0	N.D.		
41] 1,2-Dichloroethane	0.000		0	N.D.		
42] Benzene	0.000		0	N.D.		
43) 2,2,4-Trimethylpentane	0.000		0	N.D.		
44) Heptane	0.000		0	N.D.		
45) tert-Amyl Methyl Ether^	0.000		0	N.D.		
46] Trichloroethene	0.000		0	N.D.		
47] 1,2-Dichloropropane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) Bromodichloromethane	0.000		0	N.D.		
51] cis-1,3-Dichloropropene	0.000		0	N.D.		
52) 4-Methyl-2-pentanone	0.000		0	N.D.		
53] Toluene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : D:\MassHunter\GCMS\1\
Data File : SnapCopy.D
Acq On : 02 Jun 2025 14:55
Operator : MA
Sample : ch09 sc13596 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

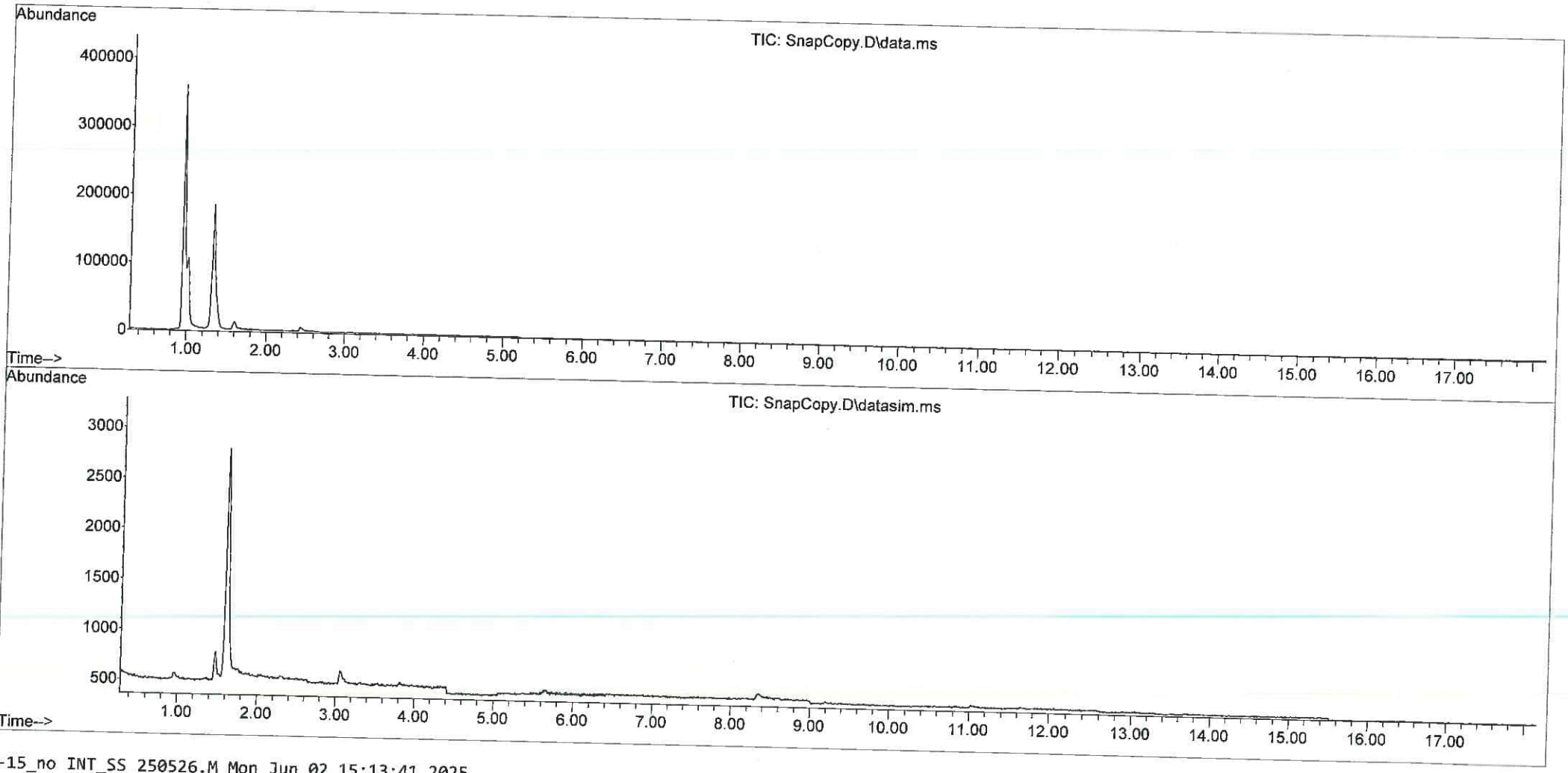
Quant Time: Jun 02 15:13:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) Octane^	0.000		0	N.D.		
55] trans-1,3-Dichloropropene	0.000		0	N.D.		
56] 1,1,2-Trichloroethane	0.000		0	N.D.		
57] Tetrachloroethene	0.000		0	N.D.		
58) 2-Hexanone	0.000		0	N.D.		
59) Dibromochloromethane	0.000		0	N.D.		
60) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
61] Chlorobenzene	0.000		0	N.D.		
62) 1,1,1,2-Tetrachloroeth...	0.000		0	N.D.		
63] Ethyl benzene	0.000		0	N.D.		
64] m,p-Xylene	0.000		0	N.D.		
65) Nonane	0.000		0	N.D.		
66] o-Xylene	0.000		0	N.D.		
67] Styrene	0.000		0	N.D.		
68) Bromoform	0.000		0	N.D.		
69) Cumene	0.000		0	N.D.		
70] 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71] Propylbenzene	0.000		0	N.D.		
72) 2-Chlorotoluene	0.000		0	N.D.		
73) 4-Ethyltoluene	0.000		0	N.D.		
74] 1,3,5-Trimethylbenzene	0.000		0	N.D.		
75) tert-Butylbenzene^	0.000		0	N.D.		
76) Decane^	0.000		0	N.D.		
77] 1,2,4-Trimethylbenzene	0.000		0	N.D.		
78) sec-Butylbenzene^	0.000		0	N.D.		
79] 1,3-Dichlorobenzene	0.000		0	N.D.		
80] 1,4-Dichlorobenzene	0.000		0	N.D.		
81] alpha-Chlorotoluene	0.000		0	N.D.		
82) o-Cymene^	0.000		0	N.D.		
83) p-Diethylbenzene^	0.000		0	N.D.		
84) n-Butylbenzene^	0.000		0	N.D.		
85] 1,2-Dichlorobenzene	0.000		0	N.D.		
86) Undecane^	0.000		0	N.D.		
87) Dodecane^	0.000		0	N.D.		
88] 1,2,4-Trichlorobenzene	0.000		0	N.D.		
89) Hexachlorobutadiene	0.000		0	N.D.		
90] Naphthalene	0.000		0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : D:\MassHunter\GCMS\1\
Data File : SnapCopy.D
Acq On : 02 Jun 2025 14:55
Operator : MA
Sample : ch09 sc13596 v500
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 15:13:22 2025
Quant Method : D:\MassHunter\GCMS\1\methods\Data_Processing\TO-15_no INT_SS_250526.M
Quant Title : USEPA TO-15H
QLast Update : Thu May 29 13:56:19 2025
Response via : Initial Calibration



Appendix F

Data Validation

Appendix E - Data Validation

1.0 Data Quality Objectives

The Data Quality Objectives (DQOs) presented in this appendix were developed at the time of preparation of the *Soil, Groundwater and Soil Vapour Investigation 2025 - Sampling and Analysis Quality Plan* (SAQP)*, Macquarie Point Development Project,* AECOM Australia Pty Ltd, 19 May 2025 (AECOM, 2025d) for the Soil, Groundwater and Soil Vapour Investigation 2025.

The DQO development process described herein was used to provide a systematic planning approach for collecting environmental data during the fieldwork program and to address the Quality Assurance/Quality Control (QA/QC) measures adopted for the purpose of this assessment.

Guidance regarding the development of DQOs has been referenced from the following primary documents:

- National Environment Protection Council, National Environment Protection (*Assessment of Site Contamination*) Measure 1999, *Schedule B2: Guideline on Site Characterisation* (as amended May 2013) [ASC NEPM].
- Australian Standard 4482.1-2005 *Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and Semi volatile Compounds* (AS 4482.1).
- Australian Standard 4482.2-1999 *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances* (AS 4482.2).
- New South Wales Environment Protection Authority (NSW EPA) *Contaminated Land Guidelines: Sampling Design Part 1 – Application* (NSW EPA, 2022).
- US EPA, 2006a *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4).

The process of establishing appropriate DQOs is defined by the seven-step planning approach presented in the ASC NEPM and summarised in **Table 1** below.

Table 1 Data Quality Objectives

Step	Data Quality Objective Step Summary
1	***State the Problem*** – Summarise the problem that will require new environmental data and identify the resources available to resolve the problem based on a preliminary Conceptual Site Model (CSM) using available information prior to the commencement of the site investigation.
2	**Identify the Decision/Goal of the Study** – Identify the decisions that need to be made about the problem and the new environmental data required to make the decisions. Develop a decision statement linking the principal project objective(s) to the possible actions that will address the problem.
3	**Identify Information Inputs** – Identify the information needed to support any decision and whether new environmental data will be needed.
4	***Define the Boundaries of the Study*** – Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision(s).
5	***Develop the Analytical Approach (or Decision Rule)*** – Define the parameter of interest, specify the action level, and integrate information from Steps 1–4 into a single statement that gives a logical basis for choosing between alternative actions.

Step	Data Quality Objective Step Summary
6	***Specify Performance or Acceptance Criteria*** – Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.
7	***Develop the Plan for Obtaining Data*** – Identify the most resource-effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

The approach adopted relative to the seven steps presented above in **Table 1** is discussed in the sections below.

1.1 Step 1 – State the Problem

The primary problems to be addressed by the activities in the SAQP (AECOM, 2025) are addressing data gaps and refreshing knowledge of Site soil, groundwater and soil vapour, as discussed in **Section 1.2** of the main report text.

Data collected as part of this investigation will help identify future assessment, remediation and/or management requirements (if any). The outcomes of the investigation will inform future Site Suitability Statements, and any other work identified as a result.

1.2 Step 2 – Identify the Decision / Goal of the Study

As noted in **Section 1.1**, the investigation works are intended to address data gaps and refresh aged data from past investigations. The decision identification component of the DQO process represents the key issues that need to be reviewed and considered to resolve the problem identified in Step 1. These issues include:

- Have representative soil, groundwater and soil vapour data been collected to address the objectives (refer to **Section 1.2** of the main report text) and to inform the CSM and future decisions?
- Are the contaminants identified (if any) consistent with the understanding of the site history? Do the concentrations exceed the relevant Tier 1 relevant screening criteria (refer to **Section 3.0** of the report text)?
- Has the nature and extent of contamination (if any) and temporal trends been identified? Is further assessment required, or have data gaps been identified?
- Have potential contamination sources and/or risks been identified that may impact the future development of Regatta Point? Are there potential future remediation and/or management requirements?

If the investigation results suggest potential risk, or if there remains insufficient information, recommendations shall be made on further assessment, management, or remediation measures.

1.3 Step 3 – Identify Information Inputs

To allow assessment of the data against the issues and decisions listed in **Section 1.2**, various information inputs will be considered as follows:

- Field observations of aesthetic impacts (e.g. odours, sheen etc.) noted during sampling.
- Identification of the Contaminants of Potential Concern (CoPC) based on the historic records and previous assessments of the Site, and anecdotal information or other relevant information, where available.
- Assessment of data collected relative to relevant screening criteria and guidelines, and identified environmental values.

1.4 Step 4 – Define the Boundaries of the Study

The spatial boundaries (geographical limits) and lateral extent for data collection and decision making for the investigations are defined and illustrated by the Site boundaries on **Figure F1** (**Appendix A**), and adjacent soil, groundwater and soil vapour investigation locations shown on **Figure F2** (**Appendix A**).

The vertical extent works will be limited by the depth of the targeted upper aquifer beneath the Site.

1.5 Step 5 – Develop the Analytical Approach (or Decision Rule)

The decision for the investigation works is to obtain representative soil, groundwater and soil vapour data and compare data against relevant screening or acceptance criteria. The decision rules are as follows:

- If comparison of soil, groundwater or soil vapour chemical data to the relevant screening criteria (outlined in **Section 3.0** of the report text) identifies exceedances, or data gaps or discrepancies from the proposed investigation plan, the contamination impacts will be subject to further investigation, assessment, remediation, or management; otherwise, environmental conditions will be deemed suitable for the proposed future uses and environmental values associated with the Site based on the available data.
- If the investigation results suggest potential unacceptable risk, or if there remains insufficient information, recommendations shall be made on further assessment, management, or remediation measures.
- If the QA/QC data meets the Data Quality Indicators (DQIs) adopted (outlined in **Section 4.0** of the report text) to assess the precision and accuracy of the data, the data will be considered to be suitable for interpretive use. Data that fail to meet the DQIs will be managed using corrective actions (where possible) such as re-analysis of suspect samples, re-analysis of data and/or procedures, acceptance of data with acknowledged limitations/bias, or the data may be discarded.

Data collected as part of the investigations must be of sufficient representativeness to address the primary problem (refer to **Section 1.1**) and decisions (refer to **Section 1.2**) identified as part of the DQO process.

Primary and secondary laboratories selected for the analysis of soil and groundwater samples will be accredited by National Association of Testing Authorities (NATA) for the requested analyses, with the exception of pH-testing for ASS assessment. Where a test is not covered by NATA accreditation, this will be identified during reporting of results..

1.6 Step 6 – Specify Performance or Acceptance Criteria

A decision error in the context of the decision rules presented in Step 5 would lead to either underestimation or overestimation of the risk level associated with particular investigations/ samples/data. Decision errors may include:

- Limitations in the available site history information.
- Limitations based on inaccurate/inadequate data from previous investigations.
- Errors or limitations in this SAQP or proposed scope of works.
- Data not being adequately representative of site conditions.
- Breaches of recommended chemical extraction or analysis holding times for the proposed analytical suite
- Errors in the laboratory analytical reporting or procedures.
- Unnecessary implementation of remedial or management measures and controls.

Field and laboratory data will be reviewed and screened against relevant assessment criteria (outlined in **Section 3.0** of the report text) to make decisions regarding further assessment or management measures. A quality assurance/quality control (QA/QC) and data validation program has been

developed (refer to **Section 4.0** of the report text) to ensure that data collected are sufficiently accurate and reliable for the purpose of this investigation.

1.7 Step 7 – Develop the Plan for Obtaining Data

The methodology presented in this SAQP provides a sampling plan which has been designed to meet the objectives for the investigation (refer to **Section 1.2** of the report text), and also to achieve the nominated DQOs outlined in Steps 1 – 6.

The investigation will be carried out to a level of accuracy and confidence required in accordance with the ASC NEPM (2013). It is expected this SAQP may be updated in consultation with the Corporation and the Site Environmental Auditor.

2.0 Data Considered

The sampling events and relevant laboratory reports pertaining to the soil and groundwater data considered in this report are summarised in below **Table 2**.

Eurofins Environment Testing (Eurofins) was selected as the primary laboratory and ALS Laboratories (ALS) Melbourne was selected as the secondary laboratory for soil and groundwater samples. SGS Australia (SGS) was selected as the primary laboratory for soil vapour samples, noting all laboratories are accredited by NATA for the analyses selected.

Table 2 Soil/Groundwater Data Considered

Scope of Work	Sampling Event	Sample Media	Sampling Period	Lab Report Numbers
Soil assessment	Advancement of 43 soil bores	Soil	27 May – 19 June 2025	1225146 ^ 1227083 1227989 1228034 1229786 1231576 ^ 1231626 1232541 1234941 1237090 ^ EM2509944 * EM2512074 * EM2510162 * EM2510874 *
Groundwater assessment	Sampling of 54 groundwater wells	Groundwater	12 – 25 June 2025	1232587 1234320 1234988 1235189 1235243 1236601 1237216 1240646 1241421 EM2411596 * EM2512123 * EM2512174 *
Soil Vapour Assessment	Sampling of 18 Soil vapour bores	Soil Vapour	17 June to 27 June 2025	ME371965

*Note: ^ – Laboratory reports pertaining to acid sulfate soil analysis; * – Laboratory reports from the secondary laboratory.*

Development of DQIs for Data Comparability, and Precision and Accuracy, with reference to applicable standards, and QA and QC assessment of the sampling methodology and analytical data against DQIs has been undertaken and presented in this data validation appendix, and summarised in the SAQP (AECOM, 2025d).

Copies of the laboratory documentation including chain of custody (CoC) documentation, sample receipt notification (SRN) reports, QC reports and certificates of analysis are attached in **Appendix E**.

3.0 Assessment of Soil Data

3.1 Field Data Quality

3.1.1 Sample Collection

Collection of soil and associated QA/QC samples was undertaken by AECOM field personnel trained and experienced in environmental sampling, in accordance with the methodology described in the SAQP (AECOM, 2025d).

3.1.2 Trip Blanks

Sand trip blank samples were supplied by Eurofins, pre-prepared by the laboratory using high purity silicate sand free from VOCs and other organic and inorganic analytes. One sand trip blank was submitted for each esky transported to the laboratory. Trip blanks were analysed for select volatile compounds, consisting of volatile TPH C_6-C_{10} and BTEXN.

A total of 13 sand trip blank samples were collected and analysed as part of the soil assessment (27 May – 19 June 2025). Concentrations of target compounds were reported below the laboratory Limit of Reporting (LOR) in these samples, indicating that cross contamination of samples occurring in transit is unlikely to have occurred. Trip blank results are reported on **Table G1** attached.

3.1.3 Rinsate Blanks

Rinsate blanks were prepared by pouring laboratory supplied water over sampling equipment, following decontamination procedures to assess the potential for cross-contamination. A total of 14 rinsate blank samples were collected and analysed as part of the soil assessment (27 May – 19 June 2025), i.e. one for each day of sampling. The rinsate blanks were analysed for the same suite of CoPC analytes as the primary samples. Concentrations of analytes were below the laboratory LOR in these samples, with the exception of:

- QC313 for Ammonia (as N) (0.02 mg/L), collected on 13 June 2025.

The reported concentration of 0.02 mg/L was marginally above the laboratory LOR (0.01 mg/L). Concentrations of Ammonia (as N) in primary soil samples ranged from <5 mg/kg (LOR) to 870 mg/kg (refer to **Table T5a, Appendix B**), therefore the potential small positive bias in the results is unlikely to affect the interpretation of the results. Rinsate results are reported on **Table G1** attached.

3.1.4 Field Blanks

Field blank samples were prepared by pouring laboratory supplied de-ionised water into sampling containers during soil sampling to assess whether contamination may have occurred in the field sampling environment. However, in accordance with the SAQP, as the rinsate and trip blank results did not report detections of CoPC or marginal detections above the laboratory LORs, the field blank samples were not analysed and remained on-hold with the laboratory.

It is noted that the Ammonia (as N) detection noted above in rinsate sample QC313 (0.02 mg/L) did not trigger the analysis of field blank sample QC413 collected on the same day during soil sampling (13 June 2025), as it was not considered to adversely affect the interpretation of the results, as discussed above.

It is noted that field blank samples QC405 and QC419 were analysed by mistake, however concentrations of analytes reported below the laboratory LOR in each case.

3.1.5 Field Duplicate Samples

In accordance with the SAQP (AECOM, 2025d), field duplicate samples (intra-and inter-laboratory duplicates)were labelled so that they could not be linked to their respective primary samples. Field duplicate (inter and intra-laboratory) samples were collected at a rate of one each for every 20 primary samples, for each sample media, with the exception of:

- Field duplicates of PFAS samples were collected at a rate of one every 10 primary samples, in accordance with the PFAS NEMP (HEPA, 2025).

- No duplicate samples were collected for Potential Acid Sulphate Soil (PASS) samples, as pH Field Screening is qualitative. Data quality of Chromium Reducible Sulphur (CRS) analysis was assessed by Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS) analysis at a rate of one per 10 CRS analyses conducted.

A total of four intra-laboratory duplicate and four inter-laboratory duplicate soil sample pairs were collected and analysed against 51 primary soil samples collected during the scope of work. This sample rate meets and exceeds the rate specified in the sample methodology, one each, per 20 primary samples (i.e. 5% rate) analysed for TRH, BTEXN, PAH, 8 metals, ammonia, cyanide, and one each per 10 primary samples (i.e. 10% rate) analysed for PFAS. This rate is equal to the recommended rate and considered sufficient to allow for assessment of precision of analytical results between laboratories. The samples were collected from fill material at MW184, MW194, SV42 and MW188 from 0.5 – 3 m bgl. Whilst QC requirements were met, additional QC samples were collected (QC104/QC204 and QC105/QC205) and were placed on hold. Intra-laboratory duplicate sample QC104 was analysed before hold request was sent to the laboratory.

Primary and duplicate sample results were compared, and Relative Percentage Differences (RPDs) were calculated. Results of duplicate samples and RPDs are presented in **Table G2**.

The following acceptance criteria have been applied for RPDs:

- RPD less than 30% for high level laboratory duplicates (i.e. concentrations >20 x LOR)
- RPD less than 50% for medium level laboratory duplicates (i.e. concentrations 10 – 20 x LOR)
- RPD less than 200% for low level laboratory duplicates (i.e. concentrations 1 – 10 x LOR)

Of a total of 441 RPD values calculated, 14 RPD values (~3%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were associated with:

- TRH / TPH concentrations between:
  - Primary sample MW185_1.0 and intralab duplicate QC101 / interlab duplicate QC201 (TPH only)
  - Primary sample MW185_3.0 and intralab duplicate QC104 (TRH & TPH)
  - Primary sample SV42_2.0 and intralab duplicate QC106 (TPH only)
- Metals concentrations between:
  - Primary sample MW185_3.0 and intralab duplicate QC104 (mercury only)
  - Primary sample SV42_2.0 and interlab duplicate QC206 (chromium only)
- PAH concentrations between:
  - Primary sample SV42_2.0 and intralab duplicate QC106 (fluoranthene and pyrene only)

This is not unexpected considering the degree of heterogeneity known to be associated with fill material across the Site. For each primary / duplicate sample combination, the highest concentration has been adopted for interpretation. Noting this, and given that approximately 97% of the field duplicate RPD values were reported within the acceptable ranges, the precision of the soil sample dataset is considered to be sufficient for interpretive purposes.

3.2 Laboratory Data Quality

A summary of the assessment of laboratory data quality for soil and QA/QC samples relevant to the report is provided in the sections below.

Soil samples were analysed for a combination of analytes including metals, TRH (C_6-C_{40}), BTEXN, PAHs, metals (Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Mercury), phenols, ammonia, cyanide.

In addition, 81 samples were also analysed for Acid Sulphate Soil (ASS) related analyses consisting of:

- 81 x pH field screen (pHf and pHfox)

- 20 x CRS suite
- 2 x SPOCAS suite

The soil analytical suite selected is considered appropriate for the purposes of this report as they are consistent with the analytes identified as CoPC (refer to **Section 2.2** of the main report) based on history and land use at Macquarie Point and surrounding areas.

3.2.1 Sample Receipt Temperature

Soil samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported and received by the primary analytical laboratory (Eurofins) as chilled with ice present. Chilled PASS samples were immediately transported to the primary laboratory on the day of collection and frozen upon receipt. Samples from all laboratory reports were reported as being received within the acceptable temperature range of 0 – 6°C, with the exception of primary laboratory batches 1225146 (10.2°C) and 1229786 (10°C).

These temperatures were a result of insufficient cooling time, as these batches were delivered directly to the local primary laboratory (Eurofins) by AECOM field staff on the same day of collection, despite immediate placement of the samples on ice. Therefore, they are not considered to affect the interpretation of the results.

Samples were received within the acceptable temperature range of 0 - 6°C by the secondary laboratory (ALS) except batches EM2509944 (7.3°C) and EM2510162 (9.2°C). Ice was noted to be present in each batch by the secondary laboratory upon receipt.

Given that the interstate secondary laboratory (ALS) received the samples within the shortest available transit time (i.e. >24 hours) following collection, the potential exists that volatilisation or degradation of samples (i.e. VOCs/SVOCs/TPH) may have occurred from interlaboratory duplicate samples in these batches, resulting in under-reporting of concentrations. However, the following is noted for each batch:

- EM2510162 (interlaboratory duplicate QC203) – the receipt temperature of 9.2°C is not considered to affect the interpretation of the results on the following basis:
  - No volatiles were reported above LOR in corresponding primary sample MW194_3.0 (batch 1229786) and intra-laboratory duplicate sample QC103 (batch 1229786), which were both delivered to the primary laboratory on the same day of sampling (as noted above).
  - There were no RPD exceedances between primary sample MW194_3.0 and duplicates QC103 and QC203.
- EM2509944 (interlaboratory duplicate QC201) – the receipt temperature of 7.3°C is not considered to affect the interpretation of the results on the following basis:
  - No volatiles were reported above LOR in corresponding primary sample MW184_1.0 (batch 1227989) and intra-laboratory duplicate sample QC101 (batch 1227989), which were both delivered to the primary laboratory below the recommended temperature of 6°C.
  - RPD exceedances in the semi-volatile TPH range (TPH/TRH C10-C36) were detected between the primary sample MW184_1.0 and both duplicate samples (QC101 / QC201).
  - There were no volatile (TRH/TPH C6-C9, BTEXN) RPD exceedances between primary sample MW184_1.0 and duplicates QC101 and QC201 (as they were all reported below LOR).

In summary, it is considered unlikely that degradation of VOCs/SVOCs/TPHs occurred in transit, and the data is considered suitable for interpretation.

3.2.2 Sample Holding Times

All primary samples were received by laboratories within the recommended holding times for the requested analyses, noting that PASS samples were frozen by the analytical laboratory upon receipt within 24 hours of collection.

The results are considered suitable for interpretation. Proactive holding time assessments completed by the analytical laboratory are provided in the SRN reports in **Appendix E**.

3.2.3 Limits of Reporting

Laboratory LORs were either lower than or equal to the screening criteria applied to the samples analysed, with the exception of the analytes and criteria listed in **Table 3** below.

Table 3 Adequacy of Laboratory LORs – Soil

Chemical	Tier 1 Screening Criteria	Screening Value (mg/kg)*	LOR (mg/kg)*
Benzo(a)pyrene	Human Health (Direct Contact) • Low density residential • Medium/High Density residential • Recreation/Open space	0.11	0.5
Dibenz(a,h)anthracene		0.11	0.5
>C10-C16 (minus Naphthalene) (F2)	Human Health (Vapour Intrusion) • Residential	25	50

*Note: * Units for screening values and LOR values are expressed in 'mg/kg' unless specified otherwise.*

The following in noted regarding the exceedances and adequacy of LORs:

- Future planned development at the Site in the locations soil samples were collected comprises commercial buildings, mixed use areas, an underground carpark and recreational/open space areas. As no residential use is proposed for development at the Site in these areas, it is considered appropriate to apply commercial/industrial and recreational/open space use criteria for assessment of human health via direct contact and vapour exposure risks. Therefore, LOR discrepancies relating to residential land use are not considered to indicate any potential unidentified risk to future users of the Site.
- Based on reported concentrations of other CoPC above the adopted assessment criteria, future development across the site (including proposed future recreational/open space areas such as the Aboriginal Culturally Sensitive Area), will require an engineered break layer to mitigate direct contact with soil by human users of the land (other than intrusive maintenance workers).

On this basis, the reported LORs are considered adequate for assessment of the analytical results.

3.2.4 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix E**.

Matrix spike recoveries were noted to be within the DQO range of 70% - 130% or laboratory-derived limits for the methods used, with the exceptions of the outlier noted in **Table 4** below.

Table 4 Matrix Spike Outliers - Soil

Work Order	Sample ID	Analyte	Matrix Spike	Limits
Soil				
EM2510874	EM2510871--002	Chromium	63.6%	79.0%-121%[1]
EM2512074	EM2511831--008	Perfluorononane sulfonic acid (PFNS)	67.0%	69.0%-125%

Work Order	Sample ID	Analyte	Matrix Spike	Limits
Soil				
		Perfluorodecane sulfonic acid (PFDS)	35.7%	59.0%-134%
		10:2 Fluorotelomer sulfonic acid (10:2 FTS)	48.2%	70.0%-130%

Notes: ND – Not Determined; 1 – recovery less than lower data quality objective

Matrix spike recovery outliers, lower than the acceptable limits, are likely attributed to the heterogeneity of the soil samples submitted to the laboratory, or due to matrix interference with samples. The presence of varied fill material is well documented across the Site, including areas where these soil samples were generated.

Overall, these outliers are not considered to impact interpretation of the results.

3.2.5 Laboratory Method Blanks

All soil laboratory method blanks were reported within the acceptable range, i.e. below laboratory LORs and provided in the analytical QC reports provided in **Appendix E.**

3.2.6 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory QC reports provided in **Appendix E**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used.

3.2.7 Laboratory Control Spikes

Laboratory control spikes, presented in **Appendix E**, were within the laboratory-derived control limits for the methods used.

3.2.8 Frequency of Quality Control Spike

Frequency of QC spikes, presented in **Appendix E**, were at the rate expected by applicable QC specifications, with the exceptions of the outliers listed in **Table 5** below.

Table 5 Frequency of Quality Control Samples - Soil

Work Order	Type	Analyte	Rate (%)		QC Specification
			Actual	Expected	
Soil					
EM2510874	Matrix Spikes	Free Cyanide by Segmented Flow Analyser	0	5	NEPM 2013 B3 & ALS QC Standard
		WAD Cyanide by Segmented Flow Analyser	0	5	NEPM 2013 B3 & ALS QC Standard

Based on the above non-conformances the precision and accuracy assessment for this data is limited to field duplicates and laboratory control spikes for the compounds listed above.

3.2.9 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding laboratory duplicates, presented in **Appendix E**, were within acceptable limits, with the exception of the duplicate outliers listed below in **Table 6**.

Table 6 Laboratory Duplicate RPD Exceedances - Soil

Work Order	Sample ID	Analyte	RPD (%)	Limits (%)
Soil				
1227083	M25-Jn0002487	TRH C15-C28	35 %	0% - 30%[1]
1232541	M25-Jn0039077	Lead	40%	0% - 30%[1]

Notes: 1 – The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Laboratory duplicate RPD exceedances are attributed to the heterogeneity of the soil samples submitted to the laboratory. The presence of varied fill material is well documented across the Site, including areas where these soil samples were retrieved. These exceedances are not considered to impact interpretation of the results.

4.0 Assessment of Groundwater Data

4.1 Field Data Quality

4.1.1 Sample Collection

Collection of groundwater and associated QA/QC samples was undertaken by AECOM field personnel trained and experienced in environmental sampling, in accordance with the methodology described in the SAQP (AECOM, 2025d).

4.1.2 Trip Blanks

Aqueous trip blank samples were supplied by Eurofins, pre-prepared by the laboratory using ultrapure deionised water, free from VOCs and other organic and inorganic analytes. One aqueous trip blank was submitted for each esky transported to the laboratory. Trip blanks were analysed for select volatile compounds, consisting of volatile TPH C_6-C_{10} and BTEXN. A total of 17 aqueous trip blank samples were collected and analysed during the groundwater sampling works (12 – 25 June 2025). Concentrations of target compounds were reported below the LORs in these samples, indicating that cross contamination of samples occurring in transit is unlikely to have occurred. Trip blank results are reported on **Table G1** attached.

4.1.3 Rinsate Blanks

Rinsate blanks were prepared by pouring laboratory supplied water over sampling equipment, following decontamination procedures to assess the potential for cross-contamination. A total of 9 rinsate blank samples were collected and analysed during the groundwater sampling works (12 – 25 June 2025), i.e. one for each day of sampling. Concentrations of analytes were reported below the laboratory LOR in these samples, with the exception of:

- QC314 for Nitrate (as N) (0.02 mg/L), collected on 13 June 2025.

The reported concentration of 0.02 mg/L was marginally above the laboratory LOR (0.01 mg/L). Concentrations of Ammonia (as N) in primary soil samples ranged from <0.01 mg/L (LOR) to 46 mg/L (refer to **Table T6a, Appendix B**), therefore the potential small positive bias in the results is unlikely to affect the interpretation of the results. Rinsate results are reported on **Table G1** attached.

4.1.4 Field Blanks

Field blank samples were prepared by pouring laboratory supplied de-ionised water into sampling containers during groundwater sampling to assess whether contamination may have occurred in the field sampling environment. However, in accordance with the SAQP, as the rinsate and trip blank results did not report detections of CoPC or marginal detections above the laboratory LORs, the field blank samples were not analysed and remained on-hold with the laboratory.

It is noted that the Ammonia (as N) detection noted above in rinsate sample QC314 (0.02 mg/L) did not trigger the analysis of field blank sample QC414 collected on the same day during groundwater sampling (13 June 2025), as it was not considered to adversely affect the interpretation of the results, as discussed above.

4.1.5 Field Duplicate Samples

Field duplicate samples (intra-and inter-laboratory duplicates) were collected and labelled so that they could not be linked to their respective primary samples.

A total of four intra-laboratory and inter-laboratory duplicate water sample pairs were collected and analysed from a total of 55 primary water samples collected during the GME. This sample rate meets and exceeds the rate specified in the sample methodology, one each per 20 primary samples (i.e. 5% rate) analysed for TRH, BTEXN, PAH, phenols, metals (Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Mercury), manganese, cyanide, ammonia, methane and one each per 10 primary samples (i.e. 10% rate) analysed for PFAS, which is equal to the recommended rate and considered sufficient to allow for assessment of precision of analytical results between laboratories. The samples were collected from groundwater at MW16, MW126A, MW193 and MW186.

Primary and duplicate sample results were compared and RPDs were calculated, noting the acceptance criteria described in **Section 3.1.5** were adopted. Results of duplicate samples and RPDs are presented in **Table G3**.

Of a total of 727 RPD values calculated and 25 RPD values (~3.5%) were reported above the adopted acceptable RPD DQO limits. The RPD exceedances were predominately associated with a range of volatile and non-volatile analytes including PAHs, PFAS, Methane and TRH, indicating that the exceedances are likely symptomatic of either sample heterogeneity, instability of volatile compounds and/or potential variability throughout the analytical process. PAHs and some TRH ranges have been previously demonstrated to sorb to clay particles in groundwater (AECOM, 2020a), and sediment/silt in water samples may have also led to discrepancies for these CoPC.

Given that approximately 96.5% of the field duplicate RPD values were reported within the acceptable range, the precision of the groundwater sample dataset is considered to be sufficient for interpretive purposes. The highest concentration of any inter- or intra-laboratory duplicate sample combination has been adopted for interpretive use.

4.2 Laboratory Data Quality

A summary of the assessment of laboratory data quality for groundwater and QA/QC samples relevant to the report is provided in the sections below.

Groundwater samples were analysed for a combination of analytes including metals, TRH, BTEXN, PAH, phenols, metals (Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Mercury), manganese, cyanide, ammonia, methane.

The groundwater analytical suite selected is considered appropriate for the purposes of this report as they are consistent with the analytes identified as CoPC (refer **Section 2.2** of the main report) based on history and land use at Macquarie Point and surrounding areas.

4.2.1 Sample Receipt Temperature

Groundwater samples were kept chilled during storage and transportation with ice in portable coolers until received by the laboratory for analysis. Samples were reported to be received in good condition in appropriately preserved sample containers.

Samples were reported and received by the primary analytical laboratory (Eurofins) as chilled with ice present. Samples from all lab reports were reported as being received within the acceptable temperature range of 0 - 6°C.

Samples were received within the acceptable temperature range of 0 - 6°C by the secondary laboratory (ALS) except for batches EM2512123 (7.1°C) and EM2512174 (7.9°C), however, ice was noted to be present when samples were received by the secondary laboratory. It is considered unlikely that degradation of VOCs/SVOCs/TPHs occurred in transit, and the data is considered suitable for interpretation on the following basis:

- For batch EM2512174, there were no RPD exceedances between primary sample MW16 (batch 1236601) and secondary interlaboratory sample QC207 (batch EM2512174) except for VOCs TRH C6-C10 and methane. However, these RPD exceedances were also reflected at a similar range between primary sample MW16 and intra-laboratory duplicate sample QC107 (batch 1241421 – originally received as part of batch 1236601) which were received below 6°C, therefore the RPD exceedance cannot be directly attributed to receipt temperature differences.
- For batch EM2512123, there were no RPD exceedances (particularly between reported VOC concentrations) between primary sample MW186 (batch 1240646) and its respective inter-laboratory duplicate sample QC210 (EM2512123).

4.2.2 Sample Holding Times

All samples were reported as being received by the laboratories within the holding times for sample extraction and/or analysis, with the exception of:

- Primary sample batch 1240646 (primary samples MW120A, MW128A, MW186, MW196, MW197 & MW198, rinsate sample QC323, trip blanks QC528, QC529 and intra-laboratory duplicate QC110):

- 1 day outside holding time for TRH, PAH and Phenols.
- It is considered that the potential for low bias in the results (particularly VOCs) caused by a holding time exceedance of only 1 day is considered to be minimal given all other preservation benchmarks were met (appropriate preservatives were in the sample bottles, samples were immediately placed on ice and received at the laboratory below 6°C within the holding time), and therefore it is considered unlikely to affect the suitability of the samples in this batch for interpretive use.

- Interlaboratory sample batch EM2512123 (QC210):
  - 6 days outside holding time for TDS, TPH/TRH, PAH and phenols.
  - Although there is the potential for these analytes to have degraded over time and not be truly representative of field conditions and that this potential under reporting should be taken into consideration when interpreting data for these analytes, these holding time exceedances are not considered to adversely affect the suitability of this batch for interpretive use on the following basis:
    - There were no RPD exceedances between primary sample MW186 and interlaboratory duplicate QC210 (or between primary sample MW186 and intralaboratory duplicate QC110)
    - The highest reported concentration of any primary / intra- and interlaboratory duplicate sample combination has been adopted for interpretation.
- Interlaboratory batch EM2512174 (QC207):
  - 2 days outside holding time for TPH/TRH (volatile fraction) & BTEXN.
  - 3 days outside holding time for total/free/WAD cyanide & methane.
  - 8 days outside holding time for TDS.
  - 9 days outside holding time for TPH/TRH (semi-volatile fractions), PAH and phenols.
  - Although there is the potential for these analytes to have degraded over time and not be truly representative of field conditions and that this potential under reporting should be taken into consideration when interpreting data for these analytes, these holding time exceedances are not considered to adversely affect the suitability of this batch for interpretive use on the following basis:
    - There were few RPD exceedances between primary sample MW16 and interlaboratory duplicate QC207 except for TRH C6-C10 fraction, which was also reflected as an RPD exceedance between primary sample MW16 and intralaboratory duplicate QC107.
    - The highest reported concentration of any primary / intra- and interlaboratory duplicate sample combination has been adopted for interpretation.

Proactive holding time assessments completed by the analytical laboratory are provided in the SRN reports in **Appendix E**.

4.2.3 Limits of Reporting

Laboratory LORs were either lower than or equal to the screening criteria applied to the samples analysed, with the exception of the analytes and criteria listed in **Table 7** below.

Table 7 Adequacy of Laboratory LORs - Groundwater

Tier 1 Screening Criteria	Chemical	Screening Value (µg/L)*	LOR (µg/L)*
Drinking Water (Human Health)	Naphthalene	0.17	1
	Sum of PAHs & Benzo(a)pyrene	0.01	1
	Benz(a)anthracene	0.03	1
	Dibenz(a,h)anthracene	0.025	1

Tier 1 Screening Criteria	Chemical	Screening Value (µg/L)*	LOR (µg/L)*
	Indeno(1,2,3-cd)pyrene	0.25	1
	4,6-Dinitro-2-methylphenol	1.5	30
	2-Cyclohexyl-4,6-dinitrophenol	23	100
	Dinoseb	15	100
Drinking Water (Aesthetics)	2-chlorophenol	0.1	3
	2,4-dicholorophenol	0.3	3
	Sum of PAHs & Benzo(a)pyrene	0.1	1
Recreation (Primary / Secondary Contact)	Benz(a)anthracene	0.3	1
	Benzo(a)pyrene	0.1	1
	Dibenz(a,h)anthracene	0.25	1
	4,6-Dinitro-2-methylphenol	15	30

*Note: * Units for screening values and LOR values are expressed in 'µg/L' unless specified otherwise.*

Drinking of Site groundwater is prohibited by the SEMP (AECOM, 2024b), and is not considered a likely use at surrounding sites or in the inferred discharge water bodies (Sullivan's Cove and the River Derwent) due to the salinity of water bodies and the available supply of reticulated water in Hobart, and review of registered bores within 2 km of the Site conducted in 2024 did not identify any extractive groundwater use (refer to **Section 2.5.3** of the main report).

The CoPC with LORs in excess of the recreational criteria are all low mobility or immobile in groundwater, based on the logK_{OC} ranges provided in the ASC NEPM, and are not considered likely to have sufficient mobility in groundwater to reach the inferred point of discharge of groundwater (Sullivan's Cove / the River Derwent), where they could come into contact with potential receptors.

As such, the nominated LORs are considered acceptable for the objectives of the investigation.

4.2.4 Matrix Spike Recovery

The matrix spike recovery results are presented in the analytical laboratory QC reports provided in **Appendix E**. Matrix spike recoveries were noted to be within the DQO range of 70% - 130%, or laboratory-derived limits for the methods used, with the exceptions of the outliers noted in **Table 8** below.

Table 8 Matrix Spike Outliers - Groundwater

Work Order	Sample ID	Analyte	Matrix Spike	Limits
Groundwater				
12325787	M25-Jn0040583	Manganese (filtered)	61%	25%-125%[1]
EM2511596	QC209	Weak Acid Dissociable Cyanide	38.2%	70%-130%[2]
		Ammonia as N	ND[3]	
	QC208	Methane	ND[3]	
		Perfluoropropane sulfonic acid (PFPrS)	44.7%	70%-130%[2]
		N-Ethyl perfluorooctane	57.1%	61%-135%[2]

Work Order	Sample ID	Analyte	Matrix Spike	Limits
		sulfonamidoacetic acid (EtFOSAA)		
		10:2 Fluorotelomer sulfonic acid (10:2 FTS)	67.8%	70%-130%[2]
EM2512123	EM2512016--002	Sulfate as SO4 - Turbidimetric	ND[3]	
	EM2512117--001	Chloride	ND[3]	
	EM2512010--001	Total Cyanide	ND[3]	
	ES2520723--001	Methane	ND[3]	
EM2512174	EM2512080—002	Sulfate as SO4 – Turbidimetric	ND[3]	

Notes: ND – Not determined

1 – The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

2 - Recovery less than lower data quality objective

3 - MS recovery not determined, background level greater than or equal to 4x spike level.

Where matrix spike recoveries are not determined, the background analyte concentration was greater than or equal to four times the spike concentration, which does not affect the data quality as the spikes are used to assess matrix effects, and the concentrations are typically spiked at one to 10 times the expected sample concentration.

The laboratories have indicated that matrix spike non-conformances (where recoveries were determined) are due to sample matrix interferences.

Based on these non-conformances the reported concentrations for the samples listed above may bias slightly lower (matrix spike recovery below recovery range) depending on the analyte.

4.2.5 Laboratory Method Blanks

All groundwater laboratory method blanks were reported within the acceptable range, i.e. below the laboratory LORs and are presented in the analytical laboratory QC reports provided in **Appendix E**.

4.2.6 Surrogate Spike Recoveries

The surrogate spike recovery test results and laboratory-derived control limits are presented in the analytical laboratory QC reports provided in **Appendix E**. All surrogate spike recoveries for regular sample matrices were within the surrogate control limits adopted for the methods used.

4.2.7 Laboratory Control Spikes

Laboratory control spikes, presented in **Appendix E**, were within the laboratory-derived control limits for the methods used.

4.2.8 Frequency of Quality Control Spike

Frequency of QC spikes, presented in **Appendix E**, were at the rate expected by applicable QC specifications, with the exceptions of the outliers listed in **Table 9** below.

Table 9 Frequency of Quality Control Samples - Groundwater

Work Order	Type	Analyte	Rate (%)		QC Specification
			Actual	Expected	
Groundwater					

Work Order	Type	Analyte	Rate (%)		QC Specification
			Actual	Expected	
EM2511596	Laboratory duplicates	PAH/Phenols (GC/MS-SIM)	0	10	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	PAH/Phenols (GC/MS-SIM)	0	5	NEPM 2013 B3 & ALS QC Standard
		TRH – Semivolatile Fraction	0	5	NEPM 2013 B3 & ALS QC Standard
EM2512123	Laboratory duplicates	PAH/Phenols (GC/MS - SIM)	0	10	NEPM 2013 B3 & ALS QC Standard
		TRH - Semivolatile Fraction	0	10	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	PAH/Phenols (GC/MS - SIM)	0	5	NEPM 2013 B3 & ALS QC Standard
		TRH - Semivolatile Fraction	0	5	NEPM 2013 B3 & ALS QC Standard
EM2512174	Laboratory duplicates	PAH/Phenols (GC/MS - SIM)	0	10	NEPM 2013 B3 & ALS QC Standard
		TRH - Semivolatile Fraction	0	10	NEPM 2013 B3 & ALS QC Standard
		TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	0	10	NEPM 2013 B3 & ALS QC Standard
	Matrix Spikes	Free CN by Segmented Flow Analyser	0	5	NEPM 2013 B3 & ALS QC Standard
		PAH/Phenols (GC/MS - SIM)	0	5	NEPM 2013 B3 & ALS QC Standard
		TRH - Semivolatile Fraction	0	5	NEPM 2013 B3 & ALS QC Standard
		TRH - Total Recoverable Hydrocarbons - Silica Gel Cleanup	0	5	NEPM 2013 B3 & ALS QC Standard
		Weak Acid Dissociable Cyanide by Segmented Flow Analyser	0	5	NEPM 2013 B3 & ALS QC Standard

Based on the above non-conformances the precision and accuracy assessment for this data is limited to field duplicates and laboratory control spikes for the compounds listed above.

4.2.9 Laboratory Duplicates and RPDs

Internal laboratory duplicates and RPD calculations were conducted on random samples outside the investigation dataset to assess the precision of testing equipment. The RPD between analytical results and their corresponding laboratory duplicates were within acceptable limits, with the exception of the duplicate outliers listed below in **Table 10**.

Table 10 Laboratory Duplicate RPD Exceedances - Groundwater

Work Order	Sample ID	Analyte	RPD (%)	Limits (%)
Groundwater				
1232587	M25-Jn0040583	Methane	34%	0% - 30%[1]

Work Order	Sample ID	Analyte	RPD (%)	Limits (%)
1234320	M25-Jn0051416	TRH C15-C28	31%	0% - 30%[1]
		TRH >C16-C34	34%	0% - 30%[1]
1234988 and 1235243	M25-Jn0056613	Chromium (filtered)	57%	0% - 30%[1]
1236601	M25-Jn0068788	Perfluoropentanoic acid (PFPeA)	59%	0% - 30%[1]
1237216	M25-Jn0072833	PAH - Acenaphthene	53%	0% - 30%[1]
		PAH - Fluoranthene	58%	0% - 30%[1]
		PAH - Fluorene	35%	0% - 30%[1]
		PAH - Phenanthrene	54%	0% - 30%[1]
		PAH - Pyrene	54%	0% - 30%[1]
1240646	M25-Jl0013171	Perfluorohexanoic acid (PFHxA)	33%	0% - 30%[1]
		Perfluorohexanesulfonic acid (PFHxS)	36%	0% - 30%[1]
		Perfluorooctanesulfonic acid (PFOS)	51%	0% - 30%[1]
1241421	M25-Jl0019440	Perfluorooctanoic acid (PFOA)	97%	0% - 30%[1]
	M25-Jl0024227	TRH >C10-C16	35%	0% - 30%[1]
		TRH >C16-C34	60%	0% - 30%[1]

Notes: 1 – The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Laboratory duplicate RPD exceedances should be taken into consideration when using the data qualitatively.

5.0 Assessment of Soil Vapour Data

5.1 Field Data Quality

5.1.1 Sample Collection

Collection of soil vapour and associated QA/QC samples was undertaken by AECOM field personnel trained and experienced in environmental sampling, in accordance with the methodology described in the SAQP (AECOM, 2025d).

5.1.2 Leak Testing

As discussed in **Section 6.3.1** of the investigation report, leak testing results can be summarised as follows:

- All samples passed the shut-in test.
- All initial canister pressures ranged from -26 to -30 mmHg, which was within the acceptable range as prescribed by the laboratory.
- Final sample pressures ranged from -4 to -6 mmHg, which is within the recommended range.
- The difference in pressure recorded at the completion of sampling and by the laboratory upon receipt ranged from -1.94 to +1.96 mmHg, which resulted in a calculated % difference of between -11% (an apparent increase in vacuum) and 8% (a decrease in vacuum). A decrease in vacuum can be indicative of leakage during transit, which may cause a low bias to the results, however none of the canisters exceeded the maximum relative vacuum loss % threshold of 10%. Given the low range of pressure difference, and that apparent increases in vacuum were also recorded at a similar scale and distribution to the decreases, they are likely within the range of error and imprecision between pressure gauges, and not considered to adversely impact the integrity of the results.
- Leak test indicator gas (isopropanol) was maintained at an average concentration of 1,394,920 µg/m^3 within a shroud covering both the canisters and soil vapour bore tubing/gatic throughout the sampling process. A canister sample of the shroud atmosphere was collected at SV42 (QC600) to quantify isopropanol concentrations, which reported a concentration of 2,600,000 µg/m^3. This was approximately twice the field-measured concentration measured while sampling SV42 (1,314,941 µg/m^3) using a PID with 4.6 isopropanol conversion factor, indicating that field measurements may have under-reported actual isopropanol concentrations by up to 50%. This is not considered to adversely impact the integrity of the leak test on the basis of the following point.
- The concentration of isopropanol leak test indicator gas within each sample ranged from <0.01 to 0.77% of the concentration within the shroud, which is well below the maximum threshold of 10%. This indicates that reported concentrations are considered to be representative of targeted sub-surface soil vapour conditions.

Leak test results are presented in **Table T3** (**Appendix B**).

5.1.3 Field Duplicate Samples

Field duplicate samples (intra-laboratory duplicates) were not collected during the soil vapour field sampling program due to the following:

- Three of the total number of canisters ordered arrived with an initial pressure of less than the laboratory-recommended minimum of -25 mmHg, indicating that a leak may have occurring during initial transit to site that may have compromised sample integrity if used. This meant that there were not enough canisters available within the minimum recommended initial pressure range to cover the duplicate sample.
- Additional canisters were expedited from the interstate laboratory to the site during the field sampling program, however they did not arrive in time due to delays with the courier company.

Based on no collection of field duplicate samples, laboratory data should be based on the precision and accuracy of laboratory statement of QA/QC performance, as presented in **Appendix E.** As a

conservative approach (requiring management of vapour infiltration in future buildings and structures) has been adopted, repeat sampling is not proposed.

5.2 Laboratory Data Quality

SGS Australia Pty Ltd, a NATA-accredited laboratory, were engaged to provide soil vapour suma canisters for sample collection, and to subsequently analyse soil vapour samples for CoPC.

A summary of the assessment of laboratory data quality for soil vapour and QA/QC samples relevant to the report is provided in the sections below.

Soil vapour samples were analysed for TO-15 method analytes including BTEXN, TPH (with aliphatic/aromatic speciation), O_2, CO_2, CH_4, and isopropanol (leak test indicator gas).

The soil vapour analytical suite selected is considered appropriate for the purposes of this report as they are consistent with the analytes identified as CoPC (refer **Section 2.2** of the main report) based on history and land use at Macquarie Point and surrounding areas.

5.2.1 Handling and Preservation

The laboratory-supplied certificate of cleanliness (**Appendix E**) did not report any concentrations of TO-15 analytes above the LOR.

Soil Vapour Suma Canisters were kept in laboratory provided containers during storage and transportation to and from the Site.

Initial pressures for the canisters used for sampling ranged from -26 to -30 mmHg. As discussed above, 3 of the 23 total canisters arrived with initial pressures below the laboratory-recommended minimum of -25 mmHg, which accounted for two spares and a duplicate sample (which was not able to be collected).

As discussed above in **Section 5.1.2**, the final field canister pressures following sampling ranged between -4 to -6 mmHg, and the final pressures recorded by the laboratory upon receipt ranged between 3.06 to 7.96 µg/m^3, which is within the recommended range. The difference in final pressure recorded at the completion of sampling and again by the laboratory upon receipt ranged from -1.94 to +1.96 mmHg, which is not considered to be indicative of significant leakage during return transit to the laboratory, and is likely within the range of pressure gauge variation.

5.2.2 Sample Holding Times

All samples were reported as being received by the laboratory within the holding times for the sample extraction and/or analysis. Proactive holding time assessments completed by the analytical laboratory are provided in the SRN reports in **Appendix E**.

5.2.3 5.2.3 Limits of Reporting

Laboratory LORs were either lower than or equal to the screening criteria applied to the samples analysed.

5.2.4 Matrix Spike Recovery

The matrix spike recovery test results were not required as presented in described in SGS analytical laboratory QC reports in **Appendix E**.

5.2.5 Laboratory Method Blanks

Soil vapour laboratory method blank concentrations were not detected above the laboratory LOR for all analytes tested and are presented in the analytical laboratory QC reports provided in **Appendix E.**

5.2.6 Surrogate Spike Recoveries

The surrogate spike recovery test results were not required as presented in described in SGS analytical laboratory QC reports in **Appendix E**.

5.2.7 Laboratory Control Spikes

Laboratory control spikes, presented in **Appendix E**, were within the laboratory-derived control limits for the methods used.

5.2.8 Laboratory Duplicates and RPDs

The RPD between analytical results for primary samples and their corresponding internal laboratory duplicates were within acceptable limits and are presented in the analytical laboratory QC reports provided in **Appendix E**.

6.0 Summary

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicate that the following should be considered when assessing the data provided in the report:

6.1 Soil

Laboratory QA/QC measures for soil were considered to be acceptable based on the heterogeneity expected in fill material and soil composition.

- Rinsate Blank QC313 reported an exceedance at 0.02 mg/L for Ammonia (as N). This is marginally above the laboratory LOR (0.01 mg/L) and a potential small positive bias in the results is unlikely to affect the interpretation of results.
- Field duplicate RPDs in soils for TRH/TPH, BTEXN and PAHs/phenols indicate potential variations associated with fill material, however, as approximately 97% of the RPDs were within acceptable limits, precision was considered to be adequate for interpretive use. The highest concentration of any inter- or intra-laboratory duplicate sample combination has been adopted for interpretive use.
- Soil samples received by laboratories were noted to be chilled with ice, although some samples were received above the acceptable temperature range of 0 – 6°C, at temperatures between 7.3 – 10.2°C (batches 1225146, 1229786, EM2510162 and EM2509944), however this was not considered to affect the interpretation of the results due to the following:
    - For batches 1225146, 1229786 and EM2510162, there was insufficient cooling time between sample collection and laboratory drop-off on the same day.
    - For batches EM2510162 and EM2509944 (interlaboratory duplicate samples QC203 and QC204), RPD exceedances were within acceptable limits and volatile CoPC concentrations were below LOR between primary / intra laboratory duplicate pairs (MW194_3.0 / QC103 and MW184_1.0 / QC101) that were received below 6°C.
- LORs were greater than adopted criteria for:
    - PAHs (benzo(a)pyrene and dibenz(a,h)anthracene) for human health (direct contact) for low/medium/high residential and recreational/open space uses. As residential use is not proposed in the areas soil samples were collected, and the future development of the Site includes a barrier between soil and direct contact with Site users, these LORs are not considered to affect the overall outcomes of assessment.
    - TRH (>C10-C16 (minus naphthalene) for human health (vapour intrusion) for residential users. As residential use is not proposed in any of the areas where soil samples were collected, the LOR is not considered to affect the overall outcomes of assessment.

6.2 Groundwater

- Rinsate Blank QC314 reported an exceedance at 0.02 mg/L for Ammonia (as N). This is marginally above the laboratory LOR (<0.02 mg/L) and a potential small positive bias in the results is unlikely to affect the interpretation of results.
- Field duplicate RPDs in groundwater for PAHs, PFAS, Methane and TRH indicate potential variations associated with sample heterogeneity, VOC instability and/or laboratory methods, however, as approximately 96.5% of the RPDs were within acceptable limits, precision was considered to be adequate for interpretive use. The highest concentration of any inter- or intra-laboratory duplicate sample combination has been adopted for interpretive use.
- Groundwater samples received by laboratories were noted to be chilled with ice, although two batches of secondary interlaboratory duplicate samples were received above the acceptable temperature range of 0 – 6°C, at temperatures between 7.1 – 7.9°C (batches EM2512174 and EM2512123). This was not considered to affect suitability for interpretive use on the following basis:
    - For batch EM2512174, there were no RPD exceedances between primary sample MW16 (batch 1236601) and secondary interlaboratory sample QC207 (batch EM2512174) except

for VOCs TRH C6-C10 and methane. However, these RPD exceedances were also reflected at a similar range between primary sample MW16 and intra-laboratory duplicate sample QC107 (batch 1241421 – originally received as part of batch 1236601) which were received below 6°C, therefore the RPD exceedance cannot be directly attributed to receipt temperature differences.

  - For batch EM2512123, there were no RPD exceedances (particularly between reported VOC concentrations) between primary sample MW186 (batch 1240646) and its respective inter-laboratory duplicate sample QC210 (EM2512123).

- Holding times were exceeded by 1 day for primary sample batch 1240646. It is considered that the potential for analyte degradation (particularly VOCs) caused by a holding time exceedance of only 1 day is likely to be minimal given all other preservation benchmarks were met (appropriate preservatives were in the sample bottles, samples were immediately placed on ice and received at the laboratory below 6°C within the holding time), and therefore it is considered unlikely to affect the suitability of the samples in this batch for interpretive use.
- Holding times were exceeded by 2 – 9 days in secondary interlaboratory duplicate sample batches EM2512123 and EM2512174 (depending on the analyte). Although there is the potential for these analytes to have degraded over time and not be truly representative of field conditions and that this potential under reporting should be taken into consideration when interpreting data for these analytes, these holding time exceedances are not considered to adversely affect the suitability of this batch for interpretive use on the following basis:
  - There were few RPD exceedances between associated primary and intra- and interlaboratory duplicate sample pairs, and any exceedances were reflected in both primary / intralaboratory and primary / interlaboratory sample combinations.
  - The highest reported concentration of any primary / intra- and interlaboratory duplicate sample combination has been adopted for interpretation.
- LORs were greater than adopted criteria for:
  - PAHs (naphthalene, benzo(a)pyrene, benz(a)anthracene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene, sum of PAHs) and phenolic compounds (4,6-dintro-2-methylphenol [dinitro-o-cresol]), 2-cyclohexyl-4,6-dinitrophenol, dinoseb, 2-chlorophenol, 2,4-dichlorophenol) for drinking water (health and/or aesthetics). No extractive groundwater bores have been identified within 2 km of the Site, and extraction of groundwater for drinking purposes is not considered likely to occur now or in the future based on the urban setting and available reticulated water supply, and these LORs are not considered to present a data gap or any risk to human receptors.
  - PAHs (benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene) and phenol (4,6-dintro-2-methylphenol [dinitro-o-cresol]) for recreational (primary/secondary contact) users. All these CoPC are low mobility or immobile in groundwater, based on the organic carbon-water partitioning ranges presented in the ASC NEPM, and are not considered to have sufficient mobility to migrate to the inferred points of groundwater discharge (Sullivan's Cove / the River Derwent) where they may come into contact with potential receptors, and these LORs are not considered to present a data gap or any risk to human receptors.

6.3 Soil vapour

Soil vapour Intra-laboratory duplicate sample was not collected during the field program due to three of the 23 supplied canisters (including 2 spares and 1 duplicate canister) delivered with an initial pressure below the minimum laboratory-recommended threshold of -25 mmHg, indicating a potential leak during transit. Replacement suma canisters were immediately dispatched by the interstate laboratory but did not arrive prior to the completion of the field program. Laboratory data should be based on the precision and accuracy of laboratory statement of QA/QC performance. As a conservative approach (requiring management of vapour infiltration in future buildings and structures) has been adopted, repeat sampling is not proposed.

These are not considered to impact the overall reliability and usability of the analytical data for the purpose of this report.

Based on the known contamination status of the Site, the procedures adopted during the field program, and the analytical data validation procedures employed, the data are considered to be suitable for interpretative use.

Table G1 - Soil and Groundwater Rinsates, Field Blanks and Trip Blanks

| | | |

Table G1 - Soil and Groundwater Rinsates, Field Blanks and Trip Blanks

| | | |

Table G1 - Soil and Groundwater Rinsates, Field Blanks and Trip Blanks

						Major Ions						Alkalinity		Cyanides			Phenolic Compounds																			Nutrients		Hydrocarbon Gases	TRH			
						Chloride	Calcium	Magnesium	Potassium	Sodium	Sulfate as SO4	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Cyanide (Free)	Cyanide Total	Weak Acid Dissociable Cyanide	3/4-Methylphenol (mp-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Ammonia (as N)	Nitrate (as N)	Methane	Aliphatic >C16-C21	Aliphatic >C21-C36	Aromatic >C16-C21	Aromatic >C21-C35
						Sum (PFHxS + PFOS)	Sum of PFAS	Sum of WA DWER PFAS (n=10)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)																																				
						µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.001	0.005	0.005	0.001	1	0.5	0.5	0.5	5	10	20	0.005	5	0.005	6	3	3	3	10	10	3	3	3	10	10	10	30	10	30	100	30	100	30	10	100	0.01	0.02	50	100	100	100	100
Date	Field ID	Sample Type	Lab Report Number	Sample Code	Matrix Type																																								
Field Blank																																													
02 Jun 2025	QC405	Field_B	1227989	M25-Jn0008260	Water	<0.01	<0.1	<0.05	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC419	Field_B	1234941	M25-Jn0056442	Water	-	-	-	-	-	-	-	-	-	-	-	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	-	-	-	-	-	-
Rinsate Blank																																													
27 May 2025	QC301	Rinsate	1227083	M25-Jn0002461	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28 May 2025	QC302	Rinsate	1227083	M25-Jn0002463	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29 May 2025	QC303	Rinsate	1227083	M25-Jn0002466	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30 May 2025	QC304	Rinsate	1227083	M25-Jn0002468	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02 Jun 2025	QC305	Rinsate	1227989	M25-Jn0008259	Water	<0.01	<0.1	<0.05	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03 Jun 2025	QC306	Rinsate	1228034	M25-Jn0008630	Water	<0.001	<0.005	<0.005	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05 Jun 2025	QC307	Rinsate	1229786	M25-Jn0020128	Water	<0.001	<0.005	<0.005	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06 Jun 2025	QC308	Rinsate	1229786	M25-Jn0020132	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Jun 2025	QC309	Rinsate	1231626	M25-Jn0032962	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 Jun 2025	QC310	Rinsate	1231626	M25-Jn0032601	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Jun 2025	QC311	Rinsate	1232587	M25-Jn0040589	Water	-	-	-	-	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
12 Jun 2025	QC312	Rinsate	1232541	M25-Jn0039073	Water	-	-	-	-	-	-	-	-	-	-	-	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	-	-	-	-	-	-
13 Jun 2025	QC313	Rinsate	1232541	M25-Jn0039080	Water	-	-	-	-	-	-	-	-	-	-	-	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	0.02	-	-	-	-	-	-
13 Jun 2025	QC314	Rinsate	1232587	M25-Jn0040591	Water	-	-	-	-	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	0.02	<50	-	-	-	-
17 Jun 2025	QC315	Rinsate	1234320	M25-Jn0051423	Water	-	-	-	-	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
17 Jun 2025	QC315	Rinsate	1241421	M25-Jl0019198	Water	<0.001	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Jun 2025	QC316	Rinsate	1234988	M25-Jn0056616	Water	<0.001	<0.005	<0.005	<0.001	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
19 Jun 2025	QC317	Rinsate	1234941	M25-Jn0056441	Water	-	-	-	-	-	-	-	-	-	-	-	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	-	-	-	-	-	-
19 Jun 2025	QC318	Rinsate	1235243	M25-Jn0058341	Water	-	-	-	-	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	<100	<100	<100	<100
19 Jun 2025	QC319	Rinsate	1241421	M25-Jl0019201	Water	-	-	-	-	-	-	-	-	-	-	-	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	-	-	-	-	-	-
20 Jun 2025	QC320	Rinsate	1235189	M25-Jn0058056	Water	-	-	-	-	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
23 Jun 2025	QC321	Rinsate	1236601	M25-Jn0068793	Water	<0.001	<0.005	<0.005	<0.001	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
24 Jun 2025	QC322	Rinsate	1237216	M25-Jn0072839	Water	<0.001	<0.005	<0.005	<0.001	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
25 Jun 2025	QC323	Rinsate	1240646	M25-Jl0013173	Water	<0.001	<0.005	<0.005	<0.001	<1	<0.5	<0.5	<0.5	<0.5	<5	<10	<20	<0.005	<5	<0.005	<6	<3	<3	<3	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	<0.02	<50	-	-	-	-
Groundwater Trip Blank																																													
12 Jun 2025	QC511	Trip_B	1232587	M25-Jn0040590	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Jun 2025	QC514	Trip_B	1232587	M25-Jn0040592	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Jun 2025	QC515	Trip_B	1234320	M25-Jn0051425	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Jun 2025	QC516	Trip_B	1234320	M25-Jn0051426	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Jun 2025	QC517	Trip_B	1234988	M25-Jn0056618	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Jun 2025	QC518	Trip_B	1234988	M25-Jn0056619	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC520	Trip_B	1235243	M25-Jn0058343	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC521	Trip_B	1235243	M25-Jn0058344	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 Jun 2025	QC522	Trip_B	1235189	M25-Jn0058058	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23 Jun 2025	QC523	Trip_B	1236601	M25-Jn0068795	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23 Jun 2025	QC524	Trip_B	1236601	M25-Jn0068796	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Jun 2025	QC525	Trip_B	1237216	M25-Jn0072841	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Jun 2025	QC526	Trip_B	1237216	M25-Jn0072842	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Jun 2025	QC527	Trip_B	1237216	M25-Jn0072843	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25 Jun 2025	QC528	Trip_B	1240646	M25-Jl0013175	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25 Jun 2025	QC529	Trip_B	1240646	M25-Jl0013176	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table G1 - Soil and Groundwater Rinsates, Field Blanks and Trip Blanks

								Total Recoverable Hydrocarbons - Silica Gel					Total Petroleum Hydrocarbons - Silica Gel				Physico-Chemical Parameters		TPH						
							Aliphatic->C12-C16	Aromatic->C12-C16	>C10-C16 fraction (Silica Gel)	>C16-C34 fraction (Silica Gel)	>C34-C40 fraction (Silica Gel)	>C10-C40 fraction (sum) (Silica Gel)	C10-C14 fraction (Silica Gel)	C15-C28 fraction (Silica Gel)	C29-C36 fraction (Silica Gel)	C10-C36 fraction (sum)(Silica Gel)	Total Dissolved Solids	Electrical conductivity (lab)	Aliphatic->C6-C8	Aliphatic->C8-C10	Aliphatic->C10-C12	Aromatic->C8-C10	Aromatic->C10-C12	Aromatic->C7-C8	Aromatic->C5-C7
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							100	100	50	100	100	100	50	100	100	100	10	10	20	20	50	10	50	1	1
Date	Field ID	Sample Type	Lab Report Number	Sample Code	Matrix Type																				
Field Blank																									
02 Jun 2025	QC405	Field_B	1227989	M25-Jn0008260	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC419	Field_B	1234941	M25-Jn0056442	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate Blank																									
27 May 2025	QC301	Rinsate	1227083	M25-Jn0002461	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28 May 2025	QC302	Rinsate	1227083	M25-Jn0002463	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29 May 2025	QC303	Rinsate	1227083	M25-Jn0002466	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30 May 2025	QC304	Rinsate	1227083	M25-Jn0002468	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02 Jun 2025	QC305	Rinsate	1227989	M25-Jn0008259	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03 Jun 2025	QC306	Rinsate	1228034	M25-Jn0008630	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05 Jun 2025	QC307	Rinsate	1229786	M25-Jn0020128	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06 Jun 2025	QC308	Rinsate	1229786	M25-Jn0020132	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Jun 2025	QC309	Rinsate	1231626	M25-Jn0032962	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 Jun 2025	QC310	Rinsate	1231626	M25-Jn0032601	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Jun 2025	QC311	Rinsate	1232587	M25-Jn0040589	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
12 Jun 2025	QC312	Rinsate	1232541	M25-Jn0039073	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Jun 2025	QC313	Rinsate	1232541	M25-Jn0039080	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Jun 2025	QC314	Rinsate	1232587	M25-Jn0040591	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
17 Jun 2025	QC315	Rinsate	1234320	M25-Jn0051423	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
17 Jun 2025	QC315	Rinsate	1241421	M25-Jl0019198	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Jun 2025	QC316	Rinsate	1234988	M25-Jn0056616	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
19 Jun 2025	QC317	Rinsate	1234941	M25-Jn0056441	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC318	Rinsate	1235243	M25-Jn0058341	Water		<100	<100	<50	<100	<100	<100	<50	<100	<100	<100	<10	<10	<20	<20	<50	<10	<50	<1	<1
19 Jun 2025	QC319	Rinsate	1241421	M25-Jl0019201	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 Jun 2025	QC320	Rinsate	1235189	M25-Jn0058056	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
23 Jun 2025	QC321	Rinsate	1236601	M25-Jn0068793	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
24 Jun 2025	QC322	Rinsate	1237216	M25-Jn0072839	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
25 Jun 2025	QC323	Rinsate	1240646	M25-Jl0013173	Water		-	-	-	-	-	-	-	-	-	-	<10	<10	-	-	-	-	-	-	-
Groundwater Trip Blank																									
12 Jun 2025	QC511	Trip_B	1232587	M25-Jn0040590	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Jun 2025	QC514	Trip_B	1232587	M25-Jn0040592	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Jun 2025	QC515	Trip_B	1234320	M25-Jn0051425	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17 Jun 2025	QC516	Trip_B	1234320	M25-Jn0051426	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Jun 2025	QC517	Trip_B	1234988	M25-Jn0056618	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Jun 2025	QC518	Trip_B	1234988	M25-Jn0056619	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC520	Trip_B	1235243	M25-Jn0058343	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19 Jun 2025	QC521	Trip_B	1235243	M25-Jn0058344	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 Jun 2025	QC522	Trip_B	1235189	M25-Jn0058058	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23 Jun 2025	QC523	Trip_B	1236601	M25-Jn0068795	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23 Jun 2025	QC524	Trip_B	1236601	M25-Jn0068796	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Jun 2025	QC525	Trip_B	1237216	M25-Jn0072841	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Jun 2025	QC526	Trip_B	1237216	M25-Jn0072842	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Jun 2025	QC527	Trip_B	1237216	M25-Jn0072843	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25 Jun 2025	QC528	Trip_B	1240646	M25-Jl0013175	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25 Jun 2025	QC529	Trip_B	1240646	M25-Jl0013176	Water		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table G2 - Soil RPDs

Date			02 Jun 2025	02 Jun 2025		02 Jun 2025	02 Jun 2025		02 Jun 2025	02 Jun 2025		02 Jun 2025	02 Jun 2025		05 Jun 2025	05 Jun 2025		05 Jun 2025	05 Jun 2025		06 Jun 2025	06 Jun 2025		12 Jun 2025	13 Jun 2025		13 Jun 2025	13 Jun 2025	
Field ID			MW184_1.0	QC101		MW184_1.0	QC201		MW188_0.5	QC102		MW188_0.5	QC202		MW194_3.0	QC103		MW194_3.0	QC203		MW185_3.0	QC104		SV42_2.0	QC106		SV42_2.0	QC206	
Lab Report Number			1227989	1227989		1227989	EM2509944		1227989	1227989		1227989	EM2512074		1229786	1229786		1229786	EM2510162		1229786	1229786		1232541	1232541		1232541	EM2510874	
Matrix Type			Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD
	Unit	EQL																											
Total Recoverable Hydrocarbons																													
C6-C10 fraction	mg/kg	10	<20	<20	0	<20	<10	0	<20	<20	0	<20	-	-	<20	<20	0	<20	<10	0	<20	<20	0	<20	<20	0	<20	<10	0
C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	<20	<20	0	<20	<10	0	<20	<20	0	<20	-	-	<20	<20	0	<20	<10	0	<20	<20	0	<20	<20	0	<20	<10	0
>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	200	110	58	200	<50	120	<50	<50	0	<50	-	-	<50	<50	0	<50	<50	0	1,700	3,000	55	315.3	64	133	315.3	320	1
>C10-C16 fraction	mg/kg	50	200	110	58	200	<50	120	<50	<50	0	<50	-	-	<50	<50	0	<50	<50	0	1,700	3,000	55	320	64	133	320	320	0
>C16-C34 fraction	mg/kg	100	990	560	55	990	<100	163	160	<100	46	160	-	-	<100	<100	0	<100	<100	0	630	1,300	69	980	240	121	980	1,000	2
>C34-C40 fraction	mg/kg	100	360	200	57	360	<100	113	<100	<100	0	<100	-	-	<100	<100	0	<100	<100	0	<100	<100	0	210	<100	71	210	140	40
>C10-C40 fraction (sum)	mg/kg	50	1,550	870	-	1,550	<50	-	160	<100	-	160	-	-	<100	<100	-	<100	<50	-	2,330	4,300	-	1,510	304	-	1,510	1,460	-
Total Petroleum Hydrocarbons																													
C6-C9 fraction	mg/kg	10	<20	<20	0	<20	<10	0	<20	<20	0	<20	-	-	<20	<20	0	<20	<10	0	<20	<20	0	<20	<20	0	<20	<10	0
C10-C14 fraction	mg/kg	20	92	52	56	92	<50	59	<20	<20	0	<20	-	-	<20	<20	0	<20	<50	0	1,000	1,800	57	180	33	138	180	160	12
C15-C28 fraction	mg/kg	50	750	380	65	750	<100	153	100	54	60	100	-	-	<50	<50	0	<50	<100	0	1,300	2,400	59	950	220	125	950	950	0
C29-C36 fraction	mg/kg	50	530	340	44	530	<100	137	91	51	56	91	-	-	<50	<50	0	<50	<100	0	130	130	0	280	66	124	280	290	4
C10-C36 fraction (sum)	mg/kg	50	1,372	772	-	1,372	<50	-	191	105	-	191	-	-	<50	<50	-	<50	<50	-	2,430	4,330	-	1,410	319	-	1,410	1,400	-
Metals																													
Arsenic	mg/kg	2	8.5	7.3	15	8.5	10	16	47	40	16	47	-	-	<2	<2	0	<2	<5	0	3.0	3.2	6	<2	<2	0	<2	<5	0
Cadmium	mg/kg	0.4	0.5	0.5	0	0.5	<1	0	0.8	0.9	12	0.8	-	-	<0.4	<0.4	0	<0.4	<1	0	0.5	0.4	22	<0.4	<0.4	0	<0.4	<1	0
Chromium	mg/kg	2	18	14	25	18	16	12	14	11	24	14	-	-	16	17	6	16	14	13	8.7	9.6	10	13	15	14	13	24	59
Copper	mg/kg	5	69	66	4	69	63	9	46	32	36	46	-	-	75	78	4	75	73	3	38	35	8	61	71	15	61	73	18
Lead	mg/kg	5	66	67	2	66	56	16	78	59	28	78	-	-	<5	<5	0	<5	<5	0	170	170	0	5.9	5.0	17	5.9	<5	17
Mercury	mg/kg	0.1	0.1	0.2	67	0.1	<0.1	0	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	<0.1	0	1.5	0.7	73	<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	2	31	35	12	31	29	7	44	27	48	44	-	-	22	23	4	22	20	10	7.3	10	31	23	28	20	23	28	20
Zinc	mg/kg	5	210	210	0	210	174	19	280	350	22	280	-	-	29	31	7	29	25	15	870	900	3	36	41	13	36	30	18
Monocyclic Aromatic Hydrocarbons																										-			
Benzene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.2	0	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	<0.2	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.2	0
Toluene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.5	0
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.5	0
m&p-Xylene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.5	0	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	<0.5	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.5	0
o-Xylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.5	0
Total Xylenes	mg/kg	0.3	<0.3	<0.3	0	<0.3	<0.5	0	<0.3	<0.3	0	<0.3	-	-	<0.3	<0.3	0	<0.3	<0.5	0	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<0.5	0
Total BTEX	mg/kg	0.2	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	<0.2	-
Naphthalene (BTEXN)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1	0	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	<1	0	<0.5	<0.5	0	4.7	<0.5	162	4.7	<1	130
Polynuclear Aromatic Hydrocarbons																										-			
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	1.6	1.4	-	1.6	0.6	-	1.0	1.4	-	1.0	-	-	0.6	0.6	-	0.6	0.6	-	3.0	2.6	-	2.5	0.6	-	2.5	3.7	-
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	1.3	1.1	-	1.3	<0.5	-	0.7	1.2	-	0.7	-	-	<0.5	<0.5	-	<0.5	<0.5	-	2.7	2.3	-	2.2	<0.5	-	2.2	3.4	-
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	1.9	1.7	-	1.9	1.2	-	1.3	1.7	-	1.3	-	-	1.2	1.2	-	1.2	1.2	-	3.2	2.8	-	2.7	1.2	-	2.7	3.9	-
Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	0.5	0.5	0	0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.6	18	2.6	<0.5	135	2.6	<0.5	135
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	1.6	<0.5	105	2.1	<0.5	123	2.1	4.4	71
Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	0.9	1.0	11	0.9	-	-	<0.5	<0.5	0	<0.5	<0.5	0	2.9	<0.5	141	<0.5	<0.5	0	<0.5	<0.5	0
Anthracene	mg/kg	0.5	0.7	<0.5	33	0.7	<0.5	33	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.5	0	0.7	<0.5	33	0.7	0.8	13
Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	0.6	<0.5	18	0.6	-	-	<0.5	<0.5	0	<0.5	<0.5	0	0.6	1.1	59	<0.5	<0.5	0	<0.5	<0.5	0
Phenanthrene	mg/kg	0.5	2.4	1.1	74	2.4	<0.5	131	1.4	0.8	55	1.4	-	-	<0.5	<0.5	0	<0.5	<0.5	0	2.5	3.2	25	1.5	<0.5	100	1.5	1.4	7
Fluoranthene	mg/kg	0.5	2.9	1.4	70	2.9	<0.5	141	2.7	2.0	30	2.7	-	-	<0.5	<0.5	0	<0.5	<0.5	0	3.0	3.5	15	5.7	0.7	156	5.7	5.7	0
Benz(a)anthracene	mg/kg	0.5	1.3	1.0	26	1.3	<0.5	89	0.6	0.9	40	0.6	-	-	<0.5	<0.5	0	<0.5	<0.5	0	1.5	1.4	7	1.8	<0.5	113	1.8	1.9	5
Benzo(k)fluoranthene	mg/kg	0.5	0.8	1.1	32	0.8	<0.5	46	<0.5	0.9	57	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	2.1	1.8	15	1.2	<0.5	82	1.2	1.1	9
Benzo(b&j)fluoranthene	mg/kg	0.5	0.8	0.9	12	0.8	<0.5	46	<0.5	1.1	75	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	1.2	1.1	9	1.4	<0.5	95	1.4	3.4	83
Benzo(a)pyrene	mg/kg	0.5	1.0	0.8	22	1.0	<0.5	67	0.6	0.8	29	0.6	-	-	<0.5	<0.5	0	<0.5	<0.5	0	2.1	1.8	15	1.7	<0.5	109	1.7	2.6	42
Chrysene	mg/kg	0.5	1.2	0.7	53	1.2	<0.5	82	0.7	0.9	25	0.7	-	-	<0.5	<0.5	0	<0.5	<0.5	0	2.0	1.9	5	1.6	<0.5	105	1.6	1.7	6
Pyrene	mg/kg	0.5	3.4	1.6	72	3.4	<0.5	149	2.6	2.1	21	2.6	-	-	<0.5	<0.5	0	<0.5	<0.5	0	3.2	3.7	14	7.2	1.3	139	7.2	6.3	13
Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.8	46	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	0.9	0.8	12	0.7	<0.5	33	0.7	1.6	78
Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.6	18	<0.5	-	-	<0.5	<0.5	0	<0.5	<0.5	0	1.0	0.8	22	0.5	<0.5	0	0.5	1.4	95
Sum of PAHs	mg/kg	0.5	15	8.6	-	15	<0.5	-	11	12	-	11	-	-	<0.5	<0.5	-	<0.5	<0.5	-	25	22	-	29	2.0	-	29	32.3	-
Per- and Poly-fluoroalkyl Substances																										-			
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.001	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	-	-	-	-	-	-	<0.01	<0.01	0	<0.01	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	-	-	-	-	-	-	<0.01	<0.01	0	<0.01	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	-	-	-	-	-	-	<0.01	<0.01	0	<0.01	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table G2 - Soil RPDs

Date			02 Jun 2025	02 Jun 2025		02 Jun 2025	02 Jun 2025		02 Jun 2025	02 Jun 2025		02 Jun 2025	02 Jun 2025		05 Jun 2025	05 Jun 2025		05 Jun 2025	05 Jun 2025		06 Jun 2025	06 Jun 2025		12 Jun 2025	13 Jun 2025		13 Jun 2025	13 Jun 2025	
Field ID			MW184_1.0	QC101		MW184_1.0	QC201		MW188_0.5	QC102		MW188_0.5	QC202		MW194_3.0	QC103		MW194_3.0	QC203		MW185_3.0	QC104		SV42_2.0	QC106		SV42_2.0	QC206	
Lab Report Number			1227989	1227989		1227989	EM2509944		1227989	1227989		1227989	EM2512074		1229786	1229786		1229786	EM2510162		1229786	1229786		1232541	1232541		1232541	EM2510874	
Matrix Type			Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD
	Unit	EQL																											
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0005	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum (PFHxS + PFOS)	mg/kg	0.0002	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PFAS	mg/kg	0.0002	-	-	-	-	-	-	<0.05	<0.05	0	<0.05	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of WA DWER PFAS (n=10)*	mg/kg	0.0002	-	-	-	-	-	-	<0.01	<0.01	0	<0.01	<0.0002	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	mg/kg	0.005	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanides																										-				
Cyanide (Free)	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	<1	0	
Cyanide Total	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	2	0	
Weak Acid Dissociable Cyanide	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	<1	0	
Phenolic Compounds																										-				
3/4-Methylphenol (m/p-cresol)	mg/kg	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	<0.4	0	<0.4	<1	0	
Phenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	0	<0.5	<0.5	0	
2-Chlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	0	<0.5	<0.5	0	
2-Methylphenol (o-Cresol)	mg/kg	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	0	<0.2	<0.5	0	
Total Cresols	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	0	<0.5	-	-	
2-Nitrophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	0	<1	<0.5	0	
2,4-Dichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	0	<0.5	<0.5	0	
2,4-Dimethylphenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	0	<0.5	0.6	18	
2,6-Dichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	0	<0.5	<0.5	0	
4-Chloro-3-methylphenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	0	<1	<0.5	0	
2,4,6-Trichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	0	<1	<0.5	0	
2,4,5-Trichlorophenol	mg/kg	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	0	<1	<0.5	0	
4,6-Dinitro-2-methylphenol	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	-	-	
Pentachlorophenol	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	0	<1	<2	0	
2,4-Dinitrophenol	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	-	-	
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	0	<20	-	-	
4-Nitrophenol	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	0	<5	-	-	
Dinoseb	mg/kg	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	0	<20	-	-	
Tetrachlorophenols	mg/kg	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	0	<10	-	-	
Sum of Phenols (halogenated)	mg/kg	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	0	<1	-	-	
Sum of Phenols (non-halogenated)	mg/kg	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	0	<20	-	-	
Nutrients																										-				
Ammonia (as N)	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	<5	2	5.1	<20	0	
Physio-Chemical Parameters																										-				
Moisture Content	%	0.1	-	-	-	-	8.0	-	-	-	-	-	8.4	-	-	-	-	-	2.4	-	-	-	-	-	-	-	-	25.4	-	
Moisture Content (dried @ 103°C)	%	1	6.5	8.3	24	6.5	-	-	7.0	13	60	7.0	-	-	1.2	2.1	55	1.2	-	-	24	27	12	20	20	0	20	-	-	

*RPDs have only been considered between individual analytes, where a concentration is greater than 1 times the EQL. Summed concentrations and TEQ calculations have been excluded from RPD calculations.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table G3 - Groundwater RPDs

		Date	23 Jun 2025	23 Jun 2025		23 Jun 2025	23 Jun 2025		23 Jun 2025	23 Jun 2025		23 Jun 2025	23 Jun 2025		24 Jun 2025	24 Jun 2025		24 Jun 2025	24 Jun 2025		24 Jun 2025	24 Jun 2025		24 Jun 2025	24 Jun 2025		25 Jun 2025	25 Jun 2025		25 Jun 2025	25 Jun 2025		
		Field ID	MW16	QC107		MW16	QC207		MW16_FILTERED	QC107_FILTERED		MW16_FIL TERED	QC207_FILTERED		MW126A	QC108		MW126A	QC208		MW193	QC109		MW193	QC209		MW186	QC110		MW186	QC210		
		Lab Report Number	1236601	1241421		1236601	EM2512174		1236601	1241421		1236601	EM2512174		1237216	1237216		1237216	EM2511596		1237216	1237216		1237216	EM2511596		1240646	1240646		1240646	EM2512123		
		Matrix Type	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	
	Unit	EQL																															
Total Recoverable Hydrocarbons																																	
C6-C10 fraction	µg/L	20	670	450	39	670	490	31	750	<20	190	750	400	61	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	
C6-C10 fraction (minus BTEX)(F1)	µg/L	20	670	450	39	670	490	31	750	<20	190	750	400	61	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	
>C10-C16 (minus Naphthalene)(F2)	µg/L	50	<50	260	135	<50	240	131	<50	<50	0	<50	-	-	<50	<50	0	<50	<100	0	<50	<50	0	<50	<100	0	210	160	27	210	150	33	
>C10-C16 fraction	µg/L	50	<50	260	135	<50	240	131	<50	<50	0	<50	-	-	<50	<50	0	<50	<100	0	<50	<50	0	<50	<100	0	210	160	27	210	150	33	
>C16-C34 fraction	µg/L	100	<100	<100	0	<100	140	33	<100	<100	0	<100	-	-	<100	100	0	<100	140	33	<100	<100	0	<100	<100	0	300	200	40	300	180	50	
>C34-C40 fraction	µg/L	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	-	-	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	300	200	40	300	<100	100	
>C10-C40 fraction (sum)	µg/L	100	<100	260	-	<100	380	-	<100	<100	-	<100	-	-	<100	100	-	<100	140	-	<100	<100	-	<100	<100	-	810	560	-	810	330	-	
Total Petroleum Hydrocarbons																																	
C6-C9 fraction	µg/L	20	490	310	45	490	440	11	570	<20	180	570	350	48	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	
C10-C14 fraction	µg/L	50	<50	230	129	<50	260	135	<50	<50	0	<50	-	-	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	80	60	29	80	80	0	
C15-C28 fraction	µg/L	100	<100	<100	0	<100	180	57	<100	<100	0	<100	-	-	<100	100	0	<100	180	57	<100	<100	0	<100	<100	0	400	300	29	400	230	54	
C29-C36 fraction	µg/L	50	<100	<100	0	<100	<50	0	<100	<100	0	<100	-	-	<100	100	0	<100	<50	0	<100	<100	0	<100	<50	0	100	<100	0	100	<50	67	
C10-C36 fraction (sum)	µg/L	50	<100	230	-	<100	440	-	<100	<100	-	<100	-	-	<100	200	-	<100	180	-	<100	<100	-	<100	<50	-	580	360	-	580	310	-	
Metals																																	
Arsenic (filtered)	mg/L	0.001	0.003	<0.001	100	0.003	0.002	40	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	
Cadmium (filtered)	mg/L	0.0001	<0.0002	<0.0002	0	<0.0002	<0.0001	0	-	-	-	-	-	-	<0.0002	<0.0002	0	<0.0002	<0.0001	0	<0.0002	<0.0002	0	<0.0002	<0.0001	0	<0.0002	<0.0002	0	<0.0002	<0.0001	0	
Chromium (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	0.001	0	<0.001	0.001	0	
Copper (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	
Lead (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	
Manganese (filtered)	mg/L	0.001	0.41	0.37	10	0.41	0.410	0	-	-	-	-	-	-	0.57	0.61	7	0.57	0.475	18	1.00	1.1	10	1.00	1.00	0	1.6	1.6	0	1.6	1.44	11	
Mercury (filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0001	0	-	-	-	-	-	-	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	
Nickel (filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	-	-	-	-	-	-	0.003	0.003	0	0.003	0.003	0	0.002	0.002	0	0.002	0.002	0	0.001	0.002	67	0.001	0.001	0	
Zinc (filtered)	mg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	
Monocyclic Aromatic Hydrocarbons																																	
Benzene	µg/L	1	<1	<1	0	<1	<1	0	-	<1	-	-	<1	-	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	
Toluene	µg/L	1	<1	<1	0	<1	<2	0	-	<1	-	-	<2	-	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0	
Ethylbenzene	µg/L	1	<1	<1	0	<1	<2	0	-	<1	-	-	<2	-	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0	
m&p-Xylene	µg/L	2	<2	<2	0	<2	<2	0	-	<2	-	-	<2	-	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	
o-Xylene	µg/L	1	<1	<1	0	<1	<2	0	-	<1	-	-	<2	-	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0	<1	<1	0	<1	<2	0	
Total Xylenes	µg/L	2	<3	<3	0	<3	<2	0	-	<3	-	-	<2	-	<3	<3	0	<3	<2	0	<3	<3	0	<3	<2	0	<3	<3	0	<3	<2	0	
Total BTEX	µg/L	1	-	-	-	-	<1	-	-	-	-	-	<1	-	-	-	-	-	<1	-	-	-	-	-	<1	-	-	-	-	-	<1	-	
Naphthalene (BTEXN)	µg/L	5	<10	<10	0	<10	<5	0	<10	<10	0	<10	<5	0	<10	<10	0	<10	<5	0	<10	<10	0	<10	<5	0	<10	<10	0	<10	<5	0	
Polynuclear Aromatic Hydrocarbons																																	
Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5	-	-	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	<0.5	-	-	-	-	-	<0.5	-	
Naphthalene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Acenaphthylene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Acenaphthene	µg/L	1	2	<1	67	2	<1.0	67	2	<1	67	2	<1.0	67	10	15	40	10	17.7	56	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	11	15	31	11	4.0	93	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Fluorene	µg/L	1	2	<1	67	2	<1.0	67	2	<1	67	2	<1.0	67	8	10	22	8	12.9	47	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Phenanthrene	µg/L	1	2	<1	67	2	<1.0	67	2	<1	67	2	<1.0	67	13	21	47	13	29.4	77	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	3	5	50	3	4.7	44	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Benz(a)anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Benzo(k)fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Benzo(b&j)fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Benzo(a)pyrene	µg/L	0.5	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	<1	<1	0	<1	<0.5	0	
Chrysene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Pyrene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	2	2	0	2	3.4	52	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Benzo(g,h,i)perylene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Dibenz(a,h)anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Indeno(1,2,3-cd)pyrene	µg/L	1	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	<1	<1	0	<1	<1.0	0	
Sum of PAHs	µg/L	0.5	6	<1	-	6	<0.5	-	6	<1	-	6	<0.5	-	47	68	-	47	72.1	-	<1	<1	-	<1	<0.5	-	<1	<1	-	<1	<0.5	-	
Per- and Poly-fluoroalkyl Substances																																	
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	0.007	150	<0.001	<0.01	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	0.002	0.005	86	0.002	0.005	86	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001	0.002	0.011	138	0.002	<0.02	0	-	-	-	-	-	-	0.002	0.002	0	0.002	<0.02	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.001	0.008	0.007	13	0.008	0.01	22	-	-	-	-	-	-	0.003	0.003	0	0.003	0.005	50	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001	0.008	0.029	114	0.008	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.001	0.30	0.23	26	0.30	0.30	0	-	-	-	-	-	-	0.003	0.003	0	0.003	0.004	29	0.002	-	-	0.002	-	-	-	-	-	-	-	-	
Perfluorononanesulfonic Acid (PFNS)	ug/L	0.001	0.001	0.026	185	0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorobutanoic acid (PFBA)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.10	0	-	-	-	-	-	-	0.007	0.008	13	0.007	<0.01	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
Perfluoropentanoic acid (PFPeA)	µg/L	0.001	0.004	0.037	161	0.004	<0.02	0	-	-	-	-	-	-	0.006	0.006	0	0.006	0.004	40	0.002	-	-	0.002	-	-	-	-	-	-	-	-	
Perfluorohexanoic acid (PFHxA)	µg/L	0.001	0.002	0.002	0	0.002	<0.02	0	-	-	-	-	-	-	0.005	0.006	18	0.005	0.005	0	0.002	-	-	0.002	-	-	-	-	-	-	-	-	
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001	0.001	0.003	100	0.001	<0.02	0	-	-	-	-	-	-	0.003	0.003	0	0.003	0.002	40	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorooctanoic acid (PFOA)	µg/L	0.001	0.014	0.013	7	0.014	0.02	35	-	-	-	-	-	-	0.010	0.009	11	0.010	0.007	35	0.003	-	-	0.003	-	-	-	-	-	-	-	-	
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.001	0.002	67	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.001	0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.02	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.05	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.005	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002	<0.005	<0.005	0	<0.005	<0.02	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.002	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.05	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.05	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.05	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.05	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002	<0.005	<0.005	0	<0.005	<0.02	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.002	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002	<0.005	<0.005	0	<0.005	<0.02	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.002	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001	<0.001	<0.001	0	<0.001	<0.05	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.005	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.05	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	-	-	<0.005	-	-	-	-	-	-	-	-	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001	0.003	<0.001	100	0.003	<0.05	0	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.005	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001	0.003	<0.001	100	0.003	<0.05	0	-	-	-	-	-	-	<0.001	<0.001	0	<0.001	<0.005	0	<0.001	-	-	<0.001	-	-	-	-	-	-	-	-	
Sum (PFHxS + PFOS)	µg/L	0.001	0.308	0.237	-	0.308	0.31	-	-	-	-	-	-	-	0.006	0.006	-	0.006	0.009	-	0.002	-	-	0.002	-	-	-	-	-	-	-	-	
Sum of PFAS	µg/L	0.002	0.346	0.361	-	0.346	0.33	-	-	-	-	-	-	-	0.041	0.052	-	0.041	0.032	-	0.009	-	-	0.009	-	-	-	-	-	-	-	-	
Sum of WA DWER PFAS (n=10)*	µg/L	0.002	0.332	0.292	-	0.332	0.33	-	-	-	-	-	-	-	0.039	0.043	-	0.039	0.032	-	0.009	-	-	0.009	-	-	-	-	-	-	-	-	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	µg/L	0.001	0.322	-	-	0.322	-	-	-	-	-	-	-	-	0.016	0.015	-	0.016	-	-	0.005	-	-	0.005	-	-	-	-	-	-	-	-	
PFHxDA	µg/L	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Major Ions																																	
Chloride	mg/L	1	9.8	8.9	10	9.8	9	9	-	-	-	-	-	-	41	41	0	41	37	10	20	19	5	20	19	5	42	42	0	42	38	10	
Calcium	mg/L	0.5	57	51	11	57	-	-	-	-	-	-	-	-	180	170	6	180	-	-	150	150	0	150	-	-	140	140	0	140	-	-	
Calcium (filtered)	mg/L	0.5	-	-	-	-	55	-	-	-	-	-	-	-	-	-	-	-	171	-	-	-	-	-	154	-	-	-	-	-	153	-	
Magnesium	mg/L	0.5	7.8	7.3	7	7.8	-	-	-	-	-	-	-	-	89	89	0	89	-	-	49	48	2	49	-	-	43	44	2	43	-	-	

Table G3 - Groundwater RPDs

			Date	23 Jun 2025	23 Jun 2025		23 Jun 2025	23 Jun 2025		23 Jun 2025	23 Jun 2025		23 Jun 2025	23 Jun 2025		24 Jun 2025	24 Jun 2025		24 Jun 2025	24 Jun 2025		24 Jun 2025	24 Jun 2025		24 Jun 2025	24 Jun 2025		25 Jun 2025	25 Jun 2025		25 Jun 2025	25 Jun 2025	
			Field ID	MW16	QC107		MW16	QC207		MW16_FILTERED	QC107_FILTERED		MW16_FILTERED	QC207_FILTERED		MW126A	QC108		MW126A	QC208		MW193	QC109		MW193	QC209		MW186	QC110		MW186	QC210	
			Lab Report Number	1236601	1241421		1236601	EM2512174		1236601	1241421		1236601	EM2512174		1237216	1237216		1237216	EM2511596		1237216	1237216		1237216	EM2511596		1240646	1240646		1240646	EM2512123	
			Matrix Type	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	Water	RPD
	Unit	EQL																														
Magnesium (filtered)	mg/L	0.5	-	-	-	-	7	-	-	-	-	-	-	-	-	53	52	2	53	-	-	82	-	-	35	34	3	35	-	-	47	-	-	-	-	44	-
Potassium	mg/L	0.5	5.9	5.4	9	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	7.7	1	7.6	-	-
Potassium (filtered)	mg/L	0.5	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	8	-
Sodium	mg/L	0.5	13	12	8	13	-	-	-	-	-	-	-	-	-	79	78	1	79	-	-	76	-	-	62	60	3	62	-	-	100	100	0	100	-	-
Sodium (filtered)	mg/L	0.5	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	-	-	-	-	-	96	-
Sulfate as SO4	mg/L	5	13	<5	89	13	-	-	-	-	-	-	-	-	-	23	<5	129	23	-	-	-	-	-	9.2	8.0	14	9.2	-	-	120	120	0	120	-	-
Sulfate as SO4 (Turbidimetric) (filtered)	mg/L	1	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	111	-
Total Anions	meq/L	0.01	-	-	-	-	4.11	-	-	-	-	-	-	-	-	-	-	-	24.1	-	-	-	-	-	-	-	-	-	17.6	-	-	-	-	-	14.8	-
Total Cations	meq/L	0.01	-	-	-	-	3.88	-	-	-	-	-	-	-	-	-	-	-	19.8	-	-	-	-	-	-	-	-	-	15.0	-	-	-	-	-	15.6	-
Ionic Balance	%	0.01	-	-	-	-	2.83	-	-	-	-	-	-	-	-	-	-	-	9.72	-	-	-	-	-	-	-	-	-	8.02	-	-	-	-	-	2.84	-
Alkalinity																																				
Hydroxide Alkalinity as CaCO3	mg/L	1	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	<1	-
Carbonate Alkalinity as CaCO3	mg/L	1	<10	<10	0	<10	<1	0	-	-	-	-	-	-	-	<10	<10	0	<10	<1	0	<10	<10	0	<10	<1	0	<10	<1	0	<10	<10	0	<10	<1	0
Bicarbonate Alkalinity as CaCO3	mg/L	1	220	140	44	220	193	13	-	-	-	-	-	-	-	1,100	1,000	10	1,100	1,150	4	1,000	1,100	10	1,000	849	16	380	450	17	380	570	40			
Total Alkalinity as CaCO3	mg/L	1	-	-	-	-	193	-	-	-	-	-	-	-	-	-	-	-	-	1,150	-	-	-	-	-	849	-	-	-	-	-	-	-	-	570	-
Cyanides																																				
Cyanide (Free)	mg/L	0.004	<0.005	<0.005	0	<0.005	<0.004	0	-	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.004	0	<0.005	<0.005	0	<0.005	<0.004	0	<0.005	<0.005	0	<0.005	<0.004	0			
Cyanide Total	µg/L	4	15	11	31	15	11	31	-	-	-	-	-	-	-	160	150	6	160	160	0	7	11	44	7	6	15	96	96	0	96	76	23			
Weak Acid Dissociable Cyanide	mg/L	0.004	<0.005	<0.005	0	<0.005	<0.004	0	-	-	-	-	-	-	-	<0.005	<0.005	0	<0.005	<0.004	0	<0.005	<0.005	0	<0.005	<0.004	0	0.008	<0.005	46	0.008	<0.004	67			
Phenolic Compounds																																				
3/4-Methylphenol (m/p-cresol)	µg/L	2	<6	<6	0	<6	<2.0	0	-	-	-	-	-	-	-	<6	<6	0	<6	<2.0	0	<6	<6	0	<6	<2.0	0	<6	<6	0	<6	<2.0	0			
Phenol	µg/L	1	<3	<3	0	<3	<1.0	0	-	-	-	-	-	-	-	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0			
2-Chlorophenol	µg/L	1	<3	<3	0	<3	<1.0	0	-	-	-	-	-	-	-	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0			
2-Methylphenol (o-Cresol)	µg/L	1	<3	<3	0	<3	<1.0	0	-	-	-	-	-	-	-	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0			
Total Cresols	µg/L	10	<10	<10	0	<10	-	-	-	-	-	-	-	-	-	<10	<10	0	<10	-	-	<10	<10	0	<10	-	-	<10	<10	0	<10	-	-			
2-Nitrophenol	µg/L	1	<10	<10	0	<10	<1.0	0	-	-	-	-	-	-	-	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0			
2,4-Dichlorophenol	µg/L	1	<3	<3	0	<3	<1.0	0	-	-	-	-	-	-	-	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0			
2,4-Dimethylphenol	µg/L	1	<3	<3	0	<3	<1.0	0	-	-	-	-	-	-	-	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0			
2,6-Dichlorophenol	µg/L	1	<3	<3	0	<3	<1.0	0	-	-	-	-	-	-	-	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0	<3	<3	0	<3	<1.0	0			
4-Chloro-3-methylphenol	µg/L	1	<10	<10	0	<10	<1.0	0	-	-	-	-	-	-	-	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0			
2,4,6-Trichlorophenol	µg/L	1	<10	<10	0	<10	<1.0	0	-	-	-	-	-	-	-	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0			
2,4,5-Trichlorophenol	µg/L	1	<10	<10	0	<10	<1.0	0	-	-	-	-	-	-	-	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0	<10	<10	0	<10	<1.0	0			
4,6-Dinitro-2-methylphenol	µg/L	30	<30	<30	0	<30	-	-	-	-	-	-	-	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-			
Pentachlorophenol	µg/L	2	<10	<10	0	<10	<2.0	0	-	-	-	-	-	-	-	<10	<10	0	<10	<2.0	0	<10	<10	0	<10	<2.0	0	<10	<10	0	<10	<2.0	0			
2,4-Dinitrophenol	µg/L	30	<30	<30	0	<30	-	-	-	-	-	-	-	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-			
2-Cyclohexyl-4,6-dinitrophenol	µg/L	100	<100	<100	0	<100	-	-	-	-	-	-	-	-	-	<100	<100	0	<100	-	-	<100	<100	0	<100	-	-	<100	<100	0	<100	-	-			
4-Nitrophenol	µg/L	30	<30	<30	0	<30	-	-	-	-	-	-	-	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-			
Dinoseb	µg/L	100	<100	<100	0	<100	-	-	-	-	-	-	-	-	-	<100	<100	0	<100	-	-	<100	<100	0	<100	-	-	<100	<100	0	<100	-	-			
Tetrachlorophenols	µg/L	30	<30	<30	0	<30	-	-	-	-	-	-	-	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-	<30	<30	0	<30	-	-			
Sum of Phenols (halogenated)	µg/L	10	<10	<10	-	<10	-	-	-	-	-	-	-	-	-	<10	<10	-	<10	-	-	<10	<10	-	<10	-	-	<10	<10	-	<10	-	-			
Sum of Phenols (non-halogenated)	µg/L	100	<100	<100	-	<100	-	-	-	-	-	-	-	-	-	<100	<100	-	<100	-	-	<100	<100	-	<100	-	-	<100	<100	-	<100	-	-			
Nutrients																																				
Ammonia (as N)	mg/L	0.01	2.8	2.8	0	2.8	2.55	9	-	-	-	-	-	-	-	46	45	2	46	39.0	16	29	29	0	29	28.0	4	0.20	0.19	5	0.20	0.23	14			
Nitrate (as N)	mg/L	0.02	<0.02	<0.02	0	<0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	0	<0.02	-	-	<0.02	0.03	40	<0.02	-	-	0.03	0.10	108	0.03	-	-			
Hydrocarbon Gases																																				
Methane	µg/L	10	13,000	8,300	44	13,000	3,270	120	-	-	-	-	-	-	-	20,000	14,000	35	20,000	5,860	109	17,000	16,000	6	17,000	3,550	131	110	90	20	110	59	60			
Physico-Chemical Parameters																																				
Total Dissolved Solids	mg/L	10	170	180	6	170	217	24	-	-	-	-	-	-	-	1,000	1,000	0	1,000	1,110	10	750	780	4	750	798	6	710	610	15	710	819	14			
Electrical conductivity (lab)	µS/cm	10	350	330	6	350	-	-	-	-	-	-	-	-	-	1,900	1,900	0	1,900	-	-	1,400	1,400	0	1,400	-	-	1,100	1,100	0	1,100	-	-			

*RPDs have only been considered between individual analytes, where a concentration is greater than 1 times the EQL. Summed concentrations and TEQ calculations have been excluded from RPD calculations.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix G

Field Equipment Calibration Certificates

Equipment Calibration Form

RKI GX-6000

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36573

INSTRUMENT IDENTIFICATION

Model Number: GX-6000

Serial Number: 52J0193501-5RN

INSPECTION RECORD

Flow Rate: PASS

Buzzer: PASS

Date & Time: PASS

CALIBRATION DETAILS

Sensor	Span Gas	Value	Reading	
O_2	Air	20.9 %	20.9	%
	O_2	18.0 %	18.0	%
H_2S	Hydrogen Sulphide	25ppm	N/A	ppm
LEL	Methane 2.5%	50%	50	%
CO	Carbon Monoxide	100ppm	N/A	ppm
CO2 PPM	Carbon Dioxide	5000 ppm	N/A	ppm
VOC	Isobutylene	100ppm	100	ppm

Correction Factor: 1

Calibration Successful: YES

Calibrated By: Phuong Tran **Test Date:** 21/05/2025

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987 | **E** bookings@enqip.com.au | **W** www.enqip.com.au

Equipment Calibration Form

MiniRAE 3000 PID

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36574

INSTRUMENT IDENTIFICATION

Model Number: PGM 7320

Serial Number: 592-915645

INSPECTION RECORD

Flow Rate: PASS

Buzzer: PASS

Date & Time: PASS

CALIBRATION DETAILS

Parameters	Standard	Result
Air	0.0 ppm	0.0 ppm
Isobutylene	100.0 ppm	100.0 ppm

Alarm Limits: **High** 100 **Low** 50

Calibration Successful: YES

Calibrated By: Matt Sorati **Test Date:** 21/05/2025

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987 | **E** bookings@enqip.com.au | **W** www.enqip.com.au

Instrument Quality Report
Interface Meter

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36575

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter

Model Number: 122

Serial Number: IM-1608

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: Phuong Tran

Test Date: 21/05/2025

Equipment Calibration Form

Hanna HI9829

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36581

INSTRUMENT IDENTIFICATION

Model Number: HI9829

Serial Number: HI9829-04 07180009101

Instrument Type: Hanna Instruments HI9829

INSPECTION RECORD

Batteries Checked:	PASS	**Date & Time:**	PASS
Electrodes Cleaned/Checked:	PASS	**Temperature:**	PASS

CALIBRATION DETAILS

Sensor	Cal Solution	Value	Reading
pH	Buffer 4.00	4.00 pH	4.00 pH
	Buffer 7.00	7.00 pH	7.00 pH
Redox	Zobell Solution	247.5 mV @ 10 °C	247.5 mV
O_2	$Na_2SO_{3(aq)}$	0 %	0.0 %
	Air	100.0 %	100.0 %
Conductivity	Standard Conductivity	2.76 mS/cm	2.76 mS/cm
Turbidity	DI Water	0 FNU	N/A FNU
	Turbidity Standard	20 FNU	N/A FNU

Calibration Successful: YES

Calibrated By: Phuong Tran **Test Date:** 21/05/2025

Equipment Calibration Form

Hanna HI9829

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36578

INSTRUMENT IDENTIFICATION

Model Number: HI9829

Serial Number: HI9829-08 08100014101

Instrument Type: Hanna Instruments HI9829

INSPECTION RECORD

Batteries Checked:	PASS	**Date & Time:**	PASS
Electrodes Cleaned/Checked:	PASS	**Temperature:**	PASS

CALIBRATION DETAILS

Sensor	Cal Solution	Value	Reading
pH	Buffer 4.00	4.00 pH	4.00 pH
	Buffer 7.00	7.00 pH	7.00 pH
Redox	Zobell Solution	247.5 mV @ 10 °C	247.5 mV
O_2	$Na_2SO_{3(aq)}$	0 %	0.0 %
	Air	100.0 %	100.0 %
Conductivity	Standard Conductivity	2.76 mS/cm	2.76 mS/cm
Turbidity	DI Water	0 FNU	N/A FNU
	Turbidity Standard	20 FNU	N/A FNU

Calibration Successful: YES

Calibrated By: Phuong Tran **Test Date:** 21/05/2025

Instrument Quality Report
Interface Meter

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36579

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter

Model Number: 122

Serial Number: IM-1525

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: Phuong Tran

Test Date: 21/05/2025

Equipment Calibration Form

RKI GX-6000

Enqip #: 24675

Company: AECOM Australia Pty Ltd

Consultant: Richard Bowers

PO #: TBC

Certificate #: 36572

INSTRUMENT IDENTIFICATION

Model Number: GX-6000

Serial Number: 52L0075901-4RN

INSPECTION RECORD

Flow Rate: PASS

Buzzer: PASS

Date & Time: PASS

CALIBRATION DETAILS

Sensor	Span Gas	Value	Reading	
O_2	Air	20.9 %	20.9	%
	O_2	18.0 %	18.0	%
H_2S	Hydrogen Sulphide	25ppm	N/A	ppm
LEL	Methane 2.5%	50%	50	%
CO	Carbon Monoxide	100ppm	N/A	ppm
CO2 PPM	Carbon Dioxide	5000 ppm	N/A	ppm
VOC	Isobutylene	100ppm	100	ppm

Correction Factor: 1

Calibration Successful: YES

Calibrated By: Phuong Tran **Test Date:** 21/05/2025

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987 | **E** bookings@enqip.com.au | **W** www.enqip.com.au

Appendix H

Field Sheets

ANZ

FQM - Groundwater Sampling and Purging Record

.COM

Q4AN(EV)-405-FM1

Project Name:	Ampol Northcote	**Project Number:**	~~60709739~~ 60693007	**PM Name:**	AC RC	**Bore ID:**	MW198
Client:	Ampol	**Project Location:**	~~153-183 High St Northcote~~ Eums	**Fieldwork Staff:**	TG	**Sample Date:**	16/6/25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: ~~16/6/25~~ 16/6/25	Bore Radius (mm): 50	Chem Kit Serial No.:	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.242	Screen Interval (m): --	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 5.21	Casing Radius (mm): -	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable): -	☐ Retrieved				
Calculated bore volume (L): 45	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
	5L	2.242	-	1.51	1652	6.73	75.2	15.71	GREY, NO ODOUR, MTURB (BAILER)
1545	10L	~~2.~~	-	1.29	1670	6.55	75.4	15.21	GREY, " " , MTURB (TWISTER)
1600	20L	2.29	-	5.03	1594	6.46	75.6	14.47	" " "
1605	30L	2.67	-	7.45	1695	6.51	74.2	14.17	" " "
1610	40	2.54	-	6.34	1709	6.57	72.6	14.82	" " "
			PURGED		45L				
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	**Unfiltered:**	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Comments

5.2 Bore volume calculation, bore condition, fate of tubing, redox correction etc.

- 2.242 = 2.958 x 5 = 14.84 x 3 = 45

borehole purged before and after development w/ metal bailer.

Approval and Distribution

Fieldwork Staff Signature _____ Date _____ Checker Name and Signature _____ Date _____

Project Manager Signature _____ Date _____ **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW187
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	13.6.2025

Well Development or Well Sampling Event? (circle)

General Bore Information

Date of GW Level: 13.6.25	Bore Radius (mm): 120	Parameter Info.	Decontamination
Depth to GW (m-pvc): 3.132	Screen Interval (m):	Chem Kit Serial No.: 14-9829-04	☒ Decontaminated
Bore Depth (m-pvc): 5.83	Casing Radius (mm): 50	Chem Kit Model: HANNA	☐ Dedicated
Depth to Product (m-pvc): –	Cover Type (gatic/stick up):	**Corrected Redox:** Y / (N)	☐ Disposable
Product Thickness (m): –	Bore Locked (YES/NO):	(The correction to apply is probe dependent)	☐ Other (specify)
	Key Type (if applicable): 8mm HEX	**Parameter method:** ☐ Downhole ☒ Retrieved	
Calculated bore volume (L): 16	Includes/ excludes bore annulus (circle)	# purge volumes removed: 3	Total purged volume (L):

Sampling Method

☐ **Low Flow** Pump rate: Intake depth:
☒ Bailer: MONPAC ☐ Hydrasleeve
☐ Peristaltic Pump ☐ Waterra
☒ Other (specify) TWISTER PUMP

Hydrasleeve Info.

Hydrasleeve Size:	**Monitoring sequence followed (number in order):**
Hydrasleeve Type:	Gauging
Sampling Depth (m-pvc):	Hydrasleeve in
Hydrasleeve Install time:	Hydrasleeve out
Sampling Start Time:	Parameters

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:28				9.20	559	7.00	100.3	16.60	DARK GREY, HIGH TURBIDITY, H2O, SHEEN
15:31	10	5.48		7.01	348	6.83	104.7	17.00	" " "
15:33	20	5.55		6.98	881	6.83	105.0	17.16	" " "
15:36	30	5.57		7.03	1032	6.78	106.5	17.13	" " "
15:38	40	5.60		7.01	1057	6.75	107.1	17.12	" MEDIUM TURBIDITY, H2O, SHEEN.
15:40	50	5.60		7.00	1121	6.73	108.9	17.12	" " "
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:

Bottles Collected

x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)
x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

TOTAL DEPTH = 6.37m BTOC
POST - DEVELOPMENT

Approval and Distribution

Fieldwork Staff Signature — Date: 13.6.2025

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW186
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	13.6.2025
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 13.6.25	Bore Radius (mm): 120	Chem Kit Serial No.: HANNA	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.874	Screen Interval (m):	Chem Kit Model: HI9829.04	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.73	Casing Radius (mm): 50	**Corrected Redox:** Y / N	☐ Disposable	☑ Bailer METAL ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☐ Downhole		☑ Other (specify) TWISTER PUMP	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): 3mm Hex	☒ Retrieved				Parameters
Calculated bore volume (L): 11	Includes / excludes bore annulus (circle)	# purge volumes removed: 3		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:00	1			1.46	1576	6.34	103.7	17.49	DARK GREY, HIGH TURBIDITY, H2S, SHEEN.
15:03	10	3.88		1.09	1165	6.45	106.6	17.56	GREY-BROWN, LOW TURBIDITY, H2S, SLIGHT SHEEN.
15:06	20	3.90		0.78	1164	6.52	105.7	17.52	〃 〃 〃
15:09	30	3.88		2.17	1152	6.53	105.1	17.54	〃 〃 SLIGHT H2S, NO SHEEN.
15:12	40	3.88		2.52	1160	6.56	104.3	17.38	〃 〃 〃 〃
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**		x 40 mL Vial (HCl)		x 60 mL Ferrous		x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)		x 100 mL Amber		x 250 mL Plastic		TOTAL DEPTH = 5.90 mBTOC POST-DEVELOPMENT.

Approval and Distribution

Fieldwork Staff Signature	**Date** 13.6.2025	**Checker Name and Signature**	**Date**
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

MW193
well Development

Q4AN(EV)-405-FM1

						Bore ID:	MW193
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	3/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information				Parameter Info.		Decontamination	Sampling Method		Hydrasleeve Info.	
Date of GW Level:	3/6/25	Bore Radius (mm):	120	Chem Kit Serial No.:	HI9829-04	☑ Decontaminated	☐ Low Flow Pump rate:		Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	2.185	Screen Interval (m):	1-5m	Chem Kit Model:	HANNA	☐ Dedicated	Intake depth:		Hydrasleeve Type:	
Bore Depth (m-pvc):	5.34	Casing Radius (mm):	50	Corrected Redox:	Y / N	☑ Disposable	☑ Bailer metal	☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	N/A	Cover Type (gatic/stick up):	gatic	(The correction to apply is probe dependent)		☐ Other (specify)	☐ Peristaltic Pump	☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):		Bore Locked (YES/NO):	yes	Parameter method:	☐ Downhole		☑ Other (specify) Twister pump		Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	allen		☑ Retrieved					Parameters

Calculated bore volume (L): 45L | Includes/ excludes bore annulus (circle) | # purge volumes removed: | Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
4:34pm	1	2.185	—	6.49	827	7.02	178.4	16.35	no odour, black, high turb
4:38	15	2.47	—	7.39	880	6.98	187.8	14.33	" "
4:42	30	2.58	—	6.94	921	6.87	188.8	15.59	" "
4:49	45	2.86	—	6.61	953	6.85	189.5	15.73	" ", med to high turb
				3BV removed					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID 10 DO Sensor is out
LEL 158%

3.16x5 = 45.75 L

prior to + after twister pump use a metal bailer was used to surge the well for several minutes

Approval and Distribution

Fieldwork Staff Signature: Emg	Date: 3/6/25	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

MW188 Development

Q4AN(EV)-405-FM1

						Bore ID:	
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 3/6/25	Bore Radius (mm): 50 125	Chem Kit Serial No.: HI-9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.291	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.80	Casing Radius (mm): 50	**Corrected Redox:** Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up): gatic	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): N/A	Bore Locked (YES/NO): yes	**Parameter method:** ☐ Downhole		☑ Other (specify) twister pump	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): allen	☑ Retrieved				Parameters
Calculated bore volume (L): 37.5	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
4:03	1	2.291	—	8.29	1128	6.73	174.3	15.11	slight organic odour, grey/black, mod-high turb
4:07	12.5	2.69	—	8.81	1323	6.69	185.6	16.03	" , black, high turb
4:12	25	2.85	—	10.13	1478	6.66	178.4	15.84	" "
4:17	37.5	3.14	—	9.67	1529	6.68	182.0	16.01	" "
				3 BV removed					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information:
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

2.5 x 5 = 12.5 B 3 BV = 37.5

PID: 0 DO Sensor ks out 60% LEL

Prior to & after twister pump use a metal bailer was used to surge the well for several minutes

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
EMS	3/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

194 MW[redacted] Development

Q4AN(EV)-405-FM1

194 MW[redacted]

						Bore ID:	MW[redacted]
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	5/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information				Parameter Info.	Decontamination	Sampling Method	Hydrasleeve info.	
Date of GW Level:	5/6/25	Bore Radius (mm):	120	Chem Kit Serial No.: HI9829-08	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	3.28	Screen Interval (m):		Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	5.95	Casing Radius (mm):	50	Corrected Redox: Y / (N)	☑ Disposable	☑ Bailer metal ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):		Cover Type (gatic/stick up):	gatic	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/NO):	yes	Parameter method: ☐ Downhole		☑ Other (specify) Twister pump	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	allen	☑ Retrieved				Parameters

Calculated bore volume (L): 40L | Includes/ excludes bore annulus (circle) | # purge volumes removed: | Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or (mg/L))	E.C. (mS/cm or (µS/cm))	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
~~14.22~~ 14.22	1	3.28	—	0.05	1053	7.38	487.0	20.57	NO, grey, high turbidity
14.27	13.5	3.33	-	0.97	1192	7.36	166.9	18.56	"
14.33	~~27~~ 27	3.345	-	1.15	1140	7.30	140.8	17.69	"
14.37	40	3.37	-	1.65	1150	7.30	112.9	17.41	"
					40L purged				
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic		PID:
						2.6 x 5 x 3 ≈ 40
						metal bailer surging of well occurred before & after pump use

Approval and Distribution

RB — Fieldwork Staff Signature — 5/6/25 Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

MW191 well development.

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW191
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	5/6/25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 5/6/25	Bore Radius (mm): 150	Chem Kit Serial No.: HI9829-08	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 4.005	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): ~~6.580~~ 6.14	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☑ Bailer metal ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (flatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO)	**Parameter method:** ☐ Downhole		☑ Other (specify) twister pump	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): -	☑ Retrieved				Parameters

Calculated bore volume (L): ~~31~~ 31.5 includes/ excludes bore annulus (circle) # purge volumes removed: Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:27	1L	4.005	-	1.86	868	7.35	129.3	17.43	NO, grey to brown, High turbidity
13:39	~~8L~~ 8L	6.01		1.59	854	7.28	106.9	17.60	NO, grey to brown, high turbidity, 10cm water remaining
	~~8L~~								
	~~8.5~~								

ANZ

FQM - Groundwater Sampling and Purging Record

MW190
Development

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	MW190
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	5/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information			Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 5/6/25	Bore Radius (mm): 130		Chem Kit Serial No.: HI9829-08	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.696	Screen Interval (m):		Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	Gauging
Bore Depth (m-pvc): 4.92	Casing Radius (mm): 50		Corrected Redox: Y / N	☑ Disposable	☑ Bailer metal ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc):	Cover Type (gatic/stick up): gatic		(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m):	Bore Locked (YES/NO): YES		Parameter method: ☐ Downhole ☑ Retrieved		☑ Other (specify) Twister pump	Sampling Start Time:	Parameters
	Key Type (if applicable): allen						
Calculated bore volume (L): 22.5	Includes/ excludes bore annulus (circle)		# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:00	1	3.696	—	0.21	1015	7.04	-167.7	17.03	slight HC odour, dark grey, high turbidity/opaque.
12:04	7.5	3.95	-	1.61	782	6.97	-3[illegible]	17.[illegible]	slight HC odour, grey, high turbidity
12:09	15	4.01	-	1.88	783	6.93	-22.8	17.14	NO, grey, mod to high turbidity
12:15	22.5	3.97	-	0.86	823	6.96	-54.5	16.34	NO, light grey, low to mod turbidity
						22.5L purged			
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID:

1.5 x 5 x 3 = 22.5

metal bailer surging of well occurred before + after pump use

Approval and Distribution

BMS	5/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

mw189 Development

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	mw189
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	5/6/25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 5/6/25	Bore Radius (mm): 125	Chem Kit Serial No.: HI9829-03	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.13	Screen Interval (m): 2.7-6.5	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.57	Casing Radius (mm): 50	Corrected Redox: Y / N	☑ Disposable	☑ Bailer stel ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up): gatic	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO): allen ky	Parameter method: ☐ Downhole		☑ Other (specify) Twister pump	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): yes	☑ Retrieved				Parameters
Calculated bore volume (L): 50L	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:01	1	3.13	—	1.94	693	7.16	100.4	17.50	NO, light grey to brown, High turb
10:08	17.5	3.205	-	1.52	633	7.16	97.5	17.11	"
10:14	35	3.233	-	1.22	655	7.06	119.7	17.14	NO, light grey to brown, moderate turbidity.
10:19	52.5	3.23	-	2.87	636	7.18	134.5	17.43	NO, light grey to brown, light to moderate turbidity
					52.5L Purged				
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic		PID: metal bailer Surging of well occurred before & after pump use
						3.5 x 5 x 3 = 52.5L

Approval and Distribution

Fieldwork Staff Signature	Date: 5/6/25	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

MW192 Development

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	MW192
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	3/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 3/6/25	Bore Radius (mm): 130	Chem Kit Serial No.: HI-9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.727	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.60	Casing Radius (mm): 50	Corrected Redox: Y / N	☒ Disposable	☑ Bailer metal ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): N/A	Cover Type (gatic/stick up): gatic	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO): yes	Parameter method: ☐ Downhole		☑ Other (specify) twister pump	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): allen	☑ Retrieved				Parameters
Calculated bore volume (L): 43.5	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
3:13	1L	2.727	—	8.66	1599	6.97	153.7	17.20	no odour, black, high turb
3:16	15L	2.76	—	8.67	1371	7.32	159.5	17.64	" "
3:20	30L	2.75	—	10.62	1171	7.33	164.1	17.52	" "
3:28	45L	2.76	—	11.13	1198	7.77	168.2	16.27	" " mod - high turb
				3 Bore volumes removed					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	~~x 40 mL Vial (HCl)~~	~~x 60 mL Ferrous~~	~~x 60 mL metals (HNO_3)~~		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		~~x 40 mL Vial (H_2SO_4)~~	x 100 mL Amber	x 250 mL Plastic		PID 0
						Prior to and after twister pump use a metal bailer was used to surge the well for several minutes
						DO Sensor would'nt calibrate, DO likely much higher than actual

Approval and Distribution

B.S Fieldwork Staff Signature	3/6/25 Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

mw184

Development

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Bore ID:	mw184
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Sample Date:	4/6/25

Well Development or Well Sampling Event? (circle)

General Bore Information

Date of GW Level:	4/6/25	Bore Radius (mm):	120
Depth to GW (m-pvc):	3.765	Screen Interval (m):	
Bore Depth (m-pvc):	5.83	Casing Radius (mm):	
Depth to Product (m-pvc):		Cover Type (gatic/stick up):	gatic
Product Thickness (m):	N/A	Bore Locked (YES/NO):	yes
		Key Type (if applicable):	allen

Parameter Info.

Chem Kit Serial No.: HI9829-03

Chem Kit Model: HANNA

Corrected Redox: Y / N

(The correction to apply is probe dependent)

Parameter method: ☐ Downhole ☑ Retrieved

Decontamination

☐ Decontaminated

☐ Dedicated

☑ Disposable

☐ Other (specify)

Sampling Method

☐ Low Flow Pump rate:

Intake depth:

☑ Bailer neta ☐ Hydrasleeve

☐ Peristaltic Pump ☐ Waterra

☑ Other (specify) twister pump

Hydrasleeve Info.

Hydrasleeve Size:	Monitoring sequence followed (number in order):
Hydrasleeve Type:	Gauging
Sampling Depth (m-pvc):	Hydrasleeve in
Hydrasleeve Install time:	Hydrasleeve out
Sampling Start Time:	Parameters

Calculated bore volume (L): 31.5

Includes/ excludes bore annulus (circle)

purge volumes removed:

Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
8:40	1	3.765	—	0.71	1138	7.37	-584.7	13.82	no odour, dark brown, high turb
9:13	10.5	4.07	—	6.21	1103	7.72	-135.3	8.09	'eggy' odour, "
9:15	21	4.44	—	0.79	1100	7.32	-319.9	16.39	" "
9:19	31.5	4.57	—	0.69	1079	7.34	-295.8	16.64	" "
					3BV Removed				
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered: Unfiltered:

Bottles Collected

x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)
x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID: 0

2.1 x 5 = 10.5

prior to and after twister pump use a metal gutter was used to surge the well for several minutes

Approval and Distribution

Fieldwork Staff Signature	Date: 4/6/25	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

MW183 development

Q4AN(EV)-405-FM1

						Bore ID:	MW183
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	4/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 4/6/25	Bore Radius (mm): 120	Chem Kit Serial No.: H19829-08	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.968	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.84	Casing Radius (mm): 50	Corrected Redox: Y / N	☑ Disposable	☑ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☑ Other (specify) twister pump	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): -	☑ Retrieved				Parameters

Calculated bore volume (L): 30PA 96 | Includes/ excludes bore annulus (circle) | # purge volumes removed: | Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
4.05	2L	3.968	-	0.28	1436	6.74	-360.5	16.20	HC odour, High turbidity, grey, twister pump
4.11	10L	5.54	-	0.42	1421	7.08	-229.7	16.42	" , sheen. ; metal bailer
4.17	20L	5.43	-	1.37	1283	7.11	-96.2	16.49	" twister pump.
4.24	30L	5.14	-	3.94	1201	7.30	-99.4	12.86	" , mod turbidity, grey
				3 BV removed					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID = 0.0

2x5x3 = 30

metal bailer surging occured before pump use and between 10-20 L purged.

Approval and Distribution

Fieldwork Staff Signature: EH	Date: 4/6/25	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

MW103A Development

Q4AN(EV)-405-FM1

Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Bore ID:	MW103A
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Sample Date:	4/6/25
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 4/6/25	Bore Radius (mm): ~~150~~ 120	Chem Kit Serial No.: HI9829-08	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.951	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.98	Casing Radius (mm): 50	Corrected Redox: Y / N	☑ Disposable	☑ Bailer metal ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up): gatic	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): N/A	Bore Locked (YES/NO): yes	Parameter method: ☐ Downhole		☑ Other (specify) twister pump	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): allen	☑ Retrieved				Parameters
Calculated bore volume (L): 30	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
3:23	1	2.951	—	0.58	773	7.54	-287.0	14.67	no odour, brown, high turb
3:26	10	4.11	—	0.42	815	7.41	-302.5	14.95	" "
3:33	20	4.18	—	4.40	803	7.42	-36.8	14.93	" "
3:40	30	4.20	—	4.27	780	7.36	-24.6	15.15	" "
					3BV Removed				
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	~~x 40 mL Vial (HCl)~~	~~x 60 mL Ferrous~~	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic		PID:
						2xS = 10
						meter bailer swapping occurred before + after pump use

Approval and Distribution

EMJ	4/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

MW182

Development

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	MW182
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	4/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information			Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	4/6/25	Bore Radius (mm):	120	Chem Kit Serial No.: HI 9829-08	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	3.771	Screen Interval (m):		Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	5.58	Casing Radius (mm):	50	**Corrected Redox:** Y / N	☑ Disposable	☑ Bailer metal ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):		Cover Type (gatic/stick up):	gatic	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	N/A	Bore Locked (YES/NO):	yes	**Parameter method:** ☐ Downhole		☑ Other (specify) Impeller pump	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	allen	☑ Retrieved				Parameters
Calculated bore volume (L):		Includes/ excludes bore annulus (circle)		# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
2:14	1	3.771	—	0.19	1150	7.66	-178.7	14.84	no odour, dark brown, high turb
2:18	9	4.10	—	0.09	1093	7.36	-334.6	16.94	" "
2:24	18	4.08	—	0.21	1079	7.29	-[illegible]8.6	16.26	" "
2:31	27	3.98	—	0.15	1074	7.33	-233.2	16.42	" "
			3BV removed						
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	**Unfiltered:**	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID:

metal bailer surging occurred before & after pump use

1.8 x 5 =

9

Approval and Distribution

Fieldwork Staff Signature	Date: 4/6/25	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

NRZA
Development

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	NRZA
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	4/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information				Parameter Info.		Decontamination		Sampling Method		Hydrasleeve Info.	
Date of GW Level:	4/6/25	Bore Radius (mm):	~~200~~ 120	Chem Kit Serial No.:	H19829-08	☑ Decontaminated		☐ Low Flow Pump rate:		Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	4.139	Screen Interval (m):		Chem Kit Model:	HANNA	☐ Dedicated		Intake depth:		Hydrasleeve Type:	
Bore Depth (m-pvc):	5.91	Casing Radius (mm):	50	**Corrected Redox:**	Y / N	☑ Disposable		☑ Bailer metal	☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):		Cover Type (gatic/stick up):	gatic	(The correction to apply is probe dependent)		☐ Other (specify)		☐ Peristaltic Pump	☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	NIA	Bore Locked (YES/NO):	yes	**Parameter method:**	☐ Downhole			☐ Other (specify)	Tubber pump	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	allen		☑ Retrieved						Parameters
Calculated bore volume (L):	27	Includes/ excludes bore annulus (circle)		# purge volumes removed:		Total purged volume (L):					

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:24	1	4.139	—	0.33	1033	7.44	-360.9	17.07	no odour, dark brown, high turb
12:28	9	4.58	—	0.08	959	7.22	-185.1	17.21	" "
12:33	18	4.71	—	0.05	913	7.16	-183.9	16.53	" " , slight sheen
12:40	27	4.96	—	0.26	915	7.18	-159.3	16.57	" "
				3BV Removed					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		~~x 40 mL Vial (H_2SO_4)~~	x 100 mL Amber	x 250 mL Plastic		PID: 3,7 ppm metal bailer surging occured before & after pump use
						1.8 x 5 = 9

Approval and Distribution

Fieldwork Staff Signature	6/6/25 Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW185
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	11.6.2025

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 11.6.2025	Bore Radius (mm): 125	Chem Kit Serial No.: Hi9829	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.660	Screen Interval (m):	Chem Kit Model: HANNA -05	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.84	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☐ Disposable	☑ Bailer METAL ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): 3.655	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): 0.005	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☑ Other (specify) TWISTER PUMP	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): 3mm HEX	☒ Retrieved				Parameters
Calculated bore volume (L): 13	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:50	1	-		GREY,	HIGH TURBIDITY,		SHEEN,	HCO	YELLOW LNAPL MEDIUM VISCOSITY
13:55	10	3.70		"	"		"	"	[redacted] WATER QUALITY PARAMETERS
14:00	20	3.73		"	"		"	"	NOT TAKEN DUE TO LNAPL
14:05	30	3.75		"	MEDIUM	TURBIDITY,	SHEEN,	HCO	WATER COLUMN SURGED WITH
14:10	40	3.72		"		"	"	"	METAL BAILER EVERY
									10 L EXTRACTED.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic		HCO = HYDROCARBON ODOUR

Approval and Distribution

Fieldwork Staff Signature	Date: 11.6.2025	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Q4AN(EV)-414-FM1

Project Name:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**PM Name:**	RC
Project Number:	60693007 Task 12	**Client:**	Mac Point	**Fieldwork Staff Name:**	~~RS, MG, EM~~, TG, LL

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW05	26/06/25	11:37	10.1	–	1.955	–	–	4.33		HC ODOUR, SLIME ON PROBE
MW15A	26/06/25	11:41	40	–	2.087	–	–	3.82		OVER LER, GLOBULE ~~IN~~ IN BAILER
MW18S	25/06/25									NAPL observed in bailer check

Measurement Equipment				**Notes/Comments**
Make & Model:		**Supplier:**		(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing
Serial No.:		**Calibration Report Provided?**		

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Q4AN(EV)-414-FM1

Project Name:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	PM Name:	RC
Project Number:	60693007 Task 12	Client:	Mac Point	Fieldwork Staff Name:	RB, MG, EM, TG, LL

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW184	16/6/25	8:29	0.6	-	3.584		-	5.85		GC, NO, NS
MW186		8:35	4.1	-	3.37		-	5.91		GC, HC odour, NS, 18% LEL
MW187		8:52	0.4	-	3.212		-	6.35		GC, NO, NS
RN4		8:59	0.0	-	3.17		-	5.17		GC, NO, NS, 32% LEL
RN2		9:06	0.0	-	3.146		-	5.36		GC, NO, NS, OVER LEL
MW155		9:13	2.2	-	2.950		-	4.51		GC, NO, NS, 44% LEL
MW192		9:17	0.3	-	2.697		-	5.89		GC, NO, NS
MW163		9:20	0.7	-	1.936		-	3.82		H_2O ABOVE TOC, LEL OVER, 12.1%
MW176		9:27	0.4	-	3.08		-	4.58		GC, NO NS
MW164		9:36	1.6	-	1.477		-	3.86		28% LEL NO GC
PW02		9:42	111.3	1.871	1.913			NOT GAUGED		15% LEL, BROWN LNAPL ON PROBE, HC ODOUR
MW05		9.51	16.5	-	1.870		-	4.33		HC ODOUR, GC
MW16		9.56	18.8	-	1.945		-	4.91		85% LEL
MW3		9.59	37.6	1.83	1.90			NOT GAUGED		OVER LEL, BROWN LNAPL
MW6		10.07	36	-	2.07			4.89		OVER LEL, LEVEL LOGGER
S8		10:31	97	1.909	1.99			NOT GAUGED		OVER LEL
MW154		10:42	36	-	1.925		-	3.80		O_2 ABOVE TOC, 45 LEL
MW60		10.46	0.9	-	2.033		-	2.95		GC, NO
MW126A		10.48	0.6	-	2.131		-	5.13		GC, NO
MW126B		10.50	0.5	-	2.194		-	12.88		GC, NO

Measurement Equipment				Notes/Comments
Make & Model:		Supplier:		(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing
Serial No.:		Calibration Report Provided?		

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Q4AN(EV)-414-FM1

Project Name:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**PM Name:**	RC
Project Number:	60693007 Task 12	**Client:**	Mac Point	**Fieldwork Staff Name:**	RB, MG, EM, TG, LL

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
89	16/06/25	10:53	1.6	–	1.347	–	–	1.52	–	GC, NO
MW188		10:58	0.0	–	2.294	–	–	4.95	–	OVER L62, GC, NO
MW193		11:00	0.0	–	2.192	–	–	5.48	–	OVER L62, GC,
MW125A		11:06	0.3	–	2.445	–	–	5.94	–	NO, GC } NESTED
MW125B		11:09	2.7	–	2.551	–	<	15.28	–	NO, GC
MW183		11:40	11.2	–	3.835	–	–	5.82	–	53% LEL, GC
MW102		11:43	0.0	–	2.714	–	–	5.0	–	GC, NO
MW192		11:48	1.2	–	3.605	–	–	5.62	–	GC, NO
UNKNOWN MW177A		11:51	0.0	–	3.509	–	–	3.75	–	GC, NO, SCREEN 1.5 - 3.75 m
MW167 → 167		12:00	0.1	–	2.48	–	–	4.83	–	GC, NO
MW190		12:04	0.3	–	3.494	–	–	4.92	–	GC, NO
MW194		12:15	0.3	–	2.820	–	–	5.96	–	GC, NO
BG1		12:22	0.1	–	2.308	–	–	3.44	–	DATA LOGGER
MW120A		12:29	3.2	–	DRY	–	–	8.51	–	GC, NO
N2A		13:36	0.1	–	4.053	–	–	5.92	–	GC, NO
MW189		13:37	0.2	–	3.124	–	–	6.55	–	GC, NO
MW159		13:41	0.0	–	3.588	–	–	7.57	–	GC, NO
NR1		13:50	7.4	–	5.513	–	–	8.00	–	6% LEL, GC, NO.
MW160		14:09	0.0	–	5.794	–	–	9.48	–	GC, NO.
MW161		14:07	0.0	–	5.795	–	–	6.45	–	GC, NO

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

FQM - NAPL and Groundwater Level Gauging Record

Project Name:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**PM Name:**	RC
Project Number:	60693007 Task 12	**Client:**	Mac Point	**Fieldwork Staff Name:**	RB, ~~MG, EM, TG~~, LL

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW153	12.06.25	10:40	-	–	1.992	–	–	4.42		GC, NO
MW152	12.06.25	11:41	0.4	–	2.140	–	–	4.98	–	18.2 O_2, 1% CH_4, GC NO
MW151		11:47	0.0	–	2.126	–	–	4.87	–	GC NO
MW132 GHD		11:59	0.0	–	2.425	–	–	4.45	–	GC, NO, (*DATA LOGGER)
MW132 GHD		12:58	0.0	–	1.850	–	–	3.89	–	GC, NO, 2 x BOLTS MISSING
MW131 GHD		13:01	0.0	–	1.865	–	–	9.66	–	GC, NO (DATALOGGER)
MW130 GHD		14:01	0.0	–	1.978	–	–	4.71	–	GRASS IN CATIC, NAN CATIC 2ND INSTALLED
MW150	13.06.25	08:39	0.1	–	2.483	–	–	4.39	–	GC, NO, H_2O IN CATIC ABOVE TOC, H_2O SCOOPED OUT
MW123A		09:34	0.0	–	1.992	–	–	3.65	–	GC, NO, 2 BOLTS MISSING (NESTED W 123B) 2x BOLTS MISSING
MW123B		09:36	0.0	–	2.816	–	–	17.45	–	GC, NO, 2 BOLT MISSING (NESTED W MW123A)
~~MW131 GHD~~		10:48	0.0	–	1.973	–	–	9.66	–	GC
MW149		13:41	0.0	–	3.254	–	–	4.70	–	GC, NO
RS6		13:28	0.0	–	3.003	–	–	5.50	–	GC, NO
MW175		13:45	0.0	–	2.952	–	–	4.0	–	GC, NO, 100 mm PVC
MW122		13:50	0.0	–	3.042	–	–	4.0	–	GC, NO
MW55		14:00	---	–	2.963	–	–	5.0	–	15 O_2, OVER LEL, GC, NO
MW127A		14:11	0.0	–	3.109	–	–	4.70	–	16.4 O_2, OVER LEL, GC, NO } NESTED
MW127B		14:19	0.0	–	2.130	–	–	16.80	–	17.5 O_2, 77 LEL, GC, ~~ORGANIC~~ ODOUR ON PID
MW124A		14:26	0.1	–	~~2.995~~ 2.995	–	–	5.0	–	14.2 O_2 OVER LEL) GC, NO } NESTED
MW124B			0.2		2.985	–	–	11.30	–	13.5 O_2, 0% LEL, GC, NO

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing.

* RE GAUGED

Approval and Distribution

Fieldwork Staff Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Q4AN(EV)-414-FM1

Project Name:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**PM Name:**	RC
Project Number:	60693007 Task 12	**Client:**	Mac Point	**Fieldwork Staff Name:**	RB, MG, EM, TG, LL

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW148	13.06.25	14:40	0.0	–	2.946	–	–	4.90	–	GC, NO
MW129		14:46	0.0	–	3.060	–	–	16.0	–	GC, NO
MW100		14:56	0.2	–	3.161	–	–	11.5	–	16.5 O_2, 0% LEL, GC, NO
MW101		15:03	0.1	–	1.698	–	–	3.60	–	13.5 O_2, 0% LEL, GC, NO
(SOUTH) MW128A+B		15:12	0.0	–	1.523	–	–	2.98	–	GC, NO } NESTED
(NORTH) MW128A+B		15:12	0.0	–	1.581	–	–	3.50	–	GC, NO } NESTED
MW102		15:32	0.0	–	2.322	–	–	4.49	–	NO GATIC LID, DIRT IN GATIC, NO
MW121		15:39	0.1	–	3.000	–	–	5.0	–	NO GATIC LID, DIRT IN GATIC, NO
MW191		16:06	0.3	–	3.818	–	–	4.58	–	8% LEL, 16.2 O_2, GC, NO
MW185	16.06.25	08:24	8.4	–	3.653	–	–	5.80	–	14.5% O_2, OVER LEL, GC
MW146		08:30	3.6	–	3.235	–	–	5.49	–	24 LEL, 10.5 O_2, GC
MW162		08:45	0.4	–	3.149	–	–	4.73	–	6 LEL, 14.1 O_2, GC
Tas water centre carpark → ~~[illegible]~~		~~[illegible]~~	–	–	~~3.377~~	–	–	~~3.77~~	–	~~centre carpark of Tas water~~ ALREADY GAUGED EARLIER
TW02			–	–	3.443	–	–	5.76		NO, new TOC. SCREEN MEASURED AS 2.88 - 5.76 mBTOC

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Q4AN(EV)-414-FM1

Project Name:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**PM Name:**	RC
Project Number:	60693007 Task 12	**Client:**	Mac Point	**Fieldwork Staff Name:**	RB, MG, EM, TG, LL

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW177A	16/08/25	14:13	0.0	–	6.995	–	–	7.15	–	GC, ND
MW179		14:20	0.0	–	1.686	–	–	5.39	–	GC, NO
MW181		14:22	0.0	–	0.85	–	–	0.85	–	GC, NO
MW178		14:28	0.0	–	0.804	–	–	4.85	–	GC, NO
MW180		14:30	0.0	–	0.761	–	–	1.890	–	GC, NO
MW145		14:36	0.0	–	0.110	–	–	0.38	–	PVC, NO CASING / GATIC
BH2-PS		15:00	0.1	–	4.339	–	–	7.03	–	GC, NO
MW134 GND		15:15	0.0	–	2.630	–	–	5.99	–	LEVEL OVER
MW168		15:26	0.0	–	2.242	–	–	5.21	–	GC, NO
MW36		15:30	0.0	–	3.869	–	–	6.57	–	GATIC MISSING,
MW173		15:35	0.5	–	3.717	–	–	4.92	–	12.6 O_2, GC

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AE M

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW153
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	12.6.2025

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 12.6.2025	Bore Radius (mm):	Chem Kit Serial No.: HI9829-08	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.992	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	1 Gauging
Bore Depth (m-pvc): 4.42	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Hydrasleeve in
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve out
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Parameters
	Key Type (if applicable):	☑ Retrieved				
Calculated bore volume (L): 14.5	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:45	0.5	2.62		1.08	33480	7.12	-136.0	17.05	CLEAR, LOW TURBIDITY, NO ODOUR.
10:48	2.0	2.63		0.10	19120	6.94	-195.5	16.59	" " " PUMP RATE REDUCED
10:51	3.5	2.31		0.18	18530	6.84	-223.6	16.86	" SEDIMENT BLOCKING TUBING - CLEARED. WELL RECHARGE TO TO NO FLOW
10:54	3.5	2.53		0.12	20420	6.88	-235.2	16.74	CLEAR, LOW TURBIDITY, NO ODOUR.
10:57	5.5	2.55		0.11	22100	6.95	-240.7	16.93	" " "
11:00	7.0	2.55		0.24	20930	7.04	-247.0	16.84	
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**		x 40 mL Vial (HCl)		x 60 mL Ferrous		x 60 mL metals (HNO_3)	—	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
MOTALS			x 40 mL Vial (H_2SO_4)		x 100 mL Amber		x 250 mL Plastic		

Approval and Distribution

Fieldwork Staff Signature	**Date**	**Checker Name and Signature**	**Date**
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	MW133_GHD
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	12.06.25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG~~, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 12.06.25	Bore Radius (mm): ~~300~~ —	Chem Kit Serial No.: HI98290-08	[X] Decontaminated	[X] Low Flow Pump rate:	Hydrasleeve Size:	**Monitoring sequence followed (number in order):**
Depth to GW (m-pvc): 2.425	Screen Interval (m): —	Chem Kit Model: HANNA	[X] Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.45	Casing Radius (mm): 50	**Corrected Redox:** Y (N)	[X] Disposable	[ ] Bailer [ ] Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type ~~(gatic/~~stick up):	(The correction to apply is probe dependent)	[ ] Other (specify)	[X] Peristaltic Pump [ ] Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/~~NO~~)	**Parameter method:** [ ] Downhole		[ ] Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	[X] Retrieved				Parameters
Calculated bore volume (L): —	Includes/ excludes bore annulus (circle)	# purge volumes removed: 6.0		Total purged volume (L): 6.0		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm-er~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:14	0.5	2.425	—	0.74	1230	7.01	-104.7	16.81	GREY COLOUR, NO TURB, NO, BLACK SEDIMENT
12:18	1.0	2.425	—	0.35	1062	6.89	-113.6	16.95	" " " "
12:22	2.0	2.425	—	0.91	1054	6.84	-119.4	17.25	" " " ", BUBBLE IN WQM PROBE
12:24	3.0	2.425	—	0.51	1059	6.82	-123.8	~~17.38~~ 17.31	NO COLOUR, " " ", NO SEDIMENT
12:26	4.0	2.425	—	0.54	1053	6.79	-128.0	17.36	" " " "
12:28	5.0	2.425	—	0.40	1056	6.77	-131.0	17.35	" " " "
12:30	6.0	2.425	—	0.36	1053	6.76	-132.6	17.36	" " " "
		PARAMETERS	STABLE		SAMPLED @	12:30			
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	—	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METALS			x 40 mL Vial (H_2SO_4)	1	x ~~500~~mL Amber	1	x 250 mL Plastic		
				1	PURPLE	1	CYANIDE		

Approval and Distribution

LAURA [signature]	12.06.25		
Fieldwork Staff Signature	**Date**	**Checker Name and Signature**	**Date**
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW 132 (MW)
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	12.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 12.06.25	Bore Radius (mm): –	Chem Kit Serial No.: #19829-08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): ~~1.89~~ 1.85	Screen Interval (m): –	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 3.89	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick-up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L): –	Includes/ excludes bore annulus (circle)	# purge volumes removed: 3.5L		Total purged volume (L): 3.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm or~~ µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:12	0.5	1.85	–	0.63	1130	6.96	-113.6	17.32	LIGHT GREY, NO, NO TURB,
13:15	1.0	1.85	–	0.48	1146	6.95	-125.8	17.35	" , " , "
13:17	1.5	1.85	–	0.39	1149	6.95	-130.1	17.39	" , " , "
13:20	2.5	1.85	–	0.37	1147	6.94	-135.9	17.27	" , CHEM ODOUR, "
13:22	3.0	1.85	–	0.33	1148	6.94	-138.8	17.31	" , " , "
13:24	3.5	1.85	–	0.33	1149	6.94	-141.7	17.28	" , " , "
		PARAMETERS STABLE SAMPLED @ 3.5L							
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	–	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METALS			x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic		
						1	CYANIDE		
						1	INORGANIC		

Approval and Distribution

Fieldwork Staff Signature	Date: 12.06.25	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW130_GHD
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	12.6.2025

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 12.6.2025	Bore Radius (mm): –	Chem Kit Serial No.: 419829_03	☐ Decontaminated	☑ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.978	Screen Interval (m): –	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.71	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/NO):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 5L		Total purged volume (L): 5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14.03	0.5			1.75	1160	7.04	-234.5	17.51	BLACK, HIGH TURBIDITY, HC ODOUR, NO SHEEN OR GLOBULES
14:11	2.0			0.25	1182	7.04	-295.5	17.62	CLEAR, LOW TURBIDITY, HC ODOUR,
14:17	3.0	2.03		0.26	1244	7.03	-314	17.20	NO COLOUR, NO TURB, HC ODOUR
14:20	3.5	2.03		0.50	1270	7.00	-321.5	17.20	NO COLOUR, NO TURB, HC ODOUR
14:22	4.0	2.03		0.47	1273	7.01	-334.7	17.20	NO COLOUR, NO TUR, HC ODOUR
14:24	5.0	2.03		0.50	1273	7.01	-342.8	17.20	NO COLOUR, NO TURB, HC ODOUR
			PARAMETERS	STABLE	SAMPLED	@ 5L			
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	/ x 60 mL metals (HNO_3)	–
METALS			x 40 mL Vial (H_2SO_4)	1	x ~~250~~ mL Amber	/ x 250 mL Plastic	
						/ PURPLE INORG	
						/ CYANIDE	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

LAURA UFT — Fieldwork Staff Signature — 12.06.25 — Date

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AE M

Q4AN(EV)-405-FM1

Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Bore ID:	MW150
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	~~RB, MG, EM, TG~~, LL	Sample Date:	13.06.25
						Well Development or Well Sampling Event? (circle)	

General Bore Information

Date of GW Level:	13.06.25	Bore Radius (mm):	—
Depth to GW (m-pvc):	2.483	Screen Interval (m):	—
Bore Depth (m-pvc):	4.39	Casing Radius (mm):	50
Depth to Product (m-pvc):	—	Cover Type (gatic/~~stick-up~~):	
Product Thickness (m):	—	Bore Locked (YES/~~NO~~):	
		Key Type (if applicable):	HEX

Parameter Info.

Chem Kit Serial No.: H19829.08

Chem Kit Model: HANNA

Corrected Redox: Y / (N)

(The correction to apply is probe dependent)

Parameter method: ☐ Downhole ☒ Retrieved

Decontamination

☒ Decontaminated
☒ Dedicated
☒ Disposable
☐ Other (specify)

Sampling Method

☒ Low Flow Pump rate:
Intake depth:
☐ Bailer ☐ Hydrasleeve
☒ Peristaltic Pump ☐ Waterra
☐ Other (specify)

Hydrasleeve Info.

Hydrasleeve Size:
Hydrasleeve Type:
Sampling Depth (m-pvc):
Hydrasleeve Install time:
Sampling Start Time:

Monitoring sequence followed (number in order):
Gauging
Hydrasleeve in
Hydrasleeve out
Parameters

Calculated bore volume (L): Includes/ excludes bore annulus (circle) # purge volumes removed: 4.5 L Total purged volume (L): 4.5 L

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
08:49	0.5	2.483	—	3.20	1256	6.69	-115.0	15.57	LIGHT GREY, NO, NO-LOW TURB, SOME BLACK SEDIMENT
08:53	1.0	2.463	—	1.12	1227	6.70	-125.0	15.73	" " " "
08:58	2.1	2.463	—	0.15	1207	6.72	-132.0	16.08	" " " "
09:00	3.0	2.463	—	0.11	1200	6.73	-135.1	16.22	" " " "
09:02	3.5	2.463	—	0.09	1185	6.75	-140.4	16.28	" " " "
09:04	4.0	2.463	—	0.09	1169	6.75	-140.7	16.21	" " " "
09:06	4.5	2.463	—	0.09	1164	6.75	-143.2	16.22	" " " "
		PARAMETERS STABLE SAMPLED @ 4.5 L							
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:
1	

Bottles Collected

4	x 40 mL Vial (HCl)	3	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
				1	PURPLE INORG
				1	CYANIDE

QA/QC Information

—

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

LAURA LEE — Fieldwork Staff Signature — Date: 13.06.25

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AE M

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW123A
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG~~, LL	**Sample Date:**	13.06.25
						Well Development or Well Sampling Event? (circle)	

General Bore Information

Date of GW Level:	13.06.25	Bore Radius (mm):	–
Depth to GW (m-pvc):	1.992	Screen Interval (m):	–
Bore Depth (m-pvc):	3.65	Casing Radius (mm):	50
Depth to Product (m-pvc):	–	Cover Type (gatic/~~stick up~~):	
Product Thickness (m):	–	Bore Locked (~~YES~~/NO):	
		Key Type (if applicable):	HEX
Calculated bore volume (L):		Includes/ excludes bore annulus (circle)	

Parameter Info.

Chem Kit Serial No.:	H19829-08
Chem Kit Model:	HANNA
Corrected Redox:	Y / (N)
(The correction to apply is probe dependent)	
Parameter method:	☐ Downhole ☒ Retrieved
# purge volumes removed:	

Decontamination

- ☒ Decontaminated
- ☒ Dedicated
- ☒ Disposable
- ☐ Other (specify)

Sampling Method

- ☒ Low Flow Pump rate:
- Intake depth:
- ☐ Bailer ☐ Hydrasleeve
- ☒ Peristaltic Pump ☐ Waterra
- ☐ Other (specify)
- Total purged volume (L):

Hydrasleeve Info.

Hydrasleeve Size:	Monitoring sequence followed (number in order):
Hydrasleeve Type:	Gauging
Sampling Depth (m-pvc):	Hydrasleeve in
Hydrasleeve Install time:	Hydrasleeve out
Sampling Start Time:	Parameters

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
09:50	0.5	2.046	–	3.76	762	11.84	-143.7	14.05	LIGHT BROWN, MED TURB, NO
10:00	1.0	2.046	–	1.92	803	11.89	-132.6	14.26	" " "
10:05	2.0	2.046	–	1.80	820	11.94	-124.4	14.10	" " "
10:07	2.5	2.046	–	1.80	816	11.95	-120.2	14.12	" " "
10:10	3.0	2.046	–	1.76	811	11.95	-116.2	14.17	" " "
10:12	3.5	2.046	–	1.71	802	11.95	-114.9	14.29	" " "
10:14	4.0	2.046	–	1.66	796	11.95	-113.6	14.19	" " "
10:16	4.5	2.046	–	1.58	786	11.94	-112.6	14.32	" " "
10:18	5.0	2.046	–	1.53	783	11.95	-111.8	14.23	
		PARAMETERS STABLE SAMPLED @ 5L							
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:
METAL	

Bottles Collected

4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
	x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic
				1	CYANIDE
				1	INORG

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

LAURA [illegible] — Fieldwork Staff Signature — Date 13.06.25

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW13I - GW
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG,~~ LL	**Sample Date:**	13.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 12.06.25	Bore Radius (mm): –	Chem Kit Serial No.: A19829-08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.865	Screen Interval (m): –	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 9.66	Casing Radius (mm): 50	Corrected Redox: Y (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13.66 10:48	–	1.973	GAUGE	START PERIPUMP					
10:54	0.5	2.062	–	1.94	851	7.28	16.4	16.23	NO COLOUR, NO ODOUR, LOW TURB
10:57	1.0	2.062	–	1.21	888	7.09	7.7	16.20	" " "
10:59	1.5	2.062	–	0.52	914	7.00	-1.4	16.46	" " "
10:02	2.0	2.062	–	0.17	932	6.96	-19.8	16.34	" " "
10:05	2.5	2.062	–	0.12	937	6.95	-32.9	16.46	" " "
10:08	3.0	2.062	–	0.13	942	6.94	-42.8	16.42	" " "
10:10	3.5	2.062	–	0.13	938	6.94	-45.1	16.54	" " "
10:12	4.0	2.062	–	0.13	938	6.93	-49.0	16.58	" " "
			PARAMETERS STABLE @ 4.0L.						
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
METALS			x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic
						1	PURPLE
						1	CYANIDE

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

~~SCREEN~~ MEASURED TO BE 6.75 – 9.66 m BTOC USING LOW FLOW TUBING.

Approval and Distribution

Fieldwork Staff Signature _____ Date _____ Checker Name and Signature _____ Date _____

Project Manager Signature _____ Date _____ Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW-E8 179
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	17/06/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG~~, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 17/06/25	Bore Radius (mm): –	Chem Kit Serial No.: HI 4274.08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.690	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.40	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 3L	Total purged volume (L): 3 L

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:15	0.5	1.71	–	3.50	968	7.50	62.5	14.75	LIGHT YELLOW, MED TURB, NO
10:19	1.0	1.72	–	2.54	939	7.61	54.3	15.11	" " "
10:24	1.5	1.72	–	2.16	927	7.64	51.3	15.10	" " "
10:27	2.0	1.72	–	1.99	927	7.64	51.3	15.28	NO COLOUR, LOW TURB, NO
10:29	2.5	1.72	–	2.18	923	7.63	51.7	15.32	" " "
10:31	3.0	1.72	–	2.06	916	7.62	52.0	15.41	" " "
				PARAMETER	STABLE		SAMPLED	@ 3L	
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METAL			x 40 mL Vial (H_2SO_4)	1	x ~~250~~ mL Amber	1	x 250 mL Plastic		PID: 0.3 ppm
						1	CYANIDE		
						1	INORG		

Approval and Distribution

Fieldwork Staff Signature [signature] Date 17.06.25 Checker Name and Signature Date

Project Manager Signature Date **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	NR1
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	17.06.25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	~~RB, MG, EM, TG~~, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 17.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829.08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 5.691	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm): 50	Corrected Redox: Y / N	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:15	0.5	5.691	–	2.93	1314	7.12	-118.9	15.69	NO COLOUR, NO, NO TURB
11:20	1.0	5.78	–	0.37	1325	7.05	-133.2	16.08	" " "
11:23	1.5	5.78	–	0.33	1322	7.04	-135.4	16.24	" " "
11:25	2.0	5.78	–	0.28	1318	7.05	-136.5	16.28	" " "
11:27	2.5	5.78	–	0.27	1318	7.05	-137.5	16.28	" " "
11:29	3.0	5.78	–	0.28	1322	7.05	-140.0	16.28	" " "
			PARAMETER STABLE SAMPLED @ 3L						
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered: METAL	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic		
						1	CYANIDE		
						1	INORGANIC		

Approval and Distribution

LAURA LEE	17.06.25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW16D
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	17.06.25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 17.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829.08	[X] Decontaminated	[X] Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 5.854	Screen Interval (m):	Chem Kit Model: HANNA	[X] Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 9.50	Casing Radius (mm): 50	Corrected Redox: Y / (N)	[X] Disposable	[ ] Bailer [ ] Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	[ ] Other (specify)	[X] Peristaltic Pump [ ] Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	Parameter method: [ ] Downhole		[ ] Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): H ex	[X] Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 4.5L		Total purged volume (L): 4.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:15	0.5	5.91	–	4.01	828	7.69	-16.1	15.91	NO, NO COLOUR, NO TURB.
12:19	1.0	5.96	–	3.59	817	7.49	8.3	15.76	" " "
12:22	2.0	5.96	–	3.59	809	7.45	18.5	15.74	" " "
12:24	2.5	5.96	–	3.83	804	7.43	22.9	15.87	" " "
12:26	3.0	5.96	–	3.56	807	7.42	30.7	15.90	" " "
12:29	3.5	5.96	–	3.83	805	7.41	32.2	15.79	" " "
12:30	4.0	5.96	–	3.95	808	7.40	34.7	15.97	" " "
12:32	4.5	5.96	–	3.96	807	7.40	36.0	15.96	" " "
				PARAMETERS STABLE				SAMPLED @ 4:55	
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METAL			x 40 mL Vial (H_2SO_4)	1	x ~~250~~ mL Amber	1	x 250 mL Plastic		PID: 0.0
						1	(YANIDE		
						1	INORGANIC		

Approval and Distribution

Fieldwork Staff Signature | Date | Checker Name and Signature | Date

Project Manager Signature | Date | Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW 183
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	17.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve info.	
Date of GW Level: 17.06.25	Bore Radius (mm):	Chem Kit Serial No.: HI9829-08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.855	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.84	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:20	0.5	3.89	—	3.02	1699	7.35	-122.6	15.48	DARK GREY, NO, LOW TURB GREY SEDIMENT, SOME SHEEN
14:38	1.0	3.89	—	0.81	1318	7.06	-102.2	15.22	NO COLOUR, NO, LOW TURB
14:40	1.5	3.89	—	0.35	1247	6.97	-109.3	15.33	" " "
14:42	2.0	3.89	—	0.29	1201	6.93	-112.2	15.38	" " "
14:44	2.5	3.89	—	0.29	1188	6.89	-114.1	15.17	" " "
14:46	3.0	3.89	—	0.30	1183	6.87	-115.1	15.00	" " "
14:48	3.5	3.89	—	0.33	1184	6.883	-117.7	15.20	" " "
14:50	4.0	3.89	—	0.30	1173	6.82	-117.9	15.27	" " "
14:52	4.5	3.89	—	0.30	1183	6.82	-117.9	15.27	
				PARAMETERS STABLE @ 4.5 L					SAMPLED
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METAL			x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic		PID: 0.0
						1	CYANIDE		
						1	NSRB		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW196
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	17.06.25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 17.06.25	Bore Radius (mm):	Chem Kit Serial No.: 119829.08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.504	Screen Interval (m):	Chem Kit Model: MANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.95	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): 4EX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 4.5L		Total purged volume (L): 4.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1535	0.5	3.55	–	1.76	1318	6.90	-19.0	15.57	LIGHT GREY, LOW TURB, NO
1538	1.5	3.55	–	0.27	1235	6.84	-3.6	15.76	" " "
1540	2.0	3.55	–	0.24	1199	6.85	-2.4	15.64	" " "
1542	2.5	3.55	–	0.22	1211	6.83	0.0	15.56	" " "
1544	3.0	3.55	–	0.21	1182	6.84	1.4	15.52	" " "
1546	3.5	3.55	–	0.22	1170	6.84	3.0	15.61	" " "
1548	4.0	3.55	–	0.21	1160	6.85	4.0	15.69	" " "
1550	4.5	3.55	–	0.21	1158	6.85	4.6	15.70	
				PARAMETERS STABLE SAMPLED @ 4.5L					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
MEM			x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic		PID: 0.1
						1	CYANIDE		
						1	INORG		

Approval and Distribution

LAURA LEE	17.06.25		
Fieldwork Staff Signature	**Date**	**Checker Name and Signature**	**Date**
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW139
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	18.06.25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18.06.25	Bore Radius (mm):	Chem Kit Serial No.: 419829-08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.124	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.55	Casing Radius (mm): 50	Corrected Redox: Y / N	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm or~~ µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
8:55	~~3.125~~	3.13	—	1.45	770	7.03	-95.1	14.68	LIGHT GREY, MED TURB, NO, SOME GREY SEDIMENT
8:58	1.0	3.13	—	0.57	747	6.99	-94.2	14.47	" , LOW TURB, NO, NO SEDIMENT
9:00	1.5	3.13	—	0.31	740	6.99	-93.9	14.34	" " " "
9:02	2.0	3.13	—	0.24	738	6.98	-93.4	14.54	" " " "
9:04	2.5	3.13	—	0.19	730	6.98	-92.7	14.88	" " " "
9:06	3.0	3.13	—	0.19	725	6.98	-92.5	14.39	" " " "
9:08	3.5	3.13	—	0.17	721	6.98	-91.8	14.96	" " " "
9:10	4.0	3.13	—	0.18	721 (17)	6.98	-90.9	15.01	NO ODOUR, NO TURB, " "
9:12	4.5	3.13	—	0.17	725	6.98	-91.1	14.99	" " " "
9:14	5.0	3.13	—	0.17	726	6.98	-91.5	15.01	" " " "
			PARAMETERS		STABLE		SAMPLED	@	SL
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METAL			x 40 mL Vial (H_2SO_4)	1	x ~~500~~ 250 mL Amber	1	x 250 mL Plastic		PID: 0.3
						1	CYANIDE		
						1	INORGANIC		

Approval and Distribution

Fieldwork Staff Signature	Date: 18.06.25	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW 184
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	17.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18.06.25	Bore Radius (mm): –	Chem Kit Serial No.: H19829-08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.692	Screen Interval (m): –	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.84	Casing Radius (mm): 50	**Corrected Redox:** Y / ~~N~~	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): Hex	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
09:48	0.5	3.72	–	2.52	1257	7.34	-132.4	16.38	NO COLOUR, NO, NO - LOW TURB
09:50	1.0	3.72	–	0.45	1255	7.30	-158.8	16.71	" " "
09:53	1.5	3.72	–	0.19	1254	7.33	-166.8	16.46	" " "
09:56	2.0	3.72	–	0.12	1253	7.34	-172.3	16.51	" " "
09:58	2.5	3.72	–	0.11	1254	7.36	-175.5	16.39	" " "
10:00	3.0	3.72	–	0.11	1254	7.36	-178.6	16.69	" " "
10:02	3.5	3.72	–	0.10	1255	7.38	-181.6	16.63	" " "
10:04	4.0	3.72	–	0.10	1257	7.39	-183.7	16.65	" " "
10:06	4.5	3.72	–	0.11	1258	7.38	-184.1	16.64	" " "
				PARAMETERS STABLE			SAMPLED @ 4.5L		
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
MGTX			x 40 mL Vial (H_2SO_4)	1	x 250 mL Amber	1	x 250 mL Plastic		PID: 0.4
						1	CHAMBER		
						1	INORG		

Approval and Distribution

Fieldwork Staff Signature	**Date** 17.06.25	**Checker Name and Signature**	**Date**
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW36
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	18.06.25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, ~~MG, EM, TG~~, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18.06.25	Bore Radius (mm): –	Chem Kit Serial No.: H19829.08	☒ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.874	Screen Interval (m): –	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.6	Casing Radius (mm): 50	Corrected Redox: Y N	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick-up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): KEY	☒ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:28	0.5	3.91	–	2.18	2580	6.66	20.0	16.84	LIGHT YELLOW, NO, ~~LOW~~ TURB
11:31	1.0	3.91	–	0.65	2421	6.62	20.7	17.10	" " "
11:35	1.5	3.91	–	0.26	2156	6.61	23.2	17.17	" " "
11:38	2.0	3.91	–	0.17	2074	6.61	26.0	17.06	" " "
11:41	2.5	3.91	–	0.17	2013	6.62	28.9	16.99	" " "
11:43	3.0	3.91	–	0.18	1912	6.63	30.8	17.21	" " "
11:45	3.5	3.91	–	0.18	1870	6.64	31.3	17.26	" " "
11:48	4.0	3.91	–	0.18	1772	6.65	32.7	17.31	" " "
11:50	4.5	3.91	–	0.17	1705	6.65	33.6	17.26	" " "
11:52	5.0	3.91	–	0.17	1650	6.66	34.5	17.26	" " "
11:54	5.5	3.91	–	0.17	1625	6.66	34.8	17.27	" " "
			PARAMETER STABLE SAMPLED @ 5.5 L.						
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered: METAL	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)	1	x ~~150~~ 250 mL Amber	1	x 250 mL Plastic		
						1	CYANIDE		
						1	INORG		

Approval and Distribution

HANNA [illegible]	18.06.25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	RM4
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	18.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829-08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.12	Screen Interval (m):	Chem Kit Model: MANUA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.10	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 5L		Total purged volume (L): 5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm or~~ µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:45	~~0.5~~	3.20	–	1.52	2521	7.14	-131.5	17.05	GREY, MED-HIGH TURB, NO
13:48	1.0	3.20	–	0.20	2395	7.02	-142.9	17.15	GREY, LOW TURB, NO
13:51	1.5	3.20	–	0.15	2236	6.94	-143.0	17.20	" " "
13:53	2.0	3.20	–	0.14	2206	6.92	-145.5	16.96	" " "
13:55	2.5	3.20	–	0.13	2186	6.90	-146.3	17.04	" " "
13:57	3.0	3.20	–	0.12	2182	6.92	-149.9	17.05	" " "
14:00	3.5	3.20	–	0.12	2257	6.96	-153.0	17.04	" " "
14:02	4.0	3.20	–	0.12	2175	6.92	-152.0	17.05	" " "
14:05	4.5	3.20	–	0.12	2243	6.96	-154.4	17.03	" " "
14:07	5.0	3.20	–	0.12	2160	6.92	-152.5	17.05	
		PARAMETERS			STABLE	SAMPLED	@	5.0L	
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
METAL			x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
						1	CYANIDE	12% CH_4 Cal, 0.2 PID
						1	NITRATE	

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW173
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	18.06.25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	~~RB, MG, EM, TG~~, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information			Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	18.06.25	Bore Radius (mm):	Chem Kit Serial No.: HI 9829-03	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	3.716	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	4.91	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):		Includes/ excludes bore annulus (circle)	# purge volumes removed: 5 L		Total purged volume (L): 5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:42	0.5	3.76	—	1.07	1093	7.24	12.5	17.37	NO COLOUR, LOW TURB, NO
14:44	1.0	3.76	—	0.31	1082	7.16	14.5	17.44	" , NO TURB, "
14:47	1.5	3.76	—	0.14	1077	7.12	17.6	17.49	" , " , "
14:50	2.0	3.76	—	0.13	1073	7.08	20.5	17.56	" , " , "
14:53	2.5	3.76	—	0.14	1072	7.01	26.7	17.56	" , " , "
14:55	3.0	3.76	—	0.14	1071	6.97	31.8	17.53	" , " , "
14:59	3.5	3.76	—	0.14	1074	6.96	34.4	17.55	" , " , "
15:02	4.0	3.76	—	0.14	1078	6.96	36.9	17.55	" , " , "
15:04	4.5	3.76	—	0.13	1076	6.99	37.2	17.59	" , " , "
15:06	5.0	3.76	—	0.13	1074	6.97	39.4	17.57	
			PARAMETERS	STABLE	SAMPLED @ 5L				
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METALS			x 40 mL Vial (H_2SO_4)	1	x 500 mL Amber	1	x 250 mL Plastic		PID: 0.0
						1	CYANIDE		
						1	1802BCA		

Approval and Distribution

Fieldwork Staff Signature: HANNA LEE	Date: 18.06.25	Checker Name and Signature:	Date:
Project Manager Signature:	Date:	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW 151
Project Name:	Mac Point	**Project Number:**	60693007 Task.12	**PM Name:**	RC	**Sample Date:**	19/06/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG, LL~~	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829-01	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.148	Screen Interval (m):	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.80	Casing Radius (mm): 50	**Corrected Redox:** Y / N	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 4.5		Total purged volume (L): 4.5 L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO ~~(ppm or~~ mg/L)	E.C. (~~mS/cm or~~ µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
~~9:32~~	~~START~~	2.19	—	2.88	7443	6.76	-129.6	15.51	LIGHT GREY, LOW TURB, NO, SOME SEDIMENT
9:33	1.0	2.19	—	0.75	7479	6.73	-133.8	15.53	" " " "
9:37	2.0	2.19	—	0.14	7465	6.74	-135.8	15.63	" " " "
9:39	2.5	2.19	—	0.13	7544	6.74	-142.8	15.80	" NO TURB " NO SEDIMENT
9:41	3.0	2.19	—	0.12	7618	6.74	-145.1	15.81	" " " "
9:43	3.5	2.19	—	0.14	7766	6.76	-144.4	15.41	" " " "
9:46	4.0	2.19	—	0.14	7796	6.76	-142.5	15.36	" " " "
9:48	4.5	2.19	—	0.14	7794	6.76	-143.1	15.43	" " " "
PARAMETER STABLE SAMPLED @ 4.5 L									
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered: 2 VIALS 1 PM20 METAL	**Unfiltered:**	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)	2	x 500 mL Amber	1	x 250 mL Plastic	PID-0.0
						1	CYANIDE	
						1	INORG	ECO SUITE

Approval and Distribution

Fieldwork Staff Signature	~~Date~~ 19/06/25	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW129
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	19.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19.06.25	Bore Radius (mm): —	Chem Kit Serial No.: H19829.08	[X] Decontaminated	[X] Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.56	Screen Interval (m):	Chem Kit Model: MANTA	[X] Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 15.09	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	[X] Disposable	[ ] Bailer [ ] Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	[ ] Other (specify)	[X] Peristaltic Pump [ ] Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	**Parameter method:** [ ] Downhole		[ ] Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	[X] Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected			QA/QC Information
Field Filtered:	**Unfiltered:**	x 40 mL Vial (HCl)	x 60 mL Ferrous	x 60 mL metals (HNO_3)	
		x 40 mL Vial (H_2SO_4)	x 100 mL Amber	x 250 mL Plastic	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID 0.3

SCREEN 14 - 16

RS6 SAMPLED INSTEAD

Approval and Distribution

Fieldwork Staff Signature — Date — *Checker Name and Signature* — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	RSG
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	14.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 14.06.25	Bore Radius (mm):	Chem Kit Serial No.: 419829.08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.035	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.50	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☒ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:45	0.5	3.08	—	0.67	1093	7.15	-85.2	17.02	LIGHT GREY, MED - TURB, NO
10:48	1.0	3.08	—	0.11	1080	7.07	-67.3	17.25	" , LOW TURB , NO
10:51	1.5	3.09	—	0.08	1092	7.07	-86.8	17.19	" , " , "
10:53	2.0	3.08	—	0.08	1093	7.07	-91.8	17.15	" , " , "
10:56	2.5	3.08	—	0.08	1097	7.08	-98.7	17.22	" , " , "
11:01	3.0	3.08	—	0.08	1096	7.09	-103.5	17.14	" , " , "
11:03	3.5	3.08	—	0.08	1100	7.09	-106.4	17.28	" , " , "
11:05	4.0	3.07	—	0.08	1098	7.09	-107.7	17.26	" , " , "
			PARAMETERS	STABLE		SAMPLED @	4L		
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
METAL			x 40 mL Vial (H_2SO_4)	1	x 200 mL Amber	1	x 250 mL Plastic	
						1	CYANIDE	
						1	INORG	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID: 0.2

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	BH2_PS
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	19.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information

Date of GW Level: 19.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829	Parameter method: ☐ Downhole ☒ Retrieved
Depth to GW (m-pvc): 4.361	Screen Interval (m):	Chem Kit Model: HANNA	
Bore Depth (m-pvc): 7.0	Casing Radius (mm): 50	Corrected Redox: Y / (N)	
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick-up~~):	(The correction to apply is probe dependent)	
Product Thickness (m): –	Bore Locked (YES/~~NO~~): FLOT		
	Key Type (if applicable): SQUARE		
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Decontamination

- ☒ Decontaminated
- ☒ Dedicated
- ☒ Disposable
- ☐ Other (specify)

Sampling Method

- ☒ Low Flow Pump rate:
- Intake depth:
- ☐ Bailer ☐ Hydrasleeve
- ☒ Peristaltic Pump ☐ Waterra
- ☐ Other (specify)

Hydrasleeve Info.

Hydrasleeve Size:	Monitoring sequence followed (number in order):
Hydrasleeve Type:	Gauging
Sampling Depth (m-pvc):	Hydrasleeve in
Hydrasleeve Install time:	Hydrasleeve out
Sampling Start Time:	Parameters

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:04	0.5	4.38	–	1.37	1447	6.77	46.9	16.47	NO, NO COLOUR, NO TURB, EXCESSIVE BUBBLES IN TUBING
12:07	1.0	4.38	–	0.99	1457	6.75	52.7	16.69	" " "
12:10	1.5	4.38	–	0.84	1469	6.73	60.3	16.81	" " "
12:13	2.0	4.38	–	0.87	1477	6.72	66.0	16.84	" " "
12:15	2.5	4.38	–	0.91	1478	6.72	68.9	16.81	" " "
12:18	3.0	4.38	–	0.94	1477	6.72	71.5	16.77	" " "
12:21	3.5	4.38	–	0.94	1476	6.71	73.8	16.84	" " "
12:24	4.0	4.38	–	0.91	1481	6.71	76.0	16.97	" " "
				PARAMETER STABLE SAMPLED @ 4.0L					
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:
METAL	

Bottles Collected

4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
	x 40 mL Vial (H_2SO_4)	1	x 300 mL Amber	1	x 250 mL Plastic
				1	CYANIDE
				1	INORG

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID: 0.2

Approval and Distribution

Fieldwork Staff Signature _____ Date _____ Checker Name and Signature _____ Date _____

Project Manager Signature _____ Date _____ **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW55
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	14.06.25

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 14.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829	☒ Decontaminated	☒ **Low Flow** Pump rate:	Hydrasleeve Size:	**Monitoring sequence followed (number in order):**
Depth to GW (m-pvc): 2.961	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): KEP	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 4.0 L		Total purged volume (L): 4.0 L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:26	0.5	3.02	—	1.26	3208	6.84	-121.9	16.65	NO COLOUR, NO, NO TURB, EXCESSIVE BUBBLES IN TUBING
14:30	1.0	3.02	—	0.79	3206	6.85	-122.9	16.50	" " "
14:33	1.5	3.02	—	0.69	3205	6.85	-122.0	16.44	" " "
14:35	2.0	3.02	—	0.60	3225	6.84	-123.6	16.46	" " "
14:39	2.5	3.02	—	0.58	3245	6.85	-124.2	16.46	" " "
14:41	3.0	3.02	—	0.56	3266	6.85	-124.9	16.45	" " "
14:43	3.5	3.02	—	0.54	3280	6.85	-125.0	16.43	" " "
14:45	4.0	3.02	—	0.52	3289	6.85	-125.2	16.40	" " "
			PARAMETERS STABLE			SAMPLED @ 4.0L			
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
METAL			x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		PID: 0.0
						1	CYANIDE (NORG)		LEL OVER

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW161
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	19.06.25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG~~, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19.06.25	Bore Radius (mm):	Chem Kit Serial No.: 1149829-02	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 5.796	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.4	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): NET	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 4 L		Total purged volume (L): 4 L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:28	0.5	5.83	—	3.39	875	7.35	16.4	15.80	NO COLOUR, NO, LOW TURB
15:31	1.0	5.83	—	3.38	863	7.33	27.8	15.80	" , " , NO TURB
15:34	1.5	5.83	—	3.50	859	7.32	33.7	15.81	" , " , "
15:37	2.0	5.83	—	3.52	842	7.34	40.6	15.88	" , " , "
15:41	2.5	5.83	—	3.53	832	7.35	45.0	15.79	" , " , "
15:43	3.0	5.83	—	3.55	833	7.36	48.1	15.77	" , " , "
15:46	3.5	5.83	—	3.56	836	7.36	50.6	15.75	" , " , "
15:49	4.0	5.83	—	3.55	837	7.36	51.9	15.76	" , " , "
			PARAMETERS STABLE				SAMPLED @ 4 L		
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered:	**Unfiltered:**	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
2 VIALS METAL			x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
						1	CYANIDE WORG	PID: 0.1 ECO SUITE

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	NR2A
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	20.06.25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 20.06.25	Bore Radius (mm):	Chem Kit Serial No.: 19829.08	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 4.086	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.90	Casing Radius (mm): 50	Corrected Redox: Y / N	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEY	☒ Retrieved				Parameters

Calculated bore volume (L): | Includes/ excludes bore annulus (circle) | # purge volumes removed: 4.5L | Total purged volume (L): 4.5L

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
09:20	0.5	4.10	–	4.94	986	7.34	-46.3	16.18	LIGHT GREY-BROWN, LOW-MED TURB, NO
09:24	1.0	4.10	–	0.55	987	7.01	-88.3	16.98	" " "
09:28	2.0	4.10	–	0.12	1062	7.12	-96.3	17.00	LIGHT GREY, LOW TURB, NO
09:31	2.5	4.10	–	0.10	1047	7.11	-96.2	17.03	" , " , "
09:34	3.0	4.10	–	0.10	1037	7.11	-97.2	17.04	" , " , "
09:38	3.5	4.10	–	0.09	1028	7.11	-96.8	17.09	" , " , "
09:42	4.0	4.10	–	0.09	1018	7.10	-95.6	17.16	" , " , "
09:45	4.5	4.10	–	0.09	1017	7.10	-96.0	17.17	" , " , "
					PARAMETERS			STABLE	SAMPLED @ 4.5L
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered: 2x VIAL 1x AMBER METAL	Unfiltered:	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)	2	x 200 mL Amber	1	x 250 mL Plastic		ECO SUITE
						1	CYANIDE		
						1	INORG		PID: 0.2

Approval and Distribution

WNRA	20.06.25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW167
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	20.06.25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 20.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829-00	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.950	Screen Interval (m):	Chem Kit Model: MANTA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.90	Casing Radius (mm): 50	**Corrected Redox:** Y (N)	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☒ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 5		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:05	0.5	~~3.356~~ 2.356	–	3.30	2172	7.19	63.9	15.96	LIGHT ~~YELLOW~~ BROWN-GREY, LOW SEDIMENT, NO, HIGH TURB
14:08	1.0	3.430	–	1.78	2222	6.91	81.6	15.96	" " "
14:10	1.5	3.629	–	1.33	2212	6.90	85.0	15.90	" " ", NO TURB
14:13	2.0	3.757	–	1.39	2188	6.90	88.3	15.82	" " " "
14:15	2.5	3.86	–	0.95	2222	6.86	91.2	15.78	NO COLOUR, NO SEDIMENT, " "
14:17	3.0	3.898	–	0.82	2262	6.85	91.1	15.78	" " " "
14:19	3.5	3.958	-	0.69	2299	6.84	85.8	15.79	" " " "
14:21	4.0	~~3~~.986	-	0.60	2325	6.84	75.1	15.90	" " " "
14:23	4.5	4.01	-	0.55	2336	6.84	66.6	15.87	" " " "
14:25	5.0	4.015	–	0.51	2345	6.84	60.0	15.86	" " " "
			PARAMETERS STABLE SAMPLED @ 5L						
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered: 2 VIALS 1 AMBER 1 METAL	**Unfiltered:** 8	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
			x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic		
						1	CYANIDE		
						1	INORG		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW164
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	23/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.574	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 3.86	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (static/stick up): S	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO): S	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L): 3.5L.		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:20	0.0L	1.574	-	0.91	717	6.92	-128	16.54	NO, No colour, No turb.
12:23	0.5L	1.925	-	0.53	702	6.85	-126.6	16.39	NO, No colour, No turb.
12:26	1.0L	2.070	-	0.56	698	6.86	-126.6	16.21	" " "
12:29	1.5L	2.289	-	0.55	693	6.86	-130.3	16.33	" " "
12:32	2.0L	2.473	-	0.55	687	6.86	-130.6	16.54	" " "
12:35	2.5L	2.580	-	0.57	684	6.85	-130.2	16.65	" " "
12:38	3.0L	2.697	-	0.59	678	6.86	-129.9	16.73	" " "
12:41	3.5L	2.804	-	0.57	668	6.86	-120.1	16.84	" " "
									→ sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
6	8		x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic		Eco Risk.
						1	x $Cr6^+$		
						1	x inorganics		

Approval and Distribution

TG	23/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW16
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	23/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size: -	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.895	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type: -	
Bore Depth (m-pvc):	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/(NO)):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L): 4.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:53	0.0L	1.895	-	0.95	455	6.98	-114.5	17.37	NO, ~~grey to~~ brown, L-M turb, suspended sediment
13:56	0.5L	1.93	-	0.14	450	6.82	-119.5	17.37	" " " "
13:59	1.0L	1.919	-	0.14	433	6.82	-122.0	17.38	NO, brown to grey, M turb, suspended sediment
16:02	1.5L	1.919	-	0.22	421	6.82	-123.2	17.34	" " " "
16:05	2.0L	1.921	-	1.72	394	6.80	-122.5	17.46	" " L turb "
16:08	2.5L	1.925	-	0.70	374	6.82	-123.7	17.46	" " " "
16:11	3.0L	1.925	-	0.58	379	6.81	-124.1	17.36	" " " "
16:14	3.5L	1.925	-	0.48	363	6.83	-125.2	17.48	" " " "
16:17	4.0L	1.925	-	0.39	354	6.83	-124.8	17.45	" " " "
16:20	4.5L	1.925	-	0.33	355	6.83	-125.4	17.45	" " " "
									→ sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QC107 dup QC207 trip.	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
6	9		x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic		Ecosite.
				1	xPFAS	1	xCr6+		PFAS.
						1	x Inorganics		QC107 & QC207 dup & trip

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW6
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	23/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.050	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.89	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (flat/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L): 3.5L.		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:00	0.0L	2.050	-	2.13	911	6.96	-107.4	16.49	NO, grey, M turb.
14:04	0.5L	2.050	-	0.34	924	6.90	-125.6	16.50	NO, grey, L turb.
14:07	1.0L	2.050	-	0.45	921	6.91	-129.6	16.49	" " "
14:10	1.5L	2.050	-	0.71	915	6.90	-132.7	16.52	" " "
14:13	2.0L	2.050	-	0.63	910	6.91	-134.5	16.53	" " "
14:16	2.5L	2.050	-	0.54	906	6.92	-135.7	16.53	" " "
14:19	3.0L	2.050	-	0.52	905	6.93	-136.0	16.52	" " "
14:22	3.5L	2.050	-	0.50	904	6.92	-135.9	16.57	" " "
									→ Sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)	2	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		PFAS.
				1	x inorganics	1	x PFAS		
						1	x 6+6		

Approval and Distribution

TG	23/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW60
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	24/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 24/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.943	Screen Interval (m): -	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 2.97	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick-up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 4.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
9:38	0.0L	1.943	-	0.90	~~1663~~	6.75	-108.4	15.78	NO, grey/brown, H turb.
9:42	1.0L	1.956	-	0.75	1666	6.71	-124.0	15.99	" " M-L turb.
9:46	2.0L	1.946	-	0.51	1643	6.72	-130.3	16.18	" brown, M-L turb.
9:48	2.5L	1.948	-	0.46	1596	6.73	-132.2	16.25	" " "
9:50	3.0L	1.951	-	0.36	1545	6.73	-133.8	16.20	" " L turb.
9:52	3.5L	1.953	-	0.30	1535	6.73	-134.7	16.11	" " "
9:54	4.0L	1.953	-	0.27	1535	6.74	-136.4	16.36	" " "
9:56	4.5L	1.953	-	0.26	1533	6.73	-136.5	16.44	
									→ Sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
4	9		x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic		PFAS
				1	x PFAS	1	x Cr6+		Erosvite.
						1	x Inorganics		

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW193
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	24/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 24/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.118	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.46	Casing Radius (mm): 50	Corrected Redox: Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters

Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:	Total purged volume (L): 4.0L

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:58	0.0L	2.118	-	4.08	1324	6.93	-84.7	16.67	NO, dark grey, H turb.
11:01	0.5L	2.138	-	0.43	1388	6.77	-103.7	16.74	" " "
11:04	1.0L	2.134	-	0.48	1396	6.77	-111.9	16.64	" " "
11:07	1.5L	2.134	-	0.46	1344	6.77	-114.7	16.58	" " "
11:10	~~1.5L~~ 2.0L	2.134	-	0.40	1321	6.77	-117.3	16.59	" " "
11:13	2.5L	2.134	-	0.34	1306	6.77	-118.6	16.57	" " "
11:16	3.0L	2.134	-	0.31	1301	6.77	-119.7	16.61	" " "
11:19	3.5L	2.134	-	0.27	1277	6.78	-122.7	16.60	" " M turb.
11:22	4.0L	2.134	-	0.25	1257	6.78	-122.3	16.59	" " "
									→ Sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QC109 (dup)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	QC209 (trip)	QC109, QC209
				1	x inorganics	1	x PFAS		MW193 has PFAS
						1	x Cr6+		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW126A
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	24/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event (circle)	

General Bore Information				Parameter Info.		Decontamination	Sampling Method		Hydrasleeve Info.	
Date of GW Level:	24/6/25	Bore Radius (mm):	-	Chem Kit Serial No.:	9829-06	☑ Decontaminated	☐ Low Flow Pump rate:		Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	2.054	Screen Interval (m):	-	Chem Kit Model:	HANNA	☑ Dedicated	Intake depth:		Hydrasleeve Type:	
Bore Depth (m-pvc):	5.13	Casing Radius (mm):	SD	Corrected Redox:	Y / N	☑ Disposable	☐ Bailer	☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/~~stick-up~~):		(The correction to apply is probe dependent)		☐ Other (specify)	☑ Peristaltic Pump	☐ Waterra	~~Hydrasleeve Install time:~~	~~Hydrasleeve in~~
Product Thickness (m):	-	Bore Locked (YES/~~NO~~):		Parameter method:	☐ Downhole		☐ Other (specify)		~~Sampling Start Time:~~	~~Hydrasleeve out~~
		Key Type (if applicable):	HEX		☑ Retrieved					Parameters
Calculated bore volume (L):	-	Includes/ excludes bore annulus (circle)	-	# purge volumes removed:			Total purged volume (L):	5.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
8:39	0.0L	2.054	-	3.20	1736	6.69	-106.6	15.20	NO, brown, L turb, suspended brown sediment
8:42	0.5L	2.089	-	2.07	1787	6.71	-103.2	15.44	" " NO turb, "
8:45	1.0L	2.10	-	0.77	1781	6.65	-113.8	16.22	" " " "
8:48	1.5L	2.119	-	1.08	1759	6.64	-129.0	16.48	" " " "
8:51	2.0L	2.119	-	0.79	1741	6.65	-132.8	16.51	" " " "
8:54	2.5L	2.119	-	0.52	1728	6.65	-134.8	16.53	" " " "
8:57	3.0L	2.119	-	0.39	1706	6.66	-140.6	16.53	" " " "
9:00	3.5L	2.119	-	0.38	1723	6.67	-137.9	16.32	" " " "
9:03	4.0L	2.119	-	0.37	1721	6.66	-137.5	16.27	" " " "
9:06	4.5L	2.119	-	0.37	1719	6.66	-144.5	16.22	" " " "
9:09	5.0L	2.119	-	0.38	1716	6.66	-140.7	16.19	" " " "
									→ Sample collected.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QC108 (dup)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	QC208 (trip)	QC108, QC208
				1	x PFAS	1	x inorganics		PFAS.
						1	x Cold		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW188
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	24/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information				Parameter Info.		Decontamination	Sampling Method		Hydrasleeve Info.	
Date of GW Level:	24/6/25	Bore Radius (mm):	-	Chem Kit Serial No.:	9829-06	☑ Decontaminated	☐ Low Flow Pump rate:		Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	2.095	Screen Interval (m):	-	Chem Kit Model:	HANNA	☑ Dedicated	Intake depth:		Hydrasleeve Type:	
Bore Depth (m-pvc):	5.934	Casing Radius (mm):	50	Corrected Redox:	Y / N	☑ Disposable	☐ Bailer	☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/stick up):		(The correction to apply is probe dependent)		☐ Other (specify)	☑ Peristaltic Pump	☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/NO):		Parameter method:	☐ Downhole		☐ Other (specify)		Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	HEX		☑ Retrieved					Parameters

Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:56	0.0L	2.095	-	1.75	1377	6.85	-88.1	16.90	NO, dark grey, M turb.
11:59	0.5L	2.120	-	0.72	1394	6.73	-109.5	16.85	" " "
12:02	1.0L	2.125	-	0.68	1393	6.72	-117.9	16.81	" " L-M turb.
12:05	1.5L	2.128	-	0.57	1396	6.73	-122.2	16.75	" " "
12:08	2.0L	2.130	-	0.45	1402	6.72	-125.7	16.70	" " L turb.
12:11	2.5L	2.135	-	0.42	1404	6.72	-126.6	16.65	" " "
12:14	3.0L	2.137	-	0.34	1400	6.72	-128.7	16.64	" " "
12:17	3.5L	2.140	-	0.34	1402	6.72	-129.1	16.67	" " "
12:20	4.0L	2.143	-	0.32	1402	6.72	-129.6	16.68	" " "
									→ sample collected.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	x PFAS	1	x inorganics		
						1	x Cr6+		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW125A
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	24/6/25

Well Development or Well Sampling Event? (circle)

General Bore Information

Date of GW Level: 24/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	Decontaminated
Depth to GW (m-pvc): 2.464	Screen Interval (m): -	Chem Kit Model: HANNA	Dedicated
Bore Depth (m-pvc): 4.97	Casing Radius (mm): 50	Corrected Redox: Y / (N)	Disposable
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	Other (specify)
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☐ Downhole ☑ Retrieved	
	Key Type (if applicable): HEX		
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:	Total purged volume (L): 3.5L

Decontamination

Sampling Method

☐ Low Flow Pump rate:
Intake depth:
☐ Bailer ☐ Hydrasleeve
☑ Peristaltic Pump ☐ Waterra
☐ Other (specify)

Hydrasleeve Info.

Hydrasleeve Size:	Monitoring sequence followed (number in order):
Hydrasleeve Type:	Gauging
Sampling Depth (m-pvc):	Hydrasleeve in
Hydrasleeve Install time:	Hydrasleeve out
Sampling Start Time:	Parameters

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:20	0.0L	2.464	-	0.36	712	6.92	-93.0	15.82	NO, brown/grey, H Tu/b.
14:23	0.5L	2.480	-	0.13	695	6.83	-94.3	15.80	" " "
14:26	1.0L	2.480	-	0.17	683	6.76	-91.1	15.78	NO, brown/yellow, M tu/b, suspended black sediment
14:29	1.5L	2.480	-	0.22	681	6.73	-91.2	15.78	NO, brown/yellow, M-L tu/b, suspended black sediment
14:32	2.0L	2.480	-	0.24	679	6.72	-92.0	15.74	NO, " , L tu/b, "
14:35	2.5L	2.480	-	0.26	680	6.71	-93.0	15.76	NO, yellow, L tu/b, suspended sediments
14:38	3.0L	2.480	-	0.28	683	6.72	-94.1	15.75	" " " "
14:41	3.5L	2.480	-	0.29	686	6.71	-94.8	15.77	
									→ sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:
1	8

Bottles Collected

4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
				1	x Cr6+
				1	x inorganics

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature — Date: 24/6/25

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW101
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	24/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information				Parameter Info.		Decontamination		Sampling Method		Hydrasleeve Info.	
Date of GW Level:	24/6/25	Bore Radius (mm):	-	Chem Kit Serial No.:	9829-06	☑ Decontaminated		☐ Low Flow Pump rate:		Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	1.799	Screen Interval (m):	-	Chem Kit Model:	HANNA	☐ Dedicated		Intake depth:		Hydrasleeve Type:	
Bore Depth (m-pvc):	3.62	Casing Radius (mm):	50	Corrected Redox:	Y / N	☑ Disposable		☐ Bailer	☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/stick-up):		(The correction to apply is probe dependent)		☐ Other (specify)		☑ Peristaltic Pump	☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/NO):		Parameter method:	☐ Downhole			☐ Other (specify)		Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	HEX		☑ Retrieved						Parameters
Calculated bore volume (L):	-	Includes/ excludes bore annulus (circle)	-	# purge volumes removed:				Total purged volume (L):	3.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:12	0.0L	1.799	-	3.62	648	7.12	-19.7	14.39	No, grey, L turb.
15:15	0.5L	1.803	-	0.34	637	7.53	-10.7	14.46	No, grey, L - No turb.
15:18	1.0L	1.801	-	0.29	633	6.42	-15.4	14.45	" " , No turb.
15:21	1.5L	1.798	-	0.38	633	6.39	-19.7	14.51	" " "
15:24	2.0L	1.799	-	0.42	632	6.38	-22.4	14.53	" " "
15:27	2.5L	1.799	-	0.44	635	6.37	-23.4	14.60	" , No Colour , "
15:30	3.0L	1.799	-	0.42	635	6.37	-24.4	14.51	" " "
15:33	3.5L	1.800	-	0.39	635	6.36	-25.0	14.54	" " "
									→ sample collected.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	x inorganic				
				1	x [illegible]				

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
RB	24/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

A DM

Q4AN(EV)-405-FM1

Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Bore ID:	MW198
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	~~RB, MG, EM, TG,~~ LL	Sample Date:	25/06/25
						Well Development or Well Sampling Event? (circle)	

General Bore Information

Date of GW Level: 25.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829.08	
Depth to GW (m-pvc): 2.319	Screen Interval (m):	Chem Kit Model: HANNA	
Bore Depth (m-pvc): 5.70	Casing Radius (mm): 50	Corrected Redox: Y / N	
Depth to Product (m-pvc): —	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	
Product Thickness (m): —	Bore Locked (YES/~~NO~~):	Parameter method: Downhole	
	Key Type (if applicable): KEX	Retrieved	
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 4.5	Total purged volume (L): 4.5

Parameter Info.

Decontamination

- [X] Decontaminated
- [X] Dedicated
- [X] Disposable
- [ ] Other (specify)

Sampling Method

- [X] Low Flow Pump rate:
- Intake depth:
- [ ] Bailer
- [ ] Hydrasleeve
- [X] Peristaltic Pump
- [ ] Waterra
- [ ] Other (specify)

Hydrasleeve Info.

Hydrasleeve Size:	Monitoring sequence followed (number in order):
Hydrasleeve Type:	Gauging
Sampling Depth (m-pvc):	Hydrasleeve in
Hydrasleeve Install time:	Hydrasleeve out
Sampling Start Time:	Parameters

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm or~~ µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:08	0.5	2.36	—	1.68	2557	6.80	64.2	14.07	LIGHT YELLOW, MED TURB, NO
14:11	1.0	2.36	—	0.55	2347	6.72	35.5	14.03	" " "
14:13	1.5	2.36	—	0.33	2315	6.71	29.2	14.15	" " "
14:16	2.0	2.36	—	0.26	2305	6.71	27.4	13.95	NO COLOUR, " , NO
14:19	2.5	2.36	—	0.21	2289	6.72	26.5	14.05	" , " , "
14:21	3.0	2.36	—	0.18	2284	6.71	24.3	14.19	" , " , "
14:24	3.5	2.36	—	0.18	2282	6.72	21.9	14.25	" , LOW TURB , "
14:26	4.0	2.36	—	0.17	2283	6.71	19.8	14.34	" , " , "
14:29	4.5	2.36	—	0.16	2284	6.72	20.5	14.34	" , " , "
			PARAMETER STABLE SAMPLED @ 4.5L						
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:
METAL	

Bottles Collected

4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
				1	CYANIDE
				1	INORG

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID: 0.0

Approval and Distribution

[signature] LEE — Fieldwork Staff Signature — Date: 25.06.25

Checker Name and Signature — Date

Project Manager Signature — Date

Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW197
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	~~RB, MG, EM, TG~~, LL	**Sample Date:**	25.06.25
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 25.06.25	Bore Radius (mm):	Chem Kit Serial No.: H19829.08	Decontaminated	Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.492	Screen Interval (m):	Chem Kit Model: HANNA	Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.9	Casing Radius (mm): 50	Corrected Redox: Y / N	Disposable	Bailer / Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	Other (specify)	Peristaltic Pump / Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/~~NO~~):	Parameter method: Downhole		Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	Retrieved				Parameters
Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed: 5		Total purged volume (L): 5		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm or~~ mg/L)	E.C. (~~mS/cm or~~ µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:57	0.5	2.48	–	0.57	808	9.44	-37.5	14.51	LIGHT YELLOW, MED TURB, NO
15:01	1.0	2.49	–	0.29	796	9.46	-64.8	14.86	" " CHEMICAL ODOUR
15:04	1.5	2.49	–	0.15	788	9.46	-95.7	15.05	" " "
15:07	2.0	2.49	–	0.12	785	9.43	-110.5	15.42	" " "
15:09	2.5	2.49	–	0.09	788	9.39	-120.4	15.64	" " "
15:11	3.0	2.49	–	0.08	795	9.36	-133.4	15.55	" " "
15:13	3.5	2.49	–	0.07	799	9.33	-140.4	15.43	" " "
15:16	4.0	2.49	–	0.07	796	9.38	-145.3	15.33	" " "
15:18	4.5	2.49	–	0.07	794	9.38	-145.9	15.37	" " "
15:21	5.0	2.49	–	0.07	793	9.37	-146.8	15.38	" " "
		PARAMETERS		STABLE		SAMPLED @ 5L			
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information
Field Filtered:	**Unfiltered:**	4 x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
METAL		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
					1	CYANIDE	
					1	INORG	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

PID: 0.0

Approval and Distribution

LAURA LEE — Fieldwork Staff Signature — 25.06.25 — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW128A
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	25/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 25/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 1.374	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.49	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 3.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
8:38	0.0L	1.574	-	4.15	2175	7.19	19.9	13.55	NO, yellow, L turb.
8:41	0.5L	1.70	-	3.09	2352	6.95	118.3	14.13	NO, yellow, L turb.
8:44	1.0L	1.738	-	2.95	2345	6.94	157.9	13.89	" " "
8:47	1.5L	1.80	-	2.84	2337	6.94	153.7	13.86	" " "
8:50	2L 0	1.804	-	2.92	2337	6.93	162.0	13.94	" " NO turb.
8:53	2.5L	1.832	-	3.14	2334	6.93	169.2	13.89	" " "
8:56	3.0L	1.875	-	2.83	2339	6.93	174.0	13.91	" " "
8:59	3.5L	1.896	-	2.63	2326	6.93	177.3	13.91	" " "
									→ Sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
						1	$xCr6^+$		
						1	inorganics		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
TG	25/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW186
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	25/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information				Parameter Info.		Decontamination		Sampling Method		Hydrasleeve Info.	
Date of GW Level:	25/6/25	Bore Radius (mm):	-	Chem Kit Serial No.:	9879-06	☑ Decontaminated		☐ Low Flow Pump rate:		Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	3.902	Screen Interval (m):	-	Chem Kit Model:	HANNA	☑ Dedicated		Intake depth:		Hydrasleeve Type:	
Bore Depth (m-pvc):	5.90	Casing Radius (mm):	50	Corrected Redox: Y / ⓝ		☑ Disposable		☐ Bailer ☐ Hydrasleeve		Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/~~stick up~~):		(The correction to apply is probe dependent)		☐ Other (specify)		☑ Peristaltic Pump ☐ Waterra		Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/~~NO~~):		Parameter method: ☐ Downhole				☐ Other (specify)		Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	HEX	☑ Retrieved							Parameters
Calculated bore volume (L):	-	Includes/ excludes bore annulus (circle)	-	# purge volumes removed:				Total purged volume (L):	4.5L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:33	0.0L	3.902	-	0.92	1381	7.38	-136.8	15.30	NO, grey, H turb
11:36	0.5L	3.902	-	0.10	1254	7.18	-142.4	15.40	" " "
11:39	1.0L	3.902	-	0.08	1278	7.18	-143.9	15.36	" " "
11:42	1.5L	3.902	-	0.12	1211	7.13	-146.2	15.46	" " "
11:45	2.0L	3.900	-	0.25	1095	7.05	-138.8	15.07	" " "
11:48	2.5L	3.900	-	0.33	1009	6.92	-121.9	15.09	" " "
11:51	3.0L	3.900	-	0.46	992	6.77	-104.2	15.36	" " "
11:54	3.5L	3.900	-	0.45	1017	6.84	-110.7	15.29	" " "
11:57	4.0L	3.900	-	0.46	992	6.82	-106.1	15.37	" " "
12:00	4.5L	3.900	-	0.48	979	6.77	-97.8	15.57	" " mod turbidity.
									→ sample collected.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QC110 (dup) QC210 (trip)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	1 & 8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		QC110 QC210 general site.
						1	x $Cr6^+$		
						1	x inorganics		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
	25/6/25		

Project Manager Signature | Date

Distribution: Project Central File

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FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW196
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	25/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event**	(circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 25/6/25	Bore Radius (mm): –	Chem Kit Serial No.: 9829-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.099	Screen Interval (m): –	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.03	Casing Radius (mm): 50	Corrected Redox: Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/stick-up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☑ Retrieved				Parameters
Calculated bore volume (L): –	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 4.0L.		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:03	0.0L	2.099	–	1.96	927	7.31	-29.4	14.01	NO, brown, H turb.
15:06	0.5L	2.099	–	0.31	908	6.85	-17.4	14.04	NO, brown, H turb.
15:09	1.0L	2.099	–	0.15	908	6.72	-12.9	14.05	" " M-H turb.
15:12	1.5L	2.099	–	0.11	911	6.61	-8.7	13.88	" " M turb.
15:15	2.0L	2.099	–	0.12	913	6.59	-9.1	14.01	" " "
15:18	2.5L	2.099	–	0.18	916	6.57	-8.8	14.09	" brown/yellow L-M turb.
15:21	3.0L	2.099	–	0.22	905	6.54	-7.5	13.74	" brown/yellow "
15:24	3.5L	2.099	–	0.24	895	6.52	-7.1	13.37	" yellow. L turb.
15:27	4.0L	2.099	–	0.25	899	6.51	-6.9	13.45	" " "
									→ sample collected
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
						1	x Cr6+		
						1	x Inorganics		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
RB	25/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW121
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	18/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.094	Screen Interval (m): -	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.02	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 4.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:45	0.0L	3.11	-	2.09	996	7.61	257.7	14.22	NO, slightly brown, low Turb.
13:49	0.5L	3.173	-	0.52	979	7.01	254.1	14.77	NO, " " L Turb.
13:53	1.0L	3.193	-	0.46	968	6.95	250.9	14.55	" " " "
13:57	1.5L	3.215	-	0.43	904	6.90	247.6	14.43	" " "
14:01	2.0L	3.230	-	0.51	848	6.86	245.1	14.39	" slightly brown to clear, L Turb.
14:05	2.5L	3.244	-	0.57	842	6.85	247.7	14.39	" " "
1409	3.0L	3.257	-	0.58	842	6.84	249.1	14.32	" " "
14:13	3.5L	3.265	-	0.55	938	6.83	251.2	14.13	" " "
14:17	4.0L	3.268	-	0.56	845	6.82	252.5	13.95	" ~~clear~~, ~~BF~~ No turb, ~~brown~~ yellow
									→ Sample collected.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		Downhole parameters w/ 9829-06 HANNA (25/6/25)
				1	x500mL pFAS	1	x60mL Cr6+		pH: 6.94
						1	x 60mL 140 anions		ORP: 33.3
									mg/LDO: 0.56
									E.C.: 929
									temp: 15.91

Approval and Distribution

Fieldwork Staff Signature _____ Date _____ Checker Name and Signature _____ Date _____

Project Manager Signature _____ Date _____ **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW102
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	18/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.427	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.49	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 5.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:31	0.0L	~~2.427~~ 2.427	-	3.33	1412	7.00	250.4	15.61	NO, light brown to grey, H turb.
14:35	1.0L	2.427	-	0.41	1438	6.78	254.2	16.93	NO, light grey, L-M turb.
14:39	2.0L	2.427	-	0.35	1438	6.77	255.3	16.76	NO, light grey to clear, L-No turb.
14:53	3.0	2.427	-	0.34	1451	6.76	256.7	16.87	" clear, NO Turb.
14:56	4.0	2.427	-	0.35	1447	6.75	257.5	16.95	" " "
14:59	5.0	2.427	-	0.35	1437	6.76	256.7	16.91	" " "
									→ sample collected
26/06/25		14:50	-	0.4	1404	6.76	62.4	17.05	PARAMETERS ON 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)	X	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	Parameters collected w/ 9829-08 on 26/6/25
						1	x60ml Cr6+	DO mg/L:
						1	x60ml inorganics	EC:
								PH:
								ORP:
								temp:

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW148
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	19/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.948	Screen Interval (m): -	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.90	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (flat/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 6.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:43	0.0L	2.948	-	6.05	1475	7.09	198.5	14.78	NO, dark grey, M-H turb, suspended black sediment
11:48	1.0L	2.999	-	0.34	1407	6.73	180.2	15.54	NO, grey, L-M turb, suspended black sediment
11:53	2.0L	2.98	-	0.34	1385	6.69	171.6	15.45	" " " "
11:58	3.0L	3.005	-	0.35	1314	6.59	164.2	15.77	" " ~~black~~ L turb. "
12:03	4.0L	3.005	-	0.31	1302	6.56	156.2	16.05	" " " "
12:08	5.0L	3.003	-	0.31	1305	6.55	149.5	16.30	" " NO turb "
12:13	6.0L	3.005	-	0.31	1306	6.56	142.4	16.40	" " " NO sediment.
									Sample collected
26/06/25, 14:56	-		—	0.49	1186	6.66	-62.9	16.58	PARAMETERS ON 9829-06 HANNA
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
						1	60mL Cr6+	Redox may be out
						1	60mL inorganics	

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW 122
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	19/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event?** (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.050	Screen Interval (m): -	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.02	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L): 4.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (~~ppm~~ or mg/L)	E.C. (~~mS/cm~~ or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:31	0.0L	3.050	-	4.08	2027	7.14	143.5	14.91	NO, clear, ~~NO turb~~. L- No turb
10:36	0.5L	3.065	-	0.54	1394	6.70	149.7	15.53	" " , L- NO turb.
10:40	1.0L	3.065	-	0.50	1292	6.66	156.2	16.53	" " "
10:44	1.5L	3.065	-	0.42	1283	6.65	158.9	16.72	" " "
10:47	2.0L	3.065	-	0.40	1283	6.65	161.1	16.66	" " "
10:50	2.5L	3.065	-	0.40	1282	6.65	162.5	16.75	" " "
10:53	3.0L	3.065	-	0.38	1282	6.64	166.2	16.89	" " "
10:56	3.5L	3.065	-	0.40	1281	6.65	170.3	16.73	" " "
10:59	4.0L	3.065	-	0.40	1281	6.64	171.1	16.83	" " "
									→ Sample collected
26.06.25_15:01	—		—	0.42	1201	6.71	-54	17.92	PARAMETER 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)	1	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		Redox probe may be out.
						1	x60 mL Cr6+		
						1	x60 mL inorganic		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
CL	19/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW152
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	Sample Date:	19/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	Well Development or (Well Sampling Event?) (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 2.175	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.58	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic) stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO)	Parameter method: ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 5.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
9:35	0.0	2.175	-	4.65	9888	7.18	144.6	15.20	NO, yellow, ~~clear~~, NO turb.
9:39	0.5	2.180	-	0.59	7363	6.78	96.4	14.95	Pause to solve airbubbles in Probe
9:42	1.0	2.180	-	1.74	7504	6.79	86.9	15.07	NO, yellow, NO turb.
9:45	1.5	2.181	-	1.44	7436	6.77	81.9	15.11	" " "
9:48	2.0	2.182	-	1.00	7318	6.76	77.8	15.17	" " "
9:51	2.5	2.183	-	0.75	7210	6.76	71.4	15.26	" " "
9:54	3.0	2.181	-	0.62	7247	6.78	71.5	15.07	" " "
9:57	3.5	2.181	-	0.54	7277	6.77	71.4	15.01	" " "
10:00	4.0	2.181	-	0.47	7168	6.76	66.9	15.14	" " "
10:03	4.5	2.181	-	0.41	6976	6.76	65.0	15.41	" " "
10:06	5.0	2.181	-	0.39	6840	6.80	65.2	15.13	" " "
									→ sample collected.
26/06/25	15:10			0.69	7825	6.89	-118.9	16.26	PARAMETERS ON HANNA 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		Redox probe may be out.
						1	x60mL Cr6t		
						1	x60mL inorganics		

Approval and Distribution

EL	19/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	RN2
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	18/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or (Well Sampling Event)? (circle)**	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.167	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.40	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (flat/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): H6X	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 6.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
9:08	0.0L	3.307	-	1.04	4090	7.06	237.9	15.96	NO, brown, M turb, suspended sediment
9:12	1.0L	3.459	-	0.0	3821	7.01	221.6	16.59	" " "
									Pause to solve DO readings.
9:26	2.0L	3.431	-	0.70	3743	7.01	209.6	17.26	NO, brown, M TURB, SUspended sediment
9:31	3.0L	3.565	-	0.75	3825	6.99	207.4	17.39	NO, yellow/brown, L Turb.
9:36	4.0L	3.640	-	0.80	3908	6.98	203.2	17.53	NO, yellow, L turb.
9:40	5.0L	3.751	-	0.78	3918	6.98	202.2	17.55	" " "
9:44	6.0L	3.810	-	0.76	3927	6.99	203.5	17.55	" " "
									→ Sample collected.
26/06/25	15:32	—	-	0.46	2961	7.41	-149.8	17.59	PARAMETER HANNA 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
						1	x60ml $Cr6^+$		
						1	x60ml inorganics		

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	TW02
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	3240 17/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information				Parameter Info.		Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	17/6/25	Bore Radius (mm):	-	Chem Kit Serial No.:	9829-08	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	3.472	Screen Interval (m):	-	Chem Kit Model:	HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):		Casing Radius (mm):	50	Corrected Redox:	Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/stick up):		(The correction to apply is probe dependent)		☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/NO):		Parameter method:	☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	-		☐ Retrieved				Parameters
Calculated bore volume (L):	-	Includes/ excludes bore annulus (circle)		# purge volumes removed:			Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:52	0.0L	3.472	-	0.28	49660	7.09	237.2	13.76	NO, black, H Turb.
15:56	1.0L	3.530	-	13.41	48750	7.23	228.4	14.27	NO, black, M-H turb.
									Pause to solve DO readings
16:04	2.0L	3.590	-	2.67	43710	7.19	235.2	14.14	NO, black, H Turb.
16:07	3.0L	3.539	-	2.22	38.450	7.28	220.7	14.87	" " "
16:18	4.0L	3.519	-	0.47	36.870	7.25	-187.7	13.98	Pause to solve DO readings → jumped
16:21	5.0L	3.521	-	0.40	36610	7.37	-204.7	13.99	to 8.0 mg/DO, swapped WQM to 9829-08
16:24	6.0L	3.523	-	0.39	36100	7.39	-208.0	13.75	NO, light brown, L-M turb.
16:27	7.0L	3.519	-	0.36	35610	7.40	-210.6	13.79	" " "
16:30	8.0L	3.519	-	0.33	35330	7.42	-211.3	13.30	" " "
									→ Sample collected.
26/06/25	15:35		-	0.45	51340	7.15	-179.6	15.35	PARAMETERS ON HANNA 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
1	98		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
				1	x 60 ml Inorg-nics	1	x 60 ml Cr6+	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Grab sample on 18/6/25 w/ 9829-04 WQM

PH: 7.02
ORP: 227.6
DO: 0.67
EC: 54330
Temp:

Approval and Distribution

[signature]	17/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

AECOM

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW55
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	19/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event?** (circle)	

General Bore Information				Parameter Info.		Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	19/6/25	Bore Radius (mm):	-	Chem Kit Serial No.:	9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	2.939	Screen Interval (m):	-	Chem Kit Model:	HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	4.50	Casing Radius (mm):	50	**Corrected Redox:** Y / (N)		☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/stick up):		(The correction to apply is probe dependent)		☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/NO):		**Parameter method:**	☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	HEX		☐ Retrieved				Parameters
Calculated bore volume (L):	-	Includes/ excludes bore annulus (circle)	-	# purge volumes removed:			Total purged volume (L):	5.0L	

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:18	0.0L	2.949	-	2.06	8622	6.79	134.6	16.94	NO, brown to grey, M turb
15:22	1.0L	2.955	-	0.40	9201	6.76	122.4	17.21	NO, grey, L turb.
15:26	2.0L	2.960	-	0.39	9146	6.76	122.3	17.09	NO, grey, L turb.
15:30	3.0L	2.960	-	0.39	9056	6.77	122.4	17.17	" " , NO turb.
15:34	4.0L	2.960	-	0.39	9047	6.77	120.6	17.16	" " "
15:38	5.0L	2.960	-	0.38	9038	6.77	119.6	17.13	" " "
									→ Sample collected.
26/06/25 15:40	—		—	0.61	10110	6.93	-126.2	17.03	PARAMETERS ON HANNA 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
4	4 8		x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic	Eco Risk.
						1	x60ml Cr6+	
						1	x60ml inorganics	Redox may be out

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW192
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	18/6/25

Well Development or Well Sampling Event? (circle)

General Bore Information

Date of GW Level: 18/6/25	Bore Radius (mm): -	Depth to Product (m-pvc): -	Key Type (if applicable): HEX
Depth to GW (m-pvc): 2.729	Screen Interval (m): -	Product Thickness (m): -	Calculated bore volume (L): -
Bore Depth (m-pvc): 5.89	Casing Radius (mm): 50		Includes/ excludes bore annulus (circle)
	Cover Type (flush/stick up):		
	Bore Locked (YES/NO):		

Parameter Info.

- Chem Kit Serial No.: 9829-04
- Chem Kit Model: HANNA
- **Corrected Redox:** Y / (N)
- (The correction to apply is probe dependent)
- **Parameter method:** ☑ Downhole ☐ Retrieved

Decontamination

- ☑ Decontaminated
- ☐ Dedicated
- ☐ Disposable
- ☐ Other (specify)

Sampling Method

- ☐ **Low Flow** Pump rate:
- Intake depth:
- ☐ Bailer ☐ Hydrasleeve
- ☑ Peristaltic Pump ☐ Waterra
- ☐ Other (specify)

Hydrasleeve Info.

- Hydrasleeve Size:
- Hydrasleeve Type:
- Sampling Depth (m-pvc):
- Hydrasleeve Install time:
- Sampling Start Time:

Monitoring sequence followed (number in order):

- Gauging
- Hydrasleeve in
- Hydrasleeve out
- Parameters

# of purge volumes removed:

Total purged volume (L): 6.0L

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
10:12	0.0L	2.73	-	0.95	1333	7.10	230.9	16.31	NO, grey, H turb.
10:15	1.0L	2.729	-	0.62	1280	7.00	225.7	16.53	NO, grey, M turb.
10:21	2.0L	2.729	-	0.56	1274	6.98	216.1	16.49	NO, slight grey colour, L turb.
10:25	3.0L	2.730	-	0.50	1302	6.99	211.0	16.56	" " NO turb.
10:29	4.0L	2.729	-	0.48	1341	7.00	207.6	16.65	NO, clear, NO TURB.
10:33	5.0L	2.730	-	0.46	1360	7.00	205.6	16.78	" " "
10:37	6.0L	2.730	-	0.45	1366	7.00	203.1	16.58	" " "
26/06/25	1545	-	-	0.60	1053	7.16	-118.6	17.12	PARAMETERS ON HANNA 9829-06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:

Field Filtered:	Unfiltered:
1	8

Bottles Collected

4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
				1	x60ml Cr6+
				1	x60ml inorganics

QA/QC Information

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW29A
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	19/6/25
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 19/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.106	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.80	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO): YES	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 4.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:27	0.0L	3.106	-	3.51	2831	7.00	206.3	16.45	NO, grey, M turb.
14:32	1.0L	3.143	-	0.49	3183	6.83	167.1	16.49	NO, grey, L-M turb, lower pump rate
14:37	1.5L	3.134	-	0.43	3226	6.82	149.7	16.28	NO, grey, L turb.
14:42	2.0L	3.135	-	0.41	3243	6.82	138.5	16.28	" " "
14:46	2.5L	3.135	-	0.39	3256	6.81	131.0	16.20	" " L-NO turb.
14:50	3.0L	3.139	-	0.34	3274	6.81	125.9	16.25	" " NO turb.
14:54	3.5L	3.139	-	0.31	3281	6.81	122.2	16.24	" " "
14:58	4.0L	3.139	-	0.32	3285	6.81	121.3	16.20	" " "
									→ sample collected.
26/06/25				0.80	2946	6.88	~~102.7~~ -102.7	16.50	PARAMETERS ON HANNA 9829.06
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)	½	x 60 mL Ferrous	1	x 60 mL metals (HNO_3)
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic
						1	x60mL Cr6+
						1	x60ml inorganics

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Redox may be out

Approval and Distribution

Fieldwork Staff Signature — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

3.19

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW182
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	17/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Well Development or Well Sampling Event? (circle)**	

General Bore Information			Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 17/6/25	Bore Radius (mm): -		Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.545	Screen Interval (m): -		Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.54	Casing Radius (mm): 50		Corrected Redox: Y / (N)	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (flat/stick up):		(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):		Parameter method: ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX		☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -		# purge volumes removed:		Total purged volume (L): 9.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
14:20	0.0L	3.545	-	3.27	1288	6.82	294.4	16.03	NO, dark brown, H Turb.
14:23	1.0L	3.644	-	0.94	1244	6.70	282.1	16.33	NO, " , M turb.
									Pause to solve air bubbles in pump.
14:44	2.0L	3.649	-	0.31	1248	6.70	262.1	16.00	NO, dark brown, H Turb.
14.47	3.0L	3.655	-	6.22	1254	6.70	262.9	16.09	" " "
14:50	4.0L	3.654	-	6.63	1248	6.68	263.2	16,29	" " "
14:54	5.0L	3.654	-	6.07	1245	6.65	264.9	16.32	" " L-M turb
14:57	6.0L	3.654	-	5.96	1244	6.64	265.7	16.33	" " L turb.
~~14:00~~									Pause to solve air bubbles in pump.
15:08	7.0L	3.665	-	0.25	1217	6.64	263.2	16.30	NO, clear, NO turb.
15:11	8.0L	3.665	-	0.18	1214	6.64	262.9	16.15	" " "
15:14	9.0L	3.665	-	0.14	1219	6.66	262.0	16.13	" " "
									Sample collected.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information
Field Filtered:	**Unfiltered:**	1	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
			x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
				1	x60ml inorganics	1	x500ml PFAS	
						1	x Cr6+	

Field Commets

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

parameters collected w/ WQM 9829-06 on 27/6/25 10:12am.
DO mg/L: 0.46 DTW: 3.769
EC: 1091
PH: 7.27
Redox: 72.7
temp: 15.80

Approval and Distribution

Fieldwork Staff Signature	17/6/25 Date	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW178
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	17/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 17/06/25	Bore Radius (mm):	Chem Kit Serial No.: HI9829	☒ Decontaminated	☒ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 0.945	Screen Interval (m):	Chem Kit Model: HANNA	☒ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 4.87	Casing Radius (mm): 50	Corrected Redox: Y / N	☒ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/~~stick up~~):	(The correction to apply is probe dependent)	☐ Other (specify)	☒ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/~~NO~~):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): Hex	☒ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L): 6.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
9:50	0.5L	1.20	-	2.19	6373	7.23	197.6	15.15	no, clear, no turb.
9:54	1.0L	1.20	-	2.00	6360	7.31	225.4	15.88	" " "
10:00	2.0L	1.76	-	2.07	1227	7.42	246.1	15.80	" " "
10:05	3.0L	1.887	-	2.21	1203	7.42	252.1	15.94	" " "
10:09	4.0L	1.969	-	2.22	1172	7.42	256.0	15.90	" " "
10:13	5.0L	1.999	-	2.20	1161	7.41	257.2	15.95	" " "
10:16	6.0L	2.022	-	2.27	1148	7.42	258.2	15.89	" " "
									→ Sample collected.
9:55	-	1.127	-	2.19	877	7.63	94.0	16.54	Parameters collected w/ WQM 9829-06 on 27/5/26
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
						2	x 60ml plastic GT6+		
						1	x 60ml preserved inorganics		

Approval and Distribution

Th	17/6/25		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW80
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	18/6/25
						Well Development or (Well Sampling Event?) (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	**Monitoring sequence followed (number in order):**
Depth to GW (m-pvc): 0.854	Screen Interval (m): -	Chem Kit Model: HEX	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 1.90	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (flat/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES) NO:	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
15:29	0.0L	0.854	-	4.63	35520	7.55	247.5	13.02	NO, grey/brown, L-M turb.
15:33	1.0L	0.857	-	4.09	37450	7.11	241.4	13.24	NO, slightly grey/clear, L- No turb.
15:37	2.0L	0.873	-	3.80	37100	7.34	235.6	13.29	NO, clear, NO Turb.
15:41	3.0L	0.875	-	3.78	37190	7.34	231.7	13.54	" " "
15:45	4.0L	0.865	-	3.79	37390	7.34	230.7	13.25	" " "
15:49	5.0L	0.875	-	3.84	37690	7.35	229.0	13.21	" " "
15:53	6.0L	0.885	-	3.73	37270	7.33	228.0	13.40	" " "
									→ Sample collected.
9:51	-	1.109	-	4.10	30160	7.28	126.3	13.60	parameters collected w/ WQM 9829-06 on 27/6/25
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
						1	x 60ml Cr6+	
						1	x 60ml inorganics	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature	18/6/25 Date	Checker Name and Signature	Date
Project Manager Signature	Date	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW159
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	20/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 20/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.54	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 7.57	Casing Radius (mm): 50	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
9:09	0.0	3.630	-	5.50	1502	8.21	198.4	15.11	NO, clear, NO Turb.
9:14	1.0L	3.625	-	1.49	1065	7.39	199.1	15.51	" " "
9:19	2.0L	3.627	-	0.66	1017	7.31	196.8	15.55	" " "
9:24	3.0L	3.627	-	0.50	1003	7.26	190.3	15.63	" " "
9:27	3.5	3.627	-	0.48	1000	7.26	191.7	15.66	" " "
9:30	4.0	3.627	-	0.46	1012	7.25	191.6	15.72	" " "
9:33	4.5	3.627	-	0.36	1010	7.24	190.2	15.91	" " "
9:37	5.0	3.627	-	0.33	991	7.24	198.1	15.95	" " "
									→ sample collected.
9:36	-	3.60	-	0.62	915	7.37	78.4	15.78	parameters collected w/ WQM 9829-06 on 27/6/25
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Comments
Field Filtered:	Unfiltered:	6	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
4	8		x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	1	x 250 mL Plastic	Redox may be out.
						1	x60ml Cr6+	
						1	x60ml inorganics	Eco Rich Suite.

Approval and Distribution

Fieldwork Staff Signature: th — Date: 20/6/25 — Checker Name and Signature: — Date:

Project Manager Signature: — Date: — Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW120A
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	25/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 25/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9929-06	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 7.988	Screen Interval (m): -	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 9.31	Casing Radius (mm): 50	Corrected Redox: Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick-up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): H&X	☑ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L): -		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
13:59	-	7.988	-	3.22	3130	8.807	36.93	13.80	No, grey, & turb. samples collected excluding
14:20	-	8.310	-	-	-	-	-	-	all bottles collected but a big green TDS
14:33	-	8.425	-	-	-	-	-	-	all bottles collected including green TDS
16:28	-	8.395	-	-	-	-	-	-	
9:11	-	8.272							gauged on 27/6/25.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information	Field Commets
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		no purging occured. due to low water level.
				1	x PFAS	1	x Cr6+		
						1	x inorganics		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
	25/6/25		

Project Manager Signature — Date — Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	BG1
Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Sample Date:**	17/6/25
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM (TG) LL	**Well Development or (Well Sampling Event)? (circle)**	

General Bore Information				Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	17/6/25	Bore Radius (mm):	-	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	2.864	Screen Interval (m):	-	Chem Kit Model: HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	3.45	Casing Radius (mm):	50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	-	Cover Type (gatic/stick up):		(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m):	-	Bore Locked (YES/NO):		**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable): HEX		☐ Retrieved				Parameters
Calculated bore volume (L):	-	Includes/ excludes bore annulus (circle)	-	# purge volumes removed:		Total purged volume (L): 6.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:11	0.5L	2.874	-	6.79	1872	7.07	263.4	13.58	NO, clear, NO Turb
11:16	1.0L	2.883	-	5.85	1888	6.95	266.0	13.88	" " "
11:21	2.0L	2.889	-	4.94	1915	6.92	269.4	14.07	" " "
11:23	3.0L	2.893	-	4.36	1927	6.91	270.8	14.07	" " "
11:26	4.0L	2.896	-	3.99	1932	6.90	271.8	14.15	" " "
11:29	5.0L	2.90	-	3.67	1944	6.90	272.8	14.10	" " "
11:32	6.0L	2.901	-	3.47	1941	6.90	273.1	14.19	" " "
									Sample collected.
~~9:17~~	~~-2~~	~~3.265~~	-		~~5~~	~~[illegible]~~	~~[illegible]~~	~~12.28~~	
9:17		3.265		6.48	1	6.82	1218	12.30	parameters collected w/ WQM 9829-06 on 27/6/25
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	x 60ml [illegible]	1	x 500ml PFAS		
						1	x 60ml Cr 6+		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
TG	17/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW194
Project Name:	Mac Point	Project Number:	60693007 Task 12	PM Name:	RC	Sample Date:	17/6/25
Client:	Mac Point	Project Location:	8 Evans Street, Hobart, Tas	Fieldwork Staff:	RB, MG, EM, TG, LL	Well Development or Well Sampling Event? (circle)	

General Bore Information				Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level:	17/6/25	Bore Radius (mm):	–	Chem Kit Serial No.:	9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	2.889	Screen Interval (m):	–	Chem Kit Model:	HANNA	☑ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	5.96	Casing Radius (mm):	50	Corrected Redox: Y / N		☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	–	Cover Type (flat/stick up):		(The correction to apply is probe dependent)		☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	–	Bore Locked (YES/NO):		Parameter method: ☑ Downhole			☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
		Key Type (if applicable):	HEX	☐ Retrieved					Parameters
Calculated bore volume (L):	–	Includes/ excludes bore annulus (circle)	–	# purge volumes removed:		Total purged volume (L):	6.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
12:05	0.0L	2.897	–	3.84	2211	7.14	274.4	14.01	NO, grey, M-H turb.
12:08	1.0L	2.897	–	3.03	2096	6.86	271.7	14.50	NO, grey, M turb.
12:11	2.0L	2.897	–	3.42	2080	6.83	272.8	14.30	" " "
12:14	3.0L	2.899	–	3.24	2088	6.83	274.1	14.27	" " "
12:17	4.0L	2.900	–	3.32	2085	6.82	275.3	14.30	" " "
12:20	5.0L	2.901	–	3.51	2083	6.81	276.1	14.26	" , grey, L-M turb.
12:23	6.0L	2.903	–	3.52	2087	6.80	277.0	14.19	" , grey, L turb.
									sample collected.
9:25	–	2.290	–	2.09	1539	7.10	96.5	14.48	parameters collected w/ qwqm 9829-06 on 27/6/25
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Comments
Field Filtered:	Unfiltered:	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
1	9		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic		
				1	x60ml inorgs	1	x500ml PFAS		
						1	x 60ml CrVI		

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
TG	17/6/25		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

ANZ

FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**PM Name:**	RC	**Bore ID:**	MW191
Client:	Mac Point	**Project Location:**	8 Evans Street, Hobart, Tas	**Fieldwork Staff:**	RB, MG, EM, TG, LL	**Sample Date:**	18/6/25
						Well Development or Well Sampling Event?	(circle)

General Bore Information			Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 18/6/25	Bore Radius (mm): -	Chem Kit Serial No.: 9829-04	☑ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.767	Screen Interval (m): -	Chem Kit Model: HANNA	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.15	Casing Radius (mm): 50	**Corrected Redox:** Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): -	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): -	Bore Locked (YES/NO):	**Parameter method:** ☑ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): HEX	☐ Retrieved				Parameters
Calculated bore volume (L): -	Includes/ excludes bore annulus (circle) -	# purge volumes removed:		Total purged volume (L): 5.0L		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
11:26	0.0L	3.790	-	1.43	1205	7.39	216.2	16.08	NO, light grey, H turb.
11:32	1.0L	4.035	-	0.40	1175	7.17	205.7	16.18	NO, light grey, L-M turb.
11:37	2.0L	4.184	-	0.37	1141	7.06	206.7	16.23	NO, light grey, L turb.
11:42	3.0L	4.300	-	0.38	1134	7.05	208.0	16.21	NO, light grey, L turb.
11:47	4.0L	4.428	-	0.38	1137	7.03	208.9	16.35	NO, light grey to clear, L turb.
11:52	5.0L	4.575		0.39	1136	7.03	211.8	16.31	" clear "
									→ Sample collected.
9:05	-	3.803	-	0.92	1145	7.00	83.4	16.66	parameters collected w/ WQM 9829-06 on 27/5/25
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected					QA/QC Information
Field Filtered:	**Unfiltered:**	4	x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	
1	8		x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	1	x 250 mL Plastic	
						1	x 60 ml Cr6+	
						1	x 60 ml inorganic	

Field Comments

Bore volume calculation, bore condition, fate of tubing, redox correction etc.

Approval and Distribution

Fieldwork Staff Signature: EM	Date: 18/6/25	Checker Name and Signature:	Date:
Project Manager Signature:	Date:	**Distribution:** Project Central File	

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	17.6.2025
Project Number:	60693007 Task 12	Location ID:	SV31
Weather Conditions:	DRY, OVERCAST		
Sampled / Recorded By:	Richard Bowers		

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-18	-18	1	PASS
Shut In - Sample Train	-18	-18	1	PASS
Shut In - Sample Train + Canister	-18	-18	1	PASS

~~Helium Test~~ ISOPROPANOL TEST

Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):	1.0	1.2	1.1	1.3	1.4

Ave ~~He~~ ISOPROPANOL conc. in shroud:	100 ppm (PID)	Comments	100% ISOPROPANOL PLACED IN BUCKET UNDER SHROUD.

PID = MINIRAE 3000 WITH 10.6eV LAMP. NO ISOPROPANOL CONVERSION FACTOR APPLIED TO PID RESULTS.

WELL PURGING

Vol removed using hand pump:	4L	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	700 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	15.2	PID (ppm)	13.7
CH_4 (%)	2.8	CH_4 (%)	2.8
CO_2 (%)	14.3	CO_2 (%)	15.1
O_2 (%)	1.1	O_2 (%)	0.2
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	0	CO (ppm)	1
Balance (%)	81.0	Balance (%)	82.0
VOC IN SHROUD	140	VOC IN SHROUD / SAMPLE TRAIN	80ppm

SAMPLE COLLECTION

		Serial ID / ~~Flow Controller ID~~	SG1005
Primary Sample ID	SV31	Primary Canister ID	1051
QC Sample ID	—	QC Canister ID	—
QC Sample ID	—	QC Canister ID	—
Start Time	15:57	Finish Time	16:08
Initial Vacuum ("Hg)	-29 "Hg	Final Vacuum ("Hg)	-6 "Hg

Max Down Well Pressure: 0 "Hg

COMMENTS: FLOW = 0 L/M, RELATIVE PRESSURE 0.14 mb
BAROMETRIC PRESSURE 1005 mb

ISOPROPANOL IN BUCKET UNDER SHROUD DURING SAMPLING. AVG PID = 95ppm
AVG DOWN-HOLE PRESSURE = 0 "Hg DURING PURGING + SAMPLING.

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	18.6.2025
Project Number:	60693007 Task 12	Location ID:	SV36
Weather Conditions:	DRY, SUNNY		
Sampled / Recorded By:	RICHARD BOWEN		

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	~18	~18	1	PASS
Shut In - Sample Train	~18	~18	1	PASS
Shut In - Sample Train + Canister	N/A	N/A	N/A	DIRECT - SAMPLE CANNISTER PORT (NO VALVE)

Helium Test ISOPROPANOL TEST

Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
VOC In-line He conc (ppm):	0	0	0.1	0.1	0.1

VOC Ave He conc. in shroud: ppm	135	Comments	100% ISOPROPANOL-SOAKED CLOTH PLACED IN BUCKET UNDER SHROUD. NO CONVERSION FACTOR APPLIED TO VOC READINGS.

PID = MINIRAE 3000 with 10.6eV LAMP.

WELL PURGING

Vol removed using hand pump:	45	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	750mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	0.1	PID (ppm)	0.1
CH_4 (%)	0.1	CH_4 (%)	0.1
CO_2 (%)	0.0	CO_2 (%)	0.0
O_2 (%)	20.3	O_2 (%)	20.5
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	0	CO (ppm)	0
Balance (%)	79.6	Balance (%)	79.4
VOC IN SHROUD	(200 ppm)	VOC IN SHROUD	(140 ppm)

SAMPLE COLLECTION

		~~Serial ID~~ SAMPLE TRAIN ID	SC1016
Primary Sample ID	SV36	Primary Canister ID	SC1061
QC Sample ID	-	QC Canister ID	-
QC Sample ID	-	QC Canister ID	-
Start Time	10:02 AM	Finish Time	10:20 AM
Initial Vacuum ("Hg)	-29 "Hg	Final Vacuum ("Hg)	-5 "Hg

Max Down Well Pressure: 0 "Hg

COMMENTS: OPEN SEWER PIT APPROX 10m NORTH-WEST OF SV36. ▶ VOC CONCENTRATION APPROX 2-4 ppm AT SEWER PIT GATIC VENT HOLES. SEWER GASES NOTED IN AMBIENT AIR

BAROMETRIC PRESSURE = 1017 mb
RELATIVE PRESSURE IN BORE = 0.0 mb
FLOW = 0.0 L/HOUR.

AVG DOWN-HOLE PRESSURE DURING PURGING + SAMPLING = 0 "Hg

AVG VOC CONC IN SHROUD DURING SAMPLING = 160 ppm.

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date: 18.6.2025
Project Number:	60693007 Task 12	Location ID: SV32
Weather Conditions:	DRY. SUNNY	
Sampled / Recorded By:	RICHARD BOWDEN	

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-16	-16	1	PASS
Shut In - Sample Train	-16	-16	1	PASS
Shut In - Sample Train + Canister	-16	-16	1	PASS

~~Helium Test~~ ISOPROPANOL TEST

Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
VOC In-line ~~He~~ conc (ppm):	9.1	8.9	9.2	9.1	8.5

VOC Ave ~~He~~ conc. in shroud:	145 ppm	Comments	100% ISOPROPANOL-SOAKED CLOTH PLACED IN BUCKET UNDER SHROUD. NO CORRECTION FACTOR APPLIED.

PID = MINIRAE 3000 WITH 10.6eV LAMP.

WELL PURGING

Vol removed using hand pump:	45	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	500	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	11.3	PID (ppm)	12.8
CH_4 (%)	15.7	CH_4 (%)	15.5
CO_2 (%)	9.9	CO_2 (%)	10.0
O_2 (%)	0.5	O_2 (%)	0.6
H_2S (ppm)	1	H_2S (ppm)	1
CO (ppm)	4	CO (ppm)	3
Balance (%)	73.9	Balance (%)	73.9
VOC IN SHROUD	200 ppm	VOC IN SHROUD	170 ppm

SAMPLE COLLECTION

		Serial ID SAMPLE TRAIN ID	SG1020
Primary Sample ID	SV32	Primary Canister ID	SC3704
QC Sample ID	—	QC Canister ID	—
QC Sample ID	—	QC Canister ID	—
Start Time	15:06	Finish Time 15:35	
Initial Vacuum ("Hg)	-29 "Hg	Final Vacuum ("Hg)	-5 "Hg

Max Down Well Pressure: 0 "Hg

COMMENTS: BAROMETRIC PRESSURE = 1018 mb, RELATIVE BORE PRESSURE = 0 mb
FLOW = 0 L/HOUR. AVG VOC CONC IN SHROUD DURING SAMPLING = 190 ppm
AVG DOWN-HOLE PRESSURE DURING PURGING + SAMPLING = 0 "Hg

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	18.6.2025
Project Number:	60693007 Task 12	Location ID:	SV33
Weather Conditions:	DRY, SUNNY.		
Sampled / Recorded By:	RICHARD BOWERS		

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-17	-17	1	PASS
Shut In - Sample Train	-17	-17	1	PASS
Shut In - Sample Train + Canister	-18	-18	1	PASS

~~Helium Test~~ ISOPROPANOL TEST

Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line ~~He~~ VOC conc (ppm):	0.6	0.6	0.5	0.5	0.5

Ave ~~He~~ VOC conc. in shroud:	170 ppm	Comments	100% ISOPROPANOL-SOAKED CLOTH IN BUCKET UNDER SHROUD. NO CORRECTION FACTOR APPLIED.

PID = MINIRAE 3000 WITH 10.6eV LAMP.

WELL PURGING

Vol removed using hand pump:	48mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	500mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	0.6	PID (ppm)	1.6
CH_4 (%)	0.1	CH_4 (%)	0.1
CO_2 (%)	5.9	CO_2 (%)	6.3
O_2 (%)	9.5	O_2 (%)	9.2
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	2	CO (ppm)	1
Balance (%)	84.5	Balance (%)	84.5
VOC IN SHROUD (ppm)	200 ppm	VOC IN SHROUD	160 ppm

SAMPLE COLLECTION

		~~Serial ID~~ SAMPLE TRAIN ID	SC1019
Primary Sample ID	SV33	Primary Canister ID	SC1102
QC Sample ID	-	QC Canister ID	-
QC Sample ID	-	QC Canister ID	-
Start Time	16:11	Finish Time	16:33
Initial Vacuum ("Hg)	-29 "Hg	Final Vacuum ("Hg)	-4 "Hg

Max Down Well Pressure: 0 "Hg

COMMENTS: BAROMETRIC PRESSURE = 1019 mb, RELATIVE BAG PRESSURE = 0.02 mb
FLOW = 0 L/HOUR

AVERAGE VOC CONCENTRATION IN SHROUD DURING SAMPLING = 180 ppm
AVERAGE DOWN-HOLE PRESSURE DURING PURGING + SAMPLING = 0 "Hg

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	20.6.2025
Project Number:	60693007 Task 12	Location ID:	SV35
Weather Conditions:	DRY, OVERCAST		
Sampled / Recorded By:	RICHARDS BOWENS		

BORE DEPTH = 2.5m + 0.8m TUBING ABOVE GROUND. (3.3m TOTAL) BORE VOL = 3.3 x 15 = 49.5mL

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-16	-16	30 SEC	PASS
Shut In - Sample Train	-16	-16	30 SEC	PASS
Shut In - Sample Train + Canister (SAMPLE CHAIN + FLOW CONTROLLER)	-16	-16	30 SEC	PASS
	-28	-28	30 SEC	PASS

Helium Test ISOPROPANOL TEST

Time Elapse (mins)	Initial (PRE-ISOPROPANOL)	1 min	3 min	5 min	Stabilised
In-line ~~He~~ VOC conc (ppm):	43.2	20.1	16.5	16.9	16.9

~~Ave~~ VOC ~~He~~ conc. in shroud:	START 150 PPM	END 98	Comments	100% ISOPROPANOL PLACED ON CLOTH IN BUCKET UNDER SHROUD. SWABS PLACED ON CLOTH TO FLUSH.

WELL PURGING

Vol removed using hand pump:	45 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	700 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	12.8	PID (ppm)	37.4
CH_4 (%)	5.5	CH_4 (%)	5.4
CO_2 (%)	3.4	CO_2 (%)	3.4
O_2 (%)	0.3	O_2 (%)	0.2
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	2	CO (ppm)	2
Balance (%)	90.8	Balance (%)	91.1
VOC IN SHROUD	167 PPM	VOC IN SHROUD	108 PPM

SAMPLE COLLECTION

		~~Serial ID~~ SAMPLE CANISTER ID	SC00010
Primary Sample ID	SV35	Primary Canister ID	SC3700
QC Sample ID	—	QC Canister ID	—
QC Sample ID	—	QC Canister ID	—
Start Time	11:48 AM	Finish Time	12:00 PM
Initial Vacuum ("Hg)	-28 "Hg	Final Vacuum ("Hg)	-5 "Hg

Max Down Well Pressure: 0 "Hg

COMMENTS: ATMOSPHERIC PRESSURE = 1021, ROUNTREE BORE PRESSURE = -0.09mb
FLOW = 0 L/H, LFG MOTOR PUMP FLOW RATE = 710mL/min (CALIBRATION SHEET).

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date: 23/06/25
Project Number:	60693007 Task 12	Location ID: SV46
Weather Conditions: BARO: 1004 mb	MOSTLY CLOUDY, DRY	
Sampled / Recorded By:	LAURA LEE	

BORE DEPTH: 1.5 m + 1.6 m (TUBING ABOVE GROUND) = 3.1 m (TOTAL) BORE VOL = 3.1 x 15 = 46.5 mL

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-17	-17	30 sec	PASS
Shut In - Sample Train	-18	-18	30 sec	PASS
Shut In - Sample Train + Canister	-29	-29	30 sec	PASS

Helium Test	NO HELIUM USED				
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave VOC conc. in shroud:	START 136 PPM	Comments	

WELL PURGING

Vol removed using hand pump:	(4x HAND)	24 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	(60 sec)	710 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	0.3 ~~PPM~~ PPM	PID (ppm)	0.0
CH_4 (%)	6.4	CH_4 (%)	6.3
CO_2 (%)	11.5	CO_2 (%)	11.5
O_2 (%)	0.2	O_2 (%)	0.0
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	3	CO (ppm)	4
Balance (%)	82.0	Balance (%)	82.2
VOC IN SHROUD INITIAL	113 PPM	VOC IN SHROUD FINAL	110 PPM

SAMPLE COLLECTION

Primary Sample ID	SC 3610	Primary Canister ID	SC 3610
~~QC Sample~~ ID TRAIN	SG 1014	~~QC Canister~~ ID TRAIN	SG 1014
QC Sample ID	-	QC Canister ID	-
Start Time	12:55	Finish Time	13:12
Initial Vacuum ("Hg)	-28 " Hg	Final Vacuum ("Hg)	-6 " Hg

Max Down Well Pressure: 04 Hg

COMMENTS: ~~AMBIENT~~ ATMOSPHERIC PRESSURE: 1004 mb, RELATIVE BORE PRESSURE: 0.02 mb
LFG PUMP FLOW RATE @ 710 mL/MIN FLOW = -0.0 L/h

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date: 24/06/25
Project Number:	60693007 Task 12	Location ID: SV 40
Weather Conditions:	DRY, CLOUDY	
Sampled / Recorded By:	LAURA LEE	

BORE DEPTH = 1 + 0.62 = 1.62 m 1.62 x 15 = 24.3 ml (BOREVOL)

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-15	-15	30 SEC	PASS (HP 3007)
Shut In - Sample Train	-30	-30	30 SEC	PASS
Shut In - Sample Train + Canister	-30	-30	30 SEC	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					
Ave He conc. in shroud:			Comments		

WELL PURGING

Vol removed using hand pump:	50 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM: 30 mL	355 ml	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS	Initial		Final
PID (ppm)	0.0	PID (ppm)	0.0
CH_4 (%)	0.0	CH_4 (%)	0.0
CO_2 (%)	1.4	CO_2 (%)	1.3
O_2 (%)	18.7	O_2 (%)	19.1
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	0	CO (ppm)	0
Balance (%)	80.0	Balance (%)	79.6
VOC SHROUD	106 ppm	VOC SHROUD	106 ppm
SAMPLE COLLECTION		Serial ID	
Primary Sample ID	SC 18433	Primary Canister ID	SC 18433
~~QC Sample~~ ID TRAIN	SG 1011	~~QC Canister~~ ID TRAIN	SG-1011
~~QC Sample ID~~	-	~~QC Canister ID~~	-
Start Time	14:43	Finish Time	15:10
Initial Vacuum ("Hg)	-29	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0 "Hg

COMMENTS: RELATIVE PRESSURE: 0.02 mb BARO: 984 mb
FLOW: 0.2 (l/h) LFG FLOW RATE: 710 ml/min

26/06/25 FLOW @ 0.1 (l/h) 2 min AVERAGE

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date: 25/06/25
Project Number:	60693007 Task 12	Location ID: SV41
Weather Conditions:	RAIN,	
Sampled / Recorded By:	LAURA LEE	

BORE DEPTH: 1 + 0.48 = 1.48 m BORE VOL = 1.48 x 15 = 22.2 ml

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-15	-15	30 sec	PASS (HP 3007) SGS SUPPLIED
Shut In - Sample Train	-15	-15	30 sec	PASS
Shut In - Sample Train + Canister	-29		30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					
Ave He conc. in shroud:			Comments		

WELL PURGING

Vol removed using hand pump:	50 ml	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM: 45 sec	532.5 ml	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	470.6	PID (ppm)	481.7
CH_4 (%)	2.4	CH_4 (%)	1.5
CO_2 (%)	0.2	CO_2 (%)	0.2
O_2 (%)	17.4	O_2 (%)	18.6
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	27	CO (ppm)	16
Balance (%)	80.0	Balance (%)	79.7
VOC SHROUD	113.0	VOC SHROUD	110

SAMPLE COLLECTION

		Serial ID	
Primary Sample ID	SC 13616	Primary Canister ID	SC 13616
~~QC Sample~~ ID ~~[illegible]~~ TRAIN	SG 1015	~~QC Canister ID~~ TRAIN	SG 1015
~~QC Sample ID~~	-	~~QC Canister ID~~	—
Start Time	08:51	Finish Time	09:32
Initial Vacuum ("Hg)	-28	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0" Hg

COMMENTS: BARO: 993 mb RELATIVE BORE PRESSURE: 0.02 mb
LFG FLOW RATE: 710 ml/min INTERNAL FLOW: 0.2 (l/h)

26/06/25 GAS000 KENNARD HIRE ← FLOW: 0.1 (l/h) 2 min AVERAGE

Environment

AECOM

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	25/06/25
Project Number:	60693007 Task 12	Location ID:	SV 42
Weather Conditions:	DRY, CLOUDY		
Sampled / Recorded By:	LAURA		

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-13	-13	30 sec	PASS (HP 3307 SG PUMP)
Shut In - Sample Train	SG 0074 -18 SG 1033 -15	SG 0074 -18 SG 1033 -15	30 sec	PASS
Shut In - Sample Train + Canister	SG 0074 -28 SG 1033 -26	SG 0074 -28 SG 1033 -26	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:	50 ml	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM: 45 sec	532.5 ml	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	0.6	PID (ppm)	0.3
CH_4 (%)	0.0	CH_4 (%)	0.0
CO_2 (%)	3.1	CO_2 (%)	3.1
O_2 (%)	8.1	O_2 (%)	8.2
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	0	CO (ppm)	0
Balance (%)	88.8	Balance (%)	88.7
VOC IN SHROUD	127.6	VOC IN SHROUD	105

SAMPLE COLLECTION

Primary Sample ID (TRAIN SG-0074)	SC 14108	Serial ID	
QC Sample ID (ISO) SHROUD (TRAIN SG1033)	SC 1083	Primary Canister ID (TRAIN SG0074)	SC 14108
~~QC Sample ID~~		QC Canister ID ISO SHROUD (TRAIN SG1033)	SC 1083
Start Time	10:30	~~QC Canister ID~~	
Initial Vacuum ("Hg)	-26 (SHROUD SAMPLE)	Finish Time	10:39
		Final Vacuum ("Hg)	-6 (FINISH, 10:48)

Max Down Well Pressure: 0" Hg

COMMENTS: RELATIVE: 0.07 mb BARO: 995 mb

FLOW RATE: 0.2 (l/h) IN BORE LFG FLOW RATE: 710 ml/min

TAKING SHROUD SAMPLE QC 600. 250625.

26/06/25 - FLOW RATE: 0.2 (l/h) 2 min AVERAGE

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	25.06.25
Project Number:	60693007 Task 12	Location ID:	SV45
Weather Conditions:	DRY, WINDY		
Sampled / Recorded By:	LAURA LEE		

BORE DEPTH: 2 + 0.74 = 2.74 m / Vol 2.74 x 15 = 41.1 ml

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-15	-15	30sec	PASS
Shut In - Sample Train	-15	-15	30 sec	PASS
Shut In - Sample Train + Canister	-29	-29	30sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					
Ave He conc in shroud:			Comments		

WELL PURGING

Vol removed using hand pump:		50 ml	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	60 sec	710 ml	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS	Initial		Final
PID (ppm)	7.8	PID (ppm)	7.8
CH_4 (%)	0.0	CH_4 (%)	0.0
CO_2 (%)	0.2	CO_2 (%)	0.2
O_2 (%)	5.2	O_2 (%)	6.5
H_2S (ppm)	8	H_2S (ppm)	15
CO (ppm)	>>>>	CO (ppm)	>>>>
Balance (%)	94.7	Balance (%)	93.3
VOC SHROUD	117.3	VOC SHROUD	110.5

SAMPLE COLLECTION			
		Serial ID	
Primary Sample ID	SC19439	Primary Canister ID	SC18439
~~QC Sample ID~~ TRAIN	SG1002	QC Canister ID	SG1002
~~QC Sample ID~~	-	QC Canister ID	-
Start Time	12:10	Finish Time	12:30
Initial Vacuum ("Hg)	-28	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0" Hg

COMMENTS: BORE FLOW: 0.0 mb BARO: 997 mb
LFG FLOW RATE: 710 mb RELATIVE BORE PRESSURE: -0.02 mb

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	27/06/25
Project Number:	60693007 Task 12	Location ID:	SV44
Weather Conditions:	WINDY, SUNNY		
Sampled / Recorded By:	LAURA LEE		

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-16	-16	30 sec	PASS HP 3007
Shut In - Sample Train				
Shut In - Sample Train + Canister				

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:	50 ml	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	WATER IN LINE	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	[redacted]	PID (ppm)	
CH_4 (%)		CH_4 (%)	
CO_2 (%)		CO_2 (%)	
O_2 (%)		O_2 (%)	
H_2S (ppm)		H_2S (ppm)	
CO (ppm)		CO (ppm)	
Balance (%)		Balance (%)	

SAMPLE COLLECTION

		Serial ID	
Primary Sample ID		Primary Canister ID	
QC Sample ID		QC Canister ID	
QC Sample ID		QC Canister ID	
Start Time		Finish Time	
Initial Vacuum ("Hg)		Final Vacuum ("Hg)	

Max Down Well Pressure:

COMMENTS: WATER IN SV44 NOT SAMPLED. IN LINE

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	27/06/25
Project Number:	60693007 Task 12	Location ID:	SV43
Weather Conditions:	WINDY, SUNNY		
Sampled / Recorded By:	LAURA LEE		

BORE DEPTH: 2 m + 47 cm = 2.47 m VOL = 2.47 x 15 = 37.05 ml

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-16	-16	30 sec	PASS HP3007
Shut In - Sample Train	-17	-17	30 sec	PASS
Shut In - Sample Train + Canister	-30	-30	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:	50 ml	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM: 45 sec	492.75	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	84.2	PID (ppm)	60.6
CH_4 (%)	0.0	CH_4 (%)	0.0
CO_2 (%)	0.5	CO_2 (%)	0.5
O_2 (%)	0.3	O_2 (%)	0.3
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	0	CO (ppm)	0
Balance (%)	99.2	Balance (%)	99.1
VOC IN SHROUD	102.9	VOC IN SHROUD	100.3

SAMPLE COLLECTION

		Serial ID	
Primary Sample ID	SC13597	Primary Canister ID	SC13597
~~QC Sample~~ ID TRAIN	SG1033	~~QC Canister~~ ID TRAIN	SG1033
~~QC Sample ID~~	~~DUPL~~	~~QC Canister ID~~	
Start Time	10:21	Finish Time	10:44
Initial Vacuum ("Hg)	-30	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0.1 Hg

COMMENTS: BARO: 1029 mb RELATIVE: 0.00 mb
INTERNAL FLOW: 0.1 (l/h) GA SOD FLOW RATE: 659 ml/min

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	23/06/25
Project Number:	60693007 Task 12	Location ID:	SV 25
Weather Conditions:	WINDY, DRY		
Sampled / Recorded By: LL	LAURA LEE		

BORE DEPTH: 1.6 + 1.8 (TUBING) = 3.4 m TOTAL BORE VOL = 3.4 x 15 = 51 mL

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	–	–	–	PASS (SGS PUMP HP3007)
Shut In - Sample Train	-14	-14	30 sec	PASS
Shut In - Sample Train + Canister	-28	-28	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump: (4 x HAND)	24 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM: 60 sec	710 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	16.4	PID (ppm)	23.4
CH_4 (%)	~~8.4~~ 62.4	CH_4 (%)	62.1
CO_2 (%)	8.4	CO_2 (%)	8.5
O_2 (%)	0.1	O_2 (%)	0.2
H_2S (ppm)	27	H_2S (ppm)	27
CO (ppm)	3	CO (ppm)	3
Balance (%)	29.0	Balance (%)	29.2
VOC IN SHROUD INITIAL	118	VOC IN SHROUD FINAL	105
SAMPLE COLLECTION		Serial ID	
Primary Sample ID	SC 18432	Primary Canister ID	SC 18432
~~QC Sample~~ ID TRAIN	SG1008	~~QC Canister~~ ID TRAIN	SG1008
~~QC Sample ID~~	–	~~QC Canister ID~~	
Start Time	1435	Finish Time	1456
Initial Vacuum ("Hg)	-26	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0 " Hg

COMMENTS: ATMOSPHERIC PRESS: 1004 mb RELATIVE PRESSURE: 0.05 mb
LFG pump FLOW RATE @ 710 mL/MIN FLOW: 0.0 L/m

* TUBING KINKED + H_2O IN GATIC

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	23/06/25
Project Number:	60693007 Task 12	Location ID:	SV07
Weather Conditions:	WINDY, DRY		
Sampled / Recorded By:	U		

BOREDEPTH 1 m to 0.96 m = 1.96 m VOLUME = 29.4 mL (1.96 x 15)

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	—	—	30 SEC	PASS (SGS PUMP MP 3007)
Shut In - Sample Train	- 17	- 17	30 SEC	PASS
Shut In - Sample Train + Canister	- 30	- 30	30 SEC	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					
Ave He conc. in shroud:			Comments		

WELL PURGING

Vol removed using hand pump: (PUMP 1x 50 mL)	50 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM: (60 SEC)	710 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS	Initial		Final
PID (ppm)	0.0	PID (ppm) 0.0	0.0
CH_4 (%)	0.1	CH_4 (%) 0.1	0.1
CO_2 (%)	8.5	CO_2 (%) 8.4	8.4
O_2 (%)	7.6	O_2 (%) 7.8	7.8
H_2S (ppm)	0	H_2S (ppm) 0	0
CO (ppm)	2	CO (ppm) 2	2
Balance (%)	83.9	Balance (%) 83.8	83.8
VOC INITIAL PPM	114	VOC FINAL PPM	107
SAMPLE COLLECTION		Serial ID	
Primary Sample ID	SC13596	Primary Canister ID	SC13596
~~QC Sample~~ ID TRAIN	SG 1025	~~QC Canister~~ ID TRAIN	SG 1025
~~QC Sample ID~~	—	~~QC Canister ID~~	—
Start Time	16:28	Finish Time	14:52
Initial Vacuum ("Hg)	-28	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0 "Hg

COMMENTS: BARO : 1001 mb RELATIVE PRESSURE : -0.07 mb

LFG FLOW RATE @ 710 mL/MIN FLOW : 0.0 L/h

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date: 24.06.25
Project Number:	60693007 Task 12	Location ID: SV 37
Weather Conditions:	CLOUDY, DRY	
Sampled / Recorded By:	LAURA LEE	

SOIL VAPOUR PIN INSTALLED ON CONCRETE SLAB

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	—	—	—	—
Shut In - Sample Train	-28	-18	30 sec	PASS
Shut In - Sample Train + Canister	-28	-28	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:	—	—	→ SOIL VAPOUR PIN *Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	30 sec	355 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS	Initial		Final
PID (ppm)	1.1	PID (ppm)	0.6
CH_4 (%)	0.1	CH_4 (%)	0.1
CO_2 (%)	2.2	CO_2 (%)	2.2
O_2 (%)	16.6	O_2 (%)	16.5
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	2	CO (ppm)	2
Balance (%)	81.1%	Balance (%)	81.3
VOC SHROUD	122 ppm	VOC SHROUD	110 ppm

SAMPLE COLLECTION		Serial ID	
Primary Sample ID	SC13631	Primary Canister ID	SC13631
~~QC Sample ID~~ TRAIN	SG1018	~~QC Canister~~ ID TRAIN	SG1018
~~QC Sample ID~~	-	~~QC Canister ID~~	—
Start Time	8:41	Finish Time	09:10
Initial Vacuum ("Hg)	-28	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0 "Hg

COMMENTS: SVP RELATIVE = -0.02 mb
BARO METER: 989 mb FLOW: 0.0 (l/h) LFG FLOW RATE: 710 mL/min

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	24.06.25
Project Number:	60693007 Task 12	Location ID:	SV38
Weather Conditions:	CLOUDY, DRY		
Sampled / Recorded By:	LAURA LEE		

SOIL VAPOUR PIN ON CONCRETE SLAB

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	—	—	—	—
Shut In - Sample Train	-15	-15	1 min	PASS
Shut In - Sample Train + Canister	-29	-29	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:	—	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	355 ml = 30 sec	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	9.8	PID (ppm)	7.1
CH_4 (%)	1.9	CH_4 (%)	2.1
CO_2 (%)	9.8	CO_2 (%)	9.9
O_2 (%)	0.2	O_2 (%)	0.3
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	3	CO (ppm)	3
Balance (%)	88.1	Balance (%)	87.8
VOC IN SHROUD	116	VOC IN SHROUD	108

SAMPLE COLLECTION

		Serial ID	
Primary Sample ID	SC14157	Primary Canister ID	SC14157
~~QC Sample~~ ID TRAIN	SG1000	~~QC Canister~~ ID TRAIN	SG1000
~~QC Sample ID~~	—	~~QC Canister ID~~	—
Start Time	09:31	Finish Time	09:56
Initial Vacuum ("Hg)	-29	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0" Hg

COMMENTS: SVP RELATIVE: 0.08 mb BARO: 989 mb
FLOW: 0.0 (l/h) LFG FLOWRATE: 710 ml/min

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	24.06.25
Project Number:	60693007 Task 12	Location ID:	SV 34
Weather Conditions:	RAIN, WINDY		
Sampled / Recorded By:	LAURA LEE		

BORE DEPTH : 2.5 + 0.73 : 3.23m (TOTAL) BORE VOL : 3.23 x 15 = 48.45mL

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-22	-22	30 sec	PASS (SGS PUMP HP 3007)
Shut In - Sample Train	-18	-18	30 sec	PASS
Shut In - Sample Train + Canister	-28	-28	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:		50 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	65 sec	710 ml/min	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS	Initial		Final
PID (ppm)	0.0	PID (ppm)	0.0
CH_4 (%)	76.6	CH_4 (%)	77.9
CO_2 (%)	15.5	CO_2 (%)	17.5
O_2 (%)	0.1	O_2 (%)	0.4
H_2S (ppm)	28	H_2S (ppm)	24
CO (ppm)	2	CO (ppm)	0
Balance (%)	7.8	Balance (%)	4.3
VOC IN SHROUD	112.0ppm	VOC IN SHROUD	110 PPM

SAMPLE COLLECTION			
		Serial ID	
Primary Sample ID	SC18238	Primary Canister ID	SG18238
~~QC Sample~~ ID TRAIN	SG1017	~~QC Canister~~ ID TRAIN	SG1017
~~QC Sample ID~~ ?	-	~~QC Canister~~ ID	—
Start Time	11:08	Finish Time	11:24
Initial Vacuum ("Hg)	-28	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0 "Hg

COMMENTS: BARO : 986 mb RELATIVE BORE PRESSURE: 0.03 mb
LFG FLOWRATE : 710 ml/min INTERNAL FLOW: 0.4 (l/h)

⚠ STRONG WIND GUST BLEW AWAY SHROUD @ -18"Hg. PID SHROUD @ 110 ppm

26/06/25 INTERNAL FLOW : 0.0 (l/h) 2 min AVERAGE

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date: 24.06.25
Project Number:	60693007 Task 12	Location ID: SV 18
Weather Conditions: SOME RAIN / DRY, WINDY		
Sampled / Recorded By:	LAURA LEE	

BORE DEPTH : 2 + 88 (TUGE) = 2.88 m TOTAL 2.88 x 15 = 43.2 L

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	-16	-16	30 SEC	PASS (SGS HP 3007)
Shut In - Sample Train	-18	-18	30 SEC	PASS
Shut In - Sample Train + Canister	-28	-28	30 SEC	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					

Ave He conc. in shroud:		Comments	

WELL PURGING

Vol removed using hand pump:		50 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	60 SEC	710 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS

	Initial		Final
PID (ppm)	7.9	PID (ppm)	6.9
CH_4 (%)	17.7	CH_4 (%)	17.6
CO_2 (%)	10.7	CO_2 (%)	10.6
O_2 (%)	0.2	O_2 (%)	0.3
H_2S (ppm)	4	H_2S (ppm)	4
CO (ppm)	1	CO (ppm)	0
Balance (%)	71.4	Balance (%)	71.5
VAC IN SHROUD	115.0		

SAMPLE COLLECTION

Primary Sample ID	SC 1027	Primary Canister ID	SG 1027
~~QC Sample~~ ID TRAIN	SG 1009	~~QC Canister~~ ID TRAIN	SG 1009
~~QC Sample ID~~	—	~~QC Canister ID~~	—
Start Time	12:22	Finish Time	12:32
Initial Vacuum ("Hg)	-28	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0" Hg

COMMENTS: BARO : 984 mb RELATIVE PRESSURE: 0.07 mb
LFG FLOW RATE : 710 ml/MIN FLOW : 0.1 (l/h)

AECOM

Environment

Passivated Canister Sampling Data Sheet

Project Name:	Mac Point	Date:	24/06/25
Project Number:	60693007 Task 12	Location ID:	SV 39
Weather Conditions:	CLOUDY WINDY		
Sampled / Recorded By:	LAURA LEE		

BORE DEPTH: 1 + 0.58 = 1.58 m 1.58 x 15 = 23.7 L (VOLUME OF BORE)

WELL INTEGRITY AND LEAK DETECTION

Test	Initial Pressure ("Hg)	Final Pressure ("Hg)	Time Elapse (mins)	Comments (Pass / Fail)
Hand Pump	- 18	- 18	30 sec	PASS (HP3057)
Shut In - Sample Train	- 17	- 17	30 sec	PASS
Shut In - Sample Train + Canister	-30	-30	30 sec	PASS

Helium Test					
Time Elapse (mins)	Initial	1 min	3 min	5 min	Stabilised
In-line He conc (ppm):					
Ave He conc. in shroud:			Comments		

WELL PURGING

Vol removed using hand pump:		50 mL	*Note: Hand pump purging to be conducted at a rate of 50ml/min*
Vol removed using LFGM:	60 sec	710 mL	*Note: LFGM to be connected to 200mL/min flow restrictor and operated only for 15 seconds to comply with 50ml/min purging condition*

FIELD MEASURED PARAMETERS	Initial		Final
PID (ppm)	0.9	PID (ppm)	0.4
CH_4 (%)	0.0	CH_4 (%)	0.0
CO_2 (%)	10.7	CO_2 (%)	10.7
O_2 (%)	9.1	O_2 (%)	9.3
H_2S (ppm)	0	H_2S (ppm)	0
CO (ppm)	0	CO (ppm)	0
Balance (%)	80.2	Balance (%)	80.1
VOC SHROUD	113	VOC SHROUD	104
SAMPLE COLLECTION		Serial ID	
Primary Sample ID	SC18442	Primary Canister ID	SC18442
~~QC Sample ID~~ TRAIN	SG1027	QC Canister ID	SG1027
~~QC Sample ID~~	—	~~QC Canister ID~~	—
Start Time	13:58	Finish Time	14:19
Initial Vacuum ("Hg)	-29	Final Vacuum ("Hg)	-6

Max Down Well Pressure: 0" Hg

COMMENTS: BARO. 983 mb RELATIVE PRESSURE 0.12 mb
LFG FLOW RATE: 710 ml/min FLOW 0.4 L/h
26/06/25 FLOW 0.0 L/h (2 min AVERAGE)

Appendix I

LNAPL Transmissivity Testing

AECOM

ANZ

FQM - LNAPL Baildown Record

Q4AN(EV)-601-FM1

Project Name:	Mac Point		**Project Number:**	60693007 Task 12	**Well ID:** MW03
Project Location:	8 Evans Street, Hobart, Tas		**Client:**	Mac Point	
PM Name:	RC		**Date:**		
Monitoring Instrument and Serial Number:			**Fieldwork Staff:**	RB, MG, EM, TG, LL	
General Information					
Bore Locked: (Y) N	**Key Type (if applicable):**		**Key No (if applicable):**		**Stickup / Flush:**
Decontamination Status:	X Disposable	☐ Dedicated	☐ Decontaminated		
Weather Conditions					
Rain: —	**Temperature:** 8	**Cloud cover:**	CLOUDY	**Wind direction:** —	**Wind speed:** —
Location conditions:			**Upwind activities:**		
Gauging					
Depth to Product (m-pvc):	1.904		**Well Casing Specific Volume (L/m):**		
Depth to Water (m-pvc):	1.924		**Bailer Dimensions - Length (mm):**		
Pre-test Product Thickness (m):	0.20		**Bailer Dimensions - Diameter (mm):**		
Total Depth of Well (m):			**Volume of Slug/Ball (L):** 0.050 LNAPL		
Depth to Top of Screen (m):			**Number of Balls removed:**		
Depth to Bottom of Screen (m):			**Specific Gravity of LNAPL (if known):** DARK BROWN, MED VISCOSITY		
Well Casing Diameter (mm):	50				

Baildown Test

Date / Time Start: **Method (Bailer Type):**

Clock Time	Elapsed Time	Depth to LNAPL (m)	Depth to Water (m)	Thickness (m)	Comments
10:12:00	0	[illegible]	2.001		
10:12:30	00:30	–	1.998		
10:13:00	0:01:00	–	1.993		
10:13:30	0:01:30	–	1.983		
10:14:00	0:02:00	–	1.975		
10:14:30	0:02:30	–	1.973		
10:15:00	0:03:00	–	1.965		
10:16:00	0:04:00	–	1.955		
10:17:00	0:05:00	–	1.949		
10:18:00	0:06:00	–	1.940		
10:20:00	0:08:00	–	1.928		
10:22:00	0:10:00	–	1.919		
10:27:00	0:15:00	–	1.910		
10:32:00	0:20:00	–	1.910		
10:42:00	0:30:00	–	1.909		
11:12:00	1:00:00	–	1.909		
13:46:00	3:40:00	1.898	1.904		
15:46:00	0:4:10	1.90	1.912		
27/6/25 10:33:00		–	1.925		

Record of cumulative LNAPL/Water Volumes Bailed

Bail Number	Elapsed Time	Total Volume (L)	Water Volume (L)	LNAPL Volume (L)
PERISTALTIC	30 DEC	0.050	0	0.050

Approval and Distribution

Fieldwork Staff Signature	Date	Project Manager Signature	Date

Distribution: Project Central File

AECOM

ANZ

FQM - LNAPL Baildown Record

Q4AN(EV)-601-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**Well ID:**	PW02
Project Location:	8 Evans Street, Hobart, Tas	**Client:**	Mac Point		
PM Name:	RC	**Date:**	26.06.25		
Monitoring Instrument and Serial Number:		**Fieldwork Staff:**	~~RD, MG, EM,~~ TG, LL		

General Information				
Bore Locked: (Y) / N	**Key Type (if applicable):** HEX		**Key No (if applicable):**	**Stickup / Flush:**
Decontamination Status:	☒ Disposable	☐ Dedicated	☐ Decontaminated	
Weather Conditions				
Rain: –	**Temperature:**	**Cloud cover:**	**Wind direction:**	**Wind speed:**
Location conditions:			**Upwind activities:**	

Gauging			
Depth to Product (m-pvc):	2.015	**Well Casing Specific Volume (L/m):**	
Depth to Water (m-pvc):	2.085	**Bailer Dimensions - Length (mm):**	
Pre-test Product Thickness (m):	20 mm	**Bailer Dimensions - Diameter (mm):**	
Total Depth of Well (m):		**Volume of Slug/Ball (L):**	85ml LNAPL
Depth to Top of Screen (m):		**Number of Bails removed:**	1
Depth to Bottom of Screen (m):		**Specific Gravity of LNAPL (if known):**	DARK BROWN, MED VISCOSITY
Well Casing Diameter (mm):	75		

Baildown Test

Date / Time Start: **Method (Bailer Type):**

Clock Time	Elapsed Time	Depth to LNAPL (m)	Depth to Water (m)	Thickness (m)	Comments
09:45:00	–	ND	2.025		
09:45:30	0:00:30	2.03	–		IP COULDN'T DETECT H_2O
09:46:00	0:01:00	2.03	2.032		
09:46:30	0:01:30	2.03	2.032		
09:47:00	0:02:00	2.03	2.032		
09:47:30	0:02:30	2.03	2.032		
09:49:30	0:04:30	2.025	2.03		
09:51:30	0:06:30	2.025	2.03		
09:53:30	0:08:30	2.025	2.03		
09:58:30	0:13:30	2.025	2.03		
10:08:30	0:23:30	2.02	2.04		POSSIBLE SLIME ON PROBE
10:18:30	0:33:30	2.03	2.032		
10:52:00	1:03:00	2.03	2.032		
13:30:00	3:41:00	2.03	2.038		
15:15:00	6:56:00	2.03	2.038		
27/6/25 10:32:00		2.045	2.065		

Record of cumulative LNAPL/Water Volumes Bailed

Bail Number	Elapsed Time	Total Volume (L)	Water Volume (L)	LNAPL Volume (L)
PERISTALTIC	30 SEC	0.085 L	0	0.085

Approval and Distribution

Fieldwork Staff Signature	Date	Project Manager Signature	Date

Distribution: Project Central File

AECOM

ANZ

FQM - LNAPL Baildown Record

Q4AN(EV)-601-FM1

Project Name:	Mac Point	**Project Number:**	60693007 Task 12	**Well ID:**	
Project Location:	8 Evans Street, Hobart, Tas	**Client:**	Mac Point		
PM Name:	RC	**Date:**	20.6.2025		S8
Monitoring Instrument and Serial Number:		**Fieldwork Staff:**	(RB) MG, EM, TG, LL		

General Information

Bore Locked:	(Y) / N	**Key Type (if applicable):**	ALLEN KEY	**Key No (if applicable):**	8 mm
Stickup / Flush:					
Decontamination Status:	☒ Disposable	☐ Dedicated	☐ Decontaminated		

Weather Conditions

Rain:	0 mm	**Temperature:**	6°C	**Cloud cover:**	YES	**Wind direction:**	NW	**Wind speed:**	15 Km/h
Location conditions:	CONCRETE SLAB					**Upwind activities:**	CARPARK		

Gauging

Depth to Product (m-pvc):	1.963 m	**Well Casing Specific Volume (L/m):**	
Depth to Water (m-pvc):	2.025 m	**Bailer Dimensions - Length (mm):**	
Pre-test Product Thickness (m):	0.062 m	**Bailer Dimensions - Diameter (mm):**	
Total Depth of Well (m):		**Volume of Slug/Bail (L):**	OL WATER AND
Depth to Top of Screen (m):		**Number of Bails removed:**	250mL LNAPL REMOVED VIA PERISTALTIC PUMP
Depth to Bottom of Screen (m):		**Specific Gravity of LNAPL (if known):**	DARK BROWN, MOD VISCOSITY.
Well Casing Diameter (mm):	50		

Baildown Test

Date / Time Start: 20.6.2025 13:31 **Method (Bailer Type):** PERISTALTIC PUMP

Clock Time	Elapsed Time	Depth to LNAPL (m)	Depth to Water (m)	Thickness (m)	Comments
13:30:00	0	–	1.966		LNAPL RESIDUE ON IP PROBE
13:30:30	0:0:30	–	1.966		"
13:31:00	00:01:00	–	1.966		"
13:31:30	00:01:30	–	1.966		"
13:32:00	2:00	–	1.966		"
13:32:30	2:30	–	1.966		"
13:33:00	3:00	–	1.966		" LNAPL ABSENCE CONFIRMED WITH 2ND IP
13:35:00	5:00	–	1.966		"
13:40:00	10:00	–	1.966		"
13:50:00	20:00	–	1.966		"
14:00:00	30:00	–	1.966		"
14:30:00	1:00:00	–	1.967		"
15:00:00	1:30:00	–	1.966		"
15:30:00	2:00:00	–	1.967		"
26.06.25 09:08:00		2.027	2.046	20 mm	

Record of cumulative LNAPL/Water Volumes Bailed

Bail Number	Elapsed Time	Total Volume (L)	Water Volume (L)	LNAPL Volume (L)
PERISTALTIC PUMP	30 SECONDS	0.25 L	0	0.25

Approval and Distribution

Fieldwork Staff Signature	Date	Project Manager Signature	Date
	20.6.2025		

Distribution: Project Central File

Appendix J

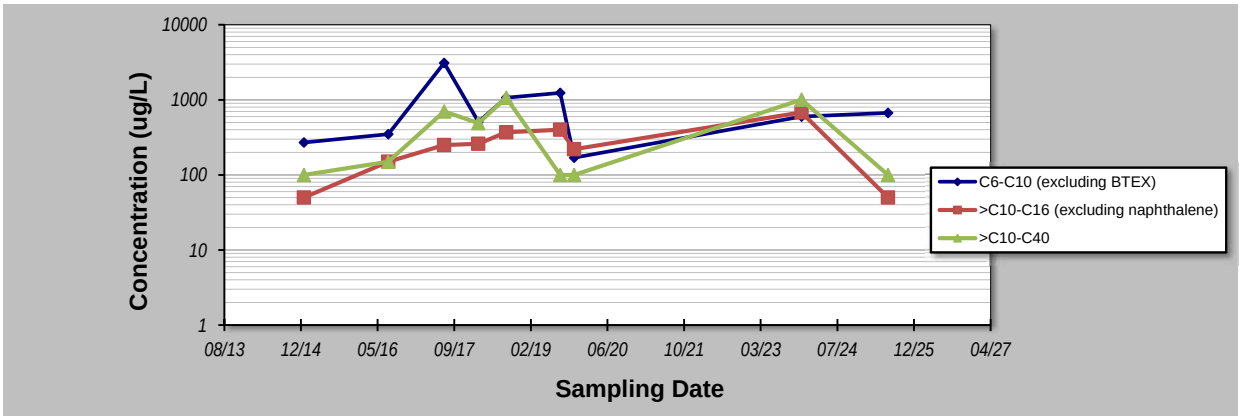
Mann Kendall Trend Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	25-Aug-25	Job ID:	9999
Facility Name:	Macquarie Point	Constituent:	MW16
Conducted By:	Robert Crowe	Concentration Units:	ug/L

Sampling Point ID: 10 (excluding B >C10-C40

Sampling Event	Sampling Date	MW16 CONCENTRATION (ug/L)						
1	15-Jan-15	270	50	100				
2	19-Jul-16	350	150	150				
3	18-Jul-17	3100	250	700				
4	26-Feb-18	510	260	490				
5	27-Aug-18	1070	370	1070				
6	14-Aug-19	1240	400	100				
7	13-Nov-19	170	220	100				
8	6-Dec-23	600	680	1010				
9	23-Jun-25	670	50	100				
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.02	0.73	0.96				
Mann-Kendall Statistic (S):		6	13	0				
Confidence Factor:		69.4%	89.0%	46.0%				
Concentration Trend:		No Trend	No Trend	Stable				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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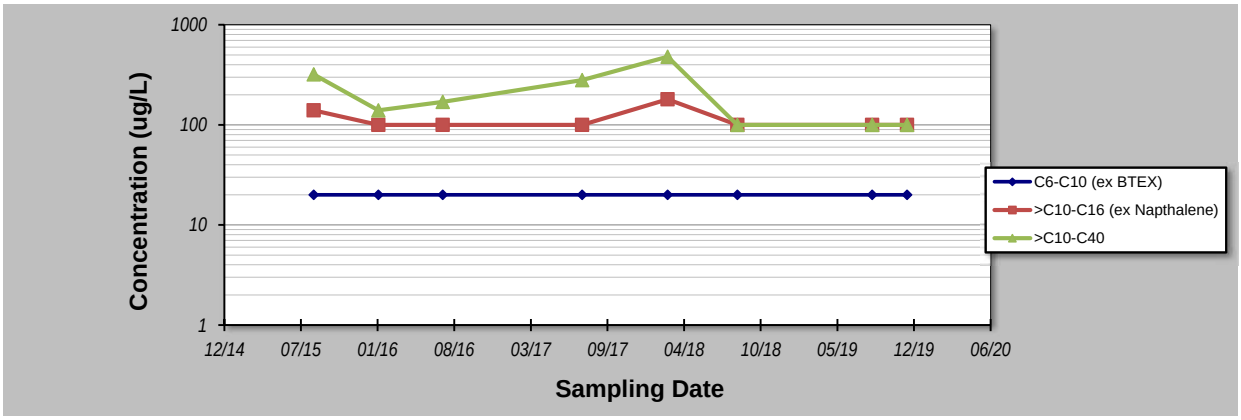
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	25-Aug-25	Job ID:	9999
Facility Name:	Macquarie Point	Constituent:	MW126A
Conducted By:	Robert Crowe	Concentration Units:	ug/L

Sampling Point ID:	C6-C10 (ex BTEX	>C10-C16 (ex Naptha	>C10-C40				

Sampling Event	Sampling Date	MW126A CONCENTRATION (ug/L)						
1	17-Aug-15	20	140	320				
2	2-Feb-16	20	100	140				
3	19-Jul-16	20	100	170				
4	18-Jul-17	20	100	280				
5	26-Feb-18	20	180	480				
6	27-Aug-18	20	100	100				
7	14-Aug-19	20	100	100				
8	13-Nov-19	20	100	100				
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.00	0.26	0.65				
Mann-Kendall Statistic (S):		0	-5	-11				
Confidence Factor:		45.2%	68.3%	88.7%				
Concentration Trend:		Stable	Stable	Stable				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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Appendix G-7: Acid Sulfate Soil Investigations

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

Acid Sulfate Soil Investigation

Macquarie Point

04-Dec-2025
Macquarie Point Development Project

Acid Sulfate Soil Investigation

Macquarie Point

Client: Macquarie Point Development Corporation

ABN: 92 657 409 841

Prepared by

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04-Dec-2025

Job No.: 60693007

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Originator	Robert Crowe
Checker/s	Mark Davidson
Verifier/s	Mark Davidson

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
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List of Acronyms

AASMP	Acid Sulfate Soil Management Plan
AASS	Actual Acid Sulfate Soil
ANC	Acid Neutralising Capacity
ANC_{BT}	Acid Neutralising Capacity (back titration)
ASS	Acid Sulfate Soil
BEE	Bulk Excavation Extent
$CaCO_3$	Calcium Carbonate
CEMP	Construction Environment Management Plan
CRS	Chromium Reducible Sulfur
CUSFARP	Clean Up So Far As Reasonably Practicable
CUTEP	Clean Up to the Extent Practicable
DPIPWE	Department of Primary Industries, Parks, Water, and the Environment (Tasmania)
DWMP	Dewatering Management Plan
EMPCA	Environmental Management and Pollution Control Act 1994
ENV	Effective Neutralising Value
GME	Groundwater Monitoring Event
IB105	*Information Bulletin No. 105*
LOR	Limit of Reporting
MPDC	Macquarie Point Development Corporation
MPDCA	Macquarie Point Development Corporation Act 2012
NASSG	*National Acid Sulfate Soils Guidelines*
NA	Net Acidity
NA_V	Verification Net Acidity
PASS	Potential Acid Sulfate Soil
pH_F	Field pH
pH_{FOX}	Oxidised field pH
pH_{INC}	Incubated pH
pH_{KCl}	Potassium Chloride pH
PoSS	Project of State Significance
S_A	Actual Sulfidic Acidity
S_{CR}	Potential Sulfidic Acidity (Chromium Reducible)
SEMP	Site Environment Management Plan
S_{NAS}	Retained Acidity (Net Acid Soluble)
S_P	Potential Sulfidic Acidity
SPOCAS	Suspension Peroxide Oxidation Combined Acidity and Sulfur
S_{POS}	Potential Sulfidic Acidity (Peroxide Oxidisable Sulfur)
S_R	Retained Sulfidic Acidity
STV	Stated Neutralising Value
TAA	Titratable Actual Acidity

TASSMG	*Tasmanian Acid Sulfate Soil Management Guidelines*
TWA	Trade Waste Agreement
UST	Underground Storage Tank

Executive Summary

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) to undertake assessment and identification of Acid Sulfate Soil (ASS) in areas of the Macquarie Point and Regatta Point sites (referred to collectively as "the Site") which may be disturbed by proposed future development of the Site.

Acid Sulfate Soils (ASS) are soils containing sulfides, most commonly iron sulfides, which have been generated by natural bacterial activity in anerobic, sulfate rich water (e.g. coastal swamp or wetland) and remain buried generally beneath the water table. If ASS is oxidised, sulfuric acid may be produced, in potentially high quantities which may represent a risk to surrounding land and aquatic humans and ecosystems. Unoxidised ASS, for example ASS below the water table, is referred to as Potential Acid Sulfate Soil (PASS), while ASS which has oxidised is referred to as Actual Acid Sulfate Soil (AASS).

The assessment methodology and framework was derived from the *Tasmanian Acid Sulfate Soil Management Guidelines* (TASSMG) (Department of Primary Industries, Parks, Water and Environment [DPIPWE], 2009), and consisted of:

- A preliminary desktop review of the Site location and elevation, including review of existing ASS mapping information, and the level of disturbance which may be required by future construction activities.
- Review of soil profile mapping.
- Collection of soil samples for laboratory assessment and analysis in two field events:
  - 339 soil samples were collected from 30 soil bores on Macquarie Point during a geotechnical investigation conducted by WSP Pty Ltd (WSP) between 16 April 2024 and 11 June 2025.
  - 15 soil samples were collected from four soil bores on Regatta Point as part of an environmental investigation conducted by AECOM on 20 September 2024.
- Laboratory analysis of soil samples for:
  - pH field screening
  - Chromium Reducible Sulfur (CRS) and Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS).
  - Incubation assessment / chip tray analysis.
- Review of results and preparation of this report.

The preliminary desktop review and soil profile mapping identified that there was potential for ASS to be present, and disturbed in a volume greater than 100 m^3 by development, on both Macquarie Point and Regatta Point, primarily by:

- Lowering or reworking of the Site surface elevation to preserve sight lines and level areas for development.
- Installation of piling and lift wells.
- Excavation of soil to install underground carparking in the north-east portion of Macquarie Point.

Based on observations recorded during bore advancement and the results of laboratory analysis for pH field screening, CRS, SPOCAS, and chip tray analysis, the following is concluded about the presence, extent and characteristics of ASS at the Site:

- No AASS has been detected at Macquarie Point, and no ASS (either AASS or PASS) has been detected at Regatta Point.
- Oxidisable sulfides have been detected at Macquarie Point, consisting generally of sands and clays consistent with estuarine materials, and it is considered likely that river- and lake-bed materials (either originally present on Site, or used as part of historic land reclamation) is the ultimate source of this material.

Soil with a high potential to acidify due to the presence of reduced inorganic sulphur, which is considered PASS, has been identified in:

- Saturated soil, and soil which may have been intermittently wet at the water table.
- Pockets of unoxidised estuarine sands in fill, characterised as black sand and gravel, which has not oxidised prior or during land reclamation, or while *in situ* on the Site.

Management will be required for any work which may disturb or dewater PASS.

- Review of historic data identified indicators that Site groundwater may have been affected by the oxidation of sulfides, but that acidification has not occurred. Site groundwater is assessed as reasonably adequate to maintain a neutral pH in future, noting that this does not constitute protection against environmental impact if widespread or uncontrolled acidification occurs due to Site activities.
- PASS management is not considered required for the remaining unsaturated soil at the Site based on the existing ANC of soil, which is an order of magnitude or greater than the potential acidity. While the reported ANC may be inflated by sample preparation, it is considered suitable for use in interpretation with the safety margin of 10x as it has been corroborated by chip tray analysis.
- Indicative dosage rates of to treat and neutralise PASS of between 28 and 73 kg/tonne with a generic agricultural lime (aglime) if disturbed have been calculated, based on the location and treatment scenario (*in situ* vs stockpiled PASS).

  The estimated rates are based on a generic assumed aglime with an SNV ≥ 85%$CaCO_3$, and in which ≥80% of aglime particles are < 0.3mm. These parameters have been assumed based on typical aglime available in eastern Australia.

  Any neutralisation agent proposed for use on the Site should be compared to these properties. While alternatives may be suitable for PASS treatment, the suitability and dosage rate of any alternative should be reviewed and verified by a suitability qualified and experienced environmental practitioner with consideration of:

  - SNV and particle size distribution
  - Solubility and longevity
  - Potential for other environmental effects.

  Any neutralisation of PASS must be verified by post-treatment laboratory analytical results.

Based on the outcomes of this assessment, it is recommended that:

- Future activities at Macquarie Point should identify all activities which have the potential to disturb or expose (i.e., dewater) PASS at the Site, and:
  - The Site Environment Management Plan (SEMP) and Construction Environment Management Plans (CEMPs) should include overarching management obligations for disturbance of ASS and/or water table drawdown via dewatering.
  - A scope specific Acid Sulfate Soil Management Plan (ASSMP) and Dewatering Management Plan (DWMP) should be developed for each discrete works package involving civil and general earthworks activities, water table drawdown via dewatering, and any other significant soil disturbance activities or changes to natural groundwater and surface water systems.

    These documents should be prepared by those undertaking works which may disturb PASS, and must include:

    - Estimated volumes and action criteria for PASS which may be disturbed by the proposed works.
    - Procedures for the handling of disturbed PASS, including verification of neutralisation, groundwater generated by dewatering, and monitoring of Site environmental conditions in the vicinity of PASS disturbances.

    - Contingency measures which are specific, measurable, and attainable, and can be implemented in a timely manner in the event that action criteria or trigger values are exceeded.

- Future structures and infrastructure at the Site should consider the potential effects of sulfides and possible acidification in design and selection of materials, and adopt appropriate mitigation measures to prevent degradation of materials overtime.
- Any groundwater, or run-off which may have come into contact with PASS, should be considered as potentially contaminated. pH and the potential to acidify should be considered in assessment any such water prior to disposal

The above recommendations should be documented in the Site Environment Management Plan (SEMP; AECOM, 2025a).

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation, and ongoing oversight of a remediation strategy for the Macquarie Point site, and adjacent Regatta Point site in Hobart, Tasmania. These areas are collectively referred to as "the Site" in this report. The Site location is shown on **Figure F1**, and layout and proposed future development on **Figure F2**.

Acid Sulfate Soils (ASS) are soils containing sulfides, most commonly iron sulfides, which have been generated by natural bacterial activity in anerobic, sulfate rich water (e.g. coastal swamp or wetland) and remain buried generally beneath the water table. If ASS is oxidised, sulfuric acid may be produced, in potentially high quantities which may represent a risk to surrounding land and aquatic humans and ecosystems. Unoxidised ASS, for example ASS below the water table, is referred to as Potential Acid Sulfate Soil (PASS), while ASS which has oxidised is referred to as Actual Acid Sulfate Soil (AASS).

The Site is mapped as having a low probability (6-70%) of Potential Acid Sulfate Soils (PASS), as indicated on LISTMap's Coastal Acid Sulfate Soils (0 – 20m AHD) layer, however the site is located close to the surface water bodies of the River Derwent and Sullivans Cove and alluvial/estuarine sands have been observed during previous intrusive investigations (AECOM, 2024). These sediments, which are covered by historic land reclamation events (1827 and 1970), may be disturbed, for example during pile installation, as part of the planned future development of the Site described in the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024).

At the request of the Corporation, AECOM has prepared this report detailing assessment and identification of potential on-Site ASS based on field investigations conducted between April 2024 and June 2025.

1.1 Objectives and Scope of Work

The objectives of this report are to:

- Assess if ASS is present in the areas of the Site which may be disturbed by future development.
- Evaluate the potential impacts to human health or the surrounding environment if ASS is present and disturbed by the proposed development of the Site.
- Identify suitable mitigation measures to avoid or minimise any identified ASS, or manage any ASS which may be unavoidably disturbed by future development of the Site.

In order to fulfil these objectives, the following scope of work has been completed:

- Collection of representative Site soil samples and ASS field screening during three field events:
    - 258 soil samples from 20 soil bore locations on Macquarie Point, where soil was considered likely to be disturbed by future stadium development, were collected by WSP Australia Pty Ltd (WSP) between 16 April and 21 May 2024, in tandem with a broader geotechnical assessment of Site soil in this area.
    - 15 soil samples from 4 soil bore locations in Regatta Point were collected by AECOM on 20 September 2024, as part of a broader environmental investigation of this area.
    - 81 soil samples from 10 soil bores in shallow, unsaturated soil surrounding boreholes BH-004 and ABH-004 by AECOM between 27 April and 4 June 2025, to further assess the potential for acidification in these locations.
- Assessment of field screen results and selection of samples for Chromium Reducible Sulfur (CRS), Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS), and chip tray analysis.
- Assessment of results of additional testing in context of the Site setting and proposed future development.

This report has been prepared to document the work conducted, the outcomes of assessments, and any requirements or recommendations for future work.

1.2 Regulatory Framework and Guidelines

The Corporation was formed under the *Macquarie Point Development Corporation Act 2012* (the MPDCA), last amended 1 July 2023. Under the MPDCA, the Corporation has the following principal objectives:

a) to plan, facilitate and manage the remediation of the Macquarie Point land in accordance with the Intergovernmental Agreement; and

b) to plan, facilitate and manage the redevelopment of the site so as to ensure that the site –

i) is redeveloped as a vibrant and active area, with a mix of uses, that connects with and complements adjacent areas within Hobart; and

ii) encourages inner-city living; and

iia) encourages pedestrian and bicycle traffic; and

iib) allows for public transport; and

iic) provides for public open space; and

iii) is redeveloped so as to deliver sustainable social and economic benefits to Hobart; and

iv) is redeveloped in accordance with sound planning, urban design and environmental principles; and

ba) to plan, facilitate and manage temporary and longer-term use of the site; and

(c) to the extent practicable, to make a profit from carrying out its functions

Remediation and assessment of the Site has been conducted in order to assist in meeting these objectives. Assessment for ASS has been conducted as part of the Corporations mandate to plan, facilitate and manage the redevelopment of the Site.

1.2.1 Acid Sulfate Soil

While there is no Tasmanian legislation which directly considers ASS, identification and management of ASS and potential environmental issues which may arise from it is considered to fall under the General Environmental Duty contained in the *Environmental Management and Pollution Control Act 1994* (the EMPCA), which states:

A person must take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person.

The *Tasmanian Acid Sulfate Soil Management Guidelines* (the TASSMG) (DPIPWE, 2009), provide a seven step framework for identification, assessment, and management of ASS, summarised on **Table 1** in **Section 1.3**. This assessment has been conducted in accordance with the approach in the Guidelines, with additional information to inform the approach and interpretation taken from the following state or national framework documents or guidelines:

- *Australian Standard 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil. Non-volatile and semi volatile compounds* (AS4482.1) (Standards Australia, 2005)
- *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended in 2013 (the ASC NEPM)
- *National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual 2018*
- *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soil* (CASS BPMG, 2010)
- *Queensland Acid Sulfate Soil Technical Manual, Soil Management Guidelines* (Dear et al, 2024)
- *Treatment and Management of Soils and Water in Acid Sulfate Soil Landscapes* (DER, 2015a)
- *Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes* (DER, 2025b)

1.2.2 Development of the Site

The Tasmanian Government Department of State Growth announced in September 2022 that the Site is the preferred location for a mixed-use precinct, including a multipurpose stadium. Details of the proposed development of the Site were released in the Precinct Plan (MPDC, 2024).

The proposed development of a multipurpose stadium at the Site was classified as a Project of State Significance (PoSS) by the Governor of Tasmania on 16 October 2024, and was subject to an integrated assessment process by the Tasmanian Planning Commission (TPC) under the *State Policies and Projects Act 1993*.

TPC issued the *Integrated Assessment Report – Macquarie Point Multipurpose Stadium Project of State Significance* (TPC, 2025) in September 2025. With consideration of the TPC report, *State Policies and Projects (Macquarie Point Precinct) Order 2025*,was introduced to the Tasmanian House of Assembly for review in October 2025, and is currently undergoing parliamentary review. If this order is accepted by both houses of Tasmanian State Parliament, it will approve and provide the conditions under which the development of the Site shall proceed.

Clause 14 of Schedule 5 of the order requires a Construction Environment Management Plan (CEMP) to be prepared for the work, and Clause 14 (2) (b) of Schedule 5 notes that the CEMP must include "*a management plan for contaminated sites that provides for the prevention, minimisation and control of potential human health and environmental risks associated with subsurface contamination and acid sulphate soils…"*

1.2.3 Site Environmental Audit

The MPDCA was amended in 2015 to enable the accreditation of a Contaminated Land Auditor, which for the first time in Tasmania allowed for a statutory audit of contaminated land to be undertaken (the Audit). The Corporation has engaged an independent Contaminated Land Auditor (the Auditor), Mr David Lam of Tetra Tech Coffey Pty Ltd (Coffey) to provide confidence to key stakeholders that environmental investigations, remediation, and validation activities have been completed to a level compliant with required standards

Mr Lam is included on the Director of the Tasmanian EPA Register of Interstate Contaminated Land Auditors and is considered suitably qualified by EPA to undertake an Environmental Audit to review the progress of environmental assessment, remedial planning and execution works at the Site.

The role of the Auditor is to ensure that the works are carried out in compliance with local Tasmanian legislation and guidelines with consideration given to the requirements of the Victorian EPA Environmental Audit framework in the absence of an Audit scheme in Tasmania. It is noted that Victoria legislation which defines the Audit process was updated and superseded by the *Environment Protection Act 2017* (the EP Act), which came into effect on 1 July 2021, and contains significant changes to Audit methodology and terminology under the Victorian framework. Under Section 478 of the EP Act, existing Audits where an Auditor has been engaged prior to 1 July 2021, and the Audit has not been completed by 1 July 2021, can be conducted under either the EP Act or the previous framework. To maintain continuity with the portions of the Audit already completed, the Site Audit has continued under the previous framework and terminology at this time, noting that this approach may be changed in future.

The overarching outcome required for the Environmental Audit is an Environmental Audit Statement and Environmental Audit Report (i.e., sign off) prepared by the Contaminated Land Auditor confirming that Clean Up to the Extent Practicable (CUTEP) (also referred to as Clean Up So Far As Reasonably Practicable [CUSFARP] in more recent regulation) has been achieved and that the Site is suitable for the intended future uses.

Transfer of the land comprising Regatta Point to the Corporation's control is currently underway, however this area has not yet been formally added to the Site Environmental Audit. However, the Corporation has begun investigations of Regatta Point and provided details of actions and assessments undertaken to the Environmental Auditor under the expectation that Regatta Point will be included in the Site Environmental Audit scope in the near future.

1.3 Assessment Methodology

The TASSMG (DPIPWE, 2009) provides a seven step framework for identification, assessment, and management of ASS, summarised on **Table 1** below, with reference to where in the report text each step in the assessment process has been conducted.

Table 1 Assessment of Projects Which May Affect Acid Sulfate Soils

Step	Summary	Results
1	**Assess Location** If the proposed project is: • within the coastal zone, and is located, or will disturb soil or nearby groundwater hydrology, at or below 20 m AHD; or • in an inland area, but within or adjacent to a deflation basin, wetland area, area of known acid mine discharge, or if indicators of acid conditions are identified Proceed to **Step 2** if any of these conditions are met.	**Section 4.1**
2	**Consider Level of Disturbance** If the proposed project will: • excavate >100 m^3 of soil or sediment; or • will involve the dumping or filling of land with more than 500 m^3 of soil to a depth greater than 0.5 m Proceed to **Step 3** if any of these conditions are met.	
3	**Review Existing Mapping Information** If the proposed project area: • Is mapped as a potential ASS risk area on existing map resources which predict the distribution of coastal areas affected or potentially affected by ASS. LISTMap (https://www.thelist.tas.gov.au/app/content/home) or the Australian Soil Resource Information System (ASRIS) (https://data.csiro.au/collection/csiro:62790) are referenced in the Guidelines. • Has local indicators or topography which indicates ASS risk. Proceed to **Step 4** and beyond if any of these conditions are met.	
4	**Desktop Risk Assessment** Potential disturbances in groundwater hydrogeology or surface drainage patterns should be investigated, designed and managed to avoid potential adverse effects on the natural and built environment and human health.	
5	**Develop a Soil Profile** Develop a profile of project soils, including soil types and depths, and assess the likelihood of soil types to contain ASS, and volumes of any such soils identified to be disturbed by the proposed project.	**Section 4.2**
6	**Conduct Field Tests and Laboratory Analysis** Collect field data to assess ASS presence. Sampling and testing of soil should be undertaken by a qualified and experience soil professional. Results of field trials and laboratory analysis should be interpreted to present the locations, depths, and concentrations of any ASS detected.	**Section 5.0**
7	**Develop an Acid Sulfate Soil Management Plan** Develop an ASS Management Plan to minimise environmental harm from the project.	To be conducted prior to each phase of work. Considerations are included as **Section 6.0**

2.0 Site Setting and Background

2.1 Description and Features

Prior to European settlement, Hobart and the surrounding areas, including the Site, were occupied and inhabited by the Muwinina people.

Since first European settlement circa 1804, the Site has been subject to land reclamation events[1], farming, quarrying and various construction and industrial activities, including but not limited to progressive land reclamation events, rail and freight operations, gasworks, and bulk fuel storage.

Macquarie Point is currently occupied by the Corporation, who are undertaking remediation of the Site and preparing it for development. Temporary uses, including events, carparking, storage of construction equipment, markets, and rent-out of office and commercial spaces, also have or do occur on Macquarie Point.

For the purpose of assessment and completion of the Environmental Audit, the Macquarie Point has been divided into seven sub-areas for assessment based on the nature of identified contamination, historic activity, and the intended future uses of each area. The location and boundaries of sub-areas of Macquarie Point are shown on **Figure 1** below, which also includes two additional areas which are noted in the Precinct Plan:

- Regatta Point, a stretch of land along the River Derwent to the north of Macquarie Point. The Corporation is currently in the process of negotiating land transfer of this land to their control and for inclusion in the Environmental Audit. It is noted that the proposed boundary of Regatta Point to be transferred to the Corporation presented on **Figure 1** is not final and may have minor changes.
- The Royal Engineers Building and Land to the west of Macquarie Point is included in the overall planned development of the area, however no changes in use are planned and it is not intended to be included in the Audit at this time.



Figure 1 Site Assessment Areas

[1] Historic land reclamation and the covering of former river- and sea-beds is considered a potential source of ASS, and additional detail is provided in **Section 2.1.1**.

Details of the Site, including Regatta Point, are provided in **Table 2** below.

Table 2 Overall Site Details

Item	Description
Macquarie Point Site	
Site Address	10 Evans Street, Hobart, Tasmania (refer to the Site Location plan provided as **Figure F1** in the **Figures** section)
Site Area	Approximately 9.3 ha
Current Site Owners	State of Tasmania (Crown Land)
Title Details	Macquarie Point contains the following land title references: • The majority of Macquarie Point is within land title 113521/1 (formerly CT 114462/1) • A portion of the southwest area (within the Gateway area) is within land title 129483/1
Current Zoning (1)	In accordance with the Hobart City Council (HCC, 2021), the *Sullivans Cove Planning Scheme 1997* notes that the Macquarie Point site falls within the *Macquarie Point Mixed Use Zone* and is subject to the following use areas: • Commercial and Institutional • Mixed Use • Open Space.
Current Uses	• The majority of Macquarie Point is currently vacant. Portions of the north and west of Macquarie Point are currently in use for remediation activities, including stockpiling of excavated materials. • The Corporation office building is located in the Goods Shed on the southern boundary of Macquarie Point. The Goods Shed has also been subject to intermittent uses including public events. • An occupied office building (8A Evans Street) is located on the western boundary of Macquarie Point. • The “Red Shed”, located in the south eastern portion of Macquarie Point, is currently used by a microbrewer and includes a public bar. • A warehouse (the SeaRoad Shed) was located in the south-east corner of Macquarie Point but was demolished in 2023. A large slab (the SeaRoad Slab) remains in place and has been used for intermittent storage of construction equipment. • Small retail outlets are located in the area adjacent to the Red Shed (Red Square) which is also used regularly for markets, music and other outdoor events with food vans. • A public car park is present in the south eastern and eastern portion of Macquarie Point. • A roadway (the Northern Vehicular Access) is present on the northern portion of Macquarie Point.
Closest Surface Water Body	• Sullivans Cove, approximately 150 m to the south. • River Derwent, approximately 280 m south-east (inferred direction of groundwater flow) and 25 m to the north-east.
Site Layout	**Figure F2** in the **Figures** section

Item	Description
Regatta Point	
Address	Located adjacent to McVilly Drive, Queens Domain (refer to the Site Location plan provided as **Figure F1** in the **Figures** section). A street address is not allocated for this area.
Area	Approximately 0.7 ha
Current Land Owners	The land comprised within Regatta Point is under the authority of: • Department of Natural Resources and Environment Tasmania (DNRET) Property Services (Potential Property ID 2513934), under Crown lease Regatta Point is currently being transferred to the control of the Corporation.
Title Details	Title details are not available for the public reserve (Potential Property ID 2513934).
Current Zoning	In accordance with the Hobart City Council (HCC, 2021), the *Sullivans Cove Planning Scheme 1997* notes that the Regatta Point site falls within the *Macquarie Point Wharf & River Zone B* and is subject to the following use areas: • Commercial • Mixed Use • Open Space.
Current Uses	The following is noted with regard to current Regatta Point use and features: • A public reserve in the southern portion of Regatta point is used for public open space and recreation. Carparking and access to the River Derwent (via two marine jetties and two boat ramps) are present in this area, and accessible via McVilly Drive. • A pumphouse (under Crown Licence) is present in this area. It is not known if this pumphouse is operational, what use is authorised under its licence, or what historical uses it may have had. • A small two-storey building of unknown use is in this area. • A disused rail line and corridor passes to the west of Regatta Point.
Closest Surface Water Bodies	• The River Derwent is located to the east, immediately adjacent to Regatta Point. • Sullivans Cove is located approximately 560 m to the south at the closest point. Recreational fishing restrictions apply in the waters adjacent to Regatta Point.
Site Layout	**Figure F2** in the **Figures** section

2.1.1 Historic Land Reclamation

Historic land reclamation was conducted in successive waves at the Site between 1827 and 1970, with the areas of each land reclamation event shown on **Plate 1** below.

Previous Site investigations have identified that the existing river- and sea-bed was left *in situ* and covered by land reclamation and, while the source of the material used for extension of the shoreline has not been identified, it is considered likely based on recorded observations of the soil profile that dredged material, either from the nearby Sullivans Cove and the River Derwent or from other water bodies, was a source of some material.

Material within, or sourced from, aquatic environments can be a source of ASS due to the deposition of sulfides in anoxic underwater environments.



Plate 1 Historic Shorelines and Progressive Land Reclamation (MPDC, 2024)

2.1.1.1 Geology

2.1.1.1.1 Regional

The *Engineering Geology Greater Hobart Area, Map 1* (Hofto, 1990), describes the Site as being underlain by a combination of reclaimed land, Quaternary aged sediments and Dolerite of Jurassic age. Micaceous quartz sandstone and white felspathic sandstone and micaceous mudstone of Triassic age are located to the north and west of the Site.

2.1.1.1.2 Local (Site-wide)

The Site has been subject to significant filling from the early 1800s to the 1900s (Austral, 2013) with up to 600 m of land reclaimed from the original 1800s' shoreline (Department of the Environment, *Australian Heritage Database*, 2007). Fill material has been encountered across the Site to depths of up to approximately 12.0 m below ground level (bgl).

Fill material has been described as generally containing a combination of clays, sands, gravels, cobbles and bricks. The thickness of fill is variable across the Site (0.2 – 12.0 m bgl), and generally increases from north to south across the Site consistent with historical land reclamation activities.

Deeper fill material generally consists of silty sands, similar to the underlying natural estuarine/ marine estuarine deposits, indicating that the deeper fill material may be associated with reworked natural material or dredged material.

Two main natural soil types have been encountered at the Site including estuarine/ marine deposits (silty sands) and weathered dolerite including clays, gravels and cobbles.

Estuarine/ marine deposits have generally been encountered in the south-eastern portion of the Site, ranging in depth from 3.7 – 15.6 m bgl. Weathered dolerite generally underlay the estuarine/ marine deposits (with the exception of the northern portion of the Site where the estuarine/ marine deposits are absent). Weathered dolerite has been encountered at near surface to 1.4 m bgl in the northern portion of the Site, and from 11.2 to 19.0 m bgl in the southeastern portion of the Site.

Fresh dolerite bedrock underlies the fill and natural soils at the Site. Dolerite has been encountered at near surface in the northern portion of the Site, and slopes down in a southerly and south easterly direction and has been encountered at depths up to 25.0 m bgl. The dolerite has been described as high strength and slightly to highly fractured (Douglas Partners, 2015).

Hunter Island, a bedrock high, is located to the south of the Site and is inferred to influence groundwater flow direction.

2.1.1.2 Hydrogeology

2.1.1.2.1 Regional

Groundwater flow is inferred to be in a general easterly direction toward the River Derwent and is encountered in coastal deposits, alluvial sediment, sandstone and in fractured Dolerite (DIER, 2006).

Groundwater yield generally ranges from 0.77 to 1.24 litres per second (L/s) in the varying aquifer types, and salinity ranges from 70 – 11,200 milligrams per litre (mg/L) (DIER, 2006).

2.1.1.2.2 Local (Site-Wide)

The Site is underlain by a single aquifer unit (within multiple lithological units) extending to depths greater than 25.0 m bgl (the maximum depth assessed). Groundwater has generally been encountered in fill material in the central, southern and eastern portions of the Site, extending into underlying natural material including estuarine/ marine deposits, weathered Dolerite and fractured Dolerite. No surface water bodies are present on the Site, however Sullivan's Cove is located approximately 150 m south of the Site, and the River Derwent is directly adjacent to Regatta Point.

Groundwater elevation at the Site in June 2025 was between 4.684 mAHD at BG1 located at the base of the sharp topographic rise to the north of the Site, to 0.423 mAHD at off-Site well MW152, located in the University of Tasmania carpark to the south-east of the Site (AECOM, 2025b). Groundwater was between 0.761 m bgl (MW180 in Regatta Point) and 7.988 m bgl (MW120A in the north-east of the Site), and was typically ~4 m bgl in the north-west of the Site and ~2 m bgl in the southern, eastern and central areas.

Overall, at the Site, the inferred groundwater flow direction in the shallow portion of the aquifer is in a general southeast direction, towards River Derwent and/or Sullivans Cove, noting the following:

- Flow in the northern and western portions of the Site is inferred to be in a general south easterly direction and is likely to be influenced by the shallow bedrock.
- Flow in the far northern portion of the Site has a slight north easterly component of, which may be due to influence from the Hobart Rivulet which traverses the northern Site boundary and discharges to the River Derwent to the northeast.
- Flow in the central, southern and eastern portions of the Site is inferred to be in a general southerly direction, towards Sullivan's Cove.
- The groundwater hydraulic gradient in the central and eastern portions of the Site is relatively flat, when compared to the northern portion of the Site. The difference in groundwater hydraulic gradient is likely a result of:
    - Increasing depth to the low permeability bedrock towards the east of the Site, resulting in an increase in potential saturated thickness.
    - The Sewer (Main Hobart Pipeline) which is aligned approximately north to south through the centre of the Site.

The inferred shallow Site-wide groundwater flow contours generated during the most recent groundwater monitoring event (GME), conducted in June 2025 (AECOM, 2025b), are shown on **Figure F5**.

Groundwater modelling completed by GHD (2016) indicates groundwater flow to the south of the Site is in an easterly direction between the southern boundary and the location of Hunter Island. The easterly groundwater flow direction is likely to be influenced by Hunter Island, which is likely to be relatively low permeability when compared to the surrounding sediment, and the higher permeability sediment located in the former Hobart Rivulet (i.e. beneath Evans Street). The former Hobart Rivulet is likely to be a preferential pathway for groundwater flow.

There are a number of former sea walls located beneath and surrounding the Site. The sea walls were used in progressive stages of land reclamation and are likely to influence localised groundwater flow direction, but have not been observed to affect the overall observed groundwater flow and are not considered to affect the final discharge points of groundwater.

Evidence of tidal influence on groundwater levels has been identified to the south of the Site within the inferred groundwater flow path at MW151, where tidal variation of approximately 0.1 m has been noted. Tidal influence (i.e. increasing standing water level [SWL] variations) has been noted to increase toward Sullivans Cove.

Total Dissolved Solids (TDS) concentrations for shallow groundwater for the Site are generally low (< 1,110mg/L in June 2025), indicating there is likely limited estuarine/ marine water intrusion on-Site within shallow groundwater (<10.0 m bgl). Higher TDS (22,000 mg/L) was reported in MW153, off-Site within a carpark approximately 60 m south of the Site where higher interaction with estuarine/ marine water is inferred to occur.

Hydraulic conductivity testing undertaken on the southern portion of the Site (AECOM, 2016a) has estimated the hydraulic conductivity of the different lithological units as follows:

- Fill Material – 0.52 m/day
- Alluvial/ Marine Deposits – 0.59 m/day
- Slope Deposits – 0.26 m/day
- Bedrock – 5.3 x 10^{-3} m/day.

2.2 Future Development

The Precinct Plan outlines the concept for the Site which comprises mixed use precincts including, but not limited to those summarised in **Table 3** below.

Table 3 Precinct Plan - Proposed Development Precincts

Precinct	Likely Land Use
Aboriginal culturally informed zone	Open space and commercial
Multipurpose stadium and associated concourse zone	Open space and commercial
Royal Engineers building and land	Open space and commercial
Complementary integrated mixed use zone, including restraints, cafes, hotels, medical facilities and commercial office space	Open space and commercial
Antarctic facilities zone including commercial spaces and connections with the complementary integrated mixed use zone	Commercial and underground car parking
Residential development and public foreshore zone accommodating a variety of tenures and housing opportunities, along with a new public promenade and food and beverage offerings	Medium to high density residential, commercial and open space
A transport corridor and roadway linking Regatta Point to the main areas of the Site	Open space / vehicle traffic / foot traffic
A vegetated area along the northern boundary of the Site, where the escarpment below the Hobart Cenotaph would prevent development or construction	Open space

Subsurface utilities and maintenance activities are anticipated to occur in all Site areas. In addition, large scale excavation is anticipated as part of development within:

- The Multipurpose Stadium and Associated Concourse, in order to lower the profile of the future stadium to level with Evans Street to the south, and preserve sight lines across the Site.
- The Antarctic Facilities Zone, for development of a potential future underground carpark.

The concept layout of the Site in the Precinct Plan is shown on **Figure F2**.

3.0 Field Methodology

3.1 Soil Sampling

Soil samples included in this assessment were collected during:

- Geotechnical investigation conducted on the main Site area by WSP between 16 April and 21 May 2024 (WSP, 2024a).
- Environmental investigation on Regatta Point conducted by AECOM in September 2024. All samples considered as part of the ASS investigation were collected on 20 September 2024.

  The final Detailed Site Investigation (DSI) report detailing this investigation of Regatta Point has not yet been issued.
- Environmental sampling around BH-004 and ABH-004, conducted by AECOM in June 2025.

Table 4 below summarises the sample methodology and record keeping undertaken during both sampling programs.

Table 4 Soil Sampling Program Requirements

Aspect	Description
Use of Experienced Personnel	Field work was undertaken by trained personnel with previous experience in contaminated site assessment and ASS sampling. Field personnel were familiar with field soil sampling techniques.
Equipment Calibration	Where applicable, field equipment was calibrated daily prior to use in the field.
Record Keeping	Date, field personnel details, observations and findings of field activities including (but not limited to) sample description, collection details, sample volumes, amendment quantities and monitoring results were recorded. Bore logs, including noting soil description, lithology, and any indicators of ASS, were recorded during borehole advancement. Coordinates of bores were either recorded on bore logs, or on mud maps recording any change in proposed location. All collected samples were recorded on appropriate Chain of Custody (CoC) documentation, which were provided with samples when delivered to analytical laboratories. A copy of any CoC was made prior to delivery and retained in the project records.
Sample Collection	Soil samples were collected via fresh nitrile glove, directly from the bore materials collected from cores collected from bores advanced by sonic drill rig. Samples were collected at 0.5 meters below ground level (m bgl), and every 0.5 m until either dolerite bedrock is encountered, or the bore hole terminates (whichever is shallower). No duplicate samples were required as part of these works. Samples were prepared in the field in clean, laboratory provided containers (zip lock bags) with air excluded. Approximately 0.5 kg of soil were collected per sample, with any shell fragments removed prior to packing so far as practicable. Samples were immediately placed in chilled eskies for storage at the drill site, then either transferred at the end of the day to: • The on-Site sample freezer. Samples were repacked in chilled eskies for transfer to the analytical laboratory at a later time (less than a week after sampling). • Directly to the analytical laboratory.

Aspect	Description
Sample Labelling	A unique name was used for each soil sample, and consisted of the bore ID, the depths the sample was collected between, and the date of sampling. For example, the sample collected from bore BH-003 between 0.5 and 0.6 m bgl on 16 April 2024 had the following ID: • BH003_0.5-0.6_160424 Samples collected from seven bores (ABH-002, ABH-003, ABH-004, BH-004, BH-012, BH-013, and BH-015) did not have the date included in the sample ID. However, sample dates were recorded on sample containers, field notes, and CoC documentation.
Chain of Custody	Standard CoC procedures were adopted for sample transfers. CoC documentation included sample numbers; date of sampling/ collection; analyses required; and release and receipt of parties accepting sample custody. A copy of the CoC was included with samples sent to the analytical laboratory, and a separate copy was retained by field staff. All samples collected were initially submitted for the **pH – Field Screen (pH_F and pH_{FOX})** analytical suite on the CoC.

3.2 Adopted Assessment Criteria

3.2.1 pH Field Screening

pH field screening was undertaken as a preliminary detection method for ASS and PASS to allow selection of appropriate locations for quantitative laboratory analysis, and reported the following outputs:

- Field pH (pH_F)
- Oxidised field pH (pH_{FOX})
- Reaction rate, a qualitative rating of how vigorously samples react to peroxide. The *National acid sulfate soils sampling and identification methods manual* (Sullivan et al, 2018b) NASSG fizz rating uses between values between 1 (no reaction) and 4 (vigorous reaction).
- The difference between pH_F and pH_{FOX} (ΔpH) is also an important indicator of possible levels of unoxidized materials present in samples.

Appendix B of TASSMG identifies a combination of three factors which are considered to result in a positive field sulfide identification:

- A reaction with hydrogen peroxide
- A high ΔpH
- The actual value of pH_{FOX}

TASSMG also noted that pH field screening is considered indicative only and not quantitative or suitable to rely upon for definitive identification of the potential to acidify or on the presence or absence of ASS. Field screen results should not be used for determination of management requirements, and must be confirmed with quantitative laboratory analysis.

Results of pH field screening have been assessed and interpreted in four possible categories, with the indicators and interpretation used presented on **Table 5** below.

- Existing acidity
- Strongly indicates potential to acidify
- May indicate potential to acidify
- Low probability of acidification

Table 5 Field pH Screening Criteria

pH Field Screen Result	Interpretation and Considerations
pH_F < 4	Indicates existing acidity
Strength of reaction with peroxide	Indicator of potential to acidify, but cannot be relied upon along. Other soil constituents, such as organic matter or manganese oxides, can also induce a vigorous reaction with peroxide.
ΔpH > 1	May indicate potential to acidify. A larger ΔpH, combined with a lower final pH_{FOX} value, is considered to more strongly indicate potential acidity.
pH_{FOX} < 3	Strongly indicates potential to acidify
pH_{FOX} 3-4	Moderately indicates potential to acidity
pH_{FOX} 4-5	Neither positive nor negative indicator
pH_{FOX} >5	Low probability of potential to acidify Low net acidifying ability present (especially if low ΔpH recorded).

3.2.2 CRS and SPOCAS

Appendix B of the TASSMG provides the following action levels for ASS in soil, based on texture categories.

Table 6 ASS Action Criteria (TASSMG)

Type of Material		Action Criteria (100-1000 tonnes disturbed)		Action Criteria (>1000 tonnes disturbed)	
Texture range	Approx. clay content (%<0.002 mm)	Sulfur trail (%S oxidisable)	Acid trail (mol H+/tonne)	Sulfur trail (%S oxidisable)	Acid trail (mol H+/tonne)
Coarse Texture Sands to loamy sands	≤5	0.03	18	0.03	18
Medium Texture Sandy loam to light clays	5-40	0.06	36	0.03	18
Fine Texture Medium to heavy clays and silty clays	≥40	0.1	62	0.03	18

Notes: Action criteria are presented on an over-dry basis

The criteria for >1,000 tonnes of coarse soil disturbed have been adopted for this assessment as:

- Initial assessment of soil excavation for Site development are approximately 220,000 tonnes; and
- Historic investigations of the Site have observed a mixture of soils, consisting primarily of sands or clays with silt/sand/gravel inclusions.

The adopted ASS action criteria are:

- Sulfur trail ≥ 0.03 %S oxidisable
- Acid trail ≥ 18 mol H+/tonne

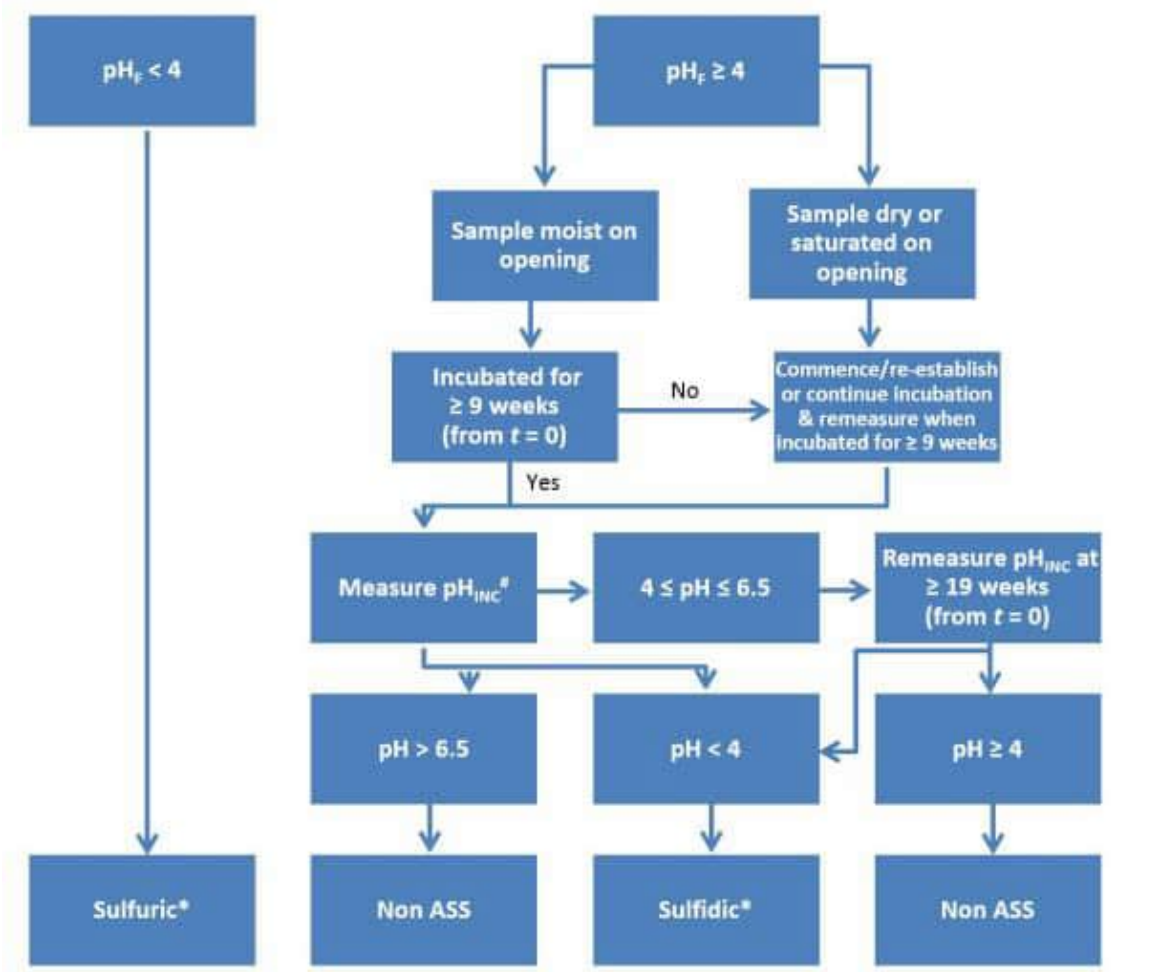
These action level criteria have been applied to the net acidity (both including and excluding ANC) reported by each analytical method, and to the Titratable Peroxide Acidity (TPA) and Titratable Sulfidic Acidity (TSA) reported by SPOCAS analysis.

3.2.3 Laboratory Incubation – Chip Tray Analysis

Appendix C of the *National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual* (Sullivan et al, 2018a) identifies two preferred methodologies for laboratory

incubation to simulate natural oxidation behaviour, and semi-quantitatively assess the acidification potential, of ASS materials.

Chip tray analysis, adopted for this assessment, includes measures of soil pH from samples after 9 and 19 weeks of incubation (pH_{INC}). Results of chip tray analysis have been considered following the flow chart shown on **Plate 2** below.



If pH during incubation is less than 6.5, ANC cannot be included in Net Acidity determination.
* (Isbell 1996) - the low pH must be demonstrated to be due to ASS processes for the soil material to be classified as an ASS material.
Source: Creeper et al. 2012.

Plate 2 Flow chart of the chip tray incubation method (Sullivan *et al*, 2018a)

3.3 Selection of Sample Analysis

Collected soil samples were assessed by four methodologies as part of this assessment, with selection of sample analysis was conducted in a step-wise manner:

- **Stage 1** - pH Field Screening
- **Stage 2** - Chromium Reducible Sulfur (CRS) and/or Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS)
- **Stage 3** - Chip Tray Analysis

Table 7 below summarises the assessment criteria used to select samples for analysis at each stage of investigation and assessment.

Table 7 Selection Criteria for Sample Analysis

Analytical Method	Criteria
Stage 1	
pH Field Screening	All samples collected
Stage 2	
CRS	CRS sample analysis was selected based on the individual pH_F, pH_{FOX}, ΔpH and observed lithologies in the field, with locations for further analysis selected in order to obtain ASS analytical data for: • A lateral and vertical distribution of samples • Each lithology or distinct soil type observed in each bore. If multiple samples were collected from a single soil profile, samples with lower pH_F or pH_{FOX}, or greater ΔpH, were preferentially selected for CRS analysis, based on a higher assessed potential to contain ASS. For example, in BH-004, two samples were collected from gravelly sand between 2.5 and 3 m bgl for pH field screening. Sample BH004_2.9-3.0m (pH_{FOX} = 4.3 and ΔpH = 4.6) was selected for further CRS analysis, when compared to sample BH004_2.5-2.6m (pH_{FOX} = 4.3 and ΔpH = 4.6)
SPOCAS	SPOCAS sample analysis was selected as an alternative analysis method to validate results of CRS. SPOCAS analysis was requested for samples selected for CRS assessment at a ratio of one SPOCAS per ten CRS, with similar consideration to indicators of ASS provided by pH field screening as noted above.
Stage 3	
Chip Tray Analysis	Chip tray analysis was conducted on samples which had been interpreted to contain PASS based CRS/SPOCAS analysis, in order to assess Acid Neutralisation Capacity (ANC) and inform any future management or mitigation requirements. In some cases, the analytical laboratory reported that insufficient sample mass remained for chip tray analysis.

3.4 Assessment of Data Quality

The Data Quality Indicators (DQIs) adopted are based upon data validation guidance documents published by Standards Australia (SA) and National Environment Protection Council (NEPC). These include *Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil* (AS 4482.1-2005), Schedule B2 *Site Characterisation* (NEPC 1999, amended 2013) and Schedule B3 *Laboratory Analysis of Potentially Contaminated Soils* (NEPC 1999, amended 2013).

Specific elements that have been checked and assessed for this Project include:

- Preservation and storage of samples upon collection and during transport to the laboratory.
- Sample holding times.
- Use of appropriate analytical and field sampling procedures.
- Required limits of reporting (LOR)
- Frequency of conducting quality control measurements.
- Field duplicate and triplicate results.
- Laboratory control measures, including laboratory duplicates, matrix spikes, and surrogate spikes.
- The occurrence of apparently unusual or anomalous results (e.g. laboratory results that appear to be inconsistent with field observations or measurements).

4.0 Desktop Acid Sulfate Soil Assessment

4.1 Preliminary Desktop Review

Prior to any field activity, a preliminary review of conditions of the Site and the likelihood of future development potentially disturbing ASS was conducted using previous investigations and assessments, available information on the proposed development plans for the Site, and publicly available ASS mapping tools were reviewed and the potential for ASS presence at the Site considered in early 2024.

Outcomes and key information considered as part of this assessment are summarised on **Table 8** below.

Table 8 Summary of Desktop Assessment Actions

Data Sources	Key Information Considered	Conclusions and Actions
Step 1 – Assess Location		
Previous assessments of the Site summarised in the *Site Remediation Strategy Update 2024* (AECOM, 2024)	The Site elevation is less than 20 m AHD, and Site groundwater elevation is between 0.5 to 3 m AHD. The Site is in close proximity to surface water bodies, and has been subject to historic land reclamation. Previous investigations have identified apparent estuarine materials (sands), both natural and reworked in fill material, which have the potential to be PASS (see **Section 2.1.1.1**). These materials are typically located below the water tables. No acidic (pH<5) groundwater has been detected in previous assessments. However, review of existing data identified indicators that Site groundwater has possibly been affected by the oxidation of sulfides (see **Section 4.1.1.1**	The Site has the potential for ASS to be present. Proceed to **Step 2**.
Step 2 – Consider Level of Disturbance		
The Precinct Plan (MPDC, 2024) and discussion with the Corporation	Although not quantified at the time of assessment, significant soil disturbance of an estimated 220,000 tonne (130,000 m^3) will be required for the proposed Site development, including potential: • Lowering or reworking of the Site surface elevation to preserve sight lines and level areas for development. • Installation of piling and lift wells. • Consideration of underground carparking. Based on the scale of proposed development, redesign of the project to avoid or reduce soil disturbance below 100 m^3 is not considered practicable. Regatta Point is currently proposed for development as medium density residential structures, with ground floor commercial or carparking. Excavation of a portion of the hillside in the western portion of Regatta Point may be required as part of building design and construction.	130,000 m^3 (>100 m^3) of soil disturbance is likely to occur as part of development. Proceed to **Step 3**.

Data Sources	Key Information Considered	Conclusions and Actions
Step 3 – Review Existing Mapping Information		
LISTMap – Coastal Acid Sulfate Soils (0-20 m AHD) layer	The Site is mapped as a Low (6-70%) probability of PASS.	PASS is potentially present. Proceed to **Step 4** and beyond.

Based on preliminary desktop review of the data considered, it was concluded that:

- Based on observed conditions, in particular observed estuarine sands (both natural and in reworked fill) beneath the water table at Macquarie Point, and available ASS mapping, PASS has the potential to be present in soils beneath the Site.
- Disturbance of 130,000 m^3 of soil has been estimated to occur during Site development activities. The structures included in proposed development, including the multipurpose stadium, are unlikely to be able to be constructed without the following soil-disturbance activities:
  - Lowering of the Site, to preserve sight lines to surrounding features (i.e., the Hobart Cenotaph to the north) and provide a level surface for development and the future stadium playing field.
  - Installation of piles anchored on dolerite bedrock to support building and stadium weights.
  - Construction of a potential underground carpark in the north-east portion of the Site, or of lift wells within proposed buildings.
  - Excavation of a portion of the hillside in the west of Regatta Point to allow basement carpark/commercial development.
- A hydrological assessment, based on available groundwater data collected in previous Groundwater Monitoring Events (GMEs), is provided in **Section 4.1.1**. This assessment concluded that there is some indicators that groundwater at the Site has been impacted by the oxidation of sulfides, but that it has a high alkalinity and is generally adequate to maintain an acceptable pH level in the future.

Due to the lack of analytical data on the presence/absence of ASS, the existing data on Site lithology and setting which identified that PASS may be present, and the level of soil disturbance identified for Site development, it was considered that the proposed development had a potential risk of disturbance of ASS. As a result, development of a soil profile and collection and analysis of field samples was commenced.

4.1.1 Hydrological Assessment

Understanding of the condition of groundwater should be undertaken prior to any activities which may disturb ASS or PASS, in order to determine:

- The vulnerability of groundwater to acidification;
- Groundwater levels, groundwater flow patterns, and the hydrogeological regime of the local area; and
- Baseline groundwater quality

The current groundwater well network at and adjacent to the Site consists of 76 groundwater wells on-Site (including Regatta Point), and 12 wells off-Site, with these wells, and other wells which have been lost or destroyed by Site remediation and development activities, sampled in 14 GMEs between 2015 and 2025. The location of existing and historic groundwater assessment locations is shown on **Figure F4**.

Based on the outcomes of previous assessments, the following is known about the Site's geology and hydrogeology.

4.1.1.1 Groundwater Use

No groundwater is currently in use on Site, or planned for use in future. Use of groundwater at the Site is restricted by the Site Environmental Management Plan (SEMP) (AECOM, 2024b), and is not anticipated to occur for any purpose other than environmental monitoring.

Site groundwater is inferred to discharge to Sullivan's Cove, located approximately 150 m south of the Site, and the River Derwent, directly adjacent to Regatta Point.

A search of the Tasmanian Groundwater Information Access Portal (https://wrt.tas.gov.au/groundwater-info/) conducted in November 2024 in a 2 km radius surrounding the Site, identified one bore (Feature ID 2864) located approximately 2 km north-north-west of the Site (AECOM, 2025d). This bore, of depth 54 m, was drilled in 1983 by Tasmania Department of Mines, and reported groundwater at 40 m bgl. Based on the age, depth to groundwater, and originator of this bore, distance and direction from the Site, and the presence of reticulated water supply in the Hobart area, it is not considered likely that extractive use of groundwater occurs from this bore, or that groundwater would be affected by Site conditions if extraction is occurring. No other bores were detected within 2 km of the Site.

4.1.1.2 Baseline Groundwater Conditions and Indications of Oxidation of Sulfides

Treatment and Management of Soils and Water in Acid Sulfate Soil Landscapes (DER, 2015a) and *Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes* (DER, 2015b) (the WA Guidelines) recommends baseline groundwater conditions be collected for:

- pH
- Total acidity and alkalinity
- Major ions – sulfate, chloride, sodium,
- Nutrients – ammonia (as N), total nitrogen, total phosphorus
- Physio-chemical parameters – Total Dissolved Solids (TDS) and Electrical Conductivity (EC)
- Metals[2] – aluminium (dissolved and total), arsenic, chromium, cadmium, iron (total and dissolved), manganese, nickel, selenium and zinc.
- Field readings – pH, redox potential (eH), dissolved oxygen (DO), total titratable acidity, total titratable alkalinity and conductivity.

The WA Guidelines also recommend using low-flow collection methods, which is the method which has been used in previous GMEs at the Site.

Available field parameters and laboratory analytical data collected at or adjacent to the Site between 2015 and 2025 are attached as **Table T5a** and **Table T5b** respectively. It is noted that previous investigations have not collected field parameters for total titratable acidity or alkalinity, or conducted laboratory analysis for total acidity.

From historic available data, however:

- Recorded laboratory analytical pH is above 6.5 in all samples, and above 6 in all field readings. Total alkalinity (as $CaCO_3$) was reported between 70 and 2,170 mg/L in 301 of 303 samples assessed for this analyte suite, with locations where total alkalinity below 70 mg/L (MW128B and MW164) both having at least two later samples collected where alkalinity was above 70 mg/L.

  On this basis, the groundwater at and around the Site is considered to have a high alkalinity and to be generally adequate to maintain an acceptable pH level in the future (DER, 2015).

- Assessment of historic groundwater data for indicators that groundwater **may** be being affected by, or has already been affected by, the oxidation of sulfides (DER, 2015) noted:
  - The calculated ratio of alkalinity (as $CaCO_3$) to sulfate (as SO_4) ranged between from historic groundwater data ranged between 0.11 and 1,000. The WA Guidelines note that a ratio of less than 5 may indicate groundwater has been affected by oxidation of sulfides.

[2] The WA Guidelines recommend dissolved metal unless otherwise noted here.

- The calculated ratio of chloride to sulfate (as SO_4) between 0.04 and 351, a ratio of less than 2 considered an indicator that groundwater has been affected by oxidation of sulfides.

  While seawater would generally have a ratio of ~7.2, this ratio is less predictive in freshwater or areas of interface between brackish and seawater. TDS, chloride and sodium concentrations in Site water generally indicate limited salinity and this ratio is considered less applicable to Site groundwater. However, this ratio is considered a secondary indicator of impact to Site groundwater by oxidation of sulfides.

- No pH of less than 5 has been recorded for groundwater. pH of less than 5 would indicate groundwater has been affected by oxidation of sulfides. However, as assessed above, the groundwater is considered to have a high alkalinity and be generally adequate to maintain an acceptable pH, which may have prevented decrease in pH.

- Reported soluble aluminium concentrations are generally less than 1 mg/L, with the exception of one sample collected from MW120 in August 2015, which reported a dissolved aluminium concentration of 1.38 mg/L.

  Some metals, including aluminium, may also have higher solubility and mobility under alkaline conditions, and 2015 sample from MW120 also reported a pH of 11.1. MW120 was located on the north-east corner of the Site near the former location of a cement plant, and it is considered likely that cement manufacturing may have elevated the pH in this area and mobilised aluminium, rather than any oxidation of sulfides.

Based on the above indicators, it is considered that, based on the ratios of alkalinity and chloride to sulfate, groundwater may have already been affected from the oxidation of sulfides. However, no indications that groundwater has been acidified or that mobilisation of aluminium has occurred were identified, and it is considered that the high alkalinity and relatively adequate buffering capacity of groundwater has prevented acidification.

4.2 Soil Profile Mapping and Planned Soil Disturbance

4.2.1 Macquarie Point

During previous soil investigations at the Site (AECOM, 2024), fill material, attributed to historic land reclamation and described as containing a combination of clays, sands, gravels, cobbles and bricks, has been recorded at a variable thickness from the surface to 0.2 to 12 m bgl, generally increasing in depth and volume from north to south across the Site, consistent with historical land reclamation activities.

Deeper fill material generally consists of silty sands, similar to the underlying natural estuarine/ marine estuarine deposits, indicating that the deeper fill material may be associated with reworked natural material or dredged material.

Two main natural soil types have been encountered at the Site including estuarine/ marine deposits (silty sands) and weathered Dolerite including clays, gravels and cobbles.

Estuarine / marine deposits have generally been encountered in the south eastern portion of the Site, ranging in depth from 3.7 -15.0 m bgl. Weathered Dolerite typically underlay the estuarine/ marine deposits (with the exception of the northern portion of the Site where the estuarine/ marine deposits are absent). The weathered Dolerite is encountered at near surface to 1.4 m bgl in the northern portion of the Site, and from 11.2 to 19.0 m bgl in the south eastern portion of the Site.

Dolerite bedrock underlies the fill and natural soils at the Site. Dolerite has been encountered at near surface in the northern portion of the Site and slopes down in a southerly and south-easterly direction to depths of up to 25.0 m bgl. The Dolerite has been described as of high strength and slightly to highly fractured (DP, 2015).

The results of geotechnical assessment of Macquarie Point, conducted by WSP in 2024, including mapping of the soil profile, were reported in *Macquarie Point Stadium Development – Geotechnical Factual Report* (WSP, 2024a). As part of this investigation, 20 soil bores, names ABH-001 to ABH-004 and BH-001 to BH-016, were advanced across the Site. The location of soil bores is shown on **Figure F2**.

Bore logs (attached in **Appendix D**) were primarily recorded by field staff from WSP field staff on-Site with the drill rig. Six bore logs (ABH-001, ABH-003, BH-004, BH-012, BH-013, and BH-015) were recorded by field staff from William C. Cromer Pty Ltd (Cromer), a Hobart-based environmental and geotechnical consultancy subcontracted by WSP.

Based on this program of work, and previous soil bore and groundwater well logs provided by AECOM, WSP prepared a three dimensional geological model of Macquarie Point using the *Leapfrog Works* software package. An extract of this model was prepared by WSP for the Corporation (WSP, 2024b), with estimates of soil volumes to be excavated and disturbed as part of Stadium development. The model extract is attached as **Appendix F**. The following features regarded in the area proposed for excavation are noted from the soil profile:

- The proposed bulk excavation will primarily remove fill and dolerite. Bulk excavation of estuarine/alluvial material is likely to occur only for construction of a proposed basement carpark in the north-east portion of Macquarie Point.
- The model output does not consider installation of support piles, which are considered likely to be anchored on fresh dolerite bedrock and will pass through/disturb intervening material. Piles will typically pass through fill material and weathered dolerite in the northern and western portions of Macquarie Point, and through fill material, estuarine/alluvial material, and weathered dolerite in the eastern, southern, and central portions of Macquarie Point. It is noted that the method of pile installation has not been determined, and that methodologies which minimise disturbance of soil (i.e., driven piles) may be considered.
- Piles will also pass through and disturb soil beneath groundwater in the eastern and southern portions of Macquarie Point.
- No jarosite, a yellowish mineral commonly found in acidic environments such as acid mine drainage or ACC, was noted on bore logs, or on review of soil core photos attached in **Appendix D**.

Additional soil bores advanced between 27 May and 11 June 2025 for ASS investigation are also included in **Appendix D**. These bores have not been incorporated into the soil profile model produced by WSP, but the observed lithologies and depths area consistent with the model.

4.2.2 Regatta Point

As part of previous environmental investigations undertaken by AECOM, 39 soil bores have been advanced within or adjacent to Regatta Point, including soil bores advanced as part of groundwater well installation.

Soil bore logs recorded by AECOM field staff are attached in **Appendix D**. The locations of soil bores in Regatta Point, with cross-sections of the observed geology, are shown on **Figure F3**.

Review of soil data indicates that the geology at Regatta Point consists of two areas:

- A flat area in the east of Regatta Point and extending to the south-east along the shoreline. Lithology observed in this area consisted of loose cobbles, up to 12 cm in diameter, present at depth of up to 2.2 m bgl, with underlying dolerite bedrock.

  This area is bitumen covered and currently in use as a public carpark in the northern portion of Regatta Point, while sandy soil/gravel, up to 0.2 m thick, was recorded at the flat portion surface in the south-east portion of Regatta Point.
- The tiered hillside on the western portion of the Site, which consists primarily of soil/fill material, typically clay or sand, of between 0.4-1.55 m thickness, underlain by a natural dolerite surface. The dolerite slopes from the west in rough alignment with the surface elevation and contours.

  Minor volumes of natural material (up to 0.3 m thick), described as clay with some shell fragments, were recorded on the fill/dolerite interface.
- No jarosite was observed in the soil cores from Regatta Point.

While the details of proposed development at Regatta Point are not yet finalised, the Corporation has indicated that:

- The flat, bitumen sealed area in the eastern portion of Regatta Point is likely to be raised by ~ 1 m, be used as public open space.
- Buildings are likely to be built on or into the hillside in the western portion of the Site. Removal of dolerite bedrock on the western side of Regatta Point may be required.

Based on the recorded soil profile and proposed disturbance:

- Future development will disturb fill material (clay and sand) above the water table, and dolerite both above and below the water table.
- Dolerite bedrock is shallow and deeper excavation (i.e., installation of piles) is unlikely to be required for future structures.

5.0 Detailed Acid Sulfate Soil Assessment

A total of 354 ASS samples were collected and have been considered for ASS assessment from 34 locations.

Sampling was undertaken using the methodology described in **Section 3.1**. The information collected in field investigations or laboratory analysis and provided in this report includes analytical laboratory documentation (**Appendix C**) and bore logs (**Appendix D**).

The locations where ASS samples were collected are shown on **Figure F2**. Summary tables of recorded lithology and analytical results are presented in **Appendix B** by methodology on **Table T1** to **Table T3**.

Assessment of results is presented below.

5.1 Sample Locations and Density

Appendix B of the TASSMG provides guidance on sampling density for ASS investigation, adapted for Tasmanian conditions from the Queensland *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998* (Ahern, 1998).

Table 9 presents the typical density of sampling holes required for ASS assessment, depending on the total surface area to be assessed, noting that the guidance also states:

- More detailed transect sampling (50 m intervals) may be required along proposed excavations (i.e., canals, lakes, drainage channels and borrow pits).
- Additional sampling (50-75 m grid) may need to be taken in areas of more intense disturbance or in potential hot spots.
- Material to be dredged should be sampled in accordance with the detailed transect sampling guidance noted in the first bullet point.

Table 9 Number of Sampling Holes (TASSMG, Appendix B)

Area of Site	Number of bore holes
Up to 1 ha.	4 holes
1-2 ha	6 holes
2-3 ha	8 holes
3-4 ha	10 holes
>4 ha	2 holes/ha

Macquarie Point is approximately 9.3 ha in total. However, the assessment area considered in this report is confined to a smaller area of approximately 8.7 ha, selected based where future soil disturbance and excavation is planned (i.e., the area within the proposed footprint of the multi-purpose stadium and structures along the eastern boundary of Macquarie Point). The following future use zones, shown on **Figure F2**, are excluded from assessment:

- The vegetated areas on the northern edge of the Escarpment.
- The portion of the Transport Corridor in Audit Area 4 East which is not within the footprint of the proposed underground carpark. It is noted that this land may be transferred to the control of the Tasmanian Department of State Growth in the future.

Based on **Table 9**, approximately 18 bore holes would be the typical sample point density required for the assessment area (shown on **Figure F2)**.

ASS assessment samples were initially collected from 20 locations in 2024, greater than the typical sample point density requirement, in the assessment area, with sample locations being generally well distributed, although locations are not aligned on a strict grid layout as they were also influenced by the requirements of the geotechnical investigation. The targeted locations surrounding ABH-004 and BH-

004 advanced in 2025 are not considered in this assessment of sample density and are discussed below.

The area of Regatta Point to be added to the Site and assessed for ASS is approximately 0.7 ha, and four locations, equal to the typical sample point requirement, were sampled for ASS assessment. Due to the relatively long and narrow boundaries of the area, ASS assessment locations were selected based on areas of proposed future building construction, as shown on **Figure F2**.

No channels, material to be dredged or potential hot spots have been identified within the assessment areas on Macquarie Point or Regatta Point, based on the current proposed development plans for the Site, with the potential exception of the area proposed for construction of an underground carpark in the north-east portion of Macquarie Point, where potential excavation of alluvial/estuarine soil from beneath the water tables has been identified.

The distribution of samples by depth, recorded lithology, and whether samples were saturated/ unsaturated (i.e., below the water table) is presented on **Table 10** below.

Table 10 Summary of pH Field Screen Sample Locations

Parameter		Macquarie Point		Regatta Point	
		Number	%	Number	%
Total number of samples analysed		330		15	
Lithology	Fill	251	71%	15	100%
	Estuarine / Alluvial / Colluvial	86	29%	0	0%
	Dolerite	2	<1%	0	0%
Depth	<2 m bgl(1)	95	28%	15	100%
	≥2 – <4 m bgl	99	29%	0	0%
	≥4 m bgl	145	43%	0	0%
Saturated (above or below water table)(2)	Unsaturated	171	50%	15	100%
	Saturated	168	50%	0	0%

Notes: 1. As surface (0 m bgl) samples were not collected on Macquarie Point, total samples <2 m bgl are slightly less than samples collected ≥2 to <4 m bgl; 2. Presence or absence of groundwater was not explicitly recorded by field staff for bole holes ABH-004, BH-004, BH-015, BH-004N, BH-004S and BH-004E. Saturated / unsaturated sample numbers for the 56 samples collected from these locations has been estimated based on recorded water depth in soil bores in the vicinity, reported moisture/wetness of sample cores, and review of core photos attached to the bore logs provided by WSP.

At each location, samples were collected at 0.5 m bgl, and every 0.5 m following this until solid dolerite bedrock, which is not considered as having any potential to be classified as ASS, was reached, with the exception of additional bores to assess possible PASS in unsaturated fill near BH-004 (BH-004A, N, S, E &W) and ABH-004 (ABH-004A, N, S, E & W) in June 2025. These bores were advanced to the water table. Samples were also collected at the surface (0-0.1 m bgl) on Regatta Point.

The following exceptions to the sampling density or depth methodology are listed on **Table 11** below.

Table 11 Identified Gaps in Sample Collection

Soil Bore	Depth (m bgl)	Reason for Discrepancy
ABH-001	1 – 2.7	Cores between 1 m bgl and 2.7 m bgl (where dolerite was encountered) consisted primarily of (>75%) dolerite cobbles up to 100 mm in length. Cromer field staff did not sample this material, based on their field assessment that it was unlikely to be ASS.
ABH-003	5.5 – 8.9	Soil above dolerite bedrock was logged as colluvial sediments by Cromer field staff and not sampled, based on their field assessment that it was unlikely to be ASS.

Soil Bore	Depth (m bgl)	Reason for Discrepancy
BH-004	9.1 – 10.5	Core loss in estuarine sediments / sands
	11.6 – 17.3	Soil above dolerite bedrock was logged as colluvial sediments by Cromer field staff and not sampled, based on their field assessment that it was unlikely to be ASS.
BH-012	5 - 6	Core loss in estuarine sediments / sands
	6.5 – 9.5	Soil above dolerite bedrock was logged as colluvial sediments by Cromer field staff and not sampled, based on their field assessment that it was unlikely to be ASS.
BH-013	13 – 14.3	Soil above dolerite bedrock was logged as colluvial sediments by Cromer field staff and not sampled, based on their field assessment that it was unlikely to be ASS.
BH-015	6 – 9	Soil above dolerite bedrock was logged as colluvial sediments by Cromer field staff and not sampled, based on their field assessment that it was unlikely to be ASS.
BH-016	9 – 12	Core loss in estuarine sediments / sands
BH-004A, N, S, E & W	>5	These five bores were advanced surrounding BH-004 in June 2025 to assess possible PASS in unsaturated soil, and were terminated at the water table. However, due to field error, samples were only collected 1 m below 1 m bgl, rather at every half meter.

All locations where discrepancies in sample depths were identified were within Macquarie Point, and no discrepancies were identified at Regatta Point.

The noted discrepancies are not considered to affect the overall interpretation of results as:

- While ASS samples were not collected from the surface and sampling commenced at 0.5 m bgl in all locations on Macquarie Point in 2024, which is recommended in Appendix B of the TASSMG, in the majority of locations where samples were advanced, the Site surface is sealed and consisted of bitumen, concrete, or other man-made materials which are not considered as having the potential to acidify by field staff, who did not collect samples.
- Core loss when drilling through estuarine sediments. Further sampling in these depths may encounter the same issue (core loss), and further or repeat sampling is not considered required as estuarine sediment samples were able to be collected and analysed from all soil bores where core loss occurred, in most cases both above and below core loss, and from other bores across Macquarie Point, and suitable density and spread is considered to have been achieved for assessment of this lithology.
- Miscommunication between WSP and Cromer field staff, and field decisions by Cromer staff to alter the scope and not sample soil which was logged as colluvial, which were not communicated to office staff until completion of field works.

  While this does constitute a potential gap in the understanding of ASS at Macquarie Point, further assessment is not considered required as:

  - The sampling discrepancy at ABH-001 was in shallow (1 – 2.7 m bgl) soil above the water table, with a recorded lithology consisting primarily (>75%) of solid dolerite cobbles.

    This soil is considered likely to have had decent exposure to atmosphere and unlikely to be oxidised and consisted primarily of large cobbles which limit the volume of soil with the potential to be ASS present, and it is not considered likely to be .
  - The other discrepancies in sampling which occurred during Cromer drilling supervision were all located beneath the water table and had overlaying estuarine materials, considered to be a higher risk of ASS, which were sampled. Mitigations for ASS in estuarine soil should also be applied to deeper materials.

- Samples were collected every 1 m below 1 m bgl in the five bores advanced adjacent to or BH-004 advanced in June, rather than every 0.5 m, due to field error. While this density is lower than recommended in the TASSMG, the high spatial density of the boreholes, within the same geological unit (fill material) is considered to offset this and the number of data points are considered sufficient for interpretation.

Based on the proposed development of the Site, the number and distribution of sampling points, and the depths in each location where samples were collected, the sampling program is considered to meet the requirements of the TASSMG and be suitable for assessment purposes.

5.2 pH Field Screening

pH field screening tests involve shaking the soil samples first with deionised water (pH_F) and then with peroxide (pH_{FOX}) and noting the resultant pH of each sample, as well as how vigorous the reaction between peroxide and the soil sample which occurs is. The pH_{FOX} test simulates extreme conditions and the formation of acid commonly simulates the oxidation of pyrite present in the soil sample, however, the oxidation of additional materials such as organic material may also affect the sample pH. As such, the pH_{FOX} result may not be entirely attributable to pyrite oxidation.

Field screening was conducted on samples frozen within 24 hours of collection at an analytical laboratory (Eurofins MGT), with sample locations and results presented on **Table T1**, which also includes with additional data about the recorded lithology and the recorded presence/absence of groundwater in each bore hole samples were collected, and interpretation of results. Analytical certificates from laboratories including the results of pH field screening are attached as **Appendix C**.

5.2.1 Results

Table 12 below summarises results of field pH screening.

Table 12 Summary of pH Field Screening Results

Parameter		Macquarie Point		Regatta Point	
		Number	%	Number	%
Total number of samples analysed		330		15	
pH_F	Minimum	5.8		6.9	
	Maximum	12		8.7	
	Number of results ≤4.0(1)	0	0%	0	0%
	Number of results >4.0	339	100%	15	100%
pH_{FOX}	Minimum	2		4.5	
	Maximum	12		7.9	
	Number of results ≤3.0(2)	31	9%	0	0%
	Number of results >3.0 and <4.0(3)	22	6%	0	0%
	Number of results >4.0	286	84%	15	100%
ΔpH	Minimum	-1		0.4	
	Maximum	7.5		3.2	
	Number of results ≥1.0(4)	221	65%	14	93%
	Number of results <1.0	118	35%	1	7%

Parameter		Macquarie Point		Regatta Point	
		Number	%	Number	%
Reaction Rate(5)	Results reported as 1	2	<1%	0	0%
	Results reported as 2	0	0%	0	0%
	Results reported as 3	2	<1%	0	0%
	Results reported as 4	335	99%	6	40%
	Results reported as 5	N/A		9	60%

Note: 1. pH_F ≤4.0 indicates AASS likely present; 2. pH_{FOX} ≤3.0 strongly indicates PASS; 3. pH_{FOX} >3.0 and ≤4.0 may indicate PASS; 4. ΔpH ≥1.0 is an indicator of PASS; 5. The analytical laboratory used a scale of 1 to 4 for reaction rate when reporting results for samples collected from Macquarie Point, and a scale of 1 to 5 when reporting results from samples collected from Regatta Point. For both scales, a higher rating indicates a more vigorous reaction.

5.2.2 Interpretation

Table 13 below summarises the results of pH field screen results against the interpretation factors presented in **Table** 5 in **Section 3.2.1**.

Table 13 Summary of pH Field Screening Interpretation

Parameter	Macquarie Point		Regatta Point	
	Number	%	Number	%
Total number of samples analysed	339		15	
Existing acidity	0	0%	0	0%
Strongly indicates potential to acidify	42	12%	0	0%
May indicate potential to acidify	184	54%	14	93%
Low probability of acidification	113	33%	1	7%

The following was noted from review of sample locations and interpretation of pH field screen results:

- No samples with existing acidity (i.e., pH_F below 4) were identified within the assessment area at Macquarie Point. Previous assessments of groundwater and soil on Macquarie Point have not detected low pHs which indicate acidic conditions or AASS present, and the results of pH field screens are consistent with the previous investigations of the Site.
- No samples with existing acidity (i.e., pH_F below 4), or strong indicators of potential to acidify, were detected at Regatta Point. This is consistent with the recorded lithology, where limited to no soil which is considered likely to be ASS was observed and where groundwater is predominantly within the dolerite aquifer.
- Samples from Macquarie Point which strongly indicated potential to acidify may be present were collected predominantly from estuarine sands at least 2 m below the water surface and generally deeper than 5 m bgl.

  Strong indicators of potential to acidify were only reported in unsaturated fill samples in:

  - ABH-004 at 1.5 m bgl, and in adjacent bores ABH-004A at 2.0 m bgl, and ABH-004W between 1.5 and 2.6 m bgl.
  - BH-004 at 3 m bgl, noting that depth to groundwater was not recorded on field records for this location, and a depth of 3.5 m bgl to groundwater has been estimated based on surrounding bore logs.
- While TASSMG considered ΔpH greater than 1 to indicate PASS may be present, this is considered a stronger indicator the greater the value ΔpH, and where pH_{FOX} is low. For the 235 pH field screening results from Regatta Point and Macquarie Point with ΔpH greater than 1:

- 160 (68%) reported a pH_{FOX} greater than or equal to 5, indicating samples were still close to neutral and of low likeliness to acidify following dosing with peroxide during field screening.
- 155 (66%) reported a ΔpH less than 3, indicating a relatively low level of change in pH following dosing with peroxide during field screening.

While a relatively high proportion of pH field samples were identified as potentially indicating potential to acidify based on ΔpH, this would not be considered a strong indicator for many locations, based on the magnitude of change or the final pH_{FOX} value recorded.

- All samples reported at least a strong reaction with peroxide, with the majority reporting a reaction described by the analytical laboratory as extreme. The rate of reaction with peroxide is not controlled solely by sulfides, and other constituents of soil, such as the manganese which is known to be present in dolerite and fill at the Site, are considered likely to contribute to the recorded reaction rates.

As pH field screening is considered indicative only and not quantitative or suitable to rely upon for definitive identification of potential to acidify or determination of management requirements, additional laboratory analysis was required to confirm results and is discussed in **Section 5.3** below.

5.3 CRS and SPOCAS Analysis

In order to assess the results of pH field screening, CRS was selected as the primary analytical measure for analytical assessment of ASS. CRS analysis was conducted on 100 samples collected from Macquarie Point and for 5 samples from Regatta Point.

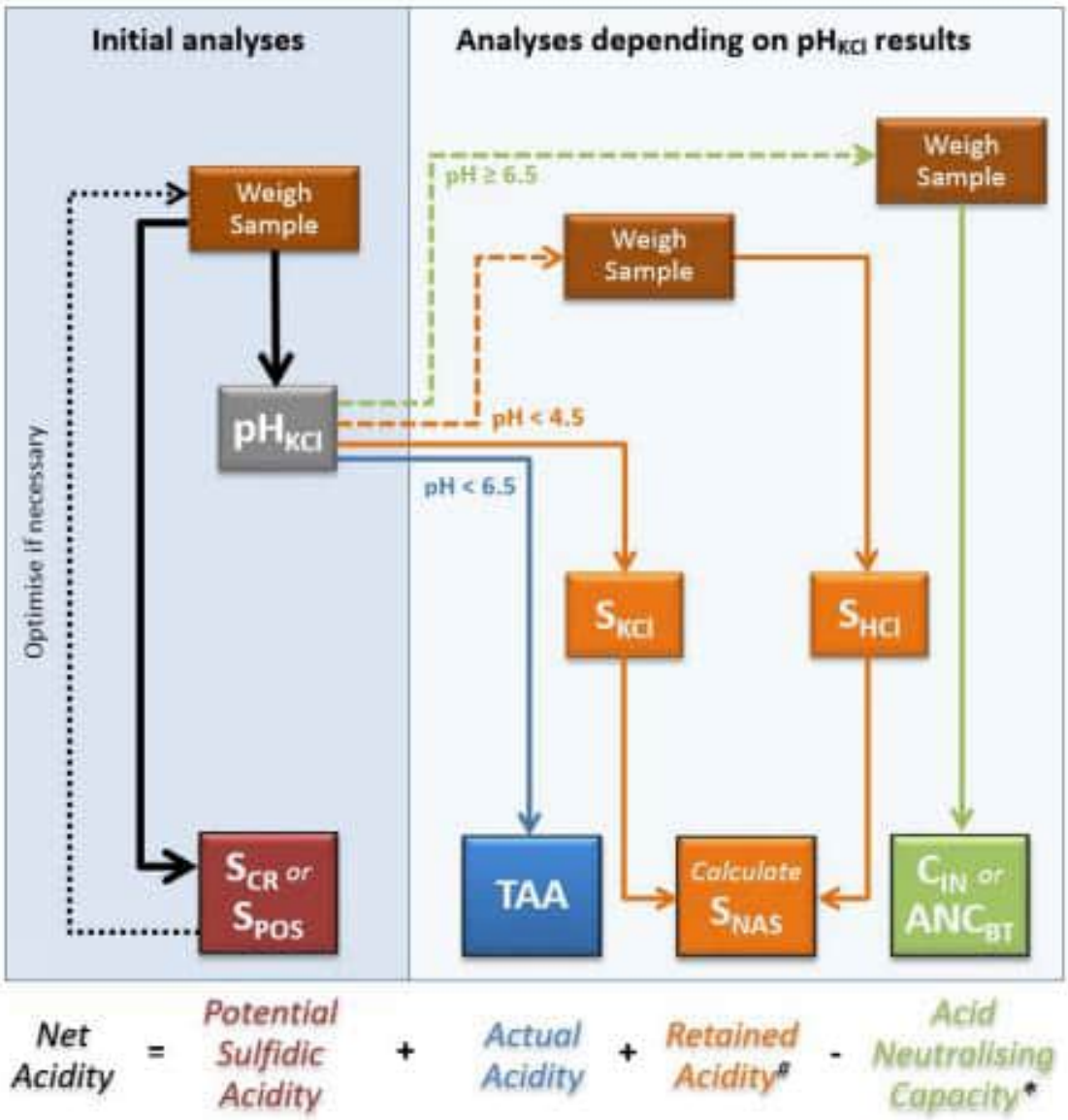
SPOCAS was conducted on 8 samples from Macquarie Point and 1 sample from Regatta Point as an alternative analytical method to assess the validity of CRS results, as discussed in **Section 5.5.3**.

Samples were selected for further CRS and/or SPOCAS analysis using the decision criteria presented on **Table 7** in **Section 3.3**.

Both CRS and SPOCAS analysis was conducted on unused portions of the soil samples collected for pH field screening and stored frozen at the analytical laboratory. CRS and SPOCAS sample results are presented screened against the adopted criteria on **Table T2**, with analytical certificates from laboratories attached as **Appendix C**.

The *National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual* (Sullivan et al, 2018) presents required ASS analyses for the acid-base accounting used to assess potential acidity, summarised on the flow chart presented as **Plate 3** below.

Figure 3.1 Flow chart showing ASS analyses required.



* Retained Acidity must be determined when the pH_{KCl} less than 4.5 or where jarosite has been visually observed in the soil material.

* ANC can only be included in Net Acidity calculation if its effectiveness has been corroborated by other data (for example incubation data) that demonstrate acidification is not experienced by the soil material during complete oxidation under field conditions. If corroboration of a measured ANC is not available, then the ANC must not be used for the determination of Net Acidity of that soil material (that is Equation 3.2 must be used). Regardless of whether ANC measurements are allowed for the calculation of Net Acidity, ANC measurements will be required on soil materials for verification purposes should lime be used for management (Equation 3.3).

Plate 3 Figure 3.1 Flow chart showing ASS analyses required for (Sullivan et al, 2018)

5.3.1 Results

Results of CRS and SPOCAS analysis are summarised below in **Table 14** and **Table 15** respectively.

Table 14 Summary of CRS Results

Parameter		Macquarie Point		Regatta Point	
		Number	%	Number	%
Total number of samples analysed		100		5	
Actual Acidity (%S)	Number of results >LOR	0	0%	0	0%
	Minimum	<0.003		<0.003	
	Maximum	<0.003		<0.003	
	Number of results >0.03%S(1)	0	0%	0	0%
	Number of results <0.03%S	100	100%	5	100%
Potential Acidity (%S)	Number of results >LOR	96	96%	1	20%
	Minimum	<0.005		<0.005	
	Maximum	1.7		0.007	
	Number of results >0.03%S(1)	62	62%	0	0%
	Number of results <0.03%S	38	38%	5	100%
Acid Neutralising Capacity (ANC) (%S)	Number of results >LOR	100	100%	5	100%
	Minimum	0.11		0.25	
	Maximum	14		1.1	
Net Acidity (excluding ANC) (%S)	Number of results >LOR	80	80%	1	20%
	Minimum	<0.02		<0.005	
	Maximum	1.7		0.007	
	Number of results >0.03%S(1)	63	63%	0	0%
	Number of results <0.03%S	37	20%	5	100%
Net Acidity (including ANC) (%S)	Number of results >LOR	15	15%	0	0%
	Minimum	<0.02		<0.005	
	Maximum	0.97		<0.005	
	Number of results >0.03%S(1)	15	15%	0	0%
	Number of results <0.03%S	85	85%	5	100%
ANC : Net Acidity (excl. ANC)	Number of results <1	15	19%	0	0%
	Number of results ≥1	65	81%	5	100%

Notes: 1. 0.03%S is the adopted action level (see **Section 3.2.2**).

Table 15 Summary of SPOCAS Results

Parameter		Macquarie Point		Regatta Point	
		Number	%	Number	%
Total number of samples analysed		10		1	
Total Actual Acidity (TAA) (%S)	Number of results >LOR	0	0%	0	0%
	Minimum	<0.003		<0.003	
	Maximum	<0.003			
	Number of results >0.03%S(1)	0	0%	0	0%
	Number of results <0.03%S	8	100%	1	100%
Potential Acidity (%S)	Number of results >LOR	8	100%	1	100%
	Minimum	0.07		0.048	
	Maximum	0.90			
	Number of results >0.03%S(1)	10	100%	1	100%
	Number of results <0.03%S	0	0%	0	0%
Acid Neutralising Capacity (ANC) (%S)	Number of results >LOR	10	100%	1	100%
	Minimum	>0.08(2)		0.2	
	Maximum	0.3			
Net Acidity (excluding ANC)	Number of results >LOR	10	100%	1	100%
	Minimum	0.07		0.048	
	Maximum	0.90			
	Number of results >0.03%S(1)	10	100%	1	100%
	Number of results <0.03%S	0	0%	0	0
Net Acidity (including ANC)	Number of results >LOR	3	30%	0	0%
	Minimum	<0.02		<0.02	
	Maximum	0.86			
	Number of results >0.03%S(1)	3	30%	0	0%
	Number of results <0.03%S	7	70%	1	100%
Titratable Peroxide Acidity (TPA) (%pyrite S)	Number of results >LOR	3	30%	0	0%
	Minimum	<0.02		<0.02	
	Maximum	0.79			
	Number of results >0.03%S(1)	3	30%	0	0%
	Number of results <0.03%S	7	70%	1	100%

Parameter		Macquarie Point		Regatta Point	
		Number	%	Number	%
Titratable Sulfidic Acidity (TSA) (%pyrite S)	Number of results >LOR	3	30%	0	0%
	Minimum	<0.02		<0.02	
	Maximum	0.79			
	Number of results >0.03%S(1)	3	30%	0	0%
	Number of results <0.03%S	7	70%	1	100%

Notes: 1. 0.03%S is the adopted criteria for identification of ASS. 2. ANC was not reported by the analytical laboratory for some samples, and has been calculated as discussed below.

5.3.2 Interpretation

Results of CRS and SPOCAS analysis have been assessed and interpreted on **Table T2** into four possible categories, based on the results of TAA and net acidity (both excluding and including ANC). Interpretation is based on the considerations below:

- If the TAA is greater than the adopted criteria (0.03 %S), the sample has already acidified and would be considered AASS.
- If the net acidity (excluding ANC) is greater than criteria, sulfidic compounds are present and may have the potential to acidify if disturbed and exposed to oxidising conditions.
- However, if the ANC of material is greater than the Potential Acidity, while sulfides may be present, natural components of the soil may prevent acidification. ANC cannot be relied upon for assessing natural buffering effects unless corroborated by alternative measures (Sullivan et al, 2018a), and the applicability of ANC in assessment of samples is assessed in **Section 5.5.3**.

The categorisation undertaken is presented on **Plate 4** below.

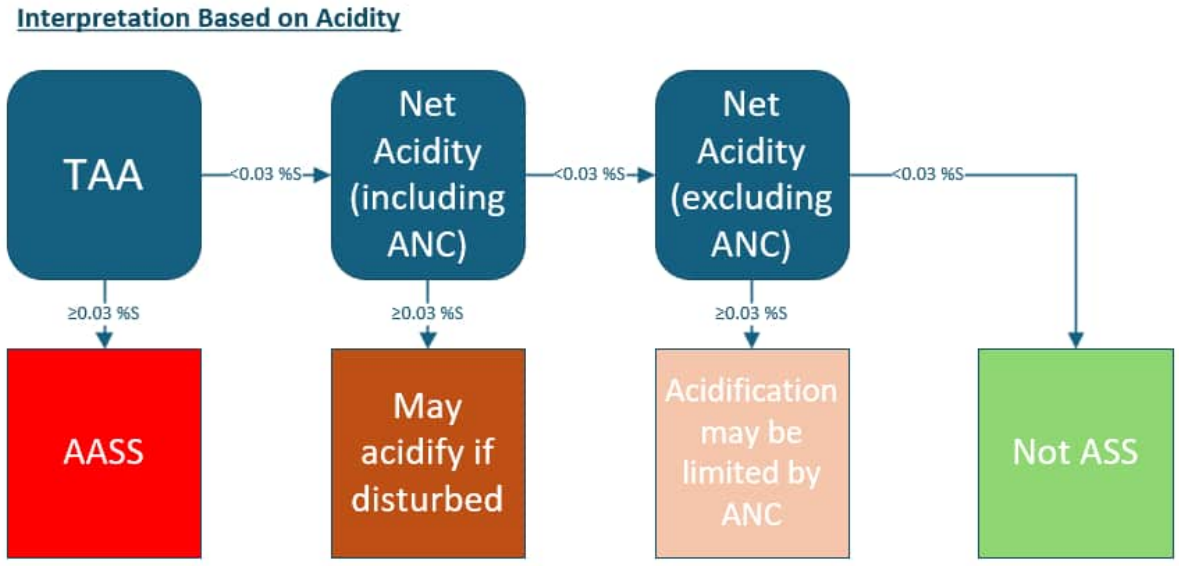


Plate 4 CRS / SPOCAS Interpretation Flow Chart

Outcomes of interpretation, using the decision tree on **Plate 4** and consideration of ANC vs net acidity (excluding ANC) on **Plate 4** are summarised in **Table 16** below.

Table 16 Summary of CRS and SPOCAS Interpretation

Parameter	Macquarie Point		Regatta Point	
	Number	%	Number	%
CRS				
Total number of samples analysed	100		5	
AASS	0	0%	0	0%
May acidify if disturbed	17	17%	0	0%
Acidification may be limited by ANC	45	45%	0	0%
Not ASS	38	38%	5	100%
SPOCAS				
Total number of samples analysed	10		1	
AASS	0	0%	0	0%
May acidify if disturbed	4	40%	0	0%
Acidification may be limited by ANC	6	60%	0	0%
Not ASS	0	0%	1[1]	100%

Notes: 1. Detected S_{POS} > 0.03%S in sample BH253_0.5_A_240920 from Regatta Point is attributed to organic interference from grass rootlets in the shallow sample, and is not considered to indicate PASS as discussed below.

The CRS and SPOCAS results and interpretation indicate that:

- No AASS was detected on either Macquarie Point or Regatta Point.
- Net acidity (excluding ANC) exceeding the action criteria was identified by CRS in 62 of the 100 samples collected Macquarie Point.

  Samples with net acidity (excluding ANC) were reported soil identified as both fill and as natural estuarine soils, and in both saturated and unsaturated soil. Sand, clay, or both were noted on bore logs at locations of each of these samples, and it is considered likely that detected sulfides ultimately source from river- and sea-beds, which was either used as fill material or covered *in situ* during historic land reclamation at the Site.

  Of these samples, 17 also reported the net acidity (including ANC) was above the action criteria. While ANC reported by CRS may be inflated due to sample preparation methods for laboratory analysis and cannot be used in assessment without corroboration (which has been assessed in **Section 5.5.3**) the results indicate that there may some capacity for natural neutralisation of acidification.
- Regatta Point did not report any actual acidity or potential acidity (excluding ANC) above the action criteria in CRS results.

  One sample, BH253_0.5_A_240920, reported potential acidity (excluding ANC) above the action levels following SPOCAS analysis. However, this result is considered likely to be organic sulfate present in organic materials (rootlets from surface grass cover) noted in the sample, and is not considered at risk of acidification.

  On this basis, soil at Regatta Point is not considered to have the potential to acidify and future management is not considered to be required.

5.4 Other Considerations

5.4.1 Use of CRS for Assessment (Inorganic vs Organic Sulfur)

CRS, the primary laboratory analytical methodology used for this assessment, uses a set of independent analytical methods, each of which determine a particular component of the acid-base accounting present on **Plate 3**. CRS can underestimate potential for acidification as it measures and

assesses inorganic sulfur components only, and can neglect organic sulphur. While organic sulphur is generally slower to oxidise and acidification can more readily be prevented by neutralising agents (either natural or added to soil), it's presence still forms a potential risk if soil is disturbed.

SPOCAS analysis includes organic sulfur, and was undertaken in order to assess the potential for organic sources of acidification. Relative percentage difference (RPD) between SPOCAS and CRS results are presented on **Table T4**.

RPDs for nine of the eleven CRS/SPOCAS analytical duplicates collected were less than the 30%, which has been adopted based on the ASC NEPM (2013) guidelines for assessing the reproducibility and comparability of separate analytical methods. RPD values in excess of the adopted acceptance criteria were reported for:

- 44 - 46% in sample BH014_3.5-3.6_240424
- 149 - 152% in sample BH253_0.5_240920

A slight variance in RPD is a result of the precision of results when reported in %S versus mole H+/tonne.

BH-253_0.5_250920 was collected from shallow soil with noted rootlets from the grass present at the surface in this area. The SPOCAS result at this location is considered likely to be due to grass and plant matter, which can induce acidification of soil in order to increase nutrient update, and this result is not considered to indicate a source of acidification which could induce risks to future soil management. The RPD exceedance in BH014_3.5-3.6_240424 is minor, and may be attributable to either some heterogeneity of the sample material, or to the presence of anthropogenic materials noted in the fill, which would also not be considered likely to induce acidification if disturbed.

The use of CRS for interpretation and assessment of ASS is considered suitable.

5.4.2 Other Sources of Acidification

CRS and SPOCAS considered potential sulfidic acidity. However, the potential exists for other sources of acidification, such as organic acidity or oxidation of iron or manganese containing compounds. While these sources are not as quick to oxidise and acidify as sulfides, they may be released over a longer timeframe and can potentially lead to environmental impact if not addressed.

As part of the SPOCAS analysis, Titratable Peroxide Acidity (TPA), a measure of the net acidity of a sample, including ANC, and Titratable Sulfidic Acidity (TSA), which is the TPA minus the Total Actual Acidity, were measured. If other sources of acidification are present, the TPA would be expected to be greater than the net acidity (including ANC) reported by SPOCAS assessment.

Table 17 SPOCAS - TPA vs Net Acidity (including ANC)

Location	Depth (m bgl)	Net Acidity (including ANC) (%S)	TPA (%pyrite S)
Macquarie Point			
ABH-002	4.0 – 4.1	<0.02	<0.02
ABH-004A	2.0 – 2.1	0.23	<0.02
BH-004	6.0 – 6.1	<0.02	<0.02
BH-004W	4.0 – 4.1	0.87	0.79
BH-005	8.5 – 8.6	<0.02	<0.02
BH-010	4.5 – 4.6	<0.02	0.06
BH-011	3.0 – 3.1	<0.02	<0.02
BH-013	3.5 – 3.6	<0.02	<0.02
BH-014	3.5 – 3.6	<0.02	<0.02
BH-016	3.5 – 3.6	0.76	0.69
Regatta Point			
BH-253	0.5 – 0.6	<0.02	<0.02

TPA was equal to or less than net acidity (excluding ANC) for all samples analysed by SPOCAS with the exception of BH-010 at 4.5 to 4.6 m bgl, where a TPA of 0.06 %pyrite S was detected. Net acidity (including ANC) was reported as <0.02 %S by CRS analysis.

Site dolerite contains appreciable concentrations of manganese, which can oxidise and acidify under peroxide titration. The soil in this sample was collected at the interface between natural estuarine sands and the underlaying dolerite bedrock, and was noted to contain fragments of dolerite on the bore log, and it is considered that this is a probable source of the discrepancy between the TPA and net acidity results.

While manganese-containing compounds can potentially generate acidification over long periods, the rate of oxidation and release is comparatively slow, when compared to sulfides, and the high alkalinity of groundwater in the area is likely to buffer and prevent acidification, as the Site and surrounding area contain large quantities of natural dolerite, including exposed natural dolerite, and have not had detectable acidification of groundwater. It is not considered that the natural dolerite is a potential source of environmental impact.

5.5 Chip Tray Analysis

During CRS and SPOCAS analysis, as part of sample preparation, soil and other materials (e.g. shells) are ground up and particle size reduced. As a result, results may report elevated ANC (either measured or calculated), as materials within the sample which may act to neutralise acidification will have a greater exposed surface area and consequently react with acidifying materials at a faster rate. As such, additional assessment to corroborate ANC is required in order to use this parameter in assessment of results.

Chip tray analysis, which simulates the natural oxidation behaviour of ASS by laboratory incubation of moist soil samples and is undertaken as a semi-quantitative technique to assess the acidification potential of samples, was selected as the alternative method to corroborate ANC results from CRS. Chip tray analysis is one of the two methodologies for soil incubation identified in Appendix C of the *National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual* (Sullivan et al, 2018a).

Samples were selected for chip tray analysis using the decision criteria presented on **Table 7** in **Section 3.3**. Samples were collected from frozen portions of the soil samples collected for pH field screening, and not used for pH field screening or CRS/SPOCAS analysis.

Chip tray analysis was conducted on 41 of 51 samples which were collected from Macquarie Point in 2024 and identified as containing net acidity (excluding ANC) above the action levels based on CRS analysis. Chip tray analysis was requested for the remaining 10 samples which met this criteria, but was not able to be undertaken as analytical laboratory reported insufficient sample volumes remaining. However, all such locations are below the water table, and have conservatively been considered PASS in assessment.

Chip tray analysis was not considered required for samples from Regatta Point, as no net acidity (excluding ANC) has been identified in soil samples collected based on CRS analysis, or an samples collected on Macquarie in 2025, as the results of the 2024 chip tray tests discussed below are considered suitable for consideration of ANC in these samples.

Chip tray analysis results are presented screened against the adopted criteria (see **Plate 2** in **Section 3.2.3**) on **Table T2**, with analytical certificates from laboratories attached as **Appendix C**. The results of chip tray analysis are summarised on **Table 18** below.

Table 18 Summary of Chip Tray Analysis

Parameter		Macquarie Point	
		Number	%
Total number of samples analysed		41	
AASS		0	0%
Sulfidic		10	24%
Not ASS	ANC should not be used for interpretation (pH ≤ 6.5 reported during incubation)	9	22%
	ANC can be used for interpretation (pH ≤ 6.5 not reported at any time during incubation)	22	54%

No samples reported an initial pH (prior to incubation) of less than or equal to 4, and no AASS is considered to have been present in samples.

5.5.1 Sulfidic Samples

The NASSG flowchart on **Plate 2** classifies samples as sulfidic if a pH of less than or equal to 4 is detected during incubation. NASSG notes that the low pH must be confirmed to be due to ASS processes for the soil to be classified as ASS material.

Chip tray analysis reported ten samples as sulfidic, and, in light of the consideration of potential other sources of acidification in **Section 5.4.2**, which did not identify any alternative sources of acidification, should be considered PASS. As all samples submitted for analysis had net acidity (excluding ANC) greater than the action criteria, and would be expected to acidify in the absence of ANC, the relatively low percentage of chip tray samples which did acidify supports the presence of ANC within the soil.

Eight of the ten samples which chip tray analysis indicated were sulfidic were collected from saturated estuarine sand collected at greater than 5.5 m bgl, and support the assessment that PASS is present in saturated material beneath Macquarie Point.

It is noted that for six of these locations, pH_{INC} increased to greater than 4 (non-ASS) after 19 weeks. While this may indicate some acidification of soils may return to neutral over medium to long term time periods, these materials are still considered ASS in accordance with NASSG, and have the potential to cause environmental harm in the short to medium term. Management of ASS during excavation is considered required based on these outcomes.

5.5.2 Chip Tray - Not ASS

Chip tray results reported that 31 were not ASS, and that ANC could be used for interpretation (i.e., $pH_{INC} \leq 6.5$ was not observed during analysis) in 22 of these samples.

The nine samples identified as not ASS, but in which ANC should not be used for interpretation, where $pH_{INC} \leq 6.5$ was observed, but $pH_{INC} < 4$, was not, were all collected from fill materials noted as combinations of silt, sand, clay and gravels. Six of the nine samples collected from saturated materials, and seven of the samples were collected from 2 m bgl or deeper.

Considering the location of the Site, the depths of samples, and the description of the lithology, it is considered likely that the soil these samples were collected from may be dredged materials used as fill during historic land reclamation at Macquarie Point.

While the results from these samples indicates that ANC should not be used in assessment of net acidity, these samples did not acidify sufficiently to be considered ASS as part of the 19 week period of chip tray assessment.

5.5.3 Use of ANC in Assessment of Potential to Acidify

ANC represents the natural capacity for soil to neutralise acidification, and if ANC exceeds the sum of the potential, actual, and residual acidity of soil then acidification is unlikely to occur.

However, ANC reported by CRS and SPCOAS can be overstated as the sample preparation process includes grinding of samples, which can break up and increase the surface area of natural neutralising

constituents of the sample, such as shell fragments, which leads to a faster rate of reaction and greater ANC than is likely to occur in nature. While sample preparation includes sieving and removal of materials >2 mm in size, the ANC of remaining materials in the 0.3 to 2 mm range would not be 100% available under real field conditions. Use of ANC is only permissible where it has been confirmed by other analytical methodologies (Sullivan et al, 2018a).

Chip tray analysis was undertaken as a method to assess if the ANC values derived from CRS and SPOCAS assessment could be used in interpretation and assessment of results. The results of CRS and SPOCAS results were in agreement with or more conservative than chip tray results in 37 of the 41 samples analysed, and indicate that there is ANC in the soil which can prevent

22 of the 31 (71%) samples which chip tray analysis indicated were not ASS did not report a pH_{INC} of less than or equal to 6.5 during any measure taking during incubation, which would support use of ANC. For the remaining 9 samples, where the flowchart (**Plate 2**) indicates that ANC may not be reliable:

- Four samples (ABH004_3.0-3.1, BH004_4.5-4.6M, BH012_4.5-4.6 and BH014_1-1.1_290424) reported a pH_{INC} of less than or equal to 6.5 after 9 weeks of incubation, but were above this criteria after 19 weeks, indicating that neutralising activity was occurring within samples. Sample BH008_5.5-5.6_070524 also reported a $pH_{INC(19\ weeks)}$ of 6.4, only marginally below the NASSG guideline value.
- Six samples were collected from saturated material, which has been assessed as PASS regardless of if ANC is included in assessment.
- Only one sample from unsaturated material (BH016_2-2.1_010524) did not report a $pH_{INC(19\ weeks)}$ > 6.5.

The majority of chip tray samples agreed with the outcomes of CRS/SPOCAS analysis. However, in four samples, listed on **Table 19** below, chip tray samples acidified (pH < 4) for locations where CRS/SPOCAS indicated that ANC may prevent acidification.

Table 19 Samples where chip tray was more conservative than CRS

Location	Depth (m bgl)	Material	Interpretation	
			CRS	Chip Tray
BH004	2.9-3.0	Unsaturated fill	Acidification may be limited by ANC	Sulfuric
	8.5-8.6	Saturated estuarine	Acidification may be limited by ANC	Sulfuric
BH005	5.5-5.6	Saturated estuarine	Acidification may be limited by ANC	Sulfuric
BH007	6.0-6.1	Saturated estuarine	Acidification may be limited by ANC	Sulfuric

Based on comparison of chip tray to CRS/SPOCAS results, it is considered that:

- While all 41 samples submitted for chip tray analysis had sufficient net acidity (excluding ANC) to acidify, 31 (75%) of them did not report a pH less than 4 and are not considered to have acidified. Some ANC is present in Site soils on this basis.
- The level of ANC may be over-estimated by CRS. In particular, 9 samples (22%) did not acidify but reported pH of less than 6.5, and four of the samples (10%) which did acidify reported sufficient ANC from CRS/SPOCAS to prevent this.

Based on these results, while the quantified ANC may be overstated by CRS/SPOCAS, it is still present. In order to assess the net acidity and determine if soil is considered probably to generate acid if disturbed, ANC will only be included if the measured ANC value is an order of magnitude greater than measured net acidity (excluding ANC).

5.6 Data Validation

An assessment of data quality and validation has been undertaken and is attached as **Appendix E**. This assessment noted:

- Sample receipt temperatures were greater than 0°C or not recorded for sample batches 1094321,1141778, 1225146, 1231576, and 1237090. However:
  - 1094321, 1225146, 1231576 were reported between 2.9 and 10.2°C upon receipt to the laboratory. 1141778 did not have a sample receipt temperature reported by the analytical laboratory.

    However, all batches were delivered to the analytical laboratory, when they were frozen, less than 24 hours after collection, and had efforts to chill noted, and it is not considered that these receipt temperatures indicate a breach in sample preservation.
  - 1237090 had a reported sample receipt temperature of 5.6°C. This batch consisted of additional analysis of samples delivered in batches 1225146 and 1231576, and the reported receipt temperature was derived from these early batches. The laboratory confirmed all samples in 1237090 had been maintained at <0°C since receipt, and it is not considered that these receipt temperatures indicate a breach in sample preservation.

Overall, on the basis of the data validation, the overall quality of the analytical results is considered to be acceptable and suitable for assessment of the soil conditions of the study area.

6.0 Preliminary ASS Management Considerations

6.1 Potential to Acidify

No AASS has been detected in soil at either Macquarie Point or Regatta Point.

Net acidity reported by CRS and SPOCAS analysis have been assessed to identify locations where soil is considered at high risk of acid generation, using the action levels in **Section 3.2.2**. Based on the outcomes of chip tray analysis (**Section 5.5.3**), it is considered suitable to include ANC in assessment where it is an order of magnitude (10x) greater than the net acidity (excluding ANC).

Results of this assessment are presented on **Table T2**. Locations where the net acidity exceeds the adopted action levels, and soil is considered of high probability of acidification, are summarised on **Table 20** below and shown on **Figure F6**.

Table 20 Locations with High Probability of Acid Generation

Borehole	Average Depth (m bgl)	Generalised lithology	Saturated?	pH_{ox} (pH units)	CRS Net Acidity (%S)
ABH-002	4.05	FILL - Sandy gravelly CLAY	Yes	6.8	0.11
ABH-003	5.55	ESTUARINE - SAND	Yes	2.9	0.22
ABH-004	1.55	FILL - Gravelly SAND	No	2.9	1.7
	3.05	FILL - Sandy CLAY	Yes	5.4	0.28
ABH-004A	2.0	FILL - Clay, dark brown, anthropogenic fragments	No	2.4	0.6
ABH-004N	2.5	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	3.1	1
ABH-004S	1	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	4.3	0.42
	2	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	3.5	0.11
ABH-004W	1.5	FILL - Clay, black with orange traces, gravels	No	2.5	0.42
	2.5	FILL - Clay, sandy, black/brown, anthropogenic traces	No	2.4	1.1
BH-004	2.95	FILL - Gravelly SAND	No	3.3	0.032
	4.55	FILL - Silty sandy GRAVEL	Yes	8	0.064
	6.05	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes	4.3	0.14
	8.55	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes	2.7	0.48
BH-004A	4	FILL - Sandy gravels, grey, crushed concrete, dolerite, sandstone	Yes	8.1	0.08
BH-004W	4	FILL - Clay, brown, with white silty inclusions, red brick and glass fragments, sand inclusions	Yes	2.5	0.88
BH-005	5.55	ESTUARINE - SAND. Trace shells	Yes	3.4	0.24
	8.55	ESTUARINE - SAND. Trace shells	Yes	2.8	0.42
	10.55	ESTUARINE - SAND. Trace shells	Yes	2.2	1.2
BH-006	3.05	FILL - Sandy CLAY	Yes	5.6	0.97
	6.55	ESTUARINE - SAND. Trace shells	Yes	2.9	0.2
	8.05	ESTUARINE - CLAY	Yes	3.3	0.71
	11.55	ESTUARINE - SAND. Trace shells	Yes	2.5	0.55
BH-007	3.05	FILL - Sandy CLAY	Yes	6	0.18
	4.55	FILL - SAND	Yes	7.2	0.25
	6.05	ESTUARINE - SAND. Shells fragments	Yes	2.9	0.32

Borehole	Average Depth (m bgl)	Generalised lithology	Saturated?	pH_{ox} (pH units)	CRS Net Acidity (%S)
BH-008	3.05	FILL - Clayey SAND	Yes	6.4	0.66
	4.55	FILL - Silty clayey SAND	Yes	6.9	0.23
	5.55	FILL - Silty clayey SAND	Yes	3.7	1.3
BH-009	3.55	FILL - Clayey SAND	Yes	6.2	0.41
	6.05	FILL - SAND. Shell fragments	Yes	4.3	0.21
	7.05	FILL - Sandy Clay. Shell fragments	Yes	3	0.69
BH-010	4.55	ESTUARINE - SAND	Yes	2.9	0.1
BH-011	3.05	FILL - Silty CLAY	Yes	3.8	0.06
	4.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	7	0.03
	5.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	5.2	0.16
BH-012	6.05	ESTUARINE - Silty SAND. Trace shell fragments	Yes	3.4	0.085
BH-013	3.55	FILL - Clayey sandy SILT	Yes	4.9	0.13
	6.45	ESTUARINE - SAND. Shell fragments	Yes	7.3	0.21
	8.55	ESTUARINE - SAND. Shell fragments	Yes	2.5	0.32
	11.05	ESTUARINE - SAND. Shell fragments	Yes	2.3	0.64
BH-014	5.55	ESTUARINE - Clayey SAND	Yes	4.6	0.22
BH-015	5.55	ESTUARINE - SAND. Shell fragments	Yes	3.2	0.29
BH-016	2.05	FILL - Clayey gravelly SAND	Yes	4.4	0.058
	4.55	FILL - CLAY	Yes	4	0.86
	5.55	FILL/ESTUARINE - Clayey SAND. Shell fragments	Yes	2.9	0.92
	7.55	FILL - SAND. Shell fragments	Yes	4.6	0.73
	8.55	FILL - SAND. Shell fragments	Yes	4.8	0.12
	13.55	FILL - SAND. Shell fragments	Yes	2.6	0.44

Notes: * ANC has been used in determination of net acidity.

Based on this assessment, while no soil with a high potential to acidify has been identified at Regatta Point and soil in this area is not considered at risk of acidification, samples collected from 23 soil bores at Macquarie Point have been identified as having soil with a high risk of acidification if disturbed. The locations where soil with high potential to acidify are shown on **Figure F6**.

Soil with high potential to acidify is relatively widely distributed across the Site, but was not detected in the northern and western portions of the proposed excavation area, closer to the historic shoreline (prior to historic land reclamation; refer to **Section 2.1.1**). The soil profile of samples with high potential to acidify generally included sand and/or clay, and it is considered most probable that the source of high potential to acidify the presence of river- and sea-bed which was either covered *in situ*, or used as a fill source following dredging, during historic land reclamation in the area.

41 of the 49 samples with high potential to acidify were collected from saturated soils (i.e., below the water table), and it is considered that soil with the potential to acidify if disturbed is likely to be widespread below the water table and will require management to prevent acidification if disturbed by excavation, or by any activities which may introduce dewatering.

The majority (48 of 56 samples) of unsaturated soil samples were assessed as low potential to acidify, and had between 10 and 2,000 times ANC in excess of the potential acidity (noting that ANC values may be inflated due to sample preparation procedures prior to analysis). Unsaturated soil with high potential to acidify was identified in two areas:

- In one sample collected at 3 m bgl from BH-004 in the southern portion of the proposed excavation area.

As the depth to water was not recorded on the bore log for BH-004, it has been assumed that the sample collected at 3.0 m bgl was unsaturated, based on historic gauging recording groundwater depths of between 3.060 and 3.360 m bgl in groundwater well MW128, and of 2.948 to 3.293 m bgl in RS6, both approximately 10 m from BH-004. However:

- Minor variations or unevenness may mean the surface at BH-004 is lower than at MW128 or RS6.
- Minor fluctuations in groundwater level have been recorded seasonable and in response to broader climatic changes (i.e., drought or heavy rain periods), and such minor fluctuations may have led to groundwater covering the depth at which this sample was collected for periods of time.
- Core loss occurred in BH-004 between 3.0 and 3.7 m bgl, which may indicate saturated material. On the photographic record of this bore, a distinct colour change and some apparently wetness can be seen in the soil profile at 3 m bgl, which may also indicate a transition to saturated soil (see **Plate 5** below and **Appendix D**).

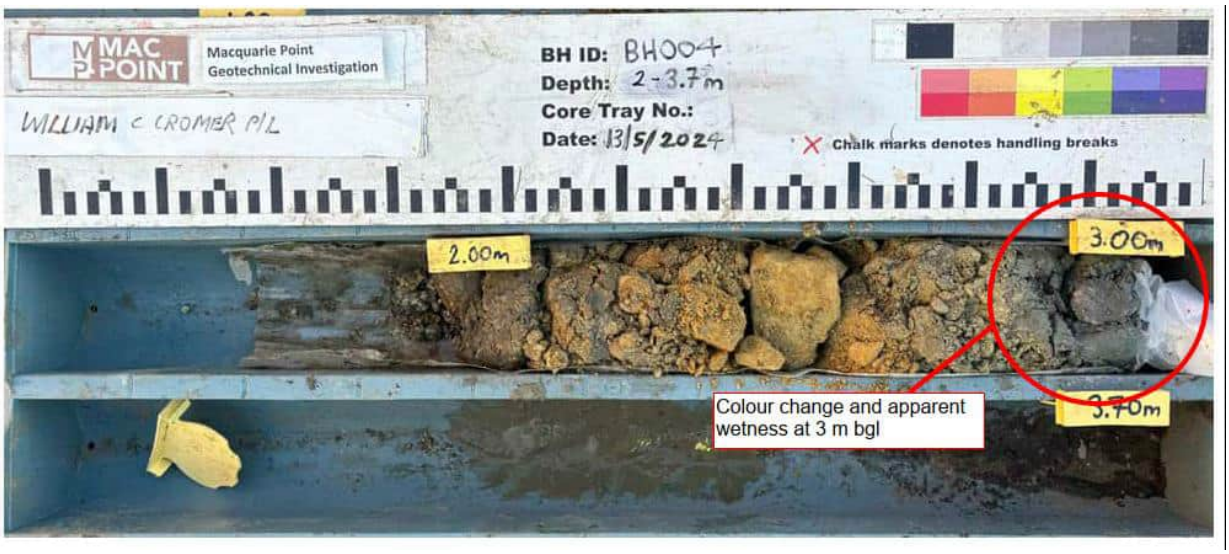


Plate 5 BH-004 - Core Log at 2 to 3.7 m bgl

As such, the sample collected at 3 m bgl from BH-004 is considered likely to have been representative of soil which may have been saturated, or is saturated on an intermittent basis, and is not considered indicative of PASS in unsaturated soil.

However, this sample does indicate that soil close to groundwater, even if not saturated at the time of excavation, may have been intermittently saturated and contain unoxidized sulfides, and it is considered that management of potential acidification should also be required for wet or damp soil near the water table which demonstrates colour change such as visible on the BH-004 bore log.

- In seven samples collected in the central eastern area of the proposed excavation, from between 1.5 and 2.5 m bgl in ABH-004 and surrounding satellite bores ABH-004A, ABH-004S, ABH-004S, and ABH-004E.

  The soil in these bores which was assessed as high potential for acidification is described on bore logs as mixtures of sand, gravel and clay. Photographs of the material with high potential to acidify show black sand and gravels which appear to be estuarine soil in the fill (see **Plate 6** below and **Appendix D**).

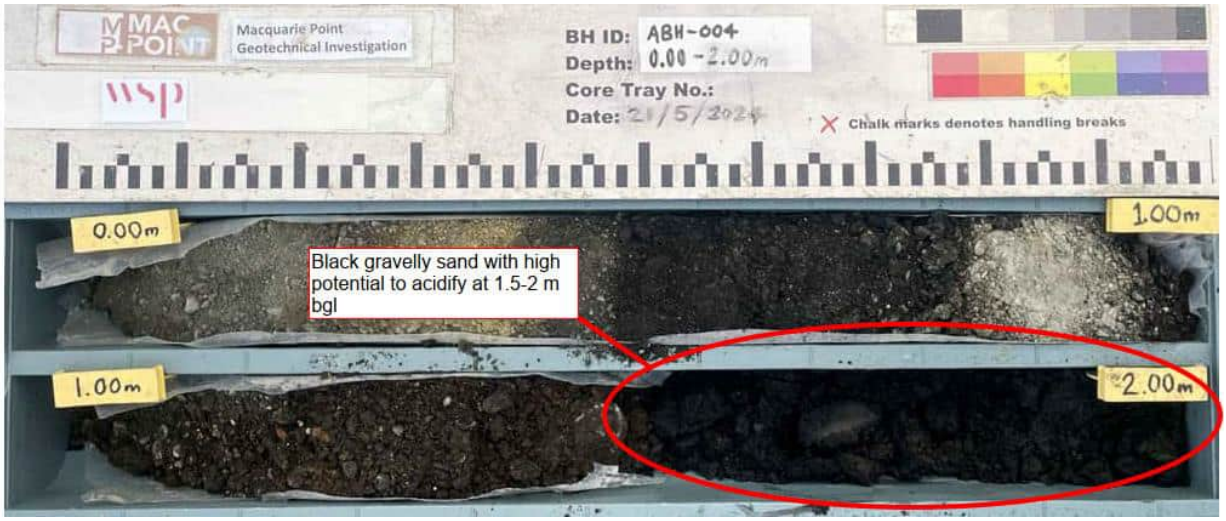


Plate 6 ABH-004 – Core Log at 0 to 2 m bgl

Unsaturated soil is considered of lower potential to acidify, as it would generally be expected to have been exposed to oxygen during dredging, storage and handing as part of land reclamation, as well as in the >85 years since the most recent phase of land reclamation in this area in 1937.

However, the potential exists for pockets within the unsaturated fill where oxidation has not occurred. Historic soil sample in the vicinity of ABH-004 has detected low soil oxygen, which has been attributed to anaerobic digestion of either organic material in estuarine sands or historic fuel hydrocarbon impacts.

The material in ABH-004 and surrounding bores, and any other similar material encountered in the unsaturated fill, much be segregated and managed as PASS

Overall, on the basis of assessment of potential acidity:

- Soil at Regatta Point is not considered to have potential to acidify and no management measures are considered required for this area.
- PASS is present in soil at Macquarie Point and will require future management in:
  - Saturated soil, and soil which may have been intermittently wet at the water table.
  - Pockets of unoxidized estuarine sands in fill, characterised as black sand and gravel, which has not oxidised prior or during land reclamation, or while *in situ* on the Site.
- Management is not considered required for the remaining unsaturated soil at the Site based on the existing ANC of soil, which is an order of magnitude or greater than the potential acidity. While the reported ANC may be inflated by sample preparation, it is considered suitable for use in interpretation with the safety margin of 10x as it has been corroborated by chip tray analysis.

6.2 Indicative Treatment and Neutralisation Requirements

Neutralisation (or liming) of ASS is undertaken by the addition of agents which can increase the ANC of soil and prevent or reverse acidification. The dosage rate of neutralisation agents is based on the net acidity of the soil to be treated.

No neutralisation of soil at Regatta Point is considered required based on the net acidity of samples from this area. For the purpose of calculating an indicative neutralisation rate, the identified PASS at Macquarie Point has been split into three domains:

- Type 1 – Estuarine material within the unsaturated fill across the Site. The material detected in ABH-004 and surrounding bores is considered Type 1.
- Type 2 – Saturated soil within 3 m of the top of the water table, or soil at the water table which may be intermittently wetted, which is considered more likely to be disturbed by direct excavation and construction activities, or by dewatering for construction.

- Type 3 – Saturated soil at greater than 3 m below the water table, which may be disturbed by piling activities, or other activities which disturb deeper soil.

The expected net acidity for each domain has been calculated using the mean of the net acidity for assessment (**Table T2**) plus one standard deviation, and is presented on **Table 21** below.

Table 21 Net Acidity for Soil Neutralisation

PASS Type	Number of CRS Samples	Net Acidity (%S)			
		Range	Mean	Standard Deviation	Adopted Treatment Value
Type 1	15	<0.02 – 1.7	0.37	0.52	0.89
Type 2	33	<0.02 – 0.97	0.22	0.26	0.48
Type 3	17	0.025 – 1.3	0.54	0.36	0.91

Appendix C of the TASSMG provides a table for estimation of the amount of pure, finely ground calcium carbonate ($CaCO_3$) required to neutralise potential acidification based on %S. However, real world products used for treatment of potential acidification are unlikely to be as effective and greater dosage rates are likely.

Agricultural lime (aglime) is a commonly used liming agent for the treatment of AASS and PASS as it is typically readily available and relatively low cost. Estimated liming rates have been calculated for each PASS type for a generic agricultural lime (aglime) using the methodology provided in DER (2015a) has been used, with the calculation parameters present on **Table 22**.

Table 22 Aglime Dosage Rate Assumptions

Parameter		Value
Aglime Properties[3]		
Particle Sizing Distribution (PSD)	>0.850 mm	5% $^{w}/_{w}$
	0.300 – 0.850 mm	15% $^{w}/_{w}$
	<0.300 mm	80% $^{w}/_{w}$
Stated Neutralisation Value (SNV)		85%$CaCO_3$
Site Specific Characteristics		
Estimated Average Soil Density (*in situ*)		1.4 tonnes/m^3
Safety Factor[4]		
In situ soil		2
Stockpiles (*ex situ* soil)		1.5

The estimated liming rate for each PASS type is presented on **Table 23** below.

Table 23 Estimated Liming Rates - Generic Aglime

PASS Type	Assumed %S	Liming Rate (Generic Aglime)			
		Stockpiles		*In situ* soil	
Type 1	0.89	55 kg/t	77 kg/m^3	73 kg/t	102 kg/m^3
Type 2	0.48	28 kg/t	41 kg/m^3	39 kg/t	55 kg/m^3
Type 3	0.91	55 kg/t	77 kg/m^3	73 kg/t	102 kg/m^3

[3] These parameters should be available from aglime suppliers. The adopted values are based on those generally available on the eastern coast of Australia.
[4] Homogeneous and uniform mixing of liming agents is more difficult to achieve in *in situ* soil, and a higher safety factor has been adopted as a result.

The following is noted for assessment and selection of future dosage produces and the treatment of PASS:

- Areas with higher %S that the adopted treatment value may be present in PASS. Any neutralisation undertaken should be verified by post-treatment testing, and may require re-treatment if the potential for acidification has not been sufficient reduced.
- Granulated products should not be considered. Granulation reduces the surface area available for neutralisation and, while such products may have longevity in treated soil, they are unable to neutralise acidification at the rate which may occur in PASS.
- Alternative products may be considered for use in neutralisation of PASS. The properties of any such alternative must be assessed, and the dosage rate reevaluated by a suitably qualified and experienced environmental practitioner, prior to any treatment.
- The longevity and potential additional environmental impacts of alternatives should be considered. For example, products such as sodium hydroxide (NaOH) typically have little residual alkalinity and buffering capacity over time, and can lead to elevated sodium levels in soil or groundwater with knock-on effects and impacts.

7.0 Conclusions and Recommendations

7.1 Conclusions

Based on observations recorded during bore advancement and the results of laboratory analysis for pH field screening, CRS, SPOCAS, and chip tray analysis, the following is concluded about the presence, extent and characteristics of ASS at the Site:

- No AASS has been detected at Macquarie Point, and no ASS (either AASS or PASS) has been detected at Regatta Point.
- Oxidisable sulfides have been detected at Macquarie Point, consisting generally of sands and clays consistent with estuarine materials, and it is considered likely that river- and lake-bed materials (either originally present on Site, or used as part of historic land reclamation) is the ultimate source of this material.

  Soil with a high potential to acidify due to the presence of reduced inorganic sulphur, which is considered PASS, has been identified in:

  - Saturated soil, and soil which may have been intermittently wet at the water table.
  - Pockets of unoxidised estuarine sands in fill, characterised as black sand and gravel, which has not oxidised prior or during land reclamation, or while *in situ* on the Site.

  Management will be required for any work which may disturb or dewater PASS.
- Review of historic data identified indicators that Site groundwater has been affected by the oxidation of sulfides, but that acidification has not occurred and has likely been prevented by the alkalinity of groundwater. Site groundwater should also have a reasonable capacity to buffer against acidification from ongoing natural oxidation of sulfides in soil.
- PASS management is not considered required for the remaining unsaturated soil at the Site based on the existing ANC of soil, which is an order of magnitude or greater than the potential acidity. While the reported ANC may be inflated by sample preparation, it is considered suitable for use in interpretation with the safety margin of 10x as it has been corroborated by chip tray analysis.
- Indicative dosage rates to treat and neutralise PASS with aglime if disturbed have been calculated for three categories, presented on **Table 24** below.

Table 24 PASS Liming Rates (Generic Aglime)

PASS Type	Assumed %S	Liming Rate (Generic Aglime)			
		Stockpiles		*In situ* soil	
Type 1 Estuarine material in unsaturated fill, which may be encountered during excavation or development. Black sand/gravel matrix with some clay potentially present.	0.89	55 kg/t	77 kg/m^3	73 kg/t	102 kg/m^3
Type 2 Saturated soil at or ≤3 m below the water table, which may be encountered during excavation or development, or affected by dewatering	0.48	28 kg/t	40 kg/m^3	39 kg/t	55 kg/m^3
Type 3 Saturated soil at >3 m below the water table, which may be affected by piling.	0.91	55 kg/t	77 kg/m^3	73 kg/t	102 kg/m^3

The rates on **Table 24** are based on a generic assumed aglime with an SNV ≥ 85%$CaCO_3$, and in which ≥80% of aglime particles are < 0.3mm. These parameters have been assumed based on typical aglime available in eastern Australia.

Any neutralisation agent proposed for use on the Site should be compared to these properties. While alternatives may be suitable for PASS treatment, the suitability and an dosage rate of any alternative should be reviewed and verified by a suitability qualified and experienced environmental practitioner with consideration of:

- SNV and particle size distribution
- Solubility and longevity
- Potential for other environmental effects

Any neutralisation of PASS must be verified by post-treatment laboratory analytical results.

7.2 Recommendations

Based on the outcomes of this assessment, it is recommended that:

- Future activities at Macquarie Point should identify all activities which have the potential to disturb or expose (i.e., dewater) PASS at the Site, and:
  - The SEMP and CEMPs should include overarching management obligations for disturbance of ASS and/or water table drawdown via dewatering.
  - A scope specific Acid Sulfate Soil Management Plan (ASSMP) and Dewatering Management Plan (DWMP) should be developed for each discrete works package involving civil and general earthworks activities, water table drawdown via dewatering, and any other significant soil disturbance activities or changes to natural groundwater and surface water systems.

    These documents should be prepared by those undertaking works which may disturb PASS, and must include:
    - Estimated volumes and action criteria for PASS which may be disturbed by the proposed works.
    - Procedures for the handling of disturbed PASS, including verification of neutralisation, groundwater generated by dewatering, and monitoring of Site environmental conditions in the vicinity of PASS disturbances.
    - Contingency measures which are specific, measurable, and attainable, and can be implemented in a timely manner in the event that action criteria or trigger values are exceeded.
- Future structures and infrastructure at the Site should consider the potential effects of sulfides and possible acidification in design and selection of materials, and adopt appropriate mitigation measures to prevent degradation of materials overtime.
- Any groundwater, or run-off which may have come into contact with PASS, should be considered as potentially contaminated. pH and the potential to acidify should be considered in assessment any such water prior to disposal

The above recommendations should be documented in the SEMP (AECOM, 2025a).

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 100 200 400

metres

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LEGEND

- Regatta Point Boundary
- Macquarie Point Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Acid Sulfate Soil Investigation

Macquarie Point, Hobart, TAS

Figure

F1

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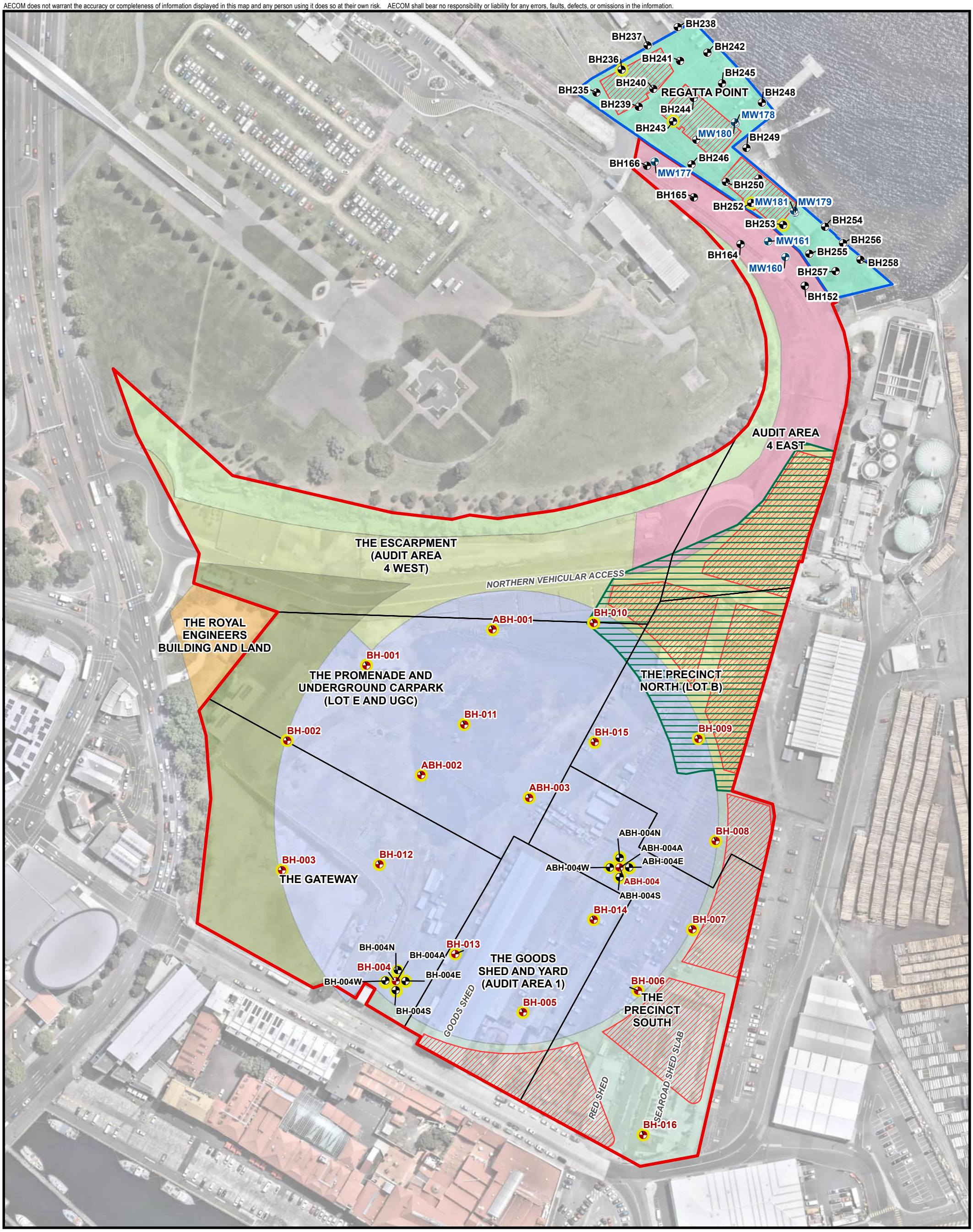

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100

metres

1:1,800 (when printed at A3)

Legend

- WSP Geotechnical Bore
- Groundwater monitoring well
- Soil Bores
- ASS Investigation Location
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE LAYOUT AND ASSESSMENT LOCATIONS

Macquarie Point Development Corporation

Acid Sulfate Soil Investigation

Macquarie Point, Hobart, TAS

Figure

F2

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\02\Acid_Sulfate_Soil_Investigation\F2_Site_Layout_and_Assessment_Locationst.mxd)

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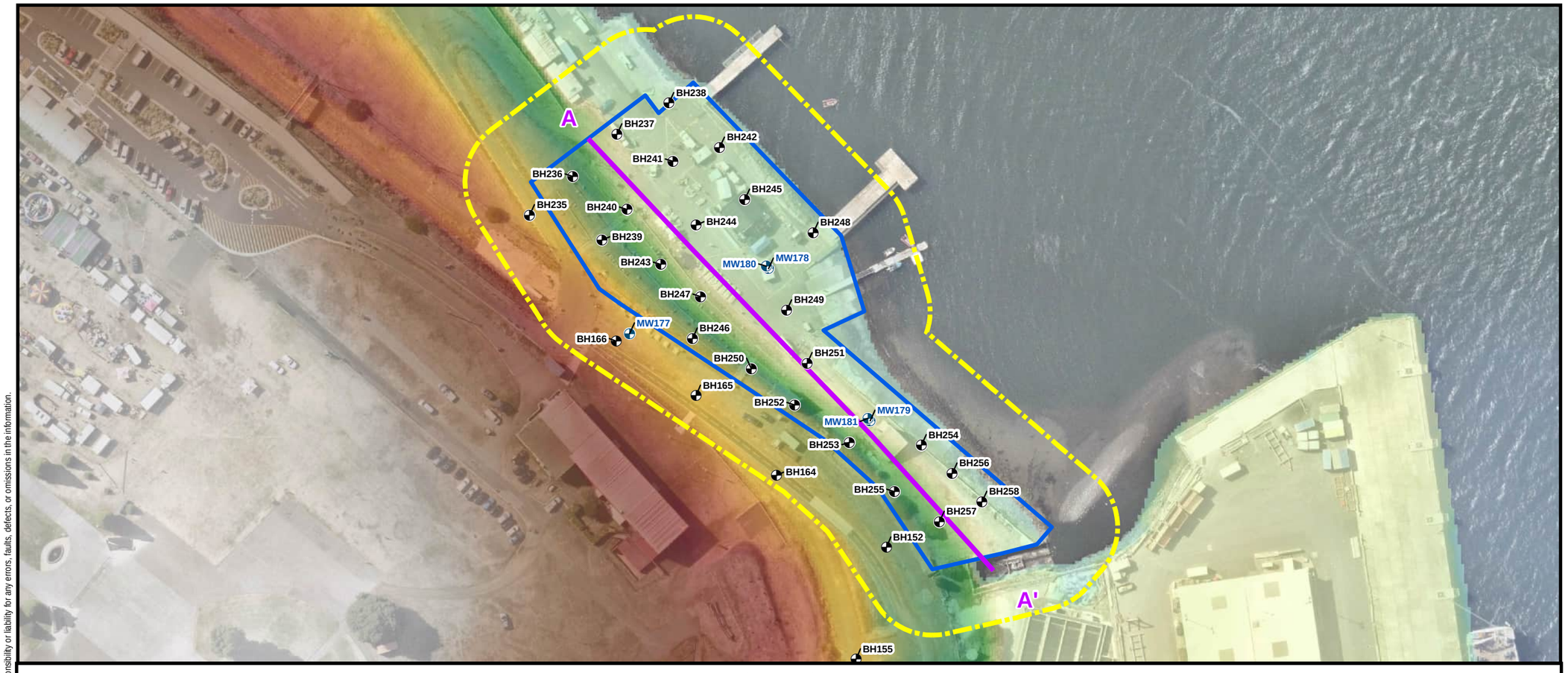

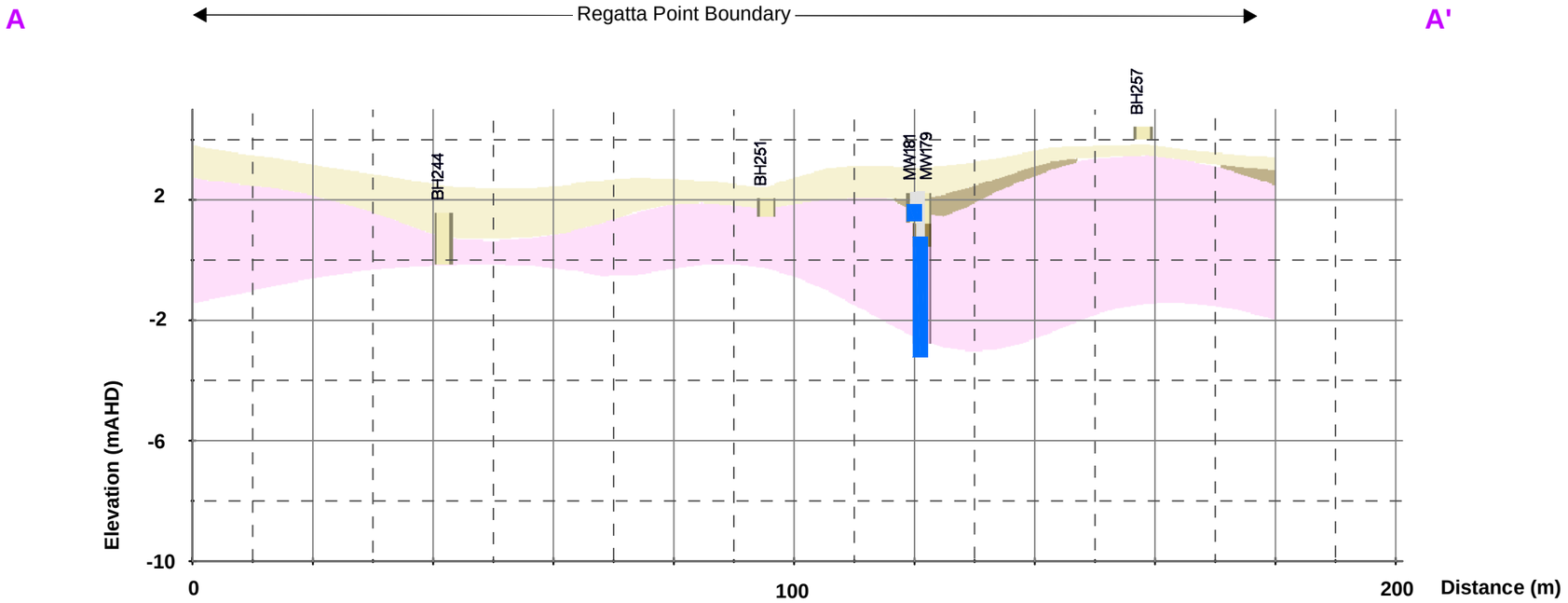

Note:
Vertical exaggeration x 5

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N

0 12.5 25 50
metres
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LEGEND

- Cross section transect
- Groundwater monitoring well
- Soil bore
- Regatta Point Boundary
- 20m Surrounding Area

DEM elevation (mAHD)
High : 22.719
Low : -0.38

Monitoring Well screened interval

- Fill
- Natural - Estuarine/ Marine Deposits
- Natural - Weathered Dolerite
- Natural -Dolerite Bedrock

GEOLOGICAL CROSS-SECTION (NORTH-SOUTH)

Macquarie Point Development Corporation

Acid Sulfate Soil Investigation

Macquarie Point, Hobart, TAS

Figure
F3a

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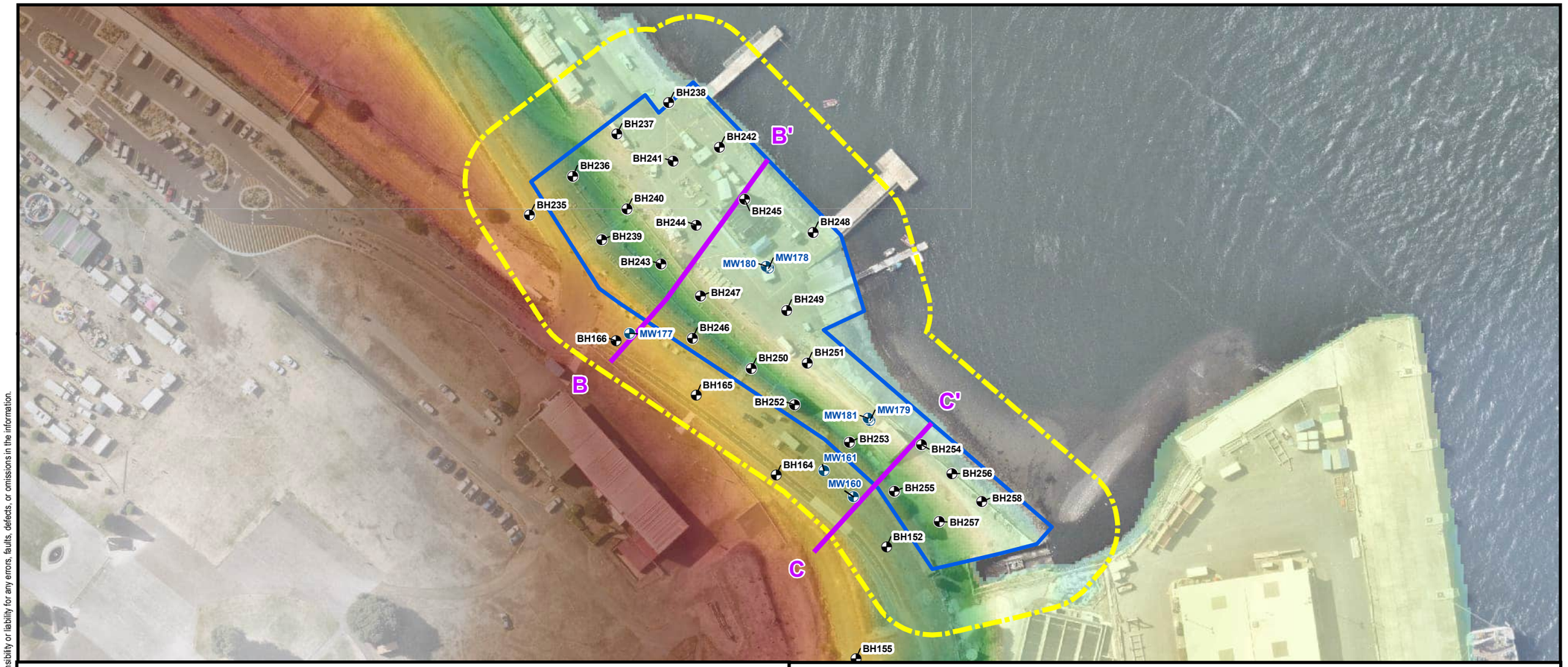

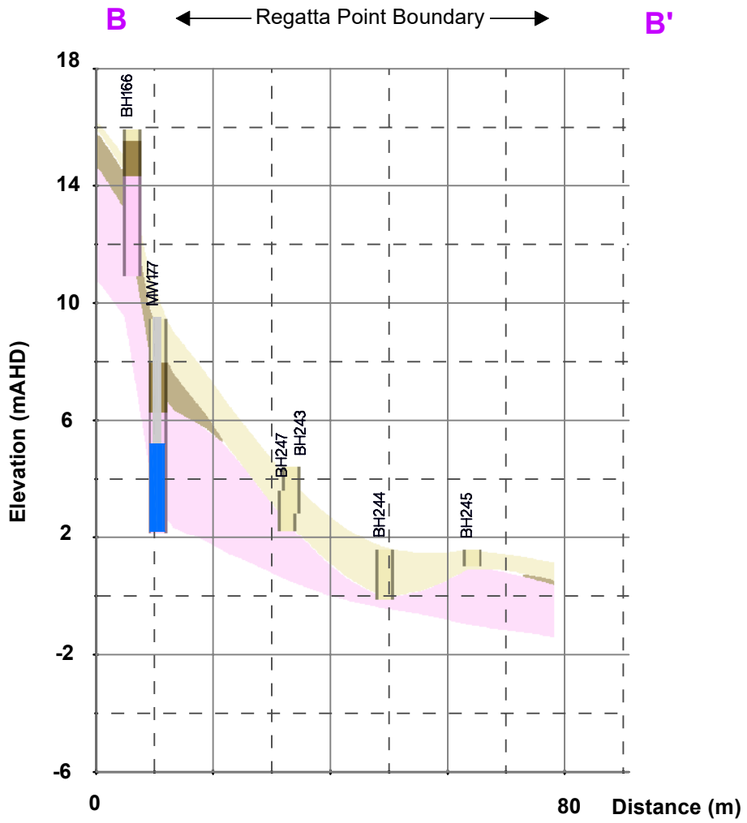

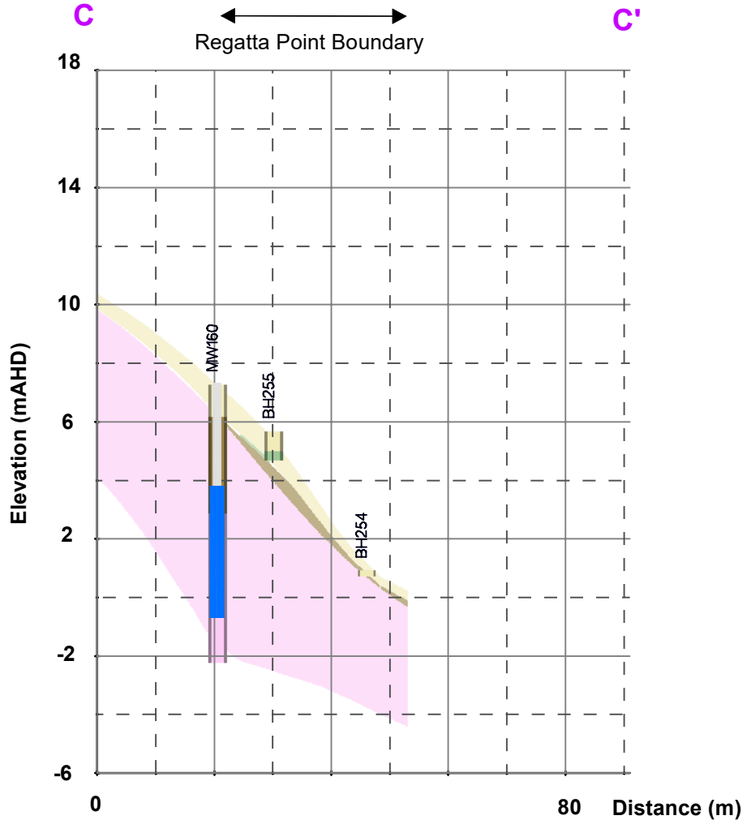

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0 12.5 25 50
metres
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LEGEND

- Cross section transect
- Groundwater monitoring well
- Soil bore
- Regatta Point Boundary
- 20m Surrounding Area

DEM elevation (mAHD)
High : 22.719
Low : -0.38

Monitoring Well screened interval

- Fill
- Natural - Estuarine/ Marine Deposits
- Natural - Weathered Dolerite
- Natural -Dolerite Bedrock

GEOLOGICAL CROSS-SECTION (WEST-ELAST)

Macquarie Point Development Corporation

Acid Sulfate Soil Investigation

Macquarie Point, Hobart, TAS

Figure
F3b

A3 size

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 12.5 25 50
metres
1:1,000 (when printed at A3)

Legend

- Assessment Area
- Former Audit Areas
- Regatta Point Boundary
- Site Boundary
- Groundwater Well
- Geotechnical Borehole
- Lost / Destroyed Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

GROUNDWATER ASSESSMENT LOCATIONS

Macquarie Point Development Corporation
Acid Sulfate Soil Investigation
Macquarie Point, Hobart, TAS

Figure
F4

A3 size

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REGATTA POINT
MW180 0.478
MW178 0.482
MW177A 2.502
MW179 1.411
MW181 1.839
MW161
MW160 1.412
MW159 2.169
(AUDIT AREA 4 EAST)
MW189 2.109
NR1 2.782
NR2A 1.020
MW120A
4.684 BG1
MW194 3.971
THE ESCARPMENT (AUDIT AREA 4 WEST)
MW103A 3.585
PC05
TW01
MW190 1.209
MW182 1.253
MW183 1.217
Unknown Well
MW167 1.684
THE ROYAL ENGINEERS BUILDING AND LAND
MW121 3.957
MW191 1.841
MW184 1.280
MW177 1.132
TW02 0.643
THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)
Former NAPL Plume A2
MW187 1.046
THE PRECINCT NORTH (LOT B)
RN2 1.036
0.979 MW155
PC15
MW185 0.985
MW36 1.778
MW146 0.951
Tar Plume D
MW102 3.456
MW173 2.211
RN4 0.875
MW192 0.904
3.619 MW101
MW186 1.462
MW176 0.956
Tar Plume C
MW162 0.930
MW128A 3.684
MW128B 3.648
THE GATEWAY
MW175 0.952
C1
MW198 0.959
BH2_PS 0.947
MW163 0.901
Tar Plume A
MW196 1.200
Tar Plume B
0.911 MW122
MW148 0.840
0.826 MW55
THE GOODS SHED AND YARD (AUDIT AREA 1)
MW123A 1.231
MW123B 0.808
MW197
MW100 0.845
MW127B
MW127A 0.787
0.750 MW130_GHD
MW131_GHD
MW132_GHD 0.746
0.736
THE PRECINCT SOUTH
MW164 1.208
RS6
MW129 0.740
MW149 0.770
0.789
0.826 MW6
PC13
MW133_GHD 0.702
MW124A
MW124B 0.753
0.772
MW188 0.786
0.749 MW03
PW02
0.842
0.902 S8
MW05
MW150 0.782
MW125B
MW125A
0.902 0.793
MW136_GHD
MW135_GHD
MW154
0.685 MW16
0.758 0.861
MW60
MW126A
MW193 0.732
S9 0.637
MW126B
PC12
MW151 0.427
MW134_GHD 0.427
MW152 0.423
MW153 0.457
PC14

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DATUM GDA 1994, PROJECTION MGA ZONE 55
0 25 50 100
metres
1:1,900 (when printed at A3)

Legend
- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Groundwater Contours
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary
- Groundwater Contour Elevation (mAHD)
  4.59782
  0.423804

INFERRED SHALLOW GROUNDWATER ELEVATION CONTOURS - JUNE 2025

Macquarie Point Development Corporation

Acid Sulfate Soil Investigation

Macquarie Point, Hobart, TAS

Figure F5

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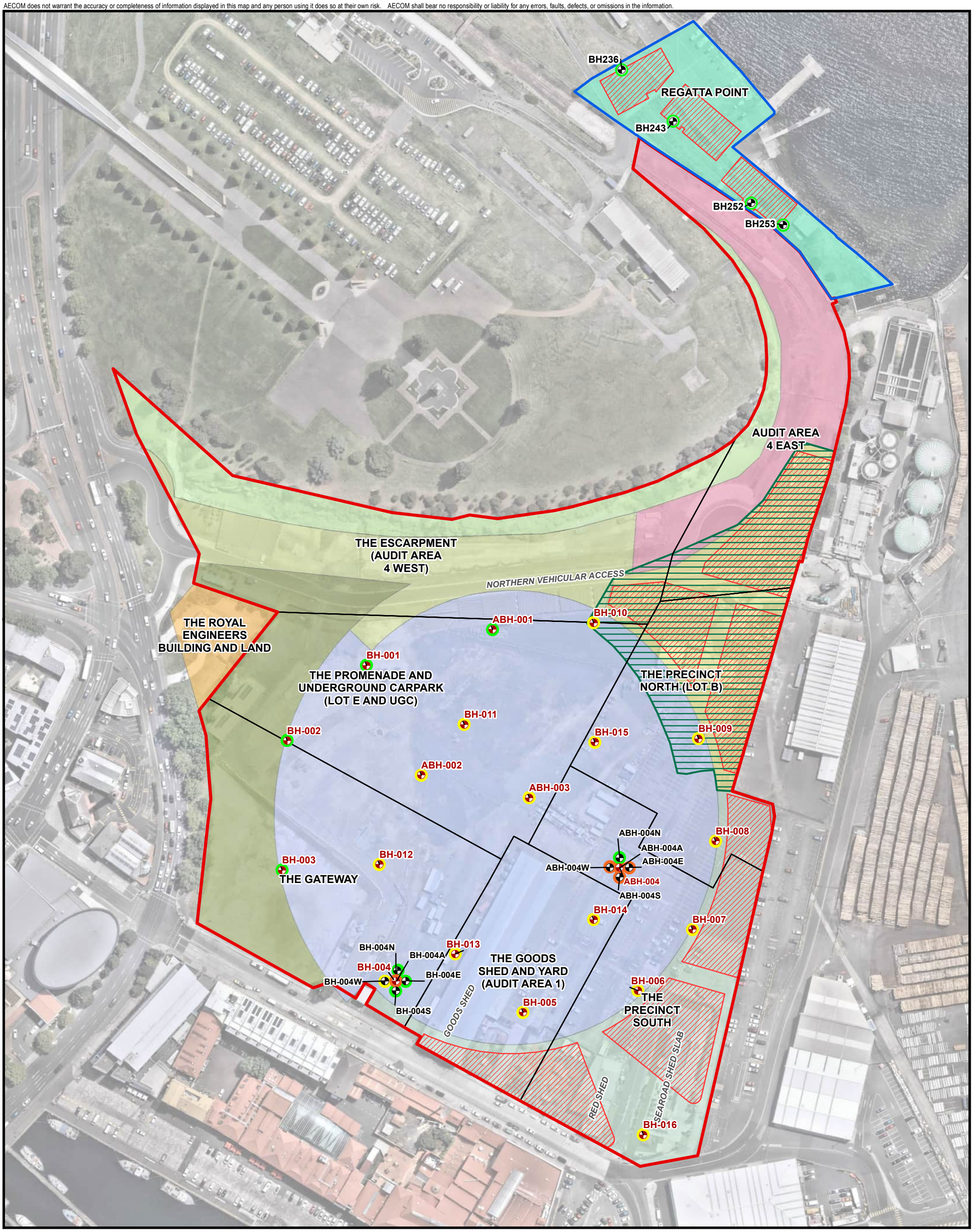

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100

metres

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Legend

- WSP Geotechnical Bore
- Soil Bores
- Low potential to generate acid
- High potential to generate acid (saturated soil)
- High potential to generate acid (unsaturated and/or saturated soil)
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

ACID GENERATING POTENTIAL MAPPING

Macquarie Point Development Corporation

Acid Sulfate Soil Investigation

Macquarie Point, Hobart, TAS

Figure

F4

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\02\Acid_Sulfate_Soil_Investigation\F2_Site_Layout_and_Assessment_Locationst.mxd)

A3 size

Appendix B

Tables

Appendix B Tables

List of Tables

Table T1 pH Field Screen Results

Table T2 Analytical Results – CRS and SPOCAS

Table T3 Analytical Results – Chip Tray

Table T4 Relative Percentage Difference – CRS vs SPOCAS

Table T5a Historic Site Groundwater Data – Field Parameters

Table T5b Historic Site Groundwater Data – Laboratory Analytical Data

Table T1
Analytical Results - pH Field Screen
Acid Sulfate Soil Investigation
Macquarie Point Development Project

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	pH Field Screen Results				Field Observations		
	pH_F	pH_{FOX}	ΔpH	Reaction Rate[#1]	Recorded Lithology	Below Watertable?	Field Screen Interpretation
	pH Units	pH Units	pH Units	Unit			
EQL	0.1	0.1	0.1	0			
Interpretation Criteria	<4	<3 3-4 4-5	>1	N/A			

Field ID	Location Code	Site Area	Sample Date	Lab Report Number	Sample Depth Avg							
ABH001_0.5-0.6_200524	ABH001_WSP	Macquarie Point	20-May-24	1100380	0.55	10	11	-1	4	FILL - Sandy silty GRAVEL	No	Low probability of acidification
ABH001_1.0-1.1_200524	ABH001_WSP	Macquarie Point	20-May-24	1100380	1.05	9.3	9.4	-0.1	4	FILL - Sandy silty GRAVEL	No	Low probability of acidification
ABH002_0.5-0.6	ABH002_WSP	Macquarie Point	21-May-24	1100380	0.55	9	7.8	1.2	4	FILL - Clayey GRAVEL	No	May indicate potential to acidify
ABH002_1.0-1.1	ABH002_WSP	Macquarie Point	21-May-24	1100380	1.05	8.5	7.7	0.8	4	FILL - Clayey GRAVEL	No	Low probability of acidification
ABH002_1.5-1.6	ABH002_WSP	Macquarie Point	21-May-24	1100380	1.55	8.6	8.3	0.3	4	FILL - Clayey GRAVEL	No	Low probability of acidification
ABH002_2.0-2.1	ABH002_WSP	Macquarie Point	21-May-24	1100380	2.05	8.3	7.8	0.5	4	FILL - Clayey GRAVEL	No	Low probability of acidification
ABH002_2.5-2.6	ABH002_WSP	Macquarie Point	21-May-24	1100380	2.55	8.6	7.4	1.2	4	FILL - Sandy gravelly CLAY	Yes	May indicate potential to acidify
ABH002_3.0-3.1	ABH002_WSP	Macquarie Point	21-May-24	1100380	3.05	8.7	7.8	0.9	4	FILL - Sandy gravelly CLAY	Yes	Low probability of acidification
ABH002_3.5-3.6	ABH002_WSP	Macquarie Point	21-May-24	1100380	3.55	8.5	6.7	1.8	4	FILL - Sandy gravelly CLAY	Yes	May indicate potential to acidify
ABH002_4.0-4.1	ABH002_WSP	Macquarie Point	21-May-24	1100380	4.05	9	6.8	2.2	4	FILL - Sandy gravelly CLAY	Yes	May indicate potential to acidify
ABH002_4.5-4.6	ABH002_WSP	Macquarie Point	21-May-24	1100380	4.55	8.7	7.2	1.5	4	FILL - Sandy gravelly CLAY	Yes	May indicate potential to acidify
ABH002_5.0-5.1	ABH002_WSP	Macquarie Point	21-May-24	1100380	5.05	8.9	7.4	1.5	4	FILL - GRAVEL	Yes	May indicate potential to acidify
ABH002_5.5-5.6	ABH002_WSP	Macquarie Point	21-May-24	1100380	5.55	9.4	8	1.4	4	FILL - GRAVEL	Yes	May indicate potential to acidify
ABH003_0.5-0.6	ABH003_WSP	Macquarie Point	20-May-24	1100380	0.55	9.1	8.2	0.9	4	FILL - Gravelly SILT	No	Low probability of acidification
ABH003_1.0-1.1	ABH003_WSP	Macquarie Point	20-May-24	1100380	1.05	8.4	7	1.4	4	FILL - Sandy gravelly CLAY	No	May indicate potential to acidify
ABH003_1.5-1.6	ABH003_WSP	Macquarie Point	20-May-24	1100380	1.55	9	8.1	0.9	4	FILL - Sandy CLAY	No	Low probability of acidification
ABH003_2.0-2.1	ABH003_WSP	Macquarie Point	20-May-24	1100380	2.05	8.2	7.9	0.3	4	FILL - Gravelly CLAY	Yes	Low probability of acidification
ABH003_2.5-2.6	ABH003_WSP	Macquarie Point	20-May-24	1100380	2.55	8.9	7.4	1.5	4	FILL - Gravelly CLAY	Yes	May indicate potential to acidify
ABH003_3.0-3.1	ABH003_WSP	Macquarie Point	20-May-24	1100380	3.05	8.5	7.6	0.9	4	FILL - Sandy gravelly CLAY	Yes	Low probability of acidification
ABH003_3.5-3.6	ABH003_WSP	Macquarie Point	20-May-24	1100380	3.55	8.2	7.7	0.5	4	FILL - Sandy gravelly CLAY	Yes	Low probability of acidification
ABH003_4.0-4.1	ABH003_WSP	Macquarie Point	20-May-24	1100380	4.05	8.7	8.6	0.1	4	FILL - Sandy gravelly CLAY	Yes	Low probability of acidification
ABH003_4.5-4.6	ABH003_WSP	Macquarie Point	20-May-24	1100380	4.55	9.1	8.4	0.7	4	FILL - Sandy gravelly CLAY	Yes	Low probability of acidification
ABH003_5.0-5.1	ABH003_WSP	Macquarie Point	20-May-24	1100380	5.05	8.3	7.6	0.7	4	FILL - Sandy gravelly CLAY	Yes	Low probability of acidification
ABH003_5.5-5.6	ABH003_WSP	Macquarie Point	20-May-24	1100380	5.55	9	2.9	6.1	4	ESTUARINE - SAND	Yes	Strongly indicates potential to acidify
ABH004_0.5-0.6	ABH004_WSP	Macquarie Point	21-May-24	1100380	0.55	8.5	6.7	1.8	4	FILL - Gravelly SAND	No[#2]	May indicate potential to acidify
ABH004_1.0-1.1	ABH004_WSP	Macquarie Point	21-May-24	1100380	1.05	8.1	6.8	1.3	4	FILL - Gravelly SAND	No[#2]	May indicate potential to acidify
ABH004_1.5-1.6	ABH004_WSP	Macquarie Point	21-May-24	1100380	1.55	7.8	2.9	4.9	4	FILL - Gravelly SAND	No[#2]	Strongly indicates potential to acidify
ABH004_2.0-2.1	ABH004_WSP	Macquarie Point	21-May-24	1100380	2.05	8.3	7.4	0.9	4	FILL - Gravelly SAND	No[#2]	Low probability of acidification
ABH004_2.5-2.6	ABH004_WSP	Macquarie Point	21-May-24	1100380	2.55	8	7.5	0.5	4	FILL - Sandy CLAY	No[#2]	Low probability of acidification
ABH004_3.0-3.1	ABH004_WSP	Macquarie Point	21-May-24	1100380	3.05	7.8	5.4	2.4	4	FILL - Sandy CLAY	Yes[#2]	May indicate potential to acidify
ABH004_3.5-3.6	ABH004_WSP	Macquarie Point	21-May-24	1100380	3.55	8.1	6.3	1.8	4	FILL - Sandy CLAY	Yes[#2]	May indicate potential to acidify
ABH004_4.0-4.1	ABH004_WSP	Macquarie Point	21-May-24	1100380	4.05	8.1	6.4	1.7	4	FILL - Sandy CLAY	Yes[#2]	May indicate potential to acidify
ABH004A_0.2	ABH004A	Macquarie Point	27-May-25	1225146	0.2	9.3	9.4	-0.1	4	FILL - Gravelly sand, grey	No	Low probability of acidification
ABH004A_0.5	ABH004A	Macquarie Point	27-May-25	1225146	0.5	8.8	8.1	0.7	4	FILL - Clay, dark brown, anthropogenic fragments	No	Low probability of acidification
ABH004A_1	ABH004A	Macquarie Point	27-May-25	1225146	1.0	8.0	5.0	3	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate potential to acidify
ABH004A_1.5	ABH004A	Macquarie Point	27-May-25	1225146	1.5	8.0	4.8	3.2	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate potential to acidify
ABH004A_2	ABH004A	Macquarie Point	27-May-25	1225146	2.0	8.2	2.4	5.8	4	FILL - Clay, dark brown, anthropogenic fragments	No	Strongly indicates potential to acidify
ABH004A_2.5	ABH004A	Macquarie Point	27-May-25	1225146	2.5	7.8	3.2	4.6	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate potential to acidify
ABH004A_3	ABH004A	Macquarie Point	27-May-25	1225146	3.0	8.0	6.5	1.5	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate potential to acidify
ABH004A_3.5	ABH004A	Macquarie Point	27-May-25	1225146	3.5	8.5	6.2	2.3	4	FILL - Clay, dark brown, anthropogenic fragments	No	May indicate potential to acidify
ABH004A_4	ABH004A	Macquarie Point	27-May-25	1225146	4.0	8.2	3.2	5	4	FILL - Clay, dark brown, anthropogenic fragments	Yes	May indicate potential to acidify
ABH004E_0.2	ABH004E	Macquarie Point	27-May-25	1225146	0.2	9.4	8.7	0.7	4	FILL - Gravelly sand, grey to dark grey	No	Low probability of acidification
ABH004E_0.5	ABH004E	Macquarie Point	27-May-25	1225146	0.5	9.4	7.1	2.3	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate potential to acidify
ABH004E_1	ABH004E	Macquarie Point	27-May-25	1225146	1.0	9.2	7.7	1.5	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate potential to acidify
ABH004E_1.5	ABH004E	Macquarie Point	27-May-25	1225146	1.5	9.0	8.0	1	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate potential to acidify
ABH004E_2	ABH004E	Macquarie Point	27-May-25	1225146	2.0	8.8	8.1	0.7	4	FILL - Sandy, gravelly clay, dark brown	No	Low probability of acidification
ABH004E_2.5	ABH004E	Macquarie Point	27-May-25	1225146	2.5	8.1	6.4	1.7	4	FILL - Sandy, gravelly clay, dark brown	No	May indicate potential to acidify
ABH004E_3	ABH004E	Macquarie Point	27-May-25	1225146	3.0	8.5	7.2	1.3	4	FILL - Sandy, gravelly clay, dark brown	Yes	May indicate potential to acidify
ABH004E_3.5	ABH004E	Macquarie Point	27-May-25	1225146	3.5	8.2	6.7	1.5	4	FILL - Sandy, gravelly clay, dark brown	Yes	May indicate potential to acidify
ABH004E_4	ABH004E	Macquarie Point	27-May-25	1225146	4.0	8.2	5.0	3.2	4	FILL - Sandy, gravelly clay, dark brown	Yes	May indicate potential to acidify
ABH004N_0.2	ABH004N	Macquarie Point	27-May-25	1225146	0.2	9.4	8.7	0.7	4	FILL - Sandy gravel, red-grained grey	No	Low probability of acidification
ABH004N_0.5	ABH004N	Macquarie Point	27-May-25	1225146	0.5	8.4	7.2	1.2	4	FILL - Gravelly sand, dark brown	No	May indicate potential to acidify
ABH004N_1	ABH004N	Macquarie Point	27-May-25	1225146	1.0	8.6	7.2	1.4	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	No	May indicate potential to acidify
ABH004N_1.5	ABH004N	Macquarie Point	27-May-25	1225146	1.5	8.3	8.1	0.2	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	No	Low probability of acidification
ABH004N_2	ABH004N	Macquarie Point	27-May-25	1225146	2.0	8.3	8.4	-0.1	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	No	Low probability of acidification
ABH004N_2.5	ABH004N	Macquarie Point	27-May-25	1225146	2.5	7.8	3.1	4.7	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	No	May indicate potential to acidify
ABH004N_3	ABH004N	Macquarie Point	27-May-25	1225146	3.0	8.2	4.0	4.2	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	No	May indicate potential to acidify
ABH004N_3.5	ABH004N	Macquarie Point	27-May-25	1225146	3.5	8.4	3.7	4.7	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	Yes	May indicate potential to acidify
ABH004N_4	ABH004N	Macquarie Point	27-May-25	1225146	4.0	8.3	7.4	0.9	4	FILL - Sandy, gravelly clay, dark brown, anthropogenic	Yes	Low probability of acidification
ABH004S_0.2	ABH004S	Macquarie Point	27-May-25	1225146	0.2	9.4	9.1	0.3	4	FILL - Gravelly sand	No	Low probability of acidification
ABH004S_0.5	ABH004S	Macquarie Point	27-May-25	1225146	0.5	8.1	6.4	1.7	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_1	ABH004S	Macquarie Point	27-May-25	1225146	1.0	8.1	4.3	3.8	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_1.5	ABH004S	Macquarie Point	27-May-25	1225146	1.5	8.6	7.5	1.1	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_2	ABH004S	Macquarie Point	27-May-25	1225146	2.0	8.3	3.5	4.8	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_2.5	ABH004S	Macquarie Point	27-May-25	1225146	2.5	8.6	7.6	1	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_3	ABH004S	Macquarie Point	27-May-25	1225146	3.0	8.6	7.2	1.4	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_3.5	ABH004S	Macquarie Point	27-May-25	1225146	3.5	8.3	6.4	1.9	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004S_4	ABH004S	Macquarie Point	27-May-25	1225146	4.0	8.5	7.2	1.3	4	FILL - Gravelly clay, dark brown, minor sand,	No	May indicate potential to acidify
ABH004W_0.2	ABH004W	Macquarie Point	27-May-25	1225146	0.2	9.5	8.8	0.7	4	FILL - Gravelly Sand, grey-brown	No	Low probability of acidification
ABH004W_0.5	ABH004W	Macquarie Point	27-May-25	1225146	0.5	8.7	6.8	1.9	4	FILL - Clay, Black with gravels	No	Low probability of acidification
ABH004W_1	ABH004W	Macquarie Point	27-May-25	1225146	1.0	8.3	4.5	3.8	4	FILL - Clay, Black with gravels	No	May indicate potential to acidify
ABH004W_1.5	ABH004W	Macquarie Point	27-May-25	1225146	1.5	8.2	2.5	5.7	4	FILL - Clay, Black with orange traces, gravels	No	Strongly indicates potential to acidify
ABH004W_2	ABH004W	Macquarie Point	27-May-25	1225146	2.0	8.5	2.6	5.9	4	FILL - Clay, sandy, black/brown, anthropogenic traces	No	Strongly indicates potential to acidify
ABH004W_2.5	ABH004W	Macquarie Point	27-May-25	1225146	2.5	8.2	2.4	5.8	4	FILL - Clay, sandy, black/brown, anthropogenic traces	No	Strongly indicates potential to acidify
ABH004W_3	ABH004W	Macquarie Point	27-May-25	1225146	3.0	8.8	7.1	1.7	4	FILL - Clay, sandy, black/brown, anthropogenic traces	No	May indicate potential to acidify
ABH004W_3.5	ABH004W	Macquarie Point	27-May-25	1225146	3.5	8.8	7.2	1.6	4	FILL - Clay, sandy, black/brown, anthropogenic traces	Yes	May indicate potential to acidify
ABH004W_4	ABH004W	Macquarie Point	27-May-25	1225146	4.0	8.5	4.7	3.8	4	FILL - Clay, sandy, black/brown, anthropogenic traces	Yes	May indicate potential to acidify
BH001_0.5-0.6_190425	BH001_WSP	Macquarie Point	19-Apr-24	1093109	0.5	8.6	8.3	0.3	4	FILL - Gravelly SAND	No	Low probability of acidification
BH001-1.0-1.1_190424	BH001_WSP	Macquarie Point	19-Apr-24	1093109	1.05	8.2	7.6	0.6	4	FILL - Clayey gravelly SAND	No	Low probability of acidification
BH002-0.5-0.6-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	0.55	9	8.8	0.2	4	FILL - Gravelly SAND	No	Low probability of acidification
BH002-1.0-1.1-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	1.05	8.1	7.8	0.3	4	FILL - Silty CLAY	No	Low probability of acidification
BH002-1.5-1.6-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	1.55	9.1	8.4	0.7	4	FILL - Silty CLAY	No	Low probability of acidification
BH002-2.0-2.1-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	2.05	8.5	8.8	-0.3	4	FILL - Silty CLAY	No	Low probability of acidification
BH002-2.5-2.6-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	2.55	8.5	9.1	-0.6	4	FILL - Silty CLAY	No	Low probability of acidification
BH002-3.0-3.1-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	2.55	8.8	8.9	-0.1	4	ESTUARINE - Gravelly clayey SAND	No	Low probability of acidification
BH002-3.5-3.6-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	3.55	8.6	9	-0.4	4	ESTUARINE - Gravelly clayey SAND	No	Low probability of acidification
BH002-4.0-4.1-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	4.05	8.9	9.2	-0.3	4	ESTUARINE - Sandy GRAVEL	No	Low probability of acidification
BH002-4.5-4.6-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	4.55	8.9	9	-0.1	4	ESTUARINE - Sandy GRAVEL	No	Low probability of acidification
BH002-5.0-5.1-180424	BH002_WSP	Macquarie Point	18-Apr-24	1091401	5.05	9.4	9.3	0.1	4	ROCK - DOLERITE	No	Low probability of acidification
BH003-0.5-0.6-160424	BH003_WSP	Macquarie Point	16-Apr-24	1091401	0.55	8.9	8.7	0.2	4	FILL - Clayey GRAVEL	No	Low probability of acidification
BH003-1.0-1.1-160424	BH003_WSP	Macquarie Point	16-Apr-24	1091401	1.05	11	9.4	1.6	4	FILL - Concrete	No	May indicate potential to acidify
BH003-1.5-1.6-160424	BH003_WSP	Macquarie Point	16-Apr-24	1091401	1.55	9.4	7.9	1.5	4	FILL - Sandy CLAY	No	May indicate potential to acidify
BH003-2.0-2.1-160424	BH003_WSP	Macquarie Point	16-Apr-24	1091401	2.05	9.5	9	0.5	4	FILL - Sandstone	No	Low probability of acidification
BH003-2.5-2.6-160424	BH003_WSP	Macquarie Point	16-Apr-24	1091401	2.55	11	10	1	4	FILL - Sandstone	No	May indicate potential to acidify
BH003-3.0-3.1-160424	BH003_WSP	Macquarie Point	16-Apr-24	1091401	3.05	9	9.2	-0.2	4	ALLUVIAL / ESTUARINE - Silty CLAY	No	Low probability of acidification
BH004_ 0.5-0.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	0.55	8.4	7.8	0.6	4	FILL - Gravelly silty SAND	No[#2]	Low probability of acidification
BH004_ 1.0-1.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	1.05	8.1	6.9	1.2	4	FILL - Clayey SAND	No[#2]	May indicate potential to acidify
BH004_ 1.5-1.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	1.55	7.4	6.1	1.3	4	FILL - Clayey SAND	No[#2]	May indicate potential to acidify
BH004_ 2.0-2.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	2.05	7.3	5.5	1.8	4	FILL - Clayey SAND	No[#2]	May indicate potential to acidify
BH004_ 2.5-2.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	2.55	7.7	5.5	2.2	4	FILL - Gravelly SAND	No[#2]	May indicate potential to acidify
BH004_ 2.9-3.0m	BH004_WSP	Macquarie Point	13-May-24	1099835	2.95	7.9	3.3	4.6	4	FILL - Gravelly SAND	No[#2]	Strongly indicates potential to acidify
BH004_ 4.0-4.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	4.05	8.6	7.7	0.9	4	FILL - Silty sandy GRAVEL	Yes[#2]	Low probability of acidification
BH004_ 4.5-4.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	4.55	9	8	1	4	FILL - Silty sandy GRAVEL	Yes[#2]	May indicate potential to acidify
BH004_ 5.0-5.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	5.05	12	12	0	4	FILL - Silty sandy GRAVEL	Yes[#2]	Low probability of acidification
BH004_5.5-5.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	5.55	11	8.7	2.3	4	FILL - Silty sandy GRAVEL	Yes[#2]	May indicate potential to acidify
BH004_ 6.0-6.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	6.05	9	4.3	4.7	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	May indicate potential to acidify
BH004_ 6.5-6.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	6.55	10	5.9	4.1	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	May indicate potential to acidify
BH004_ 7.0-7.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	7.05	8.4	5.8	2.6	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	May indicate potential to acidify
BH004_ 7.5-7.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	7.55	8.5	2.6	5.9	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	Strongly indicates potential to acidify
BH004_ 8.0-8.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	8.05	8.7	3.2	5.5	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	Strongly indicates potential to acidify
BH004_ 8.5-8.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	8.55	8.6	2.7	5.9	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	Strongly indicates potential to acidify
BH004_ 9.0-9.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	9.05	8.4	3.1	5.3	4	ESTUARINE - Silty SAND. Some shells and shell	Yes[#2]	Strongly indicates potential to acidify
BH004_ 11.0-11.1m	BH004_WSP	Macquarie Point	13-May-24	1099835	11.05	8.6	2.9	5.7	4	ESTUARINE - SAND. Shell fragments	Yes[#2]	Strongly indicates potential to acidify
BH004_ 11.5-11.6m	BH004_WSP	Macquarie Point	13-May-24	1099835	11.55	9	2.6	6.4	4	ESTUARINE - SAND. Shell fragments	Yes[#2]	Strongly indicates potential to acidify

Table T1
Analytical Results - pH Field Screen
Acid Sulfate Soil Investigation
Macquarie Point Development Project

AECOM

	pH Field Screen Results				Field Observations		
	pH_F	pH_{FOX}	ΔpH	Reaction Rate[#1]	Recorded Lithology	Below Watertable?	Field Screen Interpretation
	pH Units	pH Units	pH Units	Unit			
EQL	0.1	0.1	0.1	0			
Interpretation Criteria	<4	<3 3-4 4-5	>1	N/A			

Field ID	Location Code	Site Area	Sample Date	Lab Report Number	Sample Depth Avg							
BH004A_0.2	BH-004A	Macquarie Point	11-Jun-25	1231576	0.2	8.7	8.6	0.1	4.0	FILL - Clayey gravelly sand, dark brown, brick fragments	No	Low probability of acidification
BH004A_0.5	BH-004A	Macquarie Point	11-Jun-25	1231576	0.5	7.8	7.1	0.7	4.0	FILL - Clayey gravelly sand, dark brown, brick fragments	No	Low probability of acidification
BH004A_1.0	BH-004A	Macquarie Point	11-Jun-25	1231576	1.0	8.6	8.1	0.5	4.0	FILL - Gravelly sand, brown to orange	No	Low probability of acidification
BH004A_2.0	BH-004A	Macquarie Point	11-Jun-25	1231576	2.0	8.4	7	1.4	4.0	FILL - Gravelly sand, brown to orange	No	May indicate potential to acidify
BH004A_3.0	BH-004A	Macquarie Point	11-Jun-25	1231576	3.0	8.5	8.4	0.1	4.0	FILL - Gravelly sand, brown to orange. Sandstone	No	Low probability of acidification
BH004A_4.0	BH-004A	Macquarie Point	11-Jun-25	1231576	4.0	11	8.1	2.9	4.0	FILL - Sandy gravels, grey, crushed concrete, dolerite,	Yes	May indicate potential to acidify
BH004A_5.0	BH-004A	Macquarie Point	11-Jun-25	1231576	5.0	12	7.4	4.6	4.0	FILL - Sandy gravels, grey, crushed concrete, dolerite,	Yes	May indicate potential to acidify
BH004E_0.2	BH-004E	Macquarie Point	10-Jun-25	1231576	0.2	8.6	7.4	1.2	4.0	FILL - Gravelly sand, dark grey	No	May indicate potential to acidify
BH004E_0.5	BH-004E	Macquarie Point	10-Jun-25	1231576	0.5	8.5	7.7	0.8	4.0	FILL - Gravelly sand, dark grey	No	Low probability of acidification
BH004E_1.0	BH-004E	Macquarie Point	10-Jun-25	1231576	1.0	8.7	7.9	0.8	4.0	FILL - clay, dark brown, trace sand	No	Low probability of acidification
BH004E_2.0	BH-004E	Macquarie Point	10-Jun-25	1231576	2.0	8.7	8.1	0.6	4.0	FILL - Clay, brown, red and white silty inclusions	No	Low probability of acidification
BH004E_3.0	BH-004E	Macquarie Point	10-Jun-25	1231576	3.0	8.7	9	-0.3	4.0	FILL - Clayey gravelly sand, dark brown, some concrete	No	Low probability of acidification
BH004E_4.0	BH-004E	Macquarie Point	10-Jun-25	1231576	4.0	9.8	8.3	1.5	4.0	FILL - Gravels, grey	Yes[#2]	May indicate potential to acidify
BH004E_5.0	BH-004E	Macquarie Point	10-Jun-25	1231576	5.0	8.1	4.1	4	4.0	FILL - Gravelly sand, dark grey	Yes[#2]	May indicate potential to acidify
BH004N_0.2	BH-004N	Macquarie Point	10-Jun-25	1231576	0.2	9.2	8	1.2	4.0	FILL - Gravelly, sandy clay, dark brown, some cobble of	No	May indicate potential to acidify
BH004N_0.5	BH-004N	Macquarie Point	10-Jun-25	1231576	0.5	7.4	7.4	0	4.0	FILL - Gravelly, sandy clay, dark brown, some cobble of	No	Low probability of acidification
BH004N_1.0	BH-004N	Macquarie Point	10-Jun-25	1231576	1.0	8.1	5.6	2.5	4.0	FILL - Gravelly, sandy clay, dark brown, some cobble of	No	May indicate potential to acidify
BH004N_2.0	BH-004N	Macquarie Point	10-Jun-25	1231576	2.0	8.2	7.8	0.4	4.0	FILL - Sandy clay, grey to brown, some iron nodules,	No	Low probability of acidification
BH004N_3.0	BH-004N	Macquarie Point	10-Jun-25	1231576	3.0	8.6	7.2	1.4	4.0	NATURAL - Sand, grey, shell fragments	No	May indicate potential to acidify
BH004N_4.0	BH-004N	Macquarie Point	10-Jun-25	1231576	4.0	8.4	2.9	5.5	4.0	NATURAL - Sand, grey, shell fragments	Yes[#2]	Strongly indicates potential to acidify
BH004N_5.0	BH-004N	Macquarie Point	10-Jun-25	1231576	5.0	8.8	3.9	4.9	4.0	NATURAL - Sand, grey, shell fragments	Yes[#2]	May indicate potential to acidify
BH004S_0.2	BH-004S	Macquarie Point	11-Jun-25	1231576	0.2	8.8	8.6	0.2	4.0	FILL - Gravelly sand, some brick, metals, glass fragments	No	Low probability of acidification
BH004S_0.5	BH-004S	Macquarie Point	11-Jun-25	1231576	0.5	8.7	7.7	1	4.0	FILL - Gravelly sand, some brick, metals, glass fragments	No	Low probability of acidification
BH004S_1.0	BH-004S	Macquarie Point	11-Jun-25	1231576	1.0	8.1	7	1.1	4.0	FILL - Gravelly sand, some brick, metals, glass	No	May indicate potential to acidify
BH004S_2.0	BH-004S	Macquarie Point	11-Jun-25	1231576	2.0	8.4	8.2	0.2	4.0	FILL - Gravelly sand, some brick, metals, glass fragments	No	Low probability of acidification
BH004S_3.0	BH-004S	Macquarie Point	11-Jun-25	1231576	3.0	8.3	6.8	1.5	1.0	FILL - Clay, brown, white silty intrusions, copper	No	May indicate potential to acidify
BH004S_4.0	BH-004S	Macquarie Point	11-Jun-25	1231576	4.0	8.4	7.1	1.3	1.0	FILL - Sand, some sheets, bark, brick fragments	Yes[#2]	May indicate potential to acidify
BH004S_5.0	BH-004S	Macquarie Point	11-Jun-25	1231576	5.0	8.2	2	6.2	4.0	FILL - Sand, some sheets, bark, brick fragments	Yes[#2]	Strongly indicates potential to acidify
BH004W_0.2	BH-004W	Macquarie Point	11-Jun-25	1231576	0.2	8.7	8.2	0.5	4.0	FILL - Gravelly sand, some slag cobbles	No	Low probability of acidification
BH004W_0.5	BH-004W	Macquarie Point	11-Jun-25	1231576	0.5	8.4	8.2	0.2	4.0	FILL - Gravelly sand, some slag cobbles. Brick, glass and	No	Low probability of acidification
BH004W_1.0	BH-004W	Macquarie Point	11-Jun-25	1231576	1.0	8.1	6	2.1	4.0	FILL - Gravelly sand, some slag cobbles. Brick, glass and	No	May indicate potential to acidify
BH004W_2.0	BH-004W	Macquarie Point	11-Jun-25	1231576	2.0	9	7.1	1.9	4.0	FILL - Gravelly sand, some slag cobbles. Brick, glass and	No	May indicate potential to acidify
BH004W_3.0	BH-004W	Macquarie Point	11-Jun-25	1231576	3.0	8.7	7.7	1	4.0	FILL - Clay, brown, with white silty inclusions, red brick	No	Low probability of acidification
BH004W_4.0	BH-004W	Macquarie Point	11-Jun-25	1231576	4.0	8.4	2.5	5.9	4.0	FILL - Clay, brown, with white silty inclusions, red brick	Yes	Strongly indicates potential to acidify
BH004W_5.0	BH-004W	Macquarie Point	11-Jun-25	1231576	5.0	8.4	4.4	4	4.0	FILL - Sand, grey, with some ceramics, shells, sulfur	Yes	May indicate potential to acidify
BH004W_6.0	BH-004W	Macquarie Point	11-Jun-25	1231576	6.0	8.3	5.8	2.5	4.0	FILL - Sand, grey, with some ceramics, shells, sulfur	Yes	Low probability of acidification
BH005_0.5-0.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	0.55	8.3	5.6	2.7	4	FILL - Gravelly SAND	No	May indicate potential to acidify
BH005_1-1.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	1.05	8.1	6.8	1.3	4	FILL - Silty clayey SAND	No	May indicate potential to acidify
BH005_1.5-1.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	1.55	7.8	6.1	1.7	4	FILL - Silty clayey SAND	No	May indicate potential to acidify
BH005_2-2.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	2.05	8.7	7.9	0.8	4	FILL - Silty clayey SAND	No	Low probability of acidification
BH005_2.5-2.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	2.55	8.2	6.9	1.3	4	FILL - Silty clayey SAND	No	May indicate potential to acidify
BH005_3-3.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	3.05	7.8	5.7	2.1	4	ESTUARINE - Silty CLAY. Trace shells	No	May indicate potential to acidify
BH005_3.5-3.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	3.55	8	6.2	1.8	4	ESTUARINE - Silty CLAY. Trace shells	No	May indicate potential to acidify
BH005_4-4.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	4.05	8.3	6.2	2.1	4	ESTUARINE - Silty CLAY. Trace shells	Yes	May indicate potential to acidify
BH005_4.5-4.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	4.55	8.5	7	1.5	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_5-5.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	5.05	8.4	6.6	1.8	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_5.5-5.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	5.55	8.3	3.4	4.9	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH005_6-6.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	6.05	8.2	4.5	3.7	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_6.5-6.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	6.55	8.5	4.1	4.4	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_7-7.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	7.05	8.4	3.9	4.5	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_7.5-7.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	7.55	8.7	6.9	1.8	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_8-8.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	8.05	7.9	5.7	2.2	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_8.5-8.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	8.55	8.8	2.8	6	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH005_9-9.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	9.05	8.5	2.7	5.8	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH005_9.5-9.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	9.55	8.7	5.3	3.4	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_10.0-10.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	10.05	9	4.1	4.9	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH005_10.5-10.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	10.55	8.6	2.2	6.4	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH005_11-11.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	11.05	9.1	6.5	2.6	4	ESTUARINE - Silty CLAY	Yes	May indicate potential to acidify
BH005_11.5-11.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	11.55	9.4	7.1	2.3	4	ESTUARINE - Silty CLAY	Yes	May indicate potential to acidify
BH005_12-12.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	12.05	9.7	7.7	2	4	ESTUARINE - Silty CLAY	Yes	May indicate potential to acidify
BH005_12.5-12.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	12.55	9.7	5.1	4.6	4	ESTUARINE - Gravelly silty CLAY	Yes	May indicate potential to acidify
BH005_13-13.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	13.05	9.6	7.8	1.8	4	ESTUARINE - Gravelly silty CLAY	Yes	May indicate potential to acidify
BH005_13.5-13.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	13.55	9.1	7.7	1.4	4	ESTUARINE - Gravelly silty CLAY	Yes	May indicate potential to acidify
BH005_14-14.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	14.05	9.1	7.7	1.4	4	ESTUARINE - Gravelly silty CLAY	Yes	May indicate potential to acidify
BH005_14.5-14.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	14.55	8.9	7.8	1.1	4	ESTUARINE - Gravelly silty CLAY	Yes	May indicate potential to acidify
BH005_15-15.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	15.05	7.6	7.9	-0.3	4	ESTUARINE - Gravelly silty CLAY	Yes	Low probability of acidification
BH005_15.5-15.6_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	15.55	8.9	7.8	1.1	4	ESTUARINE - Gravelly silty CLAY	Yes	May indicate potential to acidify
BH005_16-16.1_270424	BH005_WSP	Macquarie Point	27-Apr-24	1094321	16.05	8.9	8.7	0.2	4	ESTUARINE - Gravelly silty CLAY	Yes	Low probability of acidification
BH006_0.50-0.60_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	0.55	11	11	0	4	FILL - Gravelly SAND	No	Low probability of acidification
BH006_1.0-1.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	1.05	8	7	1	4	FILL - Sandy GRAVEL	No	May indicate potential to acidify
BH006_1.5-1.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	1.55	7.3	6.6	0.7	4	FILL - Gravelly SAND	No	Low probability of acidification
BH006_2.0-2.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	2.05	7.6	6.7	0.9	4	FILL - Gravelly SAND	Yes	Low probability of acidification
BH006_2.5-2.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	2.55	8	7.6	0.4	4	FILL - Sandy CLAY	Yes	Low probability of acidification
BH006_3.0-3.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	3.05	7.5	5.6	1.9	4	FILL - Sandy CLAY	Yes	May indicate potential to acidify
BH006_3.5-3.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	3.55	7.6	6.9	0.7	4	FILL - Sandy CLAY	Yes	Low probability of acidification
BH006_4.0-4.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	4.05	7.8	6	1.8	4	FILL - Sandy CLAY	Yes	May indicate potential to acidify
BH006_4.5-4.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	4.55	7.4	4.7	2.7	4	FILL - Gravelly SAND	Yes	May indicate potential to acidify
BH006_5.0-5.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	5.05	8.3	4.5	3.8	4	FILL - Gravelly SAND	Yes	May indicate potential to acidify
BH006_5.5-5.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	5.55	7.9	4	3.9	4	FILL - Sandy CLAY	Yes	May indicate potential to acidify
BH006_6.0-6.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	6.05	8.4	4.7	3.7	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH006_6.5-6.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	6.55	8.9	2.9	6	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH006_7.0-7.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	7.05	9	6.3	2.7	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH006_7.5-.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	7.55	8.8	4.3	4.5	4	ESTUARINE - SAND. Trace shells	Yes	May indicate potential to acidify
BH006_8.0-8.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	8.05	9.1	3.3	5.8	4	ESTUARINE - CLAY	Yes	Strongly indicates potential to acidify
BH006_8.5-8.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	8.55	9.1	6.4	2.7	4	ESTUARINE - CLAY	Yes	May indicate potential to acidify
BH006_10.5-10.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	10.55	9.5	2.7	6.8	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH006_11.0-11.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	11.05	9.6	2.6	7	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH006_11.5-11.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	11.55	9.3	2.5	6.8	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH006_12.0-12.1_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	12.05	9.7	2.6	7.1	4	ESTUARINE - SAND. Trace shells	Yes	Strongly indicates potential to acidify
BH006_12.5-12.6_080524	BH006_WSP	Macquarie Point	8-May-24	1097381	12.55	9.8	2.3	7.5	4	ESTUARINE - CLAY	Yes	Strongly indicates potential to acidify
BH007_0.5-0.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	0.55	8.1	7.3	0.8	4	FILL - Gravelly SAND	No	Low probability of acidification
BH007_1-1.1_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	1.05	8.3	7.4	0.9	4	FILL - Gravelly SAND	No	Low probability of acidification
BH007_1.5-1.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	1.55	7.8	5.4	2.4	4	FILL - Clayey gravelly SAND	No	May indicate potential to acidify
BH007_2-2.1_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	2.05	8	7.6	0.4	4	FILL - Sandy CLAY	No	Low probability of acidification
BH007_2.5-2.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	2.55	7.7	5.7	2	4	FILL - Sandy CLAY	Yes	May indicate potential to acidify
BH007_3-3.1_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	3.05	7.4	6	1.4	4	FILL - Sandy CLAY	Yes	May indicate potential to acidify
BH007_3.5-3.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	3.55	8.1	6.8	1.3	4	FILL - Sandy CLAY	Yes	May indicate potential to acidify
BH007_4-4.1_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	4.05	8.1	6.1	2	4	FILL - SAND	Yes	May indicate potential to acidify
BH007_4.5-4.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	4.55	8.6	7.2	1.4	4	FILL - SAND	Yes	May indicate potential to acidify
BH007_5-5.1_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	5.05	8.1	6.9	1.2	4	FILL - SAND	Yes	May indicate potential to acidify
BH007_5.5-5.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	5.55	8.5	7	1.5	4	FILL - SAND	Yes	May indicate potential to acidify
BH007_6-6.1_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	6.05	8.6	2.9	5.7	4	ESTUARINE - SAND. Shells fragments	Yes	Strongly indicates potential to acidify
BH007_6.5-6.6_020524	BH007_WSP	Macquarie Point	2-May-24	1094321	6.55	8.9	7.4	1.5	4	ESTUARINE - SAND. Shells fragments	Yes	May indicate potential to acidify
BH008_0.50-0.60_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	0.55	8.7	8	0.7	4	FILL - Sandy GRAVEL	No	Low probability of acidification
BH008_1.0-1.1_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	1.05	8.4	7.7	0.7	4	FILL - Gravelly SAND	No	Low probability of acidification
BH008_1.5-1.6_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	1.55	8.8	8.1	0.7	4	FILL - Gravelly SAND	No	Low probability of acidification
BH008_2.0-2.1_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	2.05	8.8	8.3	0.5	4	FILL - Clayey SAND	Yes	Low probability of acidification
BH008_2.5-2.6_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	2.55	7.9	6.7	1.2	4	FILL - Clayey SAND	Yes	May indicate potential to acidify
BH008_3.0-3.1_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	3.05	7.9	6.4	1.5	4	FILL - Clayey SAND	Yes	May indicate potential to acidify
BH008_3.5-2.6_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	3.55	7.6	7.1	0.5	4	FILL - Clayey SAND	Yes	Low probability of acidification
BH008_4.0-4.1_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	4.05	7.9	7.1	0.8	4	FILL - Clayey SAND	Yes	Low probability of acidification
BH008_4.5-4.6_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	4.55	7.7	6.9	0.8	4	FILL - Silty clayey SAND	Yes	Low probability of acidification
BH008_5.0-5.1_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	5.05	8.1	7	1.1	4	FILL - Silty clayey SAND	Yes	May indicate potential to acidify
BH008_5.5-5.6_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	5.55	8.3	3.7	4.6	4	FILL - Silty clayey SAND	Yes	May indicate potential to acidify
BH008_6.0-6.1_070524	BH008_WSP	Macquarie Point	7-May-24	1097381	6.05	9.1	7.9	1.2	4	ROCK - DOLERITE	Yes	May indicate potential to acidify

Table T1
Analytical Results - pH Field Screen
Acid Sulfate Soil Investigation
Macquarie Point Development Project

AECOM

						pH Field Screen Results				Field Observations		
						pH_F	pH_{FOX}	ΔpH	Reaction Rate[#1]	Recorded Lithology	Below Watertable?	Field Screen Interpretation
						pH Units	pH Units	pH Units	Unit			
EQL						0.1	0.1	0.1	0			
Interpretation Criteria						<4	<3 3-4 4-5	>1	N/A			
Field ID	**Location Code**	**Site Area**	**Sample Date**	**Lab Report Number**	**Sample Depth Avg**							
BH009_0.50-0.60_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	0.55	8.8	7.5	1.3	4	FILL - Gravelly SAND	No	May indicate potential to acidify
BH009_1.0-1.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	1.05	7.9	6.4	1.5	4	FILL - Gravelly SAND	No	May indicate potential to acidify
BH009_1.5-1.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	1.55	7.8	7.3	0.5	4	FILL - Gravelly SAND	No	Low probability of acidification
BH009_2.0-2.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	2.05	7.8	6.6	1.2	4	FILL - SAND	No	May indicate potential to acidify
BH009_2.5-2.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	2.55	8	7.4	0.6	4	FILL - SAND	Yes	Low probability of acidification
BH009_3.0-3.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	3.05	8	6.5	1.5	4	FILL - Clayey SAND	Yes	May indicate potential to acidify
BH009_3.5-3.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	3.55	7.9	6.2	1.7	4	FILL - Clayey SAND	Yes	May indicate potential to acidify
BH009_4.0-4.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	4.05	8.2	6.8	1.4	4	FILL - Clayey SAND. Shell fragments	Yes	May indicate potential to acidify
BH009_4.5-4.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	4.55	8.4	6.2	2.2	4	FILL - Clayey SAND. Shell fragments	Yes	May indicate potential to acidify
BH009_5.0-5.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	5.05	8.8	5.4	3.4	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH009_5.5-5.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	5.55	8.4	5.2	3.2	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH009_6.0-6.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	6.05	9.3	4.3	5	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH009_6.5-6.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	6.55	8.6	5.3	3.3	4	FILL - Sandy Clay. Shell fragments	Yes	May indicate potential to acidify
BH009_7.0-7.1_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	7.05	8.9	3	5.9	4	FILL - Sandy Clay. Shell fragments	Yes	Strongly indicates potential to acidify
BH009_7.5-.6_100524	BH009_WSP	Macquarie Point	10-May-24	1097381	7.55	9.1	7.6	1.5	4	ESTUARINE - SAND. Shells fragments	Yes	May indicate potential to acidify
BH010_0.5-0.6_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	0.55	8.3	7	1.3	4	FILL - Gravelly SAND	No	May indicate potential to acidify
BH010_1.0-1.1_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	1.05	8	7.3	0.7	4	FILL - Sandy GRAVEL	No	Low probability of acidification
BH010_1.5-1.6_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	1.55	7.6	6	1.6	4	FILL - Silty CLAY	No	May indicate potential to acidify
BH010_2.0-2.1_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	2.05	8.4	7.9	0.5	4	FILL - Clayey GRAVEL	No	Low probability of acidification
BH010_2.5-2.6_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	2.25	8.4	8.4	0	4	FILL - Clayey GRAVEL	No	Low probability of acidification
BH010_3.0-3.1_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	3.05	8.1	7.7	0.4	4	ESTUARINE - Silty Gravelly CLAY. Shell fragments	No	Low probability of acidification
BH010_3.5-3.6_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	3.55	7.7	7.4	0.3	4	ESTUARINE - Silty CLAY. Shell fragments	No	Low probability of acidification
BH010_4.0-4.1_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	4.05	8.1	8	0.1	4	ESTUARINE - Silty CLAY. Shell fragments	Yes	Low probability of acidification
BH010_4.5-4.6_240424	BH010_WSP	Macquarie Point	24-Apr-24	1093109	4.55	8.3	2.9	5.4	4	ESTUARINE - SAND	Yes	Strongly indicates potential to acidify
BH011_0.5-0.6_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	0.55	8.7	8.2	0.5	4	FILL - Gravelly SAND	No	Low probability of acidification
BH011_1.0-1.1_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	1.05	7.9	6.2	1.7	4	FILL - Silty gravelly CLAY	No	May indicate potential to acidify
BH011_1.5-1.6_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	1.55	8.2	6.9	1.3	4	FILL - Silty gravelly CLAY	No	May indicate potential to acidify
BH011_2.0-2.1_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	2.05	8.7	7.6	1.1	4	FILL - Silty gravelly CLAY	No	May indicate potential to acidify
BH011_2.5-2.6_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	2.55	9.2	7.6	1.6	4	FILL - Silty gravelly CLAY	No	May indicate potential to acidify
BH011_3.0-3.1_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	3.05	8.1	3.8	4.3	4	FILL - Silty CLAY	Yes	May indicate potential to acidify
BH011_3.5-3.6_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	3.55	8.6	6.8	1.8	4	ESTUARINE - Sandy CLAY	Yes	May indicate potential to acidify
BH011_4.0-4.1_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	4.05	8.6	7.6	1	4	ESTUARINE - Sandy CLAY	Yes	May indicate potential to acidify
BH011_4.5-4.6_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	4.55	8.4	7	1.4	4	ESTUARINE - Clayey SAND. Shell fragments	Yes	May indicate potential to acidify
BH011_5.0-5.1_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	5.05	8.9	6.8	2.1	4	ESTUARINE - Clayey SAND. Shell fragments	Yes	May indicate potential to acidify
BH011_5.5-5.6_220424	BH011_WSP	Macquarie Point	22-Apr-24	1093109	5.55	9	5.2	3.8	4	ESTUARINE - Clayey SAND. Shell fragments	Yes	May indicate potential to acidify
BH012_0.5-0.6	BH012_WSP	Macquarie Point	18-May-24	1100380	0.55	8.5	8.6	-0.1	4	FILL - Gravelly silty SAND	No	Low probability of acidification
BH012_0.9-1.0	BH012_WSP	Macquarie Point	18-May-24	1100380	0.95	5.8	4.4	1.4	4	FILL - GRAVEL	No	May indicate potential to acidify
BH012_4.0-4.1	BH012_WSP	Macquarie Point	18-May-24	1100380	1.05	8.3	6.9	1.4	4	FILL - Silty sandy GRAVEL	No	May indicate potential to acidify
BH012_1.4-1.5	BH012_WSP	Macquarie Point	18-May-24	1100380	1.45	8.4	8.2	0.2	4	FILL - Silty sandy GRAVEL	No	Low probability of acidification
BH012_1.9-2.0	BH012_WSP	Macquarie Point	18-May-24	1100380	1.95	8.5	7.9	0.6	4	FILL - Silty sandy GRAVEL	No	Low probability of acidification
BH012_2.4-2.5	BH012_WSP	Macquarie Point	18-May-24	1100380	2.45	8.3	7.5	0.8	4	FILL - Silty sandy GRAVEL	No	Low probability of acidification
BH012_2.9-3.0	BH012_WSP	Macquarie Point	18-May-24	1100380	2.95	8.3	7.2	1.1	4	FILL - Silty sandy GRAVEL	No	May indicate potential to acidify
BH012_3.4-3.5	BH012_WSP	Macquarie Point	18-May-24	1100380	3.45	8.4	7.7	0.7	4	FILL - Silty sandy CLAY	No	Low probability of acidification
BH012_4.5-4.6	BH012_WSP	Macquarie Point	18-May-24	1100380	4.55	8.4	7.2	1.2	4	FILL - Silty sandy CLAY	No	May indicate potential to acidify
BH012_6.0-6.1	BH012_WSP	Macquarie Point	18-May-24	1100380	6.05	8.8	3.4	5.4	4	ESTUARINE - Silty SAND. Trace shell fragments	Yes	Strongly indicates potential to acidify
BH013_0.5-0.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	0.55	8.8	8.4	0.4	4	FILL - Sandy silty GRAVEL	No	Low probability of acidification
BH013_1.0-1.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	1.05	8.5	8.1	0.4	4	FILL - Sandy clayey GRAVEL	No	Low probability of acidification
BH013_1.5-1.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	1.55	8.5	5.6	2.9	4	FILL - Sandy clayey GRAVEL	No	May indicate potential to acidify
BH013_2.0-2.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	2.05	6.3	3.7	2.6	3	FILL - Sandy clayey GRAVEL	No	May indicate potential to acidify
BH013_2.5-2.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	2.55	7.7	5.5	2.2	3	FILL - Silty SAND	No	May indicate potential to acidify
BH013_3.0-3.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	3.05	8.3	7.8	0.5	4	FILL - Clayey sandy SILT	No	Low probability of acidification
BH013_3.5-3.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	3.55	8.8	4.9	3.9	4	FILL - Clayey sandy SILT	Yes	May indicate potential to acidify
BH013_4.0-4.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	4.05	12	10	2	4	FILL - Clayey sandy SILT	Yes	May indicate potential to acidify
BH013_4.5-4.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	4.55	12	12	0	4	FILL - Sandy gravelly SILT	Yes	Low probability of acidification
BH013_5.0-5.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	5.05	12	12	0	4	FILL - Sandy clayey GRAVEL	Yes	Low probability of acidification
BH013_5.5-5.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	5.55	9.9	8.4	1.5	4	FILL - Sandy clayey GRAVEL	Yes	May indicate potential to acidify
BH013_6.0-6.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	6.05	12	11	1	4	ESTUARINE - SAND. Shell fragments	Yes	May indicate potential to acidify
BH013_6.4-6.5m	BH013_WSP	Macquarie Point	15-May-24	1099835	6.45	11	7.3	3.7	4	ESTUARINE - SAND. Shell fragments	Yes	May indicate potential to acidify
BH013_7.5-7.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	7.55	11	7.1	3.9	4	ESTUARINE - SAND. Shell fragments	Yes	May indicate potential to acidify
BH013_8.0-8.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	8.05	8.5	2.4	6.1	4	ESTUARINE - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH013_8.5-8.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	8.55	8.5	2.5	6	4	ESTUARINE - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH013_9.0-9.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	9.05	8.1	2.5	5.6	4	ESTUARINE - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH013_10.5-10.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	10.55	8.9	2.3	6.6	4	ESTUARINE - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH013_11.0-11.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	11.05	8.6	2.3	6.3	4	ESTUARINE - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH013_11.5-11.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	11.55	8.8	4.4	4.4	4	ESTUARINE - SAND. Shell fragments	Yes	May indicate potential to acidify
BH013_12.0-12.1m	BH013_WSP	Macquarie Point	15-May-24	1099835	12.05	9.3	6.7	2.6	4	ESTUARINE - Clayey gravelly SAND	Yes	May indicate potential to acidify
BH013_12.5-12.6m	BH013_WSP	Macquarie Point	15-May-24	1099835	12.55	8.4	7.5	0.9	4	ESTUARINE - Clayey gravelly SAND	Yes	Low probability of acidification
BH014_0.5-0.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	0.55	8.1	7.6	0.5	4	FILL - Gravelly SAND	No	Low probability of acidification
BH014_1-1.1_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	1.05	8	6.8	1.2	4	FILL - Clayey gravelly SAND	No	May indicate potential to acidify
BH014_1.5-1.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	1.55	8.1	7.5	0.6	4	FILL - Clayey gravelly SAND	No	Low probability of acidification
BH014_2-2.1_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	2.05	8	7.7	0.3	4	FILL - Silty gravelly CLAY	No	Low probability of acidification
BH014_2.5-2.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	2.55	8.3	7.7	0.6	4	FILL - Silty gravelly CLAY	No	Low probability of acidification
BH014_3-3.1_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	3.05	8	7.4	0.6	4	FILL - Gravelly clayey SAND	No	Low probability of acidification
BH014_3.5-3.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	3.55	7.6	4.4	3.2	4	FILL/ESTUARINE - Gravelly sandy CLAY	No	May indicate potential to acidify
BH014_4-4.1_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	4.05	7.5	4.6	2.9	4	ESTUARINE - Clayey SAND	No	May indicate potential to acidify
BH014_4.5-4.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	4.55	7.5	5	2.5	4	ESTUARINE - Clayey SAND	Yes	May indicate potential to acidify
BH014_5-5.1_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	5.05	7.7	6.3	1.4	4	ESTUARINE - Clayey SAND	Yes	May indicate potential to acidify
BH014_5.5-5.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	5.55	8.4	4.6	3.8	4	ESTUARINE - Clayey SAND	Yes	May indicate potential to acidify
BH014_6.5-6.6_290424	BH014_WSP	Macquarie Point	29-Apr-24	1094321	6.55	8.4	6.9	1.5	4	ESTUARINE - SAND. Shell fragments	Yes	May indicate potential to acidify
BH015_0.4-0.5	BH015_WSP	Macquarie Point	17-May-24	1100380	0.45	9	7.9	1.1	4	FILL - Silty SAND	No[#2]	May indicate potential to acidify
BH015_0.9-1.0	BH015_WSP	Macquarie Point	17-May-24	1100380	0.95	8.9	7.4	1.5	4	FILL - Sandy gravelly SILT	No[#2]	May indicate potential to acidify
BH015_1.4-1.5	BH015_WSP	Macquarie Point	17-May-24	1100380	1.45	8.3	8.1	0.2	4	FILL - Silty SAND	No[#2]	Low probability of acidification
BH015_2.0-2.1	BH015_WSP	Macquarie Point	17-May-24	1100380	2.05	8.3	8.2	0.1	4	FILL - Sandy gravelly SILT	No[#2]	Low probability of acidification
BH015_2.5-2.6	BH015_WSP	Macquarie Point	17-May-24	1100380	2.55	7.6	6.7	0.9	4	FILL - Sandy gravelly SILT	No[#2]	Low probability of acidification
BH015_2.9-3.0	BH015_WSP	Macquarie Point	17-May-24	1100380	2.95	8.6	7.4	1.2	4	FILL - Gravelly SAND	No[#2]	May indicate potential to acidify
BH015_3.4-3.5	BH015_WSP	Macquarie Point	17-May-24	1100380	3.45	8.5	7.4	1.1	4	FILL - Gravelly SAND	Yes[#2]	May indicate potential to acidify
BH015_4.0-4.1	BH015_WSP	Macquarie Point	17-May-24	1100380	4.05	8.2	6.8	1.4	4	FILL - SAND	Yes[#2]	May indicate potential to acidify
BH015_4.5-4.6	BH015_WSP	Macquarie Point	17-May-24	1100380	4.55	8.5	7.4	1.1	4	FILL - SAND	Yes[#2]	May indicate potential to acidify
BH015_5.0-5.1	BH015_WSP	Macquarie Point	17-May-24	1100380	5.05	8.9	7.2	1.7	4	FILL - SAND	Yes[#2]	May indicate potential to acidify
BH015_5.5-5.6	BH015_WSP	Macquarie Point	17-May-24	1100380	5.15	8.1	3.2	4.9	4	ESTUARINE - SAND. Shell fragments	Yes[#2]	Strongly indicates potential to acidify
BH016_0.5-0.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	0.55	8.6	7.9	0.7	4	FILL - Gravelly SAND	No	Low probability of acidification
BH016_1-1.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	1.05	8.8	9.1	-0.3	4	FILL - Gravelly SAND	No	Low probability of acidification
BH016_1.5-1.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	1.55	7.9	7.6	0.3	4	FILL - Gravelly SAND	No	Low probability of acidification
BH016_2-2.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	2.05	7.3	4.4	2.9	4	FILL - Clayey gravelly SAND	Yes	May indicate potential to acidify
BH016_2.5-2.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	2.55	8	7.6	0.4	4	FILL - Gravelly CLAY	Yes	Low probability of acidification
BH016_3-3.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	3.05	8.4	5.3	3.1	4	FILL - Gravelly CLAY	Yes	May indicate potential to acidify
BH016_3.5-3.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	3.55	7.8	7	0.8	4	FILL - Gravelly CLAY	Yes	Low probability of acidification
BH016_4-4.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	4.05	8	5.7	2.3	4	FILL - Gravelly CLAY	Yes	May indicate potential to acidify
BH016_4.5-4.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	4.55	8.3	4	4.3	4	FILL - CLAY	Yes	May indicate potential to acidify
BH016_5.0-5.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	5.05	8.7	3.2	5.5	4	FILL/ESTUARINE - Clayey SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH016_5.5-5.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	5.55	8.1	2.9	5.2	4	FILL/ESTUARINE - Clayey SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH016_6-6.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	6.05	8.2	3.7	4.5	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH016_6.5-6.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	6.55	8.2	3.1	5.1	4	FILL - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH016_7.0-7.5_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	7.05	8.2	3.1	5.1	4	FILL - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH016_7.5-7.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	7.55	7.7	4.6	3.1	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH016_8-8.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	8.05	8.4	4.4	4	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH016_8.5-8.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	8.55	8.7	4.8	3.9	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH016_13.5-13.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	13.55	9.4	2.6	6.8	4	FILL - SAND. Shell fragments	Yes	Strongly indicates potential to acidify
BH016_14-14.1_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	14.05	9.4	6.9	2.5	4	FILL - SAND. Shell fragments	Yes	May indicate potential to acidify
BH016_14.5-14.6_010524	BH016_WSP	Macquarie Point	1-May-24	1094321	14.55	9.3	7.5	1.8	4	FILL - SAND.	Yes	May indicate potential to acidify

Table T1
Analytical Results - pH Field Screen
Acid Sulfate Soil Investigation
Macquarie Point Development Project

	pH Field Screen Results				Field Observations		
	pH_F	pH_{FOX}	ΔpH	Reaction Rate#1	Recorded Lithology	Below Watertable?	Field Screen Interpretation
	pH Units	pH Units	pH Units	Unit			
EQL	0.1	0.1	0.1	0			
Interpretation Criteria	<4	<3 3-4 4-5	>1	N/A			

Field ID	Location Code	Site Area	Sample Date	Lab Report Number	Sample Depth Avg							
BH236_0.2_A_240920	BH236	Regatta Point	20-Sep-24	1141778	0.2	7.4	5	2.4	5	CLAY, trace roots	No	May indicate potential to acidify
BH236_0.5_A_240920	BH236	Regatta Point	20-Sep-24	1141778	0.5	7.9	5.2	2.7	4	CLAY. Cobbles from 0.4	No	May indicate potential to acidify
BH236_0.8_A_240920	BH236	Regatta Point	20-Sep-24	1141778	0.8	8.5	6.5	2	5	CLAY	No	May indicate potential to acidify
BH243_0.2_A_240920	BH243	Regatta Point	20-Sep-24	1141778	0.2	7.2	4.7	2.5	5	Gravelly CLAY, cobbles, trace shell fragments	No	May indicate potential to acidify
BH243_0.5_A_240920	BH243	Regatta Point	20-Sep-24	1141778	0.5	8.6	6.9	1.7	5	Sandy gravelly CLAY, cobbles, trace shell fragments	No	May indicate potential to acidify
BH243_1.0_A_240920	BH243	Regatta Point	20-Sep-24	1141778	1.1	8.7	7.3	1.4	5	Sandy gravelly CLAY, cobbles, trace shell fragments	No	May indicate potential to acidify
BH243_1.5_A_240920	BH243	Regatta Point	20-Sep-24	1141778	1.5	8.1	6	2.1	5	Sandy gravelly CLAY, cobbles, trace shell fragments.	No	May indicate potential to acidify
BH252_0.2_A_240920	BH252	Regatta Point	20-Sep-24	1141778	0.2	6.9	4.5	2.4	4	Gravelly SAND, trace shell fragments,	No	May indicate potential to acidify
BH252_0.5_A_240920	BH252	Regatta Point	20-Sep-24	1141778	0.5	7.6	5.4	2.2	4	Gravelly SAND, trace shell fragments,	No	May indicate potential to acidify
BH252_1.0_A_240920	BH252	Regatta Point	20-Sep-24	1141778	1.1	8.5	7.4	1.1	5	Gravelly clayey SAND, trace shell fragments, cobbles	No	May indicate potential to acidify
BH252_1.5_A_240920	BH252	Regatta Point	20-Sep-24	1141778	1.5	8.5	7.1	1.4	5	Gravelly clayey SAND, trace shell fragments, cobbles,	No	May indicate potential to acidify
BH253_0.2_A_240920	BH253	Regatta Point	20-Sep-24	1141778	0.2	7.7	5	2.7	4	Gravelly SAND, trace shell fragments	No	May indicate potential to acidify
BH253_0.5_A_240920	BH253	Regatta Point	20-Sep-24	1141778	0.5	7.9	4.8	3.1	4	Gravelly SAND, trace shell fragments	No	May indicate potential to acidify
BH253_1.0_A_240920	BH253	Regatta Point	20-Sep-24	1141778	1	7.6	6	1.6	4	Gravelly SAND, trace shell fragments. Gravel size	No	May indicate potential to acidify
BH253_1.25_A_240920	BH253	Regatta Point	20-Sep-24	1141778	1.25	8.3	7.9	0.4	5	Gravelly clayey SAND, cobbles, trace shell fragments	No	Low probability of acidification

Notes
#1. Macquarie Point reactions rates were reported on the following scale: 1 - None to slight; 2 - Moderate; 3 - Strong reaction with persistent froth; 4 - Extreme reaction
Regatta Point sample reaction rates were reported on the following scale: 1 - no visible or audible effervescence; 2 - slight audible but no visible effervescence; 3 - audible and slightly visible effervescence; 4 - moderate visible effervescence; 5 - strong visible effervescence
#2. Groundwater presence/absence not noted on borelog. Depth of water table estimated from nearby locations and apparent saturation on core photographs

Table T2
Analytical Results - CRS and SPOCAS
Acid Sulfate Soil Investigation
Macquarie Point Development Project

AECOM

	Field Observations		Physico-Chemical Parameters					Total Actual Acidity (TAA)[#4]			Chromium Reducible Sulfur													
											Potential Acidity (S_{CR})		Acid Neutralising Capacity (ANC_{BT})				Net Acidity (excluding ANC)[#1]			Net Acidity (including ANC)			
	Recorded Lithology	Below Watertable?	Moisture Content (dried @ 103°C)	> 2mm Fraction	> 2mm Fraction	Analysed Material	If Extraneous Material	pH KCl	Titratable Actual Acidity	Lab/Titr. - Titratable Actual Acidity	Acidity - Chromium Reducible Sulphur	Chromium Reducible Sulfur	Acid Neutralising Capacity - Acid (NLM-5.2)	Net Neutralising Capacity - at ANCE	Net Neutralising Capacity - at ANCR (NLM-5.2)	ANC Fineness Factor	Net Acidity wit-hout ANCE	Net Acidity wit-hout ANCE	CRS Suite - Lining Rate - NAS(SE (Excluding ANC)	CRS Suite - Net Acidity - NAS(SE (including ANC)	CRS Suite - s-Net Acidity - NAS(SE (including ANC) (Sulfur Units)	CRS Suite - Lining Rate - NAS(SE (including ANC)	Interpretation of CRS
			%	G		%	%	pH Units	mole H+/t	% pyrite S	mole H+/t	%	% CaCO3	mole H+/t	%	-	MOL H+/T	% S	kG CAC-O3/t	MOL H+/T	% S	kG CAC-O3/t	
LOR			1	0.005	0.005	0.1	0.1	0.1	2	0.003	3	0.005	0.01	2	0.02		10	0.02	1	10	0.02	1	
Criteria									18	0.03	18	0.03					18	0.03		18	0.03		
Field_ID	Location Code	Sample Date	Lab Report	Area	Depth_Avg																			
ABH001_1.0-1.1_200524	ABH001_WSP	20-May-24	1108737	Macquarie Point	1.05	FILL - Sandy silty GRAVEL	No	7	19	81	19	81	9.1	<2	<0.003	7.3	0.012	2.4	480	0.77	1.5	7.3	0.012	-	<10	<0.02	<1	Not ASS
ABH002_0.5-0.6	ABH002_WSP	21-May-24	1108737	Macquarie Point	0.55	FILL - Clayey GRAVEL	No	5.6	24	21	53	47	8.9	<2	<0.003	25	0.04	4	800	1.3	1.5	25	0.04	-	<10	<0.02	<1	Acidification may be limited by ANC
ABH002_1.5-1.6	ABH002_WSP	21-May-24	1108737	Macquarie Point	1.55	FILL - Clayey GRAVEL	No	16	35	16	70	30	8.6	<2	<0.003	15	0.023	5	1000	1.6	1.5	15	0.023	-	<10	<0.02	<1	Not ASS
ABH002_2.5-2.6	ABH002_WSP	21-May-24	1108737	Macquarie Point	2.55	FILL - Sandy gravelly CLAY	Yes	18	38	8.4	82	18	8.7	<2	<0.003	4.4	0.007	4.9	980	1.6	1.5	4.4	0.007	-	<10	<0.02	<1	Not ASS
ABH002_4.0-4.1	ABH002_WSP	21-May-24	1108737	Macquarie Point	4.05	FILL - Sandy gravelly CLAY	Yes	4.9	39	<0.005	100	<0.1	8.8	<2	<0.003	67	0.11	2.6	520	0.83	1.5	67	0.11	-	<10	<0.02	<1	Acidification may be limited by ANC
ABH003_1.0-1.1	ABH003_WSP	20-May-24	1108737	Macquarie Point	1.05	FILL - Sandy gravelly CLAY	No	15	48	23	67	33	8.5	<2	<0.003	24	0.039	5.1	1000	1.6	1.5	24	0.039	-	<10	<0.02	<1	Acidification may be limited by ANC
ABH003_2.5-2.6	ABH003_WSP	20-May-24	1108737	Macquarie Point	2.55	FILL - Gravelly CLAY	Yes	24	38	6.3	86	14	8.3	<2	<0.003	9.5	0.015	3.8	760	1.2	1.5	9.5	0.015	-	<10	<0.02	<1	Not ASS
ABH003_3.5-3.6	ABH003_WSP	20-May-24	1108737	Macquarie Point	3.55	FILL - Sandy gravelly CLAY	Yes	27	71	24	74	26	8.2	<2	<0.003	5.9	0.01	7.1	1400	2.3	1.5	5.9	0.01	-	<10	<0.02	<1	Not ASS
ABH003_5.5-5.6	ABH003_WSP	20-May-24	1108737	Macquarie Point	5.55	ESTUARINE - SAND	Yes	-	66	<0.005	100	<0.1	8.7	<2	<0.003	140	0.22	0.98	200	0.31	1.5	140	0.22	-	<10	<0.02	<1	Acidification may be limited by ANC
ABH004_1.5-1.6	ABH004_WSP	20-May-24	1108737	Macquarie Point	1.55	FILL - Gravelly SAND	No[#2]	23	96	8.3	92	7.9	8.1	<2	<0.003	1000	1.7	3.5	690	1.1	1.5	1000	1.7	-	570	0.91	43	May acidify if disturbed
ABH004_3.0-3.1	ABH004_WSP	21-May-24	1108737	Macquarie Point	3.05	FILL - Sandy CLAY	Yes[#2]	29	37	6.2	86	14	8.4	<2	<0.003	180	0.28	3.5	690	1.1	1.5	180	0.28	-	<10	<0.02	<1	Acidification may be limited by ANC
ABH004A_2	ABH004A	27-May-25	1237090	Macquarie Point	2.0	FILL - Clay, dark brown, anthropogenic fragments	No	19	24	130	16	84	8.7	<2	<0.003	380	0.6	3.2	640	1	1.5	380	0.6	-	<10[#5]	<0.02[#5]	-	Acidification may be limited by ANC
ABH004A_2.5	ABH004A	27-May-25	1237090	Macquarie Point	2.5	FILL - Clay, dark brown, anthropogenic fragments	No	39	13	<0.005	100	<0.1	8	<2	<0.003	89	0.14	4.7	940	1.5	1.5	89	0.14	6.7	<10	<0.02	<1	Acidification may be limited by ANC
ABH004E_0.5	ABH004E	27-May-25	1237090	Macquarie Point	0.5	FILL - Sandy, gravelly clay, dark brown	No	13	24	70	26	74	8.4	<2	<0.003	70	0.11	3.6	720	1.1	1.5	70	0.11	5.3	<10	<0.02	<1	Acidification may be limited by ANC
ABH004E_2.5	ABH004E	27-May-25	1237090	Macquarie Point	2.5	FILL - Sandy, gravelly clay, dark brown	No	32	30	<0.005	100	<0.1	8.5	<2	<0.003	80	0.13	4.2	830	1.3	1.5	80	0.13	6	<10	<0.02	<1	Acidification may be limited by ANC
ABH004N_0.5	ABH004N	27-May-25	1237090	Macquarie Point	0.5	FILL - Gravelly sand, dark brown	No	8.3	57	34	63	37	8.8	<2	<0.003	53	0.085	12	2500	4	1.5	53	0.08	4	<10	<0.02	<1	Acidification may be limited by ANC
ABH004N_2.5	ABH004N	27-May-25	1237090	Macquarie Point	2.5	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	37	26	<0.005	100	<0.1	7.8	<2	<0.003	640	1	2.3	470	0.75	1.5	640	1	48	330	0.52	25	May acidify if disturbed
ABH004S_1	ABH004S	27-May-25	1237090	Macquarie Point	1	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	20	34	<0.005	100	<0.1	8.4	<2	<0.003	260	0.42	3.1	620	1	1.5	260	0.42	19	<10	<0.02	<1	Acidification may be limited by ANC
ABH004S_2	ABH004S	27-May-25	1237090	Macquarie Point	2	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	32	24	<0.005	100	<0.1	8.2	<2	<0.003	71	0.11	2.6	510	0.82	1.5	71	0.11	5.3	<10	<0.02	<1	Acidification may be limited by ANC
ABH004W_1.5	ABH004W	27-May-25	1237090	Macquarie Point	1.5	FILL - Clay, dark brown with orange traces, gravels	No	17	62	<0.005	100	<0.1	8.4	<2	<0.003	260	0.42	1.9	390	0.62	1.5	260	0.42	20	<10	<0.02	<1	Acidification may be limited by ANC
ABH004W_2.5	ABH004W	27-May-25	1237090	Macquarie Point	2.5	FILL - Clay, sandy, black/brown, anthropogenic traces	No	26	62	9.4	87	13	7.8	<2	<0.003	670	1.1	2.6	520	0.84	1.5	670	1.1	50	320	0.51	24	May acidify if disturbed
BH001-1.0-1.1_190424	BH001_WSP	19-Apr-24	1097156	Macquarie Point	1.05	FILL - Clayey gravelly SAND	No	8.8	58	180	24	76	8.5	<2	<0.003	7.6	0.012	4.2	850	1.4	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH002-0.5-0.6-180424	BH002_WSP	18-Apr-24	1097150	Macquarie Point	0.55	FILL - Gravelly SAND	No	11	130	290	30	70	8.7	<2	<0.003	6.1	0.01	3	600	0.97	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH002-2.0-2.1-180424	BH002_WSP	18-Apr-24	1097150	Macquarie Point	2.05	FILL - Silty CLAY	No	28	25	120	16	84	8.3	<2	<0.003	4.6	0.007	3.6	720	1.1	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH002-3.5-3.6-180424	BH002_WSP	18-Apr-24	1097150	Macquarie Point	3.55	ESTUARINE - Gravelly clayey SAND	No	23	130	130	50	50	8.9	<2	<0.003	4.1	0.007	45	9000	14	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH003-0.5-0.6-180424	BH003_WSP	16-Apr-24	1097150	Macquarie Point	0.55	FILL - Clayey GRAVEL	No	11	57	180	25	75	8.5	<2	<0.003	5.7	0.009	1.9	380	0.61	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH003-1.0-1.1-160424	BH003_WSP	16-Apr-24	1097156	Macquarie Point	1.05	FILL - Concrete	No	11	66	150	31	69	9.7	<2	<0.003	12	0.02	7.8	1600	2.5	1.5	12	<0.02	<1	<10	<0.02	<1	Not ASS
BH003-1.5-1.6-160424	BH003_WSP	16-Apr-24	1097150	Macquarie Point	1.55	FILL - Sandy CLAY	No	17	88	90	50	50	8.9	<2	<0.003	13	0.021	6	1200	1.9	1.5	13	0.02	<1	<10	<0.02	<1	Not ASS
BH003-3.0-3.1-160424	BH003_WSP	16-Apr-24	1097150	Macquarie Point	3.05	ALLUVIAL / ESTUARINE - Silty CLAY	No	<1	100	210	32	68	9.2	<2	<0.003	8.5	0.014	2.8	550	0.89	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004_2.0-2.1M	BH004_WSP	13-May-24	1108737	Macquarie Point	2.05	FILL - Clayey SAND	No[#2]	21	55	<0.005	100	<0.1	8.2	<2	<0.003	4.2	0.007	0.83	170	0.26	1.5	4.2	0.007	-	<10	<0.02	<1	Not ASS
BH004_2.9-3.0M	BH004_WSP	13-May-24	1108737	Macquarie Point	2.95	FILL - Gravelly SAND	No[#2]	14	57	<0.005	100	<0.1	6.7	<2	<0.003	20	0.032	0.34	67	0.11	1.5	20	0.032	-	<10	<0.02	<1	Acidification may be limited by ANC
BH004_4.5-4.6M	BH004_WSP	13-May-24	1108737	Macquarie Point	4.55	FILL - Silty sandy GRAVEL	Yes[#2]	43	220	<0.005	100	<0.1	8.9	<2	<0.003	40	0.064	0.54	110	0.17	1.5	40	0.064	-	<10	<0.02	<1	Acidification may be limited by ANC
BH004_6.0-6.1M	BH004_WSP	13-May-24	1108737	Macquarie Point	6.05	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes[#2]	22	230	1.1	100	0.5	9.1	<2	<0.003	87	0.14	1.7	340	0.55	1.5	87	0.14	-	<10	<0.02	<1	Acidification may be limited by ANC
BH004_8.5-8.6M	BH004_WSP	13-May-24	1108737	Macquarie Point	8.55	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes[#2]	20	280	<0.005	100	<0.1	8.6	<2	<0.003	300	0.48	2.5	490	0.79	1.5	300	0.48	-	<10	<0.02	<1	Acidification may be limited by ANC
BH004A_2.0	BH004A	11-Jun-25	1237090	Macquarie Point	2	FILL - Gravelly sand, brown to orange	No	26	42	<0.005	100	<0.1	8.3	<2	<0.003	5.5	0.009	1.8	360	0.57	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004A_4.0	BH004A	11-Jun-25	1237090	Macquarie Point	4	FILL - Sandy gravels, grey, crushed concrete, dolerite, sandstone	Yes	13	30	17	64	36	8.1	<2	<0.003	50	0.079	1.9	370	0.6	1.5	50	0.08	3.7	<10	<0.02	<1	Acidification may be limited by ANC
BH004E_0.2	BH004E	10-Jun-25	1237090	Macquarie Point	0.2	FILL - Gravelly sand, dark grey	No	3.1	23	61	27	73	8.8	<2	<0.003	12	0.019	1.8	370	0.59	1.5	12	0.02	<1	<10	<0.02	<1	Not ASS
BH004N_1.0	BH004N	10-Jun-25	1237090	Macquarie Point	1	FILL - Gravelly, sandy clay, dark brown, some cobble of limestone and siltstone. Some slag at 1.6, some bricks at 1.8	No	6.7	15	43	26	74	7.3	<2	<0.003	8.9	0.014	1	200	0.32	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004N_3.0	BH004N	10-Jun-25	1237090	Macquarie Point	3	NATURAL - Sand, grey, shell fragments	No	16	34	8.7	79	21	8.4	<2	<0.003	<3	<0.005	1.4	270	0.44	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004S_1.0	BH004S	11-Jun-25	1237090	Macquarie Point	1	FILL - Gravelly saand, some brick,metals, glass fragments. Slag cobbles at 1.6 m bgl	No	11	42	18	70	30	8.5	<2	<0.003	<3	<0.005	2	390	0.63	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004S_3.0	BH004S	11-Jun-25	1237090	Macquarie Point	3	FILL - Clay, brown, white silty intrusions, copper fragment, iron deposits	No	22	37	9.8	79	21	8.4	<2	<0.003	5	0.008	1.2	230	0.37	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004W_1.0	BH004W	11-Jun-25	1237090	Macquarie Point	1	FILL - Gravelly sand, some slag cobbles. Brick, glass and ceramic fragments from 0.6 m bgl	No	26	19	16	54	46	8.2	<2	<0.003	7.7	0.012	6.1	1200	2	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004W_2.0	BH004W	11-Jun-25	1237090	Macquarie Point	2	FILL - Gravelly sand. some slag cobbles. Brick, glass and ceramic fragments, and increasing clay content. Rusted metal sheeting at 1.1 m bgl	No	15	27	27	50	50	8.7	<2	<0.003	<3	<0.005	1.8	360	0.58	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH004W_4.0	BH004W	11-Jun-25	1237090	Macquarie Point	4	FILL - Clay, brown, with white silty inclusions, red brick and glasss fragments, sand inclusions	Yes	40	48	<0.005	100	<0.1	8.3	<2	<0.003	550	0.88	1.6	320	0.52	1.5	550	0.88	-	337[#2]	0.53[#2]	-	May acidify if disturbed
BH005_1.5-1.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	1.55	FILL - Silty clayey SAND	No	-	33	<0.005	100	<0.1	8.3	<2	<0.003	38	0.062	2	410	0.65	1.5	38	0.062	-	<10	<0.02	<1	Acidification may be limited by ANC
BH005_3.5-3.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	3.55	ESTUARINE - Silty CLAY. Trace shells	No	34	40	<0.005	100	<0.1	8.1	<2	<0.003	15	0.025	3.6	710	1.1	1.5	15	0.025	-	<10	<0.02	<1	Not ASS
BH005_5.5-5.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	5.55	ESTUARINE - SAND. Trace shells	Yes	17	51	<0.005	100	<0.1	8.6	<2	<0.003	150	0.24	2.4	490	0.78	1.5	150	0.24	-	<10	<0.02	<1	Acidification may be limited by ANC
BH005_8.5-8.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	8.55	ESTUARINE - SAND. Trace shells	Yes	-	36	<0.005	100	<0.1	8.6	<2	<0.003	260	0.42	2.9	580	0.93	1.5	260	0.42	-	<10	<0.02	<1	Acidification may be limited by ANC
BH005_10.5-10.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	10.55	ESTUARINE - SAND. Trace shells	Yes	-	32	<0.005	100	<0.1	6.7	<2	<0.003	750	1.2	0.72	140	0.23	1.5	750	1.2	-	650	0.97	49	May acidify if disturbed
BH005_12.5-12.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	12.55	ESTUARINE - Gravelly silty CLAY	Yes	-	53	<0.005	100	<0.1	7.3	<2	<0.003	15	0.025	0.79	160	0.25	1.5	15	0.025	-	<10	<0.02	<1	Not ASS
BH006_1.0-1.1_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	1.05	FILL - Sandy GRAVEL	No	-	83	<0.005	100	<0.1	8.6	<2	<0.003	7.1	0.011	2.9	580	0.93	1.5	7.1	0.011	-	<10	<0.02	<1	Not ASS
BH006_3.0-3.1_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	3.05	FILL - Sandy GRAVEL	No	38	38	<0.005	100	<0.1	8.4	<2	<0.003	600	0.97	5	990	1.6	1.5	600	0.97	-	<10	<0.02	<1	Acidification may be limited by ANC
BH006_6.5-6.6_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	6.55	ESTUARINE - SAND. Trace shells	Yes	-	75	3.3	96	4.1	8.9	<2	<0.003	130	0.2	2	400	0.64	1.5	130	0.2	-	<10	<0.02	<1	Acidification may be limited by ANC
BH006_8.0-8.1_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	8.05	ESTUARINE - CLAY	Yes	-	62	5.0	93	7.5	8.3	<2	<0.003	440	0.71	1.4	280	0.45	1.5	440	0.71	-	260	0.41	19	May acidify if disturbed
BH006_11.5-11.6_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	11.55	ESTUARINE - SAND. Trace shells	Yes	-	76	<0.005	100	<0.1	8.2	<2	<0.003	340	0.55	1.2	230	0.37	1.5	340	0.55	-	190	0.31	14	May acidify if disturbed
BH007_1.5-1.6_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	1.55	FILL - Clayey gravelly SAND	No	39	28	<0.005	100	<0.1	7	<2	<0.003	33	0.054	2.1	420	0.68	1.5	33	0.054	-	<10	<0.02	<1	Acidification may be limited by ANC
BH007_3.0-3.1_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	3.05	FILL - Sandy CLAY	No	35	41	<0.005	100	<0.1	8.7	<2	<0.003	110	0.18	3.9	790	1.3	1.5	110	0.18	-	<10	<0.02	<1	Acidification may be limited by ANC
BH007_4.5-4.6_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	4.55	FILL - SAND	No	32	60	<0.005	100	<0.1	9	<2	<0.003	160	0.25	5.7	1100	1.8	1.5	160	0.25	-	<10	<0.02	<1	Acidification may be limited by ANC
BH007_6-6.1_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	6.05	ESTUARINE - SAND. Shells fragments	No	23	78	<0.005	100	<0.1	8.8	<2	<0.003	200	0.32	1.8	350	0.56	1.5	200	0.32	-	<10	<0.02	<1	Not ASS
BH008_1.0-1.1_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	1.05	FILL - Gravelly SAND	No	9.7	43	9.6	82	18	8.4	<2	<0.003	21	0.034	2.5	490	0.79	1.5	21	0.034	-	<10	<0.02	<1	Acidification may be limited by ANC
BH008_3.0-3.1_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	3.05	FILL - Clayey SAND	Yes	25	58	<0.005	100	<0.1	8.6	<2	<0.003	410	0.66	5	1000	1.6	1.5	410	0.66	-	<10	<0.02	<1	Acidification may be limited by ANC
BH008_4.5-4.6_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	4.55	FILL - Silty clayey SAND	Yes	29	62	<0.005	100	<0.1	8.8	<2	<0.003	140	0.23	4.4	890	1.4	1.5	140	0.23	-	<10	<0.02	<1	Acidification may be limited by ANC
BH008_5.5-5.6_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	5.55	FILL - Silty clayey SAND	Yes	40	45	<0.005	100	<0.1	8.3	<2	<0.003	830	1.3	5.7	1100	1.8	1.5	830	1.3	-	71	0.11	5.4	May acidify if disturbed
BH009_1.0-1.1_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	1.05	FILL - Gravelly SAND	No	18	76	<0.005	100	<0.1	7.1	<2	<0.003	12	0.02	1.4	270	0.43	1.5	12	0.02	-	<10	<0.02	<1	Not ASS
BH009_3.5-3.6_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	3.55	FILL - Clayey SAND	Yes	43	31	<0.005	100	<0.1	8.3	<2	<0.003	260	0.41	5.6	1100	1.8	1.5	260	0.41	-	<10	<0.02	<1	Acidification may be limited by ANC
BH009_6.0-6.1_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	6.05	FILL - SAND. Shell fragments	Yes	24	60	<0.005	100	<0.1	8.7	<2	<0.003	130	0.21	1.3	250	0.4	1.5	130	0.21	-	<10	<0.02	<1	Acidification may be limited by ANC
BH009_7.0-7.1_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	7.05	FILL - Sandy Clay. Shell fragments	Yes	-	50	<0.005	100	<0.1	8.3	<2	<0.003	430	0.69	1.5	290	0.47	1.5	430	0.69	-	240	0.38	18	May acidify if disturbed
BH010_0.5-0.6_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	0.55	FILL - Gravelly SAND	No	8.1	73	130	36	64	8.7	<2	<0.003	8.5	0.014	2.9	580	0.93	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH010_1.5-1.6_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	1.55	FILL - Silty CLAY	No	38	87	72	55	45	8	<2	<0.003	8.8	0.014	3.3	660	1.1	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH010_4.0-4.1_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	4.05	ESTUARINE - Silty CLAY. Shell fragments	Yes	19	64	130	34	66	8.6	<2	<0.003	3.7	0.006	3.7	740	1.2	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH010_4.5-4.6_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	4.55	ESTUARINE - SAND	Yes	17	160	<0.005	100	<0.1	7.8	<2	<0.003	60	0.096	0.7	140	0.22	1.5	60	0.1	4.5	<10	<0.02	<1	Acidification may be limited by ANC
BH011_1.0-1.1_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	1.05	FILL - Silty gravelly CLAY	No	18	83	72	54	46	8.1	<2	<0.003	10	0.016	2.8	560	0.9	1.5	10	<0.02	<1	<10	<0.02	<1	Not ASS
BH011_2.0-2.1_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	2.05	FILL - Silty gravelly CLAY	No	8.8	110	68	63	37	9	<2	<0.003	6.4	0.01	2.2	430	0.69	1.5	<10	<0.02	<1	<10	<0.02	<1	Not ASS
BH011_3.0-3.1_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	3.05	FILL - Silty CLAY	No	17	70	99	42	58	8	<2	<0.003	37	0.059	1.3	270	0.43	1.5	37	0.06	2.8	<10	<0.02	<1	Acidification may be limited by ANC
BH011_4.5-4.6_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	4.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	18	140	41	78	22	8.8	<2	<0.003	18	0.029	0.84	170	0.27	1.5	18	0.03	1.3	<10	<0.02	<1	Acidification may be limited by ANC
BH011_5.5-5.6_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	5.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	21	210	<0.005	100	<0.1	9.1	<2	<0.003	99	0.16	2.1	420	0.68	1.5	99	0.16	7.4	<10	<0.02	<1	Acidification may be limited by ANC
BH012_0.9-1.0	BH012_WSP	21-May-24	1108737	Macquarie Point	0.95	FILL - GRAVEL	No	11	59	15	79	21	6.3	<2	<0.003	<3	<0.005	-	-	-	1.5	<3	<0.005	-	<10	<0.02	<1	Not ASS
BH012_2.9-3.0	BH012_WSP	18-May-24	1108737	Macquarie Point	2.95	FILL - Silty sandy GRAVEL	No	17	30	2.4	92	7.5	8.5	<2	<0.003	10	0.016	5.1	1000	1.6	1.5	10	0.016	-	<10	<0.02	<1	Not ASS
BH012_4.5-4.6	BH012_WSP	18-May-24	1108737	Macquarie Point	4.55	FILL - Silty sandy CLAY	No	20	34	2.6	93	7.1	8.4	<2	<0.003	26	0.041	2.3	470	0.75	1.5	26	0.041	-	<10	<0.02	<1	Acidification may be limited by ANC
BH012_6.0-6.1	BH012_WSP	18-May-24	1108737	Macquarie Point	6.05	ESTUARINE - Silty SAND. Trace shell fragments	Yes	20	150	8.9	94	5.8	9	<2	<0.003	53	0.085	0.81	160	0.26	1.5	53	0.085	-	<10	<0.02	<1	Acidification may be limited by ANC
BH013_1.5-1.6M	BH013_WSP	15-May-24	1108737	Macquarie Point	1.55	FILL - Sandy clayey GRAVEL	No	21	160	<0.005	100	<0.1	8.6	<2	<0.003	5.9	0.009	2.3	470	0.75	1.5	5.9	0.009	-	<10	<0.02	<1	Not ASS
BH013_3.5-3.6M	BH013_WSP	15-May-24	1108737	Macquarie Point	3.55	FILL - Clayey sandy SILT	Yes	34	68	5.3	93	7.2	8.6	<2	<0.003	81	0.13	1.9	370	0.59	1.5	81	0.13	-	<10	<0.02	<1	Acidification may be limited by ANC
BH013_5.5-5.6M	BH013_WSP	15-May-24	1108737	Macquarie Point	5.55	FILL - Sandy clayey GRAVEL	Yes

Table T2
Analytical Results - CRS and SPOCAS
Acid Sulfate Soil Investigation
Macquarie Point Development Project

AECOM

Field Observations			Suspension Peroxide Oxidation Combined Acidity and Sulfur																													Assessment of Potential to Generate Acid			
			Potential Acidity (S_{POS})		Acid Neutralising Capacity (ANC_{BT})			Net Acidity (excluding ANC)[#1]		Net Acidity (including ANC)				Potential Acidity - Titratable Peroxide					Extractable Sulfur			SPOCAS-Calcium Values					SPOCAS-Magnesium Values								
Recorded Lithology	Below Watertable?	Peroxide Oxidisable Sulfur	Peroxide Oxidisable Sulfur	Acid Neutralising Capacity - Acidity units	Acid Neutralising Capacity - equivalent S% pyrite	Liming Rate	SPOCAS - Net Acidity - NASSC (Excluding ANC)	SPOCAS Suite - s-Net Acidity - NASSC (Excluding ANC)	SPOCAS - Net Acidity - NASSC (Including ANC)	SPOCAS Suite - s-Net Acidity - NASSC (Including ANC)	SPOCAS Suite - Liming Rate - NASSC (Including ANC)	Interpretation of SPOCAS	pH-Ox	Titratable Peroxide Acidity (pH7Ox)	Titratable Peroxide Acidity (s-TPA)	Titratable Sulfidic Acidity (a-TSA)	Titratable Sulfidic Acidity (s-TSA)	KCl Extractable Sulfur	Sulfidity - Peroxide Oxidisable Sulfur	Sulfur in Peroxide	KCl Extractable Calcium	Calcium in Peroxide	Acid Reacted Calcium	Acidity - Acid Reacted Calcium	Sulfidic - Acid Reacted Calcium	KCl Extractable Calcium	Calcium in Peroxide	Acid Reacted Calcium	Sulfidic - Acid Reacted Magnesium	Acidity - Acid Reacted Magnesium	ANC_{BT} + Net Acidity (excluding ANC)[#1]	ANC suitable to include in assessment?	Net Acidity for Assessment	Potential to generate acid?
		mole H+/t	% S	mole H+/t	%CS	kg CaCO3/t	mole H+/t	% S	mole H+/t	% S	%S		pH Units	mole H+/t	%pyrite S	mole H+/t	%pyrite S	% S	mole H+/t	% S	%w/w	%w/w	%w/w Ca	mole H+/t	% S	%w/w	%w/w	%w/w Ca	% S	mole H+/t					
LOR		2	0.005	10	0.02	1	2	0.005	2	0.005	10		0.1	2	0.02	2	0.02	0.005	2	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	<10		0.005			
Criteria							18	0.03	18	0.03				18	0.03	18	0.03																			
BH001_1.0-1.1_200524	BH001_WSP	27-Apr-24	1103208	Macquarie Point	8.55	FILL - Sandy silty GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.2	Yes	<0.02	Low
BH002_0.5-0.6	BH002_WSP	21-May-24	1108737	Macquarie Point	0.55	FILL - Clayey GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.5	Yes	<0.02	Low
BH002_1.5-1.6	BH002_WSP	21-May-24	1108737	Macquarie Point	1.55	FILL - Clayey GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69.6	Yes	<0.02	Low
BH002_2.5-2.6	BH002_WSP	21-May-24	1108737	Macquarie Point	2.55	FILL - Sandy gravelly CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	228.6	Yes	<0.02	Low
BH002_4.0-4.1	BH002_WSP	21-May-24	1108737	Macquarie Point	4.05	FILL - Sandy gravelly CLAY	Yes	64	0.1	150	0.24	<1	64	0.1	<10	<0.02	<1	Acidification may be limited by ANC	7.1	<2	<0.02	<2	<0.02	0.12	64	64	0.32	0.66	0.34	170	0.27	0.044	0.071	0.035	0.027	22	7.6	No	0.11	High
BH003_1.0-1.1	BH003_WSP	20-May-24	1108737	Macquarie Point	1.05	FILL - Sandy gravelly CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.0	Yes	<0.02	Low
BH003_2.5-2.6	BH003_WSP	20-May-24	1108737	Macquarie Point	2.55	FILL - Gravelly CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80.0	Yes	<0.02	Low
BH003_3.5-3.6	BH003_WSP	20-May-24	1108737	Macquarie Point	3.55	FILL - Sandy gravelly CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230.0	Yes	<0.02	Low
BH003_5.5-5.6	BH003_WSP	20-May-24	1108737	Macquarie Point	5.55	ESTUARINE - SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	No	0.22	High
BH004_1.5-1.6	BH004_WSP	20-May-24	1108737	Macquarie Point	1.55	FILL - Gravelly SAND	No[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	No	1.7	High
BH004_3.0-3.1	BH004_WSP	21-May-24	1108737	Macquarie Point	3.05	FILL - Sandy CLAY	Yes[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	No	0.28	High
BH004A_2	BH004A	27-May-25	1237090	Macquarie Point	2.0	FILL - Clay, dark brown, anthropogenic fragments	No	430	0.7	435[#2]	0.705[#2]	-	430	0.7	140	0.23	11	May acidify if disturbed	5.9	<2	<0.02	<2	<0.02	0.73	430	430	0.31	0.91	0.59	300	-	0.020	0.060	0.051	0.039	32	1.7	No	0.6	High
BH004A_2.5	BH004A	27-May-25	1237090	Macquarie Point	2.5	FILL - Clay, dark brown, anthropogenic fragments	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	Yes	<0.02	Low
BH004E_0.5	BH004E	27-May-25	1237090	Macquarie Point	0.5	FILL - Sandy, gravelly clay, dark brown	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.3	Yes	<0.02	Low
BH004E_2.5	BH004E	27-May-25	1237090	Macquarie Point	2.5	FILL - Sandy, gravelly clay, dark brown	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	Yes	<0.02	Low
BH004N_0.5	BH004N	27-May-25	1237090	Macquarie Point	0.5	FILL - Gravelly sand, dark brown	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47.1	Yes	<0.02	Low
BH004N_2.5	BH004N	27-May-25	1237090	Macquarie Point	2.5	FILL - Sandy, gravelly clay, dark brown, anthropogenic fragments, organic material	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	No	1	High
BH004S_1	BH004S	27-May-25	1237090	Macquarie Point	1	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	No	0.42	High
BH004S_2	BH004S	27-May-25	1237090	Macquarie Point	2	FILL - Gravelly clay, dark brown, minor sand, anthropogenic fragments	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	No	0.11	High
BH004W_1.5	BH004W	27-May-25	1237090	Macquarie Point	1.5	FILL - Clay, black with orange traces, gravels	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	No	0.42	High
BH004W_2.5	BH004W	27-May-25	1237090	Macquarie Point	2.5	FILL - Clay, sandy, black/brown, anthropogenic traces	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	No	1.1	High
BH001-1.0-1.1_190424	BH001_WSP	19-Apr-24	1097156	Macquarie Point	1.05	FILL - Clayey gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116.7	Yes	<0.02	Low
BH002-0.5-0.6-180424	BH002_WSP	18-Apr-24	1097150	Macquarie Point	0.55	FILL - Gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97.0	Yes	<0.02	Low
BH002-2.0-2.1-180424	BH002_WSP	18-Apr-24	1097150	Macquarie Point	2.05	FILL - Silty CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	157.1	Yes	<0.02	Low
BH002-3.5-3.6-180424	BH002_WSP	18-Apr-24	1097150	Macquarie Point	3.55	ESTUARINE - Gravelly clayey SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2000.0	Yes	<0.02	Low
BH003-0.5-0.6-160424	BH003_WSP	16-Apr-24	1097150	Macquarie Point	0.55	FILL - Clayey GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67.8	Yes	<0.02	Low
BH003-1.0-1.1-160424	BH003_WSP	16-Apr-24	1097156	Macquarie Point	1.05	FILL - Concrete	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125.0	Yes	<0.02	Low
BH003_1.5-1.6-160424	BH003_WSP	16-Apr-24	1097150	Macquarie Point	1.55	FILL - Sandy CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90.5	Yes	<0.02	Low
BH003-3.0-3.1-160424	BH003_WSP	16-Apr-24	1097150	Macquarie Point	3.05	ALLUVIAL / ESTUARINE - Silty CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63.6	Yes	<0.02	Low
BH004_2.0-2.1M	BH004_WSP	13-May-24	1108737	Macquarie Point	2.05	FILL - Clayey SAND	No[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37.1	Yes	<0.02	Low
BH004_2.9-3.0M	BH004_WSP	13-May-24	1108737	Macquarie Point	2.95	FILL - Gravelly SAND	No[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	No	0.032	High
BH004_4.5-4.6M	BH004_WSP	13-May-24	1108737	Macquarie Point	4.55	FILL - Silty sandy GRAVEL	Yes[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	No	0.064	High
BH004_6.0-6.1M	BH004_WSP	13-May-24	1108737	Macquarie Point	6.05	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes[#3]	85	0.14	100	0.17	<1	85	0.14	<10	<0.02	<1	Acidification may be limited by ANC	7.2	<2	<0.02	<2	<0.02	0.18	85	85	0.23	0.54	0.31	150	0.25	0.012	0.030	0.023	0.017	14	3.9	No	0.14	High
BH004_8.5-8.6M	BH004_WSP	13-May-24	1108737	Macquarie Point	8.55	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	No	0.48	High
BH004A_2.0	BH-004A	11-Jun-25	1237090	Macquarie Point	2	FILL - Gravelly sand, brown to orange	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63.3	Yes	<0.02	Low
BH004A_4.0	BH-004A	11-Jun-25	1237090	Macquarie Point	4	FILL - Sandy gravels, grey, crushed concrete, dolerite, sandstone	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	No	0.08	High
BH004E_0.2	BH-004E	10-Jun-25	1237090	Macquarie Point	0.2	FILL - Gravelly sand, dark grey	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.1	Yes	<0.02	Low
BH004N_1.0	BH-004N	10-Jun-25	1237090	Macquarie Point	1	FILL - Gravelly, sandy clay, dark brown, some cobble of limestone and siltstone. Some slag at 1.6, some bricks at 1.8	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.9	Yes	<0.02	Low
BH004N_3.0	BH-004N	10-Jun-25	1237090	Macquarie Point	3	NATURAL - Sand, grey, shell fragments	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88.0	Yes	<0.02	Low
BH004S_1.0	BH-004S	11-Jun-25	1237090	Macquarie Point	1	FILL - Gravelly saand, some brick,metals, glass fragments. Slag cobbles at 1.6 m bgl	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126.0	Yes	<0.02	Low
BH004S_3.0	BH-004S	11-Jun-25	1237090	Macquarie Point	3	FILL - Clay, brown, white silty intrusions, copper fragment, iron deposits	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46.3	Yes	<0.02	Low
BH004W_1.0	BH-004W	11-Jun-25	1237090	Macquarie Point	1	FILL - Gravelly sand, some slag cobbles. Brick, glass and ceramic fragments from 0.6 m bgl	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166.7	Yes	<0.02	Low
BH004W_2.0	BH-004W	11-Jun-25	1237090	Macquarie Point	2	FILL - Gravelly sand. some slag cobbles. Brick, glass and ceramic fragments, and increasing clay content. Rusted metal sheeting at 1.1 m bgl	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116.0	Yes	<0.02	Low
BH004W_4.0	BH-004W	11-Jun-25	1237090	Macquarie Point	4	FILL - Clay, brown, with white silty inclusions, red brick and glasss fragments, sand inclusions	Yes	650	1	165[#2]	0.195[#2]	-	650	1	540	0.87	41	May acidify if disturbed	2.6	490	0.79	490	0.79	1.1	650	650	0.45	0.64	0.19	96	-	0.060	0.090	0.044	0.034	28	0.6	No	0.88	High
BH005_1.5-1.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	1.55	FILL - Silty clayey SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.5	Yes	<0.02	Low
BH005_3.5-3.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	3.55	ESTUARINE - Silty CLAY. Trace shells	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44.0	Yes	<0.02	Low
BH005_5.5-5.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	5.55	ESTUARINE - SAND. Trace shells	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	No	0.24	High
BH005_8.5-8.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	8.55	ESTUARINE - SAND. Trace shells	Yes	250	0.4	190	0.3	<1	250	0.4	<10	<0.02	<1	May acidify if disturbed	6.7	<2	<0.02	<2	<0.02	0.50	250	250	0.26	0.97	0.72	360	-	0.050	0.070	0.026	0.020	16	2.2	No	0.42	High
BH005_10.5-10.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	10.55	ESTUARINE - SAND. Trace shells	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	No	1.2	High
BH005_12.5-12.6_270424	BH005_WSP	27-Apr-24	1103208	Macquarie Point	12.55	ESTUARINE - SAND. Gravelly silty CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	No	0.025	Low
BH006_1.0-1.1_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	1.05	FILL - Sandy GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84.5	Yes	<0.02	Low
BH006_3.0-3.1_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	3.05	FILL - Sandy CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	No	0.97	High
BH006_6.5-6.6_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	6.55	ESTUARINE - SAND. Trace shells	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	No	0.2	High
BH006_8.0-8.1_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	8.05	ESTUARINE - SAND. CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	No	0.71	High
BH006_11.5-11.6_080524	BH006_WSP	8-May-24	1103208	Macquarie Point	11.55	ESTUARINE - SAND. Trace shells	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	No	0.55	High
BH007_1.5-1.6_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	1.55	FILL - Clayey gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.6	Yes	<0.02	Low
BH007_3-3.1_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	3.05	FILL - Sandy CLAY	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	No	0.18	High
BH007_4.5-4.6_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	4.55	FILL - SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	No	0.25	High
BH007_6-6.1_020524	BH007_WSP	2-May-24	1103208	Macquarie Point	6.05	ESTUARINE - SAND. Shells fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	No	0.32	High
BH008_1.0-1.1_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	1.05	FILL - Gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.2	Yes	<0.02	Low
BH008_3.0-3.1_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	3.05	FILL - Clayey SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	No	0.66	High
BH008_4.5-4.6_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	4.55	FILL - Silty clayey SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	No	0.23	High
BH008_5.5-5.6_070524	BH008_WSP	7-May-24	1103208	Macquarie Point	5.55	FILL - Silty clayey SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	No	1.3	High
BH009_1.0-1.1_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	1.05	FILL - Gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.5	Yes	<0.02	Low
BH009_3.5-3.6_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	3.55	FILL - Clayey SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	No	0.41	High
BH009_6.0-6.1_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	6.05	FILL - SAND. Shell fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	No	0.21	High
BH009_7.0-7.1_100524	BH009_WSP	10-May-24	1103208	Macquarie Point	7.05	FILL - Sandy Clay. Shell fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	No	0.69	High
BH010_0.5-0.6_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	0.55	FILL - Gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66.4	Yes	<0.02	Low
BH010_1.5-1.6_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	1.55	FILL - Silty CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78.6	Yes	<0.02	Low
BH010_4.0-4.1_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	4.05	ESTUARINE - Silty CLAY. Shell fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200.0	Yes	<0.02	Low
BH010_4.5-4.6_240424	BH010_WSP	24-Apr-24	1097156	Macquarie Point	4.55	ESTUARINE - SAND	Yes	64	0.1	>54[#2]	>0.08[#2]	-	64	0.1	<10	<0.02	<1	Acidification may be limited by ANC	3.8	36	0.06	36	0.06	0.12	64	64	0.13	0.15	0.029	14	0.023	0.02	0.02	0.007	0.006	4.6	2.3	No	0.1	High
BH011_1.0-1.1_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	1.05	FILL - Silty gravelly CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56.3	Yes	<0.02	Low
BH011_2.0-2.1_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	2.05	FILL - Silty gravelly CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69.0	Yes	<0.02	Low
BH011_3.0-3.1_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	3.05	FILL - Silty CLAY	Yes	44	0.07	120	0.19	<1	44	0.07	<10	<0.02	<1	Acidification may be limited by ANC	7.4	<2	<0.02	<2	<0.02	0.09	44	44	0.5	0.61	0.11	53	0.085	0.06	0.08	0.022	0.016	14	7.3	No	0.06	High
BH011_4.5-4.6_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	4.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.3	No	0.03	High
BH011_5.5-5.6_220424	BH011_WSP	22-Apr-24	1097156	Macquarie Point	5.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	No	0.16	High
BH012_0.9-1.0	BH012_WSP	21-May-24	1108737	Macquarie Point	0.95	FILL - GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes	<0.02	Low
BH012_2.9-3.0	BH012_WSP	18-May-24	1108737	Macquarie Point	2.95	FILL - Silty sandy GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	Yes	<0.02	Low
BH012_4.5-4.6	BH012_WSP	18-May-24	1108737	Macquarie Point	4.55	FILL - Silty sandy CLAY	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.3	Yes	<0.02	Low
BH012_6.0-6.1	BH012_WSP	18-May-24	1108737	Macquarie Point	6.05	ESTUARINE - Silty SAND. Trace shell fragments	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	No	0.085	High
BH013_1.5-1.6M	BH013_WSP	15-May-24	1108737	Macquarie Point	1.55	FILL - Sandy clayey GRAVEL	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83.3	Yes	<0.02	Low
BH013_3.5-3.6M	BH013_WSP	15-May-24	1108737	Macquarie Point	3.55	FILL - Clayey sandy SILT	Yes	89	0.14	150	0.25	<1	89	0.14	<10	<0.02	<1	Acidification may be limited by ANC	7.5	<2	<0.02	<2	<0.02	0.19	89	89	0.37	0.71	0.34	170	0.27	0.030	0.054	0.032	0.024	20	4.5	No	0.13	High
BH013_5.5-5.6M	BH013_WSP	15-May-24	1108737	Macquarie Point	5.55	FILL - Sandy clayey GRAVEL	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.1	Yes	<0.02	Low
BH013_6.4-6.5M	BH013_WSP	15-May-24	1108737	Macquarie Point	6.45	ESTUARINE - SAND. Shell fragements	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	No	0.21	High
BH013_8.5-8.6	BH013_WSP	15-May-24	1108737	Macquarie Point	8.55	ESTUARINE - SAND. Shell fragements	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	No	0.32	High
BH013_11.0-11.1M	BH013_WSP	15-May-24	1108737	Macquarie Point	11.05	ESTUARINE - SAND. Shell fragements	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	No	0.64	High
BH014_1-1.1_290424	BH014_WSP	29-Apr-24	1103208	Macquarie Point	1.05	FILL - Clayey gravelly SAND	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.2	Yes	<0.02	Low
BH014_3.5-3.6_290424	BH014_WSP	29-Apr-24	1103208	Macquarie Point	3.55	FILL/ESTUARINE - Gravelly sandy CLAY, trace broken glass, wood	No	100	0.16	>90[#2]	>0.14[#2]	-	100	0.16	<10	<0.02	<1	Acidification may be limited by ANC	5.8	<2	<0.02	<2	<0.02	0.19	100	100	0.48	0.51	0.028	14	-	0.040	0.060	0.035	0.027	22	11.0	Yes	<0.02	Low
BH014_4.5-4.6_290424	BH014_WSP	29-Apr-24	1103208	Macquarie Point	4.55	ESTUARINE - Clayey SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30.2	Yes	<0.02	Low
BH014_5.5-5.6_290424	BH014_WSP	29-Apr-24	1103208	Macquarie Point	5.55	ESTUARINE - Clayey SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	No	0.22	High
BH015_0.9-1.0	BH015_WSP	17-May-24	1108737	Macquarie Point	0.95	FILL - Sandy gravelly SILT	No[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62.5	Yes	<0.02	Low
BH015_2.5-2.6	BH015_WSP	17-May-24	1108737	Macquarie Point	2.55	FILL - Sandy gravelly SILT	No[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	383.3	Yes	<0.02	Low
BH015_3.4-3.5	BH015_WSP	17-May-24	1108737	Macquarie Point	3.45	FILL - Gravelly SAND	Yes[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.2	Yes	<0.02	Low
BH015_5.5-5.6	BH015_WSP	17-May-24	1108737	Macquarie Point	5.55	ESTUARINE - SAND. Shell fragments	Yes[#3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	No	0.29	High
BH016_2-2.1_010524	BH016_WSP	1-May-24	1103208	Macquarie Point	2.05	FILL - Clayey gravelly SAND	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T3
Analytical Results - Chip Tray Analysis
Acid Sulfate Soil Investigation
Macquarie Point Development Project

AECOM

						Field Observations						
						Recorded Lithology	Below Watertable?	pH (initial)	pH_{INC} (9 weeks)	pH_{INC} (19 weeks)	Chip Tray Interpretation
								pH Units	pH Units	pH Units	
LOR								0.1	0.1	0.1	
NASSG - Not ASS									>6.5	≥4	
NASSG - Further Assessment Required									$4 \leq pH_{INC} \leq 6.5$		
NASSG - ASS									<4	<4	
Should ANC be used for interpretation?								**≤6.5**	**≤6.5**	**≤6.5**	
Field_ID	**Location Code**	**Sample Date**	**Lab Report**	**Area**	**Depth_Avg**						
ABH002_0.5-0.6	ABH002_WSP	21/05/2024	1108737	Macquarie Point	0.55	FILL - Clayey GRAVEL	No	8.7	7.9	8.2	Not ASS, ANC can be used for interpretation
ABH002_4.0-4.1	ABH002_WSP	21/05/2024	1108737	Macquarie Point	4.05	FILL - Sandy gravelly CLAY	Yes	8.7	8.2	8.2	Not ASS, ANC can be used for interpretation
ABH003_1.0-1.1	ABH003_WSP	20/05/2024	1108737	Macquarie Point	1.05	FILL - Sandy gravelly CLAY	No	8.2	7.5	7.5	Not ASS, ANC can be used for interpretation
ABH003_5.5-5.6	ABH003_WSP	20/05/2024	1108737	Macquarie Point	5.55	ESTUARINE - SAND	Yes	8.0	7.5	7.5	Not ASS, ANC can be used for interpretation
ABH004_1.5-1.6	ABH004_WSP	20/05/2024	1108737	Macquarie Point	1.55	FILL - Gravelly SAND	No[#1]	**5.7**	**3.4**	**3.7**	Sulfidic
ABH004_3.0-3.1	ABH004_WSP	21/05/2024	1108737	Macquarie Point	3.05	FILL - Sandy CLAY	Yes[#1]	7.4	**6.2**	7.0	Not ASS, ANC should not be used for interpretation
BH004_2.9-3.0M	BH004_WSP	13/05/2024	1108737	Macquarie Point	2.95	FILL - Gravelly SAND	No[#1]	**4.6**	**3.9**	**3.8**	Sulfidic
BH004_4.5-4.6M	BH004_WSP	13/05/2024	1108737	Macquarie Point	4.55	FILL - Silty sandy GRAVEL	Yes[#1]	7.4	**6.4**	7.7	Not ASS, ANC should not be used for interpretation
BH004_6.0-6.1M	BH004_WSP	13/05/2024	1108737	Macquarie Point	6.05	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes[#1]	7.9	7.2	7.5	Not ASS, ANC can be used for interpretation
BH004_8.5-8.6M	BH004_WSP	13/05/2024	1108737	Macquarie Point	8.55	ESTUARINE - Silty SAND. Some shells and shell fragments	Yes[#1]	**4.7**	**2.9**	**2.9**	ASS
BH005_1.5-1.6_270424	BH005_WSP	27/04/2024	1103208	Macquarie Point	1.55	FILL - Silty clayey SAND	No	7.6	7.3	7.0	Not ASS, ANC can be used for interpretation
BH005_5.5-5.6_270424	BH005_WSP	27/04/2024	1103208	Macquarie Point	5.55	ESTUARINE - SAND. Trace shells	Yes	7.8	**3.4**	7.2[#2]	Sulfidic
BH005_10.5-10.6_270424	BH005_WSP	27/04/2024	1103208	Macquarie Point	10.55	ESTUARINE - SAND. Trace shells	Yes	**5.4**	**2.6**	**2.9**	Sulfidic
BH006_3.0-3.1_080524	BH006_WSP	8/05/2024	1103208	Macquarie Point	3.05	FILL - Sandy CLAY	Yes	7.3	6.7	7.3	Not ASS, ANC can be used for interpretation
BH006_6.5-6.6_080524	BH006_WSP	8/05/2024	1103208	Macquarie Point	6.55	ESTUARINE - SAND. Trace shells	Yes	7.6	6.8	7.2	Not ASS, ANC can be used for interpretation
BH006_8.0-8.1_080524	BH006_WSP	8/05/2024	1103208	Macquarie Point	8.05	ESTUARINE - CLAY	Yes	7.6	6.8	6.9	Not ASS, ANC can be used for interpretation
BH006_11.5-11.6_080524	BH006_WSP	8/05/2024	1103208	Macquarie Point	11.55	ESTUARINE - SAND. Trace shells	Yes	**6.4**	**3.3**	**4.2**[#2]	Sulfidic
BH007_1.5-1.6_020524	BH007_WSP	2/05/2024	1103208	Macquarie Point	1.55	FILL - Clayey gravelly SAND	No	7.3	6.7	7.3	Not ASS, ANC can be used for interpretation
BH007_3-3.1_020524	BH007_WSP	2/05/2024	1103208	Macquarie Point	3.05	FILL - Sandy CLAY	Yes	7.2	6.7	7.3	Not ASS, ANC can be used for interpretation
BH007_6-6.1_020524	BH007_WSP	2/05/2024	1103208	Macquarie Point	6.05	ESTUARINE - SAND. Shells fragments	Yes	7.9	**3.4**	**5.1**[#2]	Sulfidic
BH008_1.0-1.1_070524	BH008_WSP	7/05/2024	1103208	Macquarie Point	1.05	FILL - Gravelly SAND	No	8.1	7.7	7.8	Not ASS, ANC can be used for interpretation
BH008_3.0-3.1_070524	BH008_WSP	7/05/2024	1103208	Macquarie Point	3.05	FILL - Clayey SAND	Yes	7.7	7.3	7.2	Not ASS, ANC can be used for interpretation
BH008_4.5-4.6_070524	BH008_WSP	7/05/2024	1103208	Macquarie Point	4.55	FILL - Silty clayey SAND	Yes	7.7	7.4	7.2	Not ASS, ANC can be used for interpretation
BH008_5.5-5.6_070524	BH008_WSP	7/05/2024	1103208	Macquarie Point	5.55	FILL - Silty clayey SAND	Yes	7.4	**6.2**	**6.4**	Not ASS, ANC should not be used for interpretation
BH009_3.5-3.6_100524	BH009_WSP	10/05/2024	1103208	Macquarie Point	3.55	FILL - Clayey SAND	Yes	7.6	7.0	7.1	Not ASS, ANC can be used for interpretation
BH009_6.0-6.1_100524	BH009_WSP	10/05/2024	1103208	Macquarie Point	6.05	FILL - SAND. Shell fragments	Yes	7.8	7.1	7.3	Not ASS, ANC can be used for interpretation
BH009_7.0-7.1_100524	BH009_WSP	10/05/2024	1103208	Macquarie Point	7.05	FILL - Sandy Clay. Shell fragments	Yes	7.3	**4.2**	**5.8**	Not ASS, ANC should not be used for interpretation
BH011_3.0-3.1_220424	BH011_WSP	22/04/2024	1097156	Macquarie Point	3.05	FILL - Silty CLAY	Yes	7.5	7.3	7.2	Not ASS, ANC can be used for interpretation
BH011_4.5-4.6_220424	BH011_WSP	22/04/2024	1097156	Macquarie Point	4.55	ESTUARINE - Clayey SAND. Shell fragments	Yes	7.9	7.5	7.6	Not ASS, ANC can be used for interpretation
BH012_4.5-4.6	BH012_WSP	18/05/2024	1108737	Macquarie Point	4.55	FILL - Silty sandy CLAY	No	7.9	**6.1**	7.4	Not ASS, ANC should not be used for interpretation
BH013_5.5-5.6M	BH013_WSP	15/05/2024	1108737	Macquarie Point	5.55	FILL - Sandy clayey GRAVEL	Yes	8.4	6.6	7.5	Not ASS, ANC can be used for interpretation
BH013_6.4-6.5M	BH013_WSP	15/05/2024	1108737	Macquarie Point	6.45	ESTUARINE - SAND. Shell fragements	Yes	8.5	7.7	7.6	Not ASS, ANC can be used for interpretation
BH013_8.5-8.6	BH013_WSP	15/05/2024	1108737	Macquarie Point	8.55	ESTUARINE - SAND. Shell fragements	Yes	7.8	**3.7**	**5.2**[#2]	Sulfidic
BH013_11.0-11.1M	BH013_WSP	15/05/2024	1108737	Macquarie Point	11.05	ESTUARINE - SAND. Shell fragements	Yes	6.7	**3.9**	**4.9**[#2]	Sulfidic
BH014_1-1.1_290424	BH014_WSP	29/04/2024	1103208	Macquarie Point	1.05	FILL - Clayey gravelly SAND	No	7.9	**6.5**	7.6	Not ASS, ANC should not be used for interpretation
BH014_3.5-3.6_290424	BH014_WSP	29/04/2024	1103208	Macquarie Point	3.55	FILL/ESTUARINE - Gravelly sandy CLAY	No	7.6	7.1	7.3	Not ASS, ANC can be used for interpretation
BH014_5.5-5.6_290424	BH014_WSP	29/04/2024	1103208	Macquarie Point	5.55	ESTUARINE - Clayey SAND	Yes	7.6	7.4	7.4	Not ASS, ANC can be used for interpretation
BH016_2-2.1_010524	BH016_WSP	1/05/2024	1103208	Macquarie Point	2.05	FILL - Clayey gravelly SAND	Yes	7.1	**6.3**	**5.5**	Not ASS, ANC should not be used for interpretation
BH016_4.5-4.6_010524	BH016_WSP	1/05/2024	1103208	Macquarie Point	4.55	FILL - CLAY	Yes	**6.4**	**4.6**	**4.6**	Not ASS, ANC should not be used for interpretation
BH016_5.5-5.6_010524	BH016_WSP	27/04/2024	1103208	Macquarie Point	5.55	FILL/ESTUARINE - Clayey SAND. Shell fragments	Yes	6.8	**3.7**	**5.3**[#2]	Sulfidic
BH016_8.5-8.6_010524	BH016_WSP	1/05/2024	1103208	Macquarie Point	8.55	FILL - SAND. Shell fragments	Yes	6.9	**4.6**	**4.6**	Not ASS, ANC should not be used for interpretation

Notes
#1. Groundwater presence/absence not noted on borelog. Depth of water table estimated from nearby locations and apparent saturation on core photographs
#2. While pH_{INC} (19 weeks) was greater than 4, this sample is still considered ASS due to pH_{INC} (9 weeks) of less than 4.

Table T4
Relative Percentage Differences - CRS and SPOCAS
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AECOM

						Net Acidity (excluding ANC) #1							
						CRS	SPOCAS			CRS	SPOCAS		
						a-Net Acidity without ANCE	SPOCAS - Net Acidity - NASSG (Excluding ANC)	RPD	Higher Result	s-Net Acidity without ANCE	SPOCAS Suite - s-Net Acidity - NASSG (excluding ANC) (Sulfur Units)	RPD	Higher Result
						mole H+/t	mole H+/t			% S	%S		
					LOR	2	2			0.02	0.02		
Field_ID	**Location Code**	**Sample Date**	**Lab Report**	**Area**	**Depth_Avg**								
ABH002_4.0-4.1	ABH002_WSP	21/05/2024	1108737	Macquarie Point	4.05	67	64	5%	CRS	0.11	0.1	10%	CRS
BH004_6.0-6.1M	BH004_WSP	13/05/2024	1108737	Macquarie Point	6.05	87	85	2%	CRS	0.14	0.14	0%	CRS
BH005_8.5-8.6_270424	BH005_WSP	27/04/2024	1103208	Macquarie Point	8.55	260	250	4%	CRS	0.42	0.4	5%	CRS
BH010_4.5-4.6_240424	BH010_WSP	24/04/2024	1097156	Macquarie Point	4.55	60	64	6%	SPOCAS	0.096	0.1	4%	SPOCAS
BH011_3.0-3.1_220424	BH011_WSP	22/04/2024	1097156	Macquarie Point	3.05	37	44	17%	SPOCAS	0.059	0.07	17%	SPOCAS
BH013_3.5-3.6M	BH013_WSP	15/05/2024	1108737	Macquarie Point	3.55	81	89	9%	SPOCAS	0.13	0.14	7%	SPOCAS
BH014_3.5-3.6_290424	BH014_WSP	29/04/2024	1103208	Macquarie Point	3.55	64	100	**44%**	SPOCAS	0.1	0.16	**46%**	SPOCAS
BH016_5.5-5.6_010524	BH016_WSP	27/04/2024	1103208	Macquarie Point	5.55	580	560	4%	CRS	0.92	0.9	2%	CRS
BH253_0.5_A_240920	BH253	20/09/2024	1144581	Regatta Point	0.5	4.1	30	**152%**	SPOCAS	0.007	0.048	**149%**	SPOCAS
ABH004A_2	ABH004A	27/05/2025	1237090	Macquarie Point	2	380	430	12%	SPOCAS	0.6	0.7	15%	SPOCAS
BH004W_4.0	BH-004W	11/06/2025	1237090	Macquarie Point	4	550	650	17%	SPOCAS	0.88	1	13%	SPOCAS

Notes
#1. Net Acidity (excluding ANC) was reported by the analytical laboratory for sample batch 1097150 only. Net acidity (excluding ANC) has been calculated as the sum of the actual and potential acidity for all other samples

Table T5a - Historic Groundwater Data - Field Parameters

Site Area	Well ID	Date Sampled	Easting[1]	Northing[1]	Stabilised Water Quality Parameters							Field Comments
					Dissolved Oxygen (mg/L)	EC (µS/cm)	Total Dissolved Solids (mg/L)	pH	Field ORP (mV)	Corrected ORP (mV)	Temperature (°C)	
1. Macquarie Point	BG1	17/08/2015	527493.6	5252617.7	1.02	1.411	847	6.65	127.0	326.0	9.7	-
1. Macquarie Point	BG1	1/02/2016	527493.6	5252617.7	2.05	1.11	666	6.86	28.7	227.7	20.1	-
1. Macquarie Point	BG1	18/07/2016	527493.6	5252617.7	3.02	0.926	556	7.17	27.6	226.6	11.2	-
1. Macquarie Point	BG1	20/07/2017	527493.6	5252617.7	2.74	1.4	840	6.95	18.8	217.8	9.2	Clear,Very Low Turbidity, No Odour
1. Macquarie Point	BG1	26/02/2018	527493.6	5252617.7	0.37	1.36	816	7.03	-	-	17.7	Clear, very low turbidity, no odour
1. Macquarie Point	BG1	12/08/2019	527493.6	5252617.7	1.23	1.514	908	6.96	78.3	277.3	11.0	Clear, no odour.
1. Macquarie Point	BG1	17/06/2025	527493.6	5252617.7	6.48	1941	1262	6.82	121.8	321.8	12.3	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	BH2_PS	9/05/2017	527483.8	5252435.9	0.17	1.204	722	6.74	106.0	305.0	17.3	No odour, clear
1. Macquarie Point	BH2_PS	19/06/2025	527483.8	5252435.9	0.91	1481	963	6.71	76.0	276.0	17.0	No colour, no turbidity, no odour, excessive bubbles in tubing
1. Macquarie Point	MW100	18/07/2016	527434.9	5252397.1	1.17	1.99	1194	6.52	-11.1	187.9	15.3	-
1. Macquarie Point	MW100	17/07/2017	527434.9	5252397.1	0.04	2.017	1210	6.78	-113.2	85.8	15.7	Clear-Grey, Low Turbidity, No Odour
1. Macquarie Point	MW100	1/12/2022	527434.9	5252397.1	0.21	2.32	1392	6.73	-147.7	51.3	16.9	Clear, low turbidity, no odour.
1. Macquarie Point	MW101	17/08/2015	527370.9	5252477.0	0.27	1.133	680	6.22	20.1	219.1	13.7	-
1. Macquarie Point	MW101	1/02/2016	527370.9	5252477.0	1.94	1.091	655	6.25	3.7	202.7	18.6	-
1. Macquarie Point	MW101	18/07/2016	527370.9	5252477.0	2.82	1.332	799	6.15	-18.5	180.5	14.6	-
1. Macquarie Point	MW101	17/07/2017	527370.9	5252477.0	0.19	1.072	643	6.25	33.1	232.1	12.2	Clear,Very Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW101	24/06/2025	527370.9	5252477.0	0.39	635	413	6.36	-25.0	175.0	14.5	No colour, no turbidity, no odour
1. Macquarie Point	MW102	1/12/2022	527400.6	5252491.5	0.59	1.523	914	6.69	40.0	239.0	16.0	Clear, low turbidity, no odour.
1. Macquarie Point	MW102	18/06/2025	527400.6	5252491.5	0.40	1404	913	6.76	62.4	262.4	17.1	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW103	18/07/2016	527520.4	5252588.7	0.76	0.682	409	6.90	42.4	241.4	14.6	-
1. Macquarie Point	MW103	17/07/2017	527520.4	5252588.7	0.00	0.832	499	7.00	-60.0	139.0	15.7	Clear, No Odour
1. Macquarie Point	MW103	26/02/2018	527520.4	5252588.7	0.13	0.965	579	7.05	-	-	19.6	Clear, low turbidity, slight hydrocarbon odour
1. Macquarie Point	MW120	17/08/2015	527359.3	5252640.6	0.64	0.832	499	12.02	-196.4	2.6	11.1	-
1. Macquarie Point	MW120	1/02/2016	527359.3	5252640.6	0.00	0.827	496	10.80	-195.7	3.3	19.5	-
1. Macquarie Point	MW120	18/07/2016	527359.3	5252640.6	0.09	0.652	391	10.28	-78.8	120.2	12.4	-
1. Macquarie Point	MW120A	25/06/2025	527379.0	5252634.0	3.22	3130	2035	8.07	31.3	231.3	13.8	Grey, low turbidity, no odour. No purging occurred due to low water level and very slow recharge since installation on 5 June 2025.
1. Macquarie Point	MW121	17/08/2015	527391.6	5252556.4	0.90	1.128	677	7.39	45.3	244.3	14.0	-
1. Macquarie Point	MW121	1/02/2016	527391.6	5252556.4	1.89	1.101	661	6.71	41.2	240.2	19.6	-
1. Macquarie Point	MW121	18/07/2016	527391.6	5252556.4	1.79	1.16	696	6.76	14.3	213.3	14.8	-
1. Macquarie Point	MW121	17/07/2017	527391.6	5252556.4	1.65	1.27	762	6.92	62.1	261.1	13.2	Clear, Low Turbidity, No Odour
1. Macquarie Point	MW121	18/06/2025	527391.6	5252556.4	0.56	929	604	6.94	33.3	233.3	15.9	Yellow, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW122	17/08/2015	527495.6	5252423.0	0.32	1.443	866	6.68	61.0	260.0	15.0	-
1. Macquarie Point	MW122	1/02/2016	527495.6	5252423.0	0.06	1.214	728	6.90	-102.9	96.1	18.7	-
1. Macquarie Point	MW122	18/07/2016	527495.6	5252423.0	1.18	1.263	758	6.64	-24.7	174.3	17.1	-
1. Macquarie Point	MW122	9/05/2017	527495.6	5252423.0	0.36	1.218	731	6.24	-65.0	134.0	19.0	Hydrocarbon odour, clear
1. Macquarie Point	MW122	17/07/2017	527495.6	5252423.0	0.02	1.231	739	6.77	-112.4	86.6	17.8	Clear, No Odour
1. Macquarie Point	MW122	12/08/2019	527495.6	5252423.0	0.32	1.61	966	6.69	-18.6	180.4	17.4	Clear, low turbidity, no odour. <5 L removed.
1. Macquarie Point	MW122	18/11/2019	527495.6	5252423.0	0.00	1.565	939	6.65	-31.7	167.3	17.7	Clear, no odour.
1. Macquarie Point	MW122	30/11/2022	527495.6	5252423.0	0.04	1.09	654	6.74	-161.2	37.8	17.0	Clear, low turbidity, no odour.
1. Macquarie Point	MW122	19/06/2025	527495.6	5252423.0	0.42	1201	781	6.71	-54.0	146.0	17.9	Clear, low to no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW124A	17/08/2015	527507.7	5252350.8	0.41	1.383	830	6.99	-126.9	72.1	14.1	-
1. Macquarie Point	MW124A	3/02/2016	527507.7	5252350.8	2.45	1.485	891	6.94	-143.0	56.0	19.0	-
1. Macquarie Point	MW124A	18/07/2016	527507.7	5252350.8	0.89	1.54	924	6.94	-158.8	40.2	15.6	-
1. Macquarie Point	MW124A	9/05/2017	527507.7	5252350.8	0.15	1.679	1007	6.63	-62.8	136.2	16.8	Hydrocarbon odour, clear
1. Macquarie Point	MW124A	17/07/2017	527507.7	5252350.8	0.17	1.575	945	6.91	-147.5	51.5	15.4	Clear, No Odour
1. Macquarie Point	MW124A	26/02/2018	527507.7	5252350.8	0.13	1.954	1172	6.89	-	-	18.5	Clear, low turbidity, no odour
1. Macquarie Point	MW124A	27/08/2018	527507.7	5252350.8	0.18	1.4079	845	6.91	-135.3	63.7	14.1	Clear, low turbidity, no odour
1. Macquarie Point	MW124A	5/12/2023	527507.7	5252350.8	0.05	0.713	428	7.05	-130.6	68.4	17.3	Low turbidity, brown, mud blocking pump inlet
1. Macquarie Point	MW124B	17/08/2015	527507.7	5252350.8	0.26	1.548	929	7.93	-63.8	135.2	14.5	-
1. Macquarie Point	MW124B	3/02/2016	527507.7	5252350.8	0.00	1.418	851	7.99	-189.8	9.2	19.1	-
1. Macquarie Point	MW124B	18/07/2016	527507.7	5252350.8	0.12	1.355	813	7.74	-178.7	20.3	15.4	-
1. Macquarie Point	MW124B	9/05/2017	527507.7	5252350.8	0.14	1.527	916	7.55	-16.1	182.9	15.9	No odour, clear
1. Macquarie Point	MW124B	17/07/2017	527507.7	5252350.8	0.09	1.636	982	7.97	-173.2	25.8	15.1	Clear, No Odour
1. Macquarie Point	MW124B	26/02/2018	527507.7	5252350.8	0.09	2.2	1320	7.88	-	-	18.2	Clear, low turbidity, no odour
1. Macquarie Point	MW124B	27/08/2018	527507.7	5252350.8	0.16	1.8593	1116	7.57	-148.4	50.6	14.9	Clear, low turbidity, no odour
1. Macquarie Point	MW124B	5/12/2023	527507.7	5252350.8	0.02	1.721	1033	7.76	-125.9	73.1	17.1	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW125A	17/08/2015	527553.7	5252320.3	0.48	1.734	1040	6.73	-88.4	110.6	12.9	-
1. Macquarie Point	MW125A	1/02/2016	527553.7	5252320.3	0.33	1.777	1066	6.78	-143.7	55.3	20.2	-
1. Macquarie Point	MW125A	18/07/2016	527553.7	5252320.3	0.48	1.734	1040	6.73	-88.4	110.6	12.9	-
1. Macquarie Point	MW125A	17/07/2017	527553.7	5252320.3	0.05	1.85	1110	6.56	-110.0	89.0	14.9	Clear, Low Turbidity, Slight Hydrocarbon Odour
1. Macquarie Point	MW125A	26/02/2018	527553.7	5252320.3	0.11	1.849	1109	6.69	-	-	18.0	Clear, low turbidity, no odour
1. Macquarie Point	MW125A	14/11/2019	527553.7	5252320.3	0.18	1.29	774	6.65	-99.1	99.9	14.9	Clear, low turbidity, hydrocarbon odour.
1. Macquarie Point	MW125A	4/12/2023	527553.7	5252320.3	0.15	0.714	428	6.70	-86.2	112.8	16.8	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW125A	24/06/2025	527553.7	5252320.3	0.29	686	446	6.71	-94.8	105.2	15.8	Yellow, low turbidity, no odour, suspended sediments
1. Macquarie Point	MW125B	17/08/2015	527553.7	5252320.3	0.39	2.068	1241	6.56	-35.5	163.5	13.4	-
1. Macquarie Point	MW125B	1/02/2016	527553.7	5252320.3	3.04	1.922	1153	6.49	-133.8	65.2	21.1	-
1. Macquarie Point	MW125B	18/07/2016	527553.7	5252320.3	1.15	1.462	877	6.42	-148.7	50.3	14.9	-
1. Macquarie Point	MW125B	17/07/2017	527553.7	5252320.3	-	1.84	1104	6.58	-107.4	91.6	14.9	Clear, Low Turbidity, No Odour
1. Macquarie Point	MW125B	26/02/2018	527553.7	5252320.3	0.14	1.778	1067	6.70	-	-	18.0	Clear, low turbidity, no odour
1. Macquarie Point	MW125B	4/12/2023	527553.7	5252320.3	0.06	0.73	438	6.73	-97.9	101.1	20.1	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW126A	17/08/2015	527609.6	5252304.5	0.54	2.462	1477	6.69	-95.0	104.0	11.9	-
1. Macquarie Point	MW126A	1/02/2016	527609.6	5252304.5	0.65	2.086	1252	6.71	-134.7	64.3	19.1	-
1. Macquarie Point	MW126A	18/07/2016	527609.6	5252304.5	2.39	1.796	1078	6.30	-142.9	56.1	14.7	-
1. Macquarie Point	MW126A	17/07/2017	527609.6	5252304.5	0.29	2.06	1236	6.44	-90.4	108.6	11.9	Clear, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW126A	26/02/2018	527609.6	5252304.5	0.41	2.0182	1211	6.62	-77.8	121.2	17.0	Clear, No Odour
1. Macquarie Point	MW126A	27/08/2018	527609.6	5252304.5	0.19	1.7941	1076	6.57	-113.5	85.5	12.5	Clear/Brown, low turbidity, hydrocarbon odour
1. Macquarie Point	MW126A	14/08/2019	527609.6	5252304.5	0.08	2.381	1429	6.63	-103.0	96.0	14.2	Clear, hydrocarbon odour.
1. Macquarie Point	MW126A	13/11/2019	527609.6	5252304.5	0.00	2.372	1423	6.64	-107.3	91.7	14.3	Clear, solvent odour.
1. Macquarie Point	MW126A	5/12/2023	527609.6	5252304.5	0.04	1.866	1120	6.58	-88.5	110.5	16.2	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW126A	24/06/2025	527609.6	5252304.5	0.38	1716	1115	6.66	-140.7	59.3	16.2	Brown , no turbidity, no odour, suspended brown sediment
1. Macquarie Point	MW126B	17/08/2015	527609.7	5252304.4	0.73	8.896	5338	7.56	57.4	256.4	12.3	-
1. Macquarie Point	MW126B	1/02/2016	527609.7	5252304.4	1.05	16.096	9658	6.78	-86.9	112.1	19.1	-
1. Macquarie Point	MW126B	18/07/2016	527609.7	5252304.4	1.07	2.146	1288	6.45	-138.2	60.8	14.7	-
1. Macquarie Point	MW126B	17/07/2017	527609.7	5252304.4	0.03	11.05	6630	6.87	-104.6	94.4	12.2	Clear, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW126B	26/02/2018	527609.7	5252304.4	0.29	39.2024	23521	6.90	7.6	206.6	16.6	Clear, No Odour
1. Macquarie Point	MW126B	27/08/2018	527609.7	5252304.4	0.29	8.5672	5140	7.00	-103.4	95.6	12.9	Clear, low turbidity, hydrocarbon odour
1. Macquarie Point	MW126B	5/12/2023	527609.7	5252304.4	0.10	1.994	1196	6.65	-57.7	141.3	16.3	Sudden spike in EC after 10 Liters of purging
1. Macquarie Point	MW127A	17/08/2015	527529.6	5252394.0	0.49	3.786	2272	6.92	-97.5	101.5	13.3	-
1. Macquarie Point	MW127A	1/02/2016	527529.6	5252394.0	0.02	3.349	2009	6.98	-153.4	45.6	19.9	-
1. Macquarie Point	MW127A	18/07/2016	527529.6	5252394.0	1.30	2.72	1632	6.69	-135.3	63.7	15.0	-
1. Macquarie Point	MW127A	9/05/2017	527529.6	5252394.0	0.14	2.751	1651	6.39	-37.7	161.3	16.3	Hydrocarbon odour, clear
1. Macquarie Point	MW127A	17/07/2017	527529.6	5252394.0	0.00	3.594	2156	6.80	-120.1	78.9	15.5	Clear, Low Turbidity, No Odour or Sheen
1. Macquarie Point	MW127A	26/02/2018	527529.6	5252394.0	0.12	3.475	2085	6.91	-	-	18.9	Clear, low turbidity, no odour
1. Macquarie Point	MW127A	2/12/2022	527393.2	5252399.7	0.90	0.4881	293	6.87	-26.4	172.6	17.6	Clear, low turbidity, no odour.
1. Macquarie Point	MW127A	30/11/2023	527529.6	5252394.0	0.05	3.76	2256	6.80	-102.7	96.3	16.2	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW127A	19/06/2025	527529.6	5252394.0	0.80	2946	1915	6.88	-102.7	97.3	16.5	Grey, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW127B	17/08/2015	527529.7	5252394.0	0.43	7.21	4326	7.66	80.4	279.4	13.2	-
1. Macquarie Point	MW127B	1/02/2016	527529.7	5252394.0	0.49	2.009	1205	7.56	-170.8	28.2	20.1	-
1. Macquarie Point	MW127B	18/07/2016	527529.7	5252394.0	2.41	0.045	27	6.72	177.6	376.6	14.5	-
1. Macquarie Point	MW127B	9/05/2017	527529.7	5252394.0	0.44	0.14	84	6.32	-99.5	99.5	15.6	No odour, clear
1. Macquarie Point	MW127B	17/07/2017	527529.7	5252394.0	0.07	13.712	8227	7.15	-77.1	121.9	13.9	Clear, Slowed Pumpdown, No Odour or Sheen
1. Macquarie Point	MW127B	26/02/2018	527529.7	5252394.0	0.14	0.23	138	6.87	-	-	18.4	Clear, low turbidity, no odour
1. Macquarie Point	MW127B	2/12/2022	527529.6	5252394.0	0.57	3.861	2317	6.76	-129.4	69.6	17.2	Clear, low turbidity, no odour.
1. Macquarie Point	MW127B	30/11/2023	527529.7	5252394.0	0.05	0.2413	145	6.38	-32.1	166.9	16.3	Low turbidity, light brown, slight urine odor
1. Macquarie Point	MW128A	17/08/2015	527368.4	5252452.6	2.60	1.077	646	8.58	-88.2	110.8	11.8	-
1. Macquarie Point	MW128A	1/02/2016	527368.4	5252452.6	2.96	2.136	1282	7.29	67.8	266.8	19.2	-
1. Macquarie Point	MW128A	17/07/2017	527368.4	5252452.6	0.03	0.892	535	6.96	101.2	300.2	13.3	Clear, Hydrocarbon Odour
1. Macquarie Point	MW128A	25/06/2025	527368.3	5252452.6	2.63	2326	1512	6.93	177.3	377.3	13.9	Yellow, low turbidity, no odour
1. Macquarie Point	MW128B	17/08/2015	527368.4	5252452.6	0.69	1.378	827	8.27	-17.1	181.9	12.6	DNAPL was observed during installation of the groundwater well, however no measurable DNAPL was noted during groundwater sampling.
1. Macquarie Point	MW128B	1/02/2016	527368.4	5252452.6	0.63	9.21	5526	8.42	73.4	272.4	17.3	DNAPL was observed during well installation, however, no measurable DNAPL has been noted during groundwater sampling.
1. Macquarie Point	MW128B	17/07/2017	527368.4	5252452.6	0.01	1.153	692	7.13	-60.1	138.9	14.5	Clear, Hydrocarbon Odour, Sheen
1. Macquarie Point	MW129	17/08/2015	527457.2	5252377.3	0.75	23.95	14370	6.96	58.0	257.0	12.0	-
1. Macquarie Point	MW129	1/02/2016	527457.2	5252377.3	1.42	21.342	12805	6.78	-48.6	150.4	18.3	-
1. Macquarie Point	MW129	18/07/2016	527457.2	5252377.3	0.55	20.65	12390	6.73	109.6	308.6	16.1	-
1. Macquarie Point	MW129	9/05/2017	527457.2	5252377.3	0.12	22.287	13372	6.73	79.9	278.9	17.2	No odour, clear
1. Macquarie Point	MW129	17/07/2017	527457.2	5252377.3	0.15	28.179	16907	6.87	-48.9	150.1	15.9	Clear, Slight Odour
1. Macquarie Point	MW13	14/08/2019	527592.4	5252344.9	0.11	1.286	772	6.74	-79.4	119.6	14.7	Clear, slight sulphur odour.
1. Macquarie Point	MW13	13/11/2019	527592.4	5252344.9	0.00	1.025	615	6.71	-113.9	85.1	15.3	Low recharge, low turbidity, brown, no odour.
1. Macquarie Point	MW130	1/02/2016	527544.2	5252550.0	0.85	0.956	574	6.92	-128.1	70.9	20.3	-
1. Macquarie Point	MW130	18/07/2016	527544.2	5252550.0	1.56	0.89	534	6.54	-89.8	109.2	17.8	-
1. Macquarie Point	MW130	17/07/2017	527544.2	5252550.0	0.06	1.264	758	6.97	-81.1	117.9	17.1	Clear, Low Turbidity, No Odour or Sheen
1. Macquarie Point	MW130	26/02/2018	527544.2	5252550.0	0.21	1.222	733	6.73	-	-	19.0	Grey, Moderate Turbidity, Hydrocarbon Odour, Sheen present
1. Macquarie Point	MW132	1/02/2016	527540.9	5252569.0	1.43	0.764	458	6.68	-88.1	110.9	18.5	-
1. Macquarie Point	MW132	18/07/2016	527540.9	5252569.0	0.60	0.61	366	7.06	39.5	238.5	16.1	-
1. Macquarie Point	MW132	17/07/2017	527540.9	5252569.0	0.12	0.927	556	7.00	-6.2	192.8	14.6	Clear, Low Turbidity, No Odour or Sheen
1. Macquarie Point	MW135	17/07/2017	527524.7	5252520.0	0.03	1.765	1059	6.87	-113.8	85.2	16.3	Clear, Low Turbidity, No Odour
1. Macquarie Point	MW135	26/02/2018	527524.7	5252520.0	0.16	1.4359	862	6.97	-	-	19.2	Clear, low turbidity, hydrocarbon odour
1. Macquarie Point	MW136	1/02/2016	527525.3	5252509.0	1.27	1.247	748	7.04	-129.4	69.6	19.2	-
1. Macquarie Point	MW136	18/07/2016	527525.3	5252509.0	0.07	1.04	624	6.94	-140.9	58.1	15.8	-
1. Macquarie Point	MW136	17/07/2017	527525.3	5252509.0	0.03	1.861	1117	6.79	-87.8	111.2	14.4	Clear, Low Turbidity, Slight Hydrocarbon Odour,
1. Macquarie Point	MW138	1/02/2016	527513.1	5252499.0	1.79	1.587	952	7.00	-170.4	28.6	18.4	-
1. Macquarie Point	MW138	18/07/2016	527513.1	5252499.0	1.13	1.61	966	6.91	-149.0	50.0	17.0	-
1. Macquarie Point	MW140	18/07/2016	527511.8	5252512.0	0.35	1.3	780	6.96	-109.3	89.7	16.7	-
1. Macquarie Point	MW142	1/02/2016	527581.4	5252528.0	1.97	1.182	709	6.96	107.7	306.7	21.0	-

Table T5a - Historic Groundwater Data - Field Parameters

Site Area	Well ID	Date Sampled	Easting[1]	Northing[1]	Stabilised Water Quality Parameters							Field Comments
					Dissolved Oxygen (mg/L)	EC (µS/cm)	Total Dissolved Solids (mg/L)	pH	Field ORP (mV)	Corrected ORP (mV)	Temperature (°C)	
1. Macquarie Point	MW142	18/07/2016	527581.4	5252528.0	0.74	1.03	618	6.83	-63.2	135.8	16.2	-
1. Macquarie Point	MW142	17/07/2017	527581.4	5252528.0	0.16	1.315	789	6.93	-114.4	84.6	14.2	Clear, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW142	26/02/2018	527581.4	5252528.0	0.12	1.446	868	6.80	-116.7	82.3	19.7	Clear
1. Macquarie Point	MW142	27/08/2018	527581.4	5252528.0	0.21	1.0571	634	6.86	-126.1	72.9	14.4	Clear, low turbidity, no odour
1. Macquarie Point	MW144	18/07/2016	527525.5	5252529.0	0.43	1.12	672	6.95	-85.3	113.7	15.8	-
1. Macquarie Point	MW144	17/07/2017	527525.5	5252529.0	0.29	1.269	761	7.56	-39.0	160.0	16.4	Clear, Low Turbidity, Hydrocarbon Odour, No Sheen
1. Macquarie Point	MW144	26/02/2018	527525.5	5252529.0	0.38	1.4005	840	7.12	-	-	18.9	Clear, low turbidity, hydrocarbon odour
1. Macquarie Point	MW145	18/07/2016	527626.9	5252642.5	2.44	1.03	618	7.13	61.7	260.7	14.8	-
1. Macquarie Point	MW145	17/07/2017	527626.9	5252642.5	5.79	1.15	690	7.05	0.1	199.1	15.4	Grey, Low Turbidity, No Odour
1. Macquarie Point	MW145	13/08/2019	527626.9	5252642.5	4.85	1.44	864	7.16	40.5	239.5	14.7	Clear, no odour. Poor recharge, removed 90% of well volume then sampled on 14/8/19.
1. Macquarie Point	MW146	18/07/2016	527552.1	5252507.1	0.29	1.16	696	6.60	-124.4	74.6	15.6	-
1. Macquarie Point	MW146	17/07/2017	527552.1	5252507.1	0.00	1.134	680	6.94	-135.9	63.1	15.8	Clear, Slight Odour
1. Macquarie Point	MW146	26/02/2018	527552.1	5252507.1	0.20	1.3892	834	6.85	-112.8	86.2	21.6	Grey, No Odour
1. Macquarie Point	MW146	27/08/2018	527552.1	5252507.1	0.46	1.0421	625	6.84	-99.7	99.3	12.9	Clear, low turbidity, slight hydrocarbon odour
1. Macquarie Point	MW146	29/11/2023	527552.1	5252507.1	0.16	1.246	748	6.87	-104.1	94.9	16.0	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW147	18/07/2016	527554.5	5252531.7	0.72	1.11	666	6.34	-118.1	80.9	16.3	-
1. Macquarie Point	MW147	17/07/2017	527554.5	5252531.7	0.10	1.3	780	6.72	-66.0	133.0	14.4	Clear, Low Turbidity, Slight Hydrocarbon Odour
1. Macquarie Point	MW148	9/05/2017	527477.7	5252417.8	0.19	1.062	637	7.03	-67.3	131.7	17.8	Hydrocarbon odour, clear
1. Macquarie Point	MW148	17/07/2017	527477.7	5252417.8	0.00	0.978	587	6.75	-138.7	60.3	15.8	Clear, No Odour
1. Macquarie Point	MW148	19/06/2025	527477.7	5252417.8	0.49	1186	771	6.66	-62.9	137.1	16.6	Grey, no turbidity, no odour, no sediment. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW149	9/05/2017	527483.7	5252374.2	0.06	0.216	130	7.30	58.6	257.6	17.8	No odour, clear
1. Macquarie Point	MW149	17/07/2017	527483.7	5252374.2	1.22	0.307	184	7.44	-7.4	191.6	16.2	Clear, No Odour
1. Macquarie Point	MW149	26/02/2018	527483.7	5252374.2	0.36	0.4509	271	7.52	80.1	279.1	20.7	Brown, no odour
1. Macquarie Point	MW150	27/02/2018	527528.5	5252319.8	0.11	2.7542	1653	6.91	-158.6	40.4	20.6	Grey, Moderate Turbidity, No Odour
1. Macquarie Point	MW150	28/08/2018	527528.5	5252319.8	0.18	1.6585	995	6.90	-130.0	69.0	14.6	Clear, low turbidity, no odour
1. Macquarie Point	MW150	13/08/2019	527528.5	5252319.8	0.08	2.105	1263	6.90	-134.8	64.2	15.7	Clear, low turbidity, very slight hydrocarbon odour.
1. Macquarie Point	MW150	12/11/2019	527528.5	5252319.8	0.19	1.891	1135	6.86	-134.0	65.0	16.1	
1. Macquarie Point	MW150	1/12/2022	527528.5	5252319.8	0.04	1.199	719	6.99	-167.7	31.3	16.7	Clear, medium turbidity, no odour.
1. Macquarie Point	MW150	1/12/2023	527528.5	5252319.8	0.06	1.134	680	6.89	-120.6	78.4	16.5	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW150	13/06/2025	527528.5	5252319.8	0.09	1164	757	6.75	-143.2	56.8	16.2	Light grey, no to low turbidity, no odour, black sediment
1. Macquarie Point	MW151	26/02/2018	527567.7	5252282.4	0.11	5.2719	3163	6.60	-	-	19.5	Grey, Low Turbidity, No Odour
1. Macquarie Point	MW151	29/08/2018	527567.7	5252282.4	0.23	3.683	2210	6.65	109.4	308.4	12.3	Clear, low turbidity, sulphidic odour
1. Macquarie Point	MW151	13/08/2019	527567.7	5252282.4	0.04	3.149	1889	6.56	-106.2	92.8	16.0	Clear, low turbidity, no odour.
1. Macquarie Point	MW151	12/11/2019	527567.7	5252282.4	0.20	2.413	1448	6.59	-108.0	91.0	15.3	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW151	1/12/2023	527567.7	5252282.4	0.13	2.634	1580	6.65	-80.2	118.8	16.4	No odor, no sheen, clear, low turbidity
1. Macquarie Point	MW151	19/06/2025	527567.7	5252282.4	0.14	7794	5066	6.76	-143.1	56.9	15.4	Light grey, no turbidity, no odour, no sediment
1. Macquarie Point	MW152	26/02/2018	527564.2	5252262.4	0.08	4.9556	2973	6.92	-129.8	69.2	19.0	Clear, No Odour
1. Macquarie Point	MW152	29/08/2018	527564.2	5252262.4	0.29	4.2873	2572	6.95	-118.3	80.7	11.8	Clear, low turbidity, sulphidic odour
1. Macquarie Point	MW152	13/08/2019	527564.2	5252262.4	0.16	6.144	3686	6.90	-133.4	65.6	15.5	Light yellow / brown, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW152	12/11/2019	527564.2	5252262.4	0.18	5.31	3186	6.92	-142.0	57.0	15.7	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW152	1/12/2023	527564.2	5252262.4	0.09	4.612	2767	6.84	-131.6	67.4	16.4	No odor, no sheen, clear, low turbidity
1. Macquarie Point	MW152	19/06/2025	527564.2	5252262.4	0.69	7825	5086	6.89	-118.9	81.1	16.3	Yellow, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW153	26/02/2018	527557.5	5252240.9	0.00	37.941	22765	7.29	-192.2	6.8	20.9	Clear, No Odour
1. Macquarie Point	MW153	29/08/2018	527557.5	5252240.9	0.45	12.1197	7272	6.83	-110.6	88.4	13.9	Clear, low turbidity, no odour
1. Macquarie Point	MW153	13/08/2019	527557.5	5252240.9	0.02	23.944	14366	6.95	-195.5	3.5	14.7	Clear, no odour.
1. Macquarie Point	MW153	12/11/2019	527557.5	5252240.9	0.00	23.458	14075	6.71	-155.5	43.5	15.2	Clear, no odour.
1. Macquarie Point	MW153	1/12/2023	527557.5	5252240.9	0.06	33.578	20147	7.15	-187.3	11.7	16.2	No odor, no sheen, high turbidity, black
1. Macquarie Point	MW153	12/06/2025	527557.5	5252240.9	0.24	20930	13605	7.04	-247.0	-47.0	16.8	Clear, low turbidity, no odour
1. Macquarie Point	MW154	27/08/2018	527608.4	5252319.0	0.07	1.6354	981	6.76	-98.6	100.4	13.4	Clear/grey, low turbidity, hydrocarbon odour
1. Macquarie Point	MW154	14/08/2019	527608.4	5252319.0	1.39	2.291	1375	6.74	-123.1	75.9	14.7	Medium turbidity, grey, slight hydrocarbon odour.
1. Macquarie Point	MW154	13/11/2019	527608.4	5252319.0	0.19	2.221	1333	6.62	-138.0	61.0	14.7	Clear, low turbidity, hydrocarbon odour.
1. Macquarie Point	MW154	6/12/2023	527608.4	5252319.0	0.03	1.682	1009	6.61	-78.3	120.7	17.4	No odor, no sheen, low turbidity, clear
1. Macquarie Point	MW155	27/08/2018	527625.0	5252516.4	0.10	0.7723	463	7.11	-123.7	75.3	13.4	Clear/grey, low turbidity, hydrocarbon odour
1. Macquarie Point	MW155	15/08/2019	527625.0	5252516.4	0.42	0.927	556	7.03	-133.6	65.4	15.0	Clear, low turbidity, very slight hydrocarbon odour. Yellow oily liquid observed on probe after gauging. No product observed when bailed.
1. Macquarie Point	MW155	18/11/2019	527625.0	5252516.4	0.58	0.939	563	7.08	-145.7	53.3	16.7	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW155	6/12/2023	527625.0	5252516.4	0.04	0.687	412	7.06	-97.1	101.9	16.3	-
1. Macquarie Point	MW155	19/06/2025	527625.0	5252516.4	0.61	10110	6572	6.93	-126.2	73.8	17.0	Grey, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW156	27/08/2018	527650.2	5252566.9	0.08	1.3019	781	7.56	-94.4	104.6	14.0	Clear, low turbidity, hydrocarbon odour
1. Macquarie Point	MW156	14/08/2019	527650.2	5252566.9	0.04	1.298	779	7.49	-115.7	83.3	15.2	Clear, low turbidity, strong hydrocabon odour. QC03, QC04 taken.
1. Macquarie Point	MW156	11/11/2019	527650.2	5252566.9	0.06	1.011	607	7.75	-150.6	48.4	16.3	Clear, low tubidity, strong hydrocarbon odour.
1. Macquarie Point	MW157	15/08/2019	527501.6	5252507.2	0.08	1.807	1084	6.93	-96.8	102.2	17.5	Clear.
1. Macquarie Point	MW157	14/11/2019	527501.6	5252507.2	0.45	1.898	1139	7.02	-129.1	69.9	17.3	Clear, low turbidity, no odour.
1. Macquarie Point	MW158	15/08/2019	527610.9	5252566.3	0.17	1.949	1169	7.08	-65.2	133.8	16.3	Clear, hydrocarbon odour.
1. Macquarie Point	MW158	11/11/2019	527610.9	5252566.3	0.00	2.14	1284	6.95	-137.3	61.7	16.7	Clear, hydrocarbon odour.
1. Macquarie Point	MW159	12/08/2019	527693.2	5252690.0	0.34	1.034	620	7.18	55.2	254.2	15.9	Clear, no odour.
1. Macquarie Point	MW159	12/11/2019	527693.2	5252690.0	0.00	1.146	688	7.27	-145.0	54.0	15.6	Clear, no odour.
1. Macquarie Point	MW159	25/09/2024	527693.3	5252690.0	-	-	-	-	-	-	-	Clear, no odour, no parameters due to faulty WQM
1. Macquarie Point	MW159	20/06/2025	527693.2	5252690.0	0.62	915	595	7.37	78.4	278.4	15.8	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW16	18/07/2016	527622.6	5252310.2	0.54	0.481	289	6.52	-108.5	90.5	15.0	-
1. Macquarie Point	MW16	17/07/2017	527622.6	5252310.2	0.00	1.03	618	6.01	-93.9	105.1	14.9	Grey, Moderate Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW16	26/02/2018	527622.6	5252310.2	0.35	0.8823	529	6.77	-86.4	112.6	18.9	Clear, No Odour
1. Macquarie Point	MW16	27/08/2018	527622.6	5252310.2	0.15	0.7691	461	6.55	-112.5	86.5	14.2	Clear, low turbidity hydrocarbon odour
1. Macquarie Point	MW16	14/08/2019	527622.6	5252310.2	0.29	0.926	556	6.66	-96.0	103.0	15.3	Low turbidity, brown, hydrocarbon odour, slime noted in well.
1. Macquarie Point	MW16	13/11/2019	527622.6	5252310.2	0.26	0.938	563	6.66	-103.0	96.0	15.0	
1. Macquarie Point	MW16	6/12/2023	527622.6	5252310.2	0.04	0.351	211	6.69	-45.7	153.3	17.7	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW16	23/06/2025	527622.6	5252310.2	0.33	355	231	6.83	-125.4	74.6	17.5	Brown to grey, low turbidity, no odour, suspended sediment
1. Macquarie Point	MW160	12/08/2019	527666.7	5252766.4	5.01	0.3587	215	7.74	51.0	250.0	15.1	Clear, low turbidity, no odour. 4 L removed. Water in gatic.
1. Macquarie Point	MW160	12/11/2019	527666.7	5252766.4	5.35	0.725	435	7.62	-52.4	146.6	15.6	Clear, no odour.
1. Macquarie Point	MW160	25/09/2024	527666.7	5252766.4	5.15	0.672	403	7.35	173.0	372.0	14.7	Clear, no odour.
1. Macquarie Point	MW160	17/06/2025	527666.7	5252766.4	3.96	807	525	7.40	36.0	236.0	16.0	No colour, no turbidity, no odour
1. Macquarie Point	MW161	12/08/2019	527657.8	5252774.3	5.51	0.2765	166	7.80	58.0	257.0	15.4	Clear, no odour.
1. Macquarie Point	MW161	12/11/2019	527657.8	5252774.3	6.67	0.2878	173	8.06	-64.0	135.0	15.4	Clear, no odour.
1. Macquarie Point	MW161	25/09/2024	527657.8	5252774.3	4.66	0.926	556	7.15	163.2	362.2	14.8	Clear, no odour.
1. Macquarie Point	MW161	19/06/2025	527657.8	5252774.3	3.55	837	544	7.36	51.9	251.9	15.8	No colour, no turbidity, no odour
1. Macquarie Point	MW162	12/08/2019	527561.7	5252463.1	0.08	4.649	2789	6.81	-140.4	58.6	16.1	Water in gatic.
1. Macquarie Point	MW162	11/11/2019	527561.7	5252463.1	0.03	4.682	2809	6.73	-148.4	50.6	17.6	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW162	30/11/2023	527561.7	5252463.1	0.07	3.514	2108	6.77	-109.4	89.6	16.1	No odor, no sheen, low turbidity, clear
1. Macquarie Point	MW163	14/08/2019	527644.4	5252427.9	0.39	0.3631	218	7.42	-139.7	59.3	13.4	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW163	18/11/2019	527644.4	5252427.9	0.34	0.3347	201	7.45	-138.6	60.4	16.1	Clear, low turbidity.
1. Macquarie Point	MW163	5/12/2023	527644.4	5252427.9	0.05	0.3054	183	7.35	-97.7	101.3	17.1	No odor, no sheen, low turbidity, clear
1. Macquarie Point	MW164	14/08/2019	527634.7	5252386.2	0.23	0.3579	215	6.77	90.1	289.1	11.1	Clear, no odour.
1. Macquarie Point	MW164	13/11/2019	527634.7	5252386.2	1.02	0.699	419	6.82	-62.7	136.3	15.9	Poor recharge, removed 90% of well volume and sampled on 14/11/19.
1. Macquarie Point	MW164	4/12/2023	527634.7	5252386.2	0.07	0.504	302	6.65	-89.6	109.4	18.4	No odor, no sheen, low turbidity, clear
1. Macquarie Point	MW164	23/06/2025	527634.7	5252386.2	0.57	668	434	6.86	-120.1	79.9	16.8	No colour, low turbidity, no odour
1. Macquarie Point	MW166	15/08/2019	527642.0	5252570.7	0.05	2.809	1685	7.20	-79.0	120.0	16.2	Low turbidity, brown, hydrocarbon odour. QC05, QC06 taken.
1. Macquarie Point	MW166	13/11/2019	527642.0	5252570.7	0.00	2.822	1693	7.34	-143.7	55.3	15.3	Low turbidity, brown, hydrocarbon odour.
1. Macquarie Point	MW167	15/08/2019	527658.9	5252563.9	0.87	2.704	1622	6.58	59.2	258.2	15.3	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW167	13/11/2019	527658.9	5252563.9	0.00	1.252	751	6.71	-154.6	44.4	14.6	Low recharge, clear, hydrocarbon odour, slight sheen.
1. Macquarie Point	MW167	20/06/2025	527658.9	5252563.9	0.51	2345	1524	6.84	60.0	260.0	15.9	No colour, no turbidity, no odour, no sediment
1. Macquarie Point	MW171	15/08/2019	527603.9	5252577.8	0.07	1.42	852	7.19	-64.2	134.8	16.4	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW171	12/11/2019	527603.9	5252577.8	0.00	1.46	876	7.22	-193.0	6.0	16.5	Clear, slight hydrocarbon odour.
1. Macquarie Point	MW173	1/12/2022	527443.4	5252486.0	0.13	0.963	578	7.19	-83.9	115.1	17.0	Clear, low turbidity, no odour.
1. Macquarie Point	MW173	18/06/2025	527443.4	5252486.0	0.13	1074	698	6.97	39.4	239.4	17.6	No colour, no turbidity, no odour
1. Macquarie Point	MW174	30/11/2022	527498.8	5252469.6	0.34	1.007	604	6.59	-42.1	156.9	15.8	Clear, low turbidity, no odour.
1. Macquarie Point	MW175	30/11/2023	527517.1	5252456.4	0.08	1.152	691	6.79	-20.4	178.6	17.2	No odor, light brown, no sheen, low turbidity
1. Macquarie Point	MW176	30/11/2023	527537.9	5252479.3	0.13	1.192	715	6.85	-22.5	176.5	16.3	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW177A	25/09/2024	527598.8	5252815.9	6.53	0.907	544	7.17	12.2	211.2	15.3	Pale brown, low turbidity, no odour
1. Macquarie Point	MW182	17/06/2025	527571.3	5252571.9	0.46	1091	709	7.27	72.7	272.7	15.8	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW183	17/06/2025	527544.5	5252562.2	0.30	1183	769	6.82	-117.9	82.1	15.3	No colour, no turbidity, no odour
1. Macquarie Point	MW184	18/06/2025	527531.7	5252541.2	0.11	1258	818	7.38	-184.1	15.9	16.6	No colour, no to low turbidity, no odour
1. Macquarie Point	MW186	25/06/2025	527504.4	5252492.9	0.48	979	636	6.77	-97.8	102.2	15.6	Grey, moderate turbidity, no odour
1. Macquarie Point	MW188	24/06/2025	527586.0	5252340.3	0.32	1402	911	6.72	-129.6	70.4	16.7	Dark grey, low turbidity, no odour
1. Macquarie Point	MW189	18/06/2025	527678.3	5252654.1	0.17	726	472	6.98	-91.5	108.5	15.0	No colour, no turbidity, no odour, no sediment
1. Macquarie Point	MW190	17/06/2025	527611.3	5252584.7	0.21	1158	753	6.85	4.6	204.6	15.7	Light grey, low turbidity, no odour
1. Macquarie Point	MW191	18/06/2025	527490.4	5252549.0	0.92	1145	744	7.00	83.4	283.4	16.7	Clear, low turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW192	18/06/2025	527637.7	5252480.8	0.60	1053	684	7.16	-118.6	81.4	17.1	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW193	24/06/2025	527581.1	5252306.3	0.25	1257	817	6.78	-122.3	77.7	16.6	Dark grey, medium turbidity, no odour
1. Macquarie Point	MW194	17/06/2025	527498.2	5252616.5	2.09	1539	1000	7.10	96.5	296.5	14.5	Grey, low turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	MW196	25/06/2025	527383.7	5252415.0	0.25	899	584	6.51	-6.9	193.1	13.5	Yellow, low turbidity, no odour
1. Macquarie Point	MW197	25/06/2025	527421.4	5252392.7	0.07	793	515	9.37	-146.8	53.2	15.4	Light yellow, medium turbidity, chemical odour
1. Macquarie Point	MW198	25/06/2025	527426.2	5252432.5	0.16	2284	1485	6.72	20.5	220.5	14.3	No colour, low turbidity, no odour
1. Macquarie Point	MW36	13/08/2019	527471.1	5252514.3	0.17	0.69	414	6.56	-19.6	179.4	17.3	Clear, no odour.
1. Macquarie Point	MW36	11/11/2019	527471.1	5252514.3	0.00	0.9	540	6.57	-130.4	68.6	18.3	Medium turbidity, grey, slight sulphur odour.
1. Macquarie Point	MW36	1/12/2022	527471.1	5252514.3	0.23	1.107	664	6.74	-62.9	136.1	17.0	Clear, low turbidity, no odour.
1. Macquarie Point	MW36	18/06/2025	527525.3	5252509.0	0.17	16.25	11	6.66	34.8	234.8	17.3	light yellow, low turbidity, no odour
1. Macquarie Point	MW55	30/11/2023	527548.7	5252422.3	0.10	3.247	1948	6.80	-115.1	83.9	15.8	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW55	19/06/2025	527548.7	5252422.3	0.52	3289	2138	6.85	-125.2	74.8	16.4	No colour, no turbidity, no odour, excessive bubbles in tubing
1. Macquarie Point	MW6	18/07/2016	527631.9	5252366.7	0.30	0.605	363	6.87	-134.0	65.0	15.7	-
1. Macquarie Point	MW6	17/07/2017	527631.9	5252366.7	0.18	0.673	404	7.16	-98.1	100.9	13.9	Clear, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW6	14/08/2019	527631.9	5252366.7	0.74	0.899	539	6.99	-110.2	88.8	14.9	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	MW6	13/11/2019	527631.9	5252366.7	0.18	0.879	527	7.04	-126.8	72.2	15.5	Clear, low tubidity, slight hydrocarbon odour. Data logger present in well.
1. Macquarie Point	MW6	6/12/2023	527631.9	5252366.7	0.02	0.821	493	6.89	-62.4	136.6	17.9	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW6	23/06/2025	527631.9	5252366.7	0.50	904	588	6.92	-135.9	64.1	16.6	Grey, low turbidity, no odour

Table T5a - Historic Groundwater Data - Field Parameters

Site Area	Well ID	Date Sampled	Easting[1]	Northing[1]	Stabilised Water Quality Parameters							Field Comments
					Dissolved Oxygen (mg/L)	EC (µS/cm)	Total Dissolved Solids (mg/L)	pH	Field ORP (mV)	Corrected ORP (mV)	Temperature (°C)	
1. Macquarie Point	MW60	18/07/2016	527604.8	5252306.3	0.95	1.658	995	6.47	-138.2	60.8	14.2	-
1. Macquarie Point	MW60	17/07/2017	527604.8	5252306.3	0.02	1.82	1092	6.67	-110.1	88.9	11.7	Clear, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	MW60	5/12/2023	527604.8	5252306.3	0.00	1.658	995	6.65	-95.4	103.6	17.0	No odor, clear, low turbidity, no sheen
1. Macquarie Point	MW60	24/06/2025	527604.8	5252306.3	0.26	1533	996	6.73	-136.5	63.5	16.4	Brown, low turbidity, no odour
1. Macquarie Point	NR1	1/02/2016	527648.6	5252654.0	3.04	1.245	747	6.67	-147.1	51.9	16.4	-
1. Macquarie Point	NR1	18/07/2016	527648.6	5252654.0	0.76	0.92	552	7.40	9.4	208.4	14.6	-
1. Macquarie Point	NR1	17/07/2017	527648.6	5252654.0	1.50	1.173	704	7.04	-75.5	123.5	15.2	Clear, No Odour
1. Macquarie Point	NR1	13/08/2019	527648.6	5252654.0	0.16	1.477	886	6.99	-69.5	129.5	15.5	Clear, no odour.
1. Macquarie Point	NR1	14/11/2019	527648.6	5252654.0	1.08	1.501	901	7.02	-36.7	162.3	18.3	Poor recharge, removed 90% of well volume and sampled on 18/11/19.
1. Macquarie Point	NR1	17/06/2025	527648.6	5252654.0	0.28	1322	859	7.05	-140.0	60.0	16.6	No colour, no turbidity, no odour
1. Macquarie Point	NR2	1/02/2016	527664.8	5252611.0	1.66	10.686	6412	7.22	-110.2	88.8	20.1	-
1. Macquarie Point	NR2	18/07/2016	527664.8	5252611.0	0.29	9.67	5802	6.72	-67.7	131.3	16.3	-
1. Macquarie Point	NR2	17/07/2017	527664.8	5252611.0	0.21	31.61	18966	7.20	-133.7	65.3	13.4	Yellow, Slight Hydrocarbon Odour
1. Macquarie Point	NR2	26/02/2018	527664.8	5252611.0	0.03	28.272	16963	7.10	-	-	20.1	Yellow, low turbidity, no odour
1. Macquarie Point	NR2	14/11/2019	527664.8	5252611.0	1.32	12.6	7560	7.16	-82.4	116.6	17.0	Poor recharge, removed 90% of well volume and sampled on 15/11/19.
1. Macquarie Point	NR2A	20/06/2025	527665.8	5252626.7	0.09	1017	661	7.10	-96.0	104.0	17.2	Light grey, low turbidity, no odour
1. Macquarie Point	R2	18/07/2016	527509.0	5252529.1	9.42	0.08	48	7.49	95.5	294.5	14.1	-
1. Macquarie Point	R2	17/07/2017	527509.0	5252529.1	2.07	0.402	241	6.60	79.0	278.0	16.1	Clear, Low Turbidity, No Odour ot Sheen
1. Macquarie Point	R3	18/07/2016	527531.8	5252503.6	1.12	1.15	690	6.82	-67.1	131.9	15.0	-
1. Macquarie Point	R3	17/07/2017	527531.8	5252503.6	0.06	1.029	617	6.69	-73.1	125.9	14.3	Clear, Hydrocarbon Odour
1. Macquarie Point	RN2	18/07/2016	527645.8	5252526.6	0.43	1.42	852	6.99	-61.2	137.8	15.6	-
1. Macquarie Point	RN2	17/07/2017	527645.8	5252526.6	0.10	2.01	1206	7.19	-118.2	80.8	11.6	Clear, Low Turbidity, No Odour
1. Macquarie Point	RN2	26/02/2018	527645.8	5252526.6	0.32	1.5654	939	7.24	-122.4	76.6	20.0	Dark Grey, No odour
1. Macquarie Point	RN2	15/08/2019	527645.8	5252526.6	0.29	1.631	979	7.23	-136.7	62.3	15.6	Low turbidity, light yellow, no odour.
1. Macquarie Point	RN2	18/06/2025	527645.8	5252526.6	0.46	2961	1925	7.41	-149.8	50.2	17.6	Yellow, low turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	RN4	3/02/2016	527563.3	5252490.9	0.17	1.877	1126	7.20	-140.3	58.7	17.7	-
1. Macquarie Point	RN4	18/07/2016	527563.3	5252490.9	0.47	2.36	1416	7.01	-141.4	57.6	16.6	-
1. Macquarie Point	RN4	17/07/2017	527563.3	5252490.9	0.21	2.664	1598	7.05	-107.9	91.1	15.0	Clear, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	RN4	26/02/2018	527563.3	5252490.9	0.16	2.8283	1697	6.98	-114.1	84.9	18.3	Clear
1. Macquarie Point	RN4	12/08/2019	527563.3	5252490.9	0.14	3.042	1825	6.91	-137.7	61.3	16.1	Light brown, medium turbidity, slight hydrocarbon odour
1. Macquarie Point	RN4	11/11/2019	527563.3	5252490.9	0.20	3.221	1933	6.95	-139.8	59.2	18.0	-
1. Macquarie Point	RN4	29/11/2023	527563.3	5252490.9	0.08	2.543	1526	6.78	-1231.0	-1032.0	16.0	No odor, no sheen, moderate turbidity, clear
1. Macquarie Point	RN4	18/06/2025	527563.3	5252490.9	0.12	2160	1404	6.92	-152.5	47.5	17.1	Grey, low turbidity, no odour
1. Macquarie Point	RS6	17/08/2015	527456.3	5252374.8	1.33	1.227	736	7.13	-83.9	115.1	11.8	-
1. Macquarie Point	RS6	1/02/2016	527456.3	5252374.8	1.27	1.084	650	7.34	-49.6	149.4	20.4	-
1. Macquarie Point	RS6	18/07/2016	527456.3	5252374.8	0.48	1.142	685	6.85	-82.4	116.6	17.0	-
1. Macquarie Point	RS6	9/05/2017	527456.3	5252374.8	0.12	1.151	691	6.96	-7.5	191.5	18.8	Hydrocarbon odour, clear
1. Macquarie Point	RS6	17/07/2017	527456.3	5252374.8	0.20	1.419	851	7.04	-74.1	124.9	14.6	Clear, Low-Moderate Turbidity, No Odour
1. Macquarie Point	RS6	26/02/2018	527456.3	5252374.8	0.07	0.3983	239	7.03	-53.9	145.1	19.8	Clear, No Odour
1. Macquarie Point	RS6	27/08/2018	527456.3	5252374.8	0.19	1.3697	822	7.11	-3.4	195.6	15.8	Clear, low turbidity, no odour
1. Macquarie Point	RS6	15/08/2019	527456.3	5252374.8	0.15	0.634	380	7.13	-65.0	134.0	17.1	Clear, low turbidity, no odour.
1. Macquarie Point	RS6	11/11/2019	527456.3	5252374.8	0.09	0.881	529	7.11	-120.9	78.1	16.8	Clear, low turbidity, no odour.
1. Macquarie Point	RS6	30/11/2022	527456.3	5252374.8	0.12	1.25	750	7.04	-24.6	174.4	16.4	Clear, low turbidity, no odour.
1. Macquarie Point	RS6	19/06/2025	527456.3	5252374.8	0.08	1098	714	7.09	-107.7	92.3	17.3	Light grey, low turbidity, no odour
1. Macquarie Point	S4	18/07/2016	527620.8	5252364.0	1.08	1.678	1007	6.42	-137.9	61.1	14.6	-
1. Macquarie Point	S4	17/07/2017	527620.8	5252364.0	0.26	2.111	1267	6.76	-101.8	97.2	12.3	Clear, Low-Moderate Turbidity, Hydrocarbon Odour
1. Macquarie Point	S4	14/08/2019	527620.8	5252364.0	1.12	2.039	1223	6.71	-117.1	81.9	14.4	Clear, low turbidity, slight hydrocarbon odour.
1. Macquarie Point	S4	13/11/2019	527620.8	5252364.0	0.18	2.008	1205	6.71	-136.9	62.1	14.8	Clear, low turbidity, hydrocarbon odour.
1. Macquarie Point	S4	5/12/2023	527620.8	5252364.0	0.03	1.34	804	6.64	-81.8	117.2	18.3	No odor, no sheen, low turbidity, clear
1. Macquarie Point	S6	6/12/2023	527615.7	5252345.6	0.05	2.636	1582	6.65	-85.0	114.0	17.8	No odor, no sheen, low turbidity, clear
1. Macquarie Point	S9	17/08/2015	527588.9	5252302.4	0.53	1.495	897	6.45	-62.3	136.7	10.6	-
1. Macquarie Point	S9	1/02/2016	527588.9	5252302.4	3.29	1.205	723	6.60	-147.9	51.1	16.6	-
1. Macquarie Point	S9	18/07/2016	527588.9	5252302.4	0.28	0.946	568	6.30	-118.6	80.4	12.3	-
1. Macquarie Point	S9	17/07/2017	527588.9	5252302.4	0.03	0.99	594	6.70	-127.3	71.7	13.6	Clear, Low Turbidity, No Odour
1. Macquarie Point	S9	26/02/2018	527588.9	5252302.4	0.16	1.0078	605	6.97	-	-	17.8	Clear, low turbidity, no odour
1. Macquarie Point	S9	27/08/2018	527588.9	5252302.4	0.20	0.8268	496	6.90	-118.8	80.2	11.7	Clear, low turbidity, no odour
1. Macquarie Point	S9	14/08/2019	527588.9	5252302.4	0.20	1.276	766	6.79	-85.0	114.0	13.8	Clear, no odour. Long line of tubing required from well to pump.
1. Macquarie Point	S9	13/11/2019	527588.9	5252302.4	0.48	1.33	798	6.79	-85.3	113.7	14.8	Poor recharge, removed 90% of well volume and sampled on 14/11/19. Low turbidity, brown, no odour.
1. Macquarie Point	TW02	14/11/2019	527645.8	5252526.6	0.00	0.9	540	7.93	-146.8	52.2	15.5	Clear, no odour.
1. Macquarie Point	TW02	17/06/2025	527638.7	5252542.4	0.45	51340	33371	7.15	-179.6	20.4	15.4	Light brown, low to medium turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
1. Macquarie Point	TW03	18/07/2016	527645.7	5252477.9	0.21	0.707	424	6.87	99.3	298.3	14.4	-
1. Macquarie Point	TW03	17/07/2017	527645.7	5252477.9	0.22	0.983	590	6.93	-62.1	136.9	11.8	Yellow/Grey, Low Turbidity, Hydrocarbon Odour
1. Macquarie Point	TW03	26/02/2018	527645.7	5252477.9	0.11	0.6372	382	6.97	-61.4	137.6	20.7	Clear, No Odour
1. Macquarie Point	TW03	13/08/2019	527645.7	5252477.9	3.12	0.4239	254	7.24	-2.5	196.5	14.3	Clear, no odour. Poor recharge, removed 90% of well volume then sampled on 14/8/19.
1. Macquarie Point	TW03	13/11/2019	527645.7	5252477.9	0.66	0.475	285	6.85	-17.6	181.4	14.2	Poor recharge, removed 90% of well volume and sampled on 14/11/19. Clear, low turbidity.
2. Regatta Point	MW178	26/09/2024	527641.0	5252835.6	2.66	0.826	496	7.50	-157.1	41.9	14.8	Clear, no odour.
2. Regatta Point	MW178	17/06/2025	527641.0	5252835.6	2.19	877	570	7.63	94.0	294.0	16.5	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
2. Regatta Point	MW179	26/09/2024	527671.8	5252789.5	3.21	0.6082	365	7.23	-156.0	43.0	14.5	Clear, no odour.
2. Regatta Point	MW179	17/06/2025	527671.8	5252789.5	2.06	916	595	7.62	52.0	252.0	15.4	No colour, low turbidity, no odour
2. Regatta Point	MW180	25/09/2024	527640.3	5252836.4	-	-	-	-	-	-	-	Brown, moderate turbidity, no odour, no parameters due to faulty WQM
2. Regatta Point	MW180	18/06/2025	527640.3	5252836.4	4.10	30160	19604	7.28	126.3	326.3	13.6	Clear, no turbidity, no odour. WQ parameters were collected in-situ following sampling due to faulty WQM.
2. Regatta Point	MW181	25/09/2024	527671.1	5252790.2	-	-	-	-	-	-	-	Well dry, no sample taken
3. Off-Site - Downgradient	MW123A	17/08/2015	527393.3	5252399.7	0.39	2.331	1399	6.88	-106.6	92.4	12.6	-
3. Off-Site - Downgradient	MW123A	1/02/2016	527393.3	5252399.7	0.75	1.402	841	6.67	67.9	266.9	16.8	Minor tar staining noted during well installation.
3. Off-Site - Downgradient	MW123A	18/07/2016	527393.3	5252399.7	1.23	1.285	771	6.35	73.6	272.6	14.0	-
3. Off-Site - Downgradient	MW123A	19/07/2017	527393.3	5252399.7	0.43	1.084	650	6.80	115.2	314.2	11.5	Grey/Yellow, Low Turbidity, Organic Odour (slight)
3. Off-Site - Downgradient	MW123A	27/02/2018	527393.3	5252399.7	1.47	1.488	893	6.63	-	-	19.0	Clear, low turbidity, no odour
3. Off-Site - Downgradient	MW123A	28/08/2018	527393.3	5252399.7	1.25	1.465	879	6.93	573.4	772.4	12.2	Clear/Brown, low turbidity, no odour
3. Off-Site - Downgradient	MW123A	14/08/2019	527393.3	5252399.7	3.72	0.951	571	6.83	28.5	227.5	13.8	High turbidity, brown, strong odour.
3. Off-Site - Downgradient	MW123A	12/11/2019	527393.3	5252399.7	1.31	1.384	830	6.56	-84.3	114.7	15.1	Clear, no odour.
3. Off-Site - Downgradient	MW123A	2/12/2022	527393.3	5252399.7	0.57	3.861	2317	6.76	-129.4	69.6	17.2	Clear, low turbidity, no odour.
3. Off-Site - Downgradient	MW123A	13/06/2025	527393.3	5252399.7	1.53	783	509	11.95	-111.8	88.2	14.2	Light brown, medium turbidity, no odour
3. Off-Site - Downgradient	MW123B	17/08/2015	527393.2	5252399.7	0.30	47.69	28614	6.92	-99.2	99.8	13.6	-
3. Off-Site - Downgradient	MW123B	1/02/2016	527393.2	5252399.7	1.88	34.286	20572	6.90	60.9	259.9	15.5	-
3. Off-Site - Downgradient	MW123B	18/07/2016	527393.2	5252399.7	0.30	32.936	19762	6.34	-58.4	140.6	14.3	-
3. Off-Site - Downgradient	MW123B	19/07/2017	527393.2	5252399.7	0.48	39.152	23491	7.04	-177.3	21.7	14.0	Clear, No Odour
3. Off-Site - Downgradient	MW123B	27/02/2018	527393.2	5252399.7	0.15	46.144	27686	7.02	-	-	16.4	Clear, low turbidity, no odour
3. Off-Site - Downgradient	MW123B	28/08/2018	527393.2	5252399.7	0.29	35.4791	21287	6.86	-110.9	88.1	12.0	Clear, low turbidity, no odour
3. Off-Site - Downgradient	MW123B	2/12/2022	527393.2	5252399.7	1.81	37.084	22250	7.15	71.9	270.9	16.2	Clear, low turbidity, no odour.
3. Off-Site - Downgradient	MW130_GHD	18/07/2016	527382.5	5252393.4	1.09	1.36	816	7.07	-312.1	-113.1	15.9	-
3. Off-Site - Downgradient	MW130_GHD	19/07/2017	527382.5	5252393.4	0.01	1.37	822	7.08	-308.4	-109.4	16.1	Clear, Reducing Odour
3. Off-Site - Downgradient	MW130_GHD	27/02/2018	527382.5	5252393.4	0.19	1.5771	946	7.11	-107.1	91.9	17.4	Clear, No Odour
3. Off-Site - Downgradient	MW130_GHD	28/08/2018	527382.5	5252393.4	0.17	1.2392	744	7.13	-189.7	9.3	13.8	Clear, low turbidity, hydrocarbon odour
3. Off-Site - Downgradient	MW130_GHD	13/08/2019	527382.5	5252393.4	0.00	1.624	974	7.11	-168.6	30.4	17.3	Clear, low turbidity, strong hydrocabon odour.
3. Off-Site - Downgradient	MW130_GHD	12/11/2019	527382.5	5252393.4	0.18	1.612	967	7.11	-324.6	-125.6	16.3	Clear, low tubidity, strong hydrocarbon odour.
3. Off-Site - Downgradient	MW130_GHD	1/12/2022	527382.5	5252393.4	0.15	1.344	806	6.95	-283.9	-84.9	16.6	Clear, medium turbidity, no odour.
3. Off-Site - Downgradient	MW130_GHD	12/06/2025	527382.5	5252393.4	0.50	1273	827	7.01	-342.8	-142.8	17.2	No colour, no turbidity, HC odour
3. Off-Site - Downgradient	MW131_GHD	1/02/2016	527398.4	5252384.9	0.00	1.39	834	7.35	-98.3	100.7	17.6	-
3. Off-Site - Downgradient	MW131_GHD	18/07/2016	527398.4	5252384.9	1.03	1.23	738	6.68	-122.9	76.1	15.4	-
3. Off-Site - Downgradient	MW131_GHD	19/07/2017	527398.4	5252384.9	0.23	1.606	964	7.00	-30.7	168.3	12.9	Clear, Low Turbidity, No Odour
3. Off-Site - Downgradient	MW131_GHD	27/02/2018	527398.4	5252384.9	0.18	1.526	916	6.96	-	-	16.4	Clear, low turbidity, no odour
3. Off-Site - Downgradient	MW131_GHD	28/08/2018	527398.4	5252384.9	0.30	1.5501	930	7.26	358.1	557.1	14.2	Clear, low turbidity, hydrocarbon odour
3. Off-Site - Downgradient	MW131_GHD	13/08/2019	527398.4	5252384.9	0.20	1.495	897	6.97	-21.5	177.5	16.5	Clear, low turbidity, hydrocarbon odour. Data logger removed and replaced after sampling.
3. Off-Site - Downgradient	MW131_GHD	12/11/2019	527398.4	5252384.9	0.03	1.499	899	6.98	-41.1	157.9	16.5	Clear, low turbidity, hydrocarbon odour.
3. Off-Site - Downgradient	MW131_GHD	1/12/2022	527398.4	5252384.9	0.26	1.428	857	6.95	-176.0	23.0	17.9	Clear, low turbidity, no odour.
3. Off-Site - Downgradient	MW131_GHD	13/06/2025	527398.4	5252384.9	0.13	938	610	6.93	-49.0	151.0	16.6	No colour, low turbidity, no odour
3. Off-Site - Downgradient	MW132_GHD	1/02/2016	527399.6	5252384.3	1.39	1.437	862	7.08	-42.8	156.2	17.6	-
3. Off-Site - Downgradient	MW132_GHD	18/07/2016	527399.6	5252384.3	1.21	1.4	840	6.70	-120.1	78.9	14.9	-
3. Off-Site - Downgradient	MW132_GHD	19/07/2017	527399.6	5252384.3	0.33	1.737	1042	6.97	10.1	209.1	12.3	Clear, Low Turbidity, Hydrocarbon Odour
3. Off-Site - Downgradient	MW132_GHD	27/02/2018	527399.6	5252384.3	0.11	1.648	989	6.92	-	-	17.4	Clear, low turbidity, no odour
3. Off-Site - Downgradient	MW132_GHD	28/08/2018	527399.6	5252384.3	0.25	1.2192	732	7.05	-120.9	78.1	13.7	Clear, low turbidity, hydrocarbon odour
3. Off-Site - Downgradient	MW132_GHD	13/08/2019	527399.6	5252384.3	0.09	1.808	1085	6.90	-52.5	146.5	16.1	Clear, low turbidity, hydrocarbon dodour. QC01 and QC02 taken.
3. Off-Site - Downgradient	MW132_GHD	12/11/2019	527399.6	5252384.3	0.12	1.698	1019	6.92	-58.2	140.8	16.1	Clear, low turbidity, hydrocarbon odour.
3. Off-Site - Downgradient	MW132_GHD	1/12/2022	527399.6	5252384.3	0.36	1.363	818	6.86	-56.1	142.9	16.4	Clear, low turbidity, no odour.
3. Off-Site - Downgradient	MW132_GHD	12/06/2025	527399.6	5252384.3	0.33	1149	747	6.94	-141.7	58.3	17.3	Light grey, no turbidity, chemical odour
3. Off-Site - Downgradient	MW133_GHD	1/02/2016	527454.4	5252353.4	0.00	0.654	392	7.24	-143.9	55.1	18.3	-
3. Off-Site - Downgradient	MW133_GHD	18/07/2016	527454.4	5252353.4	1.35	0.96	576	6.69	-165.1	33.9	16.5	-
3. Off-Site - Downgradient	MW133_GHD	19/07/2017	527454.4	5252353.4	0.00	1.071	643	6.85	-116.4	82.6	16.8	Grey, Moderate Turbidity, Hydrocarbon Odour
3. Off-Site - Downgradient	MW133_GHD	27/02/2018	527454.4	5252353.4	0.04	1.2329	740	6.89	-108.8	90.2	19.6	Clear, No Odour
3. Off-Site - Downgradient	MW133_GHD	28/08/2018	527454.4	5252353.4	0.11	1.1491	689	6.87	-102.2	96.8	14.2	Grey/Black, low turbidity, hydrocarbon odour
3. Off-Site - Downgradient	MW133_GHD	13/08/2019	527454.4	5252353.4	0.10	1.485	891	6.91	-116.2	82.8	16.2	Low turbidity, slight hydrocarbon odour. Data logger removed and replaced after sampling.
3. Off-Site - Downgradient	MW133_GHD	12/11/2019	527454.4	5252353.4	0.09	1.373	824	6.89	-114.9	84.1	17.3	Clear, low tubidity, strong hydrocarbon odour.
3. Off-Site - Downgradient	MW133_GHD	1/12/2022	527454.4	5252353.4	0.16	1.127	676	6.75	-134.6	64.4	16.8	Clear, medium turbidity, no odour.
3. Off-Site - Downgradient	MW133_GHD	12/06/2025	527454.4	5252353.4	0.36	1053	684	6.76	-132.6	67.4	17.4	No colour, no turbidity, no odour, no sediment
3. Off-Site - Downgradient	MW134_GHD	19/07/2017	527600.2	5252274.6	2.09	2.851	1711	6.74	-76.9	122.1	15.7	Lowflow inlet - 0.3 mBTOC
3. Off-Site - Downgradient	MW134_GHD	19/07/2017	527600.2	5252274.6	1.26	2.811	1687	6.70	-100.4	98.6	16.8	Lowflow inlet - 4.3 mBTOC
3. Off-Site - Downgradient	MW135_GHD	19/07/2017	527632.9	5252353.8	2.12	1.882	1129	6.73	-35.9	163.1	15.2	Lowflow inlet - 0.3 mBTOC
3. Off-Site - Downgradient	MW135_GHD	19/07/2017	527632.9	5252353.8	0.12	1.77	1062	6.69	-53.4	145.6	16.6	Lowflow inlet - 4.3 mBTOC
3. Off-Site - Downgradient	MW136_GHD	19/07/2017	527633.1	5252324.5	2.56	0.69	414	7.49	-70.9	128.1	15.0	Lowflow inlet - 0.3 mBTOC
3. Off-Site - Downgradient	MW136_GHD	19/07/2017	527633.1	5252324.5	0.80	0.658	395	7.53	-66.4	132.6	16.5	Lowflow inlet - 4.3 mBTOC

Notes:

EC - Electrical Conductivity (milliSiemens per centimetre)

TDS calculated by multiplying electrical conductivity by 0.65

ORP - Oxidation Reduction Potential (milliVolts)

Redox potential converted from Ag/AgCl electrode to Standard Hydrogen Electrode (SHE) electrode by adding +200 mV

[1] The Easting and Northing coordinates presented are the MGA94 Coordinates

Table T5b - Historic Groundwater Data - Laboratory Analytical Data

						Metals									Major Ions					Alkalinity				Nutrients				Physico-Chemical Parameters					Calculated Ratios	
						Aluminium	Aluminium (filtered)	Arsenic (filtered)	Chromium (filtered)	Iron	Iron (filtered)	Manganese (filtered)	Nickel (filtered)	Selenium (filtered)	Zinc (filtered)	Chloride	Sodium	Sulfate as SO4	Sulphate (as S)	Sulfate as SO4 (Turbidimetric) (filtered)	Hydroxide Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Ammonia (as N)	Total Nitrogen (as N)	Total Phosphate (as P)	Total Phosphorus	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Total Suspended Solids	Total Alkalinity (as CaCO3) to Sulfate (as SO4)	Chloride to Sulfate (as SO4)
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	-	-
					LOR	0.01	0.01	0.001	0.001	0.05	0.05	0.001	0.001	0.001	0.001	1	0.5	1	5	1	1	1	1	1	0.01	0.1	0.01	0.01	10	10	1	0.01	5	-	-
Location	Well ID	Sample Type	Lab Report Number	Field ID	Date																														
3. Off-Site - Downgradient	MW123A	Normal	EM1513587	MW123A	19 Aug 2015	-	-	0.002	<0.001	-	-	0.002	-	0.007	-	-	-	-	-	-	-	-	-	16.2	-	-	-	1,380	-	-	6.96	-	-	-
3. Off-Site - Downgradient	MW123A	Normal	EM1601015	MW123A	03 Feb 2016	-	-	<0.001	<0.001	-	0.23	0.304	0.007	<0.01	0.015	284	203	105	-	-	<1	<1	299	299	3.89	-	-	-	1,120	-	-	-	-	2.85	2.70
3. Off-Site - Downgradient	MW123A	Field_D	EM1608632	QC03_20/07/2016	20 Jul 2016	-	-	<0.001	<0.001	-	-	0.017	0.006	<0.01	0.01	-	-	-	-	-	-	-	-	-	0.08	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW123A	Interlab_D	508963	QC04	20 Jul 2016	-	-	<0.001	<0.001	-	-	-	0.007	-	0.007	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW123A	Normal	EM1608632	MW123A_20/07/2016	20 Jul 2016	-	-	<0.001	<0.001	-	-	0.019	0.007	<0.01	0.011	294	167	154	-	-	<1	<1	270	270	0.12	-	-	-	989	-	-	-	-	1.75	1.91
3. Off-Site - Downgradient	MW123A	Normal	EM1709548	MW123A	18 Jul 2017	-	-	<0.001	<0.001	-	-	0.03	0.007	<0.01	0.006	38	98	157	-	-	<1	<1	326	326	0.06	-	-	-	-	634	976	-	-	2.08	0.24
3. Off-Site - Downgradient	MW123A	Normal	EM1803798	MW123A	27 Feb 2018	-	-	<0.001	<0.001	-	-	0.01	0.004	<0.01	0.013	136	123	189	-	-	<1	<1	349	349	<0.01	-	-	-	859	-	-	-	-	1.85	0.72
3. Off-Site - Downgradient	MW123A	Normal	EM1813832	MW123A	28 Aug 2018	-	-	<0.001	<0.001	-	-	0.007	0.006	<0.01	0.012	208	135	144	-	-	<1	<1	270	270	0.06	-	-	-	901	-	-	-	-	1.88	1.44
3. Off-Site - Downgradient	MW123A	Normal	EM1913375	MW123A	14 Aug 2019	-	-	<0.001	0.002	-	-	0.052	0.005	-	0.042	68	90	90	-	-	<1	<1	334	334	0.9	-	-	-	590	-	-	-	-	3.71	0.76
3. Off-Site - Downgradient	MW123A	Normal	EM1915613	MW123A	12 Nov 2019	-	-	<0.001	0.001	-	-	0.002	0.008	-	0.023	228	130	82	-	-	<1	<1	288	288	0.03	-	-	-	753	-	-	-	-	3.51	2.78
3. Off-Site - Downgradient	MW123A	Normal	EM2224108	MW123A	02 Dec 2022	-	-	<0.001	<0.001	-	-	0.001	0.005	-	0.009	28	50	-	-	-	<1	<1	243	243	<0.01	-	-	-	405	-	-	-	-	-	-
3. Off-Site - Downgradient	MW123A	Normal	1232587	MW123A	12 Jun 2025	-	-	0.010	0.009	-	-	<0.005	0.005	-	<0.005	25	86	11	-	-	-	150	<20	-	0.30	-	-	-	420	-	750	-	-	-	2.27
3. Off-Site - Downgradient	MW123B	Normal	EM1513587	MW123B	19 Aug 2015	-	-	<0.001	<0.001	-	-	-	0.005	-	0.005	-	-	-	-	-	-	-	-	-	4.51	-	-	-	36,800	-	-	6.84	-	-	-
3. Off-Site - Downgradient	MW123B	Normal	EM1601015	MW123B	03 Feb 2016	-	-	<0.001	<0.001	-	<0.05	3.25	<0.001	<0.01	0.011	15,600	8,590	2,020	-	-	<1	<1	321	321	5.71	-	-	-	37,800	-	-	-	-	0.16	7.72
3. Off-Site - Downgradient	MW123B	Normal	EM1608632	MW123B_20/07/2016	20 Jul 2016	-	-	<0.001	<0.001	-	-	3.5	<0.001	<0.01	0.016	16,000	7,490	1,980	-	-	<1	<1	348	348	5.74	-	-	-	31,600	-	-	-	-	0.18	8.08
3. Off-Site - Downgradient	MW123B	Normal	EM1709548	MW123B	18 Jul 2017	-	-	<0.001	<0.001	-	-	4.03	<0.001	<0.01	<0.005	18,800	7,970	1,990	-	-	<1	<1	296	296	4.79	-	-	-	-	31,500	48,400	-	-	0.15	9.45
3. Off-Site - Downgradient	MW123B	Normal	EM1803798	MW123B	27 Feb 2018	-	-	<0.001	<0.001	-	-	3.87	<0.001	<0.01	0.01	16,000	7,770	1,930	-	-	<1	<1	334	334	5.3	-	-	-	32,700	-	-	-	-	0.17	8.29
3. Off-Site - Downgradient	MW123B	Normal	EM1813832	MW123B	28 Aug 2018	-	-	<0.001	<0.001	-	-	4	<0.001	<0.01	0.006	16,900	8,750	2,090	-	-	<1	<1	350	350	5.88	-	-	-	28,400	-	-	-	-	0.17	8.09
3. Off-Site - Downgradient	MW123B	Normal	EM2224108	MW123B	02 Dec 2022	-	-	<0.001	<0.001	-	-	2.52	<0.001	-	0.026	14,800	6,210	-	-	1,760	<1	<1	248	248	0.86	-	-	-	26,600	-	-	-	-	-	-
3. Off-Site - Downgradient	MW130_GHD	Normal	EM1608632	MW130	20 Jul 2016	-	-	<0.001	<0.001	-	-	1.34	0.003	<0.01	<0.005	199	99	62	-	-	<1	<1	655	655	19.3	-	-	-	946	-	-	-	-	10.56	3.21
3. Off-Site - Downgradient	MW130_GHD	Normal	EM1709548	MW130	18 Jul 2017	-	-	<0.001	<0.001	-	-	1.19	0.006	<0.01	<0.005	189	90	51	-	-	<1	<1	608	608	17.3	-	-	-	-	1,030	1,590	-	-	11.92	3.71
3. Off-Site - Downgradient	MW130_GHD	Normal	EM1803798	MW130	27 Feb 2018	-	-	<0.001	<0.001	-	-	0.848	0.004	<0.01	<0.005	192	93	48	-	-	<1	<1	587	587	7.01	-	-	-	896	-	-	-	-	12.23	4.00
3. Off-Site - Downgradient	MW130_GHD	Field_D	EM1813832	QC01	28 Aug 2018	-	-	<0.001	<0.001	-	-	0.714	0.006	<0.01	<0.005	-	-	-	-	-	-	-	-	-	11.7	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW130_GHD	Interlab_D	615201	QC02	28 Aug 2018	-	-	<0.001	<0.001	-	-	0.79	0.006	<0.01	<0.005	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW130_GHD	Normal	EM1813832	MW130	28 Aug 2018	-	-	<0.001	<0.001	-	-	0.709	0.006	<0.01	<0.005	186	101	37	-	-	<1	<1	593	593	11.4	-	-	-	1,030	-	-	-	-	16.03	5.03
3. Off-Site - Downgradient	MW130_GHD	Normal	EM1913375	MW130_GHD	13 Aug 2019	-	-	<0.001	<0.001	-	-	1.31	0.009	-	<0.005	131	94	85	-	-	<1	<1	592	592	16.4	-	-	-	996	-	-	-	-	6.96	1.54
3. Off-Site - Downgradient	MW130_GHD	Normal	EM1915613	MW130_GHD	12 Nov 2019	-	-	<0.001	<0.001	-	-	1.25	0.009	-	<0.005	120	92	81	-	-	<1	<1	613	613	12.8	-	-	-	905	-	-	-	-	7.57	1.48
3. Off-Site - Downgradient	MW130_GHD	Normal	EM2224108	MW130_GHD	01 Dec 2022	-	-	<0.001	<0.001	-	-	1.39	0.009	-	<0.005	73	83	-	-	142	<1	<1	534	534	13.3	-	-	-	835	-	-	-	-	-	-
3. Off-Site - Downgradient	MW130_GHD	Normal	1232587	MW130_GHD	12 Jun 2025	-	-	<0.001	<0.001	-	-	1.5	0.007	-	<0.005	99	93	130	-	-	<1	<1	740	-	17	-	-	-	990	-	1,500	-	-	-	0.76
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1601015	MW131_GHD	03 Feb 2016	-	-	<0.001	<0.001	-	0.6	1.1	0.002	<0.01	0.007	-	-	-	-	-	-	-	-	-	37.1	-	-	-	1,100	-	-	-	-	-	-
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1608632	MW131_GHD_20/07/2016	20 Jul 2016	-	-	<0.001	<0.001	-	-	0.585	0.002	<0.01	<0.005	144	100	174	-	-	<1	<1	581	581	16.9	-	-	-	857	-	-	-	-	3.34	0.83
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1709548	MW131_GHD	18 Jul 2017	-	-	<0.001	<0.001	-	-	0.362	0.005	<0.01	<0.005	124	90	123	-	-	<1	<1	664	664	22.7	-	-	-	-	1,030	1,580	-	-	5.40	1.01
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1803798	MW131_GHD	27 Feb 2018	-	-	<0.001	<0.001	-	-	0.303	0.002	<0.01	0.008	94	74	86	-	-	<1	<1	682	682	11.5	-	-	-	836	-	-	-	-	7.93	1.09
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1813832	MW131_GHD	28 Aug 2018	-	-	<0.001	<0.001	-	-	0.256	0.002	<0.01	0.01	108	83	100	-	-	<1	<1	640	640	18.2	-	-	-	955	-	-	-	-	6.40	1.08
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1913375	MW131_GHD	13 Aug 2019	-	-	<0.001	<0.001	-	-	0.212	0.004	-	0.018	96	84	86	-	-	<1	<1	576	576	15.8	-	-	-	852	-	-	-	-	6.70	1.12
3. Off-Site - Downgradient	MW131_GHD	Normal	EM1915613	MW131_GHD	12 Nov 2019	-	-	<0.001	<0.001	-	-	0.209	0.004	-	0.005	111	86	82	-	-	<1	<1	605	605	16	-	-	-	847	-	-	-	-	7.38	1.35
3. Off-Site - Downgradient	MW131_GHD	Normal	EM2224108	MW131_GHD	01 Dec 2022	-	-	<0.001	<0.001	-	-	0.381	0.006	-	0.023	63	96	-	-	159	<1	<1	588	588	15.2	-	-	-	873	-	-	-	-	-	-
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1601015	MW132	03 Feb 2016	-	-	<0.001	<0.001	-	0.85	2.64	0.002	<0.01	<0.005	-	-	110	-	-	-	-	-	-	30.8	-	-	-	981	-	-	-	-	-	-
3. Off-Site - Downgradient	MW132_GHD	Field_D	EM1608632	QC01_20/07/2016	20 Jul 2016	-	-	<0.001	<0.001	-	-	3.11	0.002	<0.01	<0.005	-	-	-	-	-	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW132_GHD	Interlab_D	508963	QC02	20 Jul 2016	-	-	<0.001	<0.001	-	-	-	0.001	-	<0.001	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1608632	MW132	20 Jul 2016	-	-	<0.001	<0.001	-	-	3.1	0.002	<0.01	<0.005	87	102	237	-	-	<1	<1	737	737	32.5	-	-	-	978	-	-	-	-	3.11	0.37
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1709548	MW132	18 Jul 2017	-	-	<0.001	<0.001	-	-	3.14	0.002	<0.01	<0.005	116	101	119	14	-	<1	<1	720	720	29.4	-	-	-	-	1,090	1,680	-	-	6.05	0.97
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1803798	MW132	27 Feb 2018	-	-	<0.001	<0.001	-	-	2.82	0.002	<0.01	<0.005	145	91	71	-	-	<1	<1	666	666	19.9	-	-	-	898	-	-	-	-	9.38	2.04
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1813832	MW132	28 Aug 2018	-	-	<0.001	<0.001	-	-	2.72	0.004	<0.01	0.009	122	101	71	-	-	<1	<1	643	643	18.6	-	-	-	878	-	-	-	-	9.06	1.72
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1913375	MW132_GHD	13 Aug 2019	-	-	<0.001	<0.001	-	-	2.72	0.002	-	<0.005	60	100	193	-	-	<1	<1	694	694	27.8	-	-	-	1,070	-	-	-	-	3.60	0.31
3. Off-Site - Downgradient	MW132_GHD	Field_D	EM1913375	QC01	13 Aug 2019	-	-	<0.001	<0.001	-	-	3	0.003	-	<0.005	59	100	197	-	-	<1	<1	692	692	28	-	-	-	1,070	-	-	-	-	3.51	0.30
3. Off-Site - Downgradient	MW132_GHD	Interlab_D	672404	QC02	15 Aug 2019	-	-	<0.001	<0.001	-	-	-	0.002	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Off-Site - Downgradient	MW132_GHD	Normal	EM1915613	MW132_GHD	12 Nov 2019	-	-	<0.001	<0.001	-	-	2.93	0.003	-	<0.005	67	98	139	-	-	<1	<1	704	704	26.9	-	-	-	912	-	-	-	-	5.06	0.48
3. Off-Site - Downgradient	MW132_GHD	Normal	EM2224108	MW132_GHD	01 Dec 2022	-	-	<0.001	<0.001	-	-	2.36	0.004	-	<0.005	77	92	-	-	70	<1	<1	595	595	27.8	-	-	-	756	-	-	-	-	-	-
3. Off-Site - Downgradient	MW132_GHD	Normal	1232587	MW132_GHD	12 Jun 2025	-	-	<0.001	<0.001	-	-	2.2	0.003	-	0.009	77	96	120	-	-	-	<10	800	-	22	-	-	-	860	-	1,400	-	-	-	0.64
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1601015	MW133_GHD	03 Feb 2016	-	-	0.001	<0.001	-	2.94	0.532	<0.001	<0.01	<0.005	-	-	-	-	-	-	-	-	-	0.03	-	-	-	938	-	-	-	-	-	-
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1608632	MW133_GHD_20/07/16	20 Jul 2016	-	-	<0.001	<0.001	-	-	0.891	0.001	<0.01	<0.005	104	52	2	-	-	<1	<1	517	517	9.54	-	-	-	667	-	-	-	-	258.50	52.00
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1709548	MW133_GHD	18 Jul 2017	-	-	<0.001	<0.001	-	-	0.864	0.004	<0.01	0.008	137	53	<5	-	-	<1	<1	521	521	8.96	-	-	-	-	774	1,190	-	-	3.60	-
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1803798	MW133_GHD	27 Feb 2018	-	-	<0.001	<0.001	-	-	0.873	<0.001	<0.01	0.008	110	47	<5	-	-	<1	<1	518	518	9.66	-	-	-	661	-	-	-	-	3.60	-
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1813832	MW133_GHD	28 Aug 2018	-	-	<0.001	<0.001	-	-	0.976	0.002	<0.01	0.006	136	72	<5	-	-	<1	<1	597	597	7.45	-	-	-	789	-	-	-	-	3.60	-
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1913375	MW133_GHD	13 Aug 2019	-	-	<0.001	<0.001	-	-	0.837	0.002	-	0.022	118	52	8	-	-	<1	<1	568	568	9.33	-	-	-	832	-	-	-	-	71.00	14.75
3. Off-Site - Downgradient	MW133_GHD	Normal	EM1915613	MW133_GHD	12 Nov 2019	-	-	<0.001	<0.001	-	-	1.04	0.002	-	<0.005	106	46	6	-	-	<1	<1	590	590	9.24	-	-	-	723	-	-	-	-	98.33	17.67
3. Off-Site - Downgradient	MW133_GHD	Normal	EM2224108	MW133_GHD	01 Dec 2022	-	-	<0.001	<0.001	-	-	1.13	0.002	-	<0.005	46	49	-	-	2	<1	<1	585	585	7.88	-	-	-	664	-	-	-	-	-	-
3. Off-Site - Downgradient	MW133_GHD	Normal	1232587	MW133_GHD	12 Jun 2025	-	-	<0.001	<0.001	-	-	1.2	0.001	-	0.007	48	60	<5	-	-	-	<10	1,000	-	7.0	-	-	-	750	-	1,300	-	-	-	-
2. Regatta Point	MW178	Interlab_D	EM2416713	QC06_240926	26 Sep 2024	-	0.02	0.003	<0.001	-	<0.05	0.027	<0.001	<0.01	<0.005	458	314	-	-	101	<1	<1	218	218	<0.01	-	-	-	1,050	-	-	-	-	-	-
2. Regatta Point	MW178	Field_D	1143888	QC05_240926	26 Sep 2024	-	-	0.003	<0.001	-	-	-	<0.001	<0.01	<0.005	410	320	100	-	-	<20	<10	270	270	0.06	-	-	-	1,100	-	-	-	-	2.70	4.10
2. Regatta Point	MW178	Normal	1143888	MW178_240926	26 Sep 2024	-	-	0.003	<0.001	-	-	-	<0.001	0.001	<0.005	390	330	100	-	-	<20	<10	280	280	<0.01	-	-	-	1,000	-	-	-	-	2.80	3.90
2. Regatta Point	MW178	Normal	1234320	MW178	17 Jun 2025	-	-	0.002	<0.001	-	-	0.012	<0.001	0.003	0.031	140	200	77	-	-	-	<10	410	-	<0.01	-	-	-	660	-	1,100	-	-	-	1.82
2. Regatta Point	MW179	Normal	1143888	MW179_240926	26 Sep 2024	-	-	0.003	<0.001	-	-	-	0.001	0.002	<0.005	20	98	34	-	-	<20	<10	380	380	0.04	-	-	-	400	-	-	-	-	11.18	0.59
2. Regatta Point	MW179	Normal	1234320	MW179	17 Jun 2025	-	-	0.004	<0.001	-	-	0.59	0.002	0.002	<0.005	18	190	38	-	-	-	<10	450	-	0.58	-	-	-	500	-	770	-	-	-	0.47
2. Regatta Point	MW180	Normal	1143224	MW180_240925	25 Sep 2024	-	-	0.008	0.010	-	-	0.014	0.002	1.2	9,300	5,200	1,200	-	-	-	<20	<10	190	190	<0.01	-	-	-	17,000	-	-	-	-	0.16	7.75
2. Regatta Point	MW180	Normal	1234088	MW180	19 Jun 2025	-	-	0.002	<0.001	-	-	<0.005	0.001	<0.01	0.38	14,000	7,400	2,100	-	-	-	<10	190	-	0.03	-	-	-	28,000	-	41,000	-	-	-	6.67
1. Macquarie Point	BG1	Normal	444205	BG1	13 Jan 2015	-	-	0.002	<0.001	-	-	-	0.001	-	0.005	66	150	-	25	-	-	-	-	630	<0.01	2.9	<0.05	810	-	-	-	-	-	-
1. Macquarie Point	BG1	Normal	EM1513587	BG1	19 Aug 2015	-	-	0.001	<0.001	-	-	-	0.001	-	0.028	-	-	-	-	-	-	-	-	-	-	-	-	1,030	-	-	7.21	-	-	-
1. Macquarie Point	BG1	Normal	EM1600950	BG1	02 Feb 2016	-	-	0.002	<0.001	-	<0.05	<0.001	0.001	<0.01	0.01	55	145	70	-	-	<1	<1	683	683	0.02	-	-	-	911	-	-	-	-	9.76	0.79
1. Macquarie Point	BG1	Normal	EM1608641	BG1	21 Jul 2016	-	-	0.002	<0.001	-	-	<0.001	0.001	<0.01	0.006	63	133	72	-	-	<1	<1	650	650	<0.01	-	-	-	746	-	-	-	-	9.03	0.88
1. Macquarie Point	BG1	Normal	EM1709630	BG1	18 Jul 2017	-	-	0.002	<0.001	-	-	0.003	0.005	<0.01	<0.005	65	128	81	-	-	<1	<1	689	689	0.1	-	-	-	-	936	1,440	-	-	8.51	0.80
1. Macquarie Point	BG1	Normal	EM1803804	BG1	28 Feb 2018	-	-	0.002	<0.001	-	-	0.001	<0.001	<0.01	0.007	63	127	74	-	-	<1	<1	644	644	0.02	-	-	-	838	-	-	-	-	8.70	0.85
1. Macquarie Point	BG1	Normal	EM1913375	BG1	12 Aug 2019	-	-	<0.001	<0.001	-	-	<0.001	0.003	-	0.006	87	130	74	-	-	<1	<1	673	673	0.03	-	-	-	949	-	-	-	-	9.09	1.18
1. Macquarie Point	BG1	Normal	1234320	BG1	17 Jun 2025	-	-	0.002	<0.001	-	-	0.019	0.001	-	<0.005	220	200	320	-	-	-	<10	670	-	<0.01	-	-	-	1,300	-	1,900	-	-	-	0.69
1. Macquarie Point	BH1-PS	Normal	444205	BH1-PS	13 Jan 2015	-	-	0.002	<0.001	-	-	-	0.002	-	0.001	32	78	-	-	-	-	-	450	-	<0.05	-	-	-	570	-	-	-	-	-	-
1. Macquarie Point	BH2_PS	Normal	444342	BH2_PS	14 Jan 2015	-	-	0.001	<0.001	-	-	-	0.004	-	0.016	38	98	-	18	-	-	-	720	-	0.03	-	-	-	1,000	-	-	-	-	-	-
1. Macquarie Point	BH2_PS	Normal	EM1705903	BH2_PS	09 May 2017	-	-	0.001	<0.001	-	-	1.84	0.005	<0.01	0.011	-	-	-	-	-	-	-	-	-	0.02	-	-	-	895	-	-	-	-	-	-
1. Macquarie Point	BH2_PS	Normal	1235243	BH2_PS	19 Jun 2025	-	-	0.001	<0.001	-	-	0.68	0.003	-	0.003	33	200	140	-	-	-	<10	920	-	<0.01	-	-	-	1,400	-	2,000	-	-	-	0.24
1. Macquarie Point	M3	Normal	444205	M3	13 Jan 2015	-	-	0.007	<0.001	-	<0.05	-	0.003	-	0.003	24	85	12	-	-	-	-	-	330	-	0.11	-	-	-	460	-	-	-	-	-	-
1. Macquarie Point	MW100	Normal	444342	MW100	14 Jan 2015	-	-	<0.001	<0.001	-	-	-	0.001	-	0.001	30	110	-	94	-	-	-	610	26	-	-	-	-	1,100	-	-	-	-	-	-
1. Macquarie Point	MW100	Normal	EM1608632	MW100_19/07/16	19 Jul 2016	-	-	0.002	<0.001	-	-	7.27	0.004	<0.01	<0.005	40	66	676	-	-	<1	<1	806	806	77.5	-	-	-	1,550	-	-	-	-	1.19	0.06
1. Macquarie Point	MW100	Normal	EM1709512	MW100	18 Jul 2017	-	-	0.002	<0.001	-	-	7.06	0.005	<0.01	0.005	37	68	518	-	-	<1	<1	753	753	62.2	-	-	-	-	1,420	2,190	-	-	1.45	0.07
1. Macquarie Point	MW100	Normal	EM2224108	MW100	01 Dec 2022	-	-	0.005	<0.001	-	-	8.49	0.011	-	0.006	30	64	-	-	869	<1	<1	618	618	64.1	-	-	-	1,600	-	-	-	-	-	-
1. Macquarie Point	MW101	Normal	444342	MW101	14 Jan 2015	-	-	<0.001	0.005	-	-	-	0.063	-	0.033	34	32	-	98	-	-	-	-	150	1.2	-	-	-	660	-	-	-	-	-	-
1. Macquarie Point	MW101	Normal	EM1513587	MW101	19 Aug 2015	-	-	<0.001	0.006	-	-	-	0.037	-	0.017	-	-	-	-	-	-	-	-	-	1.63	-	-	-	914	-	-	6.57	-	-	-
1. Macquarie Point	MW101	Field_D	EM1513587	QC31	19 Aug 2015	-	-	<0.001	0.006	-	-	-	0.036	-	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Macquarie Point	MW101	Interlab_D	469599	QC32	19 Aug 2015	-	-	0.001	0.005	-	-	-	0.035	-	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Macquarie Point	MW101	Normal	EM1601015	MW101	02 Feb 2016	-	-	<0.001	0.003	-	36.2	1.54	0.051	<0.01	0.024	51	40	330	-	-	<1	<1	292	292	1.58	-	-	-	991	-	-	-	-	0.88	0.15
1. Macquarie Point	MW101	Normal	EM1608641	MW101_21/07/16	21 Jul 2016	-	-	0.001	0.007	-	-	2.64	0.089	<0.01	0.021	32	37	751	-	-	<1	<1	235	235	3.3	-	-	-	1,320	-	-	-	-	0.31	0.04
1. Macquarie Point	MW101	Normal	EM1709630	MW101	18 Jul 2017	-	-	0.001	0.003	-	-	2.08	0.053	<0.01	0.008	29	33	250	-	-	<1	<1	269	269	0.7	-	-	-	-	696	1,070	-	-	1.08	0.12
1. Macquarie Point	MW101	Normal	1237216	MW101	24 Jun 2025	-	-	<0.001	0.003	-	-	0.95	0.041	-	<0.005	30	39	150	-	-	-	<10	860	-	0.71	-	-	-	580	-	790	-	-	-	0.20
1. Macquarie Point	MW102	Normal	444342	MW102	14 Jan 2015	-	-	<0.001	<0.001	-	0.11	-	0.019	-	0.007	26	54	-	82	-	-	-	620	3.9	-	-	-	-	1,100	-	-	-	-	-	-
1. Macquarie Point	MW102	Normal	EM2224108	MW102	01 Dec 2022	-	-	<0.001	<0.001	-	-	0.238	0.022	-	<0.005	39	73	-	-	232	<1	<1	662	662	7.98	-	-	-	998	-	-	-	-	-	-
1. Macquarie Point	MW102	Normal	1234988	MW102	18 Jun 2025	-	-	<0.001	<0.001	-	-	0.63	0.022	-	0.006	41	88	210	-	-	-	<10	830	-	9.9	-	-	-	1,300	-	2,100	-	-	-	0.20
1. Macquarie Point	MW103	Normal	444205	MW103	13 Jan 2015	-	-	0.007	<0.001	-	1.3	-	0.001	-	<0.001	17	110	<5	-	-	-	-	500	-	0.11	-	-	-	650	-	-	-	-	-	-
1. Macquarie Point	MW103	Normal	EM1608632	MW103	19 Jul 2016	-	-	0.006	<0.001	-	-	2.54	0.001	<0.01	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	548	-	-	-	-	-	-
1. Macquarie Point	MW103	Normal	EM1709512	MW103	18 Jul 2017

Table T5b - Historic Groundwater Data - Laboratory Analytical Data

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Table T5b - Historic Groundwater Data - Laboratory Analytical Data

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Table T5b - Historic Groundwater Data - Laboratory Analytical Data

						Metals											Major Ions					Alkalinity				Nutrients				Physico-Chemical Parameters					Calculated Ratios	
						Aluminium	Aluminium (filtered)	Arsenic (filtered)	Chromium (filtered)	Iron	Iron (filtered)	Manganese (filtered)	Nickel (filtered)	Selenium (filtered)	Zinc (filtered)	Chloride	Sodium	Sulfate as SO4	Sulphate (as S)	Sulfate as SO4 (Turbidimetric) (filtered)	Hydroxide Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Ammonia (as N)	Total Nitrogen (as N)	Total Phosphate (as P)	Total Phosphorus	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Total Suspended Solids	Total Alkalinity (as CaCO3) to Sulfate (as SO4)	Chloride to Sulfate (as SO4)
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	-	-
					LOR	0.01	0.01	0.001	0.001	0.05	0.05	0.001	0.001	0.001	0.001	1	0.5	1	5	1	1	1	1	1	0.01	0.1	0.01	0.01	10	10	1	0.01	5	-	-
Location	Well ID	Sample Type	Lab Report Number	Field ID	Date																														
1. Macquarie Point	S9	Normal	EM1608641	S9	21 Jul 2016	-	-	0.007	<0.001	-	-	1.31	<0.001	<0.01	0.008	18	25	<1	-	-	<1	<1	773	773	7.27	-	-	-	709	-	-	-	-	-	-
1. Macquarie Point	S9	Field_D	EM1608641	QC05	21 Jul 2016	-	-	0.005	<0.001	-	-	1.24	<0.001	<0.01	0.007	-	-	-	-	-	-	-	-	-	7.05	-	-	-	-	-	-	-	-	-	
1. Macquarie Point	S9	Interlab_D	308963	QC06	21 Jul 2016	-	-	0.001	<0.001	-	-	-	<0.001	-	0.002	-	-	-	-	-	-	-	-	-	6.2	-	-	-	-	-	-	-	-	-	
1. Macquarie Point	S9	Normal	EM1709512	S9	19 Jul 2017	-	-	0.003	<0.001	-	-	0.941	0.004	<0.01	<0.005	11	40	<5	-	-	<1	<1	487	487	6.52	-	-	-	341	552	850	-	-	-	-
1. Macquarie Point	S9	Normal	EM1803798	S9	27 Feb 2018	-	-	0.003	<0.001	-	-	0.863	0.005	<0.01	<0.005	18	25	<5	-	-	<1	<1	520	520	6.33	-	-	-	568	-	-	-	-	-	-
1. Macquarie Point	S9	Normal	EM1813832	S9	28 Aug 2018	-	-	0.003	<0.001	-	-	1.03	0.014	<0.01	0.006	27	25	1	-	-	<1	<1	559	559	3.52	-	-	-	599	-	-	-	-	559.00	27.00
1. Macquarie Point	S9	Normal	EM1913375	S9	14 Aug 2019	-	-	0.003	<0.001	-	-	1.34	0.014	-	0.023	22	27	1	-	-	<1	<1	631	631	5.97	-	-	-	693	-	-	-	-	631.00	22.00
1. Macquarie Point	S9	Normal	EM1919513	S9	14 Nov 2019	-	-	0.01	<0.001	-	-	1.17	0.012	-	<0.005	19	32	1	-	-	<1	<1	660	660	7.39	-	-	-	633	-	-	-	-	660.00	19.00
1. Macquarie Point	TW02	Normal	EM1919513	TW02	14 Nov 2019	-	-	<0.001	<0.001	-	-	0.103	0.001	-	<0.005	175	145	<1	-	-	<1	<1	209	209	2.03	-	-	-	480	-	-	-	-	-	-
1. Macquarie Point	TW02	Normal	1234320	TW02	17 Jun 2025	-	-	0.005	0.002	-	-	0.97	0.008	-	<0.005	13,000	6,900	37	-	-	-	<10	870	-	0.20	-	-	-	12,000	-	29,000	-	-	-	351.35
1. Macquarie Point	TW03	Normal	EM1608632	TW03	19 Jul 2016	-	-	0.001	<0.001	-	-	0.776	0.002	<0.01	0.071	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1. Macquarie Point	TW03	Normal	EM1709630	TW03	19 Jul 2017	-	-	0.008	<0.001	-	-	0.741	0.004	<0.01	0.048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	312	480	-	-	-	
1. Macquarie Point	TW03	Normal	EM1803804	TW03	27 Feb 2018	-	-	0.009	<0.001	-	-	0.795	0.001	<0.01	0.081	22	28	17	-	-	<1	<1	286	286	5.03	-	-	-	335	-	-	-	-	16.82	1.29
1. Macquarie Point	TW03	Normal	EM1913375	TW03	14 Aug 2019	-	-	<0.001	<0.001	-	-	0.434	0.002	-	0.061	12	11	14	-	-	<1	<1	175	175	2.61	-	-	-	540	-	-	-	-	12.50	0.86
1. Macquarie Point	TW03	Normal	EM1919513	TW03	14 Nov 2019	-	-	0.002	<0.001	-	-	0.676	0.002	-	0.134	11	8	8	-	-	<1	<1	188	188	0.95	-	-	-	240	-	-	-	-	23.50	1.38

Appendix C

Analytical Laboratory Reports

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: THUSHIRA SINGHABAHU	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0421 128 487 PHONE: —	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles / bags	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
	BH-002_0.5-0.6_180424		18/04/24	0845		1		
	BH-002_1.0-1.1_"			—		1		
	BH-002_1.5-1.6_"			0915		1		
	BH-002_4.5-4.6_"			1200		1		
	BH-002_2.0-2.1_"			—		1		
	BH-002_2.5-2.6_"			0955		1		
	BH-002_3.0-3.1_"			1145		1		
	BH-002_3.5-3.6_"			1145		1		
	BH-002_4.0-4.1_"			1155		1		
	BH-002_5.0-5.1_"			1200		1		
	BH-003_0.5-0.6		16/04/24	1245		1		
	BH-003_1.0-1.1			—		1		
	BH-003_1.5-1.6			1300		1		
	BH-003_2.0-2.1			1307		1		
	BH-003_2.5-2.6			1313		1		
	BH-003_3.0-3.1			1343		1		
						16		

CHECKED BY: Jennifer Brodie
DATE: 23/4/24 10:20 am 3.4°C (T)

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: CLAUDIA WOODLEY	Date: 19.04.24	Name: Sheridan Barrett	Date: 19/4/24	Name:	Date:	Con' Note No:
Of: WSP	Time:	Of: Eurofins Hobart	Time: 3:30pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

Avg. temp: −2.1°C

COC Page 1 of 1

#1091401

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Not provided
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	Apr 23, 2024 10:20 AM
Eurofins reference	1091401

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1091401
Phone: 08 7223 5400
Fax:

Received: Apr 23, 2024 10:20 AM
Due: May 1, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH-002-0.5-0.6-180424	Apr 18, 2024	8:45AM	Soil	B24-Ap0069098	X
2	BH-002-1.0-1.1-180424	Apr 18, 2024		Soil	B24-Ap0069099	X
3	BH-002-1.5-1.6-180424	Apr 18, 2024	9:15AM	Soil	B24-Ap0069100	X
4	BH-002-4.5-4.6-180424	Apr 18, 2024	12:00PM	Soil	B24-Ap0069101	X
5	BH-002-2.0-2.1-180424	Apr 18, 2024		Soil	B24-Ap0069102	X
6	BH-002-2.5-2.6-180424	Apr 18, 2024	9:55AM	Soil	B24-Ap0069103	X
7	BH-002-30-3.1-180424	Apr 18, 2024	11:45AM	Soil	B24-Ap0069104	X
8	BH-002-3.5-3.6-180424	Apr 18, 2024	11:45AM	Soil	B24-Ap0069105	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
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NATA# 2561
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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1091401
Phone: 08 7223 5400
Fax:

Received: Apr 23, 2024 10:20 AM
Due: May 1, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH-002-4.0-4.1-180424	Apr 18, 2024	11:55AM	Soil	B24-Ap0069106	X
10	BH-002-5.0-5.1-180424	Apr 18, 2024	12:00PM	Soil	B24-Ap0069107	X
11	BH-003-0.5-0.6	Apr 16, 2024	12:45PM	Soil	B24-Ap0069108	X
12	BH-003-1.0-1.1	Apr 16, 2024		Soil	B24-Ap0069109	X
13	BH-003-1.5-1.6	Apr 16, 2024	1:00PM	Soil	B24-Ap0069110	X
14	BH-003-2.0-2.1	Apr 16, 2024	1:07PM	Soil	B24-Ap0069111	X
15	BH-003-2.5-2.6	Apr 16, 2024	1:13PM	Soil	B24-Ap0069112	X
16	BH-003-3.0-3.1	Apr 16, 2024	1:43PM	Soil	B24-Ap0069113	X
Test Counts						16

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
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NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1091401-S-V3**
Project name
Project ID 60693007/1
Received Date Apr 23, 2024

Client Sample ID			**BH-002-0.5-0.6-180424**	**BH-002-1.0-1.1-180424**	**BH-002-1.5-1.6-180424**	**BH-002-4.5-4.6-180424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Ap0069098**	**B24-Ap0069099**	**B24-Ap0069100**	**B24-Ap0069101**
Date Sampled			**Apr 18, 2024**	**Apr 18, 2024**	**Apr 18, 2024**	**Apr 18, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.0	8.1	9.1	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.8	7.8	8.4	9.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH-002-2.0-2.1-180424**	**BH-002-2.5-2.6-180424**	**BH-002-30-3.1-180424**	**BH-002-3.5-3.6-180424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Ap0069102**	**B24-Ap0069103**	**B24-Ap0069104**	**B24-Ap0069105**
Date Sampled			**Apr 18, 2024**	**Apr 18, 2024**	**Apr 18, 2024**	**Apr 18, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	8.5	8.8	8.6
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.8	9.1	8.9	9.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH-002-4.0-4.1-180424**	**BH-002-5.0-5.1-180424**	**BH-003-0.5-0.6**	**BH-003-1.0-1.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Ap0069106**	**B24-Ap0069107**	**B24-Ap0069108**	**B24-Ap0069109**
Date Sampled			**Apr 18, 2024**	**Apr 18, 2024**	**Apr 16, 2024**	**Apr 16, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.9	9.4	8.9	11
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	9.2	9.3	8.7	9.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH-003-1.5-1.6	BH-003-2.0-2.1	BH-003-2.5-2.6	BH-003-3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Ap0069110	B24-Ap0069111	B24-Ap0069112	B24-Ap0069113
Date Sampled			Apr 16, 2024	Apr 16, 2024	Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.4	9.5	11	9.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.9	9.0	10	9.2
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	Apr 30, 2024	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH-002-0.5-0.6-180424	Apr 18, 2024	8:45AM	Soil	B24-Ap0069098	X
2	BH-002-1.0-1.1-180424	Apr 18, 2024		Soil	B24-Ap0069099	X
3	BH-002-1.5-1.6-180424	Apr 18, 2024	9:15AM	Soil	B24-Ap0069100	X
4	BH-002-4.5-4.6-180424	Apr 18, 2024	12:00PM	Soil	B24-Ap0069101	X
5	BH-002-2.0-2.1-180424	Apr 18, 2024		Soil	B24-Ap0069102	X
6	BH-002-2.5-2.6-180424	Apr 18, 2024	9:55AM	Soil	B24-Ap0069103	X
7	BH-002-30-3.1-180424	Apr 18, 2024	11:45AM	Soil	B24-Ap0069104	X
8	BH-002-3.5-3.6-180424	Apr 18, 2024	11:45AM	Soil	B24-Ap0069105	X

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ABN: 50 005 085 521

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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16	BH-003-3.0-3.1	Apr 16, 2024	1:43PM	Soil	B24-Ap0069113	X
Test Counts						16

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-Ap0069101	CP	pH Units	8.9	8.9	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-Ap0069113	CP	pH Units	9.0	9.1	pass	20%	Pass	

Comments

V3: Report amended to correct the sample IDs to match the COC.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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ANZ

FQM - Generic Chain of Custody Form

#1093109

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM, Macquarie Point	SAMPLER: Thushira Singhabahu	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0421128487 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
	BH001-1.0-1.1_190424	S	19/04/24	4:30PM		1	X	
	BH001-0.5-0.6_190424	S	19/04/24	4:30PM		1	X	
	BH010_0.5-0.6_240424	S	24/04/24	1:30PM		1	X	
	BH010_1.0-1.1_240424	S	24/04/24	1:30PM		1	X	
	BH010_1.5-1.6_240424	S	24/04/24	1:30PM		1	X	
	BH010_2.0-2.1_240424	S	24/04/24	1:30PM		1	X	
	BH010_2.5-2.6_240424	S	24/04/24	1:30PM		1	X	
	BH010_3.0-3.1_240424	S	24/04/24	1:30PM		1	X	
	BH010_3.5-3.6_240424	S	24/04/24	1:30PM		1	X	
	BH010_4.0-4.1_240424	S	24/04/24	2PM		1	X	
	BH010_4.5-4.6_240424	S	24/04/24	3PM		1	X	
	BH011_0.5-0.6_220424	S	22/04/24	1:30PM		1	X	
	BH011_1.0-1.1_220424	S	22/04/24	1:30PM		1	X	
	BH011_1.5-1.6_220424	S	22/04/24	1:30PM		1	X	
	BH011_2.0-2.1_220424	S	22/04/24	1:30PM		1	X	
	BH011_2.5-2.6_220424	S	22/04/24	1:30PM		1	X	
	BH011_3.0-3.1_220424	S	22/04/24	1:30PM		1	X	
	BH011_3.5-3.6_220424	S	22/04/24	1:30PM		1	X	
	BH011_4.0-4.1_220424	S	22/04/24	1:30PM		1	X	

CHECKED BY... EF
DATE... 30/4/24... 10am 7.8 (A)

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Thushira Singhabahu	Date: 26/04/24	Name: Sheridan Barrett	Date: 26/4/24	Name:	Date:	Con' Note No:
Of: WSP	Time: 2:00PM	Of: Eurofins Hobart	Time: 4:25pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

Average temp. = 4.2°C

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: Thushira Singhabahu	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0421128487 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION														
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG											HOLD	
✓	BH011_4.5-4.6_220424	S	22/04/24	130PM		1	X												
✓	BH011_5.0-5.1_220424	S	22/04/24	130PM		1	X												
✓	BH011_5.5-5.6_220424	S	22/04/24	130PM		1	X												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Thushira Singhabahu	Date: 26/04/24	Name: Sheridan Barrett	Date: 26/4/24	Name:	Date:	Con' Note No:
Of: WSP	Time: 2PM	Of: Eurofins Hobart	Time: 4:25pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

Average temp = 4.2°C

COC Page 2 of 2

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ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NATA# 2377
Site# 2370

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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Supriya Lath
Project name:	Not provided
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	Apr 30, 2024 10:00 AM
Eurofins reference	1093109

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Supriya Lath - supriya.lath@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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email: EnviroSales@eurofins.com

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1093109
Phone: 08 7223 5400
Fax:

Received: Apr 30, 2024 10:00 AM
Due: May 8, 2024
Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH001-1.0-1.1_190424	Apr 24, 2024	4:30PM	Soil	B24-My0005708	X
2	BH001_0.5-0.6_190425	Apr 24, 2024	4:30PM	Soil	B24-My0005709	X
3	BH010_0.5-0.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005710	X
4	BH010_1.0-1.1_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005711	X
5	BH010_1.5-1.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005712	X
6	BH010_2.0-2.1_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005713	X
7	BH010_2.5-2.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005714	X
8	BH010_3.0-3.1_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005715	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2370

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1093109
Phone: 08 7223 5400
Fax:

Received: Apr 30, 2024 10:00 AM
Due: May 8, 2024
Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH010_3.5-3.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005716	X
10	BH010_4.0-4.1_240424	Apr 24, 2024	2:00PM	Soil	B24-My0005717	X
11	BH010_4.5-4.6_240424	Apr 24, 2024	3:00PM	Soil	B24-My0005718	X
12	BH011_0.5-0.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005719	X
13	BH011_1.0-1.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005720	X
14	BH011_1.5-1.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005721	X
15	BH011_2.0-2.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005722	X
16	BH011_2.5-2.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005723	X
17	BH011_3.0-3.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005724	X
18	BH011_3.5-	Apr 22, 2024	1:30PM	Soil	B24-My0005725	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Hobart
Tasmania 7000

Order No.: 60693007/1
Report #: 1093109
Phone: 08 7223 5400
Fax:

Received: Apr 30, 2024 10:00 AM
Due: May 8, 2024
Priority: 5 Day
Contact Name: Supriya Lath

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH011_3.5-3.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005725	
19	BH011_4.0-4.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005726	X
20	BH011_4.5-4.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005727	X
21	BH011_5.0-5.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005728	X
22	BH011_5.5-5.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005729	X
Test Counts						22

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Supriya Lath**

Report **1093109-S**
Project name MACQUARIE POINT 41 EVANS ST HOBART
Project ID 60693007/1
Received Date Apr 30, 2024

Client Sample ID			**BH001-1.0-1.1_190424**	**BH001_0.5-0.6_190425**	**BH010_0.5-0.6_240424**	**BH010_1.0-1.1_240424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0005708**	**B24-My0005709**	**B24-My0005710**	**B24-My0005711**
Date Sampled			**Apr 24, 2024**	**Apr 24, 2024**	**Apr 24, 2024**	**Apr 24, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.2	8.6	8.3	8.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	8.3	7.0	7.3
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH010_1.5-1.6_240424**	**BH010_2.0-2.1_240424**	**BH010_2.5-2.6_240424**	**BH010_3.0-3.1_240424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0005712**	**B24-My0005713**	**B24-My0005714**	**B24-My0005715**
Date Sampled			**Apr 24, 2024**	**Apr 24, 2024**	**Apr 24, 2024**	**Apr 24, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.6	8.4	8.4	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.0	7.9	8.4	7.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH010_3.5-3.6_240424**	**BH010_4.0-4.1_240424**	**BH010_4.5-4.6_240424**	**BH011_0.5-0.6_220424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0005716**	**B24-My0005717**	**B24-My0005718**	**B24-My0005719**
Date Sampled			**Apr 24, 2024**	**Apr 24, 2024**	**Apr 24, 2024**	**Apr 22, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.7	8.1	8.3	8.7
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.4	8.0	2.9	8.2
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH011_1.0-1.1_220424	BH011_1.5-1.6_220424	BH011_2.0-2.1_220424	BH011_2.5-2.6_220424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0005720	B24-My0005721	B24-My0005722	B24-My0005723
Date Sampled			Apr 22, 2024	Apr 22, 2024	Apr 22, 2024	Apr 22, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.9	8.2	8.7	9.2
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.2	6.9	7.6	7.6
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH011_3.0-3.1_220424	BH011_3.5-3.6_220424	BH011_4.0-4.1_220424	BH011_4.5-4.6_220424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0005724	B24-My0005725	B24-My0005726	B24-My0005727
Date Sampled			Apr 22, 2024	Apr 22, 2024	Apr 22, 2024	Apr 22, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.1	8.6	8.6	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	3.8	6.8	7.6	7.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH011_5.0-5.1_220424	BH011_5.5-5.6_220424
Sample Matrix			Soil	Soil
Eurofins Sample No.			B24-My0005728	B24-My0005729
Date Sampled			Apr 22, 2024	Apr 22, 2024
Test/Reference	LOR	Unit		
Acid Sulfate Soils Field pH Test				
pH-F (Field pH test)*	0.1	pH Units	8.9	9.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.8	5.2
Reaction Ratings*[S05]	0	comment	4.0	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	May 03, 2024	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Received: Apr 30, 2024 10:00 AM
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Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
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3	BH010_0.5-0.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005710	X
4	BH010_1.0-1.1_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005711	X
5	BH010_1.5-1.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005712	X
6	BH010_2.0-2.1_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005713	X
7	BH010_2.5-2.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005714	X
8	BH010_3.0-3.1_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005715	X

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
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Perth ProMicro
46-48 Banksia Road
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Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1093109
Phone: 08 7223 5400
Fax:

Received: Apr 30, 2024 10:00 AM
Due: May 8, 2024
Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH010_3.5-3.6_240424	Apr 24, 2024	1:30PM	Soil	B24-My0005716	X
10	BH010_4.0-4.1_240424	Apr 24, 2024	2:00PM	Soil	B24-My0005717	X
11	BH010_4.5-4.6_240424	Apr 24, 2024	3:00PM	Soil	B24-My0005718	X
12	BH011_0.5-0.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005719	X
13	BH011_1.0-1.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005720	X
14	BH011_1.5-1.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005721	X
15	BH011_2.0-2.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005722	X
16	BH011_2.5-2.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005723	X
17	BH011_3.0-3.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005724	X
18	BH011_3.5-	Apr 22, 2024	1:30PM	Soil	B24-My0005725	X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Perth
46-48 Banksia Road
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NATA# 2377
Site# 2370

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Perth ProMicro
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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1093109
Phone: 08 7223 5400
Fax:

Received: Apr 30, 2024 10:00 AM
Due: May 8, 2024
Priority: 5 Day
Contact Name: Supriya Lath

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH011_3.5-3.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005725	
19	BH011_4.0-4.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005726	X
20	BH011_4.5-4.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005727	X
21	BH011_5.0-5.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005728	X
22	BH011_5.5-5.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0005729	X
Test Counts						22

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0005717	CP	pH Units	8.1	8.3	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0005719	CP	pH Units	8.7	9.0	pass	20%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Catherine Wilson	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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ANZ

FQM - Generic Chain of Custody Form

1094321

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM, Macquarie Point	SAMPLER: Maddie Richard	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0413884779 PHONE: —	Eurofins Hobart
PROJECT NUMBER / TASK CODE 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date):	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
✓	BH005_10.0-10.1_270424	S	27/4/24	—	ASS Bag	1	X	
✓	" _10.5-10.6_ "	↓	↓	—	↓	↓	X	
✓	" _11.0-11.1_ "	↓	↓	—	↓	↓	X	
✓	" _11.5-11.6_ "	↓	↓	—	↓	↓	X	
✓	" _12.0-12.1_ "	↓	↓	—	↓	↓	X	
✓	" _12.5-12.6_ "	↓	↓	—	↓	↓	X	
✓	" _13.0-13.1_ "	↓	↓	—	↓	↓	X	
✓	" _13.5-13.6_ "	↓	↓	—	↓	↓	X	
✓	" _14.0-14.1_ "	↓	↓	—	↓	↓	X	
✓	" _14.5-14.6_ "	↓	↓	—	↓	↓	X	
✓	" _15.0-15.1_ "	↓	↓	—	↓	↓	X	
✓	" _15.5-15.6_ "	↓	↓	—	↓	↓	X	
✓	" _16.0-16.1_ "	↓	↓	—	↓	↓	X	

Date/Time: 7/5/24 10:40am
Chilled: Ye. No
Temp:
Correction: 2.6°C
Final Temp: Jennier Bridle

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Maddie Richard	Date: 3/5/24	Name: Sheridan Barrett	Date: 3/5/24	Name:	Date:	Con' Note No:
Of: WSP	Time: 7:00	Of: Eurofins Hobart	Time: 2:40pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

Average temp = 2.9°C

COC Page 1 of 5

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM
PROJECT MANAGER (PM): R.Crowe
PROJECT NUMBER / TASK CODE: 60693007/1
RESULTS REQUIRED (Date):
ADDRESS / OFFICE: AECOM. Macquarie Point
SITE: Macquarie Point, 41 Evans St, Hobart
P.O. NO.: 60693007 / 1
QUOTE NO.:

SAMPLER: Maddie Richard
MOBILE: 0413384779 PHONE: –
EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com

Destination Laboratory
Eurofins Hobart
282A Argyle St, North Hobart TAS 7000

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION: Type / Code	Total bottles	pH – Field Screen (pHF and pHfox) – NASSG	HOLD
	BH005_0.5-0.6_270424	S	27/4/24	–	ASS Bag	1	X	
	" _1.0-1.1_ "			–			X	
	" _1.5-1.6_ "			–			X	
	" _2.0-2.1_ "			–			X	
	" _2.5-2.6_ "			–			X	
	" _3.0-3.1_ "			–			X	
	" _3.5-3.6_ "			–			X	
	" _4.0-4.1_ "			–			X	
	" _4.5-4.6_ "			–			X	
	" _5.0-5.1_ "			–			X	
	" _5.5-5.6_ "			–			X	
	" _6.0-6.1_ "			–			X	
	" _6.5-6.6_ "			–			X	
	" _7.0-7.1_ "			–			X	
	" _7.5-7.6_ "			–			X	
	" _8.0-8.1_ "			–			X	
	" _8.5-8.6_ "			–			X	
	" _9.0-9.1_ "			–			X	
	" _9.5-9.6_ "			–			X	

RELINQUISHED BY:
Name: Maddie Richard
Of: WSP
Date: 3/5/2024
Time: 7:00

RECEIVED BY
Name: Sheridan Barrett
Of: Eurofins Hobart
Date: 3/5/24
Time: 2:40pm

RECEIVED BY
Name:
Of:
Date:
Time:

METHOD OF SHIPMENT
Con' Note No:
Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

Average temp = 2.9°C

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM | ADDRESS / OFFICE: AECOM, Macquarie Point | SAMPLER: Maddie Richard

PROJECT MANAGER (PM): R.Crowe | SITE: Macquarie Point, 41 Evans St, Hobart | MOBILE: 0413884779 | PHONE: –

PROJECT NUMBER / TASK CODE: 60693007/1 | P.O. NO.: 60693007 / 1 | EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com

RESULTS REQUIRED (Date): | QUOTE NO.: | ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Destination Laboratory
Eurofins Hobart
282A Argyle St, North Hobart TAS 7000

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
✓	BH014_0.5-0.6_290424	S	29/4/24	–	ASS Bag	1	X	
✓	" _1.0-1.1_	"		–			X	
✓	" _1.5-1.6_	"		–			X	
✓	" _2.0-2.1_	"		–			X	
✓	" _2.5-2.6_	"		–			X	
✓	" _3.0-3.1_	"		–			X	
✓	" _3.5-3.6_	"		–			X	
✓	" _4.0-4.1_	"		–			X	
✓	" _4.5-4.6_	"		–			X	
✓	" _5.0-5.1_	"		–			X	
✓	" _5.5-5.6_	"		–			X	
✓	" _6.5-6.6_	"		–			X	

RELINQUISHED BY: Name: Maddie Richard Of: WSP Date: 3/5/2024 Time: 7:00

RECEIVED BY: Name: Sheridan Barrett Of: Eurofins Hobart Date: 3/5/24 Time: 2:40pm

RECEIVED BY: Name: Of: Date: Time:

METHOD OF SHIPMENT: Con' Note No: Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 3 of 5

Avg. temp = 2.9°C

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: Maddie Richard	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: **Macquarie Point, 41 Evans St, Hobart**	MOBILE: 0413334779 PHONE: –	Eurofins Hobart
PROJECT NUMBER / TASK CODE: **60693007/1**	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date):	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
✓	BH007_0.5-0.6_020524	S	2/5/24	–	ASS Bag	1	X	
✓	" _1.0-1.1_ "	"	"	–	"	"	X	
✓	" _1.5-1.6_ "	"	"	–	"	"	X	
✓	" _2.0-2.1_ "	"	"	–	"	"	X	
✓	" _2.5-2.6_ "	"	"	–	"	"	X	
✓	" _3.0-3.1_ "	"	"	–	"	"	X	
✓	" _3.5-3.6_ "	"	"	–	"	"	X	
✓	" _4.0-4.1_ "	"	"	–	"	"	X	
✓	" _4.5-4.6_ "	"	"	–	"	"	X	
✓	" _5.0-5.1_ "	"	"	–	"	"	X	
✓	" _5.5-5.6_ "	"	"	–	"	"	X	
✓	" _6.0-6.1_ "	"	"	–	"	"	X	
✓	" _6.5-6.6_ "	"	"	–	"	"	X	
				–				
				–				
				–				
				–				
				–				
				–				

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Maddie Richard	Date: 3/5/24	Name: Sheridan Barrett	Date: 3/5/24	Name:	Date:	Con' Note No:
Of: WSP	Time: 7:00	Of: Eurofins Hobart	Time: 2:40pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

Avg. temp = 2.9°C

COC Page 4 of 5

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

AECOM

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: Maddie Richard	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0413884779 PHONE: 0413884779	Eurofins Hobart
PROJECT NUMBER / TASK CODI 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date):	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION																
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	pH – Field Screen (pHf and pHox) – NASSG													HOLD	
✓	BH016_0.5-0.6_010524	S	1/5/24	–	1x ASS Bag	1	X														
✓	" _1.0-1.1_ "	"	"	–	"	"	X														
✓	" _1.5_1.6_ "	"	"	–	"	"	X														
✓	" _2.0-2.1_ "	"	"	–	"	"	X														
✓	" _2.5-2.6_ "	"	"	–	"	"	X														
✓	" -3.0-3.1_ "	"	"	–	"	"	X														
✓	" -3.5-3.6_ "	"	"	–	"	"	X														
✓	" -4.0-4.1_ "	"	"	–	"	"	X														
✓	" -4.5-4.6_ "	"	"	–	"	"	X														
✓	" -5.0-5.5_ "	"	"	–	"	"	X														
✓	" -6.0-6.1_ "	"	"	–	"	"	X														
✓	" _6.5-6.6_ "	"	"	–	"	"	X														
✓	" _7.0-7.5_ "	"	"	–	"	"	X														
✓	" _7.5-7.6_ "	"	"	–	"	"	X														
✓	" _8.0-8.1_ "	"	"	–	"	"	X														
✓	" _8.5_8.6_ "	"	"	–	"	"	X														
✓	" _13.5-13.6_ "	"	"	–	"	"	X														
✓	" _14.0-14.1_ "	"	"	–	"	"	X														
✓	" _14.5-14.6_ "	"	"	–	"	"	X														

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Maddie Richard	Date: 3/5/2024	Name: SheridanBarrett	Date: 3/5/2024	Name:	Date:	Con' Note No:
Of: WSP	Time: 7:00	Of: Eurofins Hobart	Time: 2:40pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
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F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

Average temp = 2.9°C

COC Page 5 of 5

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www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NATA# 2377
Site# 2370

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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	- ALL INVOICES
Project name:	MACQUARIE POINT 41 EVANS ST HOBART
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	May 7, 2024 10:40 AM
Eurofins reference	1094321

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 2.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to - ALL INVOICES - AP_CustomerService.ANZ@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2370

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Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH005_10.0-10.1_270424	Apr 27, 2024		Soil	B24-My0017478	X
2	BH005_10.5-10.6_270424	Apr 27, 2024		Soil	B24-My0017479	X
3	BH005_11-11.1_270424	Apr 27, 2024		Soil	B24-My0017480	X
4	BH005_11.5-11.6_270424	Apr 27, 2024		Soil	B24-My0017481	X
5	BH005_12-12.1_270424	Apr 27, 2024		Soil	B24-My0017482	X
6	BH005_12.5-12.6_270424	Apr 27, 2024		Soil	B24-My0017483	X
7	BH005_13-13.1_270424	Apr 27, 2024		Soil	B24-My0017484	X
8	BH005_13.5-13.6_270424	Apr 27, 2024		Soil	B24-My0017485	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
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NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH005_14-14.1_270424	Apr 27, 2024		Soil	B24-My0017486	X
10	BH005_14.5-14.6_270424	Apr 27, 2024		Soil	B24-My0017487	X
11	BH005_15-15.1_270424	Apr 27, 2024		Soil	B24-My0017488	X
12	BH005_15.5-15.6_270424	Apr 27, 2024		Soil	B24-My0017489	X
13	BH005_16-16.1_270424	Apr 27, 2024		Soil	B24-My0017490	X
14	BH005_0.5-0.6_270424	Apr 27, 2024		Soil	B24-My0017491	X
15	BH005_1-1.1_270424	Apr 27, 2024		Soil	B24-My0017492	X
16	BH005_1.5-1.6_270424	Apr 27, 2024		Soil	B24-My0017493	X
17	BH005_2-2.1_270424	Apr 27, 2024		Soil	B24-My0017494	X
18	BH005_2.5-	Apr 27, 2024		Soil	B24-My0017495	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
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NATA# 2377
Site# 2370

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Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH005_2.5-2.6_270424	Apr 27, 2024		Soil	B24-My0017495	
19	BH005_3-3.1_270424	Apr 27, 2024		Soil	B24-My0017496	X
20	BH005_3.5-3.6_270424	Apr 27, 2024		Soil	B24-My0017497	X
21	BH005_4-4.1_270424	Apr 27, 2024		Soil	B24-My0017498	X
22	BH005_4.5-4.6_270424	Apr 27, 2024		Soil	B24-My0017499	X
23	BH005_5-5.1_270424	Apr 27, 2024		Soil	B24-My0017500	X
24	BH005_5.5-5.6_270424	Apr 27, 2024		Soil	B24-My0017501	X
25	BH005_6-6.1_270424	Apr 27, 2024		Soil	B24-My0017502	X
26	BH005_6.5-6.6_270424	Apr 27, 2024		Soil	B24-My0017503	X
27	BH005_7-	Apr 27, 2024		Soil	B24-My0017504	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
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Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	7.1_270424					
28	BH005_7.5-7.6_270424	Apr 27, 2024		Soil	B24-My0017505	X
29	BH005_8-8.1_270424	Apr 27, 2024		Soil	B24-My0017506	X
30	BH005_8.5-8.6_270424	Apr 27, 2024		Soil	B24-My0017507	X
31	BH005_9-9.1_270424	Apr 27, 2024		Soil	B24-My0017508	X
32	BH005_9.5-9.6_270424	Apr 27, 2024		Soil	B24-My0017509	X
33	BH014_0.5-0.6_290424	Apr 29, 2024		Soil	B24-My0017510	X
34	BH014_1-1.1_290424	Apr 29, 2024		Soil	B24-My0017511	X
35	BH014_1.5-1.6_290424	Apr 29, 2024		Soil	B24-My0017512	X
36	BH014_2-2.1_290424	Apr 29, 2024		Soil	B24-My0017513	X

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
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NATA# 2377
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Eurofins ProMicro Pty Ltd
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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
37	BH014_2.5-2.6_290424	Apr 29, 2024		Soil	B24-My0017514	X
38	BH014_3-3.1_290424	Apr 29, 2024		Soil	B24-My0017515	X
39	BH014_3.5-3.6_290424	Apr 29, 2024		Soil	B24-My0017516	X
40	BH014_4-4.1_290424	Apr 29, 2024		Soil	B24-My0017517	X
41	BH014_4.5-4.6_290424	Apr 29, 2024		Soil	B24-My0017518	X
42	BH014_5-5.1_290424	Apr 29, 2024		Soil	B24-My0017519	X
43	BH014_5.5-5.6_290424	Apr 29, 2024		Soil	B24-My0017520	X
44	BH014_6.5-6.6_290424	Apr 29, 2024		Soil	B24-My0017521	X
45	BH007_0.5-0.6_020524	May 02, 2024		Soil	B24-My0017522	X
46	BH007_1-	May 02, 2024		Soil	B24-My0017523	X

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	1.1_020524					
47	BH007_1.5-1.6_020524	May 02, 2024		Soil	B24-My0017524	X
48	BH007_2-2.1_020524	May 02, 2024		Soil	B24-My0017525	X
49	BH007_2.5-2.6_020524	May 02, 2024		Soil	B24-My0017526	X
50	BH007_3-3.1_020524	May 02, 2024		Soil	B24-My0017527	X
51	BH007_3.5-3.6_020524	May 02, 2024		Soil	B24-My0017528	X
52	BH007_4-4.1_020524	May 02, 2024		Soil	B24-My0017529	X
53	BH007_4.5-4.6_020524	May 02, 2024		Soil	B24-My0017530	X
54	BH007_5-5.1_020524	May 02, 2024		Soil	B24-My0017531	X
55	BH007_5.5-5.6_020524	May 02, 2024		Soil	B24-My0017532	X

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
56	BH007_6-6.1_020524	May 02, 2024		Soil	B24-My0017533	X
57	BH007_6.5-6.6_020524	May 02, 2024		Soil	B24-My0017534	X
58	BH016_0.5-0.6_010524	May 01, 2024		Soil	B24-My0017535	X
59	BH016_1-1.1_010524	May 01, 2024		Soil	B24-My0017536	X
60	BH016_1.5-1.6_010524	May 01, 2024		Soil	B24-My0017537	X
61	BH016_2-2.1_010524	May 01, 2024		Soil	B24-My0017538	X
62	BH016_2.5-2.6_010524	May 01, 2024		Soil	B24-My0017539	X
63	BH016_3-3.1_010524	May 01, 2024		Soil	B24-My0017540	X
64	BH016_3.5-3.6_010524	May 01, 2024		Soil	B24-My0017541	X
65	BH016_4-	May 01, 2024		Soil	B24-My0017542	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

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Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	4.1_010524					
66	BH016_4.5-4.6_010524	May 01, 2024		Soil	B24-My0017543	X
67	BH016_5.0-5.1_010524	May 01, 2024		Soil	B24-My0017544	X
68	BH016_6-6.1_010524	May 01, 2024		Soil	B24-My0017545	X
69	BH016_6.5-6.6_010524	May 01, 2024		Soil	B24-My0017546	X
70	BH016_7.0-7.5_010524	May 01, 2024		Soil	B24-My0017547	X
71	BH016_7.5-7.6_010524	May 01, 2024		Soil	B24-My0017548	X
72	BH016_8-8.1_010524	May 01, 2024		Soil	B24-My0017549	X
73	BH016_8.5-8.6_010524	May 01, 2024		Soil	B24-My0017550	X
74	BH016_13.5-13.6_010524	May 01, 2024		Soil	B24-My0017551	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
75	BH016_14-14.1_010524	May 01, 2024		Soil	B24-My0017552	X
76	BH016_14.5-14.6_010524	May 01, 2024		Soil	B24-My0017553	X
77	BH016_5.5-5.6_010524	Apr 27, 2024		Soil	B24-My0018831	X
Test Counts						77

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1094321-S**
Project name MACQUARIE POINT 41 EVANS ST HOBART
Project ID 60693007/1
Received Date May 07, 2024

Client Sample ID			**BH005_10.0-10.1_270424**	**BH005_10.5-10.6_270424**	**BH005_11-11.1_270424**	**BH005_11.5-11.6_270424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0017478**	**B24-My0017479**	**B24-My0017480**	**B24-My0017481**
Date Sampled			**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.0	8.6	9.1	9.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.1	2.2	6.5	7.1
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH005_12-12.1_270424**	**BH005_12.5-12.6_270424**	**BH005_13-13.1_270424**	**BH005_13.5-13.6_270424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0017482**	**B24-My0017483**	**B24-My0017484**	**B24-My0017485**
Date Sampled			**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.7	9.7	9.6	9.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.7	5.1	7.8	7.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH005_14-14.1_270424**	**BH005_14.5-14.6_270424**	**BH005_15-15.1_270424**	**BH005_15.5-15.6_270424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0017486**	**B24-My0017487**	**B24-My0017488**	**B24-My0017489**
Date Sampled			**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.1	8.9	7.6	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.7	7.8	7.9	7.8
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH005_16-16.1_270424	BH005_0.5-0.6_270424	BH005_1-1.1_270424	BH005_1.5-1.6_270424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017490	B24-My0017491	B24-My0017492	B24-My0017493
Date Sampled			Apr 27, 2024	Apr 27, 2024	Apr 27, 2024	Apr 27, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.9	8.3	8.1	7.8
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.7	5.6	6.8	6.1
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH005_2-2.1_270424	BH005_2.5-2.6_270424	BH005_3-3.1_270424	BH005_3.5-3.6_270424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017494	B24-My0017495	B24-My0017496	B24-My0017497
Date Sampled			Apr 27, 2024	Apr 27, 2024	Apr 27, 2024	Apr 27, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.7	8.2	7.8	8.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.9	6.9	5.7	6.2
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH005_4-4.1_270424	BH005_4.5-4.6_270424	BH005_5-5.1_270424	BH005_5.5-5.6_270424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017498	B24-My0017499	B24-My0017500	B24-My0017501
Date Sampled			Apr 27, 2024	Apr 27, 2024	Apr 27, 2024	Apr 27, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.3	8.5	8.4	8.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.2	7.0	6.6	3.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH005_6-6.1_270424	BH005_6.5-6.6_270424	BH005_7-7.1_270424	BH005_7.5-7.6_270424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017502	B24-My0017503	B24-My0017504	B24-My0017505
Date Sampled			Apr 27, 2024	Apr 27, 2024	Apr 27, 2024	Apr 27, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.2	8.5	8.4	8.7
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.5	4.1	3.9	6.9
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH005_8-8.1_270424	BH005_8.5-8.6_270424	BH005_9-9.1_270424	BH005_9.5-9.6_270424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017506	B24-My0017507	B24-My0017508	B24-My0017509
Date Sampled			Apr 27, 2024	Apr 27, 2024	Apr 27, 2024	Apr 27, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.9	8.8	8.5	8.7
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.7	2.8	2.7	5.3
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH014_0.5-0.6_290424	BH014_1-1.1_290424	BH014_1.5-1.6_290424	BH014_2-2.1_290424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017510	B24-My0017511	B24-My0017512	B24-My0017513
Date Sampled			Apr 29, 2024	Apr 29, 2024	Apr 29, 2024	Apr 29, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.1	8.0	8.1	8.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	6.8	7.5	7.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH014_2.5-2.6_290424	BH014_3-3.1_290424	BH014_3.5-3.6_290424	BH014_4-4.1_290424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017514	B24-My0017515	B24-My0017516	B24-My0017517
Date Sampled			Apr 29, 2024	Apr 29, 2024	Apr 29, 2024	Apr 29, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.3	8.0	7.6	7.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.7	7.4	4.4	4.6
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH014_4.5-4.6_290424	BH014_5-5.1_290424	BH014_5.5-5.6_290424	BH014_6.5-6.6_290424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017518	B24-My0017519	B24-My0017520	B24-My0017521
Date Sampled			Apr 29, 2024	Apr 29, 2024	Apr 29, 2024	Apr 29, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.5	7.7	8.4	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.0	6.3	4.6	6.9
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH007_0.5-0.6_020524	BH007_1-1.1_020524	BH007_1.5-1.6_020524	BH007_2-2.1_020524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017522	B24-My0017523	B24-My0017524	B24-My0017525
Date Sampled			May 02, 2024	May 02, 2024	May 02, 2024	May 02, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.1	8.3	7.8	8.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.3	7.4	5.4	7.6
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH007_2.5-2.6_020524	BH007_3-3.1_020524	BH007_3.5-3.6_020524	BH007_4-4.1_020524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017526	B24-My0017527	B24-My0017528	B24-My0017529
Date Sampled			May 02, 2024	May 02, 2024	May 02, 2024	May 02, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.7	7.4	8.1	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.7	6.0	6.8	6.1
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH007_4.5-4.6_020524	BH007_5-5.1_020524	BH007_5.5-5.6_020524	BH007_6-6.1_020524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017530	B24-My0017531	B24-My0017532	B24-My0017533
Date Sampled			May 02, 2024	May 02, 2024	May 02, 2024	May 02, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.6	8.1	8.5	8.6
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.2	6.9	7.0	2.9
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH007_6.5-6.6_020524	BH016_0.5-0.6_010524	BH016_1-1.1_010524	BH016_1.5-1.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017534	B24-My0017535	B24-My0017536	B24-My0017537
Date Sampled			May 02, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.9	8.6	8.8	7.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.4	7.9	9.1	7.6
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH016_2-2.1_010524	BH016_2.5-2.6_010524	BH016_3-3.1_010524	BH016_3.5-3.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017538	B24-My0017539	B24-My0017540	B24-My0017541
Date Sampled			May 01, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.3	8.0	8.4	7.8
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.4	7.6	5.3	7.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH016_4-4.1_010524	BH016_4.5-4.6_010524	BH016_5.0-5.1_010524	BH016_6-6.1_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017542	B24-My0017543	B24-My0017544	B24-My0017545
Date Sampled			May 01, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.0	8.3	8.7	8.2
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.7	4.0	3.2	3.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH016_6.5-6.6_010524	BH016_7.0-7.5_010524	BH016_7.5-7.6_010524	BH016_8-8.1_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017546	B24-My0017547	B24-My0017548	B24-My0017549
Date Sampled			May 01, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.2	8.2	7.7	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	3.1	3.1	4.6	4.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH016_8.5-8.6_010524	BH016_13.5-13.6_010524	BH016_14-14.1_010524	BH016_14.5-14.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0017550	B24-My0017551	B24-My0017552	B24-My0017553
Date Sampled			May 01, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.7	9.4	9.4	9.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.8	2.6	6.9	7.5
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH016_5.5-5.6_010524
Sample Matrix			**Soil**
Eurofins Sample No.			**B24-My0018831**
Date Sampled			**Apr 27, 2024**
Test/Reference	LOR	Unit	
Acid Sulfate Soils Field pH Test			
pH-F (Field pH test)*	0.1	pH Units	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.9
Reaction Ratings*[S05]	0	comment	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	May 14, 2024	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
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Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH005_10.0-10.1_270424	Apr 27, 2024		Soil	B24-My0017478	X
2	BH005_10.5-10.6_270424	Apr 27, 2024		Soil	B24-My0017479	X
3	BH005_11-11.1_270424	Apr 27, 2024		Soil	B24-My0017480	X
4	BH005_11.5-11.6_270424	Apr 27, 2024		Soil	B24-My0017481	X
5	BH005_12-12.1_270424	Apr 27, 2024		Soil	B24-My0017482	X
6	BH005_12.5-12.6_270424	Apr 27, 2024		Soil	B24-My0017483	X
7	BH005_13-13.1_270424	Apr 27, 2024		Soil	B24-My0017484	X
8	BH005_13.5-13.6_270424	Apr 27, 2024		Soil	B24-My0017485	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
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Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH005_14-14.1_270424	Apr 27, 2024		Soil	B24-My0017486	X
10	BH005_14.5-14.6_270424	Apr 27, 2024		Soil	B24-My0017487	X
11	BH005_15-15.1_270424	Apr 27, 2024		Soil	B24-My0017488	X
12	BH005_15.5-15.6_270424	Apr 27, 2024		Soil	B24-My0017489	X
13	BH005_16-16.1_270424	Apr 27, 2024		Soil	B24-My0017490	X
14	BH005_0.5-0.6_270424	Apr 27, 2024		Soil	B24-My0017491	X
15	BH005_1-1.1_270424	Apr 27, 2024		Soil	B24-My0017492	X
16	BH005_1.5-1.6_270424	Apr 27, 2024		Soil	B24-My0017493	X
17	BH005_2-2.1_270424	Apr 27, 2024		Soil	B24-My0017494	X
18	BH005_2.5-	Apr 27, 2024		Soil	B24-My0017495	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
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Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH005_2.5-2.6_270424	Apr 27, 2024		Soil	B24-My0017495	
19	BH005_3-3.1_270424	Apr 27, 2024		Soil	B24-My0017496	X
20	BH005_3.5-3.6_270424	Apr 27, 2024		Soil	B24-My0017497	X
21	BH005_4-4.1_270424	Apr 27, 2024		Soil	B24-My0017498	X
22	BH005_4.5-4.6_270424	Apr 27, 2024		Soil	B24-My0017499	X
23	BH005_5-5.1_270424	Apr 27, 2024		Soil	B24-My0017500	X
24	BH005_5.5-5.6_270424	Apr 27, 2024		Soil	B24-My0017501	X
25	BH005_6-6.1_270424	Apr 27, 2024		Soil	B24-My0017502	X
26	BH005_6.5-6.6_270424	Apr 27, 2024		Soil	B24-My0017503	X
27	BH005_7-	Apr 27, 2024		Soil	B24-My0017504	X

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Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

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Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	7.1_270424					
28	BH005_7.5-7.6_270424	Apr 27, 2024		Soil	B24-My0017505	X
29	BH005_8-8.1_270424	Apr 27, 2024		Soil	B24-My0017506	X
30	BH005_8.5-8.6_270424	Apr 27, 2024		Soil	B24-My0017507	X
31	BH005_9-9.1_270424	Apr 27, 2024		Soil	B24-My0017508	X
32	BH005_9.5-9.6_270424	Apr 27, 2024		Soil	B24-My0017509	X
33	BH014_0.5-0.6_290424	Apr 29, 2024		Soil	B24-My0017510	X
34	BH014_1-1.1_290424	Apr 29, 2024		Soil	B24-My0017511	X
35	BH014_1.5-1.6_290424	Apr 29, 2024		Soil	B24-My0017512	X
36	BH014_2-2.1_290424	Apr 29, 2024		Soil	B24-My0017513	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
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Priority: 5 Day
Contact Name: - ALL INVOICES

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
37	BH014_2.5-2.6_290424	Apr 29, 2024		Soil	B24-My0017514	X
38	BH014_3-3.1_290424	Apr 29, 2024		Soil	B24-My0017515	X
39	BH014_3.5-3.6_290424	Apr 29, 2024		Soil	B24-My0017516	X
40	BH014_4-4.1_290424	Apr 29, 2024		Soil	B24-My0017517	X
41	BH014_4.5-4.6_290424	Apr 29, 2024		Soil	B24-My0017518	X
42	BH014_5-5.1_290424	Apr 29, 2024		Soil	B24-My0017519	X
43	BH014_5.5-5.6_290424	Apr 29, 2024		Soil	B24-My0017520	X
44	BH014_6.5-6.6_290424	Apr 29, 2024		Soil	B24-My0017521	X
45	BH007_0.5-0.6_020524	May 02, 2024		Soil	B24-My0017522	X
46	BH007_1-	May 02, 2024		Soil	B24-My0017523	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.:
Report #: 1094321
Phone: 08 7223 5400
Fax:

Received: May 7, 2024 10:40 AM
Due: May 14, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	1.1_020524					
47	BH007_1.5-1.6_020524	May 02, 2024		Soil	B24-My0017524	X
48	BH007_2-2.1_020524	May 02, 2024		Soil	B24-My0017525	X
49	BH007_2.5-2.6_020524	May 02, 2024		Soil	B24-My0017526	X
50	BH007_3-3.1_020524	May 02, 2024		Soil	B24-My0017527	X
51	BH007_3.5-3.6_020524	May 02, 2024		Soil	B24-My0017528	X
52	BH007_4-4.1_020524	May 02, 2024		Soil	B24-My0017529	X
53	BH007_4.5-4.6_020524	May 02, 2024		Soil	B24-My0017530	X
54	BH007_5-5.1_020524	May 02, 2024		Soil	B24-My0017531	X
55	BH007_5.5-5.6_020524	May 02, 2024		Soil	B24-My0017532	X

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Project ID: 60693007/1

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Received: May 7, 2024 10:40 AM
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
56	BH007_6-6.1_020524	May 02, 2024		Soil	B24-My0017533	X
57	BH007_6.5-6.6_020524	May 02, 2024		Soil	B24-My0017534	X
58	BH016_0.5-0.6_010524	May 01, 2024		Soil	B24-My0017535	X
59	BH016_1-1.1_010524	May 01, 2024		Soil	B24-My0017536	X
60	BH016_1.5-1.6_010524	May 01, 2024		Soil	B24-My0017537	X
61	BH016_2-2.1_010524	May 01, 2024		Soil	B24-My0017538	X
62	BH016_2.5-2.6_010524	May 01, 2024		Soil	B24-My0017539	X
63	BH016_3-3.1_010524	May 01, 2024		Soil	B24-My0017540	X
64	BH016_3.5-3.6_010524	May 01, 2024		Soil	B24-My0017541	X
65	BH016_4-	May 01, 2024		Soil	B24-My0017542	X

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Brisbane Laboratory - NATA # 1261 Site # 20794						X
	4.1_010524					
66	BH016_4.5-4.6_010524	May 01, 2024		Soil	B24-My0017543	X
67	BH016_5.0-5.1_010524	May 01, 2024		Soil	B24-My0017544	X
68	BH016_6-6.1_010524	May 01, 2024		Soil	B24-My0017545	X
69	BH016_6.5-6.6_010524	May 01, 2024		Soil	B24-My0017546	X
70	BH016_7.0-7.5_010524	May 01, 2024		Soil	B24-My0017547	X
71	BH016_7.5-7.6_010524	May 01, 2024		Soil	B24-My0017548	X
72	BH016_8-8.1_010524	May 01, 2024		Soil	B24-My0017549	X
73	BH016_8.5-8.6_010524	May 01, 2024		Soil	B24-My0017550	X
74	BH016_13.5-13.6_010524	May 01, 2024		Soil	B24-My0017551	X

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Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
75	BH016_14-14.1_010524	May 01, 2024		Soil	B24-My0017552	X
76	BH016_14.5-14.6_010524	May 01, 2024		Soil	B24-My0017553	X
77	BH016_5.5-5.6_010524	Apr 27, 2024		Soil	B24-My0018831	X
Test Counts						77

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017482	CP	pH Units	9.7	9.5	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017484	CP	pH Units	9.6	9.7	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017487	CP	pH Units	8.9	8.9	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017495	CP	pH Units	8.2	8.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017498	CP	pH Units	8.3	8.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017518	CP	pH Units	7.5	7.8	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017531	CP	pH Units	8.1	8.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0017538	CP	pH Units	7.3	7.6	pass	20%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Friday, 3 May 2024 2:25 PM
To: Onur Mehmet <OnurMehmet@eurofins.com>; Sheridan Barrett <SheridanBarrett@eurofins.com>
Cc: Lath, Supriya <Supriya.Lath@aecom.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1091401 : Site 60693007/1

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Good afternoon Onur, Sheridan,

I've got two additional requests for this sample batch:

- Each sample has been given a rating of "4.0 – Extreme Reaction" for the field screen of the fizz rating. There is limited change between pHf and pHf_{ox} values for each sample, and it seems unlikely that there would be an extreme reaction. Would you be able to confirm with Brisbane that this field has been completed correctly and using the scale provided as qualified code S05?
- Can the following samples be analysed for the Chromium Reducible Sulfur (CRS) suite (National Acid Sulfate Soils Guidance) (excluding Acid Neutralising Capacity):
  - BH-002-0.5-0.6-180424
  - BH-002-2.0-2.1-180424
  - BH-002-3.5-3.6-180424
  - BH-003-0.5-0.6-160424
  - BH-003-1.5-1.6-160424
  - BH-003-3.0-3.1-160424

Thanks, and please let me know if you need any additional information or details,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Not provided
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	May 3, 2024 2:25 PM
Eurofins reference	1097150

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✗	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1097150
Phone: 08 7223 5400
Fax:

Received: May 3, 2024 2:25 PM
Due: May 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	BH-002-0.5-0.6-180424	Apr 18, 2024	8:45AM	Soil	B24-My0040304	X	X
2	BH-002-2.0-2.1-180424	Apr 18, 2024		Soil	B24-My0040305	X	X
3	BH-002-3.5-3.6-180424	Apr 18, 2024	11:45AM	Soil	B24-My0040306	X	X
4	BH-003-0.5-0.6-160424	Apr 16, 2024	12:45PM	Soil	B24-My0040307	X	X
5	BH-003-1.5-1.6-160424	Apr 16, 2024	1:00PM	Soil	B24-My0040308	X	X
6	BH-003-3.0-3.1-160424	Apr 16, 2024	1:43PM	Soil	B24-My0040309	X	X
Test Counts						6	6

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1097150-S**
Project name
Project ID 60693007/1
Received Date May 03, 2024

Client Sample ID			BH-002-0.5-0.6-180424	BH-002-2.0-2.1-180424	BH-002-3.5-3.6-180424	BH-003-0.5-0.6-160424
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0040304**	**B24-My0040305**	**B24-My0040306**	**B24-My0040307**
Date Sampled			**Apr 18, 2024**	**Apr 18, 2024**	**Apr 18, 2024**	**Apr 16, 2024**
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	130	25	130	57
>2mm Fraction	0.005	g	290	120	130	180
Analysed Material	0.1	%	30	16	50	25
Extraneous Material	0.1	%	70	84	50	75
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.7	8.3	8.9	8.5
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.010	0.007	0.007	0.009
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	6.1	4.6	4.1	5.7
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.0	3.6	45	1.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.97	1.1	14	0.61
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	600	720	9000	380
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Sample Properties						
% Moisture	1	%	11	28	23	11

Client Sample ID			BH-003-1.5-1.6-160424	BH-003-3.0-3.1-160424
Sample Matrix			Soil	Soil
Eurofins Sample No.			B24-My0040308	B24-My0040309
Date Sampled			Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit		
Extraneous Material				
<2mm Fraction	0.005	g	88	100
>2mm Fraction	0.005	g	90	210
Analysed Material	0.1	%	50	32
Extraneous Material	0.1	%	50	68
Net Acidity (Excluding ANC)				
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	13	< 10
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1
Actual Acidity (NLM-3.2)				
pH-KCL (NLM-3.1)	0.1	pH Units	8.9	9.2
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur				
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.021	0.014
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	13	8.5
Extractable Sulfur				
Sulfur - KCl Extractable	0.005	% S	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A
Retained Acidity (S-NAS)				
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0
Acid Neutralising Capacity (ANCbt)				
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	6.0	2.8
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.9	0.89
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	1200	550
ANC Fineness Factor		factor	1.5	1.5
Net Acidity (Including ANC)				
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1
Sample Properties				
% Moisture	1	%	17	< 1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Extraneous Material	Brisbane	May 16, 2024	6 Week
- Method: LTM-GEN-7050/7070			
Chromium Suite - NASSG (Excluding ANC)	Brisbane	May 16, 2024	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
% Moisture	Brisbane	May 16, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Eurofins Environment Testing NZ Ltd
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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Project Name:
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Order No.: 60693007/1
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Phone: 08 7223 5400
Fax:

Received: May 3, 2024 2:25 PM
Due: May 13, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	BH-002-0.5-0.6-180424	Apr 18, 2024	8:45AM	Soil	B24-My0040304	X	X
2	BH-002-2.0-2.1-180424	Apr 18, 2024		Soil	B24-My0040305	X	X
3	BH-002-3.5-3.6-180424	Apr 18, 2024	11:45AM	Soil	B24-My0040306	X	X
4	BH-003-0.5-0.6-160424	Apr 16, 2024	12:45PM	Soil	B24-My0040307	X	X
5	BH-003-1.5-1.6-160424	Apr 16, 2024	1:00PM	Soil	B24-My0040308	X	X
6	BH-003-3.0-3.1-160424	Apr 16, 2024	1:43PM	Soil	B24-My0040309	X	X
Test Counts						6	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	101			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	94			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	118			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B24-My0040423	NCP	% S	0.16	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B24-My0040423	NCP	mol H+/t	99	N/A	N/A	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B24-My0040423	NCP	kg CaCO3/t	7.4	N/A	N/A	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0040423	NCP	pH Units	9.1	9.1	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0040423	NCP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0040423	NCP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0040423	NCP	% S	0.16	0.16	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0040423	NCP	mol H+/t	99	100	4.0	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-My0040423	NCP	% S	N/A	N/A	N/A	30%	Pass	
HCl Extractable Sulfur	B24-My0040423	NCP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-My0040423	NCP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-My0040423	NCP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-My0040423	NCP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0040423	NCP	% CaCO3	2.1	2.2	4.1	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0040423	NCP	% S	0.68	0.71	4.1	30%	Pass	
ANC Fineness Factor	B24-My0040423	NCP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0040423	NCP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0040423	NCP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0040423	NCP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-My0040304	CP	%	11	11	4.8	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Thursday, May 9, 2024 9:49 AM
To: Onur Mehmet <OnurMehmet@eurofins.com>; Savini Suduweli Kondage <SaviniSuduweli@eurofins.com>
Cc: Sheridan Barrett <SheridanBarrett@eurofins.com>
Subject: Additional Analysis Request - Batches 1091401 and 1093109

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

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Morning Onur, Savini,

Could additional analysis please be organised on the following samples:

Batch	Field ID	Chromium Reducible Sulfur (CRS) suite (National Acid Sulfate Soils Guidance) (excluding Acid Neutralising Capacity):	Suspension Peroxide Combination Acidity (SPOCAS) (NASSG) (excluding ANC)
1091401	BH-003-1.0-1.1-160424	X	
1093109	BH001-1.0-1.1_190424	X	
	BH010_0.5-0.6_240424	X	
	BH010_1.5-1.6_240424	X	
	BH010_4.0-4.1_240424	X	
	BH010_4.5-4.6_240424	X	X
	BH011_1.0-1.1_220424	X	
	BH011_2.0-2.1_220424	X	
	BH011_3.0-3.1_220424	X	X
	BH011_4.5-4.6_220424	X	
	BH011_5.5-5.6_220424	X	

Thanks, and please let me know if you need any additional information, or if there's any alternative email to include on further assessment requests.

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
M +61 422 692 187
robert.crowe@aecom.com

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#1097156

RE: Additional Analysis Request - Batches 1091401 and 1093109

Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Fri 10/05/24 10:22 AM
To: #AU03_EnviroSampleBris <EnviroSampleBris@eurofins.com>

INFO: INTERNAL EMAIL - Sent from a trusted Eurofins email domain, different from your own domain.

Batch	Field ID	Eurofins IDs	Chromium Reducible Sulfur (CRS) suite (National Acid Sulfate Soils Guidance) (excluding Acid Neutralising Capacity):	Suspension Peroxide Combination Acidity (SPOCAS) (NASSG) (excluding ANC)
1091401	BH-003-1.0-1.1-160424	Ap0069109	X	
1093109	BH001-1.0-1.1_190424	My0005708	X	
	BH010_0.5-0.6_240424	My0005710	X	
	BH010_1.5-1.6_240424	My0005712	X	
	BH010_4.0-4.1_240424	My0005717	X	
	BH010_4.5-4.6_240424	My0005718	X	X
	BH011_1.0-1.1_220424	My0005720	X	
	BH011_2.0-2.1_220424	My0005722	X	
	BH011_3.0-3.1_220424	My0005724	X	X
	BH011_4.5-4.6_220424	My0005727	X	
	BH011_5.5-5.6_220424	My0005729	X	

Kind Regards,
Savini Suduweli

Phone : +61 3 8564 5051
Mobile : +61 447 222 760
Email : SaviniSuduweli@eurofins.com

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www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2370

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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	- ALL INVOICES
Project name:	Not provided
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	May 9, 2024 9:49 AM
Eurofins reference	1097156

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to - ALL INVOICES - AP_CustomerService.ANZ@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: 60693007/1

Order No.:
Report #: 1097156
Phone: 08 7223 5400
Fax:

Received: May 9, 2024 9:49 AM
Due: May 16, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH-003-1.0-1.1-160424	Apr 16, 2024		Soil	B24-My0040413		X	X
2	BH001-1.0-1.1_190424	Apr 19, 2024	4:30PM	Soil	B24-My0040414		X	X
3	BH-010_0.5-0.6_240424	Apr 24, 2024	1:20PM	Soil	B24-My0040415		X	X
4	BH-010_1.5-1.6_240424	Apr 24, 2024	1:20PM	Soil	B24-My0040416		X	X
5	BH-010_4.0-4.1_240424	Apr 24, 2024		Soil	B24-My0040417		X	X
6	BH-010_4.5-4.6_240424	Apr 24, 2024		Soil	B24-My0040418	X	X	X
7	BH-011_1.0-1.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040419		X	X
8	BH-011_2.0-2.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040420		X	X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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ABN: 91 05 0159 898

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NATA# 2377
Site# 2370

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Eurofins Environment Testing NZ Ltd
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Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: 60693007/1

Order No.:
Report #: 1097156
Phone: 08 7223 5400
Fax:

Received: May 9, 2024 9:49 AM
Due: May 16, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	BH-011_3.0-3.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040421	X	X	X
10	BH-011_4.5-4.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040422		X	X
11	BH-011_5.5-5.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040423		X	X
Test Counts						2	11	11

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1097156-S-V3**
Project name
Project ID 60693007/1
Received Date May 09, 2024

Client Sample ID			**BH-003-1.0-1.1-160424**	**BH001-1.0-1.1_190424**	**BH-010_0.5-0.6_240424**	**BH-010_1.5-1.6_240424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0040413**	**B24-My0040414**	**B24-My0040415**	**B24-My0040416**
Date Sampled			**Apr 16, 2024**	**Apr 19, 2024**	**Apr 24, 2024**	**Apr 24, 2024**
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	66	58	73	87
>2mm Fraction	0.005	g	150	180	130	72
Analysed Material	0.1	%	31	24	36	55
Extraneous Material	0.1	%	69	76	64	45
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	12	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	9.7	8.5	8.7	8.0
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.020	0.012	0.014	0.014
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	12	7.6	8.5	8.8
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	7.8	4.2	2.9	3.3
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	2.5	1.4	0.93	1.1
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	1600	850	580	660
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Sample Properties						
% Moisture	1	%	11	8.8	8.1	38

Client Sample ID			BH-010_4.0-4.1_240424	BH-010_4.5-4.6_240424	BH-011_1.0-1.1_220424	BH-011_2.0-2.1_220424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0040417	B24-My0040418	B24-My0040419	B24-My0040420
Date Sampled			Apr 24, 2024	Apr 24, 2024	Apr 22, 2024	Apr 22, 2024
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	64	160	83	110
>2mm Fraction	0.005	g	130	< 0.005	72	68
Analysed Material	0.1	%	34	100	54	63
Extraneous Material	0.1	%	66	< 0.1	46	37
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	< 0.02	0.10	0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	< 10	60	10	< 10
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	4.5	< 1	< 1
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.6	7.8	8.1	9.0
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.006	0.096	0.016	0.010
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	3.7	60	10	6.4
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	0.020	N/A	N/A
Peroxide Extractable Sulfur	0.005	% S	-	0.12	-	-
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.7	0.70	2.8	2.2
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.2	0.22	0.90	0.69
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	740	140	560	430
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	45	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	0.07	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	3.0	-	-
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Sample Properties						
% Moisture	1	%	19	17	18	8.8
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	3.8	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	0.06	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	36	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	36	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	0.06	-	-
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	0.10	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	64	-	-

Client Sample ID			BH-010_4.0-4.1_240424	BH-010_4.5-4.6_240424	BH-011_1.0-1.1_220424	BH-011_2.0-2.1_220424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0040417	B24-My0040418	B24-My0040419	B24-My0040420
Date Sampled			Apr 24, 2024	Apr 24, 2024	Apr 22, 2024	Apr 22, 2024
Test/Reference	LOR	Unit				
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	0.13	-	-
Calcium - Peroxide	0.005	% Ca	-	0.15	-	-
Calcium - Acid Reacted	0.005	% Ca	-	0.029	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	0.023	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	14	-	-
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	0.020	-	-
Magnesium - Peroxide	0.005	% Mg	-	0.020	-	-
Magnesium - Acid Reacted	0.005	% Mg	-	0.006	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	0.007	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	4.6	-	-
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	N/A	-	-
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	N/A	-	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	n/a	-	-

Client Sample ID			BH-011_3.0-3.1_220424	BH-011_4.5-4.6_220424	BH-011_5.5-5.6_220424
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			B24-My0040421	B24-My0040422	B24-My0040423
Date Sampled			Apr 22, 2024	Apr 22, 2024	Apr 22, 2024
Test/Reference	LOR	Unit			
Extraneous Material					
<2mm Fraction	0.005	g	70	140	210
>2mm Fraction	0.005	g	99	41	< 0.005
Analysed Material	0.1	%	42	78	100
Extraneous Material	0.1	%	58	22	< 0.1
Net Acidity (Excluding ANC)					
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.06	0.03	0.16
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	37	18	99
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	2.8	1.3	7.4
Actual Acidity (NLM-3.2)					
pH-KCL (NLM-3.1)	0.1	pH Units	8.0	8.8	9.1
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur					
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.059	0.029	0.16
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	37	18	99
Extractable Sulfur					
Sulfur - KCl Extractable	0.005	% S	0.020	N/A	N/A
Peroxide Extractable Sulfur	0.005	% S	0.090	-	-
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A
Retained Acidity (S-NAS)					
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0

Client Sample ID			BH-011_3.0-3.1_220424	BH-011_4.5-4.6_220424	BH-011_5.5-5.6_220424
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0040421**	**B24-My0040422**	**B24-My0040423**
Date Sampled			**Apr 22, 2024**	**Apr 22, 2024**	**Apr 22, 2024**
Test/Reference	LOR	Unit			
Acid Neutralising Capacity (ANCbt)					
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.3	0.84	2.1
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.43	0.27	0.68
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	270	170	420
ANC Fineness Factor		factor	1.5	1.5	1.5
Net Acidity (Including ANC)					
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	< 10	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	< 0.02	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	< 1	-	-
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1
Sample Properties					
% Moisture	1	%	17	18	21
Potential Acidity - Titratable Peroxide					
pH-OX	0.1	pH Units	7.4	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	-	-
Potential Acidity (SPOS)					
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	0.070	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	44	-	-
Extractable Calcium					
Calcium - KCl Extractable	0.005	% Ca	0.50	-	-
Calcium - Peroxide	0.005	% Ca	0.61	-	-
Calcium - Acid Reacted	0.005	% Ca	0.11	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.085	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	53	-	-
Extractable Magnesium					
Magnesium - KCl Extractable	0.005	% Mg	0.060	-	-
Magnesium - Peroxide	0.005	% Mg	0.080	-	-
Magnesium - Acid Reacted	0.005	% Mg	0.016	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.022	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	14	-	-
Acid Neutralising Capacity (ANCE)					
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	0.60	-	-
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	0.19	-	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	120	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Extraneous Material	Brisbane	May 16, 2024	6 Week
- Method: LTM-GEN-7050/7070			
Chromium Suite - NASSG (Excluding ANC)	Brisbane	May 16, 2024	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
SPOCAS Suite			
SPOCAS Suite	Brisbane	May 16, 2024	6 Week
- Method: LTM-GEN-7050			
% Moisture	Brisbane	May 15, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Project Name:
Project ID: 60693007/1

Order No.:
Report #: 1097156
Phone: 08 7223 5400
Fax:

Received: May 9, 2024 9:49 AM
Due: May 16, 2024
Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH-003-1.0-1.1-160424	Apr 16, 2024		Soil	B24-My0040413		X	X
2	BH001-1.0-1.1_190424	Apr 19, 2024	4:30PM	Soil	B24-My0040414		X	X
3	BH-010_0.5-0.6_240424	Apr 24, 2024	1:20PM	Soil	B24-My0040415		X	X
4	BH-010_1.5-1.6_240424	Apr 24, 2024	1:20PM	Soil	B24-My0040416		X	X
5	BH-010_4.0-4.1_240424	Apr 24, 2024		Soil	B24-My0040417		X	X
6	BH-010_4.5-4.6_240424	Apr 24, 2024		Soil	B24-My0040418	X	X	X
7	BH-011_1.0-1.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040419		X	X
8	BH-011_2.0-2.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040420		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Received: May 9, 2024 9:49 AM
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Priority: 5 Day
Contact Name: - ALL INVOICES

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	BH-011_3.0-3.1_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040421	X	X	X
10	BH-011_4.5-4.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040422		X	X
11	BH-011_5.5-5.6_220424	Apr 22, 2024	1:30PM	Soil	B24-My0040423		X	X
Test Counts						2	11	11

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	101			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	94			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	118			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B24-My0040418	CP	% S	0.10	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B24-My0040418	CP	mol H+/t	60	N/A	N/A	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B24-My0040418	CP	kg CaCO3/t	4.5	N/A	N/A	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0040418	CP	pH Units	7.8	7.9	1.0	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0040418	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0040418	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0040418	CP	% S	0.096	0.11	10	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0040418	CP	mol H+/t	60	66	10	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-My0040418	CP	% S	0.020	0.020	1.0	30%	Pass	
Peroxide Extractable Sulfur	B24-My0040418	CP	% S	0.12	0.12	2.0	20%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0040418	CP	% CaCO3	0.70	0.67	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0040418	CP	% S	0.22	0.22	4.0	30%	Pass	
ANC Fineness Factor	B24-My0040418	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-My0040418	CP	mol H+/t	45	45	1.0	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-My0040418	CP	% S	0.07	0.07	1.0	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-My0040418	CP	kg CaCO3/t	3.0	3.0	1.0	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0040418	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0040418	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0040418	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-My0040418	CP	%	17	17	1.2	30%	Pass	

Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-My0040418	CP	pH Units	3.8	3.8	<1	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-My0040418	CP	% pyrite S	0.06	0.06	1.0	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-My0040418	CP	mol H+/t	36	36	1.0	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-My0040418	CP	mol H+/t	36	36	1.0	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-My0040418	CP	% pyrite S	0.06	0.06	1.0	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-My0040418	CP	% S	0.10	0.10	2.0	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-My0040418	CP	mol H+/t	64	63	2.0	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-My0040418	CP	% Ca	0.13	0.12	1.0	30%	Pass	
Calcium - Peroxide	B24-My0040418	CP	% Ca	0.15	0.15	<1	20%	Pass	
Calcium - Acid Reacted	B24-My0040418	CP	% Ca	0.029	0.029	1.0	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-My0040418	CP	% S	0.023	0.023	1.0	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-My0040418	CP	mol H+/t	14	14	1.0	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-My0040418	CP	% Mg	0.020	0.020	3.0	30%	Pass	
Magnesium - Peroxide	B24-My0040418	CP	% Mg	0.020	0.020	<1	20%	Pass	
Magnesium - Acid Reacted	B24-My0040418	CP	% Mg	0.006	0.006	7.0	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-My0040418	CP	% S	0.007	0.008	7.0	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-My0040418	CP	mol H+/t	4.6	4.9	7.0	30%	Pass	
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B24-My0040423	CP	% S	0.16	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B24-My0040423	CP	mol H+/t	99	N/A	N/A	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B24-My0040423	CP	kg CaCO3/t	7.4	N/A	N/A	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0040423	CP	pH Units	9.1	9.1	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0040423	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0040423	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0040423	CP	% S	0.16	0.16	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0040423	CP	mol H+/t	99	100	4.0	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0040423	CP	% CaCO3	2.1	2.2	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0040423	CP	% S	0.68	0.71	4.0	30%	Pass	
ANC Fineness Factor	B24-My0040423	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0040423	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0040423	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0040423	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	

Comments

V3: Report reissued to include reporting of all net acidity calculations.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

#1097381

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: Maddie Richard	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0413884779 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis.

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		pH – Field Screen (pHf and pHfox) – NASSG	HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	
	BH008_0.50-0.60_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_1.0-1.1_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_1.5-1.6_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_2.0-2.1_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_2.5-2.6_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_3.0-3.1_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_3.5-3.6_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_4.0-4.1_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_4.5-4.6_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_5.0-5.1_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_5.5-5.6_070524		7/05/2024		Frozen	1 x BAG	X
	BH008_6.0-6.1_070524		7/05/2024		Frozen	1 x BAG	X

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Maddie Richard	Date: 13/5/24	Name: Sheridan	Date: 13/5/24	Name:	Date:	Con' Note No:
Of: WSP	Time: 8:00	Of: Eurofins Hobart	Time: 3:22pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Add Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

Avg temp = -0.8°C

Date/Time: 15/5/24 9:40 am COC Page 1 of 3
Chilled: (Yes) / No
Temp: -1.2
Correction:
Final Temp: Eloise Fitzgerald

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM, Macquarie Point	SAMPLER: Maddie Richard	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0413884779 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		pH - Field Screen (pHf and pHox) - NASSG	HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	
	BH009_0.50-0.60_100524		10/05/2024		1 x BAG Frozen		X
	BH009_1.0-1.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_1.5-1.6_100524		10/05/2024		1 x BAG Frozen		X
	BH009_2.0-2.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_2.5-2.6_100524		10/05/2024		1 x BAG Frozen		X
	BH009_3.0-3.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_3.5-3.6_100524		10/05/2024		1 x BAG Frozen		X
	BH009_4.0-4.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_4.5-4.6_100524		10/05/2024		1 x BAG Frozen		X
	BH009_5.0-5.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_5.5-5.6_100524		10/05/2024		1 x BAG Frozen		X
	BH009_6.0-6.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_6.5-6.6_100524		10/05/2024		1 x BAG Frozen		X
	BH009_7.0-7.1_100524		10/05/2024		1 x BAG Frozen		X
	BH009_7.5-7.6_100524		10/05/2024		1 x BAG Frozen		X

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Maddie Richard	Date: 13/5/24	Name:	Date:	Name:	Date:	Con' Note No:
Of: WSP	Time: 8:00	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: Maddie Richard	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0413884779 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		pH - Field Screen (pHf and phfox) - NASSG	HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles		
	BH006_0.50-0.60_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_1.0-1.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_1.5-1.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_2.0-2.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_2.5-2.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_3.0-3.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_3.5-3.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_4.0-4.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_4.5-4.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_5.0-5.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_5.5-5.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_6.0-6.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_6.5-6.6_080525		8/05/2024		Frozen	1 x BAG	X	
	BH006_7.0-7.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_7.5-7.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_8.0-8.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_8.5-8.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_10.5-10.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_11.0-11.1_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_11.5-11.6_080524		8/05/2024		Frozen	1 x BAG	X	
	BH006_12.0-12.1_090524		9/05/2024		Frozen	1 x BAG	X	
	BH006_12.5-12.6_090524		9/05/2024		Frozen	1 x BAG	X	

RELINQUISHED BY:	RECEIVED BY	RECEIVED BY	METHOD OF SHIPMENT
Name: Maddie Richard	Name:	Name:	Con' Note No:
Of: WSP	Of:	Of:	Transport Co:
Date: 13/5/2024	Date:	Date:	
Time: 8:00	Time:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page 3 of 3

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
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NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
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Welshpool
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+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT 41 EVANS ST HOBART
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	May 15, 2024 9:40 AM
Eurofins reference	1097381

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : -1.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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46-48 Banksia Road
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NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1097381
Phone: 08 7223 5400
Fax:

Received: May 15, 2024 9:40 AM
Due: May 22, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH006_0.50-0.60_080524	May 08, 2024		Soil	B24-My0042196	X
2	BH006_1.0-1.1_080524	May 08, 2024		Soil	B24-My0042197	X
3	BH006_1.5-1.6_080524	May 08, 2024		Soil	B24-My0042198	X
4	BH006_2.0-2.1_080524	May 08, 2024		Soil	B24-My0042199	X
5	BH006_2.5-2.6_080524	May 08, 2024		Soil	B24-My0042200	X
6	BH006_3.0-3.1_080524	May 08, 2024		Soil	B24-My0042201	X
7	BH006_3.5-3.6_080524	May 08, 2024		Soil	B24-My0042202	X
8	BH006_4.0-4.1_080524	May 08, 2024		Soil	B24-My0042203	X

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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Welshpool
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+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
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+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1097381
Phone: 08 7223 5400
Fax:

Received: May 15, 2024 9:40 AM
Due: May 22, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH006_4.5-4.6_080524	May 08, 2024		Soil	B24-My0042204	X
10	BH006_5.0-5.1_080524	May 08, 2024		Soil	B24-My0042205	X
11	BH006_5.5-5.6_080524	May 08, 2024		Soil	B24-My0042206	X
12	BH006_6.0-6.1_080524	May 08, 2024		Soil	B24-My0042207	X
13	BH006_6.5-6.6_080524	May 08, 2024		Soil	B24-My0042208	X
14	BH006_7.0-7.1_080524	May 08, 2024		Soil	B24-My0042209	X
15	BH006_7.5-.6_080524	May 08, 2024		Soil	B24-My0042210	X
16	BH006_8.0-8.1_080524	May 08, 2024		Soil	B24-My0042211	X
17	BH006_8.5-8.6_080524	May 08, 2024		Soil	B24-My0042212	X
18	BH006_10.5-	May 08, 2024		Soil	B24-My0042213	X

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

Order No.: 60693007/1
Report #: 1097381
Phone: 08 7223 5400
Fax:

Received: May 15, 2024 9:40 AM
Due: May 22, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH006_10.5-10.6_080524	May 08, 2024		Soil	B24-My0042213	
19	BH006_11.0-11.1_080524	May 08, 2024		Soil	B24-My0042214	X
20	BH006_11.5-11.6_080524	May 08, 2024		Soil	B24-My0042215	X
21	BH006_12.0-12.1_080524	May 08, 2024		Soil	B24-My0042216	X
22	BH006_12.5-12.6_080524	May 08, 2024		Soil	B24-My0042217	X
23	BH008_0.50-0.60_070524	May 07, 2024		Soil	B24-My0042218	X
24	BH008_1.0-1.1_070524	May 07, 2024		Soil	B24-My0042219	X
25	BH008_1.5-1.6_070524	May 07, 2024		Soil	B24-My0042220	X
26	BH008_2.0-2.1_070524	May 07, 2024		Soil	B24-My0042221	X
27	BH008_2.5-	May 07, 2024		Soil	B24-My0042222	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project ID: 60693007/1

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Report #: 1097381
Phone: 08 7223 5400
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Received: May 15, 2024 9:40 AM
Due: May 22, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	2.6_070524					
28	BH008_3.0-3.1_070524	May 07, 2024		Soil	B24-My0042223	X
29	BH008_3.5-2.6_070524	May 07, 2024		Soil	B24-My0042224	X
30	BH008_4.0-4.1_070524	May 07, 2024		Soil	B24-My0042225	X
31	BH008_4.5-4.6_070524	May 07, 2024		Soil	B24-My0042226	X
32	BH008_5.0-5.1_070524	May 07, 2024		Soil	B24-My0042227	X
33	BH008_5.5-5.6_070524	May 07, 2024		Soil	B24-My0042228	X
34	BH008_6.0-6.1_070524	May 07, 2024		Soil	B24-My0042229	X
35	BH009_0.50-0.60_100524	May 10, 2024		Soil	B24-My0042230	X
36	BH009_1.0-1.1_100524	May 10, 2024		Soil	B24-My0042231	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
37	BH009_1.5-1.6_100524	May 10, 2024		Soil	B24-My0042232	X
38	BH009_2.0-2.1_100524	May 10, 2024		Soil	B24-My0042233	X
39	BH009_2.5-2.6_100524	May 10, 2024		Soil	B24-My0042234	X
40	BH009_3.0-3.1_100524	May 10, 2024		Soil	B24-My0042235	X
41	BH009_3.5-2.6_100524	May 10, 2024		Soil	B24-My0042236	X
42	BH009_4.0-4.1_100524	May 10, 2024		Soil	B24-My0042237	X
43	BH009_4.5-4.6_100524	May 10, 2024		Soil	B24-My0042238	X
44	BH009_5.0-5.1_100524	May 10, 2024		Soil	B24-My0042239	X
45	BH009_5.5-5.6_100524	May 10, 2024		Soil	B24-My0042240	X
46	BH009_6.0-	May 10, 2024		Soil	B24-My0042241	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project ID: 60693007/1

Order No.: 60693007/1
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Received: May 15, 2024 9:40 AM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	6.1_100524					
47	BH009_6.5-6.6_100524	May 10, 2024		Soil	B24-My0042242	X
48	BH009_7.0-7.1_100524	May 10, 2024		Soil	B24-My0042243	X
49	BH009_7.5-.6_100524	May 10, 2024		Soil	B24-My0042244	X
Test Counts						49

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1097381-S**
Project name MACQUARIE POINT 41 EVANS ST HOBART
Project ID 60693007/1
Received Date May 15, 2024

Client Sample ID			**BH006_0.50-0.60_080524**	**BH006_1.0-1.1_080524**	**BH006_1.5-1.6_080524**	**BH006_2.0-2.1_080524**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0042196**	**B24-My0042197**	**B24-My0042198**	**B24-My0042199**
Date Sampled			**May 08, 2024**	**May 08, 2024**	**May 08, 2024**	**May 08, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	11	8.0	7.3	7.6
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	11	7.0	6.6	6.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH006_2.5-2.6_080524**	**BH006_3.0-3.1_080524**	**BH006_3.5-3.6_080524**	**BH006_4.0-4.1_080524**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0042200**	**B24-My0042201**	**B24-My0042202**	**B24-My0042203**
Date Sampled			**May 08, 2024**	**May 08, 2024**	**May 08, 2024**	**May 08, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.0	7.5	7.6	7.8
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	5.6	6.9	6.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH006_4.5-4.6_080524**	**BH006_5.0-5.1_080524**	**BH006_5.5-5.6_080524**	**BH006_6.0-6.1_080524**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0042204**	**B24-My0042205**	**B24-My0042206**	**B24-My0042207**
Date Sampled			**May 08, 2024**	**May 08, 2024**	**May 08, 2024**	**May 08, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.4	8.3	7.9	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.7	4.5	4.0	4.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH006_6.5-6.6_080524	BH006_7.0-7.1_080524	BH006_7.5-.6_080524	BH006_8.0-8.1_080524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042208	B24-My0042209	B24-My0042210	B24-My0042211
Date Sampled			May 08, 2024	May 08, 2024	May 08, 2024	May 08, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.9	9.0	8.8	9.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.9	6.3	4.3	3.3
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH006_8.5-8.6_080524	BH006_10.5-10.6_080524	BH006_11.0-11.1_080524	BH006_11.5-11.6_080524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042212	B24-My0042213	B24-My0042214	B24-My0042215
Date Sampled			May 08, 2024	May 08, 2024	May 08, 2024	May 08, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.1	9.5	9.6	9.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.4	2.7	2.6	2.5
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH006_12.0-12.1_080524	BH006_12.5-12.6_080524	BH008_0.50-0.60_070524	BH008_1.0-1.1_070524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042216	B24-My0042217	B24-My0042218	B24-My0042219
Date Sampled			May 08, 2024	May 08, 2024	May 07, 2024	May 07, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.7	9.8	8.7	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.6	2.3	8.0	7.7
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH008_1.5-1.6_070524	BH008_2.0-2.1_070524	BH008_2.5-2.6_070524	BH008_3.0-3.1_070524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042220	B24-My0042221	B24-My0042222	B24-My0042223
Date Sampled			May 07, 2024	May 07, 2024	May 07, 2024	May 07, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.8	8.8	7.9	7.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.1	8.3	6.7	6.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH008_3.5-2.6_070524	BH008_4.0-4.1_070524	BH008_4.5-4.6_070524	BH008_5.0-5.1_070524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042224	B24-My0042225	B24-My0042226	B24-My0042227
Date Sampled			May 07, 2024	May 07, 2024	May 07, 2024	May 07, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.6	7.9	7.7	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.1	7.1	6.9	7.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH008_5.5-5.6_070524	BH008_6.0-6.1_070524	BH009_0.50-0.60_100524	BH009_1.0-1.1_100524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042228	B24-My0042229	B24-My0042230	B24-My0042231
Date Sampled			May 07, 2024	May 07, 2024	May 10, 2024	May 10, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.3	9.1	8.8	7.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	3.7	7.9	7.5	6.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH009_1.5-1.6_100524	BH009_2.0-2.1_100524	BH009_2.5-2.6_100524	BH009_3.0-3.1_100524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042232	B24-My0042233	B24-My0042234	B24-My0042235
Date Sampled			May 10, 2024	May 10, 2024	May 10, 2024	May 10, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.8	7.8	8.0	8.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.3	6.6	7.4	6.5
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH009_3.5-2.6_100524	BH009_4.0-4.1_100524	BH009_4.5-4.6_100524	BH009_5.0-5.1_100524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0042236	B24-My0042237	B24-My0042238	B24-My0042239
Date Sampled			May 10, 2024	May 10, 2024	May 10, 2024	May 10, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.9	8.2	8.4	8.8
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.2	6.8	6.2	5.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH009_5.5-5.6_100524	BH009_6.0-6.1_100524	BH009_6.5-6.6_100524	BH009_7.0-7.1_100524
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0042240**	**B24-My0042241**	**B24-My0042242**	**B24-My0042243**
Date Sampled			**May 10, 2024**	**May 10, 2024**	**May 10, 2024**	**May 10, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.4	9.3	8.6	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.2	4.3	5.3	3.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH009_7.5-.6_100524
Sample Matrix			**Soil**
Eurofins Sample No.			**B24-My0042244**
Date Sampled			**May 10, 2024**
Test/Reference	LOR	Unit	
Acid Sulfate Soils Field pH Test			
pH-F (Field pH test)*	0.1	pH Units	9.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6
Reaction Ratings*[S05]	0	comment	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	May 22, 2024	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

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Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1097381
Phone: 08 7223 5400
Fax:

Received: May 15, 2024 9:40 AM
Due: May 22, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH006_0.50-0.60_080524	May 08, 2024		Soil	B24-My0042196	X
2	BH006_1.0-1.1_080524	May 08, 2024		Soil	B24-My0042197	X
3	BH006_1.5-1.6_080524	May 08, 2024		Soil	B24-My0042198	X
4	BH006_2.0-2.1_080524	May 08, 2024		Soil	B24-My0042199	X
5	BH006_2.5-2.6_080524	May 08, 2024		Soil	B24-My0042200	X
6	BH006_3.0-3.1_080524	May 08, 2024		Soil	B24-My0042201	X
7	BH006_3.5-3.6_080524	May 08, 2024		Soil	B24-My0042202	X
8	BH006_4.0-4.1_080524	May 08, 2024		Soil	B24-My0042203	X

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Fax:

Received: May 15, 2024 9:40 AM
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH006_4.5-4.6_080524	May 08, 2024		Soil	B24-My0042204	X
10	BH006_5.0-5.1_080524	May 08, 2024		Soil	B24-My0042205	X
11	BH006_5.5-5.6_080524	May 08, 2024		Soil	B24-My0042206	X
12	BH006_6.0-6.1_080524	May 08, 2024		Soil	B24-My0042207	X
13	BH006_6.5-6.6_080524	May 08, 2024		Soil	B24-My0042208	X
14	BH006_7.0-7.1_080524	May 08, 2024		Soil	B24-My0042209	X
15	BH006_7.5-.6_080524	May 08, 2024		Soil	B24-My0042210	X
16	BH006_8.0-8.1_080524	May 08, 2024		Soil	B24-My0042211	X
17	BH006_8.5-8.6_080524	May 08, 2024		Soil	B24-My0042212	X
18	BH006_10.5-	May 08, 2024		Soil	B24-My0042213	X

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH006_10.5-10.6_080524	May 08, 2024		Soil	B24-My0042213	
19	BH006_11.0-11.1_080524	May 08, 2024		Soil	B24-My0042214	X
20	BH006_11.5-11.6_080524	May 08, 2024		Soil	B24-My0042215	X
21	BH006_12.0-12.1_080524	May 08, 2024		Soil	B24-My0042216	X
22	BH006_12.5-12.6_080524	May 08, 2024		Soil	B24-My0042217	X
23	BH008_0.50-0.60_070524	May 07, 2024		Soil	B24-My0042218	X
24	BH008_1.0-1.1_070524	May 07, 2024		Soil	B24-My0042219	X
25	BH008_1.5-1.6_070524	May 07, 2024		Soil	B24-My0042220	X
26	BH008_2.0-2.1_070524	May 07, 2024		Soil	B24-My0042221	X
27	BH008_2.5-	May 07, 2024		Soil	B24-My0042222	X

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	2.6_070524					
28	BH008_3.0-3.1_070524	May 07, 2024		Soil	B24-My0042223	X
29	BH008_3.5-2.6_070524	May 07, 2024		Soil	B24-My0042224	X
30	BH008_4.0-4.1_070524	May 07, 2024		Soil	B24-My0042225	X
31	BH008_4.5-4.6_070524	May 07, 2024		Soil	B24-My0042226	X
32	BH008_5.0-5.1_070524	May 07, 2024		Soil	B24-My0042227	X
33	BH008_5.5-5.6_070524	May 07, 2024		Soil	B24-My0042228	X
34	BH008_6.0-6.1_070524	May 07, 2024		Soil	B24-My0042229	X
35	BH009_0.50-0.60_100524	May 10, 2024		Soil	B24-My0042230	X
36	BH009_1.0-1.1_100524	May 10, 2024		Soil	B24-My0042231	X

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Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
37	BH009_1.5-1.6_100524	May 10, 2024		Soil	B24-My0042232	X
38	BH009_2.0-2.1_100524	May 10, 2024		Soil	B24-My0042233	X
39	BH009_2.5-2.6_100524	May 10, 2024		Soil	B24-My0042234	X
40	BH009_3.0-3.1_100524	May 10, 2024		Soil	B24-My0042235	X
41	BH009_3.5-2.6_100524	May 10, 2024		Soil	B24-My0042236	X
42	BH009_4.0-4.1_100524	May 10, 2024		Soil	B24-My0042237	X
43	BH009_4.5-4.6_100524	May 10, 2024		Soil	B24-My0042238	X
44	BH009_5.0-5.1_100524	May 10, 2024		Soil	B24-My0042239	X
45	BH009_5.5-5.6_100524	May 10, 2024		Soil	B24-My0042240	X
46	BH009_6.0-	May 10, 2024		Soil	B24-My0042241	X

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	6.1_100524					
47	BH009_6.5-6.6_100524	May 10, 2024		Soil	B24-My0042242	X
48	BH009_7.0-7.1_100524	May 10, 2024		Soil	B24-My0042243	X
49	BH009_7.5-.6_100524	May 10, 2024		Soil	B24-My0042244	X
Test Counts						49

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0042200	CP	pH Units	8.0	8.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0042215	CP	pH Units	9.3	9.3	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0042223	CP	pH Units	7.9	8.0	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0042225	CP	pH Units	7.9	8.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0042236	CP	pH Units	7.9	8.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0042243	CP	pH Units	8.9	8.8	pass	20%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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ANZ

FQM - Generic Chain of Custody Form

PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION BH004

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: BILL CROMER, MADELINE RICHARDS, GEN BREMNER	Destination Laboratory
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0408133127 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION: Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
	BH004_0.5-0.6m	Soil	13/05/24		ASS		✓	
	BH004_1.0-1.1m	"	"		"		✓	
	BH004_1.5-1.6m	"	"		"		✓	
	BH004_2.0-2.1m	"	"		"		✓	
	BH004_2.5-2.6m	"	"		"		✓	
	BH004_2.9-3.0m	"	"		"		✓	
	BH004_4.0-4.1m	"	"		"		✓	
	BH004_4.5-4.6m	"	"		"		✓	
	BH004_5.0-5.1m	"	"		"		✓	
	BH004_5.5-5.6m	"	"		"		✓	
	BH004_6.0-6.1m	"	"		"		✓	
	BH004_6.5-6.6m	"	"		"		✓	
	BH004_7.0-7.1m	"	"		"		✓	
	BH004_7.5-7.6m	"	"		"		✓	
	BH004_8.0-8.1m	"	"		"		✓	
	BH004_8.5-8.6m	"	"		"		✓	
	BH004_9.0-9.1m	"	"		"		✓	
	BH004_11.0-11.1m	"	"		"		✓	
	BH004_11.5-11.6m	"	"		"		✓	

Date/Time: 21/5/24 10:10am
Chilled: Yes / No
Temp:
-0.8
Correction:
Final Temp: Eloise Fitzgerald

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: G. Bremner	Date: 16/5/24	Name: Sheridan Barrett	Date: 16/5/24	Name:	Date:	Con' Note No:
Of: AECOM	Time:	Of: Eurofins Hobart	Time: 3:56pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

COC Page 1 of 3

Average temp. = -1.1°C on arrival

Avg. temp. Post freezing = -10.7°C

#1099835

AECOM

ANZ

FQM - Generic Chain of Custody Form

PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION BH013

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: ~~Bill CROWLER~~ GENEVIEVE BRENNER	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: **Macquarie Point, 41 Evans St, Hobart**	MOBILE: ~~0408 [illegible]~~, 0418 616 659 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: **60693007/1**	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION: Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
✓	BH013_0.5-0.6m	Soil	15/5/24		ASS		✓	
✓	BH013_1.0-1.1m	"	"		"		✓	
✓	BH013_1.5-1.6m	"	"		"		✓	
✓	BH013_2.0-2.1m	"	"		"		✓	
✓	BH013_2.5-2.6m	"	"		"		✓	
✓	BH013_3.0-3.1m	"	"		"		✓	
✓	BH013_3.5-3.6m	"	"		"		✓	
✓	BH013_4.0-4.1m	"	"		"		✓	
✓	BH013_4.5-4.6m	"	"		"		✓	
✓	BH013_5.0-5.1m	"	"		"		✓	
✓	BH013_5.5-5.6m	"	"		"		✓	
✓	BH013_6.0-6.1m	"	"		"		✓	
✓	BH013_6.4-6.5m	"	"		"		✓	
✓	BH013_7.5-7.6m	"	"		"		✓	
✓	BH013_8.0-8.1m	"	"		"		✓	
✓	BH013_8.5-8.6m	"	"		"		✓	
✓	BH013_9.0-9.1m	"	"		"		✓	
✓	BH013_10.5-10.6m	"	"		"		✓	
✓	BH013_11.0-11.1m	"	"		"		✓	

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: G.Brenner	Date: 16/5/24	Name: Sheridan Sarah	Date: 16/5/24	Name:	Date:	Con' Note No:
Of: WCDL	Time:	Of: Eurofins Hobart	Time: 3:56pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.
Soil Container Codes: Jar = Unpreserved glass jar

COC Page 2 of 3

Average temp. = -1.1°C on arrival

Avg temp post freezing = -10.7°C

AECOM

ANZ

FQM - Generic Chain of Custody Form

PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION BH013

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: GENEVIEVE BREMNER	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: 0418 616 659 PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODI 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): standard	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		pH – Field Screen (pHf and pHfox) – NASSG												HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
✓	BH013_11.5-11.6m	Soil	15/5/24		AJS		✓												
✓	BH013_12.0-12.1m	"	"		"		✓												
✓	BH013_12.5-12.6m	"	"		"		✓												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: G. Bremner	Date: 16/5/24	Name: Sheridan Beamish	Date: 16/5/24	Name:	Date:	Con' Note No:
Of: INCCPL	Time:	Of: Eurofins Hobart	Time: 3:58pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes**: Jar = Unpreserved glass jar

COC Page 3 of 8

Average temp. = -1.1°C on arrival

Avg. temp. post freezing = -10.7°C

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www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NATA# 2377
Site# 2370

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Site# 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	May 21, 2024 10:10 AM
Eurofins reference	1099835

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : -.8 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- ✓ Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2370

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+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Order No.: 60693007/1
Report #: 1099835
Phone: 08 7223 5400
Fax:

Received: May 21, 2024 10:10 AM
Due: May 28, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH004_ 0.5-0.6m	May 13, 2024		Soil	B24-My0061037	X
2	BH004_ 1.0-1.1m	May 13, 2024		Soil	B24-My0061038	X
3	BH004_ 1.5-1.6m	May 13, 2024		Soil	B24-My0061039	X
4	BH004_ 2.0-2.1m	May 13, 2024		Soil	B24-My0061040	X
5	BH004_ 2.5-2.6m	May 13, 2024		Soil	B24-My0061041	X
6	BH004_ 2.9-3.0m	May 13, 2024		Soil	B24-My0061042	X
7	BH004_ 4.0-4.1m	May 13, 2024		Soil	B24-My0061043	X
8	BH004_ 4.5-4.6m	May 13, 2024		Soil	B24-My0061044	X

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
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+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
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Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Order No.: 60693007/1
Report #: 1099835
Phone: 08 7223 5400
Fax:

Received: May 21, 2024 10:10 AM
Due: May 28, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH004_ 5.0-5.1m	May 13, 2024		Soil	B24-My0061045	X
10	BH004_ 6.0-6.1m	May 13, 2024		Soil	B24-My0061046	X
11	BH004_ 6.5-6.6m	May 13, 2024		Soil	B24-My0061047	X
12	BH004_ 7.0-7.1m	May 13, 2024		Soil	B24-My0061048	X
13	BH004_ 7.5-7.6m	May 13, 2024		Soil	B24-My0061049	X
14	BH004_ 8.0-8.1m	May 13, 2024		Soil	B24-My0061050	X
15	BH004_ 8.5-8.6m	May 13, 2024		Soil	B24-My0061051	X
16	BH004_ 9.0-9.1m	May 13, 2024		Soil	B24-My0061052	X
17	BH004_ 11.0-11.1m	May 13, 2024		Soil	B24-My0061053	X
18	BH004_ 11.5-	May 13, 2024		Soil	B24-My0061054	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Company Name: Aecom Aust Pty Ltd Tasmania
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Hobart
Tasmania 7000

Order No.: 60693007/1
Report #: 1099835
Phone: 08 7223 5400
Fax:

Received: May 21, 2024 10:10 AM
Due: May 28, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH004_ 11.5-11.6m	May 13, 2024		Soil	B24-My0061054	
19	BH013_0.5-0.6m	May 15, 2024		Soil	B24-My0061055	X
20	BH013_1.0-1.1m	May 15, 2024		Soil	B24-My0061056	X
21	BH013_1.5-1.6m	May 15, 2024		Soil	B24-My0061057	X
22	BH013_2.0-2.1m	May 15, 2024		Soil	B24-My0061058	X
23	BH013_2.5-2.6m	May 15, 2024		Soil	B24-My0061059	X
24	BH013_3.0-3.1m	May 15, 2024		Soil	B24-My0061060	X
25	BH013_3.5-3.6m	May 15, 2024		Soil	B24-My0061061	X
26	BH013_4.0-4.1m	May 15, 2024		Soil	B24-My0061062	X
27	BH013_4.5-	May 15, 2024		Soil	B24-My0061063	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Fax:

Received: May 21, 2024 10:10 AM
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Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	4.6m					
28	BH013_5.0-5.1m	May 15, 2024		Soil	B24-My0061064	X
29	BH013_5.5-5.6m	May 15, 2024		Soil	B24-My0061065	X
30	BH013_6.0-6.1m	May 15, 2024		Soil	B24-My0061066	X
31	BH013_6.4-6.5m	May 15, 2024		Soil	B24-My0061067	X
32	BH013_7.5-7.6m	May 15, 2024		Soil	B24-My0061068	X
33	BH013_8.0-8.1m	May 15, 2024		Soil	B24-My0061069	X
34	BH013_8.5-8.6m	May 15, 2024		Soil	B24-My0061070	X
35	BH013_9.0-9.1m	May 15, 2024		Soil	B24-My0061071	X
36	BH013_10.5-10.6m	May 15, 2024		Soil	B24-My0061072	X

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Order No.: 60693007/1
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Fax:

Received: May 21, 2024 10:10 AM
Due: May 28, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
37	BH013_11.0-11.1m	May 15, 2024		Soil	B24-My0061073	X
38	BH013_11.5-11.6m	May 15, 2024		Soil	B24-My0061074	X
39	BH013_12.0-12.1m	May 15, 2024		Soil	B24-My0061075	X
40	BH013_12.5-12.6m	May 15, 2024		Soil	B24-My0061076	X
41	BH004_5.5-5.6m	May 13, 2024		Soil	B24-My0061096	X
Test Counts						41

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Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1099835-S**
Project name PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID 60693007/1
Received Date May 21, 2024

Client Sample ID			**BH004_ 0.5-0.6m**	**BH004_ 1.0-1.1m**	**BH004_ 1.5-1.6m**	**BH004_ 2.0-2.1m**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0061037**	**B24-My0061038**	**B24-My0061039**	**B24-My0061040**
Date Sampled			**May 13, 2024**	**May 13, 2024**	**May 13, 2024**	**May 13, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.4	8.1	7.4	7.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.8	6.9	6.1	5.5
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH004_ 2.5-2.6m**	**BH004_ 2.9-3.0m**	**BH004_ 4.0-4.1m**	**BH004_ 4.5-4.6m**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0061041**	**B24-My0061042**	**B24-My0061043**	**B24-My0061044**
Date Sampled			**May 13, 2024**	**May 13, 2024**	**May 13, 2024**	**May 13, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	7.7	7.9	8.6	9.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.5	3.3	7.7	8.0
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH004_ 5.0-5.1m**	**BH004_ 6.0-6.1m**	**BH004_ 6.5-6.6m**	**BH004_ 7.0-7.1m**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0061045**	**B24-My0061046**	**B24-My0061047**	**B24-My0061048**
Date Sampled			**May 13, 2024**	**May 13, 2024**	**May 13, 2024**	**May 13, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	12	9.0	10	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	12	4.3	5.9	5.8
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004_ 7.5-7.6m	BH004_ 8.0-8.1m	BH004_ 8.5-8.6m	BH004_ 9.0-9.1m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061049	B24-My0061050	B24-My0061051	B24-My0061052
Date Sampled			May 13, 2024	May 13, 2024	May 13, 2024	May 13, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	8.7	8.6	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.6	3.2	2.7	3.1
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004_ 11.0-11.1m	BH004_ 11.5-11.6m	BH013_0.5-0.6m	BH013_1.0-1.1m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061053	B24-My0061054	B24-My0061055	B24-My0061056
Date Sampled			May 13, 2024	May 13, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.6	9.0	8.8	8.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.9	2.6	8.4	8.1
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH013_1.5-1.6m	BH013_2.0-2.1m	BH013_2.5-2.6m	BH013_3.0-3.1m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061057	B24-My0061058	B24-My0061059	B24-My0061060
Date Sampled			May 15, 2024	May 15, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	6.3	7.7	8.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.6	3.7	5.5	7.8
Reaction Ratings*[S05]	0	comment	4.0	3.0	3.0	4.0

Client Sample ID			BH013_3.5-3.6m	BH013_4.0-4.1m	BH013_4.5-4.6m	BH013_5.0-5.1m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061061	B24-My0061062	B24-My0061063	B24-My0061064
Date Sampled			May 15, 2024	May 15, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.8	12	12	12
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.9	10	12	12
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH013_5.5-5.6m	BH013_6.0-6.1m	BH013_6.4-6.5m	BH013_7.5-7.6m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061065	B24-My0061066	B24-My0061067	B24-My0061068
Date Sampled			May 15, 2024	May 15, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.9	12	11	11
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.4	11	7.3	7.1
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH013_8.0-8.1m	BH013_8.5-8.6m	BH013_9.0-9.1m	BH013_10.5-10.6m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061069	B24-My0061070	B24-My0061071	B24-My0061072
Date Sampled			May 15, 2024	May 15, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	8.5	8.1	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.4	2.5	2.5	2.3
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH013_11.0-11.1m	BH013_11.5-11.6m	BH013_12.0-12.1m	BH013_12.5-12.6m
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0061073	B24-My0061074	B24-My0061075	B24-My0061076
Date Sampled			May 15, 2024	May 15, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.6	8.8	9.3	8.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	2.3	4.4	6.7	7.5
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004_5.5-5.6m
Sample Matrix			Soil
Eurofins Sample No.			B24-My0061096
Date Sampled			May 13, 2024
Test/Reference	LOR	Unit	
Acid Sulfate Soils Field pH Test			
pH-F (Field pH test)*	0.1	pH Units	11
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.7
Reaction Ratings*[S05]	0	comment	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	May 28, 2024	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Company Name:	Aecom Aust Pty Ltd Tasmania	**Order No.:**	60693007/1	**Received:**	May 21, 2024 10:10 AM
Address:	Suite 6, Level 3,13-17 Castray Esplanade Hobart Tasmania 7000	**Report #:**	1099835	**Due:**	May 28, 2024
		Phone:	08 7223 5400	**Priority:**	5 Day
		Fax:		**Contact Name:**	Robert Crowe
Project Name:	PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION				
Project ID:	60693007/1				

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH004_ 0.5-0.6m	May 13, 2024		Soil	B24-My0061037	X
2	BH004_ 1.0-1.1m	May 13, 2024		Soil	B24-My0061038	X
3	BH004_ 1.5-1.6m	May 13, 2024		Soil	B24-My0061039	X
4	BH004_ 2.0-2.1m	May 13, 2024		Soil	B24-My0061040	X
5	BH004_ 2.5-2.6m	May 13, 2024		Soil	B24-My0061041	X
6	BH004_ 2.9-3.0m	May 13, 2024		Soil	B24-My0061042	X
7	BH004_ 4.0-4.1m	May 13, 2024		Soil	B24-My0061043	X
8	BH004_ 4.5-4.6m	May 13, 2024		Soil	B24-My0061044	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Order No.: 60693007/1
Report #: 1099835
Phone: 08 7223 5400
Fax:

Received: May 21, 2024 10:10 AM
Due: May 28, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	BH004_ 5.0-5.1m	May 13, 2024		Soil	B24-My0061045	X
10	BH004_ 6.0-6.1m	May 13, 2024		Soil	B24-My0061046	X
11	BH004_ 6.5-6.6m	May 13, 2024		Soil	B24-My0061047	X
12	BH004_ 7.0-7.1m	May 13, 2024		Soil	B24-My0061048	X
13	BH004_ 7.5-7.6m	May 13, 2024		Soil	B24-My0061049	X
14	BH004_ 8.0-8.1m	May 13, 2024		Soil	B24-My0061050	X
15	BH004_ 8.5-8.6m	May 13, 2024		Soil	B24-My0061051	X
16	BH004_ 9.0-9.1m	May 13, 2024		Soil	B24-My0061052	X
17	BH004_ 11.0-11.1m	May 13, 2024		Soil	B24-My0061053	X
18	BH004_ 11.5-	May 13, 2024		Soil	B24-My0061054	X

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Received: May 21, 2024 10:10 AM
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Priority: 5 Day
Contact Name: Robert Crowe

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Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	BH004_ 11.5-11.6m	May 13, 2024		Soil	B24-My0061054	
19	BH013_0.5-0.6m	May 15, 2024		Soil	B24-My0061055	X
20	BH013_1.0-1.1m	May 15, 2024		Soil	B24-My0061056	X
21	BH013_1.5-1.6m	May 15, 2024		Soil	B24-My0061057	X
22	BH013_2.0-2.1m	May 15, 2024		Soil	B24-My0061058	X
23	BH013_2.5-2.6m	May 15, 2024		Soil	B24-My0061059	X
24	BH013_3.0-3.1m	May 15, 2024		Soil	B24-My0061060	X
25	BH013_3.5-3.6m	May 15, 2024		Soil	B24-My0061061	X
26	BH013_4.0-4.1m	May 15, 2024		Soil	B24-My0061062	X
27	BH013_4.5-	May 15, 2024		Soil	B24-My0061063	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	4.6m					
28	BH013_5.0-5.1m	May 15, 2024		Soil	B24-My0061064	X
29	BH013_5.5-5.6m	May 15, 2024		Soil	B24-My0061065	X
30	BH013_6.0-6.1m	May 15, 2024		Soil	B24-My0061066	X
31	BH013_6.4-6.5m	May 15, 2024		Soil	B24-My0061067	X
32	BH013_7.5-7.6m	May 15, 2024		Soil	B24-My0061068	X
33	BH013_8.0-8.1m	May 15, 2024		Soil	B24-My0061069	X
34	BH013_8.5-8.6m	May 15, 2024		Soil	B24-My0061070	X
35	BH013_9.0-9.1m	May 15, 2024		Soil	B24-My0061071	X
36	BH013_10.5-10.6m	May 15, 2024		Soil	B24-My0061072	X

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Contact Name: Robert Crowe

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
37	BH013_11.0-11.1m	May 15, 2024		Soil	B24-My0061073	X
38	BH013_11.5-11.6m	May 15, 2024		Soil	B24-My0061074	X
39	BH013_12.0-12.1m	May 15, 2024		Soil	B24-My0061075	X
40	BH013_12.5-12.6m	May 15, 2024		Soil	B24-My0061076	X
41	BH004_5.5-5.6m	May 13, 2024		Soil	B24-My0061096	X
Test Counts						41

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0061046	CP	pH Units	9.0	9.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0061056	CP	pH Units	8.5	8.7	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0061066	CP	pH Units	12	12	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0061076	CP	pH Units	8.4	8.7	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0061096	CP	pH Units	11	11	pass	20%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	Yes
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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AECOM

ANZ

FQM - Generic Chain of Custody Form

PS212776 Macquarie Point Development Corporation

ABH-004 ABH-002

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM, Macquarie Point	SAMPLER:	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		pH – Field Screen (pHf and pHfox) – NASSG	HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles		
✓	ABH004_0.5-0.6m	Soil	21/5/24		ASS		✓	
✓	ABH004_1.0-1.1m	"	"		"		✓	
✓	ABH004_1.5-1.6m	"	"		"		✓	
✓	ABH004_2.0-2.1m	"	"		"		✓	
✓	ABH004_2.5-2.6m	"	"		"		✓	
✓	ABH004_3.0-3.1m	"	"		"		✓	
✓	ABH004_3.5-3.6m	"	"		"		✓	
✓	ABH004_4.0-4.1m	"	"		"		✓	
✓	ABH002 0.5-0.6m	"	"		"		✓	
✓	ABH002_1.0-1.1m	"	"		"		✓	
✓	ABH002_1.5-1.6m	"	"		"		✓	
✓	ABH002_2.0-2.1m	"	"		"		✓	
✓	ABH002_2.5-2.6m	"	"		"		✓	
✓	ABH002_3.0-3.1m	"	"		"		✓	
✓	ABH002_3.5-3.6m	"	"		"		✓	
✓	ABH002_4.0-4.1m	"	"		"		✓	
✓	ABH002_4.5-4.6m	"	"		"		✓	
✓	ABH002_5.5-5.6m	"	"		"		✓	

Date/Time: 23/5/24 10am

Chilled: (Yes) / No

Temp:

Correction: 3.4

Final Temp: Eloise Fitzgerald.

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name: Bill Crowe	Date: 21/5/24	Name: Sheridan Barratt	Date: 21/5/24	Name:	Date:	Con' Note No:
Of: WEM/C	Time: 1700	Of: Eurofins Hobart	Time: 11:50am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic

V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;

F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

Avg. temp. on pickup = -0.1°C

1100380

COC Page 1 of 4

ANZ

FQM - Generic Chain of Custody Form

PS212776 Macquarie Point Development Corporation ABH003 + ABH001

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER: G-Brown	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE:	PHONE: Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
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FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
✓	ABH003_0.5-0.6_200524	Soil	20/5/24		A.S.S.		✓	
✓	ABH003_1-1.1m	"					✓	
✓	ABH003_1.5-1.6	"					✓	
✓	ABH003_2-2.1	"					✓	
✓	ABH003_2.5-2.6	"					✓	
✓	ABH003_3-3.1	"					✓	
✓	ABH003_3.5-3.6	"					✓	
✓	ABH003_4-4.1	"					✓	
✓	ABH003_4.5-4.6	"					✓	
✓	ABH003_5-5.1	"					✓	
✓	ABH003_5.5-5.6m	"					✓	
✓	ABH001_0.5-0.6_200524	Soil	20/5/24		ASS		✓	
✓	ABH001_1-1.1_200524	"	"		"		✓	

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barnett	Date: 21/5/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:50 am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

Avg. temp. on pickup = -0.1 °C

ANZ

FQM - Generic Chain of Custody Form P52/2776 MACQUARIE POINT DEVELOPMENT CORPORATION BH012

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER:	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard.	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		pH – Field Screen (pHf and pHfox) – NASSG												HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
✓	BH012 0.5-0.6m	SOIL	18/5/24		ASS		✓												
✓	BH012 0.9-1.0m	"	"		"		✓												
✓	BH012 1.4-1.5m	"	"		"		✓												
✓	BH012 1.9-2.0m	"	"		"		✓												
✓	BH012 2.4-2.5m	"	"		"		✓												
✓	BH012 2.9-3.0m	"	"		"		✓												
✓	BH012 3.4-3.5m	"	"		"		✓												
✓	BH012 4-4.1m	"	"		"		✓												
✓	BH012 4.5-4.6m	"	"		"		✓												
✓	BH012 6-6.1m	"	"		"		✓												

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 21/5/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:50am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Soil Container Codes: Jar = Unpreserved glass jar

Avg. temp. on pickup = -0.1°

ANZ

FQM - Generic Chain of Custody Form

AECOM

Q4AN(EV)-007-FM1

P52/2776 MACQUARIE POINT DEVELOPMENT CORPORATION BH015

CONSULTANT: AECOM	ADDRESS / OFFICE: AECOM. Macquarie Point	SAMPLER:	**Destination Laboratory**
PROJECT MANAGER (PM): R.Crowe	SITE: Macquarie Point, 41 Evans St, Hobart	MOBILE: PHONE:	Eurofins Hobart
PROJECT NUMBER / TASK CODE: 60693007/1	P.O. NO.: 60693007 / 1	EMAIL REPORT TO: supriya.lath@aecom.com; robert.crowe@aecom.com	282A Argyle St, North Hobart TAS 7000
RESULTS REQUIRED (Date): Standard	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Unused sample volume should be retained following assessment as additional sample analysis (CRS or SPOCAS) will be requested based on results of pH field screen analysis

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION: Type / Code	Total bottles	pH – Field Screen (pHf and pHfox) – NASSG	HOLD
✓	BH015_0.4-0.5m	Soil	17/5/24		ASS		✓	
✓	BH015_0.9-1.0m	"	"		"		✓	
✓	BH015_1.4-1.5m	"	"		"		✓	
✓	BH015_2.0-2.1m	"	"		"		✓	
✓	BH015_2.5-2.6m	"	"		"		✓	
✓	BH015_2.9-3.0m	"	"		"		✓	
✓	BH015_3.4-3.5m	"	"		"		✓	
✓	BH015_4.0-4.1m	"	"		"		✓	
✓	BH015_4.5-4.6m	"	"		"		✓	
✓	BH015_5.0-5.1m	"	"		"		✓	
✓	BH015_5.5-5.6m	"	"		"		✓	
	BH015_5.9-6.0m	"	"		"		✓	

RELINQUISHED BY:		RECEIVED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 21/5/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 11:50am	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

Avg. temp. on pickup = -0.1°C

COC Page 4 of 4.

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Not provided
Project ID:	PS212776
Turnaround time:	5 Day
Date/Time received	May 23, 2024 10:00 AM
Eurofins reference	1100380

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3.4 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- ✓ Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Site# 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: PS212776

Order No.: 60693007/1
Report #: 1100380
Phone: 08 7223 5400
Fax:

Received: May 23, 2024 10:00 AM
Due: May 30, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	ABH004_0.5-0.6	May 21, 2024		Soil	B24-My0065434	X
2	ABH004_1.0-1.1	May 21, 2024		Soil	B24-My0065435	X
3	ABH004_1.5-1.6	May 21, 2024		Soil	B24-My0065436	X
4	ABH004_2.0-2.1	May 21, 2024		Soil	B24-My0065437	X
5	ABH004_2.5-2.6	May 21, 2024		Soil	B24-My0065438	X
6	ABH004_3.0-3.1	May 21, 2024		Soil	B24-My0065439	X
7	ABH004_3.5-3.6	May 21, 2024		Soil	B24-My0065440	X
8	ABH004_4.0-4.1	May 21, 2024		Soil	B24-My0065441	X

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: PS212776

Order No.: 60693007/1
Report #: 1100380
Phone: 08 7223 5400
Fax:

Received: May 23, 2024 10:00 AM
Due: May 30, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	ABH002_0.5-0.6	May 21, 2024		Soil	B24-My0065442	X
10	ABH002_1.0-1.1	May 21, 2024		Soil	B24-My0065443	X
11	ABH002_1.5-1.6	May 21, 2024		Soil	B24-My0065444	X
12	ABH002_2.0-2.1	May 21, 2024		Soil	B24-My0065445	X
13	ABH002_2.5-2.6	May 21, 2024		Soil	B24-My0065446	X
14	ABH002_3.0-3.1	May 21, 2024		Soil	B24-My0065447	X
15	ABH002_3.5-3.6	May 21, 2024		Soil	B24-My0065448	X
16	ABH002_4.0-4.1	May 21, 2024		Soil	B24-My0065449	X
17	ABH002_4.5-4.6	May 21, 2024		Soil	B24-My0065450	X
18	ABH002_5.0-	May 21, 2024		Soil	B24-My0065451	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
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Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: PS212776

Order No.: 60693007/1
Report #: 1100380
Phone: 08 7223 5400
Fax:

Received: May 23, 2024 10:00 AM
Due: May 30, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	ABH002_5.0-5.1	May 21, 2024		Soil	B24-My0065451	
19	ABH002_5.5-5.6	May 21, 2024		Soil	B24-My0065452	X
20	ABH003_0.5-0.6	May 20, 2024		Soil	B24-My0065453	X
21	ABH003_1.0-1.1	May 20, 2024		Soil	B24-My0065454	X
22	ABH003_1.5-1.6	May 20, 2024		Soil	B24-My0065455	X
23	ABH003_2.0-2.1	May 20, 2024		Soil	B24-My0065456	X
24	ABH003_2.5-2.6	May 20, 2024		Soil	B24-My0065457	X
25	ABH003_3.0-3.1	May 20, 2024		Soil	B24-My0065458	X
26	ABH003_3.5-3.6	May 20, 2024		Soil	B24-My0065459	X
27	ABH003_4.0-	May 20, 2024		Soil	B24-My0065460	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Eurofins Environment Testing NZ Ltd
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: PS212776

Order No.: 60693007/1
Report #: 1100380
Phone: 08 7223 5400
Fax:

Received: May 23, 2024 10:00 AM
Due: May 30, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	4.1					
28	ABH003_4.5-4.6	May 20, 2024		Soil	B24-My0065461	X
29	ABH003_5.0-5.1	May 20, 2024		Soil	B24-My0065462	X
30	ABH003_5.5-5.6	May 20, 2024		Soil	B24-My0065463	X
31	ABH001_0.5-0.6_200524	May 20, 2024		Soil	B24-My0065464	X
32	ABH001_1.0-1.1_200524	May 20, 2024		Soil	B24-My0065465	X
33	BH012 0.5-0.6	May 18, 2024		Soil	B24-My0065466	X
34	BH012 0.9-1.0	May 18, 2024		Soil	B24-My0065467	X
35	BH012 1.4-1.5	May 18, 2024		Soil	B24-My0065468	X
36	BH012 1.9-2.0	May 18, 2024		Soil	B24-My0065469	X
37	BH012 2.4-2.5	May 18, 2024		Soil	B24-My0065470	X
38	BH012 2.9-3.0	May 18, 2024		Soil	B24-My0065471	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: PS212776

Order No.: 60693007/1
Report #: 1100380
Phone: 08 7223 5400
Fax:

Received: May 23, 2024 10:00 AM
Due: May 30, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
39	BH012 3.4-3.5	May 18, 2024		Soil	B24-My0065472	X
40	BH012 4.0-4.1	May 18, 2024		Soil	B24-My0065473	X
41	BH012 4.5-4.6	May 18, 2024		Soil	B24-My0065474	X
42	BH012 6.0-6.1	May 18, 2024		Soil	B24-My0065475	X
43	BH015 0.4-0.5	May 17, 2024		Soil	B24-My0065476	X
44	BH015 0.9-1.0	May 17, 2024		Soil	B24-My0065477	X
45	BH015 1.4-1.5	May 17, 2024		Soil	B24-My0065478	X
46	BH015 2.0-2.1	May 17, 2024		Soil	B24-My0065479	X
47	BH015 2.5-2.6	May 17, 2024		Soil	B24-My0065480	X
48	BH015 2.9-3.0	May 17, 2024		Soil	B24-My0065481	X
49	BH015 3.4-3.5	May 17, 2024		Soil	B24-My0065482	X
50	BH015 4.0-4.1	May 17, 2024		Soil	B24-My0065483	X
51	BH015 4.5-4.6	May 17, 2024		Soil	B24-My0065484	X
52	BH015 5.0-5.1	May 17, 2024		Soil	B24-My0065485	X
53	BH015_5.5-5.6	May 17, 2024		Soil	B24-My0065486	X
Test Counts						53

Aecom Aust Pty Ltd Tasmania
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NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
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Attention: **Robert Crowe**

Report **1100380-S**
Project name
Project ID PS212776
Received Date May 23, 2024

Client Sample ID			**ABH004_0.5-0.6**	**ABH004_1.0-1.1**	**ABH004_1.5-1.6**	**ABH004_2.0-2.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0065434**	**B24-My0065435**	**B24-My0065436**	**B24-My0065437**
Date Sampled			**May 21, 2024**	**May 21, 2024**	**May 21, 2024**	**May 21, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	8.1	7.8	8.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	6.7	6.8	2.9	7.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**ABH004_2.5-2.6**	**ABH004_3.0-3.1**	**ABH004_3.5-3.6**	**ABH004_4.0-4.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0065438**	**B24-My0065439**	**B24-My0065440**	**B24-My0065441**
Date Sampled			**May 21, 2024**	**May 21, 2024**	**May 21, 2024**	**May 21, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.0	7.8	8.1	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.5	5.4	6.3	6.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			**ABH002_0.5-0.6**	**ABH002_1.0-1.1**	**ABH002_1.5-1.6**	**ABH002_2.0-2.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0065442**	**B24-My0065443**	**B24-My0065444**	**B24-My0065445**
Date Sampled			**May 21, 2024**	**May 21, 2024**	**May 21, 2024**	**May 21, 2024**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.0	8.5	8.6	8.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.8	7.7	8.3	7.8
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH002_2.5-2.6	ABH002_3.0-3.1	ABH002_3.5-3.6	ABH002_4.0-4.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065446	B24-My0065447	B24-My0065448	B24-My0065449
Date Sampled			May 21, 2024	May 21, 2024	May 21, 2024	May 21, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.6	8.7	8.5	9.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.4	7.8	6.7	6.8
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH002_4.5-4.6	ABH002_5.0-5.1	ABH002_5.5-5.6	ABH003_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065450	B24-My0065451	B24-My0065452	B24-My0065453
Date Sampled			May 21, 2024	May 21, 2024	May 21, 2024	May 20, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.7	8.9	9.4	9.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.2	7.4	8.0	8.2
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH003_1.0-1.1	ABH003_1.5-1.6	ABH003_2.0-2.1	ABH003_2.5-2.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065454	B24-My0065455	B24-My0065456	B24-My0065457
Date Sampled			May 20, 2024	May 20, 2024	May 20, 2024	May 20, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.4	9.0	8.2	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.0	8.1	7.9	7.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH003_3.0-3.1	ABH003_3.5-3.6	ABH003_4.0-4.1	ABH003_4.5-4.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065458	B24-My0065459	B24-My0065460	B24-My0065461
Date Sampled			May 20, 2024	May 20, 2024	May 20, 2024	May 20, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	8.2	8.7	9.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	7.7	8.6	8.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH003_5.0-5.1	ABH003_5.5-5.6	ABH001_0.5-0.6_200524	ABH001_1.0-1.1_200524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065462	B24-My0065463	B24-My0065464	B24-My0065465
Date Sampled			May 20, 2024	May 20, 2024	May 20, 2024	May 20, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.3	9.0	10	9.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	2.9	11	9.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH012 0.5-0.6	BH012 0.9-1.0	BH012 1.4-1.5	BH012 1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065466	B24-My0065467	B24-My0065468	B24-My0065469
Date Sampled			May 18, 2024	May 18, 2024	May 18, 2024	May 18, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	5.8	8.4	8.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.6	4.4	8.2	7.9
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH012 2.4-2.5	BH012 2.9-3.0	BH012 3.4-3.5	BH012 4.0-4.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065470	B24-My0065471	B24-My0065472	B24-My0065473
Date Sampled			May 18, 2024	May 18, 2024	May 18, 2024	May 18, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.3	8.3	8.4	8.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.5	7.2	7.7	6.9
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH012 4.5-4.6	BH012 6.0-6.1	BH015 0.4-0.5	BH015 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065474	B24-My0065475	B24-My0065476	B24-My0065477
Date Sampled			May 18, 2024	May 18, 2024	May 17, 2024	May 17, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.4	8.8	9.0	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.2	3.4	7.9	7.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH015 1.4-1.5	BH015 2.0-2.1	BH015 2.5-2.6	BH015 2.9-3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065478	B24-My0065479	B24-My0065480	B24-My0065481
Date Sampled			May 17, 2024	May 17, 2024	May 17, 2024	May 17, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.3	8.3	7.6	8.6
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	8.1	8.2	6.7	7.4
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH015 3.4-3.5	BH015 4.0-4.1	BH015 4.5-4.6	BH015 5.0-5.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0065482	B24-My0065483	B24-My0065484	B24-My0065485
Date Sampled			May 17, 2024	May 17, 2024	May 17, 2024	May 17, 2024
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	8.5	8.2	8.5	8.9
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.4	6.8	7.4	7.2
Reaction Ratings*[S05]	0	comment	4.0	4.0	4.0	4.0

Client Sample ID			BH015_5.5-5.6
Sample Matrix			Soil
Eurofins Sample No.			B24-My0065486
Date Sampled			May 17, 2024
Test/Reference	LOR	Unit	
Acid Sulfate Soils Field pH Test			
pH-F (Field pH test)*	0.1	pH Units	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	3.2
Reaction Ratings*[S05]	0	comment	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	May 30, 2024	7 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	ABH004_0.5-0.6	May 21, 2024		Soil	B24-My0065434	X
2	ABH004_1.0-1.1	May 21, 2024		Soil	B24-My0065435	X
3	ABH004_1.5-1.6	May 21, 2024		Soil	B24-My0065436	X
4	ABH004_2.0-2.1	May 21, 2024		Soil	B24-My0065437	X
5	ABH004_2.5-2.6	May 21, 2024		Soil	B24-My0065438	X
6	ABH004_3.0-3.1	May 21, 2024		Soil	B24-My0065439	X
7	ABH004_3.5-3.6	May 21, 2024		Soil	B24-My0065440	X
8	ABH004_4.0-4.1	May 21, 2024		Soil	B24-My0065441	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

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Project Name:
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
9	ABH002_0.5-0.6	May 21, 2024		Soil	B24-My0065442	X
10	ABH002_1.0-1.1	May 21, 2024		Soil	B24-My0065443	X
11	ABH002_1.5-1.6	May 21, 2024		Soil	B24-My0065444	X
12	ABH002_2.0-2.1	May 21, 2024		Soil	B24-My0065445	X
13	ABH002_2.5-2.6	May 21, 2024		Soil	B24-My0065446	X
14	ABH002_3.0-3.1	May 21, 2024		Soil	B24-My0065447	X
15	ABH002_3.5-3.6	May 21, 2024		Soil	B24-My0065448	X
16	ABH002_4.0-4.1	May 21, 2024		Soil	B24-My0065449	X
17	ABH002_4.5-4.6	May 21, 2024		Soil	B24-My0065450	X
18	ABH002_5.0-	May 21, 2024		Soil	B24-My0065451	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name:
Project ID: PS212776

Order No.: 60693007/1
Report #: 1100380
Phone: 08 7223 5400
Fax:

Received: May 23, 2024 10:00 AM
Due: May 30, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
18	ABH002_5.0-5.1	May 21, 2024		Soil	B24-My0065451	
19	ABH002_5.5-5.6	May 21, 2024		Soil	B24-My0065452	X
20	ABH003_0.5-0.6	May 20, 2024		Soil	B24-My0065453	X
21	ABH003_1.0-1.1	May 20, 2024		Soil	B24-My0065454	X
22	ABH003_1.5-1.6	May 20, 2024		Soil	B24-My0065455	X
23	ABH003_2.0-2.1	May 20, 2024		Soil	B24-My0065456	X
24	ABH003_2.5-2.6	May 20, 2024		Soil	B24-My0065457	X
25	ABH003_3.0-3.1	May 20, 2024		Soil	B24-My0065458	X
26	ABH003_3.5-3.6	May 20, 2024		Soil	B24-My0065459	X
27	ABH003_4.0-	May 20, 2024		Soil	B24-My0065460	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
	4.1					
28	ABH003_4.5-4.6	May 20, 2024		Soil	B24-My0065461	X
29	ABH003_5.0-5.1	May 20, 2024		Soil	B24-My0065462	X
30	ABH003_5.5-5.6	May 20, 2024		Soil	B24-My0065463	X
31	ABH001_0.5-0.6_200524	May 20, 2024		Soil	B24-My0065464	X
32	ABH001_1.0-1.1_200524	May 20, 2024		Soil	B24-My0065465	X
33	BH012 0.5-0.6	May 18, 2024		Soil	B24-My0065466	X
34	BH012 0.9-1.0	May 18, 2024		Soil	B24-My0065467	X
35	BH012 1.4-1.5	May 18, 2024		Soil	B24-My0065468	X
36	BH012 1.9-2.0	May 18, 2024		Soil	B24-My0065469	X
37	BH012 2.4-2.5	May 18, 2024		Soil	B24-My0065470	X
38	BH012 2.9-3.0	May 18, 2024		Soil	B24-My0065471	X

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Received: May 23, 2024 10:00 AM
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Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794						X
39	BH012 3.4-3.5	May 18, 2024		Soil	B24-My0065472	X
40	BH012 4.0-4.1	May 18, 2024		Soil	B24-My0065473	X
41	BH012 4.5-4.6	May 18, 2024		Soil	B24-My0065474	X
42	BH012 6.0-6.1	May 18, 2024		Soil	B24-My0065475	X
43	BH015 0.4-0.5	May 17, 2024		Soil	B24-My0065476	X
44	BH015 0.9-1.0	May 17, 2024		Soil	B24-My0065477	X
45	BH015 1.4-1.5	May 17, 2024		Soil	B24-My0065478	X
46	BH015 2.0-2.1	May 17, 2024		Soil	B24-My0065479	X
47	BH015 2.5-2.6	May 17, 2024		Soil	B24-My0065480	X
48	BH015 2.9-3.0	May 17, 2024		Soil	B24-My0065481	X
49	BH015 3.4-3.5	May 17, 2024		Soil	B24-My0065482	X
50	BH015 4.0-4.1	May 17, 2024		Soil	B24-My0065483	X
51	BH015 4.5-4.6	May 17, 2024		Soil	B24-My0065484	X
52	BH015 5.0-5.1	May 17, 2024		Soil	B24-My0065485	X
53	BH015_5.5-5.6	May 17, 2024		Soil	B24-My0065486	X
Test Counts						53

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0065441	CP	pH Units	8.1	8.3	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0065443	CP	pH Units	8.5	8.5	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0065453	CP	pH Units	9.1	9.3	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0065463	CP	pH Units	9.0	9.1	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0065465	CP	pH Units	9.3	9.4	pass	20%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	B24-My0065476	CP	pH Units	9.0	9.0	pass	20%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	Yes
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Friday, May 24, 2024 2:23 PM
To: Savini Suduweli Kondage <SaviniSuduweli@eurofins.com>
Subject: Macquarie Point - Acid Sulfate Soil Assessment Questions and Additional Analysis Request

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

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Afternoon Savini,

Hope the week is finishing well. I'm just sending this email to request some additional assessment on some samples received by Eurofins, and to ask a few questions on some previous samples received (apologies for it being a Friday afternoon request).

My questions are:

- On the Eurofins-AECOM price guide from 1 October 2023, there is costs for slab tray and chip tray incubation. Would you have sufficient sample volume left from samples submitted for CRS/SPOCAS to undertake either or both of these assessments?
- In terms of sample storage, how long will Eurofins store samples after analysis (i.e., if we want to undertake incubation assessment)? I would expect to have some idea of if and how many samples we want to undertake this on by mid-June (depending on turnaround of some samples currently with Eurofins) – will all samples for this assessment (dating back to 18 April) still be frozen, or can I request a longer storage period? I am happy to provide a list of batches/samples which may be further assessed.
- In batch 1097156 last week, a number of CRS results (such as pH_{KCl}, net acidity, liming rate etc) were reported as "N/A" for samples BH-011_2.0-2.1_220424 and BH-010_4.5-4.6_240424 – could you let me know why these results were not reported or not applicable, or if they will be?

For additional analysis, can the samples from batches 1094321 and 1097381 listed below be analysed for the following suites (as indicated on the table). Costs for this assessment should reference AECOM project/PO 60693007.1.
Analytical suites are:

- Chromium Reducible Sulfur (CRS) suite (National Acid Sulfate Soils Guidance)
- Suspension Peroxide Combination Acidity (SPOCAS) (NASSG)

Thanks, and please let me know if you need any further information or detail.

Hope you have a good weekend ahead,

Field ID	Sample Date	Lab Report Number	CRS	SPOCAS
BH005_1.5-1.6_270424	27/04/2024	1094321	X	
BH005_3.5-3.6_270424			X	
BH005_5.5-5.6_270424			X	
BH005_8.5-8.6_270424			X	X
BH005_10.5-10.6_270424			X	
BH005_12.5-12.6_270424			X	
BH007_1.5-1.6_020524	2/05/2024		X	
BH007_3-3.1_020524			X	
BH007_4.5-4.6_020524			X	
BH007_6-6.1_020524			X	
BH016_2-2.1_010524	1/05/2024		X	
BH016_4.5-4.6_010524			X	
BH016_5.5-5.6_010524			X	X
BH016_7.5-7.6_010524			X	
BH016_8.5-8.6_010524			X	
BH016_13.5-13.6_010524			X	
BH014_1-1.1_290424	29/04/2024		X	
BH014_3.5-3.6_290424			X	X
BH014_4.5-4.6_290424			X	
BH014_5.5-5.6_290424			X	
BH006_1.0-1.1_080524	8/05/2024	1097381	X	
BH006_3.0-3.1_080524			X	
BH006_6.5-6.6_080524			X	
BH006_8.0-8.1_080524			X	
BH006_11.5-11.6_080524			X	
BH008_1.0-1.1_070524	7/05/2024		X	
BH008_3.0-3.1_070524			X	
BH008_4.5-4.6_070524			X	
BH008_5.5-5.6_070524			X	
BH009_1.0-1.1_100524	10/05/2024		X	
BH009_3.5-2.6_100524			X	
BH009_6.0-6.1_100524			X	
BH009_7.0-7.1_100524			X	

1103208

Robert Crowe
He/him/his

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Aust Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	MACQUARIE POINT 41 EVANS ST HOBART
Project ID:	60693007/1
Turnaround time:	5 Day
Date/Time received	May 24, 2024 2:23 PM
Eurofins reference	1103208

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 2.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1103208
Phone: 08 7223 5400
Fax:

Received: May 24, 2024 2:23 PM
Due: Jun 7, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH005_1.5-1.6_270424	Apr 27, 2024		Soil	B24-My0088864		X	
2	BH005_3.5-3.6_270424	Apr 27, 2024		Soil	B24-My0088865		X	X
3	BH005_5.5-5.6_270424	Apr 27, 2024		Soil	B24-My0088866		X	X
4	BH005_8.5-8.6_270424	Apr 27, 2024		Soil	B24-My0088867	X	X	
5	BH005_10.5-10.6_270424	Apr 27, 2024		Soil	B24-My0088868		X	
6	BH005_12.5-12.6_270424	Apr 27, 2024		Soil	B24-My0088869		X	
7	BH007_1.5-1.6_020524	May 02, 2024		Soil	B24-My0088870		X	X
8	BH007_3-3.1_020524	May 02, 2024		Soil	B24-My0088871		X	X
9	BH007_4.5-	May 02, 2024		Soil	B24-My0088872		X	X

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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
	4.6_020524							
10	BH007_6-6.1_020524	May 02, 2024		Soil	B24-My0088873		X	X
11	BH016_2-2.1_010524	May 01, 2024		Soil	B24-My0088874		X	X
12	BH016_4.5-4.6_010524	May 01, 2024		Soil	B24-My0088875		X	
13	BH016_5.5-5.6_010524	Apr 27, 2024		Soil	B24-My0088876	X	X	X
14	BH016_7.5-7.6_010524	May 01, 2024		Soil	B24-My0088877		X	X
15	BH016_8.5-8.6_010524	May 01, 2024		Soil	B24-My0088878		X	
16	BH016_13.5-13.6_010524	May 01, 2024		Soil	B24-My0088879		X	
17	BH014_1-1.1_290424	Apr 29, 2024		Soil	B24-My0088880		X	
18	BH014_3.5-3.6_290424	Apr 29, 2024		Soil	B24-My0088881	X	X	X
19	BH014_4.5-	Apr 29, 2024		Soil	B24-My0088882		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
19	BH014_4.5-4.6_290424	Apr 29, 2024		Soil	B24-My0088882			
20	BH014_5.5-5.6_290424	Apr 29, 2024		Soil	B24-My0088883		X	X
21	BH006_1.0-1.1_080524	May 08, 2024		Soil	B24-My0088884		X	
22	BH006_3.0-3.1_080524	May 08, 2024		Soil	B24-My0088885		X	X
23	BH006_6.5-6.6_080524	May 08, 2024		Soil	B24-My0088886		X	
24	BH006_8.0-8.1_080524	May 08, 2024		Soil	B24-My0088887		X	
25	BH006_11.5-11.6_080524	May 08, 2024		Soil	B24-My0088888		X	
26	BH008_1.0-1.1_070524	May 07, 2024		Soil	B24-My0088889		X	X
27	BH008_3.0-3.1_070524	May 07, 2024		Soil	B24-My0088890		X	X
28	BH008_4.5-4.6_070524	May 07, 2024		Soil	B24-My0088891		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
29	BH008_5.5-5.6_070524	May 07, 2024		Soil	B24-My0088892		X	X
30	BH009_1.0-1.1_100524	May 10, 2024		Soil	B24-My0088893		X	X
31	BH009_3.5-2.6_100524	May 10, 2024		Soil	B24-My0088894		X	X
32	BH009_6.0-6.1_100524	May 10, 2024		Soil	B24-My0088895		X	X
33	BH009_7.0-7.1_100524	May 10, 2024		Soil	B24-My0088896		X	
Test Counts						3	33	20

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
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Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1103208-S-V3**
Project name MACQUARIE POINT 41 EVANS ST HOBART
Project ID 60693007/1
Received Date May 24, 2024

Client Sample ID			**BH005_1.5-1.6_270424**	**BH005_3.5-3.6_270424**	**BH005_5.5-5.6_270424**	**BH005_8.5-8.6_270424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-My0088864**	**B24-My0088865**	**B24-My0088866**	**B24-My0088867**
Date Sampled			**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**	**Apr 27, 2024**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.3	8.1	8.6	8.6
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.062	0.025	0.24	0.42
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	38	15	150	260
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	0.090
Peroxide Extractable Sulfur	0.005	% S	-	-	-	0.50
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	2.0	3.6	2.4	2.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.65	1.1	0.78	0.93
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	410	710	490	580
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	-	< 10
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	-	< 0.02
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	-	< 1
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	33	40	51	36
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1
Sample Properties						
% Moisture	1	%	-	34	17	-

Client Sample ID			BH005_1.5-1.6_270424	BH005_3.5-3.6_270424	BH005_5.5-5.6_270424	BH005_8.5-8.6_270424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088864	B24-My0088865	B24-My0088866	B24-My0088867
Date Sampled			Apr 27, 2024	Apr 27, 2024	Apr 27, 2024	Apr 27, 2024
Test/Reference	LOR	Unit				
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	-	-	6.7
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	-	-	< 0.02
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	-	-	< 0.02
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	-	-	0.40
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	-	-	250
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	-	-	0.26
Calcium - Peroxide	0.005	% Ca	-	-	-	0.97
Calcium - Acid Reacted	0.005	% Ca	-	-	-	0.72
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.58
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	360
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	-	-	0.050
Magnesium - Peroxide	0.005	% Mg	-	-	-	0.070
Magnesium - Acid Reacted	0.005	% Mg	-	-	-	0.020
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.026
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	16
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	-	0.93
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	-	0.30
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	-	190

Client Sample ID			BH005_10.5-10.6_270424	BH005_12.5-12.6_270424	BH007_1.5-1.6_020524	BH007_3-3.1_020524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088868	B24-My0088869	B24-My0088870	B24-My0088871
Date Sampled			Apr 27, 2024	Apr 27, 2024	May 02, 2024	May 02, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	6.7	7.3	7.0	8.7
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	1.2	0.025	0.054	0.18
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	750	15	33	110
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0

Client Sample ID			BH005_10.5-10.6_270424	BH005_12.5-12.6_270424	BH007_1.5-1.6_020524	BH007_3-3.1_020524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088868	B24-My0088869	B24-My0088870	B24-My0088871
Date Sampled			Apr 27, 2024	Apr 27, 2024	May 02, 2024	May 02, 2024
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	0.72	0.79	2.1	3.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.23	0.25	0.68	1.3
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	140	160	420	790
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	1.0	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	650	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	49	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	32	53	28	41
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1
Sample Properties						
% Moisture	1	%	-	-	39	35

Client Sample ID			BH007_4.5-4.6_020524	BH007_6-6.1_020524	BH016_2-2.1_010524	BH016_4.5-4.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088872	B24-My0088873	B24-My0088874	B24-My0088875
Date Sampled			May 02, 2024	May 02, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	9.0	8.8	7.8	8.1
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.25	0.32	0.058	0.86
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	160	200	36	540
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	5.7	1.8	1.2	2.3
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.8	0.56	0.39	0.75
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	1100	350	240	470
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	0.36
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	230
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	17

Client Sample ID			BH007_4.5-4.6_020524	BH007_6-6.1_020524	BH016_2-2.1_010524	BH016_4.5-4.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088872	B24-My0088873	B24-My0088874	B24-My0088875
Date Sampled			May 02, 2024	May 02, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	60	78	50	17
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1
Sample Properties						
% Moisture	1	%	32	23	19	-

Client Sample ID			BH016_5.5-5.6_010524	BH016_7.5-7.6_010524	BH016_8.5-8.6_010524	BH016_13.5-13.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088876	B24-My0088877	B24-My0088878	B24-My0088879
Date Sampled			Apr 27, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.2	7.9	8.8	7.2
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.92	0.73	0.12	0.44
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	580	460	72	270
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	0.070	N/A	N/A	N/A
Peroxide Extractable Sulfur	0.005	% S	0.97	-	-	-
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.6	1.5	1.4	1.1
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.50	0.47	0.44	0.34
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	310	300	270	210
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	470	-	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	0.76	-	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	36	-	-	-
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	0.59	0.42	< 0.02	0.21
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	370	260	< 10	130
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	28	20	< 1	9.8
Extraneous Material						
<2mm Fraction	0.005	g	55	36	40	51
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			BH016_5.5-5.6_010524	BH016_7.5-7.6_010524	BH016_8.5-8.6_010524	BH016_13.5-13.6_010524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088876	B24-My0088877	B24-My0088878	B24-My0088879
Date Sampled			Apr 27, 2024	May 01, 2024	May 01, 2024	May 01, 2024
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	28	41	-	-
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	2.6	-	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	0.69	-	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	430	-	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	430	-	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	0.69	-	-	-
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	0.90	-	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	560	-	-	-
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	0.41	-	-	-
Calcium - Peroxide	0.005	% Ca	0.63	-	-	-
Calcium - Acid Reacted	0.005	% Ca	0.22	-	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.17	-	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	110	-	-	-
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	0.060	-	-	-
Magnesium - Peroxide	0.005	% Mg	0.080	-	-	-
Magnesium - Acid Reacted	0.005	% Mg	0.023	-	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.030	-	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	19	-	-	-
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	N/A	-	-	-
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	N/A	-	-	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	N/A	-	-	-

Client Sample ID			BH014_1-1.1_290424	BH014_3.5-3.6_290424	BH014_4.5-4.6_290424	BH014_5.5-5.6_290424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088880	B24-My0088881	B24-My0088882	B24-My0088883
Date Sampled			Apr 29, 2024	Apr 29, 2024	Apr 29, 2024	Apr 29, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	8.3	8.3	8.6
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)^{S04}	0.005	% S	0.20	0.10	0.096	0.22
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	130	64	60	140
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	0.030	N/A	N/A
Peroxide Extractable Sulfur	0.005	% S	-	0.19	-	-
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A

Client Sample ID			BH014_1-1.1_290424	BH014_3.5-3.6_290424	BH014_4.5-4.6_290424	BH014_5.5-5.6_290424
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088880	B24-My0088881	B24-My0088882	B24-My0088883
Date Sampled			Apr 29, 2024	Apr 29, 2024	Apr 29, 2024	Apr 29, 2024
Test/Reference	LOR	Unit				
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	2.8	3.3	8.9	1.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.88	1.1	2.9	0.60
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	550	660	1800	370
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	34	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	0.05	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	3.0	-	-
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	37	39	42	40
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1
Sample Properties						
% Moisture	1	%	-	34	28	23
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	5.8	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	< 0.02	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	< 2	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	< 2	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	< 0.02	-	-
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	0.16	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	100	-	-
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	0.48	-	-
Calcium - Peroxide	0.005	% Ca	-	0.51	-	-
Calcium - Acid Reacted	0.005	% Ca	-	0.028	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	0.022	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	14	-	-
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	0.040	-	-
Magnesium - Peroxide	0.005	% Mg	-	0.060	-	-
Magnesium - Acid Reacted	0.005	% Mg	-	0.027	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	0.035	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	22	-	-
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	N/A	-	-
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	N/A	-	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	n/a	-	-

Client Sample ID			BH006_1.0-1.1_080524	BH006_3.0-3.1_080524	BH006_6.5-6.6_080524	BH006_8.0-8.1_080524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088884	B24-My0088885	B24-My0088886	B24-My0088887
Date Sampled			May 08, 2024	May 08, 2024	May 08, 2024	May 08, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.6	8.4	8.9	8.3
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.011	0.97	0.20	0.71
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	7.1	600	130	440
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	2.9	5.0	2.0	1.4
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.93	1.6	0.64	0.45
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	580	990	400	280
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	0.41
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	260
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	19
Extraneous Material						
<2mm Fraction	0.005	g	83	38	75	62
>2mm Fraction	0.005	g	< 0.005	< 0.005	3.3	5.0
Analysed Material	0.1	%	100	100	96	93
Extraneous Material	0.1	%	< 0.1	< 0.1	4.1	7.5
Sample Properties						
% Moisture	1	%	-	38	-	-

Client Sample ID			BH006_11.5-11.6_080524	BH008_1.0-1.1_070524	BH008_3.0-3.1_070524	BH008_4.5-4.6_070524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088888	B24-My0088889	B24-My0088890	B24-My0088891
Date Sampled			May 08, 2024	May 07, 2024	May 07, 2024	May 07, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.2	8.4	8.6	8.8
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.55	0.034	0.66	0.23
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	340	21	410	140
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A

Client Sample ID			BH006_11.5-11.6_080524	BH008_1.0-1.1_070524	BH008_3.0-3.1_070524	BH008_4.5-4.6_070524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088888	B24-My0088889	B24-My0088890	B24-My0088891
Date Sampled			May 08, 2024	May 07, 2024	May 07, 2024	May 07, 2024
Test/Reference	LOR	Unit				
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.2	2.5	5.0	4.4
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.37	0.79	1.6	1.4
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	230	490	1000	890
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	0.31	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	190	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	14	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	76	43	58	62
>2mm Fraction	0.005	g	< 0.005	9.6	< 0.005	< 0.005
Analysed Material	0.1	%	100	82	100	100
Extraneous Material	0.1	%	< 0.1	18	< 0.1	< 0.1
Sample Properties						
% Moisture	1	%	-	9.7	25	29

Client Sample ID			BH008_5.5-5.6_070524	BH009_1.0-1.1_100524	BH009_3.5-2.6_100524	BH009_6.0-6.1_100524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088892	B24-My0088893	B24-My0088894	B24-My0088895
Date Sampled			May 07, 2024	May 10, 2024	May 10, 2024	May 10, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.3	7.1	8.3	8.7
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	1.3	0.020	0.41	0.21
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	830	12	260	130
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	5.7	1.4	5.6	1.3
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.8	0.43	1.8	0.40
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	1100	270	1100	250
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5

Client Sample ID			BH008_5.5-5.6_070524	BH009_1.0-1.1_100524	BH009_3.5-2.6_100524	BH009_6.0-6.1_100524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-My0088892	B24-My0088893	B24-My0088894	B24-My0088895
Date Sampled			May 07, 2024	May 10, 2024	May 10, 2024	May 10, 2024
Test/Reference	LOR	Unit				
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	0.11	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	71	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	5.4	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	45	76	31	60
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1
Sample Properties						
% Moisture	1	%	40	18	43	24

Client Sample ID			BH009_7.0-7.1_100524
Sample Matrix			Soil
Eurofins Sample No.			B24-My0088896
Date Sampled			May 10, 2024
Test/Reference	LOR	Unit	
Actual Acidity (NLM-3.2)			
pH-KCL (NLM-3.1)	0.1	pH Units	8.3
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003
Potential Acidity - Chromium Reducible Sulfur			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.69
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	430
Extractable Sulfur			
Sulfur - KCl Extractable	0.005	% S	N/A
HCl Extractable Sulfur	0.005	% S	N/A
Retained Acidity (S-NAS)			
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0
Acid Neutralising Capacity (ANCbt)			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.5
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.47
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	290
ANC Fineness Factor		factor	1.5
Net Acidity (Including ANC)			
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	0.38
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	240
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	18
Extraneous Material			
<2mm Fraction	0.005	g	50
>2mm Fraction	0.005	g	< 0.005
Analysed Material	0.1	%	100
Extraneous Material	0.1	%	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chromium Reducible Sulfur Suite			
Chromium Suite	Brisbane	May 31, 2024	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
Extraneous Material	Brisbane	May 31, 2024	6 Week
- Method: LTM-GEN-7050/7070			
SPOCAS Suite			
SPOCAS Suite	Brisbane	May 31, 2024	6 Week
- Method: LTM-GEN-7050			
% Moisture	Brisbane	May 31, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1103208
Phone: 08 7223 5400
Fax:

Received: May 24, 2024 2:23 PM
Due: Jun 7, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH005_1.5-1.6_270424	Apr 27, 2024		Soil	B24-My0088864		X	
2	BH005_3.5-3.6_270424	Apr 27, 2024		Soil	B24-My0088865		X	X
3	BH005_5.5-5.6_270424	Apr 27, 2024		Soil	B24-My0088866		X	X
4	BH005_8.5-8.6_270424	Apr 27, 2024		Soil	B24-My0088867	X	X	
5	BH005_10.5-10.6_270424	Apr 27, 2024		Soil	B24-My0088868		X	
6	BH005_12.5-12.6_270424	Apr 27, 2024		Soil	B24-My0088869		X	
7	BH007_1.5-1.6_020524	May 02, 2024		Soil	B24-My0088870		X	X
8	BH007_3-3.1_020524	May 02, 2024		Soil	B24-My0088871		X	X
9	BH007_4.5-	May 02, 2024		Soil	B24-My0088872		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
	4.6_020524							
10	BH007_6-6.1_020524	May 02, 2024		Soil	B24-My0088873		X	X
11	BH016_2-2.1_010524	May 01, 2024		Soil	B24-My0088874		X	X
12	BH016_4.5-4.6_010524	May 01, 2024		Soil	B24-My0088875		X	
13	BH016_5.5-5.6_010524	Apr 27, 2024		Soil	B24-My0088876	X	X	X
14	BH016_7.5-7.6_010524	May 01, 2024		Soil	B24-My0088877		X	X
15	BH016_8.5-8.6_010524	May 01, 2024		Soil	B24-My0088878		X	
16	BH016_13.5-13.6_010524	May 01, 2024		Soil	B24-My0088879		X	
17	BH014_1-1.1_290424	Apr 29, 2024		Soil	B24-My0088880		X	
18	BH014_3.5-3.6_290424	Apr 29, 2024		Soil	B24-My0088881	X	X	X
19	BH014_4.5-	Apr 29, 2024		Soil	B24-My0088882		X	X

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Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
19	BH014_4.5-4.6_290424	Apr 29, 2024		Soil	B24-My0088882			
20	BH014_5.5-5.6_290424	Apr 29, 2024		Soil	B24-My0088883		X	X
21	BH006_1.0-1.1_080524	May 08, 2024		Soil	B24-My0088884		X	
22	BH006_3.0-3.1_080524	May 08, 2024		Soil	B24-My0088885		X	X
23	BH006_6.5-6.6_080524	May 08, 2024		Soil	B24-My0088886		X	
24	BH006_8.0-8.1_080524	May 08, 2024		Soil	B24-My0088887		X	
25	BH006_11.5-11.6_080524	May 08, 2024		Soil	B24-My0088888		X	
26	BH008_1.0-1.1_070524	May 07, 2024		Soil	B24-My0088889		X	X
27	BH008_3.0-3.1_070524	May 07, 2024		Soil	B24-My0088890		X	X
28	BH008_4.5-4.6_070524	May 07, 2024		Soil	B24-My0088891		X	X

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Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
29	BH008_5.5-5.6_070524	May 07, 2024		Soil	B24-My0088892		X	X
30	BH009_1.0-1.1_100524	May 10, 2024		Soil	B24-My0088893		X	X
31	BH009_3.5-2.6_100524	May 10, 2024		Soil	B24-My0088894		X	X
32	BH009_6.0-6.1_100524	May 10, 2024		Soil	B24-My0088895		X	X
33	BH009_7.0-7.1_100524	May 10, 2024		Soil	B24-My0088896		X	
Test Counts						3	33	20

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	105			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	91			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	110			80-120	Pass	
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	105			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	93			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	114			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0088864	CP	pH Units	8.3	8.5	1.7	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088864	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088864	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0088864	CP	% S	0.062	0.068	9.9	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0088864	CP	mol H+/t	38	42	9.9	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B24-My0088864	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B24-My0088864	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0088864	CP	% CaCO3	2.0	2.2	8.9	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0088864	CP	% S	0.65	0.71	8.9	30%	Pass	
ANC Fineness Factor	B24-My0088864	CP	factor	1.5	1.5	<1	30%	Pass	

Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-My0088864	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0088864	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0088864	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0088864	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-My0088864	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-My0088864	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-My0088864	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-My0088864	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B24-My0088864	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B24-My0088864	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-My0088864	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B24-My0088864	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B24-My0088864	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-My0088864	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-My0088864	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-My0088864	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-My0088865	CP	%	34	38	11	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0088867	CP	pH Units	8.6	8.7	1.0	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088867	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088867	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0088867	CP	% S	0.42	0.42	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0088867	CP	mol H+/t	260	260	<1	30%	Pass	

Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-My0088867	CP	% S	0.090	0.090	<1	30%	Pass	
Peroxide Extractable Sulfur	B24-My0088867	CP	% S	0.50	0.50	<1	20%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0088867	CP	% CaCO3	2.9	3.0	2.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0088867	CP	% S	0.93	0.95	2.0	30%	Pass	
ANC Fineness Factor	B24-My0088867	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-My0088867	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-My0088867	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-My0088867	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0088867	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0088867	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0088867	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-My0088867	CP	pH Units	6.7	6.7	1.0	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-My0088867	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-My0088867	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-My0088867	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-My0088867	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-My0088867	CP	% S	0.40	0.40	<1	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-My0088867	CP	mol H+/t	250	250	<1	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-My0088867	CP	% Ca	0.26	0.24	7.0	30%	Pass	
Calcium - Peroxide	B24-My0088867	CP	% Ca	0.97	0.97	<1	20%	Pass	
Calcium - Acid Reacted	B24-My0088867	CP	% Ca	0.72	0.73	2.0	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-My0088867	CP	% S	0.58	0.59	2.0	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-My0088867	CP	mol H+/t	360	370	2.0	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-My0088867	CP	% Mg	0.050	0.050	2.0	30%	Pass	
Magnesium - Peroxide	B24-My0088867	CP	% Mg	0.070	0.070	1.0	20%	Pass	
Magnesium - Acid Reacted	B24-My0088867	CP	% Mg	0.020	0.020	<1	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-My0088867	CP	% S	0.026	0.026	<1	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-My0088867	CP	mol H+/t	16	16	<1	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-My0088867	CP	% CaCO3	0.93	0.91	3.0	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-My0088867	CP	mol H+/t	190	180	3.0	30%	Pass	

Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0088875	CP	pH Units	8.1	8.1	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088875	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088875	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0088875	CP	% S	0.86	0.97	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0088875	CP	mol H+/t	540	610	12	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B24-My0088875	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B24-My0088875	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0088875	CP	% CaCO3	2.3	2.6	11	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0088875	CP	% S	0.75	0.83	11	30%	Pass	
ANC Fineness Factor	B24-My0088875	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-My0088875	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0088875	CP	% S	0.36	0.42	14	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0088875	CP	mol H+/t	230	260	14	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0088875	CP	kg CaCO3/t	17	20	14	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-My0088875	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-My0088875	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-My0088875	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	

Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-My0088875	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B24-My0088875	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B24-My0088875	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-My0088875	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B24-My0088875	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B24-My0088875	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-My0088875	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-My0088875	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-My0088875	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-My0088882	CP	%	28	26	6.7	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-My0088887	CP	pH Units	8.3	8.3	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088887	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-My0088887	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-My0088887	CP	% S	0.71	0.71	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-My0088887	CP	mol H+/t	440	440	<1	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-My0088887	CP	% CaCO3	1.4	1.5	6.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-My0088887	CP	% S	0.45	0.48	6.0	30%	Pass	
ANC Fineness Factor	B24-My0088887	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-My0088887	CP	% S	0.41	0.39	5.0	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-My0088887	CP	mol H+/t	260	250	5.0	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-My0088887	CP	kg CaCO3/t	19	18	5.0	30%	Pass	

Comments

V2: Report amended to reflect the follows:

-Reporting updated for My0088876 to reflect Net Acidity calculations, all other reporting data correct and accurate.

-Net Acidity calculations reported.

-pH-KCl triggered ANC analysis, also reported

-Retained Acidity (inc Net Acid Soluble Sulfur) and Extractable Sulfur pathway not reported as this is triggered with pH-KCl<4.5.

V3: Report amended to update net acidity values.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Sunday, June 9, 2024 1:02 PM
To: Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Macquarie Point - Acid Sulfate Soil Assessment Questions and Additional Analysis Request

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Hi Savini,

Hope you've had a good long weekend and are not looking at this email till Tuesday at the very earliest. Just sending through three requests relating to the Mac Point acid sulfate soil assessment.

1. Could the samples in the following lab batches be kept on hold beyond 2 months for potential further assessment:
   - 1091401, 1093109, 1094321, 1097381, 1100380 and 1099835 (initial sample batches).
   - 109715, 1097156, 1103208 (batches taken from the above 6 on which further analysis was conducted).

I should be able to provide details for additional assessment once the results for the additional sampling request in Point 3 below are received.

2. Just following up again on my question around reporting of some characteristics (i.e., Net Acidity et all), and noting the same approach/results not report has been taken for the following samples from batch 1103208:
   - BH005_8.5-8.6_270424
   - BH014_3.5-3.6_290424
   - BH016_5.5-5.6_010524

These three samples all also had a pH_{KCl} of greater than 6.5 reported.

3. Can you organise additional CRS (NASSG) and SPOCAS (NASSG) assessment on the following samples from batches 1100680 and 1099385:

Field ID	Sample Date	Lab Report	Additional Analysis	
BH004_2.0-2.1m	13/05/2024	1099835	CRS	
BH004_2.9-3.0m	13/05/2024		CRS	
BH004_4.5-4.6m	13/05/2024		CRS	
BH004_6.0-6.1m	13/05/2024		CRS	SPOCAS
BH004_8.5-8.6m	13/05/2024		CRS	
BH013_1.5-1.6m	15/05/2024		CRS	
BH013_11.0-11.1m	15/05/2024		CRS	
BH013_3.5-3.6m	15/05/2024		CRS	SPOCAS
BH013_5.5-5.6m	15/05/2024		CRS	
BH013_6.4-6.5m	15/05/2024		CRS	
BH013_8.5-8.6m	15/05/2024		CRS	
ABH001_1.0-1.1_200524	20/05/2024	1100380	CRS	
ABH002_0.5-0.6	21/05/2024		CRS	
ABH002_1.5-1.6	21/05/2024		CRS	
ABH002_2.5-2.6	21/05/2024		CRS	
ABH002_4.0-4.1	21/05/2024		CRS	SPOCAS
ABH003_1.0-1.1	20/05/2024		CRS	
ABH003_2.5-2.6	20/05/2024		CRS	
ABH003_3.5-3.6	20/05/2024		CRS	
ABH003_5.5-5.6	20/05/2024		CRS	
ABH004_1.5-1.6	21/05/2024		CRS	
ABH004_3.0-3.1	21/05/2024		CRS	
BH012_0.9-1.0	18/05/2024		CRS	
BH012_2.9-3.0	18/05/2024		CRS	
BH012_4.5-4.6	18/05/2024		CRS	
BH012_6.0-6.1	18/05/2024		CRS	
BH015_0.9-1.0	17/05/2024		CRS	
BH015_2.5-2.6	17/05/2024		CRS	
BH015_3.4-3.5	17/05/2024		CRS	
BH015_5.5-5.6	17/05/2024		CRS	

1108737

Thanks, and please let me know any questions/comments.

Robert Crowe
He/him/his

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079 & 25289

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1
Turnaround time: 10 Day
Date/Time received Jun 9, 2024 1:02 PM
Eurofins reference 1108737

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : -.8 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1108737
Phone: 08 7223 5400
Fax:

Received: Jun 9, 2024 1:02 PM
Due: Jun 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780	X	X	X
External Laboratory			

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	BH004_2.0-2.1M	May 13, 2024		Soil	B24-Jn0042408		X	X
2	BH004_2.9-3.0M	May 13, 2024		Soil	B24-Jn0042409		X	X
3	BH004_4.5-4.6M	May 13, 2024		Soil	B24-Jn0042410		X	X
4	BH004_6.0-6.1M	May 13, 2024		Soil	B24-Jn0042411	X	X	X
5	BH004_8.5-8.6M	May 13, 2024		Soil	B24-Jn0042412		X	X
6	BH013_1.5-1.6M	May 15, 2024		Soil	B24-Jn0042413		X	X
7	BH013_11.0-11.1M	May 15, 2024		Soil	B24-Jn0042414		X	X
8	BH013_3.5-3.6M	May 15, 2024		Soil	B24-Jn0042415	X	X	X
9	BH013_5.5-	May 15, 2024		Soil	B24-Jn0042416		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
	5.6M							
10	BH013_6.4-6.5M	May 15, 2024		Soil	B24-Jn0042417		X	X
11	BH013_8.5-8.6	May 15, 2024		Soil	B24-Jn0042418		X	X
12	ABH001_1.0-1.1_200524	May 20, 2024		Soil	B24-Jn0042537		X	X
13	ABH002_0.5-0.6	May 21, 2024		Soil	B24-Jn0042538		X	X
14	ABH002_1.5-1.6	May 21, 2024		Soil	B24-Jn0042539		X	X
15	ABH002_2.5-2.6	May 21, 2024		Soil	B24-Jn0042540		X	X
16	ABH002_4.0-4.1	May 21, 2024		Soil	B24-Jn0042541	X	X	X
17	ABH003_1.0-1.1	May 20, 2024		Soil	B24-Jn0042542		X	X
18	ABH003_2.5-2.6	May 20, 2024		Soil	B24-Jn0042543		X	X
19	ABH003_3.5-3.6	May 20, 2024		Soil	B24-Jn0042544		X	X

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
20	ABH003_5.5-5.6	May 20, 2024		Soil	B24-Jn0042545		X	
21	ABH004_1.5-1.6	May 20, 2024		Soil	B24-Jn0042546		X	X
22	ABH004_3.0-3.1	May 21, 2024		Soil	B24-Jn0042547		X	X
23	BH012_0.9-1.0	May 21, 2024		Soil	B24-Jn0042548		X	X
24	BH012_2.9-3.0	May 18, 2024		Soil	B24-Jn0042549		X	X
25	BH012_4.5-4.6	May 18, 2024		Soil	B24-Jn0042550		X	X
26	BH012_6.0-6.1	May 18, 2024		Soil	B24-Jn0042551		X	X
27	BH015_0.9-1.0	May 17, 2024		Soil	B24-Jn0042552		X	X
28	BH015_2.5-2.6	May 17, 2024		Soil	B24-Jn0042553		X	X
29	BH015_3.4-3.5	May 17, 2024		Soil	B24-Jn0042554		X	X
30	BH015_5.5-5.6	May 17, 2024		Soil	B24-Jn0042555		X	X
Test Counts						3	30	29

Aecom Aust Pty Ltd Tasmania
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Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1108737-S-V2**
Project name PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID 60693007/1
Received Date Jun 09, 2024

Client Sample ID			**BH004_2.0-2.1M**	**BH004_2.9-3.0M**	**BH004_4.5-4.6M**	**BH004_6.0-6.1M**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Jn0042408**	**B24-Jn0042409**	**B24-Jn0042410**	**B24-Jn0042411**
Date Sampled			**May 13, 2024**	**May 13, 2024**	**May 13, 2024**	**May 13, 2024**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.2	6.7	8.9	9.1
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.007	0.032	0.064	0.14
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	4.2	20	40	87
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	0.045
Peroxide Extractable Sulfur	0.005	% S	-	-	-	0.18
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	0.83	0.34	0.54	1.7
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.26	0.11	0.17	0.55
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	170	67	110	340
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	-	< 10
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	-	< 0.02
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	-	< 1
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	55	57	220	230
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	1.1
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	0.5
Sample Properties						
% Moisture	1	%	21	14	13	22

Client Sample ID			BH004_2.0-2.1M	BH004_2.9-3.0M	BH004_4.5-4.6M	BH004_6.0-6.1M
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Jn0042408**	**B24-Jn0042409**	**B24-Jn0042410**	**B24-Jn0042411**
Date Sampled			**May 13, 2024**	**May 13, 2024**	**May 13, 2024**	**May 13, 2024**
Test/Reference	LOR	Unit				
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	-	-	7.2
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	-	-	< 0.02
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	-	-	< 0.02
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	-	-	0.14
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	-	-	85
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	-	-	0.23
Calcium - Peroxide	0.005	% Ca	-	-	-	0.54
Calcium - Acid Reacted	0.005	% Ca	-	-	-	0.31
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.25
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	150
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	-	-	0.012
Magnesium - Peroxide	0.005	% Mg	-	-	-	0.030
Magnesium - Acid Reacted	0.005	% Mg	-	-	-	0.017
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.023
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	14
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	-	0.52
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	-	0.17
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	-	100

Client Sample ID			BH004_8.5-8.6M	BH013_1.5-1.6M	BH013_11.0-11.1M	BH013_3.5-3.6M
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Jn0042412**	**B24-Jn0042413**	**B24-Jn0042414**	**B24-Jn0042415**
Date Sampled			**May 13, 2024**	**May 15, 2024**	**May 15, 2024**	**May 15, 2024**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.6	8.6	8.4	8.6
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.48	0.009	0.64	0.13
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	300	5.9	400	81
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	0.049
Peroxide Extractable Sulfur	0.005	% S	-	-	-	0.19
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0

Client Sample ID			BH004_8.5-8.6M	BH013_1.5-1.6M	BH013_11.0-11.1M	BH013_3.5-3.6M
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042412	B24-Jn0042413	B24-Jn0042414	B24-Jn0042415
Date Sampled			May 13, 2024	May 15, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	2.5	2.3	1.9	1.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.79	0.75	0.61	0.59
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	490	470	380	370
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	-	< 10
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	-	< 0.02
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	-	< 1
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	0.24	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	150	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	11	< 1
Extraneous Material						
<2mm Fraction	0.005	g	280	160	43	68
>2mm Fraction	0.005	g	< 0.005	< 0.005	5.1	5.3
Analysed Material	0.1	%	100	100	89	93
Extraneous Material	0.1	%	< 0.1	< 0.1	11	7.2
Sample Properties						
% Moisture	1	%	20	21	26	34
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	-	-	7.5
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	-	-	< 0.02
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	-	-	< 0.02
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	-	-	0.14
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	-	-	89
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	-	-	0.37
Calcium - Peroxide	0.005	% Ca	-	-	-	0.71
Calcium - Acid Reacted	0.005	% Ca	-	-	-	0.34
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.27
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	170
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	-	-	0.030
Magnesium - Peroxide	0.005	% Mg	-	-	-	0.054
Magnesium - Acid Reacted	0.005	% Mg	-	-	-	0.024
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.032
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	20
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	-	0.77
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	-	0.25
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	-	150

Client Sample ID			BH013_5.5-5.6M	BH013_6.4-6.5M	BH013_8.5-8.6	ABH001_1.0-1.1_200524
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Jn0042416**	**B24-Jn0042417**	**B24-Jn0042418**	**B24-Jn0042537**
Date Sampled			**May 15, 2024**	**May 15, 2024**	**May 15, 2024**	**May 20, 2024**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	9.1	8.4	9.1
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.033	0.21	0.32	0.012
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	21	130	200	7.3
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.6	3.6	1.1	2.4
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.53	1.2	0.35	0.77
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	330	720	220	480
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	0.09	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	53	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	4.0	< 1
Extraneous Material						
<2mm Fraction	0.005	g	100	50	34	19
>2mm Fraction	0.005	g	73	< 0.005	< 0.005	81
Analysed Material	0.1	%	58	100	100	19
Extraneous Material	0.1	%	42	< 0.1	< 0.1	81
Sample Properties						
% Moisture	1	%	22	19	22	2.0

Client Sample ID			ABH002_0.5-0.6	ABH002_1.5-1.6	ABH002_2.5-2.6	ABH002_4.0-4.1
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Jn0042538**	**B24-Jn0042539**	**B24-Jn0042540**	**B24-Jn0042541**
Date Sampled			**May 21, 2024**	**May 21, 2024**	**May 21, 2024**	**May 21, 2024**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.9	8.6	8.7	8.8
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.040	0.023	0.007	0.11
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	25	15	4.4	67
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	0.014
Peroxide Extractable Sulfur	0.005	% S	-	-	-	0.12
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A

Client Sample ID			ABH002_0.5-0.6	ABH002_1.5-1.6	ABH002_2.5-2.6	ABH002_4.0-4.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042538	B24-Jn0042539	B24-Jn0042540	B24-Jn0042541
Date Sampled			May 21, 2024	May 21, 2024	May 21, 2024	May 21, 2024
Test/Reference	LOR	Unit				
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	4.0	5.0	4.9	2.6
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.3	1.6	1.6	0.83
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	800	1000	980	520
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	-	< 10
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	-	< 0.02
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	-	< 1
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	24	35	38	39
>2mm Fraction	0.005	g	21	16	8.4	< 0.005
Analysed Material	0.1	%	53	70	82	100
Extraneous Material	0.1	%	47	30	18	< 0.1
Sample Properties						
% Moisture	1	%	5.6	16	18	4.9
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	-	-	7.1
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	-	-	< 0.02
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	-	-	< 2
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	-	-	< 0.02
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	-	-	0.10
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	-	-	64
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	-	-	0.32
Calcium - Peroxide	0.005	% Ca	-	-	-	0.66
Calcium - Acid Reacted	0.005	% Ca	-	-	-	0.34
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.27
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	170
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	-	-	0.044
Magnesium - Peroxide	0.005	% Mg	-	-	-	0.071
Magnesium - Acid Reacted	0.005	% Mg	-	-	-	0.027
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.035
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	22
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	-	0.76
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	-	0.24
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	-	150

Client Sample ID			ABH003_1.0-1.1	ABH003_2.5-2.6	ABH003_3.5-3.6	ABH003_5.5-5.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042542	B24-Jn0042543	B24-Jn0042544	B24-Jn0042545
Date Sampled			May 20, 2024	May 20, 2024	May 20, 2024	May 20, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.5	8.3	8.2	8.7
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.039	0.015	0.010	0.22
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	24	9.5	5.9	140
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	5.1	3.8	7.1	0.98
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.6	1.2	2.3	0.31
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	1000	760	1400	200
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	48	38	71	66
>2mm Fraction	0.005	g	23	6.3	24	< 0.005
Analysed Material	0.1	%	67	86	74	100
Extraneous Material	0.1	%	33	14	26	< 0.1
Sample Properties						
% Moisture	1	%	15	24	27	-

Client Sample ID			ABH004_1.5-1.6	ABH004_3.0-3.1	BH012_0.9-1.0	BH012_2.9-3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042546	B24-Jn0042547	B24-Jn0042548	B24-Jn0042549
Date Sampled			May 20, 2024	May 21, 2024	May 21, 2024	May 18, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.1	8.4	6.3	8.5
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	1.7	0.28	< 0.005	0.016
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	1000	180	< 3	10
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A

Client Sample ID			ABH004_1.5-1.6	ABH004_3.0-3.1	BH012_0.9-1.0	BH012_2.9-3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042546	B24-Jn0042547	B24-Jn0042548	B24-Jn0042549
Date Sampled			May 20, 2024	May 21, 2024	May 21, 2024	May 18, 2024
Test/Reference	LOR	Unit				
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.5	3.5	N/A	5.1
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.1	1.1	N/A	1.6
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	690	690	N/A	1000
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	0.91	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	570	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	43	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	96	37	59	30
>2mm Fraction	0.005	g	8.3	6.2	15	2.4
Analysed Material	0.1	%	92	86	79	92
Extraneous Material	0.1	%	7.9	14	21	7.5
Sample Properties						
% Moisture	1	%	23	29	11	17

Client Sample ID			BH012_4.5-4.6	BH012_6.0-6.1	BH015_0.9-1.0	BH015_2.5-2.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042550	B24-Jn0042551	B24-Jn0042552	B24-Jn0042553
Date Sampled			May 18, 2024	May 18, 2024	May 17, 2024	May 17, 2024
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.4	9.0	9.1	8.8
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.041	0.085	0.016	0.006
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	26	53	10	3.8
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	2.3	0.81	3.2	7.1
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.75	0.26	1.0	2.3
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	470	160	630	1400
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5

Client Sample ID			BH012_4.5-4.6	BH012_6.0-6.1	BH015_0.9-1.0	BH015_2.5-2.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-Jn0042550	B24-Jn0042551	B24-Jn0042552	B24-Jn0042553
Date Sampled			May 18, 2024	May 18, 2024	May 17, 2024	May 17, 2024
Test/Reference	LOR	Unit				
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	34	150	24	28
>2mm Fraction	0.005	g	2.6	8.9	< 0.005	9.2
Analysed Material	0.1	%	93	94	100	75
Extraneous Material	0.1	%	7.1	5.8	< 0.1	25
Sample Properties						
% Moisture	1	%	20	20	11	21

Client Sample ID			BH015_3.4-3.5	BH015_5.5-5.6
Sample Matrix			Soil	Soil
Eurofins Sample No.			B24-Jn0042554	B24-Jn0042555
Date Sampled			May 17, 2024	May 17, 2024
Test/Reference	LOR	Unit		
Actual Acidity (NLM-3.2)				
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	8.4
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur				
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.022	0.29
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	14	180
Extractable Sulfur				
Sulfur - KCl Extractable	0.005	% S	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A
Retained Acidity (S-NAS)				
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0
Acid Neutralising Capacity (ANCbt)				
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	2.3	1.6
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.73	0.52
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	460	330
ANC Fineness Factor		factor	1.5	1.5
Net Acidity (Including ANC)				
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1
Extraneous Material				
<2mm Fraction	0.005	g	130	120
>2mm Fraction	0.005	g	41	50
Analysed Material	0.1	%	76	71
Extraneous Material	0.1	%	24	29
Sample Properties				
% Moisture	1	%	12	18

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chromium Reducible Sulfur Suite			
Chromium Suite	Brisbane	Jun 19, 2024	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
Extraneous Material	Brisbane	Jun 19, 2024	6 Week
- Method: LTM-GEN-7050/7070			
SPOCAS Suite			
SPOCAS Suite	Brisbane	Jun 19, 2024	6 Week
- Method: LTM-GEN-7050			
% Moisture	Brisbane	Jun 18, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079 & 25289

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Tasmania 7000

Project Name: PS212776 MACQUARIE POINT DEVELOPMENT CORPORATION
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1108737
Phone: 08 7223 5400
Fax:

Received: Jun 9, 2024 1:02 PM
Due: Jun 24, 2024
Priority: 10 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH004_2.0-2.1M	May 13, 2024		Soil	B24-Jn0042408		X	X
2	BH004_2.9-3.0M	May 13, 2024		Soil	B24-Jn0042409		X	X
3	BH004_4.5-4.6M	May 13, 2024		Soil	B24-Jn0042410		X	X
4	BH004_6.0-6.1M	May 13, 2024		Soil	B24-Jn0042411	X	X	X
5	BH004_8.5-8.6M	May 13, 2024		Soil	B24-Jn0042412		X	X
6	BH013_1.5-1.6M	May 15, 2024		Soil	B24-Jn0042413		X	X
7	BH013_11.0-11.1M	May 15, 2024		Soil	B24-Jn0042414		X	X
8	BH013_3.5-3.6M	May 15, 2024		Soil	B24-Jn0042415	X	X	X
9	BH013_5.5-	May 15, 2024		Soil	B24-Jn0042416		X	X

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Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
	5.6M							
10	BH013_6.4-6.5M	May 15, 2024		Soil	B24-Jn0042417		X	X
11	BH013_8.5-8.6	May 15, 2024		Soil	B24-Jn0042418		X	X
12	ABH001_1.0-1.1_200524	May 20, 2024		Soil	B24-Jn0042537		X	X
13	ABH002_0.5-0.6	May 21, 2024		Soil	B24-Jn0042538		X	X
14	ABH002_1.5-1.6	May 21, 2024		Soil	B24-Jn0042539		X	X
15	ABH002_2.5-2.6	May 21, 2024		Soil	B24-Jn0042540		X	X
16	ABH002_4.0-4.1	May 21, 2024		Soil	B24-Jn0042541	X	X	X
17	ABH003_1.0-1.1	May 20, 2024		Soil	B24-Jn0042542		X	X
18	ABH003_2.5-2.6	May 20, 2024		Soil	B24-Jn0042543		X	X
19	ABH003_3.5-3.6	May 20, 2024		Soil	B24-Jn0042544		X	X

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Sample Detail						SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
20	ABH003_5.5-5.6	May 20, 2024		Soil	B24-Jn0042545		X	
21	ABH004_1.5-1.6	May 20, 2024		Soil	B24-Jn0042546		X	X
22	ABH004_3.0-3.1	May 21, 2024		Soil	B24-Jn0042547		X	X
23	BH012_0.9-1.0	May 21, 2024		Soil	B24-Jn0042548		X	X
24	BH012_2.9-3.0	May 18, 2024		Soil	B24-Jn0042549		X	X
25	BH012_4.5-4.6	May 18, 2024		Soil	B24-Jn0042550		X	X
26	BH012_6.0-6.1	May 18, 2024		Soil	B24-Jn0042551		X	X
27	BH015_0.9-1.0	May 17, 2024		Soil	B24-Jn0042552		X	X
28	BH015_2.5-2.6	May 17, 2024		Soil	B24-Jn0042553		X	X
29	BH015_3.4-3.5	May 17, 2024		Soil	B24-Jn0042554		X	X
30	BH015_5.5-5.6	May 17, 2024		Soil	B24-Jn0042555		X	X
Test Counts						3	30	29

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Extractable Sulfur							
HCl Extractable Sulfur	%	103			80-120	Pass	
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	97			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	98			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	104			80-120	Pass	
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	97			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	99			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	105			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-Jn0042410	CP	pH Units	8.9	8.9	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042410	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042410	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-Jn0042410	CP	% S	0.064	0.063	1.6	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-Jn0042410	CP	mol H+/t	40	39	1.6	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B24-Jn0042410	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B24-Jn0042410	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-Jn0042410	CP	% CaCO3	0.54	0.48	11	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-Jn0042410	CP	% S	0.17	0.16	11	30%	Pass	
ANC Fineness Factor	B24-Jn0042410	CP	factor	1.5	1.5	<1	30%	Pass	

Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-Jn0042410	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-Jn0042410	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-Jn0042410	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-Jn0042410	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-Jn0042410	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-Jn0042410	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-Jn0042410	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-Jn0042410	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B24-Jn0042410	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B24-Jn0042410	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-Jn0042410	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B24-Jn0042410	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B24-Jn0042410	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-Jn0042410	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-Jn0042410	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-Jn0042410	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-Jn0042411	CP	pH Units	9.1	9.1	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042411	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042411	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-Jn0042411	CP	% S	0.14	0.15	4.9	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-Jn0042411	CP	mol H+/t	87	91	4.9	30%	Pass	

Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-Jn0042411	CP	% S	0.045	0.044	2.8	30%	Pass	
Peroxide Extractable Sulfur	B24-Jn0042411	CP	% S	0.18	0.18	2.8	20%	Pass	
HCl Extractable Sulfur	B24-Jn0042411	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-Jn0042411	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-Jn0042411	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-Jn0042411	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-Jn0042411	CP	% CaCO3	1.7	1.7	2.1	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-Jn0042411	CP	% S	0.55	0.54	2.1	30%	Pass	
ANC Fineness Factor	B24-Jn0042411	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-Jn0042411	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-Jn0042411	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-Jn0042411	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-Jn0042411	CP	% S	< 0.02	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-Jn0042411	CP	mol H+/t	< 10	N/A	N/A	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-Jn0042411	CP	kg CaCO3/t	< 1	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-Jn0042411	CP	pH Units	7.2	7.2	<1	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-Jn0042411	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-Jn0042411	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-Jn0042411	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-Jn0042411	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-Jn0042411	CP	% S	0.14	0.13	2.7	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-Jn0042411	CP	mol H+/t	85	83	2.7	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-Jn0042411	CP	% Ca	0.23	0.23	2.1	30%	Pass	
Calcium - Peroxide	B24-Jn0042411	CP	% Ca	0.54	0.53	2.2	20%	Pass	
Calcium - Acid Reacted	B24-Jn0042411	CP	% Ca	0.31	0.30	2.2	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-Jn0042411	CP	% S	0.25	0.24	2.2	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-Jn0042411	CP	mol H+/t	150	150	2.2	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-Jn0042411	CP	% Mg	0.012	0.012	3.6	30%	Pass	
Magnesium - Peroxide	B24-Jn0042411	CP	% Mg	0.030	0.029	2.7	20%	Pass	
Magnesium - Acid Reacted	B24-Jn0042411	CP	% Mg	0.017	0.017	2.0	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-Jn0042411	CP	% S	0.023	0.022	2.0	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-Jn0042411	CP	mol H+/t	14	14	2.0	30%	Pass	

Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-Jn0042411	CP	% CaCO3	0.52	0.51	1.4	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-Jn0042411	CP	mol H+/t	100	100	1.4	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-Jn0042417	CP	pH Units	9.1	9.1	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042417	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042417	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-Jn0042417	CP	% S	0.21	0.22	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-Jn0042417	CP	mol H+/t	130	140	3.0	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B24-Jn0042417	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B24-Jn0042417	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-Jn0042417	CP	% CaCO3	3.6	3.5	2.6	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-Jn0042417	CP	% S	1.2	1.1	2.6	30%	Pass	
ANC Fineness Factor	B24-Jn0042417	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-Jn0042417	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-Jn0042417	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-Jn0042417	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-Jn0042417	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-Jn0042417	CP	%	19	20	8.1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-Jn0042417	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-Jn0042417	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-Jn0042417	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	

Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-Jn0042417	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B24-Jn0042417	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B24-Jn0042417	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-Jn0042417	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B24-Jn0042417	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B24-Jn0042417	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-Jn0042417	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-Jn0042417	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-Jn0042417	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-Jn0042538	CP	%	5.6	4.2	28	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-Jn0042544	CP	pH Units	8.2	8.2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042544	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Jn0042544	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-Jn0042544	CP	% S	0.010	0.009	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-Jn0042544	CP	mol H+/t	5.9	5.6	4.5	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B24-Jn0042544	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B24-Jn0042544	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-Jn0042544	CP	% CaCO3	7.1	7.1	<1	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-Jn0042544	CP	% S	2.3	2.3	<1	30%	Pass	
ANC Fineness Factor	B24-Jn0042544	CP	factor	1.5	1.5	<1	30%	Pass	

Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-Jn0042544	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-Jn0042544	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-Jn0042544	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-Jn0042544	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-Jn0042544	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-Jn0042544	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-Jn0042544	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-Jn0042544	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B24-Jn0042544	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B24-Jn0042544	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-Jn0042544	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B24-Jn0042544	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B24-Jn0042544	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-Jn0042544	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-Jn0042544	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-Jn0042544	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	

Comments

V2: Report amended to reflect the following:

-Reporting updated for samples requested for Chromium and SPOCAS suites to reflect Net Acidity calculations.

-Net Acidity calculations.

-pH-KCl triggered ANC analysis.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Tuesday, July 9, 2024 10:58 AM
To: Savini Suduweli Kondage <SaviniSuduweli@eurofins.com>; Savini Suduweli Kondage <SaviniSuduweli@eurofins.com>
Subject: Macquarie Point Acid Sulfate Soil - Additional Slab Tray NLM8.2 (Standard) Analysis Request

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Morning Savini,

Hope the day is going well. Would you be able to request some additional analysis (Slab Tray NLM8.2 (Standard)) for the acid sulfate soil samples below which are stored at Eurofins Brisbane (or please let me know the email to send further assessment requests to if needed)?

Please let me know if there is insufficient sample mass left in any of the samples, and I can provide alternatives. It'd be good if the remaining samples from the batches could remain in storage for the time being as well – we may need some further assessment (TBD).

Invoicing for this assessment should reference AECOM PO/Job Number 60693007.1

Thanks, and please let me know if you need any additional information or details,

Field ID	Initial Assessment Batch ID	Second Assessment Batch ID	Comment
BH011_3.0-3.1_220424	1093109	1097156	
BH011_4.5-4.6_220424			
BH005_1.5-1.6_270424	1094321	1103208	
BH005_10.5-10.6_270424			
BH005_5.5-5.6_270424			
BH007_1.5-1.6_020524			
BH007_3-3.1_020524			
BH007_6-6.1_020524			
BH014_1-1.1_290424			
BH014_3.5-3.6_290424			
BH014_5.5-5.6_290424			
BH016_2-2.1_010524			
BH016_4.5-4.6_010524			
BH016_5.5-5.6_010524			
BH016_7.5-7.6_010524			
BH006_11.5-11.6_080524	1097381		
BH006_3.0-3.1_080524			
BH006_6.5-6.6_080524			
BH006_8.0-8.1_080524			
BH008_1.0-1.1_070524			
BH008_3.0-3.1_070524			
BH008_4.5-4.6_070524			
BH008_5.5-5.6_070524			
BH009_3.5-3.6_100524			Please note this sample had a typo in Field_ID in the two issued reports where it was named "BH009_3.5-2.6_100524"
BH009_6.0-6.1_100524			
BH009_7.0-7.1_100524			
BH004_2.9-3.0M	1099835	1108737	
BH004_4.5-4.6M			
BH004_6.0-6.1M			
BH004_8.5-8.6M			
BH013_11.0-11.1M			
BH013_3.5-3.6M			
BH013_5.5-5.6M			
BH013_6.4-6.5M			
BH013_8.5-8.6			
ABH002_0.5-0.6	1100380		
ABH002_4.0-4.1			
ABH003_1.0-1.1			
ABH003_5.5-5.6			
ABH004_1.5-1.6			
ABH004_3.0-3.1			
BH012_4.5-4.6			

Regards,

1118179

Robert Crowe
He/him/his

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1
Turnaround time: 60 Day
Date/Time received Jul 9, 2024 10:58 AM
Eurofins reference 1118179

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : -.8 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1118179
Phone: 08 7223 5400
Fax:

Received: Jul 9, 2024 10:58 AM
Due: Oct 1, 2024
Priority: 60 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH011_3.0-3.1_220424	Apr 22, 2024	1:30PM	Soil	B24-JI0038375		X	X
2	BH011_4.5-4.6_220424	Apr 22, 2024	1:30PM	Soil	B24-JI0038376		X	X
3	BH005_1.5-1.6_270424	Apr 27, 2024		Soil	B24-JI0038377		X	X
4	BH005_10.5-10.6_270424	Apr 27, 2024		Soil	B24-JI0038378		X	X
5	BH005_5.5-5.6_270424	Apr 27, 2024		Soil	B24-JI0038379		X	X
6	BH007_1.5-1.6_020524	May 02, 2024		Soil	B24-JI0038380		X	X
7	BH007_3-3.1_020524	May 02, 2024		Soil	B24-JI0038381		X	X
8	BH007_6-6.1_020524	May 02, 2024		Soil	B24-JI0038382		X	X
9	BH014_1-	Apr 29, 2024		Soil	B24-JI0038383		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
	1.1_290424							
10	BH014_3.5-3.6_290424	Apr 29, 2024		Soil	B24-JI0038384		X	X
11	BH014_5.5-5.6_290424	Apr 29, 2024		Soil	B24-JI0038385		X	X
12	BH016_2-2.1_010524	May 01, 2024		Soil	B24-JI0038386		X	X
13	BH016_4.5-4.6_010524	May 01, 2024		Soil	B24-JI0038387		X	X
14	BH016_5.5-5.6_010524	Apr 27, 2024		Soil	B24-JI0038388		X	X
15	BH016_7.5-7.6_010524	May 01, 2024		Soil	B24-JI0038389		X	X
16	BH006_11.5-11.6_080524	May 08, 2024		Soil	B24-JI0038390		X	X
17	BH006_3.0-3.1_080524	May 08, 2024		Soil	B24-JI0038391		X	X
18	BH006_6.5-6.6_080524	May 08, 2024		Soil	B24-JI0038392		X	X
19	BH006_8.0-	May 08, 2024		Soil	B24-JI0038393		X	X

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Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1118179
Phone: 08 7223 5400
Fax:

Received: Jul 9, 2024 10:58 AM
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Priority: 60 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
19	BH006_8.0-8.1_080524	May 08, 2024		Soil	B24-JI0038393			
20	BH008_1.0-1.1_070524	May 07, 2024		Soil	B24-JI0038394		X	X
21	BH008_3.0-3.1_070524	May 07, 2024		Soil	B24-JI0038395		X	X
22	BH008_4.5-4.6_070524	May 07, 2024		Soil	B24-JI0038396		X	X
23	BH008_5.5-5.6_070524	May 07, 2024		Soil	B24-JI0038397		X	X
24	BH009_3.5-3.6_100524	May 10, 2024		Soil	B24-JI0038398		X	X
25	BH009_6.0-6.1_100524	May 10, 2024		Soil	B24-JI0038399		X	X
26	BH009_7.0-7.1_100524	May 10, 2024		Soil	B24-JI0038400		X	X
27	BH004_2.9-3.0M	May 13, 2024		Soil	B24-JI0038401		X	X
28	BH004_4.5-4.6M	May 13, 2024		Soil	B24-JI0038402		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Contact Name: Robert Crowe

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Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
29	BH004_6.0-6.1M	May 13, 2024		Soil	B24-JI0038403		X	X
30	BH004_8.5-8.6M	May 13, 2024		Soil	B24-JI0038404		X	X
31	BH013_11.0-11.1M	May 15, 2024		Soil	B24-JI0038405		X	X
32	BH013_3.5-3.6M	May 15, 2024		Soil	B24-JI0038406	X		
33	BH013_5.5-5.6M	May 15, 2024		Soil	B24-JI0038407		X	X
34	BH013_6.4-6.5M	May 15, 2024		Soil	B24-JI0038408		X	X
35	BH013_8.5-8.6	May 15, 2024		Soil	B24-JI0038409		X	X
36	ABH002_0.5-0.6	May 21, 2024		Soil	B24-JI0038410		X	X
37	ABH002_4.0-4.1	May 21, 2024		Soil	B24-JI0038411		X	X
38	ABH003_1.0-1.1	May 20, 2024		Soil	B24-JI0038412		X	X
39	ABH003_5.5-	May 20, 2024		Soil	B24-JI0038413		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Order No.: 60693007/1
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
39	ABH003_5.5-5.6	May 20, 2024		Soil	B24-Jl0038413			
40	ABH004_1.5-1.6	May 20, 2024		Soil	B24-Jl0038414		X	X
41	ABH004_3.0-3.1	May 21, 2024		Soil	B24-Jl0038415		X	X
42	BH012_4.5-4.6	May 18, 2024		Soil	B24-Jl0038416		X	X
Test Counts						1	41	41

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1118179-S**
Project name MACQUARIE POINT 41 EVANS ST HOBART
Project ID 60693007/1
Received Date Jul 09, 2024

Client Sample ID			**BH011_3.0-3.1_220424**	**BH011_4.5-4.6_220424**	**BH005_1.5-1.6_270424**	**BH005_10.5-10.6_270424**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-JI0038375**	**B24-JI0038376**	**B24-JI0038377**	**B24-JI0038378**
Date Sampled			**Apr 22, 2024**	**Apr 22, 2024**	**Apr 27, 2024**	**Apr 27, 2024**
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.5	7.9	7.6	5.4
Chip Tray pH (Week 19)*	0.1	pH Units	7.3	7.5	7.3	2.6
Chip Tray pH (Week 9)*	0.1	pH Units	7.2	7.6	7.0	2.9
Sample Properties						
% Moisture	1	%	24	18	20	25

Client Sample ID			**BH005_5.5-5.6_270424**	**BH007_1.5-1.6_020524**	**BH007_3-3.1_020524**	**BH007_6-6.1_020524**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-JI0038379**	**B24-JI0038380**	**B24-JI0038381**	**B24-JI0038382**
Date Sampled			**Apr 27, 2024**	**May 02, 2024**	**May 02, 2024**	**May 02, 2024**
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.8	7.3	7.2	7.9
Chip Tray pH (Week 19)*	0.1	pH Units	3.4	6.7	6.7	3.4
Chip Tray pH (Week 9)*	0.1	pH Units	7.2	7.3	7.3	5.1
Sample Properties						
% Moisture	1	%	9.7	34	32	23

Client Sample ID			**BH014_1-1.1_290424**	**BH014_3.5-3.6_290424**	**BH014_5.5-5.6_290424**	**BH016_2-2.1_010524**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-JI0038383**	**B24-JI0038384**	**B24-JI0038385**	**B24-JI0038386**
Date Sampled			**Apr 29, 2024**	**Apr 29, 2024**	**Apr 29, 2024**	**May 01, 2024**
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.9	7.6	7.6	7.1
Chip Tray pH (Week 19)*	0.1	pH Units	6.5	7.1	7.4	6.3
Chip Tray pH (Week 9)*	0.1	pH Units	7.6	7.3	7.4	5.5
Sample Properties						
% Moisture	1	%	16	36	22	16

Client Sample ID			BH016_4.5-4.6_010524	BH016_5.5-5.6_010524	BH016_7.5-7.6_010524	BH006_11.5-11.6_080524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038387	B24-JI0038388	B24-JI0038389	B24-JI0038390
Date Sampled			May 01, 2024	Apr 27, 2024	May 01, 2024	May 08, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	6.4	6.8	6.9	6.4
Chip Tray pH (Week 19)*	0.1	pH Units	4.6	3.7	4.6	3.3
Chip Tray pH (Week 9)*	0.1	pH Units	4.6	5.3	4.6	4.2
Sample Properties						
% Moisture	1	%	48	27	39	20

Client Sample ID			BH006_3.0-3.1_080524	BH006_6.5-6.6_080524	BH006_8.0-8.1_080524	BH008_1.0-1.1_070524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038391	B24-JI0038392	B24-JI0038393	B24-JI0038394
Date Sampled			May 08, 2024	May 08, 2024	May 08, 2024	May 07, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.3	7.6	7.6	8.1
Chip Tray pH (Week 19)*	0.1	pH Units	6.7	6.8	6.8	7.7
Chip Tray pH (Week 9)*	0.1	pH Units	7.3	7.2	6.9	7.8
Sample Properties						
% Moisture	1	%	35	19	38	16

Client Sample ID			BH008_3.0-3.1_070524	BH008_4.5-4.6_070524	BH008_5.5-5.6_070524	BH009_3.5-3.6_100524
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038395	B24-JI0038396	B24-JI0038397	B24-JI0038398
Date Sampled			May 07, 2024	May 07, 2024	May 07, 2024	May 10, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.7	7.7	7.4	7.6
Chip Tray pH (Week 19)*	0.1	pH Units	7.3	7.4	6.2	7.0
Chip Tray pH (Week 9)*	0.1	pH Units	7.2	7.2	6.4	7.1
Sample Properties						
% Moisture	1	%	25	26	40	32

Client Sample ID			BH009_6.0-6.1_100524	BH009_7.0-7.1_100524	BH004_2.9-3.0M	BH004_4.5-4.6M
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038399	B24-JI0038400	B24-JI0038401	B24-JI0038402
Date Sampled			May 10, 2024	May 10, 2024	May 13, 2024	May 13, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.8	7.3	4.6	7.4
Chip Tray pH (Week 19)*	0.1	pH Units	7.1	4.2	3.9	6.4
Chip Tray pH (Week 9)*	0.1	pH Units	7.3	5.8	3.8	7.7
Sample Properties						
% Moisture	1	%	23	32	14	19

Client Sample ID			BH004_6.0-6.1M	BH004_8.5-8.6M	BH013_11.0-11.1M	BH013_5.5-5.6M
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038403	B24-JI0038404	B24-JI0038405	B24-JI0038407
Date Sampled			May 13, 2024	May 13, 2024	May 15, 2024	May 15, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	7.9	4.7	6.7	8.4
Chip Tray pH (Week 19)*	0.1	pH Units	7.2	2.9	3.9	6.6
Chip Tray pH (Week 9)*	0.1	pH Units	7.5	2.9	4.9	7.5
Sample Properties						
% Moisture	1	%	20	20	22	21

Client Sample ID			BH013_6.4-6.5M	BH013_8.5-8.6	ABH002_0.5-0.6	ABH002_4.0-4.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038408	B24-JI0038409	B24-JI0038410	B24-JI0038411
Date Sampled			May 15, 2024	May 15, 2024	May 21, 2024	May 21, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	8.5	7.8	8.7	8.7
Chip Tray pH (Week 19)*	0.1	pH Units	7.7	3.7	7.9	8.2
Chip Tray pH (Week 9)*	0.1	pH Units	7.6	5.2	8.2	8.2
Sample Properties						
% Moisture	1	%	18	22	8.4	13

Client Sample ID			ABH003_1.0-1.1	ABH003_5.5-5.6	ABH004_1.5-1.6	ABH004_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B24-JI0038412	B24-JI0038413	B24-JI0038414	B24-JI0038415
Date Sampled			May 20, 2024	May 20, 2024	May 20, 2024	May 21, 2024
Test/Reference	LOR	Unit				
Chip Tray Incubation NLM 8.2 (Standard)						
Chip Tray pH (Initial)*	0.1	pH Units	8.2	8.0	5.7	7.4
Chip Tray pH (Week 19)*	0.1	pH Units	7.5	7.5	3.4	6.2
Chip Tray pH (Week 9)*	0.1	pH Units	7.5	7.5	3.7	7.0
Sample Properties						
% Moisture	1	%	17	21	28	29

Client Sample ID			BH012_4.5-4.6
Sample Matrix			Soil
Eurofins Sample No.			B24-JI0038416
Date Sampled			May 18, 2024
Test/Reference	LOR	Unit	
Chip Tray Incubation NLM 8.2 (Standard)			
Chip Tray pH (Initial)*	0.1	pH Units	7.9
Chip Tray pH (Week 19)*	0.1	pH Units	6.1
Chip Tray pH (Week 9)*	0.1	pH Units	7.4
Sample Properties			
% Moisture	1	%	20

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chip Tray Incubation NLM 8.2 (Standard)	Brisbane	Jul 17, 2024	N/A
- Method: in-house pH analysis			
% Moisture	Brisbane	Jul 16, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1118179
Phone: 08 7223 5400
Fax:

Received: Jul 9, 2024 10:58 AM
Due: Oct 1, 2024
Priority: 60 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH011_3.0-3.1_220424	Apr 22, 2024	1:30PM	Soil	B24-JI0038375		X	X
2	BH011_4.5-4.6_220424	Apr 22, 2024	1:30PM	Soil	B24-JI0038376		X	X
3	BH005_1.5-1.6_270424	Apr 27, 2024		Soil	B24-JI0038377		X	X
4	BH005_10.5-10.6_270424	Apr 27, 2024		Soil	B24-JI0038378		X	X
5	BH005_5.5-5.6_270424	Apr 27, 2024		Soil	B24-JI0038379		X	X
6	BH007_1.5-1.6_020524	May 02, 2024		Soil	B24-JI0038380		X	X
7	BH007_3-3.1_020524	May 02, 2024		Soil	B24-JI0038381		X	X
8	BH007_6-6.1_020524	May 02, 2024		Soil	B24-JI0038382		X	X
9	BH014_1-	Apr 29, 2024		Soil	B24-JI0038383		X	X

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Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
	1.1_290424							
10	BH014_3.5-3.6_290424	Apr 29, 2024		Soil	B24-JI0038384		X	X
11	BH014_5.5-5.6_290424	Apr 29, 2024		Soil	B24-JI0038385		X	X
12	BH016_2-2.1_010524	May 01, 2024		Soil	B24-JI0038386		X	X
13	BH016_4.5-4.6_010524	May 01, 2024		Soil	B24-JI0038387		X	X
14	BH016_5.5-5.6_010524	Apr 27, 2024		Soil	B24-JI0038388		X	X
15	BH016_7.5-7.6_010524	May 01, 2024		Soil	B24-JI0038389		X	X
16	BH006_11.5-11.6_080524	May 08, 2024		Soil	B24-JI0038390		X	X
17	BH006_3.0-3.1_080524	May 08, 2024		Soil	B24-JI0038391		X	X
18	BH006_6.5-6.6_080524	May 08, 2024		Soil	B24-JI0038392		X	X
19	BH006_8.0-	May 08, 2024		Soil	B24-JI0038393		X	X

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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
19	BH006_8.0-8.1_080524	May 08, 2024		Soil	B24-JI0038393			
20	BH008_1.0-1.1_070524	May 07, 2024		Soil	B24-JI0038394		X	X
21	BH008_3.0-3.1_070524	May 07, 2024		Soil	B24-JI0038395		X	X
22	BH008_4.5-4.6_070524	May 07, 2024		Soil	B24-JI0038396		X	X
23	BH008_5.5-5.6_070524	May 07, 2024		Soil	B24-JI0038397		X	X
24	BH009_3.5-3.6_100524	May 10, 2024		Soil	B24-JI0038398		X	X
25	BH009_6.0-6.1_100524	May 10, 2024		Soil	B24-JI0038399		X	X
26	BH009_7.0-7.1_100524	May 10, 2024		Soil	B24-JI0038400		X	X
27	BH004_2.9-3.0M	May 13, 2024		Soil	B24-JI0038401		X	X
28	BH004_4.5-4.6M	May 13, 2024		Soil	B24-JI0038402		X	X

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
29	BH004_6.0-6.1M	May 13, 2024		Soil	B24-JI0038403		X	X
30	BH004_8.5-8.6M	May 13, 2024		Soil	B24-JI0038404		X	X
31	BH013_11.0-11.1M	May 15, 2024		Soil	B24-JI0038405		X	X
32	BH013_3.5-3.6M	May 15, 2024		Soil	B24-JI0038406	X		
33	BH013_5.5-5.6M	May 15, 2024		Soil	B24-JI0038407		X	X
34	BH013_6.4-6.5M	May 15, 2024		Soil	B24-JI0038408		X	X
35	BH013_8.5-8.6	May 15, 2024		Soil	B24-JI0038409		X	X
36	ABH002_0.5-0.6	May 21, 2024		Soil	B24-JI0038410		X	X
37	ABH002_4.0-4.1	May 21, 2024		Soil	B24-JI0038411		X	X
38	ABH003_1.0-1.1	May 20, 2024		Soil	B24-JI0038412		X	X
39	ABH003_5.5-	May 20, 2024		Soil	B24-JI0038413		X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: MACQUARIE POINT 41 EVANS ST HOBART
Project ID: 60693007/1

Order No.: 60693007/1
Report #: 1118179
Phone: 08 7223 5400
Fax:

Received: Jul 9, 2024 10:58 AM
Due: Oct 1, 2024
Priority: 60 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Chip Tray Incubation NLM 8.2 (Standard)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
39	ABH003_5.5-5.6	May 20, 2024		Soil	B24-Jl0038413			
40	ABH004_1.5-1.6	May 20, 2024		Soil	B24-Jl0038414		X	X
41	ABH004_3.0-3.1	May 21, 2024		Soil	B24-Jl0038415		X	X
42	BH012_4.5-4.6	May 18, 2024		Soil	B24-Jl0038416		X	X
Test Counts						1	41	41

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-JI0038378	CP	%	25	28	11	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-JI0038389	CP	%	39	36	7.1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-JI0038399	CP	%	23	24	2.5	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-JI0038409	CP	%	22	19	10	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Harry Bacalis	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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24 HR TAT
for '_A' Samples

1/2

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Elliot.m	Destination Laboratory: Eurofins
PROJECT MANAGER (PM): Rob Crowe	SITE: Regatta Point	MOBILE: 0410 153 548	PHONE:
PROJECT NUMBER & TASK COI 60693007/6	P.O. NO.: 60693007/6	EMAIL REPORT TO: Robert.crowe@aecom.com tim.martin@aecom.com	
RESULTS REQUIRED (Date): Standard TAT for non-ASS samples	QUOTE NO.:		

elliot.mescoros@aecom.com

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
All ASS Samples (ie analysed for pH) are on a 24HR TAT
rest are Standard TAT

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	16 metals	TPH/TRH, BTEX	PAH, Phenols	Ammonia	Cyanide	SVOC, VOC	OCP, TBT	TRH (C6-C10), BTEXN	PH - field screen PHF and pHFD - NASSG	CRS Suite - (excluding AVC) NASSG	SPOCAS Suite - (excluding AVC) - NASSG		HOLD	
✓	BH253_0.2_240920	S	20/09/24		1 Jar	1													X	ASS Samples 24HR TAT
✓	-0.5-						X	X	X	X	X	X	X							
✓	-1.0-																		X	All other Samples are Standard TAT
✓	-1.25-						X	X	X	X	X									
✓	BH253_0.2_A_														X					
✓	-0.5_A_														X					ASS samples being frozen in Hobart over weekend. will ship direct to Brisbane on Monday 23rd September — SB 20/9/24
✓	-1.0_A_														X					
✓	-1.25_A_														X					
✓	BH252_0.2_						X	X	X	X	X									
✓	-0.5_																		X	
✓	-1.0_																		X	
✓	-1.5_						X	X	X	X	X									
✓	-0.2_A_														X					#1141778
✓	-0.5_A_														X					
✓	-1.0_A_														X					
✓	-1.5_A_														X					
✓	BH243_0.2_																		X	
✓	-0.5_						X	X	X	X	X									
✓	-1.0_																		X	

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 20/9/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 4:31pm	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

Q4AN(EV)-007-FM1
FQM - Generic Chain of Custody Form (Q4AN(EV)-007-FM1)
Revision 1 June 15, 2016

24HR TAT for '_A' Samples

2/2

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS / OFFICE:	SAMPLER: Elliot. M	Destination Laboratory
PROJECT MANAGER (PM): Rob Crowe	SITE: Regatta Point	MOBILE: 0410 153 643	PHONE:
PROJECT NUMBER & TASK COI 60693007/6	P.O. NO.: 606300716	EMAIL REPORT TO: Robert.crowe@aecom.com, tim.mahin@aecom.com, elliot.nesbanos@aecom.com	Burnie
RESULTS REQUIRED (Date): Standard TAT for non-ASS Samples	QUOTE NO.:		

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
All ASS Samples (ie analysed for pH) are on a 24HR TAT before Standard TAT

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	16 metals	TPH / TRH, BTEX	PAH, Phenols	Ammonia	Cyanide	SVOC, VOC	OCP, PBT	TRH (C6-C9) BTEXN	PH - Field Screen PH - Lab Water - NASS@	CRS Suite - NASS (excluding ANC)	SPOCAS Suite - NASS (excluding ANC)		HOLD
✓	BH243_1.5_240926	S	20/09/24		1 Jar	1	X	X	X	X	X								
✓	_0.2_A_														X				
✓	_0.5_A_														X				
✓	_1.0_A_														X				
✓	_1.5_A_														X				
✓	BH236_0.2_						X	X	X	X	X								
✓	_0.5_														X				
✓	_0.8_						X	X	X	X	X	X	X						
✓	_0.2_A_														X				
✓	_0.5_A_														X				
✓	_0.8_A_														X				
✓	QC13_	W			360ml plastic, 1 Soil plastic, 3 vials, 3 ambers	10	X	X	X	X	X	X	X							
✓	QC14_																		X
✓	QC15_				1 vial	1								X					
✓	QC16_				1 vial	1								X					

Notes: e.g. Highly contaminated sample e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ASS Samples 24HR TAT
All other Samples are Standard TAT

* Sample BH236_0.2 is a Glass Soil jar NOT ASS — SB 20/9/24.

unfiltered metals " "

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Sheridan Barrett	Date: 20/9/24	Name:	Date:	Con' Note No:
Of:	Time:	Of: Eurofins Hobart	Time: 14:31	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

COC Page of

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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Regatta Point
Project ID: 60693007/6
Turnaround time: 1 Day
Date/Time received Sep 20, 2024 4:31 PM
Eurofins reference 1141778

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample "BH236_0.5_240920" recieved as jar, logged in standard TAT report, please advise if PHFOX is required on sample.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Regatta Point
Project ID: 60693007/6

Order No.:
Report #: 1141778
Phone: 08 7223 5400
Fax:

Received: Sep 20, 2024 4:31 PM
Due: Sep 23, 2024
Priority: 1 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						CANCELLED*	NASSG ASS Field Screen
Melbourne Laboratory - NATA # 1261 Site # 1254						X	
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780							X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	BH253_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056485		X
2	BH253_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056486		X
3	BH253_1.0_A_240920	Sep 20, 2024		Soil	M24-Se0056487		X
4	BH253_1.25_A_240920	Sep 20, 2024		Soil	M24-Se0056488		X
5	BH252_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056489		X
6	BH252_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056490		X
7	BH252_1.0_A_240920	Sep 20, 2024		Soil	M24-Se0056491		X
8	BH252_1.5_A_240920	Sep 20, 2024		Soil	M24-Se0056492		X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370

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Site# 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Regatta Point
Project ID: 60693007/6

Order No.:
Report #: 1141778
Phone: 08 7223 5400
Fax:

Received: Sep 20, 2024 4:31 PM
Due: Sep 23, 2024
Priority: 1 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						CANCELLED*	NASSG ASS Field Screen
Melbourne Laboratory - NATA # 1261 Site # 1254						X	
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780							X
9	BH243_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056493		X
10	BH243_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056494		X
11	BH243_1.0_A_240920	Sep 20, 2024		Soil	M24-Se0056495		X
12	BH243_1.5_A_240920	Sep 20, 2024		Soil	M24-Se0056496		X
13	BH236_0.5_240920	Sep 20, 2024		Soil	M24-Se0056497	X	
14	BH236_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056498		X
15	BH236_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056499		X
16	BH236_0.8_A_240920	Sep 20, 2024		Soil	M24-Se0056500		X
Test Counts						1	15

Aecom Aust Pty Ltd Tasmania
Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1141778-S**
Project name Regatta Point
Project ID 60693007/6
Received Date Sep 20, 2024

Client Sample ID			**BH253_0.2_A_240920**	**BH253_0.5_A_240920**	**BH253_1.0_A_240920**	**BH253_1.25_A_240920**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-Se0056485**	**M24-Se0056486**	**M24-Se0056487**	**M24-Se0056488**
Date Sampled			**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**
Test/Reference	LOR	Unit				
NASSG ASS Field Screen						
pH-F (Field pH test)*	0.1	pH Units	7.7	7.9	7.6	8.3
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.0	4.8	6.0	7.9
NASSG Fizz Rating		comment	4.0	4.0	4.0	5.0
pH difference*		pH Units	2.7	3.2	1.6	0.40

Client Sample ID			**BH252_0.2_A_240920**	**BH252_0.5_A_240920**	**BH252_1.0_A_240920**	**BH252_1.5_A_240920**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-Se0056489**	**M24-Se0056490**	**M24-Se0056491**	**M24-Se0056492**
Date Sampled			**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**
Test/Reference	LOR	Unit				
NASSG ASS Field Screen						
pH-F (Field pH test)*	0.1	pH Units	6.9	7.6	8.5	8.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.5	5.4	7.4	7.1
NASSG Fizz Rating		comment	4.0	4.0	5.0	5.0
pH difference*		pH Units	2.4	2.2	1.1	1.4

Client Sample ID			**BH243_0.2_A_240920**	**BH243_0.5_A_240920**	**BH243_1.0_A_240920**	**BH243_1.5_A_240920**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-Se0056493**	**M24-Se0056494**	**M24-Se0056495**	**M24-Se0056496**
Date Sampled			**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**
Test/Reference	LOR	Unit				
NASSG ASS Field Screen						
pH-F (Field pH test)*	0.1	pH Units	7.2	8.6	8.7	8.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	4.7	6.9	7.3	6.0
NASSG Fizz Rating		comment	5.0	5.0	5.0	5.0
pH difference*		pH Units	2.5	1.7	1.4	2.1

Client Sample ID			BH236_0.2_A_240920	BH236_0.5_A_240920	BH236_0.8_A_240920
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M24-Se0056498**	**M24-Se0056499**	**M24-Se0056500**
Date Sampled			**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**
Test/Reference	LOR	Unit			
NASSG ASS Field Screen					
pH-F (Field pH test)*	0.1	pH Units	7.4	7.9	8.5
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	5.0	5.2	6.5
NASSG Fizz Rating		comment	5.0	4.0	5.0
pH difference*		pH Units	2.4	2.7	2.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
NASSG ASS Field Screen	Brisbane	Sep 24, 2024	7 Day

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

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email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370

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+61 8 6253 4444
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Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Regatta Point
Project ID: 60693007/6

Order No.:
Report #: 1141778
Phone: 08 7223 5400
Fax:

Received: Sep 20, 2024 4:31 PM
Due: Sep 23, 2024
Priority: 1 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						CANCELLED*	NASSG ASS Field Screen
Melbourne Laboratory - NATA # 1261 Site # 1254						X	
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780							X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	BH253_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056485		X
2	BH253_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056486		X
3	BH253_1.0_A_240920	Sep 20, 2024		Soil	M24-Se0056487		X
4	BH253_1.25_A_240920	Sep 20, 2024		Soil	M24-Se0056488		X
5	BH252_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056489		X
6	BH252_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056490		X
7	BH252_1.0_A_240920	Sep 20, 2024		Soil	M24-Se0056491		X
8	BH252_1.5_A_240920	Sep 20, 2024		Soil	M24-Se0056492		X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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Site# 2370

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Eurofins Environment Testing NZ Ltd
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Regatta Point
Project ID: 60693007/6

Order No.:
Report #: 1141778
Phone: 08 7223 5400
Fax:

Received: Sep 20, 2024 4:31 PM
Due: Sep 23, 2024
Priority: 1 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						CANCELLED*	NASSG ASS Field Screen
Melbourne Laboratory - NATA # 1261 Site # 1254						X	
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780							X
9	BH243_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056493		X
10	BH243_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056494		X
11	BH243_1.0_A_240920	Sep 20, 2024		Soil	M24-Se0056495		X
12	BH243_1.5_A_240920	Sep 20, 2024		Soil	M24-Se0056496		X
13	BH236_0.5_240920	Sep 20, 2024		Soil	M24-Se0056497	X	
14	BH236_0.2_A_240920	Sep 20, 2024		Soil	M24-Se0056498		X
15	BH236_0.5_A_240920	Sep 20, 2024		Soil	M24-Se0056499		X
16	BH236_0.8_A_240920	Sep 20, 2024		Soil	M24-Se0056500		X
Test Counts						1	15

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
NASSG ASS Field Screen				Result 1	Result 2	RPD			
pH-F (Field pH test)*	M24-Se0056491	CP	pH Units	8.5	8.7	pass	20%	Pass	
NASSG Fizz Rating	M24-Se0056491	CP	comment	5.0	5.0	pass	30%	Pass	
Duplicate									
NASSG ASS Field Screen				Result 1	Result 2	RPD			
pH-F (Field pH test)*	M24-Se0056492	CP	pH Units	8.5	8.7	pass	20%	Pass	
NASSG Fizz Rating	M24-Se0056492	CP	comment	5.0	5.0	pass	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Catherine Wilson	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Thursday, September 26, 2024 12:43 PM
To: CatherineWilson@eurofins.com <CatherineWilson@eurofins.com>
Cc: Martin, Tim <Timothy.Martin@aecom.com>; Lath, Supriya <Supriya.Lath@aecom.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1141778 : Site Regatta Point (60693007/6)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Catherine,

In addition to the question below, can the following additional assessment be conducted on samples in this batch on standard TAT?

Field ID	Chromium Reducible Sulfur (CRS) suite	SPOCAS Suite
BH236_0.5_A_240920	X	
BH243_0.2_A_240920	X	
BH243_1.5_A_240920	X	
BH252_1.5_A_240920	X	
BH253_1.25_A_240920	X	X

Thanks,

Robert Crowe
He/him/his

Principal Environmental Scientist, ANZ VSA, Melbourne
M +61 422 692 187
robert.crowe@aecom.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Aecom Aust Pty Ltd Tasmania
Contact name: Robert Crowe
Project name: Regatta Point
Project ID: 60693007/6
Turnaround time: 5 Day
Date/Time received Sep 26, 2024 12:43 PM
Eurofins reference 1144581

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
N/A	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: SaviniSuduweli@eurofins.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Aust Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Aust Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Regatta Point
Project ID: 60693007/6

Order No.:
Report #: 1144581
Phone: 08 7223 5400
Fax:

Received: Sep 26, 2024 12:43 PM
Due: Oct 3, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	BH253_1.25_A_240920	Sep 20, 2024		Soil	B24-Oc0001433	X			
2	BH252_1.5_A_240920	Sep 20, 2024		Soil	B24-Oc0001434			X	X
3	BH243_0.2_A_240920	Sep 20, 2024		Soil	B24-Oc0001435			X	X
4	BH243_1.5_A_240920	Sep 20, 2024		Soil	B24-Oc0001436			X	X
5	BH236_0.5_A_240920	Sep 20, 2024		Soil	B24-Oc0001437			X	X
6	BH253_0.5_A_240920	Sep 20, 2024		Soil	B24-Oc0003219		X	X	X
Test Counts						1	1	5	5

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NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1144581-S**
Project name Regatta Point
Project ID 60693007/6
Received Date Sep 26, 2024

Client Sample ID			BH252_1.5_A_240920	BH243_0.2_A_240920	BH243_1.5_A_240920	BH236_0.5_A_240920
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B24-Oc0001434**	**B24-Oc0001435**	**B24-Oc0001436**	**B24-Oc0001437**
Date Sampled			**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**	**Sep 20, 2024**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.6	7.6	7.5	6.9
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	< 0.005	< 0.005	< 0.005	< 0.005
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	< 3	< 3	< 3	< 3
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.5	1.6	1.5	0.77
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.1	0.50	0.47	0.25
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	690	310	290	150
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	24	38	24	20
>2mm Fraction	0.005	g	36	18	17	5.6
Analysed Material	0.1	%	40	68	58	78
Extraneous Material	0.1	%	60	32	42	22
Sample Properties						
% Moisture	1	%	8.5	18	21	34

Client Sample ID			BH253_0.5_A_240920
Sample Matrix			**Soil**
Eurofins Sample No.			**B24-Oc0003219**
Date Sampled			**Sep 20, 2024**
Test/Reference	LOR	Unit	
Actual Acidity (NLM-3.2)			
pH-KCL (NLM-3.1)	0.1	pH Units	7.4
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003
Potential Acidity - Chromium Reducible Sulfur			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)[S04]	0.005	% S	0.007
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	3	mol H+/t	4.1
Extractable Sulfur			
Sulfur - KCl Extractable	0.005	% S	0.020
Peroxide Extractable Sulfur	0.005	% S	0.070
HCl Extractable Sulfur	0.005	% S	N/A
Retained Acidity (S-NAS)			
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0
Acid Neutralising Capacity (ANCbt)			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.7
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.55
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	340
ANC Fineness Factor		factor	1.5
Net Acidity (Including ANC)			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	< 10
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	< 0.02
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	< 1
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	N/A
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	N/A
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	N/A
Extraneous Material			
<2mm Fraction	0.005	g	27
>2mm Fraction	0.005	g	21
Analysed Material	0.1	%	56
Extraneous Material	0.1	%	44
Sample Properties			
% Moisture	1	%	5.3
Potential Acidity - Titratable Peroxide			
pH-OX	0.1	pH Units	7.0
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02
Potential Acidity (SPOS)			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	0.048
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	30

Client Sample ID			BH253_0.5_A_240920
Sample Matrix			Soil
Eurofins Sample No.			B24-Oc0003219
Date Sampled			Sep 20, 2024
Test/Reference	LOR	Unit	
Extractable Calcium			
Calcium - KCl Extractable	0.005	% Ca	0.42
Calcium - Peroxide	0.005	% Ca	0.45
Calcium - Acid Reacted	0.005	% Ca	0.033
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.026
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	16
Extractable Magnesium			
Magnesium - KCl Extractable	0.005	% Mg	0.040
Magnesium - Peroxide	0.005	% Mg	0.050
Magnesium - Acid Reacted	0.005	% Mg	0.014
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.019
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	12
Acid Neutralising Capacity (ANCE)			
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	0.61
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	0.20
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	120

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chromium Reducible Sulfur Suite			
Chromium Suite	Brisbane	Oct 02, 2024	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
Extraneous Material	Brisbane	Oct 02, 2024	6 Week
- Method: LTM-GEN-7050/7070			
SPOCAS Suite			
SPOCAS Suite	Brisbane	Oct 02, 2024	6 Week
- Method: LTM-GEN-7050			
% Moisture	Brisbane	Oct 02, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Tasmania 7000

Project Name: Regatta Point
Project ID: 60693007/6

Order No.:
Report #: 1144581
Phone: 08 7223 5400
Fax:

Received: Sep 26, 2024 12:43 PM
Due: Oct 3, 2024
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	SPOCAS Suite	Chromium Reducible Sulfur Suite	Moisture Set	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254									X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X	X	X
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	BH253_1.25_A_240920	Sep 20, 2024		Soil	B24-Oc0001433	X				
2	BH252_1.5_A_240920	Sep 20, 2024		Soil	B24-Oc0001434			X		X
3	BH243_0.2_A_240920	Sep 20, 2024		Soil	B24-Oc0001435			X		X
4	BH243_1.5_A_240920	Sep 20, 2024		Soil	B24-Oc0001436			X		X
5	BH236_0.5_A_240920	Sep 20, 2024		Soil	B24-Oc0001437			X	X	
6	BH253_0.5_A_240920	Sep 20, 2024		Soil	B24-Oc0003219		X	X		X
Test Counts						1	1	5	5	5

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	100			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	103			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	%	91			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B24-Oc0003219	CP	pH Units	7.4	7.4	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Oc0003219	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B24-Oc0003219	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCr) (NLM-2.1)	B24-Oc0003219	CP	% S	0.007	0.008	15	20%	Pass	
Chromium Reducible Sulfur (a-SCr) (NLM-2.1)	B24-Oc0003219	CP	mol H+/t	4.1	4.7	15	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B24-Oc0003219	CP	% S	0.020	0.020	6.0	30%	Pass	
Peroxide Extractable Sulfur	B24-Oc0003219	CP	% S	0.070	0.060	6.0	20%	Pass	
HCl Extractable Sulfur	B24-Oc0003219	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B24-Oc0003219	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B24-Oc0003219	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B24-Oc0003219	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B24-Oc0003219	CP	% CaCO3	1.7	1.6	5.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B24-Oc0003219	CP	% S	0.55	0.53	5.0	30%	Pass	
ANC Fineness Factor	B24-Oc0003219	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B24-Oc0003219	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B24-Oc0003219	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B24-Oc0003219	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B24-Oc0003219	CP	% S	N/A	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B24-Oc0003219	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B24-Oc0003219	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B24-Oc0003219	CP	%	5.3	5.7	7.0	30%	Pass	

Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B24-Oc0003219	CP	pH Units	7.0	7.0	<1	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B24-Oc0003219	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B24-Oc0003219	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B24-Oc0003219	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B24-Oc0003219	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B24-Oc0003219	CP	% S	0.048	0.045	6.0	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B24-Oc0003219	CP	mol H+/t	30	28	6.0	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B24-Oc0003219	CP	% Ca	0.42	0.42	<1	30%	Pass	
Calcium - Peroxide	B24-Oc0003219	CP	% Ca	0.45	0.43	5.0	20%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B24-Oc0003219	CP	% Mg	0.040	0.040	2.0	30%	Pass	
Magnesium - Peroxide	B24-Oc0003219	CP	% Mg	0.050	0.050	6.0	20%	Pass	
Magnesium - Acid Reacted	B24-Oc0003219	CP	% Mg	0.014	0.012	16	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B24-Oc0003219	CP	% S	0.019	0.016	16	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B24-Oc0003219	CP	mol H+/t	12	10.0	16	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B24-Oc0003219	CP	% CaCO3	0.61	0.59	3.0	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B24-Oc0003219	CP	mol H+/t	120	120	3.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Savini Suduweli	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**		
Level 10, 727 Collins Street			
Melbourne, VIC 3008	**Results email:**	robert.crowe@aecom.com	
PHONE NO: 9653 1234		richard.bowers@aecom.com	
MOBILE NO: 0427 821 002	**Quote Number:**	260502AECV	
PROJECT ID: 60693007 / 12	**Project Name:**	Macquarie Point	
Project Manager: Robert Crowe	**Data Format:**	Esdat and PDF	
SAMPLER: RB / EM / TG / LL			

TURNAROUND REQUIREMENTS (mark Due date or 'X')

Standard	X	Non Stand (Due date):

COC:	1	2	3	4	5	6	7	8	9	10
OF:	1	2	3	4	5	6	7	8	9	10

RELINQUISHED BY: Richard Bowers
DATE/TIME: 27/05/2025

RECEIVED BY: Sterdar Eurofins Hobart
DATE/TIME: 27/5 9:18AM

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen icebricks present upon receipt? Yes No N/A

Sample Temperature on Receipt 10.2°C

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY:
DATE/TIME:

COMMENTS:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.
Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

ANALYSIS REQUEST

LAB ID	SAMPLE ID	DATE / TIME		MATRIX (S, W)	Soil: 1 x 250ml Glass Soil Jar	Soil: 1 x 500g PASS Sample Bag	Soil: 500ml Inorganics (Unpreserved)	Soil: 40ml VOC Vial	Soil: 200ml Amber Glass	Soil: 40ml VOC Vial (5 µm field filtered)	Soil: 200ml Amber Glass (5 µm field filtered)	Soil: 500ml Semi-Volatile Amber	Soil: 60ml Metals Plastic	Soil: 60ml Cyanide/CrVI+	Soil: 60ml Preserved Inorganics	Soil: 500ml PFAS bottle	TOTAL BOTTLES	Soil: 1 x 250ml Jar	Soil: 1 x 250ml Jar	Soil: 1x 500g Acid Sulphate Soil Bag	Water: 1x 500ml Inorganics, 1x 200mL Semi-Volatiles Amber, 4x 40mL Vials, 1x 60mL Metals, 1x 60mL Cyanide/CrVI+, 1x 60mL Preserved Inorganics	Water: 1 x 200mL Amber Glass, 3 x 40mL Vials, 1 x 200ml Amber Glass (5 µm field filtered), 1 x 40ml Vial (5 µm field filtered)	Water: 1 x 500ml PFAS Bottle	Trip Blank: 1 x 40ml Vial (soil)	Trip Blank: 1 x 40ml Vial (water)	HOLD
✓	ABH004W_0.2	27/5/25		S		1											1								
✓	ABH004W_0.5	27/5/25		S		1											1								
✓	ABH004W_1.0	27/5/25		S		1											1								
✓	ABH004W_1.5	27/5/25		S		1											1								
✓	ABH004W_2.0	27/5/25		S		1											1								
✓	ABH004W_2.5	27/5/25		S		1											1								
✓	ABH004W_3.0	27/5/25		S		1											1								
✓	ABH004W_3.5	27/5/25		S		1											1								
✓	ABH004W_4.0	27/5/25		S		1											1								
✓	ABH004S_0.2	27/5/25		S		1											1								
✓	ABH004S_0.5	27/5/25		S		1											1								
✓	ABH004S_1.0	27/5/25		S		1											1								
✓	ABH004S_1.5	27/5/25		S		1											1								
✓	ABH004S_2.0	27/5/25		S		1											1								
✓	ABH004S_2.5	27/5/25		S		1											1								
✓	ABH004S_3.0	27/5/25		S		1											1								
✓	ABH004S_3.5	27/5/25		S		1											1								
✓	ABH004S_4.0	27/5/25		S		1											1								
✓	ABH004E_0.2	27/5/25		S		1											1								
✓	ABH004E_0.5	27/5/25		S		1											1								

ANALYSIS SUITES

General Soil Suite:
TRH, BTEXN, PAH, 8 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)

Gasworks Soil Suite:
Cyanide (Total, Free & WAD), Ammonia as N, Phenols (Speciated)

General Water Suite:
TRH/BTEXN/PAH/Phenols/8 metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) plus Manganese, Cations/Anions #3 (incl TDS), Cyanide (Total, Free & WAD), Ammonia as N, Methane

Eco Risk Organics Suite:
TRH Aliphatic / Aromatic Speciation
TRH (C6-C40 (silica gel cleanup)
TRH (C6-C40) - on 5 µm field filtered sample
PAH - on 5 µm field filtered sample

PFAS:
Full suite - 30 compounds, trace level

Trip Blank Suite:
TRH C6-C9, BTEXN

Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc

Report #1225146 28/5

| | | |

RE: Eurofins Sample Receipt Advice - Report 1225146 : Site Macquarie Poin...

BR

Bowers, Richard <Richard.Bowers@aecom.com>
To Sheridan Barrett
Cc SH_AU_CAU001_EnviroSampleVic; Crowe, Robert

2:53 PM

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Sheridan,

Can you please update the following sample ID from this batch (1225146):

- Please update QC01 to QC501

Kind regards,

Richard Bowers

Principal Environmental Scientist, ANZ VSA
M +61 427 821 002
richard.bowers@aecom.com

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From: Sheridan Barrett <EET-ELVIS@eurofinsanz.com>
Sent: Wednesday, 28 May 2025 12:10 PM
To: Crowe, Robert <Robert.Crowe@aecom.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>
Subject: Eurofins Sample Receipt Advice - Report 1225146 : Site Macquarie Point (60693007 / 12)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Kind Regards,

Sheridan Barrett
Assistant Analytical Services Manager (TAS)

Eurofins Environment Testing Australia Pty Ltd
282A Argyle Street
North Hobart, TAS, Australia, 7000

Mobile: +61 438 384 921
E-mail: sheridan.barrett@eurofinsanz.com
Website: www.eurofins.com.au

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	May 27, 2025 9:18 PM
Eurofins reference	1225146

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 10.2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Please note the temperature reading listed is the temperature recorded on arrival to Eurofins Hobart Office.
Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	ABH004W_0.2	May 27, 2025		Soil	M25-My0079645			X		
2	ABH004W_0.5	May 27, 2025		Soil	M25-My0079646			X		
3	ABH004W_1.0	May 27, 2025		Soil	M25-My0079647			X		
4	ABH004W_1.5	May 27, 2025		Soil	M25-My0079648			X		
5	ABH004W_2.0	May 27, 2025		Soil	M25-My0079649			X		
6	ABH004W_2.5	May 27, 2025		Soil	M25-My0079650			X		
7	ABH004W_3.0	May 27, 2025		Soil	M25-My0079651			X		
8	ABH004W_3.5	May 27, 2025		Soil	M25-My0079652			X		
9	ABH004W_4.0	May 27, 2025		Soil	M25-My0079653			X		
10	ABH004S_0.2	May 27, 2025		Soil	M25-My0079654			X		
11	ABH004S_0.5	May 27, 2025		Soil	M25-My0079655			X		
12	ABH004S_1.0	May 27, 2025		Soil	M25-My0079656			X		
13	ABH004S_1.5	May 27, 2025		Soil	M25-My0079657			X		

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
14	ABH004S_2.0	May 27, 2025		Soil	M25-My0079658			X		
15	ABH004S_2.5	May 27, 2025		Soil	M25-My0079659			X		
16	ABH004S_3.0	May 27, 2025		Soil	M25-My0079660			X		
17	ABH004S_3.5	May 27, 2025		Soil	M25-My0079661			X		
18	ABH004S_4.0	May 27, 2025		Soil	M25-My0079662			X		
19	ABH004E_0.2	May 27, 2025		Soil	M25-My0079663			X		
20	ABH004E_0.5	May 27, 2025		Soil	M25-My0079664			X		
21	ABH004E_1.0	May 27, 2025		Soil	M25-My0079665			X		
22	ABH004E_1.5	May 27, 2025		Soil	M25-My0079666			X		
23	ABH004E_2.0	May 27, 2025		Soil	M25-My0079667			X		
24	ABH004E_2.5	May 27, 2025		Soil	M25-My0079668			X		
25	ABH004E_3.0	May 27, 2025		Soil	M25-My0079669			X		
26	ABH004E_3.5	May 27, 2025		Soil	M25-My0079670			X		
27	ABH004E_4.0	May 27, 2025		Soil	M25-My0079671			X		
28	ABH004N_0.2	May 27, 2025		Soil	M25-My0079672			X		
29	ABH004N_0.5	May 27, 2025		Soil	M25-My0079673			X		

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
30	ABH004N_1.0	May 27, 2025		Soil	M25-My0079674			X		
31	ABH004N_1.5	May 27, 2025		Soil	M25-My0079675			X		
32	ABH004N_2.0	May 27, 2025		Soil	M25-My0079676			X		
33	ABH004N_2.5	May 27, 2025		Soil	M25-My0079677			X		
34	ABH004N_3.0	May 27, 2025		Soil	M25-My0079678			X		
35	ABH004N_3.5	May 27, 2025		Soil	M25-My0079679			X		
36	ABH004N_4.0	May 27, 2025		Soil	M25-My0079680			X		
37	ABH004A_0.2	May 27, 2025		Soil	M25-My0079681			X		
38	ABH004A_0.5	May 27, 2025		Soil	M25-My0079682			X		
39	ABH004A_1.0	May 27, 2025		Soil	M25-My0079683			X		
40	ABH004A_1.5	May 27, 2025		Soil	M25-My0079684			X		
41	ABH004A_2.0	May 27, 2025		Soil	M25-My0079685			X		
42	ABH004A_2.5	May 27, 2025		Soil	M25-My0079686			X		
43	ABH004A_3.0	May 27, 2025		Soil	M25-My0079687			X		
44	ABH004A_3.5	May 27, 2025		Soil	M25-My0079688			X		
45	ABH004A_4.0	May 27, 2025		Soil	M25-My0079689			X		

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
46	SV34_1.5	May 27, 2025		Soil	M25-My0079690		X		X	
47	QC501	May 27, 2025		Soil	M25-My0079691					X
48	SV34_0.2	May 27, 2025		Soil	M25-My0079692	X				
49	SV34_0.5	May 27, 2025		Soil	M25-My0079693	X				
50	SV34_1.0	May 27, 2025		Soil	M25-My0079694	X				
Test Counts						3	1	45	1	1

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Hobart
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NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1225146-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date May 27, 2025

Client Sample ID			**ABH004W_0.2**	**ABH004W_0.5**	**ABH004W_1.0**	**ABH004W_1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-My0079645**	**M25-My0079646**	**M25-My0079647**	**M25-My0079648**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.5	8.7	8.3	8.2
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.8	6.8	4.5	2.5
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**ABH004W_2.0**	**ABH004W_2.5**	**ABH004W_3.0**	**ABH004W_3.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-My0079649**	**M25-My0079650**	**M25-My0079651**	**M25-My0079652**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.5	8.2	8.8	8.8
pH-FOX (Field pH Peroxide test)	0.1	pH Units	2.6	2.4	7.1	7.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**ABH004W_4.0**	**ABH004S_0.2**	**ABH004S_0.5**	**ABH004S_1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-My0079653**	**M25-My0079654**	**M25-My0079655**	**M25-My0079656**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.5	9.4	8.1	8.3
pH-FOX (Field pH Peroxide test)	0.1	pH Units	4.7	9.1	6.4	4.3
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004S_1.5	ABH004S_2.0	ABH004S_2.5	ABH004S_3.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079657	M25-My0079658	M25-My0079659	M25-My0079660
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.6	8.3	8.6	8.6
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.5	3.5	7.6	7.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004S_3.5	ABH004S_4.0	ABH004E_0.2	ABH004E_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079661	M25-My0079662	M25-My0079663	M25-My0079664
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.3	8.5	9.4	8.7
pH-FOX (Field pH Peroxide test)	0.1	pH Units	6.4	7.2	8.7	7.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004E_1.0	ABH004E_1.5	ABH004E_2.0	ABH004E_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079665	M25-My0079666	M25-My0079667	M25-My0079668
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.2	9.0	8.8	8.1
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.7	8.0	8.1	6.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004E_3.0	ABH004E_3.5	ABH004E_4.0	ABH004N_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079669	M25-My0079670	M25-My0079671	M25-My0079672
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.5	8.2	8.2	9.4
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.2	6.7	5.0	8.7
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004N_0.5	ABH004N_1.0	ABH004N_1.5	ABH004N_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079673	M25-My0079674	M25-My0079675	M25-My0079676
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.4	8.6	8.3	8.3
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.2	7.2	8.1	8.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004N_2.5	ABH004N_3.0	ABH004N_3.5	ABH004N_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079677	M25-My0079678	M25-My0079679	M25-My0079680
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	7.8	8.2	8.4	8.3
pH-FOX (Field pH Peroxide test)	0.1	pH Units	3.1	4.0	3.7	7.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004A_0.2	ABH004A_0.5	ABH004A_1.0	ABH004A_1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079681	M25-My0079682	M25-My0079683	M25-My0079684
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.3	8.8	8.0	8.0
pH-FOX (Field pH Peroxide test)	0.1	pH Units	9.4	8.1	5.0	4.8
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004A_2.0	ABH004A_2.5	ABH004A_3.0	ABH004A_3.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-My0079685	M25-My0079686	M25-My0079687	M25-My0079688
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.2	7.8	8.0	8.5
pH-FOX (Field pH Peroxide test)	0.1	pH Units	2.4	3.2	6.5	6.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			ABH004A_4.0	SV34_1.5	QC501
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-My0079689	M25-My0079690	M25-My0079691
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit			
Acid Sulfate Soils Field pH Test					
pH-F (Field pH test)	0.1	pH Units	8.2	-	-
pH-FOX (Field pH Peroxide test)	0.1	pH Units	3.2	-	-
Reaction Ratings[S05]		comment	4.0	-	-
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	-	< 20	< 20
TRH C10-C14	20	mg/kg	-	53	-
TRH C15-C28	50	mg/kg	-	900	-
TRH C29-C36	50	mg/kg	-	340	-
TRH C10-C36 (Total)	50	mg/kg	-	1293	-
TRH C6-C10	20	mg/kg	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	< 20
TRH >C10-C16	50	mg/kg	-	99	-
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	-	96.9	-
TRH >C16-C34	100	mg/kg	-	1100	-
TRH >C34-C40	100	mg/kg	-	160	-
TRH >C10-C40 (total)*	100	mg/kg	-	1359	-
BTEX					
Benzene	0.1	mg/kg	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	94	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	-	2.1	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	29	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	29	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	29	-
Acenaphthene	0.5	mg/kg	-	1.1	-
Acenaphthylene	0.5	mg/kg	-	0.9	-
Anthracene	0.5	mg/kg	-	17	-
Benz(a)anthracene	0.5	mg/kg	-	19	-
Benzo(a)pyrene	0.5	mg/kg	-	20	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	17	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	8.1	-
Benzo(k)fluoranthene	0.5	mg/kg	-	18	-
Chrysene	0.5	mg/kg	-	22	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	2.9	-
Fluoranthene	0.5	mg/kg	-	47	-
Fluorene	0.5	mg/kg	-	13	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	6.8	-
Naphthalene	0.5	mg/kg	-	4.9	-
Phenanthrene	0.5	mg/kg	-	70	-
Pyrene	0.5	mg/kg	-	44	-
Total PAH*	0.5	mg/kg	-	310	-
2-Fluorobiphenyl (surr.)	1	%	-	103	-
p-Terphenyl-d14 (surr.)	1	%	-	94	-

Client Sample ID			ABH004A_4.0	SV34_1.5	QC501
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M25-My0079689	M25-My0079690	M25-My0079691
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	2	mg/kg	-	< 20	-
Cadmium	0.4	mg/kg	-	< 4	-
Chromium	5	mg/kg	-	3400	-
Copper	5	mg/kg	-	68	-
Lead	5	mg/kg	-	170	-
Mercury	0.1	mg/kg	-	2.2	-
Nickel	5	mg/kg	-	< 50	-
Zinc	5	mg/kg	-	160	-
Sample Properties					
% Moisture	1	%	-	18	-
Volatile Organics					
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	Jun 03, 2025	7 Days
- Method: LTM-GEN-7060			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B7			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	May 29, 2025	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	May 29, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	May 28, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail	HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780			X		
External Laboratory					

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	ABH004W_0.2	May 27, 2025		Soil	M25-My0079645			X		
2	ABH004W_0.5	May 27, 2025		Soil	M25-My0079646			X		
3	ABH004W_1.0	May 27, 2025		Soil	M25-My0079647			X		
4	ABH004W_1.5	May 27, 2025		Soil	M25-My0079648			X		
5	ABH004W_2.0	May 27, 2025		Soil	M25-My0079649			X		
6	ABH004W_2.5	May 27, 2025		Soil	M25-My0079650			X		
7	ABH004W_3.0	May 27, 2025		Soil	M25-My0079651			X		
8	ABH004W_3.5	May 27, 2025		Soil	M25-My0079652			X		
9	ABH004W_4.0	May 27, 2025		Soil	M25-My0079653			X		
10	ABH004S_0.2	May 27, 2025		Soil	M25-My0079654			X		
11	ABH004S_0.5	May 27, 2025		Soil	M25-My0079655			X		
12	ABH004S_1.0	May 27, 2025		Soil	M25-My0079656			X		
13	ABH004S_1.5	May 27, 2025		Soil	M25-My0079657			X		

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Eurofins Environment Testing Australia Pty Ltd
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Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Phone: 08 7223 5400
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
14	ABH004S_2.0	May 27, 2025		Soil	M25-My0079658			X		
15	ABH004S_2.5	May 27, 2025		Soil	M25-My0079659			X		
16	ABH004S_3.0	May 27, 2025		Soil	M25-My0079660			X		
17	ABH004S_3.5	May 27, 2025		Soil	M25-My0079661			X		
18	ABH004S_4.0	May 27, 2025		Soil	M25-My0079662			X		
19	ABH004E_0.2	May 27, 2025		Soil	M25-My0079663			X		
20	ABH004E_0.5	May 27, 2025		Soil	M25-My0079664			X		
21	ABH004E_1.0	May 27, 2025		Soil	M25-My0079665			X		
22	ABH004E_1.5	May 27, 2025		Soil	M25-My0079666			X		
23	ABH004E_2.0	May 27, 2025		Soil	M25-My0079667			X		
24	ABH004E_2.5	May 27, 2025		Soil	M25-My0079668			X		
25	ABH004E_3.0	May 27, 2025		Soil	M25-My0079669			X		
26	ABH004E_3.5	May 27, 2025		Soil	M25-My0079670			X		
27	ABH004E_4.0	May 27, 2025		Soil	M25-My0079671			X		
28	ABH004N_0.2	May 27, 2025		Soil	M25-My0079672			X		
29	ABH004N_0.5	May 27, 2025		Soil	M25-My0079673			X		

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
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46-48 Banksia Road
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WA 6106
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Eurofins Environment Testing NZ Ltd
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Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.:
Report #: 1225146
Phone: 08 7223 5400
Fax:

Received: May 27, 2025 9:18 PM
Due: Jun 4, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
30	ABH004N_1.0	May 27, 2025		Soil	M25-My0079674			X		
31	ABH004N_1.5	May 27, 2025		Soil	M25-My0079675			X		
32	ABH004N_2.0	May 27, 2025		Soil	M25-My0079676			X		
33	ABH004N_2.5	May 27, 2025		Soil	M25-My0079677			X		
34	ABH004N_3.0	May 27, 2025		Soil	M25-My0079678			X		
35	ABH004N_3.5	May 27, 2025		Soil	M25-My0079679			X		
36	ABH004N_4.0	May 27, 2025		Soil	M25-My0079680			X		
37	ABH004A_0.2	May 27, 2025		Soil	M25-My0079681			X		
38	ABH004A_0.5	May 27, 2025		Soil	M25-My0079682			X		
39	ABH004A_1.0	May 27, 2025		Soil	M25-My0079683			X		
40	ABH004A_1.5	May 27, 2025		Soil	M25-My0079684			X		
41	ABH004A_2.0	May 27, 2025		Soil	M25-My0079685			X		
42	ABH004A_2.5	May 27, 2025		Soil	M25-My0079686			X		
43	ABH004A_3.0	May 27, 2025		Soil	M25-My0079687			X		
44	ABH004A_3.5	May 27, 2025		Soil	M25-My0079688			X		
45	ABH004A_4.0	May 27, 2025		Soil	M25-My0079689			X		

eurofins

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Sample Detail						HOLD*	Moisture Set	Acid Sulfate Soils Field pH Test	Eurofins Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X		X	X
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780								X		
46	SV34_1.5	May 27, 2025		Soil	M25-My0079690		X		X	
47	QC501	May 27, 2025		Soil	M25-My0079691					X
48	SV34_0.2	May 27, 2025		Soil	M25-My0079692	X				
49	SV34_0.5	May 27, 2025		Soil	M25-My0079693	X				
50	SV34_1.0	May 27, 2025		Soil	M25-My0079694	X				
Test Counts						3	1	45	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	126			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	84			70-130	Pass	
TRH C6-C10	%	123			70-130	Pass	
TRH >C10-C16	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	114			70-130	Pass	
m&p-Xylenes	%	117			70-130	Pass	
Xylenes - Total*	%	117			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	74			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	81			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	108			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(a)pyrene	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	%	74			70-130	Pass	
Benzo(g.h.i)perylene	%	122			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	71			70-130	Pass	
Fluorene	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	99			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	73			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	118			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	116			80-120	Pass	
Copper	%	115			80-120	Pass	
Lead	%	110			80-120	Pass	
Mercury	%	101			80-120	Pass	
Nickel	%	112			80-120	Pass	
Zinc	%	115			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M25-My0082974	NCP	%	96			70-130	Pass	
TRH C10-C14	M25-My0087711	NCP	%	74			70-130	Pass	
TRH C6-C10	M25-My0082974	NCP	%	94			70-130	Pass	
TRH >C10-C16	M25-My0087711	NCP	%	75			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M25-My0082974	NCP	%	77			70-130	Pass	
Toluene	M25-My0082974	NCP	%	83			70-130	Pass	
Ethylbenzene	M25-My0082974	NCP	%	83			70-130	Pass	
m&p-Xylenes	M25-My0082974	NCP	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	M25-My0082974	NCP	%	83			70-130	Pass	
Xylenes - Total*	M25-My0082974	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M25-My0082974	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-My0079449	NCP	%	104			70-130	Pass	
Acenaphthylene	M25-My0079449	NCP	%	96			70-130	Pass	
Anthracene	M25-My0079449	NCP	%	99			70-130	Pass	
Benz(a)anthracene	M25-My0079449	NCP	%	93			70-130	Pass	
Benzo(a)pyrene	M25-My0079449	NCP	%	112			70-130	Pass	
Benzo(b&j)fluoranthene	M25-My0079449	NCP	%	97			70-130	Pass	
Benzo(g.h.i)perylene	M25-My0079449	NCP	%	99			70-130	Pass	
Benzo(k)fluoranthene	M25-My0079449	NCP	%	95			70-130	Pass	
Chrysene	M25-My0079449	NCP	%	106			70-130	Pass	
Dibenz(a.h)anthracene	M25-My0079449	NCP	%	109			70-130	Pass	
Fluoranthene	M25-My0079449	NCP	%	106			70-130	Pass	
Fluorene	M25-My0079449	NCP	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M25-My0079449	NCP	%	108			70-130	Pass	
Naphthalene	M25-My0079449	NCP	%	124			70-130	Pass	
Phenanthrene	M25-My0079449	NCP	%	94			70-130	Pass	
Pyrene	M25-My0079449	NCP	%	107			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M25-My0082985	NCP	%	116			75-125	Pass	
Cadmium	M25-My0082985	NCP	%	102			75-125	Pass	
Chromium	M25-My0082985	NCP	%	114			75-125	Pass	
Copper	M25-My0082985	NCP	%	116			75-125	Pass	
Lead	M25-My0082985	NCP	%	116			75-125	Pass	
Mercury	M25-My0082985	NCP	%	104			75-125	Pass	
Nickel	M25-My0082985	NCP	%	114			75-125	Pass	
Zinc	M25-My0082985	NCP	%	118			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079650	CP	pH Units	8.2	8.3	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079650	CP	pH Units	2.4	2.4	pass	30%	Pass	
Reaction Ratings	M25-My0079650	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079663	CP	pH Units	9.4	9.4	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079663	CP	pH Units	8.7	8.9	pass	30%	Pass	
Reaction Ratings	M25-My0079663	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079666	CP	pH Units	9.0	9.1	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079666	CP	pH Units	8.0	8.2	pass	30%	Pass	
Reaction Ratings	M25-My0079666	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079668	CP	pH Units	8.1	8.2	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079668	CP	pH Units	6.4	6.3	pass	30%	Pass	
Reaction Ratings	M25-My0079668	CP	comment	4.0	4.0	pass	30%	Pass	

Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079675	CP	pH Units	8.3	8.3	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079675	CP	pH Units	8.1	7.9	pass	30%	Pass	
Reaction Ratings	M25-My0079675	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-My0079685	CP	pH Units	8.2	8.2	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-My0079685	CP	pH Units	2.4	2.7	pass	30%	Pass	
Reaction Ratings	M25-My0079685	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-My0084166	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M25-My0089579	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M25-My0089579	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M25-My0089579	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	M25-My0084166	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M25-My0089579	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M25-My0089579	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M25-My0089579	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M25-My0084166	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M25-My0084166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M25-My0084166	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-My0084166	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M25-My0079458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M25-My0083011	NCP	mg/kg	16	15	6.0	30%	Pass	
Cadmium	M25-My0083011	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M25-My0083011	NCP	mg/kg	91	88	3.0	30%	Pass	
Copper	M25-My0083011	NCP	mg/kg	29	27	8.0	30%	Pass	
Lead	M25-My0083011	NCP	mg/kg	24	26	7.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	M25-My0083011	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M25-My0083011	NCP	mg/kg	150	140	5.0	30%	Pass	
Zinc	M25-My0083011	NCP	mg/kg	110	120	5.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M25-My0082561	NCP	%	9.0	8.8	2.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Savini Suduweli	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic
Carroll Lee	Senior Analyst-Volatile
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-SPOCAS
Joseph Edouard	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

CONSULTANT: AECOM	**LABORATORY:**	**TURNAROUND REQUIREMENTS** (mark Due date or 'X')	**FOR LABORATORY USE ONLY** (Circle)
Level 10, 727 Collins Street		Standard: X	Non Stand (Due date):
Melbourne, VIC 3008	**Results email:**		Custody Seal Intact? Yes / No / N/A
PHONE NO: 9653 1234	robert.crowe@aecom.com	COC: 1 2 3 4 5 6 7 8	Free ice / frozen icebricks present upon receipt? Yes / No / N/A
MOBILE NO: 0427 821 002	richard.bowers@aecom.com	OF: 1 2 3 4 5 6 7 8	Sample Temperature on Receipt: 5.6°C
PROJECT ID: 60663007 / 12	**Quote Number:** 250582AECV	**RELINQUISHED BY:** Elliot Mewstone	**RECEIVED BY:** Brendan Eurofins Hobart 12/6/25 @3:16pm.
Project Manager: Robert Crowe	**Project Name:** Macquarie Point	**DATE/TIME:** 30/05/2025	**RELINQUISHED BY:** / **DATE/TIME:**
SAMPLER: RB / EM / TG / LL	**Data Format:** Esdat and PDF		**RECEIVED BY:** / **DATE/TIME:**

NOTES:

Please immediately freeze all PASS sample bags upon receipt.
Please ensure all other samples remained chilled sufficient to remain below 6 degrees C during further transit between labs as required.

Please note that CRS and/or SPOCAS analysis may be further requested on PASS Suite samples, pending initial pH results - please preserve/prepare the samples accordingly should this be required.

SOIL

SAMPLE CONTAINERS

LAB ID	SAMPLE ID	DATE / TIME	MATRIX (S, W)	General Soil Suite & Gasworks Soil Suite (combined)	PFAS	PASS Suite	Soil Rinsate / Field Blank: General Suite	Soil Rinsate / Field Blank: General Suite + PFAS	Soil Rinsate / Field Blank: General Suite + Gasworks Suite	Soil Trip Blank	TOTAL BOTTLES
				1x 250ml Glass Soil Jar	1x PFAS soil jar	1 x 90g PASS Sample Bag	2x 250mL Sterilin Volatiles Amber w/ HCl, Metals 1x 60mL Metals	2x 250mL Sterilin Volatiles Amber w/ HCl, Metals 1x 60mL Metals 1x 60mL Cyanide/Cr6+ 1x 60mL Preserved Inorganics 1 X 500mL PFAS bottle	2x 250mL Sterilin Volatiles Amber w/ HCl, Metals 1x 60mL Metals 1x 60mL Cyanide/Cr6+ 1x 60mL Preserved Inorganics	1x 40mL Soil Vial	
				1	1	1	4	5	8	1	
✓	BH004E_0.2	10/6/25	S			1					1
✓	BH004E_0.5	10/6/25	S			1					1
✓	BH004E_1.0	10/6/25	S			1					1
✓	BH004E_2.0	10/6/25	S			1					1
✓	BH004E_3.0	10/6/25	S			1					1
✓	BH004E_4.0	10/6/25	S			1					1
✓	BH004E_5.0	10/6/25	S			1					1
✓	BH004N_0.2	10/6/25	S			1					1
✓	BH004N_0.5	10/6/25	S			1					1
✓	BH004N_1.0	10/6/25	S			1					1
✓	BH004N_2.0	10/6/25	S			1					1
✓	BH004N_3.0	10/6/25	S			1					1
✓	BH004N_4.0	10/6/25	S			1					1
✓	BH004N_5.0	10/6/25	S			1					1
✓	BH004A_0.2	11/6/25	S			1					1
✓	BH004A_0.5	11/6/25	S			1					1
✓	BH004A_1.0	11/6/25	S			1					1
✓	BH004A_2.0	11/6/25	S			1					1
✓	BH004A_3.0	11/6/25	S			1					1
✓	BH004A_4.0	11/6/25	S			1					1
✓	BH004A_5.0	11/6/25	S			1					1
✓	BH004W_0.2	11/6/25	S			1					1
✓	BH004W_0.5	11/6/25	S			1					1
✓	BH004W_1.0	11/6/25	S			1					1
✓	BH004W_2.0	11/6/25	S			1					1
✓	BH004W_3.0	11/6/25	S			1					1
✓	BH004W_4.0	11/6/25	S			1					1

ANALYSIS REQUEST

LAB ID	SAMPLE ID	General Soil Suite: TRH (C6-C40), BTEX, PAH, 10 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Gasworks Soil Suite: Cyanide (Total, Free & WAD), Sulphur (Total), Phenols (Speciated)	PFAS: Full suite - 30 compounds, trace level	PASS Suite: pH (Field Screen, NATA)	PASS Suite: Chromium Reducible Sulphur (CRS)	PASS Suite: SPOCAS	Rinsate & Field Blank: General Suite: TRH (C6-C40), BTEX, PAH, 10 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	Rinsate & Field Blank: General Suite + Gasworks Suite: TRH (C6-C40), BTEX, PAH, 10 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg), Cyanide (Total & WAD), Phenols (Speciated)	Trip Blank: TRH(C6-C9), BTEX	HOLD
		1	1	1	1	1	1	1	1	1	
✓	BH004E_0.2				X						
✓	BH004E_0.5				X						
✓	BH004E_1.0				X						
✓	BH004E_2.0				X						
✓	BH004E_3.0				X						
✓	BH004E_4.0				X						
✓	BH004E_5.0				X						
✓	BH004N_0.2				X						
✓	BH004N_0.5				X						
✓	BH004N_1.0				X						
✓	BH004N_2.0				X						
✓	BH004N_3.0				X						
✓	BH004N_4.0				X						
✓	BH004N_5.0				X						
✓	BH004A_0.2				X						
✓	BH004A_0.5				X						
✓	BH004A_1.0				X						
✓	BH004A_2.0				X						
✓	BH004A_3.0				X						
✓	BH004A_4.0				X						
✓	BH004A_5.0				X						
✓	BH004W_0.2				X						
✓	BH004W_0.5				X						
✓	BH004W_1.0				X						
✓	BH004W_2.0				X						
✓	BH004W_3.0				X						
✓	BH004W_4.0				X						

COMMENTS

Additional Information	Comments on likely contamination, dilutions samples for QC analysis, specific preparation etc
Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025	
Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025	
Sample was delivered to eurofins and immediately frozen upon delivery on 10/6/2025	
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Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025	
Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025	

Report #1231576 SB 12/6

✓	BH004W_5.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
*	BH004W_6.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_0.2	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_0.5	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_1.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_2.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_3.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_4.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	BH004S_5.0	11/6/25		S			1					1				X							Sample was delivered to eurofins and immediately frozen upon delivery on 11/6/2025
✓	QC310	11/6/25		W				1				4						X					
✓	QC410	11/6/25		W				1				4									X		
✓	QC510	11/6/25		S							1	1								X			

* Sample BH004W_6.0 was received as BH004A_6.0. Logged as per COC. Please confirm sample ID.
- SS 12/6/25

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 12, 2025 3:16 PM
Eurofins reference	1231576

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample bag BH004W_6.0 received as BH004A_6.0. Logged as per COC. Please confirm sample ID.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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NATA# 2377
Site# 2370 & 2554

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NZBN: 9429046024954

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+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231576
Phone: 0422 692 187
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH004E_0.2	Jun 10, 2025		Soil	M25-Jn0032565	X
2	BH004E_0.5	Jun 10, 2025		Soil	M25-Jn0032566	X
3	BH004E_1.0	Jun 10, 2025		Soil	M25-Jn0032567	X
4	BH004E_2.0	Jun 10, 2025		Soil	M25-Jn0032568	X
5	BH004E_3.0	Jun 10, 2025		Soil	M25-Jn0032569	X
6	BH004E_4.0	Jun 10, 2025		Soil	M25-Jn0032570	X
7	BH004E_5.0	Jun 10, 2025		Soil	M25-Jn0032571	X
8	BH004N_0.2	Jun 10, 2025		Soil	M25-Jn0032572	X
9	BH004N_0.5	Jun 10, 2025		Soil	M25-Jn0032573	X
10	BH004N_1.0	Jun 10, 2025		Soil	M25-Jn0032574	X
11	BH004N_2.0	Jun 10, 2025		Soil	M25-Jn0032575	X
12	BH004N_3.0	Jun 10, 2025		Soil	M25-Jn0032576	X
13	BH004N_4.0	Jun 10, 2025		Soil	M25-Jn0032577	X
14	BH004N_5.0	Jun 10, 2025		Soil	M25-Jn0032578	X

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231576
Phone: 0422 692 187
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
15	BH004A_0.2	Jun 11, 2025		Soil	M25-Jn0032579	X
16	BH004A_0.5	Jun 11, 2025		Soil	M25-Jn0032580	X
17	BH004A_1.0	Jun 11, 2025		Soil	M25-Jn0032581	X
18	BH004A_2.0	Jun 11, 2025		Soil	M25-Jn0032582	X
19	BH004A_3.0	Jun 11, 2025		Soil	M25-Jn0032583	X
20	BH004A_4.0	Jun 11, 2025		Soil	M25-Jn0032584	X
21	BH004A_5.0	Jun 11, 2025		Soil	M25-Jn0032585	X
22	BH004W_0.2	Jun 11, 2025		Soil	M25-Jn0032586	X
23	BH004W_0.5	Jun 11, 2025		Soil	M25-Jn0032587	X
24	BH004W_1.0	Jun 11, 2025		Soil	M25-Jn0032588	X
25	BH004W_2.0	Jun 11, 2025		Soil	M25-Jn0032589	X
26	BH004W_3.0	Jun 11, 2025		Soil	M25-Jn0032590	X
27	BH004W_4.0	Jun 11, 2025		Soil	M25-Jn0032591	X
28	BH004W_5.0	Jun 11, 2025		Soil	M25-Jn0032592	X
29	BH004W_6.0	Jun 11, 2025		Soil	M25-Jn0032593	X
30	BH004S_0.2	Jun 11, 2025		Soil	M25-Jn0032594	X
31	BH004S_0.5	Jun 11, 2025		Soil	M25-Jn0032595	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231576
Phone: 0422 692 187
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
32	BH004S_1.0	Jun 11, 2025		Soil	M25-Jn0032596	X
33	BH004S_2.0	Jun 11, 2025		Soil	M25-Jn0032597	X
34	BH004S_3.0	Jun 11, 2025		Soil	M25-Jn0032598	X
35	BH004S_4.0	Jun 11, 2025		Soil	M25-Jn0032599	X
36	BH004S_5.0	Jun 11, 2025		Soil	M25-Jn0032600	X
Test Counts						36

Aecom Austraila Pty Ltd
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NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1231576-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 12, 2025

Client Sample ID			**BH004E_0.2**	**BH004E_0.5**	**BH004E_1.0**	**BH004E_2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032565**	**M25-Jn0032566**	**M25-Jn0032567**	**M25-Jn0032568**
Date Sampled			**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.6	8.5	8.7	8.7
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.4	7.7	7.9	8.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH004E_3.0**	**BH004E_4.0**	**BH004E_5.0**	**BH004N_0.2**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032569**	**M25-Jn0032570**	**M25-Jn0032571**	**M25-Jn0032572**
Date Sampled			**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.7	9.8	8.1	9.2
pH-FOX (Field pH Peroxide test)	0.1	pH Units	9.0	8.3	4.1	8.0
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			**BH004N_0.5**	**BH004N_1.0**	**BH004N_2.0**	**BH004N_3.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M25-Jn0032573**	**M25-Jn0032574**	**M25-Jn0032575**	**M25-Jn0032576**
Date Sampled			**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**	**Jun 10, 2025**
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	7.4	8.1	8.2	8.6
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.4	5.6	7.8	7.2
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004N_4.0	BH004N_5.0	BH004A_0.2	BH004A_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032577	M25-Jn0032578	M25-Jn0032579	M25-Jn0032580
Date Sampled			Jun 10, 2025	Jun 10, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.4	8.8	8.7	7.8
pH-FOX (Field pH Peroxide test)	0.1	pH Units	2.9	3.9	8.6	7.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004A_1.0	BH004A_2.0	BH004A_3.0	BH004A_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032581	M25-Jn0032582	M25-Jn0032583	M25-Jn0032584
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.6	8.4	8.5	11
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.1	7.0	8.4	8.1
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004A_5.0	BH004W_0.2	BH004W_0.5	BH004W_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032585	M25-Jn0032586	M25-Jn0032587	M25-Jn0032588
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	12	8.7	8.4	8.1
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.4	8.2	8.2	6.0
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004W_2.0	BH004W_3.0	BH004W_4.0	BH004W_5.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032589	M25-Jn0032590	M25-Jn0032591	M25-Jn0032592
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	9.0	8.7	8.4	8.4
pH-FOX (Field pH Peroxide test)	0.1	pH Units	7.1	7.7	2.5	4.4
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004W_6.0	BH004S_0.2	BH004S_0.5	BH004S_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032593	M25-Jn0032594	M25-Jn0032595	M25-Jn0032596
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.3	8.8	8.7	8.1
pH-FOX (Field pH Peroxide test)	0.1	pH Units	5.8	8.6	7.7	7.0
Reaction Ratings[S05]		comment	4.0	4.0	4.0	4.0

Client Sample ID			BH004S_2.0	BH004S_3.0	BH004S_4.0	BH004S_5.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M25-Jn0032597	M25-Jn0032598	M25-Jn0032599	M25-Jn0032600
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)	0.1	pH Units	8.4	8.3	8.4	8.2
pH-FOX (Field pH Peroxide test)	0.1	pH Units	8.2	6.8	7.1	2.0
Reaction Ratings[S05]		comment	4.0	1.0	1.0	4.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Acid Sulfate Soils Field pH Test	Brisbane	Jun 23, 2025	7 Days
- Method: LTM-GEN-7060			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1231576
Phone: 0422 692 187
Fax:

Received: Jun 12, 2025 3:16 PM
Due: Jun 19, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH004E_0.2	Jun 10, 2025		Soil	M25-Jn0032565	X
2	BH004E_0.5	Jun 10, 2025		Soil	M25-Jn0032566	X
3	BH004E_1.0	Jun 10, 2025		Soil	M25-Jn0032567	X
4	BH004E_2.0	Jun 10, 2025		Soil	M25-Jn0032568	X
5	BH004E_3.0	Jun 10, 2025		Soil	M25-Jn0032569	X
6	BH004E_4.0	Jun 10, 2025		Soil	M25-Jn0032570	X
7	BH004E_5.0	Jun 10, 2025		Soil	M25-Jn0032571	X
8	BH004N_0.2	Jun 10, 2025		Soil	M25-Jn0032572	X
9	BH004N_0.5	Jun 10, 2025		Soil	M25-Jn0032573	X
10	BH004N_1.0	Jun 10, 2025		Soil	M25-Jn0032574	X
11	BH004N_2.0	Jun 10, 2025		Soil	M25-Jn0032575	X
12	BH004N_3.0	Jun 10, 2025		Soil	M25-Jn0032576	X
13	BH004N_4.0	Jun 10, 2025		Soil	M25-Jn0032577	X
14	BH004N_5.0	Jun 10, 2025		Soil	M25-Jn0032578	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
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Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
15	BH004A_0.2	Jun 11, 2025		Soil	M25-Jn0032579	X
16	BH004A_0.5	Jun 11, 2025		Soil	M25-Jn0032580	X
17	BH004A_1.0	Jun 11, 2025		Soil	M25-Jn0032581	X
18	BH004A_2.0	Jun 11, 2025		Soil	M25-Jn0032582	X
19	BH004A_3.0	Jun 11, 2025		Soil	M25-Jn0032583	X
20	BH004A_4.0	Jun 11, 2025		Soil	M25-Jn0032584	X
21	BH004A_5.0	Jun 11, 2025		Soil	M25-Jn0032585	X
22	BH004W_0.2	Jun 11, 2025		Soil	M25-Jn0032586	X
23	BH004W_0.5	Jun 11, 2025		Soil	M25-Jn0032587	X
24	BH004W_1.0	Jun 11, 2025		Soil	M25-Jn0032588	X
25	BH004W_2.0	Jun 11, 2025		Soil	M25-Jn0032589	X
26	BH004W_3.0	Jun 11, 2025		Soil	M25-Jn0032590	X
27	BH004W_4.0	Jun 11, 2025		Soil	M25-Jn0032591	X
28	BH004W_5.0	Jun 11, 2025		Soil	M25-Jn0032592	X
29	BH004W_6.0	Jun 11, 2025		Soil	M25-Jn0032593	X
30	BH004S_0.2	Jun 11, 2025		Soil	M25-Jn0032594	X
31	BH004S_0.5	Jun 11, 2025		Soil	M25-Jn0032595	X

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Sample Detail						Acid Sulfate Soils Field pH Test
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X
32	BH004S_1.0	Jun 11, 2025		Soil	M25-Jn0032596	X
33	BH004S_2.0	Jun 11, 2025		Soil	M25-Jn0032597	X
34	BH004S_3.0	Jun 11, 2025		Soil	M25-Jn0032598	X
35	BH004S_4.0	Jun 11, 2025		Soil	M25-Jn0032599	X
36	BH004S_5.0	Jun 11, 2025		Soil	M25-Jn0032600	X
Test Counts						36

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032575	CP	pH Units	8.2	8.2	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032575	CP	pH Units	7.8	7.8	pass	30%	Pass	
Reaction Ratings	M25-Jn0032575	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032585	CP	pH Units	12	12	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032585	CP	pH Units	7.4	7.7	pass	30%	Pass	
Reaction Ratings	M25-Jn0032585	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032586	CP	pH Units	8.7	8.8	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032586	CP	pH Units	8.2	8.3	pass	30%	Pass	
Reaction Ratings	M25-Jn0032586	CP	comment	4.0	4.0	pass	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)	M25-Jn0032591	CP	pH Units	8.4	8.6	pass	30%	Pass	
pH-FOX (Field pH Peroxide test)	M25-Jn0032591	CP	pH Units	2.5	2.3	pass	30%	Pass	
Reaction Ratings	M25-Jn0032591	CP	comment	4.0	4.0	pass	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Catherine Wilson	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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From: Crowe, Robert <Robert.Crowe@aecom.com>
Sent: Wednesday, 25 June 2025 11:57 AM
To: Sheridan Barrett <Sheridan.Barrett@eurofinsanz.com>
Cc: Bowers, Richard <Richard.Bowers@aecom.com>; Savini Suduweli Kondage <Savini.SuduweliKondage@eurofinsanz.com>
Subject: RE: Eurofins Sample Receipt Advice - Report 1231576 : Site Macquarie Point (60693007 / 12)

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Thanks Sheridan,

The results for this batch came through last night. Could you please line up analysis for the NASSG suites for Chromium Reducible Sulfur (CRS), Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS), and Acid Neutralising Capacity (ANC) be conducted on samples from this batch, and from batch 1225146, as per the table below:

Field ID	Batch	Sample Date	Additional Analysis		
			CRS	SPOCAS	ANC
ABH004A_2	1225146	27-May-25	X	X	X
ABH004A_2.5	1225146	27-May-25	X		X
ABH004W_1.5	1225146	27-May-25	X		X
ABH004W_2.5	1225146	27-May-25	X		X
ABH004S_1	1225146	27-May-25	X		X
ABH004S_2	1225146	27-May-25	X		X
ABH004E_0.5	1225146	27-May-25	X		X
ABH004E_2.5	1225146	27-May-25	X		X
ABH004N_0.5	1225146	27-May-25	X		X
ABH004N_2.5	1225146	27-May-25	X		X
BH004A_2.0	1231576	11-Jun-25	X		X
BH004A_4.0	1231576	11-Jun-25	X		X
BH004E_0.2	1231576	10-Jun-25	X		X
BH004N_1.0	1231576	10-Jun-25	X		X
BH004N_3.0	1231576	10-Jun-25	X		X
BH004S_1.0	1231576	11-Jun-25	X		X
BH004S_3.0	1231576	11-Jun-25	X		X
BH004W_1.0	1231576	11-Jun-25	X		X
BH004W_2.0	1231576	11-Jun-25	X		X
BH004W_4.0	1231576	11-Jun-25	X	X	X

1237090

Thanks for the confirmation that the samples were frozen as well – assumed this was the case. It would probably be handy to note on future CoCs, particularly when samples are received at the analytical lab in Brisbane – not something which has ever been questioned, but would be a useful additional data point if any unusual data discrepancies come through in the future.

Cheers, and please let me know if you need any additional information or details,

Robert Crowe
He/him/his

Associate Director - Environment
M +61 422 692 187
robert.crowe@aecom.com

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Eurofins Environment Testing Australia Pty Ltd

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Site# 2370 & 2554

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	Aecom Austraila Pty Ltd Tasmania
Contact name:	Robert Crowe
Project name:	Macquarie Point
Project ID:	60693007 / 12
Turnaround time:	5 Day
Date/Time received	Jun 25, 2025 11:57 AM
Eurofins reference	1237090

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 5.6 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Robert Crowe - Robert.Crowe@aecom.com.

Note: A copy of these results will also be delivered to the general Aecom Austraila Pty Ltd Tasmania email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Aecom Austraila Pty Ltd Tasmania
Address: Suite 6, Level 3,13-17 Castray Esplanade
Hobart
Tasmania 7000

Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237090
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 11:57 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	ABH004A_2.0	May 27, 2025		Soil	B25-Jn0072060	X	X	X
2	ABH004A_2.5	May 27, 2025		Soil	B25-Jn0072061		X	X
3	ABH004W_1.5	May 27, 2025		Soil	B25-Jn0072062		X	X
4	ABH004W_2.5	May 27, 2025		Soil	B25-Jn0072063		X	X
5	ABH004S_1.0	May 27, 2025		Soil	B25-Jn0072064		X	X
6	ABH004S_2.0	May 27, 2025		Soil	B25-Jn0072065		X	X
7	ABH004E_0.5	May 27, 2025		Soil	B25-Jn0072066		X	X
8	ABH004E_2.5	May 27, 2025		Soil	B25-Jn0072067		X	X
9	ABH004N_0.5	May 27, 2025		Soil	B25-Jn0072068		X	X
10	ABH004N_2.5	May 27, 2025		Soil	B25-Jn0072069		X	X
11	BH004A_2.0	Jun 11, 2025		Soil	B25-Jn0072070		X	X
12	BH004A_4.0	Jun 11, 2025		Soil	B25-Jn0072071		X	X
13	BH004E_0.2	Jun 10, 2025		Soil	B25-Jn0072072		X	X
14	BH004N_1.0	Jun 10, 2025		Soil	B25-Jn0072073		X	X

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Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
15	BH004N_3.0	Jun 10, 2025		Soil	B25-Jn0072074		X	X
16	BH004S_1.0	Jun 11, 2025		Soil	B25-Jn0072075		X	X
17	BH004S_3.0	Jun 11, 2025		Soil	B25-Jn0072076		X	X
18	BH004W_1.0	Jun 11, 2025		Soil	B25-Jn0072077		X	X
19	BH004W_2.0	Jun 11, 2025		Soil	B25-Jn0072078		X	X
20	BH004W_4.0	Jun 11, 2025		Soil	B25-Jn0072079	X	X	X
Test Counts						2	20	20

Aecom Austraila Pty Ltd
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Hobart
Tasmania 7000

NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Robert Crowe**

Report **1237090-S**
Project name Macquarie Point
Project ID 60693007 / 12
Received Date Jun 25, 2025

Client Sample ID			**ABH004A_2.0**	**ABH004A_2.5**	**ABH004W_1.5**	**ABH004W_2.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**B25-Jn0072060**	**B25-Jn0072061**	**B25-Jn0072062**	**B25-Jn0072063**
Date Sampled			**May 27, 2025**	**May 27, 2025**	**May 27, 2025**	**May 27, 2025**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.7	8.0	8.4	7.8
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	5.9	-	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	-	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2	-	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2	-	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	-	-	-
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	0.030	N/A	N/A	N/A
Peroxide Extractable Sulfur	0.005	% S	0.73	-	-	-
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	0.70	-	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	430	-	-	-
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	0.31	-	-	-
Calcium - Peroxide	0.005	% Ca	0.91	-	-	-
Calcium - Acid Reacted	0.005	% Ca	0.59	-	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.48	-	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	300	-	-	-
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	0.020	-	-	-
Magnesium - Peroxide	0.005	% Mg	0.060	-	-	-
Magnesium - Acid Reacted	0.005	% Mg	0.039	-	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.051	-	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	32	-	-	-

Client Sample ID			ABH004A_2.0	ABH004A_2.5	ABH004W_1.5	ABH004W_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072060	B25-Jn0072061	B25-Jn0072062	B25-Jn0072063
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	N/A	-	-	-
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	N/A	-	-	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	n/a	-	-	-
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.2	4.7	1.9	2.6
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.0	1.5	0.62	0.84
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	640	940	390	520
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	140	-	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	0.23	-	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	11	-	-	-
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	N/A	< 0.02	< 0.02	0.51
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	N/A	< 10	< 10	320
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	N/A	< 1	< 1	24
Extraneous Material						
<2mm Fraction	0.005	g	24	13	62	62
>2mm Fraction	0.005	g	130	< 0.005	< 0.005	9.4
Analysed Material	0.1	%	16	100	100	87
Extraneous Material	0.1	%	84	< 0.1	< 0.1	13
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	N/A	0.14	0.42	1.1
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	N/A	89	260	670
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	N/A	6.7	20	50
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.60	0.14	0.42	1.1
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	380	89	260	670
Sample Properties						
% Moisture	1	%	19	39	17	26

Client Sample ID			ABH004S_1.0	ABH004S_2.0	ABH004E_0.5	ABH004E_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072064	B25-Jn0072065	B25-Jn0072066	B25-Jn0072067
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.4	8.2	8.4	8.5
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0

Client Sample ID			ABH004S_1.0	ABH004S_2.0	ABH004E_0.5	ABH004E_2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072064	B25-Jn0072065	B25-Jn0072066	B25-Jn0072067
Date Sampled			May 27, 2025	May 27, 2025	May 27, 2025	May 27, 2025
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	3.1	2.6	3.6	4.2
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	1.0	0.82	1.1	1.3
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	620	510	720	830
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	34	24	24	30
>2mm Fraction	0.005	g	< 0.005	< 0.005	70	< 0.005
Analysed Material	0.1	%	100	100	26	100
Extraneous Material	0.1	%	< 0.1	< 0.1	74	< 0.1
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.42	0.11	0.11	0.13
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	260	71	70	80
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	19	5.3	5.3	6.0
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.42	0.11	0.11	0.13
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	260	71	70	80
Sample Properties						
% Moisture	1	%	20	32	13	32

Client Sample ID			ABH004N_0.5	ABH004N_2.5	BH004A_2.0	BH004A_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072068	B25-Jn0072069	B25-Jn0072070	B25-Jn0072071
Date Sampled			May 27, 2025	May 27, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	7.8	8.3	9.1
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	12	2.3	1.8	1.9
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	4.0	0.75	0.57	0.60
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	2500	470	360	370

Client Sample ID			ABH004N_0.5	ABH004N_2.5	BH004A_2.0	BH004A_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072068	B25-Jn0072069	B25-Jn0072070	B25-Jn0072071
Date Sampled			May 27, 2025	May 27, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	0.52	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	330	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	25	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	57	26	42	30
>2mm Fraction	0.005	g	34	< 0.005	< 0.005	17
Analysed Material	0.1	%	63	100	100	64
Extraneous Material	0.1	%	37	< 0.1	< 0.1	36
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.08	1.0	< 0.02	0.08
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	53	640	< 10	50
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	4.0	48	< 1	3.7
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.085	1.0	0.009	0.079
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	53	640	5.5	50
Sample Properties						
% Moisture	1	%	8.3	37	26	13

Client Sample ID			BH004E_0.2	BH004N_1.0	BH004N_3.0	BH004S_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072072	B25-Jn0072073	B25-Jn0072074	B25-Jn0072075
Date Sampled			Jun 10, 2025	Jun 10, 2025	Jun 10, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.8	7.3	8.4	8.5
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	N/A
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.8	1.0	1.4	2.0
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.59	0.32	0.44	0.63
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	370	200	270	390
Net Acidity (Including ANC)						
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	< 1

Client Sample ID			BH004E_0.2	BH004N_1.0	BH004N_3.0	BH004S_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072072	B25-Jn0072073	B25-Jn0072074	B25-Jn0072075
Date Sampled			Jun 10, 2025	Jun 10, 2025	Jun 10, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	23	15	34	42
>2mm Fraction	0.005	g	61	43	8.7	18
Analysed Material	0.1	%	27	26	79	70
Extraneous Material	0.1	%	73	74	21	30
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	0.02	< 0.02	< 0.02	< 0.02
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	12	< 10	< 10	< 10
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.019	0.014	< 0.005	< 0.005
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	12	8.9	< 3	< 3
Sample Properties						
% Moisture	1	%	3.1	6.7	16	11

Client Sample ID			BH004S_3.0	BH004W_1.0	BH004W_2.0	BH004W_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072076	B25-Jn0072077	B25-Jn0072078	B25-Jn0072079
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	8.4	8.2	8.7	8.3
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	-	-	-	2.6
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	-	-	-	0.79
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	-	-	-	490
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	-	-	-	490
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	-	-	-	0.79
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	N/A	N/A	N/A	0.060
Peroxide Extractable Sulfur	0.005	% S	-	-	-	1.1
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	-	-	-	1.0
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	-	-	-	650
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (SNAS) NLM-4.1	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	-	-	-	0.45
Calcium - Peroxide	0.005	% Ca	-	-	-	0.64
Calcium - Acid Reacted	0.005	% Ca	-	-	-	0.19
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.15
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	96

Client Sample ID			BH004S_3.0	BH004W_1.0	BH004W_2.0	BH004W_4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B25-Jn0072076	B25-Jn0072077	B25-Jn0072078	B25-Jn0072079
Date Sampled			Jun 11, 2025	Jun 11, 2025	Jun 11, 2025	Jun 11, 2025
Test/Reference	LOR	Unit				
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	-	-	-	0.060
Magnesium - Peroxide	0.005	% Mg	-	-	-	0.090
Magnesium - Acid Reacted	0.005	% Mg	-	-	-	0.034
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	-	0.044
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	-	28
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	-	N/A
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	-	N/A
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	-	n/a
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	0.01	% CaCO3	1.2	6.1	1.8	1.6
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)[S03]	0.02	% S	0.37	2.0	0.58	0.52
Acid Neutralising Capacity - (a-ANCbt) (NLM-5.2)	2	mol H+/t	230	1200	360	320
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	-	540
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	-	0.87
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	-	41
s-CRS Suite - Net Acidity - NASSG (including ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	N/A
CRS Suite - Net Acidity - NASSG (Including ANC)	10	mol H+/t	< 10	< 10	< 10	N/A
CRS Suite - Liming Rate - NASSG (Including ANC)[S01]	1	kg CaCO3/t	< 1	< 1	< 1	N/A
Extraneous Material						
<2mm Fraction	0.005	g	37	19	27	48
>2mm Fraction	0.005	g	9.8	16	27	< 0.005
Analysed Material	0.1	%	79	54	50	100
Extraneous Material	0.1	%	21	46	50	< 0.1
Net Acidity (Excluding ANC)						
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	0.02	% S	< 0.02	< 0.02	< 0.02	N/A
CRS Suite - Net Acidity - NASSG (Excluding ANC)	10	mol H+/t	< 10	< 10	< 10	N/A
CRS Suite - Liming Rate - NASSG (Excluding ANC)	1	kg CaCO3/t	< 1	< 1	< 1	N/A
Potential Acidity - Chromium Reducible Sulfur						
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)[S04]	0.005	% S	0.008	0.012	< 0.005	0.88
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	3	mol H+/t	5.0	7.7	< 3	550
Sample Properties						
% Moisture	1	%	22	26	15	40

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
SPOCAS Suite			
SPOCAS Suite	Brisbane	Jun 27, 2025	6 Week
- Method: LTM-GEN-7050 Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS) in Soil			
Chromium Suite - NASSG (Excluding ANC)	Brisbane	Jun 27, 2025	6 Week
- Method: LTM-GEN-7070 Chromium Reducible Sulfur Suite			
Extraneous Material	Brisbane	Jun 27, 2025	6 Week
- Method: LTM-GEN-7050/7070			
% Moisture	Brisbane	Jun 26, 2025	14 Days
- Method: LTM-GEN-7080 Moisture			

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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
Report #: 1237090
Phone: 0422 692 187
Fax:

Received: Jun 25, 2025 11:57 AM
Due: Jul 2, 2025
Priority: 5 Day
Contact Name: Robert Crowe

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	ABH004A_2.0	May 27, 2025		Soil	B25-Jn0072060	X	X	X
2	ABH004A_2.5	May 27, 2025		Soil	B25-Jn0072061		X	X
3	ABH004W_1.5	May 27, 2025		Soil	B25-Jn0072062		X	X
4	ABH004W_2.5	May 27, 2025		Soil	B25-Jn0072063		X	X
5	ABH004S_1.0	May 27, 2025		Soil	B25-Jn0072064		X	X
6	ABH004S_2.0	May 27, 2025		Soil	B25-Jn0072065		X	X
7	ABH004E_0.5	May 27, 2025		Soil	B25-Jn0072066		X	X
8	ABH004E_2.5	May 27, 2025		Soil	B25-Jn0072067		X	X
9	ABH004N_0.5	May 27, 2025		Soil	B25-Jn0072068		X	X
10	ABH004N_2.5	May 27, 2025		Soil	B25-Jn0072069		X	X
11	BH004A_2.0	Jun 11, 2025		Soil	B25-Jn0072070		X	X
12	BH004A_4.0	Jun 11, 2025		Soil	B25-Jn0072071		X	X
13	BH004E_0.2	Jun 10, 2025		Soil	B25-Jn0072072		X	X
14	BH004N_1.0	Jun 10, 2025		Soil	B25-Jn0072073		X	X

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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

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IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

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Project Name: Macquarie Point
Project ID: 60693007 / 12

Order No.: 60693007 / 12
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Priority: 5 Day
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Sample Detail						SPOCAS Suite	Moisture Set	Chromium Suite - NASSG (Excluding ANC)
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X
15	BH004N_3.0	Jun 10, 2025		Soil	B25-Jn0072074		X	X
16	BH004S_1.0	Jun 11, 2025		Soil	B25-Jn0072075		X	X
17	BH004S_3.0	Jun 11, 2025		Soil	B25-Jn0072076		X	X
18	BH004W_1.0	Jun 11, 2025		Soil	B25-Jn0072077		X	X
19	BH004W_2.0	Jun 11, 2025		Soil	B25-Jn0072078		X	X
20	BH004W_4.0	Jun 11, 2025		Soil	B25-Jn0072079	X	X	X
Test Counts						2	20	20

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	%	98			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	111			80-120	Pass	
LCS - % Recovery							
Extractable Sulfur							
HCl Extractable Sulfur	%	114			80-120	Pass	
LCS - % Recovery							
Potential Acidity - Chromium Reducible Sulfur							
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	%	94			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B25-Jn0072060	CP	pH Units	8.7	8.7	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072060	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072060	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B25-Jn0072060	CP	pH Units	5.9	6.0	2.0	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B25-Jn0072060	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B25-Jn0072060	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B25-Jn0072060	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B25-Jn0072060	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B25-Jn0072060	CP	% S	0.030	0.030	4.0	30%	Pass	
Peroxide Extractable Sulfur	B25-Jn0072060	CP	% S	0.73	0.73	1.0	20%	Pass	
HCl Extractable Sulfur	B25-Jn0072060	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B25-Jn0072060	CP	% S	0.70	0.70	1.0	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B25-Jn0072060	CP	mol H+/t	430	440	1.0	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B25-Jn0072060	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B25-Jn0072060	CP	% Ca	0.31	0.32	1.0	30%	Pass	
Calcium - Peroxide	B25-Jn0072060	CP	% Ca	0.91	0.91	1.0	20%	Pass	
Calcium - Acid Reacted	B25-Jn0072060	CP	% Ca	0.59	0.60	1.0	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B25-Jn0072060	CP	% S	0.48	0.48	1.0	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B25-Jn0072060	CP	mol H+/t	300	300	1.0	30%	Pass	

Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B25-Jn0072060	CP	% Mg	0.020	0.020	1.0	30%	Pass	
Magnesium - Peroxide	B25-Jn0072060	CP	% Mg	0.060	0.060	1.0	20%	Pass	
Magnesium - Acid Reacted	B25-Jn0072060	CP	% Mg	0.039	0.039	1.0	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B25-Jn0072060	CP	% S	0.051	0.052	1.0	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B25-Jn0072060	CP	mol H+/t	32	32	1.0	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B25-Jn0072060	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B25-Jn0072060	CP	mol H+/t	n/a	n/a	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	B25-Jn0072060	CP	factor	1.5	1.5	<1	30%	Pass	
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B25-Jn0072060	CP	% CaCO3	3.2	3.1	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B25-Jn0072060	CP	% S	1.0	0.98	4.0	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B25-Jn0072060	CP	mol H+/t	140	150	1.0	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B25-Jn0072060	CP	% S	0.23	0.23	1.0	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B25-Jn0072060	CP	kg CaCO3/t	11	11	1.0	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B25-Jn0072060	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B25-Jn0072060	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072060	CP	% S	N/A	N/A	N/A	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072060	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B25-Jn0072060	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	B25-Jn0072060	CP	% S	0.60	0.60	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	B25-Jn0072060	CP	mol H+/t	380	370	<1	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B25-Jn0072061	CP	pH Units	8.0	8.0	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072061	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072061	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B25-Jn0072061	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B25-Jn0072061	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B25-Jn0072061	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	

Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B25-Jn0072061	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B25-Jn0072061	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B25-Jn0072061	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B25-Jn0072061	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B25-Jn0072061	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B25-Jn0072061	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B25-Jn0072061	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B25-Jn0072061	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B25-Jn0072061	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	B25-Jn0072061	CP	factor	1.5	1.5	<1	30%	Pass	
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B25-Jn0072061	CP	% CaCO3	4.7	4.9	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B25-Jn0072061	CP	% S	1.5	1.6	4.0	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B25-Jn0072061	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B25-Jn0072061	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B25-Jn0072061	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B25-Jn0072061	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B25-Jn0072061	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B25-Jn0072061	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	

Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072061	CP	% S	0.14	0.15	5.0	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072061	CP	mol H+/t	89	94	5.0	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B25-Jn0072061	CP	kg CaCO3/t	6.7	7.0	5.0	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	B25-Jn0072061	CP	% S	0.14	0.15	5.0	20%	Pass	
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	B25-Jn0072061	CP	mol H+/t	89	94	5.0	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B25-Jn0072062	CP	%	17	22	24	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	B25-Jn0072073	CP	%	6.7	8.2	20	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	B25-Jn0072074	CP	pH Units	8.4	8.5	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072074	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	B25-Jn0072074	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	B25-Jn0072074	CP	pH Units	N/A	N/A	N/A	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	B25-Jn0072074	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	B25-Jn0072074	CP	% pyrite S	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Extractable Sulfur	B25-Jn0072074	CP	% S	N/A	N/A	N/A	20%	Pass	
HCl Extractable Sulfur	B25-Jn0072074	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (SNAS) NLM-4.1	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (s-SNAS) NLM-4.1	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	B25-Jn0072074	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Peroxide	B25-Jn0072074	CP	% Ca	N/A	N/A	N/A	20%	Pass	
Calcium - Acid Reacted	B25-Jn0072074	CP	% Ca	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (s-aCa)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Calcium - Acid Reacted (a-aCa)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	

Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	B25-Jn0072074	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Peroxide	B25-Jn0072074	CP	% Mg	N/A	N/A	N/A	20%	Pass	
Magnesium - Acid Reacted	B25-Jn0072074	CP	% Mg	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	B25-Jn0072074	CP	% CaCO3	N/A	N/A	N/A	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	B25-Jn0072074	CP	factor	1.5	1.5	<1	30%	Pass	
Acid Neutralising Capacity - (ANCbt) (NLM-5.2)	B25-Jn0072074	CP	% CaCO3	1.4	1.4	4.0	20%	Pass	
Acid Neutralising Capacity - (s-ANCbt) (NLM-5.2)	B25-Jn0072074	CP	% S	0.44	0.45	4.0	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	B25-Jn0072074	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	B25-Jn0072074	CP	% S	N/A	N/A	N/A	30%	Pass	
SPOCAS - Liming rate - ASSMAC	B25-Jn0072074	CP	kg CaCO3/t	N/A	N/A	N/A	30%	Pass	
s-CRS Suite - Net Acidity - NASSG (including ANC)	B25-Jn0072074	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Including ANC)	B25-Jn0072074	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
CRS Suite - Liming Rate - NASSG (Including ANC)	B25-Jn0072074	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Net Acidity (Excluding ANC)				Result 1	Result 2	RPD			
s-CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072074	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
CRS Suite - Net Acidity - NASSG (Excluding ANC)	B25-Jn0072074	CP	mol H+/t	< 10	< 10	<1	20%	Pass	
CRS Suite - Liming Rate - NASSG (Excluding ANC)	B25-Jn0072074	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
Potential Acidity - Chromium Reducible Sulfur				Result 1	Result 2	RPD			
Chromium Reducible Sulfur (s-SCR) (NLM-2.1)	B25-Jn0072074	CP	% S	< 0.005	< 0.005	<1	20%	Pass	
Chromium Reducible Sulfur (a-SCR) (NLM-2.1)	B25-Jn0072074	CP	mol H+/t	< 3	< 3	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S01	Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5
S03	Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5
S04	Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised by:

Catherine Wilson	Analytical Services Manager
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-SPOCAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix D

Soil Bore Logs

ENVIRONMENTAL BOREHOLE / TESTPIT BH152

PROJECT NUMBER 60321835	**DRILLING DATE** 31/07/2018 12:47:11 PM -	**COORDINATES** ,
PROJECT NAME Macquarie Point Investigation	**DRILLING COMPANY** KMR	**COORD SYS** GDA94_MGA_zone_55
CLIENT MPDC	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 8a Evans Street, Hobart TAS 7000	**DRILLING METHOD** Pushtube	**LOGGED BY** Simon Meich
	TOTAL DEPTH 0.400	**CHECKED BY** Matthew Johnson

COMMENTS

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					CRUSHED STONE	
					GRAVEL , (GP) (fill), coarse grained, subangular, brown, moist, dense	no odour
	0.2	BH152_0.2	Y			
					DOLERITE, black, hard, moderately weathered	no odour
					Refusal on Dolerite at:0.400 m.	

ENVIRONMENTAL BOREHOLE / TESTPIT BH164

PROJECT NUMBER 60321835	**DRILLING DATE** 2/08/2018 5:02:17 PM -	**COORDINATES** ,
PROJECT NAME Macquarie Point Investigation	**DRILLING COMPANY** KMR	**COORD SYS** GDA94_MGA_zone_55
CLIENT MPDC	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 8a Evans Street, Hobart TAS 7000	**DRILLING METHOD** Pushtube	**LOGGED BY** Simon Meich
	TOTAL DEPTH 1.000	**CHECKED BY** Matthew Johnson

COMMENTS

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					CRUSHED STONE	
	0.8	BH164_0.2	Y		CLAY , (CL) (fill), medium plasticity, brown, slightly moist, stiff	no odour
0.5		BH164_0.7	Y			
1					Termination Depth at:1.000 m.	
1.5						

ENVIRONMENTAL BOREHOLE / TESTPIT BH165

PROJECT NUMBER 60321835
PROJECT NAME Macquarie Point Investigation
CLIENT MPDC
ADDRESS 8a Evans Street, Hobart TAS 7000

DRILLING DATE 2/08/2018 4:58:35 PM -
DRILLING COMPANY KMR
DRILLER
DRILLING METHOD Pushtube
TOTAL DEPTH 0.400

COORDINATES ,
COORD SYS GDA94_MGA_zone_55
SURFACE ELEVATION
LOGGED BY Simon Meich
CHECKED BY Matthew Johnson

COMMENTS

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	0.3	BH165_0.2	Y		CRUSHED STONE	no odour
					DOLERITE, dark grey, moderately weathered	
					Refusal on Dolerite at:0.400 m.	
0.5						

ENVIRONMENTAL BOREHOLE / TESTPIT BH166

PROJECT NUMBER 60321835	**DRILLING DATE** 2/08/2018 4:50:41 PM -	**COORDINATES** ,
PROJECT NAME Macquarie Point Investigation	**DRILLING COMPANY** KMR	**COORD SYS** GDA94_MGA_zone_55
CLIENT MPDC	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 8a Evans Street, Hobart TAS 7000	**DRILLING METHOD** Pushtube	**LOGGED BY** Simon Meich
	TOTAL DEPTH 1.700	**CHECKED BY** Matthew Johnson

COMMENTS

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					CRUSHED STONE	no odour
	0.7	BH166_0.2				
					CLAY, (CL), medium plasticity, brown, slightly moist, stiff	
0.5	0.3	BH166_0.5	Y			
1		BH166_1.0	Y			
1.5	1.2	BH166_1.5				
					DOLERITE, dark grey, moderately weathered	
					Refusal on Dolerite at:1.700 m.	

SOIL BOREHOLE BH235

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.95 m**
Coordinates:	**5252851.82 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527568.47 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Gravelly CLAY; low plasticity, dark brown, 0.5-5cm grey gravel, with some 10-14cm cobbles, trace rootlets, firm	D	F	0.4		BH235_0.2_240923
							Sandy CLAY; low plasticity, yellowish brown, fine yellowish sand, with some 10-14cm cobbles, firm	D	F	0.3		BH235_0.5_240923
										0.3		BH235_0.9_240923
				1			End of Hole at 0.95mbgl					

SOIL BOREHOLE BH236

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.80 m**
Coordinates:	**5252863.65 mN**	Drill Model:	**N/A**
Date Started:	**20-9-24**		**527581.59 mE**
Date Finished:	**20-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			CLAY; medium plasticity, black, trace fine roots	D	F			
											0	BH236_0.2_240920
							With some 10-15cm cobbles	D	F			
											0	BH236_0.5_240920
							Becoming medium-high plasticity, brown with yellowish tinge, some white mottling (not shells)	D	F		0	BH236_0.8_240920
				1			End of Hole at 0.8mbgl					

Remarks: Refusal is on a very flat hard surface that may or may not be dolerite

SOIL BOREHOLE BH237

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.15 m**
Coordinates:	**5252876.36 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527595.03 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Silty CLAY; low plasticity, dark brown, with some 2-3cm gravel, with some clumps of yellowish brown clay, trace fine roots	D	F			
							With some 8-10cm cobbles	D	F		0	BH237_0.2_240923
							With some shell fragments	D	F		0	BH237_0.5_240923
				1			Clayey COBBLES; 8-14cm, grey, low to moderate plasticity yellowish brown clay	D	MD			
											0	BH237_0.9_240923
							End of Hole at 1.15mbgl					

Remarks: From 0.8-1.15mBGL lithology is ~80% cobbles

SOIL BOREHOLE BH238

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**0.80 m**
Coordinates:	**5252885.85 mN**	Drill Model:	**N/A**
Date Started:	**16-9-24**		**527610.75 mE**
Date Finished:	**16-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD				0			CONCRETE	D	H			
							Gravelly SAND; fine-coarse grained, pale brown, 0.5-3cm gravel	D	VD			
							Sandy Clayey COBBLES; 1-11cm, grey, low plasticity brown clay, fine-coarse sand	D	VL		0.3	BH238_0.2_240916
											0.1	BH238_0.5_240916
											0	BH238_0.8_240916
				1			End of Hole at 0.8mbgl					

Remarks: Sandy Clayey COBBLES unit is 95% Cobbles, 5% Sandy Clay

SOIL BOREHOLE BH239

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.55 m**
Coordinates:	**5252844.29 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527590.41 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Silty Gravelly CLAY; low plasticity, dark brown/black, with some 0.5-2cm grey gravel, with some fine rootlets	D	F			
							With some 5-10cm cobbles, some of clay becoming yellowish brown	D	F		0	BH239_0.2_240923
											0	BH239_0.5_240923
							With some brick fragments	D	F			
				1			Sandy Gravelly CLAY, low plasticity, dark brown/black and yellowish brown, medium-coarse grained pale brown sand, with some 5-12cm cobbles, with some brick fragments and concrete cobbles	D	F		0	BH239_1.0_240923
							CLAY; low plasticity, yellowish brown and dark brown/black, with some 5-12cm cobbles	D	F		0	BH239_1.5_240923
							End of Hole at 1.55mbgl					
				2								

Remarks: Clay is mostly yellowish brown at 1.5 mbgl

SOIL BOREHOLE BH240

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.15 m**
Coordinates:	**5252853.59 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527598.04 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Silty Gravelly CLAY; low plasticity, yellowish brown and dark brown, 0.5-2cm grey gravel, with some fine roots and brick fragments, trace shell fragments	D	F		0	BH240_0.2_240923
											0	BH240_0.5_240923
							With some 6-10cm cobbles	D	F			
				1			Increasing yellowish brown clay content	D	F		0	BH240_1.0_240923
							End of Hole at 1.15mbgl					

SOIL BOREHOLE BH241

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.75 m**
Coordinates:	**5252868.19 mN**	Drill Model:	**N/A**
Date Started:	**24-9-24**		**527611.99 mE**
Date Finished:	**24-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			CONCRETE	D	H			
							Sandy GRAVEL; 0.3-3cm, grey, fine brown sand	D	MD			
							Clayey Gravelly COBBLES; 5-14cm, grey, moderate plasticity, black/grey clay, fine-coarse gravel, with some fine black sand	D	VL		0	BH241_0.2_240924
											0	BH241_0.5_240924
											0	BH241_0.7_240924
				1			End of Hole at 0.75mbgl					

Remarks: Refusal on Cobbles

SOIL BOREHOLE BH242

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**0.65 m**
Coordinates:	**5252872.35 mN**	Drill Model:	**N/A**
Date Started:	**24-9-24**		**527626.13 mE**
Date Finished:	**24-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD				0			CONCRETE	D	H			
							Sandy GRAVEL; 0.3-3cm, grey, fine brown sand	D	MD			
							Clayey COBBLES; 8-20cm, grey, low-moderate plasticity, clay	D	VL		0	BH242_0.2_240924
											0	BH242_0.5_240924
				1			End of Hole at 0.65mbgl					

Remarks: 90% Cobbles from 0.25mbgl onwards

AECOM

SOIL BOREHOLE BH243

Project Name: **MPDC Regatta Point**

Client: **MPDC**

Location: **Regatta Point**

Project No.: **60693007/6**

Drilling Contractor: **KMR**

Logged By: **EM**

Checked By:

Date Started: **20-9-24**

Date Finished: **20-9-24**

Bore Size: **150 mm**

Total Depth: **1.60 m**

Relative Level: **mRL**

Coordinates: **5252836.89 mN**
527608.35 mE

Permit No: **N/A**

Drill Type: **Hand Auger**

Drill Model: **N/A**

Drill Fluid: **N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Gravelly CLAY; low plasticity, dark brown/black, 0.2-2cm gravel, trace rootlets, trace shell fragments	D	F			
							With some ~14cm cobbles	D	F		0	BH243_0.2_240920
							Sandy Gravelly CLAY; low plasticity, yellowish brown, 0.2-2cm gravel, with some 8-14cm cobbles, trace shell fragments	D	F		0	BH243_0.5_240920
				1							0	BH243_1.0_240920
							Increasing clay content, low-moderate plasticity, black/dark brown, no shell fragments	D	F		0	BH243_1.5_240920
							End of Hole at 1.6mbgl					
				2								

SOIL BOREHOLE BH244

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**1.70 m**
Coordinates:	**5252848.84 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527619.01 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD				0			CONCRETE	D	H			
							CONGLOMERATE; Sandy Gravel, 0.5-2cm, grey/white/brown, fine sand	D	VD			
							Silty Gravelly CLAY; low plasticity, dark brown with white and yellowish brown, 1-3cm gravel, with some 6-12cm cobbles	D	F		0	BH244_0.2_240923
											0	BH244_0.5_240923
			Water observed entering borehole @ 1.05mbgl	1			Gravelly CLAY; moderate plasticity, yellowish brown, 1-3cm grey gravel	W	S		0	BH244_1.0_240923
							Becoming grey with greenish tinge, trace white nodules	W	S		0	BH244_1.5_240923
				2			End of Hole at 1.7mbgl					

Remarks: Trace white nodules @ 1.5mbgl are potentially calcite

SOIL BOREHOLE BH245

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**0.55 m**
Coordinates:	**5252856.55 mN**	Drill Model:	**N/A**
Date Started:	**24-9-24**		**527633.75 mE**
Date Finished:	**24-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD				0			CONCRETE	D	H			
							GRAVEL; 0.3-3cm, grey, fine grey sand	D	MD			
							Becoming reddish brown sand, brick fragments, gravel size increasing to 4-6cm	D	MD		0	BH245_0.2_240924
							Clayey COBBLES; 8-15cm, grey, low-moderate plasticity, brown clay, brick fragments	D	VD			
											0	BH245_0.5_240924
				1			End of Hole at 0.55mbgl					

Remarks: Brick fragments @ 0.2mbgl include what looks to be most of a brick
Unable to progress further than 0.55mbgl as cobbles are too large to be removed

SOIL BOREHOLE BH246

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**0.80 m**
Coordinates:	**5252814.42 mN**	Drill Model:	**N/A**
Date Started:	**16-9-24**		**527617.90 mE**
Date Finished:	**16-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD				0			CLAY; low plasticity, black, roots	D	F			
											0	BH246_0.2_240916
							With some 0.2-2cm grey gravel	D	F		0	BH246_0.5_240916
							With some white speckling	D	F		0	BH246_0.8_240916
				1			End of Hole at 0.8mbgl					

Remarks: Speckling at 0.8mbgl is likely weathering product of dolerite

SOIL BOREHOLE BH247

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.40 m**
Coordinates:	**5252827.18 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527620.40 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Silty Gravelly CLAY; low plasticity, dark brown and yellowish brown, 0.5-4cm grey and orange (sandstone) gravel, trace fine roots	D	F			
							Trace 8-10cm cobbles	D	F		0	BH247_0.2_240923
											0	BH247_0.5_240923
				1							0	BH247_1.0_240923
							Increasing cobble content	D	F			
											0	BH247_1.4_240923
							End of Hole at 1.4mbgl					
				2								

SOIL BOREHOLE BH248

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**0.80 m**
Coordinates:	**5252846.47 mN**	Drill Model:	**N/A**
Date Started:	**23-9-24**		**527654.53 mE**
Date Finished:	**23-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
				0			CONCRETE	D	H			
							Gravelly Clayey SAND; fine-medium grained, pale brown, low plasticity brown clay, 0.3-2cm grey gravel	D	MD			
											0	BH248_0.2_240923
							Gravelly Clayey COBBLES; 5-13cm, grey, low plasticity brown clay, fine gravel	D	VL			
											0	BH248_0.5_240923
NDD							Becoming moderate plasticity	D	VL		0	BH248_0.8_240923
							End of Hole at 0.8mbgl					
				1								

Remarks: Approx. 80-90% cobbles @ 0.3mbgl
Unable to progress further as cobbles cannot be removed beyond 0.8mbgl

SOIL BOREHOLE BH249

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**NDD**
Checked By:		Total Depth:	**0.50 m**
Coordinates:	**5252822.96 mN**	Drill Model:	**N/A**
Date Started:	**24-9-24**		**527646.52 mE**
Date Finished:	**24-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
NDD				0			CONCRETE	D	H		
							Clayey GRAVEL; fine-coarse, grey, low plasticity brown clay	D	MD		
							Clayey COBBLES; 8-16cm, grey, low plasticity brown clay	D	VL	0	BH249_0.2_240924
										0	BH249_0.5_240924
				1			End of Hole at 0.5mbgl				

Remarks: Refusal on cobbles too large to remove

SOIL BOREHOLE BH250

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.10 m**
Coordinates:	**5252805.24 mN**	Drill Model:	**N/A**
Date Started:	**19-9-24**		**527635.75 mE**
Date Finished:	**19-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Sandy CLAY; low plasticity, dark brown, fine-medium grained sand, trace fine roots	D	F			
											0	BH250_0.2_240919
							With some 0.3-2cm grey gravel, some clumps of light yellow/pale brown clay	D	F			
											0	BH250_0.5_240919
							With some cobbles up to 9cm	D	F			
				1							0	BH250_1.0_240919
							End of Hole at 1.1mbgl					

SOIL BOREHOLE BH251

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.55 m**
Coordinates:	**5252806.95 mN**	Drill Model:	**N/A**
Date Started:	**18-9-24**		**527652.74 mE**
Date Finished:	**18-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Clayey SAND; fine-medium grained, dark brown, with some 0.5-2cm grey gravel, with some fine roots	D	F		0	BH251_0.2_240918
							Clayey Gravelly COBBLES; 0.5-12cm, grey, low-moderate plasticity, pale brown/yellowish clay	D	VL		0	BH251_0.5_240918
				1			End of Hole at 0.55mbgl					

Remarks: Between 0.35 and 0.55mbgl large cobbles make up 50% of soil

SOIL BOREHOLE BH252

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
		Project No.:	**60693007/6**
Logged By:	**EM**	Bore Size:	**150 mm**
Checked By:		Total Depth:	**1.55 m**
Date Started:	**20-9-24**	Coordinates:	**5252794.30 mN**
			527648.93 mE
Date Finished:	**20-9-24**	Permit No:	**N/A**
		Relative Level:	**mRL**
		Drill Type:	**Hand Auger**
		Drill Model:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Gravelly SAND; fine-coarse grained, dark brown, 0.2-2cm gravel, with some fine rootlets, with some low plasticity, yellow/brown clay, trace shell fragments	D	MD		0	BH252_0.2_240920
							With some 6-8cm cobbles	D	MD		0	BH252_0.5_240920
				1			Gravelly Clayey SAND; fine-coarse grained, yellow/brown, low plasticity brown/yellow clay, 0.5-8cm gravel, trace shell fragments	D	MD		0	BH252_1.0_240920
							With some brick fragments	D	MD		0	BH252_1.5_240920
							End of Hole at 1.55mbgl					
				2								

SOIL BOREHOLE BH253

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.25 m**
Coordinates:	**5252782.91 mN**	Drill Model:	**N/A**
Date Started:	**20-9-24**		**527665.55 mE**
Date Finished:	**20-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Gravelly SAND; medium-coarse grained, brown, 0.2-1cm grey, with some fine rootlets, trace shell fragments	D	MD		0	BH253_0.2_240920
											0	BH253_0.5_240920
				1			Increasing gravel size (0.2-6cm)	D	MD		0	BH253_1.0_240920
							Gravelly Clayey SAND; fine-coarse grained, yellow/brown, low plasticity brown/yellow clay, 0.5-9cm gravel, trace shell fragments	D	MD		0	BH253_1.25_240920
							End of Hole at 1.25mbgl					

SOIL BOREHOLE BH254

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.20 m**
Coordinates:	**5252782.04 mN**	Drill Model:	**N/A**
Date Started:	**18-9-24**		**527687.35 mE**
Date Finished:	**18-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
HA				0			Clayey SAND; fine-medium grained, dark brown, low plasticity clay, with some 0.5-1.5cm gravel, trace fine roots	D	F	0	BH254_0.1_240918
							End of Hole at 0.2mbgl				

SOIL BOREHOLE BH255

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**1.00 m**
Coordinates:	**5252767.97 mN**	Drill Model:	**N/A**
Date Started:	**18-9-24**		**527679.21 mE**
Date Finished:	**18-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
Hand Auger				0			Gravelly CLAY; with some roots, fine (<2cm) angular gravel	D	F			
											0	BH255_0.2_240918
							With some cobbles up to 15cm, angular to sub-angular, with burnt coal pieces	D	F			
											0	BH255_0.5_240918
							CLAY; moderate plasticity, with some shell fragments	M	F			
							Becoming dark brown/black with shell midden	M	F			
											0	BH255_0.95_240918
				1			End of Hole at 1.0mbgl					

Remarks: FILL from 0 to 0.7mbgl
Starting to observe shell midden @ 0.5mbgl
Unable to take sample at 1mbgl due to presence of shell fragments - Aboriginal Heritage Officer

SOIL BOREHOLE BH256

Project Name: **MPDC Regatta Point**

Client: **MPDC**

Location: **Regatta Point**

Drilling Contractor: **KMR**

Project No.: **60693007/6**

Logged By: **EM**

Bore Size: **150 mm**

Relative Level: **mRL**

Drill Type: **Hand Auger**

Checked By:

Total Depth: **0.20 m**

Coordinates: **5252773.46 mN**
527696.71 mE

Drill Model: **N/A**

Date Started: **18-9-24**

Permit No: **N/A**

Drill Fluid: **N/A**

Date Finished: **18-9-24**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
HA				0			Clayey SAND; fine-medium grained, dark brown, low plasticity clay, with some 0.5-1.5cm gravel, trace fine roots	D	F	0	BH256_0.1_240918
							End of Hole at 0.2mbgl				

SOIL BOREHOLE BH257

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.40 m**
Coordinates:	**5252758.81 mN**	Drill Model:	**N/A**
Date Started:	**18-9-24**		**527692.81 mE**
Date Finished:	**18-9-24**	Permit No:	**N/A**
Drill Fluid:	**N/A**		

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
Hand Auger				0			CLAY; brown, some shell fragments at surface and shell midden @ 0.05mbgl	D	F		
							Becoming moderate plasticity, brown with red and orange mottling	D	F	0	BH257_0.2_240918
										0	BH257_0.35_240918
				1			End of Hole at 0.4mbgl				

Remarks: Refusal on dolerite

SOIL BOREHOLE BH258

Project Name:	**MPDC Regatta Point**	Client:	**MPDC**
Drilling Contractor:	**KMR**	Location:	**Regatta Point**
Project No.:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**
Relative Level:	**mRL**	Drill Type:	**Hand Auger**
Checked By:		Total Depth:	**0.20 m**
Coordinates:	**5252764.87 mN**	Drill Model:	**N/A**
Date Started:	**18-9-24**		**527705.74 mE**
Date Finished:	**18-9-24**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations	Moisture Condition	Consistency Relative Density	Sample Interval PID (ppm)	Sample ID
HA				0			Clayey SAND; fine-medium grained, dark brown, low plasticity clay, with some 0.5-1.5cm gravel, trace fine roots	D	F	0	BH258_0.1_240918
							End of Hole at 0.2mbgl				

AECOM
Collins Square, Level 10,
Tower Two 727 Collins Street,
Melbourne, VIC 3008
Telephone: 03 9653 1234

LOG OF SOIL BORING MW160

PROJECT NUMBER 60321835
PROJECT NAME Macquarie Point Development Project
LOCATION 41 Evans Street, Hobart
DRILLING METHOD NDD/Push Tube/Air Hammer
SAMPLING METHOD Grab
LOGGED BY TS/ CM
COMMENTS

DATE 25/6/2019, 26/6/2019
SURFACE ELEVATION 7.47 m AHD
STABILISED WATER LEVEL 4.79 m bTOC
GROUND WATER ELEVATION 2.68 m AHD

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
							Roadbase gravels	0.10	
			MW160_ 0.5				FILL; CLAY, low plasticity, brown mottled grey clay, trace fine grain, black gravels, soft	0.70	
0.3			MW160_ 1.0	✳	1		FILL; clayey GRAVEL, coarse grain, black, subangular gravel, some low plasticity, brown clay, soft	0.90	
							NDD refusal at 0.9 mbgl, some water in hole	1.10	
							Clayey GRAVEL; medium to coarse grain, brown, subangular gravels, high plasticity, brown clay, with fine to medium sands (5%), wet, medium density		
					2		Push tube refusal at 1.1 mbgl, commence air hammer		Cement - grout (0 - 4.2 m)
							At 1.2m, grey, blue dolerite present		
					3		At 2.9m, becoming more weathered		
					4				
							At 4.4m, less weathered, harder		Collapse (4.2 - 5 m)
						▼	At 4.6m, brown rocks present		
					5		At 5.2m, blue to grey dolerite rock ~10%		Bentonite (5 - 6 m)
							At 5.6m, as above, but more clayey degraded/ weathered brown rock, slightly moist		
					6				
							At 6.6m, more blue-grey dolerite, dry		
					7				
							At 7.5m, brown rock with dolerite (20%), slightly moist, water encountered between 7.5-8.5m		Sand (6 - 9.5 m)
					8				Screen (6.5 - 9.5 m)
						▽			
					9				
								9.50	
							EOH at 9.5mbgl Total Depth: 9.50 m		

LOG OF SOIL BORING MAC POINT BORE LOGS.GPJ HLA_SYD.GDT 15/1/20

AECOM
Collins Square, Level 10,
Tower Two 727 Collins Street,
Melbourne, VIC 3008
Telephone: 03 9653 1234

LOG OF SOIL BORING MW161

PROJECT NUMBER 60321835
DATE 28/6/2019
PROJECT NAME Macquarie Point Development Project
SURFACE ELEVATION 7.72 m AHD
LOCATION 41 Evans Street, Hobart
DRILLING METHOD NDD/Push Tube/Air Hammer
SAMPLING METHOD Grab
STABILISED WATER LEVEL 4.43 m bTOC
LOGGED BY TS/ CM
GROUND WATER ELEVATION 3.29 m AHD
COMMENTS

PID (ppm)	SAMPLE NUMBER	DEPTH (m BGL)	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4	MW161_0.1		FILL; gravelly SAND, fine to medium grain, brown sand, fine to medium grain, grey, subangular gravels, dry, dense	
				0.50
0.0	MW161_0.5		FILL; sandy, clayey GRAVEL, coarse grained, grey gravels and high plasticity, brown clay, fine to medium grain sand, moist, medium density	
				0.90
	MW161_1.0	1	NDD refusal at 0.9 mbgs	
0.2			CLAY; high plasticity, brown, with fine to medium grey gravels (5%), moist, firm	1.10
				1.20
			At 1.1 m, 10 cm layer of grey rock	
	MW161_1.5			
0.6			CLAY; high plasticity, brown, with medium to coarse grey gravels (5%), moist, firm	1.60
			CLAY; high plasticity, brown, trace fine to coarse sands, moist, soft	1.80
		2	Push tube refusal at 1.8 mbgl, commence air hammer	
			Grey rock (dolerite)	
		3	At 2.9 m, fracture zone	
		4		
			At 4.8 m, water encountered	
		5		
			At 5.8 m, saturated	
		6		
				6.50
			EOH at 6.5 mbgl Total Depth: 6.50 m	

WELL DIAGRAM: Cement - grout (0 - 1.6 m); Bentonite (1.6 - 3 m); Sand (3 - 6.4 m); Screen (3.5 - 6.4 m)

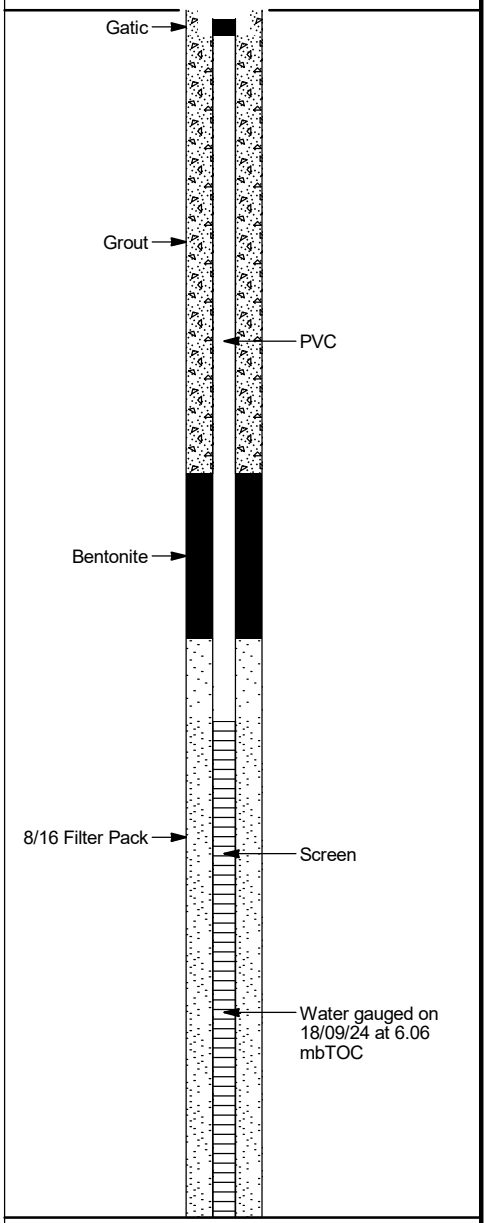
LOG OF SOIL BORING MAC POINT BORE LOGS.GPJ HLA_SYD.GDT 15/1/20

MONITORING WELL MW177

Project Name:	**MPDC Regatta Point**			Client:	**MPDC**
Drilling Contractor:	**KMR**			Location:	**Regatta Point**
			Project No:	**60693007/6**	
Logged By:	**EM**	Bore Size:	**150 mm**	Top of Casing:	**9.50 mAHD**
Checked By:		Total Depth:	**7.30 m**	Coordinates:	**527591.95 mE**
Date Started:	**16/09/2024**	Casing Size:	**50 mm**		**5252820.18 mN**
Date Finished:	**17/09/2024**			Permit No:	**N/A**
				Drill Type:	**Hand Auger, NDD, Air Hammer**
				Drill Model:	**Hydrapower Trekker 2100 Rig No. 7**
				Drill Fluid:	**Water**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
NDD + Hand Auger		0.1	MW177_0.2_240916			Gravelly SAND; fine-coarse grained, brown, 0.5-0.7cm gravel, moderately packed	D	0
		0	MW177_0.5_240916			Gravelly Sandy CLAY; low-moderate plasticity, dark brown with brown and orange mottling, fine-coarse grained sand, 0.5-10cm gravel, firm 0.4-0.6mbgl section of COBBLES, loosely packed	D	
		0	MW177_1.0_240916					1
		0	MW177_1.5_240916			Sandy Clayey GRAVEL; fine to coarse grained, grey, brown clay and sand, moderately packed	D	
		0	MW177_2.0_240917					2
		0	MW177_3.0_240917			Becoming less weathered, mostly gravel, small amount of clay	D	3
						DOLERITE; grey, hard	D	
		0	MW177_4.0_240917					4
		0	MW177_5.0_240917					5
Air Hammer						Becoming moist	M	
		0						6
		0						7
						End of Hole at 7.3mbgl		

WELL CONSTRUCTION DETAILS



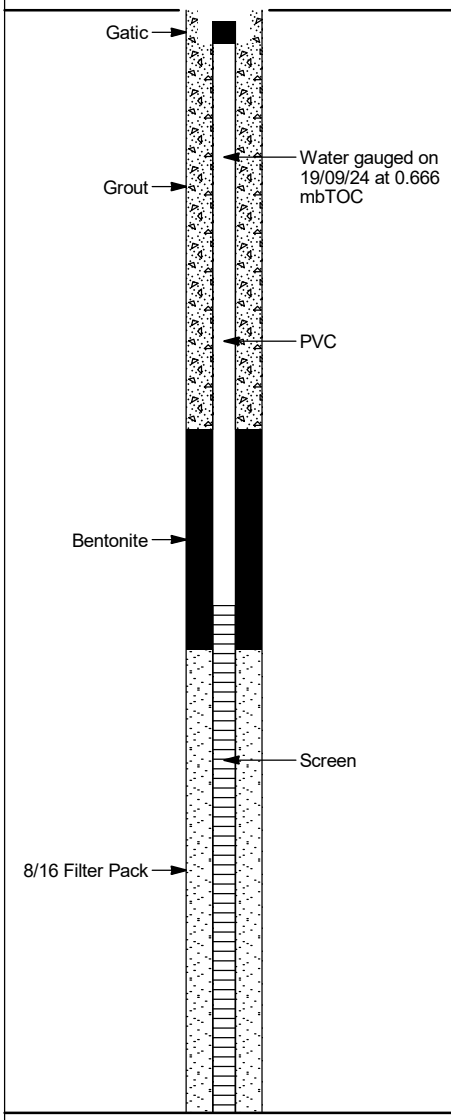
Remarks: Sandy Clayey GRAVEL 1.5-3.2 mBGL is likely weathered dolerite
Approx. 50% Gravel @ 2mbgl
Approx. 90% Gravel @ 3mbgl
100% Gravel @ 3.2mbgl

MONITORING WELL MW178

Project Name:	**MPDC Regatta Point**			Client:	**MPDC**
Drilling Contractor:	**KMR**			Location:	**Regatta Point**
		Project No:	**60693007/6**		
Logged By:	**EM**	Bore Size:	**150 mm**	Top of Casing:	**1.28 mAHD**
Checked By:		Total Depth:	**5.00 m**	Coordinates:	**527638.66 mE**
Date Started:	**16/09/2024**	Casing Size:	**50 mm**		**5252840.10 mN**
Date Finished:	**18/09/2024**			Permit No:	**N/A**
				Drill Type:	**Concrete Coring, Hand Auger, NDD, Odex, Air Hammer**
				Drill Model:	**Hydrapower Trekker 2100 Rig No. 7**
				Drill Fluid:	**Water**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
HACC						CONCRETE	D	0
						Gravelly SAND; fine-coarse grained, pale brown, 0.5-3cm gravel, tightly packed	D	
	✕	0	MW178_0.2_240916			CONCRETE	D	
						SANDSTONE, orange, hard	D	
NDD	✕	0	MW178_0.6_240916			Clayey COBBLES; 2-12cm, grey, low plasticity brown clay, loosely packed	D	1
Odex								2
						DOLERITE; grey, hard	D	
		0				3.1-4.1mbgl becoming weathered dolerite, increased clay content (30-40%)	D	3
Air Hammer		0						4
		0				End of Hole at 5.0mbgl		5

WELL CONSTRUCTION DETAILS



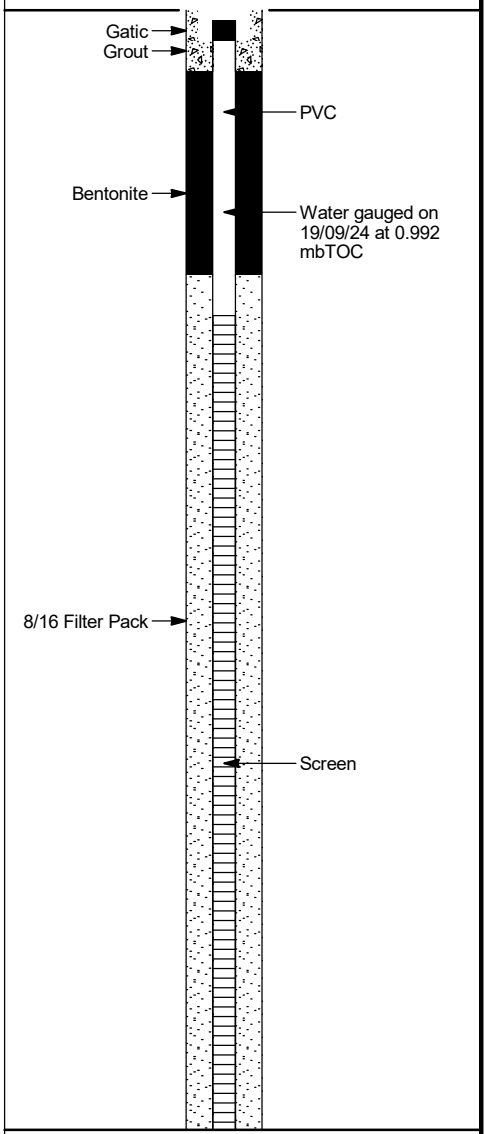
Remarks: Unable to NDD past 0.8mbgl as cobbles cannot be removed
After 0.65mbgl no soil was extraced alongside the cobbles - i.e. nothing to sample
Water observed coming up during air hammering @ 1.8mbgl after drill rig idle for 15 minutes

MONITORING WELL MW179

Project Name:	**MPDC Regatta Point**			Client:	**MPDC**
Drilling Contractor:	**KMR**			Location:	**Regatta Point**
			Project No:	**60693007/6**	
Logged By:	**EM**	Bore Size:	**150 mm**	Top of Casing:	**2.27 mAHD**
Checked By:		Total Depth:	**5.50 m**	Coordinates:	**527672.11 mE**
Date Started:	**16/09/2024**	Casing Size:	**50 mm**		**5252790.55 mN**
Date Finished:	**17/09/2024**			Permit No:	**N/A**
				Drill Type:	**Hand Auger, Solid Stem Auger**
				Drill Model:	**Hydrapower Trekker 2100 Rig No. 7**
				Drill Fluid:	**N/A**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
Hand Auger		0	MW179_0.2_240916			Clayey SAND; fine-medium grained, brown, moderately packed	D	0
		0	MW179_0.5_240916			Becoming pale brown, with some 0.5-6cm, grey/white mottled gravel	D	
		0	MW179_1.0_240916			Weathered DOLERITE; grey, trace brown clay, hard	D	1
		0	MW179_1.5_240917					
						DOLERITE; grey, hard	D	
		0	MW179_2.0_240917					2
						Becoming moist	M	
		0	MW179_3.0_240917					3
						Becoming wet	W	
		0						4
Air Hammer		0				Trace clay (5%)	W	5
						Increasing clay content (25%)	W	
						End of Hole at 5.5mbgl		6

WELL CONSTRUCTION DETAILS



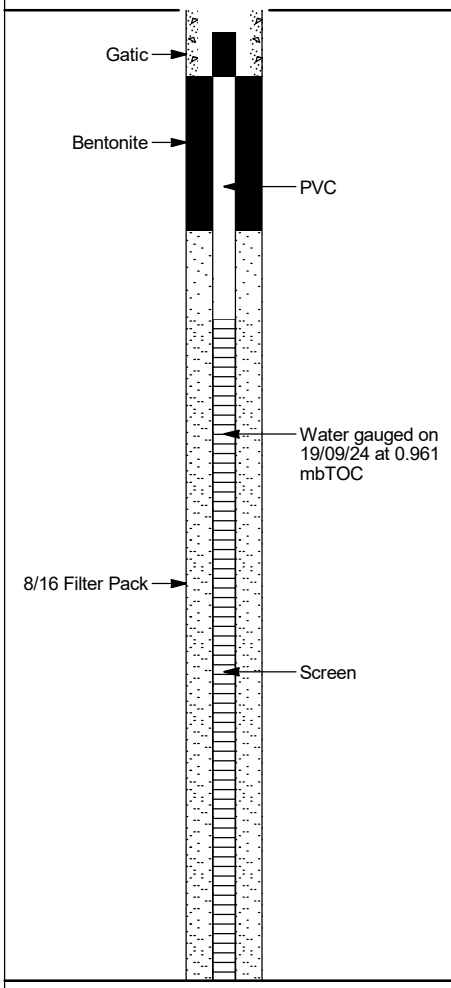
Remarks: Grey/white mottled gravel @ 0.4mbgl is likely weathered dolerite
Water strike @ 3.5mbgl during air hammering

MONITORING WELL MW180

Project Name:	**MPDC Regatta Point**			Client:	**MPDC**
Drilling Contractor:	**KMR**			Location:	**Regatta Point**
			Project No:	**60693007/6**	
Logged By:	**EM**	Bore Size:	**150 mm**	Top of Casing:	**1.24 mAHD**
Checked By:		Total Depth:	**2.20 m**	Coordinates:	**527639.22 mE**
Date Started:	**19/09/2024**	Casing Size:	**50 mm**		**5252837.10 mN**
Date Finished:	**19/09/2024**			Permit No:	**N/A**
				Drill Type:	**Concrete Coring, NDD, Odex**
				Drill Model:	**Hydrapower Trekker 2100 Rig No. 7**
				Drill Fluid:	**Water**

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
CC						CONCRETE	D	0
NDD						Gravelly Clayey SAND; fine-coarse grained, pale brown, 0.5-3cm gravel, tightly packed	D	
NDD		0	MW180_0.2_240919					
NDD						Clayey Sandy COBBLES; 2-18cm, grey, fine-coarse grained brown sand, low plasticity clay, brown, loosely packed	D	
NDD		0	MW180_0.2_240919					
NDD						Sandy Clayey GRAVEL; 0.5-3cm, grey/brown, low plasticty brown clay, fine-coarse brown sand, trace brick fragments, trace cobbles, loosely packed	D	
NDD		0	MW180_1.0_240919					1
NDD						Becoming wet	W	
Odex		0	MW180_2.0_240919			No brick fragments	W	2
						End of Hole at 2.2mbgl		

WELL CONSTRUCTION DETAILS

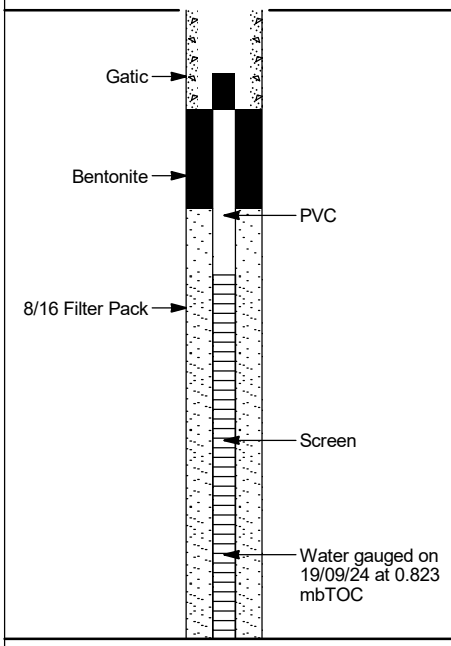


MONITORING WELL MW181

Project Name:	MPDC Regatta Point	Client:	MPDC
Drilling Contractor:	KMR	Location:	Regatta Point
Project No:	60693007/6		
Logged By:	EM	Bore Size:	150 mm
Top of Casing:	2.26 mAHD	Drill Type:	Hand Auger
Checked By:		Total Depth:	0.95 m
Coordinates:	527673.27 mE	Drill Model:	Hydrapower Trekker 2100 Rig No. 7
Date Started:	19/09/2024	Casing Size:	50 mm
	5252792.98 mN		
Date Finished:	19/09/2024	Permit No:	N/A
		Drill Fluid:	N/A

Drill Method	Sample Interval PID (ppm)	Sample ID	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Depth (m)
Hand Auger	0.2	MW181_0.2_240919			Clayey SAND; fine-medium grained, dark brown, low plasticity clay, with some 0.5-2cm gravel, moderately packed	D	0
	0.2	MW181_0.5_240919			Gravelly CLAY; low-moderate plasticity, dark brown, 0.5-4cm grey gravel, trace fine dark brown sand, firm	D	
	0.1	MW181_0.95_240919			Becoming low plasticity, pale brown with paler brown mottling, trace cobbles (~8cm)	D	
					End of Hole at 0.95mbgl		1

WELL CONSTRUCTION DETAILS



NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : ABH-002

FILE / JOB NO : PS212776
SHEET : 1 OF 1

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527477.41, N: 5252496.83 (MGA2020-55) SURFACE ELEVATION : 5.73 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 21/5/2024 DATE COMPLETED : 21/5/2024 DATE LOGGED : 21/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S		F	Not Assessed		0.0 5.7			0.05m FILL GRAVEL: fine to coarse, sub-angular to angular, grey.	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
								FILL Gravelly SAND: brown, gravel is fine to coarse grained, sub-angular to angular.	D - M		
								0.60m			
					1.0 4.7			FILL Clayey GRAVEL: fine to coarse, sub-rounded to sub-angular, dark grey and brown, clay is medium plasticity; with sand; with brick fragments.	M		
					2.0 3.7			2.40m 2.30m: becoming red-brown, increasing brick content			
								FILL Sandy Gravelly CLAY: low to medium plasticity, dark grey mottled brown and yellow-brown, gravel is fine to medium grained, sub-angular to angular; with brick and glass fragments.			
				3.00m SPT 3,8,8 N=16 3.45m	3.0 2.7			3.00m: becoming dark grey, increasing gravel content, fine to coarse grained gravel, without glass and brick	w<PL		
					4.0 1.7			4.60m: with trace brick fragments			
								4.90m			
		H			5.0 0.7			DOLERITE: fine to coarse grained, brown, sub-rounded to angular, inferred as highly weathered.	M		ROCK
								5.70m			
		VH			6.0 -0.3			DOLERITE: fine to coarse grained, pale grey, inferred as moderately to slightly weathered.	D		
					7.0 -1.3			7.60m			
								Hole Terminated at 7.60 m Target depth Grouted to Surface			
					8.0 -2.3						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-002 Depth Range: 0.00 - 2.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/4

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-002 Depth Range: 2.00 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/4

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-002 Depth Range: 4.00 - 6.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/4

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-002 Depth Range: 6.00 - 7.60 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/4

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : ABH-004

FILE / JOB NO : PS212776
SHEET : 1 OF 1

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527580.50, N: 5252448.94 (MGA2020-55) SURFACE ELEVATION : 3.82 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

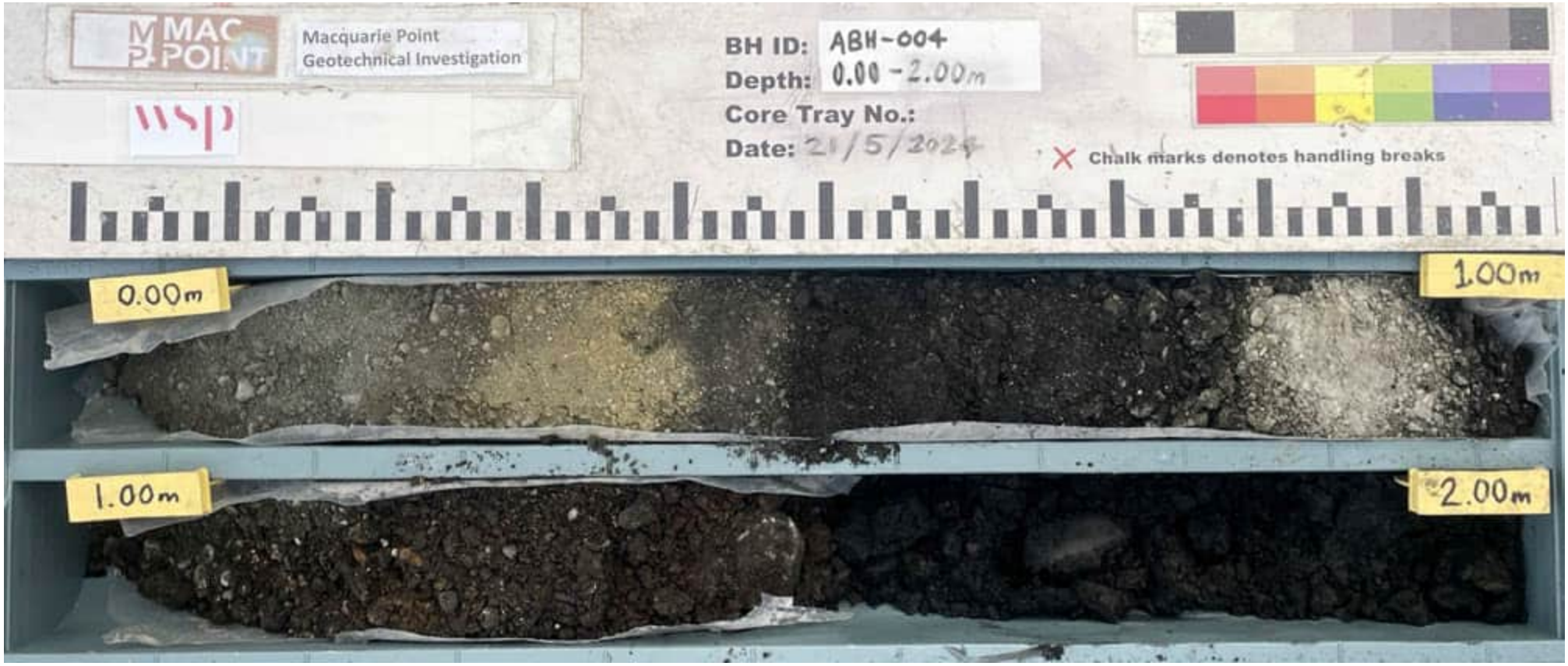
DATE STARTED : 21/5/2024 DATE COMPLETED : 21/5/2024 DATE LOGGED : 21/4/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S					0.0 3.8			0.03m ASPHALTIC CONCRETE.			ROAD SURFACE
								FILL Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, grey, gravel is fine to medium grained, sub-rounded to angular gravels. 0.2m: becoming orange-brown 0.45m: becoming dark grey	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
					1.0 2.8			0.85m: becoming pale grey 0.98m: becoming dark brown, trace brick fragments and wood chips 1.40m: 170mm dolerite cobble 1.50m: becoming dark grey, fine to coarse grained, sub-angular to angular gravel, trace clay, without brick and wood chips	M		
		E-F			2.0 1.8			2.20m FILL Sandy CLAY: low to medium plasticity, grey mottled yellow-brown, sand is fine to coarse grained; trace gravel; trace brick fragments. 2.40m	w<PL		2.15: PP=120kPa
			▽					FILL Clayey SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, clay is low to medium plasticity; with fine to medium grained, sub-rounded to angular gravel.	M		
				3.00m SPT 1,2,2 N=4 3.45m	3.0 0.8			3.00m FILL Sandy CLAY: medium plasticity, dark grey, sand is fine to coarse grained; trace fine to coarse grained, sub-rounded to sub-angular gravel; trace tile and wood fragments. 3.60m: becoming dark grey mottled brown, with brick fragments, without wood and tile 3.80m	w>PL - w≈LL		3.60: PP=90kPa
					4.0 -0.2			FILL Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, gravel is fine to coarse grained, sub-angular to angular; trace wood and metal fragments. 4.50m	M		
		H-VH			5.0 -1.2			DOLERITE: pale grey, inferred as moderately to slightly weathered.			ROCK
					6.0 -2.2			6.00m Hole Terminated at 6.00 m Target depth Grouted to Surface			
					7.0 -3.2						
					8.0 -4.2						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-004 Depth Range: 0.00 - 2.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-004	DRAWN	DATE: 18/6/2024
		CHECKED	DATE: 18/6/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS212776	FIGURE No: 1/3

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-004 Depth Range: 2.00 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-004	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/3

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:08 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : ABH-004 Depth Range: 4.00 - 6.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - ABH-004	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/3

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-001

FILE / JOB NO : PS212776

SHEET : 1 OF 3

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527448.87, N: 5252553.93 (MGA2020-55) SURFACE ELEVATION : 5.96 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 19/4/2024 DATE COMPLETED : 20/4/2024 DATE LOGGED : 20/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S		F	Not Encountered		0.0 6.0			0.05m ASPHALTIC CONCRETE. FILL Gravelly SAND: medium to coarse grained, brown, gravel is sub-angular to angular.	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
PWT								0.80m FILL Clayey Gravelly SAND: medium to coarse grained, black with brown, gravel is fine to medium grained, sub-angular to angular; with cobbles.			
					1.0 5.0				D - M		
		H		Is(50) I=8.26 MPa				1.20m DOLERITE: fine to coarse grained, dark grey with brown, iron staining, inferred as highly to moderately weathered, high to very high strength.			ROCK
								1.75m Continued as Cored Drill Hole			
					2.0 4.0						
					3.0 3.0						
					4.0 2.0						
					5.0 1.0						
					6.0 0.0						
					7.0 -1.0						
					8.0 -2.0						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-001

FILE / JOB NO : PS212776

SHEET : 2 OF 3

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527448.87, N: 5252553.93 (MGA2020-55) SURFACE ELEVATION : 5.96 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 19/4/2024 DATE COMPLETED : 20/4/2024 DATE LOGGED : 20/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
							1.75m START CORING AT 1.75m					
HQ3	85-90% Polymer RETURN	0% LOSS 3.20	45	Is(50) D>6.94 MPa Is(50) A>6.44 MPa	2.0		DOLERITE: fine to coarse grained, dark grey, phaneritic, iron staining.	MW				J, 70°, VN, PR, RF, Zeo J, 80°, VN, PR, RF, Zeo
		0% LOSS 4.30	48		3.0							J, 85°, VN, PR, RF, Fe, Zeo J, 10°, CN, PR, RF J, 85 - 90°, VN, PR, RF, Zeo, Chl J, 15°, VN, PR, RF, Fe Jx4, 40 - 50°, SN, PR, RF, Fe J, 45°, SN, PR, RF, Fe J, 65 - 70°, VN, PR, RF, Fe, Zeo, J, 25°, SN, PR, RF, Chl, Fe J, 0°, SN, PR, RF, Fe J, 5°, SN, PR, RF, Zeo, Fe J, 45 - 70°, SN, PR, RF, Fe J, 10°, CN, PR, RF J, 90°, VN, PR, RF, Zeo, Fe J, 85°, VN, PR, RF, Zeo, Fe Jx5, 10 - 30°, SN, PR, RF, Fe
		0% LOSS 4.70	0		4.0							J, 5°, SN, PR, RF, Fe
		0% LOSS 6.10	85	Is(50) D=4.71 MPa Is(50) A>6.49 MPa	5.0			HW				J, 5°, SN, PR, RF, Fe J, 45 - 65°, VN, UN, RF, Fe, partially healed J, 75 - 80°, VN, PR, RF, Fe J, 5°, SN, PR, RF, Fe J, 5°, SN, PR, RF, Fe J, 70 - 75°, VN, UN, RF, Fe J, 60°, VN, PR, RF, Fe J, 50°, VN, PR, RF, Fe SZ SS, 15°, PR, Zeo, clay J, 40°, SN, PR, RF, Zeo, Fe
		0% LOSS 7.60	85	Is(50) D=5.22 MPa Is(50) A=3.21 MPa	6.0			MW				EW, 50°, 100mm, clayey gravel J, 10°, VN, PR, SM-RF, Zeo, Fe J, 65°, VN, PR, RF, Fe J, 10°, VN, PR, SM-RF, clay EW, 45 - 60°, VN, ST, RF, Fe EW, 60 - 85°, IR, 12-40mm J, 5°, CT, PR, RF, Pl, clay, Fe
		0% LOSS	91	Is(50) D=4.17 MPa Is(50) A=0.600 MPa	7.0							J, 65°, PR, Fe, 3mm J, 15°, SN, PR, RF, Fe J, 45°, SN, PR, RF, Fe J, 55 - 85°, SN, IR, RF, Fe J, 30°, VN, PR, RF, Chl, Fe J, 55°, SN, PR, RF, Fe J, 60°, SN, PR, RF, Fe EW, 60°, PR, Fe, clay CZ, Fe, clay
					8.0							J, 5°, SN, PR, RF, Fe J, 5°, SN, PR, RF, Fe

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-001

FILE / JOB NO : PS212776

SHEET : 3 OF 3

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527448.87, N: 5252553.93 (MGA2020-55) SURFACE ELEVATION : 5.96 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 19/4/2024 DATE COMPLETED : 20/4/2024 DATE LOGGED : 20/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING					MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS	NATURAL FRACTURE (mm)	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	85-90% Polymer RETURN	0% LOSS 9.14	91	Is(50) D>6.73 MPa Is(50) A=0.670 MPa Is(50) D>7.90 MPa Is(50) A>5.27 MPa	8.0 9.0		DOLERITE: fine to coarse grained, dark grey, phaneritic, iron staining. *(continued)*	MW SW	VL -2 L -6 M -20 H -60 VH -200 EH	20 40 100 300 1000		J, 65 - 80°, CT, UN, RF, Fe, gravelly clay, 6-16mm EW, clay, 45mm, PP=110-150kPa J, 5°, SN, PR, RF, Fe J, 5°, SN, PR, RF, Fe J, 35°, SN, UN, RF, Fe J, 20°, SN, PR, RF, Fe J, 60 - 75°, CT, PR, RF, Chl, 2mm
		0% LOSS 10.67	90				9.28m DOLERITE: fine to coarse grained, dark grey, phaneritic. 9.60m	FR				J, 10°, SN, PR, RF, Fe
		0% LOSS 10.83 0% LOSS 11.75	0 0	Is(50) D=4.19 MPa Is(50) A>5.87 MPa Is(50) D>5.97 MPa Is(50) A=3.82 MPa Is(50) D=6.78 MPa Is(50) A=7.79 MPa	10.0 11.0		DOLERITE: fine to coarse grained, dark grey, phaneritic, iron staining. 10.20m: becoming fine to coarse grained 10.44m: becoming fine to medium grained 10.70m: becoming fine to coarse grained 10.83m-11.75m: mechnical and drilling induced breaks due to wedging off during rock coring 11.75m					SZ, SN, Fe CS, 75 - 80°, CT, PR, RF, Zeo, Chl, 5mm CS, 70 - 90°, CT, PR, RF, Zeo, Chl, 2mm J, 5°, SN, PR, RF, Fe SZ, 75°, VN, PR, RF, Zeo SZ
					12.0 13.0 14.0 15.0 16.0		Hole Terminated at 11.75 m Target depth Grouted to Surface					

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-001 Depth Range: 0.00 - 1.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-001	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/5

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-001 Depth Range: 1.50 - 1.75 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-001	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/5

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-001 Depth Range: 1.75 - 5.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-001	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/5

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-001 Depth Range: 5.00 - 9.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-001	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/5

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-001 Depth Range: 9.00 - 11.75 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-001	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/5

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-002

FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527407.71, N: 5252514.77 (MGA2020-55) SURFACE ELEVATION : 5.77 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 18/4/2024 DATE COMPLETED : 19/4/2024 DATE LOGGED : 18/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S	PWT	E-F	Not Encountered		0.0 5.8			0.05m FILL Gravelly SAND: medium to coarse grained, brown, trace clay; trace cobbles. 0.80m	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
		E-F			1.0 4.8			FILL Silty CLAY: low to medium plasticity, black mottled brown, trace sand and gravel. 1.10m	D - M		
		F		1.50m				FILL CONCRETE: pale grey. 1.50m	D		
		E		SPT 1,3,4 N=7 1.95m	2.0 3.8			FILL Silty CLAY: high plasticity, dark green and black. 2.85m	M		1.60-2.20: PP=130kPa 2.50-2.80: PP=200kPa
		E		3.00m SPT 13,16,15 N=31 3.45m	3.0 2.8			FILL Gravelly Clayey SAND: medium to coarse grained, pale brown, with dolerite cobbles. 3.80m	M		
		E-F		SPT 15/20mm HB N=R 4.52m	4.0 1.8			FILL Sandy GRAVEL: medium to coarse, brown, with dolerite cobbles, with clay. 4.50m-4.60m: perched water 4.65m	D M D		ROCK
		F			5.0 0.8			DOLERITE: medium to coarse grained, brown, iron staining, inferred as highly weathered, medium to high strength. 6.00m			
		H			6.0 -0.2			DOLERITE: medium to coarse grained, grey with dark grey, iron staining, inferred as moderately weathered, high to very high strength. 7.24m			
					7.0 -1.2			Continued as Cored Drill Hole			
					8.0 -2.2						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-002

FILE / JOB NO : PS212776

SHEET : 2 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527407.71, N: 5252514.77 (MGA2020-55) SURFACE ELEVATION : 5.77 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 18/4/2024 DATE COMPLETED : 19/4/2024 DATE LOGGED : 18/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
					2.0							
					3.0							
					4.0							
					5.0							
					6.0							
					7.0							
							7.24m START CORING AT 7.24m					
HQ3	90-95% RETURN	0% LOSS 8.00	72		8.0		DOLERITE: fine to coarse grained, dark grey with brown, phaneritic, iron staining along defects.	MW				J, 80°, SN, PR, RF, Fe J, 25°, SN, PR, RF, Fe EW, 75°, Fe, clay, 2mm EW, 65 - 80°, Fe, clay, 2mm EW, 65°, Fe, clay, 1mm J, 65°

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-002
FILE / JOB NO : PS212776
SHEET : 3 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527407.71, N: 5252514.77 (MGA2020-55) SURFACE ELEVATION : 5.77 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 18/4/2024 DATE COMPLETED : 19/4/2024 DATE LOGGED : 18/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING

PROGRESS: DRILLING & CASING: HQ3; WATER: 90-95% RETURN

DRILL DEPTH	(CORE LOSS RUN %)	RQD (%)	SAMPLES & FIELD TESTS
	0% LOSS	78	
9.20			Is(50) D>8.66 MPa Is(50) A>8.51 MPa
	0% LOSS	95	
10.65			Is(50) D>7.35 MPa Is(50) A=8.57 MPa
	0% LOSS	99	
12.23			Is(50) D>8.09 MPa Is(50) A>7.67 MPa
	0% LOSS	100	
13.82			Is(50) D>6.99 MPa Is(50) A>6.05 MPa
	0% LOSS	100	
15.24			Is(50) D>6.94 MPa Is(50) A=7.91 MPa
	0% LOSS	95	Is(50) D>7.44 MPa Is(50) A=4.19 MPa

9.72m UCS =23 MPa

MATERIAL

DEPTH (m) | GRAPHIC LOG

DESCRIPTION
ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)

8.0 — DOLERITE: fine to coarse grained, dark grey with brown, phaneritic, iron staining along defects. *(continued)*

9.0

9.45m

DOLERITE: fine to coarse grained, dark grey, phaneritic.

UCS failure influenced by defects, not indicative of true rock strength

10.0

11.0

12.0

13.0

13.18m

DOLERITE: fine to coarse grained, dark grey, phaneritic, equigranular.

14.0

15.0

16.0

WEATHERING: MW; SW; FR

ESTIMATED STRENGTH
UCS=19·$I_{s(50)}$
● - Axial ○ - Diametral ■ - UCS
VL -2 L -6 M -20 H -60 VH -200 EH

FRACTURES

NATURAL FRACTURE (mm): 20 40 100 300 1000

VISUAL

ADDITIONAL DATA
(joints, partings, seams, zones, etc)
Description, orientation, infilling or coating, shape, roughness, thickness, other

- J, 60°, SN, PR, RF
- J, 80°, SN, PR, RF
- J, 5 - 10°, SN, PR, RF, Fe
- J, 30°, SN, PR, RF, Fe
- SS, 15°, SN, PR, RF, Fe
- J, 65°, CT, PR, RF, Pl, clay
- J, 65°, CN, PR, RF
- J, 10°, SN, PR, RF, Fe
- J, 10°, SN, PR, RF, Fe
- J, 75°, SN, PR, partially healed, Fe
- J, 5°, SN, PR, RF, Fe
- SS, 20°, SN, PR, RF, clayey gravel
- J, 5°, SN, PR, RF
- J, 80 - 85°, SN, PR, RF, Fe
- V, 60 - 85°, VN, CU, RF, Cal, 1mm
- J, 10°, CN, PR, RF
- J, 80°, CN, PR, RF
- J, 0°, SN, PR, RF, Zeo, Cal
- J, 20°, CN, PR, RF
- J, 20°, CN, PR, RF
- CS, 60 - 85°, CT, UN, RF, Zeo, clay, 2mm
- CS, 15°, CT, PR, RF, Zeo, 2mm
- J, 85°, VN, PR, RF, Zeo
- J, 0°, CN, PR, RF
- J, 25°, VN, PR, RF, Fe, Chl
- J, 60°, VN, PR, SM-RF, Zeo
- J, 10°, VN, PR, RF
- J, 10°, SN, PR, RF
- J, 0°, CN, PR, RF
- J, 0°, CN, PR, RF

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-002

FILE / JOB NO : PS212776
SHEET : 4 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527407.71, N: 5252514.77 (MGA2020-55) SURFACE ELEVATION : 5.77 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 18/4/2024 DATE COMPLETED : 19/4/2024 DATE LOGGED : 18/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	90-95% RETURN	0% LOSS 16.71	95		16.0		DOLERITE: fine to coarse grained, dark grey, phaneritic, equigranular. *(continued)*	FR				J, 65°, VN, PR, SM-RF
		0% LOSS 18.30	96	Is(50) D>6.26 MPa Is(50) A>5.92 MPa Is(50) D>8.53 MPa Is(50) A>6.15 MPa	17.0 18.0		18.30m Hole Terminated at 18.30 m Target depth Grouted to Surface					J, 5°, CN, PR, RF J, 0°, VN, PR, RF, Cal J, 65°, VN, PR, SM, Zeo, Cal J, 20°, VN, PR, RF, Cal J, 40°, VN, PR, SM-RF, Zeo J, 45°, CT, PR, SM-RF, Zeo, Chl
					19.0 20.0 21.0 22.0 23.0 24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:09 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 0.00 - 1.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 1.50 - 3.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 3.00 - 4.65 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 4.65 - 6.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 6.00 - 7.24 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 7.24 - 11.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 11.00 - 15.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-002 Depth Range: 15.00 - 18.30 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-002	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/8

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-003

FILE / JOB NO : PS212776
SHEET : 1 OF 3

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527405.03, N: 5252447.51 (MGA2020-55) SURFACE ELEVATION : 5.04 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 16/4/2024 DATE COMPLETED : 17/4/2024 DATE LOGGED : 17/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		F			0.0 5.0			FILL Clayey GRAVEL: fine to medium, sub-angular to angular, brown, with sand.	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
								0.90m			
		H			1.0 4.0			FILL CONCRETE: grey.			
								1.40m			
		F		1.50m SPT 5,11,16/115mm HB N=R 1.92m				FILL Sandy CLAY: low plasticity, black with red brown, trace gravel; distinct aromatic hydrocarbon odour.	D - M		1.40-1.60: PP=375kPa
								1.60m FILL Sandy GRAVEL: fine to coarse, red with grey, with sandstone cobbles and possible brick gravels.			
		F			2.0 3.0				D		
								2.90m			
		F						3.00m FILL Silty CLAY: high plasticity, dark grey, trace subangular to angular gravel.	D - M		2.90-3.00: PP=205kPa
S	PWT		Not Encountered	SPT 10/10mm HB N=R 3.01m	3.0 2.0			DOLERITE: fine to medium, sub-angular to angular, pale to dark grey, inferred as slightly weathered to fresh, high to very high strength.			ROCK
				Is(50) I=4.76 MPa							
		VH		Is(50) I>7.80 MPa	4.0 1.0				D		
				Is(50) I=6.73 MPa	5.0 0.0						
					6.0 -1.0			6.45m Continued as Cored Drill Hole			
					7.0 -2.0						
					8.0 -3.0						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 16:42 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-003

FILE / JOB NO : PS212776

SHEET : 2 OF 3

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527405.03, N: 5252447.51 (MGA2020-55) SURFACE ELEVATION : 5.04 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 16/4/2024 DATE COMPLETED : 17/4/2024 DATE LOGGED : 17/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
					2.0							
					3.0							
					4.0							
					5.0							
					6.0							
							6.45m START CORING AT 6.45m					
HQ3	95-100% RETURN	0% LOSS	100	6.70m UCS =138 MPa Is(50) D>8.20 MPa Is(50) A>6.95 MPa	7.0		DOLERITE: fine to medium grained, dark grey, phaneritic, equigranular.	FR				J, 55°, VN, PR, RF J, 10°, VN, PR, RF, Zeo J, 0°, CN, PR, RF J, 55°, CN, PR, RF
		7.80 0% LOSS	100	Is(50) D>7.23 MPa Is(50)	8.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-003
FILE / JOB NO : PS212776
SHEET : 3 OF 3

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527405.03, N: 5252447.51 (MGA2020-55) SURFACE ELEVATION : 5.04 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 16/4/2024 DATE COMPLETED : 17/4/2024 DATE LOGGED : 17/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	95-100% RETURN	0% LOSS 9.37	100	A>5.81 MPa	8.0		DOLERITE: fine to medium grained, dark grey, phaneritic, equigranular. *(continued)*	FR				J, 15°, CN, PR, RF
		0% LOSS 10.90	100	Is(50) D=2.00 MPa Is(50) A>6.81 MPa	9.0							V, 10°, SN, PR, RF, Fe, Zeo, 2mm J, 5°, SN, PR, RF, Fe
		0% LOSS 12.45	100	Is(50) D=2.30 MPa Is(50) A=5.80 MPa	10.0							J, 0°, CN, PR, RF V, 65°, CT, PR, RF, Zeo, 5mm
		0% LOSS 13.94	100	Is(50) D=5.19 MPa Is(50) A>7.45 MPa	11.0		11.32m-11.35m: xenolith					J, 0°, CN, PR, RF J, 0°, CN, PR, RF J, 0 - 5°, SN, PR, RF
				Is(50) D>7.79 MPa Is(50) A>7.72 MPa	12.0							
				Is(50) D=3.75 MPa Is(50) A=6.79 MPa	13.0							J, 0°, SN, PR, RF, Fe
				Is(50) D>6.96 MPa Is(50) A=4.37 MPa	14.0		13.94m Hole Terminated at 13.94 m Target depth Grouted to Surface					
					15.0							
					16.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 0.00 - 1.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:10 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 1.50 - 3.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 3.00 - 4.80 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 4.80 - 6.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 6.00 - 6.45 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 6.45 - 10.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-003 Depth Range: 10.00 - 13.94 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-003	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/7

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-005

FILE / JOB NO : PS212776
SHEET : 1 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527530.25, N: 5252373.53 (MGA2020-55) SURFACE ELEVATION : 3.76 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 27/4/2024 DATE COMPLETED : 28/4/2024 DATE LOGGED : 28/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		F			0.0 3.8			0.05m ASPHALT. 0.10m FILL Sandy GRAVEL: fine to medium, sub-angular to angular, grey yellow brown. 0.30m FILL Gravelly SAND: fine to medium grained, dark grey, gravel is medium grained, sub-angular to angular. FILL Gravelly SAND: fine to medium grained, yellow brown. 0.70m	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
		E		SPT 5,3,5 N=8 1.95m	1.0 2.8			FILL Silty Clayey SAND: medium to coarse grained, dark grey brown mottled pale grey, with gravel; trace glass, ceramic fragments, sea-shells.	M - W		0.90-2.00: PP=185kPa
					2.0 1.8			1.80m: becoming clay dominant, yellow brown mottled green grey, with coarse grained sandstone gravel for 200mm 2.00m: with rootlets, trace nails and ceramic fragments 2.50m: with wood fragments for 300mm 2.90m 2.80m: broken ceramic bottles	M		
				3.00m SPT 1,1,1 N=2 3.45m	3.0 0.8			Silty CLAY: high plasticity, dark grey mottled green brown, with ironstone gravel, trace sand, trace rootlets, trace sea-shells.	w≈PL		ESTUARINE SOIL 3.10-4.30: PP=75kPa
S	PWT		▽	3.50m U 3.85m			CH	3.50m-4.50m: trace ceramic fragments	w>PL	S	
		VE		4.50m	4.0 -0.2				w≈PL		
				SPT 1,3,5 N=8 4.95m	5.0 -1.2			4.50m SAND: fine to medium grained, uniform, dark grey, with sea-shells, trace clay.			
				6.00m SPT 2,2,2 N=4 6.45m	6.0 -2.2		SP		M - W	L	
					7.0 -3.2			7.50m SHELLY SAND: uniform, dark grey, trace clay.			7.50: SPT Hammer Damaged, Mechanical Failure
				SPT 3,4 SPT Damaged, Mechanical Faliure 7.80m	8.0 -4.2		SP	8.00m		L	

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-005

FILE / JOB NO : PS212776
SHEET : 2 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527530.25, N: 5252373.53 (MGA2020-55) SURFACE ELEVATION : 3.76 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 27/4/2024 DATE COMPLETED : 28/4/2024 DATE LOGGED : 28/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 -4.2			SAND: uniform, dark grey, trace sea-shells, trace clay.			ESTUARINE SOIL
					9.0 -5.2		SP			L	
		VE							M - W		
					10.0 -6.2			10.00m Gravelly SAND: uniform, dark grey, sub-rounded to rounded, with clay.			
							SP			L	
								10.80m Silty CLAY: high plasticity, green brown mottled brown, trace gravel.			10.80-11.60: PP=50kPa
					11.0 -7.2						
		E					CH				11.70-12.30: PP=190kPa
				12.00m U 12.32m	12.0 -8.2				w≈PL	St - VSt	
								12.40m Gravelly Silty CLAY: medium to high plasticity, grey green-brown, with sand; fine to coarse grained gravel, sub-rounded to angular.			ALLUVIAL SOIL 12.50-13.00: PP=50kPa
					13.0 -9.2						13.00-16.30: PP>350kPa
		F						13.10m: with medium to coarse grained pebble cobbles			
					14.0 -10.2						
								14.00m: trace dolerite coarse grained gravel and cobbles			
							CI-CH				
									w<PL	H	
		H			15.0 -11.2						
S	PWT				16.0 -12.2						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-005

FILE / JOB NO : PS212776

SHEET : 3 OF 5

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527530.25, N: 5252373.53 (MGA2020-55) SURFACE ELEVATION : 3.76 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 27/4/2024 DATE COMPLETED : 28/4/2024 DATE LOGGED : 28/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S PWT		H		Is(50) I>7.97 MPa	16.0 -12.2		CI-CH	Gravelly Silty CLAY: medium to high plasticity, grey green-brown, with sand; fine to coarse grained gravel, sub-rounded to angular. *(continued)*	w<PL	H	ALLUVIAL SOIL
								16.30m DOLERITE: fine to coarse grained, brown with green-grey, inferred as extremely to highly weathered, very low to low strength rock.			ROCK
								16.70m DOLERITE: fine to medium grained, pale grey with green, inferred as extremely to highly weathered, iron strained, low strength.			
					17.0 -13.2			17.00m DOLERITE: fine to medium grained, grey brown, inferred as highly to moderately weathered, iron stained, low to medium strength.			
		VH			18.0 -14.2			18.10m DOLERITE: fine to medium grained, dark grey, inferred as slightly weathered, high to very high strength.			
								18.80m			
					19.0 -15.2			Continued as Cored Drill Hole			
					20.0 -16.2						
					21.0 -17.2						
					22.0 -18.2						
					23.0 -19.2						
					24.0 -20.2						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-005

FILE / JOB NO : PS212776

SHEET : 4 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527530.25, N: 5252373.53 (MGA2020-55) SURFACE ELEVATION : 3.76 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 27/4/2024 DATE COMPLETED : 28/4/2024 DATE LOGGED : 28/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					16.0							
					17.0							
					18.0							
							18.80m START CORING AT 18.80m					
HQ3	90-95% Polymer RETURN	0% LOSS 19.60	71	Is(50) D>8.85 MPa Is(50) A>9.31 MPa	19.0		DOLERITE: fine to medium grained, dark grey with pale blue, equigranular to phaneritic.	FR				J, 70°, VN, PR, RF, Zeo J, 10°, VN, PR, RF, Fe J, 10°, VN, PR, RF, Fe J, 40°, CN, PR, RF J, 80°, VN, PR, RF, Zeo J, 0 - 5°, VN, PR, RF, Zeo J, 0°, CN, PR, RF
		0% LOSS 21.10	100		20.0							J, 70°, VN, PR, RF, Zeo J, 60°, VN, PR, RF, Zeo, Cal
		0% LOSS 22.66	96	Is(50) D>9.16 MPa Is(50) A=6.51 MPa Is(50) D=5.53 MPa Is(50) A=6.16 MPa	21.0							J, 5°, CN, PR, RF
		0% LOSS	100	Is(50) D=5.83 MPa Is(50) A=4.82 MPa	22.0		21.74m: schlieren at 25-30* 21.80m: schlieren at 25-30* 21.84m: schlieren at 25-30*					J, 20°, VN, CU, RF, Zeo J, 75°, VN, PR, RF, Zeo J, 20 - 30°, CT, UN, RF, Zeo, Chl
					23.0							J, 55 - 75°, CT, PR, SM-RF, Chl, Zeo J, 10°, CN, PR, RF
				Is(50) D>9.42 MPa Is(50)	24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-005

FILE / JOB NO : PS212776

SHEET : 5 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527530.25, N: 5252373.53 (MGA2020-55) SURFACE ELEVATION : 3.76 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 27/4/2024 DATE COMPLETED : 28/4/2024 DATE LOGGED : 28/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	90-95% Polymer RETURN	24.18	100	A>8.02 MPa	24.0		24.18m	FR				
		0% LOSS	100				DOLERITE: fine to medium grained, dark grey with pale blue, equigranular to phaneritic.					J, 50°, VN, PR, RF, Zeo, Chl
							24.67m: schlieren at 10-15*					
							24.90m					
					25.0		DOLERITE: fine to medium grained, dark grey with pale blue.					J, 75°, CT, PR, RF, Zeo, Chl, 6mm
		25.73		Is(50) D>7.87 MPa Is(50) A>8.30 MPa								
		0% LOSS	91									
					26.0		26.00m-26.40m: fine grained					
												J, 50°, CN, PR, RF
				Is(50) D=9.08 MPa Is(50) A=8.06 MPa	27.0							J, 50°, CN, PR, RF Jx6, 10 - 15°, PR, Zeo, Chl
		27.31										
		0% LOSS	86	Is(50) D=2.53 MPa Is(50) A=5.04 MPa 27.71m UCS =100 MPa								V, 10°, VN, PR, RF, Zeo, Chl Jx5, 10 - 20°, VN, PR, SM-RF, Zeo, Chl
					28.0							V, 5°, PR, Chl, Zeo V, 10°, PR, Chl, Zeo V, 15 - 20°, CT, PR, RF, Zeo, Chl
		28.82		Is(50) D>6.88 MPa Is(50) A>7.10 MPa			28.82m					
					29.0		Hole Terminated at 28.82 m Target depth Grouted to Surface					
					30.0							
					31.0							
					32.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:11 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

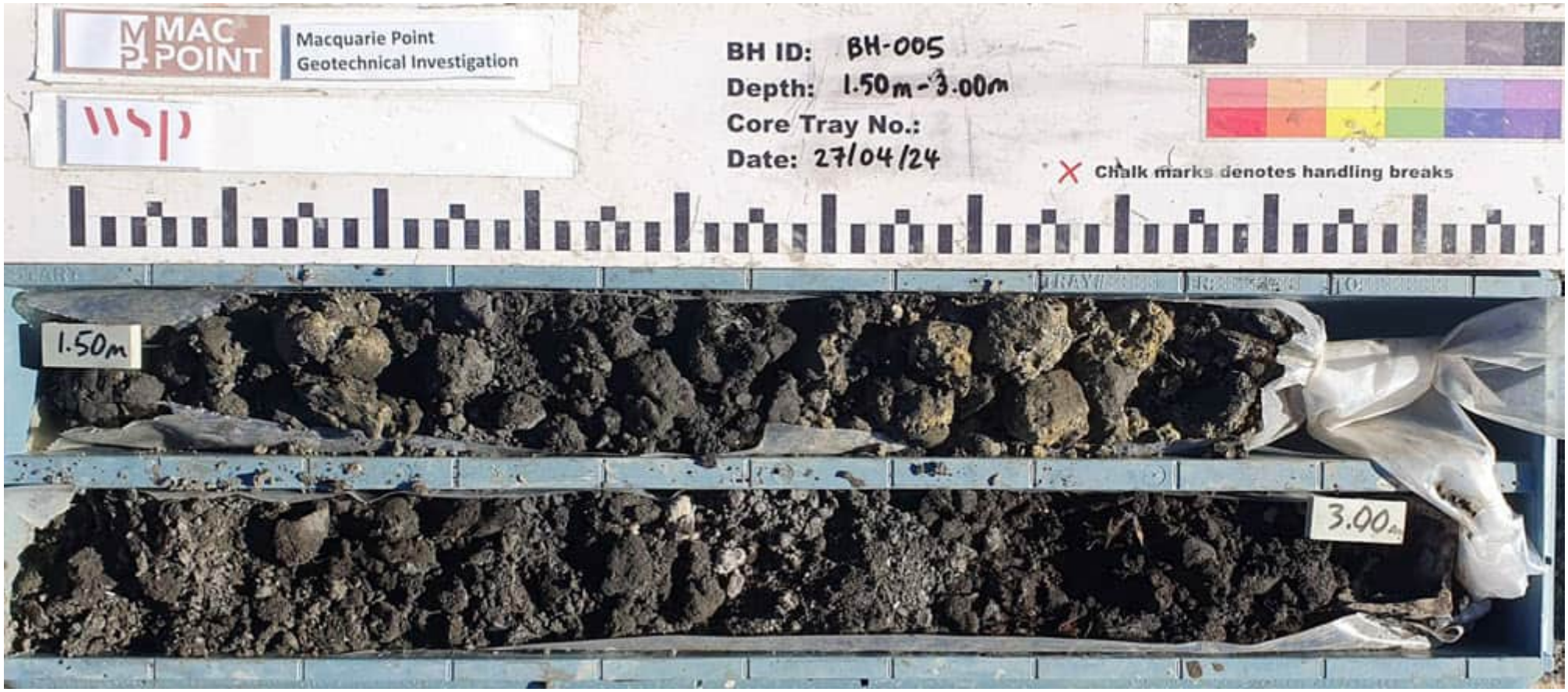
WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 0.00 - 1.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 1.50 - 3.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 3.00 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 4.00 - 5.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 5.50 - 7.50 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 7.50 - 9.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 9.00 - 11.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 11.00 - 13.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 13.00 - 15.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 9/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 15.00 - 16.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 10/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 16.50 - 18.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 11/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 18.00 - 18.80 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 12/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 18.80 - 22.00 m

wsp	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 13/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 22.00 - 26.00 m

wsp	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE: 18/6/2024
		CHECKED	DATE: 18/6/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS212776	FIGURE No: 14/15

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:12 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-005 Depth Range: 26.00 - 28.82 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-005	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 15/15

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-006

FILE / JOB NO : PS212776
SHEET : 1 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527589.97, N: 5252384.82 (MGA2020-55) SURFACE ELEVATION : 3.39 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 8/5/2024 DATE COMPLETED : 9/5/2024 DATE LOGGED : 9/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 3.4			0.05m ASPHALTIC CONCRETE.			ROAD SURFACE
								FILL Gravelly SAND: fine to coarse grained, dark grey, gravel is fine to medium grained, sub-angular. 0.2m: becoming green-grey	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
								0.50m			
		H						FILL Sandy GRAVEL: fine to coarse, sub-angular to angular, dark grey.			
					1.0 2.4				D - M		
								1.50m			
								FILL Gravelly SAND: fine to coarse grained, dark grey and red-brown, gravel is fine to medium grained, sub-angular to angular; trace shell and glass fragments.			
			▽		2.0 1.4				M		
								2.50m			
								FILL Sandy CLAY: medium to high plasticity, brown, sand is fine to medium grained.			
								2.80m: becoming dark grey, with gravels, fine to coarse grained, sub-angular to angular, trace tile and glass fragments			
				3.00m SPT 1,1,10 N=11	3.0 0.4						
				3.45m					w≈PL		3.50-4.00: PP=145kPa
					4.0 -0.6						
								4.50m			
		F						FILL Gravelly SAND: fine to coarse grained, dark grey, gravel is fine to medium grained, sub-angular to angular; trace tile and glass fragments.			
					5.0 -1.6				M - W		
								5.20m			
								FILL Sandy CLAY: medium to high plasticity, dark green-grey.	w≈PL - w>PL		
								5.60m 5.50m: organic layer (rootlets) for 100mm			
								5.60m: inferred reworked natural material for 200mm			
								5.80m FILL SAND: fine to coarse grained, sub-rounded to sub-angular, grey, trace silt; trace sub-rounded gravel; with shell fragments.			ESTUARINE SOIL
				6.00m U	6.0 -2.6			SAND: fine to coarse grained, sub-rounded, grey, trace silt; trace shell fragments.			
				6.45m					M - W	VL - L	
					7.0 -3.6		SW				
				7.50m SPT 0,0,1 N=1							
								7.70m			
							CI-CH	CLAY: medium to high plasticity, green-grey, with fine to medium grained sand.	w≈PL - w>PL	VS	7.90-8.40: PP=50kPa
				7.95m	8.0 -4.6						

S PWT

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-006
FILE / JOB NO : PS212776
SHEET : 2 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527589.97, N: 5252384.82 (MGA2020-55) SURFACE ELEVATION : 3.39 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 8/5/2024 DATE COMPLETED : 9/5/2024 DATE LOGGED : 9/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 -4.6		CI-CH	CLAY: medium to high plasticity, green-grey, with fine to medium grained sand. *(continued)*	w≈PL - w>PL	VS	ESTUARINE SOIL
								8.50m			
							SW	SAND: fine to coarse grained, sub-rounded, grey, trace silt; trace shell fragments.	M - W	L	
				9.00m SPT 3,1,2 N=3	9.0 -5.6			9.00-10.50m: No soil recovered from sonic run			
				9.45m							
					10.0 -6.6						
		F		10.50m							
				SPT 1,1,2 N=3				SAND: fine to coarse grained, sub-rounded, grey, trace silt; trace shell fragments.			
				10.95m	11.0 -7.6		SW		M - W	L	
				12.00m SPT 2,1,1 N=2	12.0 -8.6						
				12.45m ~~12.50m~~				12.30m			
				U 12.70m			CI-CH	CLAY: medium to high plasticity, green-grey, with fine to medium grained sand.	w>PL - w≈LL	VS	
								12.90m			
					13.0 -9.6			DOLERITE: green-grey, recovered as sandy gravel, inferred weathered rock.			ROCK
		H						13.80m: becoming pale brown-grey			
					14.0 -10.6						
					15.0 -11.6			15.00m: becoming green-grey			
								15.30m			
								Continued as Cored Drill Hole			
					16.0 -12.6						

S PWT

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-006

FILE / JOB NO : PS212776

SHEET : 3 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527589.97, N: 5252384.82 (MGA2020-55) SURFACE ELEVATION : 3.39 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 8/5/2024 DATE COMPLETED : 9/5/2024 DATE LOGGED : 9/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					8.0							
					9.0							
					10.0							
					11.0							
					12.0							
					13.0							
					14.0							
					15.0							
							15.30m START CORING AT 15.30m					
HQ3		0% LOSS 15.60	0				DOLERITE: fine to medium grained, dark orange-brown, crystalline, phaneritic.	MW				
		0% LOSS	0	Is(50) I=1.88 MPa	16.0		16.00m					SZ, Fe

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-006

FILE / JOB NO : PS212776

SHEET : 4 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527589.97, N: 5252384.82 (MGA2020-55) SURFACE ELEVATION : 3.39 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 8/5/2024 DATE COMPLETED : 9/5/2024 DATE LOGGED : 9/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	95-100% Polymer RETURN	0% LOSS 16.20	0		16.0		16.10m: dark grey, fine to coarse grained	MW				EW, 55 - 65°, PR, clay, 5mm J, 30 - 40°, SN, PR, SM, Fe Jx3, 0 - 10°, SN, ST, RF, Fe J, 80°, SN, PR, RF, Fe J, 20 - 60°, SN, ST, RF, Fe J, 70 - 75°, SN, PR, RF, Fe J, 70 - 75°, SN, PR, RF, Fe, Cal J, 80 - 90°, SN, UN, RF, Cal Jx2, 65 - 75°, CN, PR, RF J, 40 - 50°, SN, PR, RF, Fe J, 45°, CN, PR, RF Jx4, 10 - 30°, VN, PR, RF, Fe Jx2, 0 - 30°, SN, UN, RF, Fe SZ, 70 - 90°, UN, RF, brecciated gravelly clay
		0% LOSS	23					SW				
		17.75		Is(50) D=5.14 MPa Is(50) A>5.18 MPa Is(50) A=2.22 MPa Is(50) D>6.88 MPa	17.0							J, 30 - 40°, CN, PR, SM
		0% LOSS	100									
					18.0		18.50m: fine to medium grained					J, 50 - 60°, SN, PR, SM, Chl J, 60°, VN, PR, SM, Cal EW, 80 - 90°, VN, UN, RF, gravelly clay, Cal
		19.25			19.0							J, 60 - 70°, CN, PR, SM
		0% LOSS	100	Is(50) D=2.13 MPa Is(50) A=0.140 MPa								EW, 80 - 90°, IR, RF, Zeo, Cal, 3mm J, 45 - 55°, CN, CU, SM
					20.0		20.30-24.40m: multiple healed joints					J, 20 - 30°, SN, PR, SM
				Is(50) D=4.35 MPa Is(50) A>5.69 MPa			20.50-20.83m: hydrothermal breccia, vuggy texture					J, 70 - 90°, SN, CU, SM, Cal, Qz
		20.75										
		0% LOSS	100		21.0							J, 10 - 20°, CN, PR, SM J, 30 - 40°, CN, PR, SM
				Is(50) D>5.88 MPa Is(50) A=6.35 MPa								J, 70 - 80°, CN, PR, RF
					22.0							J, 45 - 55°, SN, PR, SM, Chl
		22.26		Is(50) D>6.09 MPa								
		0% LOSS	100	Is(50) A>5.78 MPa								J, 20 - 50°, CN, UN, SM J, 55 - 65°, SN, PR, RF, Fe, Chl
					23.0		23.15-23.74m: brecciated healed vein, irregular, dolerite clasts, fine to medium grained, sub-angular to angular					
		23.86		Is(50) D=4.48 MPa Is(50) I>4.23 MPa								J, 20 - 30°, VN, ST, RF, Chl
			100	Is(50) D=5.76 MPa	24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6 GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-006

FILE / JOB NO : PS212776

SHEET : 5 OF 5

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527589.97, N: 5252384.82 (MGA2020-55) SURFACE ELEVATION : 3.39 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 8/5/2024 DATE COMPLETED : 9/5/2024 DATE LOGGED : 9/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	95-100% Polymer RETURN	0% LOSS 25.40	100	Is(50) A=1.12 MPa 25.08m UCS =172 MPa	24.0 25.0		24.00-24.30m: brecciated healed pocket, irregular dolerite clasts, fine to medium grained, sub-angular to angular 25.40m	SW FR				J, 40 - 50°, CN, PR, RF J, 70 - 80°, VN, PR, RF, Chl J, 65 - 75°, SN, PR, RF, Chl
							Hole Terminated at 25.40 m Target depth Grouted to Surface					
					26.0 27.0 28.0 29.0 30.0 31.0 32.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 0.00 - 2.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 2.00 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:13 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 4.00 - 5.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 5.00 - 7.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 7.00 - 8.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 8.00 - 10.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 10.50 - 13.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 13.00 - 15.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 15.00 - 15.30 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 9/12

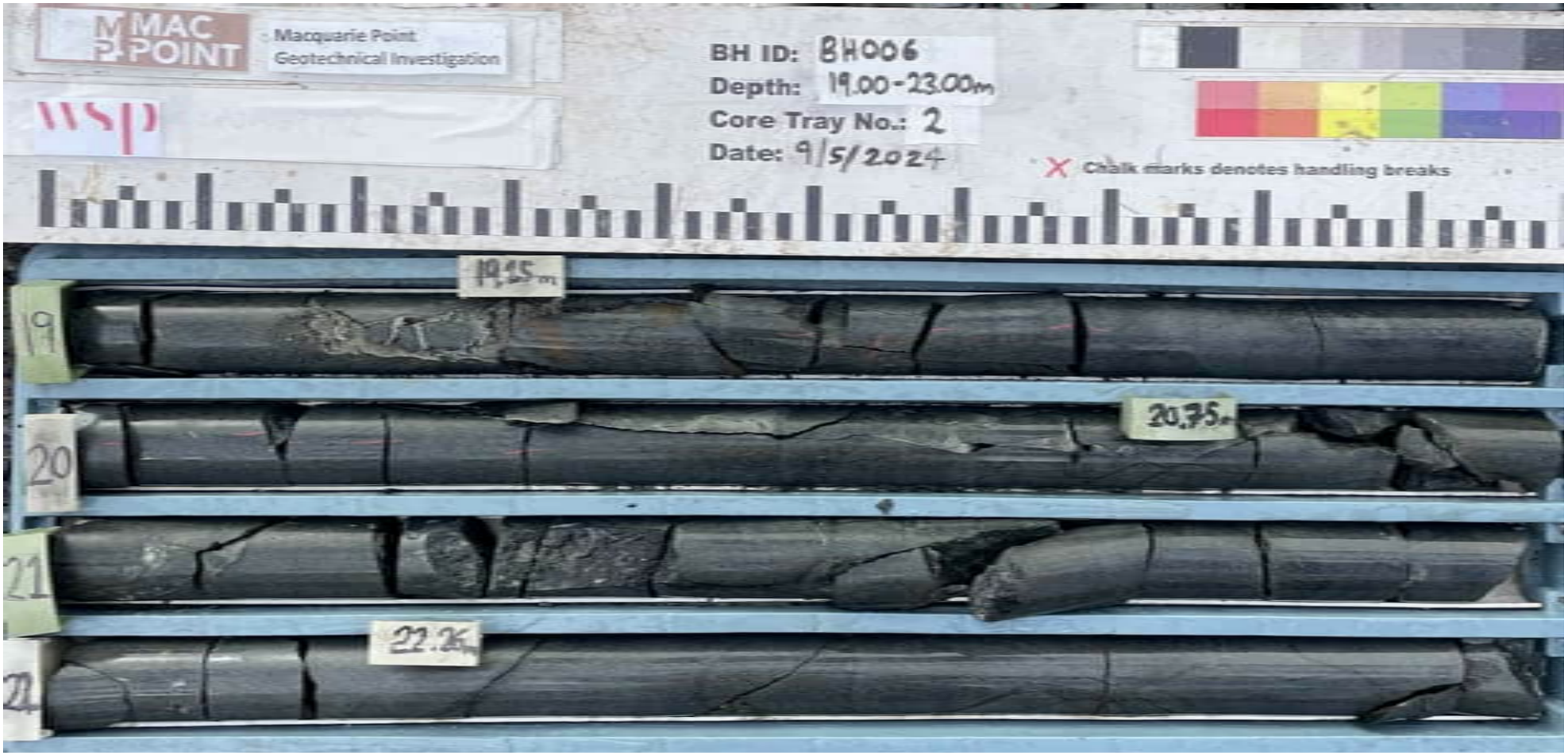
WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 15.30 - 19.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 10/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 19.00 - 23.00 m

wsp	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 11/12

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-006 Depth Range: 23.00 - 25.40 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-006	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 12/12

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-007

FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527618.42, N: 5252416.64 (MGA2020-55) SURFACE ELEVATION : 3.06 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 2/5/2024 DATE COMPLETED : 3/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 3.1			ASPHALTIC CONCRETE.			ROAD SURFACE Acid Sulfate Sampling every 0.5m to bedrock
								0.45m			
					1.0 2.1			FILL Gravelly SAND: fine to coarse grained, sub-angular to sub-rounded, dark grey mottled brown, gravel is fine to medium grained, angular to sub-rounded; with clay; with some waste inclusions (plastic and brick fragments).	M		FILL
								1.45m			
								FILL Clayey Gravelly SAND: dark grey, gravel is fine to medium grained, angular to sub-rounded; clay is medium plasticity; with glass fragments and wood chips.	M - W		
								2.00m			
					2.0 1.1			FILL Sandy CLAY: medium plasticity, dark grey mottled yellow-brown.	w<PL		
								2.20m: medium to high plasticity, dark grey, decreasing sand content; trace medium grained, sub-rounded gravel; trace glass and tile fragments			2.20: PP =280 kPa 2.40: PP =48 kPa
				3.00m SPT 1,0,1 N=1 3.45m	3.0 0.1			3.00-6.00m: slight tar odour	w≈PL		
S	PWT	F									
					4.0 -0.9			FILL SAND: fine to coarse grained, sub-angular to sub-rounded, dark grey, with clay; trace medium to coarse grained, sub-rounded gravel; trace waste and wood fragments.	M		
								4.50m: with fine to coarse grained, sub-angular gravel			
					5.0 -1.9				M - W		
								5.50-5.70m: lense of medium to high plasticity, green-grey clay			
				6.00m SPT 0,0,1 N=1 6.45m	6.0 -2.9			5.90-6.00m: metal fragments recovered SAND: fine to medium grained, sub-rounded, grey, with silt; with shell fragments.	M - W	VL - L	ESTUARINE SOIL
							SP	6.60m			
					7.0 -3.9			DOLERITE: fine to coarse grained, yellow-brown, sub-angular to sub-rounded gravel, inferred as highly weathered. 7.00m: recovered as gravel and silt, inferred as highly to moderately weathered, grey			ROCK
								7.80m			
					8.0 -4.9			Continued as Cored Drill Hole			

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:14 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-007

FILE / JOB NO : PS212776

SHEET : 2 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527618.42, N: 5252416.64 (MGA2020-55) SURFACE ELEVATION : 3.06 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 2/5/2024 DATE COMPLETED : 3/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
					2.0							
					3.0							
					4.0							
					5.0							
					6.0							
					7.0							
							7.80m START CORING AT 7.80m					
HQ3		0% LOSS	44		8.0		DOLERITE: fine to coarse grained, dark grey-blue, crystalline, phaneritic.	SW				J, 60 - 90°, SN, CU, SM, Fe

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:15 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-007

FILE / JOB NO : PS212776

SHEET : 3 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527618.42, N: 5252416.64 (MGA2020-55) | SURFACE ELEVATION : 3.06 (AHD) | ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max | MOUNTING : Track | CONTRACTOR : SWD | DRILLER : GB

DATE STARTED : 2/5/2024 | DATE COMPLETED : 3/5/2024 | DATE LOGGED : 2/5/2024 | LOGGED BY : MIR | CHECKED BY : JRG

CASING DIAMETER : 150 mm | BARREL (Length) : 1.50 m | BIT : IMPREG RC10 | BIT CONDITION : Good

DRILLING

PROGRESS: DRILLING & CASING; WATER

(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS
0% LOSS 8.30	44	
0% LOSS 9.00	67	
0% LOSS 10.25	98	Is(50) D>6.02 MPa
0% LOSS 10.50	100	Is(50) A>5.98 MPa
0% LOSS 11.70	68	Is(50) D>6.44 MPa; Is(50) A=4.34 MPa; Is(50) D>6.37 MPa
0% LOSS 12.35	85	Is(50) A=5.89 MPa
0% LOSS 13.80	92	Is(50) D>6.41 MPa; Is(50) A>5.24 MPa
0% LOSS 15.25	100	Is(50) D>6.15 MPa; Is(50) A=7.44 MPa
0% LOSS	100	Is(50) D>6.39 MPa; Is(50) A>6.80 MPa

HQ3

100% Polymer RETURN

MATERIAL

DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH
8.0		DOLERITE: fine to coarse grained, dark grey-blue, crystalline, phaneritic. *(continued)*	SW	
			HW - SW	
			SW	
9.0				
10.0				
			SW - FR	
11.0				
12.0				
13.0				
			FR	
14.0				
15.0				
16.0				

FRACTURES

NATURAL FRACTURE (mm): 20 40 100 300 1000

VISUAL

ADDITIONAL DATA (joints, partings, seams, zones, etc)
Description, orientation, infilling or coating, shape, roughness, thickness, other

- EW, 65 - 75°, PR, clay, 1-4mm
- J, 80 - 90°, VN, PR, RF, Fe
- Jx3, 30 - 40°, SN, PR, RF, Fe
- J, 70 - 80°, SN, UN, RF, Fe
- EW, clayey gravel, 90mm
- EW, 40°, clay with gravel, Fe, 50mm
- EW, 80 - 90°, CU, clay, 2mm
- EW, 50 - 60°, clay, 100mm
- J, 20 - 30°, SN, PR, RF, Fe
- J, 60 - 90°, CT, UN, RF, Fe, clay
- J, 50 - 60°, CT, PR, RF, clay with sand, Fe
- J, 40 - 50°, CT, PR, RF, clay, Fe
- J, 20 - 30°, SN, PR, RF, Fe
- J, 65 - 75°, CT, PR, RF, clay with sand, Fe
- EW, gravelly sandy clay
- J, 40 - 60°, SN, PR, RF
- J, 80°, VN, PR, RF, Fe
- J, 60°, CT, PR, RF, clay, 5mm
- J, 0 - 30°, CT, IR, RF, clay
- EW, 50 - 60°, PR, RF, Chl infill with clay, Fe, 2mm
- Jx2, 50 - 60°, SN, PR, RF, Fe
- J, 20 - 30°, SN, PR, RF, Fe
- EW, clay with sand, Chl, Fe
- EW, 0 - 10°, clay, Chl, Zeo, Fe, 15mm
- IS, 70 - 80°, clay, Chl, 10mm
- IS, 65 - 75°, clay, Chl, 10mm
- Jx2, 10°, VN, PR, RF, Zeo, Chl
- J, 40 - 50°, CN, PR, RF
- J, 0 - 10°, CN, PR, RF
- Jx2, 10 - 20°, SN, PR, RF, Fe
- J, 10 - 20°, SN, PR, RF, Fe

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:15 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-007

FILE / JOB NO : PS212776
SHEET : 4 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527618.42, N: 5252416.64 (MGA2020-55) SURFACE ELEVATION : 3.06 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 2/5/2024 DATE COMPLETED : 3/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING					MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	100% Polymer RETURN	0% LOSS 16.75	100	Is(50) D>6.00 MPa Is(50) A>7.25 MPa 16.40m UCS =46 MPa	16.0		DOLERITE: fine to coarse grained, dark grey-blue, crystalline, phaneritic. *(continued)*	FR				J, 0 - 10°, CN, PR, RF
		0% LOSS 18.30	100	Is(50) A=6.69 MPa Is(50) D>6.01 MPa Is(50) D=5.65 MPa Is(50) A>2.75 MPa	17.0 18.0		UCS failure influenced by single shear plane, not indicative of true rock strength 16.50m: increasing coarse grained minerals 18.30m Hole Terminated at 18.30 m Target depth Grouted to Surface					
					19.0 20.0 21.0 22.0 23.0 24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:15 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:15 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 0.00 - 1.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:15 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 1.50 - 3.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 3.00 - 4.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 4.50 - 7.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 7.00 - 7.80 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 7.80 - 11.00 m

TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024	
	CHECKED	DATE 18/6/2024	
	SCALE Not To Scale		A4
	PROJECT No PS212776	FIGURE No 6/8	

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 11.00 - 15.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-007 Depth Range: 15.00 - 18.30 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-007	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/8

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-008

FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527630.36, N: 5252462.47 (MGA2020-55) SURFACE ELEVATION : 3.57 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 7/5/2024 DATE COMPLETED : 7/5/2024 DATE LOGGED : 7/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 3.6			0.05m ASPHALTIC CONCRETE.			ROAD SURFACE
								FILL Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, orange-brown, gravel is fine to medium grained, sub-angular to angular.			FILL Acid Sulfate Sampling every 0.5m to bedrock
								0.30m FILL Sandy GRAVEL: fine to coarse, to 150 mm, sub-rounded to angular, grey-brown.			
					1.0 2.6			1.00m FILL Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, brown and grey, gravel is fine to coarse grained, sub-rounded to angular; trace silt.	D		
				1.50m SPT 14,14,12 N=26							
			▽	1.95m	2.0 1.6			2.00m 1.90m: shell fragments FILL Clayey SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, clay is medium plasticity; trace fine to medium grained, sub-angular gravel; trace waste fragments (tile, brick, concrete, wood chips, metal, glass).			
		F		3.00m SPT 3,1,2 N=3	3.0 0.6				M		
				3.45m							
					4.0 -0.4			4.00m: becoming orange-brown			
								4.25m FILL Silty Clayey SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, clay is low to medium plasticity; trace metal and wire fragments. 4.25-5.00m: slight hydrocarbon / tar odour	M - W		
					5.0 -1.4						
								5.60m DOLERITE: grey, recovered as sand, fine to coarse grained, sub-rounded to sub-angular, green-grey, with gravel, inferred highly weathered.			ROCK
				6.00m SPT 11/80mm HB N=R 6.08m	6.0 -2.4			6.00m DOLERITE: grey orange-brown, recovered as sandy gravel, fine to coarse grained, inferred highly weathered to moderately weathered.			
		H			7.0 -3.4			7.40m Continued as Cored Drill Hole			
					8.0 -4.4						

S
PWT

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:16 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-008

FILE / JOB NO : PS212776

SHEET : 2 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527630.36, N: 5252462.47 (MGA2020-55) SURFACE ELEVATION : 3.57 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 7/5/2024 DATE COMPLETED : 7/5/2024 DATE LOGGED : 7/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	CORE LOSS (RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
					2.0							
					3.0							
					4.0							
					5.0							
					6.0							
					7.0							
							7.40m START CORING AT 7.40m					
HQ3		0% LOSS	86	Is(50) D>6.30 MPa Is(50)	8.0		DOLERITE: fine to coarse grained, dark grey-blue, crystalline, phaneritic texture.	SW				CS, 40 - 50°, CT, PR, RF, gravel, Fe, 2mm

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:17 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-008

FILE / JOB NO : PS212776

SHEET : 3 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527630.36, N: 5252462.47 (MGA2020-55) SURFACE ELEVATION : 3.57 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 7/5/2024 DATE COMPLETED : 7/5/2024 DATE LOGGED : 7/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	95-100% Polymer RETURN	0% LOSS 8.90	86	A>7.16 MPa	8.0		DOLERITE: fine to coarse grained, dark grey-blue, crystalline, phaneritic texture. *(continued)*	SW				J, 70 - 80°, VN, PR, RF, Fe
		0% LOSS	100	Is(50) A>5.13 MPa Is(50) D>5.88 MPa	9.0			MW				J, 20°, CT, PR, VR, Fe J, 20 - 25°, CT, PR, VR, Fe J, 70 - 80°, CT, PR, VR, Fe J, 60 - 70°, VN, PR, RF, Fe J, 20 - 30°, SN, PR, RF, Fe J, 0 - 10°, CT, PR, VR, Fe CS, 25 - 35°, PR, VR, gravel, Fe, 20mm J, 10 - 20°, SN, PR, SM, Fe J, 30 - 80°, SN, ST, RF, Fe J, 0 - 10°, SN, PR, RF, Fe
								SW				
		10.46			10.0			FR				
		0% LOSS	100	Is(50) D>5.88 MPa Is(50) A>6.76 MPa								
		12.00			11.0							
		0% LOSS	100	Is(50) A>6.82 MPa Is(50) D>5.88 MPa 11.74m UCS =98.6 MPa			UCS failure influenced by defects, not indicative of true rock strength					
					12.0							
		13.46		Is(50) D>6.05 MPa								
		0% LOSS	100	Is(50) A>7.23 MPa Is(50) D>6.47 MPa Is(50) A>6.17 MPa	13.0							
							13.80m: pale grey, porphyritic texture, chlorite and sericite alteration	SW - FR				
				Is(50) A>6.17 MPa Is(50) D=5.72 MPa	14.0							
							14.40m: dark grey-blue, phaneritic texture, fine to medium grained	FR				
		15.10		Is(50) D>6.17 MPa	15.0							
		0% LOSS	100	Is(50) A>5.72 MPa								
				Is(50) A>5.69 MPa Is(50) D>6.17 MPa			15.60m: dolerite breccia, cobbles, well rounded, matrix gravel and sands, angular, well graded, with hydrothermal mineral infill, lithified					J, 40 - 50°, CN, PR, SM
					16.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:17 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-008

FILE / JOB NO : PS212776

SHEET : 4 OF 4

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527630.36, N: 5252462.47 (MGA2020-55) SURFACE ELEVATION : 3.57 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 7/5/2024 DATE COMPLETED : 7/5/2024 DATE LOGGED : 7/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3		0% LOSS 16.56	100		16.0		DOLERITE: fine to coarse grained, dark grey-blue, crystalline, phaneritic texture. *(continued)* 16.56m	FR				
							Hole Terminated at 16.56 m Target depth Grouted to Surface					
					17.0							
					18.0							
					19.0							
					20.0							
					21.0							
					22.0							
					23.0							
					24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:17 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 0.00 - 1.50 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 1.50 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 4.00 - 5.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 5.00 - 7.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 7.00 - 7.40 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 7.40 - 11.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 11.00 - 15.00 m

wsp	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE: 18/6/2024
		CHECKED	DATE: 18/6/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS212776	FIGURE No: 7/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:18 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-008 Depth Range: 15.00 - 16.56 m

wsp	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-008	DRAWN	DATE: 18/6/2024
		CHECKED	DATE: 18/6/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS212776	FIGURE No: 8/8

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-009

FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527621.45, N: 5252515.83 (MGA2020-55) SURFACE ELEVATION : 4.13 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 10/5/2024 DATE COMPLETED : 11/5/2024 DATE LOGGED : 10/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 4.1			0.05m ASPHALTIC CONCRETE.			ROAD SURFACE
		F-H						FILL Clayey SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, clay is medium plasticity; with gravel; trace wood chips, glass and tile fragments. 0.40m	M		FILL Acid Sulfate Sampling every 0.5m to bedrock
								FILL Gravelly SAND: fine to coarse grained, sub-rounded to sub-angular, brown and grey, gravel is fine to coarse grained, sub-rounded to sub-angular.	D		
					1.0 3.1			0.80m: becoming dark brown 1.00m: becoming orange-brown, with clay 1.40m: becoming red-brown, with brick fragments, trace clay, trace nails and glass fragments 1.90m	D - M		
					2.0 2.1			FILL SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, with fine to medium grained, sub-rounded to angular gravel; with clay; trace glass, tile, wood and brick fragments.	M		
			▽	3.00m SPT 2,1,1 N=2 3.45m	3.0 1.1			FILL Clayey SAND: fine to coarse grained, sub-rounded to sub-angular, dark grey, with gravel; trace glass, tile, wood and brick fragments. 3.00-5.00m: moderate hydrocarbon / tar odour 3.00m	M - W		
S	PWT	F			4.0 0.1			3.80m: becoming dark green-grey, increasing gravel content, trace shell fragments 4.50m: becoming dark grey 5.00m	M		
					5.0 -0.9			FILL SAND: fine to coarse grained, sub-angular, dark grey, with fine to coarse grained, sub-rounded to sub-angular gravel; with clay; trace wood, glass and shell fragments.	M		
				6.00m SPT 1,2,9 N=11 6.45m	6.0 -1.9			5.80m: becoming fine to medium, sub-rounded, grey 6.40m			
								FILL Sandy CLAY: medium to high plasticity, dark grey to grey, sand is fine to medium grained; metal fragments, trace shell fragments. 7.00m	w≈PL		6.80: PP =50 kPa
					7.0 -2.9			FILL CLAY: high plasticity, green-grey. 7.40m	w≈PL		
				7.50m SPT 1,1,2 N=3			Cl	Sandy CLAY: medium plasticity, green mottled orange-brown, sand is fine to medium grained, sub-rounded to sub-angular; 30% shell fragments decreasing with depth.	w<PL	S	ESTUARINE SOIL 7.70: PP =90 kPa
		F-H		7.95m	8.0 -3.9			8.00m			7.90: PP >500 kPa

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-009

FILE / JOB NO : PS212776

SHEET : 2 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527621.45, N: 5252515.83 (MGA2020-55) SURFACE ELEVATION : 4.13 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 10/5/2024 DATE COMPLETED : 11/5/2024 DATE LOGGED : 10/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S PWT		F-H			8.0 -3.9			DOLERITE: recovered as silty gravel, fine to coarse grained, inferred extremely to highly weathered.	D		ROCK
					9.0 -4.9			9.00m Continued as Cored Drill Hole			
					10.0 -5.9						
					11.0 -6.9						
					12.0 -7.9						
					13.0 -8.9						
					14.0 -9.9						
					15.0 -10.9						
					16.0 -11.9						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

HOLE NO : BH-009
FILE / JOB NO : PS212776
SHEET : 3 OF 4

POSITION : E: 527621.45, N: 5252515.83 (MGA2020-55) | SURFACE ELEVATION : 4.13 (AHD) | ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max | MOUNTING : Track | CONTRACTOR : SWD | DRILLER : GB

DATE STARTED : 10/5/2024 | DATE COMPLETED : 11/5/2024 | DATE LOGGED : 10/5/2024 | LOGGED BY : MIR | CHECKED BY : JRG

CASING DIAMETER : 140 mm | BARREL (Length) : 1.50 m | BIT : IMPREG RC10 | BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH (UCS=19·$I_{s(50)}$; ● - Axial ○ - Diametral ■ - UCS; VL -2, L -6, M -20, H -60, VH -200, EH)	NATURAL FRACTURE (mm) (20, 40, 100, 300, 1000)	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					8.0							
					9.00m		START CORING AT 9.00m					
HQ3	100% Polymer RETURN	0% LOSS 9.60	72		9.0		DOLERITE: fine to coarse grained, orange-brown, porphyritic.	HW				J, 80 - 85°, VN, PR, SM, clay J, 60 - 70°, CN, ST, SM EWx2, 20 - 35°, PR, clay with sand, 20mm J, 60 - 80°, SN, PR, SM, Fe J, 60°, VN, PR, RF, Fe, clay
		0% LOSS 10.30	49		10.0			HW				IS, 80 - 90°, CU, SM, Chl, clay, 3mm J, 80 - 90°, VN, CU, SM, clay, Chl IS, 30°, PR, SM, clay, Chl, 2mm J, 70 - 80°, CN, CU, SM, clay, Chl, Fe
		0% LOSS 11.45	51	Is(50) D=3.79 MPa Is(50) A=3.36 MPa	11.0		11.00m: grey with orange-brown, crystalline					CS, SN, IR, RF, sand, Fe J, 10 - 20°, SN, PR, RF, Fe J, 0 - 30°, SN, ST, RF, Fe EW, 10 - 20°, ST, RF, clay, sand, Fe, 20mm J, 70°, CN, PR, SM J, 50 - 55°, SN, PR, RF, Fe EW, 0 - 10°, PR, RF, clayey sand J, 75 - 80°, VN, PR, RF, Fe J, 30°, VN, PR, RF, Fe J, 60 - 70°, VN, PR, RF, Fe J, 0 - 10°, SN, UN, RF, Fe J, 10 - 30°, SN, PR, RF, Fe J, 80 - 90°, VN, CU, RF, Fe Jx2, 20 - 30°, SN, PR, RF, Fe Jx2, 10 - 20°, SN, PR, SM, Fe
		0% LOSS 12.95	80	11.46m UCS =1.1 MPa Is(50) A>6.35 MPa Is(50) D>6.60 MPa	12.0		UCS failure influenced by defects, not indicative of true rock strength 12.00m: increasing coarse grained elongated dark grey mineral	MW - SW				J, 50 - 60°, VN, PR, SM, Fe J, 10 - 20°, SN, PR, SM, Fe J, 10°, SN, PR, SM, Fe J, 80 - 90°, CT, PR, RF, Cal, Fe J, 30°, SN, PR, RF, Fe J, 60 - 70°, SN, UN, RF, Fe J, 70°, SN, PR, SM, Fe IS, 80 - 90°, PR, RF, Cal, Fe, 2mm J, 10 - 30°, SN, ST, RF, Fe
		0% LOSS 14.50	91	Is(50) D=5.65 MPa	13.0		13.00m: becoming grey 13.50m: becoming pale grey					IS, 70 - 90°, UN, RF, Cal, Fe, 2mm J, 50 - 60°, VN, PR, SM, Zeo, Cal J, 80 - 90°, CT, PR, SM, Zeo, Cal Jx2, 40 - 60°, SN, PR, SM, Zeo, Cal J, 40 - 50°, CN, PR, SM J, 60 - 70°, CT, PR, RF, Zeo, Cal J, 50 - 60°, CN, ST, SM J, 10 - 30°, CN, ST, SM
		0% LOSS 16.00	100	Is(50) D>6.33 MPa Is(50) A>5.28 MPa Is(50) D>5.88 MPa Is(50) A=1.23 MPa Is(50) D>5.90 MPa Is(50)	14.0 15.0 16.0		13.90m: becoming grey, reducing coarse grained dark grey minerals, with possible pyrite	SW - FR				

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6 GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-009

FILE / JOB NO : PS212776
SHEET : 4 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527621.45, N: 5252515.83 (MGA2020-55) SURFACE ELEVATION : 4.13 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 10/5/2024 DATE COMPLETED : 11/5/2024 DATE LOGGED : 10/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	100% Polymer RETURN	0% LOSS	99	A=2.76 MPa Is(50) A>4.94 MPa Is(50) D>6.15 MPa	16.0		DOLERITE: fine to coarse grained, orange-brown, porphyritic. *(continued)* 16.00m: fine to coarse grained, grey-blue, porphyritic	SW - FR				Jx2, 70 - 80°, CT, PR, RF, Zeo, Cal, Fe J, 30 - 40°, CN, PR, SM
					17.0		17.05m: fine to medium grained, grey, crystalline, trace pyrite					J, 30°, SN, PR, RF, Fe
		17.50 0% LOSS	100	Is(50) D>5.91 MPa Is(50) A>5.95 MPa	18.0							
				Is(50) D>6.52 MPa Is(50) A>4.94 MPa 18.65m UCS =153 MPa								J, 25 - 35°, SN, PR, SM, Cal
		19.00			19.0		19.00m Hole Terminated at 19.00 m Target depth Grouted to Surface					
					20.0							
					21.0							
					22.0							
					23.0							
					24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:19 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 0.00 - 1.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 1.50 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 4.00 - 5.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 5.00 - 6.80 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 6.80 - 8.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 8.00 - 9.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 9.00 - 13.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 13.00 - 17.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/9

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:20 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-009 Depth Range: 17.00 - 19.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-009	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 9/9

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-010

FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527566.95, N: 5252576.11 (MGA2020-55) SURFACE ELEVATION : 5.07 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 24/4/2024 DATE COMPLETED : 26/4/2024 DATE LOGGED : 26/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S	PWT	E-F	▽	1.50m SPT 3,5,5 N=10 1.95m	0.0 5.1			0.10m FILL Sandy GRAVEL: fine to medium, sub-angular to angular, brown, trace coarse grained gravel. FILL Gravelly SAND: medium to coarse grained, pale brown, gravel is fine to medium grained, sub-angular to angular. 0.40m FILL Gravelly SAND: fine to coarse grained, pale grey to dark grey, gravel is fine to medium grained; trace coarse grained gravel, trace clay.	D		FILL Acid Sulfate Sampling every 0.5m to bedrock
					1.0 4.1			1.00m FILL Sandy GRAVEL: fine to medium, sub-angular to angular, pale grey, sand is fine to coarse grained. 1.40m FILL Silty CLAY: high plasticity, black mottled yellow brown, with fine to medium grained, sub-angular to angular gravel, trace brick and glass. 1.70m FILL Clayey GRAVEL: fine to coarse, sub-angular to angular, grey to brown.	w≈PL D - M		
				3.00m SPT 7,6,5 N=11 3.45m	2.0 3.1 3.0 2.1			3.00m Silty Gravelly CLAY: medium plasticity, brown grey, gravel is fine to medium grained, sub-angular to angular; with sub-rounded to rounded pebbles, glass, sea shells, brick fragment. trace iron stained dolerite gravel. 3.50m		St	ESTUARINE SOIL
				4.50m U	4.0 1.1			Silty CLAY: high plasticity, dark brown mottled dark green grey, with sea shells, coarse grained sand and dolerite. 4.50m SAND: fine to medium grained, grey brown, trace dolerite coarse grained gravels. 4.75m	w≈PL M	St - VS MD - D	ALLUVIAL SOIL
		F-H		**4.90m** SPT 17,10/60mm HB N=R 5.11m	5.0 0.1			DOLERITE: fine to medium grained, pale grey brown, with iron staining, inferred as highly weathered and medium strength.			ROCK
		VH			6.0 -0.9 7.0 -1.9			6.00m DOLERITE: fine to medium grained, pale grey brown, inferred as highly weathered and medium strength. 7.50m	D		
					8.0 -2.9			Continued as Cored Drill Hole			

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:21 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-010

FILE / JOB NO : PS212776

SHEET : 2 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527566.95, N: 5252576.11 (MGA2020-55) SURFACE ELEVATION : 5.07 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 24/4/2024 DATE COMPLETED : 26/4/2024 DATE LOGGED : 26/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
					2.0							
					3.0							
					4.0							
					5.0							
					6.0							
					7.0							
							7.50m START CORING AT 7.50m					
HQ3		0% LOSS	0	Is(50) I=0.550 MPa	8.0		DOLERITE: fine to medium grained, grey with pale blue, iron staining on rock and along defects. 7.50m-11.00m: broken core induced by drilling	MW				J, 65°, CT, PR, RF, Fe, clayey gravel J, 10°, CT, PR, RF, Fe, clay, 2mm

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6 GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:22 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-010

FILE / JOB NO : PS212776

SHEET : 3 OF 4

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527566.95, N: 5252576.11 (MGA2020-55) SURFACE ELEVATION : 5.07 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 24/4/2024 DATE COMPLETED : 26/4/2024 DATE LOGGED : 26/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	90% Polymer RETURN	0% LOSS 8.90	0	Is(50) I=2.74 MPa	8.0		DOLERITE: fine to medium grained, grey with pale blue, iron staining on rock and along defects. *(continued)*	MW				J, 10°, CT, PR, RF, Fe, clay, 4mm J, 60°, CT, PR, RF, Fe, Fsp and Pl, clay J, 30°, CT, PR, SM-RF, Fe, clay J, 15°, VN, PR, RF, Fe J, 20°, VN, PR, RF, Fe, clay J, 5°, VN, PR, RF, Fe, clay J, 5°, VN, PR, RF, Fe, clay J, 10°, VN, PR, RF, Fe J, 5°, VN, PR, RF, Fe J, 10°, VN, PR, RF, Fe, clay J, 10°, VN, PR, RF, Fe, clay J, 10°, VN, PR, RF, Fe, clay J, 10°, VN, PR, RF, Fe, clay J, 15°, VN, PR, RF, Fe J, 85°, CT, PR, RF, Fe, clay J, 20°, VN, PR, RF, Fe, clay J, 40°, VN, PR, RF, Fe, clay J, 25°, VN, PR, RF, Fe, clay J, 40°, CT, PR, RF, Fe, clay, Pl J, 20°, VN, PR, RF, Fe J, 75°, VN, PR, RF, Fe, clay J, 45°, VN, PR, RF, Fe J, 80°, CN, PR, RF, Fe J, 5°, VN, PR, RF, Fe, clay J, 15°, SN, PR, RF, Fe J, 65°, VN, PR, RF, Fe J, 25°, CN, PR, RF, Fe J, 60°, VN, PR, RF, Fe J, 20°, VN, PR, RF, Fe J, 50°, SN, PR, RF, Fe J, 30°, SN, PR, RF, Fe J, 30°, SN, PR, RF, Fe J, 30°, SN, PR, RF, Fe J, 25°, VN, PR, RF, Fe SZ, clayey gravel J, 70°, VN, PR, RF, Fe, clay J, 0°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 15°, SN, PR, RF, Fe J, 30°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 15°, SN, PR, RF, Fe J, 40°, SN, PR, RF, Fe J, 50°, SN, PR, RF, Fe J, 5°, SN, PR, RF, Fe J, 75 - 85°, SN, PR, RF, Fe J, 70°, SN, PR, RF, Fe J, 35°, SN, PR, RF, Fe J, 20°, SN, PR, RF, Fe J, 25°, SN, PR, RF, Fe Jx3, 15°, SN, PR, RF, Fe J, 30°, SN, PR, RF, Fe J, 5°, SN, PR, RF, Fe J, 25°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 0°, SN, PR, RF, Fe J, 0°, SN, PR, RF, Fe J, 5 - 10°, SN, PR, RF, Fe J, 40°, SN, PR, RF, Fe J, 75°, SN, PR, RF, Fe SZ, Fe, gravel SZ, Fe J, 45°, SN, PR, RF, Fe J, 45°, SN, PR, RF, Fe J, 15°, SN, PR, RF, Fe J, 25°, SN, PR, RF, Fe J, 20°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 25°, SN, PR, RF, Fe J, 50°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 0°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 0°, SN, PR, RF, Fe J, 15°, SN, PR, RF, Fe
		0% LOSS 9.20	0		9.0							
		0% LOSS 9.45	0									
		0% LOSS 10.10	0	Is(50) I=1.04 MPa	10.0							
		0% LOSS 10.60	0									
		9% LOSS 11.94	19	Is(50) I=1.14 MPa			10.60m 10.72m NO CORE 0.12m (10.60-10.72) DOLERITE: fine to medium grained, grey with pale blue, iron staining on rock and along defects.	SW				
		0% LOSS 12.15	95	Is(50) D=4.27 MPa Is(50) A=4.76 MPa	11.0							
		0% LOSS 12.85	31	Is(50) D=1.04 MPa Is(50) A=1.07 MPa	12.0							
		0% LOSS 14.40	46		13.0		13.00m DOLERITE: fine to medium grained, grey with pale blue, equigranular to phaneritic.	FR				
		0% LOSS 15.90	100	14.41m UCS =89.7 MPa Is(50) D=7.22 MPa Is(50) A=0.940 MPa Is(50) D=1.77 MPa	14.0 15.0							J, 70°, VN, PR, RF, Zeo, Cal J, 5°, SN, PR, RF, Fe J, 0°, VN, PR, RF, Chl V, 80°, CT, IR, RF, Cal, 1mm, vuggy J, 5°, VN, PR, RF, Zeo
			80	Is(50)	16.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6 GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:22 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-010

FILE / JOB NO : PS212776
SHEET : 4 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527566.95, N: 5252576.11 (MGA2020-55) SURFACE ELEVATION : 5.07 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 24/4/2024 DATE COMPLETED : 26/4/2024 DATE LOGGED : 26/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	90% Polymer RETURN	0% LOSS	80	A=1.78 MPa	16.0		DOLERITE: fine to medium grained, grey with pale blue, equigranular to phaneritic. *(continued)*	FR				J, 55°, SN, PR, RF, Zeo J, 5°, SN, PR, RF, Zeo J, 15°, VN, CU, RF, Zeo V, 65°, VN, PR, RF, Zeo J, 25°, VN, PR, RF, Zeo J, 10 - 15°, VN, PR, RF, Zeo J, 20°, VN, PR, RF, Zeo J, 20°, VN, PR, RF, Fe, Zeo J, 85 - 90°, VN, IR, RF, Zeo, Cal J, 15°, VN, PR, RF, Zeo J, 80°, VN, PR, RF, Zeo J, 5°, VN, PR, RF
				Is(50) D=5.85 MPa Is(50) A=5.46 MPa	17.0							
		17.47					17.47m Hole Terminated at 17.47 m Target depth Grouted to Surface					
					18.0							
					19.0							
					20.0							
					21.0							
					22.0							
					23.0							
					24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:22 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:22 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 0.00 - 1.50 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:22 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 1.50 - 4.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:22 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 4.00 - 6.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:23 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 6.00 - 7.50 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:23 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 7.50 - 11.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:23 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 11.00 - 15.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/7

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:23 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-010 Depth Range: 15.00 - 17.47 m

wsp	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-010	DRAWN	DATE: 18/6/2024
		CHECKED	DATE: 18/6/2024
		SCALE: Not To Scale	A4
		PROJECT No: PS212776	FIGURE No: 7/7

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-011
FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527499.65, N: 5252523.21 (MGA2020-55) SURFACE ELEVATION : 5.28 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 22/4/2024 DATE COMPLETED : 24/4/2024 DATE LOGGED : 23/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 5.3			FILL Sandy GRAVEL: fine to medium, sub-angular to angular, grey.			FILL Acid Sulfate Sampling every 0.5m to bedrock
								0.20m FILL Gravelly SAND: medium to coarse grained, brown, trace coarse grained gravel, trace cobbles, trace clay.	D		
								0.80m 0.90m FILL Sandy GRAVEL: medium to coarse, sub-angular to angular, red, brown, with crushed brick, wood.			
					1.0 4.3			FILL Silty Gravelly CLAY: black to dark grey, with fine to medium grained gravels, building waste fragments (glass, nails, PVC).	w<PL		
		F		SPT 1.60m 12,6/25mm HB N=R 1.68m				1.60m FILL Silty Gravelly CLAY: brown mottled green, fine to medium grained gravel, sub-angular to angular, trace coarse grained sandstone gravel.			
				2.00m	2.0 3.3				w<PL		2.50: PP=235kPa
								2.90m 3.00m FILL SAND: medium grained, uniform, grey green.	M - W		
				SPT 4,6,4 N=10	3.0 2.3			FILL Silty CLAY: grey to dark brown, with medium grained gravel, sub-angular to angular, trace cobbles. 3.30m	w<PL - w≈PL		3.10-3.50: PP=50kPa
				3.45m				Sandy CLAY: medium plasticity, pale brown mottled green-brown and grey, sand is fine to medium grained; with silt; trace sandstone gravel and cobbles. 3.50m: distinct hydrocarbon odour, oil	w≈PL	F	ESTUARINE SOIL
				4.50m	4.0 1.3			4.50m		St - VSt	4.20: PP=200kPa
		E-F		SPT 4,5,11 N=16				Clayey SAND: fine to medium grained, uniform, black with yellow brown, with sea shells, trace sub-rounded pebbles, distinct hydrocarbon odour, oil in sample.	W		
				4.95m							
				5.15m	5.0 0.3			5.00m: becoming black			5.00: PP=125kPa
				U					M	L - MD	5.20-6.00: PP=40kPa
				5.60m							
				6.00m				6.00m			
				SPT 6/15mm HB N=R 6.02m	6.0 -0.7			DOLERITE: fine to medium grained, pale grey to brown, extremely weathered, medium strength.			ROCK
		H-VH			7.0 -1.7			7.40m			
								Continued as Cored Drill Hole			
					8.0 -2.7						

S PWT

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:24 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-011

FILE / JOB NO : PS212776

SHEET : 2 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527499.65, N: 5252523.21 (MGA2020-55) SURFACE ELEVATION : 5.28 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 22/4/2024 DATE COMPLETED : 24/4/2024 DATE LOGGED : 23/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					0.0							
					1.0							
					2.0							
					3.0							
					4.0							
					5.0							
					6.0							
					7.0							
							7.40m START CORING AT 7.40m					
HQ3	85-90% RETURN	0% LOSS 7.67	0				DOLERITE: pale grey to brown, extremely weathered, 30-40% clay with core stones.	XW				7.50-12.80: No true defects, core stones in clay matrix
		0% LOSS	0	Is(50) I=1.50 MPa	8.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:24 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-011

FILE / JOB NO : PS212776

SHEET : 3 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527499.65, N: 5252523.21 (MGA2020-55) SURFACE ELEVATION : 5.28 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 22/4/2024 DATE COMPLETED : 24/4/2024 DATE LOGGED : 23/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	85-90% RETURN	0% LOSS 8.40	0		8.0		DOLERITE: pale grey to brown, extremely weathered, 30-40% clay with core stones. *(continued)*	XW				
		0% LOSS 9.10	0	Is(50) I=2.14 MPa	9.0							
		0% LOSS 9.45	0				9.60m					
		0% LOSS 9.60	0				NO CORE 0.20m (9.60-9.80)					
		33% LOSS 10.20	0	Is(50) I=2.00 MPa	10.0		9.80m DOLERITE: pale grey to brown, extremely weathered, 30-40% clay with core stones.					
		0% LOSS 10.88	0									
		0% LOSS 11.61	0		11.0							
		0% LOSS 12.08	0	Is(50) D=4.94 MPa Is(50) A=4.07 MPa	12.0							
		0% LOSS 12.95	0	Is(50) I=4.25 MPa			12.80m DOLERITE: fine to medium grained, pale grey-blue, phaneritic.	SW				J, 35°, CT, PR, RF, clay J, 65°, CT, PR, RF, Zeo infill, 3mm J, 50°, VN, PR, RF, Fe J, 80°, VN, PR, RF, Fe J, 70°, VN, PR, RF, Fe J, 20°, SN, PR, RF, Fe J, 45°, SN, PR, RF, Fe
		0% LOSS 13.67	34	Is(50) D=5.42 MPa	13.0			FR				J, 20°, SN, PR, RF, Fe
		0% LOSS 14.10	0	Is(50) A=4.91 MPa	14.0							J, 80°, VN, PR, RF, Zeo, Cal J, 25°, SN, PR, RF, Fe J, 20°, VN, PR, RF, Zeo, gravel J, 5°, VN, PR, RF, Zeo J, 5°, VN, PR, RF, Cal J, 80°, VN, PR, RF, Zeo CS, clay, 21mm, PP=175-310kPa J, 80°, VN, PR, RF, Zeo, clay CS, clay with Zeo, 30mm, PP=150-250kPa J, 20°, VN, PR, RF, clay J, 80°, VN, PR, RF, Zeo, Chl
		0% LOSS 14.70	33									
		0% LOSS 15.21	49	Is(50) D>7.31 MPa Is(50) A=1.97 MPa	15.0							J, 70°, VN, PR, RF, Zeo, clay CS, Zeo, clay, 22mm CS, clay, Zeo, 23mm SZ, gravel with clay, Zeo
		0% LOSS	82	15.72m UCS =96 MPa	16.0							J, 65°, VN, PR, RF, Zeo, Chl

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:24 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-011

FILE / JOB NO : PS212776

SHEET : 4 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527499.65, N: 5252523.21 (MGA2020-55) SURFACE ELEVATION : 5.28 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 22/4/2024 DATE COMPLETED : 24/4/2024 DATE LOGGED : 23/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 150 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	85-90% RETURN	0% LOSS 16.80	82	Is(50) D=6.40 MPa Is(50) A=2.13 MPa	16.0		DOLERITE: fine to medium grained, pale grey-blue, phaneritic. *(continued)*	FR				J, 5°, CN, PR, RF J, 85 - 90°, VN, PR, RF, Zeo, Cal J, 5°, VN, PR, RF J, 65°, VN, PR, RF, Zeo, Cal
		0% LOSS 17.44	75		17.0							J, 65 - 90°, VN, PR, RF, Zeo, Cal J, 75 - 85°, VN, PR, RF, Zeo, Cal J, 10°, SN, PR, RF, Fe J, 5°, SN, PR, RF J, 10°, SN, PR, RF, Zeo, Cal J, 50°, SN, PR, RF, Zeo J, 5°, CN, PR, RF
		0% LOSS 18.40	61	Is(50) D=3.72 MPa Is(50) A=5.85 MPa	18.0	18.40m						J, 70 - 85°, CT, PR, RF, Zeo, Cal J, 5°, VN, PR, RF, Zeo, Cal J, 5°, VN, PR, RF, Zeo, Cal
							Hole Terminated at 18.40 m Target depth Grouted to Surface					
					19.0							
					20.0							
					21.0							
					22.0							
					23.0							
					24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:24 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 0.00 - 1.60 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 1.60 - 3.80 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 3.80 - 5.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 5.00 - 7.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 7.00 - 7.40 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 7.40 - 11.00 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 11.00 - 15.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:25 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-011 Depth Range: 15.00 - 18.40 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-011	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/8

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-014
FILE / JOB NO : PS212776
SHEET : 1 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527567.03, N: 5252421.68 (MGA2020-55) SURFACE ELEVATION : 3.79 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 29/4/2024 DATE COMPLETED : 30/4/2024 DATE LOGGED : 30/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					0.0 3.8			0.05m FILL ASPHALTIC CONCRETE.			FILL Acid Sulfate Sampling every 0.5m to bedrock
		F						FILL Gravelly SAND: fine to medium grained, grey brown with dark grey brown, gravel is fine to medium grained, sub-angular to angular; trace silt and clay.	D		
								0.65m			
								FILL Clayey Gravelly SAND: fine to medium grained, black to dark grey, gravel is fine to medium grained, sub-angular to angular.			
					1.0 2.8				D - M		
				1.50m SPT 4,9,5 N=14							
		E-F		1.95m				1.90m			
					2.0 1.8			FILL Silty Gravelly CLAY: low to medium plasticity, dark grey to pale grey, gravel is fine to medium grained, sub-angular to angular; with sand, trace building material fragments.	w<PL - w≈PL		
								2.70m			
								FILL Gravelly Clayey SAND: fine to coarse grained, red brown.	D		
				3.00m	3.00m			2.90m: steel mesh fragment			
				SPT 3,1,1 N=2	3.0 0.8			FILL Gravelly Sandy CLAY: sub-rounded to sub-angular, medium plasticity, black, trace glass, wood.			3.10-4.00: PP=60kPa
				3.45m					w≈PL		
				4.00m	4.00m						
				U	4.0 -0.2			Clayey SAND: fine to medium grained, uniform, black to dark grey mottled green.			ESTUARINE SOIL
				4.45m							
				SPT 4,6,4 N=10							
				4.95m			SC			L	
		E			5.0 -1.2				M - W		
								5.80m			
				6.00m				SAND: fine to medium grained, uniform, black to dark grey, trace sea-shells, sub-rounded to angular gravel.			
				SPT 1,1,3 N=4	6.0 -2.2		SP-SC			VL - L	
				6.45m				6.80m			
							SP	SHELLY SAND: fine to medium, uniform, black to dark grey, shelly sub-rounded to sub-angular; trace sub-rounded to rounded gravel.			
					7.0 -3.2			7.00m DOLERITE: fine to medium grained, grey-blue, with iron staining, inferred as moderately weathered, high to very high strength.			ROCK
		VH		Is(50) I=5.57 MPa							
					8.0 -4.2						

S PWT

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:26 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-014

FILE / JOB NO : PS212776

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527567.03, N: 5252421.68 (MGA2020-55) SURFACE ELEVATION : 3.79 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 29/4/2024 DATE COMPLETED : 30/4/2024 DATE LOGGED : 30/4/2024 LOGGED BY : TS CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S PWT		VH		Is(50) I=6.69 MPa	8.0 -4.2			DOLERITE: fine to medium grained, grey-blue, with iron staining, inferred as moderately weathered, high to very high strength. *(continued)*			ROCK
								8.82m Continued as Cored Drill Hole			
					9.0 -5.2						
					10.0 -6.2						
					11.0 -7.2						
					12.0 -8.2						
					13.0 -9.2						
					14.0 -10.2						
					15.0 -11.2						
					16.0 -12.2						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:26 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-014
FILE / JOB NO : PS212776
SHEET : 3 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527567.03, N: 5252421.68 (MGA2020-55) SURFACE ELEVATION : 3.79 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 29/4/2024 DATE COMPLETED : 30/4/2024 DATE LOGGED : 30/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					8.0		8.82m START CORING AT 8.82m					
HQ3	90% Polymer RETURN	0% LOSS 9.50	72		9.0		DOLERITE: fine grained, dark grey blue, iron staining along joints. 9.30m-9.85m: vein zone	MW				J, 80°, VN, PR, RF, clay, Fe J, 45°, VN, PR, RF, clay, Fe J, 80°, VN, PR, RF, clay, Fe J, 30°, CT, PR, RF, clayey gravel, 20mm V, 60°, CT, PR, MW Cal, Qz, healed V, 65 - 80°, CT, PR, MW Cal, Qz, healed V, 75°, CT, PR, MW Cal, Qz, healed V, 75°, CT, PR, MW Cal, Qz, healed V, 85°, CT, PR, MW Cal, Qz, 3mm
		0% LOSS 10.38	100	Is(50) I=0.450 MPa	10.0							J, 75°, SN, PR, RF, Fe
		0% LOSS 11.71	95	Is(50) D>6.98 MPa Is(50) A>7.71 MPa	11.0		11.14m DOLERITE: fine grained, pale grey with green, coarse grained, tabular crystals in a fine grain matrix, possible feldspar.	FR				J, 25°, SN, PR, RF, Fe, clay J, 10°, SN, PR, RF, Fe J, 60°, SN, PR, RF, Fe J, 40°, SN, PR, RF, Chl
		0% LOSS 12.86	94	Is(50) D=5.86 MPa Is(50) A=4.14 MPa	12.0		12.52m DOLERITE: fine to medium grained, dark grey blue, phaneritic.					J, 0°, VN, PR, RF, Zeo, Chl J, 75°, CT, PR, RF, Zeo, Chl, clay J, 5°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 10°, SN, PR, RF, Fe
		0% LOSS 14.35	100	Is(50) D>7.51 MPa Is(50) A>8.12 MPa	13.0		13.15m DOLERITE: fine to medium grained, dark grey blue, phaneritic. 13.70m DOLERITE: fine to medium grained, dark grey blue, phaneritic.					J, 45°, SN, PR, RF, Chl J, 65°, CT, PR, RF, Zeo, Chl
		0% LOSS 15.92	97	Is(50) D>6.88 MPa Is(50) A=6.25 MPa Is(50) D>8.01 MPa Is(50) A=6.93 MPa Is(50) D=2.28 MPa	14.0 15.0 16.0		16.00m					J, 85 - 90°, CT, PR, RF, Zeo, Chl

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:27 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-014

FILE / JOB NO : PS212776
SHEET : 4 OF 4

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527567.03, N: 5252421.68 (MGA2020-55) SURFACE ELEVATION : 3.79 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 29/4/2024 DATE COMPLETED : 30/4/2024 DATE LOGGED : 30/4/2024 LOGGED BY : TS CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	90% Polymer RETURN	0% LOSS 17.51	100	Is(50) D>7.20 MPa Is(50) A=2.55 MPa	16.0		DOLERITE: fine to medium grained, dark grey blue, phaneritic.	FR				
		0% LOSS 19.17	100	Is(50) D>6.90 MPa Is(50) A=6.74 MPa Is(50) D=5.53 MPa Is(50) A>6.89 MPa	17.0 18.0 19.0		16.50m DOLERITE: fine grained, dark grey blue. 19.17m					
					20.0 21.0 22.0 23.0 24.0		Hole Terminated at 19.17 m Target depth Grouted to Surface					

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:27 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 0.00 - 1.50 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 1.50 - 4.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 4.00 - 6.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 6.00 - 7.70 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 7.70 - 8.82 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 8.82 - 12.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 12.00 - 16.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/8

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:28 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-014 Depth Range: 16.00 - 19.17 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-014	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/8

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-016

FILE / JOB NO : PS212776
SHEET : 1 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527592.79, N: 5252309.93 (MGA2020-55) SURFACE ELEVATION : 2.97 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 30/4/2024 DATE COMPLETED : 1/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING					MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		H			0.0 3.0			0.13m FILL CONCRETE.			FILL Acid Sulfate Sampling every 0.5m to bedrock
		F			1.0 2.0			FILL Gravelly SAND: fine to coarse grained, pale brown, gravel is fine to medium grained, sub-angular to angular; trace coarse grained gravel; trace cobbles.	D		
		F			2.0 1.0			1.70m FILL Clayey Gravelly SAND: fine to coarse grained, dark grey mottled orange-brown, gravel is fine to medium grained, sub-angular to angular; trace brick fragments.			
				3.00m	3.0 0.0			2.70-3.00m: red-brown and grey, increasing brick fragments, metal fragment 3.00m FILL Gravelly CLAY: medium plasticity, dark brown mottled green, gravel is fine to medium grained, sub-angular to angular; shell and glass fragments. 3.20-3.50m: becoming mottled yellow-brown	w>PL		3.00-3.60: PP=55kPa
		E		SPT 2,3,3 N=6 3.45m	4.0 -1.0			FILL Clayey CLAY: medium plasticity, dark brown and grey mottled green-yellow-brown, with glass, shells, foreign objects, sharps, roots.	w≈PL		4.20-4.50: PP=35kPa
					5.0 -2.0			4.60m FILL Clayey SAND: uniform, dark green-brown, trace fine to medium grained gravel; trace roots and seashells, possibly reworked estuarine soil.	M - W		
				6.00m SPT 2,1,3 N=4 6.45m	6.0 -3.0			5.70m SAND: uniform, dark grey, trace sea-shells.			ESTUARINE SOIL
				7.50m SPT 0,1,4 N=5 7.95m	7.0 -4.0		SP	6.55-6.80m: blue sheen, weak odour	M - W	VL	
					8.0 -5.0						

S PWT

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:29 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-016

FILE / JOB NO : PS212776

SHEET : 2 OF 5

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527592.79, N: 5252309.93 (MGA2020-55) SURFACE ELEVATION : 2.97 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 30/4/2024 DATE COMPLETED : 1/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
					8.0 -5.0			SAND: uniform, dark grey, trace sea-shells. *(continued)*			ESTUARINE SOIL
				9.00m SPT 3,4,3 N=7 9.45m	9.0 -6.0			9.00m-12.00m: no sonic soil samples recovered, sample washed away during drilling			
					10.0 -7.0						
				10.50m SPT 2,2,2 N=4 10.95m			SP			VL	
					11.0 -8.0				M - W		
		E									
				12.00m SPT 2,0,0 N=0 12.45m	12.0 -9.0						
S	PWT				13.0 -10.0						
				13.50m SPT 5,5,5 N=10 13.95m				13.70m			
					14.0 -11.0		SP	Gravelly SAND: fine to coarse grained, dark grey, gravel is fine to coarse grained, sub-rounded to sub-angular; trace clay; with coarse grained dolerite gravel (up to 80mm), trace sea-shells.		L - MD	ALLUVIAL SOIL
									M - W		
								14.70-15.00m: with clay, medium plasticity, dark brown, without shell fragments			
				15.00m SPT 9/60mm HB N=R 15.06m	15.0 -12.0			15.00m DOLERITE: fine to medium grained, pale grey, inferred as fresh, very high strength.	D - M		ROCK
		H-VH			16.0 -13.0						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:29 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

NON-CORE DRILL HOLE - GEOLOGICAL LOG

HOLE NO : BH-016

FILE / JOB NO : PS212776

SHEET : 3 OF 5

CLIENT : MPDC

LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527592.79, N: 5252309.93 (MGA2020-55) SURFACE ELEVATION : 2.97 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 30/4/2024 DATE COMPLETED : 1/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

DRILLING						MATERIAL					
PROGRESS: DRILLING & CASING	PROGRESS: WATER	DRILLING PENETRATION	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	DEPTH (m) RL (m AHD)	GRAPHIC LOG	GROUP SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
S PWT		H-VH			16.0 -13.0			DOLERITE: fine to medium grained, pale grey, inferred as fresh, very high strength. *(continued)*	D - M		ROCK
								16.40m Continued as Cored Drill Hole			
					17.0 -14.0						
					18.0 -15.0						
					19.0 -16.0						
					20.0 -17.0						
					21.0 -18.0						
					22.0 -19.0						
					23.0 -20.0						
					24.0 -21.0						

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:29 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-016
FILE / JOB NO : PS212776
SHEET : 4 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point
PROJECT : Macquarie Point GI

POSITION : E: 527592.79, N: 5252309.93 (MGA2020-55) SURFACE ELEVATION : 2.97 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 30/4/2024 DATE COMPLETED : 1/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{s(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
					16.0							
							16.40m START CORING AT 16.40m					
HQ3	90% Polymer RETURN	0% LOSS 17.07	63		17.0		DOLERITE: fine to medium grained, dark grey blue, phaneritic. 16.50-19.20m: iron staining along joints	FR				J, 30 - 40°, SN, PR, RF, Fe J, 10 - 30°, CT, PR, RF, Fe J, 10 - 20°, SN, CU, RF, Fe J, 0 - 10°, SN, PR, RF, Fe J, 45 - 85°, SN, UN, RF, partially healed, Fe J, 60°, SN, PR, RF, Fe
		0% LOSS 17.21	100 100	Is(50) D>6.36 MPa Is(50) A>6.81 MPa			17.14m: schlieren at 15-20*					J, 40 - 50°, SN, PR, RF, Fe
		0% LOSS 18.77	95	Is(50) D>10.2 MPa Is(50) A=4.90 MPa	18.0		17.61m: schlieren at 15* 17.67-17.80m: fine grained					J, 40 - 50°, CT, PR, RF, Fe J, 10°, SN, PR, RF, Fe J, 15°, SN, PR, RF, Fe J, 55°, CT, PR, RF, Zeo, Chl V, 55°, CT, PR, Zeo, Cal, 11mm
		0% LOSS 20.32	100	Is(50) D=6.56 MPa Is(50) A>7.71 MPa	19.0 20.0							J, 15°, SN, PR, RF, Fe Jx2, 25°, SN, PR, RF, Fe
		0% LOSS 21.76	100	Is(50) D>6.04 MPa Is(50) A=9.23 MPa	21.0		21.83m DOLERITE: fine to medium grained, dark grey blue, phaneritic.					
		0% LOSS 23.33	100	Is(50) D>5.97 MPa Is(50) A>4.94 MPa 23.00m UCS =229 MPa	22.0 23.0		23.30m DOLERITE: fine to medium grained, dark grey blue, phaneritic.					J, 15°, SN, PR, RF, Fe J, 35°, SN, PR, RF, Fe
		0% LOSS	100	Is(50) A=7.65 MPa Is(50) D>6.19 MPa	24.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:30 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

CORED DRILL HOLE LOG

HOLE NO : BH-016

FILE / JOB NO : PS212776

SHEET : 5 OF 5

CLIENT : MPDC
LOCATION : Macquarie Point

PROJECT : Macquarie Point GI

POSITION : E: 527592.79, N: 5252309.93 (MGA2020-55) SURFACE ELEVATION : 2.97 (AHD) ANGLE FROM HORIZONTAL : 90°

RIG TYPE : MRS XL Max MOUNTING : Track CONTRACTOR : SWD DRILLER : GB

DATE STARTED : 30/4/2024 DATE COMPLETED : 1/5/2024 DATE LOGGED : 2/5/2024 LOGGED BY : MIR CHECKED BY : JRG

CASING DIAMETER : 140 mm BARREL (Length) : 1.50 m BIT : IMPREG RC10 BIT CONDITION : Good

DRILLING						MATERIAL				FRACTURES		
PROGRESS: DRILLING & CASING	PROGRESS: WATER	(CORE LOSS RUN %) / DRILL DEPTH	RQD (%)	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	DESCRIPTION ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	WEATHERING	ESTIMATED STRENGTH UCS=19·$I_{(50)}$ ● - Axial ○ - Diametral ■ - UCS VL -2 L -6 M -20 H -60 VH -200 EH	NATURAL FRACTURE (mm) 20 40 100 300 1000	VISUAL	ADDITIONAL DATA (joints, partings, seams, zones, etc) Description, orientation, infilling or coating, shape, roughness, thickness, other
HQ3	90% Polymer RETURN	0% LOSS 24.92	100	Is(50) A=4.68 MPa Is(50) D=5.64 MPa	24.0		DOLERITE: fine to medium grained, dark grey blue, phaneritic. *(continued)* 24.92m	FR	○ ●			J, 60°, CT, PR, RF, Zeo, Chl
				Is(50) D>6.49 MPa	25.0		Hole Terminated at 24.92 m Target depth Grouted to Surface					
					26.0							
					27.0							
					28.0							
					29.0							
					30.0							
					31.0							
					32.0							

See Explanatory Notes for details of abbreviations & basis of descriptions.

WSP-AU 6.GLB Log IS AU CORED BOREHOLE 2A PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:30 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 0.00 - 3.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 1/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 3.00 - 5.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 2/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 5.00 - 7.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 3/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 7.00 - 9.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 4/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 12.00 - 13.50 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 5/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 13.50 - 15.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 6/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 15.00 - 15.90 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 7/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 15.90 - 16.40 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 8/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 16.40 - 20.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 9/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 20.00 - 24.00 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 10/11

WSP-AU 6.GLB GrfcTbl PHOTO CORE 1 PER PAGE A4L PS212776_MASTER.GPJ <<DrawingFile>> 18/6/2024 12:31 10.03.00.09 Datgel Lab and In Situ Tool - DGD | Lib: WSP 5.05.2 2023-08-23 Prj: WSP 5.04.0 2023-04-11



PointID : BH-016 Depth Range: 24.00 - 24.92 m

wsp	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo - BH-016	DRAWN	DATE 18/6/2024
		CHECKED	DATE 18/6/2024
		SCALE Not To Scale	A4
		PROJECT No PS212776	FIGURE No 11/11

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

ABH-001

Sheet 1 of 1

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527514.42mE 5252572.56mN	**Drill type**	Sonic	**Hole started**	20/5/24
		Drill rig	MRS XL Max	**Hole finished**	20/5/24
Datum	GDA2020			**Drilled by**	SWD (G. Bourke)
RL	5.7mAHD				
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	G. Bremner
Bearing				**Checked by**	W. Cromer

Method	Penet. resist	Water	Notes (Samples and field tests)	RLmAHD	Depth (metres)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic					0.4m	100		SP	Clayey gravelly SAND: brown	M	D	Fill
			ASS 0.5 – 0.6m	5	1	100		GM, GC	Sandy silty GRAVEL: light yellowish grey (light yellowish orange 1.2 – 1.5m); locally some clay; non-plastic to low plasticity; 30 – 40% well graded angular to subrounded SW to HW clasts of dolerite to 100mm	M	D	Colluvial sediments
			ASS 1.0 – 1.1m		1.5m							
				4	1.7m	100		GM	Sandy silty GRAVEL: light olive grey (orange brown 2 – 2.2m); non-plastic; >75% well graded angular to subrounded SW to MW clasts of dolerite to 100mm	M	D	EW dolerite bedrock
				3	2.7m				EOH 2.7mbg			
				2	3							
				1	4							
				0	5							
				-1	6							
				-2	7							
				-3	8							
				-4	9							
					10							

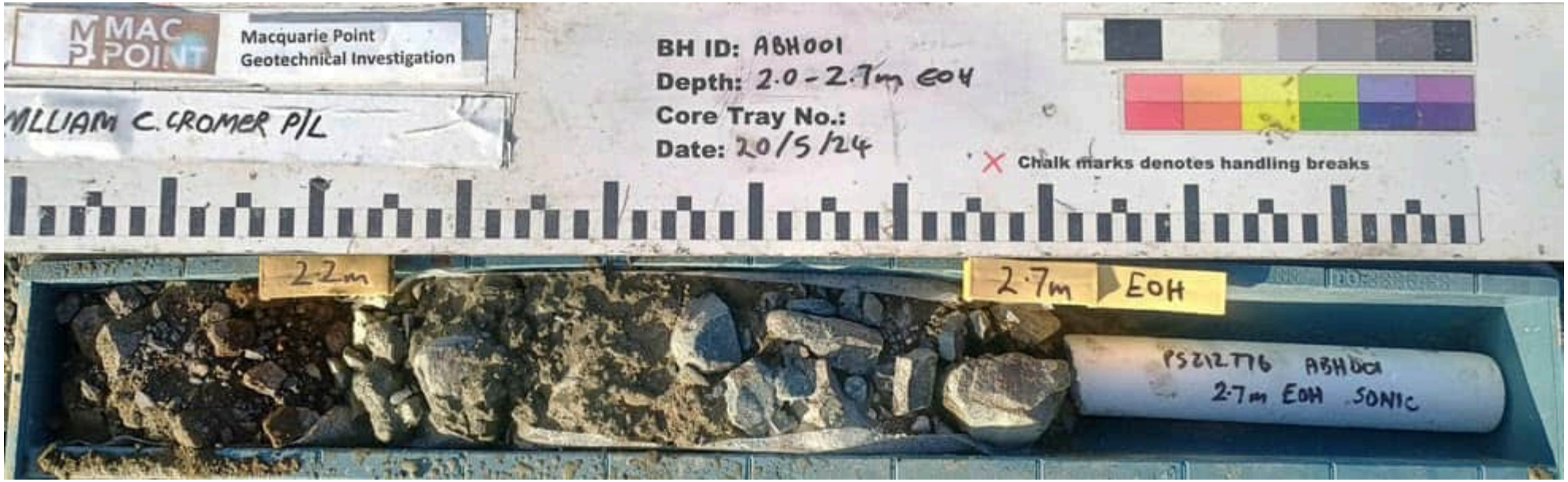
Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)



PointID: ABH-001 Depth Range: 0.0 – 2.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-001	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 1/2



PointID: ABH-001 Depth Range: 2.0 – 2.7 m EOH

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-001	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 2/2

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

ABH-003

Sheet 1 of 1

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527533.52mE 5252485.12mN	**Drill type**	Sonic	**Hole started**	20/5/24
		Drill rig	MRS XL Max	**Hole finished**	20/5/24
Datum	GDA2020			**Drilled by**	SWD (G. Bourke)
RL	4.28mAHD				
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	G. Bremner
Bearing				**Checked by**	W. Cromer

Method	Penet. resist	Water	Notes (Samples and field tests)	RL mAHD	Depth (m)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency / Density index	Structure, geology, interpretation, additional observations
Sonic				4	0.2	100		SP	Gravelly silty SAND: dark grey	M	MD	Fill
						100		SM	Gravelly SILT: light grey; low plasticity			(Concrete?)
			ASS 0.5 - 0.6m		0.6	100		GC	Clayey sandy GRAVEL: grey; some orange-brown doleritic gravel and clasts to 75mm			
			ASS 1.0 - 1.1m	3	1.0	100		CH, CL	Sandy gravelly CLAY: dark brown; low-mod plasticity; some brick fragments	M<PL	F	
			ASS 1.5 - 1.6m		1.4	100		CL	Sandy CLAY: mottled light greenish grey/brown		St	
					1.7	70		CH, CL	Gravelly CLAY: dark brownish grey; some sand and silt; mod-high plasticity; 20% gravel, brick, sandstone to 20mm; occasional dolerite and sandstone clasts to 100mm	M>PL	S - F	
			ASS 2.0 - 2.1m	2	2							
			ASS 2.5 - 2.6m									
			ASS 3.0 - 3.1m		2.8	100		CL	Sandy CLAY: dark grey; some gravel			
			SPT 6, 3, 2 N=5 Recovery: 150/450	1	3.0	100		CH, CL, loc GC	Sandy gravelly CLAY: dark grey-green with some white travertine? patches near 3.3m; some silt; local clayey sand horizons; variable mod-high plasticity; 10% dolerite clasts to 50mm		F	
			ASS 3.5 - 3.6m		3.45							
			ASS 4.0 - 4.1m	0	4							
			ASS 4.5 - 4.6m									
			ASS 5.0 - 5.1m	-1	5							
					5.2	65		SP	SAND: dark grey; fine-med grained; trace silt and clay; some fine white shell	W	MD	Estuarine sediments
			ASS 5.5 - 5.6m		5.8							
			SPT R @ 6.0m on rock	-2	6.0	100		GC	Clayey sandy GRAVEL: dark greenish grey with light green-grey clay patches, light brownish orange 6.5 - 8m; some silt; gravel is doleritic, with well-graded subangular EW-MW dolerite clasts to 100mm; clayey sand interval 8.4 - 8.7m	D - M	D	Colluvial sediments
				-3	7							
				-4	8							
					8.9							
				-5	9				DOLERITE: grey blue; SW, fractured; high strength			Dolerite bedrock
					9.2				EOH 9.2mbg			
					10							

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)



PointID: ABH-003 Depth Range: 0.0 – 2.0 m

	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-003	DRAWN WCC	DATE 28/5/24
		CHECKED	DATE
		SCALE Not to Scale	A4
		PROJECT No. PS212776	FIGURE No. 1/5



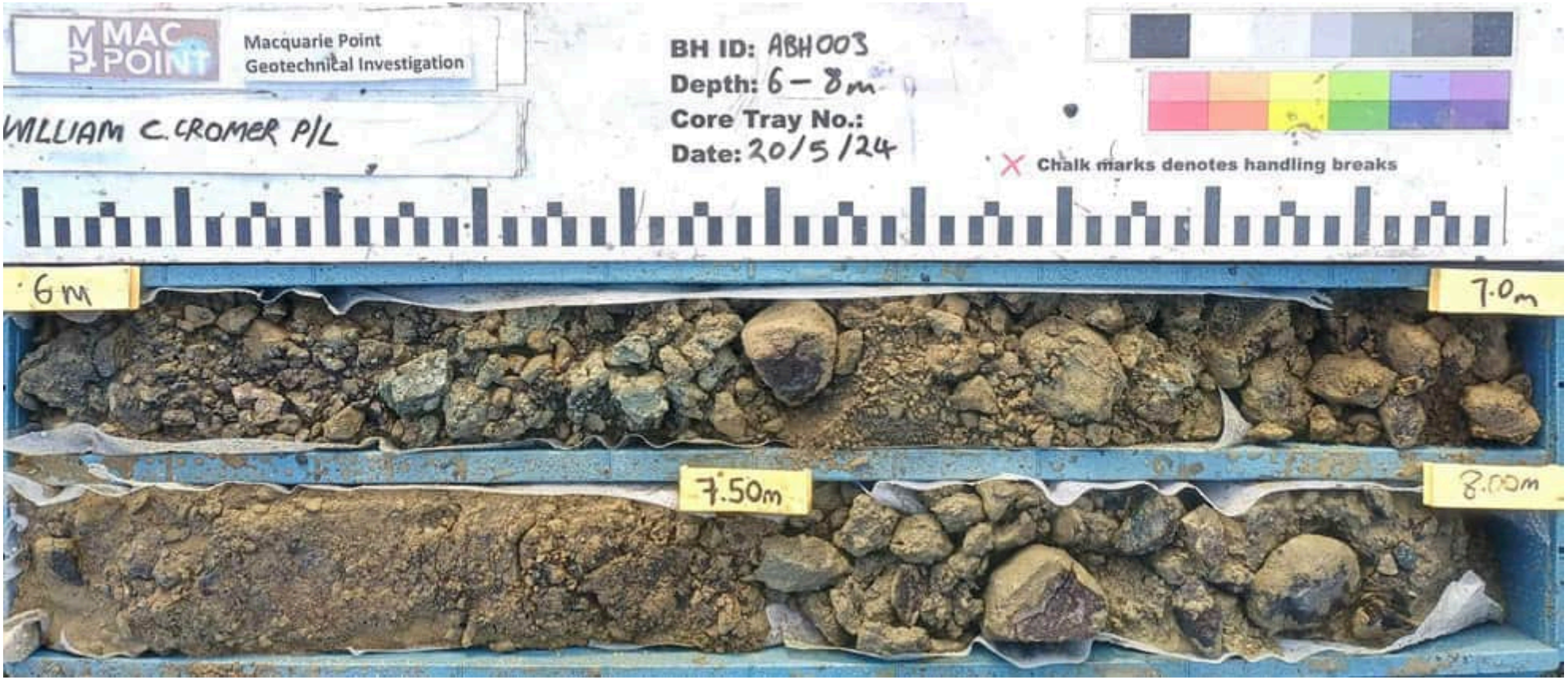
PointID: ABH-003 Depth Range: 2.0 – 4.0 m

	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-003	DRAWN WCC	DATE 28/5/24
		CHECKED	DATE
		SCALE Not to Scale	A4
		PROJECT No. PS212776	FIGURE No. 2/5



PointID: ABH-003 Depth Range: 4.0 – 6.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-003	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 3/5



PointID: ABH-003 Depth Range: 6.0 – 8.0 m

	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-003	DRAWN WCC	DATE 28/5/24
		CHECKED	DATE
		SCALE Not to Scale	A4
		PROJECT No. PS212776	FIGURE No. 4/5



PointID: ABH-003 Depth Range: 8.0 – 9.2 m EOH

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – ABH-003	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 5/5

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

BH-004

Sheet 1 of 4

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527464.22mE; 5252389.76mN	**Drill type**	Sonic	**Hole started**	13/5/24
Datum	GDA2020	**Drill rig**	MRS XL Max	**Hole finished**	14/5/24
RL	3.91mAHD			**Drilled by**	SWD (G. Bourke)
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner

Method	Penet. resist	Water	Notes (Samples and field tests)	RL mAHD / Depth (metres)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic			CBR 0 - 1m ASS 0.5 - 0.6m	0.7m	100		SP	Gravelly silty SAND: black; fine-med. gr	D	L-MD	Fill
			ASS 1.0 - 1.1m	1	100		SP	AS ABOVE: light yellowish grey			
				1.2m	100		SC	Clayey SAND: grey brown; f-mg; low plast.	M<>PL	F-St	
			ASS 1.5 - 1.6m		70		SP	Gravelly SAND: variably light yellow, orange, brown, grey, olive grey; fine-medium; some silt; low plast.; occasional brick clasts to 25mm	D	MD	
			ASS 2.0 - 2.1m	2							
				2.1m	100		SC	Clayey SAND: grey brown; low plast	M<>PL	F-St	
			ASS 2.5 - 2.6m		70		SP	Gravelly SAND: variably light yellow, orange, brown, grey, olive grey; fine-medium; some silt; with c.10% well graded, angular yellow/orange sandstone clasts to 100mm	D	MD	
			ASS 2.9 - 3.0m	3.0m 3		Core loss					
			SPT 2,6,2 N=8 Recovery: 250/450	3.7m 3.7m	50		GW	Silty sandy GRAVEL: grey brown; sand is fine-med; gravel is well-graded fine to coarse, doleritic; with 50% well-graded subangular to subrounded pebbles and occasional cobbles of MW-HW dolerite	W	MD	
			ASS 4.0 - 4.1m	4.15m 4							
			ASS 4.5 - 4.6m Harder, less moist interval 4.8 - 5.2m	4.7m	50		GW	Silty sandy GRAVEL: dark grey to grey	M		
			ASS 5.0 - 5.1m	5							
			ASS 5.5 - 5.6m	5.3m	100		SP	Silty SAND: dark grey to black; occasional angular to subangular dolerite clasts to 50mm	W		
			ASS 6.0 - 6.1m	5.8m	100		SP	Silty SAND: black; fine grained; trace clay; some shells and 10% shell fragments <5mm; mod-rapid dilatancy		L-MD	Estuarine sediments
			SPT 1, 1, 1 N=2 Recovery: 100/450	6.0m 6							
			ASS 6.5 - 6.6m	6.45m							
			ASS 7.0 - 7.1m	7				Very shelly 7 - 7.7m; well-graded white fragments to full shell size			
			ASS 7.5 - 7.6m	7.5m							
			SPT 1, 2, 1 N=3 Recovery: 200/450	7.95m							
			ASS 8.0 - 8.1m	8							
			ASS 8.5 - 8.6m								
			ASS 9.0 - 9.1m								
			SPT 1, 2, 2 N=4 Recovery: 350/450	9.0m 9							
			Rock blockage at start of run near 9m	9.45m	0	Core loss 9.1 - 10.5m					
				10							

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

BH-004

Sheet 2 of 4

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527464.22mE; 5252389.76mN	**Drill type**	Sonic	**Hole started**	13/5/24
Datum	GDA2020	**Drill rig**	MRS XL Max	**Hole finished**	14/5/24
RL	3.91mAHD			**Drilled by**	SWD (G. Bourke)
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner

Method	Penet. resist	Water	Notes (Samples and field tests)	RL mAHD	Depth (metres)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic				10	0	0	Core loss 9.1 – 10.5m					Estuarine sediments
			10.5m SPT 1, 2, 1 N=3 Recovery: 450/450 10.95m	10.5		100		SP	SAND: black; fine-med; some silt; trace fine white shell fragments	W	MD	
			ASS 11.0 – 11.1m	11								
			ASS 11.5 – 11.6m									
				11.8m		100		GW	GRAVEL and sandy GRAVEL: grey; some silt;	M		Colluvial sediments
				12					with subangular - rounded siltstone, sandstone, dolerite and basalt cobbles to 5cm			
								GC				
			Aggressivity 12.5-12.6m	12.4m					Gravelly clayey SAND: khaki; some silt; subangular - rounded mostly dolerite cobbles to 5cm	M<>PL		
			PP (10mm) = 2.7kg/cm² @ 12.7m					CL, GC	Sandy gravelly CLAY: some silt; mottled khaki and orange; low-mod plast; occasional well-graded, subrounded to subangular dolerite clasts to 5cm; single 1cm white fossiliferous siltstone fragment @ 14,4m	W		
			PP (10mm) = 2.5kg/cm² @ 13.0m	13								
			13.5m SPT 12, 20, 12R Recovery: 300/370 13.95m							M<>PL		
			SPT @ 13.5m: double bounce after 12 blows in third interval moved 70mm	14		50						
				14.5m		100		GW	Gravelly clayey SAND: greenish grey; some silt; with c50% well-graded, subrounded to subangular dolerite clasts to 100mm;; some thin gravelly clay lenses	M		
				15m 15		100		SP	Clayey SAND: olive brown; fine-med grained; some silt	M		
			Atterberg 15.6-15.8m	15.6m		100		CH	Sandy CLAY: olive brown; mod plast.	M>PL to loc.		
				16m 16		100		GC	Gravelly sandy CLAY: olive brown; some silt; low-mod plasticity; occasional well-graded, subrounded to subangular dolerite clasts to 10cm	W		
				17								
				17.3m		50		GW	Silty sandy GRAVEL: light grey; >75% subrounded-subangular dolerite clasts to 10cm	D		Dolerite bedrock
				18					17.8m: end sonic; start HQ3 coring			
				19								
				20								

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

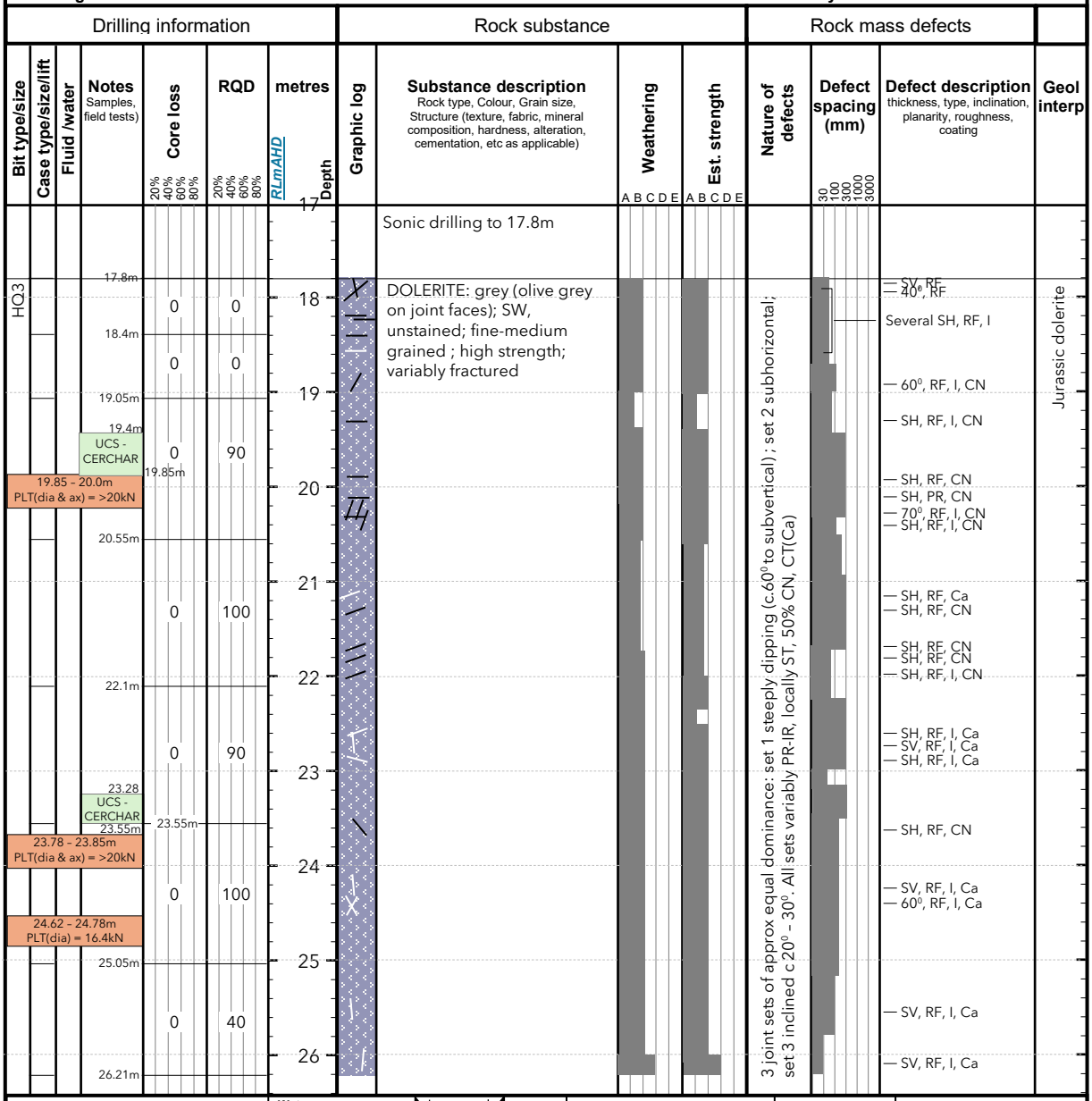
Engineering log – Cored borehole

Incorporating the Unified Rock Classification System (URCS)

BH-004

Sheet 3 of 4

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527464.22mE; 5252389.76mN	**Drill type**	HQ3 diamond drilling	**Hole started**	13/5/24
		Equipment	MRS XL Max	**Hole finished**	14/5/24
Datum	GDA2020			**Drilled by**	SWD (G. Bourke)
RL	3.91mAHD				
Inclination	Vertical	**Drill fluid(s)**	Water	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner



Drilling
T = Triple tube coring
B = Blades
R = Roller/Tricone
A = Auger
W = Wash boring
DT = Double tube coring
HAM = Rotary hammer
S = Sonic

Case lift: Casing used; Barrel withdrawn
Fluid/water: Level/date; Partial water loss; Water inflow

RQD (Rock Quality Designation Index)
The sum of the lengths of sound core pieces >100mm in a drilling run is divided by the total core run length. Expressed as %. Core length measured along centreline. Core drilling breaks not included

Water Inflow Outflow

Unit weight (UW, g/cc)
A = >2.55 B = 2.40-2.55 C = 2.25-2.40
D = 2.10-2.25 E = <2.10

Strength	Approx. point load strength index Is(50), MPa	Approx. UCS MPa
Hammer impact test		
A = rebound (RQ)	>4	>103
B = pit (PQ)	2-4	55-103
C = dent (DQ)	1-2	21-55
D = crater (CQ)	0.25-1	7-21
E = mouldable, friable (MQ)	<0.25	<7

Note: X on log is test result. Otherwise, visually estimated. US = Unconfined Compressive Strength

Core loss
Core loss (interval known)
Core loss (interval unknown). Loss is shown in Graphic log column at top of run.

Samples and Notes
R = SPT penetration refusal
D = Disturbed sample
N = Standard Penetration Test
PP = Pocket penetrometer test
SV = In-situ Shear Vane test
cSV= Shear Vane test on core
CS = Core Sample
Ux = Undisturbed tube sample (x mm diameter)
Nd = SPT and Disturbed Sample

Weathering
A = Micro fresh state (MFS)
B = Visually fresh state (VFS)
C = Stained state(STS)
D = Partly decomposed state (PDS)
E = Completely decomposed state (CDS)

Soil consistency
Fine grained soils
VS = Very Soft
S = Soft
F = Firm
St = Stiff
VSt = Very stiff
H = Hard

Soil density index
Coarse grained soils
Fb = Friable
VY = Very Loose
L = Loose
MD = Medium Dense
D = Dense
VD =Very Dense

Defects
Joint; Vein; Shear zone; Crush zone; Infill seam; EW seam

Orientation
Dip (degrees) relative to horizontal plane, or to core axis if inclined.
SH, SV = subhoriz, subvert

Roughness, shape, infill

SM = Smooth	RF = Rough
PR = Planar	UN = Undulating
PO = Polished	SL = Slickensided
I = Irregular	CU = Curved
VU = Vuggy	ST = Stepped
CN = Clean	CT = Coating
Ca = Calcite	Ch = Chlorite
Cl = Clay	O = Other

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Engineering log – Cored borehole

Incorporating the Unified Rock Classification System (URCS)

BH-004

Sheet 4 of 4

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527464.22mE; 5252389.76mN	**Drill type**	HQ3 diamond drilling	**Hole started**	13/5/24
		Equipment	MRS XL Max	**Hole finished**	14/5/24
Datum	GDA2020			**Drilled by**	SWD (G. Bourke)
RL	3.91mAHD				
Inclination	Vertical	**Drill fluid(s)**	Water	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner

Drilling information							Rock substance				Rock mass defects			
Bit type/size	Case type/size/lift	Fluid /water	Notes (Samples, field tests)	Core loss (20% 40% 60% 80%)	RQD (20% 40% 60% 80%)	metres RL mAHD / Depth	Graphic log	Substance description (Rock type, Colour, Grain size, Structure (texture, fabric, mineral composition, hardness, alteration, cementation, etc as applicable)	Weathering (A B C D E)	Est. strength (A B C D E)	Nature of defects	Defect spacing (mm) (30 100 300 1000 3000)	Defect description (thickness, type, inclination, planarity, roughness, coating)	Geol interp
			26.21	0	40	26		DOLERITE: AS ABOVE			AS ABOVE		— SV, RF, I	
			26.2 - 26.25m PLT(ax) = >20kN										— SH, RF, I, Ca	
			26.5 - 26.75m PLT(dia) = >20kN	0	70	27							— SV, RF, I, Ca	
													— 30°, RF, I, Ca	
													— SV, RF, I, Ca	AS ABOVE
														Jurassic dolerite
						28		EOH 27.6mbg						

Drilling
T = Triple tube coring
B = Blades
R = Roller/Tricone
A = Auger
W = Wash boring
DT = Double tube coring
HAM = Rotary hammer
S = Sonic

Case lift: Casing used; Barrel withdrawn
Fluid/water: Level/date; Partial water loss; Water inflow

RQD (Rock Quality Designation Index)
The sum of the lengths of " sound" core pieces >100mm in a drilling run is divided by the total core run length. Expressed as %. Core length measured along centreline. Core drilling breaks not included

Water Inflow Outflow

Unit weight (UW, g/cc)
A = >2.55 B = 2.40-2.55 C = 2.25-2.40
D = 2.10-2.25 E = <2.10

Strength	Approx. point load strength index Is(50), MPa	Approx. UCS MPa
Hammer impact test		
A = rebound (RQ)	>4	>103
B = pit (PQ)	2-4	55-103
C = dent (DQ)	1-2	21-55
D = crater (CQ)	0.25-1	7-21
E = mouldable, friable (MQ)	<0.25	<7

Note: X on log is test result. Otherwise, visually estimated. US = Unconfined Compressive Strength

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Core loss (interval known)
Core loss (interval unknown). Loss is shown in Graphic log column at top of run.

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D = Disturbed sample
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PP = Pocket penetrometer test
SV = In-situ Shear Vane test
cSV= Shear Vane test on core
CS = Core Sample
Ux = Undisturbed tube sample (x mm diameter)
Nd = SPT and Disturbed Sample

Weathering
A = Micro fresh state (MFS)
B = Visually fresh state (VFS)
C = Stained state(STS)
D = Partly decomposed state (PDS)
E = Completely decomposed state (CDS)

Soil consistency
Fine grained soils
VS = Very Soft
S = Soft
F = Firm
St = Stiff
VSt = Very stiff
H = Hard

Soil density index
Coarse grained soils
Fb = Friable
VY = Very Loose
L = Loose
MD = Medium Dense
D = Dense
VD =Very Dense

Defects
Joint; Vein; Shear zone; Crush zone; Infill seam; EW seam

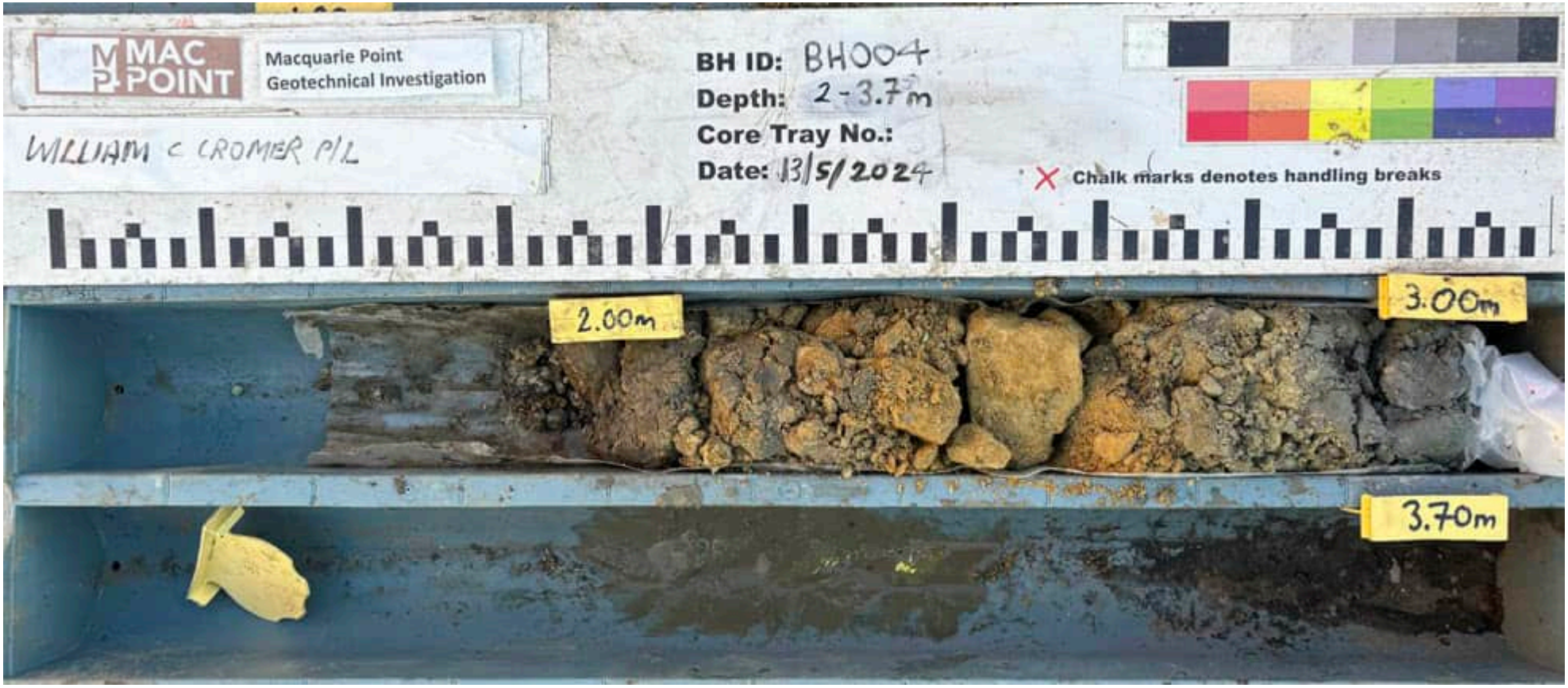
Orientation
Dip (degrees) relative to horizontal plane, or to core axis if inclined.
SH, SV = subhoriz, subvert

Roughness, shape, infill
SM = Smooth RF = Rough
PR = Planar UN = Undulating
PO = Polished SL = Slickensided
I = Irregular CU = Curved
VU = Vuggy ST = Stepped
CN = Clean CT = Coating
Ca = Calcite Ch = Chlorite
Cl = Clay O = Other



PointID: BH-004 Depth Range: 0.0 – 2.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 1/13



PointID: BH-004 Depth Range: 2.0 – 3.7 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 2/13



PointID: BH-004 Depth Range: 3.7 – 5.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 3/13



PointID: BH-004 Depth Range: 5.0 – 6.3 m

	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN WCC	DATE 28/5/24
		CHECKED	DATE
		SCALE Not to Scale	A4
		PROJECT No. PS212776	FIGURE No. 4/13



PointID: BH-004 Depth Range: 6.3 – 8.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 5/13



PointID: BH-004 Depth Range: 8.0 – 10.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 6/13



PointID: BH-004 Depth Range: 0.0 – 2.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 7/13



PointID: BH-004 Depth Range: 12.0 – 14.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 8/13



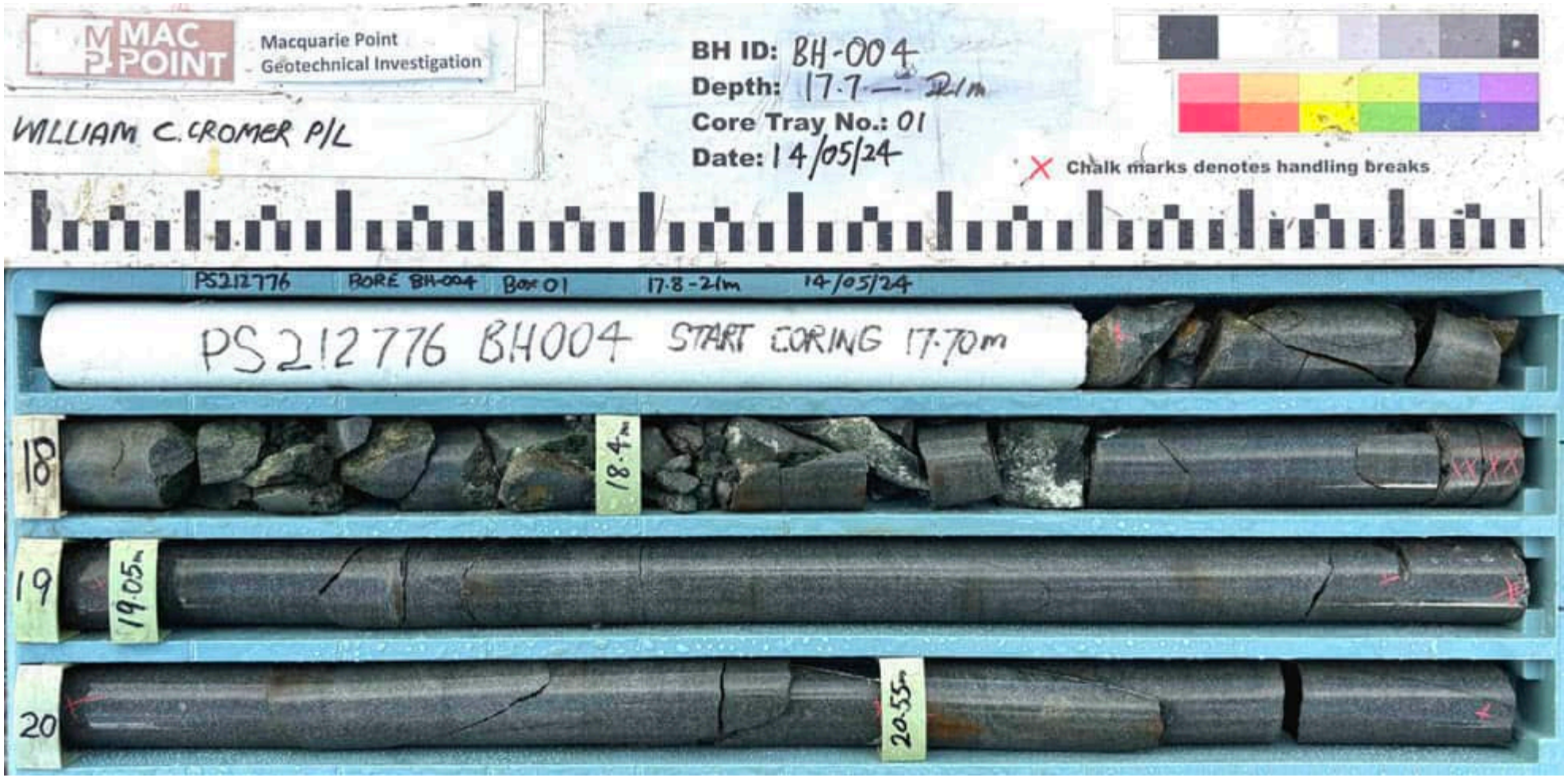
PointID: BH-004 Depth Range: 14.0 – 15.8 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 9/13



PointID: BH-004 Depth Range: 15.8 – 17.8 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 10/13



PointID: BH-004 Depth Range: 17.7 – 21.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 11/13



PointID: BH-004 Depth Range: 21.0 – 25.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 12/13



PointID: BH-004 Depth Range: 25.0 – 27.6 m EOH

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-004	DRAWN: WCC	DATE: 28/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 13/13

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

BH-012

Sheet 1 of 2

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527455.59mE; 5252450.38mN	**Drill type**	Sonic	**Hole started**	18/5/24
Datum	GDA2020	**Drill rig**	MRS XL Max	**Hole finished**	18/5/24
RL	5.71mAHD			**Drilled by**	SWD (G. Bourke)
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner

Method	Penet. resist	Water	Notes (Samples and field tests)	RLmAHD	Depth (m)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic					0.25m	100		SP	Gravelly silty SAND: grey; fine-med. gr	D	MD	Fill
			ASS 0.5 - 0.6m		0.65m	100		SP	AS ABOVE: orange; occasional angular dolerite clasts to 20mm			
				5	0.8m	100		SM	SILT: black			
			ASS 0.9 - 1.0m		1.0m 1	100		GM	Silty sandy GRAVEL: light yellowish grey			
					1.4m	30		GW	GRAVEL: pinkish red; 100% well-graded brick clasts to 75mm		L	
			ASS 1.4 - 1.5m			50		GW	Silty sandy GRAVEL: grey, brown; matrix is fine dolerite gravel; clasts are well graded , angular to subangular SW-MW dolerite to 75mm; trace pink-red brick fragments to 10mm			
			ASS 1.9 - 2.0m	4	2							
			ASS 2.4 - 2.5m									
			ASS 2.9 - 3.0m	3	3.0m 3							
			PP (10mm) = 2.5 - 3kg/cm² @ 3.5m			100		CL loc. SC	Silty sandy CLAY, clayey silty SAND: dark grey; low to mod plasticity; variable (up to 20%) well-graded angular to subangular dolerite clasts to 100mm' clay is flecked with white ?carbonate patches 4 - 4.3m	M>PL M-W M>PL	F-St MD F-St	
			ASS 3.4 - 3.5m		3.5m							
			Atterberg 3.5-3.6m									
			SPT 4, 5, 10 N=15 Recovery: 300/450	2	3.95m 4							
			ASS 4.0 - 4.1m									
			ASS 4.5 - 4.6m	1								
					5.0m 5	0	Core loss 5.0 - 6.0m					? ? Estuarine sediments
					5.5?m							
			PSD 6.0 - 6.1m	0								
			ASS 6.0 - 6.1m		6.0m 6							
			SPT 4, 8, 4R (for 6cms) Recovery: 360/360		6.36m	100		SP	Silty SAND: dark olive grey; fine-med. grained; trace (<1%) fine white shell? fragments	M - W	MD	
					6.2m	80				D	MD - D	Colluvial sediments
				-1	7			GW	Silty sandy GRAVEL: light greyish brown; non-plastic; >60 - 70% well graded subangular to subrounded dolerite clasts to 100mm; some clasts spheroidally weathered			
				-2	8							
				-3	9							
					9.5m	80		GW	GRAVEL: light greyish brown	D		Dolerite bedrock
				-4	10				9.7m: end sonic; start HQ3 coring			

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Engineering log – Cored borehole

Incorporating the Unified Rock Classification System (URCS)

BH-012

Sheet 2 of 2

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527455.59mE; 5252450.38mN	**Drill type**	HQ3 diamond drilling	**Hole started**	18/5/24
		Equipment	MRS XL Max	**Hole finished**	18/5/24
Datum	GDA2020			**Drilled by**	SWD (G. Bourke)
RL	5.71mAHD				
Inclination	Vertical	**Drill fluid(s)**	Water	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner

Drilling information

Bit type/size	Case type/size/lift	Fluid /water	Notes (Samples, field tests)	Core loss	RQD	metres RLmAHD	metres Depth
HQ3			9.7m 10.0 - 10.12m PLT(dia & ax) = >20kN	0	35	-4 -5 -6	9 10 11 12

Rock substance

Graphic log	Substance description (Rock type, Colour, Grain size, Structure (texture, fabric, mineral composition, hardness, alteration, cementation, etc as applicable)	Weathering A B C D E	Est. strength A B C D E
	Sonic 0 - 9.7m		
	DOLERITE: AS ABOVE		
	EOH 11.0mbg		

Rock mass defects

Nature of defects	Defect spacing (mm) 30 100 300 1000 3000	Defect description (thickness, type, inclination, planarity, roughness, coating)	Geol interp
3 joint sets: set 1 (dominant) steeply dipping (c.75° to subvertical) ; set 2 subhorizontal; set 3 inclined c 20° - 30°. All sets variably PR-I, stained orange brown		SH, RF, I, CN SV, RF, I, Fe, clay SV, RF, I, Fe SV, RF, I, Fe SH, RF, I, CN	Jurassic dolerite

Drilling
T = Triple tube coring
B = Blades
R = Roller/Tricone
A = Auger
W = Wash boring
DT = Double tube coring
HAM = Rotary hammer
S = Sonic

Case lift: Casing used; Barrel withdrawn
Fluid/water: Level/date; Partial water loss; Water inflow

RQD (Rock Quality Designation Index) The sum of the lengths of sound core pieces >100mm in a drilling run is divided by the total core run length. Expressed as %. Core length measured along centreline. Core drilling breaks not included

Water Inflow Outflow

Unit weight (UW, g/cc)
A = >2.55 B = 2.40-2.55 C = 2.25-2.40
D = 2.10-2.25 E = <2.10

Strength Hammer impact test	Approx. point load strength index Is(50), MPa	Approx. UCS MPa
A = rebound (RQ)	>4	>103
B = pit (PQ)	2-4	55-103
C = dent (DQ)	1-2	21-55
D = crater (CQ)	0.25-1	7-21
E = mouldable, friable (MQ)	<0.25	<7

Note: X on log is test result. Otherwise, visually estimated. US = Unconfined Compressive Strength

Core loss
Core loss (interval known)
Core loss (interval unknown). Loss is shown in Graphic log column at top of run.

Samples and Notes
R = SPT penetration refusal
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Soil consistency
Fine grained soils
VS = Very Soft
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F = Firm
St = Stiff
VSt = Very stiff
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Soil density index
Coarse grained soils
Fb = Friable
VY = Very Loose
L = Loose
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D = Dense
VD =Very Dense

Defects
Joint; Vein; Shear zone; Crush zone; Infill seam; EW seam

Orientation
Dip (degrees) relative to horizontal plane, or to core axis if inclined.
SH, SV = subhoriz, subvert

Roughness, shape, infill
SM = Smooth RF = Rough
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VU = Vuggy ST = Stepped
CN = Clean CT = Coating
Ca = Calcite Ch = Chlorite
Cl = Clay O = Other



PointID: BH-012 Depth Range: 0.0 – 2.0 m

	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo – BH-012	DRAWN: WCC	DATE: 29/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 1/6



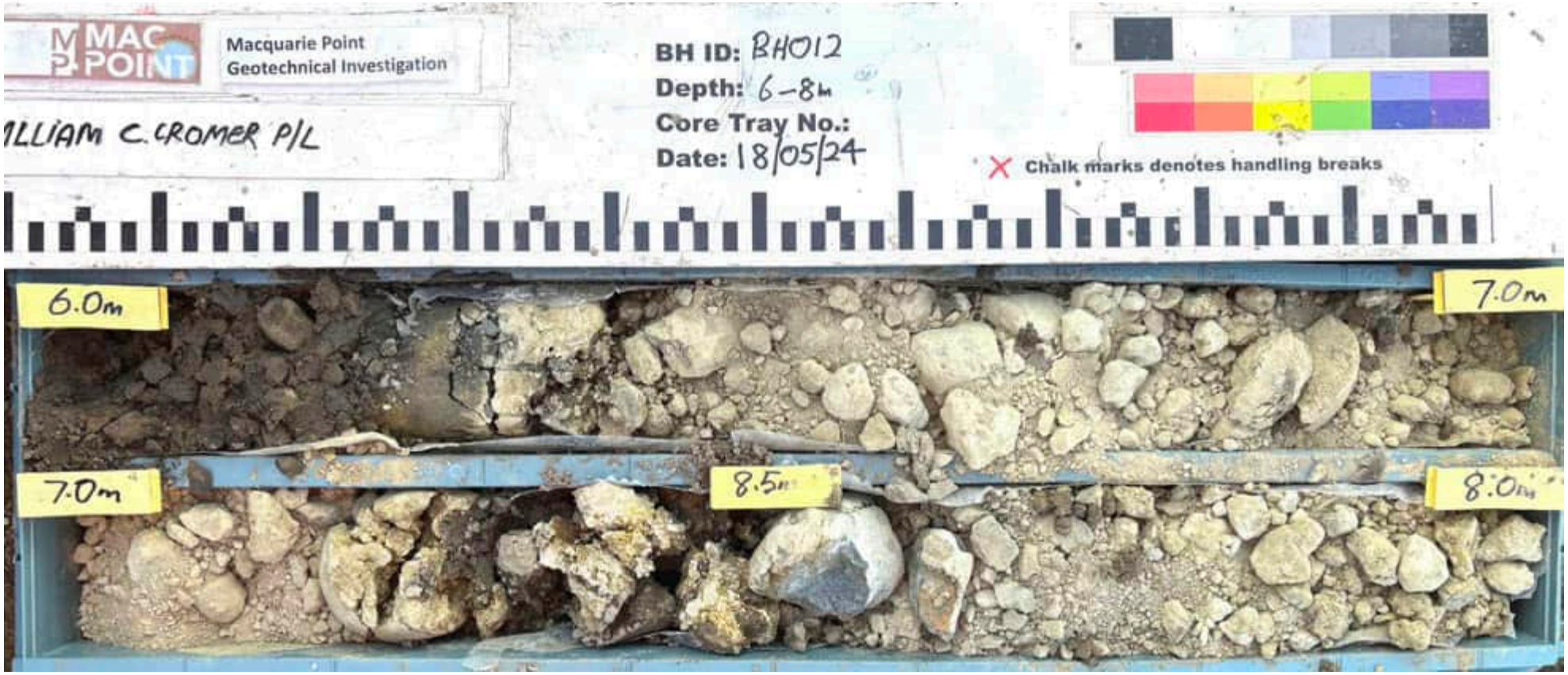
PointID: BH-012 Depth Range: 2.0 – 4.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-012	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 2/6



PointID: BH-012 Depth Range: 4.0 – 6.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-012	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 3/6



PointID: BH-012 Depth Range: 6.0 – 8.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-012	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 4/6



PointID: BH-012 Depth Range: 8.0 – 9.7 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-012	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 5/6



PointID: BH-012 Depth Range: 9.7 – 11.0 m EOH

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-012	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 6/6

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

BH-013

Sheet 1 of 3

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527495.11mE; 5252403.87mN	**Drill type**	Sonic	**Hole started**	15/5/24
Datum	GDA2020	**Drill rig**	MRS XL Max	**Hole finished**	15/5/24
RL	3.94mAHD			**Drilled by**	SWD (G. Bourke)
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	G. Bremner
Bearing				**Checked by**	W. Cromer

Method	Penet. resist	Water	Notes (Samples and field tests)	RL mAHD	Depth (m)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic					0.3	100		CL, GC	Gravelly sandy CLAY: brown; low plast	M<>PL	F-St	Fill
			ASS 0.5 – 0.6m			100		GW	Sandy silty GRAVEL: brown-grey; trace clay; non-plastic; 50% well-graded subangular clasts of dolerite, brick, sandstone to 75mm	D-M	MD	
			ASS 1.0 – 1.1m	3	1	30		GC	Sandy clayey GRAVEL: dark brown; low plasticity; 50% well-graded subangular clasts of dolerite, and sandstone to 75mm	W		
			ASS 1.5 – 1.6m									
			ASS 2.0 – 2.1m	2	2							
			ASS 2.5 – 2.6m		2.5	30		SP	Silty SAND: orange grading to grey; trace clay; some sandstone clasts to 100mm	M		
			ASS 3.0 – 3.1m	1	3.0							
			SPT 3, 3, 3 N=6 Recovery: 200/450		3.45	60		CL	Clayey sandy SILT: black; low plasticity; trace oil; c30% subangular-subrounded dolerite gravel to 50mm	W	VS	
			ASS 3.5 – 3.6m									
			ASS 4.0 – 4.1m	0	4							
			ASS 4.5 – 4.6m		4.2	100		SM, GM	Sandy gravelly SILT: light grey; non-plastic; some dolerite clasts to 100mm at top	D-M		(Concrete?)
			ASS 5.0 – 5.1m	-1	5	100		GP	Sandy clayey GRAVEL: dark grey – black; some silt; 50% poorly graded subangular dolerite and sandstone clasts to 50mm	W		Fill
			ASS 5.5 – 5.6m									
			ASS 6.0 – 6.1m	-2	6							
			No SPT @ 6m (blocked hole)		6.0	100		SP	SAND: dark grey; fine-med; some silt and 5% fine white shell fragments	W	MD	Estuarine sediments
			ASS 6.4 – 6.5m		6.5							
			SPT 1, 2, 2 N=4 Recovery: 350/450		6.95	80						
				-3	7							
					6.95	0		Core loss				
			ASS 7.5 – 7.6m		7.5							
			SPT 4, 4, 4 N=8 Recovery: 400/450		7.95	90		SP	SAND: dark grey; fine-med; some silt and 5% fine white shell fragments			
			PSD 7.95 – 8m	-4	8	100						
			ASS 8.0 – 8.1m									
			ASS 8.5 – 8.6m									
			ASS 9.0 – 9.1m	-5	9							
								Core loss 9.5 – 10.5m				
				-6	10							

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

BH-013

Sheet 2 of 3

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527495.11mE; 5252403.87mN	**Drill type**	Sonic	**Hole started**	15/5/24
Datum	GDA2020	**Drill rig**	MRS XL Max	**Hole finished**	15/5/24
RL	3.94mAHD			**Drilled by**	SWD (G. Bourke)
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	G. Bremner
Bearing				**Checked by**	W. Cromer

Method	Penet. resist	Water	Notes (Samples and field tests)	RL mAHD	Depth (metres)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic					10	0	Core loss					Estuarine sediments
			ASS 10.5- 10.6m		10.5m	70		SP	SAND: dark grey; fine-med; some silt and 5% fine white shell fragments; trace clay near 11.7m, increasing to base to clayey SAND	W		
			10.7m SPT 2, 1, 16 N=17 Recovery: 300/450 11.15	-7	11							
			ASS 11.0- 11.1m									
			ASS 11.5- 11.6m			30		SC, CL				
			ASS 12.0- 12.1m	-8	12							
			ASS 12.5- 12.6m		12m	100		SC, loc CL, GW	Gravelly clayey SAND: dark khaki; non-plastic – low plasticity; some silt; up to 75% subangular-subrounded dolerite and minor sandstone clasts up to 100mm	W M D		Colluvial sediments
			Aggress 12.7- 12.8m		12.8m							
				-9	13	100		GC CL	Clayey sandy GRAVEL: dark khaki – grey, and dark orange-brown; some silt; low plasticity; locally up to 50% subangular-subrounded dolerite to 200mm, and minor sandstone	M - D		
				-10	14							
					14.3m	100		GW	Silty sandy GRAVEL: light grey-blue; trace-some clay; low plasticity	D		Dolerite bedrock
				-11	15				15.0m: end sonic; start HQ3 coring			
					16							
					17							
					7.5m							
					18							
					19							
					20							

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

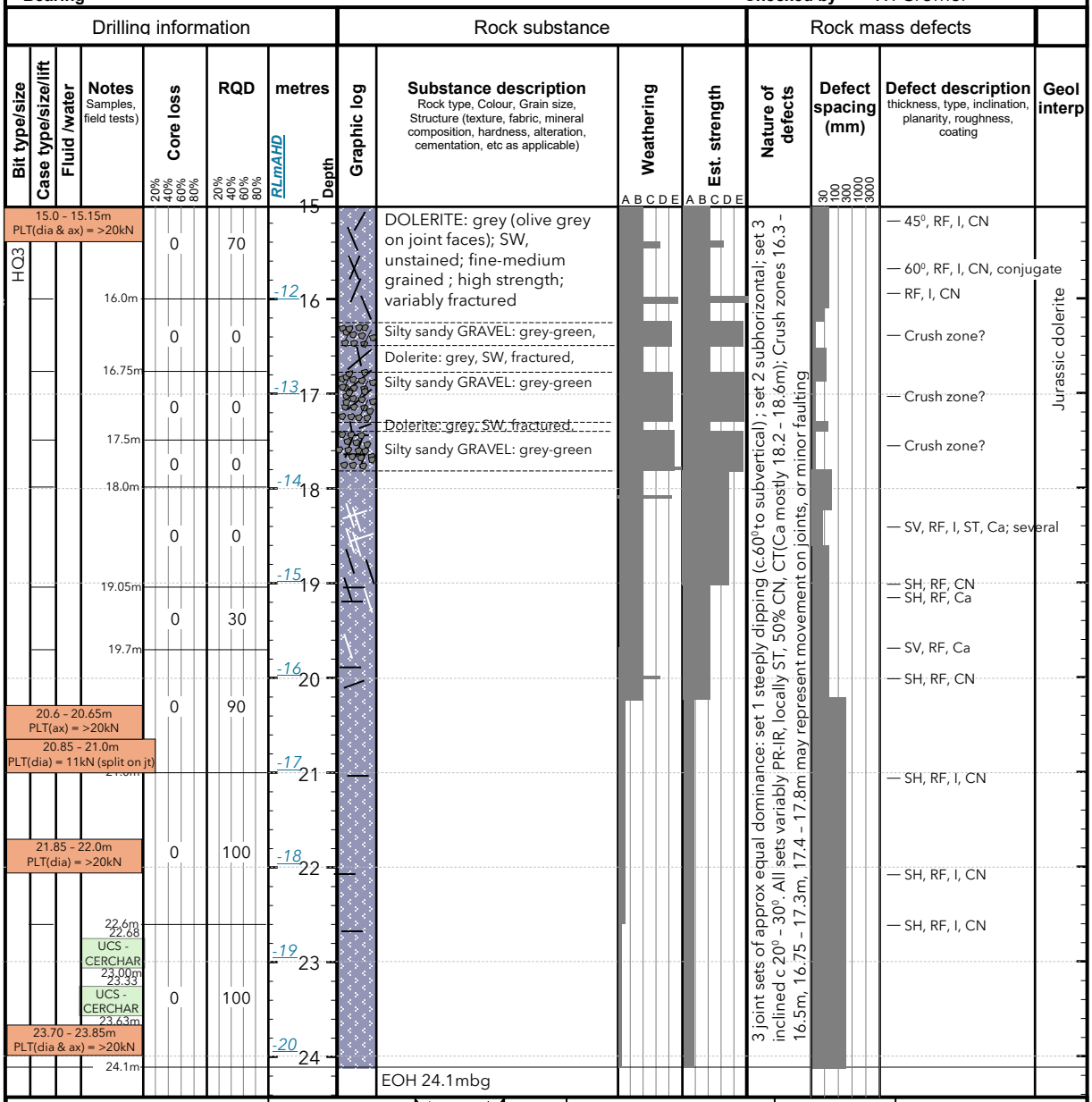
Engineering log – Cored borehole

Incorporating the Unified Rock Classification System (URCS)

BH-013

Sheet 3 of 3

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527495.11mE; 5252403.87mN	**Drill type**	HQ3 diamond drilling	**Hole started**	15/5/24
		Equipment	MRS XL Max	**Hole finished**	15/5/24
Datum	GDA2020			**Drilled by**	SWD (G. Bourke)
RL	3.94mAHD				
Inclination	Vertical	**Drill fluid(s)**	Water	**Logged by**	G. Bremner
Bearing				**Checked by**	W. Cromer



Drilling
T = Triple tube coring
B = Blades
R = Roller/Tricone
A = Auger
W = Wash boring
DT = Double tube coring
HAM = Rotary hammer
S = Sonic

Case lift: Casing used; Barrel withdrawn
Fluid/water: Level/date; Partial water loss; Water inflow

RQD (Rock Quality Designation Index)
The sum of the lengths of sound core pieces >100mm in a drilling run is divided by the total core run length. Expressed as %. Core length measured along centreline. Core drilling breaks not included

Water Inflow Outflow

Unit weight (UW, g/cc)
A = >2.55 B = 2.40-2.55 C = 2.25-2.40
D = 2.10-2.25 E = <2.10

Strength Hammer impact test	Approx. point load strength index Is(50), MPa	Approx. UCS MPa
A = rebound (RQ)	>4	>103
B = pit (PQ)	2-4	55-103
C = dent (DQ)	1-2	21-55
D = crater (CQ)	0.25-1	7-21
E = mouldable, friable (MQ)	<0.25	<7

Note: X on log is test result. Otherwise, visually estimated. US = Unconfined Compressive Strength

Core loss
Core loss (interval known)
Core loss (interval unknown). Loss is shown in Graphic log column at top of run.

Samples and Notes
R = SPT penetration refusal
D = Disturbed sample
N = Standard Penetration Test
PP = Pocket penetrometer test
SV = In-situ Shear Vane test
cSV= Shear Vane test on core
CS = Core Sample
Ux = Undisturbed tube sample (x mm diameter)
Nd = SPT and Disturbed Sample

Weathering
A = Micro fresh state (MFS)
B = Visually fresh state (VFS)
C = Stained state(STS)
D = Partly decomposed state (PDS)
E = Completely decomposed state (CDS)

Soil consistency
Fine grained soils
VS = Very Soft
S = Soft
F = Firm
St = Stiff
VSt = Very stiff
H = Hard

Soil density index
Coarse grained soils
Fb = Friable
VY = Very Loose
L = Loose
MD = Medium Dense
D = Dense
VD =Very Dense

Defects
Joint; Vein; Shear zone; Crush zone; Infill seam; EW seam

Orientation
Dip (degrees) relative to horizontal plane, or to core axis if inclined.
SH, SV = subhoriz, subvert

Roughness, shape, infill
SM = Smooth RF = Rough
PR = Planar UN = Undulating
PO = Polished SL = Slickensided
I = Irregular CU = Curved
VU = Vuggy ST = Stepped
CN = Clean CT = Coating
Ca = Calcite Ch = Chlorite
Cl = Clay O = Other



PointID: BH-013 Depth Range: 0.0 – 3.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 1/10



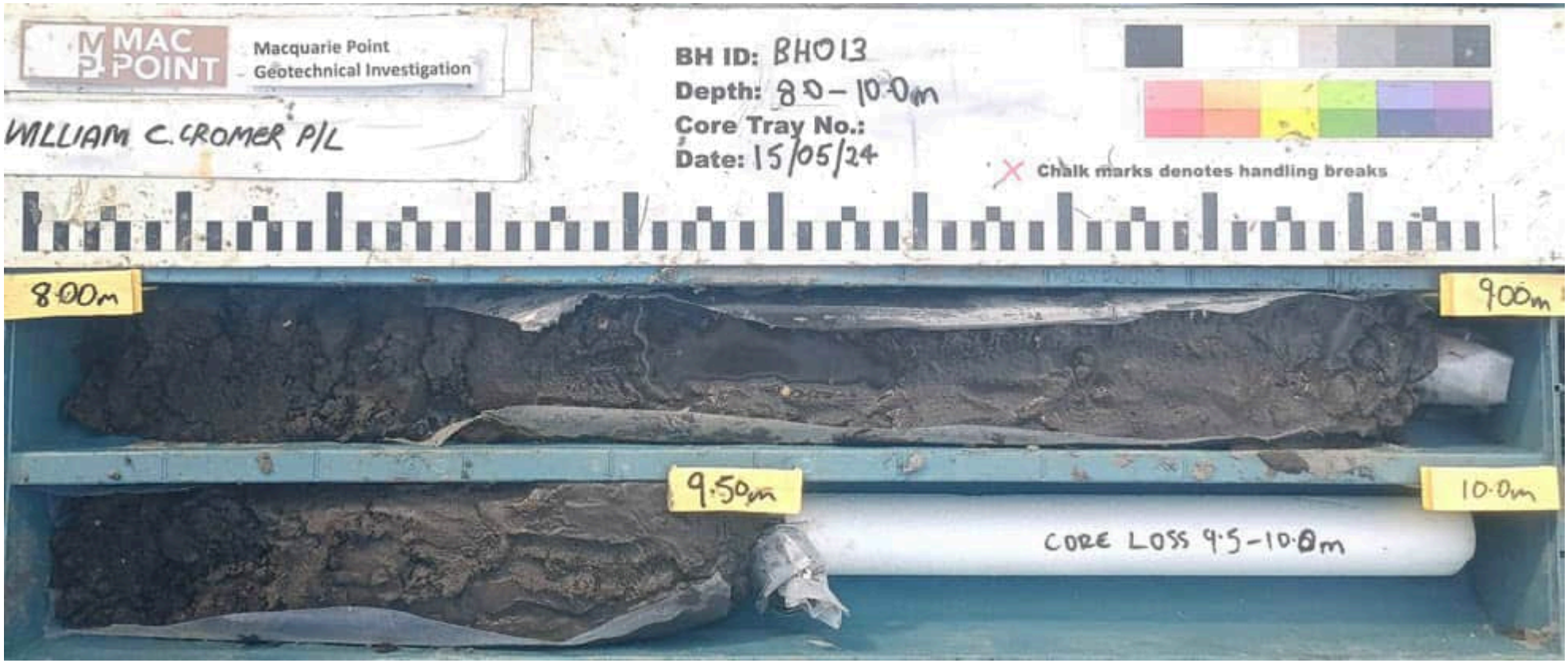
PointID: BH-013 Depth Range: 3.0 – 6.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 2/10



PointID: BH-013 Depth Range: 6.0 – 8.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 3/10



PointID: BH-013 Depth Range: 8.0 – 10.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 4/10



PointID: BH-013 Depth Range: 10.0 – 12.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 5/10



PointID: BH-013 Depth Range: 12.0 – 14.0 m

	TITLE MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN WCC	DATE 29/5/24
		CHECKED	DATE
		SCALE Not to Scale	A4
		PROJECT No. PS212776	FIGURE No. 6/10



PointID: BH-013 Depth Range: 14.0 – 15.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 7/10



PointID: BH-013 Depth Range: 15.0 – 19.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 8/10



PointID: BH-013 Depth Range: 19.0 – 23.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 9/10



10/13

PointID: BH-013 Depth Range: 23.0 – 24.1 m EOH

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-013	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 10/10

William C. Cromer Pty. Ltd. Environmental, engineering and groundwater geologists

Borehole log

BH-015

Sheet 1 of 1

Project	Macquarie Point GI	**Location**	Macquarie Point	**Client**	MPDC
Coordinates	527567.56mE; 5252514.03mN	**Drill type**	Sonic	**Hole started**	17/5/24
Datum	GDA2020	**Drill rig**	MRS XL Max	**Hole finished**	17/5/24
RL	4.30mAHD			**Drilled by**	SWD (G. Bourke)
Inclination	Vertical	**Drill fluid(s)**	Water (where indicated)	**Logged by**	W. Cromer
Bearing				**Checked by**	G. Bremner

Method	Penet. resist	Water	Notes (Samples and field tests)	RLmAHD	Depth (m)	Recovery (%)	Graphic log	USCS	Materials (Soil type, colour, plasticity or particle characteristics, secondary and minor components)	Moisture condition	Consistency Density index	Structure, geology, interpretation, additional observations
Sonic			ASS 0.4 – 0.5m	4	0.45m	100		SP	Gravelly silty SAND: light greenish grey; 10% dolerite fragments to 20mm	D	MD	Fill
						100		GM	Sandy SILT – silty SAND: light grey; 20-30% angular dolerite clasts to 50mm			
			ASS 0.9 – 1.0m		0.9m 1	100		SM	Sandy gravelly SILT: black; occasional cream siltstone clasts to 30mm		L, VS	
			ASS 1.4 – 1.5m	3	1.5m	100		SP	Silty SAND: reddish orange; 5% well graded brick fragments mostly to 10mm, occasionally to 50mm; some low plasticity clayey sand near base		L	
			SPT 6, 4, 3 N=7 Recovery: 350/450		1.95m							
			ASS 2.0 – 2.1m		2							
			ASS 2.5 – 2.6m	2	2.2m	100		SM GM	Sandy gravelly SILT: black; occasional orange-red brick fragments to 50mm	D-M	VS	(Ash and cinders)
			ASS 2.9 – 3.0m		2.65m	100		SP, loc. SC	Gravelly SAND: dark grey; some silt; trace clay; locally with 20 – 30% well graded subrounded dolerite clasts to 75mm	M	MD	
			SPT 6, 16, 21 N=37 Recovery: 340/450	1	3.0m 3							
			ASS 3.4 – 3.5m		3.45m							
			Aggress 3.7– 3.8m		3.5m	100		SP	SAND: dark grey - black; fine-med, grained; some silt			
			ASS 4.0 – 4.1m	0	4							
			ASS 4.5 – 4.6m		4.5m	100		SP	AS ABOVE: trace silt and fine red brick fragments, 1 piece leather, 1 piece porcelain, 1 piece wood (10cms); occasional rounded white quartzite pebbles to 10mm			
			ASS 5.0 – 5.1m	-1	5	100						
			ASS 5.5 – 5.6m		5.5m	100		SP	SAND: black grading to dark olive grey; med grained; occasional rounded white quartzite pebbles to 10mm; some fine white shell at base			Estuarine sediments
			PSD 5.8 - 5.9m		6							
			SPT R @ 6.3m on rock	-2	6.3m 6.1m	100		GW GM	Gravelly SILT: light yellowish grey; with 25 – 30% well-mod. graded subrounded dolerite clasts to 100mm	D		Colluvial sediments
			6 – 7m: hard sonic drilling; material mostly pulverised		6.3m							
			7 – 8.2m: water used; matrix flushed out	3	7.0m 7	75		GP	COBBLES: grey blue; well-mod. graded, subrounded, mod. weathered (some spheroidally) dolerite clasts to 100mm	W		
					8							
				-4	8.2m	75		GP	Sandy silty GRAVEL: light yellowish brown; matrix is doleritic sand and fine gravel flecked with white/cream; 30% mod. graded, subrounded, mod. weathered dolerite clasts to 30mm	D		
					9							
			10.1m: sonic barrel jammed in "hard rock"; vibrated out; core lost.	-5	9.1m 9.25m		Core loss 9.25 - 10.1m		DOLERITE: grey blue; SW, unfractured; high strength			Dolerite bedrock
					10							

EOH 10.1mbg

Consistency (silt, clay, sandy clay, silty clay) VS = Very soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt= Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very loose (ravelling); L = Loose (easy shovelling); MD = Medium dense (hard shovelling); D = Dense (picking); VD = Very dense (hard picking)



PointID: BH-015 Depth Range: 0.0 – 2.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-015	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 1/5



PointID: BH-015 Depth Range: 2.0 – 4.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-015	DRAWN: WCC	DATE: 29/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 2/5



PointID: BH-015 Depth Range: 4.0 – 6.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-015	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 3/5



PointID: BH-015 Depth Range: 6.0 – 8.0 m

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-015	DRAWN: WCC	DATE: 29/5/24
		CHECKED	DATE
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 4/5





PointID: BH-015 Depth Range: 8.0 – 10.1 m EOH

	TITLE: MPDC Macquarie Point Macquarie Point GI Core Photo – BH-015	DRAWN: WCC	DATE: 29/5/24
		CHECKED:	DATE:
		SCALE: Not to Scale	A4
		PROJECT No.: PS212776	FIGURE No.: 5/5

SOIL BOREHOLE ABH-004A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252448.90 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527581.00 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine to medium grained, fine to medium gravels (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M			0	ABH004A_0.5
				1							0	ABH004A_1.0
											0	ABH004A_1.5
				2							0	ABH004A_2.0
											0	ABH004A_2.5
				3							0	ABH004A_3.0
											0	ABH004A_3.5
				4							0	ABH004A_4.0
							End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004E

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252448.95 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527590.68 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey from 0.02-0.3 mbgl, dark grey from 0.3-0.5 mbgl, medium grained sand, fine to coarse gravels (<6cm), loose, no odour				0.4	ABH004E_0.2
											0	ABH004E_0.5
							FILL: Sandy Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M				
							Grey green layer 0.8-1 mbgl	M			0	ABH004E_1.0
				1							0	ABH004E_1.5
											0	ABH004E_2.0
				2							0	ABH004E_2.5
							Pale brown layer 2.8-2.9 mbgl	W			0	ABH004E_3.0
				3							0	ABH004E_3.5
											0	ABH004E_4.0
				4			End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004N

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252457.79 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527580.52 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine-medium grained, fine to medium gravel (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M			0	ABH004A_0.5
							FILL: Gravelly SAND; dark brown, fine-med grained sand and gravel	D				
							FILL: Sandy Gravelly CLAY; dark brown, stiff, fine - coarse grained gravel (2mm-6cm), medium to coarse grained sand, well graded with some cobbles (<20cm), fabric, organic matter, glass, no odour, no staining, brick	D/M			0	ABH004A_1.0
				1							0	ABH004A_1.5
											0	ABH004A_2.0
				2			Pale grey, green colour at 2m-2.1 mbgl	M				
											0	ABH004A_2.5
				3							0	ABH004A_3.0
											0	ABH004A_3.5
							Slag at 4m	W			0	ABH004A_4.0
				4			End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004S

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252437.81 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527580.77 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine to medium grained, fine to medium gravel (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm to stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D/M			0	ABH004A_0.5
				1							0	ABH004A_1.0
											0	ABH004A_1.5
				2							0	ABH004A_2.0
											0	ABH004A_2.5
				3							0	ABH004A_3.0
											0	ABH004A_3.5
				4							0	ABH004A_4.0
							End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE ABH-004W

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**4.00 m**
Coordinates:	**5252448.90 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**27-5-25**		**527570.87 mE**
Date Finished:	**27-5-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT	D				
							FILL: Gravelly SAND; grey, fine-medium grained, fine to medium gravel (<2cm), loose, angular, no odour				0.4	ABH004A_0.2
							FILL: Gravelly CLAY; dark brown, firm - stiff, fine to coarse gravel, some cobbles, fragments of brick, ceramic, metal, leather, wood and glass, some organic matter, minor sand, fine to medium grained, no odour	D			0	ABH004A_0.5
							FILL: CLAY; LP, black, with gravels, fine-medium grained (2mm-20mm), well graded, fine to medium gravel (<1cm), loose	D				
							With some cobbles (60-80mm)	D			0	ABH004A_1.0
				1			FILL: Gravelly CLAY; L-MP, black with orange trace, fine-medium grained (2mm-20mm), well graded, loose, firm	M				
							FILL: Sandy CLAY; L-HP, black/brown, with gravels and cobbles, medium grained gravel, loose, stiff, (nails, glass present), brick fragments				0	ABH004A_1.5
				2							0	ABH004A_2.0
											0	ABH004A_2.5
				3							0	ABH004A_3.0
							FILL: Sandy CLAY; with gravels, medium grained sands, medium-coarse gravel, black, firm, with wire, fabric, organic material, HC odour	W			0	ABH004A_3.5
				4							0	ABH004A_4.0
							End of Hole @ 4.0m. Target Depth					

SOIL BOREHOLE BH-004A

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**5.00 m**
Coordinates:	**5252389.80 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**11-6-25**		**527464.57 mE**
Date Finished:	**11-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT					
							FILL: Clayey Gravelly SAND; dark brown, fine to medium grained sand, fine to coarse gravels, LP clay, with some sandstone cobbles (>7cm), with some brick fragments	D			0	BH004A_0.2
											0	BH004A_0.5
							FILL: Gravelly SAND; fine to coarse grained sand, pale brown to orange, fine to coarse gravels, with some sandstone cobbles (>7cm)	D			0	BH004A_1.0
				1								
							with MP dark brown Clay from 1.9m	D			0	BH004A_2.0
				2								
											0	BH004A_3.0
				3			Encountered sandstone boulder at 3m. Core loss from 3-4m	D				
					CORE LOSS							
											0	BH004A_4.0
				4			FILL: Sandy GRAVEL; grey, fine to coarse grained sands, fine to coarse gravels, angular, with crushed concrete, dolerite and sandstone cobbles	W				
											0	BH004A_5.0
				5			End of Hole at 5.0mbgl, target depth					

SOIL BOREHOLE BH-004E

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**Sonic**
Checked By:	**TG**	Total Depth:	**5.00 m**
Coordinates:	**5252389.59 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**10-6-25**		**527474.58 mE**
Date Finished:	**10-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT					
							FILL: Gravelly SAND; dark grey, fine to medium grained sand, fine to coarse gravels, no odour, no staining	D			0	BH004E_0.2
											0	BH004E_0.5
				1							0	BH004E_1.0
							FILL: CLAY; dark brown, MP, traces of fine to medium grained sand	M				
							FILL: Gravelly SAND; dark grey, fine to medium grained sand, fine to coarse gravels	M				
				2							0	BH004E_2.0
							FILL: Sandy CLAY; brown, MP, firm, red and white silty inclusions, fine to coarse grained sand	M				
				3							0	BH004E_3.0
							FILL: Clayey gravelly SAND; fine to medium grained sand, fine to medium gravels, dark brown	W				
							With some loose concrete fragments	W				
				4							0	BH004E_4.0
							FILL: GRAVELS; angular, medium (>2cm), grey	W				
							FILL: Gravelly SAND; with trace clay, fine to medium grained sand, fine to coarse gravels, dark grey	W				
				5							0	BH004E_5.0
							End of Hole at 5.0mbgl, target depth					

SOIL BOREHOLE BH-004N

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Checked By:	**TG**	Total Depth:	**5.00 m**
Date Started:	**10-6-25**	Coordinates:	**5252398.79 mN 527464.69 mE**
Date Finished:	**10-6-25**	Permit No:	**N/A**
Relative Level:	**mRL**	Drill Type:	**Sonic**
		Drill Model:	**Fraste MRS XL Max 275 Sonic**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
120mm Sonic core				0			ASPHALT					
							FILL: Gravelly sandy CLAY; dark brown, L-MP, fine to coarse grained sand, fine to coarse gravels, with some limestone and siltstone cobbles (>7cm)	D		☒	0	BH004N_0.2
										☒	0	BH004N_0.5
				1						☒	0	BH004N_1.0
							With some slag at 1.6 m bgl	D				
							With some bricks at 1.8 m bgl	D				
				2						☒	0	BH004N_2.0
							FILL: Sandy CLAY; grey to brown, MP, orange mottling, with white and red silty inclusions, iron nodules, fine to medium grained sands, with some ceramic and shells. (one ceramic fragment noted @ 2.9mbgl), no odour, no staining	D				
				3						☒	0	BH004N_3.0
							SAND; grey, no odour, no staining, fine to medium grained sands, with shell fragments	D				
				4						☒	0	BH004N_4.0
				5						☒	0	BH004N_5.0
							End of Hole at 5.0mbgl, target depth					

SOIL BOREHOLE BH-004S

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**NDD, Sonic**
Checked By:	**TG**	Total Depth:	**5.00 m**
Coordinates:	**5252379.64 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**11-6-25**		**527464.22 mE**
Date Finished:	**11-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD to 1 m bgl				0			ASPHALT					
							FILL: Gravelly SAND; brown, fine to coarse grained sand, fine to coarse gravels, angular to sub-angular, well graded with some brick fragments, metal, glass, no odour, no staining, traces of LP brown clay	D		☒	0	BH004S_0.2
										☒	0	BH004S_0.5
				1						☒	0	BH004S_1.0
							with some pale brown to orange sands, fine to coarse grained cobbles (<10cm)	D				
							with some slag cobbles at 1.5 m	D				
				2						☒	0	BH004S_2.0
							Becoming MP Clay, brown, with some weathered white shells	D				
							FILL: CLAY; brown, L-MP, mottled dark brown-black, with some white silty intrusions, red iron deposits, bright green oxidised copper fragment	D				
				3						☒	0	BH004S_3.0
				4			Becoming black clay with sand, fine to medium grained	D		☒	0	BH004S_4.0
120mm Sonic core							SAND; grey, fine to medium grained sands, with some shells, large bark (<20cm) piece @ 4.8m, red brick fragments (<2cm)	D				
				5			End of Hole at 5.0mbgl, target depth			☒	0	BH004S_5.0

SOIL BOREHOLE BH-004W

Project Name:	**Macquarie Point**	Client:	**Macquarie Point Development Corporation**
Drilling Contractor:	**South Western Drilling**	Location:	**10 Evans Street, Hobart Tasmania**
Project No.:	**60693007**		
Logged By:	**RB/TG**	Bore Size:	**120 mm**
Relative Level:	**mRL**	Drill Type:	**NDD, Sonic**
Checked By:	**TG**	Total Depth:	**6.00 m**
Coordinates:	**5252390.09 mN**	Drill Model:	**Fraste MRS XL Max 275 Sonic**
Date Started:	**11-6-25**		**527455.90 mE**
Date Finished:	**11-6-25**	Permit No:	**N/A**
		Drill Fluid:	**N/A**

Method	Casing	Penetration (S M H R)	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION (Type, plasticity / particle size, colour, secondary / minor components (e.g., "trace"), additional observations)	Moisture Condition	Consistency Relative Density	Sample Interval	PID (ppm)	Sample ID
NDD to 1.2 m bgl				0			ASPHALT					
							FILL: Gravelly SAND; brown, fine to coarse grained sand, fine to coarse gravels, angular, well graded with some slag cobbles	D		⋈	0	BH004W_0.2
										⋈	0	BH004W_0.5
							With some bricks, glass, and ceramics	D				
							Becoming darker brown, minor LP clay, brick fragments	M				
				1						⋈	0	BH004W_1.0
							rusted metal sheeting	M				
							Increasing clay content, becoming light brown	M				
				2						⋈	0	BH004W_2.0
							CLAY; brown, MP, with some fine gravels, white silty inclusions, red brick fragments, mottled black, grey, orange, minor fine to medium sands, glass fragments	M				
				3						⋈	0	BH004W_3.0
				4						⋈	0	BH004W_4.0
120mm Sonic core							SAND; grey, fine to coarse grained sands, with some ceramics, shells, sulfur odour with some rounded orange cobbles (>7cm)	M				
				5						⋈	0	BH004W_5.0
				6						⋈	0	BH004W_6.0
							End of Hole at 6.0mbgl, target depth					

Appendix E

Data Validation

DATA VALIDATION REPORT					
Project number:	60693007	**Validation by:**	Robert Crowe	**Date:**	12-Nov-25
Client:	Macquarie Point Development Corporation				
Site:	Macquarie Point / Regatta Point				
Matrix type:	Acid Sulfate Soil (ASS)	**Data verified by:**	Robert Crowe	**Date:**	12-Nov-25
Primary samples:	354				
Laboratory:	Eurofins	**Technical Discipline Manager:**	Mark Davidson		
Lab reference:	See Below:				

Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that could have a material implication to decision-making on the project.
Field Quality Assurance and Quality Control	
Laboratory Reports	pH Field Screens – 1091401, 1093109, 1094321, 1079381, 1099835, 1100380, 1141778, 1225146, 1231576 CRS / SPOCAS Analysis – 1097150, 1097156, 1103208, 1108737, 1144581, 1237090 Chip Tray Analysis - 1118179
Sampling personnel	Samples were collected: • At Macquarie Point between 6 April and 21 May 2024 by C Woodley, T Singhabahu, and M Richard (WSP Pty Ltd), and G Brewer and W Cromer (William Cromer Consulting Pty Ltd), and between 27 May and 11 June 2025 by R Bowers and T Gerstel (AECOM Australia Pty Ltd) • At Regatta Point on 20 September 2025 by E Meszaros (AECOM Australia Pty Ltd) All sampling staff were suitably trained and experienced in soil sampling methodologies, and were aware of and briefed on the sampling requirements.
Sampling Methodology	Soil samples were collected using hand auguring and push tube techniques.
Chain of Custody (COC)	Chain of custody documents completed by sampling personal listed above.
Analysis Request	Laboratory analysis request and sample receipt notification reviewed and approved by R Crowe
Field Blank	Samples were collected and assessed for ASS analysis only – field blanks were not required or collected.
Rinsate Blank	Samples were collected and assessed for ASS analysis only – rinsate blanks were not required or collected.
Trip Blank	Samples were collected and assessed for ASS analysis only – trip blanks were not required or collected.

DATA VALIDATION REPORT					
Project number:	60693007	**Validation by:**	Robert Crowe	**Date:**	12-Nov-25
Client:	Macquarie Point Development Corporation				
Site:	Macquarie Point / Regatta Point				
Matrix type:	Acid Sulfate Soil (ASS)	**Data verified by:**	Robert Crowe	**Date:**	12-Nov-25
Primary samples:	354				
Laboratory:	Eurofins	**Technical Discipline Manager:**	Mark Davidson		
Lab reference:	See Below:				

Handling and preservation	All samples were received chilled at the laboratory and in appropriate sample containers. Samples were received frozen (<0°C), with average sample receipt temperatures reported of between -4.2 to -0.1°C, with the exception of: • 1094321 – +2.9°C; 1231576 – +5.6°C; 1225146 - +10.2°C. However, as all samples in this batch were collected less than 24 hours prior to delivery to the analytical laboratory, where they were frozen, and were chilled following collection, this is not considered to constitute a breach in sample preservation • 1141778 – sample receipt temperature not recorded. However, as all samples in this batch were collected less than 24 hours prior to delivery to the analytical laboratory, and were chilled following collection, this is not considered to constitute a breach in sample preservation. • 1237090 – +5.6°C. This batch consisted of samples from batches 1094321 and 1231576 which were selected for further CRS/SPOCAS analysis, and the analytical laboratory (Eurofins) confirmed that the reported receipt temperature was the receipt temperature of batch 1231576, and that samples had been frozen since delivery to the laboratory. this is not considered to constitute a breach in sample preservation.
Laboratory QA/QC	
Tests requested/reported	pH field screening analysis was requested for all samples on chain of custody documentation supplied to the analytical laboratory with the sample containers. Samples were analysed and reported as requested by email by R Crowe.
Holding time compliance	Samples were frozen within 24 hours of collection, and stored in frozen conditions by the analytical laboratory prior to extraction and testing.
Laboratory Accreditation	The laboratory analysis was Eurofins MGT (Brisbane), which is a National Association of Testing Authorities (NATA) accredited laboratories.
Frequency of laboratory QC	The laboratory reported a sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision.
Method Blank	Method blank recoveries are not required for ASS assessment.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) recoveries were within control limits for all samples analysed.
Laboratory control spike recovery	Laboratory control spikes are not required for ASS assessment
Matrix spike recovery	Matrix spikes are not required for ASS assessment.
Surrogate spike recovery	Surrogate spikes are not required for ASS assessment.
QA/QC Data Evaluation	

DATA VALIDATION REPORT

Project number:	60693007	**Validation by:**	Robert Crowe	**Date:**	12-Nov-25
Client:	Macquarie Point Development Corporation				
Site:	Macquarie Point / Regatta Point				
Matrix type:	Acid Sulfate Soil (ASS)	**Data verified by:**	Robert Crowe	**Date:**	12-Nov-25
Primary samples:	354				
Laboratory:	Eurofins	**Technical Discipline Manager:**	Mark Davidson		
Lab reference:	See Below:				

Comparison of Field Observations and Laboratory Results

No anomalous results between field observations and analysis results were noted.

Data transcription

A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.

Limits of reporting

Soil Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted guideline Investigation Levels.

Frequency of analytical duplicates

Analytical duplicates/method comparison were selected for SPOCAS analysis at a frequency greater than the required frequency of one in 10 primary samples analysed for CRS ASS suite (11 x SPOCAS duplicate analysis conducted for 105 x CRS primary analysis).

Analytical duplicate RPDs

Analytical duplicate RPDs were calculated for actual acidity (both including and excluding ANC) results reported for each CRS/SPOCAS analytical pair, for both results in %S and mole H+/t. Results of RPD calculations are presented on **Table T4**.

RPDs exceeded the adopted 30% control limits (based on the ASC NEPM) for the following sample analysis:

Lab Report No.	Samples	Analyte	RPD[1]
1103208	BH014_3.5-3.6_240424	Net Acidity (excluding ANC)	44-46%
1144581	BH253_0.5_240920	Net Acidity (excluding ANC)	149-152%

Notes: 1. Minor variation in calculated RPD values occurred depending on the reported unit (%S or mol H+/t) used for calculation.

Sullivan et al (2018) notes that the results of SPOCAS analysis may overestimate acidity due to interference from organic sulfides, as opposed to CRS which only reports inorganic sulfides, which represent environmental acidity risks.

At each location where RPD exceedances were reported, SPOCAS results were higher than CRS, and indicators of organic presence such as shells, rootlets, or brown soil colouration were reported, and it is considered likely that organic material within the sample matrices resulted in elevation of the reported sulfides concentrations.

As such, and as the majority of the CRS/SPOCAS sample pairs reported RPDs below the adopted control limit, the results of this assessment are considered suitable for interpretation.

Other

N/A

Appendix F

Leapfrog Works Geotechnical Model Outputs (WSP)

Memo

To:	Macquarie Point Development Corporation
From:	Michael Webster – WSP Australia Pty Ltd
Subject:	**Macquarie Point Stadium – Bulk Excavation Volume Estimates**
Our ref:	PS212776-WSP-MWL-GEP-MEM-003 Rev0
Date:	**23 August 2024**

Introduction

WSP Australia Pty Ltd (WSP) has been engaged by the Macquarie Point Development Corporation (MPDC) for geotechnical consulting services pertaining to the development of the proposed Macquarie Point Stadium, located in Hobart, Tasmania. As part of WSP's engagement, a three-dimensional engineering geological model was produced using the *Leapfrog Works* software package. This model delineated key geotechnical units present within the site, namely;

- Anthropogenic fill
- Estuarine sediments
- Alluvial sediments
- Dolerite*

*This unit was further subdivided into generalised rock weathering categories.

Excavation envelope modelling

At the request of MDPC, WSP incorporated the proposed bulk excavation envelopes (BEE) for the following infrastructure elements:

- The stadium, including the playing field and basement areas
- The practice wicket area
- The underground multistorey car park

The excavation outlines and finished surface levels were provided in two plans from MPDC to WSP via email, and appear to originate from Cox Architecture Pty Ltd (Cox). The plans used to define bulk excavation envelopes were:

- MPS-COX-DR-01-A20-0010, dated 24/05/2024. Used to define the BEE for the stadium and practice wicket.
- A2103, dated 17/08/2023. Used to define the BEE for the underground multistorey carpark.

WSP notes that at the direction of MPDC, a 600 mm over-excavation was to be included in the BEE, to account for drainage layers and floor slabs.

The batters used in bulk excavation envelopes varied across the site. Typically, a 2H : 1V batter was assumed for excavation of the stadium and practice wicket. However, a vertical excavation was assumed to be present along the southern boundary of the

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

WSP Australia Pty Limited ABN 80 078 004 798

stadium excavation, as the basement footprint directly abuts neighbouring Evans Street. The basement carpark was assumed to comprise vertical walls.

A screen render of the model showing the excavation level across the northern portion of the site is presented below in Figure 1

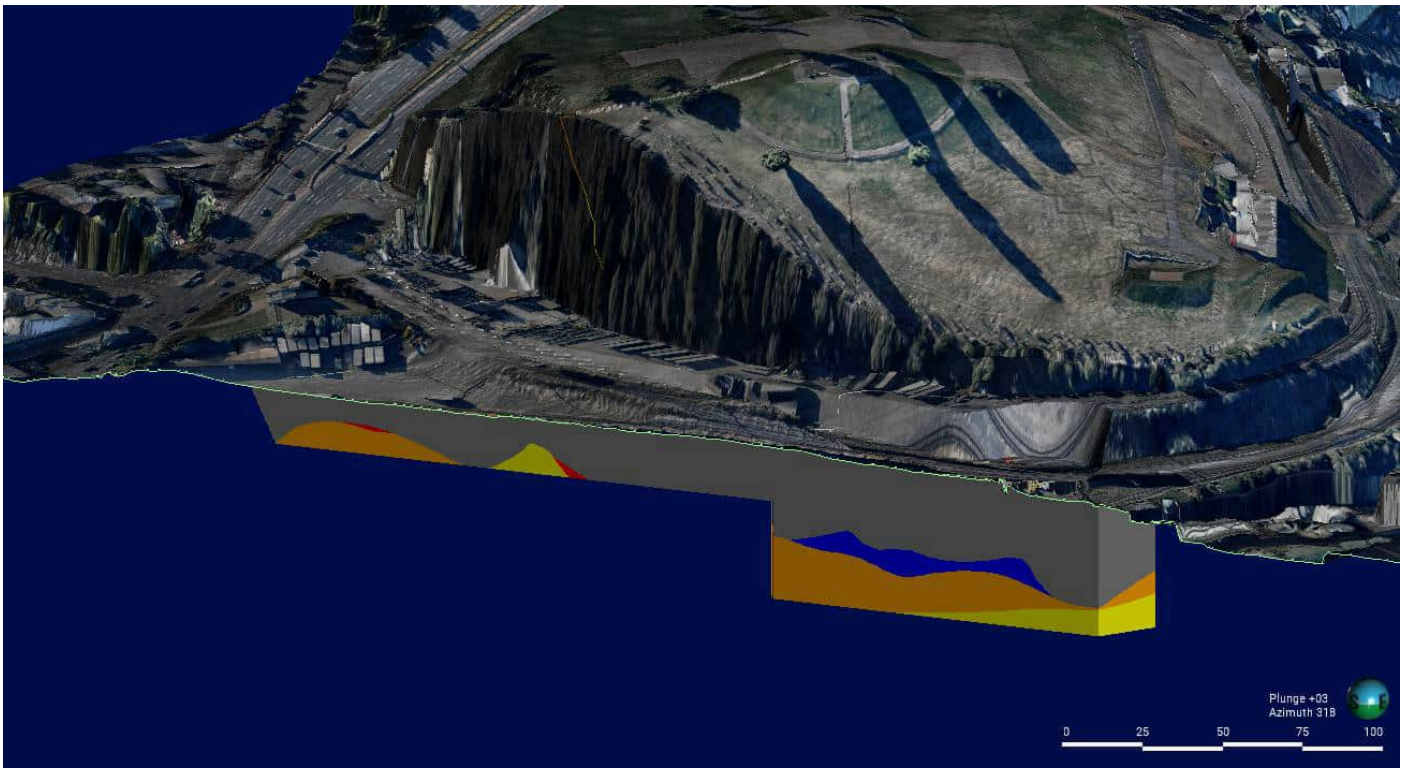


Figure 1 - Screen render of 3D excavation model showing stadium basement car park. View faces northwest.

A plan of the proposed excavation footprint and sections through the site are attached to this memo.

Volume Estimate

Using the assumed excavation envelopes as outlined above, inferred excavation volumes were obtained for the stadium, the practice wicket area, and for the basement carpark. The insitu (ie. unbulked) volumes, in cubic metres, are presented in Table 1 below.

Table 2 Estimated in situ excavation volumes: stadium plus practice wicket and basement carpark

Geotechnical unit	Stadium plus practice wicket (m^3)	Basement carpark (m^3)	Totals (m^3)
Anthropogenic fill	100,824	47,556	148,380
Estuarine sediments	0	6,915	6,915
Alluvial sediments	0	0	0
Dolerite – Residual soil	0	0	0
Dolerite – Extremely weathered	610	55	655
Dolerite – Highly to moderately weathered	15,723	14,165	29,888
Dolerite – Slightly weathered to fresh	1,094	4,181	5,275
TOTAL	118,251	72,872	191,123

In the absence of site-specific data, WSP has provisionally adopted bulking factors proposed by Pitt and Sherry within Chapter 7 of the MPDC document "Macquarie Point Multipurpose Stadium", provided to WSP on 19 August as document *PoSS 1.1_Stadium Design Description_240809_EARTHWORKS EXTRACT*, namely:

- Anthropogenic fill: 1.1 to 1.5
- Estuarine sediments: 1.1 to 1.2
- All dolerite: 1.5 to 1.6

Using the above bulking factors, the estimated excavated volume (in cubic metres) of material is estimated to be as follows:

Table 3 Estimated excavation volumes with bulking factors applied – Stadium plus practice wicket

Geotechnical unit	In situ volume (m^3)	Lower-bound bulking factor (m^3)	Upper-bound bulking factor (m^3)
Anthropogenic fill	100,824	110,906	151,236
Estuarine sediments	0	0	0
Alluvial sediments	0	0	0
Dolerite – Residual soil	0	0	0
Dolerite – Extremely weathered	610	915	976
Dolerite – Highly to moderately weathered	15,723	23,585	25,157
Dolerite – Slightly weathered to fresh	1,094	1,641	1,750
TOTAL	118,251	137,047	179,119

Table 4 Estimated excavation volumes with bulking factors applied – Basement car park

Geotechnical unit	In situ volume (m^3)	Lower-bound bulking factor (m^3)	Upper-bound bulking factor (m^3)
Anthropogenic fill	47,556	52,312	71,334
Estuarine sediments	6,915	7,607	8,298
Alluvial sediments	0	0	0
Dolerite – Residual soil	0	0	0
Dolerite – Extremely weathered	55	83	88
Dolerite – Highly to moderately weathered	14,165	21,248	22,664
Dolerite – Slightly weathered to fresh	4,181	6,272	6,690
TOTAL	72,872	87,522	109,074

Assumptions and limitations of modelling

The excavation envelope modelling outlined within this memorandum provides a high-level estimate of anticipated in situ and bulked volumes for the proposed excavation of the stadium, practice wicket and basement car park. It does not account for localised variations in excavation geometry, piling, footing excavations, lift overrun pits or other deviations from the generalised bulk excavation envelope profile. WSP notes that the volumes provided do not have conservatism applied to them, and represent the best estimate for in situ geological volumes.

Furthermore, the reliability of the 3D engineering geological model, from which the volumes were derived, will impact the volumes of the various materials expected to be present within the excavation footprint. Local variation away from known data points, such as boreholes and test pits, is to be expected and will impact volume estimates provided in this memorandum. This is discussed in greater detail within WSP's geotechnical interpretive report, dated July 2024 (ref. PS212776-GEO-REP-002 Rev0). Additionally, WSP notes that as 3D excavation envelopes were digitised and derived from 2D plans, errors in both georeferencing and placement of excavation envelope boundaries may exist.

WSP notes that the volume estimates will also be impacted by the ground surface used within the 3D engineering geological model. For the 3D model, a combination of publicly available and site-specific topographic information was used. Around the perimeter and the south-eastern section of the site, site-specific topographic information was available in the form of survey contours (ref. 306246 D01 R0 Macquarie Point). Through the central area of the site, this information was not available, and a 2008 LiDAR survey from the Tasmanian State Government was adopted. The combination of multiple surveys from different dates generated some artefacts within the adopted topographic surface, and WSP notes that the adopted surface is likely to differ from the existing surface levels onsite. This will particularly impact in situ volume estimates for fill.

Important information

Your attention is drawn to the document - "Important Information Relating to this Report", which is attached to this document. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be. This document is not intended to reduce the level of responsibility accepted by WSP, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

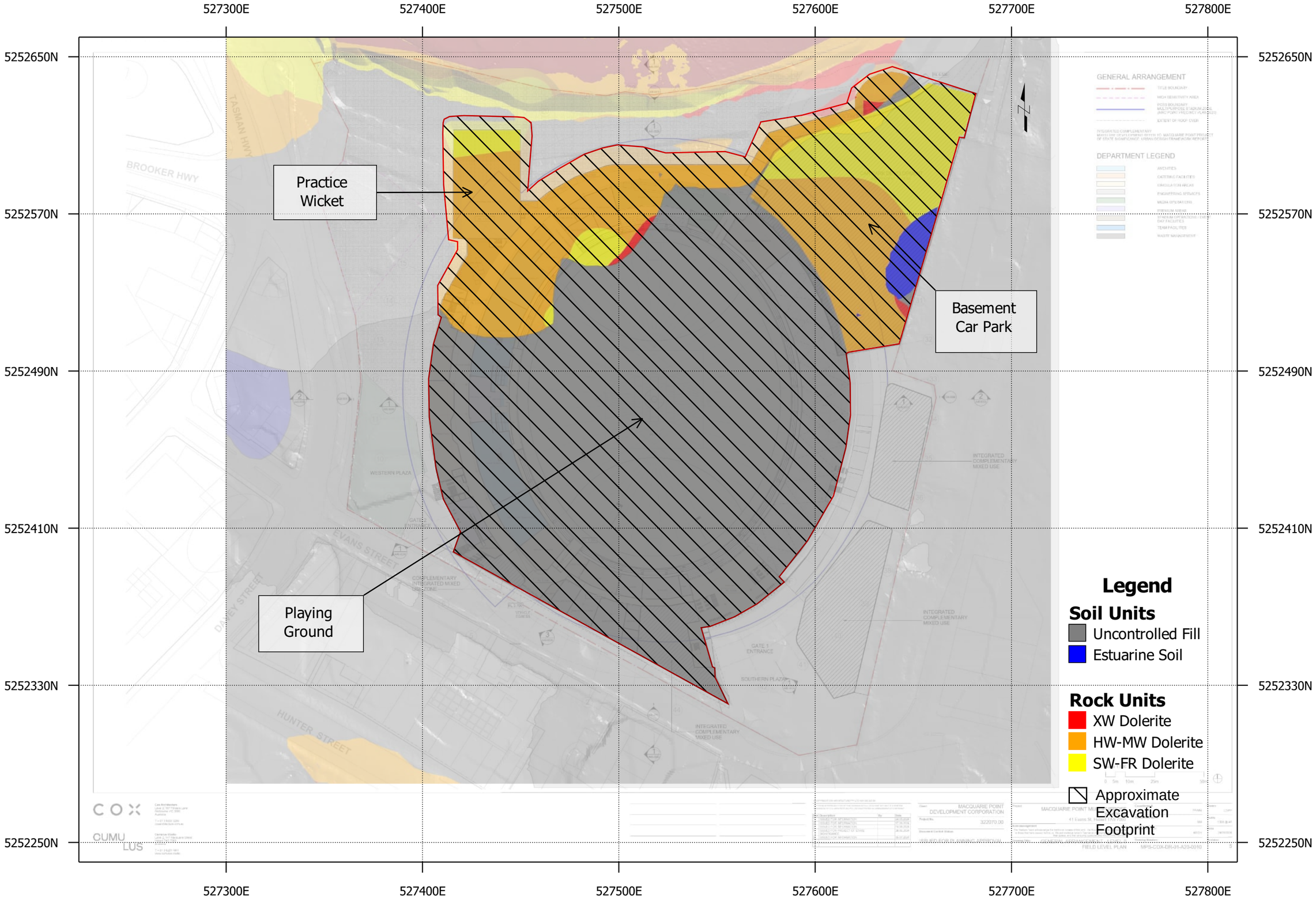




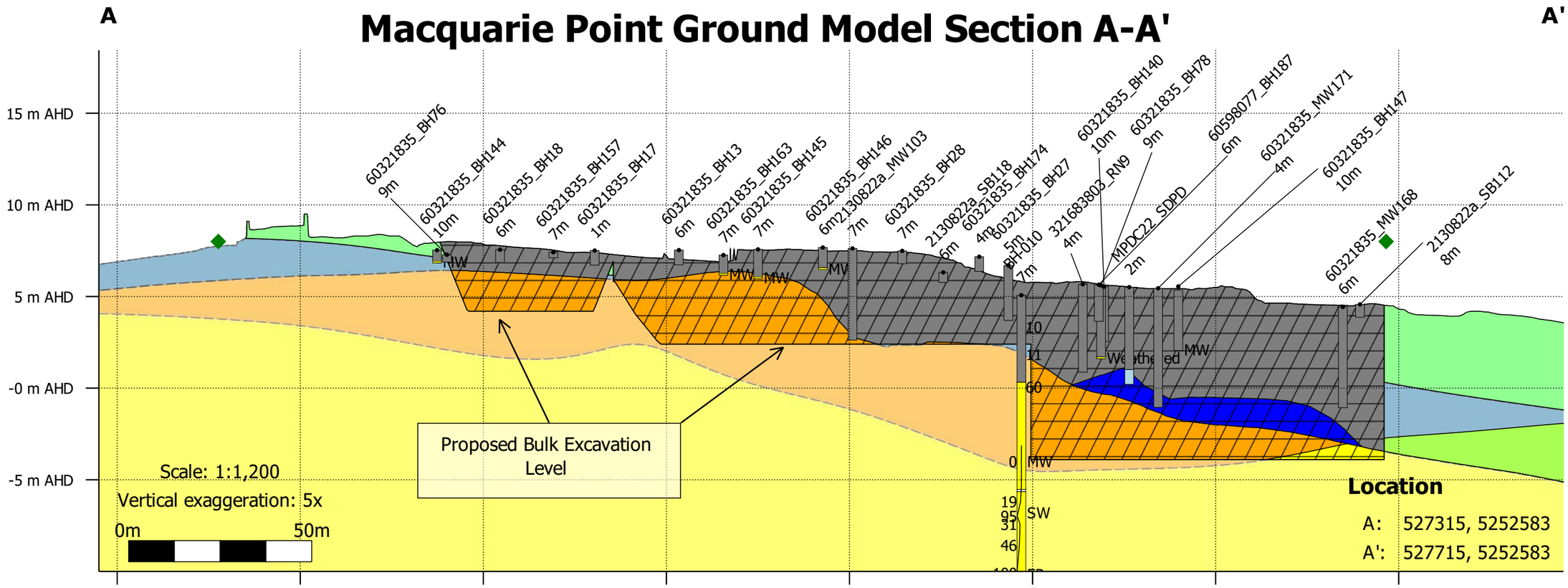
Michael Webster
Senior Associate

Tristan McWilliam
Principal Geotechnical Engineer

Exposed Subgrade Material at Bulk Excavation Level



Macquarie Point Ground Model Section A-A'



Legend

Looking North

Gound Model

FILL, Estuarine

Dolerite, MW-HW; Dolerite, Fr-SW; FILL, Fr-SW; FILL, MW-HW; FILL, XW; Transported, Fr-SW; Transported, MW-HW

Major Material Logged

coreloss, COBBLES, clay, sandstone
Fill, SAND, BOULDERS, dolerite
Gravel, silt, mudstone

Mac Point Precinct Plan_20231106 - 02 Site Boundary_Boundary

Excavated Rock Material

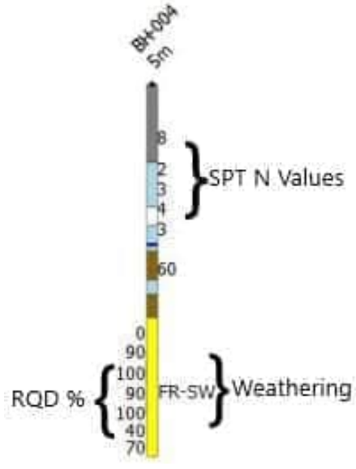
Excavated, Gound model: Dolerite, MW-HW
Excavated, Gound model: Dolerite, Fr-SW
Retained, Gound model: FILL, Fr-SW
Retained, Gound model: FILL, XW

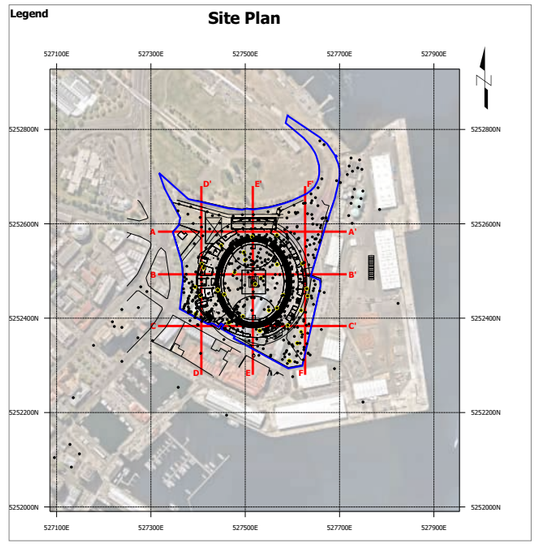
Excavated Soil Material

Excavated, FILL
Transported: Estuarine, Excavated

Note: hatching indicates approximate extent of excavated ground.

Graphic Log Legend





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Legal owner		Document type	Document status	
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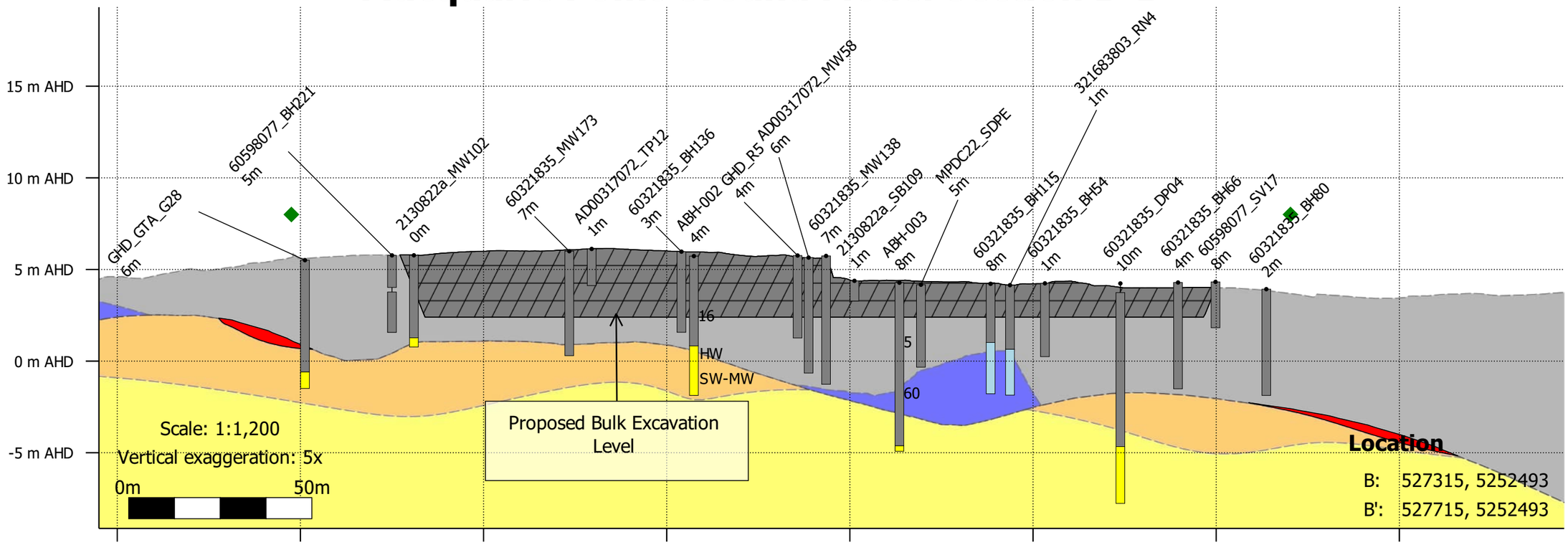
		Title	Identification number	
		Macquarie Point Ground Model Section A-A'	PS212776	
			Rev. A03 / Date of issue 07/08/2024	Sheet 1/6

Macquarie Point Ground Model Section B-B'

B

B'



Legend

Gound Model

FILL, Estuarine

Dolerite, XW, Dolerite, MW-HW, Dolerite, Fr-SW

Major Material Logged

coreloss, COBBLES, clay, sandstone
Fill, SAND, BOULDERS, dolerite
Gravel, silt, mudstone

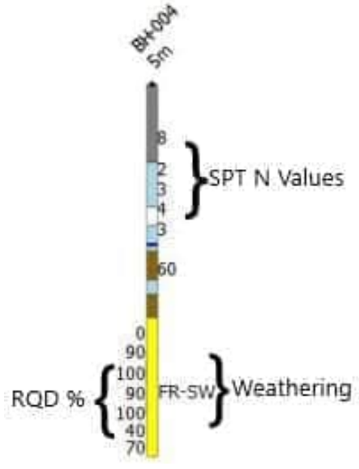
Mac Point Precinct Plan_20231106 - 02 Site Boundary_Boundary

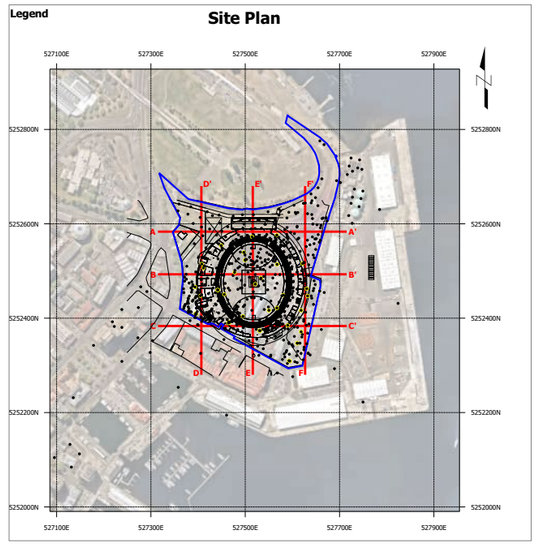
Excavated Soil Material

Gound model: FILL, Excavated

Note: hatching indicates approximate extent of excavated ground.

Graphic Log Legend





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		Macquarie Point Ground Model Section B-B'	PS212776	
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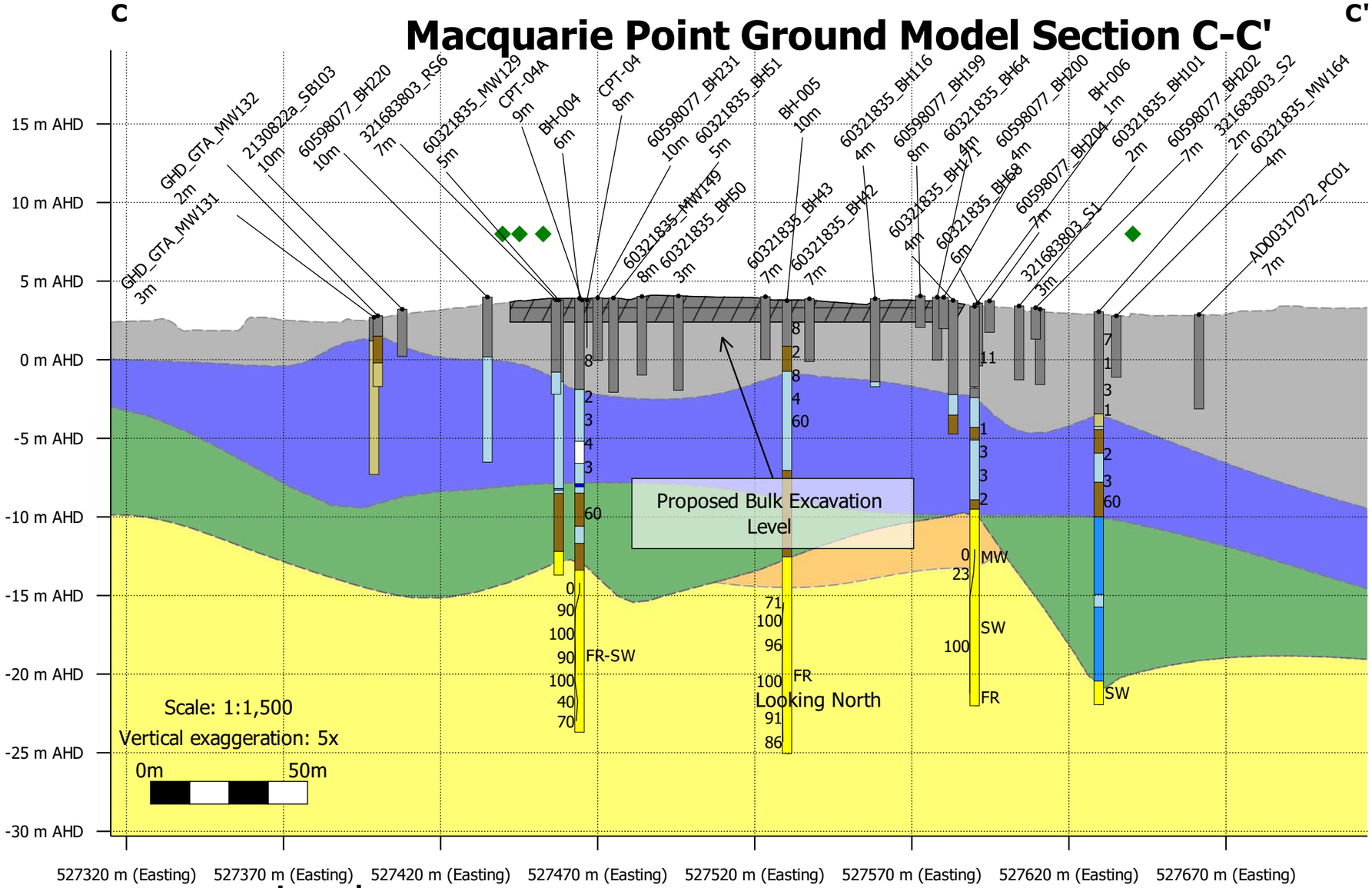
Macquarie Point Ground Model Section C-C'

C

C'



Legend

Gound Model

FILL, Estuarine, Transported: ALV

Dolerite, MW-HW, Dolerite, Fr-SW

Major Material Logged

coreloss, Gravel, SAND, clay, mudstone, dolerite

Fill, COBBLES, silt, BOULDERS, sandstone

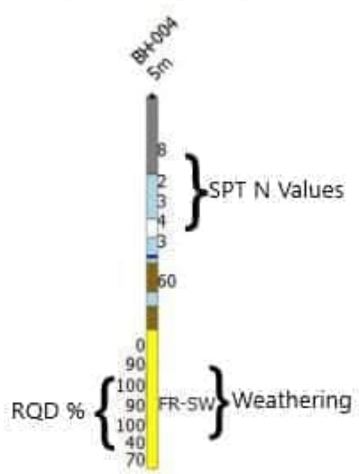
Mac Point Precinct Plan_20231106 - 02 Site Boundary_Boundary

Excavated Soil Material

Gound model: FILL, Excavated

Note: hatching indicates approximate extent of excavated ground.

Graphic Log Legend



Location

C: 527315, 5252383

C': 527715, 5252383



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Legal owner		Document type	Document status
		Section	DRAFT
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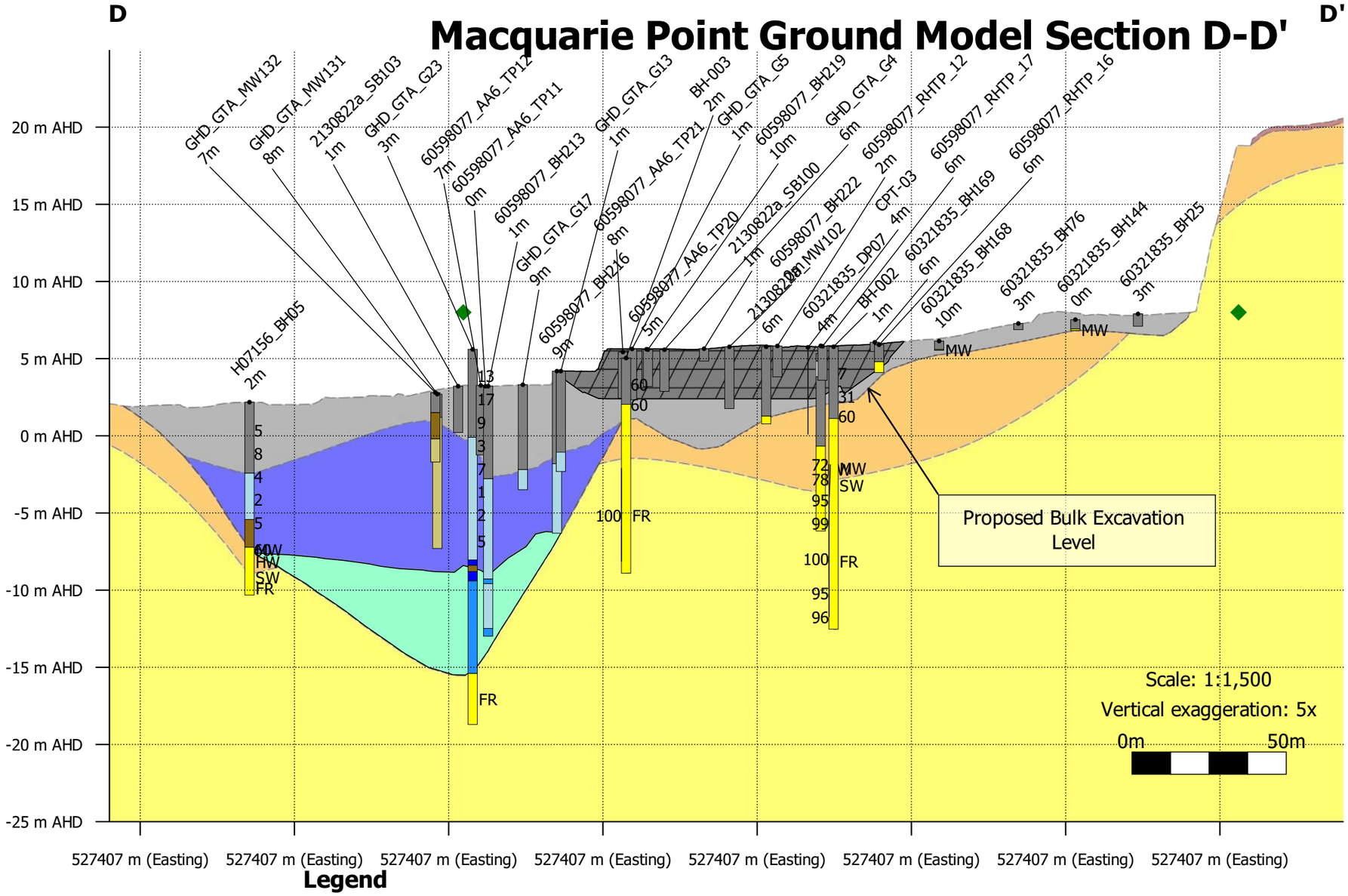
		Macquarie Point Ground Model Section C-C'	PS212776
		Rev. A03	Date of issue 07/08/2024
			Sheet 3/6

Macquarie Point Ground Model Section D-D'

D

D'



Legend

Gound Model

FILL · Estuarine · Transported: ALV

Dolerite, RS · Dolerite, MW-HW · Dolerite, Fr-SW

Major Material Logged

coreless · Gravel · SAND · clay · mudstone · dolerite

Fill · COBBLES · silt · BOULDERS · sandstone

◆ Mac Point Precinct Plan_20231106 - 02 Site Boundary_Boundary

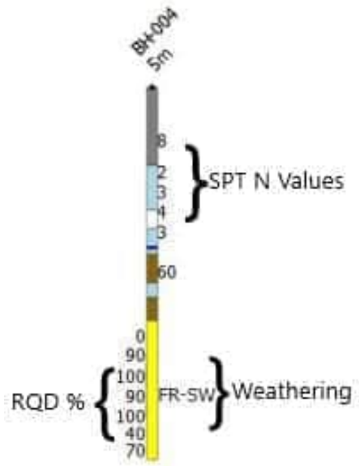
Excavated Soil Material

Excavated FILL

Transported: ALV Retained

Note: hatching indicates approximate extent of excavated ground.

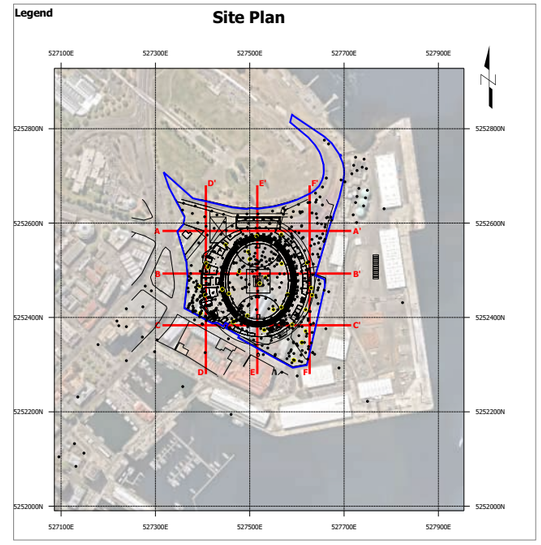
Graphic Log Legend



Location

D: 527407, 5252280

D': 527407, 5252680



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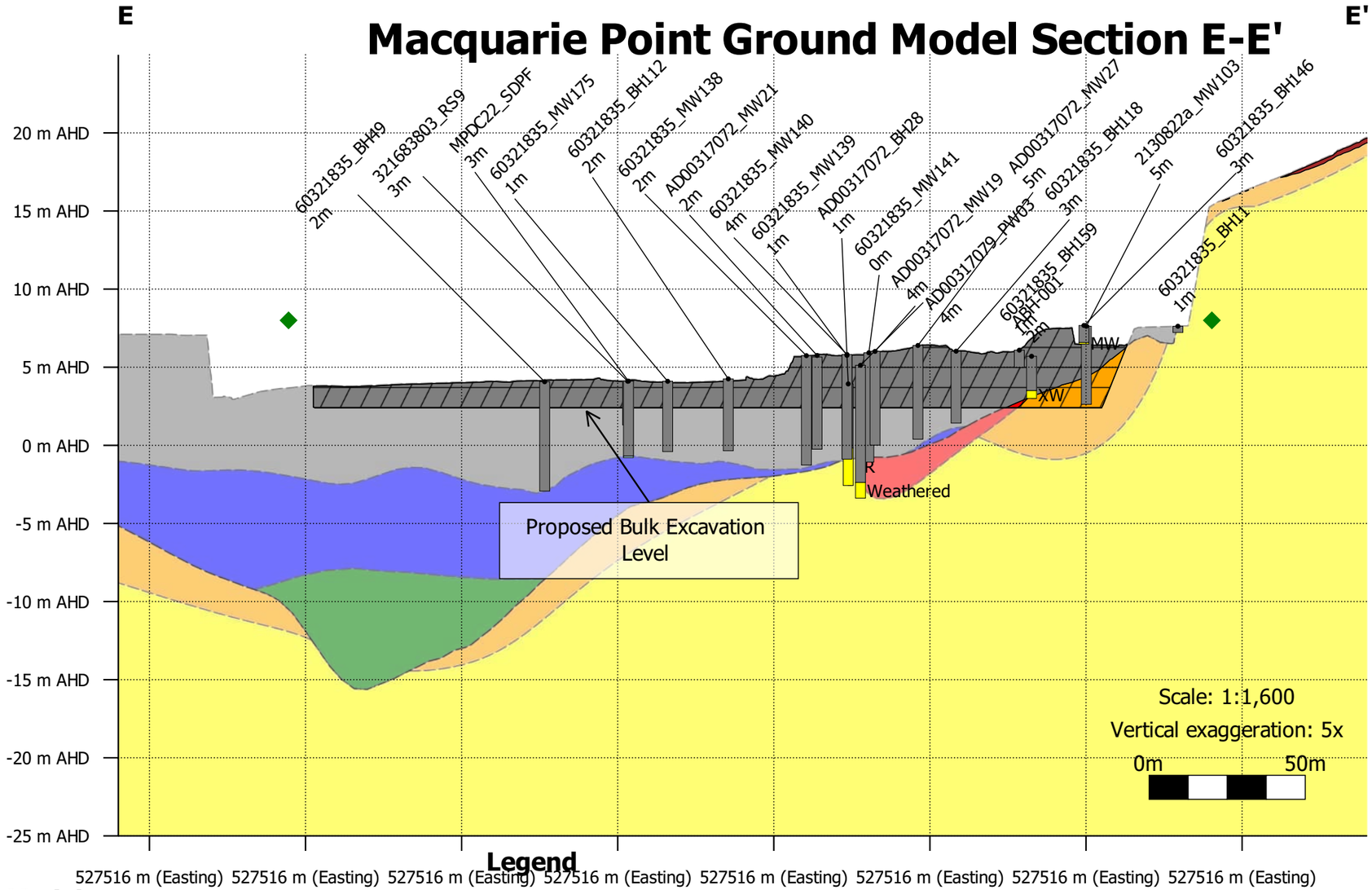
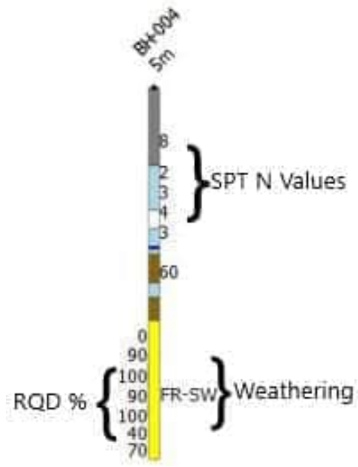
Macquarie Point Ground Model Section E-E'



Graphic Log Legend



Legend

Gound Model

FILL Estuarine Transported: ALV

Dolerite, RS Dolerite, XW Dolerite, MW-HW Dolerite, Fr-SW

Major Material Logged

coreloss Fill Gravel COBBLES SAND silt clay BOULDERS mudstone sandstone dolerite

◆ Mac Point Precinct Plan_20231106 - 02 Site Boundary_Boundary

Excavated Rock Material

Excavated, Gound model: Dolerite, MW-HW Excavated, Gound model: Dolerite, XW Retained, Gound model: Dolerite, RS

Excavated Soil Material

Excavated FILL

Note: hatching indicates approximate extent of excavated ground.



Location

E: 527516, 5252280

E': 527516, 5252680

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Legal owner		Document type	Document status	
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		Macquarie Point Ground Model Section E-E'	PS212776	
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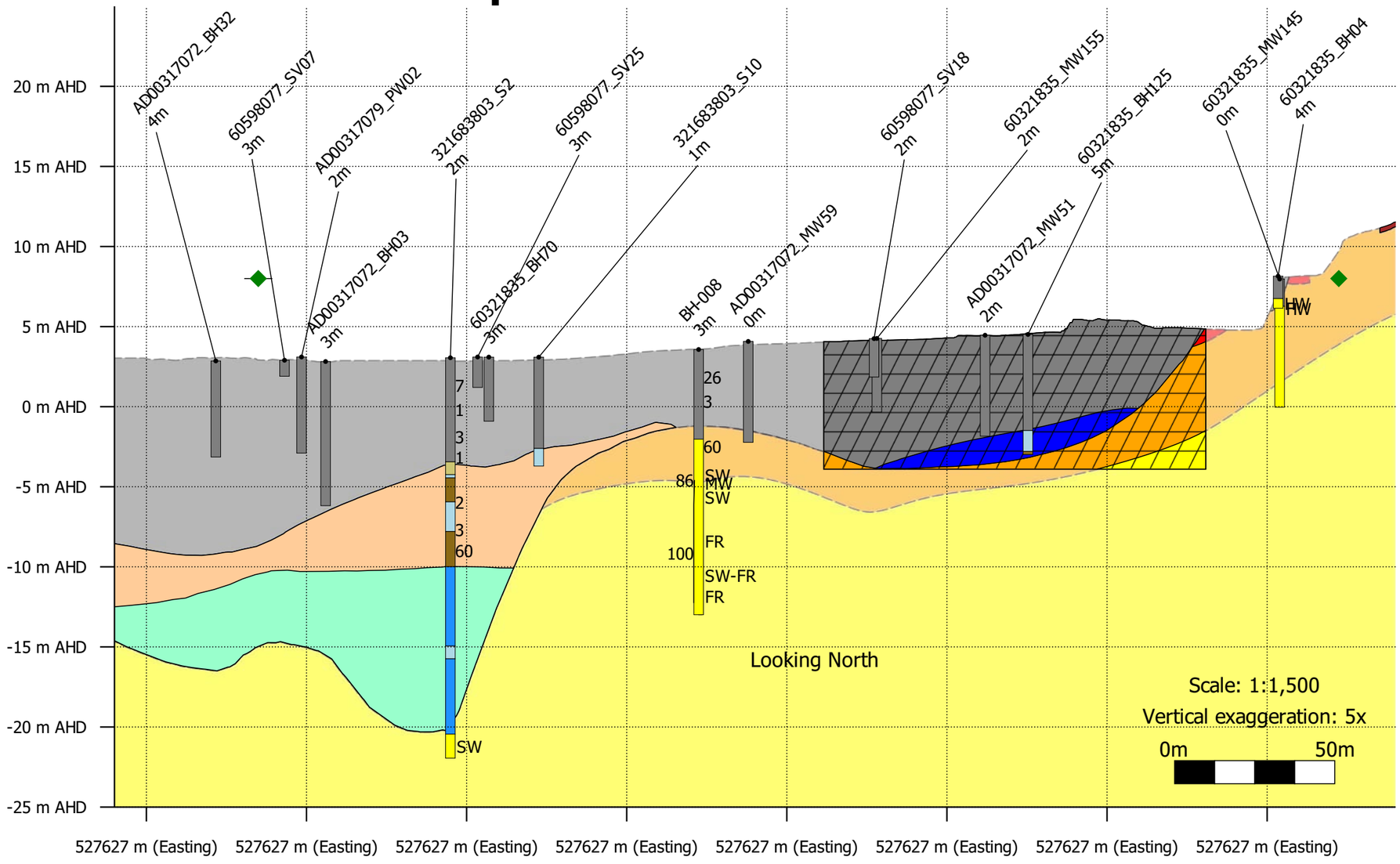
Macquarie Point Ground Model Section F-F'

F

F'



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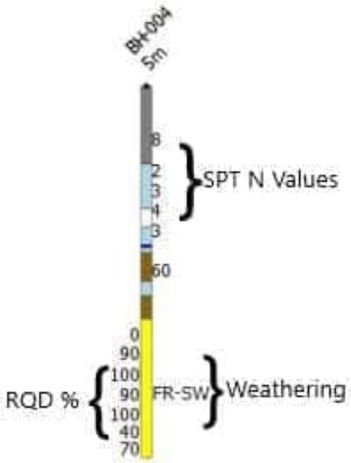

Legend

Gound Model

FILL | Estuarine | Transported: ALV

Dolerite, RS | Dolerite, XW | Dolerite, MW-HW | Dolerite, Fr-SW

Major Material Logged

coreloss | COBBLES | clay | sandstone
Fill | SAND | BOULDERS | dolerite
Gravel | silt | mudstone

◆ Mac Point Precinct Plan_20231106 - 02 Site Boundary_Boundary

Note: hatching indicates approximate extent of excavated ground.

Location

F: 527627, 5252280

F': 527627, 5252680



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		MGW	TDM	
Legal owner		Document type	Document status	
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		Title	Identification number	
		Macquarie Point Ground Model Section F-F'	PS212776	
			Rev. A03 / Date of issue 07/08/2024 / Sheet 6/6	

Limitation Statement: Geotechnical Site Investigation

SCOPE OF SERVICES

This geotechnical site assessment report (the report) has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the client and WSP (scope of services). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

RELIANCE ON DATA

In preparing the report, WSP has relied upon data, surveys, analyses, designs, plans and other information provided by the client and other individuals and organisations, most of which are referred to in the report (the data). Except as otherwise stated in the report, WSP has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report (conclusions) are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. WSP will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WSP.

GEOTECHNICAL INVESTIGATION

Geotechnical engineering is based extensively on judgment and opinion. It is far less exact than other engineering disciplines. Geotechnical engineering reports are prepared to meet the specific needs of individuals. A report prepared for a consulting civil engineer may not be adequate for a construction contractor or even some other consulting civil engineer. This report was prepared expressly for the client and expressly for purposes indicated by the client or his representative. Use by any other persons for any purpose, or by the client for a different purpose, might result in problems. The client should not use this report for other than its intended purpose without seeking additional geotechnical advice.

THIS GEOTECHNICAL REPORT IS BASED ON PROJECT-SPECIFIC FACTORS

This geotechnical engineering report is based on a subsurface investigation which was designed for project-specification factors, including the nature of any development, its size and configuration, the location of any development on the site and its orientation, and the location of access roads and parking areas. Unless further geotechnical advice is obtained this geotechnical engineering report cannot be used:

- when the nature of any proposed development is changed
- when the size, configuration location or orientation of any proposed development is modified.

This geotechnical engineering report cannot be applied to an adjacent site.

THE LIMITATIONS OF SITE INVESTIGATION

In making an assessment of a site from a limited number of boreholes or test pits there is the possibility that variations may occur between test locations. Site exploration identifies specific subsurface conditions only at those points from which samples have been taken. The risk that variations will not be detected can be reduced by increasing the frequency of test locations; however this often does not result in any overall cost savings for the project. The investigation program undertaken is a professional estimate of the scope of investigation required to provide a general profile of the subsurface conditions. The data derived from the site investigation program and subsequent laboratory testing are extrapolated across the site to form an inferred geological model and an engineering opinion is rendered about overall subsurface conditions and their likely behaviour with regard to the proposed development. Despite investigation the actual conditions at the site might differ from those inferred to exist, since no subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies.

The borehole logs are the subjective interpretation of subsurface conditions at a particular location, made by trained personnel. The interpretation may be limited by the method of investigation, and can not always be definitive. For example, inspection of an excavation or test pit allows a greater area of the subsurface profile to be inspected than borehole investigation, however, such methods are limited by depth and site disturbance restrictions. In borehole investigation, the actual interface between materials may be more gradual or abrupt than a report indicates.

Limitation Statement: Geotechnical Site Investigation

SUBSURFACE CONDITIONS ARE TIME DEPENDENT

Subsurface conditions may be modified by changing natural forces or man-made influences. A geotechnical engineering report is based on conditions which existed at the time of subsurface exploration.

Construction operations at or adjacent to the site, and natural events such as floods, or groundwater fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report. The geotechnical engineer should be kept appraised of any such events, and should be consulted to determine if additional tests are necessary.

AVOID MISINTERPRETATION

A geotechnical engineer should be retained to work with other appropriate design professionals explaining relevant geotechnical findings and in reviewing the adequacy of their plans and specifications relative to geotechnical issues.

BORE/PROFILE LOGS SHOULD NOT BE SEPARATED FROM THE ENGINEERING REPORT

Final bore/profile logs are developed by geotechnical engineers based upon their interpretation of field logs and laboratory evaluation of field samples. Customarily, only the final bore/profile logs are included in geotechnical engineering reports. These logs should not under any circumstances be redrawn for inclusion in architectural or other design drawings. To minimise the likelihood of bore/profile log misinterpretation, contractors should be given access to the complete geotechnical engineering report prepared or authorised for their use. Providing the best available information to contractors helps prevent costly construction problems. For further information on this matter reference should be made to 'Guidelines for the Provision of Geotechnical Information in Construction Contracts' published by the Institution of Engineers Australia, National Headquarters, Canberra 1987.

GEOTECHNICAL INVOLVEMENT DURING CONSTRUCTION

During construction, excavation is frequently undertaken which exposes the actual subsurface conditions. For this reason geotechnical consultants should be retained through the construction stage, to identify variations if they are exposed and to conduct additional tests which may be required and to deal quickly with geotechnical problems if they arise.

REPORT FOR BENEFIT OF CLIENT

The report has been prepared for the benefit of the client and no other party. WSP assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of WSP or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

OTHER LIMITATIONS

WSP will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

Appendix G-8: Macquarie Point Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event

Revision 3 – 01-Feb-2026
Prepared for – Macquarie Point Development Corporation – ABN: 92 657 409 841

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Australia
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ABN 20 093 846 925

25 March 2025

Mr Greg Cooper
Chief Operating Officer
Company Secretary
Macquarie Point Development Corporation
41 Evans Street, Hobart, TAS, 7001

Dear Greg,

Macquarie Point - Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025

1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point site in Hobart, Tasmania (the Site).

Between 26 and 28 February 2025, AECOM conducted field works to access and inspect monitoring points on and adjacent to the Site, consisting of 123 groundwater wells and 29 soil vapour bores/sub-slab pins, which have been sampled as part of previous environmental investigations. Gauging of all accessible groundwater wells was also conducted during the inspection. An additional inspection of one well, MW60, was conducted on 24 March 2025.

This report has been prepared to provide a factual overview of the works conducted and the outcomes of the investigation. The Site location and layout are shown on **Figure F1** and **Figure F2** respectively.

1.1 Background

The redevelopment of Macquarie Point aims to restore and energise a Site that has long been associated with industrial, freight and rail use into a significant hub for the people of Hobart. Historic contamination at the Site is a legacy of past land uses, including gasworks, fuel handling and bulk storage, freight and rail transfer and locomotive servicing, and land reclamation across areas of the Site.

For the purpose of assessment, the Site has been divided into seven sub-areas for assessment based on the nature of identified contamination, historic activity, and the intended future uses of each area.

The Corporation is currently in the process of negotiating land transfer for the addition of Regatta Point, located to the north, to the overall Site, and for inclusion in the Environmental Audit that is being undertaken. The Royal Engineers Building and Land to the west of the Site is included in the overall planned development of the area, however no changes in use are planned and it is not intended to be included in the Audit at this time.

The location and boundaries of sub-areas of the Site are shown on **Figure 1** below.

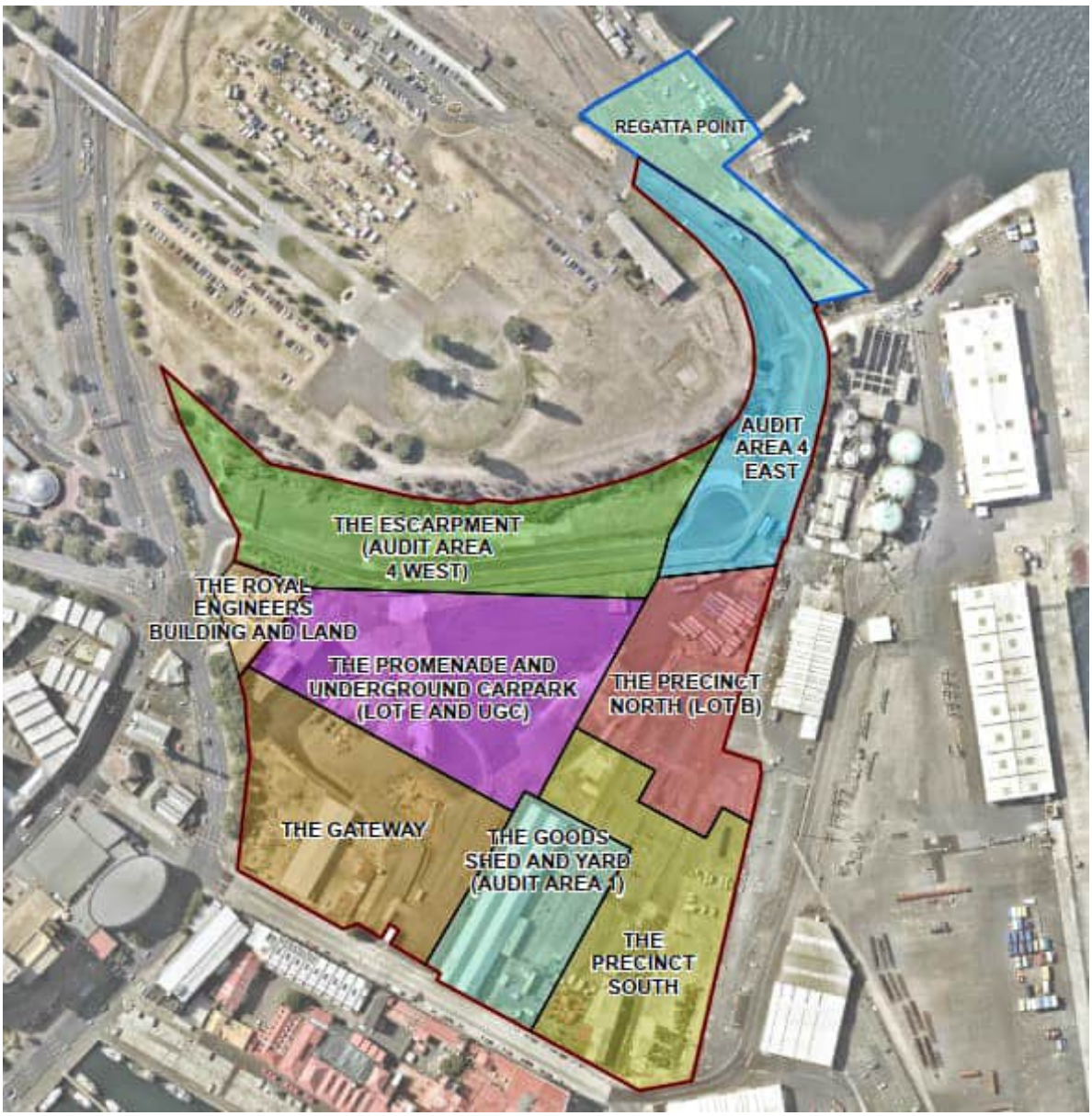

Figure 1 Site Assessment Areas

As part of the historic assessment and investigation of the Site, AECOM has conducted groundwater monitoring events (GMEs) at the Site since 2015, with the most recent Site-wide GMEs conducted in August and November 2019 (AECOM, 2020a). Targeted GMEs have been conducted since 2019, in and around the sub-areas of the Site referred to as the Gateway in late 2022 (AECOM, 2023a), the Precinct South in late 2023 (AECOM, 2024a), and in Regatta Point in late 2024, with results to be issued as part of a Detailed Site Investigation report for this area.

Light Non-Aqueous Phase Liquid (LNAPL) has been identified on groundwater in central and south-eastern areas where historic fuel storage has occurred. Remediation of LNAPL was conducted between 2015 and 2017, and was assessed as having met the practicable remediation end-points, after a period of post-remediation monitoring, in 2021 (AECOM, 2021a)

Soil vapour monitoring events targeting specific buildings and areas of potential vapour generation have been conducted in 2019 (AECOM, 2021b).

Due to the time period since previous Site-wide GMEs and soil vapour monitoring events, and due to ongoing changes in the Site surface (as a result of demolition, remediation, soil excavation and surface covering activities undertaken on-Site), the condition of many monitoring points for these

media unknown, and previous targeted GMEs and other Site inspections have identified damage or loss of monitoring points.

1.2 Objectives

The overall objectives of the Site-wide soil vapour bore and groundwater well inspection, and gauging event, were to:

- Assess and record the condition of monitoring points (groundwater wells and soil vapour bores/sub-slab pins) at and adjacent to the Site, and, where monitoring points were not suitable for future monitoring, identify the requirements for repair or replacement.
- Collect updated groundwater elevation data at and surrounding the Site, including inferred hydraulic contours and gradients.

This report has been prepared to provide a summary of the activities conducted and the status of the monitoring networks for groundwater and soil vapour, to enable maintenance, repair, and/or replacement to be conducted as part of a future scope of work.

1.3 Scope of Work

The following activities were completed by AECOM to fulfil the objectives of this inspection:

- Update of the existing Site Safety Health and Environment Management Plan (SHEMP) to reflect the proposed scope of works, and preparation of task-specific safe work method statements (SWMS) for the proposed field activities.
- Requesting and receiving access approval to monitoring points located:
    - In the central area of the Site, currently leased and occupied by the Tasmanian Water and Sewerage Corporation Pty Ltd (TasWater) for construction equipment storage.
    - On third-party lands to the east of the Site, owned and occupied by the Tasmanian Ports Corporation Pty Ltd (TasPorts).
- Mobilisation to the Site between 26 and 28 February 2025 to inspect and access the following monitoring points previously used for Site investigations:
    - 123 groundwater bores, noting that access to three groundwater wells was not attempted by field staff, and six groundwater wells installed along active roadways were inspected from the sidewalk as discussed in **Section 2.0**.
    - 29 soil vapour bores or sub-slab pins.

    Accessible groundwater bores were also gauged as part of this mobilisation.
- Mobilise to the Site on 24 March 2025 to visually assess groundwater well MW60 for the presence/absence of LNAPL (discussed in **Section 3.3**).

2.0 Field Methodology

The following activities were conducted by AECOM between 26 and 28 February 2025 at and adjacent to the Site:

- Site walkover and well inspection and location.
- Well gauging

Field activities were undertaken by trained and experienced AECOM field personnel.

A handheld Trimble Global Positioning System (GPS) unit with an accuracy of +/- 0.01 m was used to identify monitoring point locations. If the monitoring point was not visible at the surface, a metal detector and hand tools were used to assess if the monitoring point was present and had covered in soil or buried close to the surface.

When a monitoring point was located, AECOM staff:

- Undertook a visual inspection to verify the condition at the surface, including condition of metal gatic covers, bolts and well caps for damage or discrepancies (e.g. sheared bolts; missing well caps) and other notable observations (e.g. presence of water levels loggers installed in wells, flooded gatics, etc).
- Opening of the well cap or vapour cap followed by immediate measurement of potential vapours in the well head by using a Photo-ionisation Detector (PID).
- Inspection of the condition of the well casing or vapour tubing at the surface to check for any indications of damage or blockage.
- Gauged and recorded the groundwater standing water level (SWL) and the depth to bottom of the well (DTB), using an interface probe (IP). Where LNAPL was present, the thickness was recorded, but DTB was not measured so as not to contaminate the IP any more than was necessary.

If a monitoring point could not be located, any features of its previously recorded location, such changes in surfaces or temporary features (such as shipping containers) which could obscure the monitoring point were recorded.

On 24 March, 2024, groundwater well MW60 was accessed using the methodology above. A bailer was lowered into the well and bought to the surface to assess if LNAPL was present in the well.

It is noted that:

- Six groundwater wells located on roadways were not included in the inspection and gauging scope as noted in **Section 1.3**. The wells on roadways were:
  - MW130_GHD, MW131_GHD, MW132_GHD, MW133_GHD, and MW150, installed in the surface of a public road (Evans Street) to the south of the Site.
  - MW145, installed in a Site road in the Escarpment.

  The presence/absence of these wells was visually ascertained by field staff from the footpath to assess if any potential indicators of damage were visible and has been included in assessment of well condition.
- Three groundwater wells ((MW173 on-Site, and PC08 and PC14 off-Site) were not accessed by field staff during works:
  - MW173 is considered likely to be intact and accessible, as this well was recently installed and has been sampled most recently in December 2023, and no large scale development works are known to have occurred in the vicinity.
  - PC08 and PC14 are located in TasPorts land to the south-east of the Site. A white mark which may be the well gatic of PC14 is visible in bitumen on the NearMap aerial photograph of the area dated 31 December 2024.

Field records collected during inspection and gauging are attached in **Appendix C**.

3.0 Field Observations and Outcomes

3.1 General Site Status and Uses

The field team made the following general observations about uses of the Site and surrounding areas during inspection, which are considered to potentially affect the accessibility of monitoring points:

- Remediation and soil excavation in the central portion of the Site (the eastern portion of the Promenade and Underground Carpark, and the western portions of the Precinct North and Precinct South) have significantly changed surface levels since 2019.
- The northern portion of the Precinct North, and portions of the Promenade and Underground Carpark, the Escarpment, and Audit Area 4 East are currently leased and occupied by TasWater as a construction laydown area.

3.2 Soil Vapour Bore and Groundwater Well Condition

The results of the soil vapour bore and groundwater well inspection are presented on **Table T1**. Historic gauging results, including historic DTB and if LNAPL has been previously detected in the well, have also been noted.

Based on observed features during the inspection and comparison to historic data, the condition of monitoring points, and whether they are useable for future investigations, have been assessed on **Table T1** using the categories listed on **Table 1** below.

Table 1 Monitoring Point Inspection Categories

Outcome	Description
Condition	
Intact	Monitoring point is accessible and has not indications of damage or any other features which would prevent sampling.
Minor Repair	Minor damage or defect, such as missing gatic bolts or seal, flooded wellhead etc, which can be fixed with hand tools or minor replacement parts.
Major Repair	Major repairs are needed, such as replacement of gatic or well head, removal of blockage in well, or removal of asphalt, which would require a driller on Site.
Lost/Destroyed	Monitoring point is considered to be lost or destroyed to due major earthworks or changes in Site surface.
Not accessed	Monitoring point was in an inaccessible area, was believed to be under a temporary structure (such as a shipping container or scaffolding), or was not attempted to be accessed by field staff for some other reason (noted on **Table T1**).
Suitable for Future Monitoring?	
Yes	The monitoring point could be used for future investigations
Likely	While not confirmed, it is considered likely that the monitoring point could be used for future monitoring. Locations in this category may require minor repairs, or were not accessible but we observed from a distance.
No	The monitoring point is unlikely to be able to be repaired/restored.
Unknown	The monitoring point may still exist, but may require major repair, or was inaccessible and could not be directly observed to assess condition.

Assessment of the condition and usability of monitoring points is provided by location on **Table T1**, and summarised on **Table 2** below. The locations and status of monitoring points are shown on **Figure F3** and **Figure F4**.

Table 2 Summary of Monitoring Point Inspection

Status		Number of Locations	% of total
Groundwater Wells			
Total Number	123		
Condition	Intact	41	33%
	Minor Repair	10	8%
	Major Repair	17	14%
	Lost/Destroyed	39	32%
	Not Accessed	16	13%
Suitable for Future Monitoring?	Yes	49	40%
	Likely	12	10%
	No	40	32%
	Unknown	22	18%
Soil Vapour Points			
Total Number	29		
Condition	Intact	1	3%
	Minor Repair	2	7%
	Major Repair	4	14%
	Lost/Destroyed	22	76%
	Not Accessed	0	0%
Suitable for Future Monitoring?	Yes	3	10%
	Likely	0	0%
	No	22	76%
	Unknown	4	14%

Based on the results of inspection, while a full review of all groundwater contaminant source zones and known impacts has not been conducted, based on the inspection of groundwater wells the following observations and conclusions are made:

- The groundwater monitoring network is largely intact around the boundaries of Macquarie Point, although gaps are considered present in the north to north-west, including suitable wells to assess background groundwater conditions, with MW120 and BG1, which were previously used for this purpose, destroyed or requiring major repairs.

  Understanding the condition of groundwater entering and leaving the Site is required to provide confidence on assessment of potential risks to off-Site receptors (human and ecological), and repair or replacement of wells to allow confidence in assessment of groundwater at the Site boundaries is recommended.

- Many wells in the central portion of the Site, in particular in the vicinity of previously identified areas of LNAPL impact, have been lost.

  While these LNAPL plumes have previously been assessed as stable and unlikely to migrate (AECOM, 2021a), the potential exists for changes in surface cover or remediation to have altered previous outcomes, and replacement wells to provide a suitable level of understanding and confidence on the location and mobility of LNAPL should be considered.

- Groundwater wells on Regatta Point are intact and suitable for future uses.

- Access was granted for gauging and inspection of off-Site wells on TasPorts land to the south and east of Macquarie Point. Limited sampling has been conducted on these wells previously, and further access to sample and assess off-Site groundwater conditions should be investigated with the landowner (TasPorts)

The majority of soil vapour monitoring points have also been lost or destroyed. Development of an investigation program to confirm results of previous soil vapour monitoring (AECOM, 2021b) and assess any changes to soil vapour risk profiles, including replacement of lost soil vapour locations or installation of new locations, is recommended.

It is noted that one-for-one replacement of lost or damaged groundwater wells and soil vapour monitoring points may not be required or practicable, considering the existing data set and relatively short period before large-scale development of the Site is planned to commence.

Groundwater wells which are lost or damaged, and are not intended to be repaired to allow future sampling, represent a potential pathway for contamination to groundwater. Decommissioning of any such groundwater wells should be conducted, as far as practicable, by a licenced driller in accordance with the *Minimum Construction Requirements for Water Bores in Australia* (NUDLC, 2020).

3.3 Groundwater Contours and Flow Direction

As part of the inspection discussed in **Section 3.2**, 49 accessible groundwater wells on and adjacent to the Site were gauged.

Results of gauging are presented on **Table T1**. The recorded depths to groundwater ranged between:

- 1.025 metres Below Top Of Casing (mBTOC) (MW178 on Regatta Point) to 6.511 mBTOC (MW160 in Audit Area 4 East)
- 0.095 m Australian Height Datum (mAHD) (MW180 on Regatta Point) to 3.198 mAHD (MW121 in the Promenade and Underground Carpark).

Inferred potentiometric contours for shallow groundwater (i.e., wells screened above the top of the aquifer to less than 10 m below ground level [m bgl]) are shown on **Figure F5**. The gauging data indicates that:

- Groundwater flow on Macquarie Point is generally to the south, with groundwater entering the Site from the east and west, and groundwater gradients are steeper in the north and relatively flat in the central portion of the Site, consistent with previous investigations (AECOM, 2020a, AECOM, 2024a).
- A northerly flow is potentially present in the Escarpment / Audit Area 4 East. Groundwater flow in this manner has not been observed during previous GMEs, which have reported groundwater entering the Site from the north.

  Changes in the Site surface due to remediation since 2019 may have affected groundwater flow However, the groundwater wells in the north and north-eastern parts of the Site were not gauged during this monitoring round, due to either damage or equipment in place over them, and the northerly flow may be an artefact of the lack of groundwater elevation information in the northern portion of the Site. Monitoring of wells in the northern portion of the Site is recommended to determine if groundwater flow directions have altered.
- Apparent mounding is present at MW159, on the north-eastern boundary of Macquarie Point adjacent to the TasWater operated Waste Water Treatment Plant (WWTP), and may indicate an inflow of groundwater which has been potentially impacted by WWTP operations. Sampling of MW159, and other wells in this area, is recommended to assess if new impacts have been introduced to this area of the Site.

Dense Non-Aqueous Phase Liquid (DNAPL) was not encountered in any wells. However, measurable LNAPL, ranging between 0.008 to 0.095 m in thickness, was encountered in six wells, presented in **Table 3** below. The historical reported range of LNAPL thickness from previous GMEs and monitoring at these wells (AECOM, 2021a, AECOM, 2024b) has also been included.

Table 3 Measurable LNAPL Reported, February 2025

Well	Depth (mBTOC)		LNAPL Thickness (m)		Thickness within historic range?
	LNAPL	Groundwater	Feb 2025	Historic Maximum	
The Precinct South					
MW03	1.980	1.990	0.010	0.091	Yes
MW05	1.732	1.740	0.008	0.096	Yes
MW154	2.094	2.125	0.031	Not detected	No
PW02	2.200	2.250	0.050	0.160	Yes
S8	2.060	2.155	0.095	0.120	Yes
Off-Site (TasPorts)					
PC13	1.300	1.310	0.010	Not detected	No

It is noted that, as discussed in **Section 3.2**, all wells targeted LNAPL in the central portion of the Site were lost or destroyed, and LNAPL is considered likely to remain present on groundwater in that area.

LNAPL detections at MW03, MW05, PW02 and S8 were within historic reported thicknesses, and LNAPL transmissivity testing conducted in 2024 (AECOM, 2024b) reported that LNAPL at MW03, PW02 and S8 was not likely to be mobile or practicable to recover. While LNAPL was detected at MW05 in excess of historic maximums in December 2023, no LNAPL was present in 2024.

LNAPL has not been previously detected in MW154, which are located to the south of previous LNAPL detections in the Precinct South, or PC13, which is to the east of the Precinct South on TasPorts land. For these detections:

- MW154 is in close proximity to S8, and LNAPL migration may be occurring in this area. Mobilisation may have been encouraged by remediation in the Precinct South in 2023, which included excavation to and disturbance of groundwater, or by works along Evans Street to the south to prepare for realignment of the Hobart Main Sewer, which included test pitting and pumping of groundwater. However, this detection may also represent ongoing migration of LNAPL.
- PC13 has only been accessible once previously, for gauging and recording groundwater parameters in 2017, and LNAPL was not detected. As this location is inferred hydraulically upgradient of Macquarie Point, on land known to have historically been used for bulk fuel storage, this detection indicates an LNAPL plume is present on TasPorts land, which may or may not be connected to LNAPL on Macquarie Point, based on proximity to MW03.

Additional assessment to confirm the presence or absence of LNAPL, and assess any potential mobility if confirmed, is recommended.

During gauging on 27 February 2025, field staff reported 0.002 m of LNAPL detected on the surface of MW60, located in the Precinct South, to the south of LNAPL Plume B. LNAPL has not been historically detected in this well. However, field staff noted organic matter in this well in field notes, and verbally reported that this was a whitish potential biofilm which fouled the interface probe and may have potentially given false positives for LNAPL. AECOM staff returned to MW60 on 25 March 2025, and while the interface probe reported 0.001 m of non-conductive material on the surface of groundwater (typically considered LNAPL), bailing of the well (shown on **Plate 1** below) identified that no LNAPL was present, and that the reported detection was caused by a biofilm (visible on the lower right side of the bailer) and small living insects were present in the well. LNAPL is not considered to be present in MW60 based on this result.



Plate 1 **Biofilm (lower right) and small insects present on groundwater bailed from MW60, 25 March 2025 (AECOM)**

4.0 Conclusions and Recommendations

At the request of the Corporation, AECOM conducted an inspection of groundwater wells and soil vapour monitoring points at and surrounding the Macquarie Point Site between 26 and 28 February 2025.

Based on the results of the inspection, 30-50% of the groundwater wells and 76-90% of soil vapour monitoring points on and surrounding the Site have been destroyed or otherwise damaged by Site activities and remediation, and are no longer suitable for future monitoring.

Based on gauging data collected from 49 accessible groundwater wells, inferred groundwater contours and flow have been generated, noting:

- Groundwater was present between approximately 1 and 6.5 m bgl across the Site, with groundwater contours generally indicating a southerly flow, consistent with previous assessments. Groundwater contours indicated that there was a potential for northerly flow in the Escarpment and Audit Area 4 East, and for inflow from the WWTP to the east of the Site.
- LNAPL was detected in the Precinct South and off-Site to the east, including detections for the first time in MW60 (although this detection may be a false positive due to biological material fouling the interface probe), MW154, and PC13.

It is recommended that:

- Prior to future groundwater or soil vapour sampling, additional groundwater wells or soil vapour monitoring bores are installed at suitable locations to assess and updated available information on:
    - The condition of groundwater entering and leaving the Site.
    - The location and any changes in potential mobility of LNAPL.
    - Soil vapour risks associated with the updated proposed future development of the Site.
    - Any other soil vapour or groundwater data gaps identified in other Site assessments (for example, further assessment requirements identified in the Gateway area following remediation in 2024 [AECOM, 2025]).

    The scope of any replacement activities may be able to be reduced, based on the existing data set and relatively short period before large-scale development of the Site is proposed to commence. Site Environmental Auditor endorsement of such reduction in the soil vapour and groundwater monitoring network should be sought.
- Soil vapour and groundwater monitoring event(s) are recommended to be conducted following repair of the monitoring networks, and should include in their scope:
    - General monitoring to update information on the Site condition, and assess if any changes have occurred which affect the Conceptual Site Model or potential risk pathways from soil vapour or groundwater.
    - Targeted sampling or monitoring to assess potential changes to groundwater flow direction, in particular in the northern portion of the Site or possible inflow of WWTP-impacted water in the vicinity of MW156, and LNAPL presence and potential mobility in the south-east portion of the Site.
    - Targeted sampling for any data gaps or requirements identified in other Site assessments.
- Groundwater wells which are lost, or damaged and not intended to be repaired, should be decommissioned by a licenced driller in accordance with the *Minimum Construction Requirements for Water Bores in Australia* (NUDLC, 2020).

Please contact the undersigned if you have any questions or require any additional information on the contents of this letter.

Yours faithfully



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Appendix A – Figures

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Figure F2 Site Layout

Figure F3 Soil Vapour Bore and Groundwater Well Condition

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Figure F5 Inferred Shallow Groundwater Contours (February 2025)

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LEGEND

- Regatta Grounds Boundary
- Macquarie Point Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025

Macquarie Point, Hobart, TAS

Figure

F1

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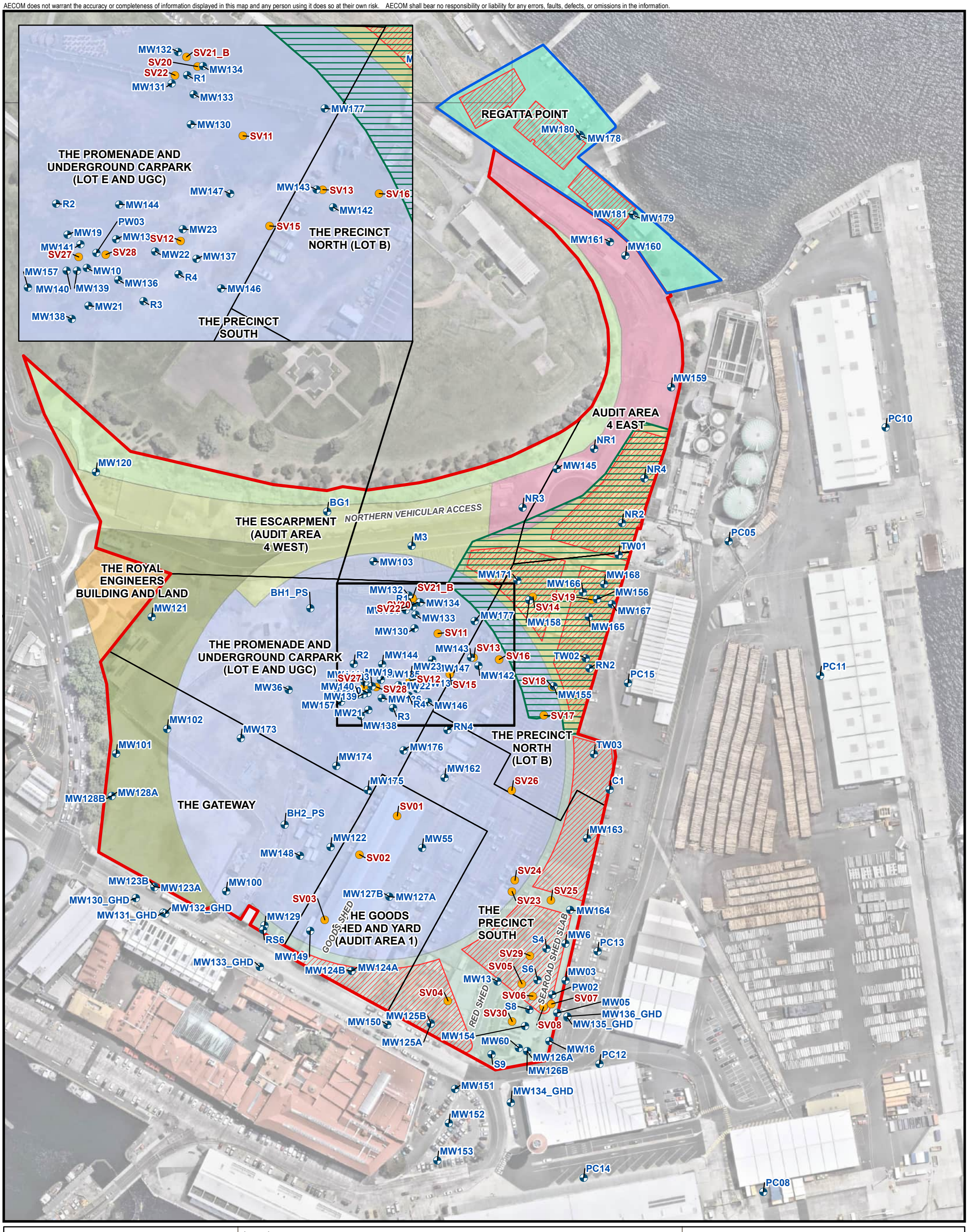

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Legend

- Groundwater Well
- Vapour Probe/Air Sampling Location
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE LAYOUT AND ASSESSMENT LOCATIONS

Macquarie Point Development Corporation

Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025

Macquarie Point, Hobart, TAS

Figure
F2

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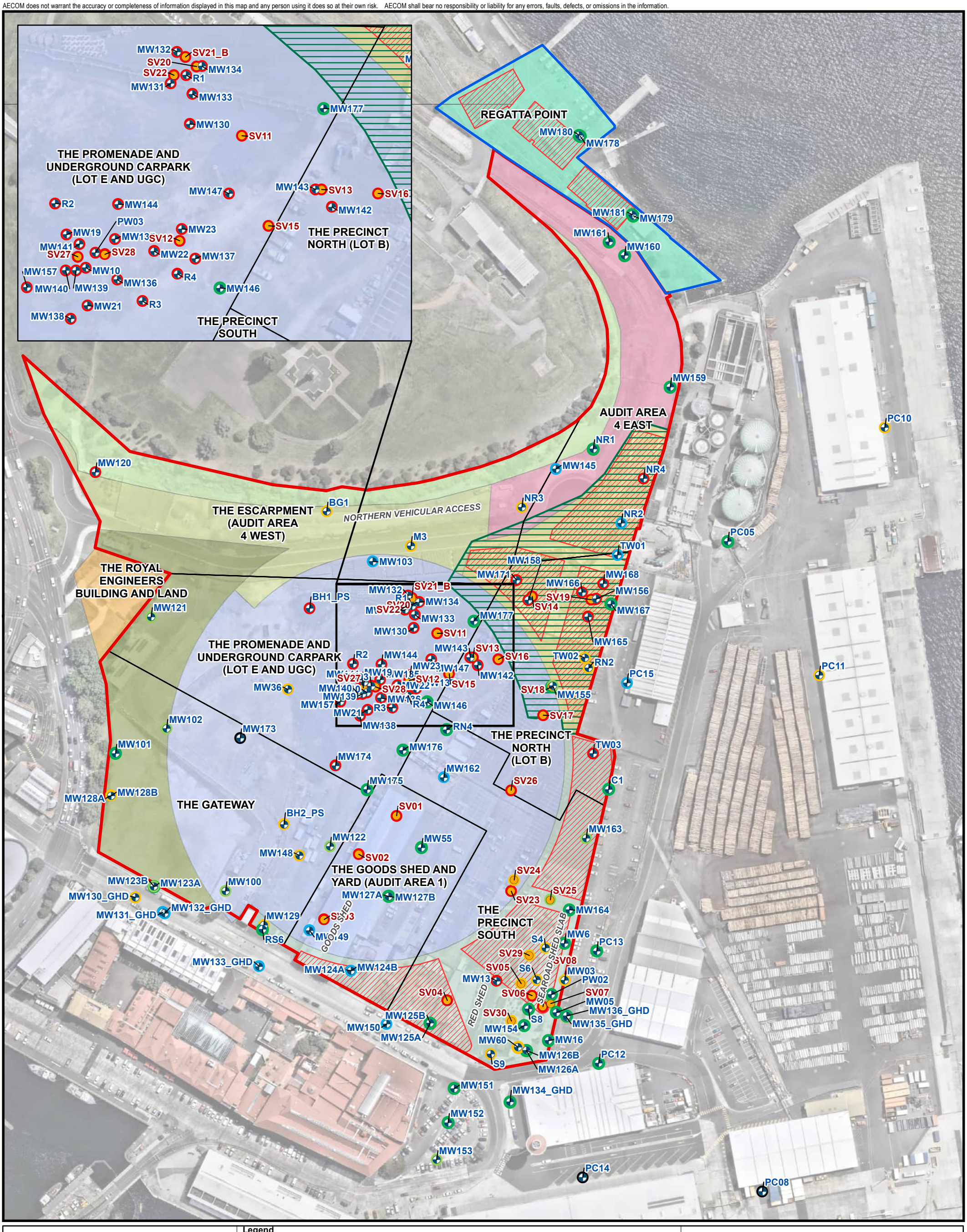

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Legend

- Groundwater Well
- Vapour Probe/Air Sampling Location
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Monitoring Point Condition

- Intact
- Minor Repairs
- Major Repair
- Lost / Destroyed
- Not Accessed
- Unknown

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SOIL VAPOUR BORE AND GROUNDWATER WELL CONDITION

Macquarie Point Development Corporation

Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025

Macquarie Point, Hobart, TAS

Figure

F3

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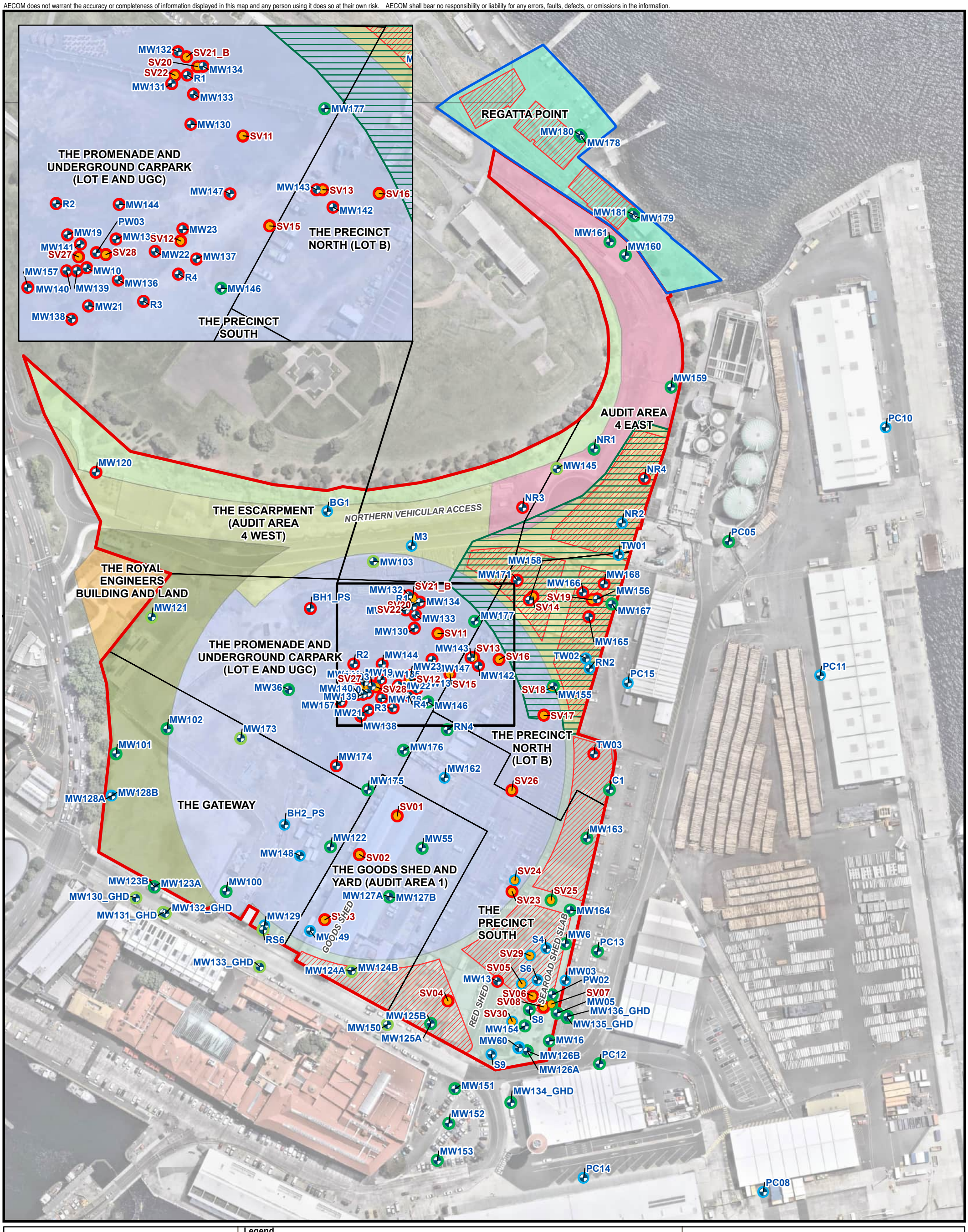

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 21 Mar 2025

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120

metres

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Legend

- Groundwater Well
- Vapour Probe/Air Sampling Location
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Suitable for Future Monitoring?

- Yes
- Likely
- No
- Unknown

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SOIL VAPOUR BORE AND GROUNDWATER WELL SUITABILITY FOR FUTURE MONITORING

Macquarie Point Development Corporation

Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025

Macquarie Point, Hobart, TAS

Figure

F4

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\03\SVB_GWI_Feb2025\F4_Soil_Vapour_Bore_Groundwater_Well_FutureMon.mxd)

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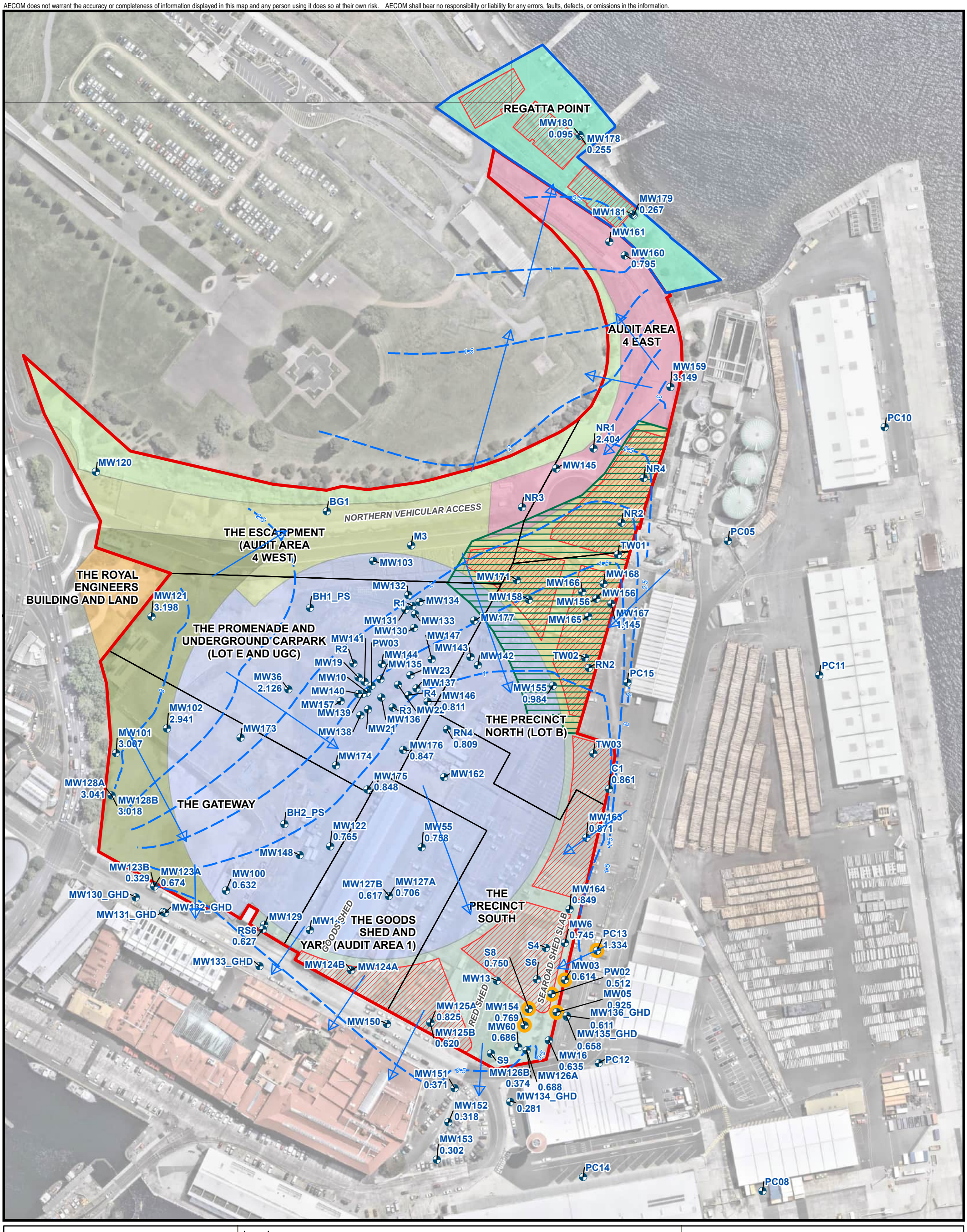

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 24 Mar 2025

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DATUM GDA 1994, PROJECTION MGA ZONE 55

0 30 60 120
metres

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Legend

- Groundwater Well
- LNAPL
- Inferred Groundwater Contours
- Regatta Point Site Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary
- Inferred Direction of Groundwater Flow

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

GROUNDWATER CONTOURS

Macquarie Point Development Corporation

Site-wide Soil Vapour Bore and Groundwater Well Inspection and Gauging Event, February 2025

Macquarie Point, Hobart, TAS

Figure F5

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\03\SVB_GWI_Feb2025\F5_GW_Contour.mxd)

A3 size

Appendix B – Tables

List of Tables

Table T1 Groundwater Well and Soil Vapour Bore Inspection and Gauging Results

Table T1 - Groundwater Well and Soil Vapour Bore Inspection and Gauging Results

AECOM

Site Area	Location ID	Type	Media	Date	Located? (Yes / No)	X Coordinate	Y Coordinate	Top of Casing (mAHD)	Historic Well Depth (mBTOC)	Gauging Results (mBTOC)			PID (ppm)	LNAPL historically detected?	Corrected SWL [#1]		Comments	Condition	Suitable for Future Monitoring?
										Depth to LNAPL	Depth to Water	Depth to Bottom			mBTOC	mAHD			
The Goods Shed and Yard	MW124A	Groundwater Well	Groundwater	27-Feb-25	Yes	527507.730	5252350.790	3.767	5.00	-	-	-	-	No	-	-	Plant box on top, well visible. Well noted in good condition December 2023	Not Accessed	Likely
The Goods Shed and Yard	MW124B	Groundwater Well	Groundwater	27-Feb-25	Yes	527507.670	5252350.790	3.738	11.40	-	-	-	-	No	-	-	Plant box on top, well visible. Well noted in good condition December 2023	Not Accessed	Likely
The Goods Shed and Yard	MW127A	Groundwater Well	Groundwater	27-Feb-25	Yes	527529.640	5252393.950	3.896	4.80	ND	3.190	4.800	NM	No	3.190	0.706	LEL tubing in well	Intact	Yes
The Goods Shed and Yard	MW127B	Groundwater Well	Groundwater	27-Feb-25	Yes	527529.680	5252393.990	3.866	16.60	ND	3.249	16.770	NM	No	3.249	0.617		Intact	Yes
The Goods Shed and Yard	MW149	Groundwater Well	Groundwater	26-Feb-25	Yes	527483.676	5252374.243	4.024	4.70	-	-	-	0	No	-	-	Unable to locate under container	Not Accessed	Unknown
The Goods Shed and Yard	MW55	Groundwater Well	Groundwater	27-Feb-25	Yes	527548.733	5252422.331	3.789	6.00	ND	3.031	5.650	NM	Yes	3.031	0.758	Good condition, hydrocarbon odour	Intact	Yes
The Goods Shed and Yard	SV01	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527534.176	5252440.863	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Could not locate	Lost / Destroyed	No
The Goods Shed and Yard	SV02	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527512.268	5252418.480	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Could not locate	Lost / Destroyed	No
The Goods Shed and Yard	SV03	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527492.107	5252380.554	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Could not locate	Lost / Destroyed	No
The Escarpment	BG1	Groundwater Well	Groundwater	26-Feb-25	Yes	527493.615	5252617.707	7.492	3.45	-	-	-	-	No	-	-	Bolts sheared unable to open with hand tools	Major Repair	Unknown
The Escarpment	M3	Groundwater Well	Groundwater	26-Feb-25	No	527542.600	5252597.730	7.432	6.05	-	-	-	-	No	-	-	Not found under new asphalt road	Major Repair	Unknown
The Escarpment	MW103	Groundwater Well	Groundwater	26-Feb-25	No	527520.429	5252588.668	7.412	4.88	-	-	-	-	No	-	-	Well under large pipes, need notice to lift	Not Accessed	Likely
The Escarpment	MW120	Groundwater Well	Groundwater	26-Feb-25	No	527359.280	5252640.610	7.995	2.25	-	-	-	-	No	-	-	Redeveloped (Pedestrian stairs), likely lost	Lost / Destroyed	No
The Escarpment	NR3	Groundwater Well	Groundwater	26-Feb-25	Yes	527607.000	5252620.121	7.807	8.00	ND	ND	0.100	0	No	ND	-	Well blocked @0.1 m, no gatic, PVC exposed, stick up, well filled in with rocks, might need to cut	Major Repair	No
Audit Area 4 East	MW145	Groundwater Well	Groundwater	26-Feb-25	Yes	527626.852	5252642.476	7.969	8.00	-	-	-	-	No	-	-	Well on side of road, unable to access	Not Accessed	Likely
Audit Area 4 East	MW159	Groundwater Well	Groundwater	26-Feb-25	Yes	527693.238	5252689.962	5.757	7.87	ND	2.608	7.640	NM	No	2.608	3.149	Good condition, no sheen, no odour	Intact	Yes
Audit Area 4 East	MW160	Groundwater Well	Groundwater	27-Feb-25	Yes	527666.699	5252766.390	7.306	9.54	ND	6.511	9.510	0	No	6.511	0.795	Good condition, no odour, no sheen	Intact	Yes
Audit Area 4 East	MW161	Groundwater Well	Groundwater	27-Feb-25	Yes	527657.800	5252774.319	7.634	6.48	ND	ND	6.460	NM	No	ND	-	Good condition, no odour, no sheen, well dry	Intact	Yes
Audit Area 4 East	MW177	Groundwater Well	Groundwater	27-Feb-25	Yes	527599.210	5252817.380	9.500	7.20	ND	ND	7.170	NM	No	ND	-	Water below TOC, good condition, no odour, no sheen, dry, mud on probe	Intact	Yes
Audit Area 4 East	NR1	Groundwater Well	Groundwater	26-Feb-25	Yes	527648.559	5252654.045	8.295	8.00	ND	5.891	8.050	0.3	No	5.891	2.404	Good condition, no sheen, no odour	Intact	Yes
Audit Area 4 East	NR2	Groundwater Well	Groundwater	26-Feb-25	No	527664.812	5252610.953	4.559	6.00	-	-	-	-	No	-	-	No Go, piling works	Not Accessed	Unknown
Audit Area 4 East	NR4	Groundwater Well	Groundwater	26-Feb-25	No	527677.760	5252636.900	#N/A	#N/A	-	-	-	-	No	-	-	Unable to locate with metal detector	Lost / Destroyed	No
The Promenade and Underground Carpark	BH1_PS	Groundwater Well	Groundwater	28-Feb-25	No	527483.790	5252561.390	6.038	7.64	-	-	-	-	No	-	-	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW10	Groundwater Well	Groundwater	28-Feb-25	No	527517.013	5252512.400	5.589	6.09	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW121	Groundwater Well	Groundwater	27-Feb-25	Yes	527391.610	5252556.420	6.957	5.06	-	3.759	5.060	0	No	3.759	3.198	Buried under 10cm of gravel/soil	Minor Repairs	Likely
The Promenade and Underground Carpark	MW130	Groundwater Well	Groundwater	28-Feb-25	No	527544.200	5252550.000	5.795	6.40	-	-	-	-	No	-	-	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW131	Groundwater Well	Groundwater	28-Feb-25	No	527539.230	5252560.530	5.990	7.00	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW132	Groundwater Well	Groundwater	28-Feb-25	No	527540.900	5252569.000	5.940	6.61	-	-	-	-	No	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW133	Groundwater Well	Groundwater	28-Feb-25	No	527544.900	5252558.000	5.874	6.50	-	-	-	-	Yes	-	-	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW134	Groundwater Well	Groundwater	28-Feb-25	No	527547.390	5252565.030	5.954	7.00	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW135	Groundwater Well	Groundwater	-	No	527524.700	5252520.000	5.583	7.20	-	-	-	-	Yes	-	-	Not recorded in field noted. Considered likely to be destroyed based on surrounding wells	Lost / Destroyed	No
The Promenade and Underground Carpark	MW136	Groundwater Well	Groundwater	28-Feb-25	No	527525.300	5252509.000	5.647	7.00	-	-	-	-	No	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW137	Groundwater Well	Groundwater	28-Feb-25	No	527545.700	5252515.000	4.295	5.60	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW138	Groundwater Well	Groundwater	28-Feb-25	No	527513.100	5252499.000	5.597	6.25	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW139	Groundwater Well	Groundwater	28-Feb-25	No	527514.500	5252512.000	5.590	6.60	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW140	Groundwater Well	Groundwater	28-Feb-25	No	527511.800	5252512.000	5.669	6.70	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW141	Groundwater Well	Groundwater	28-Feb-25	No	527515.400	5252519.000	5.688	7.00	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW144	Groundwater Well	Groundwater	28-Feb-25	No	527525.480	5252528.970	5.796	7.20	-	-	-	-	No	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW146	Groundwater Well	Groundwater	28-Feb-25	Yes	527552.111	5252507.052	4.186	5.50	ND	3.375	5.510	0	No	3.375	0.811	Good condition, no odour, tubing in well	Intact	Yes
The Promenade and Underground Carpark	MW147	Groundwater Well	Groundwater	28-Feb-25	No	527554.460	5252531.720	5.394	6.80	-	-	-	-	No	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW157	Groundwater Well	Groundwater	28-Feb-25	No	527501.635	5252507.233	5.760	6.32	-	-	-	-	No	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW174	Groundwater Well	Groundwater	28-Feb-25	No	527498.815	5252469.569	3.987	4.85	-	-	-	-	No	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW175	Groundwater Well	Groundwater	28-Feb-25	Yes	527517.100	5252456.440	3.904	4.50	ND	3.056	4.320	0	No	3.056	0.848	Good condition, tubing in well	Intact	Yes
The Promenade and Underground Carpark	MW176	Groundwater Well	Groundwater	28-Feb-25	Yes	527537.900	5252479.310	4.036	4.50	ND	3.189	4.620	0	No	3.189	0.847	Good condition, no odour, tubing in well	Intact	Yes
The Promenade and Underground Carpark	MW19	Groundwater Well	Groundwater	28-Feb-25	No	527511.990	5252523.289	5.806	6.09	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW21	Groundwater Well	Groundwater	28-Feb-25	No	527517.477	5252502.427	5.584	5.30	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW22	Groundwater Well	Groundwater	28-Feb-25	No	527534.870	5252516.694	5.514	5.80	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW23	Groundwater Well	Groundwater	28-Feb-25	No	527542.120	5252522.480	5.571	5.96	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	MW36	Groundwater Well	Groundwater	27-Feb-25	Yes	527471.125	5252514.268	6.109	6.62	ND	3.983	6.440	0	No	3.983	2.126	Gatic lost	Major Repair	Yes
The Promenade and Underground Carpark	PW03	Groundwater Well	Groundwater	28-Feb-25	No	527519.540	5252516.320	5.617	7.01	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	R1	Groundwater Well	Groundwater	28-Feb-25	No	527543.290	5252562.730	5.930	6.30	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	R2	Groundwater Well	Groundwater	28-Feb-25	No	527509.010	5252529.150	6.025	6.80	-	-	-	-	No	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	R3	Groundwater Well	Groundwater	28-Feb-25	No	527531.849	5252503.629	4.129	6.00	-	-	-	-	No	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	R4	Groundwater Well	Groundwater	28-Feb-25	No	527540.965	5252510.749	4.236	6.00	-	-	-	-	Yes	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV11	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527557.839	5252546.861	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV12	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527541.563	5252519.406	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV15	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527564.794	5252523.315	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV20	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527545.986	5252564.973	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV21B	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527543.080	5252567.477	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV22	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527540.065	5252562.698	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, hard pack gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV27D	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527514.940	5252515.223	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV27S	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527514.940	5252515.223	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, Hard pack Gravel	Lost / Destroyed	No
The Promenade and Underground Carpark	SV28	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527521.991	5252515.837	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, Hard pack Gravel	Lost / Destroyed	No
The Precinct North	MW142	Groundwater Well	Groundwater	28-Feb-25	No	527581.400	5252528.000	4.165	5.50	-	-	-	-	No	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Precinct North	MW143	Groundwater Well	Groundwater	28-Feb-25	No	527577.100	5252533.000	4.222	5.50	-	-	-	-	Yes	-	-	Lost, Hard pack Gravel	Lost / Destroyed	No
The Precinct North	MW155	Groundwater Well	Groundwater	27-Feb-25	Yes	527625.037	5252516.399	3.929	4.53	ND	2.945	4.515	0	No	2.945	0.984	One bolt missing, hydrocarbon odour	Minor Repairs	Yes
The Precinct North	MW156	Groundwater Well	Groundwater	28-Feb-25	No	527650.188	5252566.912	4.301	4.17	-	-	-	-	No	-	-	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Precinct North	MW158	Groundwater Well	Groundwater	28-Feb-25	No	527610.893	5252566.316	4.371	5.27	-	-	-	-	No	-	-	Lost, used Metal Detector + GPS + shovel, potentially under container	Lost / Destroyed	No
The Precinct North	MW162	Groundwater Well	Groundwater	28-Feb-25	Yes	527561.725	5252463.136	4.079	4.76	-	-	-	-	No	-	-	Found under drilling equipment	Not Accessed	Unknown
The Precinct North	MW165	Groundwater Well	Groundwater	28-Feb-25	No	527645.479	5252556.553	4.318	5.45	-	-	-	-	No	-	-	Lost, hard pack gravel	Lost / Destroyed	No
The Precinct North	MW166	Groundwater Well	Groundwater	28-Feb-25	No	527641.992	5252570.733	4.339	5.40	-	-	-	-	No	-	-	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Precinct North	MW167	Groundwater Well	Groundwater	28-Feb-25	Yes	527658.873	5252563.922	4.164	4.85	ND	3.019	4.920	0	No	3.019	1.145	Good condition	Intact	Yes
The Precinct North	MW168	Groundwater Well	Groundwater	28-Feb-25	No	527654.340	5252575.677	4.338	5.45	-	-	-	-	No	-	-	Inaccessible 26/08 due to TasWater works. Could not be located on 28/06 - lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Precinct North	MW171	Groundwater Well	Groundwater	28-Feb-25	No	527603.899	5252577.785	5.353	6.39	-	-	-	-	No	-	-	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Precinct North	RN2	Groundwater Well	Groundwater	27-Feb-25	Yes	527645.786	5252526.638	4.182	5.50	-	-	-	-	No	-	-	Partial asphalted over, bolts sheared unable to open with hand tools	Major Repair	Unknown
The Precinct North	RN4	Groundwater Well	Groundwater	28-Feb-25	Yes	527563.308	5252490.930	4.045	6.00	ND	3.236	5.180	0	Yes	3.236	0.809	Good condition, tubing in well	Intact	Yes
The Precinct North	TW01	Groundwater Well	Groundwater	26-Feb-25	No	527660.136	5252595.212	4.497	5.57	-	-	-	-	No	-	-	No Go, piling works	Not Accessed	Unknown
The Precinct North	TW02	Groundwater Well	Groundwater	27-Feb-25	No	527645.779	5252526.645	4.182	5.43	-	-	-	-	No	-	-	Fresh asphalt/ spray asphalt, lost	Major Repair	Unknown
The Precinct North	TW03	Groundwater Well	Groundwater	27-Feb-25	No	527645.667	5252477.872	3.357	3.95	-	-	-	-	No	-	-	Fresh asphalt/ spray asphalt, well located in excavation area for remediation conducted in 2023.	Lost / Destroyed	No
The Precinct North	SV13	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527578.664	5252532.808	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, Hard pack Gravel	Lost / Destroyed	No
The Precinct North	SV14	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527613.032	5252568.225	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Precinct North	SV16	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527593.395	5252531.761	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, Hard pack Gravel	Lost / Destroyed	No
The Precinct North	SV17	Soil Vapour Bore	Soil Vapour	27-Feb-25	Yes	527619.410	5252499.314	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Water in well, likely line broken	Lost / Destroyed	No
The Precinct North	SV18	Soil Vapour Bore	Soil Vapour	27-Feb-25	Yes	527624.200	5252515.812	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Water in well, still intact	Intact	Yes
The Precinct North	SV19	Soil Vapour Bore	Soil Vapour	28-Feb-25	No	527647.367	5252566.439	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost, used Metal Detector + GPS + shovel	Lost / Destroyed	No
The Precinct North	SV26	Soil Vapour Bore	Soil Vapour	27-Feb-25	Yes	527600.809	5252455.713	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Water in well, no LEL reading, likely broken	Lost / Destroyed	No

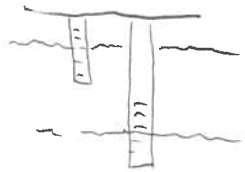
Table T1 - Groundwater Well and Soil Vapour Bore Inspection and Gauging Results

AECOM

Site Area	Location ID	Type	Media	Date	Located? (Yes / No)	X Coordinate	Y Coordinate	Top of Casing (mAHD)	Historic Well Depth (mBTOC)	Gauging Results (mBTOC)			PID (ppm)	LNAPL historically detected?	Corrected SWL[#1]		Comments	Condition	Suitable for Future Monitoring?
										Depth to LNAPL	Depth to Water	Depth to Bottom			mBTOC	mAHD			
The Precinct South	MW03	Groundwater Well	Groundwater	27-Feb-25	Yes	527629.967	5252344.531	2.596	8.74	1.980	1.990	NM	NM	Yes	1.982	0.614	Hydrocarbon odour, sticky, LNAPL	Intact	Yes
The Precinct South	MW05	Groundwater Well	Groundwater	27-Feb-25	Yes	527625.558	5252326.180	2.663	4.36	1.732	1.740	NM	10	Yes	1.734	0.929	Hydrocarbon odour, sticky, LNAPL, organic matter, hard to get depth	Intact	Yes
The Precinct South	MW125A	Groundwater Well	Groundwater	27-Feb-25	Yes	527553.730	5252320.260	3.306	4.98	ND	2.481	NM	NM	No	2.481	0.825		Intact	Yes
The Precinct South	MW125B	Groundwater Well	Groundwater	27-Feb-25	Yes	527553.710	5252320.340	3.309	15.29	ND	2.689	NM	NM	No	2.689	0.620		Intact	Yes
The Precinct South	MW126A	Groundwater Well	Groundwater	27-Feb-25	Yes	527609.600	5252304.450	2.857	5.10	ND	2.169	NM	NM	No	2.169	0.688	Bio matter on probe	Intact	Yes
The Precinct South	MW126B	Groundwater Well	Groundwater	27-Feb-25	Yes	527609.660	5252304.430	2.831	18.90	ND	2.457	NM	NM	No	2.457	0.374	Bio matter on probe	Intact	Yes
The Precinct South	MW13	Groundwater Well	Groundwater	27-Feb-25	No	527592.406	5252344.885	3.159	4.90	-	-	-	-	No	-	-	Newly asphalted Road, area excavated as part of remediation in 2024.	Lost / Destroyed	No
The Precinct South	MW154	Groundwater Well	Groundwater	27-Feb-25	Yes	527608.419	5252318.975	2.827	3.97	2.094	2.125	NM	NM	No	2.101	0.726	Hydrocarbon odour, LEL, brown LNAPL	Intact	Yes
The Precinct South	MW16	Groundwater Well	Groundwater	27-Feb-25	Yes	527622.576	5252310.246	2.630	5.08	ND	1.995	NM	NM	No	1.995	0.635	Good condition, no sheen, hydrocarbon odour	Intact	Yes
The Precinct South	MW16	Groundwater Well	Groundwater	27-Feb-25	Yes	527622.576	5252310.246	2.630	5.08	ND	1.970	NM	NM	No	1.970	0.660	Hydrocarbon, odour, bio matter on probe, hard to take reading. Accessed a second time during walkover with BlackCap	Intact	Yes
The Precinct South	MW163	Groundwater Well	Groundwater	27-Feb-25	Yes	527644.415	5252427.853	2.837	3.85	ND	1.966	3.820	NM	No	1.966	0.871	LEL 100, lugs threaded	Minor Repairs	Yes
The Precinct South	MW164	Groundwater Well	Groundwater	27-Feb-25	Yes	527634.673	5252386.218	2.685	3.85	ND	1.836	3.860	20	No	1.836	0.849	Slight hydrocarbon odour	Intact	Yes
The Precinct South	MW6	Groundwater Well	Groundwater	27-Feb-25	Yes	527631.882	5252366.709	2.896	4.97	ND	2.151	4.904	0	No	2.151	0.745	Data logger in well, good condition	Intact	Yes
The Precinct South	MW60	Groundwater Well	Groundwater	27-Feb-25	Yes	527604.842	5252306.32	2.864	5.21	ND (see comments)	2.178	NM	NM	No	2.178	0.686	Bio matter blocking probe, hard to gauge. May be false detect for LNAPL. LNAPL recorded at 2.178, but assessed as false positive based on reinspection on 24 March 2025. The recorded depth to LNAPL has been taken as the depth of groundwater based on this result.	Minor Repairs	Unknown
				24-Mar-25							2.216	2.880	0		2.216	0.648	Well revisted to assess if LNAPL present. Detected on probe, however visual inspection following bailing of well identified apparent biofilm giving false positive. The recorded depth to LNAPL has been taken as the depth to water based on this result. Well apparently blocked - hollow noise at surface		
The Precinct South	PW02	Groundwater Well	Groundwater	27-Feb-25	Yes	527624.264	5252337.008	2.723	5.61	2.200	2.250	NM	45	Yes	2.211	0.513	Brown LNAPL, hydrocarbon, odour, LEL 25%, lugs threaded	Intact	Yes
The Precinct South	S4	Groundwater Well	Groundwater	27-Feb-25	No	527620.807	5252363.953	2.842	4.00	-	-	-	-	No	-	-	Lost under Basketball court/ astro turf	Major Repair	Unknown
The Precinct South	S6	Groundwater Well	Groundwater	27-Feb-25	No	527615.679	5252345.586	2.895	4.80	-	-	-	-	No	-	-	Lost under Basketball court/ astro turf	Major Repair	Unknown
The Precinct South	S8	Groundwater Well	Groundwater	27-Feb-25	Yes	527610.904	5252328.497	2.830	5.20	2.060	2.155	NM	15	Yes	2.080	0.750	Water above TOC, hydrocarbon, odour, 25% LEL, brown LNAPL, on probe, one lug broken	Intact	Yes
The Precinct South	S9	Groundwater Well	Groundwater	27-Feb-25	No	527588.943	5252302.383	2.910	3.94	-	-	-	-	No	-	-	Lost under garden bed	Major Repair	Unknown
The Precinct South	SV04	Sub-slab pin	Soil Vapour	27-Feb-25	No	527563.653	5252333.474	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Not found	Lost / Destroyed	No
The Precinct South	SV05	Sub-slab pin	Soil Vapour	27-Feb-25	No	527606.592	5252343.346	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost under Basketball court/ astro turf	Major Repair	Unknown
The Precinct South	SV06	Sub-slab pin	Soil Vapour	27-Feb-25	No	527612.942	5252336.268	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost	Lost / Destroyed	No
The Precinct South	SV07	Soil Vapour Bore	Soil Vapour	27-Feb-25	Yes	527624.006	5252333.791	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	N/A	Water in well, well intact, lug threaded	Minor Repairs	Yes
The Precinct South	SV08	Sub-slab pin	Soil Vapour	27-Feb-25	No	527619.226	5252329.978	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost	Lost / Destroyed	No
The Precinct South	SV23	Soil Vapour Bore	Soil Vapour	27-Feb-25	Yes	527600.886	5252397.034	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Concrete where hole was, lost	Lost / Destroyed	No
The Precinct South	SV24	Soil Vapour Bore	Soil Vapour	27-Feb-25	No	527602.585	5252403.514	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Fresh asphalt/ spray asphalt, lost	Major Repair	Unknown
The Precinct South	SV25	Soil Vapour Bore	Soil Vapour	27-Feb-25	Yes	527623.589	5252392.009	N/A	N/A	N/A	N/A	N/A	NM	N/A	N/A	N/A	water in gatic, 25 LEL, well intact, kinks in line	Minor Repairs	Yes
The Precinct South	SV29	Sub-slab pin	Soil Vapour	27-Feb-25	No	527611.380	5252359.699	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Lost under Basketball court/ astro turf	Major Repair	Unknown
The Precinct South	SV30	Sub-slab pin	Soil Vapour	27-Feb-25	No	527600.911	5252321.543	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	Under Astro turf/ container	Major Repair	Unknown
The Gateway	BH2_PS	Groundwater Well	Groundwater	26-Feb-25	Yes	527483.786	5252435.896	5.286	7.04	-	-	-	-	No	-	-	Unable to open, gatic drilled shut screws threaded	Major Repair	Unknown
The Gateway	MW100	Groundwater Well	Groundwater	26-Feb-25	Yes	527434.926	5252397.121	4.006	11.56	ND	3.374	11.533	0.7	No	3.374	0.632	bolts missing, no sheen, no odour	Minor Repairs	Yes
The Gateway	MW101	Groundwater Well	Groundwater	26-Feb-25	Yes	527370.927	5252477.012	5.317	3.90	ND	2.310	3.640	1	No	2.310	3.007	Water below TOC, CC	Intact	Yes
The Gateway	MW102	Groundwater Well	Groundwater	26-Feb-25	Yes	527400.582	5252491.493	5.778	4.47	ND	2.837	4.460	0.3	No	2.837	2.941	Gatic missing, no sheen, no odour	Minor Repairs	Yes
The Gateway	MW122	Groundwater Well	Groundwater	26-Feb-25	Yes	527495.560	5252422.980	3.933	4.00	ND	3.168	6.030	0	No	3.168	0.765	Good condition, 1 bolt threaded	Minor Repairs	Yes
The Gateway	MW128A	Groundwater Well	Groundwater	26-Feb-25	Yes	527368.370	5252452.590	5.232	5.03	ND	2.191	3.501	2	No	2.191	3.041	Good condition, no sheen, no odour. Likely blockage in well or damage to casing based on DTB	Major Repair	Unknown
The Gateway	MW128B	Groundwater Well	Groundwater	26-Feb-25	Yes	527368.390	5252452.590	5.209	13.41	ND	2.191	3.988	0	No	2.191	3.018	Good condition, no sheen, no odour, well likely blocked based on historic depth	Major Repair	Unknown
The Gateway	MW129	Groundwater Well	Groundwater	26-Feb-25	Yes	527457.190	5252377.340	3.800	16.00	-	-	-	-	No	-	-	Bolts sheared unable to open with handtools	Major Repair	Unknown
The Gateway	MW148	Groundwater Well	Groundwater	26-Feb-25	Yes	527477.706	5252417.844	3.786	4.93	-	-	-	-	No	-	-	1 bolt threaded, unable to open with handtools	Major Repair	Unknown
The Gateway	MW173	Groundwater Well	Groundwater	-	No	527443.426	5252486.041	5.928	4.96	-	-	-	-	No	-	-	Access not recorded by field staff. Considered likely to be intact - recently installed without any works in area	Not Accessed	Likely
The Gateway	RS6	Groundwater Well	Groundwater	26-Feb-25	Yes	527456.344	5252374.791	3.792	5.50	ND	3.165	5.500	NM	No	3.165	0.627	Good condition, no sheen, no odour	Intact	Likely
Regatta Point	MW178	Groundwater Well	Groundwater	27-Feb-25	Yes	527641.360	5252837.070	1.280	4.85	ND	1.025	4.860	0	No	1.025	0.255	Good condition, no odour, no sheen	Intact	Yes
Regatta Point	MW179	Groundwater Well	Groundwater	27-Feb-25	Yes	527672.190	5252790.900	2.270	5.40	ND	2.003	5.390	0	No	2.003	0.267	Water below TOC, Good condition, no odour, no sheen, sediment on probe	Intact	Yes
Regatta Point	MW180	Groundwater Well	Groundwater	27-Feb-25	Yes	527640.730	5252837.800	1.240	1.90	ND	1.145	1.890	NM	No	1.145	0.095	Water below TOC, Good condition, no odour, no sheen	Intact	Yes
Regatta Point	MW181	Groundwater Well	Groundwater	27-Feb-25	Yes	527671.550	5252791.670	2.260	0.85	ND	ND	0.855		No	ND	-	Good condition, no odour, no sheen, well dry	Intact	Yes
Off-Site	C1	Groundwater Well	Groundwater	27-Feb-25	Yes	527657.503	5252456.170	3.142	4.50	ND	2.281	4.060	20	No	2.281	0.861	Water above TOC, LEL 68%, left to vent	Intact	Yes
Off-Site	MW123A	Groundwater Well	Groundwater	26-Feb-25	Yes	527393.270	5252399.740	3.223	3.82	ND	2.549	3.730	0	No	2.549	0.674		Intact	Yes
Off-Site	MW123B	Groundwater Well	Groundwater	26-Feb-25	Yes	527393.230	5252399.730	3.278	17.60	ND	2.949	17.680	0	No	2.949	0.329	Bolts missing, no sheen, no odour	Minor Repairs	Yes
Off-Site	MW130_GHD	Groundwater Well	Groundwater	26-Feb-25	Yes	527382.450	5252393.370	2.728	5.00	NM	NM	NM	NM	No	NM	-	Well seen from footpath, gatic missing	Major Repair	Likely
Off-Site	MW131_GHD	Groundwater Well	Groundwater	26-Feb-25	Yes	527398.420	5252384.860	2.611	9.70	NM	NM	NM	NM	No	NM	-	Well seen from footpath	Not Accessed	Likely
Off-Site	MW132_GHD	Groundwater Well	Groundwater	26-Feb-25	Yes	527399.600	5252384.260	2.631	4.50	NM	NM	NM	NM	No	NM	-	Well seen from footpath	Not Accessed	Likely
Off-Site	MW133_GHD	Groundwater Well	Groundwater	26-Feb-25	Yes	527454.400	5252353.360	3.127	5.00	NM	NM	NM	NM	No	NM	-	Well seen from footpath	Not Accessed	Likely
Off-Site	MW134_GHD	Groundwater Well	Groundwater	27-Feb-25	Yes	527600.190	5252274.580	3.057	7.00	ND	2.776	6.030	0	No	2.776	0.281	48% LEL, good condition, under square lid, organic odour	Intact	Yes
Off-Site	MW135_GHD	Groundwater Well	Groundwater	27-Feb-25	Yes	527632.940	5252353.790	2.597	5.00	NM	1.939	NM	5.3	No	1.939	0.658	One bolt missing	Minor Repairs	Yes
Off-Site	MW136_GHD	Groundwater Well	Groundwater	27-Feb-25	Yes	527633.060	5252324.500	2.549	13.50	NM	1.938	NM	0.4	No	1.938	0.611	Good condition, no odour, no sheen	Intact	Yes
Off-Site	MW150	Groundwater Well	Groundwater	27-Feb-25	Yes	527528.454	5252319.791	3.265	5.00	NM	NM	NM	NM	No	NM	-	Observed in Road, good condition	Not Accessed	Likely
Off-Site	MW151	Groundwater Well	Groundwater	27-Feb-25	Yes	527567.708	5252282.430	2.553	5.50	ND	2.182	4.880	0.2	No	2.182	0.371	Good condition, no sheen, no odour	Intact	Yes
Off-Site	MW152	Groundwater Well	Groundwater	27-Feb-25	Yes	527564.181	5252262.443	2.563	5.50	ND	2.245	4.990	0.3	No	2.245	0.318	Good condition, no sheen, no odour	Intact	Yes
Off-Site	MW153	Groundwater Well	Groundwater	27-Feb-25	Yes	527557.540	5252240.934	2.449	4.70	ND	2.147	4.450	7.5	No	2.147	0.302	Water above TOC,good condition, no odour, no sheen, dirt on probe	Minor Repairs	Yes
Off-Site	PC05	Groundwater Well	Groundwater	27-Feb-25	Yes	527726.727	5252600.326	Unknown	3.28	ND	2.313	3.290	NM	No	2.313	-	Good condition, no sheen, no odour, orange organic material on probe	Intact	Yes
Off-Site	PC10	Groundwater Well	Groundwater	27-Feb-25	Yes	527817.921	5252666.445	Unknown	4.42	-	-	-	-	No	-	-	Bolts sheared unable to open - need driller	Major Repair	Unknown
Off-Site	PC11	Groundwater Well	Groundwater	27-Feb-25	Yes	527779.795	5252522.473	Unknown	4.56	-	-	-	-	No	-	-	Bolts sheared unable to open - need driller	Major Repair	Unknown
Off-Site	PC12	Groundwater Well	Groundwater	27-Feb-25	Yes	527651.691	5252296.989	Unknown	4.98	ND	2.525	NM	0	No	2.525	-	LEL 17, organic material on probe, good condition	Intact	Yes
Off-Site	PC13	Groundwater Well	Groundwater	27-Feb-25	Yes	527650.528	5252362.247	2.636	4.33	1.300	1.310	NM	0.1	No	1.302	1.334	Good condition, 1 cm of LNAPL	Intact	Yes
Off-Site	PC15	Groundwater Well	Groundwater	27-Feb-25	No	527668.146	5252518.054	3.489	4.38	-	-	-	-	No	-	-	Under large shipping container unable to locate	Not Accessed	Unknown
Off-Site	PC08	Groundwater Well	Groundwater	-	No	527746.787	5252222.601	Unknown	2.10	-	-	-	-	No	-	-	No access attempted by field staff.	Not Accessed	Unknown
Off-Site	PC14	Groundwater Well	Groundwater	-	No	527642.432	5252230.789	Unknown	2.20	-	-	-	-	No	-	-	No access attempted by field staff. A mark which may be this well is visible on aerial photographs.	Not Accessed	Unknown

Notes
N/A - Not Applicable; ND - Not Detected; NM - Not Measured; mBTOC - meters below top of casing; mAHD - meters Australia Height Datum; SWL - Standing Water Level; PID - photoionisation detector
#1. LNAPL was assumed to have a specific gravity of 0.79 for calculation of Corrected SWL.

Appendix C – Field Records



ECOM

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Q4AN(EV)-414-FM1

Project Name:	MacPoint	Project Location:	Macquarie Point	PM Name:	Rob Crowe
Project Number:	60693007	Client:		Fieldwork Staff Name:	SF, MG

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW148	26/02		–	–	–	–	–	–	–	1 Bolt thraded, unable to open with Hand tools
MW122	"		0.0	–	3.168	–	–	6.03	–	GC, 1 Bolt threaded
BH2-P2	"		–	–	–	–	–	–	–	Unable to open, Gaftic Drilled shut Screws threaded
MW102	"		0.3	–	2.837	–	–	4.46	–	Gaftic Missing, NS, NO
MW100	"		6.7	–	3.374	–	–	11.533	–	Bolts missing, NS, NO
MW128A	"		2.0	–	2.191	–	–	3.501	–	GC, NS, NO
MW128B	"		0.0	–	2.191	–	–	3.988	–	" " check which well is which
MW101	"		1.0	–	2.510	–	–	3.64	–	Water Below TOC, CC
MW131GHD	"		–	–	–	–	–	–	–	Well seen from Footpath
MW132GHD	"		–	–	–	–	–	–	–	Well seen from Footpath
MW130GHD	"		–	–	–	–	–	–	–	Well seen from Footpath, Gaftic missing
MW123B	"		0.0	–	2.949	–	–	17.68	–	Bolts missing, NS, NO
MW123A	"		0.0	–	2.549	–	–	3.73	–	" "
MW135GHD	"		–	–	–	–	–	–	–	Well seen from Footpath
MW129	"		–	–	–	–	–	–	–	Bolts sheared unable to open with Hand tools
RS6	"		–	–	3.165	–	–	5.50	–	GC, NS, NO
MW169	"		0.0	–	–	–	–	–	–	Unable to locate under containers
MW154	"		–	–	2.608	–	–	7.64	–	GC, NS, NO
NR1	"		0.3	–	5.891	–	–	8.05	–	GC, NS, NO
NR4	"		–	–	–	–	–	–	–	Unable to locate with Metal Detectors

Measurement Equipment

Make & Model:		Supplier:	
Serial No.:		Calibration Report Provided?	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

~~PID stopped working~~

Check Back of Sheet for More Gauging Data

Q4AN(EV)-414-FM1

Project Name:	MacPoint	**Project Location:**	Macquarie Point	**PM Name:**	Rob Crowe
Project Number:	60693007	**Client:**		**Fieldwork Staff Name:**	SF, MG

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW145	26/02/25									Well on side of Road, unable to access
NR3	"		0.0	-	0.1					Well Blocked @ 0.1 m, No Gatic, PVC Exposed
MW103	"									Well under large pipes need notice to lift
NR2	"									No Go Piling works
TW01	"									No Go Piling works
MW168	"									No GO Piling works
BG1	"									Bolts sheared unable to open with
MW3	"									Not found under new Asphalt Road
MW120	"									Redeveloped (Pedestrian stairs) Likely lost
PC05	27/02/25	-	-		2.313	-	-	3.29		GC, NS, NO orange organic material on Probe
PC10	"									Bolts sheared unable to open -> need drill
PC11	"									" " "
PC15	"									under large shipping containers unable to locate
C1	"		20	-	2.281	-	-	4.06		water above TOC, LEL 68% Left to vent
PC13	"	-	0.1	1.300	1.310	0.010	-	-		GC, 1cm of LNAPL
~~MW13~~	"									~~Lost in Fence in Place not~~ VES
MW136_GHD	"		0.4	-	1.938					GC, NO,
MW135_GHD	"		5.3	-	1.939					GC, OWE Back missing
PC12	"		0		2.525					LEL 17, organic material on probe, GC
MW134_GHD	"		0		2.776			6.03		48% LEL, GC, under Square Lid @ organic odour

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

ANZ

FQM - NAPL and Groundwater Level Gauging Record

Turn around for EXTRA Gauges

AECOM

Q4AN(EV)-414-FM1

Project Name:	MacPoint	**Project Location:**	Macquarie Point	**PM Name:**	Rob Crowe
Project Number:	60693007	**Client:**		**Fieldwork Staff Name:**	SF, MG

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW151	27/02/25	10:50	0.2		2.132			4.88		GC, NO, NS
MW152	"		0.3		2.245			4.99		GC, NO, NS
MW153	"	7.5 →			2.147			4.45		Water above TOC, GC, NO, NS, dirt on probe
MW03	"	–	–	1.980	1.990					HC odour, Sticky LNAPL
MW05	"		10	1.74	1.732					HC odour, Sticky LNAPL, organic matter, pl, Hard to get depth
MW16	"				1.995					GC, NS, HC odour
SV08	"									Water in well, well intact, lug threaded
SV07	"									↓ SV08 missing
TW02	"		45	2.200	2.25			–		Brown LNAPL, HC odour, GC 25%, Lugs threaded
MW6	"		0		2.151			4.904		Data logger in well, GC
MW164	"		20		1.836			3.86		Sligh HC odour
SV23	"									Concrete where Hole was → lost
SV24	"									Fresh Ashpalt / Spray Asphalt → lost
SV25	"									water in Gattic, 25 GC, well intact, kinks in lines
MW163	"				1.966			3.92		LEL 100, lugs threaded
TW03	"									Fresh Ashphalt / SPRAY Asphalt, well lost
TW02	"									" " → lost
SV17	"									Water in well, likely line Broken
SV18	"									Water in well, still intact
MW155	"		0.0		2.945			4.515		one Bolt missing, HC odour

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

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FQM - NAPL and Groundwater Level Gauging Record

using Metal detector + GPS to locate wells + shovel

AECOM

Q4AN(EV)-414-FM1

Project Name:	MacPoint	**Project Location:**	Macquarie Point	**PM Name:**	Rob Crowe
Project Number:	60693007	**Client:**		**Fieldwork Staff Name:**	SF, MG

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW178	27/02/25		0		1.095			4.86		GC, NO, NS
MW180	27/02/25				1.145			1.89		Water below TOC, GC, NO, NS
MW179	"		0		2.103			5.39		Water below TOC, GC, NO, NS, sediment on probe
MW181	"				Dry			0.855		GC, NO, NS, Well Dry
MW160	"		0		6.54			9.51		GC, NO, NS
MW161	"				Dry			6.46		GC, NO, NS, Well Dry
MW177	"				Dry			7.17		Water below TOC, GC, NO, NS, Dry, Mud on probe
MW121	"		0		3.754			5.06		Buried under 10cm of gravel/soil
MW136	"		0		3.983			6.44		Gothic Lost
BH1PS	28/02/25									Lost, used Metal Detector + GPS + shovel
MW133	"									" "
MW130	"									" "
SV11	"									" "
MW171	"									" "
SV14	"									" "
MW158	"									" "
MW166	"									" "
MW168	"									" " potentially under container
SV19	"									" "
MW156	"									" "

Measurement Equipment

Make & Model:		**Supplier:**	
Serial No.:		**Calibration Report Provided?**	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

Fieldwork Staff Signature Date

Project Manager Signature Date

Distribution: Project Central File

FQM - NAPL and Groundwater Level Gauging Record

Project Name:	MacPoint	Project Location:	Macquarie Point	PM Name:	Rob Crowe
Project Number:	60693007	Client:		Fieldwork Staff Name:	SF, MG

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW21	28/02									Lost, Hard pack Gravel
MW38	"									"
MW62	"									Found under Drilling Equipment
RW4	"	-	0.0	-	3.236	-	-	5.18		GC Found, GC tubing in well
MW142	"									Lost Hard pack Gravel
MW143	"									" "
SV93	"									" "
SV16	"									" "
MW166	"		0.0	-	3.375	-	-	5.51	-	GC NO tubing in well
MW176	"		0.0	-	3.189	-	-	4.62	-	GC NO, NS, tubing in well
MW157	"									Lost, Hard Pack Gravel
MW140	"									" "
MW139	"									" "
MW10	"									" "
RW03	"									" "
SV27	"									" "
SV28	"									" "
MW141	"									" "
MW [illegible]	"									" "
R2	"									" "

Measurement Equipment				Notes/Comments
Make & Model:		Supplier:		(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing
Serial No.:		Calibration Report Provided?		

Approval and Distribution

Fieldwork Staff Signature _____ Date _____

Project Manager Signature _____ Date _____

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MW174 Lost under hard pack Gravel
MW175 DTW 3.056 TD 4.32 PID 0.0 GC, tubing in well
SV01/SV02/SV03 could not locate

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FQM - NAPL and Groundwater Level Gauging Record

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Q4AN(EV)-414-FM1

Project Name:	MacPoint	Project Location:	Macquarie Point	PM Name:	Rob Crowe
Project Number:	60693007	Client:		Fieldwork Staff Name:	SF, MG

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW165	28/02	—								lost, hard pack Gravel
MW167	"	—	0	—	3.019	—	—	4.92		~~lost~~ GC
MW32	"	—								lost hard pack Gravel
SV20	"									"
SV21B	"									"
SV22	"									"
SV21	"									"
MW134	"									"
R1	"									"
MW131	"	—	—	—	—	—	—	—		"
MW144	"	—	—	—	—	—	—	—		"
MW147	"									"
SV15	"									"
R4	"									"
MW137	"									"
MW23	"									"
SV12	"									"
MW22	"									"
R3	"									"
MW136	"									"

Measurement Equipment

Make & Model:		Supplier:	
Serial No.:		Calibration Report Provided?	

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

Approval and Distribution

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MW 154 – DTP: 2.94 DTW: 2.125 HC odour LeL Brown LNAPL

~~S8~~ S8 – PID: 15 DTP: 2.06 DTW: 2.155 water above TOC, HC odour 25% LeL BROWN LNAPL on probe

MW16 – ~~DTP~~ DTW: 1.97 one Lug Brown HC odour, Bio matts on probe, hard to take reading

Questions:

- Adding Bentonite to Slurry / Sludge is that a problem
- Using water / Slurry to Recirculate / Recircle water / water treatment
- What PPE / What Monitoring Equipment
- test pit near MW16 West 3m deep 4m wide
- Test pit for finding what GPR pings are for mico tunneling

Partial

RN2 – Asphalted over, Bolts sheared unable to open with Hand tools

SV26 – ~~No~~ water in well, NO LEC Reading Likely Broken

MW55 – LeC DTW - 3.031, TD - 5.65 GC, HC clear

MW127A – DTW 3.190 ~~DTW~~ TD - 4.80 LeC tubing in well

MW127B – DTW: 3.249 TD - ~~8~~.16.77 LeC

MW124A – Plants Bot on top Drills visible

MW124B –

MW150 – OBserved in Road - GC

MW125A – DTW 2.481

MW125B – DTW 2.689

SV04 – Not found

MW13 – Newly Asphalted Road, well Lost

MW60 –

S9 – Lost under Garden Bed

SV30 – under Astro turf / containers

SV06 – Lost

SV05 – Lost under B Ball court / Astro turf

SV29 – " "

S6 – " "

S4 – " "

M60 – DTP: 1.78 DTW 2.180 Bio matter blocking Probe, Hard to gauge

MW126A – DTW 2.169 Bio Matter on Probe

MW126B – DTW 2.457 Bio Matter on Probe

Instrument Quality Report
Interface Meter

Enqip #: 24246

Company: AECOM Australia Pty Ltd

Consultant: Stefan Fenger

PO #: 60693001-Macquarie Point

Certificate #: 35771

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter

Model Number: 122

Serial Number: IM-0468

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: Phuong Tran

Test Date: 24/02/2025

Instrument Quality Report
Interface Meter

Enqip #: 24246

Company: AECOM Australia Pty Ltd

Consultant: Stefan Fenger

PO #: 60693001-Macquarie Point

Certificate #: 35772

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter

Model Number: 122

Serial Number: IM-0524

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: Phuong Tran

Test Date: 24/02/2025

Equipment Calibration Form

RKI GX-6000 PID

Enqip #: 24246

Company: AECOM Australia Pty Ltd

Consultant: Stefan Fenger

PO #: 60693001-Macquarie Point

Certificate #: 35770

INSTRUMENT IDENTIFICATION

Model Number: GX-6000

Serial Number: 51N0178002-3RN

INSPECTION RECORD

Flow Rate:	PASS	**Inlet Filter:**	PASS
Buzzer:	PASS	**Date & Time:**	PASS

CALIBRATION DETAILS

Parameters	Standard	Result
Air	0.0 ppm	0.0 ppm
Isobutylene	100.0 ppm	100.0 ppm

Calibration Successful: YES

Calibrated By: Phuong Tran **Test Date:** 24/02/2025

116 Thistlethwaite St, South Melbourne 3205
P 1300 218 987 | **E** bookings@enqip.com.au | **W** www.enqip.com.au

ANZ

FQM - NAPL and Groundwater Level Gauging Record

AE[illegible]

Q4AN(EV)-414-FM1

Project Name:	MAC POINT	Project Location:	41 EVANS ST	PM Name:	R.C
Project Number:	60693007	Client:	MacPoint	Fieldwork Staff Name:	Cooper Gurney, Laura Lee

Confirm NAPL and groundwater levels by repeat measurements. All columns must be completed. If NAPL is not present in a well write 'ND' (Not Detected) in the relevant column.

Field Data

Well ID	Date (dd/mm/yy)	Time (24hr:mm)	PID Reading (ppm)	Depth to LNAPL (mBTOC)	Depth to Groundwater (mBTOC)	LNAPL Thickness (m)	Depth to DNAPL (mBTOC)	Total Well Depth (mBTOC)	DNAPL Thickness (m)	Comments (well condition, odour, NAPL colour and viscosity)
MW60	24/03/25	15:34	0.0	2.216	2.217	0.001	—	2.88	—	Good condition, very slight HC odour, well potentially blocked @ 2.45mbTOC,
										Bailer check:
										- Light brown
										- Low - mod turbidity
										- Biofilm on bailer (potential cause of IP detect)
										- white bugs on surface

Measurement Equipment

Make & Model:	Solinst - IM	Supplier:	Enqip
Serial No.:	IM - 8022	Calibration Report Provided?	Yes

Notes/Comments

(PID) - photo ionisation detector; (ppm) - parts per million; (LNAPL) - light non-aqueous phase liquids; (DNAPL) - dense light non-aqueous phase liquid; (mBTOC) - metres below top of casing

PID: Rikun GX-6000

Approval and Distribution

Fieldwork Staff Signature — Date: 24/3/25

Project Manager Signature — Date

Distribution: Project Central File

Appendix G-9: Assessment of Potential Off-Site Ecological Impacts – 2025 Addendum

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum

Macquarie Point

18-Dec-2025
Macquarie Point Development Project

Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum

Macquarie Point

Client: Macquarie Point Development Corporation

ABN: 92 657 409 841

Prepared by

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18-Dec-2025

Job No.: 60693007

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

Quality Information

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Originator	Supriya Lath
Checker/s	Robert Crowe
Verifier/s	Michael Archer

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			Name/Position	Signature
A	20-Nov-2025	Draft	Michael Archer Technical Director	
0	21-Nov-2025	Final	Michael Archer Technical Director	
1	18-Dec-2025	Final	Michael Archer Technical Director	

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1.0 Introduction

The Macquarie Point Development Corporation (the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point Site in Hobart, Tasmania (the Site). The location of the Site is shown on **Figure F1**.

1.1 Background

Previous environmental investigations at the Site have identified groundwater contamination in association with historical activities undertaken on-Site. A review and assessment of potential risk posed to off-Site aquatic ecological receptors, from Site-related groundwater impacts, has previously been reported in *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020a) and is summarised in **Section 1.2** below. Based on a weight-of-evidence approach, using the conceptual site model (CSM) and Site data available at the time, it was concluded that groundwater emanating from the Site boundary is unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors at Sullivans Cove and the River Derwent.

The AECOM (2020a) report was issued to the Site Environmental Auditor in 2020. It has since served as a key reference for assessing Site conditions, including guiding Clean Up to the Extent Practicable (CUTEP) determinations and site-suitability assessments across several portions of the Site.

Since the AECOM (2020a) assessment, further investigations and remediation have been undertaken at the Site, and changes have occurred in the Site conditions and proposed development plans. Given the time elapsed, the availability of further data and information, and changes to proposed development, a review has been undertaken to confirm whether the assessment of potential off-site ecological risks and conclusions of the AECOM (2020a) assessment remains applicable and reflective of current conditions. The findings of the review have been documented in this 'Addendum' to the AECOM (2020a) assessment, intended to be read in conjunction with AECOM (2020a).

1.2 Assessment of Potential Off-Site Ecological Impacts (AECOM, 2020a)

The *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020a) was previously prepared to evaluate the potential risk to identified off-Site aquatic ecological receptors from Site-related groundwater impacts. The assessment was based on groundwater data collected until 2019, from a series of GMEs undertaken at and surrounding the Site, between 2015 and 2019 (refer to **Section 3.2** for further details).

The key receptors considered in the AECOM (2020a) assessment were the adjacent marine aquatic ecosystems of the River Derwent and Sullivans Cove, which are the inferred points of discharge of Site groundwater. Terrestrial ecological receptors were not identified as the Site is largely covered in asphalt and concrete hardstand and does not support terrestrial ecology. Significant future terrestrial habitat of high value was also considered unlikely with regards to potential development scenarios within the urban industrial setting.

The AECOM (2020a) assessment considered multiple lines of evidence to assess potential risk posed to off-Site aquatic ecological receptors. Based on the outcomes of the weight-of evidence assessment, it was considered that the concentrations of Chemicals of Potential Ecological Concern (CoPEC) in groundwater beneath the Site are unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors at the inferred points of discharge, on the basis that:

- The assessed adjacent aquatic habitats are artificial, of low ecological value and considered to be 'highly disturbed' environments.
- Concentrations of CoPEC were below adopted screening levels near Sullivans Cove and the River Derwent, and were likely to attenuate further prior to discharge into these areas, or were associated with background conditions.
- Hydrocarbon fingerprinting of an LNAPL sample collected from within Plume B suggested that the LNAPL is dominantly composed of weathered diesel and lube oil. No new sources of LNAPL were

identified. The plume was likely to be relatively stable, and no significant TRH-signature was evident downgradient near the receiving environment at Sullivans Cove.

- A mixing zone indicating estuarine/saline water interaction noted near Sullivans Cove is likely to result in the reduction of groundwater concentrations of key CoPEC prior to the point of discharge into the receiving environments.
- The Hobart Rivulet concrete walls are understood to extend below the groundwater level beneath the Site and may act as a barrier to groundwater flow in the direction of the point of discharge to River Derwent.
- Groundwater was inferred to predominately discharge through cracks and protrusions in the seawalls. No obvious groundwater seepage through the concrete seawall[1] was noted near Sullivans Cove or the River Derwent during low tide inspections as part of the assessment.

In summary, based on the weight of evidence approach, which considered concentrations of CoPEC, composition and stability of LNAPL impacts, and interaction between groundwater and seawater, including the effects of subsurface infrastructure and seawalls, it was concluded that groundwater emanating from the Site boundary is unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors at Sullivans Cove and the River Derwent.

Notwithstanding the outcomes of the AECOM (2020a) assessment, NAPL remains in parts of the Site subsurface which have been subject to remediation to the extent practicable to mitigate potential future risks. Further details regarding the status of the NAPL areas, and their potential to impact off-Site aquatic ecological receptors are discussed in **Section 2.6**.

The *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020a) was conducted based on Site conditions and data available at the time. Current Site conditions and updated data have been considered in this 'Addendum' to the AECOM (2020a) assessment.

1.3 Objectives and Scope of Work

The objective of this Addendum is to evaluate whether current Site conditions and new information since the AECOM (2020a) assessment indicate a material change in the off-Site aquatic ecological risk profile, and to confirm if the assumptions and outcomes remain valid.

The following scope of work has been undertaken to address the objective:

- Review and incorporation of further Site data and information available since the AECOM (2020a) assessment, including the following considerations:
  - Review the CSM to consider changes in current or proposed future land use, and changes to subsurface utilities alignments, for possible changes in risk pathways.
  - Review the appropriate ecosystem classification and associated species protection level to apply to the receiving environment.
  - Incorporate additional groundwater data collected between 2022 and 2025, including per- and poly-fluoroalkyl substances (PFAS), which were not assessed in 2020.
  - To include assessment of Regatta Point, which was not part of the Site in 2020.
  - To discuss the impact of remediation work completed at the Site since 2020 on the ecological risk profile.
- Review the assumptions and outcomes of the AECOM (2020a) assessment in the context of the updated information, to determine whether they remain applicable, and identify material changes in the off-Site aquatic ecological risk profile of the Site associated with Site-related groundwater impacts.

[1] The term 'seawall' is used in a broad sense to describe a range of shoreline protection structures, including vertical concrete walls and rock revetment walls. This terminology aligns with usage in the AECOM (2020a) assessment.

The Addendum includes summary text, tables and figures to incorporate the new data and confirm whether the conclusions of the AECOM (2020a) assessment remain valid and representative of the risk profile at the Site.

This Addendum is to be read in conjunction with AECOM (2020a). The outcomes of this Addendum will be used to inform subsequent assessments of the Site, including CUTEP and Site-suitability determinations by the Site Environmental Auditor.

2.0 Site Details and CSM Review

General contextual and historical information relating to the Site and the surrounding off-Site area has been documented in several previous reports, including in the AECOM (2020a) report, and most recently in *Soil, Groundwater and Soil Vapour Investigation 2025* (AECOM, 2025a). As this information remains applicable, it is not reiterated in this Addendum, except where changes have occurred or new information is available that are directly relevant to the assessment of potential off-Site aquatic ecological risks, or are materially relevant to the CSM.

2.1 Site Layout and Land Use

The Site remains a mixed-use zone, subject to a combination of commercial/industrial and open space uses. Although current Site use has not changed significantly since 2020, the following key changes in Site layout and surrounding land use have been identified:

- **Site layout:** The current Site layout is presented on **Figure F2** of the **Figures** section, with the following changes noted since issue of AECOM (2020a):
  - The Corporation is in the process of modifying the title of the Site to include land within Regatta Point, while excluding a portion of land within Audit Area 4 East:
    - Regatta Point, which is located to the northeast of the Site, adjacent to River Derwent, is currently under Crown lease and in the process of being transferred to the control of the Corporation. It is planned to be incorporated into the Macquarie Point Environmental Audit, noting soil and groundwater assessments have recently been undertaken in this area (AECOM, 2025f). Regatta Point was not considered in the AECOM (2020a) assessment. While it is located closer to key aquatic receptors, it has a relatively less intensive history of contaminating land uses compared to other portions of the Site, and the types of Chemicals of Potential Concern (CoPC)[2] are comparable to those observed elsewhere on the Site.
    - The northern portion of Audit Area 4 East is planned to be transferred to the Tasmanian Department of State Growth. Its future exclusion from the Site boundary is not expected to affect the assessment of potential off-Site risks. Groundwater data from this area remain relevant to the assessment as it has historically been associated with the Site.
  - The Site sub-areas utilised for environmental assessment have been modified since the issue of AECOM (2020a), with the relationship between the areas used summarised on **Table 1** below. Current assessment area boundaries are shown on **Figure F2**.

Table 1 Relationship between Current Assessment Areas and Former Audit Areas

Current Assessment Area ID	Former Audit Area ID
The Goods Shed and Yard	Audit Area 1
The Escarpment (Audit Area 4 West)	The western portion of Audit Area 4 and the northern portion of Audit Area 2
The Promenade and Underground Carpark (Lot E and UGC)	The southern portion Audit Area 2, and the northeastern portion of Audit Area 5
The Precinct North (Lot B)	Audit Area 7, the eastern portion of Audit Area 2, and the northeastern portion of Audit Area 5
The Precinct South	Audit Area 3 and the southeastern portion of Audit Area 5
The Gateway	Audit Area 6 and the southwestern portion of Audit Area 5
Audit Area 4 East	The eastern portion of Audit Area 4
Regatta Point	Not previously included in Audit Areas.

[2] In this Addendum, the term 'CoPC'(Chemicals of Potential Concern) is used to refer to the broad range of chemicals associated with the Site. The term "CoPEC" (Chemicals of Potential Ecological Concern) is only applied where Tier 1 ecological screening indicates exceedances of relevant screening guidelines.

- **Site surface and elevations:** Remediation and resurfacing works since 2020 have altered surface conditions. Additional bulk earthworks and re-levelling are planned, to support the proposed stadium development (refer **Section 2.2**), which will significantly change Site surface elevation and has the potential to decrease the depth to groundwater. These changes are not expected to materially affect the off-Site aquatic ecological risk profile, as groundwater is still likely to discharge to the River Derwent and Sullivans Cove. Furthermore, these excavations may also reduce residual contamination mass in the subsurface, potentially leading to a decrease in groundwater contaminant concentrations over time.
- **Surrounding land use:** a key change in the surrounding land use and infrastructure is that the Macquarie Point Sewage Treatment Plant (STP) located off-Site to the northeast is planned for decommissioning and replacement with a new sewage pumping station (SPS) and emergency storage facility, noting construction of the SPS has commenced. As part of these works, the Hobart Main Pipeline (sewer), which runs beneath the Site, will be decommissioned and removed. A new sewer line is proposed to be installed off-Site to the south beneath Evans Street, and east beneath TasPorts land.

  These infrastructure upgrades could improve water quality in adjacent surface water bodies over time through reduced nutrient loads and improved containment. However, they may also influence groundwater levels and flow patterns. Ongoing groundwater monitoring is recommended for the Site in accordance with the Site Environment Management Plan (SEMP). If future changes in groundwater flow are identified, additional assessment of the potential off-Site ecological impacts should be undertaken based on updated monitoring data at the time.

2.2 Proposed Development Plan

At the time of the AECOM (2020a) assessment, the development plans for the Site comprised a mix of uses including (but not limited to): arts and institutional; retail and commercial; medium to high density residential; recreation/ open space; and transport/ vehicle access.

In September 2022, the Tasmanian Government Department of State Growth announced that the Macquarie Point Site is the preferred location for a future multipurpose stadium. In August 2024, the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024) was released by the Corporation for the redevelopment of the Site, which sets out a mixed-use precinct comprised of interconnected discrete zones, summarised on **Table 2** and presented on **Plate 1**.

Table 2 Precinct Plan - Proposed Development Precincts

Precinct	Land Use
Aboriginal culturally informed zone	Open space
Multipurpose stadium and associated concourse zone	Open space and commercial
Royal Engineers building and land	Open space and commercial
Complementary integrated mixed use zone, including restraints, cafes, hotels, medical facilities and commercial office space	Open space and commercial
Antarctic facilities zone including commercial spaces and connections with the complementary integrated mixed use zone	Commercial and underground car parking
Residential development and public foreshore zone accommodating a variety of tenures and housing opportunities, along with a new public promenade and food and beverage offerings	Medium to high density residential, commercial and open space
A transport corridor and roadway linking Regatta Point to the main areas of the Site	Open space / vehicle traffic / foot traffic
A vegetated area along the northern boundary of the Site, where the escarpment below the Hobart Cenotaph would prevent development or construction	Open space

In addition, subsurface utilities and maintenance activities are anticipated to occur in all Site areas, and excavation and modification of the final surface level across the Site is expected to occur as discussed in **Section 2.1**, which could impact groundwater flow and interactions.

The change in proposed development is unlikely to result in a material change in potential risks to off-Site aquatic ecology, relative to the AECOM (2020a) assessment, on the basis of the following:

- The current proposed development plan and previous visions for the Site both comprise 'mixed-use' scenarios.
- A Site Environment Management Plan (SEMP) or similar is expected to be implemented as part of the development plan to minimise and manage potential risks associated with groundwater and LNAPL.
- As part of the groundwater management plan in the current Site SEMP (AECOM, 2025c), on-going groundwater monitoring is recommended during and following major construction (i.e. upcoming stadium) to assess if changes occur which may affect the overall risk profile.

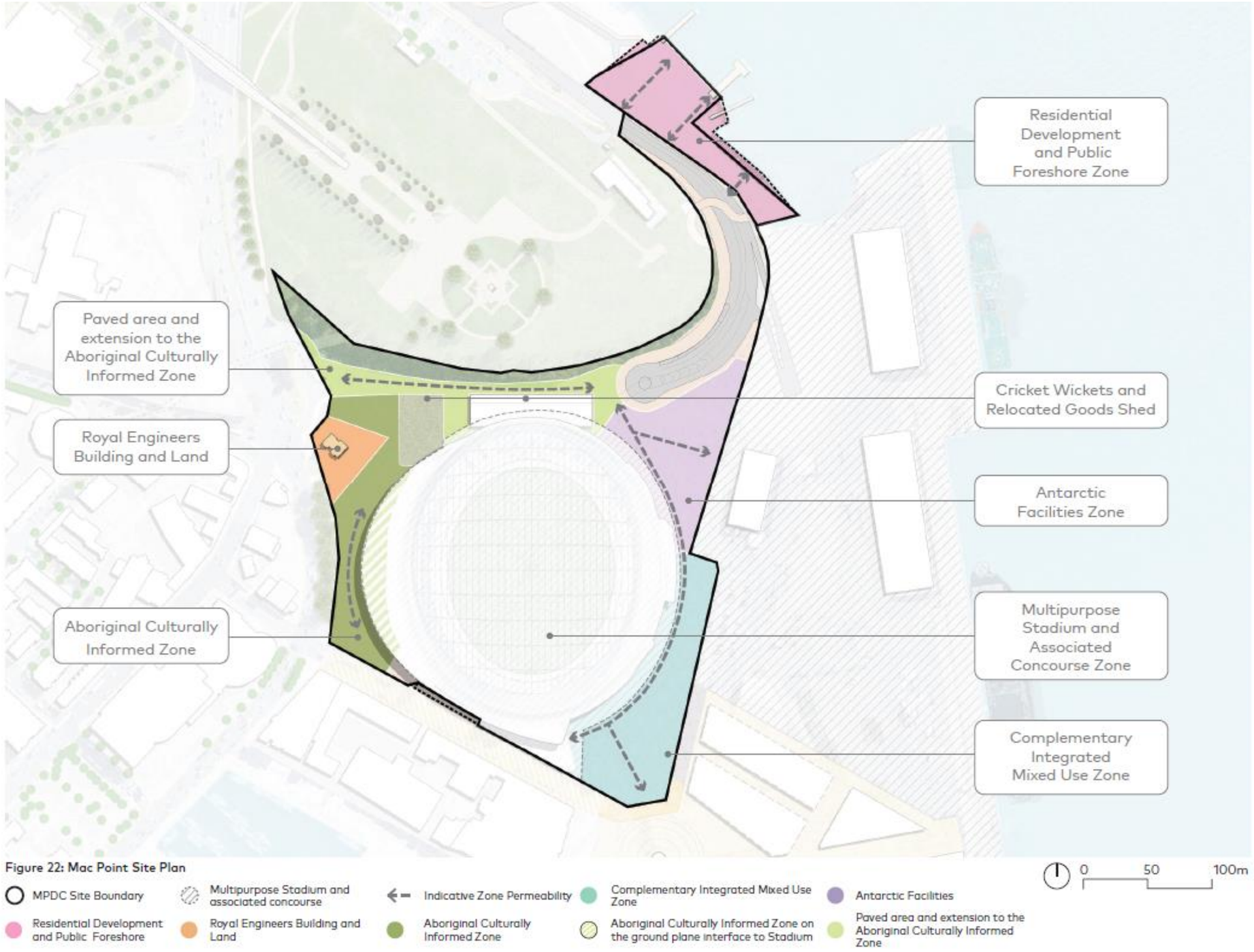


Plate 1 Proposed Future Land Uses (MPDC, 2024)

2.3 Additional Investigations Completed

The following additional investigations have been conducted at the Site since the AECOM (2020a) assessment, which provide updated environmental data and information on Site condition that could influence the understanding of the CSM and the assessment of potential off-Site ecological impacts:

- Targeted GMEs and groundwater gauging conducted at and surrounding the Gateway in December 2022 (AECOM, 2024a) and Precinct South in December 2023 (AECOM, 2024b).
- Installation and sampling of new groundwater monitoring wells at and surrounding Regatta Point in September 2024 (AECOM, 2025f).
- Installation and sampling of new groundwater monitoring wells in June 2025 (AECOM, 2025a) across various portions of the Site to repair damaged wells, replace lost wells, and to address gaps identified in the groundwater monitoring network.
- Investigations of Acid Sulfate Soils (ASS) (AECOM, 2025d).
- Remediation and validation work (refer **Section 2.5**) undertaken at:
  - the Gateway area (AECOM, 2025e), noting a CUTEP report is currently in preparation.
  - the Precinct South area (AECOM, 2024c), including preparation of a CUTEP report (AECOM, 2025g).
  - the Promenade and Underground Carpark (Lot E and Underground Carpark (UGC)) and Precinct North (Lot B) areas (AECOM, 2021d), including preparation of a CUTEP reports (AECOM, 2021a and 2021f).

The scope and details of these investigations are documented in the respective reports and are therefore not reiterated herein, however the outcomes of these investigations have been used in this assessment.

2.4 Geology and Hydrogeology

The local Site-wide geology and hydrogeology have been described in previous reports and are therefore not reiterated herein, however, key updates based on investigations undertaken since the AECOM (2020a) assessment are included below:

- **Acid Sulfate Soils (ASS):** The potential for the presence of ASS at the Site has recently been investigated, noting the Site is mapped as having a low probability (6-70%) of Potential Acid Sulfate Soils (PASS), as indicated on LISTmap's Coastal Acid Sulfate Soils (0 – 20m AHD) layer (DNRET, 2025). The outcomes of the investigation are detailed in *Acid Sulfate Soil Investigations* (AECOM, 2025d), noting no actual ASS (AASS) was detected, however, PASS has been detected in soils in the southern, eastern and central portions of the Site, and will require management if excavated or disturbed.

  PASS contain iron sulfide minerals (e.g. pyrite) that are stable under waterlogged, anaerobic conditions. However, if exposed to oxygen (e.g. through excavation, drainage, or dewatering) they can oxidize and produce sulfuric acid and result in acidified (i.e. lowered pH) conditions. Acidification can mobilise metals, which can subsequently leach into groundwater or discharge to surface water through runoff and cause adverse ecological impacts.

  If PASS are disturbed without appropriate controls, the acidification and increased mobilisation of metals could increase the potential risk to off-Site aquatic ecological receptors. However, the risks can be managed with appropriate controls in accordance with the SEMP (AECOM, 2025c), which requires that Site activities where disturbance of soil is identified must have an Acid Sulfate Soil Management Plan (ASSMP) prepared, with reference to the *Tasmanian Acid Sulfate Soil Management Guidelines* (DPIPWE, 2009). Assuming an ASSMP will be implemented, the presence of PASS is not expected to increase ecological risks.

- **Groundwater elevations, flow and discharge points:** A Site-wide GME was recently undertaken in June 2025 (AECOM, 2025a) during which groundwater was encountered below the Site between 1 to 5 m bgl, noting these are within the range encountered during the previous Site-wide

GMEs undertaken in August and November 2019 (0.7 m bgl to 6 m bgl), which informed the AECOM (2020a) assessment.

Inferred shallow groundwater contours from the June 2025 gauging data are presented on **Figure F4** in the **Figures** section, noting the inferred groundwater flow direction is generally in a south to southeast direction.

Overall groundwater depths, inferred contours and flow directions, are consistent with those considered in the AECOM (2020a) assessment, and the overall discharge points of groundwater are considered to remain the same (i.e. Sullivans Cove and the River Derwent), thus no change to risk profile is indicated, relative to the AECOM (2020a) assessment.

2.5 Remediation Activities Undertaken since AECOM (2020a)

A brief summary of the remediation activities undertaken at the Site since the AECOM (2020a) assessment is provided below. Further details relating to management of excavated material, validation sampling, backfilling of excavations, and reinstatement of surfaces (where relevant) are available in the reports referenced below.

- **At the Gateway** (AECOM, 2025e), remediation and validation activities were undertaken between March 2024 and January 2025, including:
  - Excavation and removal of all known former pipelines and gasworks-related infrastructure and waste, including brick pits containing gasworks waste and former sumps, but excluding dense non-aqueous phase liquid (DNAPL) noted below.
  - Excavation and removal of approximately 1,800 m^3 of soil with either detected exceedances of Site-specific Remediation Criteria (RC), or suspected of contamination based on field indicators such as tar staining, odours, or elevated readings from field monitoring of volatile organic compounds (VOC) and hydrogen cyanide (HCN).
  - Remediation of two DNAPL-impacted areas, referred to as Tar Plumes A and B, via in situ solidification (ISS). Two additional areas, Tar Plumes C and D, remain *in situ* because they could not be treated via ISS due to exclusion zones associated with a high voltage power cable in these areas. Further details are provided in **Section 2.6**.

  A Detailed Site Investigation (DSI) report (AECOM, 2024a) and remediation validation report (AECOM, 2025e) were previously prepared for the Gateway area. The DSI (AECOM, 2024a) is currently being updated to incorporate recent data and a CUTEP assessment, for consideration by the Auditor as part of the Site suitability assessment.
- **At the Precinct South** (AECOM, 2024c), remediation and validation activities were undertaken between December 2022 and June 2023, including:
  - Demolition and removal from the Site of a former warehouse (the SeaRoad Shed). The slab beneath this structure remained on-Site and intact.
  - Removal of approximately 200 m of redundant fuel pipelines (diesel and oil lines), either entirely or to as close to the Site boundary as practicable, with ends sealed in concrete to prevent potential leakage from off-Site pipelines.
  - Excavation of approximately 1,320 m^3 of impacted or potentially impacted soil surrounding the pipelines, and from two known contamination areas:
    - Northern Excavation Area (lead-impacted soil)
    - Former UST Area (hydrocarbon-impacted soil).

  A DSI (AECOM, 2022) and remediation validation report (AECOM, 2024c) were previously prepared for the Precinct South area. A CUTEP report (AECOM, 2025g) has been prepared for consideration by the Auditor for Site suitability assessment, and is currently undergoing update in response to Auditor comments and additional data collected in 2025.
- **In the central, northern and eastern areas of the Site, including portions of the Goods Shed and Yard, the Promenade and Underground Carpark (UGC), the Precinct North, the Precinct**

South, and Audit Area 4 East (AECOM, 2021d and 2021e), remediation and validation activities were undertaken between December 2019 and November 2020, including:

- Excavation and removal from the Site of approximately linear 500 m of former pipelines used for fuel and oil transfer.
- Excavation of approximately 8,500 m^3 of contaminated and potentially contaminated soil. Approximately 535 m^3 of this soil was remediated and reused as backfill on Site, while the remainder was disposed off-Site to landfill.
- Excavation and removal of approximately 210 m^3 of remnant infrastructure and surrounding soil in the Goods Shed Annexe area (the former Mechanics Shed).

DSI reports (AECOM, 2020c, 2020d, 2021c, and 2021b) and CUTEP reports (AECOM, 2021a and 2021f) were previously prepared for the Promenade and Underground Carpark (at the time referred to as Lot E and UGC) and Precinct North (referred to at the time as Lot B), following which a Site Suitability Statement has been issued by the Auditor. A subsequent review of Site suitability has been undertaken in light of the change in proposed development and submitted to the Auditor for review (AECOM, 2025b).

The remediation activities completed are expected to reduce the overall contaminant mass in the subsurface, and interrupt or remove pathways for contaminant migration, particularly toward the receiving environments at the River Derwent and Sullivans Cove. As a result, groundwater contaminant concentrations are anticipated to decline over time, which may correspond to a reduction in potential off-site ecological risks. Therefore, the data used herein are more likely to over-estimate than under-estimate the potential risks to off-Site aquatic ecology.

2.6 Identified NAPL or Former NAPL Areas

Previous investigations at the Site have identified non-aqueous phase liquids (NAPL), consisting of LNAPL and DNAPL. Detailed descriptions of each source area are documented in the recent AECOM (2025a) investigation report and has not been reproduced herein, although the updated status of each source is summarised in **Table 3** below. LNAPL remediation was undertaken between 2015 and 2017, and DNAPL remediation has been undertaken in the former gasworks area (in the Gateway) between 2024 and 2025.

Table 3 Known Existing or Former NAPL Areas

Plume ID	Location	Inferred Contamination Source
LNAPL		
LNAPL Plume A1	Roundhouse Refuelling Area in the Promenade and Underground Carpark, central portion of the Site	Remediation of this LNAPL plume was undertaken between 2015 and 2017 (AECOM, 2021c) via total fluids extraction (TFE). At completion, further recovery of LNAPL from this plume was assessed as not practicable. During the most recent GME and Site-wide gauging round conducted in June and July 2025, LNAPL was not detectable in any wells within or adjacent to LNAPL Plume A1 or A2 (AECOM, 2025a). LNAPL between 42 and 81 mm thick was identified in wells within LNAPL Plume B in the 2025 GME, but was assessed as non-mobile and impracticable to further remediate, based on LNAPL transmissivity testing conducted as part of the GME (AECOM, 2025a).
LNAPL Plume A2		
LNAPL Plume B	SeaRoad Shed Slab in the Precinct South, south-east portion of the Site	

Plume ID	Location	Inferred Contamination Source
Former LNAPL Plume A3	Roundhouse Refuelling Area in the Promenade and Underground Carpark on the boundary with the Precinct North, central portion of the Site	Remediation of this LNAPL plume was undertaken between 2015 and 2017 (AECOM, 2021c) via TFE. At completion, further recovery of LNAPL from this plume was assessed as not practicable. No LNAPL has been detected in wells in this area since 2017, including during the most recent GME in June/July 2025 (AECOM, 2025a).
DNAPL		
Former Tar Plume A	Former gasworks area in the Gateway, south-west corner of the Site	DNAPL within the Site boundaries, excluding areas in the exclusion zone surrounding a high voltage power cable, was solidified in 2024 and is no longer considered mobile (AECOM, 2025e).
Former Tar Plume B	Former gasworks area in the Gateway, south-west corner of the Site	Coal tar DNAPL was observed within a buried vertical tank base. The walls of this tank remained in place and contained DNAPL, which was solidified in 2024 and is no longer considered mobile (AECOM, 2025e).
Tar Plume C	Former gasworks area in the Gateway, west boundary of the Site	DNAPL has been observed between 1.4 and 1.6 m bgl, and is not considered to be in contact with groundwater. The exclusion zone associated with a high voltage power cable prohibits activities which could disturb DNAPL in this area (AECOM, 2025e).
Tar Plume D	Former gasworks area in the Gateway, west boundary of the Site	DNAPL is not considered to be in contact with groundwater in this area, and the exclusion zone associated with a high voltage power cable prohibits activities which could disturb DNAPL in this area (AECOM, 2025e).

Notwithstanding the outcomes of the AECOM (2020a) assessment, NAPL remains in parts of the Site subsurface which have been subject to remediation to the extent practicable to mitigate potential future risks and to meet the requirements of the Site Environmental Audit.

An LNAPL remediation program has been implemented at the Site and it was concluded that clean-up of LNAPL has been conducted to the extent practicable (refer **Section 2.5**) (AECOM, 2021c). Based on recent assessment of LNAPL plumes in 2025 (AECOM, 2025a), measurable LNAPL was observed in LNAPL Plume B wells (at MW03, PW02, and S8) and sheen was reported in MW185 (LNAPL Plume A2) and MW187 (former LNAPL Plume A3). However, no groundwater concentrations indicative of free-phase LNAPL, or soil vapour concentrations indicative of potentially hazardous vapour generation (other than methane) were detected at the LNAPL Plumes, and LNAPL migration is not considered likely to occur. LNAPL is still considered stable, and further remediation is not considered practicable. Based on the AECOM (2020a) assessment and subsequent data collected, no unacceptable risks to ecological receptors associated with the LNAPL plumes have been identified.

DNAPL impacts associated with the former Gasworks remain *in situ* in the Gateway in areas which could not be practicably treated via ISS (refer **Section 2.6**) (AECOM, 2025e). No further remediation actions have been identified. While the remnant DNAPL impacts do not currently appear to have a complete pathway to potential ecological receptors, the potential risk would need to be reassessed if DNAPL was mobilised or disturbed by future development of the Gateway, for example, if foundations for a future building penetrated buried former gasworks infrastructure which was containing DNAPL. It is noted that future buildings are in the vicinity of remnant DNAPL are not current proposed and would be restricted due to the exclusion zone surrounding the high voltage power lines, and that the location and

management procedures to minimise the potential mobilisation of DNAPL are included in AECOM (2025e) and incorporated in the SEMP (AECOM, 2025c).

2.7 Receiving Environment and Level of Protection

The receiving environment and foreshore area adjacent to the Site at River Derwent and Sullivans Cove was classified in the AECOM (2020a) assessment as a 'highly modified' and 'highly disturbed' marine environment with low ecological value. The ecosystem condition was categorised as 'highly disturbed' based on ANZG (2018) definitions, given its proximity to active shipping ports, regular dredging activities, and urban stormwater inputs. Mapping information from the Tasmanian Government ListMap and assessment by the Southern Natural Resource Management (NRM) Region confirm that the shoreline is artificial and impermeable, of a highly modified geomorphic condition, and deemed to be of minimal natural value.

ANZG (2018) guidance indicates application of 80% or 90% species protection levels is appropriate for highly disturbed ecosystems. In the AECOM (2020a) assessment, the 90% species protection level (or 95% for bioaccumulative chemicals) was adopted. No substantial changes to the use or condition of the receiving environment have occurred since the 2020 assessment that would warrant a revision of the ecosystem classification. Therefore, continuing to apply guideline values based on the above-mentioned species protection levels remains appropriate and protective for the current and ongoing ecological context of the receiving environment as a 'highly disturbed' ecosystem.

Sightings[3] of the critically endangered spotted handfish have recently been recorded in the broader Derwent Estuary. These include one observation near Regatta Point (mapping uncertainty suggests proximity to the shoreline) and another east of TasPorts land as illustrated on **Plate 1**, along with a polygon representing a wider estuary area. In the longer-term an improvement in the overall condition of the ecosystem may be desirable to support the presence of these organisms. Such an improvement would require a wholistic approach at a catchment level and, potentially, changes to the human uses of the waterway and would therefore not be a Site management decision. However, to explore whether the risk profile associated with groundwater emanating from the Site would materially change if catchment-wide measures were put in place to improve the ecosystem condition in the longer-term, a sensitivity analysis has been undertaken as part of this Addendum, by screening groundwater data against ANZG (2018) guideline values for a 'slightly-moderately disturbed' habitat (i.e., default guideline values based on 95% species protection, or 99% species protection for bioaccumulative chemicals). The outcomes of this sensitivity analysis are discussed in **Section 3.5**.

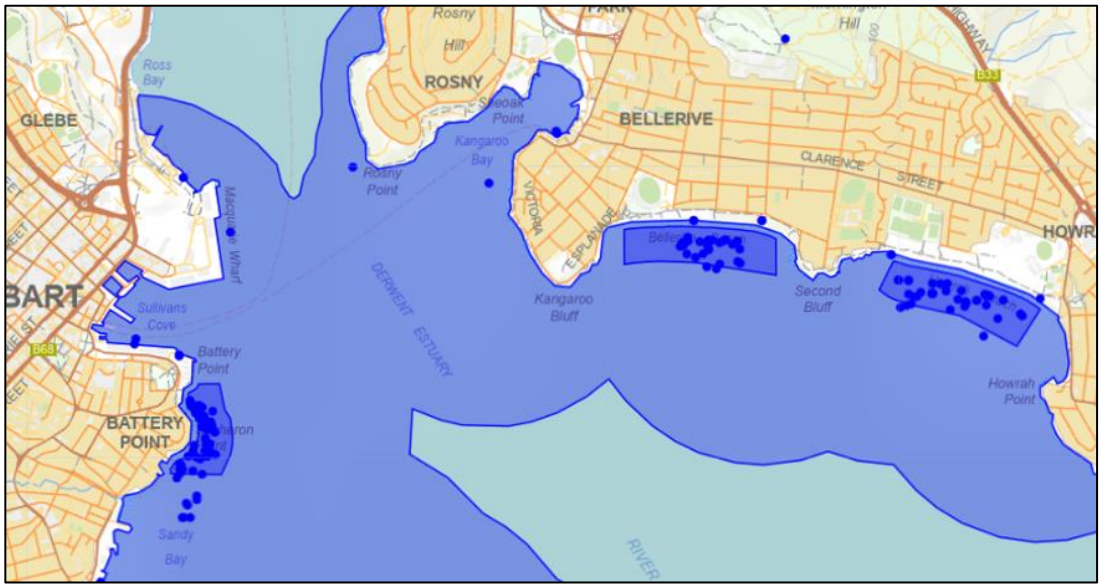


Plate 2 Natural Values Atlas - Species Observations for Spotted Handfish

[3] Natural Values Atlas' species observations, accessed at https://www.naturalvaluesatlas.tas.gov.au/#SpeciesHomePage in July 2025.

2.8 CSM Summary

Based on the review of the updated Site data and information, no substantial changes to the CSM have occurred since the AECOM (2020a) assessment.

The AECOM (2020a) CSM, summarised in **Table 4**, remains applicable to the current Site and off-Site context and is adopted for this Addendum, noting recent remediation works completed and future excavations have the potential to reduce residual contamination mass, potentially lowering groundwater contaminant concentrations and off-Site ecological risks over time.

Table 4 CSM Summary (AECOM, 2020a)

Aspect	Details
Known/ Potential Sources	• Impacted filling materials placed during land reclamation • Historical releases from: - railyard operations - freight handling and storage activities - locomotive maintenance and refuelling activities - fuel storage and transfer infrastructure - concrete batching plant operations - sewer (Main Hobart Pipeline) - the former Hobart Gasworks • Releases from potential existing fuel storage and transfer infrastructure • Releases from current underground sewer infrastructure
Potential Impacted Media	• Soil • Groundwater
Potential Exposure Pathways	Groundwater migration to marine ecological receptors in River Derwent and Sullivans Cove
Potential Ecological Receptors	Aquatic ecosystems in Sullivans Cove to the southeast of the Site, and the River Derwent to the northeast of the Site (refer to **Section 2.7** for further information)

Based on the historical land uses of the Site and the surrounding area, the chemicals that have been previously assessed include metals, inorganics (ammonia, cyanide, nitrate, sulfate), TRHs, PAHs, BTEX, phenolic compounds, OCPs, SVOC, VOC and PFAS.

A review of historical activities undertaken at the Site has previously identified that SVOCs and VOCs may be CoPC associated with land reclamation and freight handling activities. With the exceptions of BTEX, PAH and phenols, previous soil and groundwater analytical results have not identified other SVOCs and VOCs of concern.

AECOM (2020a) reviewed available groundwater data and identified the following CoPC:

- Metals
- Ammonia, cyanide
- TRHs, BTEX
- PAHs
- Phenolic compounds

Review of GMEs conducted since issue of AECOM (2020a) have identified that concentrations of these CoPC may represent potential ecological risks and are considered to require review as part of this Addendum. In addition, since 2020, PFAS has been identified as an additional CoPC which is considered to require assessment for ecological risks.

3.0 Review and Assessment of Potential Impacts

3.1 Assessment Criteria

To enable assessment of potential risks to off-Site aquatic ecology, a Tier 1 screening has been undertaken to identify CoPEC in groundwater that warrant further assessment of potential risk to the receiving marine environment. This initial screening step involves comparing measured chemical concentrations in groundwater against relevant Australian guideline values, specifically those protective of marine species. Tier 1 screening criteria have been adopted from the following sources:

- Default Guideline Values (DGVs) for marine ecosystems as published in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018), noting:
  - screening against the marine water 90% species protection guidelines (or 95% for bioaccumulative chemicals) is considered sufficiently protective of the current and ongoing 'highly disturbed' ecosystem condition; and
  - screening has also been undertaken against a higher level of protection (95% species protection, or 99% for bioaccumulative chemicals) applicable to 'slightly to moderately disturbed' ecosystems for comparison and sensitivity analysis related to observations of handfish in the vicinity of the Site (refer **Section 2.7** and **Section 3.5**).
- Interim marine ecological water quality guideline values provided in the PFAS National Environmental Management Plan (NEMP) Version 3.0 (HEPA, 2025), noting the 95% species protection level (generally applicable to 'slightly to moderately disturbed systems') has been adopted instead of the 90% species protection level (for 'highly disturbed systems') to account for the bioaccumulative nature of PFAS. For the sensitivity analysis in **Section 3.5**, the 99% species protection level (generally applicable to 'high conservation value systems') has been adopted.
- Where no Australian DGVs were available and concentrations of CoPC have been reported above the laboratory LOR, screening values were sourced from international publications:
  - US EPA (2017) Ambient Water Quality Criteria (chronic – saltwater)
  - US EPA (2006) Region 3 Mid-Atlantic Biological Technical Assistance Group (BTAG) Screening Benchmarks
  - RIVM (2001) Dutch Intervention Values (DIV) for Total Petroleum Hydrocarbons (TPH).

This approach is consistent with the methodology and criteria adopted in the AECOM (2020a) assessment, noting two key updates have been incorporated into this Addendum:

- PFAS compounds have been added to the scope and assessed against the PFAS NEMP (HEPA, 2025) criteria.
- Where DGVs have been revised or newly established under the ANZG (2018) framework since 2020, the updated DGVs have been adopted to align with current guidance.

The adopted Tier 1 screening criteria are presented in **Table T1** (for non-PFAS analytes) and **Table T2** (for PFAS analytes) in the **Tables** section.

3.2 Data Considered

3.2.1 Selection of Representative Data

The data for Tier 1 screening considered in this Addendum include groundwater data collected from 2015 onwards, from across the Site and off-Site areas, from a targeted well-network, rather than considering data from the entire well network associated with the Site. To target the locations considered most relevant to assessing potential off-Site ecological risks, the wells were selected based on a combination of the following criteria:

- Wells near the Site boundary that are considered representative of groundwater concentrations potentially migrating off-Site;
- Wells where groundwater may be likely to interact with or discharge to the surface water bodies;

- Wells situated up-hydraulic gradient of receiving environments;
- Wells located outside of known source zones (e.g. NAPL plumes), but between the source zones and receiving environments.

This focused approach ensures that the screening is aligned with the objective of assessing potential impacts to off-site aquatic ecological receptors, and is consistent with the approach adopted in the AECOM (2020a) assessment. All locations that were included in the AECOM (2020a) assessment were considered in this Addendum, noting the following changes:

- New wells have been installed since 2020, either for investigation of additional areas (i.e. Regatta Point), or to replace lost or destroyed wells, or to address gaps in groundwater monitoring that were identified through previous investigations. Data from these wells have been included herein if they met the above-mentioned criteria.
- At locations where deep and shallow nested pairs of wells existed, only the shallow wells were considered in the AECOM (2020a) assessment. The deep wells have now also been included in the assessment, as it is considered that the Site is underlain by a single aquifer unit, although within multiple lithological units.
- Wells were excluded if they were specifically for delineation of known source zones (i.e. NAPL plumes) or were situated up-hydraulic gradient of source zones, or sufficiently far up-hydraulic gradient of the receiving environments such that they are unlikely to represent groundwater that could discharge off-Site, particularly where more suitable down-gradient wells were available.

Although data exist from prior to 2015, they are not considered to represent current groundwater conditions and therefore have not been considered in this assessment. This is consistent with the approach adopted in the AECOM (2020a) assessment.

The targeted well network considered in this Addendum is presented in **Figure F3**.

The groundwater dataset considered is presented on **Table T1** and **Table T2** in the **Tables** section, including comparison with the adopted Tier 1 screening criteria. Note that while monitoring well MW181 is shown on **Figure F3**, no data groundwater data are available for this location, because it was dry during both GMEs conducted since this well was installed (AECOM, 2025a and 2025f).

3.2.2 Data Quality

Listed below are the previous investigations that pertain to the groundwater data considered in this assessment, noting the complete title for each report is provided in the list of references in **Section 0**:

- January 2015 GME (GHD, 2015a)
- August 2015 GME (AECOM, 2016a)
- July 2016 Site-wide GME (AECOM, 2016b)
- May 2017 Targeted GME (AECOM, 2017a)
- July 2017 Site-wide GME (AECOM, 2018a)
- February 2018 and August 2018 GMEs (AECOM, 2019a)
- August 2019 and November 2019 GMEs 2019 (AECOM, 2020b).
- December 2022 Gateway DSI (AECOM, 2024a)
- December 2023 Precinct South Targeted GME (AECOM, 2024b)
- September 2024 Regatta Point DSI (AECOM, 2025f, in preparation)
- June 2025 Site-wide GME (AECOM, 2025a)

The scope and details of the groundwater investigations undertaken between 2015 – 2025 are detailed in the above-mentioned reports. Data quality assessment and validation have been undertaken and documented in the individual reports, and thus have not been further detailed in this Addendum. The overall quality of the field and analytical data produced is considered to be of an acceptable standard for interpretative use, upon which to draw meaningful conclusions in this Addendum.

3.3 Tier 1 Screening Results - CoPEC

An appraisal of the groundwater dataset (refer **Section 3.2**) has been undertaken to identify CoPEC by screening measured concentrations against the adopted Tier 1 ecological screening criteria (refer **Section 3.1**). The Tier 1 screening results are presented in **Table T1** (for non-PFAS chemicals) and **Table T2** (for PFAS chemicals) in the **Tables** section.

The following chemicals have been identified as CoPEC, based on reported concentrations in one or more groundwater samples exceeding the adopted Tier 1 criteria:

- Metals (aluminium, cadmium, copper, lead, manganese, vanadium, zinc)
- Ammonia (as N), free cyanide, total phosphorus, and pH[4]
- TRH >C10-C40 fraction (sum)
- Monoaromatic hydrocarbons (benzene, ethylbenzene, o-xylene, m&p-xylene, 1,2,4-trimethylbenzene)
- Polycyclic aromatic hydrocarbons (naphthalene, anthracene, phenanthrene, fluoranthene, benzo(a)pyrene)
- 2,4-dimethylphenol
- perfluorooctane sulfonic acid (PFOS).

These CoPEC are consistent with those identified in the 2020 assessment, with the addition of cadmium and PFOS.

Potential risks associated with CoPEC were previously evaluated in AECOM (2020a), based on groundwater concentrations available at the time. **Section 3.4** presents further assessment to evaluate whether the updated groundwater dataset and the additional CoPEC indicate a change in the risk profile to off-Site aquatic receptors.

3.4 CoPEC - Assessment of Potential Risks

A staged approach has been adopted to evaluate whether the updated groundwater dataset indicates a change in the risk profile to off-Site aquatic receptors, and to identify CoPEC that may warrant further ecological consideration, alongside the additional CoPEC (cadmium and PFOS) which are discussed in **Section 3.4.2**.

Stage 1: Screening for increases in groundwater concentrations:

Maximum reported concentrations of each CoPEC for the dataset considered in AECOM (2020a) have been compared with updated maximum concentrations (inclusive of newly collected data) to identify whether there have been material increases in groundwater concentrations, as follows:

- Where the updated maximum is less than or equal to the previous maximum, no increase is noted. In these cases, the previous assessment and conclusions remain valid, and no further evaluation is required.
- Where the updated maximum is greater than the previous maximum, the percentage increase is calculated to determine the significance of the change:
  - If the increase is less than or equal to 20%, it is considered to be within the typical range of field and laboratory measurement uncertainty and not indicative of a material change in risk.
  - If the increase is greater than 20%, the CoPEC and associated data are considered further to assess whether the increase may represent a change in potential ecological risk.

[4] While pH is not a chemical, it has been treated as one for the purpose of assessment of ecological risks.

Stage 2: Further assessment of CoPEC with increased concentrations

For CoPEC with greater than 20% increase in maximum concentrations, additional lines of evidence have been considered to evaluate whether the increase may represent a material change in potential ecological risk, including:

- Spatial context of the monitoring well locations (e.g. proximity to discharge points vs. upgradient locations).
- Chemical-specific properties (e.g. mobility, bioavailability).

3.4.1 Stage 1: Screening for Increases in Groundwater Concentrations

Table 5 presents a comparison of the previous and updated maximum groundwater concentrations reported for each CoPEC.

Table 5 Changes in Maximum Groundwater Concentrations since the AECOM (2020a) Assessment

Analyte	Maximum concentrations reported in groundwater		Have maximum concentrations increased since AECOM (2020a)?	Percent increase (%)
	Previous Maximum (2015 – 2019)	Updated Maximum (2015 – 2025)		
Aluminium (filtered)	1.38 mg/L	1.38 mg/L	No	-
Cadmium (filtered) ^	0.0003 mg/L	0.014 mg/L	No	4,567%
Copper (filtered)	0.034 mg/L	0.076 mg/L	Yes	124%
Lead (filtered)	0.13 mg/L	0.44 mg/L	Yes	238%
Manganese (filtered)	7.27 mg/L	8.49 mg/L	Yes	17%
Vanadium (filtered)	0.2 mg/L	0.2 mg/L	No	-
Zinc (filtered)	0.39 mg/L	1.2 mg/L	Yes	208%
TRH >C10-C40 fraction (sum)	12,200 µg/L	12,200 µg/L	No	-
Benzene	1,080 µg/L	1,080 µg/L	No	-
Ethylbenzene	573 µg/L	573 µg/L	No	-
o-Xylene	425 µg/L	425 µg/L	No	-
m&p-Xylene	137 µg/L	137 µg/L	No	-
1,2,4-trimethylbenzene	96 µg/L	96 µg/L	No	-
Naphthalene	1,170 µg/L	1,170 µg/L	No	-
Anthracene	142 µg/L	142 µg/L	No	-
Phenanthrene	317 µg/L	317 µg/L	No	-
Fluoranthene	254 µg/L	254 µg/L	No	-
Benzo(a)pyrene	98.5 µg/L	98.5 µg/L	No	-
2,4-Dimethylphenol	6.9 µg/L	26 µg/L	Yes	277%
Cyanide (Free)	0.019 mg/L	0.019 mg/L	No	-
Ammonia (as N)	77.5 mg/L	77.5 mg/L	No	-
Total Phosphorus *	1.7 mg/L	1.7 mg/L	No	-
pH (lab-measured) *	11.1 pH Units	11.1 pH Units	No	-
PFOS ^	0.38 µg/L	0.38 µg/L	No	-

Notes: *Dashes indicate no change; ^ Additional CoPEC not previously assessed in the AECOM (2020a) assessment; * While phosphorus is not typically a direct ecological toxicant, and pH is a water quality parameter rather than a toxicant, they have been included herein for consistency with the AECOM (2020a) assessment due to their potential to indirectly influence ecological conditions.*

On the basis of the comparison in **Table 5**:

- No change in maximum groundwater concentrations are reported for the majority of CoPEC, including aluminium, vanadium, TRH >C10–C40, benzene, ethylbenzene, o-xylene, m&p-xylene, 1,2,4-trimethylbenzene, naphthalene, anthracene, phenanthrene, fluoranthene, benzo(a)pyrene, free cyanide, ammonia, total phosphorus and pH. No further assessment is warranted for these CoPEC.
- Manganese showed a minor increase (17%) in maximum groundwater concentrations, which is within the typical range of field and laboratory measurement uncertainty (≤20%) and is not considered significant. The updated maximum was recorded at the same location (MW100) as the previous maximum. No further assessment is warranted for manganese.
- Cadmium, copper, lead, zinc and 2,4-dimethylphenol exhibited notable increases in maximum groundwater concentrations. These CoPEC warrant further assessment – refer to **Section 3.4.2.1**.
- No change in maximum groundwater concentrations is observed for PFOS. However, as PFAS were not included in the AECOM (2020a) assessment, further evaluation is provided in **Section 3.4.2.2** to consider potential ecological risks based on the updated dataset.

3.4.2 Stage 2: Further assessment of Potential Risks

3.4.2.1 CoPEC with Increased Concentrations

For the CoPEC identified in **Section 3.4.1** as warranting further assessment, further discussion is provided below to assess whether the additional data assessed herein may represent a change in potential ecological risk compared to the AECOM (2020a) assessment:

- Cadmium, copper, lead and zinc – Maximum concentrations in groundwater increased markedly for cadmium (by 4,567%) and notably for copper, lead and zinc (ranging from 124% to 238%). These elevated concentrations were recorded at a single monitoring well location, MW180, installed in cobbled fill in the flat carpark area within Regatta Point in September 2024, approximately 25 m up-hydraulic gradient of the River Derwent. Bore logs from MW180 noted the presence of anthropogenic material (brick fragments), indicative of historical fill (AECOM, 2025f). Elevated cadmium was noted in the September 2024 and June 2025 samples. Elevated copper, lead and zinc were noted only in the September 2024 sample (which was collected one week after installation of the well), noting the June 2025 concentrations were significantly lower. It is uncertain whether the September 2024 results from MW180 are representative of groundwater conditions. All other results for these four CoPEC were less than the maximum concentrations assessed in the AECOM (2020a) assessment. Concentrations in samples from co-located well MW178 which is installed in the dolerite were also low. Nearby shallow well MW181 was dry during both September 2024 and June 2025, suggesting that the extent of these elevated metals concentrations in groundwater within the fill is limited.

  Given the results at MW180 are variable and groundwater in the fill appears to be limited, it is not considered conclusive that these concentrations represent an unacceptable risk of harm to aquatic ecology. Given the observed variability, further assessment is recommended as additional data become available and groundwater conditions are better understood.

- 2,4-dimethylphenol – Concentrations of this CoPEC in groundwater exceeding the previous maximum (6.9 µg/L) were reported at two sample locations since 2020:
  - MW132_GHD (same location as the previous maximum) reported a concentration of 19.2 µg/L in December 2022. This increase does not indicate increased risk to off-Site aquatic ecological receptors on the basis of the following:
    - This well is located on Evans Street down-hydraulic gradient of the former Hobart Gasworks area, indicating that detections of this CoPEC are likely to be sourced from gasworks-related wastes. Remediation of tar impacts has since been undertaken via ISS

in the Gateway between 2024 and 2025 (refer **Section 2.5**) up-gradient of MW132_GHD, interrupting pathways for contaminant migration toward the receiving environment at Sullivans Cove. As a result, groundwater contaminant concentrations are anticipated to decline over time, corresponding to a reduction in potential off-site ecological risks. This is demonstrated by the concentration of 2,4-dimethylphenol reported during the most recent June 2025 GME which was <3 µg/L.

  - Concentrations of 2,4-dimethylphenol at wells closest to the inferred points of discharge into Sullivans Cove (MW151, MW152 and MW153) were reported below the laboratory LOR.
  - 2,4-dimethylphenol is readily biodegradable in oxygenated environments, such as groundwater-surface water interfaces. Natural attenuation processes including sorption and biodegradation are likely to reduce concentrations before groundwater discharges to surface water. These processes are expected to further mitigate potential ecological risk.

- MW120A - 26 µg/L (June 2025). Being one of the most up-gradient wells of the Site, concentrations at MW120A are not representative of concentrations likely to be present at the point that groundwater discharges to off-Site surface water and therefore the reported concentration of 2,4-dimethylphenol at this location does not indicate an unacceptable risk to off-Site ecological receptors.

3.4.2.2 PFAS

Based on the PFAS monitoring and Tier 1 screening results presented in **Table T2** in the **Tables** section:

- PFAS have been analysed in 63 groundwater samples from 26 monitoring wells across the Site between 2015 and 2025.
- Perfluorooctanoic acid (PFOA) concentrations range from 0.002 to 0.38 µg/L, with no exceedances of the adopted Tier 1 screening criteria.
- PFOS concentrations range from <0.001 to 0.38 µg/L, noting:
  - Detectable concentrations (0.002 to 0.38 µg/L) were reported in samples from 10 wells (BG1, MW6, MW16, MW60, MW120, MW120A, MW121, MW126A, MW193, MW194). Other wells reported concentrations below the laboratory LORs (<0.001 to <0.01 µg/L)
  - PFOS exceeded the Tier 1 screening value for 95% species protection (0.13 µg/L) at one location - MW16 (0.23 µg/L to 0.38 µg/L), by approximately three times. MW16 is located immediately downgradient of LNAPL Plume B, adjacent to the boundary between the Site and the former Bulk Fuel Terminals.

    At all other locations, detectable PFOS concentrations were below the 95% species protection guideline value.

Exceedance of the Tier 1 screening criterion for PFOS at MW16 does not indicate an unacceptable ecological risk, based on the following lines of evidence:

- PFAS are not known to have been historically used at the Site. A review of historical information has not identified the use of products containing PFAS. There is potential for firefighting foams containing PFAS to have been used at the former Bulk Fuel Terminals, which were located on reclaimed land adjacent to the River Derwent, to the east of the Site, and partially overlapped the eastern portion of the Precinct South, however:
  - It is considered that if use of PFAS-containing foams occurred, as part of emergency response operations or for training purposes, it would have been over a limited timeframe, in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in the 1970s.
  - It is not known if a source of PFAS/PFOS associated with the former Bulk Fuel Terminals is present. A review of publicly available information has not identified evidence confirming the use of PFAS-containing foams at the former Bulk Fuel Terminals, nor reference to the use or discharge of such foams on TasPorts land near the Site. The TasPorts (2024) *Port of Hobart*

Environment Report does not identify PFAS among the 'contaminants of concern' detected in soil or groundwater at Macquarie Wharf, and makes no reference to PFAS or PFAS-containing foams in its discussion of 'Significant Environmental Aspects' relating to release of contaminants.

- Should a PFAS/PFOS source exist at the former Bulk Fuel Terminals, it is considered unlikely that substantial volumes would extend or migrate onto the Site, given the limited physical overlap between the footprint of the former Bulk Fuel Terminals and the Site, and the presence of historical sea walls bounding the former terminals to the east and west.

  Historical aerial photographs of bulk fuel storage indicate that the large Aboveground Storage Tanks (ASTs), where any firefighting foam which may have contained PFAS is more likely to have been used, were located outside the Site boundary (see **Plate 3** below).

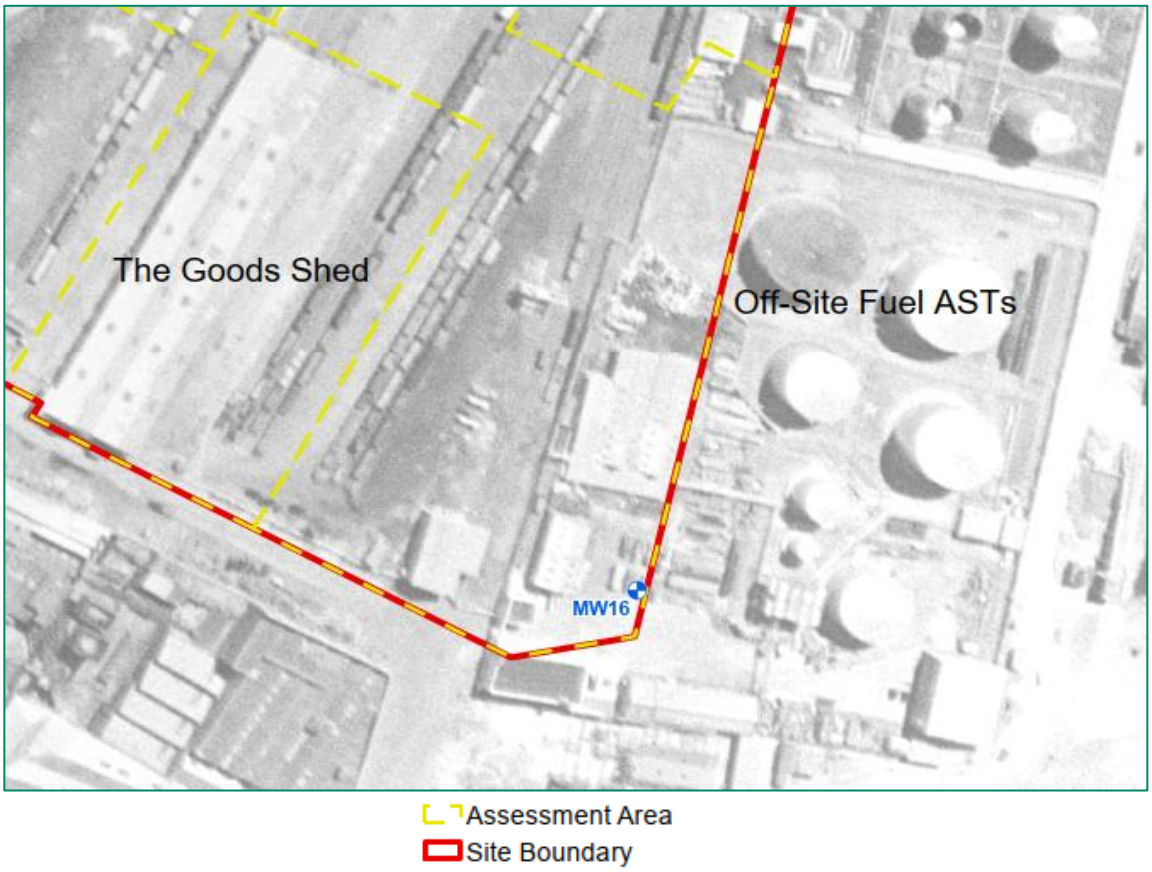


Plate 3 Site Boundary and Historic ASTs (12 February 1957) (AECOM, 2025g)

Thus, any residual PFAS impacts would likely be localised and of limited magnitude, rather than representing a substantial ongoing source of contamination.

- The hydraulic gradient is quite flat across the central and eastern areas of the Site, which can make definition of flow direction difficult on a localised scale. Inferred groundwater contours and flow at the eastern boundary of the Site in the vicinity of MW16 has been inconsistent between monitoring events, and groundwater may pass in either direction across this boundary. While this is not considered to affect the ultimate discharge point of Site groundwater, the Standing Water Level (SWL) of groundwater wells in the vicinity of MW16 has been reviewed to assess if the detection in MW16 represents groundwater entering or leaving the Site.

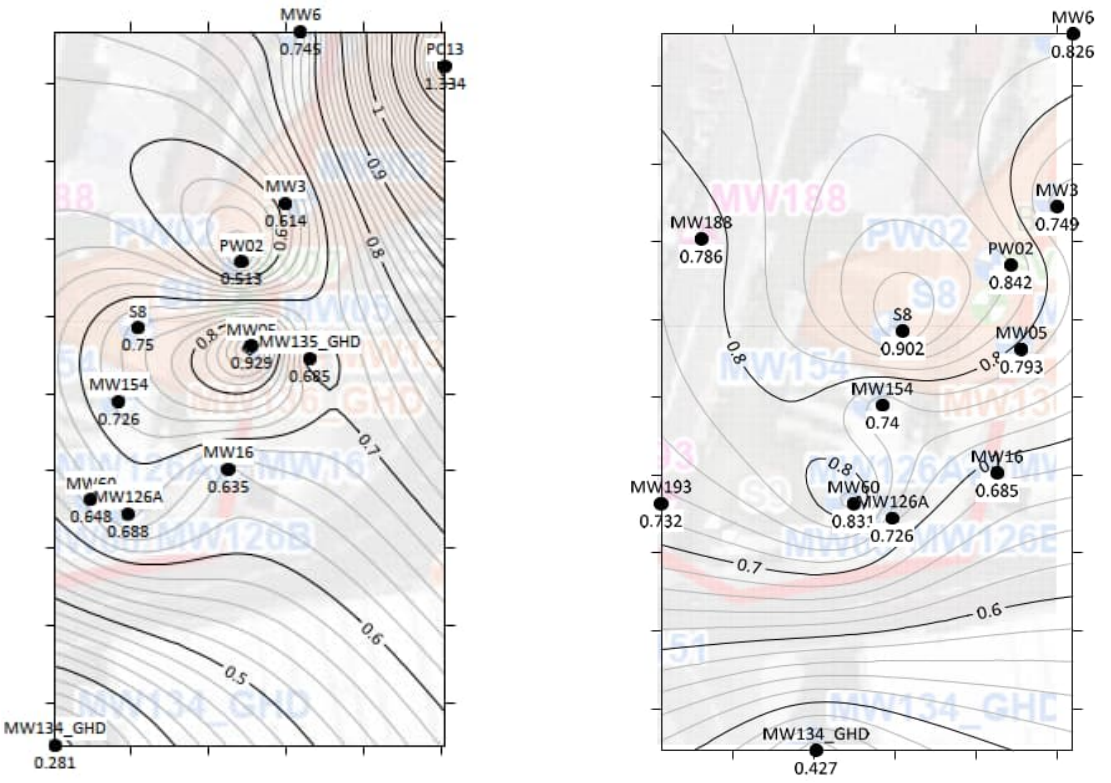
  SWLs recorded during the most recent groundwater gauging events in this area (February 2025 (AECOM, 2025i) and June 2025 (AECOM, 2025a)) are presented on **Table 6** below. Well locations are shown on **Figure F3**.

Table 6 SWLs recorded at and near MW16 in 2025

Well ID	Proximity to MW16		February 2025		June 2025	
	Direction	Approx. Distance (m)	SWL	ΔSWL Relative to MW16	SWL	ΔSWL Relative to MW16
MW16	N/A	N/A	0.635	N/A	0.685	N/A
MW6[1]	North	56	0.745	+0.110	0.826	+0.141
MW05	North	17	0.929[2]	+0.294	0.793[2]	+0.108
PW02	North	26	0.513[2]	-0.122	0.842[2]	+0.157
MW03	North	36	0.614[2]	-0.021	0.749[2]	+0.064
MW188[1]	North-west	48	N/A		0.786	+0.101
MW154	North-west	16	0.726	+0.091	0.74	+0.055
S8	North-west	22	0.750[2]	+0.115	0.902	+0.217
MW60[1]	West	27	0.648	+0.013	0.831	+0.146
MW126A[1]	West	14	0.688	+0.053	0.726	+0.041
MW193[1]	West	42	N/A		0.732	+0.047
MW134_GHD[3]	South	42	0.281	-0.354	0.427	-0.258
PC13[3]	North-east	60	1.334[2]	+0.699	N/A	
MW135_GHD[3]	North-east	16	0.685	+0.050	N/A	

Notes: 1. Groundwater from this well was sampled and analysed for PFAS in 2025; 2. SWL has been corrected for LNAPL present, assuming a specific gravity of 0.76; 3. Off-Site well; A positive ΔSWL indicates groundwater is likely to flow towards MW16 from the well, while a negative indicates that groundwater may flow from MW16 towards the well.

Localised contours around MW16, based on the recorded SWLs during each monitoring event in 2025, are shown on **Plate 4** below.



(a) February 2025 (b) June 2025

Plate 4 Localised Groundwater SWLS and Contours (mAHD) at MW16 in 2025

Based on the most recent two gauging events:

- Groundwater SWL is generally higher to the north, east, west and south of MW16, which include off-Site wells on TasPorts land to the east when monitored.
- Groundwater SWL is significantly lower to the south (in MW134_GHD).

Based on SWL data, it is considered that MW16 is likely to have groundwater input from the north and west (on-Site groundwater) and east (off-Site groundwater). Groundwater is likely to discharge to the south towards MW124_GHD.

- PFOS concentrations in groundwater in excess of the adopted ecological criteria have only been detected at MW16 (up to 0.38 µg/L). Adjacent wells near LNAPL Plume B (MW6, MW60, MW126A, MW188 and MW193) recorded concentrations between 0.002 and 0.012 µg/L. Up-gradient wells (BG1, MW120, MW120A, MW121 and MW194), located approximately 300 m northwest of the plume and considered representative of background or regional groundwater conditions entering the Site, recorded concentrations between 0.014 and 0.03 µg/L.

  PFOS was below LOR in wells NR2, RN2, RN4, S4 (upgradient of LNAPL Plume B), MW123A, MW123B, MW124A, MW124B, MW125A, MW125B, MW126B, MW129, MW188 (cross-gradient), and S9 (down-gradient).

  The PFOS concentration in MW16 are approximately 10-fold greater than those detected in other wells sampled, which are below LOR or similar to the concentrations detected in groundwater entering the Site, suggesting PFOS impacts are localised and have been reasonably delineated on-Site in groundwater surrounding MW16. No groundwater between MW16 and LNAPL Plume B have been sampled for PFOS (noting that there are no wells located in a suitable position to sample), which may be a potential source of PFOS. Based on the PFOS sampling around LNAPL Plume B, where results were below adopted criteria in all locations with the exception of MW16, it is not considered to be a significant source if so.

Off-Site groundwater to the east may also be impacted by PFAS, or be the source of PFOS in MW16 based on inferred groundwater contours. No PFAS sampling data are currently available from off-Site areas within TasPorts land, downgradient of MW16 and LNAPL Plume B. As noted above, if PFOS is present in groundwater located off-Site to east, it is considered likely to be sourced from the historic off-Site uses of that area (i.e., bulk fuel storage) and not to be a result of migration from the Site.

- PFOS exceedance above the 95% species protection level is spatially limited to a single monitoring well (MW16). The magnitude of exceedance is approximately a factor of three, and this within the range of likely attenuation between MW16 and the point of groundwater discharge to the surface water receptor, given that the closest water body is approximately 175 m south-east, and local groundwater has a relatively flat hydraulic gradient.
- The adopted screening value (the PFAS NEMP Version 3.0 interim draft freshwater 95% species protection level) is currently subject to revision and, based on the following, is considered to over-estimate potential risk to the receiving environment:
  - The NEPM Version 3.0 (HEPA, 2025) PFOS screening values are based upon draft screening values published in 2015 by the (former) Department of the Environment and Energy (DoEE, 2015). ANZG (2023) published, for public consultation, revised draft PFOS screening values which incorporate updated scientific data, and the revised draft freshwater 95% species protection level was 0.48 µg/L, indicating that the DoEE (2015) screening value was overly conservative. ANZG subsequently commissioned an independent review (Dawson et al., 2024) of issues raised in public responses to the revised draft PFOS guidelines (ANZG, 2023). This review made several recommendations to be implemented in re-deriving the draft DGVs in order to generate a more reliable species sensitivity distribution (SSD) model, which underpins the guideline values. These recommendations included:
    - removal of some toxicological datapoints,
    - confirmation of some toxicological datapoints as reliable, and
    - re-calculation of other toxicological datapoints.
  - The DoEE (2015) values were calculated using the Burrlioz software which is no longer recommended for use in Australia. In 2025, ANZG recommended that the Shiny ssdtools software be used for the derivation of guideline values in Australia going forward as it employs a technique called model averaging whereas Burrlioz only applied a single model to the data regardless of the goodness of fit. The Shiny ssdtools software therefore provides a technically more defensible estimation of the species sensitivity distribution.
  - AECOM (2025h) presented at the Ecoforum 2025 conference that implementing the recommendations of Dawson et al. (2024) using the Shiny ssdtools software resulted in a recalculated freshwater 95% species protection level of 3.7 ug/L. The work presented by AECOM was subject to independent peer review by an auditor accredited by the Queensland regulatory authority.
  - Although the ANZG default guideline is currently still under revision, the ANZG (2023) revised draft guidelines combined with the work presented by AECOM (2025h) indicates that the PFOS concentrations reported at the Site are unlikely to pose harm to aquatic ecology in the ‘highly disturbed’ receiving environment.
  - The adopted screening value is based on toxicity of PFOS to freshwater species, but research indicates that PFAS pose lower risk to aquatic ecology in marine environments compared to freshwater. For fish, marine species tend to show lower PFAS accumulation than freshwater fish (Taylor et al, 2021; Barbo et al, 2023). There is also evidence to indicate marine organisms are significantly less sensitive to PFOS than freshwater organisms. Simpson et al (2021) derived PFOS screening criteria for marine receptors with a 99% species protection level of 6 µg/L.

Considering the nature and extent of PFOS in groundwater, the characteristics of the receiving environment, the absence of a known PFAS source at the Site of former Bulk Fuel Terminals, and conservatism in the adopted screening criterion, the PFOS exceedance does not indicate an

unacceptable risk to off-Site aquatic ecological receptors. PFOS remains a CoPEC due to its persistence and bioaccumulation potential; however, the available evidence does not indicate an unacceptable ecological risk.

3.5 Sensitivity analysis

The receiving environment adjacent to the Site (Sullivans Cove and the River Derwent) is classified as a 'highly disturbed' marine ecosystem (refer **Section 2.7**) with low ecological value, based on ANZG (2018) definitions. Accordingly, a 90% species protection level (or 95% for bioaccumulative chemicals) was adopted for Tier 1 screening of CoPC. This is considered appropriate and sufficiently protective for the ecological context of the receiving environment.

To explore whether the risk profile associated with groundwater emanating from the Site would materially change if catchment-wide measures were put in place to improve the ecosystem condition in the longer-term, a sensitivity analysis has been undertaken by screening groundwater data against screening criteria commensurate to a slightly-moderately disturbed system, i.e. 95% species protection level (or 99% for bioaccumulative chemicals). Comparative screening results are presented in **Table T1** and **Table T2** in the **Tables** section.

3.5.1 Results – Non-PFAS

Under the increased species protection level for a slightly-moderately disturbed habitat, three additional CoPEC would be identified, in addition to those in **Section 3.3**:

- Chromium - Exceedances are noted at MW123A (June 2025) and MW180 (September 2024), noting:
  - Exceedances are isolated, with limited spatial extent.
  - At MW123A, only one sample collected over a 10 year period exceeded the screening value, therefore this result does not appear to be representative of typical groundwater conditions in this area. Moreover, exceedances are not noted at the nested deep well MW123B and nearby down-gradient wells MW130_GHD, MW131_GHD and MW132_GHD, which are more representative of groundwater conditions at the point of discharge to surface water.
  - As discussed in **Section 3.4.2.1**, the results at MW180 are variable and groundwater in the fill appears to be limited. It is uncertain whether the September 2024 results from MW180 are representative of groundwater conditions. Thus, it is not considered conclusive that the concentrations reported represent an unacceptable risk of harm to aquatic ecology. Further assessment can be undertaken as additional data become available and groundwater conditions are better understood.
- Cobalt – Exceedances (by up to six times the 95% species protection level) observed at several groundwater monitoring locations across the Site. Cobalt concentrations in groundwater may have a natural lithological origin, given the Site is underlain by Jurassic dolerite. Dolerite has been shown to contain trace elements, including cobalt, particularly within iron-rich pyroxene mineral fractions in dolerite sills (Tiller, 1959). Weathering of dolerite and associated minerals can release trace elements into surrounding soils and groundwater, suggesting the cobalt detections in groundwater across the Site may reflect regional lithology and geochemistry of the underlying dolerite, rather than Site-specific contamination.
- o-Xylene and m&p-Xylene – Marginal exceedances are noted at one monitoring location, MW130_GHD in August 2018. Subsequent samples from this well across four GMEs (August 2019, November 2019, December 2022 and June 2025) reported o-xylene concentrations below the adopted screening value, while m&p-xylene concentrations remain above the criteria, noting a level of uncertainty associated with the criteria, i.e. low-reliability freshwater criteria for o-xylene (in the absence of marine criteria) and unknown-reliability marine criteria for m&p-xylene.

Therefore, the inclusion of chromium, cobalt, o-xylene and m&p-xylene as CoPEC does not materially change the risk profile.

3.5.2 Results – PFAS (PFOS)

Under the increased species protection level for a slightly-moderately disturbed habitat:

- PFOA concentrations did not exceed the 99% interim marine guideline value.
- All detectable PFOS concentrations exceed the 99% species protection level interim marine guideline value of 0.00023 µg/L. For non-detect results, laboratory LORs above the 99% interim marine guideline value prevent definitive screening, noting these were predominantly for 2015 – 2017 groundwater data. The interim screening values are currently subject to revision by ANZG, following a period of public consultation on revised draft guideline values published by ANZG in 2023. As discussed in as discussed in **Section 3.4.2.2** the adopted freshwater criterion of 0.00023 µg/L is likely overly-stringent because it was based on data and modelling methods that have been superseded and because research indicates that PFAS are likely to have lower toxicity in marine environments compared to freshwater.

Although all samples may exceed the interim guideline value for 99% species protection, this does not necessarily indicate an unacceptable ecological risk, based on the following:

- The limited spatial extent of exceedances of the 95% protection level and the low likelihood of PFAS sources having been used at the Site indicate there is unlikely to be a significant source mass which could migrate to the off-Site waterways over time.
- As discussed in **Section 3.4.2.2** , except for MW16 where PFOS impacts are elevated (but localised and delineated), PFOS concentrations in all other samples were either below LOR or similar to the concentrations detected in groundwater entering the Site, indicating no distinct source.
- The adopted 99% species protection level is an interim value currently subject to review/revision, and likely to be overly-stringent such that exceedances do not necessarily represent an unacceptable risk of harm to aquatic ecology off-Site.

3.5.3 Summary

The sensitivity analysis demonstrates that the overall risk conclusions would not materially change if the condition of the off-Site receiving environment was improved over time to become consistent with a ‘slightly-moderately disturbed’ habitat, for which a higher level of species protection would be desirable. While additional CoPEC would be identified under these criteria, available evidence indicates that risk to off-Site aquatic ecological receptors remains low.

4.0 Conclusions

The AECOM (2020a) *Assessment of Potential Off-Site Ecological Impacts* concluded, based on a weight-of-evidence approach using the conceptual site model (CSM) and Site data available at the time, that groundwater emanating from the Site boundary is unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors at Sullivans Cove and the River Derwent.

This Addendum has been prepared to review and assess whether the assumptions and outcomes of AECOM (2020a) remain applicable, based on the current environmental condition of the Site and additional information that has become available since the 2020 assessment. The review incorporated updated Site setting, changes to the proposed development plans, updated Site data, recent remediation activities, as well as additional ecological considerations relevant to the receiving environment.

A review of the Site's CSM based on updated data and information confirmed that there have been no substantial changes since the AECOM (2020a) assessment that would influence the off-Site ecological risk profile. This conclusion is based on the following:

- The current and proposed changes in Site layout, setting and development plans since the AECOM (2020a) assessment, including modification of Site title and boundaries, resurfacing works, planned re-levelling of the Site and proposed stadium development, and infrastructure upgrades at and surrounding the Site, are unlikely to adversely impact off-Site aquatic ecological receptors. Development works may influence groundwater levels and flow patterns. Ongoing groundwater monitoring is recommended for the Site in accordance with the SEMP. If future changes in groundwater flow are identified, additional assessment of the potential off-site ecological impacts should be undertaken based on updated monitoring data at the time.
- Recent investigations confirmed the presence of PASS in estuarine soils across parts of the Site, although no AASS were identified. Disturbance of PASS without appropriate management could lead to acidification and increased mobilisation of metals, increasing the potential risk to off-Site aquatic ecological receptors. However, implementation of an ASSMP in accordance with the SEMP is expected to mitigate this risk.
- Groundwater levels, inferred flow directions and discharge points remain consistent with those considered in the AECOM (2020a) assessment. Groundwater has been encountered below the Site between 1 and 5 m bgl, and continues to flow generally in a south to southeast direction, discharging to Sullivans Cove and the River Derwent.
- Targeted remediation and validation works have been completed across multiple areas of the Site since 2020 and involved the removal of contaminated soils and infrastructure, and ISS of DNAPL impacts. The remediation activities completed are expected to reduce the overall mobile contaminant mass and disrupt potential pathways for contaminant migration toward Sullivans Cove and the River Derwent. As a result, groundwater contaminant concentrations are expected to decline over time, and the data used herein are more likely to over-estimate than under-estimate the potential risks to off-Site aquatic ecology.
- NAPL remains in parts of the Site subsurface which have been subject to remediation to the extent practicable, noting:
    - LNAPL plumes are considered stable, with no evidence of free-phase LNAPL or unacceptable vapour risks, and no indication of ongoing migration or unacceptable risk to off-Site ecological receptors.
    - DNAPL in the Gateway has been treated via ISS where practicable. In untreated areas, DNAPL is not in contact with groundwater and no complete pathway to ecological receptors is currently identified. Future disturbance would require appropriate management, and potential risks would need to be reassessed if DNAPL was mobilised or disturbed by future development of the Gateway.
- The receiving environment remains classified as a 'highly disturbed' marine ecosystem. The adopted 90% species protection level (or 95% for bioaccumulative chemicals) remains appropriate and protective for the current and ongoing ecological context of the receiving environment.

Following confirmation that no substantial changes to the CSM have occurred, a Tier 1 screening and further assessment were undertaken to evaluate the ecological risk profile taking into consideration the updated groundwater conditions. The following conclusions are noted:

- The CoPEC based on Tier 1 screening remain consistent with the 2020 assessment, with the addition of cadmium and PFOS.
- The majority of CoPEC showed no change or only minor increases (≤20%) in groundwater concentrations compared to the 2020 assessment, confirming the previous assessment and conclusions remain valid with no further evaluation required for those CoPEC. Maximum groundwater concentrations increased notably (>20%) for cadmium, copper, lead, zinc, and 2,4-dimethylphenol. Based on multiple lines of evidence, these increases do not indicate a change in risk to off-Site aquatic ecological receptors:
    - Cadmium, Copper, Lead, Zinc: Elevated concentrations were observed at MW180 in groundwater within historical fill. Analytical results were variable at this location and the reported maximum concentrations may not be representative of typical groundwater conditions in this area. Given the results at MW180 are variable and groundwater in the fill appears to be limited, it is not considered conclusive that these concentrations represent an unacceptable risk of harm to aquatic ecology. Given the observed variability, further assessment is recommended as additional data become available and groundwater conditions are better understood.
    - 2,4-Dimethylphenol: Elevated concentration was observed at MW132_GHD (December 2022), however, Gateway remediation works have since been completed. Combined with natural attenuation processes, concentrations are expected to decline over time, with more recent results (June 2025) showing concentrations below the laboratory LOR. The elevated concentration at MW120A (June 2025), being one of the most up-gradient wells of the Site, is unlikely to be representative of concentrations discharging off-Site.
- Concentrations of PFOS exceeded the adopted screening criterion at one location (MW16), with concentrations about 10 times higher than other wells, which were either below detection or similar to background levels. Impacts are localised and delineated around MW16. Considering the nature and extent of PFOS in groundwater, the characteristics of the receiving environment, the absence of a known PFAS source at the Site of former Bulk Fuel Terminals, and the conservatism in the adopted screening values, PFOS is not considered to pose an unacceptable ecological risk.

A sensitivity analysis demonstrated that the overall risk conclusions would not materially change if the condition of the off-Site receiving environment was improved over time to become consistent with a ‘slightly-moderately disturbed’ habitat, for which a higher level of species protection would be desirable.

Overall, based on the review of updated Site data and information, the outcomes of the AECOM (2020a) assessment remain valid and suitable for ongoing assessment of the Site. No material changes in the off-Site aquatic ecological risk profile have been identified, and risk to ecological receptors in the River Derwent and Sullivans Cove remains low.

This Addendum is to be read in conjunction with AECOM (2020a). The outcomes of this Addendum will be used to inform subsequent assessments of the Site, including CUTEP and Site-suitability determinations by the Site Environmental Auditor.

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Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Report. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

Figures

Figure F1 Site Location

Figure F2 Site Layout and Proposed Development

Figure F3 Groundwater Assessment Locations – Targeted Well Network

Figure F4 Inferred Shallow Groundwater Elevation Contours – June 2025

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LEGEND

- Regatta Point Boundary
- Macquarie Point Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum

Macquarie Point, Hobart, TAS

Figure

F1

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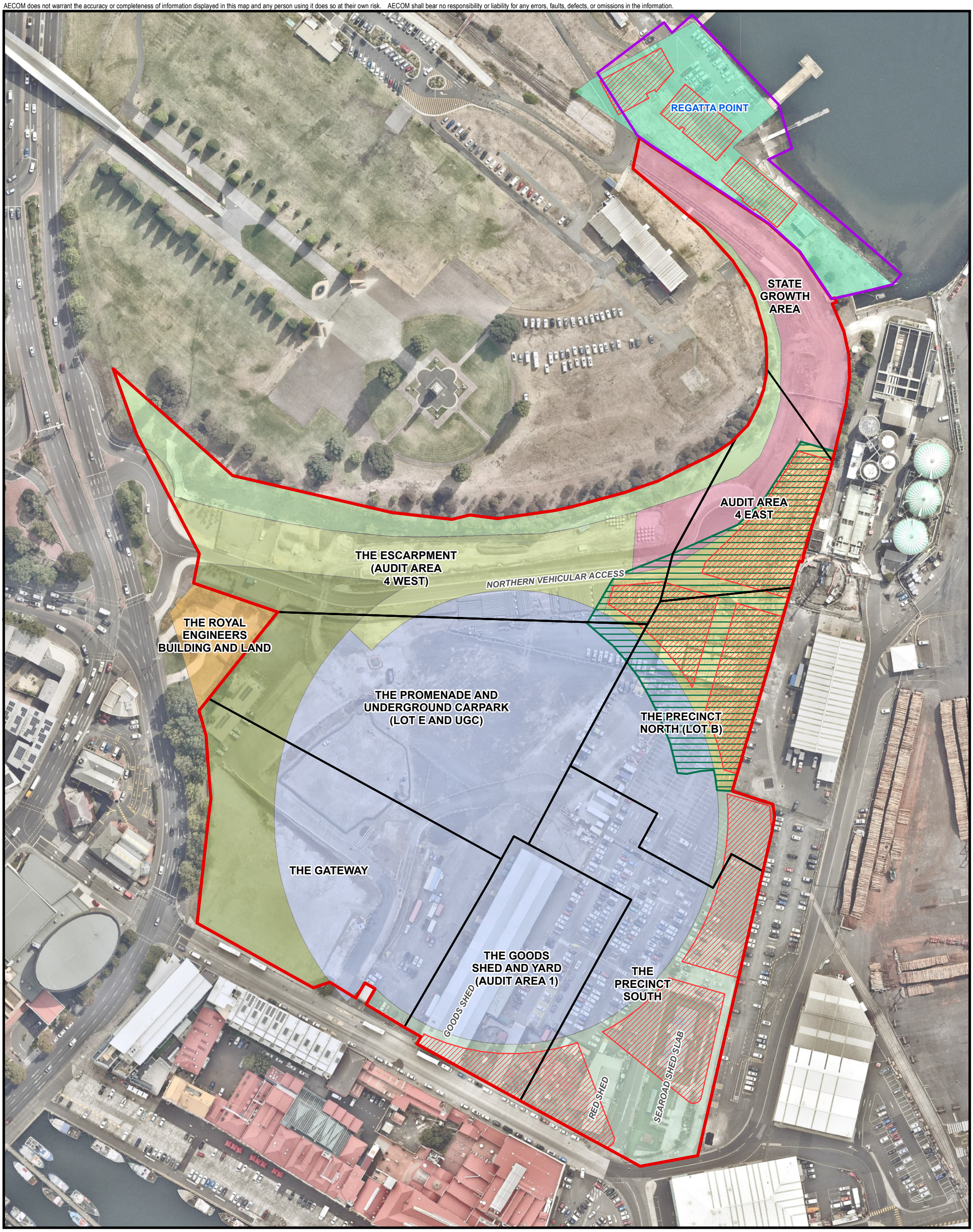

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Legend

- Regatta Point Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE LAYOUT AND PROPOSED DEVELOPMENT PLAN

Macquarie Point Development Corporation

Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum

Macquarie Point, Hobart, TAS

Figure F2

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\10\Audit_Area_4_East\F2_Proposed_Development_Plan_AA4_East.mxd)

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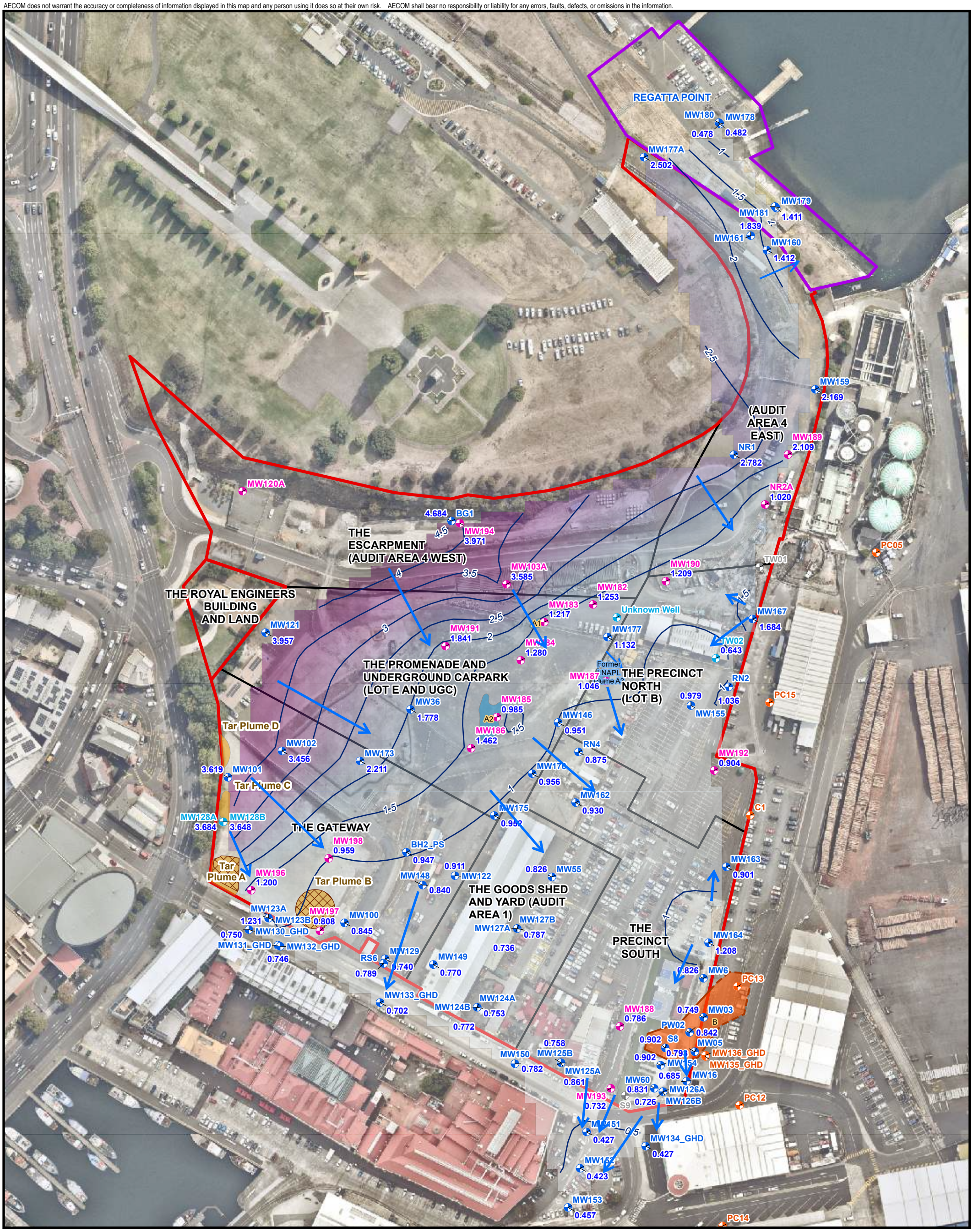

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Legend

- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Groundwater Contours
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary
- Groundwater Contour Elevation (mAHD)
  - 4.6
  - 0.4

INFERRED SHALLOW GROUNDWATER CONTOURS - SITE-WIDE - JUNE 2025

Macquarie Point Development Corporation

Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum

Macquarie Point, Hobart, TAS

Figure
F3

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Legend

- Assessment Area
- Former Audit Areas
- Regatta Point Boundary
- Site Boundary
- Targeted Groundwater Well Network for Off-Site Ecological Assessment
- Groundwater Well
- Geotechnical Borehole
- Lost / Destroyed Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume

GROUNDWATER ASSESSMENT LOCATIONS - TARGETED WELL NETWORK

Macquarie Point Development Corporation

Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum

Macquarie Point, Hobart, TAS

Figure F4

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Tables

Table T1 Groundwater Analytical Results – Tier 1 Screening – Other CoPC

Table T2 Groundwater Analytical Results – Tier 1 Screening – PFAS

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

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Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

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Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
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Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
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Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
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					Total Recoverable Hydrocarbons						Total Petroleum Hydrocarbons					Metals																												
					C6-C10 fraction	C6-C10 fraction (minus BTEX(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	Aluminium	Aluminium (filtered)	Antimony (filtered)	Arsenic	Arsenic (filtered)	Barium	Barium (filtered)	Beryllium	Beryllium (filtered)	Boron	Boron (filtered)	Cadmium	Cadmium (filtered)	Chromium	Chromium (filtered)	Chromium (hexavalent)	Chromium (trivalent)	Chromium (trivalent) (filtered)	Cobalt	Cobalt (filtered)	Copper	Copper (filtered)	Iron	Iron (filtered)	Lead	Lead (filtered)	Manganese	Manganese (filtered)	Mercury	Mercury (filtered)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL					20	20	50	50	100	100	100	20	50	100	50	50	0.01	0.01	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.05	0.05	0.0001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.05	0.05	0.001	0.001	0.001	0.001	0.0001	0.0001
Adopted Tier 1 criteria for 'highly disturbed' ecosystem											600 [#27]					600 [#27]	0.072 [#1]	0.072 [#1]		0.036 [#28]	0.036 [#28]					5.1 [#38]	5.1 [#38]	0.0055 [#2 #2]	0.0055 [#2 #2]	0.02 [#3 #3]	0.02 [#3 #3]	0.02 [#4]	0.0044 [#8]	0.049 [#5 #5]	0.049 [#5 #5]	0.014 [#6 #6]	0.014 [#6 #6]	0.003 [#4 #4]	0.003 [#4 #4]			0.0066 [#7 #7]	0.0066 [#7 #7]	0.08 [#25]	0.08 [#25]	0.0004 [#8]	0.0004 [#8]
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem																	0.037 [#17]	0.037 [#17]										0.0007 [#8 #8]	0.0007 [#8 #8]	0.0044 [#3 #3]	0.0044 [#3 #3]	0.0044 [#4]	0.0044 [#8]	0.027 [#18 #18]	0.027 [#18 #18]	0.001 [#6 #6]	0.001 [#6 #6]	0.0013 [#8 #8]	0.0013 [#8 #8]			0.0044 [#5 #5]	0.0044 [#5 #5]			0.0001 [#8]	0.0001 [#8]
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																							
BG1	13 Jan 2015	BG1	Normal	MGT	444205	<20	<20	<50	<50	<100	<100	-	<20	<50	<100	<100	<100	-	-	-	-	0.002	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	0.007	-	-	-	<0.001	-	-	-	<0.0001
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	0.03	-	-	-	0.003	-	-	-	<0.0001
NR1	18 Nov 2019	NR1 (filtered)	Normal	ALSE-Melbourne	EM1919760	<20	<20	310	310	900	<100	1,210	<20	200	1,020	<50	1,220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	17 Jun 2025	NR1	Normal	Eurofins Environment ANZ	1234320	<20	<20	790	790	1,400	<100	2,190	<20	310	1,800	<100	2,110	-	-	-	-	0.002	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	-	2.3	-	<0.001	-	-	-	<0.0001
NR2	14 Jan 2015	NR2	Normal	MGT	444342	<20	<20	660	660	700	<100	-	<20	340	1,000	<100	1,300	-	-	-	-	0.003	-	-	-	-	-	-	0.0003	-	<0.001	-	-	-	-	0.002	-	-	-	0.004	-	-	-	<0.0001
NR2	02 Feb 2016	NR2	Normal	ALSE-Melbourne	EM1601015	<20	<20	650	700	490	<100	1,190	<20	510	730	<50	1,240	-	-	-	-	0.003	-	0.217	-	<0.001	-	0.44	-	<0.0001	-	<0.001	-	-	-	0.003	-	<0.001	-	6.22	-	0.001	-	0.651	-	<0.0001
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	20 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608632	<20	<20	1,590	1,660	970	<100	2,630	<20	1,210	1,500	<50	2,710	-	-	-	-	0.008	-	0.247	-	<0.001	-	0.56	-	<0.0001	-	0.001	-	-	-	-	0.004	-	<0.001	-	0.002	-	0.668	-	<0.0001
NR2	18 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1709548	40	40	1,290	1,370	780	<100	2,150	30	1,110	1,160	<50	2,270	-	-	-	-	0.566	-	<0.001	-	0.68	-	<0.0001	-	0.001	-	-	-	-	0.003	-	0.001	-	0.004	-	1.03	-	<0.0001
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	28 Feb 2018	NR2	Normal	ALSE-Melbourne	EM1803804	<20	<20	660	700	550	<100	1,250	<20	510	730	<50	1,240	-	-	-	-	0.004	-	0.482	-	<0.001	-	0.7	-	<0.0001	-	0.001	-	-	-	-	0.003	-	0.003	-	0.001	-	0.88	-	<0.0001
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	20	20	690	730	730	<100	530	<20	510	970	<50	1,480	-	-	-	-	0.004	-	-	-	-	-	-	<0.0001	-	0.001	-	-	-	-	-	-	<0.001	-	-	-	0.003	-	0.731	-	<0.0001
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	1,460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	15 Nov 2019	NR2 (filtered)	Normal	ALSE-Melbourne	EM1919760	<20	<20	170	170	210	<100	380	<20	170	220	<50	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	20 Jun 2025	NR2A	Normal	Eurofins Environment ANZ	1235189	<20	<20	<50	<50	<100	<100	<100	<20	<50	<100	<100	<100	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	0.003	-	-	-	<0.001	-	0.59	-	<0.0001
NR2A	20 Jun 2025	NR2A_FILTERED	Normal	Eurofins Environment ANZ	1235189	<20	<20	<50	<50	<100	<100	<100	<20	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	140	140	4,530	4,530	3,550	160	5,320	100	3,220	4,680	460	5,650	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	0.003	-	0.252	-	<0.0001
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	8,240	-	-	-	-	8,360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02 (filtered)	Normal	ALSE-Melbourne	EM1913375	30	30	1,450	1,450	430	<100	1,880	30	1,170	770	<50	1,940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	14 Jan 2015	RN2	Normal	MGT	444342	<20	<20	<50	<50	<100	<100	-	<20	<50	<100	<100	<100	-	-	-	-	0.007	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	0.004	-	-	-	<0.001	-	-	-	<0.0001
RN2	19 Jul 2016	RN2	Normal	ALSE-Melbourne	EM1608632	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	0.006	-	0.119	-	<0.001	-	0.36	-	<0.0001	-	<0.001	-	-	-	0.002	-	<0.001	-	-	-	<0.001	-	0.275	-	<0.0001
RN2	19 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1709630	<20	<20	<100	<100	180	<100	180	<20	<50	210	<50	210	-	-	-	-	0.002	-	0.121	-	<0.001	-	0.48	-	<0.0001	-	0.002	-	-	-	<0.001	-	0.001	-	-	-	<0.001	-	0.214	-	<0.0001
RN2	20 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	27 Feb 2018	RN2	Normal	ALSE-Melbourne	EM1803804	<20	<20	<100	<100	270	<100	270	<20	<50	290	<50	290	-	-	-	-	0.005	-	0.089	-	<0.001	-	0.47	-	<0.0001	-	0.002	-	-	-	<0.001	-	0.002	-	-	-	<0.001	-	0.161	-	<0.0001
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	<20	<20	<100	<100	110	<100	<100	<20	<50	130	<50	<50	-	-	-	-	0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	0.001	-	-	-	0.008	-	0.187	-	<0.0001
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	110	-	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2 (filtered)	Normal	ALSE-Melbourne	EM1913375	<20	<20	<100	<100	<100	<100	<100	<20	70	<100	<50	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	18 Jun 2025	RN2	Normal	Eurofins Environment ANZ	1234988	<20	<20	170	170	400	<100	570	<20	60	500	<100	560	-	-	-	-	0.003	-	-	-	-	-	-	<0.0002	-	0.002	-	-	-	-	-	-	<0.001	-	-	-	0.003	-	0.63	-	<0.0001
RN4	14 Jan 2015	RN4	Normal	MGT	444342	<20	<20	150	150	300	<100	-	<20	70	400	<100	470	-	-	-	-	0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
RN4	03 Feb 2016	RN4	Normal	ALSE-Melbourne	EM1601015	<20	<20	120	120	260	<100	380	<20	<50	340	<50	340	-	-	-	-	<0.001	-	0.053	-	<0.001	-	0.4	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	6.04	-	<0.001	-	0.622	-	<0.0001
RN4	20 Jul 2016	RN4	Normal	ALSE-Melbourne	EM1608632	<20	<20	180	180	230	<100	410	<20	60	360	<50	420	-	-	-	-	<0.001	-	0.075	-	<0.001	-	0.44	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.793	-	<0.0001
RN4	19 Jul 2017	RN4	Normal	ALSE-Melbourne	EM1709548	<20	<20	190	190	230	<100	420	<20	100	350	<50	450	-	-	-	-	<0.001	-	0.077	-	<0.001	-	0.44	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.876	-	<0.0001
RN4	28 Feb 2018	RN4	Normal	ALSE-Melbourne	EM1803804	<20	<20	180	180	380	<100	560	<20	60	480	<50	540	-	-	-	-	<0.001	-	0.089	-	<0.001	-	0.45	-	<0.0001	-	<0.001	-	-	-	<0.001	-	0.001	-	-	-	<0.001	-	1.02	-	<0.0001
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	<20	<20	200	200	300	<100	<100	<20	60	440	<50	<50	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.42	-	<0.0001
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	500	-	-	-	-	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1913375	<20	<20	110	110	120	<100	230	<20	80	150	<50	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	<20	<20	140	140	440	<100	150	<20	70	460	100	90	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.31	-	<0.0001
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	580	-	-	-	-	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1919513	<20	<20	140	140	120	<100	260	<20	100	160	<50	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	29 Nov 2023	RN4	Normal	ALSE-Melbourne	EM2321407	<20	<20	<100	<100	170	<100	170	<20	<50	190	<50	190	-	<0.01	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.76	-	<0.0001
RN4	18 Jun 2025	RN4	Normal	Eurofins Environment ANZ	1234988	<20	<20	110	110	<100	<100	110	<20	<50	<100	<100	<100	-	-	-	-	0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.4	-	<0.0001
RS6	14 Jan 2015	SWQC1	Field_D	MGT	444342	<20	<20	<50	<50	<100	<100	-	<20	<50	<100	<100	<100	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
RS6	14 Jan 2015	RS6	Normal	MGT	444342	<20	<20	<50	<50	<100	<100	-	<20	<50	<100	<100	<100	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
RS6	18 Aug 2015	QC27	Field_D	ALSE-Melbourne	EM1513460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
RS6	18 Aug 2015	QC28	Interlab_D	MGT	469301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
RS6	18 Aug 2015	RS6	Normal	ALSE-Melbourne	EM1513460	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
RS6	02 Feb 2016	RS6	Normal	ALSE-Melbourne	EM1601015	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	0.254	-	<0.001	-	0.2	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	2.33	-	<0.001	-	0.508	-	<0.0001
RS6	20 Jul 2016	RS6_20/07/16	Normal	ALSE-Melbourne	EM1608632	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	0.401	-	<0.001	-	0.24	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.586	-	<0.0001
RS6	09 May 2017	QC01	Field_D	ALSE-Melbourne	EM1705903	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	QC02	Interlab_D	MGT	546033	<20	<20	<50	<50	<100	<100	-	<20	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	RS6	Normal	ALSE-Melbourne	EM1705903	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	0.408	-	<0.001	-	0.26	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.589	-	<0.0001
RS6	19 Jul 2017	RS6	Normal	ALSE-Melbourne	EM1709548	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	0.443	-	<0.001	-	0.24	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.588	-	<0.0001
RS6	28 Feb 2018	RS6	Normal	ALSE-Melbourne	EM1803804	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	0.505	-	<0.001	-	0.27	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.584	-	<0.0001
RS6	29 Aug 2018	RS6	Normal	ALSE-Melbourne	EM1813852	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	0.003	-	0.618	-	<0.001	-	0.28	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	0.49	-	<0.0001
RS6	15 Aug 2019	RS6	Normal	ALSE-Melbourne	EM1913375	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	0.269	-	<0.0001
RS6	15 Aug 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1913375	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	11 Nov 2019	RS6	Normal	ALSE-Melbourne	EM1919513	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	<0.01	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	0.341	-	<0.0001
RS6	11 Nov 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1919513	<20	<20	100	100	<100	<100	100	<20	80	100	<50	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	30 Nov 2022	RS6	Normal	ALSE-Melbourne	EM2224108	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	0.405	-	<0.0001
RS6	19 Jun 2025	RS6	Normal	Eurofins Environment ANZ	1235243	<20	<20	<50	<50	<100	<100	<100	<20	<50	<100	<100	<100	-	-	-	-	<0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	-	-	-	-	0.003	-	0.45	-	<0.0001
S4	15 Jan 2015	S4	Normal	MGT	444499	130	130	1,600	1,600	900	<100	-	30	1,200	1,300	<100	2,500	-	-	-	-	0.006	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	19 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608632	90	90	850	850	450	<100	1,300	60	690	640	<50	1,330	-	-	-	-	0.01	-	0.408	-	<0.001	-	0.58	-	<0.0001	-	<0.001	-	-	-	0.001	-	<0.001	-	-	-	<0.001	-	1.54	-	<0.0001
S4	19 Jul 2017	S4	Normal	ALSE-Melbourne	EM1709630	80	80	940	940	580	<100	1,520	60	800	760	<50	1,560	-	-	-	-	0.008	-	0.433	-	<0.001	-	0.62	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	1.75	-	<0.0001
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	110	110	630	630	470	<100	170	80	470	640	<50	250	-	-	-	-	0.004	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.05	-	<0.0001
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	1,100	-	-	-	-	1,110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1913375	40	40	490	490	330	<100	820	30	400	430	<50	830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	90	90	640	640	500	<100	270	60	270	780	<50	240	-	-	-	-	0.005	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.43	-	<0.0001
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	1,140	-	-	-	-	1,050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1919513	80	80	500	500	310	<100	810	60	390	440	<50	830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	05 Dec 2023	S4	Normal	ALSE-Melbourne	EM2321824	120	120	1,140	1,140	570	<100	1,710	80	870	860	<50	1,730	-	0.02	-	-	0.008	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	1.09	-	<0.0001
S9	15 Jan 2015	S9	Normal	MGT	444499	<20	<20	100	100	200	<100	-	<20	170	200	200	570	-	-	-	-	0.008	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
S9	17 Aug 2015	S9	Normal	ALSE-Melbourne	EM1513460	<20	<20	<100	<100	120	<100	120	<20	<50	<100	<50	<50	-	-	-	-	0.011	-	-	-	-	-	-	<0.0001	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
S9	02 Feb 2016	S9	Normal	ALSE-Melbourne	EM1600950	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	0.008	0.003	0.19	0.12	<0.001	<0.001	0.55	0.59	0.0002	<0.0001	0.008	<0.001	-	-	-	0.005	<0.001	0.034	<0.001	42.5	35.4	0.13	<0.001	1.27	1.23	<0.0001	<0.0001
S9	21 Jul 2016	QC05	Field_D	ALSE-Melbourne	EM1608641	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	0.005	-	0.116	-	<0.001	-	0.53	-	<0.0001	-	<0.001	-	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	1.24	-	<0.0001
S9	21 Jul 2016	QC06	Interlab_D	MGT	508963	<20	<20	<50	<50	<100	<100	-	<20	<50	<100	<100	<100	-	-	-	-	0.001	-	-	-	-	-	-	<0.0002	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	<0.001	-	-	-	<0.0001
S9	21 Jul 2016	S9	Normal	ALSE-Melbourne	EM1608641	<20	<20	<100	<100	<100	<100	<100	<20	<50	<100	<50	<50	-	-	-	-	0.007	-	0.115	-	<0.001	-	0.5	-	<0.0001	-	<0.001	-	-	-	<0.001	-	<0.001	-	-	-	<0.001	-	1.31	-	<0.0001
S9	18 Jul 2017	S9	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

													Monocyclic Aromatic Hydrocarbons																				Polynuclear	
			Molybdenum (filtered)	Nickel	Nickel (filtered)	Selenium	Selenium (filtered)	Silver (filtered)	Tin (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total MAH	Total BTEX	Naphthalene (BTEXN)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthene	Benz(a)anthracene
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.005	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.001	1	1	1	2	1	2	1	1	1	5	5	5	5	5	1	1	3	1	5	0.5	1	2	5	2	1	1	1	1	5	1	1	1
Adopted Tier 1 criteria for 'highly disturbed' ecosystem			0.034 [#26]	0.2 [#6 #6]	0.2 [#6 #6]	0.011 [#20]	0.011 [#20] [#21]	0.0018 [#9]		0.16 [#6 #6]	0.16 [#6 #6]	0.012 [#8 #8]	0.012 [#8 #8]	900 [#10]	230 [#11]	110 [#11]	100 [#11]	470 [#30]		910 [#29]	40 [#11]						19 [#29]				90 [#10]		90 [#10]	1	2	5	2	1	1	0.4 [#11]		90 [#10]	2 [#11]	1.4 [#11]	1
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem				0.07 [#6 #6]	0.07 [#6 #6]	0.005 [#21]	0.005 [#21]	0.0014 [#8]		0.1 [#6 #6]	0.1 [#6 #6]	0.008 [#19 #19]	0.008 [#19 #19]	700 [#10]	180 [#10]	80 [#10]	75 [#11]	350 [#30]			30 [#10]						70 [#10]						70 [#10]						0.01 [#23]		70 [#10]	0.6 [#23]	1 [#23]	
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																						
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	0.001	-	-	-	-	-	-	-	0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<1	<1	<1	<1	<20	<1	<1	<1
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	0.001	-	-	-	-	-	-	-	0.028	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	02 Feb 2016	BG1	Normal	ALSE-Melbourne	EM1600950	-	-	0.001	-	<0.01	-	-	-	0.18	-	0.01	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	21 Jul 2016	BG1	Normal	ALSE-Melbourne	EM1608641	-	-	0.001	-	<0.01	-	-	-	0.14	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	18 Jul 2017	BG1	Normal	ALSE-Melbourne	EM1709630	-	-	0.005	-	<0.01	-	-	-	0.15	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	28 Feb 2018	BG1	Normal	ALSE-Melbourne	EM1803804	-	-	<0.001	-	<0.01	-	-	-	0.17	-	0.007	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	12 Aug 2019	BG1	Normal	ALSE-Melbourne	EM1913375	-	-	0.003	-	-	-	-	-	0.07	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	12 Aug 2019	BG1 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
BG1	17 Jun 2025	BG1	Normal	Eurofins Environment ANZ	1234320	-	-	0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW6	15 Jan 2015	MW6	Normal	MGT	444499	-	-	0.001	-	-	-	-	-	-	-	0.002	<1	<1	<1	<2	<1	<3	<1	1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<1	<5	<5	<5	<1	1	<1	<1	<20	1	<1	<1
MW6	15 Jan 2015	MW6	Field_D	MGT	444499	-	-	<0.001	-	-	-	-	-	-	-	0.002	<1	<1	<1	<2	<1	<3	<1	1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<5	<5	<5	<1	1	<1	<1	<20	<1	<1	<1
MW6	19 Jul 2016	MW6	Normal	ALSE-Melbourne	EM1608632	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.2	<1	<1	<5	1.4	<1	<1
MW6	18 Jul 2017	MW6	Normal	ALSE-Melbourne	EM1709630	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.3	<1	<1	<5	1.5	<1	<1
MW6	20 Jul 2017	MW6	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	14 Aug 2019	MW6	Normal	ALSE-Melbourne	EM1913375	-	-	0.003	-	-	-	-	-	<0.01	-	0.02	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.3	<1	<1	<5	1.3	1.1	<1
MW6	14 Aug 2019	MW6	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	14 Aug 2019	MW6 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW6	13 Nov 2019	MW6	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW6	13 Nov 2019	MW6 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW6	06 Dec 2023	MW6	Normal	ALSE-Melbourne	EM2321824	-	-	0.002	-	-	-	-	-	-	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	1.1	<1.0	<1.0	<5	1.5	<1.0	<1.0
MW6	23 Jun 2025	MW6	Normal	Eurofins Environment ANZ	1236601	-	-	0.002	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	2	<1	<1	-	2	<1	<1
MW13	15 Jan 2015	MW13	Normal	MGT	444499	-	-	<0.001	-	-	-	-	-	-	-	0.009	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW13	14 Aug 2019	MW13	Normal	ALSE-Melbourne	EM1913375	-	-	0.032	-	-	-	-	-	<0.01	-	0.033	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW13	14 Aug 2019	MW13 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW13	13 Nov 2019	MW13	Normal	ALSE-Melbourne	EM1919513	-	-	0.028	-	-	-	-	-	<0.01	-	0.017	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW13	13 Nov 2019	MW13 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	15 Jan 2015	MW16	Normal	MGT	444499	-	-	<0.001	-	-	-	-	-	-	-	0.02	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	<1	<1	<1	<20	<1	<1	<1
MW16	19 Jul 2016	MW16	Normal	ALSE-Melbourne	EM1608632	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	18 Jul 2017	MW16	Normal	ALSE-Melbourne	EM1709512	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	<1	3	<2	<2	<2	<2	-	-	-	-	-	-	-	-	3	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	18 Jul 2017	MW16	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	26 Feb 2018	MW16	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<1	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	27 Aug 2018	MW16	Normal	ALSE-Melbourne	EM1813832	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	14 Aug 2019	MW16	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	-	<0.01	-	0.015	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.1	<1	<1	<5	<1	<1	<1
MW16	14 Aug 2019	MW16	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	14 Aug 2019	MW16 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	13 Nov 2019	MW16	Normal	ALSE-Melbourne	EM1919513	-	-	0.001	-	-	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW16	13 Nov 2019	MW16	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	13 Nov 2019	MW16 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1	<1	1.1	<5	<1	<1	<1
MW16	06 Dec 2023	MW16	Normal	ALSE-Melbourne	EM2321824	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	1.5	<1.0	1.4	<5	1.3	<1.0	<1.0
MW16	23 Jun 2025	MW16	Normal	Eurofins Environment ANZ	1236601	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	2	<1	2	-	2	<1	<1
MW16	23 Jun 2025	MW16_FILTERED	Normal	Eurofins Environment ANZ	1236601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	2	<1	2	-	2	<1	<1
MW16	23 Jun 2025	QC107	Field_D	Eurofins Environment ANZ	1241421	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW16	23 Jun 2025	QC107_FILTERED	Field_D	Eurofins Environment ANZ	1241421	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW16	23 Jun 2025	QC207	Interlab_D	ALSE-Melbourne	EM2512174	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	<5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW16	23 Jun 2025	QC207_FILTERED	Interlab_D	ALSE-Melbourne	EM2512174	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	<5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0
MW36	14 Jan 2015	MW36	Normal	MGT	444342	-	-	0.003	-	-	-	-	-	-	-	0.041	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	<1	<1	<1	<20	<1	<1	<1
MW36	13 Aug 2019	MW36	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	-	<0.01	-	0.024	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW36	13 Aug 2019	MW36	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	13 Aug 2019	MW36 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW36	11 Nov 2019	MW36	Normal	ALSE-Melbourne	EM1919513	-	-	0.004	-	-	-	-	-	<0.01	-	0.037	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	0.9	<1	-	-	-	<1	<1	<1	<1	<5	<1	1	<1
MW36	11 Nov 2019	MW36	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	11 Nov 2019	MW36 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW36	02 Dec 2022	MW36	Normal	ALSE-Melbourne	EM2224108	-	-	0.004	-	-	-	-	-	<0.01	-	0.017	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW36	18 Jun 2025	MW36	Normal	Eurofins Environment ANZ	1234988	-	-	0.012	-	-	-	-	-	-	-	0.012	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW60	15 Jan 2015	MW60	Normal	MGT	444499	-	-	0.001	-	-	-	-	-	-	-	0.016	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	3	<1	2	<20	3	<1	<1
MW60	19 Jul 2016	MW60	Normal	ALSE-Melbourne	EM1608632	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.028	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW60	18 Jul 2017	MW60	Normal	ALSE-Melbourne	EM1709512	-	-	0.005	-	<0.01	-	-	-	<0.01	-	0.043	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW60	05 Dec 2023	MW60	Normal	ALSE-Melbourne	EM2321824	-	-	0.004	-	-	-	-	-	-	-	0.02	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW60	24 Jun 2025	MW60	Normal	Eurofins Environment ANZ	1237216	-	-	0.003	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW60	24 Jun 2025	MW60_FILTERED	Normal	Eurofins Environment ANZ	1237216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW100	14 Jan 2015	MW100	Normal	MGT	444342	-	-	0.001	-	-	-	-	-	-	-	0.001	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	<1	<1	<1	<20	<1	<1	<1
MW100	19 Jul 2016	MW100_19/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW100	18 Jul 2017	MW100	Normal	ALSE-Melbourne	EM1709512	-	-	0.005	-	<0.01	-	-	-	<0.01	-	0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW100	18 Jul 2017	MW100	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW100	01 Dec 2022	MW100	Normal	ALSE-Melbourne	EM2224108	-	-	0.011	-	-	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513587	-	-	0.002	-	-	-	-	-	-	-	<0.005	2	6	<2	9	4	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	21	-	<2	223	22	-	<2	53	5	7	18	332	35	5	<2
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120	02 Feb 2016	MW120	Normal	ALSE-Melbourne	EM1600950	-	-	0.003	-	<0.01	-	-	-	0.02	-	0.005	2	4	<2	4	<2	4	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	-	<2	91	10	-	<2	18	4	5	11	127	22	6	<2
MW120	02 Feb 2016	QC3	Field_D	ALSE-Melbourne	EM1600950	-	-	0.004	-	<0.01	-	-	-	0.02	-	0.008	3	4	<2	4	2	6	-	-	-	-	-	-	-	-	13	-	<0.5	92.9	-	-	-	16.6	5.2	5.8	16	134	23.2	6.6	<1
MW120	02 Feb 2016	QC4	Interlab_D	MGT	487959	-	-	0.003	-	-	-	-	-	0.026	-	0.002	3	4	<1	3	2	5	-	-	-	-	-	-	-	-	-	-	-	68	-	-	-	20	5	6	13	150	13	7	<1
MW120	21 Jul 2016	MW120	Normal	ALSE-Melbourne	EM1608641	-	-	0.002	-	<0.01	-	-	-	0.01	-	0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	14.9	-	-	-	4.6	1.8	1.9	4.7	35	7.8	3	<1
MW120	21 Jul 2016	MW120	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120A	25 Jun 2025	MW120A	Normal	Eurofins Environment ANZ	1240646	-	-	0.002	-	-	-	-	-	-	-	0.013	170	59	<5	<10	13	13	-	-	-	-	-	-	-	-	-	30	-	2	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW121	19 Aug 2015	MW121	Normal	ALSE-Melbourne	EM1513587	-	-	0.002	-	-	-	-	-	-	-	0.008	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2
MW121	02 Feb 2016	MW121	Normal	ALSE-Melbourne	EM1600950	-	-	0.003	-	<0.01	-	-	-	0.02	-	0.01	<1	<2	<2	<2	<2	<2	-	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<2	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2	<2
MW121	21 Jul 2016	MW121	Normal	ALSE-Melbourne	EM1608641	-	-	0.001	-	<0.01	-	-	-	0.04	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW121	18 Jul 2017	MW121	Normal	ALSE-Melbourne	EM1709630	-	-	<0.001	-	<0.01	-	-	-	0.05	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW121	20 Jul 2017	QC303	Field_D	ALSE-Melbourne	EM1709630	-	-	0.004	-	<0.01	-	-	-	0.07	-	0.014	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW121	20 Jul 2017	QC304	Interlab_D	MGT	555680	-	-	0.001	-	-	-	-	-	0.071	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1
MW121	18 Jun 2025	MW121	Normal	Eurofins Environment ANZ	1234988	-	-	0.002	-	-	-	-	-	-	-	0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	<10	-	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW122	18 Aug 2015	MW122	Normal	ALSE-Melbourne	EM1513460	-	-	0.004	-	-	-	-	-	-	-	0.011	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	-	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW122	18 Aug 2015	QC29	Field_D	ALSE-Melbourne	EM1513460	-	-	0.004	-	-	-	-	-	-	-	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	18 Aug 2015	QC30	Interlab_D	MGT	469301	-	-	0.005	-	-	-	-	-	-	-	0.009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	03 Feb 2016	MW122	Normal	ALSE-Melbourne	EM1601015	-	-	0.003	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<2	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2	<2
MW122	20 Jul 2016	MW122_20/07/16	Normal	ALS

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

													Monocyclic Aromatic Hydrocarbons																Polynuclear	
	Molybdenum (filtered)	Nickel	Nickel (filtered)	Selenium	Selenium (filtered)	Silver (filtered)	Tin (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total MAH	Total BTEX	Naphthalene (BTEXN)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthene	Benz(a)anthracene
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.005	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.001	1	1	1	2	1	2	1	1	5	5	5	5	5	1	1	3	1	5	0.5	1	2	5	2	1	1	1	1	5	1	1	1
Adopted Tier 1 criteria for 'highly disturbed' ecosystem	0.034 #26	0.2 #6 #6	0.2 #6 #6	0.011 #20	0.011 #20	0.0018 #9		0.16 #6 #6	0.16 #6 #6	0.012 #8 #8	0.012 #8 #8	900 #10	230 #11	110 #11	100 #11	470 #30		910 #29	40 #11						19 #29				90 #10		90 #10							0.4 #11		90 #10	2 #11	1.4 #11	
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem		0.07 #6 #6	0.07 #6 #6	0.005 #21	0.005 #21	0.0014 #8		0.1 #6 #6	0.1 #6 #6	0.008 #19 #19	0.008 #19 #19	700 #10	180 #10	80 #10	75 #11	350 #30			30 #10										70 #10		70 #10							0.01 #23		70 #10	0.6 #23	1 #23	

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																							
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	0.001	-	-	-	-	-	-	-	0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<5	<5	<5	<1	<1	<20	<1	<1	<1
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	0.001	-	-	-	-	-	-	-	0.028	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW123B	03 Feb 2016	MW123B	Normal	ALSE-Melbourne	EM1601015	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.011	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW123B	20 Jul 2016	MW123B_20/07/2016	Normal	ALSE-Melbourne	EM1608632	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.016	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	1.9	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW123B	18 Jul 2017	MW123B	Normal	ALSE-Melbourne	EM1709548	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW123B	27 Feb 2018	MW123B	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.01	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW123B	28 Aug 2018	MW123B	Normal	ALSE-Melbourne	EM1813832	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW123B	02 Dec 2022	MW123B	Normal	ALSE-Melbourne	EM2241108	-	-	<0.002	-	-	-	-	-	<0.02	-	0.026	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW124A	18 Aug 2015	MW124A	Normal	ALSE-Melbourne	EM1513460	-	-	<0.001	-	-	-	-	-	-	-	0.005	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW124A	03 Feb 2016	MW124A	Normal	ALSE-Melbourne	EM1601015	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW124A	21 Jul 2016	MW124A_21/07/16	Normal	ALSE-Melbourne	EM1608641	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124A	09 May 2017	MW124A	Normal	ALSE-Melbourne	EM1705903	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124A	18 Jul 2017	MW124A	Normal	ALSE-Melbourne	EM1709512	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124A	27 Feb 2018	MW124A	Normal	ALSE-Melbourne	EM1803804	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124A	29 Aug 2018	MW124A	Normal	ALSE-Melbourne	EM1813852	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.009	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124A	05 Dec 2023	MW124A	Normal	ALSE-Melbourne	EM2321824	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW124B	18 Aug 2015	MW124B	Normal	ALSE-Melbourne	EM1513460	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW124B	03 Feb 2016	MW124B	Normal	ALSE-Melbourne	EM1601015	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW124B	21 Jul 2016	MW124B_21/07/16	Normal	ALSE-Melbourne	EM1608641	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124B	09 May 2017	MW124B	Normal	ALSE-Melbourne	EM1705903	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124B	18 Jul 2017	MW124B	Normal	ALSE-Melbourne	EM1709512	-	-	0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124B	27 Feb 2018	MW 124B	Normal	ALSE-Melbourne	EM1803804	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124B	29 Aug 2018	MW124B	Normal	ALSE-Melbourne	EM1813852	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW124B	05 Dec 2023	MW124B	Normal	ALSE-Melbourne	EM2321824	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW125A	18 Aug 2015	MW125A	Normal	ALSE-Melbourne	EM1513587	-	-	0.001	-	-	-	-	-	-	-	0.006	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	4	<2	<2
MW125A	02 Feb 2016	MW125A	Normal	ALSE-Melbourne	EM1601015	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	4	<2	<2
MW125A	19 Jul 2016	MW125A	Normal	ALSE-Melbourne	EM1608632	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.008	<1	2	<2	<2	<2	<2	-	-	-	-	-	-	-	2	-	-	<0.5	<1	-	-	-	<1	1.1	1.3	1.9	<5	4.1	1.5	<1
MW125A	18 Jul 2017	MW125A	Normal	ALSE-Melbourne	EM1709512	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	1.2	<5	2.6	<1	<1
MW125A	26 Feb 2018	MW125A	Normal	ALSE-Melbourne	EM1803798	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	2.3	1.8	<1
MW125A	14 Nov 2019	MW125A	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	1.4	<1	<1
MW125A	14 Nov 2019	MW125A (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW125A	04 Dec 2023	MW125A	Normal	ALSE-Melbourne	EM2321824	-	-	0.002	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	1.2	<1.0	1.1	<5	<1.0	1.2	<1.0
MW125A	24 Jun 2025	MW125A	Normal	Eurofins Environment ANZ	1237216	-	-	0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	<10	-	<1	-	-	<1	2	2	1	-	2	2	<1
MW125B	18 Aug 2015	MW125B	Normal	ALSE-Melbourne	EM1513587	-	-	0.002	-	-	-	-	-	-	-	0.006	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW125B	02 Feb 2016	MW125B	Normal	ALSE-Melbourne	EM1601015	-	-	0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	3	<2	<2
MW125B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	0.002	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.3	1.2	2.2	<5	4	1.4	<1
MW125B	18 Jul 2017	MW125B	Normal	ALSE-Melbourne	EM1709512	-	-	0.005	-	<0.01	-	-	-	<0.01	-	0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	1.3	<5	2.9	<1	<1
MW125B	26 Feb 2018	MW125B	Normal	ALSE-Melbourne	EM1803798	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	1.2	<5	3	1.2	<1
MW125B	04 Dec 2023	MW125B	Normal	ALSE-Melbourne	EM2321824	-	-	0.002	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513460	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	4.7	-	-	-	<1	37	6.6	23.7	8	44.6	6.2	<1
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	02 Feb 2016	MW126A	Normal	ALSE-Melbourne	EM1601015	-	0.001	<0.001	<0.01	<0.01	-	-	<0.01	<0.01	0.039	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	1.9	-	-	-	<1	33.4	6.2	21.8	<5	53.5	8.1	<1
MW126A	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	1.2	-	-	-	<1	29.4	6.8	21.5	<5	46.6	7.8	<1
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1709512	-	-	0.004	-	<0.01	-	-	-	<0.01	-	0.019	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	25.6	6	19.8	<5	37	6.4	<1
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	26 Feb 2018	MW126A	Normal	ALSE-Melbourne	EM1803798	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	1.3	-	-	-	<1	39.7	6.4	18.5	<5	63.3	8	<1
MW126A	27 Aug 2018	MW126A	Normal	ALSE-Melbourne	EM1813832	-	-	0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	23.9	4.7	17	<5	38.2	6.6	<1
MW126A	14 Aug 2019	MW126A	Normal	ALSE-Melbourne	EM1913375	-	-	0.001	-	-	-	-	-	<0.01	-	0.009	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	18.4	4.1	13.3	<5	22.9	5.6	<1
MW126A	14 Aug 2019	MW126A	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	14 Aug 2019	MW126A (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW126A	13 Nov 2019	MW126A	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	13.5	2.6	10.1	<5	21.6	3.8	<1
MW126A	13 Nov 2019	MW126A	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	13 Nov 2019	MW126A (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	6.1	<1	2.5	<5	1.5	<1	<1
MW126A	05 Dec 2023	MW126A	Normal	ALSE-Melbourne	EM2321824	-	-	0.004	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	13.2	3.7	9.7	<5	26.6	5.4	<1.0
MW126A	24 Jun 2025	MW126A	Normal	Eurofins Environment ANZ	1237216	-	-	0.003	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	<10	-	<1	-	-	<1	10	11	8	-	13	3	<1
MW126A	24 Jun 2025	QC108	Field_D	Eurofins Environment ANZ	1237216	-	-	0.003	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	<10	-	<1	-	-	<1	15	15	10	-	21	5	<1
MW126A	24 Jun 2025	QC208	Interlab_D	ALSE-Melbourne	EM2511596	-	-	0.003	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	<5	<0.5	<1.0	-	-	-	<1.0	17.7	4	12.9	-	29.4	4.7	<1.0
MW126B	17 Aug 2015	MW126B	Normal	ALSE-Melbourne	EM1513460	-	-	0.001	-	-	-	-	-	-	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW126B	02 Feb 2016	MW126B	Normal	ALSE-Melbourne	EM1601015	-	-	0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	3.7	-	-	-	<1	2.6	<1	<1	7	<1	<1	<1
MW126B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.008	1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	1	-	-	<0.5	28.8	-	-	-	<1	21.7	1.2	11.2	41	9.4	<1	<1
MW126B	18 Jul 2017	MW126B	Normal	ALSE-Melbourne	EM1709512	-	-	0.002	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	3.1	<1	1.1	<5	<1	<1	<1
MW126B	26 Feb 2018	MW126B	Normal	ALSE-Melbourne	EM1803798	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	1.3	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW126B	27 Aug 2018	MW126B	Normal	ALSE-Melbourne	EM1813832	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.6	<1	-	-	-	<1	1	<1	<1	<5	<1	<1	<1
MW126B	05 Dec 2023	MW126B	Normal	ALSE-Melbourne	EM2321824	-	-	0.003	-	-	-	-	-	-	-	0.005	<1	<2	<2	6	<2	6	-	-	-	-	-	-	-	6	-	-	<0.5	2.6	-	-	-	<1.0	46	2.9	22.2	<5	17.7	2	<1.0
MW129	18 Aug 2015	MW129	Normal	ALSE-Melbourne	EM1513460	-	-	0.005	-	-	-	-	-	-	-	0.009	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2
MW129	02 Feb 2016	MW129	Normal	ALSE-Melbourne	EM1601015	-	-	0.003	-	<0.01	-	-	-	<0.01	-	0.009	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW129	19 Jul 2016	MW129_19/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.009	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW129	09 May 2017	MW129	Normal	ALSE-Melbourne	EM1705903	-	-	0.003	-	<0.01	-	-	-	<0.01	-	0.009	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW129	18 Jul 2017	MW129	Normal	ALSE-Melbourne	EM1709630	-	-	0.002	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW130_GHD	18 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	18 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	20 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608632	-	-	0.003	-	<0.01	-	-	-	<0.01	-	<0.005	1,070	40	544	74	206	280	-	-	-	-	-	-	-	1,930	-	<0.5	243	-	-	-	9.2	49.4	6.6	27	391	31.6	5.8	<1
MW130_GHD	18 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1709548	-	-	0.006	-	<0.01	-	-	-	<0.01	-	<0.005	776	32	420	53	182	235	-	-	-	-	-	-	-	1,460	-	<0.5	201	-	-	-	6.4	46	6.8	23	270	32.6	7.1	<1
MW130_GHD	19 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	19 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	27 Feb 2018	MW130	Normal	ALSE-Melbourne	EM1803798	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	982	79	573	131	348	479	-	-	-	-	-	-	-	2,110	-	<0.5	788	-	-	-	10.4	81.6	7.8	29.1	620	37.5	5.5	<1
MW130_GHD	28 Aug 2018	MW130	Normal	ALSE-Melbourne	EM1813832	-	-	0.006	-	<0.01	-	-	-	<0.01	-	<0.005	1,070	121	530	95	425	520	-	-	-	-	-	-	-	2,240	-	<4.9	487	-	-	-	8.5	36.1	6.5	16	640	22.5	5.2	<2.4
MW130_GHD	28 Aug 2018	QC01	Field_D	ALSE-Melbourne	EM1813832	-	-	0.006	-	<0.01	-	-	-	<0.01	-	<0.005	1,080	121	535	94	424	518	-	-	-	-	-	-	-	2,250	-	<5.4	455	-	-	-	8.3	33.2	20.5	14.7	702	20.7	4.4	<2.7
MW130_GHD	28 Aug 2018	QC02	Interlab_D	MGT	615201	-	-	0.006	-	<0.001	-	-	-	<0.005	-	<0.005	890	81	380	41	260	300	-	-	-	-	-	-	-	-	-	-	160	-	-	-	3	11	3	6	780	8	2	<1
MW130_GHD	13 Aug 2019	MW130_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	0.009	-	-	-	-	-	<0.01	-	<0.005	602	48	414	110	280	390	-	-	-	-	-	-	-	1,450	-	<0.5	545	-	-	-	4.6	46.5	7.1	24.8	654	29.4	9

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

												Monocyclic Aromatic Hydrocarbons																Polynuclear	
	Molybdenum (filtered)	Nickel	Nickel (filtered)	Selenium	Selenium (filtered)	Silver (filtered)	Tin (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total MAH	Total BTEX	Naphthalene (BTEXN)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthene	Benz(a)anthracene
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.005	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.001	1	1	1	2	1	2	1	1	5	5	5	5	5	1	1	3	1	5	0.5	1	2	5	2	1	1	1	1	5	1	1	1
Adopted Tier 1 criteria for 'highly disturbed' ecosystem	0.034 #26	0.2 #6 #6	0.2 #6 #6	0.011 #20	0.011 #20	0.0018 #9		0.16 #6 #6	0.16 #6 #6	0.012 #8 #8	0.012 #8 #8	900 #10	230 #11	110 #11	100 #11	470 #30		910 #29	40 #11						19 #29				90 #10		90 #10						0.4 #11		90 #10	2 #11	1.4 #11	
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem		0.07 #6 #6	0.07 #6 #6	0.005 #21	0.005 #21	0.0014 #8		0.1 #6 #6	0.1 #6 #6	0.008 #19 #19	0.008 #19 #19	700 #10	180 #10	80 #10	75 #11	350 #30			30 #10									70 #10		70 #10						0.01 #23		70 #10	0.6 #23	1 #23	

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																						
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	0.001	-	-	-	-	-	-	-	0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<5	<5	<5	<1	<1	<1	<20	<1	<1	<1
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	0.001	-	-	-	-	-	-	-	0.028	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	-	-	<1	<1	<1	<5	<1	<1	<1	<5	<1	<1	<1
MW132_GHD	13 Aug 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	14	<2	<2	<2	3	3	-	-	-	-	-	-	-	17	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	-	0.003	-	-	-	-	<0.01	-	-	<0.005	16	<2	2	3	4	7	-	-	-	-	-	-	-	25	-	<0.5	3.8	-	-	-	6.5	32.4	3.6	19.9	7	1.3	2.5	<1
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	15 Aug 2019	QC02	Interlab_D	MGT	672404	-	-	0.002	-	-	<0.005	<0.005	-	-	-	<0.005	16	<1	2	3	3	6	-	-	-	-	-	-	-	3	17	2	11	<10	<1	<1	<1	3	17	2	11	<10	<1	<1	<1
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	0.003	-	-	-	-	<0.01	-	-	<0.005	44	<2	<2	2	3	5	-	-	-	-	-	-	-	49	-	<0.5	5.3	-	-	-	11.6	67.4	6.3	45.6	6	1.8	4.1	<1
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	26	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	26	-	<0.5	1	-	-	-	<1	1.4	<1	<1	<5	<1	<1	<1
MW132_GHD	01 Dec 2022	MW132_GHD	Normal	ALSE-Melbourne	EM2224108	-	-	0.004	-	-	-	-	<0.01	-	-	<0.005	228	8	12	9	12	21	-	-	-	-	-	-	-	269	-	<0.5	17.1	-	-	-	9.7	54.4	6.4	34.7	23	2.2	3.8	<1.0
MW132_GHD	12 Jun 2025	MW132_GHD	Normal	Eurofins Environment ANZ	1232587	-	-	0.003	-	-	-	-	-	-	-	0.009	250	2	9	6	9	15	-	-	-	-	-	-	-	8	57	6	33	-	<1	2	<1	8	57	6	33	-	<1	2	<1
MW133_GHD	03 Feb 2016	MW133_GHD	Normal	ALSE-Melbourne	EM1601015	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	<0.005	1	<2	<2	4	<2	4	-	-	-	-	-	-	-	5	-	7.6	39.7	-	-	-	3	46.2	14.1	27.7	54	39.8	22	6.9
MW133_GHD	20 Jul 2016	MW133_GHD_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	0.001	-	<0.01	-	-	<0.01	-	-	<0.005	<1	2	<2	3	<2	3	-	-	-	-	-	-	-	5	-	<0.5	17.4	-	-	-	1.1	38.3	6	18.7	35	19.8	5.9	<1
MW133_GHD	18 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1709548	-	-	0.004	-	<0.01	-	-	<0.01	-	-	0.008	<1	<2	<2	2	<2	2	-	-	-	-	-	-	-	2	-	<0.5	12.2	-	-	-	1.1	44.3	7.6	19.8	19	29.2	7.1	<1
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	27 Feb 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	0.008	<1	<2	<2	4	<2	4	-	-	-	-	-	-	-	4	-	2.9	16.2	-	-	-	1.6	61	10.8	23.6	24	41.3	14.7	3.3
MW133_GHD	28 Aug 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1813832	-	-	0.002	-	<0.01	-	-	<0.01	-	-	0.006	<1	<2	<2	3	<2	3	-	-	-	-	-	-	-	3	-	<0.5	7.6	-	-	-	<1	26.5	4.5	12	18	11.6	5.1	<1
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	<0.01	-	-	0.022	<1	<2	<2	3	<2	3	-	-	-	-	-	-	-	3	-	<0.5	8	-	-	-	<1	26.4	4.6	13.9	12	14.5	6.4	<1
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	2	<2	2	-	-	-	-	-	-	-	2	-	<0.5	3.3	-	-	-	<1	9.1	<1	1.3	<5	<1	<1	<1
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	<0.01	-	-	<0.005	<1	<2	<2	4	<2	4	-	-	-	-	-	-	-	4	-	1.2	7	-	-	-	1	38.3	5.2	16.4	12	11.5	8.6	1.5
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW133_GHD	01 Dec 2022	MW133_GHD	Normal	ALSE-Melbourne	EM2224108	-	-	0.002	-	-	-	-	<0.01	-	-	<0.005	1	<2	<2	5	<2	5	-	-	-	-	-	-	-	6	-	0.7	5.3	-	-	-	<1.0	39.6	5.8	17.4	8	15.2	9	1.3
MW133_GHD	12 Jun 2025	MW133_GHD	Normal	Eurofins Environment ANZ	1232587	-	-	0.001	-	-	-	-	-	-	-	0.007	<1	<1	<1	5	1	6	-	-	-	-	-	-	-	-	<10	-	4	-	-	-	<1	36	7	15	-	18	3	<1
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608641	-	-	0.005	-	<0.01	-	-	0.01	-	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1709512	-	-	0.004	-	<0.01	-	-	0.02	-	-	0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	13 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	2.2	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	-	0.005	-	-	-	-	0.01	-	-	0.027	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	1.4	<1	3.4	<5	<1	<1	<1
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW150	27 Feb 2018	MW150	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	7.2	-	-	-	1.2	14.3	2.3	10.9	10	11.6	2.2	<1
MW150	28 Aug 2018	MW150	Normal	ALSE-Melbourne	EM1813832	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	0.009	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	2.4	<1	<1	<5	<1	1	<1
MW150	13 Aug 2019	MW150	Normal	ALSE-Melbourne	EM1913375	-	-	<0.001	-	-	-	-	<0.01	-	-	0.007	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	2.5	<1	<1	<5	<1	<1	<1
MW150	13 Aug 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW150	12 Nov 2019	MW150	Normal	ALSE-Melbourne	EM1919513	-	-	0.001	-	-	-	-	<0.01	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW150	12 Nov 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW150	01 Dec 2022	MW150	Normal	ALSE-Melbourne	EM2224108	-	-	<0.001	-	-	-	-	<0.01	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1.0	-	-	-	<1.0	3	<1.0	1.3	<5	1.2	<1.0	<1.0
MW150	01 Dec 2022	QC101	Field_D	ALSE-Melbourne	EM2224108	-	-	<0.001	-	-	-	-	<0.01	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1.0	-	-	-	<1.0	2.8	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW150	01 Dec 2022	QC102	Interlab_D	MGT	947585	-	-	<0.001	-	-	-	-	<0.005	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	4	<1	<1	<10	<1	<1	<1
MW150	01 Dec 2023	MW150	Normal	ALSE-Melbourne	EM2321582	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1.0	-	-	-	<1.0	3.2	<1.0	1.8	<5	1.9	<1.0	<1.0
MW150	12 Jun 2025	MW150	Normal	Eurofins Environment ANZ	1232587	-	-	<0.001	-	-	-	-	-	-	-	0.006	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	<10	-	2	-	-	-	<1	3	<1	2	-	<1	<1	<1
MW151	27 Feb 2018	MW151	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	2.9	<1	-	-	-	<1	2.5	1.5	<1	<5	3.8	6	2.2
MW151	29 Aug 2018	MW151	Normal	ALSE-Melbourne	EM1813852	-	-	0.004	-	<0.01	-	-	<0.01	-	-	0.007	<1	6	<2	<2	<2	<2	-	-	-	-	-	-	-	6	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	1.6	<1	<1
MW151	13 Aug 2019	MW151	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	<0.01	-	-	0.006	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	2.6	<1	1.1	<5	3.4	2	<1
MW151	13 Aug 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	<0.01	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	2.2	<1	<1	<5	2.4	2.1	<1
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW151	01 Dec 2023	MW151	Normal	ALSE-Melbourne	EM2321582	-	-	0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	<0.5	<1.0	<2	-	<2	<1.0	3	<1.0	<1.0	<5	1.9	2	<1.0
MW151	01 Dec 2023	MW151	Normal	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	2.4
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	-	-	0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<1	-	<0.5	<1.0	<2	-	<2	<1.0	3	<1.0	<1.0	<5	2	2	<1.0
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA203	Interlab_D	MGT	1049962	-	<0.001	-	-	-	-	-	-	-	<0.005	-	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	<1	<1	<3	-	-	-	<1	<5	<5	<5	<1	<1	<1	<1	<10	<1	<1	<1
MW151	19 Jun 2025	MW151	Normal	Eurofins Environment ANZ	1235243	-	-	0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	4	<1	<1	-	<1	<1	<1
MW151	19 Jun 2025	MW151_FILTERED	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	3	<1	<1	-	<1	<1	<1
MW152	27 Feb 2018	MW152	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	0.01	-	-	0.008	3	<2	<2	4	<2	4	-	-	-	-	-	-	-	7	-	<0.5	2.1	-	-	-	<1	3.7	<1	1.7	<5	2.5	<1	<1
MW152	29 Aug 2018	MW152	Normal	ALSE-Melbourne	EM1813852	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	0.01	2	<2	3	3	<2	3	-	-	-	-	-	-	-	8	-	<0.5	12.2	-	-	-	<1	4.8	<1	1.5	15	1.6	<1	<1
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	<0.01	-	-	<0.005	4	<2	4	4	<2	4	-	-	-	-	-	-	-	12	-	<0.5	21.8	-	-	-	<1	7.7	<1	1.9	24	1.6	<1	<1
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	2	-	<0.5	12.8	-	-	-	<1	2.5	<1	<1	<5	<1	<1	<1
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	-	0.001	-	-	-	-	<0.01	-	-	<0.005	4	<2	3	4	<2	4	-	-	-	-	-	-	-	11	-	<0.5	11.8	-	-	-	<1	6.4	<1	1.9	18	1.2	<1	<1
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	3	<2	<2	3	<2	3	-	-	-	-	-	-	-	6	-	<0.5	2.4	-	-	-	<1	<1	<1	<1	8	<1	<1	<1
MW152	01 Dec 2023	MW152	Normal	ALSE-Melbourne	EM2321582	-	-	<0.001	-	-	-	-	-	-	-	<0.005	2	<2	<2	4	<2	4	-	-	-	-	-	-	-	6	-	<0.5	1.5	-	-	-	<1.0	9.3	<1.0	2.8	<5	2	<1.0	<1.0
MW152	19 Jun 2025	MW152	Normal	Eurofins Environment ANZ	1235243	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	5	<1	5	-	-	-	-	-	-	-	-	<10	-	2	-	-	-	<1	13	<1	4	-	2	<1	<1
MW153	27 Feb 2018	MW153	Normal	ALSE-Melbourne	EM1803798	-	-	<0.001	-	<0.01	-	-	<0.01	-	-	0.007	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	1.4	<1	-	-	-	<1	5.7	2.6	4.4	<5	12.3	6	1.4
MW153	29 Aug 2018	MW153	Normal	ALSE-Melbourne	EM1813852	-	-	0.004	-	<0.01	-	-	<0.01	-	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	1.4	<1	<1
MW153	13 Aug 2019	MW153	Normal	ALSE-Melbourne	EM1913375	-	-	0.007	-	-	-	-	<0.01	-	-	0.012	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	1.2	<1
MW153	13 Aug 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW153	12 Nov 2019	MW153	Normal	ALSE-Melbourne	EM1919513	-	-	0.006	-	-	-	-	<0.01	-	-	0.014	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW153	12 Nov 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW153	01 Dec 2023	MW153	Normal	ALSE-Melbourne	EM2321582	-	-	<0.002	-	-	-	-	-	-	-	0.035	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW153	12 Jun 2025	MW153	Normal	Eurofins Environment ANZ	1232587	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
MW154	28 Aug 2018	MW154	Normal	ALSE-Melbourne	EM1813832	-	-	0.002	-	<0.01	-	-	<0.01	-	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	5.2	-	-	-	<1	2.5	<1	2	12	<1	1	<1
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	-	0.005	-	-	-	-	<0.01	-	-	0.015	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	1.8	<1	1.7	<5	1.6	1	<1
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW154	13 Nov 2019	MW154	Normal	ALSE-Melbourne	EM1919513	-	-	0.003	-	-	-	-	<0.01	-	-	0.015	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW154	13 Nov 2019	MW154	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW154	13 Nov 2019	QC05	Field_D	ALSE-Melbourne	EM1919513	-	-	0.004	-	-	-	-	<0.01	-	-	0.008	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	<0.5	<1	-	-	-	<1

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

													Monocyclic Aromatic Hydrocarbons																Polynuclear
	Molybdenum (filtered)	Nickel	Nickel (filtered)	Selenium	Selenium (filtered)	Silver (filtered)	Tin (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total MAH	Total BTEX	Naphthalene (BTEXN)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthene	Benz(a)anthracene
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.005	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.001	1	1	1	2	1	2	1	1	5	5	5	5	5	1	1	3	1	5	0.5	1	2	5	2	1	1	1	1	5	1	1	1
Adopted Tier 1 criteria for 'highly disturbed' ecosystem	0.034 #26	0.2 #6 #6	0.2 #6 #6	0.011 #20	0.011 #20 0.005 #21	0.0018 #9 0.0014 #9		0.16 #6 #6	0.16 #6 #6 0.1 #6 #6	0.012 #8 #8 0.008 #19 #19	0.012 #8 #8 0.008 #19 #19	900 #10 700 #10	230 #11 180 #10	110 #11 80 #10	100 #11 75 #11	470 #30 350 #30		910 #29	40 #11 30 #10							19 #29			90 #10 70 #10		90 #10 70 #10							0.4 #11 0.01 #23		90 #10 70 #10	2 #11 0.6 #23	1.4 #11 1 #23	
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem																																									

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																								
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	0.001	-	-	-	-	-	-	-	0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<5	<5	<1	<1	<1	<20	<1	<1	<1
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	0.001	-	-	-	-	-	-	-	0.028	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	-	-	<1	<1	<1	<1	<1	<5	<1	<1	<1
MW157	15 Aug 2019	MW157	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157	15 Aug 2019	MW157 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<1	-	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW157	14 Nov 2019	MW157	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW157	14 Nov 2019	MW157	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157	14 Nov 2019	MW157 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW158	15 Aug 2019	MW158	Normal	ALSE-Melbourne	EM1913371	-	-	0.001	-	-	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	5.3	-	-	-	3.7	16.6	2.5	8.6	11	3.8	4.9	<1
MW158	15 Aug 2019	MW158	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	15 Aug 2019	MW158 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW158	11 Nov 2019	MW158	Normal	ALSE-Melbourne	EM1919513	-	-	<0.001	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	4.5	-	-	-	4.2	22.9	2.9	7.1	6	4.6	6.2	<1
MW158	11 Nov 2019	MW158	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	MW158 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW158	11 Nov 2019	QC01	Field_D	ALSE-Melbourne	EM1919513	-	-	<0.001	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	3.6	-	-	-	4.4	24	2.5	7.3	6	3.4	5.4	<1
MW158	11 Nov 2019	QC01	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	QC02	Interlab_D	MGT	688743	-	-	0.001	-	-	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	6	<1	2	<10	<1	1	<1
MW159	12 Aug 2019	MW159	Normal	ALSE-Melbourne	EM1913375	-	-	0.005	-	-	-	-	-	0.02	-	0.01	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW159	12 Aug 2019	MW159	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Aug 2019	MW159 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW159	12 Nov 2019	MW159	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	0.04	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW159	12 Nov 2019	MW159	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Nov 2019	MW159 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW159	25 Sep 2024	MW159_240925	Normal	MGT	1143224	<0.005	-	<0.001	-	<0.001	<0.005	<0.005	-	-	-	0.006	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1
MW159	20 Jun 2025	MW159	Normal	Eurofins Environment ANZ	1235189	-	-	0.001	-	<0.001	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
MW159	20 Jun 2025	MW159_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
MW160	12 Aug 2019	MW160	Normal	ALSE-Melbourne	EM1913375	-	-	<0.001	-	-	-	-	-	0.15	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW160	12 Aug 2019	MW160	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	12 Aug 2019	MW160 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW160	12 Nov 2019	MW160	Normal	ALSE-Melbourne	EM1919513	-	-	0.001	-	-	-	-	-	0.17	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW160	12 Nov 2019	MW160 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW160	25 Sep 2024	MW160_240925	Normal	MGT	1143224	<0.005	-	0.001	-	0.003	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1
MW160	17 Jun 2025	MW160	Normal	Eurofins Environment ANZ	1234320	-	-	<0.001	-	0.002	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1
MW161	12 Aug 2019	MW161	Normal	ALSE-Melbourne	EM1913375	-	-	0.001	-	-	-	-	-	0.2	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW161	12 Aug 2019	MW161 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW161	12 Nov 2019	MW161	Normal	ALSE-Melbourne	EM1919513	-	-	0.001	-	-	-	-	-	0.19	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW161	12 Nov 2019	MW161 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW161	25 Sep 2024	MW161_240925	Normal	MGT	1143224	<0.005	-	<0.001	-	0.003	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	<0.5	<1	<5	<5	<5	<1	<1	<1	<1	<10	<1	<1	<1
MW161	19 Jun 2025	MW161	Normal	Eurofins Environment ANZ	1235243	-	-	<0.001	-	0.002	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1
MW161	19 Jun 2025	MW161_FILTERED	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1
MW162	12 Aug 2019	MW162	Normal	ALSE-Melbourne	EM1913371	-	-	<0.001	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	3.1	1.3	2.1	<5	6	2.7	<1
MW162	12 Aug 2019	MW162	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	12 Aug 2019	MW162 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW162	11 Nov 2019	MW162	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.2	<1	<1	<5	2.4	1.7	<1
MW162	11 Nov 2019	MW162 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW162	30 Nov 2023	MW162	Normal	ALSE-Melbourne	EM2321407	-	-	0.001	-	-	-	-	-	-	-	0.007	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW163	14 Aug 2019	MW163	Normal	ALSE-Melbourne	EM1913375	-	-	0.001	-	-	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW163	14 Aug 2019	MW163 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW163	18 Nov 2019	MW163	Normal	ALSE-Melbourne	EM1919760	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW163	18 Nov 2019	MW163 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW163	05 Dec 2023	MW163	Normal	ALSE-Melbourne	EM2321824	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW164	14 Aug 2019	MW164	Normal	ALSE-Melbourne	EM1913371	-	-	0.009	-	-	-	-	-	<0.01	-	0.106	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW164	14 Aug 2019	MW164	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Aug 2019	MW164 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW164	14 Nov 2019	MW164	Normal	ALSE-Melbourne	EM1919513	-	-	0.003	-	-	-	-	-	<0.01	-	0.05	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW164	14 Nov 2019	MW164	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Nov 2019	MW164 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW164	04 Dec 2023	MW164	Normal	ALSE-Melbourne	EM2321824	-	-	0.001	-	-	-	-	-	-	-	0.063	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
MW164	23 Jun 2025	MW164	Normal	Eurofins Environment ANZ	1236601	-	-	0.002	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	2	<1
MW164	23 Jun 2025	MW164_FILTERED	Normal	Eurofins Environment ANZ	1236601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW166	15 Aug 2019	MW166	Normal	ALSE-Melbourne	EM1913371	-	-	0.001	-	-	-	-	-	0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	2.6	<1	-	-	-	<1	<1	<1	<1	<5	<1	2.1	2.1
MW166	15 Aug 2019	MW166	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	MW166 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW166	15 Aug 2019	QC05	Field_D	ALSE-Melbourne	EM1913371	-	-	0.002	-	-	-	-	-	0.02	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW166	15 Aug 2019	QC05	Field_D	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	QC06	Interlab_D	MGT	672174	-	-	0.007	-	-	<0.005	<0.005	-	-	-	0.013	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	<1	<1	<1	<1	<10	<1	<1	<1
MW166	13 Nov 2019	MW166	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	0.01	-	<0.005	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	2.3	<1	4.6	<5	1.5	<1	<1
MW166	13 Nov 2019	MW166	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	13 Nov 2019	MW166 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW167	15 Aug 2019	MW167	Normal	ALSE-Melbourne	EM1913371	-	-	0.011	-	-	-	-	-	<0.01	-	0.068	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW167	15 Aug 2019	MW167	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	15 Aug 2019	MW167 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW167	13 Nov 2019	MW167	Normal	ALSE-Melbourne	EM1919513	-	-	0.005	-	-	-	-	-	<0.01	-	0.026	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW167	13 Nov 2019	MW167	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	13 Nov 2019	MW167 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW167	20 Jun 2025	MW167	Normal	Eurofins Environment ANZ	1235189	-	-	0.009	-	-	-	-	-	-	-	0.24	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW167	20 Jun 2025	MW167_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW171	15 Aug 2019	MW171	Normal	ALSE-Melbourne	EM1913371	-	-	0.001	-	-	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	4	17.3	6.5	20.6	<5	7	12.3	1.3
MW171	15 Aug 2019	MW171	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW171	15 Aug 2019	MW171 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
MW171	12 Nov 2019	MW171	Normal	ALSE-Melbourne	EM1919513	-	-	0.002	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	3.5	13.4	3.2	15.8	<5	2.4	8.9	<1
MW171	12 Nov 2019	MW171	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW171	12 Nov 2019	MW171 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.1	<1	<1	<5	<1	<1	<1
MW177A	25 Sep 2024	MW177_240925	Normal	MGT	1143224	<0.005	-	0.001	-	0.002	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1
MW178	26 Sep 2024	MW178_240926	Normal	MGT	1143888	<0.005	-	<0.001	-	0.001	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	<3	-	-	-	<1	<5	<5	<5	<1	<1	<1	<10	<1	<1	<1
MW178	26 Sep 2024	QC05_240926	Field_D	MGT	1143888	<0.005	-	<0.001	-	0.002	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	<3	-	-	-	<1	<5	<5	<5	<1	<1	<1	<10	<1	<1	<1
MW178	26 Sep 2024	QC06_240926	Interlab_D	ALSE-Melbourne	EM2416713	-	-	<0.001	-	<0.01	<0.001	-	-	0.06	-	<0.005	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<1	-	<0.5	<1.0	<2	-	<2	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
MW178	17 Jun 2025	MW178	Normal	Eurofins Environment ANZ	1234320	-	-	<0.001	-	0.003	-	-	-	-	-	0.031	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
MW179	26 Sep 2024	MW179_240926	Normal	MGT	1143888	<0.005	-	0.001	-	0.002	<0.005	<0.005	-	-	-	<0.005	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

													Monocyclic Aromatic Hydrocarbons																Polynuclear	
			Molybdenum (filtered)	Nickel	Nickel (filtered)	Selenium	Selenium (filtered)	Silver (filtered)	Tin (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene (Cumene)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total MAH	Total BTEX	Naphthalene (BTEXN)	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Naphthalene (VOC)	Phenanthrene	Fluoranthene	Benz(a)anthracene
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.005	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.001	1	1	1	2	1	2	1	1	5	5	5	5	5	1	1	3	1	5	0.5	1	2	5	2	1	1	1	1	5	1	1	1
Adopted Tier 1 criteria for 'highly disturbed' ecosystem			0.034 #26	0.2 #6 #6	0.2 #6 #6	0.011 #20	0.011 #20 0.005 #21	0.0018 #9 0.0014 #9		0.16 #6 #6	0.16 #6 #6 0.1 #6 #6	0.012 #8 #8 0.008 #19 #19	0.012 #8 #8 0.008 #19 #19	900 #10 700 #10	230 #11 180 #10	110 #11 80 #10	100 #11 75 #11	470 #30 350 #30		910 #29	40 #11 30 #10						19 #29			90 #10 70 #10		90 #10 70 #10							0.4 #11 0.01 #23		90 #10 70 #10	2 #11 0.6 #23	1.4 #11 1 #23	
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem				0.07 #6 #6	0.07 #6 #6	0.005 #21	0.005 #21	0.0014 #9		0.1 #6 #6	0.1 #6 #6	0.008 #19 #19	0.008 #19 #19																														
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																							
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	0.001	-	-	-	-	-	-	-	0.005	<1	<1	<1	<2	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	-	<1	<5	<5	<5	<5	<1	<1	<1	<1	<20	<1	<1	<1
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	0.001	-	-	-	-	-	-	-	0.028	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	-	<0.5	<1	-	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
NR1	18 Nov 2019	NR1 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	-	<0.5	<1	-	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
NR1	17 Jun 2025	NR1	Normal	Eurofins Environment ANZ	1234320	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	<10	-	<1	-	-	-	<1	1	<1	2	-	<1	<1	<1
NR2	14 Jan 2015	NR2	Normal	MGT	444342	-	-	0.014	-	-	-	-	-	-	-	0.39	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	-	-	9	-	-	-	<1	1	<1	2	<20	<1	1	<1
NR2	02 Feb 2016	NR2	Normal	ALSE-Melbourne	EM1601015	-	-	0.007	-	<0.01	-	-	-	<0.01	-	0.094	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	14	<5	-	<1	-	<2	24	6	-	-	<2	<2	<2	<2	3	50	6	3	<2
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	20 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608632	-	-	0.007	-	<0.01	-	-	-	0.02	-	0.143	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	48.6	-	-	-	2.2	2.9	2.7	7.3	71	8	2.6	<1
NR2	18 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1709548	-	-	0.011	-	<0.01	-	-	-	0.01	-	0.084	2	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	2	-	-	<0.5	61.6	-	-	-	2	2.6	1.6	5.5	80	6.7	2.1	<1
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	28 Feb 2018	NR2	Normal	ALSE-Melbourne	EM1803804	-	-	0.011	-	<0.01	-	-	-	<0.01	-	0.016	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	27.9	-	-	-	1	1.9	<1	4.1	35	5	1.2	<1
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	-	-	0.008	-	-	-	-	-	0.02	-	0.013	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	24.1	-	-	-	1	1.8	<1	4.1	36	4.9	2	<1
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	15 Nov 2019	NR2 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	15.9	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
NR2A	20 Jun 2025	NR2A	Normal	Eurofins Environment ANZ	1235189	-	-	0.001	-	-	-	-	-	-	-	0.006	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	<10	-	<1	-	-	-	<1	2	<1	4	-	<1	2	<1
NR2A	20 Jun 2025	NR2A_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	3	<1	7	-	<1	2	<1
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	1.4	1.1	-	-	-	<1	<1	<1	1.4	<5	1.8	4.7	1.7
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RN2	14 Jan 2015	RN2	Normal	MGT	444342	-	-	0.002	-	-	-	-	-	-	-	0.051	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	-	-	<1	-	-	-	<1	2	1	2	<20	4	2	<1
RN2	19 Jul 2016	RN2	Normal	ALSE-Melbourne	EM1608632	-	-	0.004	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	3.9	1.8	4.2	<5	6.2	2.3	<1
RN2	19 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1709630	-	-	0.005	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	1.5	2	-	-	-	<1	9.3	3.6	7.6	<5	13.6	5.7	1.5
RN2	20 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	27 Feb 2018	RN2	Normal	ALSE-Melbourne	EM1803804	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	0.8	1.6	-	-	-	<1	7	3.1	6.8	<5	11	4.5	1
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	-	0.007	-	-	-	-	-	<0.01	-	0.015	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	5.2	1.6	4.4	<5	6.9	2.5	<1
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RN2	18 Jun 2025	RN2	Normal	Eurofins Environment ANZ	1234988	-	-	0.003	-	-	-	-	-	-	-	0.006	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	<10	-	<1	-	-	-	<1	14	4	17	-	19	3	<1
RN4	14 Jan 2015	RN4	Normal	MGT	444342	-	-	0.001	-	-	-	-	-	-	-	0.009	<1	<1	<1	<2	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	<1	<5	<5	<5	<5	1	18	6	22	<20	23	8	<1
RN4	03 Feb 2016	RN4	Normal	ALSE-Melbourne	EM1601015	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	1.1	<1	-	-	-	1.1	15.2	8.2	20.8	<5	24.6	10.9	1.7
RN4	20 Jul 2016	RN4	Normal	ALSE-Melbourne	EM1608632	-	-	0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	1	13.9	7.1	18.8	<5	18.9	6.6	<1
RN4	19 Jul 2017	RN4	Normal	ALSE-Melbourne	EM1709548	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	1	-	-	-	1.2	18.2	6.1	19.2	<5	19.5	6.2	<1
RN4	28 Feb 2018	RN4	Normal	ALSE-Melbourne	EM1803804	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.006	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	1.2	18.6	7.5	21	<5	22.4	8.1	<1
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	-	0.002	-	-	-	-	-	<0.01	-	0.012	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	1.2	18.1	8.1	22.2	<5	28.5	9.5	<1
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	5	<1	3.6	<5	1.4	<1	<1
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	-	0.001	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	13	4.8	16.2	<5	16.1	5.8	<1
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	2	<1	<1	<5	<1	<1	<1
RN4	29 Nov 2023	RN4	Normal	ALSE-Melbourne	EM2321407	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	2.8	1.4	2.6	<5	3.1	1.6	<1.0
RN4	18 Jun 2025	RN4	Normal	Eurofins Environment ANZ	1234988	-	-	<0.001	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
RS6	14 Jan 2015	SWQC1	Field_D	MGT	444342	-	-	<0.001	-	-	-	-	-	-	-	0.002	<1	<1	<1	<2	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	<1	<5	<5	<5	<5	<1	<1	<1	<1	<20	<1	<1	<1
RS6	14 Jan 2015	RS6	Normal	MGT	444342	-	-	<0.001	-	-	-	-	-	-	-	0.002	<1	<1	<1	<2	<2	<1	<3	<1	<1	-	-	-	-	-	<1	<1	-	-	-	<1	<5	<5	<5	<5	<1	<1	<1	<1	<20	<1	<1	<1
RS6	18 Aug 2015	QC27	Field_D	ALSE-Melbourne	EM1513460	-	-	<0.001	-	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	QC28	Interlab_D	MGT	469301	-	-	<0.001	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	RS6	Normal	ALSE-Melbourne	EM1513460	-	-	<0.001	-	-	-	-	-	-	-	0.005	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<5	<2	<2	<2
RS6	02 Feb 2016	RS6	Normal	ALSE-Melbourne	EM1601015	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	20 Jul 2016	RS6_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	0.001	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	09 May 2017	QC01	Field_D	ALSE-Melbourne	EM1705903	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	09 May 2017	QC02	Interlab_D	MGT	546033	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1
RS6	09 May 2017	RS6	Normal	ALSE-Melbourne	EM1705903	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	19 Jul 2017	RS6	Normal	ALSE-Melbourne	EM1709548	-	-	0.004	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	28 Feb 2018	RS6	Normal	ALSE-Melbourne	EM1803804	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	29 Aug 2018	RS6	Normal	ALSE-Melbourne	EM1813852	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	15 Aug 2019	RS6	Normal	ALSE-Melbourne	EM1913375	-	-	0.006	-	-	-	-	-	<0.01	-	0.011	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	15 Aug 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	11 Nov 2019	RS6	Normal	ALSE-Melbourne	EM1919513	-	-	<0.001	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	11 Nov 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
RS6	30 Nov 2022	RS6	Normal	ALSE-Melbourne	EM2224108	-	-	0.001	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	<5	<1.0	<1.0	<1.0
RS6	19 Jun 2025	RS6	Normal	Eurofins Environment ANZ	1235243	-	-	0.002	-	-	-	-	-	-	-	<0.005	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	<10	-	<1	-	-	-	<1	<1	<1	<1	-	<1	<1	<1
S4	15 Jan 2015	S4	Normal	MGT	444499	-	-	0.002	-	-	-	-	-	-	-	0.01	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	-	-	<1	-	-	-	<1	3	1	5	<20	7	2	<1
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	19 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608632	-	-	0.002	-	<0.01	-	-	-	<0.01	-	0.007	<1	2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	2	-	-	<0.5	<1	-	-	-	<1	2.3	1.2	3.7	<5	4.3	1.4	<1
S4	19 Jul 2017	S4	Normal	ALSE-Melbourne	EM1709630	-	-	0.005	-	<0.01	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	3.2	1.3	4.2	<5	6.2	1.6	<1
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	-	0.004	-	-	-	-	-	<0.01	-	0.013	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	2.3	<1	3.1	<5	3.8	1.4	<1
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	-	0.006	-	-	-	-	-	<0.01	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	1.7	<1	2.3	<5	2.7	1.1	<1
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
S4	05 Dec 2023	S4	Normal	ALSE-Melbourne	EM2321824	-	-	0.005	-	-	-	-	-	-	-	<0.005	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1.0	-	-	-	<1.0	2.6	<1.0	3.4	<5	5.1	1.4	<1.0
S9	15 Jan 2015	S9	Normal	MGT	444499	-	-	<0.001	-	-	-	-	-	-	-	0.008	<1	<1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
S9	17 Aug 2015	S9	Normal	ALSE-Melbourne	EM1513460	-	-	<0.001	-	-	-	-	-	-	-	0.006	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<5	<2	3	<2
S9	02 Feb 2016	S9	Normal	ALSE-Melbourne	EM1600950	-	0.006	<0.001	<0.01	<0.01	-	-	0.01	<0.01	0.256	<0.005	<1	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<1	-	-	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<5	<2	<2	<2
S9	21 Jul 2016	QC05	Field_D	ALSE-Melbourne	EM1608641	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.007	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
S9	21 Jul 2016	QC06	Interlab_D	MGT	508963	-	-	<0.001	-	-	-	-	-	-	-	0.002	<1	1	<1	<2	<2	<1	<3	-	-	-	-	-	-	-	-	<1	-	-	-	<1	-	-	-	<1	<1	<1	<1	<10	<1	<1	<1
S9	21 Jul 2016	S9	Normal	ALSE-Melbourne	EM1608641	-	-	<0.001	-	<0.01	-	-	-	<0.01	-	0.008	<1	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	<1	-	-	<0.5	<1	-	-	-	<1	<1	<1	<1	<5	<1	<1	<1
S9	18 Jul 2017	S9	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	19 Jul 2017	S9	Normal	ALSE-Melbourne	EM

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

| | | | | | | | Aromatic Hydrocarbons | | | | | | |

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

	Aromatic Hydrocarbons														Major Ions															Alkalinity				Cyanides							
	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j & k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Dibenz(a,j)acridine	Sum of PAHs	Silicon (filtered)	Chloride	Calcium	Calcium (filtered)	Magnesium	Magnesium (filtered)	Potassium	Potassium (filtered)	Sodium	Sodium (filtered)	Sulfate as SO4	Sulphate (as S)	Sulfate as SO4 (Turbidimetric) (filtered)	Total Anions	Total Cations	Ionic Balance	Hydroxide Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Cyanide (Free)	Cyanide Total	Weak Acid Dissociable Cyanide	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (m&p-Cresol)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	4	2	2	0.5	1	1	2	1	1	1	5	0.5	0.05	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	5	1	0.01	0.01	0.01	1	1	1	1	0.004	4	0.004	2	1	1	1	2
Adopted Tier 1 criteria for 'highly disturbed' ecosystem						0.2 #21																													0.007 #21				520 #5	630 #32	1,020 #6	
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem						0.1 #23																													0.004 #21				400 #5	490 #32		

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																					
BG1	13 Jan 2015	BG1	Normal	MGT	444205	<1	<1	-	-	<5	<1	<1	<1	<5	<1	<1	<1	<5	<1	-	66	78	-	69	-	7.1	-	150	-	-	25	-	-	-	-	630	<0.005	-	<0.005	-	<3	<3	<3	<6
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW123B	03 Feb 2016	MW123B	Normal	ALSE-Melbourne	EM1601015	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	15,600	1,500	-	1,320	-	136	-	8,590	-	2,020	-	-	-	488	561	6.87	<1	<1	321	321	-	-	-	<2	<2	<2	<4
MW123B	20 Jul 2016	MW123B_20/07/2016	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	1.9	-	16,000	1,300	-	1,200	-	95	-	7,490	-	1,980	-	-	500	492	0.78	<1	<1	348	348	<0.004	-	<0.004	-	<1	<1	<1	<2
MW123B	18 Jul 2017	MW123B	Normal	ALSE-Melbourne	EM1709548	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	18,800	1,740	-	1,470	-	97	-	7,970	-	1,990	-	-	578	557	1.82	<1	<1	296	296	<0.004	<4	<0.004	-	<1	<1	<1	<2
MW123B	27 Feb 2018	MW123B	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	1	-	16,000	1,530	-	1,300	-	120	-	7,770	-	1,930	-	-	498	524	2.56	<1	<1	334	334	<0.004	<4	<0.004	-	<1	<1	<1	<2
MW123B	28 Aug 2018	MW123B	Normal	ALSE-Melbourne	EM1813832	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	16,900	1,510	-	1,460	-	168	-	8,750	-	2,090	-	-	527	580	4.8	<1	<1	350	350	<0.004	<4	<0.004	-	<1	<1	<1	<2
MW123B	02 Dec 2022	MW123B	Normal	ALSE-Melbourne	EM2224108	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<0.5	-	14,800	1,240	-	1,160	-	110	-	6,210	-	-	-	1,760	459	430	3.24	<1	<1	248	248	<0.004	19	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW124A	18 Aug 2015	MW124A	Normal	ALSE-Melbourne	EM1513460	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW124A	03 Feb 2016	MW124A	Normal	ALSE-Melbourne	EM1601015	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW124A	21 Jul 2016	MW124A_21/07/16	Normal	ALSE-Melbourne	EM1608641	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	291	170	-	46	-	25	-	90	-	2	-	-	21.4	17.9	8.94	<1	<1	657	657	-	-	-	-	<1	<1	<1	<2
MW124A	09 May 2017	MW124A	Normal	ALSE-Melbourne	EM1705903	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW124A	18 Jul 2017	MW124A	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	263	157	-	46	-	28	-	96	-	<5	-	-	20.3	17.8	6.57	<1	<1	644	644	<0.004	15	<0.004	-	<1	<1	<1	<2
MW124A	27 Feb 2018	MW124A	Normal	ALSE-Melbourne	EM1803804	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	233	175	-	41	-	27	-	101	-	<1	-	-	20.8	17.2	9.4	<1	<1	710	710	<0.004	13	<0.004	-	<1	<1	<1	<2
MW124A	29 Aug 2018	MW124A	Normal	ALSE-Melbourne	EM1813852	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	147	158	-	39	-	26	-	86	-	<5	-	-	19.3	16.8	6.88	<1	<1	758	758	<0.004	14	<0.004	-	<1	<1	<1	<2
MW124A	05 Dec 2023	MW124A	Normal	ALSE-Melbourne	EM2321824	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<0.5	-	18	63	-	21	-	22	-	33	-	-	-	<1	7.32	6.87	3.18	<1	<1	341	341	<0.004	16	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW124B	18 Aug 2015	MW124B	Normal	ALSE-Melbourne	EM1513460	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW124B	03 Feb 2016	MW124B	Normal	ALSE-Melbourne	EM1601015	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW124B	21 Jul 2016	MW124B_21/07/16	Normal	ALSE-Melbourne	EM1608641	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	78	40	-	98	-	59	-	150	-	9	-	-	21.4	18.1	8.32	<1	<1	950	950	-	-	-	-	<1	<1	<1	<2
MW124B	09 May 2017	MW124B	Normal	ALSE-Melbourne	EM1705903	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW124B	18 Jul 2017	MW124B	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	155	48	-	131	-	72	-	150	-	<1	-	-	23.6	21.5	4.46	<1	<1	960	960	<0.004	16	<0.004	-	<1	<1	<1	<2
MW124B	27 Feb 2018	MW 124B	Normal	ALSE-Melbourne	EM1803804	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	226	57	-	133	-	74	-	155	-	<1	-	-	25.8	20.7	11	<1	<1	973	973	<0.004	13	<0.004	-	<1	<1	<1	<2
MW124B	29 Aug 2018	MW124B	Normal	ALSE-Melbourne	EM1813852	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	260	61	-	162	-	83	-	114	-	<1	-	-	27.5	25	4.77	<1	<1	1,010	1,010	<0.004	21	<0.004	-	<1	<1	<1	<2
MW124B	05 Dec 2023	MW124B	Normal	ALSE-Melbourne	EM2321824	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<0.5	-	139	41	-	107	-	63	-	180	-	-	4	20.1	20.3	0.51	<1	48	758	805	<0.004	19	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW125A	18 Aug 2015	MW125A	Normal	ALSE-Melbourne	EM1513587	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW125A	02 Feb 2016	MW125A	Normal	ALSE-Melbourne	EM1601015	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW125A	19 Jul 2016	MW125A	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	1.5	-	<1	<1	<1	-	11.4	-	128	153	-	53	-	26	-	166	-	4	-	-	23.9	19.9	9.13	<1	<1	1,010	1,010	<0.004	-	<0.004	-	<1	<1	<1	<2
MW125A	18 Jul 2017	MW125A	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	3.8	-	108	154	-	58	-	32	-	136	-	<5	-	-	21.8	19.2	6.29	<1	<1	937	937	<0.004	12	<0.004	-	<1	<1	<1	<2
MW125A	26 Feb 2018	MW125A	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	1.6	-	<1	<1	<1	-	5.7	-	85	142	-	44	-	27	-	108	-	<1	-	-	20.6	18	6.93	<1	<1	912	912	<0.004	7	<0.004	-	<1	<1	<1	<2
MW125A	14 Nov 2019	MW125A	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	1.4	-	32	88	-	28	-	22	-	76	-	<5	-	-	12.5	10.6	8.28	<1	<1	579	579	<0.004	-	<0.004	-	<1	<1	<1	<2
MW125A	14 Nov 2019	MW125A (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	04 Dec 2023	MW125A	Normal	ALSE-Melbourne	EM2321824	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	3.5	-	16	82	-	17	-	12	-	47	-	-	-	<1	7.38	7.84	3.01	<1	<1	347	347	<0.004	10	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW125A	24 Jun 2025	MW125A	Normal	Eurofins Environment ANZ	1237216	<1	<1	-	-	-	<1	<1	1	-	<1	<1	<1	-	10	-	21	95	-	23	-	14	-	53	-	5.9	-	-	-	-	-	<10	350	-	<0.005	9	<0.005	<6	<3	<3	<3	-
MW125B	18 Aug 2015	MW125B	Normal	ALSE-Melbourne	EM1513587	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW125B	02 Feb 2016	MW125B	Normal	ALSE-Melbourne	EM1601015	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<4
MW125B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	10.1	-	112	148	-	49	-	26	-	161	-	2	-	-	22.4	19.1	8.09	<1	<1	963	963	<0.004	-	<0.004	-	<1	<1	<1	<2
MW125B	18 Jul 2017	MW125B	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	4.2	-	106	151	-	56	-	32	-	133	-	<5	-	-	21.5	18.7	6.91	<1	<1	928	928	<0.004	12	<0.004	-	<1	<1	<1	<2
MW125B	26 Feb 2018	MW125B	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	5.4	-	82	140	-	44	-	27	-	110	-	<1	-	-	20.7	17.5	8.44	<1	<1	921	921	<0.004	7	<0.004	-	<1	<1	<1	<2
MW125B	04 Dec 2023	MW125B	Normal	ALSE-Melbourne	EM2321824	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<0.5	-	17	82	-	17	-	12	-	44	-	-	-	<1	7.43	7.71	1.84	<1	<1	348	348	<0.004	9	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513460	<1	<1	-	-	-	<0.5	<1	4.2	-	<1	<1	<1	-	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	02 Feb 2016	MW126A	Normal	ALSE-Melbourne	EM1601015	<1	<1	-	-	-	<0.5	<1	5.4	-	<1	<1	<1	-	130	-	60	200	-	103	-	58	-	102	-	2	-	-	29.7	24.4	9.86	<1	<1	1,400	1,400	<0.02	160	<0.02	-	<1	<1	<1	<2
MW126A	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	5.3	-	<1	<1	<1	-	119	-	56	186	-	94	-	47	-	87	-	2	-	-	29.4	25.9	6.37	<1	<1	1,390	1,390	<0.004	-	<0.004	-	<1	<1	<1	<2
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	4.4	-	<1	<1	<1	-	99.2	-	57	189	-	102	-	55	-	93	-	3	-	-	28	23.3	9.29	<1	<1	1,320	1,320	<0.004	227	<0.004	-	<1	<1	<1	<2
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	26 Feb 2018	MW126A	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	6	-	<1	<1	<1	-	143	-	50	164	-	77	-	45	-	76	-	<5	-	-	25.6	22.7	6.1	<1	<1	1,210	1,210	<0.004	119	<0.004	-	<1	<1	<1	<2
MW126A	27 Aug 2018	MW126A	Normal	ALSE-Melbourne	EM1813832	<1	<1	-	-	-	<0.5	<1	4.8	-	<1	<1	<1	-	95.2	-	43	180	-	94	-	52	-	86	-	<1	-	-	27.2	21.8	11	<1	<1	1,300	1,300	<0.004	260	<0.004	-	<1	<1	<1	<2
MW126A	14 Aug 2019	MW126A	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	4.6	-	<1	<1	<1	-	68.9	-	48	194	-	93	-	51	-	84	-	2	-	-	26.4	22.3	8.38	<1	<1	1,250	1,250	<0.004	-	<0.004	-	<1	<1	<1	<2
MW126A	14 Aug 2019	MW126A	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	14 Aug 2019	MW126A (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	13 Nov 2019	MW126A	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	2.8	-	<1	<1	<1	-	54.4	-	50	187	-	93	-	52	-	84	-	2	-	-	28.4	22	12.8	<1	<1	1,350	1,350	<0.004	-	<0.004	-	<1	<1	<1	<2
MW126A	13 Nov 2019	MW126A	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	13 Nov 2019	MW126A (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	05 Dec 2023	MW126A	Normal	ALSE-Melbourne	EM2321824	<1.0	<1.0	-	-	-	<0.5	<1.0	3.8	-	<1.0	<1.0	<1.0	-	62.4	-	32	189	-	86	-	48	-	76	-	-	-	<1	22.1	21	2.41	<1	<1	1,060	1,060	<0.004	186	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW126A	24 Jun 2025	MW126A	Normal	Eurofins Environment ANZ	1237216	<1	<1	-	-	-	<1	<1	2	-	<1	<1	<1	-	47	-	41	180	-	89	-	53	-	79	-	23	-	-	-	-	-	<10	1,100	-	<0.005	160	<0.005	<6	<3	<3	<3	-
MW126A	24 Jun 2025	Field_D	Eurofins Environment ANZ	1237216	<1	<1	-	-	-	<1	<1	2	-	<1	<1	<1	-	68	-	41	170	-	89	-	52	-	78	-	<5	-	-	-	-	-	<10	1,000	-	<0.005	150	<0.005	<6	<3	<3	<3	-
MW126A	24 Jun 2025	QC208	Interlab_D	ALSE-Melbourne	EM2511596	<1.0	<1.0	-	-	-	<0.5	<1.0	3.4	-	<1.0	<1.0	<1.0	-	72.1	-	37	-	171	-	82	-	48	-	76	-	-	3	24.1	19.8	9.72	<1	<1	1,150	1,150	<0.004	160	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW126B	17 Aug 2015	MW126B	Normal	ALSE-Melbourne	EM1513460	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW126B	02 Feb 2016	MW126B	Normal	ALSE-Melbourne	EM1601015	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	6.3	-	5,830	632	-	467	-	90	-	3,140	-	868	-	-	196	209	3.08	<1	<1	693	693	0.005	97	0.005	-	<1	<1	<1	<2
MW126B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	72.3	-	272	165	-	98	-	51	-	187	-	15	-	-	32.8	29.2	5.76	<1	<1	1,240	1,240	<0.004	-	<0.004	-	<1	<1	<1	<2
MW126B	18 Jul 2017	MW126B	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	4.2	-	4,900	295	-	265	-	80	-	2,360	-	769	-	-	168	141	8.51	<1	<1	664	664	<0.004	46	<0.004	-	<1	<1	<1	<2
MW126B	26 Feb 2018	MW126B	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	1.3	-	14,100	3,070	-	1,840	-	67	-	3,420	-	1,510	-	-	432	455	2.54	<1	<1	168	168	<0.004	16	<0.004	-	<1	<1	<1	<2
MW126B	27 Aug 2018	MW126B	Normal	ALSE-Melbourne	EM1813832	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	1	-	3,140	193	-	172	-	80	-	1,780	-	514	-	-	112	103	3.92	<1	<1	621	621	<0.004	32	<0.004	-	<1	<1	<1	<2
MW126B	05 Dec 2023	MW126B	Normal	ALSE-Melbourne	EM2321824	<1.0	<1.0	-	-	-	<0.5	<1.0	1.4	-	<1.0	<1.0	<1.0	-	94.8	-	110	153	-	88	-	58	-	161	-	-	-	<1	25.5	23.4	4.33	<1	<1	1,120	1,120	<0.004	113	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW129	18 Aug 2015	MW129	Normal	ALSE-Melbourne	EM1513460	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.005	-	0.005	-	<2	<2	<2	<4
MW129	02 Feb 2016	MW129	Normal	ALSE-Melbourne	EM1601015	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	6,500	770	-	540	-	77	-	4,030	-	2,430	-	-	250	260	1.92	<1	<1	817	817	-	-	-	-	<1	<1	<1	<2
MW129	19 Jul 2016	MW129_19/07/16	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	8,800	1,250	-	791	-	62	-	4,230	-	2,300	-	-	309	313	0.68	<1	<1	635	635	<0.004	-	<0.004	-	<1	<1	<1	<2
MW129	09 May 2017	MW129	Normal	ALSE-Melbourne	EM1705903	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW129	18 Jul 2017	MW129	Normal	ALSE-Melbourne	EM1709630	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	12,000	2,240	-	1,270	-	49	-	4,160	-	2,130	-	-	390	398	1.1	<1	<1	349	349	<0.004	72	<0.004	-	<1	<1	<1	<2
MW130_GHD	18 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	18 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	20 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	4.1	-	<1	<1	<1	-	377	-	199	189	-	30	-	6	-	99	-	62	-	-	20	16.4	9.97	<1	<1	655	655	<0.004	-	<0.004	-	5	<1	<1	<2
MW130_GHD	18 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1709548	<1	<1	-	-	-	<0.5	<1	4.7	-	<1	<1	<1	-	328	-	189	169	-	28	-	7	-	90	-	51	-	-	18.5	16.1	7.18	<1	<1	608	608	<0.004	106	<0.004	-	4.2	<1	<1	<2
MW130_GHD	19 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	19 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	27 Feb 2018	MW130	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	4.3	-	<1	<1	<1	-	964	-	192	176	-	26	-	14	-	93	-	48	-	-	18.1	15.3	8.42	<1	<1	587	587	<0.004	97	<0.004	-	7.8	<1	<1	<2
MW130_GHD	28 Aug 2018	MW130	Normal	ALSE-Melbourne	EM1813832	<2.4	<2.4	-	-	-	<2.4	<2.4	4.1	-	<2.4	<2.4	<2.4	-	586	-	186	166	-	27	-	17	-	101	-	37	-	-	17.9	15.3	7.62	<1	<1	593	593	<0.004	105	<0.004	-	4	<2.4	<2.4	<4.9
MW130_GHD	28 Aug 2018	QC01	Field

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

	Aromatic Hydrocarbons														Major Ions															Alkalinity				Cyanides							
	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Dibenz(a,j)acridine	Sum of PAHs	Silicon (filtered)	Chloride	Calcium	Calcium (filtered)	Magnesium	Magnesium (filtered)	Potassium	Potassium (filtered)	Sodium	Sodium (filtered)	Sulfate as SO4	Sulphate (as S)	Sulfate as SO4 (Turbidimetric) (filtered)	Total Anions	Total Cations	Ionic Balance	Hydroxide Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Cyanide (Free)	Cyanide Total	Weak Acid Dissociable Cyanide	3/4-Methylphenol (mtp-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (mtp-Cresol)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	4	2	2	0.5	1	1	2	1	1	1	1	0.5	0.05	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	5	1	0.01	0.01	0.01	1	1	1	1	0.004	4	0.004	2	1	1	1	2
Adopted Tier 1 criteria for 'highly disturbed' ecosystem						0.2 #21																													0.007 #21				520 #5	630 #32	1,020 #6	
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem						0.1 #23																													0.004 #21				400 #5	490 #32		

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																						
BG1	13 Jan 2015	BG1	Normal	MGT	444205	<1	<1	-	-	<5	<1	<1	<1	<5	<1	<1	<1	<5	<1	-	66	78	-	69	-	7.1	-	150	-	-	25	-	-	-	-	630	<0.005	-	<0.005	-	<3	<3	<3	<6
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW132_GHD	13 Aug 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	2.4	-	<1	<1	<1	-	72.4	-	59	179	-	38	-	11	-	100	-	197	-	-	19.6	16.7	8	<1	<1	692	692	0.019	-	0.013	-	<1	<1	<1	<2
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	15 Aug 2019	QC02	Interlab_D	MGT	672404	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<3	<3	<6
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	3.5	-	<1	<1	<1	-	146	-	67	164	-	35	-	10	-	98	-	139	-	-	18.8	15.6	9.49	<1	<1	704	704	<0.004	-	<0.004	-	9.2	<1	10.6	<2
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	01 Dec 2022	MW132_GHD	Normal	ALSE-Melbourne	EM2224108	<1.0	<1.0	-	-	-	<0.5	<1.0	3	-	<1.0	<1.0	<1.0	-	131	-	77	140	-	31	-	10	-	92	-	-	-	70	15.5	13.8	5.88	<1	<1	595	595	0.006	175	0.008	<2.0	19.8	<1.0	<1.0	-
MW132_GHD	12 Jun 2025	MW132_GHD	Normal	Eurofins Environment ANZ	1232587	<1	<1	-	-	-	<1	<1	2	-	<1	<1	<1	-	120	-	77	150	-	35	-	8.7	-	96	-	120	-	-	-	-	-	-	<10	800	-	<0.005	10	0.01	<6	<3	<3	<3	-
MW133_GHD	03 Feb 2016	MW133_GHD	Normal	ALSE-Melbourne	EM1601015	<2.4	6.3	-	-	-	5.9	6	21.6	-	3.5	<2.4	2.6	-	245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004	26	<0.004	-	<2.4	<2.4	<2.4	<4.8
MW133_GHD	20 Jul 2016	MW133_GHD_20/07/16	Normal	ALSE-Melbourne	EM1608632	<1	<1	-	-	-	<0.5	<1	5.1	-	<1	<1	<1	-	112	-	104	116	-	31	-	11	-	52	-	2	-	-	13.3	11.6	7.04	<1	<1	517	517	<0.004	-	<0.004	-	<1	<1	<1	<2
MW133_GHD	18 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1709548	<1	<1	-	-	-	<0.5	<1	5.9	-	<1	<1	<1	-	127	-	137	120	-	34	-	13	-	53	-	<5	-	-	14.3	12.1	8.43	<1	<1	521	521	<0.004	7	<0.004	-	<1	<1	<1	<2
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	27 Feb 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1803798	<1	2.4	-	-	-	2.2	2.6	14.3	-	1.3	<1	1	-	196	-	110	130	-	32	-	13	-	47	-	<5	-	-	13.4	11.5	7.84	<1	<1	518	518	<0.004	5	<0.004	-	<1	<1	<1	<2
MW133_GHD	28 Aug 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1813832	<1	<1	-	-	-	<0.5	<1	4.4	-	<1	<1	<1	-	71.7	-	136	147	-	39	-	18	-	72	-	<1	-	-	15.8	14.1	5.44	<1	<1	597	597	<0.004	8	<0.004	-	<1	<1	<1	<2
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	6.3	-	<1	<1	<1	-	80.1	-	118	164	-	41	-	15	-	52	-	8	-	-	14.8	14.2	2.2	<1	<1	568	568	<0.004	-	<0.004	-	<1	<1	<1	<2
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	1	1.2	7.6	-	<1	<1	<1	-	99.3	-	106	148	-	38	-	15	-	46	-	6	-	-	14.9	12.9	7.22	<1	<1	590	590	<0.004	-	<0.004	-	<1	<1	<1	<2
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	01 Dec 2022	MW133_GHD	Normal	ALSE-Melbourne	EM2224108	<1.0	<1.0	-	-	-	0.6	<1.0	8	-	<1.0	<1.0	<1.0	-	102	-	46	143	-	36	-	13	-	49	-	-	-	2	13	12.6	1.82	<1	<1	585	585	<0.004	8	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW133_GHD	12 Jun 2025	MW133_GHD	Normal	Eurofins Environment ANZ	1232587	<1	<1	-	-	-	<1	<1	2	-	<1	<1	<1	-	85	-	48	160	-	43	-	16	-	60	-	<5	-	-	-	-	-	-	<10	1,000	-	<0.005	<5	<0.005	<6	<3	<3	<3	-
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608641	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1709512	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	13 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	4.8	-	19	48	-	29	-	10	-	225	-	16	-	-	16.3	14.8	4.84	<1	<1	774	774	<0.004	-	<0.004	-	<1	<1	<1	<2
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	27 Feb 2018	MW150	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	1.7	-	<1	<1	<1	-	51.4	-	471	185	-	69	-	49	-	102	-	<5	-	-	27.5	26.3	2.32	<1	<1	712	712	<0.004	14	<0.004	-	<1	<1	<1	5.2
MW150	28 Aug 2018	MW150	Normal	ALSE-Melbourne	EM1813832	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	3.4	-	109	163	-	59	-	44	-	110	-	1	-	-	23.1	18.9	9.95	<1	<1	1,000	1,000	<0.004	22	<0.004	-	<1	<1	<1	<2
MW150	13 Aug 2019	MW150	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	2.5	-	95	163	-	57	-	41	-	103	-	<1	-	-	21.9	18.4	8.86	<1	<1	963	963	<0.004	-	<0.004	-	<1	<1	<1	<2
MW150	13 Aug 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	12 Nov 2019	MW150	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	60	153	-	47	-	37	-	86	-	<1	-	-	20.2	16.2	11	<1	<1	925	925	<0.004	-	<0.004	-	<1	<1	<1	<2
MW150	12 Nov 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2022	MW150	Normal	ALSE-Melbourne	EM2224108	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	5.5	-	51	91	-	33	-	30	-	57	-	-	-	<1	12.5	10.5	8.71	<1	<1	554	554	<0.004	18	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW150	01 Dec 2022	QC101	Field_D	ALSE-Melbourne	EM2224108	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	2.8	-	52	91	-	33	-	30	-	56	-	-	-	1	12.6	10.5	9.5	<1	<1	559	559	<0.004	13	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW150	01 Dec 2022	QC102	Interlab_D	MGT	947585	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	4	-	63	76	-	26	-	26	-	47	-	<5	-	-	-	-	-	<20	<10	710	710	<0.005	17	<0.005	-	<3	<3	<3	<6
MW150	01 Dec 2023	MW150	Normal	ALSE-Melbourne	EM2321582	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	6.9	-	50	94	-	33	-	28	-	43	-	-	-	2	11.6	9.99	7.45	<1	<1	508	508	<0.004	18	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW150	12 Jun 2025	MW150	Normal	Eurofins Environment ANZ	1232587	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	5	-	220	110	-	33	-	27	-	43	-	<5	-	-	-	-	-	-	<10	340	-	<0.005	<5	<0.005	<6	<3	<3	<3	-
MW151	27 Feb 2018	MW151	Normal	ALSE-Melbourne	EM1803798	1	2.6	-	-	-	2.2	1.9	6.2	-	1.5	<1	1.1	-	32.5	-	1,320	167	-	122	-	52	-	764	-	54	-	-	56.5	54.8	1.54	<1	<1	906	906	<0.004	9	<0.004	-	<1	<1	<1	<2
MW151	29 Aug 2018	MW151	Normal	ALSE-Melbourne	EM1813852	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	1.6	-	1,100	152	-	108	-	54	-	618	-	<1	-	-	53	47.6	5.44	<1	<1	1,100	1,100	<0.004	10	<0.004	-	2.8	<1	<1	79.7
MW151	13 Aug 2019	MW151	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	1.8	-	<1	<1	<1	-	10.9	-	580	156	-	89	-	40	-	307	-	2	-	-	35	29.5	8.5	<1	<1	929	929	<0.004	-	<0.004	-	<1	<1	<1	<2
MW151	13 Aug 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	2.2	-	<1	<1	<1	-	8.9	-	314	127	-	72	-	38	-	214	-	2	-	-	28.5	22.5	11.6	<1	<1	980	980	<0.004	-	<0.004	-	<1	<1	<1	<2
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	MW151	Normal	ALSE-Melbourne	EM2321582	<1.0	<1.0	<4	<2	<2	<0.5	<1.0	2	<2	<1.0	<1.0	<1.0	-	7	-	495	92	-	61	-	34	-	304	-	-	-	21	27.7	23.7	7.79	<1	<1	666	666	<0.004	8	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW151	01 Dec 2023	MW151	Normal	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	2.2	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	<1.0	<1.0	<4	<2	<2	<0.5	<1.0	2	<2	<1.0	<1.0	<1.0	-	9.8	-	498	95	-	63	-	35	-	314	-	-	-	21	27.9	24.5	6.48	<1	<1	670	670	<0.004	7	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA203	Interlab_D	MGT	1049962	<1	<1	-	-	<5	<1	<1	<1	<5	<1	<1	<1	<5	<1	-	460	88	-	57	-	30	-	340	-	16	-	-	-	-	4.7	<20	<10	760	760	<0.005	10	<0.005	-	<3	<3	<3	<6
MW151	19 Jun 2025	MW151	Normal	Eurofins Environment ANZ	1235243	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	4	-	2,000	200	-	180	-	56	-	1,000	-	130	-	-	-	-	-	-	<10	850	-	<0.005	8	<0.005	<6	<3	<3	<3	-
MW151	19 Jun 2025	MW151_FILTERED	Normal	Eurofins Environment ANZ	1235243	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	27 Feb 2018	MW152	Normal	ALSE-Melbourne	EM1803798	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	10	-	682	41	-	81	-	87	-	752	-	7	-	-	57.5	45.5	11.6	<1	<1	1,910	1,910	<0.004	9	<0.004	-	<1	<1	<1	<2
MW152	29 Aug 2018	MW152	Normal	ALSE-Melbourne	EM1813852	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	20.1	-	929	38	-	95	-	112	-	952	-	<1	-	-	62.6	56.8	4.88	<1	<1	1,820	1,820	<0.004	14	<0.004	-	<1	<1	<1	<2
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	33	-	918	63	-	114	-	102	-	915	-	25	-	-	61	54.9	5.22	<1	<1	1,730	1,730	<0.004	-	<0.004	-	<1	<1	<1	<2
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	15.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	21.3	-	784	52	-	102	-	102	-	803	-	<1	-	-	59.9	48.5	10.5	<1	<1	1,890	1,890	<0.004	-	<0.004	-	<1	<1	<1	<2
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	01 Dec 2023	MW152	Normal	ALSE-Melbourne	EM2321582	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	15.6	-	661	56	-	116	-	106	-	747	-	-	-	<2	52	47.5	4.49	<1	<1	1,670	1,670	-	-	-	<2.0	<1.0	<1.0	<1.0	-
MW152	19 Jun 2025	MW152	Normal	Eurofins Environment ANZ	1235243	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	21	-	1,400	74	-	160	-	100	-	1,200	-	120	-	-	-	-	-	-	<10	2,000	-	<0.005	18	<0.005	<6	<3	<3	<3	-
MW153	27 Feb 2018	MW153	Normal	ALSE-Melbourne	EM1803798	<1	1.4	-	-	-	1.1	1.3	6.1	-	<1	<1	<1	-	42.3	-	12,400	351	-	794	-	287	-	6,830	-	1,210	-	-	388	387	0.14	<1	<1	671	671	<0.004	43	<0.004	-	<1	<1	<1	<2
MW153	29 Aug 2018	MW153	Normal	ALSE-Melbourne	EM1813852	<1	<1	-	-	-	<0.5	<1	1	-	<1	<1	<1	-	2.4	-	5,560	233	-	363	-	145	-	2,830	-	622	-	-	180	168	3.33	<1	<1	506	506	<0.004	15	<0.004	-	<1	<1	<1	<2
MW153	13 Aug 2019	MW153	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	1.2	-	<1	<1	<1	-	2.4	-	8,170	301	-	572	-	199	-	4,370	-	853	-	-	260	257	0.64	<1	<1	619	619	<0.004	-	<0.004	-	<1	<1	<1	<2
MW153	13 Aug 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	12 Nov 2019	MW153	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	7,570	363	-	680	-	248	-	4,980	-	783	-	-	240	297	10.6	<1	<1	517	517	<0.004	-	<0.004	-	<1	<1	<1	<2
MW153	12 Nov 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1919513	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	01 Dec 2023	MW153	Normal	ALSE-Melbourne	EM2321582	<1.0	<1.0	-	-	-	<0.5	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<0.5	-	11,600	270	-	784	-	284	-	5,990	-	-	-	1,120	362	346	2.27	<1	<1	567	567	<0.004	23	<0.004	<2.0	<1.0	<1.0	<1.0	-
MW153	12 Jun 2025	MW153	Normal	Eurofins Environment ANZ	1232587	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<1	-	<1	-	12,000	250	-	680	-	220	-	5,600	-	120	-	-	-	-	-	-	<10	820	-	<0.005	<5	<0.005	<6	<3	<3	<3	-
MW154	28 Aug 2018	MW154	Normal	ALSE-Melbourne	EM1813832	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	10.7	-	32	196	-	76	-	41	-	110	-	28	-	-	24.5	21.9	5.6	<1	<1	1,150	1,150	<0.004	115	<0.004	-	<1	<1	<1	<2
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	1.1	-	<1	<1	<1	-	7.2	-	37	212	-	76	-	40	-	103	-	<5	-	-	25	22.3	5.66	<1	<1	1,200	1,200	<0.004	-	<0.004	-	<1	<1	<1	<2
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1913375	<1	<1	-	-	-	<0.5	<1	<1	-	<1	<1	<1	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154	Normal	ALSE-

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

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Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
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							Phenolic Compounds																Nutrients									TRH						UNKNOWN	Ferrous/Ferric Iron	Total Recoverable Hydrocarbons - Silica Gel					Total Petroleum Hydrocarbons - S		
							Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,3,4,6-Tetrachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Ammonia (as N)	Nitrate (as N)	Nitrite (as N)	Total Kjeldahl Nitrogen	Total Nitrogen (as N)	Nitrate & Nitrite (as N)	Total Phosphate (as P)	Total Phosphorus	Aliphatic >C16-C21	Aliphatic >C21-C36	Aromatic >C16-C21	Aromatic >C21-C35	Aliphatic >C12-C16	Aromatic >C12-C16	Tri-n-butylfin	Ferrous Iron	>C10-C16 fraction (Silica Gel)	>C10-C15 (minus Naphthalene)(F2) (Silica Gel)	>C16-C34 fraction (Silica Gel)	>C34-C40 fraction (Silica Gel)	>C10-C40 fraction (sum) (Silica Gel)	C10-C14 fraction (Silica Gel)	C15-C28 fraction (Silica Gel)	C29-C36 fraction (Silica Gel)
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							10	1	1	1	1	1	1	1	30	2	10	30	100	30	100	30	10	100	0.01	0.01	0.01	0.2	0.2	0.01	0.05	0.5	100	100	50	50	50	50	12.5	0.05	50	100	100	100	100	50	100	50
Adopted Tier 1 criteria for 'highly disturbed' ecosystem									160 #33	2 #26	34 #26		20 #30			22	20 #30	80 #37			58 #26				1.2 #12							0.0001 #29															
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem									120 #34				3 #35			11 #24	10 #38	45 #37							0.91 #12																					
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																										
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	2.9	<0.02	<0.2	2.9	2.9	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	15 Aug 2019	QC02	Interlab_D	MGT	672404	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<100	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	6.9	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	26.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	<100	<100	-	80	<100	<50
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	01 Dec 2022	MW132_GHD	Normal	ALSE-Melbourne	EM2224108	-	<1.0	<1.0	19.2	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Jun 2025	MW132_GHD	Normal	Eurofins Environment ANZ	1232587	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	22	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	03 Feb 2016	MW133_GHD	Normal	ALSE-Melbourne	EM1601015	-	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	-	<4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	20 Jul 2016	MW133_GHD_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	9.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	18 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1709548	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	8.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	140	-	-	-	-	-
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	27 Feb 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1803798	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	9.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	28 Aug 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1813832	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	9.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	9.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-	<100	<100	-	60	110	<50
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	01 Dec 2022	MW133_GHD	Normal	ALSE-Melbourne	EM2224108	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	7.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Jun 2025	MW133_GHD	Normal	Eurofins Environment ANZ	1232587	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	7	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608641	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	-	-	-	-	-
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1709512	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	-	-	-	-	-
MW145	13 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	27 Feb 2018	MW150	Normal	ALSE-Melbourne	EM1803798	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	22.6	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75.6	-	-	-	-	-	-	-
MW150	28 Aug 2018	MW150	Normal	ALSE-Melbourne	EM1813832	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	26	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.7	-	-	-	-	-	-	-
MW150	13 Aug 2019	MW150	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	35.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW150	13 Aug 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	12 Nov 2019	MW150	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	34.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW150	12 Nov 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2022	MW150	Normal	ALSE-Melbourne	EM2224108	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	27.6	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-
MW150	01 Dec 2022	QC101	Field_D	ALSE-Melbourne	EM2224108	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	28.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2022	QC102	Interlab_D	MGT	947585	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2023	MW150	Normal	ALSE-Melbourne	EM2321582	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	12 Jun 2025	MW150	Normal	Eurofins Environment ANZ	1232587	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	28	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	27 Feb 2018	MW151	Normal	ALSE-Melbourne	EM1803798	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	19.4	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	-	-	-	-	-	-
MW151	29 Aug 2018	MW151	Normal	ALSE-Melbourne	EM1813852	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	39.4	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.8	-	-	-	-	-	-	-
MW151	13 Aug 2019	MW151	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW151	13 Aug 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	30.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	MW151	Normal	ALSE-Melbourne	EM2321582	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	15.6	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.82	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA203	Interlab_D	MGT	1049962	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<100	<30	<100	<30	<10	<100	18	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	-	-	-	-
MW151	19 Jun 2025	MW151	Normal	Eurofins Environment ANZ	1235243	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	21	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	<100	<100	<100	<50	<100	<100
MW151	19 Jun 2025	MW151_FILTERED	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	27 Feb 2018	MW152	Normal	ALSE-Melbourne	EM1803798	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	18.1	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.9	-	-	-	-	-	-	-
MW152	29 Aug 2018	MW152	Normal	ALSE-Melbourne	EM1813852	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	39.1	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.66	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	33.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	60	<100	<50
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	34.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	60	<100	<50
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	01 Dec 2023	MW152	Normal	ALSE-Melbourne	EM2321582	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	34.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	19 Jun 2025	MW152	Normal	Eurofins Environment ANZ	1235243	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	43	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	27 Feb 2018	MW153	Normal	ALSE-Melbourne	EM1803798	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	5.78	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.93	-	-	-	-	-	-	-
MW153	29 Aug 2018	MW153	Normal	ALSE-Melbourne	EM1813852	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	5.23	1.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.44	-	-	-	-	-	-	-
MW153	13 Aug 2019	MW153	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW153	13 Aug 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	12 Nov 2019	MW153	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	4.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW153	12 Nov 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	01 Dec 2023	MW153	Normal	ALSE-Melbourne	EM2321582	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	6.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	12 Jun 2025	MW153	Normal	Eurofins Environment ANZ	1232587	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	5.2	0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	28 Aug 2018	MW154	Normal	ALSE-Melbourne	EM1813832	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	10.5	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	18.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	50	<100	<50
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	20.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW154	13 Nov 2019	MW154	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	QC05	Field_D	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	21.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW154	13 Nov 2019	QC05	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	QC06	Interlab_D	MGT	688743	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	23	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	<100	<100	-	<50	<100	<100
MW154	06 Dec 2023	MW154	Normal	ALSE-Melbourne	EM2321824	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	15.9	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.2	-	-	-	-	-	-	-
MW155	29 Aug 2018	MW155	Normal	ALSE-Melbourne	EM1813852	-	<2.5	<2.5	6.2	<2.5	<2.5	<2.5	<2.5	-	<5	-	-	-	-	-	-	-	-	-	22.1	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.1	-	-	-	-	-	-	-
MW155	29 Aug 2018	QC03	Field_D	ALSE-Melbourne	EM1813852	-	<2.5	<2.5	2.9	<2.5	<2.5	<2.5	<2.5	-	<5	-	-	-	-	-	-	-	-	-	20.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	29 Aug 2018	QC04	Interlab_D	MGT	615339	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	15 Aug 2019	MW155	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
MW155	15 Aug 2019	MW155 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	18 Nov 2019	M

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

| | | | | | | | | Phenolic Compounds | | | | | | | |

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

							Phenolic Compounds																				Nutrients										TRH						UNKNOWN	Ferrous/Ferric Iron	Total Recoverable Hydrocarbons - Silica Gel						Total Petroleum Hydrocarbons - S		
							Total Cresols	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,3,4,6-Tetrachlorophenol	2,4-Dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	4-Nitrophenol	Dinoseb	Tetrachlorophenols	Sum of Phenols (halogenated)	Sum of Phenols (non-halogenated)	Ammonia (as N)	Nitrate (as N)	Nitrite (as N)	Total Kjeldahl Nitrogen	Total Nitrogen (as N)	Nitrate & Nitrite (as N)	Total Phosphate (as P)	Total Phosphorus	Aliphatic >C16-C21	Aliphatic >C21-C36	Aromatic >C16-C21	Aromatic >C21-C35	Aliphatic >C12-C16	Aromatic >C12-C16	Tri-n-butylfin	Ferrous Iron	>C10-C16 fraction (Silica Gel)	>C10-C15 (minus Naphthalene)(F2) (Silica Gel)	>C16-C34 fraction (Silica Gel)	>C34-C40 fraction (Silica Gel)	>C10-C40 fraction (sum) (Silica Gel)	C10-C14 fraction (Silica Gel)	C15-C28 fraction (Silica Gel)	C29-C36 fraction (Silica Gel)
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							10	1	1	1	1	1	1	1	30	2	10	30	100	30	100	30	10	100	0.01	0.01	0.01	0.2	0.2	0.01	0.05	0.5	100	100	50	50	50	50	12.5	0.05	50	100	100	100	100	50	100	50
Adopted Tier 1 criteria for 'highly disturbed' ecosystem									160 [#33]	2 [#26]	34 [#26]		20 [#30]			22	20 [#30]	80 [#37]			58 [#26]				1.2 [#12]							0.0001 [#29]																
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem									120 [#34]				3 [#35]			11 [#24]	10 [#38]	45 [#37]							0.91 [#12]																								
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																													
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<100	<30	<100	<30	<10	<100	<0.01	2.9	<0.02	<0.2	2.9	2.9	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	18 Nov 2019	NR1 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	17 Jun 2025	NR1	Normal	Eurofins Environment ANZ	1234320	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	0.06	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	14 Jan 2015	NR2	Normal	MGT	444342	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	1.1	0.27	0.03	3	3.3	0.29	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	02 Feb 2016	NR2	Normal	ALSE-Melbourne	EM1601015	-	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.12	-	-	-	-	-	-	-	-
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	20 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608632	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	1.68	1.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.83	-	-	-	-	-	-	-	-
NR2	18 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1709548	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	3.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	460	-	-	-	-	-	-	-
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-
NR2	28 Feb 2018	NR2	Normal	ALSE-Melbourne	EM1803804	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	1.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	1.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	200	-	-	390	-	140	<100	-	230	360	<50
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-
NR2	15 Nov 2019	NR2 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	20 Jun 2025	NR2A	Normal	Eurofins Environment ANZ	1235189	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	0.25	0.16	-	-	-	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	-	-	<50	-	<100	<100	<100	<100	<50	<100	<100
NR2A	20 Jun 2025	NR2A_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	120	-	-	-	-	-	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	1.6	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	8.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,050	460	-	-	3,040	-	2,280	<100	-	2,080	3,270	300
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,640	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	14 Jan 2015	RN2	Normal	MGT	444342	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	0.79	3.3	0.24	2.4	5.9	3.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	19 Jul 2016	RN2	Normal	ALSE-Melbourne	EM1608632	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	4.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	19 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1709630	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	20 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	-	-	-	-	-	-	-
RN2	27 Feb 2018	RN2	Normal	ALSE-Melbourne	EM1803804	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	4.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	18 Jun 2025	RN2	Normal	Eurofins Environment ANZ	1234988	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	12	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	14 Jan 2015	RN4	Normal	MGT	444342	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<100	<30	<100	<30	<10	<100	5.6	0.03	0.04	5.9	6	0.07	-	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	03 Feb 2016	RN4	Normal	ALSE-Melbourne	EM1601015	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	5.4	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.91	-	-	-	-	-	-	-	-
RN4	20 Jul 2016	RN4	Normal	ALSE-Melbourne	EM1608632	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	6.07	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.65	-	-	-	-	-	-	-	-
RN4	19 Jul 2017	RN4	Normal	ALSE-Melbourne	EM1709548	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	5.18	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.98	-	-	-	-	-	-	-	-
RN4	28 Feb 2018	RN4	Normal	ALSE-Melbourne	EM1803804	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	6.6	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.6	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	150	<100	-	<50	<100	90
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	29 Nov 2023	RN4	Normal	ALSE-Melbourne	EM2321407	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	8.84	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35.6	-	-	-	-	-	-	-	-
RN4	18 Jun 2025	RN4	Normal	Eurofins Environment ANZ	1234988	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	9.2	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	14 Jan 2015	GWQC1	Field_D	MGT	444342	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<200	<30	<200	<100	<10	<200	5.1	0.1	<0.02	4.9	5	0.1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	14 Jan 2015	RS6	Normal	MGT	444342	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<100	<30	<100	<30	<10	<100	5.1	0.16	<0.02	5	5.2	0.16	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	QC27	Field_D	ALSE-Melbourne	EM1513460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	QC28	Interlab_D	MGT	469301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	RS6	Normal	ALSE-Melbourne	EM1513460	-	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	-	-	-	-	-	-	5.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	02 Feb 2016	RS6	Normal	ALSE-Melbourne	EM1601015	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	5.8	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	-	-	-	-	-	-	-
RS6	20 Jul 2016	RS6_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	5.48	0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	-
RS6	09 May 2017	QC01	Field_D	ALSE-Melbourne	EM1705903	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	QC02	Interlab_D	MGT	546033	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	RS6	Normal	ALSE-Melbourne	EM1705903	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	6.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	19 Jul 2017	RS6	Normal	ALSE-Melbourne	EM1709548	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	5.24	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.82	-	-	-	-	-	-	-	-
RS6	28 Feb 2018	RS6	Normal	ALSE-Melbourne	EM1803804	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	6.23	1.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.76	-	-	-	-	-	-	-	-
RS6	29 Aug 2018	RS6	Normal	ALSE-Melbourne	EM1813852	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	3.95	1.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.04	-	-	-	-	-	-	-	-
RS6	15 Aug 2019	RS6	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	3.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
RS6	15 Aug 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	11 Nov 2019	RS6	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	3.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
RS6	11 Nov 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	30 Nov 2022	RS6	Normal	ALSE-Melbourne	EM2224108	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	3.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	19 Jun 2025	RS6	Normal	Eurofins Environment ANZ	1235243	<10	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	4.2	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	15 Jan 2015	S4	Normal	MGT	444499	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	210	-	-	-	-	-	-	-
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-
S4	19 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608632	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	19 Jul 2017	S4	Normal	ALSE-Melbourne	EM1709630	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	140	-	-	-	-	-	-	-
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	11.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	-	<100	<100	-	130	120	<50
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	11.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-	130	<100	-	80	160	<50
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	05 Dec 2023	S4	Normal	ALSE-Melbourne	EM2321824	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<2.0	-	-	-	-	-	-	-	-	-	8.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	15 Jan 2015	S9	Normal	MGT	444499	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	9.2	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	17 Aug 2015	S9	Normal	ALSE-Melbourne	EM1513460	-	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	-	-	-	-	-	-	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	02 Feb 2016	S9	Normal	ALSE-Melbourne	EM1600950	-	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	-	-	-	-	-	-	8.39	0.01	<0.01	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	-
S9	21 Jul 2016	QC05	Field_D	ALSE-Melbourne	EM1608641	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	21 Jul 2016	QC06	Interlab_D	MGT	508963	-	<10	<3	<3	<3	<10	<10	<10	<30	<10	-	<30	<100	<30	<100	<30	<10	<100	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	21 Jul 2016	S9	Normal	ALSE-Melbourne	EM1608641	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.27	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29.2	-	-	-	-	-	-	-	-
S9	18 Jul 2017	S9	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	-	-	-	-	-	-	-
S9	19 Jul 2017	S9	Normal	ALSE-Melbourne	EM1709512	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	6.52	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.4	-	-	-	-	-	-	-	-
S9	27 Feb 2018	S9	Normal	ALSE-Melbourne	EM1803798	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	6.33	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.8	-	-	-	-	-	-	-	-
S9	28 Aug 2018	S9	Normal	ALSE-Melbourne	EM1813832	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	3.52	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-
S9	14 Aug 2019	S9	Normal	ALSE-Melbourne	EM1913375	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	5.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50
S9	14 Aug 2019	S9 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	14 Nov 2019	S9	Normal	ALSE-Melbourne	EM1919513	-	<1	<1	<1	<1	<1	<1	<1	-	<2	-	-	-	-	-	-	-	-	-	7.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	<100	-	<50	<100	<50

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

	Silica Gel	Total Petroleum Hydrocarbons (CWG-Speciation)				Physico-Chemical Parameters				Organotins	TPH							
	C10-C36 fraction (sum)(Silica Gel)	Aromatic >C21-C35 _1	Aliphatic >C5-C6 _1	Aliphatic >C16-C21 _1	Aliphatic >C21-C35 _1	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C7-C8	Aromatic >C5-C7
	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	50	50	20	50	50	10	10	1	0.01	0.000002	20	20	20	50	5 - 10	50	2 - 5	1 - 5
Adopted Tier 1 criteria for 'highly disturbed' ecosystem									6.5-9 #28	0.00002 #16								
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem										0.000006 #07								

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	-	-	-	810	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,030	-	-	7.21	-	-	-	-	-	-	-	-
BG1	02 Feb 2016	BG1	Normal	ALSE-Melbourne	EM1600950	-	-	-	-	-	911	-	-	-	-	-	-	-	-	-	-	-
BG1	21 Jul 2016	BG1	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	746	-	-	-	-	-	-	-	-	-	-	-
BG1	18 Jul 2017	BG1	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	936	1,440	-	-	-	-	-	-	-	-	-
BG1	28 Feb 2018	BG1	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	838	-	-	-	-	-	-	-	-	-	-	-
BG1	12 Aug 2019	BG1	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	949	-	-	-	-	-	-	-	-	-	-	-
BG1	12 Aug 2019	BG1 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG1	17 Jun 2025	BG1	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	1,300	-	1,900	-	-	-	-	-	-	-	-	-
MW6	15 Jan 2015	MW6	Normal	MGT	444499	-	<100	-	-	<100	430	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW6	15 Jan 2015	MW6	Field_D	MGT	444499	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	19 Jul 2016	MW6	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	412	-	-	-	-	-	-	-	-	-	-	-
MW6	18 Jul 2017	MW6	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	425	654	-	-	-	-	-	-	-	-	-
MW6	20 Jul 2017	MW6	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-	-
MW6	14 Aug 2019	MW6	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	452	-	-	-	-	-	-	-	-	-	-	-	-
MW6	14 Aug 2019	MW6	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	14 Aug 2019	MW6 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	13 Nov 2019	MW6	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	424	-	-	-	-	-	-	-	-	-	-	-	-
MW6	13 Nov 2019	MW6 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW6	06 Dec 2023	MW6	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	466	-	-	-	-	-	-	-	-	-	-	-	-
MW6	23 Jun 2025	MW6	Normal	Eurofins Environment ANZ	1236601	<100	-	-	-	-	480	-	960	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW13	15 Jan 2015	MW13	Normal	MGT	444499	-	-	-	-	-	1,100	-	-	-	-	-	-	-	-	-	-	-	-
MW13	14 Aug 2019	MW13	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	710	-	-	-	-	-	-	-	-	-	-	-	-
MW13	14 Aug 2019	MW13 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW13	13 Nov 2019	MW13	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	552	-	-	-	-	-	-	-	-	-	-	-	-
MW13	13 Nov 2019	MW13 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	15 Jan 2015	MW16	Normal	MGT	444499	-	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	-	-
MW16	19 Jul 2016	MW16	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	345	-	-	-	-	-	-	-	-	-	-	-	-
MW16	18 Jul 2017	MW16	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	608	935	-	-	-	-	-	-	-	-	-	-
MW16	18 Jul 2017	MW16	Normal	ALSE-Melbourne	EM1711358	-	<50	50	-	<50	-	-	-	-	-	-	2,080	1,040	<50	92	70	<5	<5
MW16	26 Feb 2018	MW16	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	478	-	-	-	-	-	-	-	-	-	-	-	-
MW16	27 Aug 2018	MW16	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	484	-	-	-	-	-	-	-	-	-	-	-	-
MW16	14 Aug 2019	MW16	Normal	ALSE-Melbourne	EM1913375	-	<50	<20	-	<50	484	-	-	-	-	-	800	300	<50	74	<50	<5	<5
MW16	14 Aug 2019	MW16	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	14 Aug 2019	MW16 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	13 Nov 2019	MW16	Normal	ALSE-Melbourne	EM1919513	-	<50	<20	-	<50	442	-	-	-	-	-	80	50	<50	32	<50	<5	<5
MW16	13 Nov 2019	MW16	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	13 Nov 2019	MW16 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	06 Dec 2023	MW16	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-
MW16	23 Jun 2025	MW16	Normal	Eurofins Environment ANZ	1236601	<100	-	-	-	-	170	-	350	-	-	-	440	170	<50	50	<50	1	<1
MW16	23 Jun 2025	MW16_FILTERED	Normal	Eurofins Environment ANZ	1236601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW16	23 Jun 2025	QC107	Field_D	Eurofins Environment ANZ	1241421	-	-	-	-	-	180	-	330	-	-	-	-	-	-	-	-	-	-
MW16	23 Jun 2025	QC107_FILTERED	Field_D	Eurofins Environment ANZ	1241421	<100	-	-	-	-	-	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW16	23 Jun 2025	QC207	Interlab_D	ALSE-Melbourne	EM2512174	-	-	-	-	-	217	-	-	-	-	-	-	-	-	-	-	-	-
MW16	23 Jun 2025	QC207_FILTERED	Interlab_D	ALSE-Melbourne	EM2512174	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	14 Jan 2015	MW36	Normal	MGT	444342	-	-	-	-	-	620	-	-	-	-	-	-	-	-	-	-	-	-
MW36	13 Aug 2019	MW36	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	699	-	-	-	-	-	-	-	-	-	-	-	-
MW36	13 Aug 2019	MW36	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	13 Aug 2019	MW36 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	11 Nov 2019	MW36	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	533	-	-	-	-	-	-	-	-	-	-	-	-
MW36	11 Nov 2019	MW36	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	11 Nov 2019	MW36 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW36	02 Dec 2022	MW36	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	790	-	-	-	-	-	-	-	-	-	-	-	-
MW36	18 Jun 2025	MW36	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	1,100	-	1,600	-	-	-	-	-	-	-	-	-	-
MW60	15 Jan 2015	MW60	Normal	MGT	444499	-	-	-	-	-	1,400	-	-	-	-	-	-	-	-	-	-	-	-
MW60	19 Jul 2016	MW60	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,150	-	-	-	-	-	-	-	-	-	-	-	-
MW60	18 Jul 2017	MW60	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,310	2,010	-	-	-	-	-	-	-	-	-	-
MW60	05 Dec 2023	MW60	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	953	-	-	-	-	-	-	-	-	-	-	-	-
MW60	24 Jun 2025	MW60	Normal	Eurofins Environment ANZ	1237216	<100	-	-	-	-	960	-	1,600	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW60	24 Jun 2025	MW60_FILTERED	Normal	Eurofins Environment ANZ	1237216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW100	14 Jan 2015	MW100	Normal	MGT	444342	-	-	-	-	-	1,100	-	-	-	-	-	-	-	-	-	-	-	-
MW100	19 Jul 2016	MW100_19/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,550	-	-	-	-	-	-	-	-	-	-	-	-
MW100	18 Jul 2017	MW100	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,420	2,190	-	-	-	-	-	-	-	-	-	-
MW100	18 Jul 2017	MW100	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-	-
MW100	01 Dec 2022	MW100	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	1,600	-	-	-	-	-	-	-	-	-	-	-	-
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	484	-	-	11.1	-	-	-	-	-	-	-	-	-
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513942	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	21	120	6	<5
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120	02 Feb 2016	MW120	Normal	ALSE-Melbourne	EM1600950	-	-	-	-	-	479	-	-	-	-	-	-	-	-	-	-	-	-
MW120	02 Feb 2016	QC3	Field_D	ALSE-Melbourne	EM1600950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120	02 Feb 2016	QC4	Interlab_D	MGT	487959	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW120	21 Jul 2016	MW120	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	494	-	-	-	-	-	-	-	-	-	-	-	-
MW120	21 Jul 2016	MW120	Normal	ALSE-Melbourne	EM1608980	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW120A	25 Jun 2025	MW120A	Normal	Eurofins Environment ANZ	1240646	-	-	-	-	-	2,000	-	3,300	-	-	-	-	-	-	-	-	-	-
MW121	19 Aug 2015	MW121	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	809	-	-	7.43	-	-	-	-	-	-	-	-	-
MW121	02 Feb 2016	MW121	Normal	ALSE-Melbourne	EM1600950	-	-	-	-	-	821	-	-	-	-	-	-	-	-	-	-	-	-
MW121	21 Jul 2016	MW121	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	906	-	-	-	-	-	-	-	-	-	-	-	-
MW121	18 Jul 2017	MW121	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	806	1,240	-	-	-	-	-	-	-	-	-	-
MW121	20 Jul 2017	QC303	Field_D	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW121	20 Jul 2017	QC304	Interlab_D	MGT	555680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW121	18 Jun 2025	MW121	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	830	-	1,400	-	-	-	-	-	-	-	-	-	-
MW122	18 Aug 2015	MW122	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	915	-	-	7.05	-	-	-	-	-	-	-	-	-
MW122	18 Aug 2015	QC29	Field_D	ALSE-Melbourne	EM1513460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	18 Aug 2015	QC30	Interlab_D	MGT	469301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	03 Feb 2016	MW122	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	936	-	-	-	-	-	-	-	-	-	-	-	-
MW122	20 Jul 2016	MW122_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	885	-	-	-	-	-	-	-	-	-	-	-	-
MW122	09 May 2017	MW122	Normal	ALSE-Melbourne	EM1705903	-	-	-	-	-	1,040	-	-	-	-	-	-	-	-	-	-	-	-
MW122	18 Jul 2017	MW122	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	923	1,420	-	-	-	-	-	-	-	-	-	-
MW122	12 Aug 2019	MW122	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	-
MW122	12 Aug 2019	MW122 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	18 Nov 2019	MW122	Normal	ALSE-Melbourne	EM1919760	<50	-	-	-	-	775	-	-	-	-	-	-	-	-	-	-	-	-
MW122	18 Nov 2019	MW122 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW122	30 Nov 2022	MW122	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	765	-	-	-	-	-	-	-	-	-	-	-	-
MW122	19 Jun 2025	MW122	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	1,400	-	2,100	-	-	-	-	-	-	-	-	-	-
MW123A	19 Aug 2015	MW123A	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,380	-	-	6.96	-	-	-	-	-	-	-	-	-
MW123A	19 Aug 2015	MW123A	Normal	ALSE-Melbourne	EM1513942	-	<50	<20	-	<50	-	-	-	-	-	-	<20	110	<50	528	700	48	457
MW123A	19 Aug 2015	MW123A	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	290	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	03 Feb 2016	MW123A	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,120	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	20 Jul 2016	MW123A_20/07/2016	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	989	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	20 Jul 2016	QC03_20/07/2016	Field_D	ALSE-Melbourne	EM1608632	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	20 Jul 2016	QC04	Interlab_D	MGT	508963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	18 Jul 2017	MW123A	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	634	976	-	-	-	-	-	-	-	-	-	-
MW123A	19 Jul 2017	MW123A	Normal	ALSE-Melbourne	EM1711358	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	30	90	<5	14
MW123A	27 Feb 2018	MW123A	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	859	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	28 Aug 2018	MW123A	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	901	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	14 Aug 2019	MW123A	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	590	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	14 Aug 2019	MW123A	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	14 Aug 2019	MW123A (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	12 Nov 2019	MW123A	Normal	ALSE-Melbourne	EM1919513	-	<50	<20	-	<50	753	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW123A	12 Nov 2019	MW123A (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	02 Dec 2022	MW123A	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	405	-	-	-	-	-	-	-	-	-	-	-	-
MW123A	12 Jun 2025	MW123A	Normal	Eurofins Environment ANZ	1232587	-	-	-	-	-	420	-	750	-	-	-	-	-	-	-	-	-	-
MW123B	19 Aug 2015	MW123B	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	36,800	-	-	6.84	-	-	-	-	-	-	-	-	-

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

	Silica Gel	Total Petroleum Hydrocarbons (CWG-Speciation)				Physico-Chemical Parameters				Organotins	TPH							
	C10-C36 fraction (sum)(Silica Gel)	Aromatic >C21-C35 _1	Aliphatic >C5-C6_1	Aliphatic >C16-C21 _1	Aliphatic >C21-C35 _1	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C7-C8	Aromatic >C5-C7
	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	50	50	20	50	50	10	10	1	0.01	0.000002	20	20	20	50	5 - 10	50	2 - 5	1 - 5
Adopted Tier 1 criteria for 'highly disturbed' ecosystem									6.5-9 #28	0.00002 #16								
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem										0.000006 #07								

Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number															
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	-	-	-	810	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,030	-	-	7.21	-	-	-	-	-	-	-	-
MW123B	03 Feb 2016	MW123B	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	37,800	-	-	-	-	-	-	-	-	-	-	-
MW123B	20 Jul 2016	MW123B_20/07/2016	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	31,600	-	-	-	-	-	-	-	-	-	-	-
MW123B	18 Jul 2017	MW123B	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	31,500	48,400	-	-	-	-	-	-	-	-	-
MW123B	27 Feb 2018	MW123B	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	32,700	-	-	-	-	-	-	-	-	-	-	-
MW123B	28 Aug 2018	MW123B	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	28,400	-	-	-	-	-	-	-	-	-	-	-
MW123B	02 Dec 2022	MW123B	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	26,600	-	-	-	-	-	-	-	-	-	-	-
MW124A	18 Aug 2015	MW124A	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	762	-	-	7.11	-	-	-	-	-	-	-	-
MW124A	03 Feb 2016	MW124A	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	913	-	-	-	-	-	-	-	-	-	-	-
MW124A	21 Jul 2016	MW124A_21/07/16	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	1,030	-	-	-	-	-	-	-	-	-	-	-
MW124A	09 May 2017	MW124A	Normal	ALSE-Melbourne	EM1705903	-	-	-	-	-	1,300	-	-	-	-	-	-	-	-	-	-	-
MW124A	18 Jul 2017	MW124A	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,100	1,690	-	-	-	-	-	-	-	-	-
MW124A	27 Feb 2018	MW124A	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	983	-	-	-	-	-	-	-	-	-	-	-
MW124A	29 Aug 2018	MW124A	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	953	-	-	-	-	-	-	-	-	-	-	-
MW124A	05 Dec 2023	MW124A	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	381	-	-	-	-	-	-	-	-	-	-	-
MW124B	18 Aug 2015	MW124B	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	899	-	-	8.21	-	-	-	-	-	-	-	-
MW124B	03 Feb 2016	MW124B	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,040	-	-	-	-	-	-	-	-	-	-	-
MW124B	21 Jul 2016	MW124B_21/07/16	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	958	-	-	-	-	-	-	-	-	-	-	-
MW124B	09 May 2017	MW124B	Normal	ALSE-Melbourne	EM1705903	-	-	-	-	-	1,030	-	-	-	-	-	-	-	-	-	-	-
MW124B	18 Jul 2017	MW124B	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,230	1,890	-	-	-	-	-	-	-	-	-
MW124B	27 Feb 2018	MW 124B	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	1,120	-	-	-	-	-	-	-	-	-	-	-
MW124B	29 Aug 2018	MW124B	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	1,100	-	-	-	-	-	-	-	-	-	-	-
MW124B	05 Dec 2023	MW124B	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	962	-	-	-	-	-	-	-	-	-	-	-
MW125A	18 Aug 2015	MW125A	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,140	-	-	6.9	-	-	-	-	-	-	-	-
MW125A	02 Feb 2016	MW125A	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,290	-	-	-	-	-	-	-	-	-	-	-
MW125A	19 Jul 2016	MW125A	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,120	-	-	-	-	-	-	-	-	-	-	-
MW125A	18 Jul 2017	MW125A	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,170	1,800	-	-	-	-	-	-	-	-	-
MW125A	26 Feb 2018	MW125A	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	974	-	-	-	-	-	-	-	-	-	-	-
MW125A	14 Nov 2019	MW125A	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	574	-	-	-	-	-	-	-	-	-	-	-
MW125A	14 Nov 2019	MW125A (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW125A	04 Dec 2023	MW125A	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	314	-	-	-	-	-	-	-	-	-	-	-
MW125A	24 Jun 2025	MW125A	Normal	Eurofins Environment ANZ	1237216	-	-	-	-	-	530	-	780	-	-	-	-	-	-	-	-	-
MW125B	18 Aug 2015	MW125B	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,140	-	-	6.96	-	-	-	-	-	-	-	-
MW125B	02 Feb 2016	MW125B	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,250	-	-	-	-	-	-	-	-	-	-	-
MW125B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,030	-	-	-	-	-	-	-	-	-	-	-
MW125B	18 Jul 2017	MW125B	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,150	1,770	-	-	-	-	-	-	-	-	-
MW125B	26 Feb 2018	MW125B	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	952	-	-	-	-	-	-	-	-	-	-	-
MW125B	04 Dec 2023	MW125B	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	361	-	-	-	-	-	-	-	-	-	-	-
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	1,330	-	-	6.95	-	-	-	-	-	-	-	-
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513942	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	<50	<5
MW126A	17 Aug 2015	MW126A	Normal	ALSE-Melbourne	EM1513942	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	02 Feb 2016	MW126A	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,410	-	-	-	-	-	-	-	-	-	-	-
MW126A	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,310	-	-	-	-	-	-	-	-	-	-	-
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	1,480	2,270	-	-	-	-	-	-	-	-	-
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	26 Feb 2018	MW126A	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	1,120	-	-	-	-	-	-	-	-	-	-	-
MW126A	27 Aug 2018	MW126A	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	1,120	-	-	-	-	-	-	-	-	-	-	-
MW126A	14 Aug 2019	MW126A	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,160	-	-	-	-	-	-	-	-	-	-	-
MW126A	14 Aug 2019	MW126A	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	14 Aug 2019	MW126A (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	13 Nov 2019	MW126A	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	1,220	-	-	-	-	-	-	-	-	-	-	-
MW126A	13 Nov 2019	MW126A (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW126A	05 Dec 2023	MW126A	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	994	-	-	-	-	-	-	-	-	-	-	-
MW126A	24 Jun 2025	MW126A	Normal	Eurofins Environment ANZ	1237216	-	-	-	-	-	1,000	-	1,900	-	-	-	-	-	-	-	-	-
MW126A	24 Jun 2025	QC108	Field_D	Eurofins Environment ANZ	1237216	-	-	-	-	-	1,000	-	1,900	-	-	-	-	-	-	-	-	-
MW126A	24 Jun 2025	QC208	Interlab_D	ALSE-Melbourne	EM2511596	-	-	-	-	-	1,110	-	-	-	-	-	-	-	-	-	-	-
MW126B	17 Aug 2015	MW126B	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	5,030	-	-	7.91	-	-	-	-	-	-	-	-
MW126B	02 Feb 2016	MW126B	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	12,600	-	-	-	-	-	-	-	-	-	-	-
MW126B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,450	-	-	-	-	-	-	-	-	-	-	-
MW126B	18 Jul 2017	MW126B	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	9,230	14,200	-	-	-	-	-	-	-	-	-
MW126B	26 Feb 2018	MW126B	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	28,000	-	-	-	-	-	-	-	-	-	-	-
MW126B	27 Aug 2018	MW126B	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	5,660	-	-	-	-	-	-	-	-	-	-	-
MW126B	05 Dec 2023	MW126B	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	1,180	-	-	-	-	-	-	-	-	-	-	-
MW129	18 Aug 2015	MW129	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	15,200	-	-	7.46	-	-	-	-	-	-	-	-
MW129	02 Feb 2016	MW129	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	15,000	-	-	-	-	-	-	-	-	-	-	-
MW129	19 Jul 2016	MW129_19/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	18,600	-	-	-	-	-	-	-	-	-	-	-
MW129	09 May 2017	MW129	Normal	ALSE-Melbourne	EM1705903	-	-	-	-	-	19,000	-	-	-	-	-	-	-	-	-	-	-
MW129	18 Jul 2017	MW129	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	22,900	35,200	-	-	-	-	-	-	-	-	-
MW130_GHD	18 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608980	-	<50	210	-	<50	-	-	-	-	-	-	<200	<200	<50	884	830	40	1,080
MW130_GHD	18 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	20 Jul 2016	MW130	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	946	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	18 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	1,030	1,590	-	-	-	-	-	-	-	-	-
MW130_GHD	19 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1711358	-	<50	<200	-	<50	-	-	-	-	-	-	<200	<200	<50	698	1,000	32	777
MW130_GHD	19 Jul 2017	MW130	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	27 Feb 2018	MW130	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	896	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	28 Aug 2018	MW130	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	1,030	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	28 Aug 2018	QC01	Field_D	ALSE-Melbourne	EM1813832	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	28 Aug 2018	QC02	Interlab_D	MGT	615201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	13 Aug 2019	MW130_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	996	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	13 Aug 2019	MW130_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	13 Aug 2019	MW130_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	12 Nov 2019	MW130_GHD	Normal	ALSE-Melbourne	EM1919513	-	<50	<200	-	<50	905	-	-	-	-	-	<200	230	<50	641	170	24	585
MW130_GHD	12 Nov 2019	MW130_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	12 Nov 2019	MW130_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	01 Dec 2022	MW130_GHD	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	835	-	-	-	-	-	-	-	-	-	-	-
MW130_GHD	12 Jun 2025	MW130_GHD	Normal	Eurofins Environment ANZ	1232587	-	-	-	-	-	990	-	1,500	-	-	-	-	-	-	-	-	-
MW131_GHD	03 Feb 2016	MW131_GHD	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,100	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	20 Jul 2016	MW131_GHD_20/07/201	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	857	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	18 Jul 2017	MW131_GHD	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	1,030	1,580	-	-	-	-	-	-	-	-	-
MW131_GHD	19 Jul 2017	MW131_GHD	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-
MW131_GHD	27 Feb 2018	MW131_GHD	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	836	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	28 Aug 2018	MW131_GHD	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	955	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	13 Aug 2019	MW131_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	852	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	13 Aug 2019	MW131_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	13 Aug 2019	MW131_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	12 Nov 2019	MW131_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	847	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	12 Nov 2019	MW131_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	12 Nov 2019	MW131_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW131_GHD	01 Dec 2022	MW131_GHD	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	873	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	03 Feb 2016	MW132	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	981	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	18 Jul 2016	MW132	Normal	ALSE-Melbourne	EM1608980	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW132_GHD	20 Jul 2016	MW132	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	978	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	20 Jul 2016	QC01_20/07/2016	Field_D	ALSE-Melbourne	EM1608632	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	20 Jul 2016	QC02	Interlab_D	MGT	508963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	18 Jul 2017	MW132	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	1,090	1,680	-	-	-	-	-	-	-	-	-
MW132_GHD	19 Jul 2017	MW132	Normal	ALSE-Melbourne	EM1711358	-	<50	<20	-	<50	-	-	-	-	-	-	<20	30	<50	16	140	<5	27
MW132_GHD	19 Jul 2017	MW132	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	27 Feb 2018	MW132	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	898	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	28 Aug 2018	MW132	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	878	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,070	-	-	-	-	-	-	-	-	-	-	-

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

		Silica Gel	Total Petroleum Hydrocarbons (CWG-Speciation)				Physico-Chemical Parameters				Organotins	TPH							
		C10-C36 fraction (sum)(Silica Gel)	Aromatic >C21-C35_1	Aliphatic >C5-C8_1	Aliphatic >C16-C21_1	Aliphatic >C21-C35_1	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C7-C8	Aromatic >C7-C7
		µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		50	50	20	50	50	10	10	1	0.01	0.000002	20	20	20	50	5 - 10	50	2 - 5	1 - 5
Adopted Tier 1 criteria for 'highly disturbed' ecosystem										6.5-9 [#28]	0.00002 [#16]								
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem											0.000006 [#97]								
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number															
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	-	-	-	810	-	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,030	-	-	7.21	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,070	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	13 Aug 2019	QC01	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	15 Aug 2019	QC02	Interlab_D	MGT	672404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	912	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Nov 2019	MW132_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	01 Dec 2022	MW132_GHD	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	756	-	-	-	-	-	-	-	-	-	-	-	-
MW132_GHD	12 Jun 2025	MW132_GHD	Normal	Eurofins Environment ANZ	1232587	-	-	-	-	-	860	-	1,400	-	-	-	-	-	-	-	-	-	-
MW133_GHD	03 Feb 2016	MW133_GHD	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	938	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	20 Jul 2016	MW133_GHD_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	667	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	18 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	774	1,190	-	-	-	-	-	-	-	-	-	-
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	90	-	-
MW133_GHD	19 Jul 2017	MW133_GHD	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	27 Feb 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	661	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	28 Aug 2018	MW133_GHD	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	789	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	832	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	13 Aug 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	723	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Nov 2019	MW133_GHD (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	01 Dec 2022	MW133_GHD	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	664	-	-	-	-	-	-	-	-	-	-	-	-
MW133_GHD	12 Jun 2025	MW133_GHD	Normal	Eurofins Environment ANZ	1232587	-	-	-	-	-	750	-	1,300	-	-	-	-	-	-	-	-	-	-
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	1,060	-	-	-	-	-	-	-	-	-	-	-	-
MW145	21 Jul 2016	MW145	Normal	ALSE-Melbourne	EM1608980	-	50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	975	1,500	-	-	-	-	-	-	-	-	-	-
MW145	18 Jul 2017	MW145	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-	-
MW145	13 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	910	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW145	14 Aug 2019	MW145 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	27 Feb 2018	MW150	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	1,510	-	-	-	-	-	-	-	-	-	-	-	-
MW150	28 Aug 2018	MW150	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	1,080	-	-	-	-	-	-	-	-	-	-	-	-
MW150	13 Aug 2019	MW150	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	988	-	-	-	-	-	-	-	-	-	-	-	-
MW150	13 Aug 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	12 Nov 2019	MW150	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	969	-	-	-	-	-	-	-	-	-	-	-	-
MW150	12 Nov 2019	MW150 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2022	MW150	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	598	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2022	QC101	Field_D	ALSE-Melbourne	EM2224108	-	-	-	-	-	643	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2022	QC102	Interlab_D	MGT	947585	-	-	-	-	-	610	-	-	-	-	-	-	-	-	-	-	-	-
MW150	01 Dec 2023	MW150	Normal	ALSE-Melbourne	EM2321582	-	-	-	-	-	641	-	-	-	-	-	-	-	-	-	-	-	-
MW150	12 Jun 2025	MW150	Normal	Eurofins Environment ANZ	1232587	-	-	-	-	-	720	-	1,100	-	-	-	-	-	-	-	-	-	-
MW151	27 Feb 2018	MW151	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	3,000	-	-	-	-	-	-	-	-	-	-	-	-
MW151	29 Aug 2018	MW151	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	2,540	-	-	-	-	-	-	-	-	-	-	-	-
MW151	13 Aug 2019	MW151	Normal	ALSE-Melbourne	EM1913375	-	<50	<20	-	<50	1,630	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW151	13 Aug 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	1,300	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	12 Nov 2019	MW151 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2022	MW151	Normal	ALSE-Melbourne	EM2321582	-	-	-	<50	<50	1,610	-	-	-	-	<20	<20	<20	<50	<5	<50	<5	<5
MW151	01 Dec 2023	MW151	Normal	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	-	-	-	<60	<60	1,500	-	-	-	-	<20	<20	<20	<60	<5	<60	<5	<5
MW151	01 Dec 2023	QA103	Field_D	ALSE-Melbourne	EM2321582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW151	01 Dec 2023	QA203	Interlab_D	MGT	1049962	-	-	-	<100	<100	1,700	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW151	19 Jun 2025	MW151	Normal	Eurofins Environment ANZ	1235243	<100	-	-	-	-	4,200	-	7,400	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW151	19 Jun 2025	MW151_FILTERED	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	27 Feb 2018	MW152	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	2,840	-	-	-	-	-	-	-	-	-	-	-	-
MW152	29 Aug 2018	MW152	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	3,030	-	-	-	-	-	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	3,250	-	-	-	-	-	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	13 Aug 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	2,860	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	12 Nov 2019	MW152 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW152	01 Dec 2023	MW152	Normal	ALSE-Melbourne	EM2321582	-	-	-	-	-	2,170	-	-	-	-	-	-	-	-	-	-	-	-
MW152	19 Jun 2025	MW152	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	4,800	-	7,000	-	-	-	-	-	-	-	-	-	-
MW153	27 Feb 2018	MW153	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	22,800	-	-	-	-	-	-	-	-	-	-	-	-
MW153	29 Aug 2018	MW153	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	9,760	-	-	-	-	-	-	-	-	-	-	-	-
MW153	13 Aug 2019	MW153	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	15,400	-	-	-	-	-	-	-	-	-	-	-	-
MW153	13 Aug 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	12 Nov 2019	MW153	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	13,400	-	-	-	-	-	-	-	-	-	-	-	-
MW153	12 Nov 2019	MW153 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW153	01 Dec 2023	MW153	Normal	ALSE-Melbourne	EM2321582	-	-	-	-	-	22,000	-	-	-	-	-	-	-	-	-	-	-	-
MW153	12 Jun 2025	MW153	Normal	Eurofins Environment ANZ	1232587	-	-	-	-	-	20,000	-	29,000	-	-	-	-	-	-	-	-	-	-
MW154	28 Aug 2018	MW154	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	1,200	-	-	-	-	-	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,230	-	-	-	-	-	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	14 Aug 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	1,030	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	MW154 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	QC05	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	1,060	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	QC05	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW154	13 Nov 2019	QC06	Interlab_D	MGT	688743	<100	-	-	-	-	1,100	-	-	-	-	-	-	-	-	-	-	-	-
MW154	06 Dec 2023	MW154	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	1,020	-	-	-	-	-	-	-	-	-	-	-	-
MW155	29 Aug 2018	MW155	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	598	-	-	-	-	-	-	-	-	-	-	-	-
MW155	29 Aug 2018	QC03	Field_D	ALSE-Melbourne	EM1813852	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	29 Aug 2018	QC04	Interlab_D	MGT	615339	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	15 Aug 2019	MW155	Normal	ALSE-Melbourne	EM1913375	-	<50	<20	-	<50	430	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW155	15 Aug 2019	MW155 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	18 Nov 2019	MW155	Normal	ALSE-Melbourne	EM1919760	<50	-	-	-	-	450	-	-	-	-	-	-	-	-	-	-	-	-
MW155	18 Nov 2019	MW155 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW155	06 Dec 2023	MW155	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	392	-	-	-	-	-	-	-	-	-	-	-	-
MW155	19 Jun 2025	MW155	Normal	Eurofins Environment ANZ	1235243	<100	-	-	-	-	5,700	-	9,200	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW155	19 Jun 2025	MW155_FILTERED	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	29 Aug 2018	MW156	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	1,690	-	-	-	-	-	-	-	-	-	-	-	-
MW156	14 Aug 2019	MW156	Normal	ALSE-Melbourne	EM1913375	-	<50	<20	-	<50	789	-	-	-	-	-	<20	20	<50	<5	<50	<5	<5
MW156	14 Aug 2019	MW156	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	14 Aug 2019	MW156 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	15 Aug 2019	QC03	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	640	-	-	-	-	-	-	-	-	-	-	-	-
MW156	15 Aug 2019	QC03	Field_D	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	15 Aug 2019	QC04	Interlab_D	MGT	672404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	11 Nov 2019	MW156	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	530	-	-	-	-	-	-	-	-	-	-	-	-
MW156	11 Nov 2019	MW156	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	11 Nov 2019	MW156 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	11 Nov 2019	QC03	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	468	-	-	-	-	-	-	-	-	-	-	-	-
MW156	11 Nov 2019	QC03	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW156	11 Nov 2019	QC04	Interlab_D	MGT	688743	<100	-	-	-	-	510	-	-	-	-	-	-	-	-	-	-	-	-
MW157	15 Aug 2019	MW157	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	995	-	-	-	-	-	<20	30	<50	<5	<50	<5	<5

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

		Silica Gel	Total Petroleum Hydrocarbons (CWG-Speciation)				Physico-Chemical Parameters				Organotins	TPH							
		C10-C36 fraction (sum)(Silica Gel)	Aromatic >C21-C35_1	Aliphatic >C5-C8_1	Aliphatic >C16-C21_1	Aliphatic >C21-C35_1	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C7-C8	Aromatic >C5-C7
		µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		50	50	20	50	50	10	10	1	0.01	0.000002	20	20	20	50	5 - 10	50	2 - 5	1 - 5
Adopted Tier 1 criteria for 'highly disturbed' ecosystem										6.5-9 [#28]	0.00002 [#16]								
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem											0.000006 [#97]								
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number															
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	-	-	-	810	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,030	-	-	7.21	-	-	-	-	-	-	-	-
MW157	15 Aug 2019	MW157	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157	15 Aug 2019	MW157 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157	14 Nov 2019	MW157	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	909	-	-	-	-	-	-	-	-	-	-	-
MW157	14 Nov 2019	MW157	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW157	14 Nov 2019	MW157 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	15 Aug 2019	MW158	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	1,040	-	-	-	-	-	<20	30	<50	<5	70	<5	<5
MW158	15 Aug 2019	MW158	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-
MW158	15 Aug 2019	MW158 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	MW158	Normal	ALSE-Melbourne	EM1919513	-	<50	<20	-	<50	1,170	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW158	11 Nov 2019	MW158	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	MW158 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	Field_D	ALSE-Melbourne	EM1919513		-	-	-	-	-	1,130	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	QC01	Field_D	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW158	11 Nov 2019	QC02	Interlab_D	MGT	688743	<100	-	-	-	-	1,200	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Aug 2019	MW159	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	682	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Aug 2019	MW159	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Aug 2019	MW159 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Nov 2019	MW159	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	679	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Nov 2019	MW159	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	12 Nov 2019	MW159 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW159	25 Sep 2024	MW159_240925	Normal	MGT	1143224	-	-	-	-	-	690	-	-	-	-	-	-	-	-	-	-	-
MW159	20 Jun 2025	MW159	Normal	Eurofins Environment ANZ	1235189	<100	-	-	-	-	780	-	1,300	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW159	20 Jun 2025	MW159_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	12 Aug 2019	MW160	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	258	-	-	-	-	-	-	-	-	-	-	-
MW160	12 Aug 2019	MW160	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	12 Aug 2019	MW160 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	12 Nov 2019	MW160	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	228	-	-	-	-	-	-	-	-	-	-	-
MW160	12 Nov 2019	MW160 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW160	25 Sep 2024	MW160_240925	Normal	MGT	1143224	-	-	-	-	-	460	-	-	-	-	-	-	-	-	-	-	-
MW160	17 Jun 2025	MW160	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	530	-	740	-	-	-	-	-	-	-	-	-
MW161	12 Aug 2019	MW161	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	212	-	-	-	-	-	-	-	-	-	-	-
MW161	12 Aug 2019	MW161 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	12 Nov 2019	MW161	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	222	-	-	-	-	-	-	-	-	-	-	-
MW161	12 Nov 2019	MW161 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW161	25 Sep 2024	MW161_240925	Normal	MGT	1143224	-	-	-	-	-	620	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW161	19 Jun 2025	MW161	Normal	Eurofins Environment ANZ	1235243	<100	-	-	-	-	560	-	810	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW161	19 Jun 2025	MW161_FILTERED	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	12 Aug 2019	MW162	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	2,430	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW162	12 Aug 2019	MW162	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	12 Aug 2019	MW162 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	11 Nov 2019	MW162	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	2,330	-	-	-	-	-	-	-	-	-	-	-	-
MW162	11 Nov 2019	MW162 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW162	30 Nov 2023	MW162	Normal	ALSE-Melbourne	EM2321407	-	-	-	-	-	1,810	-	-	-	-	-	-	-	-	-	-	-	-
MW163	14 Aug 2019	MW163	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	211	-	-	-	-	-	-	-	-	-	-	-	-
MW163	14 Aug 2019	MW163 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW163	18 Nov 2019	MW163	Normal	ALSE-Melbourne	EM1919760	<50	-	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-
MW163	18 Nov 2019	MW163 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW163	05 Dec 2023	MW163	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	196	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Aug 2019	MW164	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	271	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW164	14 Aug 2019	MW164	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Aug 2019	MW164 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Nov 2019	MW164	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	460	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Nov 2019	MW164	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	14 Nov 2019	MW164 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW164	04 Dec 2023	MW164	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	306	-	-	-	-	-	-	-	-	-	-	-	-
MW164	23 Jun 2025	MW164	Normal	Eurofins Environment ANZ	1236601	<100	-	-	-	-	300	-	630	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW164	23 Jun 2025	MW164_FILTERED	Normal	Eurofins Environment ANZ	1236601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	MW166	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	1,430	-	-	-	-	-	<20	20	<50	9	<50	<5	<5
MW166	15 Aug 2019	MW166	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	MW166 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	QC05	Field_D	ALSE-Melbourne	EM1913371	-	-	-	-	-	1,400	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	QC05	Field_D	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	15 Aug 2019	QC06	Interlab_D	MGT	672174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	13 Nov 2019	MW166	Normal	ALSE-Melbourne	EM1919513	-	<50	<20	-	<50	1,270	-	-	-	-	-	<20	<20	<50	7	<50	<5	<5
MW166	13 Nov 2019	MW166	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-
MW166	13 Nov 2019	MW166 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	15 Aug 2019	MW167	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	980	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW167	15 Aug 2019	MW167	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	15 Aug 2019	MW167 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	13 Nov 2019	MW167	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	565	-	-	-	-	-	-	-	-	-	-	-	-
MW167	13 Nov 2019	MW167	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	13 Nov 2019	MW167 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW167	20 Jun 2025	MW167	Normal	Eurofins Environment ANZ	1235189	<100	-	-	-	-	1,500	-	2,300	-	-	-	<20	<20	<50	<10	<50	<1	<1
MW167	20 Jun 2025	MW167_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW171	15 Aug 2019	MW171	Normal	ALSE-Melbourne	EM1913371	-	<50	<20	-	<50	790	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
MW171	15 Aug 2019	MW171	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW171	15 Aug 2019	MW171 (filtered)	Normal	ALSE-Melbourne	EM1913371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW171	12 Nov 2019	MW171	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	884	-	-	-	-	-	-	-	-	-	-	-	-
MW171	12 Nov 2019	MW171	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW171	12 Nov 2019	MW171 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW177A	25 Sep 2024	MW177_240925	Normal	MGT	1143224	-	-	-	-	-	580	-	-	-	-	-	-	-	-	-	-	-	-
MW178	26 Sep 2024	MW178_240926	Normal	MGT	1143888	-	-	-	-	-	1,000	-	-	-	<0.005	-	<20	<20	<50	<10	<50	<1	<1
MW178	26 Sep 2024	QC05_240926	Field_D	MGT	1143888	-	-	-	-	-	1,100	-	-	-	<0.005	-	-	-	-	-	-	-	-
MW178	26 Sep 2024	QC06_240926	Interlab_D	ALSE-Melbourne	EM2416713	-	-	-	-	-	1,050	-	-	-	<0.000002	-	-	-	-	-	-	-	-
MW178	17 Jun 2025	MW178	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	660	-	1,100	-	-	-	-	-	-	-	-	-	-
MW179	26 Sep 2024	MW179_240926	Normal	MGT	1143888	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-	-	-	-
MW179	17 Jun 2025	MW179	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	500	-	770	-	-	-	-	-	-	-	-	-	-
MW180	25 Sep 2024	MW180_240925	Normal	MGT	1143224	-	-	-	-	-	17,000	-	-	-	-	-	-	-	-	-	-	-	-
MW180	18 Jun 2025	MW180	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	28,000	-	41,000	-	-	-	-	-	-	-	-	-	-
MW188	24 Jun 2025	MW188	Normal	Eurofins Environment ANZ	1237216	-	-	-	-	-	1,000	-	1,600	-	-	-	-	-	-	-	-	-	-
MW189	18 Jun 2025	MW189	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	610	-	1,000	-	-	-	-	-	-	-	-	-	-
MW190	17 Jun 2025	MW190	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	720	-	1,100	-	-	-	-	-	-	-	-	-	-
MW192	18 Jun 2025	MW192	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	840	-	1,400	-	-	-	-	-	-	-	-	-	-
MW193	24 Jun 2025	MW193	Normal	Eurofins Environment ANZ	1237216	-	-	-	-	-	750	-	1,400	-	-	-	-	-	-	-	-	-	-
MW193	24 Jun 2025	QC109	Field_D	Eurofins Environment ANZ	1237216	-	-	-	-	-	780	-	1,400	-	-	-	-	-	-	-	-	-	-
MW193	24 Jun 2025	QC209	Interlab_D	ALSE-Melbourne	EM2511596	-	-	-	-	-	798	-	-	-	-	-	-	-	-	-	-	-	-
MW194	17 Jun 2025	MW194	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	1,500	-	2,000	-	-	-	-	-	-	-	-	-	-
MW196	25 Jun 2025	MW196	Normal	Eurofins Environment ANZ	1240646	-	-	-	-	-	780	-	1,000	-	-	-	-	-	-	-	-	-	-
NR1	15 Jan 2015	NR1	Normal	MGT	444499	-	<100	-	-	<100	620	-	-	-	-	-	<20	<20	<50	<10	<50	<1	<1
NR1	01 Feb 2016	NR1	Normal	ALSE-Melbourne	EM1600931	-	-	-	-	-	1,040	-	-	-	-	-	-	-	-	-	-	-	-
NR1	21 Jul 2016	NR1	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	772	-	-	-	-	-	-	-	-	-	-	-	-
NR1	21 Jul 2016	NR1	Normal	ALSE-Melbourne	EM1608980	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	<50	<5	<5
NR1	21 Jul 2016	NR1	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	18 Jul 2017	NR1	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	884	1,360	-	-	-	-	-	-	-	-	-	-
NR1	18 Jul 2017	NR1	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	60	-	-
NR1	18 Jul 2017	NR1	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	13 Aug 2019	NR1	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	-
NR1	13 Aug 2019	NR1	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	13 Aug 2019	NR1 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	18 Nov 2019	NR1	Normal	ALSE-Melbourne	EM1919760	200	-	-	-	-	714	-	-	-	-	-	-	-	-	-	-	-	-
NR1	18 Nov 2019	NR1	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table T1 - Groundwater Analytical Results - Tier 1 Screening - Other CoPC
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

		Silica Gel	Total Petroleum Hydrocarbons (CWG-Speciation)				Physico-Chemical Parameters				Organotins	TPH							
		C10-C36 fraction (sum)(Silica Gel)	Aromatic >C21-C35 _1	Aliphatic >C5-C6_ 1	Aliphatic >C16-C21 _1	Aliphatic >C21-C35 _1	Total Dissolved Solids	Total Dissolved Solids (Calc.)	Electrical conductivity (lab)	pH (Lab)	Tributyltin as Sn	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C7-C8	Aromatic >C5-C7
		µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µS/cm	pH Units	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		50	50	20	50	50	10	10	1	0.01	0.000002	20	20	20	50	5 - 10	50	2 - 5	1 - 5
Adopted Tier 1 criteria for 'highly disturbed' ecosystem										6.5-9 [#28]	0.00002 [#16]								
Adopted Tier 1 criteria for 'slightly-moderately disturbed' ecosystem											0.000006 [#97]								
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number															
BG1	13 Jan 2015	BG1	Normal	MGT	444205	-	-	-	-	-	810	-	-	-	-	-	-	-	-	-	-	-
BG1	19 Aug 2015	BG1	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	1,030	-	-	7.21	-	-	-	-	-	-	-	-
NR1	18 Nov 2019	NR1 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR1	17 Jun 2025	NR1	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	720	-	1,200	-	-	-	-	-	-	-	-	-
NR2	14 Jan 2015	NR2	Normal	MGT	444342	-	-	-	-	-	8,500	-	-	-	-	-	-	-	-	-	-	-
NR2	02 Feb 2016	NR2	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	6,040	-	-	-	-	-	-	-	-	-	-	-
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	90	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	140	<5	<5
NR2	18 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	280	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	20 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	6,900	-	-	-	-	-	-	-	-	-	-	-	-
NR2	18 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	15,500	23,900	-	-	-	-	-	-	-	-	-	-
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	<50	<20	-	<50	-	-	-	-	-	-	<20	<20	<50	<5	210	<5	<5
NR2	19 Jul 2017	NR2	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	28 Feb 2018	NR2	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	9,010	-	-	-	-	-	-	-	-	-	-	-	-
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	590	<50	<20	-	<50	6,900	-	-	-	-	-	<20	<20	50	<5	<50	<5	<5
NR2	15 Nov 2019	NR2	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2	15 Nov 2019	NR2 (filtered)	Normal	ALSE-Melbourne	EM1919760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR2A	20 Jun 2025	NR2A	Normal	Eurofins Environment ANZ	1235189	<100	-	-	-	-	800	-	1,400	-	-	-	<20	<20	<50	<10	<50	<1	<1
NR2A	20 Jun 2025	NR2A_FILTERED	Normal	Eurofins Environment ANZ	1235189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-	-
NR4	19 Jul 2017	NR4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	120	<20	-	240	433	-	-	-	-	-	30	80	460	15	<50	<5	<5
PW02	14 Aug 2019	PW02	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	310	-	-	-	-	-	-	-	-	-	-	-	-	-
PW02	14 Aug 2019	PW02 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	14 Jan 2015	RN2	Normal	MGT	444342	-	-	-	-	-	370	-	-	-	-	-	-	-	-	-	-	-	-
RN2	19 Jul 2016	RN2	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	986	-	-	-	-	-	-	-	-	-	-	-	-
RN2	19 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	1,260	1,940	-	-	-	-	-	-	-	-	-	-
RN2	20 Jul 2017	RN2	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-	-
RN2	27 Feb 2018	RN2	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	1,050	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	823	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	15 Aug 2019	RN2 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN2	18 Jun 2025	RN2	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	2,800	-	4,000	-	-	-	-	-	-	-	-	-	-
RN4	14 Jan 2015	RN4	Normal	MGT	444342	-	-	-	-	-	1,600	-	-	-	-	-	-	-	-	-	-	-	-
RN4	03 Feb 2016	RN4	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	1,420	-	-	-	-	-	-	-	-	-	-	-	-
RN4	20 Jul 2016	RN4	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,500	-	-	-	-	-	-	-	-	-	-	-	-
RN4	19 Jul 2017	RN4	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	1,600	2,460	-	-	-	-	-	-	-	-	-	-
RN4	28 Feb 2018	RN4	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	1,460	-	-	-	-	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,560	-	-	-	-	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	12 Aug 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	1,640	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	11 Nov 2019	RN4 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RN4	29 Nov 2023	RN4	Normal	ALSE-Melbourne	EM2321407	-	-	-	<50	<50	1,440	-	-	-	-	-	<20	<20	<20	<50	<5	<50	<5	<5
RN4	18 Jun 2025	RN4	Normal	Eurofins Environment ANZ	1234988	-	-	-	-	-	1,100	-	1,900	-	-	-	-	-	-	-	-	-	-
RS6	14 Jan 2015	GWQC1	Field_D	MGT	444342	-	-	-	-	-	580	-	-	-	-	-	-	-	-	-	-	-	-
RS6	14 Jan 2015	RS6	Normal	MGT	444342	-	-	-	-	-	580	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	QC27	Field_D	ALSE-Melbourne	EM1513460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	QC28	Interlab_D	MGT	469301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	18 Aug 2015	RS6	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	844	-	-	7.58	-	-	-	-	-	-	-	-	-
RS6	02 Feb 2016	RS6	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	803	-	-	-	-	-	-	-	-	-	-	-	-
RS6	20 Jul 2016	RS6_20/07/16	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	745	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	QC01	Field_D	ALSE-Melbourne	EM1705903	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	QC02	Interlab_D	MGT	546033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	09 May 2017	RS6	Normal	ALSE-Melbourne	EM1705903	-	-	-	-	-	781	-	-	-	-	-	-	-	-	-	-	-	-
RS6	19 Jul 2017	RS6	Normal	ALSE-Melbourne	EM1709548	-	-	-	-	-	-	871	1,340	-	-	-	-	-	-	-	-	-	-
RS6	28 Feb 2018	RS6	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	811	-	-	-	-	-	-	-	-	-	-	-	-
RS6	29 Aug 2018	RS6	Normal	ALSE-Melbourne	EM1813852	-	-	-	-	-	964	-	-	-	-	-	-	-	-	-	-	-	-
RS6	15 Aug 2019	RS6	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	303	-	-	-	-	-	-	-	-	-	-	-	-
RS6	15 Aug 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	11 Nov 2019	RS6	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	472	-	-	-	-	-	-	-	-	-	-	-	-
RS6	11 Nov 2019	RS6 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RS6	30 Nov 2022	RS6	Normal	ALSE-Melbourne	EM2224108	-	-	-	-	-	721	-	-	-	-	-	-	-	-	-	-	-	-
RS6	19 Jun 2025	RS6	Normal	Eurofins Environment ANZ	1235243	-	-	-	-	-	750	-	1,200	-	-	-	-	-	-	-	-	-	-
S4	15 Jan 2015	S4	Normal	MGT	444499	-	-	-	-	-	1,500	-	-	-	-	-	-	-	-	-	-	-	-
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	70	<20	-	<50	-	-	-	-	-	-	<20	30	<50	33	120	<5	<5
S4	18 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608980	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	19 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	1,200	-	-	-	-	-	-	-	-	-	-	-	-
S4	19 Jul 2017	S4	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	1,350	2,080	-	-	-	-	-	-	-	-	-	-
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	<50	<20	-	60	-	-	-	-	-	-	30	30	<50	26	120	<5	<5
S4	20 Jul 2017	S4	Normal	ALSE-Melbourne	EM1711358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	1,050	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	14 Aug 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	1,040	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	13 Nov 2019	S4 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S4	05 Dec 2023	S4	Normal	ALSE-Melbourne	EM2321824	-	-	-	-	-	813	-	-	-	-	-	-	-	-	-	-	-	-
S9	15 Jan 2015	S9	Normal	MGT	444499	-	-	-	-	-	710	-	-	-	-	-	-	-	-	-	-	-	-
S9	17 Aug 2015	S9	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	780	-	-	7	-	-	-	-	-	-	-	-	-
S9	02 Feb 2016	S9	Normal	ALSE-Melbourne	EM1600950	-	-	-	-	-	856	-	-	-	-	-	-	-	-	-	-	-	-
S9	21 Jul 2016	QC05	Field_D	ALSE-Melbourne	EM1608641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	21 Jul 2016	QC06	Interlab_D	MGT	508963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	21 Jul 2016	S9	Normal	ALSE-Melbourne	EM1608641	-	-	-	-	-	709	-	-	-	-	-	-	-	-	-	-	-	-
S9	18 Jul 2017	S9	Normal	ALSE-Melbourne	EM1711358	-	<50	-	-	<50	-	-	-	-	-	-	-	-	<50	-	<50	-	-
S9	19 Jul 2017	S9	Normal	ALSE-Melbourne	EM1709512	-	-	-	-	-	-	552	850	-	-	-	-	-	-	-	-	-	-
S9	27 Feb 2018	S9	Normal	ALSE-Melbourne	EM1803798	-	-	-	-	-	568	-	-	-	-	-	-	-	-	-	-	-	-
S9	28 Aug 2018	S9	Normal	ALSE-Melbourne	EM1813832	-	-	-	-	-	599	-	-	-	-	-	-	-	-	-	-	-	-
S9	14 Aug 2019	S9	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	693	-	-	-	-	-	-	-	-	-	-	-	-
S9	14 Aug 2019	S9 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S9	14 Nov 2019	S9	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	633	-	-	-	-	-	-	-	-	-	-	-	-
S9	14 Nov 2019	S9 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW02	14 Nov 2019	TW02	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	480	-	-	-	-	-	-	-	-	-	-	-	-
TW02	14 Nov 2019	TW02 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW02	17 Jun 2025	TW02	Normal	Eurofins Environment ANZ	1234320	-	-	-	-	-	12,000	-	29,000	-	-	-	-	-	-	-	-	-	-
TW03	19 Jul 2016	TW03	Normal	ALSE-Melbourne	EM1608632	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW03	19 Jul 2017	TW03	Normal	ALSE-Melbourne	EM1709630	-	-	-	-	-	-	312	480	-	-	-	-	-	-	-	-	-	-
TW03	27 Feb 2018	TW03	Normal	ALSE-Melbourne	EM1803804	-	-	-	-	-	335	-	-	-	-	-	-	-	-	-	-	-	-
TW03	14 Aug 2019	TW03	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	540	-	-	-	-	-	-	-	-	-	-	-	-
TW03	14 Aug 2019	TW03 (filtered)	Normal	ALSE-Melbourne	EM1913375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW03	14 Nov 2019	TW03	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	240	-	-	-	-	-	-	-	-	-	-	-	-
TW03	14 Nov 2019	TW03 (filtered)	Normal	ALSE-Melbourne	EM1919513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments and Footnotes

#1 Very high reliability
#2 High reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#3 Guideline value for Cr(VI)
#4 Very high reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#5 Low reliability
#6 High reliability
#7 Low reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#8 Very high reliability
#9 Moderate reliability
#10 Moderate reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#11 Unknown reliability
#12 Moderate reliability. Ammonia as total ammonia, measured as [NH3-N] at pH 8.
#13 Low reliability. DGV may not protect key test species from acute (and chronic) toxicity. Check toxicant DGV technical brief for spread of data and its significance. This DGV is greater than the value for acute toxicity (Warne et al., 2018).
#14 Very Low reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#15 Unknown reliability. DGV may not protect key test species from chronic toxicity. Check toxicant DGV technical brief and Read the detail, below, for spread of data and its significance.
#16 High reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species).
#17 Very high reliability. Recommended for application to slightly-to-moderately disturbed ecosystems.
#18 Low reliability. Recommended for application for slightly to moderately disturbed ecosystems.
#19 Very high reliability.Recommended for application for slightly to moderately disturbed ecosystems. However, this DGV may be under-protective for key sensitive species (e.g. bivalve molluscs, cnidarians)
#20 Unknown reliability. Recommended for application for slightly to moderately disturbed ecosystems.
#21 Very Low reliability
#22 High reliability. Recommended for application for slightly to moderately disturbed ecosystems. However, the DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species).
#23 Unknown reliability. To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately disturbed systems. Also see General comments.
#24 To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately disturbed systems. Refer to Warne et al. (2017) for details.
#25 Unknown LSOP and unknown reliability
#26 Freshwater. Unknown LSOP and unknown reliability
#27 RIVM (2001) Dutch Intervention Value
#28 USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)
#29 R3 BTAG Marine Benchmarks
#30 Freshwater. Low reliability
#31 Freshwater. Moderate Reliability. To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately disturbed systems. Also see General comments.
#32 Freshwater. Moderate reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#33 Freshwater. Low reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#34 Freshwater. Low Reliability. Recommended for application for slightly to moderately disturbed ecosystems (to protect key species from chronic toxicity).
#35 Freshwater. Moderate Reliability. Please refer to comments for TOX LOSP 99%. Also see General comments.
#36 Low Reliability. To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately disturbed systems. Also see General comments.
#37 Freshwater. Moderate reliability
#38 Background concentration of Boron typically found in marine water adopted for screening

Table T2 - Groundwater Analytical Results - Tier 1 Screening - PFAS
Assessment of Potential Off-Site Ecological Impacts - 2025 Addendum
Macquarie Point Development Project

						Per- and Poly-fluoroalkyl Substances																																			
						Perfluoropropanesulfonic acid (PFPrS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic Acid (PFNS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorohexadecanoic acid (PFHxDA)	Sum (PFHxS + PFOS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of WA DWER PFAS (n=10)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	Sum of US EPA PFAS (PFOS + PFOA)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.005	0.001	0.001	0.001	0.005	0.001	0.002	0.01	0.002	0.001	0.001			
PFAS NEMP 2025 Interim marine 95%											0.13 [#1]								220 [#1]																						
PFAS NEMP 2025 Interim marine 99%											0.00023 [#1]								19 [#1]																						
Location Code	Date	Field ID	Sample Type	Lab Name	Lab Report Number																																					
BG1	21 Jul 2016	BG1	Normal	ALSE-Melbourne	EM1608641	-	-	-	0.04	-	<0.01	-	-	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	0.04	-	-	-	-	-
BG1	18 Jul 2017	BG1	Normal	ALSE-Melbourne	EM1709630	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
BG1	17 Jun 2025	BG1	Normal	Eurofins Environment AN	1234320	<0.001	0.003	<0.001	0.007	<0.001	0.014	<0.001	<0.001	0.046	0.015	0.017	0.009	0.013	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.021	0.126	-	0.124	0.034	0.027
MW6	19 Jul 2016	MW6	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
MW6	18 Jul 2017	MW6	Normal	EM1709630		-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
MW6	23 Jun 2025	MW6	Normal	Eurofins Environment AN	1236601	<0.005	<0.001	<0.001	0.003	<0.001	0.012	<0.001	<0.001	0.012	0.028	0.027	0.002	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.015	0.089	-	0.089	0.02	0.017
MW16	19 Jul 2016	MW16	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	0.09	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	0.09	-	-	-	-	-
MW16	18 Jul 2017	MW16	Normal	ALSE-Melbourne	EM1709512	-	<0.02	-	0.04	-	0.38	-	-	<0.1	<0.02	<0.02	<0.02	0.06	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	0.42	-	0.48	-	-	-
MW16	23 Jun 2025	MW16	Normal	Eurofins Environment AN	1236601	<0.001	<0.001	0.002	0.008	0.008	0.30	0.001	<0.001	<0.005	0.004	0.002	0.001	0.014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.003	0.003	-	0.308	0.346	-	0.332	0.322	0.314
MW16	23 Jun 2025	QC107	Field_D	Eurofins Environment AN	1241421	<0.001	<0.001	0.011	0.007	0.029	0.23	0.026	<0.001	<0.005	0.037	0.002	0.003	0.013	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.237	0.361	-	0.292	-	-
MW16	23 Jun 2025	QC207	Interlab_D	ALSE-Melbourne	EM2512174	<0.02	<0.02	<0.02	0.01	<0.02	0.30	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.31	0.33	-	0.33	-	-
MW60	19 Jul 2016	MW60	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
MW60	18 Jul 2017	MW60	Normal	ALSE-Melbourne	EM1709512	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	0.02	-	-	-
MW60	24 Jun 2025	MW60	Normal	Eurofins Environment AN	1237216	0.008	0.005	0.003	0.005	<0.001	0.006	<0.001	<0.001	0.009	0.007	0.007	0.004	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.011	0.069	-	0.058	0.026	0.021
MW120	18 Aug 2015	MW120	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW120	02 Feb 2016	MW120	Normal	ALSE-Melbourne	EM1600950	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW120	21 Jul 2016	MW120	Normal	ALSE-Melbourne	EM1608641	-	-	-	<0.02	-	0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	0.02	-	-	-	-	-
MW120A	25 Jun 2025	MW120A	Normal	Eurofins Environment AN	1240646	<0.001	<0.001	0.008	0.004	<0.001	0.024	<0.001	<0.001	<0.005	0.005	0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.028	0.048	-	0.04	0.034	0.03
MW121	19 Aug 2015	MW121	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW121	21 Jul 2016	MW121	Normal	ALSE-Melbourne	EM1608641	-	-	-	<0.02	-	0.02	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	0.02	-	-	-	-	-
MW121	18 Jul 2017	MW121	Normal	ALSE-Melbourne	EM1709630	-	<0.02	-	<0.02	-	0.03	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	0.03	-	0.03	-	-	-
MW121	18 Jun 2025	MW121	Normal	Eurofins Environment AN	1234988	<0.001	0.004	<0.001	0.001	<0.001	0.019	<0.001	<0.001	0.010	0.006	0.002	0.001	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.02	0.048	-	0.047	0.024	0.023
MW123A	19 Aug 2015	MW123A	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW123B	19 Aug 2015	MW123B	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-
MW124A	18 Aug 2015	MW124A	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW124B	18 Aug 2015	MW124B	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW125A	18 Aug 2015	MW125A	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW125A	02 Feb 2016	MW125A	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW125A	19 Jul 2016	MW125A	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
MW125A	18 Jul 2017	MW125A	Normal	EM1709512		-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
MW125B	18 Aug 2015	MW125B	Normal	ALSE-Melbourne	EM1513587	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW125B	02 Feb 2016	MW125B	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW125B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
MW125B	18 Jul 2017	MW125B	Normal	ALSE-Melbourne	EM1709512	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
MW126A	02 Feb 2016	MW126A	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW126A	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
MW126A	18 Jul 2017	MW126A	Normal	ALSE-Melbourne	EM1709512	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
MW126A	24 Jun 2025	MW126A	Normal	Eurofins Environment AN	1237216	<0.001	0.002	0.002	0.003	<0.001	0.003	<0.001	<0.001	0.007	0.006	0.005	0.003	0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.006	0.041	-	0.039	0.016	0.013
MW126A	24 Jun 2025	QC108	Field_D	Eurofins Environment AN	1237216	0.007	0.005	0.002	0.003	<0.001	0.003	<0.001	<0.001	0.008	0.006	0.006	0.003	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.006	0.052	-	0.043	0.015	0.012
MW126A	24 Jun 2025	QC208	Interlab_D	ALSE-Melbourne	EM2511596	<0.01	0.005	<0.02	0.005	<0.02	0.004	<0.02	<0.02	<0.01	0.004	0.005	0.002	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.032	-	-	0.032	-	-
MW126B	19 Jul 2016	MW126B	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
MW126B	18 Jul 2017	MW126B	Normal	ALSE-Melbourne	EM1709512	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
MW129	18 Aug 2015	MW129	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
MW188	24 Jun 2025	MW188	Normal	Eurofins Environment AN	1237216	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.005	0.004	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.001	0.02	-	0.02	0.003	0.002
MW193	24 Jun 2025	MW193	Normal	Eurofins Environment AN	1237216	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.005	0.002	0.002	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.002	0.009	-	0.009	0.005	0.005
MW194	17 Jun 2025	MW194	Normal	Eurofins Environment AN	1234320	<0.001	0.002	<0.001	0.004	<0.001	0.017	<0.001	<0.001	0.051	0.014	0.016	0.010	0.015	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	-	0.021	0.132	-	0.129	0.036	0.032
NR2	02 Feb 2016	NR2	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
NR2	20 Jul 2016	NR2	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
NR2	18 Jul 2017	NR2	Normal	EM1709548		-	<0.05	-	<0.05	-	<0.05	-	-	<0.2	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	-	-
RN2	19 Jul 2016	RN2	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	0.13	<0.05	<0.05	-	<0.01	-	-	-	-	-
RN2	19 Jul 2017	RN2	Normal	EM1709630		-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
RN4	20 Jul 2016	RN4	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
RN4	19 Jul 2017	RN4	Normal	EM1709548		-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
RS6	18 Aug 2015	RS6	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
RS6	02 Feb 2016	RS6	Normal	ALSE-Melbourne	EM1601015	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
S4	19 Jul 2016	S4	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
S4	19 Jul 2017	S4	Normal	EM1709630		-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
S9	17 Aug 2015	S9	Normal	ALSE-Melbourne	EM1513460	-	-	-	-	-	<0.02	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
S9	02 Feb 2016	S9	Normal	ALSE-Melbourne	EM1600950	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-
S9	21 Jul 2016	S9	Normal	ALSE-Melbourne	EM1608641	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-
S9	19 Jul 2017	S9	Normal	ALSE-Melbourne	EM1709512	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
TW03	19 Jul 2016	TW03	Normal	ALSE-Melbourne	EM1608632	-	-	-	<0.02	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	-	-	-	-
TW03	19 Jul 2017	TW03	Normal	ALSE-Melbourne	EM1709630	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	<0.01	-	<0.01	-	-	-
Statistics																																								
Number of Results						14	29	14	45	14	63	14	14	29	29	29	29	63	14	14	14	14	14	14	14	14	14	14	14	14	45	63	63	45	1	44	14	15	14	11	11
Number of Detects						2	8	6	15	2	18	2	0	8	13	13	11	20	4	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	20	14	3	14	11	11
Minimum Concentration						<0.001	0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.005	0.002	0.001	0.001	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	0.001	0.009	<0.01	0.009	0.003	0.002
Minimum Detect						0.007	0.001	0.002	0.001	0.008	0.002	0.001	ND	0.006	0.002	0.001	0.001	0.002	0.001	0.001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	0.003	0.003	ND	0.001	0.009	0.02	0.009	0.003	0.002
Maximum Concentration						<0.02	<0.05	<0.02	<0.05	0.029	0.38	0.026	<0.02	<0.2	<0.05	<0.05	<0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.5	<0.5	<0.05	<0.005	0.42	0.361	0.48	0.332	0.322	0.314
Maximum Detect						0.008	0.005	0.011	0.04	0.029	0.38	0.026	ND	0.051	0.037	0.027	0.01	0.06	0.003	0.001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	0.003	0.003	ND	0.42	0.361	0.48	0.332	0.322	0.314
Average Concentration *						0.0026	0.0071	0.003	0.0099	0.0038	0.029	0.0031	0.0012	0.035	0.011	0.0093	0.0074	0.0098	0.0016	0.0013	0.0012	0.0012	0.0012	0.0024	0.0029	0.0041	0.0041	0.0041	0.0041	0.0029	0.0029	0.018	0.032	0.03	0.018		0.04	0.12	0.041	0.11	0.049	0.045
95% UCL (Student's-t) *						0.00424	0.00873	0.00477	0.0118	0.00752	0.0443	0.00641	0.00241	0.0428	0.0132	0.0113	0.00907	0.0119	0.00284	0.00245	0.00241	0.00241	0.00241	0.00548	0.00391	0.00695	0.00695	0.00695	0.00695	0.00391	0.00391	0.0208	0.0397	0.0373	0.0208		0.0634	0.182	0.0961	0.168	0.0986	0.0941
Number of Env Standard Exceedances						0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Env Standard Exceedances (Detects Only)						0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Detects						14	28	43	33	14	29	14	0	28	45	45	38	32	29	7	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	45	100	20	100	100	100
% of Non-Detects						86	72	57	67	86	71	86	100	72	55	55	62	68	71	93	100	100	100	100	100	100	100	100	100	100	100	98	98	98	100	55	0	80	0	0	0
% of Detects at or above Env Standards						0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Env Standards or Non-Detect						100	100	100	100	100	71	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

* A Non Detect Multiplier of 0.5 has been applied.

Comments
#1 Refer to Table 8 in PFAS NEMP 2025 for comments and notes

Environmental Standards
HEPA, March 2025, PFAS NEMP 2025 Interim marine 95%
HEPA, March 2025, PFAS NEMP 2025 Interim marine 99%

ATTACHMENT B

SITE ENVIRONMENT MANAGEMENT PLAN

(AECOM, 16 FEBRUARY 2026)

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841



Site Environment Management Plan

Macquarie Point Development Project

16-Feb-2026

aecom.com

Delivering a better world

Site Environment Management Plan

Macquarie Point Development Project

Client: Macquarie Point Development Corporation

ABN: 92 657 409 841

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Job No.: Macquarie Point Development Project

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Quality Information

Document Site Environment Management Plan

Ref 60693007

Date 16-Feb-2026

Prepared by Robert Crowe

Reviewed by Paul Carstairs

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	15-Oct-2021	Draft	Paul Carstairs Technical Director - Environment	
0	22-Oct-2021	Final	Paul Carstairs Technical Director - Environment	
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2	18-Dec-2024	Updated Final	Paul Carstairs Technical Director - Environment	
3	10-Oct-2025	Updated Final	Paul Carstairs Technical Director - Environment	
4	03-Dec-2025	Updated CNVM and addition of asbestos register	Paul Carstairs Technical Director - Environment	
5	16-Feb-2026	Updated Final	Paul Carstairs Technical Director - Environment	

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List of Acronyms

ACM	Asbestos Containing Material
BCA	Building Code of Australia
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene
CEMP	Construction Environment Management Plan
CNMP	Construction Noise Management Plan
CoPC	Chemicals of Potential Concern
CUTEP	Clean Up to the Extent Practicable
DNAPL	Dense Non-Aqueous Phase Liquid
EPA	Environment Protection Authority
GPR	Ground Penetrating Radar
ha	Hectare
HDPE	High Density Polyethylene
ISS	*In situ* solidification
JSA	Job Safety Analysis
LNAPL	Light Non-Aqueous Phase Liquid
mAHD	metres Australian Height Datum
m bgl	metres below ground level
MPDC	Macquarie Point Development Corporation
NAPL	Non-Aqueous Phase Liquid
NDD	Non-Destructive Digging
PAH	Polycyclic Aromatic Hydrocarbons
PEV	Protected Environmental Value
PPE	Personal Protective Equipment
RC	Remediation Criteria
SEMP	Site Environment Management Plan
SVOC	Semi-volatile Organic Compound
SWL	Standing Water Level
SWMS	Safe Work Method Statement
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WHS	Work Health and Safety
WHSP	Work Health and Safety Plan
WMP	Waste Management Plan

1.0 Introduction

1.1 Purpose

This Site Environment Management Plan (SEMP) has been developed by AECOM Australia Pty Ltd (AECOM) on behalf of the Macquarie Point Development Corporation (the Corporation) for implementation at the Macquarie Point site in Hobart, Tasmania (the Site).

The purpose of this SEMP is to identify known areas of contamination on the Site and to provide an overview of appropriate management measures to address potential human health and environmental risks associated with subsurface contamination, and to maintain compliance with relevant environmental management requirements, and related safety management requirements.

The SEMP:

- Documents:
  - The current contamination status of the Site.
  - Environmental management measures (including contaminant management associated with intrusive works such as excavation/disposal of soil, dust and odour control, stormwater and sediment management, noise control and groundwater management).
  - Responsibilities for implementation of the SEMP and for managing identified environmental issues in accordance with the SEMP.
- Defines:
  - Preventative exposure measures for intrusive works (e.g. subsurface excavation) undertaken at the Site.
  - Roles and responsibilities for owner/managers and occupiers/contractors at the Site, or subsections thereof, when undertaking intrusive works.
- Provides a framework for the implementation of measures so that human health and environmental risks to Site users are low and acceptable where the existing preventative exposure barriers and controls remain in place.

All subsurface work and any work that may change the risk profile to receptors on the Site while this SEMP is in place should follow the guidance provided in this SEMP. Maintenance of the SEMP has been identified as a condition of interim Site suitability statements issued as part of the Site Audit (discussed in **Section 1.6**) for management of human health and environmental risks at the Site.

1.2 Applicability

This SEMP applies to the management of contaminated soil, groundwater and soil vapour on the Site. The following parties should be provided with a copy of the SEMP, prior to undertaking any activities which may interact with soil, groundwater or soil vapour:

- Owners or Managers (and delegates) of the Site or subsections of the Site.
- Workers who undertake subsurface work at the Site during which they may be exposed and/or come into contact with contaminated soil and/or groundwater.

It is noted that this SEMP is an active document, which is to be updated as conditions at the Site change (e.g. development changes, changes to the known contamination status, etc.). If activities to be undertaken at the Site are not covered in this SEMP, the Site Owner or Manager, or owner of smaller areas of the Site, should update the SEMP to include those activities.

All future building or structure design must include appropriate environmental management mitigations as specified by the SEMP. If any design variance is proposed as part of Site development, which does not comply with the current wording, it must not be implemented or constructed on-Site unless:

- It has been assessed by a suitably qualified and experienced environmental professional, who has determined that any environmental risks presented by the action or design can be safely managed and does not represent an unacceptable level of risk to human or ecological receptors on- or off-Site; and
- This assessment has been reviewed and verified by a suitably qualified and experienced Contaminated Land Auditor.

A record of the proposed design variance, and verification by a Contaminated Land Auditor, must be maintained by the person responsible for the SEMP (i.e., the Site owner or occupier, or their designated delegate, as defined on **Table 1**), and communicated by them to any contractors or other workers who are undertaking Site activities which may be affected by the design variance.

Within three months of the approval of any design variance by a suitably qualified and experienced Contaminated Land Auditor, the SEMP must be re-issued by the Site owner/occupier (or their designated delegate), with either:

- The record of design variance and Contaminated Land Auditor review and approval added to **Appendix K**; or
- Update of the body text of the SEMP, reviewed and approved by a Contaminated Land Auditor as described in **Section 5.4**.

A description of any design variance, or general changes to the SEMP, must be added to **Appendix K** as part of the update.

Alternatively, should the requirement for a more specific application be determined, a Construction Environment Management Plan (CEMP) may be required which specifically addresses the proposed tasks and a framework to mitigate potential environmental impacts posed by the activities to be undertaken.

If a sale or division of areas at the Site occurs in the future, owners of subdivisions at the Site should communicate changes to owners of other Site subdivisions or develop their own SEMP specific to the subdivision in question. A distribution list is provided in **Appendix B** for tracking the transfer of the SEMP, or copied thereof, if subdivision occurs.

Any significant amendment to this SEMP, such as a change in land use, or changes as part of an Environmental Audit, should be reviewed and verified by a suitably qualified and experienced Contaminated Land Auditor prior to implementation, including by new owners/occupiers if subdivisions occur in the future. Minor changes or reviews should be conducted by a suitably qualified and experienced environmental professional.

1.3 Training and Induction

The appropriate Site representative (i.e. the Owner, Manager or delegates) is to ensure the health, safety and environment (HSE) requirements outlined in this SEMP are met during works. The SEMP should be available to all persons conducting work which may involve contact or disturbance of Site soil or groundwater, and the information about environmental impacts and management requirements in the SEMP incorporated into health and safety documentation for such work.

All persons conducting subsurface work on the Site, including but not limited to Site occupiers, tenants and maintenance workers, will be required to be trained and inducted to this SEMP. All workers should sign the induction form (provided in **Appendix B**) to acknowledge an understanding of the content of this SEMP and completion of the induction and training, or a similar record if the requirements of the SEMP have been incorporated into other environment safety documentation, for example a CEMP.

This training induction recommendation is limited to those personnel and contractors who are in control of the Site (i.e., landowners or managers) or undertaking subsurface works at the Site. It is not the intention that this document be applied to passive users of the Site such as those using it for the purposes of short-term commercial activities (e.g. market holders), car parking, pedestrian thoroughfare or visitors engaging in public uses of the area.

Training should be structured to ensure that relevant workers understand their obligation to exercise due diligence in relation to environmental matters. The following items should be presented in the induction:

- General overview of the work to be conducted
- Overview of Site contamination issues
- Familiarisation with environmental controls
- Chemicals of Potential Concern (CoPC), and associated exposure risks and potential symptoms of exposure
- Hazard identification and prevention
- Personal Protective Equipment (PPE).

Records of all training should be maintained and include:

- Name of the individual receiving training
- When the individual was trained
- Name of trainer
- A general description of the training content.

It should be noted that this SEMP does not preclude the need for a Safe Work Method Statement (SWMS) or equivalent document for each task, but rather should be included as part of the general training for working on the Site and consulted when preparing safety documentation. The requirements and recommendations within this document do not replace or override the responsibility of any other person in ensuring that Site activities are conducted safety and within the requirements of applicable legislation and regulations.

1.4 Responsibilities

The distribution and implementation of this SEMP will be the responsibility of the Owner/Manager of the Site, or of future sub-divisions at the Site. The Site Owner/Manager may at times delegate responsibility for individual items or tasks to maintenance contractors and other persons. However, the Site Owner/Manager retains the overall responsibility for the implementation of this SEMP during any subsurface works and ongoing use of the Site or future subdivisions which they hold responsibilities for.

All contractors, including workers engaged in any subsurface works where groundwater or soil vapour infiltration may occur (such as accessing service conduits or trenches) or works which may come into contact with Site soil or groundwater will be responsible for adhering to the management measures described herein.

Table 1 below provides a summary of the key roles and responsibilities associated with the implementation of this SEMP.

Table 1 Roles and Responsibilities

Role	Key Responsibilities
Site Owner/ Manager (or delegate)	• Provide a full copy of the current version of the SEMP to Site occupiers/ contractors undertaking subsurface works and discuss as part of the Site induction process. • Manage and/or enforce the SEMP for Site occupiers/ contractors undertaking subsurface works. • Implement and complete corrective actions as required. • Complete and keep up to date all necessary registers and records as required in the SEMP. • Undertake reviews and revision of the SEMP every three years (or more frequently, as deemed appropriate based on-Site activities or changes). • Review evidence of compliance to this SEMP every three years (or more frequently, as deemed appropriate).

Role	Key Responsibilities
	• Undertake visual inspections of existing controls, such as hardstand areas every three years. • Review and revise the SEMP to reflect changes that occur at the Site. • Transfer of the SEMP, and any records associated with it, to new Site owners or occupiers in the event of a change in ownership or land transfer.
Site Occupiers / Contractors undertaking subsurface works or works which may come into contact with Site soil or groundwater.	• Implement the requirements of the current version of the SEMP. • Complete all necessary registers and records as required in the SEMP. • Complete all activities at the Site in a safe and environmentally responsible manner. • Implement a Work Health and Safety Plan (WHSP) and ensure that suitable PPE is worn, and monitoring is undertaken, where required, for tasks that involve potential contact with contamination. • Ensure all contractors or subcontractors comply with the requirements of the SEMP.

1.5 Site Environment Management Plan Revision

This SEMP will remain in place indefinitely, and will require revision:

- In the event that areas of the Site undergo remediation or land use changes.
- Following changes to the conditions at the Site which may change the risk of exposure to contamination on the Site.
- In response to additional data to inform the understanding of the contamination status of the Site.

Regardless of the above-listed considerations, this SEMP should be reviewed (and updated if required) every three years. It is recommended that a suitably qualified environmental practitioner be engaged to review evidence of compliance to this SEMP, including records of works on the Site and compliance with the conditions of implementation contained within **Section 5.5** of this SEMP. A visual inspection of the Site should be conducted as part of this review, as described in **Section 5.1**.

1.5.1 Previous SEMPs

This SEMP combines and supersedes the following SEMPs which have been previously issued for some or all of the Site:

- *Site Environmental Management Plan, Macquarie Point Development Project* (AECOM, 2018a)
- *Site Environmental Management Plan, Macquarie Point – Audit Area 1* (AECOM, 2019a)
- *Audit Area 4 – Site Environmental Management Plan, Macquarie Point Development Project* (AECOM, 2020a)
- *Lot E and Underground Carpark – Site Environmental Management Plan, Macquarie Point Development Project* (AECOM, 2021a)

The information and management procedures within the previous documents have been combined in this SEMP, and have been updated to account for changes in proposed Site development and additional environmental information received or management/mitigation measures identified since issue of earlier SEMPs or versions of this SEMP. A record of revisions to this SEMP is provided in the Revision History at the start of this document.

1.6 Environmental Audit

In conjunction with the amendment of the *Macquarie Point Development Corporation Act 2012*, the Corporation has engaged a Contaminated Land Auditor, David Lam of Tetra Tech Coffey (the Auditor). David is included on the Director of the Tasmanian Environment Protection Authority (EPA) Register of

Interstate Contaminated Land Auditors and is considered suitably qualified by EPA to undertake an Environmental Audit to review the progress of environmental assessment, remedial planning and execution works at the Site.

The role of the Auditor is to ensure that the works are carried out in compliance with local Tasmanian legislation and guidelines with consideration given to the requirements of the Victorian EPA Environmental Audit framework in the absence of an Audit scheme in Tasmania. It is noted that Victoria legislation which defines the Audit process was updated and superseded by the *Environment Protection Act 2017* (the EP Act), which came into effect on 1 July 2021, and contains significant changes to Audit methodology and terminology under the Victorian framework. Under Section 478 of the EP Act, existing Audits where an Auditor has been engaged prior to 1 July 2021, and the Audit has not been completed by 1 July 2021, can be conducted under either the EP Act or the previous framework. To maintain continuity with the portions of the Audit already completed, the Site Audit will continue under the previous framework and terminology.

The overarching outcome required for the Environmental Audit is a Contaminated Land Audit Report (i.e. sign off) prepared by the Environmental Auditor confirming that Clean Up to the Extent Practicable (CUTEP) has been achieved and that the Site is suitable for the intended future uses. Site Suitability Statements have been issued by the Auditor for Site sub-areas (described in **Section 2.2**) as part of Site Audit Reports as CUTEP has been achieved, and are listed on **Table 2** below.

It is noted that the proposed future Site uses and development as described in **Section 2.3** have altered since issue of the Site Suitability Statements listed on **Table 2**. A review of new information collected and changes in proposed Site use has been undertaken and provided to the Auditor for review (AECOM, 2026a), however the Auditor has not yet endorsed the update. However, any changes or additional requirements identified have been incorporated into the SEMP.

Table 2 Status of Environmental Audit by Area

Site Area	Approx. Area (ha)	Site Suitability Statement or Remaining Actions and Activities
Site Suitability Statement Issued[1]		
The Goods Shed and Yard (Audit Area 1)	0.86	*Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 1*, issued by Tetra Tech Coffey Pty Ltd on 5 June 2019
The Escarpment (Audit Area 4 West)	1.68	*Contaminated Land Audit Report – Macquarie Point Development Project – Audit Area 4 West*, issued by Tetra Tech Coffey Pty Ltd on 24 September 2020
The Promenade and Underground Carpark (Lot E and UGC)	1.73	*Contaminated Land Audit Report – Macquarie Point Development Project – Lot E and Underground Carpark*, issued by Tetra Tech Coffey Pty Ltd on 23 July 2021
The Precinct North (Lot B)	1.04	*Contaminated Land Audit Report – Macquarie Point Development Project – Lot B*, issued by Tetra Tech Coffey Pty Ltd on 22 November 2021
Site Suitability Statement Not Issued		
The Precinct South	1.40	No remaining remediation actions identified. A CUTEP assessment of the Precinct South was prepared and submitted to the Auditor in late 2024 (AECOM, 2024d). Comments have been received and an additional Site investigation has been completed, and an updated CUTEP report was issued (AECOM, 2025e), and is currently undergoing update in response to Auditor comments to inform a Contaminated Land Audit Report, including a Site Suitability Statement.

Site Area	Approx. Area (ha)	Site Suitability Statement or Remaining Actions and Activities
The Gateway	1.46	Remediation (removal of remnant infrastructure and treatment of gasworks wastes) was undertaken in 2024, and follow-up sampling of groundwater and soil vapour conducted in 2025. No remaining remediation actions have been identified. The existing Gateway DSI (AECOM, 2024a) is currently being updated to include a CUTEP assessment, and will be submitted to the Auditor to inform a Contaminated Land Audit Report, including a Site Suitability Statement.
Audit Area 4 East	1.20	Audit Area 4 East is currently proposed to be split, with the northern portion handed to the Tasmanian Department of State Growth. A DSI and assessment of the suitability of the proposed future development is currently being prepared for the portion of this land to remain in the control of the Corporation.
Regatta Point	0.7	This area is not yet included in the Macquarie Point Environmental Audit but is considered likely to be included in the future. An initial intrusive investigation to allow preparation of a Detailed Site Investigation (DSI) report for this area was conducted in late 2024, and the collected data is currently being assessed and a DSI prepared. Any remediation or further investigation requirements to allow issue of a Site Suitability Statement will be identified in the DSI and inform future work requirements and timeline.
Royal Engineers Building	0.19	This area is not currently included in the Macquarie Point Environmental Audit and is not considered likely to be included. However, Royal Engineers Building and surrounding land parcel is likely to be added to the Site as part of future development plans (see **Section 2.3**). To date, no potentially contaminating land uses have been identified, or intrusive investigation undertaken, at the Royal Engineers Building.

2.0 Site Details and Background

2.1 Site Identification and Layout

The Site details are provided in **Table 3** below. It is anticipated that the areas referred to as Regatta Point and the Royal Engineers Building will be added to the Site in future, but as land transfer has not yet occurred, these areas have been listed separately:

Table 3 Site Details

Item	Description
Macquarie Point	
Site Address	10 Evans Street, Hobart, Tasmania (refer to the Site Location plan provided as **Figure F1** in the **Figures** section)
Site Area	Approximately 9.3 ha
Current Land Owner	State of Tasmania (Crown Land)
Title Details	The Site includes the following land titles: • 179192/2, consisting of land against the northern border of the Site below the Hobart Cenotaph. • 179192/3, consisting of southern portion of the Site. • 179192/4, consisting of land previously proposed for development as a road/transport corridor between 17919/2 and 17919/3. • 45404/1, consisting of a small narrow band of land in front and to the west of the Goods Shed. This title boundary overlaps 179192/3. • 129483/6, consisting of the south-west corner of the Site, historically occupied by the former Hobart Gasworks.
Current Zoning	In accordance with the Hobart City Council (HCC, 2021), the *Sullivans Cove Planning Scheme 1997* notes that the Macquarie Point site falls within the *Macquarie Point Mixed Use Zone* and is subject to the following use areas: • Commercial and Institutional • Mixed Use • Open Space.

Item	Description
Current Uses	The following is noted with regard to current Macquarie Point use and features: • The majority of Macquarie Point is currently vacant. Portions of the north and west of Macquarie Point are currently in use for remediation activities, including stockpiling of excavated materials. • The Goods Shed, a heritage building, is located on the southern boundary of the Site and is subject to intermittent uses including public events. • An office building (8A Evans Street) is located on the western boundary of Macquarie Point and is occupied by the Corporation. • The "Red Shed", located in the south eastern portion of Macquarie Point, is currently used by a microbrewer and includes a public bar. • A warehouse (the SeaRoad Shed) was located in the south-east corner of Macquarie Point but was demolished in 2023. A large slab (the SeaRoad Slab) remains in place and has been used for intermittent storage of construction equipment. • Small retail outlets are located in the area adjacent to the Red Shed (Red Square) which is also used regularly for markets, music and other outdoor events with food vans. • A public car park is present in the south eastern and eastern portion of Macquarie Point. • A roadway (the Northern Vehicular Access) is present on the northern portion of Macquarie Point.
Closest Surface Water Body	• Sullivans Cove to the southwest (170 m) • River Derwent to the southeast (280 m) and to the northeast (25 m).
Site Layout	• **Figure F2** in the Figures Section
Regatta Point	
Address	A street address is not allocated. Located adjacent to McVilly Drive, Queens Domain
Area	Approximately 0.7 ha
Current Land Owners	The land comprised within Regatta Point is under the authority of: • Department of Natural Resources and Environment Tasmania (DNRET) Property Services (Potential Property ID 2513934), under Crown lease Regatta Point is currently being transferred to the control of the Corporation.
Title Details	Title details are not available for the public reserve (Potential Property ID 2513934).
Current Zoning	In accordance with the Hobart City Council (HCC, 2021), the *Sullivans Cove Planning Scheme 1997* notes that the Regatta Point site falls within the *Macquarie Point Wharf & River Zone B* and is subject to the following use areas: • Commercial • Mixed Use • Open Space

Item	Description
Current Uses	The following is noted with regard to current Regatta Point use and features: • A public reserve in the southern portion of Regatta point is used for public open space and recreation. Carparking and access to the River Derwent (via two marine jetties and two boat ramps) are present in this area, and accessible via McVilly Drive. • A pumphouse (under Crown Licence) is present in this area. It is not known if this pumphouse is operational, what use is authorised under its licence, or what historical uses it may have had, but it is assumed to be related to fuel and oil transfer via underground pipelines which are present beneath Regatta Point. • A small two-storey building of unknown use is in this area. • A disused rail line and corridor passes to the west of Regatta Point.
Closest Surface Water Bodies	• The River Derwent is located to the east, immediately adjacent to Regatta Point. • Sullivans Cove is located approximately 560 m to the south at the closest point. Recreational fishing restrictions apply in the waters adjacent to Regatta Point.
Site Layout	**Figure F2** in the **Figures** section
Royal Engineers Building	
Address	2 Davey Street, Hobart, Tasmania
Area	Approximately 0.19 ha
Current Land Owners	State of Tasmania (Crown Land). The Royal Engineers Building is currently being transferred to the control of the Corporation.
Title Details	Land title 20452/2
Current Zoning	In accordance with the Hobart City Council (HCC, 2021), the *Sullivans Cove Planning Scheme 1997* notes that the Royal Engineers Building falls within the *Macquarie Point Mixed Use Zone* and is subject to the following use areas: • Commercial and Institutional • Mixed Use • Open Space. The Royal Engineers Building (described as the Royal Engineers Building and Stone Post) is also noted as a Place of Cultural Significance in Schedule 1 of the Sullivan's Cover Planning Scheme 1997.
Current Uses	The Royal Engineers Building is currently used as office/commercial space, with surrounding open grounds and garden spaces. Portions of the surface are sealed with bitumen or concrete, or cover in crushed rock, for foot and vehicle passage.
Closest Surface Water Bodies	• Sullivans Cove, approximately 400 m to the south. • River Derwent, approximately 380 m north-east.
Site Layout	• **Figure F2** in the **Figures** section

2.1.1 Surrounding Land Uses

The surrounding land use comprises a number of aspects including public access and cultural significance; commercial and professional services; retailing; health care; port facilities; light industry; marine industry; fishing industry; and education. The immediate local setting is summarised in **Table 4**.

Table 4 Surrounding Land Uses

Direction from Site	Land Use
North	• The Site is bound to the north by the Hobart Cenotaph and associated public open space. • The River Derwent is located in a general northeast direction from the Site.
South	• The Site is bound to the south by Evans Street, with residential apartments and commercial properties beyond, which extend towards Hunter Street and Sullivans Cove.
East	• The Site is bound to the east by the TasPorts' port operations and further east by the River Derwent. • A Wastewater Treatment Plan (WWTP) is located in a general northeast direction from the Site. It is understood that planning is currently being undertaken by TasWater to decommission and remove the WWTP and construct a replacement pump station, with excavation of an interment basin commenced by TasWater in 2025.
West	• The Site is bound to the west by a public bike path and Davey Street, with commercial properties beyond.

2.2 Areas of Site

For the purpose of assessment and completion of the Environmental Audit, the Site has been divided into sub-areas for assessment based on the nature of identified contamination, historic activity, and the intended future uses of each area. Each area may have specific development controls or work requirements, which are discussed in **Section 4.0**. The sub-areas of the Site are shown on **Figure 1** below.

It is noted that a division of title is currently underway and the northern portion of Audit Area 4 East is planned to be handed to the control of the Tasmanian Department of State Growth. As this has not occurred yet, this area is still included in this SEMP.

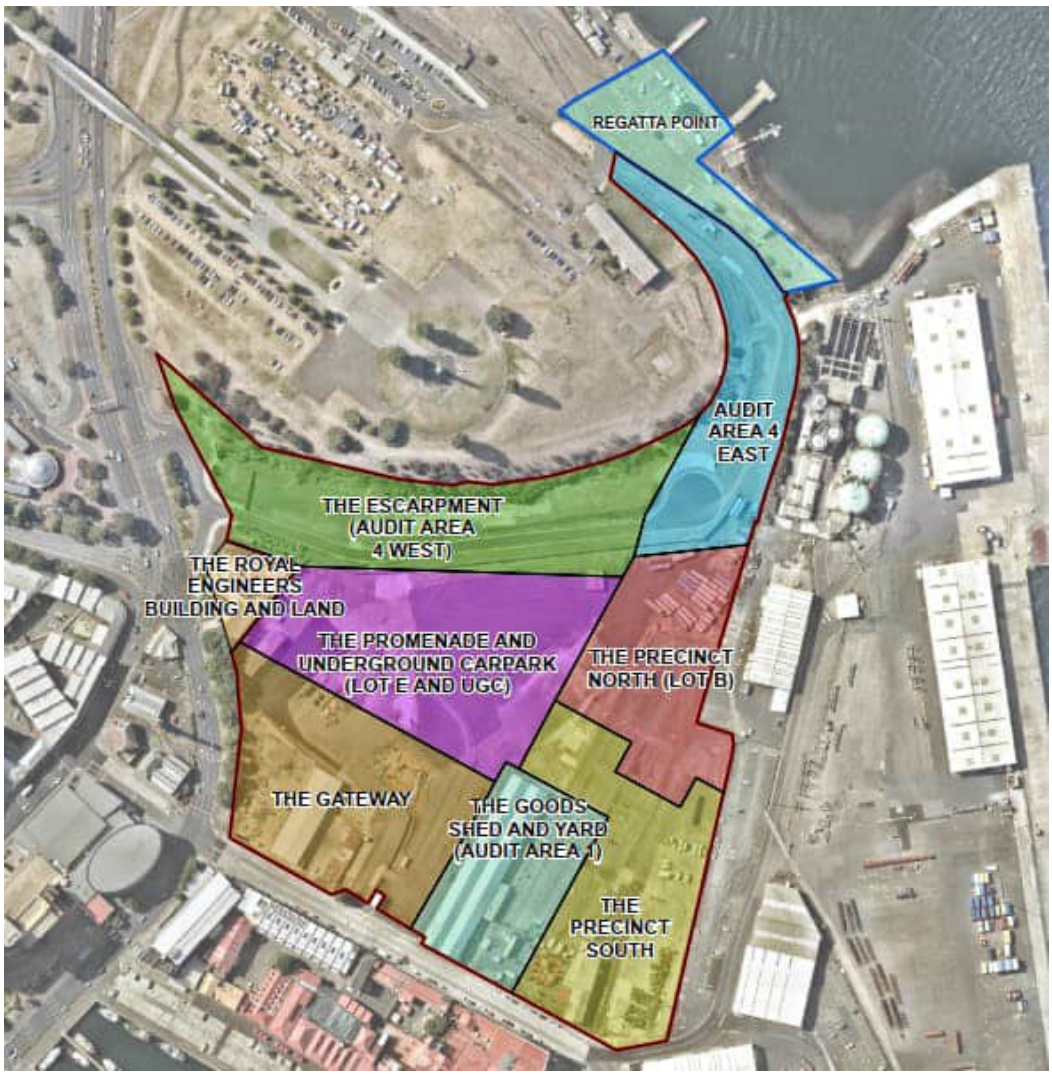

Figure 1 Site Areas

The Site was previously divided into Audit Areas (named Audit Area 1 to Audit Area 7) for assessment. Due to changes in the remediation approach and planned development of the Site, these have been replaced with the sub-areas above. However, the locations of the former Audit Areas are shown on **Figure F2** for reference to earlier documents.

2.3 Future Land Use

Under the previous Site development plan, *New Territory from Old Ground – Macquarie Point Strategic Framework and Masterplan 2015-2030* (the former Masterplan) (MPDC, 2015), the Precinct South was intended for development for a mixture of future uses including residential, commercial and open space.

Environmental assessment and remediation of the Site prior to 2023 was guided by the former Masterplan. However, in September 2022, it was announced by the Tasmanian Government Department of State Growth that the Macquarie Point Site is the preferred location for a future sports stadium and multipurpose area. In August 2024, the *Mac Point Precinct Plan* (the Precinct Plan) (MPDC, 2024a) was finalised for the redevelopment of the Site.

The Precinct Plan outlines the concept for the Site which comprises mixed use precincts summarised in **Table 5** below.

Table 5 Precinct Plan - Proposed Development Precincts

Precinct	Likely Land Use
Aboriginal culturally informed zone	Open space and commercial
Multipurpose stadium and associated concourse zone	Open space and commercial, with an underground carpark in the north-eastern corner.
Royal Engineers building and land	Open space and commercial
Complementary integrated mixed use zone, including restaurants, cafes, hotels, medical facilities and commercial office space	Open space and commercial
Antarctic facilities zone including commercial spaces and connections with the complementary integrated mixed use zone	Commercial and underground car parking
Residential development and public foreshore zone accommodating a variety of tenures and housing opportunities, along with a new public promenade and food and beverage offerings	Medium to high density residential, commercial and open space
A transport corridor and roadway linking Regatta Point to the main areas of the Site	Open space / vehicle traffic / foot traffic
A vegetated area along the northern boundary of the Site. It is proposed that the historic Goods Shed, currently located in the southern central portion of the Site, be moved to this area.	Open space and commercial (the Goods Shed)

Subsurface utilities and maintenance activities are anticipated to occur in all Site areas, and the final surface elevation in some areas is planned to be reduced from the current elevations. The change in development plan and proposed modifications to Site surface elevations affect some previously identified environmental management and mitigation measures, which were included in individual area SEMPs and previous versions of this SEMP (see **Section 1.5.1**). This SEMP has been updated to include the revised measures to suitably manage the Site and avoid unacceptable risks to on- or off-Site users and the environment.

The concept layout of the Site in the Precinct Plan is shown in **Figure 2** below, and on **Figure F2**. The current and proposed final surface elevations are shown on **Figure F3**.

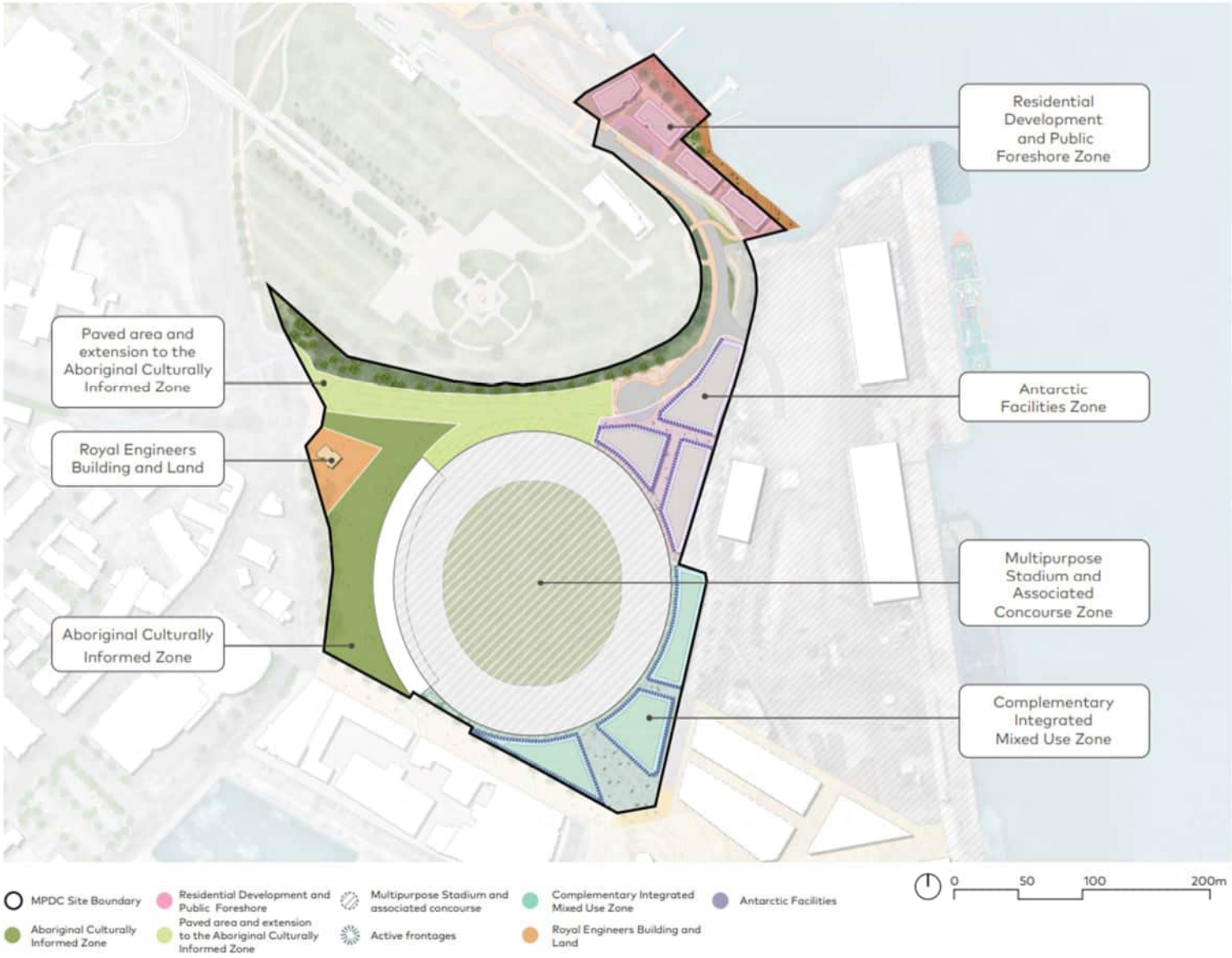

Figure 2 Mac Point Precinct Plan (MPDC, 2024)

The development or future use of the Site may interact with contamination at the Site through contact with potentially impacted soil or groundwater via:

- Excavation of soil.
- Construction of building foundations.
- Extraction of groundwater.
- Construction over or within contaminated soil and groundwater.
- Intrusive maintenance works such as installation or access to buried conduits or pipelines.
- Vapour intrusion into structures or conduits.

2.4 Subsurface Features

Table 6 below provides a summary of currently known subsurface features that may present contaminant source risks or influence subsurface hydrogeology/contaminant transport mechanisms. A plan showing the current known location of subsurface infrastructure is presented in **Figure F5**.

It should be noted that during Site investigations, the Corporation has encountered redundant pipe works and other abandoned services which are not on any records and the origin and purpose of which remains unknown. The potential for unidentified pipe networks or other features to be present below the Site should be considered during future excavation works.

Table 6 Subsurface Feature Summary

Feature	Comment
Gasworks Infrastructure	Historical gasworks infrastructure is located beneath the Gateway area and former gasworks subsurface infrastructure has been backfilled as part of previous Site development. Remediation (via removal) and validation of identified infrastructure which represents a potential source of contamination in the Gateway, was undertaken in 2024 (AECOM, 2025b), and all known pipelines and services related to gasworks operations were removed from the Site. However, the potential remains for unknown pipelines to be present, and should be considered when planning works in this area. Buried concrete slabs may also be encountered in soil in the Gateway area. As part of the same work program, two areas of gasworks waste were remediated by *in situ* solidification and are discussed in **Section 3.4**. Notably, a buried tank base is present around the area of solidified material referred to as Tar Plume B.
Roundhouse	A former Roundhouse was located in the western portion of the Site on the boundary of the Gateway and the Promenade and Underground Carpark areas, and subsurface infrastructure associated with the Roundhouse was backfilled as part of previous Site development. Parts of remaining Roundhouse infrastructure (the central turntable) were excavated and exposed by works in 2021, but other features, such as the maintenance bays, may remain *in situ*.
Buried Railways	During remediation work in 2023, a buried section of railway located between the Red Shed and the SeaRoad Shed Slab was uncovered and removed from the Site. Assessment of samples from the buried railway sleepers reported PAH concentrations below the laboratory limit of reporting (LOR), and as a result it is not considered likely that the railway was treated by creosote and represented a potential source of impact to soil or groundwater. Removal of other Site railway lines was conducted in 2017. However, review of historical aerial photographs identified that the potential exists for two

Feature	Comment
	additional buried railway lines to be located in the Precinct South if not removed as part of this program - one north of the Red Shed, and one beneath the carpark on the western boundary. Potential buried railways are not considered to represent a potential source of environmental risk, as they are from the same time period.
Underground Storage Tanks (USTs)	While no USTs are currently known to exist on the Site, previous known or suspected UST locations are described below and shown on **Figure F5**. • Six USTs were located or suspected to have been historically located to the west of the Goods Shed. - The exact number and location of UST 1 to UST 5 is not known, but based on a historic marked-up plan titled *Hammond Palmer Transport Hobart Tasmania New Pumps & Tanks* and dated 12 June 1984, which indicated fuel tanks associated with freight vessel refuelling may have been present in this area. Investigation of this area in 2017 (AECOM, 20218b) using ground penetrating radar (GPR), Non-Destructive Digging (NDD), and collection and analysis of soil samples, located evidence of former USTs, including backfill sand and fragments of concrete rubble with a metal diesel fill point tag, but did not identify any USTs or hydrocarbon contamination in soil, and later groundwater sampling from wells MW122 and MW148 in the area has not detected any fuel impacts in groundwater. No record of the installation or removal of USTs in this area have been identified, however it is considered unlikely that they are present. - UST 6 was excavated and removed in 2019 (AECOM, 2019b), and is confirmed as no longer present on the Site. • Two USTs (labelled as UST 7) and associated infrastructure were previously located in the central southern portion of the Precinct South and have been removed. A backfilled former UST pit, and associated hydrocarbon odour and residual impact, were identified during the target investigation undertaken in this area in 2014, and excavated and removed in 2023. • A review of historical information indicates that potentially two USTs and associated infrastructure were planned for installation in the north western portion of the Escarpment, in the vicinity of the current StairLink connecting the Site to the Hobart Cenotaph. The exact location of USTs was not provided in the documentation, and no record of UST installation has been located. However, as dolerite bedrock is shallow (approx. 0.5 m bgl) in this area, no indications of fuel impact have been observed in soil or groundwater, and no evidence of USTs were observed during construction of the StairLink in 2021, it is considered unlikely that a UST is present. There is the potential that more USTs are present at the Site that have not yet been identified.

Feature	Comment
Fuel Transfer Lines	Disused fuel transfer lines are known to be currently present in the northern portion of Audit Area 4 East and Regatta Point. Removal of the fuel line in Regatta Point is considered likely to occur as part of remediation of this area of the Site in the future. However, the remaining section of pipeline within Audit Area 4 East is within the land proposed to be handed to the control of the Tasmanian Department of State Growth, as discussed in **Section 1.6**. Portions of fuel lines present in the Precinct North, the Precinct South, and in the eastern section of the Promenade and Underground Carpark area have been excavated and removed in between 2019 and 2023. Removal of pipeline excavations have been validated (noting that Auditor acceptance of validation of pipelines in the Precinct South is still pending). Where pipelines could not be fully removed, they have been plugged with concrete as part of the removal process. At some locations where pipelines exited the Site, pipelines could not be fully removed to the Site boundary due risk of undermining fences or buildings, or high risk subsurface services along Evans Street, and sections of up to 2m in length may remain on Site. Locations where this occurred are noted on **Figure F5**.
Sewer (Main Hobart Pipeline)	The Sewer (Main Hobart Pipeline) currently traverses the central portion of the Site from southwest to northeast. Lead impacts are known to be present in soil around this sewer in the Precinct North area. A realignment of this sewer is planned to occur as part of the replacement of the WWTP to the east of the Site discussed in **Section 2.1.1**. The new sewer alignment will not be within Site boundaries, but will fall below Evans Street to the south and TasPorts land to the east. A sewer line also runs from the Main Workshop area connecting to the Sewer (Main Hobart Pipeline) in the general central portion of the Site. It is understood that both these sewer lines will be removed as part of the Site development.
Stormwater	Stormwater infrastructure is located in the general central portion of the Site traversing the Site in a north-south and east–west direction.
Seawalls/ Engineers Jetty	Seawalls: Historically established for land reclamation purposes. Engineers Jetty: Constructed on the historical outer edge of the former slaughter yard. GHD, 2014 identified the likely location of the Engineers Jetty in the general central portion of the Site and a seawall on the eastern Site boundary.
Former Building Footings	Remnant infrastructure associated with former buildings (such as footings) located across the Site. It is noted that select structures may have archaeological significance.
Telecommunication services	Telecommunications enter the Site in the north western portion of the Escarpment. An exclusion zone of 2 m applies around this telecommunications cable, and works should not be completed within this radius without consultation with the asset owner (Telstra Tasmania). Soil with lead impacts is known to be present within the exclusion zone. The depths of these services are typically between 0.6 m – 1.2 m below ground level (m bgl).
Other Services	Water, electricity, gas and communications services are located across the Site.

Feature	Comment
	Notably, a two power cable (one high voltage and one low voltage) are located within a single conduit in the south-western corner of the Site. A 3 m exclusion zone is in place around the high voltage power line, and maintenance of this exclusion zone is considered required due to the presence of gasworks impacts below the power lines.
Areas of notable impact	Soil and contamination treated by *in situ* solidification (ISS) as part of remediation in 2024 is located in the south-west portion of the Site. Non-Aqueous Phase Liquid (NAPL) impacts are present in soil or groundwater in the southern and central portions of the Site and are described in **Section 3.4**. Some areas of notable higher soil contamination have been identified, at locations where, due to either depth or Site boundaries, remediation excavation could not be continued to fully chase out and removed impacts. Areas of notable contamination are discussed in more detail in **Section 3.0**

2.5 Geology

2.5.1 Fill Material

The Site has been subject to significant filling (controlled or otherwise) since the early 1800's with up to 600 m of land reclaimed in stages from the original 1800's shoreline (Department of the Environment, *Australian Heritage Database*, 2007). Fill material has been encountered across the Site to depths of up to approximately 12.0 m bgl.

Fill material has been described as generally containing a combination of clays, sands, gravels, cobbles and bricks. Virgin Excavated Natural Material (VENM) consisting of crushed dolerite, or reused inert construction materials (crushed concrete and bitumen), has been used as backfill in areas in the Escarpment, the Precinct North, and the Promenade and Underground Carpark Area. The thickness of fill is variable across the Site (0.2 – 12.0 m bgl) and generally increases from north to south across the Site consistent with historical land reclamation activities.

Deeper fill material generally consists of silty sands, similar to the underlying natural marine deposits, indicating that the deeper fill material may be associated with reworked natural material or dredged material.

Staining and odours consistent with gasworks and fuel storage has also been encountered in fill material at select locations.

2.5.2 Natural Soil

Two main natural soil types have been encountered at the Site including marine deposits (silty sands) and slope deposits (weathered Dolerite including clays, gravels and cobbles).

Marine deposits have generally been encountered in the south east portion of the Site, ranging in depth from 3.7 to 15.0 m bgl. Slope deposits generally underlay the marine deposits (with the exception of the northern portion of the Site where the marine deposits are absent). The slope deposits are generally encountered at near surface to 1.4 m bgl in the northern portion of the Site and 11.2 to 19.0 m bgl in the south eastern portion of the Site.

Dolerite bedrock underlies the fill and natural soils at the Site. Dolerite has generally been encountered at near surface in the northern portion of the Site and slopes down in the southerly and south easterly direction and has been encountered at depths up to 25.0 m bgl (GHD, 2014). GHD, 2014 also notes that there are potentially three bedrock highs (i.e. 'reefs') in the general central portion of the Site. The dolerite has been described as of high strength and slightly to highly fractured. A dolerite hill is located to the north of the Site, with the ground of the Hobart Cenotaph present, and exposed dolerite from quarrying of this area in the early 1800s is visible on the escarpment face along this boundary.

In the following instances, the interface between various natural soil types has been difficult to distinguish:

- Between fill material and natural marine sediments given the similar material type, and the possibility that natural soil of similar characteristics may have been used as fill on the Site previously.
- Between the changes from slope deposits to the underlying dolerite bedrock given the weathering of the slope deposits, which consist of fine to coarse cobbles and boulders similar to the dolerite.

The Site is mapped as having a low probability (6-70%) of Potential Acid Sulfate Soils (PASS), as indicated on LISTmap's Coastal Acid Sulfate Soils (0 – 20m AHD) layer (DNRET, 2025). PASS has been detected in saturated estuarine soils and will require management if excavated or disturbed.

2.5.3 Hydrogeology

The River Derwent is located approximately 280 m southeast of the Site boundary and Sullivans Cove is located approximately 170 m south west of the Site boundary.

Based on investigations completed to date, the Site is underlain by a single aquifer unit extending to greater than 25.0 m bgl (the maximum depth assessed). Groundwater has generally been encountered in fill material in the central, southern and eastern portions of the Site, extending into the underlying natural material including marine deposits, slope deposits and fractured Dolerite.

Observations from intrusive investigations have not identified any consistent confining layers between the fill material, natural sediments or the fractured Dolerite to indicate that the lithologies are hydraulically separated. This is supported by similar standing water levels (SWLs) reported for nested groundwater wells screened within different portions of the aquifer, which may indicate that the shallow and deeper portions are likely to be hydraulically connected.

During the last Site-wide groundwater monitoring event (GME), undertaken in June 2025 (AECOM, 2025c), groundwater was encountered below the Site between 1 to 5 m bgl, with deeper groundwater in the north-west corner. Groundwater elevations ranged between 4.684 mAHD in BG1 in the northern portion of the Site, to 0.423 mAHD in off-Site well MW152, south of the south-east corner of the Site in an off-Site carpark.

Groundwater elevation contours generally followed the pattern of topographic elevation across the Site, indicating a relatively steep up-gradient flow direction to the south-east, prior to flattening out to a very gentle gradient across the central and south-eastern down-gradient areas. Groundwater flow direction followed the steep north-easterly slope towards Regatta Point further around the headland to the far north of the Site.

Groundwater is inferred to have southeast and southerly components of flow in the main area of the Site, with some westerly flow along the eastern boundary with TasPorts land which may be due to a buried seawall in this area, and northeasterly from Regatta Point. The inferred ultimate discharge points of Site groundwater are the River Derwent and Sullivans Cove

Other subsurface structures such as sewer mains (understood to be at a depth of approximately 4.0 m bgl), stormwater pipes, former fuel transfer lines and former sea walls may cause localised variations in groundwater flow direction, and the Hobart Rivulet, which passes north of the Site and through the northern portion of Audit Area 4 East, is considered to present a barrier to groundwater flow.

3.0 On-Site Contamination

Remediation of the Site has been conducted at the Site to address impacts from contamination and enable future development. However, residual impacts remain on the Site where remediation could not be practicably conducted to completely remove contamination.

Residual impacts are not considered to represent unacceptable risks to users or the environment of the Site or surrounding areas, if managed in accordance with this SEMP.

The following sections of the SEMP provide a description of known residual contamination at the Site to inform those responsible for planning and conducting future Site activities.

3.1 Chemicals of Potential Concern

Based on the known Site history, **Table 7** below presents a summary of the Chemicals of Potential Concern (CoPC) that may be present based on known historical activities or uncovered during investigation of the Site

Table 7 Chemicals of Potential Concern Summary

Area	Historical Land Uses	Chemicals of Potential Concern
Goods Shed and Yard	• Freight storage and handling • Vehicle Maintenance. • Fuel Storage and Handling • Land Reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Chlorinated solvents associated with vehicle maintenance activities. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
The Escarpment	• Locomotive refuelling comprising fuel storage and transfer facilities • Railway maintenance workshop • Rail corridor and fuel transfer infrastructure historically located within the area • Concrete batching plant • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Chlorinated solvents associated with locomotive maintenance activities and the storage of hazardous materials. • Heavy metals, chlorinated solvents and hydrocarbons associated with workshop and maintenance areas. • Phosphorus and sulphur associated with locomotive washing. • ACM sourced from historical structures (i.e. cladding). • Hydrocarbons associated with the truck wash. • Heavy metals, chlorinated solvents and hydrocarbons sourced from the historical incineration of paint/ solvents. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.
The Promenade and Underground Carpark	• Locomotive refuelling comprising fuel storage and transfer facilities. • Locomotive maintenance. • Freight storage and handling. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel (diesel) storage and transfer activities. • LNAPL has been detected on groundwater. • Chlorinated solvents associated with locomotive maintenance activities. • Heavy metals, asbestos and PAHs sourced from materials used to backfill Roundhouse structures. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.

Area	Historical Land Uses	Chemicals of Potential Concern
The Precinct North	• Freight storage and handling. • Fuel storage and handing • Land reclamation	• TPHs, BTEXN, PAHs, and phenolic compounds associated with historical fuel (diesel) storage and transfer activities. • Chlorinated solvents associated with locomotive maintenance activities. • LNAPL has been detected on groundwater. • Metals[1] inferred to be due to historic land reclamation have been detected in fill. • PFAS associated with bulk off-Site fuel handing[2]
The Precinct South	• Freight storage and handling. • Fuel storage and handling • Land reclamation	• TPHs, BTEXN, PAHs, phenolic compounds, and lead associated with historical fuel storage and transfer activities undertaken adjacent to the Site's eastern boundary. • LNAPL has been detected on groundwater. • Metals[1] inferred to be due to historic land reclamation have been detected in fill. • PFAS potentially associated with bulk fuel handing which extended to the east of the Site, although portions of the Precinct South formed part of the bulk fuel storage facility[2]
The Gateway	• Former Hobart Gasworks. • Locomotive refuelling comprising fuel storage and transfer facilities. • Railway maintenance workshop. • Land reclamation	• TPHs, PAHs, BTEXN and phenols sourced from coal tar and tar oils, or from historical fuel storage and transfer activities. • Heavy metals, chlorinated solvents and hydrocarbons associated with workshop and maintenance areas. • Phosphorus and sulphur associated with locomotive washing. • ACM sourced from historical structures (i.e. cladding). • Chlorinated solvents associated with locomotive maintenance activities and the storage of hazardous materials. • Complex cyanides, free cyanides and metals sourced from spent oxides. • TPHs, PAHs and metals sourced from coke, coke breeze, ash and clinker residues. • TPHs and BTEX associated with light and drip oils. • DNAPL has been detected in soil. • Phenols, nitrates, sulphates, sulphides, ammonia and PAHs sourced from ammoniacal recovery wastes. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.

Area	Historical Land Uses	Chemicals of Potential Concern
Audit Area 4 East	• Rail corridor and fuel transfer infrastructure historically located within the area. • Land reclamation	• TPHs, BTEXN, PAHs and phenolic compounds associated with historical fuel storage and transfer activities. • Buried ACM has been identified in a section of Audit Area 4 East and is currently temporally capped with a concrete layer. • Metals[1] inferred to be due to historic land reclamation have been detected in fill
Regatta Point	• Public boating, yachting, and port activities. • Rail corridor • Fuel pipeline • Land reclamation • Metals	• Heavy metals, TPH/TRH, PAH, BTEXN, phenolic compounds, SVOC, VOCs, TBT, OCPs, cyanide, ammonia and ACM have all been identified as potential CoPC in Regatta Point based on current and historical uses. Field investigations of Regatta Point were conducted in late 2024, and a DSI with the outcomes is being prepared but is not yet issued. • Metals[1] inferred to be due to historic land reclamation have been detected in fill.

Notes: TPHs – total petroleum hydrocarbons; TRH – total recoverable hydrocarbons; PAHs – polycyclic aromatic hydrocarbons; BTEXN – benzene, toluene, ethylbenzene, xylene, naphthalene; ACM – asbestos containing material; VOC – volatile organic compounds; SVOC – semi VOC; TBT – tributyl tin; OCP – organochlorinated pesticides; PFAS – Per- and Poly-Fluoroalkyl Substances; LNAPL – Light Non-Aqueous Phase Hydrocarbons; DNAPL – Dense Non-Aqueous Phase Hydrocarbons; 1 – aluminium, arsenic, cadmium, chromium, copper, lead, manganese, nickel and zinc; 2 - While review of historical information has not identified the use of products containing PFAS, PFOS has been detected in soil and groundwater in this area. There is potential for firefighting foams containing PFAS to have been applied as part of emergency response operations or for training purposes during bulk fuel storage in the short period between the adoption of PFAS-containing firefighting foam in the USA in 1967, and the cessation of bulk fuel storage in 1970.

In addition:

- Methane has been detected in soil vapour sampling, and at concentrations in groundwater which could potentially generate hazardous concentrations of vapour. It is considered likely that methane is present primarily due to the anaerobic degradation of organic materials in natural soil (former river- and sea-bed) which was buried during historic land reclamation, although fuel hydrocarbon impacts in soil and groundwater may also contribute some methane mass.

  While methane is non-toxic, it can accumulate and represent a risk of fire or explosion in structures or buried services.

- PASS has been detected in saturated natural soils.

Appendix C contains areas specific fact sheets which provide more detailed information on CoPC in each area of the Site which has had a CUTEP submission to the Environmental Auditor. The following areas have fact sheets prepared:

- The Goods Shed and Yard
- The Escarpment (Audit Area 4 West)
- The Promenade and Underground Carpark
- The Precinct North
- The Precinct South

The remaining areas of the Site, consisting of the Gateway and Audit Area 4 East, and Regatta Point and the Royal Engineers Building, if added to the Site, will have fact sheets prepared and added to this SEMP as investigation and remediation of these areas are completed.

3.2 Identified Soil Impacts

3.2.1 Fill Material

Shallow soil across the majority of the Site consists of fill material used for land reclamation or construction during the Site's history.

Soil samples collected during the investigation of the Site have been assessed against adopted Tier 1 Criteria for the following uses:

- Maintenance of Modified/Highly Modified Ecosystems
- Human Health
  - Low and Medium/High Density Residential
  - Recreation/Open Space
  - Commercial Industrial
  - Intrusive Maintenance Workers
- Buildings and Structures
- Aesthetics

The following CoPC have been detected in excess of one or more of the adopted Tier 1 criteria in soil samples collected from the Site:

- TRH – C_6–C_{16}, C_{10}-C_{40}
- Benzene, naphthalene, total xylenes
- PAHs – benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, Sum of PAHs
- Metals – arsenic, cadmium, chromium, copper, lead, nickel, zinc
- PFAS - PFOS

Further information on exceedances of the adopted Tier 1 Criteria for areas of the Site where a CUTEP submission has been made can be found in **Appendix C**. Although exceedances of the Tier 1 criteria are present in these areas, they may be managed by implementation of the safety and environmental control measures in this SEMP.

3.2.2 Natural Soil

The AECOM soil investigations undertaken between 2015 and 2025 identified a combination of copper, lead, nickel, zinc and TRH at concentrations in excess of the adopted Tier 1 screening criteria for the assessment of risk to human health and ecological receptors in natural soils at select locations.

In addition, assessment has identified PASS within saturated natural estuarine/alluvial soils below the water table (AECOM, 2025d).

3.2.3 Areas of Notable Impact

As part of the Environmental Audit process for sub-areas of the Site, the following areas of notable impact to soil have been identified:

Table 8 Soil Impacts - Areas of Notable Impact

Area	CoPC	Description
The Goods Shed and Yard	Lead	Areas of lead-impacted soil which may present a risk to future Intrusive Maintenance Workers (i.e. workers installing or maintaining subsurface conduits) were identified in soil proposed for removal as part of Site development and adjustment of the surface elevation of the Site. While removal of this soil is considered likely to occur as part of the development of the Site, these impacts should be considered in planning works prior to excavation or if the proposed development plan is altered.
The Promenade and Underground Carpark	Lead	Areas of lead-impacted soil which may present a risk to future Intrusive Maintenance Workers (i.e. workers installing or maintaining subsurface conduits) are present in the Promenade and Underground Carpark Area, generally at a depth of >2 m bgl. While removal of this soil is considered likely to occur as part of the development of the Site, these impacts should be considered in planning works prior to excavation or if the proposed development plan is altered. Lead-impacted soil may be present following development at two locations, G14 and H12, and should be considered in planning excavation activities.
	Asbestos	Isolated fragments of Asbestos Containing Material (ACM) have been uncovered in fill in this area. Anecdotal evidence indicated that trenches and service pits associated with the former Roundhouse which was present in this area may have been backfilled with building rubble including ACM, although investigation to date has not uncovered any.
The Escarpment	Lead	Lead-impacted soil which may present a risk to future Intrusive Maintenance Workers (i.e. workers installing or maintaining subsurface conduits) is present in the exclusion zone surrounding a telecommunications cable in this area.

Area	CoPC	Description
The Precinct North	Lead	Lead impacted soil which may present a risk to future Intrusive Maintenance Workers is present: • On the eastern site boundary • In the soil surrounding the Main Hobart Sewer line • In some soil locations at depths which are anticipated to be removed by Site development. • In one location (N10), lead impacted soil may be present at the base of the excavation following development. • At depths >2 m below the current Site surface elevation.
	Petroleum Hydrocarbons	Hydrocarbon impacted soil which may present a risk to future Intrusive Maintenance Workers is present on the eastern site boundary.
The Precinct South	Lead	Lead-impacted soil which may present a risk to future Intrusive Maintenance Workers (i.e. workers installing or maintaining subsurface conduits) may be present in the Precinct South at: • In some soil locations at depths which are anticipated to be removed by Site development. • At depths >2 m below the current Site surface elevation.
The Gateway	Coal Tar/DNAPL	Coal tar, associated with the historic Hobart Gasworks, has been detected in soil in the south and southwest sections of the of the Gateway area. Notable areas have been identified beneath the high voltage power cable exclusion zone on the western boundary of the Gateway, and trace tar may be present in soil in the area. In addition, tar plumes treated by ISS (Plume B, and the majority of Plume A) form hardened soil monoliths which have higher levels of contamination and should be treated as such if encountered by excavation.
	Lead	Lead-impacted soil which may present a risk to future Intrusive Maintenance Workers (i.e. workers installing or maintaining subsurface conduits) may be present in the Precinct South at: • In some soil locations at depths which are anticipated to be removed by Site development. • At depths >2 m below the current Site surface elevation. • In two locations (in validation samples collected from the base of the excavation which removed UST 6 and in BH88, which was advanced to assess the area where UST 1 to UST 5 were located [see **Table 6**]), lead impacted soil may be present at the base of the excavation following development.
Audit Area 4 East	Asbestos	Fragments of corrugated roofing materials between 5 and 300 mm in size were detected within an embankment within Audit Area 4 East, adjacent to the boundary with the Escarpment.

In addition:

- Notably impacted soil is present in the vicinity of known NAPL impacts, as discussed in **Section 3.4**.
- As part of assessment and remediation prior to the update of the Site development plans in 2024, which informed the Contaminated Land Audit Reports for the Goods Shed and Yard, the Escarpment, the Promenade and Underground Carpark, and the Precinct North (see **Table 2**), it was not considered probable that intrusive maintenance workers would come into contact with soil greater than 2 m below the Site surface at the time of investigation, as changes in surface elevation (**Section 2.3**) were not planned at that time. Soil contamination which may represent a risk to intrusive maintenance workers, notably lead, may be present in soil greater than 2 m below the current surface.

These areas are shown on **Figure F5**. Further detail on the location and extent of these impacts, and management controls required for safe future works in the vicinity of these impacts, can be found in the area fact sheets in **Appendix C**, and should be consulted for prior to subsurface works in these areas.

If any future investigation, assessment, or development activity at the Site identifies other notable soil impacts, the SEMP must be updated to include these details in **Table 8** unless removed from the Site, with any such soil removal validated and recorded.

3.3 Identified Groundwater Impacts

Groundwater Monitoring Events (GMEs) were routinely conducted for monitoring groundwater wells located on-Site between January 2015 and November 2019. Targeted GMEs have been conducted in 2022 in the Gateway and in 2023 in the Precinct South, and the most recent Site-wide GME was conducted in June 2025 (AECOM, 2025c).

Groundwater sample analytical results have been assessed against adopted Tier 1 Criteria for the following uses:

- Drinking water
- Irrigation
- Industry
- Stock watering
- Ecosystem protection
- Recreation - Primary and Secondary Contact
- Aesthetics
- Buildings and Structures
- Vapour Intrusion – Residential and Commercial/Industrial.

The following CoPC have been detected in excess of one or more of the adopted Tier 1 criteria in soil samples collected from the Site:

- Total Dissolved Solids (TDS)
- TPH - C_{10}-C_{36},
- TRH - C_{10}-C_{40}
- Benzene, naphthalene
- PAHs – anthracene, benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, dibenzofuran, phenanthrene, fluoranthene, 2.4-dimethylphenol
- Metals – aluminium, arsenic, boron, cobalt, copper, iron, lead, manganese, vanadium, zinc
- Ammonia (as N), chloride, sodium, phosphorus, sulphate

- Cyanide
- PFAS – PFOS
- Methane
- E. Coli[1]
- pH[1].

Further information on exceedances of the adopted Tier 1 Criteria for areas of the Site where a CUTEP submission has been made can be found in **Appendix C**. Although exceedances of the Tier 1 criteria are present in these areas, they may be managed by implementation of the safety and environmental control measures in this SEMP.

3.4 Non-Aqueous Phase Liquids (NAPL)

NAPL, consisting of both Light Non-Aqueous Phase Liquid (LNAPL) and Dense Non-Aqueous Phase Liquid (DNAPL), is currently known to be present in five locations on the Site, consisting of:

- LNAPL Plumes A1 and A2, in the Promenade and Underground Carpark area.
- LNAPL Plume B, in the Precinct South
- Tar (DNAPL) Plumes C and D, and a portion of Tar Plume A, in the Gateway

NAPL was previously known to be present in the following areas, but has been removed or immobilised by remediation work:

- LNAPL Plume A3, in the Precinct North
- The majority of Tar Plume A, and Tar Plume B, in the Gateway

The location and status of each NAPL Plume is listed on **Table 9**, and current or historic locations are shown on **Figure F5**.

Table 9 Known NAPL Impacts

ID	Location	Contaminants Identified	Inferred Contamination Source
Current NAPL Plumes			
LNAPL Plume A1	Central portion of the Site, Promenade and Underground Carpark	Metals, TPH, PAH	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities (AECOM, 2017c).
LNAPL Plume A2	Central portion of the Site, Promenade and Underground Carpark		No detectable LNAPL was present in wells associated with these plumes during gauging in June 2025, although other indicators (such as small volumes of LNAPL during well development or sheen on groundwater) were recorded.

[1] While E. Coli and pH are not “chemicals” of potential concern, they have been treated as such in assessment.

ID	Location	Contaminants Identified	Inferred Contamination Source
LNAPL Plume B	South eastern portion of the Site, Precinct South		LNAPL (likely a combination of diesel and petrol) has been identified at the water table and is likely associated with locomotive refuelling activities (AECOM, 2017c). LNAPL in this area is considered co-sourced with the TasPorts land to the east, where the historic bulk fuel storage considered the original source of LNAPL in this area also occurred.
Tar Plume A (partial) (DNAPL)	The south-western boundary of the Site, the Gateway	Metals, TPH, PAH, BTEX, Phenolics	DNAPL is associated with tar from the production of coal gas which was previously undertaken in the Gateway and off-Site to the west. Tar Plumes C and D, and a portion of Tar Plume A, are located beneath the exclusion zone of a high voltage and power conduit and are not directly accessible. DNAPL is not considered mobile (AECOM, 2024a).
Tar Plume C (DNAPL)	The western boundary of the Site, the Gateway		
Tar Plume D (DNAPL)	The western boundary of the Site, the Gateway		
Former NAPL Plumes			
LNAPL Plume A3	Western portion of the Precinct North	Metals, TPH, PAH	LNAPL (likely diesel) has been identified at the water table and is likely associated with locomotive refuelling activities (AECOM, 2017c).
Tar Plume A (partial) (DNAPL)	The location of a former horizontal retort in the south-west corner of the Site, the Gateway	Metals, TPH, PAH, BTEX, Phenolics	DNAPL is associated with tar from the production of coal gas which was previously undertaken in the Gateway and off-Site to the west. Remediation via ISS of these plumes was conducted in 2024 (AECOM, 2025b), and the remaining material is considered solidified and at no risk of mobilisation. The solidified Tar Plume B is further located within an intact tank base and walls which act as an additional layer of protection against any ongoing impact.
Tar Plume B (DNAPL)	The location of a former tar tank in the south-west portion of the Site, the Gateway		

A detailed assessment of LNAPL impacts and remediation conducted at Site has been reported in the *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c). This report concluded that:

- Further recovery of LNAPL is considered to be impracticable.
- The remaining LNAPL plumes are sufficiently stable and are not migrating.
- Based on the current development plan for the Site, no unacceptable risks to current or future human or ecological receptors from LNAPL appears to be present, assuming that a SEMP or

similar is implemented in order to minimise and manage potential risks for any interactions between groundwater, LNAPL and future Site users.

The status of LNAPL Plumes was reviewed using updated data collected between 2020 and 2025 (AECOM, 2025c), which concluded that the status of the plumes was the same as in the previous assessment. No LNAPL was detected in wells associated with LNAPL Plumes A1, A2 and former LNAPL Plume A3, although indicators of LNAPL such as odours, staining, sheen, and LNAPL in groundwater removed during development were observed and trace LNAPL may remain in soil in the vicinity. LNAPL Plume B remains present on and extending beyond the Site boundary in the south-east and should be consider

The *Remediation Work Plan – The Gateway* (AECOM, 2023a) was developed in 2023 to provide a framework and methodology, among other works, for remediation of DNAPL impacts in the Gateway via *in situ* solidification (ISS).

Tar Plume B, and the majority of Tar Plume A, were treated by ISS in 2024 (AECOM, 2025b), and analytical and field data indicates that ISS was successful in increasing the unconfined compressive strength (UCS) and reducing the hydraulic permeability of soil in and surrounding the tar plumes such that detected DNAPL is not accessible and has limited risk of ongoing impact.

Initially, ISS was intended to be undertaken on all four identified Tar (DNAPL) plumes. However, Tar Plumes C and D, and a portion of Tar Plume A, were identified as not being accessible for ISS (AECOM, 2024c) due to the presence of an exclusion zone surrounding an active high voltage power cable along the western and southern boundary of the Gateway. These areas are not considered to be mobile or represent a risk to future on- or off-Site receptors under the proposed development of the Site, however, the locations of potential DNAPL and the cable exclusion zone, shown on **Figure F5**, should be considered during any future works in these areas and additional controls on future works in these areas which may disturb tar have been recommended and are included in **Section 4.9.**

In addition, controls around residual impacts relating to gasworks, including soil management and soil vapour intrusion, have been identified by investigation following ISS remediation and are included in **Section 4.8**.

However, on the basis of the above, further LNAPL or DNAPL remediation is not practicable or required for the proposed future development, noting that Auditor acceptance of DNAPL remediation is still pending. Restoration of groundwater Protected Environmental Values (PEVs) is not practicable, and groundwater management will be required as discussed in **Section 4.13**.

3.5 Soil Vapour

Soil vapour monitoring events have been conducted at targeted locations across the Site between 2015 and 2025 at locations where concentrations of VOCs and SVOCs in soil or groundwater were in excess of the Tier 1 vapour intrusion criteria selected (as noted in **Section 3.2** and **3.3**), or in the vicinity of the LNAPL and DNAPL impacts (**Section 3.4**) to enable assessment of potential risks posed by soil vapour to potential future users of this area.

Assessment of potential vapour intrusion risks conducted as part of the Site Suitability Statements issued between 2019 and 2021 (see **Section 1.6**), and in subsequent investigations and assessments, including re-assessment of data in light of proposed changes in Site development made in 2024 (**Section 2.3**), has concluded that:

- Assessment of soil vapour impacts associated with LNAPL plumes conducted between 2015 and 2019 concluded that LNAPL does not represent an unacceptable risk to future Site users via vapour intrusion at the Site surface elevations present at the time of assessment (AECOM, 2021c).

  However, a review of vapour intrusion, as part of the assessment of changes to risks from the updated development plan (AECOM, 2026a), identified that, due to the decrease in distance between hydrocarbons and building slab, and a reduced vadose zone, hydrocarbon species (such as TRH and BTEXN) may represent a risk to future Site users.

- Soil vapour concentrations of benzene, naphthalene, and TRH >C8-C10 (aromatic) in the former gasworks area (the Gateway) represent an unacceptable risk to future users of the Site under the

proposed development. Assessment and remediation of the Gateway was not complete when earlier versions of the SEMP were issued.

- Methane concentrations have been detected in soil vapour and groundwater which represents a hazard to future buildings and structures in the central, southern, and eastern areas of the Site, in all assessment areas excluding the Escarpment, Audit Area 4 East, and Regatta Point.

  The methane risks beneath parts of the Site have been assessed at Characteristic Situation 3 (CS3) (AECOM, 2026a), as defined in *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020).

- Soil vapour has the potential to migrate under the base of large structures which extend across multiple areas of the Site, and could present risks in adjacent assessment areas following migration. Unlike the current proposed Site development (see **Section 2.3**), the Site development proposed prior to 2024 did not include structures which extended across multiple assessment areas. As a result, some vapour protection measures identified for individual areas are now considered to be required for adjacent areas.

Table 10, below, provides a summary of the assessed potential vapour risks for each assessment area. It is noted that:

- Any requirement for vapour mitigation or protection for each assessment area also applies to the entirety of any buildings or structures (including utility conduits) which are within and extend beyond the boundary of the assessment area, and under which soil vapour may potentially accumulate and migrate.
- Previous investigations have assessed that, where concentrations of TRH/BTEXN above vapour intrusion criteria have been reported in soil samples collected from below the water table, partitioning of TRH/BTEXN to the vapour phase will be dominated by groundwater concentrations. TRH/BTEXN vapour protection or mitigation is considered to be required for any structures which include excavation and construction below the water table.
- Vapour mitigation or protection may not be required if future assessment can demonstrate that no unacceptable risk to Site users is presented. Any such assessment must be prepared by a suitably trained and experienced environmental professional, and verified by an independent Environmental Auditor.

Table 10 Vapour risks identified by Assessment Area

Assessment Area	Summary of Vapour Risks	Vapour Protection or Mitigation Required	
		TRH/BTEX	Methane
The Goods Shed and Yard (Audit Area 1)	• No unacceptable TRH/BTEXN vapour risks have been detected for proposed development land uses (commercial) or less sensitive land uses such as industrial or open space at the current surface elevation. However, changes in elevation could alter risk profiles by reducing the distance between the Site surface and detected hydrocarbons (including hydrocarbons in soil) in this area. • Sub-slab vapour sampling within the Goods Shed in 2015 did not detect potentially hazardous concentrations of methane, and methane intrusion has been assessed as not presenting an unacceptable risk for this building. However, methane concentrations in groundwater and in soil vapour in this area exceed adopted criteria and are considered to represent a methane ground gas risk of CS3 (EPA NSW, 2022). Future structures may not have the same ventilation as the Goods Shed (previously assessed in 2015), and methane may represent a risk in new structures or if the ground elevation is altered.	Yes, if surface elevation is lowered from 2025 levels.	Yes[2]
The Escarpment (Audit Area 4 West)	• No TRH or BTEXN concentrations in soil have been detected at any depth which exceed the adopted vapour intrusion criteria for 0 – 1 m bgl for the proposed development land uses (commercial) or less sensitive land uses such as industrial or open space. As such, changes in Site elevation are not considered to represent a change in risk of TRH/BTEXN vapour intrusion from soil. • TRH/BTEXN concentrations in groundwater are below the Site specific RC, which consider potential vapour intrusion as a risk pathway and an assumption of 1 m distance between groundwater and the bottom of building slabs. • No methane concentrations above criteria have been detected in groundwater in this area.	Yes - for structures where groundwater is ≤1 m below the bottom of building slabs.	No

Assessment Area	Summary of Vapour Risks	Vapour Protection or Mitigation Required	
		TRH/BTEX	Methane
The Promenade and Underground Carpark (Lot E and UGC)	• No unacceptable TRH/BTEXN vapour risks have been detected for proposed development land uses (commercial) or less sensitive land uses such as industrial or open space at the current surface elevation. However, changes in elevation could alter risk profiles by reducing the distance between the Site surface and detected hydrocarbons (including hydrocarbons in soil and LNAPL plumes) in this area. • Methane concentrations in groundwater and in soil vapour exceed adopted criteria and are considered to represent a methane ground gas risk of CS3 (EPA NSW, 2022).	Yes, where surface elevation is lowered from 2025 levels.	Yes
The Precinct North (Lot B)	• No unacceptable TRH/BTEXN vapour risks have been detected for proposed development land uses (commercial) or less sensitive land uses such as industrial or open space at the current surface elevation. However, changes in elevation could alter risk profiles by reducing the distance between the Site surface and detected hydrocarbons (including LNAPL plumes) in this area. • Methane concentrations in groundwater and in soil vapour exceed adopted criteria and are considered to represent a methane ground gas risk of CS3 (EPA NSW, 2022).	Yes, where surface elevation is lowered from 2025 levels.	Yes
The Precinct South[1]	• No unacceptable TRH/BTEXN vapour risks have been detected for proposed development land uses (commercial) or less sensitive land uses such as industrial or open space at the current surface elevation. However, changes in elevation could alter risk profiles by reducing the distance between the Site surface and detected hydrocarbons (including LNAPL plumes) in this area. • Sub-slab vapour and indoor air sampling within the existing Red Shed, and previous structure the SeaRoads Shed, in this area between 2015 and 2025 did not detect potentially hazardous concentrations of methane, and methane intrusion has been assessed as not presenting an unacceptable risk for these buildings. However, methane concentrations in groundwater and in soil vapour exceed adopted criteria and are considered to represent a methane ground gas risk of CS3 (EPA NSW, 2022). Methane may represent a risk in new structures or if the ground elevation is altered.	Yes, if surface elevation is lowered from 2025 levels.	Yes[3]

Assessment Area	Summary of Vapour Risks	Vapour Protection or Mitigation Required	
		TRH/BTEX	Methane
The Gateway[1]	• Benzene, naphthalene, and TRH >C8-C10 (aromatic) have been detected in soil vapour above the adopted criteria for commercial/industrial and residential uses, and DNAPL and trace impacts from former gasworks operations are present in soil and groundwater this area which may represent a risk of TRH/BTEXN vapour generation. • Methane has not been detected above adopted criteria in soil, groundwater, or soil vapour in this area. However, exceedances of criteria have been detected in adjacent areas, including in soil vapour and in up- and cross-gradient groundwater, and the presence of gasworks hydrocarbons which may degrade under anaerobic conditions and indicate a risk of methane generation in future.	Yes	Yes
Audit Area 4 East[2]	Environmental assessment of this area is not yet issued.	To be specified in future	
Regatta Point[2]	Environmental assessment of this area is not yet issued.	To be specified in future	

Notes: TRH – Total Recoverable Hydrocarbons; BTEXN – Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene; 1. Environmental Auditor assessment of these areas is not yet complete; 2. Environmental assessment of this area is not yet issued; 3. Methane has been assessed as not representing an unacceptable risk in existing buildings in this area. However, risks may be present for future structures as different construction or ventilation may be present.

Further detail of the requirements to be fulfilled for mitigations are presented in **Section 4.8**.

3.6 Asbestos

Asbestos or ACM fragments have previously been observed in the following locations at the Site:

- Isolated small ACM fragments have been observed at the surface and encountered in fill material in the Promenade and Underground Carpark, and the Escarpment areas and have been collected and removed by the Corporation or a licensed asbestos subcontractor.
- Larger ACM fragments (5 to 300 mm in size) have been encountered in the side of an embankment in Audit Area 4 East, and are currently beneath a capped area to prevent contact by Site users.
- ACM was detected in piping cladding in a former fuel line which was present beneath the Precinct North and Precinct South areas, but was removed by remediation work in 2020 and 2023. No sections of this pipeline with ACM cladding remaining are known to remain on-Site.
- Asbestos has been observed within the Goods Shed building in the southern portion of the Site.
- Anecdotal reports have identified that ACM may be present in service bays buried beneath the former Roundhouse in the Promenade and Underground Carpark area. No ACM has been observed in service bays which have been excavated and inspected to date, however.

An Asbestos Management Plan and Asbestos Register have been prepared for the Site (Appendix J), and should be referred to prior to undertaking works on the Site.

In the event that potential ACM is encountered in soil during subsurface works, all activities are to cease immediately in the immediate work area. The Asbestos Management Plan should be consulted and utilised to develop an appropriate response to the handling and management of ACM.

4.0 Management of Environmental Risks

4.1 Overview

The following sections provide details of measures to be implemented to manage potential human health risks from the environmental condition of the Site.

This SEMP provides a framework for soil and groundwater management measures associated with subsurface works such as the excavation, disposal and/ or reuse of soil and importation of fill material, as well as the requirements and maintenance of barriers designed to mitigate direct and indirect contact with contaminated soils.

As previously noted, should any activities need to occur at the Site that are not currently covered in the SEMP, then the Site Owner/ Manager should update the SEMP to include these activities, where relevant. Alternatively, should the requirement for a more specific environmental management application be determined, a Construction Environment Management Plan (CEMP) may be required which addresses the proposed tasks and how the works shall comply with the general requirements of the SEMP. It is likely that a CEMP will be required during any future significant construction or development programs which occur on the Site.

The following is a list of appropriate legislative and regulatory guidelines that have been considered in the production of this SEMP:

- National Environment Protection Council, *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended in May 2013) [ASC NEPM]
- Tasmanian Government *Environmental Management and Pollution Control (Waste Management) Regulations 2010*
- Tasmania EPA (2018) Information Bulletin No. 105, *Classification and Management of Contaminated Soil for Disposal* (IB105).

4.2 Preventative Exposure Measures

Preventative exposure measures provided in this SEMP can be categorised as follows:

- **Physical Barriers**: Placement/maintenance of a permanent barrier (i.e. concrete, asphalt, clean soil etc.) to mitigate unrestricted access/exposure to the underlying contamination (as described in **Section 4.6**) and a vapour mitigation barrier to prevent vapour intrusion (as discussed in **Section 4.8**).
- **Administrative Measures** such as:
  - Management plans/documents (such as this SEMP or a WHSP) that provide control of the activities and/or use of the areas of the Site as described in **Section 4.3**.
  - Planning controls as described in **Section 4.4**.
  - Exclusion zones as described in Section **4.9**.
  - Site inductions.
- **Personal Protective Equipment (PPE)** as described in **Section 4.5** to mitigate exposure to potentially harmful chemicals in soil and groundwater during subsurface works.

In some cases, it may be necessary to employ multiple preventative exposure measures, beyond the SEMP, that act as a contingency (or 'fail-safe'). For example, two physical barriers (e.g. concrete and plastic marker layer), or a physical barrier (concrete) combined with an administrative barrier (management plan).

4.3 Work Health and Safety Plan

It is recognised that as part of current and proposed future uses of the Site, it may be necessary to undertake intrusive works. Such activities increase the exposure to potentially impacted materials and therefore protective measures are to be adopted prior to work commencing.

Any works conducted on the Site should be undertaken in accordance with a WHSP. This WHSP should provide guidance with respect to the minimum PPE requirements where workers are likely to come into contact with potentially contaminated materials. Specific Safe Work Method Statements (SWMS) for each task to be performed should also be included in the WHSP.

ANY COMPANY/CONTRACTOR ENGAGED TO CONDUCT SUBSURFACE WORKS AND/OR EARTHWORKS ON THE SITE MUST PREPARE A SITE-SPECIFIC WHSP COVERING THEIR WORKERS AND PLANNED ACTIVITIES.

The following is an overview of WHS considerations for any works that may be undertaken, at a minimum, at the Site:

- Identification of WHS roles and responsibilities
- Evaluation of the Site hazards and the risks associated with these hazards
- Risk assessment methods and the risk control measures
- Details on work practices and restrictions, assessment of anticipated protection levels (including PPE), controls on access to the Site and decontamination
- Methodology for handing and management of soil and groundwater in accordance with **Section 4.12** and **Section 4.13** (if required)
- Detail regarding appropriate ventilation of the work area
- First aid and emergency procedures
- The notification of accidents and other matters
- Environmental monitoring protocols.

Appropriate WHS measures should be established by the contractors for personnel involved in subsurface works at the Site. The levels of protection and the procedures specified in this section are related to contamination issues only and do not represent a WHSP for the Site.

The ultimate responsibility and authority for the health and safety of the individual rests with the individual themselves and their colleagues. Each worker is responsible for exercising utmost care and good judgement in protecting his or her own health and safety and that of fellow workers. It is the responsibility of Site owners and those working on Site to bring any observed potentially unsafe condition or situations to the attention of any worker or contractor. Should workers find themselves in a potentially hazardous situation, they should immediately discontinue the hazardous procedure and take effective corrective or preventative action.

All incidents and/or near misses pertaining to works carried out on Site should be reported immediately to the owner or occupier of the area of the Site in which they occur.

4.4 Planning Controls

Development of the Site as described in **Section 2.3** is intended under the following restrictions:

- Development of an area will not proceed without an area-specific Contaminated Land Audit Report and Site Suitability Statement issued by an Environmental Auditor approved under Section 37 of the *Macquarie Point Development Act 2012*.

  Currently, Auditor approval is being sought for the Site uses described in **Section 2.3** and shown on **Figure F2**. Modifications in Site uses or development (i.e. planning for residential uses in an open space area) will require approval by a Contaminated Land Auditor and may require other controls or management measures. The SEMP must be updated if there are any changes in land use, or in controls or mitigations for environmental risks.

- The Site surface will be covered with either hardstand and/or an engineered break layer, as specified in **Section 4.6** of this SEMP, which shall be implemented to provide a framework for ongoing maintenance and management of the Site during future use. This break layer should be instated if any existing Site structures are removed (i.e., such as the proposed relocation of the Goods Shed to the Escarpment)
- ACM has been previously identified within the Goods Shed building (see **Section 3.6** and the Site Asbestos Register attached as **Appendix J**). Prior to commencement of building-related works within the Goods Shed, or any other structures or areas where ACM is identified (i.e., old pipe lagging), a suitably qualified occupational hygienist must be consulted to confirm the nature and extent of ACM in the work area (if any), and to provide advice regarding the locations and management of ACM, including removal if practicable.
- If the Goods Shed is not relocated as proposed, the existing hardstand and flooring (including the slab, raised platform areas, crawl spaces and hard coverings etc.) must remain *in situ*.
- Any conduits or services at a depth of >2 m below the current Site level must be installed in protective shrouds or in trenches/corridors of clean fill. It is noted that as part of the proposed development of the Site, surface elevations in some areas of the Site will be decreased by up to 4.5 m in some areas of the Site (see **Figure F3**), and protective shrouds/clean soil corridors should be considered required for all subsurface services in areas where surface elevation is decrease by more than 1 m from the current level.
- The potential exists for methane, TRH and/or BTEXN migration into buildings or structures within the Promenade and Underground Carpark, the Precinct North, the Precinct South, and the Gateway areas(including continuous structures which extend beyond these areas). Protection against vapour intrusion must be included in work planning and in building and service design and installation, as described in **Section 4.8**.
- The proposed final surface elevations of the northern and north-western portion of the Multipurpose Stadium and Associated Concourse, and of the underground carpark in the north-west of the Site, have the potential to approach or be below the inferred groundwater elevation in these areas.

  Where future development causes (or is expected to cause) surface levels to be lowered or groundwater levels to rise in parts of the Site, such that the depth to groundwater beneath a building slab becomes less than 1 m bgl, design and construction must include measures to prevent:

  - Groundwater entering into buildings and structures, or reaching the Site surface. If groundwater drainage is included in protective measures, any drained groundwater must be considered potentially contaminated waste and be removed by a licensed waste transporter, discharged under a trade waste agreement, or otherwise disposed of in a manner which does not represent any unacceptable environmental risk.
  - Drainage infrastructure and management of groundwater must consider the potential for dissolved methane to off-gas and the risks which may be generated if this occurs, and include management or mitigation measures.

  Any dewatering must also consider potential exposure and oxidation of PASS in saturated soil, as described in **Section 4.12.3**.

4.5 Personal Protection Equipment

It is the responsibility of the contractor carrying out the works on-Site to develop SWMS for works to be undertaken, including the relevant PPE to be worn by the Site workers. This SWMS should be approved by the owner or occupier of the area of Site where works are occurring. The typical minimal level of PPE required for subsurface works includes:

- Neck to toe high visibility clothing
- Hard hat when working with plant equipment (i.e. excavator or similar)

- Protective gloves (Note: Impervious gloves are to be worn if there is potential for contact with potentially contaminated soil and/or groundwater. Gloves should be checked regularly for wear and tear and replaced when necessary).
- Steel-toed boots
- Safety glasses.

Additional PPE for areas of notable contamination should be assessed by Site Safety representatives, including:

- Dust masks, or other measures to mitigate against potential soil dust inhalation, for areas of notable soil contamination noted in **Section 3.2.3** and shown on **Figure F5**.
- Breathing protection and protection such as disposable coveralls for work near NAPL or former gasworks areas.

A first-aid kit, with eye wash bottle and manual should also be available in the work area for intrusive works.

VOC emissions, consisting of fuel hydrocarbon or methane vapours, may become present during excavation, stockpiling and remediation activities involving impacted soils. Vapour monitoring, for example by use of handheld multi-gas monitors, should be undertaken during works where vapour may be generated, with equipment procedures for operation and calibration and applicable action levels must be included in WHSPs.

4.6 Physical Barriers

At present, the Site surface consists of a mixture of:

- Intact concrete or asphalt covering, in:
  - The south, south-east and eastern areas around the Goods Shed, Red Square, the carpark area, and the former SeaRoad Shed Slab.
  - The central western area around 8A Evans Street.
  - The northern portion of the Site along the Escarpment
- Crushed concrete gravel or imported clean VENM over areas of previous excavation, including:
  - The south-west corner (crushed concrete from a former warehouse slab in the area)
  - The centre of the Site (imported VENM).

The following is to be considered with regard to the management of potential human health risks at the Site:

- The Site surface should be maintained with hardstand or an earthen cap to prevent direct human access to soil. In the event that the existing hardstand is partly or wholly removed, and/or changes to the configuration and/or penetrations are made, the following would be required:
  - Further assessment to evaluate potential impact to future users.
  - Reinstatement of hardstand, or placement of an earthen cap.

  It is noted that confirmation of the design of all proposed hardstand or earthen cap areas (i.e. thickness and material type) with a Contaminated Land Auditor is required prior to placement.
- In the event that the existing hardstand is partly or wholly removed, and/or changes to the configuration and/or penetrations are made, the following minimum design barrier shall be installed, unless otherwise agreed to with a Contaminated Land Auditor. Note that consideration will need to be given to the intended use of the hardstand area during the design process to ensure the hardstand is suitable for the anticipated loads (e.g. light or heavy vehicles):
  - *Layer 1*: Orange mesh para-webbing (or similar) placed as an indicator barrier over exposed soils to alert Site users/ maintenance workers.

  - *Layer 2*: Sub-grade/ base material (minimum 0.6 m) certified as 'Fill Material' in accordance with Tasmanian EPA Bulletin 105 and be geotechnically suitable.
  - *Layer 3*: Surface covering such as concrete or asphalt at a thickness suitable for the intended use (e.g. light or heavy vehicles). Asphalt shall be a minimum 30 mm thickness to allow for longevity of the barrier.
- Any drains in future basement or subterranean structures must have a physical barrier (i.e., a grate or mesh) to prevent direct contact with any potential groundwater infiltration to drains.

Modifications of the land use and/or the configuration of the Site surface may result in a potential human health risk due to exposure to contamination in the subsurface. This includes (but is not limited to) the following:

- Construction of new buildings.
- Modification of existing buildings.
- Any subsurface excavation works.
- Modification of the existing surface profile (specifically with respect to excavation and/or levelling of soil).
- Modification of the existing surface coverings (e.g. replacing a concrete area with turf).

Section 4.12 provides further guidance with respect to conducting excavation works on the Site. It is critical that in the event that the existing physical barriers are modified or removed during any future works, then they must be reinstated to a minimum of the same standard/quality that exists at that location currently.

In the event that variation from the barrier requirements within this SEMP are required, the suitability of the proposed barriers should be confirmed with a Contaminated Land Auditor prior to implementation.

4.7 Establishment of Plants and Vegetation

Where possible, landscaped areas and gardens should be established in above ground planter boxes on hardstand and not directly over exposed soil.

Where gardens are proposed in-ground, if proposed planting consists of shallow rooted vegetation only, the following barrier system shall be installed as a minimum:

- *Layer 1*: Orange mesh para-webbing (or similar) placed as an indicator barrier over exposed soils to alert Site users.
- *Layer 2*: Earthen cover (minimum 0.6 m) certified as 'Fill Material' in accordance with Tasmanian EPA Bulletin 105.
- *Layer 3*: Surface coverage (comprising shallow rooted vegetation).

If establishment of deeper rooted vegetation, including the establishment of trees, garden and vegetation area design must conform to the designs attached as **Appendix I**, and meet the following requirements:

- Soil imported for in-ground planting must be Level 1 – Fill Material, as defined in Information Bulletin No 105 – Classification and Management of Contaminated Soil for Disposal (IB105) (EPA, 2018).
- No plants intended for consumption are to be included in any in-ground planting on the Site, and no plants grown in-ground should be consumed.
- The potential size of plant root structures should be considered when selecting species for cultivation on the Site. Planting structures should have sufficient volume for the plants to develop without requiring root structures to penetrate the earthen liners and extend beyond the clean-fill soil.
- The earthen liner and barrier layers included in planting designs are to be installed above the Site water table.

- In-ground planting is only to occur in open space use areas. No in-ground planting is to occur within Site buildings (i.e., within atriums, foyers, or arboretums).
- Trees, or any other deep-rooted plants, which are cultivated on the Site should be excavated and removed as soon as possible if any of the following occurs:
  - Death or significant rot/reduction in size;
  - Toppling/knocking over by wind or impact;
  - Any other event which whereby the original Site soil may be accessible to Site users
- In the event that plant removal occurs:
  - Removal of all root structures must be included.
  - If root structures have extended and pierced the earthen liner and/or indicator barrier layer, these must be repaired and restored as part of removal of the plant(s).

Any alternative planting arrangement must be reviewed by a suitably qualified and experienced environmental professional, and documented as unlikely to represent an unacceptable environmental risk to users of the Site or adjacent areas prior to installation.

4.8 Vapour Intrusion Protection

Known Site contamination or former uses have introduced contamination which may present a risk of vapour generation at hazardous levels.

For construction or other short to medium term intrusive Site modification or improvement projects, WHSPs must include a consideration of monitoring of vapour levels of work zone, with particular consideration of:

- Hydrocarbon and fuel vapours (including both concentrations harmful to health, and potential explosive concentrations) for work in the area of NAPL plumes (including solidified DNAPL plumes) or fuel/gasworks infrastructure.
- Hydrogen cyanide (HCN) gases in disturbance of the former gasworks area of the Site.
- Soil methane is unlikely to accumulate in open excavations or trenches, as dissipation from wind or natural air movement typically exceeds any accumulation which may occur from diffusion from soil impacts. However, potential methane accumulation in small or enclosed structures should be considered.

WHSPs should document monitoring requirements and identified action levels based on health or risk documentation for vapours during works, as discussed in **Section 4.4**.

In addition, as discussed in **Section 3.5**, vapour mitigation or protection systems for TRH/BTEXN and methane are considered required for any new structures within or extending beyond the boundaries of the Goods Shed and Yard, the Gateway, the Precinct South, the Precinct North, and the Promenade and Underground Carpark areas.

Future building and utility design in these areas, or any structures which include these areas in their footprint, must have gas protection systems in place as follows:

- Methane – The protection system must include the sufficient protection measures for CS3, as defined in *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020).

  Table 8 in EPA NSW (2020) provides required gas protection guidance values based on the land use. Based on the current proposed development of the Site, a gas protection guidance value of 2 is considered required (AECOM, 2026a).
- TRH/BTEXN – A vapour mitigation system that provides a protection level equivalent to that specified for CS3 is considered appropriate for VOCs (EPA NSW, 2020), including TRH/BTEXN, if it is:

  - Suitably resistant to Site-specific CoPC identified, TRH and BTEXN, including long-term durability.
  - Has at least one layer of redundancy, where each layer is capable of independently providing the protection required.
  - Has calculated vapour fluxes or venting rates (if a ventilation layer is used) which demonstrate no unacceptable risk to users of the building or structure, as described in EPA NSW (2020).
- Design and construction documentation must include:
  - Demonstrated compliance with the required gas protection guidance value.
  - A documented testing and verification method for vapour intrusion mitigation measures, with reference to Appendix 7 – Verification and construction quality assurance, of EPA NSW (2020).
  - Have documented procedures for ongoing maintenance and inspection of vapour protection systems, including post-construction monitoring of venting layers if used, and requirements for restoration of any vapour protection systems which are damaged or penetrated by future activities.

As noted in **Section 4.7**, inground plants (such as atrium vegetation) must not be established over gas protection systems, to prevent potential roots from penetrating protection layers.

Any design and/or installation of vapour protection measures will require independent oversight and sign-off by an Environmental Auditor, or other suitably qualified and independent verifier.

Scoring and description of potential vapour mitigation measures, taken from Table 9 of EPA NSW (2020), are provided on **Table 11** below, with further detail on each measure found in EPA NSW (2020). A required vapour protection guidance value may be met by a combination of measures but must equal or exceed the requirement.

Table 11 Gas Protection Guidance Values (EPA NSW, 2020)

Measure or System Element	Score	Comments
Venting and dilution measures		
Passive sub-floor ventilation with very good performance – the steady-state concentration of methane over 100% of the ventilation layer remains below 1% v/v at a wind speed of 0.3 metres per second (m/s)[(a)]	2.5	The design of the venting layer (i.e. granular medium with inlet/outlet pipes versus open-void or modular drainage system)[(b)] must be considered when modelling steady-state concentrations
Passive sub-floor ventilation with good performance – the steady-state concentration of methane over 100% of the ventilation layer remains below 1% v/v at a wind speed of 1 m/s and below 2.5% v/v at a wind speed of 0.3 m/s)[(a)]	1.5	If post-installation testing of passive ventilation indicates that it cannot meet this requirement, inlets and outlets must be upgraded. If this is unsuccessful, it will be necessary to retrofit an active system
Sub-floor ventilation with active abstraction or pressurisation	2.5	Not appropriate for NEPM HIL A residential settings because robust management systems, including alarms, must be in place to ensure long-term operation and maintenance. Achieving the full score requires a design with adequate redundancy and full coverage of the building footprint.
Ventilated car park (basement or undercroft)	4.0[(d)]	Assumes that the car park is vented to deal with exhaust fumes in accordance with BCA[(c)] requirements. The design of a car-park and the specifications of its ventilation system need to be considered in assigning an appropriate score of up to four.

Measure or System Element	Score	Comments
Horizontal soil barriers beneath building footprint		
Horizontal clay or amended soil barriers designed to achieve defined permeability and diffusivity of the gases of concern placed, compacted and tested under appropriate engineering supervision	(d)	Requires appropriate engineering input and integration with the building design from the earliest possible stage. This must consider the effects of any proposed piling on the gas regime
Floor slabs		
Reinforced concrete ground-bearing floor slab or waffle pod slab	0.5	At a minimum, it is good practice to install ventilation in all foundation systems to relieve pressure. Breaches in floor slabs, such as joints, have to be effectively sealed against gas ingress to maintain performance
Reinforced concrete ground-bearing foundation raft slab with limited service penetrations cast into slab	1.0	
Reinforced concrete cast in situ or post-tensioned suspended slab with minimal service penetrations and water bars around all penetrations and at joints	1.5	
Fully tanked basement	2.0(d)	The design of a basement and the specifications of its ventilation system need to be considered in assigning an appropriate score. Fully tanked means designed to be waterproof under the range of groundwater conditions likely at the site, to the extent that supplementary internal drainage is not required
Membranes		
Proprietary gas-resistant membrane with a gas transmission rate for the gases of concern on the site that is certified and appropriate to the overall design of the gas protection system. It should be installed by a specialist to an appropriate level of workmanship with documented internal construction quality control (CQC), including integrity testing (e.g. tracer gas or smoke testing), under independent construction quality assurance (CQA) carried out by a certified specialist(e) or appropriately qualified and experienced professional with independent verification of the entire process(f)	2.0	Membrane performance depends on the membrane material and thickness specified, design and quality of the installation, protection from and resistance to damage after installation, and the integrity of joints in membranes that require joints. Materials that offer some degree of self-sealing and repair are preferred. Long-term performance depends on the durability of the material, including its resistance to chemical degradation in the environment in which it is installed
Monitoring and detection (alarms)		
Intermittent monitoring using hand-held equipment	0.5	Monitoring and alarm systems are only valid as part of a combined gas protection system. Where fitted, permanent systems should be installed in the underfloor venting system but can also be provided in the occupied space as a back-up
Permanent monitoring system installed in the occupied space of the building	1.0	
Permanent monitoring system installed in the underfloor venting or dilution system	2.0	

Measure or System Element	Score	Comments
Pathway intervention external to building footprint		
Vertical barrier	(g)	Required for residential and public buildings at CS 4 and above
Vertical venting systems (source depressurisation)	(g)	

Notes: *(a) Verified by post-construction monitoring; (b) See Appendix 6 of EPA NSW (2020); (c) Building Code of Australia; (d) Score depends on site-specific conditions and design; (e) For example, Geosynthetic Certification Institute – Inspectors Certification Program; (f) See Appendix 7 of EPA NSW (2020); (g) Score depends on site-specific conditions and design, but scores of 4.0+ should be achievable*

4.9 Exclusion Zones

Exclusion zones related to sensitive underground services are currently present on the Site and require controls and consideration in work planning. The known services with established exclusion zones are listed on **Table 12** below, and shown on **Figure F5**.

It is noted that other potential exclusion zones, or underground services which represent a risk if disturbed by intrusive works, may be present or installed by other parties in the future. Any intrusive works undertaken on the Site should consider the potential for underground services in work planning.

Table 12 Known Exclusion Zones

Exclusion Zone	Extent and Area	Requirements and Comments
Hobart Main Pipeline (Sewer) Asset owned by TasWater	3 m around the Hobart Main Pipeline, which passes through the central portion of the Site.	Approval from TasWater is required to undertake construction or groundwater disturbance activities within the exclusions zone, with requirements described in *Guidelines for Building near Sewer or Water Pipelines* (TasWater, 2017). It is noted that this sewer line is being realigned off-Site, and is expected to be removed as part of Site development.
Telecommunication Cables Assets owned by Telstra Tasmania	2 m around the telecommunication cables in the Escarpment in the north-west area of the Site.	Any requirements to work near these assets should be confirmed with the asset owner prior to commencement. It is noted that these cables are likely to be removed as part of development of the Site, although it is not known if this has been explicitly proposed or discussed with the asset owner.
High voltage (HV) and low voltage (LV) power cables in a single conduit. Assets are owned by TasNetworks	3 m around the HV cable 0.5 m around the LV cable The cables are located on-Site, or have exclusion zones which extend onto the Site, in the south-west corner within the Gateway	Any requirements to work near these assets should be confirmed with the asset owner prior to commencement. It is noted that areas of potentially elevated contamination have been identified within these exclusion zones, and additional controls (below this table) are required for any activity in the exclusion zones, or if the cables are removed as part of future development.

It is noted that:

- Lead concentrations in soil within the sewer and telecommunication exclusion zones exceeds the Site derived Remediation Criteria (RC), listed in **Appendix G**, for intrusive maintenance workers, and potential exposure to lead in soil should be considered when planning intrusive work within the exclusion zones.

In the event that these services are disconnected and/or removed from the Site:

- Remediation of soil via excavation may be considered. Any such remediation would require validation by a suitability qualified and experienced environmental professional.
- If lead impacted soil is not removed and validated, the records that these areas should be considered as having potentially elevated soil contamination (**Section 3.2.3**) should be maintained. Any subsurface services within these areas should be installed in clean soil corridors or protective shrouds to reduce potential exposure during future intrusive maintenance works.

- Potential NAPL and former gasworks waste, referred to as Tar Plumes A (in part), C and Tar Plume D and described in **Section 3.4**, has been identified within the exclusion zone around the power cables in the south-west corner of the Site.

  In the event that intrusive works are undertaken within the exclusion zone around these power cables:

  - PPE and monitoring requirements suitable for work near potential DNAPL should be incorporated in safety documentation and procedures. At a minimum, monitoring for volatile organic compounds (VOCs) and hydrogen cyanide (HCN) with appropriately maintained and calibrated monitoring equipment should be undertaken, with suitable action levels for any detectable concentrations of potentially hazardous vapour.
  - The high and low voltage cables are understood to be installed within a conduit of clean soil. Tar was not encountered at the base of the conduit during installation. In the event that maintenance on the cables is required, work should be limited to within this soil conduit and vertical excavation should be limited to the extent practicable.
  - If the conduits are removed or otherwise decommissioned and the exclusion zone removed, documentation of Tar Plumes C, D, and the portion of Tar Plume A not treated by ISS should be maintained in the SEMP and considered in planning intrusive work in those areas.

    A barrier layer should be maintained over the areas of potential impact as described in **Section 4.6**.

4.10 Chemical Exposure

The following CoPC have been identified in soil, groundwater, and soil vapour at concentrations above the adopted assessment criteria in past investigations and may pose a potential human health risk during future intrusive work:

- Heavy metals
- PAHs
- TRHs
- BTEXN
- ACM
- Methane
- NAPL, including solidified NAPL

A summary of the potential symptoms of exposure is provided in **Appendix D**. Potential exposure to these CoPC should be managed through the implementation of measures provided in a Site-specific WHSP (refer **Section 4.3**).

Other CoPC which may be present at the Site based on historical uses and information, but which have not been detected at potentially hazardous concentrations, are listed in **Section 3.1**.

4.11 Unexpected Finds

In the event that unexpected finds are encountered during intrusive works which have the potential to cause harm to human health or the environment, works shall cease and the area isolated. The Site supervisor and owner/occupier should then immediately be informed.

An unexpected find may include (but not be limited to):

- ACM (see **Section 3.6**)
- USTs
- Redundant pipework and abandoned services (as discussed in **Section 2.4**)
- Historic artifacts (Aboriginal and European) (see **Section 4.11.1**).
- Former gasworks infrastructure
- Stained, odorous, or discoloured soil
- Groundwater at a shallow depth than anticipated.

The material should be appropriately assessed by an experienced environmental or health and safety practitioner (depending on what the material is) and disposed/treated in a suitable manner with consideration to the guidance outlined in **Section 4.12**. Historic or artifact finds should be managed as described in **Section 4.11.1**

It should be noted that during previous Site investigations, redundant pipes and other abandoned services have been encountered which are not on any records and the origin and purpose of which remains unknown. There remains further potential for unidentified pipes to be discovered during subsurface works, and ACM has been detected in bituminous cladding of some pipelines previously removed from the Site. Underground service location surveys are to be completed prior to the commencement of subsurface works and due caution taken as part of any excavation.

Further to the above, if subsurface works are to be undertaken within the Gateway area, or in proximity to the former Hobart Gasworks, reference is made to recommendations provided in Workplace Standards Tasmania *Safety Alert No. 1 September 2010* with regard to working near historical gas infrastructure.

4.11.1 Protocol for Management of Unanticipated Archaeological Discoveries

The potential exists for unexpected Aboriginal and European artifacts to exist in Site soil. Portions of the Escarpment, Gateway and Promenade and Underground Carpark areas have been identified as a Place of Archaeological Significance in the *Sullivans Cove Planning Scheme.*

The following outlines the protocol for managing Unanticipated Historic (European) Archaeological Discoveries. Separate legislative and procedural requirements exist for Aboriginal heritage and these are documented in the Unanticipated Discovery Plan (attached as **Appendix H**).

Archaeological investigations have taken place at Macquarie Point since 2008 through a series of test and controlled excavations, principally at the western end of the site. These works assist in understanding subsurface archaeological conditions and the potential of certain locations within Macquarie Point to contain archaeological features. Based on these insights, some inferred judgements have been made on:

- The potential, or likelihood for particular areas to contain subsurface archaeology; and
- The likely significance of such features or deposits.

Figure 3 shows the inferred areas archaeological sensitivity of the Site based on works completed to date (MPDC, 2024b), consisting of:

- High Sensitivity. High archaeological sensitivity is present within a single location of Macquarie Point in an area of the original ground surface with demonstrated or historically documented high levels of preservation. This area is highly sensitive both in terms of Aboriginal and early colonial archaeological potential.

- Moderate Sensitivity. Areas of moderate archaeological sensitivity include two places that are within or near to the original shoreline but may not have been heavily or moderately disturbed by twentieth century or late nineteenth century industrial development. These areas may be covered by fill or built upon by later development but there remains a reasonable probability that significant historical or Aboriginal materials are retained, although it is likely they are in a disturbed or secondary context. Any significant archaeological materials that are present may be intermittent or truncated. While twentieth century or late nineteenth century construction has left structural remnants that has not resulted in the total removal of the early soil profile.
- Area Cleared Through Excavation. The archaeological potential of these areas has been previously realised through past archaeological excavations.
- Low Sensitivity. These areas are distinguished by disturbances associated with twenty-first, twentieth century or late nineteenth centuries' industrial development. The pre-colonisation ground surface in this area may be entirely removed or stripped back to bedrock. These locations may also be the site of significant land reclamation. The potential for isolated pockets of redeposited archaeological material remains but is considered to be very small. There is a very low likelihood for Aboriginal cultural material to be present even in secondary contexts.
- Indeterminate or Nil Sensitivity. This rating of sensitivity reflects a lack of determination or a positive assessment of nil archaeological sensitivity across the broader areas of the site as documented in earlier reports and sensitivity mapping. It denominates areas for which detailed subsurface information is lacking but which have not been considered to contain any significant archaeological material. The inclusion of an area within this level of sensitivity rating is not intended as a definitive statement of its sensitivity but rather indicates that while previous sensitivity mapping may have considered the historical development of this area, there has been no assertion of archaeological potential.

The "Royal Engineers Building and Stone Post" (shown on **Figure 3** as 2 Davey Street 'Royal Engineers Building') and the Goods Shed are listed on the Tasmanian Heritage Register and require additional protection and consideration of heritage for development. The Goods Shed is proposed to be moved to the north of the Site, and no development of the Royal Engineers Building is proposed at this time. The former location of Lord's House adjacent to the Royal Engineers Building and the Rivulet Diversion Tunnel (referred to elsewhere in this document and other reports as the Hobart Rivulet) are also of historic interest, but are not registered as heritage features.

Areas of Aboriginal sensitivity, where shell middens have been observed, are also known to be present in Regatta Point.

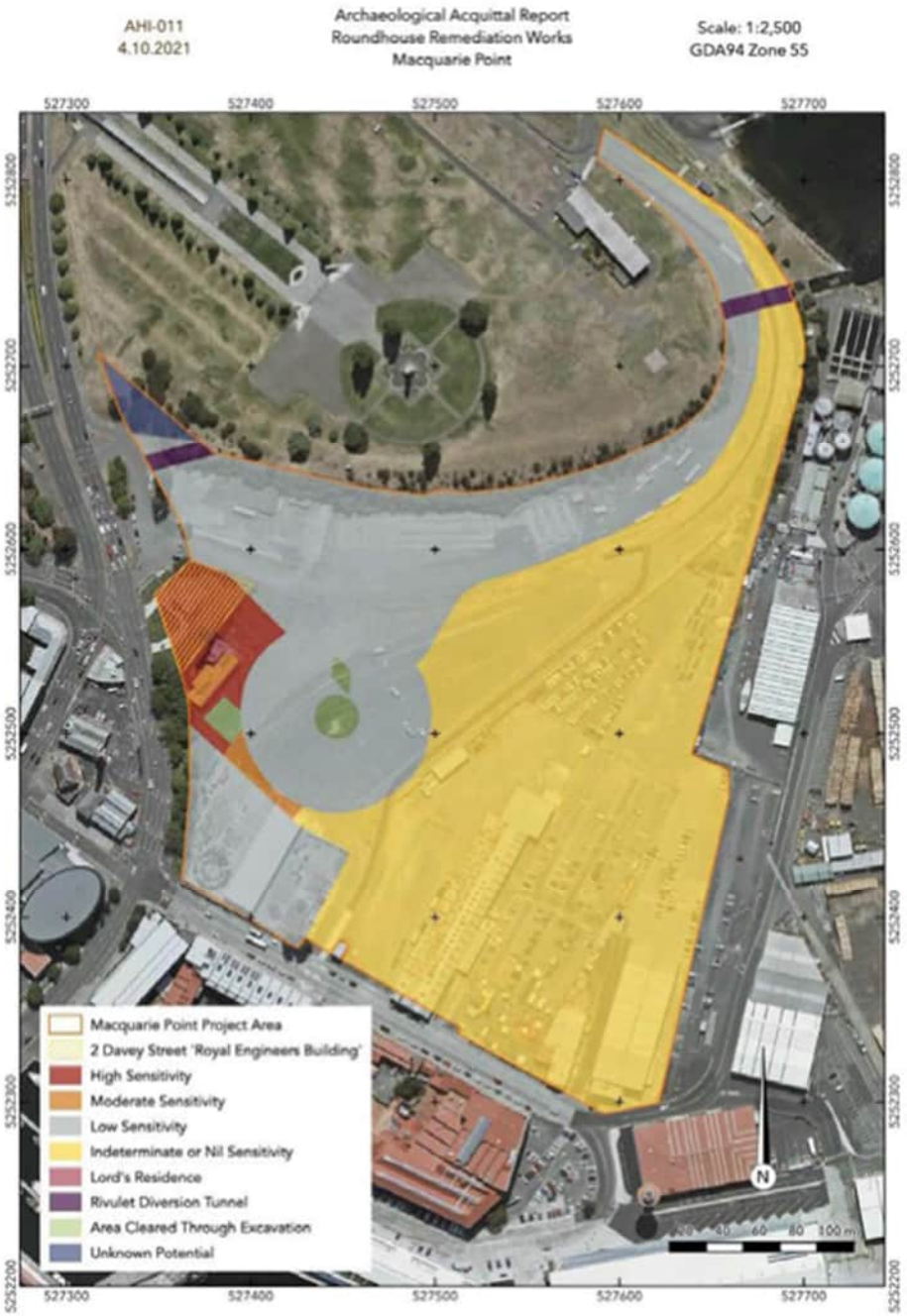

Figure 3 Areas of Inferred Archaeological Sensitivity (MPDC, 2024b)

However, it is highly likely that unanticipated archaeology will be encountered during excavation works because of the diversity and widespread nature of past development on the site and the limited insights available from historical research and excavations.

To account for such finds, project specifications for works must consider the potential for dealing with unanticipated discoveries. The Sullivans Cove Planning Scheme 1997 includes specific requirement as part of its requirements for Archaeological Sensitivity Reports, terming such protocols a ‘watching brief’.

Features may include but not be limited to the exposure of handmade clay bricks or sandstone blocks forming walls or surfaces, or artefacts such as fragments of ceramic, bottle glass, bone, shell or other items. Where such material is found, or where doubt exists, excavations within the area should cease pending attendance on site and receipt of advice from a qualified archaeologist, at which point, depending on the findings, it may also be necessary to involve Hobart City Council in discussions.

What if any further archaeological management is required will depend on the significance of the discovery. This will largely be a question of its thematic context; its potential to provide new and important information; and its condition. Management may vary from no further action, to recording of exposed features, to further archaeological monitoring, testing or controlled excavation in accordance with Parts 4 to 8 of the Tasmanian Heritage Council's *Practice Note 2: Managing Historical Archaeological Significance in the Works Application Process.*

4.12 Soil Management Plan

The management of soils at the Site must have regards to the provision of both the *Environmental Management and Pollution Control Act 1994* and IB105.

4.12.1 Excavated Material

In the event soil needs to be excavated, the contamination status of the soil must be determined and a waste classification assessment completed (discussed in **Section 4.12.4**).

If excavated materials are stored on-Site, they must be stockpiled in a designated area, or otherwise stored in soil drums, waste skip or other containment which prevents contact with Site surfaces or loss of soil via erosion, and must be labelled as contaminated, until the material is removed, reinstated, or otherwise disposed of.

The stockpiling area is to be on hardstand or high-density polyethylene (HDPE) sheeting. Stockpiles should be appropriately managed to prevent the loss of suspect soils as dust (via wind erosion), or stormwater runoff.

This may involve:

- Covering, or spraying the stockpiles to keep the soil damp to mitigate wind erosion.
- Construction of silt fences and other measures to capture and prevent runoff from the area.
- Establishment of exclusion zones or barriers to prevent access and contact with soil by unauthorised people.

Stockpiling for an extended period of time should be avoided in order to mitigate potential environmental impacts such as dust and odour generation, and stormwater and sediment run off. Exclusion zones or barriers should be maintained around excavations to prevent access by unauthorised people who may fall into excavations or come into contact with the soil.

Soils with potentially high levels of contamination encountered during excavation work must be separated and stockpiled from other non-odorous, visibly clean soils, and assessed by a suitably experienced environmental practitioner. Soils which should be separated in this way may be identified by one or more of the following attributes:

- Containing coke, ash, coal tar, ACM fragments, or other visually evident contamination
- Highly odorous (i.e. putrescible, aromatic or hydrocarbon odours)
- Visibly stained (i.e. hydrocarbon staining or other)
- Soil which appears to have been in contact with groundwater
- Soil excavated from the areas of notable soil impacts as noted in **Section 3.2.3**.

4.12.2 Dust Management

This section is applicable to works associated with subsurface excavation and soil movement. It is expected that normal operation of the Site, or intended future uses, will not require the implementation of dust and odour controls.

The following measures that can be undertaken to assist with mitigating issues associated with dust and odours should be considered when planning soil excavation or movement on the Site:

- Minimise movement of vehicles on exposed surface areas
- Minimise excavation and movement of soils

- Dampen down vehicle tracks with water or undertake wheel washing
- Trucks transporting soil around and off-Site should have their loads covered with tarpaulins (or similar) to prevent the emission of dust and/or odour
- Dampen down exposed soil in excavations, or in stockpiles, to minimise dust generation
- Dampen down exposed soil, stockpile, or loads, with an environmentally appropriate odour suppressant solution
- Avoid excavating soil on windy days, due to the increased likelihood of dust and odour generation and transport
- Cover exposed soil (i.e. stockpiles) with netting, matting or plastic sheeting if necessary, to minimise generation of dust and odours.

4.12.3 Acid Sulfate Soil

This section is applicable to works associated with subsurface excavation and movement of soil at or near the water table, where greater than 100 m^3 in volume of soil will be disturbed or potentially exposed to atmospheric oxygen.

PASS located in saturated materials at or near the water table has the potential to oxidise and form Actual Acid Sulfate Soil (AASS) if disturbed or exposed to oxygen. The extent and characteristics of PASS detected at the Site are described in *Acid Sulfate Soil Investigations* (AECOM, 2025d).

Any Site activities where disturbance of soil is identified must have an Acid Sulfate Soil Management Plan prepared, which should be prepared with reference to the *Tasmanian Acid Sulfate Soil Management Guidelines* (DPIPWE, 2009) and must detail:

- Measures taken to eliminate or avoid disturbance and potential acidification of PASS.
- Storage, handling and containment measures for any PASS which is excavated.
- Measures to be taken to neutralise or prevent acidification of PASS, both any which is excavated, and any which remains *in situ* but may be exposed to a potentially oxidising environment.

It is noted that update of *Acid Sulfate Soil Investigations* (AECOM, 2025d) is underway to include additional details on required controls and measures, and is expected to be issued in November 2025. The SEMP will be updated with these measures when available.

4.12.4 Characterisation for On-Site Reuse/ Off-Site Disposal

Tasmanian EPA Information Bulletin No. 105, *Classification and Management of Contaminated Soil for Disposal* (IB105) (EPA, 2018) provides guidance with regard to the classification of contaminated soil for disposal purposes. Two categories of Fill Material were introduced by amendment of the *Environmental Management and Pollution Control Act 1994* (the EMPCA) and the *Environmental Management and Pollution Control (Waste Management) Regulations 2020* in 2021, and clarified by *Clean fill Type 1 and type 2 – Declaration of pollutant levels* (EPA, 2022).

Soil at the Site excavated and removed from the Site as part of remediation work between 2015 and 2024 has typically been characterised as Level 2 – Low Level Contaminated Soil due to the presence of:

- Metals (arsenic, cadmium, chromium (total), copper, lead, mercury, nickel, tin, zinc)
- TPH (>C10-C36)
- PAHs

It is noted that total concentrations of PAHs (generally benzo(a)pyrene and Sum of PAHs) and lead in excess of the Level 2 criteria have been detected in Site soil. However, Section 2 of IB105 states that "*Generally, where a leachable concentration is prescribed in Table 2* [of IB105] *that value takes precedence over the total concentration and is used as the sole determinant of the final classification for disposal…*"

Leachate concentrations of benzo(a)pyrene, benzo(a)pyrene toxicity equivalence quotient (TEF), and lead have typically been reported below the Level 2 criteria. However, total concentrations of these CoPC have been, and should be for future soil, considered when determining disposal scenarios.

Based on analytical results available for soil which remains *in situ* at the Site, it is expected that remaining soil will have similar characteristics. Small areas of other possible characterisations may exist, consisting of:

- Level 1 – Fill Material, which has been identified on-Site in:
  - Areas where clean fill has been imported and no contaminating activities have occurred, such as bedding sand beneath recent slabs.
  - Natural rock (dolerite bedrock) which has been excavated and crushed.
- Level 3 – Contaminated Soil, which has been identified on-Site in:
  - Areas of elevated hydrocarbon impact where bulk fuel storage has previously occurred, such as proximity to known LNAPL plumes.
  - Areas of elevated metals concentration in fill material.
  - Areas of leachable PAHs or tar traces in the former gasworks area in the southwest corner of the Site (the Gateway).

Due to the heterogeneous nature of soil at the Site, excavated soil or other materials from the Site must be stockpiled (or stored within a skip/drums) and appropriately characterised for on-Site reuse or off-Site disposal by a suitable qualified environmental practitioner on a case by case basis.

It is noted that in accordance with IB105, on-Site remediation, treatment and/or reuse is the preferred approach to the management of contaminated soil.

A recommended approach for characterising excavated materials is provided in the following sections.

4.12.4.1 Soil Assessment and Sampling

Any assessment of soil, including any sampling program to determine acceptable on-Site reuse or off-Site disposal scenarios, should be planned and undertaken by a suitability qualified and experienced environmental practitioner.

Any such assessment should consider the history of the source area and potential sources of contamination, and any previous investigations or available analytical data, in order to identify CoPC in the soil to be assessed. Additional sampling, if required, should be conducted in line with the guidelines and practices in the ASC NEPM and other guidance or commonly accepted reference methodologies, and should include quality assurance and quality control sampling such as intra- and inter-duplicate samples and analytical blanks.

Soil should be sampled at a suitable rate for assessment and identification of contaminants. IB105 defines 1 sample per 25 m^3 for waste classification, but statistical assessment methodologies, such the approach provided in *IWRG702 - Industrial Waste Resource Guidelines: Soil Sampling for Waste Soils* (IWRG702) (EPA Victoria, 2024) may be appropriate for larger volumes with EPA approval.

4.12.4.2 On-Site Reuse

To assess the suitability for excavated materials to be reused on Site, it is recommended that soil data be screened against the Site derived Remediation Criteria (RC) developed by AECOM (refer AECOM, 2016, 2025a) and listed in **Appendix G**. The RC are based on generic assumptions regarding future land use including:

- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of Maintenance Workers) to have direct contact with soils or groundwater.
- Groundwater extraction will not be undertaken except for investigative or remediation purposes.
- A SEMP (this document) will be in place in the future to maintain/manage the surface cover. The SEMP is likely to be included as part of the Site suitability statement provided by the Site Environmental Auditor.

- Adjacent off-Site land uses include open space, commercial/industrial and residential areas. As these potential land uses have been considered on the Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary).
- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan. The CEMP will be prepared during the planning stage for any future remediation and/or development activities.

Soil should be analysed for, at a minimum:

- Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, vanadium, and zinc)
- TPH
- BTEX
- PAH
- Cyanide
- Phenolic compounds.

In addition:

- At least 30% of samples should be analysed for a full suite of the compounds listed in IB105, with the exception of tributyltin, which has not been detected or historically used on Site.
- If it is suspected that other contaminants may be present (e.g. asbestos), these should also be included in the analytical suite.
- If >100 m^3 of soil has been excavated from below or within 1 m of the water table, it should be managed as PASS as described in **Section 4.12.3**. Soil should only be considered for reuse if neutralisation of any potential acidification has been confirmed by laboratory analysis, typically by either chromium reducible sulfate (CRS) or suspension peroxide oxidation and combined acidity sulfate (SPOCAS) analysis.

Where compounds are reported below the interim RC, soils may be reused on-Site and covered with an impervious barrier (i.e. placement of physical hardstand). In cases where compounds are reported above the interim RC, an appraisal as to whether the material is suitable for on-Site reuse (with consideration to the implementation of additional management controls) should be undertaken by an appropriately experienced environmental practitioner.

4.12.4.3 Off-Site Disposal

If off-Site disposal of excavated material is planned, stockpiles or waste in soil drums must be sampled and analysed for waste characterisation purposes prior to removal from Site in accordance with IB105.

Material should be sampled at a rate of 1 sample per 25 m^3 (or three samples as a minimum) and analysed for compounds listed on Table 2 of IB105. Alternative sampling suites and/or density may be accepted by EPA and waste disposal facilities, but any change from the sample suites and sample density should be determined by a suitably qualified environmental practitioner.

If >100 m^3 of soil has been excavated from below or within 1 m of the water table, it should be managed as PASS as described in **Section 4.12.3**, and neutralisation should be confirmed by laboratory analysis prior to any off-Site disposal.

Table 13 below provides an overview of soil disposal options with reference to IB105.

Table 13 IB105 – Waste Classification Summary

EPA Classification	Disposal/ Treatment Options	Requirements
Level 4 (Contaminated Soil for Remediation)	• On-Site remediation • Off-Site remediation • Storage pending availability of treatment	• No direct disposal to landfill • EPA Environmental Approval and transport certificates must be used • Vehicles must hold EPA permit (unless exemption issued)
Level 3 (Contaminated Soil)	• On-Site remediation • Off-Site remediation • Licensed landfill	• Disposal to licensed facility • EPA Environmental Approval and transport certificate system must be used • Vehicles must hold EPA permit (unless exemption issued)
Level 2 (Low Level Contaminated Soil)	• On-Site remediation • Off-Site remediation • Licensed landfill	• Disposal to licensed landfill • EPA Environmental Approval and transport certificate system must be used • Vehicles must hold EPA permit (unless exemption issued)
Level 1 (Fill Material)	• Unrestricted	• Disposal should not adversely impact the environment or human health

A Waste Management Plan (as detailed in Section 5.2 of IB105) must be prepared and submitted to EPA for approval for disposal of any material which is classified as *Level 2 (Low Level Contaminated Soil)* or above.

Soils and excavated materials classified as *Level 4 (Contaminated Soil for Remediation)* must be remediated (either on-Site or off-Site) and are typically unable to be disposed directly to landfill without treatment.

Any proposed disposal site must be legally able to accept the quantities and contaminant profile of any material proposed for off-Site disposal.

4.12.5 Imported Material

Any materials imported to the Site for use as fill will be required to meet the environmental and geotechnical requirements specified for the particular end use. Material should comply with the requirements for reuse as defined in IB105 and should be assessed and below the site specific RC as defined in **Appendix G**.

Compaction of backfill should be applied such that the reinstated areas will not settle.

4.12.6 Surface Reinstatement and Barrier Restoration

Where hardstand has been removed to facilitate excavation activities, it is recommended that the surface be reinstated with like materials (i.e. concrete with concrete), or with a physical barrier which fulfils the requirements described in **Section 4.6**.

4.12.7 Material Tracking

A record of excavated soil and stockpile movements, including, but not limited to, the location of materials excavated, quantities, descriptions of materials encountered (including observations of potential contamination), laboratory test certificates, disposal location, and tip dockets, should be maintained by the Site owner or occupier for any work involving the import, excavation, or other movement of soil at the Site. This tracker should be kept with Site records for future reference.

The form of tracking may be determined by those managing or conducting the works, however an example materials tracking register is attached as **Appendix E**.

4.13 Groundwater Quality Management Plan

A Site-specific Groundwater Quality Management Plan (GQMP) is attached as **Appendix F**, and must be implemented at the Site in order to allow:

- Maintenance of knowledge on the condition of Site groundwater elevation, flow direction, and chemical characteristics and record any changes which may arise over time or as Site condition changes.
- Assess if unacceptable risks to on- and off-Site human and ecological receptors may be presented by changes in groundwater conditions, and to identify what additional assessment, mitigation, or remediation actions are required.

The GQMP includes:

- A summary of the regulatory framework applicable to the assessment and management of groundwater at the Site.
- Data Quality Objectives (DQOs) for groundwater monitoring events (GMEs) at the Site.
- Methodologies for ongoing monitoring and sampling of groundwater.
- Key groundwater risks.
- Trigger levels and contingencies.

The GQMP should be reviewed and updated at the same frequency and conditions as the SEMP (**Section 5.4**), or as otherwise identified within the GQMP. Ongoing groundwater monitoring at the Site within the GQMP may only cease with Environmental Auditor verification of the final GME report which recommends cessation of groundwater monitoring.

4.14 Noise Control

Works with heavy plant or other equipment which has the potential to cause noise above background levels should be conducted in accordance with the most recent version of the Corporation's Construction Noise and Vibration Management Plan (CNVMP) (Hanson, 2025), or have otherwise documented procedures and methodologies which comply with the *Environmental Management and Pollution Control (Noise) Regulations 2016*.

Noise and vibration controls should consider and include:

- Receptors on- and off-Site who may be affected by noise and vibration.
- Acceptable levels of noise and vibration generation, including Noise Management Levels and alarm levels
- Potential sources of noise and vibration, and allowable hours of operation
- Mitigation and monitoring procedures

5.0 Implementation

The SEMP is an active document, which needs to be considered by all parties/stakeholders who may plan or undertake works which come into contact with Site soil or groundwater or access confined spaces where groundwater or soil vapour infiltration may occur. Any parties carrying out such works at the Site shall satisfy themselves that suitable safety and environmental controls have been implemented as part of their proposed works program.

Should any activities by the Site owner or occupier, or with their consent, need to occur on the Site that is not currently covered in the SEMP, then the SEMP should be updated to include these activities. Alternatively, as stated in **Section 4.1**, a CEMP may be required which specifically addresses the proposed tasks and how the works shall comply with the general requirements of the SEMP.

5.1 Site Inspection

Visual inspections of the Site should be undertaken by the Site owner or occupier (or nominated representative) annually to assess the surface condition of the Site. Where excavations have taken place, and excavations have been backfilled, the surface is to be reinstated with an impervious barrier (i.e. placement of physical hardstand).

If significant works are undertaken, or breaches or damages to surface protections are detected, inspection of the affected area should be undertaken at the time of works, and at the completion of modifications of the area, or repairs to damaged surface coverings.

Where this has not been undertaken, corrective actions will be required to reduce the risk to an acceptable level to such an extent that it no longer presents an unacceptable risk to human health or the environment.

A register of the completion of visual inspections and documentation associated with works completed subsequent to inspections identifying the need for corrective actions should be maintained by the Site owner or occupier, as noted in **Section 5.5**.

The register of inspections should include (but not be limited to) the following:

- Time and date of the inspection and/or incident
- Details of any visual indications of changes to surface conditions at the Site
- Details regarding the cause (suspected or known) of the breach
- Details and documentation associated with works undertaken in the reinstatement of surface condition
- Details of any systems or procedures implemented to prevent similar breaches or deteriorations in the future.

5.2 Incident Management

All environmental incidents should be recorded, and if an incident or potential incident is likely to cause significant impacts to people or the environment, the Site owner or occupier should be immediately notified.

Environmental incidents, accidents or mishaps include:

- An incident or actual environmental impact.
- A near miss, where an incident has occurred, but no environmental impact occurred.
- Observations of potentially hazardous or unsafe situations.

Records shall be kept by the Site owner or occupier of any environmental incidents, hazardous situations, unusual events and the corrective action taken. A representative of the Site owner or occupier should investigate the cause of any emergency so that necessary changes in work practices can be made to prevent the incident recurring.

5.3 Corrective Actions

In the event that Site conditions result in an accidental or unintentional risk to human health or the environment without implementation of appropriate exposure minimisation measures, isolation of the affected area should be undertaken and steps taken by the most suitable and effective means to prevent exposure to Site personnel or the environment.

Following this, the SEMP should undergo a review of all procedures to minimise the potential for future exposure of impacted material. Corrective actions should be completed in a manner and timing as directed by the Site owner or occupier.

Following the incident or accident, a documented review of the incident should be undertaken by the Site owner or occupier (or their nominated representative). The review should be tasked with identifying the cause of the incident and providing recommendations on alternative procedures or systems to be implemented at the Site and/or within the SEMP to prevent/minimise the likelihood of the incident reoccurring.

5.4 Document Revision

A review of the SEMP should be undertaken by the Site owner/occupier:

- Every three years, based on the range of 1 to 5 years provided in *Environmental Management Plan Guidelines* (DCCEEW, 2024).
- If significant changes in Site use or environmental condition (i.e., a chemical release) occur.
- If significant changes to environmental legislation occur
- Within three months of any design variance being reviewed and accepted by a suitably qualified and experienced Contaminated Land Auditor prior to construction (**Section 1.2**).

Reviews should consider the following, and identify if any update or revision of the SEMP is required:

- Any non-compliances with the SEMP that have not been rectified
- Means of improving environmental compliance
- Changes legislation or guidelines that impact any part of the SEMP or use of the Site
- Proposed changes in the way the areas of the Site are used or any changes in the surrounding land use which may impact upon exposure pathways.
- Any design variances (i.e., proposed designs which did not comply with the wording of the SEMP) which have been reviewed and verified as not introducing any unmanaged or unacceptable environmental risks by a suitably qualified and experienced Contaminated Land Auditor (see **Section 1.2**).

Any changes or updates to the SEMP should be recorded in **Appendix K**. The Site owner/occupier (or their designated delegate) must communicate any changes and provide the most recent version of the SEMP to any contractors or other workers who are undertaking Site activities which may come into contact with soil or groundwater.

5.5 Record Keeping

The Site owner or occupier will be responsible for keeping documents relating to the implementation of the SEMP, including (but not limited to):

- Documentation generated by the activities in **Section 5.1** to **5.3**, including records of Site inspections, environmental incidents, and corrective actions.
- The outcomes of additional environmental assessments or modifications in the future Site uses.
- Any design variances (i.e., proposed designs which did not comply with the wording of the SEMP which have been reviewed and verified as not introducing any unmanaged or unacceptable environmental risks by a suitably qualified and experienced Contaminated Land Auditor (see **Section 1.2**).

- A SEMP maintenance register (including superseded versions of the SEMP), Site inspection documents, permits and approvals for environmental work, and training records of people who have been inducted onto the SEMP.
- Documentation of the following:
    - Materials tracking and disposal
    - Unexpected finds
    - Environmental incidents which occur on Site
    - Any other environmental investigations or records, such as records of annual GMEs conducted under the GQMP (**Appendix F**).

The SEMP and any records of environmental activities must be provided by the previous Site owner to the new owner in the event of any land sale or transfer, which changes control of all or a portion of the Site.

6.0 References

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7.0 Limitations

AECOM Australia Pty Limited (AECOM) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of the Macquarie Point Development Corporation and only those third parties who have been authorised in writing by AECOM to rely on this Report.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Report.

It is prepared in accordance with the scope of work and for the purpose outlined in the contract titled *Macquarie Point Development Project – Proposal for Report Updates – Acid Sulfate Soil and SEMP* dated 19 September 2025.

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Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Report. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

Appendix A

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Figure F2 Site Layout and Proposed Development

Figure F3 Current and Proposed Final Surface Elevations

Figure F4 Current Groundwater Wells and Soil Vapour Bore Locations

Figure F5 Subsurface Features

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DATUM GDA 1994, PROJECTION MGA ZONE 55

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metres

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LEGEND

- Regatta Grounds Boundary
- Macquarie Point Site Boundary

SITE LOCATION

Macquarie Point Development Corporation

Site Environment Management Plan

Macquarie Point, Hobart, TAS

Figure
F1

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\01\SRS_24\F1_Site_Location.mxd)

A3 size

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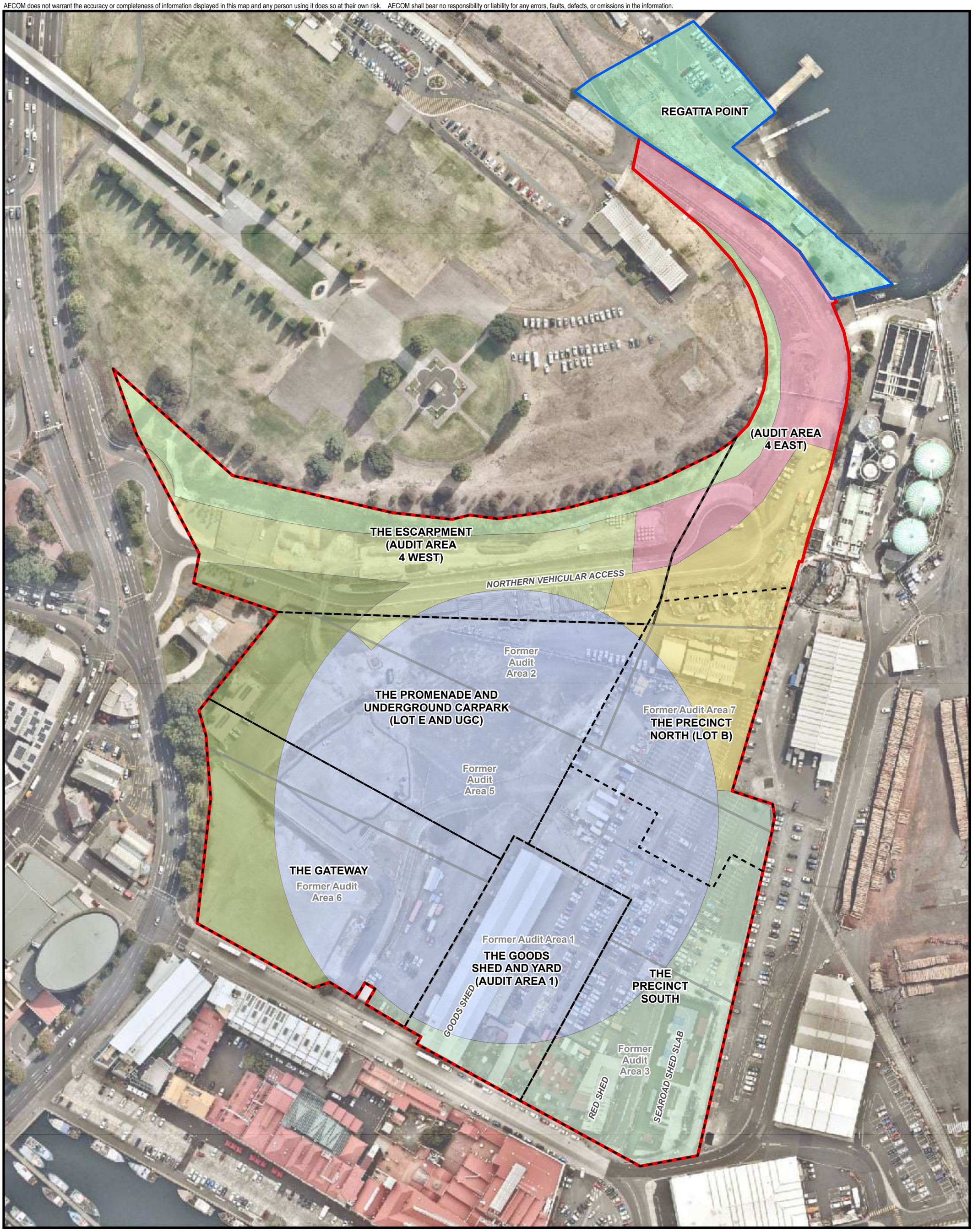

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Legend

- Regatta Point Boundary
- Assessment Area
- Former Audit Areas
- Site Boundary

Proposed Future Land Use

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE SETTING AND LAYOUT

Macquarie Point Development Corporation

Site Environment Management Plan

Macquarie Point, Hobart, TAS

Figure
F2

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REGATTA POINT

THE ESCARPMENT (AUDIT AREA 4 WEST)

(AUDIT AREA 4 EAST)

Final level - 4.8 mAHD

Final level - 1.7 mAHD

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC) (PART AUDIT AREAS 2 AND 5)

Final level - 3.0 mAHD

THE PRECINCT NORTH (LOT B) (AUDIT AREA 7 AND PART AUDIT AREAS 2,4 AND 5)

THE GATEWAY (AUDIT AREA 6 AND PART AUDIT AREA 5)

Final level - 3.3 mAHD

THE GOODS SHED AND YARD (AUDIT AREA 1)

THE PRECINCT SOUTH (AUDIT AREA 3 AND PART AUDIT AREA 5)

Final level - 2.9 mAHD

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Legend

- Regatta Point Boundary
- Current Assessment Area Boundary
- Site Boundary

Final Surface Level

- Final level - 1.7 mAHD
- Final level - 2.9 mAHD
- Final level - 3.0 mAHD
- Final level - 3.3 mAHD
- Final level - 4.8 mAHD

CURRENT AND PROPOSED FINAL SURFACE ELEVATIONS

Macquarie Point Development Corporation

Site Environment Management Plan

Macquarie Point, Hobart, TAS

Figure
F3

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metres

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Legend

- 2025 Groundwater Well
- Existing Groundwater Well
- 2025 Soil Vapour Bore
- Existing Soil Vapour Bore
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- Assessment Area Boundary
- Site Boundary

CURRENT GROUNDWATER WELLS AND SOIL VAPOUR BORE LOCATIONS

Macquarie Point Development Corporation

Site Environment Management Plant

Macquarie Point, Hobart, TAS

Figure F4

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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HOBART RIVULET DIVERSION
(AUDIT AREA 4 EAST)
NORTHERN VEHICULAR ACCESS
THE ESCARPMENT (AUDIT AREA 4 WEST)
THE ROYAL ENGINEERS BUILDING AND LAND
A1
LNAPL Plume A1
THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)
Former LNAPL Plume A3
THE PRECINCT NORTH (LOT B)
A2
LNAPL Plume A2
Tar Plume D
Tar Plume C
Tar Plume A
Tar Plume B
THE GATEWAY
THE GOODS SHED AND YARD (AUDIT AREA 1)
GOODS SHED
THE PRECINCT SOUTH
SEAROAD SHED SLAB
RED SHED
FORMER HOBART RIVULET
B
LNAPL Plume B

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Legend

- Assessment Area
- Regatta Point Boundary
- Site Boundary
- Sea Wall
- Sealed Pipe
- Potential Buried Railway
- Engineer's Jetty (Buried)
- HV Conduit
- LV Conduit
- City of Hobart Services
- Stormwater pipeline
- Sewer (Main Hobart Pipeline)
- Former Sewer pipeline
- Naval oil pipeline
- Water pipeline
- Diesel Pipeline (Remaining)
- Oil Line (Remaining)
- Fuel Line (Remaining)
- Telecommunication Cables
- Lead impacted soil on Site boundary
- Petroleum impacted soil on Site boundary
- Buried and capped ACM
- Previous UST Location
- Lead impacted soil to be excavated as part of development
- Lead impacted soil may be present at base of excavation following development excavation

SUBSURFACE FEATURES

Macquarie Point Development Corporation

Site Environment Management Plan

Macquarie Point, Hobart, TAS

Figure F5

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\09\Precinct_South_CUTEP\F4_A3P_Subsurface_Features.mxd)

A3 size

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Appendix B

SEMP Distribution and Sample Induction Register

Site Owners/Occupiers - SEMP Distribution List

Date	Revision	Area of Site	Owner / Occupier	Contact Name	Contact No.
15-Oct-2021	A	Whole Site	Macquarie Point Development Corporation	Greg Cooper	0400 165 638
22-Oct-2021	0				
17-Nov-2021	1				
18-Dec-2024	2				
30-Sep-2025	3				

SEMP Induction Form

Date	Name	Company	Position/ Responsibility	Contact No.	Signature

DRAFT

Appendix C

Area Specific Contamination Fact Sheets

Macquarie Point Site Environment Management Plan

Area Specific Contamination Fact Sheets

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1.0 Goods Shed and Yard Contamination Summary

Historical activities undertaken within The Goods Shed and Yard area have resulted in the presence of residual soil and groundwater contamination. Multiple phases of soil, groundwater and soil vapour investigations have been undertaken to assess the nature and extent of contamination. The following sections provide an overview of identified soil and groundwater impacts in this area of the Site.

No further remediation of the Goods Shed and Yard is planned or considered required at this time.

1.1 Identified Soil Impacts

Fill has been identified beneath the Goods Shed and Yard area from the surface to depths of 7 – 10 m below ground level (bgl). Field observations indicated that fill material is heterogeneous comprising silts, sands with dolerite gravels and cobbles with occasional rubble, glass, metal fragments, coal, coke and ash. A slight hydrocarbon odour was noted at two sampling locations (BH36 and MW127), and a slight hydrocarbon sheen was also noted during the drilling of the soil bore for groundwater well MW127.

The field observations and the presence of Chemicals of Potential Concern (CoPC) above the adopted soil investigation (Tier 1) criteria are likely to have occurred as a result of the placement of fill material associated with the former Hobart Gasworks, or potentially from impacted fill material imported to the site for land reclamation.

Concentrations of Polycyclic Aromatic Hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPH) / Total Recoverable Hydrocarbons (TRH) and select metals were reported in soil above the adopted Tier 1 criteria for the following Protected Environmental Values (PEVs):

- Residential, Recreation/ Open Space or Commercial/ Industrial Land Uses
- Maintenance of Modified and Highly Modified Ecosystems.

Table 1 below provides a range of concentrations of CoPC (or general CoPC groups) identified within the Goods Shed and Yard area that have been reported above the adopted Tier 1 criteria.

Table 1 Summary of Soil Analytical Results – The Goods Shed and Yard

CoPC	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)
Lead	<5	1,640
Nickel	<2	77
Copper	<5	248
Zinc	6	2,820
TRH (C_{10}-C_{40})	<50	10,500
Benzene	<0.1	0.8
Total PAHs	<0.5	2,310

1.1.1 Shallow Lead Impacted Soil

The presence of shallow lead-impacted soil has been identified at some locations within the Goods Shed and Yard area at depths <2.0 m below ground level (bgl), with some isolated impacts also noted at depths >2.0 m bgl at locations K14, L18, L13, M13 and M14. As a result, there is potential for Intrusive Maintenance workers within the Promenade and Underground Carpark area to come in contact with these soils.

However, based on the overall statistical assessment of shallow lead impacts in this area conducted against the Maintenance Workers Site Derived RC, remediation of these impacts is not considered as required (AECOM, 2021a). It is further noted that these locations will be excavated and removed as part of Site development.

Following Site development, any services or conduits that will be installed within soil at a depth of >2.0 m bgl (i.e. below or in deeper soil next to the Underground Carpark) must be installed in protective shrouds or in trenches/corridors of clean fill to prevent contact with Site soil.

Maintenance Workers should use appropriate PPE (i.e. dust masks and gloves) to reduce potential exposure to lead in soil. Soil management requirements are discussed in the main body of the SEMP

1.1.2 Asbestos

Whilst asbestos has not been identified in soil during previous environmental investigations, there is potential that Asbestos Containing Material (ACM) may be encountered during intrusive works or require management as part of building refurbishment activities within the Goods Shed and Yard area.

Asbestos has been noted within the Goods Shed building.

1.2 Identified Groundwater Impacts

Groundwater Monitoring Events (GMEs) have been routinely conducted for wells located within the Goods Shed and Yard area since January 2015.

Over this timeframe, groundwater samples have had concentrations reported of a combination of arsenic, cobalt, iron, manganese, zinc, ammonia, sodium, chloride, TDS and sulphate, above the adopted Tier 1 assessment criteria for groundwater PEVs.

Table 2 below provides a range of CoPC concentrations (or general CoPC groups) identified within The Goods Shed and Yard area that have been reported above the adopted Tier 1 criteria.

Table 2 Summary of Groundwater Analytical Results – the Goods Shed and Yard

CoPC	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)
Arsenic	<0.001	0.021
Cobalt	<0.001	0.012
Iron	0.46	34
Manganese	0.004	2.48
Zinc	<0.005	0.23
Ammonia	<0.001	26
Total Dissolved Solids (TDS)	38	3,650
Sodium	<1	930
Chloride	3	4,400
Sulphate	<1	930

2.0 The Escarpment (Audit Area 4 West) and Audit Area 4 East Contamination Summary

Historical activities undertaken within the Escarpment and the Audit Area 4 East areas have resulted in residual soil and groundwater contamination. Multiple phases of soil and groundwater investigations have been undertaken to assess the nature and extent of contamination.

The following sections provide an overview of identified soil and groundwater impacts at these areas of the Site. It is noted that remediation of soil impacts in the Escarpment area was conducted in late 2019 and early 2020 as reported in *Audit Area 4 – Remediation Validation* (AECOM, 2020b).

No further remediation of the Escarpment is planned or considered required at this time. However, further remediation and Auditor approval is required for Audit Area 4 East prior to future development.

2.1 Identified Soil Impacts

In the Escarpment and Audit Area 4 East areas, fill material consists of crushed stone/ballast, silt and clayey gravels with occasional rubble, brick and wood fragments.

Concentrations of Polycyclic Aromatic Hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPH) / Total Recoverable Hydrocarbons (TRH) and select metals were reported in soil above the adopted Tier 1 criteria for the following Protected Environmental Values (PEVs):

- Residential, Recreation/ Open Space or Commercial/ Industrial Land Uses
- Maintenance of Modified and Highly Modified Ecosystems.

Table 3 below provides the range of concentrations of Chemicals of Potential Concern (CoPC) (or general CoPC groups) identified within the Escarpment and Audit Area 4 East areas that have been reported above the adopted Tier 1 investigation criteria.

Table 3 Summary of Soil Analytical Results – the Escarpment and Audit Area 4 East

CoPC	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)
Lead	<5	1,070
Nickel	3	62
Arsenic	<5	552
Copper	12	828
Zinc	16	1,220
TPH (C_{16}-C_{34})	<100	4,170
TPH (C_{10}-C_{16})	<50	5,680
TPH (C_{10}-C_{16}) (minus Naphthalene)	<50	5,670
TPH (C_6-C_{10}) (less BTEX[1])	<10	53
Benzo(a)pyrene	<0.5	46.4
Total PAHs	<0.5	464
Naphthalene	<0.5	17
Dibenz(a,h)anthracene	<0.5	7.1
Indeno(1,2,3-c,d)pyrene	<0.5	24.3

Note: 1. BTEX – benzene, toluene, ethylbenzene and xylenes

2.1.1 Lead Impacted Soil in Telecommunications Cable Exclusion Zone (the Escarpment)

During remediation works in the Escarpment, a lead concentration of 1,600 mg/kg was reported in soil validation sample CB-EX-41, collected from the boundary of the 2 m buffer zone surrounding the major telecommunications cable in the former Concrete Batching Plant area of the Escarpment. The location of the lead detection is shown on **Plate 1** below.

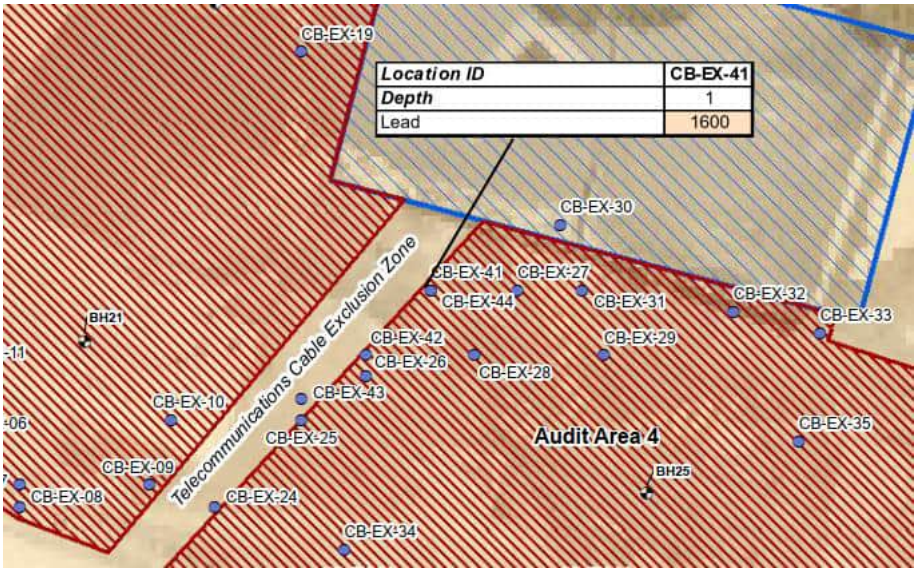

Plate 1 Location of lead in soil detection in telecommunication cable exclusion zone

Due to the risk of damage to the cable from excavations in this area, the asset owner (Telstra) did not give approval for excavation of soil in the exclusion zone. The impact was assessed as localised and not typical of the material in the exclusion zone in the Remediation Validation report (AECOM, 2020b), and soil present within the exclusion zone has been isolated from clean fill using a 200 µm plastic liner (shown on **Plate 2** below).



Plate 2 The Escarpment - Liner on the Western Boundary of the Telecommunications Cable

Future works in this area should consider the potential for lead impacts to be present if this soil is to be disturbed.

2.1.2 Asbestos in Audit Area 4 East

On 9 July 2020, contractors (Pitt & Sherry Pty Ltd) working for the Macquarie Point Development Corporation detected fragments of Asbestos Containing Material (ACM) in the embankment within Audit Area 4 East adjacent to the boundary with the Escarpment. The following was noted with regard to these fragments:

- The ACM encountered consisted of fragments of corrugated roofing material between 5 to 300 mm in size.
- ACM was typically encountered 400 – 600 mm below the ground surface.

All encountered ACM and surrounding soil were removed when encountered and the area was assessed by an occupational hygienist to be free of visual ACM. The hygienist indicated that the number of ACM fragments present appeared to increase in the northwest of the area cleared and may be present in the adjacent embankment in that direction.

The location where ACM was detected, and the potential area to the northwest, has been added to the Site Asbestos Register, and both areas are shown on **Plate 3** below.

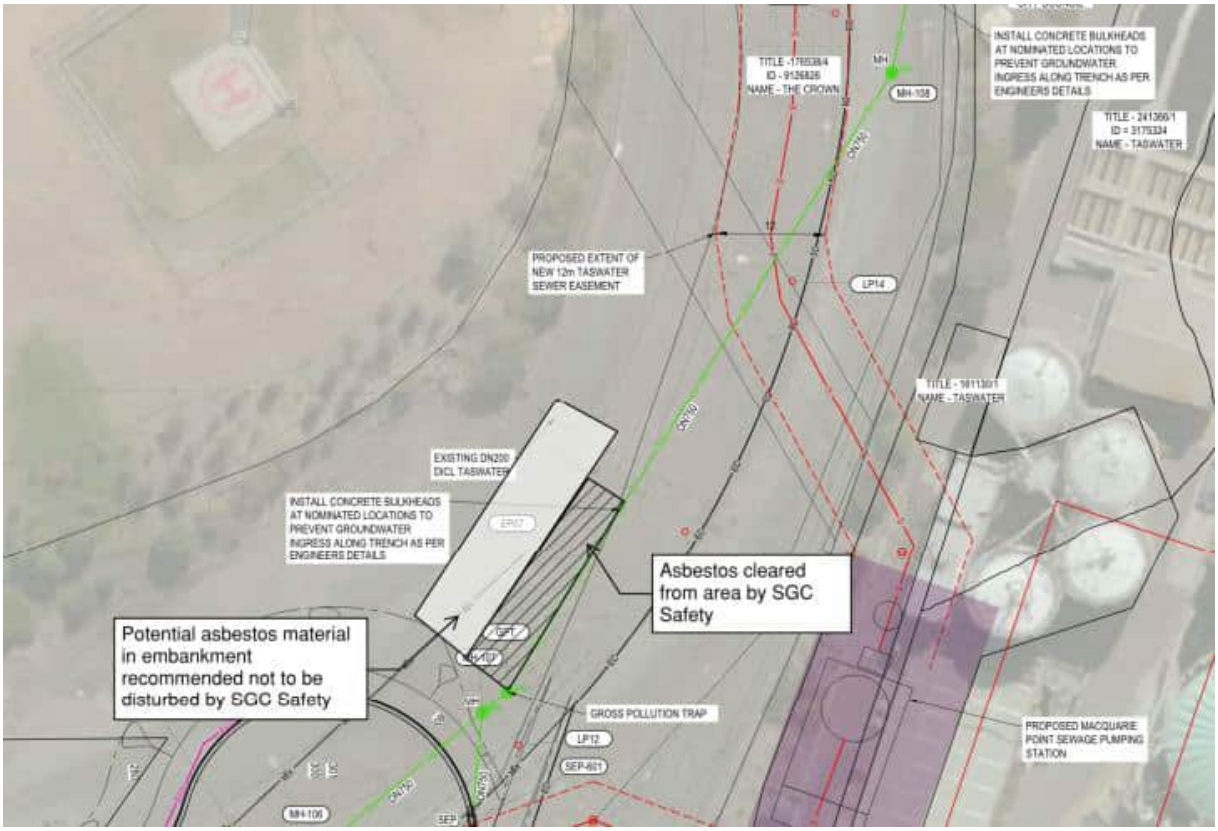

Plate 3 Audit Area 4 East - Area of ACM Encountered

2.2 Identified Groundwater Impacts

Groundwater Monitoring Events (GMEs) have been routinely conducted for wells located within these areas since February 2015.

Over this timeframe, groundwater samples have reported concentrations of a combination of aluminium, iron, manganese, arsenic, boron, copper, vanadium, zinc, phosphorus, ammonia, total dissolved solids (TDS), chloride, sodium, BTEXN, TRH and PAHs above the adopted Tier 1 assessment criteria for select groundwater PEVs.

Table 4 below provides a range of CoPC concentrations (or general CoPC groups) identified within the Escarpment and Audit Area 4 East that have been reported above the adopted Tier 1 criteria.

Table 4 Summary of Groundwater Analytical Results – the Escarpment and Audit Area 4 East

CoPC	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)
Aluminium (Filtered)	1.38	1.38
Iron (Filtered)	<0.05	6.22
Manganese (Filtered)	<0.001	5.1
Arsenic (Filtered)	0.001	0.019
Copper (Filtered)	<0.001	0.03
Vanadium (Filtered)	<0.01	0.18
Zinc (Filtered)	<0.005	0.143
Phosphorus	1.2	1.2
Ammonia as N	<0.01	3.84
Total Dissolved Solids (TDS)	460	9010
Chloride	10	8890
Sodium	30	6300
Benzene	<0.001	0.003
Naphthalene	<0.001	0.332
Dibenzofuran	<0.005	0.015
pH (pH units)	7.21	11.1
TPH C10 - C36 (Sum of total)	<0.05	1.57
TPH >C10 - C40 (Sum of total)	<0.1	1.55
TPH >C_{10}-C_{16} minus Naphthalene (F2)	<0.05	1.59
Anthracene	<0.001	0.007
Fluoranthene	<0.001	0.007
Phenanthrene	<0.001	0.035
PFAS		

3.0 The Promenade and Underground Carpark Contamination Summary

Historical activities undertaken within the Promenade and Underground Carpark area have resulted in the presence of residual contamination within soil and groundwater. Multiple phases of soil, groundwater, light non-aqueous phase liquid (LNAPL) and soil vapour investigations have been undertaken to assess the nature and extent of contamination. The following sections provide an overview of identified soil, groundwater, LNAPL and soil vapour impacts at the Promenade and Underground Carpark area.

Remnant infrastructure associated with a former rail Roundhouse may be present in the central area of the Promenade and Underground Carpark.

Soil, groundwater and LNAPL remediation works have been undertaken in or adjacent to this area, as discussed in the *Remediation Validation Report – Audit Areas 2 and 7 and Pipeline Removal* (AECOM, 2021d) and the *Goods Shed Remediation Validation Report* (AECOM, 2021e). The *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c) report contains a detailed assessment LNAPL remediation conducted.

No further remediation of the Promenade and Underground Carpark is planned or considered required at this time.

3.1 Identified Soil Impacts

Within the Promenade and Underground Carpark area and the surrounding buffer zone, fill material typically consisted of sand and gravel with occasional anthropogenic material including coal, coke, slag, ceramics, glass, metal fragments, wire, timber/wood, bone, rubber and general building rubble including brick, concrete and pipes.

Concentrations of a combination of Chemicals of Potential Concern (CoPC) including Polycyclic Aromatic Hydrocarbons (PAHs) [naphthalene, benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, sum of PAHs], Total Recoverable Hydrocarbons (TRHs) [TRH >C_{10}-C_{16}, TRH >C_{16}-C_{34}, TRH >C_{34}-C_{40}, aliphatic TRH >C_{10}-C_{12}, aromatic TRH >C_{10}-C_{12}, aliphatic TRH >C_{12}-C_{16}, aromatic TRH >C_{12}-C_{16}, TRH C_6-C_{10} (minus BTEX) (F1), TRH >C_{10}-C_{16} (minus Naphthalene) (F2)] and metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc) in soil were reported above the adopted Tier 1 criteria for the following Protected Environmental Values (PEVs) and Site Derived Remediation Criteria (RC):

- Human Health – Direct Contact – Residential (low, and medium/high density), Recreation/ Open Space, and Commercial/ Industrial land uses.
- Human Health – Vapour Intrusion – Residential and Commercial/ Industrial land uses.
- Maintenance of Modified and Highly Modified Ecosystems.
- Aesthetics.
- Remediation Criteria – Residential (slab-on-grade with unknown construction or multi-storey building, low rise slab-on-grade, and building with basement), Commercial (slab-on-grade with unknown construction or multi-storey building, and working within a basement) and Maintenance Workers.

Table 5 below provides the range of CoPC concentrations (or general CoPC groups) identified within the Promenade and Underground Carpark area that have been reported above the adopted Tier 1 criteria and Site Derived RC.

Table 5 Summary of Soil Analytical Results – the Promenade and Underground Carpark

CoPC	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)
Arsenic	<2	576
Cadmium	<0.4	29
Chromium	<2	314
Copper	<5	2,280
Lead	<5	20,100
Nickel	3	86
Zinc	8	55,70
TRH >C10-C16	<50	15,500
TRH >C16-C34	<100	15,500
TRH >C34-C40	<100	2,920
Aliphatic TRH >C10-C12	<10	504
Aromatic TRH >C10-C12	<10	114
Aliphatic TRH >C12-C16	<10	2,790
Aromatic TRH >C12-C16	<10	1,170
TRH C6-C10 (minus BTEX) (F1)	<10	114
TRH >C10-C16 (minus Naphthalene) (F2)	<50	15,500
Naphthalene	<0.5	39.7
Benzo(a)pyrene	<0.05	156
Benz(a)anthracene	<0.5	157
Benzo(b)fluoranthene	0.9	4.6
Benzo(k)fluoranthene	<0.5	64.7
Dibenz(a,h)anthracene	<0.5	20
Indeno(1,2,3-cd)pyrene	<0.5	66.2
Sum of PAHs	<0.5	1,810

3.1.1 Shallow Lead Impacted Soil

The presence of shallow lead-impacted soil has been identified at some locations within the Promenade and Underground Carpark area at depths <2.0 m below ground level (bgl), with some isolated impacts also noted at depths >2.0 m bgl at locations J06, J08, J10, J12, I13, H10, H12, H12, G11, G13 and F11. As a result, there is potential for Intrusive Maintenance workers within the Promenade and Underground Carpark area to come in contact with these soils. These locations will

be excavated and removed as part of the Site development, however elevated lead may be present at the base of the excavation at I13 and G13.

Following Site development, any services or conduits that will be installed within soil at a depth of >2.0 m below the current Site level must be installed in protective shrouds or in trenches/corridors of clean fill to prevent contact with Site soil.

Maintenance Workers should use appropriate PPE (i.e. dust masks and gloves) to reduce potential exposure to lead in soil. Soil management requirements are discussed in the main body of the SEMP.

3.1.2 Asbestos

Anecdotal information indicates that pits and service trenches in the southern portion of the Promenade and Underground Carpark area were backfilled with building rubble including asbestos. No bulk asbestos or Asbestos Containing Material (ACM) has been encountered in investigations to date, however minor ACM has been encountered as seven isolated fragments. Under current and proposed future development, while the Site is maintained with hardstand or an engineered break, potential ACM within the soil does not have a complete source-pathway-receptor linkage to Site users. However, the potential for ACM to be present should be considered in future works which may disturb soil in this area and managed as discussed in the Site Environment Management Plan (SEMP).

3.2 Identified Groundwater Impacts

Groundwater Monitoring Events (GMEs) have been routinely conducted for monitoring groundwater wells located within the Promenade and Underground Carpark area since January 2015.

Since 2015, groundwater samples have reported concentrations of a combination of CoPC including total dissolved solids (TDS), metals (arsenic, copper, iron, lead, manganese, zinc), inorganics (ammonia, sodium, boron), TRH [TRH C_{10}-C_{36} fraction (sum), TRH >C_{10}-C_{40} fraction (sum), TRH C_{10}-C_{16} fraction (sum) (minus naphthalene)] and PAHs [naphthalene, benz(a)anthracene, benzo(a)pyrene, anthracene, phenanthrene, fluoranthene] above the following adopted Tier 1 assessment criteria for groundwater PEVs and Site Derived RC:

- Drinking water (health and aesthetics)
- Recreation (primary and secondary contact)
- Maintenance of Ecosystems (90% ecosystem protection level)
- Irrigation
- Vapour Intrusion (from groundwater)
- Remediation Criteria – Residential (unknown construction or multi-storey building)

Table 6 below provides a range of CoPC concentrations (or general CoPC groups) identified within the Promenade and Underground Carpark area that have been reported above the adopted Tier 1 criteria and Site Derived RC.

Table 6 Summary of Groundwater Analytical Results – the Promenade and Underground Carpark

CoPC	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)
Total Dissolved Solids	40	5,420
Arsenic	<0.001	0.032
Copper	<0.001	0.011
Iron	<0.05	6.72
Lead	<0.001	0.017
Manganese	0.002	5.47

CoPC	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)
Zinc	<0.001	0.063
Ammonia (as N)	<0.01	8.43
Sodium	3.7	363
Boron	<0.05	0.78
TRH C10-C36 fraction (sum)	<0.050	4.05
TRH >C10-C40 fraction (sum)	<0.100	3.95
TRH C10-C16 fraction (minus naphthalene) [F2]	<0.050	2.01
Naphthalene	<0.001	0.0015
Benz(a)anthracene	<0.001	0.0014
Benzo(a)pyrene	<0.0005	0.0011
Anthracene	<0.001	0.0054
Phenanthrene	<0.001	0.016
Fluoranthene	<0.001	0.0069

3.3 Identified LNAPL Impacts

Environmental investigations completed on the Site to date have historically identified three Light Non-Aqueous Phase Liquid (LNAPL) plumes in or adjacent to the Promenade and Underground Carpark area, referred to as LNAPL Plume A1, LNAPL Plume A2 and LNAPL Plume A3.

The LNAPL in these plumes is understood to comprise predominantly diesel fuel, as well as fuel oils associated with diesel engine operation (e.g. lubricants, engine oils). The probable source of LNAPL is historic locomotive refuelling activities during operation the Roundhouse Refuelling Area.

No measurable LNAPL was present in any wells in the vicinity of these plumes when last gauged in June 2025, although indicators of LNAPL, including sheen, odours, and small volumes of LNAPL when developing wells in the vicinity were observed. Measurable LNAPL was last detected in LNAPL Plumes A1 and A2 in November 2019, and in LNAPL Plume A3 in July 2017, although no monitoring was conducted on the plumes between 2019 and 2025 due to Site activities.

A detailed assessment of LNAPL impacts and remediation conducted at the Site has been reported in the *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c), and was reviewed in *Soil, Groundwater and Soil Vapour Investigation 2025* (AECOM, 2025c). Both these reports concluded that:

- Further recovery of LNAPL is considered to be impractical.
- The LNAPL plumes are sufficiently stable.
- Based on the current development plan for the Site, no unacceptable risks to current or future human or ecological receptors from LNAPL appears to be present, assuming that a SEMP or similar is implemented in order to minimise and manage potential risks for any interactions between groundwater, LNAPL and future Site users.

On this basis, further LNAPL remediation is not practicable or required. However, restoration of groundwater PEVs is not practicable, and groundwater management will be required as discussed in the main body of the SEMP.

3.4 Identified Soil Vapour Impacts

Soil vapour monitoring events have been conducted across the Site between 2015 and 2019, including at soil vapour wells within and immediately adjacent to the Promenade and Underground Carpark area, at locations where concentrations of Volatile Organic Compounds (VOCs) and Semi-VOCs (SVOCs) in soil or groundwater were in excess of the Tier 1 vapour intrusion criteria selected, or in the vicinity of the LNAPL plumes to enable assessment of potential risks posed by soil vapour to potential future users of this area.

Assessment of potential vapour intrusion risks associated with the LNAPL plumes undertaken in *Soil Vapour and Indoor Air Investigations 2019* (AECOM, 2021b) surmised that soil vapour impacts associated with the LNAPL plumes do not present an unacceptable risk to the planned future uses of the Promenade and Underground Carpark area.

Soil vapour investigations identified that methane exists in potentially hazardous concentrations in the subsurface within the Promenade and Underground Carpark area (at SV12, SV27S and SV27D) as well as the surrounding area (at SV14 and SV16). The risk from soil methane in the area assessed has been calculated as CS2 – Low Risk, as defined by *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020), and appropriate mitigation measures should be included in future building design in this area or when conducting works in potentially enclosed spaces, such as pits, trenches or conduits, in these areas.

It is noted that if the Underground Carpark is ventilated in accordance with Building Code of Australia (BCA) requirements to deal with exhaust fumes, it should also provide sufficient protection from methane infiltration as per EPA NSW, 2020. If the Underground Carpark is not designed and constructed to BCA standards, methane protection measures should be advised by a qualified environmental practitioner and approved by a Contaminated Land Auditor.

4.0 The Precinct North Contamination Summary

Historical activities undertaken within the Precinct North area have resulted in the presence of residual contamination within soil and groundwater. Multiple phases of soil, groundwater, light non-aqueous phase liquid (LNAPL) and soil vapour investigations have been undertaken to assess the nature and extent of contamination. The following sections provide an overview of identified soil, groundwater, LNAPL and soil vapour impacts at the Precinct North area.

Soil, groundwater and LNAPL remediation works have been undertaken in or adjacent to this area, as discussed in the *Remediation Validation Report – Audit Areas 2 and 7 and Pipeline Removal* (AECOM, 2021d) and the *Goods Shed Remediation Validation Report* (AECOM, 2021e). The *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c) report contains a detailed assessment LNAPL remediation conducted.

No further remediation of the Precinct North is planned or considered required at this time.

4.1 Identified Soil Impacts

Subsurface investigations have identified that the Precinct North area is underlain by fill material extending up to 8.2 m below ground level (bgl). Fill material is described as silty sand with dolerite gravels and cobbles with a range of anthropogenic materials including rubble, glass and metal fragments, coal, coke, ash, brick, rubber, timber, wires and fabric. Following remediation and soil excavation in 2020 (AECOM, 2021d), portions of the Precinct North area have been backfilled with fill material and crushed dolerite sourced from either other sections of the Site or imported Virgin Excavated Natural Material (VENM). Underlying the fill material is natural sands, clays, gravels and dolerite bedrock.

During historic land reclamation activities undertaken across the broader Site, sea walls were constructed consisting of a combination of timber and stone. A sea wall is understood to run approximately parallel to the eastern boundary of the Precinct North area.

Concentrations of a combination of Chemicals of Potential Concern (CoPC) including Polycyclic Aromatic Hydrocarbons [PAHs] (benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, 7,12-dimethylbenz(a)anthracene, indeno(1,2,3-cd)pyrene, Sum of PAHs), Total Recoverable Hydrocarbons [TRH] (aliphatic C_{10}-C_{12}, aliphatic C_{12}-C_{16}, aromatic C_{10}-C_{12}, aromatic C_{12}-C_{16}, C_6-C_{10}, C_{10}-C_{16}, C_{16}-C_{34}, C_{34}-C_{40}), naphthalene, and heavy metals (arsenic, copper, lead, nickel, zinc) in soil were reported above the adopted Tier 1 criteria for the following Protected Environmental Values (PEVs) and Site Derived Remediation Criteria (RC):

- Human Health – Direct Contact – Residential (low, and medium/high density), Recreation/ Open Space, and Commercial/ Industrial land uses.
- Human Health – Vapour Intrusion – Residential and Commercial/ Industrial land uses.
- Maintenance of Modified and Highly Modified Ecosystems.
- Aesthetics.
- Remediation Criteria – Residential (slab-on-grade with unknown construction or multi-storey building, low rise slab-on-grade, and building with basement), Commercial (slab-on-grade with unknown construction or multi-storey building, and working within a basement) and Maintenance Workers.
- Remediation Criteria - Potential Future Residential, Commercial/Light Industrial Workers or Intrusive Maintenance Workers

Table 7 below provides the range of CoPC concentrations (or general CoPC groups) identified within the Precinct North area that have been reported above the adopted Tier 1 criteria and Site Derived RC.

Table 7 Summary of Soil Analytical Results – The Precinct North

CoPC	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)
Arsenic	<2	184
Copper	<5	1,800
Lead	<5	1,340
Nickel	3	68
Zinc	8	10,200
TRH C_6-C_{10} (minus BTEX[1])	<10	152
TRH >C_{10}-C_{16} (minus Naphthalene)	<50	17,995
TRH >C_{10}-C_{16}	<50	18,000
TRH >C_{16}-C_{34}	<100	16,000
TRH >C_{34}-C_{40}	<100	3,310
Aliphatic TRH >C_{10}-C_{12}	<50	1,420
Aromatic TRH >C_{10}-C_{12}	<50	140
Aliphatic TRH >C_{12}-C_{16}	<50	6,590
Aromatic TRH >C_{12}-C_{16}	<50	2,540
Naphthalene	<0.5	184
Benzo(a)pyrene	<0.5	141
Benz(a)anthracene	<0.5	148
Benzo(b)fluoranthene	2.1	128
Benzo(k)fluoranthene	<0.5	68.9
Chrysene	<0.5	140
Dibenz(a,h)anthracene	<0.5	18.7
7,12-dimethylbenz(a)anthracene	<0.5	3.8
Indeno(1,2,3-cd)pyrene	<0.5	59.2
Sum of PAHs	<0.5	2,330

Note: 1. BTEX – benzene, toluene, ethylbenzene and xylenes

4.1.1 Shallow Lead Impacted Soil

The presence of shallow lead-impacted soil has been identified at some locations within the Precinct North area at depths <2.0 m below ground level (bgl), with some isolated impacts also noted at depths >2.0 m bgl at K06, L08, M09 and N10. As a result, there is potential for Intrusive Maintenance workers within the Precinct North area to come in contact with these soils. These locations will be excavated and removed as part of the Site development, however elevated lead may be present at the base of excavation at N10.

Following Site development, any services or conduits that will be installed within soil at a depth of >2.0 m bgl (i.e. below or in deeper soil next to the Underground Carpark) must be installed in protective shrouds or in trenches/corridors of clean fill to prevent contact with Site soil.

Maintenance Workers should use appropriate PPE (i.e. dust masks and gloves) to reduce potential exposure to lead in soil. Soil management requirements are discussed in the main body of the SEMP.

4.1.2 Boundary Impacts

Soil samples collected at seven locations on the eastern boundary of the Precinct North area reported exceedances of Site Derived RC for proposed future uses:

- Two locations (OL-EX-288/1.5 and OL-EX-59/0.9) reported exceedances of the RC for Future Commercial Workers for Total Petroleum Hydrocarbons (TPH) C_{10}-C_{16} (minus Naphthalene).
- Five locations (OL-EX-75/0.5, OL-EX77/1.0, OL-EX-79/0.2, OL-EX-293/1.15, OL-EX-294/1.05) reported exceedances of the RC for Future Intrusive Maintenance Workers for lead.

These samples do not represent an unacceptable risk for future uses of the area as the impacted areas are limited and delineated by samples within 5 m from within the excavation boundary or base, and impacted soils which had the potential to extend onto the Site were excavated and removed during remediation works in 2020 (AECOM, 2021d). These areas should be considered when conducting works along the Site boundary in these areas.

4.1.3 Hobart Main Sewer Soils

During remediation works in 2020 (AECOM, 2021d), excavation of impacted soils was limited by the presence of the Main Hobart Pipeline, a sewer line which runs through the Precinct North area. The owner of the sewer, TasWater, required an exclusion zone for excavation which did not allow excavation to depths of greater than 1 m below ground level (bgl) within 3 m of the sewer location.

Soil was excavated to a depth of 1 m bgl in this exclusion zone. However, lead concentrations in excess of the RC for Future Intrusive Maintenance Workers for lead were detected in the soil within the exclusion zone and should be considered and appropriate controls put in place for future works in this area.

4.2 Identified Groundwater Impacts

Groundwater Monitoring Events (GMEs) have been routinely conducted for monitoring groundwater wells located within the Precinct North area since January 2015.

Since 2015, groundwater samples have reported concentrations of a combination of CoPC including: total dissolved solids (TDS), metals (arsenic, boron, copper, iron, lead, manganese, zinc), inorganics (ammonia, chloride, cyanide, sodium), TRH (C_{10}-C_{16}, C_{10}-C_{36}, C_{10}-C_{40}), PAHs (naphthalene, benz(a)anthracene, benzo(a)pyrene, anthracene, phenanthrene, fluoranthene, 2,4-dimethylphenol, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, pyrene) and E. Coli above the following adopted Tier 1 assessment criteria for groundwater PEVs and Site Derived RC:

- Drinking water (health and aesthetics)
- Recreation (primary and secondary contact)
- Maintenance of Ecosystems (90% ecosystem protection level)
- Irrigation
- Buildings and Structures
- Vapour Intrusion (from groundwater)
- Remediation Criteria – Residential (unknown construction or multi-storey building)

Table 8 below provides a range of CoPC concentrations (or general CoPC groups) identified within the Precinct North area that have been reported above the adopted Tier 1 criteria and Site Derived RC.

Table 8 Summary of Groundwater Analytical Results – the Precinct North

CoPC	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)
Total Dissolved Solids	240	1,690
Arsenic	<0.001	0.009
Boron	0.2	0.69
Copper	<0.001	0.011
Iron	15.5 (one sample only)	
Lead	<0.001	0.013
Manganese	0.026	2.46
Zinc	<0.005	0.134
Ammonia (as N)	<0.01	22.1
Chloride	11	664
Cyanide	<0.004	0.29
Sodium	8	547
TRH C10-C36 fraction (sum)	<0.05	12.6
TRH >C10-C40 fraction (sum)	<0.1	12.2
TRH C10-C16 fraction (minus naphthalene)	<0.1	6.19
Naphthalene	<0.005	0.232
Benz(a)anthracene	<0.001	0.095
Benzo(a)pyrene	<0.001	0.0985
Anthracene	<0.001	0.142
Phenanthrene	<0.001	0.317
Fluoranthene	<0.001	0.254
2,4-Dimethylphenol	<0.001	0.0062
Benzo(k)fluoranthene	<0.001	0.0346
Chrysene	<0.001	0.0974
Dibenz(a,h)anthracene	<0.001	0.0114
Indeno(1,2,3-cd)pyrene	<0.001	0.0434
Pyrene	<0.001	0.228

4.3 Identified LNAPL Impacts

Environmental investigations completed on the Site to date have historically identified three LNAPL plumes in or up groundwater gradient of the Precinct North area, referred to as LNAPL Plume A1, LNAPL Plume A2 and LNAPL Plume A3.

No measurable LNAPL was present in any wells in the vicinity of these plumes when last gauged in June 2025, although indicators of LNAPL, including sheen, odours, and small volumes of LNAPL when developing wells in the vicinity were observed. Measurable LNAPL was last detected in LNAPL Plumes A1 and A2 in November 2019, and in LNAPL Plume A3 in July 2017, although no monitoring was conducted on the plumes between 2019 and 2025 due to Site activities.

A detailed assessment of LNAPL impacts and remediation conducted at the Site has been reported in the *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c), and was reviewed in *Soil, Groundwater and Soil Vapour Investigation 2025* (AECOM, 2025c). Both these reports concluded that:

- Further recovery of LNAPL is considered to be impractical.
- The LNAPL plumes are sufficiently stable.
- Based on the current development plan for the Site, no unacceptable risks to current or future human or ecological receptors from LNAPL appears to be present, assuming that a Site Environment Management Plan (SEMP) or similar is implemented in order to minimise and manage potential risks for any interactions between groundwater, LNAPL and future Site users.

On this basis, further LNAPL remediation is not practicable or required. However, restoration of groundwater PEVs is not practicable, and groundwater management will be required as discussed in the main body of the SEMP.

4.4 Identified Soil Vapour Impacts

Soil vapour monitoring events have been conducted across the Site between 2015 and 2019, including at soil vapour wells within and immediately adjacent to the Precinct North area, at locations where concentrations of Volatile Organic Compounds (VOCs) and Semi-VOCs (SVOCs) in soil or groundwater were in excess of the Tier 1 vapour intrusion criteria selected, or in the vicinity of the LNAPL plumes to enable assessment of potential risks posed by soil vapour to potential future users of this area.

Assessment of potential vapour intrusion risks associated with the LNAPL plumes undertaken in *Soil Vapour and Indoor Air Investigations 2019* (AECOM, 2021b) surmised that soil vapour impacts associated with the LNAPL plumes do not present an unacceptable risk to the planned future uses of the Precinct North area.

Soil vapour investigations identified methane exists in potentially hazardous concentrations in the subsurface within the Precinct North area (at SV14, SV16, SV17 and SV18). The risk from soil methane in the area assessed has been calculated as CS2 – Low Risk, as defined by *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020), and appropriate mitigation measures should be included in future building design in this area or when conducting works in potentially enclosed spaces, such as pits, trenches or conduits, in these areas.

5.0 The Precinct South Contamination Summary

Historical activities undertaken within Precinct South have resulted in the presence of residual contamination within soil and groundwater. Multiple phases of soil, groundwater, light non-aqueous phase liquid (LNAPL) and soil vapour investigations have been undertaken to assess the nature and extent of contamination. The following sections provide an overview of identified soil, groundwater, LNAPL and soil vapour impacts at the Promenade and Underground Carpark area.

Soil, groundwater and LNAPL remediation works have been undertaken in or adjacent to this area, as discussed in the *Remediation Validation Report – Audit Areas 2 and 7 and Pipeline Removal* (AECOM, 2021d), the *Goods Shed Remediation Validation Report* (AECOM, 2021e) and the *Precinct South Remediation Validation Report* (AECOM, 2024d). The *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c) report contains a detailed assessment LNAPL remediation conducted.

No further remediation of the Precinct South is planned or considered required at this time.

5.1 Identified Soil Impacts

Subsurface investigations have identified that the Precinct South is underlain by fill material extending up to 12 m below ground level (bgl). Fill material is described as silty sand with dolerite gravels and cobbles with a range of anthropogenic materials including rubble, glass and metal fragments, coal, coke, ash, brick, rubber, timber, wires and fabric. Following remediation and soil excavation in 2020 and 2023, portions of the Precinct South have been backfilled with fill material and crushed dolerite sourced from either other sections of the Site or imported Virgin Excavated Natural Material (VENM). Underlying the fill material is natural sands, clays, gravels and dolerite bedrock.

During historic land reclamation activities undertaken across the broader Site, sea walls were constructed consisting of a combination of timber and stone. A sea wall is understood to run approximately parallel to the eastern boundary of the Precinct South. Buried rail lines may be present in the eastern and southern portions of the Precinct South.

Concentrations of a combination of Chemicals of Potential Concern (CoPC) including metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc), cyanide (total), TRH, PAHs, MAHs, and PFAS in soil were reported above the adopted Tier 1 criteria for the following Protected Environmental Values (PEVs) and Site Derived Remediation Criteria (RC):

- Human Health – Direct Contact – Residential (low, and medium/high density), Recreation/ Open Space, and Commercial/ Industrial land uses.
- Human Health – Vapour Intrusion – Residential and Commercial/ Industrial land uses.
- Maintenance of Modified and Highly Modified Ecosystems.
- Aesthetics.
- Remediation Criteria – Residential (slab-on-grade with unknown construction or multi-storey building, low rise slab-on-grade, and building with basement), Commercial (slab-on-grade with unknown construction or multi-storey building, and working within a basement) and Maintenance Workers.
- Remediation Criteria - Potential Future Residential, Commercial/Light Industrial Workers (working within a basement) or Intrusive Maintenance Workers

Table 9 below provides the range of CoPC concentrations (or general CoPC groups) identified within the Precinct South that have been reported above the adopted Tier 1 criteria and Site Derived RC.

Table 9 Summary of Soil Analytical Results – The Precinct South

CoPC	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)
Arsenic	<4	374
Cadmium	<1	28

CoPC	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)
Chromium	<2	33
Copper	<5	1,360
Lead	<5	905
Nickel	<2	157
Zinc	<5	13,000
Cyanide (total)	<1	1,040
TRH C_6-C_{10} (minus BTEX[1])	<10	847
TRH >C_{10}-C_{16} (minus Naphthalene)	<50	6,910
TRH >C_{16}-C_{34}	<100	20,700
TRH >C_{34}-C_{40}	<50	3,550
Aliphatic TRH >C_8-C_{10}	<5	918
Aliphatic TRH >C_{10}-C_{12}	<50	636
Aromatic TRH >C_{10}-C_{12}	<50	204
Aliphatic TRH >C_{12}-C_{16}	<50	2,440
Aromatic TRH >C_{12}-C_{16}	<50	1,910
Naphthalene	<1	273
Benzo(a)pyrene	<0.05	639
Benz(a)anthracene	<0.5	477
Benzo(b)fluoranthene	<0.5	87.2
Benzo(k)fluoranthene	<0.5	39.7
Chrysene	<0.5	386
Dibenz(a,h)anthracene	<0.5	60.1
Indeno(1,2,3-cd)pyrene	<0.5	164
Sum of PAHs	<0.5	7,800
PFOS	<0.0005	0.0132

Note: 1. BTEX – benzene, toluene, ethylbenzene and xylenes

5.1.1 Shallow Lead Impacted Soil

The presence of shallow lead-impacted soil has been identified at some locations within the Precinct South area at depths <2.0 m below ground level (bgl), with some isolated impacts also noted at depths >2.0 m bgl at location M12. As a result, there is potential for Intrusive Maintenance workers within the Precinct North area to come in contact with these soils. However, based on the overall statistical assessment of shallow lead impacts in this area conducted against the Maintenance Workers Site Derived RC, remediation of these impacts is not considered as required (AECOM, 2021a). It is further noted that these locations will be excavated and removed as part of the Site development.

Following Site development, any services or conduits that will be installed within soil at a depth of >2.0 m bgl (i.e. below or in deeper soil next to the Underground Carpark) must be installed in protective shrouds or in trenches/corridors of clean fill to prevent contact with Site soil.

Maintenance Workers should use appropriate PPE (i.e. dust masks and gloves) to reduce potential exposure to lead in soil. Soil management requirements are discussed in the main body of the SEMP

5.2 Identified Groundwater Impacts

Groundwater Monitoring Events (GMEs) have been routinely conducted for monitoring groundwater wells located within the Precinct South area since January 2015.

Since 2015, groundwater samples have reported concentrations of a combination of CoPC including: total dissolved solids (TDS), metals (arsenic, boron, copper, iron, lead, manganese, zinc), inorganics (ammonia, chloride, cyanide, sodium), TRH (C_{10}-C_{16}, C_{10}-C_{36}, C_{10}-C_{40}), PAHs (naphthalene, benz(a)anthracene, benzo(a)pyrene, anthracene, phenanthrene, fluoranthene, 2,4-dimethylphenol, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, pyrene) and E. Coli above the following adopted Tier 1 assessment criteria for groundwater PEVs.

- Drinking water (health and aesthetics)
- Recreation (primary and secondary contact)
- Maintenance of Ecosystems (90% ecosystem protection level)
- Irrigation
- Buildings and Structures
- Vapour Intrusion (from groundwater).

No exceedances of Site derived RC have been detected in groundwater.

Table 10 below provides a range of CoPC concentrations (or general CoPC groups) identified within the Precinct South area that have been reported above the adopted Tier 1 criteria and Site Derived RC.

Table 10 Summary of Groundwater Analytical Results – the Precinct South

CoPC	Unit	Minimum Concentration	Maximum Concentration
Total Dissolved Solids	mg/L	150	28,000
Arsenic	mg/L	<0.001	0.014
Aluminium	mg/L	<0.01	32
Boron	mg/L	<0.05	1.71
Cadmium	mg/L	<0.0001	0.0002
Chromium	mg/L	<0.001	0.127
Cobalt	mg/L	<0.001	0.002
Copper	mg/L	<0.001	0.245
Iron	mg/L	23	42.5
Lead	mg/L	<0.001	0.15
Manganese	mg/L	0.198	6.35
Zinc	mg/L	<0.001	7.29
Ammonia (as N)	mg/L	0.71	60

CoPC	Unit	Minimum Concentration	Maximum Concentration
Total nitrogen (as N)	mg/L	6	47.8
Chloride	mg/L	4	14,100
Sodium	mg/L	12	3,420
Sulphate (as SO_4)	mg/L	<1	1.510
Calcium	mg/L	19	3,070
Phosphorus	mg/L	<0.01	1.7
E.coli	mg/L	<1	1,700
TRH C_6-C_{10} (minus BTEX)	µg/L	<20	3,040
TRH C_{10}-C_{16} fraction (minus naphthalene)	µg/L	<50	4,530
TRH >C_{10}-C_{40} fraction (sum)	µg/L	<100	8,240
Aliphatic TRH >C_8-C_{10}	µg/L	<20	2,080
Aliphatic TRH >C_{10}-C_{12}	µg/L	<20	1,040
Benzene	µg/L	<0.5	7
Ethylbenzene	µg/L	<1	4
Naphthalene	µg/L	<1	57
Benz(a)anthracene	µg/L	<1	63
Benzo(a)pyrene	µg/L	<0.3	42
Anthracene	µg/L	<1	135
Phenanthrene	µg/L	<1	336
Fluoranthene	µg/L	<1	174
1-methylnaphthalene	µg/L	<2	2,040
Chrysene	µg/L	<1	64
Indeno(1,2,3-cd)pyrene	µg/L	<1	15
Pyrene	µg/L	<1	191
PFOS	µg/L	<0.001	0.38
PFHxS	µg/L	<0.001	0.04
PFOA	µg/L	<0.01	0.06
Methane	µg/L	4,390	13,200

5.3 Identified LNAPL Impacts

Environmental investigations completed on the Site to date have historically identified one LNAPL plume within the Precinct South, referred to as LNAPL Plume B, and three LNAPL plumes up groundwater gradient of the Precinct South, referred to as LNAPL Plume A1, LNAPL Plume A2 and LNAPL Plume A3.

Measurable LNAPL has not been detected in LNAPL Plumes A1 and A2 since November 2019, and in LNAPL Plume A3 since July 2017, although it is noted that these plumes were not monitored between 2019 and 2025 due to other Site activities in the area. LNAPL was present in LNAPL Plume B in June 2025 (AECOM, 2025c), consisting of:

- 20-50 mm in MW3
- 20-42 mm in PW02
- 62-81 mm in S8

LNAPL globules were also noted on the interface probe when gauging well MW154, and limited LNAPL (4-70 mm) has been intermittently detected in MW5 in December 2023 and February 2024.

A detailed assessment of LNAPL impacts and remediation conducted at the Site has been reported in the *Assessment of LNAPL Remediation End-Points* (AECOM, 2021c), and was reviewed in *Soil, Groundwater and Soil Vapour Investigation 2025* (AECOM, 2025c). Both these reports concluded that:

- Further recovery of LNAPL is considered to be impractical.
- The LNAPL plumes are sufficiently stable.
- Based on the current development plan for the Site, no unacceptable risks to current or future human or ecological receptors from LNAPL appears to be present, assuming that a Site Environment Management Plan (SEMP) or similar is implemented in order to minimise and manage potential risks for any interactions between groundwater, LNAPL and future Site users.

On this basis, further LNAPL remediation is not practicable or required. However, restoration of groundwater PEVs is not practicable, and groundwater management will be required as discussed in the main body of the SEMP.

5.4 Identified Soil Vapour Impacts

Soil vapour monitoring events have been conducted across the Site between 2015 and 2025, including at soil vapour wells within and immediately adjacent to the Precinct South area, at locations where concentrations of Volatile Organic Compounds (VOCs) and Semi-VOCs (SVOCs) in soil or groundwater were in excess of the Tier 1 vapour intrusion criteria selected, or in the vicinity of the LNAPL plumes to enable assessment of potential risks posed by soil vapour to potential future users of this area.

Assessment of potential vapour intrusion risks associated with the LNAPL plumes undertaken in *Soil Vapour and Indoor Air Investigations 2019* (AECOM, 2021b) surmised that soil vapour impacts associated with the LNAPL plumes may represent an unacceptable risk to the planned future uses of the Precinct South area for Commercial / Light Industrial workers within basements. However, soil methane mitigations, discussed below, are considered suitable for preventing hydrocarbon vapours from impacting workers.

Soil vapour investigations identified methane exists in potentially hazardous concentrations in the subsurface within the Precinct South area. The risk from soil methane in the area assessed has been calculated as CS2 – Low Risk, as defined by *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA NSW, 2020), and appropriate mitigation measures should be included in future building design in this area or when conducting works in potentially enclosed spaces, such as pits, trenches or conduits, in these areas.

Appendix D

Summary of CoPC

Summary of Chemicals of Potential Concern

The following information has been compiled from the June 1997 National Institute of Occupational Health and Safety (NIOSH) *Pocket Guide to Chemical Hazards*, 1998 American Conference of Governmental Industrial Hygienists (ACGIH) *Guide to Occupational Exposure Values, Agency for Toxic Substances & Disease Registry* (ATSDR), the Australia Government *Asbestos Safety and Eradication Agency*, and representative material safety data sheets (MSDS).

Polycyclic Aromatic Hydrocarbons (PAHs)

PAHs are formed as a result of the incomplete burning of organic material. The most common health effects associated with PAHs are linked to its carcinogenic effects. The primary route of exposure to PAHs during this project is contact with contaminated soils which can lead to entry through ingestion, inhalation (dust) or open wounds. This necessitates the use of appropriate protective clothing and proper decontamination procedures.

Total Petroleum Hydrocarbons (TPH)

TPH is a term used to describe several hundred chemical compounds that originate from crude oil. The compounds in various TPH fractions can affect the body in different ways. Health effects include central nervous system depression, irritation of the throat, skin, eyes, and stomach, breathing difficulties, in addition to impacts on blood, immune system, liver, spleen, kidneys, developing foetus, and lungs. The primary route of exposure to TPH during this project will be through handling tar impacted material. Appropriate PPE must be worn at all times while handling TPH contaminated material.

Phenolic Compounds

Phenolic compounds, also known as phenols, are a wide range of chemical compounds characterised by one or more hydroxyl groups bonded directly to an aromatic hydrocarbon ring. Phenolic compounds naturally occur in biological processes (typically by plants and micro-organisms) in small quantities, but can be generated in higher quantities by industrial processes such as manufacturing of drugs, resins, dyes, fertilisers, explosives, paint removers, textiles, and coke.

Phenolic compounds may have a diverse range of exposure indicators, but typically cause irritation in the nose, throat, eyes, and skin. Acute exposure to phenol (the simplest and most commonly used phenolic compound) causes an increased respiration rate, followed by a decreased respiration rate, decreased body temperature, cyanosis, muscular weakness, weak or occasionally rapid pulse, coma, and/or death. Chronic exposure to phenol is typified by systemic problems. These include vertigo, digestive difficulties, skin eruptions, nervous problems and headaches. Death may occur when liver or kidney problems become severe.

Phenolic compounds will enter the body by breathing, through the skin or by ingestion.

Benzene, Toluene, Ethyl-benzene, and Xylenes (BTEX)

These chemicals are often found in products such as paints and coatings, and are constituents of petroleum products, particularly gasoline, jet fuels, kerosene. All of the BTEX chemicals can produce neurological impairment, and exposure to benzene can additionally cause haematological effects including aplastic anaemia and acute myelogenous leukemia. The primary route of exposure to BTEX during this project is the inhalation of vapours. This necessitates the use of appropriate protective clothing including respiratory equipment where necessary.

Chlorinated Solvents

Chlorinated solvents are a large family of chemical compounds that contain chlorine, for example, carbon tetrachloride, trichloroethylene (TCE), or methylene chloride. They are used for a wide variety of commercial and industrial purposes, including degreasers, cleaning solutions, paint thinners, pesticides,

resins, glues, and a host of other mixing and thinning solutions. Exposures can lead to short-term or long-term health effects, depending on the manner by which they entered your body and the amount of exposure. Short-term side effects may include dizziness, fatigue, headaches, and/or skin rashes. Long-term side effects may include chronic skin problems, and/or damage to the nervous system, kidneys, or liver. Some chlorinated solvents are also known to cause cancer, in both humans and animals.

Workers can be exposed to chlorinated solvents through the absorption of solvents, through inhalation and skin contact.

Heavy Metals

Large amounts of heavy metals may cause acute or chronic toxicity (poisoning). Heavy metal toxicity can result in damaged or reduced mental and central nervous function, lower energy levels, and damage to blood composition, lungs, kidneys, liver, and other vital organs. Heavy metals may enter the human body through ingestion, inhalation, or absorption through the skin. Appropriate protective equipment must be worn and proper decontamination procedures must be adhered to.

Total Dissolved Solids (TDS)

TDS consist of inorganic salts and small amounts of organic matter that are dissolved in water. **TDS** comprise sodium, potassium, calcium, magnesium, chloride, sulfate, bicarbonate, carbonate, silica, organic matter, fluoride, iron, manganese, nitrate, nitrite and phosphates. No health effects have been associated specifically with or directly attributable to high TDS concentrations, although the health effects of individual components of TDS must be considered separately. Indirectly, high TDS water, being less palatable, might discourage consumers from drinking tap water, leading to use of potentially less healthy water (from alternative sources, natural or manufactured) and/or other less healthy drinks.

Sodium

Sodium is a natural component of water and essential to human life. The guideline value for sodium in drinking water is based on aesthetic considerations (taste threshold); while high sodium may be likely to give water a salty taste, it is unlikely to present a health concern. When consumed, sodium is readily absorbed by the body. It is present in all body tissues and fluids and its concentration is maintained by the kidney. High concentrations give rise to the sensation of thirst. Excessive sodium intake, usually via diet, can aggravate chronic congestive heart failure and increase blood pressure. Reduced sodium intake can reduce the blood pressure of some individuals with hypertension.

Asbestos Containing Material (ACM)

Asbestos is a naturally occurring mineral fibre which is strong, flexible, and can insulate from heat and electricity. Because of these properties, historically asbestos has been commonly used in the construction of homes and buildings and is understood to have been used in roofing material as bonded asbestos at Macquarie Point. It can be encountered as friable (generally crumbling material with potential to generate fibres) or non-friable (bonded). Asbestos is a known carcinogen and exposure to asbestos fibres can lead to a number of diseases, including pleural disease, asbestosis, lung cancers, and mesothelioma. In the event that potential asbestos containing material (ACM) is encountered in soils during intrusive works, all activities are to cease immediately in the work area. A suitably experienced occupational hygienist should be consulted to provide advice regarding the removal and management of ACM in soils prior to works re-commencing.

Methane

Methane is a colourless, odourless and highly flammable gas. It can be produced in soil from the decay under anoxic (low oxygen) conditions of carbon containing materials, including nature materials such as plant or animal matter, or from carbon impacts such as TPH.

Low levels of methane are not expected to cause adverse health effects. Higher concentrations can reduce oxygen levels in the air and lead to mood changes, slurred speech, vision problems, memory loss, nausea, vomiting, facial flushing and headaches. In severe cases, low oxygen levels can lead to

changes in breathing and heart rate, balance problems, unconsciousness and, if over a long period, death.

Methane is also potentially flammable in higher concentrations. If present in soil, methane has the potential to pool in confined spaces

Per- and Poly-fluoroalkyl Substances (PAHs)

PFAS are manufactured chemicals that have been used for more than 50 years. PFAS makes products non-stick, oil- and water-repellent, and fire, weather- and stain-resistant, and has been used in a range of consumer products, such as carpets, clothes, food packaging and paper, and have also been used in firefighting foams, pesticides and stain repellents.

PFAS encapsulates a broad recognised range of compounds which can have different chemical, environmental and biological properties. However, PFAS are typically soluble, very stable and tend to resist degradation, and may bioaccumulate in humans or ecological receptors.

PFAS is widespread and it is likely that most people in Australia have low levels of different PFAS in their bodies following exposure to everyday household objects, primarily through inhalation, ingestion, or skin contact.

There is currently limited evidence of human disease or other clinically significant harm from PFAS exposure. Some studies have found association between people exposed to specific PFAS chemicals and increased cholesterol or uric acid levels in the blood, reduced kidney function, altered indicators of immunological function, altered levels of thyroid and sex hormones, lower birth weights, later ages for starting menstruations/earlier menopause, and increased risk of testicular/kidney cancer.

It is noted that the noted associations have not been determined as direct health causes at this time.

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Appendix E

Materials Tracking Register

Materials Tracking Register

Name / Representative	
Company /Organisation	
Description of Works	
Page No. of	

Table 1 Materials Tracking Register

Date	Origin[1]	Approximate Volume (m^3)	Sampled (Y/N)	Destination[2]	Description and Comments[3]

Notes: 1. Include a description of the location where the soil was excavated and a grid location (where possible); 2. This may be off-Site disposal, placement in stockpile, re-use on the Site. Provide a description of the location where soils are to be re-used and/or stored, including a grid location (where possible), and records of any approvals such as EPA Environmental Approvals for off-Site disposal; 3. Include soil type (including waste classification), any odours or other indicators of contamination and sampling undertaken; 4. Table provided above is an example of a soil materials tracking register for simple earthworks. Large scale earthworks may require a different tracking system; 5. The completed form should be returned to the Site Manager (or delegate) and retained on file for reference.

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Appendix F

Groundwater Quality Management Plan

Prepared for
Macquarie Point Development Corporation
ABN: 92 657 409 841

Groundwater Quality Management Plan

Macquarie Point

16-Feb-2026
Macquarie Point Development Project

Groundwater Quality Management Plan

Macquarie Point

Client: Macquarie Point Development Corporation

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1.0 Introduction

1.1 General

The Macquarie Point Development Corporation (MPDC; the Corporation) has engaged the services of AECOM Australia Pty Ltd (AECOM) in the role of Project Remediation Consultant to assist with the development, implementation and ongoing oversight of a remediation strategy for the Macquarie Point site in Hobart, Tasmania (the Site). The Site location is presented on **Figure F1**, and layout on **Figure F2**.

This Groundwater Quality Management Plan (GQMP) has been prepared to document the requirements for ongoing groundwater monitoring and management at the Site.

1.2 Purpose and Objectives

The overall purpose of the GQMP is to document the requirements and provide a framework for ongoing groundwater monitoring at and adjacent to the Site, in order to allow identification of any changes in groundwater condition which may affect the risk status associated with groundwater within or emanating from the Site.

To meet this purpose, the objectives of the actions to be undertaken under this GQMP are to allow:

- Maintenance of knowledge on the condition of Site groundwater elevation, flow direction, and chemical characteristics and record any changes which may arise over time or as Site condition changes.
- Assess if unacceptable risks to on- and off-Site human and ecological receptors may be presented by changes, and to identify what additional assessment, mitigation, or remediation actions are required.

This GQMP forms part of, and should be read in conjunction with, the Site Environment Management Plan (SEMP) (AECOM, 2026). The SEMP documents:

- Stakeholder roles and responsibilities
- Relevant Site setting information
- Ongoing environmental management requirements.

If as part of future revisions, the GQMP is separated from the SEMP or the Site is sub-divided and separate GQMPs are developed for sub-areas, the information from the SEMP and any changes which have occurred must be incorporated into the new or updated GQMP.

The GQMP includes the following to support the SEMP and overall management of environmental impacts at the Site:

- A summary of the regulatory framework applicable to the assessment and management of groundwater at the Site.
- Data Quality Objectives (DQOs) for groundwater monitoring events (GMEs) at the Site.
- Methodologies for ongoing monitoring and sampling of groundwater.
- Key groundwater risks
- Trigger levels and contingencies.

1.3 Use of Groundwater at the Site

Groundwater at the Site has impacts and contamination from historic industrial land use, and should not be extracted or used for any purpose other than:

- Environmental monitoring, assessment, or remediation.

- Short-term removal during development or construction of the Site (i.e., removal of groundwater in slurry from pile installation, removal of groundwater which has entered excavations)
- Groundwater drainage measures for structures, which meet the requirements described in Section 4.4 of the SEMP.

Any groundwater extracted at the Site should be considered as potentially contaminated, and removed by a licensed waste contractor, or alternatively treated and disposed to sewer under a Site-specific Trade Waste Agreement (subject to regulatory approval). The potential for dissolved methane in groundwater to degas and enter surrounding air should be considered in any handling of Site groundwater.

2.0 Regulatory Framework

2.1 Environmental Management and Pollution Control Act 1994

The *Environmental Management and Pollution Control Act 1994* (the EMPCA) forms the basis of environmental legislation in Tasmania.

Any activities undertaken must comply with the EMPCA.

2.2 State Policy on Water Quality Management 1997

The *State Policy on Water Quality Management 1997* (the SPoWQM) was issued:

To achieve the sustainable management of Tasmania's surface water and groundwater resources by protecting or enhancing their qualities while allowing for sustainable development in accordance with the objectives of Tasmania's Resource Management and Planning System.

The SPoWQM defines Protected Environmental Values (PEVs) for Tasmanian groundwater, which have been assessed for the Site in **Section 4.1**.

2.3 Macquarie Point Development Corporation Act 2012 and the Site Environmental Audit

In 2015, the *Macquarie Point Development Corporation Act 2012* (the Act) was amended to enable the accreditation of an environmental auditor under Tasmanian legislation. The amended Act enables the Director of the Tasmanian Environment Protection Authority (EPA) to accredit an auditor. Mr David Lam of Tetra Tech Coffey has been appointed as the Environmental Auditor for the Site and has been accredited as an auditor recognised by the amended Act.

Where there is limited, or a lack of, suitable guidance in Tasmania for the audit, the amended Act allows for the Auditor to defer to other suitable interstate guidance. In this instance, the guidelines supporting the Victorian EPA Environmental Audit Framework have been adopted, as it is the home state of the appointed Auditor.

It is noted that Victorian legislation which defines the Audit process was updated and superseded by the *Environment Protection Act 2017* (the EP Act), which came into effect on 1 July 2021, and contains significant changes to Audit methodology and terminology under the Victorian framework. Under Section 478 of the EP Act, existing Audits where an Auditor has been engaged prior to 1 July 2021, and the Audit has not been completed by 1 July 2021, can be conducted under either the EP Act or the previous framework defined in the *Environment Protection Act 1970*. To maintain continuity with the portions of the Audit already completed, the Site Audit is currently continuing under the previous framework and terminology.

The role of the Auditor is to review the progression of investigation, and remedial planning and execution works at the Site. It is understood that the Auditor shall ensure that the works are carried out in compliance with local Tasmanian legislation and guidelines with consideration given to the requirements of the Victorian EPA Environmental Audit Framework.

The ultimate outcome of the Environmental Audit is to obtain a Site Suitability Statement as part of a Contaminated Land Audit Report for each area of the Site. Each Site Suitability Statement contains, or is expected to contain, requirements for implementation of the SEMP which this GQMP forms part of.

2.4 State Policies and Projects (Macquarie Point Precinct) Order 2025

The Tasmanian Government Department of State Growth announced in September 2022 that the Site is the preferred location for a mixed-use precinct, including a multipurpose stadium. Details of the proposed development of the Site were released in the Precinct Plan (MPDC, 2024).

The proposed development of a multipurpose stadium at the Site was classified as a Project of State Significance (PoSS) by the Governor of Tasmania on 16 October 2024, and *State Policies and Projects (Macquarie Point Precinct) Order 2025*, (the Order) was introduced to Tasmanian State Parliament in October 2025. The Order was approved by the Tasmanian House of Assembly on 13 November 2025

and by the Tasmanian Legislative Council on 4 December 2025 and provides conditions and approval for development of the Multipurpose Stadium at the Site.

Schedule 5 of the Order provides general environmental conditions for development of the Site. The conditions in the Schedule, and in the Order in general, are consistent with the *Macquarie Point Development Corporation Act 2012*, and in general require completion of a Site Suitability Statement for each area of the Site prior to development of that specific area.

No changes to the Environmental Audit of the Site, or the overall process and requirements for issue of Site Suitability Statements, arise from the Order. The Order does require that Site Suitability Statements be issued and implemented for each area of the Site where development is to occur.

3.0 Data Quality Objectives

Guidance regarding the development of Data Quality Objectives (DQOs) has been referenced from the following primary documents:

- National Environment Protection Council, *National Environment Protection* (*Assessment of Site Contamination*) Measure 1999, *Schedule B2: Guideline on Site Characterisation* (as amended May 2013) [ASC NEPM].
- New South Wales Environment Protection Authority (NSW EPA) *Contaminated Land Guidelines: Sampling Design Part 1 – Application* (EPA NSW, 2022).
- United States Environmental Protection Agency (US EPA), *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4) (US EPA, 2006).

The process of establishing appropriate DQOs is defined by the seven-step planning approach presented in the ASC NEPM and summarised in **Table 1** below.

Table 1 Data Quality Objectives

Step	Data Quality Objective Step Summary
1	***State the Problem*** – Summarise the problem that will require new environmental data, identify the resources available to resolve the problem and develop a conceptual site model (CSM) based on available information prior to the commencement of the site investigation.
2	***Identify the Goal of the Study*** – Identify the decisions that need to be made and the new environmental data required to support the identified decisions. Develop a decision statement linking the principal project objective(s) to the possible actions that will address the problem.
3	***Identify Information Inputs*** – Identify the information needed to support any decision and whether new environmental data will be needed.
4	***Define the Boundaries of the Study*** – Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision(s).
5	***Develop the Analytical Approach*** – Define the parameter of interest, specify the action level, and integrate information from Steps 1–4 into a single statement that gives a logical basis for choosing between alternative actions.
6	***Specify Performance or Acceptance Criteria*** – Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.
7	***Develop the Plan for Obtaining Data*** – Identify the most resource-effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

The GQMP scope and methodology have been designed to meet the nominated DQOs. Discussion regarding the approach to be adopted, relative to the seven steps presented in **Table 1,** is provided in the following sections.

3.1 Step 1 – State the Problem

At completion of the Environmental Audit, the Site must be considered suitable for the proposed use. However, Site development or changes in the future may change groundwater conditions and the risk profile of groundwater contamination. Groundwater conditions must be monitored and assessed during and following development to allow identification of any changes in condition which may alter the level of risk assessed from groundwater impacts.

This GQMP has been developed to document the approach to the ongoing monitoring and assessment of groundwater quality at the Site, in order to identify if changes in groundwater conditions occur in the

future which may represent potential risks to users of the Site or adjacent land or water bodies. Preparation, maintenance, and implementation of the GQMP is a requirement of the SEMP (AECOM, 2026), and of the Site Suitability Statements issued for the Site.

3.2 Step 2 – Identify the Goal of the Study

The decision identification component of the DQO process represents the key issues that need to be considered to resolve the problems identified in Step 1. These include:

- Is groundwater elevation and flow consistent with historical conditions and with the assumptions which form part of assessment of the risk profile for groundwater at the Site?
- Are analyte concentrations within surface water and groundwater above background levels?
- Do the concentrations identified exceed the relevant criteria and do they indicate a change in risk or the potential for an unmanaged risk at the Site, which required action?
- Are the contaminants identified consistent with the understanding of the Site history?
- Is the investigation approach scientifically suitable and defensible and is it consistent with relevant guidelines?
- Are any of the trigger conditions met and are further actions required?

Overall, the decision making statement for this GQMP is:

- *Potential risks from Site groundwater must be monitored and sufficient information gathered to assess and monitor potential risks. If changes occur which introduce unacceptable risks, a process to enable implementation of suitable management measures is required.*

3.3 Step 3 – Identify the Information Inputs

To allow assessment of the data against the decision goals listed in **Section 3.2**, various inputs will be considered as follows:

- Field observations of aesthetic impacts or potential contamination (e.g., odours and phase separated hydrocarbons [light non-aqueous phase liquids; LNAPL]) and of groundwater elevation and inferred flow directions.
- Laboratory analysis of representative groundwater samples.
- Planned and implemented changes to the Site and surrounding areas, such as development activities, land use, and any other features of note relating to groundwater.
- Anecdotal information and previous investigation data (where available)

3.4 Step 4 – Define the Boundaries of the Study

The spatial boundaries (geographical limits) and lateral extent for data collection and decision making for the investigations are defined and illustrated by the Site boundaries and off-Site groundwater monitoring wells shown on **Figure F3**.

The vertical extent works will be limited the maximum depth of groundwater wells listed on **Table T1**.

The temporal bound of each study will be the period of groundwater sampling, with reference to historic Site groundwater data collected between 2015 and 2025.

3.5 Step 5 – Develop the Analytical Approach (or Decision Rule)

Data collected via implementation of the GQMP must be sufficiently representative of the media sampled to satisfy the purpose and inform the conclusions and recommendations of each GME, and further develop the CSM.

The following analytical approach will be undertaken:

- The scope of each GME will be developed with consideration of previous investigations, recommendations, data gaps, and overall Site knowledge (refer to **Section 6.1**).
- All samples will be collected by suitably qualified/experienced field scientists.
- All samples will be analysed for the target chemicals of potential concern (CoPC), which will be identified prior to each GME. Analysis must be conducted by analytical laboratories, which have current accreditation from the National Association of Testing Authorities (NATA) for the analysis requested.
- All sample analysis results will be compared to the adopted criteria (refer to **Section 4.0**).
- Field and laboratory quality assurance/quality control (QA/QC) sampling requirements will be identified prior to each GME.
- Data quality indicators (DQIs) (**Section 4.4**) will be used to validate the data quality.

The decision rules will be:

- If comparison of groundwater data to the relevant screening criteria (outlined in **Section 4.0**) identifies exceedances, increasing concentration trends, or data gaps or discrepancies from the proposed sampling plan, the contamination impacts will be subject to further investigation, assessment, remediation, or management; otherwise, environmental conditions will be deemed suitable for the proposed future uses and environmental values associated with the Site based on the available data.
- If the GME results suggest potential unacceptable risk, or if there remains insufficient information, recommendations shall be made on further assessment, management, or remediation measures.
- If the QA/QC data meets the Data Quality Indicators (DQIs) adopted (outlined in **Section 4.4.1**) to assess the precision and accuracy of the data, the data will be considered to be suitable for interpretive use. Data that fail to meet the DQIs will be assessed for their significance, then if required, managed using corrective actions (where possible) such as re-analysis of suspect samples, re-analysis of data and/or procedures, acceptance of data with acknowledged limitations/bias, or the data may be discarded.

3.6 Step 6 – Specify Performance or Acceptance Criteria

A decision error in the context of the decision rule presented in Step 5 would lead to either underestimation or overestimation of the potential risks associated with a particular analyte. Decision errors may include:

- Limitations in available Site history information
- Constraints associated with the ability to access certain areas of the Site, or off-Site locations
- Errors in the sampling plan
- Collection of samples that are not representative of the subject media
- Analytical errors
- Data not representative of Site conditions.

It is intended that the findings of the groundwater quality monitoring will provide sufficient information to inform decision making regarding potential risks, for example:

- Data will be reviewed and outliers within data sets will be identified and discussed in the context of Site characterisation for potential risks to human health and the environment
- If the criteria are not exceeded and the potential risk is considered acceptably low, an appropriate risk close out statement will be used
- If the criteria are exceeded, appropriate further assessment and contingency actions will be identified to further evaluate and, if necessary, manage the potential risk.

The quality of the data collected will be assessed on a range of factors including:

- Documentation and data completeness
- Reference to relevant guidance documents
- Consistency of methodology
- Data quality including comparability, representativeness, precision, and accuracy for data collection and analysis.

Assessment criteria for groundwater DQIs are listed in **Section 4.4**.

3.7 Step 7 – Develop the Plan for Obtaining Data

This GQMP has been developed to document the plan to obtain the required data, in order to meet the data quality objectives of this investigation identified in Steps 1 to 6 above.

The scope of works will be carried out to a level of accuracy and confidence consistent with the requirements of the ASC NEPM.

4.0 Environmental Values and Assessment Criteria

4.1 Protected Environmental Values

An appraisal of PEVs of groundwater has been undertaken with reference to the SPoWQM.

Table 1 from the SPoWQM (presented on **Plate 1** below) identifies PEVs for groundwater which are possible to be achieved on the basis of the groundwater total dissolved solids (TDS) concentrations.

Table 1 Environmental Values and Uses of Groundwater Classified by the Level of Total Dissolved Solids (mg/L)

Category TDS (mg/L)	A Less than 1000	B 1000-3500	C 3500-13000	D greater than 13000
Protected Environmental Value				
Drinking Water (1)	*			
Irrigation	*	*		
Industry	*	*	*	
Stock	*	*	*	
Ecosystem Protection	*	*	*	*

"*" Denotes an environmental value which can be achieved given the level of dissolved solids

(1) Where groundwaters have TDS levels below 500 mg/L, TDS levels should be maintained below these levels wherever practicable.

Plate 1 SPoWQM Table 1 - Environmental Values and Uses of Groundwater Classified by the Levels of TDS (mg/L)

Based on the reported TDS concentrations during previous groundwater investigations, Site groundwater is considered to be representative of Category A in accordance with the SPoWQM. For the purposes of ongoing assessment, all PEVs should be considered.

In addition, recreation (primary and secondary contact), aesthetics, buildings and structures, and human health (vapour intrusion) have been included as PEVs for groundwater at the Site.

4.2 Tier 1 Assessment Criteria

Groundwater assessment criteria have been identified for each groundwater PEV considered relevant for the Site, as discussed in **Section 4.1**, using the reference documents provided in **Table 2** below.

Adopted criteria values for specific CoPC are provided in **Appendix C**.

The Tier 1 assessment criteria have been derived to initially screen and identify precluded PEVs. The risk-based Remediation Criteria (the RC) presented in **Section 4.3** have been derived on a Site-specific basis for assessment of risks to the human health from groundwater impacts.

Table 2 Adopted Tier 1 Screening Criteria - Groundwater

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Drinking Water	• NHMRC Australian Drinking Water Guidelines (amended 2018) Aesthetics • NHMRC Australian Drinking Water Guidelines (amended 2018) Human Health • PFAS NEMP (2025) Where no high reliability NHMRC guideline values are available, screening values have been adopted from the following sources: • WHO (2017) Guidelines for Drinking-Water Quality: Fourth Edition Incorporating the First Addendum • US EPA RSLs (2020) Tap Water Quality • Health Canada (2020) • NZMH (2018) Drinking Water Standards	• Whilst it is noted that groundwater at the Site is unlikely to be extracted for drinking water purposes, this PEV has been conservatively considered for the purposes of groundwater assessment.
Irrigation	• ANZECC (2000) Short Term Trigger Values (STV) for Irrigation Water	• STV have been adopted on the basis of the surrounding land use, where ongoing irrigation of plants and garden beds is unlikely to occur. STV can be tolerated for up to 20 years of irrigation.
Industry	• Due to the wide and varied potential industrial uses of groundwater, water quality requirements for use in industrial processes are assessed on an industry-specific basis.	• Groundwater at the Site is unlikely to be used for industrial purposes. In the absence of any standard or reliable criteria to apply for this PEV without a specific planned industrial use, this PEV has not been considered.
Stock	• ANZECC (2000) Livestock Drinking Water Quality	• Based on the Site setting, it is unlikely that groundwater would be used for stock watering purposes. However, for the purpose of assessing this PEV, the ANZECC (2000) guidance has been adopted.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Ecosystem Protection	• ANZG (2018) 90% level of ecosystem protection (marine water) • PFAS NEMP (2025) Interim Marine 95% (slightly to moderately disturbed) level of ecosystem protection (interim marine) Where no high reliability guideline values are available in ANZG (2018), screening values have been adopted from the following sources: • ANZG (2018) low to moderate reliability trigger values (marine) • ANZG (2018) 90% level of ecosystem protection (marine water) draft guidelines released for public comment on 29 June 2020 • US EPA (2013) Ambient Water Quality Criteria (chronic – Marine) • US EPA (2006a) Region 3 Mid-Atlantic Biological Technical Assistance Group (BTAG) Screening Benchmarks (marine) • RIVM (2001) Dutch Intervention Values (DIV) for TPH • There are currently no relevant Australian guidelines for TRH in groundwater. Therefore, for the purpose of this assessment, the Netherlands Ministry of Housing - DIV (2000) for Mineral Oil has been adopted	• The nearest surface water ecosystems that may receive groundwater discharge, i.e. River Derwent and Sullivans Cove, would be characterised as a moderately to highly disturbed (i.e. active port area) marine environment according to the ANZECC (2000) definitions. As such, the assessment criteria based on 90% level of ecosystem protection (marine) have been adopted, with the exception of identified bioaccumulative CoPC where the 95% level of ecosystem protection (interim marine) has been conservatively adopted, consisting of: - PFAS - Mercury - PAHs (anthracene, phenanthrene, fluoranthene, and benzo(a)pyrene).
Recreation (Primary Contact)	• NHMRC (2008) Guidelines for Managing Risk in Recreational Water • PFAS NEMP (2025)	• NHMRC (2008) recommends applying Australian Drinking Water Guidelines - *Health* (NHMRC, 2018), adjusted for a 10 fold decrease in ingestion of water.
Recreation (Secondary contact)		• Primary Contact Recreation criteria have been conservatively adopted to assess secondary contact.
Aesthetics	• NHMRC Australian Drinking Water Guidelines (amended 2018) Aesthetic	• This may relate to aesthetic issues associated with the presence of objectionable odours, colours, taints, visible floating material, foam, oil or grease or ‘dirty’ water.

Protected Environmental Value	Adopted Assessment Criteria	Rationale
Buildings and Structures	• AS 2159 – 2009	• Building and structures have been assessed on the basis of concrete piles in a mild exposure classification scenario in high permeability soils. • In addition to a pH of 5.5, sulphate and chloride concentrations of 1,000 mg/L and 6,000 mg/L respectively have been adopted to assess potential impacts to concrete piles.
Human Health - Vapour Intrusion	CRC CARE (2011) Groundwater HSLs for vapour intrusion including: • Residential - HSL A/B (sand, depth to groundwater 2.0 – <4.0 m bgl) • Recreation/ Open Space - HSL C (sand, depth to groundwater 2.0 – <4.0 m bgl) • Commercial/ Industrial - HSL D (sand, depth to groundwater 2.0 – <4.0 m bgl) • Intrusive Maintenance Worker- HSL: (sand, depth to groundwater 2.0 – <4.0 m bgl) The British Geological Survey (BSG) (UKRI, 2024) value for assessing risk of methane intrusion from groundwater.	• Groundwater HSLs for vapour intrusion for TRH fractions have been developed based on typical petroleum mixtures and consider the solubility limits of petroleum mixtures. HSLs cannot be applied to non-petroleum sources such as pure solvents or gasworks wastes, where solubility limits are much higher. The HSL (infinite) values presented in Appendix F of CRC CARE, 2011 have been adopted in accordance with CRC CARE guidance. The theoretical solubility of the pure compound in water was used instead to identify vapour limiting HSLs (i.e. chemicals where a vapour inhalation risk was calculated to be only present at concentrations exceeding the theoretical solubility). Whilst it is noted that petroleum products do exist at the Site, given the varying types of hydrocarbon impact (i.e. gasworks, diesel, and petrol) the HSL infinite values have been adopted as a conservative approach. • HSLs associated with depths to groundwater of between 2.0 and <4.0 m bgl in sand lithology were selected to assess groundwater analytical results as the Tier 1 criteria have been conducted as an initial screening only. The Site specific remediation criteria (**Section 4.3**) are considered protective of groundwater at 1 m bgl, based sensitivity analysis (AECOM, 2025a). • The BSG methane criteria assumes all methane in water will outgas to form an explosive atmosphere.

Notes: *NHMRC – National Health and Medical Research Council; PFAS – Per- and Polyfluoroalkyl Substances; NEMP – National Environmental Management Plan; WHO – World Health Organisation; US EPA – United States Environmental Protection Agency; RSL – Regional Screening Level; NZHM – New Zealand Health Ministry; ANZECC – Australian and New Zealand Environment and Conservation Council; STV – Short Term Trigger Value; ANZG – Australian and New Zealand Guidelines; BTAG – Biological Technical Assistance Group; RIVM – Rijksinstituut voor Volksgezondheid en Milieu; TRH – Total Recoverable Hydrocarbons; CRC CARE – Cooperative Research Council for Contamination Assessment and Remediation of the Environment; BSG – British Geological Survey; HSL – Health Screening Level*

4.3 Site Specific Remediation Criteria

Site Specific Remediation Criteria (RC), to inform remediation and management works required at the Site, for the protection of human health were initially derived in 2016 (AECOM, 2016), and reviewed updated in 2025 (AECOM, 2025a). The RC adopted for groundwater are presented in **Appendix C**.

The RC consider the following scenarios and land uses which are considered applicable to the currently proposed future development based on the review of RC (AECOM, 2025d)*:*

- High density residential development (slab-on-grade buildings and buildings with a communal basement car park)
- Recreation / open space
- Multi-storey car park
- Commercial/light industrial (slab-on-grade buildings and working within a basement car park).

It is noted that residential development is now only proposed in Regatta Point. However, high density residential land use is known to occur off-Site and hydraulically down-gradient along Evans Street to the south of the Site, and the potential exists for groundwater migration from the Site to reach this area. As such, the RC protective of residential use should be applied to groundwater data from the Site in assessment of off-Site risks.

Potential risks to ecological receptors were not considered in the RC and were separately assessed (AECOM, 2020), and reviewed in 2025 (AECOM, 2025b) noting that the only potential ecological receptors identified for the Site are off-Site aquatic receptors via groundwater migrations.

The risk-based Site RC are derived based on generic, conservative exposure assumptions protective of on-Site and off-Site human health under the above-mentioned potential future land use conditions at the Site, and incorporated the following key assumptions:

- NAPL impacts at the Site will be remediated to the extent practicable and therefore risks associated with exposure to NAPL, and volatile contaminants derived from NAPL were not considered in the derivation of the RC.
- Intrusive maintenance work at up to 1 m below ground level (bgl) may be undertaken in all land uses.
- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of maintenance workers) to have direct contact with soils.
- A reticulated water supply will be available, based on the urban setting of the Site, and abstraction of groundwater for any purposes other than remediation or monitoring, or temporary extraction during construction, will not be required. Potential exposure to contaminants in groundwater during any construction, remediation, or monitoring will be managed by task specific safety documentation informed by the SEMP.
- Groundwater will be 1 m or more below the final surface of the Site.
- A SEMP will be prepared and put in place to maintain/manage surface cover. It is noted that this GQMP has been prepared as an attachment to the SEMP.
- With regard to basements:
    - Use of any future basements is assumed to be limited to car parking. If basements are constructed for other purposes, a risk assessment specific to the intended use should be conducted.
    - Where basements are associated with future residential or commercial buildings, it is assumed that these will be communal areas for multiple properties, for example, as part of a strata scheme that is managed by a body corporate. Private basements will therefore not be associated with individual residences.
    - Where there is access to a basement car park, it is assumed that any groundwater seepage collects in floor drains and a physical barrier is present, and therefore, groundwater will not be

directly contacted by basement users, with the exception of maintenance workers. It is assumed that individual tenants will not be involved in the maintenance of any associated services, including drainage pumps or sumps.

- For potential future multi-storey car park users, the most sensitive receptor in this scenario would be considered to be a parking attendant present at the Site for a typical eight hour working day. It is considered that RC derived for potential future commercial/light industrial workers (working within a basement) would be protective of all other basement users. This includes multi-storey car park users and residential tenants who access basement car parks and are likely to have lower frequency and duration of exposure, therefore the multi-storey car park users scenario is not evaluated separately in this assessment.
- Adjacent off-Site land uses include open space, commercial/industrial, and residential areas. As these potential land uses have been considered on-Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary), as:
  - Extractive groundwater use is not known to occur within 2 km of the Site, based on review of registered groundwater bores undertaken in 2024, and the urban setting and reticulated water supply indicate that groundwater extraction and use is unlikely to occur.
  - No basements are known to be present in the surrounding off-Site buildings, and are considered unlikely due to the additional costs which would be required for basement construction, based on shallow groundwater elevation, hydraulically downgradient of the Site.
- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan (CEMP). The CEMP should be prepared during the planning stage for any future remediation and/or development activities.
- A separate assessment of the potential risks to on-Site visitors was not undertaken as it was considered that the chronic exposure duration assessment of commercial/light industrial workers or residents is sufficiently protective of the shorter exposure duration visitor scenario.

These assumptions, including controls and requirements for future development, are currently documented as requirements of the SEMP (AECOM, 2026), and should be maintained in future SEMPs. Additional assessment of risks to users, and potentially further remediation, would be required in the event of any proposed development or Site use which does not conform to these assumptions.

4.4 Quality Assurance / Quality Control

A QA/QC program has been developed to ensure that data collected is sufficiently accurate, precise and reproducible for the purposes of the assessment program. The objective of the QA/QC program is to provide an assessment of the reliability of the data presented for interpretation. **Table 3** below summarises the QA/QC for investigations conducted as part of implementation of the GQMP.

Table 3 Aspects of the QA/QC Program

Aspect	Description
Use of Experienced Personnel	Field work will be undertaken by trained personnel with previous experience in contaminated site assessment. Field personnel will be familiar with: • Field sampling techniques • Task- and Site-specific health and safety protocols.
Field Methodology	Field activities will be conducted in accordance with the AECOM standard procedures provided in **Appendix D**.
Equipment Calibration	Where applicable, field equipment will be calibrated daily prior to use in the field. Certificates of calibration in accordance with manufacturer requirements will be provided from equipment suppliers as part of hire/procurement.

Aspect	Description
Record Keeping	Date, field personnel details, observations and findings of field activities including (but not limited to) general Site conditions (including weather), groundwater level and water quality measurements, groundwater sampling, and equipment calibration details will be recorded on project-specific data sheets.
Sample Collection	Non-dedicated sampling equipment (e.g. groundwater sampling pump, water level meter and water quality meter) will be decontaminated prior to mobilisation to Site and between sampling locations. Dedicated sampling equipment (e.g. tubing and sample containers) will be used for the collection of groundwater and QA/QC samples.
Duplicates	Field duplicate (inter and intra-laboratory) samples will be collected at a rate of one each for every 20 primary samples, for each sample media, with the exception of field duplicates of PFAS samples, which will be collected at a rate of one every 10 primary samples, in accordance with the PFAS NEMP (HEPA, 2025).
Sample Labelling	A unique sample identification number will be used for each sample to specify the sample origin (monitoring well number and date).
Chain of Custody	Standard Chain of Custody (CoC) procedures will be adopted for sample transfers. CoC documentation includes sample numbers; date of sampling/ collection; analyses required; and release and receipt of parties accepting sample custody.
Sample Storage	Samples will be collected in appropriate sample containers supplied by the analytical laboratory. Where required, sample containers will be prepared with preservation solutions based on the analyte of interest. Samples will be placed in cool storage prior to transfer to the laboratory.
Decontamination	All non-dedicated field equipment used in the sampling process will be subject to appropriate decontamination procedures, generally consisting of a non-phosphate and non-PFAS containing detergent solution wash followed by a deionised, distilled, or clean water rinse. The decontamination procedures will be performed prior to first use onsite and between each sampling location.

The quality of the data collected will be assessed on a range of factors including:

- Documentation and data completeness
- Reference to relevant guidance documents
- Consistency of methodology
- Data quality including comparability, representativeness, and accuracy for data collection and analysis.

4.4.1 Data Quality Indicators

The Data Quality Indicators (DQIs) to be adopted to assess the precision and accuracy of the data include:

- Assessment of the reproducibility of the data by calculation of the Relative Percent Difference (RPD) for laboratory and field duplicate samples. This will provide an indication of the precision of the data. The RPD is calculated from the absolute difference between results of the duplicate pair divided by the mean value of the duplicate pair as presented below:

  RPD (%) = 100 x (D1-D2) / ((D1+D2) / 2)

  Where: D1 = primary sample analysis

D2 = duplicate sample analysis

- Assessment of the analytical results for laboratory quality control samples. This will provide an indication of the accuracy of the data.
- Collection of rinsate blanks (at a rate of one per day of sampling) to provide an indication of accuracy related to potential for cross contamination of samples during sampling.
- Collection of field blanks (at a rate of one per day of sampling) to assess ambient conditions during sampling. Field blanks will be kept on hold unless rinsate results report detections above the laboratory limit of reporting (LOR).
- Analysis of trip blanks (at a rate of one per esky) to provide an indication of accuracy related to potential for cross contamination of samples during transport.

Assessment criteria for data quality indicators for sampling undertaken during the investigations implemented as part of this GQMP are listed below in **Table 4**.

Table 4 Acceptance Criteria for Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate blanks	Less than the laboratory LOR
Intra and inter laboratory field duplicates (1) (3)	Relative percent difference (RPD) less than 30%
Laboratory duplicates (2) (3) (4)	RPDs less than: - 20% for high level laboratory duplicates (i.e., >20 x LOR) - 50% for medium level laboratory duplicates (i.e., 10 to 20 x LOR)
Matrix spikes (5) (6) (7)	Recoveries between 70-130%
Method blanks (7)	Less than the laboratory LOR
Trip blanks	Less than the laboratory LOR
Laboratory control samples (7) (8)	Recoveries between 70-130%.
Surrogate spikes	See Note 6

Notes:

1. *Potential exceptions may occur where the analyte concentrations are close to the LOR. The 30% RPD is obtained from the NEPM, Schedule B3, where it is advised that when an RPD exceeds 30% then a review should be conducted to ascertain the cause.*
2. *If the results are close to the LOR, then higher results will be accepted.*
3. *Assumes that samples are homogeneous and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if the laboratory control sample (LCS) data meets the acceptance criteria.*
4. *Laboratory duplicates taken 1 per 10 samples.*
5. *80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.*
6. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.*
7. *Taken 1 per batch or 1 per 20 samples (whichever is smaller).*
8. *Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for tests but are within the criteria described in USEPA Method SW846.*

4.4.2 Corrective Actions

Analytical data that fail to meet the predetermined DQIs and acceptable limits of accuracy and precision will be managed using one or more of the following corrective actions (where possible) on a case-by-case basis:

- Assess significance of DQI failure to consider whether further actions are necessary
- Reanalyse suspect samples, provided sample or extract is within holding time
- Evaluate and amend sampling and/or analytical procedures
- Resampling and reanalysis
- Accept the data as an estimate with an acknowledged level of bias and imprecision
- Discard the data.

In the event that data of questionable reliability are used, restrictions and limitations associated with the use of such data will be clearly identified. Failure to meet the DQIs will be reported and the significance to the outcome of the sampling and investigation works will be assessed.

5.0 Groundwater Conceptual Site Model

The ASC NEPM states that a CSM is an essential part of all site contamination assessments. A CSM provides a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors, and a framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future.

The development of a CSM is a dynamic and iterative process, where all information and data from each stage of an assessment is integrated to refine the CSM and inform subsequent decisions on whether further investigation or management is necessary.

Sections 5.1 to **5.4** below present the current CSM for groundwater at the Site, based on current Site knowledge of contamination as summarised in Section 3 of the SEMP.

The CSM should be reviewed as part of GME reporting (see **Section 6.8**). Proposed development of the Site, in particular the lowering of the Site and management of shallow groundwater in the north-east section of the proposed Stadium (**Section 6.4.4**) has the potential to alter groundwater flow and may affect NAPL and dissolved phase contaminant mobility, or expose and allow the oxidation of PASS.

5.1 Sources of Contamination

Based on current identified Site contamination and impacts (see Section 3 of the SEMP), the sources of contamination in groundwater listed in **Table 5** below are considered to have the potential to represent potential risks to receptors:

Table 5 Groundwater Potential Sources of Contamination

#	Type	Description
1	Dissolved phase contaminants	Concentrations of the following CoPC have been detected in groundwater above one or more of the adopted Tier 1 criteria for assessment of PEVs (see **Section 4.0**): • TDS • TPH - C_{10}-C_{36} / TRH - C_{10}-C_{40} • Benzene, naphthalene • PAHs – anthracene, benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, dibenzofuran, phenanthrene, fluoranthene, 2.4-dimethylphenol • Metals – aluminium, arsenic, boron, cobalt, copper, iron, lead, manganese, vanadium, zinc • Ammonia (as N), chloride, sodium, phosphorus, sulphate, cyanide • PFAS – PFOS • Methane • E. Coli and pH[1] In particular: • TRH/TPH and other hydrocarbon related contaminants (such as benzene, naphthalene and PAHs) are generally in the vicinity of LNAPL plumes and the former gasworks area in the south-west of the Site, but have been detected in groundwater in other areas. • PFOS above Tier 1 criteria has been detected in the south-east corner of the Site in one well (MW16), although detects above LOR but below criteria have been detected in wells on the north and north-east side of the Site. • Methane in groundwater is widespread, but generally in areas where land reclamation has occurred and buried, saturated natural soils are present, and may represent a risk if volatilised methane accumulates in enclosed spaces or structures.

[1] While E. Coli and pH are not “chemicals” of potential concern, they have been treated as such in assessment.

#	Type	Description
2	NAPL	NAPL has been detected as: • LNAPL in four plumes: - LNAPL Plumes A1, A2 and A3 in the central portion of the Site. - LNAPL Plume B in the south-east corner of the Site, and inferred to be co-sourced and extend off-Site to the east. LNAPL was remediated by Total Fluids Extraction (TFE) between 2015 and 2017. • DNAPL in four plumes in the former gasworks area in the south-east area of the Site. DNAPL was remediated via *in situ* solidification (ISS) in two areas in 2024. NAPL may represent a risk if directly contact with receptors occurs, or if secondary contact occurs via NAPL-derived dissolved phase or vapours. NAPL is not currently considered mobile (see Section 3.4 of the SEMP), but potential mobilisation due to groundwater disturbance should be considered in assessment.
3	PASS	PASS has been detected in natural soils (sands/silts) at the Site, generally in saturated soil below the water table, but also in some pockets of unoxidised material in unsaturated fill. While PASS is not considered a "contaminant" arising from human activities, but is instead a natural condition of soils at the Site, management of PASS is considered to form part of the overall management of the environmental condition of groundwater. If disturbed or dewatered, PASS has the potential to acidify and lower groundwater pH, which may directly impact receptors, or mobilise other contamination, especially metals.

Notes: *CoPC – Chemical of Potential Concern; TDS – Total Dissolved Solids; TPH – Total Petroleum Hydrocarbons; TRH – Total Recoverable Hydrocarbons; PAH – Polycyclic Aromatic Hydrocarbon; PFAS – Per- and Polyfluoroalkyl Substances; PFOS - Perfluorooctane Sulfonic Acid; E. coli - Escherichia Coli; NAPL – Non-Aqueous Phase Liquid; LNAPL – Light NAPL; DNAPL – Dense NAPL; TFE – Total Fluids Extraction; PASS – Potential Acid Sulfate Soil.*

5.2 Potential Receptors

Based on the current and proposed future uses of the Site, the receptors listed in **Table 6** below are considered to have the potential to come into contact with groundwater within or discharging from the Site.

Table 6 Potential Receptors of Groundwater

#	Type	Description
1	Human health – Residents (off-Site only), commercial/industrial workers and visitors at the Site or adjacent properties	• Residents of land to the south or west of the Site, which is zoned to allow a mix of residential and commercial uses. Apartments (first floor and above) are located along Evans Street, south of the Site. • Commercial or industrial workers at the Site or adjacent businesses such as shops and offices to the south and west, or the TasPorts facility to the east. • Visitors to residences, businesses, or open spaces at the Site or adjacent properties It is assumed that potential receptors in this category will not be undertaking intrusive works or activities.
2	Intrusive Maintenance and Construction Workers (On- and Off-Site)	• Workers undertaking intrusive maintenance (such as accessing sub-surface pipes or utility conduits) or construction activities.
3	Recreational users of nearby waterways (Off-Site only)	• Boating, fishing or other recreational uses of Sullivan's Cove or the River Derwent.

#	Type	Description
4	Ecological Receptors (Off-Site only)	• No ecological receptors (terrestrial or aquatic) are present on-Site or proposed as part of future development. Potential plants and vegetation on-Site will be managed as described in Section 4.7 of the SEMP to limit groundwater interaction. • No terrestrial ecosystems have been identified off-Site or are considered likely. • Aquatic ecosystems (assessed as “high disturbed”) are present in Sullivans Cove and the River Derwent.

5.3 Potential Pathways

Table 7 below lists the identified pathways whereby sources of contamination may come into contact with receptors.

Table 7 Potential Receptors of Groundwater

#	Type	Description
1	Direct contact	Ingestion, washing, or other direct contact with groundwater/ NAPL (either on-Site or which has migrated off-Site), or with surface water which Site groundwater has discharged to.
2	Vapour inhalation or accumulation	Inhalation of groundwater derived vapour, or accumulation of non-toxic vapour which represents an explosion risk (methane) in enclosed structures.

Risks associated with groundwater may be present on-Site, or off-Site where groundwater with contamination has migrated beyond the Site boundaries.

As noted in Section 2.5.3 of the SEMP, Site groundwater elevation contours generally followed the pattern of topographic elevation across the Site, indicating a relatively steep up-gradient flow direction to the south-east, prior to flattening out to a very gentle gradient across the central and south-eastern down-gradient areas. Groundwater flow direction followed the steep north-easterly slope towards Regatta Point further around the headland to the far north of the Site.

Groundwater is inferred to have southeast and southerly components of flow in the main area of the Site, with some westerly flow along the eastern boundary with TasPorts land which may be due to a buried seawall in this area, and northeasterly towards Regatta Point. The inferred ultimate discharge points of Site groundwater are the River Derwent and Sullivans Cove.

5.4 Source-Pathway-Receptor Assessment

An exposure pathway describes the course a chemical or physical agent takes from its source to an exposed individual or ecological receptor. In order for a receptor to be exposed to a chemical contaminant from a site, a complete exposure pathway must exist, which generally includes the following elements:

- A source and mechanism of chemical release
- A retention or transport medium (or paths where chemicals are transferred between media)
- A point of potential human or ecological contact with the contaminated medium
- An exposure route (i.e., inhalation, ingestion or dermal contact for the entity) at the point of exposure.

In cases where one or more of the above elements is missing, the exposure pathway is considered to be incomplete. Such circumstances are not considered to pose a risk of harm to receptors. **Table 8** below provides assessment on the status of source-pathway-receptor (SPR) linkages for groundwater at Macquarie Point.

The following assumptions have been made when considering SPR linkages:

- This GQMP and the SEMP will be implemented and maintained at the Site, including the following controls related to groundwater:
  - On-Site Groundwater use will be limited, as required in **Section 1.3**, to:
    - Environmental monitoring, assessment, or remediation;
    - Short-term removal during construction;
    - Groundwater drainage systems for structures.
  - Groundwater drainage and vapour intrusion protection (as required in Sections 4.4 and 4.8 of the SEMP) will be installed and maintained as part of future structures where required.
  - Safety documentation and procedures (such as Construction Environmental Management Plans [CEMPs], Work Health and Safety Plans [WHSPs], and/or task specific Job Safety Analysis [JSAs] or Safe Work Method Statements [SWMSs]) will be prepared and implemented for all intrusive works at the Site, as required in Section 4.3 of the SEMP.
  - Work planning will consider and identify potential disturbance of PASS, and preparation of a suitable Acid Sulfate Soil Management Plan (ASSMP), which may include a Dewatering Management Plan (DWMP), as required in Section 4.12.3 of the SEMP.
  - Potential risks and assumptions about use relating to groundwater will be communicated to adjacent landowners and properties, as required in **Section 6.8**.
- Due to the developed urban nature of the area and available reticulated water supply, groundwater (whether on-Site or in adjacent areas) will not be extracted for drinking, irrigation, recreational, or industrial purposes.

Table 8 Groundwater Source-Pathway-Receptor Linkage Assessment

Exposure Pathway	Residents (off-Site only), commercial/industrial workers and visitors		Intrusive Maintenance or Construction Workers		Recreational Users of Surface Water	Aquatic Ecosystems
	On-Site	Off-Site	On-Site	Off-Site	Off-Site	Off-Site
Incidental ingestion of contaminated groundwater	×(a)	×(a)	✓(d)	✓(d)	✓ (e)	✓(f)
Dermal contact with contaminated groundwater	×(a)	×(a)	✓(d)	✓(d)	✓ (e)	✓(f)
Inhalation of contaminated groundwater-derived vapours in indoor air	×(b)	×(b)	✓ (d)	✓ (d)	N/A	N/A
Accumulation of non-toxic groundwater-derived vapours (methane) to potentially hazardous levels in enclosed spaces.	×(b)	✓(b)	✓(d)	✓(d)	N/A	N/A
Inhalation of contaminated groundwater-derived vapours in outdoor air	✓ (c)	×(c)	✓(d)	× (c)	×(c)	N/A
Ingestion of contaminated groundwater used as potable water supply	×(a)	×(a)	×(a)	×(a)	×(a)	✓ (f)
Inhalation of contaminated groundwater vapours during irrigation/showering	×(a)	×(a)	×(a)	×(a)	×(a)	N/A
Ingestion of vegetables, plants or animals fed by contaminated groundwater	×(a)	×(a)	×(a)	×(a)	✓(f)	✓ (f)

Notes: × : incomplete pathway; ✓: potentially complete pathway; N/A : Not applicable

a) No on-Site or down-gradient off-Site bores used for agricultural / domestic purposes have been identified in previous investigations. The current SEMP restricts the use of Site groundwater to monitoring or remediation purposes or for dewatering (temporary or on-going), and based on the land use off-Site and downgradient, and the reticulated water supply available, use or handling of groundwater off-Site as potable water, or for irrigation, showering, stock watering, or other uses by humans, is considered unlikely.

b) On-Site development includes design and verification of vapour protection systems to prevent hazardous vapour intrusion, including consideration of potential vapour management for long-term drainage systems. No concentrations of CoPC which are considered to represent a potentially hazardous concentration of groundwater-derived vapours in indoor spaces have been detected in groundwater emanating from the Site, with the exception of methane, which is considered co-sourced from off-Site conditions (buried sea- and river-bed) and not sourced from the Site in off-Site areas.

c) No concentrations of CoPC which are considered to represent a potentially hazardous concentration of groundwater-derived vapours in outdoor spaces have been detected in groundwater within or emanating from the Site.

d) Risks to on-Site intrusive maintenance or construction workers will be managed by safety and environmental management documents as required by the SEMP. As part of implementation of the GQMP, off-Site landowners/controllers will be informed of potential risks to inform their own safety planning and management.

e) Potential surface water which may be subject to recreational use (the River Derwent and Sullivans Cove) are between 130 to 270 m from the Site boundary, and it is assessed that attenuation is likely to reduce CoPC concentrations below adopted criteria across these distances.

f) No potential impacts to off-Site ecological receptors are considered likely (see **Section 6.4.5**), which would include animals (i.e., fish) potentially consumed by off-Site recreational users of surface water.

6.0 Groundwater Monitoring Events

6.1 Scope Development and Schedule

In order to monitor the groundwater at and adjacent to the Site, and meet the purpose and objectives of the GQMP, as described in **Section 1.2**, Site-wide GMEs should be conducted at a minimum initial frequency of annually. The first GME is scheduled to occur in June 2026, noting that scheduling may be affected by Site development activities.

Each GME should be conducted with consideration of the following information:

- The environmental investigations which informed Site Suitability Statements / Contaminated Land Audit Reports, the SEMP, and the overall state of knowledge related to Site groundwater contamination.
- The key potential risk areas described in **Section 6.4** below.
- Any changes in Site condition or use, such as development, land use, and activities on neighbouring sites.
- Results and recommendations of previous GMEs.
- Any other recommendations, requirements, or data gaps relating to groundwater conditions which have been identified as part of other investigations or Site activities.

Sections 6.2 to **6.8** provide an initial scope and methodology for GMEs, with proposed groundwater wells to be gauged and selected analytical suites provided on **Table T2**. Groundwater well locations and proposed monitoring actions are shown on **Figure F5**.

Any modification of this scope for future GMEs must be justified as described in **Section 7.0**.

6.2 Well Maintenance and Repair

Groundwater wells at the Site are to be maintained in a functional condition. The following inspections will be made as part of the each GME:

- Inspect condition of concrete pad for signs of damage
- Inspect gatic cover or metal stickup cover for signs of damage
- Inspect well cap to assess if it is appropriately sealed.

Should any of the inspections identify damage to a well which could allow surface water ingress, cross-contamination of groundwater and/or to inhibit future use, work to repair the well will be undertaken.

Gatic covers are to be maintained to prevent the ingress of surface water and gatic bolts are to be replaced when showing signs of wear or damage.

The integrity of the groundwater wells should be maintained so far as reasonably practicable during normal operations or any Site development work. If wells cannot be located during sampling or gauging events, appropriate measures, such as use of a metal detector or engagement of a licensed surveyor to locate the recorded co-ordinates of a well, should be undertaken.

If a lost well cannot be relocated, a damaged well cannot be repaired and used for ongoing monitoring, or removal of groundwater well is required for the purpose of Site development:

- The groundwater well network should be assessed to determine if a replacement is required and is practicable, noting that as Site development progresses direct replacement may not be possible, or if remaining wells can be used to provide suitable information for monitoring groundwater condition.

  Replacement should be conducted as part of any other larger scale maintenance activities as discussed below.
- If the groundwater well location is known and a groundwater well is to be removed from the monitoring network (due to damage or no longer being required), the groundwater well must be

decommissioned in accordance with National Uniform Drillers Licensing Committee (NUDLC) Minimum Construction Requirements for Water Bores in Australia, Fourth Edition (2020) decommissioning requirements.

Minor maintenance requirements (such as replacing missing bolts) will be undertaken immediately during GMEs. Larger scale maintenance requirements (such as gatic replacement, redevelopment if excess siltation has occurred, or well replacement if required) will be scheduled for completion prior to, or during, the following GME.

Any new groundwater well, or groundwater well which has had the maintenance or repair activities undertaken that affects the well casing elevation, a licensed surveyor will be engaged to re-survey the top of casing location with reference to Map Grid of Australia (MGA) Zone 55) and elevation with reference to the Australian Height Datum (AHD).

A summary of groundwater well maintenance requirements completed or identified during each GME must be documented in the report described in **Section 6.8**.

6.3 Groundwater Gauging and Sampling Methodology

AECOM SOPs for development, low-flow sampling, and gauging of groundwater wells are attached as **Appendix D**. GME activities should be conducted with reference to and in accordance with these documents, or with suitable procedures which have been developed in accordance with the following documents:

- *AS NZS 5667.1.1998 – Water Quality Sampling – Part 1 Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*
- *AS NZS 5667.11,1998 – Water quality - Sampling guidance on sampling of groundwaters*
- *EPA Victoria Publication 669.1: Groundwater sampling guidelines* (EPA Victoria, 2022)
- *The Per- and Polyfluoroalkyl Substances National Environmental Management* Plan (the PFAS NEMP) (HEPA, 2025)
- The ASC NEPM

If the above documents are updated or superseded in the future, any groundwater sampling methodologies should be formulated or updated with reference to the most recent relevant guidelines.

During GMEs:

- A gauging round should be conducted prior to sampling. The gauging round should be completed in as short a time as practicable (ideally within one day).

  During gauging, the concentration of Volatile Organic Compounds (VOCs) and potential flammable compounds in each wellhead should be recorded using an appropriately calibrated photo-ionisation detector (PID) and Lower Explosive Limit (LEL) detector.

  The time at which each well is gauged should be recorded and potential tidal influence considered when assessing data.

- Sampling of each groundwater should be conducted once the gauging round is complete for all wells. Groundwater sampling should:
  - Include collection of field groundwater parameters with an appropriately calibrated water quality meter. Parameters which should be recorded include:
    - Physical appearance and characteristics of groundwater, such as colour, turbidity, and odour.
    - Field pH
    - Electrical Conductivity (EC)
    - Temperature
    - Oxygen Reduction Potential (ORP)

- Dissolved Oxygen (DO)

- Be undertaken using low-flow methodologies for consistency with previous GMEs and historical data, unless justification for an alternative methodology, including assessment of potential differences which may arise in groundwater results, is provided.

6.4 Potential Elevated Risk Areas

Groundwater at the Site has impacts from a number of historic industrial land uses on- and off-Site, as discussed in the SEMP. The following areas have been identified in previous investigations as having detected contamination, Site characteristics, or proposed development which may introduce elevated groundwater risks.

6.4.1 Non-Aqueous Phase Liquid Areas

NAPL has been detected at the Site as both Light Non-Aqueous Phase Liquid (LNAPL) and Dense NAPL (DNAPL), as described in Section 3.4 of the SEMP.

Where practicable, GMEs should include gauging and sampling of wells within and hydraulically up-, down- and cross-gradient of NAPL areas. **Table 9** below presents existing groundwater wells which are within or immediately adjacent to inferred NAPL areas, with groundwater well locations shown on **Figure F3**.

For the purpose of the initial GME scope presented on **Table T2**, all groundwater wells on **Table 9** are included in the gauging scope, and collection and analysis of groundwater is included for all wells which are screened across the shallow aquifer.

However, collection and analysis of groundwater samples is not considered required from MW123B, MW126B, MW128B, MW129, MW131_GHD, MW136_GHD. Each of these wells are screened below the water table for assessment of the deeper aquifer, and are either in a nested bore, or <5 m, from a groundwater wells screened in the shallower aquifer which is included in the sampling scope for the GME. As the Site has a single continuous aquifer, and any contamination to the deeper portions of the aquifer would have to pass through shallower groundwater in order to reach receptors, collection and analysis of groundwater from the shallower screened wells is considered suitable for assessment and monitoring of groundwater condition.

Table 9 NAPL Monitoring Wells

NAPL Area	Groundwater Well Location			
	Within inferred plume extent	Up-gradient	Down-gradient	Cross-gradient
LNAPL Plume A1	MW183	MW103A	MW182, MW191	MW177, MW187, MW184
LNAPL Plume A2	MW185	MW191, MW184,	MW187, MW146, RN4, MW176, MW175	MW186, MW36
LNAPL Plume A3	MW187	MW182, MW177, MW183	MW155, MW146, RN4,	MW185
LNAPL Plume B	MW3, PW02, S8, PC13[1]	MW164, MW6[2], MW188	MW5[2], MW135_GHD[1], MW136_GHD[1,3], MW16, MW126A, MW126B[3], MW154[2], MW60, MW193, MW134_GHD[1]	-

NAPL Area	Groundwater Well Location			
	Within inferred plume extent	Up-gradient	Down-gradient	Cross-gradient
Tar Plume A	-	MW128A, MW128B	MW196, MW123A, MW123B[3], MW130_GHD, MW131_GHD[3], MW132_GHD	-
Tar Plume B	-	MW196, MW198	MW100, MW129[3] MW197, MW133_GHD, RS6	MW132_GHD
Tar Plume C	-	MW101	MW128A, MW128B[3], MW196	MW102
Tar Plume D	-	-	MW101, MW102, MW198	MW121

Notes: *1. Off-Site well on third party land with limited access granted; 2. LNAPL has been historically detected in this well; 3. Groundwater wells screened below the water table to assess the deeper portion of the aquifer.*

6.4.2 Per- and Polyfluoroalkyl Substances (PFAS)

While no direct record of PFAS usage or storage on the Site exists, PFAS has been identified as a CoPC arising from bulk fuel storage.

PFAS analysis has been conducted on samples collected from 33 groundwater wells across the Site between 2015 and 2025.

PFAS has not been reported above the laboratory LOR in the following 21 groundwater wells when included in laboratory analysis: MW101, MW123A, MW123B, MW124A, MW124B, MW25A, MW125B, MW126B, MW127A, MW127B, MW128A, MW128B, MW129, NR2*, R2*, R3*, RN2, RS6, S4*, S9*, TW03. Wells marked with a * have been lost or destroyed.

PFAS has been detected above LOR in 14 wells, as summarised on **Table 10** below. It is noted that other PFAS congeners have also been detected in the wells listed on **Table 10**, but do not have adopted criteria. 6:2 Fluorotelomer sulfonic acid (FTS) has only been included as no other PFAS has been detected in RN4.

Table 10 Detectable PFAS in Groundwater

Well	Date	Detectable PFAS (µg/L)				Comment(s)
		PFHxS	PFOS	PFOA	6:2 FTS	
Ecosystem Protection		NC	0.13	220	NC	
Drinking Water		0.07	0.07	0.2	NC	
MW16	19 Jul 2016	<0.02	0.09	0.02	<0.05	MW16 in the south-east corner of the Site, cross/down-hydraulic gradient of LNAPL Plume B. Hydraulic contours and groundwater elevations in surrounding wells indicate that groundwater at this well may be coming from the north and west (on-Site) and from the east (off-Site), and is likely to be discharging in a southerly direction.
	18 Jul 2017	0.04	0.38	0.06	<0.05	
	23 Jun 2025	0.01	0.30	0.02	<0.05	

Well	Date	Detectable PFAS (µg/L)				Comment(s)
		PFHxS	PFOS	PFOA	6:2 FTS	
Ecosystem Protection		NC	0.13	220	NC	
Drinking Water		0.07	0.07	0.2	NC	
BG1	21Jul 2016	0.04	<0.01	0.01	<0.05	BG1 is upgradient / background and detection in this well may indicate an off-Site source.
	18 Jul 2017	<0.02	<0.01	<0.01	<0.05	
	17 Jun 2025	0.007	0.014	0.013	<0.005	
MW6	19 Jul 2016	<0.02	<0.01	<0.01	<0.05	MW6 is located in the south-east corner of the Site, on the eastern boundary with adjacent TasPorts property and up- to cross-gradient of LNAPL Plume B.
	18 Jul 2019	<0.02	<0.01	<0.01	<0.05	
	23 Jun 2025	0.003	0.012	0.005	<0.005	
MW60	19 Jul 2016	<0.02	<0.01	0.01	<0.05	MW126A is located in the south-east corner of the Site, near the inferred discharge point of groundwater from the Site and down-gradient of LNAPL Plume B.
	18 Jul 2017	<0.02	<0.01	0.02	<0.05	
	24 Jun 2025	0.005	0.006	0.015	<0.005	
MW120	18 Aug 2015	-	<0.02	<0.02	<0.1	MW120 was located in the north-west corner of the Site, and is an upgradient / background well and detection in this well may indicate an off-Site source. This well was lost/destroyed and has been replaced by MW120A.
	02 Feb 2016	-	<0.01	<0.01	<0.1	
	21 Jul 2016	<0.02	0.02	<0.01	<0.05	
MW120A	25 Jun 2025	0.004	0.024	0.006	<0.005	This well was installed to replace MW120 in 2025.
MW121	19 Aug 2015	-	<0.02	<0.02	<0.1	MW121 is located in the north-west portion of the Site, and is an upgradient / background location and detection in this well may indicate an off-Site source.
	21 Jul 2016	<0.02	0.02	0.03	<0.05	
	18 Jul 2017	<0.02	0.03	<0.01	<0.05	
	18 Jun 2025	0.001	0.019	0.004	<0.005	

Well	Date	Detectable PFAS (µg/L)				Comment(s)
		PFHxS	PFOS	PFOA	6:2 FTS	
Ecosystem Protection		NC	0.13	220	NC	
Drinking Water		0.07	0.07	0.2	NC	
MW126A	02 Feb 2016	-	<0.01	<0.01	<0.1	MW126A is located in the south-east corner of the Site, near the inferred discharge point of groundwater from the Site.
	19 Jul 2016	<0.02	<0.01	<0.01	<0.05	
	18 Jul 2017	<0.02	<0.01	<0.01	<0.05	
	24 Jun 2025	0.005	0.004	0.007	<0.005	
MW188	24 Jun 2025	0.001	<0.001	0.002	<0.005	MW188 was installed in 2025 in a roadway east of the Red Shed in the south-east corner of the Site.
MW193	24 Jun 2025	<0.001	0.002	0.003	<0.005	MW188 was installed in 2025 in a roadway east of the Red Shed on the southern boundary in the south-east corner of the Site.
MW194	17 Jun 2025	0.004	0.017	0.015	<0.005	MW194 was installed in 2025 adjacent to BG1 on the northern Site boundary Site, and is considered to represent groundwater entering the Site.
RN2	19 Jul 2016	<0.02	<0.01	<0.01	0.13	RN2 is on the Site boundary, and hydraulic contours indicate that water at this location is likely to represent groundwater entering the Site from the east.
	19 Jul 2017	<0.02	<0.01	<0.01	<0.05	

Notes: *NC - No criteria; PFHxS - Perfluorohexane sulfonic acid; PFOS - Perfluorooctane sulfonic acid; PFOA - Perfluorooctanoic acid; FTS - Fluorotelomer sulfonic acid.*

Exceedances of adopted the criteria for drinking water and protection of marine ecosystems (95% species protection level) have been detected in one well, MW16 in the south-east corner of the Site. **Table 11** below lists wells in the vicinity of MW16.

Table 11 Wells in the vicinity of MW16

Groundwater Well ID	Inferred Hydraulic Direction[1]	PFAS Detected above LOR in Well Previously?
MW154	Up-gradient	Not analysed
S8	Up-gradient	Not analysed (LNAPL in well)
MW60	Cross- to down-gradient	Yes
MW126A	Cross- to down-gradient	Yes
MW134_GHD	Down-gradient	Not analysed. Off-Site well with limited access granted by third party landowner
MW135_GHD	Cross- to up-gradient	Not analysed. Off-Site well with limited access granted by third party landowner

Groundwater Well ID	Inferred Hydraulic Direction[1]	PFAS Detected above LOR in Well Previously?
MW136_GHD	Cross- to up-gradient	Not analysed. Off-Site well with limited access granted by third party landowner
PC12	Cross- to down-gradient	Not analysed. Off-Site well with limited access granted by third party landowner
MW193	Cross-gradient	Yes
MW151	Down-gradient	Not analysed

Notes: 1. Inferring groundwater flow direction is complex in the vicinity of MW16, as groundwater elevation is relatively flat and a seawall has been identified

For the purpose of the initial GME scope presented on **Table T2**, all groundwater wells on **Table 10** and **Table 11** have been included in the gauging scope, and selected for PFAS analysis.

6.4.3 Potential Acid Sulfate Soil (PASS)

If disturbed by excavation or dewatering, PASS located beneath the Site has the potential to oxidise and acidify. Any such disturbance requires an Acid Sulfate Soil Management Plan (ASSMP) as described in the SEMP, which may include requirements for ongoing monitoring of groundwater.

However, any such requirements will be specific to the area and extent of disturbance, and should be documented in the ASSMP or DWMP and implemented outside of the SEMP and GQMP.

6.4.4 Groundwater Elevation Relative to Buildings and Structures

As described in **Section 4.3**, the Site Specific RC include an assumption that groundwater will be greater than 1 m below building slabs.

As part of the proposed design, lowering of the Site surface elevation and construction of buildings is proposed and an area (shown on **Figure F4**) has been identified where groundwater may be present within 1 m of the base of the proposed structures (and above the base in some areas). Design and construction in this area must include protection against groundwater or groundwater-derived vapour entering buildings, as required by Section 4.4 of the SEMP, and it is understood that this is currently proposed to be achieved by a combination of a drainage layer and vapour barrier.

Any future changes in design shown on **Figure F4**, which may affect the distance between groundwater and the base of building slabs, should be considered for implications to the GQMP.

The timeframe for when construction of this layer will occur is not yet specified, but is anticipated to occur in 2027/2028, with initial excavation occurring in 2026. Groundwater monitoring during and after construction must assess if groundwater is being lowered and is not a risk of reaching the surface.

For the purpose of the initial GME scope presented on **Table T2**, gauging of all groundwater wells has been included.

6.4.5 Potential Impacts to Off-Site Ecological Receptors

A Site-wide assessment of potential off-Site impacts to ecological receptors, namely the River Derwent and Sullivans Cove was conducted in 2019/2020 and is reported in the *Assessment of Potential Off-Site Ecological Impacts* (AECOM, 2020). *Assessment of Potential Off-Site Ecological Impacts – 2025 Addendum* (AECOM, 2025b) was prepared in 2025 in order to incorporate additional data collected since initial issue of this assessment on the Site's environmental condition.

The objective of the *Assessment of Potential Off-Site Ecological Impacts* was to assess the potential risk posed to off-Site aquatic receptors with respect to the nature and extent of contaminant discharge *via* groundwater from contaminant sources at the Site.

Based on the outcomes of the weight-of evidence assessment conducted in this assessment, and the review and addendum prepared in 2025, it is unlikely that the Chemicals of Potential Ecological Concern (CoPEC) concentrations in groundwater beneath the Site are presenting a potentially

unacceptable risk to off-Site aquatic ecological receptors (if present) at the inferred points of discharge on the basis that:

- The assessed adjacent aquatic habitats are artificial, of low ecological value and considered to be 'highly disturbed' environments. A sensitivity analysis demonstrated that the overall risk conclusions would not materially change if the condition of the off-Site receiving environment was improved over time to become consistent with a 'slightly-moderately disturbed' habitat, for which a higher level of species protection would be desirable.
- The following chemicals have been identified as CoPEC at the Site, based on reported concentrations in one or more groundwater samples exceeding the adopted Tier 1 criteria:
  - Metals (aluminium, cadmium, copper, lead, manganese, vanadium, zinc)
  - Ammonia (as N), free cyanide, total phosphorus, and pH[2]
  - TRH >C10-C40 fraction (sum)
  - Monoaromatic hydrocarbons (benzene, ethylbenzene, o-xylene, m&p-xylene, 1,2,4-trimethylbenzene)
  - Polycyclic aromatic hydrocarbons (naphthalene, anthracene, phenanthrene, fluoranthene, benzo(a)pyrene)
  - 2,4-dimethylphenol
  - PFOS

  It is noted that cadmium and PFOS were not identified as CoPEC in the initial assessment (AECOM, 2020), but were identified and considered in the 2025 update (AECOM, 2025b).
- Concentrations of CoPEC were reported below adopted screening levels near Sullivans Cove and the River Derwent, were likely to attenuate further prior to discharge into these areas, or were associated with background conditions. Concentrations of CoPEC did not increase significantly (>20%) compared between 2020 and 2025, and no new exceedances of adopted ecological criteria were detected, with the exception of:
  - Elevated concentrations of cadmium, copper, lead, and zinc were observed in groundwater collected from MW180, a new groundwater well installed at Regatta Point in 2024 and screened across historical fill.

    Concentrations in excess of adopted criteria were inconsistent across the two sampling events conducted to date.
  - 2,4-Dimethylphenol: Elevated concentrations were observed at
    - MW132_GHD, located on Evans Street to the south of the Site in December 2022.

      Remediation of gasworks impacts in the Gateway was conducted in 2025 and, combined with natural attenuation processes, concentrations are expected to decline over time. During the most recent GME (June 2025) concentrations of 2,4-dimethylphenol were below the laboratory LOR in MW132_GHD.
    - MW120A, located in the north-west corner of the Site in June 2025.

      MW120A is one of the most hydraulically up-gradient wells on the Site and is located close to where groundwater is inferred to enter the Site. Concentrations in this groundwater wells are unlikely to be representative of groundwater discharging from the Site.
- Hydrocarbon fingerprinting of an LNAPL sample collected from within Plume B suggests that the LNAPL is dominantly composed of weathered diesel and lube oil. No new sources of LNAPL were identified. The plume is considered stable and no significant TRH-signature is evident downgradient near the receiving environment at Sullivans Cove.

[2] While pH is not a chemical, it has been treated as one for the purpose of assessment of ecological risks.

- Disturbance of PASS in Site soil without appropriate management could lead to acidification and increased mobilisation of metals, and increase the potential risk to off-Site aquatic ecological receptors. However, implementation of an ASSMP in accordance with the SEMP is expected to mitigate this risk.
- A mixing zone indicating estuarine/saline water interaction noted near Sullivans Cove is likely to result in the reduction of groundwater concentrations of key CoPEC prior to the point of discharge into the receiving environments.
- The Hobart Rivulet (which passes north of the Escarpment, through Audit Area 4 East, and south of Regatta Point) has concrete walls are understood to be below the groundwater level beneath the Site and may act as a barrier to groundwater flow in the direction of the point of discharge to River Derwent.
- Groundwater is inferred to predominately discharge through cracks and protrusions in the seawalls. No obvious groundwater seepage through the concrete seawall was noted near Sullivans Cove or the River Derwent during low tide inspections as part of the initial 2020 assessment, and no development or modification of seawalls is known to have occurred since then.

In summary, the *Assessment of Potential Off-Site Ecological Impacts* considered multiple lines of evidence to assess the potential risk posed to off-Site aquatic ecological receptors (i.e. marine ecosystems within the River Derwent and Sullivans Cove) with respect to the nature and extent of contaminant discharge via groundwater from contaminant sources at the Site.

Based on the outcomes of AECOM (2020), including the review conducted as part of AECOM (2025b), it is considered that groundwater emanating from the Site boundary is unlikely to pose an unacceptable risk to off-Site aquatic ecological receptors at Sullivans Cove and the River Derwent.

GMEs must include:

- Gauging and groundwater sampling at groundwater wells located (at a minimum) on the Site boundary where groundwater may be discharging from the Site towards aquatic ecological receptors (Sullivans Cove and the River Derwent).
- Analysis of the following to improve understanding of ecological risks:
  - Cadmium, copper, lead, and zinc in MW180
  - 2,4-dimethylphenol in MW120A and MW132_GHD.

6.5 Sample Analytical Suites

6.5.1 General Suite

Previous groundwater investigations have generally assessed samples for the following analytical suites, which is considered suitable to refresh Site groundwater data and allow assessment of potential risks to receptors:

- Total Petroleum Hydrocarbons (TPH) C6-C40
- Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene (BTEXN)
- Phenols
- Metals (aluminium, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, manganese and zinc)
- Cations/Anions (calcium, magnesium, sodium, chloride, sulfate, alkalinity and ionic balance)
- Acidity
- Cyanide (total, free and weak acid dissolvable [WAD])
- Ammonia
- Methane

- Total dissolved solids

The general suite should be undertaken for all groundwater samples collected as part of the GME, unless otherwise justified as part of review of groundwater data following the GME.

6.5.2 Per- and Poly-Fluoroalkyl Substances (PFAS)

PFAS analysis should be conducted on groundwater collected from wells which have previously had detectable concentrations of PFAS, and satellite wells in the vicinity of MW16, which has reported concentrations of PFOS in excess of adopted criteria, as described in **Section 6.5.2**.

6.5.3 Laboratory Limits of Reporting

Laboratory analytical suites must be selected with suitable LORs to allow assessment against the adopted criteria. Current criteria are presented in **Appendix C**, but LORs must consider any changes in criteria which arise as a result of future investigations and assessments, reference sources, or other actions which lead to changes in adopted criteria.

6.6 Waste Management

All wastewater, such as extracted groundwater and equipment wash water, is to be collected within temporary storage containers such as jerry cans or waste drums.

All solid waste products derived during each sampling event (for example filters, tubing, bladders and gloves) are to be disposed of in prescribed waste bins.

Wastewater and solid wastes are to be disposed of as potentially contaminated waste at the conclusion of each GME.

6.7 Triggers and Contingencies

Table 12, **Table 13** and **Table 14** below summarise the trigger levels and applicable contingency actions for NAPL and dissolved phase concentrations in groundwater, and for groundwater gauging.

The results of any groundwater monitoring should be assessed against these trigger levels and the contingency actions undertaken if triggers have been identified.

Table 12 NAPL Triggers and Contingency Actions

Trigger	Contingency Action
New occurrence of NAPL in a well	• Further gauging to confirm the presence of NAPL. • Assess the potential source and if there is any potential for a new release to have occurred. • Assess for potential changes to the CSM and assess whether there is a potential change in risk profile. • Develop a scope to further assess and implement appropriate NAPL management activities, if required. Actions may include, but are not limited to, sampling and fingerprinting of NAPL, testing of NAPL mobility and transmissivity, and/or removal/remediation of NAPL from groundwater.

Trigger	Contingency Action
Increase in NAPL thickness that cannot be attributed to groundwater level fluctuation (i.e., not within historical NAPL thickness or groundwater elevation).	• Review historical groundwater data. • Evaluate NAPL thickness in adjacent wells and changes in NAPL gradients. • Assess for potential changes to the CSM and assess whether there is a potential change in risk profile. • Develop a scope to further assess and implement appropriate NAPL management activities, if required. Actions may include, but are not limited to, sampling and fingerprinting of NAPL, testing of NAPL mobility and transmissivity, and/or removal/remediation of NAPL from groundwater.
First time identification of dissolved phase petroleum hydrocarbon compound concentrations exceeding solubility limits in groundwater from a well downgradient from a NAPL containing well.	• Review historical groundwater data. • Evaluate NAPL thickness in adjacent wells and changes in NAPL gradients. • Assess for potential changes to the CSM and assess whether there is a potential change in risk profile. • Develop and implement appropriate management and assessment activities, if required.

Table 13 Dissolved Phase Triggers and Contingency Actions

Trigger	Contingency Action
CoPC result(s) exceed criteria, where previously there was no exceedance.	• Assess whether the quality of the data is acceptable. • Assess the significance of criteria exceedance to consider whether further actions are necessary • Assess if any on- or off-Site activities can be identified which may have introduced the trigger result. • Assess whether the CSM is still valid. • If the CSM has potentially changed, assess whether there is a potential change in risk profile, and if so, develop a scope to confirm results, and further assess and implement mitigation measures, if required. • Develop and implement appropriate management, assessment activities and/or remediation, if required.
Increase in CoPC concentrations by an order of magnitude, compared to the most recent previous GME at this location.	
CoPC results show an increasing trend based on application of the Mann-Kendall statistical technique.	

Table 14 Groundwater Elevation and Flow Direction Triggers and Contingency Actions

Trigger	Contingency Action
Groundwater elevation is detected or inferred to be less than 1 m below the bottom of a building slab.	• Determine if the building or structure has mitigations, as required by Section 4.4 of the SEMP, and confirm that they have been maintained and are operational. • If the building or structure does not have suitable mitigations, develop and implement an assessment of risks to building users from shallow groundwater, which may include but is not limited to further groundwater sampling and assessment, soil vapour or indoor air sampling. • Prepare and implement appropriate management measures to mitigate any risks identified.
Groundwater elevations have significantly decreased	• Assess the area of elevation decrease and assess if PASS may have been exposed. • If PASS may have been exposed, develop and implement appropriate management, assessment, and/or remediation activities, if required.
Groundwater flow direction and inferred discharge points have significantly altered	• Assess if change in flow direction alters CSM and if any risks to potential sensitive receptors (i.e., aquatic ecosystems in the River Derwent or Sullivans Cove) are elevated. • Prepare and implement appropriate assessment, management and/or remediation measures to mitigate any risks identified.

6.8 Reporting

A GME report should be prepared following each GME by the organisation who conducted the groundwater sampling. The GME report should include at a minimum (where applicable):

- Background information on the Site and setting, including any changes at the Site (such as development, construction, or land use) which have occurred since the previous GME.
- Confirmation that the scope prepared for the sampling event has been fulfilled or otherwise provide the rationale for any variations.
- Sample collection and analysis data, including:
  - Field records of groundwater level, field parameters, groundwater well condition and/or repair, calibration of any instrumentation used, decontamination, and any other activities conducted in the field.
  - Laboratory analysis documentation, including Chain of Custody, Certificates of Analysis, and any laboratory conducted QA/QC checks.
  - Any other field records relevant to the groundwater investigation conducted.
- Tabulation of groundwater depths and field parameters, and of analytical results against criteria.
- Site maps or figures showing monitoring points, inferred groundwater contours, and criteria exceedances.
- Assessment on the status of groundwater impacts, assessment of potential changes to the impact areas or extents, concentration and stability, and potential changes to the risk profile.
- Review of the data against triggers levels and contingency actions and recommendations for any action that may be required.

- Review of the frequency of sampling and if any modification to the scope for the next GME are warranted, such as increase or decrease in number of wells to be gauged and sampled, or changes in proposed analytical suites.

  Analytical suites or overall monitoring frequency may be modified and decreased, if it is assessed and can be demonstrated that:

  - There is sufficient data to establish risk status.
  - Groundwater concentrations trends are established.
  - No works or development of the Site or surrounding areas which may disturb groundwater or which represent an ongoing risk of groundwater contamination are occurring or anticipated.
  - Possible changes to groundwater condition and potential risks to receptors can be adequately monitored by other data collection.

  Updates to the scope of GMEs are not considered to trigger a requirement to update or issue new versions of the GQMP or SEMP. Any changes should be captured in the review of these documents, which occurs at a minimum of every three years (see **Section 7.0**)
- Review of whether the Site CSM is still accurate or requires update, or if any update of this GQMP is required (i.e., a new or significantly altered environmental risk in groundwater has been identified).
- Scope recommended activities to be undertaken during or prior to the next GME, including any well maintenance, repair or replacement required.

If not previously conducted, any risks to potential off-Site users from groundwater identified based on the results of the GME, or assumptions on groundwater use by occupiers of off-Site land which form part of the assessment of groundwater data, should be communicated to the owners/controllers of those areas.

7.0 Review and Update Process

The approach to monitoring the quality of groundwater as outlined in this GQMP must be reviewed with the SEMP as described in Section 5.4 of the SEMP, namely:

- Every three years, based on the range of 1 to 5 years provided in *Environmental Management Plan Guidelines* (DCCEEW, 2024).
- If significant changes in Site use or environmental condition (i.e., a chemical release) occur.
- If significant changes to environmental legislation occur.

In addition, as part of reporting on the annual GME (**Section 6.8**), groundwater data should be considered and assessed to considered if a GQMP update is required if a new or significantly altered environmental risk in groundwater has been identified, if the groundwater CSM requires significant changes, or if other information has been uncovered which .

As part of this review, the condition and usage of the Site and surrounding land, and the CSM, should be considered and the risk profile and adopted criteria for groundwater reassessed and updated if required. Any changes in legislative or regulatory requirements or recommended practices should be incorporated into the GQMP for ongoing monitoring or management of groundwater.

If as part of future revisions, the GQMP is separated from the SEMP or the Site is sub-divided and separate GQMPs are developed for sub-areas, the information on roles and responsibilities, Site background, and any ongoing environmental management requirements relating to groundwater must be incorporated into the new or updated GQMP.

Ongoing monitoring should only cease if it can be demonstrated that:

- There is sufficient data to characterise the groundwater at the Site.
- Groundwater elevations and inferred flow are stable and unlikely to have meaningful change.
- Any contamination of groundwater remaining, including dissolved chemicals or NAPL in groundwater, is stable and not migrating, and does not represent any unacceptable risk to human health or ecological receptors on- or off-Site.
- No works or development of the Site or surrounding areas which may disturb groundwater or which represent an ongoing risk of groundwater contamination are occurring or anticipated.

Cessation of ongoing groundwater monitoring must only occur if the above has been documented and verified by an Environmental Auditor.

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Limitations

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Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Report. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

Appendix A

Figures

Appendix A Figures

List of Attached Figures

Figure F1 Site Location

Figure F2 Site Layout

Figure F3 Inferred Shallow Groundwater Contours – Site-Wide – June 2025

Figure F4 Potential Shallow Groundwater Interaction Area

Figure F5 Groundwater Monitoring Event – Scope of Work

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LAST MODIFIED PK 18 JAN 2024

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metres
1:10,000 (when printed at A3)

LEGEND
Site Boundary

SITE LOCATION

Macquarie Point Development Corporation
Groundwater Quality Management Plan

Macquarie Point, Hobart, TAS

Figure
F1

Map Document: (L:\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2024\01\Well_Maintenance_Targetted_GME\F1_A3P_Site_Location.mxd)

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REGATTA POINT

STATE GROWTH AREA

AUDIT AREA 4 EAST

THE ESCARPMENT (AUDIT AREA 4 WEST)

NORTHERN VEHICULAR ACCESS

THE ROYAL ENGINEERS BUILDING AND LAND

THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)

THE PRECINCT NORTH (LOT B)

THE GATEWAY

THE GOODS SHED AND YARD (AUDIT AREA 1)

GOODS SHED

THE PRECINCT SOUTH

RED SHED

SEAROAD SHED SLAB

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DATUM GDA 1994, PROJECTION MGA ZONE 55

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Legend

- Regatta Point Boundary
- Proposed Future Building Footprint
- Proposed Basement Carpark
- Assessment Area
- Site Boundary

Proposed Landuse

- Aboriginal Culturally Informed Zone
- Residential Development and Public Foreshore Zone
- Paved area and extension to the Aboriginal Culturally Informed Zone
- Multipurpose Stadium and Associated Concourse Zone
- Complementary Integrated Mixed Use Zone
- Royal Engineers Building and Land
- Antarctic Facilities Zone
- Transport Corridor
- Vegetated Area

SITE LAYOUT AND PROPOSED DEVELOPMENT PLAN

Macquarie Point Development Corporation

Groundwater Quality Management Plan

Macquarie Point, Hobart, TAS

Figure F2

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\10\Audit_Area_4_East\F2_Proposed_Development_Plan_AA4_East.mxd)

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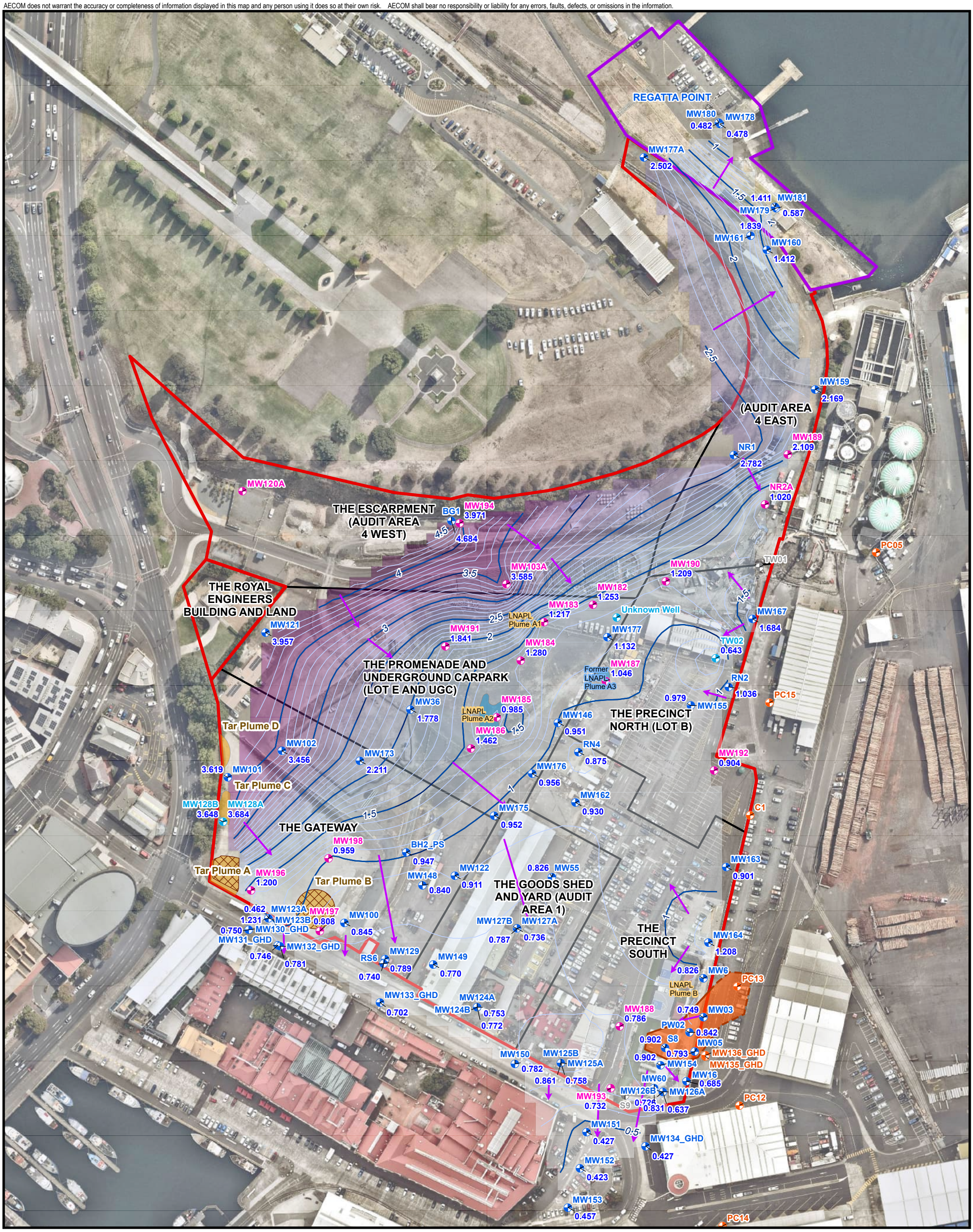

PROJECT ID 60321835
CREATED BY PK
LAST MODIFIED PK 20 Jan 2026

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100
metres

1:1,900 (when printed at A3)

Legend

- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Groundwater Contour (Major)
- Inferred Groundwater Contour (Minor)
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Groundwater Contour Elevation (mAHD)
4.59782
0.423804

INFERRED SHALLOW GROUNDWATER CONTOURS - SITE-WIDE - JUNE 2025

Macquarie Point Development Corporation

Groundwater Quality Management Plan

Macquarie Point, Hobart, TAS

Figure
F3

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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REGATTA POINT
MW180 0.482
MW178 0.478
MW177A 2.502
MW181 1.411
MW179 0.587
MW161 1.839
MW160 1.412
MW159 2.169
(AUDIT AREA 4 EAST)
MW189 2.109
NR1 2.782
MW120A
THE ESCARPMENT (AUDIT AREA 4 WEST)
BG1
MW194 3.971
4.684
NR3A 1.020
PC05
TW01
MW190 1.209
Final level - 4.8 mAHD
MW103A 3.585
Final level - 1.7 mAHD
THE ROYAL ENGINEERS BUILDING AND LAND
MW121 3.957
MW182 1.253
MW183 1.217
Unknown Well
MW167 1.684
LNAPL Plume A1
MW191 1.841
MW177 1.132
TW02 0.643
MW184 1.280
THE PROMENADE AND UNDERGROUND CARPARK (LOT E AND UGC)
Former LNAPL Plume A3
MW187 1.046
RN2 1.036
PC15
0.979
MW155
MW36 1.778
MW185 0.985
LNAPL Plume A2
THE PRECINCT NORTH (LOT B)
MW146 0.951
Tar Plume D
MW186 1.462
RN4 0.875
Final level - 3.0 mAHD
MW102 3.456
MW173 2.211
MW192 0.904
3.619 MW101
MW176 0.956
Tar Plume C
MW162 0.930
MW128B 3.648
MW128A 3.684
MW175 0.952
C1
THE GATEWAY
MW198 0.959
BH2_PS 0.947
MW163 0.901
Tar Plume A
MW196 1.200
Tar Plume B
MW148 0.840
MW122 0.911
0.826 MW55
THE GOODS SHED AND YARD (AUDIT AREA 1)
Final level - 3.3 mAHD
0.462 MW123A
MW197
MW100 0.845
1.231 MW123B 0.808
MW127B 0.787
MW127A 0.736
THE PRECINCT SOUTH
0.750 MW130_GHD
MW131_GHD
MW132_GHD 0.781
0.746
MW164 1.208
RS6
MW129 0.789
MW149 0.770
0.740
0.826 MW6
PC13
LNAPL Plume B
MW133_GHD 0.702
MW124A
MW124B 0.753
0.772
MW188 0.786
0.749 MW03
PW02 0.842
0.902 S8 0.793
MW136_GHD
MW150 0.782
MW125B
MW125A 0.758
0.861
0.902
MW05
MW135_GHD
MW154 0.685
MW60
MW16
MW126B
MW126A
PC12
MW193 0.732
S9
0.726 0.637
MW151 0.427
MW134_GHD 0.427
MW152 0.423
MW153 0.457
PC14

PROJECT ID 60321835
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LAST MODIFIED PK 11 Dec 2025

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N
DATUM GDA 1994, PROJECTION MGA ZONE 55
0 25 50 100
metres
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Legend
- New Groundwater Well
- Existing Groundwater Well
- Lost/Destroyed Well
- Reinstated and Resurveyed Existing Well
- TasPorts Well
- ISS Treated Material
- Inferred Tar Extent
- Groundwater Elevation Contours
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Groundwater inferred to be ≤ 1 m below building slab following development
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

Final Surface Level
- Final level - 1.7 mAHD
- Final level - 2.9 mAHD
- Final level - 3.0 mAHD
- Final level - 3.3 mAHD
- Final level - 4.8 mAHD

POTENTIAL SHALLOW GROUNDWATER INTERACTION AREA

Macquarie Point Development Corporation

Groundwater Quality Management Plan

Macquarie Point, Hobart, TAS

Figure F4

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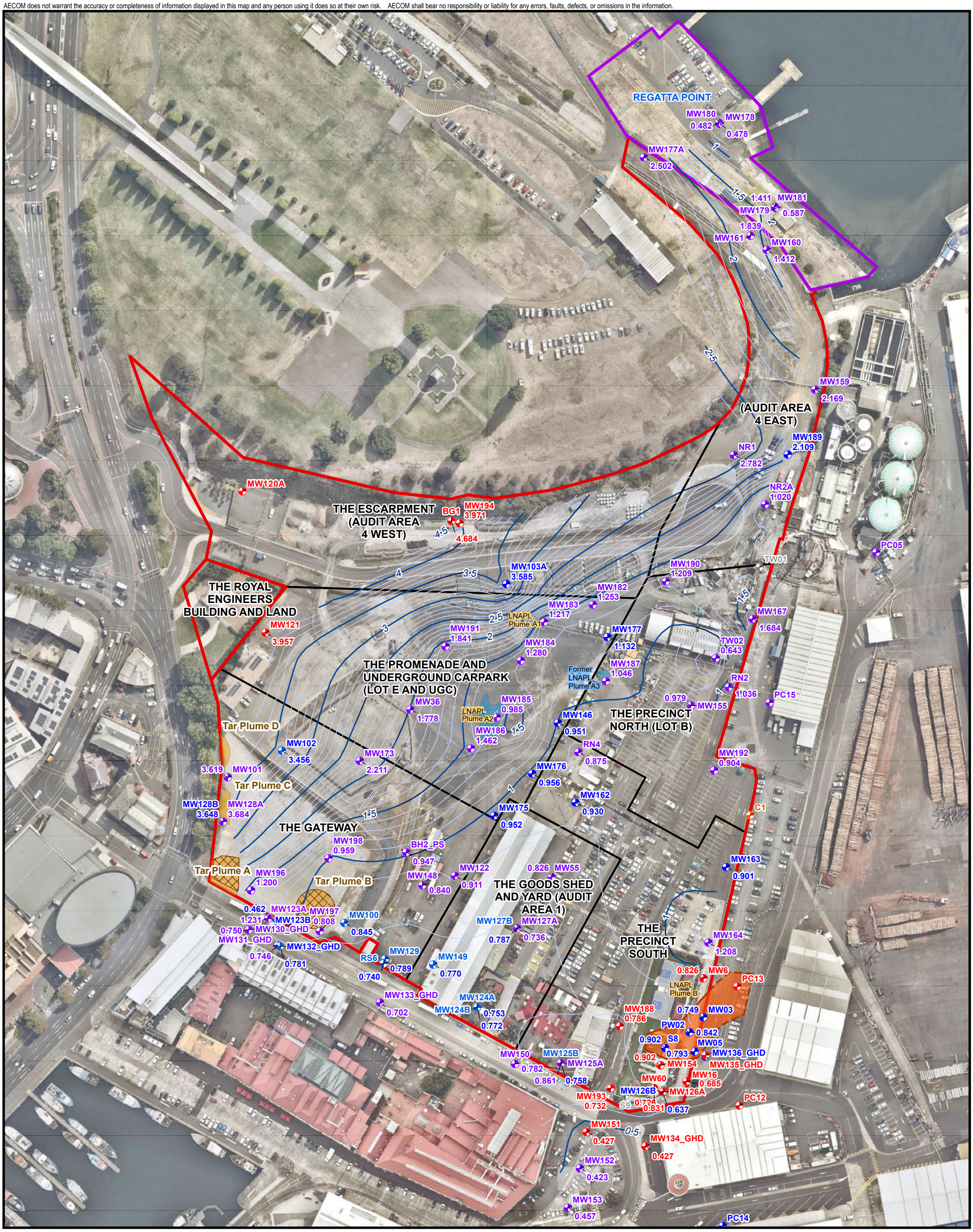

PROJECT ID	60321835
CREATED BY	PK
LAST MODIFIED	PK 20 Jan 2026

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N

DATUM GDA 1994, PROJECTION MGA ZONE 55

0 25 50 100

metres

1:1,900 (when printed at A3)

Legend

- Gauge Only
- Sample (General Suite)
- Sample (General and PFAS Suites)
- Lost/Destroyed Well
- ISS Treated Material
- Inferred Tar Extent
- Inferred Groundwater Contour (Major)
- Inferred Groundwater Contour (Minor)
- Inferred Extent of LNAPL Plume
- Historical Inferred Extent of LNAPL Plume
- Assessment Area Boundary
- Regatta Point Boundary
- Site Boundary

GROUNDWATER MONITORING EVENT SCOPE OF WORK

Macquarie Point Development Corporation

Groundwater Quality Management Plan

Macquarie Point, Hobart, TAS

Figure

F5

Map Document: (\\na.aecomnet.com\lfs\APAC\Melbourne-AUMEL1\Legacy\Projects\603X\60321835\4. Tech work area\4.99 GIS\02_Maps\2025\07\Geotech\Soil_GW_SV_2025\Soil_GW_SV_2025.aprx)

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Appendix B

Tables

Appendix B Tables

List of Attached Tables

Table T1 Site Monitoring Well Network

Table T2 Groundwater Well Gauging and Sampling Scope

Table T1 - Groundwater Well Network

								Most Recent Gauging Data						
Area	Well ID	Easting (MGA94)	Northing (MGA94)	Top of Casing (m AHD)	Approximate Well Depth (m bgl)	Screened Interval (m bgl)	Screened Lithology	Date Gauged / Access Attempted	Depth to LNAPL (m bTOC)	Depth to Groundwater (m bTOC)	LNAPL Thickness (m)	SWL (m AHD)[2]	LNAPL-Corrected GW Elevation (mAHD)	Comments
1. The Goods Shed Yard	MW124A	527507.730	5252350.790	3.767	5.00	2.0-5.0	Fill	13-Jun-25	-	2.995	-	0.772	0.772	GC, NO, Over LEL
1. The Goods Shed Yard	MW124B	527507.670	5252350.790	3.738	11.30	9.4-11.4	Alluvial/ Marine Deposits	13-Jun-25	-	2.985	-	0.753	0.753	GC, NO
1. The Goods Shed Yard	MW127A	527529.640	5252393.950	3.896	4.70	1.8-4.8	Fill	13-Jun-25	-	3.109	-	0.787	0.787	GC, NO, Over LEL
1. The Goods Shed Yard	MW127B	527529.680	5252393.990	3.866	16.80	15.6-16.6	Slope Deposits	13-Jun-25	-	3.130	-	0.736	0.736	GC, Organic odour, 77% LEL
1. The Goods Shed Yard	MW149	527483.676	5252374.243	4.024	4.70	2.0-5.0	Fill	13-Jun-25	-	3.254	-	0.770	0.770	GC, NO
1. The Goods Shed Yard	MW55	527548.733	5252422.331	3.789	5.00	3.0-6.0	Fill	13-Jun-25	-	2.963	-	0.826	0.826	GC, NO, Over LEL
2. The Escarpment	BG1	527493.615	5252617.707	7.492	3.44	0.5-3.5	Fill / Dolerite	16-Jun-25	-	2.808	-	4.684	4.684	Data Logger
2. The Escarpment	MW103A	527523.755	5252582.928	6.299	5.00	2.0-5.0	Dolerite bedrock	16-Jun-25	-	2.714	-	3.585	3.585	GC, NO
2. The Escarpment	MW120A	527378.983	5252633.983	7.942	8.51	2.0-9.0	Dolerite bedrock	25-Jun-25	-	7.988	-	-0.046	-0.046	GC, NO, well dry for two weeks following installation (5 June), very slowly recharging
2. The Escarpment	MW194	527498.158	5252616.538	7.465	5.96	1.5-6.0	Dolerite bedrock	16-Jun-25	-	3.494	-	3.971	3.971	GC, NO
3. Audit Area 4 East	MW159	527693.238	5252689.962	5.757	7.58	3.5-8.0	Bedrock	16-Jun-25	-	3.588	-	2.169	2.169	GC, NO
3. Audit Area 4 East	MW160	527666.699	5252766.390	7.306	9.48	3.5-8.0	Bedrock	16-Jun-25	-	5.894	-	1.412	1.412	GC, NO
3. Audit Area 4 East	MW161	527657.800	5252774.319	7.634	6.45	3.5-6.5	Bedrock	16-Jun-25	-	5.795	-	1.839	1.839	GC, NO
3. Audit Area 4 East	MW177A	527598.808	5252815.946	9.497	7.15	4.3-7.3	Bedrock	16-Jun-25	-	6.995	-	2.502	2.502	GC, NO
3. Audit Area 4 East	MW189	527678.261	5252654.104	5.233	6.55	2.7-6.5	Bedrock	16-Jun-25	-	3.124	-	2.109	2.109	GC, NO
3. Audit Area 4 East	NR1	527648.559	5252654.045	8.295	8.00	3.5-8.0	Bedrock	16-Jun-25	-	5.513	-	2.782	2.782	GC, NO, 6% LEL
3. Audit Area 4 East	NR2A	527665.785	5252626.689	5.073	5.92	1.5-6.0	Fill / Sand	16-Jun-25	-	4.053	-	1.020	1.020	GC, NO
4. The Promenade and Underground Carpark	MW121	527391.610	5252556.420	6.957	5.00	2.0-5.0	Weathered Dolerite	13-Jun-25	-	3.000	-	3.957	3.957	No gatic lid, dirt in gatic, NO
4. The Promenade and Underground Carpark	MW146	527552.111	5252507.052	4.186	5.49	2.5-5.5	Fill	16-Jun-25	-	3.235	-	0.951	0.951	GC, 24% LEL
4. The Promenade and Underground Carpark	MW175	527517.100	5252456.440	3.904	4.00	1.5-4.5	Fill	13-Jun-25	-	2.952	-	0.952	0.952	GC, NO, 100mm PVC
4. The Promenade and Underground Carpark	MW176	527537.900	5252479.310	4.036	4.58	1.5-4.5	Fill	16-Jun-25	-	3.080	-	0.956	0.956	GC, NO, NS
4. The Promenade and Underground Carpark	MW177	527579.184	5252554.472	4.529	4.50	1.5-4.5	Fill	16-Jun-25	-	3.397	-	1.132	1.132	100mm well casing
4. The Promenade and Underground Carpark	MW182	527571.272	5252571.919	4.858	5.62	2.0-6.0	Fill	16-Jun-25	-	3.605	-	1.253	1.253	GC, NO
4. The Promenade and Underground Carpark	MW183	527544.466	5252562.171	5.052	5.82	1.5-6.0	Fill	16-Jun-25	-	3.835	-	1.217	1.217	GC, 53% LEL
4. The Promenade and Underground Carpark	MW184	527531.675	5252541.194	4.864	5.85	1.5-6.0	Fill	16-Jun-25	-	3.584	-	1.280	1.280	GC, NO, NS
4. The Promenade and Underground Carpark	MW185	527518.554	5252510.048	4.638	5.80	2.0-6.0	Fill	16-Jun-25	-	3.653	-	0.985	0.985	GC, HC sheen, Over LEL
4. The Promenade and Underground Carpark	MW186	527504.381	5252492.922	4.832	5.91	2.0-6.0	Fill	16-Jun-25	-	3.370	-	1.462	1.462	GC, HC odour, NS, 18% LEL
4. The Promenade and Underground Carpark	MW191	527490.356	5252549.038	5.659	4.58	1.5-6.0	Dolerite (weathered to fresh)	13-Jun-25	-	3.818	-	1.841	1.841	GC, NO, 8% LEL
4. The Promenade and Underground Carpark	MW36	527525.300	5252509.000	5.647	6.57	4.0-7.0	Fill/Bedrock	16-Jun-25	-	3.869	-	1.778	1.778	Gatic Missing
5. The Precinct North	MW155	527625.037	5252516.399	3.929	4.51	1.5-4.5	Fill	16-Jun-25	-	2.950	-	0.979	0.979	GC, NO, NS, 44% LEL
5. The Precinct North	MW167	527658.873	5252563.922	4.164	4.83	2.0-5.0	Fill	16-Jun-25	-	2.480	-	1.684	1.684	GC, NO
5. The Precinct North	MW187	527578.434	5252529.858	4.258	9.35	2.0-6.5	Fill	16-Jun-25	-	3.212	-	1.046	1.046	GC, NO, HC Sheen
5. The Precinct North	MW190	527611.266	5252584.652	4.703	4.93	1.5-5.0	Fill	16-Jun-25	-	3.494	-	1.209	1.209	GC, NO
5. The Precinct North	MW192	527637.744	5252480.774	3.601	5.89	1.5-6.0	Fill	16-Jun-25	-	2.697	-	0.904	0.904	GC, NO, NS
5. The Precinct North	RN2	527645.786	5252526.638	4.182	5.36	1.0-5.0	Fill	16-Jun-25	-	3.146	-	1.036	1.036	GC, NO, NS, Over LEL
5. The Precinct North	TW02	527638.679	5252542.362	4.086	5.76	2.4-5.5	Fill	16-Jun-25	-	3.443	-	0.643	0.643	NO, New TOC, screen measures at 2.88 to 5.76 mBTOC
6. The Precinct South	MW03	527629.967	5252344.531	2.596	8.63	2-7.5	Fill	16-Jun-25	1.830	1.900	0.070	0.696	0.749	Over LEL, Brown NAPL on probe, HC odour
6. The Precinct South	MW05	527625.558	5252326.180	2.663	4.33	1.4-4.4	Fill	16-Jun-25	-	1.870	-	0.793	0.793	HC odour, GC
6. The Precinct South	MW125A	527553.730	5252320.260	3.306	5.99	2.0-5.0	Fill	16-Jun-25	-	2.445	-	0.861	0.861	GC, NO
6. The Precinct South	MW125B	527553.730	5252320.260	3.309	15.28	13.8-15.3	Marine Deposits	16-Jun-25	-	2.551	-	0.758	0.758	GC, NO
6. The Precinct South	MW126A	527609.600	5252304.450	2.857	5.13	2.1-5.1	Fill	16-Jun-25	-	2.131	-	0.726	0.726	GC, NO
6. The Precinct South	MW126B	527609.600	5252304.450	2.831	18.88	15.9.0-18.9	Slope Deposits	16-Jun-25	-	2.194	-	0.637	0.637	GC, NO
6. The Precinct South	MW154	527608.419	5252318.975	2.827	3.80	1.0-4.0	Fill	16-Jun-25	-	1.925	-	0.902	0.902	H2O above TOC, 45% LEL
6. The Precinct South	MW16	527622.576	5252310.246	2.630	4.91	3.0-6.0	Fill	16-Jun-25	-	1.945	-	0.685	0.685	85% LEL
6. The Precinct South	MW162	527561.725	5252463.136	4.079	4.73	2.0-5.0	Fill	16-Jun-25	-	3.149	-	0.930	0.930	GC, 6% LEL
6. The Precinct South	MW163	527644.415	5252427.853	2.837	3.82	0.95-3.95	Fill	16-Jun-25	-	1.936	-	0.901	0.901	H2O above TOC, Over LEL
6. The Precinct South	MW164	527634.673	5252386.218	2.685	3.86	0.5-4.0	Fill	16-Jun-25	-	1.477	-	1.208	1.208	GC, NO, NS, 28% LEL
6. The Precinct South	MW188	527586.042	5252340.345	3.080	4.95	1.0-5.0	Fill	16-Jun-25	-	2.294	-	0.786	0.786	GC, NO, Over LEL
6. The Precinct South	MW193	527581.087	5252306.338	2.924	5.48	1.0-5.0	Fill	16-Jun-25	-	2.192	-	0.732	0.732	GC, NO, Over LEL
6. The Precinct South	MW6	527631.882	5252366.709	2.896	4.89	2.0-5.0	Fill	16-Jun-25	-	2.070	-	0.826	0.826	Over LEL, Level logger
6. The Precinct South	MW60	527604.842	5252306.320	2.864	6.00	3.0-6.0	Fill	16-Jun-25	-	2.033	-	0.831	0.831	GC, NO
6. The Precinct South	PW02	527624.264	5252337.008	2.723	6.00	1.5-6.0	Fill	16-Jun-25	1.871	1.913	0.042	0.810	0.842	15% LEL, Brown NAPL on probe, HC odour
6. The Precinct South	RN4	527563.308	5252490.930	4.045	5.17	1.5-6.0	Fill/Marine Deposits	16-Jun-25	-	3.170	-	0.875	0.875	GC, NO, NS, 32% LEL
6. The Precinct South	S8	527610.904	5252328.497	2.830	5.20	1.2-5.2	Fill	16-Jun-25	1.909	1.990	0.810	0.840	0.902	Over LEL. Brown NAPL on probe, HC odour
6. The Precinct South	S9	527588.943	5252302.383	2.910	4.00	1.0-4.0	Fill	16-Jun-25	-	-	-	-	-	Lost under garden bed
7. The Gateway	BH2_PS	527483.786	5252435.896	5.286	7.03	Unknown	Fill/Marine Deposits	16-Jun-25	-	4.339	-	0.947	0.947	GC, NO
7. The Gateway	MW100	527434.926	5252397.121	4.006	11.50	3.0-9.0	Fill	13-Jun-25	-	3.161	-	0.845	0.845	GC, NO
7. The Gateway	MW101	527370.927	5252477.012	5.317	3.60	1.6-4.6	Fill	13-Jun-25	-	1.698	-	3.619	3.619	GC, NO
7. The Gateway	MW102	527400.582	5252491.493	5.778	4.49	1.6-4.6	Fill/Weathered Dolerite/Slope Deposits	13-Jun-25	-	2.322	-	3.456	3.456	No gatic lid, dirt in gatic, NO
7. The Gateway	MW122	527495.560	5252422.980	3.933	4.00	2.0-4.0	Fill	13-Jun-25	-	3.022	-	0.911	0.911	GC, NO
7. The Gateway	MW128A	527368.319	5252452.571	5.207	2.98	1.8-4.8	Slope Deposits/Bedrock	13-Jun-25	-	1.523	-	3.684	3.684	GC, NO
7. The Gateway	MW128B	527368.350	5252452.570	5.229	3.50	10.0-13.0	Bedrock	13-Jun-25	-	1.581	-	3.648	3.648	GC, NO
7. The Gateway	MW129	527457.190	5252377.340	3.800	16.00	14.0-16.0	Slope Deposits	13-Jun-25	-	3.060	-	0.740	0.740	GC, NO
7. The Gateway	MW148	527477.706	5252417.844	3.786	4.90	2.0-5.0	Fill	13-Jun-25	-	2.946	-	0.840	0.840	GC, NO
7. The Gateway	MW173	527443.426	5252486.041	5.928	4.92	2.0-5.0	Fill/Marine Deposits	16-Jun-25	-	3.717	-	2.211	2.211	GC
7. The Gateway	MW196	527383.693	5252415.008	3.299	6.03	1.5-6.0	Fill	25-Jun-25	-	2.099	-	1.200	1.200	
7. The Gateway	MW197	527421.438	5252392.726	3.290	5.90	3.7-6	Marine Deposits	25-Jun-25	-	2.482	-	0.808	0.808	
7. The Gateway	MW198	527426.182	5252432.536	3.201	5.21	2.0-6.0	Fill	16-Jun-25	-	2.242	-	0.959	0.959	GC, NO
7. The Gateway	RS6	527456.344	5252374.791	3.792	5.50	1.5-6.0	Fill	13-Jun-25	-	3.003	-	0.789	0.789	GC, NO
8. Regatta Point	MW178	527640.962	5252835.628	1.282	4.85	2.7-5.0	Bedrock	16-Jun-25	-	0.804	-	0.478	0.478	GC, NO
8. Regatta Point	MW179	527671.789	5252789.467	2.273	5.39	1.5-5.5	Bedrock	16-Jun-25	-	1.686	-	0.587	0.587	GC, NO
8. Regatta Point	MW180	527640.331	5252836.358	1.243	1.89	0.7-2.2	Fill	16-Jun-25	-	0.761	-	0.482	0.482	GC, NO
8. Regatta Point	MW181	527671.149	5252790.232	2.261	0.85	0.4-0.95	Fill	16-Jun-25	-	-	-	-	-	GC, NO, dry
9. Offsite	C1	527657.503	5252456.170	3.142	4.50	1.0-4.5	Fill	27-Feb-25	-	2.281		0.861	0.861	
9. Offsite	MW123A	527393.270	5252399.740	3.223	3.65	1.8-3.8	Fill	13-Jun-25	-	1.992	-	1.231	1.231	GC, NO, 2 x bolts missing
9. Offsite	MW123B	527393.230	5252399.730	3.278	17.45	14.6-17.6	Fill	13-Jun-25	-	2.816	-	0.462	0.462	GC, NO, 2 x bolts missing
9. Offsite	MW130_GHD	527382.450	5252393.370	2.728	4.71	2.0-5.0	Marine Deposits	12-Jun-25	-	1.978	-	0.750	0.750	Grass in gatic, new gatic lid installed
9. Offsite	MW131_GHD	527398.420	5252384.860	2.611	9.66	6.7-9.7	Marine Deposits	12-Jun-25	-	1.865	-	0.746	0.746	GC, NO, Datalogger
9. Offsite	MW132_GHD	527399.600	5252384.260	2.631	3.89	2.5-4.5	Fill/Marine Deposits	12-Jun-25	-	1.850	-	0.781	0.781	GC, NO, 2 x bolts missing
9. Offsite	MW133_GHD	527454.400	5252353.360	3.127	4.45	2.0-3.0	Fill	12-Jun-25	-	2.425	-	0.702	0.702	GC, NO, Datalogger
9. Offsite	MW134_GHD	527600.190	5252274.580	3.057	5.99	4.0-7.0	Fill	16-Jun-25	-	2.630	-	0.427	0.427	LEL Over
9. Offsite	MW135_GHD	527632.940	5252353.790	2.597	5.00	2.0-5.0	Fill	27-Feb-25	-	1.939	-	0.658	0.658	Access not granted to gauge
9. Offsite	MW136_GHD	527633.060	5252324.500	2.549	13.50	10.2-13.50	Fill	4-Feb-16	-	2.050	-	0.499	0.499	
9. Offsite	MW150	527528.454	5252319.791	3.265	4.39	1.0-5.0	Fill / Marine Deposits	13-Jun-25	-	2.483	-	0.782	0.782	GC, NO, H2O in gatic above TOC, 2 x bolts missing
9. Offsite	MW151	527567.708	5252282.430	2.553	4.87	1.0-5.5	Fill / Marine Deposits	12-Jun-25	-	2.126	-	0.427	0.427	GC, NO
9. Offsite	MW152	527564.181	5252262.443	2.563	4.98	1.0-5.5	Fill/Marine Deposits	12-Jun-25	-	2.140	-	0.423	0.423	GC, NO, 1% LEL
9. Offsite	MW153	527557.540	5252240.934	2.449	4.42	1.0-4.6	Fill/Marine Deposits	12-Jun-25	-	1.992	-	0.457	0.457	GC, NO
9. Offsite	PC05	527726.727	5252600.326	Unknown	3.28	No data	Fill	27-Feb-25	ND	2.313	-	-	-	Good condition, no sheen, no odour, orange organic material on probe
9. Offsite	PC08	527746.787	5252222.601	Unknown	2.10	No data	Fill	-	-	-	-	-	-	No access attempted by field staff.
9. Offsite	PC10	527817.921	5252666.445	Unknown	4.42	No data	Fill	27-Feb-25	-	-	-	-	-	Bolts sheared unable to open - need driller
9. Offsite	PC11	527779.795	5252522.473	Unknown	4.56	No data	Fill	27-Feb-25	-	-	-	-	-	Bolts sheared unable to open - need driller
9. Offsite	PC12	527651.691	5252296.989	Unknown	4.98	No data	Fill	27-Feb-25	ND	2.525	-	-	-	LEL 17, organic material on probe, good condition
9. Offsite	PC13	527650.528	5252362.247	2.636	4.33	No data	Fill	27-Feb-25	1.3	1.310	0.01	1.326	1.334	Good condition, 1 cm of LNAPL
9. Offsite	PC14	527642.432	5252230.789	Unknown	2.20	No data	Fill	-	-	-	-	-	-	No access attempted by field staff. A mark which may be this well is visible on aerial photographs.
9. Offsite	PC15	527668.146	5252518.054	3.489	4.38	No data	Fill	27-Feb-25	-	-	-	-	-	Under large shipping container unable to locate

Notes:

m bgl - metres below ground level
TOC - top of casing
AHD - Australian Height Datum
SWL - Standing Water Level
GC - Good condition
NO - No odour
HC - Hydrocarbon
LEL - Lower explosive limit
H20 - Water
NS - no sheen
NAPL - non-aqueous phase liquid

[1] *The Easting and Northing coordinates presented are the MGA94 Coordinates*
[2] *SWL values in wells containing LNAPL have been corrected for the depression of the LNAPL/water interface in the well by multiplying the apparent LNAPL thickness in the well an LNAPL specific gravity of 0.76*

Table T2 - GME Scope

AECOM

Area	Well ID	Easting (MGA94)	Northing (MGA94)	Top of Casing (m AHD)	Approximate Well Depth (m bgl)	Screened Interval (m bgl)	Screened Lithology	GME Activities			Purpose and Area	Potential LNAPL Well?
								Gauge?	Sample			
									General Suite	PFAS Suite		
1. The Goods Shed Yard	MW124A	527507.730	5252350.790	3.767	5.00	2.0-5.0	Fill	Yes			Groundwater on southern boundary of the Site.	
1. The Goods Shed Yard	MW124B	527507.670	5252350.790	3.738	11.30	9.4-11.4	Alluvial/ Marine Deposits	Yes			Deep (>10 m bgl) groundwater on southern boundary of the Site. Aquifer is interconnected. Shallow well MW123A used for assessment of groundwater in this area	
1. The Goods Shed Yard	MW127A	527529.640	5252393.950	3.896	4.70	1.8-4.8	Fill	Yes	Yes		Groundwater adjacent to the Goods Shed and downgradient of fuel storage and the former Goods Shed Annexe mechanics workshop	
1. The Goods Shed Yard	MW127B	527529.680	5252393.990	3.866	16.80	15.6-16.6	Slope Deposits	Yes			Deep (>10 m bgl) groundwater adjacent to the Goods Shed and downgradient of fuel storage and the former Goods Shed Annexe mechanics workshop Aquifer is interconnected. Shallow well MW127A used for assessment of groundwater in this area	
1. The Goods Shed Yard	MW149	527483.676	5252374.243	4.024	4.70	2.0-5.0	Fill	Yes			Located in the southern portion of the Site on the western site of the Goods Shed. Well installed to assess groundwater quality down-inferred hydraulic gradient of the Sewer (Main Hobart Pipeline) and former UST locations.	
1. The Goods Shed Yard	MW55	527548.733	5252422.331	3.789	5.00	3.0-6.0	Fill	Yes	Yes		Located in the southern portion of the Site on the western site of the Goods Shed. Well installed to assess groundwater quality down-inferred hydraulic gradient of the Sewer (Main Hobart Pipeline) and the Goods Shed Annexe (former mechanics workshop	
2. The Escarpment	BG1	527493.615	5252617.707	7.492	3.44	0.5-3.5	Fill / Dolerite	Yes	Yes	Yes	Located on northern boundary, upgradient of Site land. Installed to assess groundwater entering the Site. Screened across fill and dolerite	
2. The Escarpment	MW103A	527523.755	5252582.928	6.299	5.00	2.0-5.0	Dolerite bedrock	Yes			Located in the central eastern portion of the Site, up-gradient of LNAPL plumes A1, A2 and former LNAPL Plume A3 and down-gradient of previous soil impacts in the Escarpment, to assess shallow groundwater quality.	
2. The Escarpment	MW120A	527378.983	5252633.983	7.942	8.51	2.0-9.0	Dolerite bedrock	Yes	Yes	Yes	Replacement well for MW120 to assess groundwater entering the north-west corner of the Site.	
2. The Escarpment	MW194	527498.158	5252616.538	7.465	5.96	1.5-6.0	Dolerite bedrock	Yes	Yes	Yes	New well adjacent to BG1 to assess groundwater in dolerite entering the Site.	
3. Audit Area 4 East	MW159	527693.238	5252689.962	5.757	7.58	3.5-8.0	Bedrock	Yes	Yes		Located in the northeastern portion of the Site. Assess shallow groundwater quality in the vicinity of the WWTP	
3. Audit Area 4 East	MW160	527666.699	5252766.390	7.306	9.48	3.5-8.0	Bedrock	Yes	Yes		Located in the northeastern portion of the Site. Assess shallow groundwater quality in the upgradient of Regatta Point	
3. Audit Area 4 East	MW161	527657.800	5252774.319	7.634	6.45	3.5-6.5	Bedrock	Yes	Yes		Located in the northeastern portion of the Site. Assess shallow groundwater quality in the upgradient of Regatta Point	
3. Audit Area 4 East	MW177A	527598.808	5252815.946	9.497	7.15	4.3-7.3	Bedrock	Yes	Yes		Located at the northern portion of the Site. Assess groundwater entering Regatta Point	
3. Audit Area 4 East	MW189	527678.261	5252654.104	5.233	6.55	2.7-6.5	Bedrock	Yes			New well on the eastern boundary of the Site to replace NR4 and assess groundwater entering the Site from the WWTP	
3. Audit Area 4 East	NR1	527648.559	5252654.045	8.295	8.00	3.5-8.0	Bedrock	Yes	Yes		Located in the northeastern portion of the Site. Assess shallow groundwater quality in the vicinity of the former Northern Refuelling Area.	
3. Audit Area 4 East	NR2A	527665.785	5252626.689	5.073	5.92	1.5-6.0	Fill / Sand	Yes	Yes		Located in the eastern boundary of the Site. Assess shallow groundwater quality at the Site boundary adjacent to WWTP and the former Oil and Diesel Pipelines. Replacement for TW01 and NR2	
4. The Promenade and Underground Carpark	MW121	527391.610	5252556.420	6.957	5.00	2.0-5.0	Weathered Dolerite	Yes	Yes	Yes	Located on the western boundary of the Site. Assess shallow groundwater entering the Site.	
4. The Promenade and Underground Carpark	MW146	527552.111	5252507.052	4.186	5.49	2.5-5.5	Fill	Yes			Located in the central portion of the Site. Delineate and assess groundwater quality down-gradient of LNAPL Plumes A1 and A2.	
4. The Promenade and Underground Carpark	MW175	527517.100	5252456.440	3.904	4.00	1.5-4.5	Fill	Yes			Central portion of the Site, downgradient of bulk fuel storage and LNAPL Plumes A1, A2 and former LNAPL Plume A3, and in vicinity of Hobart Sewer.	
4. The Promenade and Underground Carpark	MW176	527537.900	5252479.310	4.036	4.58	1.5-4.5	Fill	Yes			Central portion of the Site, downgradient of bulk fuel storage and LNAPL Plumes A1, A2 and former LNAPL Plume A3, and in vicinity of Hobart Sewer.	
4. The Promenade and Underground Carpark	MW177	527579.184	5252554.472	4.529	4.50	1.5-4.5	Fill	Yes			Central portion of the Site, cross- to downgradient of bulk fuel storage and LNAPL Plumes A1, A2 and former LNAPL Plume A3, and in vicinity of Hobart Sewer.	
4. The Promenade and Underground Carpark	MW182	527571.272	5252571.919	4.858	5.62	2.0-6.0	Fill	Yes	Yes		Groundwater well to delineate LNAPL Plume A1 to the north-east	
4. The Promenade and Underground Carpark	MW183	527544.466	5252562.171	5.052	5.82	1.5-6.0	Fill	Yes	Yes[1]		Groundwater well to intersect LNAPL Plume A1	Yes
4. The Promenade and Underground Carpark	MW184	527531.675	5252541.194	4.864	5.85	1.5-6.0	Fill	Yes	Yes		Groundwater well to delineate LNAPL Plume A1 to the south-west and LNAPL Plume A2 to the north-east	
4. The Promenade and Underground Carpark	MW185	527518.554	5252510.048	4.638	5.80	2.0-6.0	Fill	Yes	Yes[1]		Groundwater well to intersect LNAPL Plume A2	Yes
4. The Promenade and Underground Carpark	MW186	527504.381	5252492.922	4.832	5.91	2.0-6.0	Fill	Yes	Yes		Groundwater well to delineate LNAPL Plume A2 to the south	
4. The Promenade and Underground Carpark	MW191	527490.356	5252549.038	5.659	4.58	1.5-6.0	Dolerite (weathered to fresh)	Yes	Yes		Groundwater well to delineate LNAPL Plume A1 and A2 to the west.	
4. The Promenade and Underground Carpark	MW36	527525.300	5252509.000	5.647	6.57	4.0-7.0	Fill/Bedrock	Yes	Yes		Located in the central portion of the Site. Delineate and assess groundwater quality cross- and up-gradient of LNAPL Plume A2.	
5. The Precinct North	MW155	527625.037	5252516.399	3.929	4.51	1.5-4.5	Fill	Yes	Yes		Located in the central eastern portion of the Site. Assess shallow groundwater quality at the boundary of the Site in the vicinity of the former oil pipeline.	
5. The Precinct North	MW167	527658.873	5252563.922	4.164	4.83	2.0-5.0	Fill	Yes	Yes		Located on the central eastern Site boundary to assess groundwater quality and potential vapour risks associated with previously identified TRH impacts in soil at BH126/MW156 near the water table.	
5. The Precinct North	MW187	527578.434	5252529.858	4.258	9.35	2.0-6.5	Fill	Yes	Yes[1]		Groundwater well to intersect former LNAPL Plume A3 (if present)	Yes
5. The Precinct North	MW190	527611.266	5252584.652	4.703	4.93	1.5-5.0	Fill	Yes	Yes		Groundwater well to assess general groundwater condition in the north-east portion of the Site	
5. The Precinct North	MW192	527637.744	5252480.774	3.601	5.89	1.5-6.0	Fill	Yes	Yes		Groundwater well on the eastern boundary to replace TW03 and assess groundwater entering the Site from the WWTP / TasPorts	
5. The Precinct North	RN2	527645.786	5252526.638	4.182	5.36	1.0-5.0	Fill	Yes	Yes		Located on the eastern boundary of the Site. Assess shallow groundwater quality at the boundary of the Site in the vicinity of the former oil pipeline.	
5. The Precinct North	TW02	527638.679	5252542.362	4.086	5.76	2.4-5.5	Fill	Yes	Yes		Located on the eastern boundary of the Site. Assess shallow groundwater quality at the boundary of the Site in the vicinity of the former oil pipeline.	
6. The Precinct South	MW03	527629.967	5252344.531	2.596	8.63	2-7.5	Fill	Yes			Located on the eastern boundary of the Precinct South to assess shallow groundwater quality. LNAPL previously detected in this well	Yes
6. The Precinct South	MW05	527625.558	5252326.180	2.663	4.33	1.4-4.4	Fill	Yes			Located on the eastern boundary of the Precinct South to assess shallow groundwater quality. LNAPL previously detected in this well	Yes
6. The Precinct South	MW125A	527553.730	5252320.260	3.306	5.99	2.0-5.0	Fill	Yes	Yes		Southern boundary of the Precinct South. South western boundary of the Red Shed. Assess shallow (<10 m bgl) groundwater quality down hydraulic gradient of LNAPL Plume B.	
6. The Precinct South	MW125B	527553.730	5252320.260	3.309	15.28	13.8-15.3	Marine Deposits	Yes			Southern boundary of the Precinct South. South western boundary of the Red Shed. Assess deep (>10 m bgl) groundwater quality down hydraulic gradient of LNAPL Plume B. Aquifer is interconnected. Shallow well MW125A used for assessment of groundwater in this area	
6. The Precinct South	MW126A	527609.600	5252304.450	2.857	5.13	2.1-5.1	Fill	Yes	Yes	Yes	South east boundary of the Precinct South. Assess shallow <>10 m bgl) groundwater quality down hydraulic gradient of LNAPL Plume B.	
6. The Precinct South	MW126B	527609.600	5252304.450	2.831	18.88	15.9.0-18.9	Slope Deposits	Yes			South east boundary of the Precinct South. Assess deep (>10 m bgl) groundwater quality down hydraulic gradient of LNAPL Plume B. Aquifer is interconnected. Shallow well MW126A used for assessment of groundwater in this area	
6. The Precinct South	MW154	527608.419	5252318.975	2.827	3.80	1.0-4.0	Fill	Yes	Yes[1]	Yes[1]	Located in the south eastern portion of the Precinct South. To further delineate LNAPL plume B and/or assess ground water quality impacts.	Yes
6. The Precinct South	MW16	527622.576	5252310.246	2.630	4.91	3.0-6.0	Fill	Yes	Yes	Yes	Located on the eastern boundary of the Precinct South to assess shallow groundwater quality and flow conditions, in proximity to the sea walls and former bulk fuel storage areas.	
6. The Precinct South	MW162	527561.725	5252463.136	4.079	4.73	2.0-5.0	Fill	Yes			Located in the Precinct South down-hydraulic gradient of the former Goods Shed Annexe area (former mechanics area).	
6. The Precinct South	MW163	527644.415	5252427.853	2.837	3.82	0.95-3.95	Fill	Yes			Eastern boundary of the Site to assess groundwater flow and quality at Site boundary	
6. The Precinct South	MW164	527634.673	5252386.218	2.685	3.86	0.5-4.0	Fill	Yes	Yes		Eastern boundary of the Site to assess groundwater flow and quality at Site boundary	
6. The Precinct South	MW188	527586.042	5252340.345	3.080	4.95	1.0-5.0	Fill	Yes	Yes	Yes	Groundwater well to delineate LNAPL Plume B to the west	
6. The Precinct South	MW193	527581.087	5252306.338	2.924	5.48	1.0-5.0	Fill	Yes	Yes	Yes	Groundwater well to delineate LNAPL Plume B to the west	
6. The Precinct South	MW6	527631.882	5252366.709	2.896	4.89	2.0-5.0	Fill	Yes	Yes	Yes	Located on the eastern boundary of the Precinct South. Assess shallow groundwater quality and flow conditions at the Site boundary and in proximity to the sea walls and former bulk fuel storage.	
6. The Precinct South	MW60	527604.842	5252306.320	2.864	6.00	3.0-6.0	Fill	Yes	Yes	Yes	Located in the south eastern portion of the Precinct South. Assess shallow groundwater quality and gain further insight into LNAPL impacts at the southern Site boundary.	
6. The Precinct South	PW02	527624.264	5252337.008	2.723	6.00	1.5-6.0	Fill	Yes			Located on the eastern boundary of the Precinct South. Assess shallow groundwater quality and flow conditions at the Site boundary and in proximity to the sea walls. Gain insight into LNAPL impacts at the Site boundary	Yes
6. The Precinct South	RN4	527563.308	5252490.930	4.045	5.17	1.5-6.0	Fill/Marine Deposits	Yes	Yes		Central portion of the Site, upgradient of Goods Shed Annexe and downgradient of former bulk fuel storage and LNAPL Plumes A1, A2 and former LNAPL Plume A3.	
6. The Precinct South	S8	527610.904	5252328.497	2.830	5.20	1.2-5.2	Fill	Yes			Located in the eastern portion of the Precinct South within SeaRoad Shed Slab. Assessing shallow groundwater quality and assess LNAPL.	Yes
6. The Precinct South	S9	527588.943	5252302.383	2.910	4.00	1.0-4.0	Fill	Yes			Located on the south-eastern boundary of the Site. Assessing shallow groundwater quality downgradient of LNAPL Plume B.	
7. The Gateway	BH2_PS	527483.786	5252435.896	5.286	7.03	Unknown	Fill/Marine Deposits	Yes	Yes		Located in the south-western portion of the Site, cross-gradient to LNAPL Plume A2 and former gasworks areas.	
7. The Gateway	MW100	527434.926	5252397.121	4.006	11.50	3.0-9.0	Fill	Yes			Located in the southern portion of the Site, down-gradient of gasworks area and cross-gradient to DNAPL Plume B	
7. The Gateway	MW101	527370.927	5252477.012	5.317	3.60	1.6-4.6	Fill	Yes	Yes		Located on the south-western boundary of the Site, between DNAPL Plumes C and D. Assess groundwater entering the Site.	
7. The Gateway	MW102	527400.582	5252491.493	5.778	4.49	1.6-4.6	Fill/Weathered Dolerite/Slope Deposits	Yes	Yes		In the central western portion of the Site. Assess groundwater in the vicinity of the former Roundhouse and cross-gradient of gasworks.	
7. The Gateway	MW122	527495.560	5252422.980	3.933	4.00	2.0-4.0	Fill	Yes	Yes		Located in the central southern portion of the Site. Provides indication of potential impact from sewer infrastructure and LNAPL Plume A2 (i.e. located down/cross inferred hydraulic gradient).	
7. The Gateway	MW128A	527368.319	5252452.571	5.207	2.98	1.8-4.8	Slope Deposits/Bedrock	Yes	Yes		Located on the western boundary of the Site. Assess shallow groundwater entering the Site in the former gasworks area.	
7. The Gateway	MW128B	527368.350	5252452.570	5.229	3.50	10.0-13.0	Bedrock	Yes			Located on the western boundary of the Site. Assess deep (>10 m bgl) groundwater entering the Site in the former gasworks area. Aquifer is interconnected. Shallow well MW128A used for assessment of groundwater in this area	
7. The Gateway	MW129	527457.190	5252377.340	3.800	16.00	14.0-16.0	Slope Deposits	Yes			Located adjacent to the central southern boundary of the Site. Assess deep groundwater quality at the Site boundary in proximity to sewer infrastructure and former UST location.	
7. The Gateway	MW148	527477.706	5252417.844	3.786	4.90	2.0-5.0	Fill	Yes	Yes		Located in the south-west portion the Site, to assess potential impact sourced from former UST locations.	
7. The Gateway	MW173	527443.426	5252486.041	5.928	4.92	2.0-5.0	Fill/Marine Deposits	Yes	Yes		In the central western portion of the Site. Assess groundwater in the vicinity of the former Roundhouse and cross-gradient of gasworks.	
7. The Gateway	MW196	527383.693	5252415.008	3.299	6.03	1.5-6.0	Fill	Yes	Yes		Groundwater well to assess groundwater condition at Brick Pit12, downgradient of Tar Plume A	
7. The Gateway	MW197	527421.438	5252392.726	3.290	5.90	3.7-6	Marine Deposits	Yes	Yes		Groundwater well to assess groundwater condition downgradient of Tar Plume B	
7. The Gateway	MW198	527426.182	5252432.536	3.201	5.21	2.0-6.0	Fill	Yes	Yes		Groundwater well to assess groundwater condition at Brick Pit12, downgradient of Tar Plume B	
7. The Gateway	RS6	527456.344	5252374.791	3.792	5.50	1.5-6.0	Fill	Yes			Located adjacent to the central southern boundary of the Site, to assess groundwater quality at the Site boundary in proximity to sewer infrastructure and the UST location. MW129 is a newer well at the same location.	
8. Regatta Point	MW178	527640.962	5252835.628	1.282	4.85	2.7-5.0	Bedrock	Yes	Yes		Located on Regatta Point. Assess shallow groundwater in dolerite	
8. Regatta Point	MW179	527671.789	5252789.467	2.273	5.39	1.5-5.5	Bedrock	Yes	Yes		Located on Regatta Point. Assess shallow groundwater in dolerite	
8. Regatta Point	MW180	527640.331	5252836.358	1.243	1.89	0.7-2.2	Fill	Yes	Yes		Located on Regatta Point. Assess shallow groundwater in fill (if present)	
8. Regatta Point	MW181	527671.149	5252790.232	2.261	0.85	0.4-0.95	Fill	Yes	Yes		Located on Regatta Point. Assess shallow groundwater in fill (if present)	

Table T2 - GME Scope

Area	Well ID	Easting (MGA94)	Northing (MGA94)	Top of Casing (m AHD)	Approximate Well Depth (m bgl)	Screened Interval (m bgl)	Screened Lithology	GME Activities			Purpose and Area	Potential LNAPL Well?
								Gauge?	Sample			
									General Suite	PFAS Suite		
9. Offsite	C1	527657.503	5252456.170	3.142	4.50	1.0-4.5	Fill	Yes[2]			Located east of the Precinct South in TasPorts land. Limited access has been historically provided to assess groundwater flow and monitoring.	
9. Offsite	MW123A	527393.270	5252399.740	3.223	3.65	1.8-3.8	Fill	Yes	Yes		Located along Evans Street, south of the former gasworks area.	
9. Offsite	MW123B	527393.230	5252399.730	3.278	17.45	14.6-17.6	Fill	Yes			Located along Evans Street, south of the former gasworks area. Screened to assess deep (>10 m bgl) groundwater	
9. Offsite	MW130_GHD	527382.450	5252393.370	2.728	4.71	2.0-5.0	Marine Deposits	Yes[3]	Yes[3]		Located along Evans Street. Assess groundwater quality off-Site and downgradient of gasworks	
9. Offsite	MW131_GHD	527398.420	5252384.860	2.611	9.66	6.7-9.7	Marine Deposits	Yes[3]	Yes[3]		Located along Evans Street. Assess deep groundwater quality off-Site and downgradient of gasworks Aquifer is interconnected. Shallow well MW123A used for assessment of groundwater in this area	
9. Offsite	MW132_GHD	527399.600	5252384.260	2.631	3.89	2.5-4.5	Fill/Marine Deposits	Yes[3]			Located along Evans Street. Assess groundwater quality off-Site and downgradient of gasworks	
9. Offsite	MW133_GHD	527454.400	5252353.360	3.127	4.45	2.0-3.0	Fill	Yes[3]	Yes[3]		Located on western end of Evans St to the south of Site. Assess shallow groundwater quality within Evans St (former Hobart Rivulet) and down-hydraulic gradient of Site.	
9. Offsite	MW134_GHD	527600.190	5252274.580	3.057	5.99	4.0-7.0	Fill	Yes[2]	Yes[2]	Yes[2]	Located along Evans Street. Assess groundwater quality off-Site and downgradient of LNAPL Plume B	
9. Offsite	MW135_GHD	527632.940	5252353.790	2.597	5.00	2.0-5.0	Fill	Yes[2]	Yes[2]	Yes[2]	Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	MW136_GHD	527633.060	5252324.500	2.549	13.50	10.2-13.50	Fill	Yes[2]			Located on TasPorts land to the east. Assess adjacent deep (>10 m bgl)groundwater quality Aquifer is interconnected. Shallow well MW135_GHD used for assessment of groundwater in this area	
9. Offsite	MW150	527528.454	5252319.791	3.265	4.39	1.0-5.0	Fill / Marine Deposits	Yes[3]	Yes[3]		Located on eastern end of Evans St to the south of Site. Assess shallow groundwater quality within Evans St (former Hobart Rivulet) and down-hydraulic gradient of Site.	
9. Offsite	MW151	527567.708	5252282.430	2.553	4.87	1.0-5.5	Fill / Marine Deposits	Yes	Yes	Yes	Located on eastern end of Evans St to the south of Site. Assess shallow groundwater quality within Evans St (former Hobart Rivulet) and down-hydraulic gradient of Site.	
9. Offsite	MW152	527564.181	5252262.443	2.563	4.98	1.0-5.5	Fill/Marine Deposits	Yes	Yes		Located in UniTas carpark to the south and east of Site. Assess shallow groundwater quality down hydraulic gradient of Site towards Sullivans Cove.	
9. Offsite	MW153	527557.540	5252240.934	2.449	4.42	1.0-4.6	Fill/Marine Deposits	Yes	Yes		Located in UniTas carpark to the south and east of Site. Assess shallow groundwater quality down hydraulic gradient of Site towards Sullivans Cove.	
9. Offsite	PC05	527726.727	5252600.326	Unknown	3.28	No data	Fill	Yes[2]	Yes[2]		Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	PC08	527746.787	5252222.601	Unknown	2.10	No data	Fill	Yes[2]	Yes[2]		Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	PC10	527817.921	5252666.445	Unknown	4.42	No data	Fill	Yes[2]	Yes[2]		Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	PC11	527779.795	5252522.473	Unknown	4.56	No data	Fill	Yes[2]	Yes[2]		Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	PC12	527651.691	5252296.989	Unknown	4.98	No data	Fill	Yes[2]	Yes[2]	Yes[2]	Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	PC13	527650.528	5252362.247	2.636	4.33	No data	Fill	Yes[2]	Yes[1,2]	Yes[1,2]	Located on TasPorts land to the east. Assess adjacent groundwater quality	Yes
9. Offsite	PC14	527642.432	5252230.789	Unknown	2.20	No data	Fill	Yes[2]	Yes[2]		Located on TasPorts land to the east. Assess adjacent groundwater quality	
9. Offsite	PC15	527668.146	5252518.054	3.489	4.38	No data	Fill	Yes[2]	Yes[2]		Located on TasPorts land to the east. Assess adjacent groundwater quality	
							Total	**95**	**69**	**16**		

Notes
1. Sample if LNAPL is not present
2. Access approval from third party (TasPorts) required
3. Traffic management generally required

Appendix C

Adopted Groundwater Criteria

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	Matrix Type	Adopted Criteria	Source
100-00-5	Chloronitrobenzene, p-	Water	1.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-01-6	Nitroaniline, 4-	Water	3.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-21-0	~Phthalic Acid, P-	Water	9400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-25-4	Dinitrobenzene, 1,4-	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10034-93-2	Hydrazine Sulfate	Water	0.026 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-41-4	Ethylbenzene	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
100-42-5	Styrene (vinylbenzene)	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
10043-92-2	radon	Water	100 Bq/L	NZ Drinking Water 2008
100-44-7	Benzyl Chloride	Water	0.089 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-51-6	Benzyl Alcohol	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-52-7	Benzaldehyde	Water	19 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-61-8	Monomethylaniline	Water	38 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
100-75-4	Nitrosopiperidine [N-]	Water	0.0082 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10102-45-1	Thallium (I) Nitrate	Water	0.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
101-14-4	Methylene-bis(2-chloroaniline), 4,4'-	Water	0.16 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
101200-48-0	Tribenuron-methyl	Water	160 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
101-21-3	Chlorpropham	Water	71 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10124-56-8	~Sodium hexametaphosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
101-61-1	Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	Water	0.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
101-77-9	Methylenebisbenzenamine, 4,4'-	Water	0.047 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10213-10-2	Sodium Tungstate Dihydrate	Water	16 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1024-57-3	Heptachlor Epoxide	Water	0.0014 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10265-92-6	Methamidophos	Water	1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
102-76-1	Triacetin	Water	1600000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10279-59-1	~Sodium aluminum phosphate (anhydrous)	Water	100000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10294-34-5	Boron Trichloride	Water	42 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10294-40-3	Barium Chromate	Water	0.041 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10305-76-7	~Sodium aluminum phosphate (tetrahydrate)	Water	70000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
103-23-1	Di(2-ethylhexyl)adipate	Water	65 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
103-33-3	Azobenzene	Water	0.12 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
103-65-1	Propylbenzene	Water	660 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
104-51-8	Butylbenzene, n-	Water	1000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10453-86-8	Resmethrin	Water	67 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
105-60-2	Caprolactam	Water	9900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
105-67-9	Dimethylphenol, 2,4-	Water	360 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10588-01-9	Sodium Dichromate	Water	0.041 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10595-95-6	Nitrosomethylethylamine, N-	Water	0.00071 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
10599-90-3	Monochloramine	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health
10605-21-7	Carbendazim	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health
106-37-6	Dibromobenzene, 1,4-	Water	130 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-42-3	Xylene, P-	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-43-4	Chlorotoluene, p-	Water	250 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-44-5	Cresol, p-	Water	370 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-46-7	1,4-dichlorobenzene	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
106-47-8	Chloroaniline, p-	Water	0.37 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-49-0	Toluidine, p-	Water	2.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-50-3	Phenylenediamine, p-	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-88-7	Epoxybutane, 1,2-	Water	42 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
106-89-8	Epichlorohydrin	Water	0.0005 mg/L	NHMRC ADWG (amended 2025) Human Health
106-93-4	EDB	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
106-99-0	Butadiene, 1,3-	Water	0.071 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-02-8	Acrolein	Water	0.042 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-04-0	Bromo-2-chloroethane, 1-	Water	0.12 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-05-1	Allyl Chloride	Water	0.73 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-06-2	1,2-dichloroethane	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health
107-07-3	Chloroethanol, 2-	Water	400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-13-1	Acrylonitrile	Water	0.052 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-15-3	Ethylenediamine tetraacetic acid (EDTA)	Water	0.25 mg/L	NHMRC ADWG (amended 2025) Human Health
1071-83-6	Glyphosate	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health
107-18-6	Allyl Alcohol	Water	0.21 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-19-7	Propargyl Alcohol	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-20-0	Chloroacetaldehyde, 2-	Water	0.29 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-21-1	Ethylene Glycol	Water	16000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-30-2	Chloromethyl Methyl Ether	Water	0.0065 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
107-98-2	Propylene Glycol Monomethyl Ether	Water	3200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-05-4	Vinyl Acetate	Water	410 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-10-1	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	Water	6300 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
108-20-3	Diisopropyl Ether	Water	1500 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-31-6	Maleic Anhydride	Water	1900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-36-1	Dibromobenzene, 1,3-	Water	5.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-38-3	Xylene, m-	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-39-4	Cresol, m-	Water	930 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-45-2	Phenylenediamine, m-	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-60-1	Bis(2-chloro-1-methylethyl) ether	Water	710 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-62-3	Metaldehyde	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
108-67-8	Trimethylbenzene, 1,3,5-	Water	60 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-86-1	Bromobenzene	Water	62 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-88-3	Toluene	Water	0.8 mg/L	NHMRC ADWG (amended 2025) Human Health
108-90-7	Chlorobenzene	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
108-91-8	Cyclohexylamine	Water	3800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-94-1	Cyclohexanone	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-95-2	Phenol	Water	5800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
108-98-5	Benzenethiol	Water	17 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
109-66-0	Pentane, n-	Water	2100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
109-69-3	Chlorobutane, 1-	Water	640 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
109-77-3	Malononitrile	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
109-78-4	Ethylene Cyanohydrin	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
109-86-4	Methoxyethanol, 2-	Water	13 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-00-9	~Furan	Water	19 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-49-6	Methoxyethanol Acetate, 2-	Water	2.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-54-3	Hexane, N-	Water	1500 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-57-6	Dichloro-2-butene, trans-1,4-	Water	0.0013 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-80-5	Ethoxyethanol, 2-	Water	80 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-82-7	Cyclohexane	Water	13000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-83-8	Cyclohexene	Water	70 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
110-86-1	Pyridine	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
11096-82-5	~Aroclor 1260	Water	0.0078 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
11097-69-1	~Aroclor 1254	Water	0.0078 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
11104-28-2	~Aroclor 1221	Water	0.0047 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-15-9	Ethoxyethanol Acetate, 2-	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
11126-42-4	~Aroclor 5460	Water	12 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1113-02-6	Omethoate	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
11141-16-5	~Aroclor 1232	Water	0.0047 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-42-2	Diethanolamine	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-44-4	Bis(2-chloroethyl)ether	Water	0.014 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1114-71-2	Pebulate	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
111-48-8	Thiodiglycol	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1116-54-7	Nitrosodiethanolamine, N-	Water	0.028 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-76-2	Ethylene Glycol Monobutyl Ether	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-77-3	Ethanol, 2-(2-methoxyethoxy)-	Water	800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-84-2	Nonane, n-	Water	5.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-90-0	Diethylene Glycol Monoethyl Ether	Water	1200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
111-91-1	Bis(2-chloroethoxy)methane	Water	59 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
112-27-6	Triethylene Glycol	Water	40000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
112-34-5	Diethylene Glycol Monobutyl Ether	Water	600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
113-00-8	Guanidine	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
114-26-1	Propanediol, 1,2-	Water	78 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
115-07-1	Propylene	Water	6300 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
115-29-7	Endosulfan	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
115-32-2	Dicofol	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
115-90-2	Fensulfothion	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
115-96-8	Tris(2-chloroethyl)phosphate	Water	3.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
116-06-3	Aldicarb	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
117-81-7	di(2-ethylhexyl) phthalate	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
117-84-0	~Octyl Phthalate, di-N-	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
118-74-1	Hexachlorobenzene	Water	0.0098 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
118-75-2	Chloranil	Water	0.18 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
118-96-7	Trinitrotoluene, 2,4,6-	Water	2.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1194-65-6	Dichlobenil	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
119-90-4	Dimethoxybenzidine, 3,3'-	Water	0.015 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
119-93-7	Dimethylbenzidine, 3,3'-	Water	0.0021 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12002-48-1	Trichlorobenzenes (total)	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
120068-37-3	Fipronil	Water	0.0007 mg/L	NHMRC ADWG (amended 2025) Human Health
120-12-7	~Anthracene	Water	1800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12035-72-2	Nickel Subsulfide	Water	0.045 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
120-36-5	Dichloroprop / Dichlorprop-P	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
12054-48-7	Nickel Hydroxide	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
120-61-6	~Dimethylterephthalate	Water	1900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
120-82-1	Trichlorobenzene, 1,2,4-	Water	1.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
120-83-2	2,4-dichlorophenol	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
121-14-2	Dinitrotoluene, 2,4-	Water	0.24 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12122-67-7	Zineb	Water	990 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
121-44-8	Triethylamine	Water	15 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
121552-61-2	Cyprodinil	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health
121-69-7	Dimethylaniline, N,N-	Water	2.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
121-75-5	Maldison (Malathion)	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	Water	0.97 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
122-14-5	Fenitrothion	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
122-34-9	Simazine	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
122-39-4	Diphenylamine	Water	1300 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
122-42-9	Propham	Water	350 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
122-66-7	Diphenylhydrazine, 1,2-	Water	0.078 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-30-8	Aminophenol, p-	Water	400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-31-9	Hydroquinone	Water	1.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-33-1	Maleic Hydrazide	Water	10000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-38-6	Propionaldehyde	Water	17 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-73-9	Crotonaldehyde, trans-	Water	0.04 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-77-3	Azodicarbonamide	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
123-91-1	1,4-dioxane	Water	0.05 mg/L	NZ Drinking Water 2008
124-04-9	Hexanedioic Acid	Water	40000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12427-38-2	Maneb	Water	98 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
124-48-1	Dibromochloromethane	Water	0.1 mg/L	WHO (2011) Drinking Water Guidelines
124-58-3	Methylarsonic acid	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
126-33-0	Sulfolane	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12672-29-6	~Aroclor 1248	Water	0.0078 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
126-72-7	Tris(2,3-dibromopropyl)phosphate	Water	0.0068 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
126-73-8	Tributyl Phosphate	Water	5.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12674-11-2	~Aroclor 1016	Water	0.22 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
126-98-7	Methacrylonitrile	Water	1.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
126-99-8	Chloro-1,3-butadiene, 2-	Water	0.019 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1271-28-9	Nickelocene	Water	0.086 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
127-18-4	Tetrachloroethene	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
127-63-9	Diphenyl Sulfone	Water	15 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
12789-03-6	Chlordane	Water	0.002 mg/L	NHMRC ADWG (amended 2025) Human Health
128-37-0	Butylated hydroxytoluene	Water	3.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
128639-02-1	Carfentrazone-ethyl	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
129-00-0	~Pyrene	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13071-79-9	Terbufos	Water	0.0009 mg/L	NHMRC ADWG (amended 2025) Human Health
1313-99-1	Nickel Oxide	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1314-60-9	Antimony Pentoxide	Water	9.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1314-62-1	Vanadium Pentoxide	Water	150 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1314-84-7	Zinc Phosphide	Water	6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
131-89-5	Dinitro-o-cyclohexyl Phenol, 4,6-	Water	23 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13194-48-4	Ethoprophos	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
1319-77-3	Cresols	Water	1500 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
132-64-9	~Dibenzofuran	Water	7.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
132-65-0	Dibenzothiophene	Water	65 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1330-20-7	Xylene	Water	0.6 mg/L	NHMRC ADWG (amended 2025) Human Health
133-06-2	Captan	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
133-07-3	Folpet	Water	1600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1330-78-5	Tricresyl Phosphate (TCP)	Water	160 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1332-81-6	Antimony Tetroxide	Water	7.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1335-32-6	~Lead subacetate	Water	2.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1336-36-3	Polychlorinated Biphenyls (PCBs)	Water	0.044 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
133-90-4	Chloramben	Water	290 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13457-18-6	Pyrazophos	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
13463-39-3	Nickel Carbonyl	Water	0.022 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13472-45-2	Sodium Tungstate	Water	16 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
135-20-6	Cupferron	Water	0.35 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13530-50-2	~Monoaluminum phosphate	Water	71000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13593-03-8	Quinalphos	Water	5.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
135-98-8	Butylbenzene, sec-	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13674-84-5	Tris(1-chloro-2-propyl)phosphate	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13674-87-8	Tris(1,3-Dichloro-2-propyl) Phosphate	Water	360 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13684-63-4	Phenmedipham	Water	3800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13718-26-8	Sodium Metavanadate	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
137-26-8	Thiram	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
Groundwater Quality Management Plan
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ChemCode	ChemName	MatrixType	Adopted Criteria	Source
137-42-8	Metham	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
13765-19-0	Calcium Chromate	Water	0.041 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13776-88-0	~Aluminum metaphosphate	Water	59000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
13845-36-8	~Potassium tripolyphosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
139-13-9	Nitrilotriacetic acid	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
139-40-2	Propazine	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
140-88-5	Ethyl Acrylate	Water	14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
141-66-2	Dicrotophos	Water	0.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
141-78-6	Ethyl Acetate	Water	140 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
142-28-9	Dichloropropane, 1,3-	Water	370 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
143-33-9	~Sodium Cyanide	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
143-50-0	Chlordecone (Kepone)	Water	0.0035 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1445-75-6	Diisopropyl Methylphosphonate	Water	1600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
145-73-3	Endothal	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
1476-11-5	Dichloro-2-butene, cis-1,4-	Water	0.0013 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
14797-55-8	Nitrate (as nitrate)	Water	50 mg/L	NHMRC ADWG (amended 2025) Human Health
14797-65-0	Nitrite (as nitrite)	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health
14797-65-0(as N)	Nitrite-nitrogen	Water	1 mg/l	Guidelines for Canadian Drinking Water (2014) MAC
14797-73-0	~Perchlorate and Perchlorate Salts	Water	14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
148-18-5	Sodium Diethyldithiocarbamate	Water	0.29 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
14866-68-3	Chlorate	Water	0.7 mg/L	WHO (2011) Drinking Water Guidelines
14998-27-7	Chlorite	Water	0.8 mg/L	NHMRC ADWG (amended 2025) Human Health
150-50-5	Merphos	Water	0.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
151-50-8	~Potassium Cyanide	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
151-56-4	Ethyleneimine	Water	0.00024 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
152-16-9	Octamethylpyrophosphoramide	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
15299-99-7	Napropamide	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
15541-45-4	Bromate	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
15545-48-9	Chlorotoluron	Water	0.03 mg/L	WHO (2011) Drinking Water Guidelines
1563-66-2	Carbofuran	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
156-59-2	Dichloroethylene, 1,2-cis-	Water	36 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
156-60-5	Dichloroethylene, 1,2-trans-	Water	360 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1582-09-8	Trifluralin	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health
1596-84-5	Daminozide	Water	4.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
15972-60-8	Alachlor	Water	0.02 mg/L	WHO (2011) Drinking Water Guidelines
16065-83-1	Chromium(III), Insoluble Salts	Water	22000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
16071-86-6	Direct Brown 95	Water	0.012 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1610-18-0	Prometon	Water	250 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1634-04-4	Methyl tert-Butyl Ether (MTBE)	Water	14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1646-88-4	Aldicarb Sulfone	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
16672-87-0	Ethephon	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
16752-77-5	Methomyl	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
1689-84-5	Bromoxynil	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
1689-99-2	Bromoxynil Octanoate	Water	0.24 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
16984-48-8	Fluoride	Water	1.5 mg/L	NHMRC ADWG (amended 2025) Human Health
1702-17-6	Clopyralid	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health
17029-22-0	Hexaflurate	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
1746-01-6	~TCDD, 2,3,7,8-	Water	1.2E-07 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1763-23-1	PFOS	Water	0.07 µg/L	PFAS NEMP 3.0 2025
17804-35-2	Benomyl	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health
1820583-27-0	Cyfluthrin, Beta-cyfluthrin	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
1832-54-8	Isopropyl Methyl Phosphonic Acid	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
18540-29-9	Chromium (as Cr(VI))	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
1861-32-1	Chlorthal-dimethyl	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1861-40-1	Benfluralin	Water	28 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1897-45-6	Chlorothalonil	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
19044-88-3	Oryzalin	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
1910-42-5	Paraquat (as dichloride)	Water	0.01 mg/l	Guidelines for Canadian Drinking Water (2014) MAC
1912-24-9	Atrazine	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
1918-00-9	Dicamba	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
1918-02-1	Picloram	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
1918-16-7	Propachlor	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
192-65-4	~Dibenzo(a,e)pyrene	Water	0.0065 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1929-77-7	Vernolate	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
193-39-5	~Indeno[1,2,3-cd]pyrene	Water	0.25 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
1937-37-7	Direct Black 38	Water	0.011 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
19406-51-0	Dinitrotoluene, 4-Amino-2,6-	Water	1.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
19666-30-9	oxadiazon	Water	0.2 mg/L	NZ Drinking Water 2008
1982-47-4	Chloroxuron	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
2008-41-5	Butylate	Water	460 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2032-65-7	Methiocarb	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
203313-25-1	Spirotetramat	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
20461-54-5	Iodide	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health
205-82-3	~Benzo(j)fluoranthene	Water	0.065 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
205-99-2	~Benzo[b]fluoranthene	Water	0.25 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
206-44-0	~Fluoranthene	Water	800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
207-08-9	~Benzo[k]fluoranthene	Water	2.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
20859-73-8	Aluminum Phosphide	Water	8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2104-64-5	Ethyl-p-nitrophenyl Phosphonate	Water	0.089 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2104-96-3	Bromophos	Water	35 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
21087-64-9	Metribuzin	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
21436-96-4	Dimethylaniline HCl, 2,4-	Water	0.13 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
21564-17-0	TCMTB	Water	480 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2164-17-2	Fluometuron	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
21725-46-2	Cyanazine	Water	0.0006 mg/L	WHO (2011) Drinking Water Guidelines
218-01-9	~Chrysene	Water	25 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2212-67-1	Molinate	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
22224-92-6	Fenamiphos	Water	0.0005 mg/L	NHMRC ADWG (amended 2025) Human Health
22248-79-9	Tetrachlorvinphos	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
22967-92-6	~Methyl Mercury	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2303-16-4	Diallate	Water	0.54 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2303-17-5	Triallate	Water	0.47 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
23103-98-2	Pirimicarb	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
2312-35-8	Propargite	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
23135-22-0	Oxamyl	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
23505-41-1	Pirimiphos-ethyl	Water	0.0005 mg/L	NHMRC ADWG (amended 2025) Human Health
23564-06-9	Thiophanate	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health
2385-85-5	Mirex	Water	0.00088 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
23950-58-5	Propyzamide	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
2425-06-1	Captafol	Water	0.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
24307-26-4	Mepiquat Chloride	Water	600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2439-10-3	Dodine	Water	400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
25013-15-4	Methyl Styrene (Mixed Isomers)	Water	23 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
25013-16-5	Butylated hydroxyanisole	Water	150 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
25057-89-0	Bentazone	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
25167-70-8	Trimethylpentene, 2,4,4-	Water	38 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
25321-14-6	Dinitrotoluene, Technical grade	Water	0.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
2540-82-1	Formothion	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
2593-15-9	Etridiazole	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
2602-46-2	Direct Blue 6	Water	0.011 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
26399-36-0	Profluralin	Water	26 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
26628-22-8	Sodium Azide	Water	80 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
27314-13-2	Norflurazon	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
2764-72-9	Diquat	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
28249-77-6	Thiobencarb	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
28434-01-7	Bioresmethrin	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
2921-88-2	Chlorpyrifos	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
29232-93-7	Pirimiphos methyl	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health
29420-49-3	Potassium Perfluorobutane Sulfonate	Water	400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
298-00-0	Parathion-methyl	Water	0.0007 mg/L	NHMRC ADWG (amended 2025) Human Health
298-02-2	Phorate	Water	0.002 mg/l	Guidelines for Canadian Drinking Water (2014) MAC
298-04-4	Disulfoton	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
299-84-3	Ronnel	Water	410 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
300-76-5	Naled	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
301-04-2	~Lead acetate	Water	0.37 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
3018-12-0	Dichloroacetonitrile	Water	0.02 mg/L	WHO (2011) Drinking Water Guidelines
302-01-2	Hydrazine	Water	0.0011 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
302-17-0	Chloral Hydrate	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
30560-19-1	Acephate	Water	0.008 mg/L	NHMRC ADWG (amended 2025) Human Health
309-00-2	Aldrin	Water	0.00092 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
309-00-2 + 60-57-1	Aldrin & Dieldrin	Water	0.0003 mg/L	NHMRC ADWG (amended 2025) Human Health
314-40-9	Bromacil	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
31508-00-6	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
3165-93-3	Chloro-2-methylaniline HCl, 4-	Water	0.17 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
319-84-6	Hexachlorocyclohexane, Alpha-	Water	0.0072 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
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ChemCode	ChemName	MatrixType	Adopted Criteria	Source
319-85-7	Hexachlorocyclohexane, Beta-	Water	0.025 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
3252-43-5	Dibromoacetonitrile	Water	0.07 mg/L	WHO (2011) Drinking Water Guidelines
32534-81-9	Pentabromodiphenyl Ether	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
32536-52-0	Octabromodiphenyl Ether	Water	60 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
32598-13-3	~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	Water	0.006 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
32598-14-4	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
32774-16-6	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	Water	4E-06 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
330-54-1	Diuron	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
330-55-2	Linuron	Water	130 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
33089-61-1	Amitraz	Water	0.009 mg/L	NHMRC ADWG (amended 2025) Human Health
330-95-0	Nicarbazin	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health
3333-67-3	Nickel Carbonate	Water	220 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
333-41-5	Diazinon	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
3337-71-1	Asulam	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
335-67-1	PFOA	Water	0.56 µg/L	PFAS NEMP 3.0 2025
33663-50-2	Trichloroaniline HCl, 2,4,6-	Water	2.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
33820-53-0	Isopropalin	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
3383-96-8	Temephos	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
34014-18-1	Tebuthiuron	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
34123-59-6	Isoproturon	Water	0.009 mg/L	WHO (2011) Drinking Water Guidelines
34256-82-1	Acetochlor	Water	350 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
35367-38-5	Diflubenzuron	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
35400-43-2	Sulprofos	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
355-46-4	PFHxS	Water	0.07 µg/L	PFAS NEMP 3.0 2025
355-46-4/1763-23-1	Sum of PFOS and PFHxS	Water	0.07 µg/L	PFAS NEMP 3.0 2025
35554-44-0	Imazalil	Water	0.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
35572-78-2	Dinitrotoluene, 2-Amino-4,6-	Water	1.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
365400-11-9	Pyrasulfotole	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
36734-19-7	Iprodione	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
3689-24-5	Tetraethyl Dithiopyrophosphate	Water	7.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
373-02-4	Nickel Acetate	Water	220 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
375-73-5	Perfluorobutane sulfonic acid (PFBS)	Water	1 µg/L	NHMRC ADWG (amended 2025) Human Health
38380-08-4	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
39148-24-8	Fosetyl-AL	Water	50000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
39196-18-4	Thiofanox	Water	5.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
39515-41-8	Fenpropathrin	Water	64 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
39635-31-9	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
40487-42-1	Pendimethalin	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
41198-08-7	Profenofos	Water	0.0003 mg/L	NHMRC ADWG (amended 2025) Human Health
420-46-2	Trifluoroethane, 1,1,1-	Water	42000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
422556-08-9	Pyroxsulam	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health
42576-02-3	Bifenox	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
42874-03-3	Oxyfluorfen	Water	0.54 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
43121-43-3	Triadimefon	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health
460-19-5	~Cyanogen	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
463-56-9	~Thiocyanic Acid	Water	4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
463-58-1	Carbonyl Sulfide	Water	210 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
4685-14-7	Paraquat	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
470-90-6	Chlorfenvinphos	Water	11 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
4726-14-1	Nitralin	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health
479-45-8	Tetryl (Trinitrophenylmethylnitramine)	Water	39 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
4824-78-6	Bromophos-ethyl	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
492-80-8	Auramine	Water	0.078 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
49866-87-7	Difenzoquat	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
50-00-0	Formaldehyde	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health
500008-45-7	Chlorantraniliprole	Water	6 mg/L	NHMRC ADWG (amended 2025) Human Health
50-01-1	Guanidine Chloride	Water	400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
50-29-3	DDT	Water	0.009 mg/L	NHMRC ADWG (amended 2025) Human Health
50-32-8	~Benzo(a)pyrene	Water	0.01 µg/L	NHMRC ADWG (amended 2025) Human Health
50471-44-8	Vinclozolin	Water	21 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
505-29-3	Dithiane, 1,4-	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
506-61-6	~Potassium Silver Cyanide	Water	82 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
506-64-9	~Silver Cyanide	Water	1800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
506-68-3	~Cyanogen Bromide	Water	1800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
506-77-4	Cyanogen chloride (as cyanide)	Water	0.08 mg/L	NHMRC ADWG (amended 2025) Human Health
510-15-6	Chlorobenzilate	Water	0.31 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
51-03-6	Piperonyl butoxide	Water	0.6 mg/L	NHMRC ADWG (amended 2025) Human Health
51218-45-2	Metolachlor/s-	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
51235-04-2	Hexazinone	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
512-56-1	Trimethyl Phosphate	Water	3.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
51-28-5	Dinitrophenol, 2,4-	Water	39 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
513-37-1	Dimethylvinylchloride	Water	0.33 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
51338- 27-3	Diclofop-methyl	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health
51630-58-1	Fenvalerate	Water	0.06 mg/L	NHMRC ADWG (amended 2025) Human Health
51-79-6	Urethane	Water	0.025 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
5216-25-1	Tetrachlorotoluene, p- alpha, alpha, alpha-	Water	0.0017 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
52315-07-8	Cypermethrin isomers	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
5234-68-4	Carboxin	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
52645-53-1	Permethrin	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
52663-72-6	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
526-73-8	Trimethylbenzene, 1,2,3-	Water	55 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
52-68-6	Trichlorfon	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
52756-25-9	Flamprop-methyl	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
528-29-0	Dinitrobenzene, 1,2-	Water	1.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
52918-63-5	Deltamethrin	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
531-82-8	Furium	Water	0.051 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
534-52-1	Dinitro-o-cresol, 4,6-	Water	1.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
53469-21-9	~Aroclor 1242	Water	0.0078 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
53-70-3	~Dibenz[a,h]anthracene	Water	0.025 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
53-96-3	Acetylaminofluorene, 2-	Water	0.016 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
540-59-0	1,2-dichloroethene	Water	0.06 mg/L	NHMRC ADWG (amended 2025) Human Health
540-73-8	Dimethylhydrazine, 1,2-	Water	2.8E-05 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
541-25-3	Lewisite	Water	0.09 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
542-75-6	Dichloropropene, 1,3-	Water	0.47 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
542-88-1	Bis(chloromethyl)ether	Water	7.2E-05 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
5436-43-1	Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
544-92-3	~Copper Cyanide	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
54749-90-5	Chlorozotocin	Water	0.00032 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
55-18-5	Nitrosodiethylamine, N-	Water	0.00017 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
55290-64-7	Dimethipin	Water	440 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
55335-06-3	Triclopyr	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
55-38-9	Fenthion	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
55-63-0	Nitroglycerin	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
556-88-7	Nitroguanidine	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
557-21-1	~Zinc Cyanide	Water	1000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
5598-13-0	Chlorpyrifos Methyl	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
56-23-5	Carbon Tetrachloride	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health
563-12-2	Ethion	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
56-35-9	tributyltin oxide	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
563-68-8	Thallium Acetate	Water	0.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
56-38-2	Parathion	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
56425-91-3	Flurprimidol	Water	690 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
56-49-5	Methylcholanthrene, 3-	Water	0.0011 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
56-53-1	Diethylstilbestrol	Water	5.1E-05 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
56-55-3	~Benz[a]anthracene	Water	0.03 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
57-12-5	Cyanide	Water	0.08 mg/L	NHMRC ADWG (amended 2025) Human Health
57-14-7	Dimethylhydrazine, 1,1-	Water	0.0042 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
57-24-9	Strychnine	Water	5.9 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
57465-28-8	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	Water	1.2E-06 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
57-55-6	Propylene Glycol	Water	400000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
576-26-1	Dimethylphenol, 2,6-	Water	11 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
57835-92-4	~Nitropyrene, 4-	Water	0.019 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
57837-19-1	metalaxyl	Water	0.1 mg/L	NZ Drinking Water 2008
57-97-6	~Dimethylbenz(a)anthracene, 7,12-	Water	0.0001 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
58138-08-2	Tridiphane	Water	18 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
58-89-9	Lindane	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
58-90-2	Tetrachlorophenol, 2,3,4,6-	Water	240 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
5902-51-2	Terbacil	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
591-27-5	Aminophenol, m-	Water	1600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
5915-41-3	Terbuthylazine	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
591-78-6	Hexanone, 2-	Water	38 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
592-01-8	~Calcium Cyanide	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
593-60-2	Vinyl Bromide	Water	0.37 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
59-50-7	Cresol, p-chloro-m-	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
59682-52-9	Fosamine	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
59756-60-4	Fluridone	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
59-87-0	Nitrofurazone	Water	0.06 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
598-77-6	Trichloropropane, 1,1,2-	Water	88 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
59-89-2	Nitrosomorpholine [N-]	Water	0.012 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60-00-4	EDTA (Edetic Acid)	Water	0.6 mg/L	WHO (2011) Drinking Water Guidelines
60-11-7	Dimethylamino azobenzene [p-]	Water	0.005 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60168-88-9	Fenarimol	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
60207-90-1	Propiconazole	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
60238-56-4	Chlorthiophos	Water	2.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60-29-7	Ethyl Ether	Water	3900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60-34-4	Methyl Hydrazine	Water	0.0056 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60348-60-9	Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60-51-5	Dimethoate	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health
60568-05-0	Furmecyclox	Water	1.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
60-57-1	Dieldrin	Water	0.0018 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
606-20-2	Dinitrotoluene, 2,6-	Water	0.049 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
608-73-1	Hexachlorocyclohexane, Technical	Water	0.025 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
608-93-5	Pentachlorobenzene	Water	3.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
615-45-2	Methyl-1,4-benzenediamine dihydrochloride, 2-	Water	6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
615-50-9	Methylbenzene-1,4-diamine sulfate, 2-	Water	0.78 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
615-54-3	Tribromobenzene, 1,2,4-	Water	45 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
616-23-9	Dichloropropanol, 2,3-	Water	59 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
617-84-5	Diethylformamide	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
61-82-5	Amitrole	Water	0.0009 mg/L	NHMRC ADWG (amended 2025) Human Health
621-64-7	Nitroso-di-N-propylamine, N-	Water	0.011 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
62-38-4	~Phenylmercuric Acetate	Water	1.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
62-44-2	Phenacetin	Water	34 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
62476-59-9	Sodium Acifluorfen	Water	260 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
624-83-9	Methyl Isocyanate	Water	2.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
62-53-3	Aniline	Water	13 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
62-73-7	Dichlorvos	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health
62-74-8	Sodium Fluoroacetate	Water	0.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
62-75-9	N-Nitrosodimethylamine (NDMA)	Water	0.0001 mg/L	NHMRC ADWG (amended 2025) Human Health
630-20-6	Tetrachloroethane, 1,1,1,2-	Water	0.57 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
63-25-2	Carbaryl	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
634-93-5	Trichloroaniline, 2,4,6-	Water	0.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
636-21-5	Methylaniline Hydrochloride, 2-	Water	0.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
6369-59-1	Benzenediamine-2-methyl sulfate, 1,4-	Water	0.78 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
640-15-3	Thiometon	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
64-18-6	Formic Acid	Water	0.63 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
64724-95-6	Naphtha, High Flash Aromatic (HFAN)	Water	150 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
64902-72-3	Chlorsulfuron	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health
65195-55-3	Avermectin B1	Water	8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
6533-73-9	Thallium Carbonate	Water	0.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
65510-44-3	~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
65-85-0	Benzoic Acid	Water	75000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
66215-27-8	Cyromazine	Water	9900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
66230-04-4	Esfenvalerate	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
66-27-3	Methyl methanesulfonate	Water	0.79 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
66332-96-5	Flutolanil	Water	7900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
66841-25-6	Tralomethrin	Water	150 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67-20-9	Nitrofurantoin	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67-45-8	Furazolidone	Water	0.02 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67485-29-4	Hydramethylnon	Water	340 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67-56-1	Methanol	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67-63-0	Isopropanol	Water	410 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67-64-1	Acetone	Water	18000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67-66-3	Chloroform	Water	0.3 mg/L	WHO (2011) Drinking Water Guidelines
67-72-1	Hexachloroethane	Water	0.33 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
67747-09-5	Prochloraz	Water	0.38 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
680-31-9	Hexamethylphosphoramide	Water	8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
68085-85-8	Cyhalothrin	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
68-12-2	Dimethylformamide	Water	61 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
68333-79-9	~Ammonium polyphosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
68359-37-5	Cyfluthrin, Beta-cyfluthrin	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
684-93-5	Nitroso-N-methylurea, N-	Water	0.00021 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
68631-49-2	Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	Water	4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
688-73-3	Tri-n-butyltin	Water	3.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
68915-31-1	~Sodium polyphosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
69004-03-1	Toltrazuril	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
6923-22-4	Monocrotophos	Water	0.002 mg/L	NHMRC ADWG (amended 2025) Human Health
69409-94-5	Fluvalinate	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
69782-90-7	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
69806-40-2	Haloxyfop	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
70-25-7	Methyl-N-nitro-N-nitrosoguanidine, N-	Water	0.0094 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
70-30-4	Hexachlorophene	Water	6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
70362-50-4	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	Water	0.0004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
709-98-8	Propanil	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health
71-36-3	Butanol, N-	Water	2000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
71-43-2	Benzene	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
71-55-6	Trichloroethane, 1,1,1-	Water	8000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
72178-02-0	Fomesafen	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
72-20-8	Endrin	Water	0.0006 mg/L	WHO (2011) Drinking Water Guidelines
72-43-5	Methoxychlor	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
72-54-8	DDD	Water	0.032 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
72-55-9	DDE, p,p'-	Water	0.046 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7287-19-6	Prometryn	Water	600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7320-34-5	~Tetrapotassium phosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
732-11-6	Phosmet	Water	370 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74051-80-2	Sethoxydim	Water	1600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74-11-3	Chlorobenzoic Acid, p-	Water	510 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74115-24-5	Clofentezine	Water	230 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74223-64-6	Metsulfuron-methyl	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
74-31-7	N,N'-Diphenyl-1,4-benzenediamine	Water	3.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7439-92-1	Lead	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
7439-93-2	Lithium	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7439-96-5	Manganese	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health
7439-97-6	Mercury	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
7439-98-7	Molybdenum	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-02-0	Nickel Soluble Salts	Water	390 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-22-4	Silver	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-24-6	Strontium, Stable	Water	12000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-28-0	Thallium (Soluble Salts)	Water	0.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-31-5	Tin	Water	12000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-33-7	Tungsten	Water	16 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-36-0	Antimony	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-38-2	Arsenic	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-39-3	Barium	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-41-7	Beryllium	Water	0.06 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-42-8	Boron	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-43-9	Cadmium	Water	0.002 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-47-3	Chromium	Water	0.05 mg/L	WHO (2011) Drinking Water Guidelines
7440-48-4	Cobalt	Water	6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-50-8	Copper	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-61-1	Uranium	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
7440-62-2	Vanadium and Compounds	Water	86 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7440-67-7	Zirconium	Water	1.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7446-11-9	Sulfur Trioxide	Water	2.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7446-18-6	Thallium Sulfate	Water	0.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7446-27-7	~Lead Phosphate	Water	9.1 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7446-34-6	Selenium Sulfide	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74472-37-0	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	Water	0.004 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74612-12-7	Methylbenzene, 1-4-diamine monohydrochloride, 2-	Water	4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74-83-9	Methyl bromide	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health
74-87-3	Chloromethane	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7487-94-7	~Mercuric Chloride (and other Mercury salts)	Water	5.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74-90-8	~Hydrogen Cyanide	Water	1.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74-95-3	Dibromomethane (Methylene Bromide)	Water	8.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
74-97-5	Bromochloromethane	Water	83 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
75-00-3	Ethyl Chloride (Chloroethane)	Water	8300 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-01-4	Vinyl chloride	Water	0.0003 mg/L	NHMRC ADWG (amended 2025) Human Health
75-05-8	Acetonitrile	Water	130 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-07-0	Acetaldehyde	Water	2.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-09-2	Dichloromethane (methylene chloride)	Water	0.004 mg/L	NHMRC ADWG (amended 2025) Human Health
75-15-0	Carbon Disulfide	Water	810 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-21-8	Ethylene Oxide	Water	0.00067 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-25-2	Bromoform	Water	0.1 mg/L	WHO (2011) Drinking Water Guidelines
75-27-4	Bromodichloromethane	Water	0.06 mg/L	WHO (2011) Drinking Water Guidelines
75-34-3	Dichloroethane, 1,1-	Water	2.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-35-4	1,1-dichloroethene	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
75-37-6	Difluoroethane, 1,1-	Water	83000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-45-6	Chlorodifluoromethane	Water	100000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7550-45-0	Titanium Tetrachloride	Water	0.21 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-52-5	Nitromethane	Water	0.64 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7553-56-2	Iodine	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-56-9	Propylene Oxide	Water	0.27 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7558-79-4	~Disodium phosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7558-80-7	~Monosodium phosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-60-5	Cacodylic Acid	Water	400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
756-79-6	Dimethyl methylphosphonate	Water	46 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-68-3	Chloro-1,1-difluoroethane, 1-	Water	100000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-69-4	Trichlorofluoromethane	Water	5200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-71-8	Dichlorodifluoromethane	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-85-4	Amyl Alcohol, tert-	Water	6.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-87-6	Chloral hydrate (Trichloroacetaldehyde)	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
759-73-9	Nitroso-N-ethylurea, N-	Water	0.00092 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
75-99-0	2,2-DPA	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health
759-94-4	EPTC	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
7601-54-9	~Trisodium phosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
76-01-7	Pentachloroethane	Water	0.65 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7601-89-0	~Sodium Perchlorate	Water	14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
76-03-9	Trichloroacetic acid	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
76-06-2	Chloropicrin	Water	0.83 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
76-13-1	Trichloro-1,2,2-trifluoroethane, 1,1,2-	Water	10000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7637-07-2	Boron Trifluoride	Water	26 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
764-41-0	Dichloro-2-butene, 1,4-	Water	0.0013 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
76-44-8	Heptachlor	Water	0.0003 mg/L	NHMRC ADWG (amended 2025) Human Health
7647-01-0	Hydrogen Chloride	Water	42 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
765-34-4	Glycidyl	Water	1.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
76578-14-8	Quizalofop-ethyl	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7664-38-2	Phosphoric Acid	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7664-39-3	Hydrogen Fluoride	Water	28 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
76738-62-0	Paclobutrazol	Water	230 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7681-49-4	Sodium Fluoride	Water	1000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
77182-82-2	Glufosinate, Ammonium	Water	120 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7722-76-1	~Monoammonium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7722-88-5	~Tetrasodium pyrophosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
77-47-4	Hexachlorocyclopentadiene	Water	0.41 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
77501-63-4	Lactofen	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7757-86-0	~Monomagnesium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7757-87-1	~Trimagnesium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7757-93-9	~Dicalcium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7758-16-9	~Sodium acid pyrophosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7758-23-8	~Monocalcium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7758-29-4	~Sodium tripolyphosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7758-87-4	~Tricalcium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7758-97-6	~Lead Chromate	Water	0.041 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7773-06-0	Ammonium Sulfamate	Water	4000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
77-73-6	Dicyclopentadiene	Water	0.63 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7778-53-2	~Tripotassium phosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7778-74-7	~Potassium Perchlorate	Water	14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7778-77-0	~Monopotassium phosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7782-41-4	Fluorine (Soluble Fluoride)	Water	1200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7782-49-2	Selenium	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
7782-50-5	Chlorine	Water	5 mg/L	NHMRC ADWG (amended 2025) Human Health
7782-75-4	~Dimagnesium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7783-00-8	Selenious Acid	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7783-28-0	~Diammonium phosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7784-42-1	Arsine	Water	0.07 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7785-84-4	~Sodium trimetaphosphate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
7785-88-8	~Sodium aluminum phosphate (acidic)	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7786-34-7	Mevinphos	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health
7790-76-3	~Calcium pyrophosphate	Water	970000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7790-98-9	~Ammonium Perchlorate	Water	14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7791-12-0	Thallium Chloride	Water	0.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-00-2	~Tetraethyl Lead	Water	0.0013 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
7803-51-2	Phosphine	Water	0.57 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-11-5	Pentaerythritol tetranitrate (PETN)	Water	17 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-42-2	Tris(2-ethylhexyl)phosphate	Water	24 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-48-8	Merphos Oxide	Water	0.28 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78587-05-0	Hexythiazox	Water	110 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-59-1	Isophorone	Water	78 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
786-19-6	Carbophenothion	Water	0.0005 mg/L	NHMRC ADWG (amended 2025) Human Health
78-83-1	Isobutyl Alcohol	Water	730 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-87-5	Dichloropropane, 1,2-	Water	0.85 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
78-92-2	Butyl alcohol, sec-	Water	24000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79-00-5	Trichloroethane, 1,1,2-	Water	0.28 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79-01-6	Trichloroethene	Water	0.02 mg/L	WHO (2011) Drinking Water Guidelines
79-06-1	Acrylamide	Water	0.0002 mg/L	NHMRC ADWG (amended 2025) Human Health
79-10-7	Acrylic Acid	Water	0.42 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79-11-8	Chloroacetic acid	Water	0.15 mg/L	NHMRC ADWG (amended 2025) Human Health
791-28-6	Triphenylphosphine Oxide	Water	360 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79-20-9	Methyl Acetate	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79277-27-3	Thifensulfuron-methyl	Water	860 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79-34-5	Tetrachloroethane, 1,1,2,2-	Water	0.076 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
79-43-6	Dichloroacetic acid	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
79-46-9	Nitropropane, 2-	Water	0.0097 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
8001-35-2	Toxaphene	Water	0.071 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
80-05-7	Bisphenol A	Water	770 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
80-07-9	Sulfonylbis(4-chlorobenzene), 1,1'-	Water	11 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
8012-95-1	Mineral oils	Water	60000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
8017-16-1	~Polyphosphoric acid	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
8018-01-7	Mancozeb	Water	0.009 mg/L	NHMRC ADWG (amended 2025) Human Health
80-62-6	Methyl Methacrylate	Water	1400 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
8065-48-3	Demeton	Water	0.42 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
811-97-2	Tetrafluoroethane, 1,1,1,2-	Water	170000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
81334-34-1	Imazapyr	Water	9 mg/L	NHMRC ADWG (amended 2025) Human Health
81335-77-5	Imazethapyr	Water	47000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
81-81-2	Warfarin	Water	5.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
82097-50-5	Triasulfuron	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
822-06-0	Hexamethylene Diisocyanate, 1,6-	Water	0.021 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
82558-50-7	Isoxaben	Water	730 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
82657-04-3	Biphenthrin	Water	300 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
82-68-8	Quintozene	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
83055-99-6	Bensulfuron-methyl	Water	3900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
83-32-9	~Acenaphthene	Water	530 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
834-12-8	Ametryn	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health
83-79-4	Rotenone	Water	61 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
84-65-1	Anthraquinone, 9,10-	Water	1.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
84-66-2	~Diethyl Phthalate	Water	15000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
84-72-0	Ethylphthalyl Ethyl Glycolate	Water	58000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
84-74-2	~Dibutyl Phthalate	Water	900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
85-44-9	~Phthalic Anhydride	Water	39000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
85509-19-9	Flusilazole	Water	31 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
85-68-7	Butyl Benzyl Phthalate	Water	16 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
85-70-1	~Butylphthalyl Butylglycolate	Water	13000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
86-30-6	Nitrosodiphenylamine, N-	Water	12 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
86-50-0	Azinphos-methyl	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
86-73-7	~Fluorene	Water	290 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
87-61-6	Trichlorobenzene, 1,2,3-	Water	7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
87-68-3	Hexachlorobutadiene	Water	0.0007 mg/L	NHMRC ADWG (amended 2025) Human Health
87-82-1	Hexabromobenzene	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
87-84-3	Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	Water	2.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
87-86-5	Pentachlorophenol	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
88-06-2	2,4,6-trichlorophenol	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health
886-50-0	Terbutryn	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health
88671-89-0	Myclobutanil	Water	450 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
88-72-2	Nitrotoluene, o-	Water	0.31 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
88-73-3	Chloronitrobenzene, o-	Water	0.24 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
88-74-4	Nitroaniline, 2-	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
88-85-7	Dinoseb	Water	15 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
88-89-1	Picric Acid (2,4,6-Trinitrophenol)	Water	40 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
9004-70-0	Nitrocellulose	Water	60000000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
9006-42-2	Metiram	Water	0.009 mg/L	NHMRC ADWG (amended 2025) Human Health
90-12-0	~Methylnaphthalene, 1-	Water	0.0063 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
90-43-7	Phenylphenol, 2-	Water	30 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
90-98-2	Dichlorobenzophenone, 4,4'-	Water	78 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
90982-32-4	Chlorimuron, Ethyl-	Water	1800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
91-20-3	~Naphthalene	Water	0.12 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
91-22-5	Quinoline	Water	0.024 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
91-57-6	~Methylnaphthalene, 2-	Water	36 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
91-58-7	~Chloronaphthalene, Beta-	Water	750 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
91-59-8	Naphthylamine, 2-	Water	0.039 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
91-94-1	Dichlorobenzidine, 3,3'-	Water	0.13 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
924-16-3	Nitroso-di-N-butylamine, N-	Water	0.0027 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
92-52-4	Biphenyl, 1,1'-	Water	0.83 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
92-67-1	Aminobiphenyl, 4-	Water	0.003 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
92-84-2	Phenothiazine	Water	4.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
92-87-5	Benzidine	Water	0.00011 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
930-55-2	Nitrosopyrrolidine, N-	Water	0.037 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
93-65-2	Mecoprop	Water	0.01 mg/L	WHO (2011) Drinking Water Guidelines
93-72-1	Fenoprop	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health
93-76-5	2,4,5-T	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health
944-22-9	Fonofos	Water	24 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
94-58-6	Dihydrosafrole	Water	0.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
94-59-7	Safrole	Water	0.096 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
94-74-6	MCPA	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health
94-75-7	2,4-D (2,4-Dichlorophenoxy) acetic acid	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health
94-81-5	MCPB	Water	650 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
94-82-6	2,4-DB	Water	0.09 mg/L	WHO (2011) Drinking Water Guidelines
950-10-7	Mephosfolan	Water	1.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
950-37-8	Methidathion	Water	0.006 mg/L	NHMRC ADWG (amended 2025) Human Health
95-47-6	Xylene, o-	Water	190 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-48-7	Cresol, o-	Water	930 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-49-8	Chlorotoluene, o-	Water	240 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-50-1	1,2-dichlorobenzene	Water	1.5 mg/L	NHMRC ADWG (amended 2025) Human Health
95-54-5	Phenylenediamine, o-	Water	0.21 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-57-8	2-chlorophenol	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
95-63-6	Trimethylbenzene, 1,2,4-	Water	56 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-65-8	Dimethylphenol, 3,4-	Water	18 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-68-1	Dimethylaniline, 2,4-	Water	0.37 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-69-2	Chloro-2-methylaniline, 4-	Water	0.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-70-5	Toluene-2,5-diamine	Water	0.43 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
957-51-7	Diphenamid	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health
95-94-3	Tetrachlorobenzene, 1,2,4,5-	Water	0.17 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
95-95-4	Trichlorophenol, 2,4,5-	Water	1200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
961-11-5	Stirofos (Tetrachlorovinphos)	Water	2.8 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
96-12-8	Dibromo-3-chloropropane, 1,2-	Water	0.00033 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
96-18-4	Trichloropropane, 1,2,3-	Water	0.00075 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
96-19-5	Trichloropropene, 1,2,3-	Water	0.62 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
96-33-3	Methyl Acrylate	Water	42 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
96-45-7	Ethylene Thiourea	Water	1.6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
96-91-3	Picramic Acid (2-Amino-4,6-dinitrophenol)	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
97-63-2	Ethyl Methacrylate	Water	630 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-01-1	Furfural	Water	38 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-06-6	Butylbenzene, tert-	Water	690 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-07-7	Benzotrichloride	Water	0.003 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-56-6	Chlorobenzotrifluoride, 4-	Water	0.65 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-82-8	Cumene	Water	450 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-83-9	Methylstyrene, Alpha-	Water	780 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-86-2	Acetophenone	Water	1900 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
98-95-3	Nitrobenzene	Water	0.14 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
99-08-1	Nitrotoluene, m-	Water	1.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
993-13-5	Methyl Phosphonic Acid	Water	1200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
99-35-4	Trinitrobenzene, 1,3,5-	Water	590 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
99-55-8	Methyl-5-Nitroaniline, 2-	Water	8.2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
99-59-2	Methoxy-5-nitroaniline, 2-	Water	1.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
99-65-0	Dinitrobenzene, 1,3-	Water	2 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
99-99-0	Nitrotoluene, p-	Water	4.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
DDT+DDE+DDD	DDT + isomers	Water	0.001 mg/L	NZ Drinking Water 2008
E.Coli	Escherichia coli	Water	1 cfu/100 ml	NZ Drinking Water 2008

Table C1 - Tier 1 Groundwater Criteria - Drinking Water (Health)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
Lead-210	Lead-210	Water	0.2 Bq/L	Guidelines for Canadian Drinking Water (2014) MAC
Nickel_Dust	Nickel Refinery Dust	Water	220 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
Radium-226	Radium-226	Water	0.5 Bq/L	Guidelines for Canadian Drinking Water (2014) MAC
TOTALPAH	Sum of PAHs	Water	0.01 µg/L	NHMRC ADWG (amended 2025) Human Health
TotalTHM	Total THMs	Water	1 mg/L	WHO (2011) Drinking Water Guidelines
TPH_AliphaticLow	Total Petroleum Hydrocarbons (Aliphatic Low)	Water	28 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
TPH_AliphaticMed	Total Petroleum Hydrocarbons (Aliphatic Medium)	Water	100 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
TPH_AromaticHigh	Total Petroleum Hydrocarbons (Aromatic High)	Water	6 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
TPH_AromaticLow	Total Petroleum Hydrocarbons (Aromatic Low)	Water	33 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
TPH_AromaticMed	Total Petroleum Hydrocarbons (Aromatic Medium)	Water	57 µg/L	US EPA RSL NOV 2024 - Tap Water Quality
Trihalomethanes	Trihalomethanes (thMs) (total)	Water	0.25 mg/L	NHMRC ADWG (amended 2025) Human Health

Table C2 - Tier 1 Groundwater Criteria - Drinking Water (Aesthetics)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-41-4	Ethylbenzene	Water	0.003 mg/L	NHMRC ADWG (amended 2013) Aesthetic
100-42-5	Styrene (vinylbenzene)	Water	0.004 mg/L	NHMRC ADWG (amended 2013) Aesthetic
10049-04-4	Chlorine dioxide	Water	0.4 mg/L	NHMRC ADWG (amended 2013) Aesthetic
106-46-7	1,4-dichlorobenzene	Water	0.0003 mg/L	NHMRC ADWG (amended 2013) Aesthetic
108-88-3	Toluene	Water	0.025 mg/L	NHMRC ADWG (amended 2013) Aesthetic
108-90-7	Chlorobenzene	Water	0.01 mg/L	NHMRC ADWG (amended 2013) Aesthetic
12002-48-1	Trichlorobenzenes (total)	Water	0.005 mg/L	NHMRC ADWG (amended 2013) Aesthetic
120-83-2	2,4-dichlorophenol	Water	0.0003 mg/L	NHMRC ADWG (amended 2013) Aesthetic
1330-20-7	Xylene	Water	0.02 mg/L	NHMRC ADWG (amended 2013) Aesthetic
14797-55-8(as N)	Nitrate (as N)	Water	10000 ug/L	NHMRC ADWG (amended 2013) Aesthetic
14808-79-8	Sulfate	Water	250 mg/L	NHMRC ADWG (amended 2013) Aesthetic
16887-00-6	Chloride	Water	250 mg/L	NHMRC ADWG (amended 2013) Aesthetic
541-73-1	1,3-dichlorobenzene	Water	0.02 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7429-90-5	Aluminium (acid-soluble)	Water	0.2 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7439-89-6	Iron	Water	0.3 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7439-96-5	Manganese	Water	0.1 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7440-23-5	Sodium	Water	180 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7440-50-8	Copper	Water	1 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7440-66-6	Zinc	Water	3 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7631-86-9	Silica	Water	80 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7664-41-7	Ammonia (as NH3)	Water	0.5 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7782-50-5	Chlorine	Water	0.6 mg/L	NHMRC ADWG (amended 2013) Aesthetic
7783-06-4	Hydrogen sulfide	Water	0.05 mg/L	NHMRC ADWG (amended 2013) Aesthetic
88-06-2	2,4,6-trichlorophenol	Water	0.002 mg/L	NHMRC ADWG (amended 2013) Aesthetic
95-50-1	1,2-dichlorobenzene	Water	0.001 mg/L	NHMRC ADWG (amended 2013) Aesthetic
95-57-8	2-chlorophenol	Water	0.0001 mg/L	NHMRC ADWG (amended 2013) Aesthetic
Colour	Colour (true)	Water	15 hu	NHMRC ADWG (amended 2013) Aesthetic
DO	Dissolved oxygen	Water	85 - 100 %	NHMRC ADWG (amended 2013) Aesthetic
Hardness_as_CaCO3	Hardness (as CaCo3)	Water	200 mg/L	NHMRC ADWG (amended 2013) Aesthetic
pH_Lab	pH	Water	6.5 - 8.5 mg/L	NHMRC ADWG (amended 2013) Aesthetic
TDS	Total dissolved solids	Water	600 mg/L	NHMRC ADWG (amended 2013) Aesthetic
TURBIDITY	Turbidity	Water	5 ntu	NHMRC ADWG (amended 2013) Aesthetic

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-00-5	Chloronitrobenzene, p-	Water	12 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-01-6	Nitroaniline, 4-	Water	38 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-21-0	~Phthalic Acid, P-	Water	94000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-25-4	Dinitrobenzene, 1,4-	Water	20 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10034-93-2	Hydrazine Sulfate	Water	0.26 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-41-4	Ethylbenzene	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
100-42-5	Styrene (vinylbenzene)	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
10043-92-2	radon	Water	1000 Bq/L	NZ Drinking Water 2008 (AF x 10)
100-44-7	Benzyl Chloride	Water	0.89 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-51-6	Benzyl Alcohol	Water	20000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-52-7	Benzaldehyde	Water	190 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-61-8	Monomethylaniline	Water	380 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
100-75-4	Nitrosopiperidine [N-]	Water	0.082 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10102-45-1	Thallium (I) Nitrate	Water	2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
101-14-4	Methylene-bis(2-chloroaniline), 4,4'-	Water	1.6 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
101200-48-0	Tribenuron-methyl	Water	1600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
101-21-3	Chlorpropham	Water	710 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10124-56-8	~Sodium hexametaphosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
101-61-1	Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	Water	7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
101-77-9	Methylenebisbenzenamine, 4,4'-	Water	0.47 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10213-10-2	Sodium Tungstate Dihydrate	Water	160 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1024-57-3	Heptachlor Epoxide	Water	0.014 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10265-92-6	Methamidophos	Water	10 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
102-76-1	Triacetin	Water	16000000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10279-59-1	~Sodium aluminum phosphate (anhydrous)	Water	1000000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10294-34-5	Boron Trichloride	Water	420 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10294-40-3	Barium Chromate	Water	0.41 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10305-76-7	~Sodium aluminum phosphate (tetrahydrate)	Water	700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
103-23-1	Di(2-ethylhexyl)adipate	Water	650 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
103-33-3	Azobenzene	Water	1.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
103-65-1	Propylbenzene	Water	6600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
104-51-8	Butylbenzene, n-	Water	10000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10453-86-8	Resmethrin	Water	670 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
105-60-2	Caprolactam	Water	99000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
105-67-9	Dimethylphenol, 2,4-	Water	3600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10588-01-9	Sodium Dichromate	Water	0.41 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10595-95-6	Nitrosomethylethylamine, N-	Water	0.0071 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
10599-90-3	Monochloramine	Water	30 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
10605-21-7	Carbendazim	Water	0.9 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
106-37-6	Dibromobenzene, 1,4-	Water	1300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-42-3	Xylene, P-	Water	1900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-43-4	Chlorotoluene, p-	Water	2500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-44-5	Cresol, p-	Water	3700 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-46-7	1,4-dichlorobenzene	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
106-47-8	Chloroaniline, p-	Water	3.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-49-0	Toluidine, p-	Water	25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-50-3	Phenylenediamine, p-	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-88-7	Epoxybutane, 1,2-	Water	420 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
106-89-8	Epichlorohydrin	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
106-93-4	EDB	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
106-99-0	Butadiene, 1,3-	Water	0.71 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-02-8	Acrolein	Water	0.42 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-04-0	Bromo-2-chloroethane, 1-	Water	1.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-05-1	Allyl Chloride	Water	7.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-06-2	1,2-dichloroethane	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
107-07-3	Chloroethanol, 2-	Water	4000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-13-1	Acrylonitrile	Water	0.52 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-15-3	Ethylenediamine tetraacetic acid (EDTA)	Water	2.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1071-83-6	Glyphosate	Water	10 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
107-18-6	Allyl Alcohol	Water	2.1 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-19-7	Propargyl Alcohol	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-20-0	Chloroacetaldehyde, 2-	Water	2.9 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-21-1	Ethylene Glycol	Water	160000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-30-2	Chloromethyl Methyl Ether	Water	0.065 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
107-98-2	Propylene Glycol Monomethyl Ether	Water	32000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-05-4	Vinyl Acetate	Water	4100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-10-1	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	Water	63000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-20-3	Diisopropyl Ether	Water	15000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-31-6	Maleic Anhydride	Water	19000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-36-1	Dibromobenzene, 1,3-	Water	53 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-38-3	Xylene, m-	Water	1900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-39-4	Cresol, m-	Water	9300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-45-2	Phenylenediamine, m-	Water	1200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-60-1	Bis(2-chloro-1-methylethyl) ether	Water	7100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-62-3	Metaldehyde	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
108-67-8	Trimethylbenzene, 1,3,5-	Water	600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
108-86-1	Bromobenzene	Water	620 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-88-3	Toluene	Water	8 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
108-90-7	Chlorobenzene	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
108-91-8	Cyclohexylamine	Water	38000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-94-1	Cyclohexanone	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-95-2	Phenol	Water	58000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
108-98-5	Benzenethiol	Water	170 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
109-66-0	Pentane, n-	Water	21000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
109-69-3	Chlorobutane, 1-	Water	6400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
109-77-3	Malononitrile	Water	20 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
109-78-4	Ethylene Cyanohydrin	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
109-86-4	Methoxyethanol, 2-	Water	130 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-00-9	~Furan	Water	190 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-49-6	Methoxyethanol Acetate, 2-	Water	21 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-54-3	Hexane, N-	Water	15000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-57-6	Dichloro-2-butene, trans-1,4-	Water	0.013 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-80-5	Ethoxyethanol, 2-	Water	800 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-82-7	Cyclohexane	Water	130000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-83-8	Cyclohexene	Water	700 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
110-86-1	Pyridine	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
11096-82-5	~Aroclor 1260	Water	0.078 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
11097-69-1	~Aroclor 1254	Water	0.078 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
11104-28-2	~Aroclor 1221	Water	0.047 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-15-9	Ethoxyethanol Acetate, 2-	Water	1200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
11126-42-4	~Aroclor 5460	Water	120 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1113-02-6	Omethoate	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
11141-16-5	~Aroclor 1232	Water	0.047 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-42-2	Diethanolamine	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-44-4	Bis(2-chloroethyl)ether	Water	0.14 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1114-71-2	Pebulate	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
111-48-8	Thiodiglycol	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1116-54-7	Nitrosodiethanolamine, N-	Water	0.28 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-76-2	Ethylene Glycol Monobutyl Ether	Water	20000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-77-3	Ethanol, 2-(2-methoxyethoxy)-	Water	8000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-84-2	Nonane, n-	Water	53 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-90-0	Diethylene Glycol Monoethyl Ether	Water	12000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
111-91-1	Bis(2-chloroethoxy)methane	Water	590 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
112-27-6	Triethylene Glycol	Water	400000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
112-34-5	Diethylene Glycol Monobutyl Ether	Water	6000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
113-00-8	Guanidine	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
114-26-1	Propanediol, 1,2-	Water	780 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
115-07-1	Propylene	Water	63000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
115-29-7	Endosulfan	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
115-32-2	Dicofol	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
115-90-2	Fensulfothion	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
115-96-8	Tris(2-chloroethyl)phosphate	Water	38 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
116-06-3	Aldicarb	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
117-81-7	di(2-ethylhexyl) phthalate	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
117-84-0	~Octyl Phthalate, di-N-	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
118-74-1	Hexachlorobenzene	Water	0.098 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
118-75-2	Chloranil	Water	1.8 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
118-96-7	Trinitrotoluene, 2,4,6-	Water	25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1194-65-6	Dichlobenil	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
119-90-4	Dimethoxybenzidine, 3,3'-	Water	0.15 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
119-93-7	Dimethylbenzidine, 3,3'-	Water	0.021 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12002-48-1	Trichlorobenzenes (total)	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
120068-37-3	Fipronil	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
120-12-7	~Anthracene	Water	18000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12035-72-2	Nickel Subsulfide	Water	0.45 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
120-36-5	Dichloroprop / Dichlorprop-P	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
12054-48-7	Nickel Hydroxide	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
120-61-6	~Dimethylterephthalate	Water	19000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
120-82-1	Trichlorobenzene, 1,2,4-	Water	12 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
120-83-2	2,4-dichlorophenol	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
121-14-2	Dinitrotoluene, 2,4-	Water	2.4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12122-67-7	Zineb	Water	9900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
121-44-8	Triethylamine	Water	150 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
121552-61-2	Cyprodinil	Water	0.9 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
121-69-7	Dimethylaniline, N,N-	Water	25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
121-75-5	Maldison (Malathion)	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	Water	9.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
122-14-5	Fenitrothion	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
122-34-9	Simazine	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
122-39-4	Diphenylamine	Water	13000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
122-42-9	Propham	Water	3500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
122-66-7	Diphenylhydrazine, 1,2-	Water	0.78 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
123-30-8	Aminophenol, p-	Water	4000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
123-31-9	Hydroquinone	Water	13 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
123-33-1	Maleic Hydrazide	Water	100000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
123-38-6	Propionaldehyde	Water	170 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
123-73-9	Crotonaldehyde, trans-	Water	0.4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
123-77-3	Azodicarbonamide	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
123-91-1	1,4-dioxane	Water	0.5 mg/L	NZ Drinking Water 2008 (AF x 10)
124-04-9	Hexanedioic Acid	Water	400000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12427-38-2	Maneb	Water	980 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
124-48-1	Dibromochloromethane	Water	1 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
124-58-3	Methylarsonic acid	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
126-33-0	Sulfolane	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12672-29-6	~Aroclor 1248	Water	0.078 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
126-72-7	Tris(2,3-dibromopropyl)phosphate	Water	0.068 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
126-73-8	Tributyl Phosphate	Water	52 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12674-11-2	~Aroclor 1016	Water	2.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
126-98-7	Methacrylonitrile	Water	19 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
126-99-8	Chloro-1,3-butadiene, 2-	Water	0.19 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1271-28-9	Nickelocene	Water	0.86 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
127-18-4	Tetrachloroethene	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
127-63-9	Diphenyl Sulfone	Water	150 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
12789-03-6	Chlordane	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
128-37-0	Butylated hydroxytoluene	Water	34 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
128639-02-1	Carfentrazone-ethyl	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
129-00-0	~Pyrene	Water	1200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13071-79-9	Terbufos	Water	0.009 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1313-99-1	Nickel Oxide	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1314-60-9	Antimony Pentoxide	Water	97 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1314-62-1	Vanadium Pentoxide	Water	1500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1314-84-7	Zinc Phosphide	Water	60 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
131-89-5	Dinitro-o-cyclohexyl Phenol, 4,6-	Water	230 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13194-48-4	Ethoprophos	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1319-77-3	Cresols	Water	15000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
132-64-9	~Dibenzofuran	Water	79 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
132-65-0	Dibenzothiophene	Water	650 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1330-20-7	Xylene	Water	6 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
133-06-2	Captan	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
133-07-3	Folpet	Water	16000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1330-78-5	Tricresyl Phosphate (TCP)	Water	1600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1332-81-6	Antimony Tetroxide	Water	78 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1335-32-6	~Lead subacetate	Water	21 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1336-36-3	Polychlorinated Biphenyls (PCBs)	Water	0.44 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
133-90-4	Chloramben	Water	2900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13457-18-6	Pyrazophos	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
13463-39-3	Nickel Carbonyl	Water	0.22 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13472-45-2	Sodium Tungstate	Water	160 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
135-20-6	Cupferron	Water	3.5 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13530-50-2	~Monoaluminum phosphate	Water	710000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13593-03-8	Quinalphos	Water	51 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
135-98-8	Butylbenzene, sec-	Water	20000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13674-84-5	Tris(1-chloro-2-propyl)phosphate	Water	1900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13674-87-8	Tris(1,3-Dichloro-2-propyl) Phosphate	Water	3600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13684-63-4	Phenmedipham	Water	38000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13718-26-8	Sodium Metavanadate	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
137-26-8	Thiram	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
137-42-8	Metham	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
13765-19-0	Calcium Chromate	Water	0.41 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13776-88-0	~Aluminum metaphosphate	Water	590000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
13845-36-8	~Potassium tripolyphosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
139-13-9	Nitrilotriacetic acid	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
139-40-2	Propazine	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
140-88-5	Ethyl Acrylate	Water	140 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
141-66-2	Dicrotophos	Water	6 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
141-78-6	Ethyl Acetate	Water	1400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
142-28-9	Dichloropropane, 1,3-	Water	3700 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
143-33-9	~Sodium Cyanide	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
143-50-0	Chlordecone (Kepone)	Water	0.035 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
1445-75-6	Diisopropyl Methylphosphonate	Water	16000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
145-73-3	Endothal	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1476-11-5	Dichloro-2-butene, cis-1,4-	Water	0.013 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
14797-55-8	Nitrate (as nitrate)	Water	500 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
14797-65-0	Nitrite (as nitrite)	Water	30 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
14797-65-0(as N)	Nitrite-nitrogen	Water	10 mg/l	Guidelines for Canadian Drinking Water (2014) MAC (AF x 10)
14797-73-0	~Perchlorate and Perchlorate Salts	Water	140 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
148-18-5	Sodium Diethyldithiocarbamate	Water	2.9 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
14866-68-3	Chlorate	Water	7 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
14998-27-7	Chlorite	Water	8 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
150-50-5	Merphos	Water	6 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
151-50-8	~Potassium Cyanide	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
151-56-4	Ethyleneimine	Water	0.0024 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
152-16-9	Octamethylpyrophosphoramide	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
15299-99-7	Napropamide	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
15541-45-4	Bromate	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
15545-48-9	Chlorotoluron	Water	0.3 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
1563-66-2	Carbofuran	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
156-59-2	Dichloroethylene, 1,2-cis-	Water	360 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
156-60-5	Dichloroethylene, 1,2-trans-	Water	3600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1582-09-8	Trifluralin	Water	0.9 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1596-84-5	Daminozide	Water	43 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
15972-60-8	Alachlor	Water	0.2 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
16065-83-1	Chromium(III), Insoluble Salts	Water	220000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
16071-86-6	Direct Brown 95	Water	0.12 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1610-18-0	Prometon	Water	2500 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1634-04-4	Methyl tert-Butyl Ether (MTBE)	Water	140 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1646-88-4	Aldicarb Sulfone	Water	200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
16672-87-0	Ethephon	Water	1000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
16752-77-5	Methomyl	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1689-84-5	Bromoxynil	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1689-99-2	Bromoxynil Octanoate	Water	2.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
16984-48-8	Fluoride	Water	15 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1702-17-6	Clopyralid	Water	20 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
17029-22-0	Hexaflurate	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1746-01-6	~TCDD, 2,3,7,8-	Water	1.2E-06 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1763-23-1	PFOS	Water	0.08 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
17804-35-2	Benomyl	Water	0.9 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1820583-27-0	Cyfluthrin, Beta-cyfluthrin	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1832-54-8	Isopropyl Methyl Phosphonic Acid	Water	20000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
18540-29-9	Chromium (as Cr(VI))	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1861-32-1	Chlorthal-dimethyl	Water	1200 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1861-40-1	Benfluralin	Water	280 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1897-45-6	Chlorothalonil	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
19044-88-3	Oryzalin	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1910-42-5	Paraquat (as dichloride)	Water	0.1 mg/l	Guidelines for Canadian Drinking Water (2014) MAC (AF x 10)
1912-24-9	Atrazine	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1918-00-9	Dicamba	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1918-02-1	Picloram	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
1918-16-7	Propachlor	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
192-65-4	~Dibenzo(a,e)pyrene	Water	0.065 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1929-77-7	Vernolate	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
193-39-5	~Indeno[1,2,3-cd]pyrene	Water	2.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
1937-37-7	Direct Black 38	Water	0.11 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
19406-51-0	Dinitrotoluene, 4-Amino-2,6-	Water	19 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
19666-30-9	oxadiazon	Water	2 mg/L	NZ Drinking Water 2008 (AF x 10)
1982-47-4	Chloroxuron	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2008-41-5	Butylate	Water	4600 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2032-65-7	Methiocarb	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
203313-25-1	Spirotetramat	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
20461-54-5	Iodide	Water	5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
205-82-3	~Benzo(j)fluoranthene	Water	0.65 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
205-99-2	~Benzo[b]fluoranthene	Water	2.5 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
206-44-0	~Fluoranthene	Water	8000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
207-08-9	~Benzo[k]fluoranthene	Water	25 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
20859-73-8	Aluminum Phosphide	Water	80 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2104-64-5	Ethyl-p-nitrophenyl Phosphonate	Water	0.89 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2104-96-3	Bromophos	Water	350 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
21087-64-9	Metribuzin	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
21436-96-4	Dimethylaniline HCl, 2,4-	Water	1.3 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
21564-17-0	TCMTB	Water	4800 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2164-17-2	Fluometuron	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
21725-46-2	Cyanazine	Water	0.006 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
218-01-9	~Chrysene	Water	250 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2212-67-1	Molinate	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
22224-92-6	Fenamiphos	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
22248-79-9	Tetrachlorvinphos	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
22967-92-6	~Methyl Mercury	Water	20 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2303-16-4	Diallate	Water	5.4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2303-17-5	Triallate	Water	4.7 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
23103-98-2	Pirimicarb	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2312-35-8	Propargite	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
23135-22-0	Oxamyl	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
23505-41-1	Pirimiphos-ethyl	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
23564-06-9	Thiophanate	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2385-85-5	Mirex	Water	0.0088 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
23950-58-5	Propyzamide	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2425-06-1	Captafol	Water	4 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
24307-26-4	Mepiquat Chloride	Water	6000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
2439-10-3	Dodine	Water	4000 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
25013-15-4	Methyl Styrene (Mixed Isomers)	Water	230 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
25013-16-5	Butylated hydroxyanisole	Water	1500 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)
25057-89-0	Bentazone	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
25167-70-8	Trimethylpentene, 2,4,4-	Water	380 µg/L	US EPA RSL NOV 2024 - Tap Water Quality (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
25321-14-6	Dinitrotoluene, Technical grade	Water	1 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
2540-82-1	Formothion	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2593-15-9	Etridiazole	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2602-46-2	Direct Blue 6	Water	0.11 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
26399-36-0	Profluralin	Water	260 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
26628-22-8	Sodium Azide	Water	800 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
27314-13-2	Norflurazon	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2764-72-9	Diquat	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
28249-77-6	Thiobencarb	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
28434-01-7	Bioresmethrin	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
2921-88-2	Chlorpyrifos	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
29232-93-7	Pirimiphos methyl	Water	0.9 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
29420-49-3	Potassium Perfluorobutane Sulfonate	Water	4000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
298-00-0	Parathion-methyl	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
298-02-2	Phorate	Water	0.02 mg/l	Guidelines for Canadian Drinking Water (2014) MAC (AF x 10)
298-04-4	Disulfoton	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
299-84-3	Ronnel	Water	4100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
300-76-5	Naled	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
301-04-2	~Lead acetate	Water	3.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
3018-12-0	Dichloroacetonitrile	Water	0.2 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
302-01-2	Hydrazine	Water	0.011 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
302-17-0	Chloral Hydrate	Water	20000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
30560-19-1	Acephate	Water	0.08 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
309-00-2	Aldrin	Water	0.0092 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
309-00-2 + 60-57-1	Aldrin & Dieldrin	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
314-40-9	Bromacil	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
31508-00-6	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
3165-93-3	Chloro-2-methylaniline HCl, 4-	Water	1.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
319-84-6	Hexachlorocyclohexane, Alpha-	Water	0.072 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
319-85-7	Hexachlorocyclohexane, Beta-	Water	0.25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
3252-43-5	Dibromoacetonitrile	Water	0.7 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
32534-81-9	Pentabromodiphenyl Ether	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
32536-52-0	Octabromodiphenyl Ether	Water	600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
32598-13-3	~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	Water	0.06 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
32598-14-4	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
32774-16-6	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	Water	4E-05 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
330-54-1	Diuron	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
330-55-2	Linuron	Water	1300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
33089-61-1	Amitraz	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
330-95-0	Nicarbazin	Water	10 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
3333-67-3	Nickel Carbonate	Water	2200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
333-41-5	Diazinon	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
3337-71-1	Asulam	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
335-67-1	PFOA	Water	2 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
33663-50-2	Trichloroaniline HCl, 2,4,6-	Water	27 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
33820-53-0	Isopropalin	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
3383-96-8	Temephos	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
34014-18-1	Tebuthiuron	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
34123-59-6	Isoproturon	Water	0.09 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
34256-82-1	Acetochlor	Water	3500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
35367-38-5	Diflubenzuron	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
35400-43-2	Sulprofos	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
355-46-4	PFHxS	Water	0.3 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
355-46-4/1763-23-1	Sum of PFOS and PFHxS	Water	2 µg/L	PFAS NEMP 3.0 2025
35554-44-0	Imazalil	Water	9 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
35572-78-2	Dinitrotoluene, 2-Amino-4,6-	Water	19 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
365400-11-9	Pyrasulfotole	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
36734-19-7	Iprodione	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
3689-24-5	Tetraethyl Dithiopyrophosphate	Water	71 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
373-02-4	Nickel Acetate	Water	2200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
375-73-5	Perfluorobutane sulfonic acid (PFBS)	Water	10 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
38380-08-4	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
39148-24-8	Fosetyl-AL	Water	500000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
39196-18-4	Thiofanox	Water	53 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
39515-41-8	Fenpropathrin	Water	640 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
39635-31-9	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
40487-42-1	Pendimethalin	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
41198-08-7	Profenofos	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
420-46-2	Trifluoroethane, 1,1,1-	Water	420000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
422556-08-9	Pyroxsulam	Water	40 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
42576-02-3	Bifenox	Water	1000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
42874-03-3	Oxyfluorfen	Water	5.4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
43121-43-3	Triadimefon	Water	0.9 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
460-19-5	~Cyanogen	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
463-56-9	~Thiocyanic Acid	Water	40 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
463-58-1	Carbonyl Sulfide	Water	2100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
4685-14-7	Paraquat	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
470-90-6	Chlorfenvinphos	Water	110 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
4726-14-1	Nitralin	Water	5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
479-45-8	Tetryl (Trinitrophenylmethylnitramine)	Water	390 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
4824-78-6	Bromophos-ethyl	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
492-80-8	Auramine	Water	0.78 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
49866-87-7	Difenzoquat	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
50-00-0	Formaldehyde	Water	5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
500008-45-7	Chlorantraniliprole	Water	60 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
50-01-1	Guanidine Chloride	Water	4000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
50-29-3	DDT	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
50-32-8	~Benzo(a)pyrene	Water	0.1 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
50471-44-8	Vinclozolin	Water	210 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
505-29-3	Dithiane, 1,4-	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
506-61-6	~Potassium Silver Cyanide	Water	820 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
506-64-9	~Silver Cyanide	Water	18000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
506-68-3	~Cyanogen Bromide	Water	18000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
506-77-4	Cyanogen chloride (as cyanide)	Water	0.8 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
510-15-6	Chlorobenzilate	Water	3.1 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
51-03-6	Piperonyl butoxide	Water	6 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
51218-45-2	Metolachlor/s-	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
51235-04-2	Hexazinone	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
512-56-1	Trimethyl Phosphate	Water	39 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
51-28-5	Dinitrophenol, 2,4-	Water	390 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
513-37-1	Dimethylvinylchloride	Water	3.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
51338- 27-3	Diclofop-methyl	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
51630-58-1	Fenvalerate	Water	0.6 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
51-79-6	Urethane	Water	0.25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
5216-25-1	Tetrachlorotoluene, p- alpha, alpha, alpha-	Water	0.017 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
52315-07-8	Cypermethrin isomers	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
5234-68-4	Carboxin	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
52645-53-1	Permethrin	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
52663-72-6	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
526-73-8	Trimethylbenzene, 1,2,3-	Water	550 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
52-68-6	Trichlorfon	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
52756-25-9	Flamprop-methyl	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
528-29-0	Dinitrobenzene, 1,2-	Water	19 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
52918-63-5	Deltamethrin	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
531-82-8	Furium	Water	0.51 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
534-52-1	Dinitro-o-cresol, 4,6-	Water	15 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
53469-21-9	~Aroclor 1242	Water	0.078 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
53-70-3	~Dibenz[a,h]anthracene	Water	0.25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
53-96-3	Acetylaminofluorene, 2-	Water	0.16 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
540-59-0	1,2-dichloroethene	Water	0.6 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
540-73-8	Dimethylhydrazine, 1,2-	Water	0.00028 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
541-25-3	Lewisite	Water	0.9 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
542-75-6	Dichloropropene, 1,3-	Water	4.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
542-88-1	Bis(chloromethyl)ether	Water	0.00072 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
5436-43-1	Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	Water	20 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
544-92-3	~Copper Cyanide	Water	1000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
54749-90-5	Chlorozotocin	Water	0.0032 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
55-18-5	Nitrosodiethylamine, N-	Water	0.0017 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
55290-64-7	Dimethipin	Water	4400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
55335-06-3	Triclopyr	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
55-38-9	Fenthion	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
55-63-0	Nitroglycerin	Water	20 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
556-88-7	Nitroguanidine	Water	20000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
557-21-1	~Zinc Cyanide	Water	10000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
5598-13-0	Chlorpyrifos Methyl	Water	1200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
56-23-5	Carbon Tetrachloride	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
563-12-2	Ethion	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
56-35-9	tributyltin oxide	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
563-68-8	Thallium Acetate	Water	2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
56-38-2	Parathion	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
56425-91-3	Flurprimidol	Water	6900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
56-49-5	Methylcholanthrene, 3-	Water	0.011 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
56-53-1	Diethylstilbestrol	Water	0.00051 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
56-55-3	~Benz[a]anthracene	Water	0.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
57-12-5	Cyanide	Water	0.8 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
57-14-7	Dimethylhydrazine, 1,1-	Water	0.042 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
57-24-9	Strychnine	Water	59 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
57465-28-8	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	Water	1.2E-05 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
57-55-6	Propylene Glycol	Water	4000000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
576-26-1	Dimethylphenol, 2,6-	Water	110 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
57835-92-4	~Nitropyrene, 4-	Water	0.19 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
57837-19-1	metalaxyl	Water	1 mg/L	NZ Drinking Water 2008 (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
57-97-6	~Dimethylbenz(a)anthracene, 7,12-	Water	0.001 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
58138-08-2	Tridiphane	Water	180 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
58-89-9	Lindane	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
58-90-2	Tetrachlorophenol, 2,3,4,6-	Water	2400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
5902-51-2	Terbacil	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
591-27-5	Aminophenol, m-	Water	16000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
5915-41-3	Terbuthylazine	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
591-78-6	Hexanone, 2-	Water	380 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
592-01-8	~Calcium Cyanide	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
593-60-2	Vinyl Bromide	Water	3.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
59-50-7	Cresol, p-chloro-m-	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
59682-52-9	Fosamine	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
59756-60-4	Fluridone	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
59-87-0	Nitrofurazone	Water	0.6 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
598-77-6	Trichloropropane, 1,1,2-	Water	880 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
59-89-2	Nitrosomorpholine [N-]	Water	0.12 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60-00-4	EDTA (Edetic Acid)	Water	6 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
60-11-7	Dimethylamino azobenzene [p-]	Water	0.05 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60168-88-9	Fenarimol	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
60207-90-1	Propiconazole	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
60238-56-4	Chlorthiophos	Water	28 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60-29-7	Ethyl Ether	Water	39000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60-34-4	Methyl Hydrazine	Water	0.056 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60348-60-9	Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	Water	20 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60-51-5	Dimethoate	Water	0.07 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
60568-05-0	Furmecyclox	Water	11 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
60-57-1	Dieldrin	Water	0.018 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
606-20-2	Dinitrotoluene, 2,6-	Water	0.49 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
608-73-1	Hexachlorocyclohexane, Technical	Water	0.25 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
608-93-5	Pentachlorobenzene	Water	32 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
615-45-2	Methyl-1,4-benzenediamine dihydrochloride, 2-	Water	60 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
615-50-9	Methylbenzene-1,4-diamine sulfate, 2-	Water	7.8 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
615-54-3	Tribromobenzene, 1,2,4-	Water	450 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
616-23-9	Dichloropropanol, 2,3-	Water	590 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
617-84-5	Diethylformamide	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
61-82-5	Amitrole	Water	0.009 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
621-64-7	Nitroso-di-N-propylamine, N-	Water	0.11 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
62-38-4	~Phenylmercuric Acetate	Water	16 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
62-44-2	Phenacetin	Water	340 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
62476-59-9	Sodium Acifluorfen	Water	2600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
624-83-9	Methyl Isocyanate	Water	21 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
62-53-3	Aniline	Water	130 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
62-73-7	Dichlorvos	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
62-74-8	Sodium Fluoroacetate	Water	4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
62-75-9	N-Nitrosodimethylamine (NDMA)	Water	0.001 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
630-20-6	Tetrachloroethane, 1,1,1,2-	Water	5.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
63-25-2	Carbaryl	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
634-93-5	Trichloroaniline, 2,4,6-	Water	4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
636-21-5	Methylaniline Hydrochloride, 2-	Water	6 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
6369-59-1	Benzenediamine-2-methyl sulfate, 1,4-	Water	7.8 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
640-15-3	Thiometon	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
64-18-6	Formic Acid	Water	6.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
64724-95-6	Naphtha, High Flash Aromatic (HFAN)	Water	1500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
64902-72-3	Chlorsulfuron	Water	2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
65195-55-3	Avermectin B1	Water	80 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
6533-73-9	Thallium Carbonate	Water	4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
65510-44-3	~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
65-85-0	Benzoic Acid	Water	750000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
66215-27-8	Cyromazine	Water	99000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
66230-04-4	Esfenvalerate	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
66-27-3	Methyl methanesulfonate	Water	7.9 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
66332-96-5	Flutolanil	Water	79000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
66841-25-6	Tralomethrin	Water	1500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67-20-9	Nitrofurantoin	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67-45-8	Furazolidone	Water	0.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67485-29-4	Hydramethylnon	Water	3400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67-56-1	Methanol	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67-63-0	Isopropanol	Water	4100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67-64-1	Acetone	Water	180000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67-66-3	Chloroform	Water	3 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
67-72-1	Hexachloroethane	Water	3.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
67747-09-5	Prochloraz	Water	3.8 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
680-31-9	Hexamethylphosphoramide	Water	80 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
68085-85-8	Cyhalothrin	Water	200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
68-12-2	Dimethylformamide	Water	610 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
68333-79-9	~Ammonium polyphosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
68359-37-5	Cyfluthrin,Beta-cyfluthrin	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
684-93-5	Nitroso-N-methylurea, N-	Water	0.0021 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
68631-49-2	Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	Water	40 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
688-73-3	Tri-n-butyltin	Water	37 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
68915-31-1	~Sodium polyphosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
69004-03-1	Toltrazuril	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
6923-22-4	Monocrotophos	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
69409-94-5	Fluvalinate	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
69782-90-7	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
69806-40-2	Haloxyfop	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
70-25-7	Methyl-N-nitro-N-nitrosoguanidine, N-	Water	0.094 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
70-30-4	Hexachlorophene	Water	60 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
70362-50-4	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	Water	0.004 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
709-98-8	Propanil	Water	7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
71-36-3	Butanol, N-	Water	20000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
71-43-2	Benzene	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
71-55-6	Trichloroethane, 1,1,1-	Water	80000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
72178-02-0	Fomesafen	Water	1900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
72-20-8	Endrin	Water	0.006 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
72-43-5	Methoxychlor	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
72-54-8	DDD	Water	0.32 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
72-55-9	DDE, p,p'-	Water	0.46 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7287-19-6	Prometryn	Water	6000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7320-34-5	~Tetrapotassium phosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
732-11-6	Phosmet	Water	3700 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74051-80-2	Sethoxydim	Water	16000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74-11-3	Chlorobenzoic Acid, p-	Water	5100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74115-24-5	Clofentezine	Water	2300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74223-64-6	Metsulfuron-methyl	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
74-31-7	N,N'-Diphenyl-1,4-benzenediamine	Water	36 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7439-92-1	Lead	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7439-93-2	Lithium	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7439-96-5	Manganese	Water	5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7439-97-6	Mercury	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7439-98-7	Molybdenum	Water	0.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-02-0	Nickel Soluble Salts	Water	3900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-22-4	Silver	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-24-6	Strontium, Stable	Water	120000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-28-0	Thallium (Soluble Salts)	Water	2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-31-5	Tin	Water	120000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-33-7	Tungsten	Water	160 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-36-0	Antimony	Water	0.03 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-38-2	Arsenic	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-39-3	Barium	Water	20 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-41-7	Beryllium	Water	0.6 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-42-8	Boron	Water	40 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-43-9	Cadmium	Water	0.02 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-47-3	Chromium	Water	0.5 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
7440-48-4	Cobalt	Water	60 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-50-8	Copper	Water	20 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-61-1	Uranium	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7440-62-2	Vanadium and Compounds	Water	860 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7440-67-7	Zirconium	Water	16 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7446-11-9	Sulfur Trioxide	Water	21 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7446-18-6	Thallium Sulfate	Water	4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7446-27-7	~Lead Phosphate	Water	91 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7446-34-6	Selenium Sulfide	Water	1000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74472-37-0	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	Water	0.04 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74612-12-7	Methylbenzene,1-4-diamine monohydrochloride, 2-	Water	40 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74-83-9	Methyl bromide	Water	0.01 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
74-87-3	Chloromethane	Water	1900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7487-94-7	~Mercuric Chloride (and other Mercury salts)	Water	57 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74-90-8	~Hydrogen Cyanide	Water	15 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74-95-3	Dibromomethane (Methylene Bromide)	Water	83 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
74-97-5	Bromochloromethane	Water	830 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-00-3	Ethyl Chloride (Chloroethane)	Water	83000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-01-4	Vinyl chloride	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
75-05-8	Acetonitrile	Water	1300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-07-0	Acetaldehyde	Water	26 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-09-2	Dichloromethane (methylene chloride)	Water	0.04 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
75-15-0	Carbon Disulfide	Water	8100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-21-8	Ethylene Oxide	Water	0.0067 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-25-2	Bromoform	Water	1 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
75-27-4	Bromodichloromethane	Water	0.6 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
75-34-3	Dichloroethane, 1,1-	Water	28 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-35-4	1,1-dichloroethene	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
75-37-6	Difluoroethane, 1,1-	Water	830000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-45-6	Chlorodifluoromethane	Water	1000000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7550-45-0	Titanium Tetrachloride	Water	2.1 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-52-5	Nitromethane	Water	6.4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7553-56-2	Iodine	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-56-9	Propylene Oxide	Water	2.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7558-79-4	~Disodium phosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7558-80-7	~Monosodium phosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-60-5	Cacodylic Acid	Water	4000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
756-79-6	Dimethyl methylphosphonate	Water	460 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-68-3	Chloro-1,1-difluoroethane, 1-	Water	1000000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-69-4	Trichlorofluoromethane	Water	52000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-71-8	Dichlorodifluoromethane	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-85-4	Amyl Alcohol, tert-	Water	63 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-87-6	Chloral hydrate (Trichloroacetaldehyde)	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
759-73-9	Nitroso-N-ethylurea, N-	Water	0.0092 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
75-99-0	2,2-DPA	Water	5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
759-94-4	EPTC	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7601-54-9	~Trisodium phosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
76-01-7	Pentachloroethane	Water	6.5 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7601-89-0	~Sodium Perchlorate	Water	140 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
76-03-9	Trichloroacetic acid	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
76-06-2	Chloropicrin	Water	8.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
76-13-1	Trichloro-1,2,2-trifluoroethane, 1,1,2-	Water	100000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7637-07-2	Boron Trifluoride	Water	260 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
764-41-0	Dichloro-2-butene, 1,4-	Water	0.013 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
76-44-8	Heptachlor	Water	0.003 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7647-01-0	Hydrogen Chloride	Water	420 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
765-34-4	Glycidyl	Water	17 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
76578-14-8	Quizalofop-ethyl	Water	1200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7664-38-2	Phosphoric Acid	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7664-39-3	Hydrogen Fluoride	Water	280 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
76738-62-0	Paclobutrazol	Water	2300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7681-49-4	Sodium Fluoride	Water	10000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
77182-82-2	Glufosinate, Ammonium	Water	1200 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7722-76-1	~Monoammonium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7722-88-5	~Tetrasodium pyrophosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
77-47-4	Hexachlorocyclopentadiene	Water	4.1 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
77501-63-4	Lactofen	Water	1000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7757-86-0	~Monomagnesium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7757-87-1	~Trimagnesium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7757-93-9	~Dicalcium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7758-16-9	~Sodium acid pyrophosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7758-23-8	~Monocalcium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7758-29-4	~Sodium tripolyphosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7758-87-4	~Tricalcium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7758-97-6	~Lead Chromate	Water	0.41 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7773-06-0	Ammonium Sulfamate	Water	40000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
77-73-6	Dicyclopentadiene	Water	6.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7778-53-2	~Tripotassium phosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7778-74-7	~Potassium Perchlorate	Water	140 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7778-77-0	~Monopotassium phosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7782-41-4	Fluorine (Soluble Fluoride)	Water	12000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7782-49-2	Selenium	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7782-50-5	Chlorine	Water	50 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7782-75-4	~Dimagnesium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7783-00-8	Selenious Acid	Water	1000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7783-28-0	~Diammonium phosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7784-42-1	Arsine	Water	0.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7785-84-4	~Sodium trimetaphosphate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7785-88-8	~Sodium aluminum phosphate (acidic)	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7786-34-7	Mevinphos	Water	0.05 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7790-76-3	~Calcium pyrophosphate	Water	9700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7790-98-9	~Ammonium Perchlorate	Water	140 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7791-12-0	Thallium Chloride	Water	2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-00-2	~Tetraethyl Lead	Water	0.013 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
7803-51-2	Phosphine	Water	5.7 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-11-5	Pentaerythritol tetranitrate (PETN)	Water	170 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-42-2	Tris(2-ethylhexyl)phosphate	Water	240 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-48-8	Merphos Oxide	Water	2.8 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78587-05-0	Hexythiazox	Water	1100 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-59-1	Isophorone	Water	780 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
786-19-6	Carbophenothion	Water	0.005 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
78-83-1	Isobutyl Alcohol	Water	7300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-87-5	Dichloropropane, 1,2-	Water	8.5 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
78-92-2	Butyl alcohol, sec-	Water	240000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79-00-5	Trichloroethane, 1,1,2-	Water	2.8 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79-01-6	Trichloroethene	Water	0.2 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
79-06-1	Acrylamide	Water	0.002 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
79-10-7	Acrylic Acid	Water	4.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79-11-8	Chloroacetic acid	Water	1.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
791-28-6	Triphenylphosphine Oxide	Water	3600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79-20-9	Methyl Acetate	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79277-27-3	Thifensulfuron-methyl	Water	8600 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79-34-5	Tetrachloroethane, 1,1,2,2-	Water	0.76 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
79-43-6	Dichloroacetic acid	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
79-46-9	Nitropropane, 2-	Water	0.097 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
8001-35-2	Toxaphene	Water	0.71 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
80-05-7	Bisphenol A	Water	7700 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
80-07-9	Sulfonylbis(4-chlorobenzene), 1,1'-	Water	110 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
8012-95-1	Mineral oils	Water	600000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
8017-16-1	~Polyphosphoric acid	Water	200000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
8018-01-7	Mancozeb	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
80-62-6	Methyl Methacrylate	Water	14000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
8065-48-3	Demeton	Water	4.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
811-97-2	Tetrafluoroethane, 1,1,1,2-	Water	1700000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
81334-34-1	Imazapyr	Water	90 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
81335-77-5	Imazethapyr	Water	470000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
81-81-2	Warfarin	Water	56 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
82097-50-5	Triasulfuron	Water	2000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
822-06-0	Hexamethylene Diisocyanate, 1,6-	Water	0.21 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
82558-50-7	Isoxaben	Water	7300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
82657-04-3	Biphenthrin	Water	3000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
82-68-8	Quintozene	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
83055-99-6	Bensulfuron-methyl	Water	39000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
83-32-9	~Acenaphthene	Water	5300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
834-12-8	Ametryn	Water	0.7 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
83-79-4	Rotenone	Water	610 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
84-65-1	Anthraquinone, 9,10-	Water	14 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
84-66-2	~Diethyl Phthalate	Water	150000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
84-72-0	Ethylphthalyl Ethyl Glycolate	Water	580000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
84-74-2	~Dibutyl Phthalate	Water	9000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
85-44-9	~Phthalic Anhydride	Water	390000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
85509-19-9	Flusilazole	Water	310 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
85-68-7	Butyl Benzyl Phthalate	Water	160 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
85-70-1	~Butylphthalyl Butylglycolate	Water	130000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
86-30-6	Nitrosodiphenylamine, N-	Water	120 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
86-50-0	Azinphos-methyl	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
86-73-7	~Fluorene	Water	2900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
87-61-6	Trichlorobenzene, 1,2,3-	Water	70 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
87-68-3	Hexachlorobutadiene	Water	0.007 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
87-82-1	Hexabromobenzene	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
87-84-3	Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	Water	28 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
87-86-5	Pentachlorophenol	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
88-06-2	2,4,6-trichlorophenol	Water	0.2 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
886-50-0	Terbutryn	Water	4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
88671-89-0	Myclobutanil	Water	4500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
88-72-2	Nitrotoluene, o-	Water	3.1 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
88-73-3	Chloronitrobenzene, o-	Water	2.4 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
88-74-4	Nitroaniline, 2-	Water	1900 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
88-85-7	Dinoseb	Water	150 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
88-89-1	Picric Acid (2,4,6-Trinitrophenol)	Water	400 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
9004-70-0	Nitrocellulose	Water	600000000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
9006-42-2	Metiram	Water	0.09 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
90-12-0	~Methylnaphthalene, 1-	Water	0.063 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
90-43-7	Phenylphenol, 2-	Water	300 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
90-98-2	Dichlorobenzophenone, 4,4'-	Water	780 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
90982-32-4	Chlorimuron, Ethyl-	Water	18000 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
91-20-3	~Naphthalene	Water	1.2 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
91-22-5	Quinoline	Water	0.24 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
91-57-6	~Methylnaphthalene, 2-	Water	360 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
91-58-7	~Chloronaphthalene, Beta-	Water	7500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
91-59-8	Naphthylamine, 2-	Water	0.39 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
91-94-1	Dichlorobenzidine, 3,3'-	Water	1.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
924-16-3	Nitroso-di-N-butylamine, N-	Water	0.027 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
92-52-4	Biphenyl, 1,1'-	Water	8.3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
92-67-1	Aminobiphenyl, 4-	Water	0.03 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
92-84-2	Phenothiazine	Water	43 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
92-87-5	Benzidine	Water	0.0011 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
930-55-2	Nitrosopyrrolidine, N-	Water	0.37 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
93-65-2	Mecoprop	Water	0.1 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
93-72-1	Fenoprop	Water	0.1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
93-76-5	2,4,5-T	Water	1 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
944-22-9	Fonofos	Water	240 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
94-58-6	Dihydrosafrole	Water	3 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
94-59-7	Safrole	Water	0.96 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)
94-74-6	MCPA	Water	0.4 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
94-75-7	2,4-D (2,4-Dichlorophenoxy) acetic acid	Water	0.3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
94-81-5	MCPB	Water	6500 µg/L	US EPARSL NOV2024 - Tap Water Quality (AF x 10)

Table C3 - Tier 1 Groundwater Criteria - Recreation (Primary/Secondary)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
94-82-6	2,4-DB	Water	0.9 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
950-10-7	Mephosfolan	Water	18 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
950-37-8	Methidathion	Water	0.06 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
95-47-6	Xylene, o-	Water	1900 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-48-7	Cresol, o-	Water	9300 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-49-8	Chlorotoluene, o-	Water	2400 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-50-1	1,2-dichlorobenzene	Water	15 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
95-54-5	Phenylenediamine, o-	Water	2.1 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-57-8	2-chlorophenol	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
95-63-6	Trimethylbenzene, 1,2,4-	Water	560 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-65-8	Dimethylphenol, 3,4-	Water	180 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-68-1	Dimethylaniline, 2,4-	Water	3.7 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-69-2	Chloro-2-methylaniline, 4-	Water	7 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-70-5	Toluene-2,5-diamine	Water	4.3 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
957-51-7	Diphenamid	Water	3 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
95-94-3	Tetrachlorobenzene, 1,2,4,5-	Water	1.7 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
95-95-4	Trichlorophenol, 2,4,5-	Water	12000 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
961-11-5	Stirofos (Tetrachlorovinphos)	Water	28 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
96-12-8	Dibromo-3-chloropropane, 1,2-	Water	0.0033 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
96-18-4	Trichloropropane, 1,2,3-	Water	0.0075 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
96-19-5	Trichloropropene, 1,2,3-	Water	6.2 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
96-33-3	Methyl Acrylate	Water	420 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
96-45-7	Ethylene Thiourea	Water	16 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
96-91-3	Picramic Acid (2-Amino-4,6-dinitrophenol)	Water	20 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
97-63-2	Ethyl Methacrylate	Water	6300 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-01-1	Furfural	Water	380 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-06-6	Butylbenzene, tert-	Water	6900 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-07-7	Benzotrichloride	Water	0.03 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-56-6	Chlorobenzotrifluoride, 4-	Water	6.5 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-82-8	Cumene	Water	4500 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-83-9	Methylstyrene, Alpha-	Water	7800 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-86-2	Acetophenone	Water	19000 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
98-95-3	Nitrobenzene	Water	1.4 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
99-08-1	Nitrotoluene, m-	Water	17 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
993-13-5	Methyl Phosphonic Acid	Water	12000 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
99-35-4	Trinitrobenzene, 1,3,5-	Water	5900 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
99-55-8	Methyl-5-Nitroaniline, 2-	Water	82 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
99-59-2	Methoxy-5-nitroaniline, 2-	Water	15 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
99-65-0	Dinitrobenzene, 1,3-	Water	20 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
99-99-0	Nitrotoluene, p-	Water	43 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
DDT+DDE+DDD	DDT + isomers	Water	0.01 mg/L	NZ Drinking Water 2008 (AF x 10)
E.Coli	Escherichia coli	Water	10 cfu/100 ml	NZ Drinking Water 2008 (AF x 10)
Lead-210	Lead-210	Water	2 Bq/L	Guidelines for Canadian Drinking Water (2014) MAC (AF x 10)
Nickel Dust	Nickel Refinery Dust	Water	2200 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
Radium-226	Radium-226	Water	5 Bq/L	Guidelines for Canadian Drinking Water (2014) MAC (AF x 10)
TOTALPAH	Sum of PAHs	Water	0.1 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
TotalTHM	Total THMs	Water	10 mg/L	WHO (2011) Drinking Water Guidelines (AF x 10)
TPH_AliphaticLow	Total Petroleum Hydrocarbons (Aliphatic Low)	Water	280 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
TPH_AliphaticMed	Total Petroleum Hydrocarbons (Aliphatic Medium)	Water	1000 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
TPH_AromaticHigh	Total Petroleum Hydrocarbons (Aromatic High)	Water	60 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
TPH_AromaticLow	Total Petroleum Hydrocarbons (Aromatic Low)	Water	330 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
TPH_AromaticMed	Total Petroleum Hydrocarbons (Aromatic Medium)	Water	570 µg/L	US EPARSL NOV 2024 - Tap Water Quality (AF x 10)
Trihalomethanes	Trihalomethanes (thMs) (total)	Water	2.5 mg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-41-4	Ethylbenzene	Water	No Limit	CRC CARE 2011 HSL D - Sand 2 to <4m
108-88-3	Toluene	Water	No Limit	
1330-20-7	Xylenes	Water	No Limit	
71-43-2	Benzene	Water	4.9 mg/L	
91-20-3	Naphthalene	Water	No Limit	
C10-C12-Aliph	TRH >C10-C12 aliphatic	Water	4.83 mg/l	
C10-C12-Arom	TRH >C10-C12 aromatic	Water	242 mg/l	
C12-C16-Aliph	TRH >C12-C16 aliphatic	Water	6.03 mg/l	
C12-C16-Arom	TRH >C12-C16 aromatic	Water	452 mg/l	
C6-C8-Aliph	TRH >C6-C8 aliphatic	Water	132 mg/l	
C8-C10-Aliph	TRH >C8-C10 aliphatic	Water	4.02 mg/l	
C8-C10-Arom	TRH >C8-C10 aromatic	Water	189 mg/l	
F1-BTEX	C6-C10 less BTEX	Water	4.1 mg/L	
F2-NAPHTHALENE	>C10-C16 minus naphthalene (F2)	Water	4.8 mg/L	
74-82-8	Methane	Water	1600 µg/L	*Methane in UK Groundwater Research Overview*, United Kingdom Research and Innovation, 2024

Table C5 - Tier 1 Groundwater Criteria - Vapour Intrusion (Intrusive Maintenance Worker)
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-41-4	Ethylbenzene	Water	No Limit	CRC CARE 2011 IMW - Sand - 2-<4m
108-88-3	Toluene	Water	No Limit	
1330-20-7	Total Xylenes	Water	No Limit	
71-43-2	Benzene	Water	No Limit	
91-20-3	Naphthalene	Water	No Limit	
C10-C12-Aliph	TRH >C10-C12 aliphatic	Water	1390 mg/l	
C10-C12-Arom	TRH >C10-C12 aromatic	Water	69600 mg/l	
C12-C16-Aliph	TRH >C12-C16 aliphatic	Water	1740 mg/l	
C12-C16-Arom	TRH >C12-C16 aromatic	Water	129000 mg/l	
C6-C8-Aliph	TRH >C6-C8 aliphatic	Water	37900 mg/l	
C8-C10-Aliph	TRH >C8-C10 aliphatic	Water	1160 mg/l	
C8-C10-Arom	TRH >C8-C10 aromatic	Water	54300 mg/l	
F1-BTEX	TPH C6 - C10 Fraction	Water	No Limit	
F2-NAPHTHALENE	TPH >C10 - C16 Fraction	Water	No Limit	
74-82-8	Methane	Water	1600 µg/L	*Methane in UK Groundwater Research Overview*, United Kingdom Research and Innovation, 2024

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-41-4	Ethylbenzene	Water	No Limit	CRC CARE 2011 HSL C - Sand 2 to <4m
108-88-3	Toluene	Water	No Limit	
1330-20-7	Xylenes	Water	No Limit	
71-43-2	Benzene	Water	No Limit	
91-20-3	Naphthalene	Water	No Limit	
C10-C12-Aliph	TRH >C10-C12 aliphatic	Water	656 mg/l	
C10-C12-Arom	TRH >C10-C12 aromatic	Water	33000 mg/l	
C12-C16-Aliph	TRH >C12-C16 aliphatic	Water	820 mg/l	
C12-C16-Arom	TRH >C12-C16 aromatic	Water	61900 mg/l	
C6-C8-Aliph	TRH >C6-C8 aliphatic	Water	17900 mg/l	
C8-C10-Aliph	TRH >C8-C10 aliphatic	Water	547 mg/l	
C8-C10-Arom	TRH >C8-C10 aromatic	Water	25700 mg/l	
F1-BTEX	C6-C10 less BTEX	Water	No Limit	
F2-NAPHTHALENE	>C10-C16 minus naphthalene (F2)	Water	No Limit	
74-82-8	Methane	Water	1600 µg/L	*Methane in UK Groundwater Research Overview*, United Kingdom Research and Innovation, 2024

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-41-4	Ethylbenzene	Water	No Limit	CRC CARE 2011 HSL A&B - Sand 2 to <4 m
108-88-3	Toluene	Water	No Limit	
1330-20-7	Xylenes	Water	No Limit	
71-43-2	Benzene	Water	0.8 mg/L	
91-20-3	Naphthalene	Water	No Limit	
C10-C12-Aliph	TRH >C10-C12 aliphatic	Water	0.763 mg/l	
C10-C12-Arom	TRH >C10-C12 aromatic	Water	38.4 mg/l	
C12-C16-Aliph	TRH >C12-C16 aliphatic	Water	0.953 mg/l	
C12-C16-Arom	TRH >C12-C16 aromatic	Water	71.9 mg/l	
C6-C8-Aliph	TRH >C6-C8 aliphatic	Water	20.8 mg/l	
C8-C10-Aliph	TRH >C8-C10 aliphatic	Water	0.636 mg/l	
C8-C10-Arom	TRH >C8-C10 aromatic	Water	29.9 mg/l	
F1-BTEX	C6-C10 less BTEX	Water	0.64 mg/L	
F2-NAPHTHALENE	>C10-C16 minus naphthalene (F2)	Water	0.76 mg/L	
74-82-8	Methane	Water	1600 µg/L	*Methane in UK Groundwater Research Overview* , United Kingdom Research and Innovation, 2024

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
100-41-4	Ethylbenzene	Water	110 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
107-06-2	1,2-Dichloroethane	Water	2600 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
108-38-3	m-Xylene	Water	100 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
108-70-3	1,3,5-Trichlorobenzene	Water	20 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
108-88-3	Toluene	Water	230 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
108-90-7	Monochlorobenzene	Water	100 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
108-95-2	Phenol	Water	520 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability
115-29-7	Endosulfan	Water	0.02 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability
118-74-1	Hexachlorobenzene	Water	0.2 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
120-12-7	Anthracene	Water	1.5 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
120-82-1	1,2,4-Trichlorobenzene	Water	140 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability
127-18-4	1,1,2,2-Tetrachloroethylene	Water	100 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
142-28-9	1,3-Dichloropropane	Water	1400 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
16065-83-1	Chromium (CrIII)	Water	49 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability
18540-29-9	Chromium (CrVI)	Water	20 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very high reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
206-44-0	Fluoranthene	Water	1.7 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
2921-88-2	Chlorpyrifos	Water	0.04 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability. DGV may not protect key test species from acute (and chronic) toxicity. Check toxicant DGV technical brief for spread of data and its significance. This DGV is greater than the value for acute toxicity (Warne et al., 2018).
330-54-1	Diuron	Water	0.83 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - High reliability
3383-96-8	Temephos	Water	0.4 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability
50-32-8	Benzo(alpha)pyrene	Water	0.4 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
56-23-5	Carbon tetrachloride	Water	320 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
60617-06-3	Corexit 9527	Water	2200 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability
608-93-5	Pentachlorobenzene	Water	2.5 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
634-66-2	1,2,3,4-Tetrachlorobenzene	Water	6 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
634-90-2	1,2,3,5-Tetrachlorobenzene	Water	7 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
67-66-3	Chloroform	Water	1100 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability. DGV may not protect key test species from chronic toxicity. Check toxicant DGV technical brief and Read the detail, below, for spread of data and its significance.
688-73-3_as_Sn	Tributyltin	Water	0.02 µg Sn/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - High reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species).
71-43-2	Benzene	Water	900 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
71-55-6	1,1,1-Trichloroethane	Water	400 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
72-20-8	Endrin	Water	0.01 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability
7429-90-5	Aluminium	Water	72 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very high reliability
7439-92-1	Lead	Water	6.6 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
7439-97-6	Mercury (inorganic)	Water	0.7 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very high reliability
7440-02-0	Nickel	Water	200 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - High reliability
7440-22-4	Silver	Water	1.8 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
7440-43-9	Cadmium	Water	14 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - High reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
7440-47-3	Chromium (III+VI)	Water	20 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Guideline value for Cr(VI)
7440-48-4	Cobalt	Water	14 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - High reliability
7440-50-8	Copper	Water	3 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very high reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
7440-62-2	Vanadium	Water	160 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - High reliability
7440-66-6	Zinc	Water	12 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very high reliability
74-90-8	Cyanide	Water	7 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very Low reliability. Cyanide as un-ionised HCN, measured as [CN].
75-01-4	Chloroethylene	Water	140 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
75-09-2	Dichloromethane	Water	5000 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
75-35-4	1,1-Dichloroethylene	Water	900 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
76-01-7	Pentachloroethane	Water	120 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
7664-41-7 (as N)	Ammonia	Water	1200 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability. Ammonia as total ammonia, measured as [NH3-N] at pH 8.
78-87-5	1,2-Dichloropropane	Water	1200 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
78-99-9	1,1-Dichloropropane	Water	700 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
79-00-5	1,1,2-Trichloroethane	Water	5800 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Very Low reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
79-01-6	1,1,2-Trichloroethylene	Water	400 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
79-34-5	1,1,2,2-Tetrachloroethane	Water	500 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
80-05-7	Bisphenol A	Water	2.2 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability
85-01-8	Phenanthrene	Water	4 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
87-86-5	Pentachlorophenol	Water	33 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) -
9003-56-9	Poly(acrylonitrile-co-butadiene-co-styrene)	Water	280 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability
91-20-3	Naphthalene	Water	90 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Moderate reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
95-76-1	3,4-Dichloroaniline	Water	190 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Low reliability
95-94-3	1,2,4,5-Tetrachlorobenzene	Water	7 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
98-82-8	Cumene (isopropylbenzene)	Water	40 µg/L	ANZG (2018) Marine Water 90_LOSP Toxicant DGVs (June 2025) - Unknown reliability
100-42-5	Phenylethylene	Water	910 ug/L	R3 BTAG Marine Benchmarks
1024-57-3	heptachlor epoxide	Water	0.0036 ug/L	USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)
108-10-1	4-Methyl-2-pentanone	Water	123000 ug/L	R3 BTAG Marine Benchmarks
1330-20-7	Xylenes (total)	Water	19 ug/L	R3 BTAG Marine Benchmarks
1336-36-3	PCBs	Water	0.03 ug/L	USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)
1763-23-1	PFOS	Water	0.13 ug/l	PFAS National Environmental Management Plan
18496-25-8 (as H2S)	sulfide-hydrogen sulfide	Water	2 ug/L	USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)
319-84-6	BHC, alpha	Water	25 ug/L	R3 BTAG Marine Benchmarks
335-67-1	PFOA	Water	220 ug/l	PFAS National Environmental Management Plan
540-59-0	1,2-Dichloroethene (1,2-Dichloroethylene)	Water	680 ug/L	R3 BTAG Marine Benchmarks
62-75-9	N-Nitrosodimethylamine	Water	330000 ug/L	R3 BTAG Marine Benchmarks
7440-38-2	arsenic	Water	36 ug/L	USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)
75-25-2	Bromoform	Water	640 ug/L	R3 BTAG Marine Benchmarks
7723-14-0	Phosphorus	Water	0.1 ug/L	R3 BTAG Marine Benchmarks
95-48-7	2-Methylphenol	Water	1020 ug/L	R3 BTAG Marine Benchmarks
95-63-6	1,2,4-Trimethylbenzene	Water	19 ug/L	R3 BTAG Marine Benchmarks
C10-C36	C10 - C36 (Sum of Total)	Water	600 ug/L	RIVM (2001) Dutch Intervention Value
C10-C40	>C10 - C40 (Sum of Total)	Water	600 ug/L	RIVM (2001) Dutch Intervention Value
pH_Lab	pH	Water	6.5 - 9 pH Units	USEPA (2013) Water Quality Criteria - Aquatic Life (Chronic, Marine)

ChemCode	ChemName	MatrixType	Adopted Criteria	Comments
107-02-8	Acrolein	Water	0.1 mg/L	ANZECC (2000) Agriculture, Parks & Gardens - STV
16984-48-8	Fluoride	Water	2 mg/L	
330-54-1	diuron	Water	0.002 mg/L	
61-82-5	Amitrol	Water	0.002 mg/L	
7429-90-5	Aluminium	Water	20 mg/L	
7439-89-6	Iron	Water	10 mg/L	
7439-92-1	Lead	Water	5 mg/L	
7439-93-2	Lithium	Water	2.5 mg/L	
7439-96-5	Manganese	Water	10 mg/L	
7439-97-6	Mercury	Water	0.002 mg/L	
7439-98-7	Molybdenum	Water	0.05 mg/L	
7440-02-0	Nickel	Water	2 mg/L	
7440-38-2	Arsenic	Water	2 mg/L	
7440-41-7	Beryllium	Water	0.5 mg/L	
7440-42-8	Boron	Water	0.5 mg/L	
7440-43-9	Cadmium	Water	0.05 mg/L	
7440-47-3	Chromium	Water	1 mg/L	
7440-48-4	Cobalt	Water	0.1 mg/L	
7440-50-8	Copper	Water	5 mg/L	
7440-61-1	Uranium	Water	0.1 mg/L	
7440-62-2	Vanadium	Water	0.5 mg/L	
7440-66-6	Zinc	Water	5 mg/L	
75-99-0	2,2-DPA (Dalapon)	Water	0.004 mg/L	
7723-14-0	Phosphorous	Water	0.8 mg/L	
7727-37-9	Nitrogen	Water	25 mg/L	
7782-49-2	Selenium	Water	0.05 mg/L	

ChemCode	ChemName	MatrixType	Adopted Criteria	Comments
14797-55-8	Nitrate	Water	400 mg/L	ANZECC (2000) Stock Watering
14797-65-0	Nitrite	Water	30 mg/L	ANZECC (2000) Stock Watering
14808-79-8	Sulphate	Water	2000 mg/L	ANZECC (2000) Stock Watering
16984-48-8	Fluoride	Water	2 mg/L	ANZECC (2000) Stock Watering
1763-23-1	PFOS	Water	0.08 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
335-67-1	PFOA	Water	2 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
355-46-4	PFHxS	Water	0.3 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
355-46-4/1763-23-1	Sum of PFOS and PFHxS	Water	2 µg/L	PFAS NEMP 3.0 2025
375-73-5	Perfluorobutanesulfonic acid (PFBS)	Water	10 µg/L	NHMRC ADWG (amended 2025) Human Health (AF x 10)
7429-90-5	Aluminium	Water	5 mg/L	ANZECC (2000) Stock Watering
7439-92-1	Lead	Water	0.1 mg/L	ANZECC (2000) Stock Watering
7439-97-6	Mercury	Water	0.002 mg/L	ANZECC (2000) Stock Watering
7439-98-7	Molybdenum	Water	0.15 mg/L	ANZECC (2000) Stock Watering
7440-02-0	Nickel	Water	1 mg/L	ANZECC (2000) Stock Watering
7440-38-2	Arsenic	Water	0.5 mg/L	ANZECC (2000) Stock Watering
7440-42-8	Boron	Water	5 mg/L	ANZECC (2000) Stock Watering
7440-43-9	Cadmium	Water	0.01 mg/L	ANZECC (2000) Stock Watering
7440-47-3	Chromium	Water	1 mg/L	ANZECC (2000) Stock Watering
7440-48-4	Cobalt	Water	1 mg/L	ANZECC (2000) Stock Watering
7440-50-8	Copper	Water	0.4 mg/L	ANZECC (2000) Stock Watering
7440-61-1	Uranium	Water	0.2 mg/L	ANZECC (2000) Stock Watering
7440-61-1	Uranium	Water	0.2 Bq/L	ANZECC (2000) Stock Watering
7440-66-6	Zinc	Water	20 mg/L	ANZECC (2000) Stock Watering
7440-70-2	Calcium	Water	1000 mg/L	ANZECC (2000) Stock Watering
7782-49-2	Selenium	Water	0.02 mg/L	ANZECC (2000) Stock Watering
Radium-226	Radium 226	Water	5 Bq/L	ANZECC (2000) Stock Watering
Radium-228	Radium 228	Water	2 Bq/L	ANZECC (2000) Stock Watering

Table C11 - Tier 1 Groundwater Criteria - Buildings and Structures
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria	Source
14808-79-8_Turb	Sulfate (as SO4)	Water	1000 mg/L	AS2159-2009 - Buildings and Structures
16887-00-6	Chloride	Water	6000 mg/L	

Table C12 - Groundwater Criteria - Remediation Criteria
Groundwater Quality Management Plan
Macquarie Point Development Project

ChemCode	ChemName	MatrixType	Adopted Criteria								Source
			Potential Future Residents (slab-on-grade with unknown construction or multi-storey building)	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) *	Potential Future Commercial/Light Industrial Workers (low rise slab-on-grade)	Potential Future Commercial/Light Industrial Workers (Working within a basement car park)	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers	
50-32-8	Benzo(a)pyrene		No value	No value	No value	No value	No value	0.05	No value	No value	*Review of Site Specific Remediation Criteria 2025, Macquarie Point*, AECOM Australia Pty Ltd, 10 October 2025
91-20-3	Naphthalene	Water	2	3	7	12	28	6	No Limit	No Limit	
71-43-2	Benzene	Water	0.8	0.8	6	5	9	5	No Limit	No Limit	
108-88-3	Toluene	Water	No Limit	No Limit	No Limit	No Limit	No Limit	5,500	No Limit	No Limit	
100-41-4	Ethylbenzene	Water	No Limit	No Limit	No Limit	No Limit	No Limit	1,600	No Limit	No Limit	
1330-20-7	Xylenes (total)	Water	No Limit	No Limit	No Limit	No Limit	No Limit	2,800	No Limit	No Limit	
C6-C8-Aliph	TPH C6-C8 (Aliphatic)	Water	No Limit	No Limit	No Limit	No Limit	No Limit	16,000	No Limit	No Limit	
C8-C10-Aliph	TPH >C8-C10 (Aliphatic)	Water	No Limit	No Limit	No Limit	No Limit	No Limit	79	No Limit	No Limit	
C8-C10-Arom	TPH >C8-C10 (Aromatic)	Water	30	30	No Limit	No Limit	No Limit	360	No Limit	No Limit	
C10-C12-Aliph	TPH >C10-C12 (Aliphatic)	Water	No Limit	No Limit	No Limit	No Limit	No Limit	40	No Limit	No Limit	
C10-C12-Arom	TPH >C10-C12 (Aromatic)	Water	No Limit	No Limit	No Limit	No Limit	No Limit	190	No Limit	No Limit	
C12-C16-Aliph	TPH >C12-C16 (Aliphatic)	Water	No Limit	No Limit	No Limit	No Limit	No Limit	67	No Limit	No Limit	
C12-C16-Arom	TPH >C12-C16 (Aromatic)	Water	No Limit	No Limit	No Limit	No value	No value	160	No Limit	No Limit	
Aliphatic>C16-C21	TPH >C16-C21 (Aliphatic)	Water	No value	No value	No value	No value	No value	3,300	No value	No value	
CWG-ARE3	TPH >C16-C21 (Aromatic)	Water	No value	No value	No value	No value	No value	94	No value	No value	
C21-C34-Aliph	TPH >C21-C34 (Aliphatic)	Water	No value	No value	No value	No value	No value	3,300	No value	No value	
C21-C34-Arom	TPH >C21-C34 (Aromatic)	Water	No value	No value	No value	No value	No value	39	No value	No value	
C34-C40-Aliph	TPH >C34-C40 (Aliphatic)	Water	No value	No value	No value	No value	No value	3,300	No value	No value	
C34-C40-Arom	TPH >C34-C40 (Aromatic)	Water	No value	No value	No value	No value	No value	39	No value	No value	
105-67-9	Dimethylphenol, 2,4-	Water	No value	No value	No value	No value	No value	1,300	No value	No value	
95-48-7	Methylphenol-2 (cresol, o-)	Water	No value	No value	No value	No value	No value	4,300	No value	No value	
108-39-4	Methylphenol-3 (cresol, m-)	Water	No value	No value	No value	No value	No value	4,200	No value	No value	
106-44-5	Methylphenol-4 (cresol, p-)	Water	No value	No value	No value	No value	No value	4,300	No value	No value	
62-53-3	Aniline	Water	No value	No value	No value	No value	No value	890	No value	No value	
132-64-9	Dibenzofuran	Water	No value	No value	No value	No value	No value	8	No value	No value	
100-42-5	Styrene	Water	96	99	No Limit	No Limit	No Limit	160	No Limit	No Limit	

Appendix D

AECOM Standard Operating Procedures

Appendix D AECOM Standard Operating Procedures

Attached Standard Operating Procedures

Q4AN-EV-402 – Groundwater Well Development

Q4AN-EV-407 – Groundwater Sampling – Low Flow Pump

Q4AN-EV-414 – NAPL and Groundwater Gauging

FQM - Groundwater Well Development

Q4AN(EV)-402-PR1

1.0 Purpose and Scope

To develop groundwater monitoring wells appropriately to ensure a representative sample of the groundwater quality can be obtained, accurate aquifer parameters can be determined and/or to maximise well efficiency.

This Fieldwork Instruction (FI) describes the broad methodology for groundwater well development. The aim is to remove from the annulus, between the screen and hole wall, clays or compacted material resulting from the drilling operations, as well as the fine material from the water-bearing formation itself[1]. Well development is necessary to remove the finer grained material from the well screens and gravel pack that may otherwise interfere with water quality analyses, and to improve the hydraulic efficiency and characteristics of the gravel pack or hydrologic unit adjacent to the well screens. The methods of development may vary according to the physical characteristics of the hydrological units in which the monitoring well is screened and with the drilling method used. Well development may be undertaken by a variety of techniques, including the following:

- Bailing (see FQM Groundwater Sampling – Bailer – ANZ - ENV)
- Power Pack or Waterra Footvalve pumps (e.g. Waterra) with surge block (see FQM - Groundwater Sampling – Hydrasleeve – ANZ - ENV – in preparation)
- Suction pumps
- Airlifting (not to be used for groundwater monitoring wells)

The choice of well development method will depend upon factors such as the well design (diameter and depth), drilling technique and well purpose (production or monitoring).

2.0 References

a. ANZECC and National Health and Medical Research Council (NH&MRC) (January, 1992) Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites

b. AS4482.1-2005 *Guide to the sampling and investigation of potentially contaminated soil Part 1: Non-volatile and semi-volatile compounds*

c. AS4482.1-2005 *Guide to the sampling and investigation of potentially contaminated soil Part 2: Volatile substances*

d. EPA Publication 441 (*A Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes).*

e. EPA Publication 669 *(Groundwater Sampling Guidelines)*, April 2000.

f. EPA Victoria, SEPP, Prevention and Management of Contamination of Land, State Government of Victoria, June 2002

g. National Environment Protection Council (NEPC) (December, 1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) Guideline on the Investigation Levels for Soil and Groundwater

h. NEPC, 2009. National Environmental Protection (Assessment of site contamination) Measure. Schedule B (2): Guideline on data collection, sample design and reporting. National Environment Protection Council, Canberra.

i. National Uniform Drillers Licensing Committee (NUDLC), Minimum Construction Requirements for Water Bores in Australia 2011 (3rd Edition February 2012).

j. FQM Photo-Ionisation Detector (PID) – ANZ - ENV Q4AN(EV)-003-PR1.

k. FQM Lower Explosive Limit (LEL) Monitoring – ANZ - ENV Q4AN(EV)-004-PR1

l. FQM Groundwater Sampling Methodologies – ANZ - ENV Q4AN(EV)-405-PR1

[1] National Uniform Drillers Licensing Committee (NUDLC), Minimum Construction Requirements for Water Bores in Australia 2011 (3rd Edition February 2012).

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m. FQM Groundwater Sampling – Bailer – ANZ - ENV Q4AN(EV)-406-PR1.

n. FQM Groundwater Sampling – Low Flow Pump – ANZ - ENV Q4AN(EV)-407-PR1

o. FQM Groundwater Sampling – Peristaltic Pump – ANZ – ENV Q4AN(EV)-408-PR1

p. FQM Groundwater Sampling - Hydrasleeve – ANZ – ENV Q4AN(EV)-409-PR1 (in preparation)

q. FQM Groundwater Quality Measurements – ANZ – ENV Q4AN(EV)-410-PR1 (in preparation)

3.0 Responsibilities

Role	Responsibility
Fieldwork Staff	To apply the methods detailed in this Fieldwork Instruction. To ensure equipment is in good working order prior to use, is maintained according to supplier's advice and is appropriately calibrated or verified. Any faults shall be reported to the Project Manager or the equipment supplier as soon as they are identified.
Project Manager	The Project Manager (PM) is responsible for ensuring equipment used are fit for purpose and developing work scope and services to be delivered to a client within the designated timeline.
Regional SH&E Manager	The Regional Safety, Health and Environment (SH&E) Manager is an assigned person in each office and is responsible for reviewing and approving the project specific risk assessment (Project Safety Plan/Safe Work Method Statement), monitoring the implementation of SH&E Plans, interface with PMs in matters of health and safety, investigating reports of incidents or accidents and approving drilling contractors to undertake the proposed works.

4.0 Equipment and Materials

4.1 Equipment

All well development techniques require:

- Oil water interface probe or water level meter;
- Water Quality Meter (WQM); and
- Imhoff cone or white dish.

The specific equipment required for bailing and foot valve/surge block methods are outlined in the individual FIs for these techniques. The equipment required for airlifting includes:

- Compressor; and
- Airlines/tubing or drill rods.

Optional or supplemental equipment required to complete this task may include:

- Photo Ionisation Detector (PID);
- Lower Explosive Limit (LEL) Detector; and
- T-piece or diversion head.

4.1.1 Electronic Dip Meter

An electronic dip meter is suitable for the measurement of groundwater levels only. Where NAPL is expected or suspected to be present in groundwater wells an oil/water interface meter should be used. A short beeping sound is made when the electronic dip meter intersects the standing water level.

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4.1.2 Oil/Water Interface Meter

The oil/water interface probe should be used where LNAPL or DNAPL are expected or suspected to be present in the wells. The probe emits two different sounds for distinguishing the depth to NAPL (continuous tone) and the standing water level (short beeping). In the case of LNAPL, the continuous tone will occur typically before the beeping tone; with DNAPL, the continuous tone would occur towards the base of the well, after the beeping tone.

Additional equipment required for groundwater well development depends on the technique adopted. A discussion of the equipment required for bailing and Waterra pumping is provided in the individual work Instructions for these techniques. The following discussion refers to equipment required for well development using airlifting only.

4.1.3 Water Quality Meter

A water quality meter will typically comprise instrument probes to measure electrical conductivity (EC), pH, temperature, oxidation reduction potential (ORP) and dissolved oxygen (DO). When renting a water quality meter, the rental company should supply a calibration certificate indicating that the equipment has been cleaned, calibrated and is ready for use. The calibration sheet should be kept with the project notes, scanned and filed at the end of the field program. If calibration has not been undertaken, or there is no evidence of calibration, this will need to be completed prior to commencing fieldworks. Calibration of the water quality meter should also be undertaken weekly and should be recorded on calibration sheets (FQM Water Quality Meter Calibration Record – ANZ – ENV). Calibration solutions should be available onsite at all times to allow probe readings to be confirmed. This is particularly important if the readings appear to be erroneous compared to historical results, typical aquifer water quality or are unrealistic. Additional information on using and calibrating a water quality meter is found in FQM Groundwater Quality Measurements – ANZ - ENV.

4.1.4 Compressor

A compressor is typically supplied by the drilling contractor but may also be hired as a trailer mounted or portable system. When developing, a filter should be used to prevent volatile hydrocarbon gases produced by compressor operation from contaminating the compressed air which is injected into the well.

4.1.5 Drill rods

Air can be introduced to the groundwater bore by forcing it inside drilling rods. This is only possible where the drill rig is present on site. Drill rods are often used for development of deep bores to mitigate manual handling issues. Where hydrocarbon compounds are contaminants of interest associated with the groundwater, consideration should be made to the types of lubricants used on these rods i.e. silicon based rod grease or “chicken fat” should be used to lubricate rod threads, canola oil or similar should be used to lubricate rotary hammer bits.

4.1.6 Airlines / Tubing

Airlines usually take the form of poly pipe or HDPE. These need to be long enough to reach the bottom of the well, with extra length at the surface. The diameter of the pipe used will depend on availability of materials, depth to water, depth of bore and bore diameter. The poly pipe needs to be able to with stand high pressures caused by use of compressed air and have appropriate fittings to connect to the compressor. Before installation, the airlines should be checked for any blockages. Airlines are usually supplied by the drilling contractor.

4.1.7 Photo Ionisation Detector (PID)

Refer to FQM Photo-Ionisation Detector (PID) – ANZ - ENV, for applicability, operation and calibration of a PID.

4.1.8 Lower Explosive Limit (LEL) Detector

Refer to FQM Lower Explosive Limit (LEL) Detector – ANZ - ENV, for applicability, operation and calibration of a LEL.

4.1.9 T-piece or Diversion Head

A t-piece is usually made out of PVC and forms an “L” shape which forces groundwater to flow away from the bore. A diversion head is similar but often involves use of an end cap with a tap or outlet to divert water from the bore. This will usually be made and supplied by the drilling contractor. These methods are ways to control the normally violent expulsion of water during airlifting. Where contamination (including high salinity) is a concern, this allows groundwater to be diverted into an appropriate container (lined pit or IBC) and collected for offsite disposal.

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4.2 Materials

Materials and consumables that may be required to complete this task include:

- Buckets
- Potable water
- Phosphate free detergent (e.g. Decon 90)
- Deionised water
- Scrubbing brush
- Paper towels
- Liquid contaminated waste container
- Spray bottle for deionised water
- Solid contaminated waste bags
- Alcohol wipes
- Steel brush

5.0 Background

The purpose of groundwater well development is to:

- Remove any drilling fluids (water or mud) introduced into the aquifer during drilling;
- Stabilise the gravel filter pack; and
- Ensure groundwater obtained during sampling events is representative of groundwater from the aquifer.

Well development should be vigorous enough to ensure these objectives are met, but not so vigorous as to cause any damage to the bore.

Groundwater well development should be undertaken as soon as practical following well installation i.e. once grout has set.

Observations made during well development can assist in determining groundwater sampling rates and techniques and flow rates for aquifer testing purposes.

Groundwater levels and chemistry should be allowed to stabilise for at least 1 week prior to water level measurement, aquifer testing or water quality sampling.

Groundwater bore volumes involve talking into account the volume of water in the well and the volume of water in the filter pack, as per the following equation:

$$V = ((\rho \times \pi (R_1^2 - R_2^2) \times h) + (\pi \times R_2^2 \times h)) \times 1000$$

V = bore volume (L)

ρ = porosity of filter pack (assumed to be approximately 0.2)

R_1 = Radius of borehole (half of drilling bit diameter) (m)

R_2 = Radius of casing (half internal casing diameter) (m)

h = Water column (depth of well – depth to water) (m)

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The following table provides an indication of approximate multiplication factors to be used when calculating bore volumes (L) for typical groundwater bore installations by the following equation:

V = MP x (depth of well – depth to water)

Table 1 Multiplication Factors to be used when calculating bore volumes for typical casing and borehole diameters

	Casing Diameter (mm)								
Bore Diameter (mm) (approximate inches)	32	50	100	125	150	175	200	225	250
100 (4'')	2.2	3.1	-	-	-	-	-	-	-
125 (5")	3.1	4.0	8.7	-	-	-	-	-	-
150 (6")	4.2	5.1	9.8	13.4	-	-	-	-	-
175 (7")	5.5	6.4	11.1	14.6	19.0	-	-	-	-
200 (8")	6.9	7.9	12.6	16.1	20.4	25.5	-	-	-
225 (9")	8.6	9.5	14.2	17.8	22.1	27.2	33.1	-	-
250 (10")	10.5	11.4	16.1	19.6	24.0	29.1	35.0	41.6	-
275 (11")	12.5	13.5	18.2	21.7	26.0	31.1	37.0	43.7	51.2
300 (12")	14.8	15.7	20.4	24.0	28.3	33.4	39.3	46.0	53.4
325 (13")	17.2	18.2	22.9	26.4	30.7	35.8	41.7	48.4	55.9
350 (14")	19.9	20.8	25.5	29.0	33.4	38.5	44.4	51.1	58.5
375 (15")	22.7	23.7	28.4	31.9	36.2	41.3	47.2	53.9	61.4

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6.0 Fieldwork Instruction

(PRINT THIS SECTION FOR USE IN THE FIELD)

This section details the step by step processes for completing the task and should accompany AECOM field personnel in the field. Any variations to this Fieldwork Instruction required to meet project specific objectives should be identified by the Project Manager prior to fieldworks and an amended uncontrolled instruction provided to fieldwork staff. Variations made in the field by fieldwork staff should be documented in the site notes and communicated to the Project Manager.

Note that if samples are to be collected for the analysis of Per- and Polyfluoroalkyl Substances (PFAS) additional equipment and clothing restrictions must be provided by the Project Manager.



Olfactory assessment (smelling) of groundwater shall not be undertaken due to the potential for atmospheric hazards of unknown type and concentration to be present. Only ambient odours should be recorded.

6.1 Decontamination

Any equipment placed into a groundwater well for development purposes shall be decontaminated prior to use and between each groundwater well location by the following procedure.

- Scrub the equipment with a stiff steel brush to remove excess dirt prior to decontamination. Collect the dirt over a waste bag and dispose in the bag. Wipe the equipment using disposable alcohol wipes. Dispose of the alcohol wipes into a contaminated waste bag.
- Aggressively wash the equipment using a plastic scrubbing brush in a bucket with a solution of potable water and detergent (phosphate free and biodegradable, e.g. Decon 90).
- Rinse the equipment with potable water over another bucket and collect the rinse water for later disposal as contaminated waste.
- Rinse the equipment with deionised water (spray this over it generously with a plastic spray bottle) over a bucket for later disposal as contaminated waste. The deionised water should preferably be supplied by the laboratory with a batch number for traceability.
- The wash solution needs to be renewed when the decontamination process becomes ineffective, e.g. product on the probe after rinsing or sheen in the wash solution buckets.

Where equipment is large and cumbersome such as drilling rods used for development, this equipment should be decontaminated prior to installation in the well, between each location and at the end of the well development program. Decontamination should involve:

- Removing large soil fragments from the equipment using a steel brush or by scraping. Any contaminated dirt should be collected over a waste bag or bund and disposed of in bags or contaminated waste drums.
- The equipment should be washed with high pressure potable water, preferably with a solution of potable water and detergent (phosphate free and biodegradable, e.g. Decon 90).
- High pressure potable water should be used for a final rinse of the equipment. The water used for decontamination purposes should be collected in a bunded area (either permanent or portable) and pumped into a liquid container for disposal offsite as a contaminated liquid.

6.2 Groundwater Well Development

6.2.1 Methods

The most often used methods of well development include mechanical surging and bailing for pumping, over pumping, airlift pumping and jetting. An important factor in any method is that the development work be started slowly and gently and increased as the well is developed. Most methods of well development requires the application of sufficient energy to disturb the gravel pack, thereby freeing the fines and allowing them to be drawn into the well. The coarser fraction settles and stabilizes the surrounding foundation.

When an air compressor is used, it should be equipped with an oil air filter or oil trap to minimize the introduction of oil into the well. The use of vegetable based oils should be considered if required of the contractor.

The well development method employed should be more vigorous than the proposed sampling method. However, development procedures for wells completed in fine sand and silt strata should involve methods that

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are relatively gentle so the strata material will not be incorporated into the gravel pack. Vigorous surging during development can produce mixing of the fine strata and gravel pack and produce turbid samples.

Development methods should be carefully selected based on the potential contaminants present, the quality of waste water generated, and the requirements for containment and treatment of waste water. The specific methods include:

- Mechanical surging – water is forced to flow into and out of the well screens by operating a plunger or surge block, or bailer up and down in the well casing. A pump or bailer should then be used to remove dislodged sediments from the well (the use of a Waterra foot-valve pump in small diameter well screens can in itself have a mechanical surging effect)
- Air lift pumping – an air lift pump is operated by cycling the air pressure on and off for short periods of time. This operation will produce a surging action that will dislodge fine-grained particles. Applying a steady, low pressure will remove the fines that have been drawn into the well by the surging action. Efforts should be made to avoid pumping air into the gravel pack and adjacent unit as the air may inhibit future sampling efforts or alter ambient water chemistry. High pressure should be avoided to prevent damage to small diameter PVC casings, screens and gravel packs. The sudden evacuation of water stored in the casing by airlift will create substantial hydrostatic imbalance between the formation and inside of the casing which may lead to screen collapse and failure.
- Over pumping – a submersible pump is used to stress the formation and force water out the formation from a larger radius than would otherwise be affected.

6.2.2 Generic Step – by Step

This step provides the methodology for general well development. Details of bailing and foot valve pump techniques are outlined in the individual work instructions indicated in Section 2 above. Short, general description of the mechanics of development (keywords: gentle start, dislodging sediment, surging action etc.).

1. The wells least likely to be contaminated should be targeted first so as to minimise any potential cross – contamination between wells.
2. Appropriate air monitoring for gases and volatile compounds should be undertaken (PID, LEL, landfill gas) prior to commencing and throughout the course of the well development where applicable.
3. -Standing water levels and total depth of the well should be measured using an oil water interface probe or water level meter. This is used to calculate groundwater bore volumes.
4. The chosen development apparatus should be installed into the well (bailer, airlifting lines, waterra tubing). Using the chosen development method, water should be removed from the well and contained in the appropriate containers for disposal. This may involve collecting water into a bucket or jerry can during bailing or waterra. When airlifting is being used, removed groundwater can be diverted via a T-piece or diversion head into an IBC. Where groundwater contamination, including elevated salinity levels, is not of concern, groundwater may be disposed of to ground with appropriate environmental considerations and approvals.
5. Water quality parameters (pH, EC, DO, ORP and temperature) should be measured and observations of colour, turbidity and odour made periodically during the well development. This should be recorded on the FQM Groundwater Sampling and Purging Record – ANZ – ENV . For bailing, suction pump and foot valve/surge block methods, water quality readings should be collected at the same rates as for groundwater sampling using these methods (outlined in FQM Groundwater Sampling – Bailer – ANZ - ENV and FQM Groundwater Sampling - Hydrasleeve – ANZ - ENV [in preparation]). When using airlifting, water should be collected in a bucket and quality readings should be taken and recorded every half an hour.
6. During development using waterra or airlifting, the groundwater flow rate should be estimated. This can be undertaken by allowing water to flow into a bucket which has volumetric markings and recording the time taken to fill a pre-determined volume using a stopwatch. This reading can then be converted to L/sec or L/min flow rate measurements. Flow rates should be measured periodically throughout the development process and recorded on the development records.
7. In general, well development should continue until a minimum of 2 bore volumes have been removed from the well. After 2 bore volumes have been removed, development should continue until water quality readings have stabilised (see FQM Groundwater Quality Measurements – ANZ - ENV [in preparation] for discussion on collecting water quality readings) Under the following scenarios, it is necessary to remove additional volumes of groundwater:

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- Where water has been used during drilling, an estimation of the water used should be made and this volume should be removed from the well as a minimum.
- Where bores are to be used for a production purposes, groundwater development should continue until less than 5 mg of sand sized particles are obtained for 1000L of groundwater or until no sand or silt is produced for an hour (NUDLC 2012).

8. Well development will begin after the monitoring well is completely installed and before water sampling. Development will be continued until representative water free of the drilling fluids, cuttings and other materials introduced during well construction is obtained. Representative water quality is assumed to be obtained when the pH, temp, and EC readings stabilise and the water is visually clear of suspended solids. The minimum duration of well development will vary with the method used to develop the well and with the nature of the aquifer material.
9. The method employed and results of the water quality parameters (pH, EC, DO, ORP and temperature) should be measured and observations of colour, turbidity and odour made periodically during the well development. This should be recorded on well development sheets (FQM Groundwater Sampling and Purging Record – ANZ – ENV). For bailing, suction pump and foot valve/surge block methods, water quality readings should be collected at the same rates as for groundwater sampling using these methods (outlined in FQM Groundwater Sampling – Bailer – ANZ - ENV and FQM Groundwater Sampling - Hydrasleeve – ANZ – ENV [in preparation]). When using airlifting, water should be collected in a bucket and quality readings should be taken and recorded every half an hour.
10. No time limit to development, although should be discussed with PM
11. Where mud has been used as a drilling fluid it is essential to break down the wall cake and remove the drilling mud used. Development of mudded holes should be continued until a significant reduction in groundwater turbidity is observed and groundwater parameters have stabilised.
12. Following development, the standing water level and total depth of the well should be measured and recorded for comparison to the original readings. Development may remove sediment from the base of the well so that it appears to be “deeper”.
13. Groundwater produced during development should be collected into drums or IBCs if it is considered to be potentially contaminated. The drums shall be appropriately labelled and stored in a secure location prior to collection and disposal by a licensed waste contractor.
14. If applicable, measure the concentration of vapours exiting the well using a PID by placing the intake nozzle above the well casing. Record the highest concentration measured by the PID in FQM Groundwater Sampling and Purging Record – ANZ - ENV.
15. Slowly lower the measurement probe down the well until the probe intersects groundwater.
16. Measure the depth to groundwater in metres (to two decimal places) from the measurement tape by holding the tape next to the top of casing. The top of casing may be the highest point on the well casing or a point that was previously marker on the casing for surveying.
17. Confirm the measured depth to groundwater by repeating Sections 5.2.11 to 5.2.12 until three consistent measurements are taken (i.e. ±0.01 m). Record the depth to groundwater in FQM Groundwater Sampling and Purging Record – ANZ - ENV.
18. Measure the total depth of the well by turning off the measurement probe and lowering the probe to the bottom of the well. This is usually determined by the point where there is no tension on the measurement tape.
19. -Measure the total depth of the well in metres (two decimal places may be sufficient) by holding the measurement tape next to top of casing. Record the total well depth in FQM Groundwater Sampling and Purging Record – ANZ - ENV.

7.0 Troubleshooting

I have purged 3 bore volumes from the bore but the groundwater parameters have not stabilised

Water quality parameters may not always stabilise within the realistic time frame of development. This may reflect aquifer heterogeneity.

Airlifting is only producing very small flow rates of groundwater to surface or is not being lifted out of the bore

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This may reflect a short static water column and slow groundwater recharge. It is possible to place two pieces of poly pipe inside each other and inject air into the thinner diameter piece. The large piece acts to restrict the "diameter of the bore" and forces water to the surface. However, this will produce water at a low flow rate. While this method will allow removal of water, it will be very slow and may not develop the bore to maximum efficiency.

I have been developing a bore for hours but it is still generating sand sized particles.

This may require an assessment of the original geology and bore construction. This should be completed in consultation with the PM or PiC. Sand may be produced where a borehole has been left open (not screened and cased), due to damaged casing/screen, shifted filter pack, or if the screen/filter pack used was not of an appropriate aperture/size.

8.0 Records

a. FQM Groundwater Well Development Form – ANZ – ENV Q4AN(EV)-402-FM1

b. FQM Groundwater Sampling and Purging Record – ANZ – ENV Q4AN(EV)-405-FM1

c. FQM Water Quality Meter Calibration Record – ANZ – ENV Q4AN(EV)-410-FM1

9.0 Change Log

Rev. #	Revision date	Affected sections	Description of change
1	2-May-2016	All	Conversion to AECOM Australia Pty Ltd.
2	1-Sep-2021	Sections 3, 6 and 8	Cautionary note. References update.

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FQM - Groundwater Sampling - Low Flow Pump

1.0 Purpose and Scope

To instruct field staff on how to collect representative site-specific groundwater samples from the aquifer formation, with minimal disturbance to the water column.

This Field Instruction (FI) describes the methodology for the collection of groundwater samples using a bladder pump (low flow technique). This procedure should be read in conjunction with the following Australian/New Zealand Standards:

- AS NZS 5667.1.1998 – Water Quality Sampling – Part 1 Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples; and
- AS NZS 5667.11,1998 – Water quality - Sampling guidance on sampling of groundwaters.

2.0 References

a. Standards Australia/New Zealand 1998, AS/NZ 5667.1:1998 Water Quality – Sampling, Part 1: Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples, Standards Australia, NSW.

b. Standards Australia/New Zealand 1998, AS/NZ 5667.11:1998 Water Quality – Sampling, Part 11: Guidance on Sampling of Groundwaters, Standards Australia NSW.

c. EHP Queensland, 2009. Monitoring and Sampling Manual 2009, Version 2, July 2013 format edits. Department of Environment and Heritage Protection. State Government of Queensland.

d. EPA Victoria, 2000. Publication 669: Groundwater Sampling Guidelines. Environment Protection Authority. State Government of Victoria.

e. National Environment Protection Council (December, 1999) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (as amended 2013).

f. Puls, R.W. and Barcelona, M.J. 1996, 'Low flow (minimal drawdown) ground-water sampling procedures', EPA Ground Water Issue, EPA/540/S-95/504, Washington.

g. Sundaram, B., Feitz, A., Caritat, P. de, Plazinska, A., Brodie, R., Coram, J. and Ransley, T., 2009. Groundwater Sampling and Analysis – A Field Guide. Geoscience Australia, Record 2009/27 95pp.

h. US EPA, 1996. Low stress (low flow) purging and sampling procedure for the collection of ground water samples from monitoring wells, Revision 2.

i. FQM Photo-Ionisation Detector (PID) – ANZ - ENV Q4AN(EV)-003-PR1.

j. FQM Lower Explosive Limit (LEL) Monitoring – ANZ - ENV Q4AN(EV)-004-PR1.

k. FQM Groundwater Monitoring Well Installation – ANZ - ENV Q4AN(EV)-401-PR1.

l. FQM Groundwater Well Development – ANZ - ENV Q4AN(EV)-402-PR1.

m. FQM Groundwater Level Gauging – ANZ - ENV Q4AN(EV)-403-PR1.

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3.0 Responsibilities

Role	Responsibility
Fieldwork Staff	To apply the methods detailed in this FI. To ensure equipment is in good working order prior to use, is maintained according to supplier's advice and is appropriately calibrated or verified, have a basic understanding of common faults and field based repairs. Any faults shall be reported to the Project Manager (PM) or the equipment supplier as soon as they are identified. To ensure Quality Assurance/Quality Control and Health and Safety Compliance.
Project Manager	Define the objectives and appropriate methodology to field staff prior to mobilisation into the field. The Project Manager should check (or designate another to check) the gauging data recorded by the fieldwork staff for anomalies such as measurements inconsistent with historical groundwater level fluctuations or well construction records. To ensure Quality Assurance/Quality Control and Health and Safety Compliance.
Regional SH&E Manager	The Regional Safety, Health and Environment (SH&E) Manager is one of the assigned person and is responsible for reviewing and approving the project specific risk assessment (e.g. Project Safety Plan/Safe Work Method Statement), monitoring the implementation of project specific risk assessment plans, interface with project managers in matters of safety, health and environment, and investigating reports of incidents or accidents.

4.0 Equipment and Materials

4.1 Equipment

Equipment required to complete this task includes:

- Low Flow (Bladder) Pump Casing;
- Wire hanger;
- Control Box;
- Compressor (Air or CO_2 Gas cylinder, Regulator and Hose);
- Water Quality Meter and Flow-through-cell; and
- Oil-water Interface Meter or Electronic Dip Meter drawdown meter.

Optional or supplemental equipment:

- Lower Explosive Limit (LEL) Detector; and
- Photo Ionisation Detector (PID).

For remote sites consideration should be given to providing a backup set of equipment, if the cost of remobilization is high, and there is no access to technical repair facilities.

4.1.1 Water Level Meter

A water level meter, also called electric dip meter, is used to measure the depth to standing water. Where Non Aqueous Phase Liquid (NAPL) is expected or suspected to be present in groundwater wells an oil/water interface meter should be used. A beeping sound is made when the electronic dip meter intersects the standing water level.

4.1.2 Drawdown Meter

A drawdown meter works differently to a water level meter: it makes a beeping sound when exposed to air and is silent in water. The probe should be locked in place in the water column above the pump inlet approximately 10 cm below the pre-pumping water level. As the water level drops during pumping the probe will beep when it is exposed to air. The probe can then be lowered until the beeping stops and the process repeated. The water levels will be recorded against time during the pumping on the field sheets.

4.1.3 Oil/Water Interface Meter

The oil/water interface probe should be used where Light Non Aqueous Phase Liquid (LNAPL) or Dense Non Aqueous Phase Liquid (DNAPL) are expected or suspected to be present in the wells. The probe emits two different sounds for distinguishing the depth to NAPL (continuous tone) and the standing water level (short beeping). Because LNAPL floats on top of water, the continuous tone will occur typically before the beeping tone;

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with DNAPL, the continuous tone would occur towards the base of the well, after the beeping tone of the water column. As the water level drops during pumping the probe will stop beeping when it is exposed to air. The probe can then be lowered until the beeping starts to gauge water level and the process repeated. The water levels will be recorded against time during the pumping on the field sheets.

4.1.4 Water Quality Meter

A water quality meter will typically comprise instrument probes to measure electrical conductivity (EC), pH, temperature, oxidation reduction potential (ORP) and dissolved oxygen (DO). Common water quality meters include YSI and TPS FLMV. When renting a water quality meter, the rental company should supply a calibration certificate indicating that the equipment has been cleaned, calibrated and is ready for use. Ensure that a flow-through cell is included with the water quality meter.

4.1.5 Low Flow Pump Casing/Wire Hanger

Casing which is lowered down the well to pump groundwater. Holds the bladder that is used to pump water, one bladder is used per well and replaced during decontamination. The pump is connected to both the discharge line and airline. Both these lines must be securely in place with a tight seal for the pump to work properly. The pump contains o-rings that must be checked each time before the pump is used, for if one is missing or worn the pump will not operate properly.

A wire cable/hanger is connected to the pump from the surface, to hold the pump in place as a safe guard to stop it falling down the well. The D-bolt on the hanger should be checked between each well during the decontamination process to prevent it from loosening and dropping the pump down the well.

4.1.6 Low Flow Control Box

Used to control the rate at which water is pumped (Cycle per Minute) and the pressure that the water is pumped out of the well. The control box (shown in **Figure 1)** may contain a compressor or is connected to the gas cylinder through the hose and regulator, and also the pump through the air line. Low flow controller may be connected via 12v cables to a battery.



Figure 1 Low Flow Control Box

4.1.7 Compressor, Gas Cylinder, Regulator & Hose (if required)

CO_2 gas cylinder can be used to pump groundwater. This is connected to a regulator and regulator is connected to the hose.

Note the pressure on the gas bottle. A full gas bottle should read 5,000 kpa (1,900 psi), and will allow you to sample approximately 20 wells (varying with well depth). If the bottle reads 500 kpa or less it should be marked empty and replaced.

Compressors can be either battery powered or powered using a combustion engine, make sure the pressures are appropriately controlled and that a clear knowledge of operation and the HSEP reflects compressor use prior to mobilization.

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4.1.8 Photo Ionisation Detector (PID)

Refer to FQM Operating a Photo-Ionisation Detector (PID) – ANZ – ENV , for applicability, operation and calibration of a PID.

4.1.9 Lower Explosive Limit (LEL) Detector

Refer to FQM Operating a Lower Explosive Limit (LEL) Monitoring – ANZ - ENV, for applicability, operation and calibration of a LEL.

4.2 Materials

Materials and consumables that may be required to complete this task include:

- Appropriate Buckets (based on COPC)
- Potable water
- Phosphate free detergent (e.g. Liquinox, **do not use Decon 90**)
- Deionised water
- Scrubbing brush
- Paper towel
- Alcohol Wipes
- Waste water container (e.g. jerry can)
- Laboratory supplied sampling containers
- Laboratory supplied rinstate water
- Garbage bags
- Field book
- Permanent markers
- Duct tape
- Nitrile gloves
- Hex keys
- Tools for opening well gatic (e.g. hammer, screw driver)
- Spare o-rings and hex bolts
- Scissors/Tube Cutters
- Funnel
- Tubing – Air & Discharge line (enough metres for all wells include spares)
- Esky/cool box
- Ice/ice blocks
- Low-flow bladders (1 per well with spares)
- Adjustable spanner
- Permanent markers and pens
- Stericup Filters or in-line filters (if required for COPCs)
- Hand pump (if Stericup filters are used);

5.0 Background

The objective of groundwater sampling is to obtain water samples that best represent natural undisturbed hydrogeological conditions. Low flow sampling is one of the techniques used to achieve this. It works by lowering the pump to a specified depth in the bore screen, thus pumping water coming into the bore from the aquifer, to achieve representative samples of the aquifer with minimal disturbance to the standing water in the well.

Before commencing low flow sampling, some important factors should be considered including, the method used historically on the site for sample collection. The groundwater characteristics may take some time to stabilise after installation and development of new wells. Refer to FQM Groundwater Monitoring Well Installation – ANZ - ENV and FQM Groundwater Well Development – ANZ - ENV for further information regarding the monitoring well installation and development.

Pumping should be done in a manner that minimises stress (drawdown) to the system to the extent practical.

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6.0 Fieldwork Instruction

(PRINT THIS SECTION FOR USE IN THE FIELD)

Any variations to this Fieldwork Instruction required to meet project specific objectives should be identified by the Project Manager prior to fieldworks and an amended uncontrolled instruction provided to fieldwork staff. Variations made in the field by fieldwork staff should be documented in the site notes and communicated to the Project Manager.



Note that if samples are to be collected for the analysis of Per- and Polyfluoroalkyl Substances (PFAS) additional equipment and clothing restrictions must be provided by the Project Manager.

Olfactory assessment (smelling) of groundwater shall not be undertaken due to the potential for atmospheric hazards of unknown type and concentration to be present. Only ambient odours should be recorded.

6.1 Decontamination

The equipment (low flow pump/interface probe) shall be decontaminated prior to use and between sampling each surface sample location by the following procedure.

1. Wipe the probe and measuring tape (the length that comes into contact with groundwater) using disposable alcohol wipes. Dispose of the alcohol wipes into a contaminated waste bag.
2. Empty pump bladder and leftover groundwater in waste water container using a funnel.
3. Wash the low flow pump, suspension wire, probe and associated tape using a scrubbing brush in a bucket with a solution of potable water and detergent (phosphate free and biodegradable).
4. Rinse the low flow pump, probe, wire and tape with potable water in another bucket.
5. Final rinse of all apparatus using deionised water in a spray bottle/bucket or directly from the deionized water container.
6. The wash solution needs to be renewed when the decontamination process becomes ineffective, e.g. product on the probe after rinsing or sheen in the wash solution buckets.

6.2 Low Flow Groundwater Sampling



- YSI model WQMs should be turned on 30 minutes before sampling to allow sensors to stabilise. Ensure protective covers are removed from probe;
- Check the pressure on the gas cylinder – a full cylinder should read initially on the regulator 5000 kpa; and
- Check for leakage of CO_2 or air in the system, if identified immediately turn off CO_2/compressor and undertake repair/change equipment with apparatus isolated and de-energized.

1. The wells on the site least likely to be contaminated should be targeted first so as to reduce the risk of potential cross contamination between sample locations.
2. (If using CO_2) Connect gas cylinder/compressor to regulator, the regulator to hose and the hose to the control box.
3. Turn on the gas/start compressor, control box and Water Quality Meter (WQM).
4. Ensure pump casing and hanger cable have been decontaminated. Install new disposable bladder in pump, check o-rings are all in place correctly and undamaged. Connect hanger cable to pump casing, ensuring d-bolt is tightly secured.
5. Connect the tubing line to the pump casing, discharge line (larger diameter) and air line (thinner diameter). If using twin tubing (joined tubing), ensure the excess glue has been removed from tubing line using scissors or tube cutters before connecting to pump and controller to prevent damage to inlets and o-rings. Once connected pull on the tubing to test they are secure.
6. Open the monitoring well cover by (a) unlocking the flush mount well gatic with a hex key or (b) lifting the hinge lid on the monument/stick up well cover or (c) removing the lid on any other well cover as required (e.g. quarter turn well covers).

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Monitoring well covers can cut / injure hands. Use cut resistant gloves to open well covers. Be careful for wells with positive pressure (such as landfill leachate bores that could pop off the loosened well cap. Keep body parts clear of well when opening).

Biological hazards (e.g. spiders, ants) may be present within gatic covers, exercise caution when opening wells. Wear gloves and remove cobwebs before placing hands into the well.

7. Remove the well cap (e.g. J-plug), PVC end cap, torque cap.

High concentrations of vapours can build up in the well and be released into the breathing zone when the well cap is removed. Implement appropriate work space monitoring (e.g. LEL, PID, colorimetric gas detection tubes) and HSE procedures (e.g. maintain appropriate fire extinguishers in work area) prior to removal of well cap.

8. Measure the SWL in the well with the interface probe. This depth will be taken as the original SWL on your purging sheet.

Wells should be gauged prior to the commencement of any sampling, where possible.

9. Lower pump into well slowly to avoid water column disturbance (pump should not be lowered to the bottom of well as this could cause resuspension of solids which will have collected at the bottom of the well). Lower tubing and wire carefully together to prevent tangling which can lead to the pump becoming lodged in the well. Review each well completion log to select the depth to which the pump inlet will be set. The pump should be positioned dependent on the contaminant of concern or to target high permeability zones. Where this is not known, the pump inlet should be located approximately in the middle of the screened interval so as not to disturb the bottom of the well and allow for sufficient water above the pump. Ensure the hanger cable is tight and that the cable reel has been locked in place. The depth of the pump inlet can be measured by using the interface probe / water meter to measure the depth to the top of the pump. Record depth to pump on purging sheet.

10. Attach the tubing airline to the control box (see **Figure 1**). Attach discharge line (larger diameter) to the flow cell in the bottom outlet to allow flow cell to fill with water before discharge. Place flow cell into a bucket to ensure overflow from discharge is contained.

11. Remeasure the SWL in the well, or use the drawdown meter to monitor any drawdown during pumping.

The difference in depth between the SWL recorded before the pump was lowered into the well and after will give a rough estimate of how quick the well will recharge if no historical data is available (the larger the difference in depths the slower the recharge as a general rule).

12. Measure depth to top of pump and record as purging depth on purge sheet. If this is not possible i.e. in wells with a diameter greater than 50 mm, an estimate can be made.

13. For CO_2 setup - Set the air pressure on the gas cylinder regulator and control box throttle to required pressure. Using the formula Purging Depth (1 metre = 1 psi) + 10 psi = Air Pressure e.g. 15m depth = (15x1) +10 = 25. The pressure should be slightly greater on the gas cylinder regulator compared to the control throttle. Watch the rate at which water is discharged and adjust pressure as necessary.

Review previous sampling sheets to obtain an idea of the appropriate pumping rate. Set the controller to the estimated flow rate or if unknown start on 100 ml/min (CPM 1). One cycle yields approximately 100 ml of water. Groundwater flow should be between 0.1-0.4 L/ min.

14. For O_2 setup – set the fill and discharge times. Discharge times are the time it takes to squeeze the bladder and fill time is the time allowed for the bladder to refill. Fill and discharge rates depend on hydrostatic pressure (i.e. water above the pump). The airline pressure gauge should not exceed the equivalent depth to water 1 PSI = 0.7 m of water.

Review previous sampling sheets to obtain an idea of the appropriate flow rate. If discharge falls off before the discharge cycle is complete, the discharge time can be lowered. If drawdown is significant, fill time can be increased.

15. Start the pump. Allow purged water to overflow (into a container) the flow-through cell before starting to take water quality parameter readings and standing water level readings, once this occurs take readings every three minutes (where sampling rate is 100ml/minute or more) or five minutes (if flow rate is less than 100ml/minute).

16. Fill in data on CPM or fill/discharge rate, SWL readings and water quality parameters on the field purging sheet.

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The drawdown should not exceed 10 cm difference from the original SWL at any time. However it is more important that the groundwater quality parameters stabilise before sampling. If the drawdown is dropping continuously lower the flow rate to see if the SWL will stabilise. Once the SWL stabilises wait for three successive stable parameter readings before sampling (at 3 to 5 minute interval between each successive reading).

If you are still getting drawdown with the very low pump rates, contact PM for advice.

17. Once field parameters have stabilised samples can be collected (a minimum of 1 L of groundwater should be removed prior to sampling). The water quality parameters are considered stable when for three successive readings the parameters are within the following: ±10% Dissolved Oxygen; ±3% Electrical Conductivity; ±0.05 pH; ±10 mV Redox Potential; and ±0.2°C Temperature. Pay attention to water quality parameters and check that readings are as expected based on site knowledge and chemistry. Issues often occur with WQMs. Parameters can also be easily recorded incorrectly if the wrong units or parameter is referenced. Taking time to set-up WQM display screen with the required parameters and units may help as parameters that are not recorded (e.g. salinity) are not displayed. Contact PM and/or equipment supplier if unsure of readings or experiencing issues with WQM.

Record all purging and sampling details on the FQM Groundwater Sampling and Purging Record – ANZ - ENV.

If water quality parameters have changed significantly since last GME call the PM.

18. Maintain the same pumping rate for sampling. Disconnect the pump's tubing from the flow-through-cell so that the samples are collected from the pump's discharge tubing. Air pressure on the gas cylinder can be turned down so samples can be filled with minimal turbulence (if applicable).
19. Fill samples over a bucket/basin to minimise spillage.
20. Store samples in esky with sufficient ice or ice bricks. Ice should form a bed beneath samples and cover samples. Glass vials and bottles should be stored in bubble wrap and eskies should not be over-filled.
21. Turn the controller off. Remove the pump from the monitoring well. Decontaminate the pump and probe following steps decontamination steps in section **6.1** and dispose of the tubing, bladder and other waste. The flow-through cell doesn't need to be rinsed between wells (unless a sheen, strong hydrocarbon odour or sediment is noticed to keep it in good working condition). Water quality sensors should be rinsed with tap water.

- If SWL varied during purging, measure the SWL after sampling to ensure that levels did not exceed 10 cm difference from the original SWL.
- If this is the last well for the day, or before a break, the gas line should be turned off and de-pressurised before leaving by turning the gas off at the cylinder and running the controller through one or two cycles. All caps should be replaced on the WQM.

22. Replace cap on well, lock gatic. Check area for anything left behind before leaving.

7.0 Troubleshooting

a. **Water isn't discharging from the pump:**

1. Check gas bottle is not empty/compressor is operating.
2. Check air pressure gauges on the gas bottle and controller are at appropriate levels (if applicable).
3. Re-connect air hose to compressor to ensure there isn't a leak.
4. Remove pump from well.
5. Check water and air lines connecting pump to ensure there isn't a leak.
6. Check o-rings are in place in pump; replace any worn o-rings.
7. Check bladder hasn't broken and is in good condition.
8. Decontaminate or clean pump and inlet to remove sediment.

b. **There are air bubbles (observed audibly from the well head) in the water discharge tube:**

1. O-rings are missing or worn, check and replace if needed.

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2. Air line connecting to pump is leaking causing water bubble in discharge line, re-connect both air and water tubes connecting to pump.
3. Bladder is missing or not sealed.

c. **The water level keeps fluctuating up and down rapidly:**

1. O-rings are missing or worn, check and replace if needed.
2. Air line connecting to pump is leaking causing water to bubble in well, re-connect both air and water tubes connecting to pump.
3. Bladder is missing or not sealed.

8.0 Records

a. FQM Groundwater Sampling and Purging Record – ANZ - ENV Q4AN(EV)-405-FM1.

9.0 Change Log

Rev. #	Revision date	Affected sections	Description of change
1	2-May-2016	All	Conversion to AECOM Australia Pty Ltd.
2	1-Sep-2021	Sections 3, 6, 8	Cautionary note References update

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FQM - NAPL and Groundwater Level Gauging

Q4AN(EV)-414-PR1

1.0 Purpose and Scope

To obtain accurate and representative measurements of non-aqueous phase liquid (NAPL) levels and groundwater levels in groundwater monitoring wells.

This Fieldwork Instruction describes the methodology for gauging light (floating on groundwater) non-aqueous phase liquid (LNAPL) levels, dense (sinking in groundwater) non-aqueous phase liquid (DNAPL) levels and groundwater levels in monitoring wells.

This document is applicable to the measurement of groundwater levels only using an oil/water interface probe and should be used in preference to FQM Groundwater Level Gauging – ANZ - ENV for investigations at sites that may have NAPLs present in the subsurface.

2.0 References

a. Clements, L., Palaia, T. & Davis, J., 2009. Characterisation of site impacted by petroleum hydrocarbons: National guideline document, CRC CARE Technical Report no. 11, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia.

b. EPA South Australia, 2007. EPA Guidelines: Regulatory monitoring and testing, Groundwater sampling. Environment Protection Authority. State Government of South Australia.

c. EPA Victoria, 2000. Publication 669: Groundwater sampling guidelines. Environment Protection Authority. State Government of Victoria.

d. ISO, 2005. International standard. ISO 21413:2005(E). Manual methods for the measurements of a groundwater level in a well. International Organization for Standardization. Geneva, Switzerland.

e. NEPC, 20092013. National Environmental Protection (Assessment of site contamination) Measure. Schedule B (2): Guideline on data collection, sample design and reporting. National Environment Protection Council, Canberra.

f. NSW DEC, 2007. Guidelines for the Assessment and Management of Groundwater Contamination. March.

g. Sundaram, B., Feitz, A., Caritat, P. de, Plazinska, A., Brodie, R., Coram, J. and Ransley, T., 2009. Groundwater Sampling and Analysis – A Field Guide. Geoscience Australia, Record 2009/27 95 pp.

h. FQM Photo-Ionisation Detector (PID) – ANZ - ENV Q4AN(EV)-003-PR1.

i. FQM Lower Explosive Limit (LEL) Monitoring – ANZ - ENV Q4AN(EV)-004-PR1.

j. FQM Groundwater Level Gauging – ANZ - ENV Q4AN(EV)-403-PR1.

k. FQM NAPL Sampling – ENV – ANZ Q4AN(EV)-415-PR1 (in preparation)

3.0 Responsibilities

Role	Responsibility
Fieldwork Staff	To apply the methodology detailed in this Fieldwork Instruction. To ensure equipment is in good working order prior to use and is maintained according to supplier's advice. Report all anomalies to the Project Manager or the equipment supplier as soon as they are identified. Maintain accurate fieldwork data and observation records and provide to the Project Manager for review and filing in the project central file.
Project Manager	Define the task objectives and provide all relevant information to field staff prior to mobilisation into the field. The Project Manager should check (or designate another to check) the gauging data recorded by the fieldwork staff for anomalies such as measurements inconsistent with historical level fluctuations or well construction records.
Regional SH&E Manager	The Regional Safety, Health and Environment (SH&E) Manager is is responsible for reviewing and approving the project specific risk assessment (e.g. Project Safety Plan/Safe Work Method Statement), monitoring the implementation of project specific risk assessment plans, interface with

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Role	Responsibility
	project managers in matters of safety, health and environment, and investigating reports of incidents or accidents.

4.0 Equipment and Materials

4.1 Equipment

Equipment required to complete this task include:

- Oil/water interface probe;
- Photo Ionisation Detector (PID); and
- Lower Explosive Limit (LEL) Detector.

Optional or supplemental equipment:

- Non-electrical water level meter such as “plopper” or “Fox Whistle”;
- AB(E) fire extinguishers; and
- Oil/fuel spill kit.

4.1.1 Oil/Water Interface Probe

The oil/water interface meter is suitable for LNAPL, DNAPL and groundwater level measurements. Check the equipment user guide for specific operating principles.

4.1.2 Photo Ionisation Detector (PID)

Refer to FQM Photo-Ionisation Detector (PID) – ANZ - ENV , for applicability, operation and calibration of a PID.

4.1.3 Lower Explosive Limit (LEL) Detector

Refer to FQM Lower Explosive Limit (LEL) Monitoring – ANZ - ENV , for applicability, operation and calibration of a LEL Detector.

4.2 Materials

Materials and consumables required to complete this task include:

- Buckets;
- Potable water;
- Phosphate free detergent (e.g. Liquinox, **do not use Decon 90**, especially if sampling for per and poly-fluoroalkyl substances [PFAS] is to be conducted);
- Scrubbing brush;
- Paper towel;
- Alcohol wipes;
- Liquid contaminated waste container;
- Steel rod for electrical grounding (e.g. screwdriver);
- Allen key set;
- Tools for opening well covers, e.g. magnet or pair of pliers;
- Spare o- rings and hex bolts;
- Bailers for confirming presence of NAPL;
- Steel measuring tape;
- Bailer twine;
- Solid contaminated waste bags; and
- Spare batteries.

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5.0 Background

Accurate and reliable groundwater level measurements are essential in determining the hydraulic head, hydraulic gradients (vertical or along the water table), and the likely directions for groundwater flow and contaminant transport at a site. Before commencing a groundwater gauging round, some important factors should be considered, including:

- The groundwater level may take some time to stabilise after development of new wells.
- Groundwater levels fluctuate naturally (e.g. rainfall infiltration and tidal influences) and anthropogenically (e.g. pumping and irrigation), therefore groundwater gauging of a site should be completed in one day or less if possible. If a site is influenced by tidal variations, gauging should ideally be completed within a single tidal stage and water level data loggers may be needed to determine groundwater elevation.
- Effervescent groundwater such as in mineral spring areas or at landfills may cause difficulty gauging.
- Highly saline groundwater can cause the alarm of a dip meter or oil-water interface probe to sound even when the probe is lifted out of the water in the well. This usually occurs if the probe initially was lowered below the water level in the well. The probe may need to be washed, dried and the water level re-measured.
- Highly turbid wells can cause the continuous tone of an oil-water interface meter to sound even when NAPL is absent. If the occurrence of NAPL is unlikely or new, its occurrence should be checked using a new bailer or by looking for evidence of oils on the tape of the meter.
- Electronic dip meters and oil/water interface probes have co-axial conductive wires within a graduated plastic tape. A damaged tape may result in stretching of the graduations and inaccurate measurements. The tape should be calibrated for length against a steel tape prior to use and markings should be checked for legibility.

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6.0 Fieldwork Instruction

(PRINT SECTION 6 AND 7 FOR USE IN THE FIELD)

This section details the step by step processes for completing the task and should accompany AECOM field personnel in the field. Any variations to this Fieldwork Instruction required to meet project specific objectives should be identified by the Project Manager prior to fieldworks and an amended uncontrolled instruction provided to fieldwork staff. Variations made in the field by fieldwork staff should be documented in the site notes and communicated to the Project Manager.

Caution: An explosive atmosphere may be present in the vicinity of an open monitoring well due to vapours emanating from a well with LNAPL floating on groundwater. Refer to the project Health, Safety and Environment Plan (HSEP) for specific controls to manage the potential acute safety hazard.

6.1 Decontamination

The measurement equipment (oil/water interface probe) shall be decontaminated prior to use and between measuring each monitoring well by the following procedure.

1. Wipe the probe and measuring tape (the length that comes into contact with groundwater) using disposable alcohol wipes. Dispose of the alcohol wipes into a contaminated waste bag.
2. Wash the probe and measuring tape (the length that comes into contact with groundwater) using a scrubbing brush in a bucket with a solution of potable water and detergent (phosphate free and biodegradable, NOTE: do not use Decon 90, especially if sampling for PFAS is to be conducted).
3. Rinse the probe and washed section of the measuring tape with potable water over another bucket and collect the rinse water for later disposal as contaminated waste.
4. The wash solution needs to be renewed when the decontamination process becomes ineffective, e.g. product remains on the probe after rinsing or sheen is present in the wash solution buckets.

6.2 NAPL and Groundwater Level Gauging

This section provides the methodology for the relative measurement of LNAPL (if present), groundwater and DNAPL (if present) levels in that order. Water and NAPL levels should be measured in a sequence from clean to contaminated wells to avoid cross-contamination of wells. A gauging round should be conducted of all monitoring wells at the site as quickly as possible before any samples are collected.

1. Open the monitoring well cover by (a) unlocking the flush mount well gatic with an Allen key (typically 7 mm) or (b) lifting the hinge lid on the monument/stick up well cover or (c) removing the lid on any other well cover as required (e.g. quarter turn well covers).



Monitoring well covers can cut / injure hands. Use cut resistant gloves to open well covers. Be careful for wells with positive pressure (such as landfill leachate bores that could pop off the loosened well cap. Keep body parts clear of well when opening).

Biological hazards (e.g. spiders, ants) may be present within gatic covers, exercise caution when opening wells. Wear gloves and remove cobwebs before placing hands into the well.

2. Remove the well cap (e.g. J-plug), PVC end cap, torque cap. Stand upwind from the well and allow hydrocarbon vapours to dissipate.



High concentrations of vapours can build up in the well and be released into the breathing zone when the well cap is removed. Implement appropriate work space monitoring (e.g. LEL, PID, colorimetric gas detection tubes) and HSE procedures (e.g. maintain appropriate fire extinguishers in work area) prior to removal of well cap.

3. Check the breathing zone above the well using a PID. Only proceed with gauging when the safety requirements stipulated in the project HSEP have been attained, i.e. vapour concentrations are below action levels or appropriate PPE is in use where action levels are exceeded.
4. Measure the concentration of vapours exiting the well using a PID by placing the intake nozzle immediately above the well casing.

Record the highest concentration measured by the PID and also the general condition of the monitoring well (e.g. missing or broken cover or well cap, well head filled with surface water) in FQM NAPL and Groundwater Level Gauging – ANZ - ENV.

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5. Electrically ground the interface probe by attaching the grounding clip to the well casing or to a steel rod (e.g. screwdriver) inserted into the ground.

Caution: Static electricity may cause a spark and ignite vapours if the interface probe is not suitably grounded.

6. Slowly lower the interface probe down the well until the probe intersects LNAPL (if present) as indicated by the noise made by the equipment (typically a continuous tone - refer to equipment user guide for details). Measure the depth to LNAPL in metres (to three decimal places) from the measurement tape by holding the tape next to the top of casing.

The top of casing may be the highest point on the well casing or a point that was previously marked on the casing for surveying.

Record the depth to LNAPL in metres below top of casing (mBTOC) in FQM NAPL and Groundwater Level Gauging – ANZ - ENV .

7. Slowly continue to lower the probe down the well until groundwater has been intersected (typically beeping tone – refer to equipment user guide for details). Measure the depth to groundwater in metres (to three decimal places) from the measurement tape by holding the tape next to the marked measuring point of the top of casing.

Record the depth to groundwater in metres below top of casing (mBTOC) in FQM NAPL and Groundwater Level Gauging – ANZ - ENV .

8. Confirm the measured depth to LNAPL and groundwater by repeating Step 6 and 7 until three consistent measurements are taken (i.e. ± 0.002 m).

9. To check for and measure DNAPL (if applicable), continue to lower the probe down the well through groundwater until the probe intersects DNAPL (typically a continuous tone - refer to equipment user guide for details). Measure the depth to DNAPL in metres (to three decimal places) from the measurement tape by holding the tape next to the marked measuring point of the top of casing.

10. Confirm the measured depth to DNAPL and groundwater by repeating Step 9 until three consistent measurements are taken (i.e. ± 0.002 m).

Record the depth to DNAPL in metres below top of casing (mBTOC) in FQM NAPL and Groundwater Level Gauging – ANZ - ENV .

If historical NAPL and groundwater levels are available for the monitoring well, compare the water level measurements with previous results for a reality check. That is, if groundwater levels have decreased in most wells since the previous gauging event but increased in one or two, then the anomalous measurements should be re-measured to confirm.

11. Measure the total depth of the well by turning off the interface probe and lowering the probe to the bottom of the well. This is usually determined by the point where there is no tension on the measurement tape. Measure the total depth of the well in metres (to two decimal places) by holding the measurement tape next to the marked measuring point at the top of casing.

Record the total well depth in FQM NAPL and Groundwater Level Gauging – ANZ - ENV .

TIP: It may be required to measure the height of the riser pipe in stick up wells. Check with your PM.

12. Where confirmation of NAPL is required by collecting a sample of LNAPL or DNAPL from the well refer to Fieldwork Instruction FQM NAPL Sampling – ENV – ANZ.

Record observations of NAPL (i.e. colour, odour, viscosity) on the interface probe or from a bailer used to collect a NAPL sample in FQM NAPL and Groundwater Level Gauging – ANZ - ENV .

13. Lock the well cap after gauging is complete.

7.0 Troubleshooting

a. I can't find the monitoring well I am supposed to sample

i. Use the figure to identify nearby features and attempt to triangulate its location.

ii. Ask field staff involved in previous monitoring events.

iii. Use a metal detector to sweep the general area.

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iv. Request GPS co-ordinates from the GIS team and use a GPS to locate the well. If possible have a surveyor locate well position.

v. Check the project folder (and historical project folders) for any photographs of the well location.

b. The stickup well has a padlock

i. Check with the PM to ensure AECOM does not hold a key for the well.

ii. Check with client / land owner that a key is not available for the well.

iii. Cut the lock off.

iv. Re-secure the stickup using a cable tie unless client/PM indicates a lock should be replaced on the stickup.

c. The well is dry

i. Confirm that the measured depth to bottom matches the information in the well log / historical gauging logs.

ii. Check to see if the well is seasonally dry

iii. If blocked, unblock the well using appropriate means.

d. I can't get the well cover open or the well cap off

i. Check that the tool is right for the job i.e. the right size Allen key is being used. A welder's magnet may be useful in opening flush mounted well covers.

ii. Gently tap the well cover with a hammer to loosen.

iii. Replace O-rings and cover plate bolts as necessary to avoid the same problem next gauging round.

iv. Do not overexert and risk an injury or damage to the well head. Make a note on the gauging record and contact the Project Manager.

e. I can't get three stable measurements

Atmospheric pressure has the potential to affect the SWL. Wait a few minutes after opening the well cap for the SWL to stabilise and confirm again after an hour.

i. Inspect the measurement tape (whole length) for damage.

ii. Check the tip of the probe for damage, dirt or NAPL.

iii. Try the probe in a bucket of water.

iv. Check the battery.

Refer to the dip meter / interface probe user manual.

8.0 Records

a. FQM NAPL and Groundwater Level Gauging – ANZ - ENV Q4AN(EV)-414-FM1.

9.0 Change Log

Rev #.	Revision date	Affected sections	Description of change
1	2-May-2016	All	Conversion to AECOM Australia Pty Ltd.
2	1-Sep-2021	Sections 3, 6, 8	Cautionary notes, References update

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Appendix G

Site Specific Remediation Criteria

Site Specific Remediation Criteria

In order to assess risks and inform potential remediation works required to allow development of the Macquarie Point Site (the Site) in accordance with the Site *Masterplan* (Macquarie Point *Strategic Framework and Masterplan 2015 – 2030*), AECOM prepared *Derivation of Remediation Criteria* (AECOM, 2016) to develop Site specific Remediation Criteria (RC) for soil and groundwater which are protective of human health under the proposed future land uses at the Site.

The RC were reviewed and updated in 2025 (AECOM, 2025e) for the changes in proposed Site development to the current plan, described in **Section 2.3** of the main report text. A summary of the initial formulation, and updates from the review, are provided below.

The RC consider the following scenarios and land uses based on the initial and current proposed development of the Site:

- High density residential development (slab-on-grade buildings and buildings with a communal basement car park).
- Recreation / open space
- Multi-storey car park
- Commercial/light industrial (slab-on-grade buildings and working within a basement car park).

It is noted that residential development is now only proposed in Regatta Point, which is not one of the assessment areas with existing Site Suitability Statements considered in this report. However, high density residential land use is known to occur off-Site and hydraulically down-gradient along Evans Street to the south of the Site, and the potential exists for groundwater migration from the Site to reach this area. As such, the RC protective of residential use have been applied to groundwater data from the Site.

Information about proposed Site layout, uses and building design can be used to refine the RC to be more Site-specific and reduce conservatism where appropriate based on any changes to the Masterplan or Site uses in future. Any changes to RC should be prepared by a qualified environmental professional, and if changes allow higher concentrations of Chemicals of Potential Concern (CoPC) to remain on Site, be reviewed and endorsed by a Contaminated Land Auditor.

Assumptions

The following key assumptions have been made when deriving the RC and should be noted as limitations when applying the RC:

- NAPL impacts at the Site will be remediated to the extent practicable and therefore risks associated with exposure to NAPL, and volatile contaminants derived from NAPL were not considered in the derivation of the RC.
- Intrusive maintenance work at up to 1 m bgl may be undertaken in all land uses.
- An engineered break layer will be present at the ground surface to mitigate the potential for future Site users (with the exception of maintenance workers) to have direct contact with soils.
- A reticulated water supply will be available, based on the urban setting of the Site, and abstraction of groundwater for any purposes other than remediation or monitoring, or temporary extraction during construction, will not be required. Potential exposure to contaminants in groundwater during any construction, remediation, or monitoring will be managed by task specific safety documentation informed by the SEMP.
- A SEMP will be prepared and put in place to maintain/manage surface cover.
- With regard to basements:
    - Use of any future basements is assumed to be limited to car parking. If basements are constructed for other purposes, a risk assessment specific to the intended use should be conducted.

  - Where basements are associated with future residential or commercial buildings, it is assumed that these will be communal areas for multiple properties, for example, as part of a strata scheme that is managed by a body corporate. Private basements will therefore not be associated with individual residences.
  - Where there is access to a basement car park, it is assumed that any groundwater seepage collects in floor drains and a physical barrier is present, and therefore, groundwater will not be directly contacted by basement users, with the exception of maintenance workers. It is assumed that individual tenants will not be involved in the maintenance of any associated services, including drainage pumps or sumps.

- For potential future multi-storey car park users, the most sensitive receptor in this scenario would be considered to be a parking attendant present at the Site for a typical eight hour working day. It is considered that RC derived for potential future commercial/light industrial workers (working within a basement) would be protective of all other basement users. This includes multi-storey car park users and residential tenants who access basement car parks and are likely to have lower frequency and duration of exposure, therefore the multi-storey car park users scenario is not evaluated separately in this assessment.
- Adjacent off-Site land uses include open space, commercial/industrial, and residential areas. As these potential land uses have been considered on-Site, the derived RC are considered to also be protective of potential exposures to off-Site receptors (e.g. via groundwater migration beyond the Site boundary), as:
  - Extractive groundwater use is not known to occur within 2 km of the Site, based on review of registered groundwater bores undertaken in 2024 (AECOM, 2025), and the urban setting and reticulated water supply indicate that groundwater extraction and use is unlikely to occur
  - No basements are known to be present in the surrounding buildings, and are considered unlikely due to the additional costs which would be required for basement construction, based on shallow groundwater elevation, hydraulically downgradient of the Site.
- It is considered that potential exposure to workers undertaking remediation and/or development activities can effectively be mitigated through the implementation of an appropriate Construction Environmental Management Plan (CEMP). The CEMP should be prepared during the planning stage for any future remediation and/or development activities.
- A separate assessment of the potential risks to on-Site visitors was not undertaken as it was considered that the chronic exposure duration assessment of commercial/light industrial workers or residents is sufficiently protective of the shorter exposure duration visitor scenario.

Soil

Table 1 below provides the adopted Site specific RC (reported to two significant figures) for soil concentrations which are considered to be protective of human health for proposed future uses.

Table 1 Site Specific Land Use RC for Soil (mg/kg)

Chemical	Potential Future Residents (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Commercial/ Light Industrial Workers (slab-on-grade)	Potential Future Commercial/ Light Industrial Workers (Working within a basement car park)	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers
Lead	-	-	-	-	-	-	-	620
Benzo(a)pyrene	-	-	-	-	-	-	-	110
Naphthalene	2.7	13	20	12	160	97	>Sat	38,000
Benzene	0.5*	0.5*	0.5*	3	3*	3*	360	170
Toluene	160	200	290	950	2500	1400	>Sat	660,000
Ethylbenzene	57	81**	120**	340	990**	570**	>Sat	290,000
Xylenes (total)	40	67	93	240	830	430	>Sat	530,000
TPH C6-C8 (Aliphatic)	54	94	120	310	>Sat	570	>Sat	1,000,000
TPH >C8-C10 (Aliphatic)	88*	88*	88*	510	510*	510**	>Sat	270,000
TPH >C8-C10 (Aromatic)	12	27	36	67	340	170	>Sat	110,000
TPH >C10-C12 (Aliphatic)	51	140	>Sat	300	>Sat	>Sat	>Sat	270,000
TPH >C10-C12 (Aromatic)	25	130	170	140	>Sat	770	>Sat	110,000

Chemical	Potential Future Residents (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Commercial/ Light Industrial Workers (slab-on-grade)	Potential Future Commercial/ Light Industrial Workers (Working within a basement car park)	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers
TPH >C12-C16 (Aliphatic)	330	>Sat	>Sat	1700	>Sat	>Sat	>Sat	270,000
TPH >C12-C16 (Aromatic)	110	>Sat	>Sat	510	>Sat	>Sat	>Sat	110,000
TPH >C16-C21 (Aliphatic)	-	-	-	-	-	-	-	1,000,000
TPH >C16-C21 (Aromatic)	-	-	-	-	-	-	-	65,000
TPH >C21-C34 (Aliphatic)	-	-	-	-	-	-	-	1,000,000
TPH >C21-C34 (Aromatic)	-	-	-	-	-	-	-	65,000
TPH >C34-C40 (Aliphatic)	-	-	-	-	-	-	-	1,000,000
TPH >C34-C40 (Aromatic)	-	-	-	-	-	-	-	65,000

*Notes: # Source = CRC CARE (2011) Appendix F, * Where the soil criteria derived using the infinite source model were more conservative than the CRC CARE (2011) screening values based on a finite source model, the CRC CARE (2011) values are proposed for adoption. >sat – greater than saturation concentrations of this CoPC, ** Adopted RC for ethylbenzene are based on a site specific toxicity assessment (AECOM, 2025e); >Sat – concentrations greater than the saturation value would be required to represent a risk.*

Groundwater

Table 2 below provides a summary of Site specific RC (reported to two significant figures) for groundwater concentrations which are considered to be protective of human health for proposed future uses.

Table 2 Site Specific Land Use RC for groundwater (mg/kg)

Chemical	Potential Future Residents (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Commercial/ Light Industrial Workers (slab-on-grade)	Potential Future Commercial/Light Industrial Workers (Working within a basement car park)	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers
Benzo(a)pyrene	-	-	-	-	-	0.05	-	-
Naphthalene	2	3	7	12	28	6	>Sol	>Sol
Benzene	0.8	0.8	6	5	9	5	>Sol	>Sol
Toluene	>Sol	>Sol	>Sol	>Sol	>Sol	5,500	>Sol	>Sol
Ethylbenzene	>Sol	>Sol	>Sol	>Sol	>Sol	1,600	>Sol	>Sol
Xylenes (total)	>Sol	>Sol	>Sol	>Sol	>Sol	2,800	>Sol	>Sol
TPH C6-C8 (Aliphatic)	>Sol	>Sol	>Sol	>Sol	>Sol	16,000	>Sol	>Sol
TPH >C8-C10 (Aliphatic)	>Sol	>Sol	>Sol	>Sol	>Sol	79	>Sol	>Sol
TPH >C8-C10 (Aromatic)	30	30 *	>Sol	>Sol	>Sol	360	>Sol	>Sol
TPH >C10-C12 (Aliphatic)	>Sol	>Sol	>Sol	>Sol	>Sol	40	>Sol	>Sol
TPH >C10-C12 (Aromatic)	>Sol	>Sol	>Sol	>Sol	>Sol	190	>Sol	>Sol
TPH >C12-C16 (Aliphatic)	>Sol	>Sol	>Sol	>Sol	>Sol	67	>Sol	>Sol
TPH >C12-C16 (Aromatic)	>Sol	>Sol	>Sol	>Sol	>Sol	160	>Sol	>Sol

Chemical	Potential Future Residents (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Residents (low rise slab-on-grade)	Potential Future Residents (building with a basement car park)	Potential Future Commercial (slab-on-grade with unknown construction or multi-storey building) #	Potential Future Commercial/ Light Industrial Workers (slab-on-grade)	Potential Future Commercial/Light Industrial Workers (Working within a basement car park)	Potential Future Recreational Open Space Users	Potential Future Maintenance Workers
TPH >C16-C21 (Aliphatic)	-	-	-	-	-	3,300	-	-
TPH >C16-C21 (Aromatic)	-	-	-	-	-	94	-	-
TPH >C21-C34 (Aliphatic)	-	-	-	-	-	3,300	-	-
TPH >C21-C34 (Aromatic)	-	-	-	-	-	39	-	-
TPH >C34-C40 (Aliphatic)	-	-	-	-	-	3,300	-	-
TPH >C34-C40 (Aromatic)	-	-	-	-	-	39	-	-
Dimethylphenol, 2,4-	-	-	-	-	-	1,300	-	-
Methylphenol-2 (cresol, o-)	-	-	-	-	-	4,300	-	-
Methylphenol-3 (cresol, m-)	-	-	-	-	-	4,200	-	-
Methylphenol-4 (cresol, p-)	-	-	-	-	-	4,300	-	-
Aniline	-	-	-	-	-	890	-	-
Dibenzofuran	-	-	-	-	-	8	-	-
Styrene	96	99	>Sol	>Sol	>Sol	160	>Sol	>Sol

*Notes: # Source = CRC CARE (2011) Appendix F, * Where the soil criteria derived using the infinite source model were more conservative than the CRC CARE (2011) screening values based on a finite source model, the CRC CARE (2011) values are proposed for adoption, >sol – greater than the solubility concentration of this CoPC*

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Appendix H

Unexpected Discovery Plan - Aboriginal Artifacts and Relics

Unanticipated Discovery Plan

Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania

For the management of unanticipated discoveries of Aboriginal relics in accordance with the *Aboriginal Heritage Act 1975* and the *Coroners Act 1995*. The Unanticipated Discovery Plan is in two sections and is issued alongside advice from Aboriginal Heritage Tasmania (AHT) and should not be relied upon in isolation without accompanying advice.

If in doubt, please contact AHT for advice: call **1300 487 045** or email **aboriginal@heritage.tas.gov.au**

Discovery of Aboriginal Relics other than Skeletal Material

Step 1:

Any person who believes they have uncovered Aboriginal relics should notify all employees or contractors working in the immediate area that all earth disturbance works must cease immediately.

Step 2:

A temporary 'no-go' or buffer zone of at least 10m should be established around all visible Aboriginal relics to protect the suspected Aboriginal site, where practicable. No unauthorised entry or works should be allowed within this 'no-go' zone until the suspected Aboriginal relics have been assessed by a consulting archaeologist, Aboriginal Heritage Officer or AHT staff member.

Step 3:

Contact AHT on **1300 487 045** as soon as possible but no later than 48hrs from the discovery of the relic and inform them of the discovery. Documentation of the find should be emailed to **aboriginal@heritage.tas.gov.au** as soon as possible. AHT will then provide further advice in accordance with the *Aboriginal Heritage Act 1975*.

Discovery of Skeletal Material

Step 1:

Call the Police (or if practical, a coroner) immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. It is advisable to immediately treat the area as a potential crime scene, and remove all personnel and equipment that may contaminate the area.

Step 2:

Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:

A temporary 'no-go' or buffer zone of at least 50m should be established to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been dealt with under the *Coroners Act 1995* or the *Criminal Code Act 1924*.

Step 4:

Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995* and Aboriginal Heritage Tasmania as per the *Aboriginal Heritage Act 1975*.

Aboriginal Heritage Tasmania
Department of Natural Resources and Environment Tasmania

Tasmanian Government

Guide to Aboriginal site types

Stone Artefact Scatters

A stone artefact is any stone or rock fractured or modified by Aboriginal people to produce cutting, scraping or grinding implements. Stone artefacts are indicative of past Aboriginal living spaces, trade and movement throughout Tasmania. Aboriginal people used hornfels, chalcedony, spongelite, quartzite, chert and silcrete depending on stone quality and availability. Stone artefacts are typically recorded as being 'isolated' (single stone artefact) or as an 'artefact scatter' (multiple stone artefacts).

Shell Middens

Middens are distinct concentrations of discarded shell that have accumulated as a result of past Aboriginal camping and food processing activities. These sites are usually found near waterways and coastal areas, and range in size from large mounds to small scatters. Tasmanian Aboriginal middens commonly contain fragments of mature edible shellfish such as abalone, oyster, mussel, warrener and limpet, however they can also contain stone tools, animal bone and charcoal.

Rockshelters

An occupied rockshelter is a cave or overhang that contains evidence of past Aboriginal use and occupation, such as stone tools, middens and hearths, and in some cases, rock markings. Rockshelters are usually found in geological formations that are naturally prone to weathering, such as limestone, dolerite and sandstone.

Quarries

An Aboriginal quarry is a place where stone or ochre has been extracted from a natural source by Aboriginal people. Quarries can be recognised by evidence of human manipulation such as battering of an outcrop, stone fracturing debris or ochre pits left behind from processing the raw material. Stone and ochre quarries can vary in terms of size, quality and the frequency of use.

Rock Marking

Rock marking is the term used in Tasmania to define markings on rocks which are the result of Aboriginal practices. Rock markings come in two forms; engraving and painting. Engravings are made by removing the surface of a rock through pecking, abrading or grinding, whilst paintings are made by adding pigment or ochre to the surface of a rock.

Burials

Aboriginal burial sites are highly sensitive and may be found in a variety of places, including sand dunes, shell middens and rock shelters. Despite few records of pre-contact practices, cremation appears to have been more common than burial. Family members carried bones or ashes of recently deceased relatives. The Aboriginal community has fought long campaigns for the return of the remains of ancestral Aboriginal people.

Further information on Aboriginal heritage is available from:

Aboriginal Heritage Tasmania
Heritage Strategic Business Unit
Department of Natural Resources and Environment Tasmania
GPO Box 44 HOBART TAS 7001

Telephone 1300 487 045
Email aboriginal@heritage.tas.gov.au
Web www.aboriginalheritage.tas.gov.au

This publication may be of assistance to you but the State of Tasmania and its employees do not accept responsibility for the accuracy, completeness, or relevance to the user's purpose, of the information and therefore disclaims all liability for any error, loss or other consequence which may arise from relying on any information in this publication.

Tasmanian Government

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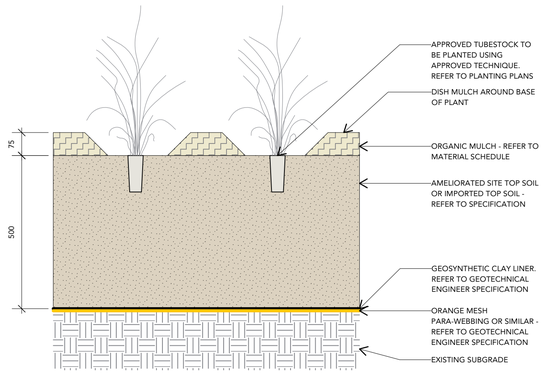
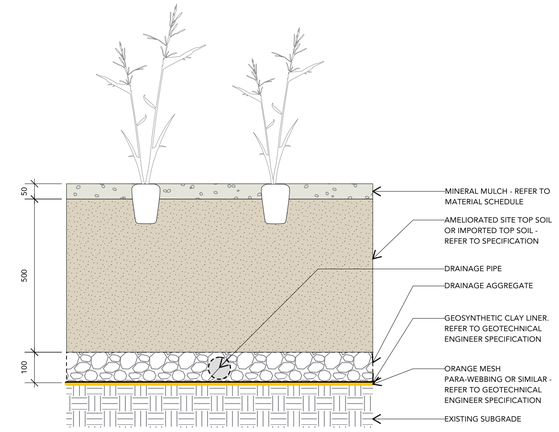
Appendix I

Inground Planting Designs



1 SOIL PROFILE TYPE 01 - GARDEN BED
Scale: 1:10



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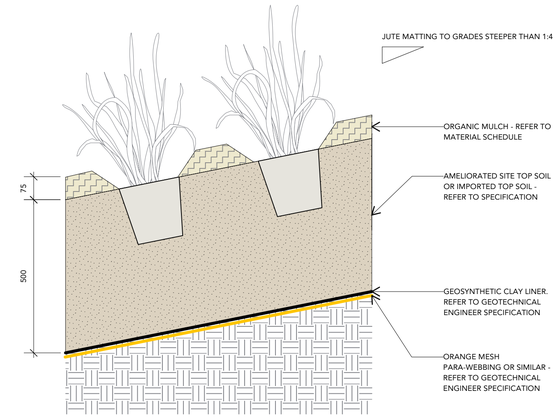
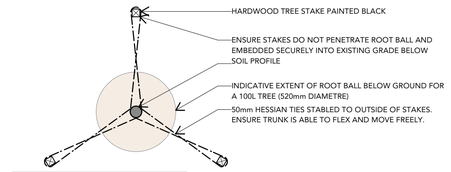
Scale: 1:10



3 SOIL PROFILE TYPE 03 - EMBANKMENT PLANTING
Scale: 1:10

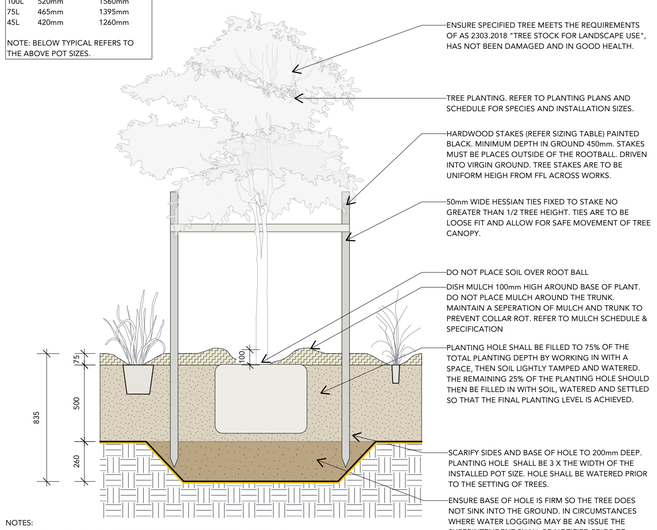


TREE STAKES TABLE TREE SIZE	NO. STAKES	STAKE SIZE (MIN)
100L-200L	3	50 X 50 X 1800MM
45L	1	35 X 35 X 1500MM

4 TREE PLANTING TYPICAL ON EXISTING GRADE
Scale: 1:20

PLANTING HOLE SIZE:		
POT SIZE	ROOT BALL SIZE (DIA)	PLANTING HOLE (MIN)
400L	980mm	2940mm
200L	700mm	2100mm
100L	520mm	1560mm
75L	465mm	1395mm
45L	420mm	1260mm

NOTE: BELOW TYPICAL REFERS TO THE ABOVE POT SIZES.



NOTES:
1. TREES SHALL HAVE A WELL DEVELOPED TAPER AND BE SELF SUPPORTING.
2. SPECIFIED TREE TO MEET THE REQUIREMENTS OF AS 2303.2018 "TREE STOCK FOR LANDSCAPE USE"
3. ENSURE ALL LABELS, WIRES, TWINE AND OTHER BINDING MATERIALS ARE REMOVED FROM PLANTING MATERIAL, INCLUDING ROOTBALLS PRIOR TO BACKFILLING.
4. TO PROMOTE LATERAL ROOT GROWTH THE PLANTING HOLE SHALL BE NO LESS THAT THREE (3) TIMES THE DIAMETER OF THE ROOT BALL. IF SPACE RESTRICTIONS EXIST STAKE SPACING SHALL BE REDUDED TO NO LESS THAN TWO (2) TIMES TH DIAMETER OF THE ROOT BALL. SLOPE ALL SIDES AT 45 DEGREES.
5. WATER IMMEDIATELY FOLLOWING PLANTING, SAUCER TO BE FILLED TWICE
6. SITE TO BE LEFT CLEAN AND TIDY ON COMPLETION OF PLANTING, REMOVE WEEDS AND BUILDING SPOIL FROM TREE PLANTING ZONE.
7. REFER SPECIFICATION FOR ALL TREE PLANTING.

5 TREE PLANTING - GARDEN BED
Scale: 1:20

PLANTING HOLE SIZE:		
POT SIZE	ROOT BALL SIZE (DIA)	PLANTING HOLE (MIN)
400L	980mm	2940mm
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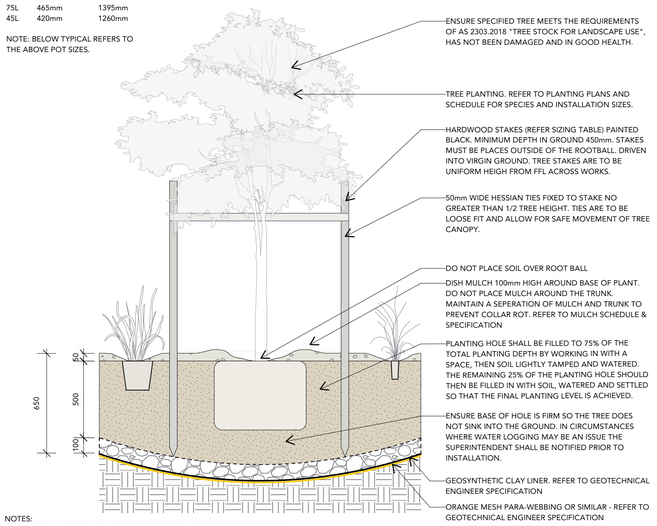

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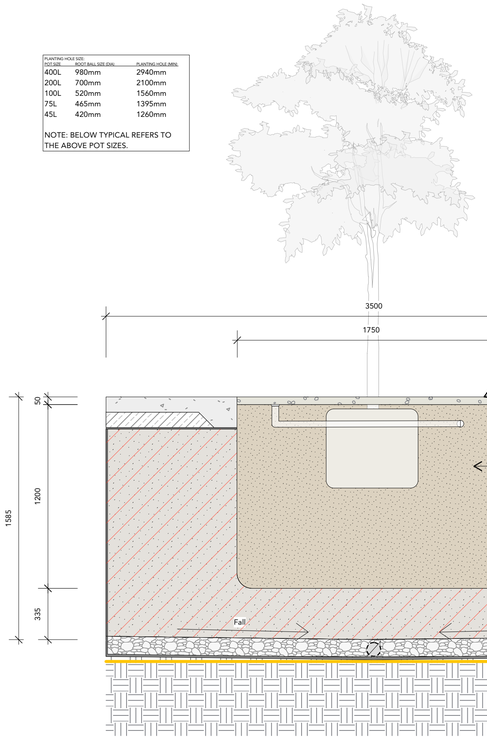
7. REFER SPECIFICATION FOR ALL TREE PLANTING.

6 TREE PLANTING - SOAK GARDEN
Scale: 1:20

PLANTING HOLE SIZE:		
POT SIZE	ROOT BALL SIZE (DIA)	PLANTING HOLE (MIN)
400L	980mm	2940mm
200L	700mm	2100mm
100L	520mm	1560mm
75L	465mm	1395mm
45L	420mm	1260mm

NOTE: BELOW TYPICAL REFERS TO THE ABOVE POT SIZES.



7 TREE PLANTING - CUT OUT IN PAVING
Scale: 1:20

OCULUS
REALM studios

0 1 2 3 4 5
1:100 @ A1
1:200 @ A3

NOTFORCONSTRUCTION

DRAWING
SOFT AND HARD LANDSCAPE DETAILS
PROJECT
MACQUARIE POINT STADIUM
DRAWING NO. SHEET 11
SCALE @ A1 1:250

DRAFT

Appendix J

Asbestos Management Plan and Registry



Macquarie Point Development Corporation

Asbestos Management Plan

16a Evans Street, Hobart, TAS 7000

Project Reference: JN6624-001

IPM Consulting Services
All correspondence to: GPO Box 790, Hobart, Tasmania 7001
145 New Town Road, New Town, Tasmania 7008
p (03) 6244 2199
e ipm@ipmconsult.com.au www.ipmconsult.com.au
Injury Prevention Services Pty Ltd ABN 75 081 970 989

Occupational Hygiene | Workplace Health & Safety | Asbestos Risk Management

REVIEW DETAILS & DOCUMENT DISTRIBUTION LIST

Organisation: Macquarie Point Development Corporation

Topic: Macquarie Point Asbestos Management Plan

Consultants: James Pene, Senior Occupational Hygienist – IPM Consulting Services

Reviewers: Kate Smith, Senior WHS Consultant – IPM Consulting Services

Client Contact: Natalie French, Work Health and Safety Officer – MPDC

Organisation	Date	Version	Issued To
MPDC	26/11/2025	1.0	Natalie French - natalie@macpoint.com
Elgin Associates	26/11/2025	1.0	Luke Finley - luke.Finley@elgin.com.au
MPDC	28/11/2025	1.1	Natalie French / Greg Cooper

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EXECUTIVE OVERVIEW

This Asbestos Management Plan (AMP) sets out Macquarie Point Development Corporation's (herein 'MPDC') strategic approach to managing asbestos-containing materials (ACM) in the workplace.

The AMP includes a policy, procedures, and guidelines to assist MPDC staff, contractors, and stakeholders in safely managing ACM, minimising the potential for persons to be exposed to asbestos, and managing unexpected discoveries.

The AMP centres upon open communication regarding asbestos-related issues between MPDC, contractors, and stakeholders. MPDC aims to raise the level of asbestos awareness and improve management practices through education and sound policies and procedures.

At all times, MPDC will ensure that personal asbestos exposures are kept as low as possible and less than the asbestos National Exposure Standard. Where air monitoring or visual inspections identify degradation of ACM, removal, targeted repair, replacement, or relocation will occur. This work will be conducted on the basis of risk, within legislative requirements, and by competent personnel.

Note that this AMP must be read in conjunction with the site Asbestos Register.

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1. INTRODUCTION AND SCOPE

Macquarie Point Development Corporation (MPDC) is committed to maintaining the health and safety of its workers, contractors, and visitors. Asbestos Containing Materials (ACM) are known to be present within buildings and in soil at the site, under the organisation's control (refer Figure 1). MPDC aims to eliminate exposure to asbestos by identifying and removing ACM where safe to do so, or by minimising exposure so far as is reasonably practicable where elimination is not possible.

This Asbestos Management Plan (AMP) has been developed in accordance with the *Tasmanian Work Health and Safety Regulations 2022* and the *Safe Work Australia Codes of Practice for managing and controlling asbestos in the workplace, and safely removing asbestos*. It establishes the framework and legal requirements for the management of ACM during construction and related activities within the site footprint.



Figure 1. Site Footprint and Areas Under MPDC Control

1.1. Scope of the Plan

The AMP applies to all workers, contractors, sub-contractors, and stakeholders who may come into contact with, or disturb, ACM during The Project. It covers the management and maintenance of ACM encountered during all relevant activities, including routine works, excavation within former landfill/Gasworks sites, maintenance, removal, and emergency responses to unexpected ACM finds.

The plan ensures:

- ACM is identified, recorded, and managed to minimise the risk of exposure to airborne fibres.
- Activities comply with the hierarchy of controls outlined in Tasmanian WHS Regulations.
- Only competent and licensed personnel undertake removal, monitoring, and risk assessment.

- Emergency response procedures address unexpected ACM finds or incidents.
- Compliance with all relevant legislative requirements and standards, including:
  - Safe Work Australia's Codes of Practice: *How to Manage and Control Asbestos in the Workplace* and *How to Safely Remove Asbestos* (current editions)
  - Environmental Management and Pollution Control Act 1994 (Controlled Waste Regulations)
  - Safe Work Australia National Exposure Standard for airborne asbestos fibres (0.1 fibres/mL)

The AMP covers the area outlined in Figure 1 and aims to protect all personnel and members of the public in proximity to the site and/or project works through proactive management and stringent risk controls.

2. POLICY STATEMENT

2.1. Policy Principles and Outcomes for Asbestos Management:

- To eliminate exposure to airborne respirable asbestos fibres.
- To facilitate the removal or repair of ACM that have been assessed as potentially exposing workers, contractors, or the public to a moderate or greater risk of airborne respirable asbestos fibres.
- To effectively manage the risks of asbestos exposure by conducting regular inspections of ACM.
- To conduct regular reviews of the AMP and develop asbestos management action and removal plans.

2.2. Policy Commitments:

MPDC will meet these principles by:

- Identifying ACM and creating a site asbestos register, ensuring all ACM and/or known or suspected locations of ACM are labelled as far as is reasonably practicable.
- Ensuring that the site asbestos registers is in place, kept up to date, and regularly reviewed in accordance with assessed risks by competent personnel.
- Making the site asbestos register available to contractors, workers, and stakeholders who may come into contact with ACM.
- Undertaking risk assessments on all identified ACM.
- Implementing the hierarchy of controls to effectively minimise risks.
- Ensuring that only suitably competent or licensed persons remove and handle ACM.
- Ensuring any work on ACM is carried out in accordance with the *Tasmanian Work Health and Safety Act 2012*, the *Tasmanian Health and Safety Regulations 2022* and the *Safe Work Australia Codes of Practice - How to Safely Remove Asbestos, and How to Manage and Control Asbestos in the Workplace (current editions)*.
- Providing information, instruction, and training to all workers who may be required to conduct tasks involving ACM.

3. ROLES AND RESPONSIBILITIES

To ensure the effective management and implementation of this AMP, roles and responsibilities are outlined in **Table 1**.

This procedure defines responsibilities for specific activities; however, the listed positions or roles may not apply to all projects or operations. In such cases, any variations must be clearly identified in the relevant management plans (e.g., Project, Safety, Environmental Plans).

Table 1. Summary of Responsibilities.

Role	**Responsibility**
Work Health and Safety Officer	Site-wide management of WHS
Senior Project Officer	Site Operations

4. IDENTIFICATION AND LABELLING OF ACM

All areas of a workplace containing ACM, including plant, equipment, or components, must be signposted with appropriate warning signs or labels. This ensures personnel are not unknowingly exposed to asbestos during operational activities. In addition, where soil contamination with asbestos is known or suspected, affected areas must be clearly delineated both on site plans and using aerial or satellite imagery. These locations should be ground-truthed and physically marked prior to the commencement of any excavation or ground disturbance works. This approach ensures that any personnel involved in site works are fully informed of potential asbestos risks and can implement appropriate controls to prevent exposure.

When removal work is being undertaken, the work area must be barricaded to prevent unauthorised personnel from entering the hazardous area.

The location, type, and positioning of signs and labels must be determined or authorised by a competent person. Asbestos warning signs must comply with the requirements of AS 1319-1994 REC:2018 for size, illumination, location, and maintenance. Examples of warning signs may include variations suitable for the site conditions.

MPDC will ensure that the current asbestos register provided as Attachment A is maintained and updated as per Section 12.

Where practicable, affected areas will display Asbestos Warning Signs prominently. Workers required to excavate in areas known or suspected of containing buried ACM will be fully briefed before commencing any work activities. Figure 2 provides an example of asbestos warning labels that may be encountered onsite.



Figure 2. Examples of asbestos warning labels and signs

5. ASBESTOS REGISTER

MPDC will maintain an Asbestos Register covering the footprint of their site. The Asbestos Register will enable MPDC to:

1. Facilitate regular ACM condition inspections as determined by a risk assessment, with a frequency of no greater than five years.
2. Effectively program work activities for excavation, ground improvement, and other operations where ACM may be present.
3. Prioritise and program the removal of damaged ACM or areas with significant risk potential.
4. Provide timely advice to affected persons, including workers, contractors, and other stakeholders, on the presence of ACM prior to ground disturbance or construction activities.

The Asbestos Register will be maintained by MPDC's site safety advisor (or equivalent) and made readily accessible at designated locations, such as site sign-in areas, for all personnel who may encounter or disturb ACM.

The Asbestos Register will contain the following information:

- The date the inspection/identification was made and details of the competent person(s) who carried out the inspection/identification.
- Type of asbestos-containing material (e.g., fragments in soil).
- The location of the ACM or presumed ACM.
- The type of asbestos, where identifiable.
- The ACM's condition and potential for disturbance.
- A risk assessment of the ACM, including potential exposure scenarios.
- Details of any air monitoring conducted, including results.
- Recommended actions for handling, removal, or mitigation of risks.
- Documentation of removal, maintenance, or other works on ACM, including details of contractors involved, scope of work, asbestos removal control plans, WorkSafe Tasmania notifications, and clearance and disposal certificates.

The register will be updated following any re-inspection, removal, or maintenance activities involving ACM. Further details regarding review frequency are outlined in Section 12.

6. ACM RISK MANAGEMENT AND CONTROLS

6.1. Risk Assessment Process

A risk assessment involves evaluating what could happen if someone is exposed to a hazard, such as asbestos, and the likelihood of that exposure occurring. For persons conducting a business or undertaking (PCBU), risk assessments assist in determining the severity of a risk, whether existing control measures are effective, what actions are necessary to control the risk, and how urgently those actions should be taken. Risk assessments can be conducted with varying levels of detail depending on the hazard, available information, data, and resources. They may be as straightforward as a discussion with workers or may involve the use of specific risk analysis tools and techniques, particularly for more complex situations. In some cases, expert or specialist advice may be needed.

Risk management is a proactive and systematic process that supports continuous improvement and enables effective response to change. It should be carefully planned, cover all reasonably foreseeable hazards and associated risks, and be revisited regularly to ensure ongoing effectiveness of control measures. A visual representation of the risk management process is provided in Figure 3.



Figure 3. Risk Management Process for Workplace Health and Safety (Source: Safe Work Australia Code of Practice: How to Manage Work Health and Safety Risks)

With respect to ACM identified onsite, risk assessments will be undertaken by an experienced, licensed Asbestos Assessor or Competent Person on all identified or suspected ACM. The assessments will consider:

- The type of ACM.
- The nature of the ACM (e.g., friable or non-friable).
- The ACM's condition.
- The disturbance potential during ground improvement works or excavation where ACM may be present with the soil, or through day-to-day activities withing buildings containing ACM.
- The potential for personal exposure.

Where appropriate, risk assessments will be validated by airborne fibre monitoring to ensure compliance with the Safe Work Australia action level of 0.01 fibres/mL (refer Section 6.2.1). This action level is set at one-tenth of the workplace exposure standard (0.1 fibres/mL) and is used to trigger immediate review and implementation of additional controls if exceeded. Adhering to this lower threshold ensures that workers, contractors, and stakeholders are not exposed to airborne asbestos fibres, so far as is reasonably practicable.

Monitoring and site inspection programs will identify ACM at an early stage, preventing its degradation to a condition that could pose occupational health risks. Early detection and management will allow MPDC to manage ACM before risks escalate.

6.2. Risk Controls

ACM will be managed in accordance with the hierarchy of control. This is a systematic approach to managing health and safety risks, such as those associated with asbestos, that prioritises the most effective risk control measures. The hierarchy requires that, wherever practicable, hazards are eliminated entirely. Where elimination is not feasible, the next most effective controls are applied in descending order of reliability: substitution, isolation, engineering controls, administrative controls, and, as a last resort, personal protective equipment (PPE). This framework ensures that all reasonably practicable steps are taken to minimise the risk of exposure to airborne asbestos fibres.

The hierarchy of control, as illustrated in Figure 4 (adapted from the *Safe Work Australia Code of Practice: How to Manage Work Health and Safety Risks*), provides a visual summary of this approach.

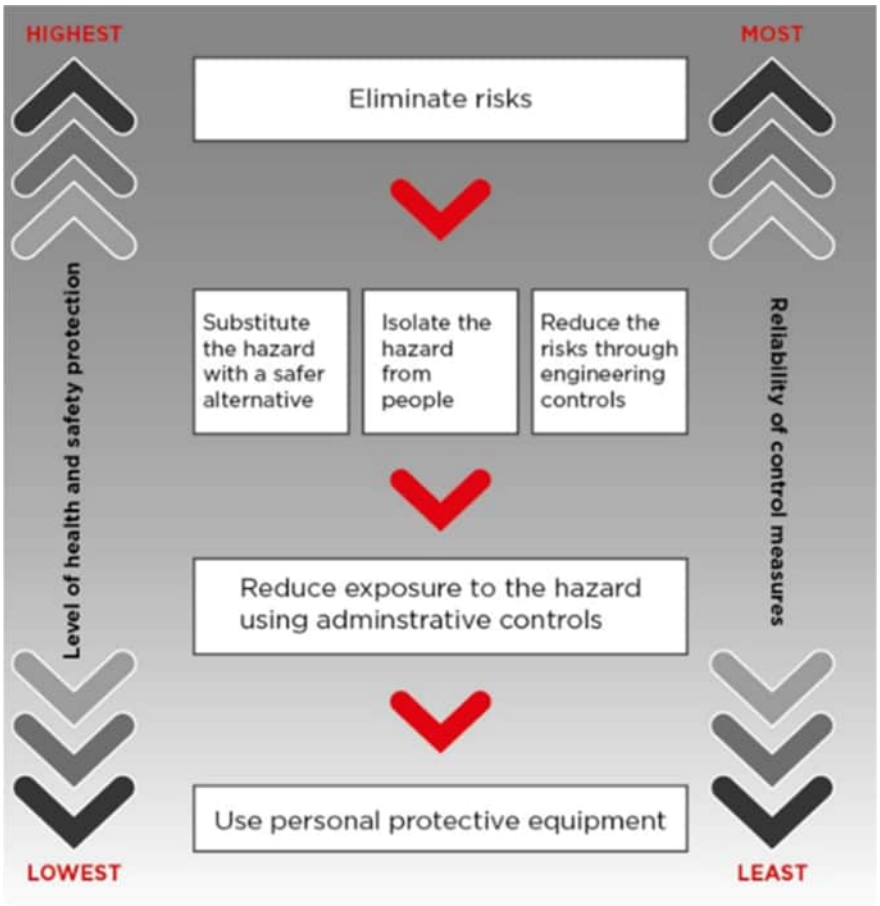

Figure 4. Hierarchy of Control for Asbestos Risk Management
(Source: Safe Work Australia Code of Practice: Code of Practice: How to Manage Work Health and Safety Risks)

Examples of how to use the hierarchy of control to manage ACM are provided as follows:

1. **Elimination**
    - *Example:* All identified ACM in a building scheduled for renovation are removed by a licensed contractor before any demolition or refurbishment work begins.
    - *Outcome:* This completely removes the risk of asbestos exposure for workers and occupants in that area.
2. **Substitution**
    - *Example:* When repairing building cladding, asbestos-cement sheets are replaced with new, asbestos-free fibre cement products certified to Australian safety standards.
    - *Outcome:* Prevents reintroduction of asbestos into the workplace or future maintenance risks.

3. **Isolation**

    - *Example:* Areas known to contain ACM are physically isolated using barriers, locked doors, or sealed enclosures. Clear warning signage is installed to restrict access to authorised personnel only.
    - *Outcome:* Reduces the likelihood of accidental disturbance or exposure by limiting access.

4. **Engineering Controls**

    - *Example:* During asbestos removal, negative pressure enclosures, local exhaust ventilation with H-Class HEPA filtration, or water misting techniques are used to suppress and capture airborne fibres.
    - *Outcome:* Minimises the spread of airborne asbestos during works that disturb ACM.

5. **Administrative Controls**

    - *Example:* Site-specific Safe Work Method Statements (SWMS) and work permits are developed and enforced for all ACM-related activities. Workers receive training in asbestos awareness, and regular toolbox meetings reinforce safe work procedures.
    - *Outcome:* Reduces risk through safe systems of work, clear procedures, and ongoing communication.

6. **Personal Protective Equipment (PPE)**

    - *Example:* Workers performing asbestos removal or disturbance wear P2 disposable respirators, full-body coveralls, gloves, and eye protection. All PPE is disposed of as contaminated waste after use.
    - *Outcome:* Provides a final barrier of protection when other controls alone cannot eliminate the risk.

6.2.1. Airborne Respirable Fibre Monitoring

Airborne Respirable Fibre Monitoring is a recognised process for quantifying the concentration of respirable fibres (including asbestos) within the air. The following types of monitoring may be undertaken depending on the nature of the works and associated risk:

- Background monitoring is conducted before asbestos work begins to establish baseline airborne fibre levels and detect any pre-existing contamination. It may also be used to inform a risk assessment where ACM is present but is not being disturbed.
- Control (or exposure) monitoring is undertaken during asbestos work to verify that control measures (such as enclosures, negative pressure units or wet methods) are effectively minimising airborne fibre release.
- Clearance monitoring is performed after asbestos removal to ensure airborne fibre concentrations are below the relevant limit and that the area is safe for reoccupation.

Air monitoring will be conducted by an independent, competent person in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:*

3003(2005)]. This method is the recognised standard for quantifying airborne asbestos fibre concentrations during asbestos-related works and can also be used as a technique to determine risk, as part of a larger risk assessment process.

All monitoring results, including clearance certificates, will be documented and retained within the site's asbestos register to ensure compliance, facilitate ongoing risk management, and provide evidence of safe reoccupation where required.

Air monitoring is required when:

- Friable (Class A) asbestos removal is carried out (mandatory by law).
- Exposure risk is uncertain and the PCBU cannot demonstrate airborne fibres are below the limit.
- An HSR requests it due to a reasonable concern about exposure.
- The site AMP or risk control plan requires it for specific work or conditions.

6.2.2. Maintenance and Service Work

Tasks involving ACM disturbance will be conducted only after an appropriate risk assessment and the implementation of necessary controls. The following details will be recorded in the asbestos register:

- The name of the competent person(s) performing the work.
- The date and scope of the work undertaken.
- Safe work methods or job safety analyses applied.
- Clearance and disposal certificates.

During maintenance or construction activities, ACM risks will be assessed, and control strategies implemented to ensure compliance with legislative requirements.

6.3. Management of Identified Asbestos Containing Materials

This section outlines the risk controls and management measures to be applied to each ACM identified in the site's Asbestos Register (refer Appendix A). These controls are based on assessed condition, likelihood of disturbance, and relevant regulatory requirements.

The risk evaluation uses the Appendix E ACM Risk Assessment Tool from the National Guide for Asbestos Surveys (2025) published by the Asbestos and Silica Safety and Eradication Agency (ASSEA). The Guide provides a nationally recommended, standardised methodology for conducting asbestos surveys and assessing the risk of in-situ ACM based on material type, condition, disturbance potential and building use.

The risk assessment matrix, including risk factors, weighting, and scoring criteria etc., is provided in Table 1. The final risk score is the sum of the four risk factors, with a minimum possible score of 21.33 and a maximum of 100. Risk categories and recommended control actions are provided in Table 2. Table 3 summarises the identified ACM (reproduced from the Asbestos Register) together with the required management controls derived from the assessed risk category.

Table 1: Risk Assessment Matrix

Risk Factor	Weighting	Scoring Range/Criteria	Examples/Notes
Product Risk Level	Up to 35%	Level 1 = 3.5% (lowest) to Level 10 = 35% (highest)	Resins/plastics (Level 1, low risk); adhesives/vinyl; bitumen; cement products; cement debris; cloth/rope; insulation board; lagging; sprayed coatings; loose-fill Insulation (Level 10, high risk).
ACM Condition	Up to 15%	Stable = 3.75% to Poor = 15%	Condition considers bonding, sealing, visible damage, debris, and weathering.
Disturbance Potential	Up to 25%	Level 1 = 6.25% (low) to Level 4 = 25% (high)	Based on accessibility, likelihood of deterioration, and maintenance activities.
Building Rating	Up to 25%	Five sub-factors: a) Public access (Yes/No), b) Frequency of use, c) Daily duration, d) Level of activity, e) Mobile plant.	Each sub-factor scored to 20% then averaged to yield the building rating: Building rating = (a + b + c + d + e) ÷ 4.

Table 2: Risk Score Actions

Risk Score	Recommended Control Actions
High: ≥ 69	Restrict access and arrange removal as soon as reasonably practicable; the higher the score, the higher the priority.
Medium: > 50 and < 69	Encapsulate damaged areas; monitor; schedule removal or review; remove if impacted by refurbishment or demolition.
Low: ≤ 50	Manage in place; avoid damage; schedule review; remove if impacted by refurbishment or demolition.

Table 3: Identified ACM and Required Management Controls

ACM Description	Location	Product Type	Condition	Disturbance Potential	Risk Score	Risk Category	Management Controls
Electrical Backing Board	Main switchboard in Shed A office area	Bituminous Panel	Stable	Moderate	37.4	Low	Manage in situ; avoid mechanical disturbance; keep labelled; routinely review condition.
Arc Shields and Wiring	Main switchboard in Shed A office area	Millboard / Woven Rope	Unknown	Low	51.8	Medium	Manage in situ; avoid mechanical disturbance; keep labelled; assess if access becomes available; remove if identified.
Telstra Pit	Adjacent Shed E; Evans Street side	Moulded Cement	Unknown	Low	41.3	Low	Manage in situ; do not disturb decking or subsurface without prior assessment; reassess if decking is removed or ground works are planned.
Soil and Fill	Historical Roundhouse Hardstand / Buried ACM in north-east portion of the site	Unknown*	Unknown	Low	60.3	Medium	Manage in situ; avoid disturbance; maintain hardstand capping; restrict excavation unless approved by a competent person; engage licensed removalist if soil is to be disturbed.

* Asbestos containing cement sheet has been historically identified within soil underlying the site.

7. UNEXPECTED FINDS PROCEDURE

The discovery of unexpected ACM during excavation, construction, or maintenance activities will be managed in accordance with this procedure. This includes materials not identified in the Asbestos Register (Appendix A) or presumed ACM encountered in soil or other areas.

1. Initial Assessment and Immediate Controls

Identify the material and immediately stop work in the affected area. Prevent access to the area until a preliminary assessment is completed.

2. Determine Competency for Identification

If a competent person (per WHS Regulations and Codes of Practice) is not available within the workplace, arrange for the material to be assessed and sampled by a licensed asbestos assessor, licensed asbestos removalist, or suitably qualified occupational hygienist.

3. Sampling Requirements

If material cannot be reliably identified as non-asbestos:

- A competent person must collect representative samples in accordance with the *Safe Work Australia Code of Practice: How to Safely Remove Asbestos*.
- Samples must be submitted to a NATA-accredited laboratory for analysis.
- Sampling should be avoided if disturbing the material would create a higher risk than managing it as asbestos in situ; in these cases apply conservative controls until competent advice is obtained.

4. Risk Assessment

Once material is identified (or presumed) to contain asbestos, undertake a formal risk assessment considering:

- Friability (friable versus non-friable)
- Condition of the material (damaged, weathered, water-affected, intact)
- Likelihood of disturbance
- Occupancy and exposure potential in the area
- Requirements under WHS Regulations and relevant Codes
- Document the risk level and required controls.

5. Decision Point: When Air Monitoring Is Required

Air monitoring should be conducted when:

- There is any potential for airborne fibre release, based on the risk assessment.
- The material is friable or significantly damaged.
- Unplanned disturbance has occurred (e.g., drilling, breakage, impact).
- The area remains occupied or partially occupied during assessment or clean-up.
- Visual inspection alone cannot confirm that airborne fibre risk is negligible.

Air monitoring is not required when:

- Material is confirmed non-asbestos by a NATA lab.
- Material is intact, non-friable, undisturbed, and isolated effectively, and the risk assessment documents negligible airborne fibre potential.

6. Control Measures

Based on the risk assessment, implement appropriate controls such as:

- Isolation of the area (barriers, signage, access restriction)
- Encapsulation or sealing of the material (if suitable for non-friable ACM)
- Wet wiping or HEPA vacuuming of settled dust
- Clean-up by licensed asbestos removalist where required
- Removal of the ACM if it presents an ongoing risk and cannot be safely managed in situ

7. Reassessment and Clearance

After controls or clean-up activities, perform a final risk review. If air monitoring was undertaken, ensure results are below the limit of detection (0.01 f/mL) prior to reoccupation. Obtain clearance documentation where required.

8. ACM REMOVAL AND DISPOSAL

8.1. Asbestos Removal Work

An Asbestos Removal Control Plan will be developed for all work involving the removal of ACM. Competent personnel may undertake exempt ACM work following the approval of an Asbestos Removal Control Plan by a competent person (e.g., WHS Advisor or Occupational Hygienist).

All ACM removal work shall be carried out in accordance with the requirements of the *Work Health & Safety Regulations* and the *Code of Practice: How to Safely Remove Asbestos*. A licensed asbestos removalist will be engaged to undertake any non-exempt ACM work. Non-exempt ACM removal shall not commence unless written acknowledgment of the Asbestos Removal Start Work Notification and ACM Control and Removal Plan has been received by WorkSafe Tasmania.

An independent licensed Asbestos Assessor shall conduct a Visual Clearance Inspection of the Asbestos Work Area following the ACM removal but prior to the removal of access restrictions. A Visual Clearance Certificate must be issued by a competent person prior to the re-occupation of the area for normal use.

For all ACM removal projects, appropriate project documentation must be retained and recorded in the Master Asbestos Register (Appendix A).

8.2. Air Clearance Monitoring

Airborne respirable fibre monitoring (also see Section 6.2.1) will be conducted where the Asbestos Removal Control Plan requires air clearance monitoring to be conducted. All air monitoring shall be conducted by an independent competent person in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003 (2005)].

Where air clearance monitoring is required, the independent competent person must issue an Air Clearance Certificate, which shall be retained and recorded in the appropriate Asbestos Register. Air Clearance Certificates must be issued prior to the removal of enclosures, access restrictions, and signage, and re-occupation.

8.3. Clean-Up and Disposal

Where ACM must be removed from the site, MPDC workers and contractors will ensure that clean-up is properly completed and that there is no asbestos contamination left.

ACM must be disposed of in a manner that satisfies the requirements detailed in the *Environmental Management and Pollution Control Act 1994 (Controlled Waste Regulations)* including:

- Risk prioritisation for ACM handling.
- Scheduled dates for risk reassessment and updates to the asbestos register.
- Identify triggers for emergency or interim reviews, such as ACM disturbance or removal.

9. INDUCTION PROGRAM

MPDC's worker and contractor induction program will include:

- Information on this AMP and ACM locations listed in the Asbestos Register (Appendix A).
- Procedures for accessing this AMP and how to update the site asbestos register, including the information and testing that needs to be collected and documented.
- Key responsibilities and actions to take when suspect ACM is discovered.
- Documentation and record-keeping of induction completion.

10. TRAINING PROGRAM

Where MPDC workers are required to either assist or be involved in asbestos removal work or working in areas where there is a risk of exposure to airborne asbestos or hazardous fibres, they must receive appropriate training for the work which they are to undertake. The degree of training must be appropriate to the nature and scale of work being undertaken and as a minimum include the following:

- The nature of the hazards and risks
- All requirements of the SWMS
- Safe work practices and proper use of equipment
- Selection and use of all PPE and RPE
- Decontamination procedures
- Waste disposal procedures
- Emergency procedures
- Exposure and health risks from hazardous fibres

NOTE: All certification and training records for licensed removal work must be retained within the vicinity of the immediate work area and must remain accessible for inspection as per the *Tasmanian WHS Act 2012*.

11. COMMUNICATION STRATEGY

MPDC is committed to open communication regarding the management of ACM.

This includes:

- Sharing outcomes of AMP reviews and monitoring with project stakeholders.
- Informing workers and contractors of ACM removal projects and relevant safety controls.
- Ensuring registers and plans are readily accessible to workers and contractors.

The Project or Operations Manager will ensure all workers and contractors at the site, facility, or operation are aware of the Asbestos Management Plan and can access it. Asbestos-related hazards and locations of ACM must be communicated during site inductions, where applicable.

If asbestos removal work is planned, the appropriately licensed asbestos removalist, is responsible for notifying the regulator, management, workers, and any other potentially affected persons (e.g., neighbouring property owners or occupants) of the work details and start date before commencing.

12. MONITORING AND REVIEW

12.1. Review the Asbestos Management Plan and Asbestos Register

The AMP and Asbestos Register must be reviewed at least once every five (5) years, in accordance with the WHS Regulations and the Safe Work Australia *How to Manage and Control Asbestos in the Workplace* Code of Practice.

It is recommended that the 5-yearly review be undertaken by a licensed asbestos assessor. A review must also be completed when:

- Asbestos or ACM is removed, disturbed, sealed or enclosed on-site.
- Additional asbestos or ACM is identified on-site.
- Refurbishment or demolition work is planned.
- Asbestos control measures are reviewed.
- The AMP or Register is no longer adequate for managing asbestos or ACM.
- A health and safety representative, PCBU or worker reasonably requests a review.

To ensure conditions have not changed between the five yearly reviews, industry best practice is to complete an internal visual inspection of all identified asbestos/ACM every 12 months to verify their condition and the effectiveness of existing controls.

Persons conducting the internal annual inspection must:

- Have read and understood the AMP and associated Asbestos Register.
- Have received asbestos awareness training (internal or external).
- Be able to demonstrate competence in the inspection process (for example, through experience, supervision or additional training).

Any changes in asbestos/ACM condition identified during these inspections must be recorded in the Asbestos Register, reflected in the AMP and referred to a competent person (such as a licensed asbestos assessor) to determine whether remediation or additional controls are required.

12.2. Air Monitoring (also refer Section 6.2.1.)

Where personnel are required to undertake Class A asbestos removal work, an air monitoring program is mandatory and must be implemented.

Where personnel are required to undertake Class B removal work, the air monitoring program must be established and conducted by a licensed asbestos assessor.

Results of all air monitoring shall be made available to personnel undertaking removal work with all copies of air monitoring results to be kept for a minimum of 30 years.

NOTE: Air monitoring requirements must be detailed on the job specific SWMS or applicable risk assessment.

13. HEALTH SURVEILLANCE

A PCBU must ensure health monitoring is provided to a worker if they are at risk of exposure to asbestos when carrying out:

- Licensed asbestos removal work.
- Other ongoing (unlicensed) asbestos removal work.
- Asbestos-related work.

Examples of ongoing (unlicensed) asbestos removal work or asbestos-related work can include undertaking maintenance work on ACM regularly as part of another job (for instance electricians or building maintenance staff in older buildings).

Where an employee has been (or suspected to having been) exposed to airborne asbestos the employee should notify the Site Work Health and Safety Officer as per MPDC incident reporting requirements.

For comprehensive information on health monitoring requirements, refer to Safe Work Australia's *Health Monitoring for Exposure to Hazardous Chemicals: Guide for Persons Conducting a Business or Undertaking*.

14. EMERGENCY PROCEDURES

In emergency situations involving ACM:

- Notify the MPDC Work Health and Safety Officer.
- Notify the regulator (WorkSafe Tasmania) immediately - by telephone - and in writing within 24 hours.
- Evacuate and secure the area to prevent access.
- Engage an Occupational Hygienist for remediation advice.
- Suppress airborne fibres using appropriate measures (e.g., water mist or PVA sealant).
- Conduct an ACM Risk Assessment and implement controls as necessary.
- Engage a licensed asbestos removalist for non-exempt ACM removal.
- Document all actions and update the asbestos register accordingly.

15. REFERENCES

Australian Standard AS 1319-1994, *Safety Signs for the Occupational Environment*, Standards Australia, Sydney.

Environmental Management and Pollution Control Act 1994 (Controlled Waste Regulations), Tasmania.

National Occupational Health and Safety Commission (NOHSC), 2005, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003 (2005)], NOHSC, Canberra.

Safe Work Australia, 2020, *Code of Practice: How to Safely Remove Asbestos*, Safe Work Australia, Canberra.

Safe Work Australia, 2020, *Code of Practice: How to Manage and Control Asbestos in the Workplace*, Safe Work Australia, Canberra.

Safe Work Australia, *Health Monitoring for Exposure to Hazardous Chemicals: Guide for Persons Conducting a Business or Undertaking*.

Safe Work Australia, *Code of Practice: How to Manage Work Health and Safety Risks*

Tasmanian Work Health and Safety Act 2012, Tasmania.

Tasmanian Work Health and Safety Regulations 2022, Tasmania.

16. GLOSSARY

ACM (Asbestos-Containing Materials) - Any material or product that contains asbestos as defined in relevant workplace regulations.

AMP (Asbestos Management Plan) - A documented plan detailing procedures and responsibilities for managing asbestos-containing materials.

Air Monitoring - The process of measuring airborne asbestos fibres to assess occupational exposure levels and ensure compliance with safety standards.

AS 1319-1994 - The Australian Standard for safety signs used in workplaces to warn or inform personnel of potential hazards.

Asbestos Register - A document that records the presence, type, condition, and location of ACM in a workplace.

Clearance Certificate - A document issued by a competent person certifying that an area is safe to reoccupy following asbestos removal work.

Competent Person - An individual with the required training, qualification, and experience to perform a specific task safely and effectively.

Hierarchy of Controls - A system for managing risks by prioritising elimination, substitution, isolation, engineering controls, administrative actions, and personal protective equipment.

HSE Professional - Health, Safety, and Environmental professional responsible for implementing and overseeing workplace safety programs.

Licensed Asbestos Assessor - An individual licensed to assess asbestos-related risks and supervise removal or remediation activities.

Membrane Filter Method - A technique for estimating airborne asbestos fibres, referenced as NOHSC: 3003 (2005).

National Exposure Standard - The maximum allowable concentration of airborne asbestos fibres, set at 0.01 fibres/mL by Safe Work Australia.

PPE (Personal Protective Equipment) - Equipment such as respirators, gloves, and coveralls used to protect workers from exposure to hazardous materials.

RPE (Respiratory Protective Equipment) - Specific equipment designed to protect the wearer from inhaling hazardous airborne particles, including asbestos fibres.

Safe Work Method Statement (SWMS) - A document outlining high-risk construction work, associated hazards, and control measures.

Visual Clearance Inspection - A thorough visual assessment conducted after ACM removal to ensure no residual asbestos contamination remains.



Asbestos Register Update

Macquarie Point

Prepared for

Macquarie Point Development Corporation

Macquarie Point, TAS, 7000

3rd December 2025

PROJECT REFERENCE: JN25687

Elgin Associates Pty Ltd

ABN 59123488639

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* Elgin Associates Pty Ltd have prepared this document for the purpose, which is described in the Scope of Works section, and was based on information provided by the client and Elgin Associates' understanding of the Site conditions, and Elgin Associates' experience, with regard to the assumptions that Elgin Associates can reasonably be expected to make in accordance with sound professional principles.

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Figure 1: KNOWN ACM Locations (AS AT November 2025) 10

Appendix A: Asbestos Register Control Form 11

Appendix B: Suspected Asbestos Reporting Form 12

Appendix C: Historical Register 13

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Appendix A: Asbestos Register Control Form

Appendix B: Suspected Asbestos Reporting Form

Appendix C: Historical Register

SECTION 1

1 INTRODUCTION

Elgin Associates Pty Ltd (Elgin) was engaged by Macquarie Point Development Corporation (MPDC) to update the structure of the MPDC Asbestos Register for the property identified as Macquarie Point, Hobart ("the Site"). **Please note: This is not an 'Asbestos Management Plan'.**

This document details records of asbestos containing material (ACM) previously identified at the site and should be read in conjunction with the previous register and Asbestos Management Plan prepared for the Site. Elgin did not visually observe or confirm the existing ACM for this register update and relied entirely on information provided by the MPDC.

In accordance with the Tasmanian Work Health and Safety Regulations 2022, this Asbestos Register must be kept up to date. Industry best practice is to conduct annual re-inspections to ensure that the risk is regularly re-assessed and known to all stakeholders.

1.1 Purpose of an Asbestos Register

An Asbestos Register details the type, condition and location of accessible asbestos materials to assist with the adoption of appropriate & regulatory asbestos management practices & procedures. An Asbestos Register is created following a non-destructive audit that identifies visually evident ACM, or sampling results from laboratory testing of material suspected of containing ACM.

The purpose of an Asbestos Register is to ensure that persons conducting a business or undertaking, works (contractors, clients and other stakeholders) are aware of the location, type, condition, and risk, in order to avoid inadvertent disturbance of the ACM.

It is a requirement of Work Health and Safety regulations that regular inspections of known asbestos are conducted by a competent person with appropriate licences and training, firstly to identify the type, condition and location of asbestos and secondly to assess any changes in the state of the asbestos.

All personnel undertaking works on the site that may result in the disturbance of any building materials on the site should read the **Macquarie Point Asbestos Management Plan** and sign the Asbestos Register Control Form provided in **Appendix A.** If suspected ACM material is observed during site works, then the Suspected Asbestos Reporting Form provided in **Appendix B** should be completed, or the registry updated directly by the relevant MPDC officer**.**

SECTION 2

2 ASBESTOS REGISTER

2.1 Locations of Identified Asbestos Containing Material

The locations and extent of currently existing ACM materials on the site are detailed in the following tables with locations shown in **Figure 1**.

Table 1: **ACM ID 001**

Description	Electrical backing board
Location	Main switchboard in Shed A office area
Type	Unknown
Friable or non-friable	Non-friable but with potential for friable inside the enclosed portion.
Size	<2 m^2
Condition	Good
Signage	Yes (sticker)
Recommendation/Action	Monitor and maintain/avoid disturbance
Comment	-
Photographs	





SECTION 2

Table 2: ACM ID 006

Description	Telstra Pit
Location	Adjacent Shed E; Evans Street side
Type	Moulded Cement
Friable or non-friable	Likely non-friable
Size	<1 m^2
Condition	Unknown
Signage	No - None required
Recommendation/Action	Monitor and maintain, remove if access available
Comment	Likely covered by decking – potentially removed.
Photographs	
	

Table 3: ACM ID 020

Description	ACM sheet debris
Location	Site soils within historical roundhouse hardstand
Type	Unknown
Friable or non-friable	Unknown
Size	Unknown
Condition	Sealed
Signage	N/A
Recommendation/Action	Monitor – Do not disturb
Comment	Any excavation or disturbance of soils at MPDC have the potential for uncovering ACM. Consult the MPDC
Photographs	



Table 4: ACM ID 014/015/016

Description	ACM sheet debris
Location	Site soils in the north-east portion of the site
Type	Chrysotile
Friable or non-friable	Non-friable
Size	Unknown
Condition	Covered
Signage	N/A
Recommendation/Action	Monitor – Do not disturb
Comment	Any excavation or disturbance of soils at MPDC have the potential for uncovering ACM. Consult the MPDC.
Photographs	
	

2.2 Historical Register

Details of ACMs and related materials that have been historically removed from the site are documented in **Appendix C**, including relevant removal dates, locations, and associated works. The information is included to support ongoing asbestos management and to ensure that accurate historical data is maintained for reference in future inspections and assessments.

SECTION 3

3 CONCLUSIONS

Asbestos Containing Materials have historically been identified at the site as identified in **Section 2**. Existing ACM management measures for the MPDC Site have been updated in November 2025 by IPM Consultants, as detailed in the **Asbestos Management Plan** that includes this **Asbestos Registry**.

It is important to note that if asbestos products are disturbed, asbestos fibres may be released, thereby resulting in a health risk. Care must be exercised in the immediate and ongoing management of any products found to contain asbestos. Any persons planning to carry out works on the MPDC site are made aware of the **Asbestos Management Plan** and **Asbestos Register** before commencing any work.

4 LIMITATIONS

The work herein involved updating the MPDC Asbestos Register which details known asbestos detections reported for the Site. Elgin did not verify the authenticity or risk of any current or historical detections.
Elgin prepared the registry for the sole use of Macquarie Point Development Corporation in accordance with the usual care and thoroughness of the consulting profession. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The methodology adopted and sources of information used by Elgin Associates are outlined in this report. Elgin Associates has made no independent verification of this information beyond the agreed scope of works and Elgin Associates assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to Elgin Associates was false.

ATTACHED FIGURE

FIGURE 1: KNOWN ACM LOCATIONS (AS AT NOVEMBER 2025)



Legend

- Asbestos Containing Materials (ACM)
- Cadastral Parcels

Key Buildings

- Retained
- Demolished

N

0 15 30 60 Meters

Site: Macquarie Point	Client: Macquarie Point Development Corporation	Title: Site Layout and ACM Locations	**Figure 1**
Spatial Reference: GDA2020 MGA Zone 55 Scale: 1:1,900	Job Number: JN25698 Date: 3/12/2025 Size: A3	Prepared: BS Approved: HT Version: Rev C	elgin

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APPENDICES

APPENDIX A: ASBESTOS REGISTER CONTROL FORM

REGISTER CONTROL FORM

The persons listed below have seen and read the Asbestos Register and shall conform to the guidelines recommended.

Date	Name	Company	Nature of Works

APPENDICES

APPENDIX B: SUSPECTED ASBESTOS REPORTING FORM

Name			
Company			
Date			
Contact Details			
Coordinates			
Material description			
Approximate size of material			
Condition of material			
Has suspected ACM been sent for laboratory analysis	YES ☐ NO ☐	Sample ID (if yes)	
Notified Personnel			
Is further assessment required	YES ☐ NO ☐		
Photos			

APPENDICES

APPENDIX C: HISTORICAL REGISTER

Macquarie Point Development Corporation Asbestos Register

Workplace Address:
8a Evans Street, 'Former Hobart Railyards Site'

Contact Person:
Patrick Ford Site Operations Officer - 0419 120 076

I.D #	ID Date	ID by Competent Person?	Lab/report number	Type of Asbestos	Description	Friable or Non-Friable?	Condition	Specific Location	Accessibility	Recommendation	Removed?	Inspection Required	Comments	Inspection August 2021	Action August 2021	Photo
ACM-001	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Electrical backing board	Non-friable	Good	Main switchboard in Shed A office area	Accessible. Unlikely to be damaged or disturbed.	Stickered. Leave in place.	No	Yes	Inspection Due	Condition is good, no visable signs of damage and sticker remains insitu	Monitor	DOC/21/4450 DOC/21/4451
ACM-002	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Electrical backing board	Non-friable	Good	Sub-board A in Shed A office area	Accessible. Unlikely to be damaged or disturbed.	Leave in place	Yes	No	-	-	-	-
ACM-003	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Wall sheet	Non-friable	Stable	North west corner of Shed A in warehouse	Accessible. Low risk to passers-by.	Sticker and leave in place	Yes	No	-	-	-	-
ACM-004	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Soffit panel	Non-friable	Broken	Shed B annex soffits	Accessible. Unlikely to be disturbed. Monitor condition.	Sticker, leave in place and monitor condition	Yes	No	-	-	-	-
ACM-005	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Wall sheet	Non-friable	Good	Shed B annex under bathroom sink	Accessible. Unlikely to be disturbed.	Stickered. Leave in place.	Yes	No	-	-	-	-
ACM-006	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Tesltra pit lining	Non-friable	Good	Tesltra pit outside Shed E on Evans Street	Inaccessible unless working on pit.	Leave in place	No	Yes	Inspection Due	Unable to locate the Telstra infrastucture	Investigate location	-
ACM-007	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Putty	Potentially friable	Flaking - stable	Window sill in Shed F	Growing risk to passers by as paint peels.	Stickered and painted. Leave in place.	Yes	Yes	Inspection Due	Glass has been replaced and putty removed, new glass beded in with silcone and timber beads	No further action required	DOC/21/4462
ACM-008	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Electrical backing board	Non-friable	Stable	Sub-board in Shed F	Low accessibility unless using shed.	Stickered. Leave in place.	Yes	No	-	-	-	-
ACM-009	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Soffit panel	Non-friable	Good	Soffit panel above entrance to offices on Shed G	Limited to passers-by walking underneath. Very low.	Leave in place. Sticker and monitor condition. Paint if peeling.	Yes	No	-	-	-	DOC/21/4453
ACM-010	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Soffit panel	Non-friable	Good	Soffit panel above door entrance to offices. Shed G	Limited to passers-by walking underneath. Very low.	Leave in place. Sticker and monitor condition. Paint if peeling.	Yes	No	-	-	-	DOC/21/4452
ACM-011	29/05/2014	Glenn Halsall, Registered Asbestos Remover (No. 90090711)	-	-	Soffit wall panel	Non-friable	Good	Soffit wall panel on level 1 above entrance to offices on Shed G	Limited to passers-by walking underneath. Very low.	Leave in place. Sticker and monitor condition. Paint if peeling.	Yes	No	-	-	-	DOC/21/4457 DOC/21/4458 DOC/21/4459 DOC/21/4460 DOC/21/4461
ACM-012	8/06/2016	Christoph Speer, Site Management Officer	-	-	-	Non-friable	Contained	Asbestos disposal bin in MPDC container	Locked and contained. Double bagged.	Empty by licensed removalist when full.	Yes	No	-	-	-	-
ACM-013	14/08/2018	Fairbrother	N/A	Chrysotile	-	Non Friable	Good	Mezzanine Goods Shed	Accessible and likely to be disturbed	Remove	Yes	No	-	-	-	-
ACM-014 ACM-015 ACM-016	7/07/2020 9/07/2020 22/7/2020	SGC Safety	AA20041 - Visual Clearance Certificate AA20042 - Visual Clearance Certificate 20275 - Asbestos Identification Report	Chrysotile	Asbestos cement sheet debris	Non Friable	Not recoreded	NE Corner of site, debris in soil - The escarpment 20 to 50 metres up from stormwater manhole 7.	Accessible and likely to be disturbed with future excavtions	Remove	No	No	Inspection was a surface inspection only. Care is to be taken for any further excavations in the area which may uncover further debris.	-	-	DOC/20/2856 DOC/202857 DOC/20/2865
ACM-017	25/05/2020	IPM Consulting	N/A	Black tar material	Black tar material used to wrap oil pipe	Non Friable	Fair	Rear of the Searoads Building to the Tas Ports boundary	Accessible	Remove intact with pipe	Yes	No	Removal 120lm of redundant fuel line was completed 31 July 2020	-	-	DOC/20/2868 DOC/20/2867 DOC/202869
ACM-018	2/08/2018	AECOM	EM1816520	Sample 1 Chrysotile Sample 2 Chrysotile Amosite and Crocidolite	Asbestos Sheeting 90 x 45 x 5mm	-	-	RoundHouse hardstand	Accessible	Remove	Yes	No	Testing dates back to October 2018 and previously not recorded	-	-	-
ACM-019	6/10/2021	AECOM	JN2200-001	Chrysotile	Fragments in soil stockpile < 100grams	Non Friable	Good	Stockpiles of soil hardstand remediation	Accessible	Remove	Yes	No	-	-	-	-
ACM-020	28/11/2022	BlackCap Construction	-	-	Asbestos A/C6 sheet debris	Non Friable	Fair	RoundHouse hardstand	Accessible	Remove	No	No	10M2 mixed product, suspected Roundhouse roof material. Inspection was a surface inspection only.	-	-	-
ACM-021	1/11/2023	Spectran Group Pty Ltd	-	-	Detectable respirable fibres/	Non Friable	Fair	RoundHouse hardstand	Accessible and likeley to be disturbed during future excavations	Remove	No	No	-	-	-	-
ACM-022	24/07/2024	Patrick Ford, Facilities Senior Project Officer MPDC	-	-	Tesltra pit lining	Non-friable	Contained	Tesltra pit against east side of Goods Shed - nearest ramp entry	Inaccessible unless working on pit.	Removed	Yes - removed 30/07/2024	No	Pit discovered as part of Enterprise NBN installation - pit to be replaced by installation contractor to make safe and complete connection install	-	-	-
ACM-023	30/07/2024	Patrick Ford, Facilities Senior Project Officer MPDC	-	-	Tesltra pit lining	Non-friable	Contained	Former SeaRoad Building Slab	Low accessibility unless using construction site/slab	Removed	Yes - removed 7/08/2024	No	Asbestos Solutions Tasmania were contracted to remove the pit and surrounding contaminants	-	-	-
ACM-024	30/01/2025	IPM Consulting	JN5729-001	Chrysotile	Black adhesive (under carpet tiles)	Non-friable	Contained	8A Evans Street Building Level 1	Accessible - found during demolition/renovation works in 8A	Removed	Yes - 31/01/2025	No	Asbestos removed, dispsosal of removed carpet tiles and safety, monitoring and inpection carried out by Paradigm Tas - See DOC/25/3917	-	-	FOL/18/80/017/016

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Appendix K

Change Register

Appendix K Change Register

Any change or modification to the SEMP, or activities or designs which do not conform to the SEMP, but include suitable management of any environmental risks which has been reviewed and accepted by a suitably qualified and experienced Contaminated Land Auditor, should be recorded on **Table K1** below, and evidence of review and Contaminated Land Auditor acceptance should be added to this Appendix.

The change register should be reviewed as part of the regular SEMP review and update process (**Section 5.4**) and incorporated as appropriate into any updates of the SEMP.

Table K1 Change Register

#	Change	Person who conducted update or change		Record of Contaminated Land Auditor Review and Acceptance	
		Who	Date	Who	Date
1	Issue of SEMP Revision 5 with initial change register attached. Changes from Revision 4 made to: • Incorporate outcomes of *Review of Site Suitability Statements* (AECOM, 2026a). • Inclusion of Change Register • Changes to body text for design variances (**Section 1.2**).	Robert Crowe Associate Director – Environment, AECOM Australia Pty Ltd	16 February 2026	David Lam TetraTech Coffey Pty Ltd	16 February 2026
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#	Change	Person who conducted update or change		Record of Contaminated Land Auditor Review and Acceptance	
		Who	Date	Who	Date
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